Final

SWMU 49 Monitored Natural Attenuation Sampling Year One Report

Radford Army Ammunition Plant, Virginia

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Appendices

Appendix A Field Sampling Logs
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Acronyms and Abbreviations

ºC	degrees Celsius
µg/L	micrograms per liter
µS/cm	microsiemens per centimeter
1,1-DCA	1,1-dichloroethane
1,1,1-TCA	1,1,1-trichloroethane
amsl	above mean sea level
bgs	below ground surface
BSEn	Bearing Sea Environmental, LLC
BTOC	below top of casing
cis-1,2-DCE	cis-1,2-dichloroethene
CB&I	CB&I Federal Services LLC
CCV	Continuing Calibration Verification
CMO	Corrective Measures Objective
COC	Contaminants of Concern
CoC	Chain-of-Custody
COD	Chemical Oxygen Demand
CT	Carbon Tetrachloride
DIUF	de-ionized ultra-filtered
DO	Dissolved Oxygen
DTW	Depth to Water
FD	Field Duplicate
ft	feet/foot
HHRA	Human Health Risk Assessment
ICV	Initial Calibration Verification
IDW	Investigative Derived Waste
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LTM	Long-term Monitoring
MB	Method Blank
MCL	Maximum Contaminant Level
MDL	Method Detection Limit
mg/L	milligrams per liter

mL/min	milliliters per minute
MNA	Monitored Natural Attenuation
MRL	Method Reporting Limit
MS	Matrix Spike
mS/cm	millisiemens per centimeter
MSD	Matrix Spike Duplicate
mV	millivolt
NA	Not Applicable
ND	Not Detected
NT	Not Tested
NTU	Nephelometric Turbidity Unit
ORP	Oxidation Reduction Potential
Parsons	Parsons Engineering Science, Inc.
PCE	tetrachloroethene
PID	Photoionization Detector
POC	Point of Compliance
ppm	parts per million
PQL	practical quantitation limit
QA	Quality Assurance
QAPP	Quality Assurance Project Plan
QC	Quality Control
RCRA	Resource Conservation and Recovery Act
RFAAP	Radford Army Ammunition Plant
RFI	RCRA Facility Investigation
RG	Remedial Goal
RPD	Relative Percent Difference
Shaw	Shaw Environmental, Inc.
SU	Standard Unit
SWMU	Solid Waste Management Unit
TCE	trichloroethene
TCL	Target Compound List
TOC	Top of the casing or Total Organic Carbon
URS	URS Corporation
USACE	U.S. Army Corps of Engineers

USATHAMA	U.S. Army Toxic and Hazardous Materials Agency
USEPA	U.S. Environmental Protection Agency
VA	Virginia
VDEQ	Virginia Department of Environmental Quality
VI	Verification Investigation
VOC	Volatile Organic Compound

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1.0 Introduction

Bering Sea Environmental, LLC. (BSEn) has been contracted by the United States Army Corps of Engineers (USACE), Baltimore District, to perform the Year 1 Long-Term Monitoring (LTM) and Monitored Natural Attenuation (MNA) sampling at Solid Waste Management Unit (SWMU) 49 (RAAP-013), Red Water Ash Burial #2, at Radford Army Ammunition Plant (RFAAP), Radford, Virginia (VA). This report provides a description of the groundwater sampling activities completed and analysis of results from the first through fourth quarterly rounds conducted in September 2015 through July 2016. Further, this report provides a summary of the first year sampling results.

1.1 Purpose and Scope

Groundwater at the SWMU 49 study area has been investigated from the mid-1990s through 2013 and has been fully characterized and delineated. Based on the contamination assessment and human health risk assessment (HHRA) performed and presented in the Draft SWMU 48/49 Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) Report (CB&I, 2014a), carbon tetrachloride (CT) and trichloroethene (TCE) were identified as the primary contaminants of concern (COCs). (Note: SWMU 49 used to be a combined study area with SWMU 48; however, previous investigations and sample data have determined that suspected contaminants reportedly disposed of at SWMU 48 were, in fact, likely disposed at SWMU 49. Therefore, this LTM report only concerns contamination associated with SWMU 49.) As such, CT and TCE were identified as the COCs that are contributing to potential future industrial and residential risk at the study area. Based on the MNA results presented in the SWMU 49 MNA Sampling Baseline Report (CB&I, 2015), MNA processes including biodegradation, sorption, dilution, dispersion, and chemical stabilization are occurring in groundwater at the SWMU 49 study area.

The first year MNA sampling program was developed and conducted in accordance with the U.S. Environmental Protection Agency (USEPA) and Virginia Department of Environmental Quality (VDEQ) approved Draft SWMU 48/49 RFI Report (CB&I, 2014a) and the Draft Final SWMU 49 MNA Groundwater Monitoring Work Plan (CB&I, 2014b). The corrective measures objectives (CMOs) and remedial goals (RGs) were developed and presented in the Draft SWMU 48/49 RFI Report (CB&I, 2014a). The site-specific CMO for SWMU 49 is to reduce COC (i.e., CT and TCE) concentrations to below RGs/maximum contaminant levels (MCLs) so as to not adversely impact future beneficial use of groundwater; and to the extent practicable, a goal of restoring site groundwater to the most beneficial use.

As such, the objectives of the MNA program are to measure and track the reduction of:

- CT and TCE to levels below the RGs as defined in **Table 1-1**.

- Monitor and evaluate the daughter products of the COCs to determine the progress (effectiveness and timeliness) of the degradation process.

Table 1-1 SWMU 48 & 49 Groundwater Remedial Goals

Chemical of Interest	Groundwater RG (µg/L)	Groundwater RG Source(*)
Carbon Tetrachloride	**5.0**	**MCL**
Trichloroethene	**5.0**	**MCL**

Notes:
** RGs are also the MCLs listed in the USEPA 2011 Edition of the Drinking Water Standards and Health Advisories (USEPA, 2011).*
µg/L = micrograms per liter
MCL = maximum contaminant level
RG = remedial goal

1.2 Site Description and Background

SWMU 49 is located in the southeastern portion of the RFAAP Horseshoe Area, east of the main bridge over the New River. As shown on **Figure 1-1**, the study area is situated on a bluff approximately 120 feet (ft) above and overlooking SWMU 13 and the New River. The SWMU 49 study area is approximately 75 ft long by 83 ft wide and situated adjacent to SWMUs 48, 50, and 59. Previously, SWMU 49 was combined with these three adjacent areas.

As presented in previous reports (CB&I, 2014a/2014b), SWMU 49 reportedly received 10 tons of red water ash during its active period. However, the results of environmental sampling to date indicate that the red water ash was likely disposed of in the disposal trenches associated with neighboring SWMU 48. Conversely, sampling indicates that the oily wastewater associated with SWMU 48 was disposed of in the SWMU 49 area.

Figure 1-1 SWMU 49 Site Location Map

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2.0 Physical Characteristics

2.1 Topography

The land surface at SWMU 49 slopes gently from 1,830 ft above mean sea level (amsl) on the north side of the site to approximately 1,816 ft amsl on the southeast side of the site. The southeast side ends abruptly at a bluff that rises approximately 120 ft above the Burning Grounds (SWMU 13) and the New River. In general, the topography is uneven and hummocky with several small draws and topographic highs. The topography at SWMU 49 is shown in **Figure 1-1**.

2.2 Surface Water

SWMU 49 is located on a bluff approximately 120 ft above the New River. Based on topography, surface water runoff is expected to flow approximately 700 ft south to the New River.

2.3 Geology

2.3.1 Regional Geology

SWMU 49 is located in the New River Valley, which crosses the Valley and Ridge Province approximately perpendicular to the regional strike of bedrock, and cross cuts Cambrian and Ordovician limestone or dolostone. Deep clay-rich residuum is prevalent in areas underlain by carbonate rocks. The valley is covered by river floodplain and terrace deposits; karst topography is dominant throughout the area. A more detailed description of the regional geology is presented in the *RFAAP Master Work Plan* (URS, 2003).

2.3.2 Site-Specific Geology

The lithology of the SWMU 49 subsurface was characterized during the advancement of soil borings and monitoring well borings at the site. One soil boring (48SB05) was advanced within SWMU 49 to 37 ft in depth. In addition to 48SB05, two monitoring wells were installed directly north and south of the target study area: 48MW1 and 48MW2, respectively. Plan and cross-section views of lines A-A' and B-B' that run through the adjacent sites of SWMU 48, SWMU 50, and SWMU 59 are presented on **Figures 2-1** and **2-2**, respectively. Based on the borings, the subsurface geology consists of alluvium and residual deposits comprised of clay and silt with some sand and gravel overlying bedrock. Well 48MW1 was advanced to 154 ft below ground surface (bgs), with the bedrock elevation encountered at 72 ft bgs. Well 48MW2 was advanced to 133.7 ft bgs, with the bedrock elevation encountered at approximately 41 ft bgs. Depths to bedrock were directly measured at the monitoring well borings. Bedrock elevations ranged from approximately 1,745 to 1,776 ft amsl, with the bedrock surface sloping to the north.

Depth to competent bedrock at the site ranges from approximately 41 to 72 ft bgs. A saprolitic layer, formed from in situ weathering of the carbonate bedrock, immediately overlies the competent bedrock. The saprolite is up to 10 ft in thickness.

Bedrock consists of highly fractured interbedded siltstone, limestone, and dolostone of the Elbrook Formation. The Max Meadows Breccia is evident in outcrops along the slope leading to the river. In the outcrop along the slope, the tectonic breccias and the limestone and dolostone are highly weathered with many solution cavities. The unconsolidated sediment immediately overlying the saprolite consists of alluvial deposits.

Alluvial deposits, consisting primarily of silty sand, overly channel deposits of fine- to coarse-grained sand and gravel (river jack). These Paleo-channel deposits rest directly on the saprolite. Portions of the disposal areas contain fill material to depths of 9 to 10 ft bgs. A more detailed discussion of the geology and soil at RFAAP is presented in Sections 3.4 through 3.7 of the RFAAP Master Work Plan (URS, 2003) and in the Facility-Wide Background Study Report (IT, 2001).

2.4 Hydrogeology

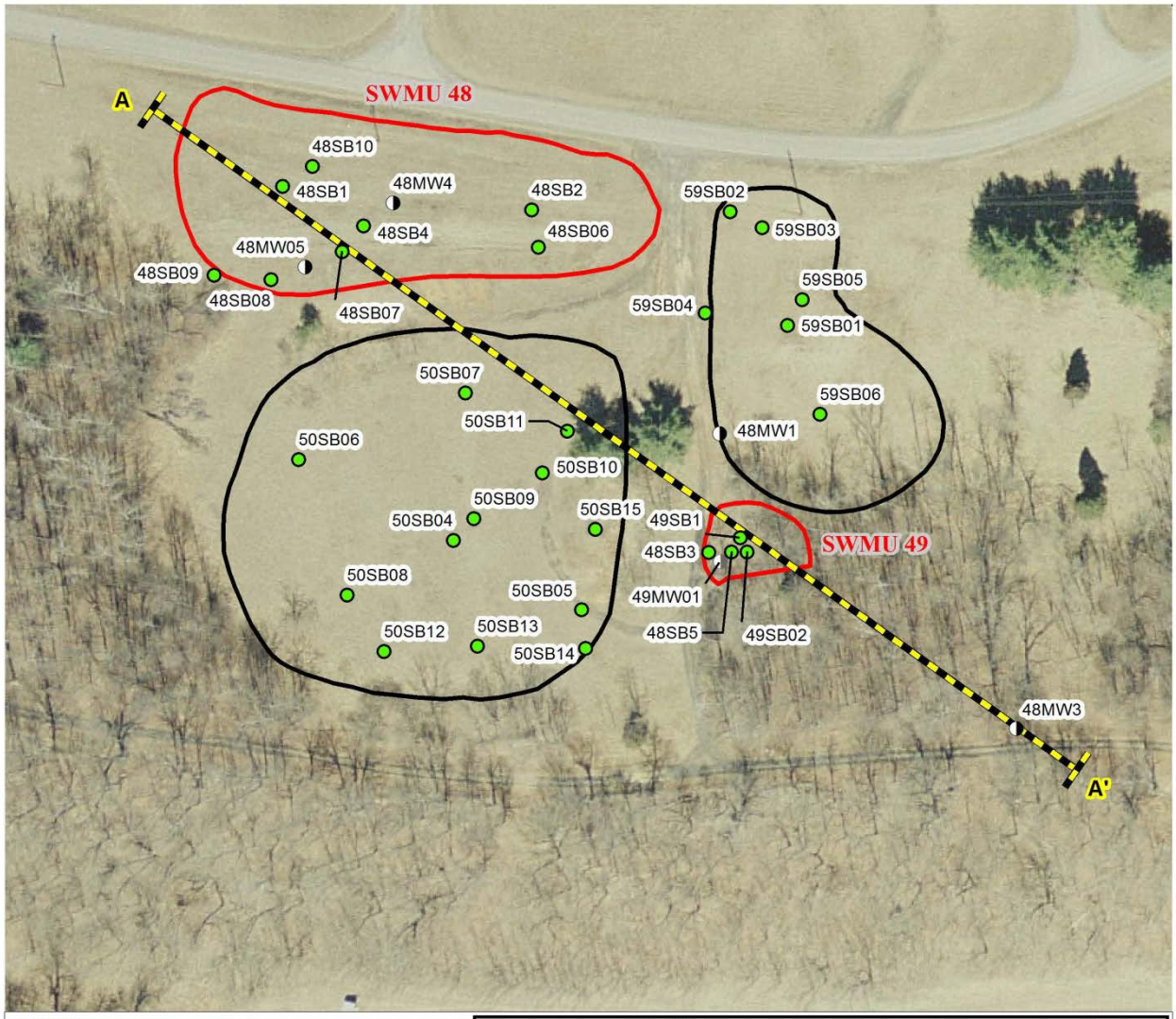
2.4.1 Regional Hydrogeology

Geologically, the Appalachian Plateaus and Valley and Ridge Province encompass two major tectonic domains: the southern Appalachian Basin and the southeastern part of the Eastern Interior Basin. The hydrogeologic framework is based on generalized stratigraphic succession, with indurated sedimentary rocks of the Paleozoic age forming predominant units.

Groundwater flow paths are typically short, commonly extending no more than several miles in their longest dimension. The largest groundwater supplies are produced from the carbonate rocks, especially where they are associated with thick regolith, an important storage reservoir throughout the entire area. The regolith serves as a store of recharge that would otherwise be rapidly diverted to overland flow. It also slowly releases water to underlying carbonate aquifers. Because of the widespread distribution of carbonate rocks and associated regolith, abundant precipitation in a humid climate, and relatively steep hydraulic gradients, this region (and locality) is one of the major karstlands in the eastern United States.

Groundwater supplies in the Valley and Ridge Province are generally good quality compared to surface water supplies (Parsons Engineering Science, Inc. [Parsons], 1996). However, due to extended contact with minerals, many groundwater supplies contain higher levels of dissolved solids than the streams into which they discharge. Because of sinkholes and underground caverns in karst aquifers, there is a high potential for groundwater to be impacted by direct infiltration of contaminated surface water.

Figure 2-1 SWMU 49 Cross Section A-A'



LEGEND

- Soil Sample Location
- SWMU 48 Wells
- SWMU 49 Wells
- Cross Section Line

Note:
1) Aerial photo, dated 2005, was obtained from Montgomery County, VA Planning & GIS Services.
2) Cross section A-A' profile and soil sample locations were obtained from SWMU 48/49 Draft RCRA Facility Investigation Report (January 2014, Shaw). Distance and elevation units are in feet. Vertical exaggeration = 3.

0 Feet 100

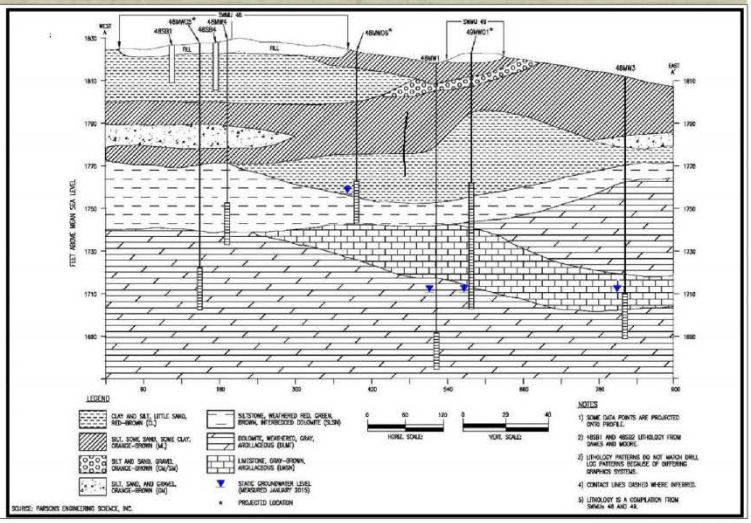


FIGURE 2-2

SWMU 49 Cross Section A-A'

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Figure 2-2 SWMU 49 Cross Section B-B'

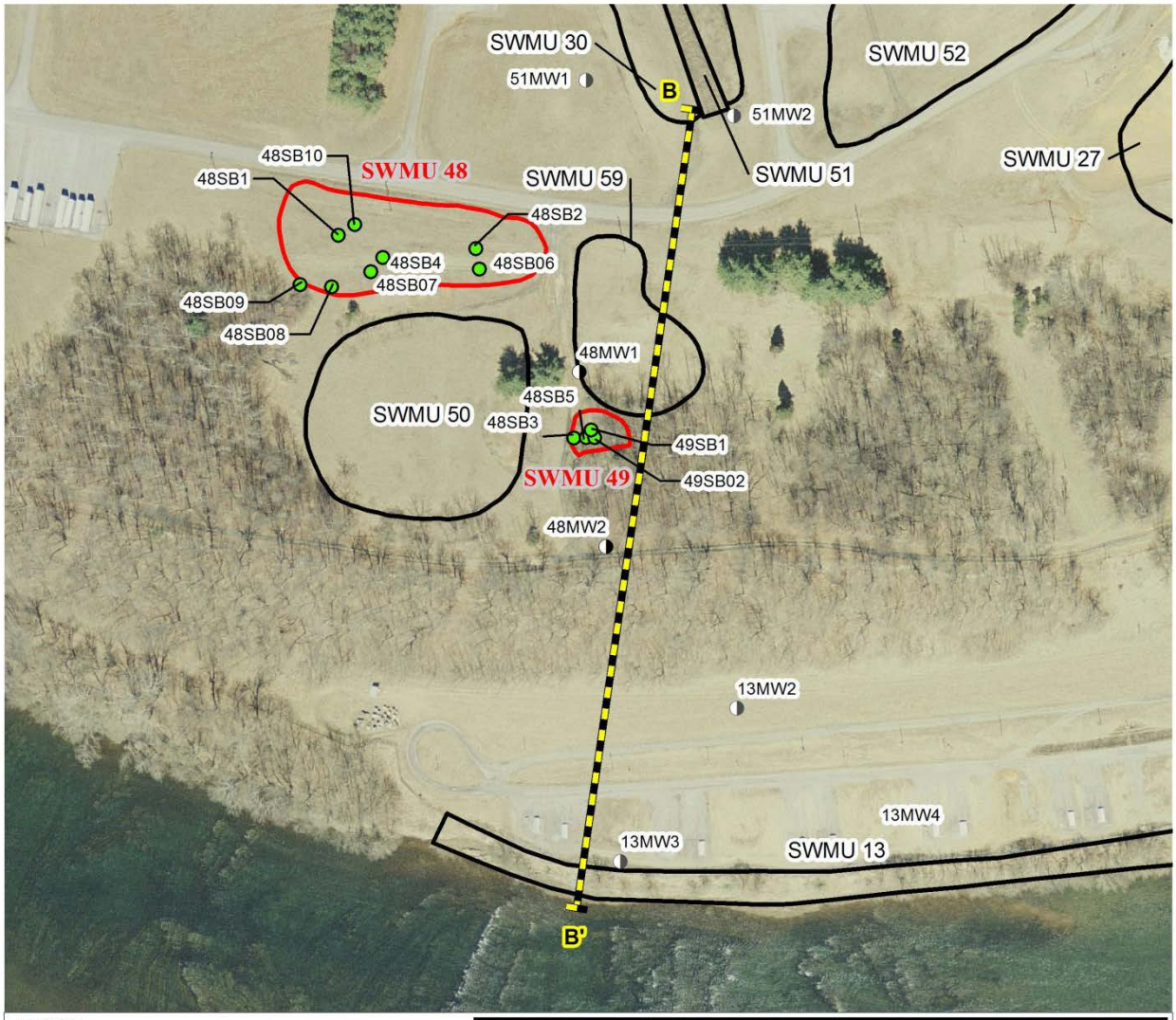

FIGURE 2-3

SWMU 49 Cross Section B-B'

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2.4.2 Site-Specific Hydrogeology

Monitoring wells installed at SWMU 49 were screened in both the surficial unconsolidated deposits and in the underlying bedrock. Boring logs and well construction diagrams for the SWMU 49 study area wells are presented in the SWMU 49 MNA Sampling Baseline Report (CB&I, 2015). Water levels were measured in the wells to determine the groundwater flow direction at the site. A groundwater contour map prepared from the Baseline MNA monitoring completed in January 2015 is provided in **Figure 2-3**. A steep bluff separates SWMU 49 and SWMU 13 and, therefore, no monitoring wells are positioned between these sites. Contour lines shown on the figure represent lines of equal elevation of the water table; consequently, groundwater flow direction is always perpendicular to the contour lines. Groundwater at the site tends to flow south towards SWMU 13 and appears to discharge to the New River, south of the study area. Based on the Year 1 groundwater elevations recorded, the flow direction did not change appreciably from quarter to quarter.

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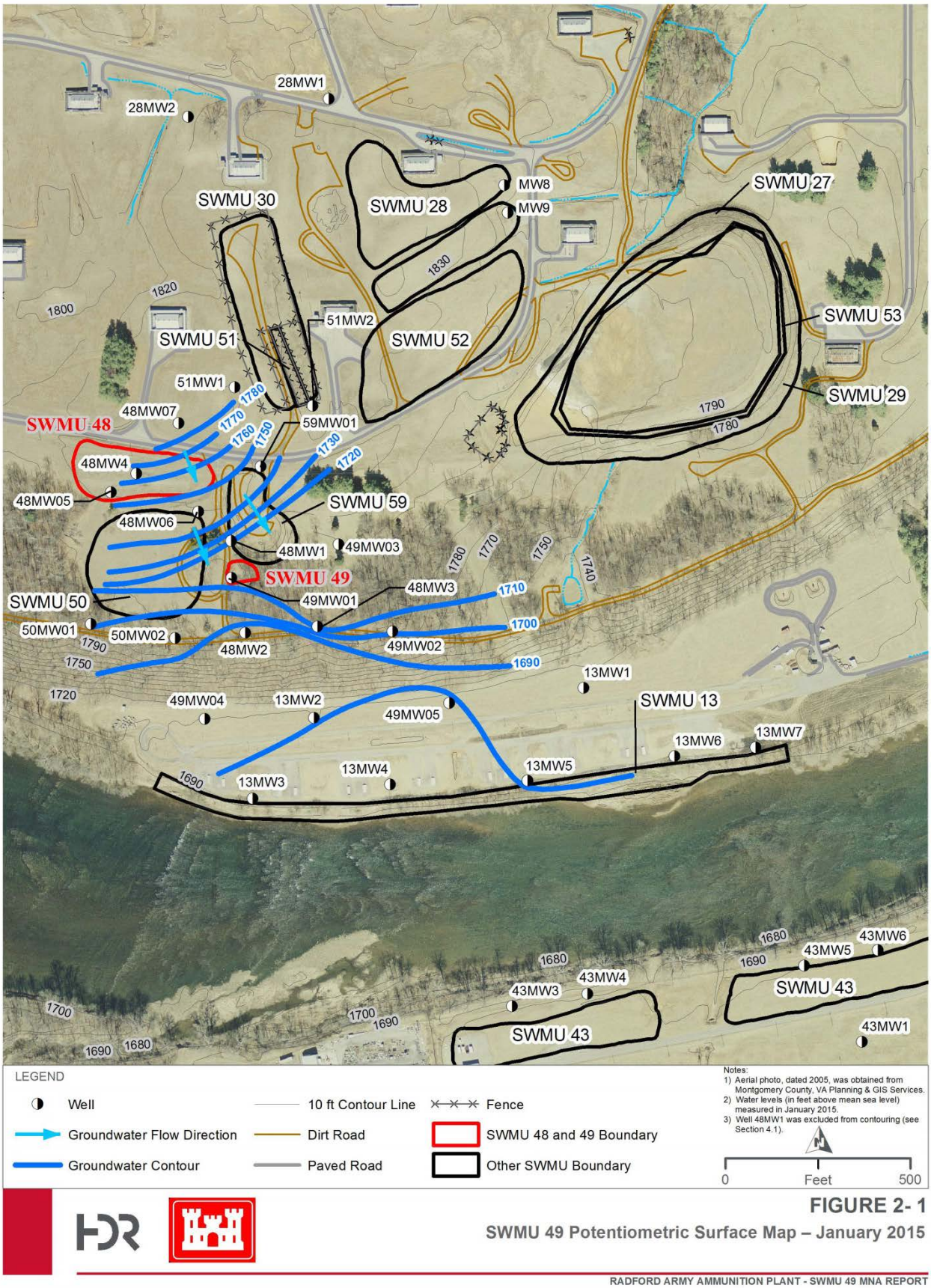
Figure 2-3 SWMU 49 January 2015 Potentiometric Surface Map



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3.0 Previous Investigations

Seven previous investigations have been conducted at the previously combined study area including SWMUs 48 and 49. In 1987, a RCRA Facility Assessment was conducted to evaluate potential hazardous waste or hazardous constituent releases and implement corrective actions, as necessary (USATHAMA, 1987). In 1992, Dames and Moore performed a Verification Investigation (VI), which included surface and subsurface soil sampling and a soil gas survey to characterize the nature and extent of contamination (Dames and Moore, 1992). In 1996, Parsons conducted an RFI to further delineate the extent of contamination identified during the 1992 VI sampling (Parsons, 1996). ICF Kaiser Engineers also performed an RFI in 1998 to further refine the understanding of the nature and extent of contamination identified during the previous investigations. Additional RFI sampling was conducted by IT Corporation/Shaw Environmental, Inc. (Shaw) in 2002, 2006, 2007, and 2013 to collect sufficient data to complete human health and ecological risk assessments (CB&I, 2014a).

In 2014, the USEPA and VDEQ approved the Draft SWMU 48/49 RFI Report (CB&I, 2014a), which developed the CMOs and RGs for the MNA program. Direct push soil borings and the installation and sampling of new and existing monitoring wells were used to: characterize the nature and extent of constituents in soil and groundwater at the SWMU 48/49 combined study area, identify the lateral and vertical extent of impacted soil and chlorinated solvents in groundwater, and characterize soil lithology and depth to groundwater and bedrock. Details of these investigations are described in Section 3.0 (Field Investigation Program) of the approved Draft SWMU 48/49 RFI Report (CB&I, 2014a). A potentiometric map, portraying the May 2013 groundwater levels, is provided in **Figure 3-1**. Historical data presenting the SWMU 49 COC concentrations for CT and TCE in the study area wells can be found in **Tables 3-1** through **3-5**.

The nature and extent assessment identified several volatile organic compounds (VOCs) and metals in groundwater as elevated and contributing to potential future risks. Two of the VOCs associated with potential future industrial and residential risk in the HHRA (CT and TCE) were present above USEPA's MCLs (USEPA, 2011) during the multiple groundwater sampling events at the study area. A comparison of concentrations from the mid-1990s to 2013 indicates that the majority of the VOCs are no longer present in these sampled areas and have broken down through natural processes. Analysis of the groundwater data during this roughly 20-year period shows that concentrations of CT and TCE plume have: 1) decreased overall, 2) decreased to 1 microgram per liter (µg/L) surrounding the center of the plume, and 3) decreased at least by one half in the center of the plume. The presence of daughter products (i.e., chloroform and cis-1,2-dichloroethene [cis-1,2-DCE]) in groundwater at the study area indicates that limited biological degradation of the chlorinated solvents is occurring.

The HHRA determined that CT and TCE are the primary COCs in groundwater that are contributing potential future industrial and residential risk at the SWMU 49 study area. Because

the RFI demonstrated that groundwater contamination is present at concentrations associated with unacceptable human health concerns, CMOs and RGs were developed to address the concerns.

The site-specific CMO for SWMU 49 is to reduce COC concentrations to below RGs/MCLs so as to not adversely impact future beneficial use of groundwater; and to the extent practicable, a goal of restoring site groundwater to the most beneficial use. The SWMU 49 groundwater COCs have been identified as CT and TCE. The groundwater RGs (displayed in **Table 1-1** of this report) will be used to compare results from groundwater monitoring wells to assess the progress of the MNA.

Table 3-6 provides the analytical results presented in the SWMU 49 MNA Sampling Baseline Report (CB&I, 2015). From the 2013 report, the highest concentrations of CT and TCE were observed in Wells 48MW2 and 48MW3. The plumes are small, appear to be isolated, and have not changed in dimension since 2013. Recommendations provided in the SWMU 49 MNA Sampling Baseline Report called for further monitoring of CT, TCE, and daughter products of these VOCs within the SWMU. The rationale of continued monitoring is to evaluate the effectiveness of the MNA processes.

Figure 3-1 SWMU 49 Potentiometric Surface Map – May 2013

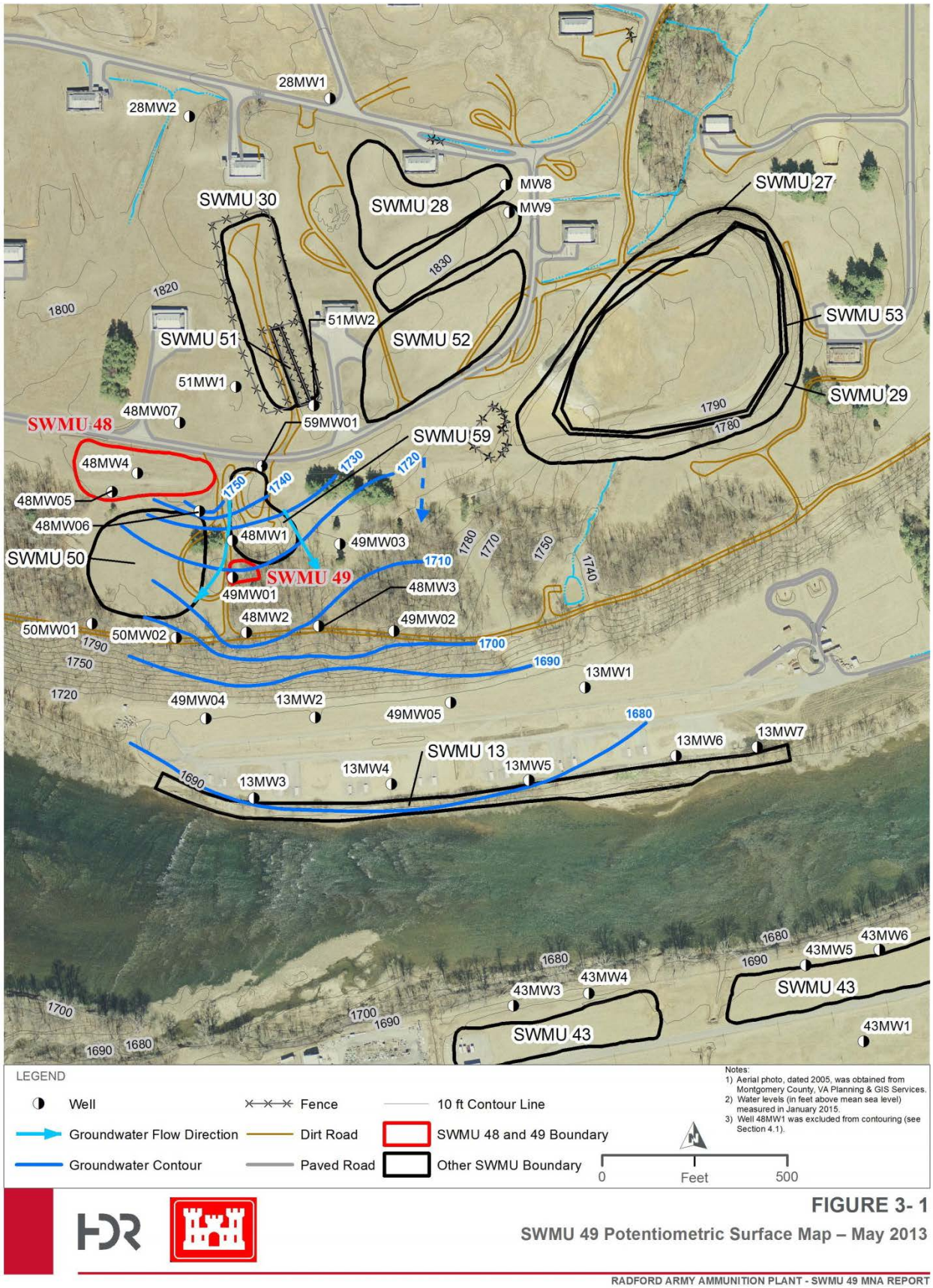

FIGURE 3- 1
SWMU 49 Potentiometric Surface Map – May 2013

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Table 3-1 COCs Detected in SWMU 48 & 49 Groundwater Samples – 1996 RFI

Analyte	Sample ID Sample Date	48MW1 1/20/95		48MW1 7/20/95		48MW2 1/19/95		48MW2 7/19/95		48MW3 1/20/95		48MW3 7/21/95		48MW4 7/27/95	
	RG	Result	Lab Q	Result	Lab Q	Result	Lab Q	Result	Lab Q	Result	Lab Q	Result	Lab Q	Result	Lab Q
VOCs (µg/L)															
Carbon tetrachloride	5	NT		1	U	NT		92		NT		100		1	U
Trichloroethene	5	NT		17		NT		11		NT		37		1	U

Notes:
RG = Remedial Goal
µg/L =micrograms per liter (parts per billion)
NT = Analyte not tested
VOC = Volatile Organic Compound

Lab Q = Lab Data Qualifiers
U = Analyte not-detected at the method reporting limit.

Bold outline indicates an RG exceedance.

Table 3-2 COCs Detected in SWMU 49 Groundwater Samples - 1998 RFI

Analyte	Sample ID Sample Date	48MW1-2 4/8/98					48MW2-2 4/2/98					48MW3-2 4/2/98					48MW4-2 4/8/98				
	RG	Result	Lab Q	Val Q	MDL	MRL	Result	Lab Q	Val Q	MDL	MRL	Result	Lab Q	Val Q	MDL	MRL	Result	Lab Q	Val Q	MDL	MRL
VOCs (µg/L)																					
Carbon tetrachloride	5	5	U	U	5	5	140			5	5	180			5	5	5	U	U	5	5
Trichloroethene	5	8		J	5	5	18		J	5	5	33		J	5	5	5	U	U	5	5

Notes:
µg/L = micrograms per liter (parts per billion)
MDL = Method Detection Limit
MRL = Method Reporting Limit
RG = Remedial Goal
VOC = Volatile Organic Compound

Lab Q = Lab Data Qualifiers
U = Analyte not-detected at the method reporting limit.
Val Q = Validation Data Qualifiers
J = Estimated concentration.
U = Analyte not detected.
-2 = Sample code signifies the second round of sampling conducted at these four wells. Original samples were collected during the 1996 RFI performed by ICF Kaiser.

Bold outline indicates an RG exceedance.
Shading in the MDL/MRL columns indicates the MDL/MRL is equal to or exceeds a criterion.

Table 3-3 COCs Detected in SWMU 49 Groundwater Samples - 2006 Groundwater Data Report

Analyte	Sample ID Sample Date	48MW1 4/13/06					48MW2 4/13/06					48MW3 4/13/06					48MW4 4/11/06				
	RG	Result	Lab Q	Val Q	MDL	MRL	Result	Lab Q	Val Q	MDL	MRL	Result	Lab Q	Val Q	MDL	MRL	Result	Lab Q	Val Q	MDL	MRL
VOCs (µg/L)																					
Carbon tetrachloride	5	1	U		0.5	1	29.2			0.5	1	51.2			0.5	1	1	U		0.5	1
Trichloroethene	5	5.5			0.5	1	3			0.5	1	7.4			0.5	1	1	U		0.5	1

Notes:
µg/L = micrograms per liter (parts per billion)
MDL = Method Detection Limit
MRL = Method Reporting Limit
RG = Remedial Goal
VOC = Volatile Organic Compound

Lab Q = Lab Data Qualifiers
U = Analyte not-detected at the method reporting limit.

Bold outline indicates an RG exceedance.
Shading in the MDL/MRL columns indicates the MDL/MRL is equal to or exceeds a criterion.

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Table 3-4 COCs Detected in SWMU 49 Study Area Groundwater Samples - 2007 RFI

Analyte	Sample ID Sample Date	48MW1 8/29/07					48MW2 8/29/07					48MW3 8/29/07					48MW4 8/29/07					48MW05 8/30/07					48MW06 8/30/07				
	RG	Result	Lab Q	Val Q	MDL	MRL	Result	Lab Q	Val Q	MDL	MRL	Result	Lab Q	Val Q	MDL	MRL	Result	Lab Q	Val Q	MDL	MRL	Result	Lab Q	Val Q	MDL	MRL	Result	Lab Q	Val Q	MDL	MRL
VOCs (µg/L)																															
Carbon tetrachloride	5	1	U		0.29	1	94.6			0.29	1	60.3			0.29	1	1	U		0.29	1	1	U		0.29	1	1	U		0.29	1
Trichloroethene	5	1.6			0.38	1	11.2			0.38	1	10.1			0.38	1	1	U		0.38	1	1	U		0.38	1	3.7			0.38	1

Analyte	Sample ID Sample Date	48MW07 8/30/07					49MW01 8/29/07					50MW01 8/30/07					50MW02 8/30/07					59MW01 8/29/07				
	RG	Result	Lab Q	Val Q	MDL	MRL	Result	Lab Q	Val Q	MDL	MRL	Result	Lab Q	Val Q	MDL	MRL	Result	Lab Q	Val Q	MDL	MRL	Result	Lab Q	Val Q	MDL	MRL
VOCs (µg/L)																										
Carbon tetrachloride	**5**	**1**	**U**		**0.29**	**1**	**3.8**			**0.29**	**1**	**1**	**U**		**0.29**	**1**	**2.7**			**0.29**	**1**	**1**	**U**		**0.29**	**1**
Trichloroethene	**5**	**1**	**U**		**0.38**	**1**	**1**	**U**		**0.38**	**1**	**1**	**U**		**0.38**	**1**	**3.4**			**0.38**	**1**	**1**	**U**		**0.38**	**1**

Notes:
µg/L = micrograms per liter (parts per billion)
MDL = Method Detection Limit
MRL = Method Reporting Limit
RG = Remedial Goal
VOC = Volatile Organic Compound

Lab Q = Lab Data Qualifiers
U = Analyte not-detected at the method reporting limit.

Bold outline indicates an RG exceedance.

Table 3-5 VOCs Detected in SWMU 49 Study Area Groundwater Samples - 2013 Supplemental RFI

Analyte	Sample ID / Sample Date	13MW2 5/6/13					13MW3 5/6/13					13MW4 5/6/13					13MW5 5/6/13					48MW1 5/8/13					48MW2 5/9/13					48MW3 5/9/13				
	RG	Result	Lab Q	Val Q	MDL	MRL	Result	Lab Q	Val Q	MDL	MRL	Result	Lab Q	Val Q	MDL	MRL	Result	Lab Q	Val Q	MDL	MRL	Result	Lab Q	Val Q	MDL	MRL	Result	Lab Q	Val Q	MDL	MRL	Result	Lab Q	Val Q	MDL	MRL
VOCs (µg/L)																																			
1,1,1-Trichloroethane	**na**	0.2	U		0.123	0.2	0.2	U		0.123	0.2	0.2	U		0.123	0.2	0.2	U		0.123	0.2	0.432	J	J	0.123	0.2	0.2	U		0.123	0.2	0.2	U		0.123	0.2
1,1-Dichloroethane	**na**	0.2	U		0.171	0.2	0.2	U		0.171	0.2	0.2	U		0.171	0.2	0.2	U		0.171	0.2	1.03			0.171	0.2	0.2	U		0.171	0.2	0.2	U		0.171	0.2
1,1-Dichloroethene	**na**	0.5	U		0.2	0.5	0.5	U		0.2	0.5	0.5	U		0.2	0.5	0.5	U		0.2	0.5	0.5	U		0.2	0.5	0.5	U		0.2	0.5	0.5	U		0.2	0.5
Acetone	**na**	1	U		0.193	1	1	U		0.193	1	1	U		0.193	1	1	U		0.193	1	1	U		0.193	1	1	U		0.193	1	1	U		0.193	1
Carbon tetrachloride	**5**	0.5	U		0.248	0.5	5.63			0.248	0.5	0.5	U		0.248	0.5	0.5	U		0.248	0.5	0.5	U		0.248	0.5	82.7			0.248	0.5	73.1			0.248	0.5
Chloroform	**na**	0.2	U		0.155	0.2	0.453	J	J	0.155	0.2	0.2	U		0.155	0.2	0.2	U		0.155	0.2	0.2	U		0.155	0.2	5.97			0.155	0.2	7.89			0.155	0.2
cis-1,2-Dichloroethene	**na**	0.2	U		0.103	0.2	0.2	U		0.103	0.2	0.2	U		0.103	0.2	0.2	U		0.103	0.2	0.817	J	J	0.103	0.2	0.2	U		0.103	0.2	0.2	U		0.103	0.2
Methylene chloride	**na**	0.5	U		0.149	0.5	0.5	U		0.149	0.5	0.5	U		0.149	0.5	0.5	U		0.149	0.5	0.5	U		0.149	0.5	0.5	U		0.149	0.5	0.5	U		0.149	0.5
Tetrachloroethene	**na**	0.5	U		0.193	0.5	0.5	U		0.193	0.5	0.5	U		0.193	0.5	0.5	U		0.193	0.5	0.5	U		0.193	0.5	0.5	U		0.193	0.5	0.5	U		0.193	0.5
Toluene	**na**	0.2	U		0.122	0.2	0.2	U		0.122	0.2	0.2	U		0.122	0.2	0.2	U		0.122	0.2	2.1			0.122	0.2	1.18			0.122	0.2	0.291	J	J	0.122	0.2
Trichloroethene	**5**	0.2	U		0.161	0.2	1.08			0.161	0.2	1.08			0.161	0.2	0.2	U		0.161	0.2	1.9			0.161	0.2	9.75			0.161	0.2	10.7			0.161	0.2

Analyte	Sample ID / Sample Date	48MW06 5/7/13					49MW01 5/8/13					49MW02 5/9/13					49MW03 5/7/13					49MW04 5/6/13					49MW05 5/6/13					50MW02 5/8/13				
	RG	Result	Lab Q	Val Q	MDL	MRL	Result	Lab Q	Val Q	MDL	MRL	Result	Lab Q	Val Q	MDL	MRL	Result	Lab Q	Val Q	MDL	MRL	Result	Lab Q	Val Q	MDL	MRL	Result	Lab Q	Val Q	MDL	MRL	Result	Lab Q	Val Q	MDL	MRL
VOCs (µg/L)																																			
1,1,1-Trichloroethane	**na**	1.66			0.123	0.2	0.2	U		0.123	0.2	0.2	U		0.123	0.2	0.2	U	UL	0.123	0.2	0.2	U		0.123	0.2	0.2	U		0.123	0.2	0.251	J	J	0.123	0.2
1,1-Dichloroethane	**na**	5.86			0.171	0.2	0.2	U		0.171	0.2	0.2	U		0.171	0.2	0.2	U	UL	0.171	0.2	0.2	U		0.171	0.2	0.2	U		0.171	0.2	0.344	J	J	0.171	0.2
1,1-Dichloroethene	**na**	0.301	J	J	0.2	0.5	0.5	U		0.2	0.5	0.5	U		0.2	0.5	0.5	U	UL	0.2	0.5	0.5	U		0.2	0.5	0.5	U		0.2	0.5	0.5	U		0.2	0.5
Acetone	**na**	1	U		0.193	1	1	U		0.193	1	2.41	J	B	0.193	1	1	U	UL	0.193	1	1	U		0.193	1	1	U		0.193	1	1	U		0.193	1
Carbon tetrachloride	**5**	0.5	U		0.248	0.5	4.61			0.248	0.5	5.36			0.248	0.5	0.5	U	UL	0.248	0.5	0.664	J	J	0.248	0.5	0.5	U		0.248	0.5	0.919	J	J	0.248	0.5
Chloroform	**na**	0.2	U		0.155	0.2	0.193	J	J	0.155	0.2	7.79			0.155	0.2	0.2	U	UL	0.155	0.2	1.25			0.155	0.2	0.2	U		0.155	0.2	0.2	U		0.155	0.2
cis-1,2-Dichloroethene	**na**	9.21			0.103	0.2	0.2	U		0.103	0.2	0.2	U		0.103	0.2	0.2	U	UL	0.103	0.2	0.2	U		0.103	0.2	0.2	U		0.103	0.2	0.373	J	J	0.103	0.2
Methylene chloride	**na**	0.5	U		0.149	0.5	0.5	U		0.149	0.5	0.5	U		0.149	0.5	2.3	J	L	0.149	0.5	0.5	U		0.149	0.5	0.5	U		0.149	0.5	0.5	U		0.149	0.5
Tetrachloroethene	**na**	0.801	J	J	0.193	0.5	0.5	U		0.193	0.5	0.5	U		0.193	0.5	0.5	U	UL	0.193	0.5	0.5	U		0.193	0.5	0.5	U		0.193	0.5	0.255	J	J	0.193	0.5
Toluene	**na**	0.2	U		0.122	0.2	0.765	J	J	0.122	0.2	1.52			0.122	0.2	0.2	U	UL	0.122	0.2	0.2	U		0.122	0.2	0.2	U		0.122	0.2	0.726	J	J	0.122	0.2
Trichloroethene	**5**	6.25			0.161	0.2	0.2	U		0.161	0.2	0.934	J	J	0.161	0.2	0.2	U	UL	0.161	0.2	0.2	U		0.161	0.2	0.2	U		0.161	0.2	2.31			0.161	0.2

Notes:
RG = Remedial Goal developed for carbon tetrachloride and trichloroethene in CB&I, 2014.
µg/L = micrograms per liter (parts per billion)
MDL = Method Detection Limit
MRL = Method Reporting Limit
VOC = Volatile Organic Compound

Bold outline indicates an RG exceedance.

Lab Q = Lab Data Qualifiers
J = Value <MRL and >MDL and is considered estimated.
U = Analyte not-detected at the method reporting limit.
Val Q = Validation Data Qualifiers
B = Blank contamination. Value detected in sample and associated blank.
J = Estimated concentration.
K = Estimated concentration bias high.
L = Estimated concentration bias low.
UL = Estimated concentration non-detect bias low

Table 3-6 Analytes Detected in Baseline Monitoring

Analyte	Sample ID Sample Date	13MW2 1/26/15					13MW3 1/26/15					13MW4 1/26/15					13MW5 1/26/15					48MW1 1/28/15					48MW2 1/28/15					48MW3 1/27/15					48MW06 1/29/15				
	RG	Result	Lab Q	Val Q	MDL	MRL	Result	Lab Q	Val Q	MDL	MRL	Result	Lab Q	Val Q	MDL	MRL	Result	Lab Q	Val Q	MDL	MRL	Result	Lab Q	Val Q	MDL	MRL	Result	Lab Q	Val Q	MDL	MRL	Result	Lab Q	Val Q	MDL	MRL	Result	Lab Q	Val Q	MDL	MRL
VOCs (µg/L)																																								
1,1,1-Trichloroethane	na	0.5	U		0.25	0.5	0.5	U		0.25	0.5	0.5	U		0.25	0.5	0.5	U		0.25	0.5	0.454	J	J	0.25	0.5	0.5	U		0.25	0.5	0.5	U		0.25	0.5	0.691	DJ	J	0.5	1
1,1-Dichloroethane	na	0.5	U		0.25	0.5	0.5	U		0.25	0.5	0.5	U		0.25	0.5	0.5	U		0.25	0.5	0.908	J	J	0.25	0.5	0.5	U		0.25	0.5	0.5	U		0.25	0.5	4.28	D		0.5	1
Acetone	na	5	U		2.5	5	5	U		2.5	5	5	U		2.5	5	5	U		2.5	5	5	U		2.5	5	5	U		2.5	5	5	XU		2.5	5	27.8	D	B	5	10
Bromoform	na	0.5	U		0.25	0.5	0.5	U		0.25	0.5	0.5	U		0.25	0.5	0.5	U		0.25	0.5	0.5	U		0.25	0.5	0.5	U		0.25	0.5	0.5	U		0.25	0.5	1	XU		0.5	1
Bromomethane	na	1	U		0.5	1	1	U		0.5	1	1	U		0.5	1	1	U		0.5	1	1	U		0.5	1	1	U		0.5	1	1	NU		0.5	1	2	U		1	2
Carbon tetrachloride	5	0.5	U		0.25	0.5	4.62			0.25	0.5	0.592	J	J	0.25	0.5	0.5	U		0.25	0.5	0.5	XU		0.25	0.5	118	X	J	0.25	0.5	77.4			0.25	0.5	1	XU		0.5	1
Chloroform	na	0.5	U		0.25	0.5	0.47	J	J	0.25	0.5	0.5	U		0.25	0.5	0.5	U		0.25	0.5	0.5	U		0.25	0.5	7.46			0.25	0.5	8.37			0.25	0.5	1	U		0.5	1
cis-1,2-Dichloroethene	na	0.5	U		0.25	0.5	0.5	U		0.25	0.5	0.5	U		0.25	0.5	0.5	U		0.25	0.5	0.914	J	J	0.25	0.5	0.5	U		0.25	0.5	0.5	U		0.25	0.5	4.86	D		0.5	1
Dibromochloromethane	na	0.5	U		0.25	0.5	0.5	U		0.25	0.5	0.5	U		0.25	0.5	0.5	U		0.25	0.5	0.5	U		0.25	0.5	0.5	U		0.25	0.5	0.5	XU		0.25	0.5	1	U		0.5	1
Ethylbenzene	na	0.5	U		0.25	0.5	0.5	U		0.25	0.5	0.5	U		0.25	0.5	0.5	U		0.25	0.5	0.5	U		0.25	0.5	0.469	J	J	0.25	0.5	0.5	U		0.25	0.5	1	U		0.5	1
m- & p-Xylene	na	1	U		0.5	1	1	U		0.5	1	1	U		0.5	1	1	U		0.5	1	0.535	J	J	0.5	1	1.32	J	J	0.5	1	0.736	J	J	0.5	1	2	U		1	2
o-Xylene	na	0.5	U		0.25	0.5	0.5	U		0.25	0.5	0.5	U		0.25	0.5	0.5	U		0.25	0.5	0.285	J	J	0.25	0.5	0.919	J	J	0.25	0.5	0.495	J	J	0.25	0.5	1	U		0.5	1
Tetrachloroethene	na	0.5	U		0.25	0.5	0.5	U		0.25	0.5	0.5	U		0.25	0.5	0.5	U		0.25	0.5	0.5	U		0.25	0.5	0.5	U		0.25	0.5	0.5	U		0.25	0.5	0.709	DJ	J	0.5	1
Trichloroethene	5	0.5	U		0.25	0.5	0.883	J	J	0.25	0.5	0.5	U		0.25	0.5	1.42			0.25	0.5	1.91			0.25	0.5	10.5			0.25	0.5	12.4			0.25	0.5	3.29	D		0.5	1
Misc. (µg/L)																																								
Total Organic Carbon	na	2500	U		1250	2500	2500	U		1250	2500	2500	U		1250	2500	NT					2500	U		1250	2500	2500	U		1250	2500	2500	U		1250	2500	1640	J	J	1250	2500
Chloride	na	2750			170	330	3880			170	330	11500			170	330	NT					3100			170	330	2650			170	330	2220			170	330	9360	D		340	660
Nitrate (as N)	na	71.5	J	J	33	100	1660			33	100	100	U		33	100	NT					1350			33	100	754			33	100	6400			33	100	5880			33	100
Sulfate	na	45900			330	1000	126000			330	1000	23800			330	1000	NT					58000			330	1000	16800			330	1000	29800			330	1000	275000	D		660	2000
Methane	na	2	U		1	2	2	U		1	2	2	U		1	2	NT					2	U		1	2	2	U		1	2	2	U		1	2	2	U		1	2
Ethene	na	2	U		1	2	2	U		1	2	2	U		1	2	NT					2	U		1	2	2	U		1	2	2	U		1	2	2	U		1	2

Table 3-6 Analytes Detected in Baseline Monitoring (Continued)

Analyte	Sample ID / Sample Date	48MW07 1/29/15					49MW01 1/28/15					49MW02 1/27/15					49MW03 1/28/15					49MW04 1/26/15					49MW05 1/26/15					50MW02 1/27/15				
	RG	Result	Lab Q	Val Q	MDL	MRL	Result	Lab Q	Val Q	MDL	MRL	Result	Lab Q	Val Q	MDL	MRL	Result	Lab Q	Val Q	MDL	MRL	Result	Lab Q	Val Q	MDL	MRL	Result	Lab Q	Val Q	MDL	MRL	Result	Lab Q	Val Q	MDL	MRL
VOCs (µg/L)																																			
1,1,1-Trichloroethane	**na**	0.5	U		0.25	0.5	0.262	J	J	0.25	0.5	1	U		0.5	1	0.5	U		0.25	0.5	0.5	U		0.25	0.5	1	U		0.5	1	0.5	U		0.25	0.5
1,1-Dichloroethane	**na**	0.5	U		0.25	0.5	0.5	U		0.25	0.5	1	U		0.5	1	0.5	U		0.25	0.5	0.5	U		0.25	0.5	1	U		0.5	1	0.313	J	J	0.25	0.5
Acetone	**na**	5	U		2.5	5	5	U		2.5	5	14	XDJ	B	5	10	5	U		2.5	5	5	U		2.5	5	18.6	DJ	B	5	10	5	XU		2.5	5
Bromoform	**na**	0.5	XU		0.25	0.5	0.5	U		0.25	0.5	1	U		0.5	1	0.5	U		0.25	0.5	0.5	U		0.25	0.5	1	U		0.5	1	0.5	U		0.25	0.5
Bromomethane	**na**	1	U		0.5	1	1	U		0.5	1	2	U		1	2	1	U		0.5	1	1	U		0.5	1	2	U		1	2	1	U		0.5	1
Carbon tetrachloride	**5**	0.5	XU		0.25	0.5	4.97	X	J	0.25	0.5	5.05	D		0.5	1	0.5	XU		0.25	0.5	0.662	J	J	0.25	0.5	1	U		0.5	1	1.62			0.25	0.5
Chloroform	**na**	0.5	U		0.25	0.5	0.404	J	J	0.25	0.5	1.55	DJ	J	0.5	1	0.5	U		0.25	0.5	1.46			0.25	0.5	1	U		0.5	1	0.5	U		0.25	0.5
cis-1,2-Dichloroethene	**na**	0.5	U		0.25	0.5	0.5	U		0.25	0.5	1	U		0.5	1	0.5	U		0.25	0.5	0.5	U		0.25	0.5	1	U		0.5	1	0.384	J	J	0.25	0.5
Dibromochloromethane	**na**	0.5	U		0.25	0.5	0.5	U		0.25	0.5	1	XU		0.5	1	0.5	U		0.25	0.5	0.5	U		0.25	0.5	1	U		0.5	1	0.5	XU		0.25	0.5
Ethylbenzene	**na**	0.5	U		0.25	0.5	0.262	J	J	0.25	0.5	1.13	DJ	J	0.5	1	0.5	U		0.25	0.5	0.5	U		0.25	0.5	1	U		0.5	1	0.5	U		0.25	0.5
m- & p-Xylene	**na**	1	U		0.5	1	0.69	J	J	0.5	1	4.06	D		1	2	1	U		0.5	1	1	U		0.5	1	2	U		1	2	0.804	J	J	0.5	1
o-Xylene	**na**	0.5	U		0.25	0.5	0.544	J	J	0.25	0.5	2.91	D		0.5	1	0.296	J	J	0.25	0.5	0.5	U		0.25	0.5	1	U		0.5	1	0.542	J	J	0.25	0.5
Tetrachloroethene	**na**	0.5	U		0.25	0.5	0.5	U		0.25	0.5	1	U		0.5	1	0.5	U		0.25	0.5	0.5	U		0.25	0.5	1	U		0.5	1	0.311	J	J	0.25	0.5
Trichloroethene	**5**	0.5	U		0.25	0.5	0.5	U		0.25	0.5	.0501	DJ	J	0.5	1	0.5	U		0.25	0.5	0.5	U		0.25	0.5	1	U		0.5	1	2.08			0.25	0.5
Misc. (µg/L)																																			
Total Organic Carbon	**na**	NT					2500	U		1250	2500	2500	U		1250	2500	NT					2500	U		1250	2500	NT					2500	U		1250	2500
Chloride	**na**	NT					6030			170	330	3450			170	330	NT					5160			170	330	NT					7270			170	330
Nitrate (as N)	**na**	NT					303			33	100	47.6	J	J	33	100	NT					249	J	J	33	100	NT					2060			33	100
Sulfate	**na**	NT					1000	U		330	1000	26600			330	1000	NT					53600			330	1000	NT					73200			330	1000
Methane	**na**	NT					2	U		1	2	1.54	J	J	1	2	NT					2	U		1	2	NT					2	U		1	2
Ethene	**na**	NT					2	U		1	2	1.4	J	J	1	2	NT					2	U		1	2	NT					2	U		1	2

Notes:
RG = Remedial Goal developed for carbon tetrachloride and trichloroethene in CB&I, 2014.
µg/L = micrograms per liter (parts per billion)
CCV = Continuing Calibration Verification
ICV = Initial Calibration Verification
MDL = Method Detection Limit
MRL = Method Reporting Limit
na = not applicable
NT = Analyte not tested
VOC = Volatile Organic Compound

Lab Q = Lab Data Qualifiers
D = Sample was run at a dilution.
J = Value <MRL and >MDL and is considered estimated.
N = Matrix Spike/Matrix Spike Duplicate accuracy and/or precision were outside criteria
U = Analyte not-detected at the method reporting limit.
X = The associated ICV/CCV exceeded the upper control limit.

Val Q = Validation Data Qualifiers
B = Blank contamination. Value detected in sample and associated blank.
J = Estimated concentration.

Bold outline indicates an RG exceedance.

4.0 Field Activities

The following sections provide a discussion of field activities conducted by BSEn in the first year of MNA monitoring at SWMU 49.

The first year of groundwater monitoring consisted of four sampling events conducted in September 2015 (first quarter), January 2016 (second quarter), April 2016 (third quarter), and July 2016 (fourth quarter). Fifteen monitoring wells were included in the monitoring well network, of which eleven were sampled on a quarterly basis and four on an annual basis. The year one MNA groundwater monitoring consisted of a synoptic water level measurement and sampling of the 15 point of compliance (POC) monitoring wells for Target Compound List (TCL) VOCs and dissolved gases (methane, ethane, ethane). In addition, the following indicator parameters were collected: Total Organic Carbon (TOC), dissolved ferrous iron, and the anions chloride, nitrate, and sulfate. Water quality parameters collected during low flow sampling included pH, temperature, specific conductance, dissolved oxygen (DO), oxidation-reduction potential (ORP), and turbidity. The list of monitoring wells and sample frequency is provided in **Table 4-2**. Field activities were conducted in accordance with the Draft Final SWMU 49 MNA Groundwater Monitoring Work Plan (CB&I, 2014b). Copies of the groundwater sample forms are presented in **Appendix A**.

4.1 First Quarter Groundwater Sampling

Groundwater elevation measurements were collected from all 15 POC monitoring wells, while samples were collected from 12 of the 15 wells. The first quarter of groundwater sampling was conducted 30 September through 2 October 2015 during a period of heavy rain and flooding of the New River. Groundwater elevation measurements were collected prior to sampling activities. The locations of monitoring wells sampled during this quarterly event are provided in **Figure 4-1**.

4.1.1 Groundwater Elevation Measurements

Water level elevations were collected during each first year quarterly event from the 15 monitoring wells at SWMU 49 prior to the collection of groundwater samples. **Table 4-1** provides the measured depth to water levels (from the top of the casing [TOC]) and groundwater elevations amsl collected on 29 September 2015. **Figure 4-2** presents a groundwater elevation contour map developed from the elevation data collected during this quarterly monitoring event.

Table 4-1 SWMU 49 First Quarter Groundwater Elevations

Well	Screen Interval (ft bgs)	Screen Length (ft)	Total Depth (ft)	Water Level (BTOC)	Elevation (TOC)	Water Level (ft amsl)	PID Readings (ppm)
48MW07	62 - 82	20	82	48.04	1833.69	1785.65	PID = 0.0
13MW5	14 - 25	19	25	13.36	1696.40	1683.04	PID = 0.0
49MW03	77 - 117	40	117	104.72	1811.82	1707.10	PID = 0.0
49MW05	16 - 37	19	36.8	19.97	1699.74	1679.77	PID = 0.0
48MW06	58 - 78	20	78	65.82	1822.85	1757.03	PID = 2.0
48MW1	110 - 140	30	140	107.9	1816.42	1708.52	PID = 0.0
48MW2	113 - 134	20	133.7	124.39	1816.27	1691.88	PID = 0.0
48MW3	100 - 120	20	120	97.67	1808.56	1710.89	PID = 0.0
49MW01	90 - 121	31	121	115.56	1826.42	1710.86	PID = 0.0
49MW02	103 - 133	30	133	95.26	1806.29	1711.03	PID = 0.6
50MW02	89 - 119	30	119	115.62	1809.63	1694.01	PID = 0.0
13MW2	19-29	10	29	7.1	1702.62	1695.52	PID = 0.0
13MW3	9 - 19	10	19	13.87	1694.47	1680.60	PID = 0.0
13MW4	14 - 24	10	24	12.33	1696.40	1684.07	PID = 0.0
49MW04	50 - 70	20	72	19.38	1703.00	1683.62	PID = 0.0

Notes:
** Water level does not appear to be representative.*
amsl = above mean sea level
bgs = below ground surface
BTOC = below top of casing
ft = feet/foot
ppm = parts per million
TOC =top of casing

4.1.2 Groundwater Sampling

Groundwater samples were collected from 12 of the 15 POC monitoring wells from 30 September through 2 October 2015 and analyzed for the analytical suites covering TCL VOCs and the dissolved gases methane, ethane, and ethene. In addition, the following indicator parameters were collected: TOC, dissolved ferrous iron, chloride, nitrate, and sulfate. Water quality parameters collected during low flow sampling included pH, temperature, specific conductance, DO, ORP, and turbidity. These parameters are discussed in Section 6.2 regarding the potential for biodegradation in the groundwater at SWMU 49. **Table 4-2** presents the suite of analytes collected for analysis during the first quarterly monitoring event.

Figure 4-1 SWMU 49 Monitoring Well Sample Locations

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Figure 4-2 SWMU 49 September 2015 Groundwater Contour Map

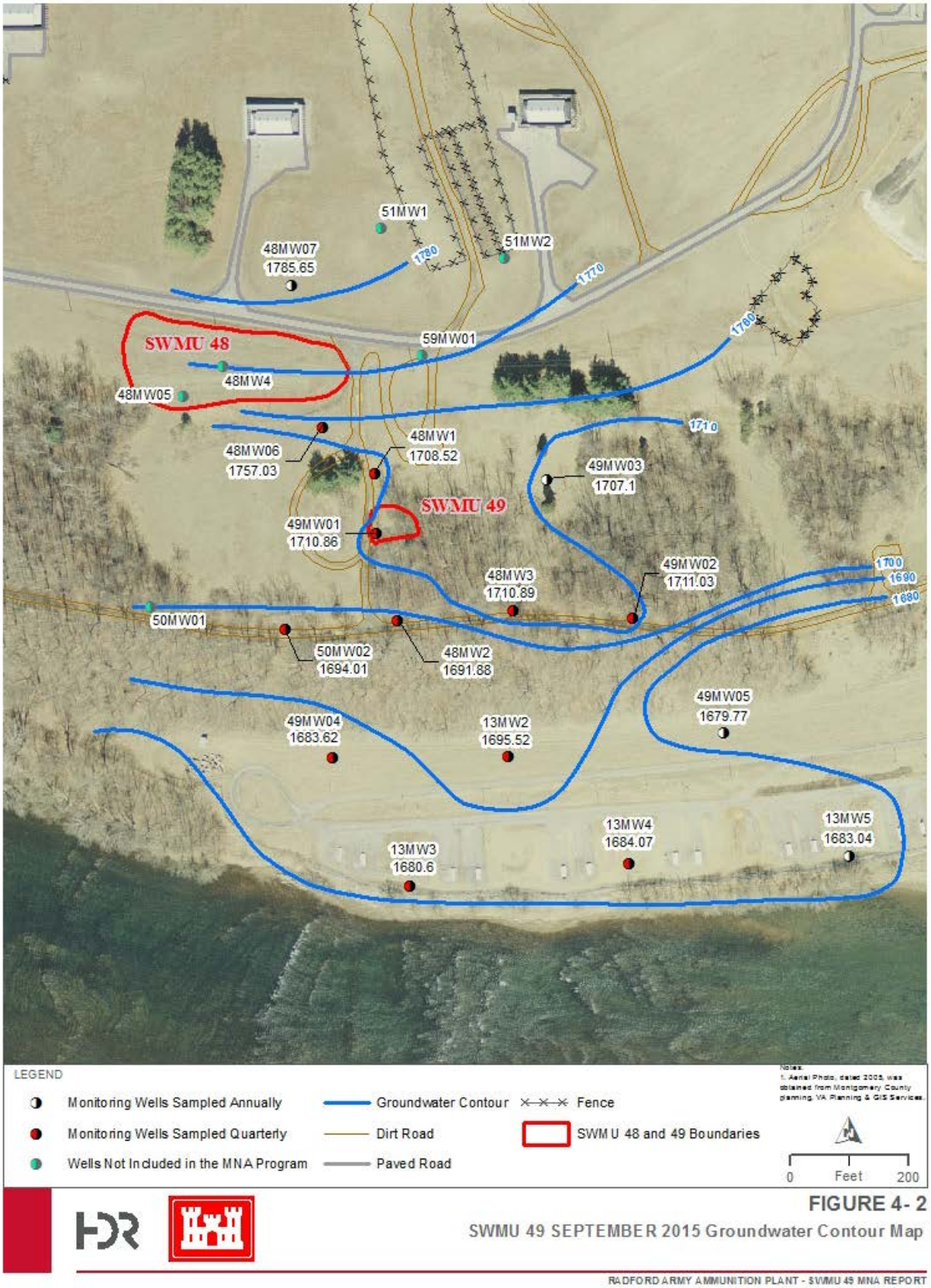

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Table 4-2 SWMU 49 Year 1 Quarterly Monitoring Analytical Suite

Well/Sample ID	Frequency	TCL VOCs	Dissolved Gases (Methane, Ethane, Ethene) Perchlorate	MNA Indicator Parameters	Water Quality Parameters
13MW2	**Quarterly**	**X**	**X**	**X**	**X**
13MW3	**Quarterly**	**X**	**X**	**X**	**X**
13MW4	**Quarterly**	**X**	**X**	**X**	**X**
13MW5	**Annual**	**X**	**X**	**X**	**X**
48MW1	**Quarterly**	**X**	**X**	**X**	**X**
48MW2	**Quarterly**	**X**	**X**	**X**	**X**
48MW3	**Quarterly**	**X**	**X**	**X**	**X**
48MW06	**Quarterly**	**X**	**X**	**X**	**X**
48MW07	**Annual**	**X**	**X**	**X**	**X**
49MW01	**Quarterly**	**X**	**X**	**X**	**X**
49MW02	**Quarterly**	**X**	**X**	**X**	**X**
49MW03	**Annual**	**X**	**X**	**X**	**X**
49MW04	**Quarterly**	**X**	**X**	**X**	**X**
49MW05	**Annual**	**X**	**X**	**X**	**X**
50MW02	**Quarterly**	**X**	**X**	**X**	**X**

Notes:
MNA = Monitored Natural Attenuation
TCL =Target compound list
VOC = Volatile organic compound

Groundwater samples were collected via low-flow bladder pumps to obtain representative groundwater samples and to minimize investigative derived waste (IDW) purge water. The following procedures were followed during all quarterly groundwater monitoring events:

1. A photoionization detector (PID) reading was taken upon removing the well cap to determine the presence of potentially hazardous levels of volatile gases. The PID readings were collected during the water elevation sweeps and again during sample collection. All PID readings were within acceptable levels.
2. During the water level sweep, depth to water and total depth measurements were recorded to determine the amount of water in the well casing and sand pack.
3. Groundwater samples were collected after all water level elevations had been recorded. The general practice was to lower the bladder pump to a depth where the pump inlet was within the screened interval. Ample hydraulic head was maintained above the pump to insure a sufficient water supply. The pump was connected to a Geocontrol PRO control unit, while the discharge tubing was connected to a YSI 556 water quality flow cell.
4. Monitoring wells were pumped at a rate of approximately 200 milliliters per minute (mL/min). Flow rate was determined by gauging the time it took to fill a 200 mL vial. Water quality parameters were recorded continuously including temperature, pH, DO,

ORP, turbidity, and conductivity. Turbidity was measured using a Hach 2100Q turbidity meter, while concentrations of dissolved ferrous iron were measured in the field using a Hach DR900 test kit via Method 8146.

5. **Table 4-3** presents a summary of the final (stabilized) water quality readings for each well from the first quarter.

Based on the first quarter DO data, aerobic groundwater conditions exist at SWMU 49 (i.e., DO >1 parts per million [ppm]). The DO levels ranged from a low of 1.42 milligrams per liter (mg/L) at monitoring well 48MW06 to a high of 9.2 mg/L at monitoring well 49MW04. ORP measurements ranged from a low of 39.8 millivolts (mV) in monitoring well 48MW3 to a high of 215.9 mV at monitoring well 49MW01. Measurements of pH ranged from a low of 6.34 standard units (SU) at monitoring well 13MW3 to a high of 7.45 at monitoring well 49MW01. Measurements of specific conductance ranged from a low of 0.493 microsiemens per centimeter (µS/cm) at monitoring well 49MW01 to a high of 715 µS/cm at monitoring well 50MW02.

Table 4-3 SWMU 49 First Quarter Water Quality Parameters

Well ID	pH	Conductivity (µS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	ORP (mV)	Temperature (ºC)
48MW07	7.2	196	2.26	7.6	75.0	14.0
13MW5	NS	NS	NS	NS	NS	NS
49MW03	NS	NS	NS	NS	NS	NS
49MW05	NS	NS	NS	NS	NS	NS
48MW06	7.0	0.926	10.40	1.42	195.3	14.35
48MW1	7.58	0.505	4.52	2.6	186.3	14.46
48MW2	7.0	493	512	7.0	53.0	14.0
48MW3	6.92	714	2.50	3.84	39.8	12.94
49MW01	7.45	0.493	35.0	5.18	215.9	14.09
49MW02	7.15	529	17.6	3.74	40.4	13.08
50MW02	6.84	715	25.8	5.18	51.4	12.98
13MW2	6.75	618	1.95	6.26	51.2	14.27
13MW3	6.34	555	1.10	5.53	83.3	16.34
13MW4	6.38	401	3.36	3.96	45.5	15.44
49MW04	7.3	0.636	12.0	9.2	190.2	15.1

Notes:
°C = degrees Celsius
µS/cm = microsiemens per centimeter
mg/L = milligrams per liter
mV = millivolts
NTU = Nephelometric turbidity unit
ORP = Oxidation-reduction potential

Prior to sampling, the flow cell was disconnected and the groundwater flow rate was maintained at 200 mL/min during sample collection. Samples were collected, labeled, and packed in ice until shipment to the laboratory. Chain-of-custody (CoC) forms were filled out and shipped with the samples. Copies of the CoC forms are provided in **Appendix B** along with the raw analytical data packages.

4.1.3 Quality Control Samples

Quality control (QC) samples including a duplicate sample and trip, equipment, and temperature blanks were collected during the first monitoring event.

One duplicate sample was collected during the first monitoring event at 48MW06 (duplicate as 49TM01) and analyzed for the full suite of compounds as the parent sample. Further, one matrix spike/matrix spike duplicate (MS/MSD) was collected at monitoring well 48MW2 and analyzed for the full suite of compounds as the parent sample.

One equipment rinse blank sample (100215R1) was collected during the first quarter sampling event. The equipment rinse blank was collected by pouring de-ionized ultra-filtered (DIUF) water over decontaminated sampling equipment and into laboratory supplied bottles. The rinse blank was analyzed for the full suite of compounds as the samples.

One IDW purge water sample (ADW01) was collected and analyzed for pH, chemical oxygen demand (COD), and total metals.

Results of the quality assurance (QA)/QC samples are presented in the raw analytical data package provided in **Appendix B**

4.2 Second Quarter Groundwater Sampling

Groundwater elevation measurements and samples were collected from all 15 POC monitoring wells. The second quarter of groundwater sampling was conducted 13 January through 15 January 2016. Groundwater elevation measurements were collected prior to sampling activities. The locations of monitoring wells sampled during this quarterly event are provided in **Figure 4-1**.

4.2.1 Groundwater Elevation Measurements

Water level elevations were collected during each first year quarterly event from the 15 monitoring wells at SWMU 49 prior to the collection of groundwater samples. **Table 4-4** provides the measured depth to water levels (from the TOC) and groundwater elevations amsl collected on 11 January 2016. **Figure 4-3** presents a groundwater elevation contour map developed from the elevation data collected during this quarterly monitoring event.

Table 4-4 SWMU 49 Second Quarter Groundwater Elevations

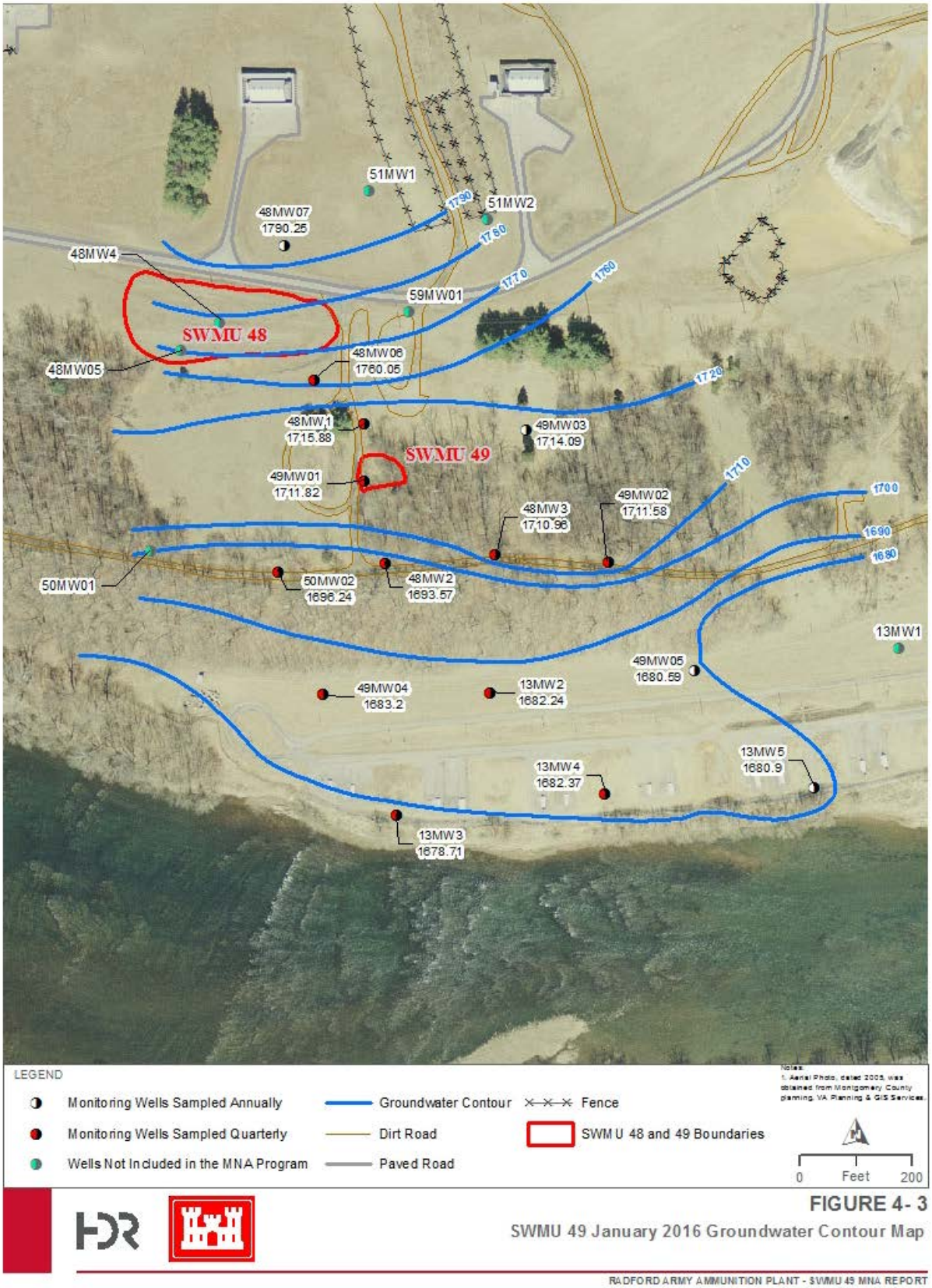
Well	Screen Interval (ft bgs)	Screen Length (ft)	Total Depth (ft)	Water Level (BTOC)	Elevation (TOC)	Water Level (ft amsl)	PID Readings (ppm)
48MW07	62 - 82'	20'	82	43.44	1833.69	1790.25	0.0
13MW5	14 - 25'	11	25	15.50	1696.40	1680.90	0.0
49MW03	77 - 117'	40'	117	97.73	1811.82	1714.09	0.0
49MW05	16 - 37	21	36.8	19.15	1699.74	1680.59	0.0
48MW06	58 - 78'	20'	78	62.80	1822.85	1760.05	0.0
48MW1	110 - 140'	30'	140	100.54	1816.42	1715.88	0.0
48MW2	113 - 134'	21	133.7	122.70	1816.27	1693.57	0.1
48MW3	100 - 120'	20'	120	97.60	1808.56	1710.96	0.0
49MW01	90 - 121'	31'	121	114.60	1826.42	1711.82	0.0
49MW02	103 - 133'	30'	133	94.71	1806.29	1711.58	0.1
50MW02	89 - 119'	30'	119	113.39	1809.63	1696.24	0.0
13MW2	19-29	10'	29	20.38	1702.62	1682.24	0.0
13MW3	9 - 19'	10'	19	15.76	1694.47	1678.71	0.0
13MW4	14 - 24'	10'	24	14.03	1696.40	1682.37	0.0
49MW04	50 - 70'	20'	72	19.80	1703.00	1683.20	0.0

Notes:
amsl = above mean sea level
bgs = below ground surface
BTOC = below top of casing
ft = feet/foot
ppm = parts per million
TOC = Top of casing
DTW = Depth to water

4.2.2 Groundwater Sampling

Groundwater samples were collected from 15 of the 15 POC monitoring wells from 13 January through 15 January 2016. The second quarter monitoring samples were tested for the same analytes as the first quarter, which are presented in **Table 4-2**. In addition, the following MNA indicator parameters were collected: TOC, dissolved ferrous iron, chloride, nitrate, and sulfate. Water quality parameters collected during low flow sampling included pH, temperature, specific conductance, DO, ORP, and turbidity. These parameters are discussed in Section 6.2 regarding the potential for biodegradation in the groundwater at SWMU 49.

Figure 4-3 SWMU 49 January 2016 Groundwater Contour Map



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Groundwater samples were collected applying the same method and approach used during the first quarterly monitoring event: specifically, via low-flow bladder pumps. The sample procedures are provided below.

1. A PID reading was taken upon removing the well cap to determine the presence of potentially hazardous levels of volatile gases. The PID readings were collected during the water elevation sweeps and again during sample collection. All PID readings were within acceptable levels.
2. During the water level sweep, depth to water and total depth measurements were recorded to determine the amount of water in the well casing and sandpack.
3. Groundwater samples were collected after all water level elevations had been recorded. The general practice was to lower the bladder pump to a depth where the pump inlet was within the screened interval. Ample hydraulic head was maintained above the pump to insure a sufficient water supply. The pump was connected to a Geocontrol PRO control unit, while the discharge tubing was connected to a YSI 556 water quality flow cell.
4. Monitoring wells were pumped at a rate of approximately 200 mL/min. Flow rate was determined by gauging the time it took to fill a 200 mL vial. Water quality parameters were recorded continuously including temperature, pH, DO, ORP, turbidity, and conductivity. Turbidity was measured using a Hach 2100Q turbidity meter, while concentrations of dissolved ferrous iron were tested in the field using a Hach DR900 test kit via Method 8146.
5. **Table 4-5** presents a summary of the final (stabilized) water quality readings for each well from the second quarter.

Based on the second quarter DO data, aerobic groundwater conditions exist at SWMU 49 (i.e., DO > 1 ppm) at all but one monitoring well (48MW06). The DO levels ranged from a low of 0.54 mg/L at monitoring well 48MW06 to a high of 11.57 mg/L at monitoring well 50MW02. ORP measurements ranged from a low of 83.3 mV in monitoring well 13MW2 to a high of 155.4 mV at monitoring well 48MW06. Measurements of pH ranged from a low of 6.24 SU at monitoring well 13MW4 to a high of 7.33 SU at monitoring well 48MW07. Measurements of specific conductance ranged from a low of 383.5 µS/cm at monitoring well 48MW07 to a high of 1278 µS/cm at monitoring well 48MW06. Copies of the CoC forms are provided in **Appendix B** along with the raw analytical data packages.

Table 4-5 SWMU 49 Second Quarter Water Quality Parameters

Well ID	pH	Conductivity (µS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	ORP (mV)	Temperature (°C)
48MW07	7.33	383.5	2.07	8.88	104.5	12.1
13MW5	6.59	827	0.88	8.84	114.2	13.6
49MW03	6.95	553.0	2.54	12.79	117.2	12.4
49MW05	6.47	972	40.8	5.26	104.6	13.5
48MW06	6.75	1278	25.0	0.54	155.4	12.7
48MW1	7.10	688	7.18	2.27	110.6	12.4
48MW2	6.99	672	39.4	7.94	139.6	11.9
48MW3	6.71	891	1.13	3.81	117.1	11.4
49MW01	7.11	680	87.2	4.97	116.7	12.2
49MW02	6.86	722	15.4	2.23	125.6	11.4
50MW02	6.93	612.2	132	11.57	164.7	9.8
13MW2	6.52	1053	1.32	7.13	83.3	13.5
13MW3	6.32	638.6	0.85	8.37	117.3	11.5
13MW4	6.24	623.2	1.13	7.52	109.1	13.6
49MW04	6.65	811	6.16	2.01	115.6	12.9

Notes:
°C = degrees Celsius
µS/cm = microsiemens per centimeter
mg/L = milligrams per liter
mV = millivolts
NTU = Nephelometric turbidity unit
ORP = Oxidation-reduction potential

4.2.3 Quality Control Samples

QC samples including a duplicate sample and trip, equipment, and temperature blanks were collected during the second monitoring event.

One duplicate sample was collected during the first monitoring event at 13MW3 (duplicate as 49TM01) and analyzed for the full suite of compounds as the parent sample. Further, one MS/MSD was collected at monitoring well 48MW2 and analyzed for the full suite of compounds as the parent sample.

One equipment rinse blank sample (011516R1) was collected during the second quarter sampling event. The equipment rinse blank was collected by pouring DIUF water over decontaminated sampling equipment and into laboratory supplied bottles. The rinse blank was analyzed for the full suite of compounds as the samples.

One IDW purge water sample (49ADW01) was collected and analyzed for pH, COD, and total metals.

Results of the QA/QC samples are presented in the raw analytical data package provided in **Appendix B**.

4.3 Third Quarter Groundwater Sampling

Groundwater elevation measurements were collected from all 15 POC monitoring wells, while samples were collected from 11 of the 15 wells. The third quarter of groundwater sampling was conducted 12 April through 13 April 2016. Groundwater elevation measurements were collected prior to sampling activities. The locations of monitoring wells sampled during this quarterly event are provided in **Figure 4-1**.

4.3.1 Groundwater Elevation Measurements

Water level elevations were collected during each first year quarterly event from the 15 monitoring wells at SWMU 49 prior to the collection of groundwater samples. **Table 4-6** provides the measured depth to water levels (from the TOC) and groundwater elevations amsl collected on 11 April 2016. **Figure 4-4** presents a groundwater elevation contour map developed from the elevation data collected during this quarterly monitoring event.

Table 4-6 SWMU 49 Third Quarter Groundwater Elevations

Well	Screen Interval (ft bgs)	Screen Length (ft)	Total Depth (ft)	Water Level (BTOC)	Elevation (TOC)	Water Level (ft amsl)	PID Readings (ppm)
48MW07	62 - 82'	20'	82	45.01	1833.69	1788.68	0.0
13MW5	14 - 25'	11	25	16.34	1696.40	1680.06	0.0
49MW03	77 - 117'	40'	117	92.65	1811.82	1719.17	0.0
49MW05	16 - 37	21	36.8	19.77	1699.74	1679.97	0.0
48MW06	58 - 78'	20'	78	63.23	1822.85	1759.62	0.0
48MW1	110 - 140'	30'	140	99.00	1816.42	1717.42	0.0
48MW2	113 - 134'	21	133.7	121.13	1816.27	1695.14	0.0
48MW3	100 - 120'	20'	120	95.90	1808.56	1712.66	0.0
49MW01	90 - 121'	31'	121	111.97	1826.42	1714.45	0.0
49MW02	103 - 133'	30'	133	93.62	1806.29	1712.67	0.0
50MW02	89 - 119'	30'	119	112.03	1809.63	1697.60	0.0
13MW2	19-29	10'	29	20.44	1702.62	1682.18	0.0
13MW3	9 - 19'	10'	19	15.07	1694.47	1679.40	0.0
13MW4	14 - 24'	10'	24	16.44	1696.40	1679.96	0.0
49MW04	50 - 70'	20'	72	19.90	1703.00	1683.10	0.0

Notes:
amsl = above mean sea level
bgs = below ground surface
BTOC = below top of casing
ft = feet/foot
ppm = parts per million
TOC = Top of casing

4.3.2 Groundwater Sampling

Groundwater samples were collected from 11 of the 15 POC monitoring wells from 12 April through 13 April 2016. The third quarter monitoring samples were tested for the same analytes as the first quarter, which are presented in **Table 4-2**. In addition, the following MNA indicator parameters were collected: TOC, dissolved ferrous iron, chloride, nitrate, and sulfate. Water

quality parameters collected during low flow sampling included pH, temperature, specific conductance, DO, ORP, and turbidity. These parameters are discussed in Section 6.2 regarding the potential for biodegradation in the groundwater at SWMU 49.

Groundwater samples were collected applying the same method and approach used during the first quarterly monitoring event: specifically, via low-flow bladder pumps. The sample procedures are provided below.

1. A PID reading was taken upon removing the well cap to determine the presence of potentially hazardous levels of volatile gases. The PID readings were collected during the water elevation sweeps and again during sample collection. All PID readings were within acceptable levels.
2. During the water level sweep, depth to water and total depth measurements were recorded to determine the amount of water in the well casing and sandpack.
3. Groundwater samples were collected after all water level elevations had been recorded. The general practice was to lower the bladder pump to a depth where the pump inlet was within the screened interval. Ample hydraulic head was maintained above the pump to insure a sufficient water supply. The pump was connected to a Geocontrol PRO control unit, while the discharge tubing was connected to a YSI 556 water quality flow cell.
4. Monitoring wells were pumped at a rate of approximately 200 mL/min. Flow rate was determined by gauging the time it took to fill a 200 mL vial. Water quality parameters were recorded continuously including temperature, pH, DO, ORP, turbidity, and conductivity. Turbidity was measured using a Hach 2100Q turbidity meter, while concentrations of dissolved ferrous iron were tested in the field using a Hach DR900 test kit via Method 8146.
5. **Table 4-7** presents a summary of the final (stabilized) water quality readings for each well from the second quarter.

Based on the third quarter DO data, aerobic groundwater conditions exist at SWMU 49 (i.e., DO > 1 ppm) at all but one monitoring well (49MW02). The DO levels ranged from a low of 0.98 mg/L at monitoring well 49MW02 to a high of 8.10 mg/L at monitoring well 49MW04. ORP measurements ranged from a low of 85.6 mV in monitoring well 49MW02 to a high of 128.7 mV at monitoring well 13MW3. Measurements of pH ranged from a low of 6.83 SU at monitoring well 13MW4 to a high of 7.60 SU at monitoring well 49MW01. Measurements of specific conductance ranged from a low of 436 µS/cm at monitoring well 13MW4 to a high of 873 µS/cm at monitoring well 48MW06. Copies of the CoC forms are provided in **Appendix B** along with the raw analytical data packages.

Figure 4-4 SWMU 49 April 2016 Groundwater Contour Map

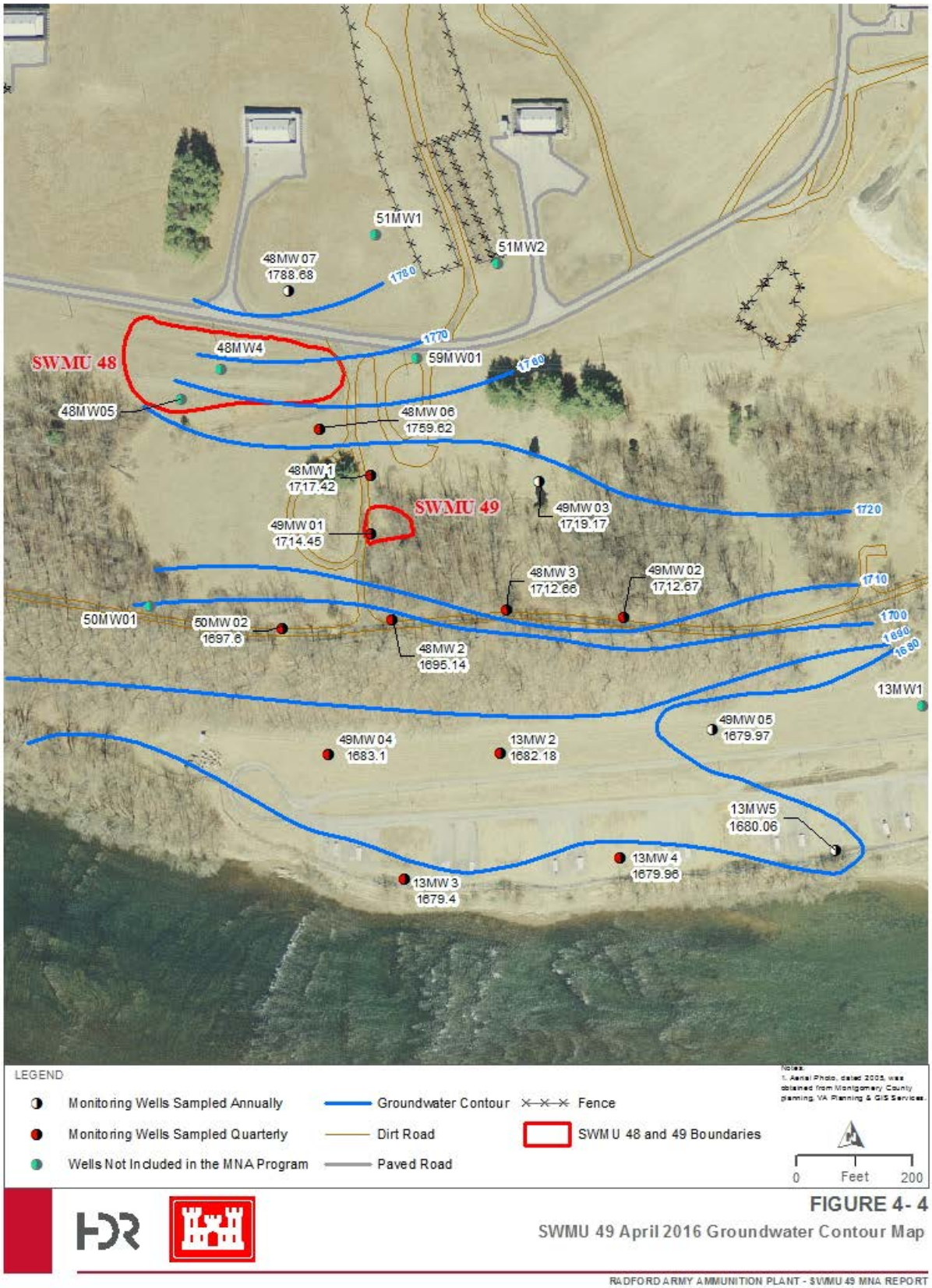

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Table 4-7 SWMU 49 Third Quarter Water Quality Parameters

Well ID	pH	Conductivity (µS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	ORP (mV)	Temperature (ºC)
48MW07	NS	NS	NS	NS	NS	NS
13MW5	NS	NS	NS	NS	NS	NS
49MW03	NS	NS	NS	NS	NS	NS
49MW05	NS	NS	NS	NS	NS	NS
48MW06	7.06	873	103	2.81	99.4	13.85
48MW1	7.59	503	3.85	2.36	116.9	12.37
48MW2	6.98	477	111	7.33	104.1	13.82
48MW3	6.86	682	0.94	3.21	102.9	12.62
49MW01	7.60	452	31.1	6.65	117.2	11.01
49MW02	7.02	506	17.9	0.98	85.6	12.93
50MW02	6.91	640	20.1	3.85	93.6	12.68
13MW2	7.11	780	1.49	7.13	117.8	14.52
13MW3	7.05	601	9.88	5.07	128.7	14.44
13MW4	6.83	436	0.76	4.84	127.9	14.33
49MW04	7.31	600	3.02	8.10	111.5	15.50

Notes:
**Readings exhibited very high, unchanging turbidity.*
°C = degrees Celsius
µS/cm = microsiemens per centimeter
mg/L = milligrams per liter
mV = millivolts
NTU = Nephelometric turbidity unit
ORP = Oxidation-reduction potential

4.3.3 Quality Control Samples

QC samples including a duplicate sample and trip, equipment, and temperature blanks were collected during the first monitoring event.

One duplicate sample was collected during the first monitoring event at 48MW06 (duplicate as 49TM01) and analyzed for the full suite of compounds as the parent sample. Further, one MS/MSD was collected at monitoring well 48MW3 and analyzed for the full suite of compounds as the parent sample.

One equipment rinse blank sample (041316R1) was collected during the first quarter sampling event. The equipment rinse blank was collected by pouring DIUF water over decontaminated sampling equipment and into laboratory supplied bottles. The rinse blank was analyzed for the full suite of compounds as the samples.

One IDW purge water sample (49ADW01) was collected and analyzed for pH, COD, and total metals.

Results of the QA/QC samples are presented in the raw analytical data package provided in **Appendix B**.

4.4 Fourth Quarter Groundwater Sampling

Groundwater elevation measurements were collected from all 15 POC monitoring wells, while samples were collected from 11 of the 15 wells. The fourth quarter of groundwater sampling was conducted 12 July through 13 July 2016. Groundwater elevation measurements were collected prior to sampling activities. The locations of monitoring wells sampled during this quarterly event are provided in **Figure 4-1**.

4.4.1 Groundwater Elevation Measurements

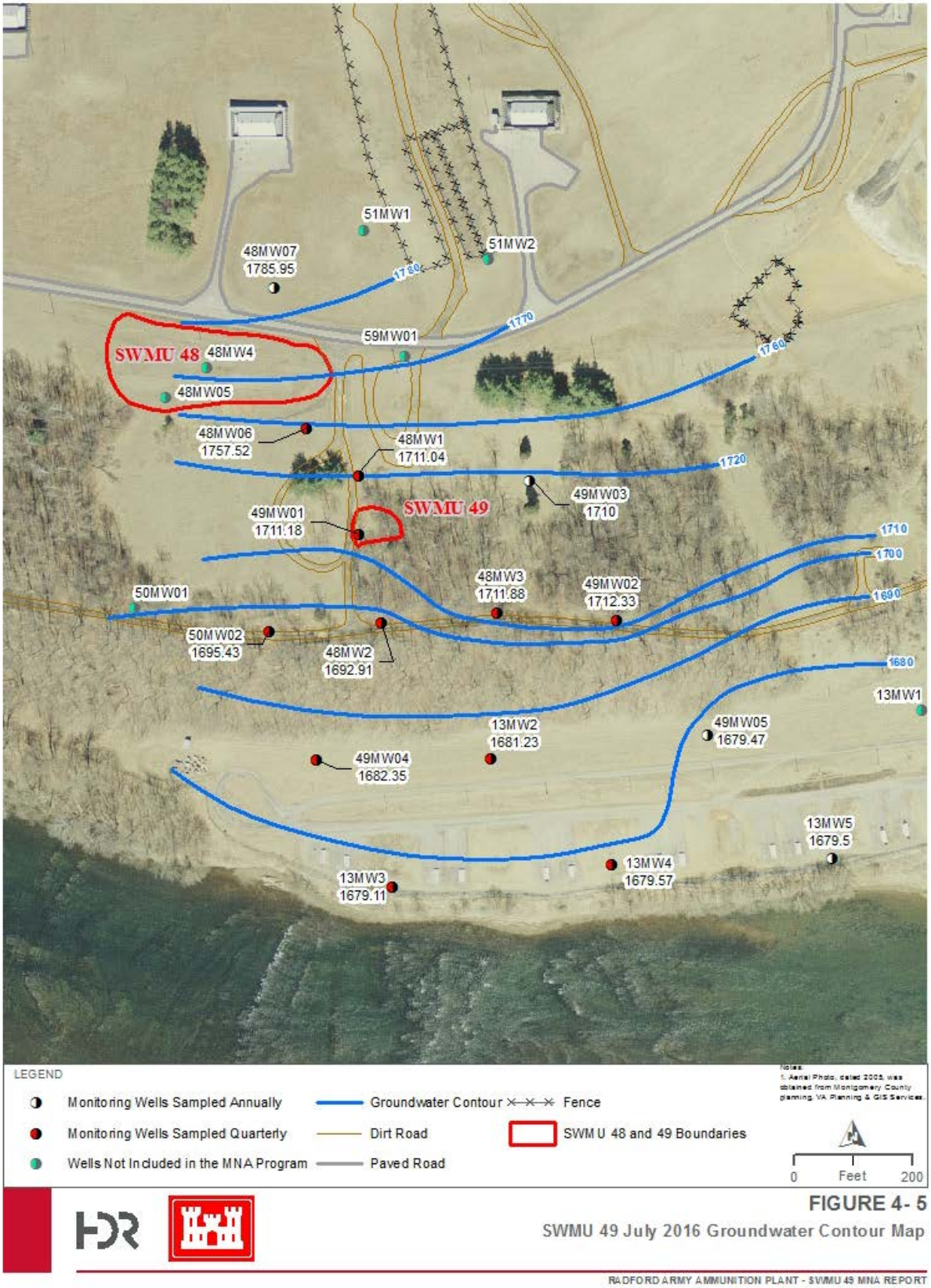
Water level elevations were collected during each first year quarterly event from the 15 monitoring wells at SWMU 49 prior to the collection of groundwater samples. **Table 4-8** provides the measured depth to water levels (from the TOC) and groundwater elevations amsl collected on 11 July 2016. **Figure 4-5** presents a groundwater elevation contour map developed from the elevation data collected during this quarterly monitoring event.

Table 4-8 SWMU 49 Fourth Quarter Groundwater Elevations

Well	Screen Interval (ft bgs)	Screen Length (ft)	Total Depth (ft)	Water Level (BTOC)	Elevation (TOC)	Water Level (ft amsl)	PID Readings (ppm)
48MW07	62 - 82'	20'	82	47.74	1833.69	1785.95	0.0
13MW5	14 - 25'	11	25	16.90	1696.40	1679.50	0.0
49MW03	77 - 117'	40'	117	101.82	1811.82	1710.00	0.0
49MW05	16 - 37	21	36.8	20.27	1699.74	1679.47	0.0
48MW06	58 - 78'	20'	78	65.33	1822.85	1757.52	0.0
48MW1	110 - 140'	30'	140	105.38	1816.42	1711.04	0.0
48MW2	113 - 134'	21	133.7	123.36	1816.27	1692.91	11.0
48MW3	100 - 120'	20'	120	96.68	1808.56	1711.88	4.1
49MW01	90 - 121'	31'	121	115.24	1826.42	1711.18	0.0
49MW02	103 - 133'	30'	133	93.96	1806.29	1712.33	4.5
50MW02	89 - 119'	30'	119	114.20	1809.63	1695.43	1.7
13MW2	19-29	10'	29	21.39	1702.62	1681.23	0.0
13MW3	9 - 19'	10'	19	15.36	1694.47	1679.11	0.0
13MW4	14 - 24'	10'	24	16.83	1696.40	1679.57	0.0
49MW04	50 - 70'	20'	72	20.65	1703.00	1682.35	0.0

Notes:
amsl = above mean sea level
bgs = below ground surface
BTOC = below top of casing
ft = feet/foot
ppm = parts per million
TOC = Top of casing

Figure 4-5 SWMU 49 July 2016 Groundwater Contour Map



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4.4.2 Groundwater Sampling

Groundwater samples were collected from 11 of the 15 POC monitoring wells from 12 July through 13 July 2016. The fourth quarter monitoring samples were tested for the same analytes as the first quarter, which are presented in **Table 4-2**. In addition, the following MNA indicator parameters were collected: TOC, dissolved ferrous iron, chloride, nitrate, and sulfate. Water quality parameters collected during low flow sampling included pH, temperature, specific conductance, DO, ORP, and turbidity. These parameters are discussed in Section 6.2 regarding the potential for biodegradation in the groundwater at SWMU 49.

Groundwater samples were collected applying the same method and approach used during the first quarterly monitoring event: specifically, via low-flow bladder pumps. The sample procedures are provided below.

1. A PID reading was taken upon removing the well cap to determine the presence of potentially hazardous levels of volatile gases. The PID readings were collected during the water elevation sweeps and again during sample collection. All PID readings were within acceptable levels.
2. During the water level sweep, depth to water and total depth measurements were recorded to determine the amount of water in the well casing and sandpack.
3. Groundwater samples were collected after all water level elevations had been recorded. The general practice was to lower the bladder pump to a depth where the pump inlet was within the screened interval. Ample hydraulic head was maintained above the pump to insure a sufficient water supply. The pump was connected to a Geocontrol PRO control unit, while the discharge tubing was connected to a YSI 556 water quality flow cell.
4. Monitoring wells were pumped at a rate of approximately 200 mL/min on average. Flow rate was determined by gauging the time it took to fill a 200 mL vial. Water quality parameters were recorded continuously including temperature, pH, DO, ORP, turbidity, and conductivity. Turbidity was measured using a Hach 2100Q turbidity meter, while concentrations of dissolved ferrous iron were tested in the field using a Hach DR900 test kit via Method 8146.
5. **Table 4-9** presents a summary of the final (stabilized) water quality readings for each well from the second quarter.

Based on the fourth quarter DO data, aerobic groundwater conditions exist at SWMU 49 (i.e., DO >1 ppm) at all but one monitoring well (49MW02). The DO levels ranged from a low of 0.54 mg/L at monitoring well 49MW02 to a high of 6.33 mg/L at monitoring well 49MW04. ORP measurements ranged from a low of 22.2 mV in monitoring well 13MW2 to a high of 205.7 mV at monitoring well 49MW02. Measurements of pH ranged from a low of 6.67 SU at monitoring well 13MW2 to a high of 8.49 SU at monitoring well 49MW01. Measurements of specific

conductance ranged from a low of 461 µS/cm at monitoring well 13MW4 to a high of 785 µS/cm at monitoring well 48MW06.

Table 4-9 SWMU 49 Fourth Quarter Water Quality Parameters

Well ID	pH	Conductivity (µS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	ORP (mV)	Temperature (°C)
48MW07	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**
13MW5	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**
49MW03	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**
49MW05	**NS**	**NS**	**NS**	**NS**	**NS**	**NS**
48MW06	**7.26**	**785**	**110**	**1.02**	**190.7**	**15.01**
48MW1	**8.38**	**633**	**15.7**	**2.98**	**161.3**	**17.72**
48MW2	**7.98**	**495**	**70.1**	**6.30**	**164.0**	**15.57**
48MW3	**7.71**	**731**	**1.12**	**3.69**	**188.2**	**14.09**
49MW01	**8.49**	**471**	**100**	**4.50**	**154.1**	**14.77**
49MW02	**7.40**	**541**	**2.32**	**0.54**	**205.7**	**14.22**
50MW02	**7.31**	**677**	**35.2**	**3.56**	**141.3**	**15.40**
13MW2	**6.67**	**750**	**1.55**	**5.76**	**22.2**	**15.2**
13MW3	**7.15**	**634**	**2.46**	**4.57**	**173.9**	**20.11**
13MW4	**7.43**	**461**	**8.67**	**5.15**	**132.7**	**15.0**
49MW04	**8.20**	**639**	**4.79**	**6.33**	**151.9**	**16.54**

Notes:
°C = degrees Celsius
µS/cm = microsiemens per centimeter
mg/L = milligrams per liter
mV = millivolts
NTU = Nephelometric turbidity unit
ORP = Oxidation-reduction potential

4.4.3 Quality Control Sampling

QC samples including a duplicate sample and trip, equipment, and temperature blanks were collected during the fourth monitoring event.

Two duplicate samples were collected during the fourth monitoring event at 48MW06 (duplicate as 49TM01) and 50MW02 (duplicate 49TM02) and analyzed for the full suite of compounds as the parent sample. Further, one MS/MSD was collected at monitoring well 48MW2 and analyzed for the full suite of compounds as the parent sample.

One equipment rinse blank sample (071216R1) was collected during the first quarter sampling event. The equipment rinse blank was collected by pouring DIUF water over decontaminated sampling equipment and into laboratory supplied bottles. The rinse blank was analyzed for the full suite of compounds as the samples.

One IDW purge water sample (49ADW01) was collected and analyzed for pH, COD, and total metals.

Results of the QA/QC samples are presented in the raw analytical data package provided in **Appendix B**.

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5.0 Chemical Analytical Results

5.1 Selection of Comparison Criteria

The chemical data collected during the first year MNA groundwater monitoring investigation were compared to RGs selected in the approved Draft SWMU 48/49 RFI Report (CB&I, 2014a). **Tables 5-1** and **5-8** present the analytical results and summaries of the first through fourth quarterly monitoring data, including number of results that exceeded the RGs, frequency of detection, the minimum and maximum detected concentrations, and the location of the maximum concentration.

5.2 First Quarter Groundwater Results

Twelve groundwater monitoring wells were sampled during this quarterly monitoring event including wells 13MW2, 13MW3, 13MW4, 48MW1, 48MW2, 48MW3, 48MW06, 48MW07, 49MW01, 49MW02, 49MW04, and 50MW02, while a duplicate sample was collected from monitoring well 48MW06 (duplicate as 49TM01). Sample locations are provided in **Figure 4-1**.

Samples were submitted for TCL VOC, dissolved gases (methane, ethane, and ethane), and MNA indicator parameter analyses. Detected constituents are summarized in **Table 5-1**, while the results are presented in **Table 5-2**. The potential for biodegradation in the groundwater at SWMU 49 is discussed in Section 6.2.

TCL VOCs

Seven VOCs were detected in groundwater samples including 1,1,1-trichloroethane (1,1,1-TCA), 1,1-dichloroethane (1,1-DCA), CT, chloroform, cis-1,2-DCE, tetrachloroethene (PCE), and TCE. Nine monitoring wells had one or more detections of the VOCs listed above. Monitoring wells 13MW2, 48MW07 (up gradient well), and 49MW03 did not have detected concentrations of VOCs.

The VOC 1,1,1-TCA was detected at monitoring wells 48MW1, 48MW06 (and duplicate 49TM01), and 49MW01 at estimated concentrations ranging from a low of 0.22 µg/L (49MW01) to a high of 0.71 µg/L (48MW06). An RG for 1,1,1-TCA has not been established for SWMU 49.

The VOC 1,1-DCA was detected at monitoring wells 48MW1, 48MW06 (and duplicate 49TM01), and 50MW02 at concentrations ranging from an estimated value of 0.28 µg/L (50MW02) to a high of 4.6 µg/L (48MW06). An RG for 1,1-DCA has not been established for SWMU 49.

The VOC CT was detected at six monitoring wells including 13MW3, 48MW2, 48MW3, 49MW01, 49MW04, and 50MW02. Two wells contained CT concentrations that exceeded the RG of 5 µg/L; monitoring wells 48MW2 (48 µg/L) and 48MW3 (71 µg/L). The range of concentrations detected during this quarter went from a low of an estimated value of 0.99 µg/L (49MW04) to a high of 71 µg/L. The CT plume is shown on **Figure 5-1**.

Chloroform was detected in five monitoring wells including 48MW2, 48MW3, 49MW01, 49MW04, and 50MW02. Concentrations ranged from an estimated value of 0.16 µg/L (49MW04) to a high of 7.5 µg/L (48MW3). An RG for chloroform has not been established for SWMU 49.

The VOC cis-1,2-DCE was detected in two monitoring wells including 48MW1, duplicate 49TM01, and 50MW02 at concentrations ranging from an estimated value of 0.36 µg/L (50MW02) to a high of 6.4 µg/L (duplicate 49TM01). An RG for cis-1,2-DCE has not been established for SWMU 49.

PCE was detected in monitoring well 48MW06 and duplicate 49TM01 at estimated concentrations of 0.55 µg/L and 0.45 µg/L, respectively. An RG for PCE has not been established for SWMU 49.

The VOC TCE was detected at six monitoring wells including 13MW4, 48MW1, 48MW2, 48MW3, 48MW06 (and associated duplicate), and 50MW02. Monitoring well 48MW3 contained a concentration of TCE that exceeded the RG of 5 µg/L. The range of concentrations detected during this quarter went from a low of an estimated value of 0.65 µg/L (13MW4) to a high of 10 µg/L. The TCE plume is shown on **Figure 5-2**.

Miscellaneous Analytes

Groundwater samples were also analyzed for MNA indicators (TOC, dissolved ferrous iron, dissolved gases, chloride, nitrate, and sulfate) for the purposes of evaluating the effectiveness of the MNA process.

Observed levels of TOC in the 12 monitoring wells ranged from a low of 5.2 mg/L (48MW07) to a high of 34.0 mg/L (50MW02). Dissolved ferrous iron levels ranged from a low of 0.0 mg/L (non detect) (13MW3) to a high of 0.42 mg/L (48MW02). Chloride concentrations ranged from a low of 1.2 mg/L (48MW07) to a high of 9.9 mg/L (48MW06). Detected concentrations of nitrate ranged from an estimated low of 0.14 mg/L (49MW02) to a high of 6.3 mg/L (48MW3). Sulfate concentrations ranged from a low of 0.0 (non detect) mg/L (49MW01) to a high of 140.0 mg/L (48MW06). Methane, ethane, and ethene went largely undetected during this quarterly monitoring event, with the exception of the sample collected from 48MW2. Sample 48MW2 had an estimated methane concentration of 0.56 µg/L, but was dismissed since it was traced to the associated method blank (MB). **Table 5-2** presents the MNA indicator parameters sample results.

Table 5-1 SWMU 49 Summary of First Quarter Groundwater Samples

Analyte	Units	RG	# of RG Exceedances	# of Detections	# of Samples[1]	Minimum Concentration	Maximum Concentration	Location of Maximum
VOCs								
1,1,1-Trichloroethane	**µg/L**	**na**	0	4	13	0.22	0.71	48MW06
1,1-Dichloroethane	**µg/L**	**na**	0	4	13	0.28	4.6	48MW06
Acetone	**µg/L**	**na**	0	0	13	ND	ND	na
Bromoform	**µg/L**	**na**	0	0	13	ND	ND	na
Bromomethane	**µg/L**	**na**	0	0	13	ND	ND	na
Carbon tetrachloride	**µg/L**	**5**	2	6	13	0.29	71	48MW3
Chloroform	**µg/L**	**na**	0	5	13	0.16	7.5	48MW3
cis-1,2-Dichloroethene	**µg/L**	**na**	0	3	13	0.36	6.6	48MW06
Dibromochloromethane	**µg/L**	**na**	0	0	13	ND	ND	na
Ethylbenzene	**µg/L**	**na**	0	0	13	ND	ND	na
m- & p-Xylene	**µg/L**	**na**	0	0	13	ND	ND	na
o-Xylene	**µg/L**	**na**	0	0	13	ND	ND	na
Tetrachloroethene	**µg/L**	**na**	0	2	13	0.45	0.55	48MW06
Trichloroethene	**µg/L**	**5**	1	7	13	0.65	10	48MW3
Misc.								
Chloride	**mg/L**	**na**	**na**	13	13	1.2	10	48MW06
Ethane	**µg/L**	**na**	**na**	0	13	ND	ND	na
Ethene	**µg/L**	**na**	**na**	0	13	ND	ND	na
Methane	**µg/L**	**na**	**na**	0	13	ND	ND	na
Nitrate (as N)	**mg/L**	**na**	**na**	13	13	0.14	6.3	48MW3
Sulfate	**mg/L**	**na**	**na**	12	13	1.4	140	48MW06
Total Organic Carbon	**mg/L**	**na**	**na**	13	13	5.2	34	50MW02

Notes:
1 = Includes one Duplicate Sample
µg/L = micrograms per liter
mg/L = milligrams per liter
na = not applicable
ND = non detect
RG = Remedial Goal

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Table 5-2 SWMU 49 Detected Analytes In First Quarter Groundwater Sample

Sample ID			48MW07					48MW06					49TM01 (Field Duplicate of 48MW06)					48MW1					48MW2					48MW3					49MW01				
Date Collected			10/1/2015					10/1/2015					10/1/2015					10/1/2015					10/1/2015					10/2/2015					10/1/2015				
Analyte	Units	Remedial Goals [1]	Result	Lab Q	Val Q	RL	MDL	Result	Lab Q	Val Q	RL	MDL	Result	Lab Q	Val Q	RL	MDL	Result	Lab Q	Val Q	RL	MDL	Result	Lab Q	Val Q	RL	MDL	Result	Lab Q	Val Q	RL	MDL	Result	Lab Q	Val Q	RL	MDL
VOCs (µg/L)																																				
1,1,1-Trichloroethane	µg/L	na	0.5	U	U	1	0.21	0.71	J	J	1	0.21	0.7	J	J	1	0.21	0.38	J	J	1	0.21	0.5	U	U	1	0.21	0.5	U	U	1	0.21	0.22	J	J	1	0.21
1,1-Dichloroethane	µg/L	na	0.5	U	U	1	0.2	4.6			1	0.2	4.2			1	0.2	0.92	J	J	1	0.2	0.5	U	U	1	0.2	0.5	U	U	1	0.2	0.5	U	U	1	0.2
Acetone	µg/L	na	10	U	U	20	5	10	U	U	20	5	10	U	U	20	5	10	U	U	20	5	10	U	U	20	5	10	U	U	20	5	10	U	U	20	5
Bromoform	µg/L	na	0.5	U	U	1	0.22	0.5	U	U	1	0.22	0.5	U	U	1	0.22	0.5	U	U	1	0.22	0.5	U	U	1	0.22	0.5	U	U	1	0.22	0.5	U	U	1	0.22
Bromomethane	µg/L	na	1	U	U	2	0.5	1	U	U	2	0.5	1	U	U	2	0.5	1	U	U	2	0.5	1	U	U	2	0.5	1	U	U	2	0.5	1	U	U	2	0.5
Carbon tetrachloride	µg/L	5	0.5	U	U	1	0.23	0.5	U	U	1	0.23	0.5	U	U	1	0.23	0.5	U	U	1	0.23	**48**			1	0.23	**71**			1	0.23	3.3			1	0.23
Chloroform	µg/L	na	0.25	U	U	0.5	0.15	0.25	U	U	0.5	0.15	0.25	U	U	0.5	0.15	0.25	U	U	0.5	0.15	4.6			0.5	0.15	7.5			0.5	0.15	0.3	J	J	0.5	0.15
cis-1,2-Dichloroethene	µg/L	na	0.5	U	U	1	0.25	6.4		U	1	0.25	6.6			1	0.25	0.66	J	J	1	0.25	0.5	U	U	1	0.25	0.5	U	U	1	0.25	0.5	U	U	1	0.25
Dibromochloromethane	µg/L	na	0.5	U	U	1	0.19	0.5	U	U	1	0.19	0.5	U	U	1	0.19	0.5	U	U	1	0.19	0.5	U	U	1	0.19	0.5	U	U	1	0.19	0.5	U	U	1	0.19
Ethylbenzene	µg/L	na	0.5	U	U	1	0.22	0.5	U	U	1	0.22	0.5	U	U	1	0.22	0.5	U	U	1	0.22	0.5	U	U	1	0.22	0.5	U	U	1	0.22	0.5	U	U	1	0.22
m- & p-Xylene	µg/L	na	1	U	U	2	0.5	1	U	U	2	0.5	1	U	U	2	0.5	1	U	U	2	0.5	1	U	U	2	0.5	1	U	U	2	0.5	1	U	U	2	0.5
o-Xylene	µg/L	na	0.5	U	U	1	0.24	0.5	U	U	1	0.24	0.5	U	U	1	0.24	0.5	U	U	1	0.24	0.5	U	U	1	0.24	0.5	U	U	1	0.24	0.5	U	U	1	0.24
Tetrachloroethene	µg/L	na	0.5	U	U	1	0.3	0.55	J	J	1	0.3	0.45	J	J	1	0.3	0.5	U	U	1	0.3	0.5	U	U	1	0.3	0.5	U	U	1	0.3	0.5	U	U	1	0.3
Trichloroethene	µg/L	5	0.5	U	U	1	0.21	4.7			1	0.21	4.6			1	0.21	1.8			1	0.21	3.8			1	0.21	**10**			1	0.21	0.5	U	U	1	0.21
Misc.																																				
Chloride	mg/L	na	1.2	J	J	4	1.1	9.9			4	1.1	10			4	1.1	3	J	J	4	1.1	1.7	J	J	4	1.1	2.1	J	J	4	1.1	5.6			4	1.1
Ethene	µg/L	na	1	U	U	1.1	0.5	1	U	U	1.1	0.5	1	U	U	1.1	0.5	1	U	U	1.1	0.5	1	U	U	1.1	0.5	1	U	U	1.1	0.5	1	U	U	1.1	0.5
Ethane	µg/L	na	0.7	U	U	0.8	0.4	0.7	U	U	0.8	0.4	0.7	U	U	0.8	0.4	0.7	U	U	0.8	0.4	0.7	U	U	0.8	0.4	0.7	U	U	0.8	0.4	0.7	U	U	0.8	0.4
Methane	µg/L	na	0.6	U	U	0.7	0.3	0.6	U	U	0.7	0.3	0.6	U	U	0.7	0.3	0.6	U	U	0.7	0.3	0.56	J	JB	0.7	0.3	0.6	U	U	0.7	0.3	0.6	U	U	0.7	0.3
Nitrate (as N)	mg/L	na	0.97		J	0.4	0.08	3.6		J	0.4	0.08	3.7		J	0.4	0.08	1.3		J	0.4	0.08	0.76		J	0.4	0.08	6.3			0.4	0.08	0.39	J	J	0.4	0.08
Sulfate	mg/L	na	1.4	J	J	5	1.3	140			25	6.5	140			25	6.5	48			5	1.3	10			5	1.3	27			5	1.3	2.5	U	U	5	1.3
Total Organic Carbon	mg/L	na	5.2			3	0.5	23			3	0.5	26			3	0.5	12			3	0.5	22	M	J	3	0.5	25			3	0.5	16			3	0.5
MNA																																				
Dissolved Fe^{2+}	mg/L	na	0.05					0.04					0.04					0.03					0.42					0.05					0.22				

Table 5-2 SWMU 49 Detected Analytes In First Quarter Groundwater Sample (Continued)

Sample ID			49MW02					50MW02					13MW2					13MW3					13MW4					49MW04				
Date Collected			10/2/2015					10/2/2015					10/2/2015					10/2/2015					10/2/2015					9/30/2015				
Analyte	Units	Remedial Goals (1)	Result	Lab Q	Val Q	RL	MDL	Result	Lab Q	Val Q	RL	MDL	Result	Lab Q	Val Q	RL	MDL	Result	Lab Q	Val Q	RL	MDL	Result	Lab Q	Val Q	RL	MDL	Result	Lab Q	Val Q	RL	MDL
VOCs (µg/L)																															
1,1,1-Trichloroethane	µg/L	na	0.5	U	U	1	0.21	0.5	U	U	1	0.21	0.5	U	U	1	0.21	0.5	U	U	1	0.21	0.5	U	U	1	0.21	0.5	U	U	1	0.21
1,1-Dichloroethane	µg/L	na	0.5	U	U	1	0.2	0.28	J	J	1	0.2	0.5	U	U	1	0.2	0.5	U	U	1	0.2	0.5	U	U	1	0.2	0.5	U	U	1	0.2
Acetone	µg/L	na	10	U	U	20	5	10	U	U	20	5	10	U	U	20	5	10	U	U	20	5	10	U	U	20	5	10	U	U	20	5
Bromoform	µg/L	na	0.5	U	U	1	0.22	0.5	U	U	1	0.22	0.5	U	U	1	0.22	0.5	U	U	1	0.22	0.5	U	U	1	0.22	0.5	U	U	1	0.22
Bromomethane	µg/L	na	1	U	U	2	0.5	1	UZ	UJ	2	0.5	1	U	U	2	0.5	1	U	U	2	0.5	1	U	U	2	0.5	1	U	UJ	2	0.5
Carbon tetrachloride	µg/L	5	0.5	U	U	1	0.23	1.2			1	0.23	0.5	U	U	1	0.23	0.29	J	J	1	0.23	0.5	U	U	1	0.23	0.99	J	J	1	0.23
Chloroform	µg/L	na	0.25	U	U	0.5	0.15	0.17	J	JB	0.5	0.15	0.25	U	U	0.5	0.15	0.25	U	U	0.5	0.15	0.25	U	U	0.5	0.15	0.16	J	J	0.5	0.15
cis-1,2-Dichloroethene	µg/L	na	0.5	U	U	1	0.25	0.36	J	J	1	0.25	0.5	U	U	1	0.25	0.5	U	U	1	0.25	0.5	U	U	1	0.25	0.5	U	U	1	0.25
Dibromochloromethane	µg/L	na	0.5	U	U	1	0.19	0.5	U	U	1	0.19	0.5	U	U	1	0.19	0.5	U	U	1	0.19	0.5	U	U	1	0.19	0.5	U	U	1	0.19
Ethylbenzene	µg/L	na	0.5	U	U	1	0.22	0.5	U	U	1	0.22	0.5	U	U	1	0.22	0.5	U	U	1	0.22	0.5	U	U	1	0.22	0.5	U	U	1	0.22
m- & p-Xylene	µg/L	na	1	U	U	2	0.5	1	U	U	2	0.5	1	U	U	2	0.5	1	U	U	2	0.5	1	U	U	2	0.5	1	U	U	2	0.5
o-Xylene	µg/L	na	0.5	U	U	1	0.24	0.5	U	U	1	0.24	0.5	U	U	1	0.24	0.5	U	U	1	0.24	0.5	U	U	1	0.24	0.5	U	U	1	0.24
Tetrachloroethene	µg/L	na	0.5	U	U	1	0.3	0.5	U	U	1	0.3	0.5	U	U	1	0.3	0.5	U	U	1	0.3	0.5	U	U	1	0.3	0.5	U	U	1	0.3
Trichloroethene	µg/L	5	0.5	U	U	1	0.21	1.3			1	0.21	0.5	U	U	1	0.21	0.5	U	U	1	0.21	0.65	J	J	1	0.21	0.5	U	U	1	0.21
Misc.																															
Chloride	mg/L	na	1.3	J	J	4	1.1	6.7			4	1.1	3.1	J	J	4	1.1	2.9	J	J	4	1.1	5.1			4	1.1	4.8			4	1.1
Ethene	µg/L	na	1	U	U	1.1	0.5	1	U	U	1.1	0.5	1	U	U	1.1	0.5	1	U	U	1.1	0.5	1	U	U	1.1	0.5	1	U	U	1.1	0.5
Ethane	µg/L	na	0.7	U	U	0.8	0.4	0.7	U	U	0.8	0.4	0.7	U	U	0.8	0.4	0.7	U	U	0.8	0.4	0.7	U	U	0.8	0.4	0.7	U	U	0.8	0.4
Methane	µg/L	na	0.6	U	U	0.7	0.3	0.6	U	U	0.7	0.3	0.6	U	U	0.7	0.3	0.6	U	U	0.7	0.3	0.6	U	U	0.7	0.3	0.6	U	U	0.7	0.3
Nitrate (as N)	mg/L	na	0.14	J	JB	0.4	0.08	2.2			0.4	0.08	0.38	J	J	0.4	0.08	0.31	J	J	0.4	0.08	0.42			0.4	0.08	0.52		B	0.4	0.08
Sulfate	mg/L	na	19			5	1.3	66			5	1.3	41			5	1.3	41	M		5	1.3	33			5	1.3	43			5	1.3
Total Organic Carbon	mg/L	na	15			3	0.5	34			3	0.5	26			3	0.5	23			3	0.5	23			3	0.5	17			3	0.5
MNA																															
Dissolved Fe^{2+}	mg/L	na	0.15					0.22					0.02					0.00					0.02					0.03				

Notes:
(1) Remedial Goals developed in Draft SWMU 48/49 RFI Report (CB&I, 2014a).
Exceedances denoted by bold font.
mg/L = milligrams per liter (parts per million)
µg/L = micrograms per liter (parts per billion)
RL = Reporting Limit
MDL = Method Detection Limit
na = not applicable; remedial goal not established for analyte at SWMU 49
Lab Q = Lab Data Qualifiers
Val Q = Validation Data Qualifiers

Data Qualifiers

B = Analyte detected in associated Method Blank.
J = Estimated value.
M = Matrix Spike and/or Matrix Spike Duplicate recovery outside acceptance limits.
U = Analyte concentration was not above the detection level.

Figure 5-1 SWMU 49 Carbon Tetrachloride Isopleths - September 2015

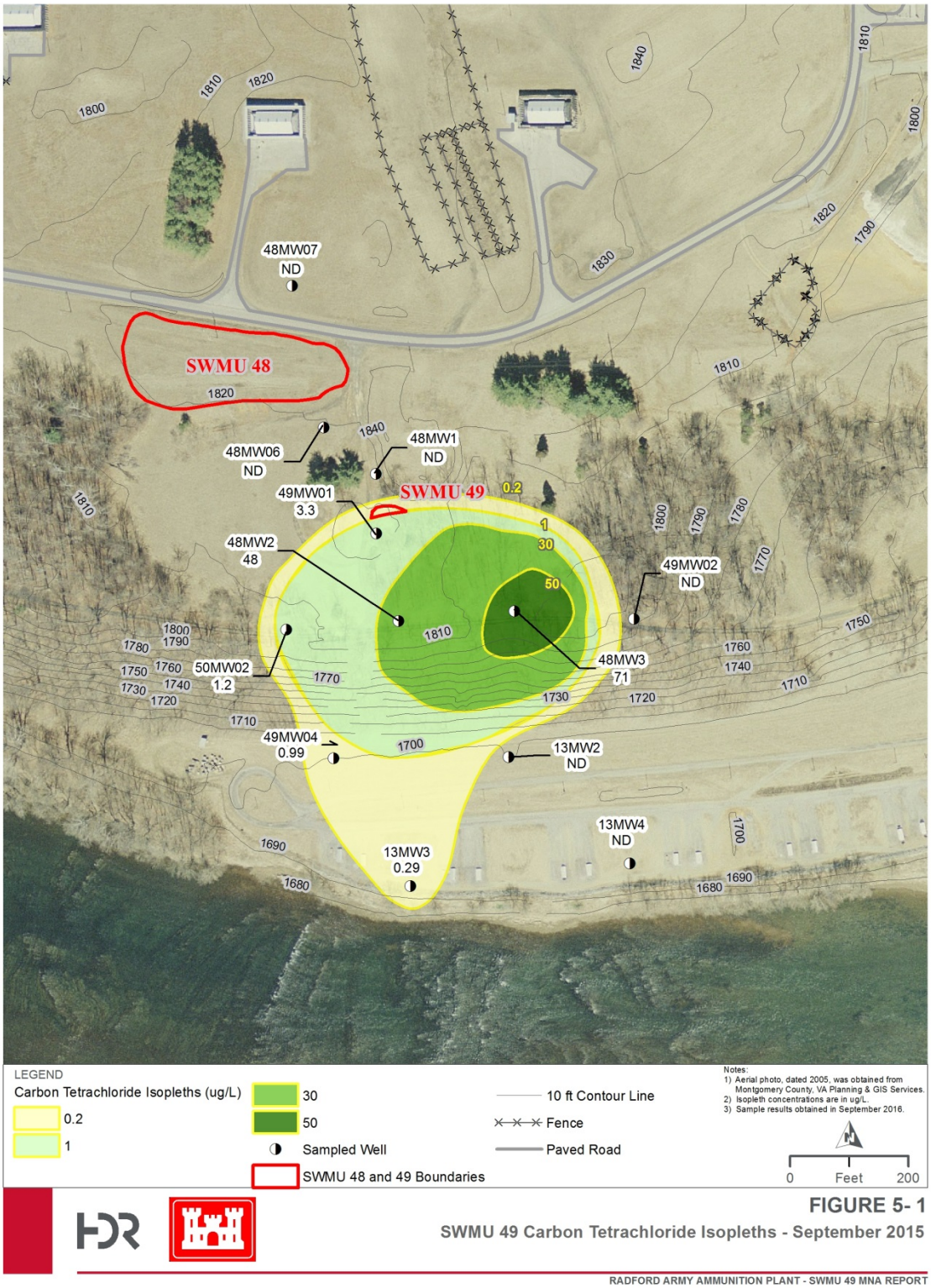

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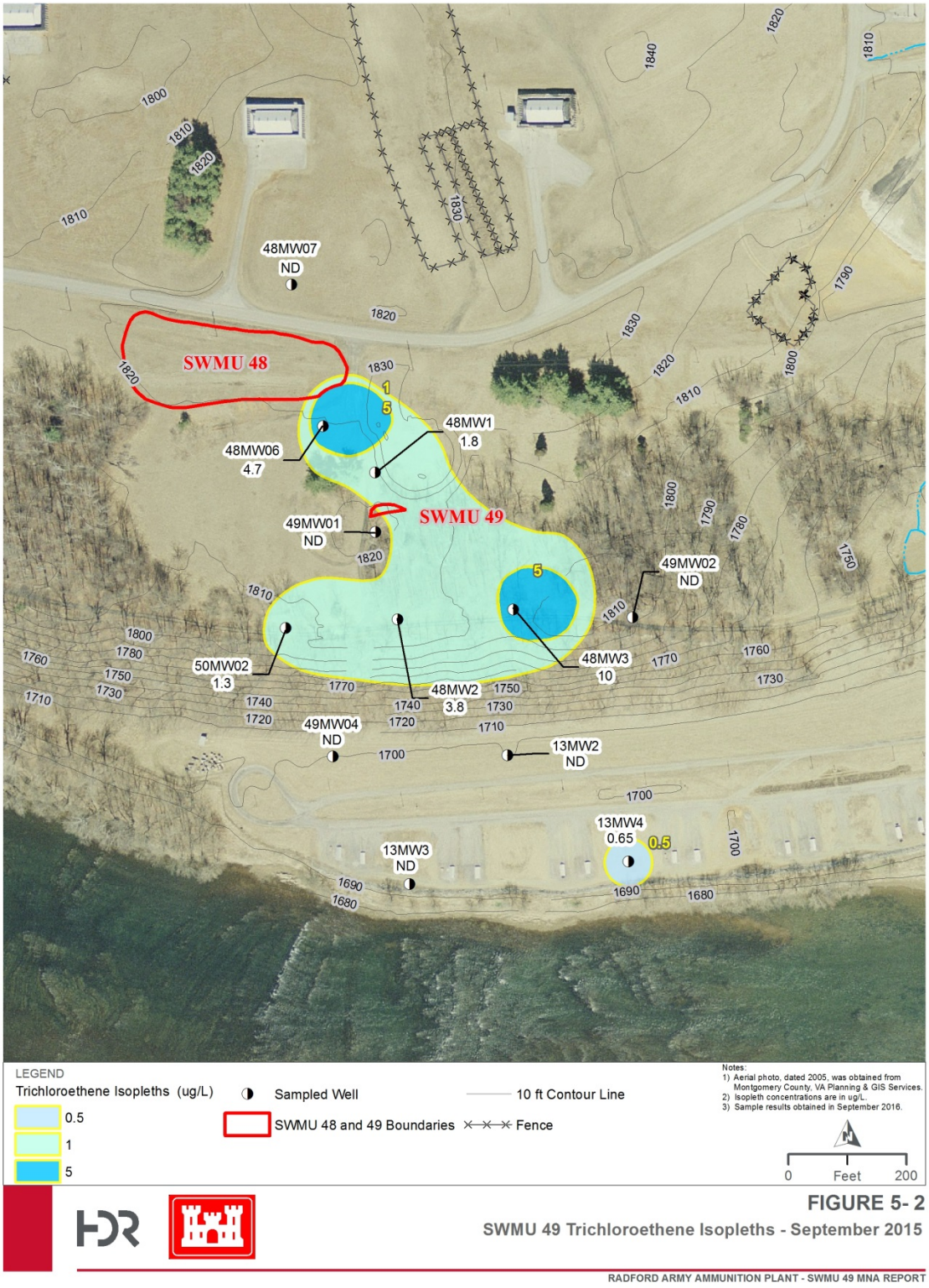
Figure 5-2 SWMU 49 Trichloroethene Isopleths - September 2015



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5.3 Second Quarter Groundwater Results

The second quarter monitoring event served as the annual event for the first year of MNA sampling. As such, all 15 monitoring wells were sampled including wells 13MW2, 13MW3, 13MW4, 13MW5, 48MW1, 48MW2, 48MW3, 48MW06, 48MW07, 49MW01, 49MW02, 49MW3, 49MW04, 49MW5, and 50MW02. A duplicate sample was collected from monitoring well 13MW3 (duplicate as 49TM01). Sample locations are provided in **Figure 4-1**. (Note: both annual and quarterly wells were sampled during this monitoring event.).

Samples were submitted for TCL VOC, dissolved gases (methane, ethane, and ethane), and MNA indicator parameter analyses. Detected constituents are summarized in **Table 5-3**, while the results are presented in **Table 5-4**. The potential for biodegradation in the groundwater at SWMU 49 is discussed in Section 6.2.

TCL VOCs

Seven VOCs were detected in groundwater samples including 1,1,1-TCA, 1,1-DCA), CT, chloroform, cis-1,2-DCE, PCE, and TCE. Eight monitoring wells had one or more detected concentrations of the VOCs listed above. Monitoring wells 13MW2, 13MW4, 13MW5, 48MW07 (up gradient well), 49MW02, 49MW3, and 49MW5 did not have detected concentrations of VOCs.

The VOC 1,1,1-TCA was detected at monitoring wells 48MW1 and 48MW06 at an estimated concentration of 0.46 µg/L and 1.2 µg/L, respectively. The concentration observed at 48MW06 increased slightly from the first quarter concentration. An RG for 1,1,1-TCA has not been established for SWMU 49.

The VOC 1,1-DCA was detected at monitoring wells 48MW1, 48MW06, and 50MW02 at concentrations ranging from an estimated value of 0.5 µg/L (50MW02) to a high of 5.3 µg/L (48MW06). These wells had similar detections recorded during the first quarter monitoring event. An RG for 1,1-DCA has not been established for SWMU 49.

The VOC CT was detected at five monitoring wells including 48MW2, 48MW3, 49MW01, 49MW04, and 50MW02. Two wells contained CT concentrations that exceeded the RG of 5 µg/L including monitoring wells 48MW2 (66 µg/L) and 48MW3 (62 µg/L). These wells had elevated concentrations that exceeded the RG during the first quarterly monitoring event. The range of concentrations detected during this quarter went from a low of an estimated value of 0.56 µg/L (50MW02) to a high of 66 µg/L (**Figure 5-3**). Compared to the first quarter monitoring results, the number of wells and detected concentrations of CT decreased during this quarterly event.

Chloroform was detected in four monitoring wells including 48MW2, 48MW3, 49MW01, and 13MW3. Concentrations ranged from an estimated value of 0.4 µg/L (49MW01) to a high of 7.5 µg/L (48MW3). Compared to the first quarter monitoring results, the number of wells and detected concentrations of chloroform decreased during this quarterly event. Albeit, the concentration

detected at 48MW3 was the same as the first quarter event. An RG for chloroform has not been established for SWMU 49.

The VOC cis-1,2-DCE was detected in two monitoring wells including 48MW1 and 48MW06 at an estimated concentration of 0.75 µg/L and 8.1 µg/L, respectively. This VOC was not detected at monitoring well 48MW06 during the first quarter monitoring event or at a concentration this high. An RG for cis-1,2-DCE has not been established for SWMU 49.

PCE was detected in monitoring well 48MW06 at an estimated concentration of 0.87 µg/L. Monitoring well 48MW06 also contained the only detection of PCE during the first quarter monitoring event. An RG for PCE has not been established for SWMU 49.

The VOC TCE was detected at six monitoring wells including 13MW3 (and associated duplicate), 48MW1, 48MW2, 48MW3, 48MW06 and 50MW02. Monitoring wells 48MW2, 48MW3, and 48MW06 contained concentrations of TCE that exceeded the RG of 5 µg/L. The range of concentrations detected during this quarter went from a low of an estimated value of 0.82 µg/L (13MW3) to a high of 9.7 µg/L (**Figure 5-4**). In general, the concentrations and wells with detections of TCE were similar to the first quarter monitoring event.

Miscellaneous Analytes

Groundwater samples were also analyzed for MNA indicators (TOC, dissolved ferrous iron, dissolved gases, chloride, nitrate, and sulfate) for the purposes of evaluating the effectiveness of the MNA process.

Observed levels of TOC in the 15 monitoring wells ranged from a low of 0.0 mg/L (non detect) (50MW02) to a high of 2.7 mg/L (48MW06). Dissolved ferrous iron levels ranged from a low of 0.0 mg/L (non detect) (9 wells) to a high of 01.06 mg/L (50MW02). Chloride concentrations ranged from an estimated low of 1.2 mg/L (48MW07) to a high of 15 mg/L (49MW05). Detected concentrations of nitrate ranged from an estimated low of 0.098 mg/L (49MW02) to a high of 6.8 mg/L (48MW3). Sulfate concentrations ranged from a low of 0.0 mg/L (non detect) (49MW01) to a high of 210 mg/L (48MW06). Methane, ethane, and ethene went largely undetected during this quarterly monitoring event, with the exception of the samples collected from 48MW06 and 50MW02. Sample 48MW06 had a methane concentration of 0.73 µg/L. Sample 50MW02 had a methane concentration of 4.3 µg/L, but was dismissed since it was traced to the associated method blank. **Table 5-4** presents the MNA indicator parameters sample results.

Table 5-3 SWMU 49 Summary of Second Quarter Groundwater Samples

Analyte	Units	RG	# of RG Exceedances	# of Detections	# of Samples	Minimum Concentration	Maximum Concentration	Location of Maximum
VOCs								
1,1,1-Trichloroethane	**µg/L**	**na**	**na**	2	16	0.46	1.2	48MW06
1,1-Dichloroethane	**µg/L**	**na**	**na**	3	16	0.5	5.3	48MW06
Acetone	**µg/L**	**na**	**na**	0	16	ND	ND	na
Bromoform	**µg/L**	**na**	**na**	0	16	ND	ND	na
Bromomethane	**µg/L**	**na**	**na**	0	16	ND	ND	na
Carbon tetrachloride	**µg/L**	**5**	2	7	16	0.56	66	48MW2
Chloroform	**µg/L**	**na**	**na**	5	16	0.4	7.5	48MW3
cis-1,2-Dichloroethene	**µg/L**	**na**	**na**	2	16	0.75	8.1	48MW06
Dibromochloromethane	**µg/L**	**na**	**na**	0	16	ND	ND	na
Ethylbenzene	**µg/L**	**na**	**na**	0	16	ND	ND	na
m- & p-Xylene	**µg/L**	**na**	**na**	0	16	ND	ND	na
o-Xylene	**µg/L**	**na**	**na**	0	16	ND	ND	na
Tetrachloroethene	**µg/L**	**na**	**na**	1	16	0.87	0.87	48MW06
Trichloroethene	**µg/L**	**5**	3	8	16	0.82	9.7	48MW3
Misc.								
Chloride	**mg/L**	**na**	**na**	16	16	1.2	15	49MW05
Ethene	**µg/L**	**na**	**na**	0	16	ND	ND	na
Ethane	**µg/L**	**na**	**na**	0	16	ND	ND	na
Methane	**µg/L**	**na**	**na**	2	16	0.73	4.3	50MW02
Nitrate (as N)	**mg/L**	**na**	**na**	16	16	0.098	6.8	48MW3
Sulfate	**mg/L**	**na**	**na**	15	16	1.4	210	48MW06
Total Organic Carbon	**mg/L**	**na**	**na**	15	16	0.64	2.7	48MW06

Notes:
µg/L = micrograms per liter
mg/L = milligrams per liter
na = not applicable
ND = non detect
RG = Remedial Goal

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Table 5-4 SWMU 49 Detected Analytes in Second Quarter Groundwater Samples

Sample ID			48MW07					13MW5					49MW03					49MW05					48MW06					48MW1					48MW2				
Date Collected			1/14/2016					1/13/2016					1/14/2016					1/13/2016					1/14/2016					1/14/2016					1/15/2016				
Analyte	Units	Remedial Goals (1)	Result	Lab Q	Val Q	RL	MDL	Result	Lab Q	Val Q	RL	MDL	Result	Lab Q	Val Q	RL	MDL	Result	Lab Q	Val Q	RL	MDL	Result	Lab Q	Val Q	RL	MDL	Result	Lab Q	Val Q	RL	MDL	Result	Lab Q	Val Q	RL	MDL
VOCs (µg/L)																																				
1,1,1-Trichloroethane	µg/L	na	0.5	U	U	1	0.21	0.5	U	U	1	0.21	0.5	U	U	1	0.21	0.5	U	U	1	0.21	1.2			1	0.21	0.46	J	J	1	0.21	0.5	U	U	1	0.21
1,1-Dichloroethane	µg/L	na	0.5	U	U	1	0.2	0.5	U	U	1	0.2	0.5	U	U	1	0.2	0.5	U	U	1	0.2	5.3			1	0.2	0.96	J	J	1	0.2	0.5	U	U	1	0.2
Acetone	µg/L	na	10	U	U	20	5	10	U	U	20	5	10	U	U	20	5	10	U	U	20	5	10	U	U	20	5	10	U	U	20	5	10	UY	UJ	20	5
Bromoform	µg/L	na	0.5	U	U	1	0.22	0.5	U	U	1	0.22	0.5	U	U	1	0.22	0.5	U	U	1	0.22	0.5	U	U	1	0.22	0.5	U	U	1	0.22	0.5	U	U	1	0.22
Bromomethane	µg/L	na	1	UZ	U	2	0.5	1	UZ	UJ	2	0.5	1	UZ	UJ	2	0.5	1	UZ	UJ	2	0.5	1	UZ	U	2	0.5	1	UZ	UJ	2	0.5	1	UY,M,Z	UJ	2	0.5
Carbon tetrachloride	µg/L	5	0.5	U	U	1	0.23	0.5	U	U	1	0.23	0.5	U	U	1	0.23	0.5	U	U	1	0.23	0.5	U	U	1	0.23	0.5	U	U	1	0.23	**66**			1	0.23
Chloroform	µg/L	na	0.25	U	U	0.5	0.15	0.25	U	U	0.5	0.15	0.25	U	U	0.5	0.15	0.25	U	U	0.5	0.15	0.25	U	U	0.5	0.15	0.25	U	U	0.5	0.15	5.9			0.5	0.15
cis-1,2-Dichloroethene	µg/L	na	0.5	U	U	1	0.25	0.5	U	U	1	0.25	0.5	U	U	1	0.25	0.5	U	U	1	0.25	8.1			1	0.25	0.75	J	J	1	0.25	0.5	U	U	1	0.25
Dibromochloromethane	µg/L	na	0.5	U	U	1	0.19	0.5	U	U	1	0.19	0.5	U	U	1	0.19	0.5	U	U	1	0.19	0.5	U	U	1	0.19	0.5	U	U	1	0.19	0.5	U	U	1	0.19
Ethylbenzene	µg/L	na	0.5	U	U	1	0.22	0.5	U	U	1	0.22	0.5	U	U	1	0.22	0.5	U	U	1	0.22	0.5	U	U	1	0.22	0.5	U	U	1	0.22	0.5	U	U	1	0.22
m- & p-Xylene	µg/L	na	1	U	U	2	0.5	1	U	U	2	0.5	1	U	U	2	0.5	1	U	U	2	0.5	1	U	U	2	0.5	1	U	U	2	0.5	1	U	U	2	0.5
o-Xylene	µg/L	na	0.5	U	U	1	0.24	0.5	U	U	1	0.24	0.5	U	U	1	0.24	0.5	U	U	1	0.24	0.5	U	U	1	0.24	0.5	U	U	1	0.24	0.5	U	U	1	0.24
Tetrachloroethene	µg/L	na	0.5	U	U	1	0.3	0.5	U	U	1	0.3	0.5	U	U	1	0.3	0.5	U	U	1	0.3	0.87	J	J	1	0.3	0.5	U	U	1	0.3	0.5	U	U	1	0.3
Trichloroethene	µg/L	5	0.5	U	U	1	0.21	0.5	U	U	1	0.21	0.5	U	U	1	0.21	0.5	U	U	1	0.21	**5.9**			1	0.21	2.3			1	0.21	**7.9**			1	0.21
Misc.																																				
Chloride	mg/L	na	1.2	J	J	4	1.1	3.9	J	J	4	1.1	7		B	4	1.1	15		B	4	1.1	11		B	4	1.1	3.5	J	J	4	1.1	3.1	J	J	4	1.1
Ethene	µg/L	na	1	U	U	1.1	0.5	1	U	U	1.1	0.5	1	U	U	1.1	0.5	1	U	U	1.1	0.5	1	U	U	1.1	0.5	1	U	U	1.1	0.5	1	U	U	1.1	0.5
Ethane	µg/L	na	0.7	U	U	0.8	0.4	0.7	U	U	0.8	0.4	0.7	U	U	0.8	0.4	0.7	U	U	0.8	0.4	0.7	U	U	0.8	0.4	0.7	U	U	0.8	0.4	0.7	U	U	0.8	0.4
Methane	µg/L	na	0.6	U	U	0.7	0.3	0.6	U	U	0.7	0.3	0.6	U	U	0.7	0.3	0.6	U	U	0.7	0.3	0.73			0.7	0.3	0.6	U	U	0.7	0.3	0.6	U	U	0.7	0.3
Nitrate (as N)	mg/L	na	0.99			0.4	0.08	0.51			0.4	0.08	1.3			0.4	0.08	0.21	J	J	0.4	0.08	6.7		B	0.4	0.08	1.4			0.4	0.08	0.93			0.4	0.08
Sulfate	mg/L	na	1.4	J	J	5	1.3	69			5	1.3	3	J	J	5	1.3	62			5	1.3	210			50	13	56			5	1.3	14			5	1.3
Total Organic Carbon	mg/L	na	1.5	J	J	3	0.5	1.4	J	J	3	0.5	0.68	J	J	3	0.5	2	J	J	3	0.5	2.7	J	J	3	0.5	1.8	J	J	3	0.5	1.6	JY	J	3	0.5
MNA																																				
Dissolved Fe^{2+}	mg/L	na	0.00					0.00					0.00					0.38					0.08					0.00					0.13				

Table 5-4 SWMU 49 Detected Analytes in Second Quarter Groundwater Samples (Continued)

Sample ID			48MW3					49MW01					49MW02					50MW02					13MW2					13MW3					49TM01 (Field Duplicate of 13MW3)				
Date Collected			1/15/2016					1/14/2016					1/15/2016					1/15/2016					1/13/2016					1/13/2016					1/13/2016				
Analyte	Units	Remedial Goals [1]	Result	Lab Q	Val Q	RL	MDL	Result	Lab Q	Val Q	RL	MDL	Result	Lab Q	Val Q	RL	MDL	Result	Lab Q	Val Q	RL	MDL	Result	Lab Q	Val Q	RL	MDL	Result	Lab Q	Val Q	RL	MDL	Result	Lab Q	Val Q	RL	MDL
VOCs (µg/L)																																					
1,1,1-Trichloroethane	µg/L	na	0.5	U	U	1	0.21	0.5	U	U	1	0.21	0.5	U	U	1	0.21	0.5	U	U	1	0.21	0.5	U	U	1	0.21	0.5	U	U	1	0.21	0.5	U	U	1	0.21
1,1-Dichloroethane	µg/L	na	0.5	U	U	1	0.2	0.5	U	U	1	0.2	0.5	U	U	1	0.2	0.5	J	J	1	0.2	0.5	U	U	1	0.2	0.5	U	U	1	0.2	0.5	U	U	1	0.2
Acetone	µg/L	na	10	U	U	20	5	10	U	U	20	5	10	U	U	20	5	10	U	U	20	5	10	U	U	20	5	10	U	U	20	5	10	U	U	20	5
Bromoform	µg/L	na	0.5	U	U	1	0.22	0.5	U	U	1	0.22	0.5	U	U	1	0.22	0.5	U	U	1	0.22	0.5	U	U	1	0.22	0.5	U	U	1	0.22	0.5	U	U	1	0.22
Bromomethane	µg/L	na	1	UZ	UJ	2	0.5	1	UZ	UJ	2	0.5	1	UZ	UJ	2	0.5	1	UZ	UJ	2	0.5	1	UZ	UJ	2	0.5	1	UZ	UJ	2	0.5	1	UZ	UJ	2	0.5
Carbon tetrachloride	µg/L	5	**62**			1	0.23	3.1			1	0.23	0.5	U	U	1	0.23	0.56	J	J	1	0.23	0.5	U	U	1	0.23	3.8	U	U	1	0.23	4.1		U	1	0.23
Chloroform	µg/L	na	7.5			0.5	0.15	0.4	J	J	0.5	0.15	0.25	U	U	0.5	0.15	0.25	U	U	0.5	0.15	0.25	U	U	0.5	0.15	0.53		J	0.5	0.15	0.55		U	0.5	0.15
cis-1,2-Dichloroethene	µg/L	na	0.5	U	U	1	0.25	0.5	U	U	1	0.25	0.5	U	U	1	0.25	0.5	U	U	1	0.25	0.5	U	U	1	0.25	0.5	U	U	1	0.25	0.5	U	U	1	0.25
Dibromochloromethane	µg/L	na	0.5	U	U	1	0.19	0.5	U	U	1	0.19	0.5	U	U	1	0.19	0.5	U	U	1	0.19	0.5	U	U	1	0.19	0.5	U	U	1	0.19	0.5	U	U	1	0.19
Ethylbenzene	µg/L	na	0.5	U	U	1	0.22	0.5	U	U	1	0.22	0.5	U	U	1	0.22	0.5	U	U	1	0.22	0.5	U	U	1	0.22	0.5	U	U	1	0.22	0.5	U	U	1	0.22
m- & p-Xylene	µg/L	na	1	U	U	2	0.5	1	U	U	2	0.5	1	U	U	2	0.5	1	U	U	2	0.5	1	U	U	2	0.5	1	U	U	2	0.5	1	U	U	2	0.5
o-Xylene	µg/L	na	0.5	U	U	1	0.24	0.5	U	U	1	0.24	0.5	U	U	1	0.24	0.5	U	U	1	0.24	0.5	U	U	1	0.24	0.5	U	U	1	0.24	0.5	U	U	1	0.24
Tetrachloroethene	µg/L	na	0.5	U	U	1	0.3	0.5	U	U	1	0.3	0.5	U	U	1	0.3	0.5	U	U	1	0.3	0.5	U	U	1	0.3	0.5	U	U	1	0.3	0.5	U	U	1	0.3
Trichloroethene	µg/L	5	**9.7**			1	0.21	0.5	U	U	1	0.21	0.5	U	U	1	0.21	1.1			1	0.21	0.5	U	U	1	0.21	0.82	J	J	1	0.21	0.94	J	J	1	0.21
Misc.																																					
Chloride	mg/L	na	3	J	J	4	1.1	5.9		B	4	1.1	1.9	J	J	4	1.1	8.2		B	4	1.1	6.9		B	4	1.1	4.3			4	1.1	4.3			4	1.1
Ethene	µg/L	na	1	U	U	1.1	0.5	1	U	U	1.1	0.5	1	U	U	1.1	0.5	1	U	U	1.1	0.5	1	U	U	1.1	0.5	1	U	U	1.1	0.5	1	U	U	1.1	0.5
Ethane	µg/L	na	0.7	U	U	0.8	0.4	0.7	U	U	0.8	0.4	0.7	U	U	0.8	0.4	0.7	U	U	0.8	0.4	0.7	U	U	0.8	0.4	0.7	U	U	0.8	0.4	0.7	U	U	0.8	0.4
Methane	µg/L	na	0.6	U	U	0.7	0.3	0.6	U	U	0.7	0.3	0.6	U	U	0.7	0.3	4.3		B	0.7	0.3	0.6	U	U	0.7	0.3	0.6	U	U	0.7	0.3	0.6	U	U	0.7	0.3
Nitrate (as N)	mg/L	na	6.8		B	0.4	0.08	0.39	J	J	0.4	0.08	0.098	J	J	0.4	0.08	2.4			0.4	0.08	0.23	J	J	0.4	0.08	1.8		B	0.4	0.08	1.8		B	0.4	0.08
Sulfate	mg/L	na	27			5	1.3	2.5	U	U	5	1.3	20			5	1.3	68		B	5	1.3	67			25	6.5	100			25	6.5	99			25	6.5
Total Organic Carbon	mg/L	na	0.64	J	J	3	0.5	0.88	J	J	3	0.5	0.64	J	J	3	0.5	1.5	U	U	3	0.5	2.5	J	J	3	0.5	1.9	J	J	3	0.5	2.2	J	J	3	0.5
MNA																																					
Dissolved Fe^{2+}	mg/L	na	0.00					0.74					0.09					1.06					0.00					0.00					0.00				

Table 5-4 SWMU 49 Detected Analytes in Second Quarter Groundwater Samples (Continued)

Sample ID			13MW4					49MW04				
Date Collected			1/13/2016					1/13/2016				
Analyte	Units	Remedial Goals (1)	Result	Lab Q	Val Q	RL	MDL	Result	Lab Q	Val Q	RL	MDL
VOCs (µg/L)												
1,1,1-Trichloroethane	µg/L	na	0.5	U	U	1	0.21	0.5	U	U	1	0.21
1,1-Dichloroethane	µg/L	na	0.5	U	U	1	0.2	0.5	U	U	1	0.2
Acetone	µg/L	na	10	U	U	20	5	10	U	U	20	5
Bromoform	µg/L	na	0.5	U	U	1	0.22	0.5	U	U	1	0.22
Bromomethane	µg/L	na	1	UZ	UJ	2	0.5	1	UZ	UJ	2	0.5
Carbon tetrachloride	µg/L	5	0.5	U	U	1	0.23	0.94	J	J	1	0.23
Chloroform	µg/L	na	0.25	U	U	0.5	0.15	0.25	U	U	0.5	0.15
cis-1,2-Dichloroethene	µg/L	na	0.5	U	U	1	0.25	0.5	U	U	1	0.25
Dibromochloromethane	µg/L	na	0.5	U	U	1	0.19	0.5	U	U	1	0.19
Ethylbenzene	µg/L	na	0.5	U	U	1	0.22	0.5	U	U	1	0.22
m- & p-Xylene	µg/L	na	1	U	U	2	0.5	1	U	U	2	0.5
o-Xylene	µg/L	na	0.5	U	U	1	0.24	0.5	U	U	1	0.24
Tetrachloroethene	µg/L	na	0.5	U	U	1	0.3	0.5	U	U	1	0.3
Trichloroethene	µg/L	5	1.1		U	1	0.21	0.5	U	U	1	0.21
Misc.												
Chloride	mg/L	na	3.9	J	J	4	1.1	5.2			4	1.1
Ethene	µg/L	na	1	U	U	1.1	0.5	1	U	U	1.1	0.5
Ethane	µg/L	na	0.7	U	U	0.8	0.4	0.7	U	U	0.8	0.4
Methane	µg/L	na	0.6	U	U	0.7	0.3	0.6	U	U	0.7	0.3
Nitrate (as N)	mg/L	na	0.46			0.4	0.08	0.52			0.4	0.08
Sulfate	mg/L	na	37			5	1.3	48			5	1.3
Total Organic Carbon	mg/L	na	2	J	J	3	0.5	1.9	J	J	3	0.5
MNA												
Dissolved Fe^{2+}			0.00					0.00				

Notes:

(1) Remedial Goals developed in Draft SWMU 48/49 RFI Report (CB&I, 2014a).
Exceedances denoted by bold font.
mg/L = milligrams per liter (parts per million)
µg/L = micrograms per liter (parts per billion)
RL = Reporting Limit
MDL = Method Detection Limit
na = not applicable; remedial goal not established for analyte at SWMU 49
ND = non detect
Lab Q = Lab Data Qualifiers
Val Q = Validation Data Qualifiers

Data Qualifiers

B = Analyte detected in associated Method Blank.
J = Estimated value.
M = Matrix Spike and/or Matrix Spike Duplicate recovery outside acceptance limits.
P = Concentration of analyte differs more than 40% between primary and confirmation analysis.
U = Analyte concentration was not above the detection level.
Y = Replicate/Duplicate precision outside acceptance limits.

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Figure 5-3 SWMU 49 Carbon Tetrachloride Isopleths - January 2016

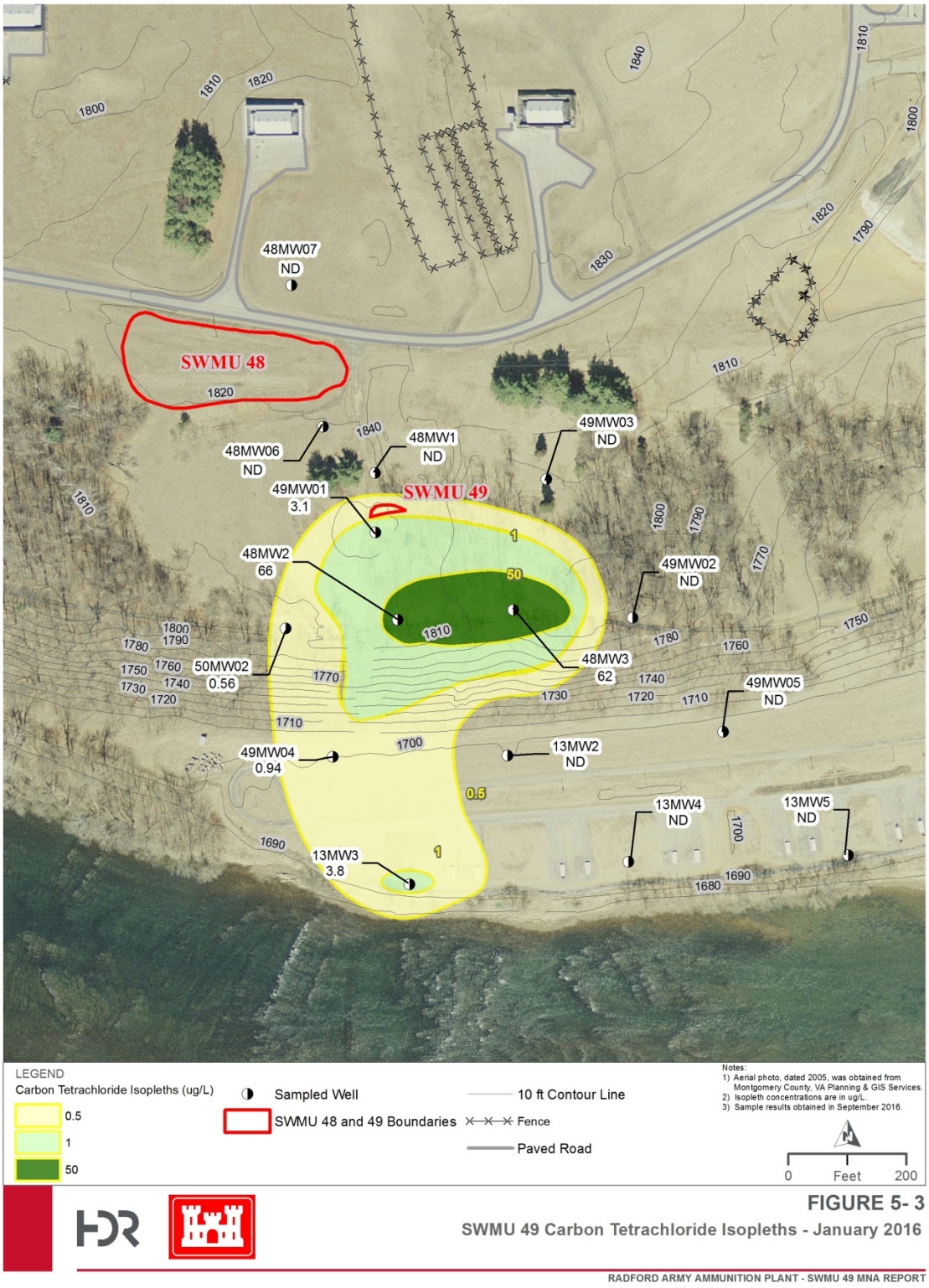

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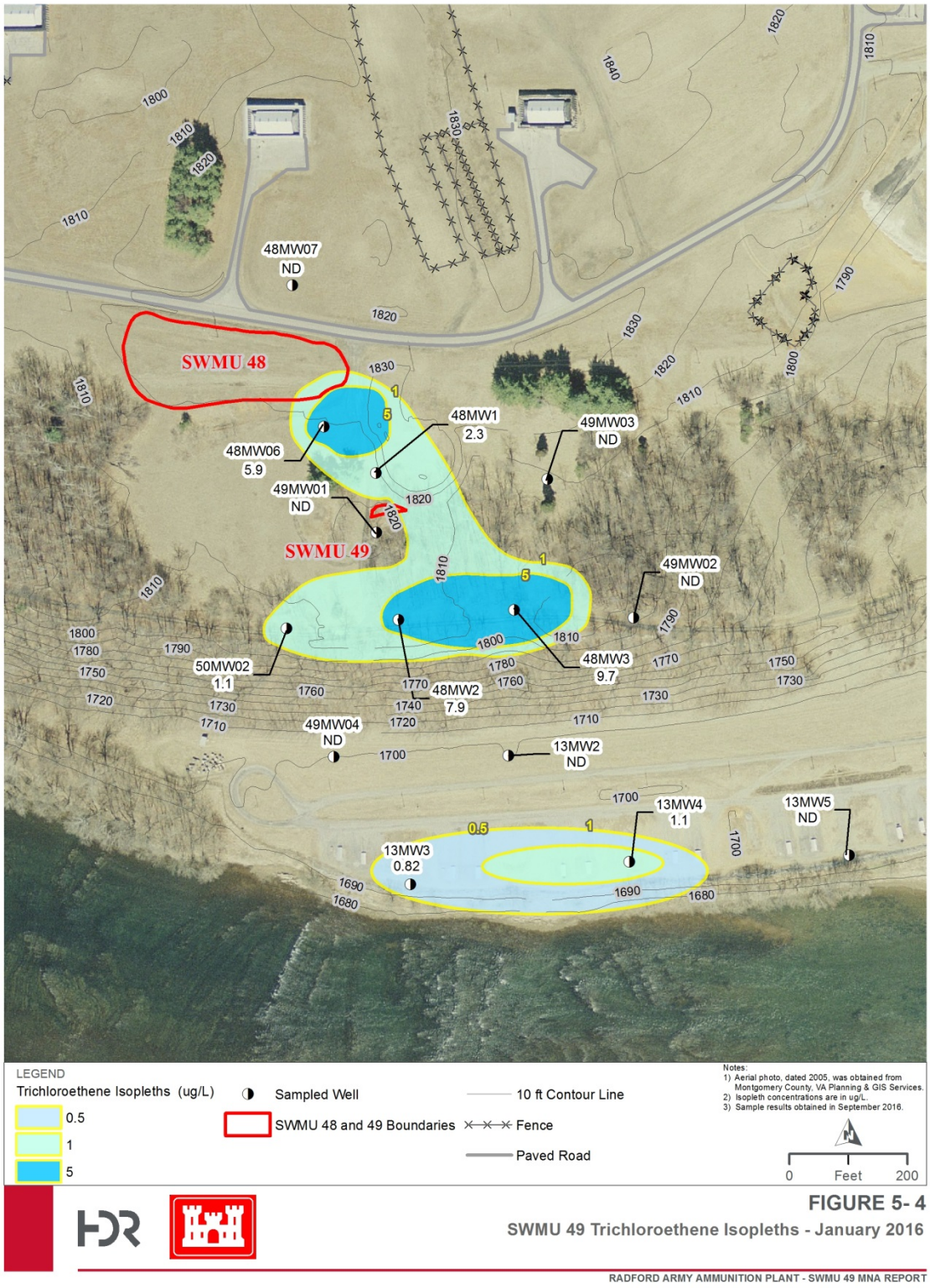
Figure 5-4 SWMU 49 Trichloroethene Isopleths - January 2016



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5.4 Third Quarter Groundwater Results

Eleven monitoring wells were sampled during the third quarter monitoring event including wells 13MW2, 13MW3, 13MW4, 48MW1, 48MW2, 48MW3, 48MW06, 49MW01, 49MW02, 49MW04, and 50MW02. A duplicate sample was collected from monitoring well 48MW06 (duplicate as 49TM01). Sample locations are provided in **Figure 4-1**.

Samples were submitted for TCL VOC, dissolved gases (methane, ethane, and ethane), and MNA indicator parameter analyses. Detected constituents are summarized in **Table 5-5**, while the results are presented in **Table 5-6**. The potential for biodegradation in the groundwater at SWMU 49 is discussed in Section 6.2.

TCL VOCs

Seven VOCs were detected in groundwater samples including 1,1,1-TCA, 1,1-DCA, CT, chloroform, cis-1,2-DCE, PCE, and TCE. Nine monitoring wells had one or more detected concentrations of the VOCs listed above. Monitoring wells 13MW2 and 49MW02 did not have detected concentrations of VOCs.

The VOC 1,1,1-TCA was detected at monitoring wells 48MW1, 48MW06, and 50MW02 at concentrations ranging from an estimated low of 0.27 µg/L to a high of 1.3 µg/L. The concentrations were generally in agreement with levels observed during the second quarterly monitoring event, although 1,1,1-TCA was not detected during that sampling round. An RG for 1,1,1-TCA has not been established for SWMU 49.

The VOC 1,1-DCA was detected at monitoring wells 48MW1, 48MW06, and 50MW02 at concentrations ranging from an estimated low value of 0.47 µg/L (50MW02) to a high of 5.2 µg/L (48MW06). These wells had similar detections recorded during the first and second quarterly monitoring events. An RG for 1,1-DCA has not been established for SWMU 49.

The VOC CT was detected at six monitoring wells including 13MW3, 48MW2, 48MW3, 49MW01, 49MW04, and 50MW02. Three wells contained CT concentrations that exceeded the RG of 5 µg/L including monitoring wells 13MW3 (5.5 µg/L), 48MW2 (32 µg/L) and 48MW3 (73 µg/L). These wells had elevated concentrations that exceeded the RG during the first and second quarterly monitoring events, with the exception of 13MW3. The range of concentrations detected during this quarter went from a low estimated value of 0.73 µg/L (49MW04) to a high of 73 µg/L (**Figure 5-5**). Compared to the second quarter monitoring results, the number of wells and detected concentrations of CT increased slightly during this quarterly event.

Chloroform was detected in five monitoring wells including 13MW3, 48MW2, 48MW3, 49MW01, and 50MW02. Concentrations ranged from an estimated value of 0.17 µg/L (50MW02) to a high of 8.2 µg/L (48MW3). Compared to the second quarter monitoring results, the number of wells and detected concentrations of chloroform increased during this quarterly event. An RG for chloroform has not been established for SWMU 49.

The VOC cis-1,2-DCE was detected in three monitoring wells including 48MW1, 48MW06, and 50MW02. Concentrations ranged from an estimated low of 0.59 µg/L to a high of 8.1 µg/L. In general, the concentrations remained the same as the last quarterly monitoring event. An RG for cis-1,2-DCE has not been established for SWMU 49.

PCE was detected in monitoring well 48MW06 at an estimated concentration of 0.73 µg/L. Monitoring well 48MW06 also contained the only detection of PCE during the first and second quarterly monitoring events. An RG for PCE has not been established for SWMU 49.

The VOC TCE was detected at seven monitoring wells including 13MW3, 13MW4, 48MW1, 48MW2, 48MW3, 48MW06 and 50MW02. Monitoring wells 48MW3 (10 µg/L) and 48MW06 (5.9 µg/L) contained concentrations of TCE that exceeded the RG of 5 µg/L. The range of concentrations detected during this quarter went from a low estimated value of 0.8 (13MW4) to a high of 10 µg/L (**Figure 5-6**). In general, the concentrations and wells with detections of TCE were similar to the first and second quarterly monitoring events.

Miscellaneous Analytes

Groundwater samples were also analyzed for MNA indicators (TOC, dissolved ferrous iron, dissolved gases, chloride, nitrate, and sulfate) for the purposes of evaluating the effectiveness of the MNA process.

Observed levels of TOC in the 11 monitoring wells ranged from a low of 0.0 mg/L (non detect) (13MW3, 48MW2, 49MW01) to a high of 3.3 mg/L (13MW3). Dissolved ferrous iron levels ranged from a low of 0.0 mg/L (non detect) (49MW02) to a high of 0.72 mg/L (49MW01). Chloride concentrations ranged from an estimated low of 2.1 mg/L (49MW02) to a high of 11 mg/L (48MW06). Detected concentrations of nitrate ranged from an estimated low of 0.13 mg/L (49MW02) to a high of 6.3 mg/L (48MW3). Sulfate concentrations ranged from a low of 0.0 mg/L (non detect) (49MW01) to a high of 110 mg/L (13MW3). Methane, ethane, and ethene went largely undetected during this quarterly monitoring event, with the exception of the sample collected from 48MW1, which had an estimated methane concentration of 0.39 µg/L. The MNA indicator parameters are presented in **Table 5-6**.

Table 5-5 SWMU 49 Summary of Third Quarter Groundwater Samples

Analyte	Units	RG	# of RG Exceedances	# of Detections	# of Samples	Minimum Concentration	Maximum Concentration	Location of Maximum
VOCs								
1,1,1-Trichloroethane	**µg/L**	**na**	**na**	4	12	0.27	1.3	48MW06
1,1-Dichloroethane	**µg/L**	**na**	**na**	4	12	0.47	5.3	48MW06
Acetone	**µg/L**	**na**	**na**	0	12	ND	ND	na
Bromoform	**µg/L**	**na**	**na**	0	12	ND	ND	na
Bromomethane	**µg/L**	**na**	**na**	0	12	ND	ND	na
Carbon tetrachloride	**µg/L**	**5**	3	6	12	0.73	73	48MW3
Chloroform	**µg/L**	**na**	**na**	5	12	0.17	8.2	48MW3
cis-1,2-Dichloroethene	**µg/L**	**na**	**na**	4	12	0.59	8.2	48MW06
Dibromochloromethane	**µg/L**	**na**	**na**	0	12	ND	ND	na
Ethylbenzene	**µg/L**	**na**	**na**	0	12	ND	ND	na
m- & p-Xylene	**µg/L**	**na**	**na**	0	12	ND	ND	na
o-Xylene	**µg/L**	**na**	**na**	0	12	ND	ND	na
Tetrachloroethene	**µg/L**	**na**	**na**	2	12	0.73	0.8	48MW06
Trichloroethene	**µg/L**	**5**	3	8	12	0.8	10	48MW3
Misc.								
Chloride	**mg/L**	**na**	**na**	12	12	2.1	11	48MW06
Ethene	**µg/L**	**na**	**na**	0	12	ND	ND	na
Ethane	**µg/L**	**na**	**na**	0	12	ND	ND	na
Methane	**µg/L**	**na**	**na**	1	12	0.39	0.39	48MW1
Nitrate (as N)	**mg/L**	**na**	**na**	12	12	0.13	6.3	48MW3
Sulfate	**mg/L**	**na**	**na**	11	12	6.2	150	48MW06
Total Organic Carbon	**mg/L**	**na**	**na**	8	12	0.57	3.3	13MW2

Notes:
µg/L = micrograms per liter
mg/L = milligrams per liter
na = not applicable
ND = non detect

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Table 5-6 SWMU 49 Detected Analytes in Third Quarter Groundwater Samples

Sample ID			48MW06					49TM01 (Field Duplicate of 48MW06)					48MW1					48MW2					48MW3					49MW01					49MW02				
Date Collected			4/12/2016					4/12/2016					4/13/2016					4/12/2016					4/12/2016					4/13/2016					4/12/2016				
Analyte	Units	Remedial Goals [1]	Result	Lab Q	Val Q	RL	MDL	Result	Lab Q	Val Q	RL	MDL	Result	Lab Q	Val Q	RL	MDL	Result	Lab Q	Val Q	RL	MDL	Result	Lab Q	Val Q	RL	MDL	Result	Lab Q	Val Q	RL	MDL	Result	Lab Q	Val Q	RL	MDL
VOCs (µg/L)																																				
1,1,1-Trichloroethane	µg/L	na	1.2			1.0	0.21	1.3			1.0	0.21	0.42	J	J	1.0	0.21	0.50	U	U	1.0	0.21	0.50	U	U	1.0	0.21	0.50	U	U	1.0	0.21	0.50	U	U	1.0	0.21
1,1-Dichloroethane	µg/L	na	5.2			1.0	0.2	5.3			1.0	0.20	1.1			1.0	0.20	0.50	U	U	1.0	0.20	0.50	U	U	1.0	0.20	0.50	U	U	1.0	0.20	0.50	U	U	1.0	0.20
Acetone	µg/L	na	10	U	U	20	5	10	U	U	20	5	10	U	U	20	5	10	U	U	20	5	10	U	U	20	5	10	U	U	20	5	10	U	U	20	5
Bromoform	µg/L	na	0.5	U	U	1	0.22	0.5	U	U	1	0.22	0.5	U	U	1	0.22	0.5	U	U	1	0.22	0.5	U	U	1	0.22	0.5	U	U	1	0.22	0.5	U	U	1	0.22
Bromomethane	µg/L	na	1	U	U	2	0.5	1	U	U	2	0.5	1	U	U	2	0.5	1	U	U	2	0.5	1	U	U	2	0.5	1	U	U	2	0.5	1	U	U	2	0.5
Carbon tetrachloride	µg/L	5	0.50	U	U	1.0	0.23	0.50	U	U	1.0	0.23	0.50	U	U	1.0	0.23	**32**			1.0	0.23	**73**			1.0	0.23	3.0			1.0	0.23	0.50	U	U	1.0	0.23
Chloroform	µg/L	na	0.25	U	U	0.50	0.15	0.25	U	U	0.50	0.15	0.25	U	U	0.50	0.15	3.2			0.50	0.15	8.2			0.50	0.15	0.35	J	J	0.50	0.15	0.25	U	U	0.50	0.15
cis-1,2-Dichloroethene	µg/L	na	8.1			1.0	0.25	8.2			1.0	0.25	0.89	J	J	1.0	0.25	0.50	U	U	1.0	0.25	0.50	U	U	1.0	0.25	0.50	U	U	1.0	0.25	0.50	U	U	1.0	0.25
Dibromochloromethane	µg/L	na	0.5	U	U	1	0.19	0.5	U	U	1	0.19	0.5	U	U	1	0.19	0.5	U	U	1	0.19	0.5	U	U	1	0.19	0.5	U	U	1	0.19	0.5	U	U	1	0.19
Ethylbenzene	µg/L	na	0.5	U	U	1	0.22	0.5	U	U	1	0.22	0.5	U	U	1	0.22	0.5	U	U	1	0.22	0.5	U	U	1	0.22	0.5	U	U	1	0.22	0.5	U	U	1	0.22
m- & p-Xylene	µg/L	na	1	U	U	2	0.5	1	U	U	2	0.5	1	U	U	2	0.5	1	U	U	2	0.5	1	U	U	2	0.5	1	U	U	2	0.5	1	U	U	2	0.5
o-Xylene	µg/L	na	0.5	U	U	1	0.24	0.5	U	U	1	0.24	0.5	U	U	1	0.24	0.5	U	U	1	0.24	0.5	U	U	1	0.24	0.5	U	U	1	0.24	0.5	U	U	1	0.24
Tetrachloroethene	µg/L	na	0.73	J	J	1.0	0.30	0.80	J	J	1.0	0.30	0.50	U	U	1.0	0.30	0.50	U	U	1.0	0.30	0.50	U	U	1.0	0.30	0.50	U	U	1.0	0.30	0.50	U	U	1.0	0.30
Trichloroethene	µg/L	5	**5.9**			1.0	0.21	**6.3**			1.0	0.21	2.2			1.0	0.21	2.3			1.0	0.21	**10**			1.0	0.21	0.50	U	U	1.0	0.21	0.50	U	U	1.0	0.21
Misc.																																				
Chloride	mg/L	na	11			4	1.1	11			4	1.1	4.3			4	1.1	2.5	J	J	4	1.1	2.5	JM	J	4	1.1	6	M	J	4	1.1	2.1	J	J	4	1.1
Ethene	µg/L	na	1	U	U	1.1	0.5	1	U	U	1.1	0.5	1	U	U	1.1	0.5	1	U	U	1.1	0.5	1	U	U	1.1	0.5	1	U	U	1.1	0.5	1	U	U	1.1	0.5
Ethane	µg/L	na	0.70	U	U	0.80	0.40	0.70	U	U	0.80	0.40	0.70	U	U	0.80	0.40	0.70	U	U	0.80	0.40	0.70	U	U	0.80	0.40	0.70	U	U	0.80	0.40	0.70	U	U	0.80	0.40
Methane	µg/L	na	0.6	U	U	0.7	0.3	0.6	U	U	0.7	0.3	0.39	J	J	0.7	0.3	0.6	U	U	0.7	0.3	0.6	U	U	0.7	0.3	0.6	U	U	0.7	0.3	0.6	U	U	0.7	0.3
Nitrate (as N)	mg/L	na	3.7			0.4	0.08	3.7			0.4	0.08	1.7			0.4	0.08	0.81			0.4	0.08	6.3			0.4	0.08	0.38	JM	J	0.4	0.08	0.13	J	J	0.4	0.08
Sulfate	mg/L	na	140			15	3.9	150			15	3.9	56			5	1.3	6.2			5	1.3	28			5	1.3	2.5	U	U	5	1.3	20			5	1.3
Total Organic Carbon	mg/L	na	1.8	J	J	3	0.5	1.1	J	J	3	0.5	1.5	U	UJ	3	0.5	1.5	U	U	3	0.5	1.5	JY	J	3	0.5	1.5	U	U	3	0.5	0.98	J	J	3	0.5
MNA																																				
Dissolved Fe^{2+}	mg/L	na	0.24					0.24					0.09					0.51					0.07					0.72					0.00				

Table 5-6 SWMU 49 Detected Analytes in Third Quarter Groundwater Samples (Continued)

Sample ID			50MW02					13MW2					13MW3					13MW4					49MW04				
Date Collected			4/12/2016					4/13/2016					4/13/2016					4/13/2016					4/13/2016				
Analyte	Units	Remedial Goals [(1)]	Result	Lab Q	Val Q	RL	MDL	Result	Lab Q	Val Q	RL	MDL	Result	Lab Q	Val Q	RL	MDL	Result	Lab Q	Val Q	RL	MDL	Result	Lab Q	Val Q	RL	MDL
VOCs (µg/L)																											
1,1,1-Trichloroethane	µg/L	na	0.27	J	J	1.0	0.21	0.50	U	U	1.0	0.21	0.50	U	U	1.0	0.21	0.50	U	U	1.0	0.21	0.50	U	U	1.0	0.21
1,1-Dichloroethane	µg/L	na	0.47	J	J	1.0	0.20	0.50	U	U	1.0	0.20	0.50	U	U	1.0	0.20	0.50	U	U	1.0	0.20	0.50	U	U	1.0	0.20
Acetone	µg/L	na	10	U	U	20	5	10	U	U	20	5	10	U	U	20	5	10	U	U	20	5	10	U	U	20	5
Bromoform	µg/L	na	0.5	U	U	1	0.22	0.5	U	U	1	0.22	0.5	U	U	1	0.22	0.5	U	U	1	0.22	0.5	U	U	1	0.22
Bromomethane	µg/L	na	1	U	U	2	0.5	1	U	U	2	0.5	1	U	U	2	0.5	1	U	U	2	0.5	1	U	U	2	0.5
Carbon tetrachloride	µg/L	5	1.1			1.0	0.23	0.50	U	U	1.0	0.23	**5.5**			1.0	0.23	0.50	U	U	1.0	0.23	0.73	J	J	1.0	0.23
Chloroform	µg/L	na	0.17	J	J	0.50	0.15	0.25	U	U	0.50	0.15	0.51			0.50	0.15	0.25	U	U	0.50	0.15	0.25	U	U	0.50	0.15
cis-1,2-Dichloroethene	µg/L	na	0.59	J	J	1.0	0.25	0.50	U	U	1.0	0.25	0.50	U	U	1.0	0.25	0.50	U	U	1.0	0.25	0.50	U	U	1.0	0.25
Dibromochloromethane	µg/L	na	0.5	U	U	1	0.19	0.5	U	U	1	0.19	0.5	U	U	1	0.19	0.5	U	U	1	0.19	0.5	U	U	1	0.19
Ethylbenzene	µg/L	na	0.5	U	U	1	0.22	0.5	U	U	1	0.22	0.5	U	U	1	0.22	0.5	U	U	1	0.22	0.5	U	U	1	0.22
m- & p-Xylene	µg/L	na	1	U	U	2	0.5	1	U	U	2	0.5	1	U	U	2	0.5	1	U	U	2	0.5	1	U	U	2	0.5
o-Xylene	µg/L	na	0.5	U	U	1	0.24	0.5	U	U	1	0.24	0.5	U	U	1	0.24	0.5	U	U	1	0.24	0.5	U	U	1	0.24
Tetrachloroethene	µg/L	na	0.50	U	U	1.0	0.30	0.50	U	U	1.0	0.30	0.50	U	U	1.0	0.30	0.50	U	U	1.0	0.30	0.50	U	U	1.0	0.30
Trichloroethene	µg/L	5	1.9			1.0	0.21	0.50	U	U	1.0	0.21	1.0			1.0	0.21	0.80	J	J	1.0	0.21	0.50	U	U	1.0	0.21
Misc.																											
Chloride	mg/L	na	9.1			4	1.1	8.9			4	1.1	4.5			4	1.1	3.8	J	J	4	1.1	5.3			4	1.1
Ethene	µg/L	na	1	U	U	1.1	0.5	1	U	U	1.1	0.5	1	U	U	1.1	0.5	1	U	U	1.1	0.5	1	U	U	1.1	0.5
Ethane	µg/L	na	0.70	U	U	0.80	0.40	0.70	U	U	0.80	0.40	0.70	U	U	0.80	0.40	0.70	U	U	0.80	0.40	0.70	U	U	0.80	0.40
Methane	µg/L	na	0.6	U	U	0.7	0.3	0.6	U	U	0.7	0.3	0.6	U	U	0.7	0.3	0.6	U	U	0.7	0.3	0.6	U	U	0.7	0.3
Nitrate (as N)	mg/L	na	2.8			0.4	0.08	0.18	J	J	0.4	0.08	1.5			0.4	0.08	0.46			0.4	0.08	0.39	J	J	0.4	0.08
Sulfate	mg/L	na	64			5	1.3	63			5	1.3	110			10	2.6	36			5	1.3	48			5	1.3
Total Organic Carbon	mg/L	na	1.2	J	J	3	0.5	3.3			3	0.5	1.5	U	U	3	0.5	0.57	J	J	3	0.5	1	J	J	3	0.5
MNA																											
Dissolved Fe^{2+}	mg/L	na	0.16					0.11					0.04					0.03					0.13				

Notes:
(1) Remedial Goals developed in Draft SWMU 48/49 RFI Report (CB&I, 2014a). Exceedances denoted by bold font.
mg/L = milligrams per liter (parts per million)
µg/L = micrograms per liter (parts per billion)
RL = Reporting Limit
MDL = Method Detection Limit
na = not applicable; remedial goal not established for analyte at SWMU 49
ND = non detect
Lab Q = Lab Data Qualifiers
Val Q = Validation Data Qualifiers

Data Qualifiers
B = Analyte detected in associated Method Blank.
J = Estimated value.
M = Matrix Spike and/or Matrix Spike Duplicate recovery outside acceptance limits.
P = Concentration of analyte differs more than 40% between primary and confirmation analysis.
U = Analyte concentration was not above the detection level.
Y = Replicate/Duplicate precision outside acceptance limits.

Figure 5-5 SWMU 49 Carbon Tetrachloride Isopleths - April 2016

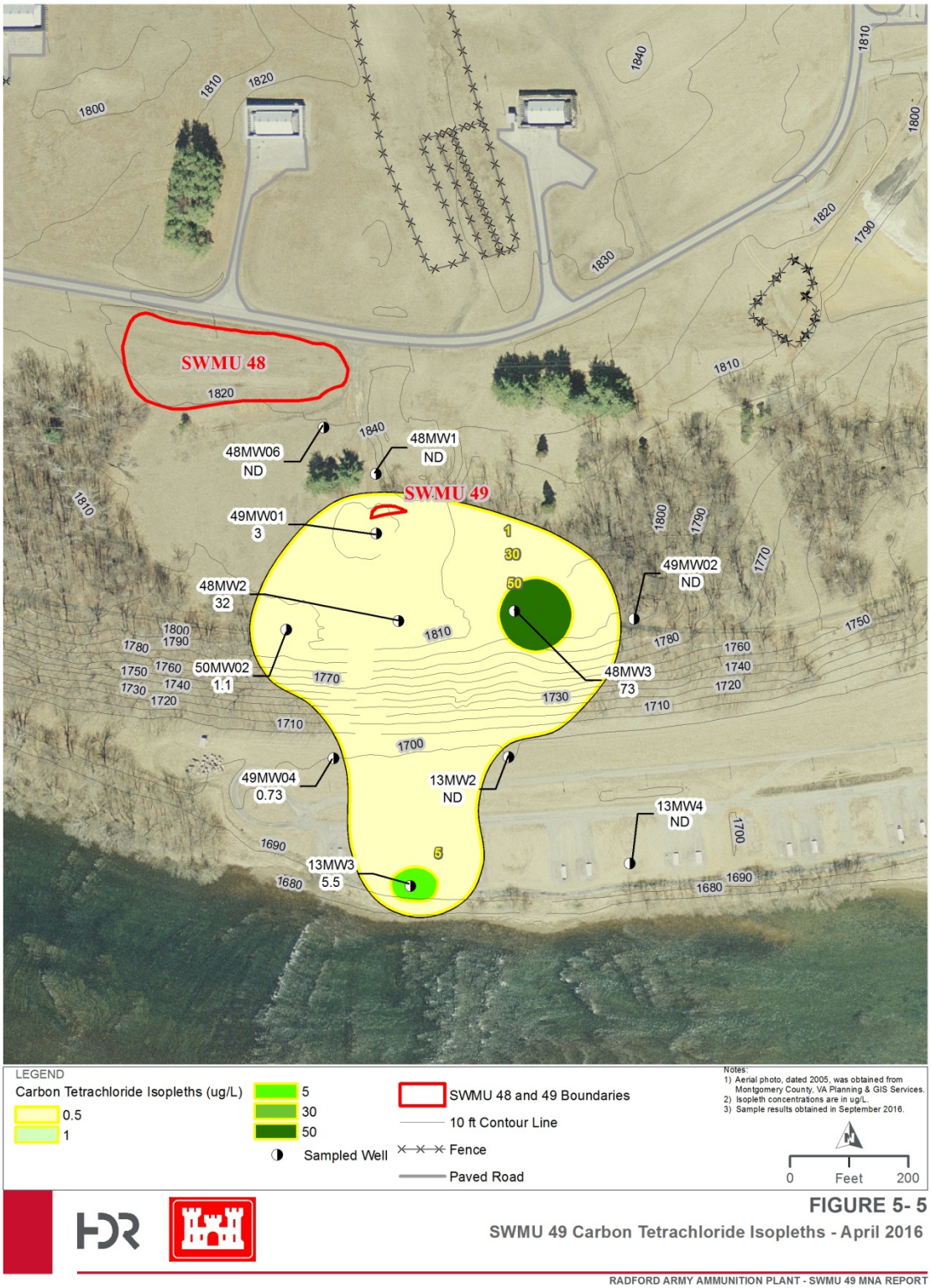

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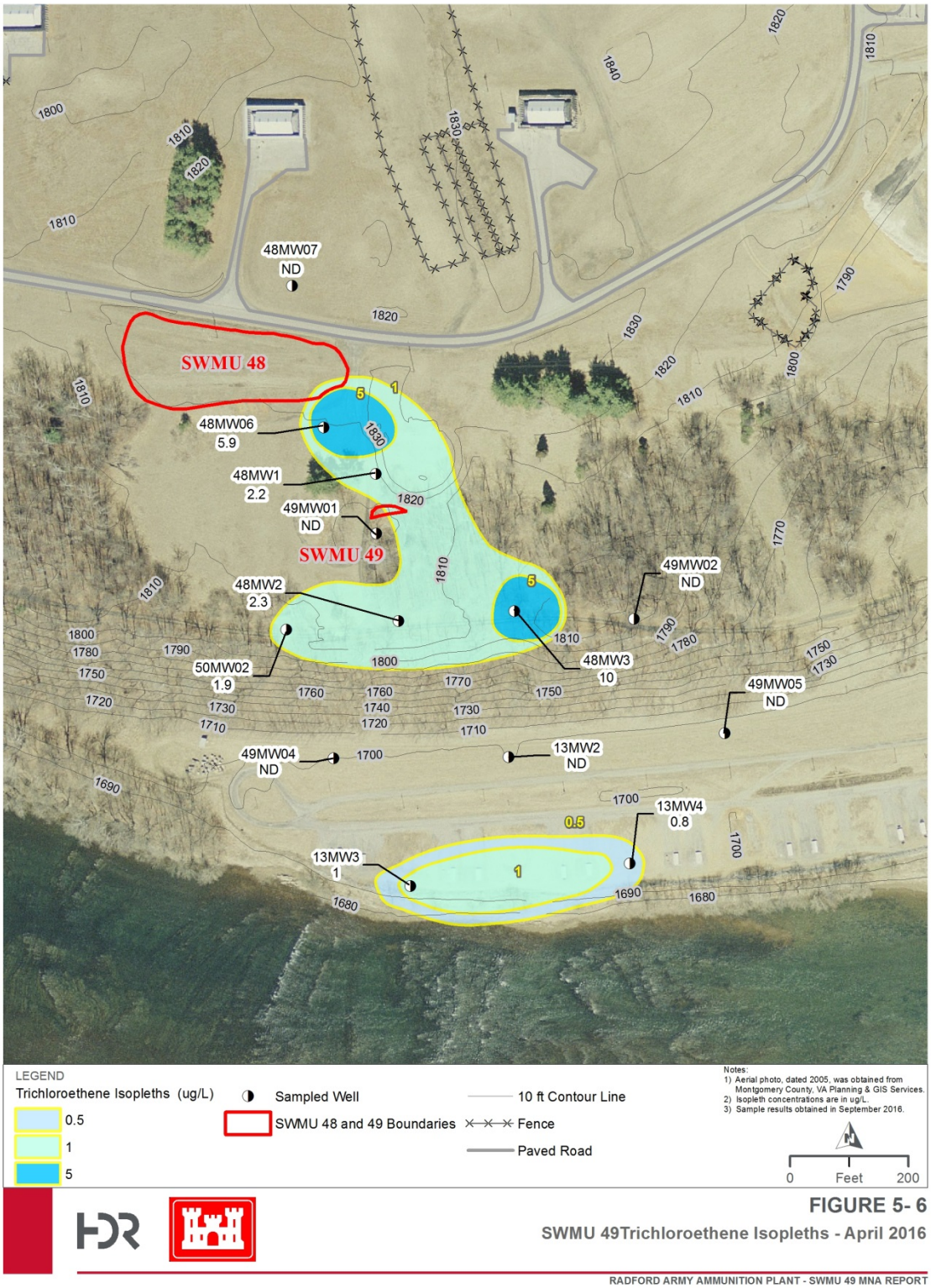
Figure 5-6 SWMU 49 Trichloroethene Isopleths - April 2016



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5.5 Fourth Quarter Groundwater Results

Eleven monitoring wells were sampled during the fourth quarter monitoring event including wells 13MW2, 13MW3, 13MW4, 48MW1, 48MW2, 48MW3, 48MW06, 49MW01, 49MW02, 49MW04, and 50MW02. Two duplicate samples were collected from monitoring wells 48MW06 (duplicate as 49TM01) and 50MW02 (duplicate as 49TM02). Sample locations are provided in **Figure 4-1**.

Samples were submitted for TCL VOC, dissolved gases (methane, ethane, and ethane), and MNA indicator parameter analyses. Detected constituents are summarized in **Table 5-7**, while the results are presented in **Table 5-8**. The potential for biodegradation in the groundwater at SWMU 49 is discussed in Section 6.2.

TCL VOCs

Seven VOCs were detected in groundwater samples including 1,1,1-TCA, 1,1-DCA, CT, chloroform, cis-1,2-DCE, PCE, and TCE. Nine monitoring wells had one or more detected concentrations of the VOCs listed above. Monitoring wells 13MW2 and 49MW02 did not have detected concentrations of VOCs.

The VOC 1,1,1-TCA was detected at monitoring wells 48MW1, 48MW06, and 50MW02 ranging from an estimated low concentration of 0.25 µg/L and to an estimated high concentration of 0.57 µg/L. An RG for 1,1,1-TCA has not been established for SWMU 49.

The VOC 1,1-DCA was detected at monitoring wells 48MW1, 48MW06, and 50MW02 at concentrations ranging from an estimated value of 0.39 µg/L (50MW02) to a high of 2.4 µg/L (48MW06). The concentrations of 1,1-DCA in these wells declined slightly when compared to the third quarter monitoring event. An RG for 1,1-DCA has not been established for SWMU 49.

The VOC CT was detected at six monitoring wells including 13MW3, 48MW2, 48MW3, 49MW01, 49MW04, and 50MW02. Two wells contained CT concentrations that exceeded the RG of 5 µg/L including monitoring wells 48MW2 (38 µg/L) and 48MW3 (64 µg/L). These wells had elevated concentrations that exceeded the RG during all four quarterly monitoring events. The range of concentrations detected during this quarter went from a low estimated value of 0.61 µg/L (50MW02) to a high of 64 µg/L (**Figure 5-7**). Compared to the third quarter monitoring results, the number of wells and detected concentrations of CT remained similar.

Chloroform was detected in five monitoring wells including 48MW2, 48MW3, 49MW01, 50MW02, and 13MW3. Concentrations ranged from an estimated value of 0.19 µg/L (49MW01) to a high of 7.1 µg/L (48MW3). Compared to the third quarter monitoring results, the number of wells and detected concentrations of chloroform remained similar. An RG for chloroform has not been established for SWMU 49.

The VOC cis-1,2-DCE was detected in three monitoring wells including 48MW1, 48MW06, and 50MW02. Concentrations ranged from an estimated low of 0.4 µg/L (50MW02) and to a high of 1.1 µg/L (48MW1). When compared to the third quarterly monitoring event, the number of detections increased, while the concentrations decreased. An RG for cis-1,2-DCE has not been established for SWMU 49.

PCE was detected in monitoring well 48MW1 at an estimated concentration of 0.6 µg/L. While not detected during this quarter, monitoring well 48MW06 also has had detections of PCE. An RG for PCE has not been established for SWMU 49.

The VOC TCE was detected at six monitoring wells including 13MW3, 13MW4, 48MW1, 48MW2, 48MW3, and 50MW02. Monitoring well 48MW3 contained concentrations of TCE that exceeded the RG of 5 µg/L. Monitoring well 48MW3 has had elevated levels of TCE in all four quarterly monitoring events. The range of concentrations detected during this quarter went from a low estimated value of 0.94 µg/L (13MW3) to a high of 10 µg/L (**Figure 5-8**). In general, the concentrations and wells with detections of TCE were similar to previous quarterly monitoring events, with the exception of 48MW06 which was detected during the previous two sample rounds (quarters two and three) at elevated concentrations.

Miscellaneous Analytes

Groundwater samples were analyzed for MNA indicators (TOC, dissolved ferrous iron, dissolved gases, chloride, nitrate, and sulfate) for the purposes of evaluating the effectiveness of the MNA process.

Observed levels of TOC in the 11 monitoring wells ranged from an estimated low of 0.67 mg/L (49MW02) to an estimated high of 1.1 mg/L (48MW3). Dissolved ferrous iron levels ranged from a low of 0.01 mg/L to a high of 0.75 mg/L (48MW2). Chloride concentrations ranged from an estimated low of 2 mg/L (49MW02) to a high of 11 mg/L (48MW1 and 48MW06). Detected concentrations of nitrate ranged from an estimated low of 0.14 mg/L (49MW02) to a high of 7.6 mg/L (48MW3). Sulfate concentrations ranged from an estimated low of 1.4 mg/L (49MW01) to a high of 130 mg/L (48MW06). Methane, ethane, and ethene went largely undetected during this quarterly monitoring event, with the exception of the sample collected from 50MW02. Sample 50MW02 had an estimated methane concentration of 0.43 µg/L. The MNA indicator parameter sample results are provided in **Table 5-8**.

Table 5-7 SWMU 49 Summary of Fourth Quarter Groundwater Samples

Analyte	Units	RG	# of RG Exceedances	# of Detections	# of Samples	Minimum Concentration	Maximum Concentration	Location of Maximum
VOCs								
1,1,1-Trichloroethane	**µg/L**	**na**	**na**	5	13	0.24	0.57	48MW06
1,1-Dichloroethane	**µg/L**	**na**	**na**	5	13	0.39	2.4	48MW06
Acetone	**µg/L**	**na**	**na**	0	13	ND	ND	na
Bromoform	**µg/L**	**na**	**na**	0	13	ND	ND	na
Bromomethane	**µg/L**	**na**	**na**	0	13	ND	ND	na
Carbon tetrachloride	**µg/L**	**5**	2	7	13	0.61	64	48MW3
Chloroform	**µg/L**	**na**	**na**	6	13	0.18	7.1	48MW3
cis-1,2-Dichloroethene	**µg/L**	**na**	**na**	5	13	0.4	3	48MW06
Dibromochloromethane	**µg/L**	**na**	**na**	0	13	ND	ND	na
Ethylbenzene	**µg/L**	**na**	**na**	0	13	ND	ND	na
m- & p-Xylene	**µg/L**	**na**	**na**	0	13	ND	ND	na
o-Xylene	**µg/L**	**na**	**na**	0	13	ND	ND	na
Tetrachloroethene	**µg/L**	**na**	**na**	2	13	0.37	0.6	48MW1
Trichloroethene	**µg/L**	**5**	1	8	13	0.94	10	48MW3
Misc.								
Chloride	**mg/L**	**na**	**na**	13	13	2	11	48MW1 & 48MW06
Ethene	**µg/L**	**na**	**na**	0	13	ND	ND	na
Ethane	**µg/L**	**na**	**na**	0	13	ND	ND	na
Methane	**µg/L**	**na**	**na**	2	13	0.31	0.43	50MW02
Nitrate (as N)	**mg/L**	**na**	**na**	13	13	0.14	7.6	48MW3
Sulfate	**mg/L**	**na**	**na**	13	13	1.4	140	48MW06
Total Organic Carbon	**mg/L**	**na**	**na**	12	13	0.67	1.1	48MW06 & 48MW3

Notes:
µg/L = micrograms per liter
mg/L = milligrams per liter
na = not applicable
ND = non detect
RG = Remedial Goal

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Table 5-8 SWMU 49 Detected Analytes in Fourth Quarter Groundwater Samples

Sample ID			48MW06					49TM01 (Field Duplicate of 48MW06)					48MW1					48MW2					48MW3					49MW01					49MW02				
Date Collected			7/12/2016					7/12/2016					7/12/2016					7/13/2016					7/13/2016					7/12/2016					7/13/2016				
Analyte	**Units**	**Remedial Goals [1]**	**Result**	**Lab Q**	**Val Q**	**RL**	**MDL**	**Result**	**Lab Q**	**Val Q**	**RL**	**MDL**	**Result**	**Lab Q**	**Val Q**	**RL**	**MDL**	**Result**	**Lab Q**	**Val Q**	**RL**	**MDL**	**Result**	**Lab Q**	**Val Q**	**RL**	**MDL**	**Result**	**Lab Q**	**Val Q**	**RL**	**MDL**	**Result**	**Lab Q**	**Val Q**	**RL**	**MDL**
VOCs (µg/L)																																				
1,1,1-Trichloroethane	µg/L	na	0.57	J	J	1.0	0.21	0.36	J	J	1.0	0.21	0.54	J	J	1.0	0.21	0.50	U	U	1.0	0.21	0.50	U	U	1.0	0.21	0.50	U	U	1.0	0.21	0.50	U	U	1.0	0.21
1,1-Dichloroethane	µg/L	na	2.4			1.0	0.20	2.2			1.0	0.20	0.98	J	J	1.0	0.20	0.50	U	U	1.0	0.20	0.50	U	U	1.0	0.20	0.50	U	U	1.0	0.20	0.50	U	U	1.0	0.20
Acetone	µg/L	na	10	U	U	20	5	10	U	U	20	5	10	U	U	20	5	10	U	U	20	5	10	U	U	20	5	10	U	U	20	5	10	U	U	20	5
Bromoform	µg/L	na	0.5	U	UJ	1	0.22	0.5	U	U	1	0.22	0.5	U	U	1	0.22	0.5	U	U	1	0.22	0.5	U	U	1	0.22	0.5	U	U	1	0.22	0.5	U	U	1	0.22
Bromomethane	µg/L	na	1	UZ	U	2	0.5	1	UZ	U	2	0.5	1	UZ	U	2	0.5	1	UZ	U	2	0.5	1	UZ	U	2	0.5	1	UZ	U	2	0.5	1	UZ	U	2	0.5
Carbon tetrachloride	µg/L	5	0.50	U	U	1.0	0.23	0.50	U	U	1.0	0.23	0.50	U	U	1.0	0.23	**38**			1.0	0.23	**64**			1.0	0.23	1.8			1.0	0.23	0.50	U	U	1.0	0.20
Chloroform	µg/L	na	0.25	U	U	0.50	0.15	0.25	U	U	0.50	0.15	0.25	U	U	0.50	0.15	3.5			0.50	0.15	7.1			0.50	0.15	0.44	J	J	0.50	0.15	0.25	U	U	0.50	0.15
cis-1,2-Dichloroethene	µg/L	na	0.73	J	J	1.0	0.25	3.0		J	1.0	0.25	1.1			1.0	0.25	0.50	U	U	1.0	0.25	0.50	U	U	1.0	0.25	0.50	U	U	1.0	0.25	0.50	U	U	1.0	0.25
Dibromochloromethane	µg/L	na	0.5	U	U	1	0.19	0.5	U	U	1	0.19	0.5	U	U	1	0.19	0.5	U	U	1	0.19	0.5	U	U	1	0.19	0.5	U	U	1	0.19	0.5	U	U	1	0.19
Ethylbenzene	µg/L	na	0.5	U	U	1	0.22	0.5	U	U	1	0.22	0.5	U	U	1	0.22	0.5	U	U	1	0.22	0.5	U	U	1	0.22	0.5	U	U	1	0.22	0.5	U	U	1	0.22
m- & p-Xylene	µg/L	na	1	U	U	2	0.5	1	U	U	2	0.5	1	U	U	2	0.5	1	U	U	2	0.5	1	U	U	2	0.5	1	U	U	2	0.5	1	U	U	2	0.5
o-Xylene	µg/L	na	0.5	U	U	1	0.24	0.5	U	U	1	0.24	0.5	U	U	1	0.24	0.5	U	U	1	0.24	0.5	U	U	1	0.24	0.5	U	U	1	0.24	0.5	U	U	1	0.24
Tetrachloroethene	µg/L	na	0.50	U	U	1.0	0.30	0.37	J	J	1.0	0.30	0.60	J	J	1.0	0.30	0.50	U	U	1.0	0.30	0.50	U	U	1.0	0.30	0.50	U	U	1.0	0.30	0.50	U	U	1.0	0.30
Trichloroethene	µg/L	5	0.50	U	UJ	1.0	0.21	2.2		J	1.0	0.21	3.3			1.0	0.21	3.9			1.0	0.21	**10**			1.0	0.21	0.50	U	U	1.0	0.21	0.50	U	U	1.0	0.21
Misc.																																				
Chloride	mg/L	na	11			4	1.1	11			4	1.1	11	M	J	4	1.1	3.1	J	J	4	1.1	3.3	J	J	4	1.1	6.7			4	1.1	2	J	J	4	1.1
Ethene	µg/L	na	1	U	U	1.1	0.5	1	U	U	1.1	0.5	1	U	U	1.1	0.5	1	U	U	1.1	0.5	1	U	U	1.1	0.5	1	U	U	1.1	0.5	1	U	U	1.1	0.5
Ethane	µg/L	na	0.70	U	U	0.80	0.40	0.70	U	U	0.80	0.40	0.70	U	U	0.80	0.40	0.70	U	U	0.80	0.40	0.70	U	U	0.80	0.40	0.70	U	U	0.80	0.40	0.70	U	U	0.80	0.40
Methane	µg/L	na	0.6	U	U	0.7	0.3	0.6	U	U	0.7	0.3	0.6	U	U	0.7	0.3	0.6	U	U	0.7	0.3	0.6	U	U	0.7	0.3	0.6	U	U	0.7	0.3	0.6	U	U	0.7	0.3
Nitrate (as N)	mg/L	na	3			0.4	0.08	3.1			0.4	0.08	2.7			0.4	0.08	1			0.4	0.08	7.6			0.4	0.08	0.46			0.4	0.08	0.14	J	J	0.4	0.08
Sulfate	mg/L	na	130			25	6.5	140			25	6.5	73			25	6.5	12			5	1.3	31			5	1.3	1.4	J	J	5	1.3	21			5	1.3
Total Organic Carbon	mg/L	na	0.98	J	J	3	0.5	1.1	J	J	3	0.5	0.71	J	J	3	0.5	0.81	J	J	3	0.5	1.1	J	J	3	0.5	1.5	U	U	3	0.5	0.67	J	J	3	0.5
MNA																																				
Dissolved Fe^{2+}	mg/L	na	0.40					0.40					0.01					0.75					0.04					0.33					0.06				

Table 5-8 SWMU 49 Detected Analytes in Fourth Quarter Groundwater Samples (Continued)

Sample ID			50MW02					49TM02 (Field Duplicate of 50MW02)					13MW2					13MW3					13MW4					49MW04				
Date Collected			7/12/2016					7/12/2016					7/13/2016					7/12/2016					7/12/2016					7/13/2016				
Analyte	Units	Remedial Goals (1)	Result	Lab Q	Val Q	RL	MDL	Result	Lab Q	Val Q	RL	MDL	Result	Lab Q	Val Q	RL	MDL	Result	Lab Q	Val Q	RL	MDL	Result	Lab Q	Val Q	RL	MDL	Result	Lab Q	Val Q	RL	MDL
VOCs (µg/L)																															
1,1,1-Trichloroethane	µg/L	na	0.25	J	J	1.0	0.21	0.24	J	J	1.0	0.21	0.50	U	U	1.0	0.21	0.50	U	U	1.0	0.21	0.50	U	U	1.0	0.21	0.50	U	U	1.0	0.21
1,1-Dichloroethane	µg/L	na	0.39	J	J	1.0	0.20	0.41	J	J	1.0	0.20	0.50	U	U	1.0	0.20	0.50	U	U	1.0	0.20	0.50	U	U	1.0	0.23	0.50	U	U	1.0	0.20
Acetone	µg/L	na	10	U	U	20	5	10	U	U	20	5	10	U	U	20	5	10	U	U	20	5	10	U	U	20	5	10	U	U	20	5
Bromoform	µg/L	na	0.5	U	U	1	0.22	0.5	U	U	1	0.22	0.5	U	U	1	0.22	0.5	U	U	1	0.22	0.5	U	U	1	0.22	0.5	U	U	1	0.22
Bromomethane	µg/L	na	1	UZ	U	2	0.5	1	UZ	U	2	0.5	1	UZ	U	2	0.5	1	UZ	U	2	0.5	1	UZ	U	2	0.5	1	UZ	U	2	0.5
Carbon tetrachloride	µg/L	5	0.61	J	J	1.0	0.23	0.73	J	J	1.0	0.23	0.50	U	U	1.0	0.23	3.6			1.0	0.23	0.50	U	U	1.0	0.23	0.71	J	J	1.0	0.23
Chloroform	µg/L	na	0.19	J	J	0.50	0.15	0.18	J	J	0.50	0.15	0.25	U	U	0.50	0.15	0.58			0.50	0.15	0.25	U	U	0.50	0.15	0.25	U	U	0.50	0.15
cis-1,2-Dichloroethene	µg/L	na	0.40	J	J	1.0	0.25	0.48	J	J	1.0	0.25	0.50	U	U	1.0	0.25	0.50	U	U	1.0	0.25	0.50	U	U	1.0	0.25	0.50	U	U	1.0	0.25
Dibromochloromethane	µg/L	na	0.5	U	U	1	0.19	0.5	U	U	1	0.19	0.5	U	U	1	0.19	0.5	U	U	1	0.19	0.5	U	U	1	0.19	0.5	U	U	1	0.19
Ethylbenzene	µg/L	na	0.5	U	U	1	0.22	0.5	U	U	1	0.22	0.5	U	U	1	0.22	0.5	U	U	1	0.22	0.5	U	U	1	0.22	0.5	U	U	1	0.22
m- & p-Xylene	µg/L	na	1	U	U	2	0.5	1	U	U	2	0.5	1	U	U	2	0.5	1	U	U	2	0.5	1	U	U	2	0.5	1	U	U	2	0.5
o-Xylene	µg/L	na	0.5	U	U	1	0.24	0.5	U	U	1	0.24	0.5	U	U	1	0.24	0.5	U	U	1	0.24	0.5	U	U	1	0.24	0.5	U	U	1	0.24
Tetrachloroethene	µg/L	na	0.50	U	U	1.0	0.30	0.50	U	U	1.0	0.30	0.50	U	U	1.0	0.30	0.50	U	U	1.0	0.30	0.50	U	U	1.0	0.30	0.50	U	U	1.0	0.30
Trichloroethene	µg/L	5	1.7			1.0	0.21	1.7			1.0	0.21	0.50	U	U	1.0	0.21	0.94	J	J	1.0	0.21	2.1			1.0	0.21	0.50	U	U	1.0	0.21
Misc.																															
Chloride	mg/L	na	9.2			4	1.1	9.1			4	1.1	5.5			4	1.1	4.5			4	1.1	6.2			4	1.1	5.9			4	1.1
Ethene	µg/L	na	1	U	U	1.1	0.5	1	U	U	1.1	0.5	1	U	U	1.1	0.5	1	U	U	1.1	0.5	1	U	U	1.1	0.5	1	U	U	1.1	0.5
Ethane	µg/L	na	0.70	U	U	0.80	0.40	0.70	U	U	0.80	0.40	0.70	U	U	0.80	0.40	0.70	U	U	0.80	0.40	0.70	U	U	0.80	0.40	0.70	U	U	0.80	0.40
Methane	µg/L	na	0.43	J	J	0.7	0.3	0.31	J	J	0.7	0.3	0.6	U	U	0.7	0.3	0.6	U	U	0.7	0.3	0.6	U	U	0.7	0.3	0.6	U	U	0.7	0.3
Nitrate (as N)	mg/L	na	2.5			0.4	0.08	2.6			0.4	0.08	0.16	J	J	0.4	0.08	1.4			0.4	0.08	0.89			0.4	0.08	0.44			0.4	0.08
Sulfate	mg/L	na	68			5	1.3	68			5	1.3	46			5	1.3	120			25	6.5	48			5	1.3	54			5	1.3
Total Organic Carbon	mg/L	na	0.9	J	J	3	0.5	0.7	J	J	3	0.5	0.8	J	J	3	0.5	0.94	J	J	3	0.5	1	J	J	3	0.5	0.86	J	J	3	0.5
MNA																															
Dissolved Fe^{2+}	mg/L	na	0.08					0.08					0.07					0.05					0.02					0.07				

Notes:
(1) Remedial Goals developed in Draft SWMU 48/49 RFI Report (CB&I, 2014a). Exceedances denoted by bold font.
mg/L = milligrams per liter (parts per million)
µg/L = micrograms per liter (parts per billion)
RL = Reporting Limit
MDL = Method Detection Limit
na = not applicable; remedial goal not established for analyte at SWMU 49
ND = non detect
Lab Q = Lab Data Qualifiers
Val Q = Validation Data Qualifiers

Data Qualifiers
B = Analyte detected in associated Method Blank.
J = Estimated value.
M = Matrix Spike and/or Matrix Spike Duplicate recovery outside acceptance limits.
P = Concentration of analyte differs more than 40% between primary and confirmation analysis.
U = Analyte concentration was not above the detection level.
Y = Replicate/Duplicate precision outside acceptance limits.

Figure 5-7 SWMU 49 Carbon Tetrachloride Isopleths - July 2016

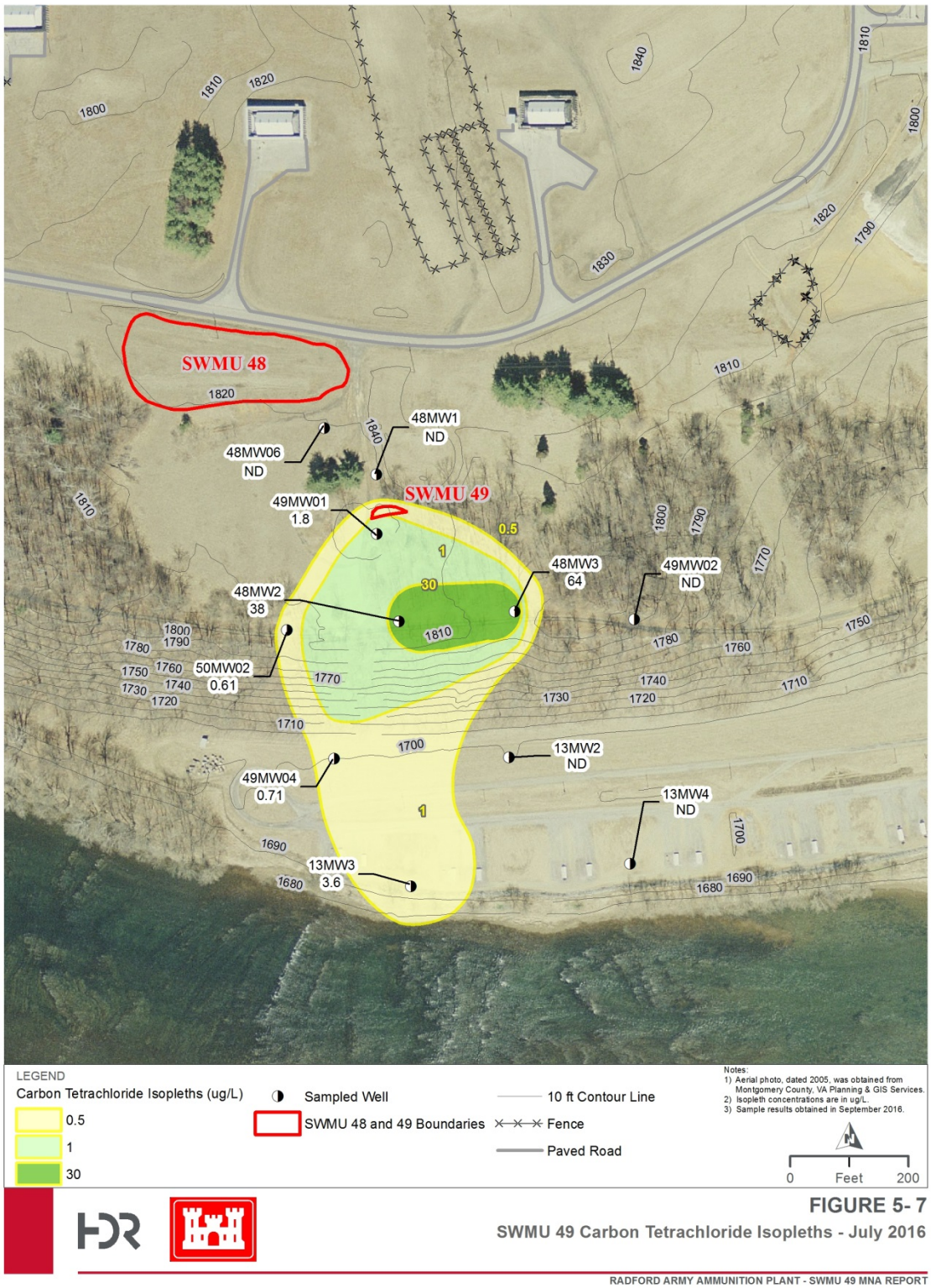

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Figure 5-8 SWMU 49 Trichloroethene Isopleths - July 2016

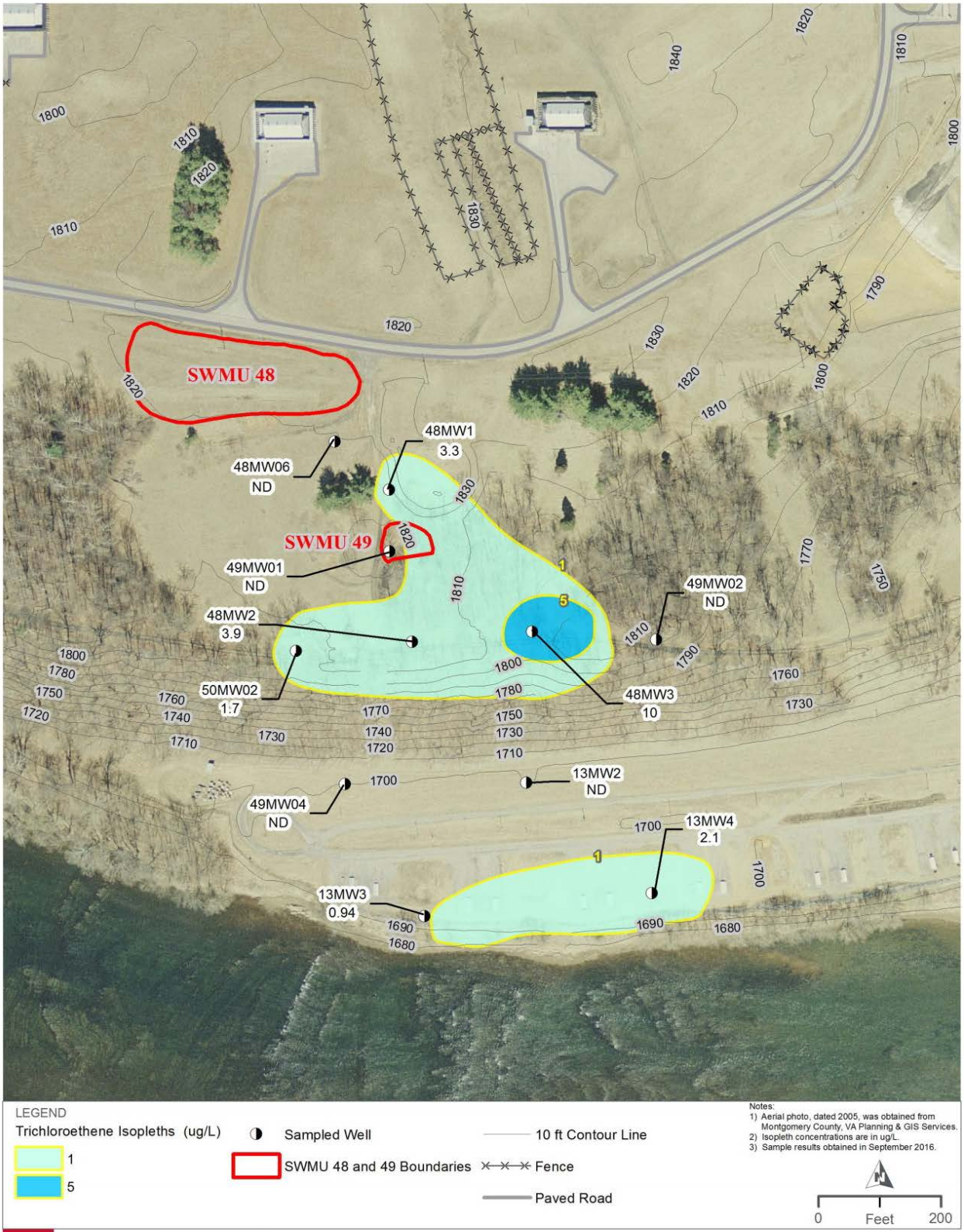

FIGURE 5- 8
SWMU 49 Trichloroethene Isopleths - July 2016

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5.6 Year One Sample Results

This section discusses the results from the first year of MNA sampling. Samples collected were analyzed for the full suite of analytical parameters described in **Table 4-2** (TCL VOC, dissolved gases [methane, ethane, and ethane], and MNA indicator parameter).

5.6.1 Groundwater

Carbon Tetrachloride

The VOC CT was detected in six wells during all four quarterly monitoring events. The wells included 13MW3, 48MW2, 48MW3, 49MW01, 49MW04, and 50MW02. The highest concentrations were consistently detected at monitoring wells 48MW2 and 48MW3, with the highest levels observed at 48MW3. Concentrations detected in these two wells exceeded the RG of 5 µg/L in each quarter. In general, the concentrations detected at 48MW2 and 48MW3 were variable from quarter to quarter with no clear increasing or decreasing trend. The remaining wells with observed detections were well below the RG and, in general, had concentrations that were fairly steady throughout the first year of MNA sampling. **Figures 5-9** through **5-12** depict the concentrations at these sampling locations throughout the first year of quarterly sampling. **Figure 5-13** provides a time series plot of CT concentrations dating back to samples collected in 1996.

Trichloroethene

The VOC TCE was detected in five monitoring wells during all four quarterly monitoring events and in two wells during three of the four quarters. Monitoring wells 13MW4, 48MW1, 48MW2, 48MW3, 50MW02 had detected concentrations of TCE during all four sample events, while wells 13MW3 and 48MW06 had observed concentrations during three of the four monitoring events. The highest concentrations were consistently detected at monitoring wells 48MW3 and 48MW06, with the highest levels observed at 48MW3. Concentrations detected in 48MW3 exceeded the RG of 5 µg/L in each quarter, while 48MW06 had detected concentrations in the second and third quarters that exceeded the RG. In general, the concentrations detected at 48MW3 and 48MW06 were steady throughout the first year of MNA sampling. The exception being TCE was not detected in 48MW06 during the fourth quarter. The remaining wells with observed detections were well below the RG and, in general, had concentrations that were fairly consistent throughout the first year of MNA sampling. **Figures 5-9** through **5-12** depict the concentrations at these sampling locations throughout the first year of quarterly sampling. **Figure 5-14** provides a time series plot of TCE concentrations dating back to samples collected in 1996.

5.7 Lab Analysis, Data Validation, and Reporting

The RFAAP LTM Year 4 sampling effort for SWMU 49 was collected, quarterly, in September 2015, January 2016, April 2016 and July 2016. Groundwater samples were collected in accordance with the Quality Assurance Project Plan (QAPP), revised August 2015. Documentation pertaining to CoC and sample condition was filed in field and laboratory records.

Table 5-9 Summary of Sample and Analyses

Sampling Event ID	Data Packages	Matrix	VOCs	Methane Ethane Ethene	Chloride Nitrate Sulfate	TOC
September-October 2015	114433 114422 114475	GW	X	X	X	X
January 2016	116472 116508 116524	GW	X	X	X	X
April 2016	118236 118280	GW	X	X	X	X
July 2016	120408 120462	GW	X	X	X	X

TOC – total organic carbon
VOCs – volatile organic compounds

Analytical methods are provided in **Table 5-10**.

Table 5-10 Analytical Methods

Analysis	Analytes	Method
VOCs	Numerous	USEPA SW-846 Method 8260C
Dissolved Gases	Methane Ethane Ethene	USEPA SW-846 Method 8015/RSK-175
Anions	Chloride Nitrate Sulfate	USEPA SW-846 Method 9056A
TOC	TOC	USEPA SW-846 Method 9060A

The samples were placed into coolers with ice at the time of collection. The CoC forms were completed as the samples were packaged into coolers for transport. Trip blanks, temperature blanks, and ice were added as required. All coolers were shipped to the main laboratory, CT Laboratories in Baraboo, Wisconsin.

The trip blanks were packed in the coolers with the VOC and methane/ethane/ethene samples.

The analytic data was reviewed for consistency with the test methods as noted in **Table 5-10** and the Project QAPP (Radford Army Ammunitions Plant, Virginia – LTM) to ensure that the data set met project data quality objectives and was usable for the purposes of the project. Validation was

performed following the National Functional Guidelines for Inorganic Superfund Data Review (USEPA, August 2014); National Functional Guidelines for Superfund Organic Methods Data Review (August 2014); and professional judgment. Any anomalies to the requirements for precision, accuracy, representativeness, completeness, comparability, and sensitivity are discussed below and the data were flagged where appropriate.

Application of Data Flags

General data quality flagging conventions in **Table 5-11** were used to indicate quality control anomalies. Data was flagged, where appropriate, in accordance with the National Functional Guidelines and the project QAPP. A data quality summary is provided below.

Table 5-11 Data Qualifiers

Qualifier	Description
R	Rejected: The result is rejected due to deficiencies in the analytical system or the inability to meet QC criteria.
M	Matrix effect: The concentration is estimated due to a matrix effect.
J	Estimated: The analyte was positively identified, but the quantitation is an estimate due to discrepancies in meeting certain analyte-specific QC criteria.
J+	Estimated: The analyte was positively identified, but the quantitation is an estimate, possibly biased high, due to discrepancies in meeting certain analyte-specific QC criteria.
J-	Estimated: The analyte was positively identified, but the quantitation is an estimate, possibly biased low, due to discrepancies in meeting certain analyte-specific QC criteria.
B	Blank. The analyte was detected in an associated blank.
U	Undetected: The analyte was analyzed for but not detected.
UJ	The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific QC criteria.

Preservation, Temperature, and Hold Time

All sample preservation requirements were met. Most sample analyses were within holding time, with this exception:

- Nitrate analysis on the September 2015 samples was not performed within 48 hours of collection and sample results were qualified as non-detect estimated (UJ) or estimated (J).

5.7.1 Precision

Precision was measured from the relative percent difference (RPD) between the parent sample/field duplicate (FD), laboratory duplicates, laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) and the MS/MSD pairs.

Field Duplicates

FDs were collected at a frequency of 10% of field samples. Most RPDs were within control limits. **Table 5-12** lists FD exceedances.

Table 5-12 Field Duplicate Precision Exceedances

Sample	Analyte	Flag	RPD
(Sept 2015)	No exceedances		
(Jan 2016)	No exceedances		
(April 2016) 48MW6	TOC	J	>20%
(July 2016) 48MW6	1,1,1-Trichlorethane	J	>20%
(July 2016) 48MW6	cis-1,2-Dichloroethene	J	>20%
(July 2016) 50MW02	1,4-Dioxane	J	>20%
(July 2016) 50MW02	Methane	J	>20%

Laboratory duplicate analysis was performed at a frequency of 10% of laboratory samples, for inorganic analyses. Most RPDs were within control limits. **Table 5-13** lists laboratory duplicate exceedances.

Table 5-13 Laboratory Duplicate Precision Exceedances

Sample/Method	Analyte	Flag	RPD
(September 2015)	No exceedances		
(Jan 2016) 48MW02	TIC/TOC	J	High
(April 2016) 48MW3	TIC/TOC	J	High
(July 2016)	No exceedances		

Laboratory Control Sample and Duplicate, and Matrix Spike and Duplicate RPD

One LCS/LCSD was analyzed for each batch of 20 samples or fewer for some methods. There were no LCS/LCSD RPD exceedances.

MS/MSD analyses were run at a frequency of 5% of field samples. Most results were within control limits. There was one instance of MS/MSD RPD exceedances.

Table 5-14 presents LCS/LCSD and MS/MSD recoveries outside control limits.

Table 5-14 LCS/LCSD and MS/MSD RPD Exceedances

Sample ID	Method	Analyte	RPD	Flag	Samples Affected
(Sept 2015)	No exceedances				
(Jan 2016) 48MW2	VOCs	1,1,2,2-Tetrachloroethane EDB 1,4-Dioxane MEK 2-Hexanone MIBK Acetone Bromodichloromethane Bromomethane Methyl acetate trans-1,3-Dichloropropene	>20%	Detections: J	48MW2 (Jan 2016)
(April 2016)	No exceedances				
(July 2016)	No exceedances				

5.7.2 Accuracy

Accuracy was measured from laboratory QC sample percent recoveries including LCS, LCSD, MS, MSD and surrogates. Accuracy was also evaluated by determining whether any deviations to method or laboratory requirements for internal standard (IS) and continuing calibration verification (CCV) recoveries were noted in the case narrative(s).

Laboratory Control Sample and Duplicate and Matrix Spike and Duplicate Recovery

One LCS or LCS/LCSD was analyzed for each batch of 20 samples or fewer. There were no LCS/LCSD recovery exceedances. Most recoveries were within control limits. **Table 5-15** lists the LCS/LCSD recovery exceedances.

Table 5-15 LCS/LCSD Recovery Exceedances

Method	Analyte	Flag	Qualified Samples
None			

MS/MSD analysis was performed at a frequency of 5% of field samples.

Most recoveries were within control limits. **Table 5-16** presents MS/MSD recoveries outside control limits. The data for the parent sample was flagged as indicated on the table. If no flag was indicated the data were not flagged. Data was not flagged in cases where the parent sample concentration was greater than four times the spike concentration. Parent samples only were qualified.

Table 5-16 MS/MSD Recovery Exceedances

Sample ID	Analyte	Recovery	Parent Flag
(Sept 2015) 13MW3	Sulfate	Low	J
(Sept 2015) 48MW2	TOC	Low	J
(Jan 2016) 48MW2	Bromomethane Trichlorofluoromethane Ethylbenzene	High	UJ UJ UJ
(April 2016) 48MW3	Chloride	High	J
(April 2016) 49MW01	Chloride Nitrate		J
(July 2016) 48MW2	1,4-Dioxane	High	J
(July 2016) 48MW6	1,4-Dioxane Bromoform Chloromethane cis-1,2-Dichloroethene Trichloroethene	High	J
(July 2016) 48MW1	Chloride	High	J

J – estimated
UJ – undetected/estimated

Surrogates

All surrogate recoveries were within control limits. **Table 5-17** presents surrogates that exceeded acceptance criteria.

Table 5-17 Surrogate Recovery Exceedances

Method	Sample ID	Surrogate	Recovery	Qualifiers
None				

Internal Standards

There were no internal standards outside control limits.

Continuing Calibration Verification

Some calibration results were outside control limits. **Table 5-18** summarizes calibration exceedances.

Table 5-18 Calibration Exceedances

Sampling Event	Analysis	Analytes	Result	Samples	Qualifiers
Sept 2015	VOCs	Methyl acetate Bromomethane	CCV low	Analytical batch	UJ
January 2016	VOCs	Bromomethane	2nd Source low	Analytical batch	UJ
	VOCs	Bromomethane Dichlorofluoromethane Dichlorodifluoromethane	CCV low	Analytical batch	UJ
	TOC	TOC	CCV high / low	Analytical batch	J / UJ

J – estimated
UJ – undetected/estimated
Continuing Calibration Verification

5.7.3 Representativeness

The data deliverables were consistent with the site conditions of the work plan. Samples were collected from locations specified in the approved work plan.

5.7.4 Comparability

Comparability was acceptable. Standard analytical methods were used. Standard preparatory and analytical methods were applied to the samples across sampling events.

5.7.5 Completeness

Completeness was measured as the number of usable results versus the total number of results. The data set was 100% complete with no omissions or rejections with respect to analysis. The information fulfilled the data quality objectives of this investigation.

5.7.6 Sensitivity

Sensitivity was measured by evaluating whether the practical quantitation limit (PQL) was less than the regulatory criteria. All nominal PQLs were below the regulatory criteria.

Additionally, sensitivity was evaluated by determining whether MB and trip blank results were less than the PQL. Some analytes were detected in some blanks, leading to qualification of sample results.

Blanks (Calibration [Instrument], Method, Trip and Equipment [Rinse])

Calibration blanks were analyzed throughout analytical runs. One MB was analyzed with every batch of twenty samples or fewer for each matrix. One trip blank was included with each cooler for samples to be analyzed for VOCs and dissolved gases (methane, ethane and ethene). **Table 5-19** presents samples flagged for blank results. Sample results greater than two times the blank concentration were not qualified. Data quality and usability were not affected.

Table 5-19 Blank Flags

Sample Event	Type of Blank	Method	Analyte	Samples Qualified	Flag
Sept 2015	ICB	Dissolved gases	Methane	Instrument batch	B
	Trip	VOCs	Acetone	Same collection date	B
	Rinsate	Anions	Nitrate	49MW02	B
Jan 2016	ICB	Dissolved gases	Methane	Instrument batch	B
	Rinsate	Anions	Nitrate	13MW3 48MW3 49TM01 50MW01	B
	Rinsate	Anions	Chloride	13MW2 48MW06 49MW01 49MW03 49MW05 50MW02	B
April 2016	No exceedances				
July 2016	Trip	VOCs	1,4-Dioxane	Same collection date	B
	Rinsate	VOCs	Chloromethane Styrene Toluene	Same collection date	B
	Rinsate	TOC	TOC	Same collection date	B

Reporting Limits

Nominal reporting limits, before adjustments for dilutions, were below the regulatory criteria noted in the project QAPP.

Summary

In summary, all data was considered usable with the qualifications discussed above. No data were rejected and the completeness goals for the project were met. The data was considered of good quality for the project goals. This Data Quality Assessment was prepared by: Lynn K. Lutz, HDR Environmental, Operations and Construction, Inc.

Figure 5-9 SWMU 49 First Quarter CT and TCE Concentrations

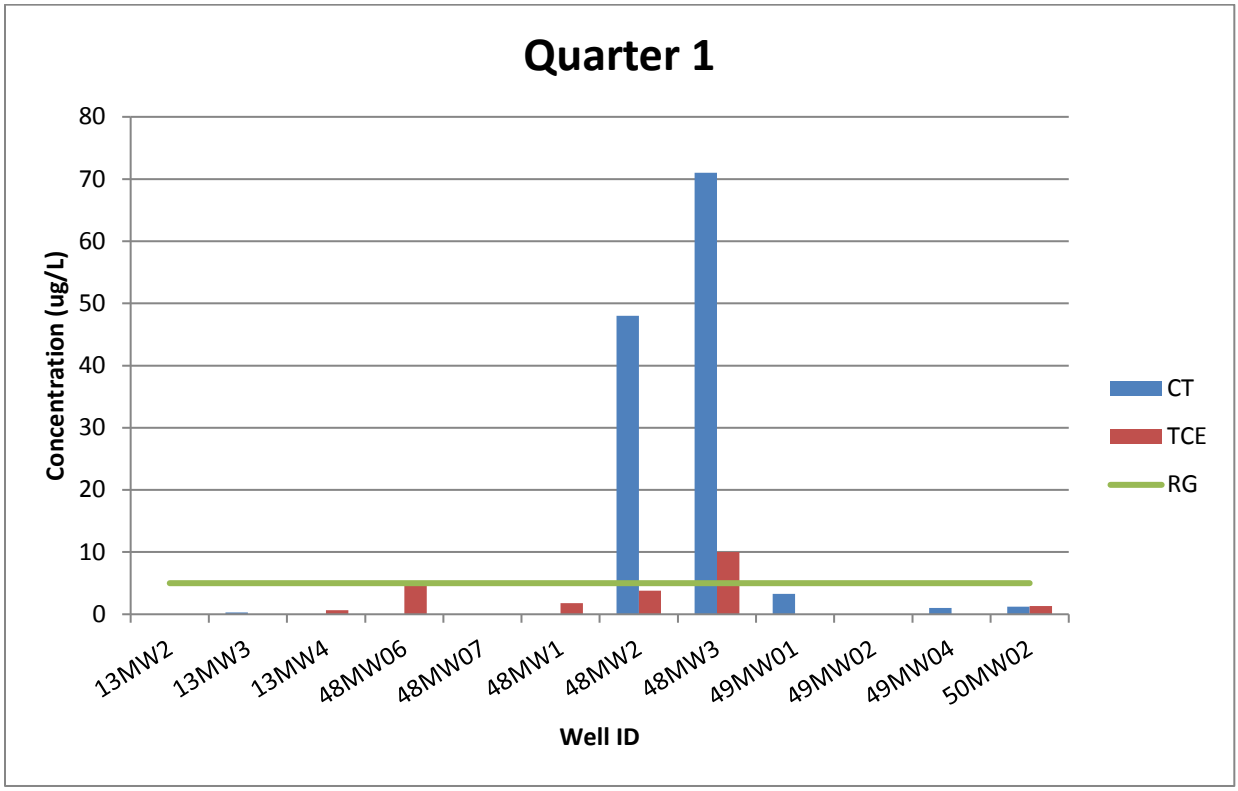


Figure 5-10 SWMU 49 Second Quarter CT and TCE Concentrations

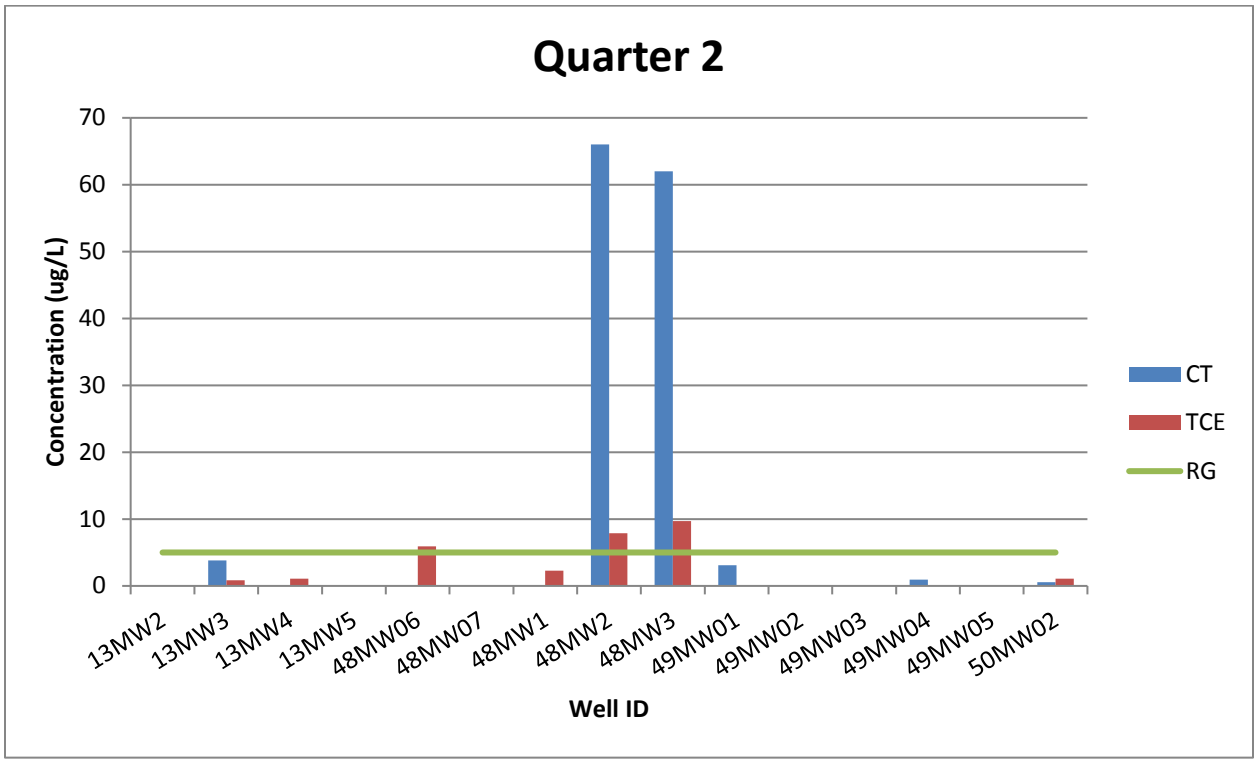


Figure 5-11 SWMU 49 Third Quarter CT and TCE Concentrations

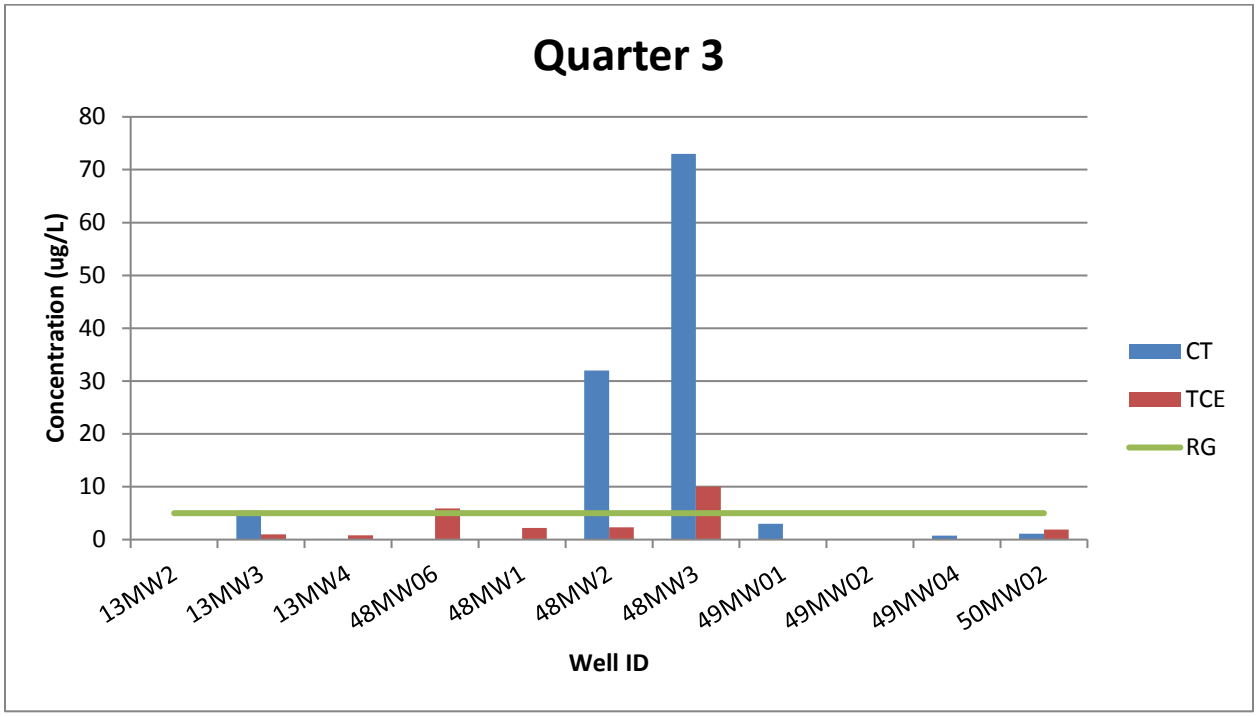


Figure 5-12 SWMU 49 Fourth Quarter CT and TCE Concentrations

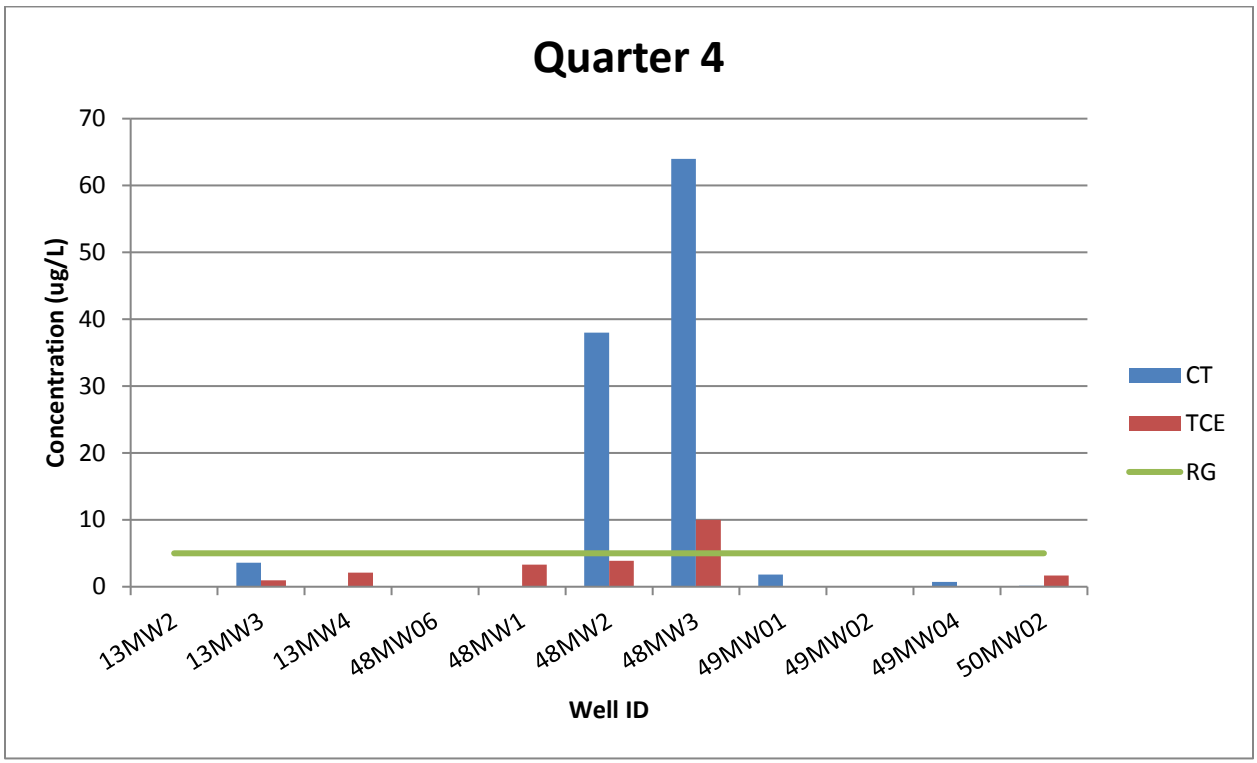
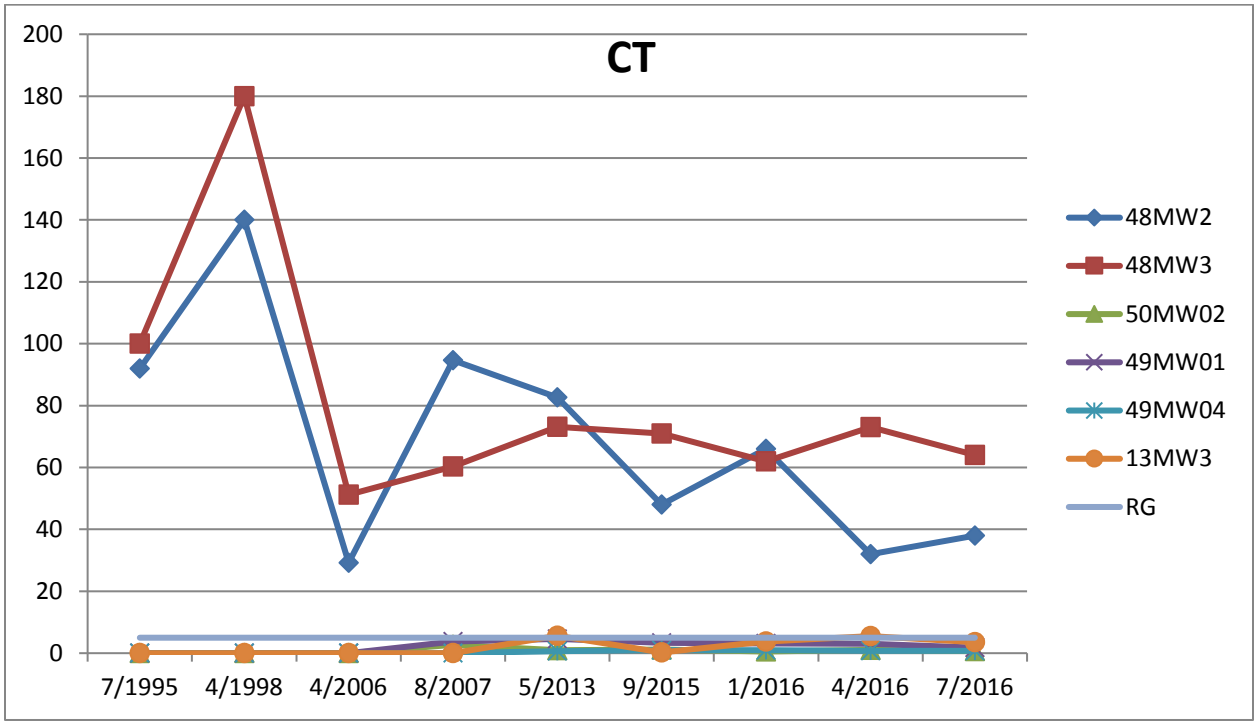
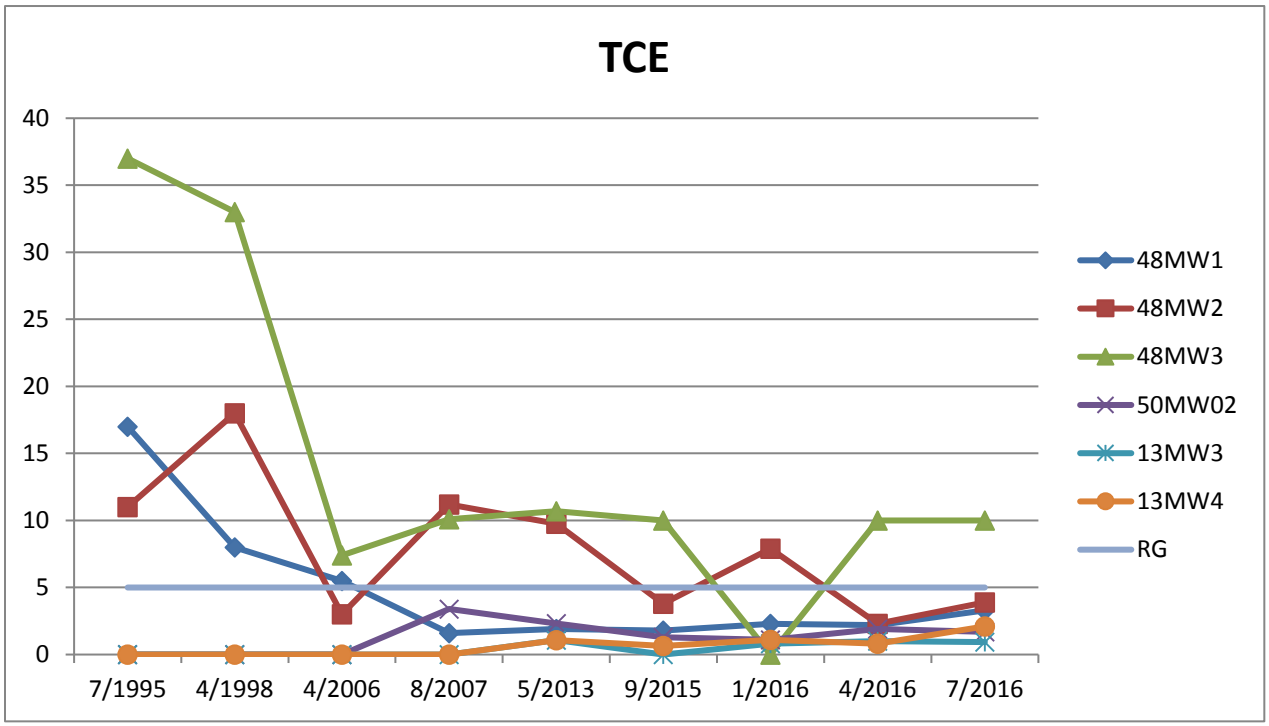


Figure 5-13 SWMU 49 CT Concentration Trends



Note: x-axis time intervals do not reflect actual period of time between events.

Figure 5-14 SWMU 49 TCE Concentration Trends



Note: x-axis time intervals do not reflect actual period of time between events.

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6.0 MNA Evaluation of SWMU 49

Eleven monitoring wells were sampled in the SWMU 49 study area for four quarters, while four wells were sampled on an annual basis during the first year of MNA monitoring. Sample results were evaluated to determine whether MNA is continuing to occur at the site. This section presents and summarizes the results for the first year MNA sampling. Consistent with the TCL VOC results from the sampling event in May 2013 and the baseline sampling conducted in January 2015, the highest concentrations of CT were observed in wells 48MW2 and 48MW3, where the center of the plume is located. One trend that changed slightly from previous results was the TCE concentrations detected at 48MW2, where historically high concentrations had been detected. With the exception of the second quarter results, TCE concentrations in well 48MW2 were well below the RG. Further, well 48MW06 contained the second highest TCE concentrations during the first and third quarters of MNA sampling, which is located up gradient from 48MW2 and 48MW3.

Based on the first year MNA results, the CT and TCE plumes changed only slightly from quarter to quarter (seasonally) (See **Figures 5-1** through **5-8**). In general, the CT and TCE plumes were centered on monitoring wells 48MW3/48MW2 and 48MW06/48MW3, respectively. These trends continued throughout the year, with the exception of TCE during the fourth quarter monitoring event. During this event, the plume decreased in size when TCE went undetected at monitoring well 48MW06. In quarters two through four, isolated detections of CT were detected down gradient at well 13MW3, which is next to the New River. Similarly, TCE was detected down gradient at monitoring wells 13MW3 and 13MW4.

6.1 First Line of Evidence: Occurrence of Contaminants

The first line of evidence consists of evaluating contaminant and daughter product concentrations in monitoring wells over time. The VOC CT reduces to form chloroform, while TCE will be reduced to form cis-1,2-DCE, among other by products. Both CT and TCE attenuate more favorably under anaerobic conditions. Fifteen monitoring wells were included in the MNA monitoring at SWMU 49, which targeted areas with CT and TCE contamination. Historical trends and the results of the first year MNA quarterly groundwater sampling are discussed below, and the data is provided in **Table 6-1**.

Table 6-1 SWMU 49 Carbon Tetrachloride and TCE Quarterly Concentrations

Parameter	Remediation Goal (RG)	September 2015 (Q1)	January 2016 (Q2)	April 2016 (Q3)	July 2016 (Q4)
13MW2					
Carbon tetrachloride	**5**	ND	ND	ND	ND
Trichloroethene	**5**	ND	ND	ND	ND
13MW3					
Carbon tetrachloride	**5**	0.29	3.8	5.5	3.6
Trichloroethene	**5**	ND	0.82	1	0.94
13MW4					
Carbon tetrachloride	**5**	ND	ND	ND	ND
Trichloroethene	**5**	0.65	1.1	0.8	2.1
13MW5					
Carbon tetrachloride	**5**	A	ND	A	A
Trichloroethene	**5**	A	ND	A	A
48MW06					
Carbon tetrachloride	**5**	ND	ND	ND	ND
Trichloroethene	**5**	4.7	5.9	5.9	ND
48MW07					
Carbon tetrachloride	**5**	ND	ND	A	A
Trichloroethene	**5**	ND	ND	A	A
48MW1					
Carbon tetrachloride	**5**	ND	ND	ND	ND
Trichloroethene	**5**	1.8	2.3	2.2	3.3
48MW2					
Carbon tetrachloride	**5**	48	66	32	38
Trichloroethene	**5**	3.8	7.9	2.3	3.9
48MW3					
Carbon tetrachloride	**5**	71	62	73	64
Trichloroethene	**5**	10	9.7	10	10
49MW01					
Carbon tetrachloride	**5**	3.3	3.1	3	1.8
Trichloroethene	**5**	ND	ND	ND	ND
49MW02					
Carbon tetrachloride	**5**	ND	ND	ND	ND
Trichloroethene	**5**	ND	ND	ND	ND
49MW03					
Carbon tetrachloride	**5**	A	ND	A	A
Trichloroethene	**5**	A	ND	A	A
49MW04					
Carbon tetrachloride	**5**	0.99	0.94	0.73	0.71
Trichloroethene	**5**	ND	ND	ND	ND
49MW05					
Carbon tetrachloride	**5**	A	ND	A	A
Trichloroethene	**5**	A	ND	A	A
50MW02					
Carbon tetrachloride	**5**	1.2	0.56	1.1	0.61
Trichloroethene	**5**	1.3	1.1	1.9	1.7

ND = Non Detect
A = Sampled Annually

Carbon Tetrachloride

There is good correlation of chloroform to CT concentrations for all four quarterly monitoring periods. Based on the data, wells with detected concentrations of CT also contained measurable levels of chloroform. In each case chloroform was detected along with CT, chloroform levels either increased or decreased in correlation to CT concentrations. Based on available data, the presence of chloroform suggests the degradation of CT is occurring at SWMU 49. **Figures 6-1** through **6-8** provide correlation data from the first year of MNA sampling.

Trichloroethene

The correlation of cis-1,2-DCE to TCE does not appear to be as strong as the case for CT to chloroform. There is evidence that some correlation exists, however, in wells that contained the highest observed concentrations of TCE, cis-1,2-DCE went undetected or was detected at extremely low levels. In some cases, cis-1,2-DCE concentrations exceeded those of TCE. Based on the available data, a correlation of TCE degradation to cis-1,2-DCE can not be determined. **Figures 6-1** through **6-8** provide correlation data from the first year of MNA sampling.

Figure 6-1 SWMU 49 First Quarter Carbon Tetrachloride to Chloroform Correlation

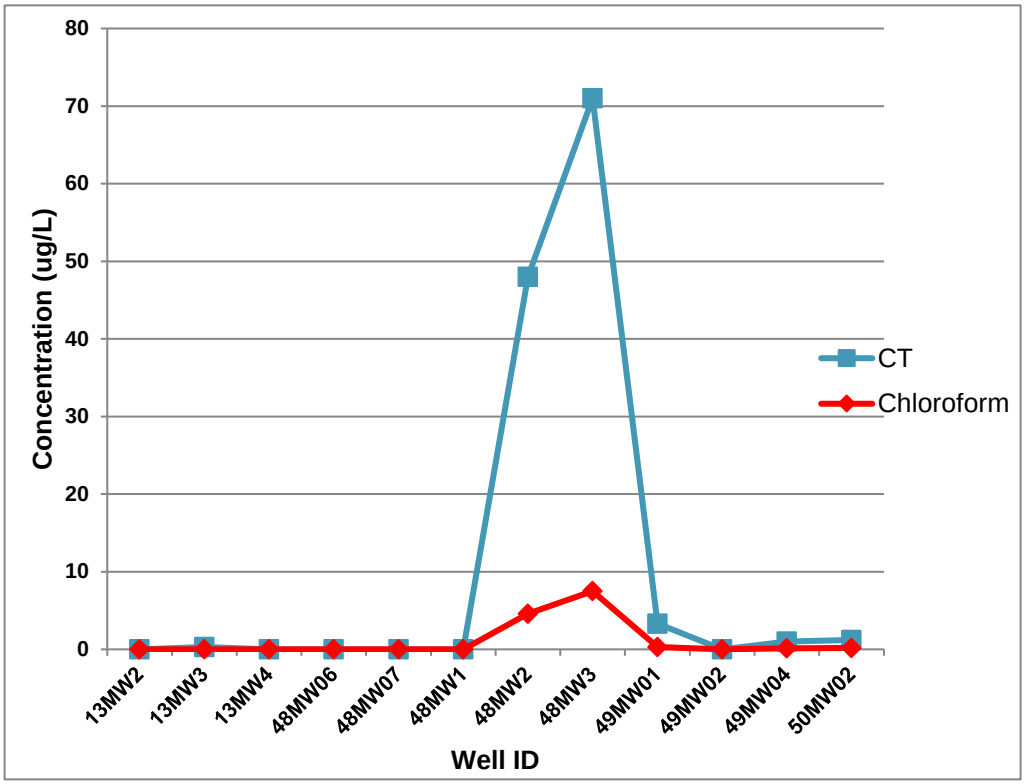


Figure 6-2 SWMU 49 First Quarter TCE to cis-1,2-DCE Correlation

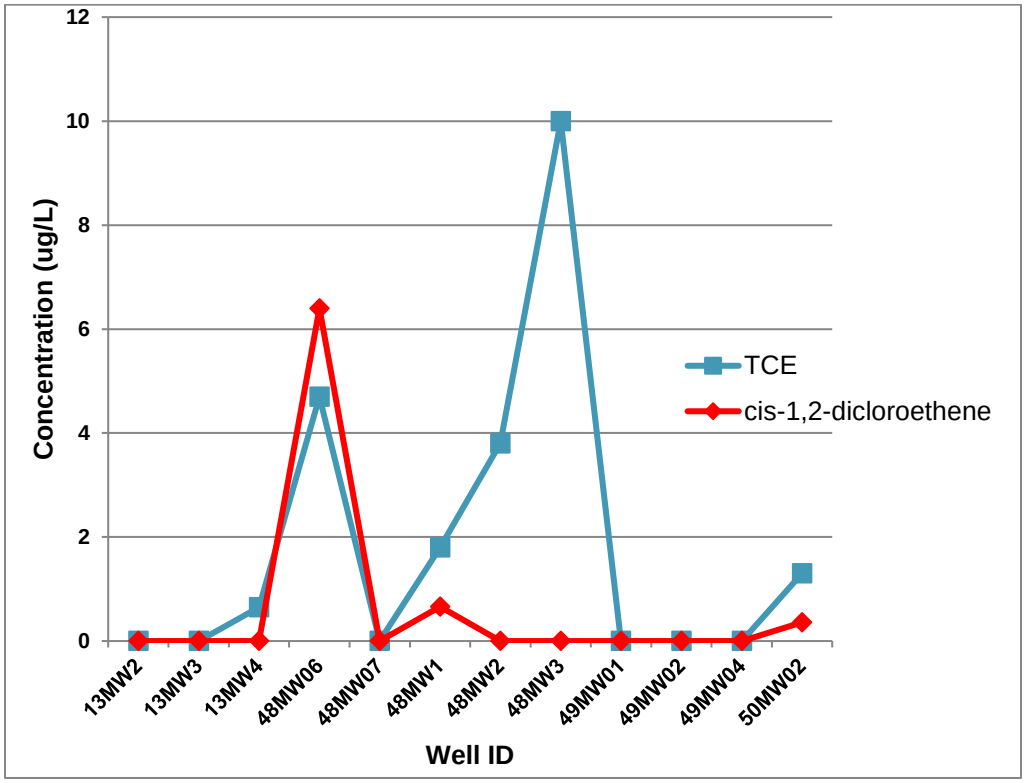


Figure 6-3 SWMU 49 Second Quarter Carbon Tetrachloride to Chloroform Correlation

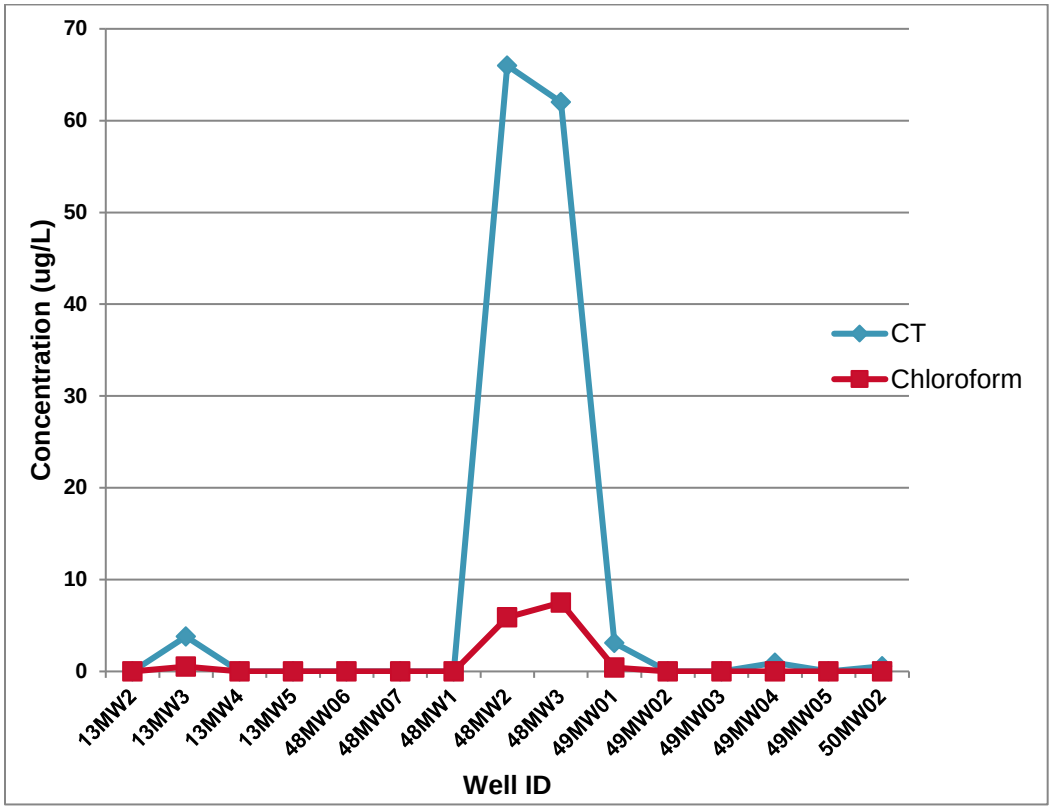


Figure 6-4 SWMU 49 Second Quarter TCE to cis-1,2-DCE Correlation

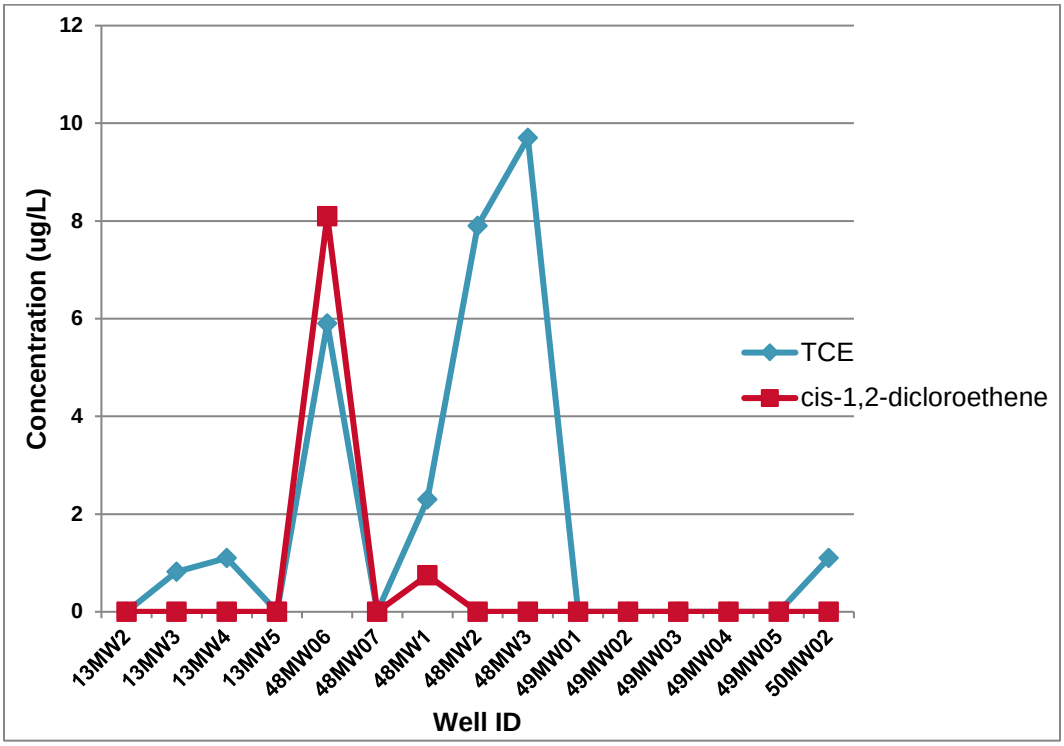


Figure 6-5 SWMU 49 Third Quarter Carbon Tetrachloride to Chloroform Correlation

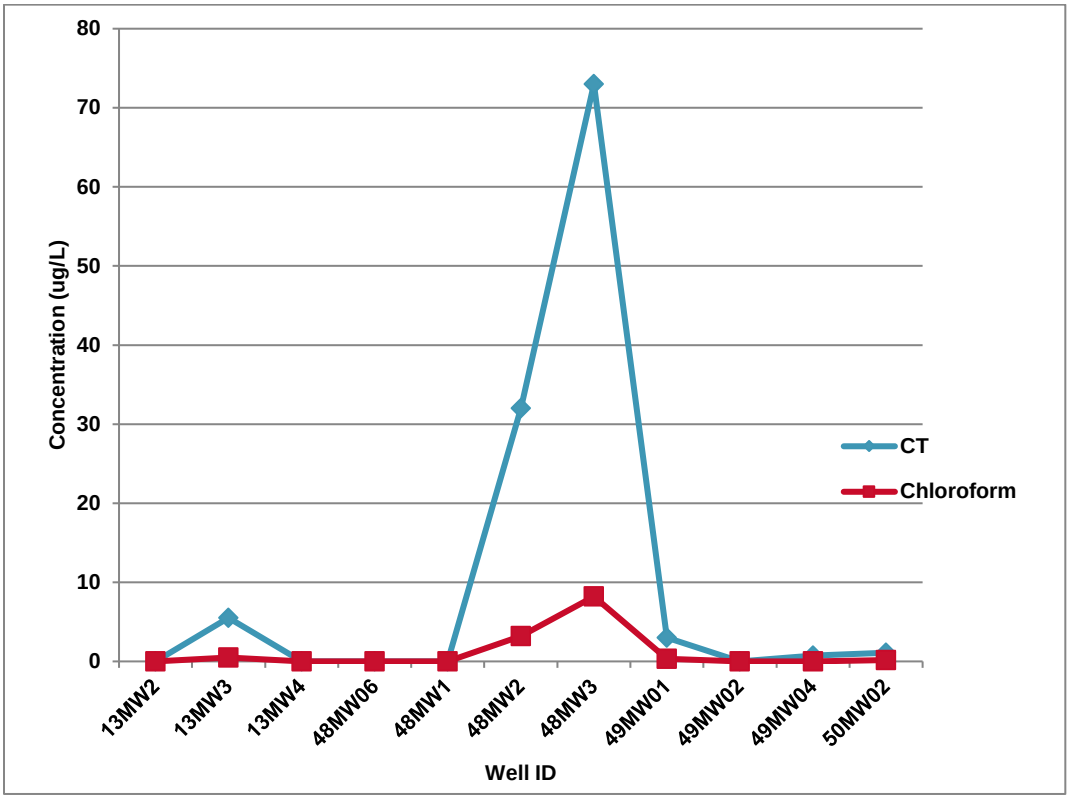


Figure 6-6 SWMU 49 Third Quarter TCE to cis-1,2-DCE Correlation

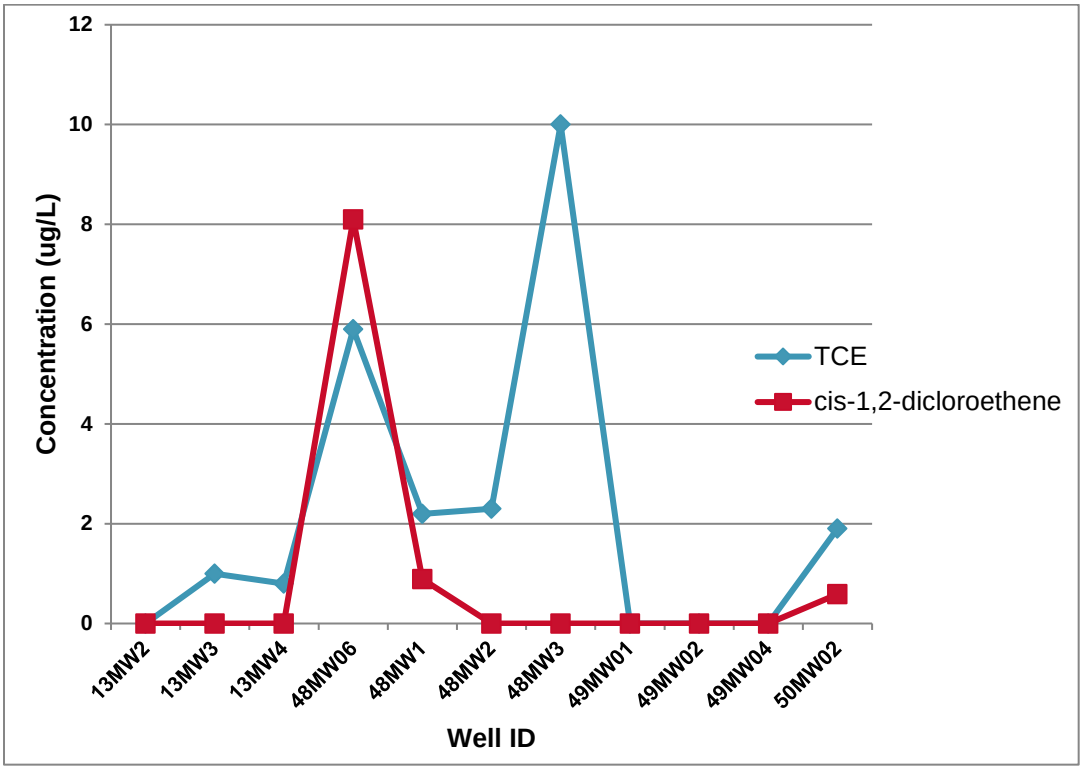


Figure 6-7 SWMU 49 Fourth Quarter Carbon Tetrachloride to Chloroform Correlation

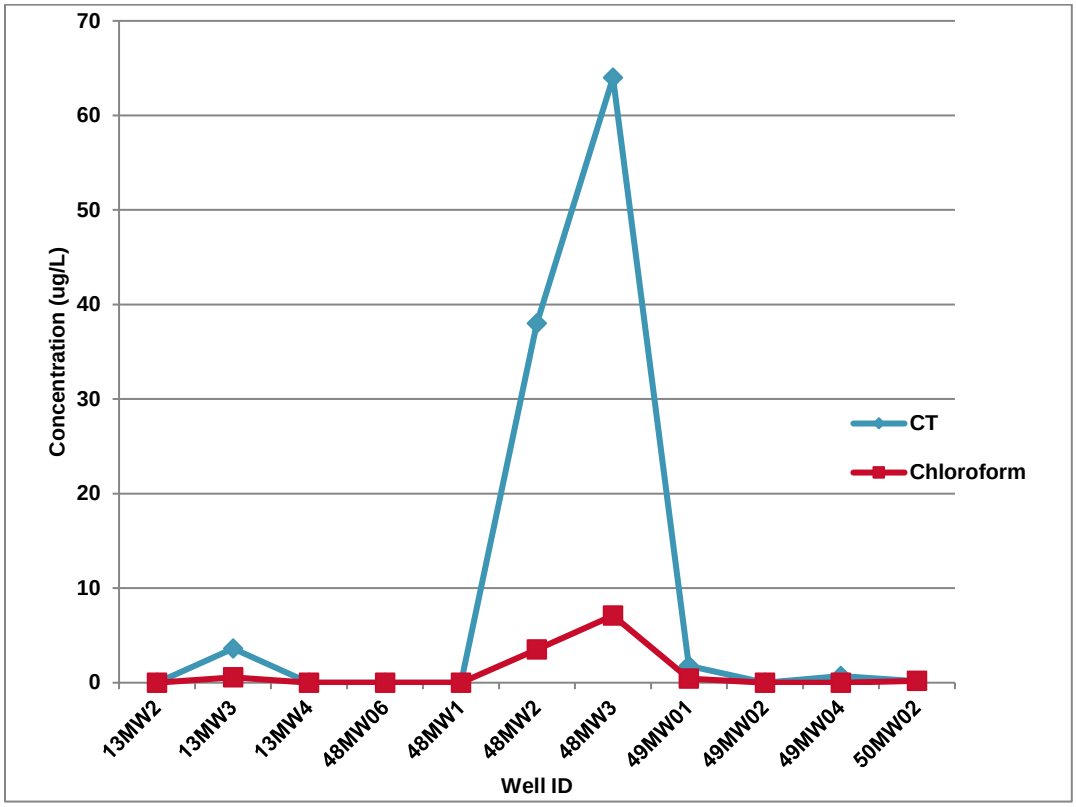
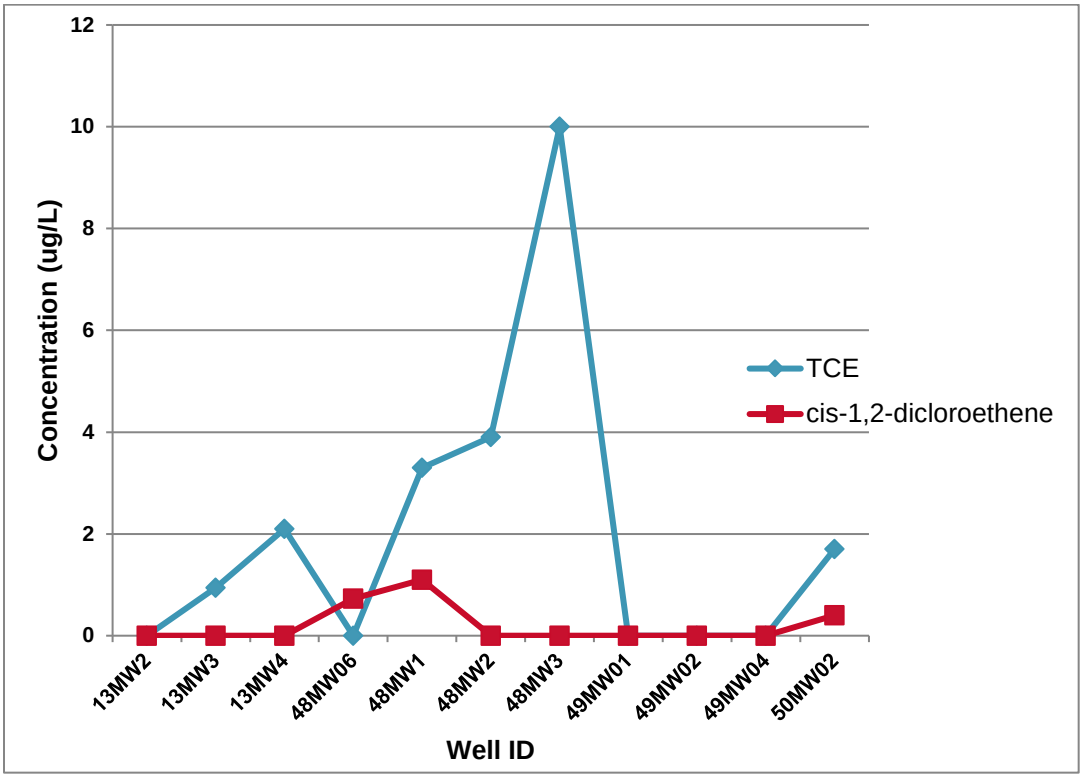


Figure 6-8 SWMU 49 Fourth Quarter TCE to cis-1,2-DCE Correlation



6.2 Second Line of Evidence: Geochemical Conditions

Geochemical data is available for all four quarterly groundwater monitoring events at SWMU 49. Field parameters (DO, ORP, pH, temperature, and conductivity) were collected for all four quarters as part of the low-flow sampling procedures. Laboratory analysis for nitrate, sulfate, and TOC were conducted for all four quarterly groundwater monitoring events at SWMU 49. These geochemical data are discussed regarding the potential for biodegradation in the groundwater at SWMU 49.

The degradation of CT primarily occurs under anaerobic conditions, either through denitrification, iron reduction, sulfate reduction or methanogenesis. The degradation of TCE can occur under anaerobic reductive chlorination and aerobic oxidizing conditions.

Dissolved Oxygen (DO). The preferred terminal electron acceptor during aerobic microbial respiration is oxygen, and DO is measured to determine whether the groundwater is under aerobic or anaerobic conditions. Average DO values less than 1 mg/L, are tolerable of anaerobic microbial activities. Further, DO values higher than 8 mg/L were considered biased high given their relative magnitude to oxygen solubility at field temperatures and are not included in this analysis.

DO levels during the first four quarterly monitoring events (September 2015 to July 2016) ranged from 0.0 to 7.94 mg/L indicating both anaerobic and aerobic conditions were present at the site. Wells where CT degradation products were observed (13MW3, 48MW2, 48MW3, 49MW04, and

50MW02), DO levels (between 2.01 and 7.94 mg/L) indicate aerobic conditions (**Table 6-2**). CT degradation is more favorable under anaerobic conditions. Wells where TCE degradation products were observed (48MW1, 48MW06, and 50MW02), DO levels ranged between 0.54 and 5.18 mg/L indicating a flux between anaerobic and aerobic conditions. However, aerobic conditions were most prevalent.

Oxidation-Reduction Potential (ORP). ORP values indicate the groundwater's reductive potential and are used to confirm the DO measurements in groundwater. ORP values less than +50 mV typically correspond to mildly reducing, anaerobic conditions, while ORP values less than -200 mV correspond to highly reducing, anaerobic conditions.

ORP levels recorded during the first year of MNA sampling ranged from 22.2 to 215.9 mV indicating both anaerobic and aerobic conditions were present at the site. However, aerobic conditions appeared to be more prevalent (**Table 6-2**). Further, the ORP values and DO readings did not show a clear corresponding trend for samples taken at the same well and same sampling event.

pH. The pH for optimum microbial activity ranges from 5 to 9 SU. Microbial activity may decrease at lower pH values. The first year of pH data ranged between 6.22 and 8.49 SUs, within this optimal pH range (**Table 6-2**). In general, the pH environment at SWMU 49 is suitable for microbial activity.

Nitrate. Following oxygen, microorganisms preferentially use nitrate (NO3-) as a terminal electron acceptor. Elevated nitrate concentrations may indicate nitrate-reducing conditions which promote the degradation of CT forming breakdown by-products.

Nitrate levels during the first year of MNA sampling were generally low (overall <1 mg/L) with concentrations ranging from 0.098 to 7.6 mg/L.

Ferrous Iron. Ferric iron is reduced to soluble ferrous iron in the groundwater where iron-reducing bacteria have been active. An increase in ferrous iron concentrations is indicative of iron-reducing conditions. Biological reduction of CT is favored in nitrate-reducing conditions and therefore, elevated levels of ferrous iron are an indicator of favorable groundwater conditions. Ferrous iron concentrations for all wells during the first year of MNA monitoring ranged between 0.0 (non detect) and 1.06 mg/L indicating that iron-reducing conditions are not present at this time.

Sulfate. Sulfate concentrations were measured in the groundwater during each of the first year MNA sampling events and were found to range between 0.0 (non detect) and 210 mg/L. Sulfate levels at monitoring wells where CT and chloroform were detected (13MW3, 48MW2, 48MW3, 49MW04, and 50MW02) generally had concentrations ranging between 10 mg/L and 120 mg/L.

Total Organic Carbon (TOC). TOC concentrations greater than 20 mg/L are considered adequate to support microbial activity. For the first quarter sampling, TOC levels were generally greater

than 15 mg/L, suggesting a favorable environment. However, TOC levels recorded during quarters two through four decreased significantly below 20 mg/L. TOC levels during the first year of MNA sampling ranged from 0.0 (non detect) to 34 mg/L (**Table 6-2**).

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Table 6-2 Water Quality Parameters for Groundwater Performance Monitoring at SWMU 49

Well ID	13MW2	13MW3	13MW4	13MW5	48MW06	48MW07	48MW1	48MW2	48MW3	49MW01	49MW02	49MW03	49MW04	49MW05	50MW02
SWMU 49 First Quarter (September 2015) Water Quality Parameters															
pH	6.75	6.34	6.38	---	7.0	7.2	7.58	7.0	6.92	7.45	7.15	---	7.3	---	6.84
Conductivity (mS/cm)	618	555	401	---	0.926	196	0.505	493	714	0.493	529	---	0.636	---	715
Turbidity (NTU)	1.95	1.10	3.36	---	10.40	2.26	4.52	512	2.50	35.0	17.6	---	12.0	---	25.8
Dissolved Oxygen (mg/L)	6.26	5.53	3.96	---	1.42	7.6	2.6	7.0	3.84	5.18	3.74	---	9.2	---	5.18
ORP (mV)	51.2	83.3	45.5	---	195.3	75.0	186.3	53.0	39.8	215.9	40.4	---	190.2	---	51.4
Temperature (°C)	14.27	16.34	15.44	---	14.35	14.0	14.46	14.0	12.94	14.09	13.08	---	15.1	---	12.98
Dissolved Ferrous Iron (mg/L)	0.02	0.00	0.02	---	0.04	0.05	0.03	0.42	0.05	0.22	0.15	---	0.03	---	0.22
Nitrate (mg/L)	0.38	0.31	0.42	---	3.6	0.52	1.3	0.76	6.3	0.39	0.14	---	0.52	---	2.2
Sulfate (mg/L)	41	41	33	---	140	48	48	10	27	ND	19	---	43	---	66
TOC (mg/L)	26	23	23	---	23	1.9	12	22	25	16	15	---	17	---	34
SWMU 49 Second Quarter (January 2016) Water Quality Parameters															
pH	6.52	6.32	6.24	6.59	6.75	7.33	7.10	6.99	6.71	7.11	6.86	6.95	6.65	6.47	6.93
Conductivity (mS/cm)	1053	638.6	623.2	827	1278	383.5	688	672	891	680	722	553.0	811	972	612.2
Turbidity (NTU)	1.32	0.85	1.13	0.88	25.0	2.07	7.18	39.4	1.13	87.2	15.4	2.54	6.16	40.8	132
Dissolved Oxygen (mg/L)	7.13	8.37	7.52	8.84	0.54	8.88	2.27	7.94	3.81	4.97	2.23	12.79	2.01	5.26	11.57
ORP (mV)	83.3	117.3	109.1	114.2	155.4	104.5	110.6	139.6	117.1	116.7	125.6	117.2	115.6	104.6	164.7
Temperature (°C)	13.5	11.5	13.6	13.6	12.7	12.1	12.4	11.9	11.4	12.2	11.4	12.4	12.9	13.8	9.8
Dissolved Ferrous Iron (mg/L)	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.13	0.00	0.74	0.09	0.00	0.00	0.38	1.06
Nitrate (mg/L)	0.23	1.8	0.46	0.51	6.7	0.99	1.4	0.93	6.8	0.39	0.098	1.3	0.52	0.21	2.4
Sulfate (mg/L)	67	100	37	69	210	1.4	56	14	27	ND	20	3	48	62	68
TOC (mg/L)	2.5	1.9	2	1.4	2.7	1.5	1.8	1.6	0.64	0.88	0.64	0.68	1.9	2	ND
SWMU 49 Third Quarter (April 2016) Water Quality Parameters															
pH	7.11	7.05	6.83	---	7.06	---	7.59	6.98	6.86	7.60	7.02	---	7.31	---	6.91
Conductivity (mS/cm)	780	601	436	---	873	---	503	477	682	452	506	---	600	---	640
Turbidity (NTU)	1.49	9.88	0.76	---	103	---	3.85	111	0.94	31.1	17.9	---	3.02	---	20.1
Dissolved Oxygen (mg/L)	7.13	5.07	4.84	---	2.81	---	2.36	7.33	3.21	6.65	0.98	---	8.10	---	3.85
ORP (mV)	117.8	128.7	127.9	---	99.4	---	116.9	104.1	102.9	117.2	85.6	---	111.5	---	93.6
Temperature (°C)	14.52	14.44	14.33	---	13.85	---	12.37	13.82	12.62	11.01	12.93	---	15.50	---	12.68
Dissolved Ferrous Iron (mg/L)	0.07	0.05	0.02	---	0.40	---	0.01	0.75	0.04	0.33	0.06	---	0.07	---	0.08
Nitrate (mg/L)	0.18	1.5	0.46	---	3.7	---	1.7	0.81	6.3	0.38	0.13	---	0.39	---	2.8
Sulfate (mg/L)	63	110	36	---	140	---	56	6.2	28	ND	20	---	48	---	64
TOC (mg/L)	3.3	ND	0.57	---	1.8	---	ND	ND	1.5	ND	0.98	---	1	---	1.2
SWMU 49 Fourth Quarter (July 2016) Water Quality Parameters															
pH	6.67	7.15	7.43	---	7.26	---	8.38	7.98	7.71	8.49	7.40	---	8.20	---	7.31
Conductivity (mS/cm)	750	6.34	461	---	785	---	633	495	731	471	541	---	639	---	677
Turbidity (NTU)	1.55	2.46	8.67	---	110	---	15.7	70.1	1.12	100	2.32	---	4.79	---	35.2
Dissolved Oxygen (mg/L)	5.76	4.57	5.15	---	1.02	---	2.98	6.30	3.69	4.50	0.54	---	6.33	---	3.56
ORP (mV)	22.2	173.9	132.7	---	190.7	---	161.3	164.0	188.2	154.1	205.7	---	151.9	---	141.3
Temperature (°C)	15.2	20.11	15.0	---	15.01	---	17.72	15.57	14.09	14.77	14.22	---	16.54	---	15.40
Dissolved Ferrous Iron (mg/L)	0.11	0.04	0.03	---	0.24	---	0.09	0.51	0.07	0.72	0.00	---	0.13	---	0.16
Nitrate (mg/L)	0.16	1.4	0.89	---	3	---	2.7	1	7.6	0.46	0.14	---	0.44	---	2.5
Sulfate (mg/L)	46	120	48	---	130	---	73	12	31	1.4	21	---	54	---	68
TOC (mg/L)	0.8	0.94	1	---	0.98	---	0.71	0.81	1.1	ND	0.67	---	0.86	---	0.9

Notes:
ºC = degrees Celsius
mg/L = milligrams per liter
mS/cm = millisiemens per centimeter
mV = millivolt
NTU = nephelometric turbidity unit
Aerobic/Anaerobic Indicators:
DO = anaerobic <1mg/L> aerobic
ORP = highly reducing, anaerobic conditions < -200 mV ≤ mildly reducing anaerobic+50mV ≥ aerobic

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7.0 Summary and Conclusions

Eleven (11) groundwater monitoring wells were sampled on a quarterly basis during the first year of MNA monitoring at SWMU 49, while four more were sampled on an annual basis. The four quarters of sample data suggest that CT and TCE concentrations are fairly stable at SWMU 49. The CT contaminant plume remains centered around monitoring wells 48MW2 and 48MW3, although detections were observed at 13MW3 during all four quarters, one of which exceeded the RG. Monitoring well 13MW3 is located down gradient and adjacent to the New River. The TCE plume also remained centered on wells 48MW3 and 48MW2, although the VOC was detected at up gradient well 48MW06 three of the four quarters, two of which exceeded the RG. Further, TCE was detected in well 13MW3 (two quarters) and 13MW4 (three quarters), which is located down gradient of SWMU 49 and adjacent to the New River. Based on the presence of chloroform in wells where CT was observed, it appears that the VOC is degrading. Chloroform was not detected in any wells where CT went undetected. The data suggest that MNA processes may be decreasing mass; as such, the CT plume does not appear to be expanding. The data suggest that the correlation of cis-1,2-DCE to TCE is not as prevalent as a indicator of degradation. However, TCE levels remained consistent at all wells with observed concentrations suggesting that the plume is not expanding.

In summary, the following conclusions and recommendations were made regarding the potential for MNA in contaminated groundwater at SWMU 49:

- Presence of chloroform suggest that degradation is occurring, which may be aiding in removing CT mass in the groundwater.
- The breakdown product, cis-1,2-DCE is present at the site, although no substantive correlation exists with TCE. However, TCE concentrations remain stable across the site.
- Geochemical parameters also indicate that groundwater conditions are generally aerobic (DO and ORP levels) and that pH and TOC levels are adequate to promote microbial degradation. However, ferrous iron, nitrate, and sulfate concentrations do not appear to favor conditions to support degradation.
- The monitoring well network appears adequate to monitor MNA at SWMU 49.

It is our recommendation that groundwater monitoring continues on a quarterly basis at the fifteen monitoring well locations. For the second year LTM annual report, an evaluation of MNA as an adequate remedy including timeframe for meeting RGs should be included. This MNA evaluation should include a degradation rate and comparison to a “reasonable” timeframe. Furthermore, the second year report should include a discussion of the need for an alternative remedy dependent on the timeframe to achieve the RGs. Due to the limited data base, it is also recommended that the analytical suite of TCL VOCs, dissolved gases, and MNA indicator parameters continue to be tested.

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8.0 References

Brannon and Pennington, 2002. *Environmental Fate and Transport Process Descriptors For Explosives*. Prepared for U.S. Army Corps of Engineers. May 2002.

CB&I, 2014a. *SWMU 48/49 RCRA Facility Investigation Report*. Radford Army Ammunition Plant, Virginia. Draft Report. January, 2014.

CB&I, 2014b. *SWMU 49 Monitored Natural Attenuation Groundwater Monitoring Work Plan*. Radford Army Ammunition Plant, Radford, Virginia. Draft Final document. October, 2014.

CB&I, 2015. *SWMU 49 Monitored Natural Attenuation Sampling Baseline Report.* Radford Army Ammunition Plant, Radford, Virginia. Draft Report. July, 2015.

Dames and Moore, 1992. *Final Draft VI Report for the Radford Army Ammunition Plant, Virginia*. Prepared for the U.S. Army Toxic and Hazardous Materials Agency.

Interstate Technology and Regulatory Council (IRTC) (Perchlorate Team), 2008. *Remediation Technologies for Perchlorate Contamination in Water and Soil*. Interstate Technology and Regulatory Council, Washington, DC.

IT Corporation (IT), 2001. *Facility-Wide Background Study*. Radford Army Ammunition Plant, Virginia. Final Report. Delivery Order No. 0008, Contract No. DACA31-94-D-0064.

Parsons Engineering Science, Inc. (Parsons), 1996. *RCRA Facility Investigation for Solid Waste Management Units 17, 31, 48, and 54 at Radford Army Ammunition Plant, Virginia.* Prepared for U.S. Army Environmental Center.

Spain, J.C. 1995. *Biodegradation of nitroaromatic compounds.* Annual Review of Microbiology, 49: 523-555.

URS Corporation (URS), 2003. *Final Master Work Plan, Quality Assurance Plan, Health and Safety Plan.* Radford Army Ammunition Plant, Radford, Virginia. Prepared for the U.S. Army Corps of Engineers, Baltimore District. August 2003.

URS, 2008. *Solid Waste Management Unit 54 RCRA Facility Investigation/ Corrective Measures Study Report*. Radford Army Ammunition Plant, Radford, Virginia. September 2008.

USATHAMA, 1987. *RCRA Facility Assessment of Radford Army Ammunition Plant.*

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Appendix A
Field Sampling Logs

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HDR

LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

Log Book # _____

Page 1 of 1

ID	Date	Purge/Sample Equipment	Water-quality Equipment
48MW07	10/1/15		
Samplers' Initials: RJW	Time: 0730	( ) Peristaltic:	Water-level Meter: Geotech
Casing Diameter (in): 2"	Casing Stickup (ft): 2.2'	(✓) Bladder: Geotech	Oil-water Interface Meter: NA
Initial Water Level (ft btoc): 47.85	Total Well Depth (ft-btoc): 82	( ) Other:	Parameter Meter(s): T Cond pH DO ORP NTU
Final Water Level (ft-btoc): 47.0	Screened Interval (ft-btoc): 62-82'		YSI-556 MSP
Purge Volume (liters)	Sample Depth (ft-btoc): 65'		Turbidity Meter: HACH

Time	Depth to Water (ft)	Pumping Rate (l/min)	Purge Volume (liters)	Temp. °C/°F	Cond. (µS/cm)	pH	DO %/mg/l	ORP (mV)	Turb. (NTU)
0825	47.85	150ml	~	14.4	195	7.2	8.42	72	3.13
0830	47.85	~	~	14.2	195	7.2	7.93	71	2.19
0835	~	~	~	14.0	196	7.2	7.88	70.4	2.17
0840	~	~	~	14.0	196	7.2	7.83	73.1	2.21
0845	~	~	~	14.0	195	7.2	7.81	73.9	2.24
0850	~	~	~	14.0	196	7.2	7.6	75.0	2.26

(✓) Full Sample Suite Obtained

( ) Partial Sample Suite Obtained

( ) No Sample Obtained

QC Samples: FD FS RB AB MS/MSD

See COC for analyses requested

Sample ID: 48MW07

Protective Level Dermal: (C) C B A

Respiratory: (C) C B A

Condition of Well, Remarks:

Fe (als) 8146 - 0.05 mg/L

VOCs TOC Nitrate, Sulfate, Chloride Methane, Ethane, Ethene

QC Sample ID: Dup

Sample Time: 0855

( ) Metals Sample Filtered N/A Filter

Sampler's Signature:

Checked by:

Date: 10/1/15

Temp. ± 1°C
pH ± 0.1 units
EC ± 10%
Turb. ± 10% < 50 NTU
DO ± 10%
Redox ± 10 mV

HDR

Log Book #_____

Page 1 of 2

LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

ID	Date	Purge/Sample Equipment	Water-quality Equipment
49MW06.	10/1 1/15		
Samplers' Initials: SJL	Time: 0900	( ) Peristaltic:	Water-level Meter: GEOTECH
Casing Diameter (in): 2"	Casing Stickup (ft):	( ) Bladder: GEOTECH	Oil-water Interface Meter:
Initial Water Level (ft btoc): 65.7	Total Well Depth (ft-btoc): 78.	( ) Other:	YSI 556 MPS Parameter Meter(s): T Cond pH DO ORP NTU
Final Water Level (ft-btoc):	Screened Interval (ft-btoc): 58.-78		
Purge Volume ~~liters~~ GALL ~3	Sample Depth (ft-btoc): 70		HACH 2100Q Turbidity Meter:

Time	Depth to Water (ft)	Pumping Rate (l/min)	Purge Volume (liters)	Temp. °C/°F	Cond. (µS/cm)	pH	DO %/(mg/l)	ORP (mV)	Turb. (NTU)
0910	65.7	125 mL		14.89	0.677	7.14	2.97	203.2	29.8
0915				14.98	0.663	7.08	1.81	203.5	42.2
0920				14.34	0.688	6.73	1.64	228.0	59.1
0925				14.25	0.722	6.56	1.65	230.1	60.2
0930				14.18	0.762	6.80	1.69	216.0	47.2
0935				14.18	0.800	6.87	1.53	212.4	37.0
0940				14.21	0.832	6.91	1.47	209.0	28.4
0945				14.23	0.855	6.93	1.40	207.2	23.9
0950				14.26	0.874	6.95	1.41	205.0	19.7

(X) Full Sample Suite Obtained

( ) Partial Sample Suite Obtained

( ) No Sample Obtained

QC Samples: (FD) FS RB AB MS/MSD

See COC for analyses requested.

Sample ID: 49MW06

Protective Level Dermal: (D) C B A

Respiratory: (D) C B A

Condition of Well, Remarks:

Fe, DISSOLVED (9146) = 0.04 mg/L

VOC
TOC
NITRATE, SULFATE, CHLORIDE
METHANE, ETHANE, ETHENE

QC Sample ID: 49TM01 [illegible]

Sample Time: 1025

( ) Metals Sample Filtered Filter

Sampler's Signature: [signature]

Checked by:

Date: 10/1/15

Temp. ± 1°C
pH ± 0.1 units
EC ± 10%
Turb. ± 10% <50 NTU
DO ± 10%
Redox ± 10 mV

HDR

LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

Log Book #: _____
Page 2 of 2

ID	Date	Purge/Sample Equipment	Water-quality Equipment
93MW06	10/1/15		
Samplers' Initials	Time	( ) Peristaltic	( ) Water-level Meter
Casing Diameter (in)	Casing Stickup (ft)	( ) Bladder	( ) Oil-water interface Meter
Initial Water Level (ft-btoc)	Total Well Depth (ft-btoc)	( ) Other	( ) Parameter Meter (e.g. YSI Sonde or YSI 556 MPS)
Final Water Level (ft-btoc)	Screened Interval (ft-btoc)		
Purge Volume (liters)	Sample Depth (ft-btoc)		( ) Turbidity Meter

Time	Depth to Water (ft)	Pumping Rate (L/min)	Purge Volume (liters)	Temp. °C/°F	Cond. (µS/cm)	pH	DO (mg/L)	ORP (mV)	Turb. (NTU)
0955				14.30	0.856	6.97	1.37	202.5	16.7
1000				14.31	0.900	6.98	1.47	201.2	15.4
1005				14.36	0.908	6.99	1.39	199.0	14.0
1010				14.36	0.917	7.00	1.37	197.4	12.4
1015				14.39	0.923	7.00	1.38	196.2	11.2
1020				14.35	0.926	7.00	1.42	195.3	10.4

( ) Full Sample Suite Obtained

( ) Partial Sample Suite Obtained

( ) No Sample Obtained

QC Samples: FD FS RB AB MS/MSD

See COC for analyses requested

Sample ID:

Preservative Used: Cl H A

Refrigerated: Y N

Condition of Well, Remarks:

QC Sample ID:

Sample Time:

( ) Metals Sample Filtered: Filter Size:

Sampler's Signature:

Checked by:

Date:

Temp. ± 1°C
pH ± 0.1 units
EC ± 10%
Turb. ± 10% < 50 NTU
DO ± 10%
Redox ± 10 mV

HDR

LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

Log Book # _____
Page 1 of 1

ID	Date	Purge/Sample Equipment	Water-quality Equipment
49MW1	10/1/15		
Samplers' Initials: SJL	Time: 1115	( ) Peristaltic:	Water-level Meter: GEOTECH
Casing Diameter (in): 4"	Casing Stickup (ft):	(X) Bladder: GEOTECH	Oil-water Interface Meter:
Initial Water Level (ft-btoc): 107.73	Total Well Depth (ft-btoc): 140	( ) Other:	451 556 MPS Parameter Meter(s): T Cond pH DO ORP NTU
Final Water Level (ft-btoc)	Screened Interval (ft-btoc): 110-140		
Purge Volume (liters): ~2 GAL	Sample Depth (ft-btoc): 120		Turbidity Meter: HACH 2100 Q

Time	Depth to Water (ft)	Pumping Rate (l/min)	Purge Volume (liters)	Temp. °C/°F	Cond. (µS/cm)	pH	DO %/mg/l	ORP (mV)	Turb. (NTU)
1255	107.73	150mL		16.19	0.499	7.72	3.03	185.9	6.67
1300				14.64	0.504	7.62	4.20	194.7	6.26
1305				14.54	0.504	7.57	3.60	195.6	8.08
1310				14.58	0.504	7.59	3.11	192.0	8.07
1315				14.46	0.505	7.59	3.09	189.8	8.27
1320				14.38	0.505	7.58	2.87	188.6	6.90
1325				14.40	0.504	7.58	2.74	188.0	5.71
1330				14.41	0.505	7.58	2.68	187.8	5.15
1335				14.46	0.505	7.58	2.60	186.3	4.52

1150

(X) Full Sample Suite Obtained

( ) Partial Sample Suite Obtained

( ) No Sample Obtained

QC Samples: FD FS RB AB MS/MSD

See COC for analytes requested

Sample ID: 49MW1

Protective Level Dermal D C B A

Respiratory D C B A

Condition of Well, Remarks:

FE = 0.03 mg/L

VOC
TOC
METHANE, ETHANE, ETHENE
NITRATE, SULFATE, CHLORIDE

QC Sample ID:

Sample Time: 1445

( ) Metals Sample Filtered ND Filter

Sampler's Signature:

Checked by:

Date:

Temp. ± 1°C
pH ± 0.1 units
EC ± 10%
Turb. ± 10% <50 NTU
DO ± 10%
Redox ± 10 mV

HDR

Log Book # _____

Page 1 of 1

LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

ID	Date	Purge/Sample Equipment	Water-quality Equipment
48MW2	10/1/15		
Samplers' Initials: BW	Time: 0920	( ) Peristaltic:	Water-level Meter: Geotech
Casing Diameter (in): 2"	Casing Stickup (ft): 1.8'	✓ Bladder: Geotech	Oil-water Interface Meter: N/A
Initial Water Level (ft btoc): 124.1	Total Well Depth (ft-btoc): 133.7	( ) Other:	Parameter Meter(s): T Cond pH DO ORP NTU
Final Water Level (ft-btoc): 123.	Screened Interval (ft-btoc): 113-134		YSI 556 MPS
Purge Volume (liters)	Sample Depth (ft-btoc): 134		Turbidity Meter: HACH

Time	Depth to Water (ft)	Pumping Rate (l/min)	Purge Volume (liters)	Temp. °C/°F	Cond. (µS/cm)	pH	DO %/mg/l	ORP (mV)	Turb. (NTU)
1030	124.1	150ml	✓	15.4	530	6.8	9.0	49	141
1035	124.0	✓	✓	14.3	530	7.0	7.98	50	127
1040	✓	✓	✓	14.2	514	7.0	7.31	51	157
1045	✓	✓	✓	14.1	495	7.0	7.1	50	409
1050	✓	✓	✓	14.1	494	7.0	7.0	51	716
1055	✓	✓	✓	14.0	494	7.0	7.0	53	490
1100	✓	✓	✓	14.0	493	7.0	7.0	53	512

✓ Full Sample Suite Obtained

( ) Partial Sample Suite Obtained

( ) No Sample Obtained

QC Samples: FD FS RB AB (MS/MSD)

See COC for analyses requested

Sample ID: 48MW2

Protective Level Dermal (D) C B A

Respiratory (G) C B A

Condition of Well, Remarks:

Fe (Diss) 8146 - 0.42mg/L

VOC
TOC
Nitrate, Sulfate, Chloride
Methane, Ethane, Ethene

water cloudy, silt in bottom of well

QC Sample ID: 48MW2MS/MSD

Sample Time: 1105

( ) Metals Sample Filtered Filter

Sampler's Signature: [signature]

Checked by:

Date: 10/1/15

Temp. ± 1°C
pH ± 0.1 units
EC ± 10%
Turb. ± 10% <50 NTU
DO ± 10%
Redox ± 10 mV

1130

HDR

LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

Log Book # _____
Page 1 of 1

ID	Date	Purge/Sample Equipment	Water-quality Equipment
48MW3	10/2/15		
Samplers' Initials: SJL	Time: 1150	( ) Peristaltic:	Water-level Meter: GEOTECH
Casing Diameter (in): 4"	Casing Stickup (ft):	(X) Bladder: GEOTECH	Oil-water Interface Meter:
Initial Water Level (ft-btoc): 97.63	Total Well Depth (ft-btoc): 120	( ) Other:	YSI 556 MPS Parameter Meter(s): T Cond pH DO ORP NTU
Final Water Level (ft-btoc):	Screened Interval (ft-btoc): 100-120		
Purge Volume (liters): ~1 GAL	Sample Depth (ft-btoc): 110		HACH 2100Q Turbidity Meter:

Time	Depth to Water (ft)	Pumping Rate (l/min)	Purge Volume (liters)	Temp. °C/°F	Cond. (µS/cm)	pH	DO %/mg/l	ORP (mV)	Turb. (NTU)
1210 1209	97.63	150 mL		13.01	707	6.87	7.17	49.3	2.67
1215				12.93	715	6.88	6.88	39.3	2.34
1220				12.93	715	6.91	4.02	38.6	2.22
1225				12.93	715	6.91	3.80	39.8	2.36
1230				12.93	714	6.92	3.81	39.8	2.49
1235				12.94	714	6.92	3.84	39.8	2.50

(X) Full Sample Suite Obtained

( ) Partial Sample Suite Obtained

( ) No Sample Obtained

QC Samples: FD FS RB AB MS/MSD

See COC for analyses requested

Sample ID: 48MW3

Protective Level Dermal: D C B A

Respiratory: D C B A

Condition of Well, Remarks:

Fe ~ 0.05 mg/L

VOC
TOC
SULFATE, NITRATE, CHLORIDE
METHANE, ETHANE, ETHENE

QC Sample ID: NONE

Sample Time: 1245

( ) Metals Sample Filtered Filter

Sampler's Signature:

Checked by:

Date: 10/2/15

Temp. ± 1°C
pH ± 0.1 units
EC ± 10%
Turb. ± 10% <50 NTU
DO ± 10%
Redox ± 10 mV

HDR

Log Book # _____

Page 1 of 2

LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

ID: 49MW01	Date: 10/1/15	Purge/Sample Equipment	Water-quality Equipment
Samplers' Initials: SJL	Time: 1435	( ) Peristaltic:	Water-level Meter: GEOTECH
Casing Diameter (in): 2"	Casing Stickup (ft):	(X) Bladder: GEOTECH	Oil-water Interface Meter:
Initial Water Level (ft-btoc): 115.35	Total Well Depth (ft-btoc): 121'	( ) Other:	YSI 556 MPS Parameter Meter(s): T Cond pH DO ORP NTU
Final Water Level (ft-btoc)	Screened Interval (ft-btoc): 90-121'		
Purge Volume (liters)	Sample Depth (ft-btoc): 120'		Turbidity Meter: HACH 2100P

Time	Depth to Water (ft)	Pumping Rate (l/min)	Purge Volume (liters)	Temp. °C/°F	Cond. (µS/cm)	pH	DO %/(mg/l)	ORP (mV)	Turb. (NTU)
1520	115.35	150mL		14.94	0.496	7.46	5.74	225.1	166
1525				14.44	0.495	7.42	5.33	222.7	130
1530				14.42	0.494	7.43	5.81	220.9	112
1535				14.31	0.494	7.44	5.13	221.7	96.2
1540				14.18	0.495	7.44	5.25	219.4	81.2
1545				14.12	0.494	7.44	5.12	217.4	68.6
1550				14.15	0.493	7.44	5.02	216.4	61.3
1555				14.08	0.494	7.44	5.25	216.4	52.8
1600				14.05	0.493	7.44	5.65	220.0	59.3

(X) Full Sample Suite Obtained

( ) Partial Sample Suite Obtained

( ) No Sample Obtained

QC Samples: FD FS RB AB MS/MSD

New COC for analyses requested

Sample ID: 49MW01

Protective Level: Dermal: D C B A

Respiratory: D C B A

Condition of Well, Remarks:

FE=0.22 mg/L

VOC
METHANE, ETHANE, ETHENE
NITRATE, SULFATE, CHLORIDE
TOC

QC Sample ID: NONE

Sample Time: 1620

( ) Metals Sample Filtered NO Filter

Sampler's Signature:

Checked by:

Date: 10/1/15

Temp. ± 1°C
pH ± 0.1 units
EC ± 10%
Turb. ± 10% < 50 NTU
DO ± 10%
Redox ± 10 mV

HDR

Log Book #_____

LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

ID	Date	Purge/Sample Equipment	Water-quality Equipment
49MW01	10/1/15		
Samplers' Initials	Time	( ) Peristaltic:	Water-level Meter:
Casing Diameter (in) 2"	Casing Stickup (ft)	( ) Bladder:	Oil-water Interface Meter:
Initial Water Level (ft-btoc)	Total Well Depth (ft-btoc)	( ) Other:	Parameter Meter(s): T Cond pH DO ORP NTU
Final Water Level (ft-btoc)	Screened Interval (ft-btoc)		
Purge Volume (liters)	Sample Depth (ft-btoc)		Turbidity Meter:

Time	Depth to Water (ft)	Pumping Rate (l/min)	Purge Volume (liters)	Temp. °C/°F	Cond. (µS/cm)	pH	DO %/mg/L	ORP (mV)	Turb. (NTU)
1605				14.10	0.493	7.44	5.49	218.1	43.6
1610				14.06	0.493	7.45	5.36	216.5	40.0
1615				14.09	0.493	7.45	5.18	215.9	35.0

( ) Full Sample Suite Obtained

( ) Partial Sample Suite Obtained

( ) No Sample Obtained

QC Samples: FD FS RB AB MS/MSD

See COC for analyses requested

Sample ID:

Protective Level Dermal: D C B A

Respiratory: D C B A

Condition of Well, Remarks:

QC Sample ID :

Sample Time:

( ) Metals Sample Filtered Filter

Sampler's Signature:

Checked by:

Date:

Temp. ± 1°C
pH ± 0.1 units
EC ± 10%
Turb. ± 10% <50 NTU
DO ± 10%
Redox ± 10 mV

1310 HDR

LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

Log Book #_____
Page 1 of 1

ID	Date	Purge/Sample Equipment	Water-quality Equipment
49MW02	10/2/15		
Samplers' Initials: SJL	Time: 1322	( ) Peristaltic:	Water-level Meter: GEOTECH
Casing Diameter (in): 2"	Casing Stickup (ft):	(X) Bladder: GEOTECH	Oil-water Interface Meter:
Initial Water Level (ft-btoc): 95.28	Total Well Depth (ft-btoc): 133	( ) Other:	Parameter Meter(s): YSI 556 MPS T Cond pH DO ORP NTU
Final Water Level (ft-btoc)	Screened Interval (ft-btoc): 103-133		
Purge Volume (liters): ~2GAL	Sample Depth (ft-btoc): 110		Turbidity Meter: HACH 2100Q

Time	Depth to Water (ft)	Pumping Rate (l/min)	Purge Volume (liters)	Temp. °C / °F	Cond. (µS/cm)	pH	DO %/mg/l	ORP (mV)	Turb. (NTU)
1330	95.28	150mL		13.39	523	7.05	7.58	46.4 43.1	41.8
1335				13.21	528	7.05	4.28	36.5	44.3
1340				13.10	529	7.08	1.93	34.1	37.8
1345				13.08	529	7.10	1.91	35.4	26.5
1350				13.07	529	7.11	2.38	36.1	25.1
1355				13.08	529	7.13	2.91	37.5	21.2
1400				13.08	529	7.16	3.21	36.9	20.8
1405				13.08	529	7.14	3.40	39.1	19.4
1410				13.08	529	7.15	3.74	40.4	17.6

(X) Full Sample Suite Obtained

( ) Partial Sample Suite Obtained

( ) No Sample Obtained

QC Samples: FD FS RB AB MS/MSD

See COC for analyses requested

Sample ID: 49MW02

Protective Level Dermal D C B A

Respiratory D C B A

Condition of Well, Remarks:

FE = 0.15 mg/L

VOC
TOC
NITRATE, SULFATE, CHLORIDE
METHANE, ETHANE, ETHENE

QC Sample ID: NONE

Sample Time: 1415

( ) Metals Sample Filtered NO Filter

Sampler's Signature:

Checked by:

Date: 10/2/15

Temp. ± 1°C
pH ± 0.1 units
EC ± 10%
Turb. ± 10% < 50 NTU
DO ± 10%
Redox ± 10 mV

HDR

1440 **LOW-FLOW GROUNDWATER SAMPLING DATA SHEET**

Log Book # _____
Page 1 of 2

ID: SDMW02	Date: 10/21/15	Purge/Sample Equipment	Water-quality Equipment
Samplers' Initials: SJL	Time: 1455	( ) Peristaltic:	GEOTECH Water-level Meter:
Casing Diameter (in): 2"	Casing Stickup (ft)	GEOTECH 1.66 X 18 (X) Bladder:	Oil-water Interface Meter:
Initial Water Level (ft btoc): 115.3	Total Well Depth (ft-btoc): 119	( ) Other:	YSI 556 MPS Parameter Meter(s): T Cond pH DO ORP NTU
Final Water Level (ft-btoc)	Screened Interval (ft-btoc): 89-119		
Purge Volume (liters)	Sample Depth (ft-btoc): 118		HACH 2100Q Turbidity Meter:

Time	Depth to Water (ft)	Pumping Rate (l/min)	Purge Volume (liters)	Temp. °C/°F	Cond. (µS/cm)	pH	DO %/mg/L	ORP (mV)	Turb. (NTU)
1600	115.3	100 mL		13.93	704	6.74	6.72	64.4	112
1605				13.15	714	6.79	6.10	56.7	294
1610				13.14	715	6.80	6.06	56.0	245
1615				13.10	715	6.81	6.07	55.5	159
1620				13.08	716	6.88	5.89	55.4	140
1625				13.05	716	6.90	5.89	51.4	114
1630				13.11	715	6.85	5.63	52.9	93.1
1635				13.16	716	6.85	5.81	52.8	90.7
1640				13.05	716	6.85	5.99	52.3	84.5

(X) Full Sample Suite Obtained

( ) Partial Sample Suite Obtained

( ) No Sample Obtained

QC Samples: FD FS RB AB MS/MSD

Specify COC for analytes requested

Sample ID: SDMW02

Preservative (Circle One): C B A

Respiratory: C B A

Condition of Well, Remarks:
1542 - FIRST SIGNS OF WATER; CLOUDY

Fe = .22 mg/L

VOC
TOC
SULFATE, NITRATE, CHLORIDE
METHANE, ETHANE, ETHENE

QC Sample ID: NONE

Sample Time: 1705

( ) Metals Sample Filtered: ND Filter

Sampler's Signature:

Checked by:

Date: 10/21/15

Temp. ± 1°C
pH ± 0.1 units
EC ± 10%
Turb. ± 10% < 50 NTU
DO ± 10%
Redox ± 10 mV

HDR

LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

Log Book # _____
Page 2 of 2

ID	Date	Purge/Sample Equipment	Water-quality Equipment
SOMW2	10/2/15		
Samplers' Initials	Time	( ) Peristaltic:	Water-level Meter:
Casing Diameter (in) 2"	Casing Stickup (ft)	( ) Bladder:	Oil-water interface Meter:
Initial Water Level (ft btoc)	Total Well Depth (ft-btoc)	( ) Other:	Parameter Meter(s): T Cond pH DO ORP NTU
Final Water Level (ft-btoc)	Screened Interval (ft-btoc)		
Purge Volume (liters)	Sample Depth (ft-btoc)		Turbidity Meter:

Time	Depth to Water (ft)	Pumping Rate (l/min)	Purge Volume (liters)	Temp. °C/°F	Cond. (µS/cm)	pH	DO % / mg/L	ORP (mV)	Turb. (NTU)
1645				13.01	716	6.84	5.54	52.3	66.9
1650				13.01	716	6.80	5.27	52.2	50.8
1656				13.02	715	6.84	5.25	52.1	44.8
1700				13.02	715	6.84	5.29	51.6	32.8
1705				12.98	715	6.84	5.18	51.4	25.8

( ) Full Sample Suite Obtained	Condition of Well, Remarks:
( ) Partial Sample Suite Obtained	
( ) No Sample Obtained	
QC Samples: FD FS RB AB MS/MSD	
See COC for analytes requested	Sampler's Signature:
Sample ID:	QC Sample ID:
Protective Level Dermal: D C B A	Sample Time: Checked by:
Respiratory: D C B A	( ) Metals Sample Filtered Filter Date:

Temp. ± 1°C
pH ± 0.1 units
EC ± 10%
Turb. ± 10% <50 NTU
DO ± 10%
Redox ± 10 mV

1005

HDR

LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

Log Book # _____
Page 1 of 1

ID	Date	Purge/Sample Equipment	Water-quality Equipment
13MW2	10/2/15		
Samplers' Initials: SJL	Time: 1019	( ) Peristaltic:	Water-level Meter: GEOTECH
Casing Diameter (in): 4"	Casing Stickup (ft):	(X) Bladder: GEOTECH	Oil-water Interface Meter:
Initial Water Level (ft btoc): 17.37	Total Well Depth (ft-btoc): 29	( ) Other:	Parameter Meter(s): YSI 556 MPS T Cond pH DO ORP NTU
Final Water Level (ft-btoc)	Screened Interval (ft-btoc): 19-29		
Purge Volume (liters): ~2.5 GAL	Sample Depth (ft-btoc): 29'		Turbidity Meter: HACH 2100Q

Time	Depth to Water (ft)	Pumping Rate (l/min)	Purge Volume (liters)	Temp. °C/°F	Cond. (µS/cm)	pH	DO %/mg/L	ORP (mV)	Turb. (NTU)
1022	17.37	150 mL		14.40	639	6.61	6.05	52.3	3.29
1027				14.24	642	6.68	5.64	46.7	2.58
1032				14.23	635	6.72	5.82	47.5	2.89
1037				14.25	626	6.73	6.05	49.3	1.93
1042				14.26	623	6.74	6.09	50.1	2.25
1047				14.27	618	6.75	6.26	51.2	1.95

(X) Full Sample Suite Obtained
( ) Partial Sample Suite Obtained
( ) No Sample Obtained

QC Samples: FD FS RB AB MS/MSD
See COC for analyses requested
Sample ID: 13MW2 0
Respiratory: D C B A

Condition of Well, Remarks:
Fe = 0.02 mg/L

QC Sample ID: NONE
Sample Time: 1050
( ) Matrix Sample Filtered: NO Filter

VOC
TOC
SULFATE, NITRATE, CHLORIDE
METHANE, ETHANE, ETHENE

Sampler's Signature:
Checked by:
Date: 10/2/15

Temp. ± 1°C
pH ± 0.1 units
EC ± 10%
Turb. ± 10% < 50 NTU
DO ± 10%
Redox ± 10 mV

HDR

LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

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ID	Date	Purge/Sample Equipment	Water-quality Equipment
13MW3	10/2/15		
Samplers' Initials: SJL	Time: 0755	( ) Peristaltic:	Water-level Meter: GEOTECH
Casing Diameter (in): X 4"	Casing Stickup (ft):	(X) Bladder: GEOTECH	Oil-water interface Meter:
Initial Water Level (ft-btoc): 12.20	Total Well Depth (ft-btoc): 19	( ) Other:	YSI 556 MPS Parameter Meter(s): T Cond pH DO ORP NTU
Final Water Level (ft-btoc)	Screened Interval (ft-btoc): 9-19'		
Purge Volume (liters): 3 GAL	Sample Depth (ft-btoc): 18.		HACH 2100Q Turbidity Meter:

Time	Depth to Water (ft)	Pumping Rate (l/min)	Purge Volume (liters)	Temp. °C/°F	Cond. (µS/cm)	pH	DO %/mg/L	ORP (mV)	Turb. (NTU)
0800	12.20	150 ML		15.74	718	6.51	7.17	26.5	14.5
0805				15.92	718	6.41	5.34	56.0	9.02
0810				16.04	680	6.39	5.47	69.9	3.88
0815				16.16	653	6.37	5.54	76.3	2.37
0820				16.29	642	6.37	5.46	79.7	2.27
0825				16.34	619	6.36	5.52	81.0	1.83
0830				16.34	599	6.34	5.53	83.7	1.23
0835				16.34	555	6.34	5.53	83.3	~~1.34~~ 1.10

(X) Full Sample Suite Obtained

( ) Partial Sample Suite Obtained

( ) No Sample Obtained

QC Samples: FD FS RB AB MS/MSD

See COC for analytes requested.

Sample ID: 13MW3

Protective Level Dermal (D) C B A

Respiratory: D C B A

Condition of Well, Remarks:

Fe = 0.00 mg/L

VOC
TOC
NITRATE, SULFITE, CHLORIDE
METHANE, ETHANE, ETHENE

Sampler's Signature:

QC Sample ID: NONE

Sample Time: - 0835

( ) Metals Sample Filtered Y Filter

Checked by:

Date:

Temp. ± 1°C
pH ± 0.1 units
EC ± 10%
Turb. ± 10% < 50 NTU
DO ± 10%
Redox ± 10 mV

HLR

Log Book # _____

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LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

ID	Date	Purge/Sample Equipment	Water-quality Equipment
13MW4	10/7/15		
Samplers' Initials: SJL	Time: 0855	( ) Peristaltic:	Water-level Meter: GEOTECH
Casing Diameter (in): 4"	Casing Stickup (ft):	(X) Bladder: GEOTECH	Oil-water Interface Meter:
Initial Water Level (ft btoc): 11.40	Total Well Depth (ft-btoc): 24	( ) Other:	YSI 556 MPS Parameter Meter(s): T Cond pH DO ORP NTU
Final Water Level (ft-btoc)	Screened Interval (ft-btoc): 14-24		
Purge Volume (liters): ~3GAL	Sample Depth (ft-btoc): 20'		HACH 2100 Q Turbidity Meter:

Time	Depth to Water (ft)	Pumping Rate (l/min)	Purge Volume (liters)	Temp. °C/°F	Cond. (µS/cm)	pH	DO %/mg/L	ORP (mV)	Turb. (NTU)
0905									
0910	24	150 mL		15.19	531	6.56	2.47	46.6	7.43
0915				15.21	519	6.52	2.56	41.9	5.99
0920				15.24	501	6.47	3.04	43.9	5.02
0925				15.36	465	6.39	3.72	46.6	4.28
0930				15.40	414	6.37	3.90	46.6	4.08
0935				15.42	407	6.37	3.89	46.5	3.71
0940				15.44	401	6.38	3.96	45.5	3.36

(X) Full Sample Suite Obtained

( ) Partial Sample Suite Obtained

( ) No Sample Obtained

QC Samples: FD FS RB AB MS/MSD

Sample ID: 13MW4

Preservative Level Demonstrated: D C B A

Receipt Verified: D C B A

Condition of Well, Remarks:

TS = 0.02 mg/L

QC Sample ID: NONE

Sample Time/Location: 13MW4 0940

( ) Matrix Spike Sample Volume: NO Filter

VOC
TOC
SULFATE, NITRATE, CHLORIDE
METHANE, ETHANE, ETHENE

Sampler's Signature:

Checked By:

Date:

Temp. ± 1°C
pH ± 0.1 units
EC ± 10%
Turb. ± 10% < 50 NTU
DO ± 10%
Redox ± 10 mV

HDR

Log Book # _____
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LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

0745

ID	Date	Purge/Sample Equipment	Water-quality Equipment
98MW07	1/14/16		
Samplers' Initials: SJL	Time: 0815	( ) Peristaltic:	KECK 200' Water-level Meter:
Casing Diameter (in): 2"	Casing Stickup (ft):	GEOTECH 1.66 X 18 (X) Bladder:	Oil-water Interface Meter:
Initial Water Level (ft btoc): 43.55	Total Well Depth (ft-btoc): 82	( ) Other:	YSI 556 MPS Parameter Meter(s): T Cond pH DO ORP NTU
Final Water Level (ft-btoc)	Screened Interval (ft-btoc): 62-82		
Purge Volume (liters): ~1.5 GAL	Sample Depth (ft-btoc): 85		HACH 2100 Q Turbidity Meter:

Time	Depth to Water (ft)	Pumping Rate (l/min)	Purge Volume (liters)	Temp. °C/°F	Cond. (µS/cm)	pH	DO %/(mg/L)	ORP (mV)	Turb. (NTU)
0825	43.55	140 ML		11.3	393.8	7.24	10.02	92.6	2.38
0830				11.9	379.2	7.28	9.24	93.4	1.11
0835				12.0	378.3	7.31	9.02	95.4	0.96
0840				12.1	378.0	7.33	8.92	97.2	1.02
0845	0845			12.1	380.2	7.33	8.93	99.3	1.43
0850	0850			12.1	383.9	7.34	8.88	101.7	1.82
0855				12.1	388.5	7.33	8.88	104.5	2.07

(X) Full Sample Suite Obtained
( ) Partial Sample Suite Obtained
( ) No Sample Obtained
QC Samples: FD FS RB AB MS/MSD
See COC for analyses requested
Sample ID: 98MW07
Protective Level Dermal (D) C B A
Respiratory: (D) C B A

Condition of Well, Remarks:
VOC
TOC
METHANE/ETHANE/ETHENE
NITRATE/SULFATE/CHLORIDE

QC Sample ID: NONE
Sample Time: 0900
( ) Metals Sample Filtered ~ Filter

Sampler's Signature:
Checked by:
Date: 1/14/16

Temp. ± 1°C
pH ± 0.1 units
EC ± 10%
Turb. ± 10% <50 NTU
DO ± 10%
Redox ± 10 mV

FE = 0.00 MG/L

1537

HDR

Log Book #____

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LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

ID	Date	Purge/Sample Equipment	Water-quality Equipment
13MW05	1/13/16		
Samplers' Initials	Time 1550	( ) Peristaltic:	KECK 200' Water-level Meter:
Casing Diameter (in) 4"	Casing Stickup (ft)	GEOTECH ( ) Bladder: 1.66 X 18	Oil-water Interface Meter:
Initial Water Level (ft btoc) 14.61	Total Well Depth (ft-btoc) 25	( ) Other:	YSI 556 MPS Parameter Meter(s): T Cond pH DO ORP NTU
Final Water Level (ft-btoc)	Screened Interval (ft-btoc) 14-25		
Purge Volume (liters) ~1 GAL	Sample Depth (ft-btoc) 18		HACH 2100Q Turbidity Meter:

Time	Depth to Water (ft)	Pumping Rate (l/min)	Purge Volume (liters)	Temp. °C/°F	Cond. (µS/cm)	pH	DO %/mg/L	ORP (mV)	Turb. (NTU)
1555		150mL		13.1	819	6.31	7.52	115.2	1.50
1600				13.3	814	6.66	8.67	110.5	1.61
1605				13.3	815	6.58	8.69	111.0	0.59
1610				13.2	812	6.52	9.98	111.8	0.79
1615				13.4	827	6.59	9.94	~~NM~~ 114.2	0.83

- [X] Full Sample Suite Obtained
- [ ] Partial Sample Suite Obtained
- [ ] No Sample Obtained

QC Samples: FD FS RB AB MS/MSD

See COC for analyses requested

Sample ID: 13MW05

Protective Level Dermal: D C B A

Respiratory: D C B A

Condition of Well, Remarks:

VOC
METHANE/ETHANE/ETHENE
TDL
NITRATE/SULFATE/CHLORIDE

QC Sample ID: NONE

Sample Time: 1620

( ) Metals Sample Filtered N/A Filter

Sampler's Signature:

Checked by:

Date:

Temp. ± 1°C
pH ± 0.1 units
EC ± 10%
Turb. ± 10% < 50 NTU
DO ± 10%
Redox ± 10 mV

FE = 0.00 MG/L

1302

HDR

LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

Log Book #____

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ID	Date	Purge/Sample Equipment	Water-quality Equipment
49MW03	1/14/16		
Samplers' Initials: SJL	Time: 1322	( ) Peristaltic:	KECK. Water-level Meter:
Casing Diameter (in): 2"	Casing Stickup (ft)	GEOTECH 1.66 x 18 (X) Bladder:	Oil-water Interface Meter:
Initial Water Level (ft btoc): 97.47	Total Well Depth (ft-btoc): 117	( ) Other:	YSI Parameter Meter(s): T Cond pH DO ORP NTU
Final Water Level (ft-btoc)	Screened Interval (ft-btoc): 77-117		
Purge Volume (liters): ~1 GAL	Sample Depth (ft-btoc): 107		HACH 2100Q Turbidity Meter:

Time	Depth to Water (ft)	Pumping Rate (l/min)	Purge Volume (liters)	Temp. °C/°F	Cond. (µS/cm)	pH	DO %/mg/l	ORP (mV)	Turb. (NTU)
1340	97.47	115 mL		12.3	610.2	6.98	12.13	103.4	6.73
1345				12.3	589.3	6.96	12.62	108.2	4.52
1350				12.5	576.9	6.95	12.64	112.8	3.50
1355				12.5	551.6	6.92	12.32	114.1	3.52
1400				12.5	552.4	6.96	12.72	114.8	2.66
1405				12.4	554.5	6.92	12.80	116.1	2.81
1410				12.4	553.0	6.95	12.79	117.2	2.54

(X) Full Sample Suite Obtained

( ) Partial Sample Suite Obtained

( ) No Sample Obtained

QC Samples: FD FS RB AB MS/MSD

See COC for analyses requested

Sample ID: 49MW03

Protective Level Dermal: (D) C B A

Respiratory: (D) C B A

Condition of Well, Remarks:
1329 - FIRST WATER IN FLOW CELL
VOC
TOC
METHANE/ETHANE/ETHENE
NITRATE/CHLORIDE/SULFATE

QC Sample ID :

Sample Time: 1415

( ) Metals Sample Filtered Filter

Sampler's Signature:

Checked by:

Date: 1/14/16

Temp. ± 1°C
pH ± 0.1 units
EC ± 10%
Turb. ± 10% < 50 NTU
DO ± 10%
Redox ± 10 mV

Fe = 0.00 mg/L

B-8

HDR

Log Book # ____
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LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

ID	Date	Purge/Sample Equipment	Water-quality Equipment
49MW05	1/13/16		
Samplers' Initials	Time 1407 1422	( ) Peristaltic:	KECK 200' Water-level Meter:
Casing Diameter (in) 2"	Casing Stickup (ft)	GEOTECH 1.66 X 13 ( ) Bladder:	Oil-water Interface Meter:
Initial Water Level (ft btoc) 21.16	Total Well Depth (ft-btoc) 36.3	( ) Other:	YSI 556 MPS Parameter Meter(s): T Cond pH DO ORP NTU
Final Water Level (ft-btoc)	Screened Interval (ft-btoc) 16-37		
Purge Volume (liters) ~ 1.5 GAL	Sample Depth (ft-btoc) 22		HACH 2100Q Turbidity Meter:

Time	Depth to Water (ft)	Pumping Rate (l/min)	Purge Volume (liters)	Temp. °C/°F	Cond. (µS/cm)	pH	DO %/mg/L	ORP (mV)	Turb. (NTU)
1425		145 mL		12.3	935	6.54	6.62	99.7	62.9
1430				13.1	940	6.60	6.54	104.6	53.3
1435				13.2	971	6.63	6.39	106.4	24.3
1440				13.4	991	6.62	6.27	104.2	21.0
1445				13.3	999	6.67	6.16	105.1	39.2
1450				13.2	986	6.59	6.26	103.2	45.6
1455				13.3	982	6.55	5.41	103.9	45.8
1500				13.4	984	6.48	5.37	102.4	42.3
1505				13.5	972	6.47	5.26	104.6	40.4

(X) Full Sample Suite Obtained

( ) Partial Sample Suite Obtained

( ) No Sample Obtained

QC Samples: FD FS RB AB MS/MSD

See COC for analytes requested

Sample ID: 49MW05

Protective Level Dermal: D C B A

Respiratory: D C B A

Condition of Well, Remarks:

VOC
METHANE / ETHANE / ETHENE
TOC
NITRATE / SULFITE / CHLORIDE

QC Sample ID: NONE

Sample Time: 1510

( ) Metals Sample Filtered N/A Filter

Sampler's Signature:

Checked by:

Date: 1/13/16

Temp. ± 1°C
pH ± 0.1 units
EC ± 10%
Turb. ± 10% <50 NTU
DO ± 10%
Redox ± 10 mV

FE = 0.38 mg/L

0930

HDR

LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

Log Book #_____
Page 1 of 2

ID	Date	Purge/Sample Equipment	Water-quality Equipment
48MW06	1/14/16		
Samplers' Initials: SJL	Time: 0950	( ) Peristaltic:	Water-level Meter: KECK 200'
Casing Diameter (in): 2"	Casing Stickup (ft):	(X) Bladder: GEOTECH 1.66 X 18	Oil-water Interface Meter:
Initial Water Level (ft btoc): 62.85	Total Well Depth (ft-btoc): 78	( ) Other:	Parameter Meter(s): T Cond pH DO ORP NTU: YSI 556 MPS
Final Water Level (ft-btoc):	Screened Interval (ft-btoc): 58-78		
Purge Volume (liters): ~2GAL	Sample Depth (ft-btoc): 70		Turbidity Meter: HACH 2100 Q

Time	Depth to Water (ft)	Pumping Rate (l/min)	Purge Volume (liters)	Temp. °C/°F	Cond. (µS/cm)	pH	DO %/mg/L	ORP (mV)	Turb. (NTU)
1000	62.85	140 mL		12.7	1219	6.67	1.68	169.8	208
1005				12.6	1290	6.71	1.42	164.6	325
1010				12.8	1284	6.75	1.12	160.0	311
1015				12.9	1257	6.69	0.88	162.6	176
1020				12.8	1267	6.78	0.73	159.6	90.0
1025				12.8	1271	6.77	0.65	159.0	455
1030				12.7	1276	6.76	0.66	158.9	33.0
1035				12.7	1275	6.75	0.54	157.1	26.2
1040				12.7	1278	6.74	0.52	156.1	24.8

(X) Full Sample Suite Obtained
( ) Partial Sample Suite Obtained
( ) No Sample Obtained
QC Samples: FD FS RB AB MS/MSD
See COC for analyses requested
Sample ID: 48MW06
Protective Level Dermal: D C B A
Respiratory: D C B A

Condition of Well, Remarks:
VOC
TOC
METHANE / ETHANE / ETHENE
NITRATE / SULFATE / CHLORIDE

QC Sample ID: PURE
Sample Time: 1050
( ) Metals Sample Filtered N Filter

Sampler's Signature:
Checked by:
Date: 1/14/16

Temp. ± 1°C
pH ± 0.1 units
EC ± 10%
Turb. ± 10% < 50 NTU
DO ± 10%
Redox ± 10 mV

FE = 0.08 mg/L

HDR

Log Book #_____

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LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

ID	Date	Purge/Sample Equipment	Water-quality Equipment
48MW06	1/14/16		
Samplers' Initials	Time	( ) Peristaltic:	Water-level Meter:
Casing Diameter (in) 2"	Casing Stickup (ft)	( ) Bladder:	Oil-water Interface Meter:
Initial Water Level (ft btoc)	Total Well Depth (ft-btoc)	( ) Other:	Parameter Meter(s): T Cond pH DO ORP NTU
Final Water Level (ft-btoc)	Screened Interval (ft-btoc)		
Purge Volume (liters)	Sample Depth (ft-btoc)		Turbidity Meter:

Time	Depth to Water (ft)	Pumping Rate (l/min)	Purge Volume (liters)	Temp. °C/°F	Cond. (µS/cm)	pH	DO %/mg/L	ORP (mV)	Turb. (NTU)
1045				12.7	1286	6.75	0.54	155.4	25.0
~~1050~~									
~~1055~~									

( ) Full Sample Suite Obtained

( ) Partial Sample Suite Obtained

( ) No Sample Obtained

QC Samples: FD FS RB AB MS/MSD

See COC for analyses requested.

Sample ID:

Protective Level Dermal: D C B A

Respiratory: D C B A

Condition of Well, Remarks:

QC Sample ID :

Sample Time: 1050

( ) Metals Sample Filtered Filter

Sampler's Signature:

Checked by:

Date:

Temp. ± 1°C
pH ± 0.1 units
EC ± 10%
Turb. ± 10% <50 NTU
DO ± 10%
Redox ± 10 mV

1115

HDR

LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

Log Book #_____
Page 1 of 1

ID	Date	Purge/Sample Equipment	Water-quality Equipment
48MW1	1/14/16		
Samplers' Initials: SJL	Time: 1135	( ) Peristaltic:	Water level Meter: KECK 200'
Casing Diameter (in): 4"	Casing Stickup (ft):	(X) Bladder: GEOTECH 1.66 X 18	Oil-water Interface Meter:
Initial Water Level (ft btoc): 100.59	Total Well Depth (ft btoc): 140	( ) Other:	Parameter Meter(s): T Cond pH DO ORP MTU: YSI 556 MPS
Final Water Level (ft btoc):	Screened Interval (ft btoc): 110-140		
Purge Volume (liters): ~2 GAL	Sample Depth (ft btoc): 120		Turbidity Meter: HACH 2100Q

Time	Depth to Water (ft)	Pumping Rate (l/min)	Purge Volume (liters)	Temp. °C/°F	Cond. (µS/cm)	pH	DO % / mg/L	ORP (mV)	Turb. (NTU)
1150	100.59	145mL		12.0	689	7.09	3.20	115.9	14.2
1155				12.1	689	7.10	2.52	114.6	9.93
1200				12.2	688	7.10	2.21	113.4	8.46
205				12.3	685	7.11	2.27	112.8	8.74
1210				12.3	685	7.11	2.27	112.1	8.01
1215				12.3	687	7.10	2.27	112.1	7.03
220				12.3	688	7.10	2.22	111.2	7.22
1225				12.4	688	7.10	2.27	110.6	7.18

(X) Full Sample Suite Obtained
( ) Partial Sample Suite Obtained
( ) No Sample Obtained

QC Samples: FD FS RB AB MS/MSD
see COC for analytes requested
Sample ID: 48MW1
Protective Level Dermal: (D) C B A
Respiratory: (D) C B A

Condition of Well, Remarks:
1143 - FIRST WATER IN FLOW CELL
VOC NITRATE/SULFATE/CHLORIDE
TOC
METHANE/ETHANE/ETHENE

QC Sample ID: NONE
Sample Time: 48MW1 1220
( ) Metals Sample Filtered ( ) Filter

Sampler's Signature: SJL
Checked by:
Date: 1/15/16

Temp. ± 1°C
pH ± 0.1 units
EC ± 10%
Turb. ± 10% <50 NTU
DO ± 10%
Redox ± 10 mV

FE= 0.00 mg/L

HDR

Log Book # _____

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LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

1507

ID	Date	Purge/Sample Equipment	Water-quality Equipment
49MW01	1/14/16		
Samplers' Initials: SJL	Time: 1520	( ) Peristaltic:	Water level Meter: KECK 200
Casing Diameter (in): 2"	Casing Stickup (ft):	(X) Bladder: GEOTECH 1.66 X 18	Oil-water Interface Meter:
Initial Water Level (ft btoc): 114.42	Total Well Depth (ft-btoc): 121	( ) Other:	Parameter Meter(s): T Cond pH DO ORP NTU: YSI 556 MPS
Final Water Level (ft btoc)	Screened Interval (ft btoc): 90-121		
Purge Volume (liters): ~2.5 GAL	Sample Depth (ft btoc): 120		Turbidity Meter: HACH 2100 Q

Time	Depth to Water (ft)	Pumping Rate (l/min)	Purge Volume (liters)	Temp. °C/°F	Cond. (µS/cm)	pH	DO % / mg/L	ORP (mV)	Turb. (NTU)
1535 1335	114.92	190ML		12.7	688	7.24	6.24	119.2	113
1540 1340				12.7	708	6.89	6.89 (5.77)	116.0	113
1545 1345				12.7	672	5.45 (5.38)	5.45	114.9	120
1550 1350				12.4	675	6.99	5.90	114.5	124
1555				12.3	675	7.03	5.52 (5.14)	114.5	147
1600				12.3	674	7.05	5.17	114.9	120
1605				12.3	674	7.04	5.18	115.9	122
1610				12.2	673	7.07	5.15	116.4	121
1615				12.3	670	7.09	5.14	116.4	116

(X) Full Sample Suite Obtained

( ) Partial Sample Suite Obtained

( ) No Sample Obtained

QC Samples: FD FS RB AB MS/MSD

Sample ID: 49MW01

Protective Level Dermal: D C B A

Respiratory: D C B A

Condition of Well, Remarks:

135-WATER DISCHARGE FROM FLOW FOR FUEL CELL

VOC NITRATE / SULFATE / CHLORIDE

TOC METHANE / ETHANE / ETHENE

QC Sample ID: [illegible]

Sample Time: 1645

( ) Metals Sample Filtered (X) Filter

Sampler's Signature:

Checked by:

Date: 1/14/16

Temp. ± 1°C

pH ± 0.1 units

EC ± 10%

Turb. ± 10% < 50 NTU

DO ± 10%

Redox ± 10 mV

Fe = 0.74 mg/L

HDR

Log Book #_____

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LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

ID	Date	Purge/Sample Equipment	Water-quality Equipment
49MW9	1/14/14		
Samplers' Initials	Time	( ) Peristaltic:	Water-level Meter:
Casing Diameter (in) 2"	Casing Stickup (ft)	( ) Bladder:	Oil-water Interface Meter:
Initial Water Level (ft btoc)	Total Well Depth (ft-btoc)	( ) Other:	Parameter Meter(s): T Cond pH DO ORP NTU
Final Water Level (ft-btoc)	Screened Interval (ft-btoc)		
Purge Volume (liters)	Sample Depth (ft-btoc)		Turbidity Meter:

Time	Depth to Water (ft)	Pumping Rate (l/min)	Purge Volume (liters)	Temp. °C/°F	Cond. (µS/cm)	pH	DO %/mg/L	ORP (mV)	Turb. (NTU)
1620				12.4	674	7.13	4.83	116.2	111
1625				12.3	671	7.13	4.96	116.2	102
1630				12.3	677	7.13	4.95	116.8	101
1635				12.3	677	7.10	4.98	117.7	93.1
1640				12.2	680	7.11	4.97	116.7	87.2

( ) Full Sample Suite Obtained	Condition of Well, Remarks:	
( ) Partial Sample Suite Obtained		
( ) No Sample Obtained		
QC Samples: FD FS RB AB MS/MSD		
See COC for analyses requested.		Sampler's Signature:
Sample ID:	QC Sample ID :	
Protective Level Dermal: D C B A	Sample Time:	Checked by:
Respiratory: D C B A	( ) Metals Sample Filtered Filter	Date:

Temp. ± 1°C
pH ± 0.1 units
EC ± 10%
Turb. ± 10% <50 NTU
DO ± 10%
Redox ± 10 mV

1148

HDR

Log Book # _____
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LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

ID	Date	Purge/Sample Equipment	Water-quality Equipment
48MW2	1/15/16		
Samplers' Initials: SJL	Time: 1207	( ) Peristaltic:	KECK 200' Water-level Meter:
Casing Diameter (in): 2"	Casing Stickup (ft):	GEOTECH 1.66 X 13 (X) Bladder:	Oil-water interface Meter:
Initial Water Level (ft btoc): 22.56	Total Well Depth (ft-btoc): 133.7	( ) Other:	YSI 556 MPS Parameter Meter(s): T Cond pH DO ORP NTU
Final Water Level (ft-btoc):	Screened Interval (ft-btoc): 113 134		
Purge Volume (liters): ~2.5 GAL	Sample Depth (ft-btoc): ~~133~~ 132		HACH 2100Q Turbidity Meter:

Time	Depth to Water (ft)	Pumping Rate (l/min)	Purge Volume (liters)	Temp. °C/°F	Cond. (µS/cm)	pH	DO ~~%~~ mg/L	ORP (mV)	Turb. (NTU)
1230		135mL		10.3	565.7	6.74	8.46	129.0	96
1235				10.9	590.0	6.84	8.10	132.7	161
1240				10.6	595.4	6.90	7.41	133.2	—
1245				10.1	618.6	6.92	8.41	133.9	127
1250				11.4	619.8	6.89	8.43	121.5	128
1255				11.6	612.9	6.92	8.74	120.9	101
1300				11.6	608.3	6.93	8.52	24.4	89.6
1305				11.7	598.8	6.92	7.91	127.7	85.5
1310				11.7	593.2	6.93	8.14	30.7	74.6

(X) Full Sample Suite Obtained

( ) Partial Sample Suite Obtained

( ) No Sample Obtained

QC Samples: FD FS RB AB (MS/MSD)

Save COC for analyses requested.

Sample ID: 48MW2

Protective Level Dermal: (D) C B A

Respiratory: (B) C B A

Condition of Well, Remarks:
1225 - FIRST WATER IN ~~FLOW~~ FLOW CELL
VOC NITRATE/SULFATE/CHLORIDE
TOC
METHANE/ETHANE/ETHENE

QC Sample ID:

Sample Time: ~~48MW2~~ 1345

( ) Metals Sample Filtered Filter

Sampler's Signature: SJL

Checked by:

Date: 1/15/16

Temp. ± 1°C
pH ± 0.1 units
EC ± 10%
Turb. ± 10% < 50 NTU
DO ± 10%
Redox ± 10 mV

Fe = 0.13 mg/L

HDR

Log Book #_____

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LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

ID	Date	Purge/Sample Equipment	Water-quality Equipment
18MW2	1/15/16		
Samplers' Initials	Time	( ) Peristaltic:	Water-level Meter:
Casing Diameter (in) 2"	Casing Stickup (ft)	( ) Bladder:	Oil-water Interface Meter:
Initial Water Level (ft btoc)	Total Well Depth (ft btoc)	( ) Other:	Parameter Meter(s): T Cond pH DO ORP NTU
Final Water Level (ft btoc)	Screened Interval (ft btoc)		
Purge Volume (liters)	Sample Depth (ft btoc)		Turbidity Meter:

Time	Depth to Water (ft)	Pumping Rate (l/min)	Purge Volume (liters)	Temp. °C/°F	Cond. (µS/cm)	pH	DO %/mg/L	ORP (mV)	Turb. (NTU)
1315				11.7	661.2	6.98	8.18	133.3	67.4
1320				11.8	658.9	6.93	8.22	140 135.3	58.7
1325				11.8	660.8	6.95	8.18	134.5	51.2
1330				11.9	670.6	6.99	8.13	136.6	46.9
1335				11.8	678	6.96	8.10	138.2	42.1
1340				11.9	672	6.99	7.94	139.6	39.4

( ) Full Sample Suite Obtained

( ) Partial Sample Suite Obtained

( ) No Sample Obtained

QC Samples FD FS RB AB MS/MSD

Sum of COC for analyses requested

Sample ID:

Protective Level Dermal: D C B A

Respiratory D C B A

Condition of Well, Remarks:

QC Sample ID :

Sample Time: 1345

( ) Metals Sample Filtered Filter

Sampler's Signature:

Checked by:

Date:

Temp. ± 1°C

pH ± 0.1 units

EC ± 10%

Turb. ± 10% < 50 NTU

DO ± 10%

Redox ± 10 mV

HDR

Log Book # ____
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LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

1000

ID	Date	Purge/Sample Equipment	Water-quality Equipment
48MW3	1/15/16		
Samplers' Initials: SJL	Time: 1025	( ) Peristaltic:	KECK 200' Water-level Meter:
Casing Diameter (in): 2X 4"	Casing Stickup (ft)	GEOTECH 1.66 X 13 (X) Bladder:	Oil-water Interface Meter:
Initial Water Level (ft btoc): 17.56	Total Well Depth (ft-btoc): 120	( ) Other:	YSI Parameter Meter(s): T Cond pH DO ORP NTU
Final Water Level (ft-btoc)	Screened Interval (ft-btoc): 100-120		FE: HACH 900DR
Purge Volume (liters): ~1 GAL	Sample Depth (ft-btoc): 110		HACH 2100Q Turbidity Meter:

Time	Depth to Water (ft)	Pumping Rate (l/min)	Purge Volume (liters)	Temp. °C/°F	Cond. (µS/cm)	pH	DO %/(mg/L)	ORP (mV)	Turb. (NTU)
1035	97.56	150 mL		10.1	874	6.46	5.94	125.0	4.52
1040				11.0	870	6.55	4.15	123.5	0.90
1045				11.5	883	6.58	3.87	121.6	0.93
1050				11.5	888	6.62	3.79	119.5	0.87
1055				11.5	892	6.69	3.79	119.8	1.19
1100				11.4	888	6.69	3.82	119.1	1.24
1105				11.4	891	6.71	3.81	117.1	1.13

(X) Full Sample Suite Obtained

( ) Partial Sample Suite Obtained

( ) No Sample Obtained

QC Samples: FD FS RB AB MS/MSD

See COC for analyses requested.

Sample ID:

Protective Level Dermal: (D) C B A

Respiratory: (D) C B A

Condition of Well, Remarks:
1033 - FIRST WATER IN FLOW CELL
VOC METHANE/ETHANE/ETHENE
TOC
NITRATE/SULFATE/CHLORIDE

QC Sample ID: NONE

Sample Time: 1110

( ) Metals Sample Filtered (N) Filter

Sampler's Signature:

Checked by:

Date: 1/15/16

Temp. ± 1°C
pH ± 0.1 units
EC ± 10%
Turb. ± 10% <50 NTU
DO ± 10%
Redox ± 10 mV

FE = 0.00 mg/L

HDR

Log Book # ____
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LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

0750

ID	Date	Purge/Sample Equipment	Water-quality Equipment
49MW02	1/15/16		
Samplers' Initials: SJL	Time: 0822	( ) Peristaltic:	KECK 200' Water-level Meter:
Casing Diameter (in): 2"	Casing Stickup (ft):	GEOTECH 1.66 X 18 (X) Bladder:	Oil-water Interface Meter:
Initial Water Level (ft btoc): 94.56	Total Well Depth (ft-btoc): 133	( ) Other:	~~HACH 210~~ YSI Parameter Meter(s): T Cond pH DO ORP NTU
Final Water Level (ft-btoc):	Screened Interval (ft-btoc): 103-133		
Purge Volume (liters): ~2.5 GALL	Sample Depth (ft-btoc): 110		HACH 2100Q Turbidity Meter:

Time	Depth to Water (ft)	Pumping Rate (l/min)	Purge Volume (liters)	Temp. °C/°F	Cond. (µS/cm)	pH	DO %/(mg/L)	ORP (mV)	Turb. (NTU)
0835	94.56	150mL		10.3	640.5	6.54	2.15	123.	60.7
0840				10.8	692	6.67	2.27	120.2	69.0
0845				11.1	699	6.79	2.60	118.2	59.2
0850				11.3	700	6.82	2.63	118.9	48.0
0855				11.0	709	6.84	2.52	119.8	42.5
0900				11.3	712	6.86	2.45	121.5	31.8
0905				11.3	710	6.86	2.42	122.3	25.3
0910				11.2	711	6.87	2.44	123.6	20.6
0915				11.2	716	6.87	2.44	124.4	18.5

(X) Full Sample Suite Obtained

( ) Partial Sample Suite Obtained

( ) No Sample Obtained

QC Samples: FD FS RB AB MS/MSD

See COC for analyses requested.

Sample ID: 49MW02

Protective Level Dermal: (D) C B A

Respiratory: (D) C B A

Condition of Well, Remarks:
0833 - FIRST DISCHARGE FROM FLOW CELL
VOC NITRATE/SULFATE/CHLORIDE
TO
METHANE/ETHANE/ETHENE

QC Sample ID: NONE

Sample Time: 0925

( ) Metals Sample Filtered N Filter

Sampler's Signature: SJL

Checked by:

Date: 1/15/16

Temp. ± 1°C
pH ± 0.1 units
EC ± 10%
Turb. ± 10% < 50 NTU
DO ± 10%
Redox ± 10 mV

Fe = 0.09 mg/L

HDR

Log Book #_____

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LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

ID	Date	Purge/Sample Equipment	Water-quality Equipment
49MW02	1/16/16		
Samplers' Initials	Time	( ) Peristaltic:	Water-level Meter:
Casing Diameter (in)	Casing Stickup (ft)	( ) Bladder:	Oil-water Interface Meter:
2"			
Initial Water Level (ft btoc)	Total Well Depth (ft-btoc)	( ) Other:	Parameter Meter(s): T Cond pH DO ORP NTU
Final Water Level (ft-btoc)	Screened Interval (ft-btoc)		
Purge Volume (liters)	Sample Depth (ft-btoc)		Turbidity Meter:

Time	Depth to Water (ft)	Pumping Rate (l/min)	Purge Volume (liters)	Temp. °C/°F	Cond. (µS/cm)	pH	DO ~~%~~ mg/L	ORP (mV)	Turb. (NTU)
0920				11.4	722	6.86	2.23	125.6	15.4
0925 ~~0925~~									
~~0930~~									

( ) Full Sample Suite Obtained

( ) Partial Sample Suite Obtained

( ) No Sample Obtained

QC Samples: FD FS RB AB MS/MSD

See COC for analyses requested.

Sample ID:

Protective Level Dermal: D C B A

Respiratory: D C B A

Condition of Well, Remarks:

QC Sample ID :

Sample Time: 0920

( ) Metals Sample Filtered Filter

Sampler's Signature:

Checked by:

Date:

Temp. ± 1°C
pH ± 0.1 units
EC ± 10%
Turb. ± 10% <50 NTU
DO ± 10%
Redox ± 10 mV

HDR

Log Book #_____
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LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

1432

ID	Date	Purge/Sample Equipment	Water-quality Equipment
EQMW02	1/15/16		
Samplers' Initials: SJL	Time: 1442	( ) Peristaltic:	KECK 200 Water-level Meter:
Casing Diameter (in): 2"	Casing Stickup (ft):	GEOTECH Bladder X 18 ( ) Bladder:	Oil-water Interface Meter:
Initial Water Level (ft btoc): 113.30	Total Well Depth (ft-btoc): 119	( ) Other:	YSI 556 MPS Parameter Meter(s): T Cond pH DO ORP NTU
Final Water Level (ft btoc):	Screened Interval (ft-btoc): 99-119		
Purge Volume (liters): ~1.5 GAL	Sample Depth (ft-btoc): 118		HACH 2100Q Turbidity Meter:

Time	Depth to Water (ft)	Pumping Rate (l/min)	Purge Volume (liters)	Temp. °C/°F	Cond. (µS/cm)	pH	DO % / mg/l	ORP (mV)	Turb. (NTU)
1500				10.3	830	6.64	10.94	168.2	160
1505				11.0	830	6.77	10.93	166.0	128
1510				11.0	825	6.78	11.11	165.8	130
1515				10.8	885	6.79	11.42	169.2	110
~~1520~~ 1580				10.7	827	6.75	11.56	167.5	95.1
1525				10.4	835	6.73	10.72	167.9	84.7
1530				9.5	833	6.71	11.46	169.2	80.3
1535				9.9	835	6.72	11.38	166.7	78.5
1627 ~~1540~~				10.2	615.8	6.92	11.51	167.7	165

(X) Full Sample Suite Obtained

( ) Partial Sample Suite Obtained

( ) No Sample Obtained

QC Samples: FD FS RB AB MS/MSD

See COC for analyses requested

Sample ID: EQMW02

Protective Level Dermal: (D) C B A

Respiratory: (D) C B A

Condition of Well, Remarks:
1453 - FIRST WATER IN CELL
1540 - NO WATER DISCHARGE FOR SEVERAL CYCLES; PULLED PUMP AND REPLACED BLADDER
1600 - RESTARTED

QC Sample ID: NONE

Sample Time: 1640

( ) Metals Sample Filtered (N) Filter

Sampler's Signature:

Checked by:

Date:

Temp. ± 1°C
pH ± 0.1 units
EC ± 10%
Turb. ± 10% < 50 NTU
DO ± 10%
Redox ± 10 mV

1640 - HAD TO COLLECT SAMPLE TO MEET FEDEX CUTOFF TIME

FE = 1.06 mg/L

HDR

Log Book #_____

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LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

ID	Date	Purge/Sample Equipment	Water-quality Equipment
SOMW2	1/15/16		
Samplers' Initials	Time	( ) Peristaltic:	Water-level Meter:
Casing Diameter (in) 2"	Casing Stickup (ft)	( ) Bladder:	Oil-water Interface Meter:
Initial Water Level (ft btoc)	Total Well Depth (ft-btoc)	( ) Other:	Parameter Meter(s): T Cond pH DO ORP NTU
Final Water Level (ft-btoc)	Screened Interval (ft-btoc)		
Purge Volume (liters)	Sample Depth (ft-btoc)		Turbidity Meter:

Time	Depth to Water (ft)	Pumping Rate (l/min)	Purge Volume (liters)	Temp. °C/°F	Cond. (µS/cm)	pH	DO %/mg/L	ORP (mV)	Turb. (NTU)
1630				9.3	617.2	6.98	11.55	167.5	137
1635				9.8	642.2	6.93	11.57	164.7	132

( ) Full Sample Suite Obtained

( ) Partial Sample Suite Obtained

( ) No Sample Obtained

QC Samples: FD FS RB AB MS/MSD

See COC for analyses requested.

Sample ID:

Protective Level Dermal: D C B A

Respiratory: D C B A

Condition of Well, Remarks:

QC Sample ID :

Sample Time:

( ) Metals Sample Filtered Filter

Sampler's Signature:

Checked by:

Date:

Temp. ± 1°C

pH ± 0.1 units

EC ± 10%

Turb. ± 10% <50 NTU

DO ± 10%

Redox ± 10 mV

1250

HDR

Log Book # _____

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LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

ID	Date	Purge/Sample Equipment	Water-quality Equipment
13MW2	1/13/16		
Samplers' Initials	Time 1305	( ) Peristaltic:	KECK 200 Water-level Meter:
Casing Diameter (in) 2x 4"	Casing Stickup (ft)	GEOTECH 1.000 X 18 (X) Bladder:	Oil-water Interface Meter:
Initial Water Level (ft btoc) 20.44	Total Well Depth (ft-btoc) 29	( ) Other:	YSI 556 MPS Parameter Meter(s): T Cond pH DO ORP NTU
Final Water Level (ft-btoc)	Screened Interval (ft-btoc) 19-29		
Purge Volume (liters) ~1 GAL	Sample Depth (ft-btoc) 24		HACH 2100Q Turbidity Meter:

Time	Depth to Water (ft)	Pumping Rate (l/min)	Purge Volume (liters)	Temp. °C/°F	Cond. (µS/cm)	pH	DO %/mg/L	ORP (mV)	Turb. (NTU)
1310	20.44	150mL		13.2	1067	6.60	7.36	79.4	1.05
1315				13.6	1052	6.57	7.60	84.6	0.95
1320				13.5	1081	6.53	7.09	86.8	1.43
1325				13.6	1059	6.53	7.13	89.4	1.47
1330				13.5	1053	6.52	7.43	83.4	1.32

(X) Full Sample Suite Obtained

( ) Partial Sample Suite Obtained

( ) No Sample Obtained

QC Samples: FD FS RB AB MS/MSD

See COC for analyses requested.

Sample ID: 13MW2

Protective Level Dermal: D C B A

Respiratory: D C B A

Condition of Well, Remarks:

VOC

TOC

METHANE / ETHANE / ETHENE

NITRATE / SULFATE / CHLORIDE

QC Sample ID: NONE

Sample Time: 1335

( ) Metals Sample Filtered N/A Filter

Sampler's Signature:

Checked by:

Date:

Temp. ± 1°C

pH ± 0.1 units

EC ± 10%

Turb. ± 10% < 50 NTU

DO ± 10%

Redox ± 10 mV

FE = 0.00 mg/L

0155

HDR

Log Book # _____
Page 1 of 1

LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

ID	Date	Purge/Sample Equipment	Water-quality Equipment
13MW03	1/13/16		
Samplers' Initials: SJL	Time: 0830	( ) Peristaltic:	Water-level Meter: KECK 200'
Casing Diameter (in): X 4"	Casing Stickup (ft)	(X) Bladder: GEOTECH 100 x 18	Oil-water Interface Meter:
Initial Water Level (ft btoc): 14.95	Total Well Depth (ft-btoc): 19	( ) Other:	Parameter Meter(s): T Cond pH DO ORP NTU: YSI 556 MPS
Final Water Level (ft-btoc)	Screened Interval (ft-btoc): 9-19'		
Purge Volume (liters): ~1.5 GAL	Sample Depth (ft-btoc): 19' ~~15~~		Turbidity Meter: HACH 2100Q

Time	Depth to Water (ft)	Pumping Rate (l/min)	Purge Volume (liters)	Temp. °C/°F	Cond. (µS/cm)	pH	DO % / mg/L	ORP (mV)	Turb. (NTU)
0835	14.95	150 mL		10.9	.21	6.20	5.40	123.2	14.3
0840				11.4	1404	6.21	5.57	117.0	1.12
0845				11.3	1419	6.26	6.17	115.1	0.40
0850				11.4	1419	6.30	7.30	114.8	0.43
0855				11.4	1431	6.32	7.32	114.9	0.35
0900				11.5	1432	6.33	7.90	119.1	0.35
0905				11.1	1459	6.32	8.74	120.6	0.36
0910				11.5	1431	6.32	8.37	117.3	0.85

(X) Full Sample Suite Obtained
( ) Partial Sample Suite Obtained
( ) No Sample Obtained
QC Samples: (FD) FS RB AB MS/MSD
See COC for analyses requested
Sample ID: 13MW03
Protective Level Dermal: D C B A
Respiratory: D C B A

Condition of Well, Remarks:
VOC
METHANE/ETHANE/ETHENE
TOC
SULFATE/NITRATE/CHLORIDE

QC Sample ID: FD01 4/1/16
Sample Time: 0915
( ) Metals Sample Filtered ~~(X)~~ Filter

Sampler's Signature: SJL
Checked by: ~~JT~~
Date: 1/13/16

Temp. ± 1°C
pH ± 0.1 units
EC ± 10%
Turb. ± 10% < 50 NTU
DO ± 10%
Redox ± 10 mV

FE = 0.0 mg/L

0945

HDR

Log Book #_____

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LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

ID	Date	Purge/Sample Equipment	Water-quality Equipment
13MW4	1/13/16		
Samplers' Initials: SJL	Time: 1010	( ) Peristaltic:	KECK 200' Water-level Meter:
Casing Diameter (in): 4"	Casing Stickup (ft)	GEOTECH 1.66 X 18 (X) Bladder:	Oil-water Interface Meter:
Initial Water Level (ft btoc): 15.99	Total Well Depth (ft-btoc): 24'	( ) Other:	YSI MPS 556 Parameter Meter(s): T Cond pH DO ORP NTU
Final Water Level (ft-btoc)	Screened Interval (ft-btoc): 14-24'		
Purge Volume (liters): ~2 GAL	Sample Depth (ft-btoc): 20		HACH 2100Q Turbidity Meter:

Time	Depth to Water (ft)	Pumping Rate (l/min)	Purge Volume (liters)	Temp. °C °F	Cond. (µS/cm)	pH	DO %/(mg/l)	ORP (mV)	Turb. (NTU)
1015	15.99	150 mL		11.5	717	6.42	1.87	123.3	2.45
1020				13.2	744	6.50	1.00	109.8	1.00
1025				13.4	753	6.53	0.72	105.1	0.73
1030				13.5	756	6.55	0.50	102.9	0.75
1035				13.1	759	6.56	0.51	102.3	0.73
1040				13.4	746	6.51	1.08	108.1	0.86
1045				13.4	635.7	6.29	3.31	108.5	1.25
1050				13.5	617.1	6.28	7.42	109.2	1.61
1055				13.7	631.1	6.25	7.69	109.3	1.21
1100				13.6	623.3	6.24	7.52	109.1	1.13

(X) Full Sample Suite Obtained

( ) Partial Sample Suite Obtained

( ) No Sample Obtained

QC Samples: FD FS RB AB MS/MSD

See COC for analyses requested.

Sample ID: 13MW4

Protective Level Dermal: D C B A

Respiratory: D C B A

Condition of Well, Remarks:

VOC
TOC
METHANE/ETHANE/ETHENE
NITRATE/SULFATE/CHLORIDE

QC Sample ID: NONE

Sample Time: 1105

( ) Metals Sample Filtered Filter

Sampler's Signature:

Checked by:

Date: 1/13/16

Temp. ± 1°C
pH ± 0.1 units
EC ± 10%
Turb. ± 10% < 50 NTU
DO ± 10%
Redox ± 10 mV

FE = 0.00

1130

HDR

Log Book # ____
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LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

ID	Date	Purge/Sample Equipment	Water-quality Equipment
AMW-4	1/13/16		
Samplers' Initials: SJL	Time: 1145	( ) Peristaltic:	KECK 200' Water-level Meter:
Casing Diameter (in): 2"	Casing Stickup (ft):	GEOTECH 1.66 x 18 (X) Bladder:	Oil-water Interface Meter:
Initial Water Level (ft btoc): 19.97	Total Well Depth (ft-btoc): 72	( ) Other:	YSI 556 MPS Parameter Meter(s): T Cond pH DO ORP NTU
Final Water Level (ft-btoc)	Screened Interval (ft-btoc): 52-70		
Purge Volume (liters): ~1 GAL	Sample Depth (ft-btoc): 52		HACH 2100 Q Turbidity Meter:

Time	Depth to Water (ft)	Pumping Rate (l/min)	Purge Volume (liters)	Temp. °C/°F	Cond. (µS/cm)	pH	DO %/mg/L	ORP (mV)	Turb. (NTU)
1150	19.97	150 mL		12.5	801	6.61	6.47	101.1	9.16
1155				13.1	810	6.64	1.80	102.5	11.3
1200				12.9	810	6.65	1.98	103.2	9.90
1205				12.8	812	6.67	1.99	106.6	10.1
1210				12.9	803	6.65	2.00	109.8	7.59
1215				12.8	809	6.64	2.01	114.1	7.62
1220				12.9	811	6.65	2.01	119.6	6.16

(X) Full Sample Suite Obtained
( ) Partial Sample Suite Obtained
( ) No Sample Obtained
QC Samples: FD FS RB AB MS/MSD
See COC for analyses requested
Sample ID: AMW-4
Protective Level Dermal: D C B A
Respiratory: D C B A

Condition of Well, Remarks:
VOC
TOC
METHANE/ETHANE/ETHENE
NITRATE/SULFATE/CHLORIDE

QC Sample ID: DUP
Sample Time: 1225
( ) Metals Sample Filtered Y/N Filter

Sampler's Signature: SJL
Checked by:
Date: 1/13/16

Temp. ± 1°C
pH ± 0.1 units
EC ± 10%
Turb. ± 10% <50 NTU
DO ± 10%
Redox ± 10 mV

FE = 0.00 mg/L

HDR

LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

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1458

ID	Date	Purge/Sample Equipment	Water-quality Equipment
48MW6	4/12/16		
Samplers' Initials: SJL	Time: ~~1512~~ 1545	( ) Peristaltic:	KECK 200' Water-level Meter:
Casing Diameter (in): 2"	Casing Stickup (ft):	GEOTECH 1.606 x 13 (X) Bladder:	Oil-water Interface Meter:
Initial Water Level (ft btoc): 63.26	Total Well Depth (ft-btoc): 78	( ) Other:	YSI 556 MPS Parameter Meter(s): T Cond pH DO ORP NTU
Final Water Level (ft-btoc): 63.33	Screened Interval (ft-btoc): ~~63~~ 53-78		
Purge Volume (liters): ~1 GAL	Sample Depth (ft-btoc): 75		HACH 2100Q Turbidity Meter:

Time	Depth to Water (ft)	Pumping Rate (l/min)	Purge Volume (liters)	Temp. °C/°F	Cond. (µS/cm)	pH	DO %/(mg/l)	ORP (mV)	Turb. (NTU)
1555		120mL		14.51	866	7.12	3.10	87.9	327
1600				13.89	872	6.98	2.56	120.8	372
1605				13.88	873	7.06	2.63	97.7	219
1610				13.87	873	7.06	2.66	98.8	171
1615				13.85	873	7.06	2.81	99.4	103

(X) Full Sample Suite Obtained
( ) Partial Sample Suite Obtained
( ) No Sample Obtained
QC Samples (FD) FS RB AB MS/MSD
See COC for analyses requested
Sample ID: 48MW6
Protective Level Dermal: (D) C B A
Respiratory: (D) C B A

Condition of Well, Remarks: 15/30
SETTING: ~~30/30~~
1551: FIRST WATER IN CELL
FE = 0.40 mg/L

VOC
TOC
METH/ETHANE/ETHENE
NITRATE/SULFATE/CHLORIDE

QC Sample ID: 49TM01
Sample Time: 1620
( ) Metals Sample Filtered Filter

Sampler's Signature: SJL
Checked by:
Date: 4/12/16

HDR

0915 **LOW-FLOW GROUNDWATER SAMPLING DATA SHEET**

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ID	Date	Purge/Sample Equipment	Water-quality Equipment
0720 48MW1	4/13/16		
Samplers' Initials: SV	Time: 0921	( ) Peristaltic:	KECK 200' Water-level Meter:
Casing Diameter (in): ~~3"~~ 4"	Casing Stickup (ft):	GEOTECH 1.66 X 18 (X) Bladder:	Oil-water Interface Meter:
Initial Water Level (ft btoc): 99.34 ~~112.05~~	Total Well Depth (ft-btoc): 140	( ) Other:	YSI 556 MPS Parameter Meter(s): T Cond pH DO ORP NTU
Final Water Level (ft-btoc): 100.44	Screened Interval (ft-btoc): 110-140		
Purge Volume (liters): ~1 GAL	Sample Depth (ft-btoc): 120		HACH 2100Q Turbidity Meter:

Time	Depth to Water (ft)	Pumping Rate (l/min)	Purge Volume (liters)	Temp. °C/°F	Cond. (µS/cm)	pH	DO %/mg/L	ORP (mV)	Turb. (NTU)
0935		125mL		11.73	473	7.69	6.91	133.2	11.1
0940				12.12	489	7.63	3.40	124.7	5.53
0945				12.29	498	7.61	2.63	121.9	4.82
0950				12.32	501	7.61	2.40	118.8	3.96
0955				12.37	503	7.59	2.36	116.9	3.85
~~1000~~									

(X) Full Sample Suite Obtained

( ) Partial Sample Suite Obtained

( ) No Sample Obtained

QC Samples: FD FS RB AB MS/MSD

See COC for analyses requested.

Sample ID: 48MW1

Protective Level Dermal: D C B A

Respiratory: D C B A

Condition of Well, Remarks:
0929: FIRST WATER IN CELL
SETTING 30/30
Fe = 0.0 mg/L

TOC
VOC
METH/ETHANE/ETHENE
SULFATE/CHLORIDE/NITRATE

QC Sample ID: NONE

Sample Time: 1005

( ) Metals Sample Filtered Filter

Sampler's Signature:

Checked by:

Date: 4/13/16

1329

HDR

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LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

ID	Date	Purge/Sample Equipment	Water-quality Equipment
48MW2	4/12/16		
Samplers' Initials: RW	Time: 1330 ~~0820~~	( ) Peristaltic:	Water-level Meter: Geotech
Casing Diameter (in): 2"	Casing Stickup (ft): 1.2'	(✓) Bladder: Geotech	Oil-water Interface Meter:
Initial Water Level (ft btoc): 121.12	Total Well Depth (ft-btoc): 134	( ) Other:	Parameter Meter(s): T Cond pH DO ORP NTU
Final Water Level (ft-btoc): 121.9	Screened Interval (ft-btoc): 113-134		YSI 556
Purge Volume (liters): ~1GAL	Sample Depth (ft-btoc): 127		Turbidity Meter: Hach 2100Q

Time	Depth to Water (ft)	Pumping Rate (l/min)	Purge Volume (liters)	Temp. °C/°F	Cond. (µS/cm)	pH	DO %/(mg/L)	ORP (mV)	Turb. (NTU)
1400		90mL		14.21	489	7.13	7.99	91.1	320
1405				13.84	486	7.13	6.74	94.5	243
1410				13.92	484	7.11	6.74	97.0	192
1415				13.93	484	7.05	6.95	101.9	161
1420				13.85	482	7.09	7.13	100.2	145
1425				13.85	479	7.03	7.33	103.1	136
1430				13.82	477	6.98	7.33	104.1	111

(✓) Full Sample Suite Obtained

( ) Partial Sample Suite Obtained

( ) No Sample Obtained

QC Samples: FD FS RB AB MS/MSD

See COC for analyses requested

Sample ID: 48MW2

Protective Level Dermal: D C B A

Respiratory: D B A

Condition of Well, Remarks: 40

SETTING: ~~35~~/30

.347: FIRST WATER IN CELL

VERY CLOUDY

FE = 0.75 mg/L

QC Sample ID: NONE

Sample Time: 1435

( ) Metals Sample Filtered Filter

TOC

VOC

METH/ETHANE/ETHENE

SULFATE/NITRATE/CHLORIDE

Sampler's Signature:

Checked by:

Date:

HDR

LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

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1145

ID	Date	Purge/Sample Equipment	Water-quality Equipment
48MW3	4/12/16		
Samplers' Initials	Time: 1154	( ) Peristaltic:	KECK 200' Water-level Meter:
Casing Diameter (in): 4"	Casing Stickup (ft)	(X) Bladder: GEOTECH 1.66 X 13	Oil-water Interface Meter:
Initial Water Level (ft-btoc): 95.84	Total Well Depth (ft-btoc): 120	( ) Other:	YSI 556 MPS Parameter Meter(s): T Cond pH DO ORP NTU
Final Water Level (ft-btoc): 97.67	Screened Interval (ft-btoc): 100 -120		
Purge Volume (liters): ~1 GAL	Sample Depth (ft-btoc): 110		HACH 2100Q Turbidity Meter:

Time	Depth to Water (ft)	Pumping Rate (l/min)	Purge Volume (liters)	Temp. °C/°F	Cond. (µS/cm)	pH	DO %/(mg/L)	ORP (mV)	Turb. (NTU)
1210		125mL		12.91	682	6.88	4.75	104.6	2.52
1215				12.85	682	6.86	3.73	103.7	0.96
1220				12.89	683	6.84	3.13	103.7	0.77
1225				12.54	683	6.84	2.98	104.4	0.96
1230				12.59	683	6.84	3.14	103.6	0.89
1235				12.62	682	6.86	3.21	102.9	0.94
~~1240~~									

(X) Full Sample Suite Obtained
( ) Partial Sample Suite Obtained
( ) No Sample Obtained
QC Samples: FD FS RB AB (MS/MSD)
See COC for analyses requested
Sample ID: 48MW3
Protective Level Dermal (D) C B A
Respiratory 3 C B A

Condition of Well, Remarks:
SETTINGS: 30/30
1202: FIRST WATER IN CELL
WATER CLEAR
FE = 0.04 mg/L

QC Sample ID: 48MW3
Sample Time: 1240
( ) Metals Sample Filtered Filter

Sampler's Signature: S. Li
Checked by:
Date: 4/12/16

VOC
TOC
METHANE/ETHANE/ETHENE
SULFATE/CHLORIDE/NITRATE

HDR

LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

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0720

ID	Date	Purge/Sample Equipment	Water-quality Equipment
49MW09	4/13/16		
Samplers' Initials: SJL	Time: 0754	( ) Peristaltic:	Water-level Meter: KECK 200'
Casing Diameter (in): 2"	Casing Stickup (ft):	(X) Bladder: GEOTECH 1.66 X 18	Oil-water Interface Meter:
Initial Water Level (ft btoc): 112.05	Total Well Depth (ft-btoc): 121	( ) Other:	Parameter Meter(s): T Cond pH DO ORP NTU: YSI 556 MPS
Final Water Level (ft-btoc): 112.54	Screened Interval (ft-btoc): 90-121		
Purge Volume (liters): ~1 GAL	Sample Depth (ft-btoc): 117		Turbidity Meter: HACH 2100Q

Time	Depth to Water (ft)	Pumping Rate (l/min)	Purge Volume (liters)	Temp. °C/°F	Cond. (µS/cm)	pH	DO %/(mg/L)	ORP (mV)	Turb. (NTU)
0810		120mL		9.82	458	7.45	6.07	142.5	104
0815				10.40	456	7.57	5.44	130.7	91.5
0820				10.75	455	7.59	5.32	122.6	82.7
0825				10.88	455	7.60	5.40	120.1	71.0
0830				10.99	454	7.60	5.44	118.3	55.5
0835				11.03	453	7.60	5.51	117.5	45.1
0840				11.11	453	7.60	5.50	117.1	36.8
0845				11.01	452	7.60	5.65	117.2	31.1

(X) Full Sample Suite Obtained

( ) Partial Sample Suite Obtained

( ) No Sample Obtained

QC Samples: FD FS RB AB MS/MSD

See COC for analyses requested

Sample ID: 49MW09

Protective Level Dermal: D C B A

Respiratory: D C B A

Condition of Well, Remarks:
0855: FIRST WATER IN CELL; SLIGHTLY CLOUDY
SETTING: 30/30
Fe = 0.33 mg/L

TOC METHANE/ETHANE/ETHENE
VOC SULFATE/NITRATE/CHLORIDE

QC Sample ID: NONE

Sample Time: 0850

( ) Metals Sample Filtered Filter

Sampler's Signature:

Checked by:

Date: 4/13/16

1010

HDR

Log Book #_____

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LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

ID	Date	Purge/Sample Equipment	Water-quality Equipment
49MW02	4/12/16		
Samplers' Initials: SJL	Time: 1025	( ) Peristaltic:	Water-level Meter: KECK 200 FT
Casing Diameter (in): 2"	Casing Stickup (ft)	(X) Bladder: GEOTECH 1.66X18	Oil-water Interface Meter:
Initial Water Level (ft btoc): 93.47	Total Well Depth (ft-btoc): 133	( ) Other:	Parameter Meter(s): T Cond pH DO ORP NTU YSI 556
Final Water Level (ft-btoc): 98.67	Screened Interval (ft-btoc): 103-133		
Purge Volume (liters): ~1.5 GAL	Sample Depth (ft-btoc): 110		Turbidity Meter: HACH 2100Q

Time	Depth to Water (ft)	Pumping Rate (l/min)	Purge Volume (liters)	Temp. °C/°F	Cond. (µS/cm)	pH	DO %/(mg/L)	ORP (mV)	Turb. (NTU)
1040		120 mL		12.89	505	7.02	3.70	94.3	58.6
1045				12.86	506	6.97	1.76	91.6	76.7
1050				12.81	506	7.00	1.31	88.4	53.5
1055				12.82	506	7.02	1.26	86.0	51.8
~~10~~ 1100				12.86	506	7.02	1.12	86.3	34.2
1105				12.~~96~~ 93	505	7.02	1.02	84.9	23.2
1110				12.93	506	7.02	0.98	85.6	17.9
~~1115~~									

(X) Full Sample Suite Obtained

( ) Partial Sample Suite Obtained

( ) No Sample Obtained

QC Samples: FD FS RB AB MS/MSD

See COC for analyses requested

Sample ID: 49MW02

Protective Level Dermal: D C B A

Respiratory: D C B A

Condition of Well, Remarks:

1032 - FIRST WATER IN CELL

SETTING: 30/30

FE = 0.06 mg/L

TOC
VOC
METHANE/ETHANE/ETHENE
SULFATE/NITRATE/CHLORIDE

QC Sample ID: NONE

Sample Time: 1115

( ) Metals Sample Filtered Filter

Sampler's Signature: S. Li

Checked by:

Date: 4/12/16

HDR

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LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

ID	Date	Purge/Sample Equipment	Water-quality Equipment
SOMW02	4/12/16		
Samplers' Initials: SJL	Time: 0818	( ) Peristaltic:	Water-level Meter: KECK 200
Casing Diameter (in): 2"	Casing Stickup (ft):	( ) Bladder: GEOTECH 1.66 X 18	Oil-water Interface Meter:
Initial Water Level (ft btoc): 111.96	Total Well Depth (ft-btoc): 119	( ) Other:	Parameter Meter(s): T Cond pH DO ORP NTU YSI 556 MPS
Final Water Level (ft-btoc):	Screened Interval (ft-btoc):		
Purge Volume (liters): ~1 GAL	Sample Depth (ft-btoc): 117		Turbidity Meter: HACH 2100Q

Time	Depth to Water (ft)	Pumping Rate (l/min)	Purge Volume (liters)	Temp. °C/°F	Cond. (µS/cm)	pH	DO %/(mg/L)	ORP (mV)	Turb. (NTU)
0835		125mL		12.50	650	6.84	4.42	91.5	32.8
0840				12.48	643	6.96	3.79	88.4	32.3
0845				12.42	643	6.89	3.75	91.6	30.5
0850				12.53	641	6.87	3.87	93.1	26.4
0855				12.77	642	6.90	3.84	93.3	24.4
0900				12.82	640	6.89	3.80	94.3	21.5
0905				12.68	640	6.91	3.85	93.6	20.1

(X) Full Sample Suite Obtained

( ) Partial Sample Suite Obtained

( ) No Sample Obtained

QC Samples FD FS RB AB MS/MSD

see COC for analyses requested

Sample ID: SOMW02

Protective Level Dermal: (D) C B A

Respiratory: (C) C B A

Condition of Well, Remarks:

SETTING 30/30

0828: FIRST WATER; CLOUDY

FE = 0.08 mg/L

VOC

METHANE/ETHANE/ETHENE

TOC

NITRATE/SULFATE/CHLORIDE

QC Sample ID: NONE

Sample Time: 0910

( ) Metals Sample Filtered Filter

Sampler's Signature:

Checked by:

Date: 4/12/16

HDR

LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

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1338

ID	Date	Purge/Sample Equipment	Water-quality Equipment
13MW2	4/13/16		
Samplers' Initials	Time: 1335	( ) Peristaltic:	KECK 200' Water-level Meter:
Casing Diameter (in): X 4"	Casing Stickup (ft)	GEOTECH (X) Bladder: (DED. PUMP)	Oil-water Interface Meter:
Initial Water Level (ft btoc): 20.56	Total Well Depth (ft-btoc): 29	( ) Other:	YSI 556 MPS Parameter Meter(s): T Cond pH DO ORP NTU
Final Water Level (ft-btoc): 20.29	Screened Interval (ft-btoc): 19-29		
Purge Volume (liters): ~1.5 GAL	Sample Depth (ft-btoc): DEDICATED PUMP		HACH 2100Q Turbidity Meter:

Time	Depth to Water (ft)	Pumping Rate (l/min)	Purge Volume (liters)	Temp. °C/°F	Cond. (µS/cm)	pH	DO %/(mg/L)	ORP (mV)	Turb. (NTU)
1340		220 mL		19.69	776	7.11	7.40	121.3	0.78
1345				14.60	780	7.10	7.20	119.1	0.41
1350				14.59	780	7.11	7.13	118.0	0.87
1355				14.62	780	7.11	7.26	117.6	1.49
1400				14.64	781	7.11	7.17	117.6	1.98
1405				14.52	780	7.11	7.13	117.8	1.99

(X) Full Sample Suite Obtained

( ) Partial Sample Suite Obtained

( ) No Sample Obtained

QC Samples: FD FS RB AB MS/MSD

See COC for analyses requested

Sample ID: 13MW2

Protective Level Dermal: (D) C B A

Respiratory: (D) C B A

Condition of Well, Remarks:

SETTING:
1336: FIRST WATER IN CELL
USED DED. PUMP FOR PURGE/SAMPLE

QC Sample ID: NONE

Sample Time: 1410

( ) Metals Sample Filtered NO Filter

Sampler's Signature: [signature]

Checked by:

Date: 4/13/16

TOC
VOC
METH/ETHANE/ETHENE
NITRATE/SULFATE/CHLORIDE

FE = 0.07 mg/L

1105

HDR

Log Book #_____

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LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

ID	Date	Purge/Sample Equipment	Water-quality Equipment
13MW3	4/13/16		
Samplers' Initials: SJL	Time: 1117	( ) Peristaltic:	KECK 200' Water-level Meter:
Casing Diameter (in): ~~X~~ 4"	Casing Stickup (ft):	(X) Bladder: GEOTECH (DEDICATED PUMP)	Oil-water Interface Meter:
Initial Water Level (ft btoc): 15.22	Total Well Depth (ft-btoc): 19'	( ) Other:	YSI 556 Parameter Meter(s): T Cond pH DO ORP NTU
Final Water Level (ft-btoc): 15.22	Screened Interval (ft-btoc): 9-19'		
Purge Volume (liters): ~2 GAL	Sample Depth (ft-btoc): DEDICATED PUMP		HACH 2100Q Turbidity Meter:

Time	Depth to Water (ft)	Pumping Rate (l/min)	Purge Volume (liters)	Temp. °C/°F	Cond. (µS/cm)	pH	DO %/mg/L	ORP (mV)	Turb. (NTU)
1125				13.44	592	7.06	6.30	134.5	14.1
~~1130~~ 1137		120 mL		13.67	599	7.04	5.63	131.1	6.91
1142				13.68	602	7.02	5.79	130.8	
1147				13.91	601	7.05	5.63	129.6	7.22
1152				14.25	602	7.06	5.50	129.3	
1157				14.43	603	7.06	5.71	129.2	7.13
1202				14.23	602	7.05	5.35	129.1	8.75
1207				13.89	602	7.04	4.91	128.9	13.0
1212				14.44	601	7.05	5.07	128.7	9.88

(X) Full Sample Suite Obtained	Condition of Well, Remarks: 1119: FIRST WATER IN CELL SETTING: ~~20/40~~ 10/25 USED DED. PUMP FOR PURGE / SAMPLE
( ) Partial Sample Suite Obtained	
( ) No Sample Obtained	
QC Samples: FD FS RB AB MS/MSD	
See COC for analyses requested.	Sampler's Signature:
Sample ID: 13MW3	QC Sample ID: NONE
Protective Level Dermal: (D) C B A	Sample Time: 1217
Respiratory: (D) C B A	( ) Metals Sample Filtered Filter
	Checked by:
	Date: 4/13/16

TOC
VOC
METH/ETHANE/ETHENE
SULFATE/NITRATE/CHLORIDE

FE = 0.05 mg/L

HDR

LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

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1425

ID	Date	Purge/Sample Equipment	Water-quality Equipment
49MW04	4/13/16		
Samplers' Initials: SJL	Time: 1439		KECK 200' Water-level Meter:
Casing Diameter (in): 2"	Casing Stickup (ft):	GEOTECH 1.66 X 13 (X) Bladder:	Oil-water Interface Meter:
Initial Water Level (ft btoc): 20.01	Total Well Depth (ft-btoc): 70	( ) Other:	YSI 556 MPS Parameter Meter(s): T Cond pH DO ORP NTU
Final Water Level (ft-btoc): 24.41	Screened Interval (ft-btoc): 50-70		
Purge Volume (liters): ~1GAL	Sample Depth (ft-btoc): 51		HACH 2100Q Turbidity Meter:

Time	Depth to Water (ft)	Pumping Rate (l/min)	Purge Volume (liters)	Temp. °C/°F	Cond. (µS/cm)	pH	DO %/mg/L	ORP (mV)	Turb. (NTU)
1450		120mL		15.39	595	7.35	9.32	117.5	7.49
1455				15.63	596	7.33	8.94	116.0	8.96
1500				15.59	597	7.32	8.63	113.9	13.3
1505				15.54	599	7.32	8.51	113.2	11.6
1510				15.58	599	7.32	8.31	112.4	7.17
1515				15.48	599	7.31	8.24	111.8	5.48
1520				15.50	600	7.31	8.10	111.5	3.02

(X) Full Sample Suite Obtained

( ) Partial Sample Suite Obtained

( ) No Sample Obtained

QC Samples: FD FS RB AB MS/MSD

See COC for analyses requested

Sample ID: 49MW04

Protective Level Dermal: D C B A

Respiratory: D C B A

Condition of Well, Remarks:

1441: FIRST WATER IN CELL

SETTING: ~~20/30~~ 10/50

FE= 0.07 mg/L

TOC
VOC
METHANE/ETHANE/ETHENE
NITRATE/SULFATE/CHLORIDE

QC Sample ID: NONE

Sample Time: 1525

( ) Metals Sample Filtered ~~Y~~ N Filter

Sampler's Signature:

Checked by:

Date: 4/13/16

0730

HDR

LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

Log Book #_____

ID	Date	Purge/Sample Equipment	Water-quality Equipment
49MW06	7/12/16		
Samplers' Initials: SJL	Time: 0750	( ) Peristaltic:	KECK 200' Water-level Meter:
Casing Diameter (in): 2"	Casing Stickup (ft)	GEOTECH 1.66 X 13 (X) Bladder:	Oil-water Interface Meter:
Initial Water Level (ft btoc): 65.33	Total Well Depth (ft-btoc): 78	( ) Other:	YSI 556 Parameter Meter(s): T Cond pH DO ORP NTU
Final Water Level (ft-btoc): 66.67	Screened Interval (ft-btoc): 58-78		
Purge Volume (liters): ~3 GAL	Sample Depth (ft-btoc): 73'		HACH 2100Q Turbidity Meter:

Time	Depth to Water (ft)	Pumping Rate (l/min)	Purge Volume (liters)	Temp. °C/°F	Cond. (µS/cm)	pH	DO %/(mg/l)	ORP (mV)	Turb. (NTU)
0800		125 mL		15.96	578	7.12	1.96	253.6	51.1
0805				14.86	581	6.92	1.18	261.0	56.3
0810				14.68	614	7.14	1.03	246.4	52.3
0815				14.74	657	7.08	0.96	242.8	54.5
0820				14.83	676	7.17	0.93	234.6	64.4
0825				14.86	694	7.17	1.05	207.0	86.5
0830				14.80	708	7.19	0.96	208.2	135
0835				14.90	722	7.19	0.93	208.3	135
0840				14.94	732	7.22	0.91	204.9	150

(X) Full Sample Suite Obtained

( ) Partial Sample Suite Obtained

( ) No Sample Obtained

QC Samples (FD) FS RB AB MS/MSD

See COC for analyses requested

Sample ID: 49MW06

Protective Level Dermal: D C B A

Respiratory D C B A

Condition of Well, Remarks:
SETTING: 15/30
0755: FIRST WATER IN CELL
0910: FIELD DUP.

QC Sample ID: 49TMD1

Sample Time: 0900

( ) Metals Sample Filtered Filter

Sampler's Signature:

Checked by:

Date:

VOC
METHANE/ETHANE/
ETHENE
TOC
NITRATE/CHLORIDE/
SULFATE

FE = 0.24 mg/L

HDR

Log Book #_____

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LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

ID	Date	Purge/Sample Equipment	Water-quality Equipment
48MW06	7/12/16		
Samplers' Initials	Time	( ) Peristaltic:	Water level Meter:
Casing Diameter (in)	Casing Stickup (ft)		
2"		( ) Bladder:	Oil water interface Meter:
Initial Water Level (ft btoc)	Total Well Depth (ft-btoc)	( ) Other:	Parameter Meter(s): T Cond pH DO ORP NTU
Final Water Level (ft-btoc)	Screened Interval (ft-btoc)		
Purge Volume (liters)	Sample Depth (ft-btoc)		Turbidity Meter:

Time	Depth to Water (ft)	Pumping Rate (l/min)	Purge Volume (liters)	Temp. °C/°F	Cond. (µS/cm)	pH	DO %/mg/L	ORP (mV)	Turb. (NTU)
0845				15.01	750	7.23	0.93	201.8	127
0850				15.03	765	7.26	0.93	197.1	128
0855				15.08	785	7.26	1.02	190.7	110

( ) Full Sample Suite Obtained

( ) Partial Sample Suite Obtained

( ) No Sample Obtained

QC Samples FD FS RB AB MS/MSD

See COC for analyses requested

Sample ID:

Protective Level Dermal: D C B A

Respiratory D C B A

Condition of Well, Remarks:

QC Sample ID

Sample Time:

( ) Metals Sample Filtered Filter

Sampler's Signature:

Checked by:

Date

0930

HDR

LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

Log Book #_____
Page 1 of 1

ID	Date	Purge/Sample Equipment	Water-quality Equipment
48MW1	7/12/16		
Samplers' Initials: SJL	Time: 0940	( ) Peristaltic:	KECK 200' Water-level Meter:
Casing Diameter (in): X 4"	Casing Stickup (ft):	GEOTECH 1.66 x 1P (X) Bladder:	Oil-water Interface Meter:
Initial Water Level (ft-btoc): 105.38	Total Well Depth (ft-btoc): 140'	( ) Other:	YSI 556 MPS Parameter Meter(s): T Cond pH DO ORP NTU
Final Water Level (ft-btoc): 106.59	Screened Interval (ft-btoc): 110-140		
Purge Volume (liters): ~1.5 GAL	Sample Depth (ft-btoc): 115'		HACH 2100Q Turbidity Meter:

Time	Depth to Water (ft)	Pumping Rate (l/min)	Purge Volume (liters)	Temp. °C/°F	Cond. (µS/cm)	pH	DO %/(mg/L)	ORP (mV)	Turb. (NTU)
1000		~80 mL		21.28	565	7.64	8.64	191.0	38.0
1005				19.24	605	7.55	6.85	187.6	28.7
1010				18.37	623	7.57	4.60	182.6	16.4
1015				18.04	632	7.67	3.63	175.9	13.1
1020				17.93	635	7.81	3.24	170.8	12.5
1025				17.74	634	7.95	3.08	166.6	13.7
1030				17.72	633	8.39	2.98	161.3	15.7

(X) Full Sample Suite Obtained
( ) Partial Sample Suite Obtained
( ) No Sample Obtained
QC Samples: FD FS RB AB MS/MSD
See COC for analyses requested
Sample ID: 48MW1
Protective Level Dermal: D C B A
Respiratory: D C B A

Condition of Well, Remarks:
SETTING: 30/30
0950: FIRST WATER IN CELL

FE = 0.09 mg/L

VOC
METHANE / ETHANE / ETHENE
TOC
NITRATE / SULFATE / CHLORIDE

QC Sample ID: NONE
Sample Time: 1035
( ) Metals Sample Filtered Filter

Sampler's Signature: SJL
Checked by:
Date:

1120

HDR

LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

Log Book #_____
Page 1 of 2

ID	Date	Purge/Sample Equipment	Water-quality Equipment
48MW2	7/13/16		
Samplers' Initials: SJL	Time: 1135	( ) Peristaltic:	KECK 200' Water-level Meter:
Casing Diameter (in): 2"	Casing Stickup (ft)	GEOTECH 1.66 x 18 ( ) Bladder:	Oil-water Interface Meter:
Initial Water Level (ft-btoc): 123.36	Total Well Depth (ft-btoc): 134	( ) Other:	YSI 556 Parameter Meter(s): T Cond pH DO ORP NTU
Final Water Level (ft-btoc)	Screened Interval (ft-btoc): 113-134		
Purge Volume (liters): ~1GAL	Sample Depth (ft-btoc): 130		HACH 2100Q Turbidity Meter:

Time	Depth to Water (ft)	Pumping Rate (l/min)	Purge Volume (liters)	Temp. °C °F	Cond. (µS/cm)	pH	DO %/mg/L	ORP (mV)	Turb. (NTU)
1150				16.93	526	13.60	8.34	187.2	97.7
1155				15.68	517	11.76	6.77	181.9	45.8
1200				15.29	517	11.06	6.55	180.1	36.9
1205				15.27	515	10.51	6.34	170.1	33.7
1210				15.10	515	10.12	6.51	168.0	28.8
1215				15.30	513	9.92	6.06	166.6	
1220				16.17	515	10.10	6.34	130.9	

(X) Full Sample Suite Obtained
( ) Partial Sample Suite Obtained
( ) No Sample Obtained
QC Samples: FD FS RB AB (MS/MSD)
See COC for analyses requested
Sample ID: 48MW2
Protective Level Dermal: (D) C B A
Respiratory: (D) C B A

Condition of Well, Remarks:
SETTING: 30/30
1145: FIRST WATER IN CELL
1215: NO DISCHARGE; ~~BEGAN~~
1220: BEGAN TROUBLESHOOT; WLC ~ 124'
PULLED PUMP AND REPLACED BLADDER (COLLAPSED)
1300: PUMP BACK IN WELL; BACK ON
1330: NO WATER; PULL PUMP TO TROUBLESHOOT

QC Sample ID: 48MW2
Sample Time:
( ) Metals Sample Filtered Filter

Sampler's Signature:
Checked by:
Date:

HDR

Log Book #_____

Page 2 of 2

LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

ID	Date	Purge/Sample Equipment	Water-quality Equipment
48MW2	7/13/16		
Samplers' Initials: PJW	Time: 1410	( ) Peristaltic:	KECK 200' Water-level Meter:
Casing Diameter (in): 2"	Casing Stickup (ft)	GEOTECH 1.600 X 18 ( ) Bladder:	Oil-water Interface Meter:
Initial Water Level (ft btoc): 123.36	Total Well Depth (ft-btoc): 134	( ) Other:	YSI 556 Parameter Meter(s): T Cond pH DO ORP NTU
Final Water Level (ft-btoc)	Screened Interval (ft-btoc): 113-134		
Purge Volume (liters): ~~4 GAL~~	Sample Depth (ft-btoc): 130 133		HACH 2100Q Turbidity Meter:

Time	Depth to Water (ft)	Pumping Rate (l/min)	Purge Volume (liters)	Temp. °C/°F	Cond. (µS/cm)	pH	DO %/~~mg/l~~	ORP (mV)	Turb. (NTU)
1425				16.73	507	8.06	8.01	227.9	105
1430				15.84	505	7.52	7.08	228.9	96.7
1435				16.52	503	~~7.96~~ 6.76	~~6.76~~ 7.46	212.0	86.5
1440				15.46	500	7.49	6.53	196.0	78.7
1445				15.31	499	7.66	6.51	181.7	69.8
1450				15.57	495	7.98	6.30	164.0	70.1
~~1455~~									

[X] Full Sample Suite Obtained

( ) Partial Sample Suite Obtained

( ) No Sample Obtained

QC Samples: FD FS RB AB (MS/MSD)

See COC for analyses requested

Sample ID: 48MW2

Protective Level Dermal: D C B A

Respiratory: D C B A

Condition of Well, Remarks:

SETTING 40/30

1420: FIRST WATER IN CELL

FE = 0.51 mg/L

VOC METHANE/ETHANE/ETHENE

TOC NITRATE/SULFATE/CHLORIDE

QC Sample ID: 48MW2

Sample Time: 1455

( ) Metals Sample Filtered Filter

Sampler's Signature:

Checked by:

Date:

0937

HDR

LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

Log Book #_____ Page 1 of 1

ID	Date	Purge/Sample Equipment	Water-quality Equipment
48MW3	7/13/16		
Samplers' Initials	Time: 0950	( ) Peristaltic:	KECK 200' Water-level Meter:
Casing Diameter (in): X 4"	Casing Stickup (ft)	GEOTECH 1.66 X 18 (X) Bladder:	Oil-water Interface Meter:
Initial Water Level (ft-btoc): 96.98	Total Well Depth (ft-btoc): 120'	( ) Other:	YSI 556 Parameter Meter(s): T Cond pH DO ORP NTU
Final Water Level (ft-btoc): 98.67	Screened Interval (ft-btoc): 100-120		
Purge Volume (liters): ~3GAL	Sample Depth (ft-btoc): 107'		HACH 2100P Turbidity Meter:

Time	Depth to Water (ft)	Pumping Rate (l/min)	Purge Volume (liters)	Temp. (°C) °F	Cond. (µS/cm)	pH	DO %/(mg/L)	ORP (mV)	Turb. (NTU)
1005		125		15.37	735	7.59	6.14	194.9	2.43
1010				14.46	731	7.29	4.21	202.1	1.89
1015				14.15	732	7.25	3.86	208.9	2.26
1020				14.11	730	7.44	3.85	193.2	0.59
1025				14.10	780	7.64	3.95	200.5	1.04
1030				14.02	731	7.72	3.73	194.4	1.60
1035				14.07	731	7.73	3.76	191.0	1.14
1040				14.07	731	7.72	3.69	189.0	1.77
1045				14.09	731	7.71	3.69	188.2	1.12

(X) Full Sample Suite Obtained

( ) Partial Sample Suite Obtained

( ) No Sample Obtained

QC Samples: FD FS RB AB MS/MSD

See COC for analyses requested

Sample ID: 48MW3

Protective Level Dermal: D C B A

Respiratory: D C B A

Condition of Well, Remarks:

SETTING: 80/30

0959: FIRST WATER IN CELL

FE = 0.07mg/L

VOC

METHANE/ETHANE/ETHENE

TOC

NITRATE/SULFATE/CHLORIDE

QC Sample ID: DUPE

Sample Time: 1050

( ) Metals Sample Filtered N Filter

Sampler's Signature: E. Cl.

Checked by:

Date: 7/13/16

1100

HDR

LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

Log Book #_____
Page 1 of 1

ID	Date	Purge/Sample Equipment	Water-quality Equipment
49MW01	7/12/16		
Samplers' Initials: SJL	Time: 1110	( ) Peristaltic:	KECK 200 Water-level Meter:
Casing Diameter (in): 2"	Casing Stickup (ft):	(X) Bladder: GEOTECH 1.66x18	Oil-water Interface Meter:
Initial Water Level (ft btoc): 115.24	Total Well Depth (ft-btoc): 121	( ) Other:	YSI 556 Parameter Meter(s): T Cond pH DO ORP NTU
Final Water Level (ft-btoc): 115.67	Screened Interval (ft-btoc): 90-121		
Purge Volume (liters): ~1GAL	Sample Depth (ft-btoc): 120		HACH 2100Q Turbidity Meter:

Time	Depth to Water (ft)	Pumping Rate (l/min)	Purge Volume (liters)	Temp. °C/°F	Cond. (µS/cm)	pH	DO %/(mg/L)	ORP (mV)	Turb. (NTU)
1125		120mL		17.00	478	8.49	6.33	224.0	97.8
1130				15.59	475	8.47	5.36	202.5	100
1135				15.20	472	8.32	4.89	182.1	117
1140				15.13	470	8.26	4.64	168.4	114
1145				14.89	472	8.40	4.63	161.5	107
1150				14.77	471	8.49	4.50	154.1	100

(X) Full Sample Suite Obtained

( ) Partial Sample Suite Obtained

( ) No Sample Obtained

QC Samples: FD FS RB AB MS/MSD

See COC for analyses requested

Sample ID: 49MW01

Protective Level Dermal: (D) C B A

Respiratory: (D) C B A

Condition of Well, Remarks:
PUMP SETTING: 30/30
1120 FIRST WATER IN CELL :

FE=0.72 mg/L

VOC
METHANE/ETHANE/
ETHENE
TOC
NITRATE/SULFATE/CHLORIDE

QC Sample ID: N/A

Sample Time: 1155

( ) Metals Sample Filtered (Y) Filter

Sampler's Signature:

Checked by:

Date:

0800

HDR

LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

Log Book #_____
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ID	Date	Purge/Sample Equipment	Water-quality Equipment
49MW02	7/13/16		
Samplers' Initials: PJW	Time: 0815	( ) Peristaltic:	Water-level Meter: KECH 200'
Casing Diameter (in): 2"	Casing Stickup (ft)	GEOTECH 1.66 X 18 (X) Bladder:	Oil-water Interface Meter:
Initial Water Level (ft-btoc): 93.96	Total Well Depth (ft-btoc): 133	( ) Other:	YSI 556 Parameter Meter(s): T Cond pH DO ORP NTU
Final Water Level (ft-btoc): 100.32	Screened Interval (ft-btoc): 103-133		
Purge Volume (liters): ~3GAL	Sample Depth (ft-btoc): 108		Turbidity Meter: HACH 2100

Time	Depth to Water (ft)	Pumping Rate (l/min)	Purge Volume (liters)	Temp. °C/°F	Cond. (µS/cm)	pH	DO %/mg/L	ORP (mV)	Turb. (NTU)
0825		~~120~~ 125		15.29	542	7.29	4.25	288.9	3.94
0830				14.68	540	6.64	2.09	286.8	1.80
0835				14.20	538	6.86	1.02	254.4	2.08
0840				14.18	538	7.31	0.86	224.5	1.44
0845				14.28	540	7.52	0.87	217.4	2.76
0850				14.26	540	7.44	0.82	214.1	4.57
0855				14.18	541	7.41	0.65	211.0	5.40
0900				14.17	541	7.39	0.60	209.0	3.55
0905				14.22	541	7.40	0.54	205.7	2.82

(X) Full Sample Suite Obtained	Condition of Well, Remarks: SETTING: 30/30 0820: FIRST WATER IN CELL FE = 0.00 MG/L
( ) Partial Sample Suite Obtained	
( ) No Sample Obtained	
QC Samples: FD FS RB AB MS/MSD	
See COC for analyses requested	Sampler's Signature:
Sample ID: 49MW02	QC Sample ID: NONE
Protective Level Dermal: D C B A	Sample Time: 0910
Respiratory: D C B A	( ) Metals Sample Filtered N Filter
	Checked by:
	Date: 7/13/16

VOC
METHANE/ETHANE/ETHENE
TOC
NITRATE/SULFATE/CHLORIDE

1215

HDR

LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

Log Book #_____
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ID	Date	Purge/Sample Equipment	Water-quality Equipment
50MW02	7/12/16		
Samplers' Initials: PJW	Time: 1225	( ) Peristaltic:	KECK 200' Water-level Meter:
Casing Diameter (in): 2"	Casing Stickup (ft)	GEOTECH 1.66 X 13 (X) Bladder:	Oil-water Interface Meter:
Initial Water Level (ft btoc): 114.20	Total Well Depth (ft-btoc): 119	( ) Other:	YSI 556 Parameter Meter(s): T Cond pH DO ORP NTU
Final Water Level (ft-btoc): 114.24	Screened Interval (ft-btoc): 89-119		
Purge Volume (liters): ~2 GAL	Sample Depth (ft-btoc): 118		HACH 2100Q Turbidity Meter:

Time	Depth to Water (ft)	Pumping Rate (l/min)	Purge Volume (liters)	Temp. °C/°F	Cond. (µS/cm)	pH	DO %/(mg/L)	ORP (mV)	Turb. (NTU)
1240				17.08	680	7.30	4.40	183.2	86.8
1245				16.62	680	7.24	4.12	172.6	77.0
1250				16.02	680	7.29	3.80	159.3	60.9
1255				15.55	680	7.27	3.75	147.4	51.2
1300				15.28	678	7.27	4.06	160.2	44.3
1305				15.30	678	7.29	3.65	159.3	36.8
1310				15.48	676	7.30	3.62	148.1	33.2
1315				15.40	677	7.31	3.56	141.3	35.2

(X) Full Sample Suite Obtained

( ) Partial Sample Suite Obtained

( ) No Sample Obtained

QC Samples: (FD) FS RB AB MS/MSD

See COC for analyses requested

Sample ID: 50MW02

Protective Level Dermal: D C B A

Respiratory: D C B A

Condition of Well, Remarks:
SETTING: 30/30
1237: FIRST WATER IN CELL
FIELD DUP: 1330 (49TM02)

QC Sample ID: 49TM02

Sample Time: 1320

( ) Metals Sample Filtered ~ Filter

Sampler's Signature:

Checked by:

Date:

FE = 0.16 mg/L

HDR

LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

Log Book #_____

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ID	Date	Purge/Sample Equipment	Water-quality Equipment
13MW2	7/13/16		
Samplers' Initials: PJW	Time:	( ) Peristaltic:	Water-level Meter: KECK 200 GEOTECH
Casing Diameter (in): 2"	Casing Stickup (ft):	( ) Bladder: GEOTECH (DEDICATED PUMP)	Oil-water Interface Meter: N/A
Initial Water Level (ft btoc): 21.39	Total Well Depth (ft-btoc): 29	( ) Other:	Parameter Meter(s): T Cond pH DO ORP NTU
Final Water Level (ft-btoc): 22.48	Screened Interval (ft-btoc): 19-29		YSI 556
Purge Volume (liters): ~1.5 GAL	Sample Depth (ft-btoc):		Turbidity Meter: Hach 2100Q

Time	Depth to Water (ft)	Pumping Rate (l/min)	Purge Volume (liters)	Temp. °C/°F	Cond. (µS/cm)	pH	DO %/mg/L	ORP (mV)	Turb. (NTU)
1540	21.39	150	-	16.40	845	6.78	7.78	4.0	2.83
1545	20.01	1	750	14.6	765	5.57	6.01	71.6	1.13
1550		1	1,500	14.4	757	5.67	5.82	64.1	1.45
1555			2250	14.98	748	6.11	5.78	44.0	1.02
1600			2820	15.12	746	6.36	5.82	30.1	0.91
1605			3,570	15.2	747	6.48	5,72	24.3	1.65
1610			4,320	15.1	749	6.57	5.74	23.0	1.23
1615			5.070	15.2	750	6.67	5.76	22.2	1.55

(✓) Full Sample Suite Obtained

( ) Partial Sample Suite Obtained

( ) No Sample Obtained

QC Samples: FD FS RB (none) AB MS/MSD

See COC for analyses requested

Sample ID: 13MW2

Protective Level Dermal: D C B A

Respiratory: D C B A

Condition of Well, Remarks:

Clear, productive, initial organic flotsam. Dedicated DAR pump - sample depth unknown.

QC Sample ID: N/A

Sample Time: 1620

( ) Metals Sample Filtered Filter

Sampler's Signature:

Checked by:

Date: 7/14/16

FE = 0.11 mg/L

1420

HDR

Log Book # _____
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LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

ID	Date	Purge/Sample Equipment	Water-quality Equipment
13MW3	7/12/16		
Samplers' Initials: PJW	Time: 1425	( ) Peristaltic:	KECK: 200' Water-level Meter:
Casing Diameter (in): X 4"	Casing Stickup (ft)	GEOTECH (DEDICATED PUMP) ( ) Bladder:	Oil-water Interface Meter:
Initial Water Level (ft btoc)	Total Well Depth (ft-btoc): 19'	( ) Other:	YSI 556 Parameter Meter(s): T Cond pH DO ORP NTU
Final Water Level (ft-btoc): 5.54	Screened Interval (ft-btoc): 9-19'		
Purge Volume (liters): ~1 GAL	Sample Depth (ft-btoc): ~~UNKNOWN~~ - DEDICATED PUMP ~~UNKNOWN~~		HACH 2006 Turbidity Meter:

Time	Depth to Water (ft)	Pumping Rate (l/min)	Purge Volume (liters)	Temp. °C/°F	Cond. (µS/cm)	pH	DO %/~~mg/L~~	ORP (mV)	Turb. (NTU)
1430		150mL		19.35	628	7.16	4.60	193.2	3.97
1435				19.78	623	7.07	4.66	188.3	3.99
1440				20.36	634	7.18	4.93	176.6	3.99
1445				20.11	634	7.15	4.57	173.9	2.46

(X) Full Sample Suite Obtained

( ) Partial Sample Suite Obtained

( ) No Sample Obtained

QC Samples: FD FS RB AB MS/MSD

See COC for analyses requested

Sample ID: 13MW3

Protective Level Dermal: (D) C B A

Respiratory: (D) C B A

Condition of Well, Remarks:

SETTING: 10/25

WATER IN CEL ~~WHEN FIRST~~ : 1427

FE = 0.04 mg/L

QC Sample ID : DUPE

Sample Time: 1455

( ) Metals Sample Filtered NO Filter

Sampler's Signature:

Checked by:

Date: 7/12/16

VOC METHANE/ ETHANE/ ETHENE

TDL NITRATE/ SULFATE/ CHLORIDE

1502

HDR

LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

Log Book #_____
Page 1 of 1

ID	Date	Purge/Sample Equipment	Water-quality Equipment
13MW4	7/12/16		
Samplers' Initials: SDL	Time: 1505	( ) Peristaltic:	KECK 200' Water-level Meter:
Casing Diameter (in): 4"	Casing Stickup (ft):	( ) Bladder: GEOTECH (DEDICATED PUMP)	Oil-water Interface Meter:
Initial Water Level (ft-btoc): 16.83	Total Well Depth (ft-btoc): 24	( ) Other:	YSI 556 MPS Parameter Meter(s): T Cond pH DO ORP NTU
Final Water Level (ft-btoc): 17.22	Screened Interval (ft-btoc): 14-24	*UNKNOWN SAMPLE DEPTH - DEDICATED PUMP	
Purge Volume (liters): 7g	Sample Depth (ft-btoc): *		HACH 2100Q Turbidity Meter:

Time	Depth to Water (ft)	Pumping Rate (l/min)	Purge Volume (liters)	Temp. °C/°F	Cond. (µS/cm)	pH	DO %/mg/L	ORP (mV)	Turb. (NTU)
1510				15.52	518	7.31	2.30	186.3	0.87
1515				14.53	586	7.30	1.18	170.8	0.53
1520				14.52	595	7.30	1.34	155.2	0.73
1525				~~14.6~~ 14.58	512	7.25	3.52	144.2	0.97
1530				14.64	484	7.33	4.12	140.6	1.2
1535				14.79	471	7.47	4.5	129.8	1.29
1540				15.74	481	7.86	5.29	150.6	1.3
1545				15.0	461	7.43	5.15	132.9	8.67

X Full Sample Suite Obtained	Condition of Well, Remarks: SETTING: 7/20 WATER IN CELL @ 1507 FE = 0.03mg/L
( ) Partial Sample Suite Obtained	
( ) No Sample Obtained	
QC Samples: FD FS RB AB MS/MSD	
See COC for analyses requested	
Sample ID: 13MW4	QC Sample ID: NONE
Protective Level Dermal: D C B A	Sample Time: 1555
Respiratory: D C B A	( ) Metals Sample Filtered Filter
	Sampler's Signature: SDL
	Checked by:
	Date:

HDR

LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

Log Book #_____
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1540

ID	Date	Purge/Sample Equipment	Water-quality Equipment
49MW04	7/13/16		
Samplers' Initials: SJL	Time: ~~1550~~ 1548	( ) Peristaltic:	KECK 200' Water-level Meter:
Casing Diameter (in): 2"	Casing Stickup (ft):	GEOTECH 1.666 X 18 ( ) Bladder:	Oil-water Interface Meter:
Initial Water Level (ft-btoc): 20.65	Total Well Depth (ft-btoc): 72	( ) Other:	YSI 556 MPS Parameter Meter(s): T Cond pH DO ORP NTU
Final Water Level (ft-btoc): 24.18	Screened Interval (ft-btoc): 50-70		
Purge Volume (liters): ~2 GAL	Sample Depth (ft-btoc): 53		HACH 2100 Q Turbidity Meter:

Time	Depth to Water (ft)	Pumping Rate (l/min)	Purge Volume (liters)	Temp. °C/°F	Cond. (µS/cm)	pH	DO %/(mg/L)	ORP (mV)	Turb. (NTU)
1555		125mL		19.54	634	9.63	8.57	189.2	8.71
~~1600~~ 1600				17.66	641	9.07	7.53	171.2	11.3
~~1605~~ 1605				17.27	643	8.76	7.03	161.6	7.86
~~1610~~ 1610				16.90	643	8.58	6.87	154	6.91
~~1615~~ 1615				16.47	640	8.38	6.45	152.4	5.18
1620				16.54	639	8.20	6.33	151.9	4.79

(X) Full Sample Suite Obtained

( ) Partial Sample Suite Obtained

( ) No Sample Obtained

QC Samples: FD FS RB AB MS/MSD

See COC for analyses requested

Sample ID: 49MW04

Protective Level Dermal: (D) C B A

Respiratory: (D) C B A

Condition of Well, Remarks:
SETTING: 10/50
FIRST WATER: 1549
F_E = 0.13mg/L

QC Sample ID: NONE

Sample Time: 1625

( ) Metals Sample Filtered Filter

Sampler's Signature:

Checked by:

Date:

Appendix B-1
Data Validation Reports

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DATA VALIDATION AND USABILITY REPORT

VOLATILES by USEPA SW-846 Method 8260C, 624 (Trip Blank)
EXPLOSIVES by USEPA SW-846 Method 8330B
MERCURY by USEPA SW-846 Method 7470A
METALS by USEPA SW-846 Method 6010C
CHEMICAL OXYGEN DEMAND by USEPA SW-846 Method 410.4
DISSOLVED GASES (MEE) by USEPA SW-846 Method RSK 175
TOTAL ORGANIC and INORGANIC CARBONS by USEPA SW-846 Method 9060A
ANIONS by USEPA SW-846 Method 9056A
pH by USEPA SW-846 Method 9040C
PERCHLORATES by USEPA SW-846 Method 6850
CHLORATES/CHLORITES by USEPA SW-846 Method 300.1

Project: Radford Army Ammunitions Plant, Virginia – Long Term Monitoring
Project/Task Number: 228-242801-003
Sample Data Package: 114433, 114442, 114475
Laboratory: CT Laboratories, Baraboo, Wisconsin
Microbac Laboratories, Marietta, Ohio (Perchlorate)
Summit Environmental Technologies, Cuyahoga Falls, Ohio (Chlorate/Chlorite)
Sample Matrix: Groundwater
Sampling Dates: 30 September, 1-2 October 2015
Validation Guidelines: Project QAPP (Radford Army Ammunitions Plant, Virginia – LTM; United States Environmental Protection Agency (USEPA) Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, 3rd edition (SW-846); National Functional Guidelines for Inorganic Superfund Data Review (USEPA, August 2014); National Functional Guidelines for Superfund Organic Methods Data Review (October 2013); and professional judgment
Validation Level: Stage 2BVM (100 % of data), Stage 3VM (10% of data)
Data Reviewer: Jennifer Chandler, Chemist with HDR (Henningson, Durham, Richardson)

Sample ID	Matrix	Lab ID	Data Package	VOC	MEE	Chloride/Nitrate/ SO4/pH	PAH/EXP	Metals	TOC/ TIC COD	Chlorate/ Chlorite/ Perchlorates
54MW1	Groundwater	640106	114433	X		X	X			
54MW12	Groundwater	640109		X		X	X			
54MW13	Groundwater	640110		X		X	X			
54MW10	Groundwater	640111		X		X	X			
SWMU54TM	Groundwater	640112		X		X	X			
49MW04	Groundwater	640113				X				
54MW1	Groundwater	640118						X	X	X
54MW12	Groundwater	640119						X	X	X
54MW13	Groundwater	640120						X	X	X
54MW10	Groundwater	640121						X	X	X
SWMU54TM	Groundwater	640122						X	X	X
49MW04	Groundwater	640123		X	X					
48MW07	Groundwater	640251	114442			X				
48MW07	Groundwater	640252		X	X				X	
48MW06	Groundwater	640254				X				
48MW06	Groundwater	640255		X	X				X	
49TM01	Groundwater	640256				X				
49TM01	Groundwater	640257		X	X				X	
48MW2	Groundwater	640258				X				
48MW2	Groundwater	640259		X	X				X	
48MW1	Groundwater	640260				X				

Sample ID	Matrix	Lab ID	Data Package	VOC	MEE	Chloride/Nitrate/ SO4/pH	PAH/EXP	Metals	TOC/ TIC COD	Chlorate/ Chlorite/ Perchlorates
48MW1	Groundwater	640261	114442	X	X				X	
49MW01	Groundwater	640262				X				
49MW01	Groundwater	640263		X	X				X	
10115T1	TRIP BLANK	640297		X						
13MW3	Groundwater	640601	114475			X				
13MW3	Groundwater	640602		X	X				X	
13MW4	Groundwater	640603				X				
13MW4	Groundwater	640604		X	X				X	
13MW2	Groundwater	640605				X				
13MW2	Groundwater	640606		X	X				X	
100215R1	Groundwater	640607				X				
100215R1	Groundwater	640608		X	X				X	
48MW3	Groundwater	640609				X				
48MW3	Groundwater	640610		X	X				X	
ADW01	Groundwater	640611				X		X	X	
49MW02	Groundwater	640612				X				
49MW02	Groundwater	640613		X	X				X	
50MW02	Groundwater	640614				X				
50MW02	Groundwater	640615		X	X				X	
ADW02	Groundwater	640616				X		X	X	
TRIP BLANK	TRIP BLANK	640617		X	X					

Note: CT Laboratories confirmed that their LIMS system (Reporting System) reports the EDD as 8015 and the PDF as RSK-175. The lab confirmed that for reporting purposes with this report that these two are interchangeable. To be consistent between reports, the EDD label for 8015 was changed to RSK-175.

SUMMARY

All laboratory data were acceptable with qualification. All analyses were completed using the latest Quality Systems Manual version 5.0.

I. SAMPLE RECEIPT / CHAIN OF CUSTODY

Samples were received within the correct temperature range of 0-6°C, with temperatures between 1.9°C and 2.5°C. The chains of custody (COCs) were filled out and signed. All samples had the proper preservation.

II. HOLDING TIMES

Holding time criteria were met. No qualification was required.

VOCs: Samples were analyzed within 14 days of collection.

Explosives: Samples were extracted within seven days of collection and analyzed within 40 days of extraction.

Perchlorates: Samples were analyzed within 28 days of collection.

Metals: Samples were analyzed within 180 days of collection. Mercury samples were analyzed within 28 days of collection.

Anions: Samples were not analyzed within 48 hours after collection for nitrate. All samples will be estimated with J or UJ, as they are within and Samples were analyzed within 28 days for sulfate and chloride.

MEE(Methane, Ethane, Ethene): Samples were analyzed within 14 days of collection.

COD: Samples were analyzed within 28 days of collection.

TOC/TIC: Samples were analyzed within 28 days of collection.

Chlorate: Samples were analyzed within 28 days of collection.

Chlorite: Samples were analyzed within 14 days of collection.

IV. INSTRUMENT PERFORMANCE

VOCs: GC/MS BFB tuning criteria were met. No qualification was required.

Explosives: Not applicable.

Perchlorates: Not applicable.

Metals: Not applicable.

Anions: Not applicable.

MEE: Not applicable.

COD: Not applicable.

TOC/TIC: Not applicable.

Chlorate: Not applicable.

Chlorite: Not applicable.

V. INSTRUMENT CALIBRATION
INITIAL CALIBRATIONS

VOCs: Initial calibration criteria were met. No qualification was required.

Explosives: Initial calibration criteria were met. No qualification was required.

Perchlorate: Initial calibration criteria were met. No qualification was required.

Metals: Initial calibration criteria were met. No qualification was required.

Anions: Initial calibration criteria were met. No qualification was required.

MEE: Initial calibration criteria were met. No qualification was required.

COD: Initial calibration criteria were met. No qualification was required.

TOC/TIC: Initial calibration criteria were met. No qualification was required.

Chlorate/Chlorite: Initial calibration criteria were met. No qualification was required.

SECOND SOURCE STANDARDS

VOCs: All target analytes had %D values less than 20%.

Explosives: All target analytes had %D values less than 20%.

Perchlorates: All target analytes had %D values less than 15%.

Metals: All target results had %D values less than 10%.

Anions: Not applicable.

MEE: All target *analytes had %D values less than 15%.*

COD: Not applicable.

TOC/TIC: Not applicable.

Chlorate/Chlorite: Not applicable.

CONTINUING CALIBRATIONS

VOCs: The Continuing Calibration Verification (CCV), analyzed on 10/13/15, was outside criteria for methyl acetate at 27%. The CCV, analyzed on 10/15/15, was outside criteria for Bromomethane at 32%. Methyl Acetate and Bromomethane in the associated samples were qualified as non-detect estimated (UJ) for associated samples.

Explosives: Nitrobenzene CCV, analyzed 10/14/15, failed outside the acceptable criteria (high). All samples were ND; therefore, no qualifications were required.

Perchlorate: All continuing calibration criteria were met.

Metals: All continuing calibration criteria were met.

Anions: All continuing calibration criteria were met.

MEE: All continuing calibration criteria were met.

COD: All continuing calibration criteria were met.

TOC/TIC: All continuing calibration criteria were met.

Chlorate/Chlorite: All continuing calibration criteria were met.

VI. BLANKS

METHOD BLANKS

Target analytes were not detected in the method blanks except as noted below.

VOCs: Target analytes were not detected in the method blanks.

Explosives: TNX was detected in the method blanks, but all sample results were non-detected. No qualification was required.

Perchlorate: Target analytes were not detected in the method blanks.

Metals: Calcium and Magnesium were detected in the method blank, but all sample results were greater than 10x the blank concentration. No qualification was required.

Anions: Anions were not detected in the method blanks.

MEE: Target analytes were not detected in the method blanks.

COD: Target analytes were not detected in the method blanks.

TOC/TIC: TOC analytes were not detected in the method blanks.

Chlorate/Chlorite: Target analytes were not detected in the method blanks.

TRIP BLANKS

VOCs: Acetone was detected in the TRIP BLANK (analyzed 10/13/15, 640617). Sample results less than two times the blank concentration have been qualified with a B for blank contamination.

Explosives: Not applicable.

Perchlorate: Not applicable.

Metals: Not applicable.

Anions: Not applicable.

MEE: Methane was detected in the TRIP BLANK (analyzed 10/6/15, 640617). All sample results were non-detected. No qualification was required.

COD: Not applicable.

TOC/TIC: Not applicable.

Chlorate/Chlorite: Not applicable.

INITIAL AND CONTINUING CALIBRATION BLANKS (ICB and CCB)

VOCs: 1,4-Dioxane and 2-Hexanone were detected in the ICB. Sample results were non-detected. No qualification was required.

Explosives: Explosives were not detected in the ICBs or CCBs. No qualification was required.

Perchlorate: Perchlorates were not detected in the ICBs or CCBs. No qualification was required.

Metals: Analytes were detected in the ICB and CCB. Samples were reanalyzed and reported at greater than LOD, or MDL. No qualification was required.

Anions: Anions were not detected in the ICBs or CCBs. No qualification was required.

MEE: Methane was detected in the ICB. Sample results less than two times the blank concentration have been qualified with a B for blank contamination.

COD: COD were not detected in the ICBs or CCBs. No qualification was required.

TOC/TIC: TIC analytes were detected in the CCBs. Sample results were greater than the method blank results, and no qualification was required.

Chlorate/Chlorite: Chlorate/chlorite were not detected in the ICBs or CCBs. No qualification was required.

RINSATE BLANKS

Target analytes were not detected in the rinsate blanks except as noted below.

VOCs: Target analytes were detected in the rinsate blank (100215R1). Chloroform was detected in the RB; the compound results were considered estimated (B), at less than two times the blank concentration, in sample 50MW02. Methylene Chloride and Toluene were also detected in the rinsate blank. For these two compounds, the associated sample results were non-detect, or greater than two times the blank result; therefore, no qualification was required for these compounds.

Explosives: Not applicable.

Perchlorate: Not applicable.

Metals: Not applicable.

Anions: Nitrate/Nitrogen was detected in the rinsate blank (100215R1); this analytes results were considered estimated, at less than two times the blank results, in sample 49MW02, only.

MEE: Target analytes were not detected in the rinsate blanks.

COD: Not applicable.

TOC/TIC: TOC analytes were not detected in the rinsate blank.

Chlorate/Chlorite: Not applicable.

VII. LABORATORY CONTROL SAMPLES (LCS)

VOCs: LCS recoveries were within control limits.

Explosives: LCS recoveries were within control limits.

Perchlorate: LCS recoveries were within control limits.

Metals: LCS recoveries were within control limits.

Anions: LCS recoveries were within control limits.

MEE: LCS recoveries were within control limits.

COD: LCS recoveries were within control limits.

TOC/TIC: LCS recoveries were within control limits.

Chlorate/Chlorite: LCS recoveries were within control limits.

VIII. SURROGATES

All surrogate recoveries were within control limits except as noted below.

VOCs: Surrogate recoveries were within control limits.

Explosives: Surrogate recovery was not within control limits. Low surrogate recovery was acquired (primary and confirmation analysis) for samples 54MW13 and 54MW10. No remaining volume was available for re-extraction, so compounds were qualified as estimated (UJ, J).

Perchlorate: Not applicable.

Metals: Not applicable.

Anions: Not applicable.

MEE: Not applicable.

COD: Not applicable.

TOC/TIC: Not applicable.

Chlorate/Chlorite: Not applicable.

VIII. MATRIX SPIKE / MATRIX SPIKE DUPLICATE (MS/MSD)

VOCs: VOC spiked recoveries were within control limits.

Explosives: Nitroglycerin was above the control limits of 74-127%, for the MS analysis associated with sample 54MW12, at 179%. Nitroglycerin, for the MSD, was reanalyzed on the confirmation column and the low recoveries were confirmed to be out due to sample matrix. Due to >75% of the analytes failing low in the MSD, the %RPDs were also low. The associated failing analytes have been qualified as estimated (J).

Perchlorate: Perchlorate was below the control limits of 84-119%, at 82.5/72.0%, for the MS/D analysis associated with sample 54MW12. Perchlorate sample results were qualified as estimated (J).

Metals: Chromium was above the control limits of 90-113%, for the MS/MSD analysis associated with sample ADW01, at 131%/117%. Chromium was detected, in the parent sample and has been qualified as estimated (J). Iron in sample ADW01 was much greater than four times the spike concentration. No qualification was required.

Anions: Sulfate, at 54%, was below the control limit of 87-112%, for MS analysis associated with sample 13MW3. Sulfate was detected in the parent sample and has been qualified as estimated (J).

MEE: No qualification was required.

COD: No qualification was required.

TOC/TIC: TOC, at 73%, was below the control limit of 85-111%, for MS/MSD analysis associated with sample 48MW2. TOC was detected in the parent sample and has been qualified as estimated (J).

Chlorate/Chlorite: No qualification was required.

IX. DUPLICATES

FIELD DUPLICATES

Field duplicate samples were collected and identified in the following table.

Field Duplicate Sample	Parent Sample	Matrix	Analyses
NA	NA	NA	NA

Water sample RPDs were within 20% except as noted below. Qualifiers were assigned to duplicate and parent samples for the specific analytes that fail the %RPDs. If the analyte was undetected then the qualifier assigned was UJ.

VOCs: Not applicable.

Explosives: Not applicable.

Perchlorate: Not applicable.

Metals: Not applicable.

Anions: Not applicable.

MEE: Not applicable.

COD: Not applicable.

TOC/TIC: Not applicable.

Chlorate/Chlorite: Not applicable.

LABORATORY DUPLICATES

VOCs: Not applicable.

Explosives: Not applicable.

Perchlorate: Not applicable.

Metals: The RPDs between the parent and lab duplicate samples were not within control limits, for sample ADW01, for Chromium. Chromium (114%) results were qualified as estimated (J).

Anions: The RPDs between the parent and lab duplicate samples were within control limits. No qualification was required.

MEE: Not applicable.

COD: The RPDs between the parent and lab duplicate samples were within control limits. No qualification was required.

TOC/TIC: The RPD between the parent and lab duplicate samples were not within control limits for sample 54MW12, at 34%. Sample results were qualified as estimated with at J.

Chlorate/Chlorite: Not applicable.

X. INTERNAL STANDARDS (ISTD)
All ISTD criteria were met except as noted below.

VOCs: All ISTD criteria were met.

Explosives: Not applicable.

Perchlorate: All ISTD criteria were met.

Metals: Not applicable.

Anions: Not applicable.

MEE: Not applicable.

COD: Not applicable.

TOC/TIC: Not applicable.

Chlorate/Chlorite: Not applicable.

XI. POST DIGESTION SPIKE AND DILUTION TEST
Post-digestion spike (PDS) analyses and serial dilution tests were performed for lead. PDS results were within the control limits of 75-125% except as noted below. The dilution tests were not applicable unless sample results were greater than 50 times the MDL.

VOCs: Not applicable.

Explosives: Not applicable.

Perchlorate: Not applicable.

Metals: The Serial Dilution result for sample ADW01, for iron, was less than 50 times the LOQ. A PDS was analyzed, but unacceptable for iron at 1208% recovery. The parent sample was reported and qualified as estimated (J).

Anions: Not applicable.

MEE: Not applicable.

COD: Not applicable.

TOC/TIC: Not applicable.

Chlorate/Chlorite: Not applicable.

XII. INTERFERENCE CHECK SAMPLES (ICS)
ICS results were applicable to the lead analysis. Results were within control limits of 80-120% except as noted below.

VOCs: Not applicable.

Explosives: Not applicable.

Perchlorate: Not applicable.

Metals: Recoveries were within control limits.

Anions: Not applicable.

MEE: Not applicable.

COD: Not applicable.

TOC/TIC: Not applicable.

Chlorate/Chlorite: Not applicable.

XIII. REPORTING LIMITS (RL) AND METHOD DETECTION LIMITS (MDL)
The required RLs as listed in the QAPP were met except as noted below.

VOCs: The required RLs as listed in the QAPP were met.

Explosives: The required RLs as listed in the QAPP were met.

Perchlorate: The required RLs as listed in the QAPP were met.

Metals: The required RLs as listed in the QAPP were met.

Anions: The required RLs as listed in the QAPP were met.

MEE: The required RLs as listed in the QAPP were met.

COD: The required RLs as listed in the QAPP were met.

TOC/TIC: The required RLs as listed in the QAPP were met.

Chlorate/Chlorite: The required RLs as listed in the QAPP were met.

XIV. SAMPLE RESULTS / TRANSCRIPTION VERIFICATION
Transcription between the data package and the EDDs was verified. Sample results reported between the MDL and RL were qualified as estimated (J).

VOCs: No issues.

Explosives: No issues.

Perchlorate: No issues.

Metals: No issues.

Anions: No issues.

MEE: No issues.

COD: No issues.

TOC/TIC: No issues.

Chlorate/Chlorite: No issues.

XV. DATA USABILITY

Data were usable as discussed below.

VOCs: No data were rejected. Data required minimal qualification. All data are usable as qualified.

Explosives: No data were rejected. Data required minimal qualification. All data are usable as qualified.

Perchlorate: No data were rejected. Data required minimal qualification. All data are usable as qualified.

Metals: No data were rejected. Data required minimal qualification. All data are usable as qualified.

Anions: No data were rejected. Data required minimal qualification. All data are usable as qualified.

MEE: No data were rejected. Data required minimal qualification. All data are usable as qualified.

COD: No data were rejected. Data required minimal qualification. All data are usable as qualified.

TOC/TIC: No data were rejected. Data required minimal qualification. All data are usable as qualified.

Chlorate/Chlorite: No data were rejected. Data required minimal qualification. All data are usable as qualified.

DATA VALIDATION AND USABILITY REPORT

VOLATILES by USEPA SW-846 Method 8260C
EXPLOSIVES by USEPA SW-846 Method 8330B
MERCURY by USEPA SW-846 Method 7470A
METALS by USEPA SW-846 Method 6010C
CHEMICAL OXYGEN DEMAND by USEPA SW-846 Method 410.4
DISSOLVED GASES (MEE) by USEPA SW-846 Method RSK 175
TOTAL ORGANIC and INORGANIC CARBONS by USEPA SW-846 Method 9060A
ANIONS by USEPA SW-846 Method 9056A
pH by USEPA SW-846 Method 9040C
PERCHLORATES by USEPA SW-846 Method 6850
CHLORATES/CHLORITES by USEPA SW-846 Method 300.1

Project:	Radford Army Ammunitions Plant, Virginia – Long Term Monitoring
Project/Task Number:	228-242801-003
Sample Data Package:	116426, 116448, 116472, 116472, 116508, 116524
Laboratory:	CT Laboratories, Baraboo, Wisconsin Microbac Laboratories, Marietta, Ohio (Perchlorate) Summit Environmental Technologies, Cuyahoga Falls, Ohio (Chlorate/Chlorite)
Sample Matrix:	Groundwater
Sampling Dates:	11-15 January 2016
Validation Guidelines:	Project QAPP (Radford Army Ammunitions Plant, Virginia – LTM; United States Environmental Protection Agency (USEPA) Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, 3rd edition (SW-846); National Functional Guidelines for Inorganic Superfund Data Review (USEPA, August 2014); National Functional Guidelines for Superfund Organic Methods Data Review (October 2013); and professional judgment
Validation Level:	Stage 2BVM (100 % of data), Stage 3VM (10% of data)
Data Reviewer:	Jennifer Chandler, Chemist with HDR (Henningson, Durham, Richardson)

Sample ID	Matrix	Lab ID	Data Package	VOC	MEE	Chloride/Nitrate/ SO4/pH	PAH/EXP	Metals	TOC/ TIC COD	Chlorate/ Chlorite/ Perchlorates
54MW10	GROUNDWATER	679480	116426			X				
54MW10	GROUNDWATER	679481	116426				X		X	X
54TM10	GROUNDWATER	679482	116426			X				
54TM10	GROUNDWATER	679483	116426				X		X	X
54MW12	GROUNDWATER	679978	116448			X				
54MW12	GROUNDWATER	679979	116448				X		X	X
54MW1	GROUNDWATER	679980	116448			X				
54MW1	GROUNDWATER	679981	116448						X	
54MW13	GROUNDWATER	679982	116448			X				
54MW13	GROUNDWATER	679983	116448				X		X	X
54ADW01	GROUNDWATER	679984	116448			X (pH)		X	X	
13MW3	GROUNDWATER	680615	116472			X				
13MW3	GROUNDWATER	680616	116472	X	X				X	
49TM01	GROUNDWATER	680617	116472			X				
49TM01	GROUNDWATER	680618	116472	X	X				X	
13MW4	GROUNDWATER	680619	116472			X				
13MW4	GROUNDWATER	680620	116472	X	X				X	
49MW04	GROUNDWATER	680621	116472			X				
49MW04	GROUNDWATER	680622	116472	X	X				X	

Sample ID	Matrix	Lab ID	Data Package	VOC	MEE	Chloride/Nitrate/ SO4/pH	PAH/EXP	Metals	TOC/ TIC COD	Chlorate/ Chlorite/ Perchlorates
13MW2	GROUNDWATER	680623	116472			X				
13MW2	GROUNDWATER	680624	116472	X	X				X	
49MW05	GROUNDWATER	680625	116472			X				
49MW05	GROUNDWATER	680626	116472	X	X				X	
011316T1	GROUNDWATER	680627	116472	X						
13MW5	GROUNDWATER	680628	116472			X				
13MW5	GROUNDWATER	680629	116472	X	X				X	
48MW07	GROUNDWATER	681413	116508			X				
48MW07	GROUNDWATER	681414	116508	X	X				X	
48MW06	GROUNDWATER	681415	116508			X				
48MW06	GROUNDWATER	681416	116508	X	X				X	
48MW1	GROUNDWATER	681417	116508			X				
48MW1	GROUNDWATER	681418	116508	X	X				X	
49MW03	GROUNDWATER	681419	116508			X				
49MW03	GROUNDWATER	681420	116508	X	X				X	
49MW01	GROUNDWATER	681421	116508			X				
49MW01	GROUNDWATER	681422	116508	X	X				X	
011416T1	GROUNDWATER	681423	116508	X						
49MW02	GROUNDWATER	681527	116524			X				
49MW02	GROUNDWATER	681528	116524	X	X				X	
48MW3	GROUNDWATER	681529	116524			X				
48MW3	GROUNDWATER	681531	116524	X	X				X	
48MW2	GROUNDWATER	681532	116524			X				
48MW2	GROUNDWATER	681533	116524	X	X				X	
50MW02	GROUNDWATER	681534	116524			X				
50MW02	GROUNDWATER	681535	116524	X	X				X	
011516R1	GROUNDWATER	681536	116524			X				
011516R1	GROUNDWATER	681537	116524	X	X			X	X	
49ADW01	GROUNDWATER	681538	116524			X (pH)		X	X	
011516T1	GROUNDWATER	681539	116524	X						

Note: CT Laboratories has confirmed that their LIMS Reporting System) reports the EDD as 8015 and the PDF as RSK-175. The lab confirmed that for reporting purposes with this report that these two are interchangeable. To be consistent between reports, the EDD label for 8015 was changed to RSK-175.

Note: According to the laboratory's case narrative, the standards for MNX, DNX, and TNX were not commercially available at the time of analysis. The primary source standard (used for initial and daily instrument calibrations) was expired when the samples arrived. The secondary source (used for QC purposes) was still valid until March, and was used for both daily calibrations and QC analysis. This is not technically a valid procedure, but the laboratory had no other options. The concentrations of the 2 standards were different, and therefore changed in the laboratory's LIMS reporting system. Due to this issue, all DNX, MNX, and TNX analysis will be considered estimated, with J, or UJ, validation qualifiers.

SUMMARY

All laboratory data were acceptable with qualification. All analyses were completed using the latest Quality Systems Manual version 5.0.

I. SAMPLE RECEIPT / CHAIN OF CUSTODY

Samples were received within the correct temperature range of 0-6°C, with temperatures between 0.8°C and 4.9°C. The chains of custody (COCs) were filled out and signed. All samples had the proper preservation.

II. HOLDING TIMES
Holding time criteria were met. No qualification was required.

VOCs: Samples were analyzed within 14 days of collection.

Explosives: Samples were extracted within seven days of collection and analyzed within 40 days of extraction.

Perchlorates: Samples were analyzed within 28 days of collection.

Metals: Samples were analyzed within 180 days of collection. Mercury samples were analyzed within 28 days of collection.

Anions: Samples were analyzed within 48 hours after collection for nitrate.

MEE (Methane, Ethane, Ethene): Samples were analyzed within 14 days of collection.

COD: Samples were analyzed within 28 days of collection.

TOC/TIC: Samples were analyzed within 28 days of collection.

Chlorate: Samples were analyzed within 28 days of collection.

Chlorite: Samples were analyzed within 14 days of collection.

IV. INSTRUMENT PERFORMANCE

VOCs: GC/MS BFB tuning criteria were met. No qualification was required.

Explosives: Not applicable.

Perchlorates: Not applicable.

Metals: Not applicable.

Anions: Not applicable.

MEE: Not applicable.

COD: Not applicable.

TOC/TIC: Not applicable.

Chlorate: Not applicable.

Chlorite: Not applicable.

V. INSTRUMENT CALIBRATION
INITIAL CALIBRATIONS

VOCs: Initial calibration criteria were met. No qualification was required.

Explosives: Initial calibration %Recovery criteria were met.

Note: According to the laboratory's case narrative, the standards for MNX, DNX, and TNX were not commercially available at the time of analysis. The primary source standard (used for initial and daily instrument calibrations) was expired when the samples arrived. The secondary source (used for QC purposes) was still valid until March, and was used for both daily calibrations and QC analysis. This is not technically a valid procedure, but the laboratory had no other options. The concentrations of the 2 standards were different, and therefore changed in the laboratory's LIMS reporting system. Due to this issue, all DNX, MNX, and TNX analysis will be considered estimated, with J, or UJ, validation qualifiers.

Perchlorate: Initial calibration criteria were met. No qualification was required.

Metals: Initial calibration criteria were met. No qualification was required.

Anions: Initial calibration criteria were met. No qualification was required.

MEE: Initial calibration criteria were met. No qualification was required.

COD: Initial calibration criteria were met. No qualification was required.

TOC/TIC: Initial calibration criteria were met. No qualification was required.

Chlorate/Chlorite: Initial calibration criteria were met. No qualification was required.

SECOND SOURCE STANDARDS

VOCs: Bromomethane was outside the acceptable criteria for %D of 30%, on 012016. Any associated samples were qualified (UJ).

Explosives: All target analytes had %D values less than 20%. Note: the secondary source was not a true secondary source; therefore, all samples are reported as estimated.

Perchlorates: All target analytes had %D values less than 15%.

Metals: All target results had %D values less than 10%.

Anions: Not applicable.

MEE: All target *analytes had %D values less than 15%.*

COD: Not applicable.

TOC/TIC: Not applicable.

Chlorate/Chlorite: Not applicable.

CONTINUING CALIBRATIONS

VOCs: The Continuing Calibration Verification (CCV), analyzed on 01/21/16, was outside criteria for Bromomethane at 31%. The CCV, analyzed on 01/22/16, was outside criteria for Bromomethane at 32% and Dichlorofluoromethane at 23%. Dichlorofluoromethane and

Bromomethane in the associated samples were qualified as non-detect estimated (UJ) for associated samples.

Explosives: CCVs passed %Recovery criteria. See Note below.

Note: According to the laboratory's case narrative, the standards for MNX, DNX, and TNX were not commercially available at the time of analysis. The primary source standard (used for initial and daily instrument calibrations) was expired when the samples arrived. The secondary source (used for QC purposes) was still valid until March, and was used for both daily calibrations and QC analysis. This is not technically a valid procedure, but the laboratory had no other options. The concentrations of the 2 standards were different, and therefore changed in the laboratory's LIMS reporting system. Due to this issue, all DNX, MNX, and TNX analysis will be considered estimated, with J, or UJ, validation qualifiers.

Perchlorate: All continuing calibration criteria were met.

Metals: All continuing calibration criteria were met. Multiple elements exceeded the recovery limit in the CCV1 standard. The sample was reported using CCV2 wavelengths for the failing elements and was reanalyzed for magnesium using an acceptable CCV1 standard. Any samples, with the affected qualified analytes, were estimated (UJ/J).

Anions: All continuing calibration criteria were met.

MEE: All continuing calibration criteria were met.

COD: All continuing calibration criteria were met.

TOC/TIC: All continuing calibration criteria were not met. The CCV analyzed on 01/13/16, failed at 111%Recovery. All affected samples were qualified (UJ/J).

Chlorate/Chlorite: All continuing calibration criteria were met.

VI. BLANKS

METHOD BLANKS

Target analytes were not detected in the method blanks except as noted below.

VOCs: Target analytes were not detected in the method blanks.

Explosives: Target analytes were not detected in the method blanks.

Perchlorate: Target analytes were not detected in the method blanks.

Metals: Silver was detected in the MB greater than the MDL, but less than ½ the RL. Samples 011516R1, 54ADW01 and 49ADW01 were reported and qualified with a B flag for silver because the MB raw result was greater than criteria limits. Selenium was detected in the MB above the MDL and greater than ½ the RL. Samples 011516R1 and 54ADW01 were reported and qualified (B). Iron was also detected in 54ADW01 and qualified (B).

Anions: Anions were not detected in the method blanks.

MEE: Target analytes were not detected in the method blanks.

COD: Target analytes were not detected in the method blanks.

TOC/TIC: TOC analytes were not detected in the method blanks.

Chlorate/Chlorite: Target analytes were not detected in the method blanks.

TRIP BLANKS

VOCs: Target analytes were not detected in the trip blanks.

Explosives: Not applicable.

Perchlorate: Not applicable.

Metals: Not applicable.

Anions: Not applicable.

MEE: Not applicable.

COD: Not applicable.

TOC/TIC: Not applicable.

Chlorate/Chlorite: Not applicable.

INITIAL AND CONTINUING CALIBRATION BLANKS (ICB and CCB)

VOCs: Bromomethane and Chloroethane were detected in the ICB. Sample results were non-detected. No qualification was required.

Explosives: Explosives were not detected in the ICBs or CCBs. No qualification was required.

Perchlorate: Perchlorates were not detected in the ICBs or CCBs. No qualification was required.

Metals: Analytes were detected in the ICBs and CCBs. Samples were reanalyzed and reported at greater than LOD, or MDL. No further qualifications were required.

Anions: Anions were not detected in the ICBs or CCBs. No qualification was required.

MEE: Methane was detected in the ICB. The following sample results were qualified as estimated (B): 50MW02.

COD: COD were not detected in the ICBs or CCBs. No qualification was required.

TOC/TIC: TIC analytes were not detected in the ICBs and CCBs.

Chlorate/Chlorite: Chlorate/chlorite were not detected in the ICBs or CCBs. No qualification was required.

RINSATE BLANKS

Target analytes were not detected in the rinsate blanks except as noted below.

VOCs: Methylene Chloride was detected in the rinsate blank (011516R1). All samples were non-detect; therefore no qualifications were needed.

Explosives: Not applicable.

Perchlorate: Not applicable.

Metals: Not applicable.

Anions: Nitrate/Nitrogen was detected in the rinsate blank (011516R1). The results were considered estimated (B), at greater than two times the blank results, in samples 13MW3, 54MW12, 48MW3, 49TM01, and 50MW02. Chloride was detected in rinsate blank (011516R1). The results were considered qualified as estimated (B), at greater than two times the blank results, in samples 13MW2, 48MW06, 49MW01, 49MW03, 49MW05, 50MW02, and 54MW12.

MEE: Target analytes were not detected in the rinsate blanks.

COD: Not applicable.

TOC/TIC: TOC analytes were detected in the rinsate blank. All samples were non-detect; therefore, no qualifications were needed.

Chlorate/Chlorite: Not applicable.

VII. LABORATORY CONTROL SAMPLES (LCS)

VOCs: LCS recoveries were within control limits.

Explosives: LCS recoveries were within control limits.

Perchlorate: LCS recoveries were within control limits.

Metals: LCS recoveries were within control limits.

Anions: LCS recoveries were within control limits.

MEE: LCS recoveries were within control limits.

COD: LCS recoveries were within control limits.

TOC/TIC: LCS recoveries were within control limits.

Chlorate/Chlorite: LCS recoveries were within control limits.

VIII. SURROGATES
All surrogate recoveries were within control limits except as noted below.

VOCs: Surrogate recoveries were within control limits.

Explosives: Surrogate recovery was not within control limits. 1, 2-Dinitrobenzene failed for the following samples: 54MW12. Compounds were qualified as estimated (UJ, J).

Perchlorate: Not applicable.

Metals: Not applicable.

Anions: Not applicable.

MEE: Not applicable.

COD: Not applicable.

TOC/TIC: Not applicable.

Chlorate/Chlorite: Not applicable.

VIII. MATRIX SPIKE / MATRIX SPIKE DUPLICATE (MS/MSD)

VOCs: VOC spiked recoveries were not within control limits. Sample 48MW2 failed for Bromomethane for MS %Recoveries (%R) (at 155%): Trichlorofluoromethane for MS/MSD %R (at 168%/ 171%); and Ethylbenzene for MSD %R (@123%). These compounds are qualified as estimated (UJ), for sample 48MW2. The %RPD failed for the following compounds, for sample 48MW2: 1,1,2,2-Tetrachloroethane; 1,2-Dibromoethane; 1,4-Dioxane; 2-Butanone; 2-Hexanone; 4-Methyl-2-pentanone; Acetone; Bromodichloromethane; Bromomethane; Methyl Acetate; and trans-1,3-Dichloropropene. All %RPDs failed at greater than 20%, and all the listed compounds were qualified as estimated (UJ).

Explosives: Multiple compounds were outside of the acceptable criteria for MS/MSD %recoveries and %RPD, due to dilution issues. All samples were qualified (UJ/J), for standard solution issues. The associated failing compounds were qualified as estimated (UJ/J).

Perchlorate: Perchlorate was outside the control limits of 84-119%, at 130%/ 70%%, for the MS/D analysis associated with sample 54MW12. Perchlorate sample results were qualified as estimated (J).

Metals: Several analytes were above the specified control limits, for the MS/MSD analysis associated with sample 54ADW01. The following analytes were reported and qualified as estimated (UJ/J): Aluminum, Cadmium, Chromium, Cobalt, Iron, Lead, Manganese, Nickel, Silver, Thallium, Vanadium, and Zinc. Manganese was also outside the %RPD limit criteria and was qualified as estimated (J).

Anions: Chloride, at 112%, was above the control limit of 87-111%, for MSD analysis associated with sample 54MW10, and has been qualified as estimated (J).

MEE: Target analytes were within control limits. No qualification was required.

COD: Target analytes were within control limits. No qualification was required.

TOC/TIC: Target analytes were within control limits. No qualification was required.

Chlorate/Chlorite: Target analytes were within control limits. No qualification was required.

IX. DUPLICATES

FIELD DUPLICATES

Field duplicate samples were collected and identified in the following table.

Field Duplicate Sample	Parent Sample	Matrix	Analyses (Method #)
54TM10	54MW10	GROUNDWATER	300.1, 6850, 8330, 9056, 9060
49TM01	13MW3	GROUNDWATER	8015, 8260, 9056, 9060

Water sample RPDs were within 20% except as noted below. Qualifiers were assigned to duplicate and parent samples for the specific analytes that fail the %RPDs. If the analyte was undetected then the qualifier assigned was UJ.

VOCs: All RPDs were within control limits. No qualification was required.

Explosives: All RPDs were within control limits. No qualification was required.

Perchlorate: All RPDs were within control limits. No qualification was required.

Metals: All RPDs were within control limits. No qualification was required.

Anions: All RPDs were within control limits. No qualification was required.

MEE: All RPDs were within control limits. No qualification was required.

COD: All RPDs were within control limits. No qualification was required.

TOC/TIC: All RPDs were within control limits. No qualification was required.

Chlorate/Chlorite: All RPDs were within control limits. No qualification was required.

LABORATORY DUPLICATES

VOCs: Not applicable.

Explosives: Not applicable.

Perchlorate: Not applicable.

Metals: The RPDs between the parent and lab duplicate samples were not within control limits, for sample 54ADW01, for Iron, and were qualified as estimated (J).

Anions: The RPDs between the parent and lab duplicate samples were within control limits. No qualification was required.

MEE: Not applicable.

COD: The RPDs between the parent and lab duplicate samples were within control limits. No qualification was required.

TOC/TIC: The RPD between the parent and lab duplicate samples were not within control limits for sample 54MW12, at 200%, and sample 48MW02, at 32%. Sample results were qualified as estimated (J).

Chlorate/Chlorite: The RPDs between the parent and lab duplicate samples were within control limits. No qualification was required.

X. INTERNAL STANDARDS (ISTD)
All ISTD criteria were met except as noted below.

VOCs: All ISTD criteria were met.

Explosives: Not applicable.

Perchlorate: All ISTD criteria were met.

Metals: Not applicable.

Anions: Not applicable.

MEE: Not applicable.

COD: Not applicable.

TOC/TIC: Not applicable.

Chlorate/Chlorite: Not applicable.

XI. POST DIGESTION SPIKE AND DILUTION TEST
Post-digestion spike (PDS) analyses and serial dilution tests were performed for lead. PDS results were within the control limits of 75-125% except as noted below. The dilution tests were not applicable unless sample results were greater than 50 times the MDL.

VOCs: Not applicable.

Explosives: Not applicable.

Perchlorate: Not applicable.

Metals: The Serial Dilution (SD) results, for samples 54ADW01, for multiple elements, were less than 50 times the LOQ. A PDS was analyzed, but unacceptable for multiple elements. A separate PDS was analyzed and unacceptable for Calcium and Magnesium for %RPD. The parent sample was reported and qualified as estimated (UJ/J). The SD results, for 48MW3, were not acceptable for Barium and Calcium. The PDS was analyzed, acceptable, and reported.

Anions: Not applicable.

MEE: Not applicable.

COD: Not applicable.

TOC/TIC: Not applicable.

Chlorate/Chlorite: Not applicable.

XII. INTERFERENCE CHECK SAMPLES (ICS)
ICS results were applicable to the lead analysis. Results were within control limits of 80-120% except as noted below.

VOCs: Not applicable.

Explosives: Not applicable.

Perchlorate: Not applicable.

Metals: Recoveries were within control limits.

Anions: Not applicable.

MEE: Not applicable.

COD: Not applicable.

TOC/TIC: Not applicable.

Chlorate/Chlorite: Not applicable.

XIII. REPORTING LIMITS (RL) AND METHOD DETECTION LIMITS (MDL)
The required RLs as listed in the QAPP were met except as noted below.

VOCs: The required RLs as listed in the QAPP were met.

Explosives: The required RLs as listed in the QAPP were met.

Perchlorate: The required RLs as listed in the QAPP were met.

Metals: The required RLs as listed in the QAPP were met.

Anions: The required RLs as listed in the QAPP were met.

MEE: The required RLs as listed in the QAPP were met.

COD: The required RLs as listed in the QAPP were met.

TOC/TIC: The required RLs as listed in the QAPP were met.

Chlorate/Chlorite: The required RLs as listed in the QAPP were met.

XIV. SAMPLE RESULTS / TRANSCRIPTION VERIFICATION

Transcription between the data package and the EDDs was verified. Sample results reported between the MDL and RL were qualified as estimated (J).

VOCs: No issues.

Explosives: No issues.

Perchlorate: No issues.

Metals: No issues.

Anions: No issues.

MEE: No issues.

COD: No issues.

TOC/TIC: No issues.

Chlorate/Chlorite: No issues.

XV. DATA USABILITY

Data were usable as discussed below.

VOCs: No data were rejected. Data required minimal qualification. All data are usable as qualified.

Explosives: No data were rejected. Data required qualification. All data are usable as qualified.

Perchlorate: No data were rejected. Data required minimal qualification. All data are usable as qualified.

Metals: No data were rejected. Data required minimal qualification. All data are usable as qualified.

Anions: No data were rejected. Data required minimal qualification. All data are usable as qualified.

MEE: No data were rejected. Data required minimal qualification. All data are usable as qualified.

COD: No data were rejected. Data required minimal qualification. All data are usable as qualified.

TOC/TIC: No data were rejected. Data required minimal qualification. All data are usable as qualified.

Chlorate/Chlorite: No data were rejected. Data required minimal qualification. All data are usable as qualified.

DATA VALIDATION AND USABILITY REPORT

VOLATILES by USEPA SW-846 Method 8260C
EXPLOSIVES by USEPA SW-846 Method 8330B
MERCURY by USEPA SW-846 Method 7470A
METALS by USEPA SW-846 Method 6010C
CHEMICAL OXYGEN DEMAND by USEPA SW-846 Method 410.4
DISSOLVED GASES (MEE) by USEPA SW-846 Method RSK 175
TOTAL ORGANIC and INORGANIC CARBONS by USEPA SW-846 Method 9060A
ANIONS by USEPA SW-846 Method 9056A
pH by USEPA SW-846 Method 9040C
PERCHLORATES by USEPA SW-846 Method 6850
CHLORATES/CHLORITES by USEPA SW-846 Method 300.1

Project: Radford Army Ammunitions Plant, Virginia – Long Term Monitoring
Project/Task Number: 228-242801-003
Sample Data Package: 118236, 118280, 118319
Laboratory: CT Laboratories, Baraboo, Wisconsin;SGS Accutest, Orlando, Florida;Erofins/Eaton Analytical, South Bend, Indiana
Sample Matrix: Groundwater
Sampling Dates: 12-14 April 2016
Validation Guidelines: Project QAPP (Radford Army Ammunitions Plant, Virginia – LTM; United States Environmental Protection Agency (USEPA) Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, 3rd edition (SW-846); National Functional Guidelines for Inorganic Superfund Data Review (USEPA, August 2014); National Functional Guidelines for Superfund Organic Methods Data Review (October 2013); and professional judgment
Validation Level: Stage 2BVM (100 % of data), Stage 3VM (10% of data)
Data Reviewer: Jennifer Chandler, Chemist with HDR (Henningson, Durham, Richardson)

Sample ID	Matrix	Lab ID	Data Package	VOC	MEE	Chloride/Nitrate/ SO4/pH	PAH/EXP	Metals	TOC/ TIC COD	Chlorate/ Chlorite/ Perchlorates
50MW02	GW	707495	118236	X	X	X			X	
49MW02	GW	707512	118236	X	X	X			X	
48MW3	GW	707513	118236	X	X	X			X	
48MW2	GW	707514	118236	X	X	X			X	
48MW06	GW	707515	118236	X	X	X			X	
49TM01	GW	707516	118236	X	X	X			X	
041216T1	GW	707517	118236	X	X	X			X	
49MW01	GW	708692	118280	X	X	X			X	
48MW1	GW	708694	118280	X	X	X			X	
13MW3	GW	708696	118280	X	X	X			X	
041316R1	GW	708698	118280	X	X	X			X	
13MW4	GW	708700	118280	X	X	X			X	
13MW2	GW	708707	118280	X	X	X			X	
49MW04	GW	708709	118280	X	X	X			X	
49ADW01	GW	708711	118280			X		X	X	
041316T1	GW	708713	118280	X						
54MW12	GW	709222	118319			X	X		X	X

Sample ID	Matrix	Lab ID	Data Package	VOC	MEE	Chloride/Nitrate/ SO4/pH	PAH/EXP	Metals	TOC/ TIC COD	Chlorate/ Chlorite/ Perchlorates
54MW10	GW	709258	118319			X	X		X	X
041416R1	GW	709260	118319			X	X		X	X
54ADW01	GW	709262	118319			X		X	X	
54MW1	GW	709272	118319			X	X		X	X
54TM1	GW	709274	118319			X	X		X	X
54MW13	GW	709276	118319			X	X		X	X

Note: CT Laboratories has confirmed that their LIMS Reporting System) reports the EDD as 8015 and the PDF as RSK-175. The lab confirmed that for reporting purposes with this report that these two are interchangeable. To be consistent between reports, the EDD label for 8015 was changed to RSK-175.

SUMMARY

All laboratory data were acceptable with qualification. All analyses were completed using the latest Quality Systems Manual version 5.0.

I. SAMPLE RECEIPT / CHAIN OF CUSTODY

Samples were received within the correct temperature range of 0-6°C, with temperatures between 0.8°C and 1.2°C. The chains of custody (COCs) were filled out and signed. All samples had the proper preservation.

II. HOLDING TIMES

Holding time criteria were met. No qualification was required.

VOCs: Samples were analyzed within 14 days of collection.

Explosives: Samples were extracted within seven days of collection and analyzed within 40 days of extraction.

Perchlorates: Samples were analyzed within 28 days of collection.

Metals: Samples were analyzed within 180 days of collection. Mercury samples were analyzed within 28 days of collection.

Anions: Samples were analyzed within 48 hours after collection for nitrate. Sulfate and Chloride were analyzed within 28 days after collection.

MEE (Methane, Ethane, Ethene): Samples were analyzed within 14 days of collection.

COD: Samples were analyzed within 28 days of collection.

TOC/TIC: Samples were analyzed within 28 days of collection.

Chlorate: Samples were analyzed within 28 days of collection.

Chlorite: Samples were analyzed within 14 days of collection.

IV. INSTRUMENT PERFORMANCE

VOCs: GC/MS BFB tuning criteria were met. No qualification was required.

Explosives: Not applicable.

Perchlorates: Not applicable.

Metals: Not applicable.

Anions: Not applicable.

MEE: Not applicable.

COD: Not applicable.

TOC/TIC: Not applicable.

Chlorate: Not applicable.

Chlorite: Not applicable.

V. INSTRUMENT CALIBRATION

INITIAL CALIBRATIONS

VOCs: Initial calibration criteria were met. No qualification was required.

Explosives: Initial calibration criteria were met. No qualification was required.

Perchlorate: Initial calibration criteria were met. No qualification was required.

Metals: Initial calibration criteria were met. No qualification was required.

Anions: Initial calibration criteria were met. No qualification was required.

MEE: Initial calibration criteria were met. No qualification was required.

COD: Initial calibration criteria were met. No qualification was required.

TOC/TIC: Initial calibration criteria were met. No qualification was required.

Chlorate/Chlorite: Initial calibration criteria were met. No qualification was required.

SECOND SOURCE STANDARDS

VOCs: All target analytes had %D values less than 20%.

Explosives: All target analytes had %D values less than 20%.

Perchlorates: All target analytes had %D values less than 15%.

Metals: All target results had %D values less than 10%.

Anions: Not applicable.

MEE: All target *analytes had %D values less than 15%.*

COD: Not applicable.

TOC/TIC: Not applicable.

Chlorate/Chlorite: Not applicable.

CONTINUING CALIBRATIONS

VOCs: All continuing calibration criteria were met.

Explosives: All continuing calibration criteria were met.

Perchlorate: All continuing calibration criteria were met.

Metals: All continuing calibration criteria were met.

Anions: All continuing calibration criteria were met.

MEE: All continuing calibration criteria were met.

COD: All continuing calibration criteria were met.

TOC/TIC: All continuing calibration criteria were met.

Chlorate/Chlorite: All continuing calibration criteria were met.

VI. BLANKS

METHOD BLANKS

Target analytes were not detected in the method blanks except as noted below.

VOCs: Target analytes were not detected in the method blanks.

Explosives: Target analytes were not detected in the method blanks.

Perchlorate: Target analytes were not detected in the method blanks.

Metals: Calcium, selenium, silver, copper were detected in the MB. Sample results were qualified as estimated (B). No further qualification was necessary.

Anions: Anions were not detected in the method blanks.

MEE: Target analytes were not detected in the method blanks.

COD: Target analytes were not detected in the method blanks.

TOC/TIC: TOC analytes were not detected in the method blanks.

Chlorate/Chlorite: Target analytes were not detected in the method blanks.

TRIP BLANKS

VOCs: Target analytes were not detected in the trip blanks.

Explosives: Not applicable.

Perchlorate: Not applicable.

Metals: Not applicable.

Anions: Not applicable.

MEE: Not applicable.

COD: Not applicable.

TOC/TIC: Not applicable.

Chlorate/Chlorite: Not applicable.

INITIAL AND CONTINUING CALIBRATION BLANKS (ICB and CCB)

VOCs: Volatiles were not detected in the ICBs or CCBs. No qualification was required.

Explosives: Explosives were not detected in the ICBs or CCBs. No qualification was required.

Perchlorate: Perchlorates were not detected in the ICBs or CCBs. No qualification was required.

Metals: Selenium, silver, beryllium, antimony, copper, and potassium were detected in the ICBs and CCBs. Sample results were qualified as estimated (B). No further qualification was necessary.

Anions: Anions were not detected in the ICBs or CCBs. No qualification was required.

MEE: MEEs were not detected in the ICBs or CCBs. No qualification was required.

COD: COD were not detected in the ICBs or CCBs. No qualification was required.

TOC/TIC: TIC analytes were not detected in the ICBs and CCBs.

Chlorate/Chlorite: Chlorate/chlorite were not detected in the ICBs or CCBs. No qualification was required.

RINSATE BLANKS

Target analytes were not detected in the rinsate blanks except as noted below.

VOCs: Methylene Chloride and acetone were detected in the rinsate blank (041316R1). All samples were non-detect; therefore no qualifications were needed.

Explosives: Not applicable.

Perchlorate: Not applicable.

Metals: Not applicable.

Anions: Target analytes were not detected in the rinsate blanks.

MEE: Target analytes were not detected in the rinsate blanks.

COD: Not applicable.

TOC/TIC: TOC analytes were detected in the rinsate blank. All samples were non-detect; therefore, no qualifications were needed.

Chlorate/Chlorite: Not applicable.

VII. LABORATORY CONTROL SAMPLES (LCS)

VOCs: LCS recoveries were within control limits.

Explosives: LCS recoveries were within control limits.

Perchlorate: LCS recoveries were within control limits.

Metals: LCS recoveries were within control limits.

Anions: LCS recoveries were within control limits.

MEE: LCS recoveries were within control limits.

COD: LCS recoveries were within control limits.

TOC/TIC: LCS recoveries were within control limits.

Chlorate/Chlorite: LCS recoveries were within control limits.

VIII. SURROGATES
All surrogate recoveries were within control limits except as noted below.

VOCs: Surrogate recoveries were within control limits.

Explosives: Surrogate recoveries were not within control limits. On the initial analysis, surrogate recoveries were high in the MB and multiple samples, but the confirmation analysis of each of these had surrogate recoveries within the acceptable QC limits. Some type of contaminant co-elution on the primary analysis that does not occur on the confirmation analysis. The Surrogate values were reported from the primary analysis and the sample surrogate value was qualified, by the lab, with an "S". Compounds were qualified as estimated (UJ, J).

Perchlorate: Not applicable.

Metals: Not applicable.

Anions: Not applicable.

MEE: Not applicable.

COD: Not applicable.

TOC/TIC: Not applicable.

Chlorate/Chlorite: Not applicable.

VIII. MATRIX SPIKE / MATRIX SPIKE DUPLICATE (MS/MSD)

VOCs: Target analytes were within control limits. No qualification was required.

Explosives: Explosives were above the control limits, for the MS/MSD analysis associated with sample 54MW12. Perchlorate sample results were qualified as estimated (J).

Perchlorate: Perchlorate was below the control limits, for the MS analysis associated with sample 54MW12. Perchlorate sample results were qualified as estimated (J).

Metals: Several analytes were above the specified control limits, for the MS/MSD analysis associated with sample 49ADW01. The following analytes were reported and qualified as estimated (UJ/J): Barium, copper, antimony, arsenic, and selenium. The sample was qualified as estimated (J).

Anions: Chloride failed above the control limit for the MS analysis associated with sample 48MW3; chloride and nitrate nitrogen failed for MSD analysis with sample 49MW01; and sulfate was below the control limit for the MS analysis associated with sample 54MW12. Sample results were qualified (UJ/J).

MEE: Target analytes were within control limits. No qualification was required.

COD: Target analytes were within control limits. No qualification was required.

TOC/TIC: Target analytes were within control limits. No qualification was required.

Chlorate/Chlorite: Chlorite was below the control limits, for the MS analysis associated with sample 54MW12. Sample result was qualified as estimated (UJ).

IX. DUPLICATES

FIELD DUPLICATES

Field duplicate samples were collected and identified in the following table.

Field Duplicate Sample	Parent Sample	Matrix	Analyses (Method #)
48MW06	49TM01	GROUNDWATER	8260, 9056, 9060, 9040, RSK175, 410.4

Water sample RPDs were within 20% except as noted below. Qualifiers were assigned to duplicate and parent samples for the specific analytes that fail the %RPDs. If the analyte was undetected then the qualifier assigned was UJ.

VOCs: All RPDs were within control limits. No qualification was required.

Explosives: All RPDs were within control limits. No qualification was required.

Perchlorate: All RPDs were within control limits. No qualification was required.

Metals: All RPDs were within control limits. No qualification was required.

Anions: All RPDs were within control limits. No qualification was required.

MEE: All RPDs were within control limits. No qualification was required.

COD: All RPDs were within control limits. No qualification was required.

TOC/TIC: TOC %RPD was not within control limits. The RPD was greater than 20%, therefore both the parent and field duplicate samples were qualified (J).

Chlorate/Chlorite: All RPDs were within control limits. No qualification was required.

LABORATORY DUPLICATES

VOCs: Not applicable.

Explosives: Not applicable.

Perchlorate: Not applicable.

Metals: The RPDs between the parent and lab duplicate samples were not within control limits, for sample 49ADW01, for manganese, failed and were qualified as estimated (J).

Anions: The RPDs between the parent and lab duplicate samples were within control limits. No qualification was required.

MEE: Not applicable.

COD: The RPDs between the parent and lab duplicate samples were within control limits. No qualification was required.

TOC/TIC: The RPD between the parent and lab duplicate samples were not within control limits for sample 48MW3. Sample results were qualified as estimated (UJ).

Chlorate/Chlorite: The RPDs between the parent and lab duplicate samples were within control limits. No qualification was required.

X. INTERNAL STANDARDS (ISTD)
All ISTD criteria were met except as noted below.

VOCs: All ISTD criteria were met.

Explosives: Not applicable.

Perchlorate: All ISTD criteria were met.

Metals: Not applicable.

Anions: Not applicable.

MEE: Not applicable.

COD: Not applicable.

TOC/TIC: Not applicable.

Chlorate/Chlorite: Not applicable.

XI. POST DIGESTION SPIKE AND DILUTION TEST

Post-digestion spike (PDS) analyses and serial dilution tests were performed for lead. PDS results were within the control limits of 75-125% except as noted below. The dilution tests were not applicable unless sample results were greater than 50 times the MDL.

VOCs: Not applicable.

Explosives: Not applicable.

Perchlorate: Not applicable.

Metals: The Serial Dilution (SD) results, for sample 49ADW01, for multiple elements, were less than 50 times the LOQ. A PDS was analyzed, but unacceptable RPD, for barium, copper, and manganese. The parent sample was reported and qualified as estimated (UJ/J). The SD results, for 49ADW01 and 54ADW01, were not acceptable for calcium and magnesium.

Anions: Not applicable.

MEE: Not applicable.

COD: Not applicable.

TOC/TIC: Not applicable.

Chlorate/Chlorite: Not applicable.

XII. INTERFERENCE CHECK SAMPLES (ICS)

ICS results were applicable to the lead analysis. Results were within control limits of 80-120% except as noted below.

VOCs: Not applicable.

Explosives: Not applicable.

Perchlorate: Not applicable.

Metals: Recoveries were within control limits.

Anions: Not applicable.

MEE: Not applicable.

COD: Not applicable.

TOC/TIC: Not applicable.

Chlorate/Chlorite: Not applicable.

XIII. REPORTING LIMITS (RL) AND METHOD DETECTION LIMITS (MDL)
The required RLs as listed in the QAPP were met except as noted below.

VOCs: The required RLs as listed in the QAPP were met.

Explosives: The required RLs as listed in the QAPP were met.

Perchlorate: The required RLs as listed in the QAPP were met.

Metals: The required RLs as listed in the QAPP were met.

Anions: The required RLs as listed in the QAPP were met.

MEE: The required RLs as listed in the QAPP were met.

COD: The required RLs as listed in the QAPP were met.

TOC/TIC: The required RLs as listed in the QAPP were met.

Chlorate/Chlorite: The required RLs as listed in the QAPP were met.

XIV. SAMPLE RESULTS / TRANSCRIPTION VERIFICATION
Transcription between the data package and the EDDs was verified. Sample results reported between the MDL and RL were qualified as estimated (J).

VOCs: No issues.

Explosives: No issues.

Perchlorate: No issues.

Metals: No issues.

Anions: No issues.

MEE: No issues.

COD: No issues.

TOC/TIC: No issues.

Chlorate/Chlorite: No issues.

XV. DATA USABILITY
Data were usable as discussed below.

VOCs: No data were rejected. Data required minimal qualification. All data are usable as qualified.

Explosives: No data were rejected. Data required qualification. All data are usable as qualified.

Perchlorate: No data were rejected. Data required minimal qualification. All data are usable as qualified.

Metals: No data were rejected. Data required minimal qualification. All data are usable as qualified.

Anions: No data were rejected. Data required minimal qualification. All data are usable as qualified.

MEE: No data were rejected. Data required minimal qualification. All data are usable as qualified.

COD: No data were rejected. Data required minimal qualification. All data are usable as qualified.

TOC/TIC: No data were rejected. Data required minimal qualification. All data are usable as qualified.

Chlorate/Chlorite: No data were rejected. Data required minimal qualification. All data are usable as qualified.

DATA VALIDATION AND USABILITY REPORT

VOLATILES by USEPA SW-846 Method 8260C
DISSOLVED GASES (MEE) by USEPA SW-846 Method RSK 175
MERCURY by USEPA SW-846 Method 7470A
METALS by USEPA SW-846 Method 6010C
CHEMICAL OXYGEN DEMAND by USEPA SW-846 Method 410.4
TOTAL ORGANIC CARBONS by USEPA SW-846 Method 9060A
ANIONS by USEPA SW-846 Method 9056A
pH by USEPA SW-846 Method 9045C

Project: Radford Army Ammunitions Plant, Virginia – Long Term Monitoring
Project/Task Number: 10021896-242801-003
Sample Data Package: 120408, 120462
Laboratory: CT Laboratories, Baraboo, Wisconsin
Sample Matrix: Groundwater

Sampling Dates: 12-13 July 2016
Validation Guidelines: Project QAPP (Radford Army Ammunitions Plant, Virginia – LTM; United States Environmental Protection Agency (USEPA) Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, 3rd edition (SW-846); National Functional Guidelines for Inorganic Superfund Data Review (USEPA, August 2014); National Functional Guidelines for Superfund Organic Methods Data Review (October 2013); and professional judgment
Validation Level: Stage 2BVM (100 % of data)
Data Reviewer: Jennifer Chandler, Chemist with HDR (Henningson, Durham, Richardson)

Sample ID	Matrix	Lab ID	Data Package	VOC	MEE	Chloride/Nitrate/ SO4	TOC	pH/Metals/COD
48MW6	GW	744395	120408	X	X	X	X	
49TM01	GW	744398	120408	X	X	X	X	
48MW1	GW	744400	120408	X	X	X	X	
49MW01	GW	744408	120408	X	X	X	X	
50MW02	GW	744411	120408	X	X	X	X	
49TM02	GW	744414	120408	X	X	X	X	
071216R1	GW	744416	120408	X	X	X	X	
13MW3	GW	744418	120408	X	X	X	X	
13MW4	GW	744420	120408	X	X	X	X	
071216T1	QC	744422	120408	X				
49MW02	GW	744939	120462	X	X	X	X	
48MW3	GW	744970	120462	X	X	X	X	
48MW2	GW	744972	120462	X	X	X	X	
13MW2	GW	744974	120462	X	X	X	X	
49MW04	GW	744976	120462	X	X	X	X	
49ADW01	GW	744978	120462					X
071316T1	QC	744980	120462	X				

SUMMARY

All laboratory data were acceptable with qualification. All analyses were completed using the latest Quality Systems Manual version 5.0.

I. SAMPLE RECEIPT / CHAIN OF CUSTODY

Samples were received within the correct temperature range of 0-6°C, with temperatures between 0.7°C and 4.6°C. The chains of custody (COCs) were filled out and signed. All samples had the proper preservation.

Note: One sample was analyzed for pH (49ADW01). The Holding Time (HT) for pH analysis is considered a field test parameter and should be analyzed immediately. Any analysis performed at a laboratory is considered outside of method criteria; therefore, analysis will be considered estimated (J).

II. HOLDING TIMES

Holding time criteria were met. No qualification was required.

VOCs: Samples were analyzed within 14 days of collection.

Metals: Samples were analyzed within 180 days of collection. Mercury samples were analyzed within 28 days of collection.

Anions: Samples were analyzed within 48 hours after collection for nitrate. Sulfate and Chloride were analyzed within 28 days after collection.

MEE (Methane, Ethane, Ethene): Samples were analyzed within 14 days of collection.

COD: Samples were analyzed within 28 days of collection.

TOC: Samples were analyzed within 28 days of collection.

III. BLANKS

METHOD BLANKS (MB)

Target analytes were not detected in the method blanks except as noted below.

VOCs: Target analytes were not detected in the method blanks.

Metals: Target analytes were not detected in the method blanks.

Anions: Anions were not detected in the method blanks.

MEE: Target analytes were not detected in the method blanks.

COD: Target analytes were not detected in the method blanks.

TOC: TOC analytes were not detected in the method blanks.

TRIP BLANKS (TB)

VOCs: 1,4-Dioxane was detected in TB 071316T1. Sample results were qualified as estimated (B). No further qualification was necessary.

RINSATE BLANKS (RB)

Target analytes were not detected in the RBs except as noted below.

VOCs: Styrene, Toluene, and Chloromethane were detected in the RB (071216R1). Sample results less than two times the blank concentration have been qualified with a B for blank contamination.

Metals: Not applicable.

Anions: Target analytes were not detected in the rinsate blanks.

MEE: Target analytes were not detected in the rinsate blanks.

COD: Not applicable.

TOC: Target analytes were not detected in the rinsate blanks.

IV. LABORATORY CONTROL SAMPLES (LCS)

VOCs: LCS recoveries were within control limits.

Metals: LCS recoveries were within control limits.

Anions: LCS recoveries were within control limits.

MEE: LCS recoveries were within control limits.

COD: LCS recoveries were within control limits.

TOC: LCS recoveries were within control limits.

V. SURROGATES

All surrogate recoveries were within control limits except as noted below.

VOCs: Surrogate recoveries were within control limits.

VI. MATRIX SPIKE / MATRIX SPIKE DUPLICATE (MS/MSD)

VOCs: 1,4-Dioxane was above the specified control limits, for the MSD analysis associated with sample 48MW2. Sample results were qualified as estimated (J). 1,4-Dioxane, Bromoform, Chloromethane, cis-1,2-Dichloroethene, and Trichloroethene were outside the specified control limits, for the MS/MSD analysis associated to sample 48MW6. Samples were qualified as estimated (J).

Metals: Mercury was below the specified control limits, for the MS analysis associated with sample 49ADW01. Samples were qualified as estimated (J).

Anions: Chloride was above the specified control limits, for the MS analysis associated with sample 48MW1. Samples were qualified as estimated (J).

MEE: Target analytes were within control limits. No qualification was required.

COD: Target analytes were within control limits. No qualification was required.

TOC: Target analytes were within control limits. No qualification was required.

XII. DUPLICATES

FIELD DUPLICATES

Field duplicate samples were collected and identified in the following table.

Field Duplicate Sample	Parent Sample	Matrix	Analyses (Method #)
49TM01	48MW6	GROUNDWATER	8260, 9056, 9060, RSK175
50MW02	49TM02	GROUNDWATER	8260, 9056, 9060, RSK175

Water sample RPDs were within 20% except as noted below. Qualifiers were assigned to duplicate and parent samples for the specific analytes that fail the %RPDs (J). If the analyte was undetected then the qualifier assigned was UJ.

VOCs: 1,1,1-Trichlorethane; cis-1,2-Dichloroethene;%RPD was not within control limits in sample pairing 48MW6-49TM01. 1,4-Dioxane %RPD was not within control limits in sample pairing 50MW02-49TM02. The RPD was greater than 20%, therefore both the parent and field duplicate samples were qualified (J).

Metals: Not applicable.

Anions: All RPDs were within control limits. No qualification was required.

MEE: Methane %RPD was not within control limits in sample pairing 50MW02-49TM02. The RPD was greater than 20%, therefore both the parent and field duplicate samples were qualified (J).

COD: Not applicable.

TOC: All RPDs were within control limits. No qualification was required.

XIII. POST DIGESTION SPIKE AND DILUTION TEST

Post-digestion spike (PDS) analyses and serial dilution tests were performed for lead. PDS results were within the control limits of 75-125% except as noted below. The dilution tests were not applicable unless sample results were greater than 50 times the MDL.

Metals: None were reported.

IX. INTERFERENCE CHECK SAMPLES (ICS)

ICS results were applicable to the lead analysis. Results were within control limits of 80-120% except as noted below.

Metals: None were reported.

X. REPORTING LIMITS (RL) AND METHOD DETECTION LIMITS (MDL)

The required RLs as listed in the QAPP were met except as noted below.

VOCs: The required RLs as listed in the QAPP were met.

Metals: The required RLs as listed in the QAPP were met.

Anions: The required RLs as listed in the QAPP were met.

MEE: The required RLs as listed in the QAPP were met.

COD: The required RLs as listed in the QAPP were met.

TOC: The required RLs as listed in the QAPP were met.

XI. SAMPLE RESULTS / TRANSCRIPTION VERIFICATION

Transcription between the data package and the EDDs was verified. Sample results reported between the MDL and RL were qualified as estimated (J).

VOCs: No issues.

Metals: No issues.

Anions: No issues.

MEE: No issues.

COD: No issues.

TOC: No issues.

XII. DATA USABILITY

Data were usable as discussed below.

VOCs: No data were rejected. Data required minimal qualification. All data are usable as qualified.

Metals: No data were rejected. Data required minimal qualification. All data are usable as qualified.

Anions: No data were rejected. Data required minimal qualification. All data are usable as qualified.

MEE: No data were rejected. Data required minimal qualification. All data are usable as qualified.

COD: No data were rejected. Data required minimal qualification. All data are usable as qualified.

TOC: No data were rejected. Data required minimal qualification. All data are usable as qualified.

Appendix B-2
Laboratory Analytical Reports
(Electronic Only)

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ANALYTICAL RESULTS FOR:

S JULIA LIU
BERING SEA ENVIRONMENTAL
615 E 82ND AVENUE, #200
ANCHORAGE, AL 99518

PROJECT SITE: RAAP, RADFORD, VA

PROJECT #: 313010-001

SDG: 114433 (Folders 114433, 114442, 114475)

PREPARED: October 27, 2015

TOTAL # OF PAGES IN THIS DOCUMENT: 1943

The data contained in the following report have been reviewed by the appropriate CT Laboratories' LLC staff members. In addition, CT Laboratories LLC certifies that to the best of our knowledge that the analyses reported herein are true, complete and correct within the limits of the methods employed and that they follow the applicable requirements as specified by the project plan, state-specific, NELAC or DOD QSM requirements. The estimated uncertainty of measurement is only available upon request. The reported results relate only to the tested samples. This report shall not be reproduced, except in full, without written approval of CT Laboratories LLC.

APPROVED BY: _____
LABORATORY DIRECTOR

APPROVED BY: _____
QA OFFICER

APPROVED BY: _____
PROJECT MANAGER

Certifications: IL (NELAP 002413), KS (NELAP E-10368), KY (0023), NC (674), WI (157066030), DOD ELAP (A2LA 3806.01), VA (7608), MD (344), LA (NELAP 115843), ISO17025 (A2LA 3806.01, GA EDP Stipulation (Accreditor: LA NELAP, ACC#: E971111, Scope: Non-potable water solid and chemical materials, biological tissue, Effective: 12/10/2014, Expires: annually)

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Case Narrative

Client: Bering Sea Environmental
Project: RAAP, Radford, VA
Sample Receipt Date(s): 10/01 - 03/2015
SDG #: 114433

Twenty-one water samples and two Trip Blanks were received and analyzed for VOC, anions, TOC, TIC, Explosives, dissolved gases, metals, pH, COD, subcontracted perchlorate and chlorate/chlorite analysis. The assigned sample ID number, date sampled, and date received are indicated in the attached Project Summary. The samples were received intact and at a temperature within method specified acceptance limits. A breakdown of sample receipt information can be found on the Sample Condition Report located in the last section of the data package and any exceptions are noted below. The analyses were performed following DOD QSM 5.

Sample Analysis and Quality Control

Volatile Analysis:

The samples were analyzed using US EPA Method 8260C and RSK-175. All samples were analyzed within the holding time. The following summaries of quality control procedures are included:

Surrogate Recovery Data
Matrix Spike/Matrix Spike Duplicate Recovery Data
Laboratory Control Spike Data
Method Blank Data
Initial Calibration Summary
Calibration Check Summary
Analysis Run Log
Prep Log
Chromatograms

All analysis results met the method specified quality control criteria with the following exceptions:

Manual integrations may have been performed on the data provided with this package. If manual integrations were performed, a Reason #(s) was included on the raw data that corresponds to the “Index Key for Manual Integration Rationale.” The raw data includes a “Before” and "After" manual integration illustration. The manual integrations were initialed and dated by the analyst, as well as, by the person reviewing the data.

VOC (8260C) Water Analyses

Detailed reports were provided for the 8260 data for all detected compounds, as well as, for those compounds manually integrated (if applicable). Compounds not reported on the form 1’s were either not detected or did not meet identification criteria so they were reported as non-detects.

Compounds that may not meet the recommended minimum average response factor (ARF) criteria for 8260C (such as several of the ketones) are analyzed at concentrations 2 to 50 times higher than normal to make up for their lack of response. However, the ARF on the response factor (RF) forms do not reflect this change in concentration. These compounds may be “flagged” on RF forms as a result.

Volatile Analysis Continued:

Analytical Run # 119465

Level 8 was not used for vinyl acetate, 4-methyl-2-pentanone, and 2-hexanone on the initial calibration curve (W100315) due to loss in linearity. Acetone, methylene chloride, vinyl acetate, 4-methyl-2-pentanone, and 2-hexanone were calibrated using quadratic regression (two ICV's were analyzed for these compounds).

CCV1 had a high recovery outside specified criteria for methyl acetate (>20% Dev.). This compound was qualified with a "Z" flag on all associated samples.

CCV2 had a high recovery outside specified criteria for bromomethane (>20% Dev.). This compound was qualified with a "Z" flag on all associated samples.

Dissolved Gases (Methane, Ethene, Ethane)

Analytical Run # 119552

All analysis results for this SDG met the method/project specified quality control criteria.

Explosives Analysis:

The samples were analyzed using US EPA Method 8330B. All samples were analyzed within the holding time. The following summaries of quality control procedures are included:

Surrogate Recovery Data
Matrix Spike/Matrix Spike Duplicate Recovery Data
Laboratory Control Spike Data
Method Blank Data
Initial Calibration Summary
Calibration Check Summary
Analysis Run Log
Prep Log
Chromatograms

All analysis results met the method specified quality control criteria with the following exceptions:

8330 Explosives Analyses

Manual integrations have been performed on the data provided with this package. If manual integrations were performed, a Reason #(s) was included on the raw data that corresponds to the "Index Key for Manual Integration Rationale". The raw data includes a "Before" and "After" manual integration illustration. The manual integrations were initialed and dated by the analyst, as well as, by the person reviewing the data.

Client: Bering Sea Environmental
Project: RAAP, Radford, VA
Sample Receipt Date(s): 10/01 - 03/2015
SDG #: 114433

Explosives Analysis Continued:

Analytical Run 119663

The matrix spike (MS) and matrix spike duplicate (MSD) were performed on sample 640119. The MS had high recovery of nitroglycerin due to matrix interference on the primary analysis. Recovery of nitroglycerin on the confirmation analysis was within the acceptable QC range. The primary analysis value was reported and the parent sample was qualified with an "M". The MSD had low recoveries of almost all analytes. It was re-analyzed on the confirmation column and the low recoveries were confirmed. Analytes with failing recoveries were qualified with an "M" in the parent sample. Because of the low MSD recoveries, there were also several RPD failures. The analytes with failing RPDs were qualified with a "Y" in the parent sample.

Sample 640120 had low surrogate recovery on both the primary and confirmation analyses. There was no sample available for re-prep. The failing surrogate was qualified with an "S".

Samples 640119, 640120, and 640121 had confirmed positive hits for RDX with values greater than 40% different between the two column analyses. This is likely due to matrix interferences that elute at different times on the two columns. RDX in these samples was qualified with a "P".

CCV #11 on the confirmation analysis performed on 10/13/2015 had a high result for nitrobenzene (NB). NB did not have any positive detects in the primary sample analysis and samples were not being confirmed for this compound. The data was not qualified.

Analytical Run 119664

The initial primary analysis of the MSD had low recoveries of all analytes. It was re-analyzed on the confirmation column. The confirmation analysis results had all analytes within the acceptable QC limits. This pointed to a possible misinjection on the primary analysis. The MSD was re-analyzed on the primary column and the data was reported from this second primary column analysis.

Sample 640120 had low surrogate recovery on both the primary and confirmation analyses. There was no sample available for re-prep. Surrogate was qualified with an "S". Samples 640121 and 640122 had high surrogate recovery on the primary analysis due to interference. Recovery on the confirmation analysis was within QC limits. The primary result was reported in both samples and qualified with an "S".

Metals Analysis:

The samples were analyzed using US EPA SW-846 methodology 6010C for the ICP metals and 7471 for the mercury. All samples were analyzed within the holding time. The following summaries of quality control procedures are included:

Initial and Continuing Calibration Verification
Blanks Summary
ICP Interference Check Data
Spike Sample Recovery
Duplicates Data
Laboratory Control Sample Data
Analysis Run Log

Metals Analysis Continued:

All analysis results met the method specified quality control criteria with the following exceptions:

ICP Metals Analyses

Continuing Calibration Verification (CCV) standards were analyzed at two levels (CCV1 & CCV2) with potentially differing wavelengths. Data associated with CCV's were evaluated based on the concentration of the element in the samples and compared to the appropriate CCV level/wavelength.

Some samples may have been analyzed and/or reanalyzed diluted to obtain results for all target analytes within the calibration range of the instrument.

Analytical Run # 119595

Lead was detected in the Initial Calibration Blank (ICB) standard greater than the Limit of Detection (LOD). The samples were reanalyzed for lead.

Lead and selenium were detected in the Continuing Calibration Blank (CCB) standard greater than the LOD. The samples were reanalyzed for lead and selenium when the sample results were greater than the Method Detection Limit (MDL).

Calcium and magnesium were detected in the Method Blank (MB) greater than the MDL but less than ½ the Reporting Limit (RL). The samples were reported and not qualified because the MB results were less than $1/10^{th}$ of the sample results.

The Serial Dilution (L) for sample # 640611 was not applicable for multiple elements because the parent sample raw results were less than 50 times the Limit of Quantitation (LOQ). A Post Digestion Spike (PDS) was analyzed and was unacceptable for iron. The parent sample was reported and qualified with an "M" flag for iron.

The L for sample # 640611 was not acceptable for barium, calcium, and magnesium because the results exceeded the Relative Percent Difference (RPD) limit. A PDS was analyzed and was acceptable. The parent sample was reported and not qualified.

The Duplicate (DUP) for sample # 640611 was not applicable for multiple elements because the parent sample results were less than five times the LOQ. A Matrix Spike Duplicate (MSD) was analyzed to demonstrate precision and was acceptable. The parent sample was reported and not qualified.

The Matrix Spike (MS) and MSD for sample # 640611 exceeded the recovery limit for chromium. A PDS was analyzed and was acceptable. The parent sample was reported and not qualified.

ICP Metals (Sodium and Potassium) Analyses

Analytical Run # 119596

The L for sample # 640611 was not applicable for sodium and potassium because the parent sample raw results were less than 50 times the LOQ. A PDS was analyzed and was acceptable. The parent sample was reported and not qualified.

Metals Analysis Continued:

The DUP for sample # 640611 was not applicable for potassium because the parent sample result was less than five times the LOQ. An MSD was analyzed to demonstrate precision and was acceptable. The parent sample was reported and not qualified.

CVAA Mercury Analysis

Analytical Run # 119700

The L for sample # 640616 was not applicable for mercury because the parent sample raw result was less than 50 times the LOQ. A PDS was analyzed and was acceptable. The parent sample was reported and not qualified.

The DUP for sample # 640616 was not applicable for mercury because the parent sample result was less than five times the LOQ. An MSD was analyzed to demonstrate precision and was acceptable. The parent sample was reported and not qualified.

Inorganic Analyses:

The samples were analyzed using US EPA Methods 9060A, 9040C, 410.4 and 9056A. All samples were analyzed within the holding time. The following summaries of quality control procedures are included:

Duplicate Analysis Data
Laboratory Control Spike Data
Method Blank Data
Initial Calibration Summary
Calibration Check Summary
Analysis Run Log
Prep Log

All analysis results met the method specified quality control criteria with the following exceptions:

Manual integrations may have been performed on the data provided with this package. If manual integrations were performed, a Reason #(s) was included on the raw data that corresponds to the “Index Key for Manual Integration Rationale”. The raw data includes a “Before” and "After” manual integration illustration. The manual integrations were initialed and dated by the analyst, as well as, by the person reviewing the data.

All analysis results for this SDG met the method/project specified quality control criteria with the following exceptions:

Some samples may have been analyzed and/or reanalyzed diluted to obtain results for all target analytes within the calibration range of the instrument.

Anions Analyses

Analytical Run # 119441

The Matrix Spike (MS) and the Matrix Spike Duplicate (MSD) for sample # 640109 had a low recovery for sulfate. The parent sample result for this analyte was qualified with a “Q” flag.

Client: Bering Sea Environmental
Project: RAAP, Radford, VA
Sample Receipt Date(s): 10/01 - 03/2015
SDG #: 114433

Inorganic Analysis Continued:

Analytical Run # 119453

All analysis results for this SDG met the method/project specified quality control criteria.

Analytical Run # 119481

The Matrix Spike (MS) and the Matrix Spike Duplicate (MSD) for sample # 640601 had a low recovery for sulfate. The parent sample result for this analyte was qualified with a "Q" flag.

Chemical Oxygen Demand (COD) Analyses

Analytical Run # 119541

All analysis results for this SDG met the method/project specified quality control criteria.

pH Analyses

Analytical Run # 119728

All analysis results for this SDG met the method/project specified quality control criteria.

Total Inorganic Carbon (TIC) Analyses

Analytical Run # 119545

All analysis results for this SDG met the method/project specified quality control criteria.

Total Organic Carbon (TOC) Analyses

Analytical Run # 119569

The Duplicate (DUP) for sample # 640119 exceeded Relative Percent Difference (RPD) limits. The parent sample result was qualified with a "Y" flag.

Analytical Run # 119544

A Continuing Calibration Blank (CCB # 642677) had a detection above the LOD but <1/2 the RL. Any affected samples were reanalyzed and the data was not flagged. The samples with results >20x the blank result were not reanalyzed and not flagged.

The MS and the MSD for sample # 640259 had a low recovery. The parent sample result was qualified with an "M" flag.

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Data Qualifiers

Code	Description
A	Analyte averaged calibration criteria within acceptable limits.
B	Analyte detected in associated Method Blank.
C	Toxicity present in BOD sample.
D	Diluted Out.
E	Safe, No Total Coliform detected.
F	Unsafe, Total Coliform detected, no E. Coli detected.
G	Unsafe, Total Coliform detected and E. Coli detected.
H	Holding time exceeded.
J	Estimated value.
L	Significant peaks were detected outside the chromatographic window.
M	Matrix spike and/or Matrix Spike Duplicate recovery outside acceptance limits.
N	Insufficient BOD oxygen depletion.
O	Complete BOD oxygen depletion.
P	Concentration of analyte differs more than 40% between primary and confirmation analysis.
Q	Laboratory Control Sample outside acceptance limits.
R	See Narrative at end of report.
S	Surrogate standard recovery outside acceptance limits due to apparent matrix effects.
T	Sample received with improper preservation or temperature.
U	Analyte concentration was not above the detection level.
V	Raised Quantitation or Reporting Limit due to limited sample amount or dilution for matrix background interference.
W	Sample amount received was below program minimum.
X	Analyte exceeded calibration range.
Y	Replicate/Duplicate precision outside acceptance limits.
Z	Calibration criteria exceeded.

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MANUAL INTEGRATION REASON CODES

CTLaboratories has identified four general cases with valid reasons supporting the use of manual integration techniques. These codes are used on chromatograms in this data package to document the reasons for manual integrations per CTLaboratories' SOP SS-10 current revision.

#1: **Data system failed to select the correct peak or missed the peak entirely.**
In some cases the chromatography system selects and integrates the "wrong peak". In this case the analyst must correct the selection and force the system to integrate the proper peak. In other instances the system may miss the peak completely. In this case the analyst manually integrated the peak

#2: **Data System Splits the Peak Incorrectly or Integrates a False Peak as a Rider Peak.**
This phenomenon is common at low concentrations where the signal to noise ratio is low. A single compound (peak) is incorrectly split into multiple peaks or integrated as a main peak with one or more rider peaks resulting in low or high area counts for the target compound.

#3: Improperly Integrated Isomers and/or coeluting compounds.
For when the system fails to distinguish coeluting compounds and or isomers. The integration areas and concentrations may be inaccurate, and they must be corrected by manual integration. Prime examples are compounds that are unresolved and integrated improperly when present at low concentrations in standards or samples.

#4: System Established Incorrect Baseline.
There are numerous situations in chromatography where the system establishes the baseline incorrectly. Some baseline errors will be obvious to the analyst and may be corrected via manual procedures.

#5: Miscellaneous.
Some situations involving integration errors may require in-depth review and technical judgment. These cases should be brought to the attention of the group supervisor. If the form of manual integration is not clearly covered by these four cases, then review and approval by the group supervisor or the *QA/QC* Supervisor will be required.

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Sample Delivery Group

114433

BERING SEA ENVIRONMENTAL
S. JULIA LIU
615 E 82ND AVE
#200
ANCHORAGE, AK 99518

Project Name: RAAP
Project #: 313010-001

CT Sample #	Folder #	Client Sample #	Sample Description	Matrix	Date Sampled	Date Received
640106	114433		54MW1	GROUND WATER	09/30/2015	10/01/2015
640109	114433		54MW12	GROUND WATER	09/30/2015	10/01/2015
640110	114433		54MW13	GROUND WATER	09/30/2015	10/01/2015
640111	114433		54MW10	GROUND WATER	09/30/2015	10/01/2015
640112	114433		SWMU54TM	GROUND WATER	09/30/2015	10/01/2015
640113	114433		49MW04	GROUND WATER	09/30/2015	10/01/2015
640118	114433		54MW1	GROUND WATER	09/30/2015	10/01/2015
640119	114433		54MW12	GROUND WATER	09/30/2015	10/01/2015
640120	114433		54MW13	GROUND WATER	09/30/2015	10/01/2015
640121	114433		54MW10	GROUND WATER	09/30/2015	10/01/2015
640122	114433		SWMU54TM	GROUND WATER	09/30/2015	10/01/2015
640123	114433		49MW04	GROUND WATER	09/30/2015	10/01/2015
640251	114442		48MW07	GROUND WATER	10/01/2015	10/02/2015
640252	114442		48MW07	GROUND WATER	10/01/2015	10/02/2015
640254	114442		48MW06	GROUND WATER	10/01/2015	10/02/2015
640255	114442		48MW06	GROUND WATER	10/01/2015	10/02/2015
640256	114442		49TM01	GROUND WATER	10/01/2015	10/02/2015
640257	114442		49TM01	GROUND WATER	10/01/2015	10/02/2015
640258	114442		48MW2	GROUND WATER	10/01/2015	10/02/2015
640259	114442		48MW2	GROUND WATER	10/01/2015	10/02/2015
640260	114442		48MW1	GROUND WATER	10/01/2015	10/02/2015
640261	114442		48MW1	GROUND WATER	10/01/2015	10/02/2015
640262	114442		49MW01	GROUND WATER	10/01/2015	10/02/2015
640263	114442		49MW01	GROUND WATER	10/01/2015	10/02/2015
640297	114442		100115T1	TRIP BLANK	10/01/2015	10/02/2015
640601	114475		13MW3	GROUND WATER	10/02/2015	10/03/2015
640602	114475		13MW3	GROUND WATER	10/02/2015	10/03/2015
640603	114475		13MW4	GROUND WATER	10/02/2015	10/03/2015
640604	114475		13MW4	GROUND WATER	10/02/2015	10/03/2015
640605	114475		13MW2	GROUND WATER	10/02/2015	10/03/2015
640606	114475		13MW2	GROUND WATER	10/02/2015	10/03/2015
640607	114475		100215R1	GROUND WATER	10/02/2015	10/03/2015

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Sample Delivery Group

114433

BERING SEA ENVIRONMENTAL
S. JULIA LIU
615 E 82ND AVENUE
200
ANCHORAGE, AK 99518

Project Name: RADFORD AAP
Project #: 313010-010

CT Sample #	Folder #	Client Sample #	Sample Description	Matrix	Date Sampled	Date Received
640608	114475		100215R1	GROUND WATER	10/02/2015	10/03/2015
640609	114475		48MW3	GROUND WATER	10/02/2015	10/03/2015
640610	114475		48MW3	GROUND WATER	10/02/2015	10/03/2015
640611	114475		ADW01	GROUND WATER	10/02/2015	10/03/2015
640612	114475		49MW02	GROUND WATER	10/02/2015	10/03/2015
640613	114475		49MW02	GROUND WATER	10/02/2015	10/03/2015
640614	114475		50MW02	GROUND WATER	10/02/2015	10/03/2015
640615	114475		50MW02	GROUND WATER	10/02/2015	10/03/2015
640616	114475		ADW02	GROUND WATER	10/02/2015	10/03/2015
640617	114475		TRIP BLANK	TRIP BLANK	10/02/2015	10/03/2015

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QC Batch Cross Reference Summary

BERING SEA ENVIRONMENTAL
S. JULIA LIU
615 E 82ND AVENUE
200
ANCHORAGE, AK 99518

Project Name:	RADFORD AAP
Project #:	313010-010
Report Date:	10/21/2015
Date Received:	10/03/2015
SDG #:	114433

Inorganic Parameters

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
640611	pH	EPA 9040C	GROUND WATER		119728
640616	pH	EPA 9040C	GROUND WATER		119728

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
640251	Sample Filtration	SOP #FO-10	GROUND WATER		119475
640254	Sample Filtration	SOP #FO-10	GROUND WATER		119475
640256	Sample Filtration	SOP #FO-10	GROUND WATER		119475
640258	Sample Filtration	SOP #FO-10	GROUND WATER		119475
640260	Sample Filtration	SOP #FO-10	GROUND WATER		119475
640262	Sample Filtration	SOP #FO-10	GROUND WATER		119475
640601	Sample Filtration	SOP #FO-10	GROUND WATER		119726
640603	Sample Filtration	SOP #FO-10	GROUND WATER		119726
640605	Sample Filtration	SOP #FO-10	GROUND WATER		119726
640607	Sample Filtration	SOP #FO-10	GROUND WATER		119726
640609	Sample Filtration	SOP #FO-10	GROUND WATER		119726
640612	Sample Filtration	SOP #FO-10	GROUND WATER		119726
640614	Sample Filtration	SOP #FO-10	GROUND WATER		119726

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
640118	Carbon , Total Inorganic and Orga	EPA 9060A	GROUND WATER		119545
640119	Carbon , Total Inorganic and Orga	EPA 9060A	GROUND WATER		119545
640120	Carbon , Total Inorganic and Orga	EPA 9060A	GROUND WATER		119545
640121	Carbon , Total Inorganic and Orga	EPA 9060A	GROUND WATER		119545
640122	Carbon , Total Inorganic and Orga	EPA 9060A	GROUND WATER		119545

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
640611	COD QSM	EPA 410.4	GROUND WATER	54494	119541
640616	COD QSM	EPA 410.4	GROUND WATER	54494	119541

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Project Name: RAAP
Project #: 313010-001
SDG #: 114433

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
640106	Anions QSM 5.0	EPA 9056A	GROUND WATER		119441
640109	Anions QSM 5.0	EPA 9056A	GROUND WATER		119441
640110	Anions QSM 5.0	EPA 9056A	GROUND WATER		119441
640111	Anions QSM 5.0	EPA 9056A	GROUND WATER		119441
640112	Anions QSM 5.0	EPA 9056A	GROUND WATER		119441
640113	Anions QSM 5.0	EPA 9056A	GROUND WATER		119441
640251	Anions QSM 5.0	EPA 9056A	GROUND WATER		119453
640254	Anions QSM 5.0	EPA 9056A	GROUND WATER		119453
640256	Anions QSM 5.0	EPA 9056A	GROUND WATER		119453
640258	Anions QSM 5.0	EPA 9056A	GROUND WATER		119453
640260	Anions QSM 5.0	EPA 9056A	GROUND WATER		119453
640262	Anions QSM 5.0	EPA 9056A	GROUND WATER		119453
640601	Anions QSM 5.0	EPA 9056A	GROUND WATER		119481
640603	Anions QSM 5.0	EPA 9056A	GROUND WATER		119481
640605	Anions QSM 5.0	EPA 9056A	GROUND WATER		119481
640607	Anions QSM 5.0	EPA 9056A	GROUND WATER		119481
640609	Anions QSM 5.0	EPA 9056A	GROUND WATER		119481
640612	Anions QSM 5.0	EPA 9056A	GROUND WATER		119481
640614	Anions QSM 5.0	EPA 9056A	GROUND WATER		119481
640254	Anions QSM 5.0	EPA 9056A	GROUND WATER		119453
640256	Anions QSM 5.0	EPA 9056A	GROUND WATER		119453

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
640118	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		119569
640119	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		119569
640120	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		119569
640121	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		119569
640122	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		119569
640123	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		119569
640252	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		119544
640255	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		119544
640257	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		119544
640259	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		119544
640261	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		119544
640263	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		119544
640602	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		119544
640604	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		119544
640606	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		119544
640608	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		119544
640610	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		119544
640613	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		119544
640615	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		119544

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Project Name: RADFORD AAP
Project #: 313010-010
SDG #: 114433

Metal Parameters

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
640611	Potassium, Total QSM 5.0	EPA 6010C	GROUND WATER	54510	119596
640616	Potassium, Total QSM 5.0	EPA 6010C	GROUND WATER	54510	119596

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
640611	Sodium, Total QSM 5.0	EPA 6010C	GROUND WATER	54510	119596
640616	Sodium, Total QSM 5.0	EPA 6010C	GROUND WATER	54510	119596

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
640611	ICP Metals, Total QSM 5.0	EPA 6010C	GROUND WATER	54510	119595
640616	ICP Metals, Total QSM 5.0	EPA 6010C	GROUND WATER	54510	119595
640611	ICP Metals, Total QSM 5.0	EPA 6010C	GROUND WATER	54510	119595
640616	ICP Metals, Total QSM 5.0	EPA 6010C	GROUND WATER	54510	119595
640611	ICP Metals, Total QSM 5.0	EPA 6010C	GROUND WATER	54510	119595
640616	ICP Metals, Total QSM 5.0	EPA 6010C	GROUND WATER	54510	119595

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
640611	Mercury, Total QSM	EPA 7470A	GROUND WATER	54544	119700
640616	Mercury, Total QSM	EPA 7470A	GROUND WATER	54544	119700

Organic Parameters

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
640123	VOC's by 8260 QSM 5.0	EPA 624	GROUND WATER		119465
640252	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		119465
640255	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		119465
640257	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		119465
640259	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		119465
640261	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		119465
640263	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		119465
640297	VOC's by 8260 QSM 5.0	EPA 624	TRIP BLANK		119465
640602	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		119465
640604	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		119465
640606	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		119465
640608	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		119465
640610	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		119465
640613	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		119465

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Project Name: RADFORD AAP
Project #: 313010-010
SDG #: 114433

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
640615	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		119465
640617	VOC's by 8260 QSM 5.0	EPA 8260C	TRIP BLANK		119465

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
640123	Dissolved Gases QSM 5.0	Modified RSK 17	GROUND WATER	54511	119552
640252	Dissolved Gases QSM 5.0	Modified RSK 17	GROUND WATER	54511	119552
640255	Dissolved Gases QSM 5.0	Modified RSK 17	GROUND WATER	54511	119552
640257	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	54511	119552
640259	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	54511	119552
640261	Dissolved Gases QSM 5.0	Modified RSK 17	GROUND WATER	54511	119552
640263	Dissolved Gases QSM 5.0	Modified RSK 17	GROUND WATER	54511	119552
640602	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	54511	119552
640604	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	54511	119552
640606	Dissolved Gases QSM 5.0	Modified RSK 17	GROUND WATER	54511	119552
640608	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	54511	119552
640610	Dissolved Gases QSM 5.0	Modified RSK 17	GROUND WATER	54511	119552
640613	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	54511	119552
640615	Dissolved Gases QSM 5.0	Modified RSK 17	GROUND WATER	54511	119552
640617	Dissolved Gases QSM 5.0	Mod RSK 175	TRIP BLANK	54511	119552

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
640118	Explosives by 8330	EPA 8330B	GROUND WATER	54487	119663
640119	Explosives by 8330	EPA 8330B	GROUND WATER	54487	119663
640120	Explosives by 8330	EPA 8330B	GROUND WATER	54487	119663
640121	Explosives by 8330	EPA 8330B	GROUND WATER	54487	119663
640122	Explosives by 8330	EPA 8330B	GROUND WATER	54487	119663

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
640118	Explosives by 8330	EPA 8330B	GROUND WATER	54486	119664
640119	Explosives by 8330	EPA 8330B	GROUND WATER	54486	119664
640120	Explosives by 8330	EPA 8330B	GROUND WATER	54486	119664
640121	Explosives by 8330	EPA 8330B	GROUND WATER	54486	119664
640122	Explosives by 8330	EPA 8330B	GROUND WATER	54486	119664

VOLATILE ORGANIC ANALYSIS
QUALITY CONTROL SUMMARY
DOCUMENTS

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1A

VOLATILE ORGANICS ANALYSIS

Sample Description

100115T1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	TRIP BLANK	SDG No.:	114433
Sample wt/vol:	(g/mL)	CTL Sample ID:	640297
% Solids:		Date Received:	10/02/2015
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	119465	Dilution Factor:	1.00
Date & Time Analyzed:	10/13/2015 / 18:06	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W100315.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U	0.50	1.0	2.0	2.0

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1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **100115T1**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	TRIP BLANK	SDG No.:	114433
Sample wt/vol:	(g/mL)	CTL Sample ID:	640297
% Solids:		Date Received:	10/02/2015
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	119465	Dilution Factor:	1.00
Date & Time Analyzed:	10/13/2015 / 18:06	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W100315.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	0.50	U	0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.25	U	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.0	U	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U Z UJ	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

100115T1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	TRIP BLANK	SDG No.:	114433
Sample wt/vol:	(g/mL)	CTL Sample ID:	640297
% Solids:		Date Received:	10/02/2015
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	119465	Dilution Factor:	1.00
Date & Time Analyzed:	10/13/2015 / 18:06	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W100315.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	0.50	U	0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description: **100215R1**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	114433
Sample wt/vol:	(g/mL)	CTL Sample ID:	640608
% Solids:		Date Received:	10/03/2015
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	119465	Dilution Factor:	1.00
Date & Time Analyzed:	10/14/2015 / 00:05	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W100315.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	8.1	J B	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description: **100215R1**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	114433
Sample wt/vol:	(g/mL)	CTL Sample ID:	640608
% Solids:		Date Received:	10/03/2015
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	119465	Dilution Factor:	1.00
Date & Time Analyzed:	10/14/2015 / 00:05	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W100315.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	0.50	U	0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.41	J	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.0	U	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U Z UJ	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	26		0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.32	J	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

100215R1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	114433
Sample wt/vol:	(g/mL)	CTL Sample ID:	640608
% Solids:		Date Received:	10/03/2015
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	119465	Dilution Factor:	1.00
Date & Time Analyzed:	10/14/2015 / 00:05	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W100315.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	0.50	U	0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

100215R1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	114433
Sample wt/vol:	20.8 (g/mL)	CTL Sample ID:	640608
% Solids:		Date Received:	10/03/2015
Soil Extract Vol:	20.8 (mL)	Date/Time Prepared:	10/06/2015 / 09:00
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	54511
Analytical Run #:	119552	Dilution Factor:	1.00
Date & Time Analyzed:	10/06/2015 / 14:00	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	114433
Sample wt/vol:	20.8 (g/mL)	CTL Sample ID:	640606
% Solids:		Date Received:	10/03/2015
Soil Extract Vol:	20.8 (mL)	Date/Time Prepared:	10/06/2015 / 09:00
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	54511
Analytical Run #:	119552	Dilution Factor:	1.00
Date & Time Analyzed:	10/06/2015 / 13:52	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	114433
Sample wt/vol:	(g/mL)	CTL Sample ID:	640606
% Solids:		Date Received:	10/03/2015
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	119465	Dilution Factor:	1.00
Date & Time Analyzed:	10/13/2015 / 23:35	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W100315.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	114433
Sample wt/vol:	(g/mL)	CTL Sample ID:	640606
% Solids:		Date Received:	10/03/2015
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	119465	Dilution Factor:	1.00
Date & Time Analyzed:	10/13/2015 / 23:35	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W100315.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	0.50	U	0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.25	U	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.0	U	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U Z UJ	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	114433
Sample wt/vol:	(g/mL)	CTL Sample ID:	640606
% Solids:		Date Received:	10/03/2015
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	119465	Dilution Factor:	1.00
Date & Time Analyzed:	10/13/2015 / 23:35	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W100315.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	0.50	U	0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	114433
Sample wt/vol:	20.8 (g/mL)	CTL Sample ID:	640602
% Solids:		Date Received:	10/03/2015
Soil Extract Vol:	20.8 (mL)	Date/Time Prepared:	10/06/2015 / 09:00
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	54511
Analytical Run #:	119552	Dilution Factor:	1.00
Date & Time Analyzed:	10/06/2015 / 13:40	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	114433
Sample wt/vol:	(g/mL)	CTL Sample ID:	640602
% Solids:		Date Received:	10/03/2015
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	119465	Dilution Factor:	1.00
Date & Time Analyzed:	10/13/2015 / 22:35	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W100315.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	114433
Sample wt/vol:	(g/mL)	CTL Sample ID:	640602
% Solids:		Date Received:	10/03/2015
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	119465	Dilution Factor:	1.00
Date & Time Analyzed:	10/13/2015 / 22:35	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W100315.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	0.29	J	0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.25	U	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.0	U	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U Z UJ	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	114433
Sample wt/vol:	(g/mL)	CTL Sample ID:	640602
% Solids:		Date Received:	10/03/2015
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	119465	Dilution Factor:	1.00
Date & Time Analyzed:	10/13/2015 / 22:35	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W100315.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	0.50	U	0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

13MW4

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	114433
Sample wt/vol:	20.8 (g/mL)	CTL Sample ID:	640604
% Solids:		Date Received:	10/03/2015
Soil Extract Vol:	20.8 (mL)	Date/Time Prepared:	10/06/2015 / 09:00
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	54511
Analytical Run #:	119552	Dilution Factor:	1.00
Date & Time Analyzed:	10/06/2015 / 13:44	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

13MW4

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	114433
Sample wt/vol:	(g/mL)	CTL Sample ID:	640604
% Solids:		Date Received:	10/03/2015
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	119465	Dilution Factor:	1.00
Date & Time Analyzed:	10/13/2015 / 23:05	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W100315.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

13MW4

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	114433
Sample wt/vol:	(g/mL)	CTL Sample ID:	640604
% Solids:		Date Received:	10/03/2015
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	119465	Dilution Factor:	1.00
Date & Time Analyzed:	10/13/2015 / 23:05	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W100315.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	0.50	U	0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.25	U	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.0	U	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U Z UJ	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

13MW4

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	114433
Sample wt/vol:	(g/mL)	CTL Sample ID:	640604
% Solids:		Date Received:	10/03/2015
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	119465	Dilution Factor:	1.00
Date & Time Analyzed:	10/13/2015 / 23:05	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W100315.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	0.65	J	0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	114433
Sample wt/vol:	20.8 (g/mL)	CTL Sample ID:	640255
% Solids:		Date Received:	10/02/2015
Soil Extract Vol:	20.8 (mL)	Date/Time Prepared:	10/06/2015 / 09:00
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	54511
Analytical Run #:	119552	Dilution Factor:	1.00
Date & Time Analyzed:	10/06/2015 / 13:08	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	114433
Sample wt/vol:	(g/mL)	CTL Sample ID:	640255
% Solids:		Date Received:	10/02/2015
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	119465	Dilution Factor:	1.00
Date & Time Analyzed:	10/13/2015 / 19:36	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W100315.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.71	J	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	4.6		0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.41	J	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	114433
Sample wt/vol:	(g/mL)	CTL Sample ID:	640255
% Solids:		Date Received:	10/02/2015
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	119465	Dilution Factor:	1.00
Date & Time Analyzed:	10/13/2015 / 19:36	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W100315.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	0.50	U	0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.25	U	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.0	U	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	6.4		0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U Z UJ	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.55	J	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	114433
Sample wt/vol:	(g/mL)	CTL Sample ID:	640255
% Solids:		Date Received:	10/02/2015
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	119465	Dilution Factor:	1.00
Date & Time Analyzed:	10/13/2015 / 19:36	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W100315.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	4.7		0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW07

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	114433
Sample wt/vol:	20.8 (g/mL)	CTL Sample ID:	640252
% Solids:		Date Received:	10/02/2015
Soil Extract Vol:	20.8 (mL)	Date/Time Prepared:	10/06/2015 / 09:00
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	54511
Analytical Run #:	119552	Dilution Factor:	1.00
Date & Time Analyzed:	10/06/2015 / 13:05	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW07

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	114433
Sample wt/vol:	(g/mL)	CTL Sample ID:	640252
% Solids:		Date Received:	10/02/2015
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	119465	Dilution Factor:	1.00
Date & Time Analyzed:	10/13/2015 / 19:06	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W100315.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW07

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	114433
Sample wt/vol:	(g/mL)	CTL Sample ID:	640252
% Solids:		Date Received:	10/02/2015
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	119465	Dilution Factor:	1.00
Date & Time Analyzed:	10/13/2015 / 19:06	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W100315.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	0.50	U	0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.25	U	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.0	U	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U Z UJ	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW07

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	114433
Sample wt/vol:	(g/mL)	CTL Sample ID:	640252
% Solids:		Date Received:	10/02/2015
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	119465	Dilution Factor:	1.00
Date & Time Analyzed:	10/13/2015 / 19:06	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W100315.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	0.50	U	0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	114433
Sample wt/vol:	20.8 (g/mL)	CTL Sample ID:	640261
% Solids:		Date Received:	10/02/2015
Soil Extract Vol:	20.8 (mL)	Date/Time Prepared:	10/06/2015 / 09:00
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	54511
Analytical Run #:	119552	Dilution Factor:	1.00
Date & Time Analyzed:	10/06/2015 / 13:29	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	114433
Sample wt/vol:	(g/mL)	CTL Sample ID:	640261
% Solids:		Date Received:	10/02/2015
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	119465	Dilution Factor:	1.00
Date & Time Analyzed:	10/13/2015 / 21:06	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W100315.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.38	J	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.92	J	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	114433
Sample wt/vol:	(g/mL)	CTL Sample ID:	640261
% Solids:		Date Received:	10/02/2015
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	119465	Dilution Factor:	1.00
Date & Time Analyzed:	10/13/2015 / 21:06	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W100315.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	0.50	U	0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.25	U	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.0	U	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.66	J	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U Z UJ	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	114433
Sample wt/vol:	(g/mL)	CTL Sample ID:	640261
% Solids:		Date Received:	10/02/2015
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	119465	Dilution Factor:	1.00
Date & Time Analyzed:	10/13/2015 / 21:06	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W100315.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	1.8		0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	114433
Sample wt/vol:	20.8 (g/mL)	CTL Sample ID:	640259
% Solids:		Date Received:	10/02/2015
Soil Extract Vol:	20.8 (mL)	Date/Time Prepared:	10/06/2015 / 09:00
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	54511
Analytical Run #:	119552	Dilution Factor:	1.00
Date & Time Analyzed:	10/06/2015 / 13:15	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.56	J B	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	114433
Sample wt/vol:	(g/mL)	CTL Sample ID:	640259
% Solids:		Date Received:	10/02/2015
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	119465	Dilution Factor:	1.00
Date & Time Analyzed:	10/13/2015 / 20:36	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W100315.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	114433
Sample wt/vol:	(g/mL)	CTL Sample ID:	640259
% Solids:		Date Received:	10/02/2015
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	119465	Dilution Factor:	1.00
Date & Time Analyzed:	10/13/2015 / 20:36	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W100315.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	48		0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	4.6		0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.0	U	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U Z UJ	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	114433
Sample wt/vol:	(g/mL)	CTL Sample ID:	640259
% Solids:		Date Received:	10/02/2015
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	119465	Dilution Factor:	1.00
Date & Time Analyzed:	10/13/2015 / 20:36	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W100315.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	3.8		0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	114433
Sample wt/vol:	(g/mL)	CTL Sample ID:	640610
% Solids:		Date Received:	10/03/2015
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	119465	Dilution Factor:	1.00
Date & Time Analyzed:	10/14/2015 / 00:34	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W100315.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	114433
Sample wt/vol:	(g/mL)	CTL Sample ID:	640610
% Solids:		Date Received:	10/03/2015
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	119465	Dilution Factor:	1.00
Date & Time Analyzed:	10/14/2015 / 00:34	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W100315.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	71		0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	7.5		0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.0	U	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U Z UJ	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	114433
Sample wt/vol:	(g/mL)	CTL Sample ID:	640610
% Solids:		Date Received:	10/03/2015
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	119465	Dilution Factor:	1.00
Date & Time Analyzed:	10/14/2015 / 00:34	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W100315.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	10		0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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Sample Description

48MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	114433
Sample wt/vol:	20.8 (g/mL)	CTL Sample ID:	640610
% Solids:		Date Received:	10/03/2015
Soil Extract Vol:	20.8 (mL)	Date/Time Prepared:	10/06/2015 / 09:00
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	54511
Analytical Run #:	119552	Dilution Factor:	1.00
Date & Time Analyzed:	10/06/2015 / 14:03	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	114433
Sample wt/vol:	20.8 (g/mL)	CTL Sample ID:	640263
% Solids:		Date Received:	10/02/2015
Soil Extract Vol:	20.8 (mL)	Date/Time Prepared:	10/06/2015 / 09:00
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	54511
Analytical Run #:	119552	Dilution Factor:	1.00
Date & Time Analyzed:	10/06/2015 / 13:36	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	114433
Sample wt/vol:	(g/mL)	CTL Sample ID:	640263
% Solids:		Date Received:	10/02/2015
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	119465	Dilution Factor:	1.00
Date & Time Analyzed:	10/13/2015 / 21:36	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W100315.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.22	J	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	114433
Sample wt/vol:	(g/mL)	CTL Sample ID:	640263
% Solids:		Date Received:	10/02/2015
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	119465	Dilution Factor:	1.00
Date & Time Analyzed:	10/13/2015 / 21:36	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W100315.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	3.3		0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.30	J	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.0	U	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	0.92	J	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U Z UJ	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	114433
Sample wt/vol:	(g/mL)	CTL Sample ID:	640263
% Solids:		Date Received:	10/02/2015
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	119465	Dilution Factor:	1.00
Date & Time Analyzed:	10/13/2015 / 21:36	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W100315.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	0.50	U	0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	114433
Sample wt/vol:	(g/mL)	CTL Sample ID:	640613
% Solids:		Date Received:	10/03/2015
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	119465	Dilution Factor:	1.00
Date & Time Analyzed:	10/14/2015 / 01:05	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W100315.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	114433
Sample wt/vol:	(g/mL)	CTL Sample ID:	640613
% Solids:		Date Received:	10/03/2015
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	119465	Dilution Factor:	1.00
Date & Time Analyzed:	10/14/2015 / 01:05	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W100315.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	0.50	U	0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.25	U	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.0	U	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U Z UJ	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	114433
Sample wt/vol:	(g/mL)	CTL Sample ID:	640613
% Solids:		Date Received:	10/03/2015
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	119465	Dilution Factor:	1.00
Date & Time Analyzed:	10/14/2015 / 01:05	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W100315.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	0.50	U	0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	114433
Sample wt/vol:	20.8 (g/mL)	CTL Sample ID:	640613
% Solids:		Date Received:	10/03/2015
Soil Extract Vol:	20.8 (mL)	Date/Time Prepared:	10/06/2015 / 09:00
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	54511
Analytical Run #:	119552	Dilution Factor:	1.00
Date & Time Analyzed:	10/06/2015 / 14:07	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW04

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RAAP
Matrix:	GROUND WATER	SDG No.:	114433
Sample wt/vol:	20.8 (g/mL)	CTL Sample ID:	640123
% Solids:		Date Received:	10/01/2015
Soil Extract Vol:	20.8 (mL)	Date/Time Prepared:	10/06/2015 / 09:00
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	54511
Analytical Run #:	119552	Dilution Factor:	1.00
Date & Time Analyzed:	10/06/2015 / 13:02	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW04

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RAAP
Matrix:	GROUND WATER	SDG No.:	114433
Sample wt/vol:	(g/mL)	CTL Sample ID:	640123
% Solids:		Date Received:	10/01/2015
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	119465	Dilution Factor:	1.00
Date & Time Analyzed:	10/13/2015 / 22:06	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W100315.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW04

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RAAP
Matrix:	GROUND WATER	SDG No.:	114433
Sample wt/vol:	(g/mL)	CTL Sample ID:	640123
% Solids:		Date Received:	10/01/2015
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	119465	Dilution Factor:	1.00
Date & Time Analyzed:	10/13/2015 / 22:06	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W100315.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	0.99	J	0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.16	J	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.0	U	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U Z UJ	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW04

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RAAP
Matrix:	GROUND WATER	SDG No.:	114433
Sample wt/vol:	(g/mL)	CTL Sample ID:	640123
% Solids:		Date Received:	10/01/2015
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	119465	Dilution Factor:	1.00
Date & Time Analyzed:	10/13/2015 / 22:06	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W100315.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	0.50	U	0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49TM01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	114433
Sample wt/vol:	20.8 (g/mL)	CTL Sample ID:	640257
% Solids:		Date Received:	10/02/2015
Soil Extract Vol:	20.8 (mL)	Date/Time Prepared:	10/06/2015 / 09:00
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	54511
Analytical Run #:	119552	Dilution Factor:	1.00
Date & Time Analyzed:	10/06/2015 / 13:12	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

49TM01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	114433
Sample wt/vol:	(g/mL)	CTL Sample ID:	640257
% Solids:		Date Received:	10/02/2015
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	119465	Dilution Factor:	1.00
Date & Time Analyzed:	10/13/2015 / 20:06	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W100315.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.70	J	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	4.2		0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.43	J	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49TM01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	114433
Sample wt/vol:	(g/mL)	CTL Sample ID:	640257
% Solids:		Date Received:	10/02/2015
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	119465	Dilution Factor:	1.00
Date & Time Analyzed:	10/13/2015 / 20:06	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W100315.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	0.50	U	0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.25	U	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.0	U	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	6.6		0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U Z UJ	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.45	J	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49TM01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	114433
Sample wt/vol:	(g/mL)	CTL Sample ID:	640257
% Solids:		Date Received:	10/02/2015
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	119465	Dilution Factor:	1.00
Date & Time Analyzed:	10/13/2015 / 20:06	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W100315.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	4.6		0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

50MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	114433
Sample wt/vol:	20.8 (g/mL)	CTL Sample ID:	640615
% Solids:		Date Received:	10/03/2015
Soil Extract Vol:	20.8 (mL)	Date/Time Prepared:	10/06/2015 / 09:00
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	54511
Analytical Run #:	119552	Dilution Factor:	1.00
Date & Time Analyzed:	10/06/2015 / 14:11	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

50MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	114433
Sample wt/vol:	(g/mL)	CTL Sample ID:	640615
% Solids:		Date Received:	10/03/2015
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	119465	Dilution Factor:	1.00
Date & Time Analyzed:	10/15/2015 / 17:49	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W100315.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.28	J	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U Z UJ	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

50MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	114433
Sample wt/vol:	(g/mL)	CTL Sample ID:	640615
% Solids:		Date Received:	10/03/2015
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	119465	Dilution Factor:	1.00
Date & Time Analyzed:	10/15/2015 / 17:49	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W100315.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	1.2		0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.17	J	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.0	U	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.36	J	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

50MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	114433
Sample wt/vol:	(g/mL)	CTL Sample ID:	640615
% Solids:		Date Received:	10/03/2015
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	119465	Dilution Factor:	1.00
Date & Time Analyzed:	10/15/2015 / 17:49	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W100315.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	1.3		0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

TRIP BLANK

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	TRIP BLANK	SDG No.:	114433
Sample wt/vol:	20.8 (g/mL)	CTL Sample ID:	640617
% Solids:		Date Received:	10/03/2015
Soil Extract Vol:	20.8 (mL)	Date/Time Prepared:	10/06/2015 / 09:00
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	54511
Analytical Run #:	119552	Dilution Factor:	1.00
Date & Time Analyzed:	10/06/2015 / 14:14	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.36	J	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

TRIP BLANK

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	TRIP BLANK	SDG No.:	114433
Sample wt/vol:	(g/mL)	CTL Sample ID:	640617
% Solids:		Date Received:	10/03/2015
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	119465	Dilution Factor:	1.00
Date & Time Analyzed:	10/13/2015 / 18:36	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W100315.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	5.0	J	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

TRIP BLANK

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	TRIP BLANK	SDG No.:	114433
Sample wt/vol:	(g/mL)	CTL Sample ID:	640617
% Solids:		Date Received:	10/03/2015
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	119465	Dilution Factor:	1.00
Date & Time Analyzed:	10/13/2015 / 18:36	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W100315.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	0.50	U	0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.25	U	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.0	U	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U Z [U,]	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

TRIP BLANK

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	TRIP BLANK	SDG No.:	114433
Sample wt/vol:	(g/mL)	CTL Sample ID:	640617
% Solids:		Date Received:	10/03/2015
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	119465	Dilution Factor:	1.00
Date & Time Analyzed:	10/13/2015 / 18:36	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W100315.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	0.50	U	0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0

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1A-2

VOLATILE ORGANICS ANALYSIS (MB or CCB)

Sample Description

METHOD BLANK

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:		SDG No.:	114433
Sample wt/vol:	20.8 (g/mL)	CTL Sample ID:	641600
% Solids:		Date Received:	10/03/2015
Soil Extract Vol:	20.8 (mL)	Date/Time Prepared:	10/06/2015 / 09:00
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	54511
Analytical Run #:	119552	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
74-84-0	Ethane	10/06/2015	12:59	0.4	U	0.4	0.8	***0.4***
74-85-1	Ethene	10/06/2015	12:59	0.5	U	0.5	1.1	***0.6***
74-82-8	Methane	10/06/2015	12:59	0.3	U	0.3	0.7	***0.4***

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1A-2

VOLATILE ORGANICS ANALYSIS (MB or CCB)

Sample Description: **METHOD BLANK**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:		SDG No.:	114433
Sample wt/vol:	(g/mL)	CTL Sample ID:	645200
% Solids:		Date Received:	10/03/2015
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	0
Analytical Run #:	119465	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W100315.	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
71-55-6	1,1,1-Trichloroethane	10/13/2015	16:37	0.21	U	0.21	1.00	***0.50***
79-34-5	1,1,2,2-Tetrachloroethane	10/13/2015	16:37	0.19	U	0.19	1.00	***0.50***
79-00-5	1,1,2-Trichloroethane	10/13/2015	16:37	0.26	U	0.26	1.00	***0.50***
75-34-3	1,1-Dichloroethane	10/13/2015	16:37	0.20	U	0.20	1.00	***0.50***
75-35-4	1,1-Dichloroethene	10/13/2015	16:37	0.24	U	0.24	1.00	***0.50***
87-61-6	1,2,3-Trichlorobenzene	10/13/2015	16:37	0.3	U	0.3	1.0	***0.5***
120-82-1	1,2,4-Trichlorobenzene	10/13/2015	16:37	0.3	U	0.3	1.0	***0.5***
96-12-8	1,2-Dibromo-3-chloropropane	10/13/2015	16:37	0.4	U	0.4	1.0	***0.5***
106-93-4	1,2-Dibromoethane	10/13/2015	16:37	0.16	U	0.16	0.50	***0.25***
95-50-1	1,2-Dichlorobenzene	10/13/2015	16:37	0.23	U	0.23	1.00	***0.50***
107-06-2	1,2-Dichloroethane	10/13/2015	16:37	0.3	U	0.3	1.0	***0.5***
78-87-5	1,2-Dichloropropane	10/13/2015	16:37	0.22	U	0.22	1.00	***0.50***
541-73-1	1,3-Dichlorobenzene	10/13/2015	16:37	0.26	U	0.26	1.00	***0.50***
106-46-7	1,4-Dichlorobenzene	10/13/2015	16:37	0.23	U	0.23	1.00	***0.50***
123-91-1	1,4-Dioxane	10/13/2015	16:37	5	U	5	25	***12.5***
78-93-3	2-Butanone	10/13/2015	16:37	2.4	U	2.4	10.0	***5.0***
591-78-6	2-Hexanone	10/13/2015	16:37	4	U	4	20	***10***
108-10-1	4-Methyl-2-pentanone	10/13/2015	16:37	3	U	3	10	***5***
67-64-1	Acetone	10/13/2015	16:37	5	U	5	20	***10***
71-43-2	Benzene	10/13/2015	16:37	0.19	U	0.19	1.00	***0.50***
74-97-5	Bromochloromethane	10/13/2015	16:37	0.19	U	0.19	1.00	***0.50***
75-27-4	Bromodichloromethane	10/13/2015	16:37	0.20	U	0.20	1.00	***0.50***
75-25-2	Bromoform	10/13/2015	16:37	0.22	U	0.22	1.00	***0.50***

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VOLATILE ORGANICS ANALYSIS (MB or CCB)

Sample Description

METHOD BLANK

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:		SDG No.:	114433
Sample wt/vol:	(g/mL)	CTL Sample ID:	645200
% Solids:		Date Received:	10/03/2015
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	0
Analytical Run #:	119465	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W100315.	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
74-83-9	Bromomethane	10/13/2015	16:37	0.5	U	0.5	1.0	***0.5***
75-15-0	Carbon disulfide	10/13/2015	16:37	0.5	U	0.5	1.0	***0.5***
56-23-5	Carbon tetrachloride	10/13/2015	16:37	0.23	U	0.23	1.00	***0.50***
108-90-7	Chlorobenzene	10/13/2015	16:37	0.24	U	0.24	1.00	***0.50***
75-00-3	Chloroethane	10/13/2015	16:37	0.4	U	0.4	2.0	***1.0***
67-66-3	Chloroform	10/13/2015	16:37	0.15	U	0.15	0.50	***0.25***
74-87-3	Chloromethane	10/13/2015	16:37	0.4	U	0.4	2.0	***1.0***
156-59-2	cis-1,2-Dichloroethene	10/13/2015	16:37	0.25	U	0.25	1.00	***0.50***
10061-01-5	cis-1,3-Dichloropropene	10/13/2015	16:37	0.19	U	0.19	1.00	***0.50***
110-82-7	Cyclohexane	10/13/2015	16:37	0.28	U	0.28	1.00	***0.50***
124-48-1	Dibromochloromethane	10/13/2015	16:37	0.19	U	0.19	1.00	***0.50***
75-71-8	Dichlorodifluoromethane	10/13/2015	16:37	0.26	U	0.26	1.00	***0.50***
100-41-4	Ethylbenzene	10/13/2015	16:37	0.22	U	0.22	1.00	***0.50***
76-13-1	Freon 113	10/13/2015	16:37	0.5	U	0.5	2.0	***1.0***
98-82-8	Isopropylbenzene	10/13/2015	16:37	0.18	U	0.18	1.00	***0.50***
179601-23-1	m & p-Xylene	10/13/2015	16:37	0.5	U	0.5	2.0	***1.0***
79-20-9	Methyl Acetate	10/13/2015	16:37	0.3	U	0.3	1.0	***0.5***
1634-04-4	Methyl tert-butyl ether	10/13/2015	16:37	0.29	U	0.29	1.00	***0.50***
108-87-2	Methylcyclohexane	10/13/2015	16:37	0.23	U	0.23	1.00	***0.50***
75-09-2	Methylene chloride	10/13/2015	16:37	0.4	U	0.4	2.0	***1.0***
95-47-6	o-Xylene	10/13/2015	16:37	0.24	U	0.24	1.00	***0.50***
100-42-5	Styrene	10/13/2015	16:37	0.20	U	0.20	1.00	***0.50***
127-18-4	Tetrachloroethene	10/13/2015	16:37	0.3	U	0.3	1.0	***0.5***

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VOLATILE ORGANICS ANALYSIS (MB or CCB)

Sample Description

METHOD BLANK

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:		SDG No.:	114433
Sample wt/vol:	(g/mL)	CTL Sample ID:	645200
% Solids:		Date Received:	10/03/2015
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	0
Analytical Run #:	119465	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W100315.	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
108-88-3	Toluene	10/13/2015	16:37	0.22	U	0.22	1.00	***0.50***
156-60-5	trans-1,2-Dichloroethene	10/13/2015	16:37	0.25	U	0.25	1.00	***0.50***
10061-02-6	trans-1,3-Dichloropropene	10/13/2015	16:37	0.19	U	0.19	1.00	***0.50***
79-01-6	Trichloroethene	10/13/2015	16:37	0.21	U	0.21	1.00	***0.50***
75-69-4	Trichlorofluoromethane	10/13/2015	16:37	0.20	U	0.20	1.0	***0.5***
75-01-4	Vinyl chloride	10/13/2015	16:37	0.18	U	0.18	1.00	***0.50***

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VOLATILE ORGANICS ANALYSIS (MB or CCB)

Sample Description: **CCB**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:		SDG No.:	114433
Sample wt/vol:	(g/mL)	CTL Sample ID:	646273
% Solids:		Date Received:	10/03/2015
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	0
Analytical Run #:	119465	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W100315.	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
71-55-6	1,1,1-Trichloroethane	10/15/2015	16:20	0.21	U	0.21	1.00	***0.50***
79-34-5	1,1,2,2-Tetrachloroethane	10/15/2015	16:20	0.19	U	0.19	1.00	***0.50***
79-00-5	1,1,2-Trichloroethane	10/15/2015	16:20	0.26	U	0.26	1.00	***0.50***
75-34-3	1,1-Dichloroethane	10/15/2015	16:20	0.20	U	0.20	1.00	***0.50***
75-35-4	1,1-Dichloroethene	10/15/2015	16:20	0.24	U	0.24	1.00	***0.50***
87-61-6	1,2,3-Trichlorobenzene	10/15/2015	16:20	0.3	U	0.3	1.0	***0.5***
120-82-1	1,2,4-Trichlorobenzene	10/15/2015	16:20	0.3	U	0.3	1.0	***0.5***
96-12-8	1,2-Dibromo-3-chloropropane	10/15/2015	16:20	0.4	U	0.4	1.0	***0.5***
106-93-4	1,2-Dibromoethane	10/15/2015	16:20	0.16	U	0.16	0.50	***0.25***
95-50-1	1,2-Dichlorobenzene	10/15/2015	16:20	0.23	U	0.23	1.00	***0.50***
107-06-2	1,2-Dichloroethane	10/15/2015	16:20	0.3	U	0.3	1.0	***0.5***
78-87-5	1,2-Dichloropropane	10/15/2015	16:20	0.22	U	0.22	1.00	***0.50***
541-73-1	1,3-Dichlorobenzene	10/15/2015	16:20	0.26	U	0.26	1.00	***0.50***
106-46-7	1,4-Dichlorobenzene	10/15/2015	16:20	0.23	U	0.23	1.00	***0.50***
123-91-1	1,4-Dioxane	10/15/2015	16:20	5	U	5	25	***12.5***
78-93-3	2-Butanone	10/15/2015	16:20	2.4	U	2.4	10.0	***5.0***
591-78-6	2-Hexanone	10/15/2015	16:20	4	U	4	20	***10***
108-10-1	4-Methyl-2-pentanone	10/15/2015	16:20	3	U	3	10	***5***
67-64-1	Acetone	10/15/2015	16:20	5	U	5	20	***10***
71-43-2	Benzene	10/15/2015	16:20	0.19	U	0.19	1.00	***0.50***
74-97-5	Bromochloromethane	10/15/2015	16:20	0.19	U	0.19	1.00	***0.50***
75-27-4	Bromodichloromethane	10/15/2015	16:20	0.20	U	0.20	1.00	***0.50***
75-25-2	Bromoform	10/15/2015	16:20	0.22	U	0.22	1.00	***0.50***

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VOLATILE ORGANICS ANALYSIS (MB or CCB)

Sample Description: **CCB**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:		SDG No.:	114433
Sample wt/vol:	(g/mL)	CTL Sample ID:	646273
% Solids:		Date Received:	10/03/2015
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	0
Analytical Run #:	119465	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W100315.	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
74-83-9	Bromomethane	10/15/2015	16:20	0.5	U	0.5	1.0	***0.5***
75-15-0	Carbon disulfide	10/15/2015	16:20	0.5	U	0.5	1.0	***0.5***
56-23-5	Carbon tetrachloride	10/15/2015	16:20	0.23	U	0.23	1.00	***0.50***
108-90-7	Chlorobenzene	10/15/2015	16:20	0.24	U	0.24	1.00	***0.50***
75-00-3	Chloroethane	10/15/2015	16:20	0.4	U	0.4	2.0	***1.0***
67-66-3	Chloroform	10/15/2015	16:20	0.15	U	0.15	0.50	***0.25***
74-87-3	Chloromethane	10/15/2015	16:20	0.4	U	0.4	2.0	***1.0***
156-59-2	cis-1,2-Dichloroethene	10/15/2015	16:20	0.25	U	0.25	1.00	***0.50***
10061-01-5	cis-1,3-Dichloropropene	10/15/2015	16:20	0.19	U	0.19	1.00	***0.50***
110-82-7	Cyclohexane	10/15/2015	16:20	0.28	U	0.28	1.00	***0.50***
124-48-1	Dibromochloromethane	10/15/2015	16:20	0.19	U	0.19	1.00	***0.50***
75-71-8	Dichlorodifluoromethane	10/15/2015	16:20	0.26	U	0.26	1.00	***0.50***
100-41-4	Ethylbenzene	10/15/2015	16:20	0.22	U	0.22	1.00	***0.50***
76-13-1	Freon 113	10/15/2015	16:20	0.5	U	0.5	2.0	***1.0***
98-82-8	Isopropylbenzene	10/15/2015	16:20	0.18	U	0.18	1.00	***0.50***
179601-23-1	m & p-Xylene	10/15/2015	16:20	0.5	U	0.5	2.0	***1.0***
79-20-9	Methyl Acetate	10/15/2015	16:20	0.3	U	0.3	1.0	***0.5***
1634-04-4	Methyl tert-butyl ether	10/15/2015	16:20	0.29	U	0.29	1.00	***0.50***
75-09-2	Methylene chloride	10/15/2015	16:20	0.4	U	0.4	2.0	***1.0***
95-47-6	o-Xylene	10/15/2015	16:20	0.24	U	0.24	1.00	***0.50***
100-42-5	Styrene	10/15/2015	16:20	0.20	U	0.20	1.00	***0.50***
127-18-4	Tetrachloroethene	10/15/2015	16:20	0.3	U	0.3	1.0	***0.5***
108-88-3	Toluene	10/15/2015	16:20	0.22	U	0.22	1.00	***0.50***

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VOLATILE ORGANICS ANALYSIS (MB or CCB)

Sample Description: **CCB**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:		SDG No.:	114433
Sample wt/vol:	(g/mL)	CTL Sample ID:	646273
% Solids:		Date Received:	10/03/2015
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	0
Analytical Run #:	119465	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W100315.	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
156-60-5	trans-1,2-Dichloroethene	10/15/2015	16:20	0.25	U	0.25	1.00	***0.50***
10061-02-6	trans-1,3-Dichloropropene	10/15/2015	16:20	0.19	U	0.19	1.00	***0.50***
79-01-6	Trichloroethene	10/15/2015	16:20	0.21	U	0.21	1.00	***0.50***
75-69-4	Trichlorofluoromethane	10/15/2015	16:20	0.20	U	0.20	1.0	***0.5***
75-01-4	Vinyl chloride	10/15/2015	16:20	0.18	U	0.18	1.00	***0.50***

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WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RAAP
Analytical Method:	EPA 8260C	SDG:	114433
Analytical Run #:	119465	ICAL Calibration #:	W100315.

CTLab #	640123				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	100	81	118	
Bromofluorobenzene	100	86	85	114	
d8-Toluene	100	101	89	112	
Dibromofluoromethane	100	108	80	119	

CTLab #	640252				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	96	81	118	
Bromofluorobenzene	100	88	85	114	
d8-Toluene	100	100	89	112	
Dibromofluoromethane	100	106	80	119	

CTLab #	640255				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	103	81	118	
Bromofluorobenzene	100	92	85	114	
d8-Toluene	100	102	89	112	
Dibromofluoromethane	100	104	80	119	

CTLab #	640257				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	99	81	118	
Bromofluorobenzene	100	88	85	114	
d8-Toluene	100	101	89	112	
Dibromofluoromethane	100	104	80	119	

CTLab #	640259				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	102	81	118	
Bromofluorobenzene	100	90	85	114	
d8-Toluene	100	100	89	112	
Dibromofluoromethane	100	104	80	119	

CTLab #	640261				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	98	81	118	
Bromofluorobenzene	100	87	85	114	
d8-Toluene	100	99	89	112	
Dibromofluoromethane	100	104	80	119	

CT LABORATORIES
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WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RAAP
Analytical Method:	EPA 8260C	SDG:	114433
Analytical Run #:	119465	ICAL Calibration #:	W100315.

CTLab #	640263				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	98	81	118	
Bromofluorobenzene	100	89	85	114	
d8-Toluene	100	101	89	112	
Dibromofluoromethane	100	105	80	119	

CTLab #	640297				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	101	81	118	
Bromofluorobenzene	100	90	85	114	
d8-Toluene	100	99	89	112	
Dibromofluoromethane	100	100	80	119	

CTLab #	640602				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	99	81	118	
Bromofluorobenzene	100	90	85	114	
d8-Toluene	100	99	89	112	
Dibromofluoromethane	100	105	80	119	

CTLab #	640604				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	103	81	118	
Bromofluorobenzene	100	86	85	114	
d8-Toluene	100	100	89	112	
Dibromofluoromethane	100	106	80	119	

CTLab #	640606				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	100	81	118	
Bromofluorobenzene	100	87	85	114	
d8-Toluene	100	98	89	112	
Dibromofluoromethane	100	105	80	119	

CTLab #	640608				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	100	81	118	
Bromofluorobenzene	100	88	85	114	
d8-Toluene	100	100	89	112	
Dibromofluoromethane	100	107	80	119	

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WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RAAP
Analytical Method:	EPA 8260C	SDG:	114433
Analytical Run #:	119465	ICAL Calibration #:	W100315.

CTLab #	640610				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	102	81	118	
Bromofluorobenzene	100	86	85	114	
d8-Toluene	100	97	89	112	
Dibromofluoromethane	100	104	80	119	

CTLab #	640613				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	105	81	118	
Bromofluorobenzene	100	86	85	114	
d8-Toluene	100	99	89	112	
Dibromofluoromethane	100	103	80	119	

CTLab #	640615				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	97	81	118	
Bromofluorobenzene	100	88	85	114	
d8-Toluene	100	98	89	112	
Dibromofluoromethane	100	104	80	119	

CTLab #	640617				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	97	81	118	
Bromofluorobenzene	100	87	85	114	
d8-Toluene	100	102	89	112	
Dibromofluoromethane	100	104	80	119	

CTLab #	645166	Sample Type:	Lab Control Spike		
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	96.0	81	118	
Bromofluorobenzene	100	100	85	114	
d8-Toluene	100	103	89	112	
Dibromofluoromethane	100	101	80	119	

CTLab #	645167	Sample Type:	Normal Field Sample		
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	96.0	70	120	
Bromofluorobenzene	100	100	70	120	
d8-Toluene	100	103	85	120	
Dibromofluoromethane	100	101	85	115	

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WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RAAP
Analytical Method:	EPA 8260C	SDG:	114433
Analytical Run #:	119465	ICAL Calibration #:	W100315.

CTLab #	645200	Sample Type:		Method Blank	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	100	70	120	
Bromofluorobenzene	100	94.0	75	120	
d8-Toluene	100	98.0	85	120	
Dibromofluoromethane	100	100	85	115	
CTLab #	**645368**	Sample Type:		Matrix Spike	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	104	81	118	
Bromofluorobenzene	100	96.0	85	114	
d8-Toluene	100	101	89	112	
Dibromofluoromethane	100	100	80	119	
CTLab #	**645378**	Sample Type:		Matrix Spike Duplicate	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	98.0	81	118	
Bromofluorobenzene	100	99.0	85	114	
d8-Toluene	100	100	89	112	
Dibromofluoromethane	100	102	80	119	
CTLab #	**646259**	Sample Type:		Normal Field Sample	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	101	50	150	
Bromofluorobenzene	100	97.0	50	150	
d8-Toluene	100	103	50	150	
Dibromofluoromethane	100	102	50	150	
CTLab #	**646267**	Sample Type:		Normal Field Sample	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	97.0	70	120	
Bromofluorobenzene	100	98.0	70	120	
d8-Toluene	100	103	85	120	
Dibromofluoromethane	100	104	85	115	
CTLab #	**646273**	Sample Type:		Normal Field Sample	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	101	70	120	
Bromofluorobenzene	100	90.0	75	120	
d8-Toluene	100	98.0	85	120	
Dibromofluoromethane	100	102	85	115	

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WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RAAP
Analytical Method:	EPA 8260C	SDG:	114433
Analytical Run #:	119465	ICAL Calibration #:	W100315.

CTLab #	646276	Sample Type:	Normal Field Sample		
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	96.0	50	150	
Bromofluorobenzene	100	99.0	50	150	
d8-Toluene	100	103	50	150	
Dibromofluoromethane	100	103	50	150	

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WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Analytical Method:	EPA 8260C	SDG:	114433
Analytical Run #:	119465	ICAL Calibration #:	W100315.

CTLab #	640123				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	100	81	118	
Bromofluorobenzene	100	86	85	114	
d8-Toluene	100	101	89	112	
Dibromofluoromethane	100	108	80	119	

CTLab #	640252				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	96	81	118	
Bromofluorobenzene	100	88	85	114	
d8-Toluene	100	100	89	112	
Dibromofluoromethane	100	106	80	119	

CTLab #	640255				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	103	81	118	
Bromofluorobenzene	100	92	85	114	
d8-Toluene	100	102	89	112	
Dibromofluoromethane	100	104	80	119	

CTLab #	640257				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	99	81	118	
Bromofluorobenzene	100	88	85	114	
d8-Toluene	100	101	89	112	
Dibromofluoromethane	100	104	80	119	

CTLab #	640259				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	102	81	118	
Bromofluorobenzene	100	90	85	114	
d8-Toluene	100	100	89	112	
Dibromofluoromethane	100	104	80	119	

CTLab #	640261				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	98	81	118	
Bromofluorobenzene	100	87	85	114	
d8-Toluene	100	99	89	112	
Dibromofluoromethane	100	104	80	119	

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WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Analytical Method:	EPA 8260C	SDG:	114433
Analytical Run #:	119465	ICAL Calibration #:	W100315.

CTLab #	640263				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	98	81	118	
Bromofluorobenzene	100	89	85	114	
d8-Toluene	100	101	89	112	
Dibromofluoromethane	100	105	80	119	

CTLab #	640297				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	101	81	118	
Bromofluorobenzene	100	90	85	114	
d8-Toluene	100	99	89	112	
Dibromofluoromethane	100	100	80	119	

CTLab #	640602				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	99	81	118	
Bromofluorobenzene	100	90	85	114	
d8-Toluene	100	99	89	112	
Dibromofluoromethane	100	105	80	119	

CTLab #	640604				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	103	81	118	
Bromofluorobenzene	100	86	85	114	
d8-Toluene	100	100	89	112	
Dibromofluoromethane	100	106	80	119	

CTLab #	640606				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	100	81	118	
Bromofluorobenzene	100	87	85	114	
d8-Toluene	100	98	89	112	
Dibromofluoromethane	100	105	80	119	

CTLab #	640608				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	100	81	118	
Bromofluorobenzene	100	88	85	114	
d8-Toluene	100	100	89	112	
Dibromofluoromethane	100	107	80	119	

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WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: CT Laboratories | Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Analytical Method: EPA 8260C | SDG: 114433

Analytical Run #: 119465 | ICAL Calibration #: W100315.

CTLab #	640610				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	102	81	118	
Bromofluorobenzene	100	86	85	114	
d8-Toluene	100	97	89	112	
Dibromofluoromethane	100	104	80	119	
CTLab #	**640613**				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	105	81	118	
Bromofluorobenzene	100	86	85	114	
d8-Toluene	100	99	89	112	
Dibromofluoromethane	100	103	80	119	
CTLab #	**640615**				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	97	81	118	
Bromofluorobenzene	100	88	85	114	
d8-Toluene	100	98	89	112	
Dibromofluoromethane	100	104	80	119	
CTLab #	**640617**				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	97	81	118	
Bromofluorobenzene	100	87	85	114	
d8-Toluene	100	102	89	112	
Dibromofluoromethane	100	104	80	119	
CTLab #	**645166**	Sample Type:		Lab Control Spike	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	96.0	81	118	
Bromofluorobenzene	100	100	85	114	
d8-Toluene	100	103	89	112	
Dibromofluoromethane	100	101	80	119	
CTLab #	**645167**	Sample Type:		Normal Field Sample	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	96.0	70	120	
Bromofluorobenzene	100	100	70	120	
d8-Toluene	100	103	85	120	
Dibromofluoromethane	100	101	85	115	

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WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Analytical Method:	EPA 8260C	SDG:	114433
Analytical Run #:	119465	ICAL Calibration #:	W100315.

CTLab #	645200	Sample Type:	Method Blank		
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	100	70	120	
Bromofluorobenzene	100	94.0	75	120	
d8-Toluene	100	98.0	85	120	
Dibromofluoromethane	100	100	85	115	

CTLab #	645368	Sample Type:	Matrix Spike		
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	104	81	118	
Bromofluorobenzene	100	96.0	85	114	
d8-Toluene	100	101	89	112	
Dibromofluoromethane	100	100	80	119	

CTLab #	645378	Sample Type:	Matrix Spike Duplicate		
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	98.0	81	118	
Bromofluorobenzene	100	99.0	85	114	
d8-Toluene	100	100	89	112	
Dibromofluoromethane	100	102	80	119	

CTLab #	646259	Sample Type:	Normal Field Sample		
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	101	50	150	
Bromofluorobenzene	100	97.0	50	150	
d8-Toluene	100	103	50	150	
Dibromofluoromethane	100	102	50	150	

CTLab #	646267	Sample Type:	Normal Field Sample		
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	97.0	70	120	
Bromofluorobenzene	100	98.0	70	120	
d8-Toluene	100	103	85	120	
Dibromofluoromethane	100	104	85	115	

CTLab #	646273	Sample Type:	Normal Field Sample		
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	101	70	120	
Bromofluorobenzene	100	90.0	75	120	
d8-Toluene	100	98.0	85	120	
Dibromofluoromethane	100	102	85	115	

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WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Analytical Method:	EPA 8260C	SDG:	114433
Analytical Run #:	119465	ICAL Calibration #:	W100315.

CTLab #	646276	Sample Type:	Normal Field Sample		
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	96.0	50	150	
Bromofluorobenzene	100	99.0	50	150	
d8-Toluene	100	103	50	150	
Dibromofluoromethane	100	103	50	150	

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WATER VOLATILE MATRIX SPIKE RECOVERY

Sample Description: **48MW2**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: GROUND WATER
SDG No.: 114433
Analytical Method: EPA 8260C
Concentration Units: ug/L
Analytical Run #: 119465
Sample No.: 645368
Parent Sample No.: 640259
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
ICAL Calibration #: W100315.

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
1,1,1-Trichloroethane	10/14/2015	02:05	74-131	10.5	BDL	10.0	105
1,1,2,2-Tetrachloroethane	10/14/2015	02:05	71-121	9.18	BDL	10.0	92
1,1,2-Trichloroethane	10/14/2015	02:05	80-119	9.58	BDL	10.0	96
1,1-Dichloroethane	10/14/2015	02:05	77-125	9.40	BDL	10.0	94
1,1-Dichloroethene	10/14/2015	02:05	71-131	10.0	BDL	10.0	100
1,2,3-Trichlorobenzene	10/14/2015	02:05	69-129	9.08	BDL	10.0	91
1,2,4-Trichlorobenzene	10/14/2015	02:05	69-130	8.70	BDL	10.0	87
1,2-Dibromo-3-chloropropane	10/14/2015	02:05	62-128	10.4	BDL	10.0	104
1,2-Dibromoethane	10/14/2015	02:05	77-121	9.18	BDL	10.0	92
1,2-Dichlorobenzene	10/14/2015	02:05	80-119	9.77	BDL	10.0	98
1,2-Dichloroethane	10/14/2015	02:05	73-128	10.1	BDL	10.0	101
1,2-Dichloropropane	10/14/2015	02:05	78-122	9.68	BDL	10.0	97
1,3-Dichlorobenzene	10/14/2015	02:05	80-119	10.2	BDL	10.0	102
1,4-Dichlorobenzene	10/14/2015	02:05	79-118	9.90	BDL	10.0	99
1,4-Dioxane	10/14/2015	02:05	59-139	458	BDL	500	92
2-Butanone	10/14/2015	02:05	56-143	91.6	BDL	100	92
2-Hexanone	10/14/2015	02:05	57-139	96.5	BDL	100	96
4-Methyl-2-pentanone	10/14/2015	02:05	67-130	96.6	BDL	100	97
Acetone	10/14/2015	02:05	39-160	74.6	BDL	100	75
Benzene	10/14/2015	02:05	79-120	9.77	BDL	10.0	98
Bromochloromethane	10/14/2015	02:05	78-123	9.54	BDL	10.0	95
Bromodichloromethane	10/14/2015	02:05	79-125	9.30	BDL	10.0	93
Bromoform	10/14/2015	02:05	66-130	8.99	BDL	10.0	90
Bromomethane	10/14/2015	02:05	53-141	10.8	BDL	10.0	108
Carbon disulfide	10/14/2015	02:05	64-133	21.5	BDL	20.0	108
Carbon tetrachloride	10/14/2015	02:05	72-136	57.6	48	10.0	96
Chlorobenzene	10/14/2015	02:05	82-118	10.1	BDL	10.0	101
Chloroethane	10/14/2015	02:05	60-138	11.2	BDL	10.0	112
Chloroform	10/14/2015	02:05	79-124	14.2	4.6	10.0	96
Chloromethane	10/14/2015	02:05	50-139	11.2	BDL	10.0	112
cis-1,2-Dichloroethene	10/14/2015	02:05	78-123	9.55	BDL	10.0	96

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WATER VOLATILE MATRIX SPIKE RECOVERY

Sample Description: **48MW2**

Lab Name: CT Laboratories | Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: GROUND WATER | SDG No.: 114433

Analytical Method: EPA 8260C | Concentration Units: ug/L

Analytical Run #: 119465 | Sample No.: 645368 | Parent Sample No.: 640259

Analytical Prep Batch #: 0 | Analytical Preparation Date/Time:

ICAL Calibration #: W100315.

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
cis-1,3-Dichloropropene	10/14/2015	02:05	75-124	8.89	BDL	10.0	89
Cyclohexane	10/14/2015	02:05	71-130	9.91	BDL	10.0	99
Dibromochloromethane	10/14/2015	02:05	74-126	9.62	BDL	10.0	96
Dichlorodifluoromethane	10/14/2015	02:05	32-152	13.5	BDL	10.0	135
Ethylbenzene	10/14/2015	02:05	79-121	10.3	BDL	10.0	103
Freon 113	10/14/2015	02:05	70-136	21.3	BDL	20.0	106
Isopropylbenzene	10/14/2015	02:05	72-131	10.5	BDL	10.0	105
m & p-Xylene	10/14/2015	02:05	80-121	20.5	BDL	20.0	102
Methyl Acetate	10/14/2015	02:05	56-136	9.55	BDL	10.0	96
Methyl tert-butyl ether	10/14/2015	02:05	71-124	9.85	BDL	10.0	98
Methylcyclohexane	10/14/2015	02:05	72-132	9.65	BDL	10.0	96
Methylene chloride	10/14/2015	02:05	74-124	9.10	BDL	10.0	91
o-Xylene	10/14/2015	02:05	78-122	9.77	BDL	10.0	98
Styrene	10/14/2015	02:05	78-123	10.1	BDL	10.0	101
Tetrachloroethene	10/14/2015	02:05	74-129	10.3	BDL	10.0	103
Toluene	10/14/2015	02:05	80-121	9.81	BDL	10.0	98
trans-1,2-Dichloroethene	10/14/2015	02:05	75-124	10.2	BDL	10.0	102
trans-1,3-Dichloropropene	10/14/2015	02:05	73-127	9.10	BDL	10.0	91
Trichloroethene	10/14/2015	02:05	79-123	13.5	3.8	10.0	97
Trichlorofluoromethane	10/14/2015	02:05	65-141	12.0	BDL	10.0	120
Vinyl chloride	10/14/2015	02:05	58-137	11.5	BDL	10.0	115

Spike Recovery: 0 out of 52 outside QC limits

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WATER VOLATILE MATRIX SPIKE RECOVERY

Sample Description

48MW2

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: GROUND WATER SDG No.: 114433

Analytical Method: Mod RSK 175 Concentration Units: ug/L

Analytical Run #: 119552 Sample No.: 641602 Parent Sample No.: 640259

Analytical Prep Batch #: 54511 Analytical Preparation Date/Time: 10/06/2015 09:00

ICAL Calibration #: P4DG020315

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
Ethane	10/06/2015	13:18	74-131	4.46	BDL	4.77	94
Ethene	10/06/2015	13:18	72-133	6.28	BDL	6.79	92
Methane	10/06/2015	13:18	73-125	2.48	0.56	2.29	84

Spike Recovery: 0 out of 3 outside QC limits

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Sample Description

48MW2

WATER VOLATILE MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: GROUND WATER SDG No.: 114433

Analytical Method: EPA 8260C Concentration Units: ug/L

Analytical Run #: 119465 Sample No.: 645378 Parent Sample No.: 645368

Analytical Prep Batch #: 0 Analytical Preparation Date/Time:

ICAL Calibration #: W100315.

Analyte	Analysis Date/Time		Spike Result	Spike Amount	%R	%RPD	Control Limits (%R)	Control Limits (%RPD)
1,1,1-Trichloroethane	10/14/2015	02:35	10.6	10.0	106	1	74-131	20
1,1,2,2-Tetrachloroethane	10/14/2015	02:35	9.83	10.0	98	7	71-121	20
1,1,2-Trichloroethane	10/14/2015	02:35	9.31	10.0	93	3	80-119	20
1,1-Dichloroethane	10/14/2015	02:35	9.32	10.0	93	1	77-125	20
1,1-Dichloroethene	10/14/2015	02:35	9.86	10.0	99	2	71-131	20
1,2,3-Trichlorobenzene	10/14/2015	02:35	10.3	10.0	103	12	69-129	20
1,2,4-Trichlorobenzene	10/14/2015	02:35	9.89	10.0	99	13	69-130	20
1,2-Dibromo-3-chloropropane	10/14/2015	02:35	10.2	10.0	102	2	62-128	20
1,2-Dibromoethane	10/14/2015	02:35	9.10	10.0	91	1	77-121	20
1,2-Dichlorobenzene	10/14/2015	02:35	10.3	10.0	103	5	80-119	20
1,2-Dichloroethane	10/14/2015	02:35	9.97	10.0	100	1	73-128	20
1,2-Dichloropropane	10/14/2015	02:35	8.97	10.0	90	8	78-122	20
1,3-Dichlorobenzene	10/14/2015	02:35	10.2	10.0	102	0	80-119	20
1,4-Dichlorobenzene	10/14/2015	02:35	10.1	10.0	101	2	79-118	20
1,4-Dioxane	10/14/2015	02:35	486	500	97	6	59-139	20
2-Butanone	10/14/2015	02:35	93.2	100	93	2	56-143	20
2-Hexanone	10/14/2015	02:35	99.5	100	100	3	57-139	20
4-Methyl-2-pentanone	10/14/2015	02:35	98.4	100	98	2	67-130	20
Acetone	10/14/2015	02:35	74.2	100	74	0	39-160	20
Benzene	10/14/2015	02:35	9.93	10.0	99	2	79-120	20
Bromochloromethane	10/14/2015	02:35	9.62	10.0	96	1	78-123	20
Bromodichloromethane	10/14/2015	02:35	9.73	10.0	97	5	79-125	20
Bromoform	10/14/2015	02:35	9.53	10.0	95	6	66-130	20
Bromomethane	10/14/2015	02:35	10.8	10.0	108	0	53-141	20
Carbon disulfide	10/14/2015	02:35	21.4	20.0	107	0	64-133	20
Carbon tetrachloride	10/14/2015	02:35	57.3	10.0	93	1	72-136	20
Chlorobenzene	10/14/2015	02:35	10.2	10.0	102	1	82-118	20
Chloroethane	10/14/2015	02:35	10.9	10.0	109	3	60-138	20
Chloroform	10/14/2015	02:35	13.9	10.0	93	2	79-124	20
Chloromethane	10/14/2015	02:35	11.5	10.0	115	3	50-139	20
cis-1,2-Dichloroethene	10/14/2015	02:35	9.77	10.0	98	2	78-123	20

CT LABORATORIES
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3A

WATER VOLATILE MATRIX SPIKE DUPLICATE RECOVERY

Sample Description

48MW2

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: GROUND WATER SDG No.: 114433

Analytical Method: EPA 8260C Concentration Units: ug/L

Analytical Run #: 119465 Sample No.: 645378 Parent Sample No.: 645368

Analytical Prep Batch #: 0 Analytical Preparation Date/Time:

ICAL Calibration #: W100315.

Analyte	Analysis Date/Time		Spike Result	Spike Amount	%R	%RPD	Control Limits (%R)	Control Limits (%RPD)
cis-1,3-Dichloropropene	10/14/2015	02:35	8.83	10.0	88	1	75-124	20
Cyclohexane	10/14/2015	02:35	10.1	10.0	101	2	71-130	20
Dibromochloromethane	10/14/2015	02:35	9.22	10.0	92	4	74-126	20
Dichlorodifluoromethane	10/14/2015	02:35	14.7	10.0	147	9	32-152	20
Ethylbenzene	10/14/2015	02:35	10.3	10.0	103	1	79-121	20
Freon 113	10/14/2015	02:35	21.5	20.0	108	1	70-136	20
Isopropylbenzene	10/14/2015	02:35	10.6	10.0	106	1	72-131	20
m & p-Xylene	10/14/2015	02:35	20.9	20.0	104	2	80-121	20
Methyl Acetate	10/14/2015	02:35	10.0	10.0	100	5	56-136	20
Methyl tert-butyl ether	10/14/2015	02:35	9.92	10.0	99	1	71-124	20
Methylcyclohexane	10/14/2015	02:35	10.2	10.0	102	6	72-132	20
Methylene chloride	10/14/2015	02:35	8.82	10.0	88	3	74-124	20
o-Xylene	10/14/2015	02:35	10.2	10.0	102	4	78-122	20
Styrene	10/14/2015	02:35	10.1	10.0	101	0	78-123	20
Tetrachloroethene	10/14/2015	02:35	10.5	10.0	105	2	74-129	20
Toluene	10/14/2015	02:35	10.0	10.0	100	2	80-121	20
trans-1,2-Dichloroethene	10/14/2015	02:35	10.1	10.0	101	1	75-124	20
trans-1,3-Dichloropropene	10/14/2015	02:35	9.07	10.0	91	0	73-127	20
Trichloroethene	10/14/2015	02:35	13.8	10.0	100	2	79-123	20
Trichlorofluoromethane	10/14/2015	02:35	12.0	10.0	120	0	65-141	20
Vinyl chloride	10/14/2015	02:35	11.8	10.0	118	2	58-137	20

RPD or Spike Recovery: 0 out of 52 outside QC limits

CT LABORATORIES
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3A

Sample Description

WATER VOLATILE MATRIX SPIKE DUPLICATE RECOVERY

48MW2

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: GROUND WATER SDG No.: 114433

Analytical Method: Mod RSK 175 Concentration Units: ug/L

Analytical Run #: 119552 Sample No.: 641603 Parent Sample No.: 641602

Analytical Prep Batch #: 54511 Analytical Preparation Date/Time: 10/06/2015 09:00

ICAL Calibration #: P4DG020315

Analyte	Analysis Date/Time	Spike Result	Spike Amount	%R	%RPD	Control Limits (%R)	Control Limits (%RPD)
Ethane	10/06/2015 13:22	4.79	4.77	100	7	74-131	30
Ethene	10/06/2015 13:22	6.73	6.79	99	7	72-133	30
Methane	10/06/2015 13:22	2.67	2.29	92	8	73-125	30

RPD or Spike Recovery: 0 out of 3 outside QC limits

CT LABORATORIES
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3A

Sample Description

LCS

WATER VOLATILE LAB CONTROL SAMPLE

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Sample No.: 641601
SDG No.: 114433
Analytical Method: Mod RSK 175
Concentration Units: ug/L

Sample No.: 641601
Parent Sample No.: 0
Analytical Prep Batch #: 54511
Analytical Preparation Date/Time: 10/06/2015 09:00
Analytical Run #: 119552
ICAL Calibration #: P4DG020315

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
Ethane	10/06/2015	12:47	74-131	4.71		4.77	99
Ethene	10/06/2015	12:47	72-133	6.62		6.79	97
Methane	10/06/2015	12:47	73-125	2.24		2.29	98

Spike Recovery: 0 out of 3 outside limits

CT LABORATORIES
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3A

Sample Description

WATER VOLATILE LAB CONTROL SAMPLE

LCS

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Sample No.: 645166
SDG No.: 114433
Analytical Method: EPA 8260C
Concentration Units: ug/L

Sample No.: 645166
Parent Sample No.: 0
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
Analytical Run #: 119465
ICAL Calibration #: W100315.

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
1,1,1-Trichloroethane	10/13/2015	15:38	74-131	11.2		10.0	112
1,1,2,2-Tetrachloroethane	10/13/2015	15:38	71-121	9.89		10.0	99
1,1,2-Trichloroethane	10/13/2015	15:38	80-119	10.5		10.0	105
1,1-Dichloroethane	10/13/2015	15:38	77-125	10.5		10.0	105
1,1-Dichloroethene	10/13/2015	15:38	71-131	10.8		10.0	108
1,2,3-Trichlorobenzene	10/13/2015	15:38	69-129	10.1		10.0	101
1,2,4-Trichlorobenzene	10/13/2015	15:38	69-130	10.0		10.0	100
1,2-Dibromo-3-chloropropane	10/13/2015	15:38	62-128	9.52		10.0	95
1,2-Dibromoethane	10/13/2015	15:38	77-121	9.80		10.0	98
1,2-Dichlorobenzene	10/13/2015	15:38	80-119	10.2		10.0	102
1,2-Dichloroethane	10/13/2015	15:38	73-128	10.9		10.0	109
1,2-Dichloropropane	10/13/2015	15:38	78-122	10.5		10.0	105
1,3-Dichlorobenzene	10/13/2015	15:38	80-119	10.6		10.0	106
1,4-Dichlorobenzene	10/13/2015	15:38	79-118	10.3		10.0	103
1,4-Dioxane	10/13/2015	15:38	59-139	468		500	94
2-Butanone	10/13/2015	15:38	56-143	105		100	105
2-Hexanone	10/13/2015	15:38	57-139	97.8		100	98
4-Methyl-2-pentanone	10/13/2015	15:38	67-130	108		100	108
Acetone	10/13/2015	15:38	39-160	115		100	115
Benzene	10/13/2015	15:38	79-120	10.9		10.0	109
Bromochloromethane	10/13/2015	15:38	78-123	10.3		10.0	103
Bromodichloromethane	10/13/2015	15:38	79-125	10.7		10.0	107
Bromoform	10/13/2015	15:38	66-130	9.63		10.0	96
Bromomethane	10/13/2015	15:38	53-141	11.2		10.0	112
Carbon disulfide	10/13/2015	15:38	64-133	21.9		20.0	110
Carbon tetrachloride	10/13/2015	15:38	72-136	11.2		10.0	112
Chlorobenzene	10/13/2015	15:38	82-118	10.4		10.0	104
Chloroethane	10/13/2015	15:38	60-138	11.4		10.0	114

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3A

Sample Description

WATER VOLATILE LAB CONTROL SAMPLE

LCS

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Sample No.: 645166
SDG No.: 114433
Analytical Method: EPA 8260C
Concentration Units: ug/L

Sample No.: 645166
Parent Sample No.: 0
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
Analytical Run #: 119465
ICAL Calibration #: W100315.

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
Chloroform	10/13/2015	15:38	79-124	10.4		10.0	104
Chloromethane	10/13/2015	15:38	50-139	11.0		10.0	110
cis-1,2-Dichloroethene	10/13/2015	15:38	78-123	10.5		10.0	105
cis-1,3-Dichloropropene	10/13/2015	15:38	75-124	10.8		10.0	108
Cyclohexane	10/13/2015	15:38	71-130	10.4		10.0	104
Dibromochloromethane	10/13/2015	15:38	74-126	9.97		10.0	100
Dichlorodifluoromethane	10/13/2015	15:38	32-152	10.7		10.0	107
Ethylbenzene	10/13/2015	15:38	79-121	10.8		10.0	108
Freon 113	10/13/2015	15:38	70-136	22.4		20.0	112
Isopropylbenzene	10/13/2015	15:38	72-131	10.9		10.0	109
m & p-Xylene	10/13/2015	15:38	80-121	21.6		20.0	108
Methyl Acetate	10/13/2015	15:38	56-136	12.8		10.0	128
Methyl tert-butyl ether	10/13/2015	15:38	71-124	10.7		10.0	107
Methylcyclohexane	10/13/2015	15:38	72-132	10.9		10.0	109
Methylene chloride	10/13/2015	15:38	74-124	10.4		10.0	104
o-Xylene	10/13/2015	15:38	78-122	10.5		10.0	105
Styrene	10/13/2015	15:38	78-123	10.4		10.0	104
Tetrachloroethene	10/13/2015	15:38	74-129	11.1		10.0	111
Toluene	10/13/2015	15:38	80-121	10.8		10.0	108
trans-1,2-Dichloroethene	10/13/2015	15:38	75-124	10.9		10.0	109
trans-1,3-Dichloropropene	10/13/2015	15:38	73-127	10.8		10.0	108
Trichloroethene	10/13/2015	15:38	79-123	10.8		10.0	108
Trichlorofluoromethane	10/13/2015	15:38	65-141	10.6		10.0	106
Vinyl chloride	10/13/2015	15:38	58-137	11.1		10.0	111

CT LABORATORIES
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3A

Sample Description

LCS

WATER VOLATILE LAB CONTROL SAMPLE

Lab Name:	CT Laboratories	Contract	BERING SEA ENVIRONMENTAL-RADFORD AAP
Sample No.:	645166	SDG No.:	114433
Analytical Method:	EPA 8260C	Concentration Units:	ug/L

Spike Recovery: 0 out of 52 outside limits

CT LABORATORIES
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4A

VOLATILE METHOD BLANK SUMMARY

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RAAP
Sample ID:	641600	SDG No.:	114433
Matrix:	LIQUID	Date Extracted:	10/06/2015
Date Analyzed:	10/06/2015	Time Analyzed:	12:59
Analytical Method:	Mod RSK 175	Extraction Method:	METHOD
Analytical Run #:	119552	Extraction Batch #:	54511
		ICAL Calibration #:	P4DG020315

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES AND QC:

SEQUENCE	SAMPLE DESCRIPTION	SAMPLE ID	DATE/TIME ANALYZED
1	CCV	642722	10/06/2015 12:42
2	LCSW	641601	10/06/2015 12:47
3	MBW	641600	10/06/2015 12:59
4	49MW04	640123	10/06/2015 13:02
5	48MW07	640252	10/06/2015 13:05
6	48MW06	640255	10/06/2015 13:08
7	49TM01	640257	10/06/2015 13:12
8	48MW2	640259	10/06/2015 13:15
9	48MW2MSW	641602	10/06/2015 13:18
10	48MW2MSDW	641603	10/06/2015 13:22
11	48MW1	640261	10/06/2015 13:29
12	49MW01	640263	10/06/2015 13:36
13	13MW3	640602	10/06/2015 13:40
14	13MW4	640604	10/06/2015 13:44
15	13MW2	640606	10/06/2015 13:52
16	CCV	642723	10/06/2015 13:57
17	100215R1	640608	10/06/2015 14:00
18	48MW3	640610	10/06/2015 14:03
19	49MW02	640613	10/06/2015 14:07
20	50MW02	640615	10/06/2015 14:11
21	TRIP BLANK	640617	10/06/2015 14:14
22	CCV	642724	10/06/2015 14:17

CT LABORATORIES
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4A

VOLATILE METHOD BLANK SUMMARY

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Sample ID:	641600	SDG No.:	114433
Matrix:	LIQUID	Date Extracted:	10/06/2015
Date Analyzed:	10/06/2015	Time Analyzed:	12:59
Analytical Method:	Mod RSK 175	Extraction Method:	METHOD
Analytical Run #:	119552	Extraction Batch #:	54511
		ICAL Calibration #:	P4DG020315

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES AND QC:

SEQUENCE	SAMPLE DESCRIPTION	SAMPLE ID	DATE/TIME ANALYZED
1	CCV	642722	10/06/2015 12:42
2	LCSW	641601	10/06/2015 12:47
3	MBW	641600	10/06/2015 12:59
4	49MW04	640123	10/06/2015 13:02
5	48MW07	640252	10/06/2015 13:05
6	48MW06	640255	10/06/2015 13:08
7	49TM01	640257	10/06/2015 13:12
8	48MW2	640259	10/06/2015 13:15
9	48MW2MSW	641602	10/06/2015 13:18
10	48MW2MSDW	641603	10/06/2015 13:22
11	48MW1	640261	10/06/2015 13:29
12	49MW01	640263	10/06/2015 13:36
13	13MW3	640602	10/06/2015 13:40
14	13MW4	640604	10/06/2015 13:44
15	13MW2	640606	10/06/2015 13:52
16	CCV	642723	10/06/2015 13:57
17	100215R1	640608	10/06/2015 14:00
18	48MW3	640610	10/06/2015 14:03
19	49MW02	640613	10/06/2015 14:07
20	50MW02	640615	10/06/2015 14:11
21	TRIP BLANK	640617	10/06/2015 14:14
22	CCV	642724	10/06/2015 14:17

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4A

VOLATILE METHOD BLANK SUMMARY

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RAAP
Sample ID:	645200	SDG No.:	114433
Matrix:	LIQUID	Date Extracted:	
Date Analyzed:	10/13/2015	Time Analyzed:	16:37
Analytical Method:	EPA 8260C	Extraction Method:	NONE
Analytical Run #:	119465	Extraction Batch #:	0
		ICAL Calibration #:	W100315.

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES AND QC:

SEQUENCE	SAMPLE DESCRIPTION	SAMPLE ID	DATE/TIME ANALYZED
1	BFB	646260	10/13/2015 15:19
2	LCSW	645166	10/13/2015 15:38
3	CCV	645167	10/13/2015 15:38
4	MBW	645200	10/13/2015 16:37
5	100115T1	640297	10/13/2015 18:06
6	TRIP BLANK	640617	10/13/2015 18:36
7	48MW07	640252	10/13/2015 19:06
8	48MW06	640255	10/13/2015 19:36
9	49TM01	640257	10/13/2015 20:06
10	48MW2	640259	10/13/2015 20:36
11	48MW1	640261	10/13/2015 21:06
12	49MW01	640263	10/13/2015 21:36
13	49MW04	640123	10/13/2015 22:06
14	13MW3	640602	10/13/2015 22:35
15	13MW4	640604	10/13/2015 23:05
16	13MW2	640606	10/13/2015 23:35
17	100215R1	640608	10/14/2015 00:05
18	48MW3	640610	10/14/2015 00:34
19	49MW02	640613	10/14/2015 01:05
20	48MW2MSW	645368	10/14/2015 02:05
21	48MW2MSDW	645378	10/14/2015 02:35
22	BFB	646258	10/14/2015 09:02
23	CCVF	646259	10/14/2015 09:51
24	BFB	646265	10/15/2015 15:06
25	CCV	646267	10/15/2015 15:20
26	CCB	646273	10/15/2015 16:20
27	50MW02	640615	10/15/2015 17:49
28	CCVF	646276	10/16/2015 00:45

CT LABORATORIES
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4A

VOLATILE METHOD BLANK SUMMARY

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Sample ID:	645200	SDG No.:	114433
Matrix:	LIQUID	Date Extracted:	
Date Analyzed:	10/13/2015	Time Analyzed:	16:37
Analytical Method:	EPA 8260C	Extraction Method:	NONE
Analytical Run #:	119465	Extraction Batch #:	0
		ICAL Calibration #:	W100315.

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES AND QC:

SEQUENCE	SAMPLE DESCRIPTION	SAMPLE ID	DATE/TIME ANALYZED
1	BFB	646260	10/13/2015 15:19
2	LCSW	645166	10/13/2015 15:38
3	CCV	645167	10/13/2015 15:38
4	MBW	645200	10/13/2015 16:37
5	100115T1	640297	10/13/2015 18:06
6	TRIP BLANK	640617	10/13/2015 18:36
7	48MW07	640252	10/13/2015 19:06
8	48MW06	640255	10/13/2015 19:36
9	49TM01	640257	10/13/2015 20:06
10	48MW2	640259	10/13/2015 20:36
11	48MW1	640261	10/13/2015 21:06
12	49MW01	640263	10/13/2015 21:36
13	49MW04	640123	10/13/2015 22:06
14	13MW3	640602	10/13/2015 22:35
15	13MW4	640604	10/13/2015 23:05
16	13MW2	640606	10/13/2015 23:35
17	100215R1	640608	10/14/2015 00:05
18	48MW3	640610	10/14/2015 00:34
19	49MW02	640613	10/14/2015 01:05
20	48MW2MSW	645368	10/14/2015 02:05
21	48MW2MSDW	645378	10/14/2015 02:35
22	BFB	646258	10/14/2015 09:02
23	CCVF	646259	10/14/2015 09:51
24	BFB	646265	10/15/2015 15:06
25	CCV	646267	10/15/2015 15:20
26	CCB	646273	10/15/2015 16:20
27	50MW02	640615	10/15/2015 17:49
28	CCVF	646276	10/16/2015 00:45

Data File : L:\DATA\OCT0315\BFB1.D Vial: 1
Acq On : 3 Oct 2015 22:02 Operator: AGK-RLD
Sample : BFB INJECTION Inst : VMS3
Misc : 25 ng Inj. Multiplr: 1.00
Integration File: VOC.P

Method : L:\METHODS\W100315.M
Title : 8260C Waters Method

Spectrum Information: Average of 4.675 to 4.687 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	18.6	10347	PASS
75	95	30	60	52.1	28943	PASS
95	95	100	100	100.0	55575	PASS
96	95	5	9	6.1	3385	PASS
173	174	0.00	2	1.2	588	PASS
174	95	50	100	85.6	47597	PASS
175	174	5	9	7.8	3697	PASS
176	174	95	101	95.9	45630	PASS
177	176	5	9	7.0	3204	PASS

W100315.M Wed Oct 14 15:15:02 2015

pl_ilog
Injection Log Summary Report

Method : L:\METHODS\W100315.M
Title : 8260C Waters Method
Start (Tune) File ID : L:\DATA\OCT0315\BFB1.D
Injection Date : 3 Oct 2015 Log Time Period (hrs) : ALL
Injection Time : 22:02 Total files within period : 15
Sample Directory : L:\DATA\OCT0315\

Injection Log Summary Table

File ID	Multiplier I	S	T	Sample Name Misc Info	Date	Time
WCAL1	1.00	1.00	1.00	INITIAL CALIB. PT1 0.50/5.00 ug/L, 5.0	3 Oct 2015	23:16
WCAL2	1.00	1.00	1.00	INITIAL CALIB. PT2 2.00/20.0 ug/L, 5.0	3 Oct 2015	23:46
WCAL3	1.00	1.00	1.00	INITIAL CALIB. PT3 5.00/50.0 ug/L, 5.0	4 Oct 2015	00:16
WCAL4	1.00	1.00	1.00	INITIAL CALIB. PT4 10.0/100 ug/L, 5.0 m	4 Oct 2015	00:46
WCAL5	1.00	1.00	1.00	INITIAL CALIB. PT5 20.0/200 ug/L, 5.0 m	4 Oct 2015	01:17
WCAL6	1.00	1.00	1.00	INITIAL CALIB. PT6 30.0/300 ug/L, 5.0 m	4 Oct 2015	01:47
WCAL7	1.00	1.00	1.00	INITIAL CALIB. PT7 40.0/400 ug/L, 5.0 m	4 Oct 2015	02:16
WCAL8	1.00	1.00	1.00	INITIAL CALIB. PT8 80.0/800 ug/L, 5.0 m	4 Oct 2015	02:46
ICV1	1.00	1.00	1.00	INITIAL CALIB. VERIF 10.0/100 ug/L, 5.0 m	4 Oct 2015	03:46
ICV2	1.00	1.00	1.00	INITIAL CALIB. VERIF 30.0/300 ug/L, 5.0 m	4 Oct 2015	04:16
ICB1	1.00	1.00	1.00	INITIAL CALIB. BLANK pH<2, 5.0 mL DI H20	4 Oct 2015	05:16

Data File : l:\data\oct1315b\BFB1.D Vial: 1
Acq On : 13 Oct 2015 15:19 Operator: AGK-RLD
Sample : 119465,BFB, Inst : VMS3
Misc : 25 ng Inj. Multiplr: 1.00
Integration File: VOC.P

Method : L:\METHODS\W100315.M
Title : 8260C Waters Method

Spectrum Information: Average of 4.681 to 4.693 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	21.6	17042	PASS
75	95	30	60	56.6	44555	PASS
95	95	100	100	100.0	78744	PASS
96	95	5	9	8.1	6406	PASS
173	174	0.00	2	1.0	689	PASS
174	95	50	100	89.7	70664	PASS
175	174	5	9	7.6	5379	PASS
176	174	95	101	98.7	69738	PASS
177	176	5	9	6.7	4651	PASS

W100315.M Fri Oct 16 10:32:30 2015

Data File : l:\data\oct1315b\BFB2.D Vial: 1
Acq On : 14 Oct 2015 9:02 Operator: AGK-RLD
Sample : 119465,BFB, Inst : VMS3
Misc : 25 ng Inj. Multiplr: 1.00
Integration File: VOC.P

Method : L:\METHODS\W100315.M
Title : 8260C Waters Method

Spectrum Information: Average of 4.657 to 4.693 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	19.3	8208	PASS
75	95	30	60	57.9	24641	PASS
95	95	100	100	100.0	42561	PASS
96	95	5	9	5.7	2443	PASS
173	174	0.00	2	0.6	246	PASS
174	95	50	100	89.9	38253	PASS
175	174	5	9	8.6	3292	PASS
176	174	95	101	96.7	36987	PASS
177	176	5	9	6.3	2340	PASS

W100315.M Fri Oct 16 10:48:38 2015

pl_ilog
Injection Log Summary Report

Method : L:\METHODS\W100315.M
Title : 8260C Waters Method
Start (Tune) File ID : L:\DATA\OCT1315B\BFB1.D
Injection Date : 13 Oct 2015 Log Time Period (hrs) : ALL
Injection Time : 15:19 Total files within period : 25
Sample Directory : L:\DATA\OCT1315B\

Injection Log Summary Table

File ID	Multiplier I	S	T	Sample Name Misc Info	Date	Time
CCV-LCS1	1.00	1.00	1.00	119465,LCSW, 10.0/100 ug/L, 5.0 m	13 Oct 2015	15:38
MB1	1.00	1.00	1.00	119465,MBW, pH<2, 5.0 mL DI H20	13 Oct 2015	16:37
640297	1.00	1.00	1.00	119465,640297, pH<2, 5.0 mL Purged	13 Oct 2015	18:06
640617	1.00	1.00	1.00	119465,640617, pH<2, 5.0 mL Purged	13 Oct 2015	18:36
640252	1.00	1.00	1.00	119465,640252, pH<2, 5.0 mL Purged	13 Oct 2015	19:06
640255	1.00	1.00	1.00	119465,640255, pH<2, 5.0 mL Purged	13 Oct 2015	19:36
640257	1.00	1.00	1.00	119465,640257, pH<2, 5.0 mL Purged	13 Oct 2015	20:06
640259	1.00	1.00	1.00	119465,640259, pH<2, 5.0 mL Purged	13 Oct 2015	20:36
640261	1.00	1.00	1.00	119465,640261, pH<2, 5.0 mL Purged	13 Oct 2015	21:06
640263	1.00	1.00	1.00	119465,640263, pH<2, 5.0 mL Purged	13 Oct 2015	21:36
640123	1.00	1.00	1.00	119465,640123, pH<2, 5.0 mL Purged	13 Oct 2015	22:06
640602	1.00	1.00	1.00	119465,640602, pH<2, 5.0 mL Purged	13 Oct 2015	22:35
640604	1.00	1.00	1.00	119465,640604, pH<2, 5.0 mL Purged	13 Oct 2015	23:05
640606	1.00	1.00	1.00	119465,640606, pH<2, 5.0 mL Purged	13 Oct 2015	23:35
640608	1.00	1.00	1.00	119465,640608, pH<2, 5.0 mL Purged	14 Oct 2015	00:05
640610	1.00	1.00	1.00	119465,640610, pH<2, 5.0 mL Purged	14 Oct 2015	00:34
640613	1.00	1.00	1.00	119465,640613, pH<2, 5.0 mL Purged	14 Oct 2015	01:05
640615	1.00	1.00	1.00	119465,640615, pH<2, 5.0 mL Purged	14 Oct 2015	01:35
640259MS	1.00	1.00	1.00	119465,MSW640259, pH<2, 10.0/100 ug/L,	14 Oct 2015	02:05
640259SD	1.00	1.00	1.00	119465,MSDW640259, pH<2, 10.0/100 ug/L,	14 Oct 2015	02:35
BFB2	1.00	1.00	1.00	119465,BFB, 25 ng Inj.	14 Oct 2015	09:02
CCVF1	1.00	1.00	1.00	119465,CCVF, 10.0/100 ug/L, 5.0 m	14 Oct 2015	09:51

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name : CT Laboratories, LLC Contract :
Project : Site : Location : Group :
Lab File ID (Standard): WCAL4.D Date Analyzed : 4 Oct 2015
Instrument ID : VMS3 Time Analyzed : 00:46
GC Column : DB-624UI ID : VMS3(mm) Heated Purge (Y:N) : N

	IS1		IS2		IS3	
	Area #	RT #	Area #	RT #	Area #	RT #
12 HOUR STD	1238423	7.71	927728	11.62	475685	15.46
UPPER LIMIT	2476846	8.21	1855456	12.12	951370	15.96
LOWER LIMIT	619212	7.21	463864	11.12	237843	14.96
File ID Sample						
640123 119465,64	935522	7.71	760071	11.62	401461	15.46
640252 119465,64	960699	7.71	789590	11.62	427643	15.45
640255 119465,64	966694	7.70	780005	11.62	417228	15.46
640257 119465,64	951748	7.70	771940	11.62	416756	15.46
640259 119465,64	967941	7.71	762548	11.62	416311	15.46
640259MS 119465,MS	1061125	7.70	788562	11.62	428134	15.46
640259SD 119465,MS	1094952	7.71	809201	11.62	427004	15.45
640261 119465,64	961438	7.70	778184	11.62	422490	15.45
640263 119465,64	968557	7.71	774569	11.62	421424	15.45
640297 119465,64	997155	7.71	804225	11.62	430432	15.45
640602 119465,64	924850	7.70	744844	11.62	397306	15.46
640604 119465,64	943961	7.71	736876	11.62	394995	15.46
640606 119465,64	946205	7.71	724545	11.62	387736	15.45
640608 119465,64	943054	7.70	733742	11.62	394658	15.46
640610 119465,64	944501	7.71	716295	11.62	383928	15.46
640613 119465,64	949852	7.71	722801	11.62	391758	15.45
640615 119465,64	0 *	0.00 *	0 *	0.00 *	0 *	0.00 *
640617 119465,64	999700	7.71	801084	11.62	441966	15.46
CCV-LCS1 119465,LC	1134136	7.70	904586	11.62	488895	15.45
CCVF1 119465,CC	1053009	7.71	802135	11.62	424941	15.46
MB1 119465,MB	1021437	7.70	815282	11.62	430504	15.45

IS1 = FLUOROBENZENE**ISTD**
IS2 = d5-CHLOROBENZENE**ISTD**
IS3 = d4-1,4-DICHLOROBENZENE**IS

AREA UPPER LIMIT = 200% of internal standard area
AREA LOWER LIMIT = 50% of internal standard area
RT UPPER LIMIT = 0.5 minutes of internal standard RT
RT LOWER LIMIT = -0.5 minutes of internal standard RT

Column to be used to flag values outside QC limit with an asterisk
* Values outside of contract required QC limits

Data File : l:\data\oct1515\BFB2.D Vial: 14
Acq On : 15 Oct 2015 15:06 Operator: AGK-RLD
Sample : 119731,BFB, Inst : VMS3
Misc : 25 ng Inj. Multiplr: 1.00
Integration File: VOC.P

Method : L:\METHODS\W100315.M
Title : 8260C Waters Method

Spectrum Information: Average of 4.656 to 4.693 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	21.9	21910	PASS
75	95	30	60	53.0	53039	PASS
95	95	100	100	100.0	100000	PASS
96	95	5	9	7.9	7945	PASS
173	174	0.00	2	1.0	953	PASS
174	95	50	100	92.3	92303	PASS
175	174	5	9	8.2	7542	PASS
176	174	95	101	99.3	91643	PASS
177	176	5	9	7.7	7101	PASS

W100315.M Fri Oct 16 11:01:39 2015

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Injection Log Summary Report

Method : L:\METHODS\W100315.M
Title : 8260C Waters Method
Start (Tune) File ID : L:\DATA\OCT1515\BFB2.D
Injection Date : 15 Oct 2015 Log Time Period (hrs) : ALL
Injection Time : 15:06 Total files within period : 21
Sample Directory : L:\DATA\OCT1515\

Injection Log Summary Table

File ID	Multiplier I	S	T	Sample Name Misc Info	Date	Time
CCV-LCS2	1.00	1.00	1.00	119731,LCSW, 10.0/100 ug/L, 5.0 m	15 Oct 2015	15:20
MB2	1.00	1.00	1.00	119731,MBW, pH<2, 5.0 mL DI H20	15 Oct 2015	16:20
640615R	1.00	1.00	1.00	119465,640615, pH<2, 5.0 mL DI H20	15 Oct 2015	17:49
640615R2	1.00	1.00	1.00	119465,640615,10 pH<2, 5.0 mL DI H20	15 Oct 2015	18:19
CCVF2	1.00	1.00	1.00	119731,CCVF, 10.0/100 ug/L, 5.0 m	16 Oct 2015	00:45

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name : CT Laboratories, LLC Contract :
Project : Site : Location : Group :
Lab File ID (Standard): WCAL4.D Date Analyzed : 4 Oct 2015
Instrument ID : VMS3 Time Analyzed : 00:46
GC Column : DB-624UI ID : VMS3(mm) Heated Purge (Y:N) : N

	IS1		IS2		IS3	
	Area #	RT #	Area #	RT #	Area #	RT #
12 HOUR STD	1238423	7.71	927728	11.62	475685	15.46
UPPER LIMIT	2476846	8.21	1855456	12.12	951370	15.96
LOWER LIMIT	619212	7.21	463864	11.12	237843	14.96
File ID Sample						
640615R 119465,64	844103	7.70	628630	11.62	327209	15.46
640615R2 119465,64	843419	7.70	649076	11.62	325106	15.46
CCV-LCS2 119731,LC	951494	7.70	709237	11.62	379507	15.46
CCVF2 119731,CC	967449	7.70	729717	11.62	389008	15.45
MB2 119731,MB	845952	7.70	633247	11.62	328031	15.46

IS1 = FLUOROBENZENE**ISTD**
IS2 = d5-CHLOROBENZENE**ISTD**
IS3 = d4-1,4-DICHLOROBENZENE**IS

AREA UPPER LIMIT = 200% of internal standard area
AREA LOWER LIMIT = 50% of internal standard area
RT UPPER LIMIT = 0.5 minutes of internal standard RT
RT LOWER LIMIT = -0.5 minutes of internal standard RT

Column to be used to flag values outside QC limit with an asterisk
* Values outside of contract required QC limits

VOLATILE ORGANIC ANALYSIS
SAMPLE DATA
DOCUMENTS

Quantitation Report

Data File : l:\data\oct1315b\640297.D Vial: 7
Acq On : 13 Oct 2015 18:06 Operator: AGK-RLD
Sample : 119465,640297, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 13 18:27:32 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.71	96	997155	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.62	117	804225	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	15.45	152	430432	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.85	113	242221	20.094	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100	%		
45) SURR12DCAd4	7.26	102	66710	20.134	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 101	%		
61) SURRd8Tolule	9.71	98	985238	19.808	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 99	%		
83) SURR4BrFBenz	13.25	95	387992	18.082	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 90	%		
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	0.00	50	0	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	0.00	94	0	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	4.08	58	14031	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	4.08	43	47654	N.D.		
16) Iodomethane	0.00	142	0	N.D.		
17) Carbon Dislf	4.27	76	3939	N.D.		
18) allylchloride	4.42	41	19878	1.3692	ug/L #	40
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	4.86	59	5798	Below	Cal #	52
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	6.69	42	3214	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : l:\data\oct1315b\640297.D Vial: 7
Acq On : 13 Oct 2015 18:06 Operator: AGK-RLD
Sample : 119465,640297, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 13 18:27:32 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	0.00	119	0	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	0.00	78	0	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	0.00	95	0	N.D.	
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	0.00	92	0	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	11.62	91	2697	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	0.00	106	0	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	0.00	55	0	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	0.00	105	0	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	0.00	91	0	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : l:\data\oct1315b\640297.D Vial: 7
Acq On : 13 Oct 2015 18:06 Operator: AGK-RLD
Sample : 119465,640297, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 13 18:27:32 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

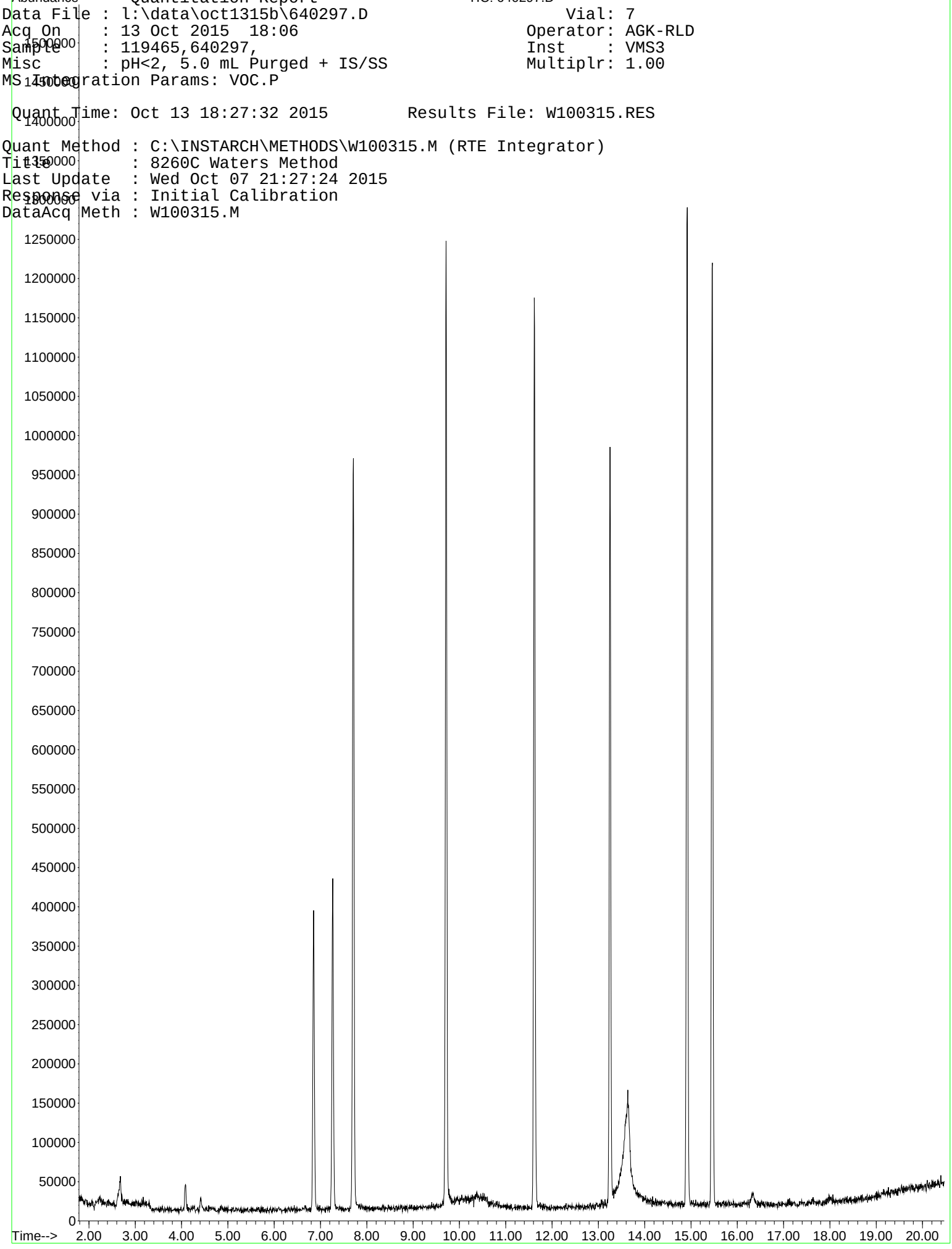
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	18.03	128	6036	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Data File : l:\data\oct1315b\640297.D Vial: 7
Acq On : 13 Oct 2015 18:06 Operator: AGK-RLD
Sample : 119465,640297, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 13 18:27:32 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M



Quantitation Report

Data File : l:\data\oct1315b\640617.D Vial: 8
Acq On : 13 Oct 2015 18:36 Operator: AGK-RLD
Sample : 119465,640617, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 13 18:57:05 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.71	96	999700	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.62	117	801084	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	15.46	152	441966	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.85	113	251537	20.814	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 104 %			
45) SURR12DCAd4	7.26	102	64720	19.483	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 97 %			
61) SURRd8Tolule	9.71	98	1015675	20.368	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 102 %			
83) SURR4BrFBenz	13.25	95	384453	17.449	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 87 %			

Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	0.00	50	0	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	0.00	94	0	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	4.08	58	14226	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	4.08	43	53642	5.0173	ug/L	92
16) Iodomethane	0.00	142	0	N.D.		
17) Carbon Dislf	4.28	76	3241	N.D.		
18) allylchloride	4.42	41	24750	1.7004	ug/L #	33
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	4.86	59	5719	Below Cal	#	52
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	6.68	42	3773	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : l:\data\oct1315b\640617.D Vial: 8
Acq On : 13 Oct 2015 18:36 Operator: AGK-RLD
Sample : 119465,640617, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 13 18:57:05 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	0.00	119	0	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	0.00	78	0	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	0.00	95	0	N.D.	
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	0.00	92	0	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	0.00	91	0	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	0.00	106	0	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	0.00	55	0	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	0.00	105	0	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	0.00	91	0	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : l:\data\oct1315b\640617.D Vial: 8
Acq On : 13 Oct 2015 18:36 Operator: AGK-RLD
Sample : 119465,640617, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 13 18:57:05 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	0.00	128	0	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report (RTE)

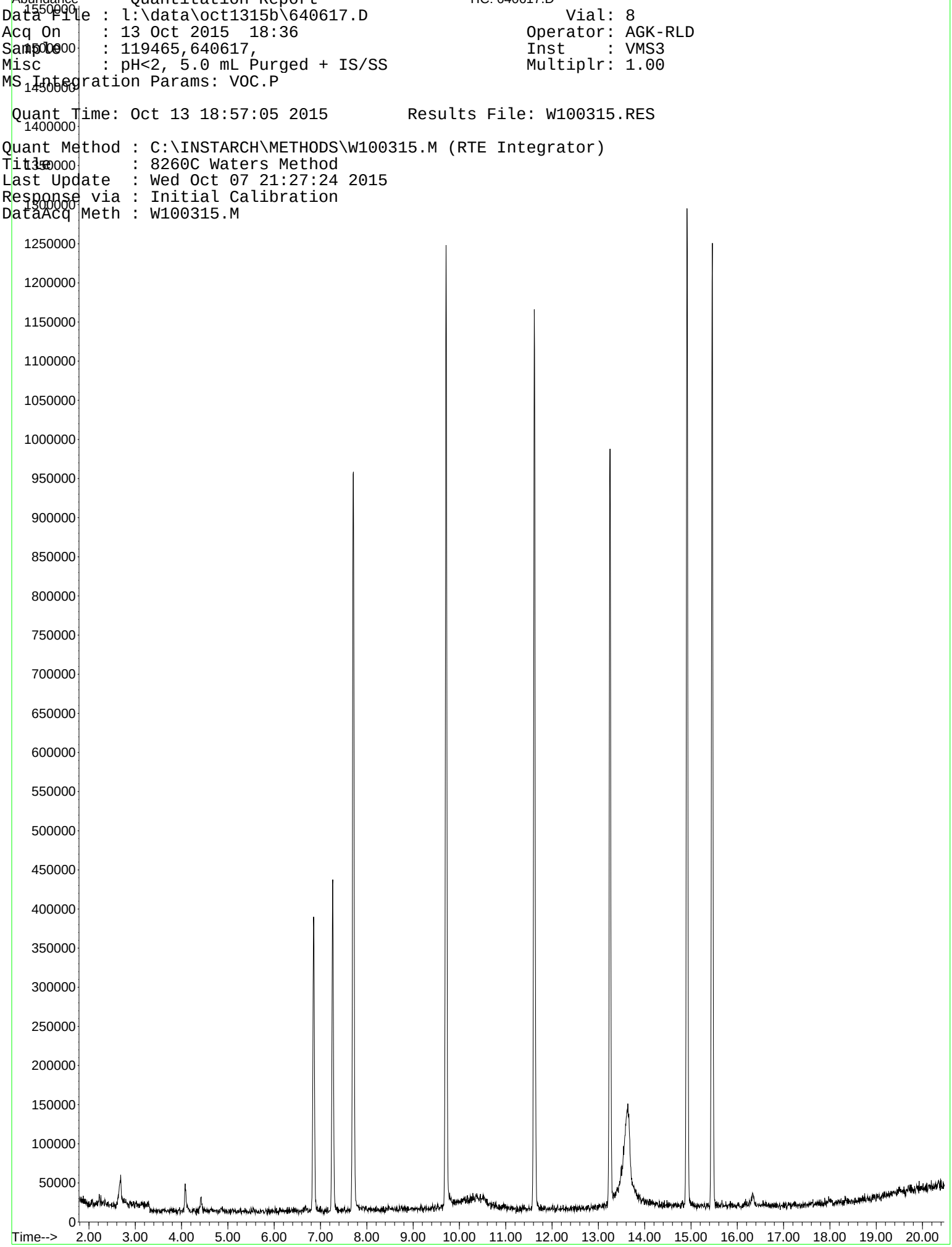
Data File : l:\data\oct1315b\640617.D
Acq On : 13 Oct 2015 18:36
Sample : 119465,640617,
Misc : pH<2, 5.0 mL Purged + IS/SS
MS Integration Params: VOC.P

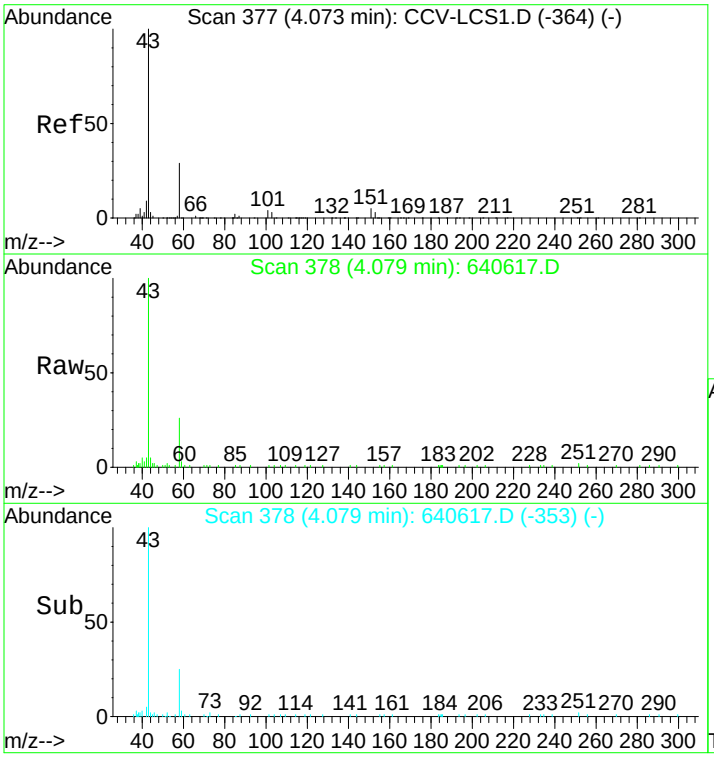
Quant Time: Oct 13 18:57:05 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

TIC: 640617.D

Vial: 8
Operator: AGK-RLD
Inst : VMS3
Multiplr: 1.00

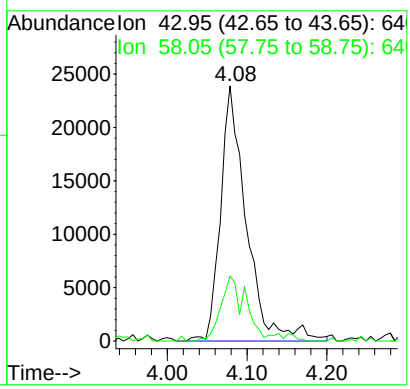




#15
Acetone
Concen: 5.02 ug/L
RT: 4.08 min Scan# 378
Delta R.T. 0.00 min
Lab File: 640617.D
Acq: 13 Oct 2015 18:36

Tgt Ion: 43 Resp: 53642

Ion	Ratio	Lower	Upper
43	100		
58	26.5	10.8	50.8



Quantitation Report

Data File : l:\data\oct1315b\640252.D Vial: 9
Acq On : 13 Oct 2015 19:06 Operator: AGK-RLD
Sample : 119465,640252, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 13 19:27:02 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.71	96	960699	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.62	117	789590	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	15.45	152	427643	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.85	113	245216	21.115	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 106	%		
45) SURR12DCAd4	7.26	102	61601	19.297	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 96	%		
61) SURRd8Tolule	9.71	98	956650	19.964	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100	%		
83) SURR4BrFBenz	13.25	95	373370	17.514	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 88	%		
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	0.00	50	0	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	0.00	94	0	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	4.07	43	3055	Below	Cal #	44
16) Iodomethane	0.00	142	0	N.D.		
17) Carbon Dislf	4.26	76	3570	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	4.85	59	4061	Below	Cal #	52
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	0.00	42	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : l:\data\oct1315b\640252.D Vial: 9
Acq On : 13 Oct 2015 19:06 Operator: AGK-RLD
Sample : 119465,640252, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 13 19:27:02 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	0.00	119	0	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	0.00	78	0	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	0.00	95	0	N.D.	
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	0.00	92	0	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	0.00	91	0	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	0.00	106	0	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	0.00	55	0	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	0.00	105	0	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	0.00	91	0	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : l:\data\oct1315b\640252.D Vial: 9
Acq On : 13 Oct 2015 19:06 Operator: AGK-RLD
Sample : 119465,640252, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 13 19:27:02 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	0.00	128	0	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report (RTE Integrator)

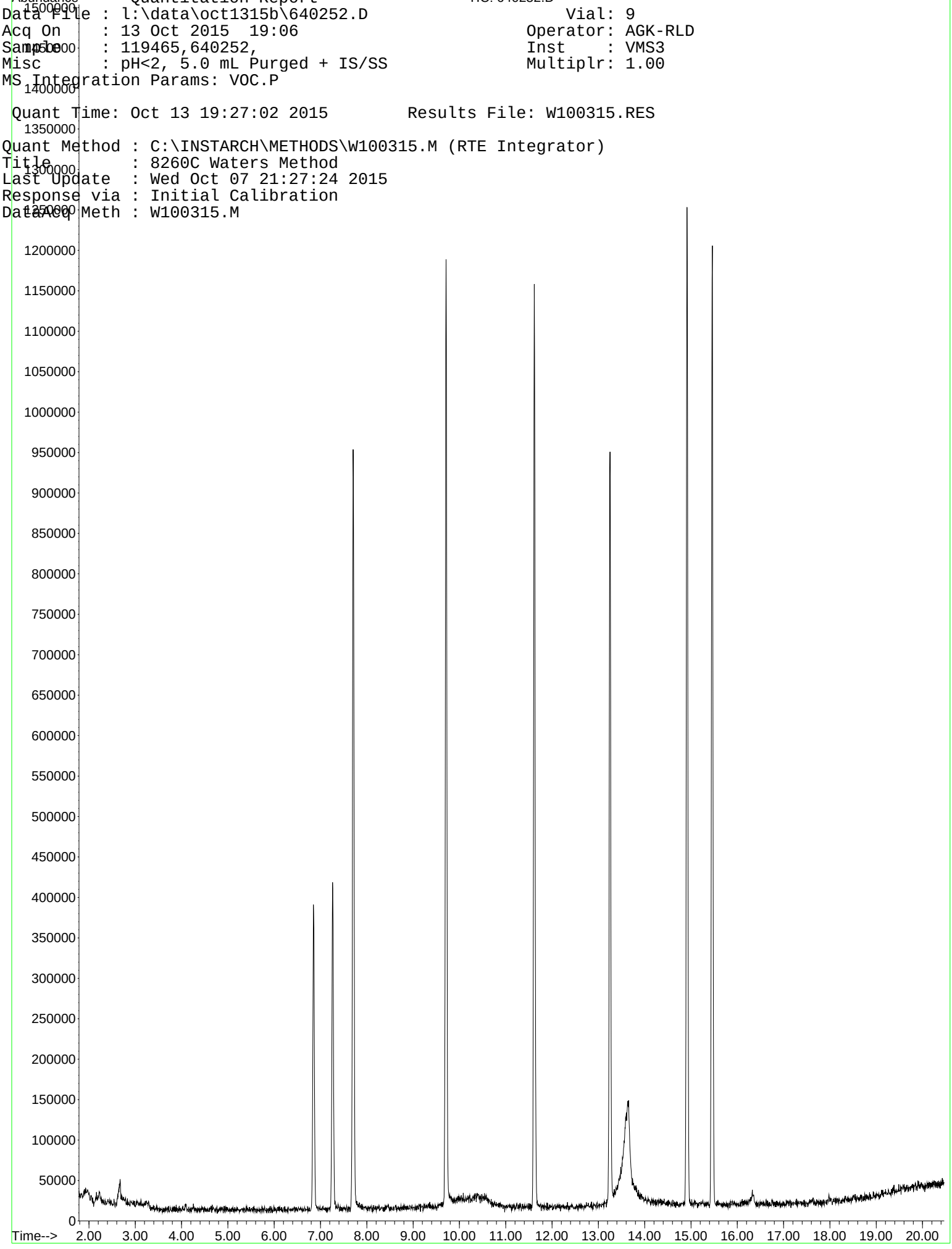
Data File : l:\data\oct1315b\640252.D
Acq On : 13 Oct 2015 19:06
Sample : 119465,640252,
Misc : pH<2, 5.0 mL Purged + IS/SS
MS Integration Params: VOC.P

Quant Time: Oct 13 19:27:02 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

Vial: 9
Operator: AGK-RLD
Inst : VMS3
Multiplr: 1.00

TIC: 640252.D



Quantitation Report

Data File : l:\data\oct1315b\640255.D Vial: 10
Acq On : 13 Oct 2015 19:36 Operator: AGK-RLD
Sample : 119465,640255, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 13 19:57:02 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.70	96	966694	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.62	117	780005	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	15.46	152	417228	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.85	113	244072	20.886	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 104 %			
45) SURR12DCAd4	7.27	102	65888	20.512	ug/L	0.01
Spiked Amount 20.000	Range 89 - 112		Recovery = 103 %			
61) SURRd8Tolule	9.71	98	979945	20.323	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 102 %			
83) SURR4BrFBenz	13.25	95	382290	18.380	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 92 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	0.00	50	0	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	0.00	94	0	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	3.71	67	11100	0.9387	ug/L #	91
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	4.08	43	5602	N.D.		
16) Iodomethane	0.00	142	0	N.D.		
17) Carbon Dislf	0.00	76	0	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	4.86	59	5400	Below Cal	#	52
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	5.53	63	94206	4.6295	ug/L	100
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	6.27	96	78784	6.4326	ug/L	88
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	0.00	42	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : l:\data\oct1315b\640255.D Vial: 10
Acq On : 13 Oct 2015 19:36 Operator: AGK-RLD
Sample : 119465,640255, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 13 19:57:02 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39) Chloroform	0.00	83	0	N.D.		
40) 111trichlota	6.91	97	13760	0.7110	ug/L	97
42) Cyclohexane	0.00	56	0	N.D.		
43) Carbtetraclo	0.00	119	0	N.D.		
44) 11dicloprope	0.00	110	0	N.D.		
46) Benzene	7.37	78	18355	0.4148	ug/L	80
47) 12dichlorota	0.00	62	0	N.D.		
48) TAME	0.00	73	0	N.D.		
49) trichloroete	8.17	95	54277	4.7402	ug/L	97
50) methylcyclohexane	0.00	83	0	N.D.		
51) 12dicloropra	0.00	63	0	N.D.		
52) 23Dicl1propene	0.00	75	0	N.D.		
53) Dibromometha	0.00	93	0	N.D.		
54) methylmethacrylate	0.00	69	0	N.D.		
55) 14dioxane	0.00	88	0	N.D.		
56) Bromodiclrma	0.00	83	0	N.D.		
57) 2Nitropropane	0.00	43	0	N.D.		
58) 2CLEVE	0.00	63	0	N.D.		
59) c13dicloproe	0.00	75	0	N.D.		
60) 4Meth2Pentan	0.00	43	0	N.D.		
62) Toluene	0.00	92	0	N.D.		
63) t13Dicloprop	0.00	75	0	N.D.		
64) ethylmethacrylate	0.00	69	0	N.D.		
65) 112Triclotha	0.00	83	0	N.D.		
66) Tetrachlorte	10.53	166	7578	0.5498	ug/L	90
67) 13Diclorpropa	0.00	76	0	N.D.		
69) 2Hexanone	0.00	43	0	N.D.		
70) Clorodibrmta	0.00	129	0	N.D.		
71) 12Dibrometha	0.00	107	0	N.D.		
72) Chlorobenzen	0.00	112	0	N.D.		
73) 1Clhexane	0.00	91	0	N.D.		
74) 1112Tetclota	0.00	131	0	N.D.		
75) Ethylbenzene	0.00	91	0	N.D.		
76) m p-Xylene	0.00	106	0	N.D.		
77) o-Xylene	0.00	106	0	N.D.		
78) Styrene	0.00	104	0	N.D.		
79) Bromoform	0.00	173	0	N.D.		
80) Isopropylben	0.00	105	0	N.D.		
81) cyclohexanone	0.00	55	0	N.D.		
84) Bromobenzene	0.00	156	0	N.D.		
85) 1122Tetrclta	0.00	83	0	N.D.		
86) 123Triclproa	0.00	75	0	N.D.		
87) 14dichloro2butene	0.00	53	0	N.D.		
88) n-Propylbenz	0.00	91	0	N.D.		
89) 2chlorotolue	0.00	91	0	N.D.		
90) 4chlorotolue	0.00	91	0	N.D.		
91) 135Trimebenz	0.00	105	0	N.D.		
92) tbutylbenzen	0.00	119	0	N.D.		
93) 124Trimetben	0.00	105	0	N.D.		
94) sbutylbenzen	0.00	105	0	N.D.		
95) 13Diclorbenz	0.00	146	0	N.D.		
96) pIsopropylto	0.00	119	0	N.D.		
97) 14dichlorobe	0.00	146	0	N.D.		
98) 12dichlorobe	0.00	146	0	N.D.		
99) nButylbenzen	0.00	91	0	N.D.		
100) 12dibromo3cl	0.00	157	0	N.D.		
101) 135Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : l:\data\oct1315b\640255.D Vial: 10
Acq On : 13 Oct 2015 19:36 Operator: AGK-RLD
Sample : 119465,640255, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 13 19:57:02 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	0.00	128	0	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

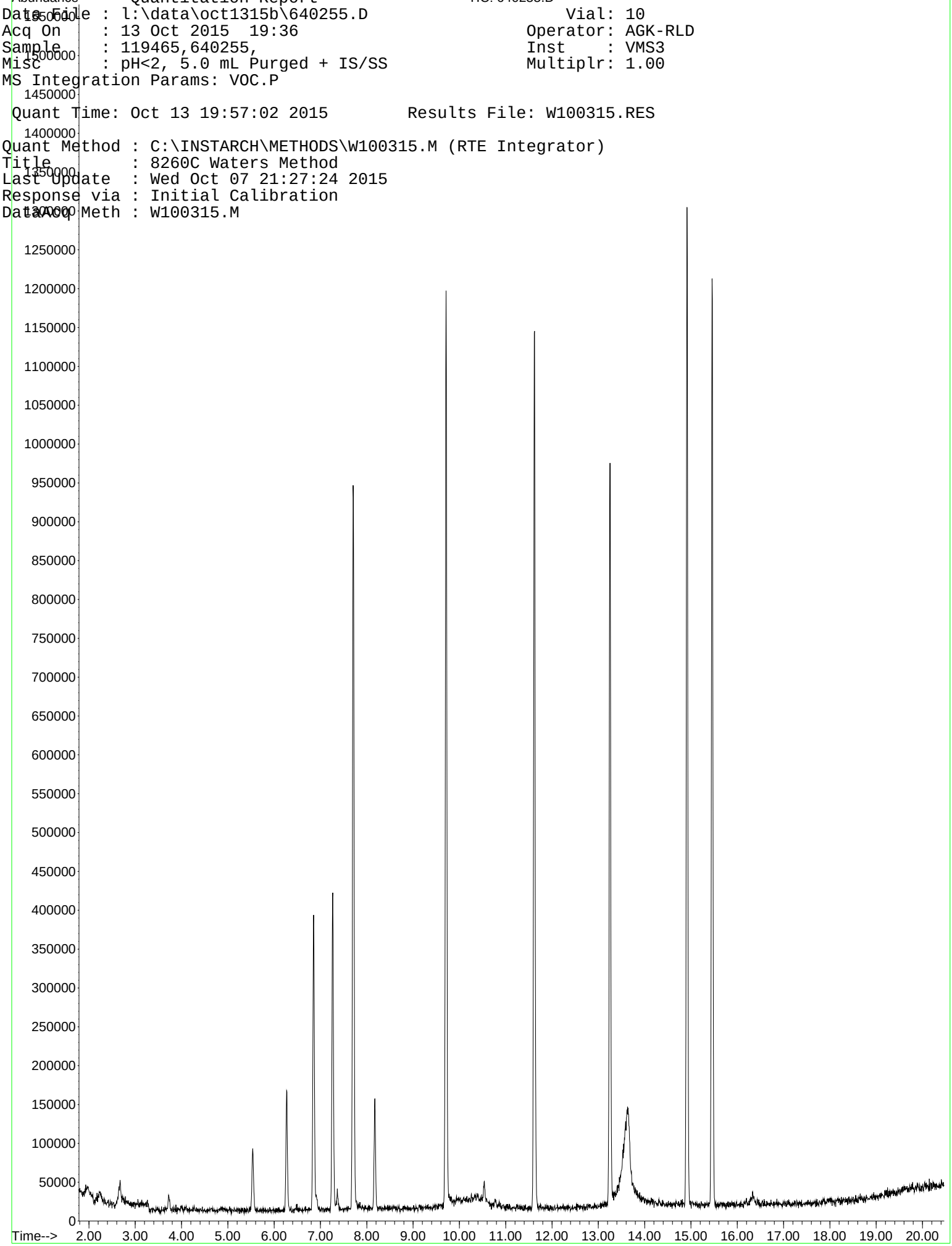
(#) = qualifier out of range (m) = manual integration

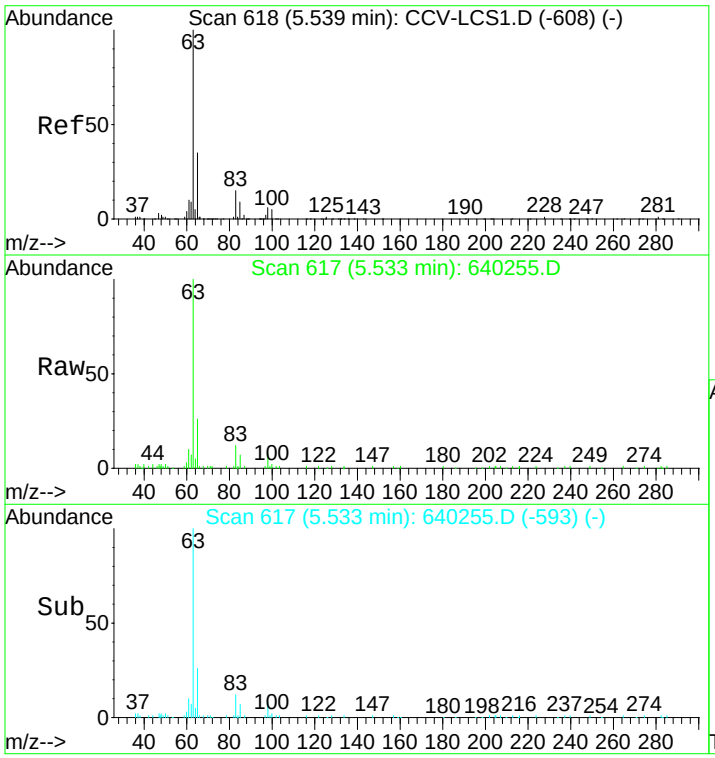
Abundance Quantitation Report TIC: 640255.D

Data File : l:\data\oct1315b\640255.D Vial: 10
Acq On : 13 Oct 2015 19:36 Operator: AGK-RLD
Sample : 119465,640255, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 13 19:57:02 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

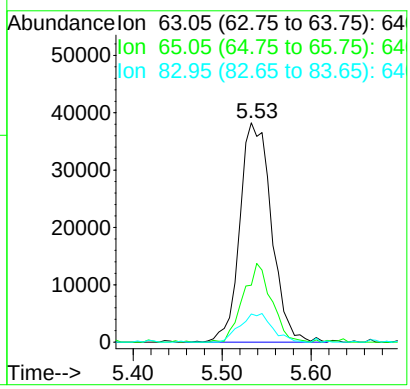


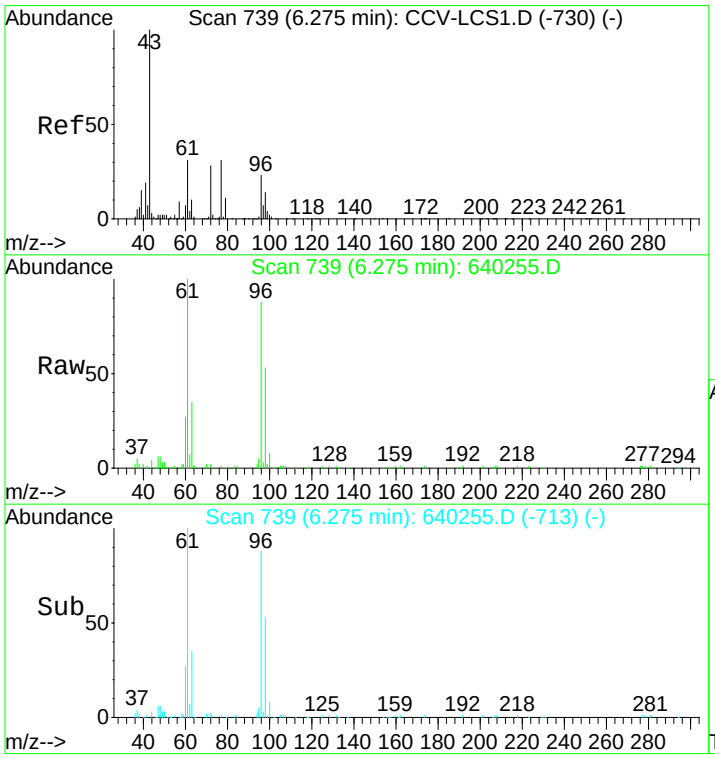


#26
11dichlorota
Concen: 4.63 ug/L
RT: 5.53 min Scan# 617
Delta R.T. -0.01 min
Lab File: 640255.D
Acq: 13 Oct 2015 19:36

Tgt Ion: 63 Resp: 94206

Ion	Ratio	Lower	Upper
63	100		
65	32.2	12.0	52.0
83	13.4	0.0	33.6

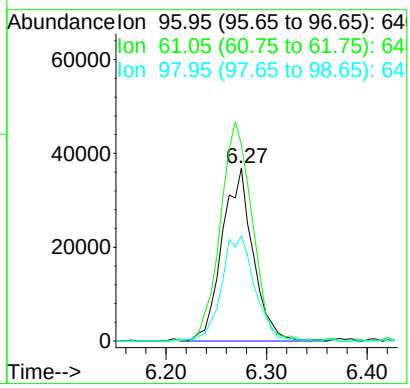


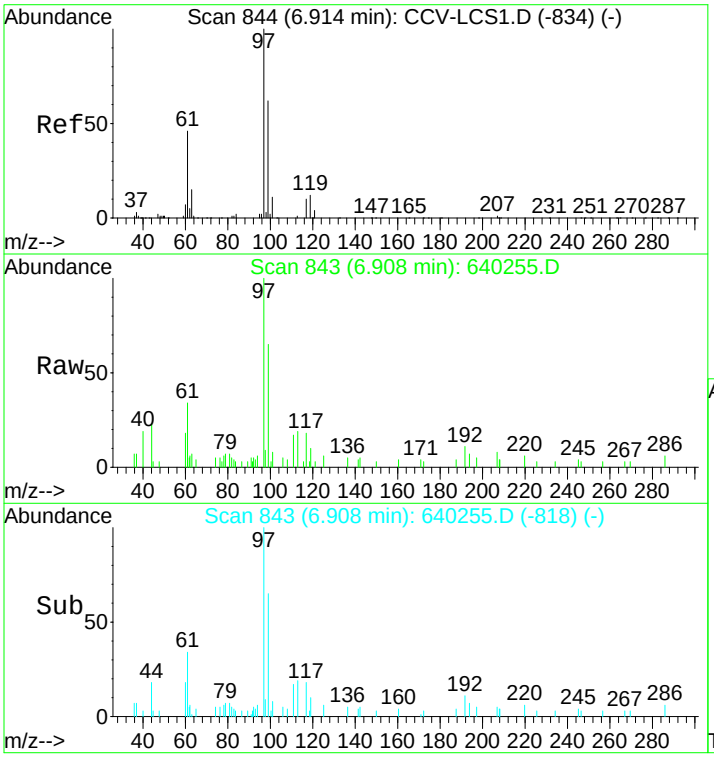


#32
c12dichlorte
Concen: 6.43 ug/L
RT: 6.27 min Scan# 739
Delta R.T. 0.01 min
Lab File: 640255.D
Acq: 13 Oct 2015 19:36

Tgt Ion: 96 Resp: 78784

Ion	Ratio	Lower	Upper
96	100		
61	130.9	129.6	169.6
98	65.6	42.2	82.2

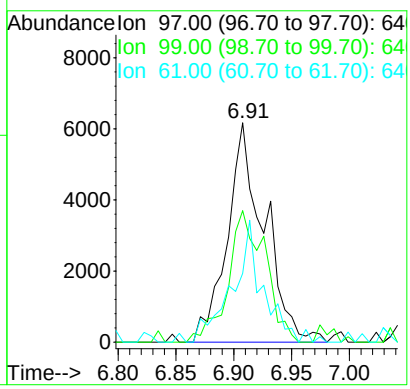


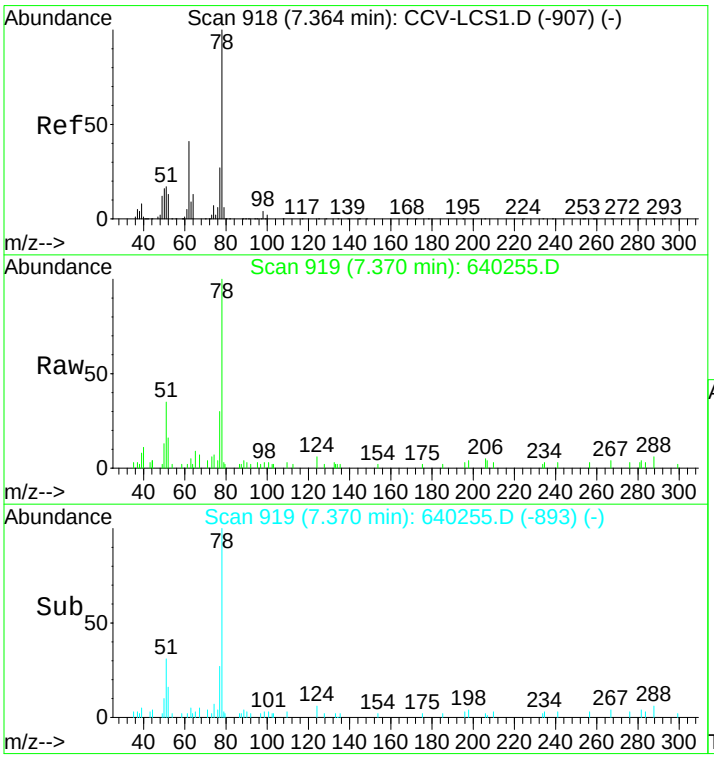


#40
111trichlota
Concen: 0.71 ug/L
RT: 6.91 min Scan# 843
Delta R.T. 0.00 min
Lab File: 640255.D
Acq: 13 Oct 2015 19:36

Tgt Ion: 97 Resp: 13760

Ion	Ratio	Lower	Upper
97	100		
99	59.9	43.5	83.5
61	45.2	24.6	64.6

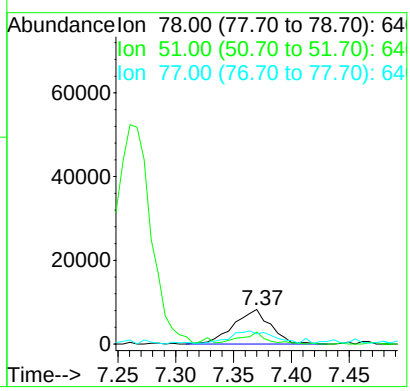


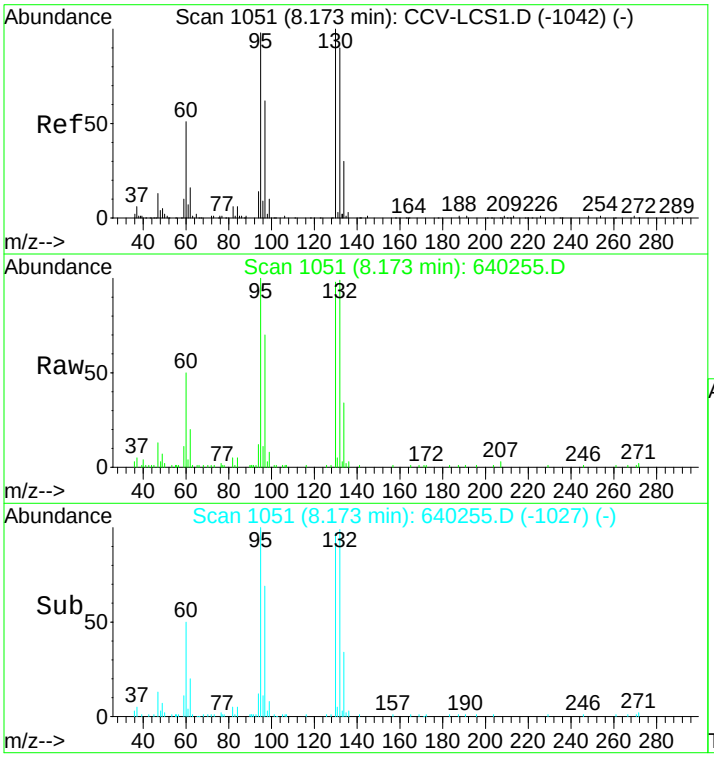


#46
Benzene
Concen: 0.41 ug/L
RT: 7.37 min Scan# 919
Delta R.T. 0.01 min
Lab File: 640255.D
Acq: 13 Oct 2015 19:36

Tgt Ion: 78 Resp: 18355

Ion	Ratio	Lower	Upper
78	100		
51	23.9	0.7	40.7
77	39.4	4.1	44.1

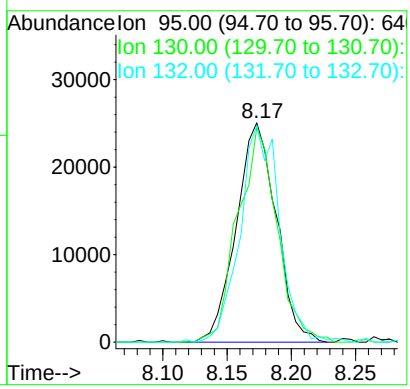


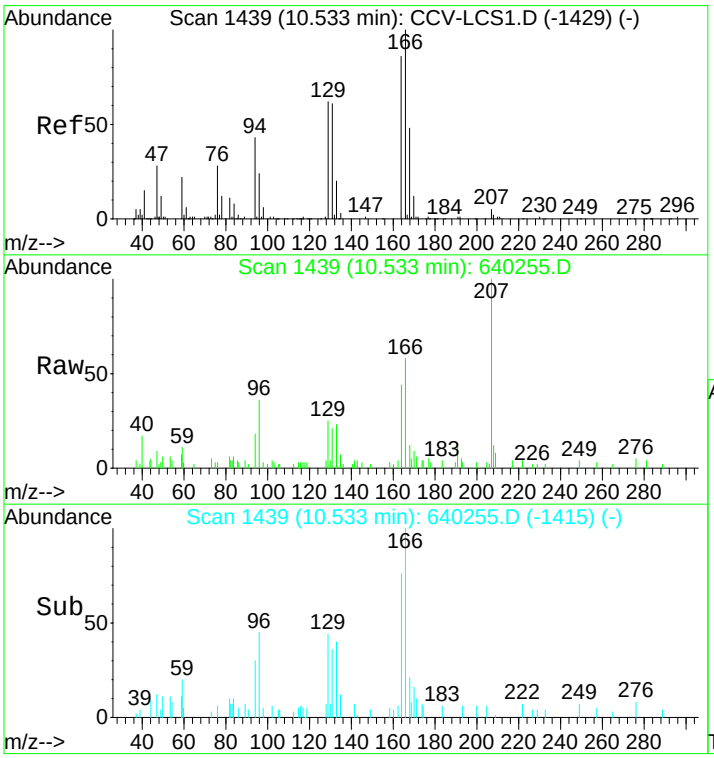


#49
trichloroete
Concen: 4.74 ug/L
RT: 8.17 min Scan# 1051
Delta R.T. -0.01 min
Lab File: 640255.D
Acq: 13 Oct 2015 19:36

Tgt Ion: 95 Resp: 54277

Ion	Ratio	Lower	Upper
95	100		
130	96.0	79.8	119.8
132	97.6	74.6	114.6

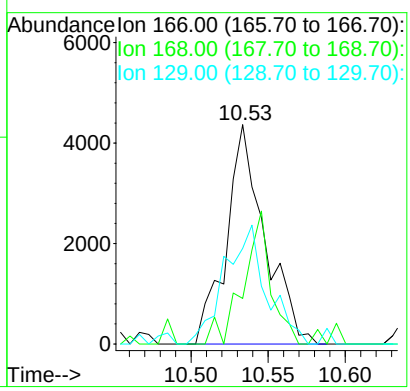




#66
Tetrachlorte
Concen: 0.55 ug/L
RT: 10.53 min Scan# 1439
Delta R.T. -0.01 min
Lab File: 640255.D
Acq: 13 Oct 2015 19:36

Tgt Ion:166 Resp: 7578

Ion	Ratio	Lower	Upper
166	100		
168	43.0	28.7	68.7
129	59.1	48.2	88.2



Quantitation Report

Data File : l:\data\oct1315b\640257.D Vial: 11
Acq On : 13 Oct 2015 20:06 Operator: AGK-RLD
Sample : 119465,640257, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 13 20:26:48 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.70	96	951748	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.62	117	771940	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	15.46	152	416756	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.85	113	239592	20.825	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 104 %			
45) SURR12DCAd4	7.26	102	62744	19.840	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 99 %			
61) SURRd8Tolule	9.71	98	956608	20.150	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101 %			
83) SURR4BrFBenz	13.25	95	367495	17.689	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 88 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	0.00	50	0	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	0.00	94	0	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	3.72	67	10263	0.8815	ug/L #	91
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	4.08	43	6560	N.D.		
16) Iodomethane	0.00	142	0	N.D.		
17) Carbon Dislf	4.27	76	2821	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	4.86	59	4689	Below Cal	#	52
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	5.54	63	84669	4.2261	ug/L	97
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	6.26	96	79940	6.6295	ug/L #	83
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	0.00	42	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : l:\data\oct1315b\640257.D Vial: 11
Acq On : 13 Oct 2015 20:06 Operator: AGK-RLD
Sample : 119465,640257, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 13 20:26:48 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	6.91	97	13300	0.6980 ug/L	97
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	0.00	119	0	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	7.37	78	18529	0.4254 ug/L	88
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	8.17	95	52041	4.6163 ug/L	95
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	0.00	92	0	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	10.54	166	6125	0.4514 ug/L	94
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	0.00	91	0	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	0.00	106	0	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	0.00	55	0	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	0.00	105	0	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	0.00	91	0	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : l:\data\oct1315b\640257.D Vial: 11
Acq On : 13 Oct 2015 20:06 Operator: AGK-RLD
Sample : 119465,640257, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 13 20:26:48 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	0.00	128	0	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

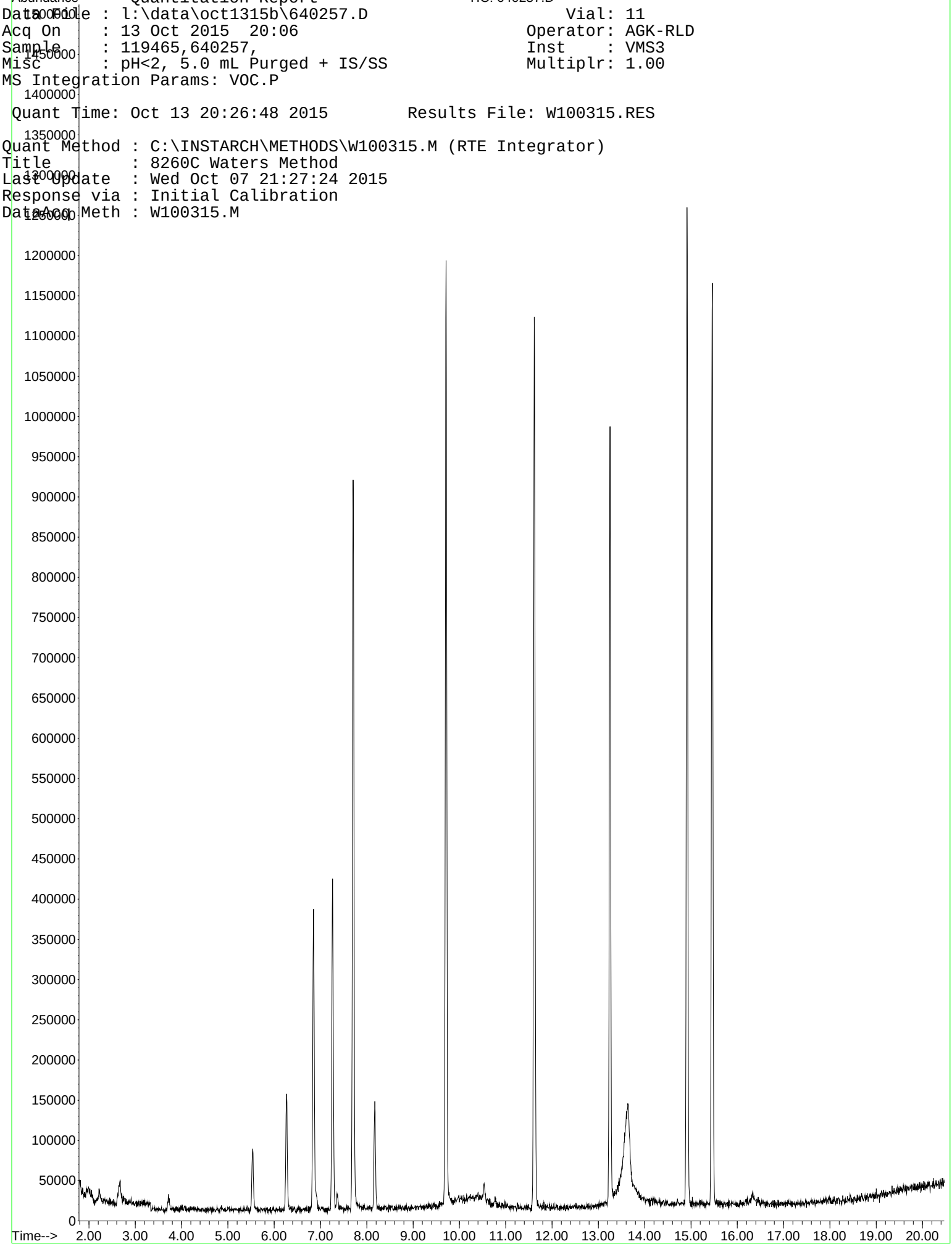
(#) = qualifier out of range (m) = manual integration

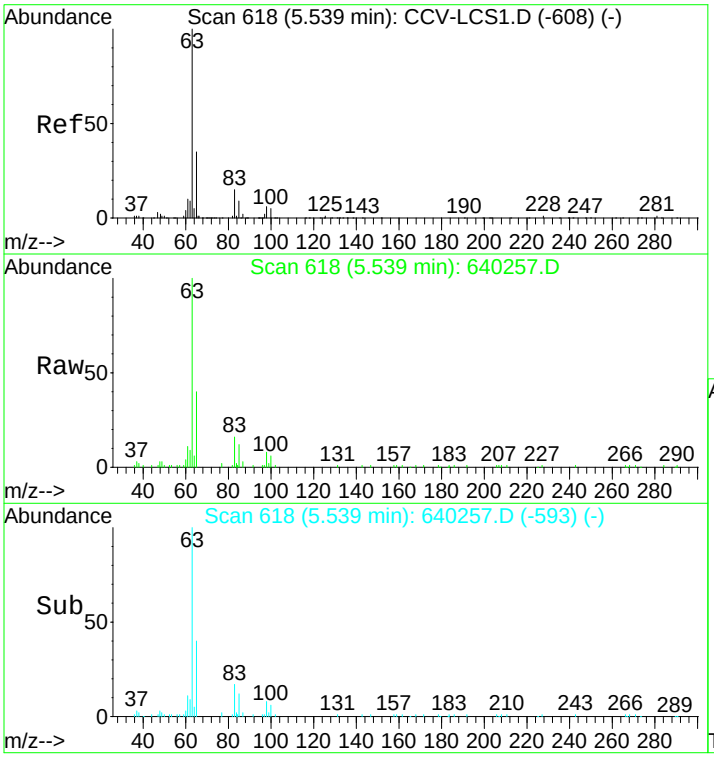
Quantitation Report

Data File : l:\data\oct1315b\640257.D Vial: 11
Acq On : 13 Oct 2015 20:06 Operator: AGK-RLD
Sample : 119465,640257, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 13 20:26:48 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

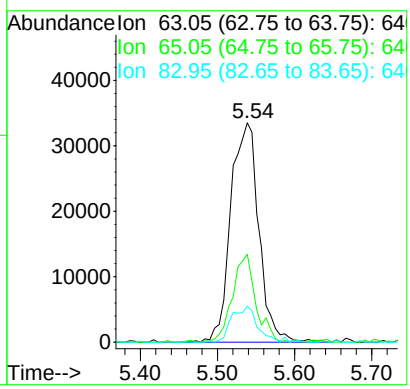


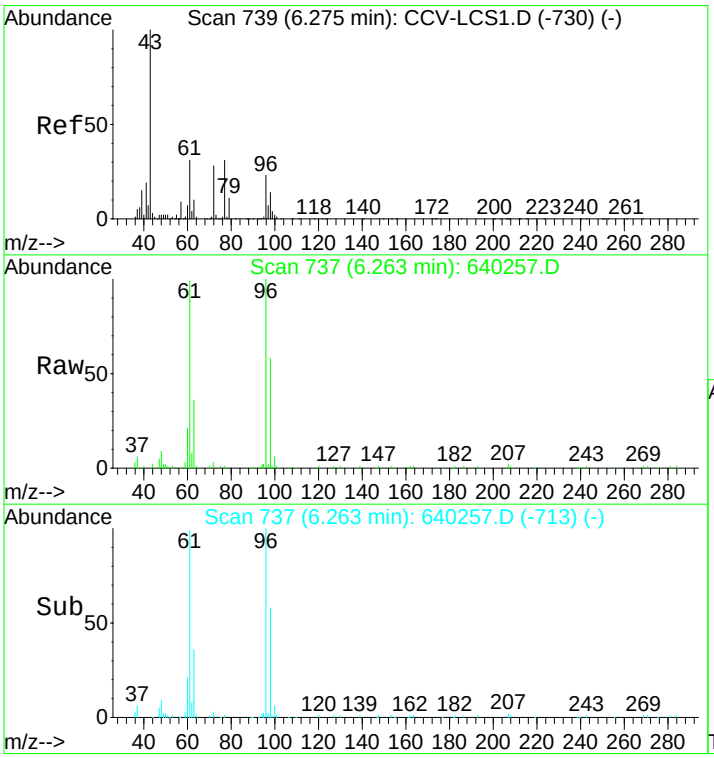


#26
11dichlorota
Concen: 4.23 ug/L
RT: 5.54 min Scan# 618
Delta R.T. -0.00 min
Lab File: 640257.D
Acq: 13 Oct 2015 20:06

Tgt Ion: 63 Resp: 84669

Ion	Ratio	Lower	Upper
63	100		
65	33.4	12.0	52.0
83	15.4	0.0	33.6

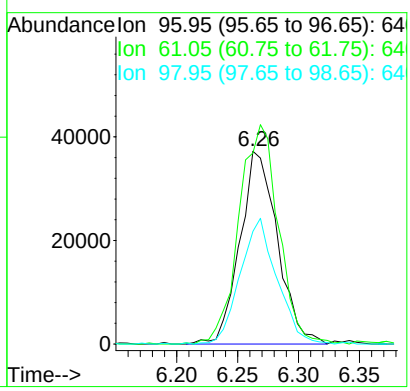


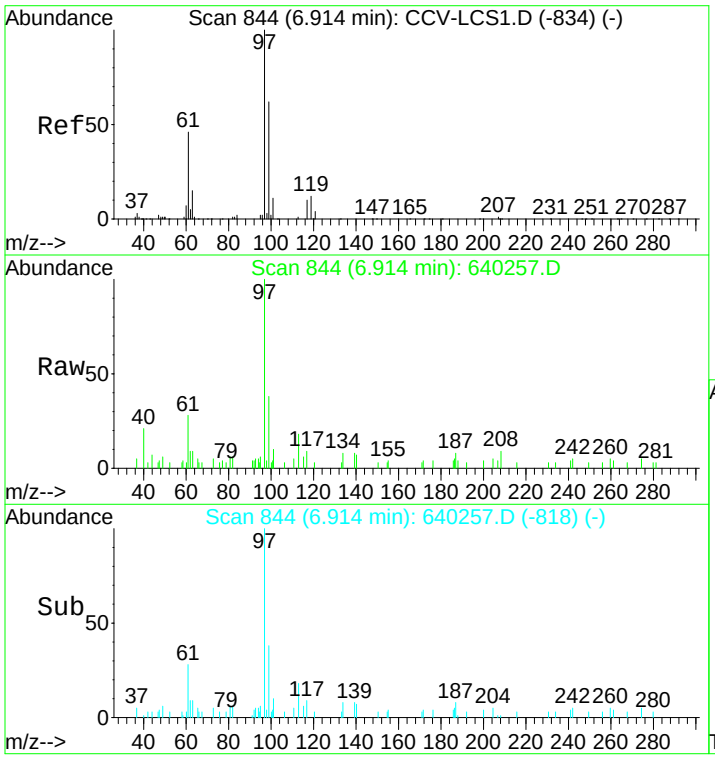


#32
c12dichlorte
Concen: 6.63 ug/L
RT: 6.26 min Scan# 737
Delta R.T. -0.01 min
Lab File: 640257.D
Acq: 13 Oct 2015 20:06

Tgt Ion: 96 Resp: 79940

Ion	Ratio	Lower	Upper
96	100		
61	119.8	129.6	169.6#
98	63.7	42.2	82.2

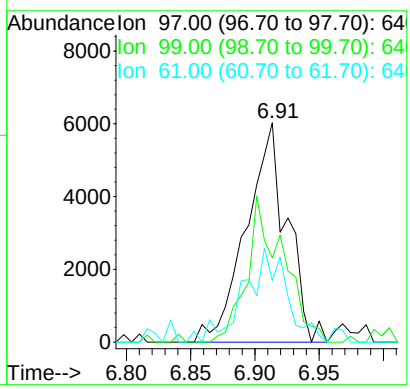


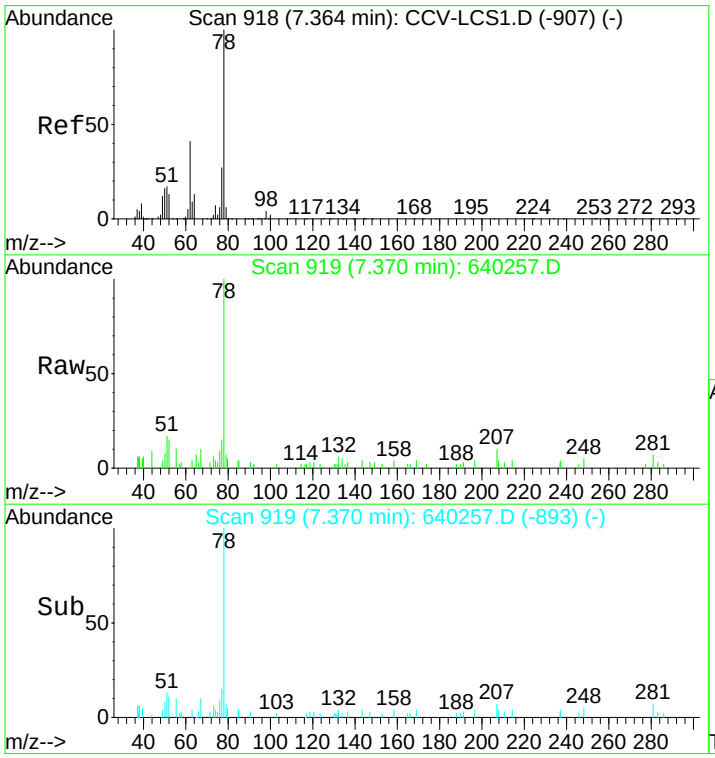


#40
111trichlota
Concen: 0.70 ug/L
RT: 6.91 min Scan# 844
Delta R.T. 0.01 min
Lab File: 640257.D
Acq: 13 Oct 2015 20:06

Tgt Ion: 97 Resp: 13300

Ion	Ratio	Lower	Upper
97	100		
99	59.1	43.5	83.5
61	44.6	24.6	64.6

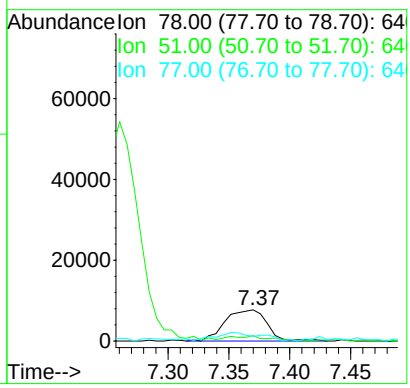


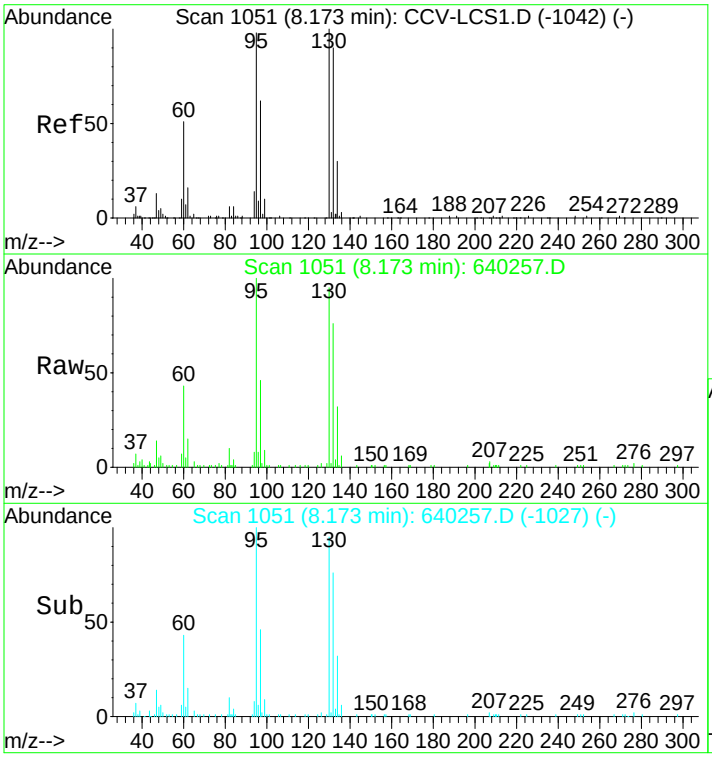


#46
Benzene
Concen: 0.43 ug/L
RT: 7.37 min Scan# 919
Delta R.T. 0.01 min
Lab File: 640257.D
Acq: 13 Oct 2015 20:06

Tgt Ion: 78 Resp: 18529

Ion	Ratio	Lower	Upper
78	100		
51	15.2	0.7	40.7
77	30.1	4.1	44.1

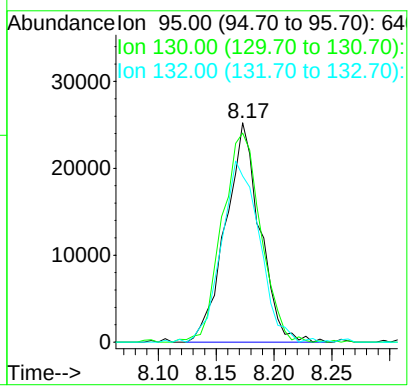


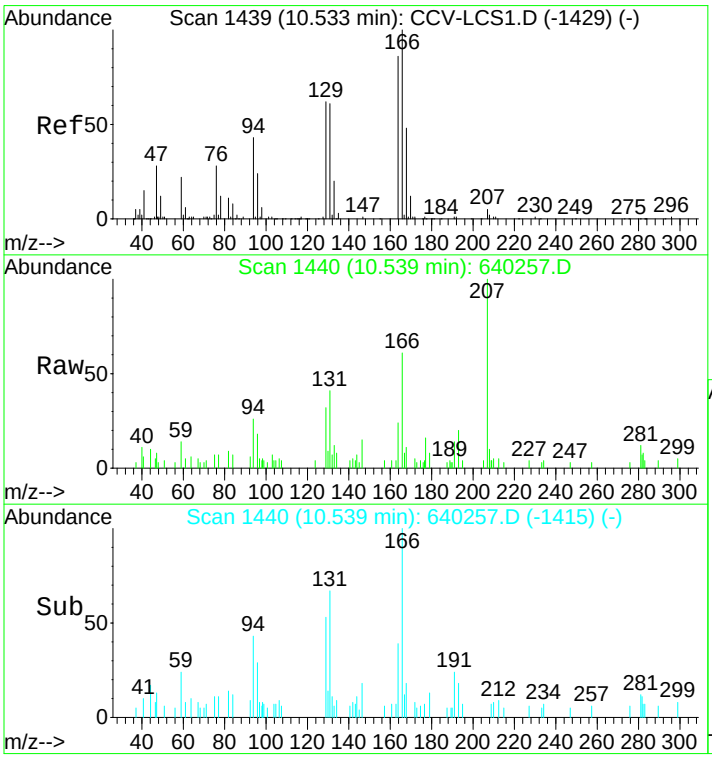


#49
trichloroete
Concen: 4.62 ug/L
RT: 8.17 min Scan# 1051
Delta R.T. -0.01 min
Lab File: 640257.D
Acq: 13 Oct 2015 20:06

Tgt Ion: 95 Resp: 52041

Ion	Ratio	Lower	Upper
95	100		
130	107.3	79.8	119.8
132	91.9	74.6	114.6

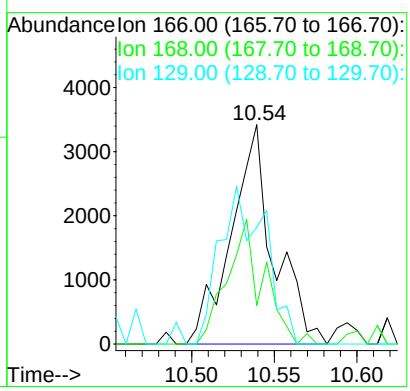




#66
Tetrachlorte
Concen: 0.45 ug/L
RT: 10.54 min Scan# 1440
Delta R.T. -0.00 min
Lab File: 640257.D
Acq: 13 Oct 2015 20:06

Tgt Ion:166 Resp: 6125

Ion	Ratio	Lower	Upper
166	100		
168	48.5	28.7	68.7
129	76.4	48.2	88.2



Quantitation Report

Data File : l:\data\oct1315b\640259.D Vial: 12
Acq On : 13 Oct 2015 20:36 Operator: AGK-RLD
Sample : 119465,640259, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 13 20:56:45 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.71	96	967941	20.00 ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.62	117	762548	20.00 ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	15.46	152	416311	20.00 ug/L	0.00 NA%
System Monitoring Compounds					
41) SURRDibrflma	6.85	113	244116	20.863 ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 104 %		
45) SURR12DCAd4	7.26	102	65876	20.482 ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 102 %		
61) SURRd8Tolule	9.71	98	962201	19.929 ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100 %		
83) SURR4BrFBenz	13.25	95	374615	18.051 ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 90 %		
Target Compounds					Qvalue
2) Dichlorodi	0.00	85	0	N.D.	
3) Chloromethan	0.00	50	0	N.D.	
4) VinylChlorid	0.00	62	0	N.D.	
5) Bromomethane	0.00	94	0	N.D.	
6) Chloroethane	0.00	64	0	N.D.	
7) Dichloroflmethane	0.00	67	0	N.D.	
8) Trichlorofma	0.00	101	0	N.D.	
9) Ethylether	0.00	59	0	N.D.	
10) dichlorotfluoroethan	0.00	67	0	N.D.	
11) propyleneoxide	0.00	58	0	N.D.	
12) Acrolein	0.00	56	0	N.D.	
13) 11dichlorthe	0.00	96	0	N.D.	
14) Trichlorotfluoroeth	0.00	101	0	N.D.	
15) Acetone	4.09	43	5096	N.D.	
16) Iodomethane	0.00	142	0	N.D.	
17) Carbon Dislf	4.26	76	2601	N.D.	
18) allylchloride	0.00	41	0	N.D.	
19) methylacetate	0.00	74	0	N.D.	
20) Methylchlorid	0.00	84	0	N.D.	
21) tbutylalcohol	4.86	59	4308	Below Cal # 52	
22) Acrylonitrile	0.00	53	0	N.D.	
23) t12dichlorte	0.00	96	0	N.D.	
24) MtBE	0.00	73	0	N.D.	
25) Hexane	0.00	57	0	N.D.	
26) 11dichlorota	0.00	63	0	N.D.	
27) Vinylacetate	0.00	43	0	N.D.	
28) chloroprene	0.00	53	0	N.D.	
29) Diisopether	0.00	45	0	N.D.	
30) ETBE	0.00	59	0	N.D.	
31) 22dichloropr	0.00	77	0	N.D.	
32) c12dichlorte	0.00	96	0	N.D.	
33) 2Butanone	0.00	72	0	N.D.	
34) propionitrile	0.00	54	0	N.D.	
35) Ethylacetate	0.00	88	0	N.D.	
36) methacrylonitrile	0.00	67	0	N.D.	
37) Bromochlorma	0.00	128	0	N.D.	
38) Tetrahydofur	0.00	42	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : l:\data\oct1315b\640259.D Vial: 12
Acq On : 13 Oct 2015 20:36 Operator: AGK-RLD
Sample : 119465,640259, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 13 20:56:45 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.66	83	93094	4.5567	ug/L	96
40)	111trichlota	0.00	97	0	N.D.		
42)	Cyclohexane	0.00	56	0	N.D.		
43)	Carbtetraclo	7.13	119	782994	47.8540	ug/L	99
44)	11dicloprope	0.00	110	0	N.D.		
46)	Benzene	0.00	78	0	N.D.		
47)	12dichlorota	0.00	62	0	N.D.		
48)	TAME	0.00	73	0	N.D.		
49)	trichloroete	8.17	95	43716	3.8130	ug/L	94
50)	methylcyclohexane	0.00	83	0	N.D.		
51)	12dicloropra	0.00	63	0	N.D.		
52)	23Dicl1propene	0.00	75	0	N.D.		
53)	Dibromometha	0.00	93	0	N.D.		
54)	methylmethacrylate	0.00	69	0	N.D.		
55)	14dioxane	0.00	88	0	N.D.		
56)	Bromodiclrma	0.00	83	0	N.D.		
57)	2Nitropropane	0.00	43	0	N.D.		
58)	2CLEVE	0.00	63	0	N.D.		
59)	c13dicloproe	0.00	75	0	N.D.		
60)	4Meth2Pentan	0.00	43	0	N.D.		
62)	Toluene	9.80	92	3270	N.D.		
63)	t13Dicloprop	0.00	75	0	N.D.		
64)	ethylmethacrylate	0.00	69	0	N.D.		
65)	112Triclotha	0.00	83	0	N.D.		
66)	Tetrachlorte	0.00	166	0	N.D.		
67)	13Diclorpropa	0.00	76	0	N.D.		
69)	2Hexanone	0.00	43	0	N.D.		
70)	Clorodibrmta	0.00	129	0	N.D.		
71)	12Dibrometha	0.00	107	0	N.D.		
72)	Chlorobenzen	0.00	112	0	N.D.		
73)	1Clhexane	0.00	91	0	N.D.		
74)	1112Tetclota	0.00	131	0	N.D.		
75)	Ethylbenzene	0.00	91	0	N.D.		
76)	m p-Xylene	0.00	106	0	N.D.		
77)	o-Xylene	0.00	106	0	N.D.		
78)	Styrene	0.00	104	0	N.D.		
79)	Bromoform	0.00	173	0	N.D.		
80)	Isopropylben	0.00	105	0	N.D.		
81)	cyclohexanone	0.00	55	0	N.D.		
84)	Bromobenzene	0.00	156	0	N.D.		
85)	1122Tetrclta	0.00	83	0	N.D.		
86)	123Triclproa	0.00	75	0	N.D.		
87)	14dichloro2butene	0.00	53	0	N.D.		
88)	n-Propylbenz	0.00	91	0	N.D.		
89)	2chlorotolue	0.00	91	0	N.D.		
90)	4chlorotolue	0.00	91	0	N.D.		
91)	135Trimebenz	0.00	105	0	N.D.		
92)	tbutylbenzen	0.00	119	0	N.D.		
93)	124Trimetben	0.00	105	0	N.D.		
94)	sbutylbenzen	0.00	105	0	N.D.		
95)	13Diclorbenz	0.00	146	0	N.D.		
96)	pIsopropylto	0.00	119	0	N.D.		
97)	14dichlorobe	0.00	146	0	N.D.		
98)	12dichlorobe	0.00	146	0	N.D.		
99)	nButylbenzen	0.00	91	0	N.D.		
100)	12dibromo3cl	0.00	157	0	N.D.		
101)	135Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : l:\data\oct1315b\640259.D Vial: 12
Acq On : 13 Oct 2015 20:36 Operator: AGK-RLD
Sample : 119465,640259, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 13 20:56:45 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	0.00	128	0	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

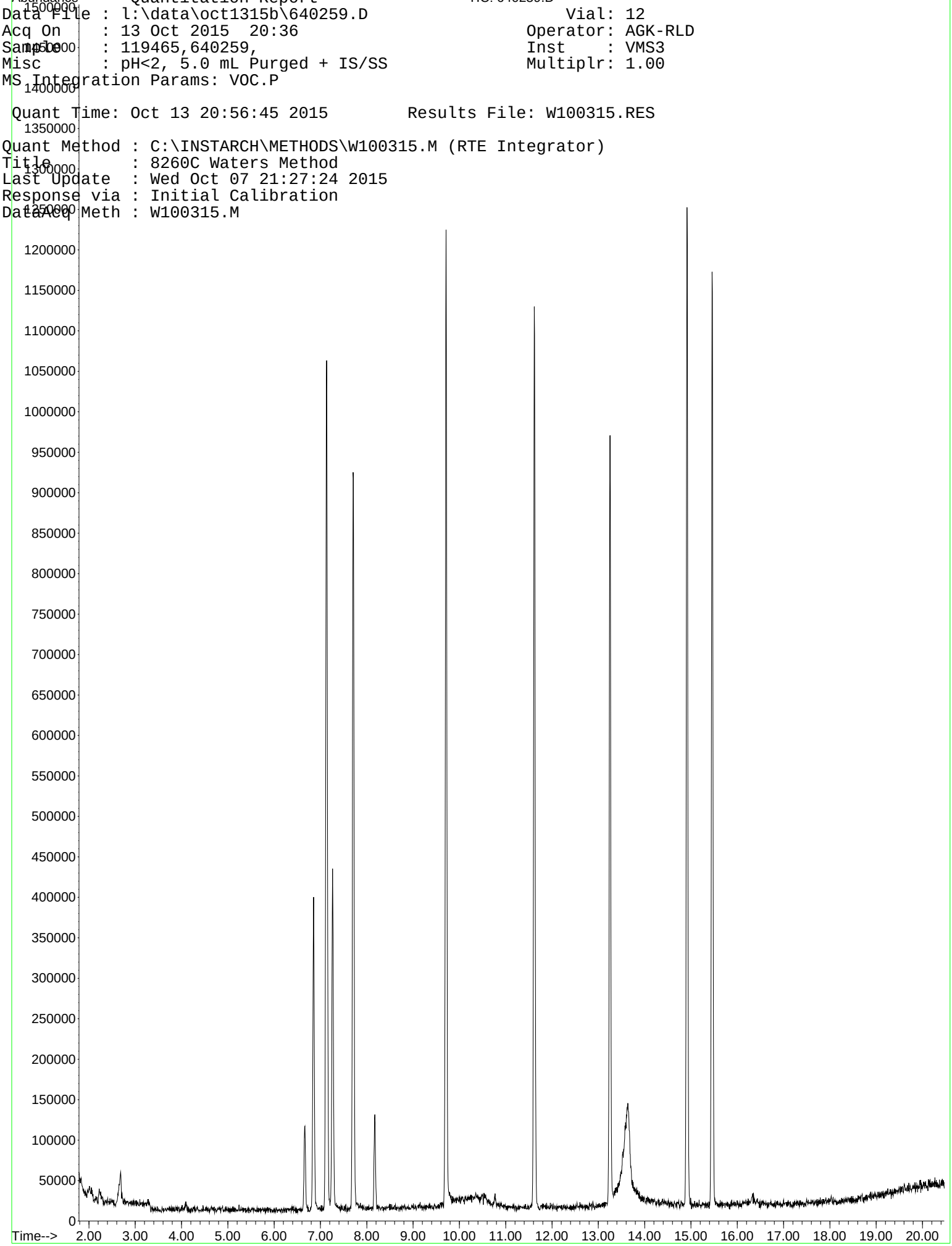
(#) = qualifier out of range (m) = manual integration

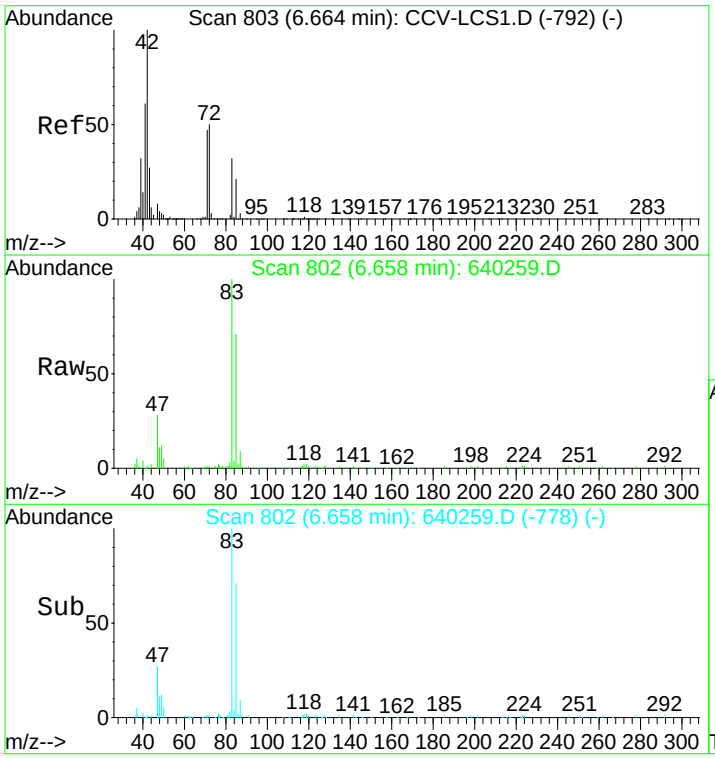
Quantitation Report (TIC: 640259.D)

Data File : l:\data\oct1315b\640259.D Vial: 12
Acq On : 13 Oct 2015 20:36 Operator: AGK-RLD
Sample : 119465,640259, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 13 20:56:45 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

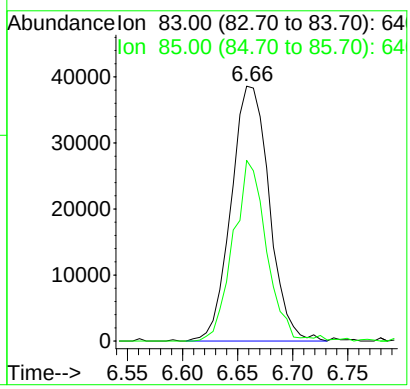


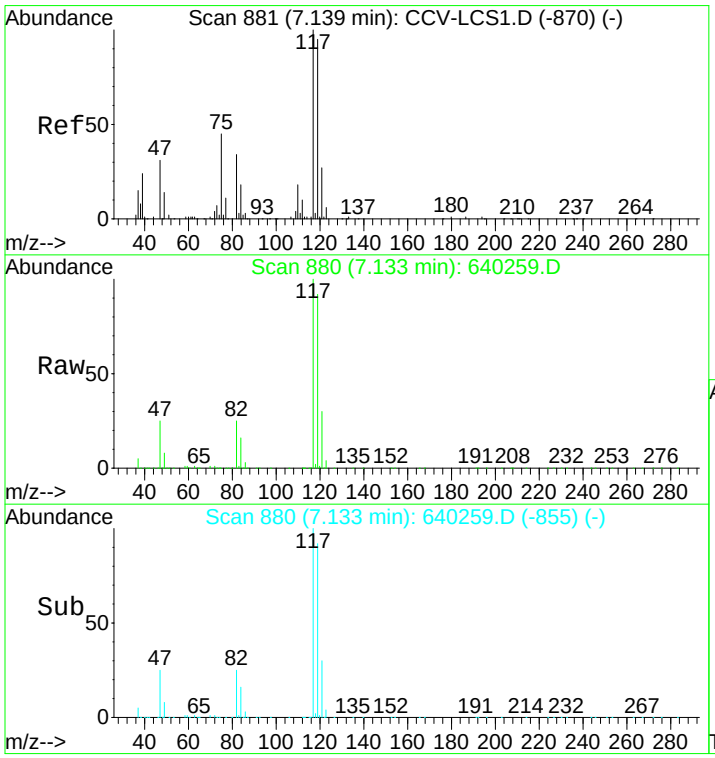


#39
Chloroform
Concen: 4.56 ug/L
RT: 6.66 min Scan# 802
Delta R.T. -0.01 min
Lab File: 640259.D
Acq: 13 Oct 2015 20:36

Tgt Ion: 83 Resp: 93094

Ion	Ratio	Lower	Upper
83	100		
85	62.4	45.7	85.7

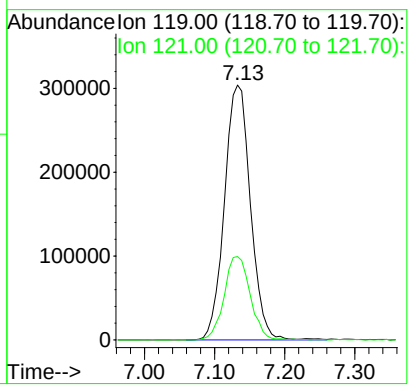


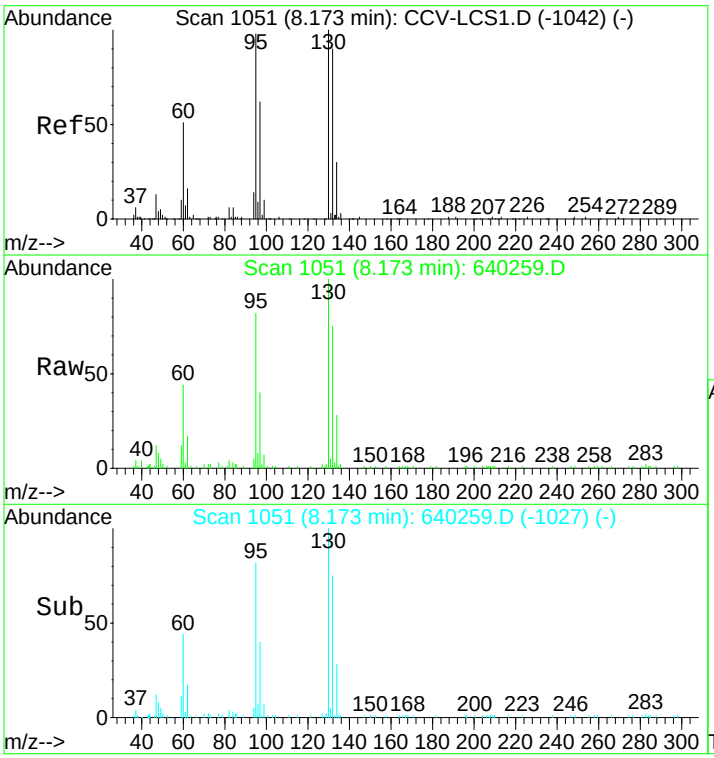


#43
Carbtetraclo
Concen: 47.85 ug/L
RT: 7.13 min Scan# 880
Delta R.T. 0.00 min
Lab File: 640259.D
Acq: 13 Oct 2015 20:36

Tgt Ion:119 Resp: 782994

Ion	Ratio	Lower	Upper
119	100		
121	32.8	12.2	52.2

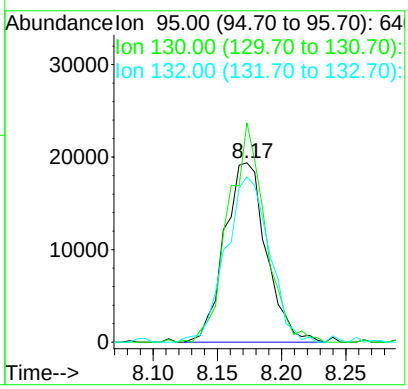




#49
trichloroete
Concen: 3.81 ug/L
RT: 8.17 min Scan# 1051
Delta R.T. -0.01 min
Lab File: 640259.D
Acq: 13 Oct 2015 20:36

Tgt Ion: 95 Resp: 43716

Ion	Ratio	Lower	Upper
95	100		
130	109.2	79.8	119.8
132	96.5	74.6	114.6



Quantitation Report

Data File : l:\data\oct1315b\640261.D Vial: 13
Acq On : 13 Oct 2015 21:06 Operator: AGK-RLD
Sample : 119465,640261, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 13 21:26:49 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.70	96	961438	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.62	117	778184	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	15.45	152	422490	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.85	113	240859	20.724	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 104 %			
45) SURR12DCAd4	7.27	102	62383	19.527	ug/L	0.01
Spiked Amount 20.000	Range 89 - 112		Recovery = 98 %			
61) SURRd8Tolule	9.71	98	953903	19.891	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 99 %			
83) SURR4BrFBenz	13.25	95	364819	17.321	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 87 %			

Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	0.00	50	0	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	0.00	94	0	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	3.72	67	3991	0.3393	ug/L #	72
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	4.09	43	4663	Below Cal	#	44
16) Iodomethane	0.00	142	0	N.D.		
17) Carbon Dislf	0.00	76	0	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	0.00	59	0	N.D.		
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	5.53	63	18616	0.9198	ug/L	92
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	6.27	96	8061	0.6618	ug/L	89
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	0.00	42	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : l:\data\oct1315b\640261.D Vial: 13
Acq On : 13 Oct 2015 21:06 Operator: AGK-RLD
Sample : 119465,640261, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 13 21:26:49 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.		
40)	111trichlota	6.92	97	7384	0.3836	ug/L	93
42)	Cyclohexane	0.00	56	0	N.D.		
43)	Carbtetraclo	0.00	119	0	N.D.		
44)	11dicloprope	0.00	110	0	N.D.		
46)	Benzene	0.00	78	0	N.D.		
47)	12dichlorota	0.00	62	0	N.D.		
48)	TAME	0.00	73	0	N.D.		
49)	trichloroete	8.17	95	20539	1.8036	ug/L	94
50)	methylcyclohexane	0.00	83	0	N.D.		
51)	12dicloropra	0.00	63	0	N.D.		
52)	23Dicl1propene	0.00	75	0	N.D.		
53)	Dibromometha	0.00	93	0	N.D.		
54)	methylmethacrylate	0.00	69	0	N.D.		
55)	14dioxane	0.00	88	0	N.D.		
56)	Bromodiclrma	0.00	83	0	N.D.		
57)	2Nitropropane	0.00	43	0	N.D.		
58)	2CLEVE	0.00	63	0	N.D.		
59)	c13dicloproe	0.00	75	0	N.D.		
60)	4Meth2Pentan	0.00	43	0	N.D.		
62)	Toluene	0.00	92	0	N.D.		
63)	t13Dicloprop	0.00	75	0	N.D.		
64)	ethylmethacrylate	0.00	69	0	N.D.		
65)	112Triclotha	0.00	83	0	N.D.		
66)	Tetrachlorte	0.00	166	0	N.D.		
67)	13Diclorpropa	0.00	76	0	N.D.		
69)	2Hexanone	0.00	43	0	N.D.		
70)	Clorodibrmta	0.00	129	0	N.D.		
71)	12Dibrometha	0.00	107	0	N.D.		
72)	Chlorobenzen	0.00	112	0	N.D.		
73)	1Clhexane	0.00	91	0	N.D.		
74)	1112Tetclota	0.00	131	0	N.D.		
75)	Ethylbenzene	0.00	91	0	N.D.		
76)	m p-Xylene	0.00	106	0	N.D.		
77)	o-Xylene	0.00	106	0	N.D.		
78)	Styrene	0.00	104	0	N.D.		
79)	Bromoform	0.00	173	0	N.D.		
80)	Isopropylben	0.00	105	0	N.D.		
81)	cyclohexanone	0.00	55	0	N.D.		
84)	Bromobenzene	0.00	156	0	N.D.		
85)	1122Tetrclta	0.00	83	0	N.D.		
86)	123Triclproa	0.00	75	0	N.D.		
87)	14dichloro2butene	0.00	53	0	N.D.		
88)	n-Propylbenz	0.00	91	0	N.D.		
89)	2chlorotolue	0.00	91	0	N.D.		
90)	4chlorotolue	0.00	91	0	N.D.		
91)	135Trimebenz	0.00	105	0	N.D.		
92)	tbutylbenzen	0.00	119	0	N.D.		
93)	124Trimetben	0.00	105	0	N.D.		
94)	sbutylbenzen	0.00	105	0	N.D.		
95)	13Diclorbenz	0.00	146	0	N.D.		
96)	pIsopropylto	0.00	119	0	N.D.		
97)	14dichlorobe	0.00	146	0	N.D.		
98)	12dichlorobe	0.00	146	0	N.D.		
99)	nButylbenzen	0.00	91	0	N.D.		
100)	12dibromo3cl	0.00	157	0	N.D.		
101)	135Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : l:\data\oct1315b\640261.D Vial: 13
Acq On : 13 Oct 2015 21:06 Operator: AGK-RLD
Sample : 119465,640261, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 13 21:26:49 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	0.00	128	0	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

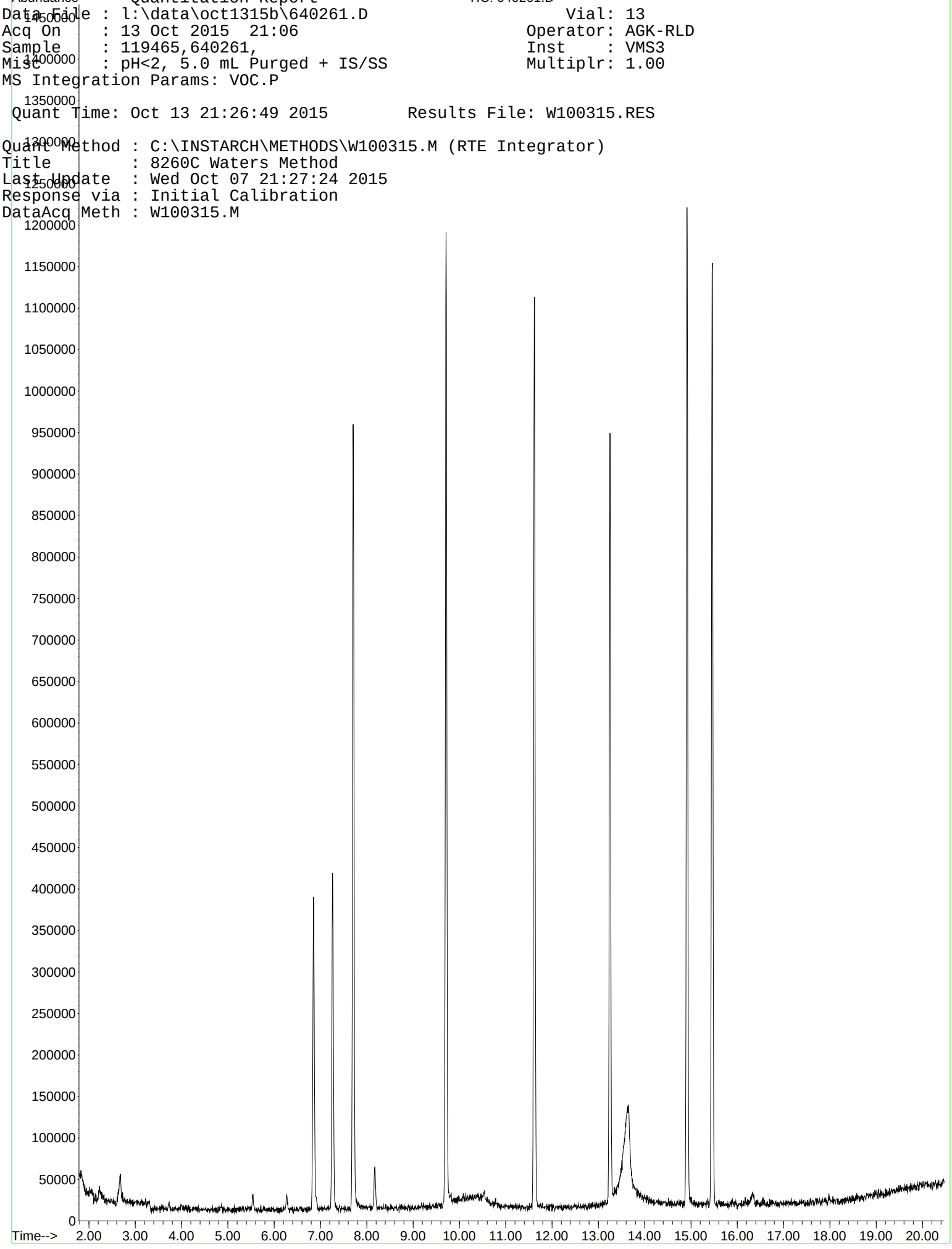
(#) = qualifier out of range (m) = manual integration

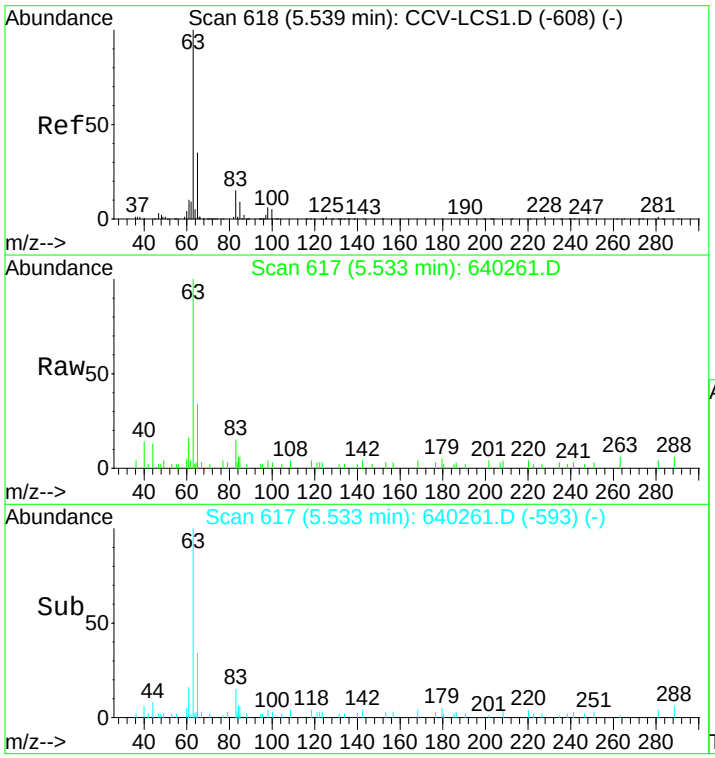
Quantitation Report

Data File : l:\data\oct1315b\640261.D Vial: 13
Acq On : 13 Oct 2015 21:06 Operator: AGK-RLD
Sample : 119465,640261, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 13 21:26:49 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

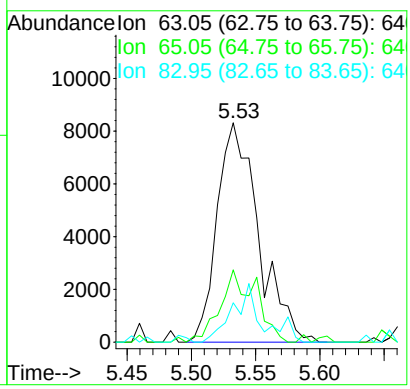


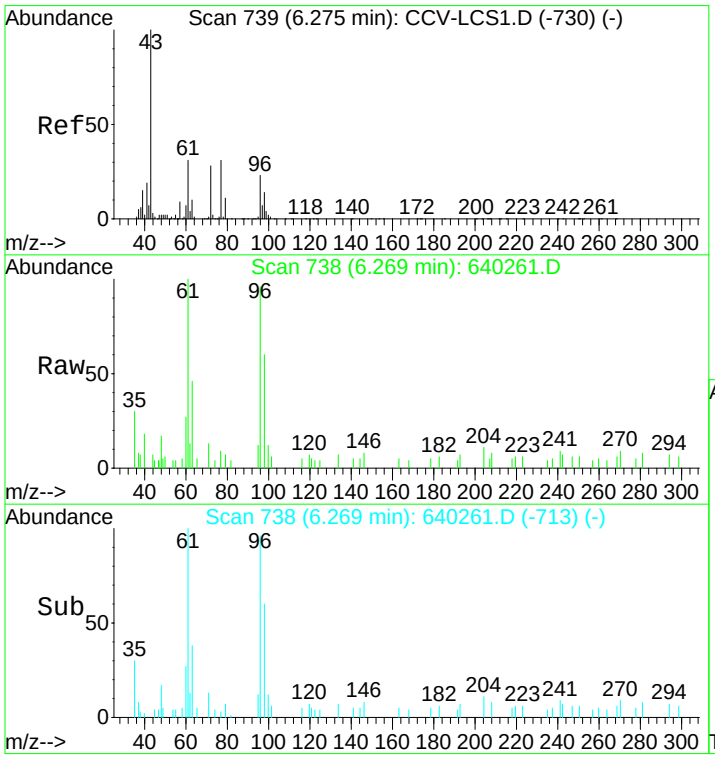


#26
11dichlorota
Concen: 0.92 ug/L
RT: 5.53 min Scan# 617
Delta R.T. -0.01 min
Lab File: 640261.D
Acq: 13 Oct 2015 21:06

Tgt Ion: 63 Resp: 18616

Ion	Ratio	Lower	Upper
63	100		
65	28.8	12.0	52.0
83	18.7	0.0	33.6

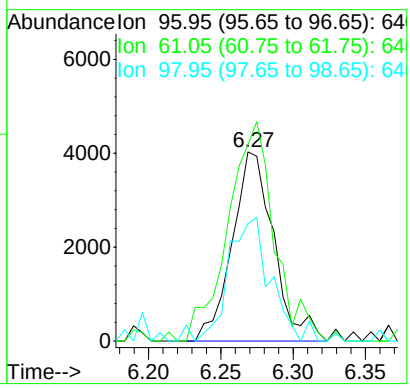


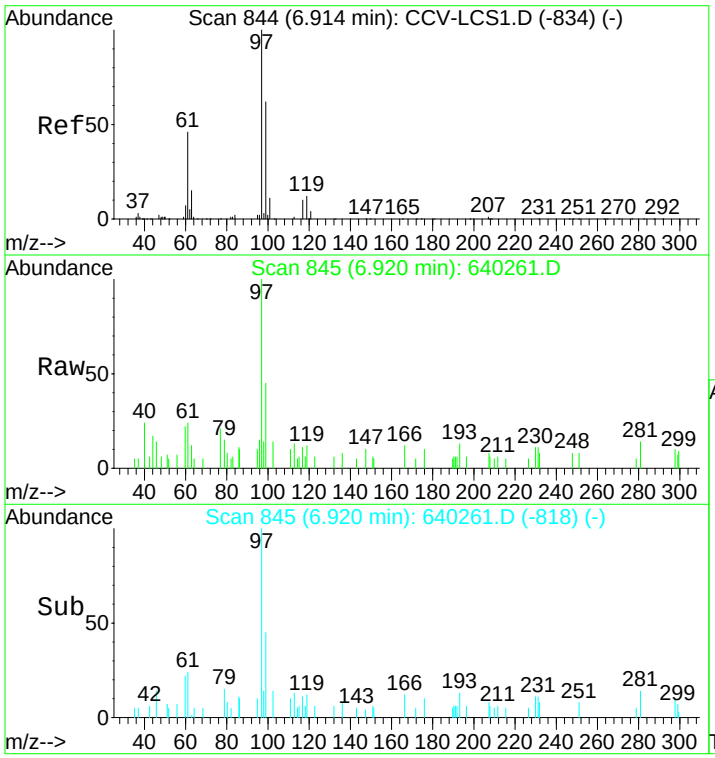


#32
c12dichlorte
Concen: 0.66 ug/L
RT: 6.27 min Scan# 738
Delta R.T. -0.00 min
Lab File: 640261.D
Acq: 13 Oct 2015 21:06

Tgt Ion: 96 Resp: 8061

Ion	Ratio	Lower	Upper
96	100		
61	130.1	129.6	169.6
98	63.5	42.2	82.2

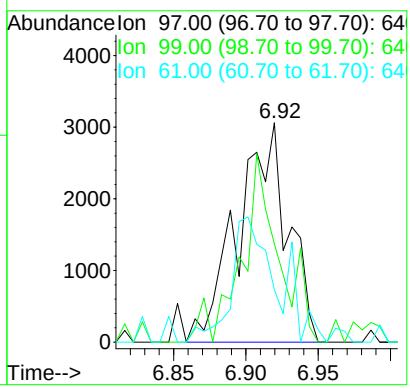


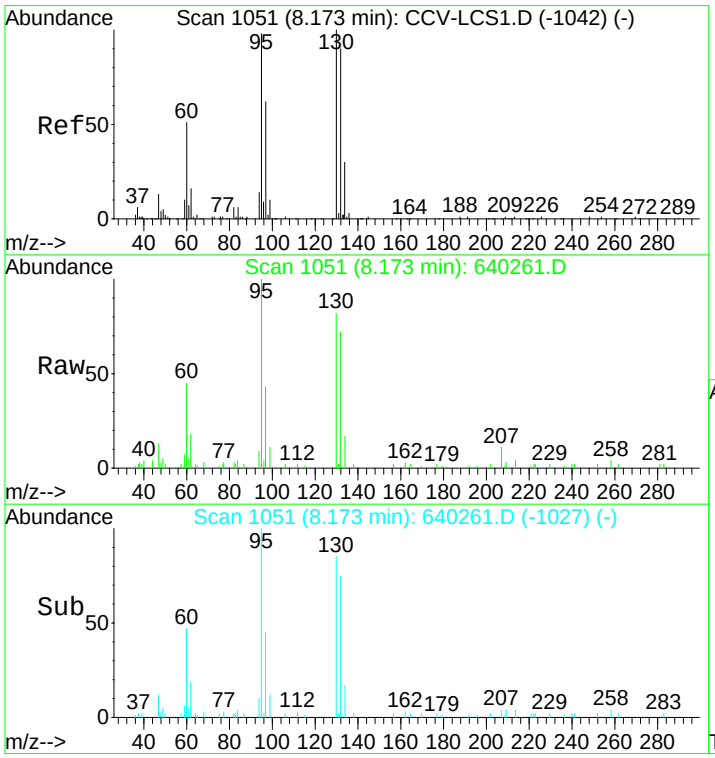


#40
111trichlota
Concen: 0.38 ug/L
RT: 6.92 min Scan# 845
Delta R.T. 0.01 min
Lab File: 640261.D
Acq: 13 Oct 2015 21:06

Tgt Ion: 97 Resp: 7384

Ion	Ratio	Lower	Upper
97	100		
99	60.6	43.5	83.5
61	52.3	24.6	64.6

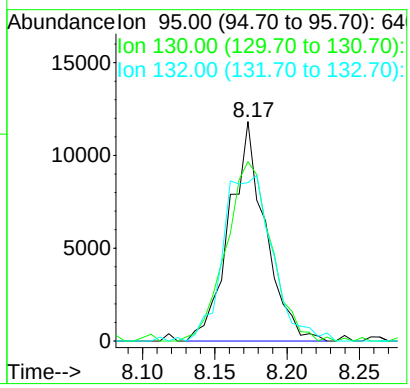




#49
trichloroete
Concen: 1.80 ug/L
RT: 8.17 min Scan# 1051
Delta R.T. -0.01 min
Lab File: 640261.D
Acq: 13 Oct 2015 21:06

Tgt Ion: 95 Resp: 20539

Ion	Ratio	Lower	Upper
95	100		
130	102.0	79.8	119.8
132	103.6	74.6	114.6



Quantitation Report

Data File : l:\data\oct1315b\640263.D Vial: 14
Acq On : 13 Oct 2015 21:36 Operator: AGK-RLD
Sample : 119465,640263, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 13 21:56:57 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.71	96	968557	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.62	117	774569	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	15.45	152	421424	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.85	113	244808	20.909	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 105 %			
45) SURR12DCAd4	7.26	102	63072	19.598	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 98 %			
61) SURRd8Tolule	9.71	98	972621	20.132	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101 %			
83) SURR4BrFBenz	13.25	95	373957	17.800	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 89 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	0.00	50	0	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	0.00	94	0	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	3.72	67	13588	1.1468	ug/L	97
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	4.05	101	9399	0.9176	ug/L	92
15) Acetone	4.08	43	6652	N.D.		
16) Iodomethane	0.00	142	0	N.D.		
17) Carbon Dislf	4.27	76	2704	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	4.88	59	4037	Below Cal #		52
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	0.00	42	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : l:\data\oct1315b\640263.D Vial: 14
Acq On : 13 Oct 2015 21:36 Operator: AGK-RLD
Sample : 119465,640263, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 13 21:56:57 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	6.66	83	6205	0.3035 ug/L	96
40)	111trichlota	6.91	97	4329	0.2232 ug/L #	24
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	7.13	119	53989	3.2975 ug/L	100
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	0.00	78	0	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	0.00	95	0	N.D.	
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	0.00	92	0	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	0.00	91	0	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	0.00	106	0	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	0.00	55	0	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	0.00	105	0	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	0.00	91	0	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : l:\data\oct1315b\640263.D Vial: 14
Acq On : 13 Oct 2015 21:36 Operator: AGK-RLD
Sample : 119465,640263, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 13 21:56:57 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	0.00	128	0	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

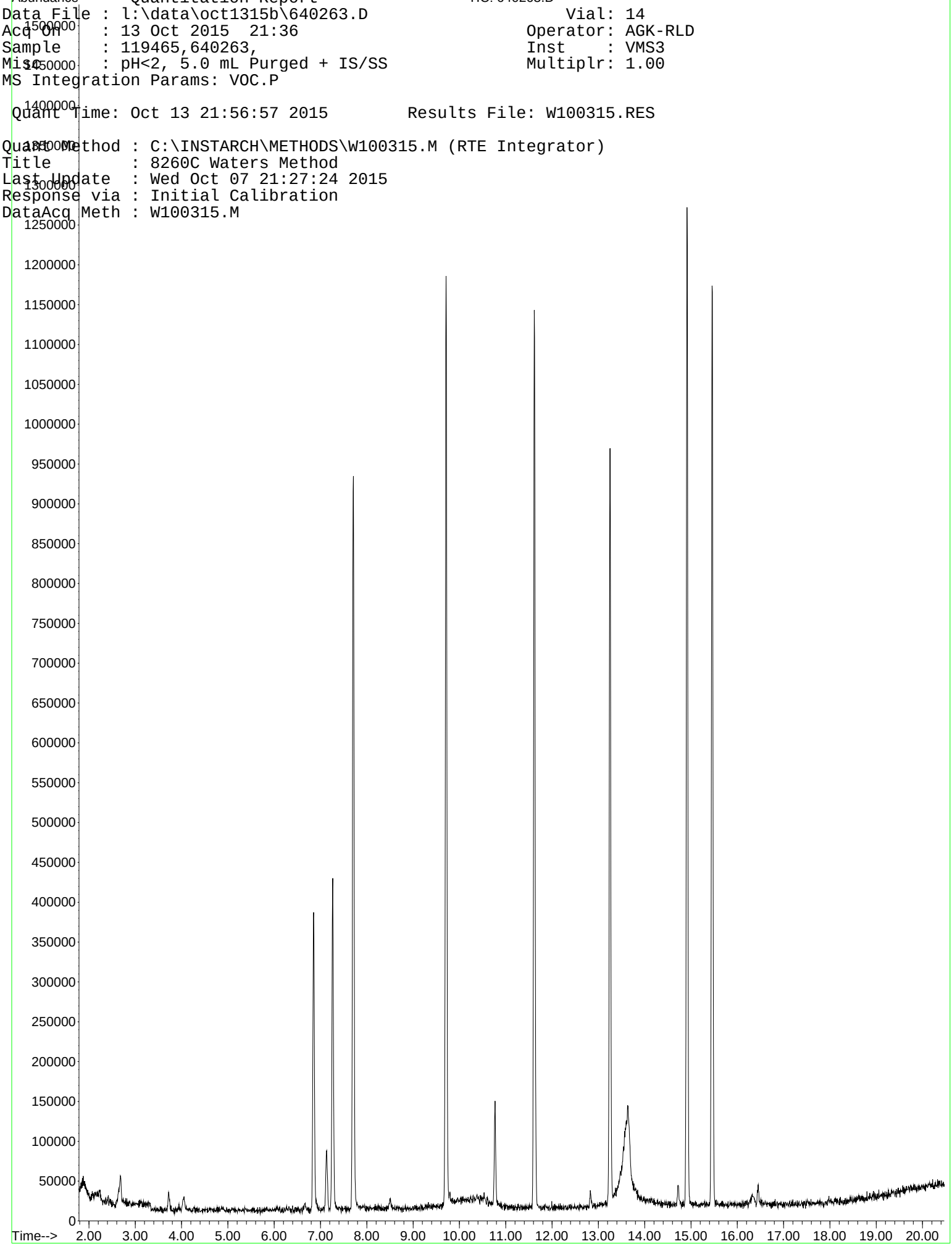
(#) = qualifier out of range (m) = manual integration

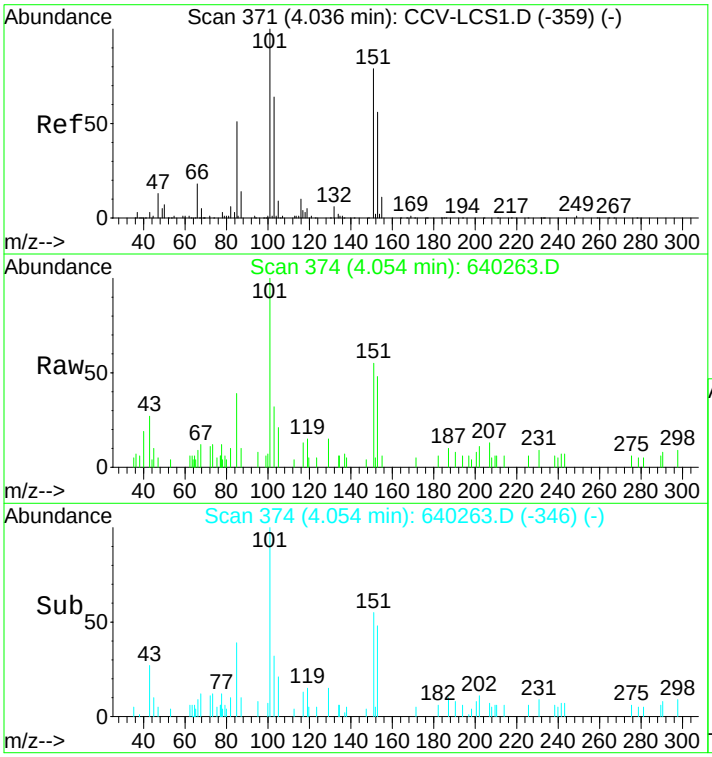
Abundance Quantitation Report TIC: 640263.D

Data File : l:\data\oct1315b\640263.D Vial: 14
Acq On : 13 Oct 2015 21:36 Operator: AGK-RLD
Sample : 119465,640263, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 13 21:56:57 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

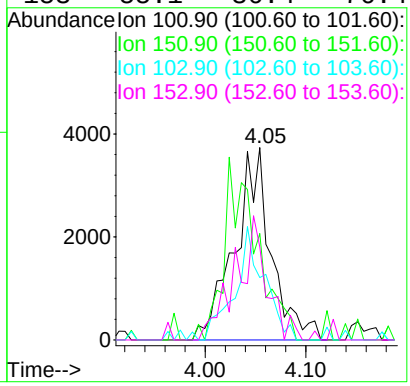


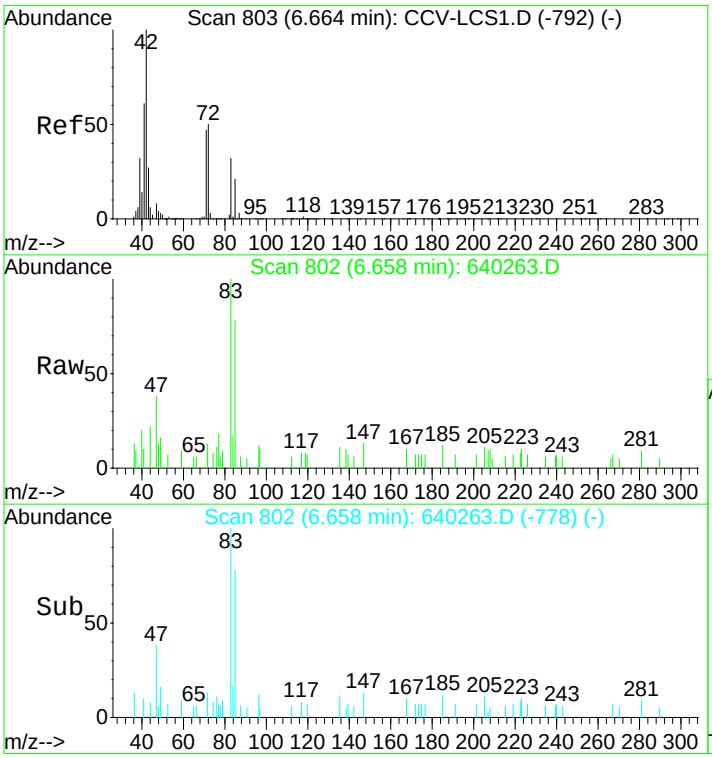


#14
Trichlorotfluoroeth
Concen: 0.92 ug/L
RT: 4.05 min Scan# 374
Delta R.T. 0.02 min
Lab File: 640263.D
Acq: 13 Oct 2015 21:36

Tgt Ion:101 Resp: 9399

Ion	Ratio	Lower	Upper
101	100		
151	85.0	65.8	105.8
103	47.4	44.9	84.9
153	55.1	36.4	76.4

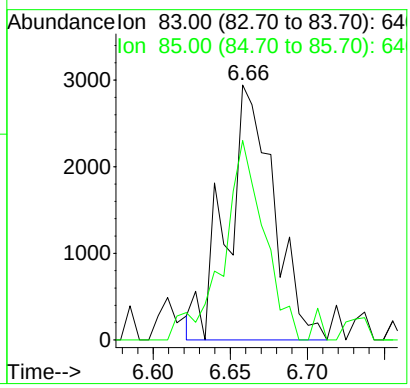


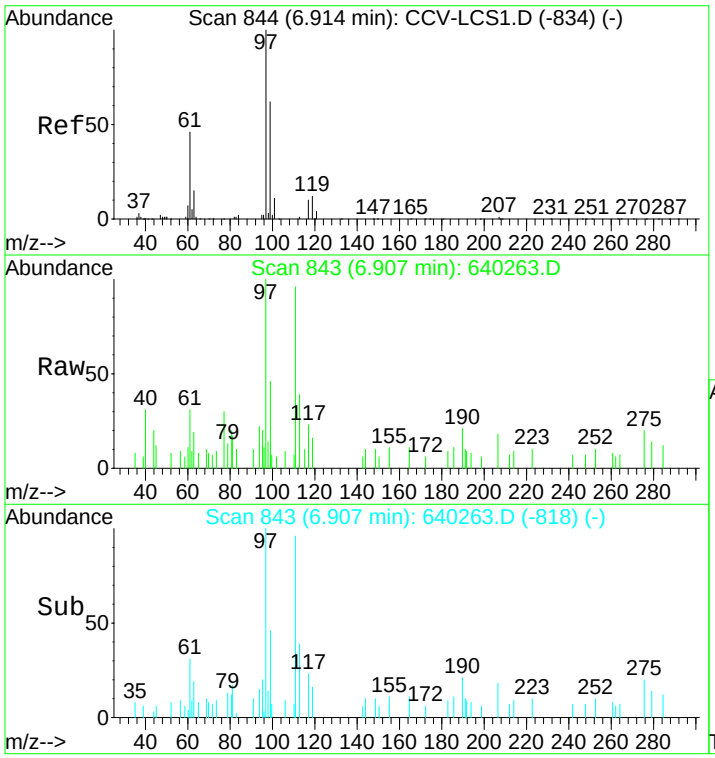


#39
Chloroform
Concen: 0.30 ug/L
RT: 6.66 min Scan# 802
Delta R.T. -0.01 min
Lab File: 640263.D
Acq: 13 Oct 2015 21:36

Tgt Ion: 83 Resp: 6205

Ion	Ratio	Lower	Upper
83	100		
85	68.7	45.7	85.7

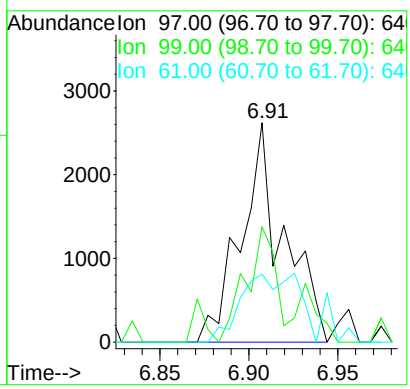


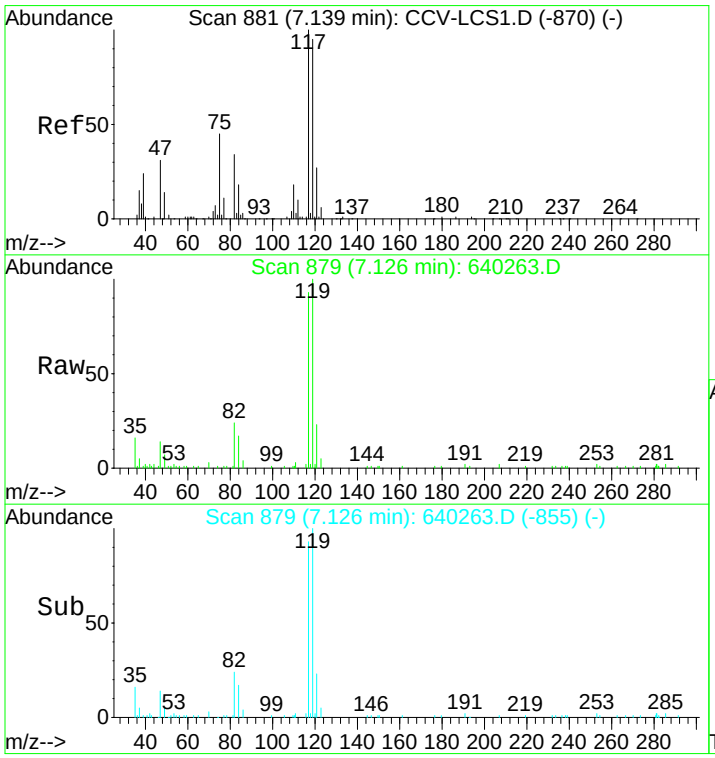


#40
111trichlota
Concen: 0.22 ug/L
RT: 6.91 min Scan# 843
Delta R.T. -0.00 min
Lab File: 640263.D
Acq: 13 Oct 2015 21:36

Tgt Ion: 97 Resp: 4329

Ion	Ratio	Lower	Upper
97	100		
99	0.0	43.5	83.5#
61	0.0	24.6	64.6#

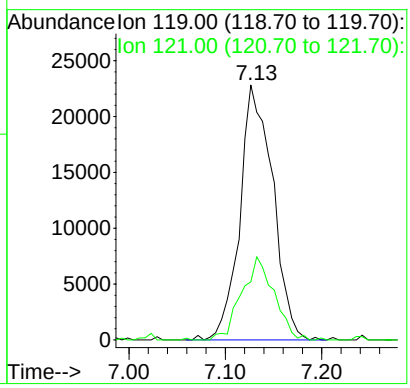




#43
Carbtetraclo
Concen: 3.30 ug/L
RT: 7.13 min Scan# 879
Delta R.T. -0.01 min
Lab File: 640263.D
Acq: 13 Oct 2015 21:36

Tgt Ion:119 Resp: 53989

Ion	Ratio	Lower	Upper
119	100		
121	32.1	12.2	52.2



Quantitation Report

Data File : l:\data\oct1315b\640123.D Vial: 15
Acq On : 13 Oct 2015 22:06 Operator: AGK-RLD
Sample : 119465,640123, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 13 22:26:34 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.71	96	935522	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.62	117	760071	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	15.46	152	401461	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.85	113	245365	21.696	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 108	%		
45) SURR12DCAd4	7.27	102	62259	20.028	ug/L	0.01
Spiked Amount 20.000	Range 89 - 112		Recovery = 100	%		
61) SURRd8Tolule	9.71	98	943254	20.214	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101	%		
83) SURR4BrFBenz	13.25	95	344629	17.220	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 86	%		

Target Compounds					Qvalue
2) Dichlorodi	0.00	85	0	N.D.	
3) Chloromethan	0.00	50	0	N.D.	
4) VinylChlorid	0.00	62	0	N.D.	
5) Bromomethane	0.00	94	0	N.D.	
6) Chloroethane	0.00	64	0	N.D.	
7) Dichloroflmethane	0.00	67	0	N.D.	
8) Trichlorofma	0.00	101	0	N.D.	
9) Ethylether	0.00	59	0	N.D.	
10) dichlorotfluoroethan	0.00	67	0	N.D.	
11) propyleneoxide	0.00	58	0	N.D.	
12) Acrolein	0.00	56	0	N.D.	
13) 11dichlorthe	0.00	96	0	N.D.	
14) Trichlorotfluoroeth	0.00	101	0	N.D.	
15) Acetone	4.09	43	4018	Below Cal # 44	
16) Iodomethane	0.00	142	0	N.D.	
17) Carbon Dislf	4.27	76	3077	N.D.	
18) allylchloride	0.00	41	0	N.D.	
19) methylacetate	0.00	74	0	N.D.	
20) Methylchlorid	0.00	84	0	N.D.	
21) tbutylalcohol	4.86	59	2732	Below Cal # 52	
22) Acrylonitrile	0.00	53	0	N.D.	
23) t12dichlorte	0.00	96	0	N.D.	
24) MtBE	0.00	73	0	N.D.	
25) Hexane	0.00	57	0	N.D.	
26) 11dichlorota	0.00	63	0	N.D.	
27) Vinylacetate	0.00	43	0	N.D.	
28) chloroprene	0.00	53	0	N.D.	
29) Diisopether	0.00	45	0	N.D.	
30) ETBE	0.00	59	0	N.D.	
31) 22dichloropr	0.00	77	0	N.D.	
32) c12dichlorte	0.00	96	0	N.D.	
33) 2Butanone	0.00	72	0	N.D.	
34) propionitrile	0.00	54	0	N.D.	
35) Ethylacetate	0.00	88	0	N.D.	
36) methacrylonitrile	0.00	67	0	N.D.	
37) Bromochlorma	0.00	128	0	N.D.	
38) Tetrahydofur	0.00	42	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : l:\data\oct1315b\640123.D Vial: 15
Acq On : 13 Oct 2015 22:06 Operator: AGK-RLD
Sample : 119465,640123, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 13 22:26:34 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39) Chloroform	6.68	83	3239	0.1640	ug/L	#	72
40) 111trichlota	0.00	97	0	N.D.			
42) Cyclohexane	0.00	56	0	N.D.			
43) Carbtetraclo	7.13	119	15727	0.9945	ug/L		94
44) 11dicloprope	0.00	110	0	N.D.			
46) Benzene	0.00	78	0	N.D.			
47) 12dichlorota	0.00	62	0	N.D.			
48) TAME	0.00	73	0	N.D.			
49) trichloroete	0.00	95	0	N.D.			
50) methylcyclohexane	0.00	83	0	N.D.			
51) 12dicloropra	0.00	63	0	N.D.			
52) 23Dicl1propene	0.00	75	0	N.D.			
53) Dibromometha	0.00	93	0	N.D.			
54) methylmethacrylate	0.00	69	0	N.D.			
55) 14dioxane	0.00	88	0	N.D.			
56) Bromodiclrma	0.00	83	0	N.D.			
57) 2Nitropropane	0.00	43	0	N.D.			
58) 2CLEVE	0.00	63	0	N.D.			
59) c13dicloproe	0.00	75	0	N.D.			
60) 4Meth2Pentan	0.00	43	0	N.D.			
62) Toluene	0.00	92	0	N.D.			
63) t13Dicloprop	0.00	75	0	N.D.			
64) ethylmethacrylate	0.00	69	0	N.D.			
65) 112Triclotha	0.00	83	0	N.D.			
66) Tetrachlorte	0.00	166	0	N.D.			
67) 13Diclorpropa	0.00	76	0	N.D.			
69) 2Hexanone	0.00	43	0	N.D.			
70) Clorodibrmta	0.00	129	0	N.D.			
71) 12Dibrometha	0.00	107	0	N.D.			
72) Chlorobenzen	0.00	112	0	N.D.			
73) 1Clhexane	0.00	91	0	N.D.			
74) 1112Tetclota	0.00	131	0	N.D.			
75) Ethylbenzene	0.00	91	0	N.D.			
76) m p-Xylene	0.00	106	0	N.D.			
77) o-Xylene	0.00	106	0	N.D.			
78) Styrene	0.00	104	0	N.D.			
79) Bromoform	0.00	173	0	N.D.			
80) Isopropylben	0.00	105	0	N.D.			
81) cyclohexanone	0.00	55	0	N.D.			
84) Bromobenzene	0.00	156	0	N.D.			
85) 1122Tetrclta	0.00	83	0	N.D.			
86) 123Triclproa	0.00	75	0	N.D.			
87) 14dichloro2butene	0.00	53	0	N.D.			
88) n-Propylbenz	0.00	91	0	N.D.			
89) 2chlorotolue	0.00	91	0	N.D.			
90) 4chlorotolue	0.00	91	0	N.D.			
91) 135Trimebenz	0.00	105	0	N.D.			
92) tbutylbenzen	0.00	119	0	N.D.			
93) 124Trimetben	0.00	105	0	N.D.			
94) sbutylbenzen	0.00	105	0	N.D.			
95) 13Diclorbenz	0.00	146	0	N.D.			
96) pIsopropylto	0.00	119	0	N.D.			
97) 14dichlorobe	0.00	146	0	N.D.			
98) 12dichlorobe	0.00	146	0	N.D.			
99) nButylbenzen	0.00	91	0	N.D.			
100) 12dibromo3cl	0.00	157	0	N.D.			
101) 135Trichlorobenzene	0.00	180	0	N.D.			

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : l:\data\oct1315b\640123.D Vial: 15
Acq On : 13 Oct 2015 22:06 Operator: AGK-RLD
Sample : 119465,640123, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 13 22:26:34 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	0.00	128	0	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

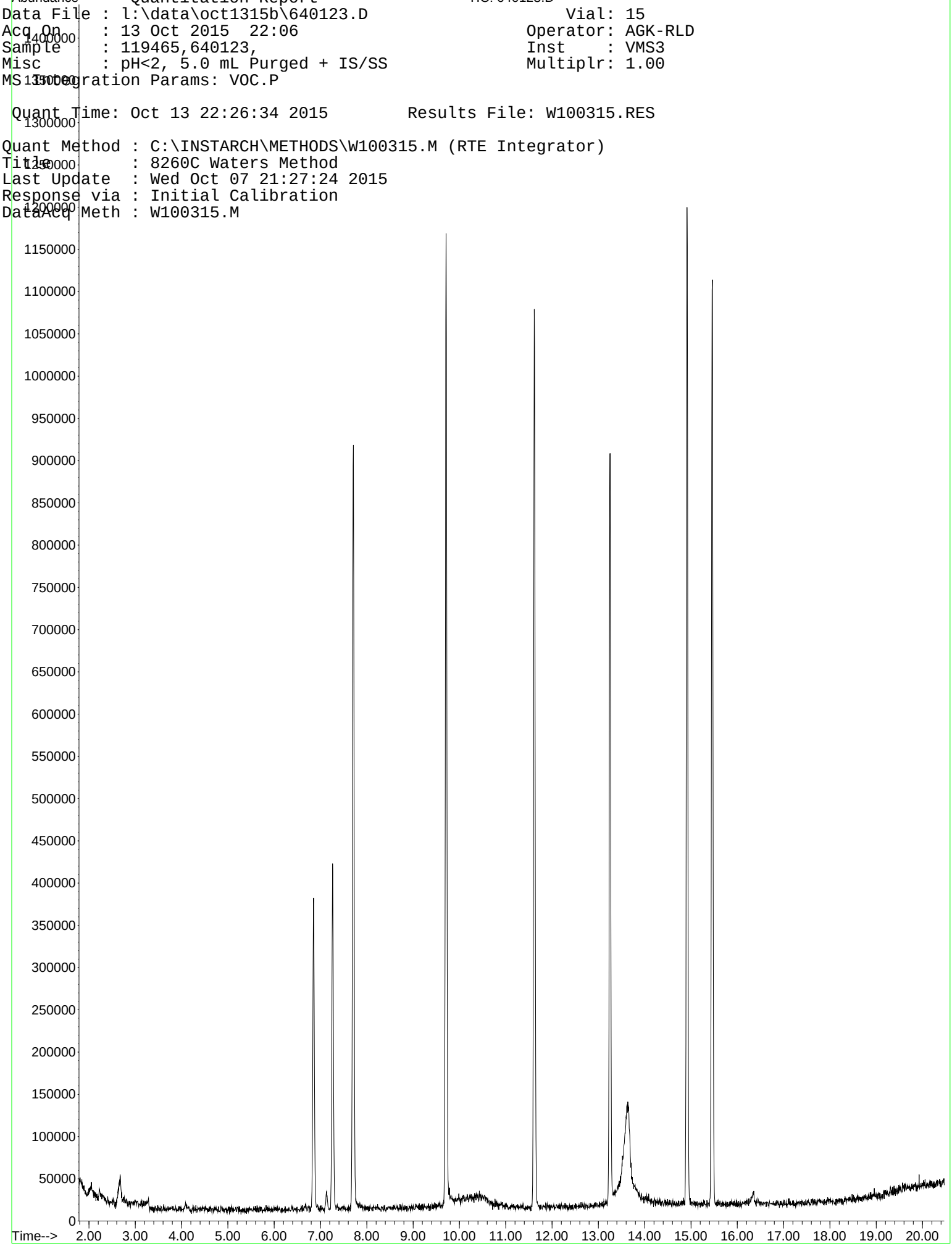
(#) = qualifier out of range (m) = manual integration

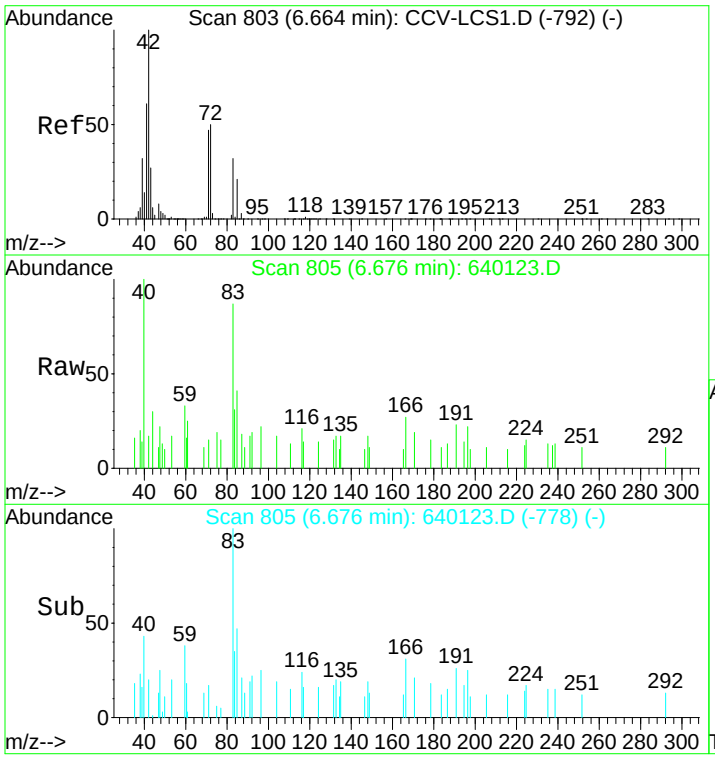
Abundance Quantitation Report TIC: 640123.D

Data File : l:\data\oct1315b\640123.D Vial: 15
Acq On : 13 Oct 2015 22:06 Operator: AGK-RLD
Sample : 119465,640123, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 13 22:26:34 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

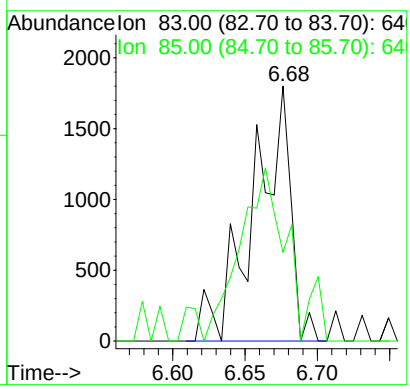


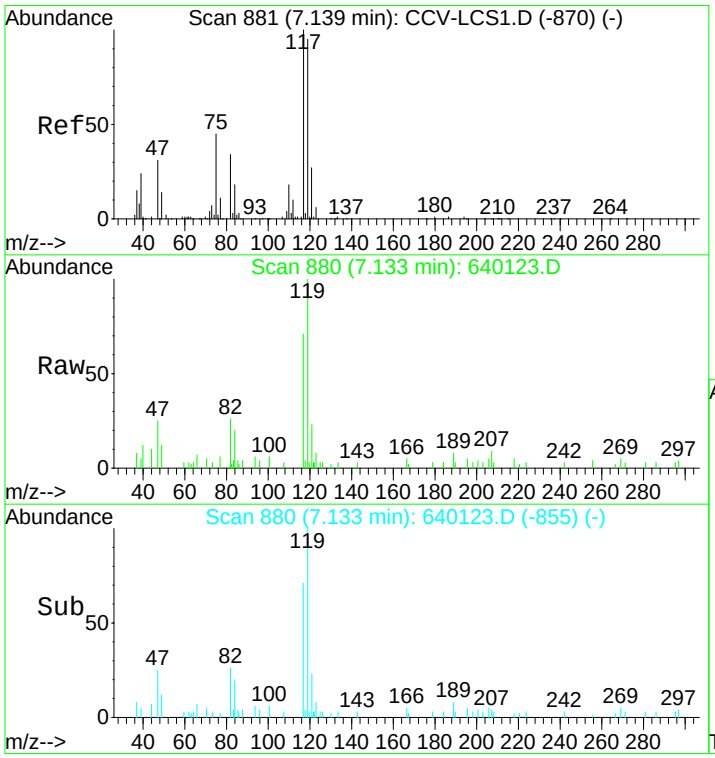


#39
Chloroform
Concen: 0.16 ug/L
RT: 6.68 min Scan# 805
Delta R.T. 0.01 min
Lab File: 640123.D
Acq: 13 Oct 2015 22:06

Tgt Ion: 83 Resp: 3239

Ion	Ratio	Lower	Upper
83	100		
85	87.8	45.7	85.7#

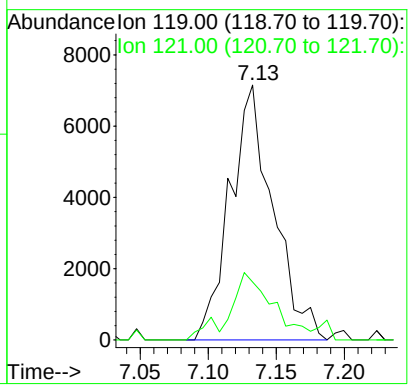




#43
Carbtetraclo
Concen: 0.99 ug/L
RT: 7.13 min Scan# 880
Delta R.T. -0.00 min
Lab File: 640123.D
Acq: 13 Oct 2015 22:06

Tgt Ion:119 Resp: 15727

Ion	Ratio	Lower	Upper
119	100		
121	29.0	12.2	52.2



Quantitation Report

Data File : l:\data\oct1315b\640602.D Vial: 16
Acq On : 13 Oct 2015 22:35 Operator: AGK-RLD
Sample : 119465,640602, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 13 22:56:26 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.70	96	924850	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.62	117	744844	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	15.46	152	397306	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.85	113	235231	21.040	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 105 %			
45) SURR12DCAd4	7.26	102	60584	19.714	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 99 %			
61) SURRd8Tolule	9.71	98	915129	19.837	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 99 %			
83) SURR4BrFBenz	13.25	95	356437	17.996	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 90 %			

Target Compounds					Qvalue
2) Dichlorodi	0.00	85	0	N.D.	
3) Chloromethan	0.00	50	0	N.D.	
4) VinylChlorid	0.00	62	0	N.D.	
5) Bromomethane	0.00	94	0	N.D.	
6) Chloroethane	0.00	64	0	N.D.	
7) Dichloroflmethane	0.00	67	0	N.D.	
8) Trichlorofma	0.00	101	0	N.D.	
9) Ethylether	0.00	59	0	N.D.	
10) dichlorotfluoroethan	0.00	67	0	N.D.	
11) propyleneoxide	0.00	58	0	N.D.	
12) Acrolein	0.00	56	0	N.D.	
13) 11dichlorthe	0.00	96	0	N.D.	
14) Trichlorotfluoroeth	0.00	101	0	N.D.	
15) Acetone	4.08	43	3970	Below Cal # 44	
16) Iodomethane	0.00	142	0	N.D.	
17) Carbon Dislf	0.00	76	0	N.D.	
18) allylchloride	0.00	41	0	N.D.	
19) methylacetate	0.00	74	0	N.D.	
20) Methylchlorid	0.00	84	0	N.D.	
21) tbutylalcohol	0.00	59	0	N.D.	
22) Acrylonitrile	0.00	53	0	N.D.	
23) t12dichlorte	0.00	96	0	N.D.	
24) MtBE	0.00	73	0	N.D.	
25) Hexane	0.00	57	0	N.D.	
26) 11dichlorota	0.00	63	0	N.D.	
27) Vinylacetate	0.00	43	0	N.D.	
28) chloroprene	0.00	53	0	N.D.	
29) Diisopether	0.00	45	0	N.D.	
30) ETBE	0.00	59	0	N.D.	
31) 22dichloropr	0.00	77	0	N.D.	
32) c12dichlorte	0.00	96	0	N.D.	
33) 2Butanone	0.00	72	0	N.D.	
34) propionitrile	0.00	54	0	N.D.	
35) Ethylacetate	0.00	88	0	N.D.	
36) methacrylonitrile	0.00	67	0	N.D.	
37) Bromochlorma	0.00	128	0	N.D.	
38) Tetrahydofur	0.00	42	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : l:\data\oct1315b\640602.D Vial: 16
Acq On : 13 Oct 2015 22:35 Operator: AGK-RLD
Sample : 119465,640602, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 13 22:56:26 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39) Chloroform	0.00	83	0	N.D.	
40) 111trichlota	0.00	97	0	N.D.	
42) Cyclohexane	0.00	56	0	N.D.	
43) Carbtetraclo	7.13	119	4595	0.2939 ug/L #	42
44) 11dicloprope	0.00	110	0	N.D.	
46) Benzene	0.00	78	0	N.D.	
47) 12dichlorota	0.00	62	0	N.D.	
48) TAME	0.00	73	0	N.D.	
49) trichloroete	0.00	95	0	N.D.	
50) methylcyclohexane	0.00	83	0	N.D.	
51) 12dicloropra	0.00	63	0	N.D.	
52) 23Dicl1propene	0.00	75	0	N.D.	
53) Dibromometha	0.00	93	0	N.D.	
54) methylmethacrylate	0.00	69	0	N.D.	
55) 14dioxane	0.00	88	0	N.D.	
56) Bromodiclrma	0.00	83	0	N.D.	
57) 2Nitropropane	0.00	43	0	N.D.	
58) 2CLEVE	0.00	63	0	N.D.	
59) c13dicloproe	0.00	75	0	N.D.	
60) 4Meth2Pentan	0.00	43	0	N.D.	
62) Toluene	0.00	92	0	N.D.	
63) t13Dicloprop	0.00	75	0	N.D.	
64) ethylmethacrylate	0.00	69	0	N.D.	
65) 112Triclotha	0.00	83	0	N.D.	
66) Tetrachlorte	0.00	166	0	N.D.	
67) 13Diclorpropa	0.00	76	0	N.D.	
69) 2Hexanone	0.00	43	0	N.D.	
70) Clorodibrmta	0.00	129	0	N.D.	
71) 12Dibrometha	0.00	107	0	N.D.	
72) Chlorobenzen	0.00	112	0	N.D.	
73) 1Clhexane	0.00	91	0	N.D.	
74) 1112Tetclota	0.00	131	0	N.D.	
75) Ethylbenzene	0.00	91	0	N.D.	
76) m p-Xylene	0.00	106	0	N.D.	
77) o-Xylene	0.00	106	0	N.D.	
78) Styrene	0.00	104	0	N.D.	
79) Bromoform	0.00	173	0	N.D.	
80) Isopropylben	0.00	105	0	N.D.	
81) cyclohexanone	0.00	55	0	N.D.	
84) Bromobenzene	0.00	156	0	N.D.	
85) 1122Tetrclta	0.00	83	0	N.D.	
86) 123Triclproa	0.00	75	0	N.D.	
87) 14dichloro2butene	0.00	53	0	N.D.	
88) n-Propylbenz	0.00	91	0	N.D.	
89) 2chlorotolue	0.00	91	0	N.D.	
90) 4chlorotolue	0.00	91	0	N.D.	
91) 135Trimebenz	0.00	105	0	N.D.	
92) tbutylbenzen	0.00	119	0	N.D.	
93) 124Trimetben	0.00	105	0	N.D.	
94) sbutylbenzen	0.00	105	0	N.D.	
95) 13Diclorbenz	0.00	146	0	N.D.	
96) pIsopropylto	0.00	119	0	N.D.	
97) 14dichlorobe	0.00	146	0	N.D.	
98) 12dichlorobe	0.00	146	0	N.D.	
99) nButylbenzen	0.00	91	0	N.D.	
100) 12dibromo3cl	0.00	157	0	N.D.	
101) 135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : l:\data\oct1315b\640602.D Vial: 16
Acq On : 13 Oct 2015 22:35 Operator: AGK-RLD
Sample : 119465,640602, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 13 22:56:26 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	0.00	128	0	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

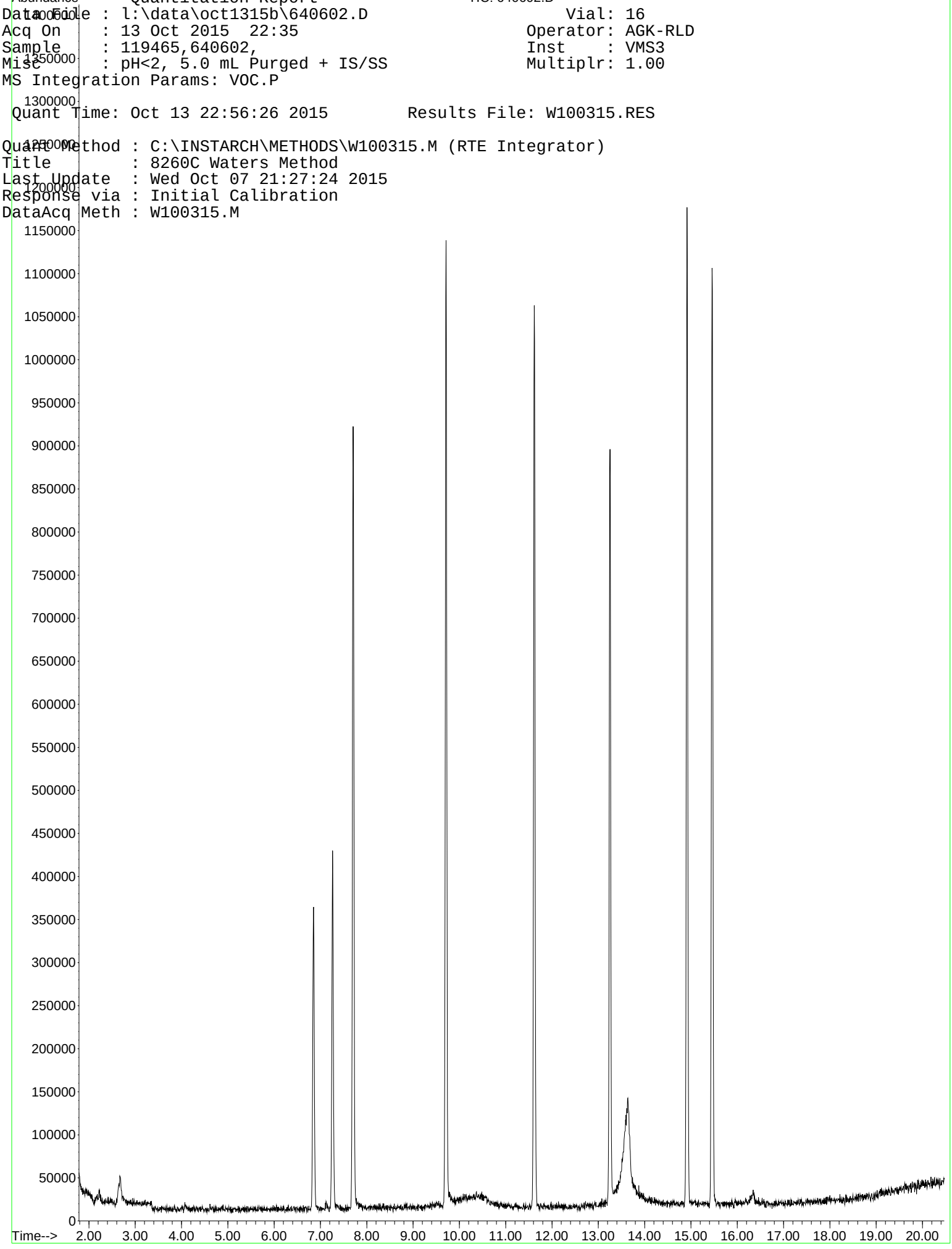
(#) = qualifier out of range (m) = manual integration

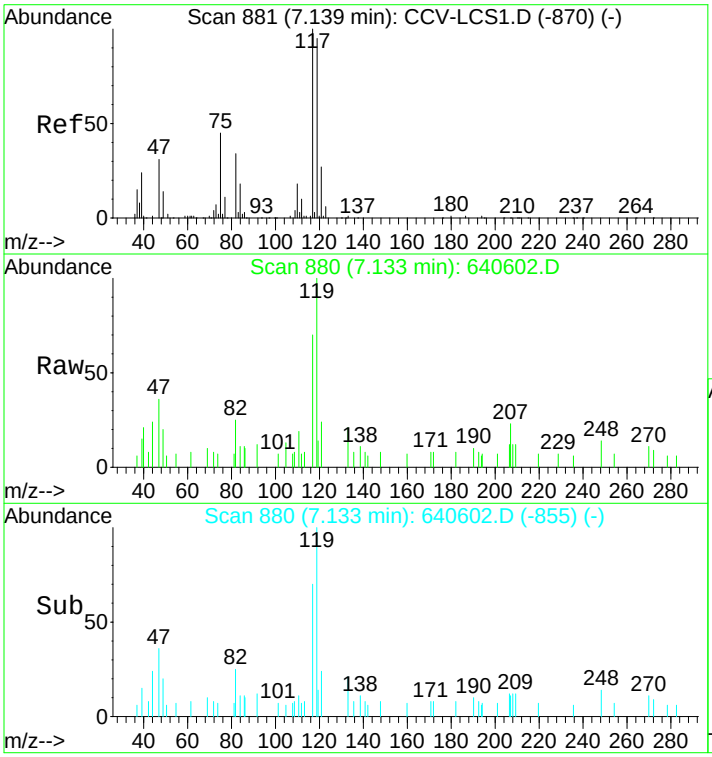
Quantitation Report

Data File : l:\data\oct1315b\640602.D Vial: 16
Acq On : 13 Oct 2015 22:35 Operator: AGK-RLD
Sample : 119465,640602, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 13 22:56:26 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

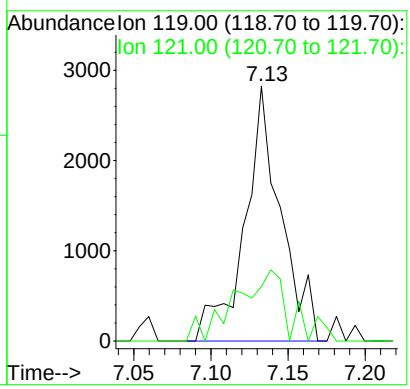




#43
Carbtetraclo
Concen: 0.29 ug/L
RT: 7.13 min Scan# 880
Delta R.T. 0.00 min
Lab File: 640602.D
Acq: 13 Oct 2015 22:35

Tgt Ion:119 Resp: 4595

Ion	Ratio	Lower	Upper
119	100		
121	0.0	12.2	52.2#



Quantitation Report

Data File : l:\data\oct1315b\640604.D Vial: 17
Acq On : 13 Oct 2015 23:05 Operator: AGK-RLD
Sample : 119465,640604, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 13 23:25:59 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.71	96	943961	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.62	117	736876	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	15.46	152	394995	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.85	113	242702	21.269	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 106	%		
45) SURR12DCAd4	7.26	102	64759	20.646	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 103	%		
61) SURRd8Tolule	9.71	98	945915	20.090	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100	%		
83) SURR4BrFBenz	13.25	95	340494	17.292	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 86	%		
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	0.00	50	0	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	0.00	94	0	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	4.08	43	5314	N.D.		
16) Iodomethane	0.00	142	0	N.D.		
17) Carbon Dislf	0.00	76	0	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	4.86	59	4107	Below	Cal #	52
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	0.00	42	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : l:\data\oct1315b\640604.D Vial: 17
Acq On : 13 Oct 2015 23:05 Operator: AGK-RLD
Sample : 119465,640604, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 13 23:25:59 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.		
40)	111trichlota	0.00	97	0	N.D.		
42)	Cyclohexane	0.00	56	0	N.D.		
43)	Carbtetraclo	0.00	119	0	N.D.		
44)	11dicloprope	0.00	110	0	N.D.		
46)	Benzene	0.00	78	0	N.D.		
47)	12dichlorota	0.00	62	0	N.D.		
48)	TAME	0.00	73	0	N.D.		
49)	trichloroete	8.16	95	7316	0.6543	ug/L	93
50)	methylcyclohexane	0.00	83	0	N.D.		
51)	12dicloropra	0.00	63	0	N.D.		
52)	23Dicl1propene	0.00	75	0	N.D.		
53)	Dibromometha	0.00	93	0	N.D.		
54)	methylmethacrylate	0.00	69	0	N.D.		
55)	14dioxane	0.00	88	0	N.D.		
56)	Bromodiclrma	0.00	83	0	N.D.		
57)	2Nitropropane	0.00	43	0	N.D.		
58)	2CLEVE	0.00	63	0	N.D.		
59)	c13dicloproe	0.00	75	0	N.D.		
60)	4Meth2Pentan	0.00	43	0	N.D.		
62)	Toluene	0.00	92	0	N.D.		
63)	t13Dicloprop	0.00	75	0	N.D.		
64)	ethylmethacrylate	0.00	69	0	N.D.		
65)	112Triclotha	0.00	83	0	N.D.		
66)	Tetrachlorte	0.00	166	0	N.D.		
67)	13Diclorpropa	0.00	76	0	N.D.		
69)	2Hexanone	0.00	43	0	N.D.		
70)	Clorodibrmta	0.00	129	0	N.D.		
71)	12Dibrometha	0.00	107	0	N.D.		
72)	Chlorobenzen	0.00	112	0	N.D.		
73)	1Clhexane	0.00	91	0	N.D.		
74)	1112Tetclota	0.00	131	0	N.D.		
75)	Ethylbenzene	0.00	91	0	N.D.		
76)	m p-Xylene	0.00	106	0	N.D.		
77)	o-Xylene	0.00	106	0	N.D.		
78)	Styrene	0.00	104	0	N.D.		
79)	Bromoform	0.00	173	0	N.D.		
80)	Isopropylben	0.00	105	0	N.D.		
81)	cyclohexanone	0.00	55	0	N.D.		
84)	Bromobenzene	0.00	156	0	N.D.		
85)	1122Tetrclta	0.00	83	0	N.D.		
86)	123Triclproa	0.00	75	0	N.D.		
87)	14dichloro2butene	0.00	53	0	N.D.		
88)	n-Propylbenz	0.00	91	0	N.D.		
89)	2chlorotolue	0.00	91	0	N.D.		
90)	4chlorotolue	0.00	91	0	N.D.		
91)	135Trimebenz	0.00	105	0	N.D.		
92)	tbutylbenzen	0.00	119	0	N.D.		
93)	124Trimetben	0.00	105	0	N.D.		
94)	sbutylbenzen	0.00	105	0	N.D.		
95)	13Diclorbenz	0.00	146	0	N.D.		
96)	pIsopropylto	0.00	119	0	N.D.		
97)	14dichlorobe	0.00	146	0	N.D.		
98)	12dichlorobe	0.00	146	0	N.D.		
99)	nButylbenzen	0.00	91	0	N.D.		
100)	12dibromo3cl	0.00	157	0	N.D.		
101)	135Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : l:\data\oct1315b\640604.D Vial: 17
Acq On : 13 Oct 2015 23:05 Operator: AGK-RLD
Sample : 119465,640604, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 13 23:25:59 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	0.00	128	0	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

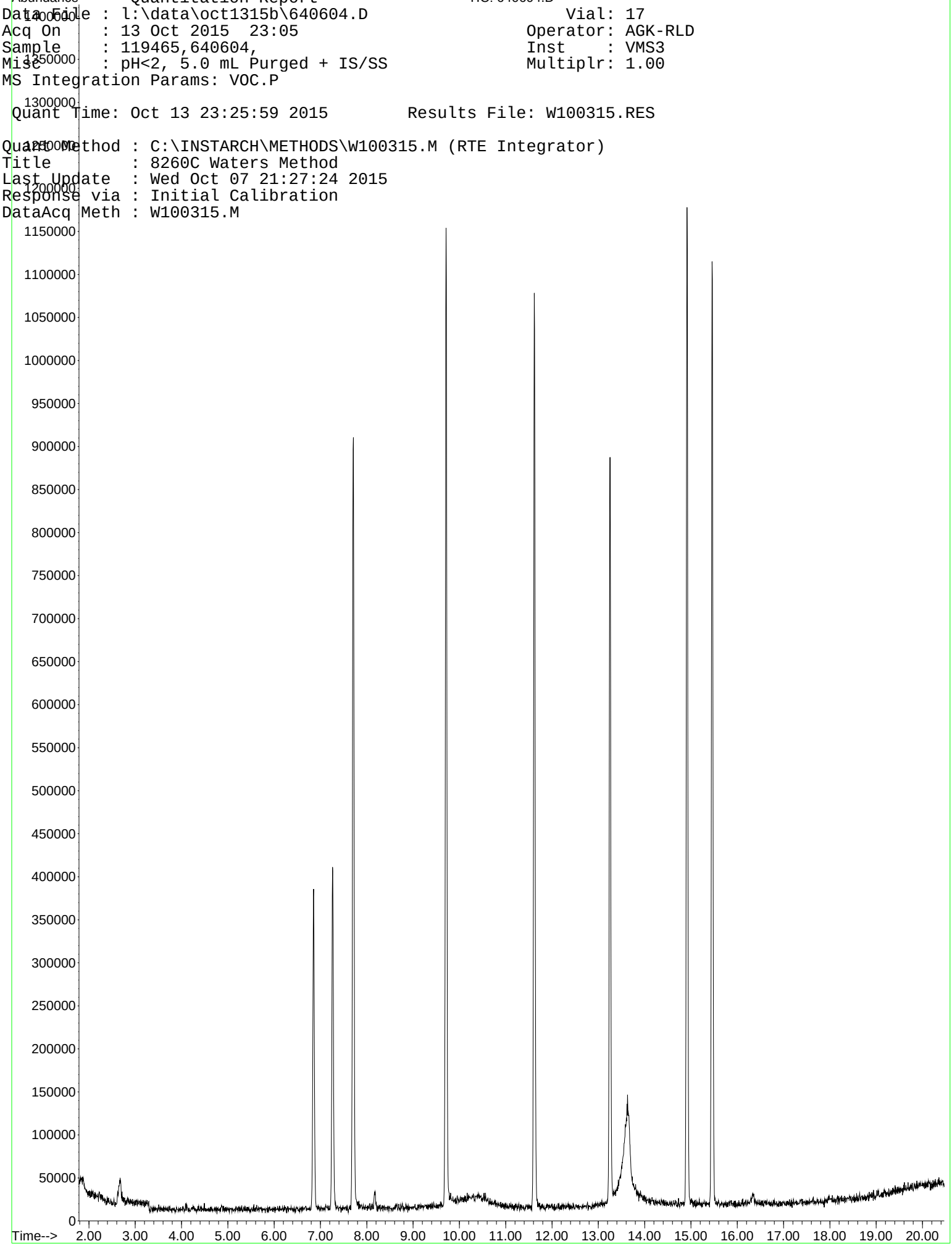
Quantitation Report (RTE Integrator)

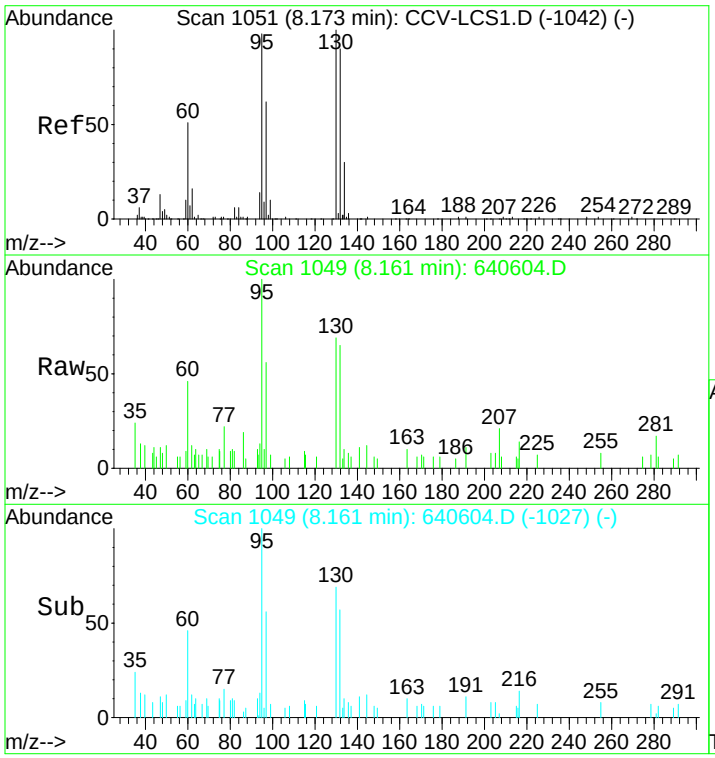
Data File : l:\data\oct1315b\640604.D
Acq On : 13 Oct 2015 23:05
Sample : 119465,640604,
Misc : pH<2, 5.0 mL Purged + IS/SS
MS Integration Params: VOC.P

Quant Time: Oct 13 23:25:59 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

TIC: 640604.D
Vial: 17
Operator: AGK-RLD
Inst : VMS3
Multiplr: 1.00

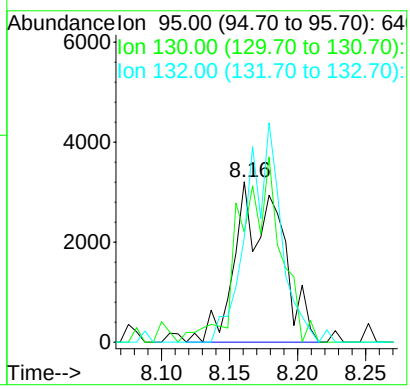




#49
trichloroete
Concen: 0.65 ug/L
RT: 8.16 min Scan# 1049
Delta R.T. -0.02 min
Lab File: 640604.D
Acq: 13 Oct 2015 23:05

Tgt Ion: 95 Resp: 7316

Ion	Ratio	Lower	Upper
95	100		
130	103.6	79.8	119.8
132	105.4	74.6	114.6



Quantitation Report

Data File : l:\data\oct1315b\640606.D Vial: 18
Acq On : 13 Oct 2015 23:35 Operator: AGK-RLD
Sample : 119465,640606, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 13 23:55:56 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.71	96	946205	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.62	117	724545	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	15.45	152	387736	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.85	113	239572	20.945	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 105	%		
45) SURR12DCAd4	7.27	102	62665	19.931	ug/L	0.01
Spiked Amount 20.000	Range 89 - 112		Recovery = 100	%		
61) SURRd8Tolule	9.71	98	925193	19.603	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 98	%		
83) SURR4BrFBenz	13.25	95	334478	17.304	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 87	%		

Target Compounds					Qvalue
2) Dichlorodi	0.00	85	0	N.D.	
3) Chloromethan	0.00	50	0	N.D.	
4) VinylChlorid	0.00	62	0	N.D.	
5) Bromomethane	0.00	94	0	N.D.	
6) Chloroethane	0.00	64	0	N.D.	
7) Dichloroflmethane	0.00	67	0	N.D.	
8) Trichlorofma	0.00	101	0	N.D.	
9) Ethylether	0.00	59	0	N.D.	
10) dichlorotfluoroethan	0.00	67	0	N.D.	
11) propyleneoxide	0.00	58	0	N.D.	
12) Acrolein	0.00	56	0	N.D.	
13) 11dichlorthe	0.00	96	0	N.D.	
14) Trichlorotfluoroeth	0.00	101	0	N.D.	
15) Acetone	0.00	43	0	N.D.	
16) Iodomethane	0.00	142	0	N.D.	
17) Carbon Dislf	0.00	76	0	N.D.	
18) allylchloride	0.00	41	0	N.D.	
19) methylacetate	0.00	74	0	N.D.	
20) Methylchlorid	0.00	84	0	N.D.	
21) tbutylalcohol	4.89	59	3335	Below Cal # 52	
22) Acrylonitrile	0.00	53	0	N.D.	
23) t12dichlorte	0.00	96	0	N.D.	
24) MtBE	0.00	73	0	N.D.	
25) Hexane	0.00	57	0	N.D.	
26) 11dichlorota	0.00	63	0	N.D.	
27) Vinylacetate	0.00	43	0	N.D.	
28) chloroprene	0.00	53	0	N.D.	
29) Diisopether	0.00	45	0	N.D.	
30) ETBE	0.00	59	0	N.D.	
31) 22dichloropr	0.00	77	0	N.D.	
32) c12dichlorte	0.00	96	0	N.D.	
33) 2Butanone	0.00	72	0	N.D.	
34) propionitrile	0.00	54	0	N.D.	
35) Ethylacetate	0.00	88	0	N.D.	
36) methacrylonitrile	0.00	67	0	N.D.	
37) Bromochlorma	0.00	128	0	N.D.	
38) Tetrahydofur	0.00	42	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : l:\data\oct1315b\640606.D Vial: 18
Acq On : 13 Oct 2015 23:35 Operator: AGK-RLD
Sample : 119465,640606, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 13 23:55:56 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	0.00	119	0	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	0.00	78	0	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	0.00	95	0	N.D.	
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	0.00	92	0	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	0.00	91	0	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	0.00	106	0	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	0.00	55	0	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	0.00	105	0	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	0.00	91	0	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : l:\data\oct1315b\640606.D Vial: 18
Acq On : 13 Oct 2015 23:35 Operator: AGK-RLD
Sample : 119465,640606, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 13 23:55:56 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	0.00	128	0	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

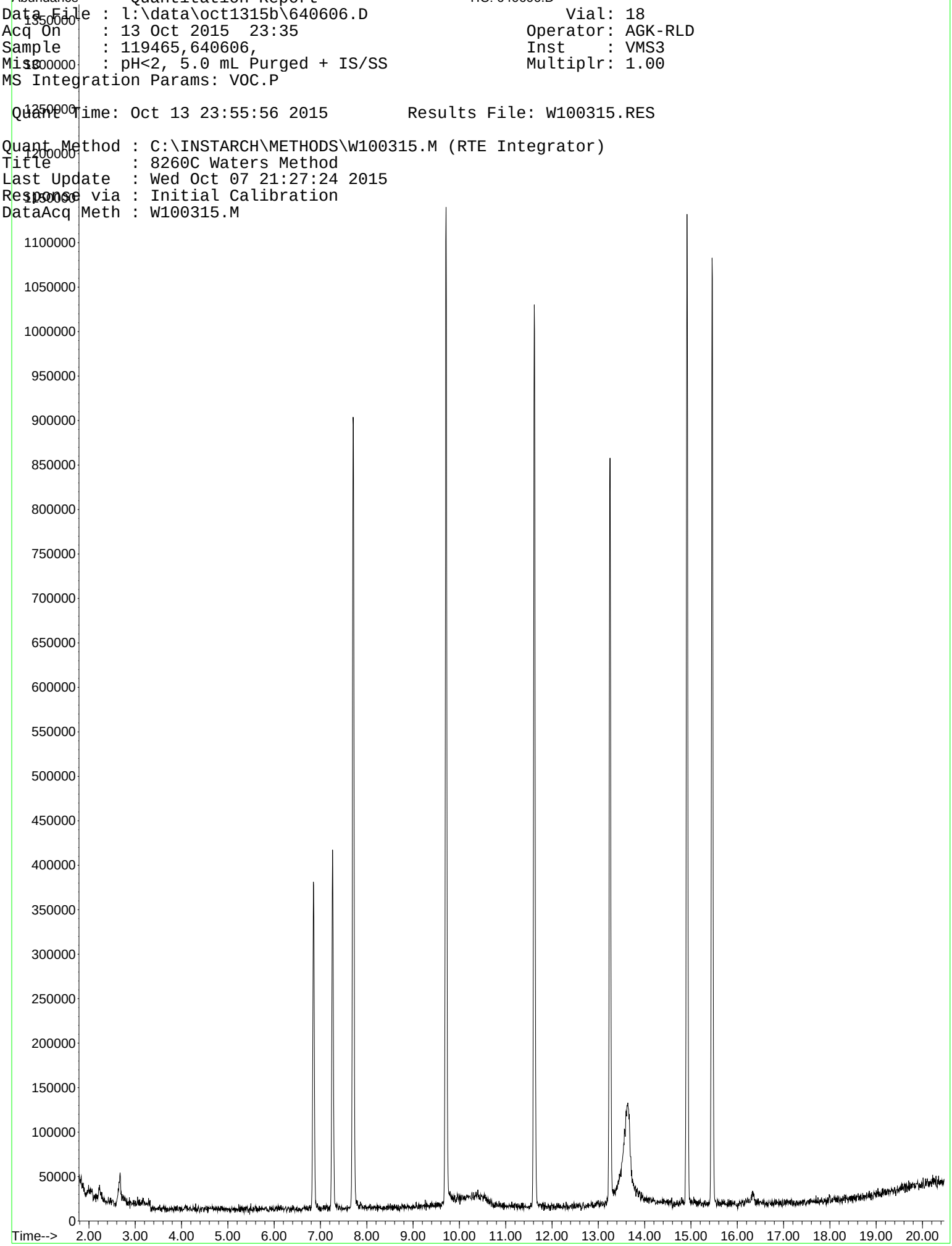
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: 640606.D

Data File : l:\data\oct1315b\640606.D Vial: 18
Acq On : 13 Oct 2015 23:35 Operator: AGK-RLD
Sample : 119465,640606, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 13 23:55:56 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M



Quantitation Report

Data File : l:\data\oct1315b\640608.D Vial: 19
Acq On : 14 Oct 2015 00:05 Operator: AGK-RLD
Sample : 119465,640608, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 14 00:25:47 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.70	96	943054	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.62	117	733742	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	15.46	152	394658	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.85	113	243476	21.357	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 107	%		
45) SURR12DCAd4	7.27	102	62590	19.974	ug/L	0.01
Spiked Amount 20.000	Range 89 - 112		Recovery = 100	%		
61) SURRd8Tolule	9.71	98	942235	20.031	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100	%		
83) SURR4BrFBenz	13.25	95	345046	17.538	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 88	%		
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	0.00	50	0	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	0.00	94	0	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	3.73	59	6666	0.6544	ug/L	85
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	4.08	58	24565	8.2718	ug/L	96
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	4.07	43	78386	8.0690	ug/L	99
16) Iodomethane	0.00	142	0	N.D.		
17) Carbon Dislf	0.00	76	0	N.D.		
18) allylchloride	4.42	41	6866	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	4.64	84	280198	25.6672	ug/L	94
21) tbutylalcohol	4.88	59	6198	Below Cal #		52
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	6.40	88	12129	12.4443	ug/L #	90
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	6.65	42	3437	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : l:\data\oct1315b\640608.D Vial: 19
Acq On : 14 Oct 2015 00:05 Operator: AGK-RLD
Sample : 119465,640608, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 14 00:25:47 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	6.66	83	8159	0.4099 ug/L	97
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	0.00	119	0	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	7.37	78	3255	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	0.00	95	0	N.D.	
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	9.79	92	9136	0.3203 ug/L #	74
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	0.00	91	0	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	0.00	106	0	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	0.00	55	0	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	14.40	105	3805	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	0.00	91	0	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : l:\data\oct1315b\640608.D Vial: 19
Acq On : 14 Oct 2015 00:05 Operator: AGK-RLD
Sample : 119465,640608, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 14 00:25:47 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	18.02	128	2566	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

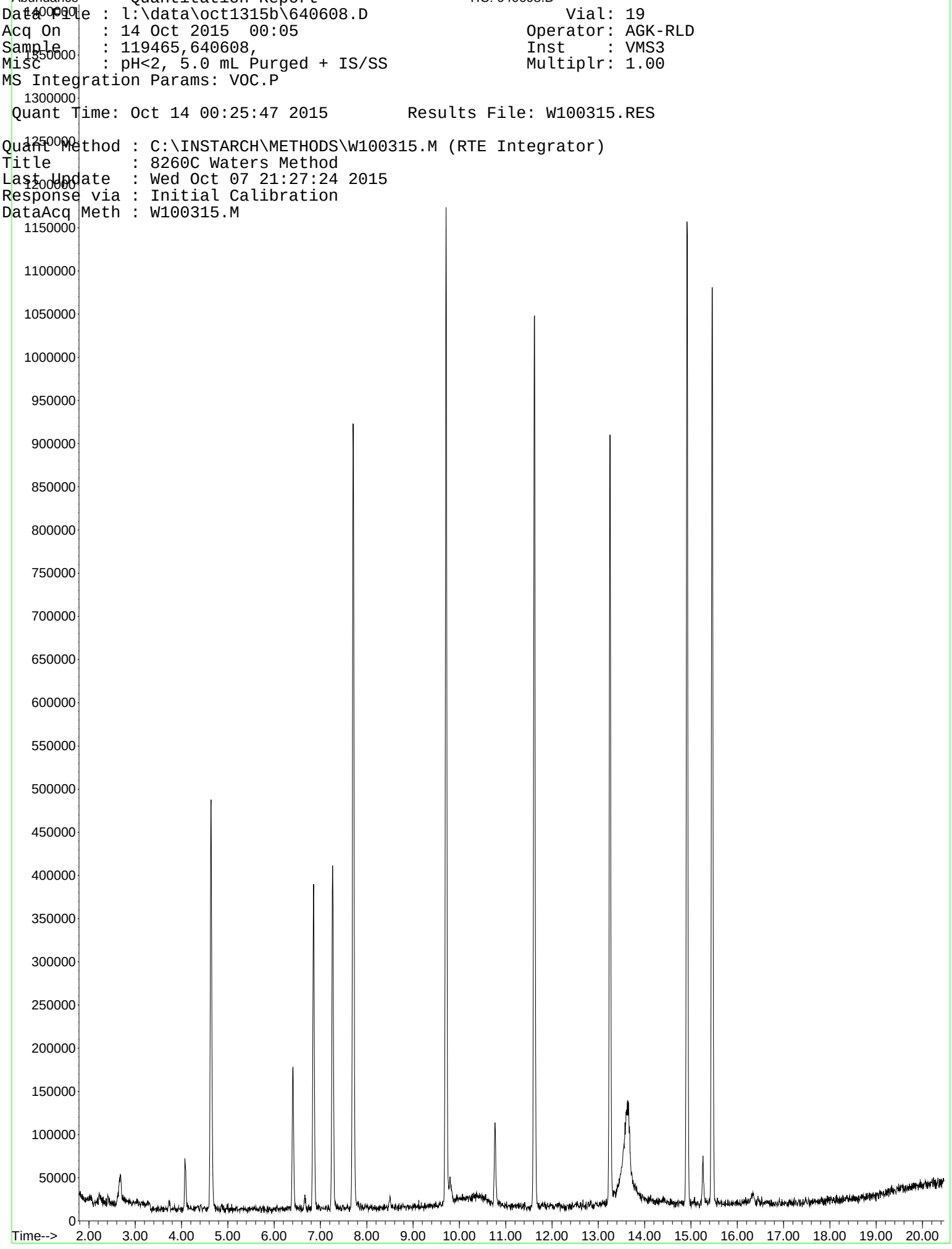
(#) = qualifier out of range (m) = manual integration

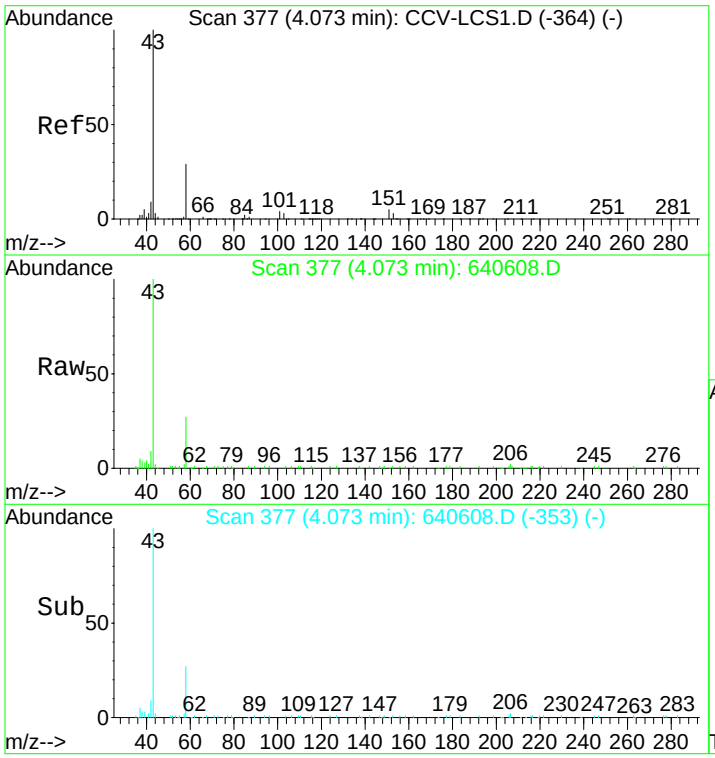
Quantitation Report (RTE)

Data File : l:\data\oct1315b\640608.D Vial: 19
Acq On : 14 Oct 2015 00:05 Operator: AGK-RLD
Sample : 119465,640608, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 14 00:25:47 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

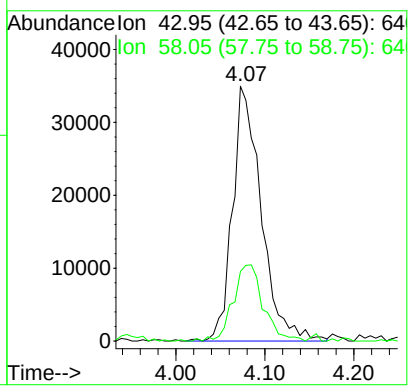


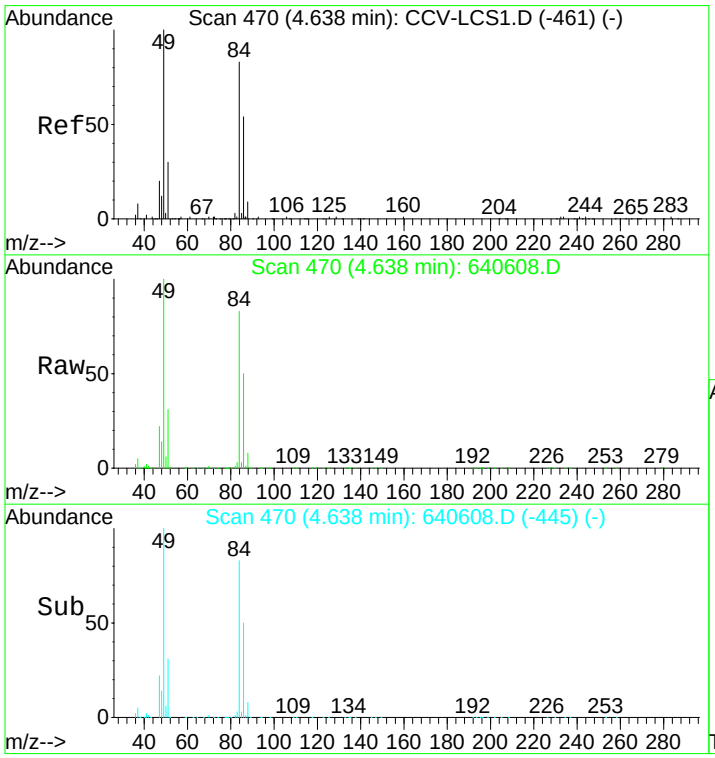


#15
Acetone
Concen: 8.07 ug/L
RT: 4.07 min Scan# 377
Delta R.T. -0.01 min
Lab File: 640608.D
Acq: 14 Oct 2015 00:05

Tgt Ion: 43 Resp: 78386

Ion	Ratio	Lower	Upper
43	100		
58	31.3	10.8	50.8

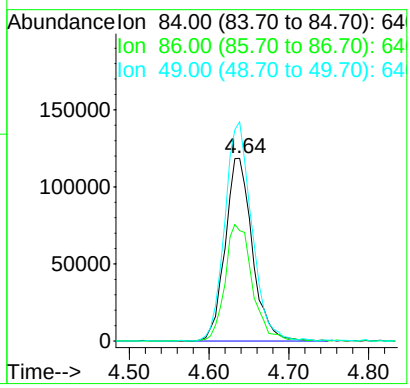


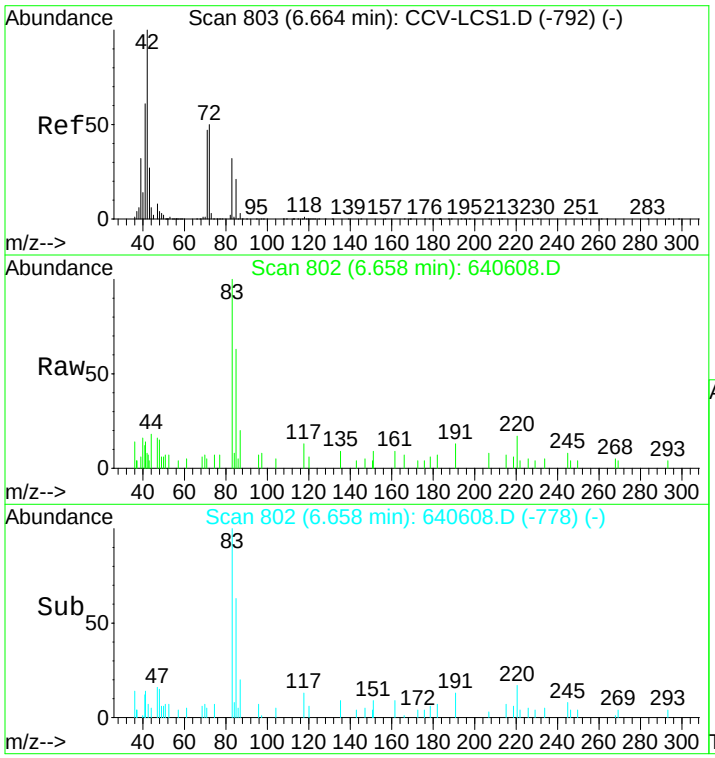


#20
Methylchlorid
Concen: 25.67 ug/L
RT: 4.64 min Scan# 470
Delta R.T. 0.00 min
Lab File: 640608.D
Acq: 14 Oct 2015 00:05

Tgt Ion: 84 Resp: 280198

Ion	Ratio	Lower	Upper
84	100		
86	64.1	45.2	85.2
49	119.8	109.8	149.8

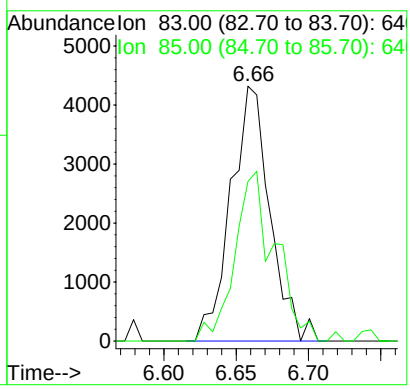


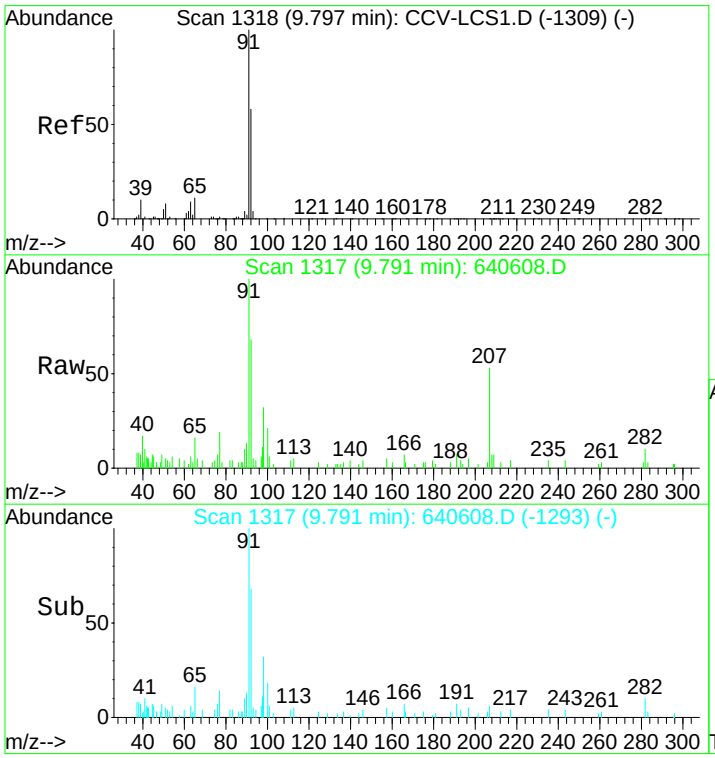


#39
Chloroform
Concen: 0.41 ug/L
RT: 6.66 min Scan# 802
Delta R.T. -0.01 min
Lab File: 640608.D
Acq: 14 Oct 2015 00:05

Tgt Ion: 83 Resp: 8159

Ion	Ratio	Lower	Upper
83	100		
85	68.0	45.7	85.7

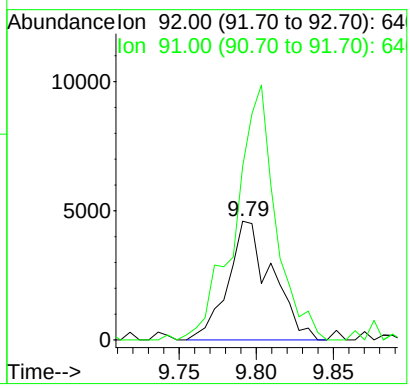




#62
Toluene
Concen: 0.32 ug/L
RT: 9.79 min Scan# 1317
Delta R.T. -0.01 min
Lab File: 640608.D
Acq: 14 Oct 2015 00:05

Tgt Ion: 92 Resp: 9136

Ion	Ratio	Lower	Upper
92	100		
91	198.0	143.5	183.5#



Quantitation Report

Data File : l:\data\oct1315b\640610.D Vial: 20
Acq On : 14 Oct 2015 00:34 Operator: AGK-RLD
Sample : 119465,640610, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 14 00:55:29 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.71	96	944501	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.62	117	716295	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	15.46	152	383928	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.85	113	238309	20.872	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 104 %			
45) SURR12DCAd4	7.27	102	64071	20.415	ug/L	0.01
Spiked Amount 20.000	Range 89 - 112		Recovery = 102 %			
61) SURRd8Tolule	9.71	98	917460	19.474	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 97 %			
83) SURR4BrFBenz	13.25	95	330943	17.291	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 86 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	0.00	50	0	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	0.00	94	0	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	4.08	43	3532	Below	Cal #	44
16) Iodomethane	0.00	142	0	N.D.		
17) Carbon Dislf	0.00	76	0	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	4.87	59	5934	Below	Cal #	52
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	0.00	42	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : l:\data\oct1315b\640610.D Vial: 20
Acq On : 14 Oct 2015 00:34 Operator: AGK-RLD
Sample : 119465,640610, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 14 00:55:29 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.66	83	149119	7.4801	ug/L	100
40)	111trichlota	0.00	97	0	N.D.		
42)	Cyclohexane	0.00	56	0	N.D.		
43)	Carbtetraclo	7.13	119	1129894	70.7691	ug/L	96
44)	11dicloprope	0.00	110	0	N.D.		
46)	Benzene	0.00	78	0	N.D.		
47)	12dichlorota	0.00	62	0	N.D.		
48)	TAME	0.00	73	0	N.D.		
49)	trichloroete	8.18	95	114664	10.2493	ug/L	97
50)	methylcyclohexane	0.00	83	0	N.D.		
51)	12dicloropra	0.00	63	0	N.D.		
52)	23Dicl1propene	0.00	75	0	N.D.		
53)	Dibromometha	0.00	93	0	N.D.		
54)	methylmethacrylate	0.00	69	0	N.D.		
55)	14dioxane	0.00	88	0	N.D.		
56)	Bromodiclrma	0.00	83	0	N.D.		
57)	2Nitropropane	0.00	43	0	N.D.		
58)	2CLEVE	0.00	63	0	N.D.		
59)	c13dicloproe	0.00	75	0	N.D.		
60)	4Meth2Pentan	0.00	43	0	N.D.		
62)	Toluene	0.00	92	0	N.D.		
63)	t13Dicloprop	0.00	75	0	N.D.		
64)	ethylmethacrylate	0.00	69	0	N.D.		
65)	112Triclotha	0.00	83	0	N.D.		
66)	Tetrachlorte	0.00	166	0	N.D.		
67)	13Diclorpropa	0.00	76	0	N.D.		
69)	2Hexanone	0.00	43	0	N.D.		
70)	Clorodibrmta	0.00	129	0	N.D.		
71)	12Dibrometha	0.00	107	0	N.D.		
72)	Chlorobenzen	0.00	112	0	N.D.		
73)	1Clhexane	0.00	91	0	N.D.		
74)	1112Tetclota	0.00	131	0	N.D.		
75)	Ethylbenzene	0.00	91	0	N.D.		
76)	m p-Xylene	0.00	106	0	N.D.		
77)	o-Xylene	0.00	106	0	N.D.		
78)	Styrene	0.00	104	0	N.D.		
79)	Bromoform	0.00	173	0	N.D.		
80)	Isopropylben	0.00	105	0	N.D.		
81)	cyclohexanone	0.00	55	0	N.D.		
84)	Bromobenzene	0.00	156	0	N.D.		
85)	1122Tetrclta	0.00	83	0	N.D.		
86)	123Triclproa	0.00	75	0	N.D.		
87)	14dichloro2butene	0.00	53	0	N.D.		
88)	n-Propylbenz	0.00	91	0	N.D.		
89)	2chlorotolue	0.00	91	0	N.D.		
90)	4chlorotolue	0.00	91	0	N.D.		
91)	135Trimebenz	0.00	105	0	N.D.		
92)	tbutylbenzen	0.00	119	0	N.D.		
93)	124Trimetben	0.00	105	0	N.D.		
94)	sbutylbenzen	0.00	105	0	N.D.		
95)	13Diclorbenz	0.00	146	0	N.D.		
96)	pIsopropylto	0.00	119	0	N.D.		
97)	14dichlorobe	0.00	146	0	N.D.		
98)	12dichlorobe	0.00	146	0	N.D.		
99)	nButylbenzen	0.00	91	0	N.D.		
100)	12dibromo3cl	0.00	157	0	N.D.		
101)	135Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : l:\data\oct1315b\640610.D Vial: 20
Acq On : 14 Oct 2015 00:34 Operator: AGK-RLD
Sample : 119465,640610, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 14 00:55:29 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	0.00	128	0	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

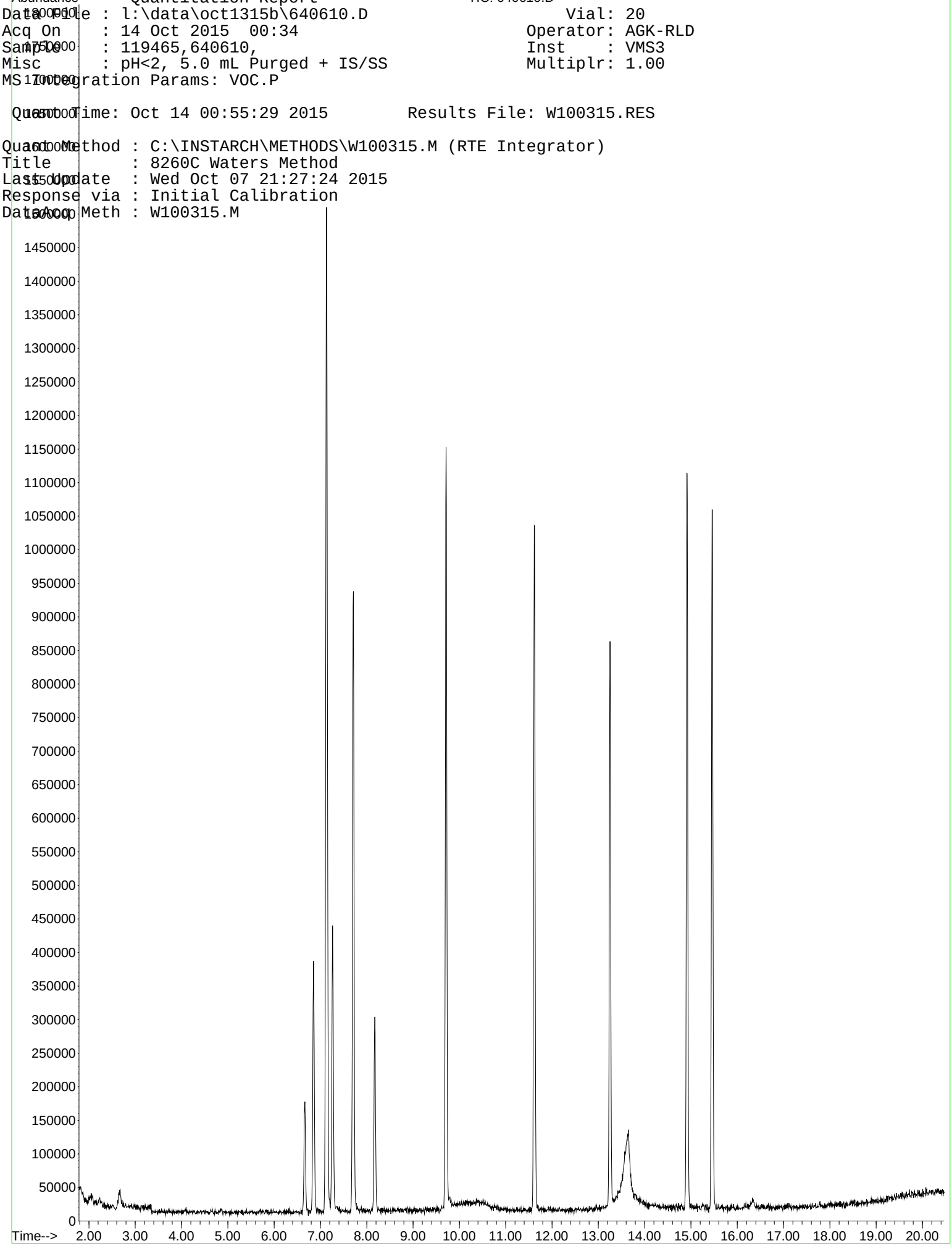
(#) = qualifier out of range (m) = manual integration

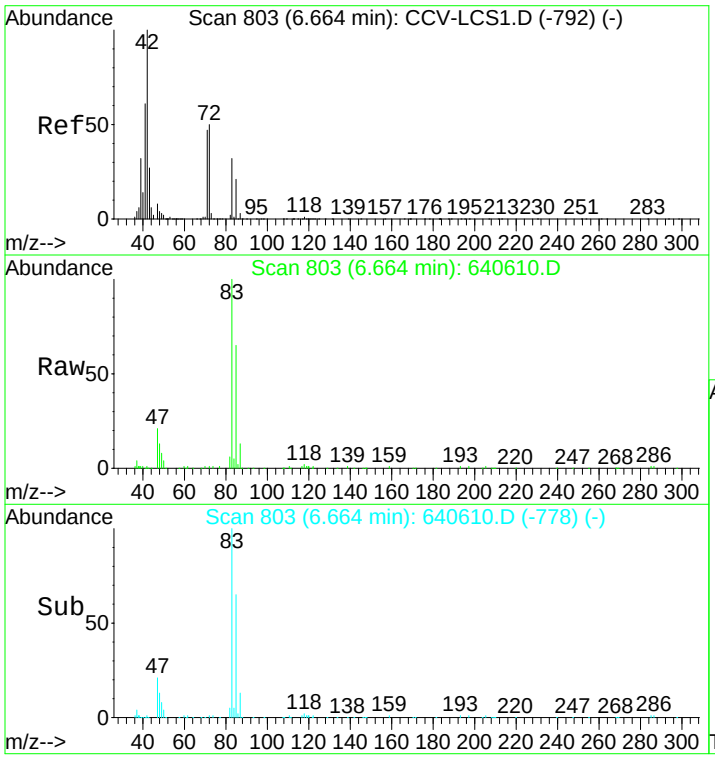
Abundance Quantitation Report TIC: 640610.D

Data File : l:\data\oct1315b\640610.D Vial: 20
Acq On : 14 Oct 2015 00:34 Operator: AGK-RLD
Sample : 119465,640610, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 14 00:55:29 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

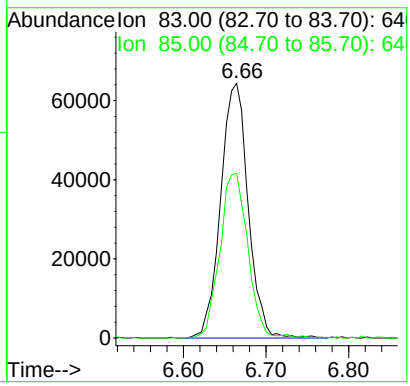


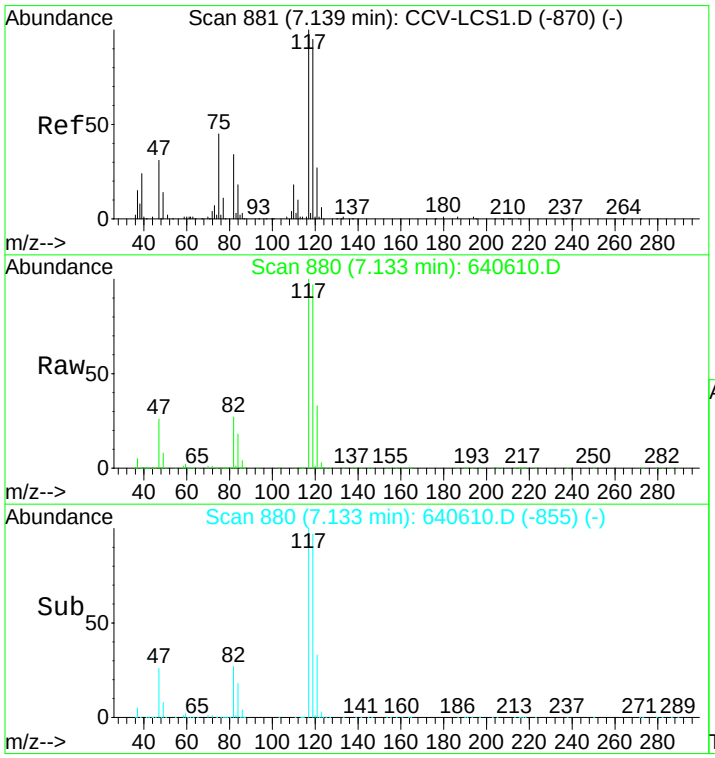


#39
Chloroform
Concen: 7.48 ug/L
RT: 6.66 min Scan# 803
Delta R.T. 0.00 min
Lab File: 640610.D
Acq: 14 Oct 2015 00:34

Tgt Ion: 83 Resp: 149119

Ion	Ratio	Lower	Upper
83	100		
85	65.9	45.7	85.7

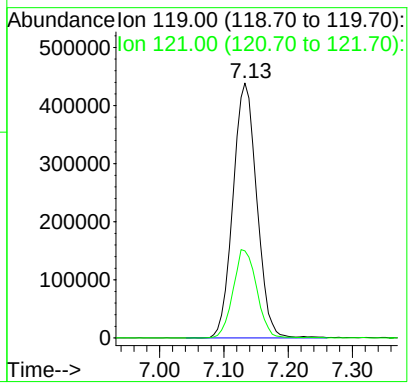


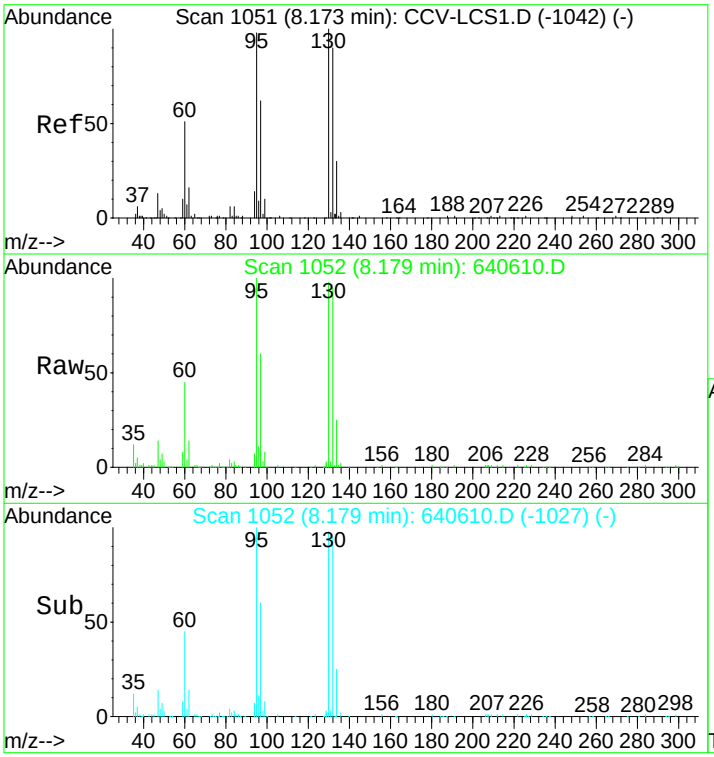


#43
Carbtetraclo
Concen: 70.77 ug/L
RT: 7.13 min Scan# 880
Delta R.T. 0.00 min
Lab File: 640610.D
Acq: 14 Oct 2015 00:34

Tgt Ion:119 Resp: 1129894

Ion	Ratio	Lower	Upper
119	100		
121	34.5	12.2	52.2

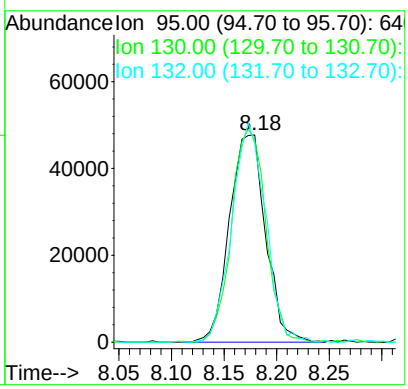




#49
trichloroete
Concen: 10.25 ug/L
RT: 8.18 min Scan# 1052
Delta R.T. 0.00 min
Lab File: 640610.D
Acq: 14 Oct 2015 00:34

Tgt Ion: 95 Resp: 114664

Ion	Ratio	Lower	Upper
95	100		
130	96.9	79.8	119.8
132	98.2	74.6	114.6



Quantitation Report

Data File : l:\data\oct1315b\640613.D Vial: 21
Acq On : 14 Oct 2015 1:05 Operator: AGK-RLD
Sample : 119465,640613, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 14 01:25:45 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.71	96	949852	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.62	117	722801	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	15.45	152	391758	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.85	113	237488	20.683	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 103	%		
45) SURR12DCAd4	7.26	102	66121	20.950	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 105	%		
61) SURRd8Tolule	9.71	98	935319	19.741	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 99	%		
83) SURR4BrFBenz	13.25	95	334995	17.153	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 86	%		
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	0.00	50	0	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	0.00	94	0	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	4.07	43	3448	Below	Cal #	44
16) Iodomethane	0.00	142	0	N.D.		
17) Carbon Dislf	0.00	76	0	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	4.85	59	5142	Below	Cal #	52
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	0.00	42	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : l:\data\oct1315b\640613.D Vial: 21
Acq On : 14 Oct 2015 1:05 Operator: AGK-RLD
Sample : 119465,640613, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 14 01:25:45 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	7.14	119	3276	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	0.00	78	0	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	0.00	95	0	N.D.	
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	0.00	92	0	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	0.00	91	0	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	0.00	106	0	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	0.00	55	0	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	0.00	105	0	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	0.00	91	0	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : l:\data\oct1315b\640613.D Vial: 21
Acq On : 14 Oct 2015 1:05 Operator: AGK-RLD
Sample : 119465,640613, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 14 01:25:45 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	0.00	128	0	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

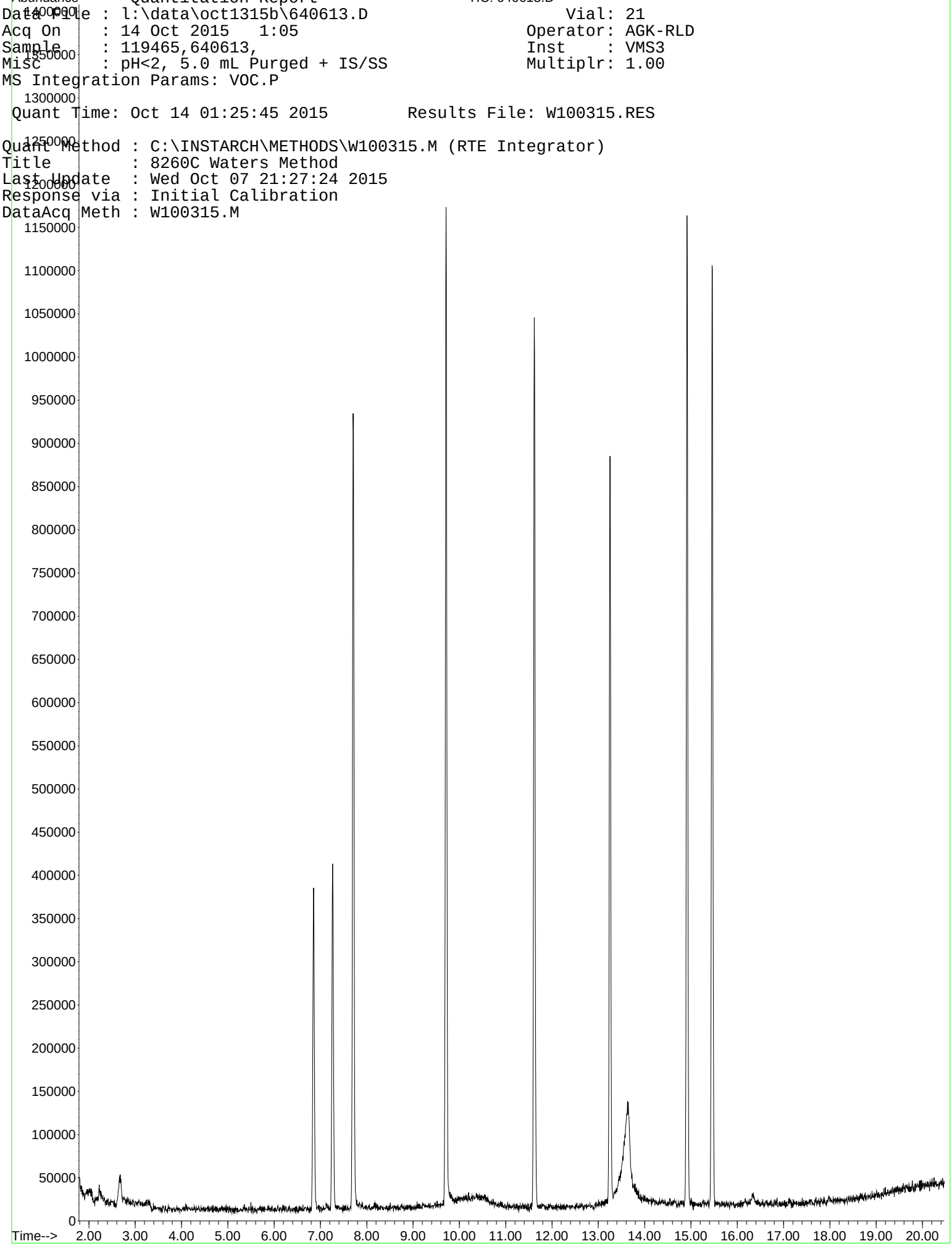
Quantitation Report

Data File : l:\data\oct1315b\640613.D
Acq On : 14 Oct 2015 1:05
Sample : 119465,640613,
Misc : pH<2, 5.0 mL Purged + IS/SS
MS Integration Params: VOC.P

Vial: 21
Operator: AGK-RLD
Inst : VMS3
Multiplr: 1.00

Quant Time: Oct 14 01:25:45 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M



Quantitation Report

Data File : l:\data\oct1315b\640615.D Vial: 22
Acq On : 14 Oct 2015 1:35 Operator: AGK-RLD
Sample : 119465,640615, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

NOT USED

Mis-injection

Quant Time: Oct 14 01:55:46 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	0.00	96	0	0.00	ug/L	-7.71 NA%
68) d5-CHLOROBENZENE**ISTD**	0.00	117	0	0.00	ug/L	-11.62 NA%
82) d4-1,4-DICHLOROBENZENE**IS	0.00	152	0	0.00	ug/L	-15.46 NA%
System Monitoring Compounds						
41) SURRDibrflma	0.00	113	0	0.000	ug/L	
Spiked Amount 20.000	Range 88 - 115		Recovery = 0		%#	
45) SURR12DCAd4	0.00	102	0	0.000	ug/L	
Spiked Amount 20.000	Range 89 - 112		Recovery = 0		%#	
61) SURRd8Tolule	0.00	98	0	0.000	ug/L	
Spiked Amount 20.000	Range 88 - 115		Recovery = 0		%#	
83) SURR4BrFBenz	0.00	95	0	0.000	ug/L	
Spiked Amount 20.000	Range 80 - 125		Recovery = 0		%#	
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	0.00	50	0	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	0.00	94	0	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	0.00	43	0	N.D.		
16) Iodomethane	0.00	142	0	N.D.		
17) Carbon Dislf	0.00	76	0	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	0.00	59	0	N.D.		
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	0.00	42	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : l:\data\oct1315b\640615.D Vial: 22
Acq On : 14 Oct 2015 1:35 Operator: AGK-RLD
Sample : 119465,640615, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 14 01:55:46 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	0.00	119	0	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	0.00	78	0	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	0.00	95	0	N.D.	
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	0.00	92	0	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	0.00	91	0	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	0.00	106	0	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	0.00	55	0	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	0.00	105	0	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	0.00	91	0	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : l:\data\oct1315b\640615.D Vial: 22
Acq On : 14 Oct 2015 1:35 Operator: AGK-RLD
Sample : 119465,640615, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 14 01:55:46 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	0.00	128	0	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

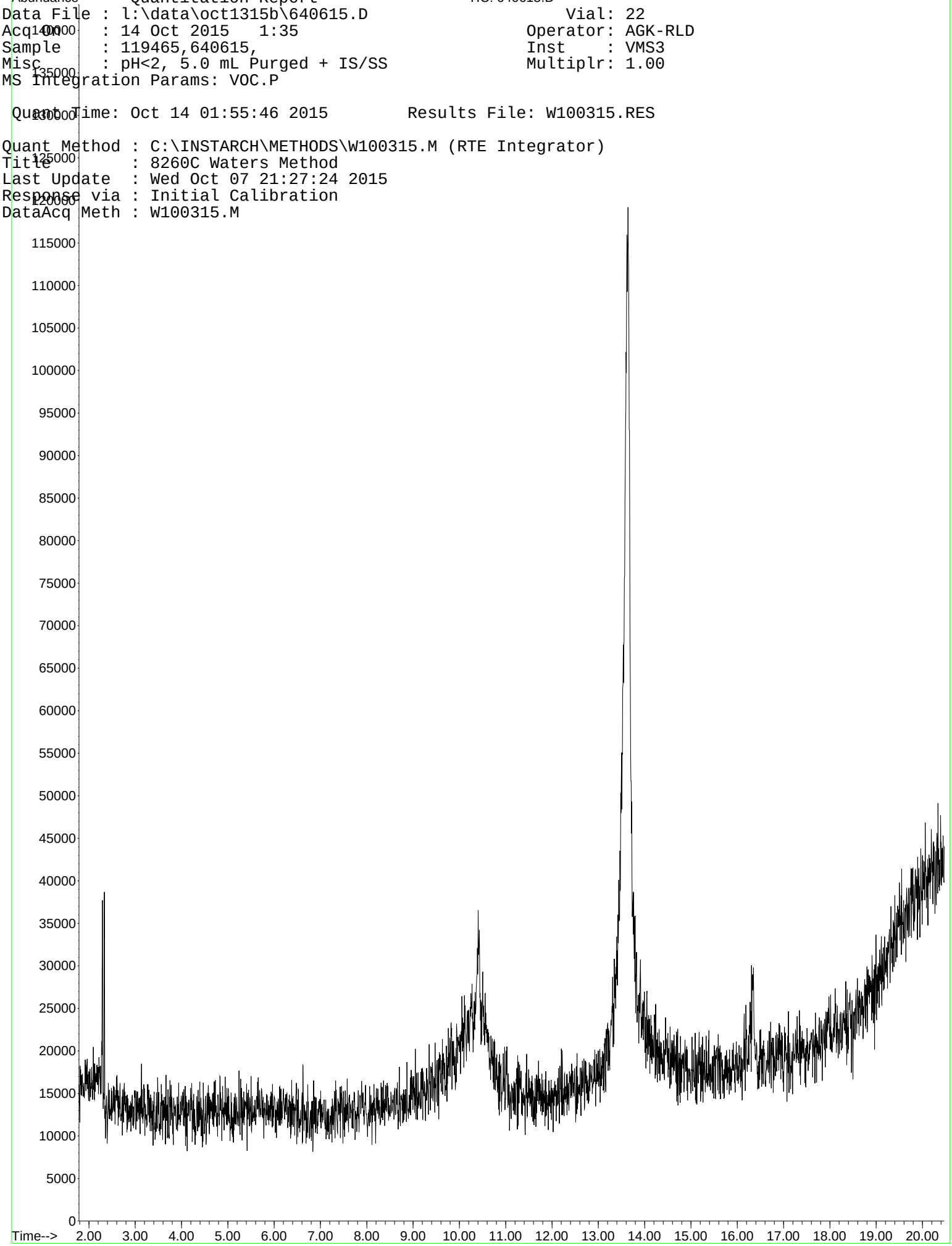
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: 640615.D

Data File : l:\data\oct1315b\640615.D Vial: 22
Acq On : 14 Oct 2015 1:35 Operator: AGK-RLD
Sample : 119465,640615, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 14 01:55:46 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M



Quantitation Report

Data File : l:\data\oct1515\640615R.D Vial: 20
Acq On : 15 Oct 2015 17:49 Operator: AGK-RLD
Sample : 119465,640615, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 15 18:10:12 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.70	96	844103	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.62	117	628630	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	15.46	152	327209	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.85	113	211501	20.727	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 104 %			
45) SURR12DCAd4	7.27	102	54653	19.486	ug/L	0.01
Spiked Amount 20.000	Range 89 - 112		Recovery = 97 %			
61) SURRd8Tolule	9.71	98	826944	19.640	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 98 %			
83) SURR4BrFBenz	13.25	95	288250	17.671	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 88 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	0.00	50	0	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	0.00	94	0	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	3.28	101	2849	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	4.08	43	4032	Below Cal	#	44
16) Iodomethane	0.00	142	0	N.D.		
17) Carbon Dislf	0.00	76	0	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	4.86	59	4261	Below Cal	#	52
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	5.53	63	4960	0.2791	ug/L #	50
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	6.28	96	3872	0.3621	ug/L #	50
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	0.00	42	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : l:\data\oct1515\640615R.D Vial: 20
Acq On : 15 Oct 2015 17:49 Operator: AGK-RLD
Sample : 119465,640615, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 15 18:10:12 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	6.66	83	3016	0.1693 ug/L #	17
40)	111trichlota	6.91	97	3002	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	7.13	119	16490	1.1557 ug/L	87
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	0.00	78	0	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	8.17	95	13426	1.3428 ug/L	89
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	9.80	92	2688	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	0.00	91	0	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	0.00	106	0	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	0.00	55	0	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	0.00	105	0	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	0.00	91	0	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : l:\data\oct1515\640615R.D Vial: 20
Acq On : 15 Oct 2015 17:49 Operator: AGK-RLD
Sample : 119465,640615, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 15 18:10:12 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	0.00	128	0	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

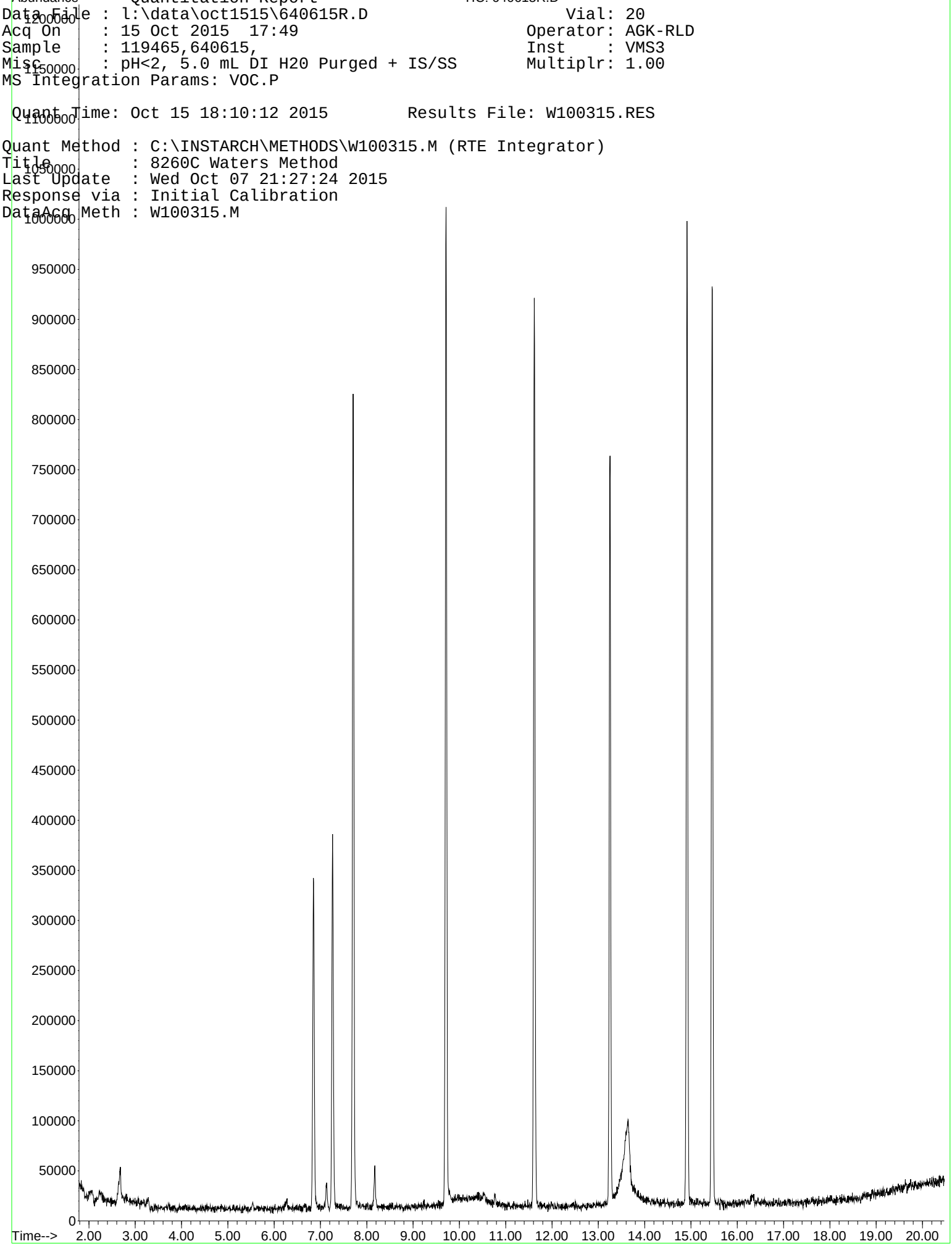
(#) = qualifier out of range (m) = manual integration

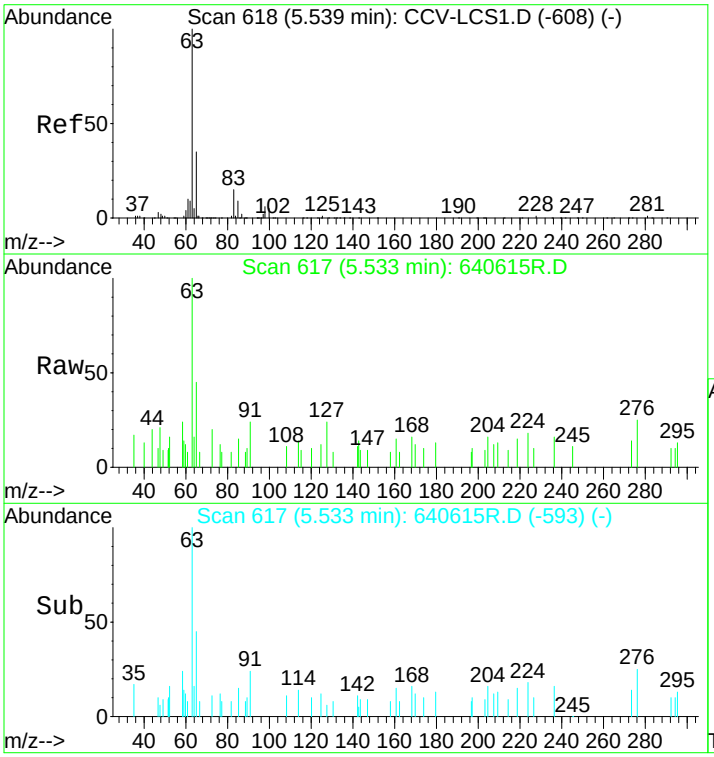
Quantitation Report

Data File : l:\data\oct1515\640615R.D Vial: 20
Acq On : 15 Oct 2015 17:49 Operator: AGK-RLD
Sample : 119465,640615, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 15 18:10:12 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

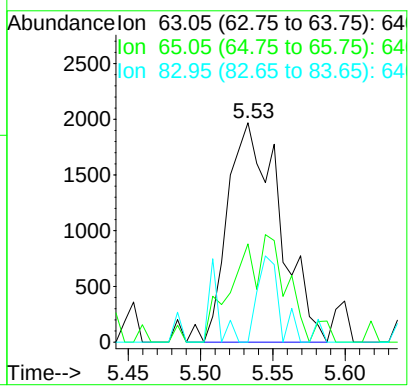


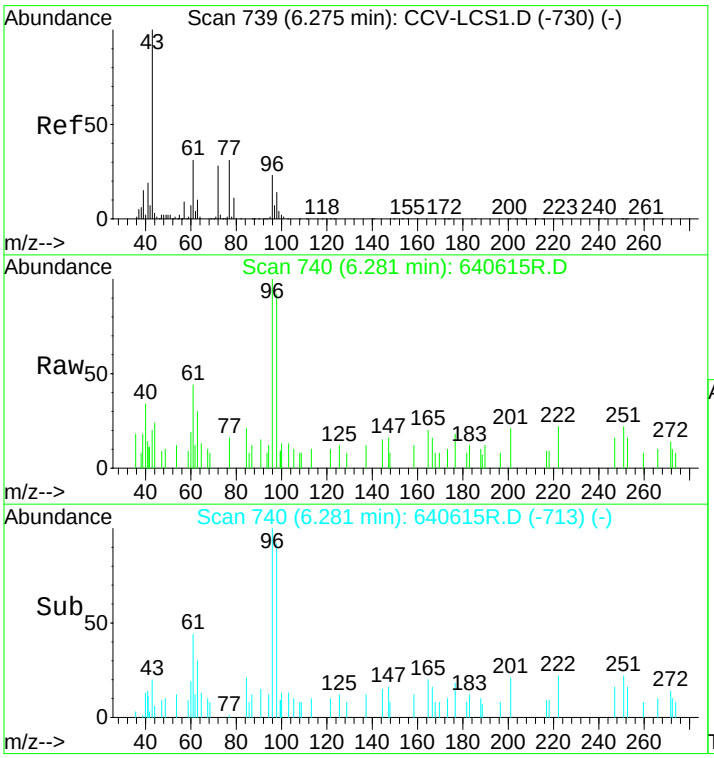


#26
11dichlorota
Concen: 0.28 ug/L
RT: 5.53 min Scan# 617
Delta R.T. -0.01 min
Lab File: 640615R.D
Acq: 15 Oct 2015 17:49

Tgt Ion: 63 Resp: 4960

Ion	Ratio	Lower	Upper
63	100		
65	0.0	12.0	52.0#
83	0.0	0.0	33.6

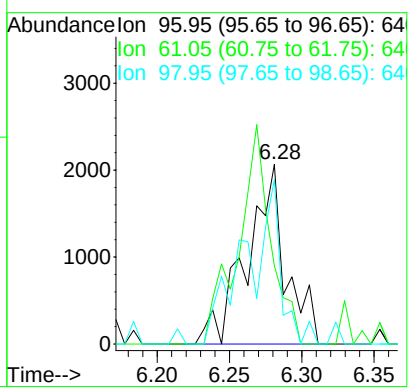


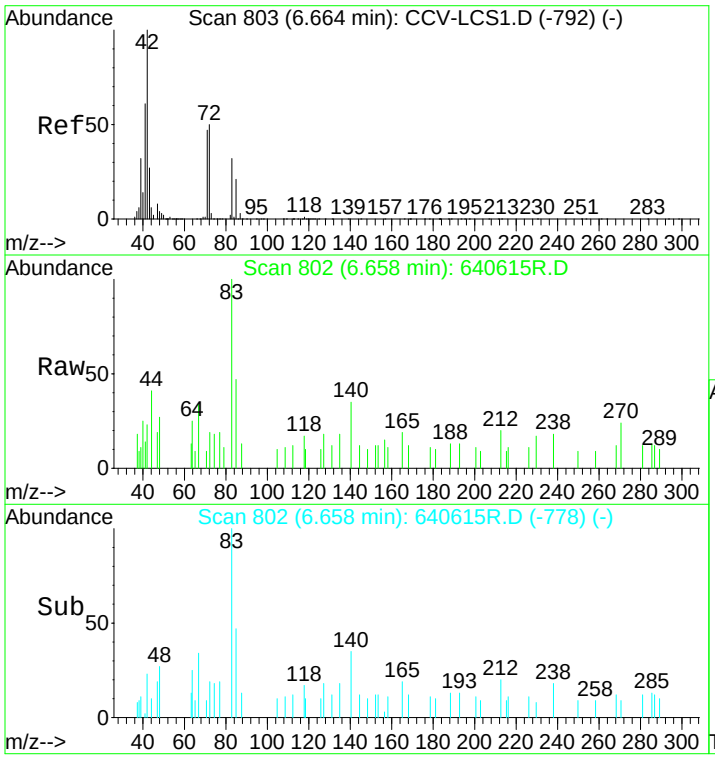


#32
c12dichlorte
Concen: 0.36 ug/L
RT: 6.28 min Scan# 740
Delta R.T. 0.01 min
Lab File: 640615R.D
Acq: 15 Oct 2015 17:49

Tgt Ion: 96 Resp: 3872

Ion	Ratio	Lower	Upper
96	100		
61	102.1	129.6	169.6#
98	0.0	42.2	82.2#

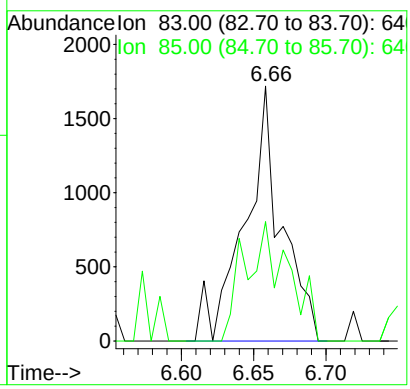


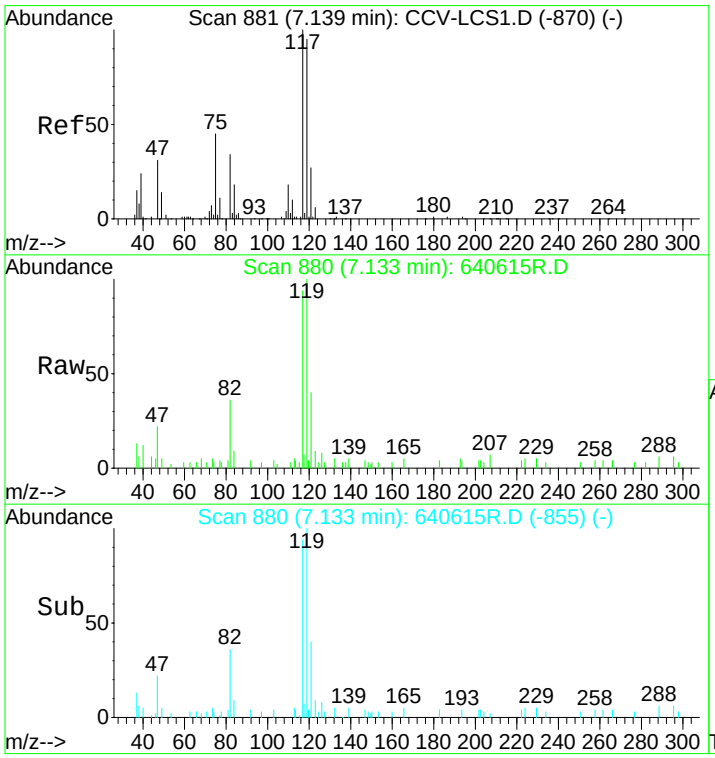


#39
Chloroform
Concen: 0.17 ug/L
RT: 6.66 min Scan# 802
Delta R.T. -0.01 min
Lab File: 640615R.D
Acq: 15 Oct 2015 17:49

Tgt Ion: 83 Resp: 3016

Ion	Ratio	Lower	Upper
83	100		
85	0.0	45.7	85.7#

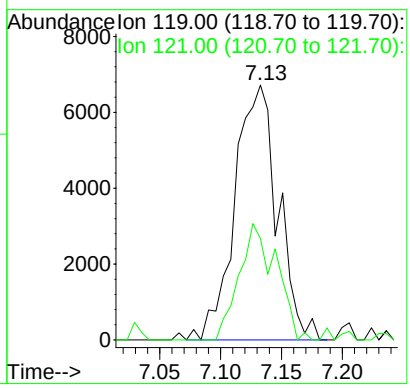


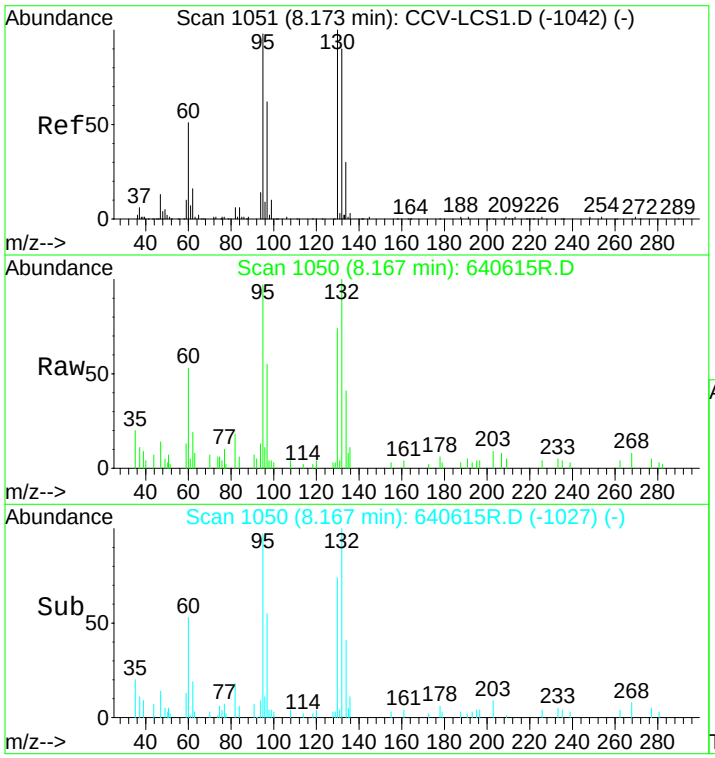


#43
Carbtetraclo
Concen: 1.16 ug/L
RT: 7.13 min Scan# 880
Delta R.T. 0.00 min
Lab File: 640615R.D
Acq: 15 Oct 2015 17:49

Tgt Ion:119 Resp: 16490

Ion	Ratio	Lower	Upper
119	100		
121	39.4	12.2	52.2

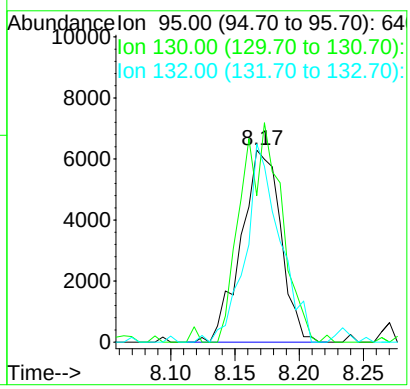




#49
trichloroete
Concen: 1.34 ug/L
RT: 8.17 min Scan# 1050
Delta R.T. -0.01 min
Lab File: 640615R.D
Acq: 15 Oct 2015 17:49

Tgt Ion: 95 Resp: 13426

Ion	Ratio	Lower	Upper
95	100		
130	117.3	79.8	119.8
132	90.0	74.6	114.6



Quantitation Report

Data File : l:\data\oct1515\640615R2.D Vial: 21
Acq On : 15 Oct 2015 18:19 Operator: AGK-RLD
Sample : 119465,640615,10 Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

NOT USED

Quant Time: Oct 15 18:39:43 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.70	96	843419	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.62	117	649076	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	15.46	152	325106	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.85	113	208552	20.455	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 102 %			
45) SURR12DCAd4	7.27	102	56814	20.272	ug/L	0.01
Spiked Amount 20.000	Range 89 - 112		Recovery = 101 %			
61) SURRd8Tolule	9.71	98	823139	19.566	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 98 %			
83) SURR4BrFBenz	13.25	95	286635	17.686	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 88 %			

Target Compounds					Qvalue
2) Dichlorodi	0.00	85	0	N.D.	
3) Chloromethan	0.00	50	0	N.D.	
4) VinylChlorid	0.00	62	0	N.D.	
5) Bromomethane	0.00	94	0	N.D.	
6) Chloroethane	0.00	64	0	N.D.	
7) Dichloroflmethane	0.00	67	0	N.D.	
8) Trichlorofma	0.00	101	0	N.D.	
9) Ethylether	0.00	59	0	N.D.	
10) dichlorotfluoroethan	0.00	67	0	N.D.	
11) propyleneoxide	0.00	58	0	N.D.	
12) Acrolein	0.00	56	0	N.D.	
13) 11dichlorthe	0.00	96	0	N.D.	
14) Trichlorotfluoroeth	0.00	101	0	N.D.	
15) Acetone	4.08	43	16003	N.D.	
16) Iodomethane	0.00	142	0	N.D.	
17) Carbon Dislf	0.00	76	0	N.D.	
18) allylchloride	0.00	41	0	N.D.	
19) methylacetate	0.00	74	0	N.D.	
20) Methylchlorid	4.64	84	2824	Below Cal # 72	
21) tbutylalcohol	0.00	59	0	N.D.	
22) Acrylonitrile	0.00	53	0	N.D.	
23) t12dichlorte	0.00	96	0	N.D.	
24) MtBE	0.00	73	0	N.D.	
25) Hexane	0.00	57	0	N.D.	
26) 11dichlorota	0.00	63	0	N.D.	
27) Vinylacetate	0.00	43	0	N.D.	
28) chloroprene	0.00	53	0	N.D.	
29) Diisopether	0.00	45	0	N.D.	
30) ETBE	0.00	59	0	N.D.	
31) 22dichloropr	0.00	77	0	N.D.	
32) c12dichlorte	0.00	96	0	N.D.	
33) 2Butanone	0.00	72	0	N.D.	
34) propionitrile	0.00	54	0	N.D.	
35) Ethylacetate	0.00	88	0	N.D.	
36) methacrylonitrile	0.00	67	0	N.D.	
37) Bromochlorma	0.00	128	0	N.D.	
38) Tetrahydofur	0.00	42	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : l:\data\oct1515\640615R2.D Vial: 21
Acq On : 15 Oct 2015 18:19 Operator: AGK-RLD
Sample : 119465,640615,10 Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 15 18:39:43 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	0.00	119	0	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	0.00	78	0	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	0.00	95	0	N.D.	
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	0.00	92	0	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	0.00	91	0	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	0.00	106	0	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	0.00	55	0	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	0.00	105	0	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	0.00	91	0	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : l:\data\oct1515\640615R2.D Vial: 21
Acq On : 15 Oct 2015 18:19 Operator: AGK-RLD
Sample : 119465,640615,10 Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 15 18:39:43 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	0.00	128	0	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

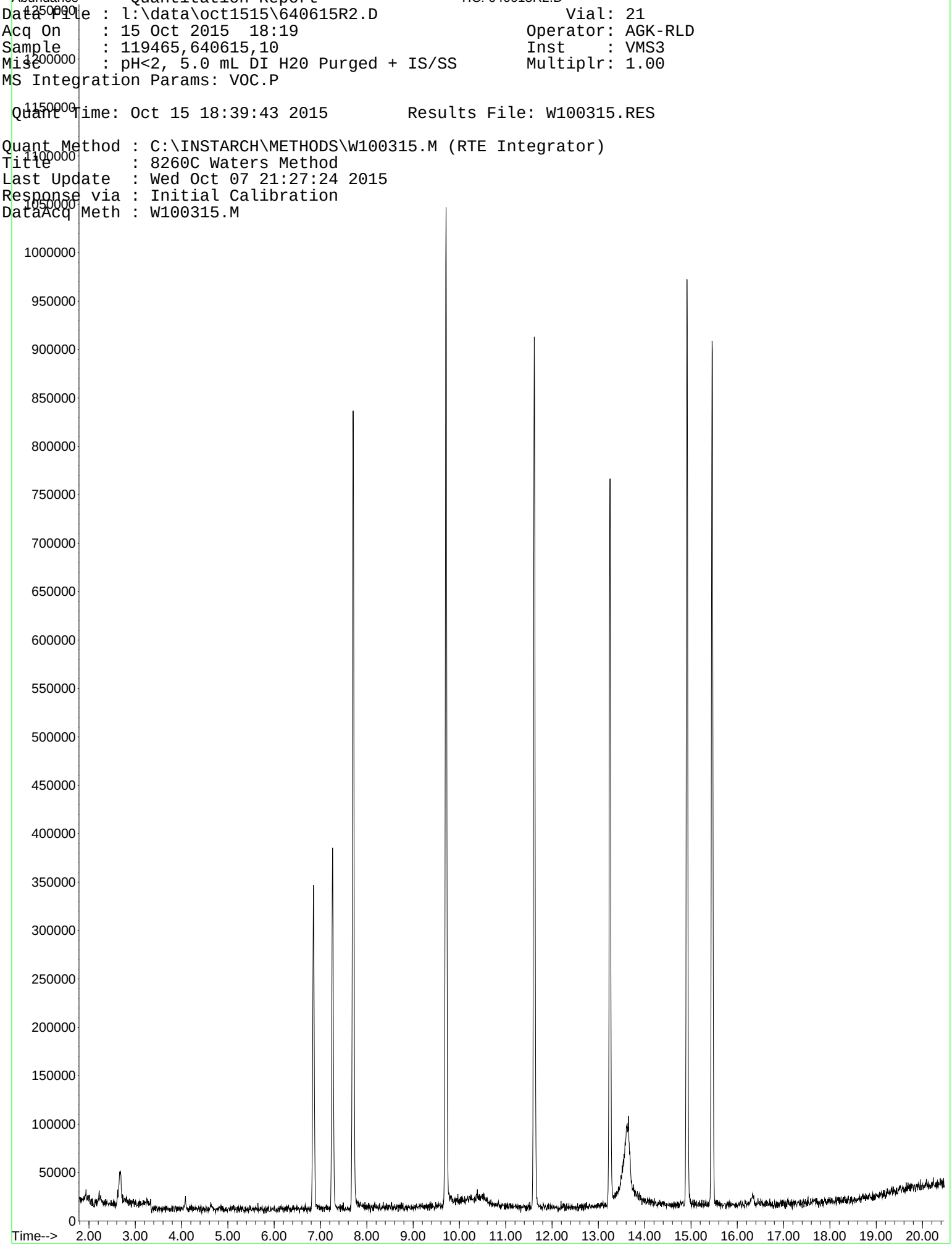
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: 640615R2.D

Data File : l:\data\oct1515\640615R2.D Vial: 21
Acq On : 15 Oct 2015 18:19 Operator: AGK-RLD
Sample : 119465,640615,10 Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 15 18:39:43 2015 Results File: W100315.RES

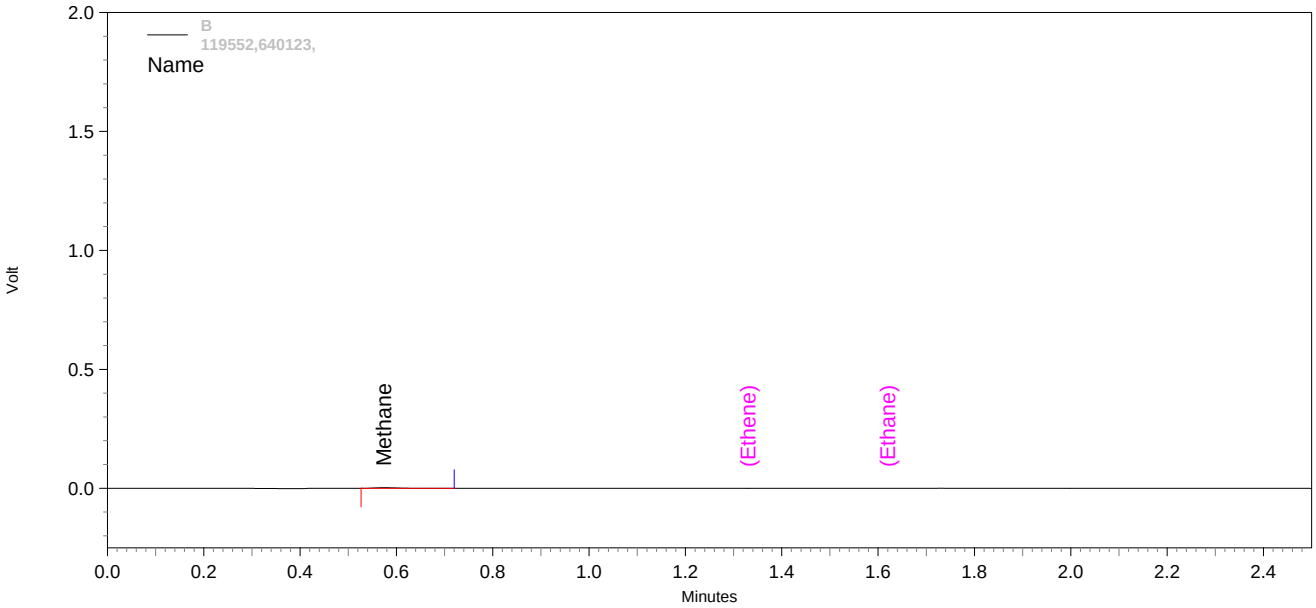
Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M



Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\100615\004.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 119552,640123,
Acquired: Oct 06, 2015 13:02:17
File Desc. 1.0 mL injection (Methane, Ethene, Ethane)



B Results

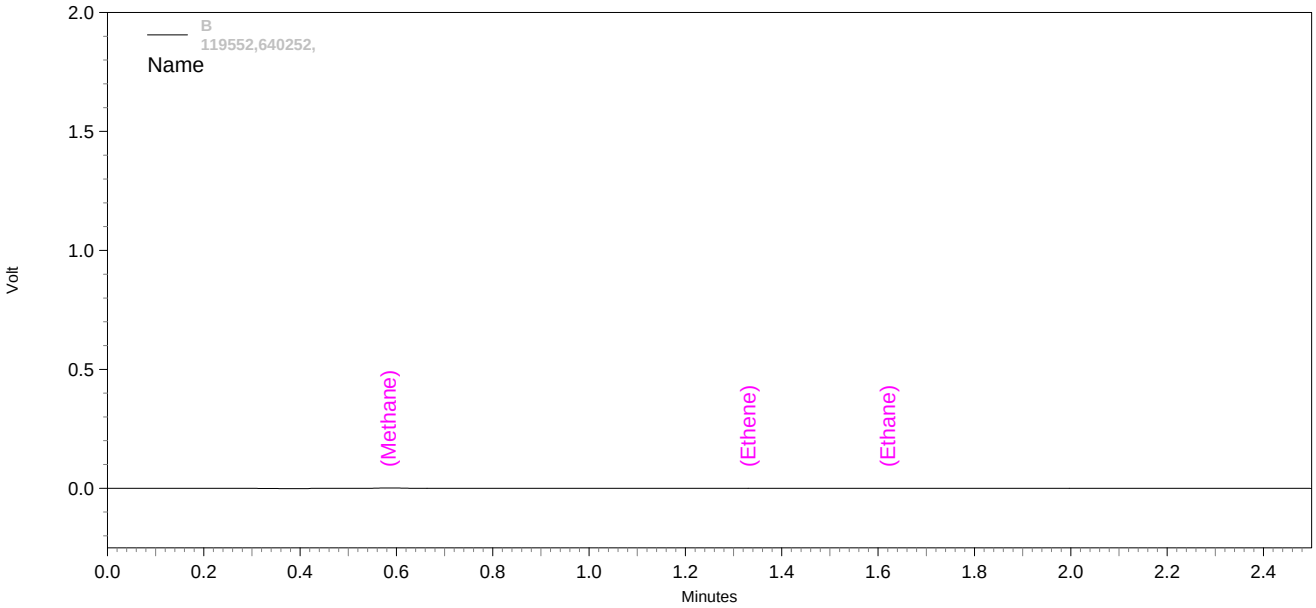
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.573	8045	**0.816**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			8045	**0.816**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\100615\005.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 119552,640252,
Acquired: Oct 06, 2015 13:05:30
File Desc. 1.0 mL injection (Methane, Ethene, Ethane)



B Results

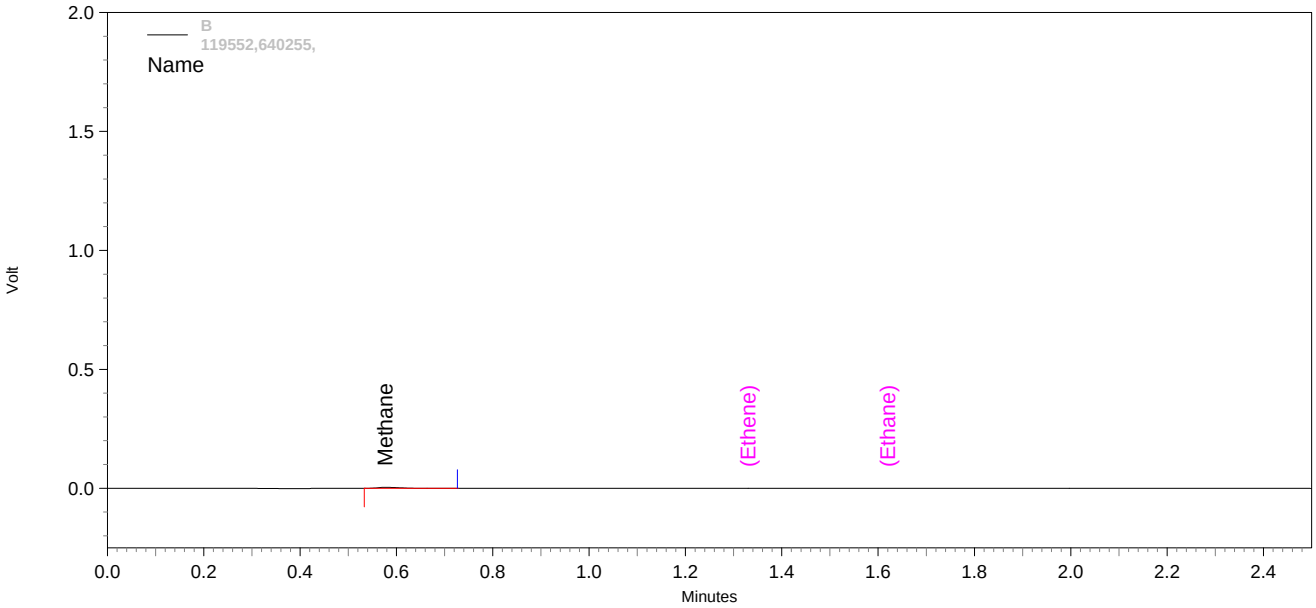
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
	Methane			**0.000 BDL**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals				

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\100615\006.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 119552,640255,
Acquired: Oct 06, 2015 13:08:56
File Desc. 1.0 mL injection (Methane, Ethene, Ethane)



B Results

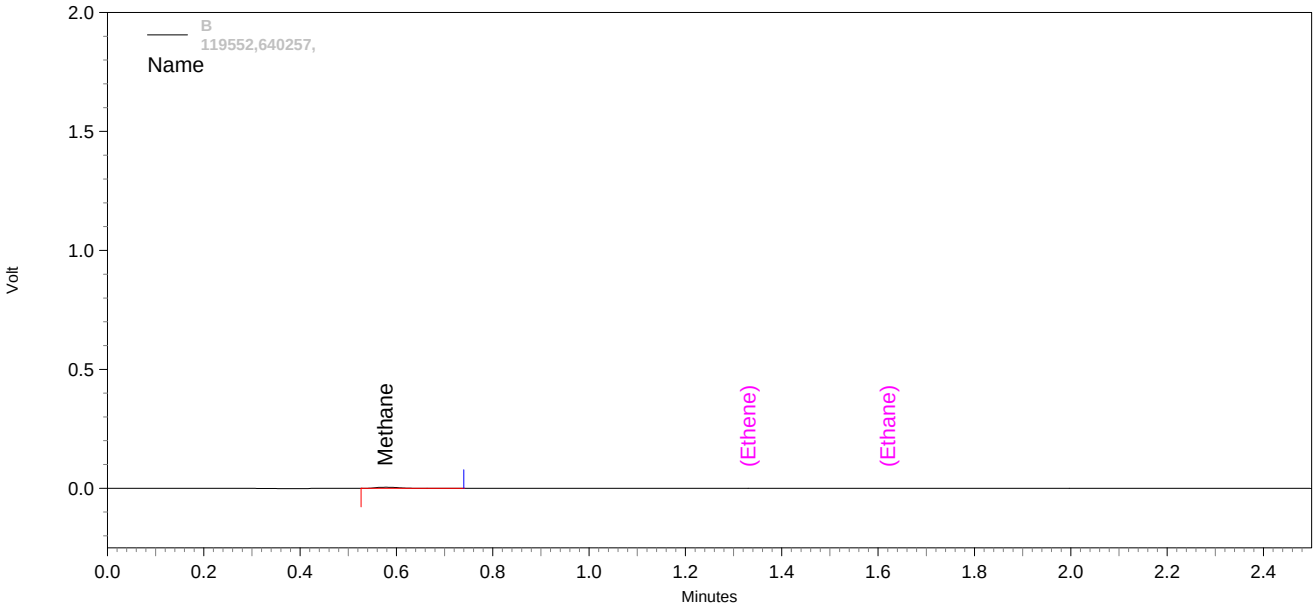
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.577	12407	**1.305**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			12407	**1.305**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\100615\007.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 119552,640257,
Acquired: Oct 06, 2015 13:12:12
File Desc. 1.0 mL injection (Methane, Ethene, Ethane)



B Results

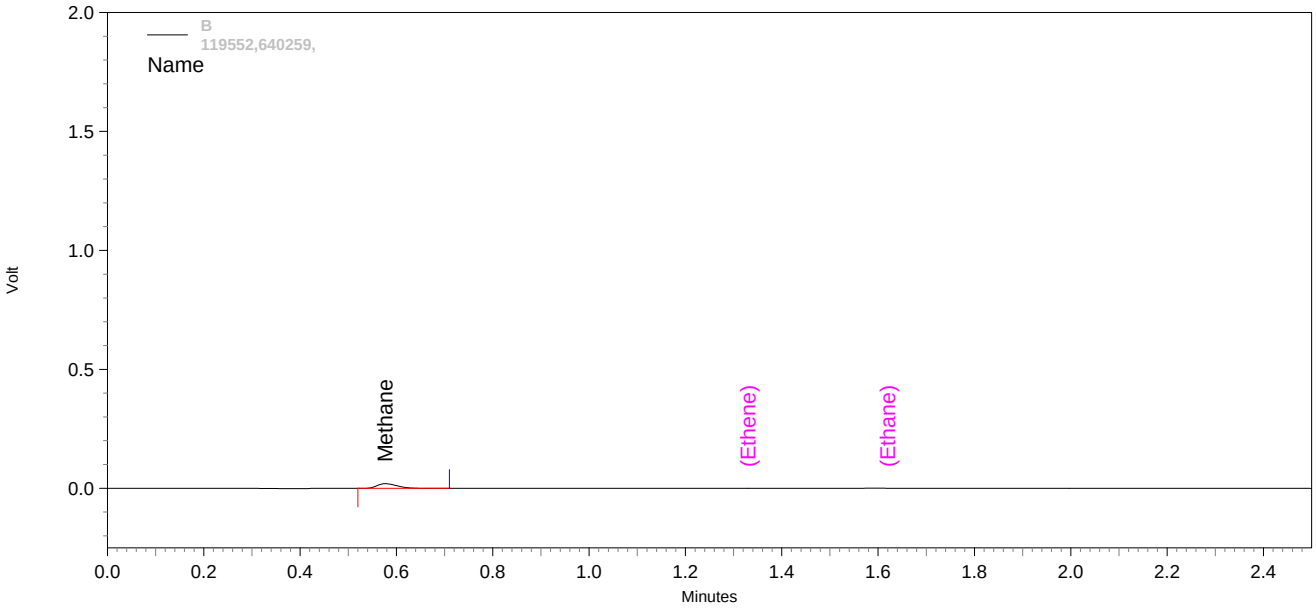
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.577	14113	**1.496**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			14113	**1.496**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\100615\008.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 119552,640259,
Acquired: Oct 06, 2015 13:15:27
File Desc. 1.0 mL injection (Methane, Ethene, Ethane)



B Results

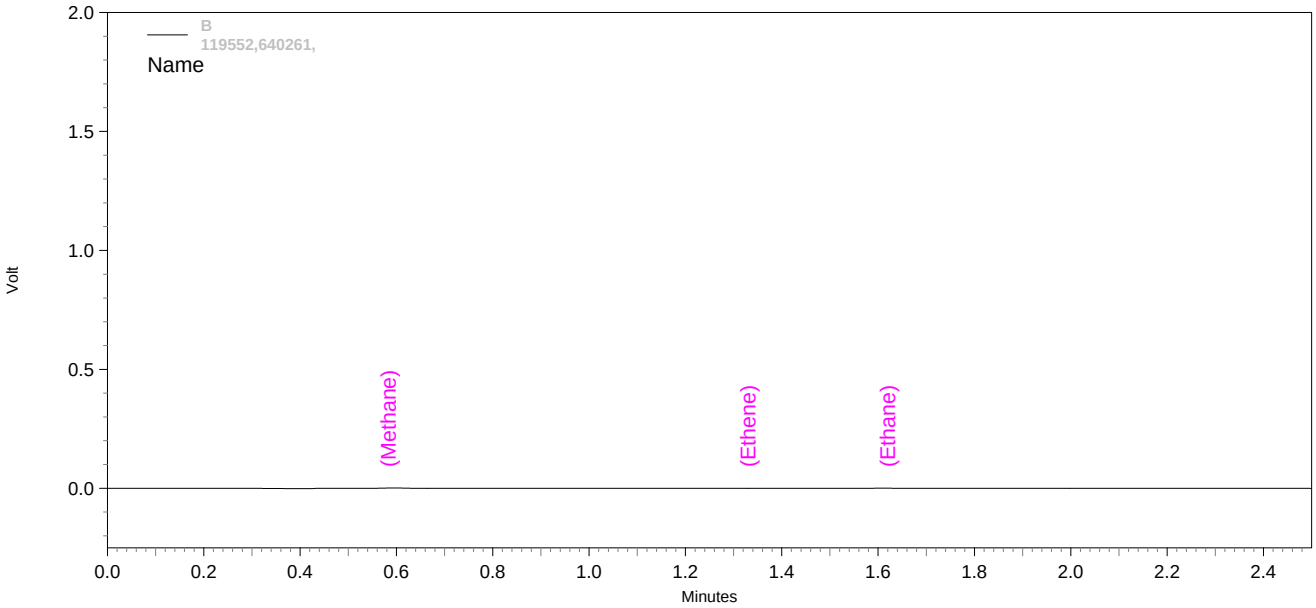
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.577	55322	**6.117**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			55322	**6.117**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\100615\011.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 119552,640261,
Acquired: Oct 06, 2015 13:29:13
File Desc. 1.0 mL injection (Methane, Ethene, Ethane)



B Results

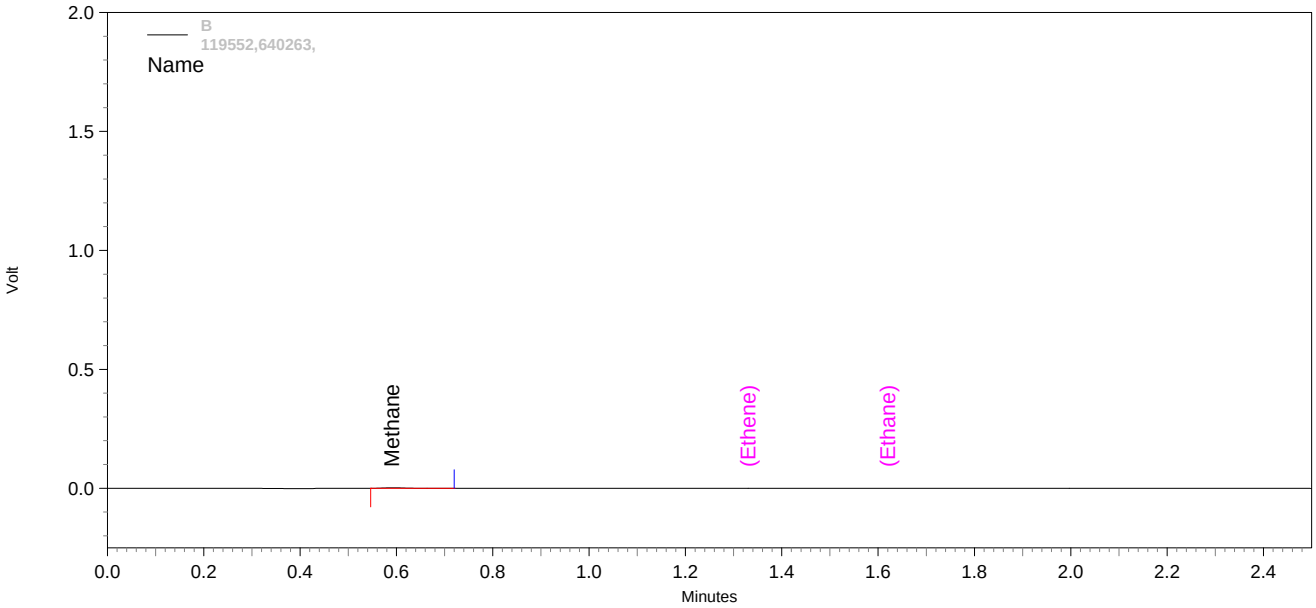
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
	Methane			**0.000 BDL**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals				

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\100615\012.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 119552,640263,
Acquired: Oct 06, 2015 13:36:04
File Desc. 1.0 mL injection (Methane, Ethene, Ethane)



B Results

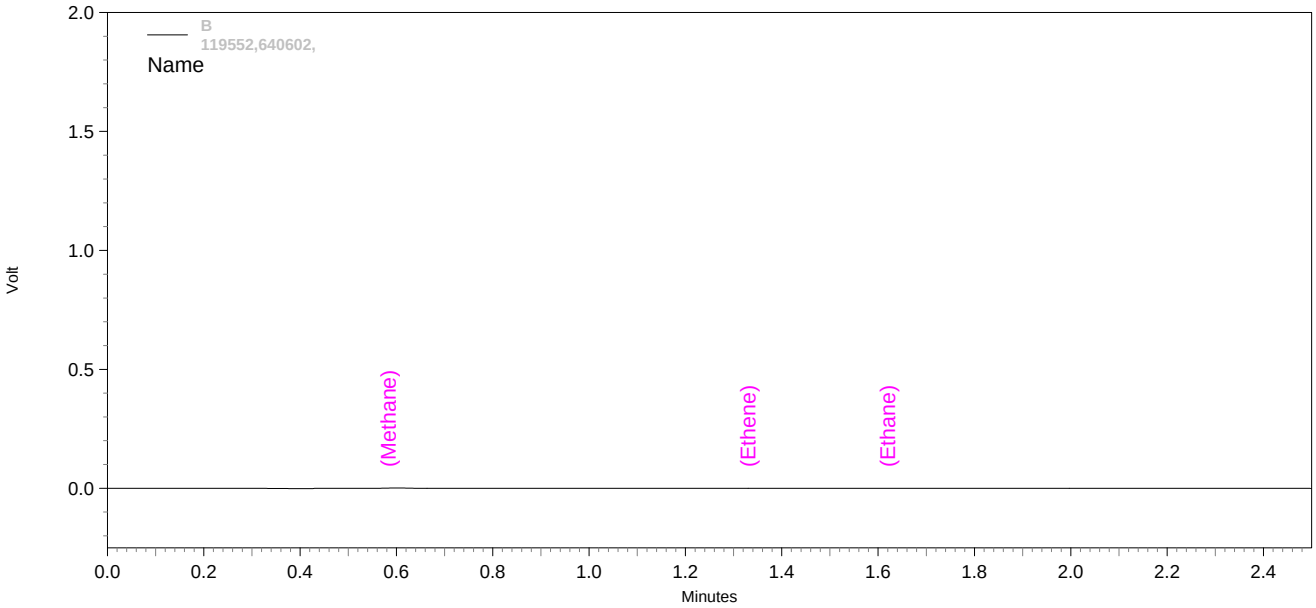
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.590	6195	**0.608**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			6195	**0.608**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\100615\013.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 119552,640602,
Acquired: Oct 06, 2015 13:40:54
File Desc. 1.0 mL injection (Methane, Ethene, Ethane)



B Results

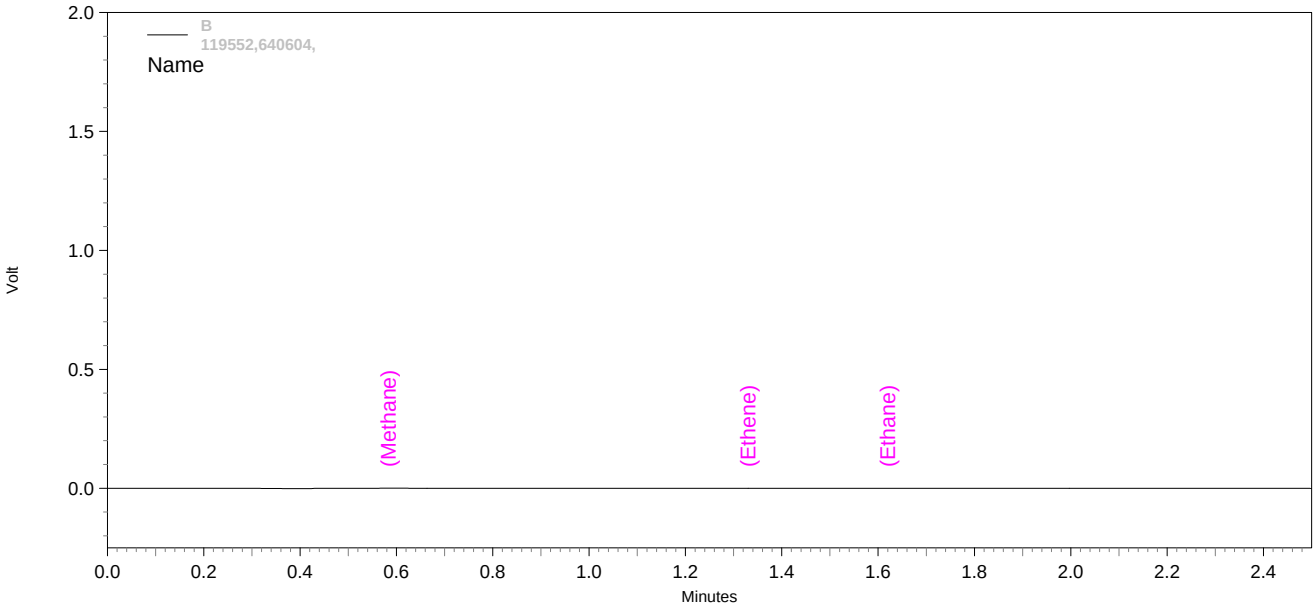
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
	Methane			**0.000 BDL**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals				

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\100615\014.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 119552,640604,
Acquired: Oct 06, 2015 13:44:53
File Desc. 1.0 mL injection (Methane, Ethene, Ethane)



B Results

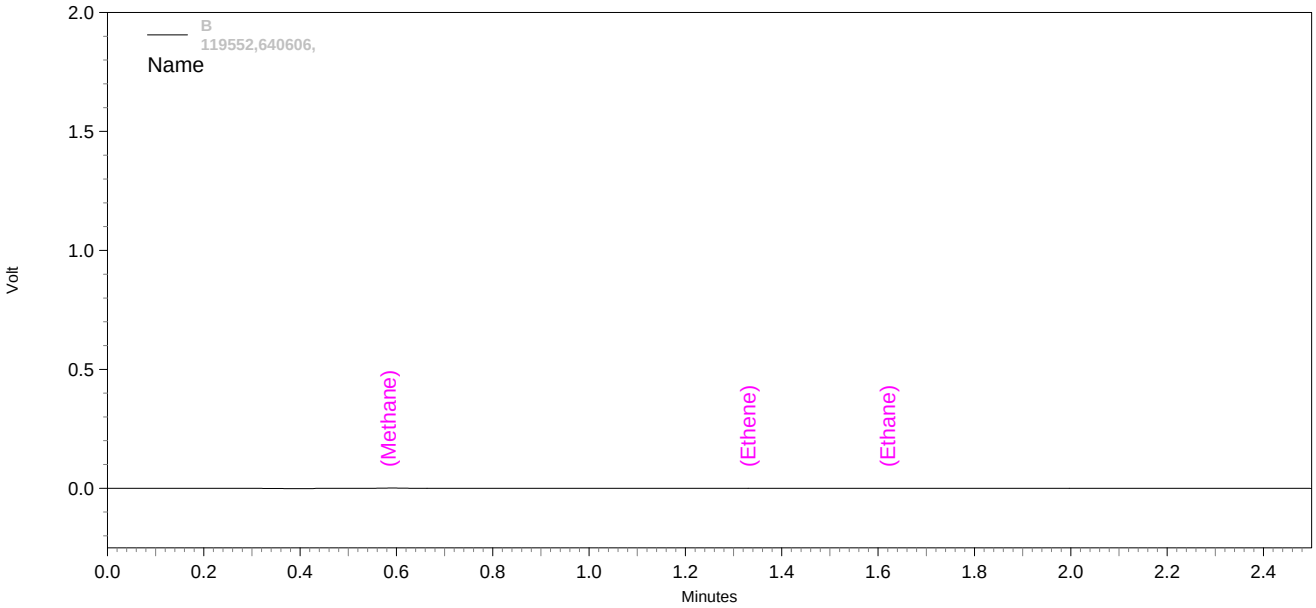
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
	Methane			**0.000 BDL**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals				

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\100615\015.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 119552,640606,
Acquired: Oct 06, 2015 13:52:25
File Desc. 1.0 mL injection (Methane, Ethene, Ethane)



B Results

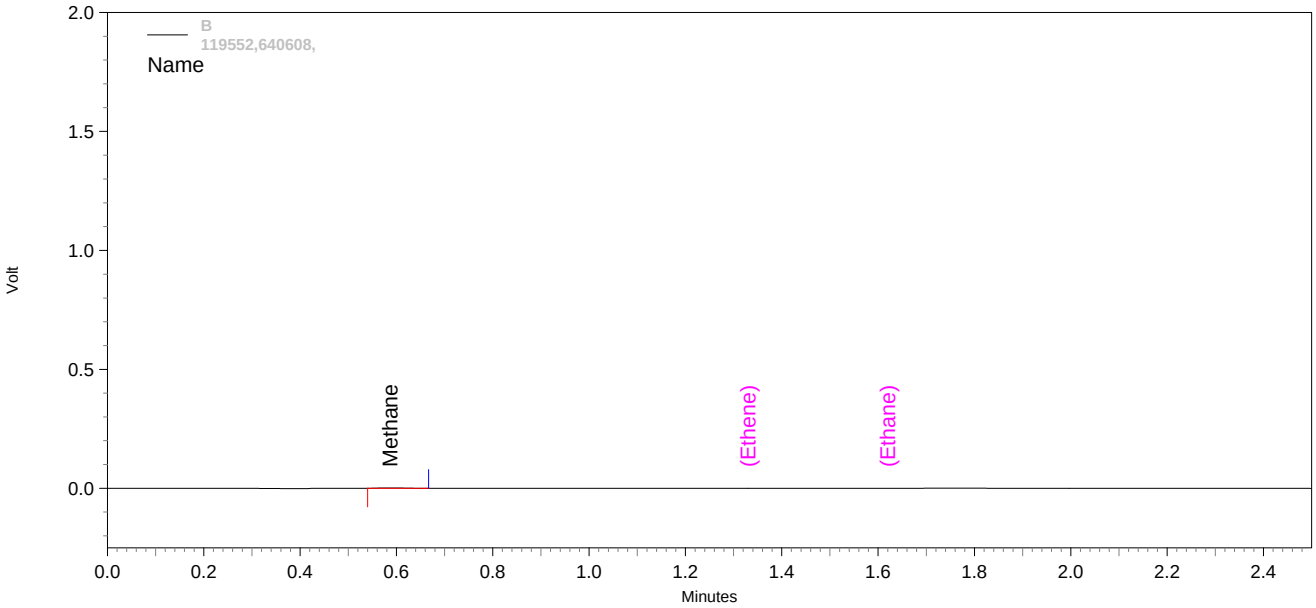
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
	Methane			**0.000 BDL**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals				

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\100615\017.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 119552,640608,
Acquired: Oct 06, 2015 14:00:41
File Desc. 1.0 mL injection (Methane, Ethene, Ethane)



B Results

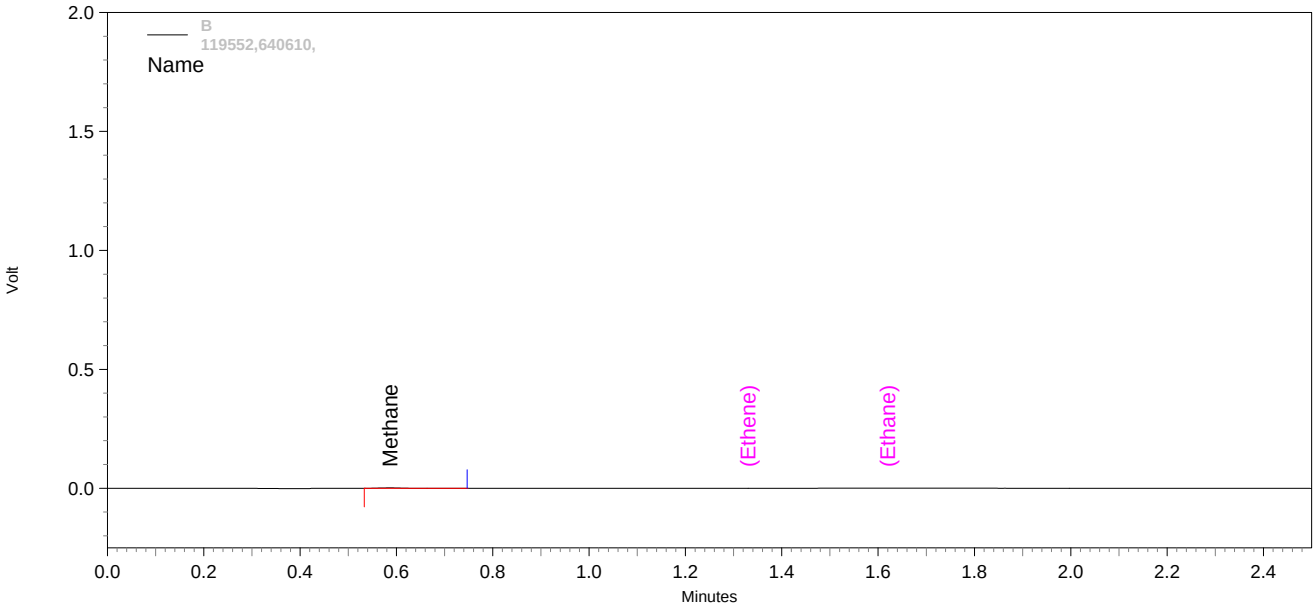
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.587	5246	**0.502**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			5246	**0.502**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\100615\018.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 119552,640610,
Acquired: Oct 06, 2015 14:03:55
File Desc. 1.0 mL injection (Methane, Ethene, Ethane)



B Results

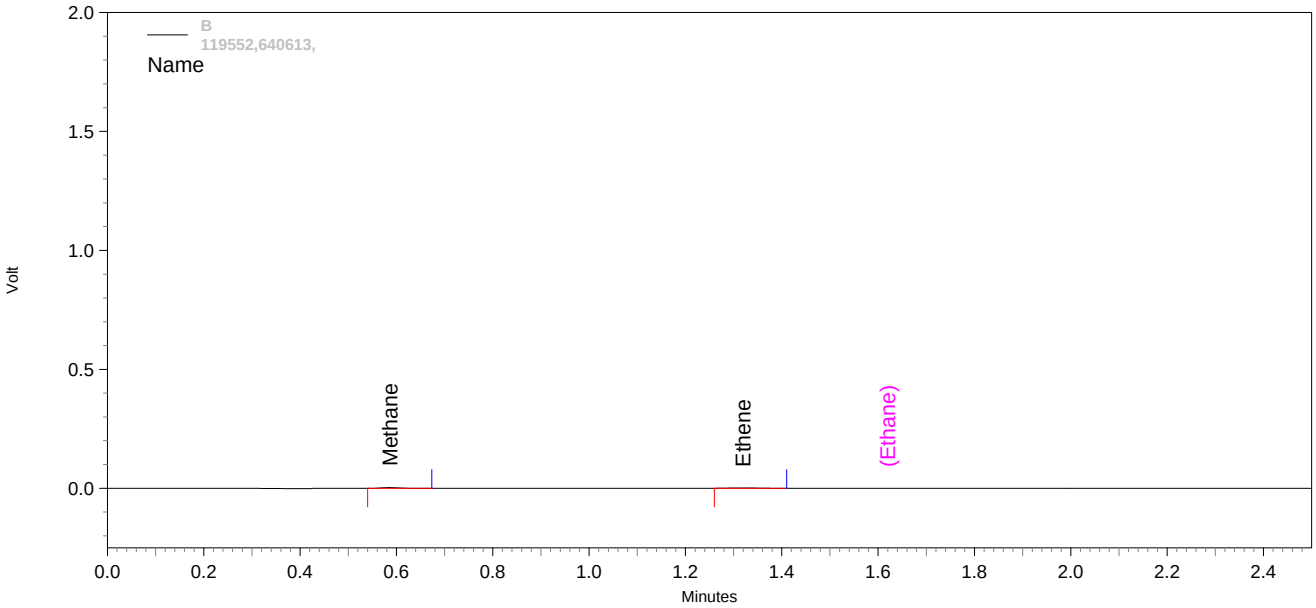
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.587	6026	**0.589**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			6026	**0.589**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\100615\019.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 119552,640613,
Acquired: Oct 06, 2015 14:07:58
File Desc. 1.0 mL injection (Methane, Ethene, Ethane)



B Results

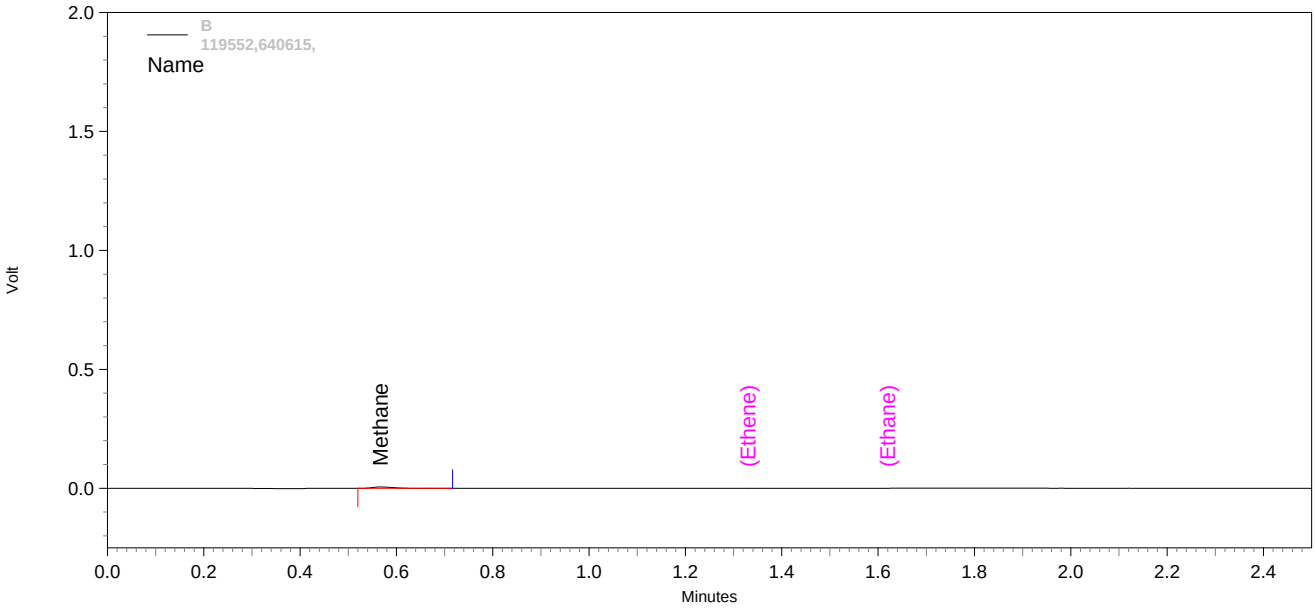
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.587	7532	**0.758**
2	Ethene	1.320	5245	**0.513**
	Ethane			**0.000 BDL**

Totals			12777	**1.272**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\100615\020.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 119552,640615,
Acquired: Oct 06, 2015 14:11:15
File Desc. 1.0 mL injection (Methane, Ethene, Ethane)



B Results

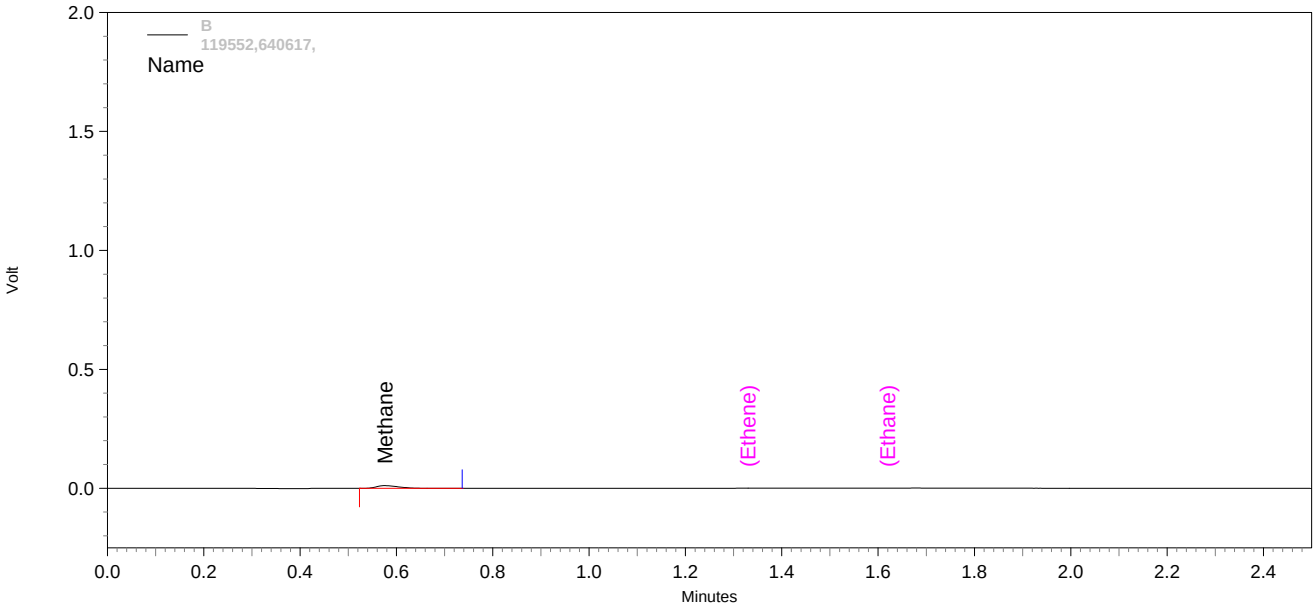
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.567	16749	**1.792**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			16749	**1.792**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\100615\021.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 119552,640617,
Acquired: Oct 06, 2015 14:14:31
File Desc. 1.0 mL injection (Methane, Ethene, Ethane)



B Results

Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.577	35838	**3.932**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			35838	**3.932**

VOLATILE ORGANIC ANALYSIS
INITIAL CALIBRATION
DOCUMENTS

Method Path : L:\METHODS\
Method File : W100315.M
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response Via : Initial Calibration

RJ 10/14/2015

Calibration Files ug/L
1 0.5/5.0 =WCAL1.D 2 2.0/20.0 =WCAL2.D 3 5.0/50.0 =WCAL3.D
4 10.0/100.0 =WCAL4.D 5 20.0/200.0 =WCAL5.D 6 30.0/300.0 =WCAL6.D
7 40.0/400.0 =WCAL7.D 8 80.0/800.0 =WCAL8.D

		Compound	1	2	3	4	5	6	7	8	Avg	%RSD
1)	I	FLUOROBENZENE**ISTD**	----------ISTD----------									
2)	PT	Dichlorodi	0.294	0.274	0.256	0.256	0.258	0.261	0.246	0.259		7.52
			0.227									
3)	PT	Chloromethan	0.284	0.261	0.238	0.216	0.223	0.231	0.229	0.239		9.48
			0.226									
4)	PT	VinylChlorid	0.285	0.285	0.263	0.252	0.256	0.264	0.260	0.263		5.82
			0.241									
5)	PT	Bromomethane	0.087	0.081	0.088	0.095	0.059	0.082	0.082	0.082#		12.68
			0.085									
6)	PT	Chloroethane	0.175	0.163	0.167	0.164	0.159	0.161	0.154	0.161		5.60
			0.145									
7)	T	Dichloroflmetha	0.579	0.466	0.474	0.444	0.432	0.432	0.410	0.452		13.17
			0.378									
8)	PT	Trichlorofma	0.418	0.414	0.417	0.408	0.394	0.394	0.367	0.392		8.03
			0.327									
9)	T	Ethylether	0.239	0.229	0.218	0.209	0.210	0.215	0.206	0.216		5.59
			0.204									
10)	T	dichlorotfluoro	0.293	0.262	0.250	0.239	0.233	0.238	0.225	0.245		9.85
			0.216									
11)	T	propyleneoxide	0.083	0.065	0.083	0.046	0.065	0.055	0.059	-----		
			0.050									
									Q	A= -0.000 R=0.995		
										B= 0.064		
										C= -0.000		
12)	T	Acrolein	0.126	0.108	0.104	0.096	0.097	0.101	0.101	0.103		10.20
			0.092									
13)	PT	11dichlorthe	0.246	0.199	0.195	0.203	0.202	0.215	0.205	0.209		7.75
			0.204									
14)	PT	Trichlorotfluor	0.242	0.221	0.212	0.211	0.206	0.212	0.201	0.212		7.56
			0.187									
15)	PT	Acetone	0.207	0.214	0.231	0.148	0.190	0.156	0.162	-----		
			0.119									
									Q	A= -0.002 R=0.995		
										B= 0.194		
										C= 0.005		
16)	T	Iodomethane	0.142	0.107	0.115	0.163	0.175	0.212	0.202	-----		
			0.205									
									Q	A= 0.000 R=0.998		
										B= 0.209		
										C= -0.029		
17)	PT	Carbon Dislf	0.704	0.626	0.591	0.569	0.552	0.551	0.516	0.568		13.86
			0.435									
18)	T	allylchloride	0.380	0.296	0.285	0.279	0.279	0.287	0.274	0.291		13.22
			0.250									
19)	PT	methylacetate	0.115	0.095	0.091	0.091	0.089	0.097	0.095	0.096#		8.60
			0.093									
20)	PT	Methylchlorid	0.408	0.285	0.248	0.230	0.237	0.236	0.222	-----		
			0.217									
									Q	A= -0.005 R=1.000		
										B= 0.234		
										C= 0.004		
21)	T	tbutylalcohol	0.121	0.099	0.083	0.071	0.064	0.062	0.056	-----		

0.037

Q A= -0.000 R=1.000
B= 0.074
C= 0.089

22)	T	Acrylonitrile	0.198	0.176	0.164	0.152	0.150	0.153	0.147	0.158	13.29
			0.128								
23)	PT	t12dichlorte	0.247	0.247	0.237	0.222	0.229	0.231	0.228	0.232	4.88
			0.215								
24)	PT	MtBE	0.881	0.711	0.682	0.685	0.702	0.697	0.673	0.706	10.77
			0.618								
25)	T	Hexane	0.293	0.251	0.245	0.260	0.266	0.274	0.265	0.262	6.19
			0.244								
26)	PT	11dichlorota	0.515	0.444	0.437	0.403	0.408	0.402	0.391	0.421	10.66
			0.369								
27)	T	Vinylacetate	0.527	0.521	0.383	0.483	0.424	0.378	0.326	-----	

Q A= -0.010 R=0.998
B= 0.532
C= -0.072

28)	T	chloroprene	0.452	0.386	0.386	0.391	0.395	0.397	0.378	0.390	8.20
			0.334								
29)	T	Diisopether	0.763	0.659	0.646	0.637	0.657	0.661	0.646	0.658	7.26
			0.594								
30)	T	ETBE	0.695	0.613	0.625	0.626	0.641	0.644	0.630	0.633	4.90
			0.586								
31)	T	22dichloropr	0.338	0.394	0.410	0.379	0.388	0.382	0.373	0.377	6.13
			0.350								
32)	PT	c12dichlorte	0.307	0.256	0.261	0.240	0.242	0.249	0.236	0.253	9.31
			0.236								
33)	PT	2Butanone	0.080	0.076	0.077	0.065	0.070	0.068	0.068	0.070#	9.95
			0.059								
34)	T	propionitrile	0.096	0.084	0.076	0.071	0.069	0.071	0.070	0.075	14.45
			0.061								
35)	T	Ethylacetate	0.025	0.020	0.019	0.020	0.020	0.020	0.020	0.021#	8.32
			0.021								
36)	T	methacrylonitri	0.166	0.154	0.154	0.155	0.159	0.167	0.161	0.159	3.37
			0.155								
37)	T	Bromochlorma	0.146	0.114	0.107	0.101	0.098	0.106	0.100	0.109	14.87
			0.098								
38)	T	Tetrahydofur	0.166	0.168	0.154	0.146	0.141	0.141	0.136	0.145	13.08
			0.108								
39)	PT	Chloroform	0.535	0.441	0.403	0.406	0.412	0.411	0.396	0.422	11.75
			0.372								
40)	PT	111trichlota	0.454	0.390	0.392	0.400	0.402	0.415	0.385	0.400	6.52
			0.364								
41)	S	SURRDibrflma	0.240	0.241	0.241	0.244	0.243	0.239	0.241	0.242	0.84
			0.245								
42)	PT	Cyclohexane	0.401	0.384	0.378	0.396	0.411	0.433	0.417	0.402	4.50
			0.392								
43)	PT	Carbtetraclo	0.383	0.340	0.333	0.328	0.336	0.344	0.329	0.338	6.04
			0.312								
44)	T	11dicloprope	0.111	0.101	0.100	0.110	0.111	0.118	0.117	0.110	6.07
			0.113								
45)	S	SURR12DCAd4	0.068	0.068	0.066	0.068	0.063	0.065	0.065	0.066	2.75
			0.068								
46)	PT	Benzene	1.139	1.001	0.931	0.896	0.896	0.886	0.838	0.915	12.88
			0.736								
47)	PT	12dichlorota	0.435	0.364	0.371	0.344	0.346	0.347	0.329	0.356	10.42
			0.312								
48)	T	TAME	0.754	0.639	0.628	0.600	0.635	0.639	0.620	0.637	7.98
			0.584								
49)	PT	trichloroete	0.274	0.230	0.237	0.234	0.231	0.236	0.228	0.237	6.53
			0.226								
50)	PT	methylcyclohexa	0.371	0.370	0.369	0.377	0.385	0.414	0.399	0.383	4.11
			0.381								
51)	PT	12dicloropra	0.234	0.221	0.229	0.230	0.227	0.236	0.233	0.230	1.98
			0.229								
52)	T	23Dicl1propene	0.384	0.349	0.355	0.333	0.350	0.352	0.349	0.352	4.06
			0.348								
53)	T	Dibromometha	0.134	0.152	0.130	0.137	0.142	0.146	0.139	0.140	5.02

```
                    0.143
54) T   methylmethacryl 0.251 0.210 0.211 0.227 0.240 0.243 0.245 0.234   6.71
                    0.243
55) T   14dioxane       0.005 0.004 0.004 0.003 0.003 0.004 0.004 0.004# 12.50
                    0.004
56) PT  Bromodiclrma    0.372 0.303 0.302 0.304 0.305 0.321 0.302 0.313   8.00
                    0.294
57) T   2Nitropropane   0.151 0.136 0.127 0.132 0.134 0.136 0.129 0.131   9.90
                    0.104
58) T   2CLEVE          0.043 0.046 0.048 0.051 0.055 0.062 0.066 -----
                    0.071
                                                      Q  A=  0.001 R=0.999
                                                         B=  0.059
                                                         C= -0.013
59) PT  c13dicloproe    0.463 0.335 0.353 0.343 0.352 0.361 0.355 0.363  11.39
                    0.342
60) PT  4Meth2Pentan    0.477 0.428 0.394 0.369 0.332 0.301 0.265 -----

                                                      Q  A= -0.007 R=1.000
                                                         B=  0.397
                                                         C=  0.028
61) S   SURRd8Tolule    0.980 0.989 0.983 0.995 0.995 1.014 1.012 0.998   1.37
                    1.013
62) PT  Toluene         0.705 0.651 0.591 0.600 0.594 0.597 0.574 0.605   8.77
                    0.527
63) PT  t13Dicloprop    0.410 0.364 0.336 0.330 0.334 0.345 0.335 0.348   7.92
                    0.331
64) T   ethylmethacryla 0.379 0.322 0.325 0.342 0.358 0.365 0.351 0.346   6.19
                    0.323
65) PT  112Triclotha    0.196 0.174 0.175 0.183 0.175 0.186 0.177 0.181   4.24
                    0.183
66) PT  Tetrachlorte    0.321 0.295 0.282 0.276 0.286 0.288 0.273 0.285   6.20
                    0.261
67) T   13Diclorpropa   0.477 0.377 0.389 0.372 0.368 0.383 0.371 0.387   9.64
                    0.360

68) I   d5-CHLOROBENZENE**IST ----------------ISTD--------------------
69) PT  2Hexanone       0.578 0.509 0.480 0.428 0.402 0.367 0.325 -----

                                                      Q  A= -0.007 R=1.000
                                                         B=  0.473
                                                         C=  0.029
70) PT  Clorodibrmta    0.366 0.343 0.309 0.306 0.311 0.332 0.321 0.325   6.39
                    0.313
71) PT  12Dibrometha    0.359 0.319 0.280 0.281 0.289 0.306 0.294 0.302   8.80
                    0.287
72) PT  Chlorobenzen    1.056 0.893 0.828 0.789 0.812 0.815 0.771 0.832  12.89
                    0.689
73) T   1Clhexane       0.550 0.420 0.398 0.406 0.435 0.453 0.443 0.440  10.85
                    0.420
74) T   1112Tetclota    0.293 0.322 0.290 0.281 0.290 0.307 0.293 0.295   4.54
                    0.285
75) PT  Ethylbenzene    1.654 1.488 1.459 1.431 1.450 1.446 1.356 1.426  10.34
                    1.127
76) PT  m p-Xylene      0.575 0.525 0.516 0.525 0.553 0.561 0.525 0.530   6.75
                    0.459
77) PT  o-Xylene        0.492 0.435 0.507 0.501 0.540 0.549 0.526 0.506   7.02
                    0.495
78) PT  Styrene         0.892 0.782 0.785 0.793 0.862 0.897 0.850 0.829   6.31
                    0.769
79) PT  Bromoform       0.322 0.254 0.246 0.238 0.255 0.268 0.262 0.263   9.77
                    0.263
80) PT  Isopropylben    1.282 1.255 1.233 1.256 1.363 1.367 1.290 1.267   6.82
                    1.091
81) T   cyclohexanone   0.033 0.024 0.024 0.021 0.023 0.026 0.027 0.025# 14.65
                    0.024

82) I   d4-1,4-DICHLOROBENZEN ----------------ISTD--------------------
83) S   SURR4BrFBenz    0.956 0.989 0.975 1.023 1.034 1.007 1.013 0.997   2.69
                    0.978
```

84)	T	Bromobenzene	0.899	0.775	0.758	0.745	0.720	0.705	0.675	0.739	10.77
			0.632								
85)	PT	1122Tetrclta	1.225	1.038	0.825	0.931	0.926	0.914	0.883	0.945	14.09
			0.815								
86)	T	123Triclproa	0.924	1.293	1.311	1.287	1.294	1.294	1.235	1.223	10.79
			1.149								
87)	T	14dichloro2bute	0.379	0.284	0.254	0.268	0.307	0.313	0.313	0.303	12.46
			0.308								
88)	T	n-Propylbenz	3.669	3.245	3.100	3.139	3.173	3.025	2.771	3.038	14.08
			2.181								
89)	T	2chlorotolue	2.247	1.987	1.880	1.990	1.911	1.872	1.723	1.887	11.62
			1.489								
90)	T	4chlorotolue	2.477	2.198	2.165	2.232	2.244	2.175	2.012	2.149	10.48
			1.691								
91)	T	135Trimebenz	2.389	2.145	2.174	2.219	2.277	2.210	2.050	2.147	9.41
			1.710								
92)	T	tbutylbenzen	2.312	1.820	1.764	1.851	1.900	1.878	1.787	1.855	11.71
			1.531								
93)	T	124Trimetben	1.952	2.029	2.001	2.139	2.214	2.117	2.016	2.020	7.77
			1.695								
94)	T	sbutylbenzen	2.509	2.458	2.478	2.613	2.687	2.657	2.463	2.484	8.53
			2.009								
95)	PT	13Diclorbenz	1.460	1.243	1.216	1.228	1.247	1.209	1.183	1.230	9.01
			1.057								
96)	T	pIsopropylto	2.193	2.122	2.139	2.237	2.331	2.336	2.169	2.166	7.80
			1.799								
97)	PT	14dichlorobe	1.710	1.266	1.291	1.285	1.283	1.266	1.199	1.297	13.94
			1.080								
98)	PT	12dichlorobe	1.535	1.315	1.212	1.222	1.181	1.174	1.119	1.221	12.55
			1.014								
99)	T	nButylbenzen	2.144	1.953	1.898	2.012	2.080	2.092	1.994	1.982	7.34
			1.680								
100)	PT	12dibromo3cl	0.308	0.318	0.269	0.267	0.276	0.293	0.292	0.288	6.30
			0.282								
101)	T	135Trichloroben	0.991	0.898	0.838	0.903	0.891	0.910	0.884	0.891	5.92
			0.814								
102)	PT	124Trichlobe	0.999	0.669	0.732	0.756	0.785	0.830	0.809	0.792	12.26
			0.753								
103)	T	Hexachlorobu	0.469	0.427	0.427	0.426	0.437	0.470	0.456	0.443	4.31
			0.432								
104)	T	Naphthalene	2.684	2.078	2.063	2.249	2.398	2.415	2.276	2.254	11.21
			1.870								
105)	T	123Trichlben	0.942	0.709	0.711	0.777	0.784	0.811	0.802	0.784	9.60
			0.732								

Total Average %RSD 8.59

L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range

W100315.M Wed Oct 14 15:11:47 2015

Data File : L:\DATA\OCT0315\BFB1.D Vial: 1
Acq On : 3 Oct 2015 22:02 Operator: AGK-RLD
Sample : BFB INJECTION Inst : VMS3
Misc : 25 ng Inj. Multiplr: 1.00
Integration File: VOC.P

Method : L:\METHODS\W100315.M
Title : 8260C Waters Method

Spectrum Information: Average of 4.675 to 4.687 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	18.6	10347	PASS
75	95	30	60	52.1	28943	PASS
95	95	100	100	100.0	55575	PASS
96	95	5	9	6.1	3385	PASS
173	174	0.00	2	1.2	588	PASS
174	95	50	100	85.6	47597	PASS
175	174	5	9	7.8	3697	PASS
176	174	95	101	95.9	45630	PASS
177	176	5	9	7.0	3204	PASS

W100315.M Wed Oct 14 15:15:02 2015

Quantitation Report

Data File : L:\DATA\OCT0315\WCAL1.D Vial: 4
Acq On : 3 Oct 2015 23:16 Operator: AGK-RLD
Sample : INITIAL CALIB. PT1 Inst : VMS3
Misc : 0.50/5.00 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 04 09:24:43 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 04 09:04:48 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.70	96	1121786	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.62	117	837380	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	15.46	152	433095	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.85	113	269243	19.855	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 99 %			
45) SURR12DCAd4	7.26	102	76051	20.403	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 102 %			
61) SURRd8Tolule	9.71	98	1099291	19.646	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 98 %			
83) SURR4BrFBenz	13.25	95	413985	19.174	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 96 %			
Target Compounds						Qvalue
2) Dichlorodi	1.86	85	8239	0.5673	ug/L #	42
3) Chloromethan	2.11	50	7962	0.5946	ug/L	87
4) VinylChlorid	2.26	62	8002	0.5420	ug/L	92
5) Bromomethane	2.71	94	2431m	0.4412	ug/L #	98
6) Chloroethane	2.89	64	4912m	0.5072	ug/L #	94
7) Dichloroflmethane	3.20	67	16228	0.6403	ug/L #	91
8) Trichlorofma	3.28	101	11710	0.5321	ug/L #	78
9) Ethylether	3.74	59	6697	0.5527	ug/L	87
10) dichlorotfluoroethan	3.72	67	8218	0.5989	ug/L #	88
11) propyleneoxide	4.08	58	23211	6.5681	ug/L	98
12) Acrolein	3.85	56	17616	3.0509	ug/L	99
13) 11dichlorthe	3.99	96	6903	0.5896	ug/L	95
14) Trichlorotfluoroeth	4.03	101	13601	1.1464	ug/L	98
15) Acetone	4.07	43	57962m	5.4639	ug/L	99
16) Iodomethane	4.16	142	7946	0.8584	ug/L #	88
17) Carbon Dislf	4.26	76	39514m	1.2270	ug/L	100
18) allylchloride	4.47	41	21341	1.3067	ug/L	99
19) methylacetate	4.55	74	3226	0.6009	ug/L #	40
20) Methylchlorid	4.64	84	11452m	0.7665	ug/L	90
21) tbutylalcohol	4.86	59	169341m	39.7704	ug/L	99
22) Acrylonitrile	4.95	53	27780	3.1271	ug/L	95
23) t12dichlorte	5.01	96	6938	0.5332	ug/L	91
24) MtBE	5.06	73	24698	0.6236	ug/L	88
25) Hexane	5.42	57	16416	1.1154	ug/L #	96
26) 11dichlorota	5.53	63	14443	0.6116	ug/L #	87
27) Vinylacetate	5.64	43	147800	6.4652	ug/L	97
28) chloroprene	5.67	53	25340	1.1593	ug/L	89
29) Diisopether	5.70	45	21407	0.5802	ug/L	99
30) ETBE	6.15	59	19492	0.5493	ug/L	95
31) 22dichloropr	6.27	77	9493m	0.4159	ug/L	96
32) c12dichlorte	6.26	96	8611	0.6059	ug/L	90
33) 2Butanone	6.30	72	22530	5.6999	ug/L	86
34) propionitrile	6.33	54	26880	6.4097	ug/L	95
35) Ethylacetate	6.41	88	3478	2.9999	ug/L #	87
36) methacrylonitrile	6.52	67	9311	1.0447	ug/L	86
37) Bromochlorma	6.55	128	4107	0.6735	ug/L #	87
38) Tetrahydofur	6.66	42	46557	5.7179	ug/L	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : L:\DATA\OCT0315\WCAL1.D Vial: 4
Acq On : 3 Oct 2015 23:16 Operator: AGK-RLD
Sample : INITIAL CALIB. PT1 Inst : VMS3
Misc : 0.50/5.00 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 04 09:24:43 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 04 09:04:48 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.65	83	15015	0.6342	ug/L		95
40)	111trichlota	6.91	97	12725	0.5666	ug/L		93
42)	Cyclohexane	7.00	56	11244	0.4992	ug/L		94
43)	Carbtetraclo	7.14	119	10737	0.5662	ug/L		87
44)	11dicloprope	7.12	110	3126	0.5064	ug/L	#	58
46)	Benzene	7.36	78	31955	0.6224	ug/L		82
47)	12dichlorota	7.35	62	12211	0.6118	ug/L	#	91
48)	TAME	7.55	73	21135	0.5912	ug/L		96
49)	trichloroete	8.18	95	7682	0.5781	ug/L		95
50)	methylcyclohexane	8.45	83	10410	0.4843	ug/L		89
51)	12dicloropra	8.42	63	6557	0.5086	ug/L	#	86
52)	23Dicl1propene	8.48	75	10767	0.5448	ug/L	#	57
53)	Dibromometha	8.56	93	3750	0.4770	ug/L	#	58
54)	methylmethacrylate	8.60	69	7027	0.5360	ug/L	#	43
55)	14dioxane	8.62	88	6824m	28.7717	ug/L	#	75
56)	Bromodiclrma	8.77	83	10433	0.5945	ug/L	#	91
57)	2Nitropropane	9.02	43	42236	5.7478	ug/L		98
58)	2CLEVE	9.16	63	6047	1.9573	ug/L	#	43
59)	c13dicloproe	9.34	75	12991	0.6380	ug/L	#	55
60)	4Meth2Pentan	9.55	43	133772	6.9604	ug/L		93
62)	Toluene	9.80	92	19784	0.5831	ug/L		99
63)	t13Dicloprop	10.05	75	11511	0.5895	ug/L		83
64)	ethylmethacrylate	10.20	69	21278	1.0976	ug/L		99
65)	112Triclotha	10.29	83	5501	0.5417	ug/L	#	73
66)	Tetrachlorte	10.54	166	8993	0.5623	ug/L		97
67)	13Diclorpropa	10.51	76	13365	0.6156	ug/L		89
69)	2Hexanone	10.64	43	121032	7.0085	ug/L		93
70)	Clorodibrmta	10.81	129	7668	0.5632	ug/L	#	88
71)	12Dibrometha	10.97	107	7511	0.5949	ug/L		91
72)	Chlorobenzen	11.65	112	22105	0.6347	ug/L	#	71
73)	1Clhexane	11.63	91	11505	0.6238	ug/L	#	48
74)	1112Tetclota	11.77	131	6126	0.4960	ug/L	#	68
75)	Ethylbenzene	11.82	91	34626	0.5799	ug/L		96
76)	m p-Xylene	11.99	106	24083	1.0857	ug/L		99
77)	o-Xylene	12.53	106	10291	0.4862	ug/L	#	83
78)	Styrene	12.55	104	18670	0.5381	ug/L		89
79)	Bromoform	12.77	173	6750	0.6119	ug/L		92
80)	Isopropylben	13.06	105	26832	0.5058	ug/L		97
81)	cyclohexanone	13.14	55	13859	13.1125	ug/L	#	84
84)	Bromobenzene	13.47	156	9734	0.6085	ug/L	#	89
85)	1122Tetrclta	13.42	83	13267	0.6485	ug/L		99
86)	123Triclproa	13.50	75	10001m	0.3376	ug/L	#	98
87)	14dichloro2butene	13.51	53	4106	0.6248	ug/L	#	61
88)	n-Propylbenz	13.64	91	39726m	0.5978	ug/L		96
89)	2chlorotolue	13.76	91	24332	0.5954	ug/L		91
90)	4chlorotolue	13.91	91	26817	0.5762	ug/L		92
91)	135Trimebenz	13.89	105	25867	0.5564	ug/L		93
92)	tbutylbenzen	14.37	119	25029	0.6230	ug/L		83
93)	124Trimetben	14.44	105	21132	0.4830	ug/L		79
94)	sbutylbenzen	14.69	105	27165	0.5049	ug/L		87
95)	13Diclorbenz	14.82	146	15806	0.5933	ug/L		92
96)	pIsopropylto	14.90	119	23748	0.5063	ug/L	#	96
97)	14dichlorobe	14.96	146	18510	0.6588	ug/L	#	75
98)	12dichlorobe	15.49	146	16617	0.6283	ug/L	#	61
99)	nButylbenzen	15.50	91	23219	0.5411	ug/L		94
100)	12dibromo3cl	16.57	157	3337	0.5347	ug/L		80
101)	135Trichlorobenzene	16.92	180	10734	0.5562	ug/L	#	94

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : L:\DATA\OCT0315\WCAL1.D Vial: 4
Acq On : 3 Oct 2015 23:16 Operator: AGK-RLD
Sample : INITIAL CALIB. PT1 Inst : VMS3
Misc : 0.50/5.00 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 04 09:24:43 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 04 09:04:48 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
102) 124Trichlobe	17.73	180	10814	0.6308	ug/L		85
103) Hexachlorobu	17.97	225	5083	0.5297	ug/L	#	77
104) Naphthalene	18.02	128	29065	0.5955	ug/L	#	73
105) 123Trichlben	18.33	180	10198	0.6010	ug/L		94

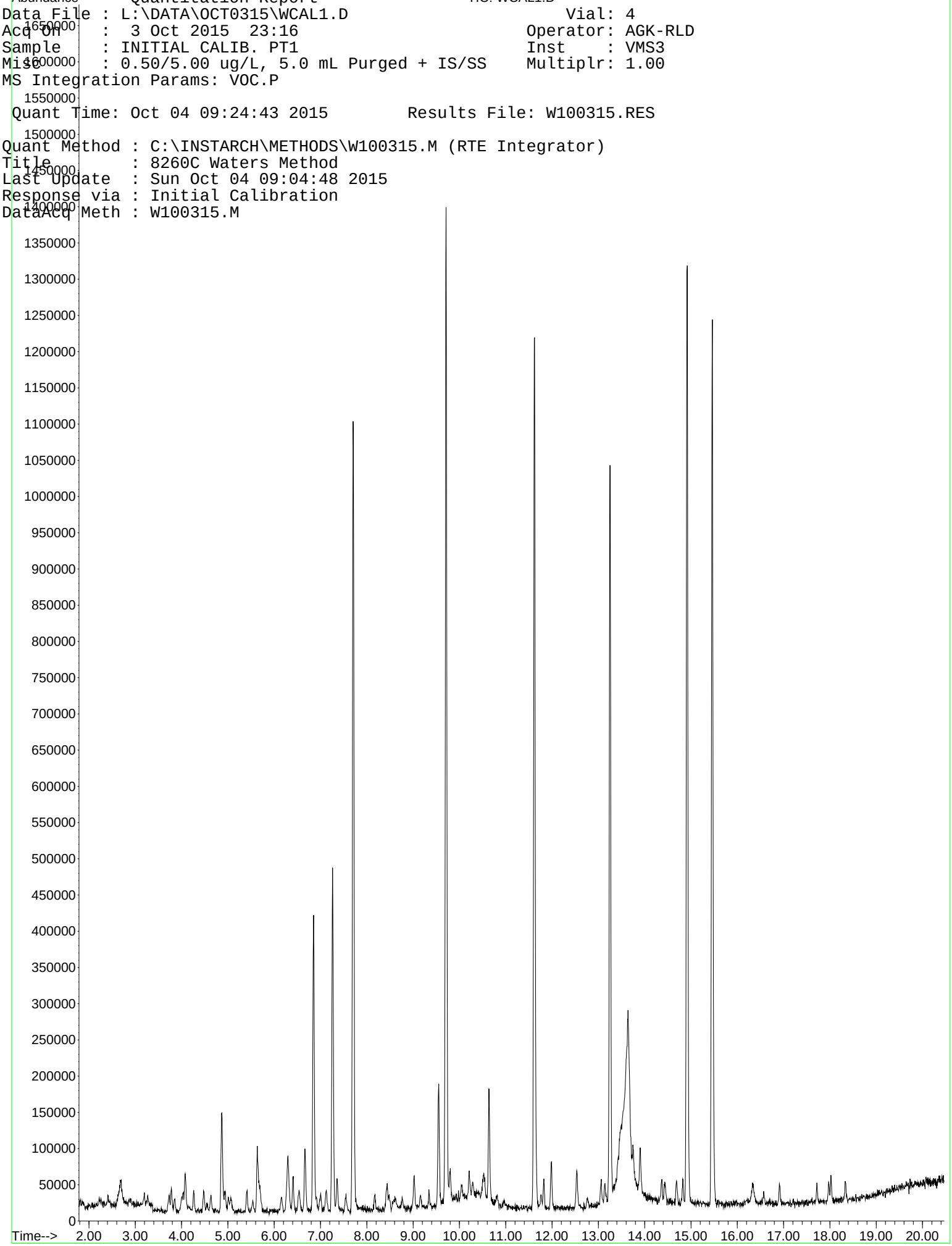
(#) = qualifier out of range (m) = manual integration

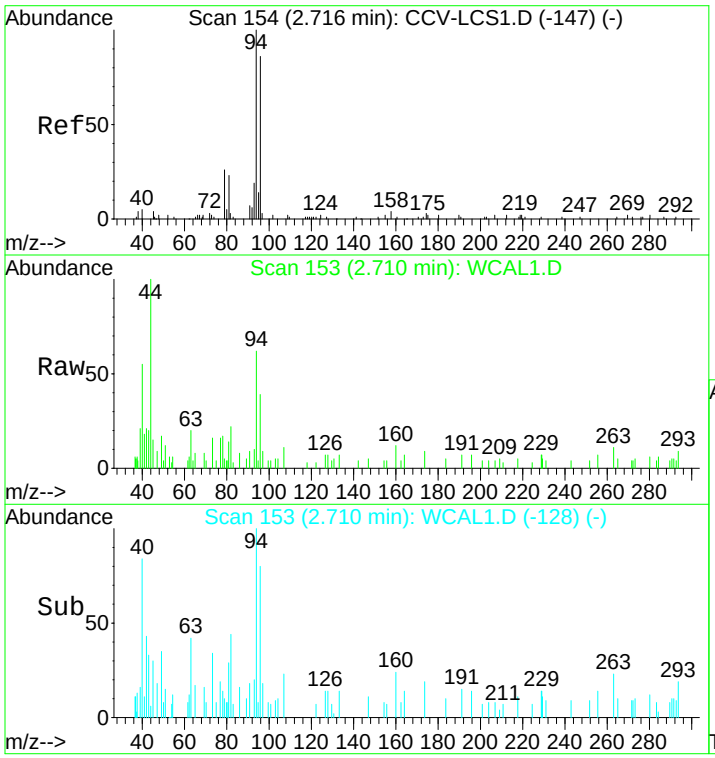
Abundance Quantitation Report TIC: WCAL1.D

Data File : L:\DATA\OCT0315\WCAL1.D Vial: 4
Acq On : 3 Oct 2015 23:16 Operator: AGK-RLD
Sample : INITIAL CALIB. PT1 Inst : VMS3
Misc : 0.50/5.00 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 04 09:24:43 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 04 09:04:48 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

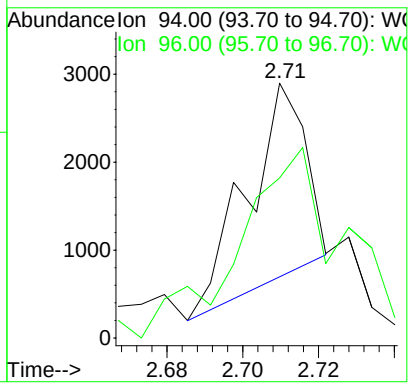




#5
Bromomethane
Concen: 0.44 ug/L m
RT: 2.71 min Scan# 153
Delta R.T. -0.00 min
Lab File: WCAL1.D
Acq: 3 Oct 2015 23:16

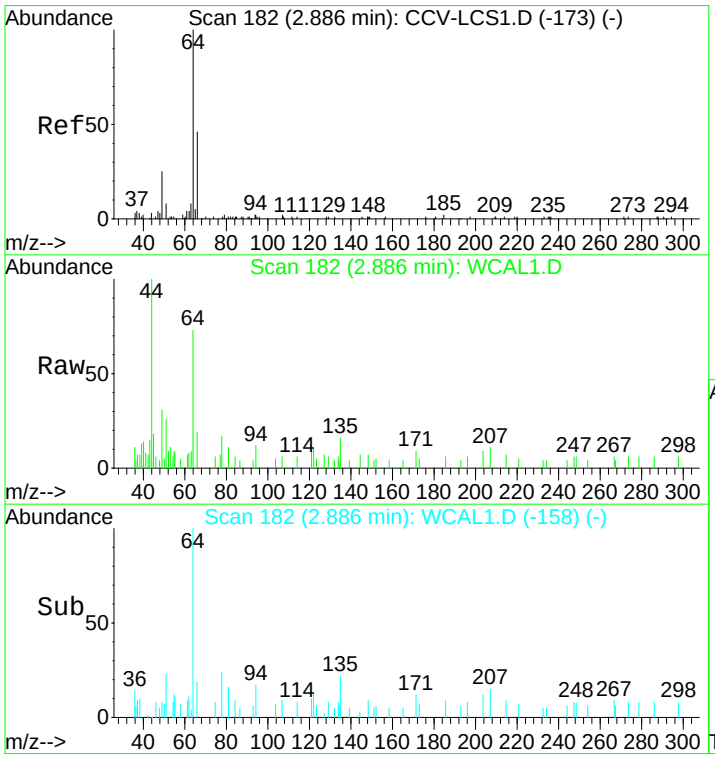
Tgt Ion: 94 Resp: 2431

Ion	Ratio	Lower	Upper
94	100		
96	182.5	69.7	109.7#



After Manual Integration

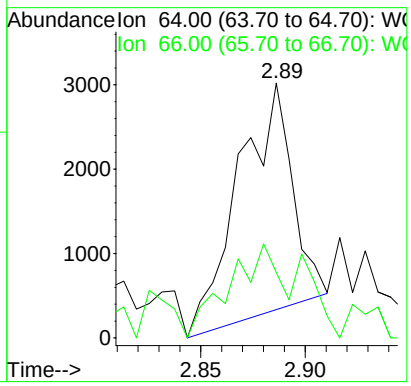
BMS 10/14/2015



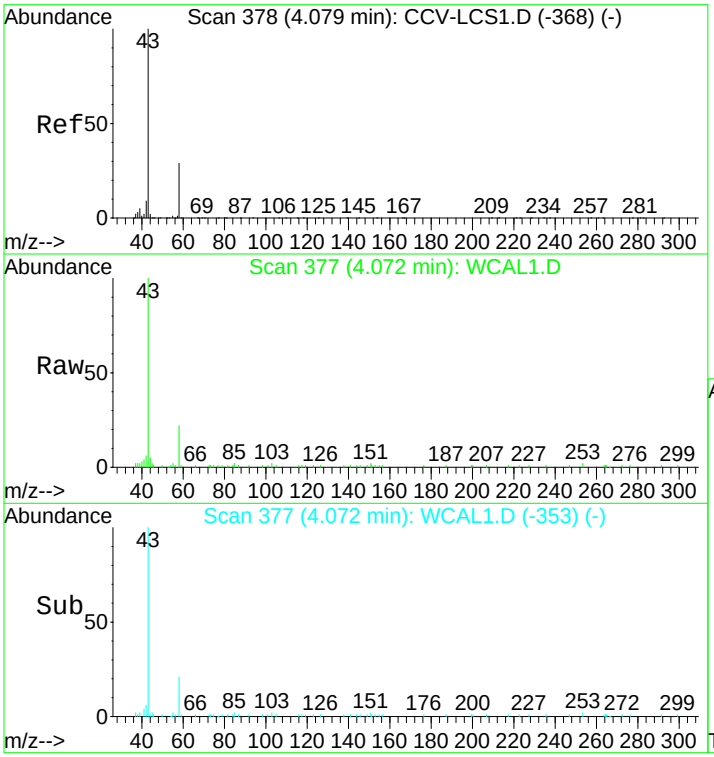
#6
Chloroethane
Concen: 0.51 ug/L m
RT: 2.89 min Scan# 182
Delta R.T. -0.01 min
Lab File: WCAL1.D
Acq: 3 Oct 2015 23:16

Tgt Ion: 64 Resp: 4912

Ion	Ratio	Lower	Upper
64	100		
66	53.2	11.5	51.5#



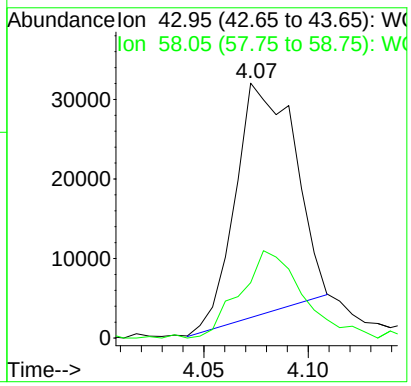
RJ 10/14/2015



#15
Acetone
Concen: 5.46 ug/L m
RT: 4.07 min Scan# 377
Delta R.T. -0.01 min
Lab File: WCAL1.D
Acq: 3 Oct 2015 23:16

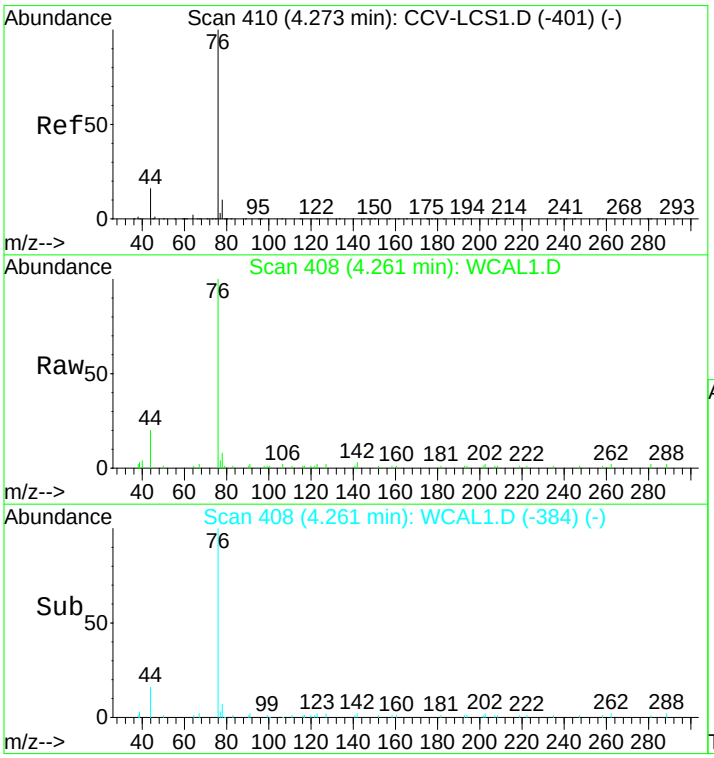
Tgt Ion: 43 Resp: 57962

Ion	Ratio	Lower	Upper
43	100		
58	40.0	10.8	50.8



After Manual Integration

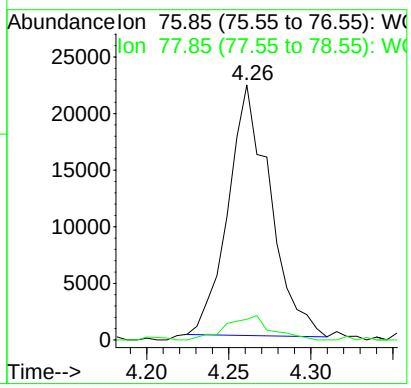
10/14/2015



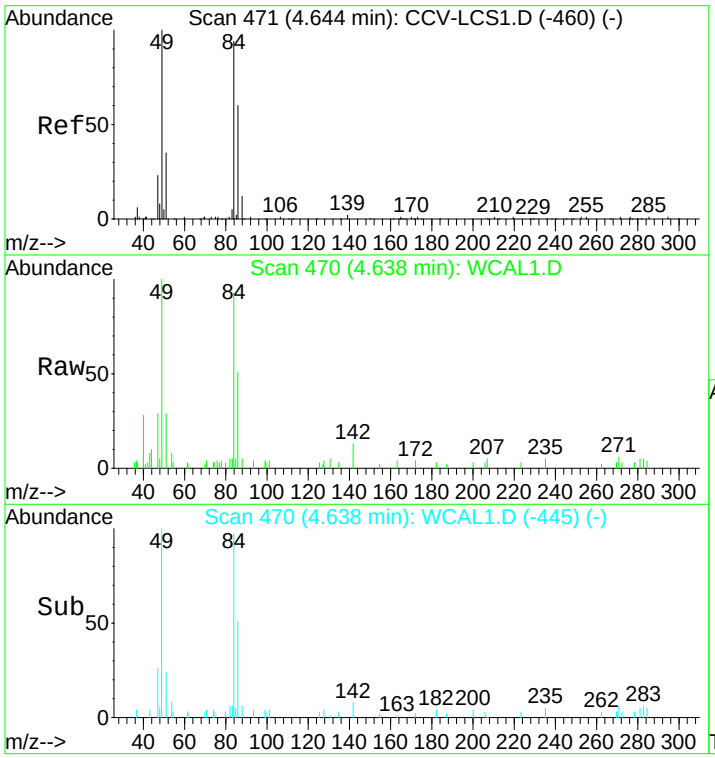
#17
Carbon Dislf
Concen: 1.23 ug/L m
RT: 4.26 min Scan# 408
Delta R.T. -0.01 min
Lab File: WCAL1.D
Acq: 3 Oct 2015 23:16

Tgt Ion: 76 Resp: 39514

Ion	Ratio	Lower	Upper
76	100		
78	10.2	0.0	29.6



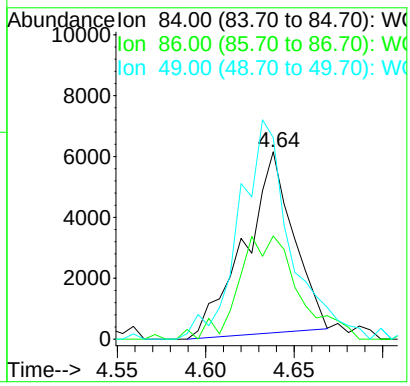
10/14/2015



#20
Methylchlorid
Concen: 0.77 ug/L m
RT: 4.64 min Scan# 470
Delta R.T. -0.00 min
Lab File: WCAL1.D
Acq: 3 Oct 2015 23:16

Tgt Ion: 84 Resp: 11452

Ion	Ratio	Lower	Upper
84	100		
86	69.9	45.2	85.2
49	127.1	109.8	149.8



After Manual Integration

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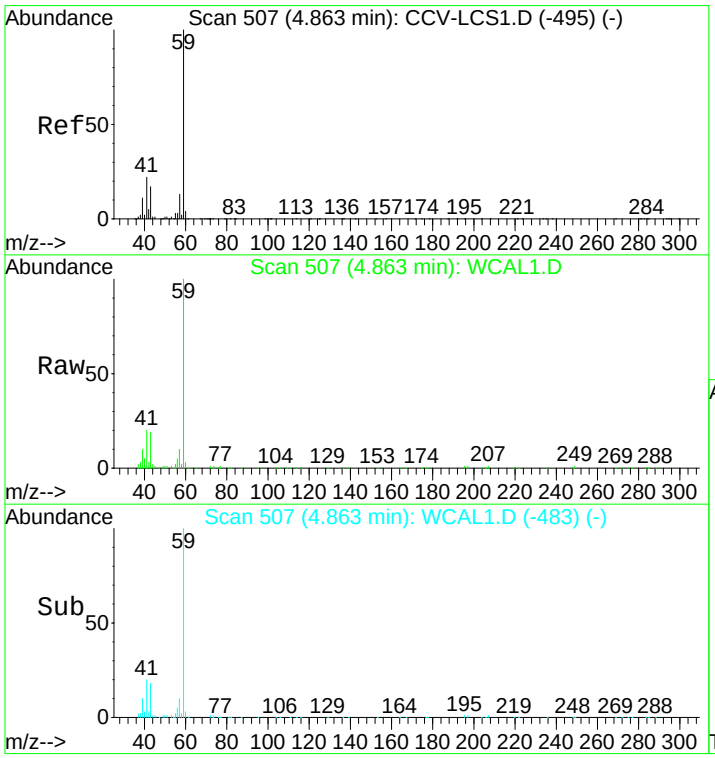
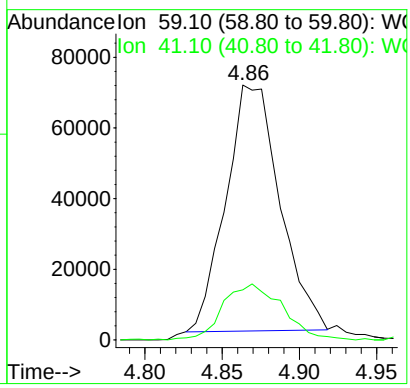


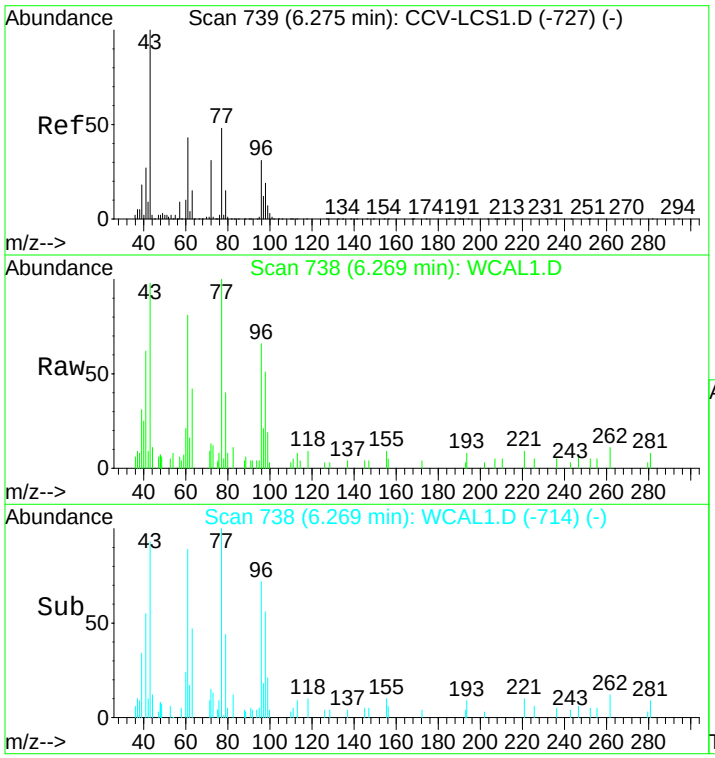
#21
tbutylalcohol
Concen: 39.77 ug/L m
RT: 4.86 min Scan# 507
Delta R.T. -0.01 min
Lab File: WCAL1.D
Acq: 3 Oct 2015 23:16

Tgt Ion: 59 Resp: 169341

Ion	Ratio	Lower	Upper
59	100		
41	25.2	3.3	43.3



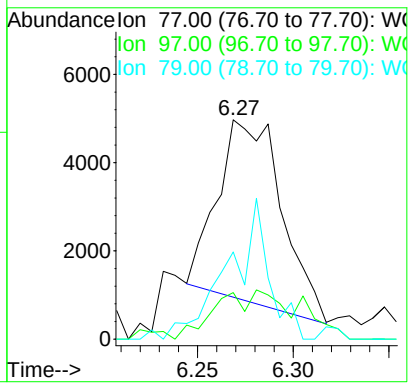
RJ 10/14/2015



#31
22dichloropr
Concen: 0.42 ug/L m
RT: 6.27 min Scan# 738
Delta R.T. -0.01 min
Lab File: WCAL1.D
Acq: 3 Oct 2015 23:16

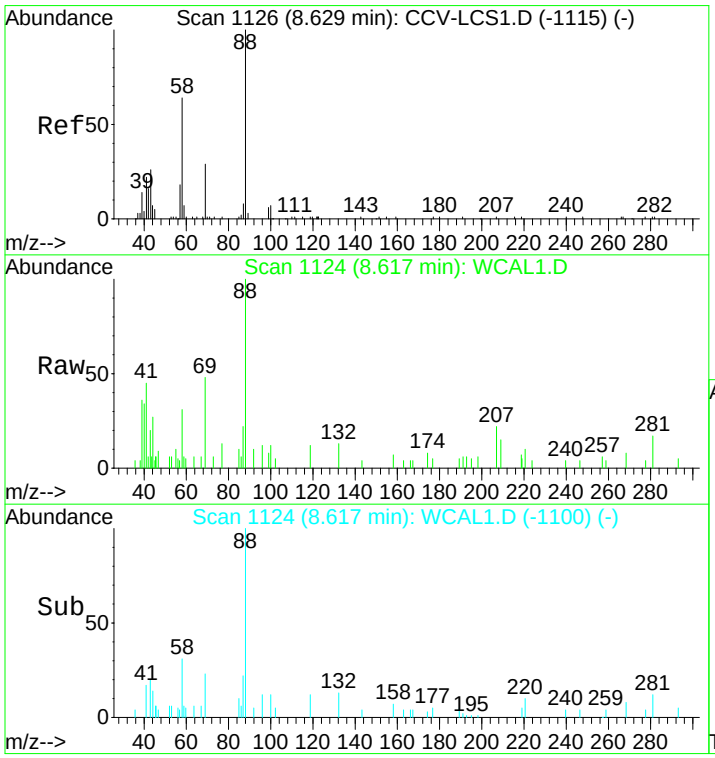
Tgt Ion: 77 Resp: 9493

Ion	Ratio	Lower	Upper
77	100		
97	35.1	1.5	41.5
79	50.5	12.6	52.6



After Manual Integration

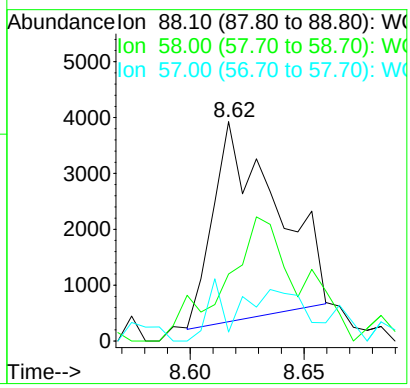
BMS 10/14/2015



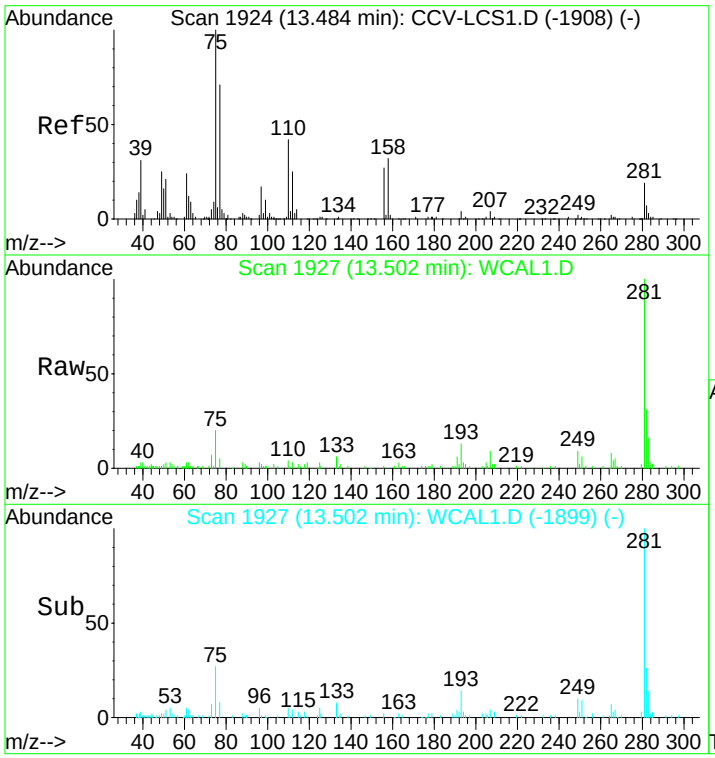
#55
14dioxane
Concen: 28.77 ug/L m
RT: 8.62 min Scan# 1124
Delta R.T. -0.01 min
Lab File: WCAL1.D
Acq: 3 Oct 2015 23:16

Tgt Ion: 88 Resp: 6824

Ion	Ratio	Lower	Upper
88	100		
58	74.5	50.6	90.6
57	0.0	2.9	42.9#



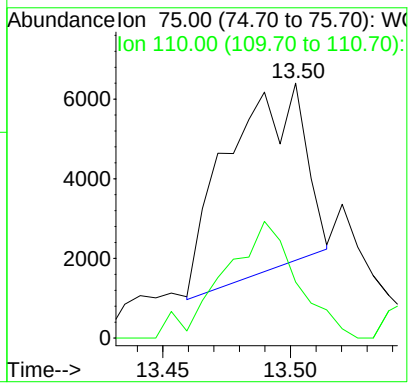
RJ 10/14/2015



#86
123Triclproa
Concen: 0.34 ug/L m
RT: 13.50 min Scan# 1927
Delta R.T. 0.02 min
Lab File: WCAL1.D
Acq: 3 Oct 2015 23:16

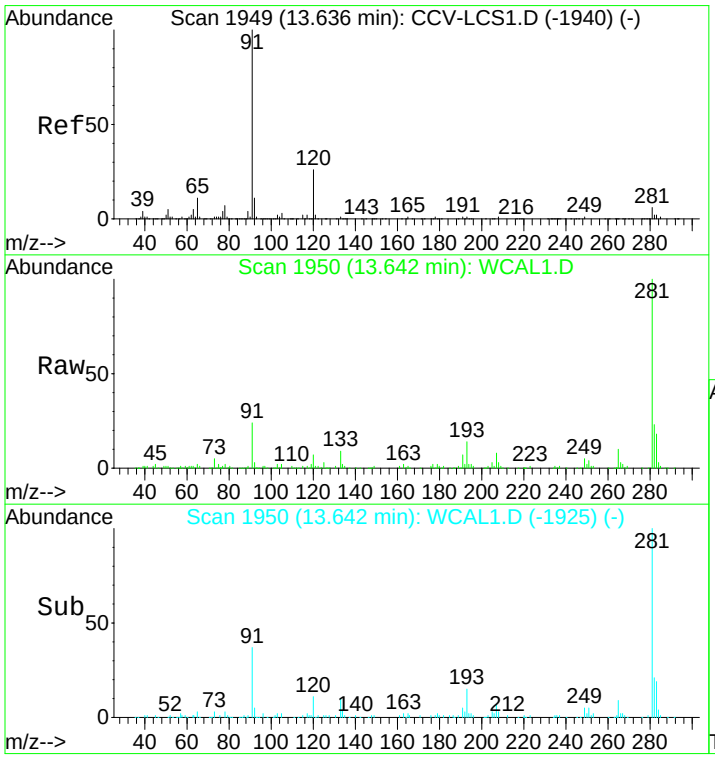
Tgt Ion: 75 Resp: 10001

Ion	Ratio	Lower	Upper
75	100		
110	58.1	4.8	44.8#



After Manual Integration

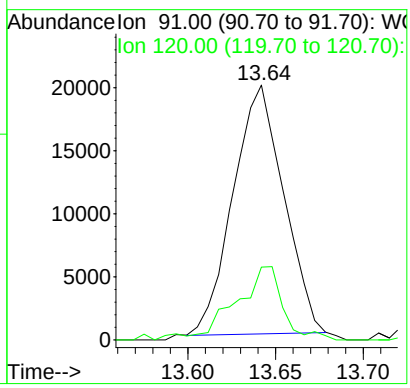
BMS 10/14/2015



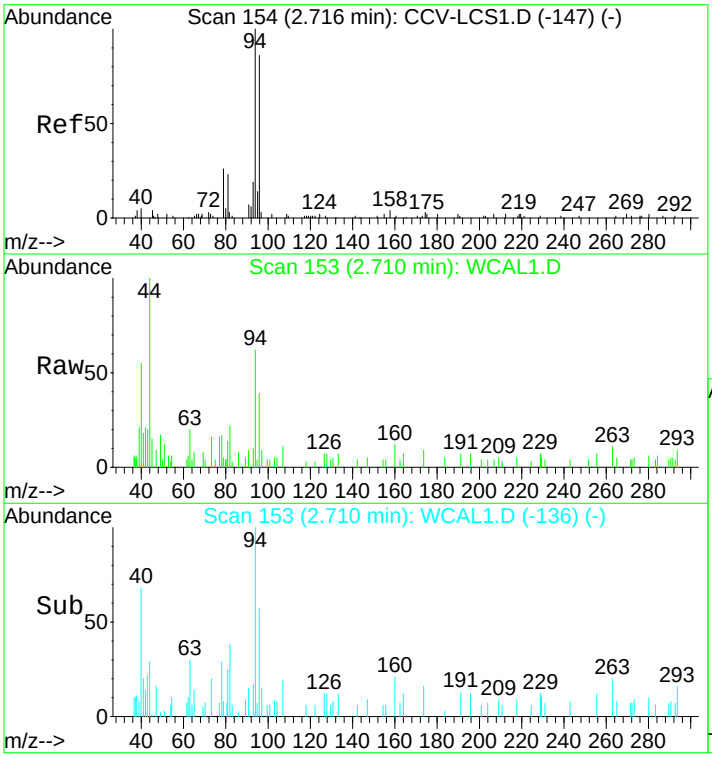
#88
n-Propylbenz
Concen: 0.60 ug/L m
RT: 13.64 min Scan# 1950
Delta R.T. -0.00 min
Lab File: WCAL1.D
Acq: 3 Oct 2015 23:16

Tgt Ion: 91 Resp: 39726

Ion	Ratio	Lower	Upper
91	100		
120	26.7	3.3	43.3



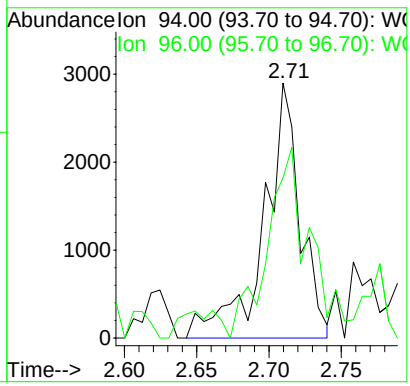
RJ 10/14/2015



#5
Bromomethane
Concen: 1.10 ug/L
RT: 2.71 min Scan# 153
Delta R.T. 0.00 min
Lab File: WCAL1.D
Acq: 3 Oct 2015 23:16

Tgt Ion: 94 Resp: 5068

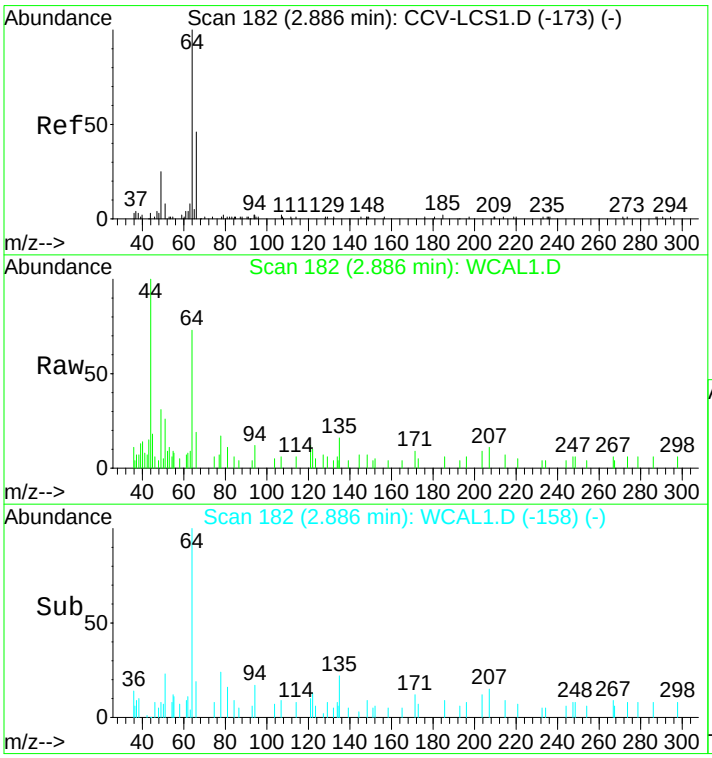
Ion	Ratio	Lower	Upper
94	100		
96	87.5	69.7	109.7



Before Manual Integration

BMS 10/14/2015

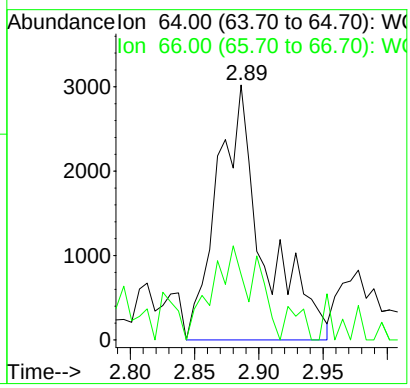
REASON # 2



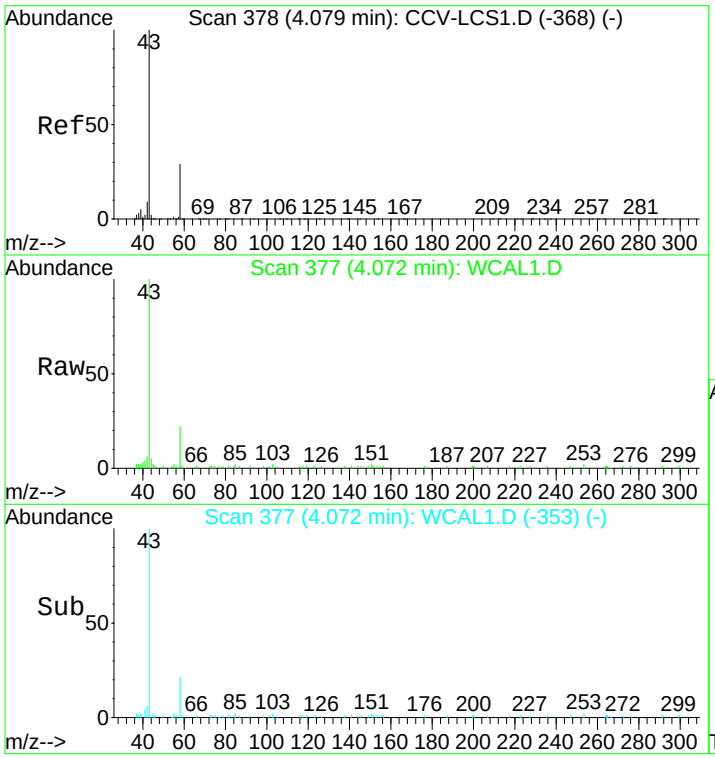
#6
Chloroethane
Concen: 0.84 ug/L
RT: 2.89 min Scan# 182
Delta R.T. -0.01 min
Lab File: WCAL1.D
Acq: 3 Oct 2015 23:16

Tgt Ion: 64 Resp: 7541

Ion	Ratio	Lower	Upper
64	100		
66	34.7	11.5	51.5



REASON # 2



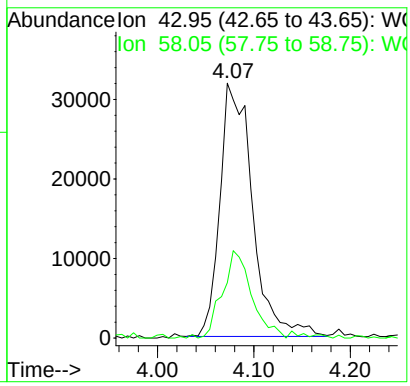
#15
Acetone
Concen: 6.34 ug/L
RT: 4.07 min Scan# 377
Delta R.T. -0.01 min
Lab File: WCAL1.D
Acq: 3 Oct 2015 23:16

Tgt Ion: 43 Resp: 74568

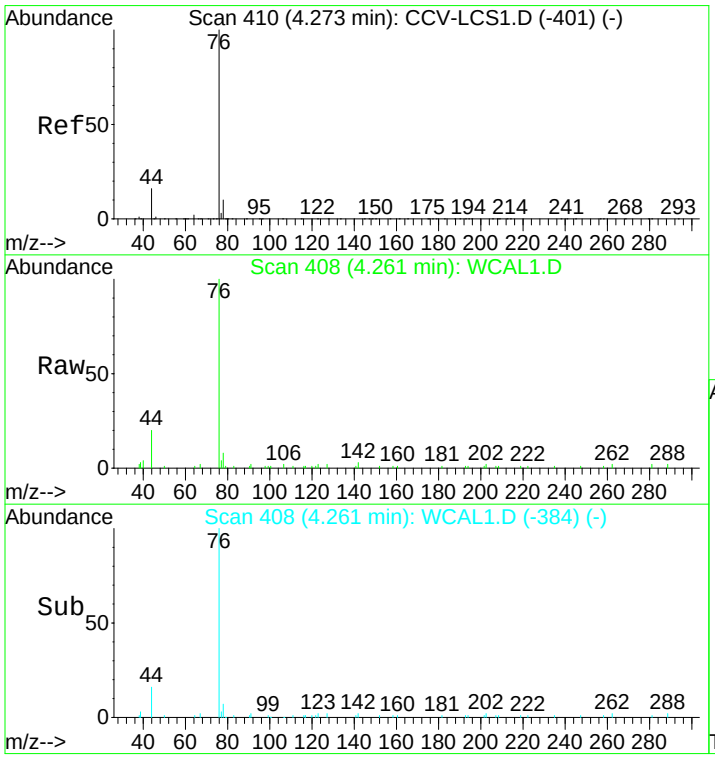
Ion	Ratio	Lower	Upper
43	100		
58	31.1	10.8	50.8

Before Manual Integration

BMS 10/14/2015



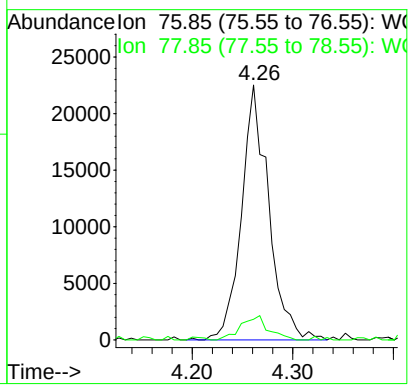
REASON # 2



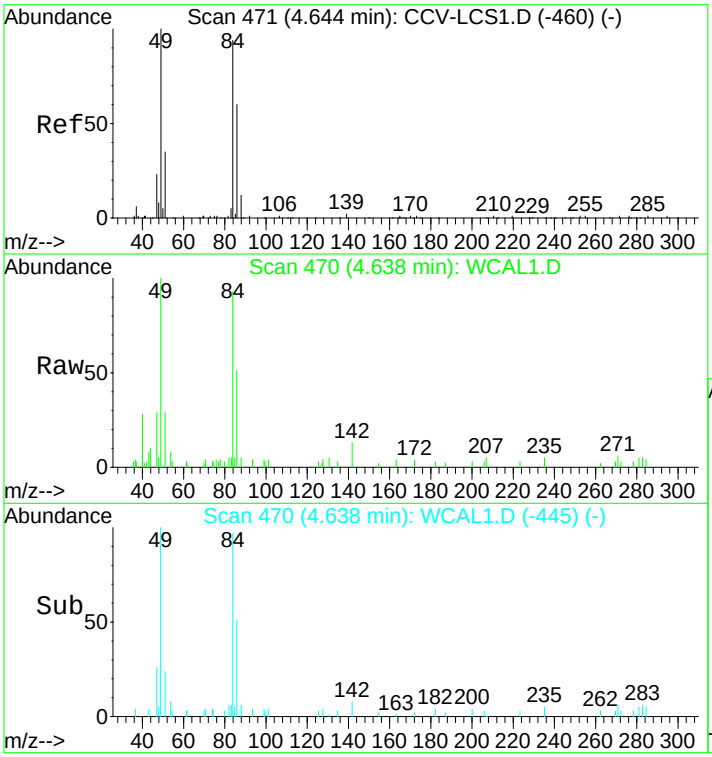
#17
Carbon Dislf
Concen: 1.33 ug/L
RT: 4.26 min Scan# 408
Delta R.T. -0.01 min
Lab File: WCAL1.D
Acq: 3 Oct 2015 23:16

Tgt Ion: 76 Resp: 42304

Ion	Ratio	Lower	Upper
76	100		
78	9.6	0.0	29.6



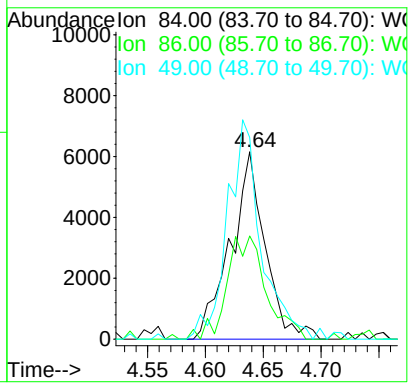
REASON # 2



#20
Methylchlorid
Concen: 0.62 ug/L
RT: 4.64 min Scan# 470
Delta R.T. 0.00 min
Lab File: WCAL1.D
Acq: 3 Oct 2015 23:16

Tgt Ion: 84 Resp: 12790

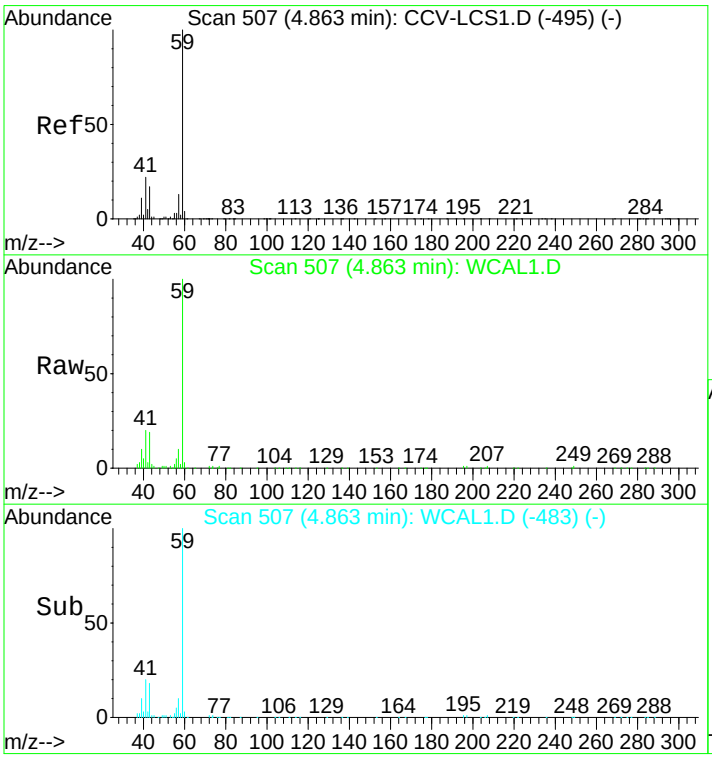
Ion	Ratio	Lower	Upper
84	100		
86	62.6	45.2	85.2
49	113.8	109.8	149.8



Before Manual Integration

BMS 10/14/2015

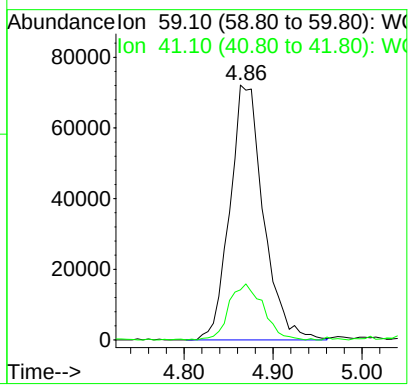
REASON # 2



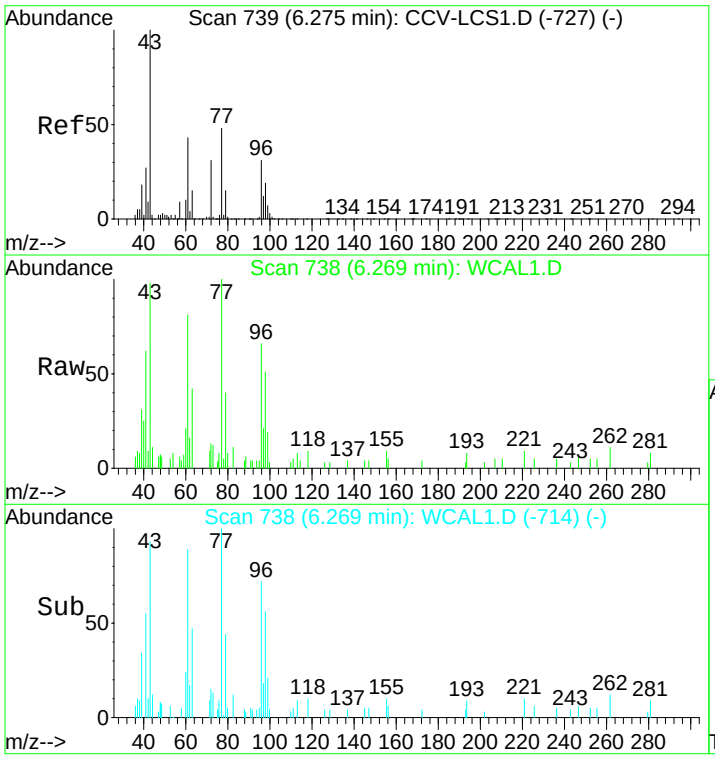
#21
tbutylalcohol
Concen: 21.55 ug/L
RT: 4.86 min Scan# 507
Delta R.T. -0.01 min
Lab File: WCAL1.D
Acq: 3 Oct 2015 23:16

Tgt Ion: 59 Resp: 189028

Ion	Ratio	Lower	Upper
59	100		
41	22.6	3.3	43.3



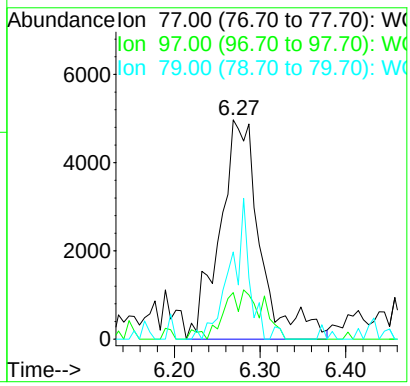
REASON # 2



#31
22dichloropr
Concen: 0.77 ug/L
RT: 6.27 min Scan# 738
Delta R.T. -0.01 min
Lab File: WCAL1.D
Acq: 3 Oct 2015 23:16

Tgt Ion: 77 Resp: 16284

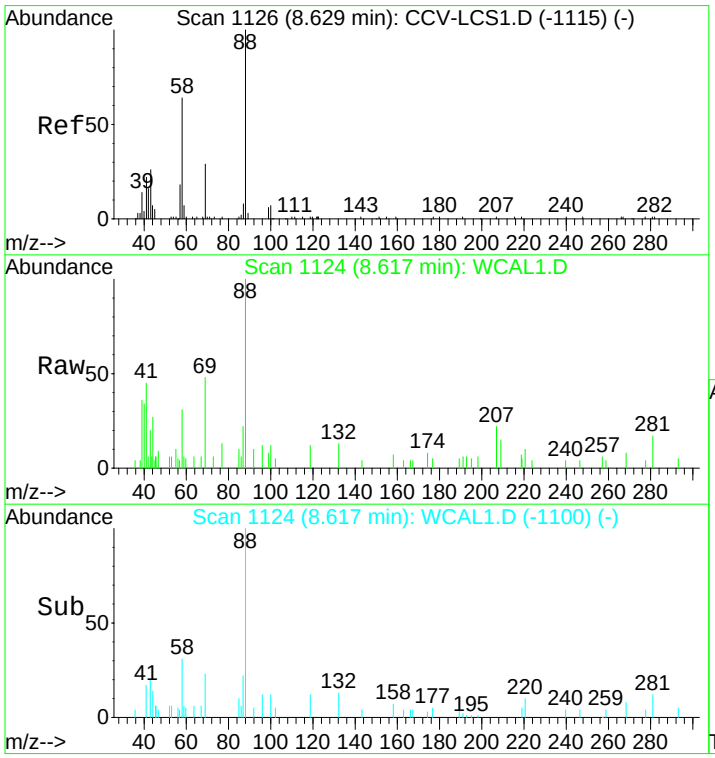
Ion	Ratio	Lower	Upper
77	100		
97	20.5	1.5	41.5
79	29.4	12.6	52.6



Before Manual Integration

BMS 10/14/2015

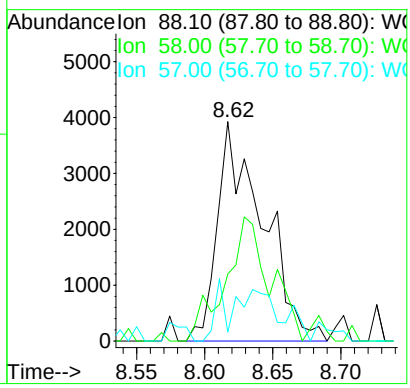
REASON # 2



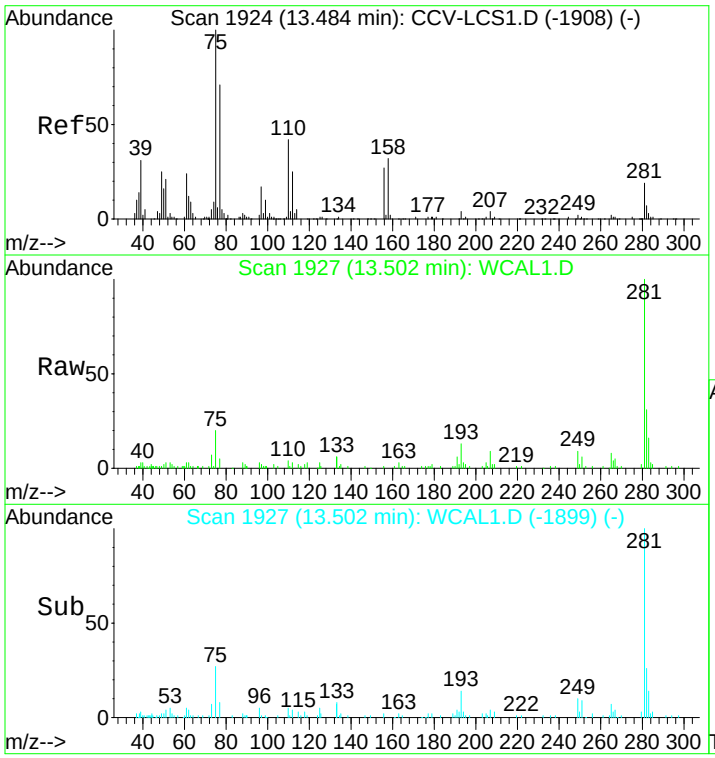
#55
14dioxane
Concen: 40.22 ug/L
RT: 8.62 min Scan# 1124
Delta R.T. -0.01 min
Lab File: WCAL1.D
Acq: 3 Oct 2015 23:16

Tgt Ion: 88 Resp: 9084

Ion	Ratio	Lower	Upper
88	100		
58	56.0	50.6	90.6
57	0.0	2.9	42.9#



REASON # 2



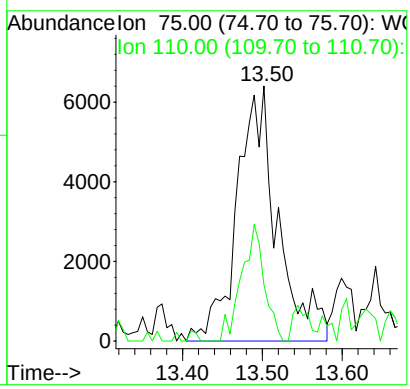
#86
123Triclproa
Concen: 0.85 ug/L
RT: 13.50 min Scan# 1927
Delta R.T. 0.02 min
Lab File: WCAL1.D
Acq: 3 Oct 2015 23:16

Tgt Ion: 75 Resp: 22548

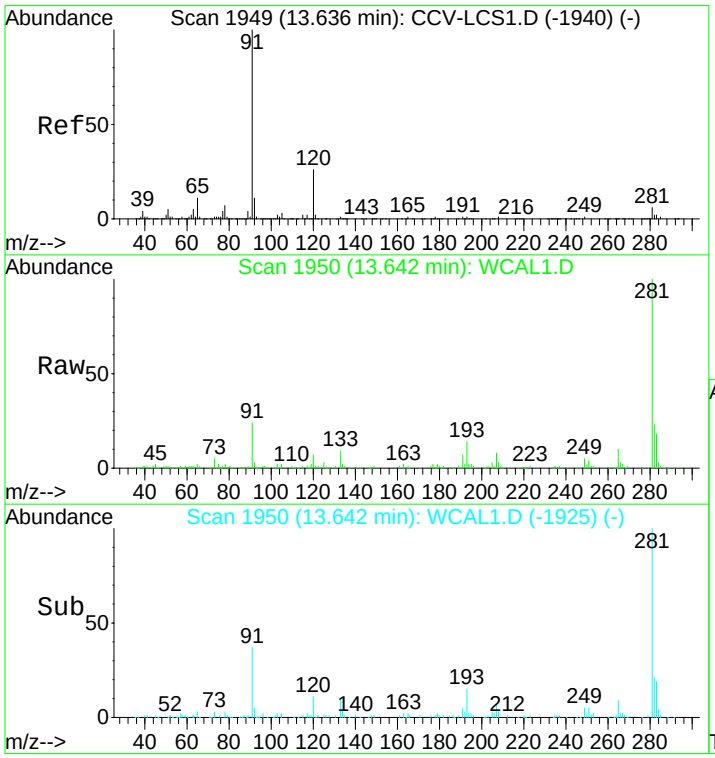
Ion	Ratio	Lower	Upper
75	100		
110	25.8	4.8	44.8

Before Manual Integration

BMS 10/14/2015



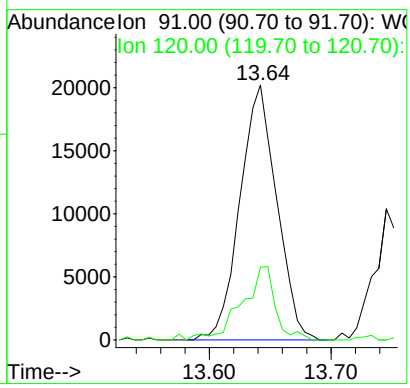
REASON # 2



#88
n-Propylbenz
Concen: 0.64 ug/L
RT: 13.64 min Scan# 1950
Delta R.T. -0.00 min
Lab File: WCAL1.D
Acq: 3 Oct 2015 23:16

Tgt Ion: 91 Resp: 42395

Ion	Ratio	Lower	Upper
91	100		
120	25.1	3.3	43.3



REASON # 2

Quantitation Report

Data File : L:\DATA\OCT0315\WCAL2.D Vial: 5
Acq On : 3 Oct 2015 23:46 Operator: AGK-RLD
Sample : INITIAL CALIB. PT2 Inst : VMS3
Misc : 2.00/20.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 04 09:25:13 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 04 09:04:33 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.70	96	1160998	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.62	117	851452	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	15.46	152	443825	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.85	113	280120	19.959	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100	%		
45) SURR12DCAd4	7.27	102	78425	20.329	ug/L	0.01
Spiked Amount 20.000	Range 89 - 112		Recovery = 102	%		
61) SURRd8Tolule	9.71	98	1147885	19.822	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 99	%		
83) SURR4BrFBenz	13.25	95	439074	19.845	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 99	%		
Target Compounds						Qvalue
2) Dichlorodi	1.89	85	31818	2.1169	ug/L	96
3) Chloromethan	2.11	50	30334	2.1890	ug/L	100
4) VinylChlorid	2.26	62	33038	2.1621	ug/L	95
5) Bromomethane	2.72	94	9406m	1.6495	ug/L #	93
6) Chloroethane	2.89	64	18867	1.8824	ug/L	80
7) Dichloroflmethane	3.19	67	54086	2.0621	ug/L	96
8) Trichlorofma	3.28	101	48093	2.1115	ug/L	95
9) Ethylether	3.73	59	26533	2.1159	ug/L	90
10) dichlorotfluoroethan	3.73	67	30423	2.1421	ug/L	95
11) propyleneoxide	4.08	58	75063	20.5233	ug/L	96
12) Acrolein	3.85	56	62976	10.5385	ug/L	100
13) 11dichlorthe	4.00	96	23102	1.9065	ug/L	89
14) Trichlorotfluoroeth	4.04	101	51235	4.1727	ug/L	99
15) Acetone	4.08	43	248977	22.6777	ug/L	99
16) Iodomethane	4.17	142	24733	2.5815	ug/L	98
17) Carbon Dislf	4.27	76	145319	4.3602	ug/L	100
18) allylchloride	4.48	41	68628	4.0600	ug/L	100
19) methylacetate	4.56	74	11007	1.9810	ug/L	84
20) Methylchlorid	4.64	84	33080	2.1393	ug/L	99
21) tbutylalcohol	4.87	59	576957	130.9241	ug/L	98
22) Acrylonitrile	4.94	53	102043	11.0985	ug/L	100
23) t12dichlorte	5.01	96	28647	2.1272	ug/L	96
24) MtBE	5.06	73	82581	2.0146	ug/L	94
25) Hexane	5.41	57	58312	3.8283	ug/L	97
26) 11dichlorota	5.54	63	51499	2.1072	ug/L	93
27) Vinylacetate	5.64	43	604486	25.5488	ug/L	97
28) chloroprene	5.67	53	89553	3.9585	ug/L	98
29) Diisopether	5.71	45	76526	2.0040	ug/L	97
30) ETBE	6.15	59	71201	1.9387	ug/L	99
31) 22dichloropr	6.27	77	45760	1.9370	ug/L	95
32) c12dichlorte	6.27	96	29754	2.0228	ug/L	93
33) 2Butanone	6.30	72	88337	21.5937	ug/L	100
34) propionitrile	6.32	54	97864	22.5480	ug/L	98
35) Ethylacetate	6.40	88	11445	9.5382	ug/L #	88
36) methacrylonitrile	6.53	67	35770	3.8777	ug/L	91
37) Bromochlorma	6.55	128	13222	2.0952	ug/L	93
38) Tetrahydofur	6.67	42	195330	23.1792	ug/L	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : L:\DATA\OCT0315\WCAL2.D Vial: 5
Acq On : 3 Oct 2015 23:46 Operator: AGK-RLD
Sample : INITIAL CALIB. PT2 Inst : VMS3
Misc : 2.00/20.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 04 09:25:13 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 04 09:04:33 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
39)	Chloroform	6.66	83	51238	2.0909 ug/L		96
40)	111trichlota	6.91	97	45309	1.9493 ug/L		89
42)	Cyclohexane	7.00	56	44556	1.9115 ug/L		93
43)	Carbtetraclo	7.13	119	39417	2.0084 ug/L		99
44)	11dicloprope	7.13	110	11691	1.8299 ug/L	#	84
46)	Benzene	7.37	78	116173	2.1862 ug/L		96
47)	12dichlorota	7.36	62	42219	2.0439 ug/L		98
48)	TAME	7.55	73	74207	2.0057 ug/L		96
49)	trichloroete	8.18	95	26685	1.9405 ug/L		87
50)	methylcyclohexane	8.45	83	43011	1.9334 ug/L		89
51)	12dicloropra	8.42	63	25673	1.9242 ug/L	#	87
52)	23Dicl1propene	8.49	75	40478	1.9791 ug/L		90
53)	Dibromometha	8.56	93	17672	2.1718 ug/L		90
54)	methylmethacrylate	8.60	69	24434	1.8009 ug/L		89
55)	14dioxane	8.62	88	25856	105.3336 ug/L		93
56)	Bromodiclrma	8.77	83	35167	1.9364 ug/L		98
57)	2Nitropropane	9.02	43	158287	20.8133 ug/L		96
58)	2CLEVE	9.16	63	26516	8.2928 ug/L		99
59)	c13dicloproe	9.35	75	38886	1.8452 ug/L		96
60)	4Meth2Pentan	9.55	43	496595	24.9659 ug/L		95
62)	Toluene	9.80	92	75561	2.1519 ug/L		99
63)	t13Dicloprop	10.05	75	42318	2.0939 ug/L		98
64)	ethylmethacrylate	10.22	69	74811	3.7288 ug/L		97
65)	112Triclotha	10.28	83	20194	1.9214 ug/L	#	84
66)	Tetrachlorte	10.54	166	34219	2.0673 ug/L		95
67)	13Diclorpropa	10.51	76	43777	1.9483 ug/L		90
69)	2Hexanone	10.64	43	433367	24.6798 ug/L		95
70)	Clorodibrmta	10.81	129	29199	2.1091 ug/L		93
71)	12Dibrometha	10.97	107	27126	2.1128 ug/L		96
72)	Chlorobenzen	11.66	112	76062	2.1478 ug/L		97
73)	1Clhexane	11.64	91	35733	1.9055 ug/L		90
74)	1112Tetclota	11.77	131	27456	2.1861 ug/L		97
75)	Ethylbenzene	11.82	91	126663	2.0862 ug/L		99
76)	m p-Xylene	11.98	106	89389	3.9633 ug/L		99
77)	o-Xylene	12.53	106	37037	1.7207 ug/L	#	87
78)	Styrene	12.54	104	66569	1.8868 ug/L		95
79)	Bromoform	12.77	173	21605	1.9262 ug/L		97
80)	Isopropylben	13.06	105	106842	1.9807 ug/L		99
81)	cyclohexanone	13.14	55	41187	38.3243 ug/L		97
84)	Bromobenzene	13.47	156	34415	2.0994 ug/L		99
85)	1122Tetrclta	13.42	83	46078	2.1980 ug/L		98
86)	123Triclproa	13.49	75	57394	1.8904 ug/L		84
87)	14dichloro2butene	13.50	53	12617	1.8735 ug/L		92
88)	n-Propylbenz	13.64	91	144011	2.1149 ug/L		99
89)	2chlorotolue	13.75	91	88186	2.1057 ug/L		99
90)	4chlorotolue	13.90	91	97533	2.0448 ug/L		99
91)	135Trimebenz	13.90	105	95195	1.9983 ug/L		100
92)	tbutylbenzen	14.37	119	80780	1.9622 ug/L		96
93)	124Trimetben	14.44	105	90041	2.0083 ug/L		95
94)	sbutylbenzen	14.68	105	109114	1.9791 ug/L		99
95)	13Diclorbenz	14.83	146	55168	2.0206 ug/L		99
96)	pIsopropylto	14.90	119	94187	1.9596 ug/L	#	94
97)	14dichlorobe	14.95	146	56210	1.9523 ug/L		89
98)	12dichlorobe	15.49	146	58344	2.1527 ug/L		93
99)	nButylbenzen	15.50	91	86689	1.9712 ug/L		97
100)	12dibromo3cl	16.57	157	14093	2.2036 ug/L		87
101)	135Trichlorobenzene	16.91	180	39860	2.0155 ug/L		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : L:\DATA\OCT0315\WCAL2.D Vial: 5
Acq On : 3 Oct 2015 23:46 Operator: AGK-RLD
Sample : INITIAL CALIB. PT2 Inst : VMS3
Misc : 2.00/20.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 04 09:25:13 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 04 09:04:33 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

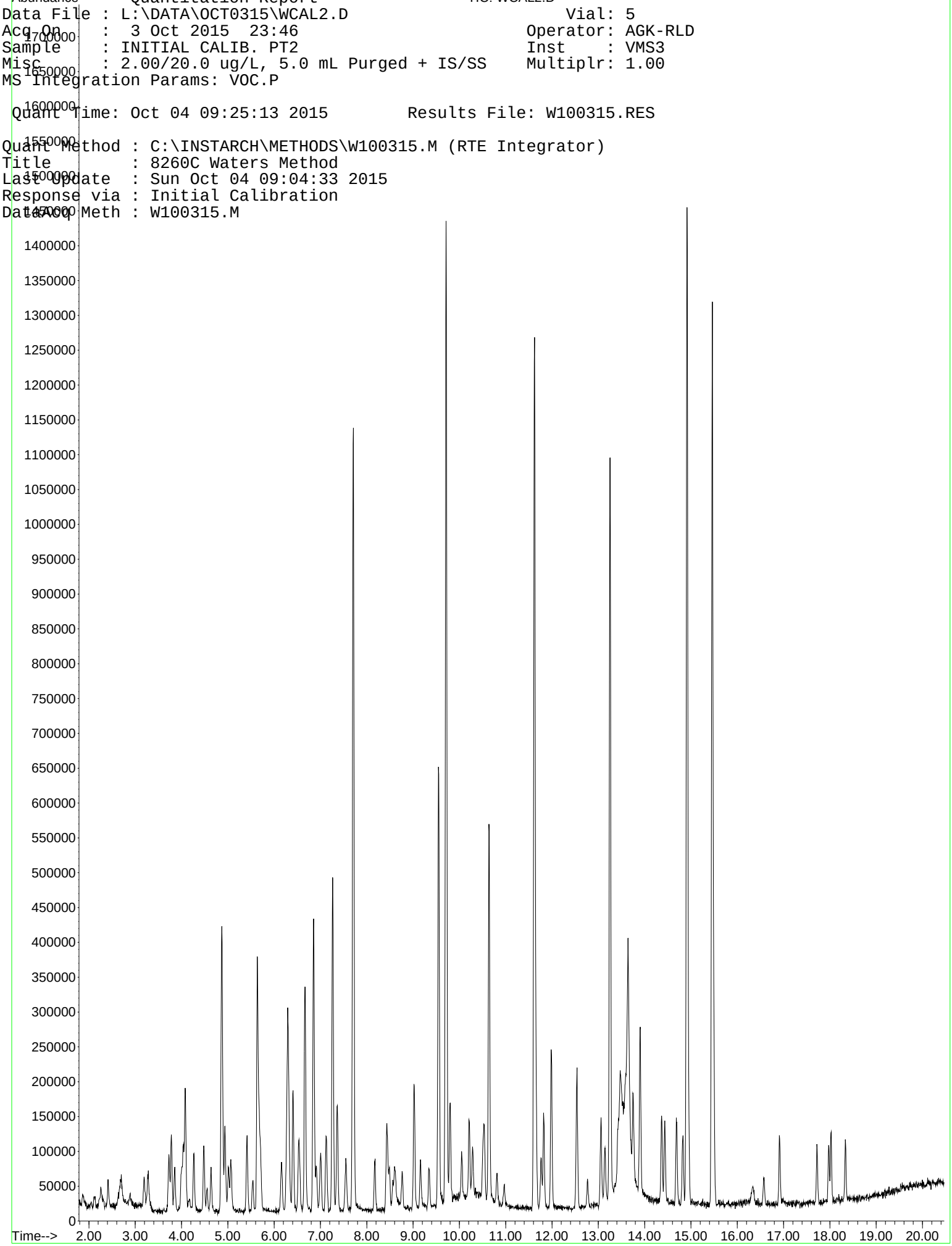
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.72	180	29696	1.6904	ug/L	95
103) Hexachlorobu	17.97	225	18952	1.9274	ug/L	98
104) Naphthalene	18.03	128	92229	1.8438	ug/L	99
105) 123Trichlben	18.33	180	31489	1.8110	ug/L	91

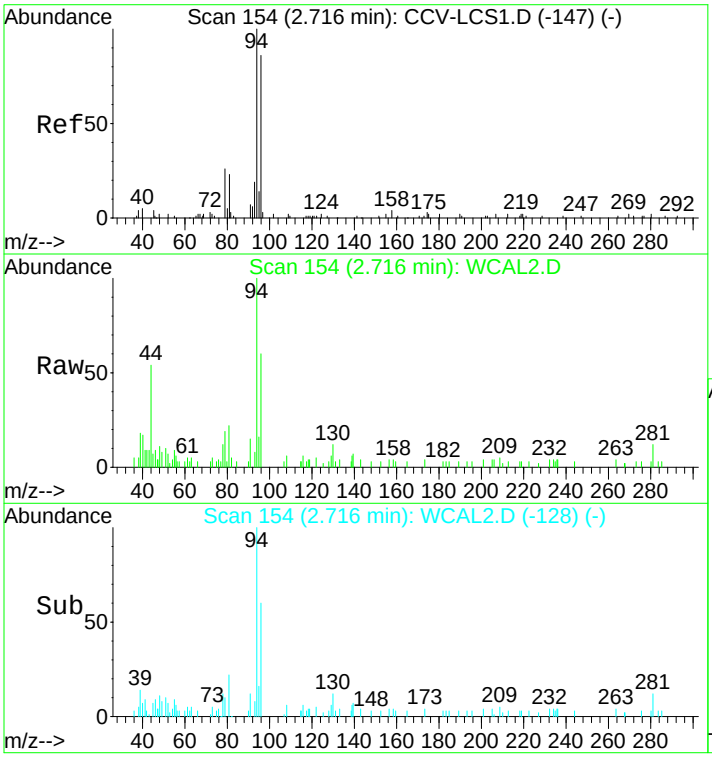
(#) = qualifier out of range (m) = manual integration

Data File : L:\DATA\OCT0315\WCAL2.D Vial: 5
Acq On : 3 Oct 2015 23:46 Operator: AGK-RLD
Sample : INITIAL CALIB. PT2 Inst : VMS3
Misc : 2.00/20.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 04 09:25:13 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 04 09:04:33 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

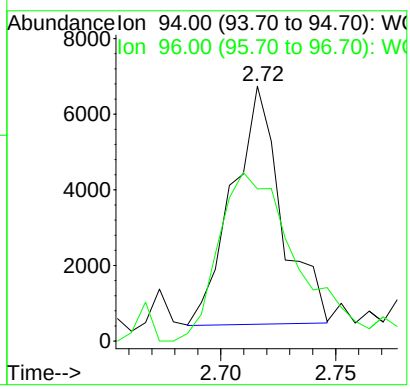




#5
Bromomethane
Concen: 1.65 ug/L m
RT: 2.72 min Scan# 154
Delta R.T. 0.01 min
Lab File: WCAL2.D
Acq: 3 Oct 2015 23:46

Tgt Ion: 94 Resp: 9406

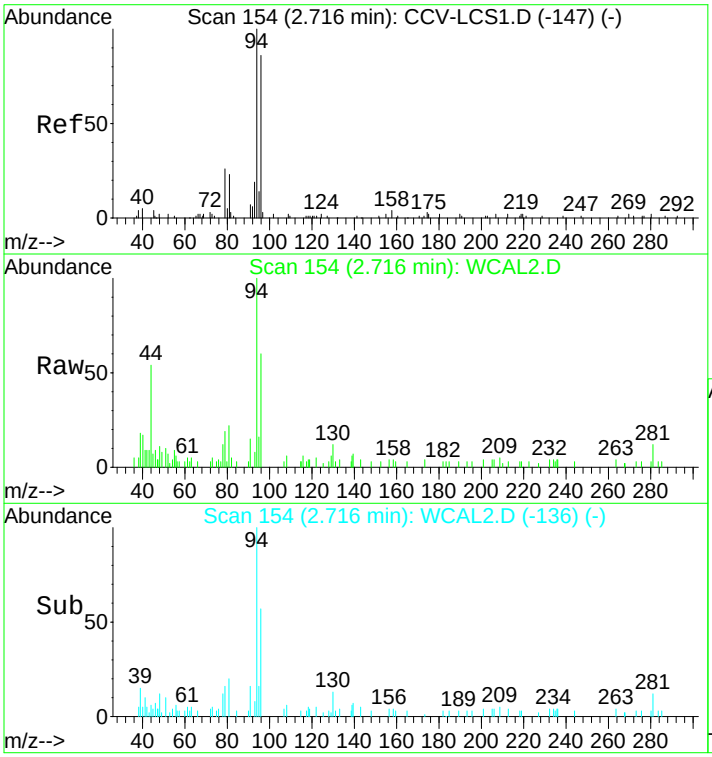
Ion	Ratio	Lower	Upper
94	100		
96	116.5	69.7	109.7#



After Manual Integration

BMS 10/14/2015

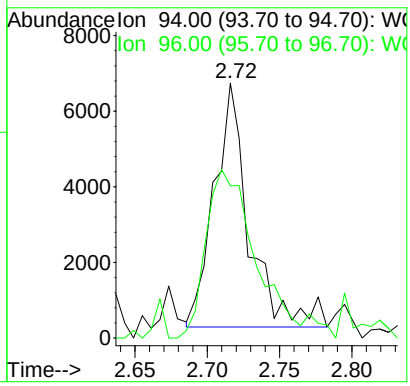
RJ 10/14/2015



#5
Bromomethane
Concen: 2.27 ug/L
RT: 2.72 min Scan# 154
Delta R.T. 0.01 min
Lab File: WCAL2.D
Acq: 3 Oct 2015 23:46

Tgt Ion: 94 Resp: 10827

Ion	Ratio	Lower	Upper
94	100		
96	101.2	69.7	109.7



Before Manual Integration

BMS 10/14/2015

REASON # 2

Quantitation Report

Data File : L:\DATA\OCT0315\WCAL3.D Vial: 6
Acq On : 4 Oct 2015 00:16 Operator: AGK-RLD
Sample : INITIAL CALIB. PT3 Inst : VMS3
Misc : 5.00/50.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 04 09:27:24 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 04 09:27:19 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.70	96	1188679	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.62	117	873175	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	15.46	152	461729	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.85	113	286316	19.925	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100	%		
45) SURR12DCAd4	7.26	102	78273	19.817	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 99	%		
61) SURRd8Tolule	9.71	98	1168683	19.711	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 99	%		
83) SURR4BrFBenz	13.25	95	450018	19.551	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 98	%		
Target Compounds						Qvalue
2) Dichlorodi	1.88	85	75970	4.9366	ug/L	95
3) Chloromethan	2.11	50	70668	4.9808	ug/L	100
4) VinylChlorid	2.26	62	78182	4.9973	ug/L	92
5) Bromomethane	2.71	94	26133	5.3405	ug/L	99
6) Chloroethane	2.89	64	49732	5.1992	ug/L	98
7) Dichloroflmethane	3.18	67	140904	5.2470	ug/L	98
8) Trichlorofma	3.27	101	124055	5.3198	ug/L	97
9) Ethylether	3.73	59	64640	5.0346	ug/L	99
10) dichlorotfluoroethan	3.73	67	74360	5.1139	ug/L	97
11) propyleneoxide	4.08	58	247094	66.4005	ug/L	93
12) Acrolein	3.85	56	153824	25.1416	ug/L	93
13) 11dichlorthe	3.99	96	57976	4.6730	ug/L	94
14) Trichlorotfluoroeth	4.04	101	126156	10.0352	ug/L	98
15) Acetone	4.08	43	687216	61.4183	ug/L	98
16) Iodomethane	4.17	142	68601	6.9935	ug/L	91
17) Carbon Dislf	4.26	76	351117	10.4024	ug/L	99
18) allylchloride	4.48	41	169474	9.7926	ug/L	97
19) methylacetate	4.55	74	27148	4.7723	ug/L	99
20) Methylchlorid	4.64	84	73585	4.7545	ug/L	98
21) tbutylalcohol	4.87	59	1234257	280.0313	ug/L	98
22) Acrylonitrile	4.94	53	242973	25.8111	ug/L	98
23) t12dichlorte	5.02	96	70480	5.1117	ug/L	99
24) MtBE	5.06	73	202784	4.8317	ug/L	96
25) Hexane	5.41	57	145643	9.3391	ug/L	99
26) 11dichlorota	5.54	63	129892	5.1911	ug/L	98
27) Vinylacetate	5.64	43	1136990	46.9362	ug/L	96
28) chloroprene	5.67	53	229608	9.9130	ug/L	98
29) Diisopether	5.70	45	191989	4.9107	ug/L	96
30) ETBE	6.16	59	185852	4.9425	ug/L	99
31) 22dichloropr	6.28	77	121759	5.4386	ug/L	98
32) c12dichlorte	6.27	96	77646	5.1557	ug/L	95
33) 2Butanone	6.30	72	228191	54.4816	ug/L	100
34) propionitrile	6.32	54	226704	51.0167	ug/L	98
35) Ethylacetate	6.40	88	28595	23.2759	ug/L #	89
36) methacrylonitrile	6.53	67	91767	9.7165	ug/L	96
37) Bromochlorma	6.55	128	31660	4.9000	ug/L	94
38) Tetrahydofur	6.66	42	458478	53.1392	ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : L:\DATA\OCT0315\WCAL3.D Vial: 6
Acq On : 4 Oct 2015 00:16 Operator: AGK-RLD
Sample : INITIAL CALIB. PT3 Inst : VMS3
Misc : 5.00/50.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 04 09:27:24 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 04 09:27:19 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
39)	Chloroform	6.66	83	119684	4.7704 ug/L		96
40)	111trichlota	6.91	97	116534	4.8967 ug/L		95
42)	Cyclohexane	7.00	56	112420	4.7107 ug/L		98
43)	Carbtetraclo	7.13	119	98846	4.9193 ug/L		100
44)	11dicloprope	7.13	110	29644	4.5318 ug/L	#	86
46)	Benzene	7.36	78	276622	5.0844 ug/L		99
47)	12dichlorota	7.36	62	110218	5.2117 ug/L		91
48)	TAME	7.55	73	186491	4.9232 ug/L		99
49)	trichloroete	8.17	95	70504	5.0075 ug/L		95
50)	methylcyclohexane	8.45	83	109678	4.8153 ug/L		99
51)	12dicloropra	8.42	63	68057	4.9822 ug/L		98
52)	23Dicl1propene	8.49	75	105394	5.0329 ug/L		95
53)	Dibromometha	8.57	93	38645	4.6387 ug/L		93
54)	methylmethacrylate	8.60	69	62777	4.5192 ug/L		98
55)	14dioxane	8.62	88	59848	250.0475 ug/L		96
56)	Bromodiclrma	8.77	83	89753	4.8269 ug/L		99
57)	2Nitropropane	9.02	43	376489	48.3520 ug/L		93
58)	2CLEVE	9.15	63	70920	21.6634 ug/L		98
59)	c13dicloproe	9.35	75	104859	4.8598 ug/L		97
60)	4Meth2Pentan	9.55	43	1171033	57.5017 ug/L		97
62)	Toluene	9.80	92	175527	4.8825 ug/L		94
63)	t13Dicloprop	10.05	75	99836	4.8248 ug/L		95
64)	ethylmethacrylate	10.21	69	193170	9.4041 ug/L		99
65)	112Triclotha	10.28	83	51967	4.8293 ug/L		96
66)	Tetrachlorte	10.53	166	83697	4.9387 ug/L		98
67)	13Diclorpropa	10.51	76	115735	5.0310 ug/L		99
69)	2Hexanone	10.64	43	1047242	58.1555 ug/L		98
70)	Clorodibrmta	10.81	129	67560	4.7586 ug/L		99
71)	12Dibrometha	10.97	107	61084	4.6394 ug/L		94
72)	Chlorobenzen	11.66	112	180781	4.9779 ug/L		98
73)	1Clhexane	11.64	91	86827	4.5150 ug/L		92
74)	1112Tetclota	11.77	131	63248	4.9106 ug/L		96
75)	Ethylbenzene	11.82	91	318395	5.1136 ug/L		97
76)	m p-Xylene	11.99	106	225082	9.7312 ug/L		97
77)	o-Xylene	12.53	106	110665	5.0136 ug/L		99
78)	Styrene	12.54	104	171465	4.7389 ug/L		97
79)	Bromoform	12.77	173	53680	4.6668 ug/L		95
80)	Isopropylben	13.06	105	269215	4.8668 ug/L		100
81)	cyclohexanone	13.14	55	103218	93.6546 ug/L		99
84)	Bromobenzene	13.47	156	87494	5.1305 ug/L		98
85)	1122Tetrclta	13.42	83	95191	4.3647 ug/L		94
86)	123Triclproa	13.48	75	151287	5.3570 ug/L		99
87)	14dichloro2butene	13.51	53	29351	4.1893 ug/L		96
88)	n-Propylbenz	13.64	91	357861	5.1028 ug/L		99
89)	2chlorotolue	13.75	91	216979	4.9800 ug/L		99
90)	4chlorotolue	13.90	91	249951	5.0371 ug/L		96
91)	135Trimebenz	13.90	105	250970	5.0640 ug/L		100
92)	tbutylbenzen	14.37	119	203568	4.7532 ug/L		98
93)	124Trimetben	14.43	105	230926	4.9510 ug/L		96
94)	sbutylbenzen	14.69	105	286084	4.9878 ug/L		98
95)	13Diclorbenz	14.82	146	140345	4.9410 ug/L		99
96)	pIsopropylto	14.90	119	246912	4.9379 ug/L		98
97)	14dichlorobe	14.96	146	149015	4.9748 ug/L		98
98)	12dichlorobe	15.49	146	139893	4.9615 ug/L		97
99)	nButylbenzen	15.50	91	219082	4.7885 ug/L		98
100)	12dibromo3cl	16.57	157	31089	4.6727 ug/L		89
101)	135Trichlorobenzene	16.92	180	96684	4.6993 ug/L		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : L:\DATA\OCT0315\WCAL3.D Vial: 6
Acq On : 4 Oct 2015 00:16 Operator: AGK-RLD
Sample : INITIAL CALIB. PT3 Inst : VMS3
Misc : 5.00/50.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 04 09:27:24 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 04 09:27:19 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.72	180	84548	4.6262	ug/L	92
103) Hexachlorobu	17.97	225	49318	4.8211	ug/L	98
104) Naphthalene	18.02	128	238145	4.5763	ug/L	99
105) 123Trichlben	18.34	180	82055	4.5361	ug/L	95

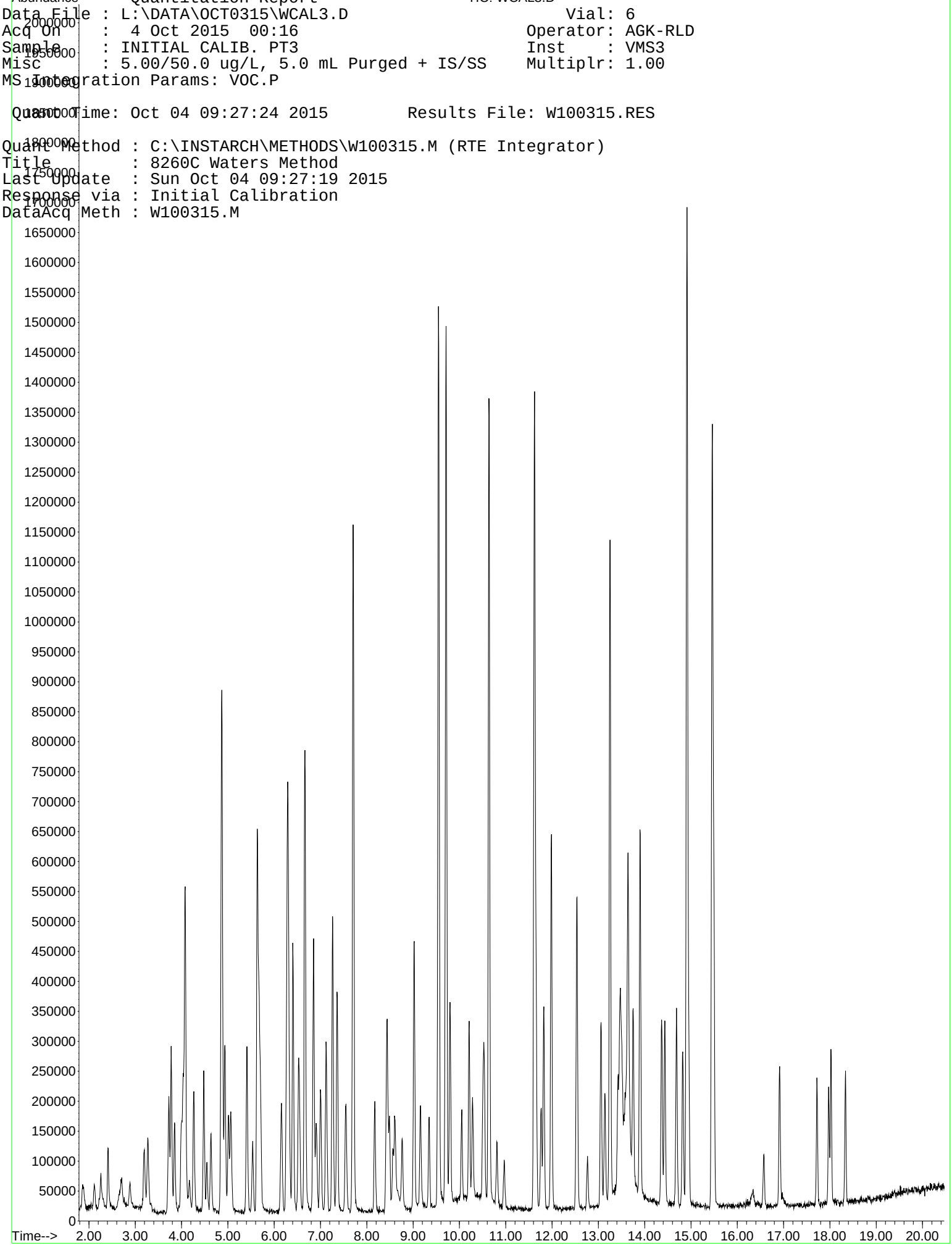
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: WCAL3.D

Data File : L:\DATA\OCT0315\WCAL3.D Vial: 6
Acq On : 4 Oct 2015 00:16 Operator: AGK-RLD
Sample : INITIAL CALIB. PT3 Inst : VMS3
Misc : 5.00/50.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 04 09:27:24 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 04 09:27:19 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M



Quantitation Report

Data File : L:\Data\OCT0315\WCAL4.D Vial: 7
Acq On : 4 Oct 2015 00:46 Operator: AGK-RLD
Sample : INITIAL CALIB. PT4 Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 04 09:03:19 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 04 09:03:11 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.71	96	1238423	20.00 ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.62	117	927728	20.00 ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	15.46	152	475685	20.00 ug/L	0.00 NA%
System Monitoring Compounds					
41) SURRDibrflma	6.85	113	302651	20.228 ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101	%	
45) SURR12DCAd4	7.25	102	84579	20.274 ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 101	%	
61) SURRd8Tolule	9.71	98	1232644	20.173 ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101	%	
83) SURR4BrFBenz	13.25	95	486657	20.758 ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 104	%	
Target Compounds					Qvalue
2) Dichlorodi	1.90	85	158285	9.4754 ug/L	100
3) Chloromethan	2.13	50	133885	8.6557 ug/L	100
4) VinylChlorid	2.26	62	156126	9.2943 ug/L	100
5) Bromomethane	2.71	94	59051	7.9742 ug/L	100
6) Chloroethane	2.89	64	101712	8.6112 ug/L	100
7) Dichloroflmethane	3.19	67	274922	9.0487 ug/L	100
8) Trichlorofma	3.28	101	252654	9.8481 ug/L	100
9) Ethylether	3.73	59	129373	9.3504 ug/L	100
10) dichlorotfluoroethan	3.73	67	148133	9.1612 ug/L	100
11) propyleneoxide	4.08	58	282056	65.9874 ug/L	100
12) Acrolein	3.85	56	296161	44.1532 ug/L	100
13) 11dichlorthe	4.00	96	125859	9.6390 ug/L	100
14) Trichlorotfluoroeth	4.04	101	261798	19.0627 ug/L	100
15) Acetone	4.08	43	916841	66.8031 ug/L	100
16) Iodomethane	4.18	142	201515	24.7612 ug/L	100
17) Carbon Dislf	4.27	76	704143	17.9090 ug/L	100
18) allylchloride	4.48	41	345109	17.9807 ug/L	100
19) methylacetate	4.55	74	56501	9.3005 ug/L	100
20) Methylchlorid	4.64	84	142600	7.5574 ug/L	100
21) tbutylalcohol	4.87	59	2196470	365.4968 ug/L	100
22) Acrylonitrile	4.94	53	469590	43.9965 ug/L	100
23) t12dichlorte	5.02	96	137460	9.3147 ug/L	100
24) MtBE	5.07	73	424046	9.2569 ug/L	100
25) Hexane	5.41	57	321866	19.8243 ug/L	100
26) 11dichlorota	5.54	63	249757	8.9681 ug/L	100
27) Vinylacetate	5.64	43	2992552	101.0227 ug/L	100
28) chloroprene	5.67	53	483719	19.3558 ug/L	100
29) Diisopether	5.70	45	394207	9.4136 ug/L	100
30) ETBE	6.15	59	387919	9.7879 ug/L	100
31) 22dichloropr	6.27	77	234603	8.5942 ug/L	100
32) c12dichlorte	6.27	96	148316	9.0035 ug/L	100
33) 2Butanone	6.30	72	404925	87.5989 ug/L	100
34) propionitrile	6.32	54	438524	86.5641 ug/L	100
35) Ethylacetate	6.40	88	62781	48.2563 ug/L	100
36) methacrylonitrile	6.53	67	192178	19.7168 ug/L	100
37) Bromochlorma	6.55	128	62833	8.6666 ug/L	100
38) Tetrahydofur	6.66	42	907037	92.2603 ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : L:\Data\OCT0315\WCAL4.D Vial: 7
Acq On : 4 Oct 2015 00:46 Operator: AGK-RLD
Sample : INITIAL CALIB. PT4 Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 04 09:03:19 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 04 09:03:11 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.66	83	251541	9.0996	ug/L	100
40)	111trichlota	6.91	97	247960	9.7873	ug/L	100
42)	Cyclohexane	7.01	56	245482	10.1688	ug/L	100
43)	Carbtetraclo	7.13	119	203360	9.4959	ug/L	100
44)	11dicloprope	7.12	110	68102	10.4273	ug/L	100
46)	Benzene	7.36	78	554810	9.0347	ug/L	100
47)	12dichlorota	7.36	62	212809	9.0822	ug/L	100
48)	TAME	7.55	73	371674	9.1619	ug/L	100
49)	trichloroete	8.18	95	144628	9.5864	ug/L	100
50)	methylcyclohexane	8.44	83	233215	10.1288	ug/L	100
51)	12dicloropra	8.42	63	142643	10.0780	ug/L	100
52)	23Dicl1propene	8.49	75	206101	9.3754	ug/L	100
53)	Dibromometha	8.57	93	84584	9.8883	ug/L	100
54)	methylmethacrylate	8.60	69	140275	10.0817	ug/L	100
55)	14dioxane	8.62	88	103740	365.9798	ug/L	100
56)	Bromodiclrma	8.76	83	188429	9.5003	ug/L	100
57)	2Nitropropane	9.02	43	817919	96.8189	ug/L	100
58)	2CLEVE	9.16	63	157856	54.3799	ug/L	100
59)	c13dicloproe	9.34	75	212119	9.1743	ug/L	100
60)	4Meth2Pentan	9.55	43	2284889	88.5003	ug/L	100
62)	Toluene	9.80	92	371730	9.4270	ug/L	100
63)	t13Dicloprop	10.05	75	204273	9.1586	ug/L	100
64)	ethylmethacrylate	10.21	69	423478	19.9896	ug/L	100
65)	112Triclotha	10.28	83	113354	10.0580	ug/L	100
66)	Tetrachlorte	10.54	166	170941	9.4130	ug/L	100
67)	13Diclorpropa	10.51	76	230222	9.2093	ug/L	100
69)	2Hexanone	10.64	43	1983087	85.7441	ug/L	100
70)	Clorodibrmta	10.81	129	142005	9.2429	ug/L	100
71)	12Dibrometha	10.97	107	130135	9.0664	ug/L	100
72)	Chlorobenzen	11.66	112	366157	8.8525	ug/L	100
73)	1Clhexane	11.64	91	188159	9.1533	ug/L	100
74)	1112Tetclota	11.76	131	130373	9.4801	ug/L	100
75)	Ethylbenzene	11.82	91	663648	9.4891	ug/L	100
76)	m p-Xylene	11.99	106	486657	19.6085	ug/L	100
77)	o-Xylene	12.53	106	232419	10.3599	ug/L	100
78)	Styrene	12.54	104	367795	9.7526	ug/L	100
79)	Bromoform	12.77	173	110342	8.9768	ug/L	100
80)	Isopropylben	13.06	105	582661	9.9970	ug/L	100
81)	cyclohexanone	13.14	55	195420	165.2211	ug/L	100
84)	Bromobenzene	13.47	156	177102	9.3751	ug/L	100
85)	1122Tetrclta	13.42	83	221322	9.2621	ug/L	100
86)	123Triclproa	13.48	75	306127	8.6189	ug/L	100
87)	14dichloro2butene	13.51	53	63770	9.0436	ug/L	100
88)	n-Propylbenz	13.64	91	746522	9.3699	ug/L	100
89)	2chlorotolue	13.75	91	473266	9.8218	ug/L	100
90)	4chlorotolue	13.90	91	530981	9.8432	ug/L	100
91)	135Trimebenz	13.90	105	527723	9.9421	ug/L	100
92)	tbutylbenzen	14.37	119	440137	9.5564	ug/L	100
93)	124Trimetben	14.43	105	508855	10.5386	ug/L	100
94)	sbutylbenzen	14.69	105	621408	10.3900	ug/L	100
95)	13Diclorbenz	14.83	146	292073	9.5441	ug/L	100
96)	pIsopropylto	14.90	119	532110	10.2959	ug/L	100
97)	14dichlorobe	14.96	146	305604	9.2574	ug/L	100
98)	12dichlorobe	15.49	146	290617	9.2513	ug/L	100
99)	nButylbenzen	15.50	91	478559	10.0507	ug/L	100
100)	12dibromo3cl	16.57	157	63387	9.1775	ug/L	100
101)	135Trichlorobenzene	16.91	180	214823	9.9520	ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : L:\Data\OCT0315\WCAL4.D Vial: 7
Acq On : 4 Oct 2015 00:46 Operator: AGK-RLD
Sample : INITIAL CALIB. PT4 Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 04 09:03:19 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 04 09:03:11 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	17.72	180	179845	9.5823 ug/L	100
103) Hexachlorobu	17.98	225	101329	9.7393 ug/L	100
104) Naphthalene	18.02	128	534827	9.9123 ug/L	100
105) 123Trichlben	18.34	180	184767	9.8991 ug/L	100

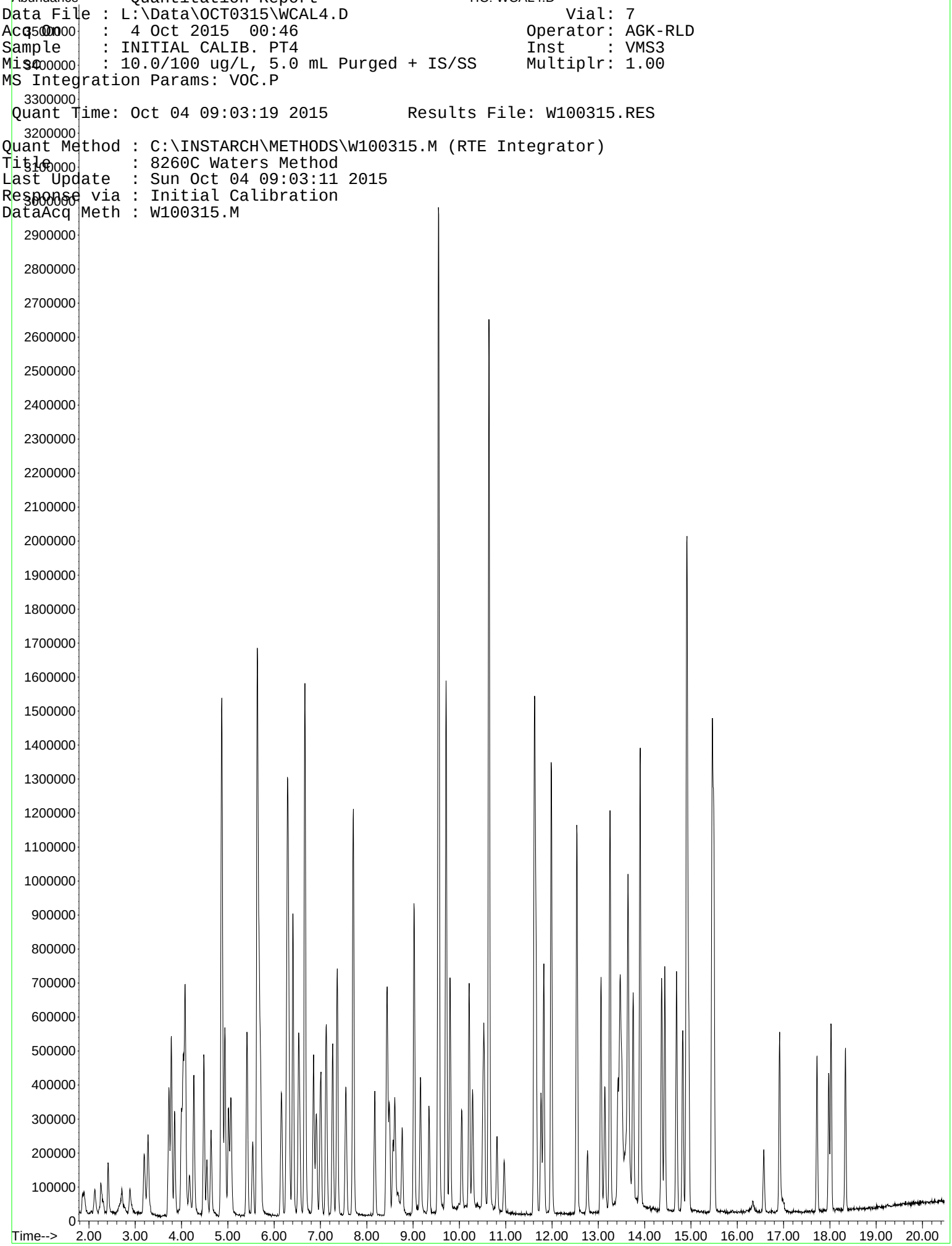
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : L:\Data\OCT0315\WCAL4.D Vial: 7
Acq On : 4 Oct 2015 00:46 Operator: AGK-RLD
Sample : INITIAL CALIB. PT4 Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 04 09:03:19 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 04 09:03:11 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M



Quantitation Report

Data File : L:\Data\OCT0315\WCAL5.D Vial: 8
Acq On : 4 Oct 2015 1:17 Operator: AGK-RLD
Sample : INITIAL CALIB. PT5 Inst : VMS3
Misc : 20.0/200 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 04 09:03:35 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 04 09:03:26 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.70	96	1252260	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.62	117	928299	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	15.45	152	486618	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.85	113	303852	20.083	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100	%		
45) SURR12DCAd4	7.27	102	79283	18.795	ug/L	0.01
Spiked Amount 20.000	Range 89 - 112		Recovery = 94	%		
61) SURRd8Tolule	9.71	98	1246264	20.171	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101	%		
83) SURR4BrFBenz	13.25	95	503294	20.985	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 105	%		
Target Compounds						Qvalue
2) Dichlorodi	1.86	85	323433	19.1476	ug/L	97
3) Chloromethan	2.11	50	279844	17.8920	ug/L	99
4) VinylChlorid	2.26	62	321092	18.9037	ug/L	97
5) Bromomethane	2.71	94	74120	9.9023	ug/L	95
6) Chloroethane	2.89	64	199159	16.6749	ug/L	99
7) Dichloroflmethane	3.19	67	541052	17.6113	ug/L	99
8) Trichlorofma	3.28	101	493446	19.0214	ug/L	95
9) Ethylether	3.73	59	262578	18.7681	ug/L	99
10) dichlorotfluoroethan	3.73	67	291887	17.8521	ug/L	99
11) propyleneoxide	4.08	58	807853	186.9101	ug/L #	86
12) Acrolein	3.85	56	608368	89.6965	ug/L	97
13) 11dichlorthe	3.99	96	253428	19.1945	ug/L	97
14) Trichlorotfluoroeth	4.04	101	515759	37.1550	ug/L	99
15) Acetone	4.08	43	2378852	171.4132	ug/L	94
16) Iodomethane	4.17	142	439345	53.3269	ug/L	98
17) Carbon Dislf	4.27	76	1381632	34.7580	ug/L	99
18) allylchloride	4.48	41	699999	36.0680	ug/L	100
19) methylacetate	4.55	74	111077	18.0820	ug/L	91
20) Methylchlorid	4.63	84	296265	15.5277	ug/L	94
21) tbutylalcohol	4.87	59	4018944	661.3703	ug/L	99
22) Acrylonitrile	4.94	53	941230	87.2593	ug/L	99
23) t12dichlorte	5.02	96	286332	19.1883	ug/L	98
24) MtBE	5.06	73	878702	18.9701	ug/L	99
25) Hexane	5.42	57	666855	40.6212	ug/L	97
26) 11dichlorota	5.54	63	510307	18.1214	ug/L	99
27) Vinylacetate	5.64	43	5311492	177.3242	ug/L	96
28) chloroprene	5.67	53	988792	39.1289	ug/L	99
29) Diisopether	5.70	45	822404	19.4218	ug/L	100
30) ETBE	6.16	59	802137	20.0158	ug/L	99
31) 22dichloropr	6.28	77	485748	17.5978	ug/L	100
32) c12dichlorte	6.27	96	303290	18.2078	ug/L	98
33) 2Butanone	6.30	72	878642	187.9794	ug/L	98
34) propionitrile	6.32	54	860440	167.9730	ug/L	98
35) Ethylacetate	6.41	88	127214	96.7020	ug/L	96
36) methacrylonitrile	6.53	67	398548	40.4379	ug/L	98
37) Bromochlorma	6.55	128	122970	16.7738	ug/L	97
38) Tetrahydofur	6.66	42	1770282	178.0952	ug/L	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : L:\Data\OCT0315\WCAL5.D Vial: 8
Acq On : 4 Oct 2015 1:17 Operator: AGK-RLD
Sample : INITIAL CALIB. PT5 Inst : VMS3
Misc : 20.0/200 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 04 09:03:35 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 04 09:03:26 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	6.66	83	515713	18.4500 ug/L	99
40)	111trichlota	6.91	97	503234	19.6438 ug/L	99
42)	Cyclohexane	7.00	56	514886	21.0928 ug/L	99
43)	Carbtetraclo	7.13	119	420249	19.4067 ug/L	100
44)	11dicloprope	7.12	110	138522	20.9752 ug/L	95
46)	Benzene	7.36	78	1121759	18.0652 ug/L	99
47)	12dichlorota	7.36	62	433157	18.2819 ug/L	96
48)	TAME	7.55	73	795235	19.3862 ug/L	98
49)	trichloroete	8.17	95	289395	18.9700 ug/L	98
50)	methylcyclohexane	8.44	83	482443	20.7216 ug/L	99
51)	12dicloropra	8.42	63	284667	19.8901 ug/L	91
52)	23Dicl1propene	8.49	75	438768	19.7387 ug/L	98
53)	Dibromometha	8.56	93	177270	20.4947 ug/L	98
54)	methylmethacrylate	8.60	69	300614	21.3667 ug/L	99
55)	14dioxane	8.62	88	218676	762.9331 ug/L	98
56)	Bromodiclrma	8.76	83	381965	19.0452 ug/L	98
57)	2Nitropropane	9.02	43	1675642	196.1578 ug/L	100
58)	2CLEVE	9.16	63	341292	116.2726 ug/L	97
59)	c13dicloproe	9.35	75	440973	18.8616 ug/L	98
60)	4Meth2Pentan	9.55	43	4151670	159.0293 ug/L	95
62)	Toluene	9.80	92	743279	18.6412 ug/L	98
63)	t13Dicloprop	10.05	75	418608	18.5609 ug/L	100
64)	ethylmethacrylate	10.21	69	895472	41.8023 ug/L	99
65)	112Triclotha	10.28	83	218848	19.2041 ug/L	95
66)	Tetrachlorte	10.54	166	357734	19.4812 ug/L	98
67)	13Diclorpropa	10.51	76	460676	18.2243 ug/L	95
69)	2Hexanone	10.64	43	3729510	161.1562 ug/L	96
70)	Clorodibrmta	10.81	129	289074	18.8038 ug/L	99
71)	12Dibrometha	10.97	107	268001	18.6599 ug/L	96
72)	Chlorobenzen	11.66	112	753943	18.2166 ug/L	98
73)	1Clhexane	11.64	91	403428	19.6133 ug/L	95
74)	1112Tetclota	11.76	131	269054	19.5524 ug/L	99
75)	Ethylbenzene	11.82	91	1345642	19.2287 ug/L	98
76)	m p-Xylene	11.98	106	1026569	41.3360 ug/L	92
77)	o-Xylene	12.53	106	501190	22.3265 ug/L	95
78)	Styrene	12.54	104	799872	21.1967 ug/L	99
79)	Bromoform	12.77	173	236517	19.2298 ug/L	98
80)	Isopropylben	13.06	105	1265126	21.6931 ug/L	100
81)	cyclohexanone	13.14	55	425122	359.2055 ug/L	99
84)	Bromobenzene	13.47	156	350142	18.1186 ug/L	93
85)	1122Tetrclta	13.42	83	450839	18.4432 ug/L	97
86)	123Triclproa	13.48	75	629497	17.3251 ug/L	99
87)	14dichloro2butene	13.51	53	149535	20.7300 ug/L	95
88)	n-Propylbenz	13.64	91	1543884	18.9425 ug/L	98
89)	2chlorotolue	13.75	91	929711	18.8609 ug/L	97
90)	4chlorotolue	13.90	91	1092207	19.7923 ug/L	100
91)	135Trimebenz	13.90	105	1108190	20.4087 ug/L	99
92)	tbutylbenzen	14.37	119	924417	19.6202 ug/L	98
93)	124Trimetben	14.43	105	1077521	21.8146 ug/L	97
94)	sbutylbenzen	14.69	105	1307473	21.3699 ug/L	97
95)	13Diclorbenz	14.82	146	606933	19.3873 ug/L	99
96)	pIsopropylto	14.90	119	1134495	21.4584 ug/L	98
97)	14dichlorobe	14.95	146	624148	18.4820 ug/L	99
98)	12dichlorobe	15.49	146	574547	17.8789 ug/L	98
99)	nButylbenzen	15.50	91	1012220	20.7811 ug/L	96
100)	12dibromo3cl	16.57	157	134478	19.0330 ug/L	95
101)	135Trichlorobenzene	16.91	180	433551	19.6337 ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : L:\Data\OCT0315\WCAL5.D Vial: 8
Acq On : 4 Oct 2015 1:17 Operator: AGK-RLD
Sample : INITIAL CALIB. PT5 Inst : VMS3
Misc : 20.0/200 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 04 09:03:35 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 04 09:03:26 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.72	180	381794	19.8853	ug/L	99
103) Hexachlorobu	17.97	225	212644	19.9792	ug/L	98
104) Naphthalene	18.02	128	1166668	21.1369	ug/L	99
105) 123Trichlben	18.34	180	381643	19.9876	ug/L	97

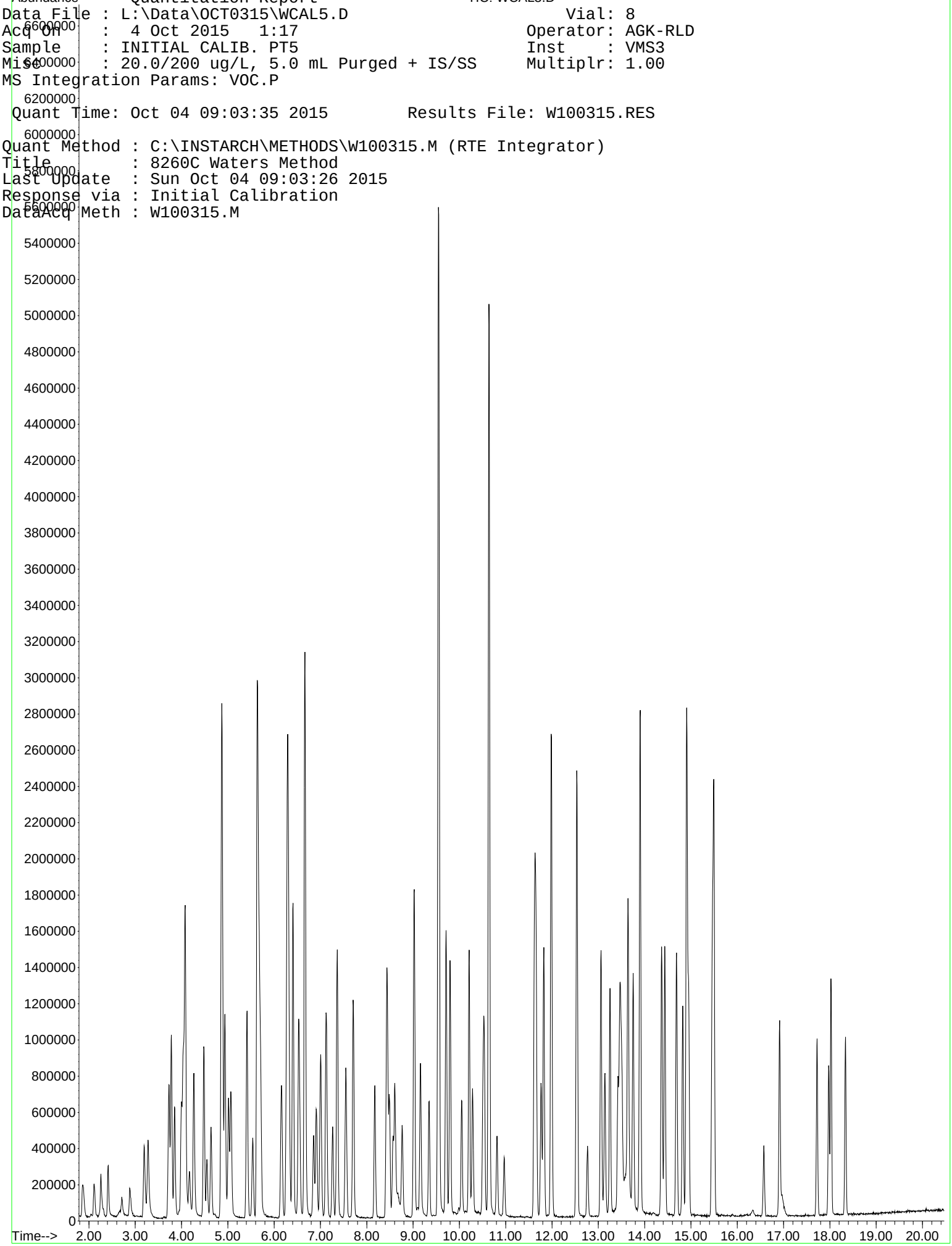
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: WCAL5.D

Data File : L:\Data\OCT0315\WCAL5.D Vial: 8
Acq On : 4 Oct 2015 1:17 Operator: AGK-RLD
Sample : INITIAL CALIB. PT5 Inst : VMS3
Misc : 20.0/200 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 04 09:03:35 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 04 09:03:26 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M



Quantitation Report

Data File : L:\Data\OCT0315\WCAL6.D Vial: 9
Acq On : 4 Oct 2015 1:47 Operator: AGK-RLD
Sample : INITIAL CALIB. PT6 Inst : VMS3
Misc : 30.0/300 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 04 09:03:51 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 04 09:03:43 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.71	96	1312068	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.62	117	970079	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	15.46	152	536741	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.85	113	313910	19.786	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 99 %			
45) SURR12DCAd4	7.27	102	85669	19.619	ug/L	0.01
Spiked Amount 20.000	Range 89 - 112		Recovery = 98 %			
61) SURRd8Tolule	9.71	98	1330151	20.512	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 103 %			
83) SURR4BrFBenz	13.25	95	540658	20.238	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 101 %			
Target Compounds						Qvalue
2) Dichlorodi	1.89	85	513315	29.2530	ug/L	99
3) Chloromethan	2.12	50	455614	28.4008	ug/L	99
4) VinylChlorid	2.26	62	519351	29.5055	ug/L	97
5) Bromomethane	2.71	94	161648	22.9265	ug/L	96
6) Chloroethane	2.89	64	316085	26.1272	ug/L	97
7) Dichloroflmethane	3.19	67	849354	27.0321	ug/L	99
8) Trichlorofma	3.28	101	774877	28.7902	ug/L	97
9) Ethylether	3.73	59	423263	29.2344	ug/L	99
10) dichlorotfluoroethan	3.73	67	468835	27.9681	ug/L	99
11) propyleneoxide	4.08	58	1073053	240.0945	ug/L #	82
12) Acrolein	3.85	56	992342	142.5777	ug/L	99
13) 11dichlorthe	4.00	96	423892	30.8907	ug/L	99
14) Trichlorotfluoroeth	4.04	101	832569	58.0699	ug/L	99
15) Acetone	4.08	43	3074461	217.6607	ug/L	93
16) Iodomethane	4.18	142	833380	90.5120	ug/L	95
17) Carbon Dislf	4.27	76	2168149	53.4594	ug/L	99
18) allylchloride	4.49	41	1128076	56.5881	ug/L	99
19) methylacetate	4.55	74	190713	30.2101	ug/L	99
20) Methylchlorid	4.64	84	465438	24.3724	ug/L	96
21) tbutylalcohol	4.87	59	6089327	1025.8801	ug/L	93
22) Acrylonitrile	4.94	53	1501828	136.3591	ug/L	97
23) t12dichlorte	5.02	96	454562	29.3115	ug/L	99
24) MtBE	5.06	73	1371951	28.5627	ug/L	98
25) Hexane	5.42	57	1080178	62.6049	ug/L	98
26) 11dichlorota	5.54	63	791021	27.3226	ug/L	96
27) Vinylacetate	5.64	43	7447086	242.7937	ug/L	91
28) chloroprene	5.67	53	1560981	59.2140	ug/L	99
29) Diisopether	5.70	45	1300347	29.4795	ug/L	99
30) ETBE	6.16	59	1268288	30.2003	ug/L	98
31) 22dichloropr	6.27	77	751281	26.6163	ug/L	99
32) c12dichlorte	6.27	96	489960	28.5859	ug/L	98
33) 2Butanone	6.29	72	1342139	277.3870	ug/L	99
34) propionitrile	6.32	54	1405040	270.4473	ug/L	98
35) Ethylacetate	6.41	88	198471	144.9472	ug/L #	89
36) methacrylonitrile	6.53	67	658451	63.6238	ug/L	99
37) Bromochlorma	6.55	128	208107	27.9963	ug/L	93
38) Tetrahydofur	6.66	42	2768224	271.7490	ug/L	95

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : L:\Data\OCT0315\WCAL6.D Vial: 9
Acq On : 4 Oct 2015 1:47 Operator: AGK-RLD
Sample : INITIAL CALIB. PT6 Inst : VMS3
Misc : 30.0/300 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 04 09:03:51 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 04 09:03:43 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.66	83	809259	28.0671	ug/L	99
40)	111trichlota	6.91	97	817608	30.5695	ug/L	100
42)	Cyclohexane	7.00	56	852112	32.9563	ug/L	98
43)	Carbtetraclo	7.13	119	677790	30.0513	ug/L	97
44)	11dicloprope	7.12	110	231416	33.1210	ug/L	96
46)	Benzene	7.36	78	1743635	27.3289	ug/L	97
47)	12dichlorota	7.36	62	682200	27.9610	ug/L	96
48)	TAME	7.55	73	1257282	29.4336	ug/L	97
49)	trichloroete	8.17	95	464478	29.3613	ug/L	98
50)	methylcyclohexane	8.45	83	814224	33.1388	ug/L	98
51)	12dicloropra	8.43	63	464237	30.9924	ug/L	89
52)	23Dicl1propene	8.49	75	691822	29.7819	ug/L	97
53)	Dibromometha	8.57	93	287377	31.5539	ug/L	96
54)	methylmethacrylate	8.60	69	478358	32.0128	ug/L	97
55)	14dioxane	8.62	88	401871	1404.7715	ug/L	99
56)	Bromodiclrma	8.76	83	631106	30.3228	ug/L	98
57)	2Nitropropane	9.02	43	2667253	299.1566	ug/L	100
58)	2CLEVE	9.16	63	607438	191.2857	ug/L	97
59)	c13dicloproe	9.35	75	710786	29.3505	ug/L	94
60)	4Meth2Pentan	9.55	43	5923557	225.8100	ug/L	89
62)	Toluene	9.80	92	1175162	28.5167	ug/L	98
63)	t13Dicloprop	10.05	75	678436	29.1296	ug/L	99
64)	ethylmethacrylate	10.21	69	1437001	63.4522	ug/L	98
65)	112Triclotha	10.28	83	366893	30.9741	ug/L	98
66)	Tetrachlorte	10.53	166	567544	29.6519	ug/L	99
67)	13Diclorpropa	10.51	76	753943	28.9810	ug/L	96
69)	2Hexanone	10.64	43	5335632	229.5451	ug/L	90
70)	Clorodibrmta	10.82	129	482813	30.4175	ug/L	99
71)	12Dibrometha	10.97	107	444559	30.0222	ug/L	100
72)	Chlorobenzen	11.66	112	1186562	27.9329	ug/L	98
73)	1Clhexane	11.64	91	659263	30.7898	ug/L	96
74)	1112Tetclota	11.76	131	446575	31.1949	ug/L	98
75)	Ethylbenzene	11.82	91	2104621	29.0027	ug/L	96
76)	m p-Xylene	11.99	106	1633790	62.5354	ug/L	87
77)	o-Xylene	12.53	106	799275	33.2971	ug/L	94
78)	Styrene	12.54	104	1305696	32.7193	ug/L	100
79)	Bromoform	12.77	173	390568	30.6230	ug/L	98
80)	Isopropylben	13.06	105	1988884	32.0912	ug/L	97
81)	cyclohexanone	13.14	55	761802	628.7852	ug/L	97
84)	Bromobenzene	13.46	156	567845	27.1508	ug/L	95
85)	1122Tetrclta	13.42	83	736200	27.7363	ug/L	95
86)	123Triclproa	13.49	75	1041734	26.7077	ug/L	100
87)	14dichloro2butene	13.51	53	251755	31.4123	ug/L	96
88)	n-Propylbenz	13.64	91	2435672	27.3831	ug/L	96
89)	2chlorotolue	13.75	91	1507177	28.0400	ug/L	97
90)	4chlorotolue	13.90	91	1751343	28.8329	ug/L	99
91)	135Trimebenz	13.90	105	1779054	29.5831	ug/L	98
92)	tbutylbenzen	14.37	119	1512271	29.2107	ug/L	98
93)	124Trimetben	14.43	105	1704718	30.7317	ug/L	95
94)	sbutylbenzen	14.69	105	2139361	31.2729	ug/L	96
95)	13Diclorbenz	14.82	146	973297	28.3605	ug/L	98
96)	pIsopropylto	14.90	119	1880694	31.7869	ug/L	99
97)	14dichlorobe	14.95	146	1019015	27.7785	ug/L	98
98)	12dichlorobe	15.49	146	945151	27.2427	ug/L	99
99)	nButylbenzen	15.50	91	1683957	31.1006	ug/L	94
100)	12dibromo3cl	16.57	157	236101	30.5913	ug/L	95
101)	135Trichlorobenzene	16.91	180	732922	30.2021	ug/L	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : L:\Data\OCT0315\WCAL6.D Vial: 9
Acq On : 4 Oct 2015 1:47 Operator: AGK-RLD
Sample : INITIAL CALIB. PT6 Inst : VMS3
Misc : 30.0/300 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 04 09:03:51 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 04 09:03:43 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.72	180	667974	31.5779	ug/L	97
103) Hexachlorobu	17.97	225	378678	32.2633	ug/L	98
104) Naphthalene	18.02	128	1944368	31.5781	ug/L	98
105) 123Trichlben	18.34	180	653176	31.0177	ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (RTE Integrator)

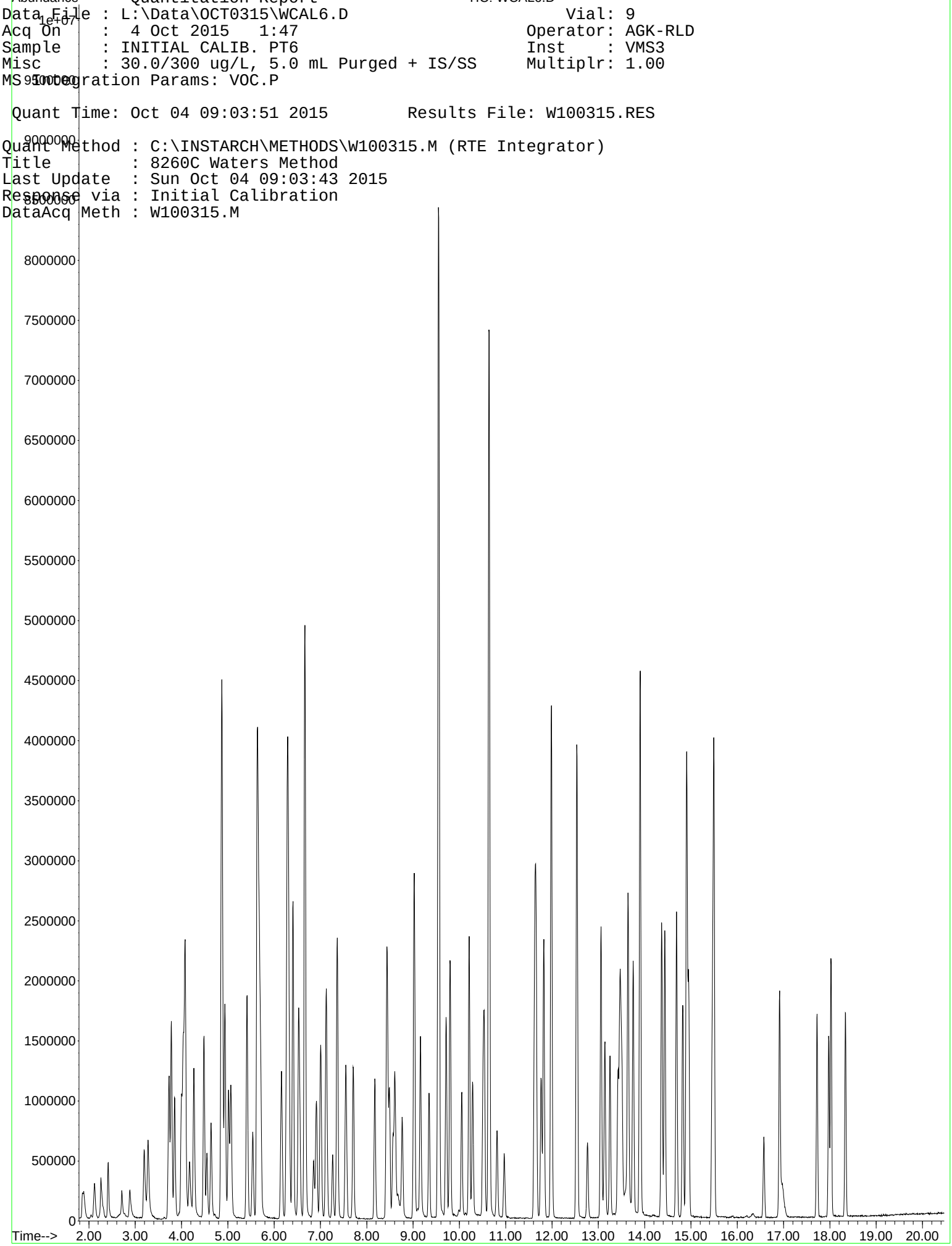
Data File : L:\Data\OCT0315\WCAL6.D
Acq On : 4 Oct 2015 1:47
Sample : INITIAL CALIB. PT6
Misc : 30.0/300 ug/L, 5.0 mL Purged + IS/SS
MS Integration Params: VOC.P

Vial: 9
Operator: AGK-RLD
Inst : VMS3
Multiplr: 1.00

Quant Time: Oct 04 09:03:51 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 04 09:03:43 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

TIC: WCAL6.D



Quantitation Report

Data File : L:\Data\OCT0315\WCAL7.D Vial: 10
Acq On : 4 Oct 2015 2:16 Operator: AGK-RLD
Sample : INITIAL CALIB. PT7 Inst : VMS3
Misc : 40.0/400 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 04 09:04:10 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 04 09:04:03 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.71	96	1372551	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.62	117	1023636	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	15.46	152	570487	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.85	113	330537	19.951	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100	%		
45) SURR12DCAd4	7.26	102	89450	19.645	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 98	%		
61) SURRd8Tolule	9.71	98	1388601	20.383	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 102	%		
83) SURR4BrFBenz	13.25	95	578144	20.321	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 102	%		
Target Compounds						Qvalue
2) Dichlorodi	1.88	85	675970	36.9784	ug/L	100
3) Chloromethan	2.12	50	629993	37.8767	ug/L	100
4) VinylChlorid	2.26	62	713486	38.8553	ug/L	99
5) Bromomethane	2.71	94	224327	31.6583	ug/L	94
6) Chloroethane	2.88	64	421625	34.0478	ug/L	98
7) Dichloroflmethane	3.19	67	1125413	34.8138	ug/L	98
8) Trichlorofma	3.28	101	1007940	36.0415	ug/L	96
9) Ethylether	3.73	59	564692	37.4433	ug/L	97
10) dichlorotfluoroethan	3.73	67	618492	35.6726	ug/L	97
11) propyleneoxide	4.08	58	1627008	359.9798	ug/L #	76
12) Acrolein	3.85	56	1381745	191.3562	ug/L	98
13) 11dichlorthe	4.00	96	562326	38.9803	ug/L	99
14) Trichlorotfluoroeth	4.04	101	1103509	73.9724	ug/L	98
15) Acetone	4.08	43	4435150	314.5447	ug/L	89
16) Iodomethane	4.18	142	1109212	106.1631	ug/L	96
17) Carbon Dislf	4.27	76	2831606	67.9765	ug/L	97
18) allylchloride	4.49	41	1504620	72.8412	ug/L	99
19) methylacetate	4.55	74	261171	39.5019	ug/L	93
20) Methylchlorid	4.64	84	610622	31.5524	ug/L	99
21) tbutylalcohol	4.88	59	7709822	1310.6985	ug/L	89
22) Acrylonitrile	4.94	53	2018026	177.8489	ug/L	97
23) t12dichlorte	5.02	96	625771	38.7215	ug/L	98
24) MtBE	5.06	73	1848398	37.0823	ug/L	97
25) Hexane	5.41	57	1457138	80.1512	ug/L	98
26) 11dichlorota	5.54	63	1072086	35.9335	ug/L	98
27) Vinylacetate	5.64	43	8952399	288.1674	ug/L	86
28) chloroprene	5.67	53	2072620	75.3223	ug/L	97
29) Diisopether	5.71	45	1773031	38.5357	ug/L	99
30) ETBE	6.16	59	1729451	39.3230	ug/L	99
31) 22dichloropr	6.27	77	1022597	35.2955	ug/L	99
32) c12dichlorte	6.27	96	648067	36.4304	ug/L	95
33) 2Butanone	6.30	72	1869670	374.0864	ug/L	95
34) propionitrile	6.32	54	1919153	359.0218	ug/L	97
35) Ethylacetate	6.41	88	278727	195.6883	ug/L #	94
36) methacrylonitrile	6.52	67	882241	80.6792	ug/L	97
37) Bromochlorma	6.55	128	273481	35.5656	ug/L	94
38) Tetrahydofur	6.66	42	3730600	355.6670	ug/L	94

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : L:\Data\OCT0315\WCAL7.D Vial: 10
Acq On : 4 Oct 2015 2:16 Operator: AGK-RLD
Sample : INITIAL CALIB. PT7 Inst : VMS3
Misc : 40.0/400 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 04 09:04:10 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 04 09:04:03 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.66	83	1087290	36.4395	ug/L		100
40)	111trichlota	6.91	97	1056973	37.6585	ug/L		96
42)	Cyclohexane	7.00	56	1144108	41.6161	ug/L		99
43)	Carbtetraclo	7.13	119	902756	38.2510	ug/L		98
44)	11dicloprope	7.12	110	321264	43.2051	ug/L		96
46)	Benzene	7.36	78	2301347	35.0001	ug/L		96
47)	12dichlorota	7.36	62	901956	35.7439	ug/L		97
48)	TAME	7.55	73	1701526	38.1984	ug/L		97
49)	trichloroete	8.17	95	625834	37.9526	ug/L		99
50)	methylcyclohexane	8.45	83	1095209	41.8803	ug/L		99
51)	12dicloropra	8.43	63	638478	40.5230	ug/L		97
52)	23Dicl1propene	8.49	75	957162	39.4365	ug/L		97
53)	Dibromometha	8.56	93	380648	39.6114	ug/L		96
54)	methylmethacrylate	8.60	69	673419	42.6044	ug/L		97
55)	14dioxane	8.62	88	580671	1961.0865	ug/L		98
56)	Bromodiclrma	8.76	83	828059	37.9645	ug/L		98
57)	2Nitropropane	9.02	43	3533279	379.0039	ug/L		99
58)	2CLEVE	9.16	63	907081	261.0811	ug/L		98
59)	c13dicloproe	9.35	75	975721	38.6545	ug/L		97
60)	4Meth2Pentan	9.55	43	7278247	276.6271	ug/L		84
62)	Toluene	9.80	92	1576782	36.8803	ug/L		96
63)	t13Dicloprop	10.05	75	918400	37.8783	ug/L		98
64)	ethylmethacrylate	10.21	69	1927701	80.5958	ug/L		96
65)	112Triclotha	10.28	83	484708	38.9066	ug/L		96
66)	Tetrachlorte	10.53	166	749435	37.5020	ug/L		98
67)	13Diclorpropa	10.51	76	1018489	37.6378	ug/L		95
69)	2Hexanone	10.64	43	6652455	282.2710	ug/L		87
70)	Clorodibrmta	10.81	129	656590	39.1106	ug/L		100
71)	12Dibrometha	10.97	107	600928	38.4541	ug/L		99
72)	Chlorobenzen	11.66	112	1578249	35.6187	ug/L		98
73)	1Clhexane	11.64	91	907962	40.0106	ug/L		95
74)	1112Tetclota	11.76	131	599095	39.3979	ug/L		99
75)	Ethylbenzene	11.82	91	2775357	36.4467	ug/L		94
76)	m p-Xylene	11.99	106	2150275	77.4528	ug/L	#	84
77)	o-Xylene	12.53	106	1076655	41.7412	ug/L		92
78)	Styrene	12.54	104	1740166	40.7101	ug/L		97
79)	Bromoform	12.77	173	536532	39.7290	ug/L		98
80)	Isopropylben	13.06	105	2640234	39.9084	ug/L		96
81)	cyclohexanone	13.14	55	1115328	865.4970	ug/L		99
84)	Bromobenzene	13.47	156	770576	35.2223	ug/L		93
85)	1122Tetrclta	13.42	83	1007076	36.1518	ug/L		97
86)	123Triclproa	13.48	75	1409189	34.6247	ug/L		99
87)	14dichloro2butene	13.51	53	357647	41.6582	ug/L		96
88)	n-Propylbenz	13.64	91	3161123	33.9300	ug/L		93
89)	2chlorotolue	13.75	91	1965686	34.7858	ug/L		94
90)	4chlorotolue	13.90	91	2295909	35.7945	ug/L		98
91)	135Trimebenz	13.90	105	2338516	36.6708	ug/L		96
92)	tbutylbenzen	14.37	119	2038395	37.2073	ug/L		96
93)	124Trimetben	14.43	105	2300368	38.8588	ug/L		94
94)	sbutylbenzen	14.69	105	2810777	38.3857	ug/L		93
95)	13Diclorbenz	14.82	146	1349678	37.3415	ug/L		98
96)	pIsopropylto	14.90	119	2475314	38.9753	ug/L		99
97)	14dichlorobe	14.95	146	1368422	35.5354	ug/L		98
98)	12dichlorobe	15.49	146	1276889	35.1662	ug/L		99
99)	nButylbenzen	15.50	91	2275434	39.2983	ug/L		93
100)	12dibromo3cl	16.57	157	333448	40.5156	ug/L		95
101)	135Trichlorobenzene	16.92	180	1008587	39.0593	ug/L		96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : L:\Data\OCT0315\WCAL7.D Vial: 10
Acq On : 4 Oct 2015 2:16 Operator: AGK-RLD
Sample : INITIAL CALIB. PT7 Inst : VMS3
Misc : 40.0/400 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 04 09:04:10 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 04 09:04:03 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.72	180	923103	40.7008	ug/L	99
103) Hexachlorobu	17.97	225	519893	41.1571	ug/L	98
104) Naphthalene	18.02	128	2596510	39.3302	ug/L	95
105) 123Trichlben	18.33	180	914850	40.6443	ug/L	99

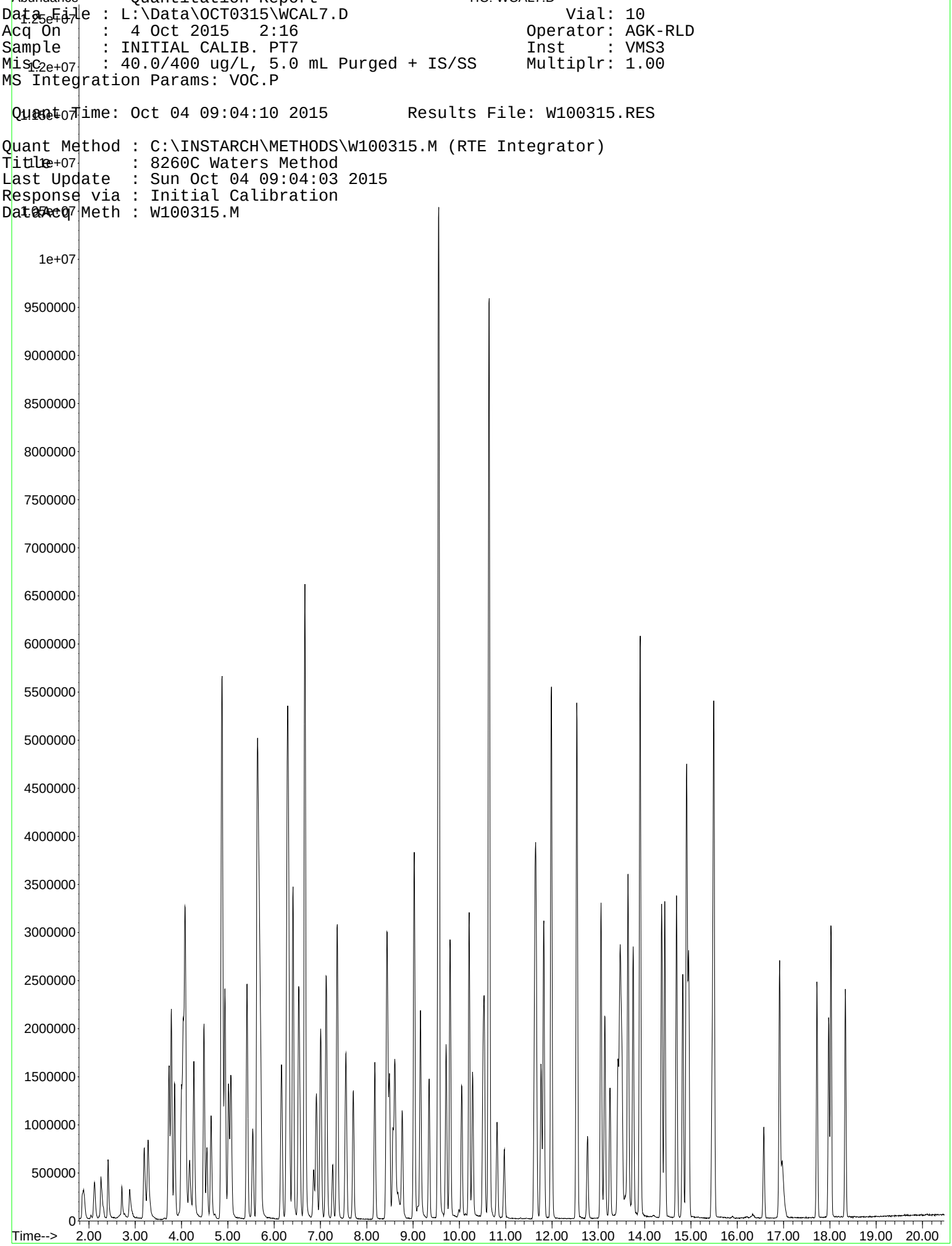
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: WCAL7.D

Data File : L:\Data\OCT0315\WCAL7.D Vial: 10
Acq On : 4 Oct 2015 2:16 Operator: AGK-RLD
Sample : INITIAL CALIB. PT7 Inst : VMS3
Misc : 40.0/400 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 04 09:04:10 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 04 09:04:03 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M



Quantitation Report

Data File : L:\Data\OCT0315\WCAL8.D Vial: 11
Acq On : 4 Oct 2015 2:46 Operator: AGK-RLD
Sample : INITIAL CALIB. PT8 Inst : VMS3
Misc : 80.0/800 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 04 09:04:25 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 04 09:04:18 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.71	96	1524201	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.62	117	1163344	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	15.46	152	666514	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.86	113	373304	20.298	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101	%		
45) SURR12DCAd4	7.26	102	104235	20.667	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 103	%		
61) SURRd8Tolule	9.71	98	1543987	20.353	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 102	%		
83) SURR4BrFBenz	13.25	95	652097	19.573	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 98	%		
Target Compounds						Qvalue
2) Dichlorodi	1.89	85	1383772	68.9102	ug/L	99
3) Chloromethan	2.13	50	1378443	75.2000	ug/L	99
4) VinylChlorid	2.27	62	1466306	72.2030	ug/L	99
5) Bromomethane	2.72	94	515863	67.5712	ug/L	96
6) Chloroethane	2.89	64	884120	65.6888	ug/L	97
7) Dichloroflmethane	3.20	67	2307358	65.4878	ug/L	98
8) Trichlorofma	3.28	101	1991492	65.0455	ug/L	95
9) Ethylether	3.73	59	1243380	74.9267	ug/L	97
10) dichlorotfluoroethan	3.73	67	1317517	69.5037	ug/L	97
11) propyleneoxide	4.08	58	3025299	611.4982	ug/L #	60
12) Acrolein	3.85	56	2791442	350.2831	ug/L	99
13) 11dichlorthe	4.00	96	1243081	77.8802	ug/L	97
14) Trichlorotfluoroeth	4.04	101	2278951	139.0640	ug/L	98
15) Acetone	4.08	43	7237537	476.7735	ug/L	80
16) Iodomethane	4.18	142	2497859	205.6756	ug/L	93
17) Carbon Dislf	4.27	76	5309224	117.2923	ug/L	92
18) allylchloride	4.49	41	3042326	134.3475	ug/L	98
19) methylacetate	4.55	74	564167	76.9769	ug/L	94
20) Methylchlorid	4.64	84	1320290	63.3460	ug/L	96
21) tbutylalcohol	4.88	59	11238639	1809.6126	ug/L	73
22) Acrylonitrile	4.94	53	3902596	314.6957	ug/L	92
23) t12dichlorte	5.02	96	1311050	73.3888	ug/L	98
24) MtBE	5.06	73	3767362	68.7771	ug/L	93
25) Hexane	5.42	57	2978846	147.5117	ug/L	97
26) 11dichlorota	5.54	63	2250054	68.9133	ug/L	96
27) Vinylacetate	5.64	43	13316570	402.0553	ug/L	70
28) chloroprene	5.67	53	4078482	134.5958	ug/L	92
29) Diisopether	5.71	45	3621534	71.2530	ug/L	95
30) ETBE	6.16	59	3574217	73.3596	ug/L	93
31) 22dichloropr	6.28	77	2134612	67.4806	ug/L	97
32) c12dichlorte	6.27	96	1437489	73.7068	ug/L	96
33) 2Butanone	6.30	72	3578754	650.8233	ug/L	91
34) propionitrile	6.32	54	3711644	634.5513	ug/L	93
35) Ethylacetate	6.41	88	625782	396.8576	ug/L	95
36) methacrylonitrile	6.53	67	1884083	154.9652	ug/L	97
37) Bromochlorma	6.55	128	596236	70.9481	ug/L	94
38) Tetrahydofur	6.66	42	6608875	576.5142	ug/L	86

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : L:\Data\OCT0315\WCAL8.D Vial: 11
Acq On : 4 Oct 2015 2:46 Operator: AGK-RLD
Sample : INITIAL CALIB. PT8 Inst : VMS3
Misc : 80.0/800 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 04 09:04:25 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 04 09:04:18 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.66	83	2269715	69.3813	ug/L		95
40)	111trichlota	6.91	97	2221755	71.8834	ug/L		95
42)	Cyclohexane	7.00	56	2389521	77.8202	ug/L		98
43)	Carbtetraclo	7.13	119	1904672	73.1308	ug/L		97
44)	11dicloprope	7.12	110	691063	82.7434	ug/L		94
46)	Benzene	7.37	78	4488614	62.5908	ug/L		91
47)	12dichlorota	7.36	62	1901575	68.9078	ug/L		98
48)	TAME	7.55	73	3563353	72.5029	ug/L		96
49)	trichloroete	8.17	95	1374861	75.6335	ug/L		99
50)	methylcyclohexane	8.45	83	2320291	79.3661	ug/L		98
51)	12dicloropra	8.43	63	1393649	79.5033	ug/L		98
52)	23Dicl1propene	8.49	75	2122047	78.8913	ug/L		99
53)	Dibromometha	8.57	93	869221	81.5672	ug/L		95
54)	methylmethacrylate	8.60	69	1478789	83.4720	ug/L		97
55)	14dioxane	8.63	88	1131158	3449.7287	ug/L		98
56)	Bromodiclrma	8.77	83	1794130	74.6149	ug/L		96
57)	2Nitropropane	9.02	43	6359619	618.9448	ug/L		95
58)	2CLEVE	9.16	63	2158597	536.0940	ug/L		98
59)	c13dicloproe	9.35	75	2085083	74.7439	ug/L		93
60)	4Meth2Pentan	9.55	43	10717034	383.7063	ug/L	#	66
62)	Toluene	9.80	92	3211015	68.3939	ug/L		89
63)	t13Dicloprop	10.05	75	2017457	75.5010	ug/L		97
64)	ethylmethacrylate	10.21	69	3934417	147.9714	ug/L		93
65)	112Triclotha	10.28	83	1113541	80.8044	ug/L		97
66)	Tetrachlorte	10.54	166	1591109	72.3434	ug/L		98
67)	13Diclorpropa	10.51	76	2192555	73.5841	ug/L		92
69)	2Hexanone	10.64	43	9862652	384.3889	ug/L		73
70)	Clorodibrmta	10.81	129	1455388	76.5240	ug/L		99
71)	12Dibrometha	10.97	107	1336110	75.6492	ug/L		99
72)	Chlorobenzen	11.66	112	3208042	64.7187	ug/L		97
73)	1Clhexane	11.64	91	1954675	75.7885	ug/L		94
74)	1112Tetclota	11.76	131	1325564	76.8688	ug/L		99
75)	Ethylbenzene	11.82	91	5243014	61.3626	ug/L		86
76)	m p-Xylene	11.99	106	4267946	135.8875	ug/L	#	71
77)	o-Xylene	12.53	106	2303328	78.0889	ug/L	#	81
78)	Styrene	12.54	104	3578696	73.4808	ug/L		93
79)	Bromoform	12.77	173	1221547	79.6673	ug/L		98
80)	Isopropylben	13.06	105	5076908	67.5462	ug/L		88
81)	cyclohexanone	13.14	55	2200412	1485.0955	ug/L		97
84)	Bromobenzene	13.47	156	1685786	67.0988	ug/L		96
85)	1122Tetrclta	13.42	83	2173380	67.7096	ug/L		94
86)	123Triclproa	13.49	75	3063479	65.6880	ug/L		98
87)	14dichloro2butene	13.51	53	822465	81.5146	ug/L		97
88)	n-Propylbenz	13.64	91	5813601	54.5937	ug/L		84
89)	2chlorotolue	13.75	91	3969486	61.2664	ug/L		88
90)	4chlorotolue	13.90	91	4508747	61.0838	ug/L		91
91)	135Trimebenz	13.90	105	4559392	61.9324	ug/L		90
92)	tbutylbenzen	14.37	119	4080575	64.3948	ug/L		92
93)	124Trimetben	14.44	105	4517704	65.5873	ug/L		89
94)	sbutylbenzen	14.69	105	5357013	62.9815	ug/L		85
95)	13Diclorbenz	14.82	146	2817804	67.3677	ug/L		94
96)	pIsopropylto	14.90	119	4795506	64.8667	ug/L		91
97)	14dichlorobe	14.95	146	2879862	65.0473	ug/L		95
98)	12dichlorobe	15.49	146	2702326	64.8200	ug/L		95
99)	nButylbenzen	15.50	91	4479876	66.3899	ug/L		86
100)	12dibromo3cl	16.57	157	752188	78.0833	ug/L		95
101)	135Trichlorobenzene	16.91	180	2169853	72.1671	ug/L		94

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : L:\Data\OCT0315\WCAL8.D Vial: 11
Acq On : 4 Oct 2015 2:46 Operator: AGK-RLD
Sample : INITIAL CALIB. PT8 Inst : VMS3
Misc : 80.0/800 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 04 09:04:25 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 04 09:04:18 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.72	180	2008437	75.6069	ug/L	99
103) Hexachlorobu	17.98	225	1151887	77.7296	ug/L	100
104) Naphthalene	18.02	128	4985905	64.7973	ug/L	89
105) 123Trichlben	18.34	180	1951448	74.0364	ug/L	98

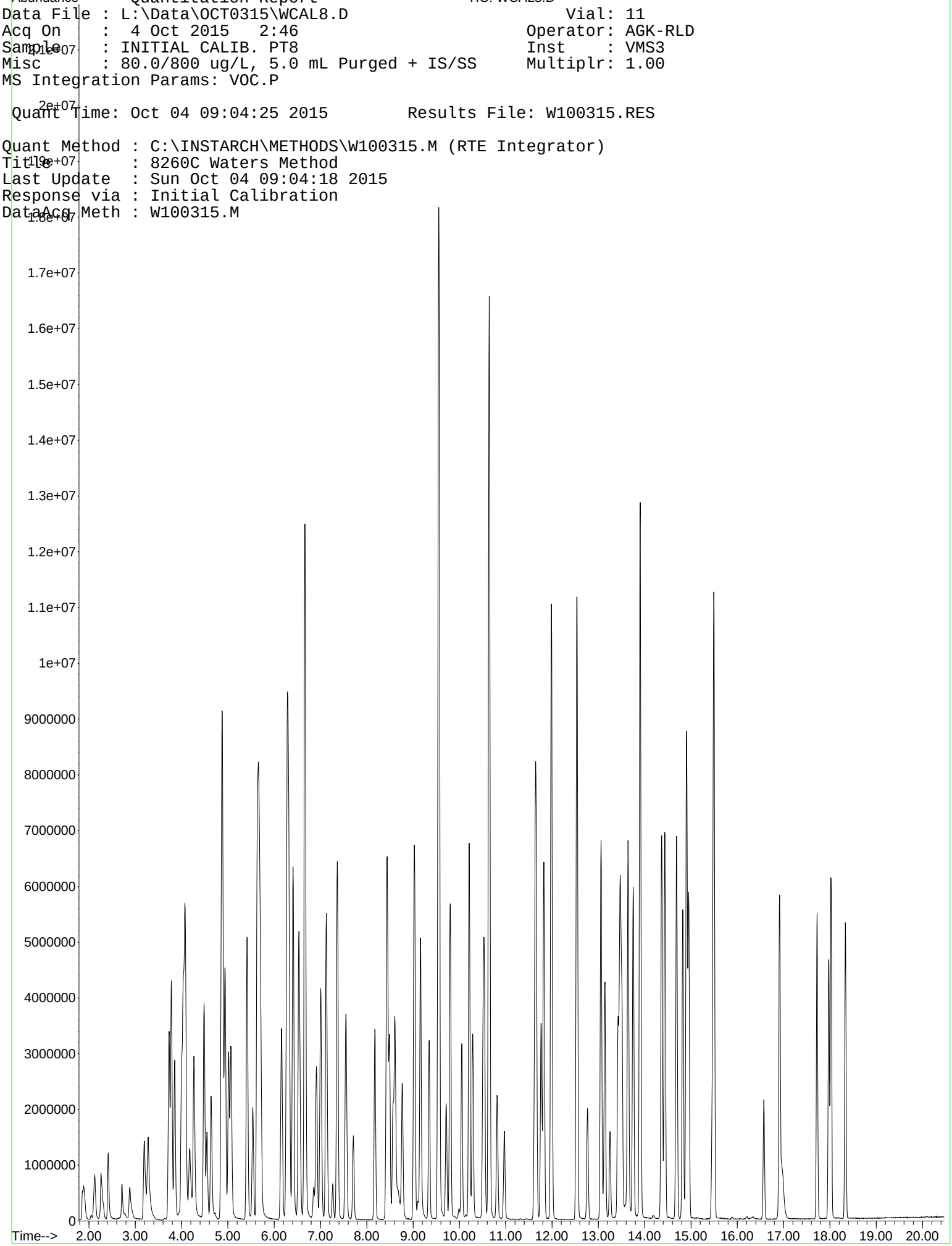
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: WCAL8.D

Data File : L:\Data\OCT0315\WCAL8.D Vial: 11
Acq On : 4 Oct 2015 2:46 Operator: AGK-RLD
Sample : INITIAL CALIB. PT8 Inst : VMS3
Misc : 80.0/800 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 04 09:04:25 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 04 09:04:18 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M



Evaluate Continuing Calibration Report

Data File : L:\Data\OCT0315\ICV1.D Vial: 13
Acq On : 4 Oct 2015 3:46 Operator: AGK-RLD
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Oct 04 09:31:41 2015

Quant Method : C:\INSTARCH\METHODS\W100315.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W100315.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	1.0000	1.0000	0.00	111	0.00
2	PT	Dichlorodi	0.2589	0.2662	-2.82	116	0.00
3	PT	Chloromethan	0.2387	0.2391	-0.17	123	0.00
4	PT	VinylChlorid	0.2632	0.2646	-0.53	117	0.00
5	PT	Bromomethane	0.0823	0.0986#	-19.81	115	0.00
6	PT	Chloroethane	0.1609	0.1627	-1.12	110	0.00
7	T	Dichloroflmethane	0.4518	0.4482	0.80	112	0.00
8	PT	Trichlorofma	0.3924	0.3773	3.85	103	0.00
9	T	Ethylether	0.2160	0.2204	-2.04	117	0.00
10	T	dichlorotfluoroethan	0.2447	0.2402	1.84	112	0.00
11	T	propyleneoxide	0.0630	0.0483	23.33#	118	0.00
12	T	Acrolein	0.1029	0.1051	-2.14	122	0.00
13	PT	11dichlorthe	0.2087	0.2099	-0.57	115	0.00
14	PT	Trichlorotfluoroeth	0.2115	0.2095	0.95	110	0.00
15	PT	Acetone	0.1784	0.1527	14.41	115	0.00
16	T	Iodomethane	0.1650	0.1176	28.73#	80	0.00
17	PT	Carbon Dislf	0.5679	0.5782	-1.81	113	0.00
18	T	allylchloride	0.2912	0.3033	-4.16	121	0.00
19	PT	methylacetate	0.0957	0.0955#	0.21	116	0.00
20	PT	Methylchlorid	0.2604	0.2311	11.25	112	0.00
21	T	tbutylalcohol	0.0742	0.0762	-2.70	119	0.00
22	T	Acrylonitrile	0.1584	0.1645	-3.85	121	0.00
23	PT	t12dichlorte	0.2320	0.2278	1.81	114	0.00
24	PT	MtBE	0.7062	0.7269	-2.93	118	0.00
25	T	Hexane	0.2624	0.2765	-5.37	118	0.00
26	PT	11dichlorota	0.4210	0.3998	5.04	110	0.00
27	T	Vinylacetate	0.4346	0.5038	-15.92	116	0.00
28	T	chloroprene	0.3897	0.3923	-0.67	112	0.00
29	T	Diisopether	0.6578	0.6803	-3.42	119	0.00
30	T	ETBE	0.6327	0.6617	-4.58	117	0.01
31	T	22dichloropr	0.3767	0.3532	6.24	104	0.00
32	PT	c12dichlorte	0.2534	0.2430	4.10	113	0.00
33	PT	2Butanone	0.0705	0.0694#	1.56	118	0.00
34	T	propionitrile	0.0748	0.0748	0.00	118	0.00
35	T	Ethylacetate	0.0207	0.0214#	-3.38	117	0.00
36	T	methacrylonitrile	0.1589	0.1603	-0.88	115	0.00
37	T	Bromochlorma	0.1087	0.1056	2.85	116	0.01
38	T	Tetrahydofur	0.1452	0.1576	-8.54	120	0.00
39	PT	Chloroform	0.4221	0.3995	5.35	109	0.00
40	PT	111trichlota	0.4004	0.3777	5.67	105	0.00
41	S	SURRDibrflma	0.2418	0.2381	1.53	108	0.00
42	PT	Cyclohexane	0.4015	0.4214	-4.96	118	0.00
43	PT	Carbtetraclo	0.3381	0.3146	6.95	107	0.00
44	T	11dicloprope	0.1101	0.1050	4.63	106	0.00
45	S	SURR12DCAd4	0.0665	0.0678	-1.95	110	0.01
46	PT	Benzene	0.9154	0.9158	-0.04	114	0.00
47	PT	12dichlorota	0.3558	0.3446	3.15	112	0.00
48	T	TAME	0.6373	0.6638	-4.16	123	0.00

49	PT	trichloroete	0.2369	0.2297	3.04	109	0.00
50	PT	methylcyclohexane	0.3832	0.4032	-5.22	119	0.00
51	PT	12dicloropra	0.2298	0.2255	1.87	109	0.00
52	T	23Dicl1propene	0.3523	0.3486	1.05	117	0.00
53	T	Dibromometha	0.1402	0.1443	-2.92	118	0.00
54	T	methylmethacrylate	0.2337	0.2428	-3.89	119	0.00
55	T	14dioxane	0.0040	0.0041#	-2.50	138	0.00
56	PT	Bromodiclrma	0.3129	0.3007	3.90	110	0.00
57	T	2Nitropropane	0.1310	0.1417	-8.17	119	0.00
58	T	2CLEVE	0.0551	0.0691	-25.41#	151	0.00
59	PT	c13dicloproe	0.3630	0.3596	0.94	117	0.00
60	PT	4Meth2Pentan	0.3665	0.3846	-4.94	116	0.00
61	S	SURRd8Tolule	0.9976	0.9913	0.63	111	0.00
62	PT	Toluene	0.6049	0.6021	0.46	112	0.00
63	PT	t13Dicloprop	0.3482	0.3247	6.75	109	0.00
64	T	ethylmethacrylate	0.3456	0.3721	-7.67	121	0.00
65	PT	112Triclotha	0.1811	0.1769	2.32	108	0.00
66	PT	Tetrachlorte	0.2851	0.2701	5.26	109	0.00
67	T	13Diclorpropa	0.3871	0.3754	3.02	112	0.00
68	I	d5-CHLOROBENZENE**ISTD**	1.0000	1.0000	0.00	110	0.00
69	PT	2Hexanone	0.4411	0.4528	-2.65	116	0.00
70	PT	Clorodibrmta	0.3252	0.3146	3.26	113	0.00
71	PT	12Dibrometha	0.3016	0.2939	2.55	115	0.00
72	PT	Chlorobenzen	0.8318	0.7928	4.69	110	0.00
73	T	1Clhexane	0.4405	0.4297	2.45	116	0.00
74	T	1112Tetclota	0.2950	0.2891	2.00	113	0.00
75	PT	Ethylbenzene	1.4261	1.4279	-0.13	110	0.00
76	PT	m p-Xylene	0.5298	0.5395	-1.83	113	0.00
77	PT	o-Xylene	0.5056	0.4972	1.66	109	0.00
78	PT	Styrene	0.8288	0.8362	-0.89	116	0.00
79	PT	Bromoform	0.2635	0.2474	6.11	114	0.00
80	PT	Isopropylben	1.2670	1.3160	-3.87	115	0.00
81	T	cyclohexanone	0.0252	0.0256#	-1.59	134	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	1.0000	1.0000	0.00	112	0.00
83	S	SURR4BrFBenz	0.9970	1.0291	-3.22	113	0.00
84	T	Bromobenzene	0.7387	0.7157	3.11	108	0.00
85	PT	1122Tetrclta	0.9447	0.9476	-0.31	114	0.00
86	T	123Triclproa	1.2233	1.3475	-10.15	117	0.00
87	T	14dichloro2butene	0.3035	0.2928	3.53	122	0.00
88	T	n-Propylbenz	3.0377	3.1880	-4.95	114	0.00
89	T	2chlorotolue	1.8873	1.8937	-0.34	107	0.00
90	T	4chlorotolue	2.1494	2.2172	-3.15	111	0.00
91	T	135Trimebenz	2.1467	2.1947	-2.24	111	0.00
92	T	tbutylbenzen	1.8551	1.8558	-0.04	112	0.00
93	T	124Trimetben	2.0204	2.0921	-3.55	109	0.00
94	T	sbutylbenzen	2.4844	2.5931	-4.38	111	0.00
95	PT	13Diclorbenz	1.2303	1.2112	1.55	110	0.00
96	T	pIsopropylto	2.1659	2.2730	-4.94	114	0.00
97	PT	14dichlorobe	1.2975	1.2375	4.62	108	0.00
98	PT	12dichlorobe	1.2213	1.1699	4.21	107	0.00
99	T	nButylbenzen	1.9818	2.0088	-1.36	112	0.00
100	PT	12dibromo3cl	0.2882	0.2679	7.04	113	0.01
101	T	135Trichlorobenzene	0.8912	0.8569	3.85	106	0.00
102	PT	124Trichlobe	0.7916	0.7661	3.22	113	0.00
103	T	Hexachlorobu	0.4431	0.3997	9.79	105	0.00
104	T	Naphthalene	2.2541	2.3204	-2.94	116	0.00
105	T	123Trichlben	0.7835	0.7509	4.16	108	0.00

(#) = Out of Range SPCC's out = 3 CCC's out = 0

W100315.M Wed Oct 14 15:24:05 2015

Evaluate Continuing Calibration Report

Data File : L:\Data\OCT0315\ICV1.D Vial: 13
Acq On : 4 Oct 2015 3:46 Operator: AGK-RLD
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Oct 04 09:31:41 2015

Quant Method : C:\INSTARCH\METHODS\W100315.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W100315.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	20.0000	20.0000	0.00	111	0.00
2	PT	Dichlorodi	10.0000	10.2799	-2.80	116	0.00
3	PT	Chloromethan	10.0000	10.0139	-0.14	123	0.00
4	PT	VinylChlorid	10.0000	10.0510	-0.51	117	0.00
5	PT	Bromomethane	10.0000	11.9795	-19.79	115	0.00
6	PT	Chloroethane	10.0000	10.1068	-1.07	110	0.00
7	T	Dichloroflmethane	10.0000	9.9200	0.80	112	0.00
8	PT	Trichlorofma	10.0000	9.6154	3.85	103	0.00
9	T	Ethylether	10.0000	10.2020	-2.02	117	0.00
10	T	dichlorotfluoroethan	10.0000	9.8165	1.84	112	0.00
11	T	propyleneoxide	100.0000	77.3396	22.66#	118	0.00
12	T	Acrolein	50.0000	51.0705	-2.14	122	0.00
13	PT	11dichlorthe	10.0000	10.0538	-0.54	115	0.00
14	PT	Trichlorotfluoroeth	20.0000	19.8062	0.97	110	0.00
15	PT	Acetone	100.0000	81.2723	18.73	115	0.00
16	T	Iodomethane	20.0000	14.0679	29.66#	80	0.00
17	PT	Carbon Dislf	20.0000	20.3612	-1.81	113	0.00
18	T	allylchloride	20.0000	20.8289	-4.14	121	0.00
19	PT	methylacetate	10.0000	9.9732	0.27	116	0.00
20	PT	Methylchlorid	10.0000	9.5986	4.01	112	0.00
21	T	tbutylalcohol	500.0000	526.9659	-5.39	119	0.00
22	T	Acrylonitrile	50.0000	51.9379	-3.88	121	0.00
23	PT	t12dichlorte	10.0000	9.8176	1.82	114	0.00
24	PT	MtBE	10.0000	10.2942	-2.94	118	0.00
25	T	Hexane	20.0000	21.0732	-5.37	118	0.00
26	PT	11dichlorota	10.0000	9.4954	5.05	110	0.00
27	T	Vinylacetate	100.0000	108.6185	-8.62	116	0.00
28	T	chloroprene	20.0000	20.1313	-0.66	112	0.00
29	T	Diisopether	10.0000	10.3424	-3.42	119	0.00
30	T	ETBE	10.0000	10.4587	-4.59	117	0.01
31	T	22dichloropr	10.0000	9.3767	6.23	104	0.00
32	PT	c12dichlorte	10.0000	9.5899	4.10	113	0.00
33	PT	2Butanone	100.0000	98.4897	1.51	118	0.00
34	T	propionitrile	100.0000	100.0959	-0.10	118	0.00
35	T	Ethylacetate	50.0000	51.6977	-3.40	117	0.00
36	T	methacrylonitrile	20.0000	20.1692	-0.85	115	0.00
37	T	Bromochlorma	10.0000	9.7125	2.87	116	0.01
38	T	Tetrahydofur	100.0000	108.5956	-8.60	120	0.00
39	PT	Chloroform	10.0000	9.4633	5.37	109	0.00
40	PT	111trichlota	10.0000	9.4329	5.67	105	0.00
41	S	SURRDibrflma	20.0000	19.6955	1.52	108	0.00
42	PT	Cyclohexane	10.0000	10.4949	-4.95	118	0.00
43	PT	Carbtetraclo	10.0000	9.3061	6.94	107	0.00
44	T	11dicloprope	10.0000	9.5396	4.60	106	0.00
45	S	SURR12DCAd4	20.0000	20.4118	-2.06	110	0.01
46	PT	Benzene	10.0000	10.0048	-0.05	114	0.00
47	PT	12dichlorota	10.0000	9.6850	3.15	112	0.00
48	T	TAME	10.0000	10.4150	-4.15	123	0.00

49	PT	trichloroete	10.0000	9.6946	3.05	109	0.00
50	PT	methylcyclohexane	10.0000	10.5197	-5.20	119	0.00
51	PT	12dicloropra	10.0000	9.8121	1.88	109	0.00
52	T	23Dicl1propene	10.0000	9.8937	1.06	117	0.00
53	T	Dibromometha	10.0000	10.2955	-2.96	118	0.00
54	T	methylmethacrylate	10.0000	10.3900	-3.90	119	0.00
55	T	14dioxane	500.0000	515.1420	-3.03	138	0.00
56	PT	Bromodiclrma	10.0000	9.6122	3.88	110	0.00
57	T	2Nitropropane	100.0000	108.1267	-8.13	119	0.00
58	T	2CLEVE	50.0000	61.2938	-22.59#	151	0.00
59	PT	c13dicloproe	10.0000	9.9062	0.94	117	0.00
60	PT	4Meth2Pentan	100.0000	104.5664	-4.57	116	0.00
61	S	SURRd8Tolule	20.0000	19.8744	0.63	111	0.00
62	PT	Toluene	10.0000	9.9546	0.45	112	0.00
63	PT	t13Dicloprop	10.0000	9.3259	6.74	109	0.00
64	T	ethylmethacrylate	20.0000	21.5300	-7.65	121	0.00
65	PT	112Triclotha	10.0000	9.7724	2.28	108	0.00
66	PT	Tetrachlorte	10.0000	9.4713	5.29	109	0.00
67	T	13Diclorpropa	10.0000	9.6977	3.02	112	0.00
68	I	d5-CHLOROBENZENE**ISTD**	20.0000	20.0000	0.00	110	0.00
69	PT	2Hexanone	100.0000	102.8077	-2.81	116	0.00
70	PT	Clorodibrmta	10.0000	9.6739	3.26	113	0.00
71	PT	12Dibrometha	10.0000	9.7468	2.53	115	0.00
72	PT	Chlorobenzen	10.0000	9.5313	4.69	110	0.00
73	T	1Clhexane	10.0000	9.7551	2.45	116	0.00
74	T	1112Tetclota	10.0000	9.7991	2.01	113	0.00
75	PT	Ethylbenzene	10.0000	10.0126	-0.13	110	0.00
76	PT	m p-Xylene	20.0000	20.3653	-1.83	113	0.00
77	PT	o-Xylene	10.0000	9.8340	1.66	109	0.00
78	PT	Styrene	10.0000	10.0899	-0.90	116	0.00
79	PT	Bromoform	10.0000	9.3899	6.10	114	0.00
80	PT	Isopropylben	10.0000	10.3866	-3.87	115	0.00
81	T	cyclohexanone	200.0000	203.1106	-1.56	134	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	20.0000	20.0000	0.00	112	0.00
83	S	SURR4BrFBenz	20.0000	20.6433	-3.22	113	0.00
84	T	Bromobenzene	10.0000	9.6890	3.11	108	0.00
85	PT	1122Tetrclta	10.0000	10.0309	-0.31	114	0.00
86	T	123Triclproa	10.0000	11.0157	-10.16	117	0.00
87	T	14dichloro2butene	10.0000	9.6491	3.51	122	0.00
88	T	n-Propylbenz	10.0000	10.4947	-4.95	114	0.00
89	T	2chlorotolue	10.0000	10.0344	-0.34	107	0.00
90	T	4chlorotolue	10.0000	10.3155	-3.16	111	0.00
91	T	135Trimebenz	10.0000	10.2237	-2.24	111	0.00
92	T	tbutylbenzen	10.0000	10.0039	-0.04	112	0.00
93	T	124Trimetben	10.0000	10.3553	-3.55	109	0.00
94	T	sbutylbenzen	10.0000	10.4375	-4.38	111	0.00
95	PT	13Diclorbenz	10.0000	9.8445	1.55	110	0.00
96	T	pIsopropylto	10.0000	10.4945	-4.95	114	0.00
97	PT	14dichlorobe	10.0000	9.5380	4.62	108	0.00
98	PT	12dichlorobe	10.0000	9.5792	4.21	107	0.00
99	T	nButylbenzen	10.0000	10.1366	-1.37	112	0.00
100	PT	12dibromo3cl	10.0000	9.2951	7.05	113	0.01
101	T	135Trichlorobenzene	10.0000	9.6154	3.85	106	0.00
102	PT	124Trichlobe	10.0000	9.6772	3.23	113	0.00
103	T	Hexachlorobu	10.0000	9.0198	9.80	105	0.00
104	T	Naphthalene	10.0000	10.2943	-2.94	116	0.00
105	T	123Trichlben	10.0000	9.5834	4.17	108	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

W100315.M Wed Oct 14 15:24:27 2015

Quantitation Report

Data File : L:\Data\OCT0315\ICV1.D Vial: 13
Acq On : 4 Oct 2015 3:46 Operator: AGK-RLD
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 04 09:31:41 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 04 09:31:36 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.71	96	1377672	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.62	117	1019361	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	15.46	152	532569	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.86	113	328011	19.696	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 98 %			
45) SURR12DCAd4	7.27	102	93440	20.412	ug/L	0.01
Spiked Amount 20.000	Range 89 - 112		Recovery = 102 %			
61) SURRd8Tolule	9.71	98	1365742	19.874	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 99 %			
83) SURR4BrFBenz	13.25	95	548067	20.643	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 103 %			
Target Compounds						Qvalue
2) Dichlorodi	1.90	85	183351	10.2799	ug/L	99
3) Chloromethan	2.13	50	164668	10.0139	ug/L	94
4) VinylChlorid	2.25	62	182247	10.0510	ug/L	98
5) Bromomethane	2.72	94	67940	11.9795	ug/L	97
6) Chloroethane	2.89	64	112045	10.1068	ug/L	96
7) Dichloroflmethane	3.20	67	308752	9.9200	ug/L	98
8) Trichlorofma	3.28	101	259874	9.6154	ug/L	95
9) Ethylether	3.74	59	151810	10.2020	ug/L	95
10) dichlorotfluoroethan	3.72	67	165435	9.8165	ug/L	98
11) propyleneoxide	4.08	58	332602	77.3396	ug/L	96
12) Acrolein	3.85	56	362145	51.0705	ug/L	97
13) 11dichlorthe	4.00	96	144566	10.0538	ug/L	98
14) Trichlorotfluoroeth	4.04	101	288578	19.8062	ug/L	98
15) Acetone	4.08	43	1051850	81.2723	ug/L	99
16) Iodomethane	4.17	142	162031	14.0679	ug/L	97
17) Carbon Dislf	4.27	76	796531	20.3612	ug/L	100
18) allylchloride	4.49	41	417787	20.8289	ug/L	98
19) methylacetate	4.55	74	65755	9.9732	ug/L	96
20) Methylchlorid	4.64	84	159163	9.5986	ug/L	99
21) tbutylalcohol	4.87	59	2622800	526.9659	ug/L	100
22) Acrylonitrile	4.94	53	566652	51.9379	ug/L	99
23) t12dichlorte	5.02	96	156887	9.8176	ug/L	100
24) MtBE	5.07	73	500735	10.2942	ug/L	99
25) Hexane	5.42	57	380888	21.0732	ug/L	99
26) 11dichlorota	5.54	63	275370	9.4954	ug/L	99
27) Vinylacetate	5.64	43	3470635	108.6185	ug/L	99
28) chloroprene	5.68	53	540425	20.1313	ug/L	98
29) Diisopether	5.71	45	468638	10.3424	ug/L	99
30) ETBE	6.17	59	455802	10.4587	ug/L	99
31) 22dichloropr	6.27	77	243303	9.3767	ug/L	98
32) c12dichlorte	6.27	96	167388	9.5899	ug/L	99
33) 2Butanone	6.30	72	478102	98.4897	ug/L	98
34) propionitrile	6.32	54	515519	100.0959	ug/L	99
35) Ethylacetate	6.41	88	73610	51.6977	ug/L	94
36) methacrylonitrile	6.52	67	220773	20.1692	ug/L	95
37) Bromochlorma	6.57	128	72732	9.7125	ug/L	93
38) Tetrahydofur	6.66	42	1085917	108.5956	ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : L:\Data\OCT0315\ICV1.D Vial: 13
Acq On : 4 Oct 2015 3:46 Operator: AGK-RLD
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 04 09:31:41 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 04 09:31:36 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.66	83	275175	9.4633	ug/L		99
40)	111trichlota	6.91	97	260180	9.4329	ug/L		98
42)	Cyclohexane	7.00	56	290280	10.4949	ug/L		99
43)	Carbtetraclo	7.13	119	216723	9.3061	ug/L		99
44)	11dicloprope	7.12	110	72323	9.5396	ug/L	#	89
46)	Benzene	7.36	78	630863	10.0048	ug/L		99
47)	12dichlorota	7.36	62	237385	9.6850	ug/L		96
48)	TAME	7.55	73	457246	10.4150	ug/L		99
49)	trichloroete	8.17	95	158199	9.6946	ug/L		99
50)	methylcyclohexane	8.44	83	277705	10.5197	ug/L		95
51)	12dicloropra	8.42	63	155345	9.8121	ug/L		92
52)	23Dicl1propene	8.49	75	240124	9.8937	ug/L		98
53)	Dibromometha	8.57	93	99409	10.2955	ug/L		93
54)	methylmethacrylate	8.60	69	167276	10.3900	ug/L		99
55)	14dioxane	8.62	88	142901	515.1420	ug/L		95
56)	Bromodiclrma	8.77	83	207151	9.6122	ug/L		97
57)	2Nitropropane	9.02	43	975781	108.1267	ug/L		99
58)	2CLEVE	9.15	63	238042	61.2938	ug/L		98
59)	c13dicloproe	9.35	75	247730	9.9062	ug/L		98
60)	4Meth2Pentan	9.55	43	2649603	104.5664	ug/L		100
62)	Toluene	9.80	92	414766	9.9546	ug/L		99
63)	t13Dicloprop	10.05	75	223658	9.3259	ug/L		97
64)	ethylmethacrylate	10.21	69	512567	21.5300	ug/L		99
65)	112Triclotha	10.28	83	121877	9.7724	ug/L		95
66)	Tetrachlorte	10.53	166	186032	9.4713	ug/L		97
67)	13Diclorpropa	10.51	76	258560	9.6977	ug/L		98
69)	2Hexanone	10.64	43	2307951	102.8077	ug/L		100
70)	Clorodibrmta	10.81	129	160339	9.6739	ug/L		97
71)	12Dibrometha	10.97	107	149815	9.7468	ug/L		97
72)	Chlorobenzen	11.66	112	404100	9.5313	ug/L		98
73)	1Clhexane	11.64	91	219005	9.7551	ug/L		99
74)	1112Tetclota	11.76	131	147342	9.7991	ug/L		97
75)	Ethylbenzene	11.82	91	727796	10.0126	ug/L		100
76)	m p-Xylene	11.98	106	549910	20.3653	ug/L		95
77)	o-Xylene	12.53	106	253406	9.8340	ug/L		99
78)	Styrene	12.54	104	426197	10.0899	ug/L		100
79)	Bromoform	12.77	173	126091	9.3899	ug/L		99
80)	Isopropylben	13.06	105	670742	10.3866	ug/L		100
81)	cyclohexanone	13.14	55	261328	203.1106	ug/L		98
84)	Bromobenzene	13.47	156	190585	9.6890	ug/L		93
85)	1122Tetrclta	13.42	83	252331	10.0309	ug/L		99
86)	123Triclproa	13.49	75	358824	11.0157	ug/L		99
87)	14dichloro2butene	13.51	53	77976	9.6491	ug/L		97
88)	n-Propylbenz	13.64	91	848916	10.4947	ug/L		99
89)	2chlorotolue	13.75	91	504273	10.0344	ug/L		99
90)	4chlorotolue	13.90	91	590415	10.3155	ug/L		98
91)	135Trimebenz	13.90	105	584422	10.2237	ug/L		99
92)	tbutylbenzen	14.37	119	494180	10.0039	ug/L		99
93)	124Trimetben	14.43	105	557105	10.3553	ug/L		99
94)	sbutylbenzen	14.69	105	690509	10.4375	ug/L		98
95)	13Diclorbenz	14.82	146	322522	9.8445	ug/L		98
96)	pIsopropylto	14.90	119	605270	10.4945	ug/L		98
97)	14dichlorobe	14.95	146	329533	9.5380	ug/L		98
98)	12dichlorobe	15.49	146	311529	9.5792	ug/L		99
99)	nButylbenzen	15.50	91	534921	10.1366	ug/L		98
100)	12dibromo3cl	16.58	157	71332	9.2951	ug/L		98
101)	135Trichlorobenzene	16.91	180	228180	9.6154	ug/L		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : L:\Data\OCT0315\ICV1.D Vial: 13
Acq On : 4 Oct 2015 3:46 Operator: AGK-RLD
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 04 09:31:41 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 04 09:31:36 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.72	180	203995	9.6772	ug/L	98
103) Hexachlorobu	17.98	225	106425	9.0198	ug/L	96
104) Naphthalene	18.03	128	617889	10.2943	ug/L	98
105) 123Trichlben	18.34	180	199955	9.5834	ug/L	100

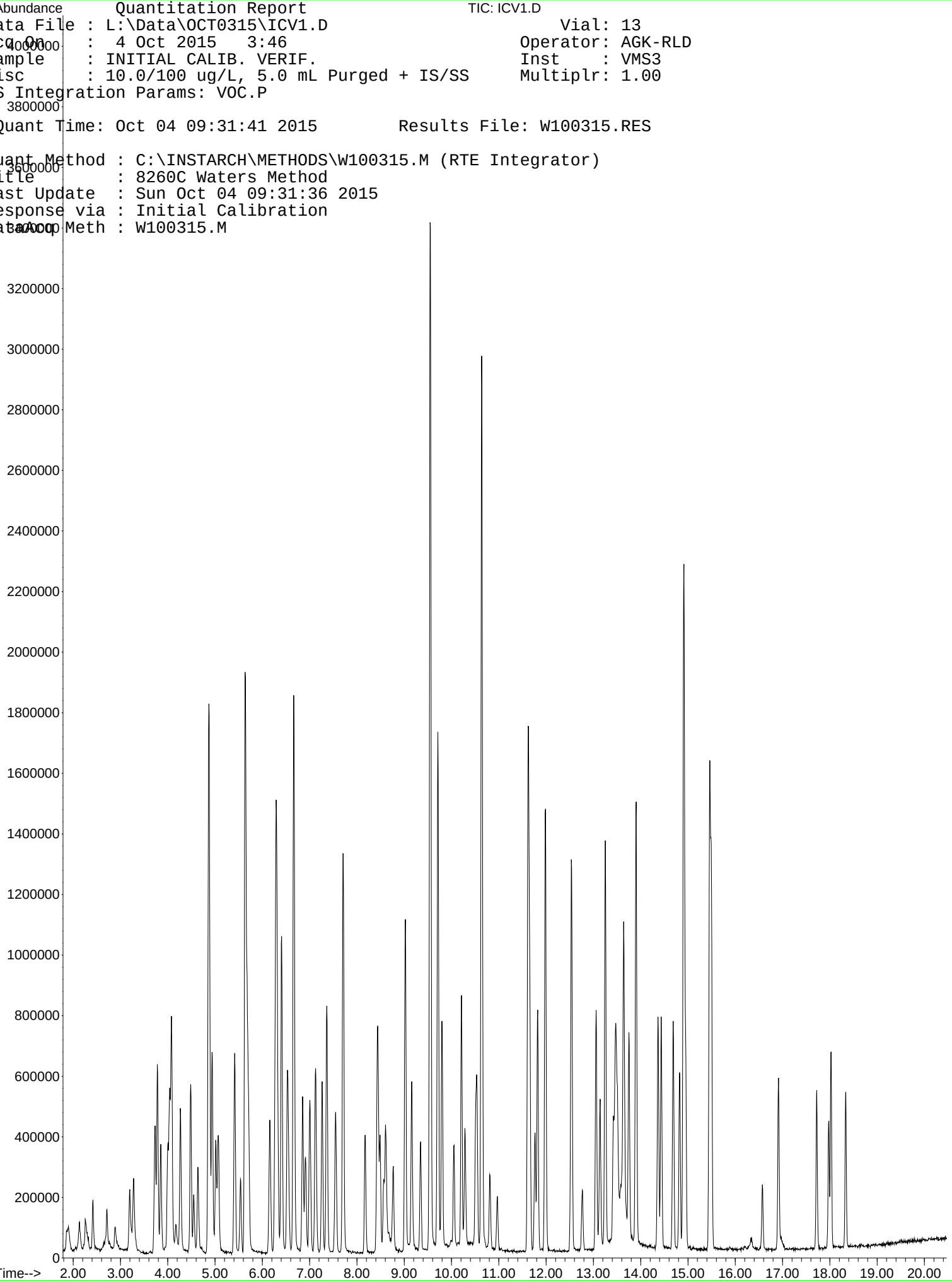
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: ICV1.D

Data File : L:\Data\OCT0315\ICV1.D Vial: 13
Acq On : 4 Oct 2015 3:46 Operator: AGK-RLD
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 04 09:31:41 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 04 09:31:36 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M



Evaluate Continuing Calibration Report

Data File : L:\Data\OCT0315\ICV2.D Vial: 14
Acq On : 4 Oct 2015 4:16 Operator: AGK-RLD
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 30.0/300 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Oct 04 09:32:53 2015

Quant Method : C:\INSTARCH\METHODS\W100315.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W100315.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	20.0000	20.0000	0.00	109	0.00
2	PT	Dichlorodi	30.0000	27.2153	9.28	98	0.00
3	PT	Chloromethan	30.0000	27.1700	9.43	102	0.00
4	PT	VinylChlorid	30.0000	27.5658	8.11	100	0.00
5	PT	Bromomethane	30.0000	34.4853	-14.95	125	0.00
6	PT	Chloroethane	30.0000	26.8990	10.34	98	0.00
7	T	Dichloroflmethane	30.0000	27.0017	9.99	103	0.00
8	PT	Trichlorofma	30.0000	26.4631	11.79	96	0.00
9	T	Ethylether	30.0000	28.3505	5.50	103	0.00
10	T	dichlorotfluoroethan	30.0000	27.4482	8.51	102	0.00
11	T	propyleneoxide	300.0000	240.5026	19.83	95	0.00
12	T	Acrolein	150.0000	147.2744	1.82	109	0.00
13	PT	11dichlorthe	30.0000	28.6630	4.46	101	0.00
14	PT	Trichlorotfluoroeth	60.0000	56.6343	5.61	103	0.00
15	PT	Acetone	300.0000	240.2928	19.90	96	0.00
16	T	Iodomethane	60.0000	51.9640	13.39	88	0.00
17	PT	Carbon Dislf	60.0000	54.6708	8.88	102	0.00
18	T	allylchloride	60.0000	56.9719	5.05	105	0.00
19	PT	methylacetate	30.0000	27.7813	7.40	100	0.00
20	PT	Methylchlorid	30.0000	28.2472	5.84	100	0.00
21	T	tbutylalcohol	1500.0000	1417.6860	5.49	103	0.00
22	T	Acrylonitrile	150.0000	138.3583	7.76	104	0.00
23	PT	t12dichlorte	30.0000	27.7181	7.61	101	0.00
24	PT	MtBE	30.0000	28.0645	6.45	103	0.00
25	T	Hexane	60.0000	62.4247	-4.04	108	0.00
26	PT	11dichlorota	30.0000	26.9800	10.07	103	0.00
27	T	Vinylacetate	300.0000	279.8592	6.71	104	0.00
28	T	chloroprene	60.0000	57.1984	4.67	102	0.00
29	T	Diisopether	30.0000	29.6486	1.17	107	0.00
30	T	ETBE	30.0000	30.2641	-0.88	108	0.00
31	T	22dichloropr	30.0000	27.4512	8.50	98	0.00
32	PT	c12dichlorte	30.0000	27.5862	8.05	102	0.00
33	PT	2Butanone	300.0000	271.2856	9.57	102	0.00
34	T	propionitrile	300.0000	281.5843	6.14	107	0.00
35	T	Ethylacetate	150.0000	145.0055	3.33	108	0.00
36	T	methacrylonitrile	60.0000	61.8925	-3.15	107	0.00
37	T	Bromochlorma	30.0000	26.5865	11.38	99	0.00
38	T	Tetrahydofur	300.0000	286.8777	4.37	107	0.00
39	PT	Chloroform	30.0000	26.8534	10.49	100	0.00
40	PT	111trichlota	30.0000	27.9595	6.80	98	0.00
41	S	SURRDibrflma	20.0000	19.7192	1.40	108	0.00
42	PT	Cyclohexane	30.0000	30.9289	-3.10	104	0.00
43	PT	Carbtetraclo	30.0000	27.7429	7.52	99	0.00
44	T	11dicloprope	30.0000	29.0558	3.15	99	0.00
45	S	SURR12DCAd4	20.0000	20.7089	-3.54	115	0.00
46	PT	Benzene	30.0000	27.2107	9.30	102	0.00
47	PT	12dichlorota	30.0000	26.5468	11.51	99	0.00
48	T	TAME	30.0000	29.6872	1.04	107	0.00

49	PT	trichloroete	30.0000	27.9675	6.77	102	0.00
50	PT	methylcyclohexane	30.0000	31.2301	-4.10	105	0.00
51	PT	12dicloropra	30.0000	29.0441	3.19	103	0.00
52	T	23Dicl1propene	30.0000	29.3690	2.10	107	0.00
53	T	Dibromometha	30.0000	28.7560	4.15	100	0.00
54	T	methylmethacrylate	30.0000	30.6221	-2.07	107	0.00
55	T	14dioxane	1500.0000	1488.0487	0.80	107	0.00
56	PT	Bromodiclrma	30.0000	27.8695	7.10	99	0.00
57	T	2Nitropropane	300.0000	298.9024	0.37	105	0.00
58	T	2CLEVE	150.0000	164.2432	-9.50	121	0.00
59	PT	c13dicloproe	30.0000	28.3787	5.40	104	0.00
60	PT	4Meth2Pentan	300.0000	283.3229	5.56	104	0.00
61	S	SURRd8Tolule	20.0000	20.1912	-0.96	108	0.00
62	PT	Toluene	30.0000	27.9480	6.84	103	0.00
63	PT	t13Dicloprop	30.0000	28.0180	6.61	103	0.00
64	T	ethylmethacrylate	60.0000	61.4686	-2.45	106	0.00
65	PT	112Triclotha	30.0000	28.7752	4.08	101	0.00
66	PT	Tetrachlorte	30.0000	27.8488	7.17	100	0.00
67	T	13Diclorpropa	30.0000	27.9198	6.93	102	0.00
68	I	d5-CHLOROBENZENE**ISTD**	20.0000	20.0000	0.00	110	0.00
69	PT	2Hexanone	300.0000	277.9519	7.35	104	0.00
70	PT	Clorodibrmta	30.0000	27.7444	7.52	100	0.00
71	PT	12Dibrometha	30.0000	28.4403	5.20	103	0.00
72	PT	Chlorobenzen	30.0000	26.9899	10.03	101	0.00
73	T	1Clhexane	30.0000	29.3648	2.12	105	0.00
74	T	1112Tetclota	30.0000	27.8815	7.06	99	0.00
75	PT	Ethylbenzene	30.0000	28.0226	6.59	102	0.00
76	PT	m p-Xylene	60.0000	58.0508	3.25	101	0.00
77	PT	o-Xylene	30.0000	30.1536	-0.51	102	0.00
78	PT	Styrene	30.0000	29.5780	1.41	100	0.00
79	PT	Bromoform	30.0000	27.8921	7.03	101	0.00
80	PT	Isopropylben	30.0000	30.1328	-0.44	103	0.00
81	T	cyclohexanone	600.0000	598.8853	0.19	106	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	20.0000	20.0000	0.00	110	0.00
83	S	SURR4BrFBenz	20.0000	19.8594	0.70	108	0.00
84	T	Bromobenzene	30.0000	26.3490	12.17	101	0.00
85	PT	1122Tetrclta	30.0000	27.3965	8.68	104	0.00
86	T	123Triclproa	30.0000	28.9055	3.65	100	0.00
87	T	14dichloro2butene	30.0000	29.8186	0.60	106	0.00
88	T	n-Propylbenz	30.0000	27.5195	8.27	102	0.00
89	T	2chlorotolue	30.0000	26.9038	10.32	100	0.00
90	T	4chlorotolue	30.0000	27.5555	8.15	100	0.00
91	T	135Trimebenz	30.0000	27.8028	7.32	99	0.00
92	T	tbutylbenzen	30.0000	28.1297	6.23	102	0.00
93	T	124Trimetben	30.0000	29.1712	2.76	102	0.00
94	T	sbutylbenzen	30.0000	29.1797	2.73	100	0.00
95	PT	13Diclorbenz	30.0000	27.4277	8.57	103	0.00
96	T	pIsopropylto	30.0000	29.1171	2.94	99	0.00
97	PT	14dichlorobe	30.0000	26.0830	13.06	98	0.00
98	PT	12dichlorobe	30.0000	26.3560	12.15	101	0.00
99	T	nButylbenzen	30.0000	29.0385	3.21	101	0.00
100	PT	12dibromo3cl	30.0000	28.9098	3.63	104	0.00
101	T	135Trichlorobenzene	30.0000	28.2453	5.85	102	0.00
102	PT	124Trichlobe	30.0000	28.5085	4.97	100	0.00
103	T	Hexachlorobu	30.0000	27.9320	6.89	97	0.00
104	T	Naphthalene	30.0000	29.4536	1.82	101	0.00
105	T	123Trichlben	30.0000	28.7742	4.09	102	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

W100315.M Wed Oct 14 15:24:58 2015

Quantitation Report

Data File : L:\Data\OCT0315\ICV2.D Vial: 14
Acq On : 4 Oct 2015 4:16 Operator: AGK-RLD
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 30.0/300 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 04 09:32:53 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 04 09:32:41 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.71	96	1428427	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.62	117	1069789	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	15.46	152	591483	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.85	113	340503	19.719	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 99 %			
45) SURR12DCAd4	7.26	102	98293	20.709	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 104 %			
61) SURRd8Tolule	9.71	98	1438630	20.191	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101 %			
83) SURR4BrFBenz	13.25	95	585580	19.859	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 99 %			
Target Compounds						Qvalue
2) Dichlorodi	1.89	85	503291	27.2153	ug/L	99
3) Chloromethan	2.13	50	463241	27.1700	ug/L	97
4) VinylChlorid	2.26	62	518242	27.5658	ug/L	99
5) Bromomethane	2.72	94	202783	34.4853	ug/L	99
6) Chloroethane	2.89	64	309191	26.8990	ug/L	97
7) Dichloroflmethane	3.20	67	871365	27.0017	ug/L	98
8) Trichlorofma	3.28	101	741565	26.4631	ug/L	95
9) Ethylether	3.73	59	437408	28.3505	ug/L	96
10) dichlorotfluoroethan	3.73	67	479619	27.4482	ug/L	99
11) propyleneoxide	4.08	58	1023883	240.5026	ug/L #	83
12) Acrolein	3.85	56	1082810	147.2744	ug/L	98
13) 11dichlorthe	3.99	96	427335	28.6630	ug/L	100
14) Trichlorotfluoroeth	4.04	101	855565	56.6343	ug/L	99
15) Acetone	4.08	43	2952830	240.2928	ug/L	93
16) Iodomethane	4.18	142	732967	51.9640	ug/L	96
17) Carbon Dislf	4.27	76	2217513	54.6708	ug/L	98
18) allylchloride	4.49	41	1184843	56.9719	ug/L	98
19) methylacetate	4.55	74	189915	27.7813	ug/L	94
20) Methylchlorid	4.64	84	465236	28.2472	ug/L	97
21) tbutylalcohol	4.87	59	6258857	1417.6860	ug/L	93
22) Acrylonitrile	4.94	53	1565126	138.3583	ug/L	98
23) t12dichlorte	5.02	96	459261	27.7181	ug/L	98
24) MtBE	5.07	73	1415412	28.0645	ug/L	97
25) Hexane	5.41	57	1169865	62.4247	ug/L	98
26) 11dichlorota	5.54	63	811258	26.9800	ug/L	97
27) Vinylacetate	5.64	43	7714495	279.8592	ug/L	90
28) chloroprene	5.67	53	1592064	57.1984	ug/L	97
29) Diisopether	5.70	45	1392944	29.6486	ug/L	100
30) ETBE	6.16	59	1367534	30.2641	ug/L	99
31) 22dichloropr	6.28	77	738534	27.4512	ug/L	99
32) c12dichlorte	6.27	96	499244	27.5862	ug/L	99
33) 2Butanone	6.29	72	1365427	271.2856	ug/L	97
34) propionitrile	6.32	54	1503658	281.5843	ug/L	98
35) Ethylacetate	6.41	88	214073	145.0055	ug/L	93
36) methacrylonitrile	6.53	67	702438	61.8925	ug/L	99
37) Bromochlorma	6.55	128	206428	26.5865	ug/L	96
38) Tetrahydofur	6.66	42	2974360	286.8777	ug/L	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : L:\Data\OCT0315\ICV2.D Vial: 14
Acq On : 4 Oct 2015 4:16 Operator: AGK-RLD
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 30.0/300 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 04 09:32:53 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 04 09:32:41 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	6.66	83	809615	26.8534 ug/L	99
40)	111trichlota	6.91	97	799593	27.9595 ug/L	98
42)	Cyclohexane	7.00	56	886988	30.9289 ug/L	100
43)	Carbtetraclo	7.13	119	669887	27.7429 ug/L	100
44)	11dicloprope	7.12	110	228397	29.0558 ug/L	97
46)	Benzene	7.36	78	1779014	27.2107 ug/L	97
47)	12dichlorota	7.36	62	674652	26.5468 ug/L	98
48)	TAME	7.55	73	1351362	29.6872 ug/L	97
49)	trichloroete	8.17	95	473196	27.9675 ug/L	99
50)	methylcyclohexane	8.45	83	854803	31.2301 ug/L	99
51)	12dicloropra	8.42	63	476765	29.0441 ug/L	91
52)	23Dicl1propene	8.49	75	739056	29.3690 ug/L	97
53)	Dibromometha	8.56	93	287886	28.7560 ug/L	96
54)	methylmethacrylate	8.60	69	511170	30.6221 ug/L	98
55)	14dioxane	8.62	88	427994	1488.0487 ug/L	99
56)	Bromodiclrma	8.76	83	622736	27.8695 ug/L	98
57)	2Nitropropane	9.02	43	2796798	298.9024 ug/L	100
58)	2CLEVE	9.16	63	732089	164.2432 ug/L	98
59)	c13dicloproe	9.34	75	735825	28.3787 ug/L	96
60)	4Meth2Pentan	9.55	43	6171517	283.3229 ug/L	89
62)	Toluene	9.80	92	1207379	27.9480 ug/L	98
63)	t13Dicloprop	10.05	75	696693	28.0180 ug/L	99
64)	ethylmethacrylate	10.21	69	1517300	61.4686 ug/L	98
65)	112Triclotha	10.28	83	372093	28.7752 ug/L	97
66)	Tetrachlorte	10.54	166	567148	27.8488 ug/L	98
67)	13Diclorpropa	10.51	76	771826	27.9198 ug/L	96
69)	2Hexanone	10.64	43	5529848	277.9519 ug/L	90
70)	Clorodibrmta	10.81	129	482593	27.7444 ug/L	97
71)	12Dibrometha	10.97	107	458775	28.4403 ug/L	98
72)	Chlorobenzen	11.66	112	1200896	26.9899 ug/L	98
73)	1Clhexane	11.63	91	691864	29.3648 ug/L	96
74)	1112Tetclota	11.76	131	439974	27.8815 ug/L	98
75)	Ethylbenzene	11.82	91	2137670	28.0226 ug/L	96
76)	m p-Xylene	11.99	106	1645046	58.0508 ug/L	88
77)	o-Xylene	12.53	106	815450	30.1536 ug/L	93
78)	Styrene	12.54	104	1311185	29.5780 ug/L	97
79)	Bromoform	12.77	173	393075	27.8921 ug/L	99
80)	Isopropylben	13.06	105	2042175	30.1328 ug/L	96
81)	cyclohexanone	13.14	55	808662	598.8853 ug/L	100
84)	Bromobenzene	13.47	156	575626	26.3490 ug/L	94
85)	1122Tetrclta	13.42	83	765406	27.3965 ug/L	96
86)	123Triclproa	13.49	75	1045726	28.9055 ug/L	100
87)	14dichloro2butene	13.51	53	267626	29.8186 ug/L	95
88)	n-Propylbenz	13.64	91	2472303	27.5195 ug/L	96
89)	2chlorotolue	13.75	91	1501606	26.9038 ug/L	95
90)	4chlorotolue	13.90	91	1751623	27.5555 ug/L	99
91)	135Trimebenz	13.90	105	1765114	27.8028 ug/L	96
92)	tbutylbenzen	14.37	119	1543294	28.1297 ug/L	98
93)	124Trimetben	14.43	105	1742987	29.1712 ug/L	96
94)	sbutylbenzen	14.69	105	2143969	29.1797 ug/L	95
95)	13Diclorbenz	14.82	146	997985	27.4277 ug/L	99
96)	pIsopropylto	14.90	119	1865096	29.1171 ug/L	99
97)	14dichlorobe	14.95	146	1000842	26.0830 ug/L	98
98)	12dichlorobe	15.49	146	951953	26.3560 ug/L	99
99)	nButylbenzen	15.50	91	1701907	29.0385 ug/L	95
100)	12dibromo3cl	16.57	157	246402	28.9098 ug/L	91
101)	135Trichlorobenzene	16.92	180	744426	28.2453 ug/L	95

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : L:\Data\OCT0315\ICV2.D Vial: 14
Acq On : 4 Oct 2015 4:16 Operator: AGK-RLD
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 30.0/300 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 04 09:32:53 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 04 09:32:41 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.72	180	667440	28.5085	ug/L	99
103) Hexachlorobu	17.97	225	366029	27.9320	ug/L	97
104) Naphthalene	18.02	128	1963438	29.4536	ug/L	98
105) 123Trichlben	18.34	180	666780	28.7742	ug/L	99

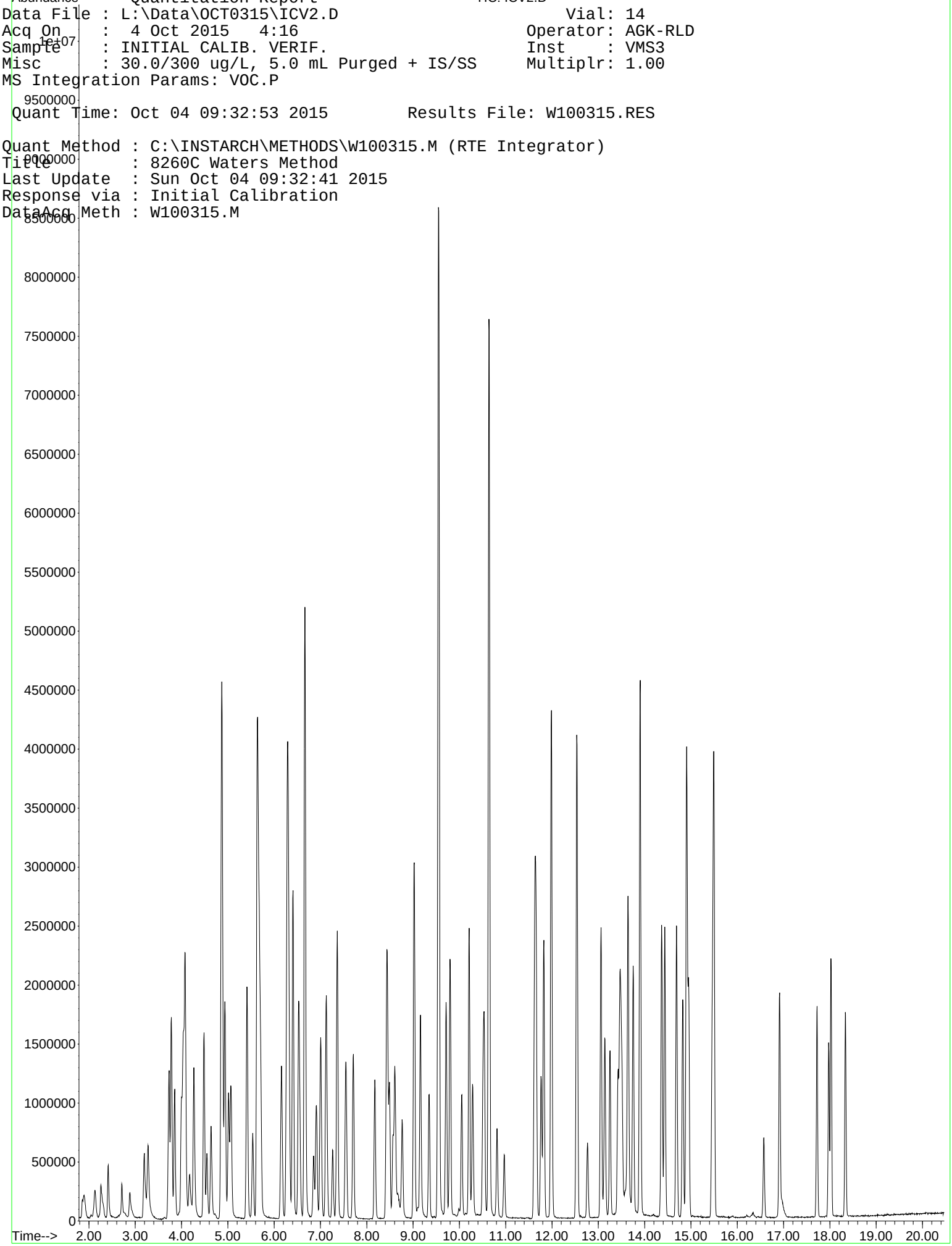
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: ICV2.D

Data File : L:\Data\OCT0315\ICV2.D Vial: 14
Acq On : 4 Oct 2015 4:16 Operator: AGK-RLD
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 30.0/300 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 04 09:32:53 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 04 09:32:41 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M



Quantitation Report

Data File : L:\Data\OCT0315\ICB1.D Vial: 16
Acq On : 4 Oct 2015 5:16 Operator: AGK-RLD
Sample : INITIAL CALIB. BLANK Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 04 09:33:31 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 04 09:32:41 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.71	96	1261133	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.62	117	931538	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	15.46	152	474991	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.85	113	293288	19.238	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 96 %			
45) SURR12DCAd4	7.27	102	83546	19.937	ug/L	0.01
Spiked Amount 20.000	Range 89 - 112		Recovery = 100 %			
61) SURRd8Tolule	9.71	98	1198048	19.045	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 95 %			
83) SURR4BrFBenz	13.25	95	460512	19.448	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 97 %			

Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	0.00	50	0	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	0.00	94	0	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	4.08	58	3260	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	4.08	43	13076	N.D.		
16) Iodomethane	0.00	142	0	N.D.		
17) Carbon Dislf	4.27	76	10756	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	4.88	59	15351	Below	Cal	96
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	5.63	43	3134	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	6.68	42	3280	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : L:\Data\OCT0315\ICB1.D Vial: 16
Acq On : 4 Oct 2015 5:16 Operator: AGK-RLD
Sample : INITIAL CALIB. BLANK Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 04 09:33:31 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 04 09:32:41 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	0.00	119	0	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	0.00	78	0	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	0.00	95	0	N.D.	
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	8.62	88	3476	13.6885 ug/L #	76
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	9.02	43	2603	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	0.00	92	0	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	10.64	43	4990	Below Cal #	30
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	11.63	91	3034	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	0.00	106	0	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	0.00	55	0	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	13.64	91	2822	N.D.	
89)	2chlorotolue	13.64	91	2715	N.D.	
90)	4chlorotolue	13.90	91	4371	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	0.00	105	0	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	14.82	146	3129	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	14.94	146	2782	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	0.00	91	0	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : L:\Data\OCT0315\ICB1.D Vial: 16
Acq On : 4 Oct 2015 5:16 Operator: AGK-RLD
Sample : INITIAL CALIB. BLANK Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 04 09:33:31 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 04 09:32:41 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	18.02	128	9364	N.D.	
105) 123Trichlben	18.33	180	3366	N.D.	

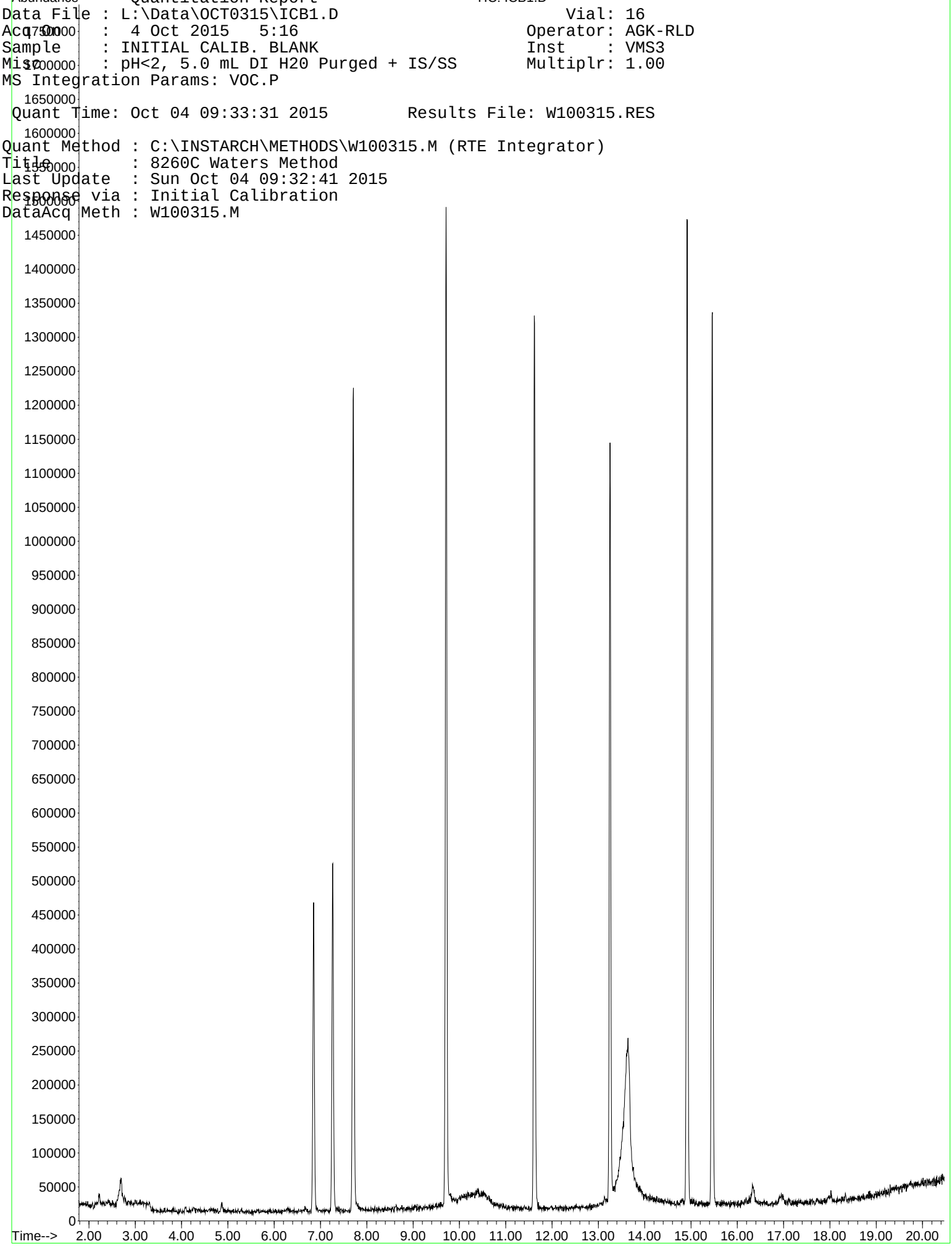
(#) = qualifier out of range (m) = manual integration

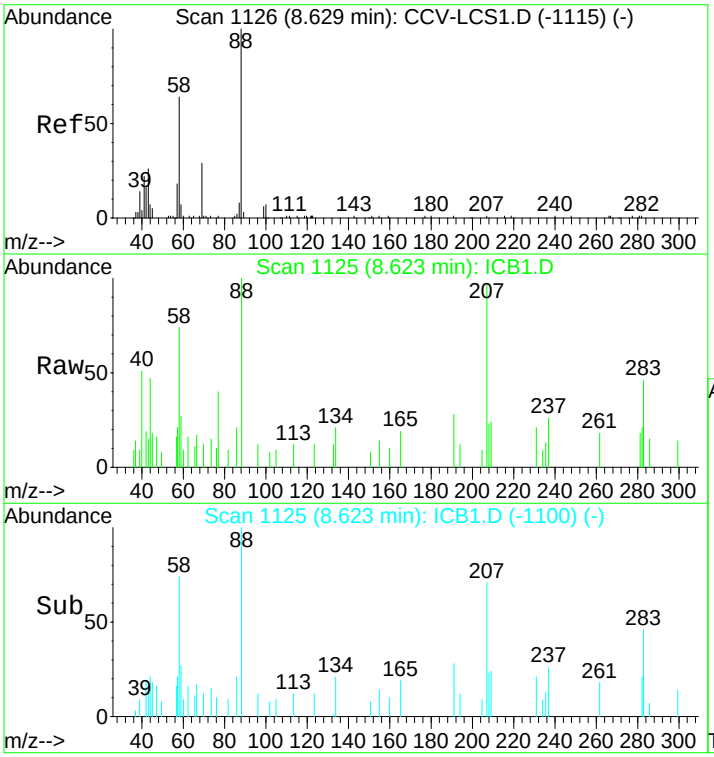
Abundance Quantitation Report TIC: ICB1.D

Data File : L:\Data\OCT0315\ICB1.D Vial: 16
Acq On : 4 Oct 2015 5:16 Operator: AGK-RLD
Sample : INITIAL CALIB. BLANK Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 04 09:33:31 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 04 09:32:41 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

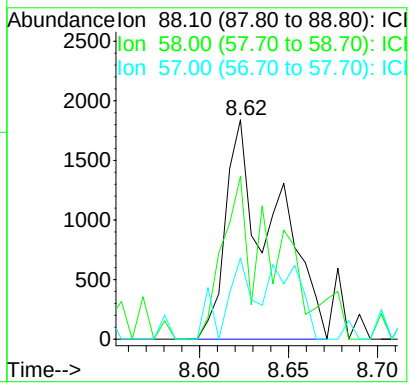




#55
14dioxane
Concen: 13.69 ug/L
RT: 8.62 min Scan# 1125
Delta R.T. -0.00 min
Lab File: ICB1.D
Acq: 4 Oct 2015 5:16

Tgt Ion: 88 Resp: 3476

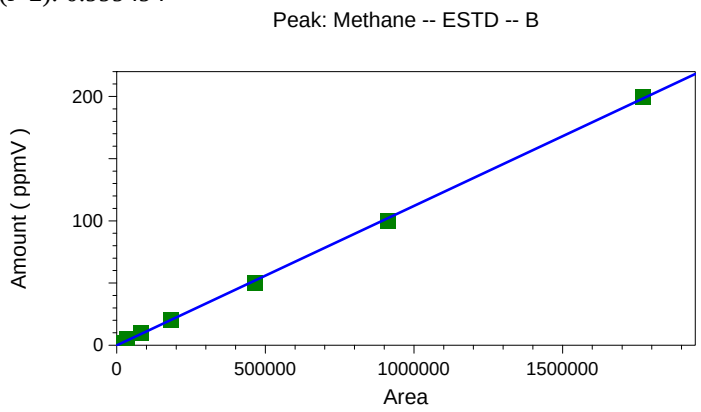
Ion	Ratio	Lower	Upper
88	100		
58	84.2	50.6	90.6
57	0.0	2.9	42.9#



Calibration Report

Method: C:\Instarch\PVOC4\Methods\P4DG020315.met
Print Time: Feb 11, 2015 14:41:33
User: AGK
Instrument: PVOC4

Methane (B)
Average RF: 0.000126758 RF StDev: 2.66182e-005 RF %RSD: 20.9992
Scaling: None LSQ Weighting: None Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 0.000112132x - 0.0862934
Goodness of fit (r^2): 0.999494



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	2	5	10	20	50
Area	11158	34407	81596	181231	466265
RF	0.000179243	0.00014531926	0.000122555027	0.000110356395	0.0001072351
Last Area	592041585	6428343	207216	98082	55973534
Residual	0.835122	1.22816	0.936751	-0.235545	-2.19705
Rep StDev					
Rep %RSD					
Rep 1 Area	11158	34407	81596	181231	466265
Rep 1 User	BMS	BMS	BMS	BMS	BMS
Rep 1 Data File	C:\Instarch\PVOC4\Data\020315icdg\001.dat	C:\Instarch\PVOC4\Data\020315icdg\002.dat	C:\Instarch\PVOC4\Data\020315icdg\003.dat	C:\Instarch\PVOC4\Data\020315icdg\004.dat	C:\Instarch\PVOC4\Data\020315icdg\005.dat
Rep 1 Sample ID	MEE PT1 - 2 ppmV	MEE PT2 - 5 ppmV	MEE PT3 - 10 ppmV	MEE PT4 - 20 ppmV	MEE PT5 - 50 ppmV
Rep 1 Calib. Time	Feb 03, 2015 10:55:14	Feb 03, 2015 10:55:32	Feb 03, 2015 10:55:50	Feb 03, 2015 10:56:05	Feb 03, 2015 10:56:18

	Level 6	Level 7
Amount	100	200
Area	912807	1769205

RJ 02/11/2015

Calibration Report

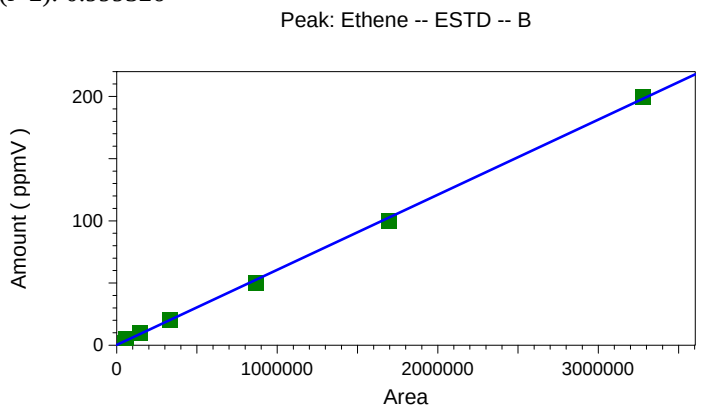
Method: C:\Instarch\PVOC4\Methods\P4DG020315.met
Print Time: Feb 11, 2015 14:41:33
User: AGK
Instrument: PVOC4

RF	0.000109552183539346	0.00011304512 4787687
Last Area Residual	-2.2688	1.70137
Rep StDev		
Rep %RSD		
Rep 1 Area	912807	1769205
Rep 1 User	BMS	BMS
Rep 1 Data File	C:\Instarch\PVOC4\Data\020315icdg\006.dat	C:\Instarch\PVOC4\Data\020315icdg\007.dat
Rep 1 Sample ID	MEE PT6 - 100 ppmV	MEE PT7 - 200 ppmV
Rep 1 Calib. Time	Feb 03, 2015 10:56:31	Feb 03, 2015 10:56:53

Calibration Report

Method: C:\Instarch\PVOC4\Methods\P4DG020315.met
Print Time: Feb 11, 2015 14:41:51
User: AGK
Instrument: PVOC4

Ethene (B)
Average RF: 7.34101e-005 RF StDev: 2.20333e-005 RF %RSD: 30.0140
Scaling: None LSQ Weighting: None Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 6.03920e-005x + 0.196712
Goodness of fit (r^2): 0.999326



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	2	5	10	20	50
Area	17089	56566	142389	330410	867023
RF	0.000117034 349581602	8.83923204751 971e-005	7.023014418248 6e-005	6.053085560364 4e-005	5.7668597026 8378e-005
Last Area Residual	0.77125	1.38716	1.20414	-0.150822	-2.55794
Rep StDev					
Rep %RSD					
Rep 1 Area	17089	56566	142389	330410	867023
Rep 1 User	BMS	BMS	BMS	BMS	BMS
Rep 1 Data File	C:\Instarch\PVOC4\Data\020315icdg\001.dat	C:\Instarch\PVOC4\Data\020315icdg\002.dat	C:\Instarch\PVOC4\Data\020315icdg\003.dat	C:\Instarch\PVOC4\Data\020315icdg\004.dat	C:\Instarch\PVOC4\Data\020315icdg\005.dat
Rep 1 Sample ID	MEE PT1 - 2 ppmV	MEE PT2 - 5 ppmV	MEE PT3 - 10 ppmV	MEE PT4 - 20 ppmV	MEE PT5 - 50 ppmV
Rep 1 Calib. Time	Feb 03, 2015 10:55:14	Feb 03, 2015 10:55:32	Feb 03, 2015 10:55:50	Feb 03, 2015 10:56:05	Feb 03, 2015 10:56:18

	Level 6	Level 7
Amount	100	200
Area	1696051	3275808

RJ 02/11/2015

Calibration Report

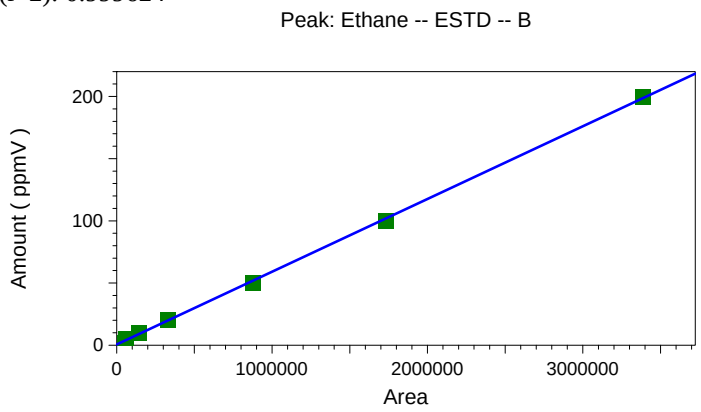
Method: C:\Instarch\PVOC4\Methods\P4DG020315.met
Print Time: Feb 11, 2015 14:41:51
User: AGK
Instrument: PVOC4

RF	5.896049116 44756e-005	6.10536392853 305e-005
Last Area Residual	-2.62457	1.97079
Rep StDev		
Rep %RSD		
Rep 1 Area	1696051	3275808
Rep 1 User	BMS	BMS
Rep 1 Data File	C:\Instarch\PVOC4\Data\020315icdg\006.dat	C:\Instarch\PVOC4\Data\020315icdg\007.dat
Rep 1 Sample ID	MEE PT6 - 100 ppmV	MEE PT7 - 200 ppmV
Rep 1 Calib. Time	Feb 03, 2015 10:56:31	Feb 03, 2015 10:56:53

Calibration Report

Method: C:\Instarch\PVOC4\Methods\P4DG020315.met
Print Time: Feb 11, 2015 14:41:59
User: AGK
Instrument: PVOC4

Ethane (B)
Average RF: 7.20208e-005 RF StDev: 2.08377e-005 RF %RSD: 28.9328
Scaling: None LSQ Weighting: None Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 5.84964e-005x + 0.597310
Goodness of fit (r^2): 0.999624



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	2	5	10	20	50
Area	17853	56692	142896	332327	878485
RF	0.000112025 990029687	8.81958653778 311e-005	6.998096517747 17e-005	6.018168851763 47e-005	5.6916168175 8937e-005
Last Area Residual	0.358353	1.08641	1.04378	-0.0372589	-1.98556
Rep StDev					
Rep %RSD					
Rep 1 Area	17853	56692	142896	332327	878485
Rep 1 User	BMS	BMS	BMS	BMS	BMS
Rep 1 Data File	C:\Instarch\PVOC4\Data\020315icdg\001.dat	C:\Instarch\PVOC4\Data\020315icdg\002.dat	C:\Instarch\PVOC4\Data\020315icdg\003.dat	C:\Instarch\PVOC4\Data\020315icdg\004.dat	C:\Instarch\PVOC4\Data\020315icdg\005.dat
Rep 1 Sample ID	MEE PT1 - 2 ppmV	MEE PT2 - 5 ppmV	MEE PT3 - 10 ppmV	MEE PT4 - 20 ppmV	MEE PT5 - 50 ppmV
Rep 1 Calib. Time	Feb 03, 2015 10:55:14	Feb 03, 2015 10:55:32	Feb 03, 2015 10:55:50	Feb 03, 2015 10:56:05	Feb 03, 2015 10:56:18

	Level 6	Level 7
Amount	100	200
Area	1731517	3384539

RJ 02/11/2015

Calibration Report

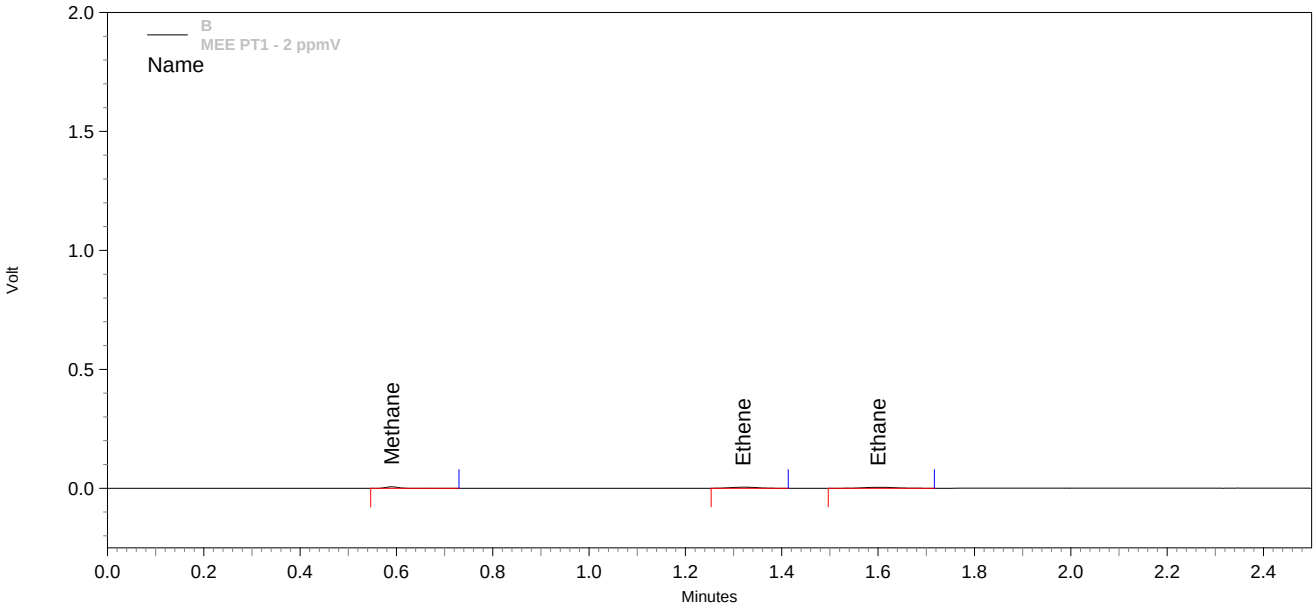
Method: C:\Instarch\PVOC4\Methods\P4DG020315.met
Print Time: Feb 11, 2015 14:41:59
User: AGK
Instrument: PVOC4

RF	5.77528259901578e-005	5.90922426953863e-005
Last Area Residual	-1.8849	1.41918
Rep StDev		
Rep %RSD		
Rep 1 Area	1731517	3384539
Rep 1 User	BMS	BMS
Rep 1 Data File	C:\Instarch\PVOC4\Data\020315icdg\006.dat	C:\Instarch\PVOC4\Data\020315icdg\007.dat
Rep 1 Sample ID	MEE PT6 - 100 ppmV	MEE PT7 - 200 ppmV
Rep 1 Calib. Time	Feb 03, 2015 10:56:31	Feb 03, 2015 10:56:53

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\020315icdg\001.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: MEE PT1 - 2 ppmV
Acquired: Feb 03, 2015 10:27:30
File Desc. 0.01 mL injection (Methane, Ethene, Ethane)



B Results

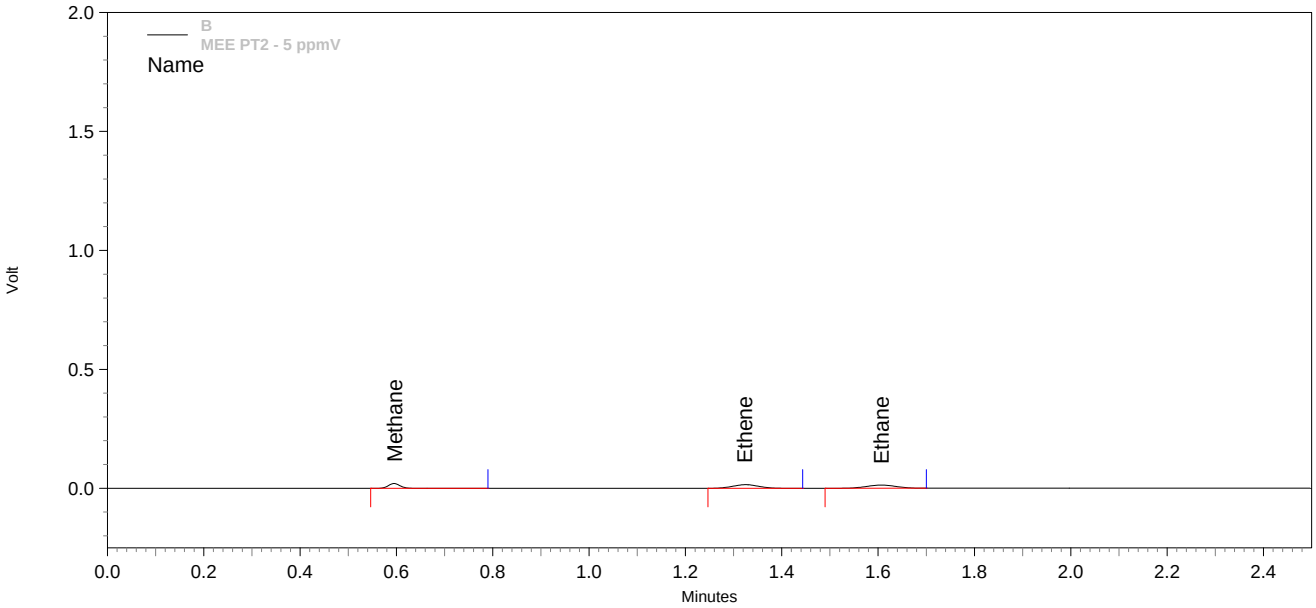
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.590	11158	**1.165**
2	Ethene	1.320	17089	**1.229**
3	Ethane	1.600	17853	**1.642**

Totals			46100	**4.035**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\020315icdg\002.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: MEE PT2 - 5 ppmV
Acquired: Feb 03, 2015 10:35:02
File Desc. 0.025 mL injection (Methane, Ethene, Ethane)



B Results

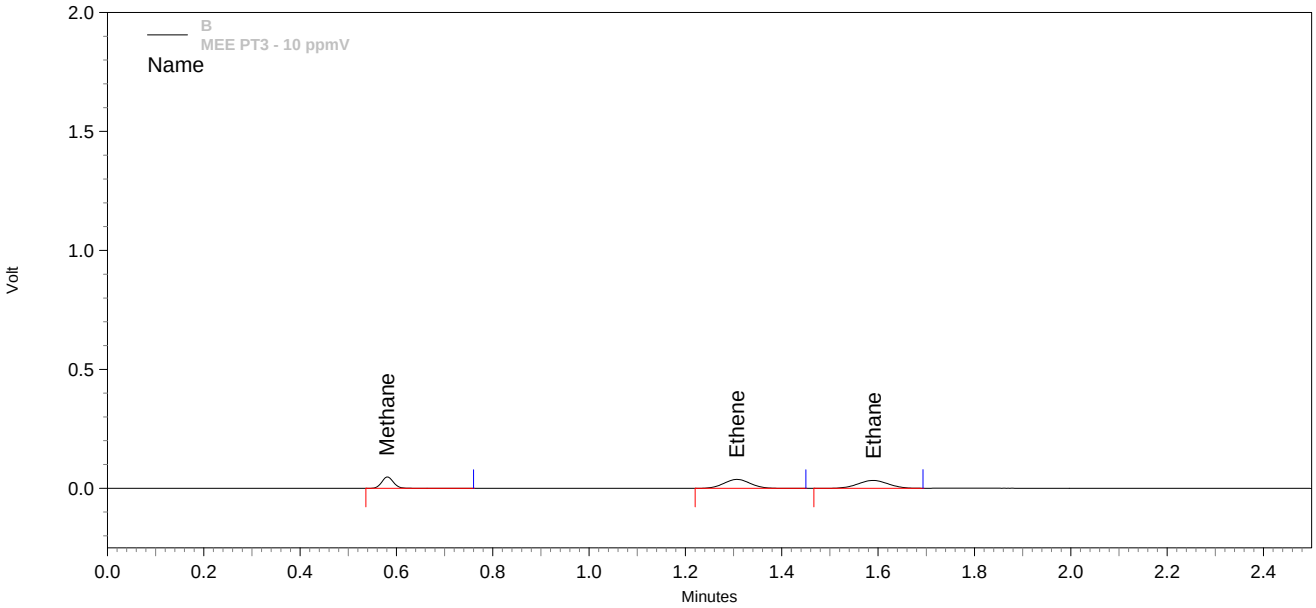
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.597	34407	**5.000 CAL**
2	Ethene	1.323	56566	**5.000 CAL**
3	Ethane	1.607	56692	**5.000 CAL**

Totals			147665	**15.000 CAL**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\020315icdg\003.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: MEE PT3 - 10 ppmV
Acquired: Feb 03, 2015 10:38:17
File Desc. 0.05 mL injection (Methane, Ethene, Ethane)



B Results

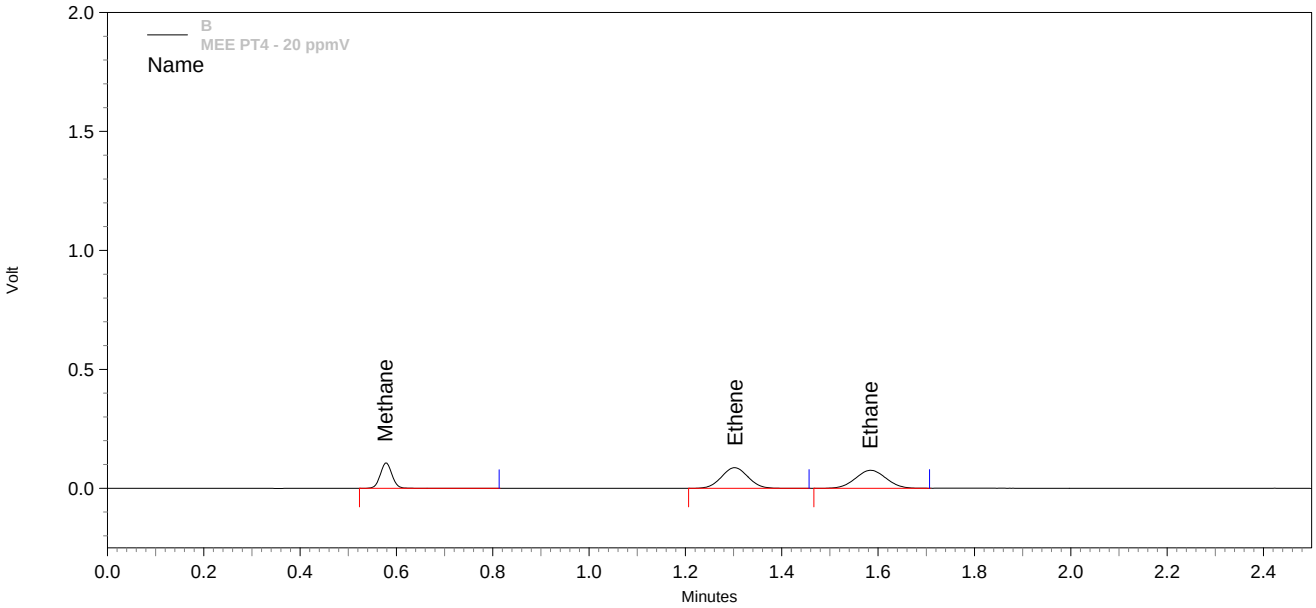
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.580	81596	**10.000 CAL**
2	Ethene	1.307	142389	**10.000 CAL**
3	Ethane	1.590	142896	**10.000 CAL**

Totals			366881	**30.000 CAL**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\020315icdg\004.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: MEE PT4 - 20 ppmV
Acquired: Feb 03, 2015 10:41:32
File Desc. 0.1 mL injection (Methane, Ethene, Ethane)



B Results

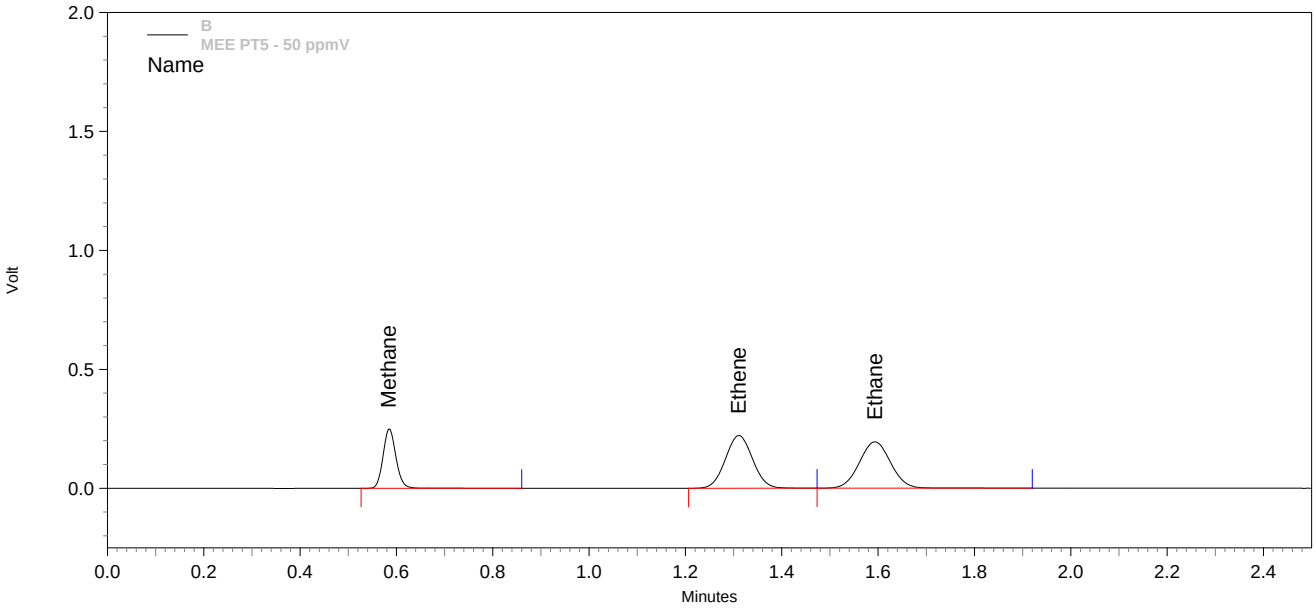
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.577	181231	**20.000 CAL**
2	Ethene	1.303	330410	**20.000 CAL**
3	Ethane	1.583	332327	**20.000 CAL**

Totals			843968	**60.000 CAL**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\020315icdg\005.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: MEE PT5 - 50 ppmV
Acquired: Feb 03, 2015 10:44:59
File Desc. 0.25 mL injection (Methane, Ethene, Ethane)



B Results

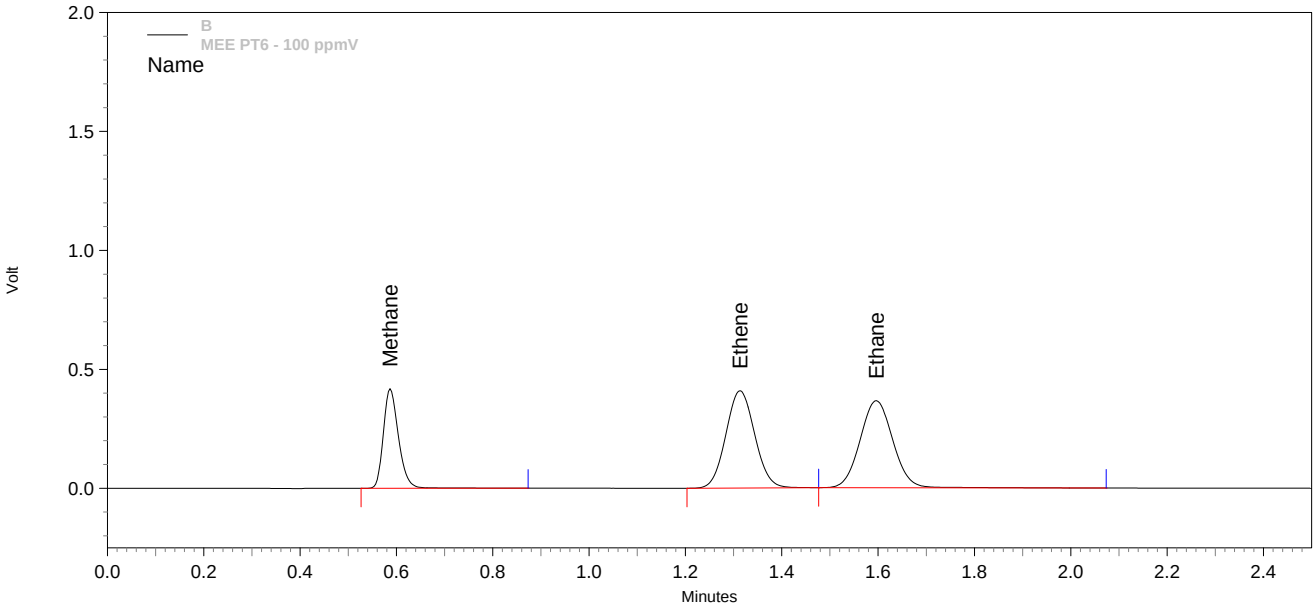
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.583	466265	**50.000 CAL**
2	Ethene	1.310	867023	**50.000 CAL**
3	Ethane	1.593	878485	**50.000 CAL**

Totals			2211773	**150.000 CAL**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\020315icdg\006.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: MEE PT6 - 100 ppmV
Acquired: Feb 03, 2015 10:48:29
File Desc. 0.5 mL injection (Methane, Ethene, Ethane)



B Results

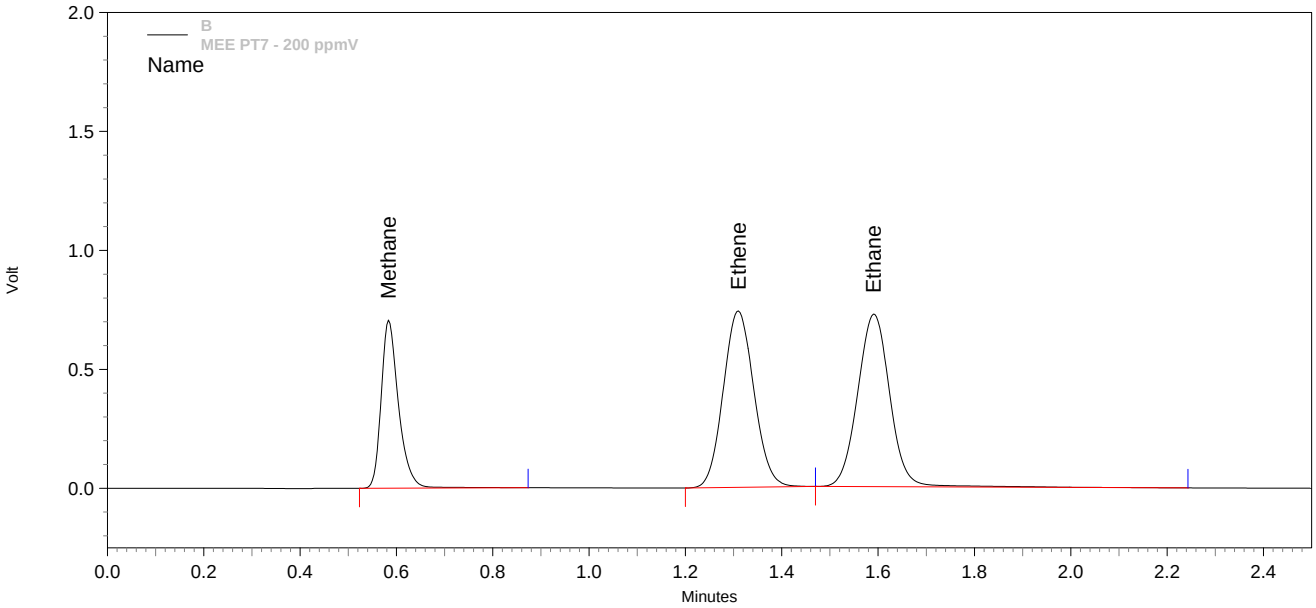
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.587	912807	**100.000 CAL**
2	Ethene	1.313	1696051	**100.000 CAL**
3	Ethane	1.597	1731517	**100.000 CAL**

Totals			4340375	**300.000 CAL**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\020315icdg\007.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: MEE PT7 - 200 ppmV
Acquired: Feb 03, 2015 10:52:17
File Desc. 1.0 mL injection (Methane, Ethene, Ethane)



B Results

Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.583	1769205	**200.000 CAL**
2	Ethene	1.310	3275808	**200.000 CAL**
3	Ethane	1.590	3384539	**200.000 CAL**

Totals			8429552	**600.000 CAL**

QC Check Standard Report

Sequence : C:\InStarch\PVOC4\Sequence\020315DGIC.seq
User : AGK
Printed : Feb 11, 2015 14:43:24

File	Sample ID	Acquired
C:\Instarch\PVOC4\Data\020315icdg\008.dat	ICV - 50 ppmV	Feb 11, 2015 14:43:24

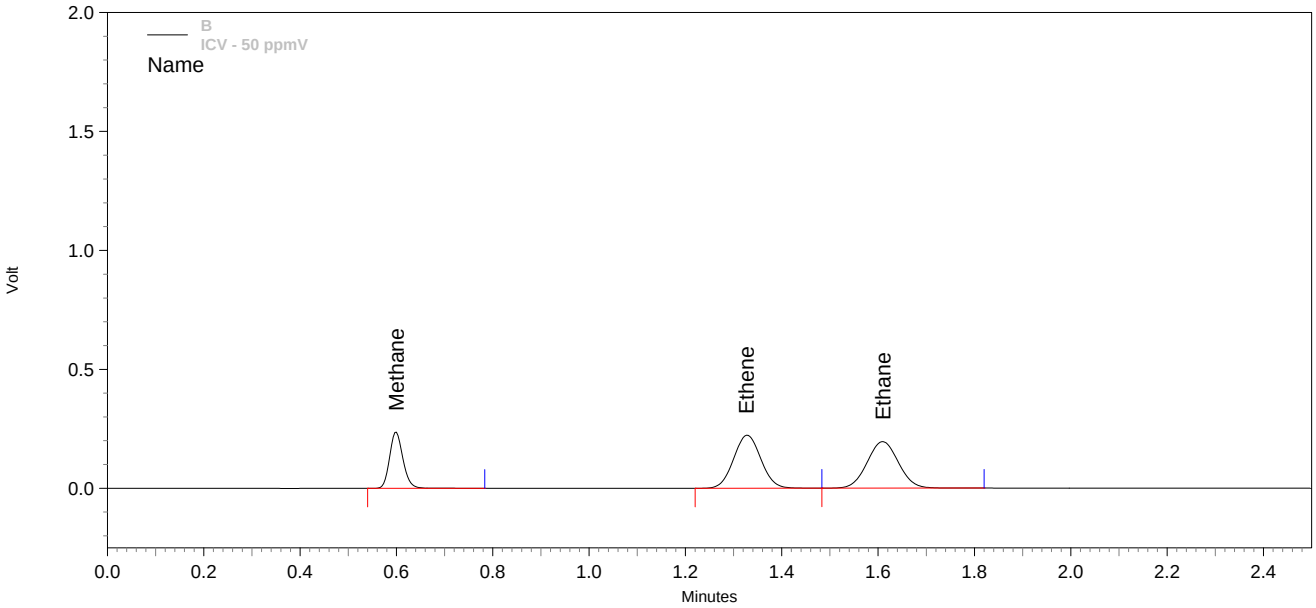
B

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
Methane	50.000	50.955	1.911	15.000	**Passed**
Ethene	50.000	53.018	6.036	15.000	**Passed**
Ethane	50.000	52.143	4.287	15.000	**Passed**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\020315icdg\008.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: ICV - 50 ppmV
Acquired: Feb 03, 2015 11:02:07
File Desc. INITIAL CALIB. VERIF. - 0.25 mL injection (Methane, Ethene, Ethane)



B Results

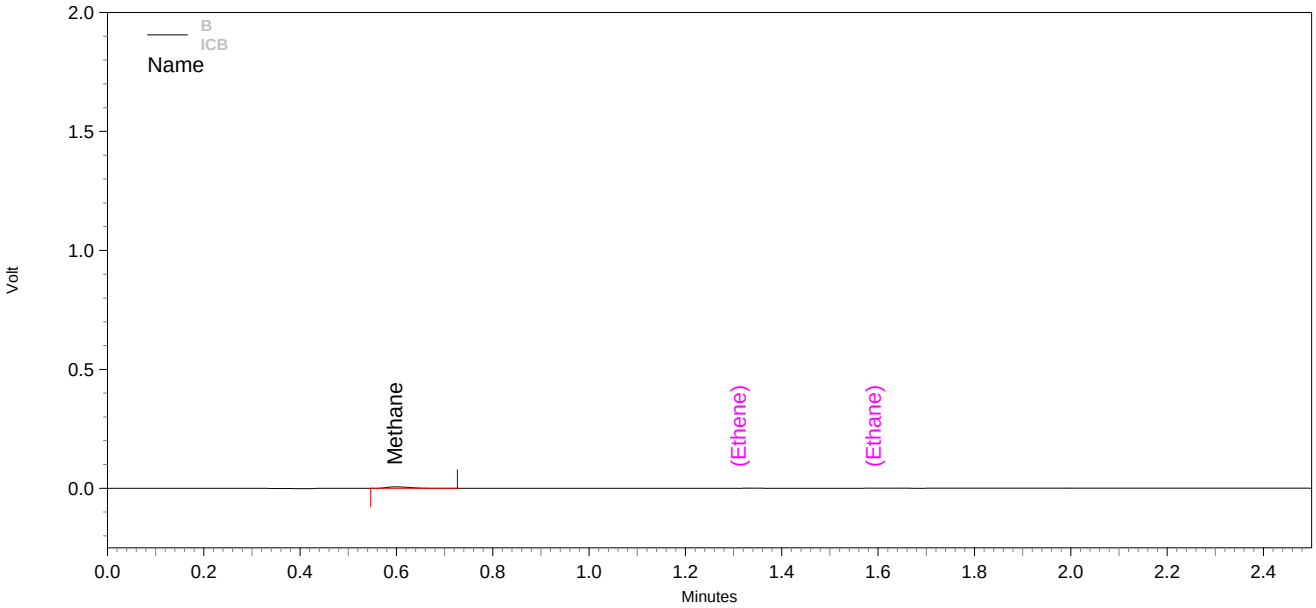
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.600	455191	**50.955**
2	Ethene	1.327	874641	**53.018**
3	Ethane	1.610	881181	**52.143**

Totals			2211013	**156.117**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\020315icdg\009.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: ICB
Acquired: Feb 03, 2015 11:19:15
File Desc. INITIAL CALIB. BLANK - 1.0 mL injection (Methane, Ethene, Ethane)



B Results

Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.597	20063	**2.163**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			20063	**2.163**

VOLATILE ORGANIC ANALYSIS
CONTINUING CALIBRATION
DOCUMENTS

Data File : l:\data\oct1315b\BFB1.D Vial: 1
Acq On : 13 Oct 2015 15:19 Operator: AGK-RLD
Sample : 119465,BFB, Inst : VMS3
Misc : 25 ng Inj. Multiplr: 1.00
Integration File: VOC.P

Method : L:\METHODS\W100315.M
Title : 8260C Waters Method

Spectrum Information: Average of 4.681 to 4.693 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	21.6	17042	PASS
75	95	30	60	56.6	44555	PASS
95	95	100	100	100.0	78744	PASS
96	95	5	9	8.1	6406	PASS
173	174	0.00	2	1.0	689	PASS
174	95	50	100	89.7	70664	PASS
175	174	5	9	7.6	5379	PASS
176	174	95	101	98.7	69738	PASS
177	176	5	9	6.7	4651	PASS

W100315.M Fri Oct 16 10:32:30 2015

Evaluate Continuing Calibration Report

Data File : l:\data\oct1315b\CCV-LCS1.D Vial: 2
Acq On : 13 Oct 2015 15:38 Operator: AGK-RLD
Sample : 119465,LCSW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Oct 13 15:59:11 2015

Quant Method : C:\INSTARCH\METHODS\W100315.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W100315.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	1.0000	1.0000	0.00	92	0.00
2	PT	Dichlorodi	0.2589	0.2783	-7.49	100	-0.04
3	PT	Chloromethan	0.2387	0.2616	-9.59	111	-0.02
4	PT	VinylChlorid	0.2632	0.2916	-10.79	106	0.00
5	PT	Bromomethane	0.0823	0.0924#	-12.27	89	0.00
6	PT	Chloroethane	0.1609	0.1838	-14.23	102	0.00
7	T	Dichloroflmethane	0.4518	0.4674	-3.45	96	0.00
8	PT	Trichlorofma	0.3924	0.4149	-5.73	93	0.00
9	T	Ethylether	0.2160	0.2242	-3.80	98	0.00
10	T	dichlorotfluoroethan	0.2447	0.2624	-7.23	100	0.00
11	T	propyleneoxide	0.0630	0.0668	-6.03	134	0.00
12	T	Acrolein	0.1029	0.0988	3.98	95	0.00
13	PT	11dichlorthe	0.2087	0.2263	-8.43	102	0.00
14	PT	Trichlorotfluoroeth	0.2115	0.2370	-12.06	103	0.00
15	PT	Acetone	0.1784	0.2118	-18.72	131	0.00
16	T	Iodomethane	0.1650	0.1552	5.94	87	0.00
17	PT	Carbon Dislf	0.5679	0.6214	-9.42	100	0.00
18	T	allylchloride	0.2912	0.2996	-2.88	98	0.00
19	PT	methylacetate	0.0957	0.1222	-27.69#	123	-0.01
20	PT	Methylchlorid	0.2604	0.2489	4.42	99	0.00
21	T	tbutylalcohol	0.0742	0.0732	1.35	95	-0.01
22	T	Acrylonitrile	0.1584	0.1631	-2.97	99	0.00
23	PT	t12dichlorte	0.2320	0.2538	-9.40	105	0.00
24	PT	MtBE	0.7062	0.7521	-6.50	101	-0.01
25	T	Hexane	0.2624	0.2982	-13.64	105	0.00
26	PT	11dichlorota	0.4210	0.4417	-4.92	100	0.00
27	T	Vinylacetate	0.4346	0.4895	-12.63	93	0.00
28	T	chloroprene	0.3897	0.4250	-9.06	100	0.00
29	T	Diisopether	0.6578	0.6793	-3.27	98	0.00
30	T	ETBE	0.6327	0.6594	-4.22	96	0.00
31	T	22dichloropr	0.3767	0.4649	-23.41#	112	0.00
32	PT	c12dichlorte	0.2534	0.2667	-5.25	102	0.00
33	PT	2Butanone	0.0705	0.0741#	-5.11	104	0.00
34	T	propionitrile	0.0748	0.0762	-1.87	99	-0.01
35	T	Ethylacetate	0.0207	0.0215#	-3.86	97	0.00
36	T	methacrylonitrile	0.1589	0.1699	-6.92	100	0.00
37	T	Bromochlorma	0.1087	0.1115	-2.58	101	0.00
38	T	Tetrahydofur	0.1452	0.1533	-5.58	96	0.00
39	PT	Chloroform	0.4221	0.4400	-4.24	99	0.00
40	PT	111trichlota	0.4004	0.4465	-11.51	102	0.00
41	S	SURRDibrflma	0.2418	0.2438	-0.83	91	0.00
42	PT	Cyclohexane	0.4015	0.4187	-4.28	97	0.00
43	PT	Carbtetraclo	0.3381	0.3800	-12.39	106	0.00
44	T	11dicloprope	0.1101	0.1222	-10.99	102	0.00
45	S	SURR12DCAd4	0.0665	0.0638	4.06	86	0.00
46	PT	Benzene	0.9154	1.0019	-9.45	102	0.00
47	PT	12dichlorota	0.3558	0.3880	-9.05	103	0.00
48	T	TAME	0.6373	0.6592	-3.44	101	0.00

49	PT	trichloroete	0.2369	0.2551	-7.68	100	0.00
50	PT	methylcyclohexane	0.3832	0.4161	-8.59	101	0.00
51	PT	12dicloropra	0.2298	0.2412	-4.96	96	0.00
52	T	23Dicl1propene	0.3523	0.3778	-7.24	104	0.00
53	T	Dibromometha	0.1402	0.1635	-16.62	110	0.00
54	T	methylmethacrylate	0.2337	0.2461	-5.31	99	0.00
55	T	14dioxane	0.0040	0.0038#	5.00	103	0.00
56	PT	Bromodiclrma	0.3129	0.3361	-7.41	101	0.00
57	T	2Nitropropane	0.1310	0.1494	-14.05	104	0.00
58	T	2CLEVE	0.0551	0.0340	38.29#	61	0.00
59	PT	c13dicloproe	0.3630	0.3933	-8.35	105	0.00
60	PT	4Meth2Pentan	0.3665	0.3965	-8.19	98	0.00
61	S	SURRd8Tolule	0.9976	1.0297	-3.22	95	0.00
62	PT	Toluene	0.6049	0.6528	-7.92	100	0.00
63	PT	t13Dicloprop	0.3482	0.3759	-7.96	104	0.00
64	T	ethylmethacrylate	0.3456	0.3697	-6.97	99	0.00
65	PT	112Triclotha	0.1811	0.1909	-5.41	96	0.00
66	PT	Tetrachlorte	0.2851	0.3171	-11.22	105	0.00
67	T	13Diclorpropa	0.3871	0.4087	-5.58	101	0.00
68	I	d5-CHLOROBENZENE**ISTD**	1.0000	1.0000	0.00	98	0.00
69	PT	2Hexanone	0.4411	0.4328	1.88	99	0.00
70	PT	Clorodibrmta	0.3252	0.3243	0.28	103	0.00
71	PT	12Dibrometha	0.3016	0.2955	2.02	103	0.00
72	PT	Chlorobenzen	0.8318	0.8659	-4.10	107	0.00
73	T	1Clhexane	0.4405	0.4465	-1.36	107	0.00
74	T	1112Tetclota	0.2950	0.3076	-4.27	107	0.00
75	PT	Ethylbenzene	1.4261	1.5382	-7.86	105	0.00
76	PT	m p-Xylene	0.5298	0.5709	-7.76	106	0.00
77	PT	o-Xylene	0.5056	0.5292	-4.67	103	0.00
78	PT	Styrene	0.8288	0.8600	-3.76	106	0.00
79	PT	Bromoform	0.2635	0.2536	3.76	104	0.00
80	PT	Isopropylben	1.2670	1.3766	-8.65	107	0.00
81	T	cyclohexanone	0.0252	0.0210#	16.67	97	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	1.0000	1.0000	0.00	103	0.00
83	S	SURR4BrFBenz	0.9970	0.9955	0.15	100	0.00
84	T	Bromobenzene	0.7387	0.7366	0.28	102	0.00
85	PT	1122Tetrclta	0.9447	0.9344	1.09	103	0.00
86	T	123Triclproa	1.2233	1.3207	-7.96	105	0.00
87	T	14dichloro2butene	0.3035	0.2948	2.87	113	0.00
88	T	n-Propylbenz	3.0377	3.2471	-6.89	106	0.00
89	T	2chlorotolue	1.8873	1.9103	-1.22	99	0.00
90	T	4chlorotolue	2.1494	2.3219	-8.03	107	0.00
91	T	135Trimebenz	2.1467	2.2435	-4.51	104	0.00
92	T	tbutylbenzen	1.8551	1.8946	-2.13	105	0.00
93	T	124Trimetben	2.0204	2.1359	-5.72	103	0.00
94	T	sbutylbenzen	2.4844	2.7047	-8.87	106	0.00
95	PT	13Diclorbenz	1.2303	1.3041	-6.00	109	0.00
96	T	pIsopropylto	2.1659	2.3982	-10.73	110	0.00
97	PT	14dichlorobe	1.2975	1.3396	-3.24	107	0.00
98	PT	12dichlorobe	1.2213	1.2404	-1.56	104	0.00
99	T	nButylbenzen	1.9818	2.1612	-9.05	110	0.00
100	PT	12dibromo3cl	0.2882	0.2744	4.79	106	0.00
101	T	135Trichlorobenzene	0.8912	0.8903	0.10	101	0.00
102	PT	124Trichlobe	0.7916	0.7925	-0.11	108	0.00
103	T	Hexachlorobu	0.4431	0.4665	-5.28	113	0.00
104	T	Naphthalene	2.2541	2.2128	1.83	101	0.00
105	T	123Trichlben	0.7835	0.7917	-1.05	105	0.00

(#) = Out of Range SPCC's out = 2 CCC's out = 0

W100315.M Fri Oct 16 10:33:23 2015

Evaluate Continuing Calibration Report

Data File : l:\data\oct1315b\CCV-LCS1.D Vial: 2
Acq On : 13 Oct 2015 15:38 Operator: AGK-RLD
Sample : 119465,LCSW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Oct 13 15:59:11 2015

Quant Method : C:\INSTARCH\METHODS\W100315.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W100315.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	20.0000	20.0000	0.00	92	0.00
2	PT	Dichlorodi	10.0000	10.7486	-7.49	100	-0.04
3	PT	Chloromethan	10.0000	10.9599	-9.60	111	-0.02
4	PT	VinylChlorid	10.0000	11.0793	-10.79	106	0.00
5	PT	Bromomethane	10.0000	11.2219	-12.22	89	0.00
6	PT	Chloroethane	10.0000	11.4182	-14.18	102	0.00
7	T	Dichloroflmethane	10.0000	10.3437	-3.44	96	0.00
8	PT	Trichlorofma	10.0000	10.5757	-5.76	93	0.00
9	T	Ethylether	10.0000	10.3803	-3.80	98	0.00
10	T	dichlorotfluoroethan	10.0000	10.7234	-7.23	100	0.00
11	T	propyleneoxide	100.0000	107.9055	-7.91	134	0.00
12	T	Acrolein	50.0000	47.9962	4.01	95	0.00
13	PT	11dichlorthe	10.0000	10.8396	-8.40	102	0.00
14	PT	Trichlorotfluoroeth	20.0000	22.4088	-12.04	103	0.00
15	PT	Acetone	100.0000	114.9156	-14.92	131	0.00
16	T	Iodomethane	20.0000	17.6670	11.66	87	0.00
17	PT	Carbon Dislf	20.0000	21.8852	-9.43	100	0.00
18	T	allylchloride	20.0000	20.5748	-2.87	98	0.00
19	PT	methylacetate	10.0000	12.7692	-27.69#	123	-0.01
20	PT	Methylchlorid	10.0000	10.3748	-3.75	99	0.00
21	T	tbutylalcohol	500.0000	504.2738	-0.85	95	-0.01
22	T	Acrylonitrile	50.0000	51.5000	-3.00	99	0.00
23	PT	t12dichlorte	10.0000	10.9384	-9.38	105	0.00
24	PT	MtBE	10.0000	10.6505	-6.50	101	-0.01
25	T	Hexane	20.0000	22.7318	-13.66	105	0.00
26	PT	11dichlorota	10.0000	10.4926	-4.93	100	0.00
27	T	Vinylacetate	100.0000	105.2390	-5.24	93	0.00
28	T	chloroprene	20.0000	21.8119	-9.06	100	0.00
29	T	Diisopether	10.0000	10.3259	-3.26	98	0.00
30	T	ETBE	10.0000	10.4228	-4.23	96	0.00
31	T	22dichloropr	10.0000	12.3427	-23.43#	112	0.00
32	PT	c12dichlorte	10.0000	10.5243	-5.24	102	0.00
33	PT	2Butanone	100.0000	105.1297	-5.13	104	0.00
34	T	propionitrile	100.0000	101.9236	-1.92	99	-0.01
35	T	Ethylacetate	50.0000	51.9616	-3.92	97	0.00
36	T	methacrylonitrile	20.0000	21.3869	-6.93	100	0.00
37	T	Bromochlorma	10.0000	10.2600	-2.60	101	0.00
38	T	Tetrahydofur	100.0000	105.5792	-5.58	96	0.00
39	PT	Chloroform	10.0000	10.4237	-4.24	99	0.00
40	PT	111trichlota	10.0000	11.1519	-11.52	102	0.00
41	S	SURRDibrflma	20.0000	20.1666	-0.83	91	0.00
42	PT	Cyclohexane	10.0000	10.4263	-4.26	97	0.00
43	PT	Carbtetraclo	10.0000	11.2385	-12.39	106	0.00
44	T	11dicloprope	10.0000	11.1063	-11.06	102	0.00
45	S	SURR12DCAd4	20.0000	19.2112	3.94	86	0.00
46	PT	Benzene	10.0000	10.9447	-9.45	102	0.00
47	PT	12dichlorota	10.0000	10.9033	-9.03	103	0.00
48	T	TAME	10.0000	10.3432	-3.43	101	0.00

49	PT	trichloroete	10.0000	10.7676	-7.68	100	0.00
50	PT	methylcyclohexane	10.0000	10.8572	-8.57	101	0.00
51	PT	12dicloropra	10.0000	10.4957	-4.96	96	0.00
52	T	23Dicl1propene	10.0000	10.7216	-7.22	104	0.00
53	T	Dibromometha	10.0000	11.6608	-16.61	110	0.00
54	T	methylmethacrylate	10.0000	10.5307	-5.31	99	0.00
55	T	14dioxane	500.0000	468.0291	6.39	103	0.00
56	PT	Bromodiclrma	10.0000	10.7442	-7.44	101	0.00
57	T	2Nitropropane	100.0000	114.0359	-14.04	104	0.00
58	T	2CLEVE	50.0000	32.8708	34.26#	61	0.00
59	PT	c13dicloproe	10.0000	10.8341	-8.34	105	0.00
60	PT	4Meth2Pentan	100.0000	108.1949	-8.19	98	0.00
61	S	SURRd8Tolule	20.0000	20.6439	-3.22	95	0.00
62	PT	Toluene	10.0000	10.7917	-7.92	100	0.00
63	PT	t13Dicloprop	10.0000	10.7974	-7.97	104	0.00
64	T	ethylmethacrylate	20.0000	21.3962	-6.98	99	0.00
65	PT	112Triclotha	10.0000	10.5459	-5.46	96	0.00
66	PT	Tetrachlorte	10.0000	11.1222	-11.22	105	0.00
67	T	13Diclorpropa	10.0000	10.5585	-5.59	101	0.00
68	I	d5-CHLOROBENZENE**ISTD**	20.0000	20.0000	0.00	98	0.00
69	PT	2Hexanone	100.0000	97.7866	2.21	99	0.00
70	PT	Clorodibrmta	10.0000	9.9729	0.27	103	0.00
71	PT	12Dibrometha	10.0000	9.7992	2.01	103	0.00
72	PT	Chlorobenzen	10.0000	10.4093	-4.09	107	0.00
73	T	1Clhexane	10.0000	10.1363	-1.36	107	0.00
74	T	1112Tetclota	10.0000	10.4262	-4.26	107	0.00
75	PT	Ethylbenzene	10.0000	10.7856	-7.86	105	0.00
76	PT	m p-Xylene	20.0000	21.5526	-7.76	106	0.00
77	PT	o-Xylene	10.0000	10.4662	-4.66	103	0.00
78	PT	Styrene	10.0000	10.3771	-3.77	106	0.00
79	PT	Bromoform	10.0000	9.6266	3.73	104	0.00
80	PT	Isopropylben	10.0000	10.8648	-8.65	107	0.00
81	T	cyclohexanone	200.0000	166.1714	16.91	97	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	20.0000	20.0000	0.00	103	0.00
83	S	SURR4BrFBenz	20.0000	19.9685	0.16	100	0.00
84	T	Bromobenzene	10.0000	9.9720	0.28	102	0.00
85	PT	1122Tetrclta	10.0000	9.8914	1.09	103	0.00
86	T	123Triclproa	10.0000	10.7966	-7.97	105	0.00
87	T	14dichloro2butene	10.0000	9.7155	2.84	113	0.00
88	T	n-Propylbenz	10.0000	10.6891	-6.89	106	0.00
89	T	2chlorotolue	10.0000	10.1223	-1.22	99	0.00
90	T	4chlorotolue	10.0000	10.8023	-8.02	107	0.00
91	T	135Trimebenz	10.0000	10.4509	-4.51	104	0.00
92	T	tbutylbenzen	10.0000	10.2128	-2.13	105	0.00
93	T	124Trimetben	10.0000	10.5720	-5.72	103	0.00
94	T	sbutylbenzen	10.0000	10.8865	-8.86	106	0.00
95	PT	13Diclorbenz	10.0000	10.5999	-6.00	109	0.00
96	T	pIsopropylto	10.0000	11.0723	-10.72	110	0.00
97	PT	14dichlorobe	10.0000	10.3251	-3.25	107	0.00
98	PT	12dichlorobe	10.0000	10.1563	-1.56	104	0.00
99	T	nButylbenzen	10.0000	10.9053	-9.05	110	0.00
100	PT	12dibromo3cl	10.0000	9.5230	4.77	106	0.00
101	T	135Trichlorobenzene	10.0000	9.9903	0.10	101	0.00
102	PT	124Trichlobe	10.0000	10.0107	-0.11	108	0.00
103	T	Hexachlorobu	10.0000	10.5276	-5.28	113	0.00
104	T	Naphthalene	10.0000	9.8168	1.83	101	0.00
105	T	123Trichlben	10.0000	10.1041	-1.04	105	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

W100315.M Fri Oct 16 10:33:37 2015

Quantitation Report

Data File : l:\data\oct1315b\CCV-LCS1.D Vial: 2
Acq On : 13 Oct 2015 15:38 Operator: AGK-RLD
Sample : 119465,LCSW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 13 15:59:11 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.70	96	1134136	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.62	117	904586	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	15.45	152	488895	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.85	113	276485	20.167	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101	%		
45) SURR12DCAd4	7.26	102	72398	19.211	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 96	%		
61) SURRd8Tolule	9.71	98	1167846	20.644	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 103	%		
83) SURR4BrFBenz	13.25	95	486674	19.968	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 100	%		
Target Compounds						Qvalue
2) Dichlorodi	1.86	85	157821	10.7486	ug/L	98
3) Chloromethan	2.11	50	148365	10.9599	ug/L	99
4) VinylChlorid	2.26	62	165380	11.0793	ug/L	98
5) Bromomethane	2.72	94	52393	11.2219	ug/L	89
6) Chloroethane	2.89	64	104207	11.4182	ug/L	96
7) Dichloroflmethane	3.20	67	265029	10.3437	ug/L	99
8) Trichlorofma	3.28	101	235301	10.5757	ug/L	97
9) Ethylether	3.73	59	127158	10.3803	ug/L	97
10) dichlorotfluoroethan	3.72	67	148772	10.7234	ug/L	97
11) propyleneoxide	4.07	58	378859	107.9055	ug/L	97
12) Acrolein	3.85	56	280181	47.9962	ug/L	99
13) 11dichlorthe	3.99	96	128312	10.8396	ug/L	98
14) Trichlorotfluoroeth	4.04	101	268781	22.4088	ug/L	98
15) Acetone	4.07	43	1201305	114.9156	ug/L	99
16) Iodomethane	4.17	142	175978	17.6670	ug/L	94
17) Carbon Dislf	4.27	76	704804	21.8852	ug/L	99
18) allylchloride	4.48	41	339737	20.5748	ug/L	97
19) methylacetate	4.54	74	69307	12.7692	ug/L	96
20) Methylchlorid	4.64	84	141136	10.3748	ug/L	98
21) tbutylalcohol	4.86	59	2076595	504.2738	ug/L	98
22) Acrylonitrile	4.94	53	462550	51.5000	ug/L	98
23) t12dichlorte	5.02	96	143898	10.9384	ug/L	98
24) MtBE	5.06	73	426486	10.6505	ug/L	99
25) Hexane	5.41	57	338236	22.7318	ug/L	96
26) 11dichlorota	5.54	63	250500	10.4926	ug/L	99
27) Vinylacetate	5.63	43	2775810	105.2390	ug/L	99
28) chloroprene	5.67	53	482033	21.8119	ug/L	99
29) Diisopether	5.70	45	385181	10.3259	ug/L	98
30) ETBE	6.16	59	373941	10.4228	ug/L	99
31) 22dichloropr	6.28	77	263649	12.3427	ug/L	95
32) c12dichlorte	6.27	96	151225	10.5243	ug/L	98
33) 2Butanone	6.29	72	420121	105.1297	ug/L	98
34) propionitrile	6.31	54	432138	101.9236	ug/L	99
35) Ethylacetate	6.40	88	60907	51.9616	ug/L	97
36) methacrylonitrile	6.52	67	192719	21.3869	ug/L	99
37) Bromochlorma	6.55	128	63250	10.2600	ug/L	97
38) Tetrahydofur	6.66	42	869125	105.5792	ug/L	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : l:\data\oct1315b\CCV-LCS1.D Vial: 2
Acq On : 13 Oct 2015 15:38 Operator: AGK-RLD
Sample : 119465,LCSW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 13 15:59:11 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.66	83	249521	10.4237	ug/L	98
40)	111trichlota	6.91	97	253219	11.1519	ug/L	98
42)	Cyclohexane	7.00	56	237405	10.4263	ug/L	97
43)	Carbtetraclo	7.13	119	215459	11.2385	ug/L	98
44)	11dicloprope	7.11	110	69316	11.1063	ug/L	96
46)	Benzene	7.36	78	568132	10.9447	ug/L	99
47)	12dichlorota	7.36	62	220006	10.9033	ug/L	98
48)	TAME	7.54	73	373822	10.3432	ug/L	99
49)	trichloroete	8.17	95	144648	10.7676	ug/L	94
50)	methylcyclohexane	8.44	83	235948	10.8572	ug/L	98
51)	12dicloropra	8.42	63	136793	10.4957	ug/L	93
52)	23Dicl1propene	8.49	75	214217	10.7216	ug/L	96
53)	Dibromometha	8.57	93	92689	11.6608	ug/L	93
54)	methylmethacrylate	8.60	69	139571	10.5307	ug/L	96
55)	14dioxane	8.62	88	106881	468.0291	ug/L	98
56)	Bromodiclrma	8.76	83	190614	10.7442	ug/L	98
57)	2Nitropropane	9.02	43	847189	114.0359	ug/L	98
58)	2CLEVE	9.15	63	96458	32.8708	ug/L	98
59)	c13dicloproe	9.34	75	223040	10.8341	ug/L	95
60)	4Meth2Pentan	9.55	43	2248404	108.1949	ug/L	98
62)	Toluene	9.80	92	370160	10.7917	ug/L	95
63)	t13Dicloprop	10.05	75	213172	10.7974	ug/L	96
64)	ethylmethacrylate	10.21	69	419336	21.3962	ug/L	99
65)	112Triclotha	10.28	83	108274	10.5459	ug/L	97
66)	Tetrachlorte	10.53	166	179840	11.1222	ug/L	97
67)	13Diclorpropa	10.51	76	231749	10.5585	ug/L	94
69)	2Hexanone	10.64	43	1957583	97.7866	ug/L	100
70)	Clorodibrmta	10.81	129	146682	9.9729	ug/L	97
71)	12Dibrometha	10.96	107	133662	9.7992	ug/L	97
72)	Chlorobenzen	11.66	112	391631	10.4093	ug/L	98
73)	1Clhexane	11.63	91	201942	10.1363	ug/L	97
74)	1112Tetclota	11.76	131	139120	10.4262	ug/L	95
75)	Ethylbenzene	11.82	91	695712	10.7856	ug/L	98
76)	m p-Xylene	11.98	106	516443	21.5526	ug/L	96
77)	o-Xylene	12.53	106	239331	10.4662	ug/L	98
78)	Styrene	12.54	104	388976	10.3771	ug/L	98
79)	Bromoform	12.77	173	114715	9.6266	ug/L	98
80)	Isopropylben	13.06	105	622627	10.8648	ug/L	100
81)	cyclohexanone	13.14	55	189728	166.1714	ug/L	99
84)	Bromobenzene	13.47	156	180067	9.9720	ug/L	95
85)	1122Tetrclta	13.42	83	228416	9.8914	ug/L	98
86)	123Triclproa	13.48	75	322847	10.7966	ug/L	99
87)	14dichloro2butene	13.51	53	72074	9.7155	ug/L	92
88)	n-Propylbenz	13.64	91	793736	10.6891	ug/L	100
89)	2chlorotolue	13.75	91	466978	10.1223	ug/L	97
90)	4chlorotolue	13.90	91	567576	10.8023	ug/L	97
91)	135Trimebenz	13.90	105	548417	10.4509	ug/L	97
92)	tbutylbenzen	14.37	119	463127	10.2128	ug/L	99
93)	124Trimetben	14.43	105	522121	10.5720	ug/L	96
94)	sbutylbenzen	14.69	105	661147	10.8865	ug/L	98
95)	13Diclorbenz	14.82	146	318794	10.5999	ug/L	98
96)	pIsopropylto	14.90	119	586225	11.0723	ug/L	98
97)	14dichlorobe	14.95	146	327473	10.3251	ug/L	99
98)	12dichlorobe	15.49	146	303211	10.1563	ug/L	100
99)	nButylbenzen	15.50	91	528293	10.9053	ug/L	98
100)	12dibromo3cl	16.57	157	67088	9.5230	ug/L	94
101)	135Trichlorobenzene	16.91	180	217635	9.9903	ug/L	95

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : l:\data\oct1315b\CCV-LCS1.D Vial: 2
Acq On : 13 Oct 2015 15:38 Operator: AGK-RLD
Sample : 119465,LCSW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 13 15:59:11 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.72	180	193720	10.0107	ug/L	99
103) Hexachlorobu	17.98	225	114029	10.5276	ug/L	96
104) Naphthalene	18.02	128	540907	9.8168	ug/L	99
105) 123Trichlben	18.34	180	193531	10.1041	ug/L	99

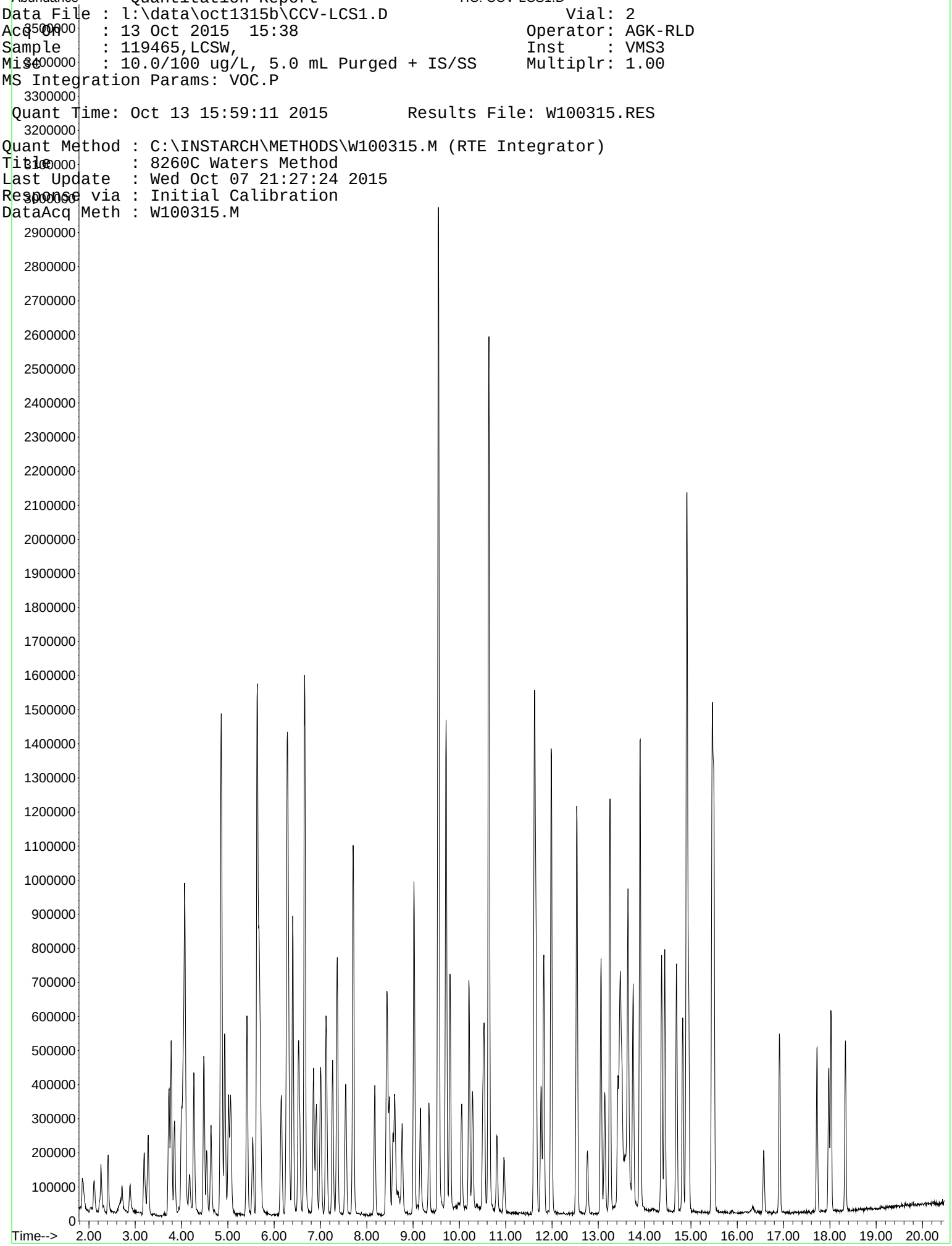
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: CCV-LCS1.D

Data File : l:\data\oct1315b\CCV-LCS1.D Vial: 2
Acq On : 13 Oct 2015 15:38 Operator: AGK-RLD
Sample : 119465,LCSW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 13 15:59:11 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M



Data File : l:\data\oct1315b\BFB2.D Vial: 1
Acq On : 14 Oct 2015 9:02 Operator: AGK-RLD
Sample : 119465,BFB, Inst : VMS3
Misc : 25 ng Inj. Multiplr: 1.00
Integration File: VOC.P

Method : L:\METHODS\W100315.M
Title : 8260C Waters Method

Spectrum Information: Average of 4.657 to 4.693 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	19.3	8208	PASS
75	95	30	60	57.9	24641	PASS
95	95	100	100	100.0	42561	PASS
96	95	5	9	5.7	2443	PASS
173	174	0.00	2	0.6	246	PASS
174	95	50	100	89.9	38253	PASS
175	174	5	9	8.6	3292	PASS
176	174	95	101	96.7	36987	PASS
177	176	5	9	6.3	2340	PASS

W100315.M Fri Oct 16 10:48:38 2015

Evaluate Continuing Calibration Report

Data File : l:\data\oct1315b\CCVF1.D Vial: 3
Acq On : 14 Oct 2015 9:51 Operator: AGK-RLD
Sample : 119465,CCVF, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Oct 14 10:12:00 2015

Quant Method : C:\INSTARCH\METHODS\W100315.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W100315.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 50% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	1.0000	1.0000	0.00	85	0.00
2	PT	Dichlorodi	0.2589	0.3431	-32.52	114	-0.02
3	PT	Chloromethan	0.2387	0.2509	-5.11	99	0.00
4	PT	VinylChlorid	0.2632	0.2869	-9.00	97	0.00
5	PT	Bromomethane	0.0823	0.0975#	-18.47	87	0.01
6	PT	Chloroethane	0.1609	0.1691	-5.10	88	-0.01
7	T	Dichloroflmethane	0.4518	0.4544	-0.58	87	0.00
8	PT	Trichlorofma	0.3924	0.4184	-6.63	87	0.00
9	T	Ethylether	0.2160	0.2013	6.81	82	0.00
10	T	dichlorotfluoroethan	0.2447	0.2254	7.89	80	0.00
11	T	propyleneoxide	0.0630	0.0460	26.98	86	0.00
12	T	Acrolein	0.1029	0.0872	15.26	78	0.00
13	PT	11dichlorthe	0.2087	0.1956	6.28	82	0.00
14	PT	Trichlorotfluoroeth	0.2115	0.2237	-5.77	90	0.00
15	PT	Acetone	0.1784	0.1507	15.53	87	0.00
16	T	Iodomethane	0.1650	0.1632	1.09	85	0.00
17	PT	Carbon Dislf	0.5679	0.5890	-3.72	88	0.00
18	T	allylchloride	0.2912	0.2516	13.60	77	0.00
19	PT	methylacetate	0.0957	0.1201	-25.50	112	-0.01
20	PT	Methylchlorid	0.2604	0.2166	16.82	80	0.00
21	T	tbutylalcohol	0.0742	0.0728	1.89	87	0.00
22	T	Acrylonitrile	0.1584	0.1475	6.88	83	0.00
23	PT	t12dichlorte	0.2320	0.2229	3.92	85	0.00
24	PT	MtBE	0.7062	0.7108	-0.65	88	0.00
25	T	Hexane	0.2624	0.2530	3.58	83	0.00
26	PT	11dichlorota	0.4210	0.3993	5.15	84	0.00
27	T	Vinylacetate	0.4346	0.4622	-6.35	81	0.00
28	T	chloroprene	0.3897	0.3830	1.72	83	0.00
29	T	Diisopether	0.6578	0.6083	7.53	81	0.00
30	T	ETBE	0.6327	0.6228	1.56	85	0.00
31	T	22dichloropr	0.3767	0.4190	-11.23	94	0.00
32	PT	c12dichlorte	0.2534	0.2461	2.88	87	0.00
33	PT	2Butanone	0.0705	0.0655#	7.09	85	0.00
34	T	propionitrile	0.0748	0.0685	8.42	82	0.00
35	T	Ethylacetate	0.0207	0.0196#	5.31	82	0.00
36	T	methacrylonitrile	0.1589	0.1507	5.16	83	0.00
37	T	Bromochlorma	0.1087	0.1107	-1.84	93	0.00
38	T	Tetrahydofur	0.1452	0.1346	7.30	78	0.00
39	PT	Chloroform	0.4221	0.4093	3.03	86	0.00
40	PT	111trichlota	0.4004	0.4209	-5.12	89	0.00
41	S	SURRDibrflma	0.2418	0.2460	-1.74	86	0.00
42	PT	Cyclohexane	0.4015	0.3686	8.19	79	0.00
43	PT	Carbtetraclo	0.3381	0.3384	-0.09	88	0.00
44	T	11dicloprope	0.1101	0.1019	7.45	79	0.00
45	S	SURR12DCAd4	0.0665	0.0674	-1.35	84	0.00
46	PT	Benzene	0.9154	0.8886	2.93	84	0.00
47	PT	12dichlorota	0.3558	0.3638	-2.25	90	0.00
48	T	TAME	0.6373	0.6193	2.82	88	0.00

49	PT	trichloroete	0.2369	0.2289	3.38	83	0.00
50	PT	methylcyclohexane	0.3832	0.3677	4.04	83	0.00
51	PT	12dicloropra	0.2298	0.2214	3.66	82	0.00
52	T	23Dicl1propene	0.3523	0.3436	2.47	88	0.00
53	T	Dibromometha	0.1402	0.1407	-0.36	88	0.00
54	T	methylmethacrylate	0.2337	0.2146	8.17	81	0.00
55	T	14dioxane	0.0040	0.0037#	7.50	93	0.00
56	PT	Bromodiclrma	0.3129	0.3034	3.04	85	0.00
57	T	2Nitropropane	0.1310	0.1478	-12.82	95	0.00
58	T	2CLEVE	0.0551	0.0434	21.23	72	0.00
59	PT	c13dicloproe	0.3630	0.3475	4.27	86	0.00
60	PT	4Meth2Pentan	0.3665	0.3619	1.26	83	0.00
61	S	SURRd8Tolule	0.9976	1.0264	-2.89	88	0.00
62	PT	Toluene	0.6049	0.5922	2.10	84	0.00
63	PT	t13Dicloprop	0.3482	0.3388	2.70	87	0.00
64	T	ethylmethacrylate	0.3456	0.3366	2.60	84	0.00
65	PT	112Triclotha	0.1811	0.1753	3.20	81	0.00
66	PT	Tetrachlorte	0.2851	0.2851	0.00	88	0.00
67	T	13Diclorpropa	0.3871	0.3857	0.36	88	0.00
68	I	d5-CHLOROBENZENE**ISTD**	1.0000	1.0000	0.00	86	0.00
69	PT	2Hexanone	0.4411	0.4164	5.60	84	0.00
70	PT	Clorodibrmta	0.3252	0.3101	4.64	88	0.00
71	PT	12Dibrometha	0.3016	0.2815	6.66	87	0.00
72	PT	Chlorobenzen	0.8318	0.7988	3.97	87	0.00
73	T	1Clhexane	0.4405	0.4125	6.36	88	0.00
74	T	1112Tetclota	0.2950	0.3021	-2.41	93	0.00
75	PT	Ethylbenzene	1.4261	1.4077	1.29	85	0.00
76	PT	m p-Xylene	0.5298	0.5284	0.26	87	0.00
77	PT	o-Xylene	0.5056	0.4909	2.91	85	0.00
78	PT	Styrene	0.8288	0.8227	0.74	90	0.00
79	PT	Bromoform	0.2635	0.2401	8.88	87	0.00
80	PT	Isopropylben	1.2670	1.2732	-0.49	88	0.00
81	T	cyclohexanone	0.0252	0.0204#	19.05	84	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	1.0000	1.0000	0.00	89	0.00
83	S	SURR4BrFBenz	0.9970	0.9716	2.55	85	0.00
84	T	Bromobenzene	0.7387	0.7262	1.69	87	0.00
85	PT	1122Tetrclta	0.9447	0.8914	5.64	86	0.00
86	T	123Triclproa	1.2233	1.2363	-1.06	86	0.00
87	T	14dichloro2butene	0.3035	0.2988	1.55	100	0.00
88	T	n-Propylbenz	3.0377	3.1190	-2.68	89	0.00
89	T	2chlorotolue	1.8873	1.8520	1.87	83	0.00
90	T	4chlorotolue	2.1494	2.1935	-2.05	88	0.00
91	T	135Trimebenz	2.1467	2.2031	-2.63	89	0.00
92	T	tbutylbenzen	1.8551	1.8059	2.65	87	0.00
93	T	124Trimetben	2.0204	2.1037	-4.12	88	0.00
94	T	sbutylbenzen	2.4844	2.5643	-3.22	88	0.00
95	PT	13Diclorbenz	1.2303	1.2264	0.32	89	0.00
96	T	pIsopropylto	2.1659	2.2988	-6.14	92	0.00
97	PT	14dichlorobe	1.2975	1.3190	-1.66	92	-0.01
98	PT	12dichlorobe	1.2213	1.1976	1.94	88	0.00
99	T	nButylbenzen	1.9818	2.0197	-1.91	90	0.00
100	PT	12dibromo3cl	0.2882	0.2686	6.80	90	0.00
101	T	135Trichlorobenzene	0.8912	0.8940	-0.31	88	0.00
102	PT	124Trichlobe	0.7916	0.7472	5.61	88	0.00
103	T	Hexachlorobu	0.4431	0.4447	-0.36	93	0.00
104	T	Naphthalene	2.2541	2.0642	8.42	82	0.00
105	T	123Trichlben	0.7835	0.7304	6.78	84	0.00

(#) = Out of Range SPCC's out = 2 CCC's out = 0

W100315.M Fri Oct 16 10:49:15 2015

Evaluate Continuing Calibration Report

Data File : l:\data\oct1315b\CCVF1.D Vial: 3
Acq On : 14 Oct 2015 9:51 Operator: AGK-RLD
Sample : 119465,CCVF, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Oct 14 10:12:00 2015

Quant Method : C:\INSTARCH\METHODS\W100315.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W100315.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 50% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	20.0000	20.0000	0.00	85	0.00
2	PT	Dichlorodi	10.0000	13.2518	-32.52	114	-0.02
3	PT	Chloromethan	10.0000	10.5116	-5.12	99	0.00
4	PT	VinylChlorid	10.0000	10.9003	-9.00	97	0.00
5	PT	Bromomethane	10.0000	11.8418	-18.42	87	0.01
6	PT	Chloroethane	10.0000	10.5091	-5.09	88	-0.01
7	T	Dichloroflmethane	10.0000	10.0562	-0.56	87	0.00
8	PT	Trichlorofma	10.0000	10.6637	-6.64	87	0.00
9	T	Ethylether	10.0000	9.3177	6.82	82	0.00
10	T	dichlorotfluoroethan	10.0000	9.2149	7.85	80	0.00
11	T	propyleneoxide	100.0000	73.6863	26.31	86	0.00
12	T	Acrolein	50.0000	42.3731	15.25	78	0.00
13	PT	11dichlorthe	10.0000	9.3706	6.29	82	0.00
14	PT	Trichlorotfluoroeth	20.0000	21.1552	-5.78	90	0.00
15	PT	Acetone	100.0000	80.1764	19.82	87	0.00
16	T	Iodomethane	20.0000	18.4330	7.84	85	0.00
17	PT	Carbon Dislf	20.0000	20.7411	-3.71	88	0.00
18	T	allylchloride	20.0000	17.2837	13.58	77	0.00
19	PT	methylacetate	10.0000	12.5479	-25.48	112	-0.01
20	PT	Methylchlorid	10.0000	8.9698	10.30	80	0.00
21	T	tbutylalcohol	500.0000	500.8816	-0.18	87	0.00
22	T	Acrylonitrile	50.0000	46.5790	6.84	83	0.00
23	PT	t12dichlorte	10.0000	9.6090	3.91	85	0.00
24	PT	MtBE	10.0000	10.0664	-0.66	88	0.00
25	T	Hexane	20.0000	19.2838	3.58	83	0.00
26	PT	11dichlorota	10.0000	9.4851	5.15	84	0.00
27	T	Vinylacetate	100.0000	98.8712	1.13	81	0.00
28	T	chloroprene	20.0000	19.6551	1.72	83	0.00
29	T	Diisopether	10.0000	9.2466	7.53	81	0.00
30	T	ETBE	10.0000	9.8438	1.56	85	0.00
31	T	22dichloropr	10.0000	11.1228	-11.23	94	0.00
32	PT	c12dichlorte	10.0000	9.7104	2.90	87	0.00
33	PT	2Butanone	100.0000	92.8781	7.12	85	0.00
34	T	propionitrile	100.0000	91.6449	8.36	82	0.00
35	T	Ethylacetate	50.0000	47.4057	5.19	82	0.00
36	T	methacrylonitrile	20.0000	18.9733	5.13	83	0.00
37	T	Bromochlorma	10.0000	10.1860	-1.86	93	0.00
38	T	Tetrahydofur	100.0000	92.7494	7.25	78	0.00
39	PT	Chloroform	10.0000	9.6968	3.03	86	0.00
40	PT	111trichlota	10.0000	10.5106	-5.11	89	0.00
41	S	SURRDibrflma	20.0000	20.3528	-1.76	86	0.00
42	PT	Cyclohexane	10.0000	9.1807	8.19	79	0.00
43	PT	Carbtetraclo	10.0000	10.0102	-0.10	88	0.00
44	T	11dicloprope	10.0000	9.2553	7.45	79	0.00
45	S	SURR12DCAd4	20.0000	20.2878	-1.44	84	0.00
46	PT	Benzene	10.0000	9.7069	2.93	84	0.00
47	PT	12dichlorota	10.0000	10.2252	-2.25	90	0.00
48	T	TAME	10.0000	9.7162	2.84	88	0.00

49	PT	trichloroete	10.0000	9.6641	3.36	83	0.00
50	PT	methylcyclohexane	10.0000	9.5958	4.04	83	0.00
51	PT	12dicloropra	10.0000	9.6337	3.66	82	0.00
52	T	23Dicl1propene	10.0000	9.7524	2.48	88	0.00
53	T	Dibromometha	10.0000	10.0369	-0.37	88	0.00
54	T	methylmethacrylate	10.0000	9.1808	8.19	81	0.00
55	T	14dioxane	500.0000	454.1179	9.18	93	0.00
56	PT	Bromodiclrma	10.0000	9.6990	3.01	85	0.00
57	T	2Nitropropane	100.0000	112.8248	-12.82	95	0.00
58	T	2CLEVE	50.0000	40.5440	18.91	72	0.00
59	PT	c13dicloproe	10.0000	9.5724	4.28	86	0.00
60	PT	4Meth2Pentan	100.0000	97.6873	2.31	83	0.00
61	S	SURRd8Tolule	20.0000	20.5780	-2.89	88	0.00
62	PT	Toluene	10.0000	9.7912	2.09	84	0.00
63	PT	t13Dicloprop	10.0000	9.7299	2.70	87	0.00
64	T	ethylmethacrylate	20.0000	19.4771	2.61	84	0.00
65	PT	112Triclotha	10.0000	9.6815	3.19	81	0.00
66	PT	Tetrachlorte	10.0000	9.9972	0.03	88	0.00
67	T	13Diclorpropa	10.0000	9.9639	0.36	88	0.00
68	I	d5-CHLOROBENZENE**ISTD**	20.0000	20.0000	0.00	86	0.00
69	PT	2Hexanone	100.0000	93.7129	6.29	84	0.00
70	PT	Clorodibrmta	10.0000	9.5355	4.64	88	0.00
71	PT	12Dibrometha	10.0000	9.3331	6.67	87	0.00
72	PT	Chlorobenzen	10.0000	9.6026	3.97	87	0.00
73	T	1Clhexane	10.0000	9.3642	6.36	88	0.00
74	T	1112Tetclota	10.0000	10.2391	-2.39	93	0.00
75	PT	Ethylbenzene	10.0000	9.8710	1.29	85	0.00
76	PT	m p-Xylene	20.0000	19.9463	0.27	87	0.00
77	PT	o-Xylene	10.0000	9.7106	2.89	85	0.00
78	PT	Styrene	10.0000	9.9272	0.73	90	0.00
79	PT	Bromoform	10.0000	9.1120	8.88	87	0.00
80	PT	Isopropylben	10.0000	10.0490	-0.49	88	0.00
81	T	cyclohexanone	200.0000	161.6449	19.18	84	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	20.0000	20.0000	0.00	89	0.00
83	S	SURR4BrFBenz	20.0000	19.4909	2.55	85	0.00
84	T	Bromobenzene	10.0000	9.8304	1.70	87	0.00
85	PT	1122Tetrclta	10.0000	9.4359	5.64	86	0.00
86	T	123Triclproa	10.0000	10.1065	-1.07	86	0.00
87	T	14dichloro2butene	10.0000	9.8469	1.53	100	0.00
88	T	n-Propylbenz	10.0000	10.2675	-2.68	89	0.00
89	T	2chlorotolue	10.0000	9.8134	1.87	83	0.00
90	T	4chlorotolue	10.0000	10.2051	-2.05	88	0.00
91	T	135Trimebenz	10.0000	10.2628	-2.63	89	0.00
92	T	tbutylbenzen	10.0000	9.7349	2.65	87	0.00
93	T	124Trimetben	10.0000	10.4123	-4.12	88	0.00
94	T	sbutylbenzen	10.0000	10.3215	-3.22	88	0.00
95	PT	13Diclorbenz	10.0000	9.9684	0.32	89	0.00
96	T	pIsopropylto	10.0000	10.6133	-6.13	92	0.00
97	PT	14dichlorobe	10.0000	10.1663	-1.66	92	-0.01
98	PT	12dichlorobe	10.0000	9.8057	1.94	88	0.00
99	T	nButylbenzen	10.0000	10.1916	-1.92	90	0.00
100	PT	12dibromo3cl	10.0000	9.3198	6.80	90	0.00
101	T	135Trichlorobenzene	10.0000	10.0312	-0.31	88	0.00
102	PT	124Trichlobe	10.0000	9.4389	5.61	88	0.00
103	T	Hexachlorobu	10.0000	10.0367	-0.37	93	0.00
104	T	Naphthalene	10.0000	9.1575	8.42	82	0.00
105	T	123Trichlben	10.0000	9.3223	6.78	84	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

W100315.M Fri Oct 16 10:49:29 2015

Quantitation Report

Data File : l:\data\oct1315b\CCVF1.D Vial: 3
Acq On : 14 Oct 2015 9:51 Operator: AGK-RLD
Sample : 119465,CCVF, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 14 10:12:00 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.71	96	1053009	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.62	117	802135	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	15.46	152	424941	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.85	113	259078	20.353	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 102	%		
45) SURR12DCAd4	7.26	102	70986	20.288	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 101	%		
61) SURRd8Tolule	9.71	98	1080846	20.578	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 103	%		
83) SURR4BrFBenz	13.25	95	412893	19.491	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 97	%		
Target Compounds						Qvalue
2) Dichlorodi	1.88	85	180657	13.2518	ug/L	98
3) Chloromethan	2.12	50	132118	10.5116	ug/L	98
4) VinylChlorid	2.26	62	151069	10.9003	ug/L	98
5) Bromomethane	2.72	94	51332	11.8418	ug/L	95
6) Chloroethane	2.88	64	89049	10.5091	ug/L	93
7) Dichloroflmethane	3.20	67	239232	10.0562	ug/L	98
8) Trichlorofma	3.28	101	220288	10.6637	ug/L	98
9) Ethylether	3.73	59	105976	9.3177	ug/L	97
10) dichlorotfluoroethan	3.73	67	118699	9.2149	ug/L	98
11) propyleneoxide	4.07	58	242447	73.6863	ug/L	99
12) Acrolein	3.85	56	229662	42.3731	ug/L	100
13) 11dichlorthe	4.00	96	102989	9.3706	ug/L	92
14) Trichlorotfluoroeth	4.04	101	235594	21.1552	ug/L	98
15) Acetone	4.07	43	793638	80.1764	ug/L	100
16) Iodomethane	4.17	142	171806	18.4330	ug/L	92
17) Carbon Dislf	4.27	76	620178	20.7411	ug/L	99
18) allylchloride	4.48	41	264978	17.2837	ug/L	92
19) methylacetate	4.54	74	63234	12.5479	ug/L	99
20) Methylchlorid	4.64	84	114040	8.9698	ug/L	95
21) tbutylalcohol	4.86	59	1916549	500.8816	ug/L	98
22) Acrylonitrile	4.94	53	388426	46.5790	ug/L	98
23) t12dichlorte	5.02	96	117368	9.6090	ug/L	97
24) MtBE	5.06	73	374262	10.0664	ug/L	97
25) Hexane	5.42	57	266407	19.2838	ug/L	99
26) 11dichlorota	5.54	63	210249	9.4851	ug/L	96
27) Vinylacetate	5.64	43	2433362	98.8712	ug/L	98
28) chloroprene	5.67	53	403299	19.6551	ug/L	100
29) Diisopether	5.70	45	320247	9.2466	ug/L	95
30) ETBE	6.15	59	327904	9.8438	ug/L	96
31) 22dichloropr	6.28	77	220597	11.1228	ug/L	98
32) c12dichlorte	6.27	96	129548	9.7104	ug/L	96
33) 2Butanone	6.29	72	344611	92.8781	ug/L	100
34) propionitrile	6.32	54	360764	91.6449	ug/L	97
35) Ethylacetate	6.40	88	51592	47.4057	ug/L	96
36) methacrylonitrile	6.53	67	158740	18.9733	ug/L	97
37) Bromochlorma	6.55	128	58302	10.1860	ug/L #	86
38) Tetrahydofur	6.66	42	708895	92.7494	ug/L	94

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : l:\data\oct1315b\CCVF1.D Vial: 3
Acq On : 14 Oct 2015 9:51 Operator: AGK-RLD
Sample : 119465,CCVF, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 14 10:12:00 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.66	83	215517	9.6968	ug/L		99
40)	111trichlota	6.91	97	221585	10.5106	ug/L		98
42)	Cyclohexane	7.00	56	194090	9.1807	ug/L		93
43)	Carbtetraclo	7.13	119	178183	10.0102	ug/L		96
44)	11dicloprope	7.12	110	53632	9.2553	ug/L	#	85
46)	Benzene	7.36	78	467838	9.7069	ug/L		99
47)	12dichlorota	7.36	62	191564	10.2252	ug/L		97
48)	TAME	7.55	73	326042	9.7162	ug/L		97
49)	trichloroete	8.17	95	120537	9.6641	ug/L		94
50)	methylcyclohexane	8.44	83	193619	9.5958	ug/L		95
51)	12dicloropra	8.42	63	116577	9.6337	ug/L		94
52)	23Dicl1propene	8.49	75	180915	9.7524	ug/L		98
53)	Dibromometha	8.57	93	74074	10.0369	ug/L		97
54)	methylmethacrylate	8.60	69	112976	9.1808	ug/L		93
55)	14dioxane	8.62	88	96286	454.1179	ug/L		94
56)	Bromodiclrma	8.76	83	159762	9.6990	ug/L		100
57)	2Nitropropane	9.02	43	778234	112.8248	ug/L		100
58)	2CLEVE	9.15	63	114227	40.5440	ug/L		98
59)	c13dicloproe	9.35	75	182969	9.5724	ug/L		95
60)	4Meth2Pentan	9.55	43	1905672	97.6873	ug/L		99
62)	Toluene	9.80	92	311820	9.7912	ug/L		96
63)	t13Dicloprop	10.05	75	178355	9.7299	ug/L		97
64)	ethylmethacrylate	10.20	69	354419	19.4771	ug/L		97
65)	112Triclotha	10.29	83	92289	9.6815	ug/L		96
66)	Tetrachlorte	10.53	166	150087	9.9972	ug/L		96
67)	13Diclorpropa	10.51	76	203053	9.9639	ug/L		100
69)	2Hexanone	10.64	43	1670211	93.7129	ug/L		99
70)	Clorodibrmta	10.81	129	124365	9.5355	ug/L		93
71)	12Dibrometha	10.97	107	112886	9.3331	ug/L		99
72)	Chlorobenzen	11.66	112	320362	9.6026	ug/L		96
73)	1Clhexane	11.63	91	165430	9.3642	ug/L		97
74)	1112Tetclota	11.76	131	121149	10.2391	ug/L		95
75)	Ethylbenzene	11.82	91	564600	9.8710	ug/L		100
76)	m p-Xylene	11.99	106	423820	19.9463	ug/L		99
77)	o-Xylene	12.53	106	196904	9.7106	ug/L		97
78)	Styrene	12.54	104	329967	9.9272	ug/L		97
79)	Bromoform	12.77	173	96285	9.1120	ug/L		98
80)	Isopropylben	13.06	105	510656	10.0490	ug/L		99
81)	cyclohexanone	13.14	55	163657	161.6449	ug/L		94
84)	Bromobenzene	13.47	156	154288	9.8304	ug/L		95
85)	1122Tetrclta	13.42	83	189394	9.4359	ug/L		97
86)	123Triclproa	13.48	75	262678	10.1065	ug/L		95
87)	14dichloro2butene	13.50	53	63493	9.8469	ug/L		92
88)	n-Propylbenz	13.64	91	662695	10.2675	ug/L		100
89)	2chlorotolue	13.75	91	393505	9.8134	ug/L		95
90)	4chlorotolue	13.90	91	466055	10.2051	ug/L		100
91)	135Trimebenz	13.90	105	468098	10.2628	ug/L		98
92)	tbutylbenzen	14.37	119	383709	9.7349	ug/L		99
93)	124Trimetben	14.43	105	446965	10.4123	ug/L		97
94)	sbutylbenzen	14.69	105	544838	10.3215	ug/L		99
95)	13Diclorbenz	14.82	146	260583	9.9684	ug/L		98
96)	pIsopropylto	14.90	119	488417	10.6133	ug/L		97
97)	14dichlorobe	14.94	146	280257	10.1663	ug/L		99
98)	12dichlorobe	15.49	146	254450	9.8057	ug/L		98
99)	nButylbenzen	15.50	91	429132	10.1916	ug/L		99
100)	12dibromo3cl	16.57	157	57068	9.3198	ug/L		91
101)	135Trichlorobenzene	16.91	180	189939	10.0312	ug/L		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : l:\data\oct1315b\CCVF1.D Vial: 3
Acq On : 14 Oct 2015 9:51 Operator: AGK-RLD
Sample : 119465,CCVF, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 14 10:12:00 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.72	180	158761	9.4389	ug/L	98
103) Hexachlorobu	17.97	225	94491	10.0367	ug/L	99
104) Naphthalene	18.02	128	438572	9.1575	ug/L	100
105) 123Trichlben	18.33	180	155198	9.3223	ug/L	95

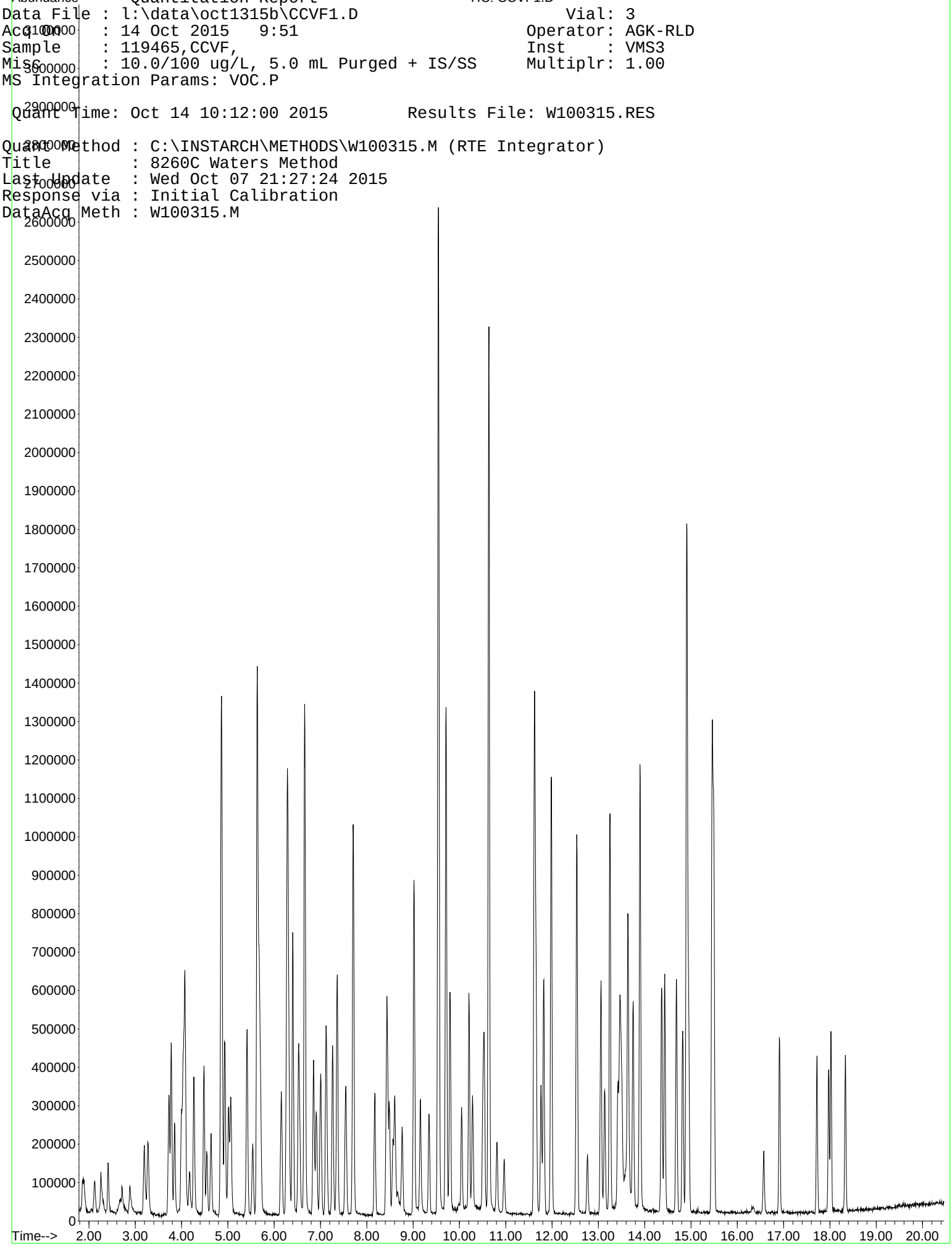
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: CCVF1.D

Data File : l:\data\oct1315b\CCVF1.D Vial: 3
Acq On : 14 Oct 2015 9:51 Operator: AGK-RLD
Sample : 119465,CCVF, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 14 10:12:00 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M



Data File : l:\data\oct1515\BFB2.D Vial: 14
Acq On : 15 Oct 2015 15:06 Operator: AGK-RLD
Sample : 119731,BFB, Inst : VMS3
Misc : 25 ng Inj. Multiplr: 1.00
Integration File: VOC.P

Method : L:\METHODS\W100315.M
Title : 8260C Waters Method

Spectrum Information: Average of 4.656 to 4.693 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	21.9	21910	PASS
75	95	30	60	53.0	53039	PASS
95	95	100	100	100.0	100000	PASS
96	95	5	9	7.9	7945	PASS
173	174	0.00	2	1.0	953	PASS
174	95	50	100	92.3	92303	PASS
175	174	5	9	8.2	7542	PASS
176	174	95	101	99.3	91643	PASS
177	176	5	9	7.7	7101	PASS

W100315.M Fri Oct 16 11:01:39 2015

Evaluate Continuing Calibration Report

Data File : l:\data\oct1515\CCV-LCS2.D Vial: 15
Acq On : 15 Oct 2015 15:20 Operator: AGK-RLD
Sample : 119731,LCSW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Oct 15 15:41:30 2015

Quant Method : C:\INSTARCH\METHODS\W100315.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W100315.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	1.0000	1.0000	0.00	77	0.00
2	PT	Dichlorodi	0.2589	0.2669	-3.09	80	-0.04
3	PT	Chloromethan	0.2387	0.2079	12.90	74	-0.01
4	PT	VinylChlorid	0.2632	0.2528	3.95	77	0.00
5	PT	Bromomethane	0.0823	0.1086	-31.96#	88	0.00
6	PT	Chloroethane	0.1609	0.1608	0.06	75	-0.01
7	T	Dichloroflmethane	0.4518	0.4842	-7.17	84	0.00
8	PT	Trichlorofma	0.3924	0.4490	-14.42	85	0.00
9	T	Ethylether	0.2160	0.1789	17.18	66	0.00
10	T	dichlorotfluoroethan	0.2447	0.2202	10.01	71	0.00
11	T	propyleneoxide	0.0630	0.0448	28.89#	76	0.00
12	T	Acrolein	0.1029	0.0736	28.47#	59	0.00
13	PT	11dichlorthe	0.2087	0.2001	4.12	76	0.00
14	PT	Trichlorotfluoroeth	0.2115	0.2116	-0.05	77	0.00
15	PT	Acetone	0.1784	0.1524	14.57	79	0.00
16	T	Iodomethane	0.1650	0.1245	24.55#	59	0.00
17	PT	Carbon Dislf	0.5679	0.5122	9.81	69	0.00
18	T	allylchloride	0.2912	0.2415	17.07	67	0.00
19	PT	methylacetate	0.0957	0.1097	-14.63	92	0.00
20	PT	Methylchlorid	0.2604	0.2177	16.40	73	0.00
21	T	tbutylalcohol	0.0742	0.0741	0.13	80	0.00
22	T	Acrylonitrile	0.1584	0.1451	8.40	74	0.00
23	PT	t12dichlorte	0.2320	0.2231	3.84	77	0.00
24	PT	MtBE	0.7062	0.6801	3.70	76	0.00
25	T	Hexane	0.2624	0.2484	5.34	73	0.00
26	PT	11dichlorota	0.4210	0.3862	8.27	74	0.00
27	T	Vinylacetate	0.4346	0.4394	-1.10	70	0.00
28	T	chloroprene	0.3897	0.3930	-0.85	77	0.00
29	T	Diisopether	0.6578	0.5731	12.88	69	0.00
30	T	ETBE	0.6327	0.5799	8.35	71	0.00
31	T	22dichloropr	0.3767	0.4298	-14.10	87	0.00
32	PT	c12dichlorte	0.2534	0.2390	5.68	77	0.00
33	PT	2Butanone	0.0705	0.0685#	2.84	80	0.00
34	T	propionitrile	0.0748	0.0700	6.42	76	0.00
35	T	Ethylacetate	0.0207	0.0197#	4.83	75	0.00
36	T	methacrylonitrile	0.1589	0.1536	3.34	76	0.00
37	T	Bromochlorma	0.1087	0.1033	4.97	78	0.00
38	T	Tetrahydofur	0.1452	0.1401	3.51	73	0.00
39	PT	Chloroform	0.4221	0.4148	1.73	78	0.00
40	PT	111trichlota	0.4004	0.4211	-5.17	81	0.00
41	S	SURRDibrflma	0.2418	0.2514	-3.97	79	0.00
42	PT	Cyclohexane	0.4015	0.3545	11.71	69	0.00
43	PT	Carbtetraclo	0.3381	0.3676	-8.73	86	0.00
44	T	11dicloprope	0.1101	0.1091	0.91	76	0.00
45	S	SURR12DCAd4	0.0665	0.0647	2.71	73	0.00
46	PT	Benzene	0.9154	0.8642	5.59	74	0.00
47	PT	12dichlorota	0.3558	0.3583	-0.70	80	0.00
48	T	TAME	0.6373	0.5908	7.30	76	0.00

49	PT	trichloroete	0.2369	0.2204	6.96	72	0.00
50	PT	methylcyclohexane	0.3832	0.3860	-0.73	79	0.00
51	PT	12dicloropra	0.2298	0.2138	6.96	71	0.00
52	T	23Dicl1propene	0.3523	0.3443	2.27	79	0.00
53	T	Dibromometha	0.1402	0.1442	-2.85	81	0.00
54	T	methylmethacrylate	0.2337	0.2178	6.80	74	0.00
55	T	14dioxane	0.0040	0.0038#	5.00	87	0.00
56	PT	Bromodiclrma	0.3129	0.2983	4.67	75	0.00
57	T	2Nitropropane	0.1310	0.1508	-15.11	88	0.00
58	T	2CLEVE	0.0551	0.0308	44.10#	46#	0.00
59	PT	c13dicloproe	0.3630	0.3443	5.15	77	0.00
60	PT	4Meth2Pentan	0.3665	0.3578	2.37	74	0.00
61	S	SURRd8Tolule	0.9976	1.0289	-3.14	79	0.00
62	PT	Toluene	0.6049	0.5704	5.70	73	0.00
63	PT	t13Dicloprop	0.3482	0.3307	5.03	77	0.00
64	T	ethylmethacrylate	0.3456	0.3370	2.49	76	0.00
65	PT	112Triclotha	0.1811	0.1749	3.42	73	0.00
66	PT	Tetrachlorte	0.2851	0.2945	-3.30	82	0.00
67	T	13Diclorpropa	0.3871	0.3818	1.37	79	0.00
68	I	d5-CHLOROBENZENE**ISTD**	1.0000	1.0000	0.00	76	0.00
69	PT	2Hexanone	0.4411	0.4271	3.17	76	0.00
70	PT	Clorodibrmta	0.3252	0.3032	6.77	76	0.00
71	PT	12Dibrometha	0.3016	0.2903	3.75	79	0.00
72	PT	Chlorobenzen	0.8318	0.8339	-0.25	81	0.00
73	T	1Clhexane	0.4405	0.4195	4.77	79	0.00
74	T	1112Tetclota	0.2950	0.2933	0.58	80	0.00
75	PT	Ethylbenzene	1.4261	1.4766	-3.54	79	0.00
76	PT	m p-Xylene	0.5298	0.5639	-6.44	82	0.00
77	PT	o-Xylene	0.5056	0.4997	1.17	76	0.00
78	PT	Styrene	0.8288	0.8476	-2.27	82	0.00
79	PT	Bromoform	0.2635	0.2391	9.26	77	0.00
80	PT	Isopropylben	1.2670	1.3559	-7.02	83	0.00
81	T	cyclohexanone	0.0252	0.0199#	21.03#	72	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	1.0000	1.0000	0.00	80	0.00
83	S	SURR4BrFBenz	0.9970	0.9769	2.02	76	0.00
84	T	Bromobenzene	0.7387	0.7319	0.92	78	0.00
85	PT	1122Tetrclta	0.9447	0.8953	5.23	77	0.00
86	T	123Triclproa	1.2233	1.2185	0.39	76	0.00
87	T	14dichloro2butene	0.3035	0.2789	8.11	83	0.00
88	T	n-Propylbenz	3.0377	3.1970	-5.24	81	0.00
89	T	2chlorotolue	1.8873	1.8671	1.07	75	0.00
90	T	4chlorotolue	2.1494	2.2531	-4.82	81	0.00
91	T	135Trimebenz	2.1467	2.2582	-5.19	81	0.00
92	T	tbutylbenzen	1.8551	1.8262	1.56	79	0.00
93	T	124Trimetben	2.0204	2.1979	-8.79	82	0.00
94	T	sbutylbenzen	2.4844	2.6318	-5.93	80	0.00
95	PT	13Diclorbenz	1.2303	1.2602	-2.43	82	0.00
96	T	pIsopropylto	2.1659	2.3854	-10.13	85	0.00
97	PT	14dichlorobe	1.2975	1.3455	-3.70	84	0.00
98	PT	12dichlorobe	1.2213	1.2886	-5.51	84	0.00
99	T	nButylbenzen	1.9818	2.1004	-5.98	83	0.00
100	PT	12dibromo3cl	0.2882	0.2758	4.30	83	0.00
101	T	135Trichlorobenzene	0.8912	0.9610	-7.83	85	0.00
102	PT	124Trichlobe	0.7916	0.7768	1.87	82	0.00
103	T	Hexachlorobu	0.4431	0.4485	-1.22	84	0.00
104	T	Naphthalene	2.2541	2.1483	4.69	76	0.00
105	T	123Trichlben	0.7835	0.7791	0.56	80	0.00

(#) = Out of Range SPCC's out = 1 CCC's out = 0

W100315.M Fri Oct 16 11:03:26 2015

Evaluate Continuing Calibration Report

Data File : l:\data\oct1515\CCV-LCS2.D Vial: 15
Acq On : 15 Oct 2015 15:20 Operator: AGK-RLD
Sample : 119731,LCSW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Oct 15 15:41:30 2015

Quant Method : C:\INSTARCH\METHODS\W100315.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W100315.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	20.0000	20.0000	0.00	77	0.00
2	PT	Dichlorodi	10.0000	10.3087	-3.09	80	-0.04
3	PT	Chloromethan	10.0000	8.7101	12.90	74	-0.01
4	PT	VinylChlorid	10.0000	9.6036	3.96	77	0.00
5	PT	Bromomethane	10.0000	13.1914	-31.91#	88	0.00
6	PT	Chloroethane	10.0000	9.9918	0.08	75	-0.01
7	T	Dichloroflmethane	10.0000	10.7172	-7.17	84	0.00
8	PT	Trichlorofma	10.0000	11.4428	-14.43	85	0.00
9	T	Ethylether	10.0000	8.2828	17.17	66	0.00
10	T	dichlorotfluoroethan	10.0000	8.9988	10.01	71	0.00
11	T	propyleneoxide	100.0000	71.6955	28.30#	76	0.00
12	T	Acrolein	50.0000	35.7296	28.54#	59	0.00
13	PT	11dichlorthe	10.0000	9.5875	4.12	76	0.00
14	PT	Trichlorotfluoroeth	20.0000	20.0121	-0.06	77	0.00
15	PT	Acetone	100.0000	81.0903	18.91	79	0.00
16	T	Iodomethane	20.0000	14.7307	26.35#	59	0.00
17	PT	Carbon Dislf	20.0000	18.0364	9.82	69	0.00
18	T	allylchloride	20.0000	16.5873	17.06	67	0.00
19	PT	methylacetate	10.0000	11.4566	-14.57	92	0.00
20	PT	Methylchlorid	10.0000	9.0164	9.84	73	0.00
21	T	tbutylalcohol	500.0000	510.9712	-2.19	80	0.00
22	T	Acrylonitrile	50.0000	45.8125	8.38	74	0.00
23	PT	t12dichlorte	10.0000	9.6179	3.82	77	0.00
24	PT	MtBE	10.0000	9.6318	3.68	76	0.00
25	T	Hexane	20.0000	18.9339	5.33	73	0.00
26	PT	11dichlorota	10.0000	9.1725	8.28	74	0.00
27	T	Vinylacetate	100.0000	93.6363	6.36	70	0.00
28	T	chloroprene	20.0000	20.1703	-0.85	77	0.00
29	T	Diisopether	10.0000	8.7122	12.88	69	0.00
30	T	ETBE	10.0000	9.1651	8.35	71	0.00
31	T	22dichloropr	10.0000	11.4101	-14.10	87	0.00
32	PT	c12dichlorte	10.0000	9.4333	5.67	77	0.00
33	PT	2Butanone	100.0000	97.1682	2.83	80	0.00
34	T	propionitrile	100.0000	93.6653	6.33	76	0.00
35	T	Ethylacetate	50.0000	47.5661	4.87	75	0.00
36	T	methacrylonitrile	20.0000	19.3302	3.35	76	0.00
37	T	Bromochlorma	10.0000	9.5057	4.94	78	0.00
38	T	Tetrahydofur	100.0000	96.5068	3.49	73	0.00
39	PT	Chloroform	10.0000	9.8266	1.73	78	0.00
40	PT	111trichlota	10.0000	10.5153	-5.15	81	0.00
41	S	SURRDibrflma	20.0000	20.8004	-4.00	79	0.00
42	PT	Cyclohexane	10.0000	8.8292	11.71	69	0.00
43	PT	Carbtetraclo	10.0000	10.8743	-8.74	86	0.00
44	T	11dicloprope	10.0000	9.9105	0.89	76	0.00
45	S	SURR12DCAd4	20.0000	19.4643	2.68	73	0.00
46	PT	Benzene	10.0000	9.4406	5.59	74	0.00
47	PT	12dichlorota	10.0000	10.0692	-0.69	80	0.00
48	T	TAME	10.0000	9.2690	7.31	76	0.00

49	PT	trichloroete	10.0000	9.3022	6.98	72	0.00
50	PT	methylcyclohexane	10.0000	10.0730	-0.73	79	0.00
51	PT	12dicloropra	10.0000	9.3003	7.00	71	0.00
52	T	23Dicl1propene	10.0000	9.7710	2.29	79	0.00
53	T	Dibromometha	10.0000	10.2897	-2.90	81	0.00
54	T	methylmethacrylate	10.0000	9.3190	6.81	74	0.00
55	T	14dioxane	500.0000	468.6095	6.28	87	0.00
56	PT	Bromodiclrma	10.0000	9.5349	4.65	75	0.00
57	T	2Nitropropane	100.0000	115.0985	-15.10	88	0.00
58	T	2CLEVE	50.0000	30.2523	39.50#	46	0.00
59	PT	c13dicloproe	10.0000	9.4837	5.16	77	0.00
60	PT	4Meth2Pentan	100.0000	96.4286	3.57	74	0.00
61	S	SURRd8Tolule	20.0000	20.6269	-3.13	79	0.00
62	PT	Toluene	10.0000	9.4302	5.70	73	0.00
63	PT	t13Dicloprop	10.0000	9.4988	5.01	77	0.00
64	T	ethylmethacrylate	20.0000	19.5003	2.50	76	0.00
65	PT	112Triclotha	10.0000	9.6577	3.42	73	0.00
66	PT	Tetrachlorte	10.0000	10.3297	-3.30	82	0.00
67	T	13Diclorpropa	10.0000	9.8630	1.37	79	0.00
68	I	d5-CHLOROBENZENE**ISTD**	20.0000	20.0000	0.00	76	0.00
69	PT	2Hexanone	100.0000	96.3676	3.63	76	0.00
70	PT	Clorodibrmta	10.0000	9.3250	6.75	76	0.00
71	PT	12Dibrometha	10.0000	9.6271	3.73	79	0.00
72	PT	Chlorobenzen	10.0000	10.0248	-0.25	81	0.00
73	T	1Clhexane	10.0000	9.5233	4.77	79	0.00
74	T	1112Tetclota	10.0000	9.9418	0.58	80	0.00
75	PT	Ethylbenzene	10.0000	10.3537	-3.54	79	0.00
76	PT	m p-Xylene	20.0000	21.2877	-6.44	82	0.00
77	PT	o-Xylene	10.0000	9.8837	1.16	76	0.00
78	PT	Styrene	10.0000	10.2270	-2.27	82	0.00
79	PT	Bromoform	10.0000	9.0739	9.26	77	0.00
80	PT	Isopropylben	10.0000	10.7011	-7.01	83	0.00
81	T	cyclohexanone	200.0000	157.5336	21.23#	72	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	20.0000	20.0000	0.00	80	0.00
83	S	SURR4BrFBenz	20.0000	19.5954	2.02	76	0.00
84	T	Bromobenzene	10.0000	9.9082	0.92	78	0.00
85	PT	1122Tetrclta	10.0000	9.4775	5.23	77	0.00
86	T	123Triclproa	10.0000	9.9607	0.39	76	0.00
87	T	14dichloro2butene	10.0000	9.1907	8.09	83	0.00
88	T	n-Propylbenz	10.0000	10.5244	-5.24	81	0.00
89	T	2chlorotolue	10.0000	9.8931	1.07	75	0.00
90	T	4chlorotolue	10.0000	10.4826	-4.83	81	0.00
91	T	135Trimebenz	10.0000	10.5195	-5.20	81	0.00
92	T	tbutylbenzen	10.0000	9.8443	1.56	79	0.00
93	T	124Trimetben	10.0000	10.8787	-8.79	82	0.00
94	T	sbutylbenzen	10.0000	10.5930	-5.93	80	0.00
95	PT	13Diclorbenz	10.0000	10.2430	-2.43	82	0.00
96	T	pIsopropylto	10.0000	11.0133	-10.13	85	0.00
97	PT	14dichlorobe	10.0000	10.3702	-3.70	84	0.00
98	PT	12dichlorobe	10.0000	10.5511	-5.51	84	0.00
99	T	nButylbenzen	10.0000	10.5988	-5.99	83	0.00
100	PT	12dibromo3cl	10.0000	9.5714	4.29	83	0.00
101	T	135Trichlorobenzene	10.0000	10.7830	-7.83	85	0.00
102	PT	124Trichlobe	10.0000	9.8121	1.88	82	0.00
103	T	Hexachlorobu	10.0000	10.1220	-1.22	84	0.00
104	T	Naphthalene	10.0000	9.5307	4.69	76	0.00
105	T	123Trichlben	10.0000	9.9427	0.57	80	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

W100315.M Fri Oct 16 11:03:41 2015

Quantitation Report

Data File : l:\data\oct1515\CCV-LCS2.D Vial: 15
Acq On : 15 Oct 2015 15:20 Operator: AGK-RLD
Sample : 119731,LCSW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 15 15:41:30 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.70	96	951494	20.00 ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.62	117	709237	20.00 ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	15.46	152	379507	20.00 ug/L	0.00 NA%
System Monitoring Compounds					
41) SURRDibrflma	6.85	113	239250	20.800 ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 104 %		
45) SURR12DCAd4	7.26	102	61539	19.464 ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 97 %		
61) SURRd8Tolule	9.71	98	978966	20.627 ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 103 %		
83) SURR4BrFBenz	13.25	95	370724	19.595 ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 98 %		
Target Compounds					Qvalue
2) Dichlorodi	1.86	85	126987	10.3087 ug/L	100
3) Chloromethan	2.11	50	98921	8.7101 ug/L	99
4) VinylChlorid	2.26	62	120266	9.6036 ug/L	100
5) Bromomethane	2.72	94	51670	13.1914 ug/L	98
6) Chloroethane	2.88	64	76504	9.9918 ug/L	100
7) Dichloroflmethane	3.19	67	230377	10.7172 ug/L	99
8) Trichlorofma	3.28	101	213594	11.4428 ug/L	98
9) Ethylether	3.73	59	85124	8.2828 ug/L	97
10) dichlorotfluoroethan	3.73	67	104741	8.9988 ug/L	97
11) propyleneoxide	4.08	58	213267	71.6955 ug/L	93
12) Acrolein	3.85	56	174985	35.7296 ug/L	96
13) 11dichlorthe	4.00	96	95214	9.5875 ug/L	99
14) Trichlorotfluoroeth	4.04	101	201379	20.0121 ug/L	94
15) Acetone	4.07	43	724914	81.0903 ug/L	97
16) Iodomethane	4.18	142	118487	14.7307 ug/L	86
17) Carbon Dislf	4.27	76	487314	18.0364 ug/L	100
18) allylchloride	4.48	41	229786	16.5873 ug/L	88
19) methylacetate	4.55	74	52169	11.4566 ug/L	91
20) Methylchlorid	4.64	84	103556	9.0164 ug/L	96
21) tbutylalcohol	4.86	59	1762670	510.9712 ug/L	97
22) Acrylonitrile	4.94	53	345204	45.8125 ug/L	97
23) t12dichlorte	5.02	96	106151	9.6179 ug/L	99
24) MtBE	5.06	73	323579	9.6318 ug/L	96
25) Hexane	5.42	57	236356	18.9339 ug/L	97
26) 11dichlorota	5.53	63	183719	9.1725 ug/L	99
27) Vinylacetate	5.64	43	2090438	93.6363 ug/L	98
28) chloroprene	5.67	53	373971	20.1703 ug/L	98
29) Diisopether	5.71	45	272650	8.7122 ug/L	92
30) ETBE	6.15	59	275865	9.1651 ug/L	98
31) 22dichloropr	6.27	77	204479	11.4101 ug/L	100
32) c12dichlorte	6.27	96	113719	9.4333 ug/L	99
33) 2Butanone	6.29	72	325772	97.1682 ug/L	97
34) propionitrile	6.32	54	333171	93.6653 ug/L	99
35) Ethylacetate	6.40	88	46776	47.5661 ug/L	96
36) methacrylonitrile	6.52	67	146135	19.3302 ug/L	91
37) Bromochlorma	6.55	128	49163	9.5057 ug/L #	89
38) Tetrahydofur	6.66	42	666504	96.5068 ug/L	94

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : l:\data\oct1515\CCV-LCS2.D Vial: 15
Acq On : 15 Oct 2015 15:20 Operator: AGK-RLD
Sample : 119731,LCSW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 15 15:41:30 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.66	83	197347	9.8266	ug/L	98
40)	111trichlota	6.91	97	200314	10.5153	ug/L	99
42)	Cyclohexane	7.00	56	168664	8.8292	ug/L	92
43)	Carbtetraclo	7.13	119	174903	10.8743	ug/L	97
44)	11dicloprope	7.12	110	51892	9.9105	ug/L	96
46)	Benzene	7.36	78	411140	9.4406	ug/L	98
47)	12dichlorota	7.36	62	170455	10.0692	ug/L	98
48)	TAME	7.55	73	281050	9.2690	ug/L	96
49)	trichloroete	8.17	95	104839	9.3022	ug/L	90
50)	methylcyclohexane	8.45	83	183654	10.0730	ug/L	92
51)	12dicloropra	8.43	63	101693	9.3003	ug/L	100
52)	23Dicl1propene	8.49	75	163786	9.7710	ug/L	96
53)	Dibromometha	8.57	93	68619	10.2897	ug/L	96
54)	methylmethacrylate	8.60	69	103621	9.3190	ug/L	95
55)	14dioxane	8.62	88	89780	468.6095	ug/L	87
56)	Bromodiclrma	8.76	83	141918	9.5349	ug/L	98
57)	2Nitropropane	9.02	43	717380	115.0985	ug/L	98
58)	2CLEVE	9.16	63	73359	30.2523	ug/L	97
59)	c13dicloproe	9.35	75	163798	9.4837	ug/L	96
60)	4Meth2Pentan	9.55	43	1702032	96.4286	ug/L	97
62)	Toluene	9.80	92	271369	9.4302	ug/L	91
63)	t13Dicloprop	10.05	75	157333	9.4988	ug/L	99
64)	ethylmethacrylate	10.21	69	320632	19.5003	ug/L	96
65)	112Triclotha	10.28	83	83187	9.6577	ug/L	95
66)	Tetrachlorte	10.53	166	140128	10.3297	ug/L	96
67)	13Diclorpropa	10.51	76	181620	9.8630	ug/L	100
69)	2Hexanone	10.64	43	1514662	96.3676	ug/L	98
70)	Clorodibrmta	10.81	129	107535	9.3250	ug/L	99
71)	12Dibrometha	10.97	107	102957	9.6271	ug/L	98
72)	Chlorobenzen	11.66	112	295716	10.0248	ug/L	97
73)	1Clhexane	11.64	91	148756	9.5233	ug/L	97
74)	1112Tetclota	11.77	131	104009	9.9418	ug/L	97
75)	Ethylbenzene	11.82	91	523625	10.3537	ug/L	99
76)	m p-Xylene	11.98	106	399938	21.2877	ug/L	96
77)	o-Xylene	12.53	106	177202	9.8837	ug/L	99
78)	Styrene	12.54	104	300564	10.2270	ug/L	100
79)	Bromoform	12.77	173	84778	9.0739	ug/L	93
80)	Isopropylben	13.06	105	480814	10.7011	ug/L	98
81)	cyclohexanone	13.14	55	141023	157.5336	ug/L	90
84)	Bromobenzene	13.47	156	138883	9.9082	ug/L	96
85)	1122Tetrclta	13.42	83	169890	9.4775	ug/L	97
86)	123Triclproa	13.48	75	231210	9.9607	ug/L	93
87)	14dichloro2butene	13.51	53	52926	9.1907	ug/L	94
88)	n-Propylbenz	13.64	91	606649	10.5244	ug/L	100
89)	2chlorotolue	13.75	91	354284	9.8931	ug/L	95
90)	4chlorotolue	13.90	91	427543	10.4826	ug/L	99
91)	135Trimebenz	13.90	105	428507	10.5195	ug/L	99
92)	tbutylbenzen	14.37	119	346534	9.8443	ug/L	99
93)	124Trimetben	14.43	105	417057	10.8787	ug/L	98
94)	sbutylbenzen	14.69	105	499384	10.5930	ug/L	97
95)	13Diclorbenz	14.82	146	239132	10.2430	ug/L	97
96)	pIsopropylto	14.90	119	452634	11.0133	ug/L	99
97)	14dichlorobe	14.95	146	255314	10.3702	ug/L	99
98)	12dichlorobe	15.49	146	244518	10.5511	ug/L	97
99)	nButylbenzen	15.50	91	398561	10.5988	ug/L	96
100)	12dibromo3cl	16.57	157	52342	9.5714	ug/L	93
101)	135Trichlorobenzene	16.91	180	182345	10.7830	ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : l:\data\oct1515\CCV-LCS2.D Vial: 15
Acq On : 15 Oct 2015 15:20 Operator: AGK-RLD
Sample : 119731,LCSW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 15 15:41:30 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.72	180	147394	9.8121	ug/L	97
103) Hexachlorobu	17.97	225	85105	10.1220	ug/L	92
104) Naphthalene	18.02	128	407646	9.5307	ug/L	98
105) 123Trichlben	18.34	180	147829	9.9427	ug/L	96

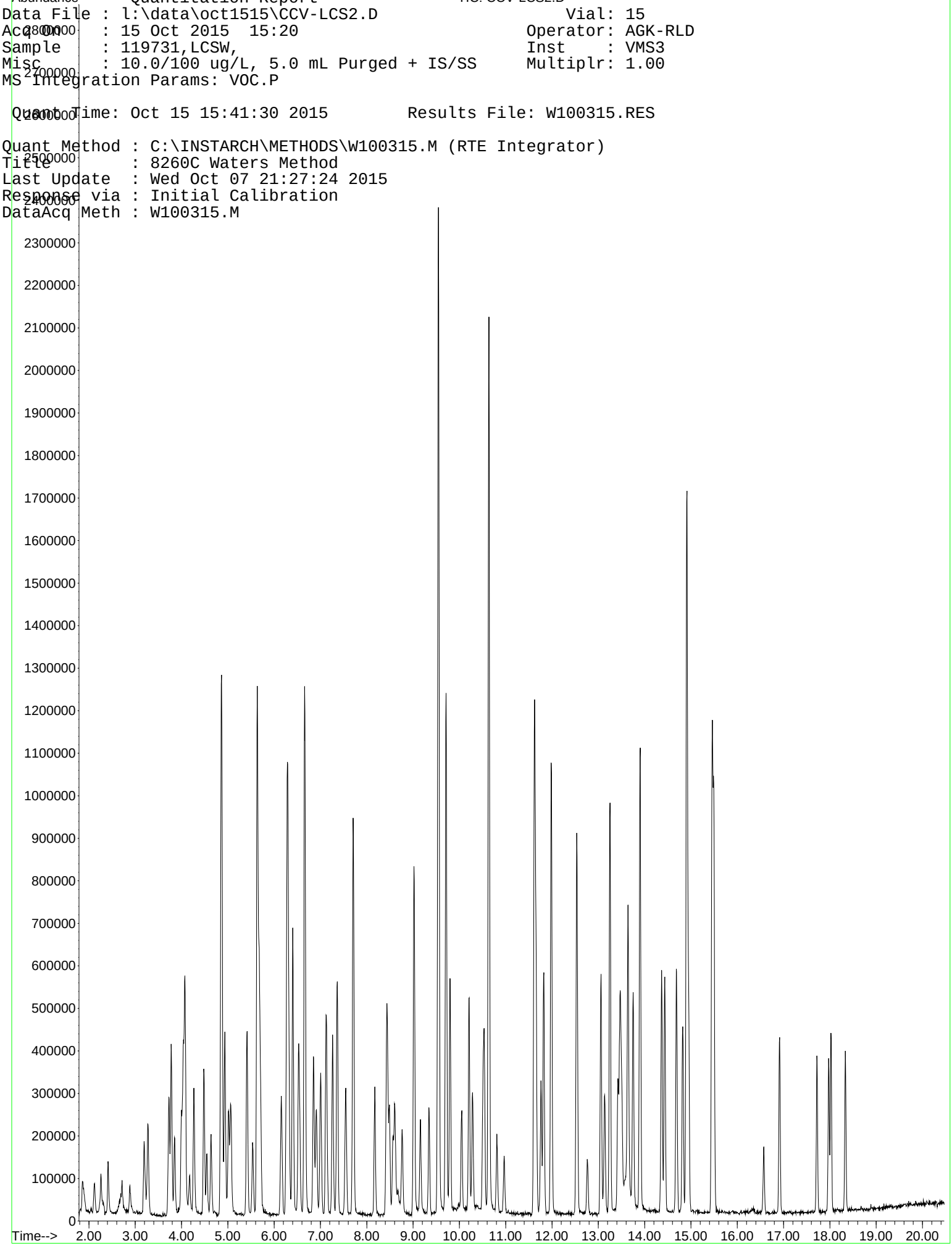
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: CCV-LCS2.D

Data File : l:\data\oct1515\CCV-LCS2.D Vial: 15
Acq On : 15 Oct 2015 15:20 Operator: AGK-RLD
Sample : 119731,LCSW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 15 15:41:30 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M



Quantitation Report

Data File : l:\data\oct1515\MB2.D CCB Vial: 17
Acq On : 15 Oct 2015 16:20 Operator: AGK-RLD
Sample : 119731,MBW, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 15 16:41:07 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.70	96	845952	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.62	117	633247	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	15.46	152	328031	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.85	113	209055	20.443	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 102	%		
45) SURR12DCAd4	7.26	102	56825	20.216	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 101	%		
61) SURRd8Tolule	9.71	98	831136	19.697	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 98	%		
83) SURR4BrFBenz	13.25	95	294039	17.981	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 90	%		
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	0.00	50	0	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	0.00	94	0	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	4.07	58	4818	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	4.07	43	17635	N.D.		
16) Iodomethane	0.00	142	0	N.D.		
17) Carbon Dislf	0.00	76	0	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	4.86	59	4788	Below	Cal #	52
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	0.00	42	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : l:\data\oct1515\MB2.D Vial: 17
Acq On : 15 Oct 2015 16:20 Operator: AGK-RLD
Sample : 119731,MBW, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 15 16:41:07 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	0.00	119	0	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	0.00	78	0	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	0.00	95	0	N.D.	
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	0.00	92	0	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	0.00	91	0	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	0.00	106	0	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	0.00	55	0	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	0.00	105	0	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	0.00	91	0	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : l:\data\oct1515\MB2.D Vial: 17
Acq On : 15 Oct 2015 16:20 Operator: AGK-RLD
Sample : 119731,MBW, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 15 16:41:07 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	0.00	128	0	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

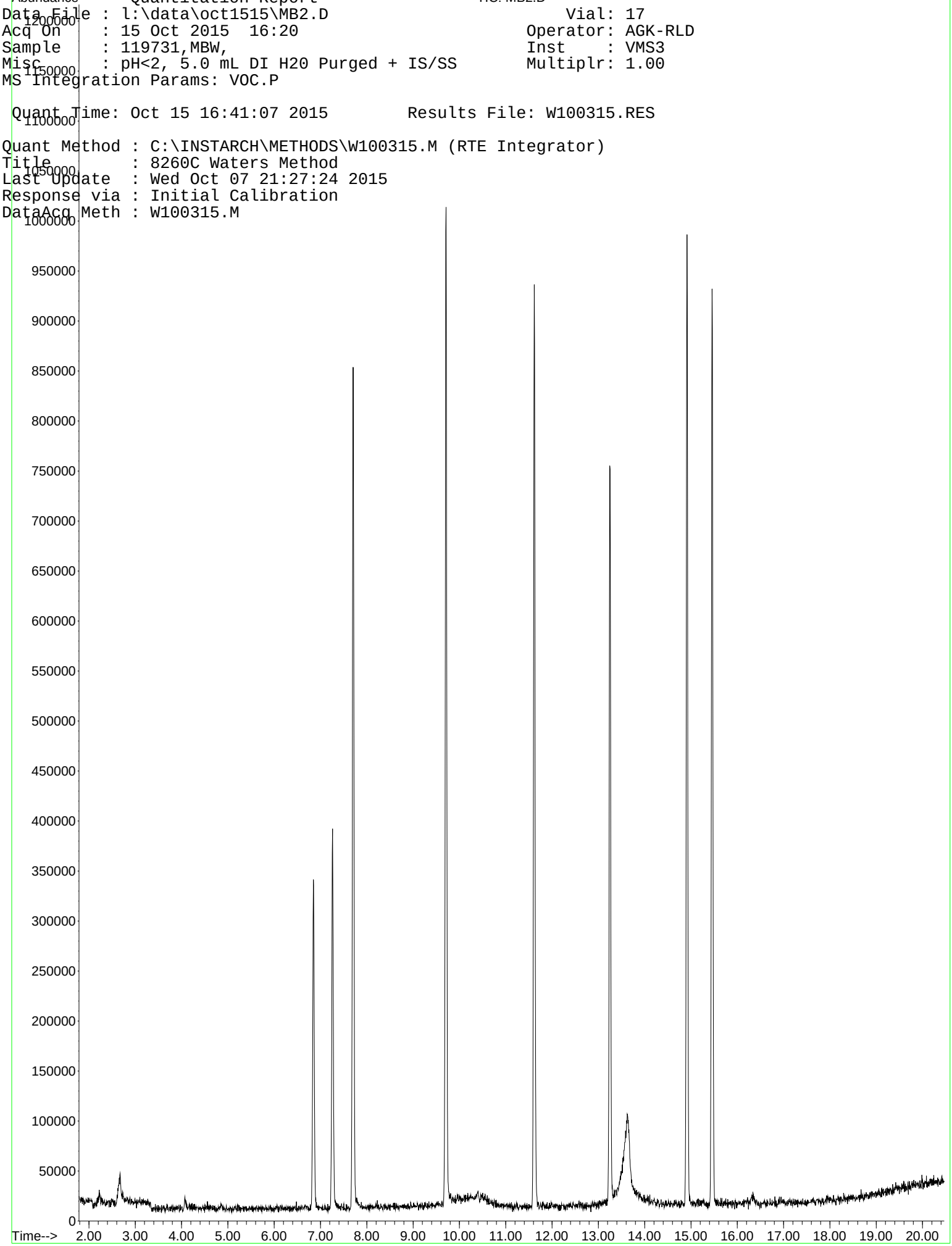
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: MB2.D

Data File : l:\data\oct1515\MB2.D Vial: 17
Acq On : 15 Oct 2015 16:20 Operator: AGK-RLD
Sample : 119731,MBW, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 15 16:41:07 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M



Evaluate Continuing Calibration Report

Data File : l:\data\oct1515\CCVF2.D Vial: 34
Acq On : 16 Oct 2015 00:45 Operator: AGK-RLD
Sample : 119731,CCVF, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Oct 16 01:05:50 2015

Quant Method : C:\INSTARCH\METHODS\W100315.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W100315.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 50% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	1.0000	1.0000	0.00	78	0.00
2	PT	Dichlorodi	0.2589	0.2752	-6.30	84	-0.04
3	PT	Chloromethan	0.2387	0.2081	12.82	75	-0.01
4	PT	VinylChlorid	0.2632	0.2734	-3.88	85	0.00
5	PT	Bromomethane	0.0823	0.0921#	-11.91	75	0.00
6	PT	Chloroethane	0.1609	0.1642	-2.05	78	0.00
7	T	Dichloroflmethane	0.4518	0.4797	-6.18	84	0.00
8	PT	Trichlorofma	0.3924	0.4731	-20.57	91	0.00
9	T	Ethylether	0.2160	0.1893	12.36	71	0.00
10	T	dichlorotfluoroethan	0.2447	0.2294	6.25	75	0.00
11	T	propyleneoxide	0.0630	0.0445	29.37	76	0.00
12	T	Acrolein	0.1029	0.0712	30.81	58	0.00
13	PT	11dichlorthe	0.2087	0.1943	6.90	75	0.00
14	PT	Trichlorotfluoroeth	0.2115	0.2136	-0.99	79	0.00
15	PT	Acetone	0.1784	0.1461	18.11	77	0.00
16	T	Iodomethane	0.1650	0.1489	9.76	71	0.00
17	PT	Carbon Dislf	0.5679	0.5368	5.48	74	0.00
18	T	allylchloride	0.2912	0.2238	23.15	63	0.00
19	PT	methylacetate	0.0957	0.1111	-16.09	95	-0.01
20	PT	Methylchlorid	0.2604	0.2249	13.63	76	0.00
21	T	tbutylalcohol	0.0742	0.0742	0.00	82	0.00
22	T	Acrylonitrile	0.1584	0.1390	12.25	72	0.00
23	PT	t12dichlorte	0.2320	0.2241	3.41	79	0.00
24	PT	MtBE	0.7062	0.6806	3.63	78	0.00
25	T	Hexane	0.2624	0.2210	15.78	66	0.00
26	PT	11dichlorota	0.4210	0.3808	9.55	74	0.00
27	T	Vinylacetate	0.4346	0.4173	3.98	67	0.00
28	T	chloroprene	0.3897	0.3833	1.64	77	0.00
29	T	Diisopether	0.6578	0.5648	14.14	69	0.00
30	T	ETBE	0.6327	0.5867	7.27	73	0.00
31	T	22dichloropr	0.3767	0.3679	2.34	76	0.00
32	PT	c12dichlorte	0.2534	0.2468	2.60	80	0.00
33	PT	2Butanone	0.0705	0.0655#	7.09	78	0.00
34	T	propionitrile	0.0748	0.0666	10.96	73	0.00
35	T	Ethylacetate	0.0207	0.0185#	10.63	71	0.00
36	T	methacrylonitrile	0.1589	0.1516	4.59	76	0.00
37	T	Bromochlorma	0.1087	0.1099	-1.10	85	0.00
38	T	Tetrahydofur	0.1452	0.1342	7.58	72	-0.01
39	PT	Chloroform	0.4221	0.4282	-1.45	82	0.00
40	PT	111trichlota	0.4004	0.4368	-9.09	85	0.00
41	S	SURRDibrflma	0.2418	0.2480	-2.56	79	0.00
42	PT	Cyclohexane	0.4015	0.3550	11.58	70	-0.01
43	PT	Carbtetraclo	0.3381	0.3678	-8.78	87	0.00
44	T	11dicloprope	0.1101	0.1080	1.91	77	0.00
45	S	SURR12DCAd4	0.0665	0.0635	4.51	73	0.00
46	PT	Benzene	0.9154	0.8867	3.14	77	0.00
47	PT	12dichlorota	0.3558	0.3658	-2.81	83	0.00
48	T	TAME	0.6373	0.5980	6.17	78	0.00

49	PT	trichloroete	0.2369	0.2310	2.49	77	-0.01
50	PT	methylcyclohexane	0.3832	0.3642	4.96	76	0.00
51	PT	12dicloropra	0.2298	0.2182	5.05	74	0.00
52	T	23Dicl1propene	0.3523	0.3562	-1.11	84	0.00
53	T	Dibromometha	0.1402	0.1424	-1.57	81	-0.01
54	T	methylmethacrylate	0.2337	0.2085	10.78	72	0.00
55	T	14dioxane	0.0040	0.0038#	5.00	89	0.00
56	PT	Bromodiclrma	0.3129	0.3131	-0.06	80	0.00
57	T	2Nitropropane	0.1310	0.1468	-12.06	87	0.00
58	T	2CLEVE	0.0551	0.0396	28.13	61	0.00
59	PT	c13dicloproe	0.3630	0.3279	9.67	75	0.00
60	PT	4Meth2Pentan	0.3665	0.3509	4.26	74	0.00
61	S	SURRd8Tolule	0.9976	1.0267	-2.92	81	0.00
62	PT	Toluene	0.6049	0.5994	0.91	78	0.00
63	PT	t13Dicloprop	0.3482	0.3217	7.61	76	0.00
64	T	ethylmethacrylate	0.3456	0.3250	5.96	74	0.00
65	PT	112Triclotha	0.1811	0.1793	0.99	77	0.00
66	PT	Tetrachlorte	0.2851	0.2992	-4.95	85	0.00
67	T	13Diclorpropa	0.3871	0.3641	5.94	77	0.00
68	I	d5-CHLOROBENZENE**ISTD**	1.0000	1.0000	0.00	79	0.00
69	PT	2Hexanone	0.4411	0.4168	5.51	77	0.00
70	PT	Clorodibrmta	0.3252	0.3069	5.63	79	0.00
71	PT	12Dibrometha	0.3016	0.2913	3.42	82	0.00
72	PT	Chlorobenzen	0.8318	0.8352	-0.41	83	0.00
73	T	1Clhexane	0.4405	0.4110	6.70	80	0.00
74	T	1112Tetclota	0.2950	0.3200	-8.47	90	0.00
75	PT	Ethylbenzene	1.4261	1.4404	-1.00	79	0.00
76	PT	m p-Xylene	0.5298	0.5408	-2.08	81	0.00
77	PT	o-Xylene	0.5056	0.5175	-2.35	81	0.00
78	PT	Styrene	0.8288	0.8503	-2.59	84	0.00
79	PT	Bromoform	0.2635	0.2414	8.39	80	0.00
80	PT	Isopropylben	1.2670	1.3316	-5.10	83	0.00
81	T	cyclohexanone	0.0252	0.0213#	15.48	80	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	1.0000	1.0000	0.00	82	0.00
83	S	SURR4BrFBenz	0.9970	0.9829	1.41	79	0.00
84	T	Bromobenzene	0.7387	0.7426	-0.53	82	0.00
85	PT	1122Tetrclta	0.9447	0.8628	8.67	76	0.00
86	T	123Triclproa	1.2233	1.2083	1.23	77	0.00
87	T	14dichloro2butene	0.3035	0.2223	26.75	68	0.00
88	T	n-Propylbenz	3.0377	3.0751	-1.23	80	0.00
89	T	2chlorotolue	1.8873	1.8434	2.33	76	0.00
90	T	4chlorotolue	2.1494	2.2587	-5.09	83	0.00
91	T	135Trimebenz	2.1467	2.2243	-3.61	82	0.00
92	T	tbutylbenzen	1.8551	1.8384	0.90	81	0.00
93	T	124Trimetben	2.0204	2.1152	-4.69	81	0.00
94	T	sbutylbenzen	2.4844	2.5990	-4.61	81	0.00
95	PT	13Diclorbenz	1.2303	1.2730	-3.47	85	-0.01
96	T	pIsopropylto	2.1659	2.3510	-8.55	86	0.00
97	PT	14dichlorobe	1.2975	1.3117	-1.09	83	0.00
98	PT	12dichlorobe	1.2213	1.2288	-0.61	82	0.00
99	T	nButylbenzen	1.9818	2.0184	-1.85	82	0.00
100	PT	12dibromo3cl	0.2882	0.2879	0.10	88	0.00
101	T	135Trichlorobenzene	0.8912	0.9070	-1.77	82	0.00
102	PT	124Trichlobe	0.7916	0.7703	2.69	83	0.00
103	T	Hexachlorobu	0.4431	0.4599	-3.79	88	0.00
104	T	Naphthalene	2.2541	2.2740	-0.88	83	0.00
105	T	123Trichlben	0.7835	0.7697	1.76	81	0.00

(#) = Out of Range SPCC's out = 2 CCC's out = 0

W100315.M Fri Oct 16 11:06:16 2015

Evaluate Continuing Calibration Report

Data File : l:\data\oct1515\CCVF2.D Vial: 34
Acq On : 16 Oct 2015 00:45 Operator: AGK-RLD
Sample : 119731,CCVF, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Oct 16 01:05:50 2015

Quant Method : C:\INSTARCH\METHODS\W100315.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W100315.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 50% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	20.0000	20.0000	0.00	78	0.00
2	PT	Dichlorodi	10.0000	10.6279	-6.28	84	-0.04
3	PT	Chloromethan	10.0000	8.7178	12.82	75	-0.01
4	PT	VinylChlorid	10.0000	10.3862	-3.86	85	0.00
5	PT	Bromomethane	10.0000	11.1834	-11.83	75	0.00
6	PT	Chloroethane	10.0000	10.2044	-2.04	78	0.00
7	T	Dichloroflmethane	10.0000	10.6159	-6.16	84	0.00
8	PT	Trichlorofma	10.0000	12.0582	-20.58	91	0.00
9	T	Ethylether	10.0000	8.7640	12.36	71	0.00
10	T	dichlorotfluoroethan	10.0000	9.3760	6.24	75	0.00
11	T	propyleneoxide	100.0000	71.1584	28.84	76	0.00
12	T	Acrolein	50.0000	34.5734	30.85	58	0.00
13	PT	11dichlorthe	10.0000	9.3097	6.90	75	0.00
14	PT	Trichlorotfluoroeth	20.0000	20.1943	-0.97	79	0.00
15	PT	Acetone	100.0000	77.5931	22.41	77	0.00
16	T	Iodomethane	20.0000	17.0690	14.66	71	0.00
17	PT	Carbon Dislf	20.0000	18.9046	5.48	74	0.00
18	T	allylchloride	20.0000	15.3689	23.16	63	0.00
19	PT	methylacetate	10.0000	11.6077	-16.08	95	-0.01
20	PT	Methylchlorid	10.0000	9.3294	6.71	76	0.00
21	T	tbutylalcohol	500.0000	512.0753	-2.42	82	0.00
22	T	Acrylonitrile	50.0000	43.8925	12.22	72	0.00
23	PT	t12dichlorte	10.0000	9.6580	3.42	79	0.00
24	PT	MtBE	10.0000	9.6380	3.62	78	0.00
25	T	Hexane	20.0000	16.8414	15.79	66	0.00
26	PT	11dichlorota	10.0000	9.0441	9.56	74	0.00
27	T	Vinylacetate	100.0000	88.6108	11.39	67	0.00
28	T	chloroprene	20.0000	19.6728	1.64	77	0.00
29	T	Diisopether	10.0000	8.5862	14.14	69	0.00
30	T	ETBE	10.0000	9.2728	7.27	73	0.00
31	T	22dichloropr	10.0000	9.7664	2.34	76	0.00
32	PT	c12dichlorte	10.0000	9.7381	2.62	80	0.00
33	PT	2Butanone	100.0000	93.0150	6.98	78	0.00
34	T	propionitrile	100.0000	89.0631	10.94	73	0.00
35	T	Ethylacetate	50.0000	44.6554	10.69	71	0.00
36	T	methacrylonitrile	20.0000	19.0839	4.58	76	0.00
37	T	Bromochlorma	10.0000	10.1092	-1.09	85	0.00
38	T	Tetrahydofur	100.0000	92.4150	7.58	72	-0.01
39	PT	Chloroform	10.0000	10.1428	-1.43	82	0.00
40	PT	111trichlota	10.0000	10.9097	-9.10	85	0.00
41	S	SURRDibrflma	20.0000	20.5151	-2.58	79	0.00
42	PT	Cyclohexane	10.0000	8.8401	11.60	70	-0.01
43	PT	Carbtetraclo	10.0000	10.8785	-8.79	87	0.00
44	T	11dicloprope	10.0000	9.8090	1.91	77	0.00
45	S	SURR12DCAd4	20.0000	19.1103	4.45	73	0.00
46	PT	Benzene	10.0000	9.6866	3.13	77	0.00
47	PT	12dichlorota	10.0000	10.2789	-2.79	83	0.00
48	T	TAME	10.0000	9.3824	6.18	78	0.00

49	PT	trichloroete	10.0000	9.7523	2.48	77	-0.01
50	PT	methylcyclohexane	10.0000	9.5023	4.98	76	0.00
51	PT	12dicloropra	10.0000	9.4956	5.04	74	0.00
52	T	23Dicl1propene	10.0000	10.1109	-1.11	84	0.00
53	T	Dibromometha	10.0000	10.1618	-1.62	81	-0.01
54	T	methylmethacrylate	10.0000	8.9193	10.81	72	0.00
55	T	14dioxane	500.0000	473.7662	5.25	89	0.00
56	PT	Bromodiclrma	10.0000	10.0062	-0.06	80	0.00
57	T	2Nitropropane	100.0000	112.0222	-12.02	87	0.00
58	T	2CLEVE	50.0000	37.4186	25.16	61	0.00
59	PT	c13dicloproe	10.0000	9.0327	9.67	75	0.00
60	PT	4Meth2Pentan	100.0000	94.3734	5.63	74	0.00
61	S	SURRd8Tolule	20.0000	20.5835	-2.92	81	0.00
62	PT	Toluene	10.0000	9.9088	0.91	78	0.00
63	PT	t13Dicloprop	10.0000	9.2399	7.60	76	0.00
64	T	ethylmethacrylate	20.0000	18.8072	5.96	74	0.00
65	PT	112Triclotha	10.0000	9.9014	0.99	77	0.00
66	PT	Tetrachlorte	10.0000	10.4924	-4.92	85	0.00
67	T	13Diclorpropa	10.0000	9.4079	5.92	77	0.00
68	I	d5-CHLOROBENZENE**ISTD**	20.0000	20.0000	0.00	79	0.00
69	PT	2Hexanone	100.0000	93.7962	6.20	77	0.00
70	PT	Clorodibrmta	10.0000	9.4375	5.63	79	0.00
71	PT	12Dibrometha	10.0000	9.6605	3.39	82	0.00
72	PT	Chlorobenzen	10.0000	10.0405	-0.40	83	0.00
73	T	1Clhexane	10.0000	9.3315	6.68	80	0.00
74	T	1112Tetclota	10.0000	10.8456	-8.46	90	0.00
75	PT	Ethylbenzene	10.0000	10.1000	-1.00	79	0.00
76	PT	m p-Xylene	20.0000	20.4158	-2.08	81	0.00
77	PT	o-Xylene	10.0000	10.2357	-2.36	81	0.00
78	PT	Styrene	10.0000	10.2605	-2.61	84	0.00
79	PT	Bromoform	10.0000	9.1620	8.38	80	0.00
80	PT	Isopropylben	10.0000	10.5100	-5.10	83	0.00
81	T	cyclohexanone	200.0000	168.9824	15.51	80	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	20.0000	20.0000	0.00	82	0.00
83	S	SURR4BrFBenz	20.0000	19.7162	1.42	79	0.00
84	T	Bromobenzene	10.0000	10.0535	-0.53	82	0.00
85	PT	1122Tetrclta	10.0000	9.1330	8.67	76	0.00
86	T	123Triclproa	10.0000	9.8779	1.22	77	0.00
87	T	14dichloro2butene	10.0000	7.3243	26.76	68	0.00
88	T	n-Propylbenz	10.0000	10.1230	-1.23	80	0.00
89	T	2chlorotolue	10.0000	9.7679	2.32	76	0.00
90	T	4chlorotolue	10.0000	10.5086	-5.09	83	0.00
91	T	135Trimebenz	10.0000	10.3614	-3.61	82	0.00
92	T	tbutylbenzen	10.0000	9.9100	0.90	81	0.00
93	T	124Trimetben	10.0000	10.4696	-4.70	81	0.00
94	T	sbutylbenzen	10.0000	10.4610	-4.61	81	0.00
95	PT	13Diclorbenz	10.0000	10.3465	-3.47	85	-0.01
96	T	pIsopropylto	10.0000	10.8544	-8.54	86	0.00
97	PT	14dichlorobe	10.0000	10.1098	-1.10	83	0.00
98	PT	12dichlorobe	10.0000	10.0611	-0.61	82	0.00
99	T	nButylbenzen	10.0000	10.1848	-1.85	82	0.00
100	PT	12dibromo3cl	10.0000	9.9895	0.11	88	0.00
101	T	135Trichlorobenzene	10.0000	10.1772	-1.77	82	0.00
102	PT	124Trichlobe	10.0000	9.7303	2.70	83	0.00
103	T	Hexachlorobu	10.0000	10.3785	-3.79	88	0.00
104	T	Naphthalene	10.0000	10.0884	-0.88	83	0.00
105	T	123Trichlben	10.0000	9.8228	1.77	81	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

W100315.M Fri Oct 16 11:06:35 2015

Quantitation Report

Data File : l:\data\oct1515\CCVF2.D Vial: 34
Acq On : 16 Oct 2015 00:45 Operator: AGK-RLD
Sample : 119731,CCVF, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 16 01:05:50 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.70	96	967449	20.00 ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.62	117	729717	20.00 ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	15.45	152	389008	20.00 ug/L	0.00 NA%
System Monitoring Compounds					
41) SURRDibrflma	6.85	113	239925	20.515 ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 103	%	
45) SURR12DCAd4	7.26	102	61433	19.110 ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 96	%	
61) SURRd8Tolule	9.71	98	993288	20.583 ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 103	%	
83) SURR4BrFBenz	13.25	95	382348	19.716 ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 99	%	

Target Compounds					Qvalue
2) Dichlorodi	1.86	85	133114	10.6279 ug/L	99
3) Chloromethan	2.11	50	100669	8.7178 ug/L	99
4) VinylChlorid	2.25	62	132248	10.3862 ug/L	95
5) Bromomethane	2.71	94	44539	11.1834 ug/L	100
6) Chloroethane	2.89	64	79442	10.2044 ug/L	96
7) Dichloroflmethane	3.19	67	232025	10.6159 ug/L	96
8) Trichlorofma	3.27	101	228855	12.0582 ug/L	96
9) Ethylether	3.73	59	91580	8.7640 ug/L	97
10) dichlorotfluoroethan	3.73	67	110961	9.3760 ug/L	97
11) propyleneoxide	4.07	58	215249	71.1584 ug/L	98
12) Acrolein	3.85	56	172162	34.5734 ug/L	96
13) 11dichlorthe	4.00	96	94005	9.3097 ug/L	94
14) Trichlorotfluoroeth	4.04	101	206620	20.1943 ug/L	97
15) Acetone	4.07	43	706731	77.5931 ug/L	99
16) Iodomethane	4.17	142	144077	17.0690 ug/L	85
17) Carbon Dislf	4.26	76	519335	18.9046 ug/L	100
18) allylchloride	4.48	41	216477	15.3689 ug/L	82
19) methylacetate	4.54	74	53743	11.6077 ug/L	84
20) Methylchlorid	4.63	84	108776	9.3294 ug/L	93
21) tbutylalcohol	4.86	59	1795658	512.0753 ug/L	99
22) Acrylonitrile	4.93	53	336283	43.8925 ug/L	97
23) t12dichlorte	5.02	96	108381	9.6580 ug/L	97
24) MtBE	5.06	73	329218	9.6380 ug/L	98
25) Hexane	5.41	57	213760	16.8414 ug/L	98
26) 11dichlorota	5.53	63	184183	9.0441 ug/L	97
27) Vinylacetate	5.63	43	2018492	88.6108 ug/L	99
28) chloroprene	5.67	53	370862	19.6728 ug/L	97
29) Diisopether	5.70	45	273213	8.5862 ug/L	92
30) ETBE	6.15	59	283786	9.2728 ug/L	95
31) 22dichloropr	6.27	77	177956	9.7664 ug/L	97
32) c12dichlorte	6.26	96	119362	9.7381 ug/L	99
33) 2Butanone	6.29	72	317077	93.0150 ug/L	99
34) propionitrile	6.32	54	322113	89.0631 ug/L	98
35) Ethylacetate	6.40	88	44650	44.6554 ug/L	96
36) methacrylonitrile	6.52	67	146692	19.0839 ug/L	94
37) Bromochlorma	6.55	128	53161	10.1092 ug/L #	82
38) Tetrahydofur	6.65	42	648947	92.4150 ug/L	93

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : l:\data\oct1515\CCVF2.D Vial: 34
Acq On : 16 Oct 2015 00:45 Operator: AGK-RLD
Sample : 119731,CCVF, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 16 01:05:50 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.66	83	207112	10.1428	ug/L	100
40)	111trichlota	6.91	97	211311	10.9097	ug/L	99
42)	Cyclohexane	7.00	56	171703	8.8401	ug/L	91
43)	Carbtetraclo	7.13	119	177905	10.8785	ug/L	99
44)	11dicloprope	7.11	110	52222	9.8090	ug/L	95
46)	Benzene	7.36	78	428927	9.6866	ug/L	99
47)	12dichlorota	7.36	62	176923	10.2789	ug/L	95
48)	TAME	7.55	73	289257	9.3824	ug/L	97
49)	trichloroete	8.17	95	111754	9.7523	ug/L	93
50)	methylcyclohexane	8.45	83	176154	9.5023	ug/L	94
51)	12dicloropra	8.42	63	105570	9.4956	ug/L	96
52)	23Dicl1propene	8.48	75	172325	10.1109	ug/L	96
53)	Dibromometha	8.56	93	68902	10.1618	ug/L	98
54)	methylmethacrylate	8.59	69	100840	8.9193	ug/L	92
55)	14dioxane	8.62	88	92290	473.7662	ug/L	93
56)	Bromodiclrma	8.76	83	151431	10.0062	ug/L	99
57)	2Nitropropane	9.02	43	709914	112.0222	ug/L	98
58)	2CLEVE	9.15	63	95692	37.4186	ug/L	96
59)	c13dicloproe	9.34	75	158625	9.0327	ug/L	91
60)	4Meth2Pentan	9.54	43	1697387	94.3734	ug/L	98
62)	Toluene	9.80	92	289923	9.9088	ug/L	97
63)	t13Dicloprop	10.05	75	155611	9.2399	ug/L	99
64)	ethylmethacrylate	10.20	69	314421	18.8072	ug/L	95
65)	112Triclotha	10.28	83	86716	9.9014	ug/L	96
66)	Tetrachlorte	10.53	166	144722	10.4924	ug/L	95
67)	13Diclorpropa	10.51	76	176145	9.4079	ug/L	95
69)	2Hexanone	10.64	43	1520649	93.7962	ug/L	98
70)	Clorodibrmta	10.81	129	111975	9.4375	ug/L	99
71)	12Dibrometha	10.97	107	106297	9.6605	ug/L	98
72)	Chlorobenzen	11.66	112	304732	10.0405	ug/L	97
73)	1Clhexane	11.63	91	149969	9.3315	ug/L	96
74)	1112Tetclota	11.76	131	116740	10.8456	ug/L	94
75)	Ethylbenzene	11.82	91	525546	10.1000	ug/L	100
76)	m p-Xylene	11.98	106	394633	20.4158	ug/L	98
77)	o-Xylene	12.53	106	188813	10.2357	ug/L	98
78)	Styrene	12.54	104	310256	10.2605	ug/L	97
79)	Bromoform	12.77	173	88073	9.1620	ug/L	96
80)	Isopropylben	13.05	105	485862	10.5100	ug/L	97
81)	cyclohexanone	13.14	55	155640	168.9824	ug/L	98
84)	Bromobenzene	13.47	156	144448	10.0535	ug/L	90
85)	1122Tetrclta	13.42	83	167813	9.1330	ug/L	100
86)	123Triclproa	13.48	75	235028	9.8779	ug/L	95
87)	14dichloro2butene	13.51	53	43234	7.3243	ug/L	92
88)	n-Propylbenz	13.64	91	598119	10.1230	ug/L	99
89)	2chlorotolue	13.75	91	358557	9.7679	ug/L	96
90)	4chlorotolue	13.90	91	439333	10.5086	ug/L	98
91)	135Trimebenz	13.90	105	432634	10.3614	ug/L	100
92)	tbutylbenzen	14.37	119	357581	9.9100	ug/L	98
93)	124Trimetben	14.43	105	411420	10.4696	ug/L	95
94)	sbutylbenzen	14.68	105	505508	10.4610	ug/L	96
95)	13Diclorbenz	14.82	146	247596	10.3465	ug/L	99
96)	pIsopropylto	14.90	119	457271	10.8544	ug/L	97
97)	14dichlorobe	14.95	146	255134	10.1098	ug/L	99
98)	12dichlorobe	15.49	146	239000	10.0611	ug/L	100
99)	nButylbenzen	15.49	91	392583	10.1848	ug/L	98
100)	12dibromo3cl	16.57	157	55996	9.9895	ug/L	95
101)	135Trichlorobenzene	16.91	180	176409	10.1772	ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : l:\data\oct1515\CCVF2.D Vial: 34
Acq On : 16 Oct 2015 00:45 Operator: AGK-RLD
Sample : 119731,CCVF, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 16 01:05:50 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.72	180	149824	9.7303	ug/L	96
103) Hexachlorobu	17.97	225	89447	10.3785	ug/L	97
104) Naphthalene	18.02	128	442301	10.0884	ug/L	97
105) 123Trichlben	18.33	180	149703	9.8228	ug/L	93

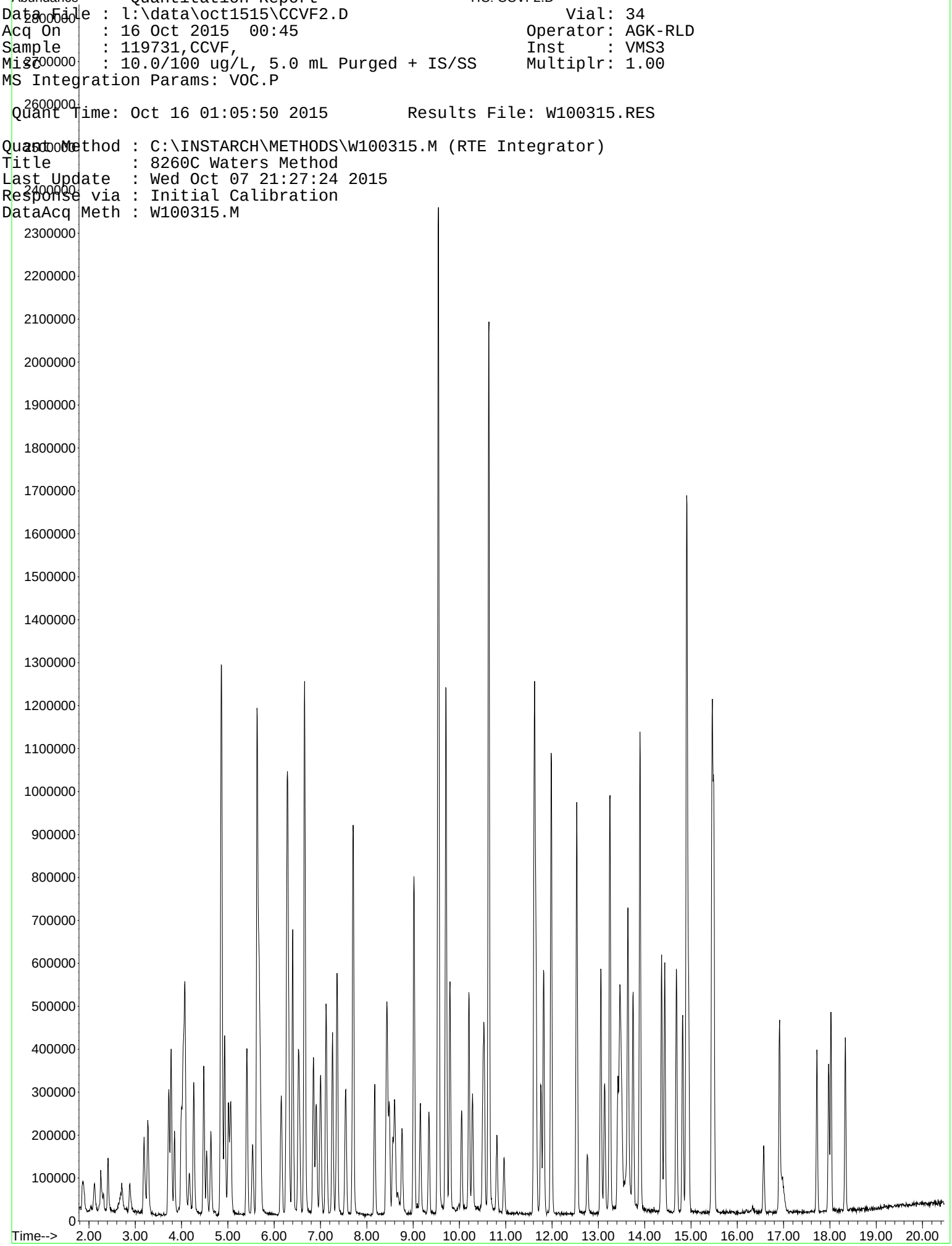
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : l:\data\oct1515\CCVF2.D Vial: 34
Acq On : 16 Oct 2015 00:45 Operator: AGK-RLD
Sample : 119731,CCVF, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 16 01:05:50 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M



QC Check Standard Report

Sequence : C:\InStarch\PVOC4\Sequence\100615.seq
User : BMS
Printed : Oct 07, 2015 09:59:59

File	Sample ID	Acquired
C:\Instarch\PVOC4\Data\100615\001.dat	119552,CCV,	Oct 07, 2015 09:59:59

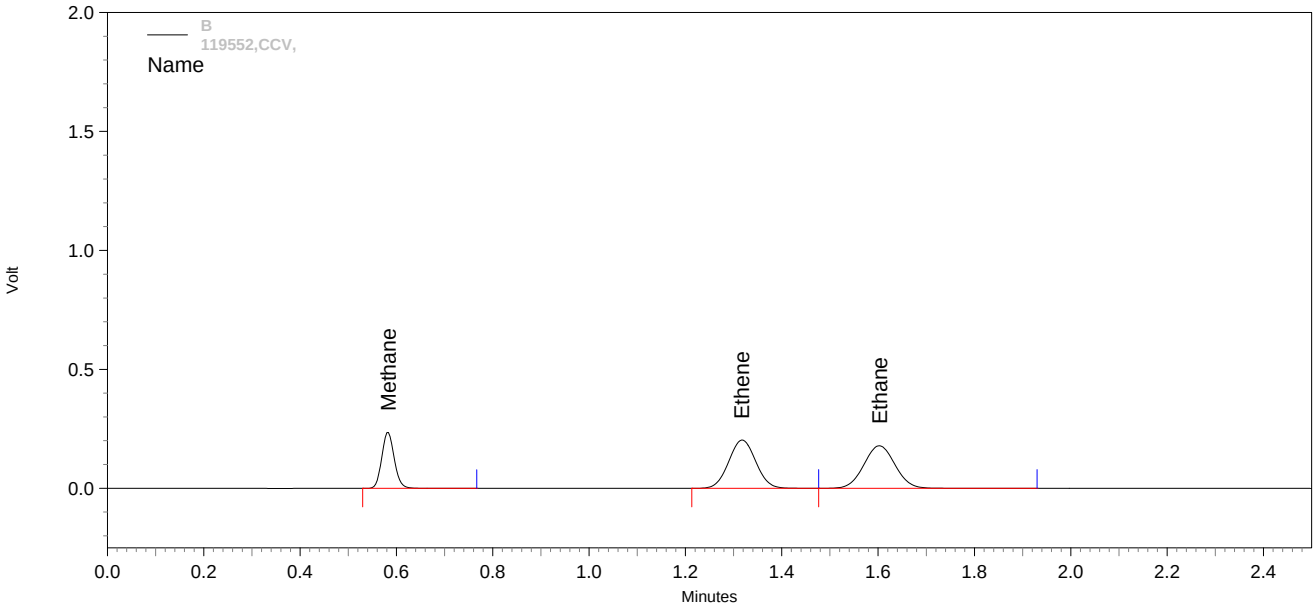
B

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
Methane	50.000	47.478	5.044	15.000	**Passed**
Ethene	50.000	47.969	4.061	15.000	**Passed**
Ethane	50.000	47.561	4.879	15.000	**Passed**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\100615\001.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 119552,CCV,
Acquired: Oct 06, 2015 12:42:03
File Desc. 250 uL of 200 ppmV Methane/Ethene/Ethane Gas Std



B Results

Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.583	424181	**47.478**
2	Ethene	1.317	791044	**47.969**
3	Ethane	1.603	802842	**47.561**

Totals			2018067	**143.008**

QC Check Standard Report

Sequence : C:\InStarch\PVOC4\Sequence\100615.seq
User : BMS
Printed : Oct 07, 2015 10:01:13

File	Sample ID	Acquired
C:\Instarch\PVOC4\Data\100615\016.dat	119552,CCV,	Oct 07, 2015 10:01:12

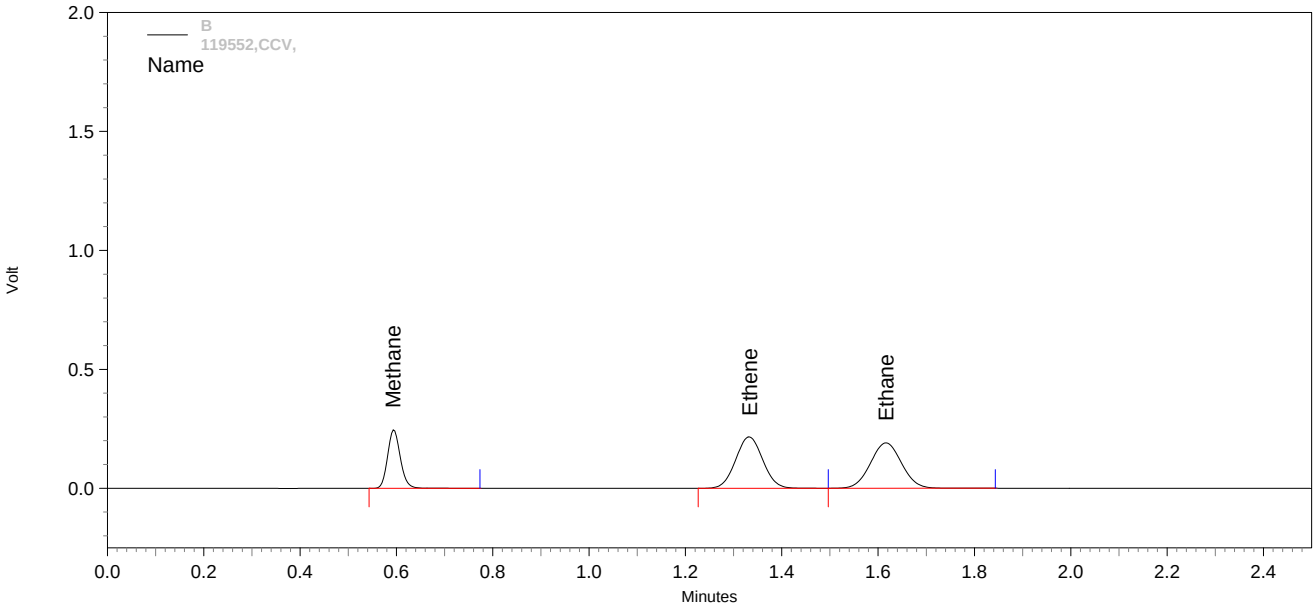
B

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
Methane	50.000	50.428	0.856	15.000	**Passed**
Ethene	50.000	51.107	2.214	15.000	**Passed**
Ethane	50.000	50.598	1.196	15.000	**Passed**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\100615\016.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 119552,CCV,
Acquired: Oct 06, 2015 13:57:07
File Desc. 250 uL of 200 ppmV Methane/Ethene/Ethane Gas Std



B Results

Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.593	450488	**50.428**
2	Ethene	1.333	842995	**51.107**
3	Ethane	1.617	854764	**50.598**

Totals			2148247	**152.133**

QC Check Standard Report

Sequence : C:\InStarch\PVOC4\Sequence\100615.seq
User : BMS
Printed : Oct 07, 2015 10:01:43

File	Sample ID	Acquired
C:\Instarch\PVOC4\Data\100615\022.dat	119552,CCV,	Oct 07, 2015 10:01:43

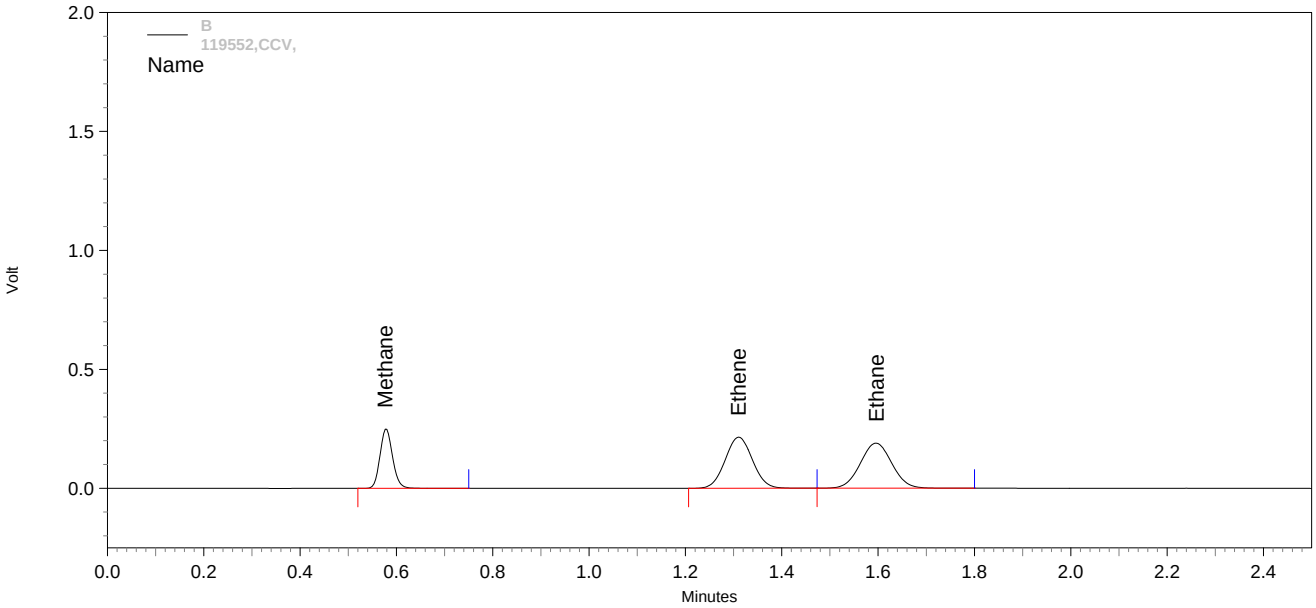
B

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
Methane	50.000	50.654	1.307	15.000	**Passed**
Ethene	50.000	51.251	2.503	15.000	**Passed**
Ethane	50.000	50.770	1.540	15.000	**Passed**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\100615\022.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 119552,CCV,
Acquired: Oct 06, 2015 14:17:42
File Desc. 250 uL of 200 ppmV Methane/Ethene/Ethane Gas Std



B Results

Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.577	452500	**50.654**
2	Ethene	1.310	845388	**51.251**
3	Ethane	1.597	857706	**50.770**

Totals			2155594	**152.675**

VOLATILE ORGANIC ANALYSIS
QUALITY CONTROL
DOCUMENTS

Quantitation Report

Data File : l:\data\oct1315b\CCV-LCS1.D Vial: 2
Acq On : 13 Oct 2015 15:38 Operator: AGK-RLD
Sample : 119465,LCSW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 13 15:59:11 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.70	96	1134136	20.00 ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.62	117	904586	20.00 ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	15.45	152	488895	20.00 ug/L	0.00 NA%
System Monitoring Compounds					
41) SURRDibrflma	6.85	113	276485	20.167 ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101	%	
45) SURR12DCAd4	7.26	102	72398	19.211 ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 96	%	
61) SURRd8Tolule	9.71	98	1167846	20.644 ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 103	%	
83) SURR4BrFBenz	13.25	95	486674	19.968 ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 100	%	
Target Compounds					Qvalue
2) Dichlorodi	1.86	85	157821	10.7486 ug/L	98
3) Chloromethan	2.11	50	148365	10.9599 ug/L	99
4) VinylChlorid	2.26	62	165380	11.0793 ug/L	98
5) Bromomethane	2.72	94	52393	11.2219 ug/L	89
6) Chloroethane	2.89	64	104207	11.4182 ug/L	96
7) Dichloroflmethane	3.20	67	265029	10.3437 ug/L	99
8) Trichlorofma	3.28	101	235301	10.5757 ug/L	97
9) Ethylether	3.73	59	127158	10.3803 ug/L	97
10) dichlorotfluoroethan	3.72	67	148772	10.7234 ug/L	97
11) propyleneoxide	4.07	58	378859	107.9055 ug/L	97
12) Acrolein	3.85	56	280181	47.9962 ug/L	99
13) 11dichlorthe	3.99	96	128312	10.8396 ug/L	98
14) Trichlorotfluoroeth	4.04	101	268781	22.4088 ug/L	98
15) Acetone	4.07	43	1201305	114.9156 ug/L	99
16) Iodomethane	4.17	142	175978	17.6670 ug/L	94
17) Carbon Dislf	4.27	76	704804	21.8852 ug/L	99
18) allylchloride	4.48	41	339737	20.5748 ug/L	97
19) methylacetate	4.54	74	69307	12.7692 ug/L	96
20) Methylchlorid	4.64	84	141136	10.3748 ug/L	98
21) tbutylalcohol	4.86	59	2076595	504.2738 ug/L	98
22) Acrylonitrile	4.94	53	462550	51.5000 ug/L	98
23) t12dichlorte	5.02	96	143898	10.9384 ug/L	98
24) MtBE	5.06	73	426486	10.6505 ug/L	99
25) Hexane	5.41	57	338236	22.7318 ug/L	96
26) 11dichlorota	5.54	63	250500	10.4926 ug/L	99
27) Vinylacetate	5.63	43	2775810	105.2390 ug/L	99
28) chloroprene	5.67	53	482033	21.8119 ug/L	99
29) Diisopether	5.70	45	385181	10.3259 ug/L	98
30) ETBE	6.16	59	373941	10.4228 ug/L	99
31) 22dichloropr	6.28	77	263649	12.3427 ug/L	95
32) c12dichlorte	6.27	96	151225	10.5243 ug/L	98
33) 2Butanone	6.29	72	420121	105.1297 ug/L	98
34) propionitrile	6.31	54	432138	101.9236 ug/L	99
35) Ethylacetate	6.40	88	60907	51.9616 ug/L	97
36) methacrylonitrile	6.52	67	192719	21.3869 ug/L	99
37) Bromochlorma	6.55	128	63250	10.2600 ug/L	97
38) Tetrahydofur	6.66	42	869125	105.5792 ug/L	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : l:\data\oct1315b\CCV-LCS1.D Vial: 2
Acq On : 13 Oct 2015 15:38 Operator: AGK-RLD
Sample : 119465,LCSW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 13 15:59:11 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.66	83	249521	10.4237	ug/L	98
40)	111trichlota	6.91	97	253219	11.1519	ug/L	98
42)	Cyclohexane	7.00	56	237405	10.4263	ug/L	97
43)	Carbtetraclo	7.13	119	215459	11.2385	ug/L	98
44)	11dicloprope	7.11	110	69316	11.1063	ug/L	96
46)	Benzene	7.36	78	568132	10.9447	ug/L	99
47)	12dichlorota	7.36	62	220006	10.9033	ug/L	98
48)	TAME	7.54	73	373822	10.3432	ug/L	99
49)	trichloroete	8.17	95	144648	10.7676	ug/L	94
50)	methylcyclohexane	8.44	83	235948	10.8572	ug/L	98
51)	12dicloropra	8.42	63	136793	10.4957	ug/L	93
52)	23Dicl1propene	8.49	75	214217	10.7216	ug/L	96
53)	Dibromometha	8.57	93	92689	11.6608	ug/L	93
54)	methylmethacrylate	8.60	69	139571	10.5307	ug/L	96
55)	14dioxane	8.62	88	106881	468.0291	ug/L	98
56)	Bromodiclrma	8.76	83	190614	10.7442	ug/L	98
57)	2Nitropropane	9.02	43	847189	114.0359	ug/L	98
58)	2CLEVE	9.15	63	96458	32.8708	ug/L	98
59)	c13dicloproe	9.34	75	223040	10.8341	ug/L	95
60)	4Meth2Pentan	9.55	43	2248404	108.1949	ug/L	98
62)	Toluene	9.80	92	370160	10.7917	ug/L	95
63)	t13Dicloprop	10.05	75	213172	10.7974	ug/L	96
64)	ethylmethacrylate	10.21	69	419336	21.3962	ug/L	99
65)	112Triclotha	10.28	83	108274	10.5459	ug/L	97
66)	Tetrachlorte	10.53	166	179840	11.1222	ug/L	97
67)	13Diclorpropa	10.51	76	231749	10.5585	ug/L	94
69)	2Hexanone	10.64	43	1957583	97.7866	ug/L	100
70)	Clorodibrmta	10.81	129	146682	9.9729	ug/L	97
71)	12Dibrometha	10.96	107	133662	9.7992	ug/L	97
72)	Chlorobenzen	11.66	112	391631	10.4093	ug/L	98
73)	1Clhexane	11.63	91	201942	10.1363	ug/L	97
74)	1112Tetclota	11.76	131	139120	10.4262	ug/L	95
75)	Ethylbenzene	11.82	91	695712	10.7856	ug/L	98
76)	m p-Xylene	11.98	106	516443	21.5526	ug/L	96
77)	o-Xylene	12.53	106	239331	10.4662	ug/L	98
78)	Styrene	12.54	104	388976	10.3771	ug/L	98
79)	Bromoform	12.77	173	114715	9.6266	ug/L	98
80)	Isopropylben	13.06	105	622627	10.8648	ug/L	100
81)	cyclohexanone	13.14	55	189728	166.1714	ug/L	99
84)	Bromobenzene	13.47	156	180067	9.9720	ug/L	95
85)	1122Tetrclta	13.42	83	228416	9.8914	ug/L	98
86)	123Triclproa	13.48	75	322847	10.7966	ug/L	99
87)	14dichloro2butene	13.51	53	72074	9.7155	ug/L	92
88)	n-Propylbenz	13.64	91	793736	10.6891	ug/L	100
89)	2chlorotolue	13.75	91	466978	10.1223	ug/L	97
90)	4chlorotolue	13.90	91	567576	10.8023	ug/L	97
91)	135Trimebenz	13.90	105	548417	10.4509	ug/L	97
92)	tbutylbenzen	14.37	119	463127	10.2128	ug/L	99
93)	124Trimetben	14.43	105	522121	10.5720	ug/L	96
94)	sbutylbenzen	14.69	105	661147	10.8865	ug/L	98
95)	13Diclorbenz	14.82	146	318794	10.5999	ug/L	98
96)	pIsopropylto	14.90	119	586225	11.0723	ug/L	98
97)	14dichlorobe	14.95	146	327473	10.3251	ug/L	99
98)	12dichlorobe	15.49	146	303211	10.1563	ug/L	100
99)	nButylbenzen	15.50	91	528293	10.9053	ug/L	98
100)	12dibromo3cl	16.57	157	67088	9.5230	ug/L	94
101)	135Trichlorobenzene	16.91	180	217635	9.9903	ug/L	95

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : l:\data\oct1315b\CCV-LCS1.D Vial: 2
Acq On : 13 Oct 2015 15:38 Operator: AGK-RLD
Sample : 119465,LCSW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 13 15:59:11 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.72	180	193720	10.0107	ug/L	99
103) Hexachlorobu	17.98	225	114029	10.5276	ug/L	96
104) Naphthalene	18.02	128	540907	9.8168	ug/L	99
105) 123Trichlben	18.34	180	193531	10.1041	ug/L	99

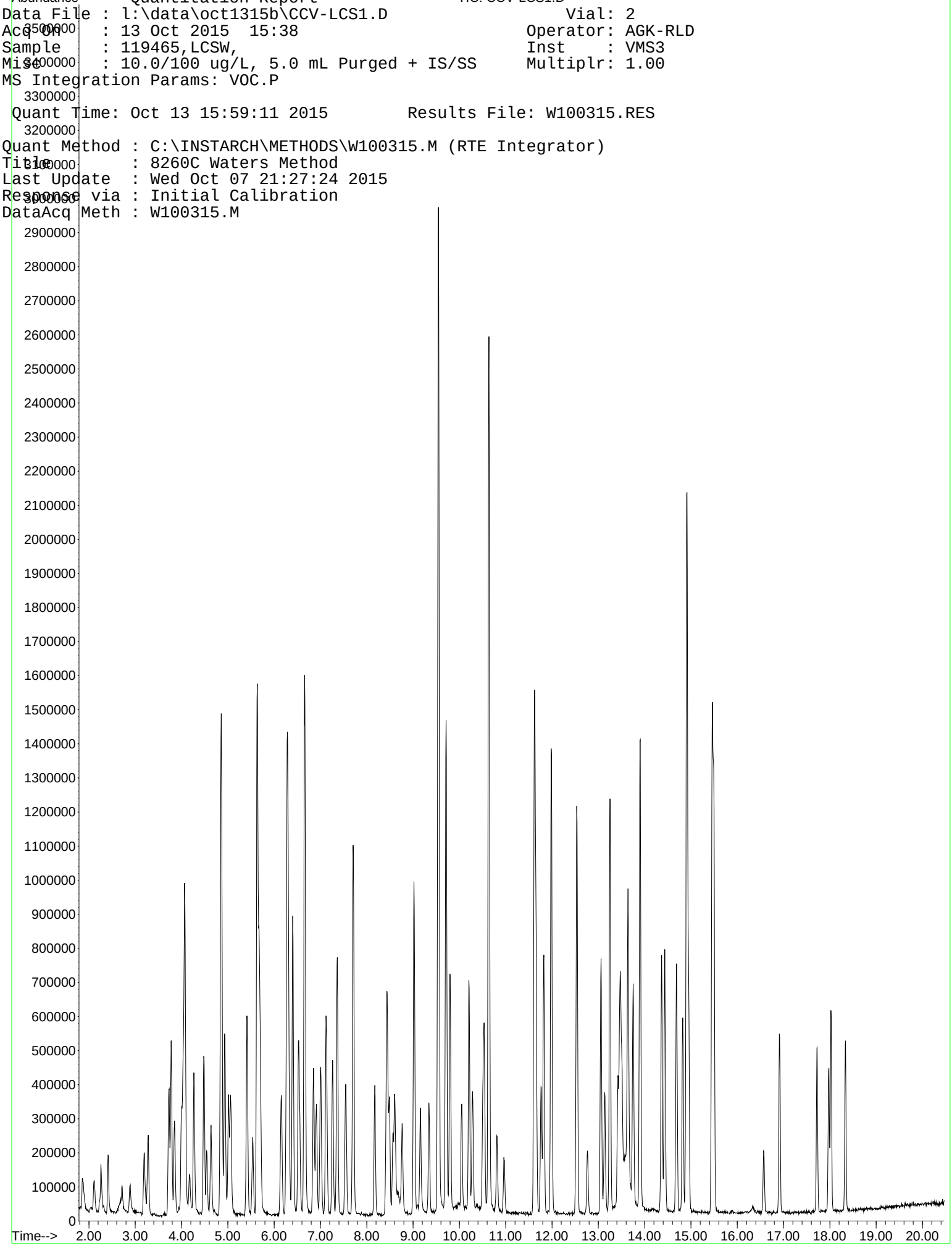
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: CCV-LCS1.D

Data File : l:\data\oct1315b\CCV-LCS1.D Vial: 2
Acq On : 13 Oct 2015 15:38 Operator: AGK-RLD
Sample : 119465,LCSW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 13 15:59:11 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M



Quantitation Report

Data File : l:\data\oct1315b\MB1.D Vial: 4
Acq On : 13 Oct 2015 16:37 Operator: AGK-RLD
Sample : 119465,MBW, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 13 16:58:29 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.70	96	1021437	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.62	117	815282	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	15.45	152	430504	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.85	113	247981	20.083	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100	%		
45) SURR12DCAd4	7.27	102	68005	20.037	ug/L	0.01
Spiked Amount 20.000	Range 89 - 112		Recovery = 100	%		
61) SURRd8Tolule	9.71	98	998345	19.595	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 98	%		
83) SURR4BrFBenz	13.25	95	403697	18.811	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 94	%		

Target Compounds					Qvalue
2) Dichlorodi	0.00	85	0	N.D.	
3) Chloromethan	0.00	50	0	N.D.	
4) VinylChlorid	0.00	62	0	N.D.	
5) Bromomethane	0.00	94	0	N.D.	
6) Chloroethane	0.00	64	0	N.D.	
7) Dichloroflmethane	0.00	67	0	N.D.	
8) Trichlorofma	0.00	101	0	N.D.	
9) Ethylether	0.00	59	0	N.D.	
10) dichlorotfluoroethan	0.00	67	0	N.D.	
11) propyleneoxide	4.08	58	9340	N.D.	
12) Acrolein	0.00	56	0	N.D.	
13) 11dichlorthe	0.00	96	0	N.D.	
14) Trichlorotfluoroeth	0.00	101	0	N.D.	
15) Acetone	4.08	43	30956	N.D.	
16) Iodomethane	0.00	142	0	N.D.	
17) Carbon Dislf	4.27	76	3202	N.D.	
18) allylchloride	0.00	41	0	N.D.	
19) methylacetate	0.00	74	0	N.D.	
20) Methylchlorid	0.00	84	0	N.D.	
21) tbutylalcohol	4.87	59	7168	Below Cal # 52	
22) Acrylonitrile	0.00	53	0	N.D.	
23) t12dichlorte	0.00	96	0	N.D.	
24) MtBE	0.00	73	0	N.D.	
25) Hexane	0.00	57	0	N.D.	
26) 11dichlorota	0.00	63	0	N.D.	
27) Vinylacetate	0.00	43	0	N.D.	
28) chloroprene	0.00	53	0	N.D.	
29) Diisopether	0.00	45	0	N.D.	
30) ETBE	0.00	59	0	N.D.	
31) 22dichloropr	0.00	77	0	N.D.	
32) c12dichlorte	0.00	96	0	N.D.	
33) 2Butanone	0.00	72	0	N.D.	
34) propionitrile	0.00	54	0	N.D.	
35) Ethylacetate	0.00	88	0	N.D.	
36) methacrylonitrile	0.00	67	0	N.D.	
37) Bromochlorma	0.00	128	0	N.D.	
38) Tetrahydofur	0.00	42	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : l:\data\oct1315b\MB1.D Vial: 4
Acq On : 13 Oct 2015 16:37 Operator: AGK-RLD
Sample : 119465,MBW, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 13 16:58:29 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	0.00	119	0	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	0.00	78	0	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	0.00	95	0	N.D.	
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	0.00	92	0	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	0.00	91	0	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	0.00	106	0	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	0.00	55	0	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	0.00	105	0	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	0.00	91	0	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : l:\data\oct1315b\MB1.D Vial: 4
Acq On : 13 Oct 2015 16:37 Operator: AGK-RLD
Sample : 119465,MBW, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 13 16:58:29 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	18.02	128	4211	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

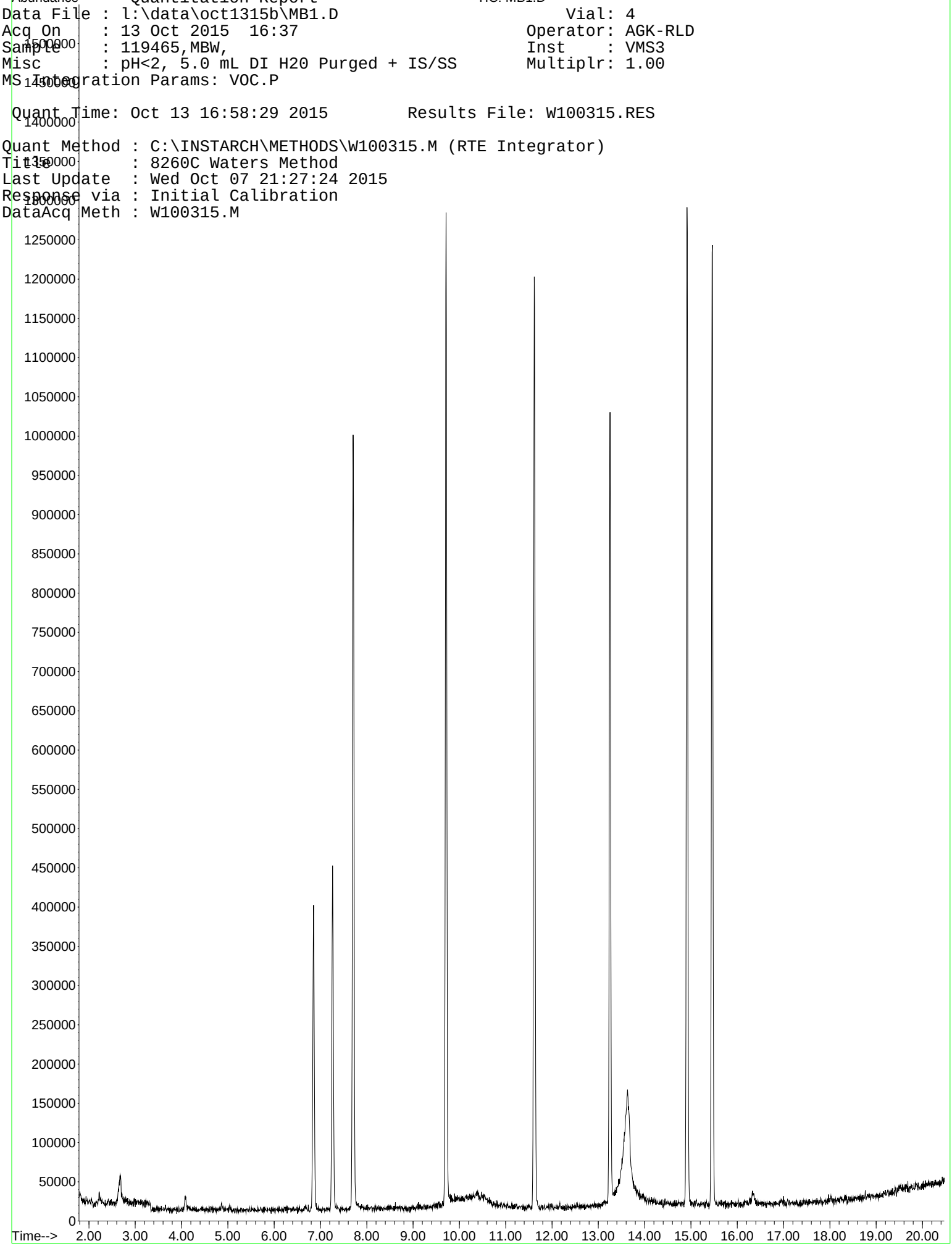
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: MB1.D

Data File : l:\data\oct1315b\MB1.D Vial: 4
Acq On : 13 Oct 2015 16:37 Operator: AGK-RLD
Sample : 119465,MBW, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 13 16:58:29 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M



Quantitation Report

Data File : l:\data\oct1315b\640259MS.D Vial: 23
Acq On : 14 Oct 2015 2:05 Operator: AGK-RLD
Sample : 119465,MSW640259, Inst : VMS3
Misc : pH<2, 10.0/100 ug/L, 5.0 mL Purged + IS/ Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 14 02:25:57 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.70	96	1061125	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.62	117	788562	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	15.46	152	428134	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.85	113	256764	20.017	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100	%		
45) SURR12DCAd4	7.27	102	73547	20.859	ug/L	0.01
Spiked Amount 20.000	Range 89 - 112		Recovery = 104	%		
61) SURRd8Tolule	9.71	98	1069659	20.209	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101	%		
83) SURR4BrFBenz	13.25	95	409275	19.176	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 96	%		
Target Compounds						Qvalue
2) Dichlorodi	1.88	85	185394	13.4953	ug/L	100
3) Chloromethan	2.12	50	141655	11.1842	ug/L	99
4) VinylChlorid	2.26	62	161287	11.5486	ug/L	97
5) Bromomethane	2.72	94	47137	10.7908	ug/L	100
6) Chloroethane	2.89	64	95270	11.1572	ug/L	98
7) Dichloroflmethane	3.20	67	253942	10.5929	ug/L	97
8) Trichlorofma	3.28	101	249128	11.9675	ug/L	95
9) Ethylether	3.73	59	92974	8.1120	ug/L	89
10) dichlorotfluoroethan	3.73	67	120487	9.2822	ug/L	95
11) propyleneoxide	4.08	58	237972	71.7362	ug/L	95
12) Acrolein	3.85	56	172100	31.5099	ug/L	100
13) 11dichlorthe	4.00	96	111006	10.0228	ug/L	97
14) Trichlorotfluoroeth	4.04	101	239381	21.3308	ug/L	98
15) Acetone	4.08	43	746198	74.5595	ug/L	98
16) Iodomethane	4.18	142	137871	15.2484	ug/L	90
17) Carbon Dislf	4.27	76	646484	21.4555	ug/L	99
18) allylchloride	4.49	41	262027	16.9605	ug/L	91
19) methylacetate	4.55	74	48478	9.5462	ug/L	96
20) Methylchlorid	4.64	84	116545	9.1030	ug/L	95
21) tbutylalcohol	4.86	59	1988418	517.6232	ug/L	99
22) Acrylonitrile	4.94	53	378243	45.0109	ug/L	98
23) t12dichlorte	5.02	96	125231	10.1744	ug/L	94
24) MtBE	5.06	73	368997	9.8489	ug/L	97
25) Hexane	5.42	57	254605	18.2885	ug/L	97
26) 11dichlorota	5.54	63	210046	9.4035	ug/L	99
27) Vinylacetate	5.64	43	2247596	90.0462	ug/L	100
28) chloroprene	5.67	53	420252	20.3247	ug/L	99
29) Diisopether	5.70	45	320302	9.1775	ug/L	97
30) ETBE	6.16	59	314334	9.3642	ug/L	98
31) 22dichloropr	6.27	77	190237	9.5187	ug/L	97
32) c12dichlorte	6.27	96	128350	9.5470	ug/L	95
33) 2Butanone	6.29	72	342444	91.5881	ug/L	99
34) propionitrile	6.32	54	365086	92.0335	ug/L	99
35) Ethylacetate	6.40	88	47506	43.3174	ug/L	96
36) methacrylonitrile	6.53	67	162322	19.2530	ug/L	92
37) Bromochlorma	6.55	128	55016	9.5384	ug/L	92
38) Tetrahydofur	6.66	42	733729	95.2643	ug/L	95

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : l:\data\oct1315b\640259MS.D Vial: 23
Acq On : 14 Oct 2015 2:05 Operator: AGK-RLD
Sample : 119465,MSW640259, Inst : VMS3
Misc : pH<2, 10.0/100 ug/L, 5.0 mL Purged + IS/ Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 14 02:25:57 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.66	83	317146	14.1603	ug/L		99
40)	111trichlota	6.91	97	222865	10.4904	ug/L		97
42)	Cyclohexane	7.00	56	211157	9.9116	ug/L		95
43)	Carbtetraclo	7.13	119	1032628	57.5686	ug/L		99
44)	11dicloprope	7.12	110	57845	9.9060	ug/L		94
46)	Benzene	7.37	78	474582	9.7715	ug/L		98
47)	12dichlorota	7.36	62	190544	10.0930	ug/L		98
48)	TAME	7.55	73	313448	9.2695	ug/L		97
49)	trichloroete	8.17	95	169728	13.5039	ug/L		98
50)	methylcyclohexane	8.45	83	196301	9.6543	ug/L		96
51)	12dicloropra	8.43	63	118013	9.6777	ug/L	#	95
52)	23Dicl1propene	8.48	75	180486	9.6549	ug/L		97
53)	Dibromometha	8.57	93	77242	10.3861	ug/L		97
54)	methylmethacrylate	8.60	69	114219	9.2108	ug/L		97
55)	14dioxane	8.62	88	97792	457.6930	ug/L		94
56)	Bromodiclrma	8.77	83	154296	9.2955	ug/L		94
57)	2Nitropropane	9.02	43	752192	108.2153	ug/L		99
58)	2CLEVE	0.00	63	0	N.D.			
59)	c13dicloproe	9.35	75	171235	8.8900	ug/L		97
60)	4Meth2Pentan	9.55	43	1901811	96.6363	ug/L		98
62)	Toluene	9.80	92	314771	9.8083	ug/L		94
63)	t13Dicloprop	10.05	75	168057	9.0980	ug/L		99
64)	ethylmethacrylate	10.21	69	335440	18.2931	ug/L		99
65)	112Triclotha	10.28	83	92005	9.5779	ug/L		96
66)	Tetrachlorte	10.53	166	155997	10.3114	ug/L		96
67)	13Diclorpropa	10.51	76	189226	9.2144	ug/L		96
69)	2Hexanone	10.64	43	1686588	96.5267	ug/L		99
70)	Clorodibrmta	10.81	129	123342	9.6198	ug/L		98
71)	12Dibrometha	10.97	107	109177	9.1818	ug/L		98
72)	Chlorobenzen	11.66	112	330716	10.0835	ug/L		98
73)	1Clhexane	11.64	91	169970	9.7868	ug/L		98
74)	1112Tetclota	11.76	131	122491	10.5307	ug/L		97
75)	Ethylbenzene	11.82	91	576565	10.2536	ug/L		100
76)	m p-Xylene	11.99	106	427996	20.4895	ug/L		99
77)	o-Xylene	12.53	106	194695	9.7670	ug/L		100
78)	Styrene	12.54	104	328765	10.0613	ug/L		97
79)	Bromoform	12.77	173	93337	8.9851	ug/L		98
80)	Isopropylben	13.06	105	525474	10.5186	ug/L		99
81)	cyclohexanone	13.14	55	173010	173.8242	ug/L		95
84)	Bromobenzene	13.46	156	147611	9.3348	ug/L		96
85)	1122Tetrclta	13.42	83	185709	9.1833	ug/L		97
86)	123Triclproa	13.48	75	257863	9.8472	ug/L		97
87)	14dichloro2butene	13.51	53	58946	9.0735	ug/L		90
88)	n-Propylbenz	13.64	91	678535	10.4346	ug/L		100
89)	2chlorotolue	13.75	91	395500	9.7896	ug/L		97
90)	4chlorotolue	13.90	91	477299	10.3734	ug/L		95
91)	135Trimebenz	13.90	105	459440	9.9978	ug/L		97
92)	tbutylbenzen	14.37	119	388820	9.7910	ug/L		99
93)	124Trimetben	14.43	105	444898	10.2869	ug/L		96
94)	sbutylbenzen	14.69	105	551024	10.3609	ug/L		97
95)	13Diclorbenz	14.83	146	267917	10.1725	ug/L		99
96)	pIsopropylto	14.90	119	485676	10.4751	ug/L		98
97)	14dichlorobe	14.95	146	274939	9.8990	ug/L		99
98)	12dichlorobe	15.49	146	255543	9.7744	ug/L		99
99)	nButylbenzen	15.50	91	419957	9.8993	ug/L		99
100)	12dibromo3cl	16.57	157	64150	10.3983	ug/L		87
101)	135Trichlorobenzene	16.91	180	189753	9.9466	ug/L		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : l:\data\oct1315b\640259MS.D Vial: 23
Acq On : 14 Oct 2015 2:05 Operator: AGK-RLD
Sample : 119465,MSW640259, Inst : VMS3
Misc : pH<2, 10.0/100 ug/L, 5.0 mL Purged + IS/ Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 14 02:25:57 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

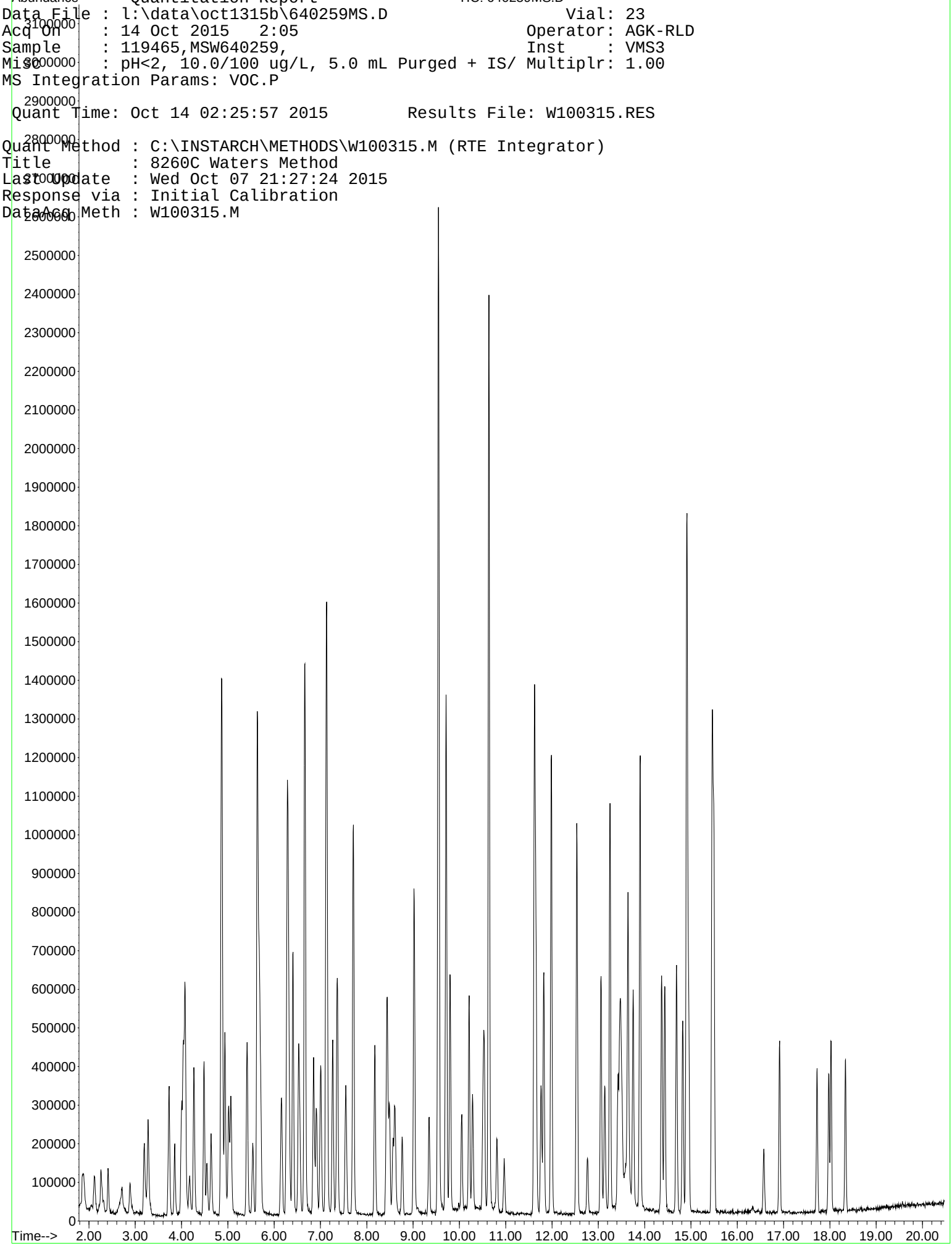
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	17.72	180	147405	8.6983 ug/L	98
103) Hexachlorobu	17.98	225	90177	9.5070 ug/L	98
104) Naphthalene	18.02	128	425539	8.8191 ug/L	97
105) 123Trichlben	18.34	180	152273	9.0783 ug/L	97

(#) = qualifier out of range (m) = manual integration

Data File : l:\data\oct1315b\640259MS.D Vial: 23
Acq On : 14 Oct 2015 2:05 Operator: AGK-RLD
Sample : 119465,MSW640259, Inst : VMS3
Misc : pH<2, 10.0/100 ug/L, 5.0 mL Purged + IS/ Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 14 02:25:57 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M



Quantitation Report

Data File : l:\data\oct1315b\640259SD.D Vial: 24
Acq On : 14 Oct 2015 2:35 Operator: AGK-RLD
Sample : 119465,MSDW640259, Inst : VMS3
Misc : pH<2, 10.0/100 ug/L, 5.0 mL Purged + IS/ Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 14 02:56:13 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.71	96	1094952	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.62	117	809201	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	15.45	152	427004	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.85	113	269873	20.389	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 102	%		
45) SURR12DCAd4	7.27	102	71443	19.636	ug/L	0.01
Spiked Amount 20.000	Range 89 - 112		Recovery = 98	%		
61) SURRd8Tolule	9.71	98	1097645	20.097	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100	%		
83) SURR4BrFBenz	13.25	95	421728	19.812	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 99	%		
Target Compounds						Qvalue
2) Dichlorodi	1.87	85	208789	14.7287	ug/L	100
3) Chloromethan	2.12	50	150717	11.5321	ug/L	99
4) VinylChlorid	2.27	62	170377	11.8226	ug/L	97
5) Bromomethane	2.72	94	48733	10.8116	ug/L	94
6) Chloroethane	2.89	64	95668	10.8577	ug/L	97
7) Dichloroflmethane	3.20	67	265896	10.7489	ug/L	98
8) Trichlorofma	3.28	101	257417	11.9837	ug/L	95
9) Ethylether	3.73	59	91850	7.7663	ug/L	81
10) dichlorotfluoroethan	3.73	67	123426	9.2148	ug/L	96
11) propyleneoxide	4.08	58	228673	66.7159	ug/L	95
12) Acrolein	3.85	56	178674	31.7029	ug/L	99
13) 11dichlorthe	3.99	96	112631	9.8554	ug/L	96
14) Trichlorotfluoroeth	4.04	101	249016	21.5039	ug/L	96
15) Acetone	4.08	43	766772	74.2339	ug/L	98
16) Iodomethane	4.17	142	180011	18.5522	ug/L	97
17) Carbon Dislf	4.27	76	665521	21.4049	ug/L	100
18) allylchloride	4.49	41	274673	17.2298	ug/L	90
19) methylacetate	4.54	74	52506	10.0199	ug/L	98
20) Methylchlorid	4.64	84	116641	8.8158	ug/L	96
21) tbutylalcohol	4.86	59	2100389	531.4900	ug/L	98
22) Acrylonitrile	4.94	53	382350	44.0940	ug/L	96
23) t12dichlorte	5.02	96	128086	10.0848	ug/L	97
24) MtBE	5.06	73	383556	9.9212	ug/L	99
25) Hexane	5.42	57	271060	18.8690	ug/L	98
26) 11dichlorota	5.54	63	214811	9.3197	ug/L	98
27) Vinylacetate	5.64	43	2324801	90.2762	ug/L	98
28) chloroprene	5.67	53	430971	20.1992	ug/L	100
29) Diisopether	5.70	45	330850	9.1868	ug/L	96
30) ETBE	6.15	59	326342	9.4216	ug/L	97
31) 22dichloropr	6.28	77	190464	9.2356	ug/L	99
32) c12dichlorte	6.27	96	135518	9.7687	ug/L	97
33) 2Butanone	6.29	72	359649	93.2181	ug/L	98
34) propionitrile	6.32	54	366057	89.4275	ug/L	98
35) Ethylacetate	6.40	88	46180	40.8074	ug/L	93
36) methacrylonitrile	6.53	67	166696	19.1610	ug/L	95
37) Bromochlorma	6.55	128	57238	9.6170	ug/L #	88
38) Tetrahydofur	6.66	42	758315	95.4148	ug/L	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : l:\data\oct1315b\640259SD.D Vial: 24
Acq On : 14 Oct 2015 2:35 Operator: AGK-RLD
Sample : 119465,MSDW640259, Inst : VMS3
Misc : pH<2, 10.0/100 ug/L, 5.0 mL Purged + IS/ Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 14 02:56:13 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.66	83	320462	13.8663	ug/L		99
40)	111trichlota	6.91	97	232033	10.5846	ug/L		99
42)	Cyclohexane	7.00	56	222735	10.1321	ug/L		97
43)	Carbtetraclo	7.13	119	1059895	57.2633	ug/L		98
44)	11dicloprope	7.12	110	58344	9.6828	ug/L	#	91
46)	Benzene	7.36	78	497490	9.9268	ug/L		98
47)	12dichlorota	7.36	62	194149	9.9662	ug/L		98
48)	TAME	7.55	73	335239	9.6076	ug/L		99
49)	trichloroete	8.17	95	179143	13.8126	ug/L		98
50)	methylcyclohexane	8.44	83	214962	10.2455	ug/L		96
51)	12dicloropra	8.43	63	112891	8.9717	ug/L		100
52)	23Dicl1propene	8.48	75	196831	10.2039	ug/L		93
53)	Dibromometha	8.56	93	76400	9.9555	ug/L		99
54)	methylmethacrylate	8.60	69	119163	9.3127	ug/L		92
55)	14dioxane	8.63	88	107048	485.5355	ug/L		95
56)	Bromodiclrma	8.76	83	166734	9.7345	ug/L		97
57)	2Nitropropane	9.02	43	779820	108.7241	ug/L		100
58)	2CLEVE	0.00	63	0	N.D.			
59)	c13dicloproe	9.34	75	175537	8.8318	ug/L		94
60)	4Meth2Pentan	9.55	43	1995188	98.4360	ug/L		99
62)	Toluene	9.80	92	331074	9.9976	ug/L		96
63)	t13Dicloprop	10.05	75	172935	9.0728	ug/L		99
64)	ethylmethacrylate	10.21	69	365144	19.2979	ug/L		97
65)	112Triclotha	10.28	83	92246	9.3063	ug/L		89
66)	Tetrachlorte	10.54	166	163404	10.4673	ug/L		98
67)	13Diclorpropa	10.51	76	195359	9.2191	ug/L		94
69)	2Hexanone	10.64	43	1779367	99.5304	ug/L		99
70)	Clorodibrmta	10.81	129	121280	9.2178	ug/L		98
71)	12Dibrometha	10.97	107	111051	9.1012	ug/L		97
72)	Chlorobenzen	11.66	112	344498	10.2358	ug/L		94
73)	1Clhexane	11.64	91	181386	10.1777	ug/L		96
74)	1112Tetclota	11.76	131	124132	10.3996	ug/L		97
75)	Ethylbenzene	11.82	91	596745	10.3419	ug/L		98
76)	m p-Xylene	11.99	106	447747	20.8884	ug/L		97
77)	o-Xylene	12.53	106	207866	10.1617	ug/L		98
78)	Styrene	12.54	104	337103	10.0533	ug/L		98
79)	Bromoform	12.77	173	101574	9.5286	ug/L		96
80)	Isopropylben	13.06	105	545946	10.6497	ug/L		99
81)	cyclohexanone	13.14	55	182334	178.5196	ug/L		96
84)	Bromobenzene	13.47	156	160578	10.1817	ug/L		96
85)	1122Tetrclta	13.42	83	198301	9.8319	ug/L		99
86)	123Triclproa	13.49	75	273504	10.4722	ug/L		98
87)	14dichloro2butene	13.51	53	55741	8.6029	ug/L		92
88)	n-Propylbenz	13.64	91	696142	10.7337	ug/L		100
89)	2chlorotolue	13.75	91	399558	9.9162	ug/L		93
90)	4chlorotolue	13.90	91	477723	10.4101	ug/L		100
91)	135Trimebenz	13.90	105	492015	10.7350	ug/L		100
92)	tbutylbenzen	14.37	119	414375	10.4621	ug/L		97
93)	124Trimetben	14.43	105	467394	10.8356	ug/L		97
94)	sbutylbenzen	14.69	105	580959	10.9526	ug/L		99
95)	13Diclorbenz	14.82	146	268158	10.2086	ug/L		98
96)	pIsopropylto	14.90	119	500953	10.8331	ug/L		99
97)	14dichlorobe	14.95	146	278592	10.0571	ug/L		98
98)	12dichlorobe	15.49	146	268407	10.2936	ug/L		97
99)	nButylbenzen	15.50	91	448636	10.6033	ug/L		99
100)	12dibromo3cl	16.57	157	62508	10.1589	ug/L		95
101)	135Trichlorobenzene	16.91	180	198667	10.4414	ug/L		96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : l:\data\oct1315b\640259SD.D Vial: 24
Acq On : 14 Oct 2015 2:35 Operator: AGK-RLD
Sample : 119465,MSDW640259, Inst : VMS3
Misc : pH<2, 10.0/100 ug/L, 5.0 mL Purged + IS/ Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 14 02:56:13 2015 Results File: W100315.RES

Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.72	180	167091	9.8861	ug/L	97
103) Hexachlorobu	17.98	225	92116	9.7372	ug/L	96
104) Naphthalene	18.03	128	478814	9.9494	ug/L	99
105) 123Trichlben	18.34	180	171850	10.2726	ug/L	96

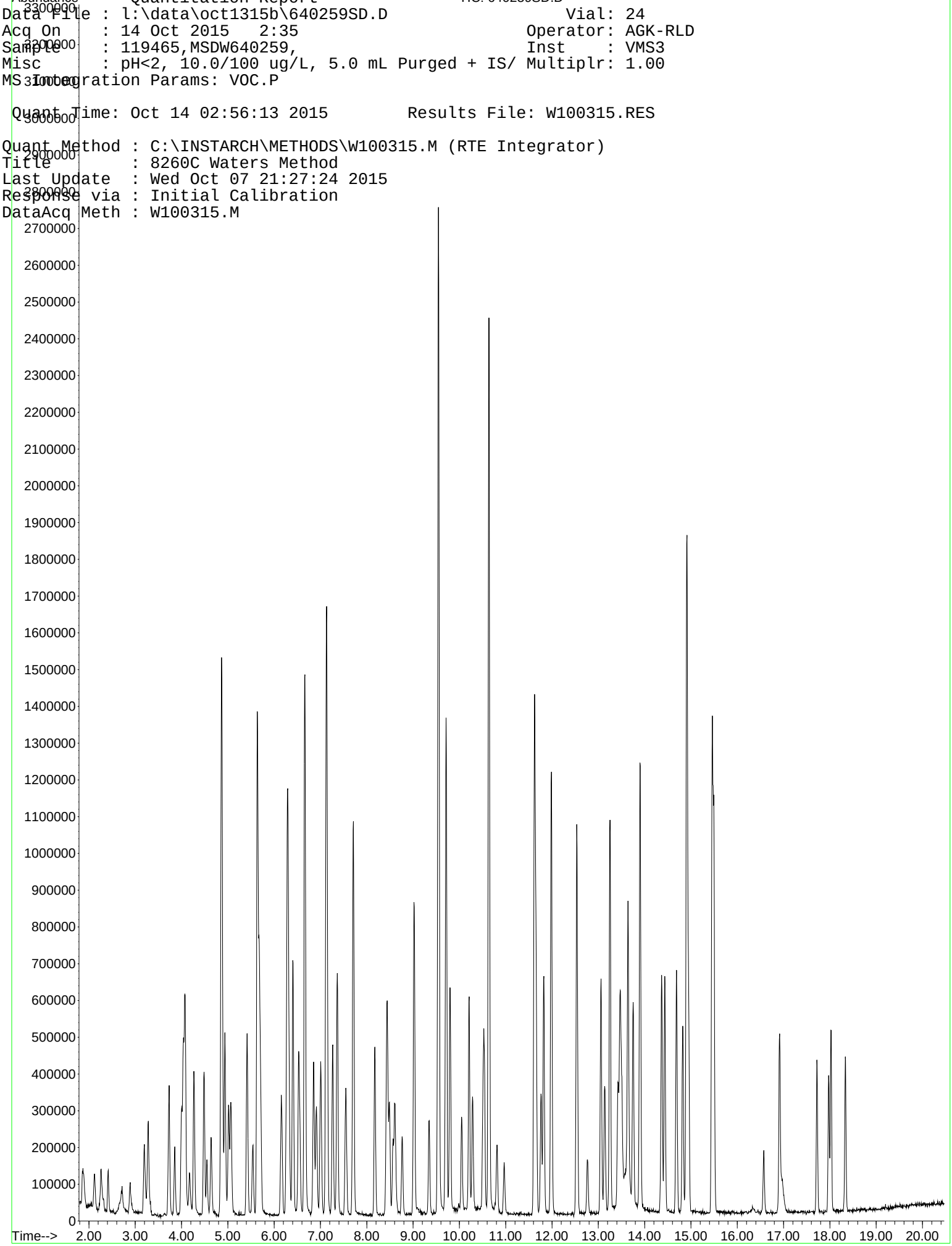
(#) = qualifier out of range (m) = manual integration

Quantitation Report (TIC: 640259SD.D)

Data File : l:\data\oct1315b\640259SD.D Vial: 24
Acq On : 14 Oct 2015 2:35 Operator: AGK-RLD
Sample : 119465,MSDW640259, Inst : VMS3
Misc : pH<2, 10.0/100 ug/L, 5.0 mL Purged + IS/ Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 14 02:56:13 2015 Results File: W100315.RES

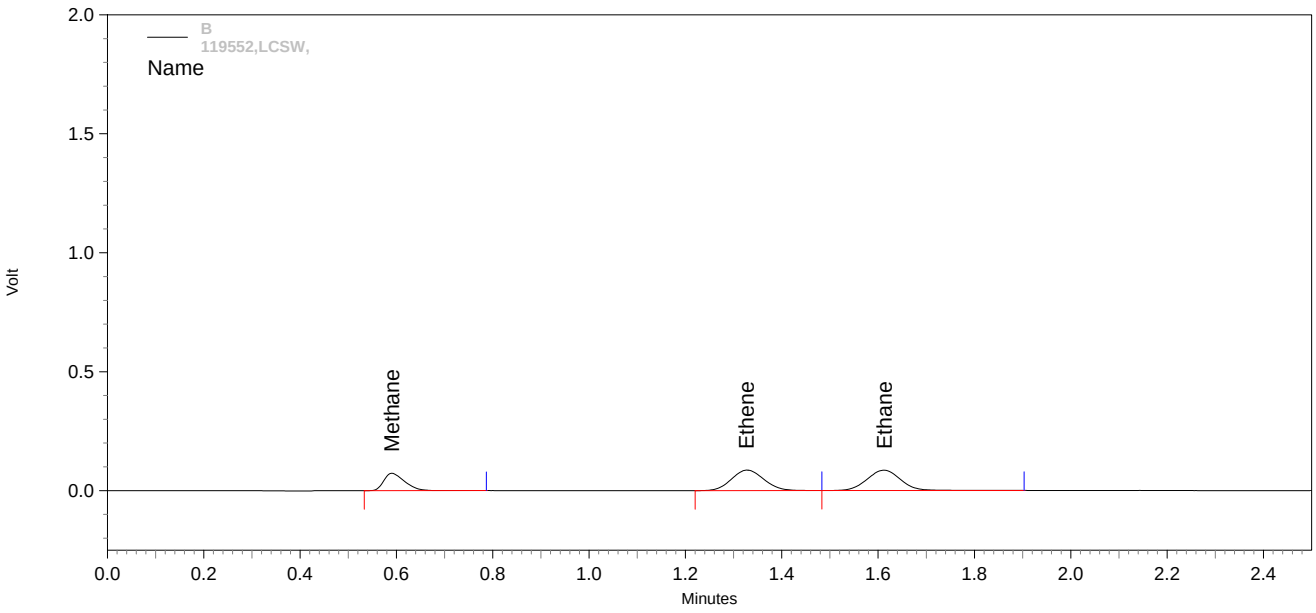
Quant Method : C:\INSTARCH\METHODS\W100315.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 07 21:27:24 2015
Response via : Initial Calibration
DataAcq Meth : W100315.M



Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\100615\002.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 119552,LCSW,
Acquired: Oct 06, 2015 12:47:53
File Desc. Laboratory Control Sample - 25 ppmV
1.0 mL injection (Methane, Ethene, Ethane)



B Results

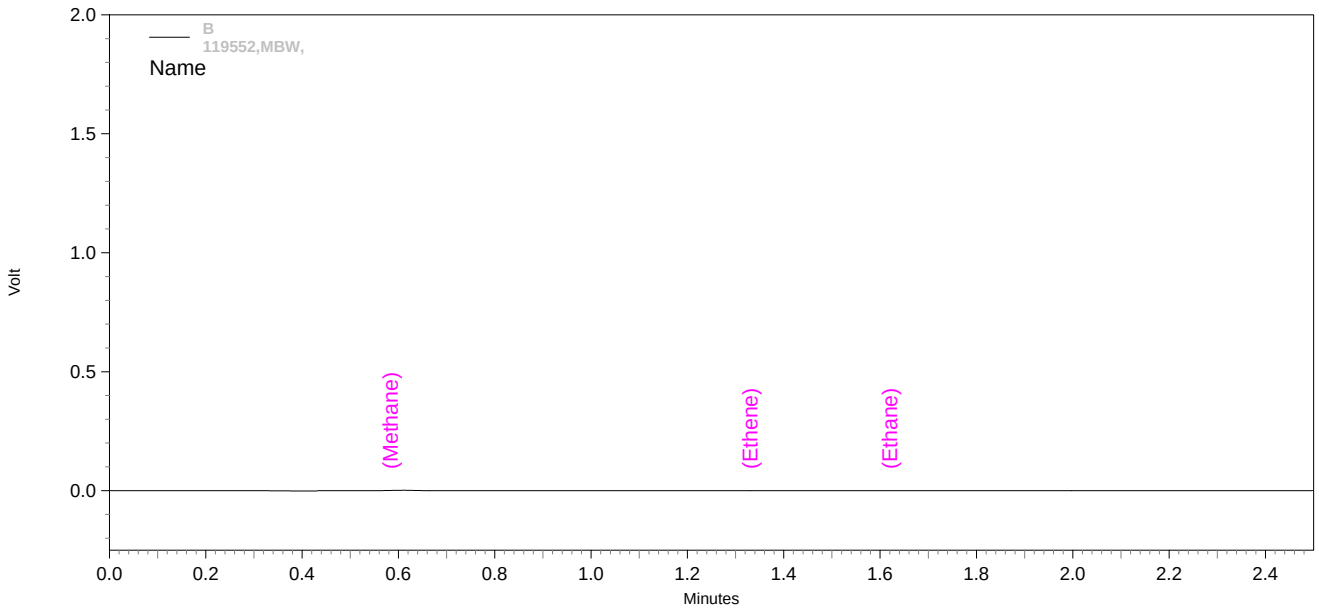
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.590	218648	**24.431**
2	Ethene	1.327	400512	**24.384**
3	Ethane	1.613	411784	**24.685**

Totals			1030944	**73.501**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\100615\003.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 119552,MBW,
Acquired: Oct 06, 2015 12:59:03
File Desc. Method Blank
1mL injection (Methane, Ethene, Ethane)



B Results

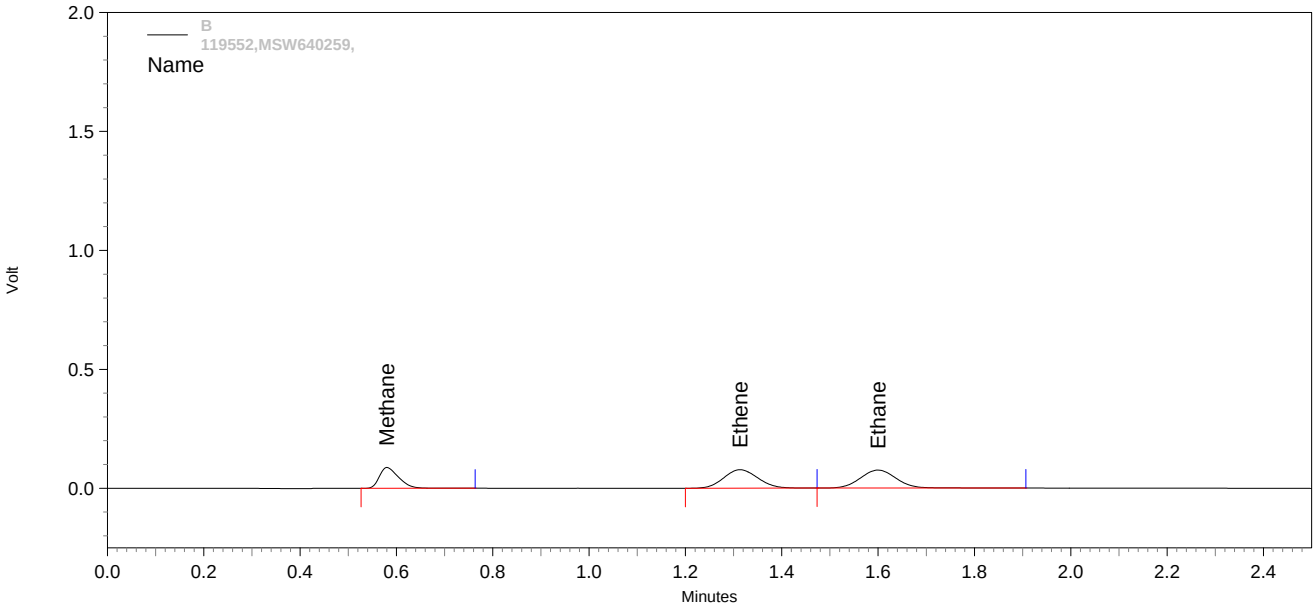
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
	Methane			**0.000 BDL**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals				

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\100615\009.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 119552,MSW640259,
Acquired: Oct 06, 2015 13:18:59
File Desc. MATRIX SPIKE - 1.0 mL injection (Methane, Ethene, Ethane)



B Results

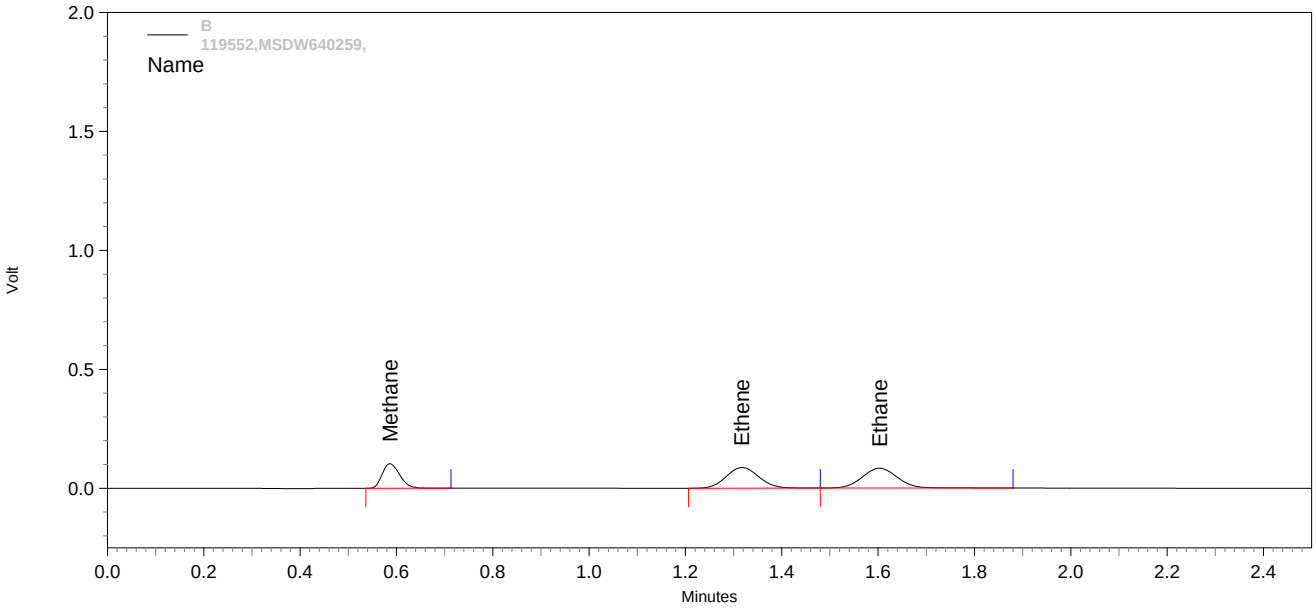
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.580	241539	**26.998**
2	Ethene	1.313	379742	**23.130**
3	Ethane	1.600	389417	**23.377**

Totals			1010698	**73.505**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\100615\010.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 119552,MSDW640259,
Acquired: Oct 06, 2015 13:22:39
File Desc. MATRIX SPIKE DUPLICATE - 1.0 mL injection (Methane, Ethene, Ethane)



B Results

Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.587	260483	**29.122**
2	Ethene	1.317	407179	**24.787**
3	Ethane	1.603	419016	**25.108**

Totals			1086678	**79.018**

VOLATILE ORGANIC ANALYSIS
LOGBOOK
DOCUMENTS

VOC 8260 QSM WATER 5.0 Analytical Run
119465 on 10/16/2015

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	646260							VOC 8260 QSM WATER 5.0				
					BFB				0			
	645166							VOC 8260 QSM WATER 5.0				
					LCSW				0			
	645167							VOC 8260 QSM WATER 5.0				
					CCV				0			
	645200							VOC 8260 QSM WATER 5.0				
					MBW				0			
114442	640297		10/01/2015			BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		M	**4**	
		100115T1										
114475	640617		10/02/2015			BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		M	**4**	
		TRIP BLANK										
114442	640252		10/01/2015	0855		BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	**4**	
		48MW07										
114442	640255		10/01/2015	1025		BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	**4**	
		48MW06										
114442	640257		10/01/2015	1025		BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	**4**	
		49TM01										
114442	640259		10/01/2015	1105		BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	**4**	
		48MW2			Designated MS/MSD							
114442	640261		10/01/2015	1440		BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	**4**	
		48MW1										
114442	640263		10/01/2015	1620		BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	**4**	
		49MW01										
114433	640123		09/30/2015	1625		BERING SEA ENVIRONMENTAL	RAAP	VOC 8260 QSM 5.0		GW	**4**	
		49MW04										
114475	640602		10/02/2015	0835		BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	**4**	
		13MW3										
114475	640604		10/02/2015	0940		BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	**4**	
		13MW4										
114475	640606		10/02/2015	1050		BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	**4**	
		13MW2										
114475	640608		10/02/2015	1206		BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	**4**	
		100215R1										
114475	640610		10/02/2015	1240		BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	**4**	
		48MW3										
114475	640613		10/02/2015	1410		BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	**4**	
		49MW02										

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

VOC 8260 QSM WATER 5.0 Analytical Run
119465 on 10/16/2015

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	645368		10/01/2015	1105					VOC 8260 QSM 5.0				
		48MW2			MSW	640259				0			
	645378		10/01/2015	1105					VOC 8260 QSM 5.0				
		48MW2			MSDW	645368				0			
	646258								VOC 8260 QSM WATER 5.0				
					BFB					0			
	646259								VOC 8260 QSM WATER 5.0				
					CCVF					0			
	646265								VOC 8260 QSM WATER 5.0				
					BFB					0			
	646267								VOC 8260 QSM WATER 5.0				
					CCV					0			
	646273								VOC 8260 QSM WATER 5.0				
					CCB					0			
114475	640615		10/02/2015	1705			BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	**4**	
		50MW02											
	646276								VOC 8260 QSM WATER 5.0				
					CCVF					0			

28 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

pl_ilog
Injection Log Summary Report

Method : L:\METHODS\W100315.M
Title : 8260C Waters Method
Start (Tune) File ID : L:\DATA\OCT1315B\BFB1.D
Injection Date : 13 Oct 2015 Log Time Period (hrs) : ALL
Injection Time : 15:19 Total files within period : 25
Sample Directory : L:\DATA\OCT1315B\

Injection Log Summary Table

File ID	Multiplier I	S	T	Sample Name Misc Info	Date	Time
CCV-LCS1	1.00	1.00	1.00	119465,LCSW, 10.0/100 ug/L, 5.0 m	13 Oct 2015	15:38
MB1	1.00	1.00	1.00	119465,MBW, pH<2, 5.0 mL DI H20	13 Oct 2015	16:37
640297	1.00	1.00	1.00	119465,640297, pH<2, 5.0 mL Purged	13 Oct 2015	18:06
640617	1.00	1.00	1.00	119465,640617, pH<2, 5.0 mL Purged	13 Oct 2015	18:36
640252	1.00	1.00	1.00	119465,640252, pH<2, 5.0 mL Purged	13 Oct 2015	19:06
640255	1.00	1.00	1.00	119465,640255, pH<2, 5.0 mL Purged	13 Oct 2015	19:36
640257	1.00	1.00	1.00	119465,640257, pH<2, 5.0 mL Purged	13 Oct 2015	20:06
640259	1.00	1.00	1.00	119465,640259, pH<2, 5.0 mL Purged	13 Oct 2015	20:36
640261	1.00	1.00	1.00	119465,640261, pH<2, 5.0 mL Purged	13 Oct 2015	21:06
640263	1.00	1.00	1.00	119465,640263, pH<2, 5.0 mL Purged	13 Oct 2015	21:36
640123	1.00	1.00	1.00	119465,640123, pH<2, 5.0 mL Purged	13 Oct 2015	22:06
640602	1.00	1.00	1.00	119465,640602, pH<2, 5.0 mL Purged	13 Oct 2015	22:35
640604	1.00	1.00	1.00	119465,640604, pH<2, 5.0 mL Purged	13 Oct 2015	23:05
640606	1.00	1.00	1.00	119465,640606, pH<2, 5.0 mL Purged	13 Oct 2015	23:35
640608	1.00	1.00	1.00	119465,640608, pH<2, 5.0 mL Purged	14 Oct 2015	00:05
640610	1.00	1.00	1.00	119465,640610, pH<2, 5.0 mL Purged	14 Oct 2015	00:34
640613	1.00	1.00	1.00	119465,640613, pH<2, 5.0 mL Purged	14 Oct 2015	01:05
640615	1.00	1.00	1.00	119465,640615, pH<2, 5.0 mL Purged	14 Oct 2015	01:35
640259MS	1.00	1.00	1.00	119465,MSW640259, pH<2, 10.0/100 ug/L,	14 Oct 2015	02:05
640259SD	1.00	1.00	1.00	119465,MSDW640259, pH<2, 10.0/100 ug/L,	14 Oct 2015	02:35
BFB2	1.00	1.00	1.00	119465,BFB, 25 ng Inj.	14 Oct 2015	09:02
CCVF1	1.00	1.00	1.00	119465,CCVF, 10.0/100 ug/L, 5.0 m	14 Oct 2015	09:51

8260 ISTD/SSTD 20ug/ml VOC0086
8260 BFB STD. 50ug/ml VOC0085
8260 ICV STD. 100ug/ml VOC0089
8260 CCV/CALIB. 100ug/ml VOC0090

pl_ilog
Injection Log Summary Report

Method : L:\METHODS\W100315.M
Title : 8260C Waters Method
Start (Tune) File ID : L:\DATA\OCT1515\BFB2.D
Injection Date : 15 Oct 2015 Log Time Period (hrs) : ALL
Injection Time : 15:06 Total files within period : 21
Sample Directory : L:\DATA\OCT1515\

Injection Log Summary Table

File ID	Multiplier I	S	T	Sample Name Misc Info	Date	Time
CCV-LCS2	1.00	1.00	1.00	119731,LCSW, 10.0/100 ug/L, 5.0 m	15 Oct 2015	15:20
MB2	1.00	1.00	1.00	119731,MBW, pH<2, 5.0 mL DI H20	15 Oct 2015	16:20
640615R	1.00	1.00	1.00	119465,640615, pH<2, 5.0 mL DI H20	15 Oct 2015	17:49
640615R2	1.00	1.00	1.00	119465,640615,10 pH<2, 5.0 mL DI H20	15 Oct 2015	18:19
CCVF2	1.00	1.00	1.00	119731,CCVF, 10.0/100 ug/L, 5.0 m	16 Oct 2015	00:45

8260 ISTD/SSTD 20ug/ml VOC0086
8260 BFB STD. 50ug/ml VOC0085
8260 ICV STD. 100ug/ml VOC0089
8260 CCV/CALIB. 100ug/ml VOC0090

FVO4-01 Data Review Checklist

INDEPENDENT DATA REVIEW CHECKLIST		Method: GCMS (EPA SW-846 8260C)					
Analysis Date	LIMs Run #(s):	Analyst/Data Interpreter	Independent Reviewer	Date of Review	Approved? Yes	Approved? No	Instrument
10/13/2015(B)	119465	AGK/BMS	RLD	10/16/15	Yes		VMS3
Instructions: Complete one checklist per analytical sequence. Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section and may require the initiation of a Nonconformance Report.							

Requirement:	Acceptance criteria	Analyst Review Yes	Analyst Review No	Independent Review Yes	Independent Review No	Comments:
I. BFB Tune Check						
Was a BFB tune check analyzed with acceptable results?	Relative abundance criteria met?	Yes		Yes		If no, Do not proceed with analyses.
II. Initial Calibration Verification (ICV)						
Was initial calibration performed using a minimum of five standard concentration levels (minimum of 6 levels for quadratic curves)?	Lowest standard at or below RL?	Yes		Yes		If no, recalibrate with required # of levels
Were the Average Relative Response Factors (ARRF) acceptable?	ARRF≥ specified limits (see SOP)	Yes		Yes		If no, analyses stopped, recalibrate.
Was a second-source ICV analyzed?	Required before sample analyses.	Yes		Yes		If no, analyze prior to sample analyses.
Were all target compound %Deviation or %Drift acceptable?	%D < 20% or project/program specific	Yes		Yes		If no, reanalyzed ICV to address failures
Was Initial Calibration Blank (ICB) analyzed?	Required before sample analyses.	Yes		Yes		If no, analyzed ICB before sample analyses.
Were the ICB results for all target analytes less than the limit of detection (LOD).	<LOD or < project/program specific limits		No		No	If no, analyze another blank to address detects.
III. Continuing Calibration Verification (CCV)						
Was an acceptable BFB tune check run at the beginning of every twelve hour shift?	Relative abundance criteria met?	Yes		Yes		If no, reanalyze BFB until acceptable; re-tuning the instrument may be necessary.
Was a CCV analyzed after every 12 hour tune check?	Required before sample analyses.	Yes		Yes		If no, analyzed CCV after acceptable tune check.
Were all target compound %Deviation or %Drift acceptable?	%D < 20% or project/program specific		No		No	If no, reanalysis or recalibration may be required.
If necessary, were the results for outlying compounds qualified?		Yes		Yes		If yes, results qualified "Z"

IV. Blanks						
Was a Method Blank (MB) analyzed prior to analysis of samples?	1 per 20 samples or project/program specific.	Yes		Yes		If no, analyze a MB with each sample batch.
Were the MB results for all target analytes less than the limit of detection (LOD)?	*All target analytes <LOD or < project/program specific limits (<1/2 RL for DoD-QSM)	Yes		Yes		If no, reanalyze MB an all affected data if possible or see SOP for more detailed criteria
If analytes were detected in the MB with no associated positives in the samples, no further action is needed. If the analyte detects in the MB were greater than the acceptance criteria and there were detects in the samples, was the data qualified.?						If yes, affected results qualified "B"
V. Laboratory Control Spike (LCS)						
Was a LCS analyzed at the required frequency?	1 per 20 samples or project/program specific.	Yes		Yes		If no, analyze a LCS with each sample batch.
Were the LCS recoveries for all analytes within acceptance criteria?	Default 70-130%, or see internally generated limits, or project/program specified limits.	Yes		Yes		If no, Reanalyze LCS and all affected data if possible or data requires qualification.
If applicable, were associated sample detects (and non-detects for low recoveries) qualified?						If yes, affected results qualified "Q"
VI. Matrix Spike/Matrix Spike Duplicate (MS/MSD)						
Was a Martrix Spike (MS) and a Matrix Spike Duplicate (MSD) analyzed at the required frequency?	1 per 20 samples or project/program specific.	Yes		Yes		If no, analyze a MS/MSD pair with each sample batch.
Were the MS/MSD recoveries for all analytes within acceptance criteria?	Default 70-130%, or see internally generated limits, or project/program specified limits.	Yes		Yes		If no, qualify detects (with an "M" flag) in the parent sample, also qualify non-detects if MS/MSD recoveries were low.
Is the relative percent difference (RPD) for each analyte between the MS and MSD acceptable?	generated limits, or client specific limits.	Yes		Yes		If no, affected results qualified "Y"
VII. Sample Analyses						
Are chromatogram characteristics, including peak shapes and areas, consistent with those of the CCV?		Yes		Yes		If no, instrument maintenance may be required to correct problems.
Were surrogate recoveries for all samples and QC within acceptance criteria?	Default 70-130%, or see internally generated program limits, or client specified limits.	Yes		Yes		If no, samples with high surrogate recoveries and no associated analyte detects were not reanalyzed. Low surrogate recoveries require reanalysis.
If possible, were the affected samples reanalyzed?						If no, see below **
**Were reported sample results with failing surrogate recoveries qualified?						If yes, affected results qualified "S"
Were all samples having analytes detected in amounts exceeding the calibration range diluted and reanalyzed? If not qualify (X).	Target upper middle range of calibration curve.	Yes		Yes		
Did all samples meet hold time and preservation criteria as defined by method/program?	H2O sample: pH < 2 = 14 days, pH >2 = 7 days. Soil samples: 14 days (other criteria may apply)	Yes		Yes		If no, see below: If analyzed past hold, qualify "H" If improperly preserved qualify "T"
Were all samples and QC injected within 12 hours of BFB tune check?		Yes		Yes		If no, affected samples reanalyzed
Were internal standard recoveries acceptable relevant to associated ICAL?	Response = -50 to +200%; Ret. time = +/- 30 sec.		No		No	If no, affected samples reanalyzed

VIII. Records and Reporting						
Is sequence file / injection log present in the data package?		Yes		Yes		If no, include sequence run with raw data.
Were all data, calculations, and values verified in LIMS upon completion of data capture?		Yes		Yes		If no, recapture the data and verify data prior to validation.
Were manual integrations addressed properly and were the audit trails turned on (where applicable)?	Manual integration must be initialed, dated, and reason given, along with before & after chromatograms. Audit trail must be on (if available).	Yes		Yes		IF No, address manual integration and/or turn on audit trail feature and document reason why it may have been turned off.
Are reported results whose amounts exceeded the acceptance criteria flagged with an appropriate qualifier and, if needed, were any non-matrix related nonconformities documented in the NCR spreadsheet?		Yes		Yes		If No, include proper qualification(s) in LIMS and enter nonconformities into the NCR spreadsheet before data review/validation.

Non-applicable Yes/No cells are left blank

Comments:

pl_ilog
Injection Log Summary Report

Method : L:\METHODS\W100315.M
Title : 8260C Waters Method
Start (Tune) File ID : L:\DATA\OCT0315\BFB1.D
Injection Date : 3 Oct 2015 Log Time Period (hrs) : ALL
Injection Time : 22:02 Total files within period : 15
Sample Directory : L:\DATA\OCT0315\

Injection Log Summary Table

File ID	Multiplier I	S	T	Sample Name Misc Info	Date	Time
WCAL1	1.00	1.00	1.00	INITIAL CALIB. PT1 0.50/5.00 ug/L, 5.0	3 Oct 2015	23:16
WCAL2	1.00	1.00	1.00	INITIAL CALIB. PT2 2.00/20.0 ug/L, 5.0	3 Oct 2015	23:46
WCAL3	1.00	1.00	1.00	INITIAL CALIB. PT3 5.00/50.0 ug/L, 5.0	4 Oct 2015	00:16
WCAL4	1.00	1.00	1.00	INITIAL CALIB. PT4 10.0/100 ug/L, 5.0 m	4 Oct 2015	00:46
WCAL5	1.00	1.00	1.00	INITIAL CALIB. PT5 20.0/200 ug/L, 5.0 m	4 Oct 2015	01:17
WCAL6	1.00	1.00	1.00	INITIAL CALIB. PT6 30.0/300 ug/L, 5.0 m	4 Oct 2015	01:47
WCAL7	1.00	1.00	1.00	INITIAL CALIB. PT7 40.0/400 ug/L, 5.0 m	4 Oct 2015	02:16
WCAL8	1.00	1.00	1.00	INITIAL CALIB. PT8 80.0/800 ug/L, 5.0 m	4 Oct 2015	02:46
ICV1	1.00	1.00	1.00	INITIAL CALIB. VERIF 10.0/100 ug/L, 5.0 m	4 Oct 2015	03:46
ICV2	1.00	1.00	1.00	INITIAL CALIB. VERIF 30.0/300 ug/L, 5.0 m	4 Oct 2015	04:16
ICB1	1.00	1.00	1.00	INITIAL CALIB. BLANK pH<2, 5.0 mL DI H20	4 Oct 2015	05:16

8260 ISTD/SSTD 20ug/ml VOC0086
8260 BFB STD. 50ug/ml VOC0085
8260 ICV STD. 100ug/ml VOC0089
8260 CCV/CALIB. 100ug/ml VOC0090

V METH, ETH, ETHENE QSM 5.0 Analytical Run
119552 on 10/07/2015

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	642722								V METH, ETH, ETHENE QSM 5.				
					CCV					0			
	641601								METH,ETH,ETHE QSM 5.0				
					LCSW					54511			
	641600								METH,ETH,ETHE QSM 5.0				
					MBW					54511			
114433	640123		09/30/2015	1625			BERING SEA ENVIRONMENTAL	RAAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		49MW04								54511			
114442	640252		10/01/2015	0855			BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		48MW07								54511			
114442	640255		10/01/2015	1025			BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		48MW06								54511			
114442	640257		10/01/2015	1025			BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		49TM01								54511			
114442	640259		10/01/2015	1105			BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		48MW2			Designated MS/MSD					54511			
	641602		10/01/2015	1105					METH,ETH,ETHE QSM 5.0				
		48MW2			MSW	640259				54511			
	641603		10/01/2015	1105					METH,ETH,ETHE QSM 5.0				
		48MW2			MSDW	641602				54511			
114442	640261		10/01/2015	1440			BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		48MW1								54511			
114442	640263		10/01/2015	1620			BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		49MW01								54511			
114475	640602		10/02/2015	0835			BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		13MW3								54511			
114475	640604		10/02/2015	0940			BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		13MW4								54511			
114475	640606		10/02/2015	1050			BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		13MW2								54511			
	642723								V METH, ETH, ETHENE QSM 5.				
					CCV					0			
114475	640608		10/02/2015	1206			BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		100215R1								54511			
114475	640610		10/02/2015	1240			BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		48MW3								54511			
114475	640613		10/02/2015	1410			BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		49MW02								54511			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

V METH, ETH, ETHENE QSM 5.0 Analytical Run
119552 on 10/07/2015

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
114475	640615	50MW02	10/02/2015 1705		BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0	54511	GW	**4**	
114475	640617	TRIP BLANK	10/02/2015		BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0	54511	M	**4**	
	642724			CCV			V METH, ETH, ETHENE QSM 5.	0			

22 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

PREP WORKSHEET
on 10/07/2015

Prep Batch **54,511** Date Prepped: 10/06/2015 Prepped By BMS

Folder #	Order	QC Type	Link	Test	Matrix	Volume	Weight	Initial Volume	SDG Level	Notes
	641600	MBW		METH,ETH,ETHE QSM	LIQUID	20.8				
	641601	LCSW		METH,ETH,ETHE QSM	LIQUID	20.8				
114433	640123			METH,ETH,ETHE QSM	GROUND WATER	20.8			4	
114442	640252			METH,ETH,ETHE QSM	GROUND WATER	20.8			4	
	640255			METH,ETH,ETHE QSM	GROUND WATER	20.8			4	
	640257			METH,ETH,ETHE QSM	GROUND WATER	20.8			4	
	640259	*		METH,ETH,ETHE QSM	GROUND WATER	20.8			4	
	640261			METH,ETH,ETHE QSM	GROUND WATER	20.8			4	
	640263			METH,ETH,ETHE QSM	GROUND WATER	20.8			4	
114475	640602			METH,ETH,ETHE QSM	GROUND WATER	20.8			4	
	640604			METH,ETH,ETHE QSM	GROUND WATER	20.8			4	
	640606			METH,ETH,ETHE QSM	GROUND WATER	20.8			4	
	640608			METH,ETH,ETHE QSM	GROUND WATER	20.8			4	
	640610			METH,ETH,ETHE QSM	GROUND WATER	20.8			4	
	640613			METH,ETH,ETHE QSM	GROUND WATER	20.8			4	
	640615			METH,ETH,ETHE QSM	GROUND WATER	20.8			4	
	640617			METH,ETH,ETHE QSM	TRIP BLANK	20.8			4	

PREP WORKSHEET
on 10/07/2015

Folder #	Order	QC Type	Link	Test	Matrix	Volume	Weight	Initial Volume	SDG Level	Notes
	641602	MSW	640259	METH,ETH,ETHE QSM	GROUND WATER	20.8				
	641603	MSDW	641602	METH,ETH,ETHE QSM	GROUND WATER	20.8				

Notes:_____

Sequence Summary Report

Sequence Filename: C:\InStarch\PVOC4\Sequence\100615.seq
Instrument: PVOC4
Processing Date: Oct 06, 2015 14:17:42

'Run Number	Sample ID	Data Filename	Method Filename	Run Time
1	119552,CCV,	C:\Instarch\PVOC4\Data\100615\001.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 06, 2015 12:42:03
2	119552,LCSW,	C:\Instarch\PVOC4\Data\100615\002.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 06, 2015 12:47:53
3	119552,MBW,	C:\Instarch\PVOC4\Data\100615\003.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 06, 2015 12:59:03
4	119552,640123,	C:\Instarch\PVOC4\Data\100615\004.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 06, 2015 13:02:17
5	119552,640252,	C:\Instarch\PVOC4\Data\100615\005.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 06, 2015 13:05:30
6	119552,640255,	C:\Instarch\PVOC4\Data\100615\006.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 06, 2015 13:08:56
7	119552,640257,	C:\Instarch\PVOC4\Data\100615\007.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 06, 2015 13:12:12
8	119552,640259,	C:\Instarch\PVOC4\Data\100615\008.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 06, 2015 13:15:27
9	119552,MSW640259,	C:\Instarch\PVOC4\Data\100615\009.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 06, 2015 13:18:59
10	119552,MSDW6402...	C:\Instarch\PVOC4\Data\100615\010.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 06, 2015 13:22:39
11	119552,640261,	C:\Instarch\PVOC4\Data\100615\011.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 06, 2015 13:29:13
12	119552,640263,	C:\Instarch\PVOC4\Data\100615\012.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 06, 2015 13:36:04
13	119552,640602,	C:\Instarch\PVOC4\Data\100615\013.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 06, 2015 13:40:54
14	119552,640604,	C:\Instarch\PVOC4\Data\100615\014.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 06, 2015 13:44:53
15	119552,640606,	C:\Instarch\PVOC4\Data\100615\015.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 06, 2015 13:52:25
16	119552,CCV,	C:\Instarch\PVOC4\Data\100615\016.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 06, 2015 13:57:07
17	119552,640608,	C:\Instarch\PVOC4\Data\100615\017.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 06, 2015 14:00:41
18	119552,640610,	C:\Instarch\PVOC4\Data\100615\018.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 06, 2015 14:03:55
19	119552,640613,	C:\Instarch\PVOC4\Data\100615\019.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 06, 2015 14:07:58
20	119552,640615,	C:\Instarch\PVOC4\Data\100615\020.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 06, 2015 14:11:15
21	119552,640617,	C:\Instarch\PVOC4\Data\100615\021.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 06, 2015 14:14:31
22	119552,CCV,	C:\Instarch\PVOC4\Data\100615\022.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Oct 06, 2015 14:17:42

Dissolved Gases (Injection)
(Sequence Log)

LIMS Run #(s): 119552 Instrument: Proc 4

Sequence Date: 10/06/15 Analyst: BmS

Calibration Date: 02/03/15 Ambient Temp. (°C): 20.8

Injection #	Sample #	Injection Vol. (ml)	Sample Vol. (ml)
1	CCV	0.25	43
2	LCSW	1.0	43
3	MBW	1.0	43
4	640223	1.0	43
5	640252	1.0	43
6	640255	1.0	43
7	640257	1.0	43
8	640259	1.0	43
9	MSW640259	1.0	43
10	MSDW640259	1.0	43
11	640261	1.0	43
12	640263	1.0	43
13	640602	1.0	43
14	640604	1.0	43
15	640606	1.0	43
16	10/06/15 BmS ~~640~~ CCV	0.25	43
17	640608	1.0	43
18	640610	1.0	43
19	640613	1.0	43
20	640615	1.0	43
21	640617	1.0	43
22	CCV	0.25	43
23		10/06/15 BmS	43
24			43
25			43

Calibration Standard Ref. #: V681

Second Source Ref. #: V730

Page 1

FVO1-01 Data Review Checklist

	FVO1-01 Method: Dissolved Gases (EPA SW-846 8015 / RSK 175 Modified)					
LIMS Run #(s)	Analysis Date (s)	Analyst / Data Interpreter	Independent Reviewer	Date of Review	Approved? (Yes or No)	Instrument
119552	10/06/15	BMS	RLD	10/08/15	Yes	PVOC4

Instructions: Complete one checklist per *analytical sequence* . Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement:	Acceptance Criteria	Analyst Review		Independent Review		Comments: (indicate reference to an attachment if necessary)
1. INITIAL CALIBRATION (ICAL)		Yes	No	Yes	No	
a. Was the initial calibration performed using a minimum of five concentration levels?	Lowest standard at or below RL	Yes		Yes		If NO, recalibrate
b. For each analyte/component is the variation between calibration response factors for all concentration levels <20% RSD or is $r^2 \geq .99$ or $r \geq .995$ for the regression line?	RSD <20% or $r^2 \geq .99$ or $r \geq .995$ or program/project specific	Yes		Yes		If NO, recalibrate
c. Are the identification and date of the ICAL listed on the printout (or PDF) of the analytical run and in the method file?	ID# and date of ICAL listed	Yes		Yes		
d. Was an Initial Calibration Verification (ICV) analyzed after the ICAL?	Analyzed prior to sample analyses	Yes		Yes		If NO, analyze ICV prior to sample analyses.
e. Were the recoveries for each analyte in the ICV within required limits?	Recoveries 85 - 115% or within program/project specific limits	Yes		Yes		If NO, reanalyze ICV. If still No then necessary maintenance and recalibration should be performed.
f. Was an Initial Calibration Blank (ICB) analyzed?		Yes		Yes		If NO, reanalyze ICB before sample analyses.
g. Were the ICB results for all target analytes/components less than the reporting limit (RL)?	<RL or < program/project specific	Yes		Yes		
3. CONTINUING CALIBRATION VERIFICATION (CCV)						
a . Was a CCV analyzed at the beginning and end of a sequential analysis run, as well as after ever 10 samples?		Yes		Yes		If NO, then samples / QC in the affected window must be reanalyzed.
b. Were the recoveries for each analyte/component in the CCV within acceptance criteria?	Recoveries 85 - 115% or within program/project specific limits	Yes		Yes		If NO, then necessary maintenance and possible recalibration should be performed. Affected samples must be reanalyzed for compounds exceeding CCV criteria.
4. METHOD BLANKS (MB)						
a. Was a method blank (MB) analyzed?	1 / 20 or program/project specific	Yes		Yes		If NO, reanalyze sample batch with an associated MB.
b. Were the MB results for all analytes/components less than reporting limit?	All target analytes/components <RL or within program/project specific limits (DoD-QSM: <1/2 the RL)	Yes		Yes		If analytes/components were detected in the MB with no associated positives in the samples, no further action is needed. If analyte detects are greater than the RL with associated positives in the samples, flag associated positives with a "B" qualifier.
5. LABORATORY CONTROL SAMPLE (LCS)						
a. Was a LCS analyzed at the required frequency?	1 / 20 or program/project specific	Yes		Yes		If NO, reanalyze sample batch with an associated LCS.
b. Were LCS recoveries for all analytes within the acceptance criteria?	Default = 70-130%, or within In-house generated or program/project specific limits	Yes		Yes		If NO, reanalyze LCS to confirm no preparation error.
c. If LCS recoveries exceed acceptance criteria, was the LCS reanalyzed in an effort to eliminate the possibility of a preparation error?						If LCS recoveries exceed acceptance criteria again, investigate and correct problem and reanalyze affected samples, if possible. If LCS recoveries exceed criteria after sample reanalysis and if samples are not reanalyzed, See Below: *If LCS recovery is high with no associated positives in samples, no further action needed. *If LCS recovery is high with associated positives in samples, flag associated positives "Q". *If LCS recoveries are low, flag all affected analytes/components within the batch "Q".

6. MATRIX SPIKE (MS)/ MATRIX SPIKE DUPLICATES (MSD) and DUPLICATE						
a. Was a MS, MSD, and/or Duplicate (if valid) Vial analyzed with each batch of 20 samples (or program-specified frequency)?	1 / 20 or program/project specific frequency (QSM samples, duplicate only valid if sample result ≥ 5x the LOQ)	Yes		Yes		If NO, analyze a MS/MSD from the specific sample batch. When insufficient sample amount is provided for matrix spikes, preparing a sample in duplicate is possible.
b. Were MS/MSD recoveries for all analytes within acceptance criteria?	Default =70-130%, or within In-house generated or program/project specific limits	Yes		Yes		If NO, See Below: *If MS/MSD recoveries are below acceptable limits, and unspiked sample has detects or no detects for affected analytes, flag affected analytes "M". *If MS/MSD recoveries are above acceptable limits, and the unspiked sample has no detects for affected analytes, no action is required. *If MS/MSD recoveries are outside of acceptable limits, and unspiked sample has detects for affected analytes, flag affected analytes "M" in parent sample.
7. PRECISION						
a. Is the relative percent difference (RPD) for each analyte between duplicate QC samples (i.e. parent sample / Duplicate vial), or for each MS/MSD within the acceptance criteria?	Default = 20 % RPD, or within In-house generated or program/project specific limits	Yes		Yes		If NO, "Y" flag all affected compounds in the unspiked sample if the precision failure is between the MS and MSD or the parent sample if the precision failure is between a duplicate samples.
8. SAMPLES (INCLUDING BLANKS, STANDARDS, AND QC SAMPLES)						
a. Are chromatogram characteristics, including peak shapes and areas, consistent with those of the CCV?		Yes		Yes		If NO, document any discrepancies. Manual integrations should include before and after chromatography. Manual integrations should be signed and dated.
b. Were all samples having analytes detected in amounts exceeding the calibration range diluted and reanalyzed or reanalyzed using a smaller sample aliquot? Affected analyte detects should remain above the limit of quantitation (LOQ) after reanalysis.		Yes		Yes		If NO, dilute and reanalyze samples for compounds exceeding calibration range.
c. Was the correct ambient temperature recorded on sample spreadsheets?		Yes		Yes		If NO, sample must be reanalyzed. Temperature must be documented.
d. Were all samples adequately preserved and analyzed within holding time?	CO_2 samples received unpreserved (analyze within 7 days or program/project specific) Methane, Ethene, Ethane samples received preserved to <2 (analyze within 14 days or program/project specific)	Yes		Yes		If NO, qualify samples analyzed past hold time with an "H" flag. Sample improperly preserved should be qualified with a "T" flag.
9. RECORDS AND REPORTING						
a. Is a sequence run file present in the raw data file?		Yes		Yes		If NO, include sequence run with raw data.
b. Is the data initialed and dated by analyst?	Analysis Run sheet is initialed & dated by the analyst processing the raw data.	Yes		Yes		If NO, if no obtain initials and date from analyst.
c. Do all values, units, etc. listed match the raw data and associated calculations and records?		Yes		Yes		If NO, data should be reprocessed to include correct units and results.
e. Has the data been electronically transferred to the LIMS and were the applicable qualifiers assigned?		Yes		Yes		If NO, recapture data. Manual entries into LIMS must be documented to ensure proper review.
f. Were manual integrations addressed properly and were the audit trails turned on (where applicable)?	Manual integration must be initialed, dated, and reason given, along with before & after chromatograms. Audit trail must be on (if available).	Yes		Yes		If NO, address manual integration and/or turn on audit trail feature and document reason why it may have been turned off.
g. Are reported results whose amounts exceeded the acceptance criteria flagged with an appropriate qualifier in LIMS and, if needed, were any non-matrix related nonconformities documented in the NCR spreadsheet?		Yes		Yes		If NO, include proper qualification(s) in LIMS and enter nonconformities into the NCR spreadsheet before data review/validation.

Sequence Summary Report

Sequence Filename: C:\InStarch\PVOC4\Sequence\020315DGIC.seq
Instrument: PVOC4
Processing Date: Feb 03, 2015 11:19:15

'Run Number	Sample ID	Data Filename	Method Filename	Run Time
1	MEE PT1 - 2 ppmV	C:\Instarch\PVOC4\Data\020315icdg\001....	C:\Instarch\PVOC4\Methods\P4DG020...	Feb 03, 2015 10:27:30
2	MEE PT2 - 5 ppmV	C:\Instarch\PVOC4\Data\020315icdg\002....	C:\Instarch\PVOC4\Methods\P4DG020...	Feb 03, 2015 10:35:02
3	MEE PT3 - 10 ppmV	C:\Instarch\PVOC4\Data\020315icdg\003....	C:\Instarch\PVOC4\Methods\P4DG020...	Feb 03, 2015 10:38:17
4	MEE PT4 - 20 ppmV	C:\Instarch\PVOC4\Data\020315icdg\004....	C:\Instarch\PVOC4\Methods\P4DG020...	Feb 03, 2015 10:41:32
5	MEE PT5 - 50 ppmV	C:\Instarch\PVOC4\Data\020315icdg\005....	C:\Instarch\PVOC4\Methods\P4DG020...	Feb 03, 2015 10:44:59
6	MEE PT6 - 100 ppmV	C:\Instarch\PVOC4\Data\020315icdg\006....	C:\Instarch\PVOC4\Methods\P4DG020...	Feb 03, 2015 10:48:29
7	MEE PT7 - 200 ppmV	C:\Instarch\PVOC4\Data\020315icdg\007....	C:\Instarch\PVOC4\Methods\P4DG020...	Feb 03, 2015 10:52:17
8	ICV - 50 ppmV	C:\Instarch\PVOC4\Data\020315icdg\008....	C:\Instarch\PVOC4\Methods\P4DG020...	Feb 03, 2015 11:02:07
9	ICB	C:\Instarch\PVOC4\Data\020315icdg\009....	C:\Instarch\PVOC4\Methods\P4DG020...	Feb 03, 2015 11:19:15

Dissolved Gases (Injection)

(Sequence Log)

LIMS Run #(s): _____ Instrument: PVOC4

Sequence Date: 02/03/15 Analyst: AGK / BMS

Calibration Date: 02/03/15 Ambient Temp. (°C): 21.0

Injection #	Sample #	Injection Vol. (ml)	Sample Vol. (ml)
1	MEE PT1	0.01 mL	42
2	MEE PT2	0.025 mL	42
3	MEE PT 3	0.05 mL	42
4	MEE PT4	0.10 mL	42
5	MEE PT5	0.25 mL	42
6	MEE PT6	0.50 mL	42
7	MEE PT7	1.0 mL	42
8	ICV	.25 mL	42
9	ICB	1 mL	42
10	Re-Cert Rep 1	.25 mL	42
11	ReCert Rep 2	.25 mL	42
12	ReCert Rep 3	.25 mL	42
13	ReCert Rep 4	.25 mL	42
14	ReCert Rep 5	.25 mL	42
15			42
16			42
17			42
18			42
19	AGK		42
20	02/03/15		42
21			42
22			42
23			42
24			42
25			42

Calibration Standard Ref. #: V681

Second Source Ref. #: V619 / V730

Page 1

LPVO1-01
Volatiles Standards Prep Logbook
Logbook Created: 01/16/2015
NOTEBOOK VIEW: LTN_VOC_Logbook_01_Default, NOTEBOOK: VOC_Logbook_01, PAGE: 37
Page is Unlocked
Page is not Witnessed
Project: Unassigned
Page Title: 093015

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0089	8260 ICV/Spiking Std.	150uL of 2,000 ug/mL VOC Mix V743, 300uL of 1,000/10,000 ug/mL VOC 8260 Additions Std. V746, and 300uL of 1,000/10,000 ug/mL 8260 Special Additions Std. V748 into 2250uL of MeOH.	MeOH / B&J / DK010	100 ug/mL	09/30/2015	10/07/2015	RLD

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0090	8260 CCV/Calib. Std.	150uL of 2,000 ug/mL VOC Mix V749, 300uL of 1,000/10,000 ug/mL VOC 8260 Additions Std. V747, and 300uL of 1,000/10,000 ug/mL 8260 Special Additions Std. V745 into 2250uL of MeOH.	MeOH / B&J / DK010	100 ug/mL	09/30/2015	10/07/2015	RLD

1

CT Laboratories, LLC

LPVO1-01
Volatiles Standards Prep Logbook
Logbook Created: 01/16/2015
NOTEBOOK VIEW: LTN_VOC_Logbook_01_Default, NOTEBOOK: VOC_Logbook_01, PAGE: 36
Page is Unlocked
Page is not Witnessed
Project: Unassigned
Page Title: 092115

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0087	8260 ICV/Spiking Std.	150uL of 2,000 ug/mL VOC Mix V743, 300uL of 1,000/10,000 ug/mL VOC 8260 Additions Std. V746, and 300uL of 1,000/10,000 ug/mL 8260 Special Additions Std. V748 into 2250uL of MeOH.	MeOH / B&J / DK010	100 ug/mL	09/21/2015	09/28/2015	RLD

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0088	8260 CCV/Calib. Std.	150uL of 2,000 ug/mL VOC Mix V749, 300uL of 1,000/10,000 ug/mL VOC 8260 Additions Std. V747, and 300uL of 1,000/10,000 ug/mL 8260 Special Additions Std. V745 into 2250uL of MeOH.	MeOH / B&J / DK010	100 ug/mL	09/21/2015	09/28/2015	RLD

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0085	8260 BFB Std.	75uL of 2,000 ug/mL 4-Bromofluorobenzene Std. V726 into 2925uL of MeOH.	MeOH / B&J / DK010	50 ug/mL	09/21/2015	10/21/2015	RLD

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0086	8260 ISTD/SSTD	200uL of 2,500 ug/mL 8260 Istd./Sstd. Mix V725 and 250uL of 2000 ug/mL 1,2-Dichlorobenzene-$_{d4}$ Std. V711 into 25mL of MeOH.	MeOH / B&J / DK010	20 ug/mL	09/21/2015	10/21/2015	RLD

CTI VOLATILE STANDARDS LOGBOOK 1

CTI STANDARD NUMBER (EXAMPLE = CTIV001*)	COMPOUND or SOLUTION NAME	COMPOUND / SOLUTION SUPPLIER	STANDARD'S PART NUMBER	STANDARD'S LOT #	STANDARD CONCENTRATION [1] and EXPIRATION DATE	NEAT (N) or SOLUTION (S) (If neat list % purity, if solution list solvent)	DATE REC'D and ANALYST'S INITIALS	COMMENTS
V742	VOC 8260 Special Additions	SPEX	VO-CTWI-5	SM150526010	1000-5000 ug/mL, 11/22/15	MeOH	6/2/15 RD	2 x 1mL
V743	8260 VOC Mix	Accu Standard	M-502-10X-PAK	215011040	2000 ug/mL, 11/2/18	MeOH	6/9/15, RD	5 x 1mL
V744	8260 VOC Mix	Ultra Sci.	DWM-568-1	CM-1859	2000 ug/mL, 5/31/18	MeOH	6/18/15, RD	2 x 1mL
V745	VOC 8260 Special Additions	SPEX	VO-CTWI-5	SM150526009	1000-5000 ug/mL, 11/22/15	MeOH	7/21/15, RD	2 x 1mL
V746	VOC 8260 Special Additions	SPEX	VO-CTWI-5	SM150526010	1000-5000 ug/mL, 11/22/15	MeOH	7/21/15, RD	2 x 1mL
V747	VOC 8260 Additions	SPEX	VO-CTWI-12	TS150721007	1000-10000 ug/mL, 10/15/15	MeOH	7/23/15, RD	2 x 1mL
V748	VOC 8260 Additions	SPEX	VO-CTWI-12	TS150721008	1000-10000 ug/mL, 10/15/15	MeOH	7/23/15, RD	2 x 1mL
V749	8260 VOC Mix	Ultra Sci.	DWM-568-1	CM-3808	2000 ug/mL, 8/31/18	MeOH	8/6/15, RD	2 x 1mL
V750	VOC 8260 Special Additions	SPEX	VO-CTWI-12	TS150901001	1000-5000 ug/mL, 11/30/15	MeOH	9/1/15, RD	2 x 1mL
V751	VOC 8260/625 Special Additions	SPEX	VO-CTWS-12	TS150904001	1000-5000 ug/mL, 12/3/15	MeOH	9/10/15 RD	2 x 1mL
V752	Fluorobenzene	Ultra Sci	STS-160-1	CL-3264	2000 ug/mL 9/30/18	MeOH	9/25/15 RD	4 x 1mL
V753	1,4-Difluorobenzene	Ultra Sci	STS-220N-1	CM-5040	2000 ug/mL 10/31/15	MeOH	9/25/15 RD	4 x 1mL
V754	VOC 8260 Special Additions	SPEX	VO-CTWI-5	BW150925015	1000-5000 ug/mL 03/23/16	MeOH	10/02/15 BMS	2 x 1mL
V755	VOC 8260 Special Additions	SPEX	VO-CTWI-5	SM150925016	1000-5000 ug/mL 03/23/16	MeOH	10/02/15 BMS	2 x 1mL
V756	1,2-Dichlorobenzene-d4	Ultra Sci	STS-210-1	CG-K393Z	2000 ug/mL 9/30/18	MeOH	10/6/15 RD	4 x 1mL

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1 = If multiple analytes and all of the concentrations vary, mark VARIES.

CTI VOLATILE STANDARDS LOGBOOK 1

CTI STANDARD NUMBER (EXAMPLE = CTIV001*)	COMPOUND or SOLUTION NAME	COMPOUND / SOLUTION SUPPLIER	STANDARD'S PART NUMBER	STANDARD'S LOT #	STANDARD CONCENTRATION [1] and EXPIRATION DATE	NEAT (N) or SOLUTION (S) (If neat list % purity, if solution list solvent)	DATE REC'D and ANALYST'S INITIALS	COMMENTS
V723	8260 Special Additions	SPEX	VO-CTWI-5	CH141119008	1000-5000 ug/mL 5/18/15	MeOH	RD 12/16/14	2 x 1mL
V724	8260 Special Additions	SPEX	VO-CTWI-5	CH141119009	1000-5000 ug/mL 5/18/15	MeOH	RD 12/16/14	2 x 1mL
V725	8260 ISTD/SSTD Mix	Ultra Sci.	STM-540	CK-2154	2500 ug/mL 7/31/16	MeOH	RD 12/18/14	4 x 1mL
V726	BFB Stn.	Ultra Sci.	STS-110N	CH-32YBA	2000 ug/mL 11/30/17	MeOH	RD 12/18/14	2 x 1mL
V727	Acetylene Std.	AIRGAS	X03HE99C3360067	54-1244K7791-1	200 PPMV 12/17/17	Helium	Bms 12/22/14	1 cylinder @ 28.7CF
V728	1,4-Dioxane Std	SPEX	S-1715	C112121912	1000 ug/mL, 12/15/15	MeOH	RD 12/31/14	2 x 1mL
V729	VOC Mix	Ultra Sci	DWM-588-1	CL-5325	2000 ug/mL, 11/31/18	MeOH	RD 1/31/15	2 x 1mL
V730	Methane, Ethene, Ethane Std.	AIRGAS	X04HE99C3530380	54-1248928001	200 ppmV 02/03/16	He	Bms 02/03/15	Re-certified V619
V731	VOC 8260 Additions	SPEX	VO-CTWI-12	CH150202012	1000-10000 ug/mL 5/31/15	MeOH	RD 2/6/15	2 x 1mL
V732	VOC 8260 Additions	SPEX	VOCTWI-12	CH150202013	1000-10000 ug/mL 5/31/15	MeOH	RD 2/6/15	2 x 1mL
V733	8260 Special Additions	SPEX	VO-CTWI-5	CH150303001	1000-5000 ug/mL 8/31/15	MeOH	RD 3/11/15	2 x 1mL
V734	8260 Special Additions	SPEX	VO-CTWI-5	CH150304006	1000-5000 ug/mL 8/31/15	MeOH	RD 3/11/15	2 x 1mL
V735	VOC Mix	Accu Std.	M-502-10X	214111014	2000 ug/mL 11/12/17	MeOH	RD 3/31/15	2 x 1mL
V736	VOC Mixture	ULTRA SCI	DWM-588-1	CM-0137	2000 ug/mL 02/28/18	MeOH	Bms 04/09/15	2 x 1mL
V737	Unleaded Gasoline	ULTRA SCI.	RGO-601-1	CH-0979A	5000 ug/mL 05/31/17	MeOH	Bms 04/09/15	2 x 1mL
V738	Unleaded Gasoline	RESTEK	30205	A0101022	50,000 ug/mL 03/28/21	MeOH	Bms 04/09/15	2 x 1mL
V739	VOC 8260 Additions	SPEX	VO-CTWI-12	TS150506001	1000-10000 ug/mL 8/4/15	MeOH	RD 5/11/15	2 x 1mL
V740	VOC 8260 Additions	SPEX	VO-CTWI-12	TS150506002	1000-10000 ug/mL 8/4/15	MeOH	RD 5/11/15	2 x 1mL
V741	VOC 8260 Special Additions	SPEX	VO-CTWI-5	S150505260009	1000-5000 ug/mL 4/24/15	MeOH	RD 6/2/15	2 x 1mL

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RD 6/2/15

CTI VOLATILE STANDARDS LOGBOOK 1

CTI STANDARD NUMBER (EXAMPLE = CTIV001)	COMPOUND or SOLUTION NAME	COMPOUND / SOLUTION SUPPLIER	STANDARD'S PART NUMBER	STANDARD'S LOT #	STANDARD CONCENTRATION [1] and EXPIRATION DATE	NEAT (N) or SOLUTION (S) (If neat list % purity, if solution list solvent)	DATE REC'D and ANALYST'S INITIALS	COMMENTS
V704	VOC Mix	Accu Standard	M-502-10X	21401103	2000 ug/mL 11/6/17	MeOH	5/6/14 RD	5 x 1mL
V705	VOC 8260 Additions	SPEX	VO-CTWI-12	C1140616004	1000-10000 ug/mL 9/4/14	MeOH	6/20/14 RD	2 x 1mL
V706	VOC 8260 Additions	SPEX	VOCTWI-12	C1140616005	1000-10000 ug/mL 9/4/14	MeOH	6/20/14 RD	2 x 1mL
V707	8260 Special Additions	SPEX	VOC TWI-5	C1140428020	1000-5000 ug/mL 10/25/14	MeOH	6/23/14 RD	2 x 1mL
V708	8260 Special Additions	SPEX	VOCTWI-5	C1140428022	1000-5000 ug/mL 10/25/14	MeOH	6/23/14 RD	2 x 1mL
V709	VOC Mix	ULTRA	DWM-588	CL-2989	2000 ug/mL 08/31/17	MeOH	08/25/14 BmS	4 x 1mL
V710	1,4 Dioxane Std.	SPEX	S-1715	R1121119010	1000 ug/mL 11/19/15	MeOH	08/25/14 BmS	2 x 1mL
V711	1,2-Dichlorobenzene-d4	Ultra Sci	STS-210	CG-1939A	2000 ug/mL 7/31/16	MeOH	9/3/14 RD	4 x 1mL
V712	VOC 8260 Additions	SPEX	VO-CTWI-12	C1140905003	1000-10000 ug/mL 12/4/14	MeOH	9/8/14 RD	2 x 1mL
V713	VOC 8260 Additions	SPEX	VO-CTWI-12	C1140905004	1000-10000 ug/mL 12/4/14	MeOH	9/8/14 RD	2 x 1mL
V714	VOC Mix	Accu Standard	M-502-10X Mix	21408103A	2000 ug/mL 8/4/17	MeOH	9/22/14 RD	5 x 1mL
V715	8260 Special Additions	SPEX	VO-CTWI-5	E1140925001	1000-5000 ug/mL 3/24/15	MeOH	10/02/14 BmS	2 x 1mL
V716	8260 Special Additions	SPEX	VO-CTWI-5	C1140924011	1000-5000 ug/mL 3/23/15	MeOH	10/02/14 BmS	2 x 1mL
V717	PVOC/GRO Mix	RESTEK	30095	A0104474	1000 ug/mL 08/31/21	MeOH	11/04/14 BmS	2 x 1mL
V718	Fluorobenzene	ULTRA	STS-160	CL-3264	2000 ug/mL 09/30/18	MeOH	11/11/14 BmS	4 x 1mL
V719	para-Trifluorotoluene	ULTRA	STS-220N	CE-1903Z	2000 ug/mL 08/31/16	MeOH	11/11/14 BmS	4 x 1mL
V720	2-Methylpentane/1,2,4-TMB	SPEX	VO-CTWI-1	C1141107008	1000 ug/mL 11/6/17	MeOH	11/13/14 RD	1 x 1mL
V721	VOC 8260 Additions	SPEX	VO-CTWI-12	C1141110001	1000-10000 ug/mL 2/8/15	MeOH	11/13/14 RD	2 x 1mL
V722	VOC 8260 Additions	SPEX	VO-CTWI-12	C1141110002	1000-10000 ug/mL 2/8/15	MeOH	11/13/14 RD	2 x 1mL

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RD 11/13/14

CTI VOLATILE STANDARDS LOGBOOK 1

CTI STANDARD NUMBER (EXAMPLE = CTIV001*)	COMPOUND or SOLUTION NAME	COMPOUND / SOLUTION SUPPLIER	STANDARD'S PART NUMBER	STANDARD'S LOT #	STANDARD CONCENTRATION [1] and EXPIRATION DATE	NEAT (N) or SOLUTION (S) (If neat list % purity, if solution list solvent)	DATE REC'D and ANALYST'S INITIALS	COMMENTS
V6666	8260 Addition	SPEX	VO-CTMT-12	C113070101A	1000-10,000 ug/mL 08/05/13	MeOH	07/08/13 BmS	2 x 1mL
V6667	VOC Mix	ULTRA	DWM-588	CK-1488	2000 ug/mL 06/30/16	MeOH	07/08/13 BmS	4 x 1mL
V6668	8260 Istd./Sstd. Mix	ULTRA	STM-540	CK-3154	2500 ug/mL 07/31/16	MeOH	07/08/13 BmS	4 x 1mL
V6669	Fluorobenzene	ULTRA	STS-160	CE-9128A	2000 ug/mL 01/31/15	MeOH	07/08/13 BmS	4 x 1mL
V6670	Unleaded Gasoline	ULTRA	RGO-601	CH-0979	5000 ug/mL 04/30/15	MeOH	07/08/13 BmS	4 x 1mL
V6671	8260 Special Addition	SPEX	VO-CTME-5	C113072602I	1000-10000 ug/mL 01/22/16	MeOH	08/02/13 BmS	2 x 1mL
V6672	8260 Special Addition	SPEX	VO-CTMI-5	C113072602J	1000-50000 ug/mL 01/22/16	MeOH	08/02/13 BmS	2 x 1mL
V6673	Carbon Dioxide Std.	AIRGAS	X02HE99C33A8899	Cylinder #: SF7598 Lot: 136-40C255836-1	10,000 ppmV 8/2016	1% CO2/He	08/26/13 BmS	1 cylinder @ 28.7 CF
V674	8260 VOC mix.	AccuStd.	M-502-10X-PAK	213041330	2000 ug/mL 5/20/16	MeOH	9/16/13 RJ	5 x 1mL
V675	8260 Addition	SPEX	VO-CTMX-12	C113091900G	1000-10000 ug/mL 12/18/13	MeOH	10/1/13 RJ	2 x 1mL
V676	8260 Addition	SPEX	VOCTMT-12	C113091900J	1000-10000 ug/mL 12/18/13	MeOH	10/1/13 RJ	2 x 1mL
V677	8260 Special Addition	SPEX	VO-CTMI-5	C113092301G	1000-50000 ug/mL 3/22/14	MeOH	10/1/13 RJ	2 x 1mL
V678	8260 Special Addition	SPEX	VO-CTMI-5	C113092302O	1000-50000 ug/mL 3/22/14	MeOH	10/1/13 RJ	2 x 1mL
V679	124 TMB 2-methylpentane	SPEX	VI-CTMI-1	T113004902A	1000 ug/mL 10/03/16	MeOH	10/08/13 BmS	1mL
V680	4bromo-Trifluorotoluene	ULTRA	STS-23CN	CE-19032	2000 ug/mL 08/31/16	MeOH	10/08/13 BmS	4 x 1mL
V681	Methane, Ethene, Ethane Std.	AIRGAS	X04HE99C353880	54-1243927530-1	250 ppmV 10/2016	Helium	10/21/13 BmS	1 cylinder @ 31.6 CF

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CTI VOLATILE STANDARDS LOGBOOK 1

CTI STANDARD NUMBER (EXAMPLE = CTIV001)	COMPOUND or SOLUTION NAME	COMPOUND / SOLUTION SUPPLIER	STANDARD'S PART NUMBER	STANDARD'S LOT #	STANDARD CONCENTRATION [1] and EXPIRATION DATE	NEAT (N) or SOLUTION (S) (If neat list % purity, if solution list solvent)	DATE REC'D and ANALYST'S INITIALS	COMMENTS
V609	Fluorobenzene	ULTRA	STS-160	CE-4128	2000 ug/mL 12/31/12	MeOH	09/19/11 BMS	4x1
V610	para-Trifluorotoluene	ULTRA	STS-220N	CE-1903A	2000 ug/mL 07/31/14	MeOH	09/19/11 BMS	4x1
V611	8260 SPK Add.	SPEX	VO-CTWI-5	C1110914008	1000-10,000 2000 ug/mL 3/12/12	meoH	9/21/11 MP6	2x1
V612	8260 SPK Add 2	SPEX	VO-CTWI-5	C1110914009	1000-10,000 2000 ug/mL 3/12/12	meoH	9/21/11 MP6	2x1
V613	Pvac/GRO Mix	RESTEK	30095	A078677	1000 ug/mL 3/17	MeOH	09/30/11 BMS	4x1
V614	Unleaded Gasoline	RESTEK	30205	A076842	50,000 ug/mL 10/17	MeOH	09/30/11 BMS	2x1
V615	Surr. SPK Add	SPEX	VO-CTWI-5	C1.109140008	1000-10,000 2000 ug/mL 3/12/12	meoH	11/23/11 MP6	1x1
V616	8260 SPC Add	SPEX	VO-CTWI-5	C1111123007	1000-10,000 2000 ug/mL 5/21/12	meoH	12/6/11 MP6	2x1
V617	8260 SPK Add	SPEX	VO-CTWI-5	C1111129018	1000-10,000 2000 ug/mL 5/21/12	meoH	12/6/11 MP6	2x1
V618	Carbon Dioxide	Air Gas	X02L699C33B1854	Cylinder # XE0046953	10,000 ppmV 12/2014	1% CO2/He	RB 12/19/11	1 cylinder @ 28.7 CF
V619	Methane, Ethene, Ethane Std.	Airgas	XC4HE99C353080	Cylinder # 477A937	200 ppmV 12/2019	Helium	BMS 12/27/11	1 cylinder @ 316 CF
V620	8260 ISTD/SSTD MIX	ULTRA	STM-540	CH-2681	2500 ug/mL 9/30/14	meoH	MP6 1/9/12	4x1
V621	Methane, Ethene, Ethane Std.	PRAXAIR	HE ETA2CHEMIC-AQ	917830501	200 ppm 01/13	Helium	BMS 01/31/12	Re-certified (V488)

[1] When the lot number and expiration date are received the standard will be given one CTI Standard # and each vial will have a alpha designation (i.e. 3 vials of DRO standard solution, CTI001A-C)
If the concentrations vary, mark VARIES.

NITROAROMATICS ANALYSIS
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EXPLOSIVES ANALYSIS

Sample Description

54MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RAAP
Matrix:	GROUND WATER	SDG No.:	114433
Sample wt/vol:	1.000 (g/L)	CTL Sample ID:	640118
% Solids:		Date Received:	10/01/2015
Conc. Extract Vol:	5.0 (mL)	Date/Time Prepared:	10/07/2015 / 08:55
Analytical Method:	EPA 8330B	Analytical Prep Batch #	54486
Analytical Run #:	119664	Dilution Factor:	1.00
Date & Time Analyzed:	10/09/2015 / 10:58	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	100915MTDNX-pri	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
23374-70-1	DNX	0.20	U	0.090	0.20	0.40	0.40
05755-27-1	MNX	0.10	U	0.030	0.10	0.20	0.20
82030-42-0	TNX	0.20	U	0.10	0.20	0.40	0.40

CT LABORATORIES
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EXPLOSIVES ANALYSIS

Sample Description

54MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RAAP
Matrix:	GROUND WATER	SDG No.:	114433
Sample wt/vol:	1.000 (g/L)	CTL Sample ID:	640118
% Solids:		Date Received:	10/01/2015
Conc. Extract Vol:	5.0 (mL)	Date/Time Prepared:	10/07/2015 / 8:55
Analytical Method:	EPA 8330B	Analytical Prep Batch #	54487
Analytical Run #:	119663	Dilution Factor:	1.00
Date & Time Analyzed:	10/08/2015 / 15:45	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	082415expic-pri	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
99-35-4	1,3,5-Trinitrobenzene	0.30	U	0.12	0.30	0.40	0.40
99-65-0	1,3-Dinitrobenzene	0.30	U	0.10	0.30	0.50	0.50
118-96-7	2,4,6-Trinitrotoluene	0.30	U	0.11	0.30	1.0	1.0
121-14-2	2,4-Dinitrotoluene	0.30	U	0.15	0.30	1.0	1.0
606-20-2	2,6-Dinitrotoluene	0.30	U	0.12	0.30	0.50	0.50
35572-78-2	2-Amino-4,6-dinitrotoluene	0.30	U	0.12	0.30	0.50	0.50
88-72-2	2-Nitrotoluene	0.40	U	0.20	0.40	2.0	2.0
618-87-1	3,5-Dinitroaniline	0.30	U	0.12	0.30	0.50	0.50
99-08-1	3-Nitrotoluene	0.30	U	0.12	0.30	2.0	2.0
19406-51-0	4-Amino-2,6-dinitrotoluene	0.30	U	0.14	0.30	0.50	0.50
99-99-0	4-Nitrotoluene	0.30	U	0.11	0.30	2.0	2.0
2691-41-0	HMX	0.30	U	0.13	0.30	0.50	0.50
98-95-3	Nitrobenzene	0.30	U	0.11	0.30	0.50	0.50
55-63-0	Nitroglycerin	2.0	U	1.1	2.0	4.0	4.0
78-11-5	PETN	3.0	U	1.5	3.0	6.0	6.0
121-82-4	RDX	0.30	U	0.090	0.30	0.50	0.50
479-45-8	Tetryl	0.30	U	0.11	0.30	0.50	0.50

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EXPLOSIVES ANALYSIS

Sample Description

54MW10

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RAAP
Matrix:	GROUND WATER	SDG No.:	114433
Sample wt/vol:	1.000 (g/L)	CTL Sample ID:	640121
% Solids:		Date Received:	10/01/2015
Conc. Extract Vol:	5.0 (mL)	Date/Time Prepared:	10/07/2015 / 08:55
Analytical Method:	EPA 8330B	Analytical Prep Batch #	54486
Analytical Run #:	119664	Dilution Factor:	1.00
Date & Time Analyzed:	10/09/2015 / 11:45	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	100915MTDNX-pri	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
23374-70-1	DNX	0.20	U	0.090	0.20	0.40	0.40
05755-27-1	MNX	0.10	U	0.030	0.10	0.20	0.20
82030-42-0	TNX	0.20	U	0.10	0.20	0.40	0.40

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EXPLOSIVES ANALYSIS

Sample Description

54MW10

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RAAP
Matrix:	GROUND WATER	SDG No.:	114433
Sample wt/vol:	1.000 (g/L)	CTL Sample ID:	640121
% Solids:		Date Received:	10/01/2015
Conc. Extract Vol:	5.0 (mL)	Date/Time Prepared:	10/07/2015 / 8:55
Analytical Method:	EPA 8330B	Analytical Prep Batch #	54487
Analytical Run #:	119663	Dilution Factor:	1.00
Date & Time Analyzed:	10/08/2015 / 16:40	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	082415expic-pri	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
99-35-4	1,3,5-Trinitrobenzene	2.4	J	0.12	0.30	0.40	0.40
99-65-0	1,3-Dinitrobenzene	0.30	U J	0.10	0.30	0.50	0.50
118-96-7	2,4,6-Trinitrotoluene	6.6	J	0.11	0.30	1.0	1.0
121-14-2	2,4-Dinitrotoluene	0.30	U J	0.15	0.30	1.0	1.0
606-20-2	2,6-Dinitrotoluene	0.30	U J	0.12	0.30	0.50	0.50
35572-78-2	2-Amino-4,6-dinitrotoluene	3.2	J	0.12	0.30	0.50	0.50
88-72-2	2-Nitrotoluene	0.40	U J	0.20	0.40	2.0	2.0
618-87-1	3,5-Dinitroaniline	1.5	J	0.12	0.30	0.50	0.50
99-08-1	3-Nitrotoluene	0.30	U J	0.12	0.30	2.0	2.0
19406-51-0	4-Amino-2,6-dinitrotoluene	2.5	J	0.14	0.30	0.50	0.50
99-99-0	4-Nitrotoluene	0.30	U J	0.11	0.30	2.0	2.0
2691-41-0	HMX	1.9	J	0.13	0.30	0.50	0.50
98-95-3	Nitrobenzene	0.30	U J	0.11	0.30	0.50	0.50
55-63-0	Nitroglycerin	2.0	U J	1.1	2.0	4.0	4.0
78-11-5	PETN	3.0	U J	1.5	3.0	6.0	6.0
121-82-4	RDX	2.1	J P	0.090	0.30	0.50	0.50
479-45-8	Tetryl	0.30	U J	0.11	0.30	0.50	0.50

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EXPLOSIVES ANALYSIS

Sample Description

54MW12

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RAAP
Matrix:	GROUND WATER	SDG No.:	114433
Sample wt/vol:	1.000 (g/L)	CTL Sample ID:	640119
% Solids:		Date Received:	10/01/2015
Conc. Extract Vol:	5.0 (mL)	Date/Time Prepared:	10/07/2015 / 08:55
Analytical Method:	EPA 8330B	Analytical Prep Batch #	54486
Analytical Run #:	119664	Dilution Factor:	1.00
Date & Time Analyzed:	10/09/2015 / 11:14	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	100915MTDNX-pri	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
23374-70-1	DNX	0.20	U	0.090	0.20	0.40	0.40
05755-27-1	MNX	0.10	U	0.030	0.10	0.20	0.20
82030-42-0	TNX	0.20	U	0.10	0.20	0.40	0.40

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EXPLOSIVES ANALYSIS

Sample Description

54MW12

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RAAP
Matrix:	GROUND WATER	SDG No.:	114433
Sample wt/vol:	1.000 (g/L)	CTL Sample ID:	640119
% Solids:		Date Received:	10/01/2015
Conc. Extract Vol:	5.0 (mL)	Date/Time Prepared:	10/07/2015 / 8:55
Analytical Method:	EPA 8330B	Analytical Prep Batch #	54487
Analytical Run #:	119663	Dilution Factor:	1.00
Date & Time Analyzed:	10/08/2015 / 16:03	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	082415expic-pri	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers		DL	LOD	LOQ	RL
99-35-4	1,3,5-Trinitrobenzene	12		M	0.12	0.30	0.40	0.40
99-65-0	1,3-Dinitrobenzene	0.30	U	M,Y	0.10	0.30	0.50	0.50
118-96-7	2,4,6-Trinitrotoluene	11			0.11	0.30	1.0	1.0
121-14-2	2,4-Dinitrotoluene	0.30	U	M,Y	0.15	0.30	1.0	1.0
606-20-2	2,6-Dinitrotoluene	0.30	U	M,Y	0.12	0.30	0.50	0.50
35572-78-2	2-Amino-4,6-dinitrotoluene	4.2		M	0.12	0.30	0.50	0.50
88-72-2	2-Nitrotoluene	0.40	U	M,Y	0.20	0.40	2.0	2.0
618-87-1	3,5-Dinitroaniline	0.31	J	Y	0.12	0.30	0.50	0.50
99-08-1	3-Nitrotoluene	0.30	U	M,Y	0.12	0.30	2.0	2.0
19406-51-0	4-Amino-2,6-dinitrotoluene	2.5		M,Y	0.14	0.30	0.50	0.50
99-99-0	4-Nitrotoluene	0.30	U	Y	0.11	0.30	2.0	2.0
2691-41-0	HMX	8.5			0.13	0.30	0.50	0.50
98-95-3	Nitrobenzene	0.30	U	M,Y	0.11	0.30	0.50	0.50
55-63-0	Nitroglycerin	2.0	U	Y,M	1.1	2.0	4.0	4.0
78-11-5	PETN	3.0	U	M,Y	1.5	3.0	6.0	6.0
121-82-4	RDX	3.9		P	0.090	0.30	0.50	0.50
479-45-8	Tetryl	0.30	U	M,Y	0.11	0.30	0.50	0.50

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EXPLOSIVES ANALYSIS

Sample Description

54MW13

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RAAP
Matrix:	GROUND WATER	SDG No.:	114433
Sample wt/vol:	1.000 (g/L)	CTL Sample ID:	640120
% Solids:		Date Received:	10/01/2015
Conc. Extract Vol:	5.0 (mL)	Date/Time Prepared:	10/07/2015 / 08:55
Analytical Method:	EPA 8330B	Analytical Prep Batch #	54486
Analytical Run #:	119664	Dilution Factor:	1.00
Date & Time Analyzed:	10/09/2015 / 11:29	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	100915MTDNX-pri	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
23374-70-1	DNX	0.20	U	0.090	0.20	0.40	0.40
05755-27-1	MNX	0.10	U	0.030	0.10	0.20	0.20
82030-42-0	TNX	0.20	U	0.10	0.20	0.40	0.40

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EXPLOSIVES ANALYSIS

Sample Description

54MW13

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RAAP
Matrix:	GROUND WATER	SDG No.:	114433
Sample wt/vol:	1.000 (g/L)	CTL Sample ID:	640120
% Solids:		Date Received:	10/01/2015
Conc. Extract Vol:	5.0 (mL)	Date/Time Prepared:	10/07/2015 / 8:55
Analytical Method:	EPA 8330B	Analytical Prep Batch #	54487
Analytical Run #:	119663	Dilution Factor:	1.00
Date & Time Analyzed:	10/08/2015 / 16:21	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	082415expic-pri	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
99-35-4	1,3,5-Trinitrobenzene	5.8		0.12	0.30	0.40	0.40
99-65-0	1,3-Dinitrobenzene	0.30	U	0.10	0.30	0.50	0.50
118-96-7	2,4,6-Trinitrotoluene	5.4		0.11	0.30	1.0	1.0
121-14-2	2,4-Dinitrotoluene	0.30	U	0.15	0.30	1.0	1.0
606-20-2	2,6-Dinitrotoluene	0.30	U	0.12	0.30	0.50	0.50
35572-78-2	2-Amino-4,6-dinitrotoluene	1.2		0.12	0.30	0.50	0.50
88-72-2	2-Nitrotoluene	0.40	U	0.20	0.40	2.0	2.0
618-87-1	3,5-Dinitroaniline	0.39	J	0.12	0.30	0.50	0.50
99-08-1	3-Nitrotoluene	0.30	U	0.12	0.30	2.0	2.0
19406-51-0	4-Amino-2,6-dinitrotoluene	0.80		0.14	0.30	0.50	0.50
99-99-0	4-Nitrotoluene	0.30	U	0.11	0.30	2.0	2.0
2691-41-0	HMX	1.7		0.13	0.30	0.50	0.50
98-95-3	Nitrobenzene	0.30	U	0.11	0.30	0.50	0.50
55-63-0	Nitroglycerin	2.0	U	1.1	2.0	4.0	4.0
78-11-5	PETN	3.0	U	1.5	3.0	6.0	6.0
121-82-4	RDX	2.6	P	0.090	0.30	0.50	0.50
479-45-8	Tetryl	0.30	U	0.11	0.30	0.50	0.50

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EXPLOSIVES ANALYSIS

Sample Description

SWMU54TM

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RAAP
Matrix:	GROUND WATER	SDG No.:	114433
Sample wt/vol:	0.930 (g/L)	CTL Sample ID:	640122
% Solids:		Date Received:	10/01/2015
Conc. Extract Vol:	5.0 (mL)	Date/Time Prepared:	10/07/2015 / 08:55
Analytical Method:	EPA 8330B	Analytical Prep Batch #	54486
Analytical Run #:	119664	Dilution Factor:	1.00
Date & Time Analyzed:	10/09/2015 / 12:01	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	100915MTDNX-pri	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
23374-70-1	DNX	0.22	U	0.097	0.22	0.43	0.43
05755-27-1	MNX	0.11	U	0.032	0.11	0.22	0.22
82030-42-0	TNX	0.22	U	0.11	0.22	0.43	0.43

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EXPLOSIVES ANALYSIS

Sample Description

SWMU54TM

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RAAP
Matrix:	GROUND WATER	SDG No.:	114433
Sample wt/vol:	0.930 (g/L)	CTL Sample ID:	640122
% Solids:		Date Received:	10/01/2015
Conc. Extract Vol:	5.0 (mL)	Date/Time Prepared:	10/07/2015 / 8:55
Analytical Method:	EPA 8330B	Analytical Prep Batch #	54487
Analytical Run #:	119663	Dilution Factor:	1.00
Date & Time Analyzed:	10/08/2015 / 16:58	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	082415expic-pri	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
99-35-4	1,3,5-Trinitrobenzene	1.8		0.12	0.32	0.43	0.43
99-65-0	1,3-Dinitrobenzene	0.32	U	0.11	0.32	0.54	0.54
118-96-7	2,4,6-Trinitrotoluene	5.4		0.12	0.32	1.1	1.1
121-14-2	2,4-Dinitrotoluene	0.32	U	0.16	0.32	1.1	1.1
606-20-2	2,6-Dinitrotoluene	0.32	U	0.13	0.32	0.54	0.54
35572-78-2	2-Amino-4,6-dinitrotoluene	2.9		0.13	0.32	0.54	0.54
88-72-2	2-Nitrotoluene	0.43	U	0.22	0.43	2.2	2.2
618-87-1	3,5-Dinitroaniline	1.4		0.12	0.32	0.54	0.54
99-08-1	3-Nitrotoluene	0.32	U	0.12	0.32	2.2	2.2
19406-51-0	4-Amino-2,6-dinitrotoluene	2.5		0.15	0.32	0.54	0.54
99-99-0	4-Nitrotoluene	0.32	U	0.12	0.32	2.2	2.2
2691-41-0	HMX	1.7		0.13	0.32	0.54	0.54
98-95-3	Nitrobenzene	0.32	U	0.12	0.32	0.54	0.54
55-63-0	Nitroglycerin	2.2	U	1.2	2.2	4.3	4.3
78-11-5	PETN	3.2	U	1.6	3.2	6.5	6.5
121-82-4	RDX	1.9		0.097	0.32	0.54	0.54
479-45-8	Tetryl	0.32	U	0.11	0.32	0.54	0.54

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EXPLOSIVES ANALYSIS (MB or CCB)

Sample Description: **METHOD BLANK**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RAAP
Matrix:		SDG No.:	114433
Sample wt/vol:	1.000 (g/L)	CTL Sample ID:	640726
% Solids:		Date Received:	10/01/2015
Conc. Extract Vol:	5.0 (mL)	Date/Time Prepared:	10/07/2015 / 8:55
Analytical Method:	EPA 8330B	Analytical Prep Batch #	54487
Analytical Run #:	119663	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	082415expic-pri	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
99-35-4	1,3,5-Trinitrobenzene	10/08/2015	15:08	0.23	U	0.23	0.80	***0.40***
99-65-0	1,3-Dinitrobenzene	10/08/2015	15:08	0.20	U	0.20	1.00	***0.50***
118-96-7	2,4,6-Trinitrotoluene	10/08/2015	15:08	0.22	U	0.22	2.00	***1.00***
121-14-2	2,4-Dinitrotoluene	10/08/2015	15:08	0.3	U	0.3	2.0	***1.00***
606-20-2	2,6-Dinitrotoluene	10/08/2015	15:08	0.24	U	0.24	1.00	***0.50***
35572-78-2	2-Amino-4,6-dinitrotoluene	10/08/2015	15:08	0.24	U	0.24	1.00	***0.50***
88-72-2	2-Nitrotoluene	10/08/2015	15:08	0.4	U	0.4	4.0	***2.0***
618-87-1	3,5-Dinitroaniline	10/08/2015	15:08	0.23	U	0.23	1.00	***0.50***
99-08-1	3-Nitrotoluene	10/08/2015	15:08	0.23	U	0.23	4.00	***2.00***
19406-51-0	4-Amino-2,6-dinitrotoluene	10/08/2015	15:08	0.28	U	0.28	1.00	***0.50***
99-99-0	4-Nitrotoluene	10/08/2015	15:08	0.22	U	0.22	4.00	***2.00***
2691-41-0	HMX	10/08/2015	15:08	0.25	U	0.25	1.00	***0.50***
98-95-3	Nitrobenzene	10/08/2015	15:08	0.22	U	0.22	1.00	***0.50***
55-63-0	Nitroglycerin	10/08/2015	15:08	2.2	U	2.2	8.0	***4.0***
78-11-5	PETN	10/08/2015	15:08	3	U	3	12	***6***
121-82-4	RDX	10/08/2015	15:08	0.18	U	0.18	1.00	***0.50***
479-45-8	Tetryl	10/08/2015	15:08	0.21	U	0.21	1.00	***0.50***

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EXPLOSIVES ANALYSIS (MB or CCB)

Sample Description

METHOD BLANK

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RAAP
Matrix:		SDG No.:	114433
Sample wt/vol:	1.000 (g/L)	CTL Sample ID:	643305
% Solids:		Date Received:	10/01/2015
Conc. Extract Vol:	5.0 (mL)	Date/Time Prepared:	10/07/2015 / 08:55
Analytical Method:	EPA 8330B	Analytical Prep Batch #	54486
Analytical Run #:	119664	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	100915MTDNX-pri	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
23374-70-1	DNX	10/09/2015	10:26	0.09	U	0.09	0.40	***0.20***
05755-27-1	MNX	10/09/2015	10:26	0.03	U	0.03	0.20	***0.10***
82030-42-0	TNX	10/09/2015	10:26	0.10	U	0.10	0.40	***0.20***

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2G-2

WATER EXPLOSIVES SYSTEM MONITORING COMPOUND RECOVERY

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RAAP
Analytical Method:	EPA 8330B	SDG:	114433
Analytical Run #:	119663	ICAL Calibration #:	082415expic-pri

CTLab #	640118				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2-Dinitrobenzene	100	112	83	119	

CTLab #	640119				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2-Dinitrobenzene	100	97	83	119	

CTLab #	640120				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2-Dinitrobenzene	100	73	83	119	*FAIL*

CTLab #	640121				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2-Dinitrobenzene	100	103	83	119	

CTLab #	640122				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2-Dinitrobenzene	100	109	83	119	

CTLab #	640726	Sample Type:	Method Blank		
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2-Dinitrobenzene		117	83	119	

CTLab #	640727	Sample Type:	Lab Control Spike		
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2-Dinitrobenzene	100	113	83	119	

CTLab #	640729	Sample Type:	Matrix Spike		
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2-Dinitrobenzene	100	104	78	119	

CTLab #	640730	Sample Type:	Matrix Spike Duplicate		
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2-Dinitrobenzene	100	69.0	78	119	*FAIL*

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2G-2

WATER EXPLOSIVES SYSTEM MONITORING COMPOUND RECOVERY

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RAAP
Analytical Method:	EPA 8330B	SDG:	114433
Analytical Run #:	119664	ICAL Calibration #:	100915MTDNX-pri

CTLab #	640118				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2-Dinitrobenzene	100	108	83	119	

CTLab #	640119				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2-Dinitrobenzene	100	104	83	119	

CTLab #	640120				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2-Dinitrobenzene	100	74	83	119	*FAIL*

CTLab #	640121				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2-Dinitrobenzene	100	130	83	119	*FAIL*

CTLab #	640122				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2-Dinitrobenzene	100	124	83	119	*FAIL*

CTLab #	643305	Sample Type:	Method Blank		
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2-Dinitrobenzene		104	83	119	

CTLab #	643306	Sample Type:	Lab Control Spike		
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2-Dinitrobenzene	100	106	83	119	

CTLab #	643307	Sample Type:	Matrix Spike		
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2-Dinitrobenzene	100	98.0	83	119	

CTLab #	643308	Sample Type:	Matrix Spike Duplicate		
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2-Dinitrobenzene	100	107	83	119	

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3G

WATER EXPLOSIVES MATRIX SPIKE RECOVERY

Sample Description: **54MW12**

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RAAP

Matrix: GROUND WATER SDG No.: 114433

Analytical Method: EPA 8330B Concentration Units: ug/L

Analytical Run #: 119663 Sample No.: 640729 Parent Sample No.: 640119

Analytical Prep Batch #: 54487 Analytical Preparation Date/Time: 10/07/2015 8:55

ICAL Calibration #: 082415expic-pri

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R	
1,3,5-Trinitrobenzene	10/08/2015	17:16	80-116	17.0	12	5.00	100	
1,3-Dinitrobenzene	10/08/2015	17:16	73-119	5.54	BDL	5.00	111	
2,4,6-Trinitrotoluene	10/08/2015	17:16	71-123	16.7	11	5.00	114	
2,4-Dinitrotoluene	10/08/2015	17:16	78-120	4.84	BDL	5.00	97	
2,6-Dinitrotoluene	10/08/2015	17:16	77-127	5.32	BDL	5.00	106	
2-Amino-4,6-dinitrotoluene	10/08/2015	17:16	79-120	9.25	4.2	5.00	101	
2-Nitrotoluene	10/08/2015	17:16	70-127	4.63	BDL	5.00	93	
3,5-Dinitroaniline	10/08/2015	17:16	71-117	5.69	0.31	5.00	108	
3-Nitrotoluene	10/08/2015	17:16	73-125	4.62	BDL	5.00	92	
4-Amino-2,6-dinitrotoluene	10/08/2015	17:16	76-125	7.94	2.5	5.00	109	
4-Nitrotoluene	10/08/2015	17:16	71-127	5.30	BDL	5.00	106	
HMX	10/08/2015	17:16	65-135	13.8	8.5	5.00	106	
Nitrobenzene	10/08/2015	17:16	65-134	4.01	BDL	5.00	80	
Nitroglycerin	10/08/2015	17:16	74-127	17.9	BDL	10.0	179	*FAIL*
PETN	10/08/2015	17:16	73-127	10.1	BDL	10.0	101	
RDX	10/08/2015	17:16	68-130	8.99	3.9	5.00	102	
Tetryl	10/08/2015	17:16	64-128	3.70	BDL	5.00	74	

Analytical Run #: 119664 Sample No.: 643307 Parent Sample No.: 640119

Analytical Prep Batch #: 54486 Analytical Preparation Date/Time: 10/07/2015 08:55

ICAL Calibration #: 100915MTDNX-pri

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
DNX	10/09/2015	12:16	70-130	4.34	BDL	5.00	87
MNX	10/09/2015	12:16	70-130	4.70	BDL	5.00	94
TNX	10/09/2015	12:16	70-130	4.32	BDL	5.00	86

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Sample Description

WATER EXPLOSIVES MATRIX SPIKE RECOVERY

54MW12

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RAAP

Matrix: GROUND WATER

SDG No.: 114433

Analytical Method: EPA 8330B

Concentration Units: ug/L

Spike Recovery: 0 out of 3 outside QC limits

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Sample Description

WATER EXPLOSIVES MATRIX SPIKE DUPLICATE RECOVERY

54MW12

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RAAP

Matrix: GROUND WATER SDG No.: 114433

Analytical Method: EPA 8330B Concentration Units: ug/L

Analytical Run #: 119664 Sample No.: 643308 Parent Sample No.: 643307

Analytical Prep Batch #: 54486 Analytical Preparation Date/Time: 10/07/2015 08:55

ICAL Calibration #: 101515MDTNX-pri

Analyte	Analysis Date/Time		Spike Result	Spike Amount	%R	%RPD	Control Limits (%R)	Control Limits (%RPD)	
DNX	10/15/2015	10:06	4.63	5.00	93	6	70-130	20	
MNX	10/15/2015	10:06	5.05	5.00	101	7	70-130	20	
TNX	10/15/2015	10:06	4.49	5.00	90	4	70-130	20	

Analytical Run #: 119663 Sample No.: 640730 Parent Sample No.: 640729

Analytical Prep Batch #: 54487 Analytical Preparation Date/Time: 10/07/2015 8:55

ICAL Calibration #: 082415expic-pri

Analyte	Analysis Date/Time		Spike Result	Spike Amount	%R	%RPD	Control Limits (%R)	Control Limits (%RPD)	
1,3,5-Trinitrobenzene	10/08/2015	17:35	15.3	5.00	66	11	80-116	20	*FAIL*
1,3-Dinitrobenzene	10/08/2015	17:35	3.58	5.00	72	43	73-119	20	*FAIL*
2,4,6-Trinitrotoluene	10/08/2015	17:35	14.8	5.00	76	12	71-123	20	
2,4-Dinitrotoluene	10/08/2015	17:35	3.42	5.00	68	34	78-120	20	*FAIL*
2,6-Dinitrotoluene	10/08/2015	17:35	3.79	5.00	76	34	77-127	20	*FAIL*
2-Amino-4,6-dinitrotoluene	10/08/2015	17:35	7.58	5.00	68	20	79-120	20	*FAIL*
2-Nitrotoluene	10/08/2015	17:35	3.21	5.00	64	36	70-127	20	*FAIL*
3,5-Dinitroaniline	10/08/2015	17:35	4.06	5.00	75	33	71-117	20	*FAIL*
3-Nitrotoluene	10/08/2015	17:35	3.23	5.00	65	35	73-125	20	*FAIL*
4-Amino-2,6-dinitrotoluene	10/08/2015	17:35	6.15	5.00	73	25	76-125	20	*FAIL*
4-Nitrotoluene	10/08/2015	17:35	3.70	5.00	74	36	71-127	20	*FAIL*
HMX	10/08/2015	17:35	11.8	5.00	66	16	65-135	20	
Nitrobenzene	10/08/2015	17:35	2.80	5.00	56	36	65-134	20	*FAIL*
Nitroglycerin	10/08/2015	17:35	14.3	10.0	143	22	74-127	20	*FAIL*
PETN	10/08/2015	17:35	7.24	10.0	72	33	73-127	20	*FAIL*
RDX	10/08/2015	17:35	7.36	5.00	69	20	68-130	20	
Tetryl	10/08/2015	17:35	2.99	5.00	60	21	64-128	20	*FAIL*

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WATER EXPLOSIVES MATRIX SPIKE DUPLICATE RECOVERY

Sample Description

54MW12

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RAAP

Matrix: GROUND WATER

SDG No.: 114433

Analytical Method: EPA 8330B

Concentration Units: ug/L

RPD or
Spike Recovery: 14 out of 17 outside QC limits

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3G

Sample Description

LCS

WATER EXPLOSIVES LAB CONTROL SAMPLE

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RAAP
Sample No.: 640727
SDG No.: 114433
Analytical Method: EPA 8330B
Concentration Units: ug/L

Analytical Run #: 119663
Sample No.: 640727
Parent Sample No.: 0
Analytical Prep Batch #: 54487
Analytical Preparation Date/Time: 10/07/2015 8:55
ICAL Calibration #: 082415expic-pri

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
1,3,5-Trinitrobenzene	10/08/2015	15:27	73-125	4.80		5.00	96
1,3-Dinitrobenzene	10/08/2015	15:27	78-120	4.93		5.00	99
2,4,6-Trinitrotoluene	10/08/2015	15:27	71-123	4.50		5.00	90
2,4-Dinitrotoluene	10/08/2015	15:27	78-120	5.59		5.00	112
2,6-Dinitrotoluene	10/08/2015	15:27	77-127	4.71		5.00	94
2-Amino-4,6-dinitrotoluene	10/08/2015	15:27	79-120	4.68		5.00	94
2-Nitrotoluene	10/08/2015	15:27	70-127	4.41		5.00	88
3,5-Dinitroaniline	10/08/2015	15:27	71-117	4.94		5.00	99
3-Nitrotoluene	10/08/2015	15:27	73-125	4.89		5.00	98
4-Amino-2,6-dinitrotoluene	10/08/2015	15:27	76-125	5.63		5.00	113
4-Nitrotoluene	10/08/2015	15:27	71-127	4.75		5.00	95
HMX	10/08/2015	15:27	65-135	4.81		5.00	96
Nitrobenzene	10/08/2015	15:27	65-134	4.28		5.00	86
Nitroglycerin	10/08/2015	15:27	74-127	11.9		10.0	119
PETN	10/08/2015	15:27	73-127	9.68		10.0	97
RDX	10/08/2015	15:27	68-130	4.73		5.00	95
Tetryl	10/08/2015	15:27	64-128	4.82		5.00	96

Spike Recovery: 0 out of 17 outside limits

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3G

Sample Description

LCS

WATER EXPLOSIVES LAB CONTROL SAMPLE

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RAAP
Sample No.: 643306
SDG No.: 114433
Analytical Method: EPA 8330B
Concentration Units: ug/L

Analytical Run #: 119664
Sample No.: 643306
Parent Sample No.: 0
Analytical Prep Batch #: 54486
Analytical Preparation Date/Time: 10/07/2015 08:55
ICAL Calibration #: 100915MTDNX-pri

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
DNX	10/09/2015	10:42	70-130	4.48		5.00	90
MNX	10/09/2015	10:42	70-130	4.78		5.00	96
TNX	10/09/2015	10:42	70-130	3.72		5.00	74

Spike Recovery: 0 out of 3 outside limits

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4B-1

EXPLOSIVES METHOD BLANK SUMMARY

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RAAP
Sample ID:	640726	SDG No.:	114433
Matrix:	LIQUID	Date Extracted:	10/07/2015
Date Analyzed:	10/08/2015	Time Analyzed:	15:08
Analytical Method:	EPA 8330B	Extraction Method:	SW3535
Analytical Run #:	119663	Extraction Batch #:	54487
		ICAL Calibration #:	082415expic-pri

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES AND QC:

SEQUENCE	SAMPLE DESCRIPTION	SAMPLE ID	DATE/TIME ANALYZED
1	MBW	640726	10/08/2015 15:08
2	LCSW	640727	10/08/2015 15:27
3	54MW1	640118	10/08/2015 15:45
4	54MW12	640119	10/08/2015 16:03
5	54MW13	640120	10/08/2015 16:21
6	54MW10	640121	10/08/2015 16:40
7	SWMU54TM	640122	10/08/2015 16:58
8	54MW12MSW	640729	10/08/2015 17:16
9	54MW12MSDW	640730	10/08/2015 17:35

CT LABORATORIES
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4B-1

EXPLOSIVES METHOD BLANK SUMMARY

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RAAP
Sample ID:	643305	SDG No.:	114433
Matrix:	LIQUID	Date Extracted:	10/07/2015
Date Analyzed:	10/09/2015	Time Analyzed:	10:26
Analytical Method:	EPA 8330B	Extraction Method:	SW3535
Analytical Run #:	119664	Extraction Batch #:	54486
		ICAL Calibration #:	100915MTDNX-pri

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES AND QC:

SEQUENCE	SAMPLE DESCRIPTION	SAMPLE ID	DATE/TIME ANALYZED
1	MBW	643305	10/09/2015 10:26
2	LCSW	643306	10/09/2015 10:42
3	54MW1	640118	10/09/2015 10:58
4	54MW12	640119	10/09/2015 11:14
5	54MW13	640120	10/09/2015 11:29
6	54MW10	640121	10/09/2015 11:45
7	SWMU54TM	640122	10/09/2015 12:01
8	54MW12MSW	643307	10/09/2015 12:16
9	54MW12MSDW	643308	10/15/2015 10:06

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CHANNEL A/B (FRONT/BACK) DETECTOR/COLUMN RPD

EXPLOSIVES ANALYSIS

Sample Description

54MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RAAP
Matrix:	GROUND WATER	SDG No.:	114433
Analytical Method:	EPA 8330B	CTL Sample ID:	640118
Analytical Run #:	119663	Date/Time Prepared:	10/07/2015 / 8:55
Date & Time Analyzed:	10/08/2015 / 15:45	Analytical Prep Batch #:	54487
Date & Time Analyzed #2:	10/13/2015 / 17:06	Concentration Units:	ug/mL
ICAL Calibration #:	082415expic-pri		

Analyte	Column/Detector #1	Column/Detector #2	%RPD	Qualifiers
1,3,5-Trinitrobenzene	NA	NA	NA	
1,3-Dinitrobenzene	NA	NA	NA	
2,4,6-Trinitrotoluene	NA	NA	NA	
2,4-Dinitrotoluene	NA	NA	NA	
2,6-Dinitrotoluene	NA	NA	NA	
2-Amino-4,6-dinitrotoluene	NA	NA	NA	
2-Nitrotoluene	NA	NA	NA	
3,5-Dinitroaniline	NA	NA	NA	
3-Nitrotoluene	NA	NA	NA	
4-Amino-2,6-dinitrotoluene	NA	NA	NA	
4-Nitrotoluene	NA	NA	NA	
HMX	NA	NA	NA	
Nitrobenzene	NA	NA	NA	
Nitroglycerin	NA	NA	NA	
PETN	NA	NA	NA	
RDX	NA	NA	NA	
Tetryl	NA	NA	NA	

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CHANNEL A/B (FRONT/BACK) DETECTOR/COLUMN RPD

EXPLOSIVES ANALYSIS

Sample Description

54MW10

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RAAP
Matrix:	GROUND WATER	SDG No.:	114433
Analytical Method:	EPA 8330B	CTL Sample ID:	640121
Analytical Run #:	119663	Date/Time Prepared:	10/07/2015 / 8:55
Date & Time Analyzed:	10/08/2015 / 16:40	Analytical Prep Batch #:	54487
Date & Time Analyzed #2:	10/13/2015 / 18:58	Concentration Units:	ug/mL
ICAL Calibration #:	082415expic-pri		

Analyte	Column/Detector #1	Column/Detector #2	%RPD	Qualifiers
1,3,5-Trinitrobenzene	0.241	0.175	32	
1,3-Dinitrobenzene	NA	NA	NA	
2,4,6-Trinitrotoluene	0.663	0.518	25	
2,4-Dinitrotoluene	NA	NA	NA	
2,6-Dinitrotoluene	NA	NA	NA	
2-Amino-4,6-dinitrotoluene	0.324	0.300	7.7	
2-Nitrotoluene	NA	NA	NA	
3,5-Dinitroaniline	0.151	0.142	6.1	
3-Nitrotoluene	NA	NA	NA	
4-Amino-2,6-dinitrotoluene	0.254	0.255	0.39	
4-Nitrotoluene	NA	NA	NA	
HMX	0.186	0.211	13	
Nitrobenzene	NA	NA	NA	
Nitroglycerin	NA	NA	NA	
PETN	NA	NA	NA	
RDX	0.213	0.140	41	P
Tetryl	NA	NA	NA	

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CHANNEL A/B (FRONT/BACK) DETECTOR/COLUMN RPD

EXPLOSIVES ANALYSIS

Sample Description

54MW12

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RAAP
Matrix:	GROUND WATER	SDG No.:	114433
Analytical Method:	EPA 8330B	CTL Sample ID:	640119
Analytical Run #:	119663	Date/Time Prepared:	10/07/2015 / 8:55
Date & Time Analyzed:	10/08/2015 / 16:03	Analytical Prep Batch #:	54487
Date & Time Analyzed #2:	10/13/2015 / 17:43	Concentration Units:	ug/mL
ICAL Calibration #:	082415expic-pri		

Analyte	Column/Detector #1	Column/Detector #2	%RPD	Qualifiers
1,3,5-Trinitrobenzene	1.152	1.043	9.9	
1,3-Dinitrobenzene	NA	NA	NA	
2,4,6-Trinitrotoluene	1.121	0.951	16	
2,4-Dinitrotoluene	NA	NA	NA	
2,6-Dinitrotoluene	NA	NA	NA	
2-Amino-4,6-dinitrotoluene	0.422	0.363	15	
2-Nitrotoluene	NA	NA	NA	
3,5-Dinitroaniline	0.031	0.030	3.3	
3-Nitrotoluene	NA	NA	NA	
4-Amino-2,6-dinitrotoluene	0.251	0.183	31	
4-Nitrotoluene	NA	NA	NA	
HMX	0.848	0.785	7.7	
Nitrobenzene	NA	NA	NA	
Nitroglycerin	NA	NA	NA	
PETN	NA	NA	NA	
RDX	0.391	0.127	100	P
Tetryl	NA	NA	NA	

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CHANNEL A/B (FRONT/BACK) DETECTOR/COLUMN RPD

EXPLOSIVES ANALYSIS

Sample Description

54MW13

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RAAP
Matrix:	GROUND WATER	SDG No.:	114433
Analytical Method:	EPA 8330B	CTL Sample ID:	640120
Analytical Run #:	119663	Date/Time Prepared:	10/07/2015 / 8:55
Date & Time Analyzed:	10/08/2015 / 16:21	Analytical Prep Batch #:	54487
Date & Time Analyzed #2:	10/13/2015 / 18:21	Concentration Units:	ug/mL
ICAL Calibration #:	082415expic-pri		

Analyte	Column/Detector #1	Column/Detector #2	%RPD	Qualifiers
1,3,5-Trinitrobenzene	0.580	0.489	17	
1,3-Dinitrobenzene	NA	NA	NA	
2,4,6-Trinitrotoluene	0.538	0.407	28	
2,4-Dinitrotoluene	NA	NA	NA	
2,6-Dinitrotoluene	NA	NA	NA	
2-Amino-4,6-dinitrotoluene	0.122	0.103	17	
2-Nitrotoluene	NA	NA	NA	
3,5-Dinitroaniline	0.039	0.035	11	
3-Nitrotoluene	NA	NA	NA	
4-Amino-2,6-dinitrotoluene	0.080	0.068	16	
4-Nitrotoluene	NA	NA	NA	
HMX	0.168	0.173	2.9	
Nitrobenzene	NA	NA	NA	
Nitroglycerin	NA	NA	NA	
PETN	NA	NA	NA	
RDX	0.258	0.056	130	P
Tetryl	NA	NA	NA	

CT LABORATORIES
delivering more than data from your environmental analyses

CHANNEL A/B (FRONT/BACK) DETECTOR/COLUMN RPD

EXPLOSIVES ANALYSIS

Sample Description

SWMU54TM

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RAAP
Matrix:	GROUND WATER	SDG No.:	114433
Analytical Method:	EPA 8330B	CTL Sample ID:	640122
Analytical Run #:	119663	Date/Time Prepared:	10/07/2015 / 8:55
Date & Time Analyzed:	10/08/2015 / 16:58	Analytical Prep Batch #:	54487
Date & Time Analyzed #2:	10/13/2015 / 19:35	Concentration Units:	ug/mL
ICAL Calibration #:	082415expic-pri		

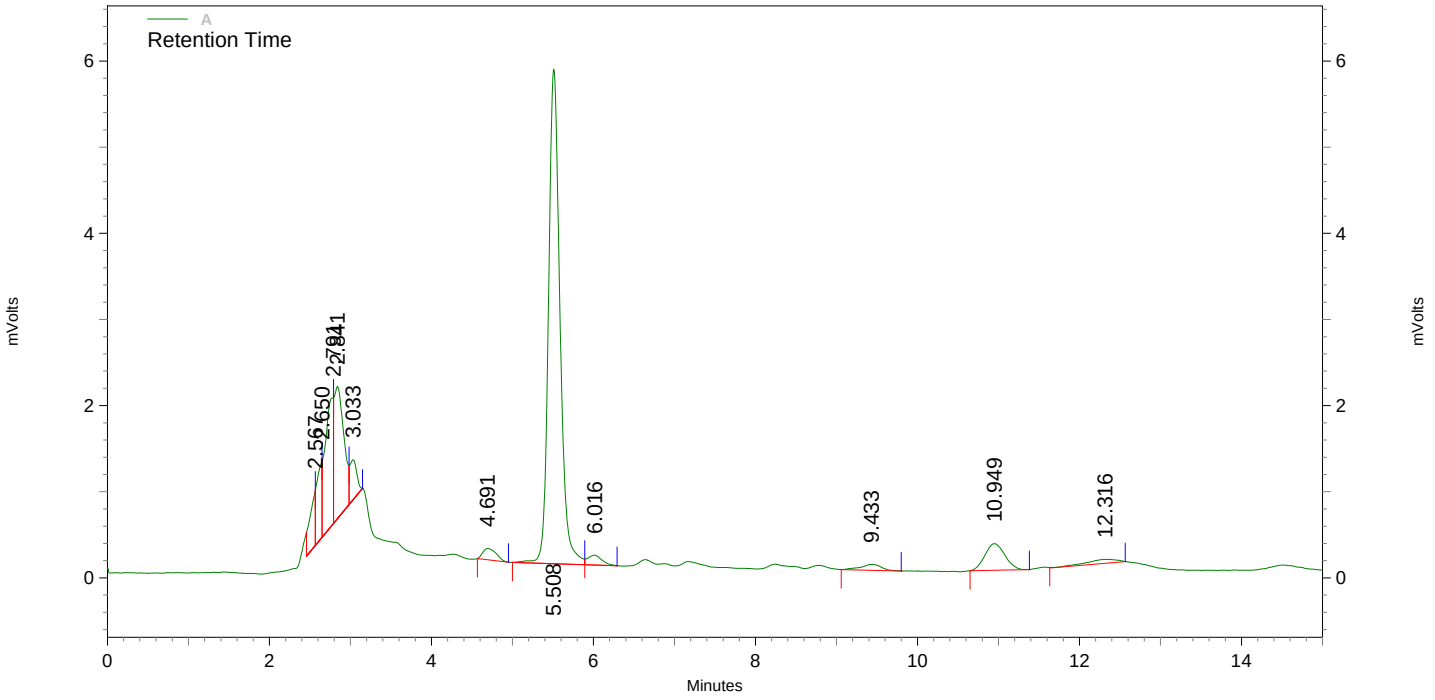
Analyte	Column/Detector #1	Column/Detector #2	%RPD	Qualifiers
1,3,5-Trinitrobenzene	0.163	0.114	35	
1,3-Dinitrobenzene	NA	NA	NA	
2,4,6-Trinitrotoluene	0.499	0.392	24	
2,4-Dinitrotoluene	NA	NA	NA	
2,6-Dinitrotoluene	NA	NA	NA	
2-Amino-4,6-dinitrotoluene	0.270	0.250	7.7	
2-Nitrotoluene	NA	NA	NA	
3,5-Dinitroaniline	0.131	0.120	8.8	
3-Nitrotoluene	NA	NA	NA	
4-Amino-2,6-dinitrotoluene	0.230	0.220	4.4	
4-Nitrotoluene	NA	NA	NA	
HMX	0.161	0.181	12	
Nitrobenzene	NA	NA	NA	
Nitroglycerin	NA	NA	NA	
PETN	NA	NA	NA	
RDX	0.180	0.128	34	
Tetryl	NA	NA	NA	

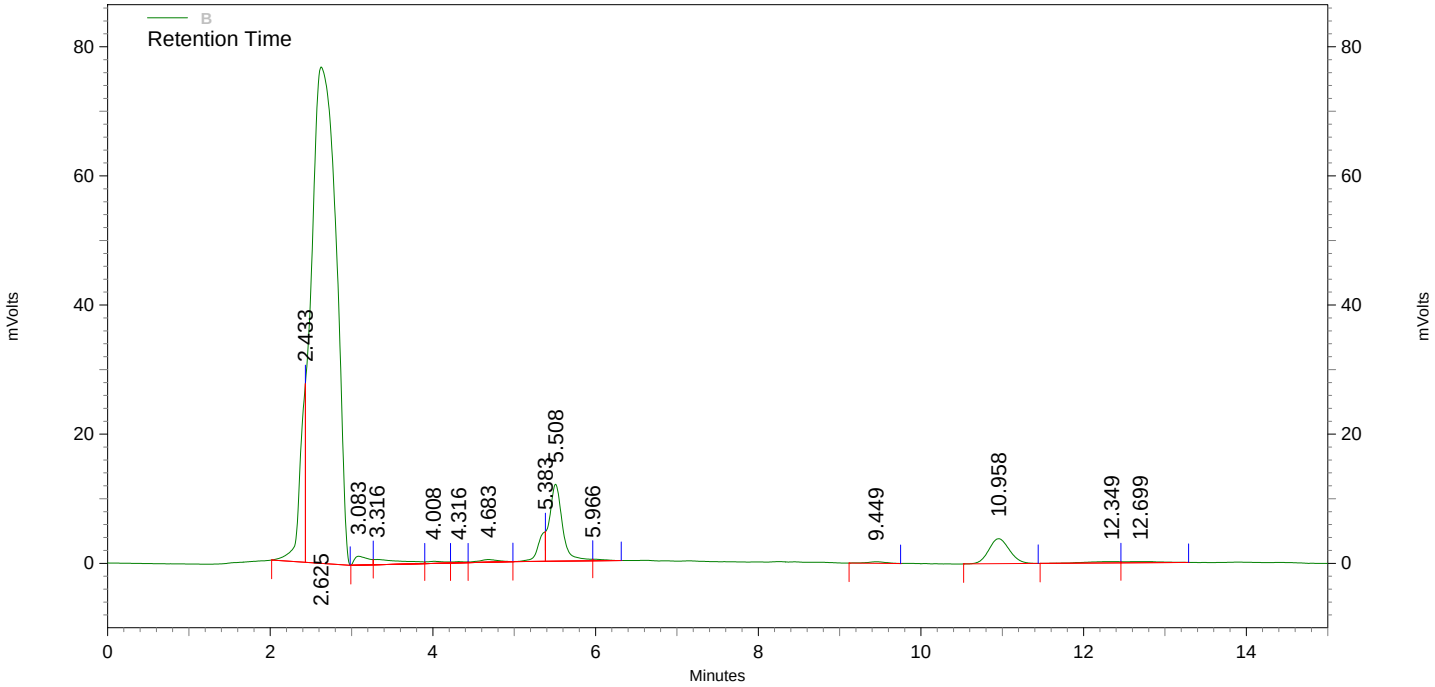
NITROAROMATICS ANALYSIS
SAMPLE DATA
DOCUMENTS

RED
10/19/2015

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\100815EXP-PRIMARY\005.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\082415expic-primary\100815exp-primary.met
Sample ID: 119663,640118,
Acquired: Oct 08, 2015 15:45:20
Data Summary: {Data Description}





A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX			**0.000 BDL**
RDX			**0.000 BDL**
12-DNB (SSTD)	5.508	56421	**112.492**
135-TNB			**0.000 BDL**
13-DNB			**0.000 BDL**
TETRYL			**0.000 BDL**
35-DNA			**0.000 BDL**
NB			**0.000 BDL**
246-TNT			**0.000 BDL**
4-AM-26-DNT			**0.000 BDL**
2-AM-46-DNT			**0.000 BDL**
2-NT	10.949	5294	**0.047**
4-NT			**0.000 BDL**
3-NT	12.316	1213	**0.008**

B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG			**0.000 BDL**
26-DNT			**0.000 BDL**
24-DNT	9.449	3678	**0.014**
PETN	12.699	5595	**0.069**

After Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\100815EXP-PRIMARY\006.dat
User ID: RED
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\082415expic-primary\100815exp-primary.met
Sample ID: 119663,640119,
Acquired: Oct 08, 2015 16:03:38
Data Summary: Reason #3 applies to data. RED 10/9/2015

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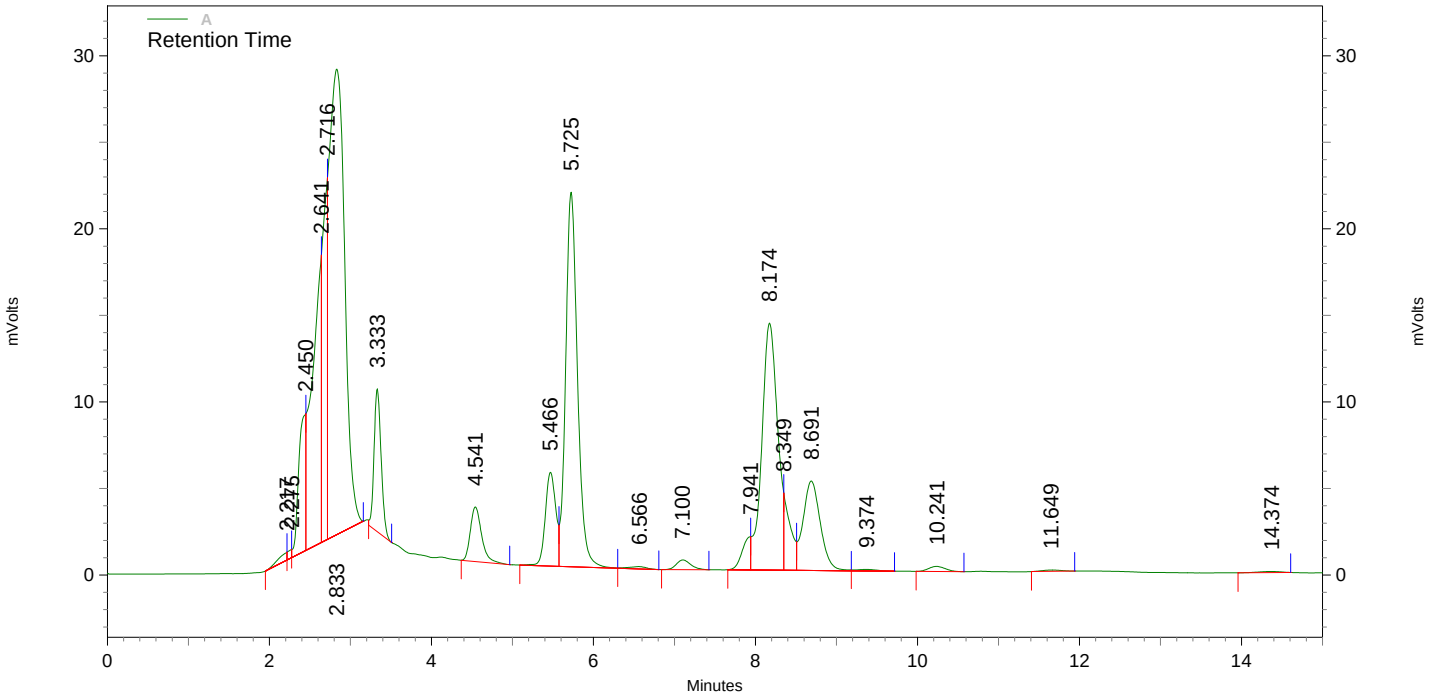
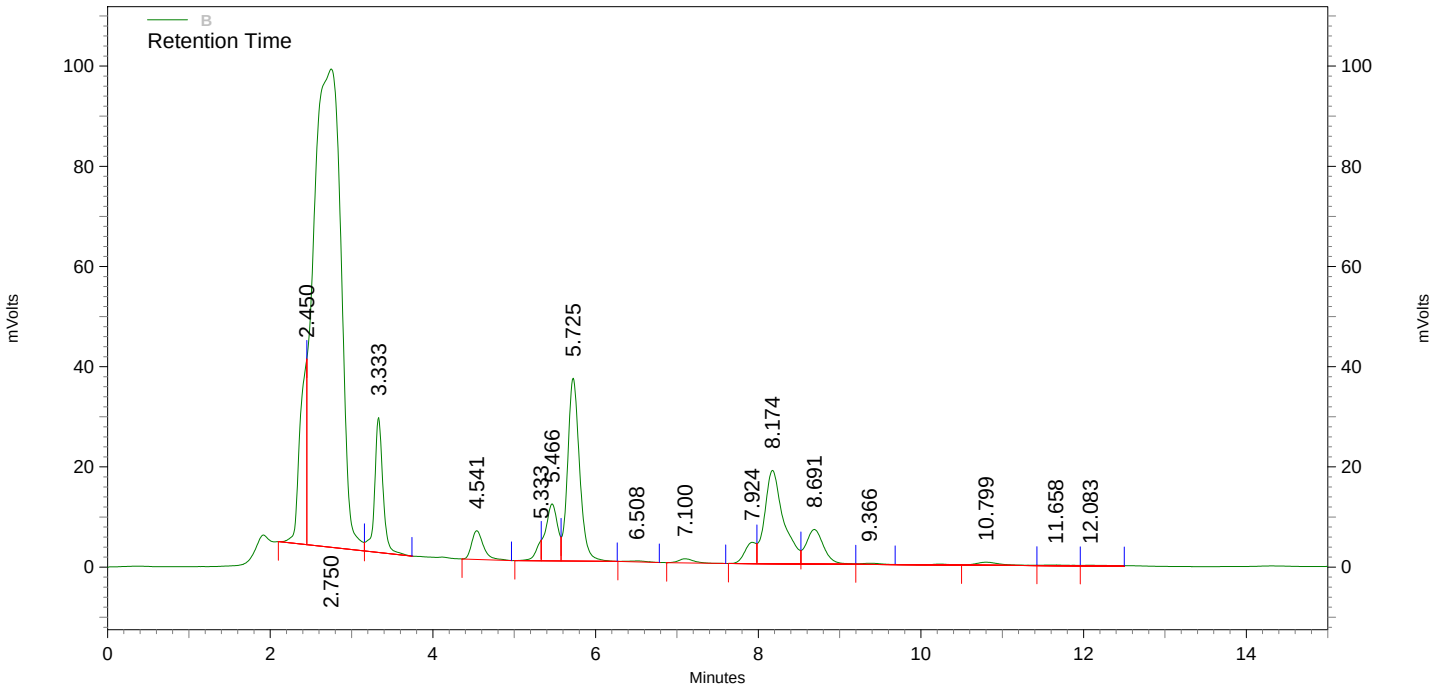
10/19/2015





A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX	3.333	50224	**0.848**
RDX	4.541	30586	**0.391**
12-DNB (SSTD)	5.466	48671	**96.867**
135-TNB	5.725	219017	**1.152**
13-DNB	6.566	1946	**0.002**
TETRYL			**0.000 BDL**
35-DNA	7.100	6964	**0.031**
NB			**0.000 BDL**
246-TNT	8.174	193378	**1.121**
4-AM-26-DNT	8.349	25865	**0.251**
2-AM-46-DNT	8.691	77137	**0.422**
2-NT			**0.000 BDL**
4-NT	11.649	1190	**0.010**
3-NT			**0.000 BDL**

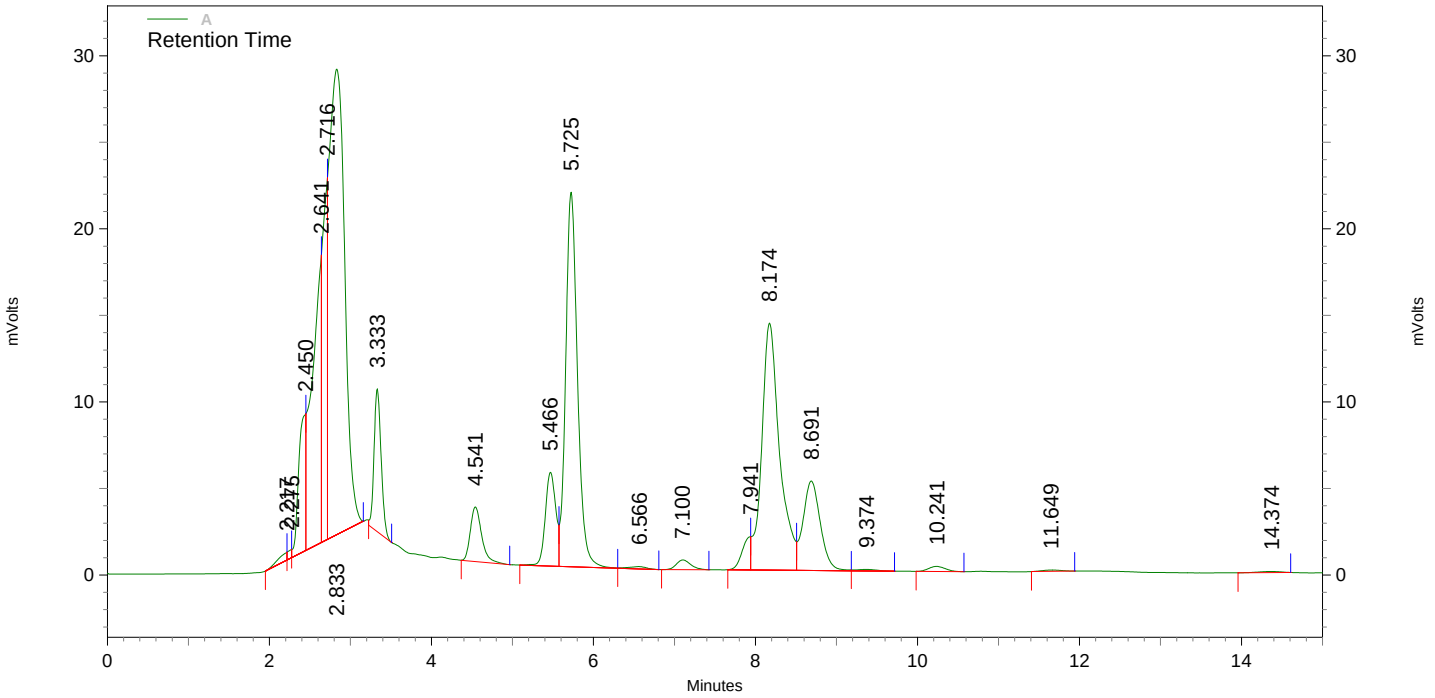
B Results

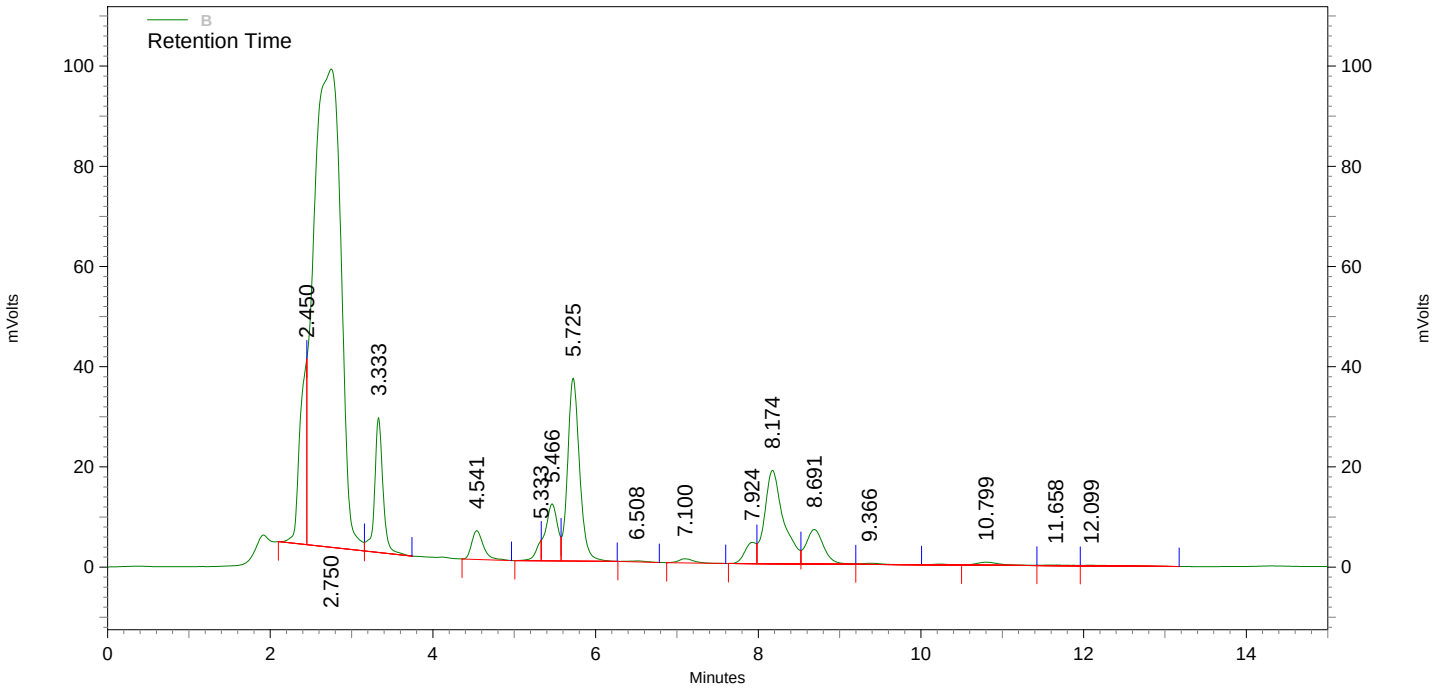
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG	7.924	41059	**0.652**
26-DNT			**0.000 BDL**
24-DNT	9.366	4017	**0.016**
PETN			**0.000 BDL**

Before Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\100815EXP-PRIMARY\006.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\082415expic-primary\100815exp-primary.met
Sample ID: 119663,640119,
Acquired: Oct 08, 2015 16:03:38
Data Summary: Reason #3 applies to data. RED 10/9/2015





A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX	3.333	50224	**0.848**
RDX	4.541	30586	**0.391**
12-DNB (SSTD)	5.466	48671	**96.867**
135-TNB	5.725	219017	**1.152**
13-DNB	6.566	1946	**0.002**
TETRYL			**0.000 BDL**
35-DNA	7.100	6964	**0.031**
NB			**0.000 BDL**
246-TNT	8.174	219242	**1.271**
4-AM-26-DNT			**0.000 BDL**
2-AM-46-DNT	8.691	77137	**0.422**
2-NT			**0.000 BDL**
4-NT	11.649	1190	**0.010**
3-NT			**0.000 BDL**

B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG	7.924	41059	**0.652**
26-DNT			**0.000 BDL**
24-DNT	9.366	4433	**0.018**
PETN			**0.000 BDL**

After Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\100815EXP-PRIMARY\007.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\082415expic-primary\100815exp-primary.met
Sample ID: 119663,640120,
Acquired: Oct 08, 2015 16:21:56
Data Summary: Reason #3 applies to data. RED 10/9/2015

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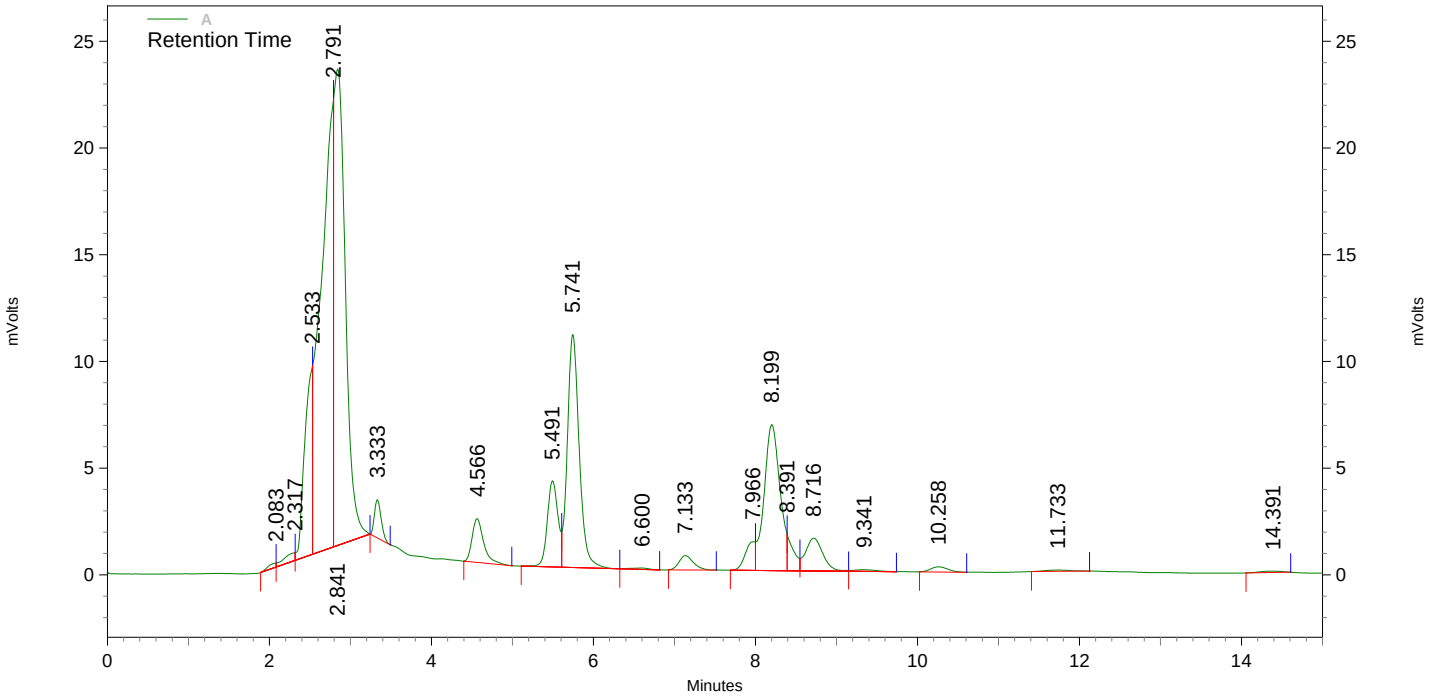
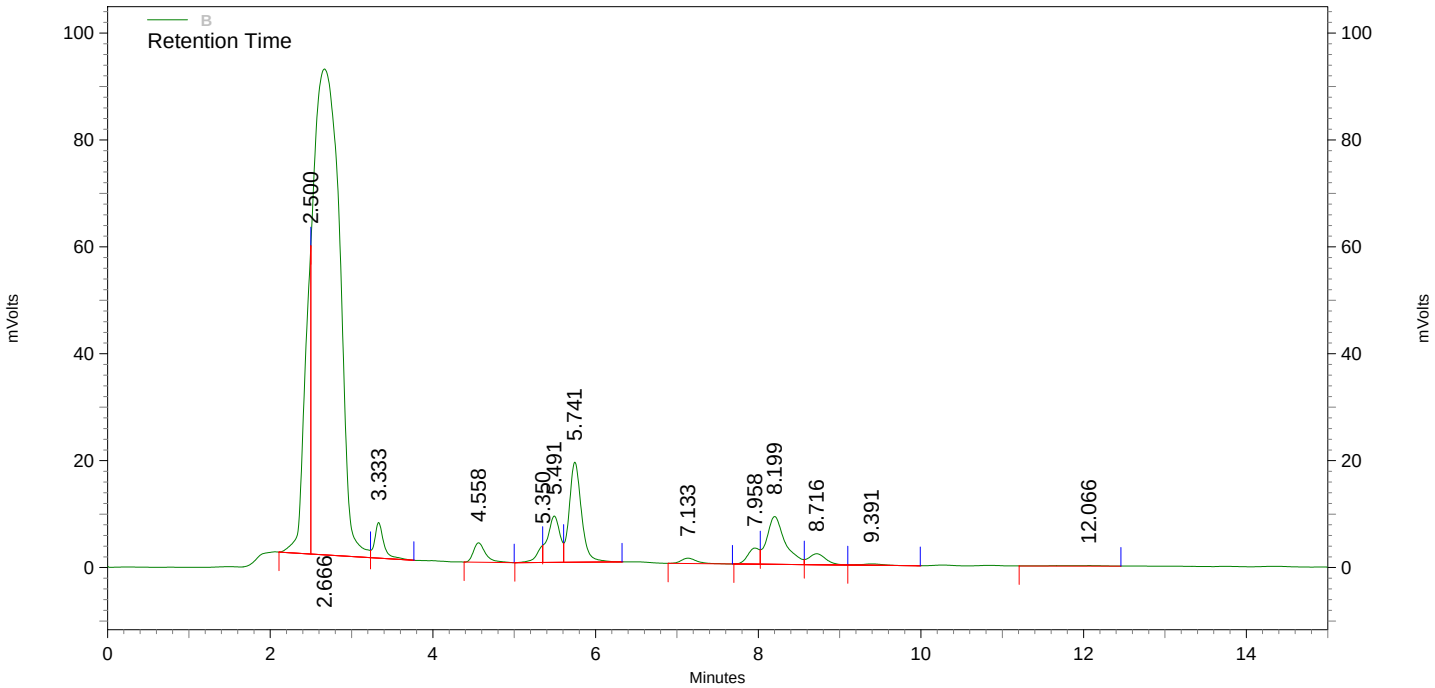
10/19/2015





A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX	3.333	10393	**0.168**
RDX	4.566	20319	**0.258**
12-DNB (SSTD)	5.491	37029	**73.394**
135-TNB	5.741	110774	**0.580**
13-DNB	6.600	1041	**0.000**
TETRYL			**0.000 BDL**
35-DNA	7.133	8272	**0.039**
NB			**0.000 BDL**
246-TNT	8.199	92873	**0.538**
4-AM-26-DNT	8.391	9497	**0.080**
2-AM-46-DNT	8.716	22888	**0.122**
2-NT			**0.000 BDL**
4-NT	11.733	1217	**0.010**
3-NT			**0.000 BDL**

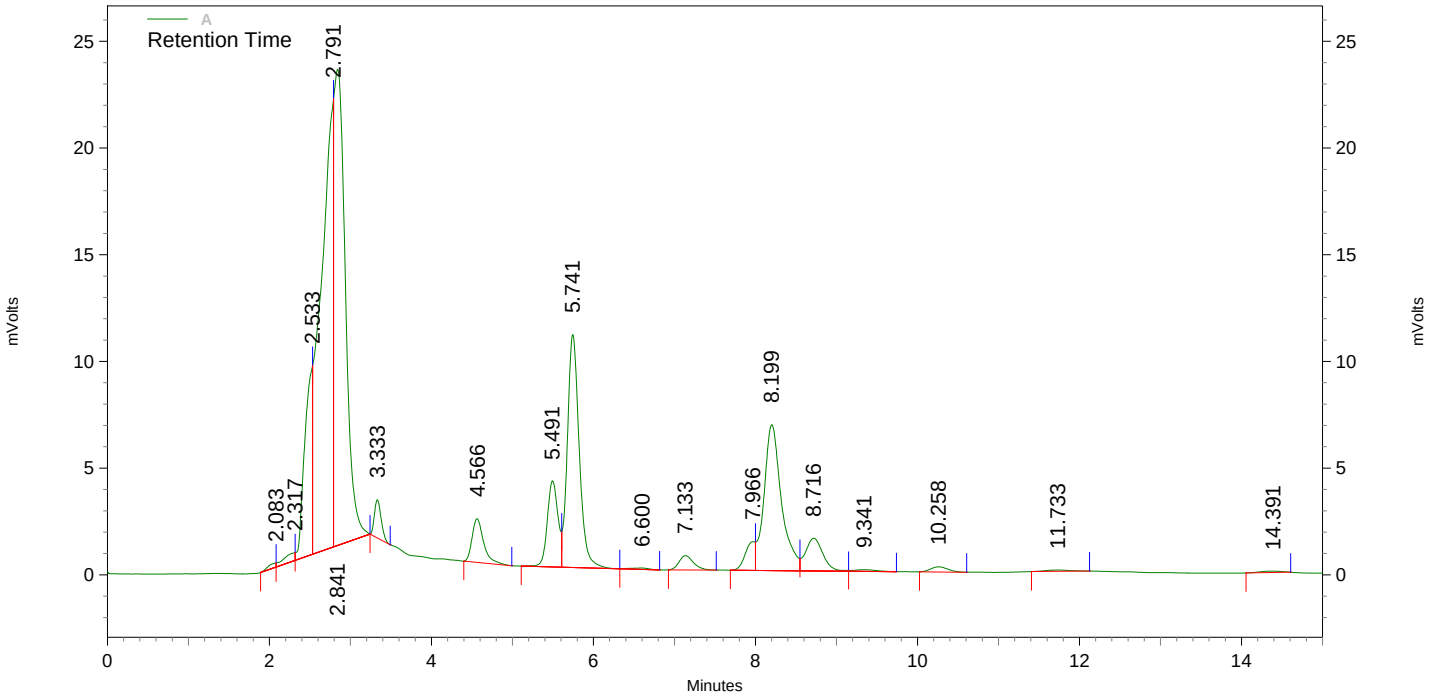
B Results

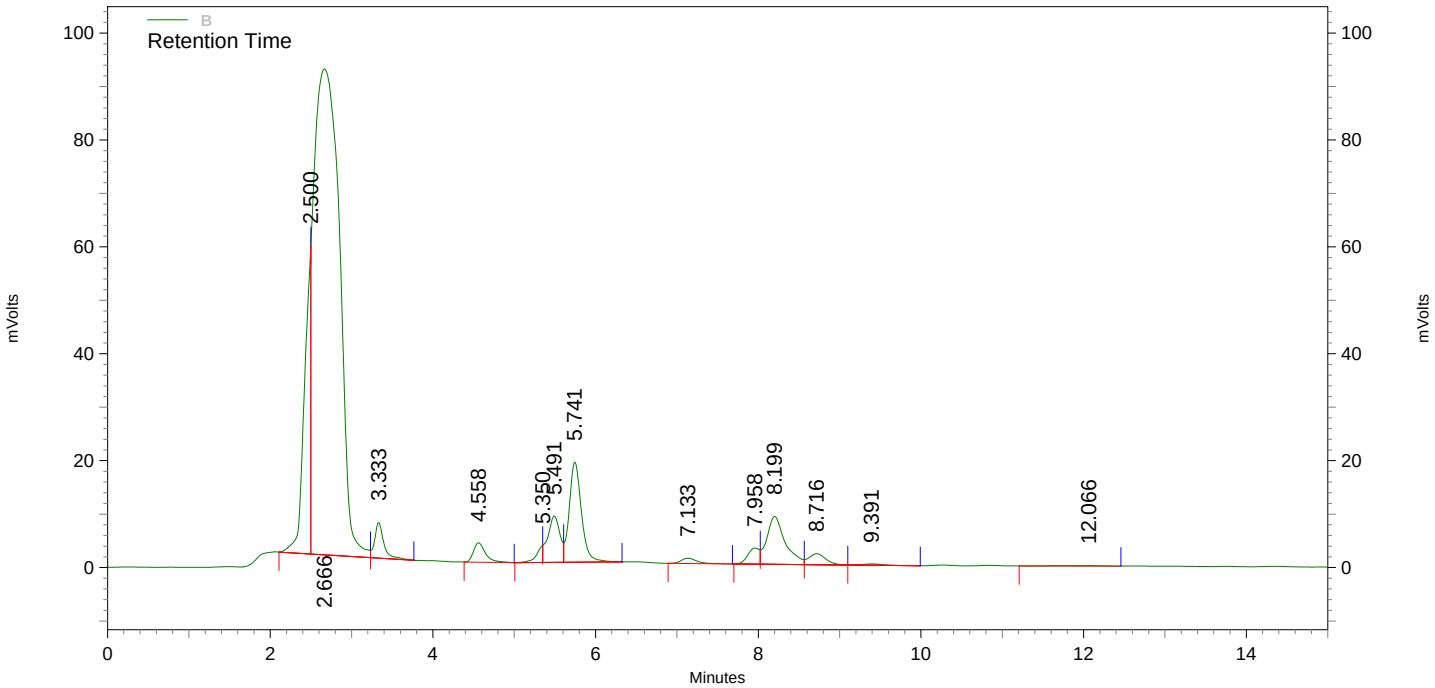
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG	7.958	29471	**0.461**
26-DNT			**0.000 BDL**
24-DNT	9.391	4573	**0.019**
PETN			**0.000 BDL**

Before Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\100815EXP-PRIMARY\007.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\082415expic-primary\100815exp-primary.met
Sample ID: 119663,640120,
Acquired: Oct 08, 2015 16:21:56
Data Summary: Reason #3 applies to data. RED 10/9/2015





A Results

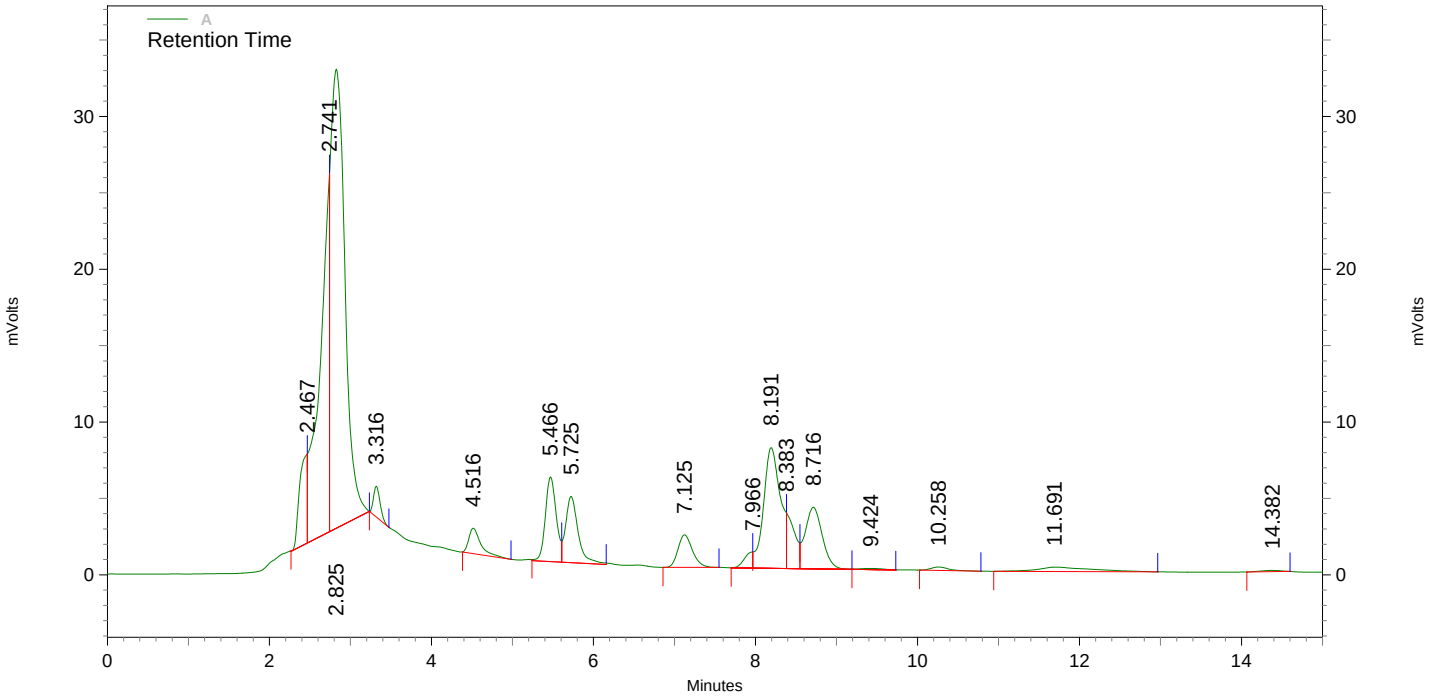
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX	3.333	10393	**0.168**
RDX	4.566	20319	**0.258**
12-DNB (SSTD)	5.491	37029	**73.394**
135-TNB	5.741	110774	**0.580**
13-DNB	6.600	1041	**0.000**
TETRYL			**0.000 BDL**
35-DNA	7.133	8272	**0.039**
NB			**0.000 BDL**
246-TNT	8.199	102370	**0.593**
4-AM-26-DNT			**0.000 BDL**
2-AM-46-DNT	8.716	22888	**0.122**
2-NT			**0.000 BDL**
4-NT	11.733	1217	**0.010**
3-NT			**0.000 BDL**

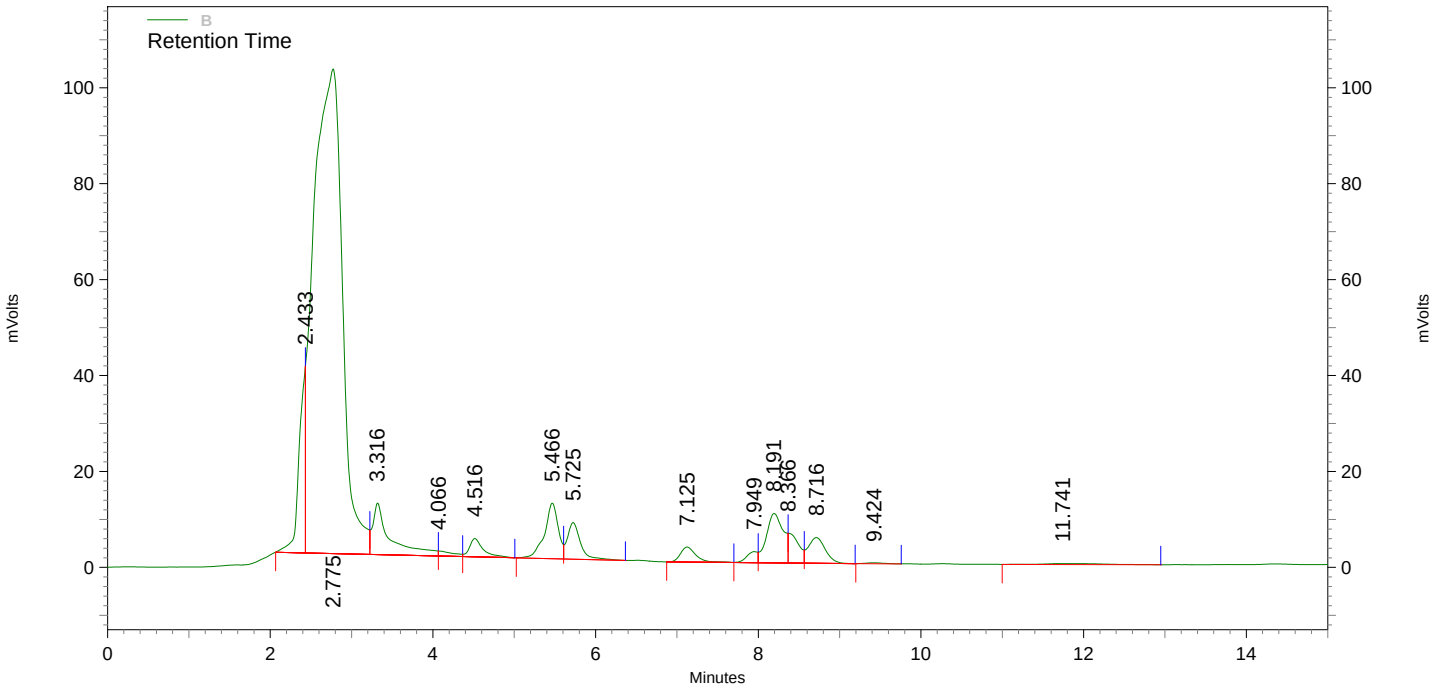
B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG	7.958	29471	**0.461**
26-DNT			**0.000 BDL**
24-DNT	9.391	4573	**0.019**
PETN			**0.000 BDL**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\100815EXP-PRIMARY\008.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\082415expic-primary\100815exp-primary.met
Sample ID: 119663,640121,
Acquired: Oct 08, 2015 16:40:14
Data Summary: {Data Description}





A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX	3.316	11472	**0.186**
RDX	4.516	16874	**0.213**
12-DNB (SSTD)	5.466	51674	**102.921**
135-TNB	5.725	46559	**0.241**
13-DNB			**0.000 BDL**
TETRYL			**0.000 BDL**
35-DNA	7.125	26436	**0.151**
NB			**0.000 BDL**
246-TNT	8.191	114494	**0.663**
4-AM-26-DNT	8.383	26125	**0.254**
2-AM-46-DNT	8.716	59470	**0.324**
2-NT			**0.000 BDL**
4-NT	11.691	13662	**0.147**
3-NT			**0.000 BDL**

B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG	7.949	21042	**0.323**
26-DNT			**0.000 BDL**
24-DNT	9.424	3366	**0.013**
PETN			**0.000 BDL**

After Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\100815EXP-PRIMARY\009.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\082415expic-primary\100815exp-primary.met
Sample ID: 119663,640122,
Acquired: Oct 08, 2015 16:58:36
Data Summary: Reason #3 applies to data. RED 10/9/2015

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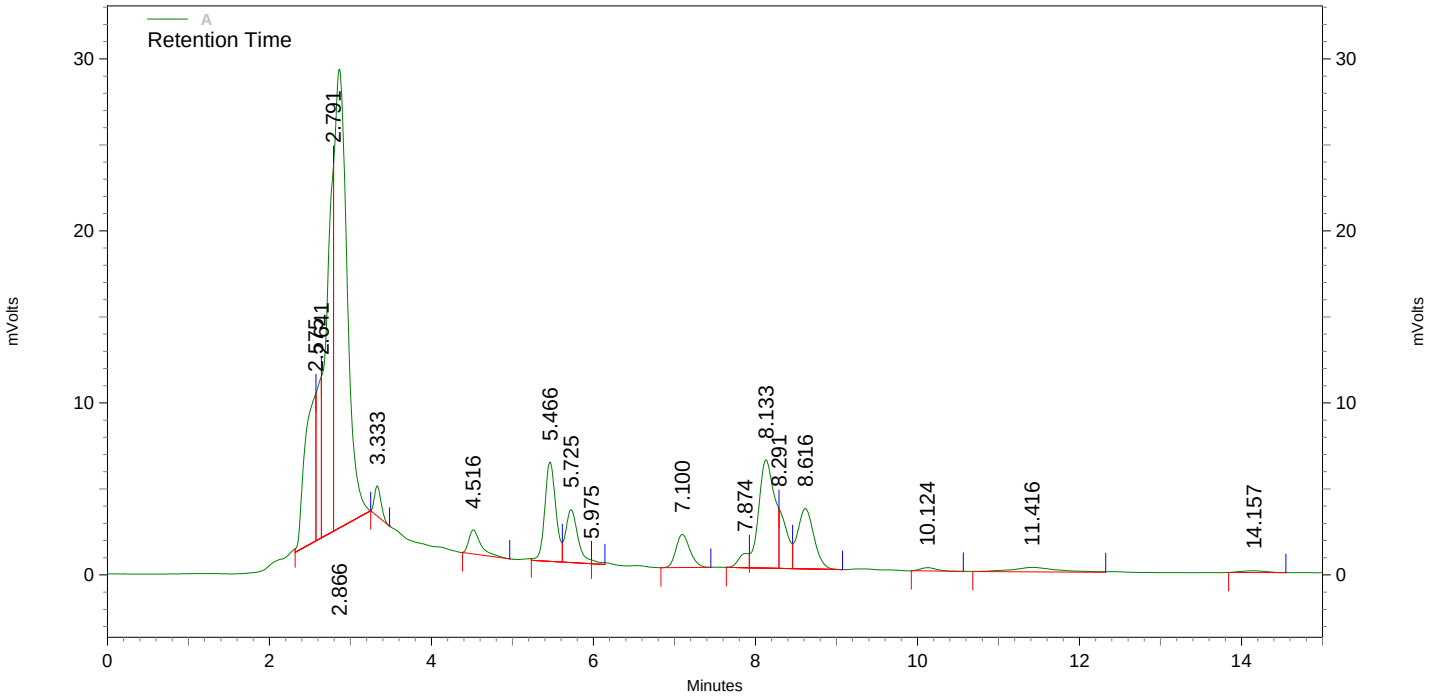
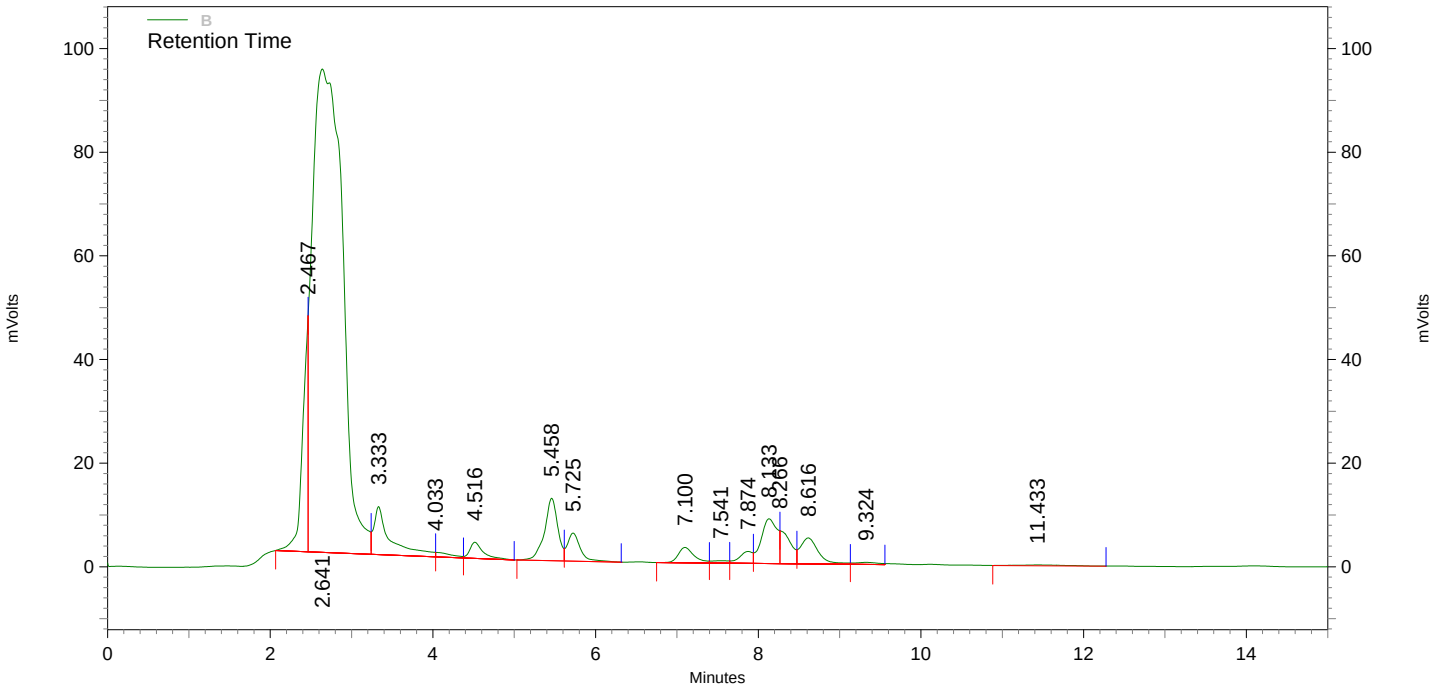
10/19/2015





A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX	3.333	9976	**0.161**
RDX	4.516	14295	**0.180**
12-DNB (SSTD)	5.466	54802	**109.228**
135-TNB	5.725	31738	**0.163**
13-DNB			**0.000 BDL**
TETRYL			**0.000 BDL**
35-DNA	7.100	23160	**0.131**
NB			**0.000 BDL**
246-TNT	8.133	86244	**0.499**
4-AM-26-DNT	8.291	23842	**0.230**
2-AM-46-DNT	8.616	49733	**0.270**
2-NT			**0.000 BDL**
4-NT	11.416	9888	**0.106**
3-NT			**0.000 BDL**

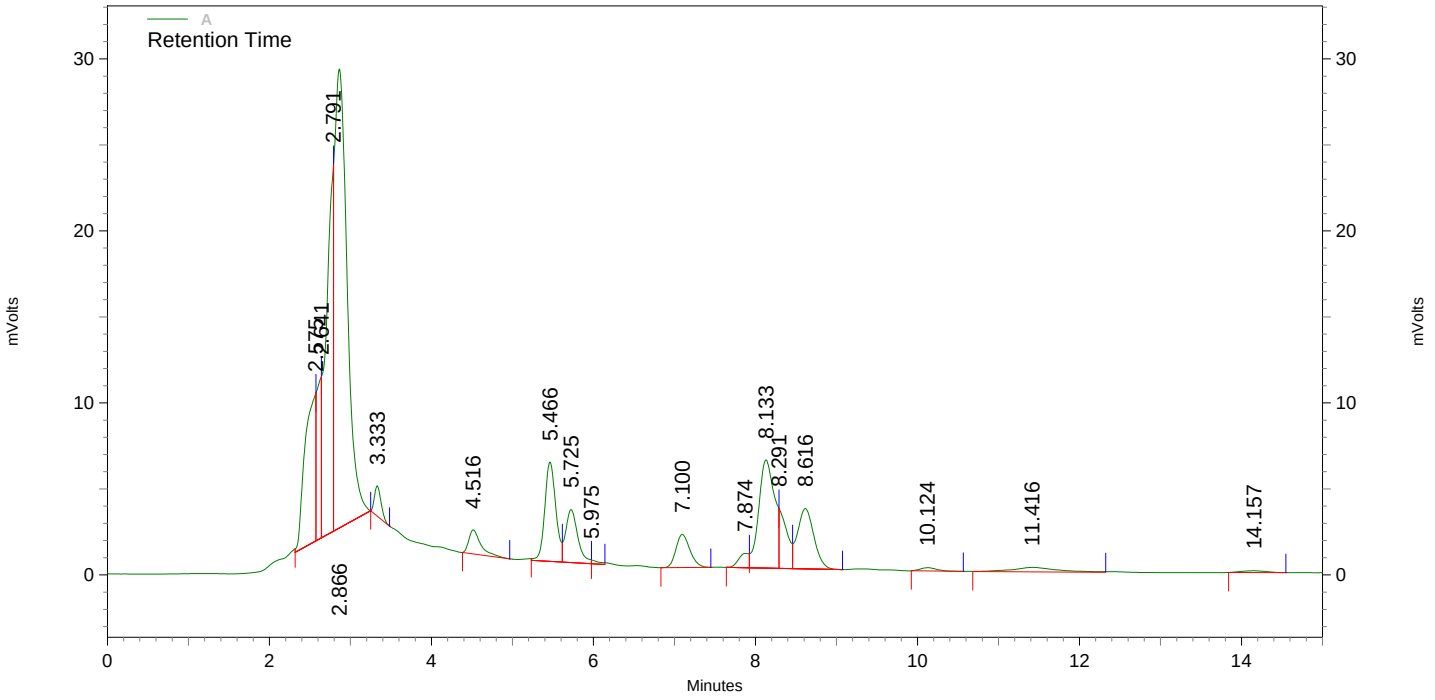
B Results

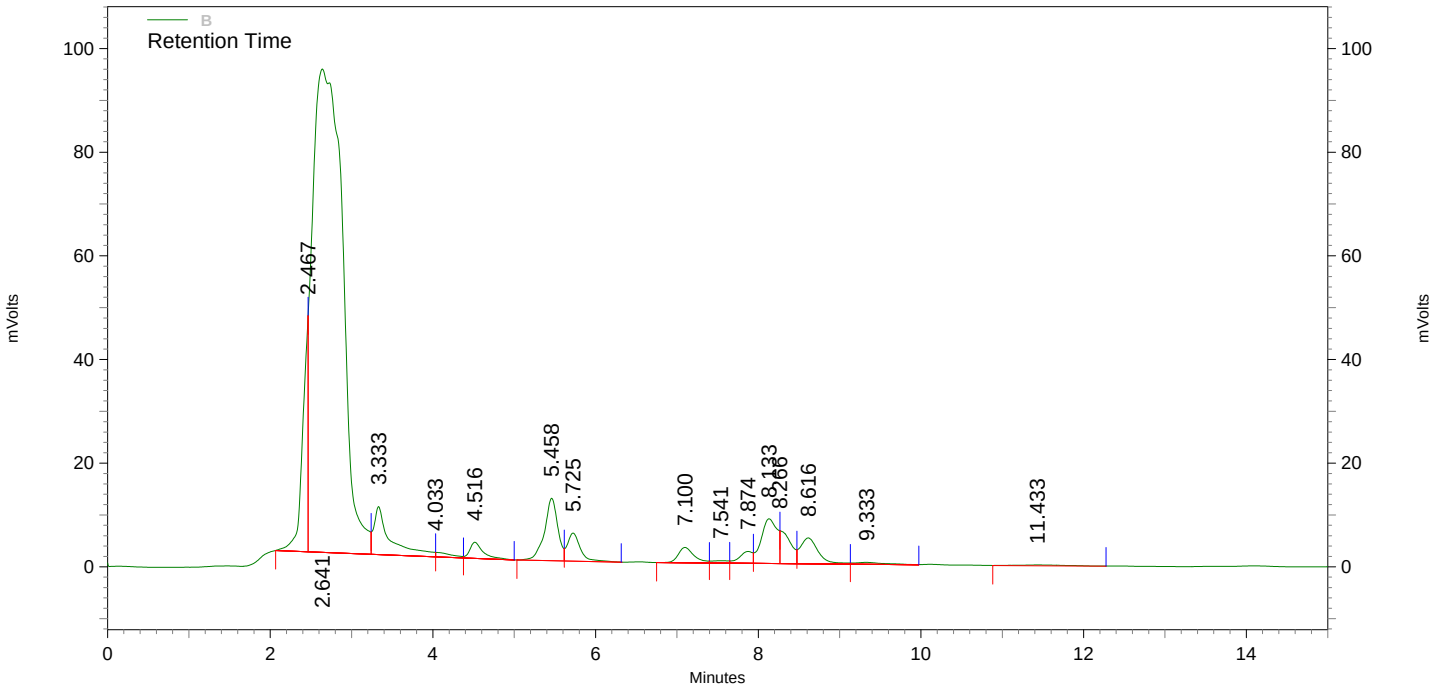
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG	7.874	25221	**0.391**
26-DNT			**0.000 BDL**
24-DNT	9.324	7506	**0.035**
PETN			**0.000 BDL**

Before Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\100815EXP-PRIMARY\009.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\082415expic-primary\100815exp-primary.met
Sample ID: 119663,640122,
Acquired: Oct 08, 2015 16:58:36
Data Summary: Reason #3 applies to data. RED 10/9/2015





A Results

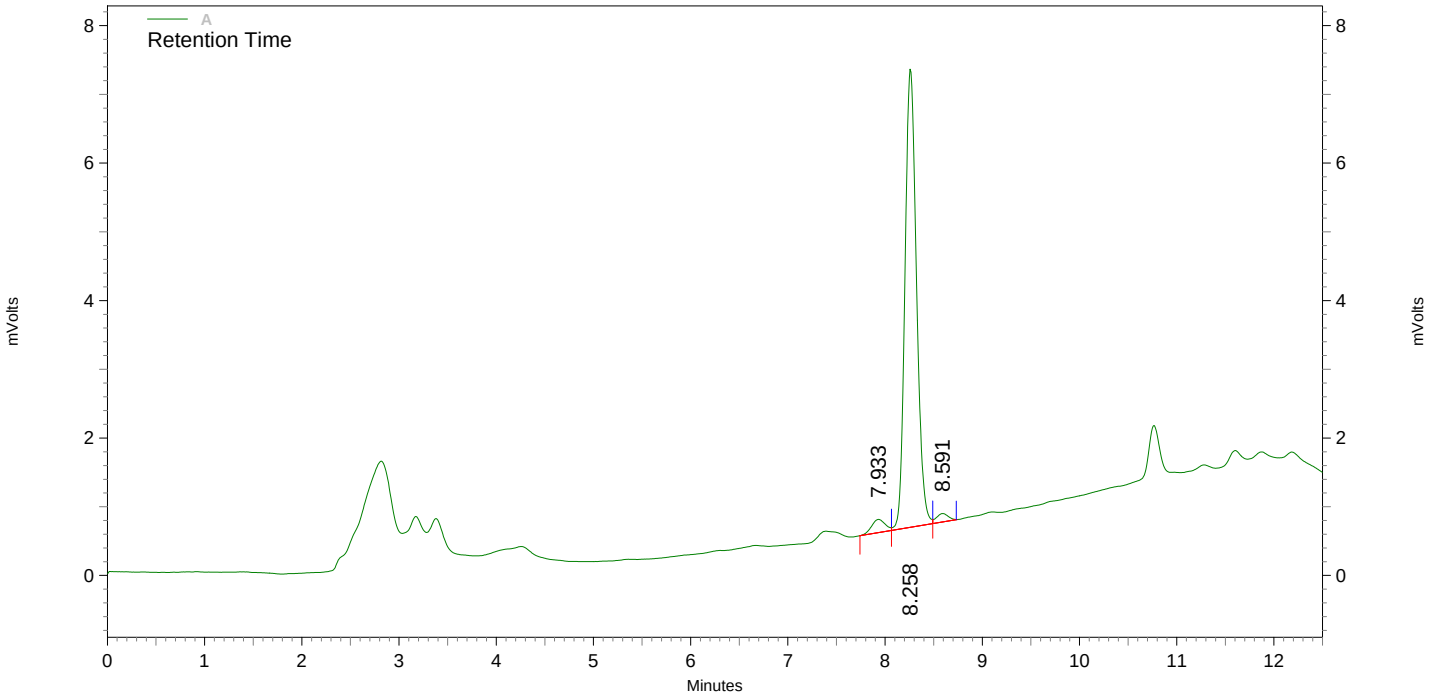
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX	3.333	9976	**0.161**
RDX	4.516	14295	**0.180**
12-DNB (SSTD)	5.466	54802	**109.228**
135-TNB	5.725	31738	**0.163**
13-DNB			**0.000 BDL**
TETRYL			**0.000 BDL**
35-DNA	7.100	23160	**0.131**
NB			**0.000 BDL**
246-TNT	8.133	86244	**0.499**
4-AM-26-DNT	8.291	23842	**0.230**
2-AM-46-DNT	8.616	49733	**0.270**
2-NT			**0.000 BDL**
4-NT	11.416	9888	**0.106**
3-NT			**0.000 BDL**

B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG	7.874	25221	**0.391**
26-DNT			**0.000 BDL**
24-DNT	9.333	10252	**0.049**
PETN			**0.000 BDL**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\100915MDTNX-PRIMARY\005.dat
User ID: RED
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\092915MDTNXic-primary\100915MTDNX-primary.met
Sample ID: 119664,640118,
Acquired: Oct 09, 2015 10:58:22
Data Summary: {Data Description}



A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX			**0.000 BDL**
DNX			**0.000 BDL**
MNX			**0.000 BDL**
12-DNB (SSTD)	8.258	54848	**108.160**

COMMENTS:

1. The results are reported using a UV/Vis detector set at 254 nm.

After Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\100915MDTNX-PRIMARY\006.dat
User ID: RED
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\092915MDTNXic-primary\100915MTDNX-primary.met
Sample ID: 119664,640119,
Acquired: Oct 09, 2015 11:14:04
Data Summary: Reason #3 applies to data. RED 10/9/2015

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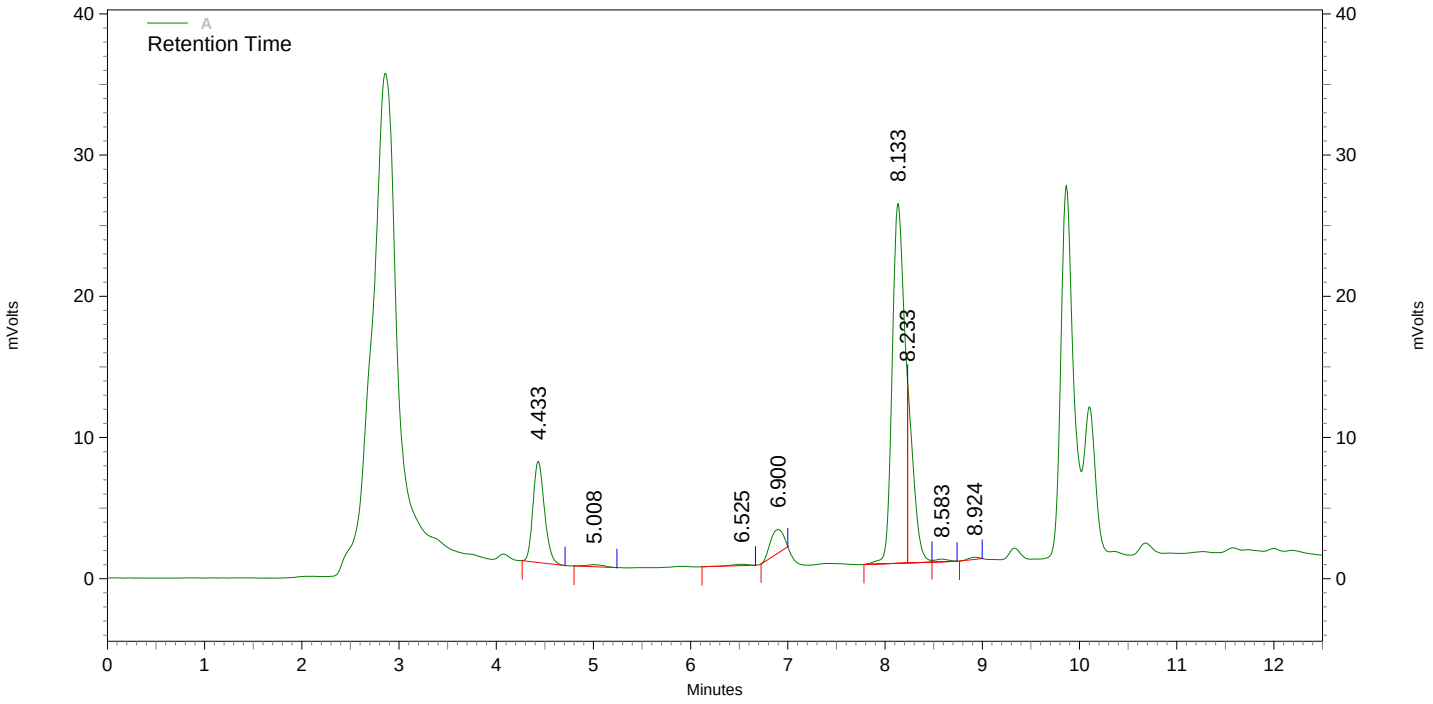
10/19/2015



A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX	4.433	58683	**0.401**
DNX	5.008	1790	**0.005**
MNX			**0.000 BDL**
12-DNB (SSTD)	8.233	52753	**103.966**

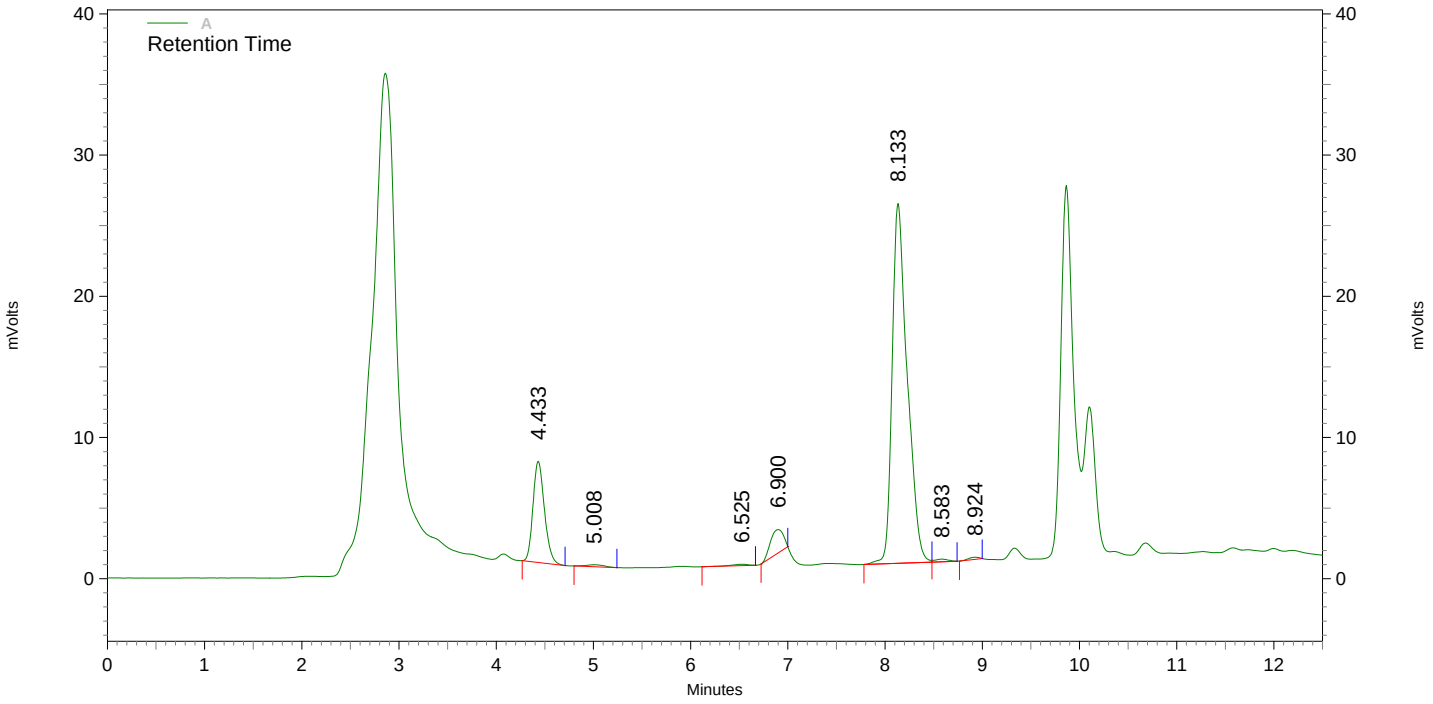
COMMENTS:

1. The results are reported using a UV/Vis detector set at 254 nm.

Before Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\100915MDTNX-PRIMARY\006.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\092915MDTNXic-primary\100915MTDNX-primary.met
Sample ID: 119664,640119,
Acquired: Oct 09, 2015 11:14:04
Data Summary: Reason #3 applies to data. RED 10/9/2015



A Results

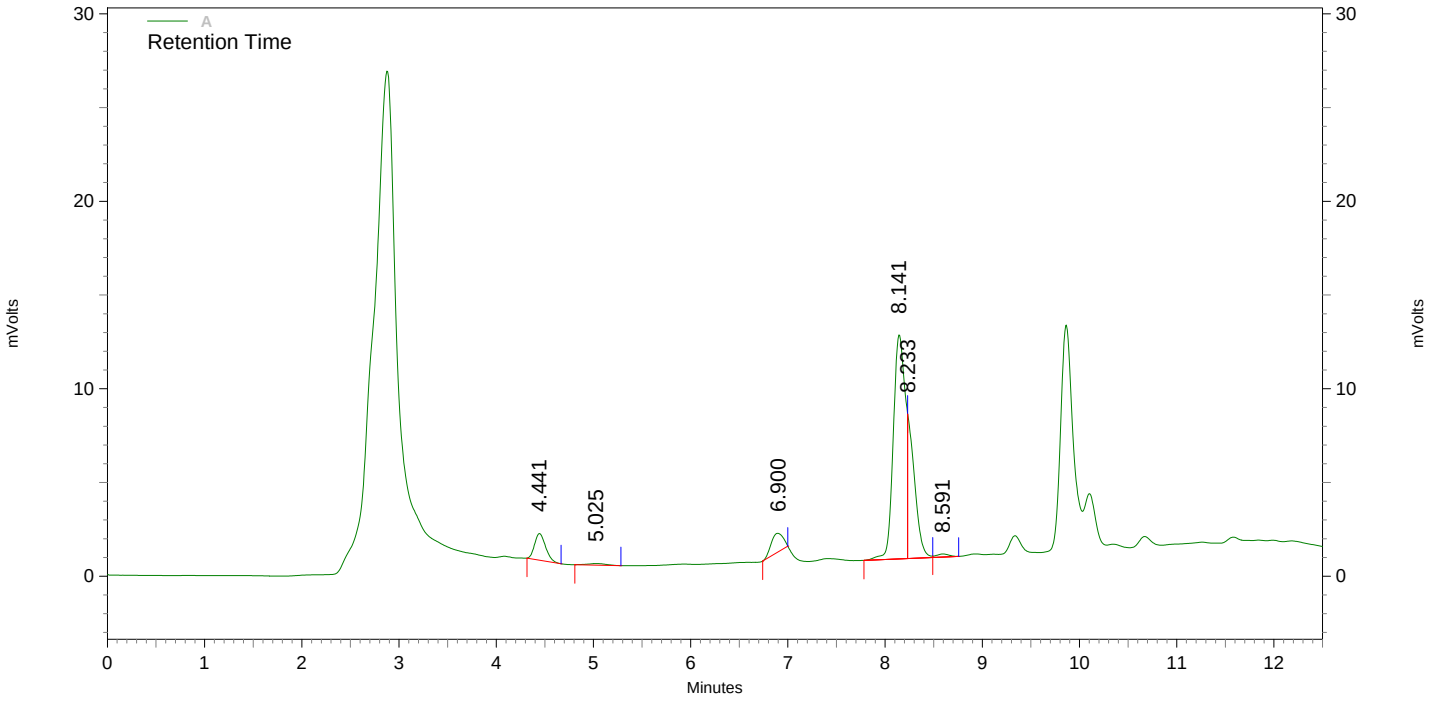
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX	4.433	58683	**0.401**
DNX	5.008	1790	**0.005**
MNX	6.525	1090	**0.000**
12-DNB (SSTD)	8.133	274426	**547.761**

COMMENTS:

1. The results are reported using a UV/Vis detector set at 254 nm.

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\100915MDTNX-PRIMARY\007.dat
User ID: RED
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\092915MDTNXic-primary\100915MTDNX-primary.met
Sample ID: 119664,640120,
Acquired: Oct 09, 2015 11:29:46
Data Summary: {Data Description}



A Results

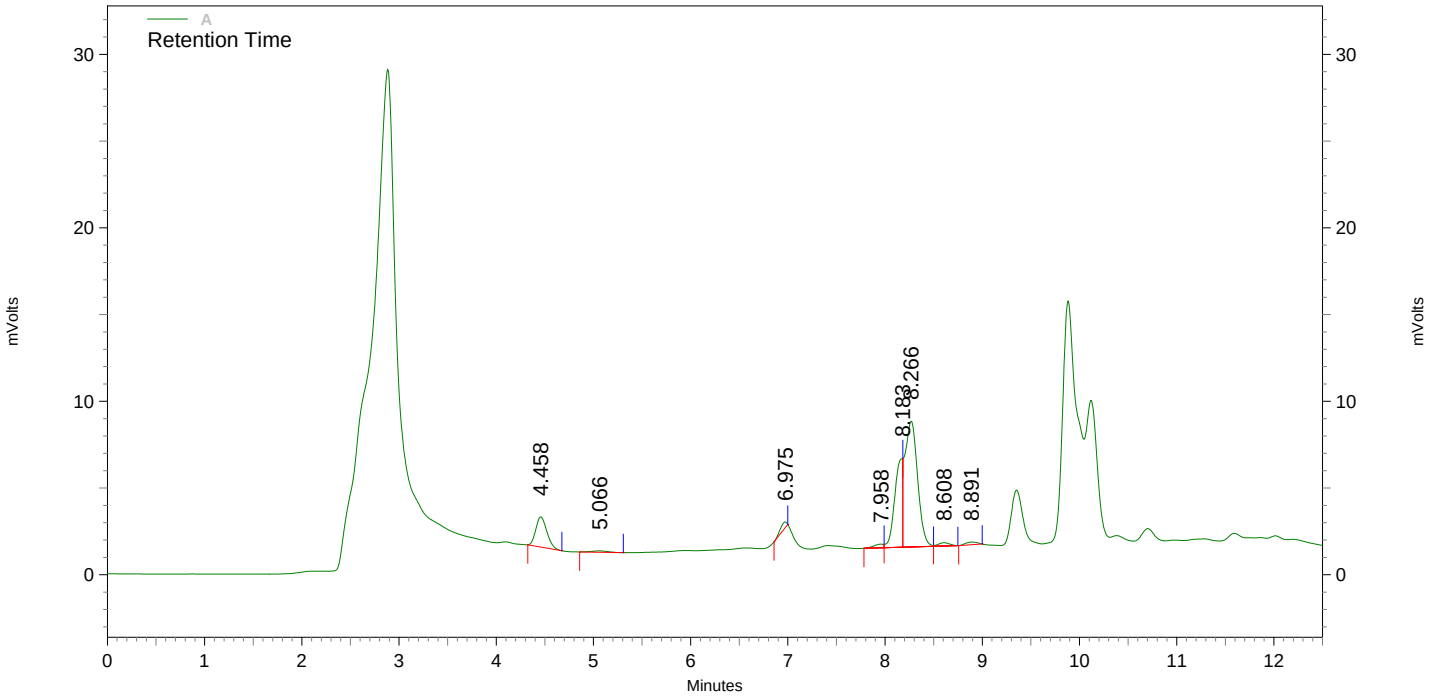
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX	4.441	11188	**0.072**
DNX	5.025	1084	**0.000**
MNX			**0.000 BDL**
12-DNB (SSTD)	8.233	37983	**74.396**

COMMENTS:

1. The results are reported using a UV/Vis detector set at 254 nm.

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\100915MDTNX-PRIMARY\008.dat
User ID: RED
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\092915MDTNXic-primary\100915MTDNX-primary.met
Sample ID: 119664,640121,
Acquired: Oct 09, 2015 11:45:29
Data Summary: {Data Description}



A Results

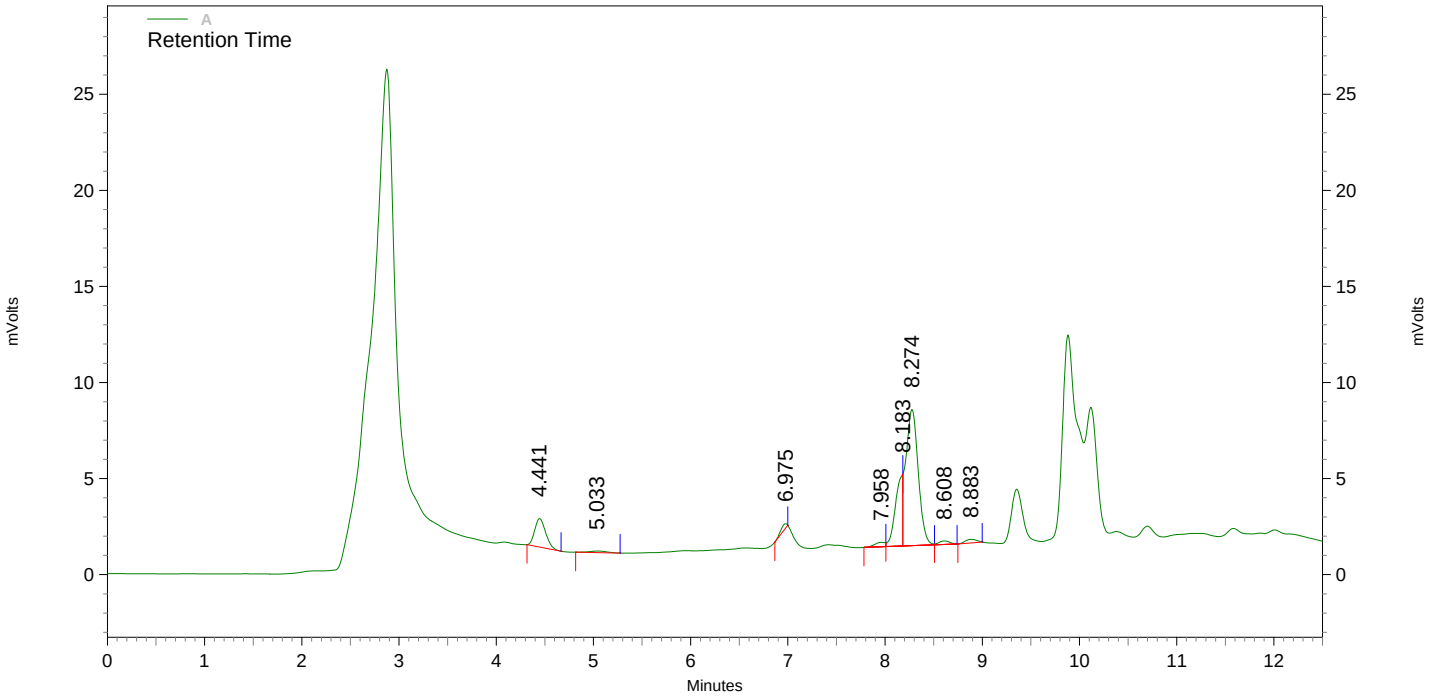
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX	4.458	13763	**0.090**
DNX	5.066	904	**0.000**
MNX			**0.000 BDL**
12-DNB (SSTD)	8.266	65539	**129.564**

COMMENTS:

1. The results are reported using a UV/Vis detector set at 254 nm.

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\100915MDTNX-PRIMARY\009.dat
User ID: RED
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\092915MDTNXic-primary\100915MTDNX-primary.met
Sample ID: 119664,640122,
Acquired: Oct 09, 2015 12:01:14
Data Summary: {Data Description}



A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX	4.441	11664	**0.075**
DNX	5.033	1011	**0.000**
MNX			**0.000 BDL**
12-DNB (SSTD)	8.274	62783	**124.046**

COMMENTS:

1. The results are reported using a UV/Vis detector set at 254 nm.

NITROAROMATICS ANALYSIS
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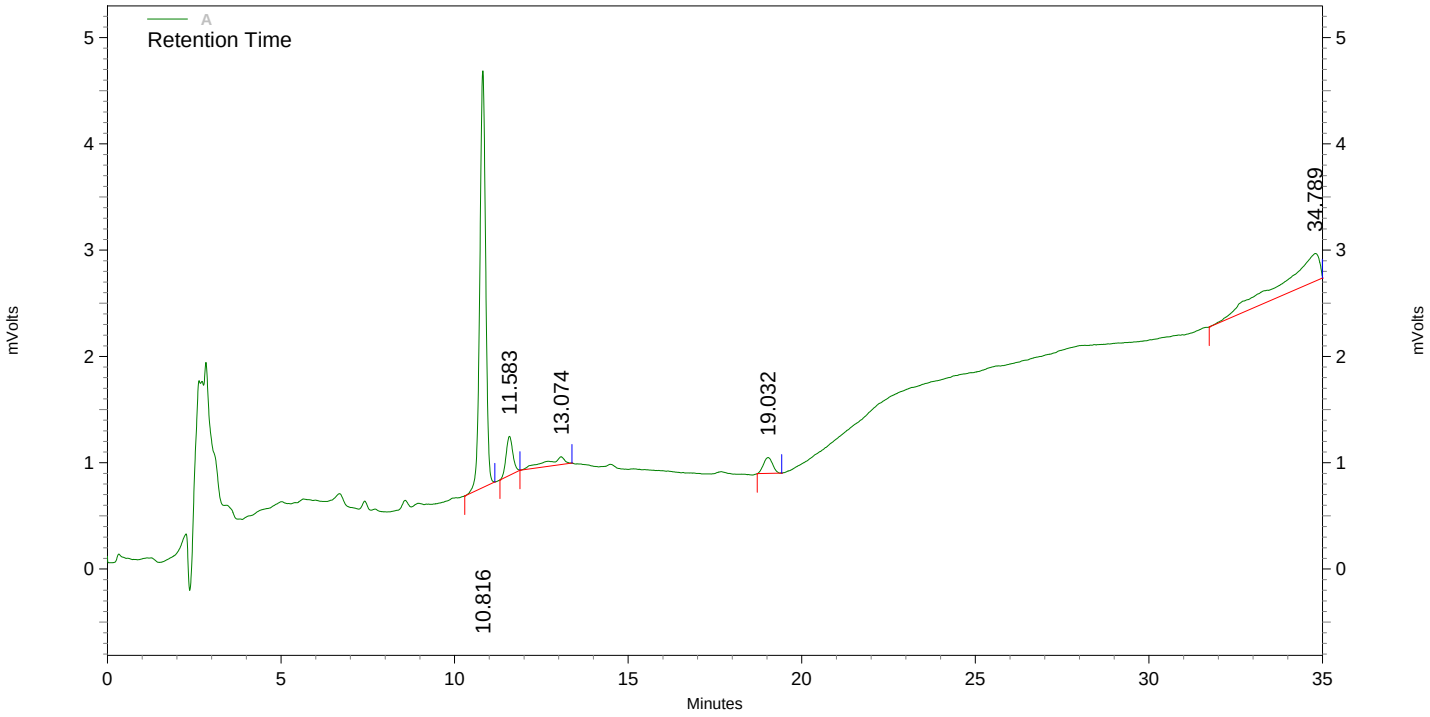
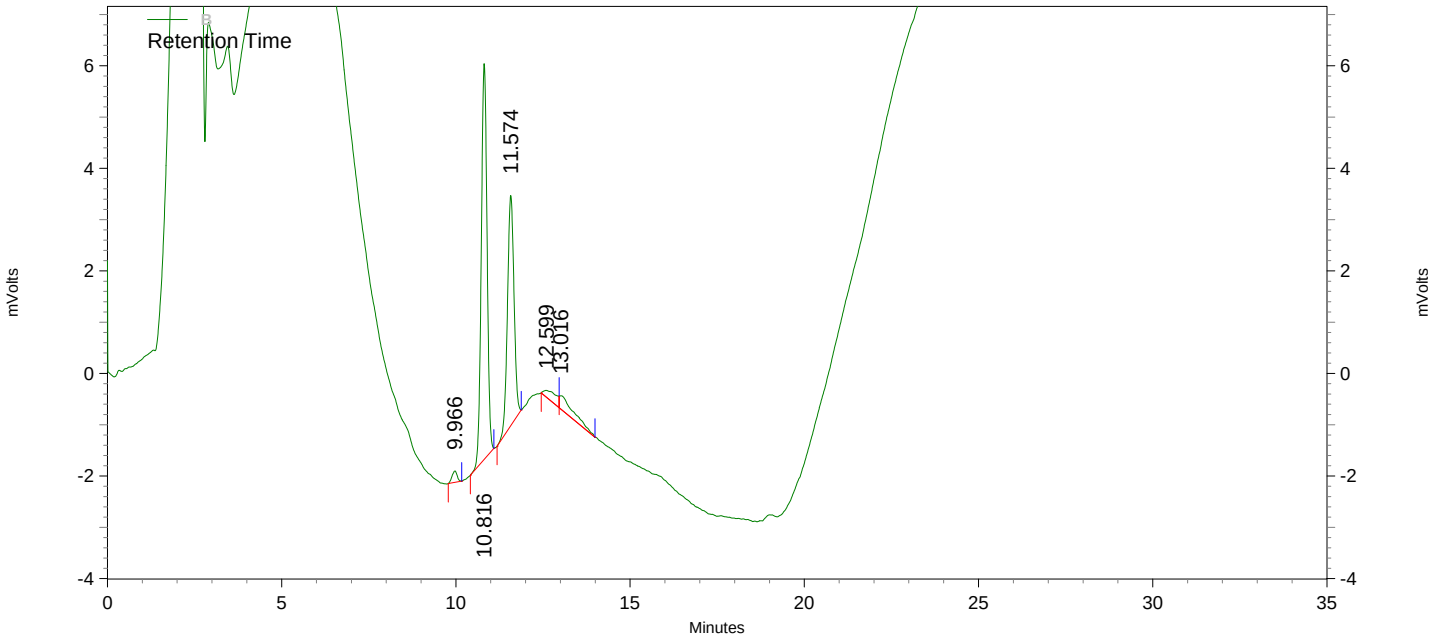
Explosives - 8330

File: C:\Instarch\HPLC 2\Data\101315EXP-confirm\004.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\091715expic-confirm\101315exp-confirm.met
Sample ID: 119663,640118,
Acquired: Oct 13, 2015 17:06:37
Data Summary: {Data Description}





119663,640118,

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm			**0.000 BDL**
RDX-confirm			**0.000 BDL**
NB-confirm			**0.000 BDL**
12-DNB (SSTD)-confirm	10.816	45867	**82.762**
4-AM-26-DNT-conf.			**0.000 BDL**
3,5-DNA-confirm	11.583	4934	**0.020**
2-NT-confirm			**0.000 BDL**
2-AM-46-DNT-conf.			**0.000 BDL**
3-NT-confirm			**0.000 BDL**
4-NT-confirm			**0.000 BDL**
26-DNT-confirm			**0.000 BDL**
13-DNB-confirm			**0.000 BDL**
TETRYL-confirm			**0.000 BDL**
24-DNT-confirm			**0.000 BDL**
135-TNB-confirm			**0.000 BDL**
246-TNT-confirm			**0.000 BDL**

B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm			**0.000 BDL**
PETN-confirm			**0.000 BDL**

After Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\101315EXP-confirm\005.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\091715expic-confirm\101315exp-confirm.met
Sample ID: 119663,640119,
Acquired: Oct 13, 2015 17:43:55
Data Summary: Reason #4 applies to data. RED 10/14/2015

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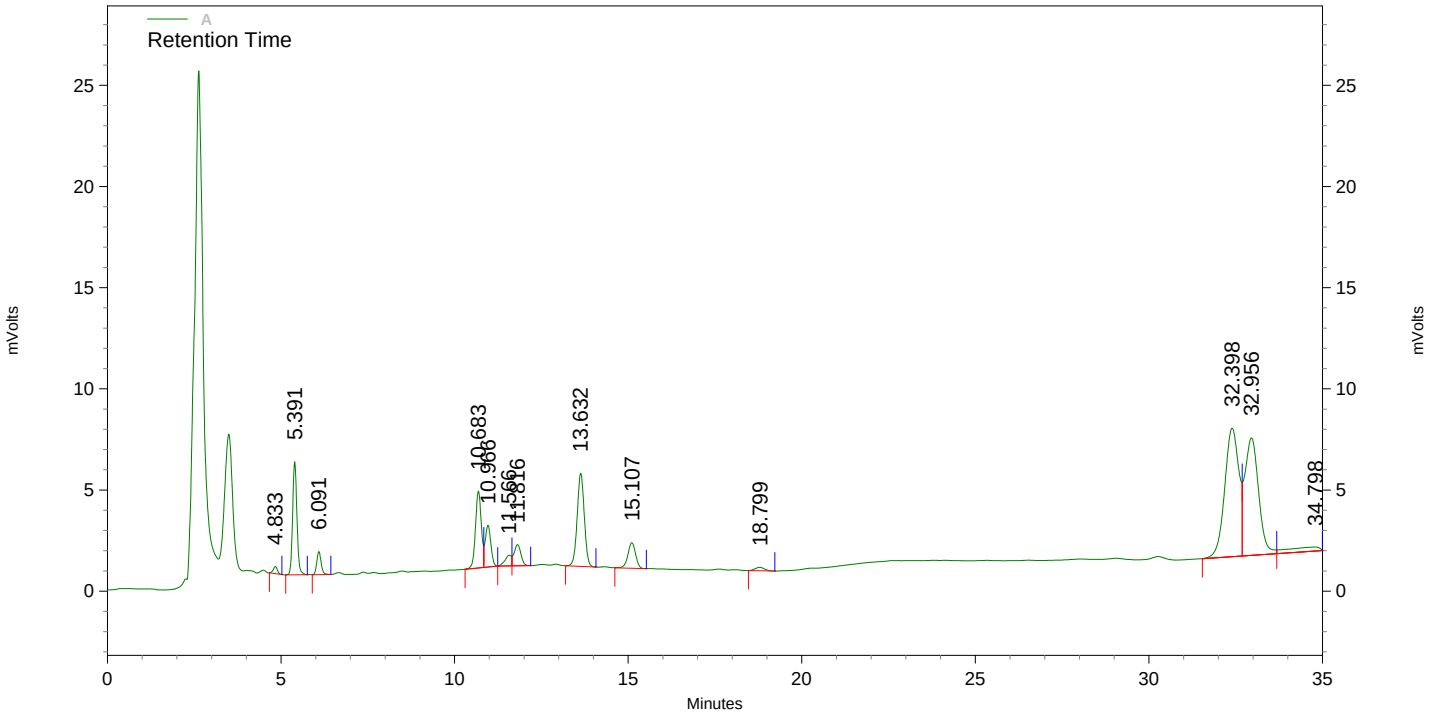
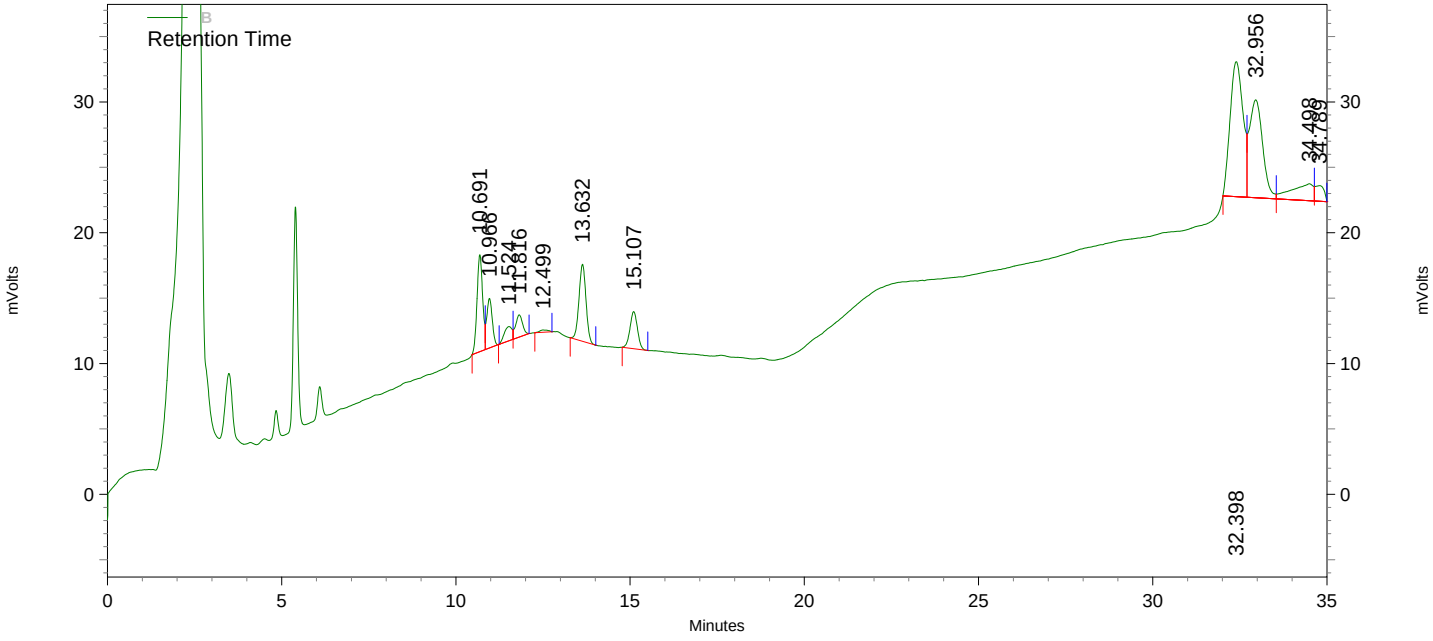




119663,640119,

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm	5.391	47810	**0.785**
RDX-confirm	6.091	10092	**0.127**
NB-confirm			**0.000 BDL**
12-DNB (SSTD)-confirm	10.683	43919	**79.168**
4-AM-26-DNT-conf.	10.966	23504	**0.183**
3,5-DNA-confirm	11.566	6777	**0.030**
2-NT-confirm			**0.000 BDL**
2-AM-46-DNT-conf.	13.632	65796	**0.363**
3-NT-confirm			**0.000 BDL**
4-NT-confirm			**0.000 BDL**
26-DNT-confirm			**0.000 BDL**
13-DNB-confirm			**0.000 BDL**
TETRYL-confirm			**0.000 BDL**
24-DNT-confirm			**0.000 BDL**
135-TNB-confirm	32.398	180962	**1.043**
246-TNT-confirm	32.956	160069	**0.951**

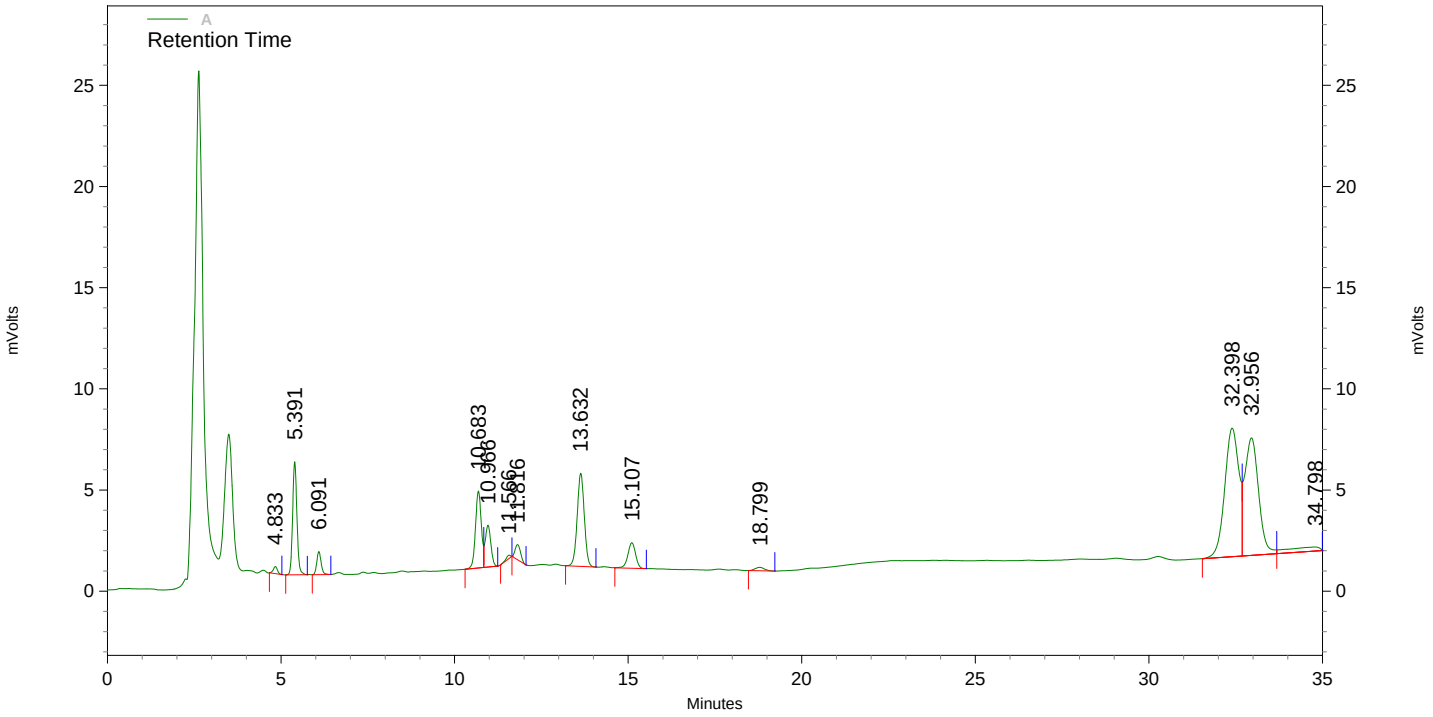
B Results

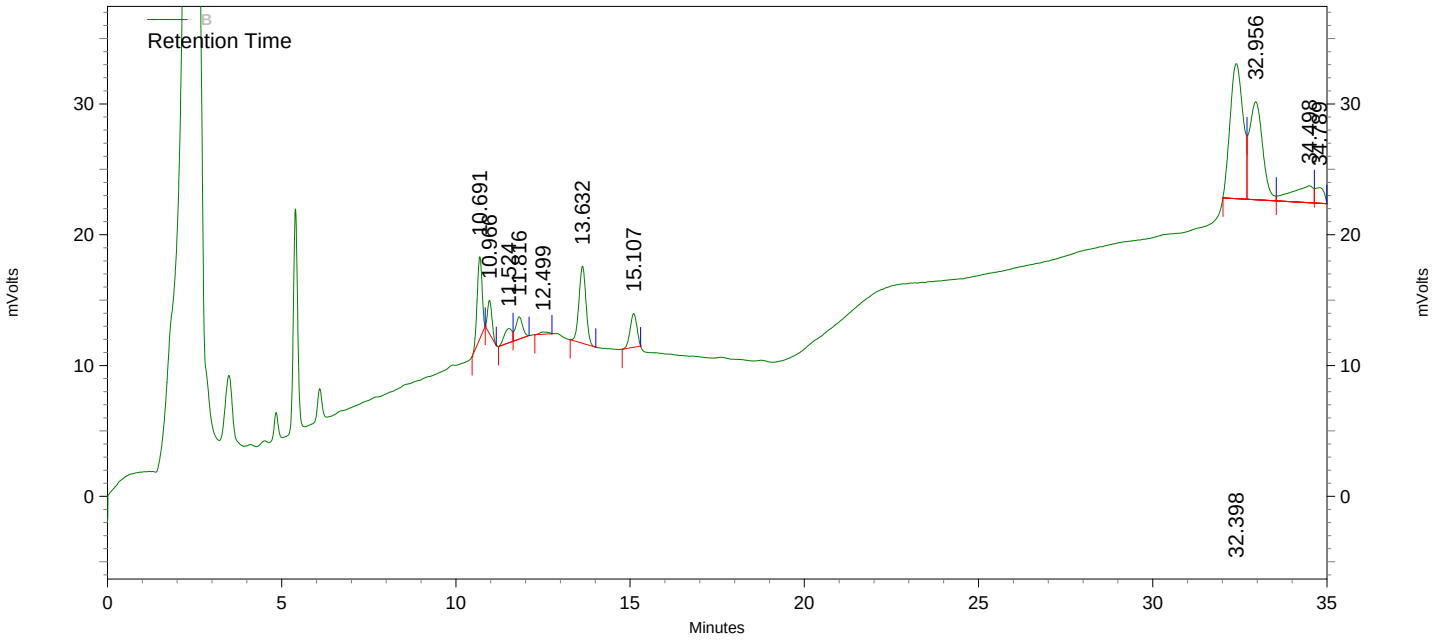
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm			**0.000 BDL**
PETN-confirm	15.107	42318	**0.596**

Before Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\101315EXP-confirm\005.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\091715expic-confirm\101315exp-confirm.met
Sample ID: 119663,640119,
Acquired: Oct 13, 2015 17:43:55
Data Summary: Reason #4 applies to data. RED 10/14/2015





119663,640119,

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm	5.391	47810	**0.785**
RDX-confirm	6.091	10092	**0.127**
NB-confirm			**0.000 BDL**
12-DNB (SSTD)-confirm	10.683	43919	**79.168**
4-AM-26-DNT-conf.	10.966	23504	**0.183**
3,5-DNA-confirm	11.566	1411	**0.002**
2-NT-confirm			**0.000 BDL**
2-AM-46-DNT-conf.	13.632	65796	**0.363**
3-NT-confirm			**0.000 BDL**
4-NT-confirm			**0.000 BDL**
26-DNT-confirm			**0.000 BDL**
13-DNB-confirm			**0.000 BDL**
TETRYL-confirm			**0.000 BDL**
24-DNT-confirm			**0.000 BDL**
135-TNB-confirm	32.398	180962	**1.043**
246-TNT-confirm	32.956	160069	**0.951**

B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm			**0.000 BDL**
PETN-confirm	15.107	34489	**0.482**

After Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\101315EXP-confirm\006.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\091715expic-confirm\101315exp-confirm.met
Sample ID: 119663,640120,
Acquired: Oct 13, 2015 18:21:13
Data Summary: Reason #4 applies to data. RED 10/14/2015

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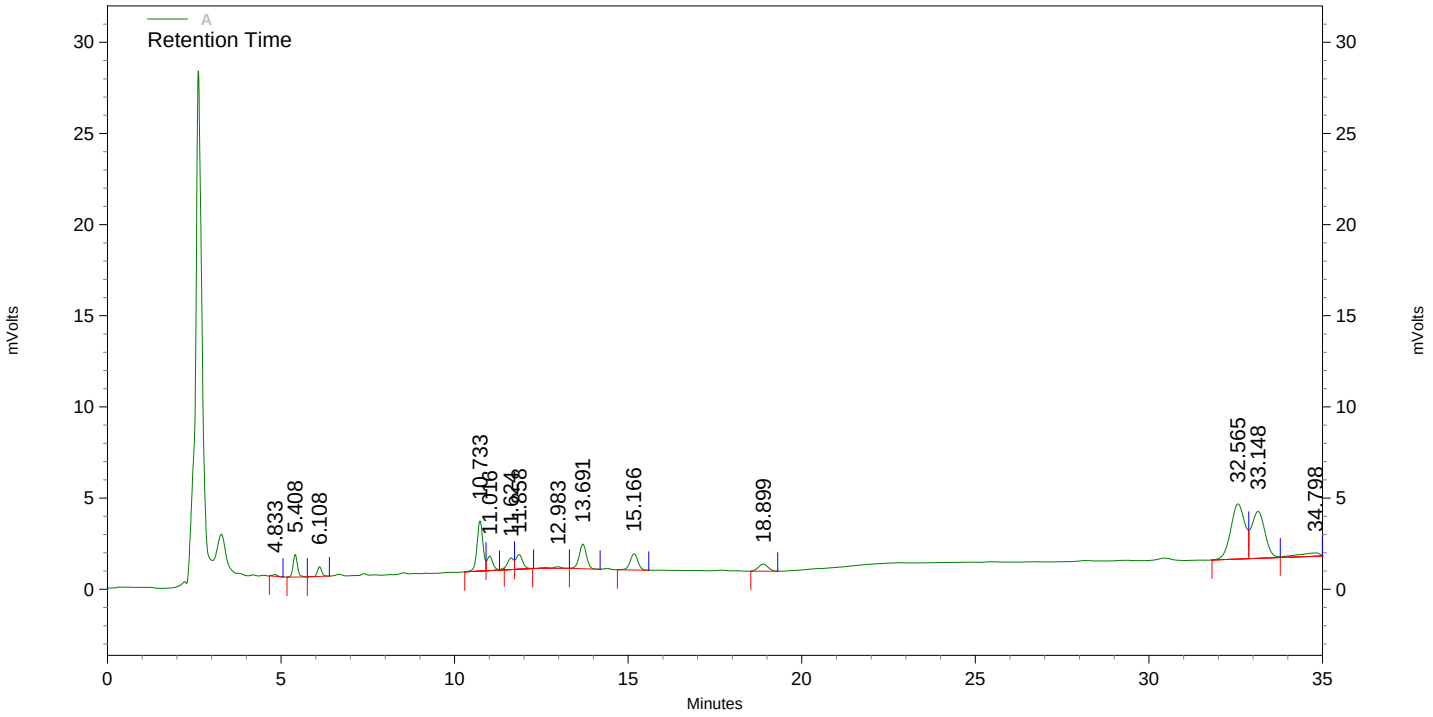
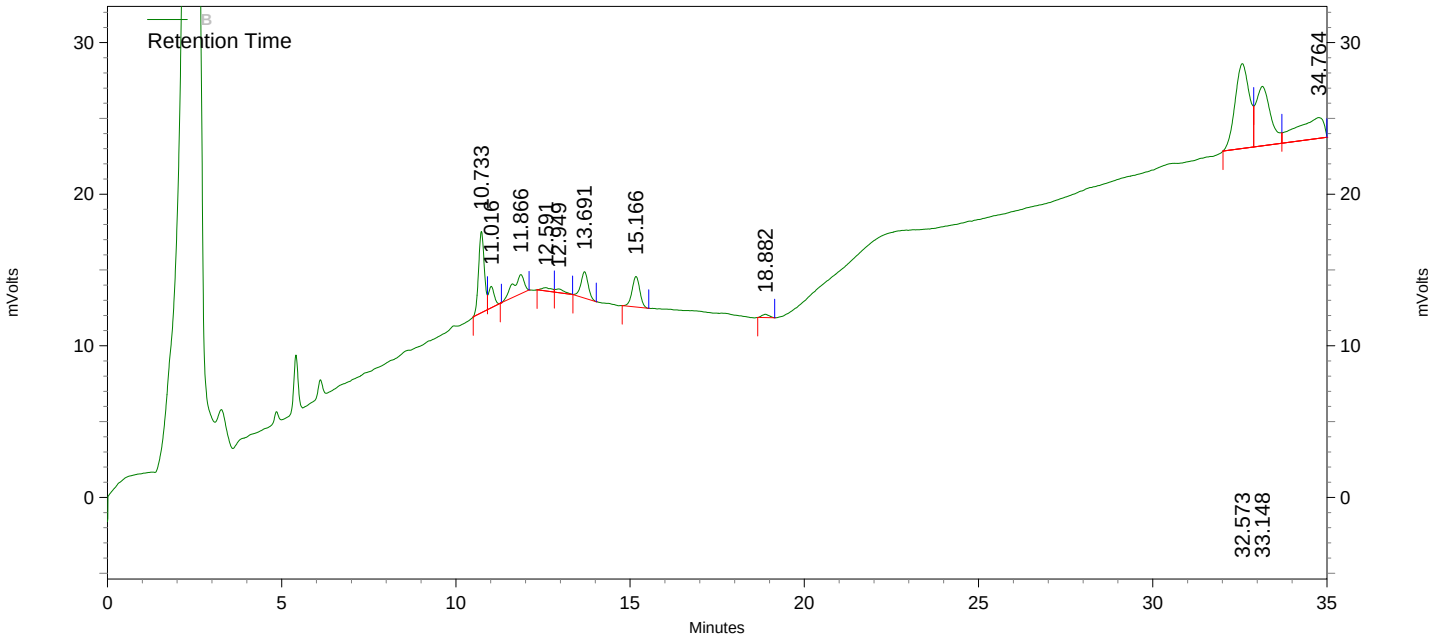




119663,640120,

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*	
HMX-confirm	5.408	10844	**0.173**	J
RDX-confirm	6.108	4685	**0.056**	J
NB-confirm			**0.000 BDL**	UJ
12-DNB (SSTD)-confirm	10.733	32545	**58.180**	J
4-AM-26-DNT-conf.	11.016	9331	**0.068**	
3,5-DNA-confirm	11.624	7820	**0.035**	
2-NT-confirm	12.983	2010	**0.016**	
2-AM-46-DNT-conf.	13.691	19467	**0.103**	
3-NT-confirm			**0.000 BDL**	UJ
4-NT-confirm			**0.000 BDL**	
26-DNT-confirm			**0.000 BDL**	
13-DNB-confirm			**0.000 BDL**	
TETRYL-confirm			**0.000 BDL**	
24-DNT-confirm			**0.000 BDL**	
135-TNB-confirm	32.565	85491	**0.489**	J
246-TNT-confirm	33.148	69339	**0.407**	J

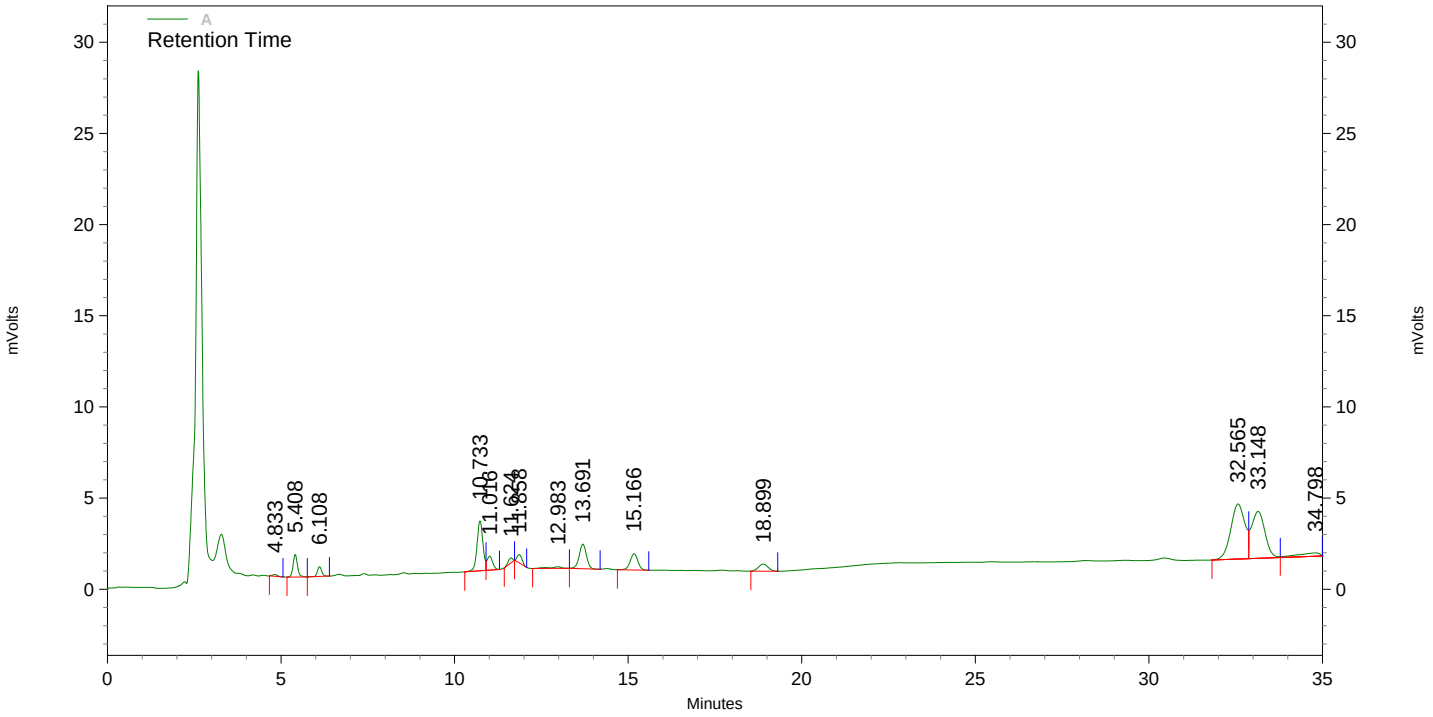
B Results

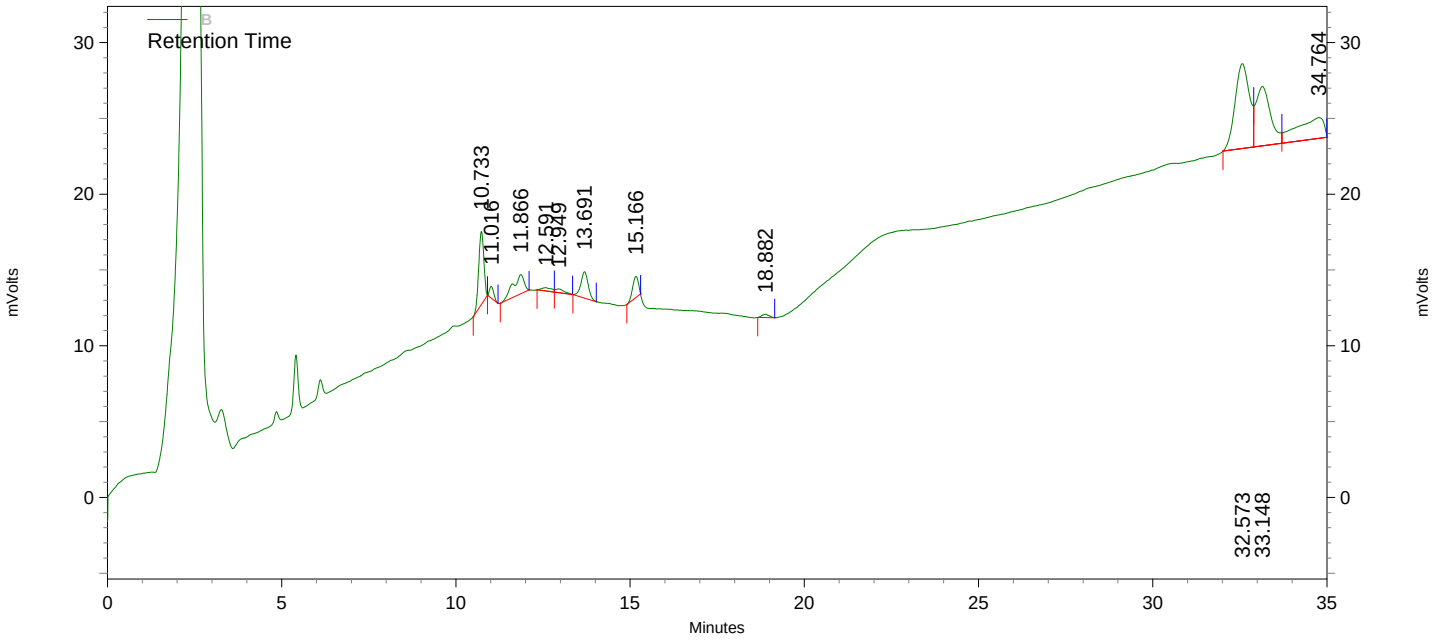
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm			**0.000 BDL**
PETN-confirm	15.166	31085	**0.432**

Before Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\101315EXP-confirm\006.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\091715expic-confirm\101315exp-confirm.met
Sample ID: 119663,640120,
Acquired: Oct 13, 2015 18:21:13
Data Summary: Reason #4 applies to data. RED 10/14/2015





119663,640120,

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*	
HMX-confirm	5.408	10844	**0.173**	J
RDX-confirm	6.108	4685	**0.056**	J
NB-confirm			**0.000 BDL**	UJ
12-DNB (SSTD)-confirm	10.733	32092	**57.344**	J
4-AM-26-DNT-conf.	11.016	8593	**0.062**	
3,5-DNA-confirm	11.624	2413	**0.007**	
2-NT-confirm	12.983	2010	**0.016**	
2-AM-46-DNT-conf.	13.691	19467	**0.103**	
3-NT-confirm			**0.000 BDL**	UJ
4-NT-confirm			**0.000 BDL**	
26-DNT-confirm			**0.000 BDL**	
13-DNB-confirm			**0.000 BDL**	
TETRYL-confirm			**0.000 BDL**	
24-DNT-confirm			**0.000 BDL**	
135-TNB-confirm	32.565	85491	**0.489**	J
246-TNT-confirm	33.148	69339	**0.407**	J

B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm			**0.000 BDL**
PETN-confirm	15.166	15774	**0.208**

After Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\101315EXP-confirm\007.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\091715expic-confirm\101315exp-confirm.met
Sample ID: 119663,640121,
Acquired: Oct 13, 2015 18:58:31
Data Summary: Reason #4 applies to data. RED 10/14/2015

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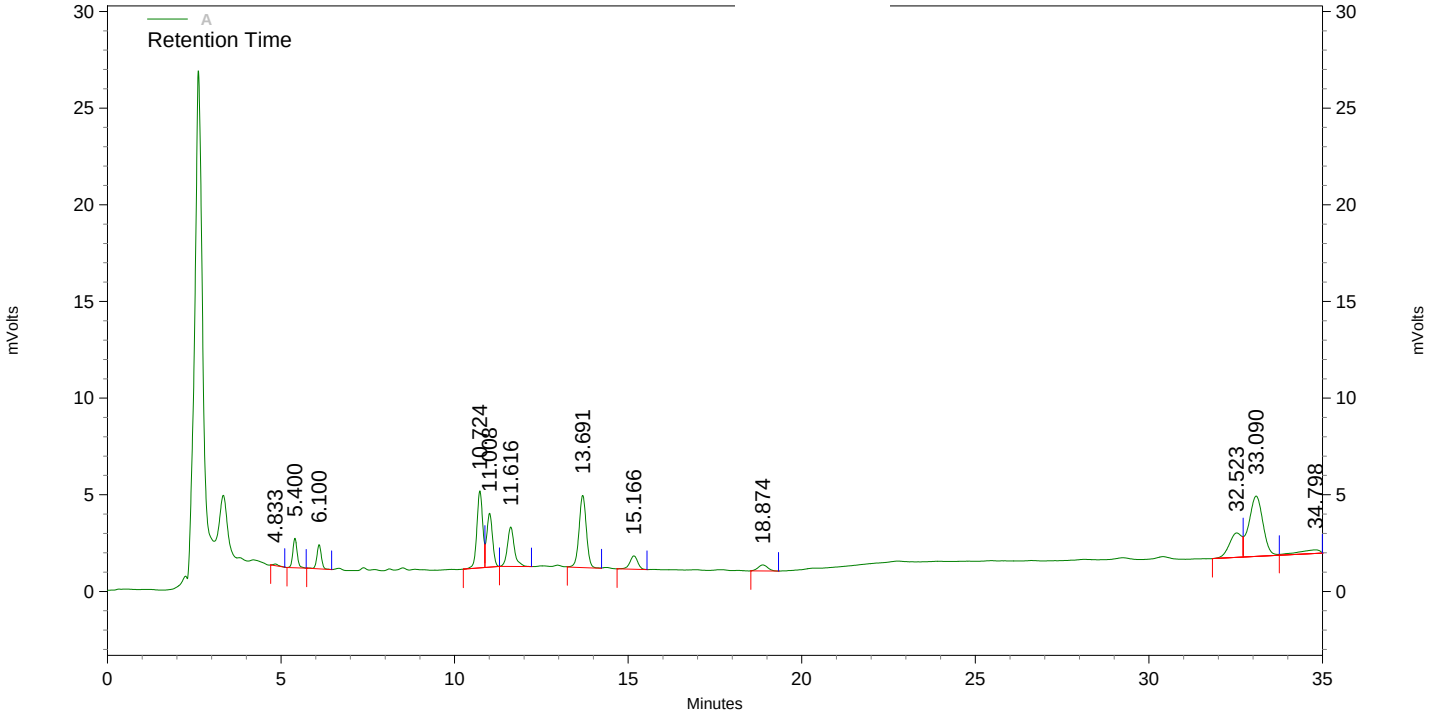
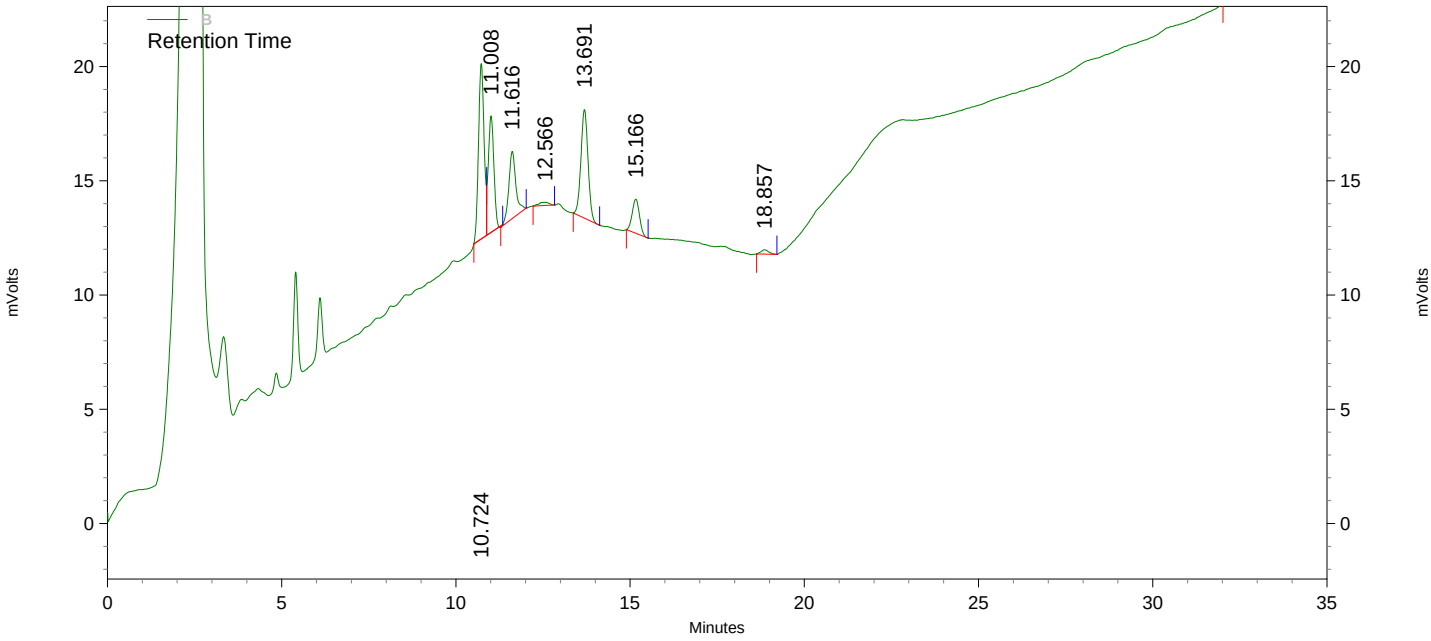
10/19/2015





119663,640121,

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm	5.400	13150	**0.211**
RDX-confirm	6.100	11104	**0.140**
NB-confirm			**0.000 BDL**
12-DNB (SSTD)-confirm	10.724	45993	**82.995**
4-AM-26-DNT-conf.	11.008	32408	**0.255**
3,5-DNA-confirm	11.616	28354	**0.142**
2-NT-confirm			**0.000 BDL**
2-AM-46-DNT-conf.	13.691	54589	**0.300**
3-NT-confirm			**0.000 BDL**
4-NT-confirm			**0.000 BDL**
26-DNT-confirm			**0.000 BDL**
13-DNB-confirm			**0.000 BDL**
TETRYL-confirm			**0.000 BDL**
24-DNT-confirm			**0.000 BDL**
135-TNB-confirm	32.523	31534	**0.175**
246-TNT-confirm	33.090	87809	**0.518**

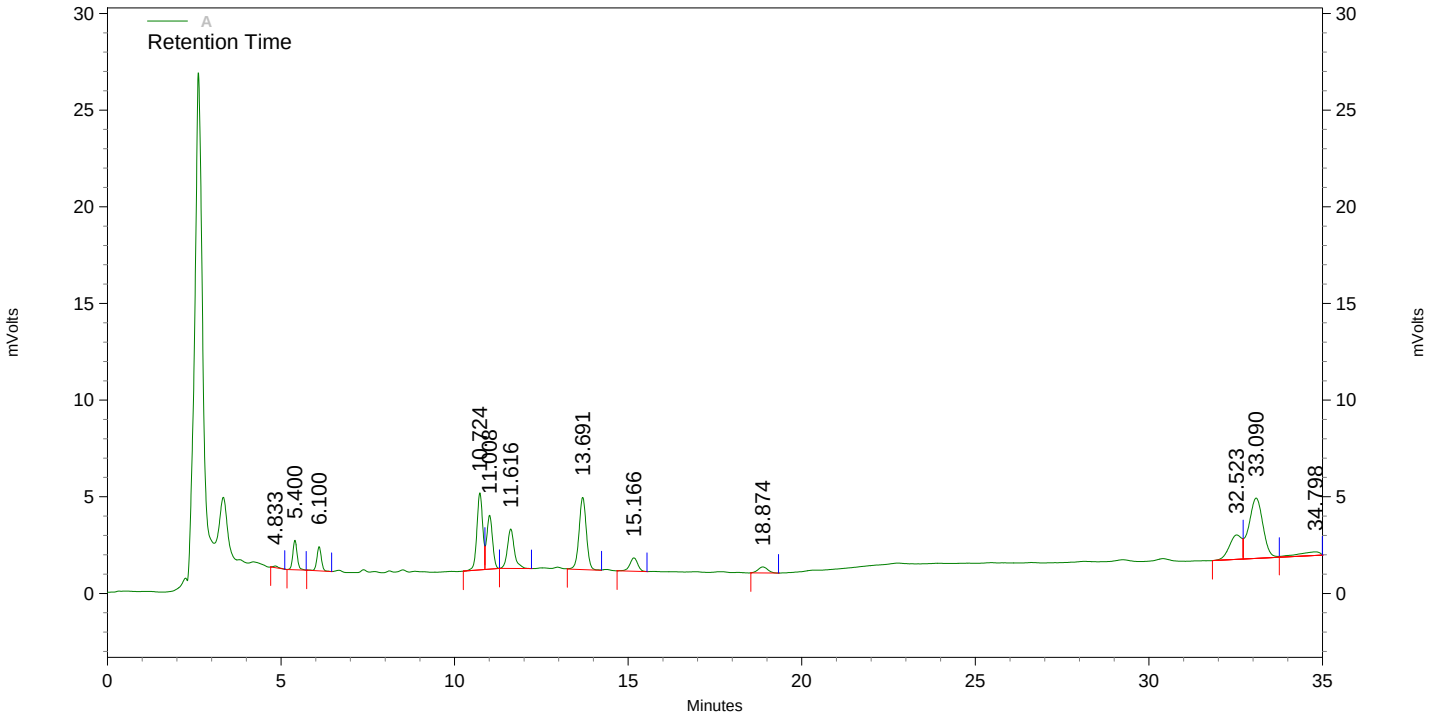
B Results

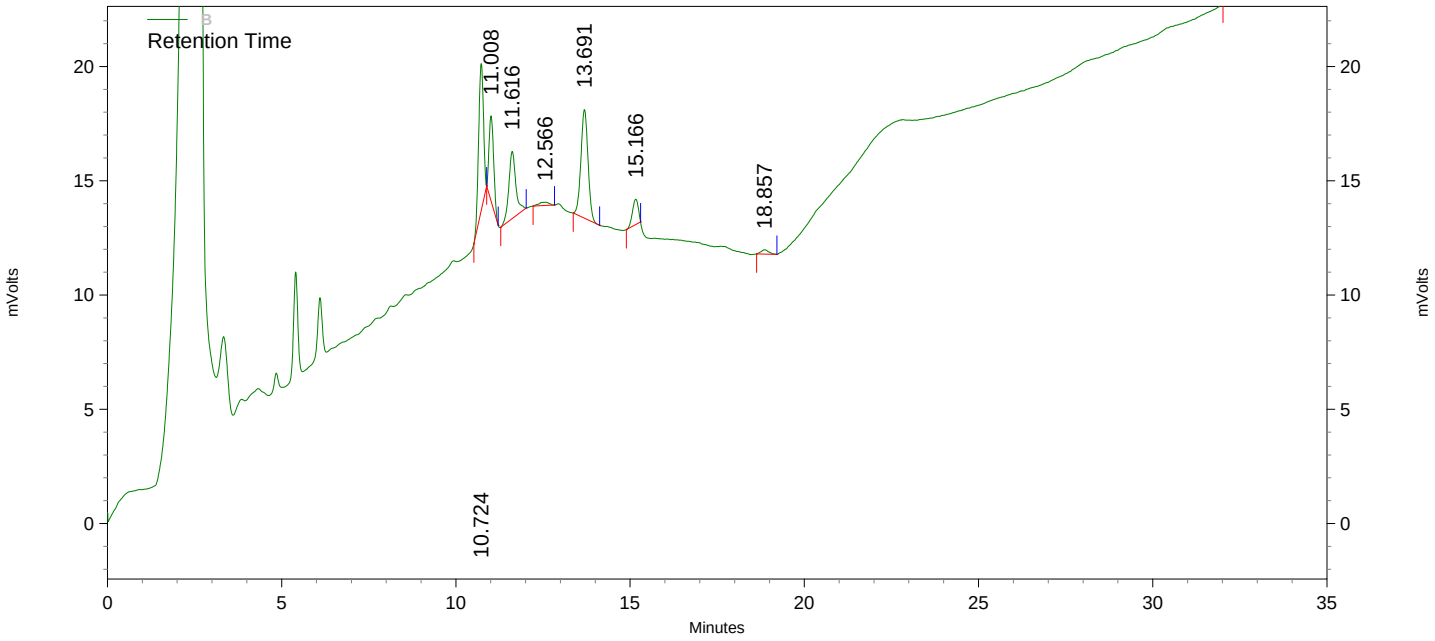
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm			**0.000 BDL**
PETN-confirm	15.166	21566	**0.293**

Before Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\101315EXP-confirm\007.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\091715expic-confirm\101315exp-confirm.met
Sample ID: 119663,640121,
Acquired: Oct 13, 2015 18:58:31
Data Summary: Reason #4 applies to data. RED 10/14/2015





119663,640121,

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm	5.400	13150	**0.211**
RDX-confirm	6.100	11104	**0.140**
NB-confirm			**0.000 BDL**
12-DNB (SSTD)-confirm	10.724	45993	**82.995**
4-AM-26-DNT-conf.	11.008	32408	**0.255**
3,5-DNA-confirm	11.616	28354	**0.142**
2-NT-confirm			**0.000 BDL**
2-AM-46-DNT-conf.	13.691	54589	**0.300**
3-NT-confirm			**0.000 BDL**
4-NT-confirm			**0.000 BDL**
26-DNT-confirm			**0.000 BDL**
13-DNB-confirm			**0.000 BDL**
TETRYL-confirm			**0.000 BDL**
24-DNT-confirm			**0.000 BDL**
135-TNB-confirm	32.523	31534	**0.175**
246-TNT-confirm	33.090	87809	**0.518**

B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm			**0.000 BDL**
PETN-confirm	15.166	12683	**0.163**

After Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\101315EXP-confirm\008.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\091715expic-confirm\101315exp-confirm.met
Sample ID: 119663,640122,
Acquired: Oct 13, 2015 19:35:49
Data Summary: Reason #4 applies to data. RED 10/14/2015

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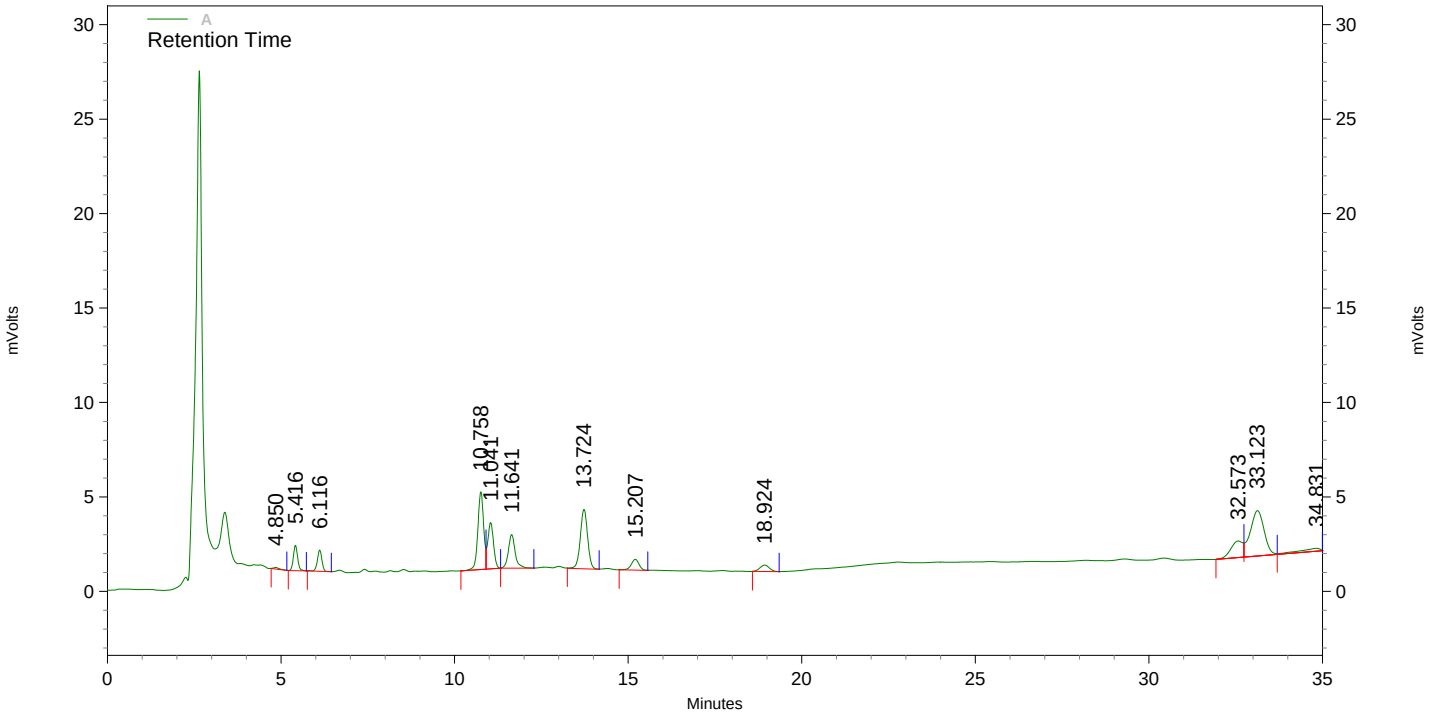
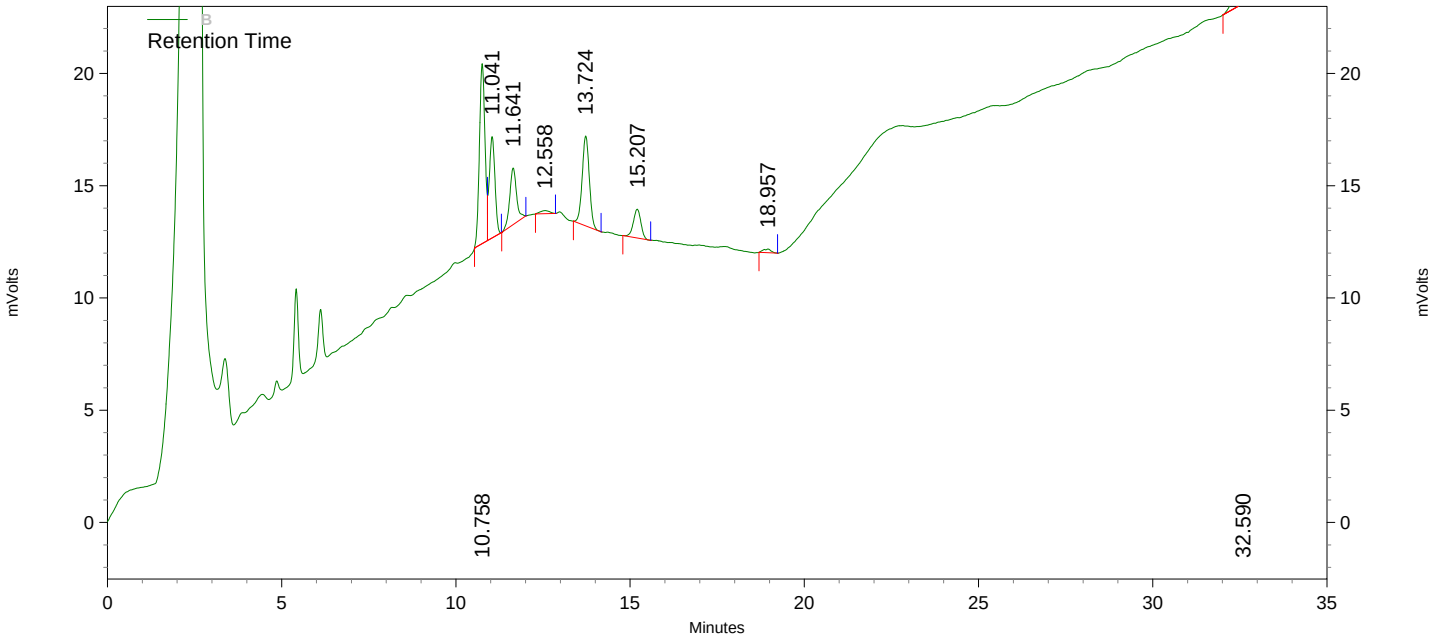
10/19/2015





119663,640122,

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm	5.416	11352	**0.181**
RDX-confirm	6.116	10211	**0.128**
NB-confirm			**0.000 BDL**
12-DNB (SSTD)-confirm	10.758	47469	**85.718**
4-AM-26-DNT-conf.	11.041	28013	**0.220**
3,5-DNA-confirm	11.641	24007	**0.120**
2-NT-confirm			**0.000 BDL**
2-AM-46-DNT-conf.	13.724	45778	**0.250**
3-NT-confirm			**0.000 BDL**
4-NT-confirm			**0.000 BDL**
26-DNT-confirm			**0.000 BDL**
13-DNB-confirm			**0.000 BDL**
TETRYL-confirm			**0.000 BDL**
24-DNT-confirm			**0.000 BDL**
135-TNB-confirm	32.573	21064	**0.114**
246-TNT-confirm	33.123	66688	**0.392**

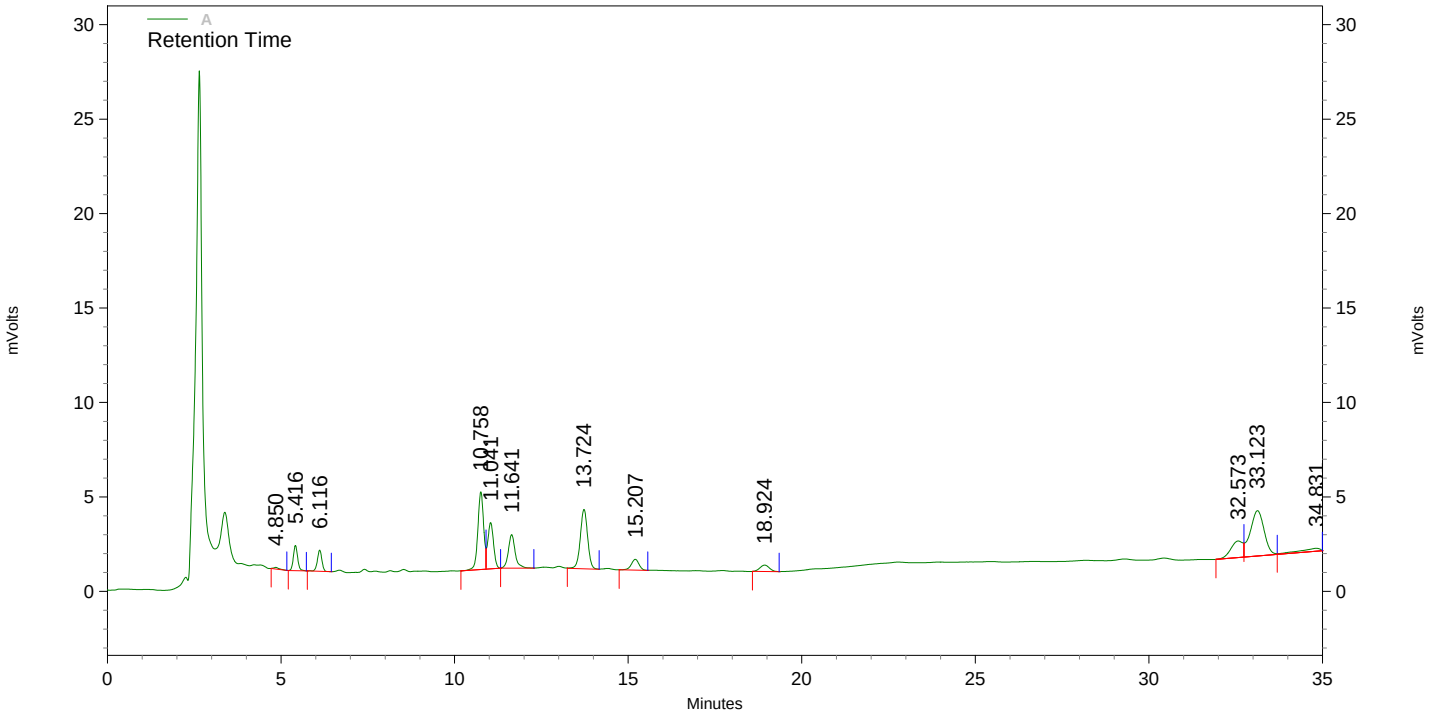
B Results

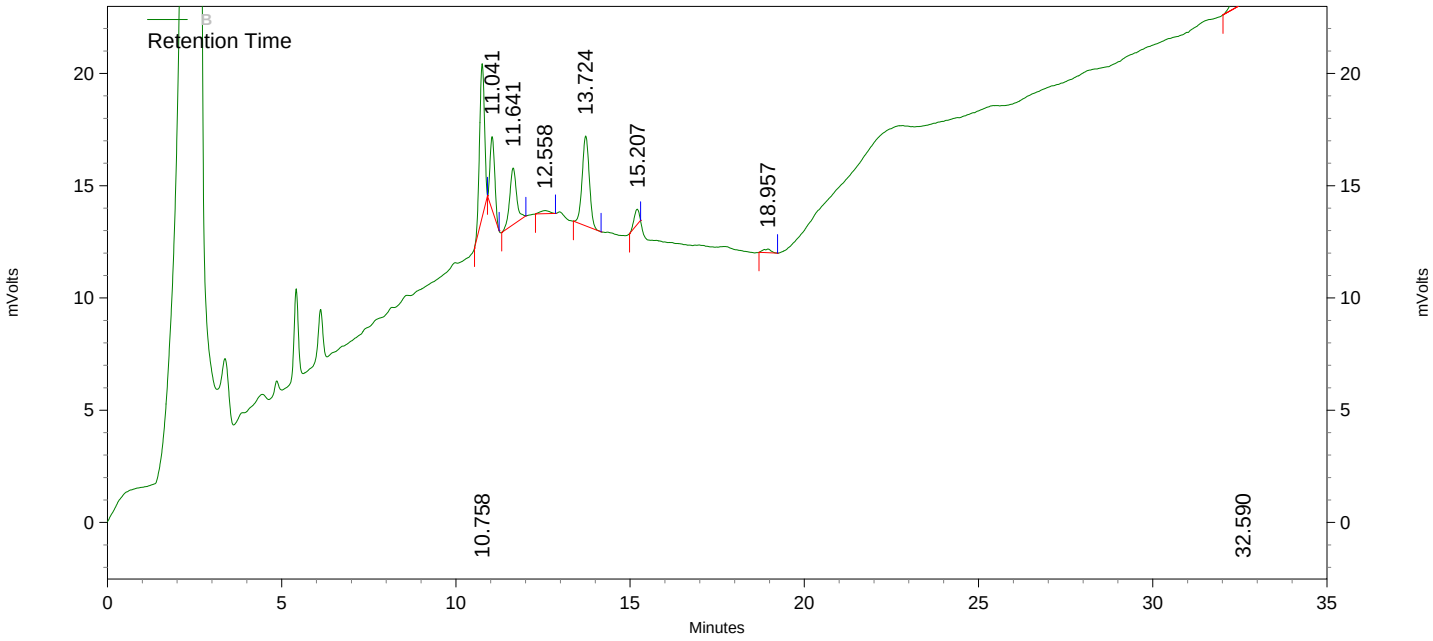
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm			**0.000 BDL**
PETN-confirm	15.207	19153	**0.258**

Before Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\101315EXP-confirm\008.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\091715expic-confirm\101315exp-confirm.met
Sample ID: 119663,640122,
Acquired: Oct 13, 2015 19:35:49
Data Summary: Reason #4 applies to data. RED 10/14/2015





119663,640122,

A Results

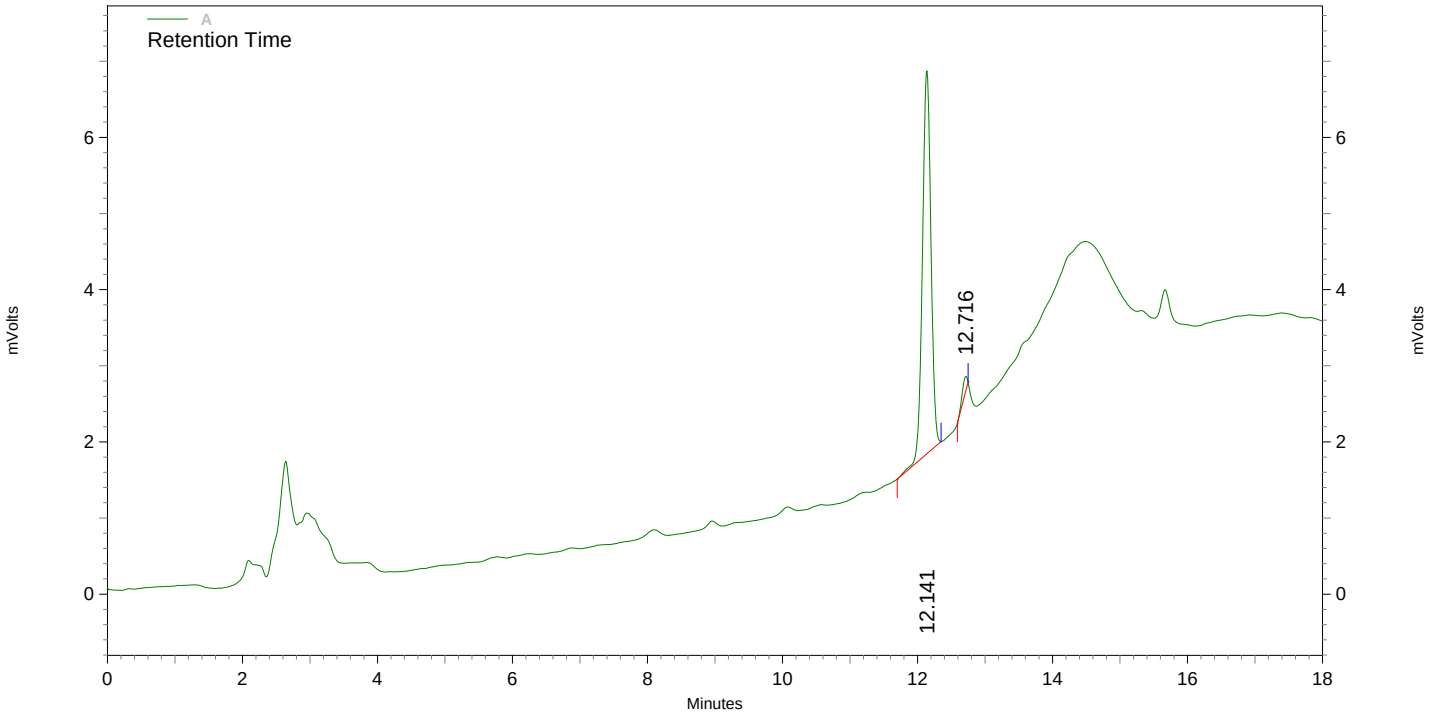
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm	5.416	11352	**0.181**
RDX-confirm	6.116	10211	**0.128**
NB-confirm			**0.000 BDL**
12-DNB (SSTD)-confirm	10.758	47469	**85.718**
4-AM-26-DNT-conf.	11.041	28013	**0.220**
3,5-DNA-confirm	11.641	24007	**0.120**
2-NT-confirm			**0.000 BDL**
2-AM-46-DNT-conf.	13.724	45778	**0.250**
3-NT-confirm			**0.000 BDL**
4-NT-confirm			**0.000 BDL**
26-DNT-confirm			**0.000 BDL**
13-DNB-confirm			**0.000 BDL**
TETRYL-confirm			**0.000 BDL**
24-DNT-confirm			**0.000 BDL**
135-TNB-confirm	32.573	21064	**0.114**
246-TNT-confirm	33.123	66688	**0.392**

B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm			**0.000 BDL**
PETN-confirm	15.207	6670	**0.076**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\101415MDTNX-confirm\004.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\093015MDTNXic-confirm\101415MDTNX-confirm.met
Sample ID: 119664,640118,
Acquired: Oct 14, 2015 14:16:29
Data Summary: {Data Description}



119664,640118,

A Results

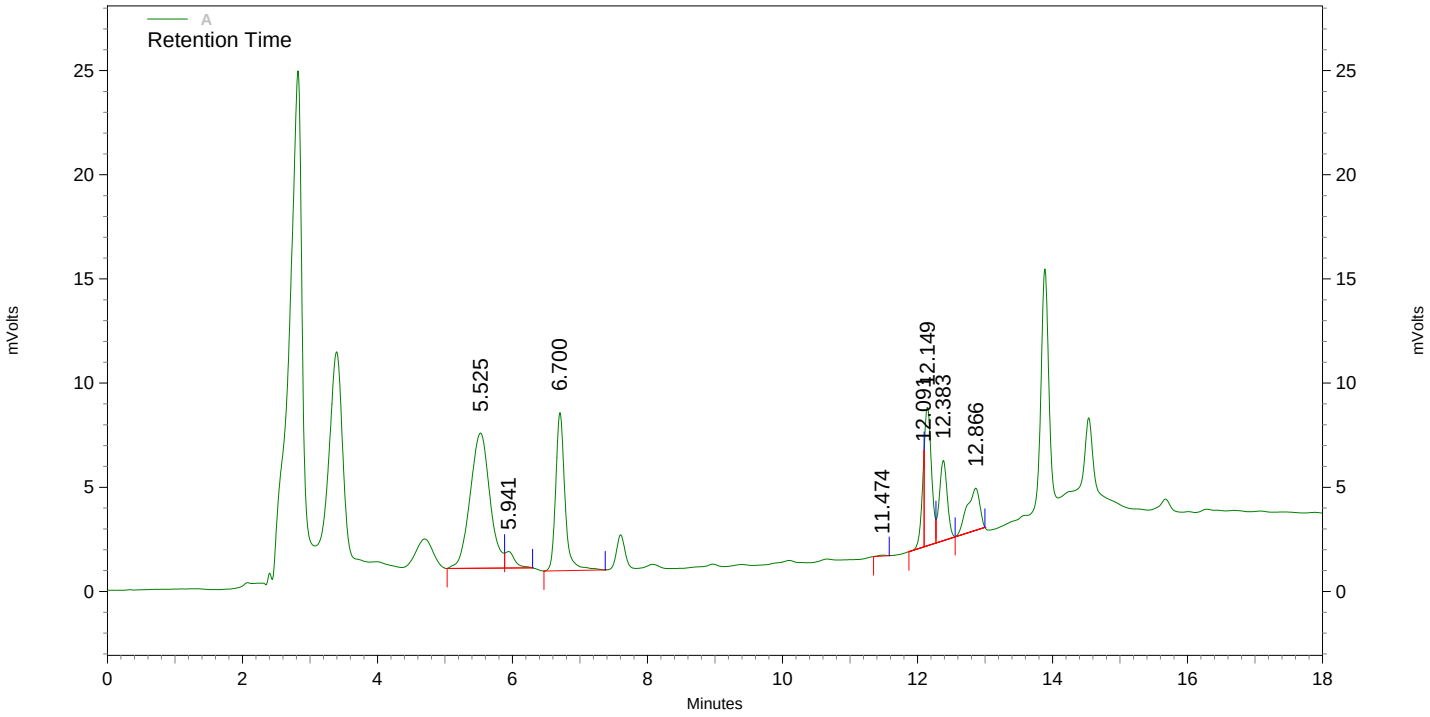
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX-confirm			**0.000 BDL**
DNX-confirm			**0.000 BDL**
MNX-confirm			**0.000 BDL**
12-DNB (SSTD)-confirm	12.141	43794	**105.648**

After Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\101415MDTNX-confirm\005.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\093015MDTNXic-confirm\101415MDTNX-confirm.met
Sample ID: 119664,640119,
Acquired: Oct 14, 2015 14:36:46
Data Summary: Reason #3 applies to data. RED 10/15/2015

JJY
10/19/2015



119664,640119,

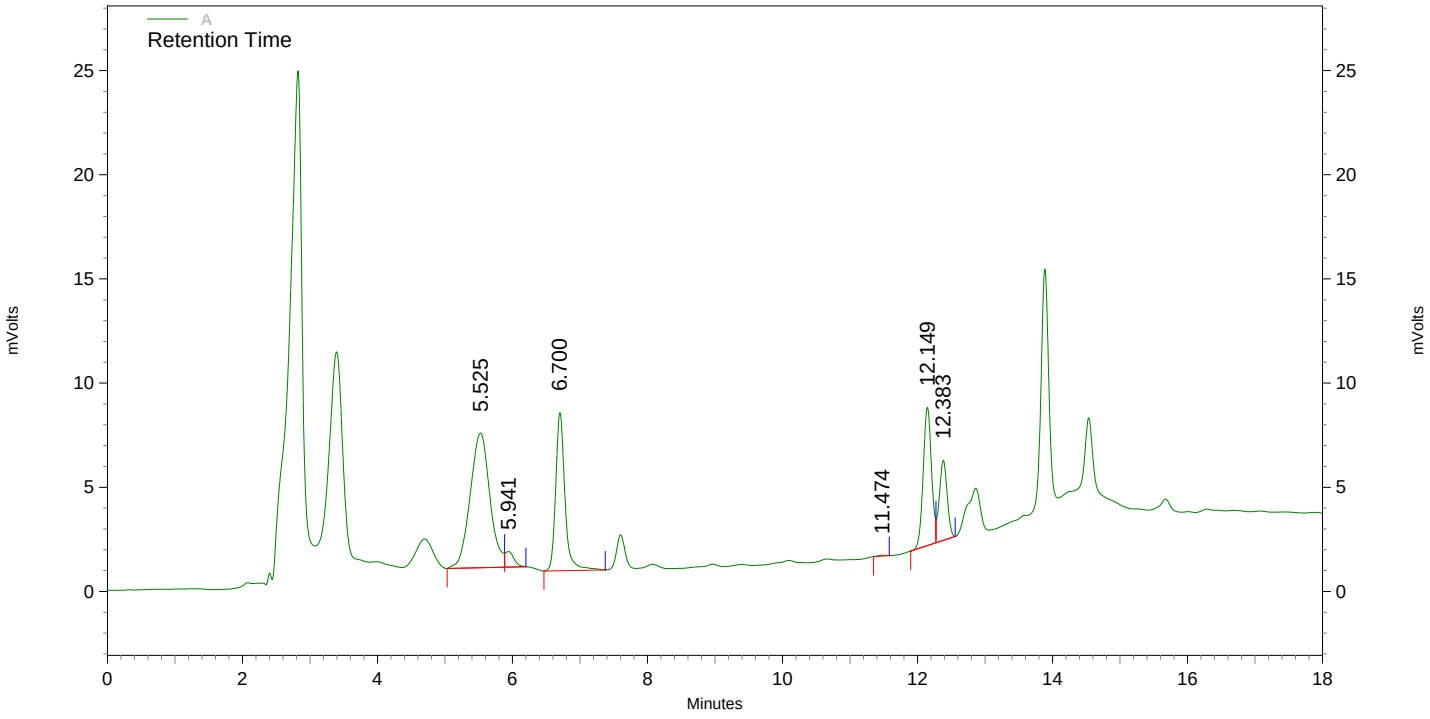
A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX-confirm			**0.000 BDL**
DNX-confirm	5.525	132043	**1.344**
MNX-confirm	6.700	72165	**0.871**
12-DNB (SSTD)-confirm	12.149	45266	**109.221**

Before Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\101415MDTNX-confirm\005.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\093015MDTNXic-confirm\101415MDTNX-confirm.met
Sample ID: 119664,640119,
Acquired: Oct 14, 2015 14:36:46
Data Summary: Reason #3 applies to data. RED 10/15/2015



119664,640119,

A Results

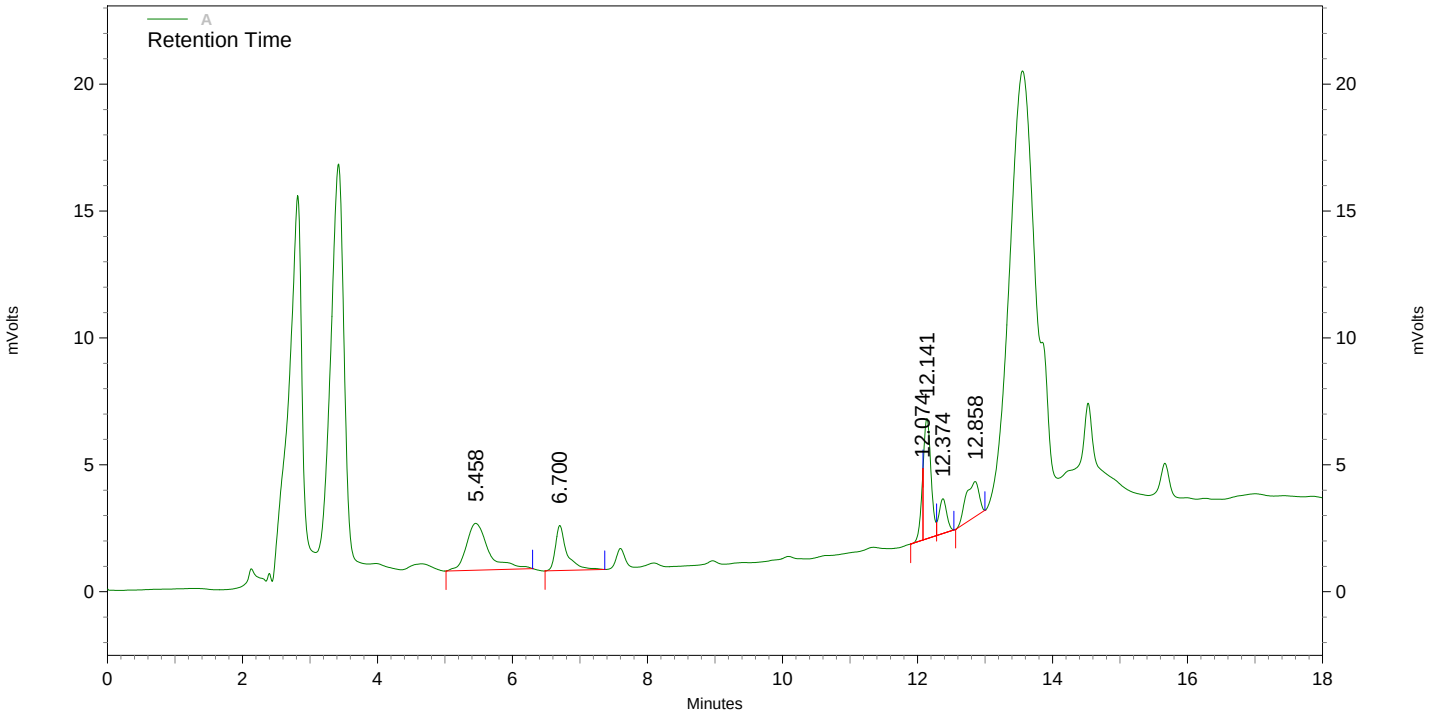
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX-confirm			**0.000 BDL**
DNX-confirm	5.525	130895	**1.332**
MNX-confirm	6.700	72165	**0.871**
12-DNB (SSTD)-confirm	12.149	56496	**136.476**

After Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\101415MDTNX-confirm\006.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\093015MDTNXic-confirm\101415MDTNX-confirm.met
Sample ID: 119664,640120,
Acquired: Oct 14, 2015 14:57:02
Data Summary: Reason #3 applies to data. RED 10/15/2015

JJY
10/19/2015



119664,640120,

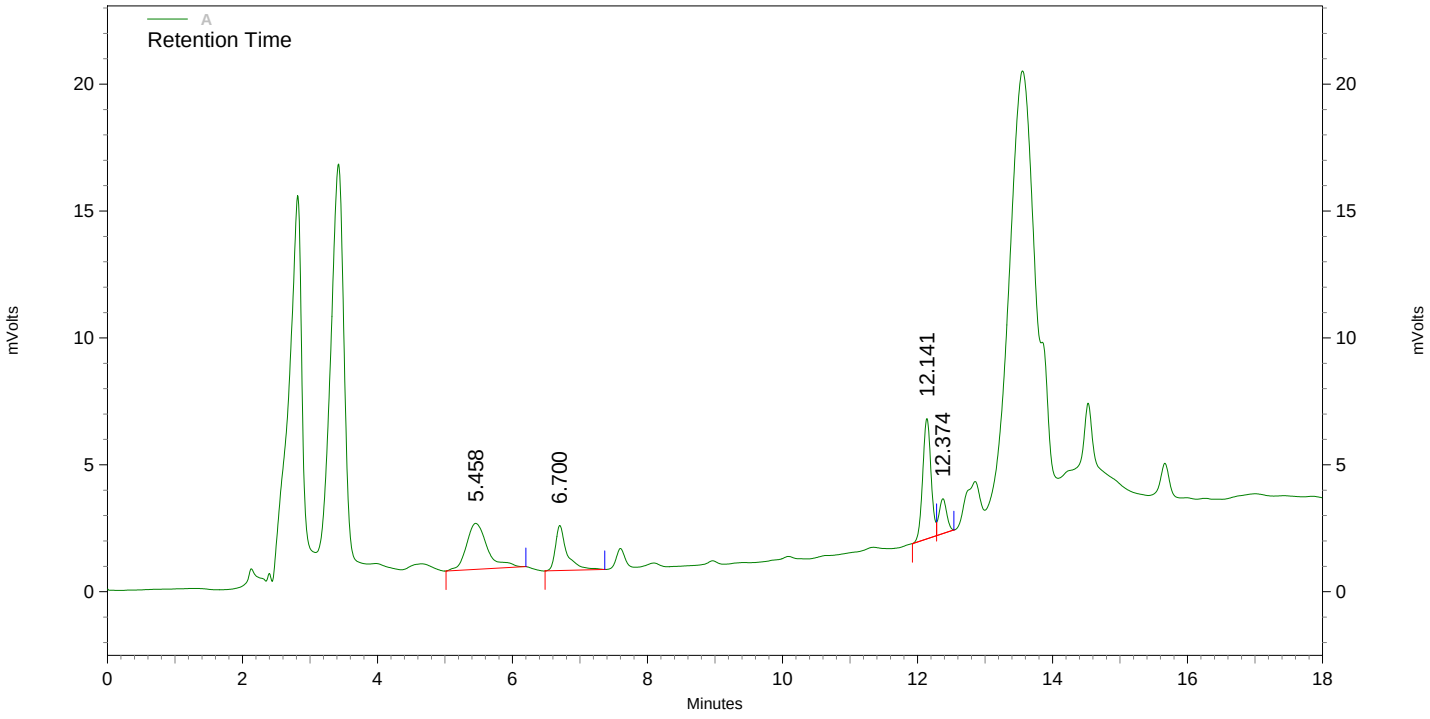
A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX-confirm			**0.000 BDL**
DNX-confirm	5.458	42346	**0.426**
MNX-confirm	6.700	21071	**0.248**
12-DNB (SSTD)-confirm	12.141	33931	**81.711**

Before Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\101415MDTNX-confirm\006.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\093015MDTNXic-confirm\101415MDTNX-confirm.met
Sample ID: 119664,640120,
Acquired: Oct 14, 2015 14:57:02
Data Summary: Reason #3 applies to data. RED 10/15/2015



119664,640120,

A Results

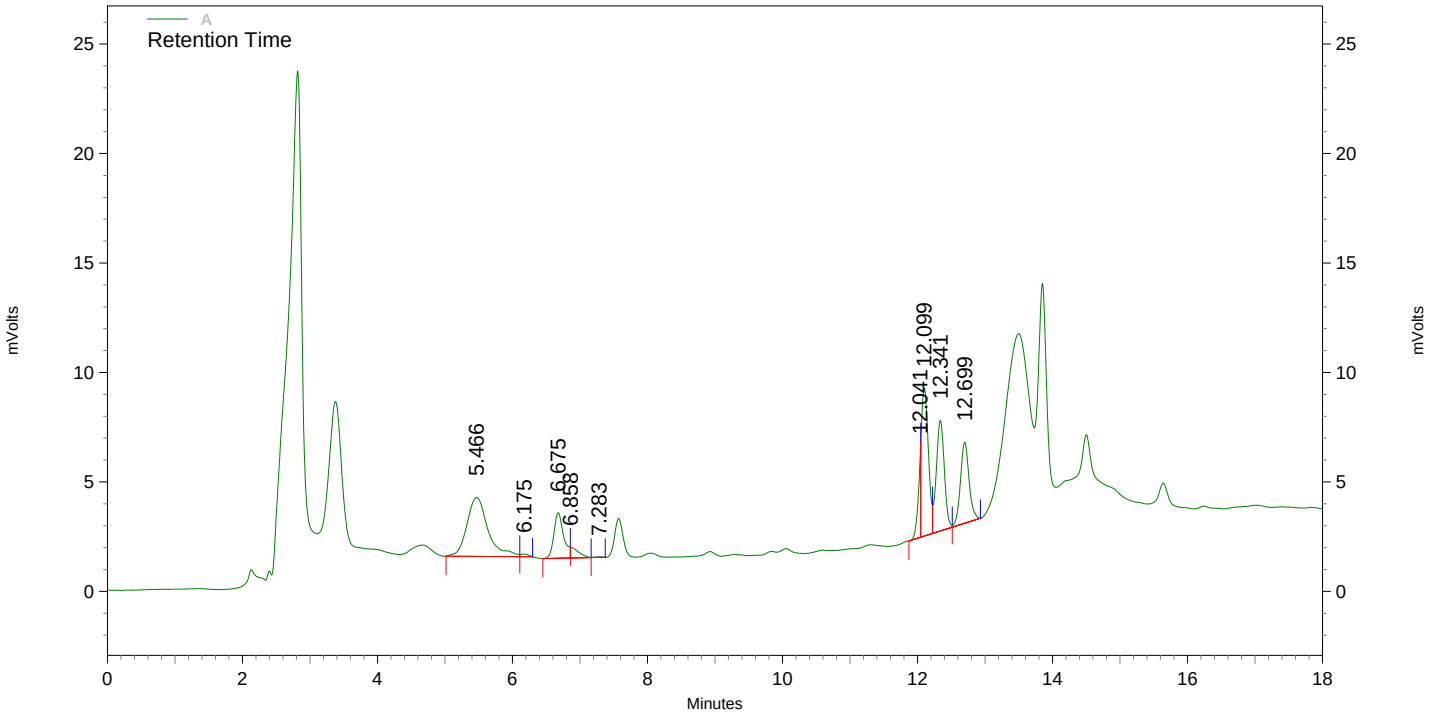
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX-confirm			**0.000 BDL**
DNX-confirm	5.458	39003	**0.392**
MNX-confirm	6.700	21071	**0.248**
12-DNB (SSTD)-confirm	12.141	40215	**96.962**

After Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\101415MDTNX-confirm\007.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\093015MDTNXic-confirm\101415MDTNX-confirm.met
Sample ID: 119664,640121,
Acquired: Oct 14, 2015 15:17:19
Data Summary: Reason #3 applies to data. RED 10/15/2015

JJY
10/19/2015



119664,640121,

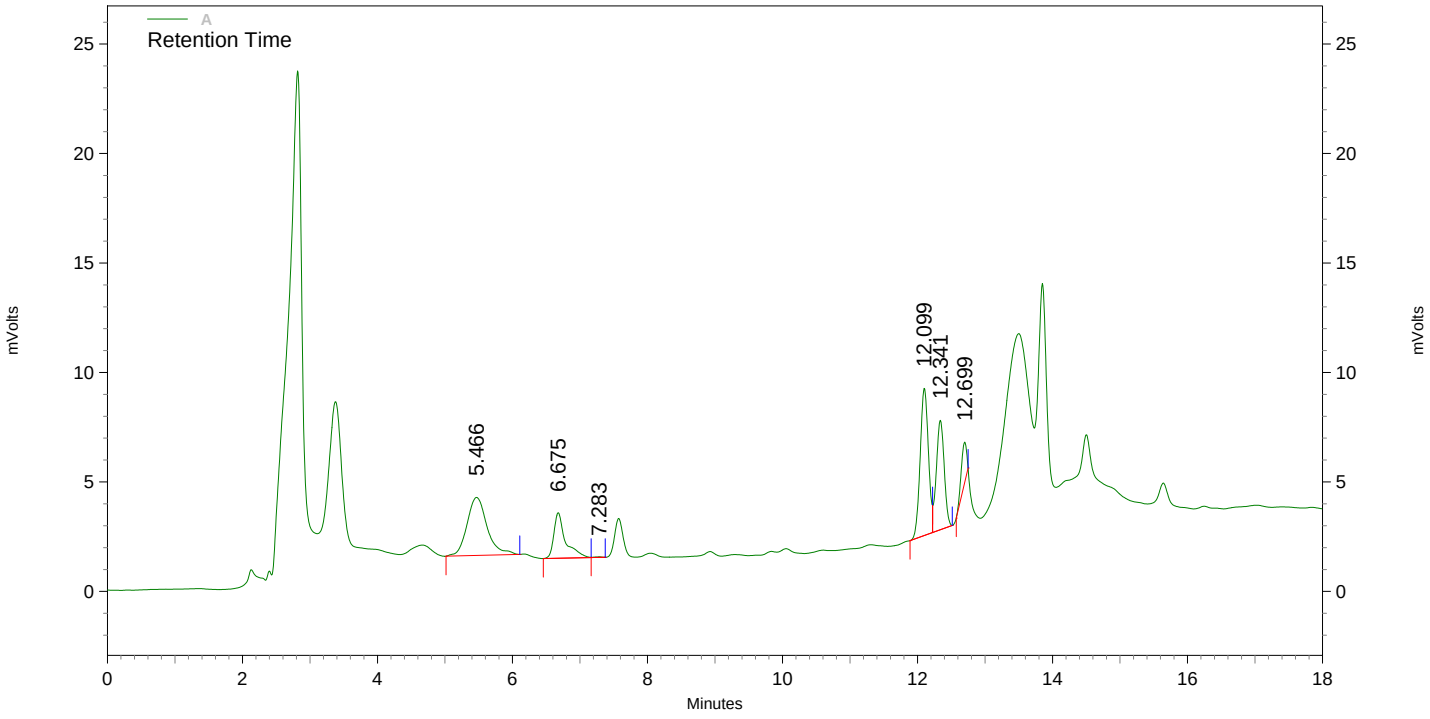
A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX-confirm			**0.000 BDL**
DNX-confirm	5.466	58189	**0.588**
MNX-confirm	6.675	20663	**0.243**
12-DNB (SSTD)-confirm	12.099	47027	**113.495**

Before Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\101415MDTNX-confirm\007.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\093015MDTNXic-confirm\101415MDTNX-confirm.met
Sample ID: 119664,640121,
Acquired: Oct 14, 2015 15:17:19
Data Summary: Reason #3 applies to data. RED 10/15/2015



119664,640121,

A Results

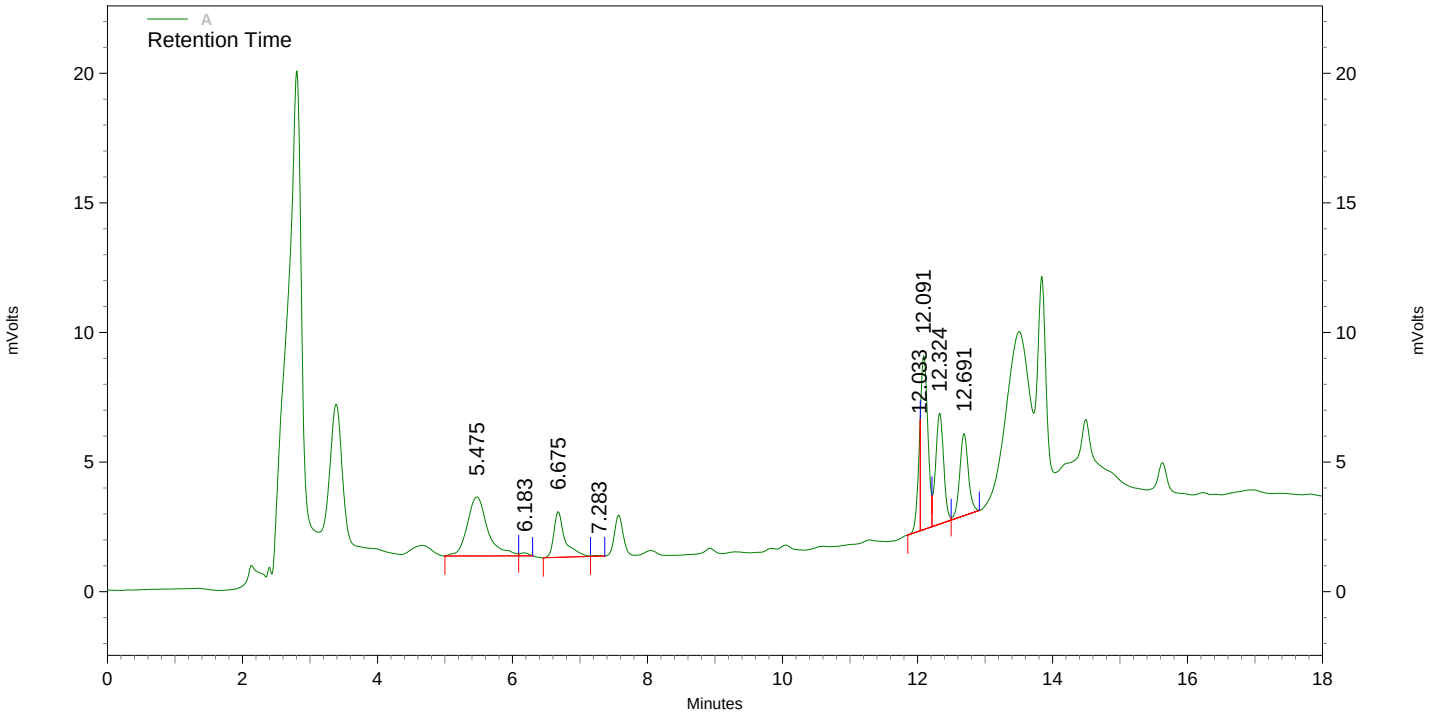
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX-confirm			**0.000 BDL**
DNX-confirm	5.466	54831	**0.554**
MNX-confirm	6.675	24714	**0.292**
12-DNB (SSTD)-confirm	12.099	56701	**136.973**

After Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\101415MDTNX-confirm\008.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\093015MDTNXic-confirm\101415MDTNX-confirm.met
Sample ID: 119664,640122,
Acquired: Oct 14, 2015 15:37:36
Data Summary: Reason #3 applies to data. RED 10/15/2015

JJY
10/19/2015



119664,640122,

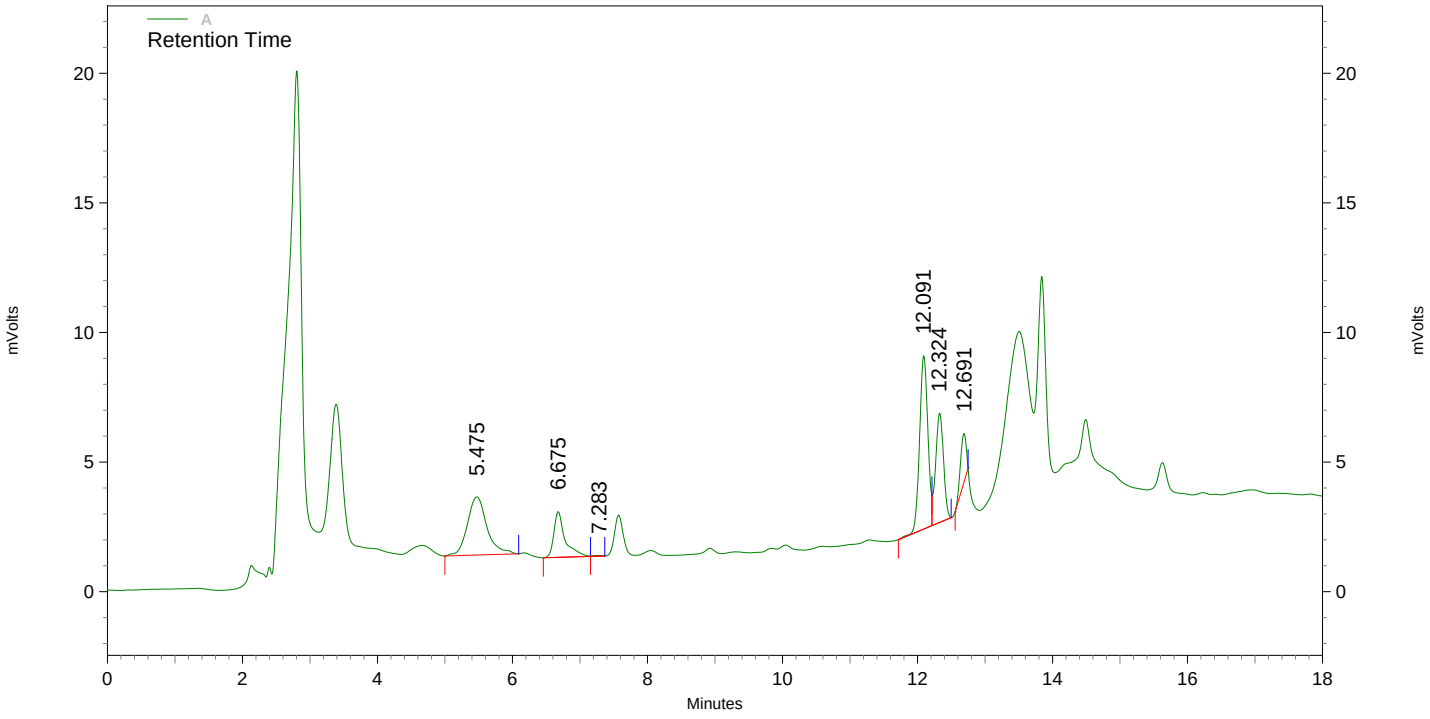
A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX-confirm			**0.000 BDL**
DNX-confirm	5.475	47856	**0.482**
MNX-confirm	6.675	20271	**0.238**
12-DNB (SSTD)-confirm	12.091	46636	**112.546**

Explosives - 8330

Before Manual Integration

File: C:\Instarch\HPLC 2\Data\101415MDTNX-confirm\008.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\093015MDTNXic-confirm\101415MDTNX-confirm.met
Sample ID: 119664,640122,
Acquired: Oct 14, 2015 15:37:36
Data Summary: Reason #3 applies to data. RED 10/15/2015



119664,640122,

A Results

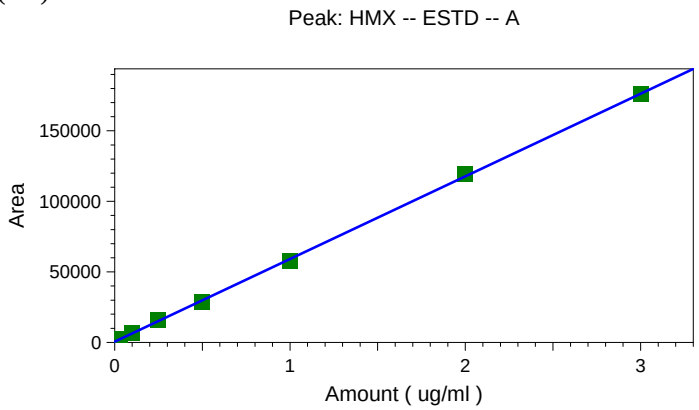
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX-confirm			**0.000 BDL**
DNX-confirm	5.475	45205	**0.455**
MNX-confirm	6.675	20271	**0.238**
12-DNB (SSTD)-confirm	12.091	56523	**136.541**

NITROAROMATICS ANALYSIS
INITIAL CALIBRATION
DOCUMENTS

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\082415expic-primary\082415expic-primary.met
Print Time: Aug 25, 2015 10:09:39
User: red
Instrument: HPLC 2 (Offline)

HMX (A)
Average RF: 62683.8 RF StDev: 7226.37 RF %RSD: 11.5283
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 58577.9x + 551.634
Goodness of fit (r^2): 0.999737



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.03	0.1	0.25	0.5	1
Area	2342	6357	15844	28662	57877
RF	78066.66666 66667	63570	63376	57324	57877
Last Area Residual	-0.000563835	0.000895005	-0.0110602	0.0201203	0.021383
Rep StDev					
Rep %RSD					
Rep 1 Area	2342	6357	15844	28662	57877
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\082415expic-primary\002.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\003.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\004.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\005.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\006.dat
Rep 1 Sample ID	8330 Pt. 1 EXP 5588	8330 Pt. 2 EXP 5589	8330 Pt. 3 EXP 5590	8330 Pt. 4 EXP 5591	8330 Pt. 5 EXP 5592
Rep 1 Calib. Time	Aug 25, 2015 08:17:10	Aug 24, 2015 15:41:28	Aug 24, 2015 15:55:55	Aug 24, 2015 16:21:26	Aug 24, 2015 16:26:04

	Level 6	Level 7

Calibration Report

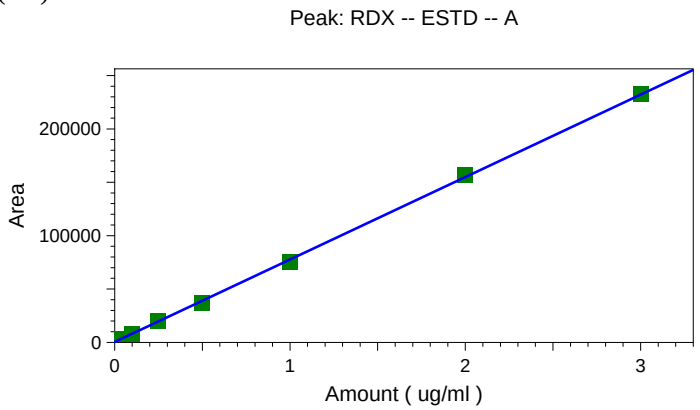
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\082415expic-primary\082415expic-primary.met
Print Time: Aug 25, 2015 10:09:39
User: red
Instrument: HPLC 2 (Offline)

Amount	2	3
Area	119581	176347
RF	59790.5	58782.3333333333
Last Area		
Residual	-0.0319828	-0.00105067
Rep StDev		
Rep %RSD		
Rep 1 Area	119581	176347
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\082415expic-primary\007.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\008.dat
Rep 1 Sample ID	8330 Pt. 6 EXP 5593	8330 Pt. 7 EXP 5594
Rep 1 Calib. Time	Aug 25, 2015 08:17:57	Aug 25, 2015 08:18:39

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\082415expic-primary\082415expic-primary.met
Print Time: Aug 25, 2015 10:09:44
User: red
Instrument: HPLC 2 (Offline)

RDX (A)
Average RF: 80191.3 RF StDev: 6026.98 RF %RSD: 7.51575
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 77239.8x + 390.273
Goodness of fit (r^2): 0.999700



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.03	0.1	0.25	0.5	1
Area	2780	8104	20276	37315	75609
RF	92666.66666 66667	81040	81104	74630	75609
Last Area Residual	-0.000939088	0.000132674	-0.00745457	0.0219466	0.0261656
Rep StDev					
Rep %RSD					
Rep 1 Area	2780	8104	20276	37315	75609
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\082415expic-primary\002.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\003.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\004.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\005.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\006.dat
Rep 1 Sample ID	8330 Pt. 1 EXP 5588	8330 Pt. 2 EXP 5589	8330 Pt. 3 EXP 5590	8330 Pt. 4 EXP 5591	8330 Pt. 5 EXP 5592
Rep 1 Calib. Time	Aug 25, 2015 08:17:10	Aug 24, 2015 15:41:28	Aug 24, 2015 15:55:55	Aug 24, 2015 16:21:26	Aug 24, 2015 16:26:04

Level 6	Level 7

Calibration Report

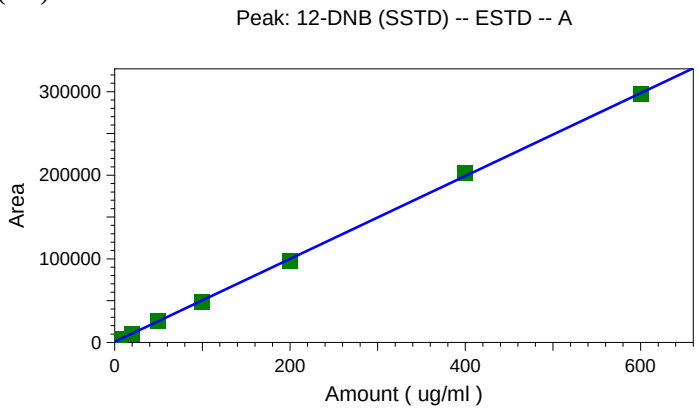
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\082415expic-primary\082415expic-primary.met
Print Time: Aug 25, 2015 10:09:44
User: red
Instrument: HPLC 2 (Offline)

Amount	2	3
Area	157246	233000
RF	78623	77666.6666666667
Last Area		
Residual	-0.0307643	-0.0115287
Rep StDev		
Rep %RSD		
Rep 1 Area	157246	233000
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\082415expic-primary\007.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\008.dat
Rep 1 Sample ID	8330 Pt. 6 EXP 5593	8330 Pt. 7 EXP 5594
Rep 1 Calib. Time	Aug 25, 2015 08:17:57	Aug 25, 2015 08:18:39

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\082415expic-primary\082415expic-primary.met
Print Time: Aug 25, 2015 10:09:48
User: red
Instrument: HPLC 2 (Offline)

12-DNB (SSTD) (A)
Average RF: 519.321 RF StDev: 42.1529 RF %RSD: 8.11693
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 495.975x + 627.597
Goodness of fit (r^2): 0.999654



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	6	20	50	100	200
Area	3639	10634	26059	48383	97644
RF	606.5	531.7	521.18	483.83	488.22
Last Area					
Residual	-0.0716845	-0.175223	-1.27559	3.71406	4.39249
Rep StDev					
Rep %RSD					
Rep 1 Area	3639	10634	26059	48383	97644
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\082415expic-primary\002.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\003.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\004.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\005.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\006.dat
Rep 1 Sample ID	8330 Pt. 1 EXP 5588	8330 Pt. 2 EXP 5589	8330 Pt. 3 EXP 5590	8330 Pt. 4 EXP 5591	8330 Pt. 5 EXP 5592
Rep 1 Calib. Time	Aug 25, 2015 08:17:10	Aug 24, 2015 15:41:28	Aug 24, 2015 15:55:55	Aug 24, 2015 16:21:26	Aug 24, 2015 16:26:04

	Level 6	Level 7
Amount	400	600

Calibration Report

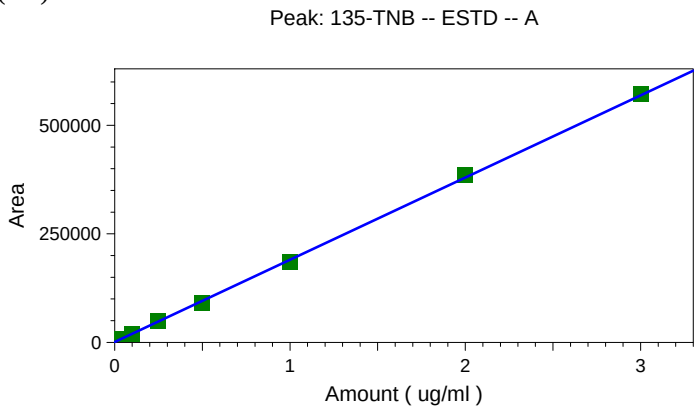
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\082415expic-primary\082415expic-primary.met
Print Time: Aug 25, 2015 10:09:48
User: red
Instrument: HPLC 2 (Offline)

Area	203146	297570
RF	507.865	495.95
Last Area		
Residual	-8.32395	1.29543
Rep StDev		
Rep %RSD		
Rep 1 Area	203146	297570
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\082415expic-primary\007.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\008.dat
Rep 1 Sample ID	8330 Pt. 6 EXP 5593	8330 Pt. 7 EXP 5594
Rep 1 Calib. Time	Aug 25, 2015 08:17:57	Aug 25, 2015 08:18:39

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\082415expic-primary\082415expic-primary.met
Print Time: Aug 25, 2015 10:09:52
User: red
Instrument: HPLC 2 (Offline)

135-TNB (A)
Average RF: 196713. RF StDev: 16735.8 RF %RSD: 8.50775
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 189341.x + 953.496
Goodness of fit (r^2): 0.999659



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.03	0.1	0.25	0.5	1
Area	6963	19614	49724	90577	185334
RF	232100	196140	198896	181154	185334
Last Area					
Residual	-0.00173912	0.0014448	-0.00758076	0.0266547	0.0261968
Rep StDev					
Rep %RSD					
Rep 1 Area	6963	19614	49724	90577	185334
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\082415expic-primary\002.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\003.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\004.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\005.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\006.dat
Rep 1 Sample ID	8330 Pt. 1 EXP 5588	8330 Pt. 2 EXP 5589	8330 Pt. 3 EXP 5590	8330 Pt. 4 EXP 5591	8330 Pt. 5 EXP 5592
Rep 1 Calib. Time	Aug 25, 2015 08:17:10	Aug 24, 2015 15:41:28	Aug 24, 2015 15:55:55	Aug 24, 2015 16:21:26	Aug 24, 2015 16:26:04

	Level 6	Level 7
Amount	2	3

Calibration Report

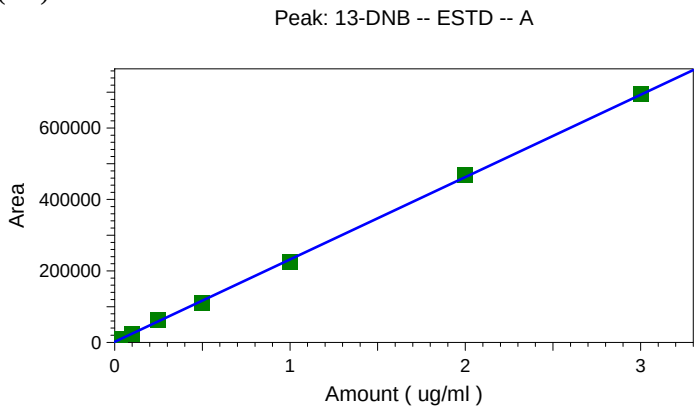
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\082415expic-primary\082415expic-primary.met
Print Time: Aug 25, 2015 10:09:52
User: red
Instrument: HPLC 2 (Offline)

Area	384804	572893
RF	192402	190964.333333333
Last Area Residual	-0.0273013	-0.0206908
Rep StDev		
Rep %RSD		
Rep 1 Area	384804	572893
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\082415expic-primary\007.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\008.dat
Rep 1 Sample ID	8330 Pt. 6 EXP 5593	8330 Pt. 7 EXP 5594
Rep 1 Calib. Time	Aug 25, 2015 08:17:57	Aug 25, 2015 08:18:39

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\082415expic-primary\082415expic-primary.met
Print Time: Aug 25, 2015 10:09:57
User: red
Instrument: HPLC 2 (Offline)

13-DNB (A)
Average RF: 242141. RF StDev: 21807.4 RF %RSD: 9.00606
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 230508.x + 1548.68
Goodness of fit (r^2): 0.999707



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.03	0.1	0.25	0.5	1
Area	8613	24589	61680	111306	226200
RF	287100	245890	246720	222612	226200
Last Area Residual	-0.00064675	4.54664e-005	-0.0108643	0.023846	0.0254078
Rep StDev					
Rep %RSD					
Rep 1 Area	8613	24589	61680	111306	226200
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\082415expic-primary\002.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\003.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\004.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\005.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\006.dat
Rep 1 Sample ID	8330 Pt. 1 EXP 5588	8330 Pt. 2 EXP 5589	8330 Pt. 3 EXP 5590	8330 Pt. 4 EXP 5591	8330 Pt. 5 EXP 5592
Rep 1 Calib. Time	Aug 25, 2015 08:17:10	Aug 24, 2015 15:41:28	Aug 24, 2015 15:55:55	Aug 24, 2015 16:21:26	Aug 24, 2015 16:26:04

	Level 6	Level 7
Amount	2	3

Calibration Report

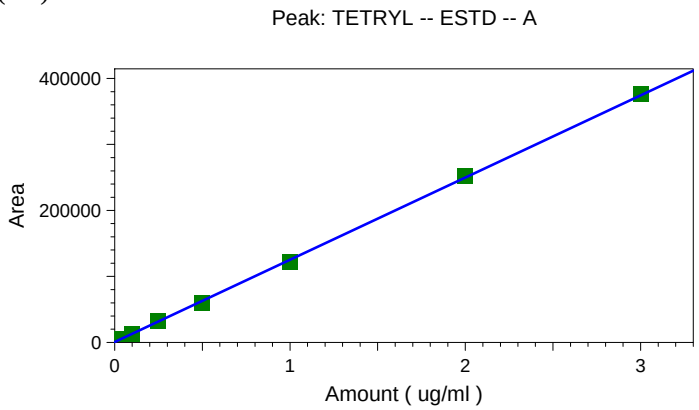
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\082415expic-primary\082415expic-primary.met
Print Time: Aug 25, 2015 10:09:57
User: red
Instrument: HPLC 2 (Offline)

Area	468855	696118
RF	234427.5	232039.333333333
Last Area		
Residual	-0.0272888	-0.0132111
Rep StDev		
Rep %RSD		
Rep 1 Area	468855	696118
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\082415expic-primary\007.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\008.dat
Rep 1 Sample ID	8330 Pt. 6 EXP 5593	8330 Pt. 7 EXP 5594
Rep 1 Calib. Time	Aug 25, 2015 08:17:57	Aug 25, 2015 08:18:39

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\082415expic-primary\082415expic-primary.met
Print Time: Aug 25, 2015 10:10:02
User: red
Instrument: HPLC 2 (Offline)

TETRYL (A)
Average RF: 129113. RF StDev: 9960.52 RF %RSD: 7.71457
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 124577.x + 594.447
Goodness of fit (r^2): 0.999721



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.03	0.1	0.25	0.5	1
Area	4512	12940	32355	60463	121695
RF	150400	129400	129420	120926	121695
Last Area Residual	-0.00144689	0.000900056	-0.00494759	0.0194245	0.0279044
Rep StDev					
Rep %RSD					
Rep 1 Area	4512	12940	32355	60463	121695
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\082415expic-primary\002.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\003.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\004.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\005.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\006.dat
Rep 1 Sample ID	8330 Pt. 1 EXP 5588	8330 Pt. 2 EXP 5589	8330 Pt. 3 EXP 5590	8330 Pt. 4 EXP 5591	8330 Pt. 5 EXP 5592
Rep 1 Calib. Time	Aug 25, 2015 08:17:10	Aug 24, 2015 15:41:28	Aug 24, 2015 15:55:55	Aug 24, 2015 16:21:26	Aug 24, 2015 16:26:04

	Level 6	Level 7
Amount	2	3

Calibration Report

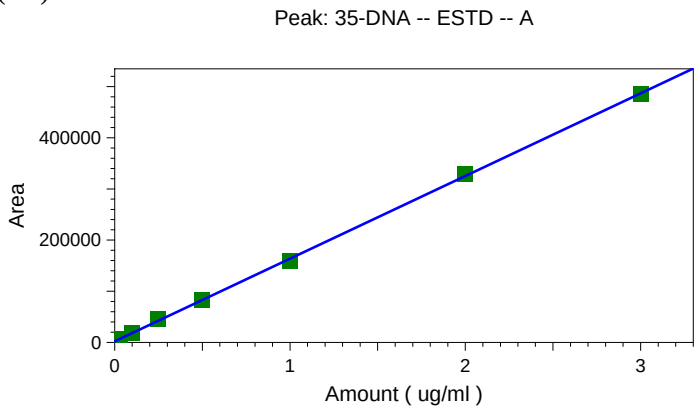
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\082415expic-primary\082415expic-primary.met
Print Time: Aug 25, 2015 10:10:02
User: red
Instrument: HPLC 2 (Offline)

Area	252597	376954
RF	126298.5	125651.333333333
Last Area Residual	-0.0228691	-0.0211048
Rep StDev		
Rep %RSD		
Rep 1 Area	252597	376954
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\082415expic-primary\007.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\008.dat
Rep 1 Sample ID	8330 Pt. 6 EXP 5593	8330 Pt. 7 EXP 5594
Rep 1 Calib. Time	Aug 25, 2015 08:17:57	Aug 25, 2015 08:18:39

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\082415expic-primary\082415expic-primary.met
Print Time: Aug 25, 2015 10:10:07
User: red
Instrument: HPLC 2 (Offline)

35-DNA (A)
Average RF: 176338. RF StDev: 22191.9 RF %RSD: 12.5849
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 161619.x + 2026.87
Goodness of fit (r^2): 0.999776



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.03	0.1	0.25	0.5	1
Area	6681	18011	45202	82714	158827
RF	222700	180110	180808	165428	158827
Last Area Residual	0.00120304	0.00109975	-0.0171419	0.000756172	0.0298143
Rep StDev					
Rep %RSD					
Rep 1 Area	6681	18011	45202	82714	158827
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\082415expic-primary\002.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\003.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\004.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\005.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\006.dat
Rep 1 Sample ID	8330 Pt. 1 EXP 5588	8330 Pt. 2 EXP 5589	8330 Pt. 3 EXP 5590	8330 Pt. 4 EXP 5591	8330 Pt. 5 EXP 5592
Rep 1 Calib. Time	Aug 25, 2015 08:17:10	Aug 24, 2015 15:41:28	Aug 24, 2015 15:55:55	Aug 24, 2015 16:21:26	Aug 24, 2015 16:26:04

	Level 6	Level 7
Amount	2	3

Calibration Report

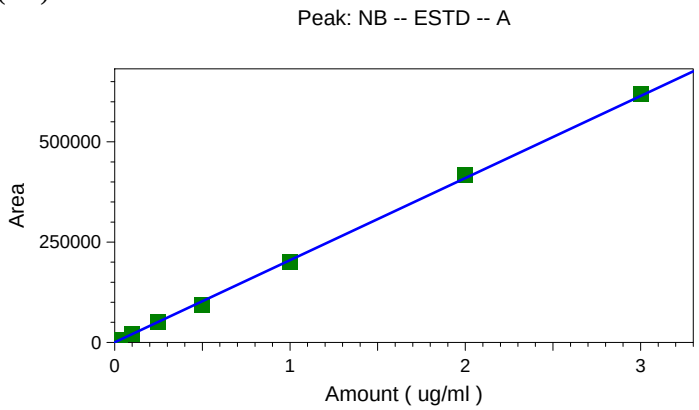
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\082415expic-primary\082415expic-primary.met
Print Time: Aug 25, 2015 10:10:07
User: red
Instrument: HPLC 2 (Offline)

Area	328840	486213
RF	164420	162071
Last Area		
Residual	-0.0221247	0.00414498
Rep StDev		
Rep %RSD		
Rep 1 Area	328840	486213
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\082415expic-primary\007.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\008.dat
Rep 1 Sample ID	8330 Pt. 6 EXP 5593	8330 Pt. 7 EXP 5594
Rep 1 Calib. Time	Aug 25, 2015 08:17:57	Aug 25, 2015 08:18:39

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\082415expic-primary\082415expic-primary.met
Print Time: Aug 25, 2015 10:10:14
User: red
Instrument: HPLC 2 (Offline)

NB (A)
Average RF: 206381. RF StDev: 13851.6 RF %RSD: 6.71167
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 204729.x + 129.876
Goodness of fit (r^2): 0.999351



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.03	0.1	0.25	0.5	1
Area	6983	20589	50747	93109	200981
RF	232766.6666 66667	205890	202988	186218	200981
Last Area Residual	-0.00347417	6.71421e-005	0.00276	0.0458423	0.0189401
Rep StDev					
Rep %RSD					
Rep 1 Area	6983	20589	50747	93109	200981
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\082415expic-primary\002.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\003.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\004.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\005.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\006.dat
Rep 1 Sample ID	8330 Pt. 1 EXP 5588	8330 Pt. 2 EXP 5589	8330 Pt. 3 EXP 5590	8330 Pt. 4 EXP 5591	8330 Pt. 5 EXP 5592
Rep 1 Calib. Time	Aug 25, 2015 08:17:10	Aug 24, 2015 15:41:28	Aug 24, 2015 15:55:55	Aug 24, 2015 16:21:26	Aug 24, 2015 16:26:04

	Level 6	Level 7

Calibration Report

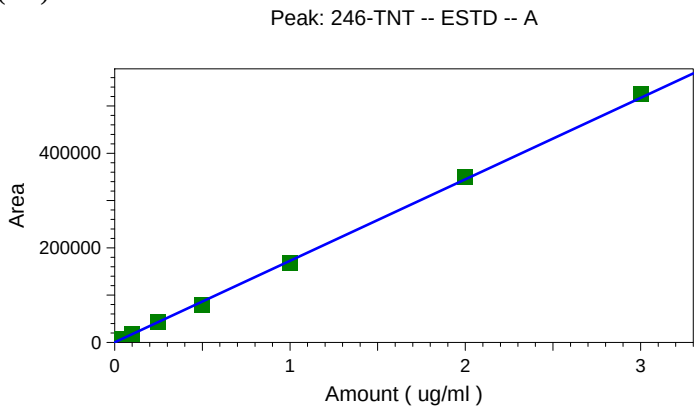
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\082415expic-primary\082415expic-primary.met
Print Time: Aug 25, 2015 10:10:14
User: red
Instrument: HPLC 2 (Offline)

Amount	2	3
Area	418213	620153
RF	209106.5	206717.666666667
Last Area		
Residual	-0.0421325	-0.028511
Rep StDev		
Rep %RSD		
Rep 1 Area	418213	620153
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\082415expic-primary\007.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\008.dat
Rep 1 Sample ID	8330 Pt. 6 EXP 5593	8330 Pt. 7 EXP 5594
Rep 1 Calib. Time	Aug 25, 2015 08:17:57	Aug 25, 2015 08:18:39

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\082415expic-primary\082415expic-primary.met
Print Time: Aug 25, 2015 10:10:22
User: red
Instrument: HPLC 2 (Offline)

246-TNT (A)
Average RF: 174781. RF StDev: 14694.2 RF %RSD: 8.40719
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 172295.x + 227.394
Goodness of fit (r^2): 0.999187



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.03	0.1	0.25	0.5	1
Area	6146	17321	42594	78433	167910
RF	204866.6666 66667	173210	170376	156866	167910
Last Area Residual	-0.00435161	0.00078865	0.00410407	0.0460944	0.0267696
Rep StDev					
Rep %RSD					
Rep 1 Area	6146	17321	42594	78433	167910
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\082415expic-primary\002.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\003.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\004.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\005.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\006.dat
Rep 1 Sample ID	8330 Pt. 1 EXP 5588	8330 Pt. 2 EXP 5589	8330 Pt. 3 EXP 5590	8330 Pt. 4 EXP 5591	8330 Pt. 5 EXP 5592
Rep 1 Calib. Time	Aug 25, 2015 08:17:10	Aug 24, 2015 15:41:28	Aug 24, 2015 15:55:55	Aug 24, 2015 16:21:26	Aug 24, 2015 16:26:04

	Level 6	Level 7

Calibration Report

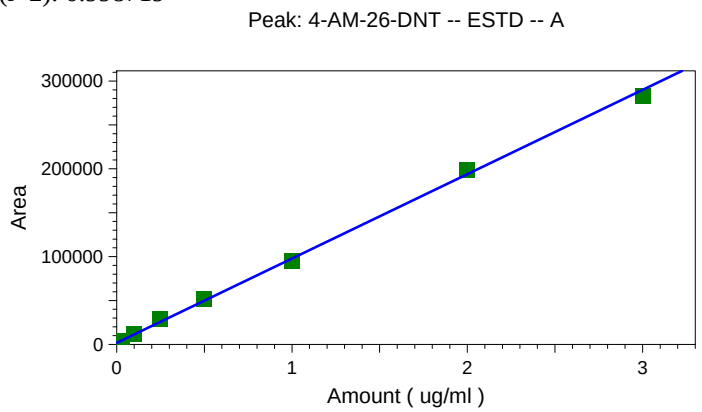
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\082415expic-primary\082415expic-primary.met
Print Time: Aug 25, 2015 10:10:22
User: red
Instrument: HPLC 2 (Offline)

Amount	2	3
Area	349772	526062
RF	174886	175354
Last Area		
Residual	-0.0287581	-0.0519459
Rep StDev		
Rep %RSD		
Rep 1 Area	349772	526062
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\082415expic-primary\007.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\008.dat
Rep 1 Sample ID	8330 Pt. 6 EXP 5593	8330 Pt. 7 EXP 5594
Rep 1 Calib. Time	Aug 25, 2015 08:17:57	Aug 25, 2015 08:18:39

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\082415expic-primary\082415expic-primary.met
Print Time: Aug 25, 2015 10:10:26
User: red
Instrument: HPLC 2 (Offline)

4-AM-26-DNT (A)
Average RF: 108563. RF StDev: 14880.0 RF %RSD: 13.7064
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 96065.2x + 1765.46
Goodness of fit (r^2): 0.998719



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.03	0.1	0.25	0.5	1
Area	4096	11467	28716	52249	95613
RF	136533.3333 33333	114670	114864	104498	95613
Last Area Residual	0.00574006	-0.000989074	-0.0305442	-0.0255132	0.0230851
Rep StDev					
Rep %RSD					
Rep 1 Area	4096	11467	28716	52249	95613
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\082415expic-primary\002.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\003.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\004.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\005.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\006.dat
Rep 1 Sample ID	8330 Pt. 1 EXP 5588	8330 Pt. 2 EXP 5589	8330 Pt. 3 EXP 5590	8330 Pt. 4 EXP 5591	8330 Pt. 5 EXP 5592
Rep 1 Calib. Time	Aug 25, 2015 08:17:10	Aug 24, 2015 15:41:28	Aug 24, 2015 15:55:55	Aug 24, 2015 16:21:26	Aug 24, 2015 16:26:04

Level 6	Level 7

Calibration Report

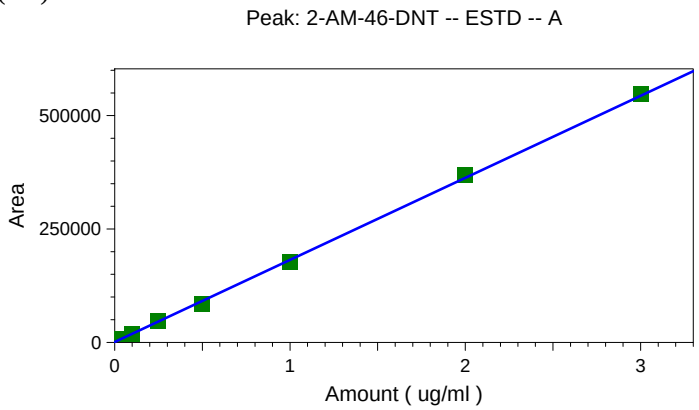
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\082415expic-primary\082415expic-primary.met
Print Time: Aug 25, 2015 10:10:26
User: red
Instrument: HPLC 2 (Offline)

Amount	2	3
Area	198648	283309
RF	99324	94436.3333333333
Last Area		
Residual	-0.0494677	0.0692455
Rep StDev		
Rep %RSD		
Rep 1 Area	198648	283309
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\082415expic-primary\007.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\008.dat
Rep 1 Sample ID	8330 Pt. 6 EXP 5593	8330 Pt. 7 EXP 5594
Rep 1 Calib. Time	Aug 25, 2015 08:17:57	Aug 25, 2015 08:18:39

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\082415expic-primary\082415expic-primary.met
Print Time: Aug 25, 2015 10:10:31
User: red
Instrument: HPLC 2 (Offline)

2-AM-46-DNT (A)
Average RF: 187444. RF StDev: 16162.0 RF %RSD: 8.62230
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 181023.x + 813.422
Goodness of fit (r^2): 0.999594



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.03	0.1	0.25	0.5	1
Area	6649	18769	46840	85625	177279
RF	221633.3333 33333	187690	187360	171250	177279
Last Area Residual	-0.00223673	0.000810308	-0.00425871	0.0314863	0.0251739
Rep StDev					
Rep %RSD					
Rep 1 Area	6649	18769	46840	85625	177279
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\082415expic-primary\002.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\003.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\004.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\005.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\006.dat
Rep 1 Sample ID	8330 Pt. 1 EXP 5588	8330 Pt. 2 EXP 5589	8330 Pt. 3 EXP 5590	8330 Pt. 4 EXP 5591	8330 Pt. 5 EXP 5592
Rep 1 Calib. Time	Aug 25, 2015 08:17:10	Aug 24, 2015 15:41:28	Aug 24, 2015 15:55:55	Aug 24, 2015 16:21:26	Aug 24, 2015 16:26:04

Level 6	Level 7

Calibration Report

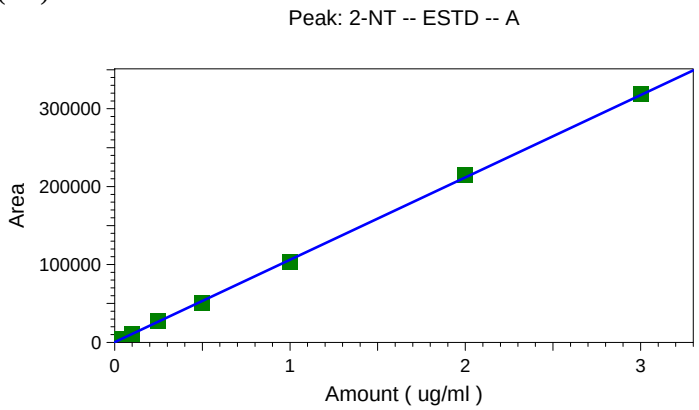
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\082415expic-primary\082415expic-primary.met
Print Time: Aug 25, 2015 10:10:31
User: red
Instrument: HPLC 2 (Offline)

Amount	2	3
Area	368148	548469
RF	184074	182823
Last Area		
Residual	-0.0292192	-0.0253433
Rep StDev		
Rep %RSD		
Rep 1 Area	368148	548469
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\082415expic-primary\007.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\008.dat
Rep 1 Sample ID	8330 Pt. 6 EXP 5593	8330 Pt. 7 EXP 5594
Rep 1 Calib. Time	Aug 25, 2015 08:17:57	Aug 25, 2015 08:18:39

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\082415expic-primary\082415expic-primary.met
Print Time: Aug 25, 2015 10:10:34
User: red
Instrument: HPLC 2 (Offline)

2-NT (A)
Average RF: 108397. RF StDev: 7475.97 RF %RSD: 6.89687
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 105693.x + 341.612
Goodness of fit (r^2): 0.999643



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.03	0.1	0.25	0.5	1
Area	3718	10839	27149	50127	103591
RF	123933.3333 33333	108390	108596	100254	103591
Last Area Residual	-0.00194534	0.000680043	-0.00363535	0.0289607	0.0231165
Rep StDev					
Rep %RSD					
Rep 1 Area	3718	10839	27149	50127	103591
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\082415expic-primary\002.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\003.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\004.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\005.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\006.dat
Rep 1 Sample ID	8330 Pt. 1 EXP 5588	8330 Pt. 2 EXP 5589	8330 Pt. 3 EXP 5590	8330 Pt. 4 EXP 5591	8330 Pt. 5 EXP 5592
Rep 1 Calib. Time	Aug 25, 2015 08:17:10	Aug 24, 2015 15:41:28	Aug 24, 2015 15:55:55	Aug 24, 2015 16:21:26	Aug 24, 2015 16:26:04

Level 6	Level 7

Calibration Report

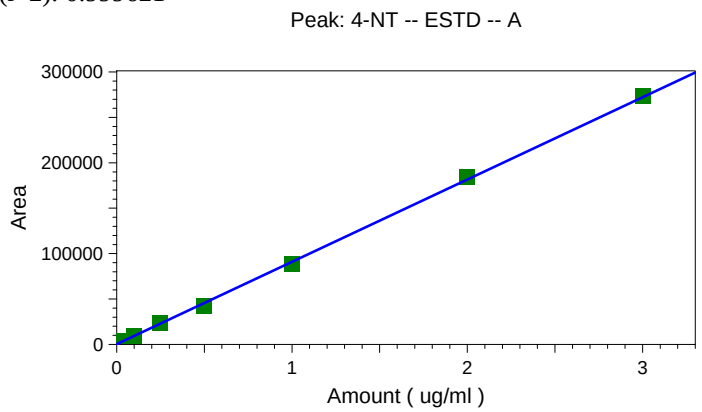
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\082415expic-primary\082415expic-primary.met
Print Time: Aug 25, 2015 10:10:34
User: red
Instrument: HPLC 2 (Offline)

Amount	2	3
Area	215147	319313
RF	107573.5	106437.666666667
Last Area		
Residual	-0.0323592	-0.0179151
Rep StDev		
Rep %RSD		
Rep 1 Area	215147	319313
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\082415expic-primary\007.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\008.dat
Rep 1 Sample ID	8330 Pt. 6 EXP 5593	8330 Pt. 7 EXP 5594
Rep 1 Calib. Time	Aug 25, 2015 08:17:57	Aug 25, 2015 08:18:39

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\082415expic-primary\082415expic-primary.met
Print Time: Aug 25, 2015 10:10:37
User: red
Instrument: HPLC 2 (Offline)

4-NT (A)
Average RF: 93015.4 RF StDev: 6837.53 RF %RSD: 7.35097
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 90597.0x + 302.446
Goodness of fit (r^2): 0.999621



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.03	0.1	0.25	0.5	1
Area	3215	9365	23111	42613	89108
RF	107166.6666 66667	93650	92444	85226	89108
Last Area					
Residual	-0.00214848	-3.15454e-005	-0.00175848	0.0329804	0.0197734
Rep StDev					
Rep %RSD					
Rep 1 Area	3215	9365	23111	42613	89108
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\082415expic-primary\002.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\003.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\004.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\005.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\006.dat
Rep 1 Sample ID	8330 Pt. 1 EXP 5588	8330 Pt. 2 EXP 5589	8330 Pt. 3 EXP 5590	8330 Pt. 4 EXP 5591	8330 Pt. 5 EXP 5592
Rep 1 Calib. Time	Aug 25, 2015 08:17:10	Aug 24, 2015 15:41:28	Aug 24, 2015 15:55:55	Aug 24, 2015 16:21:26	Aug 24, 2015 16:26:04

	Level 6	Level 7

Calibration Report

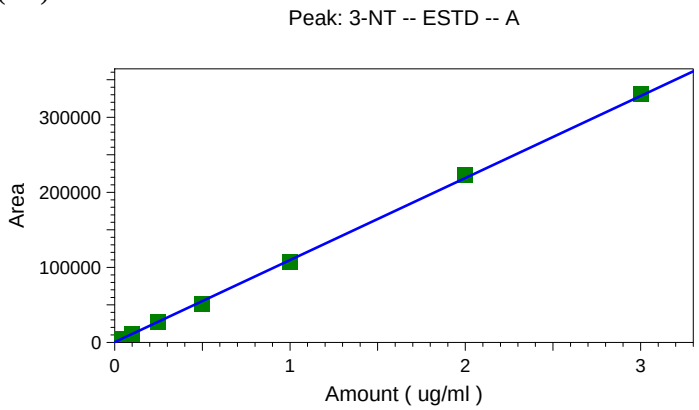
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\082415expic-primary\082415expic-primary.met
Print Time: Aug 25, 2015 10:10:37
User: red
Instrument: HPLC 2 (Offline)

Amount	2	3
Area	184419	273910
RF	92209.5	91303.3333333333
Last Area		
Residual	-0.0322597	-0.0200521
Rep StDev		
Rep %RSD		
Rep 1 Area	184419	273910
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\082415expic-primary\007.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\008.dat
Rep 1 Sample ID	8330 Pt. 6 EXP 5593	8330 Pt. 7 EXP 5594
Rep 1 Calib. Time	Aug 25, 2015 08:17:57	Aug 25, 2015 08:18:39

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\082415expic-primary\082415expic-primary.met
Print Time: Aug 25, 2015 10:10:41
User: red
Instrument: HPLC 2 (Offline)

3-NT (A)
Average RF: 111875. RF StDev: 8962.65 RF %RSD: 8.01128
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 109355.x + 294.674
Goodness of fit (r^2): 0.999533



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.03	0.1	0.25	0.5	1
Area	3917	11209	27377	50758	107714
RF	130566.6666 66667	112090	109508	101516	107714
Last Area Residual	-0.00312441	0.000193793	0.00234529	0.0385374	0.0177025
Rep StDev					
Rep %RSD					
Rep 1 Area	3917	11209	27377	50758	107714
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\082415expic-primary\002.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\003.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\004.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\005.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\006.dat
Rep 1 Sample ID	8330 Pt. 1 EXP 5588	8330 Pt. 2 EXP 5589	8330 Pt. 3 EXP 5590	8330 Pt. 4 EXP 5591	8330 Pt. 5 EXP 5592
Rep 1 Calib. Time	Aug 25, 2015 08:17:10	Aug 24, 2015 15:41:28	Aug 24, 2015 15:55:55	Aug 24, 2015 16:21:26	Aug 24, 2015 16:26:04

Level 6	Level 7

Calibration Report

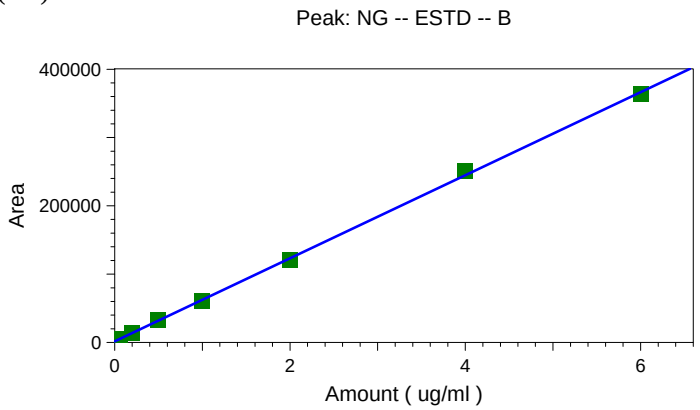
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\082415expic-primary\082415expic-primary.met
Print Time: Aug 25, 2015 10:10:41
User: red
Instrument: HPLC 2 (Offline)

Amount	2	3
Area	222496	331456
RF	111248	110485.333333333
Last Area		
Residual	-0.0319231	-0.0283094
Rep StDev		
Rep %RSD		
Rep 1 Area	222496	331456
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\082415expic-primary\007.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\008.dat
Rep 1 Sample ID	8330 Pt. 6 EXP 5593	8330 Pt. 7 EXP 5594
Rep 1 Calib. Time	Aug 25, 2015 08:17:57	Aug 25, 2015 08:18:39

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\082415expic-primary\082415expic-primary.met
Print Time: Aug 25, 2015 10:09:12
User: red
Instrument: HPLC 2 (Offline)

NG (B)
Average RF: 65962.3 RF StDev: 7826.65 RF %RSD: 11.8653
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 60851.4x + 1402.70
Goodness of fit (r^2): 0.999574



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.06	0.2	0.5	1	2
Area	4911	13897	33225	60474	120385
RF	81850	69485	66450	60474	60192.5
Last Area Residual	0.00234647	-0.00532485	-0.0229513	0.0292526	0.0447059
Rep StDev					
Rep %RSD					
Rep 1 Area	4911	13897	33225	60474	120385
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\082415expic-primary\002.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\003.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\004.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\005.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\006.dat
Rep 1 Sample ID	8330 Pt. 1 EXP 5588	8330 Pt. 2 EXP 5589	8330 Pt. 3 EXP 5590	8330 Pt. 4 EXP 5591	8330 Pt. 5 EXP 5592
Rep 1 Calib. Time	Aug 25, 2015 08:17:10	Aug 24, 2015 15:41:28	Aug 24, 2015 15:55:55	Aug 24, 2015 16:21:26	Aug 24, 2015 16:26:04

	Level 6	Level 7
Amount	4	6

Calibration Report

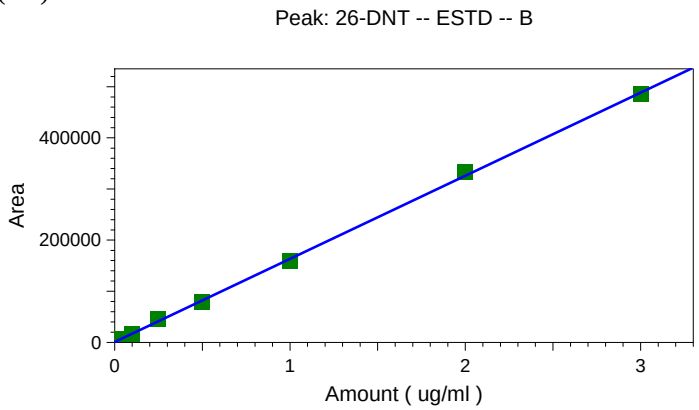
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\082415expic-primary\082415expic-primary.met
Print Time: Aug 25, 2015 10:09:12
User: red
Instrument: HPLC 2 (Offline)

Area	250295	364265
RF	62573.75	60710.8333333333
Last Area Residual	-0.0901684	0.036907
Rep StDev		
Rep %RSD		
Rep 1 Area	250295	364265
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\082415expic-primary\007.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\008.dat
Rep 1 Sample ID	8330 Pt. 6 EXP 5593	8330 Pt. 7 EXP 5594
Rep 1 Calib. Time	Aug 25, 2015 08:17:57	Aug 25, 2015 08:18:39

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\082415expic-primary\082415expic-primary.met
Print Time: Aug 25, 2015 10:09:18
User: red
Instrument: HPLC 2 (Offline)

26-DNT (B)
Average RF: 168699. RF StDev: 11268.5 RF %RSD: 6.67967
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 162541.x + 815.603
Goodness of fit (r^2): 0.999543



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.03	0.1	0.25	0.5	1
Area	5653	16684	44920	79241	158913
RF	188433.3333 33333	166840	179680	158482	158913
Last Area Residual	0.000238905	0.00237293	-0.0213433	0.0175038	0.0273381
Rep StDev					
Rep %RSD					
Rep 1 Area	5653	16684	44920	79241	158913
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\082415expic-primary\002.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\003.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\004.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\005.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\006.dat
Rep 1 Sample ID	8330 Pt. 1 EXP 5588	8330 Pt. 2 EXP 5589	8330 Pt. 3 EXP 5590	8330 Pt. 4 EXP 5591	8330 Pt. 5 EXP 5592
Rep 1 Calib. Time	Aug 25, 2015 08:17:10	Aug 24, 2015 15:41:28	Aug 24, 2015 15:55:55	Aug 24, 2015 16:21:26	Aug 24, 2015 16:26:04

	Level 6	Level 7

Calibration Report

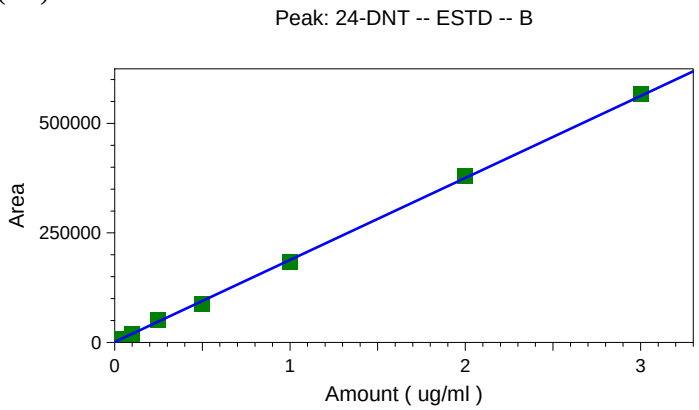
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\082415expic-primary\082415expic-primary.met
Print Time: Aug 25, 2015 10:09:18
User: red
Instrument: HPLC 2 (Offline)

Amount	2	3
Area	332802	486433
RF	166401	162144.333333333
Last Area		
Residual	-0.0424785	0.0123382
Rep StDev		
Rep %RSD		
Rep 1 Area	332802	486433
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\082415expic-primary\007.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\008.dat
Rep 1 Sample ID	8330 Pt. 6 EXP 5593	8330 Pt. 7 EXP 5594
Rep 1 Calib. Time	Aug 25, 2015 08:17:57	Aug 25, 2015 08:18:39

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\082415expic-primary\082415expic-primary.met
Print Time: Aug 25, 2015 10:09:23
User: red
Instrument: HPLC 2 (Offline)

24-DNT (B)
Average RF: 194855. RF StDev: 14556.9 RF %RSD: 7.47061
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 187230.x + 1001.60
Goodness of fit (r^2): 0.999571



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.03	0.1	0.25	0.5	1
Area	6591	20126	51092	88488	182879
RF	219700	201260	204368	176976	182879
Last Area					
Residual	0.000146942	-0.00214365	-0.0175334	0.0327341	0.0285907
Rep StDev					
Rep %RSD					
Rep 1 Area	6591	20126	51092	88488	182879
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\082415expic-primary\002.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\003.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\004.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\005.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\006.dat
Rep 1 Sample ID	8330 Pt. 1 EXP 5588	8330 Pt. 2 EXP 5589	8330 Pt. 3 EXP 5590	8330 Pt. 4 EXP 5591	8330 Pt. 5 EXP 5592
Rep 1 Calib. Time	Aug 25, 2015 08:17:10	Aug 24, 2015 15:41:28	Aug 24, 2015 15:55:55	Aug 24, 2015 16:21:26	Aug 24, 2015 16:26:04

	Level 6	Level 7
Amount	2	3

Calibration Report

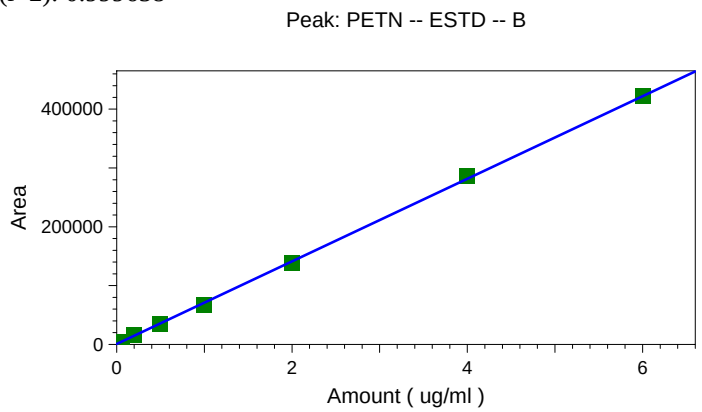
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\082415expic-primary\082415expic-primary.met
Print Time: Aug 25, 2015 10:09:23
User: red
Instrument: HPLC 2 (Offline)

Area	379089	567772
RF	189544.5	189257.333333333
Last Area Residual	-0.0193693	-0.0271274
Rep StDev		
Rep %RSD		
Rep 1 Area	379089	567772
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\082415expic-primary\007.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\008.dat
Rep 1 Sample ID	8330 Pt. 6 EXP 5593	8330 Pt. 7 EXP 5594
Rep 1 Calib. Time	Aug 25, 2015 08:17:57	Aug 25, 2015 08:18:39

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\082415expic-primary\082415expic-primary.met
Print Time: Aug 25, 2015 10:09:30
User: red
Instrument: HPLC 2 (Offline)

PETN (B)
Average RF: 73199.6 RF StDev: 6145.10 RF %RSD: 8.39499
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 70190.6x + 773.295
Goodness of fit (r^2): 0.999658



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.06	0.2	0.5	1	2
Area	4868	16556	34873	67289	138572
RF	81133.33333 33333	82780	69746	67289	69286
Last Area Residual	0.00166308	-0.0248549	0.0141844	0.0523564	0.0367935
Rep StDev					
Rep %RSD					
Rep 1 Area	4868	16556	34873	67289	138572
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\082415expic-primary\002.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\003.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\004.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\005.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\006.dat
Rep 1 Sample ID	8330 Pt. 1 EXP 5588	8330 Pt. 2 EXP 5589	8330 Pt. 3 EXP 5590	8330 Pt. 4 EXP 5591	8330 Pt. 5 EXP 5592
Rep 1 Calib. Time	Aug 25, 2015 08:17:10	Aug 24, 2015 15:41:28	Aug 24, 2015 15:55:55	Aug 24, 2015 16:21:26	Aug 24, 2015 16:26:04

	Level 6	Level 7

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\082415expic-primary\082415expic-primary.met
Print Time: Aug 25, 2015 10:09:30
User: red
Instrument: HPLC 2 (Offline)

Amount	4	6
Area	286683	422954
RF	71670.75	70492.3333333333
Last Area		
Residual	-0.0733314	-0.0147729
Rep StDev		
Rep %RSD		
Rep 1 Area	286683	422954
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\082415expic-primary\007.dat	C:\Instarch\HPLC 2\Data\082415expic-primary\008.dat
Rep 1 Sample ID	8330 Pt. 6 EXP 5593	8330 Pt. 7 EXP 5594
Rep 1 Calib. Time	Aug 25, 2015 08:17:57	Aug 25, 2015 08:18:39

QC Check Standard Report

Sequence : C:\Instarch\HPLC 2\Sequences\8330A_B\082415expic-primary.seq
User : red
Printed : Aug 25, 2015 10:08:06

File	Sample ID	Acquired
C:\Instarch\HPLC 2\Data\082415expic-primary\002.dat	8330 Pt. 1 EXP 5588	Aug 25, 2015 10:08:06

A

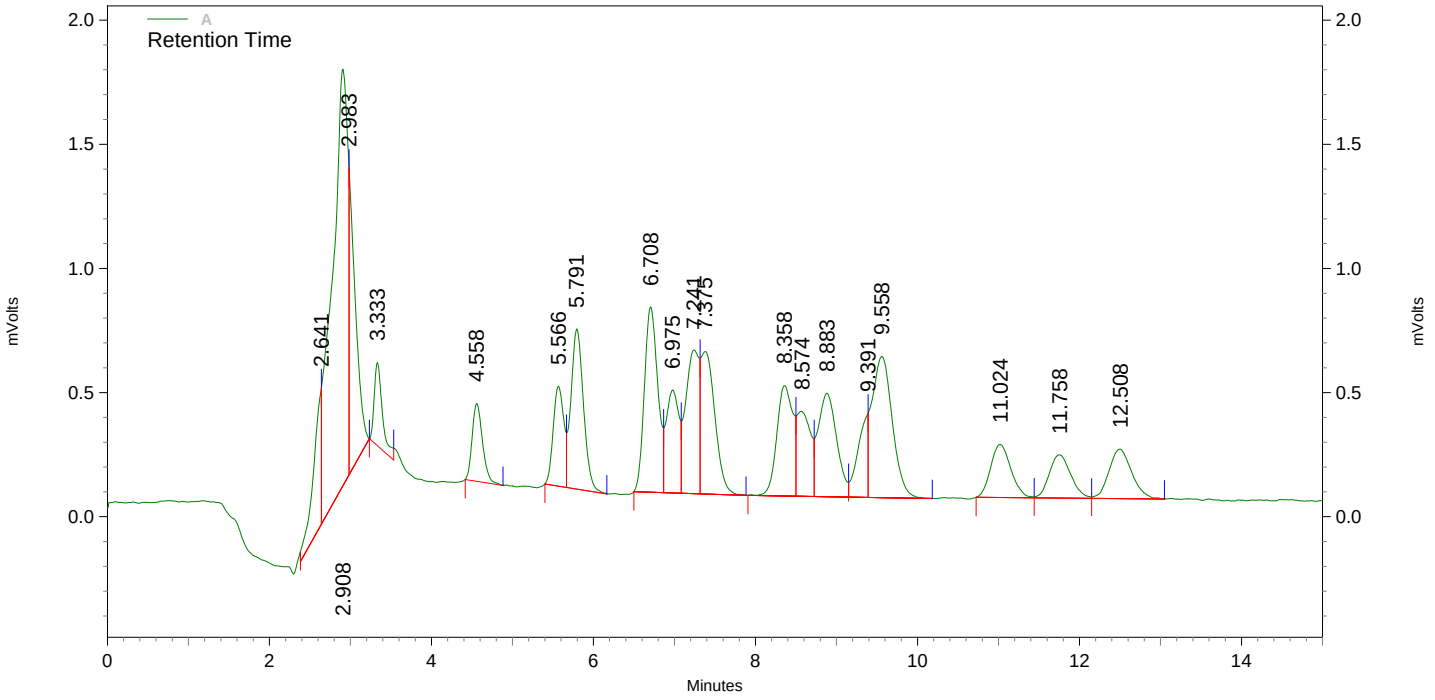
Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
HMX	0.030	0.031	1.879	20.000	Passed
RDX	0.030	0.031	3.130	20.000	Passed
12-DNB (SSTD)	6.000	6.072	1.195	20.000	Passed
135-TNB	0.030	0.032	5.797	20.000	Passed
13-DNB	0.030	0.031	2.156	20.000	Passed
TETRYL	0.030	0.031	4.823	20.000	Passed
35-DNA	0.030	0.029	4.010	20.000	Passed
NB	0.030	0.033	11.581	20.000	Passed
246-TNT	0.030	0.034	14.505	20.000	Passed
4-AM-26-DNT	0.030	0.024	19.134	20.000	Passed
2-AM-46-DNT	0.030	0.032	7.456	20.000	Passed
2-NT	0.030	0.032	6.484	20.000	Passed
4-NT	0.030	0.032	7.162	20.000	Passed
3-NT	0.030	0.033	10.415	20.000	Passed

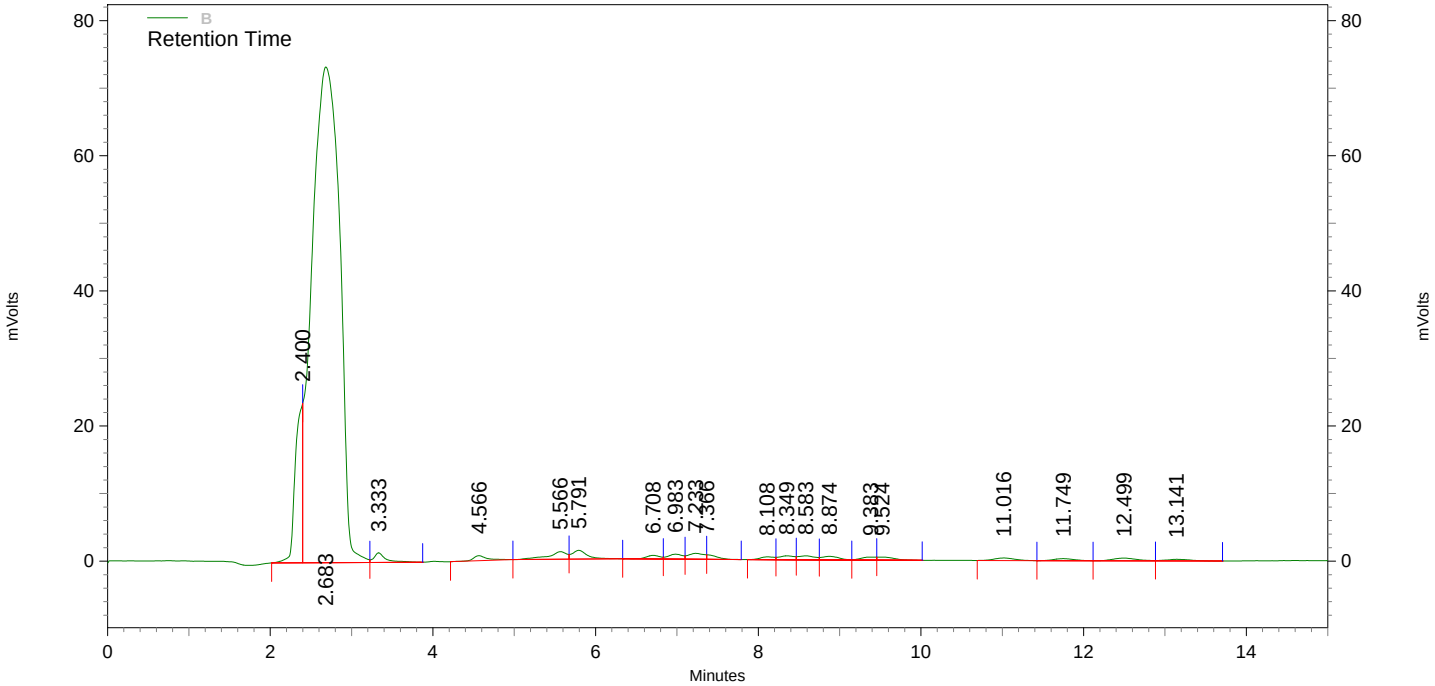
B

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
NG	0.060	0.058	3.911	20.000	Passed
26-DNT	0.030	0.030	0.796	20.000	Passed
24-DNT	0.030	0.030	0.490	20.000	Passed
PETN	0.060	0.058	2.772	20.000	Passed

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\082415expic-primary\002.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\082415expic-primary\082415expic-primary.met
Sample ID: 8330 Pt. 1 EXP 5588
Acquired: Aug 24, 2015 14:57:40
Data Summary: {Data Description}





A Results

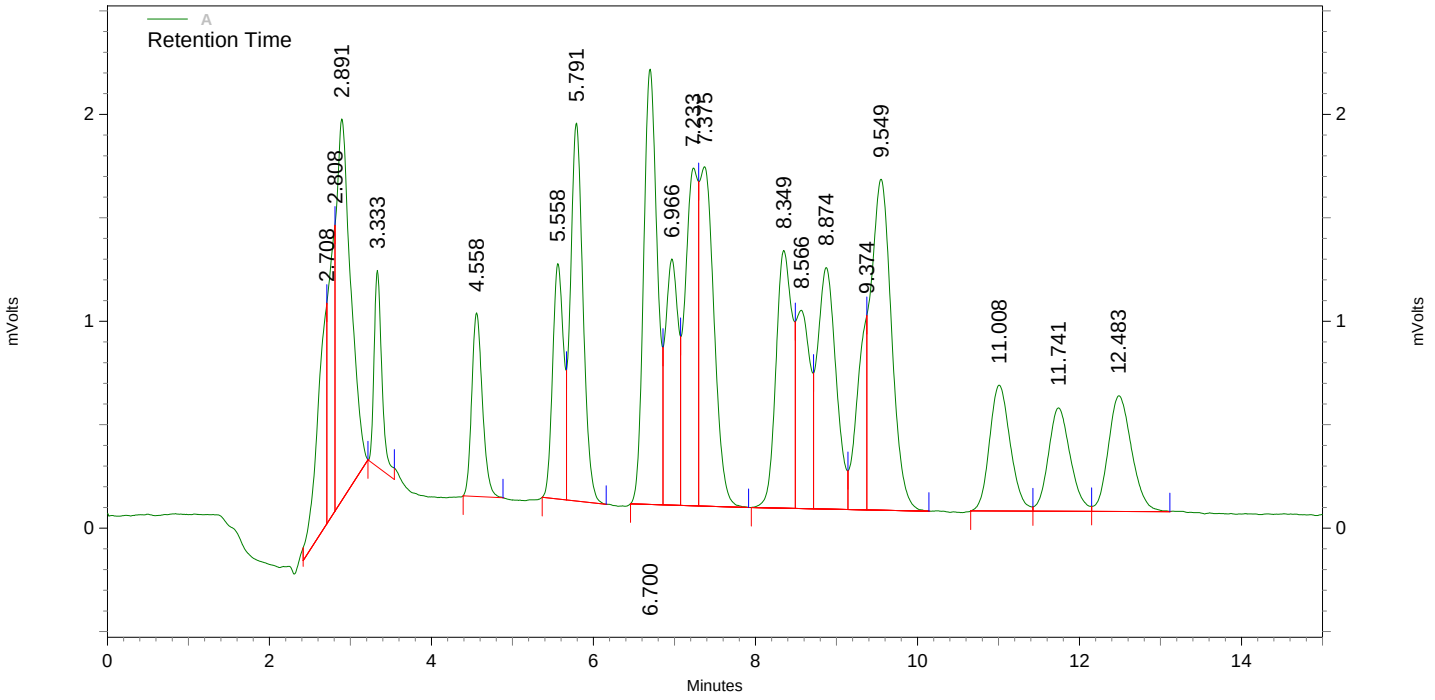
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX	3.333	2342	**0.031**
RDX	4.558	2780	**0.031**
12-DNB (SSTD)	5.566	3639	**6.072**
135-TNB	5.791	6963	**0.032**
13-DNB	6.708	8613	**0.031**
TETRYL	6.975	4512	**0.031**
35-DNA	7.241	6681	**0.029**
NB	7.375	6983	**0.033**
246-TNT	8.358	6146	**0.034**
4-AM-26-DNT	8.574	4096	**0.024**
2-AM-46-DNT	8.883	6649	**0.032**
2-NT	11.024	3718	**0.032**
4-NT	11.758	3215	**0.032**
3-NT	12.508	3917	**0.033**

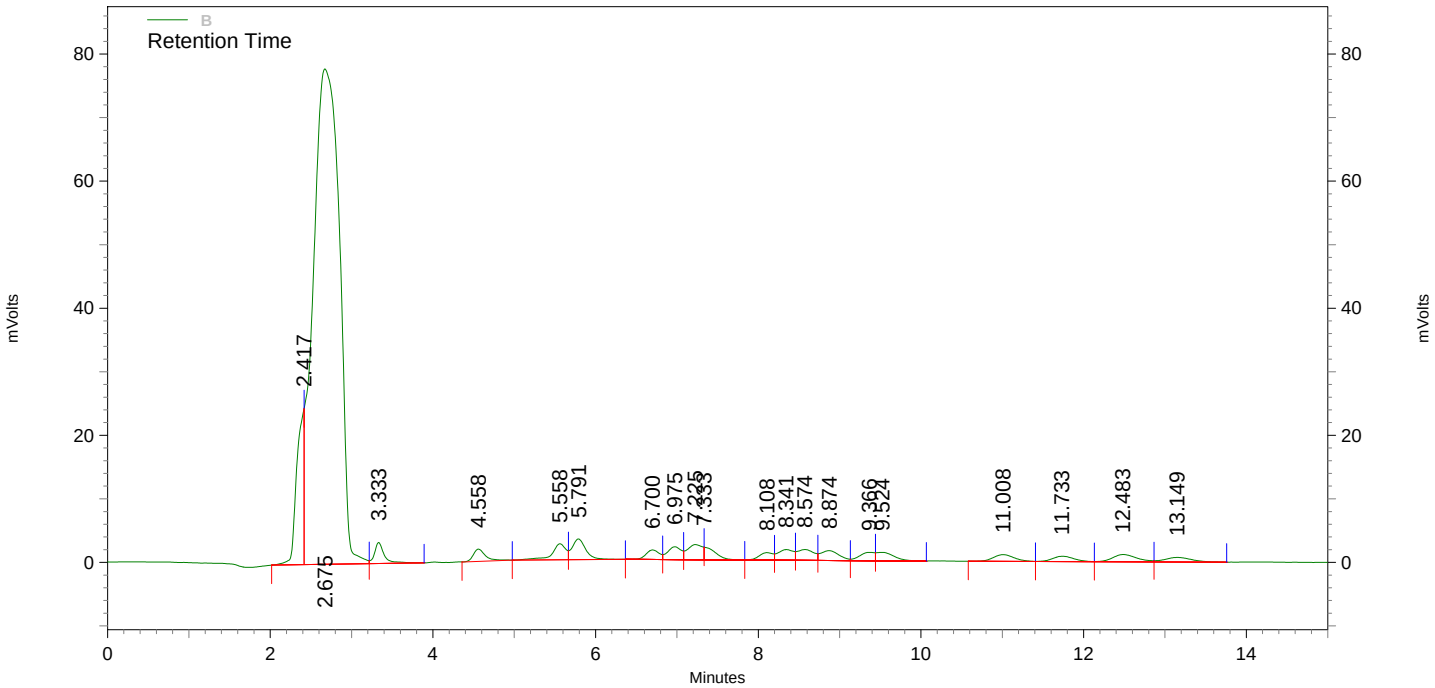
B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG	8.108	4911	**0.058**
26-DNT	9.383	5653	**0.030**
24-DNT	9.524	6591	**0.030**
PETN	13.141	4868	**0.058**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\082415expic-primary\003.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\082415expic-primary\082415expic-primary.met
Sample ID: 8330 Pt. 2 EXP 5589
Acquired: Aug 24, 2015 15:15:58
Data Summary: {Data Description}





A Results

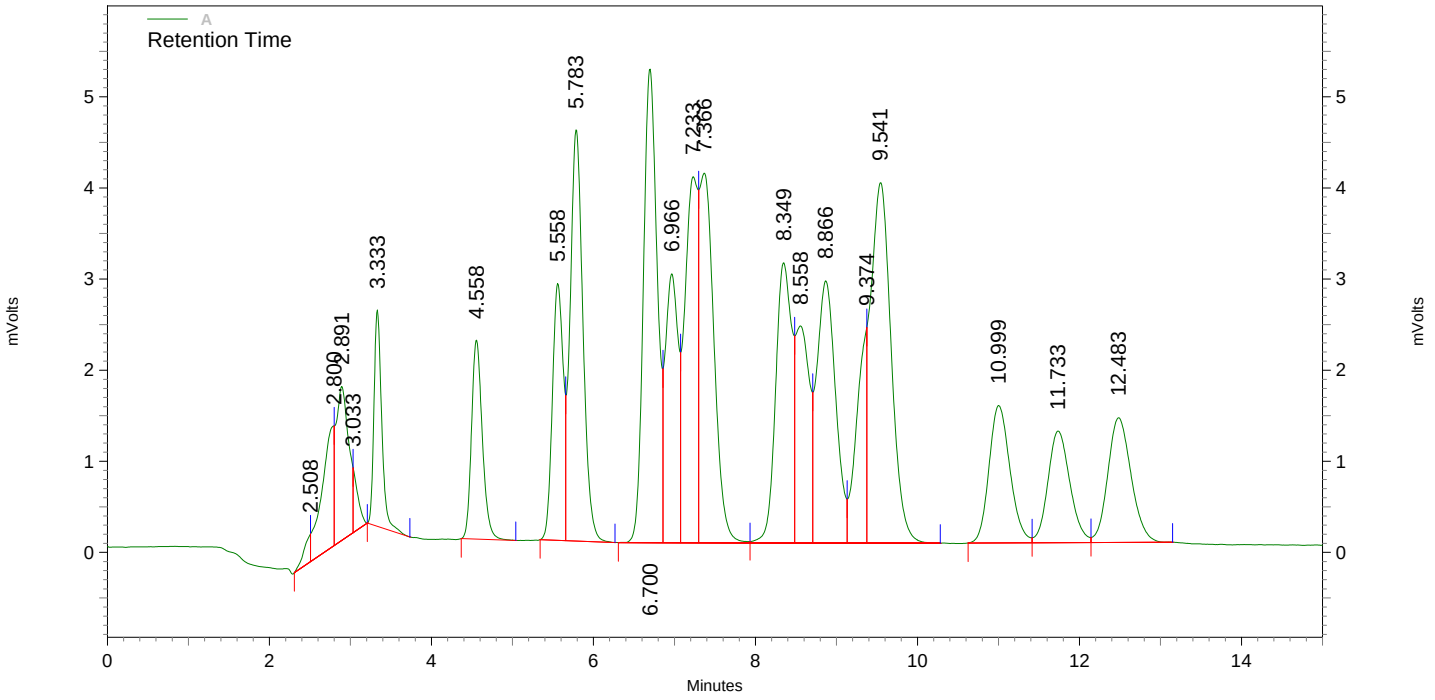
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX	3.333	6357	**0.100 CAL**
RDX	4.558	8104	**0.100 CAL**
12-DNB (SSTD)	5.558	10634	**20.000 CAL**
135-TNB	5.791	19614	**0.100 CAL**
13-DNB	6.700	24589	**0.100 CAL**
TETRYL	6.966	12940	**0.100 CAL**
35-DNA	7.233	18011	**0.100 CAL**
NB	7.375	20589	**0.100 CAL**
246-TNT	8.349	17321	**0.100 CAL**
4-AM-26-DNT	8.566	11467	**0.100 CAL**
2-AM-46-DNT	8.874	18769	**0.100 CAL**
2-NT	11.008	10839	**0.100 CAL**
4-NT	11.741	9365	**0.100 CAL**
3-NT	12.483	11209	**0.100 CAL**

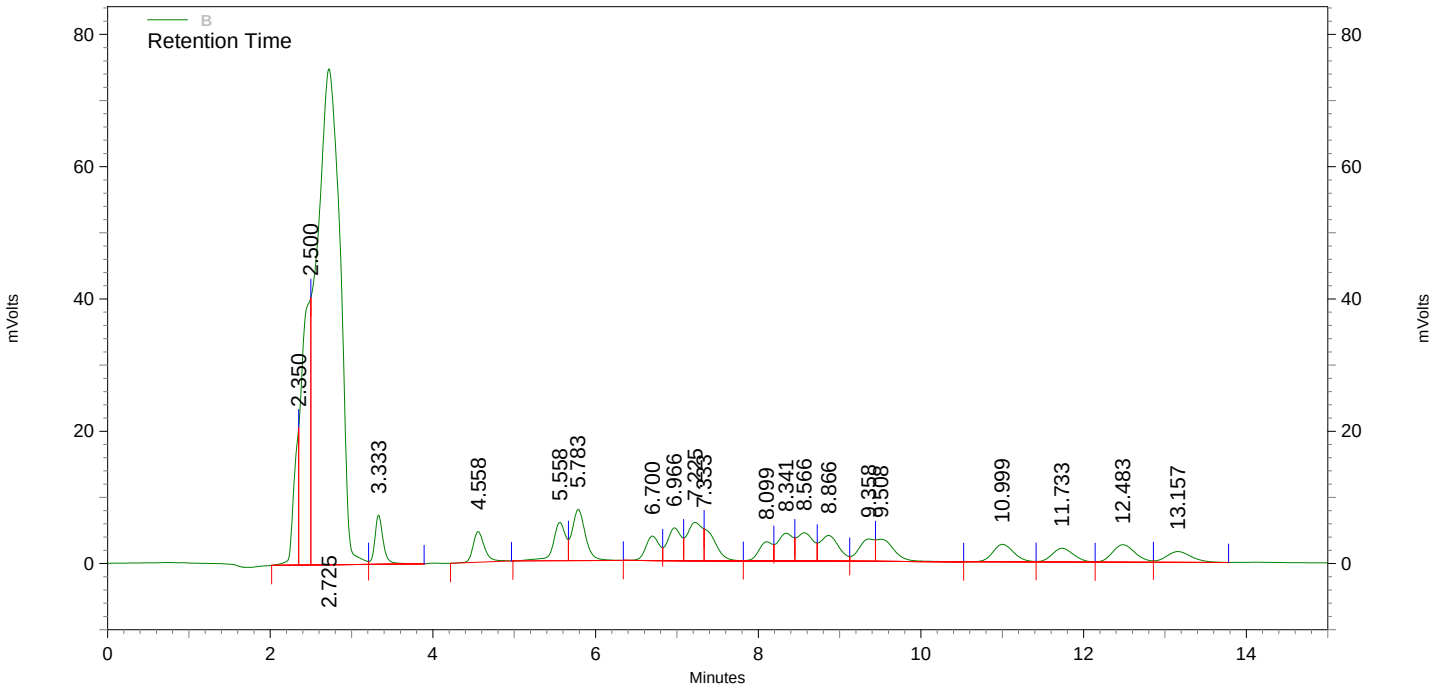
B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG	8.108	13897	**0.200 CAL**
26-DNT	9.366	16684	**0.100 CAL**
24-DNT	9.524	20126	**0.100 CAL**
PETN	13.149	16556	**0.200 CAL**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\082415expic-primary\004.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\082415expic-primary\082415expic-primary.met
Sample ID: 8330 Pt. 3 EXP 5590
Acquired: Aug 24, 2015 15:34:17
Data Summary: {Data Description}





A Results

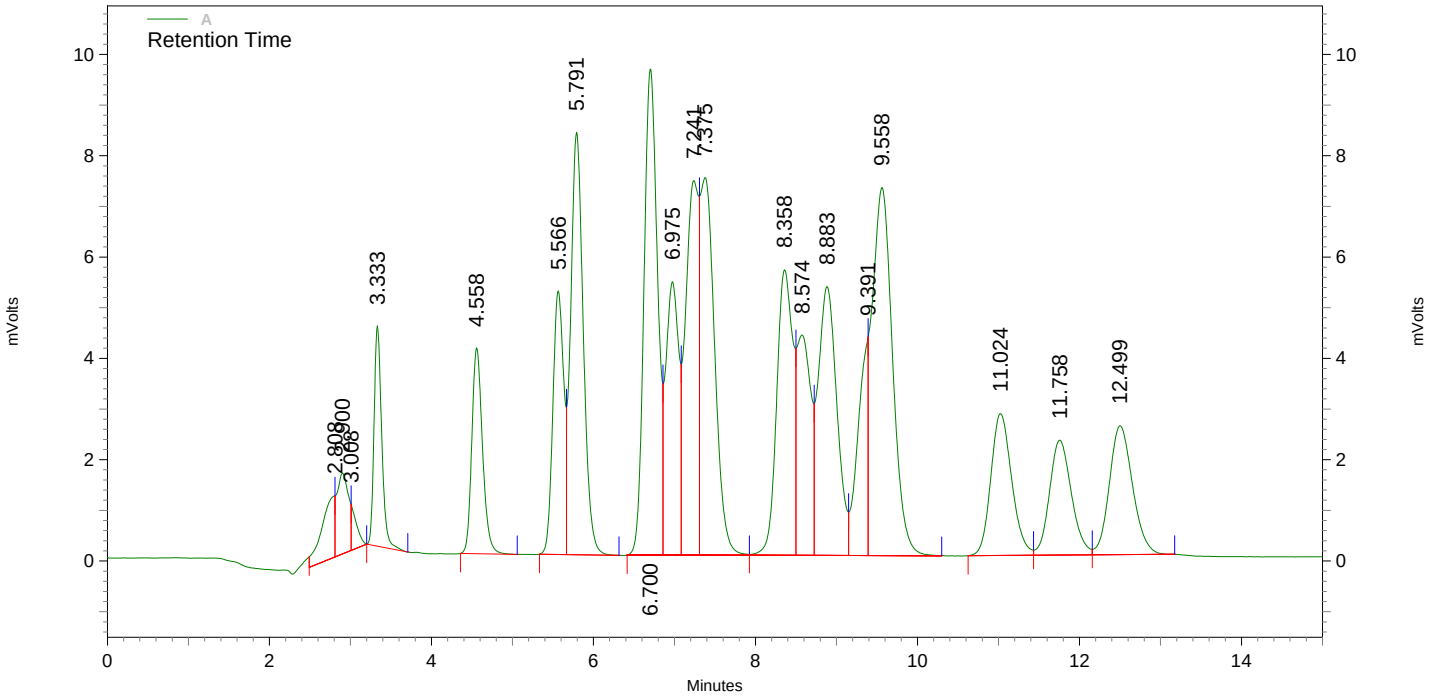
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX	3.333	15844	**0.250 CAL**
RDX	4.558	20276	**0.250 CAL**
12-DNB (SSTD)	5.558	26059	**50.000 CAL**
135-TNB	5.783	49724	**0.250 CAL**
13-DNB	6.700	61680	**0.250 CAL**
TETRYL	6.966	32355	**0.250 CAL**
35-DNA	7.233	45202	**0.250 CAL**
NB	7.366	50747	**0.250 CAL**
246-TNT	8.349	42594	**0.250 CAL**
4-AM-26-DNT	8.558	28716	**0.250 CAL**
2-AM-46-DNT	8.866	46840	**0.250 CAL**
2-NT	10.999	27149	**0.250 CAL**
4-NT	11.733	23111	**0.250 CAL**
3-NT	12.483	27377	**0.250 CAL**

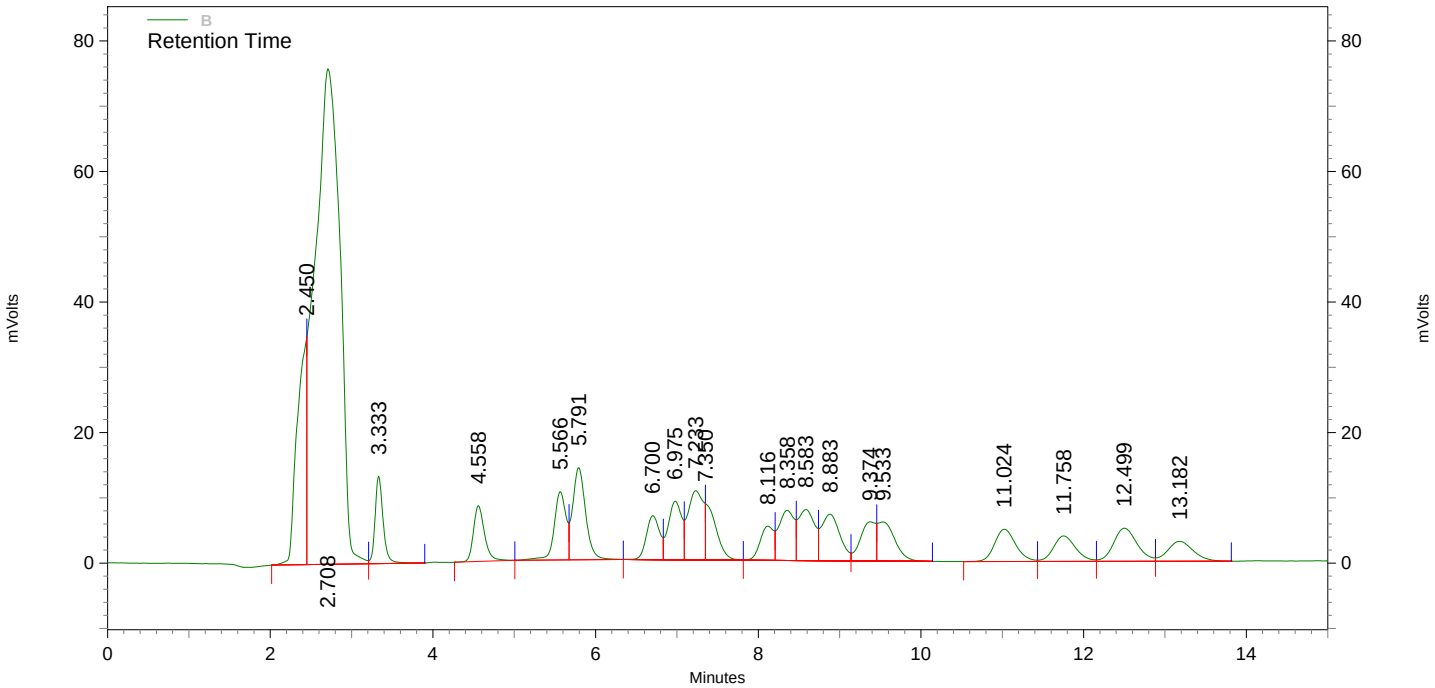
B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG	8.099	33225	**0.500 CAL**
26-DNT	9.358	44920	**0.250 CAL**
24-DNT	9.508	51092	**0.250 CAL**
PETN	13.157	34873	**0.500 CAL**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\082415expic-primary\005.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\082415expic-primary\082415expic-primary.met
Sample ID: 8330 Pt. 4 EXP 5591
Acquired: Aug 24, 2015 15:52:35
Data Summary: {Data Description}





A Results

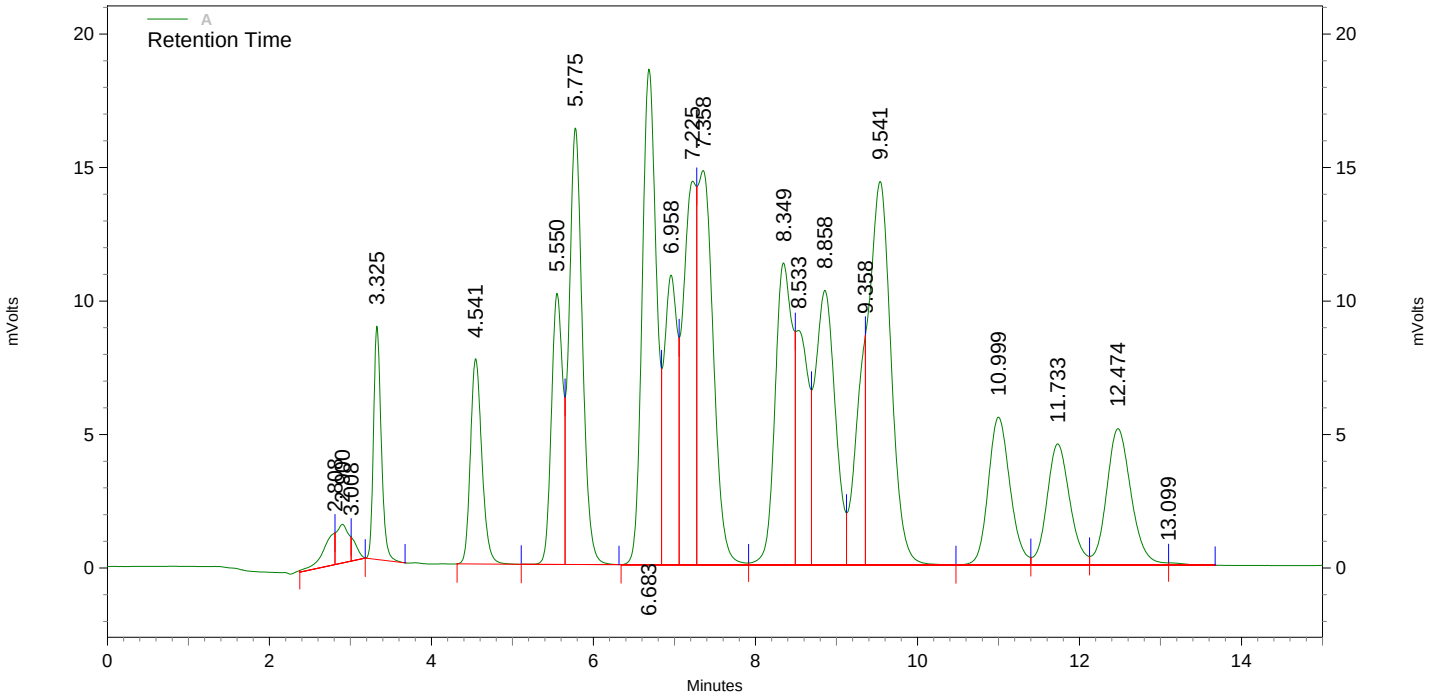
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX	3.333	28662	**0.500 CAL**
RDX	4.558	37315	**0.500 CAL**
12-DNB (SSTD)	5.566	48383	**100.000 CAL**
135-TNB	5.791	90577	**0.500 CAL**
13-DNB	6.700	111306	**0.500 CAL**
TETRYL	6.975	60463	**0.500 CAL**
35-DNA	7.241	82714	**0.500 CAL**
NB	7.375	93109	**0.500 CAL**
246-TNT	8.358	78433	**0.500 CAL**
4-AM-26-DNT	8.574	52249	**0.500 CAL**
2-AM-46-DNT	8.883	85625	**0.500 CAL**
2-NT	11.024	50127	**0.500 CAL**
4-NT	11.758	42613	**0.500 CAL**
3-NT	12.499	50758	**0.500 CAL**

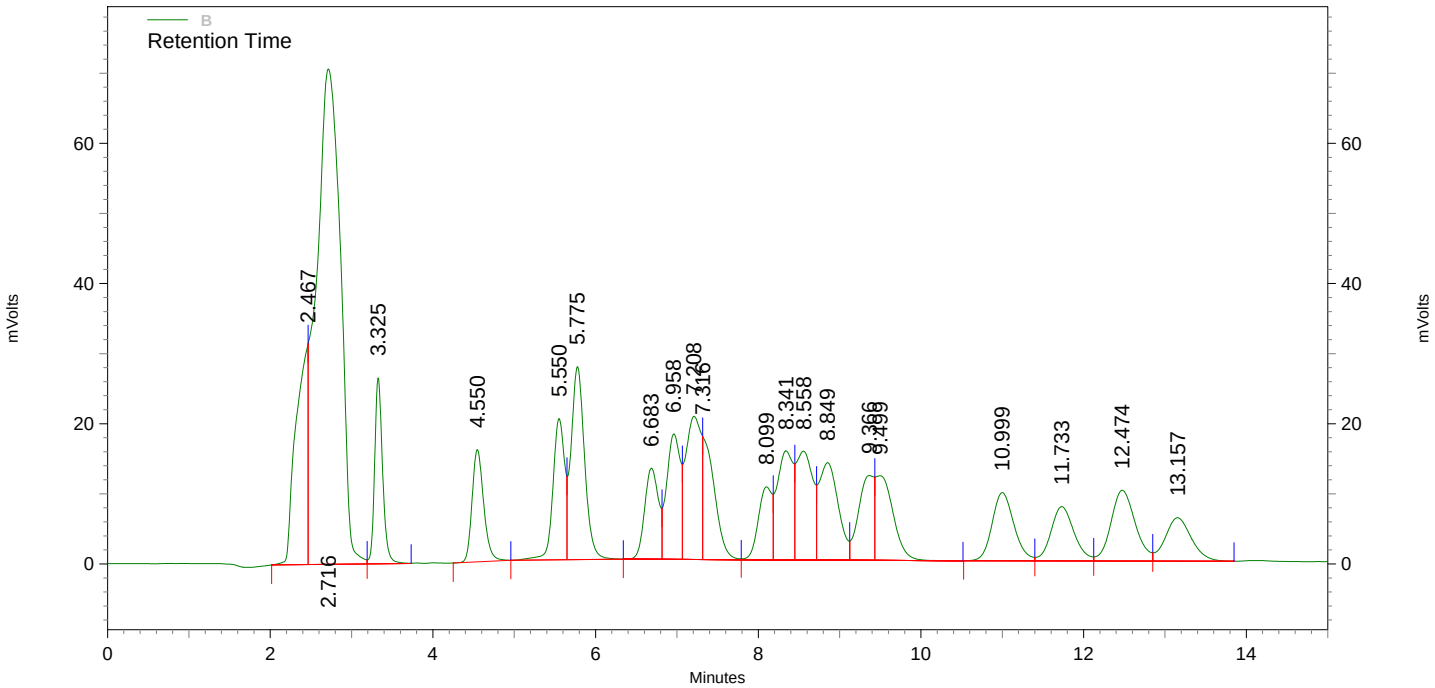
B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG	8.116	60474	**1.000 CAL**
26-DNT	9.374	79241	**0.500 CAL**
24-DNT	9.533	88488	**0.500 CAL**
PETN	13.182	67289	**1.000 CAL**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\082415expic-primary\006.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\082415expic-primary\082415expic-primary.met
Sample ID: 8330 Pt. 5 EXP 5592
Acquired: Aug 24, 2015 16:10:53
Data Summary: {Data Description}





A Results

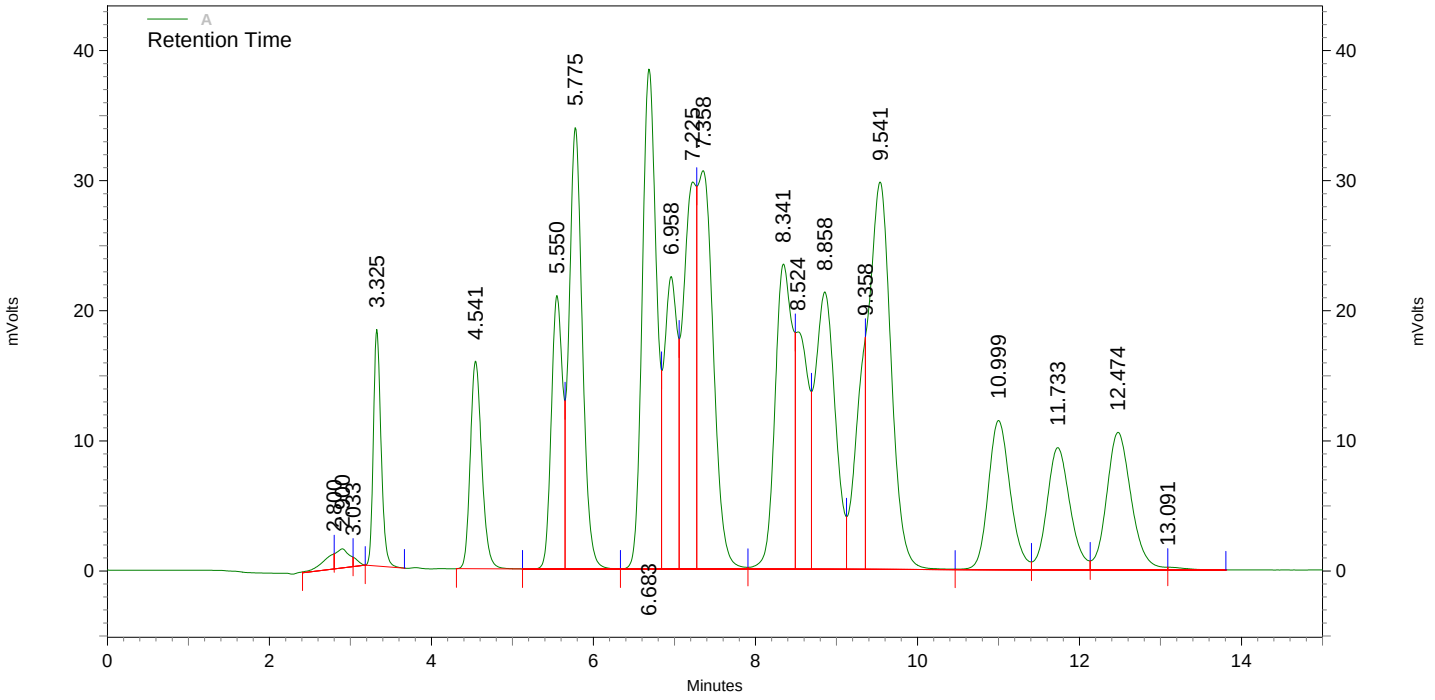
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX	3.325	57877	**1.000 CAL**
RDX	4.541	75609	**1.000 CAL**
12-DNB (SSTD)	5.550	97644	**200.000 CAL**
135-TNB	5.775	185334	**1.000 CAL**
13-DNB	6.683	226200	**1.000 CAL**
TETRYL	6.958	121695	**1.000 CAL**
35-DNA	7.225	158827	**1.000 CAL**
NB	7.358	200981	**1.000 CAL**
246-TNT	8.349	167910	**1.000 CAL**
4-AM-26-DNT	8.533	95613	**1.000 CAL**
2-AM-46-DNT	8.858	177279	**1.000 CAL**
2-NT	10.999	103591	**1.000 CAL**
4-NT	11.733	89108	**1.000 CAL**
3-NT	12.474	107714	**1.000 CAL**

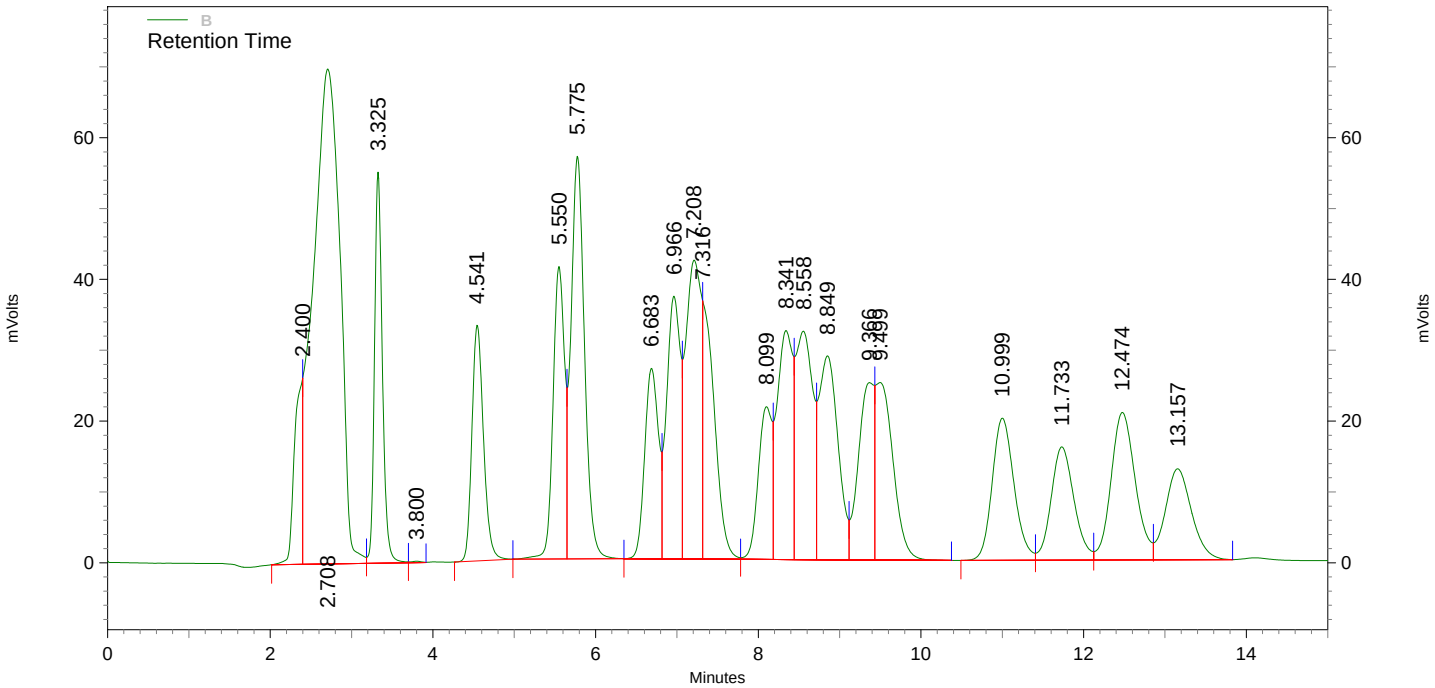
B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG	8.099	120385	**2.000 CAL**
26-DNT	9.366	158913	**1.000 CAL**
24-DNT	9.499	182879	**1.000 CAL**
PETN	13.157	138572	**2.000 CAL**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\082415expic-primary\007.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\082415expic-primary\082415expic-primary.met
Sample ID: 8330 Pt. 6 EXP 5593
Acquired: Aug 24, 2015 16:29:10
Data Summary: {Data Description}





A Results

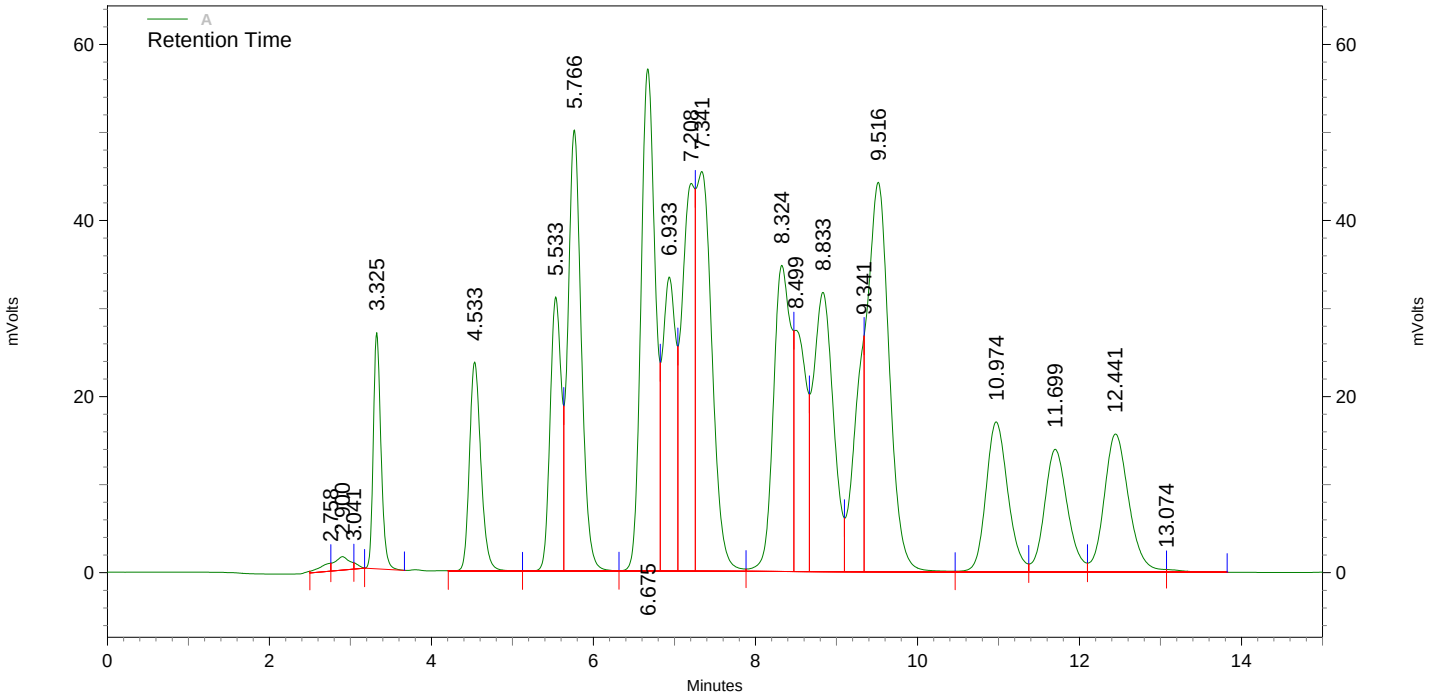
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX	3.325	119581	**2.000 CAL**
RDX	4.541	157246	**2.000 CAL**
12-DNB (SSTD)	5.550	203146	**400.000 CAL**
135-TNB	5.775	384804	**2.000 CAL**
13-DNB	6.683	468855	**2.000 CAL**
TETRYL	6.958	252597	**2.000 CAL**
35-DNA	7.225	328840	**2.000 CAL**
NB	7.358	418213	**2.000 CAL**
246-TNT	8.341	349772	**2.000 CAL**
4-AM-26-DNT	8.524	198648	**2.000 CAL**
2-AM-46-DNT	8.858	368148	**2.000 CAL**
2-NT	10.999	215147	**2.000 CAL**
4-NT	11.733	184419	**2.000 CAL**
3-NT	12.474	222496	**2.000 CAL**

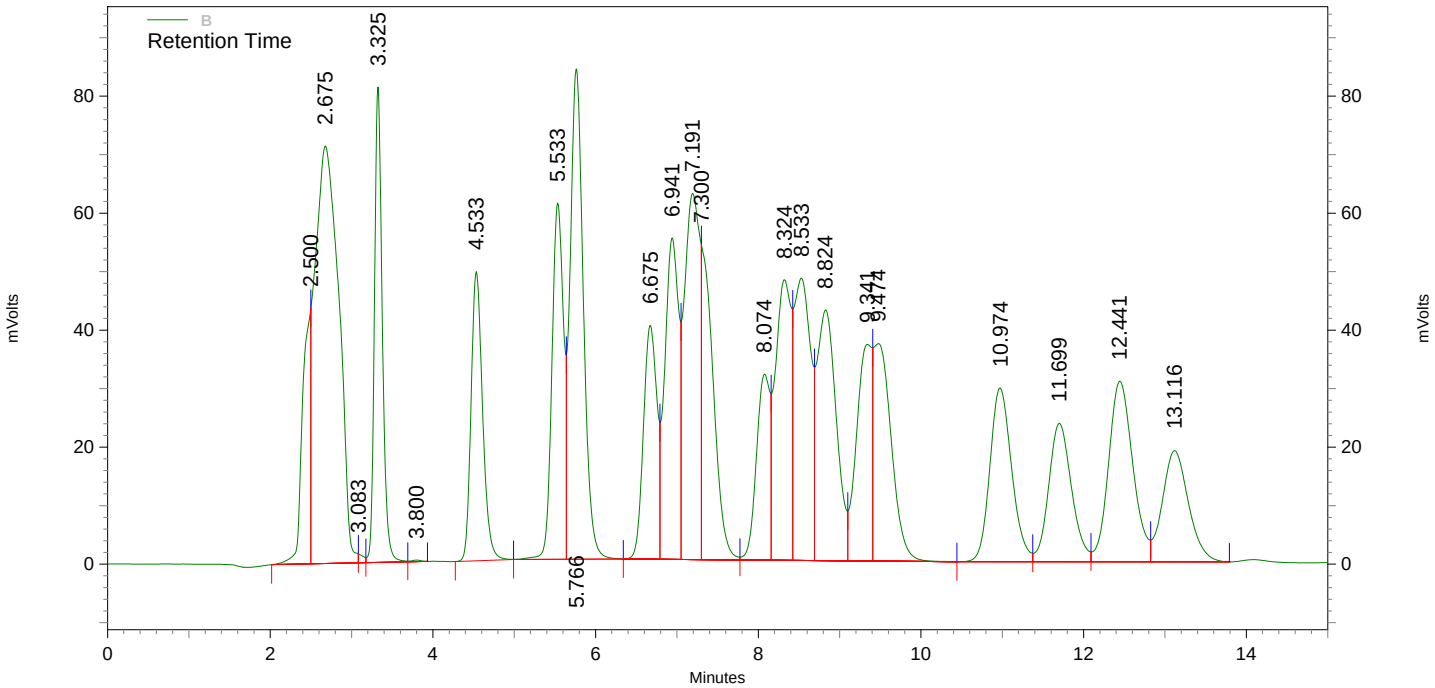
B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG	8.099	250295	**4.000 CAL**
26-DNT	9.366	332802	**2.000 CAL**
24-DNT	9.499	379089	**2.000 CAL**
PETN	13.157	286683	**4.000 CAL**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\082415expic-primary\008.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\082415expic-primary\082415expic-primary.met
Sample ID: 8330 Pt. 7 EXP 5594
Acquired: Aug 24, 2015 16:47:29
Data Summary: {Data Description}





A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX	3.325	176347	**3.000 CAL**
RDX	4.533	233000	**3.000 CAL**
12-DNB (SSTD)	5.533	297570	**600.000 CAL**
135-TNB	5.766	572893	**3.000 CAL**
13-DNB	6.675	696118	**3.000 CAL**
TETRYL	6.933	376954	**3.000 CAL**
35-DNA	7.208	486213	**3.000 CAL**
NB	7.341	620153	**3.000 CAL**
246-TNT	8.324	526062	**3.000 CAL**
4-AM-26-DNT	8.499	283309	**3.000 CAL**
2-AM-46-DNT	8.833	548469	**3.000 CAL**
2-NT	10.974	319313	**3.000 CAL**
4-NT	11.699	273910	**3.000 CAL**
3-NT	12.441	331456	**3.000 CAL**

B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG	8.074	364265	**6.000 CAL**
26-DNT	9.341	486433	**3.000 CAL**
24-DNT	9.474	567772	**3.000 CAL**
PETN	13.116	422954	**6.000 CAL**

QC Check Standard Report

Sequence : C:\Instarch\HPLC 2\Sequences\8330A_B\082415expic-primary.seq
User : red
Printed : Aug 25, 2015 10:08:57

File	Sample ID	Acquired
C:\Instarch\HPLC 2\Data\082415expic-primary\009.dat	8330 ICV EXP 5595	Aug 25, 2015 10:08:56

A

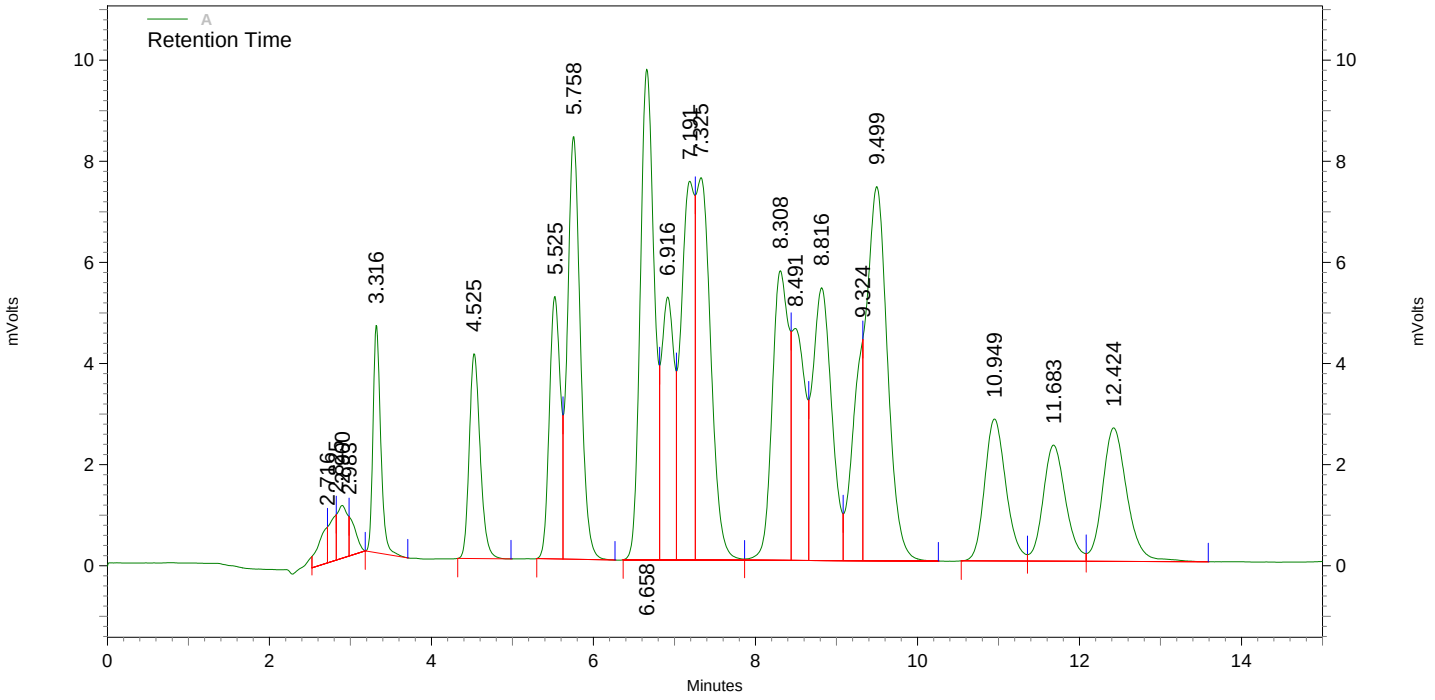
Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
HMX	0.500	0.500	0.077	20.000	Passed
RDX	0.500	0.487	2.522	20.000	Passed
12-DNB (SSTD)	100.000	96.893	3.107	20.000	Passed
135-TNB	0.500	0.484	3.188	20.000	Passed
13-DNB	0.500	0.496	0.800	20.000	Passed
TETRYL	0.500	0.448	10.432	20.000	Passed
35-DNA	0.500	0.522	4.400	20.000	Passed
NB	0.500	0.469	6.208	20.000	Passed
246-TNT	0.500	0.470	6.084	20.000	Passed
4-AM-26-DNT	0.500	0.532	6.398	20.000	Passed
2-AM-46-DNT	0.500	0.486	2.862	20.000	Passed
2-NT	0.500	0.482	3.648	20.000	Passed
4-NT	0.500	0.486	2.709	20.000	Passed
3-NT	0.500	0.505	0.954	20.000	Passed

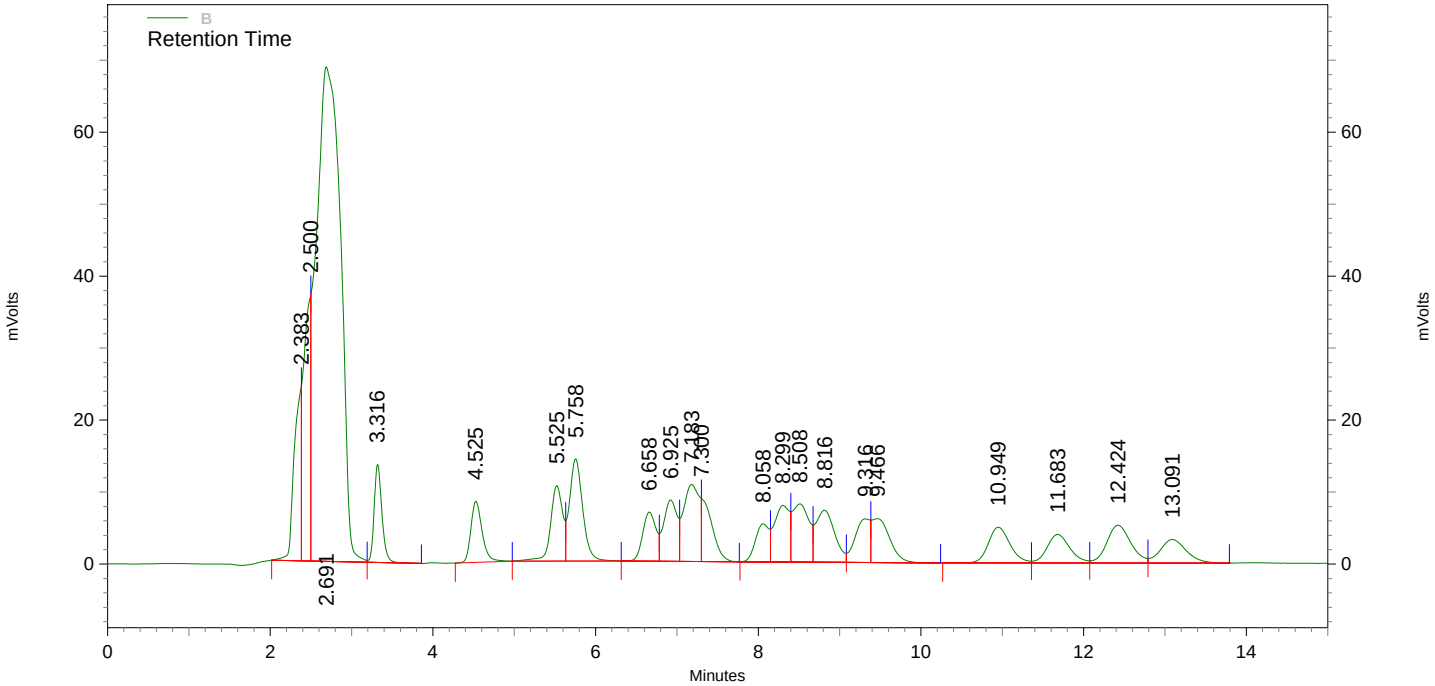
B

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
NG	1.000	0.978	2.186	20.000	Passed
26-DNT	0.500	0.465	6.953	20.000	Passed
24-DNT	0.500	0.500	0.048	20.000	Passed
PETN	1.000	1.031	3.147	20.000	Passed

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\082415expic-primary\009.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\082415expic-primary\082415expic-primary.met
Sample ID: 8330 ICV EXP 5595
Acquired: Aug 24, 2015 17:05:50
Data Summary: {Data Description}





A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX	3.316	29818	**0.500**
RDX	4.525	38036	**0.487**
12-DNB (SSTD)	5.525	48684	**96.893**
135-TNB	5.758	92606	**0.484**
13-DNB	6.658	115881	**0.496**
TETRYL	6.916	56385	**0.448**
35-DNA	7.191	86392	**0.522**
NB	7.325	96139	**0.469**
246-TNT	8.308	81134	**0.470**
4-AM-26-DNT	8.491	52871	**0.532**
2-AM-46-DNT	8.816	88734	**0.486**
2-NT	10.949	51260	**0.482**
4-NT	11.683	44374	**0.486**
3-NT	12.424	55494	**0.505**

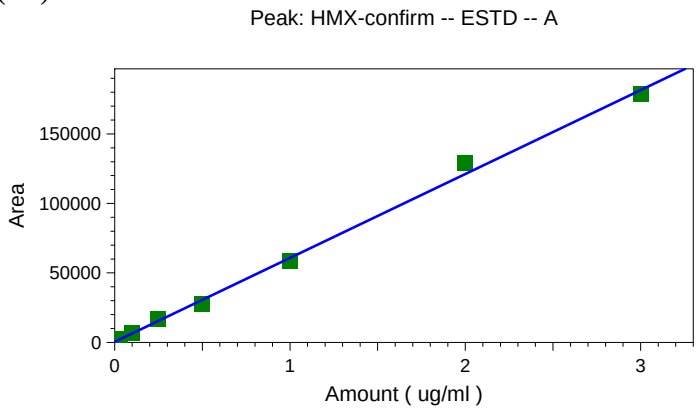
B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG	8.058	60924	**0.978**
26-DNT	9.316	76435	**0.465**
24-DNT	9.466	94572	**0.500**
PETN	13.091	73173	**1.031**

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\091715expic-confirm\091715expic-confirm.met
Print Time: Oct 19, 2015 13:02:23
User: RED
Instrument: HPLC 2

HMX-confirm (A)
Average RF: 63740.9 RF StDev: 6924.64 RF %RSD: 10.8637
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 60374.5x + 424.629
Goodness of fit (r^2): 0.996933



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.03	0.1	0.25	0.5	1
Area	2278	6614	16669	27440	58362
RF	75933.33333 33333	66140	66676	54880	58362
Last Area Residual	-0.000697928	-0.00251637	-0.0190603	0.0525365	0.0403663
Rep StDev					
Rep %RSD					
Rep 1 Area	2278	6614	16669	27440	58362
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\091715expic-confirm\002.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\003.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\004.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\005.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\006.dat
Rep 1 Sample ID	8330 Pt. 1 EXP 5597	8330 Pt. 2 EXP 5598	8330 Pt. 3 EXP 5599	8330 Pt. 4 EXP 5600	8330 Pt. 5 EXP 5601
Rep 1 Calib. Time	Sep 18, 2015 09:03:12	Sep 18, 2015 09:01:12	Sep 18, 2015 09:03:49	Sep 18, 2015 09:01:36	Sep 18, 2015 09:01:46

Level 6	Level 7

Calibration Report

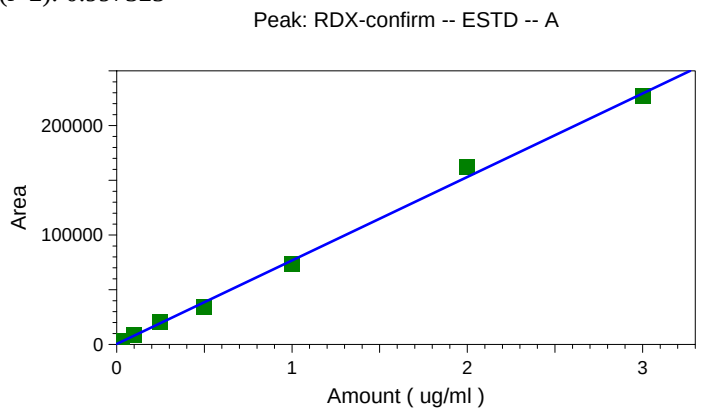
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\091715expic-confirm\091715expic-confirm.met
Print Time: Oct 19, 2015 13:02:23
User: RED
Instrument: HPLC 2

Amount	2	3
Area	129059	178997
RF	64529.5	59665.6666666667
Last Area		
Residual	-0.130609	0.0422534
Rep StDev		
Rep %RSD		
Rep 1 Area	129059	178997
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\091715expic-confirm\007.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\008.dat
Rep 1 Sample ID	8330 Pt. 6 EXP 5602	8330 Pt. 7 EXP 5603
Rep 1 Calib. Time	Sep 18, 2015 09:01:56	Sep 18, 2015 09:02:07

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\091715expic-confirm\091715expic-confirm.met
Print Time: Oct 19, 2015 13:02:26
User: RED
Instrument: HPLC 2

RDX-confirm (A)
Average RF: 79708.9 RF StDev: 8108.16 RF %RSD: 10.1722
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 76339.8x + 411.089
Goodness of fit (r^2): 0.997325



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.03	0.1	0.25	0.5	1
Area	2821	8156	20769	34430	73448
RF	94033.33333 33333	81560	83076	68860	73448
Last Area Residual	-0.00156822	-0.00145316	-0.016675	0.054375	0.0432653
Rep StDev					
Rep %RSD					
Rep 1 Area	2821	8156	20769	34430	73448
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\091715expic-confirm\002.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\003.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\004.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\005.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\006.dat
Rep 1 Sample ID	8330 Pt. 1 EXP 5597	8330 Pt. 2 EXP 5598	8330 Pt. 3 EXP 5599	8330 Pt. 4 EXP 5600	8330 Pt. 5 EXP 5601
Rep 1 Calib. Time	Sep 18, 2015 09:03:12	Sep 18, 2015 09:01:12	Sep 18, 2015 09:03:49	Sep 18, 2015 09:01:36	Sep 18, 2015 09:01:46

Level 6	Level 7

Calibration Report

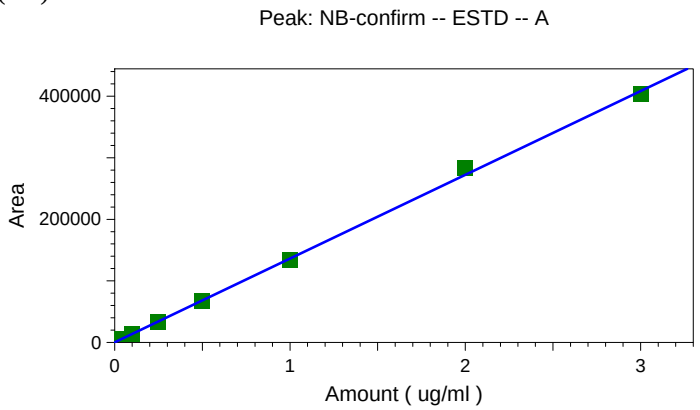
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\091715expic-confirm\091715expic-confirm.met
Print Time: Oct 19, 2015 13:02:26
User: RED
Instrument: HPLC 2

Amount	2	3
Area	162397	227360
RF	81198.5	75786.6666666667
Last Area		
Residual	-0.121907	0.0271209
Rep StDev		
Rep %RSD		
Rep 1 Area	162397	227360
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\091715expic-confirm\007.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\008.dat
Rep 1 Sample ID	8330 Pt. 6 EXP 5602	8330 Pt. 7 EXP 5603
Rep 1 Calib. Time	Sep 18, 2015 09:01:56	Sep 18, 2015 09:02:07

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\091715expic-confirm\091715expic-confirm.met
Print Time: Oct 19, 2015 13:02:31
User: RED
Instrument: HPLC 2

NB-confirm (A)
Average RF: 137441. RF StDev: 8833.40 RF %RSD: 6.42704
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 136083.x + 133.616
Goodness of fit (r^2): 0.998923



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.03	0.1	0.25	0.5	1
Area	4678	13178	32943	66529	133230
RF	155933.3333 33333	131780	131772	133058	133230
Last Area Residual	-0.0033942	0.00414393	0.00890173	0.0120965	0.0219472
Rep StDev					
Rep %RSD					
Rep 1 Area	4678	13178	32943	66529	133230
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\091715expic-confirm\002.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\003.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\004.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\005.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\006.dat
Rep 1 Sample ID	8330 Pt. 1 EXP 5597	8330 Pt. 2 EXP 5598	8330 Pt. 3 EXP 5599	8330 Pt. 4 EXP 5600	8330 Pt. 5 EXP 5601
Rep 1 Calib. Time	Sep 18, 2015 09:03:12	Sep 18, 2015 09:01:12	Sep 18, 2015 09:03:49	Sep 18, 2015 09:01:36	Sep 18, 2015 09:01:46

Level 6	Level 7

Calibration Report

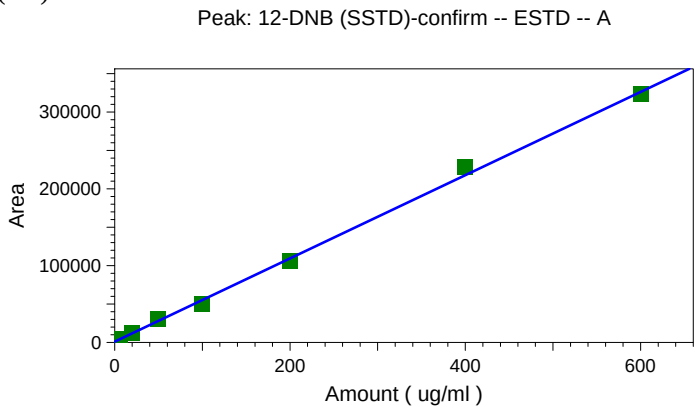
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\091715expic-confirm\091715expic-confirm.met
Print Time: Oct 19, 2015 13:02:31
User: RED
Instrument: HPLC 2

Amount	2	3
Area	283251	404069
RF	141625.5	134689.666666667
Last Area		
Residual	-0.0804753	0.0316991
Rep StDev		
Rep %RSD		
Rep 1 Area	283251	404069
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\091715expic-confirm\007.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\008.dat
Rep 1 Sample ID	8330 Pt. 6 EXP 5602	8330 Pt. 7 EXP 5603
Rep 1 Calib. Time	Sep 18, 2015 09:01:56	Sep 18, 2015 09:02:07

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\091715expic-confirm\091715expic-confirm.met
Print Time: Oct 19, 2015 13:02:35
User: RED
Instrument: HPLC 2

12-DNB (SSTD)-confirm (A)
Average RF: 581.368 RF StDev: 75.2609 RF %RSD: 12.9455
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 541.942x + 1014.62
Goodness of fit (r^2): 0.998264



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	6	20	50	100	200
Area	4361	12027	30282	49527	106146
RF	726.8333333 33333	601.35	605.64	495.27	530.73
Last Area Residual	-0.174787	-0.320213	-4.00463	10.4842	6.00989
Rep StDev					
Rep %RSD					
Rep 1 Area	4361	12027	30282	49527	106146
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\091715expic-confirm\002.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\003.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\004.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\005.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\006.dat
Rep 1 Sample ID	8330 Pt. 1 EXP 5597	8330 Pt. 2 EXP 5598	8330 Pt. 3 EXP 5599	8330 Pt. 4 EXP 5600	8330 Pt. 5 EXP 5601
Rep 1 Calib. Time	Sep 18, 2015 09:03:12	Sep 18, 2015 09:01:12	Sep 18, 2015 09:03:49	Sep 18, 2015 09:01:36	Sep 18, 2015 09:01:46

Level 6	Level 7

Calibration Report

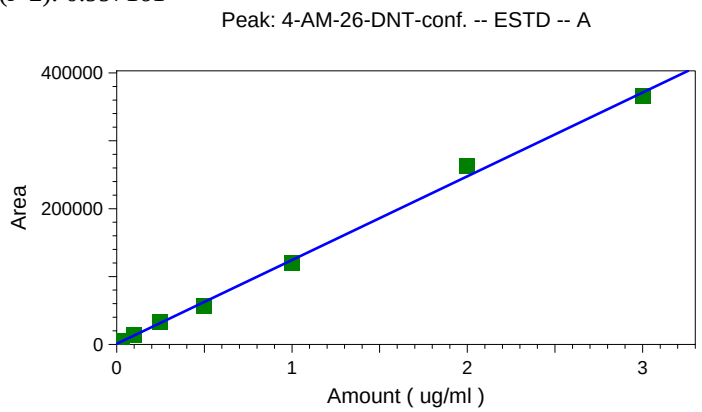
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\091715expic-confirm\091715expic-confirm.met
Print Time: Oct 19, 2015 13:02:35
User: RED
Instrument: HPLC 2

Amount	400	600
Area	227989	323867
RF	569.9725	539.778333333333
Last Area		
Residual	-18.8168	4.2676
Rep StDev		
Rep %RSD		
Rep 1 Area	227989	323867
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\091715expic-confirm\007.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\008.dat
Rep 1 Sample ID	8330 Pt. 6 EXP 5602	8330 Pt. 7 EXP 5603
Rep 1 Calib. Time	Sep 18, 2015 09:01:56	Sep 18, 2015 09:02:07

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\091715expic-confirm\091715expic-confirm.met
Print Time: Oct 19, 2015 13:02:41
User: RED
Instrument: HPLC 2

4-AM-26-DNT-conf. (A)
Average RF: 130512. RF StDev: 14770.8 RF %RSD: 11.3176
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 123411.x + 898.323
Goodness of fit (r^2): 0.997161



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.03	0.1	0.25	0.5	1
Area	4739	13598	33442	56303	119421
RF	157966.6666 66667	135980	133768	112606	119421
Last Area Residual	-0.00112098	-0.0029054	-0.0137012	0.0510563	0.0396116
Rep StDev					
Rep %RSD					
Rep 1 Area	4739	13598	33442	56303	119421
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\091715expic-confirm\002.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\003.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\004.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\005.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\006.dat
Rep 1 Sample ID	8330 Pt. 1 EXP 5597	8330 Pt. 2 EXP 5598	8330 Pt. 3 EXP 5599	8330 Pt. 4 EXP 5600	8330 Pt. 5 EXP 5601
Rep 1 Calib. Time	Sep 18, 2015 09:03:12	Sep 18, 2015 09:01:12	Sep 18, 2015 09:03:49	Sep 18, 2015 09:01:36	Sep 18, 2015 09:01:46

Level 6	Level 7

Calibration Report

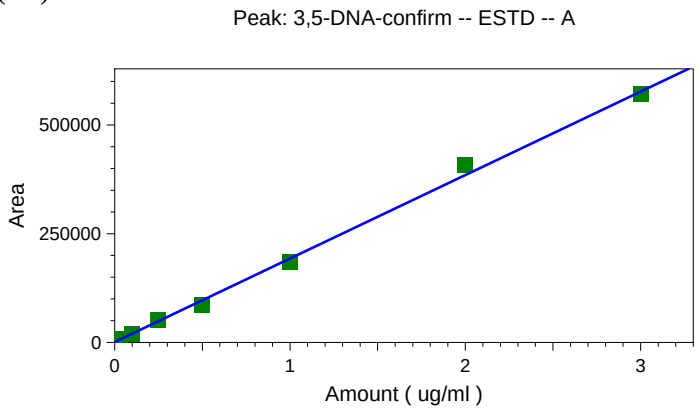
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\091715expic-confirm\091715expic-confirm.met
Print Time: Oct 19, 2015 13:02:41
User: RED
Instrument: HPLC 2

Amount	2	3
Area	263374	366474
RF	131687	122158
Last Area		
Residual	-0.126839	0.0377428
Rep StDev		
Rep %RSD		
Rep 1 Area	263374	366474
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\091715expic-confirm\007.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\008.dat
Rep 1 Sample ID	8330 Pt. 6 EXP 5602	8330 Pt. 7 EXP 5603
Rep 1 Calib. Time	Sep 18, 2015 09:01:56	Sep 18, 2015 09:02:07

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\091715expic-confirm\091715expic-confirm.met
Print Time: Oct 19, 2015 13:02:48
User: RED
Instrument: HPLC 2

3,5-DNA-confirm (A)
Average RF: 200255. RF StDev: 20677.3 RF %RSD: 10.3255
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 191974.x + 1009.72
Goodness of fit (r^2): 0.997531



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.03	0.1	0.25	0.5	1
Area	7178	20429	51086	87134	185053
RF	239266.6666 66667	204290	204344	174268	185053
Last Area					
Residual	-0.0021309	-0.00115603	-0.0108499	0.0513743	0.0413093
Rep StDev					
Rep %RSD					
Rep 1 Area	7178	20429	51086	87134	185053
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\091715expic-confirm\002.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\003.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\004.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\005.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\006.dat
Rep 1 Sample ID	8330 Pt. 1 EXP 5597	8330 Pt. 2 EXP 5598	8330 Pt. 3 EXP 5599	8330 Pt. 4 EXP 5600	8330 Pt. 5 EXP 5601
Rep 1 Calib. Time	Sep 18, 2015 09:03:12	Sep 18, 2015 09:01:12	Sep 18, 2015 09:03:49	Sep 18, 2015 09:01:36	Sep 18, 2015 09:01:46

	Level 6	Level 7

Calibration Report

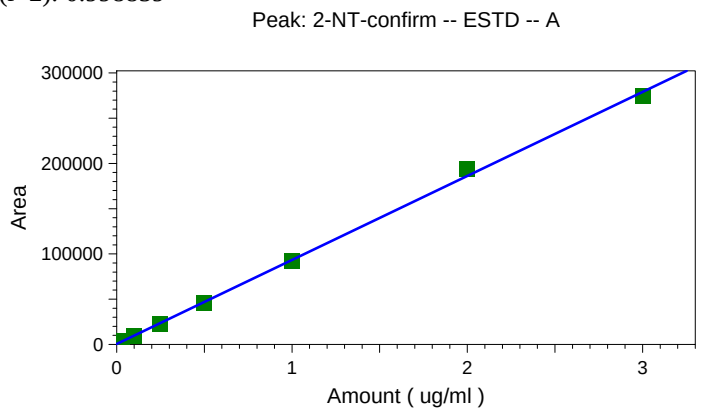
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\091715expic-confirm\091715expic-confirm.met
Print Time: Oct 19, 2015 13:02:48
User: RED
Instrument: HPLC 2

Amount	2	3
Area	407702	572140
RF	203851	190713.333333333
Last Area		
Residual	-0.118481	0.0249535
Rep StDev		
Rep %RSD		
Rep 1 Area	407702	572140
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\091715expic-confirm\007.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\008.dat
Rep 1 Sample ID	8330 Pt. 6 EXP 5602	8330 Pt. 7 EXP 5603
Rep 1 Calib. Time	Sep 18, 2015 09:01:56	Sep 18, 2015 09:02:07

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\091715expic-confirm\091715expic-confirm.met
Print Time: Oct 19, 2015 13:02:54
User: RED
Instrument: HPLC 2

2-NT-confirm (A)
Average RF: 96910.2 RF StDev: 9453.00 RF %RSD: 9.75439
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 92866.0x + 518.294
Goodness of fit (r^2): 0.998859



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.03	0.1	0.25	0.5	1
Area	3531	9652	22892	45757	92632
RF	117700	96520	91568	91514	92632
Last Area Residual	-0.00244143	0.0016464	0.00907538	0.0128604	0.00810088
Rep StDev					
Rep %RSD					
Rep 1 Area	3531	9652	22892	45757	92632
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\091715expic-confirm\002.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\003.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\004.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\005.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\006.dat
Rep 1 Sample ID	8330 Pt. 1 EXP 5597	8330 Pt. 2 EXP 5598	8330 Pt. 3 EXP 5599	8330 Pt. 4 EXP 5600	8330 Pt. 5 EXP 5601
Rep 1 Calib. Time	Sep 18, 2015 09:03:12	Sep 18, 2015 09:01:12	Sep 18, 2015 09:03:49	Sep 18, 2015 09:01:36	Sep 18, 2015 09:01:46

	Level 6	Level 7
Amount	2	3

Calibration Report

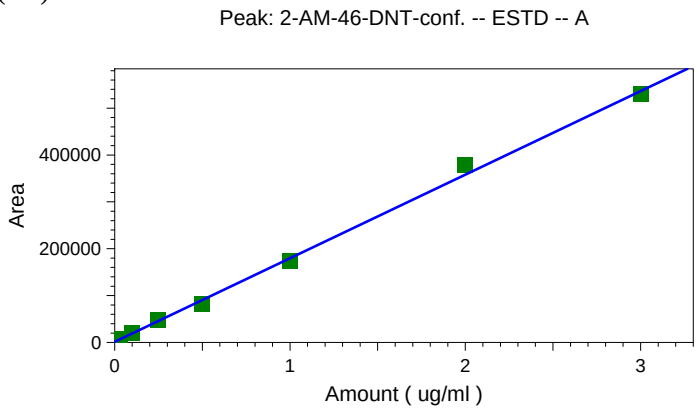
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\091715expic-confirm\091715expic-confirm.met
Print Time: Oct 19, 2015 13:02:54
User: RED
Instrument: HPLC 2

Area	193602	274909
RF	96801	91636.3333333333
Last Area		
Residual	-0.0791646	0.0453051
Rep StDev		
Rep %RSD		
Rep 1 Area	193602	274909
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\091715expic-confirm\007.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\008.dat
Rep 1 Sample ID	8330 Pt. 6 EXP 5602	8330 Pt. 7 EXP 5603
Rep 1 Calib. Time	Sep 18, 2015 09:01:56	Sep 18, 2015 09:02:07

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\091715expic-confirm\091715expic-confirm.met
Print Time: Oct 19, 2015 13:03:01
User: RED
Instrument: HPLC 2

2-AM-46-DNT-conf. (A)
Average RF: 187229. RF StDev: 20175.5 RF %RSD: 10.7758
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 178470.x + 1090.58
Goodness of fit (r^2): 0.997779



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.03	0.1	0.25	0.5	1
Area	6788	19167	47494	81220	174252
RF	226266.6666 66667	191670	189976	162440	174252
Last Area Residual	-0.00192362	-0.00128522	-0.0100061	0.0510214	0.0297476
Rep StDev					
Rep %RSD					
Rep 1 Area	6788	19167	47494	81220	174252
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\091715expic-confirm\002.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\003.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\004.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\005.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\006.dat
Rep 1 Sample ID	8330 Pt. 1 EXP 5597	8330 Pt. 2 EXP 5598	8330 Pt. 3 EXP 5599	8330 Pt. 4 EXP 5600	8330 Pt. 5 EXP 5601
Rep 1 Calib. Time	Sep 18, 2015 09:03:12	Sep 18, 2015 09:01:12	Sep 18, 2015 09:03:49	Sep 18, 2015 09:01:36	Sep 18, 2015 09:01:46

Level 6	Level 7

Calibration Report

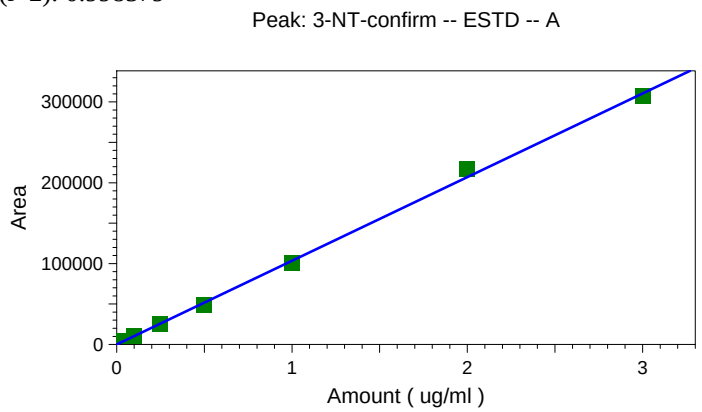
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\091715expic-confirm\091715expic-confirm.met
Print Time: Oct 19, 2015 13:03:01
User: RED
Instrument: HPLC 2

Amount	2	3
Area	378030	530946
RF	189015	176982
Last Area		
Residual	-0.112055	0.0311315
Rep StDev		
Rep %RSD		
Rep 1 Area	378030	530946
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\091715expic-confirm\007.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\008.dat
Rep 1 Sample ID	8330 Pt. 6 EXP 5602	8330 Pt. 7 EXP 5603
Rep 1 Calib. Time	Sep 18, 2015 09:01:56	Sep 18, 2015 09:02:07

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\091715expic-confirm\091715expic-confirm.met
Print Time: Oct 19, 2015 13:03:10
User: RED
Instrument: HPLC 2

3-NT-confirm (A)
Average RF: 104227. RF StDev: 7352.52 RF %RSD: 7.05431
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 103505.x + 45.9944
Goodness of fit (r^2): 0.998579



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.03	0.1	0.25	0.5	1
Area	3573	9975	25262	48815	101118
RF	119100	99750	101048	97630	101118
Last Area Residual	-0.00407582	0.00407189	0.00637804	0.0288231	0.0235028
Rep StDev					
Rep %RSD					
Rep 1 Area	3573	9975	25262	48815	101118
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\091715expic-confirm\002.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\003.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\004.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\005.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\006.dat
Rep 1 Sample ID	8330 Pt. 1 EXP 5597	8330 Pt. 2 EXP 5598	8330 Pt. 3 EXP 5599	8330 Pt. 4 EXP 5600	8330 Pt. 5 EXP 5601
Rep 1 Calib. Time	Sep 18, 2015 09:03:12	Sep 18, 2015 09:01:12	Sep 18, 2015 09:03:49	Sep 18, 2015 09:01:36	Sep 18, 2015 09:01:46

	Level 6	Level 7
Amount	2	3

Calibration Report

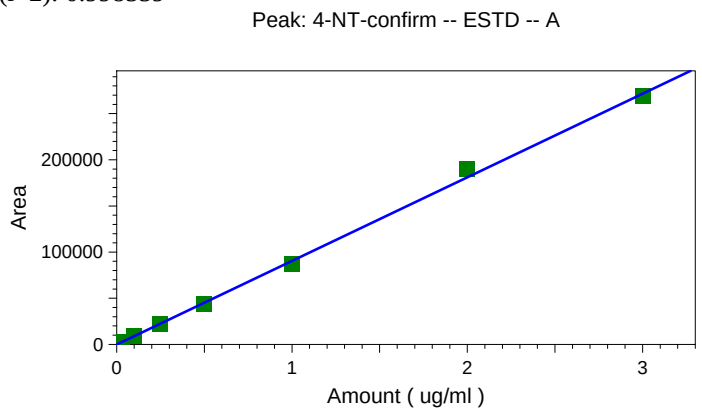
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\091715expic-confirm\091715expic-confirm.met
Print Time: Oct 19, 2015 13:03:10
User: RED
Instrument: HPLC 2

Area	216727	307747
RF	108363.5	102582.333333333
Last Area		
Residual	-0.0934422	0.027177
Rep StDev		
Rep %RSD		
Rep 1 Area	216727	307747
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\091715expic-confirm\007.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\008.dat
Rep 1 Sample ID	8330 Pt. 6 EXP 5602	8330 Pt. 7 EXP 5603
Rep 1 Calib. Time	Sep 18, 2015 09:01:56	Sep 18, 2015 09:02:07

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\091715expic-confirm\091715expic-confirm.met
Print Time: Oct 19, 2015 13:03:16
User: RED
Instrument: HPLC 2

4-NT-confirm (A)
Average RF: 90391.4 RF StDev: 3922.35 RF %RSD: 4.33929
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 90565.4x - 44.8543
Goodness of fit (r^2): 0.998559



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.03	0.1	0.25	0.5	1
Area	2908	8833	22275	43368	87077
RF	96933.33333 33333	88330	89100	86736	87077
Last Area Residual	-0.00260466	0.001973	0.00354987	0.0206464	0.0380227
Rep StDev					
Rep %RSD					
Rep 1 Area	2908	8833	22275	43368	87077
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\091715expic-confirm\002.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\003.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\004.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\005.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\006.dat
Rep 1 Sample ID	8330 Pt. 1 EXP 5597	8330 Pt. 2 EXP 5598	8330 Pt. 3 EXP 5599	8330 Pt. 4 EXP 5600	8330 Pt. 5 EXP 5601
Rep 1 Calib. Time	Sep 18, 2015 09:03:12	Sep 18, 2015 09:01:12	Sep 18, 2015 09:03:49	Sep 18, 2015 09:01:36	Sep 18, 2015 09:01:46

Level 6	Level 7

Calibration Report

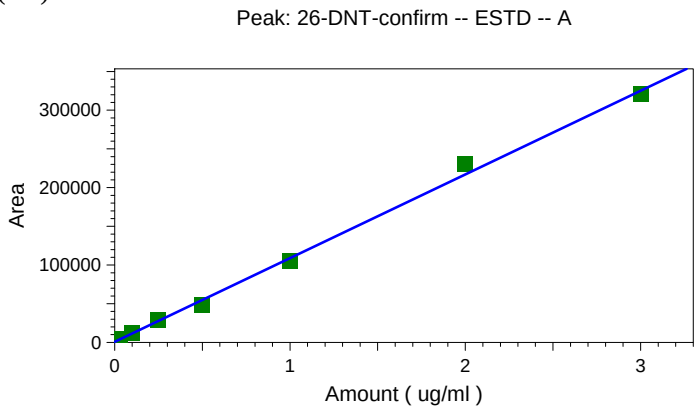
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\091715expic-confirm\091715expic-confirm.met
Print Time: Oct 19, 2015 13:03:16
User: RED
Instrument: HPLC 2

Amount	2	3
Area	189483	269466
RF	94741.5	89822
Last Area		
Residual	-0.0927181	0.02413
Rep StDev		
Rep %RSD		
Rep 1 Area	189483	269466
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\091715expic-confirm\007.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\008.dat
Rep 1 Sample ID	8330 Pt. 6 EXP 5602	8330 Pt. 7 EXP 5603
Rep 1 Calib. Time	Sep 18, 2015 09:01:56	Sep 18, 2015 09:02:07

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\091715expic-confirm\091715expic-confirm.met
Print Time: Oct 19, 2015 13:03:20
User: RED
Instrument: HPLC 2

26-DNT-confirm (A)
Average RF: 114872. RF StDev: 15337.2 RF %RSD: 13.3516
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 108104.x + 832.245
Goodness of fit (r^2): 0.997111



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.03	0.1	0.25	0.5	1
Area	4374	11611	29196	48887	105028
RF	145800	116110	116784	97774	105028
Last Area					
Residual	-0.00276237	0.00029305	-0.0123739	0.0554781	0.0361558
Rep StDev					
Rep %RSD					
Rep 1 Area	4374	11611	29196	48887	105028
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\091715expic-confirm\002.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\003.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\004.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\005.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\006.dat
Rep 1 Sample ID	8330 Pt. 1 EXP 5597	8330 Pt. 2 EXP 5598	8330 Pt. 3 EXP 5599	8330 Pt. 4 EXP 5600	8330 Pt. 5 EXP 5601
Rep 1 Calib. Time	Sep 18, 2015 09:03:12	Sep 18, 2015 09:01:12	Sep 18, 2015 09:03:49	Sep 18, 2015 09:01:36	Sep 18, 2015 09:01:46

	Level 6	Level 7
Amount	2	3

Calibration Report

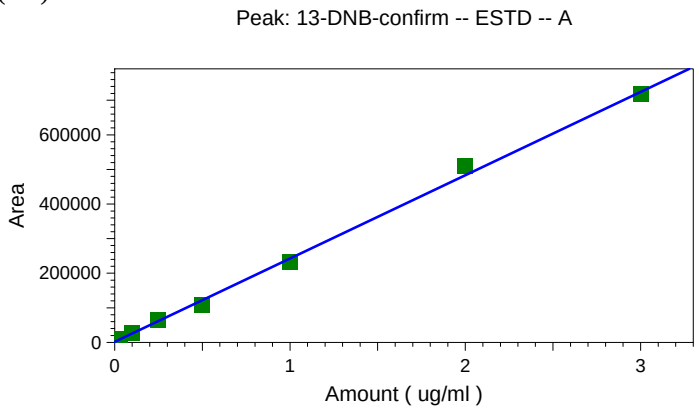
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\091715expic-confirm\091715expic-confirm.met
Print Time: Oct 19, 2015 13:03:20
User: RED
Instrument: HPLC 2

Area	230962	321372
RF	115481	107124
Last Area		
Residual	-0.128774	0.0349042
Rep StDev		
Rep %RSD		
Rep 1 Area	230962	321372
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\091715expic-confirm\007.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\008.dat
Rep 1 Sample ID	8330 Pt. 6 EXP 5602	8330 Pt. 7 EXP 5603
Rep 1 Calib. Time	Sep 18, 2015 09:01:56	Sep 18, 2015 09:02:07

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\091715expic-confirm\091715expic-confirm.met
Print Time: Oct 19, 2015 13:03:23
User: RED
Instrument: HPLC 2

13-DNB-confirm (A)
Average RF: 253749. RF StDev: 28498.2 RF %RSD: 11.2309
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 240881.x + 1602.19
Goodness of fit (r^2): 0.997830



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.03	0.1	0.25	0.5	1
Area	9210	26224	65299	108738	233844
RF	307000	262240	261196	217476	233844
Last Area					
Residual	-0.00158331	-0.00221579	-0.014433	0.0552328	0.0358636
Rep StDev					
Rep %RSD					
Rep 1 Area	9210	26224	65299	108738	233844
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\091715expic-confirm\002.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\003.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\004.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\005.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\006.dat
Rep 1 Sample ID	8330 Pt. 1 EXP 5597	8330 Pt. 2 EXP 5598	8330 Pt. 3 EXP 5599	8330 Pt. 4 EXP 5600	8330 Pt. 5 EXP 5601
Rep 1 Calib. Time	Sep 18, 2015 09:03:12	Sep 18, 2015 09:01:12	Sep 18, 2015 09:03:49	Sep 18, 2015 09:01:36	Sep 18, 2015 09:01:46

	Level 6	Level 7
Amount	2	3

Calibration Report

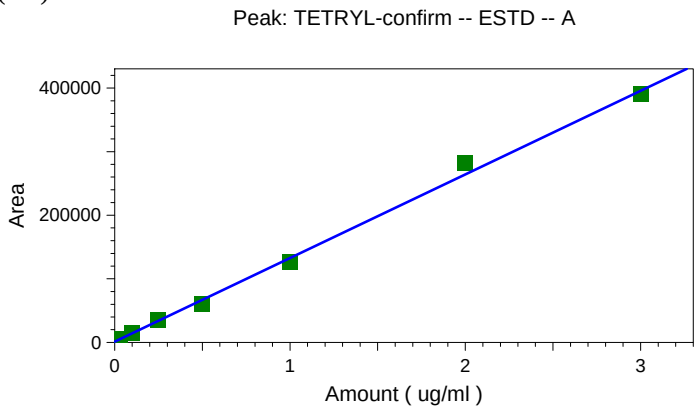
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\091715expic-confirm\091715expic-confirm.met
Print Time: Oct 19, 2015 13:03:23
User: RED
Instrument: HPLC 2

Area	509524	719173
RF	254762	239724.333333333
Last Area		
Residual	-0.108603	0.0210527
Rep StDev		
Rep %RSD		
Rep 1 Area	509524	719173
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\091715expic-confirm\007.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\008.dat
Rep 1 Sample ID	8330 Pt. 6 EXP 5602	8330 Pt. 7 EXP 5603
Rep 1 Calib. Time	Sep 18, 2015 09:01:56	Sep 18, 2015 09:02:07

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\091715expic-confirm\091715expic-confirm.met
Print Time: Oct 19, 2015 13:03:27
User: RED
Instrument: HPLC 2

TETRYL-confirm (A)
Average RF: 140263. RF StDev: 18948.1 RF %RSD: 13.5090
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 131535.x + 1089.42
Goodness of fit (r^2): 0.997042



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.03	0.1	0.25	0.5	1
Area	5351	14503	35027	59960	127295
RF	178366.6666 66667	145030	140108	119920	127295
Last Area Residual	-0.00239886	-0.00197739	-0.00801213	0.0524335	0.0405158
Rep StDev					
Rep %RSD					
Rep 1 Area	5351	14503	35027	59960	127295
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\091715expic-confirm\002.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\003.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\004.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\005.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\006.dat
Rep 1 Sample ID	8330 Pt. 1 EXP 5597	8330 Pt. 2 EXP 5598	8330 Pt. 3 EXP 5599	8330 Pt. 4 EXP 5600	8330 Pt. 5 EXP 5601
Rep 1 Calib. Time	Sep 18, 2015 09:03:12	Sep 18, 2015 09:01:12	Sep 18, 2015 09:03:49	Sep 18, 2015 09:01:36	Sep 18, 2015 09:01:46

Level 6	Level 7

Calibration Report

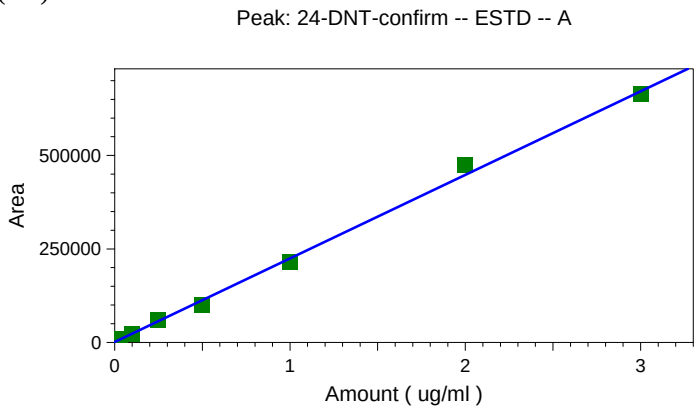
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\091715expic-confirm\091715expic-confirm.met
Print Time: Oct 19, 2015 13:03:27
User: RED
Instrument: HPLC 2

Amount	2	3
Area	281442	391192
RF	140721	130397.333333333
Last Area		
Residual	-0.131394	0.0342257
Rep StDev		
Rep %RSD		
Rep 1 Area	281442	391192
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\091715expic-confirm\007.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\008.dat
Rep 1 Sample ID	8330 Pt. 6 EXP 5602	8330 Pt. 7 EXP 5603
Rep 1 Calib. Time	Sep 18, 2015 09:01:56	Sep 18, 2015 09:02:07

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\091715expic-confirm\091715expic-confirm.met
Print Time: Oct 19, 2015 13:03:32
User: RED
Instrument: HPLC 2

24-DNT-confirm (A)
Average RF: 231971. RF StDev: 22191.2 RF %RSD: 9.56638
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 223477.x + 1021.09
Goodness of fit (r^2): 0.997455



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.03	0.1	0.25	0.5	1
Area	8132	23455	60480	100831	215583
RF	271066.6666 66667	234550	241920	201662	215583
Last Area Residual	-0.00181944	-0.000385815	-0.0160629	0.053377	0.0398921
Rep StDev					
Rep %RSD					
Rep 1 Area	8132	23455	60480	100831	215583
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\091715expic-confirm\002.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\003.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\004.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\005.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\006.dat
Rep 1 Sample ID	8330 Pt. 1 EXP 5597	8330 Pt. 2 EXP 5598	8330 Pt. 3 EXP 5599	8330 Pt. 4 EXP 5600	8330 Pt. 5 EXP 5601
Rep 1 Calib. Time	Sep 18, 2015 09:03:12	Sep 18, 2015 09:01:12	Sep 18, 2015 09:03:49	Sep 18, 2015 09:01:36	Sep 18, 2015 09:01:46

Level 6	Level 7

Calibration Report

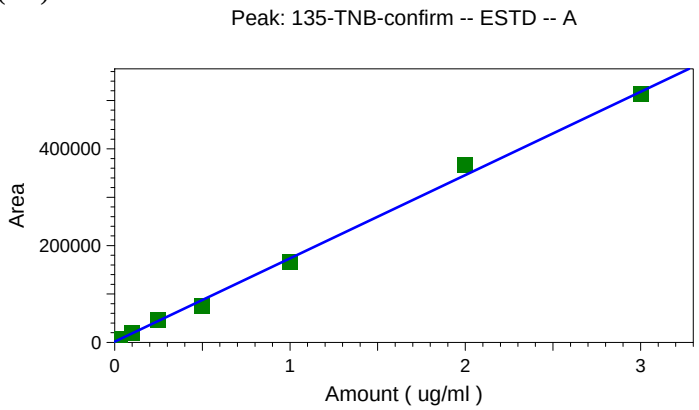
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\091715expic-confirm\091715expic-confirm.met
Print Time: Oct 19, 2015 13:03:32
User: RED
Instrument: HPLC 2

Amount	2	3
Area	474589	665164
RF	237294.5	221721.333333333
Last Area		
Residual	-0.119091	0.0281359
Rep StDev		
Rep %RSD		
Rep 1 Area	474589	665164
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\091715expic-confirm\007.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\008.dat
Rep 1 Sample ID	8330 Pt. 6 EXP 5602	8330 Pt. 7 EXP 5603
Rep 1 Calib. Time	Sep 18, 2015 09:01:56	Sep 18, 2015 09:02:07

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\091715expic-confirm\091715expic-confirm.met
Print Time: Oct 19, 2015 13:03:38
User: RED
Instrument: HPLC 2

135-TNB-confirm (A)
Average RF: 183248. RF StDev: 23320.2 RF %RSD: 12.7260
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 172186.x + 1367.21
Goodness of fit (r^2): 0.997235



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.03	0.1	0.25	0.5	1
Area	6745	19589	46921	76174	167189
RF	224833.3333 33333	195890	187684	152348	167189
Last Area Residual	-0.00123251	-0.00582635	-0.0145619	0.0655461	0.0369601
Rep StDev					
Rep %RSD					
Rep 1 Area	6745	19589	46921	76174	167189
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\091715expic-confirm\002.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\003.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\004.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\005.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\006.dat
Rep 1 Sample ID	8330 Pt. 1 EXP 5597	8330 Pt. 2 EXP 5598	8330 Pt. 3 EXP 5599	8330 Pt. 4 EXP 5600	8330 Pt. 5 EXP 5601
Rep 1 Calib. Time	Sep 18, 2015 09:03:12	Sep 18, 2015 09:01:12	Sep 18, 2015 09:03:49	Sep 18, 2015 09:01:36	Sep 18, 2015 09:01:46

Level 6	Level 7

Calibration Report

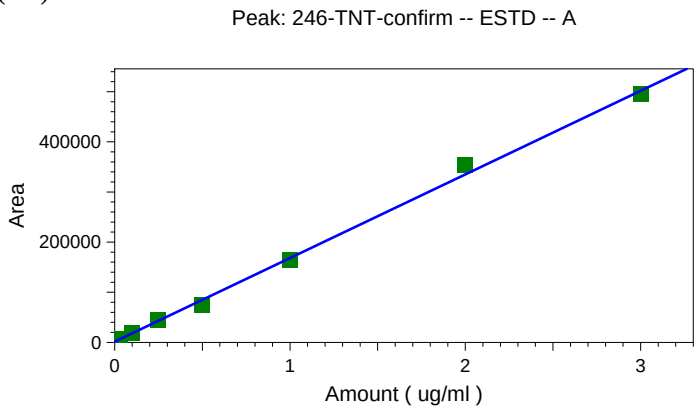
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\091715expic-confirm\091715expic-confirm.met
Print Time: Oct 19, 2015 13:03:38
User: RED
Instrument: HPLC 2

Amount	2	3
Area	366877	514067
RF	183438.5	171355.666666667
Last Area		
Residual	-0.122764	0.0224036
Rep StDev		
Rep %RSD		
Rep 1 Area	366877	514067
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\091715expic-confirm\007.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\008.dat
Rep 1 Sample ID	8330 Pt. 6 EXP 5602	8330 Pt. 7 EXP 5603
Rep 1 Calib. Time	Sep 18, 2015 09:01:56	Sep 18, 2015 09:02:07

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\091715expic-confirm\091715expic-confirm.met
Print Time: Oct 19, 2015 13:03:41
User: RED
Instrument: HPLC 2

246-TNT-confirm (A)
Average RF: 177467. RF StDev: 20597.4 RF %RSD: 11.6063
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 166870.x + 1340.88
Goodness of fit (r^2): 0.997678



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.03	0.1	0.25	0.5	1
Area	6331	19509	44946	74581	165007
RF	211033.3333 33333	195090	179784	149162	165007
Last Area					
Residual	9.57703e-005	-0.0088758	-0.0113117	0.0610952	0.0192009
Rep StDev					
Rep %RSD					
Rep 1 Area	6331	19509	44946	74581	165007
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\091715expic-confirm\002.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\003.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\004.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\005.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\006.dat
Rep 1 Sample ID	8330 Pt. 1 EXP 5597	8330 Pt. 2 EXP 5598	8330 Pt. 3 EXP 5599	8330 Pt. 4 EXP 5600	8330 Pt. 5 EXP 5601
Rep 1 Calib. Time	Sep 18, 2015 09:03:12	Sep 18, 2015 09:01:12	Sep 18, 2015 09:03:49	Sep 18, 2015 09:01:36	Sep 18, 2015 09:01:46

Level 6	Level 7

Calibration Report

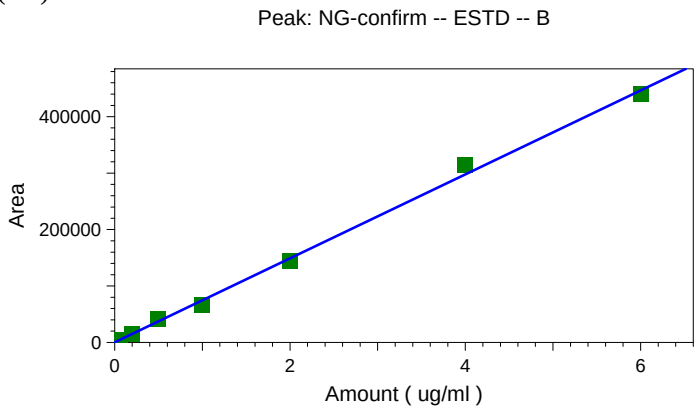
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\091715expic-confirm\091715expic-confirm.met
Print Time: Oct 19, 2015 13:03:41
User: RED
Instrument: HPLC 2

Amount	2	3
Area	353617	496149
RF	176808.5	165383
Last Area		
Residual	-0.111079	0.034772
Rep StDev		
Rep %RSD		
Rep 1 Area	353617	496149
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\091715expic-confirm\007.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\008.dat
Rep 1 Sample ID	8330 Pt. 6 EXP 5602	8330 Pt. 7 EXP 5603
Rep 1 Calib. Time	Sep 18, 2015 09:01:56	Sep 18, 2015 09:02:07

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\091715expic-confirm\091715expic-confirm.met
Print Time: Oct 19, 2015 13:03:50
User: RED
Instrument: HPLC 2

NG-confirm (B)
Average RF: 75823.7 RF StDev: 5183.54 RF %RSD: 6.83630
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 74386.7x + 318.141
Goodness of fit (r^2): 0.997567



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.06	0.2	0.5	1	2
Area	4728	15708	41091	67068	144095
RF	78800	78540	82182	67068	72047.5
Last Area					
Residual	0.000717138	-0.0068898	-0.0481199	0.102665	0.067171
Rep StDev					
Rep %RSD					
Rep 1 Area	4728	15708	41091	67068	144095
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\091715expic-confirm\002.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\003.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\004.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\005.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\006.dat
Rep 1 Sample ID	8330 Pt. 1 EXP 5597	8330 Pt. 2 EXP 5598	8330 Pt. 3 EXP 5599	8330 Pt. 4 EXP 5600	8330 Pt. 5 EXP 5601
Rep 1 Calib. Time	Sep 18, 2015 09:03:12	Sep 18, 2015 09:01:12	Sep 18, 2015 09:03:49	Sep 18, 2015 09:01:36	Sep 18, 2015 09:01:46

	Level 6	Level 7
Amount	4	6

Calibration Report

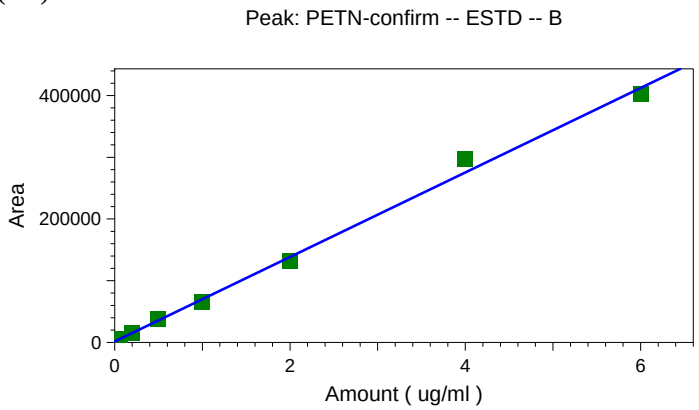
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\091715expic-confirm\091715expic-confirm.met
Print Time: Oct 19, 2015 13:03:50
User: RED
Instrument: HPLC 2

Area	314654	440790
RF	78663.5	73465
Last Area		
Residual	-0.225697	0.0786244
Rep StDev		
Rep %RSD		
Rep 1 Area	314654	440790
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\091715expic-confirm\007.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\008.dat
Rep 1 Sample ID	8330 Pt. 6 EXP 5602	8330 Pt. 7 EXP 5603
Rep 1 Calib. Time	Sep 18, 2015 09:01:56	Sep 18, 2015 09:02:07

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\091715expic-confirm\091715expic-confirm.met
Print Time: Oct 19, 2015 13:03:54
User: RED
Instrument: HPLC 2

PETN-confirm (B)
Average RF: 74361.4 RF StDev: 11814.6 RF %RSD: 15.8881
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 68470.9x + 1499.18
Goodness of fit (r^2): 0.995767



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.06	0.2	0.5	1	2
Area	5964	14575	37886	65143	132036
RF	99400	72875	75772	65143	66018
Last Area Residual	-0.00520755	0.00903099	-0.0314202	0.0704983	0.0935431
Rep StDev					
Rep %RSD					
Rep 1 Area	5964	14575	37886	65143	132036
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\091715expic-confirm\002.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\003.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\004.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\005.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\006.dat
Rep 1 Sample ID	8330 Pt. 1 EXP 5597	8330 Pt. 2 EXP 5598	8330 Pt. 3 EXP 5599	8330 Pt. 4 EXP 5600	8330 Pt. 5 EXP 5601
Rep 1 Calib. Time	Sep 18, 2015 09:03:12	Sep 18, 2015 09:01:12	Sep 18, 2015 09:03:49	Sep 18, 2015 09:01:36	Sep 18, 2015 09:01:46

	Level 6	Level 7
Amount	4	6

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\091715expic-confirm\091715expic-confirm.met
Print Time: Oct 19, 2015 13:03:54
User: RED
Instrument: HPLC 2

Area	296614	403009
RF	74153.5	67168.166666667
Last Area		
Residual	-0.310076	0.136052
Rep StDev		
Rep %RSD		
Rep 1 Area	296614	403009
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\091715expic-confirm\007.dat	C:\Instarch\HPLC 2\Data\091715expic-confirm\008.dat
Rep 1 Sample ID	8330 Pt. 6 EXP 5602	8330 Pt. 7 EXP 5603
Rep 1 Calib. Time	Sep 18, 2015 09:01:56	Sep 18, 2015 09:02:07

QC Check Standard Report

Sequence : C:\Instarch\HPLC 2\Sequences\8330A_B\091715expic-confirm.seq
User : RED
Printed : Oct 19, 2015 12:57:32

File	Sample ID	Acquired
C:\Instarch\HPLC 2\Data\091715expic-confirm\002.dat	8330 Pt. 1 EXP 5597	Oct 19, 2015 12:57:32

A

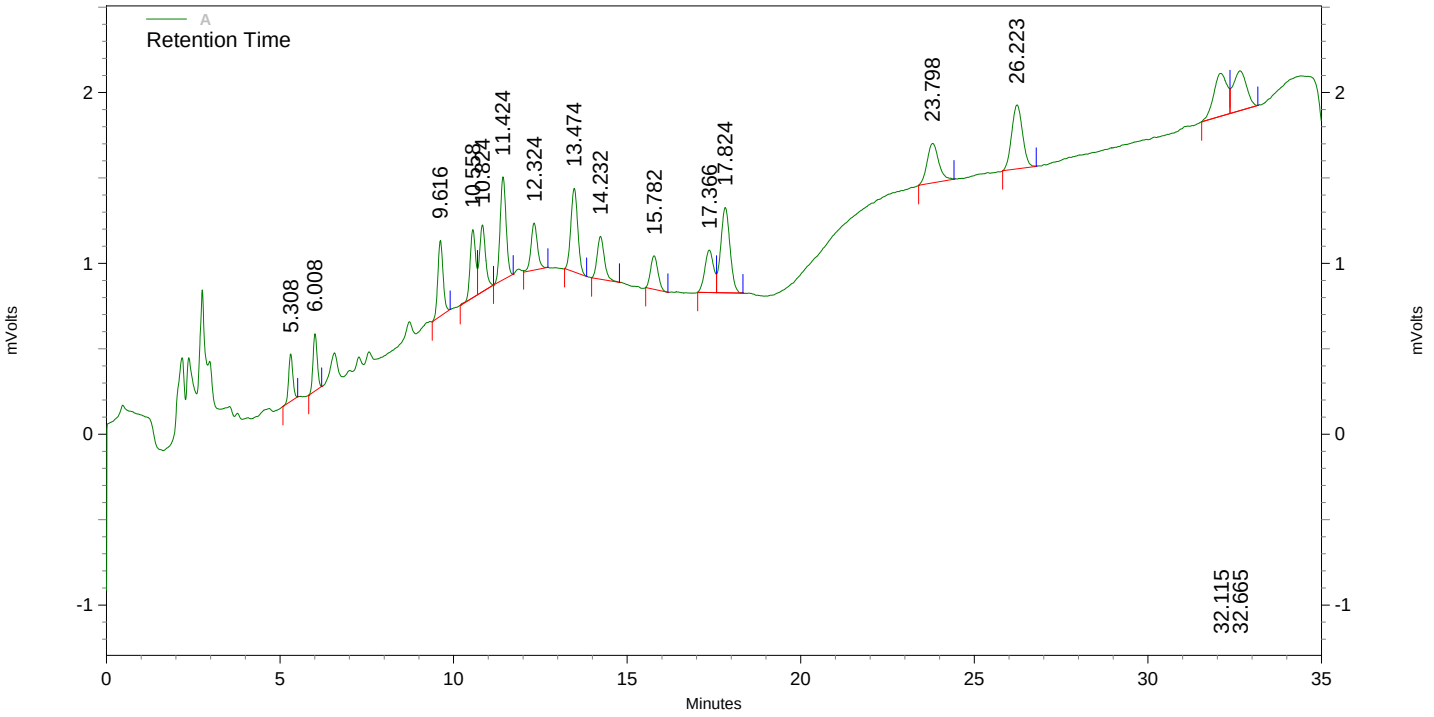
Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
HMX-confirm	0.030	0.031	2.326	20.000	Passed
RDX-confirm	0.030	0.032	5.227	20.000	Passed
NB-confirm	0.030	0.033	11.314	20.000	Passed
12-DNB (SSTD)-confirm	6.000	6.175	2.913	20.000	Passed
4-AM-26-DNT-conf.	0.030	0.031	3.737	20.000	Passed
3,5-DNA-confirm	0.030	0.032	7.103	20.000	Passed
2-NT-confirm	0.030	0.032	8.138	20.000	Passed
2-AM-46-DNT-conf.	0.030	0.032	6.412	20.000	Passed
3-NT-confirm	0.030	0.034	13.586	20.000	Passed
4-NT-confirm	0.030	0.033	8.682	20.000	Passed
26-DNT-confirm	0.030	0.033	9.208	20.000	Passed
13-DNB-confirm	0.030	0.032	5.278	20.000	Passed
TETRYL-confirm	0.030	0.032	7.996	20.000	Passed
24-DNT-confirm	0.030	0.032	6.065	20.000	Passed
135-TNB-confirm	0.030	0.031	4.108	20.000	Passed
246-TNT-confirm	0.030	0.030	0.319	20.000	Passed

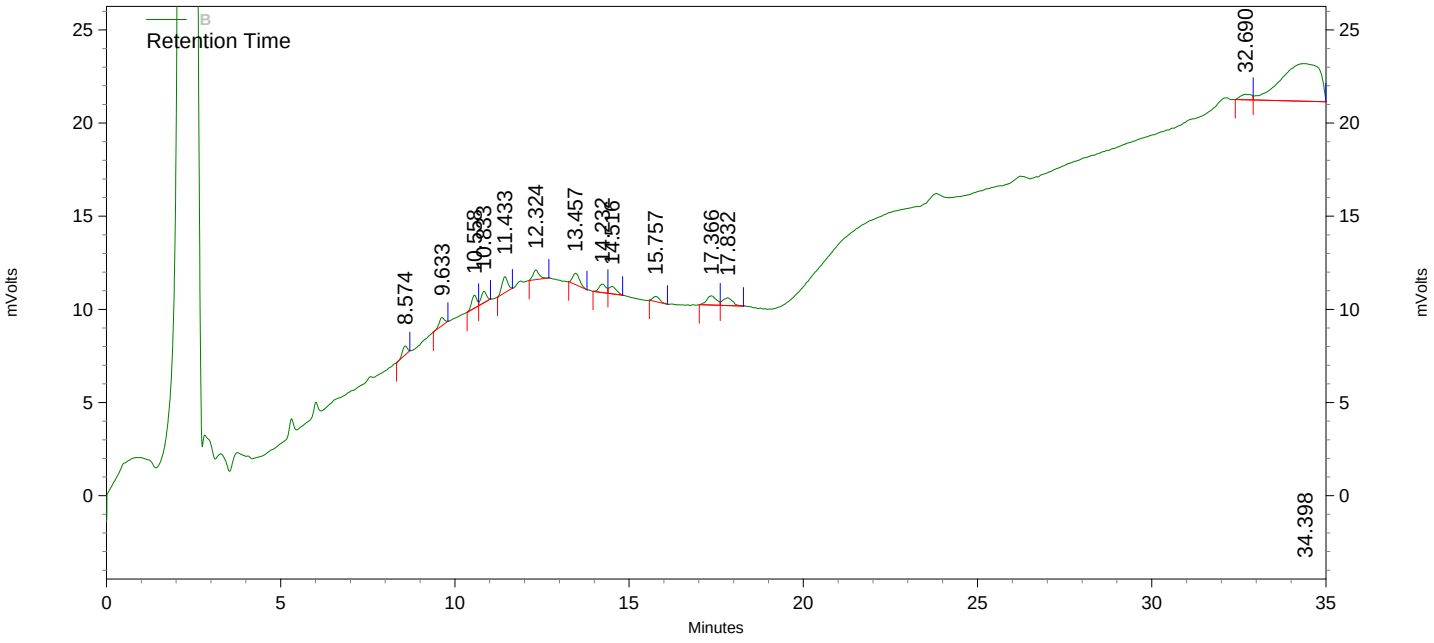
B

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
NG-confirm	0.060	0.059	1.195	20.000	Passed
PETN-confirm	0.060	0.065	8.679	20.000	Passed

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\091715expic-confirm\002.dat
User ID: RED
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\091715expic-confirm\091715expic-confirm.met
Sample ID: 8330 Pt. 1 EXP 5597
Acquired: Sep 17, 2015 15:56:10
Data Summary: {Data Description}





8330 Pt. 1 EXP 5597

A Results

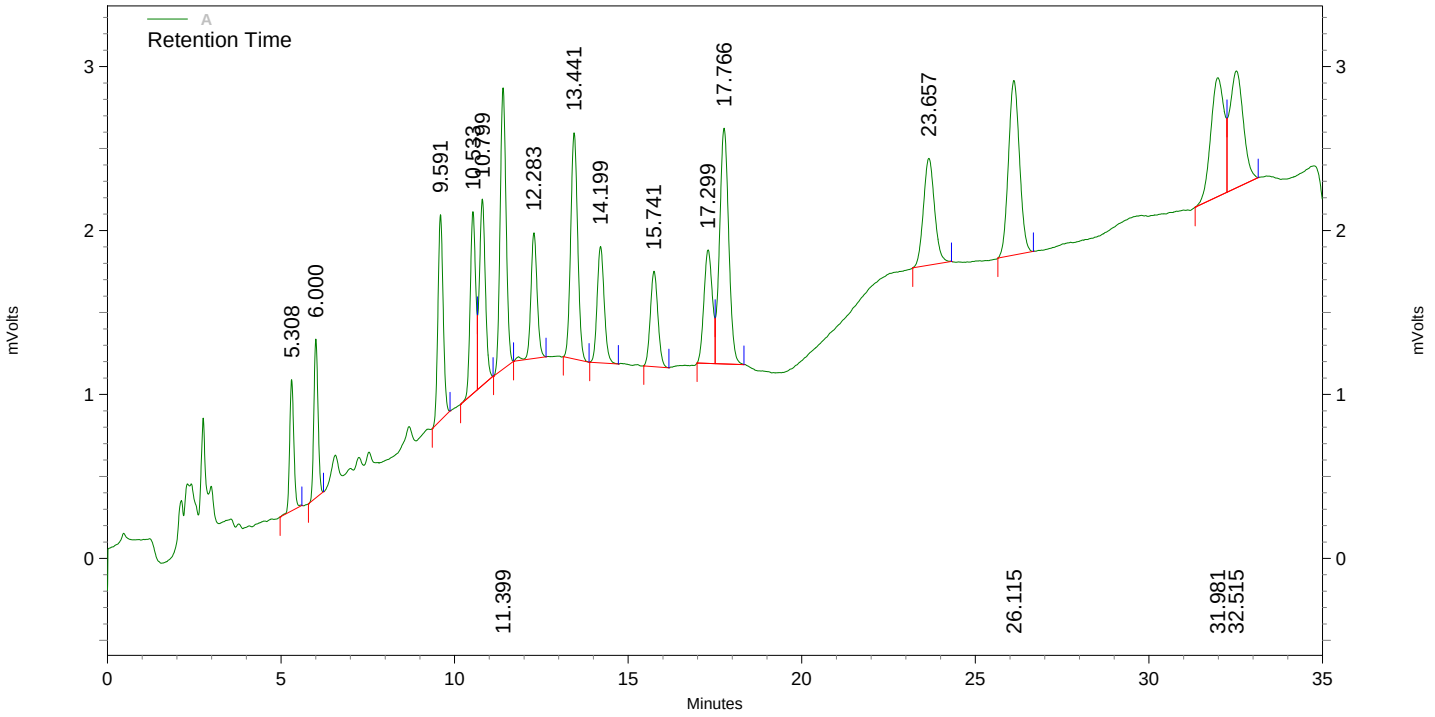
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm	5.308	2278	**0.031**
RDX-confirm	6.008	2821	**0.032**
NB-confirm	9.616	4678	**0.033**
12-DNB (SSTD)-confirm	10.558	4361	**6.175**
4-AM-26-DNT-conf.	10.824	4739	**0.031**
3,5-DNA-confirm	11.424	7178	**0.032**
2-NT-confirm	12.324	3531	**0.032**
2-AM-46-DNT-conf.	13.474	6788	**0.032**
3-NT-confirm	14.232	3573	**0.034**
4-NT-confirm	15.782	2908	**0.033**
26-DNT-confirm	17.366	4374	**0.033**
13-DNB-confirm	17.824	9210	**0.032**
TETRYL-confirm	23.798	5351	**0.032**
24-DNT-confirm	26.223	8132	**0.032**
135-TNB-confirm	32.115	6745	**0.031**
246-TNT-confirm	32.665	6331	**0.030**

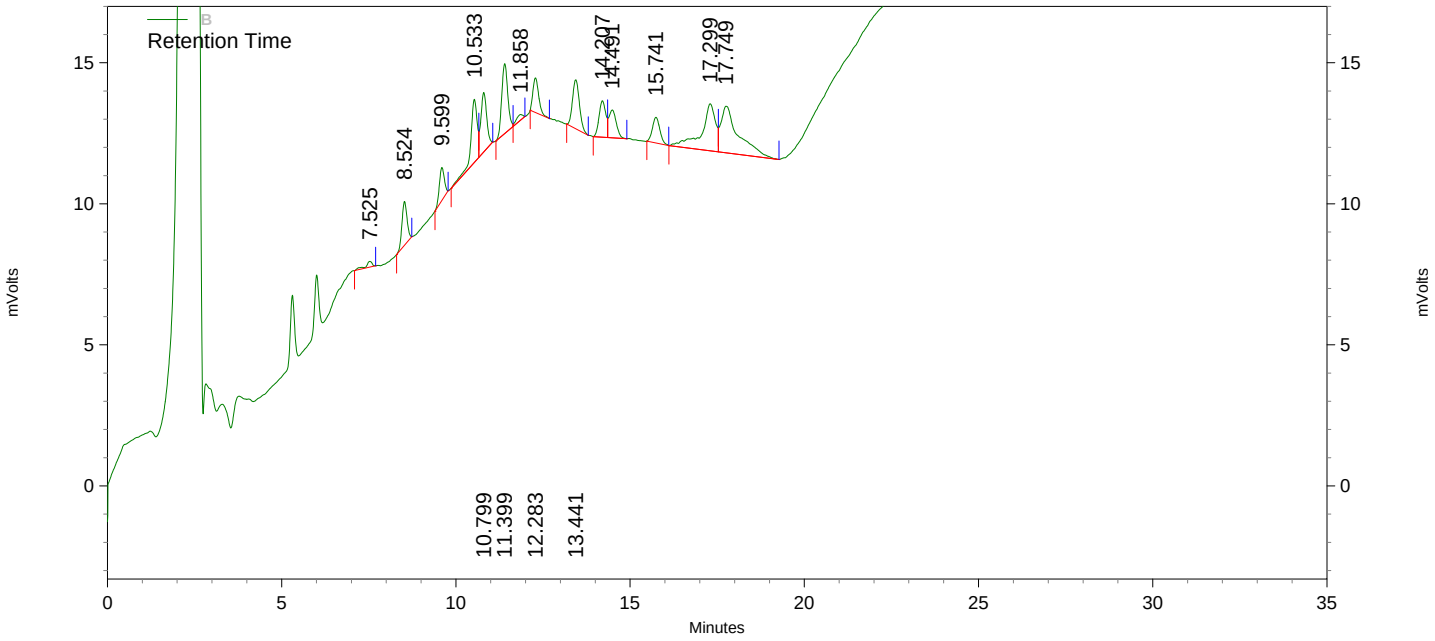
B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm	8.574	4728	**0.059**
PETN-confirm	14.516	5964	**0.065**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\091715expic-confirm\003.dat
User ID: RED
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\091715expic-confirm\091715expic-confirm.met
Sample ID: 8330 Pt. 2 EXP 5598
Acquired: Sep 17, 2015 16:33:28
Data Summary: {Data Description}





8330 Pt. 2 EXP 5598

A Results

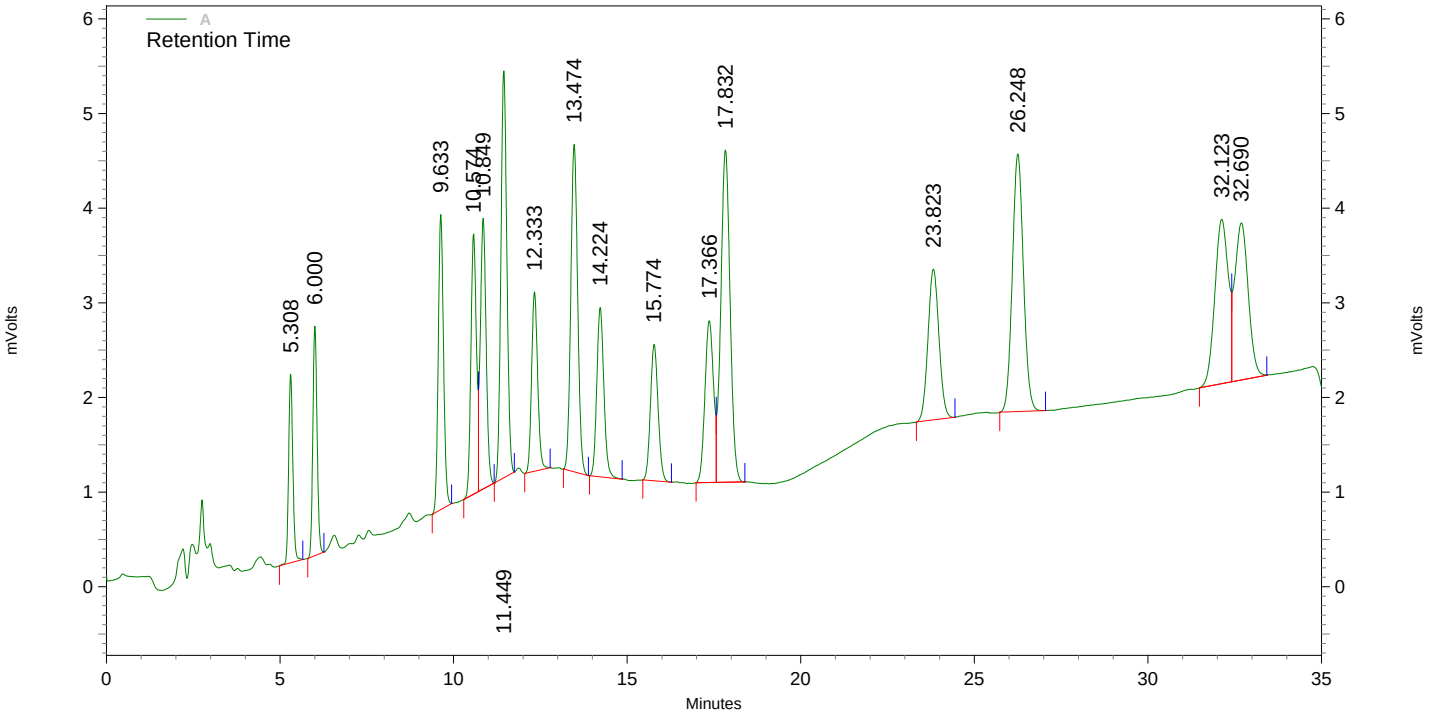
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm	5.308	6614	**0.100 CAL**
RDX-confirm	6.000	8156	**0.100 CAL**
NB-confirm	9.591	13178	**0.100 CAL**
12-DNB (SSTD)-confirm	10.533	12027	**20.000 CAL**
4-AM-26-DNT-conf.	10.799	13598	**0.100 CAL**
3,5-DNA-confirm	11.399	20429	**0.100 CAL**
2-NT-confirm	12.283	9652	**0.100 CAL**
2-AM-46-DNT-conf.	13.441	19167	**0.100 CAL**
3-NT-confirm	14.199	9975	**0.100 CAL**
4-NT-confirm	15.741	8833	**0.100 CAL**
26-DNT-confirm	17.299	11611	**0.100 CAL**
13-DNB-confirm	17.766	26224	**0.100 CAL**
TETRYL-confirm	23.657	14503	**0.100 CAL**
24-DNT-confirm	26.115	23455	**0.100 CAL**
135-TNB-confirm	31.981	19589	**0.100 CAL**
246-TNT-confirm	32.515	19509	**0.100 CAL**

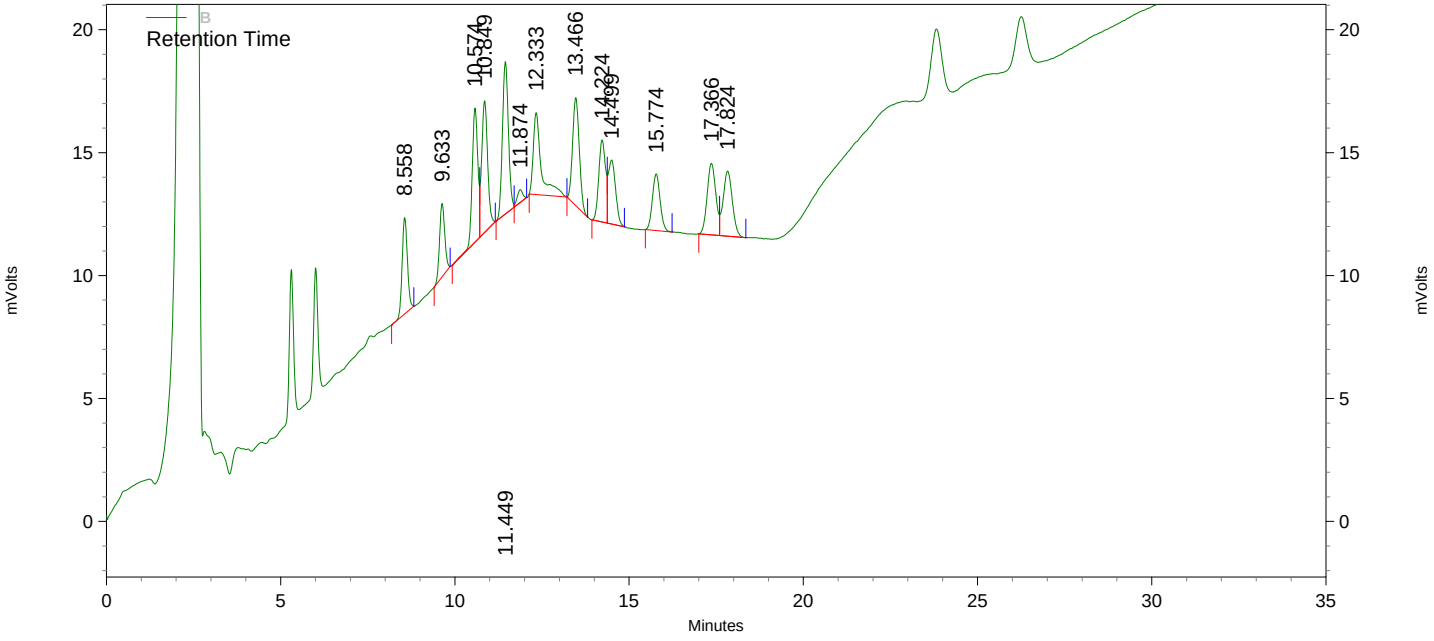
B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm	8.524	15708	**0.200 CAL**
PETN-confirm	14.491	14575	**0.200 CAL**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\091715expic-confirm\004.dat
User ID: RED
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\091715expic-confirm\091715expic-confirm.met
Sample ID: 8330 Pt. 3 EXP 5599
Acquired: Sep 17, 2015 17:10:46
Data Summary: {Data Description}





8330 Pt. 3 EXP 5599

A Results

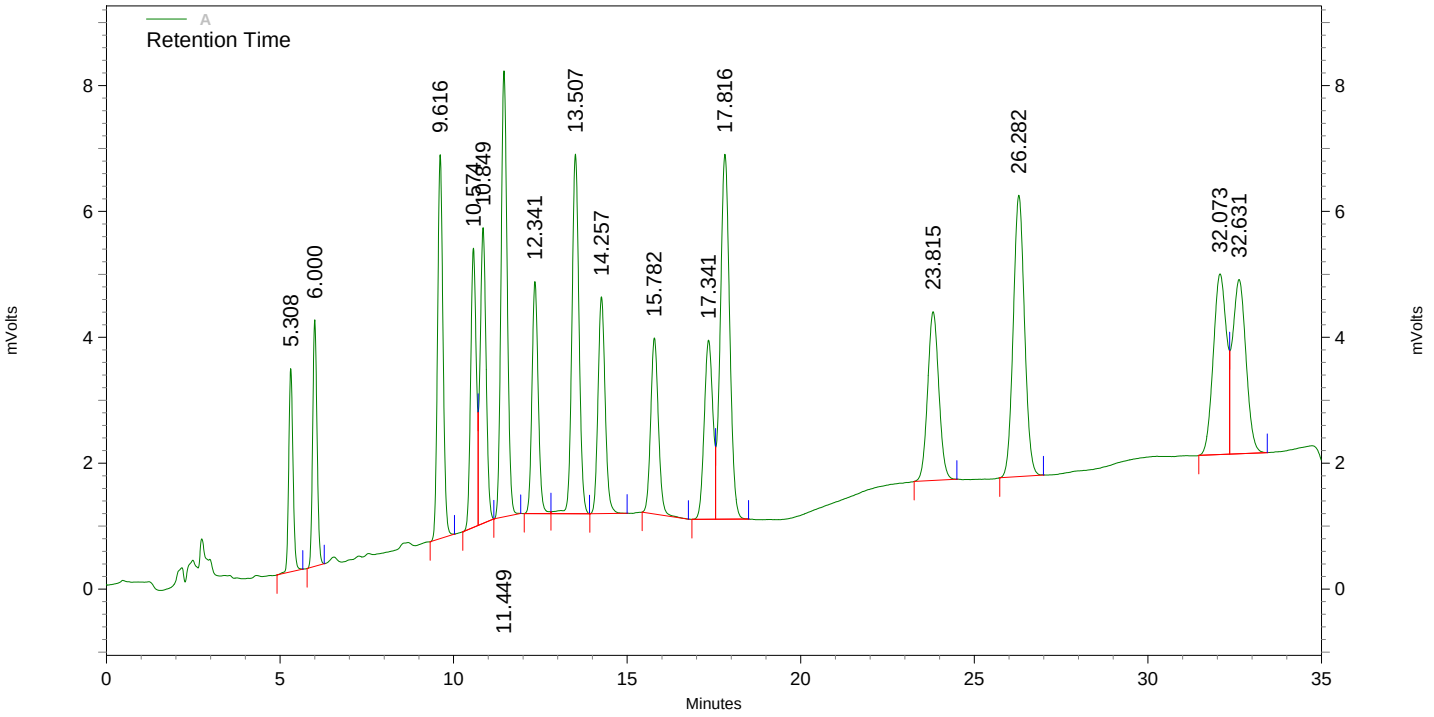
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm	5.308	16669	**0.250 CAL**
RDX-confirm	6.000	20769	**0.250 CAL**
NB-confirm	9.633	32943	**0.250 CAL**
12-DNB (SSTD)-confirm	10.574	30282	**50.000 CAL**
4-AM-26-DNT-conf.	10.849	33442	**0.250 CAL**
3,5-DNA-confirm	11.449	51086	**0.250 CAL**
2-NT-confirm	12.333	22892	**0.250 CAL**
2-AM-46-DNT-conf.	13.474	47494	**0.250 CAL**
3-NT-confirm	14.224	25262	**0.250 CAL**
4-NT-confirm	15.774	22275	**0.250 CAL**
26-DNT-confirm	17.366	29196	**0.250 CAL**
13-DNB-confirm	17.832	65299	**0.250 CAL**
TETRYL-confirm	23.823	35027	**0.250 CAL**
24-DNT-confirm	26.248	60480	**0.250 CAL**
135-TNB-confirm	32.123	46921	**0.250 CAL**
246-TNT-confirm	32.690	44946	**0.250 CAL**

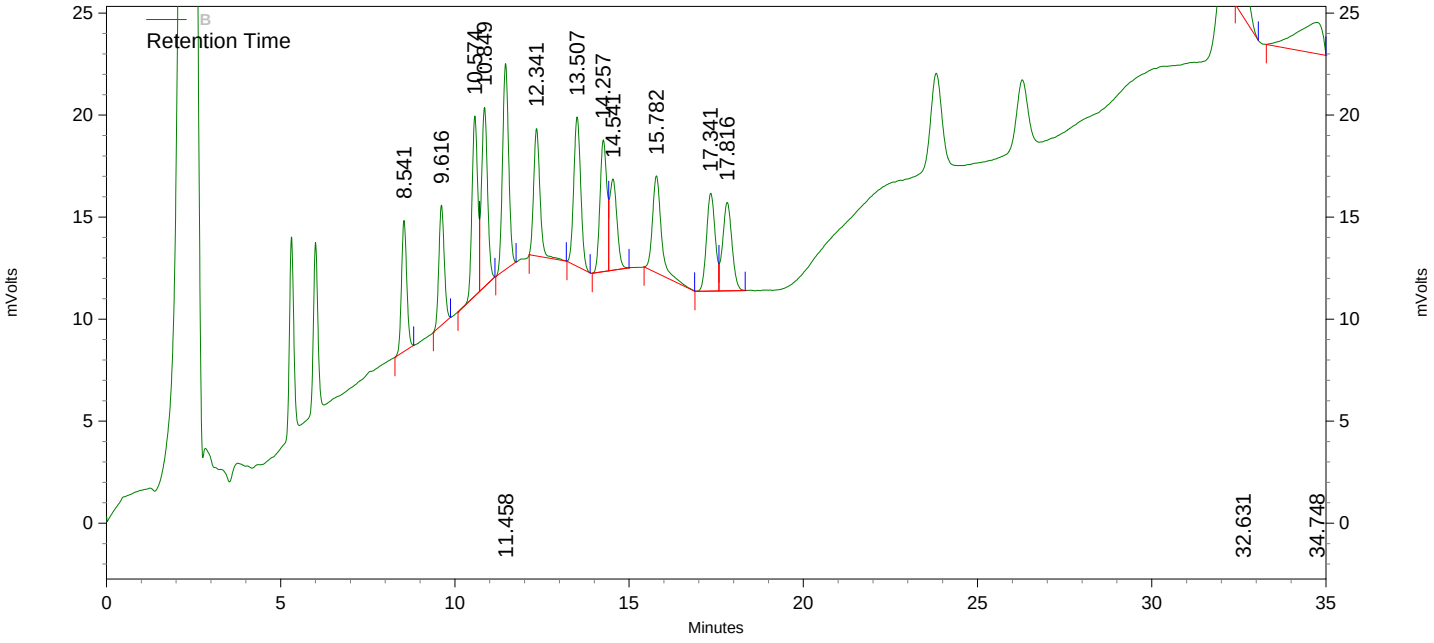
B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm	8.558	41091	**0.500 CAL**
PETN-confirm	14.499	37886	**0.500 CAL**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\091715expic-confirm\005.dat
User ID: RED
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\091715expic-confirm\091715expic-confirm.met
Sample ID: 8330 Pt. 4 EXP 5600
Acquired: Sep 17, 2015 17:48:04
Data Summary: {Data Description}





8330 Pt. 4 EXP 5600

A Results

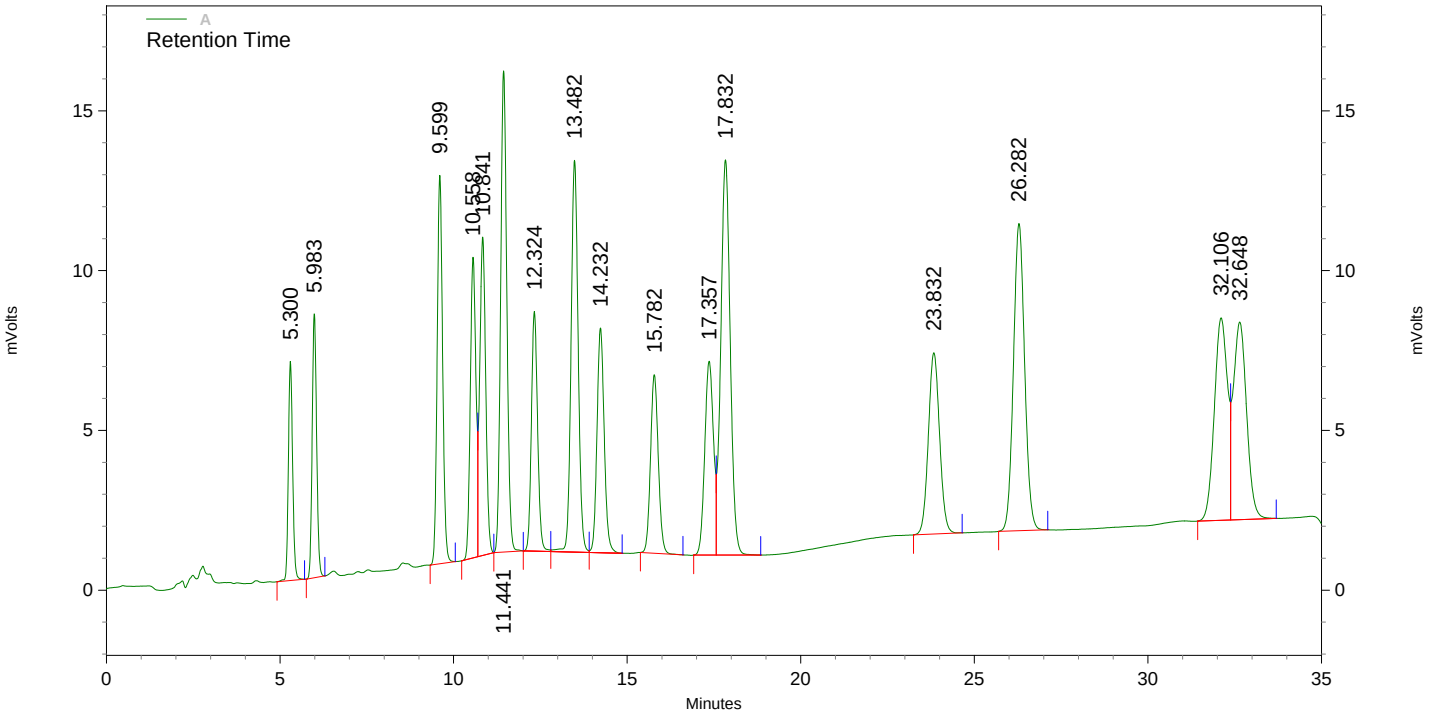
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm	5.308	27440	**0.500 CAL**
RDX-confirm	6.000	34430	**0.500 CAL**
NB-confirm	9.616	66529	**0.500 CAL**
12-DNB (SSTD)-confirm	10.574	49527	**100.000 CAL**
4-AM-26-DNT-conf.	10.849	56303	**0.500 CAL**
3,5-DNA-confirm	11.449	87134	**0.500 CAL**
2-NT-confirm	12.341	45757	**0.500 CAL**
2-AM-46-DNT-conf.	13.507	81220	**0.500 CAL**
3-NT-confirm	14.257	48815	**0.500 CAL**
4-NT-confirm	15.782	43368	**0.500 CAL**
26-DNT-confirm	17.341	48887	**0.500 CAL**
13-DNB-confirm	17.816	108738	**0.500 CAL**
TETRYL-confirm	23.815	59960	**0.500 CAL**
24-DNT-confirm	26.282	100831	**0.500 CAL**
135-TNB-confirm	32.073	76174	**0.500 CAL**
246-TNT-confirm	32.631	74581	**0.500 CAL**

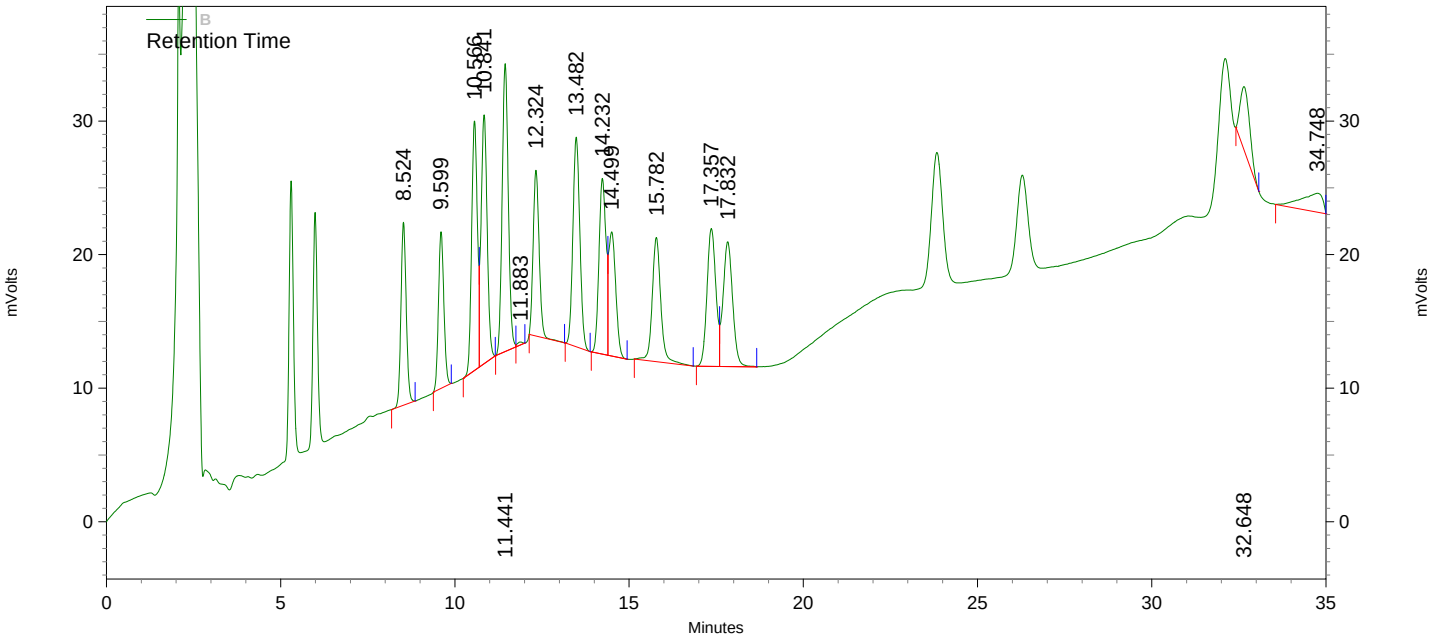
B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm	8.541	67068	**1.000 CAL**
PETN-confirm	14.541	65143	**1.000 CAL**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\091715expic-confirm\006.dat
User ID: RED
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\091715expic-confirm\091715expic-confirm.met
Sample ID: 8330 Pt. 5 EXP 5601
Acquired: Sep 17, 2015 18:25:23
Data Summary: {Data Description}





8330 Pt. 5 EXP 5601

A Results

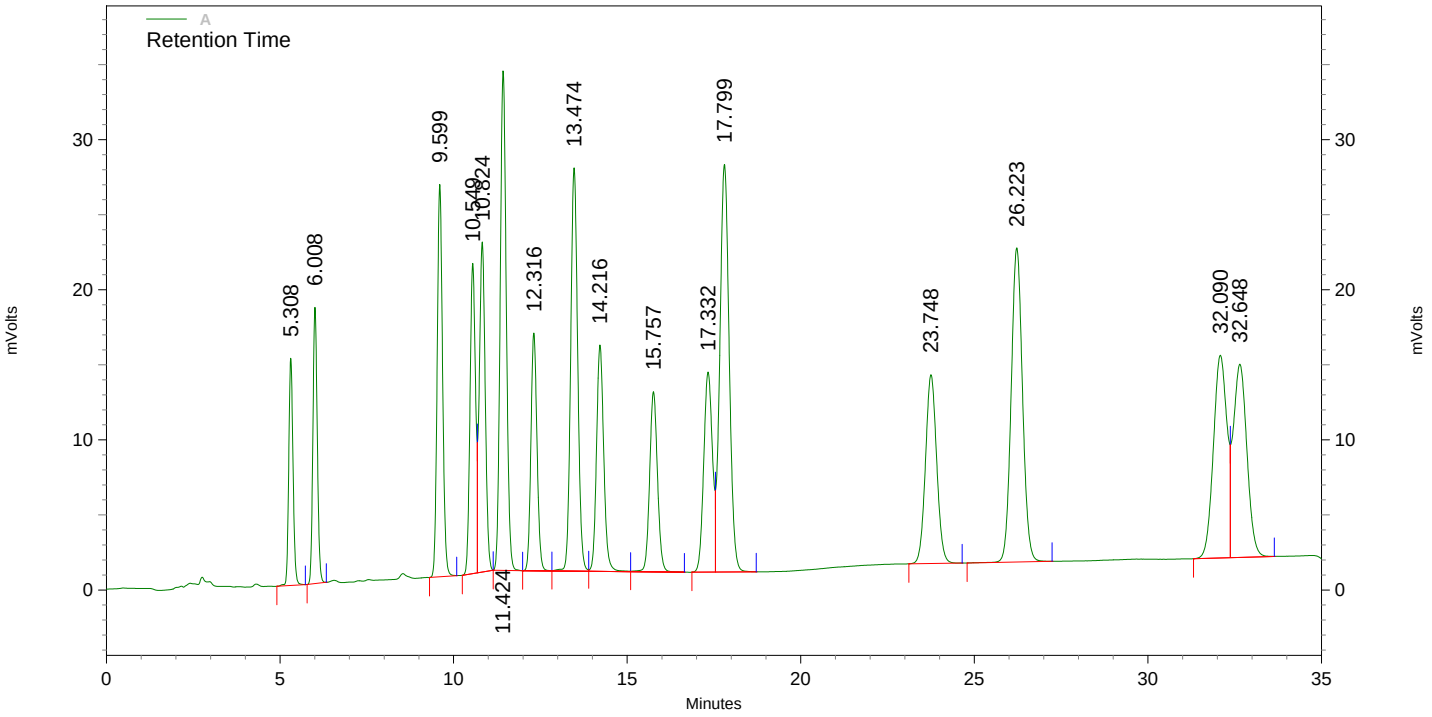
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm	5.300	58362	**1.000 CAL**
RDX-confirm	5.983	73448	**1.000 CAL**
NB-confirm	9.599	133230	**1.000 CAL**
12-DNB (SSTD)-confirm	10.558	106146	**200.000 CAL**
4-AM-26-DNT-conf.	10.841	119421	**1.000 CAL**
3,5-DNA-confirm	11.441	185053	**1.000 CAL**
2-NT-confirm	12.324	92632	**1.000 CAL**
2-AM-46-DNT-conf.	13.482	174252	**1.000 CAL**
3-NT-confirm	14.232	101118	**1.000 CAL**
4-NT-confirm	15.782	87077	**1.000 CAL**
26-DNT-confirm	17.357	105028	**1.000 CAL**
13-DNB-confirm	17.832	233844	**1.000 CAL**
TETRYL-confirm	23.832	127295	**1.000 CAL**
24-DNT-confirm	26.282	215583	**1.000 CAL**
135-TNB-confirm	32.106	167189	**1.000 CAL**
246-TNT-confirm	32.648	165007	**1.000 CAL**

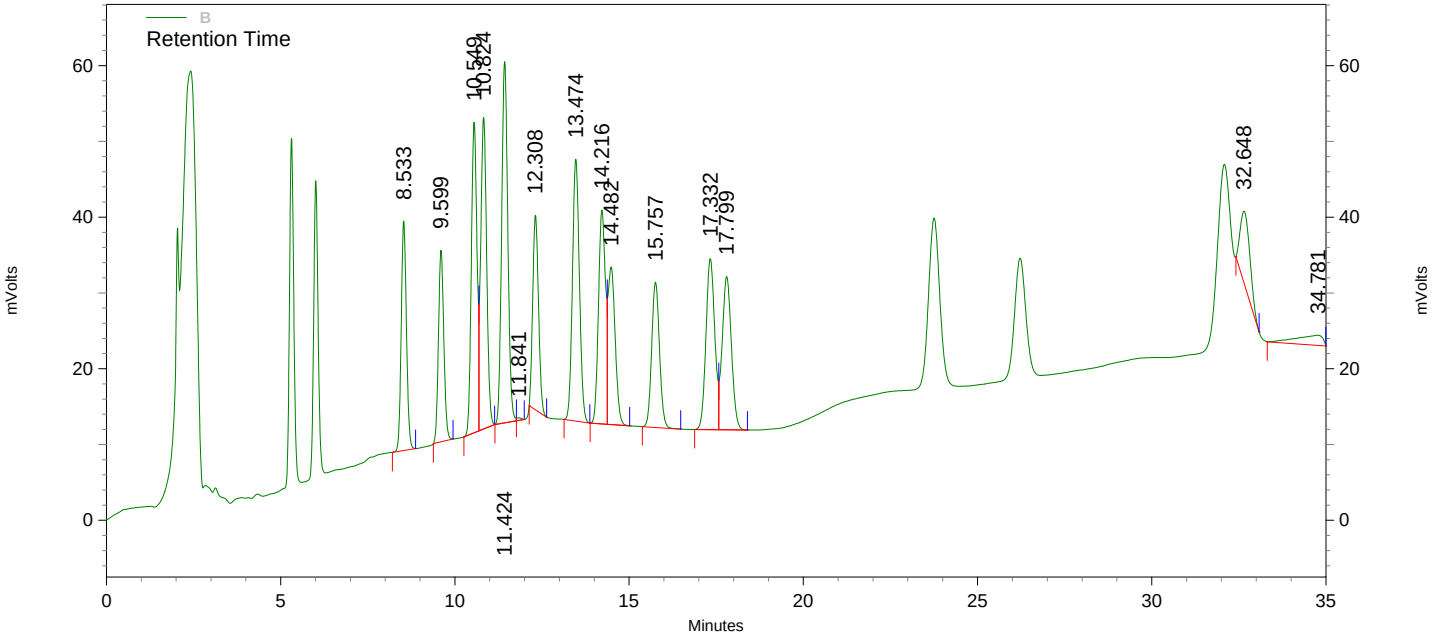
B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm	8.524	144095	**2.000 CAL**
PETN-confirm	14.499	132036	**2.000 CAL**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\091715expic-confirm\007.dat
User ID: RED
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\091715expic-confirm\091715expic-confirm.met
Sample ID: 8330 Pt. 6 EXP 5602
Acquired: Sep 17, 2015 19:02:41
Data Summary: {Data Description}





8330 Pt. 6 EXP 5602

A Results

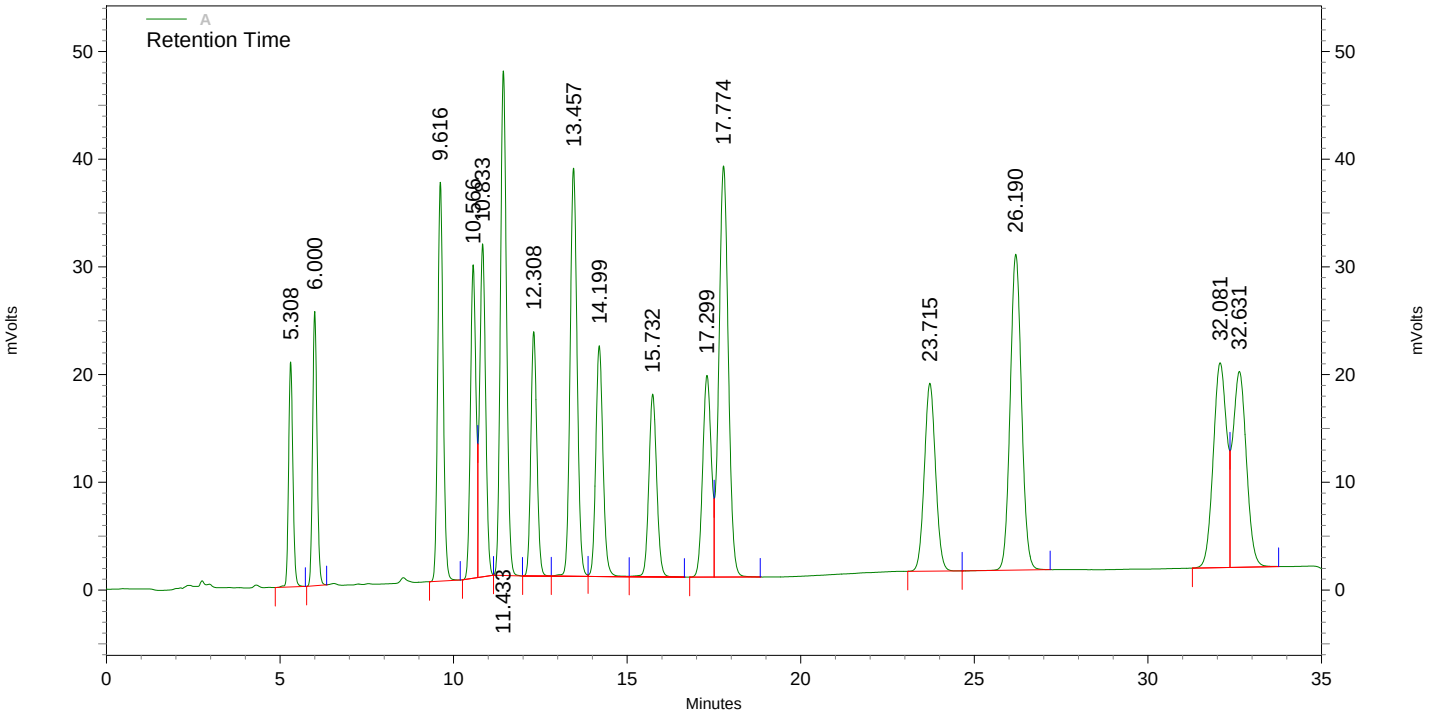
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm	5.308	129059	**2.000 CAL**
RDX-confirm	6.008	162397	**2.000 CAL**
NB-confirm	9.599	283251	**2.000 CAL**
12-DNB (SSTD)-confirm	10.549	227989	**400.000 CAL**
4-AM-26-DNT-conf.	10.824	263374	**2.000 CAL**
3,5-DNA-confirm	11.424	407702	**2.000 CAL**
2-NT-confirm	12.316	193602	**2.000 CAL**
2-AM-46-DNT-conf.	13.474	378030	**2.000 CAL**
3-NT-confirm	14.216	216727	**2.000 CAL**
4-NT-confirm	15.757	189483	**2.000 CAL**
26-DNT-confirm	17.332	230962	**2.000 CAL**
13-DNB-confirm	17.799	509524	**2.000 CAL**
TETRYL-confirm	23.748	281442	**2.000 CAL**
24-DNT-confirm	26.223	474589	**2.000 CAL**
135-TNB-confirm	32.090	366877	**2.000 CAL**
246-TNT-confirm	32.648	353617	**2.000 CAL**

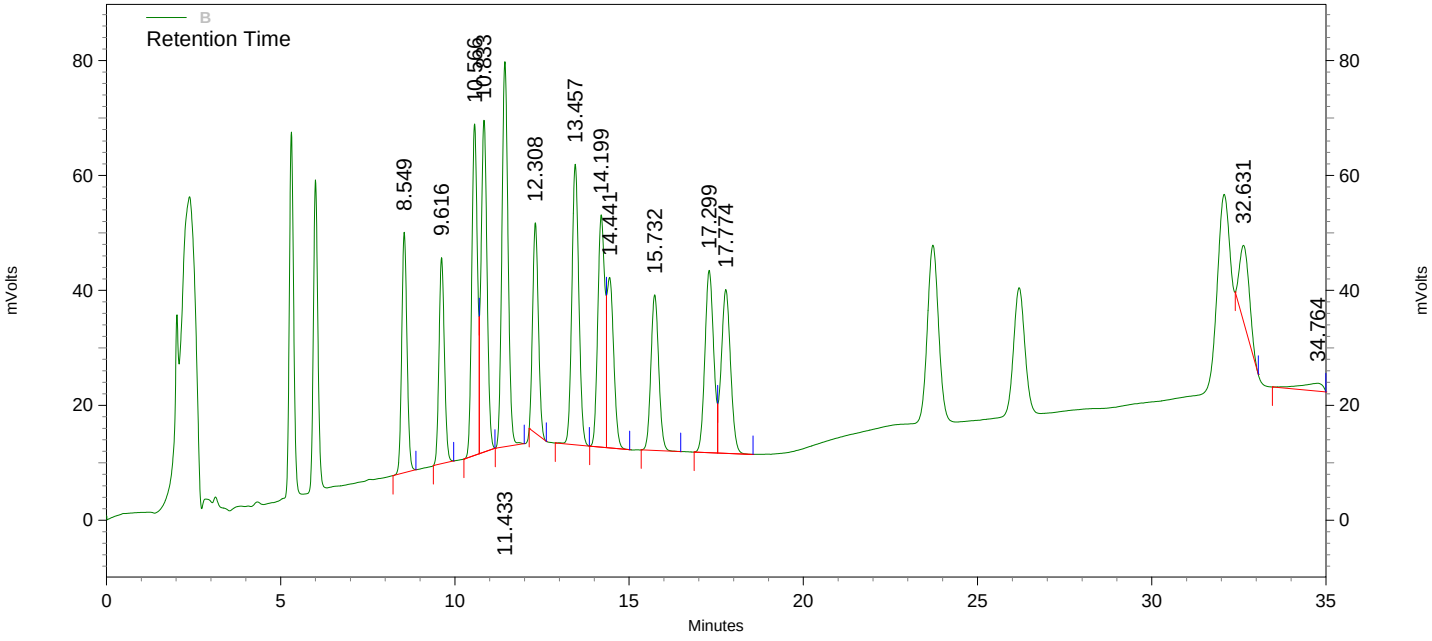
B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm	8.533	314654	**4.000 CAL**
PETN-confirm	14.482	296614	**4.000 CAL**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\091715expic-confirm\008.dat
User ID: RED
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\091715expic-confirm\091715expic-confirm.met
Sample ID: 8330 Pt. 7 EXP 5603
Acquired: Sep 17, 2015 19:39:58
Data Summary: {Data Description}





8330 Pt. 7 EXP 5603

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm	5.308	178997	**3.000 CAL**
RDX-confirm	6.000	227360	**3.000 CAL**
NB-confirm	9.616	404069	**3.000 CAL**
12-DNB (SSTD)-confirm	10.566	323867	**600.000 CAL**
4-AM-26-DNT-conf.	10.833	366474	**3.000 CAL**
3,5-DNA-confirm	11.433	572140	**3.000 CAL**
2-NT-confirm	12.308	274909	**3.000 CAL**
2-AM-46-DNT-conf.	13.457	530946	**3.000 CAL**
3-NT-confirm	14.199	307747	**3.000 CAL**
4-NT-confirm	15.732	269466	**3.000 CAL**
26-DNT-confirm	17.299	321372	**3.000 CAL**
13-DNB-confirm	17.774	719173	**3.000 CAL**
TETRYL-confirm	23.715	391192	**3.000 CAL**
24-DNT-confirm	26.190	665164	**3.000 CAL**
135-TNB-confirm	32.081	514067	**3.000 CAL**
246-TNT-confirm	32.631	496149	**3.000 CAL**

B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm	8.549	440790	**6.000 CAL**
PETN-confirm	14.441	403009	**6.000 CAL**

QC Check Standard Report

Sequence : C:\Instarch\HPLC 2\Sequences\8330A_B\091715expic-confirm.seq
User : RED
Printed : Oct 19, 2015 12:58:14

File	Sample ID	Acquired
C:\Instarch\HPLC 2\Data\091715expic-confirm\009.dat	8330 ICV EXP 5604	Oct 19, 2015 12:58:14

A

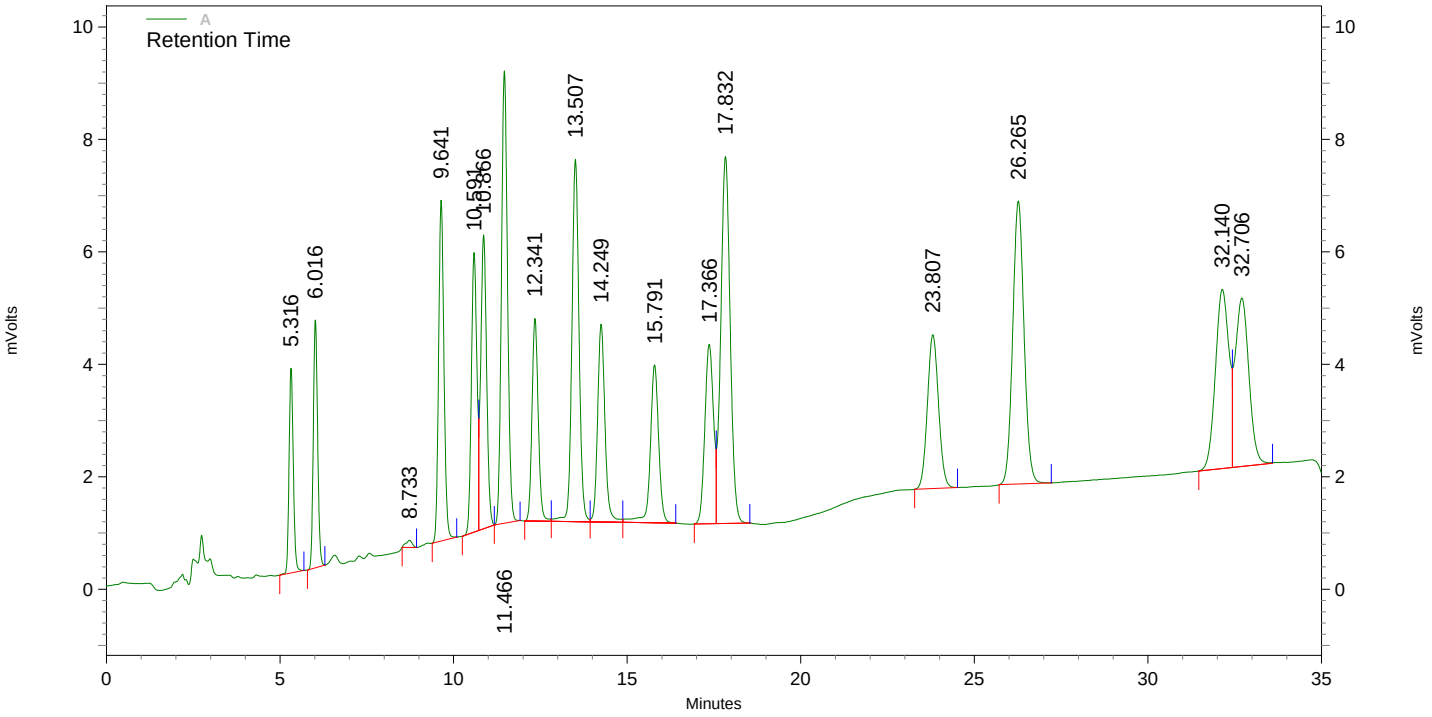
Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
HMX-confirm	0.500	0.501	0.203	20.000	Passed
RDX-confirm	0.500	0.496	0.781	20.000	Passed
NB-confirm	0.500	0.477	4.628	20.000	Passed
12-DNB (SSTD)-confirm	100.000	98.508	1.492	20.000	Passed
4-AM-26-DNT-conf.	0.500	0.495	0.961	20.000	Passed
3,5-DNA-confirm	0.500	0.502	0.430	20.000	Passed
2-NT-confirm	0.500	0.477	4.631	20.000	Passed
2-AM-46-DNT-conf.	0.500	0.509	1.888	20.000	Passed
3-NT-confirm	0.500	0.497	0.509	20.000	Passed
4-NT-confirm	0.500	0.525	4.923	20.000	Passed
26-DNT-confirm	0.500	0.499	0.199	20.000	Passed
13-DNB-confirm	0.500	0.502	0.337	20.000	Passed
TETRYL-confirm	0.500	0.457	8.689	20.000	Passed
24-DNT-confirm	0.500	0.505	1.074	20.000	Passed
135-TNB-confirm	0.500	0.494	1.196	20.000	Passed
246-TNT-confirm	0.500	0.486	2.887	20.000	Passed

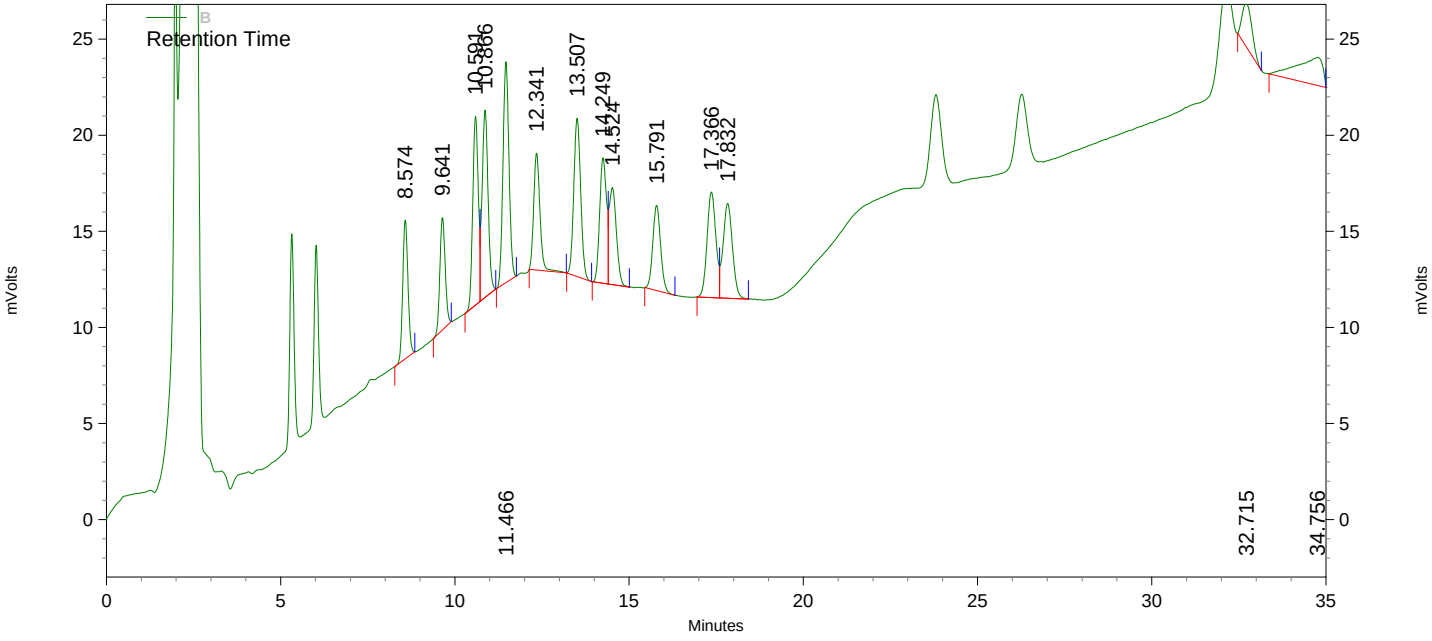
B

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
NG-confirm	1.000	1.008	0.777	20.000	Passed
PETN-confirm	1.000	1.054	5.407	20.000	Passed

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\091715expic-confirm\009.dat
User ID: RED
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\091715expic-confirm\091715expic-confirm.met
Sample ID: 8330 ICV EXP 5604
Acquired: Sep 17, 2015 20:17:20
Data Summary: {Data Description}





8330 ICV EXP 5604

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm	5.316	30673	**0.501**
RDX-confirm	6.016	38283	**0.496**
NB-confirm	9.641	65026	**0.477**
12-DNB (SSTD)-confirm	10.591	54400	**98.508**
4-AM-26-DNT-conf.	10.866	62011	**0.495**
3,5-DNA-confirm	11.466	97409	**0.502**
2-NT-confirm	12.341	44801	**0.477**
2-AM-46-DNT-conf.	13.507	92011	**0.509**
3-NT-confirm	14.249	51535	**0.497**
4-NT-confirm	15.791	47467	**0.525**
26-DNT-confirm	17.366	54777	**0.499**
13-DNB-confirm	17.832	122448	**0.502**
TETRYL-confirm	23.807	61142	**0.457**
24-DNT-confirm	26.265	113960	**0.505**
135-TNB-confirm	32.140	86430	**0.494**
246-TNT-confirm	32.706	82367	**0.486**

B Results

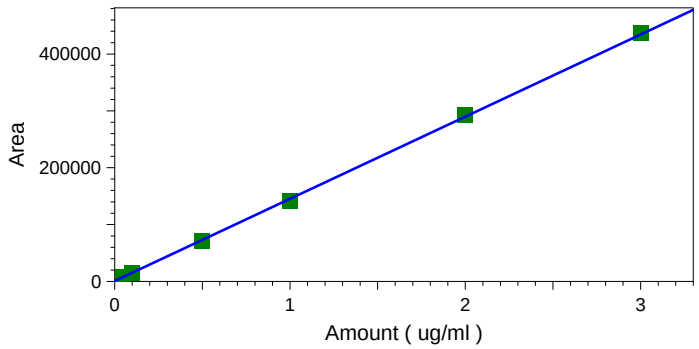
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm	8.574	75283	**1.008**
PETN-confirm	14.524	73672	**1.054**

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\092915MDTNXic-primary\093015MTDNX-primary.met
Print Time: Oct 01, 2015 13:43:59
User: red
Instrument: HPLC 2 (Offline)

TNX (A)
Average RF: 160245. RF StDev: 36331.9 RF %RSD: 22.6727
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 144479.x + 762.260
Goodness of fit (r^2): 0.999777

Peak: TNX -- ESTD -- A



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.01	0.05	0.1	0.5	1
Area	2420	7738	14932	70936	141588
RF	242000	154760	149320	141872	141588
Last Area Residual	-0.00147388	0.00171811	0.00192555	0.0142994	0.0252886
Rep StDev					
Rep %RSD					
Rep 1 Area	2420	7738	14932	70936	141588
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\092915MDTNXic-PRIMARY\002.dat	C:\Instarch\HPLC 2\Data\092915MDTNXic-PRIMARY\003.dat	C:\Instarch\HPLC 2\Data\092915MDTNXic-PRIMARY\004.dat	C:\Instarch\HPLC 2\Data\092915MDTNXic-PRIMARY\005.dat	C:\Instarch\HPLC 2\Data\092915MDTNXic-PRIMARY\006.dat
Rep 1 Sample ID	DNX MIX Pt. 1 EXP 5616	DNX MIX Pt. 2 EXP 5617	DNX MIX Pt. 3 EXP 5615	DNX MIX Pt. 4 EXP 5618	DNX MIX Pt. 5 EXP 5619
Rep 1 Calib. Time	Sep 29, 2015 16:26:34	Sep 29, 2015 16:26:52	Sep 29, 2015 16:27:04	Sep 29, 2015 16:27:17	Sep 29, 2015 16:51:13

Calibration Report

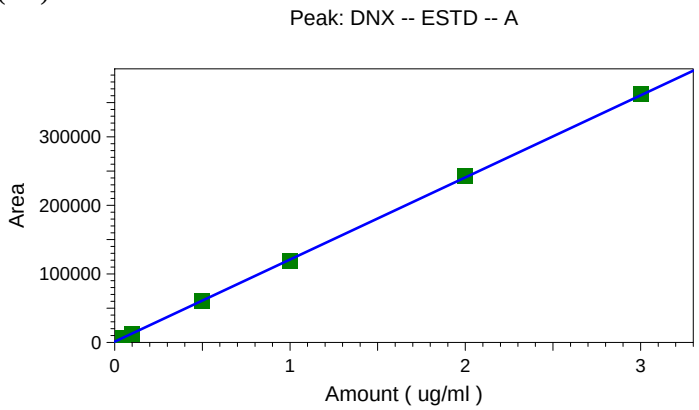
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\092915MDTNXic-primary\093015MTDNX-primary.met
Print Time: Oct 01, 2015 13:43:59
User: red
Instrument: HPLC 2 (Offline)

	Level 6	Level 7
Amount	2	3
Area	292643	437553
RF	146321.5	145851
Last Area Residual	-0.0202235	-0.0232037
Rep StDev		
Rep %RSD		
Rep 1 Area	292643	437553
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\092915MDTNXic-PRIMARY\007.dat	C:\Instarch\HPLC 2\Data\092915MDTNXic-PRIMARY\008.dat
Rep 1 Sample ID	DNX MIX Pt. 6 EXP 5620	DNX MIX Pt. 7 EXP 5621
Rep 1 Calib. Time	Sep 29, 2015 16:52:01	Sep 29, 2015 17:13:03

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\092915MDTNXic-primary\093015MTDNX-primary.met
Print Time: Oct 01, 2015 13:44:05
User: red
Instrument: HPLC 2 (Offline)

DNX (A)
Average RF: 142956. RF StDev: 48064.2 RF %RSD: 33.6218
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 119788.x + 1155.97
Goodness of fit (r^2): 0.999844



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.01	0.05	0.1	0.5	1
Area	2505	7022	12979	59694	118308
RF	250500	140440	129790	119388	118308
Last Area					
Residual	-0.00126178	0.00102996	0.00130046	0.01132	0.0220058
Rep StDev					
Rep %RSD					
Rep 1 Area	2505	7022	12979	59694	118308
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\092915MDTNXic-PRIMARY\002.dat	C:\Instarch\HPLC 2\Data\092915MDTNXic-PRIMARY\003.dat	C:\Instarch\HPLC 2\Data\092915MDTNXic-PRIMARY\004.dat	C:\Instarch\HPLC 2\Data\092915MDTNXic-PRIMARY\005.dat	C:\Instarch\HPLC 2\Data\092915MDTNXic-PRIMARY\006.dat
Rep 1 Sample ID	DNX MIX Pt. 1 EXP 5616	DNX MIX Pt. 2 EXP 5617	DNX MIX Pt. 3 EXP 5615	DNX MIX Pt. 4 EXP 5618	DNX MIX Pt. 5 EXP 5619
Rep 1 Calib. Time	Sep 29, 2015 16:26:34	Sep 29, 2015 16:26:52	Sep 29, 2015 16:27:04	Sep 29, 2015 16:27:17	Sep 29, 2015 16:51:13

Calibration Report

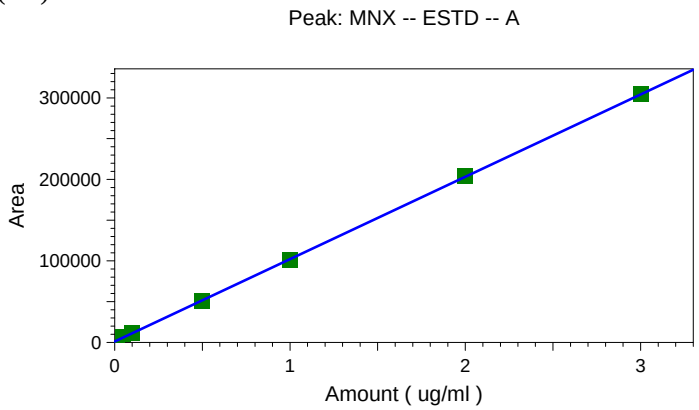
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\092915MDTNXic-primary\093015MTDNX-primary.met
Print Time: Oct 01, 2015 13:44:05
User: red
Instrument: HPLC 2 (Offline)

	Level 6	Level 7
Amount	2	3
Area	242571	362934
RF	121285.5	120978
Last Area Residual	-0.0153513	-0.0201509
Rep StDev		
Rep %RSD		
Rep 1 Area	242571	362934
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\092915MDTNXic-PRIMARY\007.dat	C:\Instarch\HPLC 2\Data\092915MDTNXic-PRIMARY\008.dat
Rep 1 Sample ID	DNX MIX Pt. 6 EXP 5620	DNX MIX Pt. 7 EXP 5621
Rep 1 Calib. Time	Sep 29, 2015 16:52:01	Sep 29, 2015 17:13:03

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\092915MDTNXic-primary\093015MTDNX-primary.met
Print Time: Oct 01, 2015 13:44:09
User: red
Instrument: HPLC 2 (Offline)

MNX (A)
Average RF: 122602. RF StDev: 42781.5 RF %RSD: 34.8946
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 101077.x + 1099.95
Goodness of fit (r^2): 0.999948



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.01	0.05	0.1	0.5	1
Area	2181	6062	11209	51005	100851
RF	218100	121240	112090	102010	100851
Last Area Residual	-0.000695332	0.000908084	-1.36428e-005	0.00626554	0.0131153
Rep StDev					
Rep %RSD					
Rep 1 Area	2181	6062	11209	51005	100851
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\092915MDTNXic-PRIMARY\002.dat	C:\Instarch\HPLC 2\Data\092915MDTNXic-PRIMARY\003.dat	C:\Instarch\HPLC 2\Data\092915MDTNXic-PRIMARY\004.dat	C:\Instarch\HPLC 2\Data\092915MDTNXic-PRIMARY\005.dat	C:\Instarch\HPLC 2\Data\092915MDTNXic-PRIMARY\006.dat
Rep 1 Sample ID	DNX MIX Pt. 1 EXP 5616	DNX MIX Pt. 2 EXP 5617	DNX MIX Pt. 3 EXP 5615	DNX MIX Pt. 4 EXP 5618	DNX MIX Pt. 5 EXP 5619
Rep 1 Calib. Time	Sep 29, 2015 16:26:34	Sep 29, 2015 16:26:52	Sep 29, 2015 16:27:04	Sep 29, 2015 16:27:17	Sep 29, 2015 16:51:13

Calibration Report

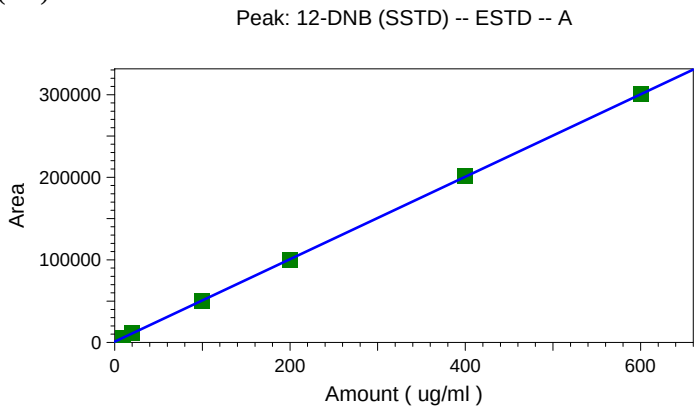
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\092915MDTNXic-primary\093015MTDNX-primary.met
Print Time: Oct 01, 2015 13:44:09
User: red
Instrument: HPLC 2 (Offline)

	Level 6	Level 7
Amount	2	3
Area	204334	305266
RF	102167	101755.333333333
Last Area		
Residual	-0.0106914	-0.00925982
Rep StDev		
Rep %RSD		
Rep 1 Area	204334	305266
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\092915MDTNXic-PRIMARY\007.dat	C:\Instarch\HPLC 2\Data\092915MDTNXic-PRIMARY\008.dat
Rep 1 Sample ID	DNX MIX Pt. 6 EXP 5620	DNX MIX Pt. 7 EXP 5621
Rep 1 Calib. Time	Sep 29, 2015 16:52:01	Sep 29, 2015 17:13:03

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\092915MDTNXic-primary\093015MTDNX-primary.met
Print Time: Oct 01, 2015 13:44:17
User: red
Instrument: HPLC 2 (Offline)

12-DNB (SSTD) (A)
Average RF: 580.064 RF StDev: 161.968 RF %RSD: 27.9225
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 499.494x + 822.719
Goodness of fit (r^2): 0.999956



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	2	10	20	100	200
Area	1884	5725	10806	50136	99571
RF	942	572.5	540.3	501.36	497.855
Last Area Residual	-0.124711	0.185508	0.0132145	1.27354	2.3034
Rep StDev					
Rep %RSD					
Rep 1 Area	1884	5725	10806	50136	99571
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\092915MDTNXic-PRIMARY\002.dat	C:\Instarch\HPLC 2\Data\092915MDTNXic-PRIMARY\003.dat	C:\Instarch\HPLC 2\Data\092915MDTNXic-PRIMARY\004.dat	C:\Instarch\HPLC 2\Data\092915MDTNXic-PRIMARY\005.dat	C:\Instarch\HPLC 2\Data\092915MDTNXic-PRIMARY\006.dat
Rep 1 Sample ID	DNX MIX Pt. 1 EXP 5616	DNX MIX Pt. 2 EXP 5617	DNX MIX Pt. 3 EXP 5615	DNX MIX Pt. 4 EXP 5618	DNX MIX Pt. 5 EXP 5619
Rep 1 Calib. Time	Sep 29, 2015 16:26:34	Sep 29, 2015 16:26:52	Sep 29, 2015 16:27:04	Sep 29, 2015 16:27:17	Sep 29, 2015 16:51:13

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\092915MDTNXic-primary\093015MTDNX-primary.met
Print Time: Oct 01, 2015 13:44:17
User: red
Instrument: HPLC 2 (Offline)

	Level 6	Level 7
Amount	400	600
Area	201727	301269
RF	504.3175	502.115
Last Area		
Residual	-2.21555	-1.5012
Rep StDev		
Rep %RSD		
Rep 1 Area	201727	301269
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\092915MDTNXic-PRIMARY\007.dat	C:\Instarch\HPLC 2\Data\092915MDTNXic-PRIMARY\008.dat
Rep 1 Sample ID	DNX MIX Pt. 6 EXP 5620	DNX MIX Pt. 7 EXP 5621
Rep 1 Calib. Time	Sep 29, 2015 16:52:01	Sep 29, 2015 17:13:03

QC Check Standard Report

Sequence : C:\Instarch\HPLC 2\Sequences\MDTNX\092915MDTNXic-primary.seq
User : red
Printed : Oct 01, 2015 13:40:31

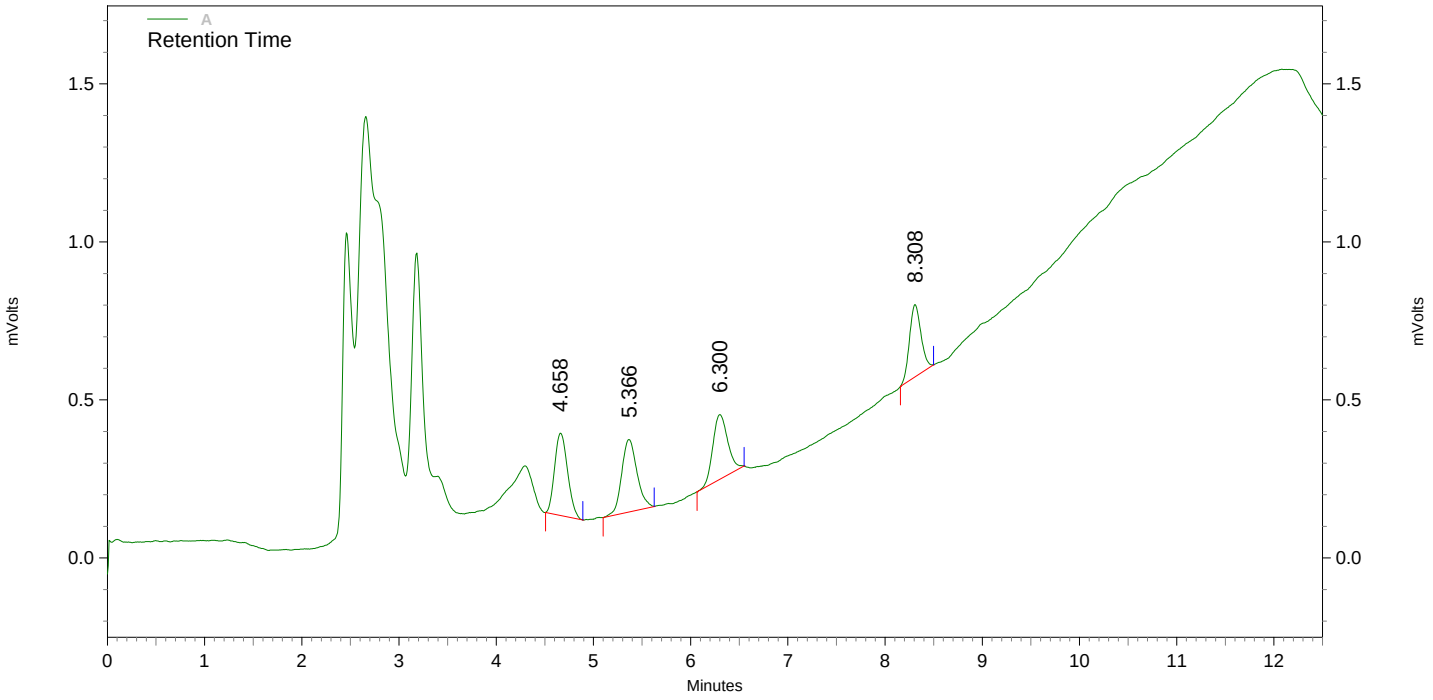
File	Sample ID	Acquired
C:\Instarch\HPLC 2\Data\092915MDTNXic-PRIMARY\002.dat	DNX MIX Pt. 1 EXP 5616	Oct 01, 2015 13:40:31

A

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
TNX	0.010	0.011	14.739	20.000	**Passed**
DNX	0.010	0.011	12.618	20.000	**Passed**
MNX	0.010	0.011	6.953	20.000	**Passed**
12-DNB (SSTD)	2.000	2.125	6.236	20.000	**Passed**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\092915MDTNXic-PRIMARY\002.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\092915MDTNXic-primary\092915MTDNXic-primary.met
Sample ID: DNX MIX Pt. 1 EXP 5616
Acquired: Sep 29, 2015 15:20:50
Data Summary: {Data Description}



A Results

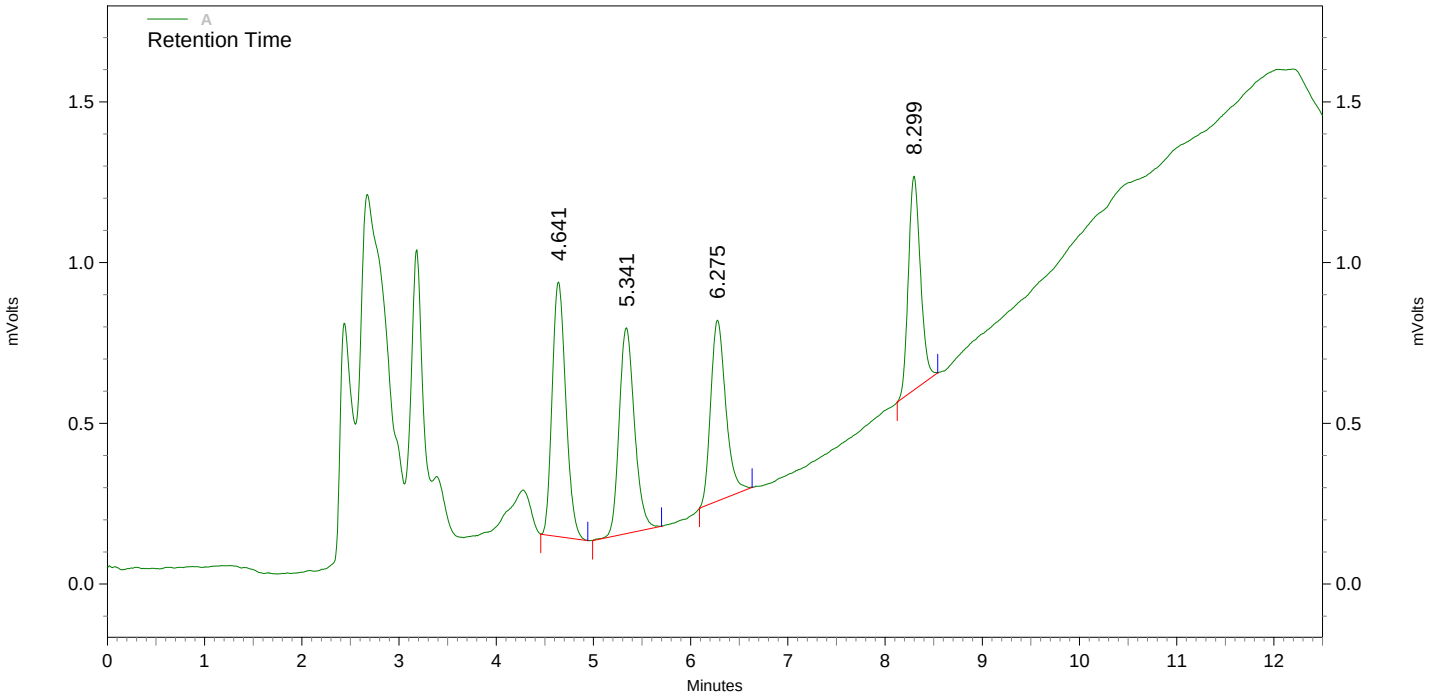
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX	4.658	2420	**0.011**
DNX	5.366	2505	**0.011**
MNX	6.300	2181	**0.011**
12-DNB (SSTD)	8.308	1884	**2.125**

COMMENTS:

1. The results are reported using a UV/Vis detector set at 254 nm.

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\092915MDTNXic-PRIMARY\003.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\092915MDTNXic-primary\092915MTDNXic-primary.met
Sample ID: DNX MIX Pt. 2 EXP 5617
Acquired: Sep 29, 2015 15:36:32
Data Summary: {Data Description}



A Results

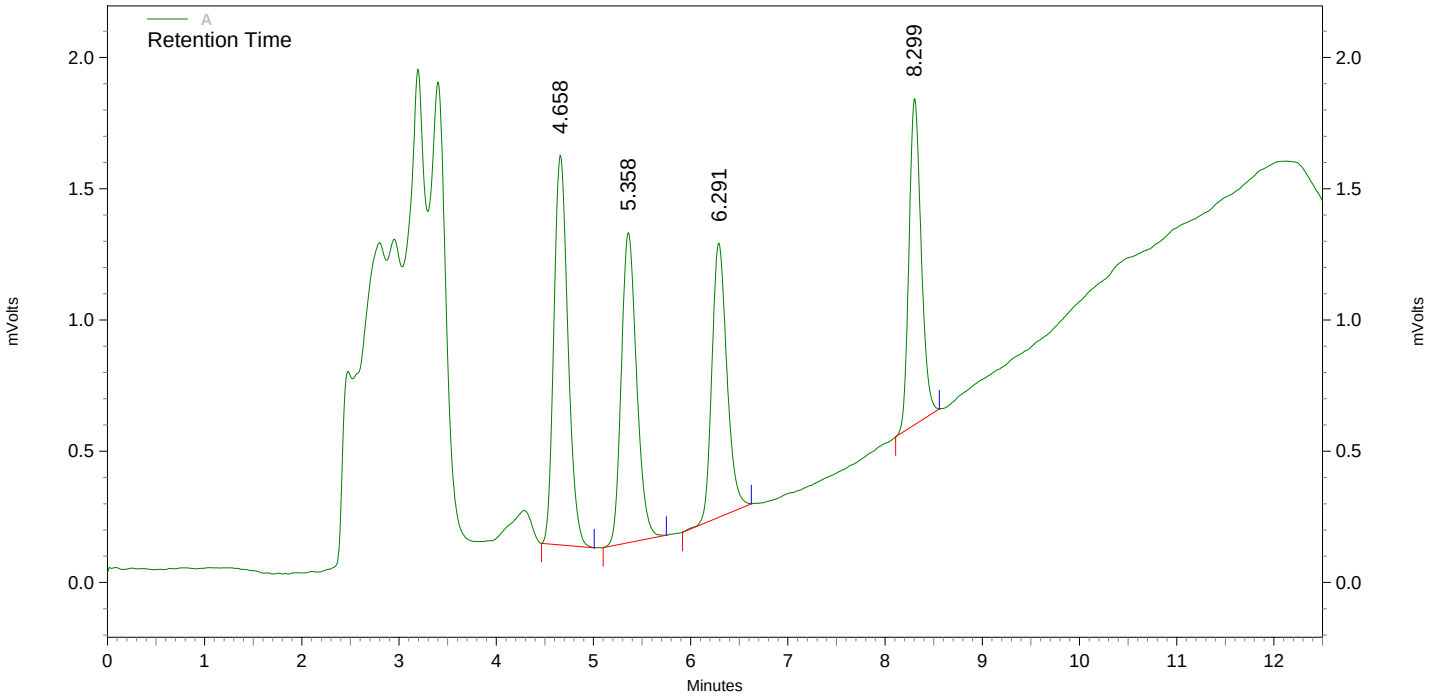
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX	4.641	7738	**0.050 CAL**
DNX	5.341	7022	**0.050 CAL**
MNX	6.275	6062	**0.050 CAL**
12-DNB (SSTD)	8.299	5725	**10.000 CAL**

COMMENTS:

1. The results are reported using a UV/Vis detector set at 254 nm.

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\092915MDTNXic-PRIMARY\004.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\092915MDTNXic-primary\092915MTDNXic-primary.met
Sample ID: DNX MIX Pt. 3 EXP 5615
Acquired: Sep 29, 2015 15:52:14
Data Summary: {Data Description}



A Results

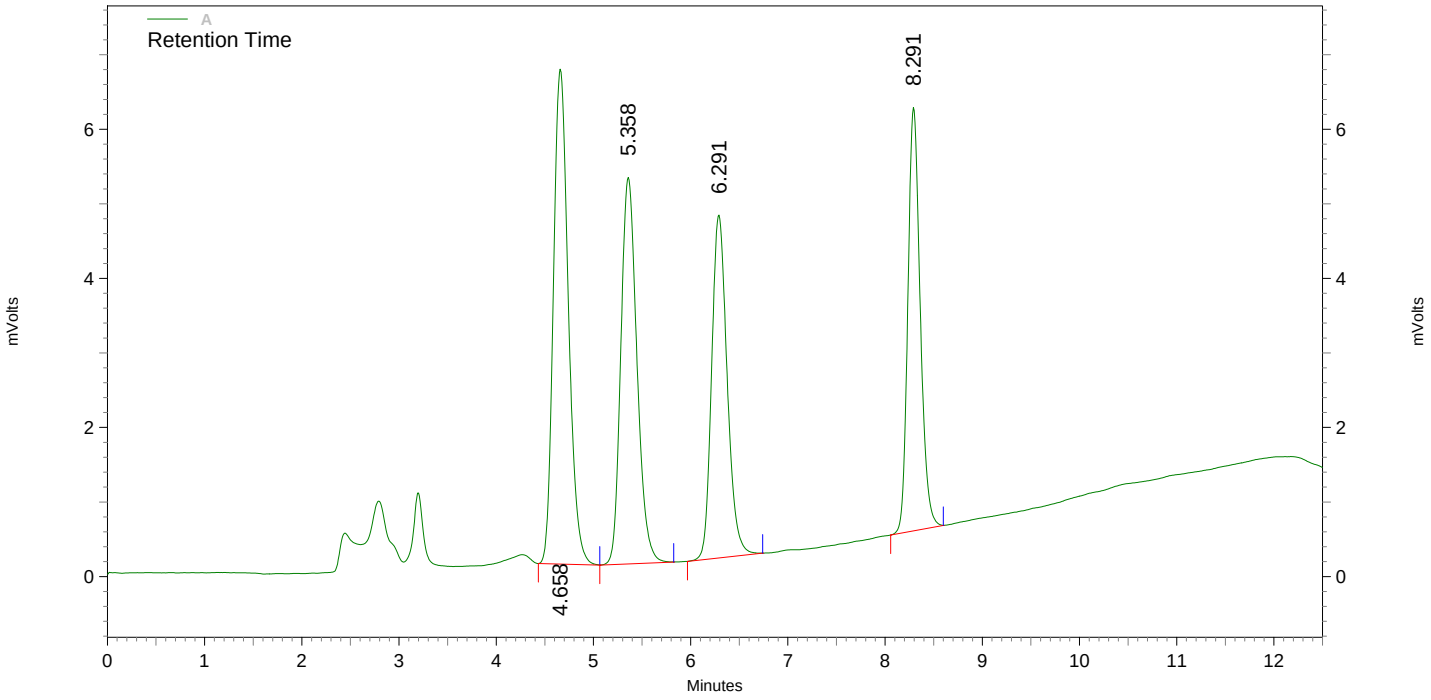
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX	4.658	14932	**0.100 CAL**
DNX	5.358	12979	**0.100 CAL**
MNX	6.291	11209	**0.100 CAL**
12-DNB (SSTD)	8.299	10806	**20.000 CAL**

COMMENTS:

1. The results are reported using a UV/Vis detector set at 254 nm.

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\092915MDTNXic-PRIMARY\005.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\092915MDTNXic-primary\092915MTDNXic-primary.met
Sample ID: DNX MIX Pt. 4 EXP 5618
Acquired: Sep 29, 2015 16:07:56
Data Summary: {Data Description}



A Results

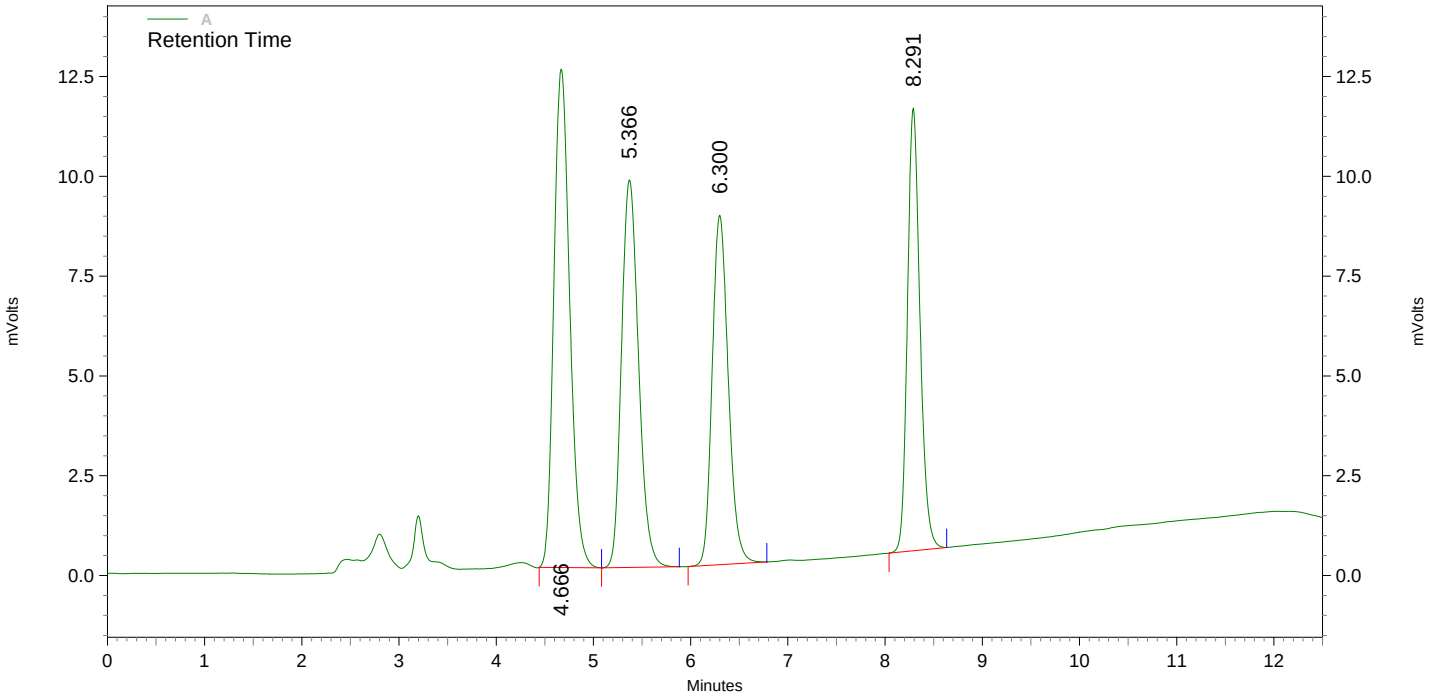
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX	4.658	70936	**0.500 CAL**
DNX	5.358	59694	**0.500 CAL**
MNX	6.291	51005	**0.500 CAL**
12-DNB (SSTD)	8.291	50136	**100.000 CAL**

COMMENTS:

1. The results are reported using a UV/Vis detector set at 254 nm.

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\092915MDTNXic-PRIMARY\006.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\092915MDTNXic-primary\092915MTDNXic-primary.met
Sample ID: DNX MIX Pt. 5 EXP 5619
Acquired: Sep 29, 2015 16:23:39
Data Summary: {Data Description}



A Results

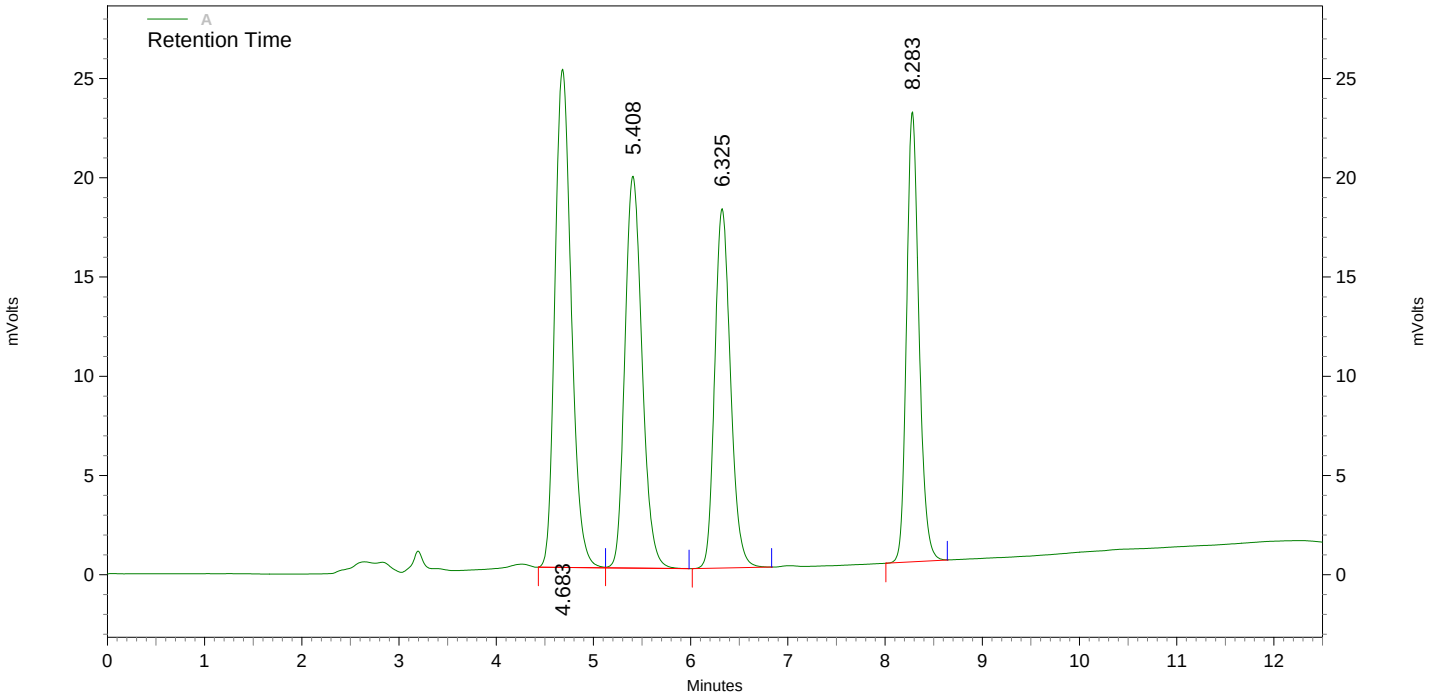
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX	4.666	141588	**1.000 CAL**
DNX	5.366	118308	**1.000 CAL**
MNX	6.300	100851	**1.000 CAL**
12-DNB (SSTD)	8.291	99571	**200.000 CAL**

COMMENTS:

1. The results are reported using a UV/Vis detector set at 254 nm.

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\092915MDTNXic-PRIMARY\007.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\092915MDTNXic-primary\092915MTDNXic-primary.met
Sample ID: DNX MIX Pt. 6 EXP 5620
Acquired: Sep 29, 2015 16:39:19
Data Summary: {Data Description}



A Results

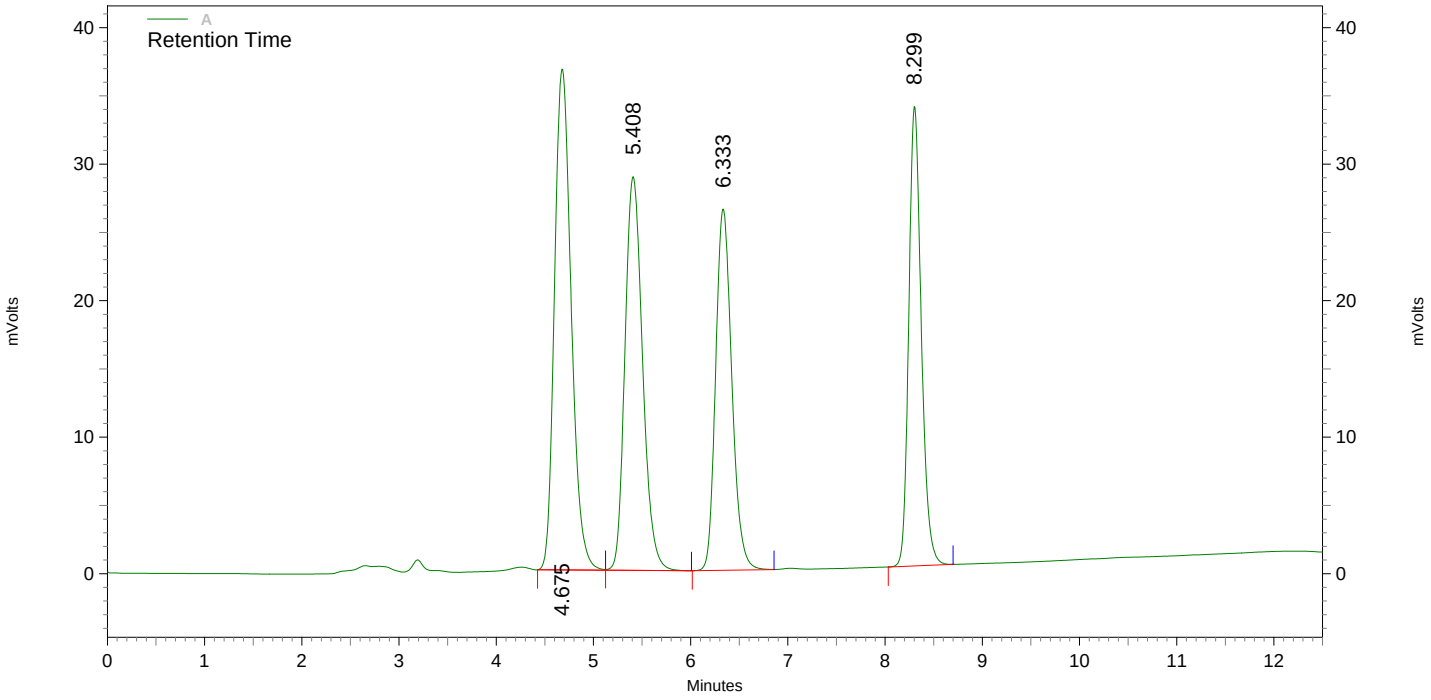
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX	4.683	292643	**2.000 CAL**
DNX	5.408	242571	**2.000 CAL**
MNX	6.325	204334	**2.000 CAL**
12-DNB (SSTD)	8.283	201727	**400.000 CAL**

COMMENTS:

1. The results are reported using a UV/Vis detector set at 254 nm.

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\092915MDTNXic-PRIMARY\008.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\092915MDTNXic-primary\092915MTDNXic-primary.met
Sample ID: DNX MIX Pt. 7 EXP 5621
Acquired: Sep 29, 2015 16:55:02
Data Summary: {Data Description}



A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX	4.675	437553	**3.000 CAL**
DNX	5.408	362934	**3.000 CAL**
MNX	6.333	305266	**3.000 CAL**
12-DNB (SSTD)	8.299	301269	**600.000 CAL**

COMMENTS:

1. The results are reported using a UV/Vis detector set at 254 nm.

QC Check Standard Report

Sequence : C:\Instarch\HPLC 2\Sequences\MDTNX\092915MDTNXic-primary.seq
User : red
Printed : Oct 01, 2015 13:41:07

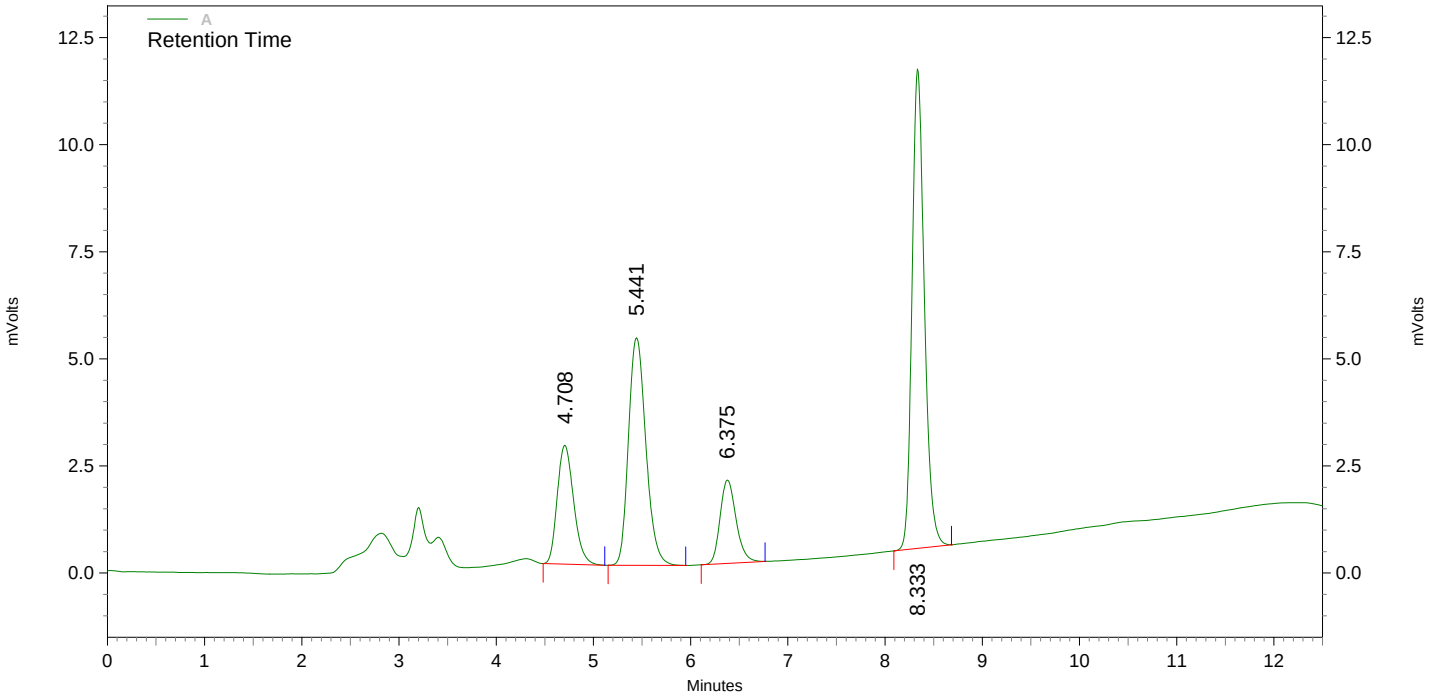
File	Sample ID	Acquired
C:\Instarch\HPLC 2\Data\092915MDTNXic-PRIMARY\009.dat	DNX MIX ICV EXP 5622	Oct 01, 2015 13:41:06

A

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
TNX	0.250	0.220	12.046	20.000	**Passed**
DNX	0.550	0.542	1.476	20.000	**Passed**
MNX	0.200	0.210	4.866	20.000	**Passed**
12-DNB (SSTD)	200.000	196.247	1.876	20.000	**Passed**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\092915MDTNXic-PRIMARY\009.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\092915MDTNXic-primary\092915MTDNXic-primary.met
Sample ID: DNX MIX ICV EXP 5622
Acquired: Sep 29, 2015 17:10:47
Data Summary: {Data Description}



A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX	4.708	32531	**0.220**
DNX	5.441	66067	**0.542**
MNX	6.375	22299	**0.210**
12-DNB (SSTD)	8.333	98847	**196.247**

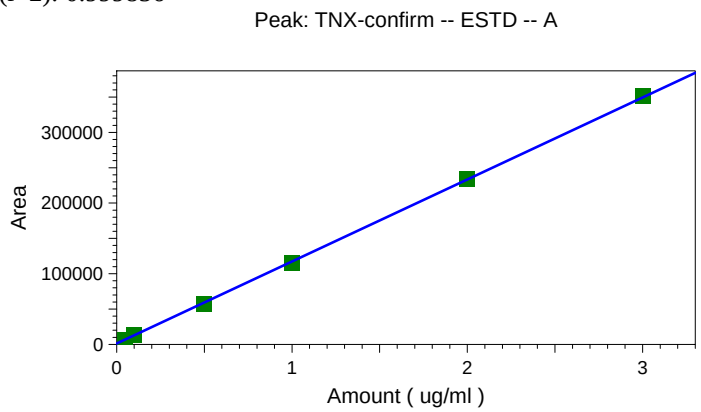
COMMENTS:

1. The results are reported using a UV/Vis detector set at 254 nm.

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\093015MDTNXic-confirm\093015MDTNXic-confirm.met
Print Time: Oct 01, 2015 13:38:55
User: red
Instrument: HPLC 2 (Offline)

TNX-confirm (A)
Average RF: 139023. RF StDev: 47737.5 RF %RSD: 34.3378
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 116073.x + 1142.22
Goodness of fit (r^2): 0.999856



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.01	0.05	0.1	0.5	1
Area	2459	6779	12699	57409	115235
RF	245900	135580	126990	114818	115235
Last Area Residual	-0.00134443	0.00143755	0.000435078	0.0152458	0.0170585
Rep StDev					
Rep %RSD					
Rep 1 Area	2459	6779	12699	57409	115235
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\093015MDTNXic-confirm\002.dat	C:\Instarch\HPLC 2\Data\093015MDTNXic-confirm\003.dat	C:\Instarch\HPLC 2\Data\093015MDTNXic-confirm\004.dat	C:\Instarch\HPLC 2\Data\093015MDTNXic-confirm\005.dat	C:\Instarch\HPLC 2\Data\093015MDTNXic-confirm\006.dat
Rep 1 Sample ID	DNX MIX Pt. 1 EXP 5616	DNX MIX Pt. 2 EXP 5617	DNX MIX Pt. 3 EXP 5615	DNX MIX Pt. 4 EXP 5618	DNX MIX Pt. 5 EXP 5619
Rep 1 Calib. Time	Sep 30, 2015 16:15:19	Sep 30, 2015 16:15:33	Sep 30, 2015 16:44:07	Sep 30, 2015 17:00:08	Sep 30, 2015 17:20:05

Calibration Report

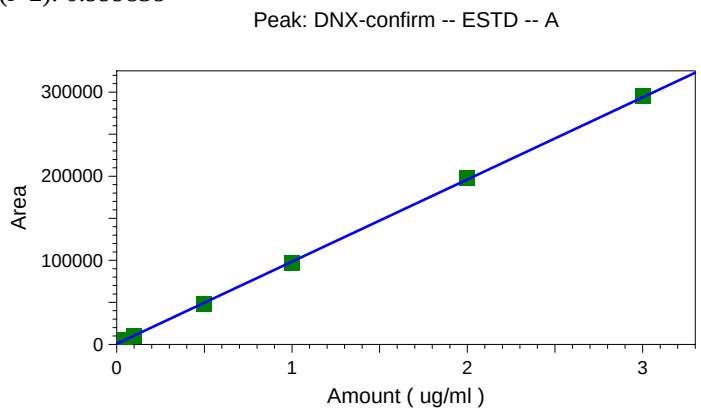
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\093015MDTNXic-confirm\093015MDTNXic-confirm.met
Print Time: Oct 01, 2015 13:38:55
User: red
Instrument: HPLC 2 (Offline)

	Level 6	Level 7
Amount	2	3
Area	234654	351935
RF	117327	117311.666666667
Last Area Residual	-0.0117699	-0.0221788
Rep StDev		
Rep %RSD		
Rep 1 Area	234654	351935
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\093015MDTNXic-confirm\007.dat	C:\Instarch\HPLC 2\Data\093015MDTNXic-confirm\008.dat
Rep 1 Sample ID	DNX MIX Pt. 6 EXP 5620	DNX MIX Pt. 7 EXP 5621
Rep 1 Calib. Time	Oct 01, 2015 12:58:53	Oct 01, 2015 12:59:07

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\093015MDTNXic-confirm\093015MDTNXic-confirm.met
Print Time: Oct 01, 2015 13:38:59
User: red
Instrument: HPLC 2 (Offline)

DNX-confirm (A)
Average RF: 113224. RF StDev: 33698.4 RF %RSD: 29.7625
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 97661.6x + 762.666
Goodness of fit (r^2): 0.999838



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.01	0.05	0.1	0.5	1
Area	1889	5461	10436	48011	96634
RF	188900	109220	104360	96022	96634
Last Area Residual	-0.00153303	0.00189169	0.000950471	0.0162035	0.0183312
Rep StDev					
Rep %RSD					
Rep 1 Area	1889	5461	10436	48011	96634
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\093015MDTNXic-confirm\002.dat	C:\Instarch\HPLC 2\Data\093015MDTNXic-confirm\003.dat	C:\Instarch\HPLC 2\Data\093015MDTNXic-confirm\004.dat	C:\Instarch\HPLC 2\Data\093015MDTNXic-confirm\005.dat	C:\Instarch\HPLC 2\Data\093015MDTNXic-confirm\006.dat
Rep 1 Sample ID	DNX MIX Pt. 1 EXP 5616	DNX MIX Pt. 2 EXP 5617	DNX MIX Pt. 3 EXP 5615	DNX MIX Pt. 4 EXP 5618	DNX MIX Pt. 5 EXP 5619
Rep 1 Calib. Time	Sep 30, 2015 16:15:19	Sep 30, 2015 16:15:33	Sep 30, 2015 16:44:07	Sep 30, 2015 17:00:08	Sep 30, 2015 17:20:05

Calibration Report

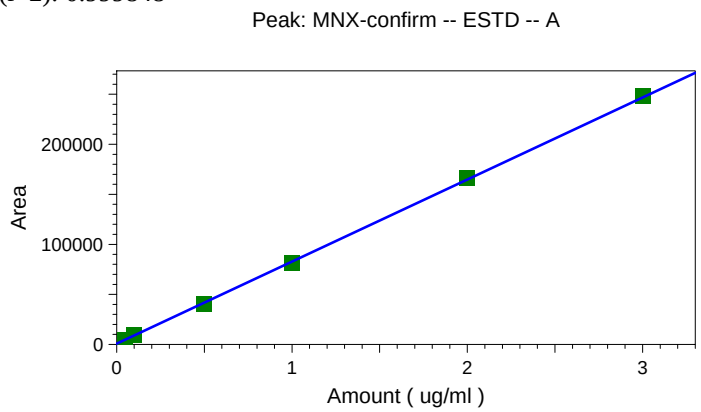
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\093015MDTNXic-confirm\093015MDTNXic-confirm.met
Print Time: Oct 01, 2015 13:38:59
User: red
Instrument: HPLC 2 (Offline)

	Level 6	Level 7
Amount	2	3
Area	197680	295785
RF	98840	98595
Last Area Residual	-0.0163233	-0.0208636
Rep StDev		
Rep %RSD		
Rep 1 Area	197680	295785
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\093015MDTNXic-confirm\007.dat	C:\Instarch\HPLC 2\Data\093015MDTNXic-confirm\008.dat
Rep 1 Sample ID	DNX MIX Pt. 6 EXP 5620	DNX MIX Pt. 7 EXP 5621
Rep 1 Calib. Time	Oct 01, 2015 12:58:53	Oct 01, 2015 12:59:07

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\093015MDTNXic-confirm\093015MDTNXic-confirm.met
Print Time: Oct 01, 2015 13:39:04
User: red
Instrument: HPLC 2 (Offline)

MNX-confirm (A)
Average RF: 96928.2 RF StDev: 30926.2 RF %RSD: 31.9063
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 82013.9x + 745.605
Goodness of fit (r^2): 0.999848



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.01	0.05	0.1	0.5	1
Area	1661	4740	8965	40429	81309
RF	166100	94800	89650	80858	81309
Last Area Residual	-0.00116145	0.00129614	-0.000219492	0.0161384	0.0176865
Rep StDev					
Rep %RSD					
Rep 1 Area	1661	4740	8965	40429	81309
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\093015MDTNXic-confirm\002.dat	C:\Instarch\HPLC 2\Data\093015MDTNXic-confirm\003.dat	C:\Instarch\HPLC 2\Data\093015MDTNXic-confirm\004.dat	C:\Instarch\HPLC 2\Data\093015MDTNXic-confirm\005.dat	C:\Instarch\HPLC 2\Data\093015MDTNXic-confirm\006.dat
Rep 1 Sample ID	DNX MIX Pt. 1 EXP 5616	DNX MIX Pt. 2 EXP 5617	DNX MIX Pt. 3 EXP 5615	DNX MIX Pt. 4 EXP 5618	DNX MIX Pt. 5 EXP 5619
Rep 1 Calib. Time	Sep 30, 2015 16:15:19	Sep 30, 2015 16:15:33	Sep 30, 2015 16:44:07	Sep 30, 2015 17:00:08	Sep 30, 2015 17:20:05

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\093015MDTNXic-confirm\093015MDTNXic-confirm.met
Print Time: Oct 01, 2015 13:39:04
User: red
Instrument: HPLC 2 (Offline)

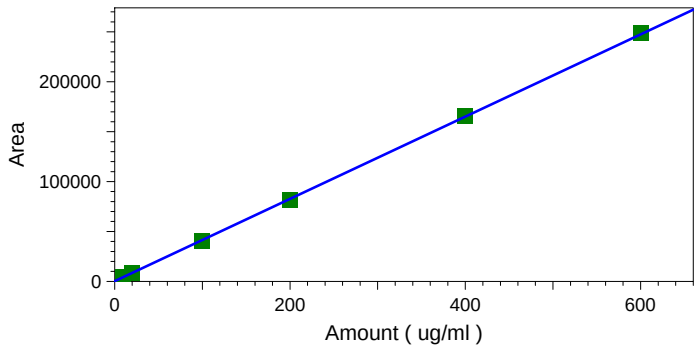
	Level 6	Level 7
Amount	2	3
Area	165833	248592
RF	82916.5	82864
Last Area Residual	-0.0129189	-0.0220035
Rep StDev		
Rep %RSD		
Rep 1 Area	165833	248592
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\093015MDTNXic-confirm\007.dat	C:\Instarch\HPLC 2\Data\093015MDTNXic-confirm\008.dat
Rep 1 Sample ID	DNX MIX Pt. 6 EXP 5620	DNX MIX Pt. 7 EXP 5621
Rep 1 Calib. Time	Oct 01, 2015 12:58:53	Oct 01, 2015 12:59:07

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\093015MDTNXic-confirm\093015MDTNXic-confirm.met
Print Time: Oct 01, 2015 13:39:09
User: red
Instrument: HPLC 2 (Offline)

12-DNB (SSTD)-confirm (A)
Average RF: 439.403 RF StDev: 68.9089 RF %RSD: 15.6824
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 412.040x + 262.620
Goodness of fit (r^2): 0.999866

Peak: 12-DNB (SSTD)-confirm -- ESTD -- A



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	2	10	20	100	200
Area	1190	4204	8397	40349	81282
RF	595	420.4	419.85	403.49	406.41
Last Area Residual	-0.250704	0.434474	0.258279	2.71242	3.37015
Rep StDev					
Rep %RSD					
Rep 1 Area	1190	4204	8397	40349	81282
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\093015MDTNXic-confirm\002.dat	C:\Instarch\HPLC 2\Data\093015MDTNXic-confirm\003.dat	C:\Instarch\HPLC 2\Data\093015MDTNXic-confirm\004.dat	C:\Instarch\HPLC 2\Data\093015MDTNXic-confirm\005.dat	C:\Instarch\HPLC 2\Data\093015MDTNXic-confirm\006.dat
Rep 1 Sample ID	DNX MIX Pt. 1 EXP 5616	DNX MIX Pt. 2 EXP 5617	DNX MIX Pt. 3 EXP 5615	DNX MIX Pt. 4 EXP 5618	DNX MIX Pt. 5 EXP 5619
Rep 1 Calib. Time	Sep 30, 2015 16:15:19	Sep 30, 2015 16:15:33	Sep 30, 2015 16:44:07	Sep 30, 2015 17:00:08	Sep 30, 2015 17:20:05

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\093015MDTNXic-confirm\093015MDTNXic-confirm.met
Print Time: Oct 01, 2015 13:39:09
User: red
Instrument: HPLC 2 (Offline)

	Level 6	Level 7
Amount	400	600
Area	166115	249230
RF	415.2875	415.383333333333
Last Area Residual	-2.51517	-4.23098
Rep StDev		
Rep %RSD		
Rep 1 Area	166115	249230
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\093015MDTNXic-confirm\007.dat	C:\Instarch\HPLC 2\Data\093015MDTNXic-confirm\008.dat
Rep 1 Sample ID	DNX MIX Pt. 6 EXP 5620	DNX MIX Pt. 7 EXP 5621
Rep 1 Calib. Time	Oct 01, 2015 12:58:53	Oct 01, 2015 12:59:07

QC Check Standard Report

Sequence : C:\Instarch\HPLC 2\Sequences\MDTNX\093015MDTNXic-confirm.seq
User : red
Printed : Oct 01, 2015 13:35:39

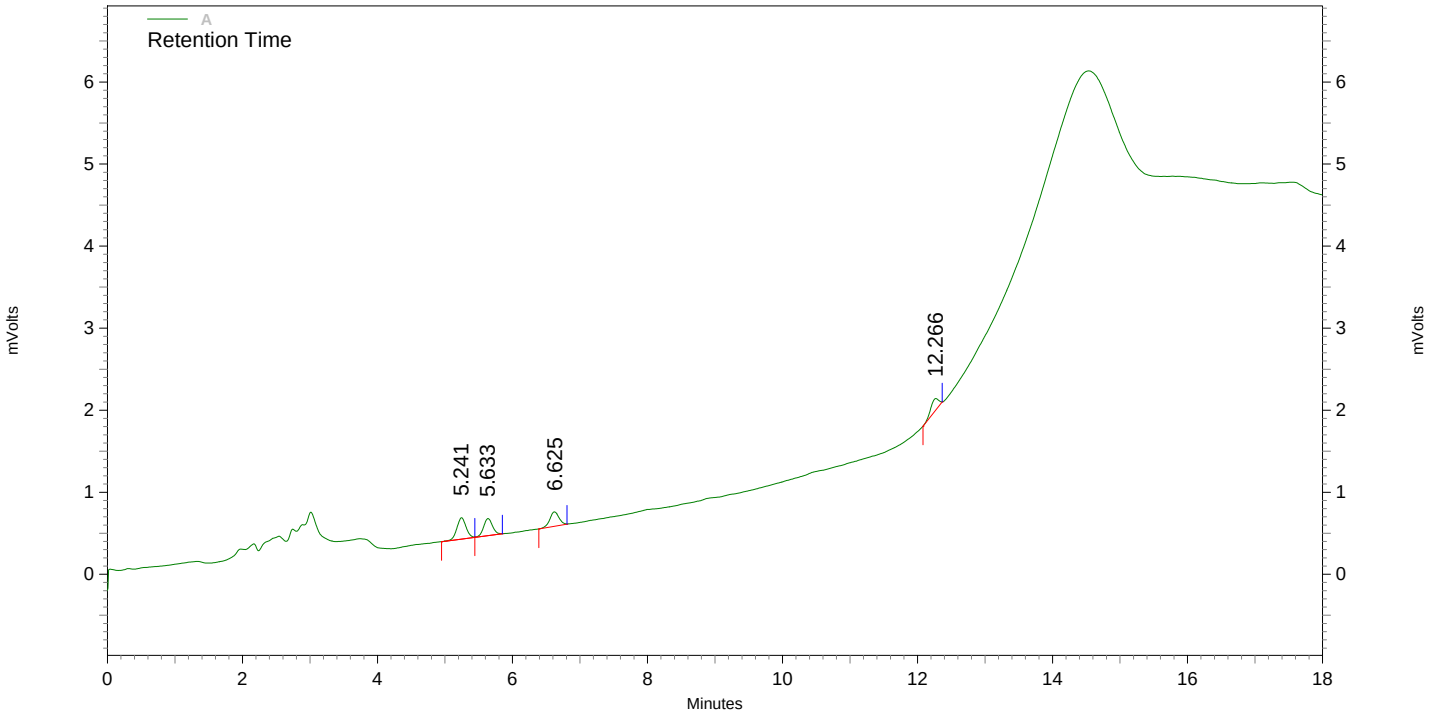
File	Sample ID	Acquired
C:\Instarch\HPLC 2\Data\093015MDTNXic-confirm\002.dat	DNX MIX Pt. 1 EXP 5616	Oct 01, 2015 13:35:39

A

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
TNX-confirm	0.010	0.011	13.444	20.000	**Passed**
DNX-confirm	0.010	0.012	15.330	20.000	**Passed**
MNX-confirm	0.010	0.011	11.615	20.000	**Passed**
12-DNB (SSTD)-confirm	2.000	2.251	12.535	20.000	**Passed**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\093015MDTNXic-confirm\002.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\093015MDTNXic-confirm\093015MDTNXic-confirm.met
Sample ID: DNX MIX Pt. 1 EXP 5616
Acquired: Sep 30, 2015 15:36:48
Data Summary: {Data Description}



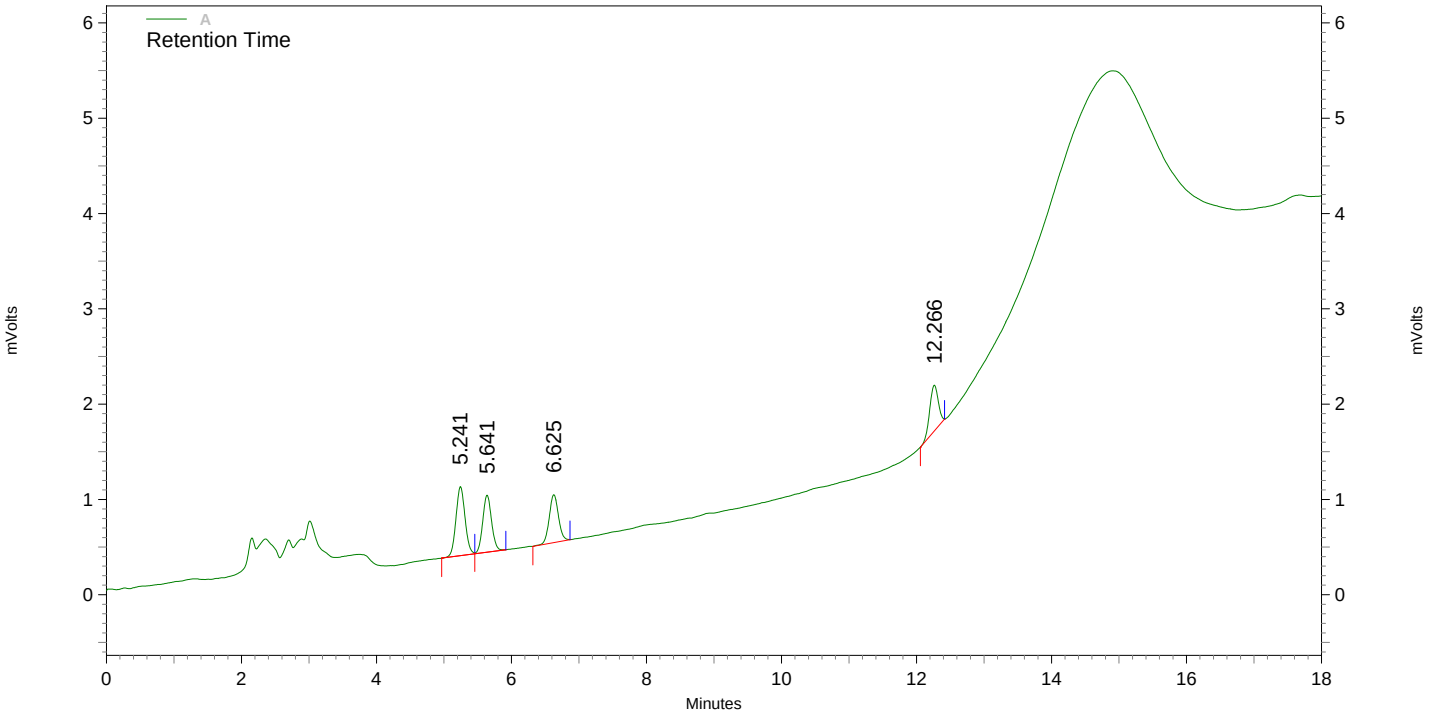
DNX MIX Pt. 1 EXP 5616

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX-confirm	5.241	2459	**0.011**
DNX-confirm	5.633	1889	**0.012**
MNX-confirm	6.625	1661	**0.011**
12-DNB (SSTD)-confirm	12.266	1190	**2.251**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\093015MDTNXic-confirm\003.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\093015MDTNXic-confirm\093015MDTNXic-confirm.met
Sample ID: DNX MIX Pt. 2 EXP 5617
Acquired: Sep 30, 2015 15:57:06
Data Summary: {Data Description}



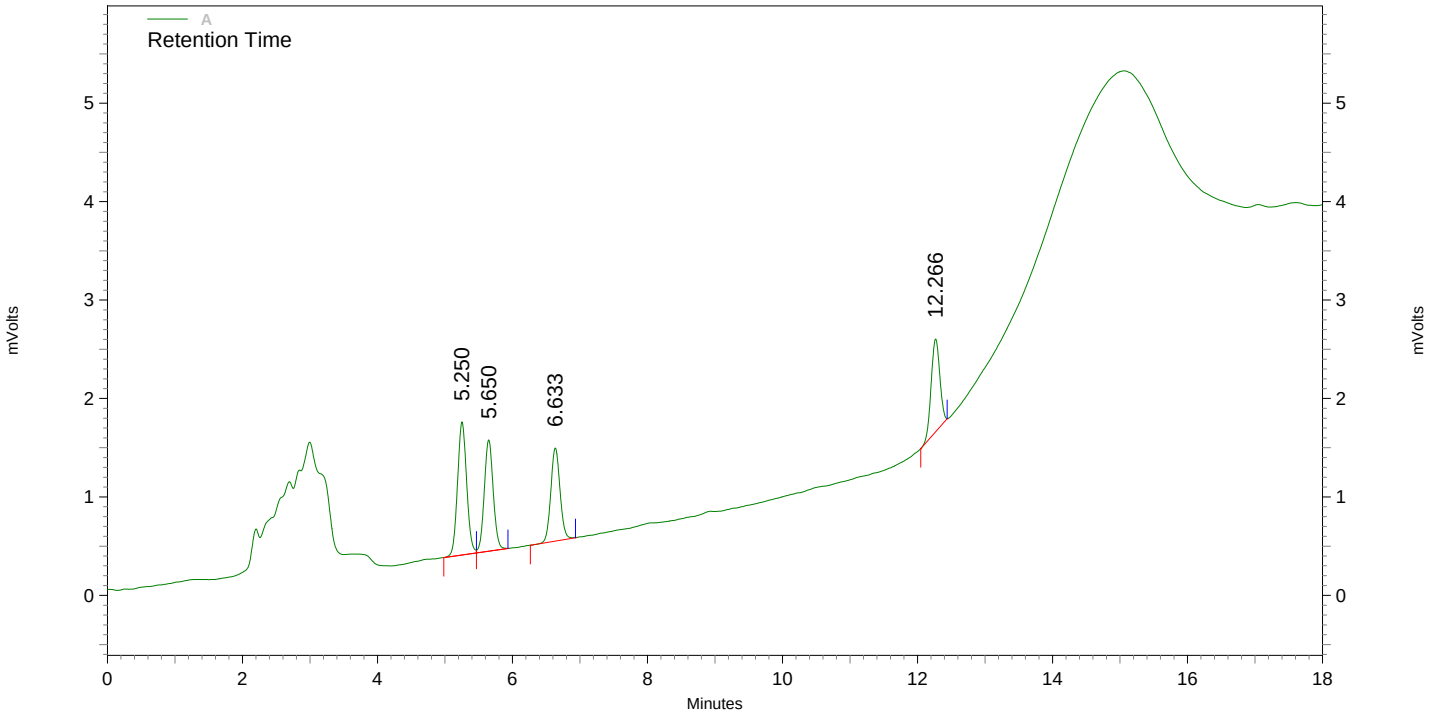
DNX MIX Pt. 2 EXP 5617

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX-confirm	5.241	6779	**0.050 CAL**
DNX-confirm	5.641	5461	**0.050 CAL**
MNX-confirm	6.625	4740	**0.050 CAL**
12-DNB (SSTD)-confirm	12.266	4204	**10.000 CAL**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\093015MDTNXic-confirm\004.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\093015MDTNXic-confirm\093015MDTNXic-confirm.met
Sample ID: DNX MIX Pt. 3 EXP 5615
Acquired: Sep 30, 2015 16:17:25
Data Summary: {Data Description}



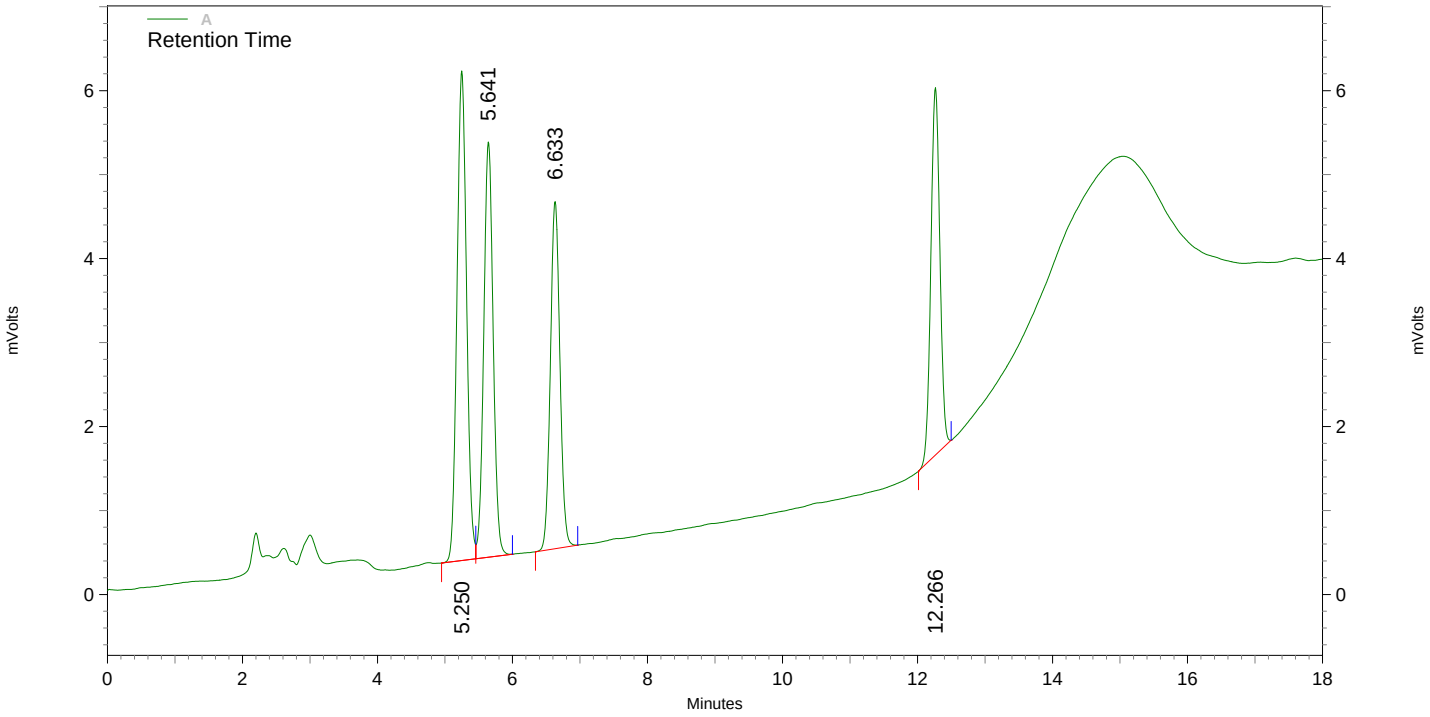
DNX MIX Pt. 3 EXP 5615

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX-confirm	5.250	12699	**0.100 CAL**
DNX-confirm	5.650	10436	**0.100 CAL**
MNX-confirm	6.633	8965	**0.100 CAL**
12-DNB (SSTD)-confirm	12.266	8397	**20.000 CAL**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\093015MDTNXic-confirm\005.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\093015MDTNXic-confirm\093015MDTNXic-confirm.met
Sample ID: DNX MIX Pt. 4 EXP 5618
Acquired: Sep 30, 2015 16:37:42
Data Summary: {Data Description}



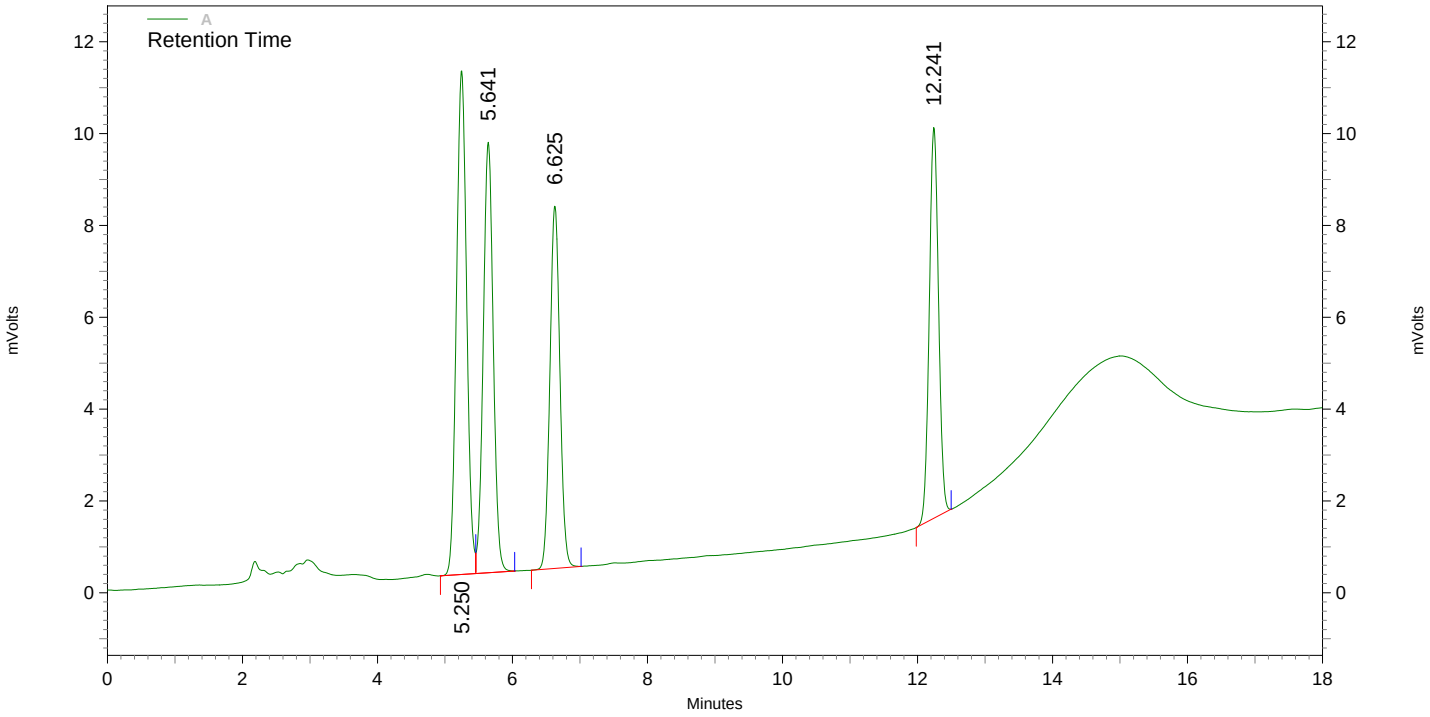
DNX MIX Pt. 4 EXP 5618

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX-confirm	5.250	57409	**0.500 CAL**
DNX-confirm	5.641	48011	**0.500 CAL**
MNX-confirm	6.633	40429	**0.500 CAL**
12-DNB (SSTD)-confirm	12.266	40349	**100.000 CAL**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\093015MDTNXic-confirm\006.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\093015MDTNXic-confirm\093015MDTNXic-confirm.met
Sample ID: DNX MIX Pt. 5 EXP 5619
Acquired: Sep 30, 2015 16:58:00
Data Summary: {Data Description}



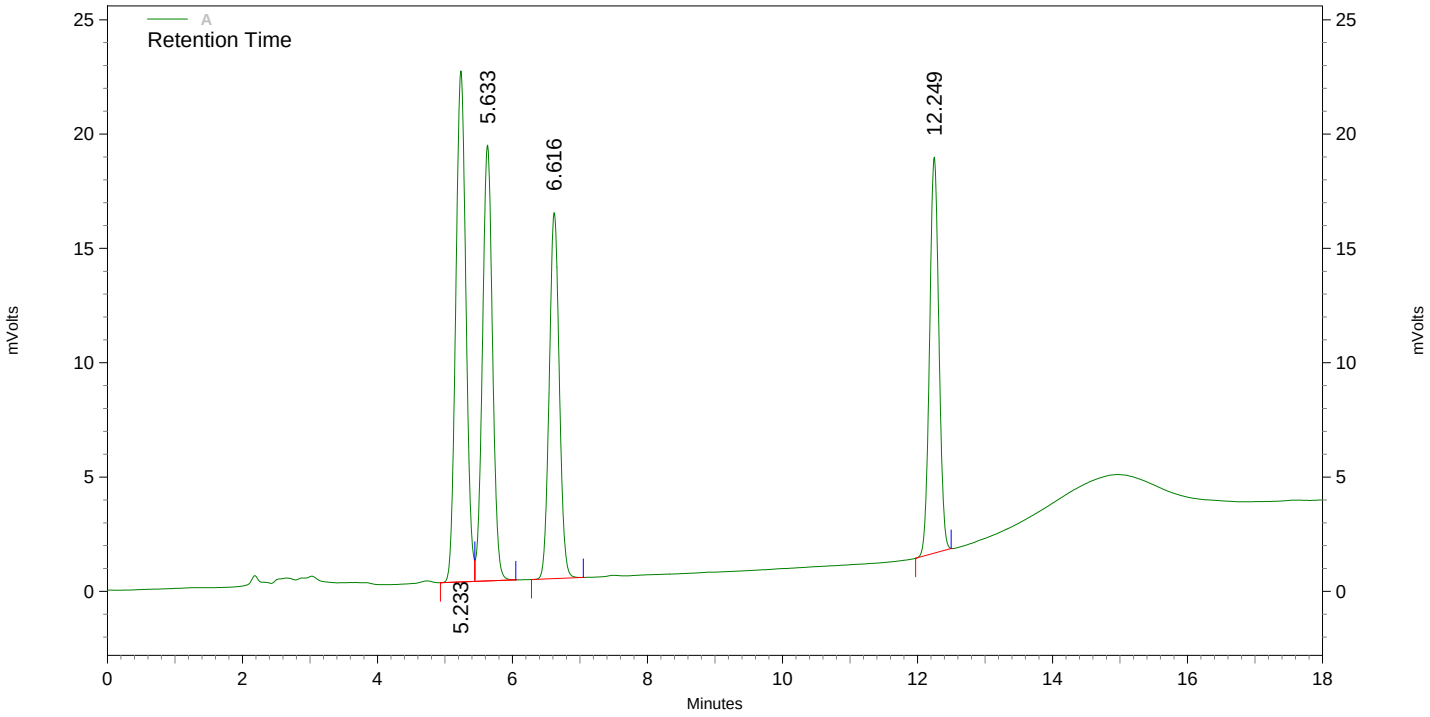
DNX MIX Pt. 5 EXP 5619

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX-confirm	5.250	115235	**1.000 CAL**
DNX-confirm	5.641	96634	**1.000 CAL**
MNX-confirm	6.625	81309	**1.000 CAL**
12-DNB (SSTD)-confirm	12.241	81282	**200.000 CAL**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\093015MDTNXic-confirm\007.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\093015MDTNXic-confirm\093015MDTNXic-confirm.met
Sample ID: DNX MIX Pt. 6 EXP 5620
Acquired: Sep 30, 2015 17:18:18
Data Summary: {Data Description}



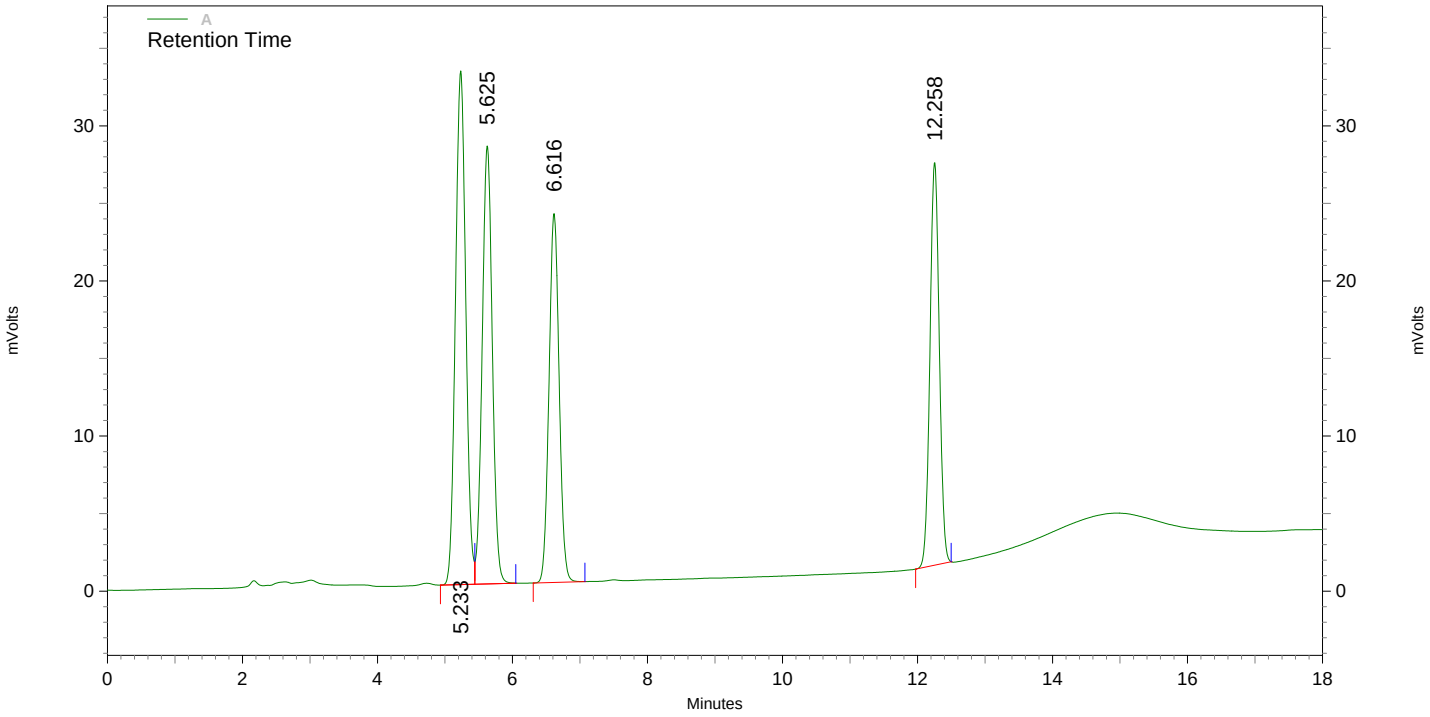
DNX MIX Pt. 6 EXP 5620

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX-confirm	5.233	234654	**2.000 CAL**
DNX-confirm	5.633	197680	**2.000 CAL**
MNX-confirm	6.616	165833	**2.000 CAL**
12-DNB (SSTD)-confirm	12.249	166115	**400.000 CAL**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\093015MDTNXic-confirm\008.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\093015MDTNXic-confirm\093015MDTNXic-confirm.met
Sample ID: DNX MIX Pt. 7 EXP 5621
Acquired: Sep 30, 2015 17:38:37
Data Summary: {Data Description}



DNX MIX Pt. 7 EXP 5621

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX-confirm	5.233	351935	**3.000 CAL**
DNX-confirm	5.625	295785	**3.000 CAL**
MNX-confirm	6.616	248592	**3.000 CAL**
12-DNB (SSTD)-confirm	12.258	249230	**600.000 CAL**

QC Check Standard Report

Sequence : C:\Instarch\HPLC 2\Sequences\MDTNX\093015MDTNXic-confirm.seq
User : red
Printed : Oct 01, 2015 13:36:42

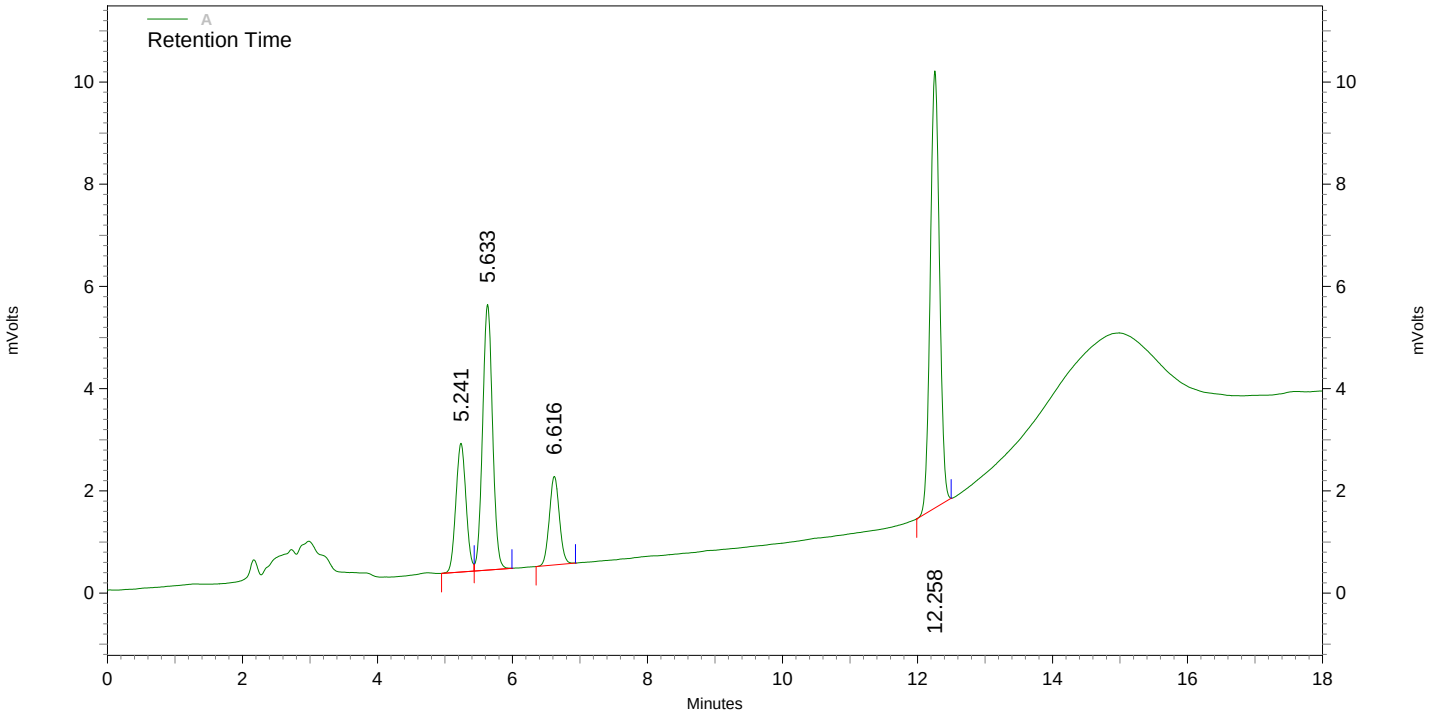
File	Sample ID	Acquired
C:\Instarch\HPLC 2\Data\093015MDTNXic-confirm\009.dat	DNX MIX ICV EXP 5622	Oct 01, 2015 13:36:42

A

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
TNX-confirm	0.250	0.217	13.362	20.000	**Passed**
DNX-confirm	0.550	0.538	2.175	20.000	**Passed**
MNX-confirm	0.200	0.209	4.485	20.000	**Passed**
12-DNB (SSTD)-confirm	200.000	196.450	1.775	20.000	**Passed**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\093015MDTNXic-confirm\009.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\093015MDTNXic-confirm\093015MDTNXic-confirm.met
Sample ID: DNX MIX ICV EXP 5622
Acquired: Sep 30, 2015 17:58:57
Data Summary: {Data Description}



DNX MIX ICV EXP 5622

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX-confirm	5.241	26283	**0.217**
DNX-confirm	5.633	53308	**0.538**
MNX-confirm	6.616	17884	**0.209**
12-DNB (SSTD)-confirm	12.258	81208	**196.450**

NITROAROMATICS ANALYSIS
CONTINUING CALIBRATION
DOCUMENTS

RED
10/19/2015

QC Check Standard Report

Sequence : C:\Instarch\HPLC 2\Sequences\8330A_B\100815exp-primary.seq
User : red
Printed : Oct 09, 2015 10:11:46

File	Sample ID	Acquired
C:\Instarch\HPLC 2\Data\100815EXP-PRIMARY\002.dat	8330 CCV EXP 5623	Oct 09, 2015 10:11:46

A

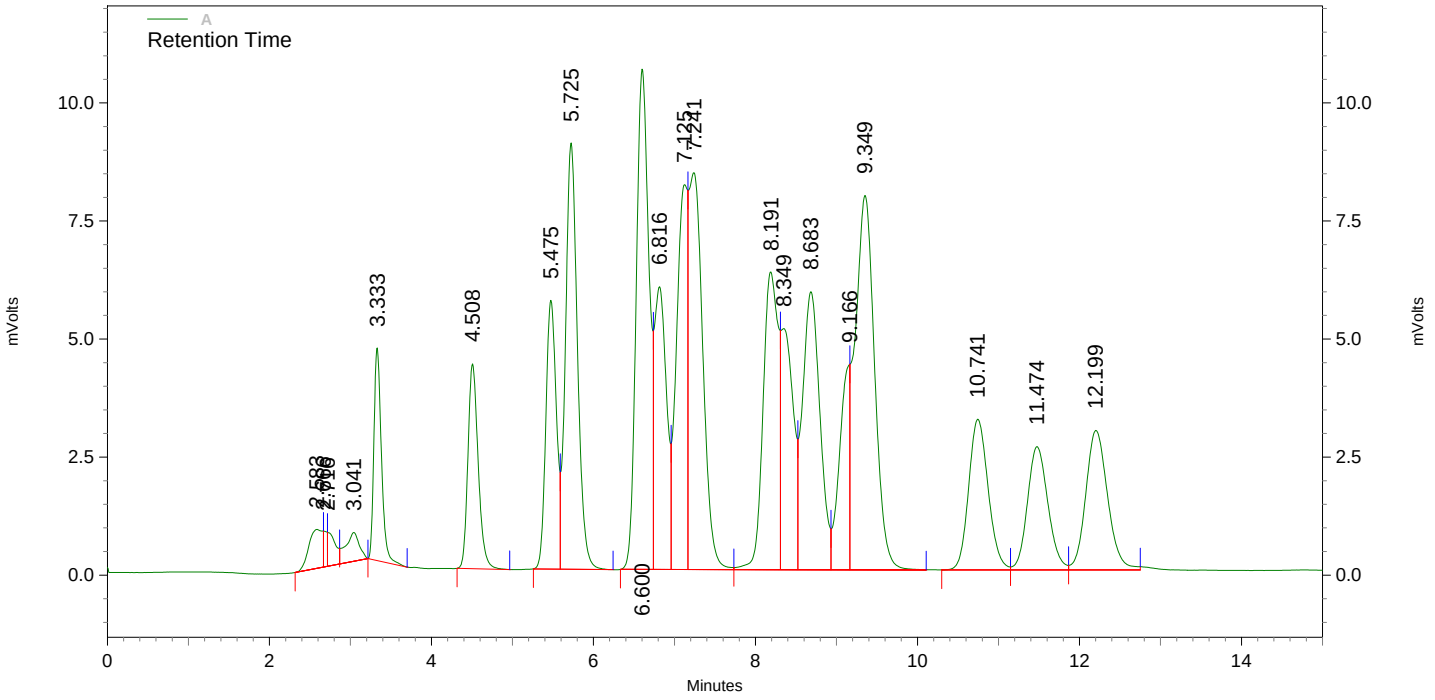
Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
HMX	0.500	0.488	2.419	20.000	Passed
RDX	0.500	0.490	1.929	20.000	Passed
12-DNB (SSTD)	100.000	102.333	2.333	20.000	Passed
135-TNB	0.500	0.483	3.479	20.000	Passed
13-DNB	0.500	0.502	0.304	20.000	Passed
TETRYL	0.500	0.489	2.278	20.000	Passed
35-DNA	0.500	0.458	8.497	20.000	Passed
NB	0.500	0.498	0.387	20.000	Passed
246-TNT	0.500	0.474	5.118	20.000	Passed
4-AM-26-DNT	0.500	0.552	10.472	20.000	Passed
2-AM-46-DNT	0.500	0.484	3.258	20.000	Passed
2-NT	0.500	0.503	0.575	20.000	Passed
4-NT	0.500	0.503	0.685	20.000	Passed
3-NT	0.500	0.505	0.919	20.000	Passed

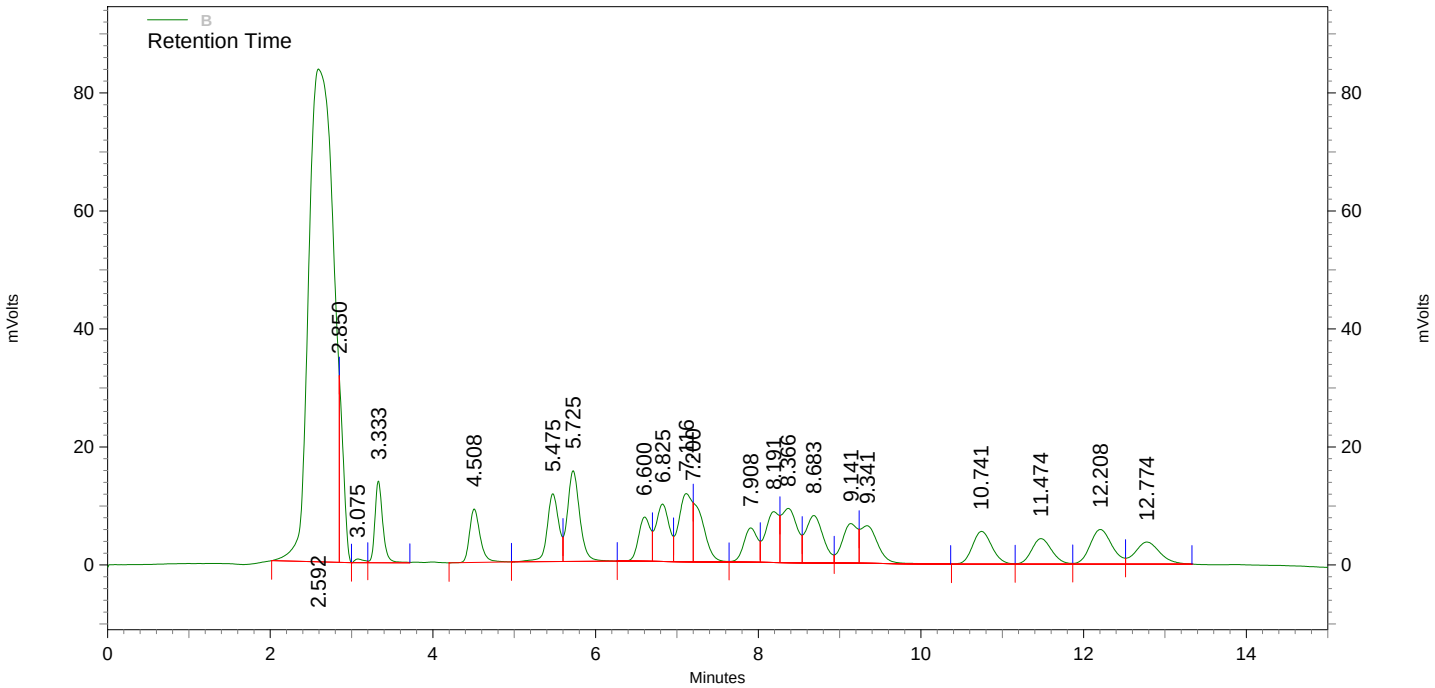
B

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
NG	1.000	1.094	9.380	20.000	Passed
26-DNT	0.500	0.534	6.831	20.000	Passed
24-DNT	0.500	0.499	0.173	20.000	Passed
PETN	1.000	1.107	10.688	20.000	Passed

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\100815EXP-PRIMARY\002.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\082415expic-primary\100815exp-primary.met
Sample ID: 8330 CCV EXP 5623
Acquired: Oct 08, 2015 14:34:09
Data Summary: {Data Description}





A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX	3.333	29132	**0.488**
RDX	4.508	38265	**0.490**
12-DNB (SSTD)	5.475	51382	**102.333**
135-TNB	5.725	92330	**0.483**
13-DNB	6.600	117153	**0.502**
TETRYL	6.816	61464	**0.489**
35-DNA	7.125	75970	**0.458**
NB	7.241	102098	**0.498**
246-TNT	8.191	81966	**0.474**
4-AM-26-DNT	8.349	54828	**0.552**
2-AM-46-DNT	8.683	88376	**0.484**
2-NT	10.741	53492	**0.503**
4-NT	11.474	45911	**0.503**
3-NT	12.199	55475	**0.505**

B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG	7.908	67962	**1.094**
26-DNT	9.141	87638	**0.534**
24-DNT	9.341	94455	**0.499**
PETN	12.774	78466	**1.107**

QC Check Standard Report

Sequence : C:\Instarch\HPLC 2\Sequences\8330A_B\100815exp-primary.seq
User : red
Printed : Oct 09, 2015 10:12:34

File	Sample ID	Acquired
C:\Instarch\HPLC 2\Data\100815EXP-PRIMARY\012.dat	8330 CCV EXP 5623	Oct 09, 2015 10:12:34

A

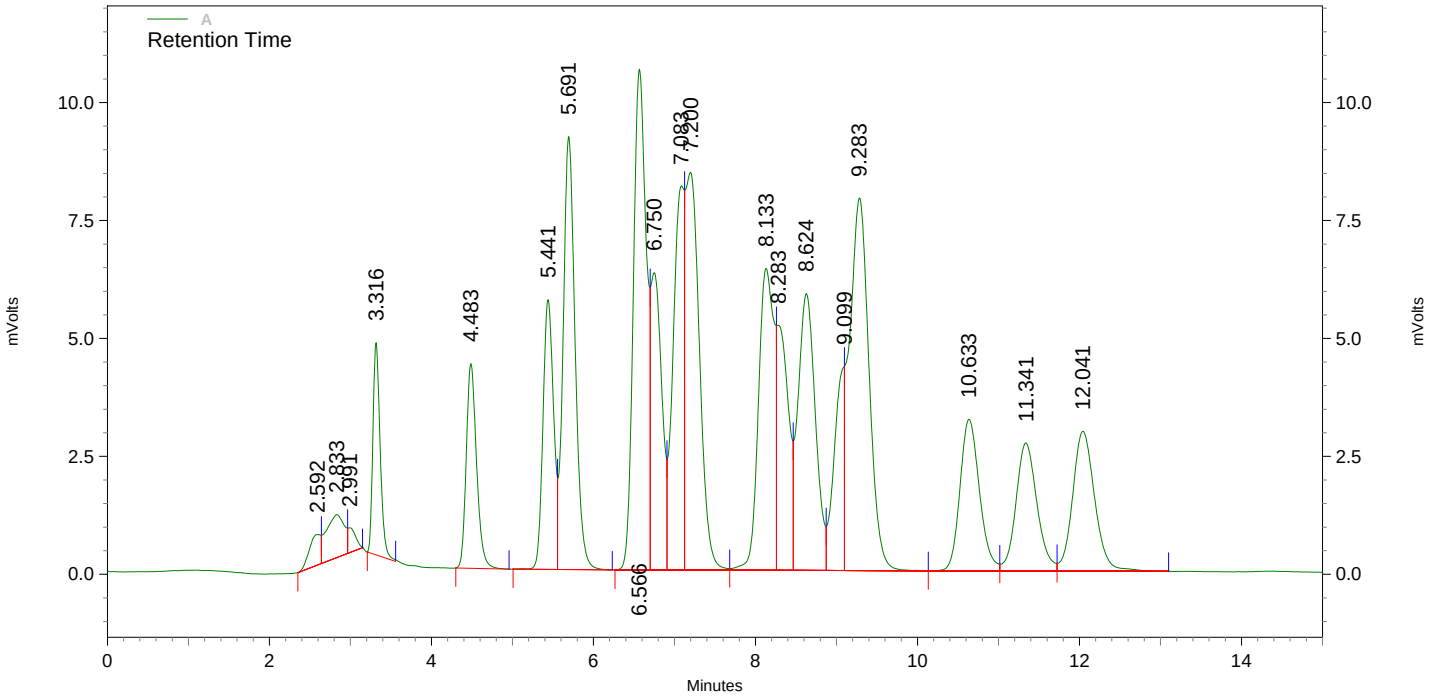
Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
HMX	0.500	0.468	6.325	20.000	Passed
RDX	0.500	0.491	1.720	20.000	Passed
12-DNB (SSTD)	100.000	103.444	3.444	20.000	Passed
135-TNB	0.500	0.494	1.140	20.000	Passed
13-DNB	0.500	0.508	1.594	20.000	Passed
TETRYL	0.500	0.479	4.164	20.000	Passed
35-DNA	0.500	0.458	8.368	20.000	Passed
NB	0.500	0.502	0.366	20.000	Passed
246-TNT	0.500	0.498	0.463	20.000	Passed
4-AM-26-DNT	0.500	0.531	6.206	20.000	Passed
2-AM-46-DNT	0.500	0.484	3.163	20.000	Passed
2-NT	0.500	0.505	0.963	20.000	Passed
4-NT	0.500	0.538	7.515	20.000	Passed
3-NT	0.500	0.511	2.295	20.000	Passed

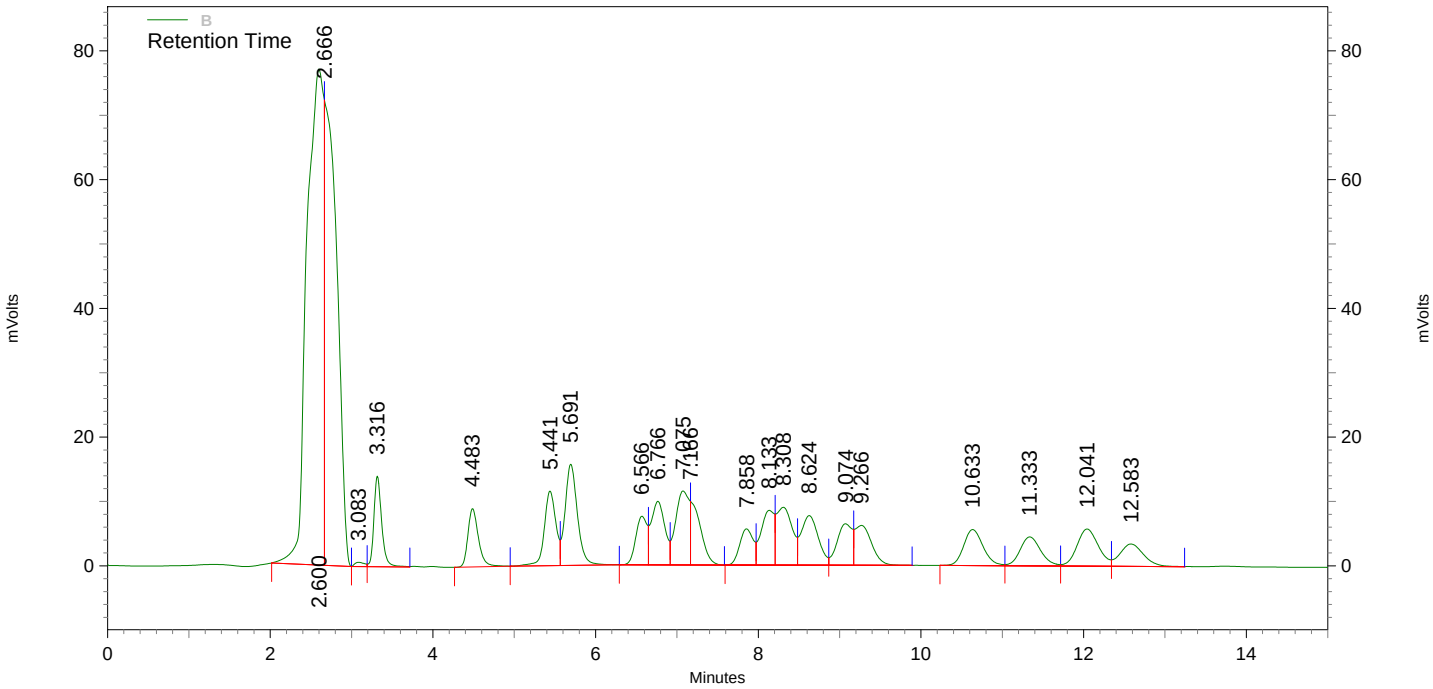
B

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
NG	1.000	1.050	5.047	20.000	Passed
26-DNT	0.500	0.506	1.164	20.000	Passed
24-DNT	0.500	0.465	6.935	20.000	Passed
PETN	1.000	0.982	1.786	20.000	Passed

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\100815EXP-PRIMARY\012.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\082415expic-primary\100815exp-primary.met
Sample ID: 8330 CCV EXP 5623
Acquired: Oct 08, 2015 17:53:30
Data Summary: {Data Description}





A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX	3.316	27988	**0.468**
RDX	4.483	38346	**0.491**
12-DNB (SSTD)	5.441	51933	**103.444**
135-TNB	5.691	94545	**0.494**
13-DNB	6.566	118640	**0.508**
TETRYL	6.750	60289	**0.479**
35-DNA	7.083	76074	**0.458**
NB	7.200	102869	**0.502**
246-TNT	8.133	85976	**0.498**
4-AM-26-DNT	8.283	52779	**0.531**
2-AM-46-DNT	8.624	88462	**0.484**
2-NT	10.633	53697	**0.505**
4-NT	11.341	49005	**0.538**
3-NT	12.041	56227	**0.511**

B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG	7.858	65325	**1.050**
26-DNT	9.074	83032	**0.506**
24-DNT	9.266	88125	**0.465**
PETN	12.583	69710	**0.982**

QC Check Standard Report

Sequence : C:\Instarch\HPLC 2\Sequences\8330A_B\101315exp-confirm.seq
User : red
Printed : Oct 14, 2015 09:11:06

File	Sample ID	Acquired
C:\Instarch\HPLC 2\Data\101315EXP-confirm\002.dat	8330 CCV EXP 5625	Oct 14, 2015 09:11:05

A

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
HMX-confirm	0.500	0.444	11.193	20.000	Passed
RDX-confirm	0.500	0.452	9.680	20.000	Passed
NB-confirm	0.500	0.564	12.821	20.000	Passed
12-DNB (SSTD)-confirm	100.000	91.656	8.344	20.000	Passed
4-AM-26-DNT-conf.	0.500	0.429	14.140	20.000	Passed
3,5-DNA-confirm	0.500	0.449	10.145	20.000	Passed
2-NT-confirm	0.500	0.544	8.881	20.000	Passed
2-AM-46-DNT-conf.	0.500	0.440	11.958	20.000	Passed
3-NT-confirm	0.500	0.524	4.706	20.000	Passed
4-NT-confirm	0.500	0.503	0.632	20.000	Passed
26-DNT-confirm	0.500	0.463	7.366	20.000	Passed
13-DNB-confirm	0.500	0.438	12.445	20.000	Passed
TETRYL-confirm	0.500	0.421	15.745	20.000	Passed
24-DNT-confirm	0.500	0.443	11.371	20.000	Passed
135-TNB-confirm	0.500	0.456	8.784	20.000	Passed
246-TNT-confirm	0.500	0.400	19.972	20.000	Passed

B

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
NG-confirm	1.000	0.827	17.260	20.000	Passed
PETN-confirm	1.000	0.868	13.193	20.000	Passed

After Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\101315EXP-confirm\002.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\091715expic-confirm\101315exp-confirm.met
Sample ID: 8330 CCV EXP 5625
Acquired: Oct 13, 2015 15:29:50
Data Summary: Reason #3, #4 applies to data. RED 10/14/2015

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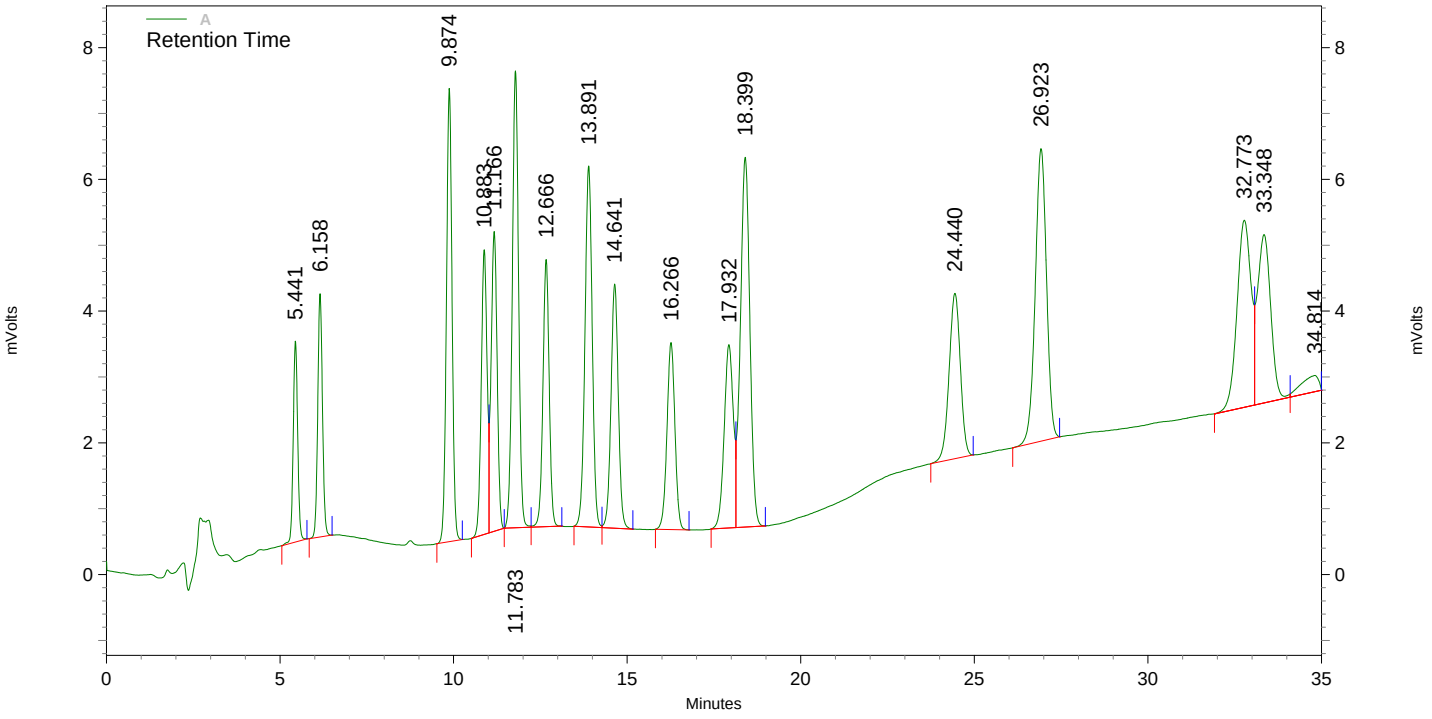
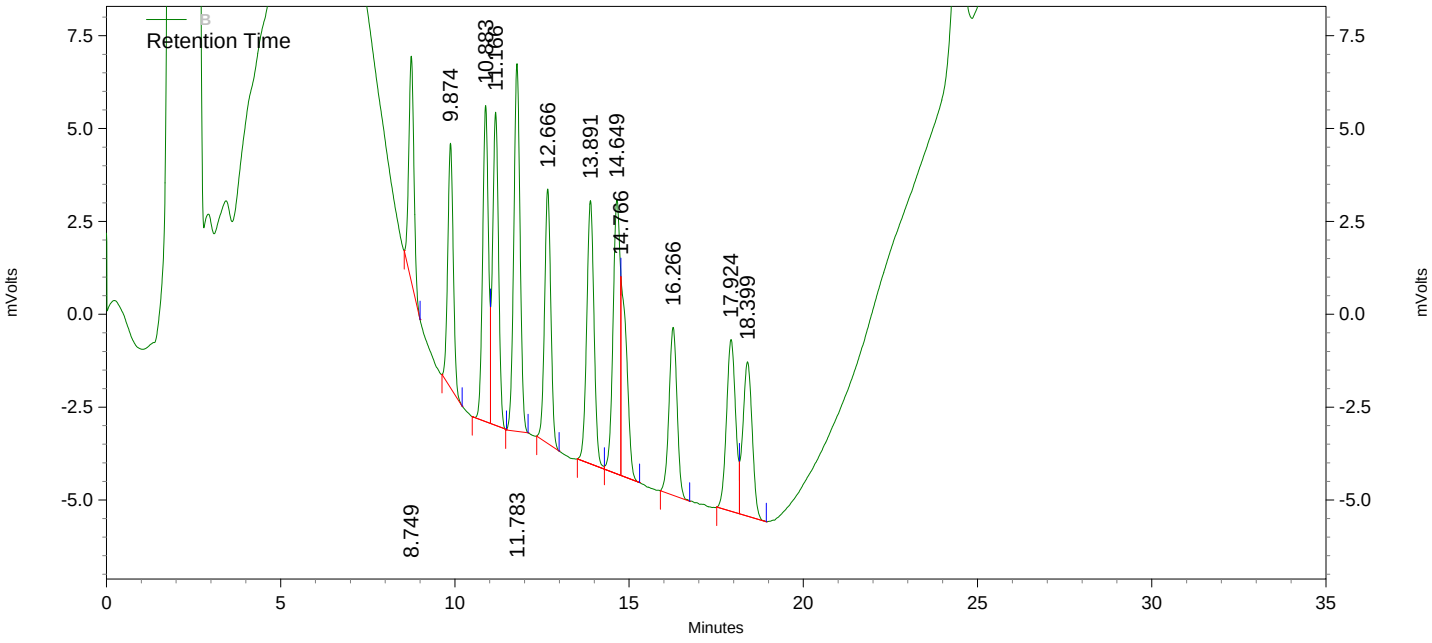
10/19/2015





8330 CCV EXP 5625

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm	5.441	27233	**0.444**
RDX-confirm	6.158	34886	**0.452**
NB-confirm	9.874	76899	**0.564**
12-DNB (SSTD)-confirm	10.883	50687	**91.656**
4-AM-26-DNT-conf.	11.166	53879	**0.429**
3,5-DNA-confirm	11.783	87259	**0.449**
2-NT-confirm	12.666	51075	**0.544**
2-AM-46-DNT-conf.	13.891	79655	**0.440**
3-NT-confirm	14.641	54234	**0.524**
4-NT-confirm	16.266	45524	**0.503**
26-DNT-confirm	17.932	50903	**0.463**
13-DNB-confirm	18.399	107054	**0.438**
TETRYL-confirm	24.440	56502	**0.421**
24-DNT-confirm	26.923	100054	**0.443**
135-TNB-confirm	32.773	79898	**0.456**
246-TNT-confirm	33.348	68112	**0.400**

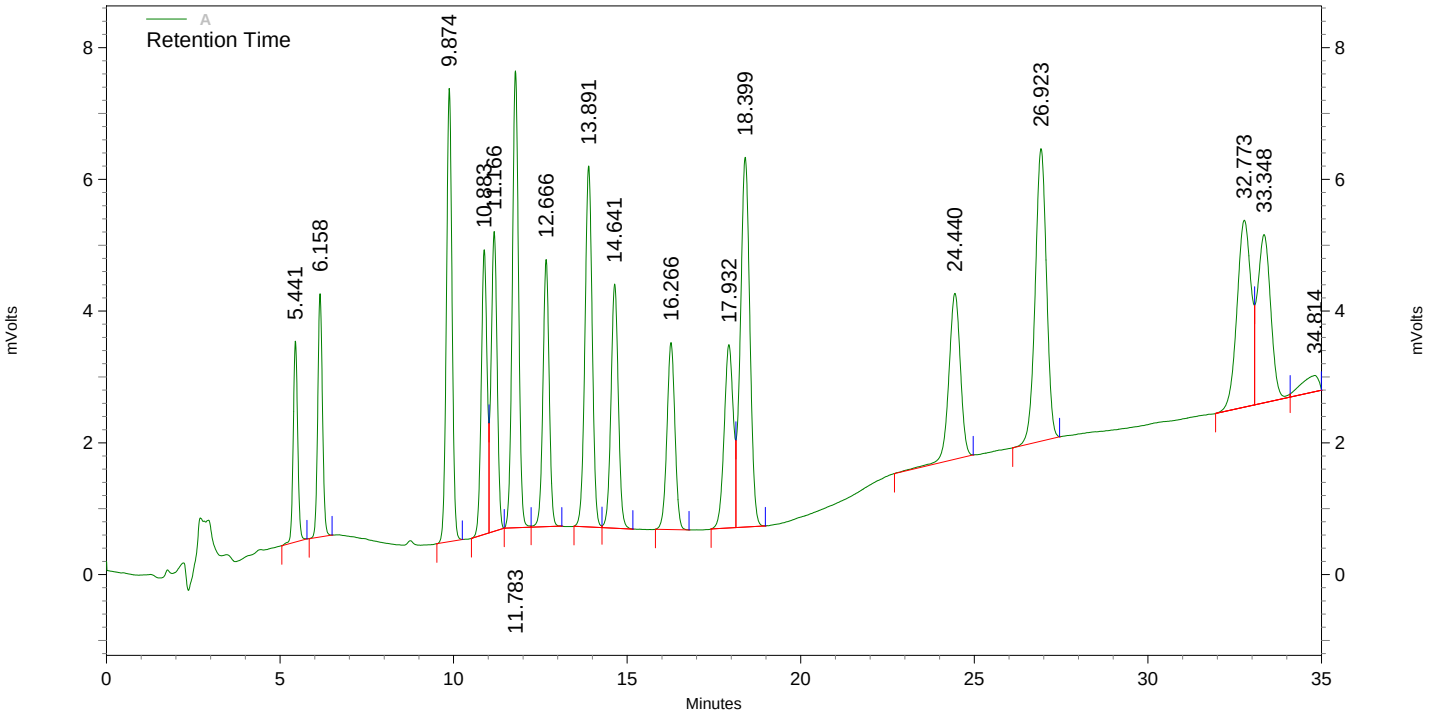
B Results

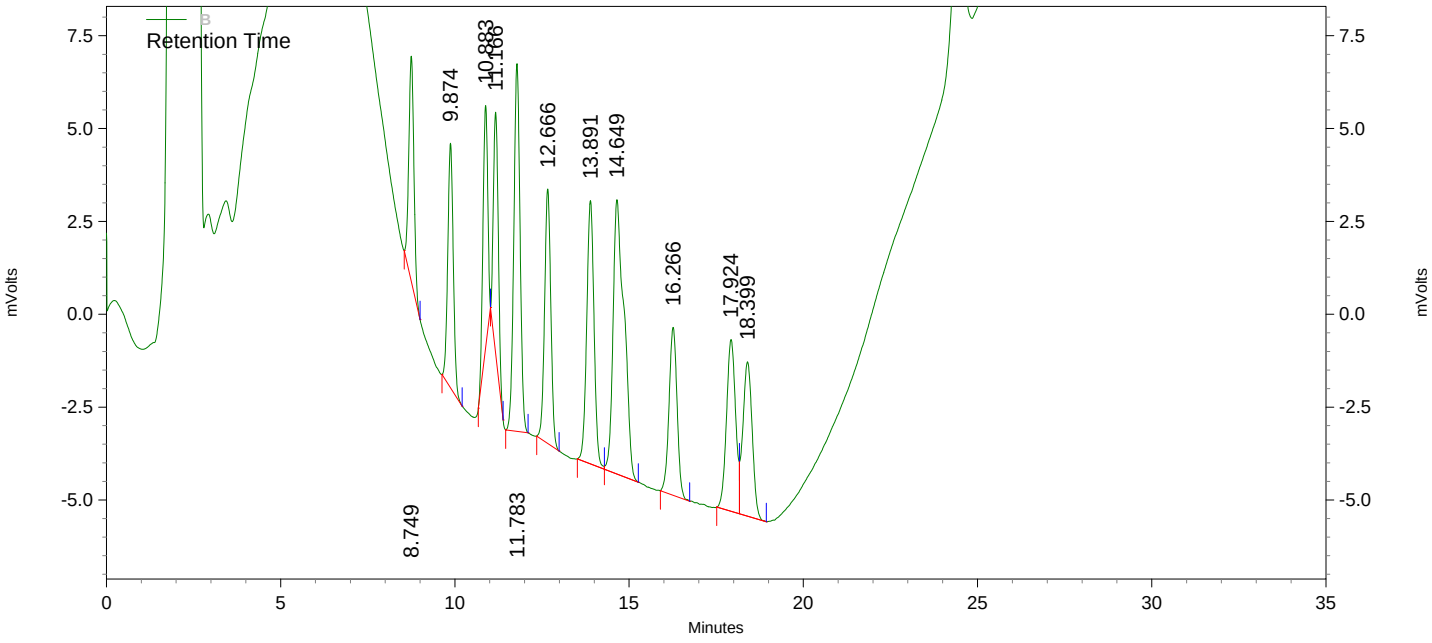
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm	8.749	61866	**0.827**
PETN-confirm	14.766	60937	**0.868**

Before Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\101315EXP-confirm\002.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\091715expic-confirm\101315exp-confirm.met
Sample ID: 8330 CCV EXP 5625
Acquired: Oct 13, 2015 15:29:50
Data Summary: Reason #3, #4 applies to data. RED 10/14/2015





8330 CCV EXP 5625

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm	5.441	27233	**0.444**
RDX-confirm	6.158	34886	**0.452**
NB-confirm	9.874	76899	**0.564**
12-DNB (SSTD)-confirm	10.883	50687	**91.656**
4-AM-26-DNT-conf.	11.166	53879	**0.429**
3,5-DNA-confirm	11.783	87259	**0.449**
2-NT-confirm	12.666	51075	**0.544**
2-AM-46-DNT-conf.	13.891	79655	**0.440**
3-NT-confirm	14.641	54234	**0.524**
4-NT-confirm	16.266	45524	**0.503**
26-DNT-confirm	17.932	50903	**0.463**
13-DNB-confirm	18.399	107054	**0.438**
TETRYL-confirm	24.440	57907	**0.432**
24-DNT-confirm	26.923	100054	**0.443**
135-TNB-confirm	32.773	79723	**0.455**
246-TNT-confirm	33.348	68024	**0.400**

B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm	8.749	61866	**0.827**
PETN-confirm	14.649	162540	**2.352**

QC Check Standard Report

Sequence : C:\Instarch\HPLC 2\Sequences\8330A_B\101315exp-confirm.seq
User : red
Printed : Oct 14, 2015 09:11:48

File	Sample ID	Acquired
C:\Instarch\HPLC 2\Data\101315EXP-confirm\011.dat	8330 CCV EXP 5625	Oct 14, 2015 09:11:48

A

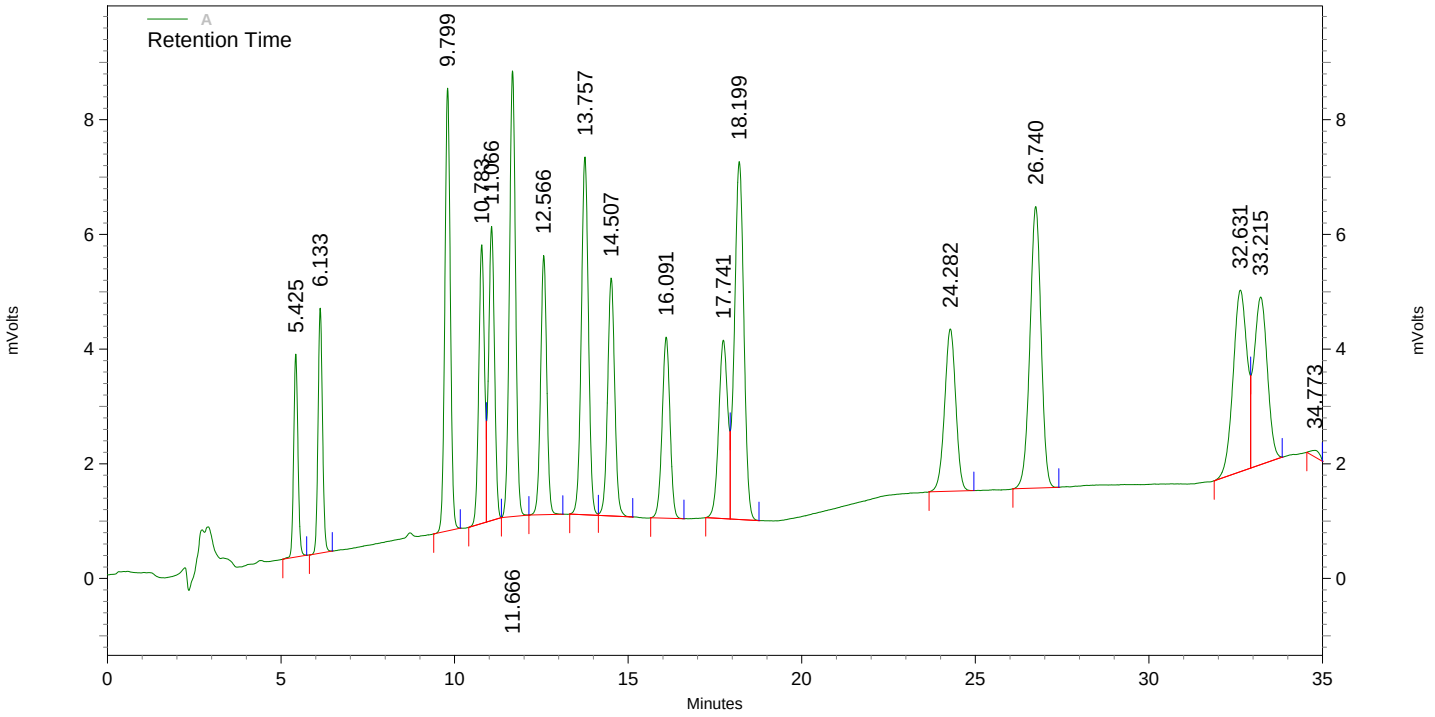
Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
HMX-confirm	0.500	0.493	1.311	20.000	Passed
RDX-confirm	0.500	0.497	0.534	20.000	Passed
NB-confirm	0.500	0.615	23.059	20.000	FAILED
12-DNB (SSTD)-confirm	100.000	99.605	0.395	20.000	Passed
4-AM-26-DNT-conf.	0.500	0.482	3.638	20.000	Passed
3,5-DNA-confirm	0.500	0.492	1.594	20.000	Passed
2-NT-confirm	0.500	0.594	18.715	20.000	Passed
2-AM-46-DNT-conf.	0.500	0.489	2.230	20.000	Passed
3-NT-confirm	0.500	0.573	14.577	20.000	Passed
4-NT-confirm	0.500	0.548	9.620	20.000	Passed
26-DNT-confirm	0.500	0.512	2.499	20.000	Passed
13-DNB-confirm	0.500	0.478	4.382	20.000	Passed
TETRYL-confirm	0.500	0.472	5.607	20.000	Passed
24-DNT-confirm	0.500	0.487	2.682	20.000	Passed
135-TNB-confirm	0.500	0.505	0.971	20.000	Passed
246-TNT-confirm	0.500	0.463	7.403	20.000	Passed

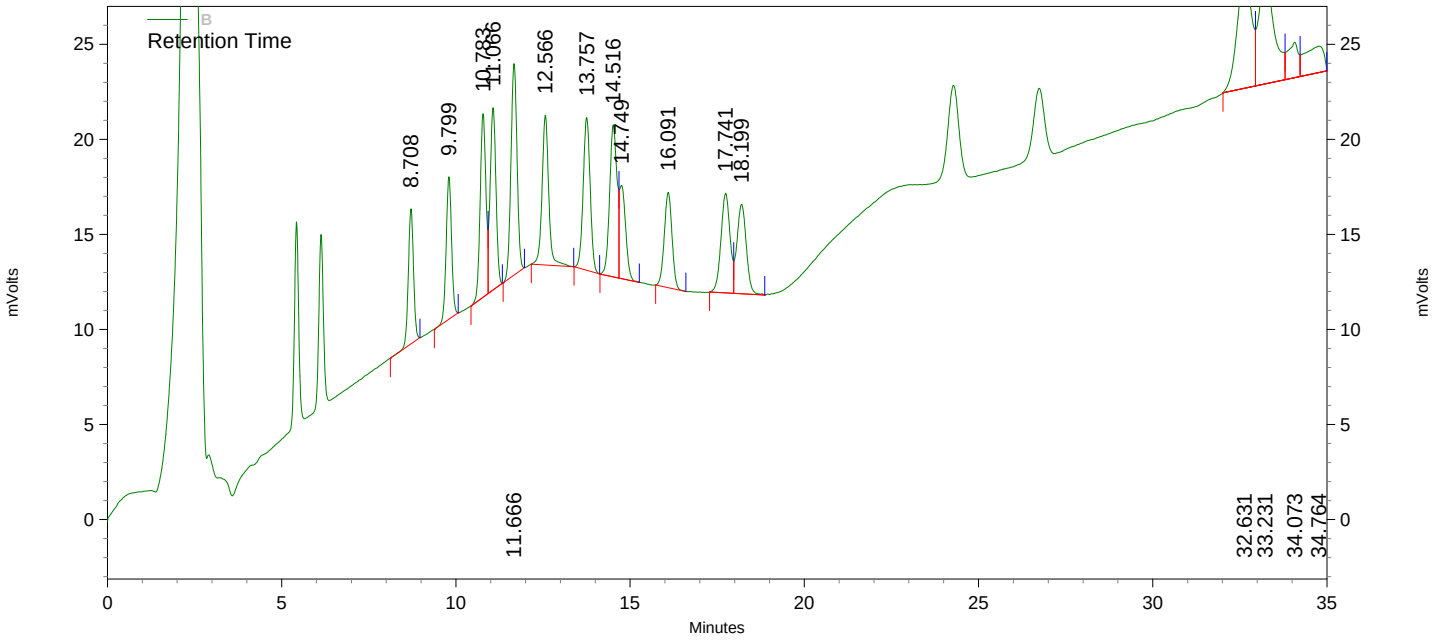
B

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
NG-confirm	1.000	0.987	1.321	20.000	Passed
PETN-confirm	1.000	0.876	12.411	20.000	Passed

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\101315EXP-confirm\011.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\091715expic-confirm\101315exp-confirm.met
Sample ID: 8330 CCV EXP 5625
Acquired: Oct 13, 2015 21:27:47
Data Summary: {Data Description}





8330 CCV EXP 5625

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm	5.425	30216	**0.493**
RDX-confirm	6.133	38377	**0.497**
NB-confirm	9.799	83865	**0.615**
12-DNB (SSTD)-confirm	10.783	54995	**99.605**
4-AM-26-DNT-conf.	11.066	60359	**0.482**
3,5-DNA-confirm	11.666	95466	**0.492**
2-NT-confirm	12.566	55641	**0.594**
2-AM-46-DNT-conf.	13.757	88336	**0.489**
3-NT-confirm	14.507	59342	**0.573**
4-NT-confirm	16.091	49594	**0.548**
26-DNT-confirm	17.741	56235	**0.512**
13-DNB-confirm	18.199	116765	**0.478**
TETRYL-confirm	24.282	63169	**0.472**
24-DNT-confirm	26.740	109763	**0.487**
135-TNB-confirm	32.631	88296	**0.505**
246-TNT-confirm	33.215	78599	**0.463**

B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm	8.708	73722	**0.987**
PETN-confirm	14.749	61472	**0.876**

QC Check Standard Report

Sequence : C:\Instarch\HPLC 2\Sequences\MDTNX\100915MDTNX-primary.seq
User : RED
Printed : Oct 15, 2015 16:17:02

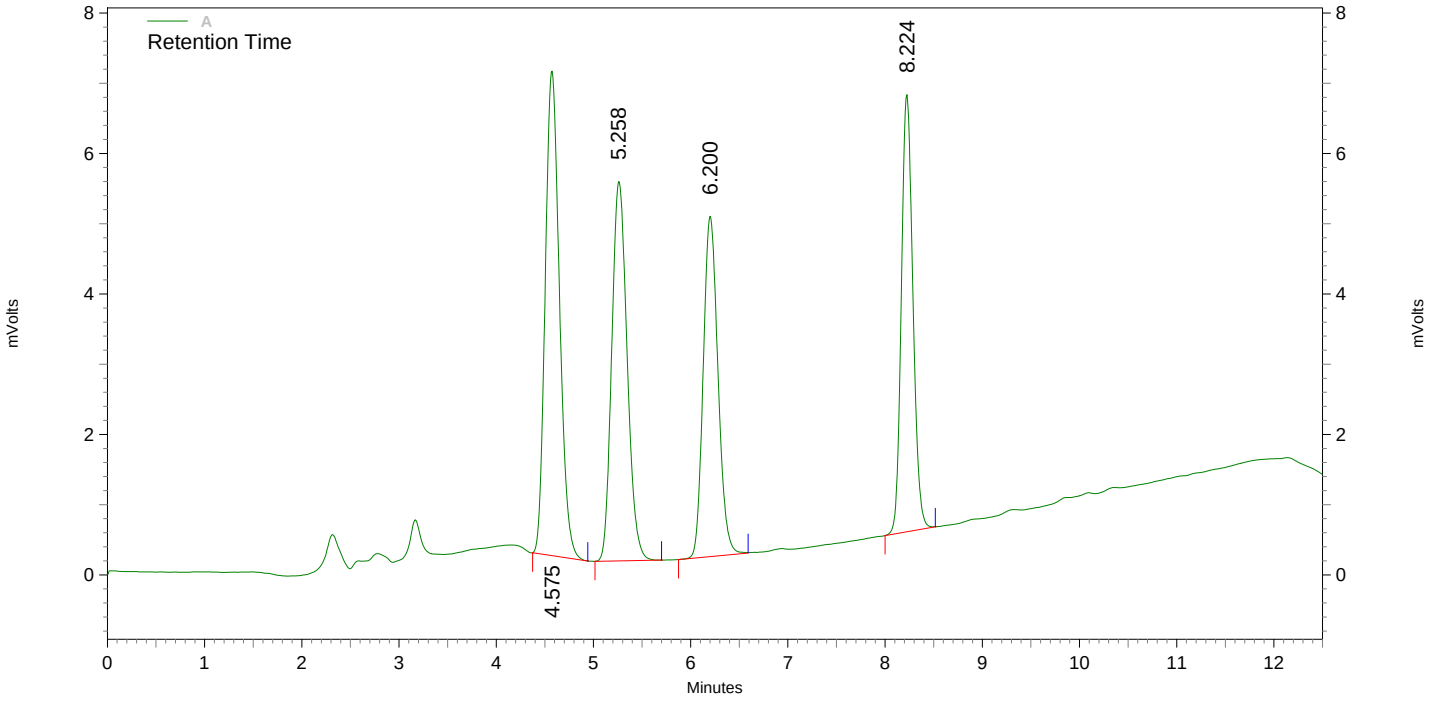
File	Sample ID	Acquired
C:\Instarch\HPLC 2\Data\100915MDTNX-PRIMARY\002.dat	MDTNX CCV EXP 5624	Oct 15, 2015 16:17:02

A

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
TNX	0.500	0.480	4.068	20.000	**Passed**
DNX	0.500	0.487	2.620	20.000	**Passed**
MNX	0.500	0.493	1.303	20.000	**Passed**
12-DNB (SSTD)	100.000	101.111	1.111	20.000	**Passed**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\100915MDTNX-PRIMARY\002.dat
User ID: RED
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\092915MDTNXic-primary\100915MTDNX-primary.met
Sample ID: MDTNX CCV EXP 5624
Acquired: Oct 09, 2015 10:11:16
Data Summary: {Data Description}



A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX	4.575	70063	**0.480**
DNX	5.258	59481	**0.487**
MNX	6.200	50980	**0.493**
12-DNB (SSTD)	8.224	51327	**101.111**

COMMENTS:

1. The results are reported using a UV/Vis detector set at 254 nm.

QC Check Standard Report

Sequence : C:\Instarch\HPLC 2\Sequences\MDTNX\100915MDTNX-primary.seq
User : RED
Printed : Oct 15, 2015 16:17:47

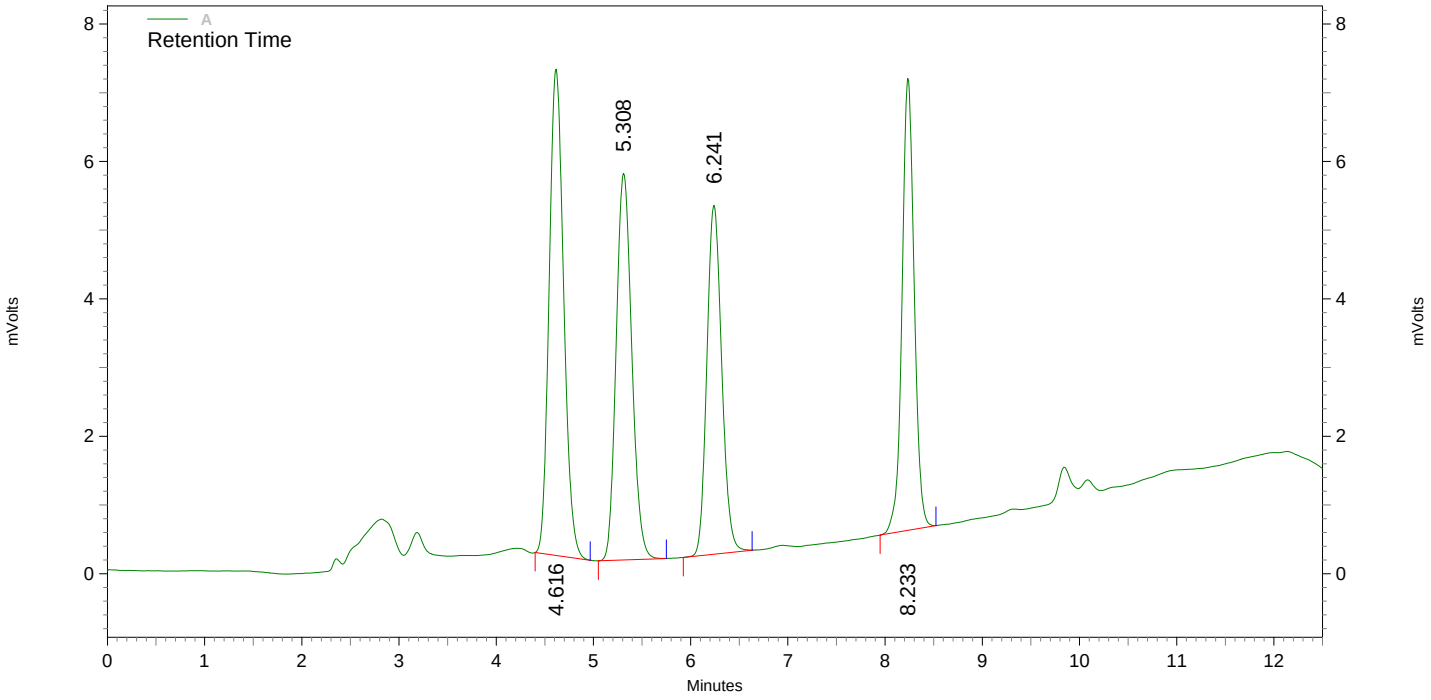
File	Sample ID	Acquired
C:\Instarch\HPLC 2\Data\100915MDTNX-PRIMARY\012.dat	MDTNX CCV EXP 5624	Oct 15, 2015 16:17:46

A

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
TNX	0.500	0.504	0.771	20.000	**Passed**
DNX	0.500	0.515	3.007	20.000	**Passed**
MNX	0.500	0.523	4.513	20.000	**Passed**
12-DNB (SSTD)	100.000	112.779	12.779	20.000	**Passed**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\100915MDTNX-PRIMARY\012.dat
User ID: RED
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\092915MDTNXic-primary\100915MTDNX-primary.met
Sample ID: MDTNX CCV EXP 5624
Acquired: Oct 09, 2015 12:48:20
Data Summary: {Data Description}



A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX	4.616	73559	**0.504**
DNX	5.308	62851	**0.515**
MNX	6.241	53919	**0.523**
12-DNB (SSTD)	8.233	57155	**112.779**

COMMENTS:

1. The results are reported using a UV/Vis detector set at 254 nm.

QC Check Standard Report

Sequence : C:\Instarch\HPLC 2\Sequences\MDTNX\101415MDTNX-confirm.seq
User : red
Printed : Oct 15, 2015 09:20:43

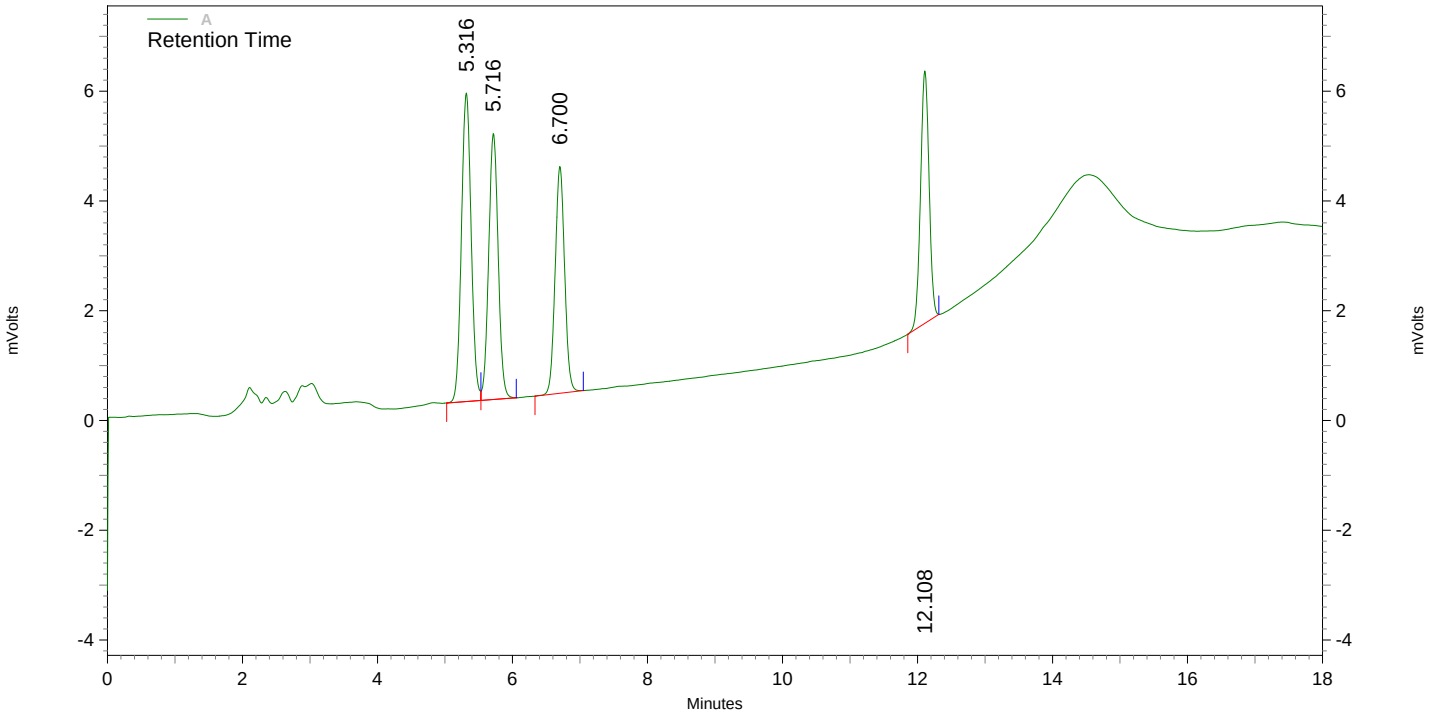
File	Sample ID	Acquired
C:\Instarch\HPLC 2\Data\101415MDTNX-confirm\002.dat	MDTNX CCV EXP 5626	Oct 15, 2015 09:20:43

A

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
TNX-confirm	0.500	0.476	4.765	20.000	Passed
DNX-confirm	0.500	0.480	4.054	20.000	Passed
MNX-confirm	0.500	0.482	3.506	20.000	Passed
12-DNB (SSTD)-confirm	100.000	97.365	2.635	20.000	Passed

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\101415MDTNX-confirm\002.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\093015MDTNXic-confirm\101415MDTNX-confirm.met
Sample ID: MDTNX CCV EXP 5626
Acquired: Oct 14, 2015 13:35:54
Data Summary: {Data Description}



MDTNX CCV EXP 5626

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX-confirm	5.316	56413	**0.476**
DNX-confirm	5.716	47614	**0.480**
MNX-confirm	6.700	40315	**0.482**
12-DNB (SSTD)-confirm	12.108	40381	**97.365**

QC Check Standard Report

Sequence : C:\Instarch\HPLC 2\Sequences\MDTNX\101415MDTNX-confirm.seq
User : red
Printed : Oct 15, 2015 09:21:40

File	Sample ID	Acquired
C:\Instarch\HPLC 2\Data\101415MDTNX-confirm\011.dat	MDTNX CCV EXP 5626	Oct 15, 2015 09:21:40

A

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
TNX-confirm	0.500	0.497	0.692	20.000	**Passed**
DNX-confirm	0.500	0.488	2.401	20.000	**Passed**
MNX-confirm	0.500	0.494	1.199	20.000	**Passed**
12-DNB (SSTD)-confirm	100.000	101.207	1.207	20.000	**Passed**

After Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\101415MDTNX-confirm\011.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\093015MDTNXic-confirm\101415MDTNX-confirm.met
Sample ID: MDTNX CCV EXP 5626
Acquired: Oct 14, 2015 16:38:30
Data Summary: Reason #1 applies to data. RED 10/15/2015

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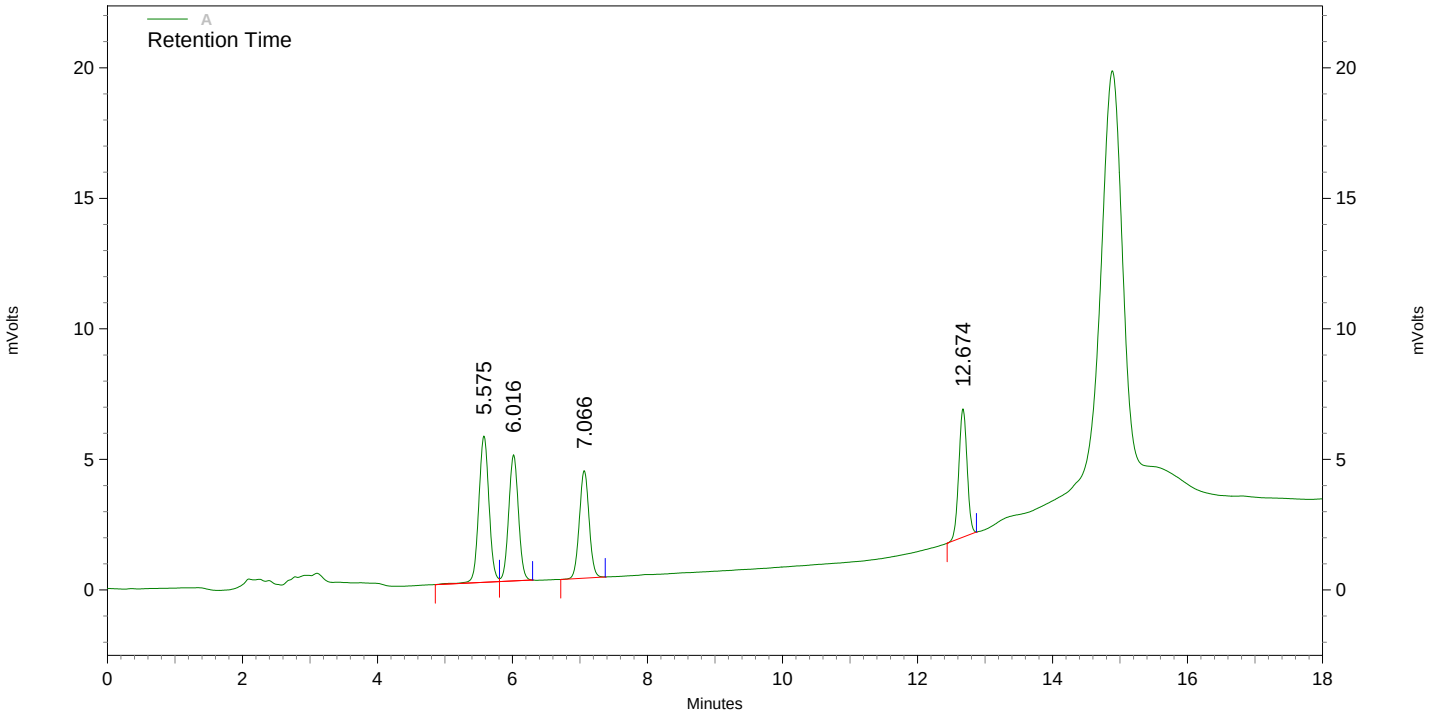
10/19/2015



MDTNX CCV EXP 5626

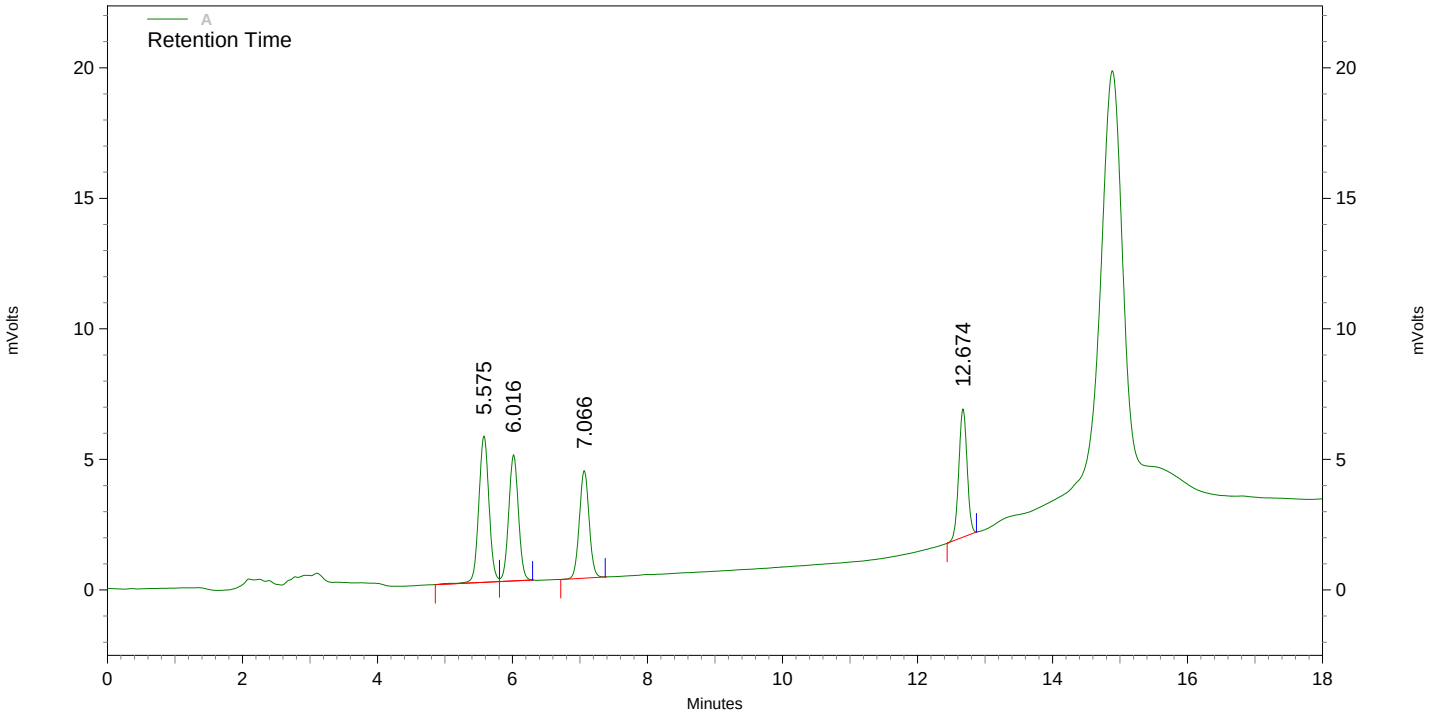
A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX-confirm	5.575	58777	**0.497**
DNX-confirm	6.016	48421	**0.488**
MNX-confirm	7.066	41261	**0.494**
12-DNB (SSTD)-confirm	12.674	41964	**101.207**

Before Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\101415MDTNX-confirm\011.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\093015MDTNXic-confirm\101415MDTNX-confirm.met
Sample ID: MDTNX CCV EXP 5626
Acquired: Oct 14, 2015 16:38:30
Data Summary: Reason #1 applies to data. RED 10/15/2015



MDTNX CCV EXP 5626

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX-confirm			**0.000 BDL**
DNX-confirm	5.575	58777	**0.594**
MNX-confirm	7.066	41261	**0.494**
12-DNB (SSTD)-confirm	12.674	41964	**101.207**

QC Check Standard Report

Sequence : C:\Instarch\HPLC 2\Sequences\MDTNX\101415MDTNX-confirm.seq
User : red
Printed : Oct 15, 2015 09:22:03

File	Sample ID	Acquired
C:\Instarch\HPLC 2\Data\101415MDTNX-confirm\013.dat	MDTNX CCV EXP 5626	Oct 15, 2015 09:22:03

A

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
TNX-confirm	0.500	0.484	3.244	20.000	**Passed**
DNX-confirm	0.500	0.477	4.594	20.000	**Passed**
MNX-confirm	0.500	0.480	3.996	20.000	**Passed**
12-DNB (SSTD)-confirm	100.000	97.518	2.482	20.000	**Passed**

After Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\101415MDTNX-confirm\013.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\093015MDTNXic-confirm\101415MDTNX-confirm.met
Sample ID: MDTNX CCV EXP 5626
Acquired: Oct 14, 2015 17:27:36
Data Summary: Reason #1 applies to data. RED 10/15/2015

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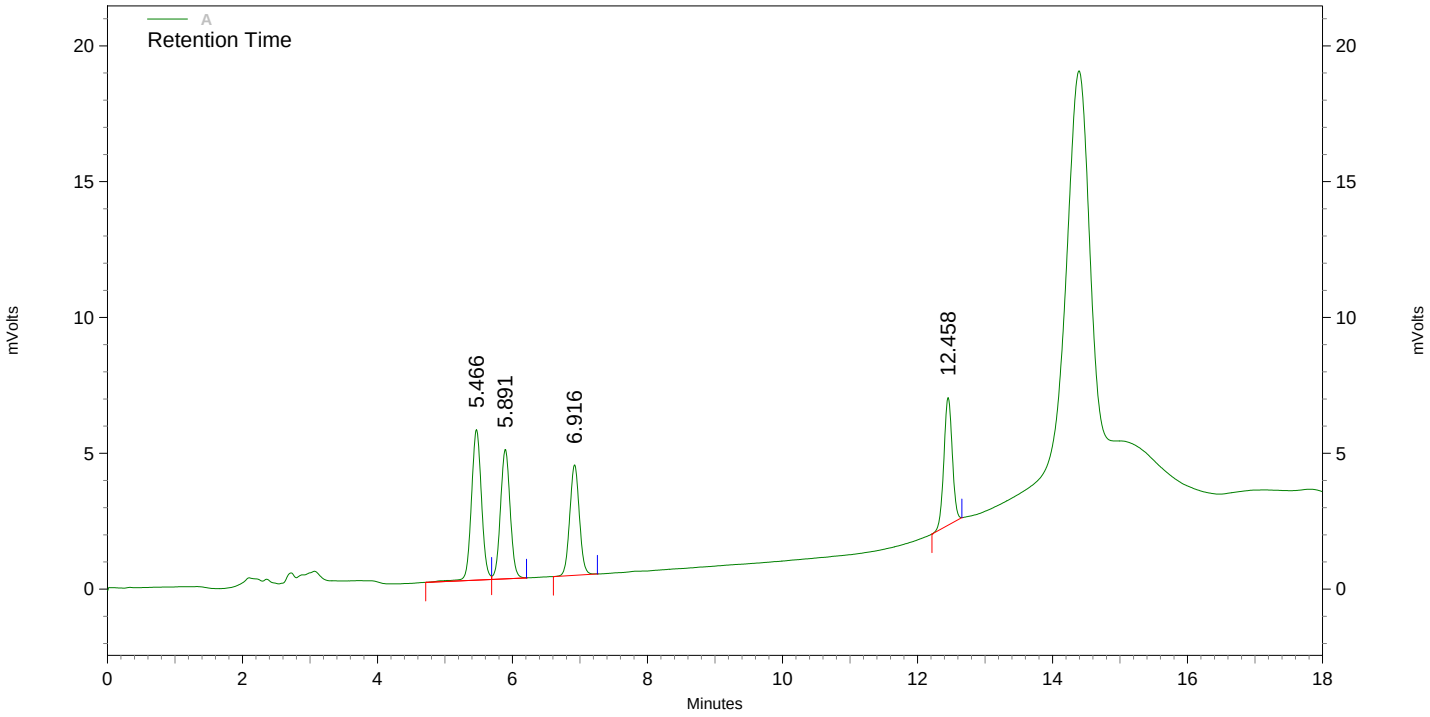
10/19/2015



MDTNX CCV EXP 5626

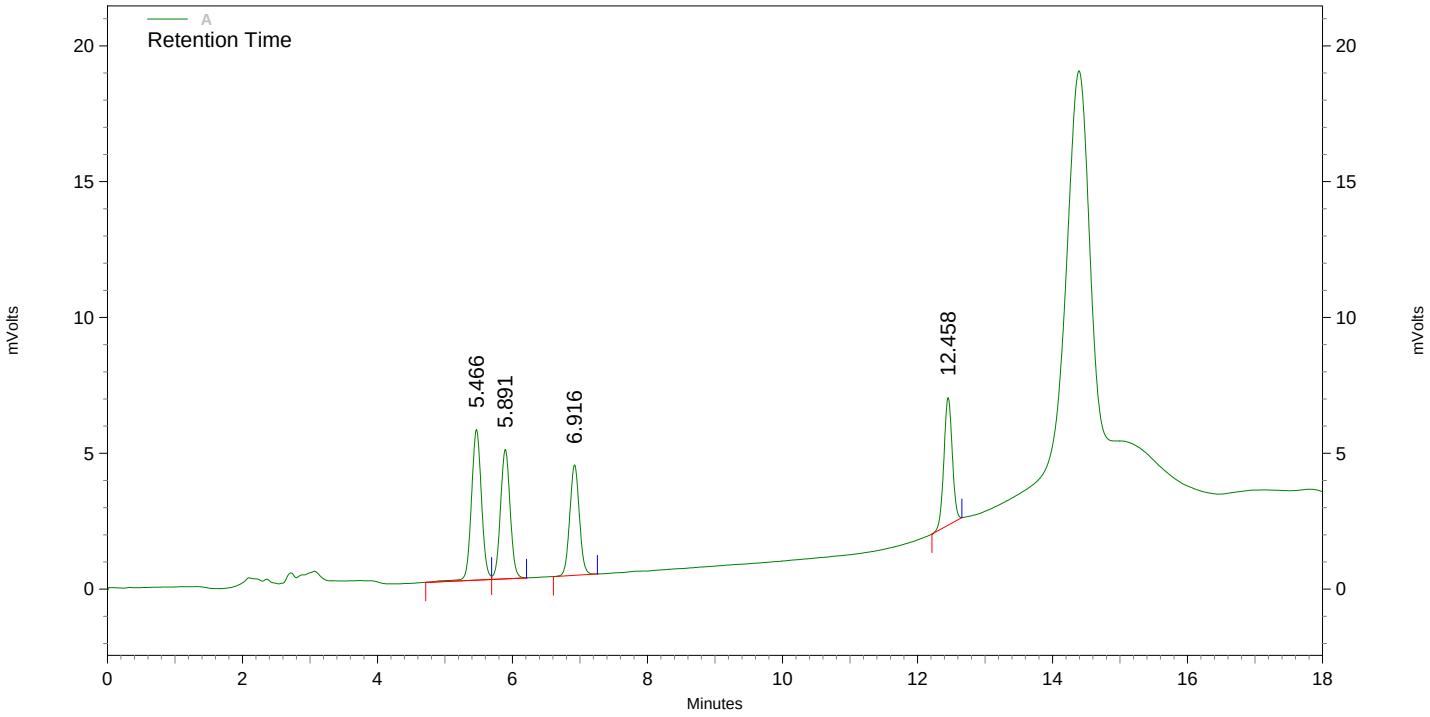
A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX-confirm	5.466	57296	**0.484**
DNX-confirm	5.891	47350	**0.477**
MNX-confirm	6.916	40114	**0.480**
12-DNB (SSTD)-confirm	12.458	40444	**97.518**

Before Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\101415MDTNX-confirm\013.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\093015MDTNXic-confirm\101415MDTNX-confirm.met
Sample ID: MDTNX CCV EXP 5626
Acquired: Oct 14, 2015 17:27:36
Data Summary: Reason #1 applies to data. RED 10/15/2015



MDTNX CCV EXP 5626

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX-confirm			**0.000 BDL**
DNX-confirm	5.466	57296	**0.579**
MNX-confirm	6.916	40114	**0.480**
12-DNB (SSTD)-confirm	12.458	40444	**97.518**

QC Check Standard Report

Sequence : C:\Instarch\HPLC 2\Sequences\MDTNX\101515MDTNX-primary.seq
User : RED
Printed : Oct 15, 2015 15:41:58

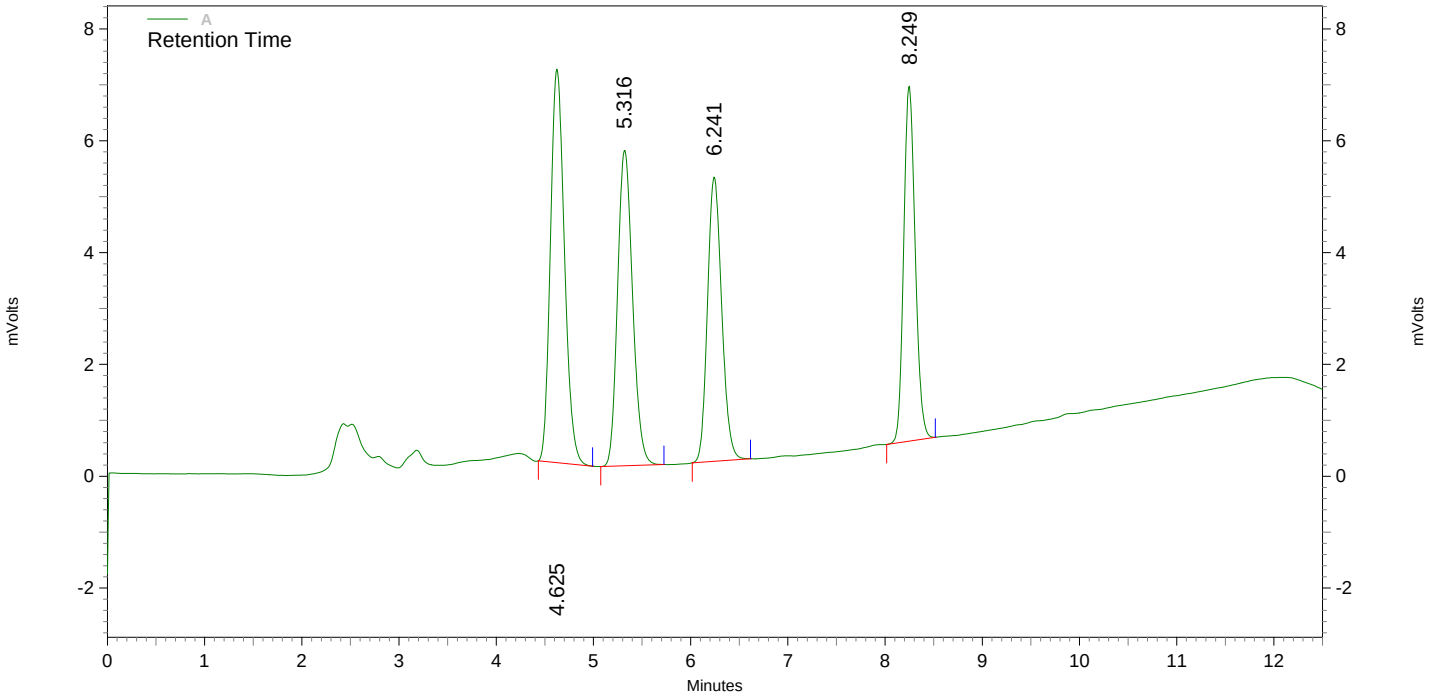
File	Sample ID	Acquired
C:\Instarch\HPLC 2\Data\101515MDTNX-primary\002.dat	MDTNX CCV EXP 5626	Oct 15, 2015 15:41:58

A

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
TNX	0.500	0.484	3.263	20.000	**Passed**
DNX	0.500	0.496	0.893	20.000	**Passed**
MNX	0.500	0.500	0.086	20.000	**Passed**
12-DNB (SSTD)	100.000	102.971	2.971	20.000	**Passed**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\101515MDTNX-primary\002.dat
User ID: RED
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\092915MDTNXic-primary\101515MDTNX-primary.met
Sample ID: MDTNX CCV EXP 5626
Acquired: Oct 15, 2015 09:50:22
Data Summary: {Data Description}



A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX	4.625	70645	**0.484**
DNX	5.316	60515	**0.496**
MNX	6.241	51682	**0.500**
12-DNB (SSTD)	8.249	52256	**102.971**

COMMENTS:

1. The results are reported using a UV/Vis detector set at 254 nm.

QC Check Standard Report

Sequence : C:\Instarch\HPLC 2\Sequences\MDTNX\101515MDTNX-primary.seq
User : RED
Printed : Oct 15, 2015 15:42:08

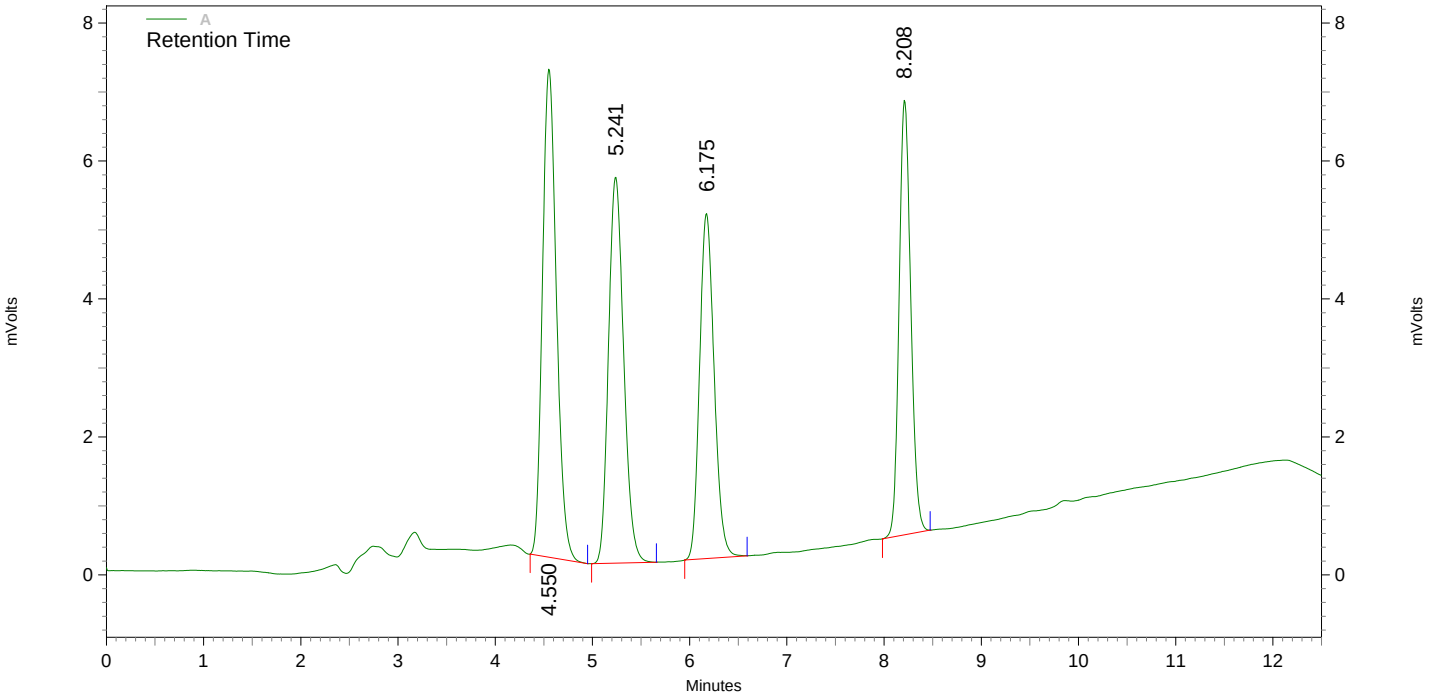
File	Sample ID	Acquired
C:\Instarch\HPLC 2\Data\101515MDTNX-primary\004.dat	MDTNX CCV EXP 5626	Oct 15, 2015 15:42:08

A

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
TNX	0.500	0.484	3.135	20.000	**Passed**
DNX	0.500	0.497	0.536	20.000	**Passed**
MNX	0.500	0.504	0.797	20.000	**Passed**
12-DNB (SSTD)	100.000	103.253	3.253	20.000	**Passed**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\101515MDTNX-primary\004.dat
User ID: RED
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\092915MDTNXic-primary\101515MDTNX-primary.met
Sample ID: MDTNX CCV EXP 5626
Acquired: Oct 15, 2015 10:57:41
Data Summary: {Data Description}



A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX	4.550	70737	**0.484**
DNX	5.241	60729	**0.497**
MNX	6.175	52041	**0.504**
12-DNB (SSTD)	8.208	52397	**103.253**

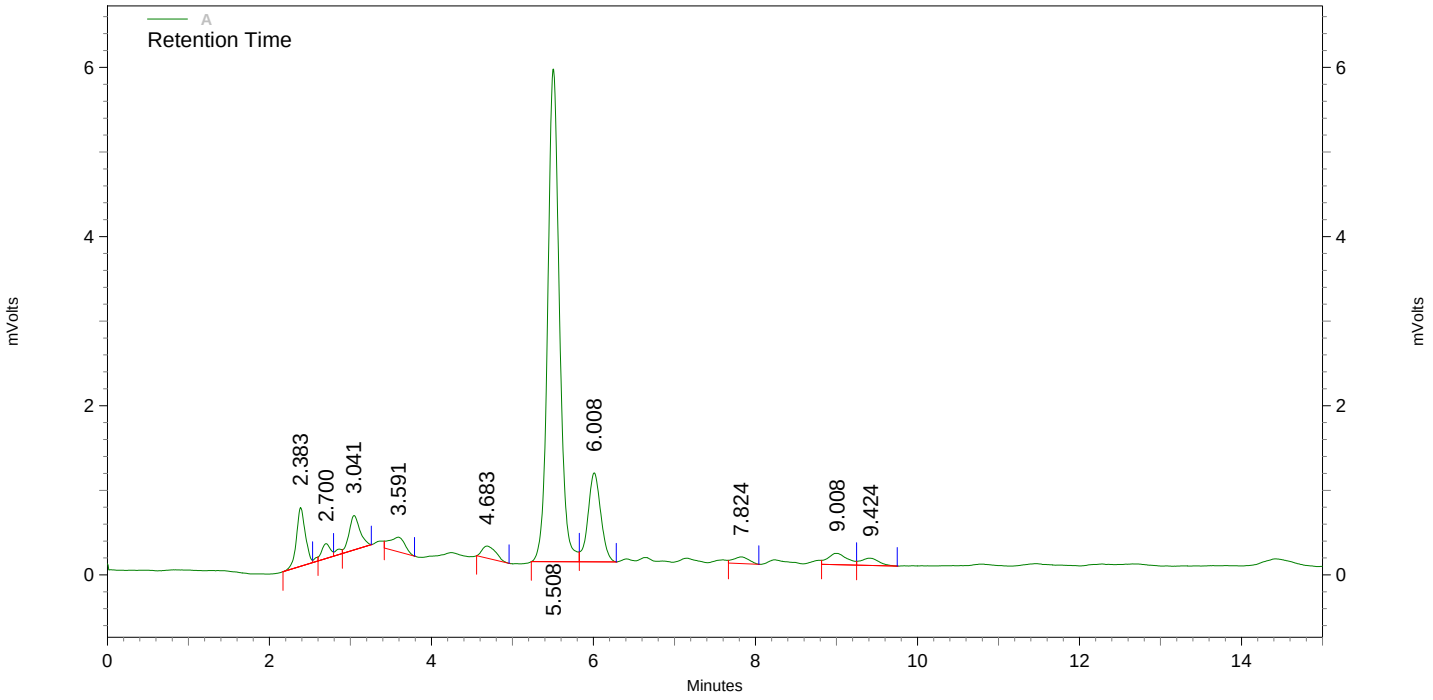
COMMENTS:

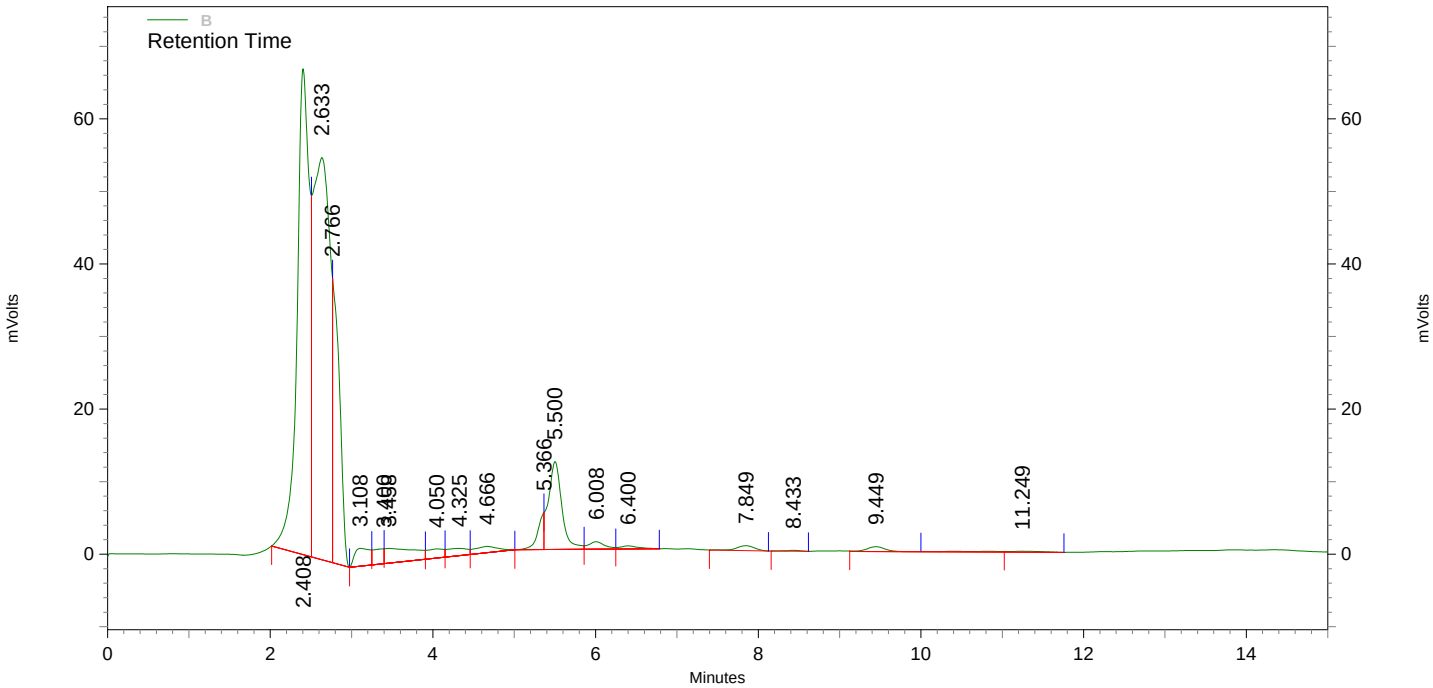
1. The results are reported using a UV/Vis detector set at 254 nm.

NITROAROMATICS ANALYSIS
QUALITY CONTROL
DOCUMENTS

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\100815EXP-PRIMARY\003.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\082415expic-primary\100815exp-primary.met
Sample ID: 119663,MBW,
Acquired: Oct 08, 2015 15:08:44
Data Summary: {Data Description}





A Results

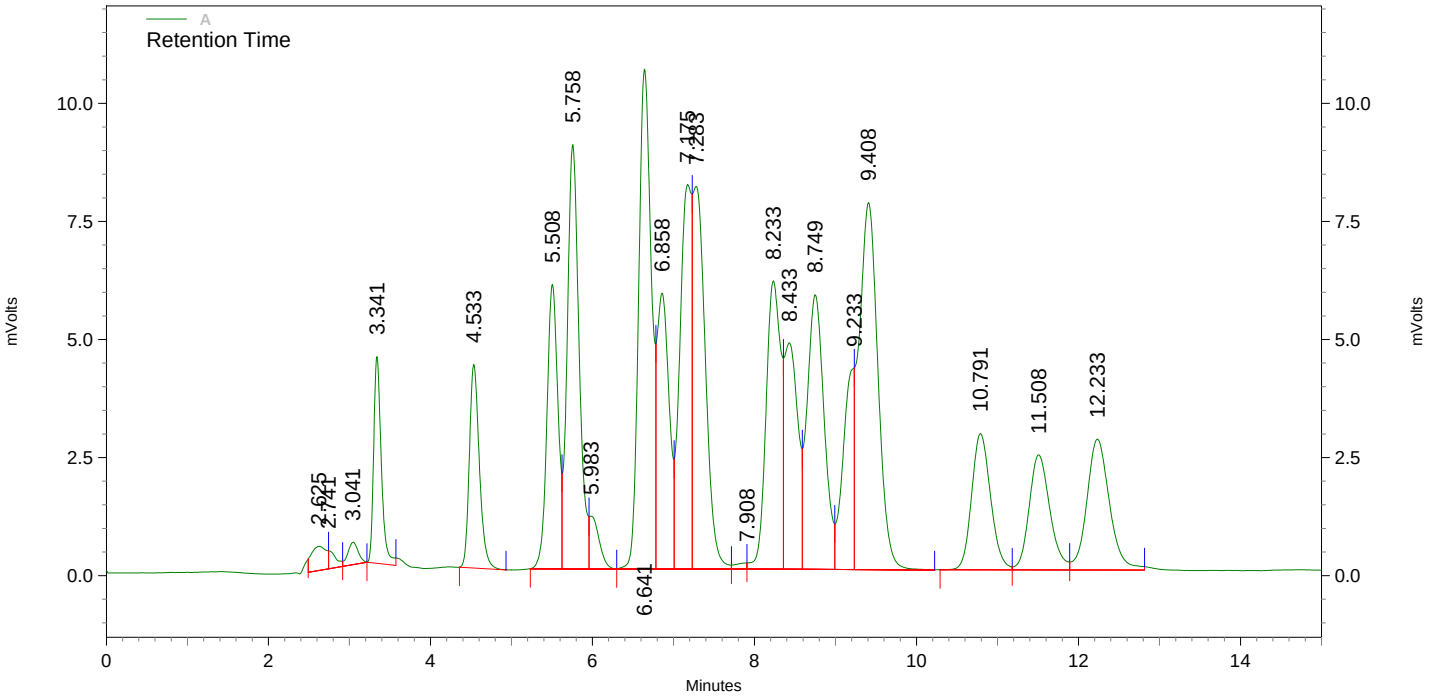
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX			**0.000 BDL**
RDX			**0.000 BDL**
12-DNB (SSTD)	5.508	58455	**116.593**
135-TNB			**0.000 BDL**
13-DNB			**0.000 BDL**
TETRYL			**0.000 BDL**
35-DNA			**0.000 BDL**
NB			**0.000 BDL**
246-TNT			**0.000 BDL**
4-AM-26-DNT			**0.000 BDL**
2-AM-46-DNT			**0.000 BDL**
2-NT			**0.000 BDL**
4-NT			**0.000 BDL**
3-NT			**0.000 BDL**

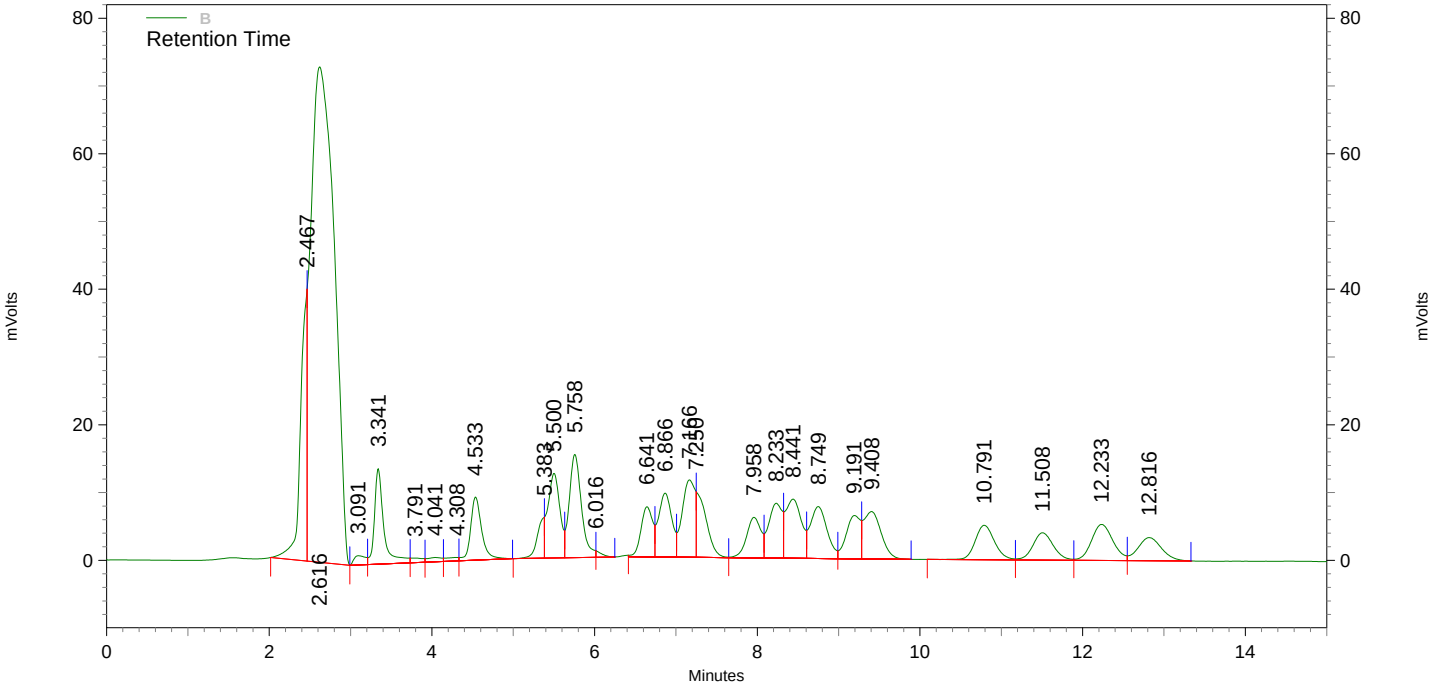
B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG	7.849	10289	**0.146**
26-DNT			**0.000 BDL**
24-DNT	9.449	11264	**0.055**
PETN			**0.000 BDL**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\100815EXP-PRIMARY\004.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\082415expic-primary\100815exp-primary.met
Sample ID: 119663,LCSW,
Acquired: Oct 08, 2015 15:27:02
Data Summary: {Data Description}





A Results

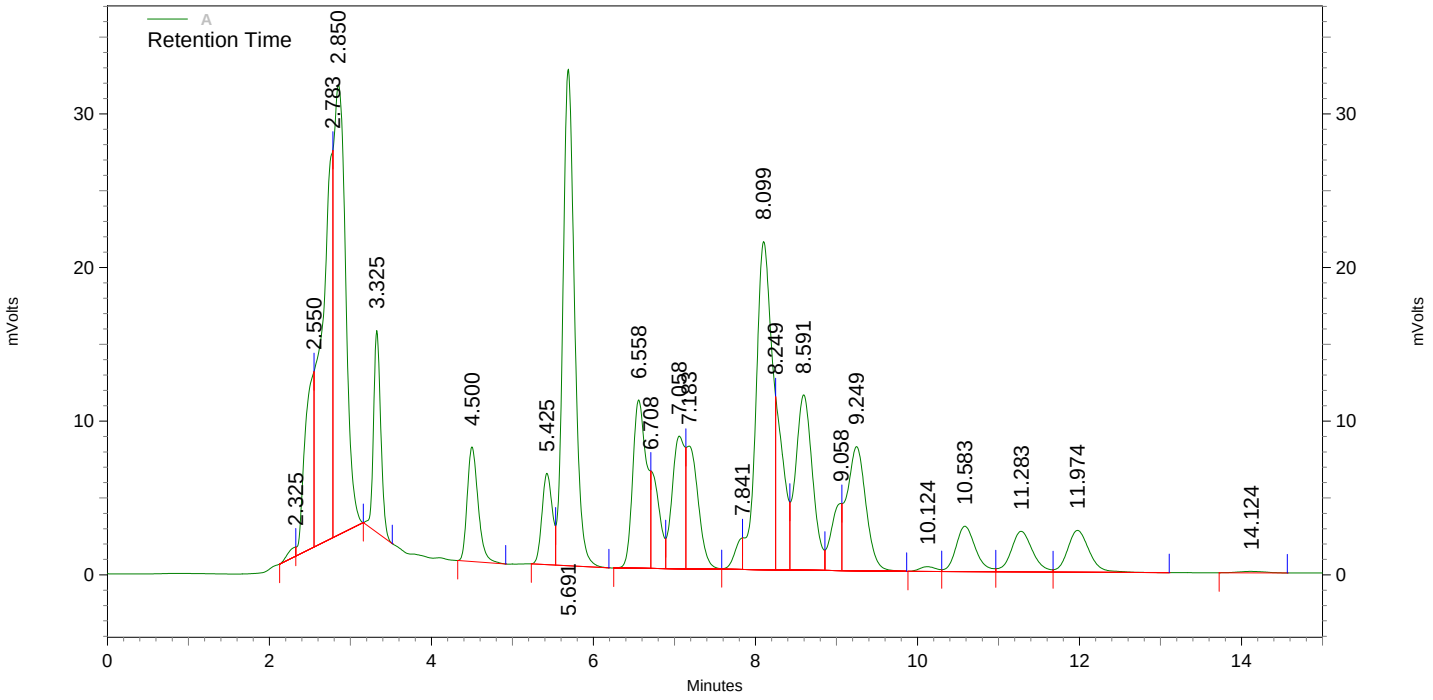
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX	3.341	28711	**0.481**
RDX	4.533	36946	**0.473**
12-DNB (SSTD)	5.508	56638	**112.930**
135-TNB	5.758	91746	**0.480**
13-DNB	6.641	115214	**0.493**
TETRYL	6.858	60621	**0.482**
35-DNA	7.175	81866	**0.494**
NB	7.283	87837	**0.428**
246-TNT	8.233	77764	**0.450**
4-AM-26-DNT	8.433	55878	**0.563**
2-AM-46-DNT	8.749	85466	**0.468**
2-NT	10.791	46974	**0.441**
4-NT	11.508	43293	**0.475**
3-NT	12.233	53789	**0.489**

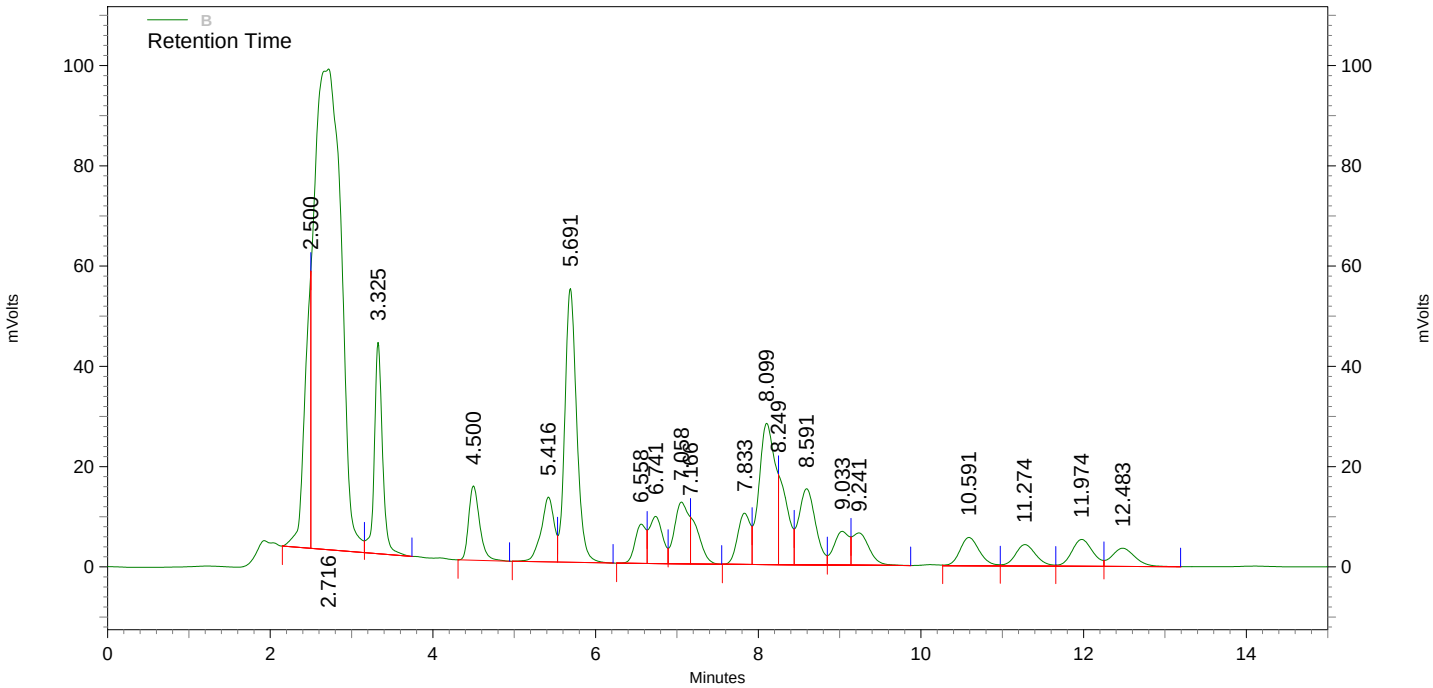
B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG	7.958	73522	**1.185**
26-DNT	9.191	77398	**0.471**
24-DNT	9.408	105585	**0.559**
PETN	12.816	68711	**0.968**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\100815EXP-PRIMARY\010.dat
User ID: RED
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\082415expic-primary\100815exp-primary.met
Sample ID: 119663,MSW640119,
Acquired: Oct 08, 2015 17:16:54
Data Summary: {Data Description}





A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX	3.325	81327	**1.379**
RDX	4.500	69822	**0.899**
12-DNB (SSTD)	5.425	52345	**104.274**
135-TNB	5.691	323678	**1.704**
13-DNB	6.558	129165	**0.554**
TETRYL	6.708	46643	**0.370**
35-DNA	7.058	94067	**0.569**
NB	7.183	82253	**0.401**
246-TNT	8.099	287520	**1.667**
4-AM-26-DNT	8.249	77994	**0.794**
2-AM-46-DNT	8.591	168172	**0.925**
2-NT	10.583	49271	**0.463**
4-NT	11.283	48349	**0.530**
3-NT	11.974	50764	**0.462**

B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG	7.833	110169	**1.787**
26-DNT	9.033	87247	**0.532**
24-DNT	9.241	91681	**0.484**
PETN	12.483	71865	**1.013**

After Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\100815EXP-PRIMARY\011.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\082415expic-primary\100815exp-primary.met
Sample ID: 119663,MSDW640119,
Acquired: Oct 08, 2015 17:35:12
Data Summary: Reason #3 applies to data. RED 10/9/2015

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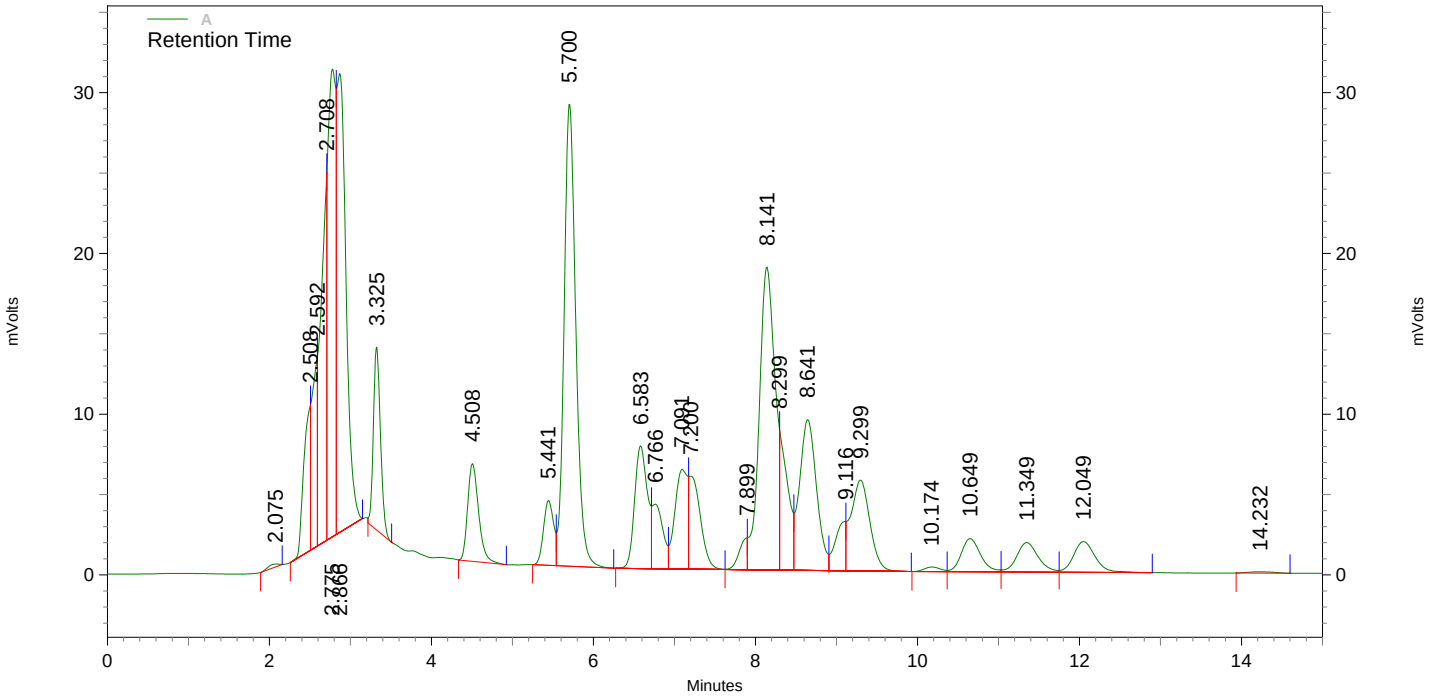
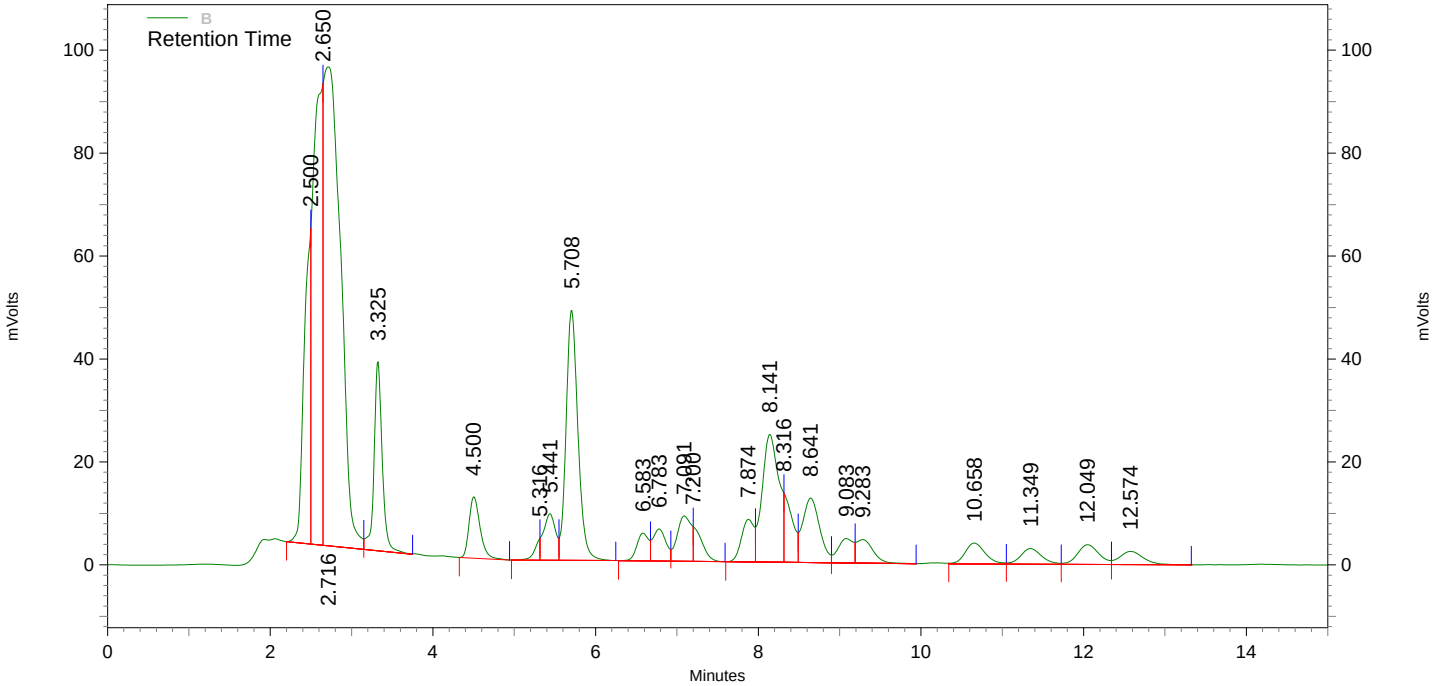




A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX	3.325	69402	**1.175**
RDX	4.508	57236	**0.736**
12-DNB (SSTD)	5.441	34851	**69.002**
135-TNB	5.700	290171	**1.527**
13-DNB	6.583	84010	**0.358**
TETRYL	6.766	37796	**0.299**
35-DNA	7.091	67593	**0.406**
NB	7.200	57405	**0.280**
246-TNT	8.141	255123	**1.479**
4-AM-26-DNT	8.299	60837	**0.615**
2-AM-46-DNT	8.641	137952	**0.758**
2-NT	10.649	34256	**0.321**
4-NT	11.349	33827	**0.370**
3-NT	12.049	35642	**0.323**

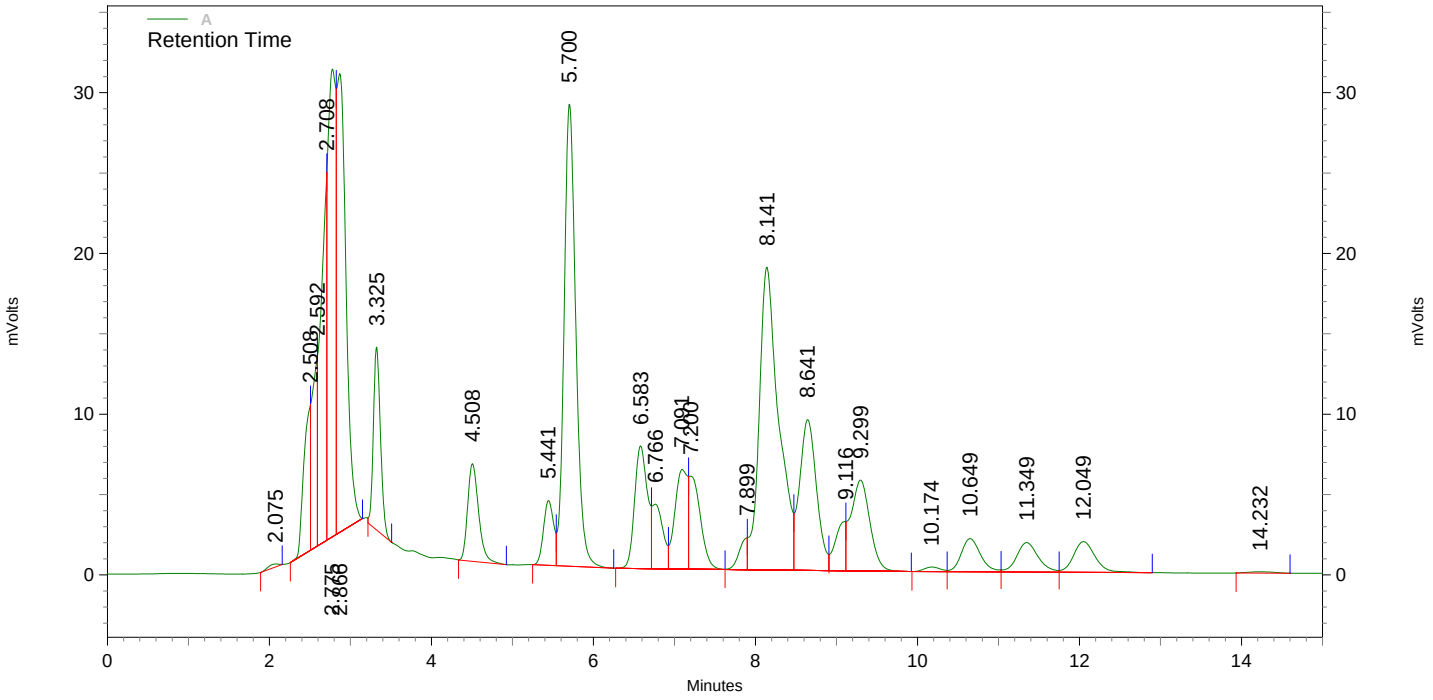
B Results

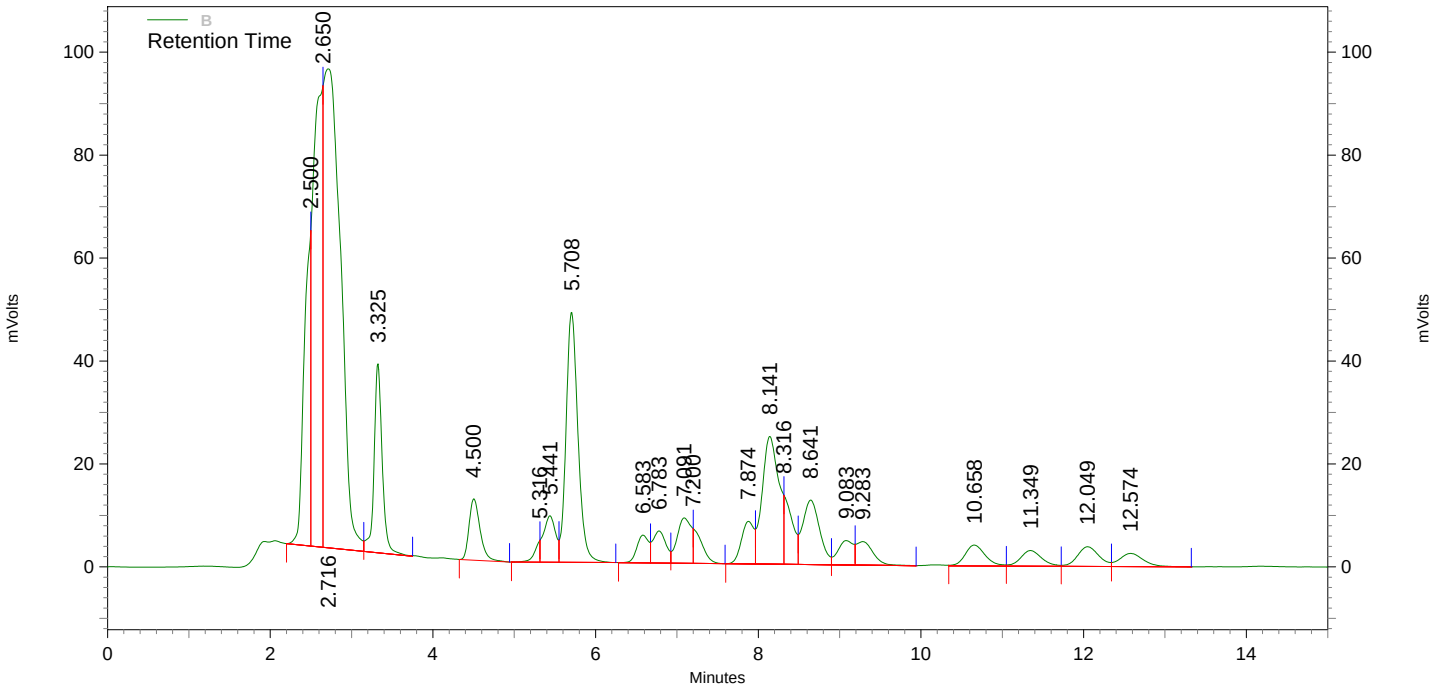
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG	7.874	88509	**1.431**
26-DNT	9.083	62340	**0.379**
24-DNT	9.283	65081	**0.342**
PETN	12.574	51584	**0.724**

Before Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\100815EXP-PRIMARY\011.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\082415expic-primary\100815exp-primary.met
Sample ID: 119663,MSDW640119,
Acquired: Oct 08, 2015 17:35:12
Data Summary: Reason #3 applies to data. RED 10/9/2015





A Results

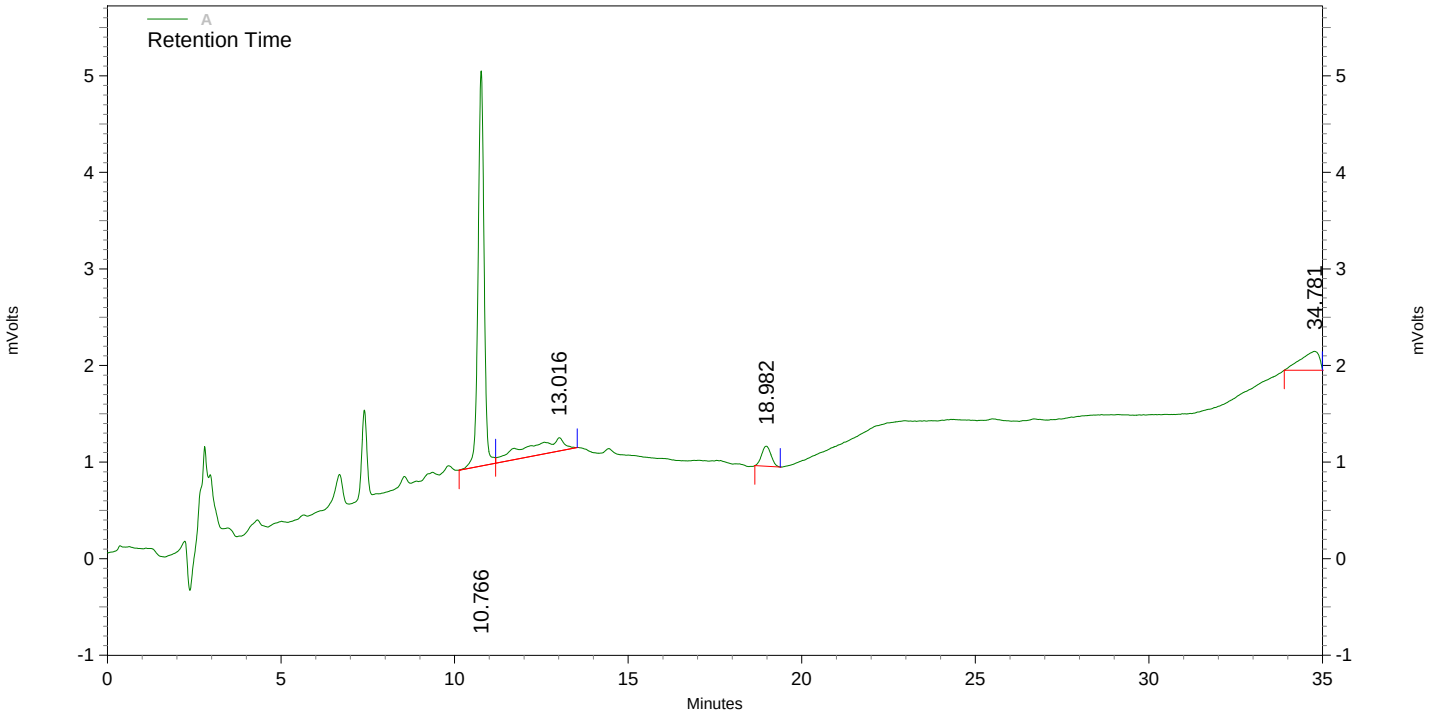
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX	3.325	69402	**1.175**
RDX	4.508	57236	**0.736**
12-DNB (SSTD)	5.441	34851	**69.002**
135-TNB	5.700	290171	**1.527**
13-DNB	6.583	84010	**0.358**
TETRYL	6.766	37796	**0.299**
35-DNA	7.091	67593	**0.406**
NB	7.200	57405	**0.280**
246-TNT	8.141	315960	**1.833**
4-AM-26-DNT			**0.000 BDL**
2-AM-46-DNT	8.641	137952	**0.758**
2-NT	10.649	34256	**0.321**
4-NT	11.349	33827	**0.370**
3-NT	12.049	35642	**0.323**

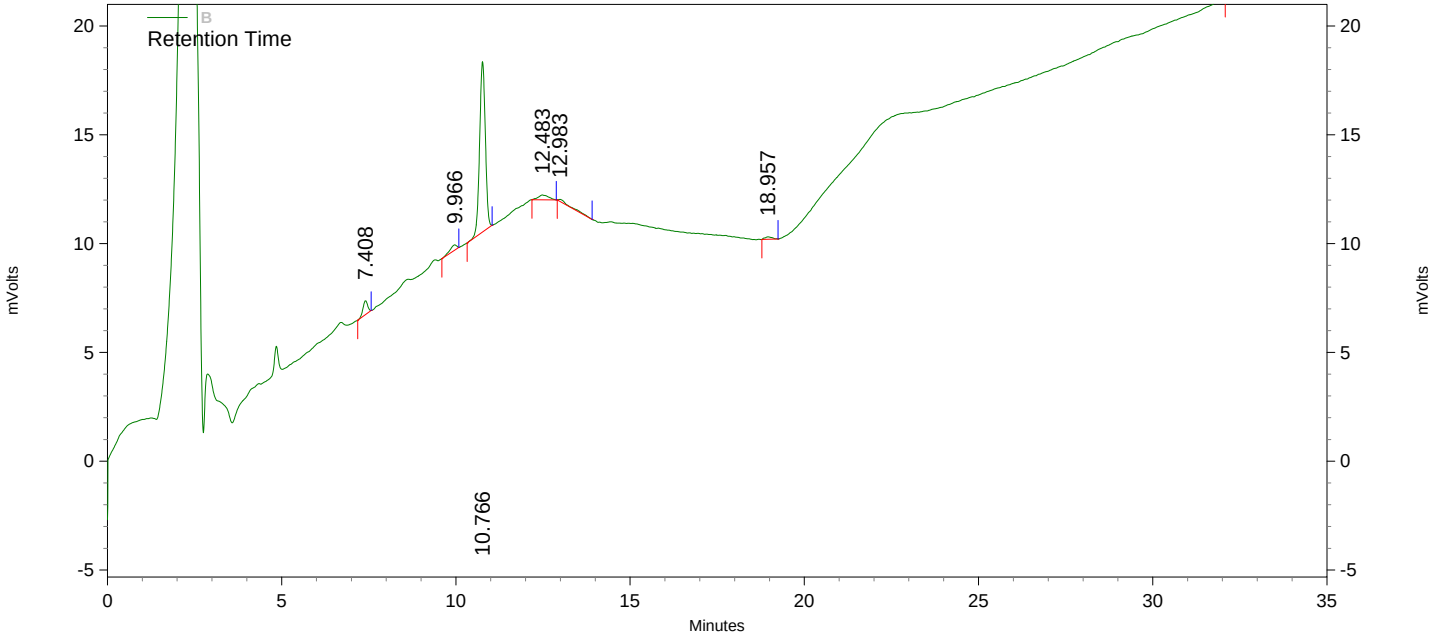
B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG	7.874	88509	**1.431**
26-DNT	9.083	62340	**0.379**
24-DNT	9.283	65081	**0.342**
PETN	12.574	51584	**0.724**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\101315EXP-confirm\003.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\091715expic-confirm\101315exp-confirm.met
Sample ID: 119663,MBW,
Acquired: Oct 13, 2015 16:07:08
Data Summary: {Data Description}





119663,MBW,

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm			**0.000 BDL**
RDX-confirm			**0.000 BDL**
NB-confirm			**0.000 BDL**
12-DNB (SSTD)-confirm	10.766	49242	**88.990**
4-AM-26-DNT-conf.			**0.000 BDL**
3,5-DNA-confirm			**0.000 BDL**
2-NT-confirm			**0.000 BDL**
2-AM-46-DNT-conf.			**0.000 BDL**
3-NT-confirm			**0.000 BDL**
4-NT-confirm			**0.000 BDL**
26-DNT-confirm			**0.000 BDL**
13-DNB-confirm			**0.000 BDL**
TETRYL-confirm			**0.000 BDL**
24-DNT-confirm			**0.000 BDL**
135-TNB-confirm			**0.000 BDL**
246-TNT-confirm			**0.000 BDL**

B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm			**0.000 BDL**
PETN-confirm			**0.000 BDL**

After Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\101315EXP-confirm\009.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\091715expic-confirm\101315exp-confirm.met
Sample ID: 119663,MSW640119,
Acquired: Oct 13, 2015 20:13:10
Data Summary: Reason #3,#4 applies to data. RED 10/14/2015

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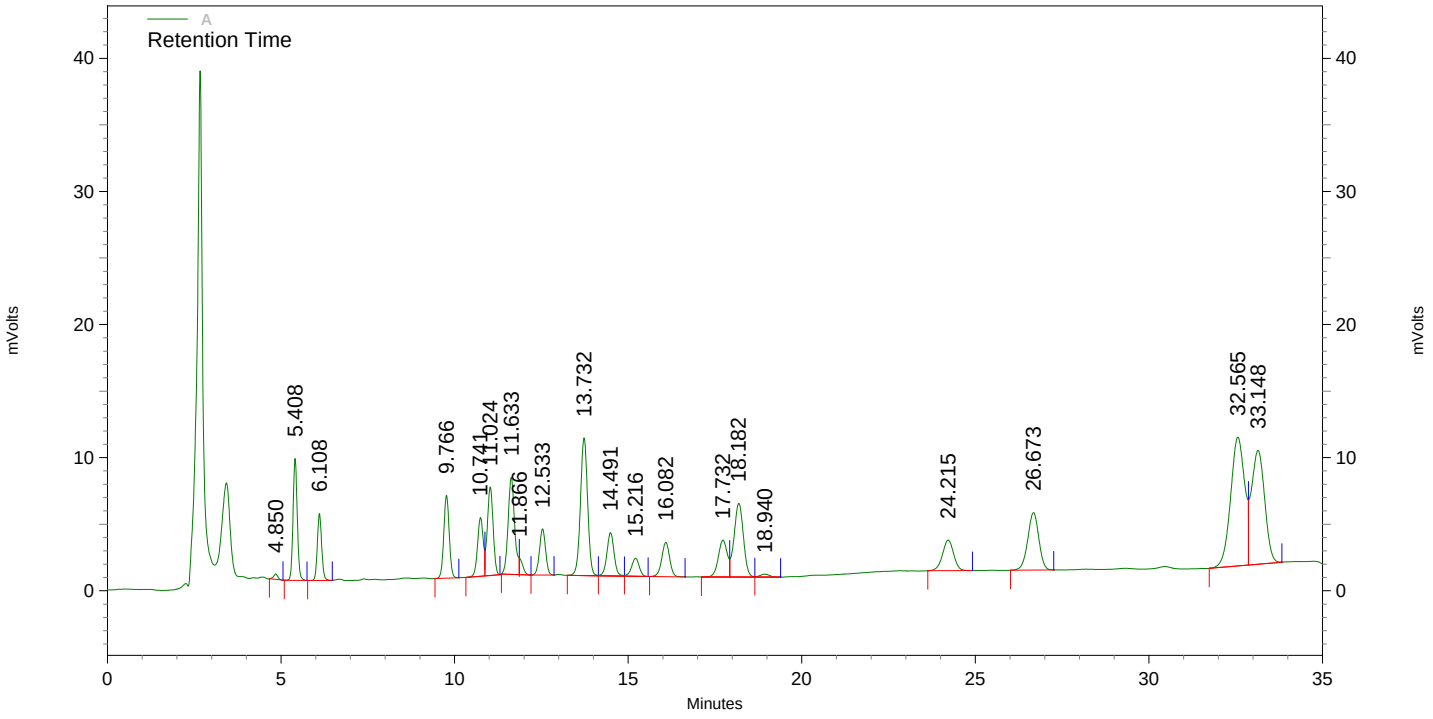
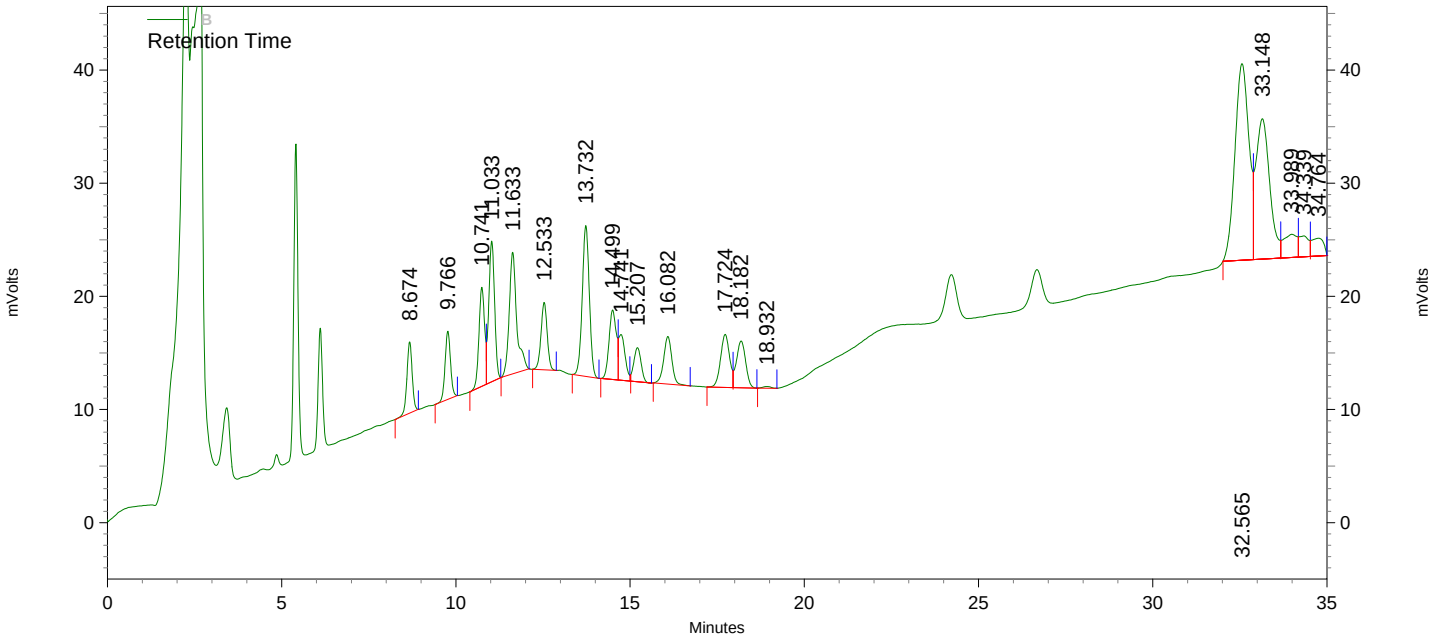




119663,MSW640119,

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm	5.408	77316	**1.274**
RDX-confirm	6.108	44086	**0.572**
NB-confirm	9.766	67054	**0.492**
12-DNB (SSTD)-confirm	10.741	49819	**90.055**
4-AM-26-DNT-conf.	11.024	77228	**0.618**
3,5-DNA-confirm	11.633	95344	**0.491**
2-NT-confirm	12.533	42270	**0.450**
2-AM-46-DNT-conf.	13.732	147681	**0.821**
3-NT-confirm	14.491	46580	**0.450**
4-NT-confirm	16.082	40795	**0.451**
26-DNT-confirm	17.732	49704	**0.452**
13-DNB-confirm	18.182	103590	**0.423**
TETRYL-confirm	24.215	51372	**0.382**
24-DNT-confirm	26.673	96070	**0.425**
135-TNB-confirm	32.565	271817	**1.571**
246-TNT-confirm	33.148	227449	**1.355**

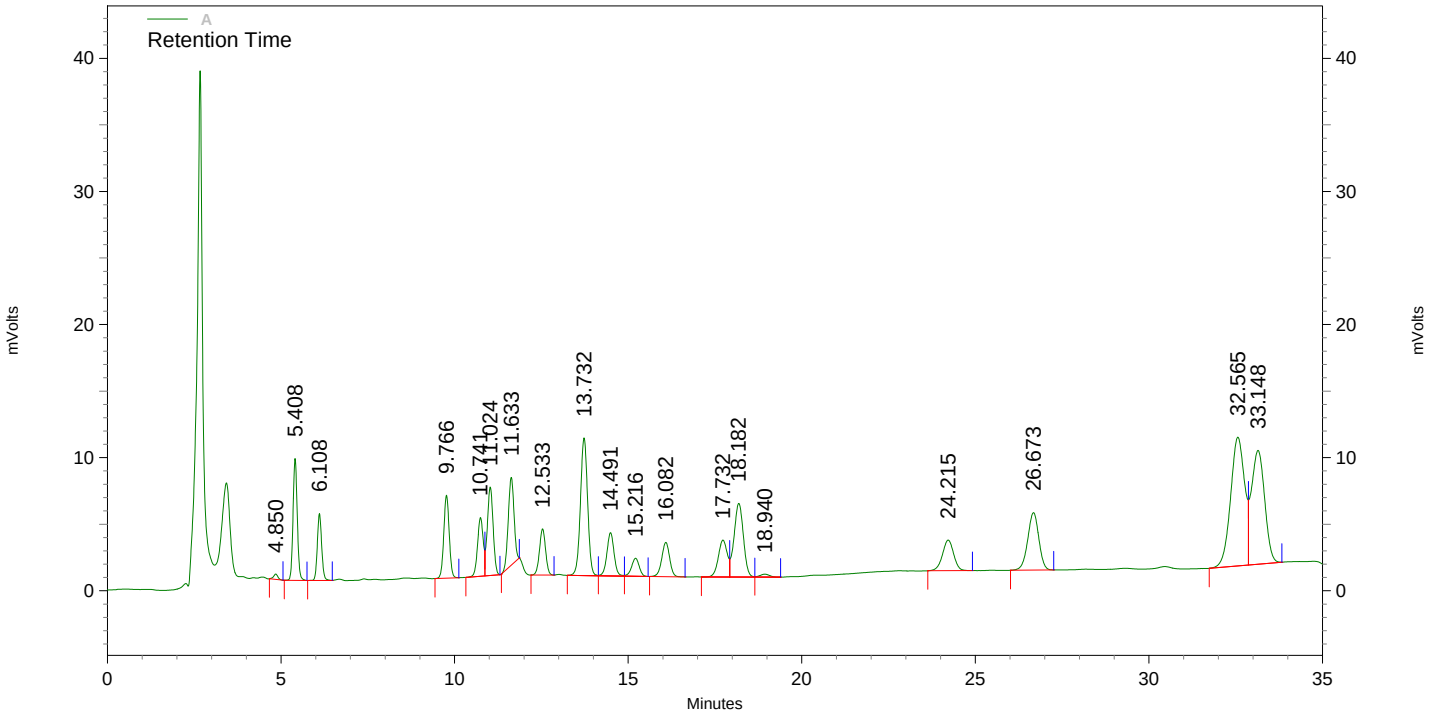
B Results

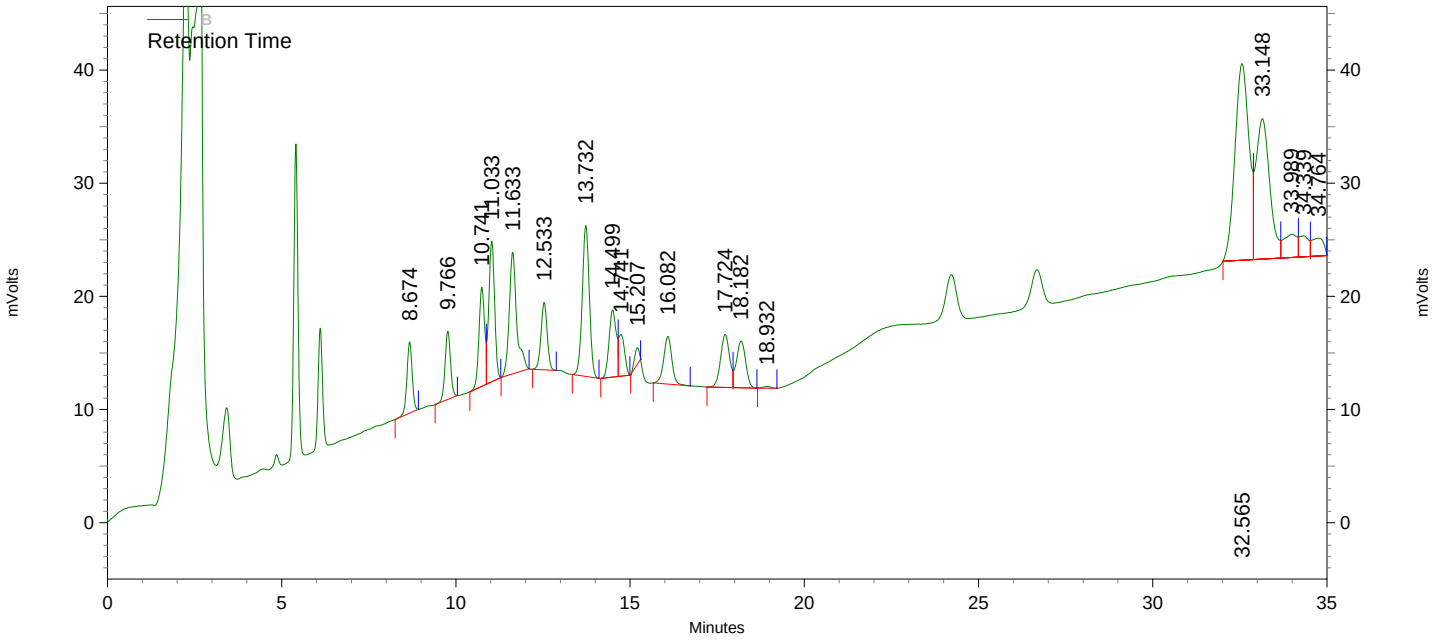
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm	8.674	66513	**0.890**
PETN-confirm	14.741	52224	**0.741**

Before Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\101315EXP-confirm\009.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\091715expic-confirm\101315exp-confirm.met
Sample ID: 119663,MSW640119,
Acquired: Oct 13, 2015 20:13:10
Data Summary: Reason #3,#4 applies to data. RED 10/14/2015





119663,MSW640119,

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm	5.408	77316	**1.274**
RDX-confirm	6.108	44086	**0.572**
NB-confirm	9.766	67054	**0.492**
12-DNB (SSTD)-confirm	10.741	49819	**90.055**
4-AM-26-DNT-conf.	11.024	77228	**0.618**
3,5-DNA-confirm	11.633	75821	**0.390**
2-NT-confirm	12.533	42270	**0.450**
2-AM-46-DNT-conf.	13.732	147681	**0.821**
3-NT-confirm	14.491	46580	**0.450**
4-NT-confirm	16.082	40795	**0.451**
26-DNT-confirm	17.732	49704	**0.452**
13-DNB-confirm	18.182	103590	**0.423**
TETRYL-confirm	24.215	51372	**0.382**
24-DNT-confirm	26.673	96070	**0.425**
135-TNB-confirm	32.565	271817	**1.571**
246-TNT-confirm	33.148	227449	**1.355**

B Results

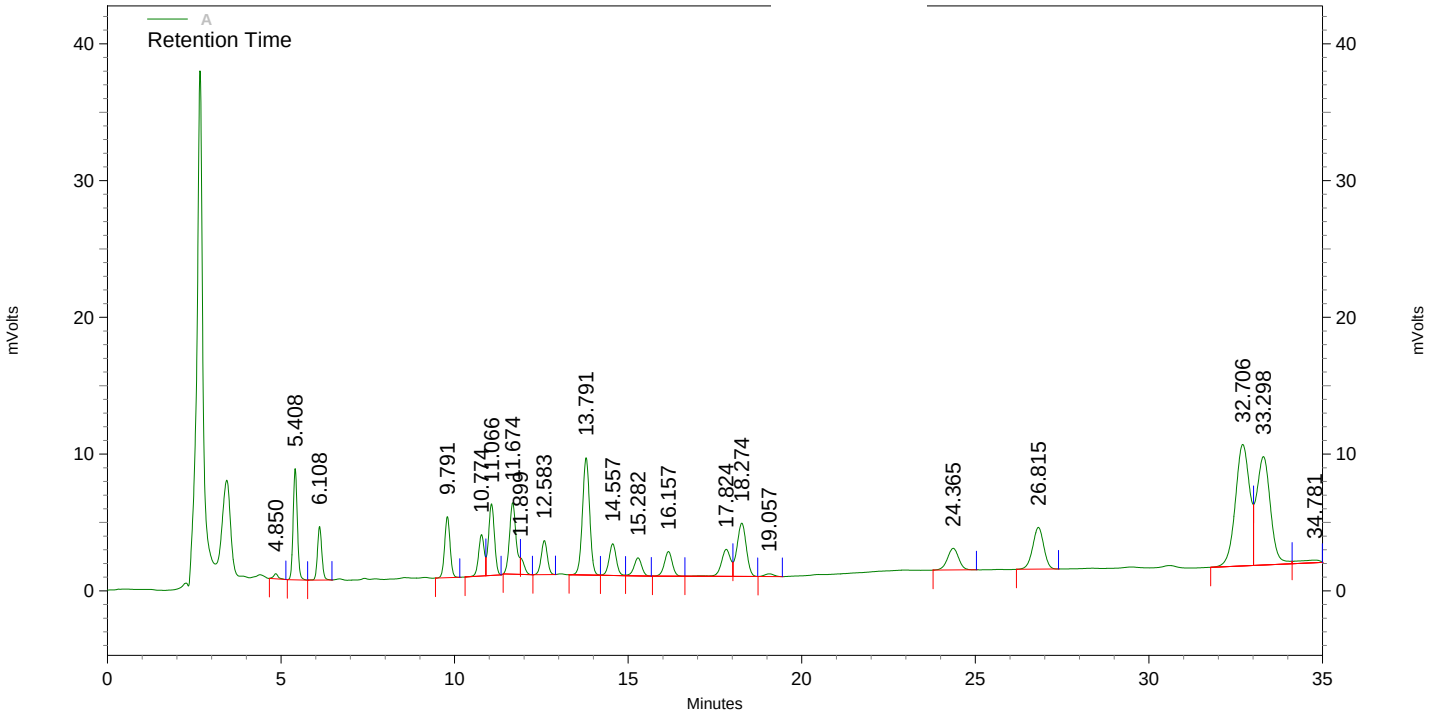
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm	8.674	66513	**0.890**
PETN-confirm	14.741	43813	**0.618**

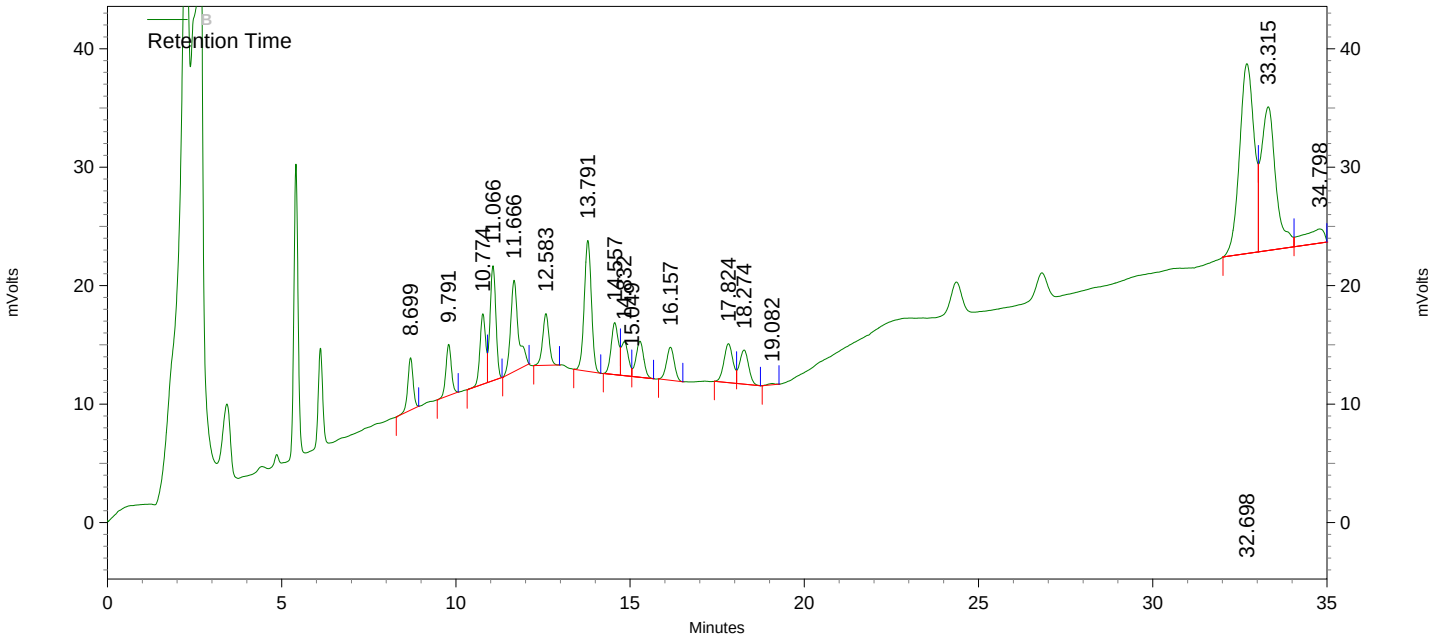
After Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\101315EXP-confirm\010.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\091715expic-confirm\101315exp-confirm.met
Sample ID: 119663,MSDW640119,
Acquired: Oct 13, 2015 20:50:29
Data Summary: Reason #3,#4 applies to data. RED 10/14/2015

JJY
10/19/2015





119663,MSDW640119,

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm	5.408	68235	**1.123**
RDX-confirm	6.108	34426	**0.446**
NB-confirm	9.791	48134	**0.353**
12-DNB (SSTD)-confirm	10.774	34114	**61.076**
4-AM-26-DNT-conf.	11.066	61817	**0.494**
3,5-DNA-confirm	11.674	69998	**0.359**
2-NT-confirm	12.583	30548	**0.323**
2-AM-46-DNT-conf.	13.791	123140	**0.684**
3-NT-confirm	14.557	33363	**0.322**
4-NT-confirm	16.157	28620	**0.317**
26-DNT-confirm	17.824	36795	**0.333**
13-DNB-confirm	18.274	72539	**0.294**
TETRYL-confirm	24.365	35546	**0.262**
24-DNT-confirm	26.815	67955	**0.300**
135-TNB-confirm	32.706	254630	**1.471**
246-TNT-confirm	33.298	220380	**1.313**

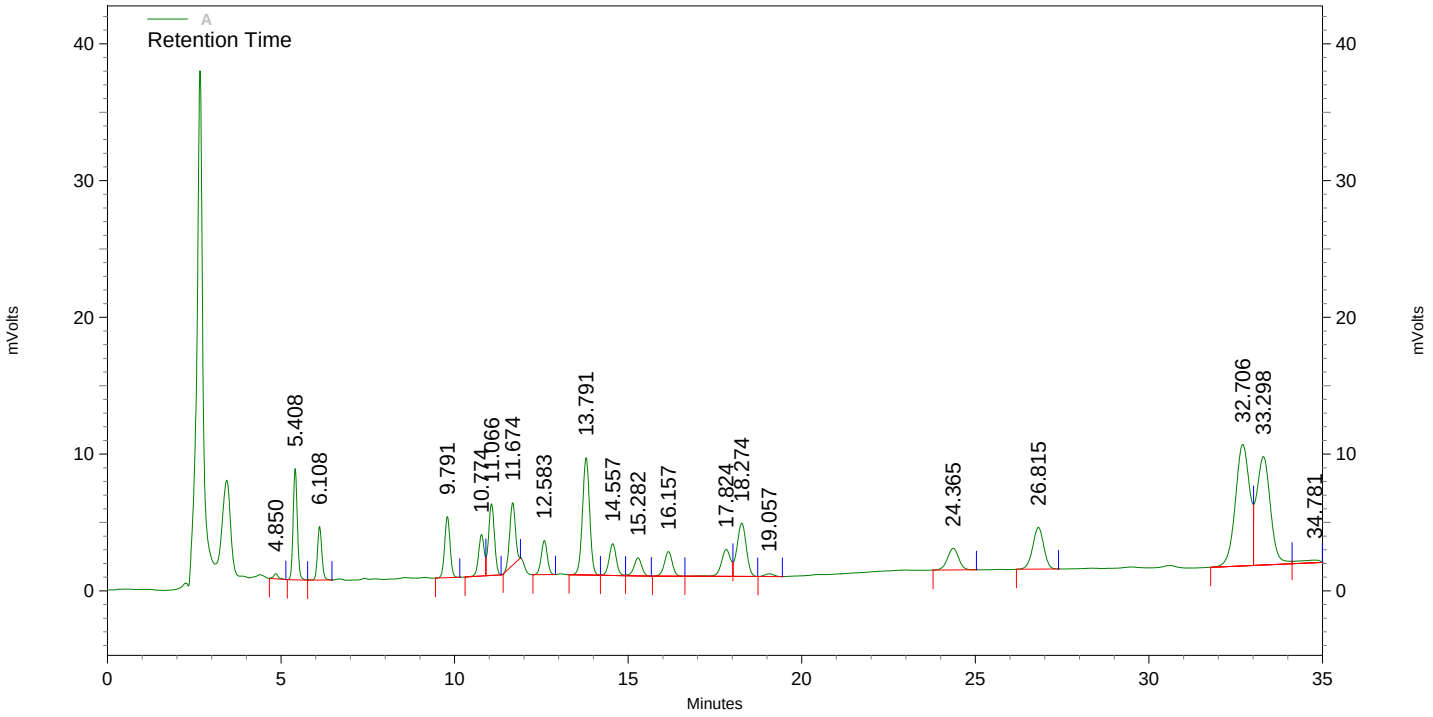
B Results

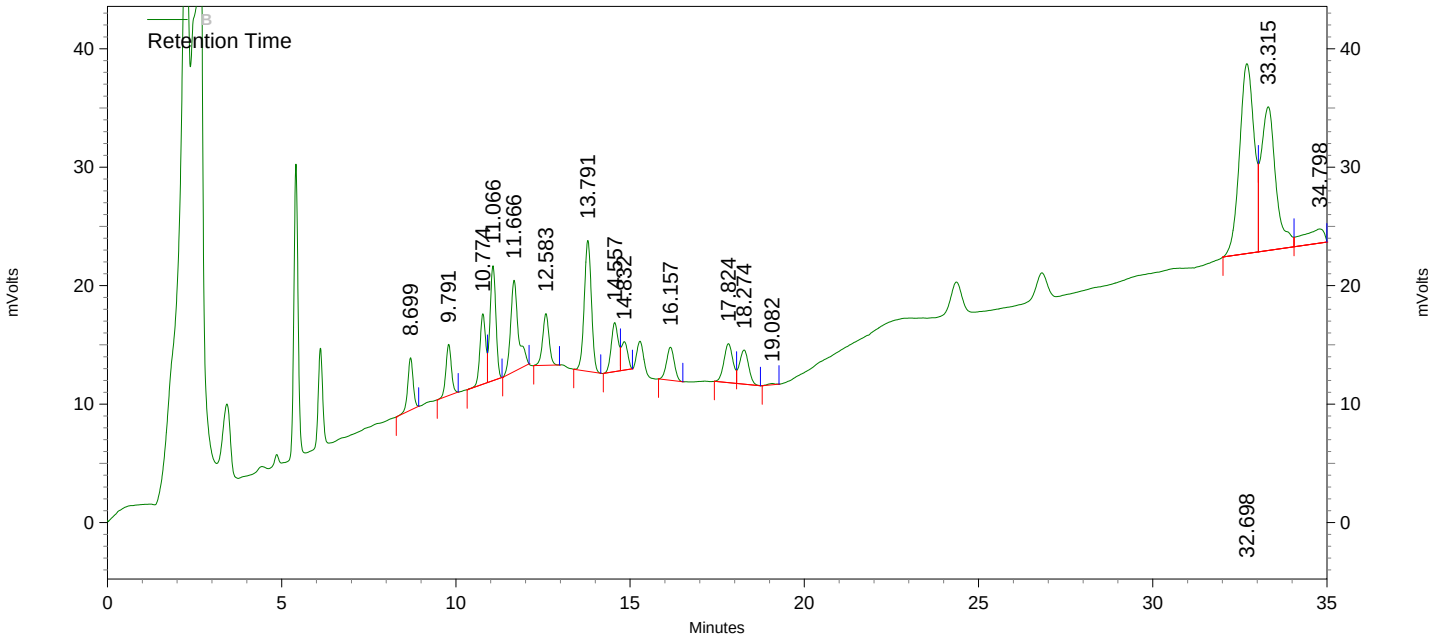
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm	8.699	46732	**0.624**
PETN-confirm	14.832	40168	**0.565**

Before Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\101315EXP-confirm\010.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\091715expic-confirm\101315exp-confirm.met
Sample ID: 119663,MSDW640119,
Acquired: Oct 13, 2015 20:50:29
Data Summary: Reason #3,#4 applies to data. RED 10/14/2015





119663,MSDW640119,

A Results

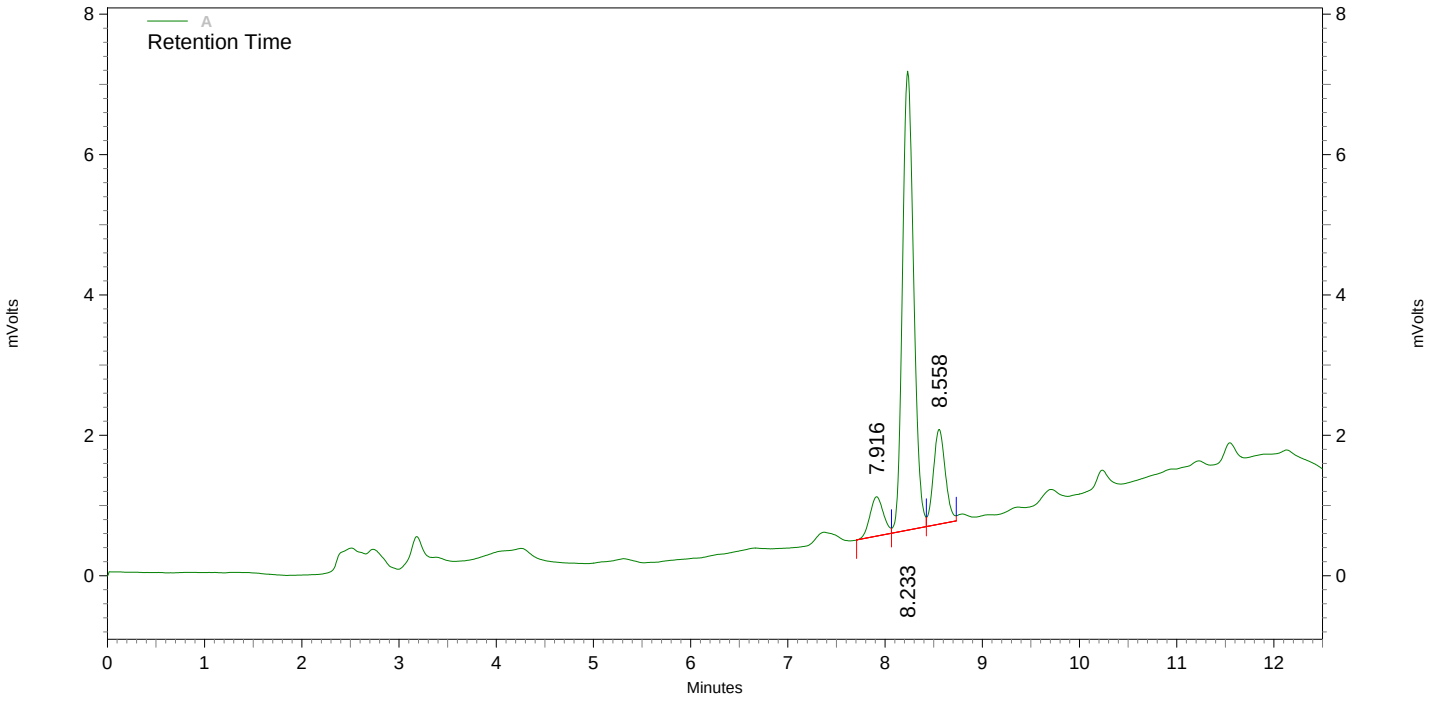
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm	5.408	68235	**1.123**
RDX-confirm	6.108	34426	**0.446**
NB-confirm	9.791	48134	**0.353**
12-DNB (SSTD)-confirm	10.774	34114	**61.076**
4-AM-26-DNT-conf.	11.066	61817	**0.494**
3,5-DNA-confirm	11.674	51863	**0.265**
2-NT-confirm	12.583	30548	**0.323**
2-AM-46-DNT-conf.	13.791	123140	**0.684**
3-NT-confirm	14.557	33363	**0.322**
4-NT-confirm	16.157	28620	**0.317**
26-DNT-confirm	17.824	36795	**0.333**
13-DNB-confirm	18.274	72539	**0.294**
TETRYL-confirm	24.365	35546	**0.262**
24-DNT-confirm	26.815	67955	**0.300**
135-TNB-confirm	32.706	254630	**1.471**
246-TNT-confirm	33.298	220380	**1.313**

B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm	8.699	46732	**0.624**
PETN-confirm	14.832	30153	**0.418**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\100915MDTNX-PRIMARY\003.dat
User ID: RED
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\092915MDTNXic-primary\100915MTDNX-primary.met
Sample ID: 119664,MBW,
Acquired: Oct 09, 2015 10:26:59
Data Summary: {Data Description}



A Results

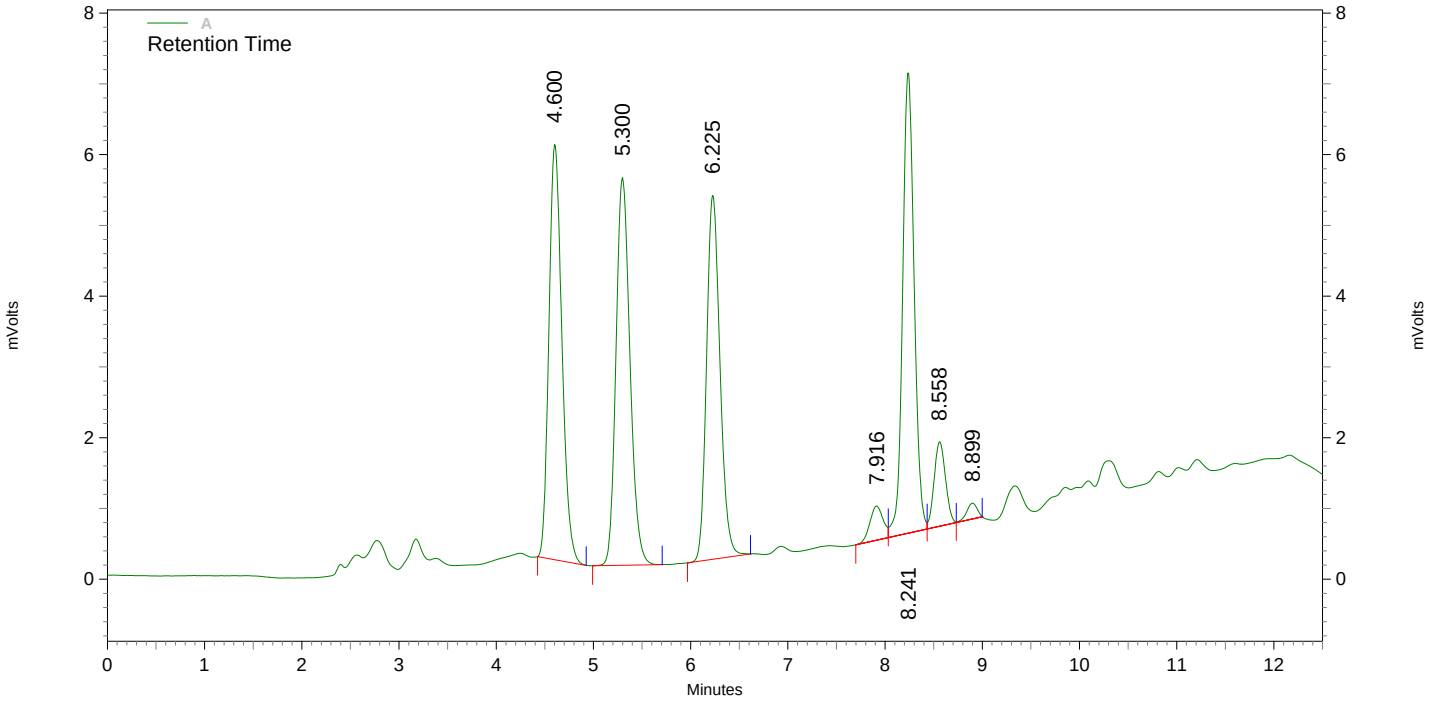
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX			**0.000 BDL**
DNX			**0.000 BDL**
MNX			**0.000 BDL**
12-DNB (SSTD)	8.233	52628	**103.716**

COMMENTS:

1. The results are reported using a UV/Vis detector set at 254 nm.

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\100915MDTNX-PRIMARY\004.dat
User ID: RED
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\092915MDTNXic-primary\100915MTDNX-primary.met
Sample ID: 119664,LCSW,
Acquired: Oct 09, 2015 10:42:41
Data Summary: {Data Description}



A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX	4.600	54449	**0.372**
DNX	5.300	54791	**0.448**
MNX	6.225	49386	**0.478**
12-DNB (SSTD)	8.241	53584	**105.629**

COMMENTS:

1. The results are reported using a UV/Vis detector set at 254 nm.

After Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\100915MDTNX-PRIMARY\010.dat
User ID: RED
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\092915MDTNXic-primary\100915MTDNX-primary.met
Sample ID: 119664,MSW640119,
Acquired: Oct 09, 2015 12:16:56
Data Summary: Reason #3 applies to data. RED 10/12/2015

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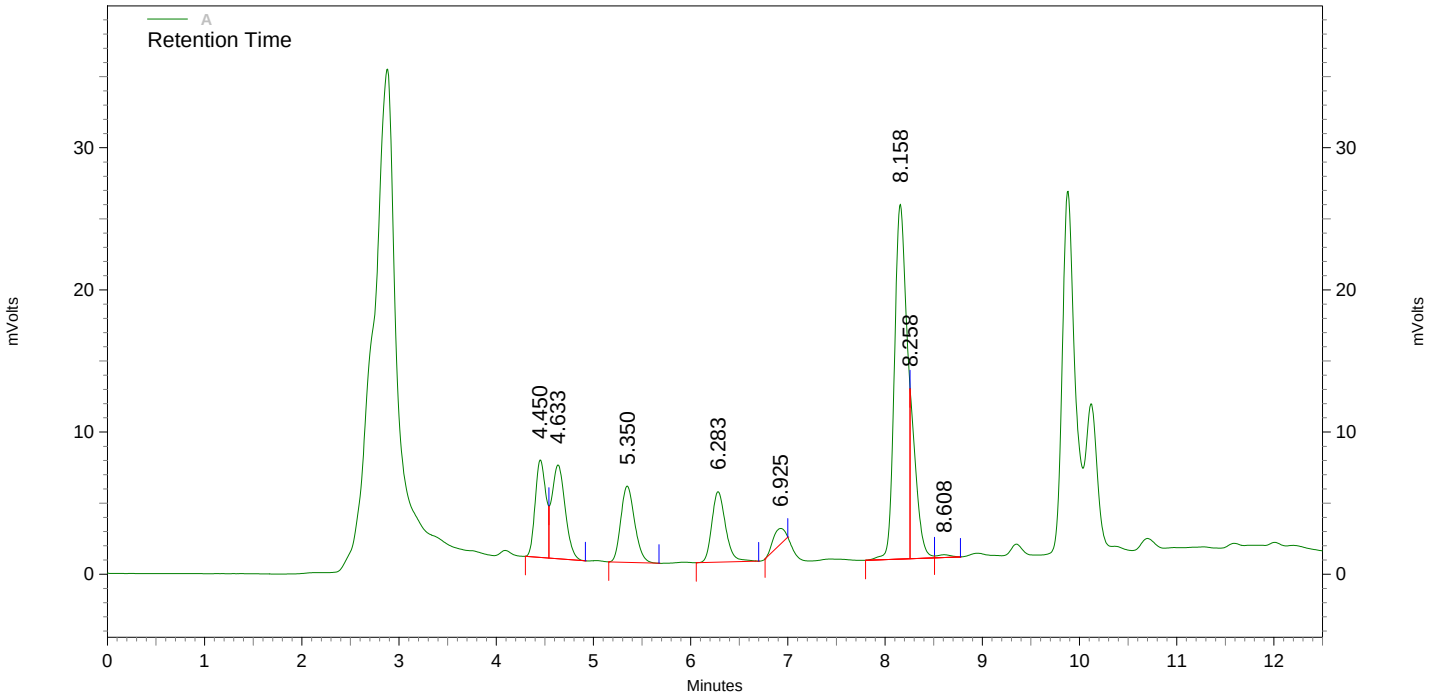


A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX	4.633	63215	**0.432**
DNX	5.350	53104	**0.434**
MNX	6.283	48562	**0.470**
12-DNB (SSTD)	8.258	49771	**97.996**

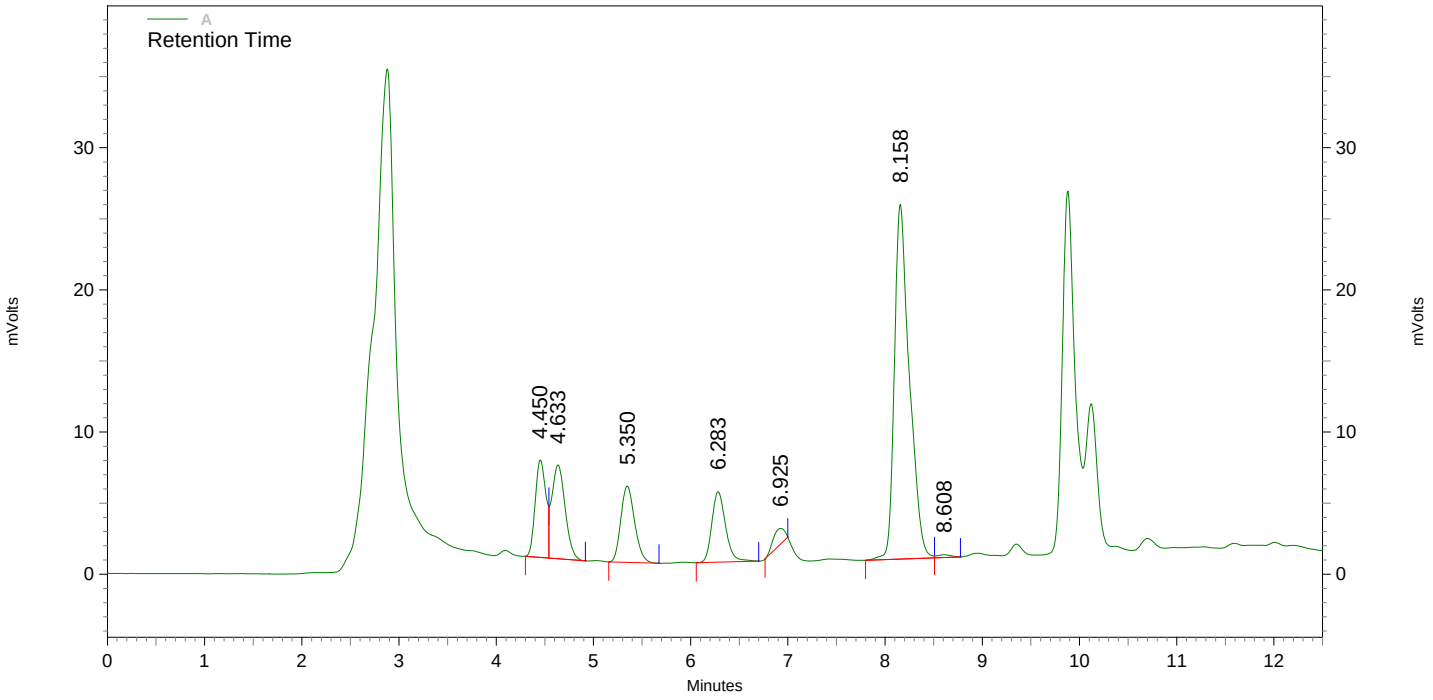
COMMENTS:

1. The results are reported using a UV/Vis detector set at 254 nm.

Before Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\100915MDTNX-PRIMARY\010.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\092915MDTNXic-primary\100915MTDNX-primary.met
Sample ID: 119664,MSW640119,
Acquired: Oct 09, 2015 12:16:56
Data Summary: Reason #3 applies to data. RED 10/12/2015



A Results

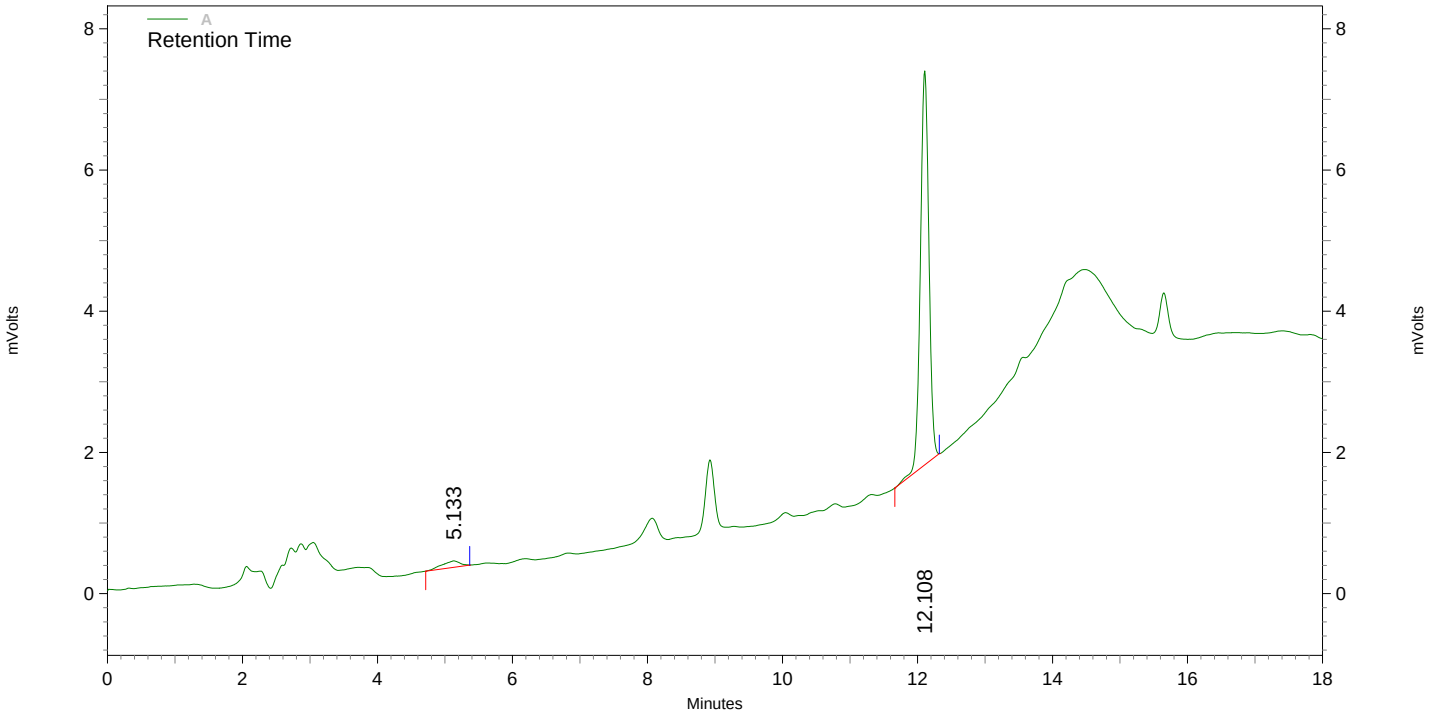
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX	4.633	63215	**0.432**
DNX	5.350	53104	**0.434**
MNX	6.283	48562	**0.470**
12-DNB (SSTD)	8.158	267577	**534.049**

COMMENTS:

1. The results are reported using a UV/Vis detector set at 254 nm.

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\101415MDTNX-confirm\003.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\093015MDTNXic-confirm\101415MDTNX-confirm.met
Sample ID: 119664,MBW,
Acquired: Oct 14, 2015 13:56:11
Data Summary: {Data Description}



119664,MBW,

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX-confirm	5.133	1708	**0.005**
DNX-confirm			**0.000 BDL**
MNX-confirm			**0.000 BDL**
12-DNB (SSTD)-confirm	12.108	48590	**117.288**

After Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\101415MDTNX-confirm\009.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\093015MDTNXic-confirm\101415MDTNX-confirm.met
Sample ID: 119664,MSW640119,
Acquired: Oct 14, 2015 15:57:52
Data Summary: Reason #3 applies to data. RED 10/15/2015

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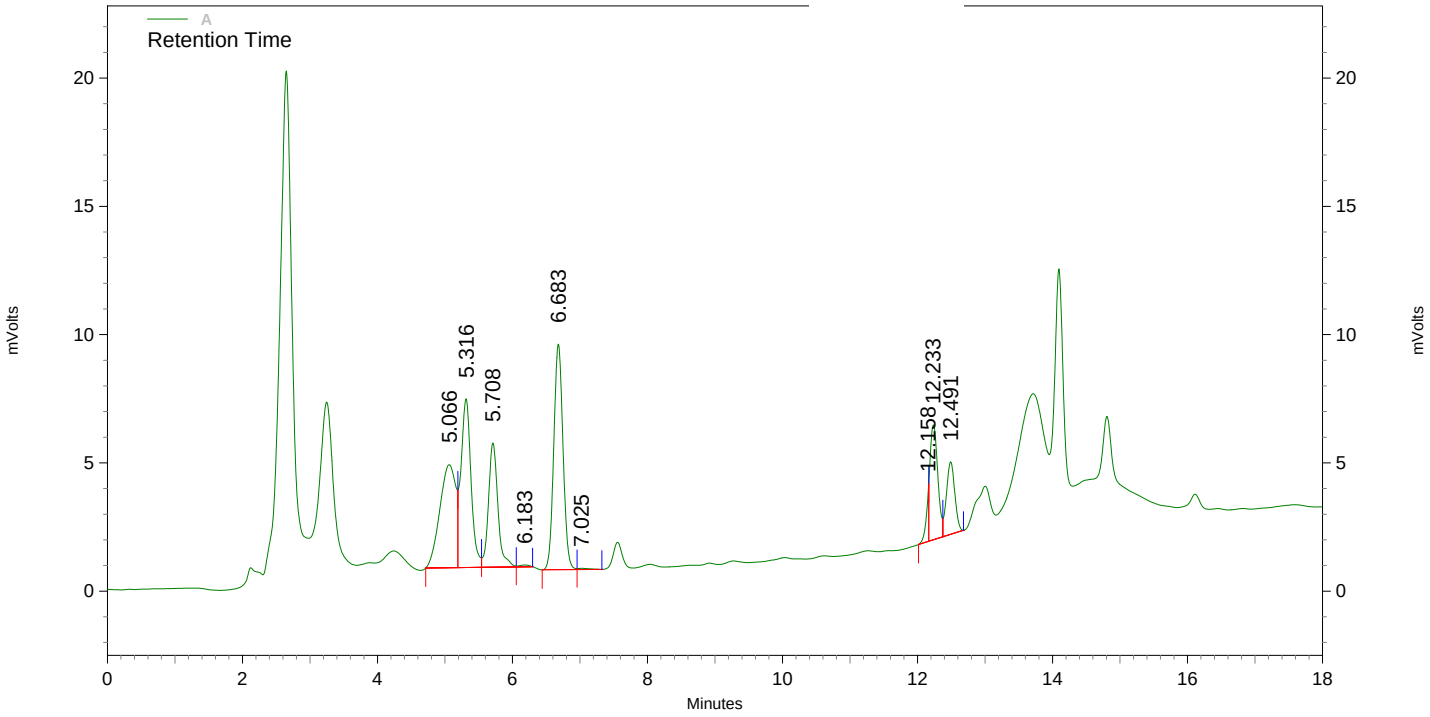
10/19/2015



119664,MSW640119,

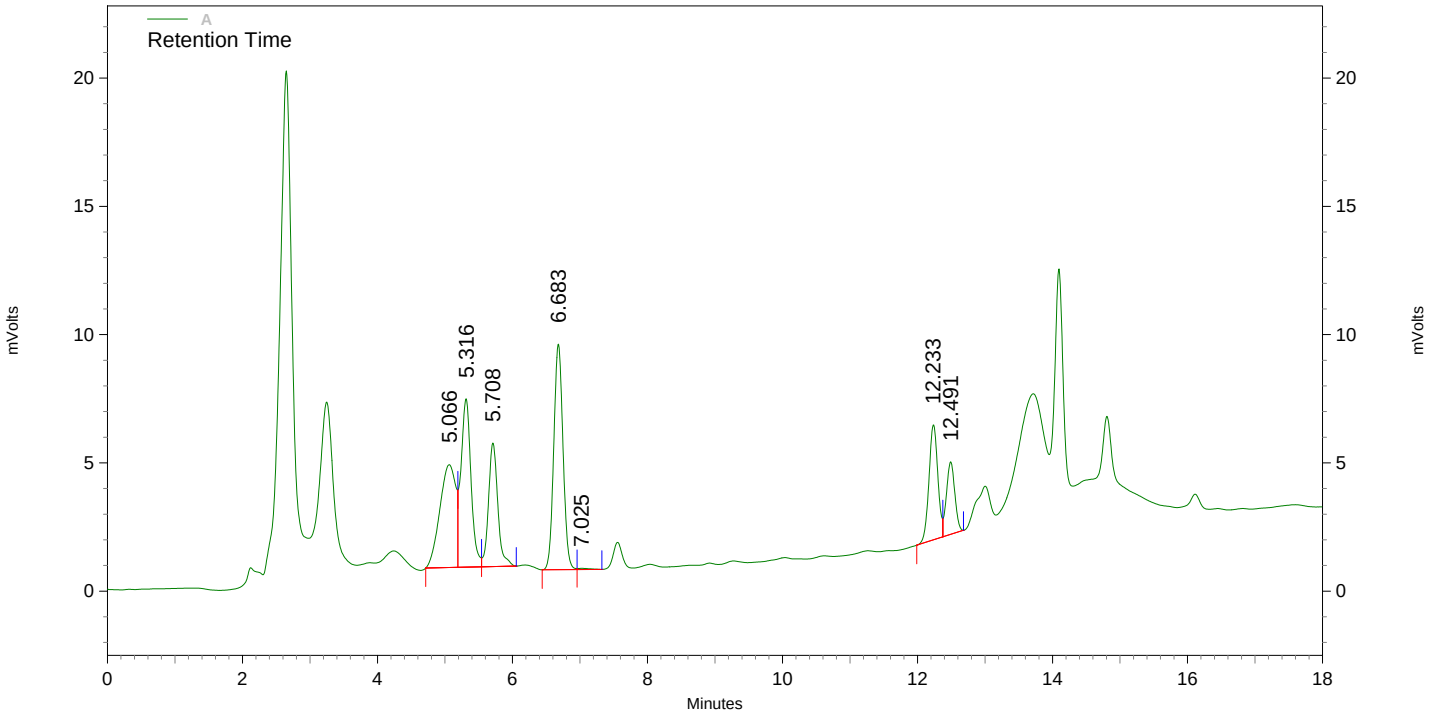
A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX-confirm	5.316	68687	**0.582**
DNX-confirm	5.708	47057	**0.474**
MNX-confirm	6.683	83407	**1.008**
12-DNB (SSTD)-confirm	12.233	35626	**85.825**

Before Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\101415MDTNX-confirm\009.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\093015MDTNXic-confirm\101415MDTNX-confirm.met
Sample ID: 119664,MSW640119,
Acquired: Oct 14, 2015 15:57:52
Data Summary: Reason #3 applies to data. RED 10/15/2015



119664,MSW640119,

A Results

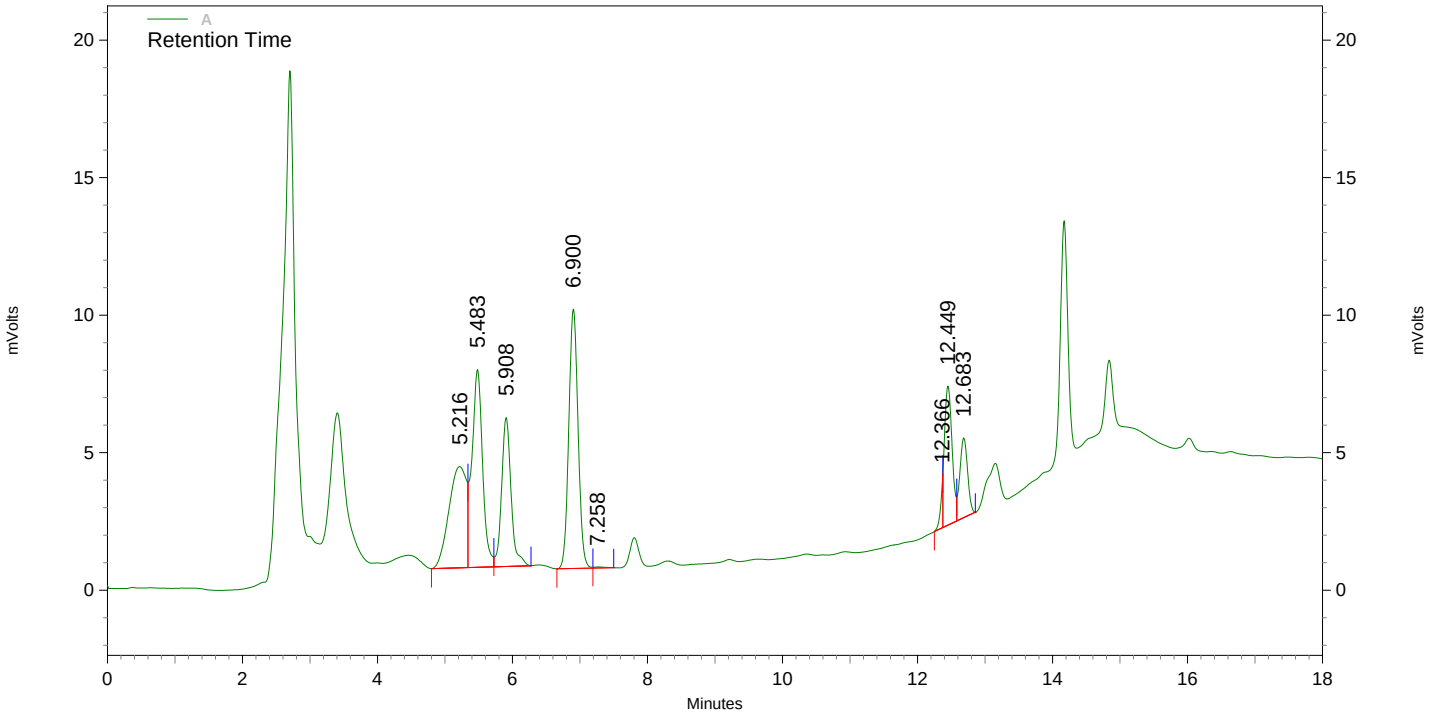
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX-confirm	5.316	68372	**0.579**
DNX-confirm	5.708	46282	**0.466**
MNX-confirm	6.683	83407	**1.008**
12-DNB (SSTD)-confirm	12.233	40820	**98.431**

After Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\101415MDTNX-confirm\012.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\093015MDTNXic-confirm\101415MDTNX-confirm.met
Sample ID: 119664,MSDW640119,
Acquired: Oct 14, 2015 17:07:17
Data Summary: Reason #1, #3 applies to data. RED 10/15/2015

JJY
10/19/2015



119664,MSDW640119,

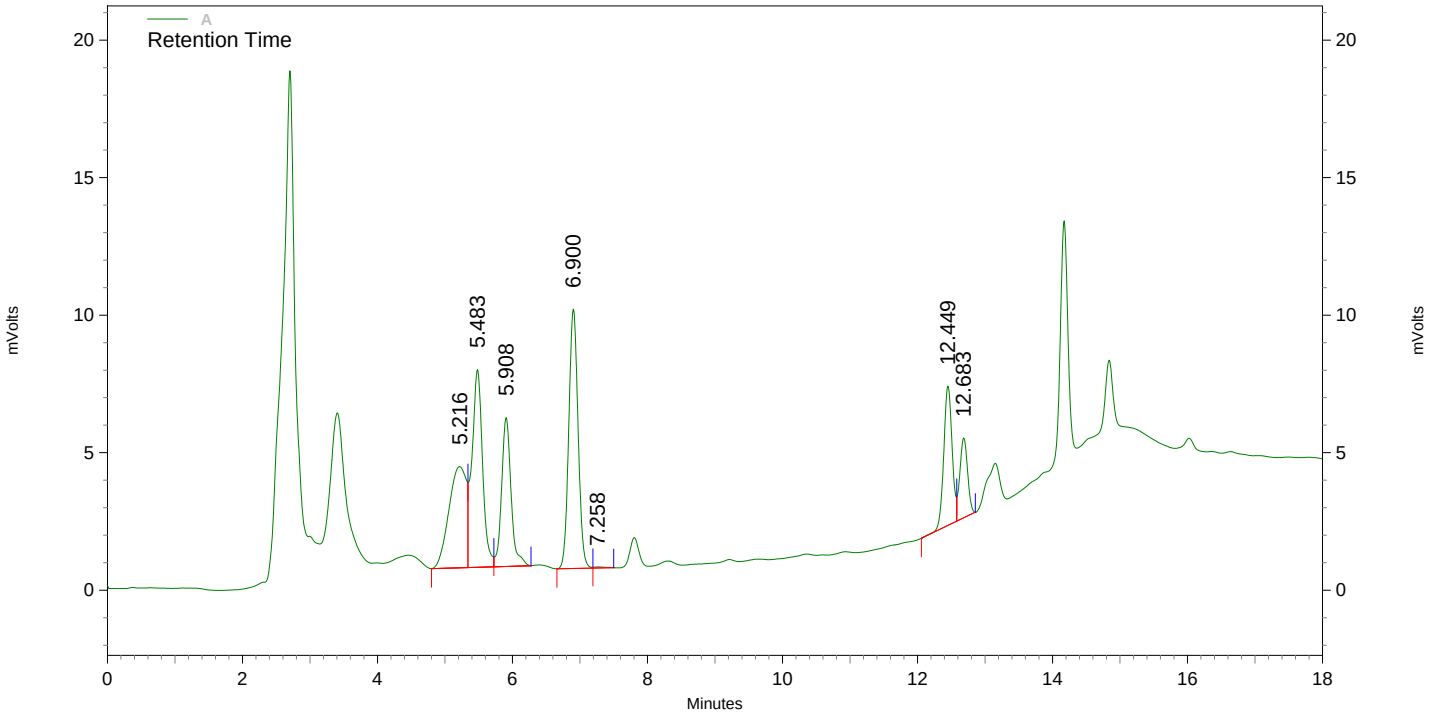
A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX-confirm	5.483	79142	**0.672**
DNX-confirm	5.908	52971	**0.535**
MNX-confirm	6.900	89905	**1.087**
12-DNB (SSTD)-confirm	12.449	39394	**94.970**

Before Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\101415MDTNX-confirm\012.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\093015MDTNXic-confirm\101415MDTNX-confirm.met
Sample ID: 119664,MSDW640119,
Acquired: Oct 14, 2015 17:07:17
Data Summary: Reason #1, #3 applies to data. RED 10/15/2015



119664,MSDW640119,

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX-confirm	5.216	65683	**0.556**
DNX-confirm	5.483	79142	**0.803**
MNX-confirm	6.900	89905	**1.087**
12-DNB (SSTD)-confirm	12.449	43479	**104.884**

After Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\101515MDTNX-primary\003.dat
User ID: RED
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\092915MDTNXic-primary\101515MDTNX-primary.met
Sample ID: 119664,MSDW640119,
Acquired: Oct 15, 2015 10:06:04
Data Summary: Reason #3 applies to data. RED 10/15/2015

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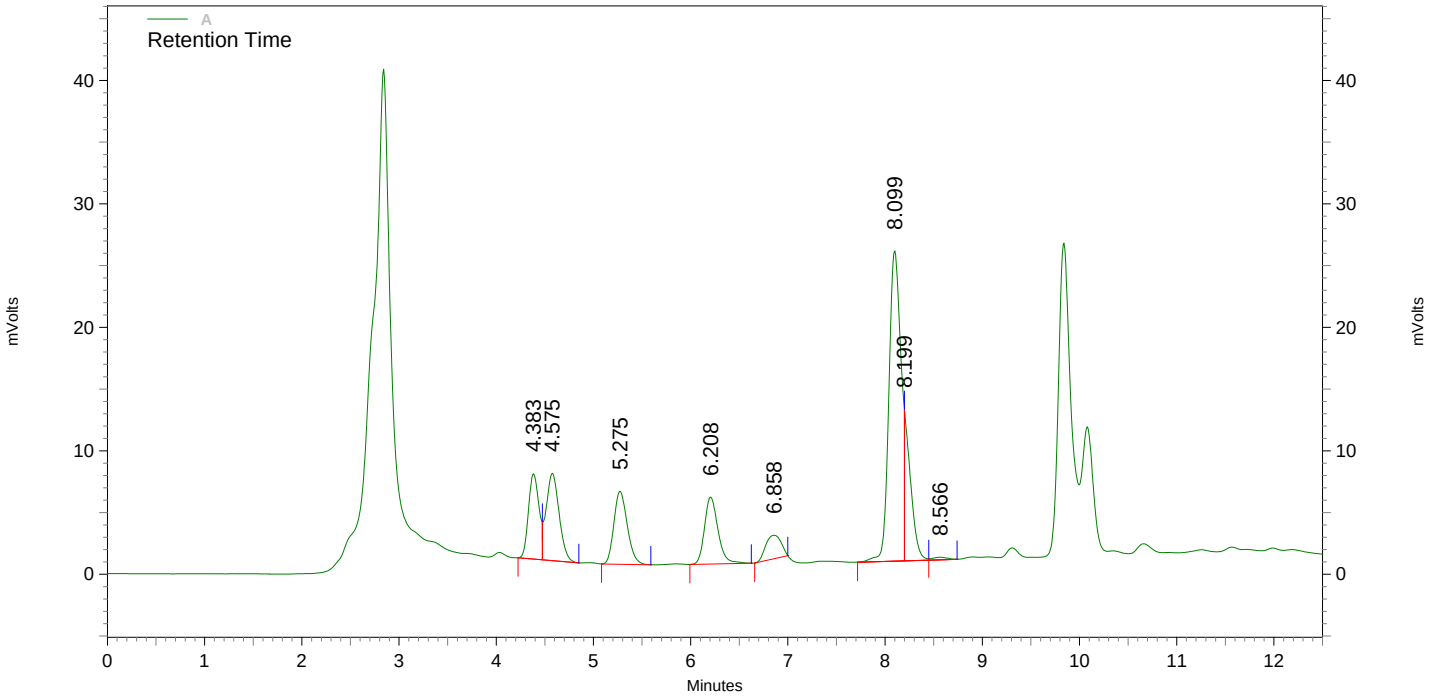
10/19/2015



A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX	4.575	65594	**0.449**
DNX	5.275	56663	**0.463**
MNX	6.208	52165	**0.505**
12-DNB (SSTD)	8.199	54048	**106.558**

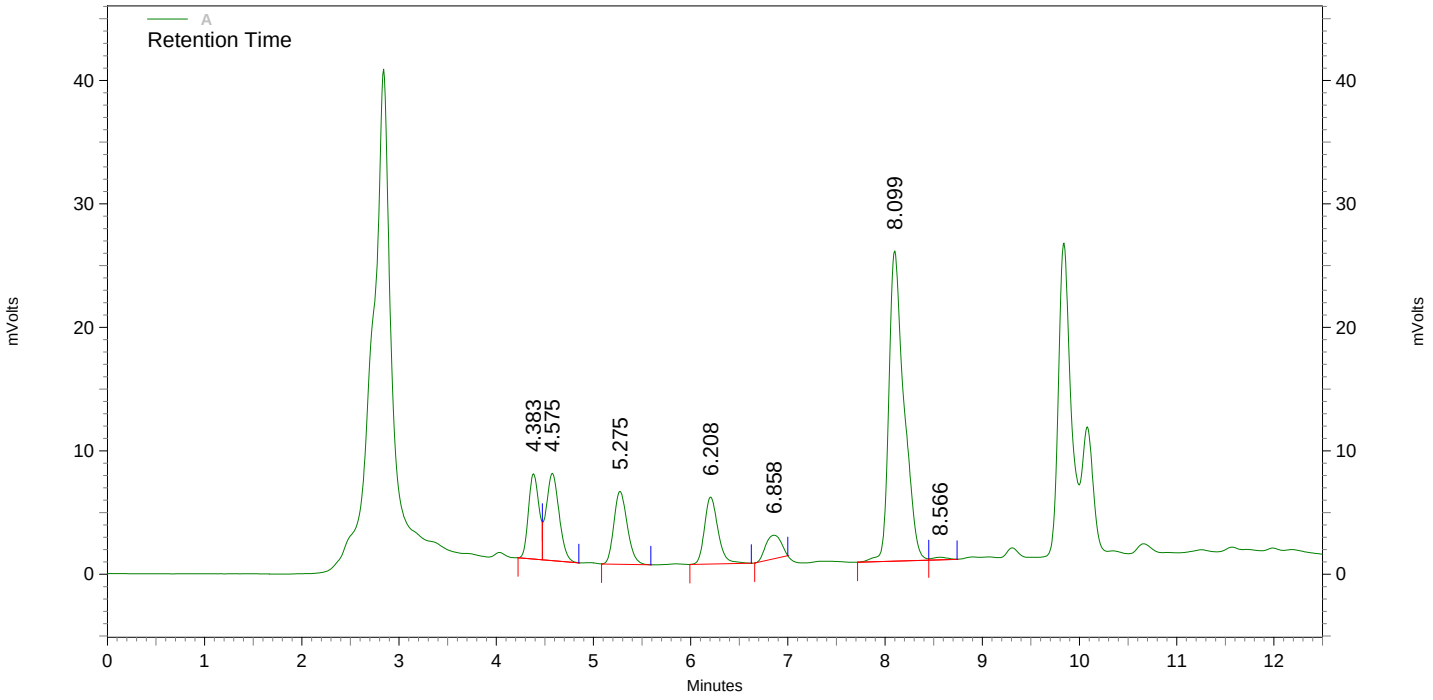
COMMENTS:

1. The results are reported using a UV/Vis detector set at 254 nm.

Explosives - 8330

Before Manual Integration

File: C:\Instarch\HPLC 2\Data\101515MDTNX-primary\003.dat
User ID: RED
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\092915MDTNXic-primary\101515MDTNX-primary.met
Sample ID: 119664,MSDW640119,
Acquired: Oct 15, 2015 10:06:04
Data Summary: Reason #3 applies to data. RED 10/15/2015



A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX	4.575	65594	**0.449**
DNX	5.275	56663	**0.463**
MNX	6.208	52165	**0.505**
12-DNB (SSTD)	8.099	271728	**542.359**

COMMENTS:

1. The results are reported using a UV/Vis detector set at 254 nm.

NITROAROMATICS ANALYSIS
LOGBOOK
DOCUMENTS

S 8330B EXPLOSIVES QSM Analytical Run
119663 on 10/8/2015

RED

Date Analyzed: _____ Date Reviewed: 10/19/2015

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
114433	640118		9/30/2015	0915			BERING SEA ENVIRONMENTAL	RAAP	8330B EXPLOSIVES QSM 5		GW	**4**	
		54MW1								54487			
114433	640119		9/30/2015	1130			BERING SEA ENVIRONMENTAL	RAAP	8330B EXPLOSIVES QSM 5		GW	**4**	
		54MW12			Designated MS/MSD					54487			
114433	640120		9/30/2015	1355			BERING SEA ENVIRONMENTAL	RAAP	8330B EXPLOSIVES QSM 5		GW	**4**	
		54MW13								54487			
114433	640121		9/30/2015	1425			BERING SEA ENVIRONMENTAL	RAAP	8330B EXPLOSIVES QSM 5		GW	**4**	
		54MW10								54487			
114433	640122		9/30/2015	1425			BERING SEA ENVIRONMENTAL	RAAP	8330B EXPLOSIVES QSM 5		GW	**4**	
		SWMU54TM								54487			
	640726								8330B EXPLOSIVES QSM 5				
					MBW					54487			
	640727								8330B EXPLOSIVES QSM 5				
					LCSW					54487			
	640729		9/30/2015	1130					8330B EXPLOSIVES QSM 5				
		54MW12			MSW	640119				54487			
	640730		9/30/2015	1130					8330B EXPLOSIVES QSM 5				
		54MW12			MSDW	640729				54487			

9 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

PREP WORKSHEET
on 10/8/2015

Prep Batch **54,487** Date Prepped: 10/7/2015 Prepped By RED

Folder #	Order	QC Type	Link	Test	Matrix	Volume	Weight	Initial Volume	SDG Level	Notes
	640726	MBW		8330B EXPLOSIVES	LIQUID	5.0		1.000		
	640727	LCSW		8330B EXPLOSIVES	LIQUID	5.0		1.000		
114433	640118			8330B EXPLOSIVES	GROUND WATER	5.0		1.000	4	
	640119	*		8330B EXPLOSIVES	GROUND WATER	5.0		1.000	4	
	640120			8330B EXPLOSIVES	GROUND WATER	5.0		1.000	4	
	640121			8330B EXPLOSIVES	GROUND WATER	5.0		1.000	4	
	640122			8330B EXPLOSIVES	GROUND WATER	5.0		0.930	4	
	640729	MSW	640119	8330B EXPLOSIVES	GROUND WATER	5.0		1.000		
	640730	MSDW	640729	8330B EXPLOSIVES	GROUND WATER	5.0		1.000		

Notes:_____

FSV9-02 & FSV10-02

Explosives or Nitroguanidine Prep Bench Sheet

(SOP Reference #'s 8330A & 8330B)

8330A,8330B, or 8330M >>

Prep Batch #:	54487
Prep Method:	8330B
Analyst:	RED
Date:	10/07/2015
Start Time:	8:55
End Date:	10/08/2015
End Time:	12:00

Matrix: WATER
Balance Used: NA

GPC By: NA
GPC Date: NA

Reagent:	Lot #
Methylene Chloride	NA
Acetonitrile	61650
Methanol	NA
0.1% Formic Acid	EXP 5499

Concentrated By: NA
Concentration Date: NA

Diluted By: RED
Dilution Date: 10/08/2015

8330A = Explosives (liquids/solids)
8330B = Explosives (liquids/solids)
8330M = Nitroguanidine (liquids/solids)

Sample ID #	Comments		(Solids) Sample Weight (g)	(Liquids) Sample Volume (L)	Extract Volume (ml)	Diluted (Yes/No)	Dilution Volume (ml)
640726				1.000	5.0	YES	10.0
640727				1.000	5.0	YES	10.0
640118				1.000	5.0	YES	10.0
640119				1.000	5.0	YES	10.0
640120				1.000	5.0	YES	10.0
640121				1.000	5.0	YES	10.0
640122				0.930	5.0	YES	10.0
	(Dup)						
	(Trip)						
640729	(MS)	Parent Sample		1.000	5.0	YES	10.0
640730	(MSD)	640119		1.000	5.0	YES	10.0

MB=Method Blank, LCS=Laboratory Control Sample, Dup=Duplicate, Trip=Triplicate, MS=Matrix Spike & MSD=Matrix Spike Duplicate

MS/MSD/ LCS Spike Amount (ml): 0.5
Spike Concentration (ug/mL): 10/20
Spike Reference #: EXP 5586

Surrogate Spike Amount (ml): 0.5
Surrogate Spike Conc. (ug/mL): 10
Surrogate Spike Reference #: EXP 5587

Relinquished to: RED
Date: 10/07/2015

Reviewed By: JJY
Date: 10/07/2015

Table 5

8330B Analysis Data Review Checklist

Analytical Run #: 119663	**Independent Reviewer: JJY**
Sequence Date: 10/8/2015; 10/13/2015	**Date of Review: 10/15/2015**
Analyst/Data Interpreter: RED	**Approval: yes**

Instructions: Complete one checklist per *analytical run* . Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirements:	Acceptance Criteria	Analyst Review		Independent Review		Comments (indicate reference to an attachment if necessary)
		Yes	No	Yes	No	
1. INITIAL CALIBRATION (ICAL)						
a. Was the Explosive initial calibration performed using a minimum of five varying standard concentration levels?	Lowest standard at or near MRL	X		X		
b. Is the variation between calibration response factors for all concentration levels <15% RSD, is r^2 >.990, or r > 0.995 for the regression line?		X		X		
c. Was each ICAL uniquely identified (i.e. Standard Number)?	RSD<15%, r^2>0.990, or r>0.995	X		X		
d. Was an initial calibration blank (ICB) analyzed?		X		X		
2. INITIAL CALIBRATION VERIFICATION (ICV)						
a. Was there a second source ICV for all target analytes analyzed after the initial calibration and prior to analysis of any samples?	Second source	X		X		
b. Were the recoveries for the ICV between 85-115% (80-120% for QSM).	% Recovery	X		X		
c. Was the ICV uniquely identified (i.e. Standard Number)?		X		X		
3. CONTINUING CALIBRATION VERIFICATION (CCV)						
a. Were CCVs analyzed at the beginning of the sequence, after every 12 hours or every 20 samples (which ever comes first)(every 10 samples for QSM) and at the end of the analytical run?		X		X		
b. Were the recoveries for the CCVs within program limits?	%Recovery	X		X		
c. Was each CCV uniquely identified (i.e. Standard Number)?		X		X		

Additional Comments:

Analytical Run #: 119663

Table 5

8330B Analysis Data Review Checklist

Requirements:	Acceptance Criteria	Analyst		Independent		Comments (indicate reference to an attachment if necessary)
		Yes	No	Yes	No	
4. BLANKS						
a. Was a method blank (MB) analyzed prior to the analysis of samples?		X		X		
b. Was the MB result less than ½ the reporting limit (RL) or 5% of the sample amount (QSM: less than 1/2 the RL and <10% of the sample amount)?		X		X		
c. Was a MB prepped and analyzed at a frequency of one per Prep Batch?	Batch ≤20 samples	X		X		
5. LABORATORY CONTROL SAMPLE (LCS)						
a. Was a LCS analyzed at a frequency of one per Prep Batch?	Batch ≤20 samples	X		X		
b. Were the LCS recoveries in each LCS within the acceptance criteria?	Per Program	X		X		
6. MATRIX SPIKES						
a. Was a matrix spiked (MS) sample analyzed at a frequency one per Prep Batch?	Batch ≤20 samples	X		X		
b. Were MS recoveries in each MS within the acceptance criteria?	Per Program		X		X	see below
7. MATRIX SPIKE DUPLICATE						
a. Was a duplicate matrix spike sample analyzed at a frequency one per Prep Batch?	Batch <20 samples	X		X		
b. Were MSD within the acceptance criteria?	Per Program		X		X	see below
c. Is the relative percent difference (RPD) between a matrix spike (MS) and its duplicate (MSD) within the acceptance criteria?	Per Program QSM: 30% RPD		X		X	see below

Additional Comments:

The matrix spike (MS) and matrix spike duplicate (MSD) were performed on sample 640119. The MS had high recovery of nitroglycerin due to matrix interference on the primary analysis. Recovery of nitroglycerin on the confirmation analysis was within the acceptable QC range. The primary analysis value was reported and the parent sample was qualified with an "M".

The MSD had low recoveries of almost all analytes. It was re-analyzed on the confirmation column and the low recoveries were confirmed. Analytes with failing recoveries were qualified with an "M" in the parent sample. Because of the low MSD recoveries, there were also several RPD failures. The analytes with failing RPDs were qualified with a "Y" in the parent sample.

Analytical Run #: 119663

Table 5

8330B Analysis Data Review Checklist

Requirements:	Acceptance Criteria	Analyst		Independent		Comments (indicate reference to an attachment if necessary)
		Yes	No	Yes	No	
8. SAMPLES (INCLUDING BLANKS, STANDARDS, AND QC SAMPLES)						
a. Are chromatogram characteristics, including peak shapes and areas, consistent with those of the CCV?		X		X		
b. Are surrogate recoveries for all samples, blanks, standards, and QC samples within acceptance criteria?			X		X	SEE BELOW
c. Were all samples having analytes detected in amounts exceeding the calibration range diluted and reanalyzed?		X		X		
d. Were all samples extracted within holding times and analyzed within 40 days of extracting?	Analysis within 40 days of extraction	X		X		
e. Was there a acetonitrile:H2O injection preformed prior to sample analysis?		X		X		
f. If any analytes were detected in the soil grinding blanks, were the associated samples B-flagged?	< 1/2 RL	NA		NA		WATER SAMPLES
g. Was the batch soil triplicate RSD within acceptance criteria?	<20%	NA		NA		
9. RECORDS AND REPORTING						
a. Are Run, Prep Batch and Extraction sheets, Summary sheets, Sequence file, initial and rerun raw and process data present in the PDF file?		X		X		
b. Are all chromatograms dated and initialed?		X		X		
c. Are reported results whose amounts exceeded the acceptance criteria flagged with an appropriate qualifier and, if needed, a NCR completed?		X		X		
d. Do all values, dilution factors and qualifiers listed on the raw reports match the LIMS data?		X		X		
e. Is the ICAL method referenced on the Raw Data?		X		X		

Additional Comments:

Sample 640120 had low surrogate recovery on both the primary and confirmation analyses. There was no sample available for reprep. Surrogate was qualified with an "S".

640119, 640120, and 640121 had confirmed positive hits for RDX with values greater than 40% different between the two column analyses. This is likely due to matrix interferences that elute at different times on the two columns. RDX in these samples was qualified with a "P".

8330B Breakdown Pdts QSM 5 Analytical Run
119664 on 10/8/2015

RED
10/19/2015

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
114433	640118		9/30/2015	0915			BERING SEA ENVIRONMENTAL	RAAP	8330B Breakdown Pdts QSM 5		GW	**4**	Y
		54MW1								54486			
114433	640119		9/30/2015	1130			BERING SEA ENVIRONMENTAL	RAAP	8330B Breakdown Pdts QSM 5		GW	**4**	Y
		54MW12			Designated MS/MSD					54486			
114433	640120		9/30/2015	1355			BERING SEA ENVIRONMENTAL	RAAP	8330B Breakdown Pdts QSM 5		GW	**4**	Y
		54MW13								54486			
114433	640121		9/30/2015	1425			BERING SEA ENVIRONMENTAL	RAAP	8330B Breakdown Pdts QSM 5		GW	**4**	Y
		54MW10								54486			
114433	640122		9/30/2015	1425			BERING SEA ENVIRONMENTAL	RAAP	8330B Breakdown Pdts QSM 5		GW	**4**	Y
		SWMU54TM								54486			
	643305								8330B Breakdown Pdts QSM 5				
					MBW					54486			
	643306								8330B Breakdown Pdts QSM 5				
					LCSW					54486			
	643307		9/30/2015	1130					8330B Breakdown Pdts QSM 5				
		54MW12			MSW	640119				54486			
	643308		9/30/2015	1130					8330B Breakdown Pdts QSM 5				
		54MW12			MSDW	643307				54486			

9 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

PREP WORKSHEET
on 10/8/2015

Prep Batch **54,486** Date Prepped: 10/7/2015 Prepped By RED

Folder #	Order	QC Type	Link	Test	Matrix	Volume	Weight	Initial Volume	SDG Level	Notes
	643305	MBW		8330B Breakdown Pdts	LIQUID	5.0		1.000		
	643306	LCSW		8330B Breakdown Pdts	LIQUID	5.0		1.000		
114433	640118			8330B Breakdown Pdts	GROUND WATER	5.0		1.000	4	
	640119	*		8330B Breakdown Pdts	GROUND WATER	5.0		1.000	4	
	640120			8330B Breakdown Pdts	GROUND WATER	5.0		1.000	4	
	640121			8330B Breakdown Pdts	GROUND WATER	5.0		1.000	4	
	640122			8330B Breakdown Pdts	GROUND WATER	5.0		0.930	4	
	643307	MSW	640119	8330B Breakdown Pdts	GROUND WATER	5.0		1.000		
	643308	MSDW	643307	8330B Breakdown Pdts	GROUND WATER	5.0		1.000		

Notes:_____

FSV9-02 & FSV10-02

Explosives or Nitroguanidine Prep Bench Sheet

(SOP Reference #'s 8330A & 8330B)

Prep Batch #:	54486
Prep Method:	8330B
Analyst:	RED
Date:	10/07/2015
Start Time:	8:55
End Date:	10/08/2015
End Time:	12:00

8330A,8330B, or 8330M >>

Matrix: WATER
Balance Used: NA

GPC By: NA
GPC Date: NA

Reagent:	Lot #
Methylene Chloride	NA
Acetonitrile	61650
Methanol	NA
0.1% Formic Acid	EXP 5499

Concentrated By: NA
Concentration Date: NA

Diluted By: RED
Dilution Date: 10/08/2015

8330A = Explosives (liquids/solids)
8330B = Explosives (liquids/solids)
8330M = Nitroguanidine (liquids/solids)

Sample ID #	Comments		(Solids) Sample Weight (g)	(Liquids) Sample Volume (L)	Extract Volume (ml)	Diluted (Yes/No)	Dilution Volume (ml)
643305				1.000	5.0	YES	10.0
643306				1.000	5.0	YES	10.0
640118				1.000	5.0	YES	10.0
640119				1.000	5.0	YES	10.0
640120				1.000	5.0	YES	10.0
640121				1.000	5.0	YES	10.0
640122				0.930	5.0	YES	10.0
	(Dup)						
	(Trip)						
643307	(MS)	Parent Sample		1.000	5.0	YES	10.0
643308	(MSD)	640119		1.000	5.0	YES	10.0

MB=Method Blank, LCS=Laboratory Control Sample, Dup=Duplicate, Trip=Triplicate, MS=Matrix Spike & MSD=Matrix Spike Duplicate

MS/MSD/ LCS Spike Amount (ml): 0.5
Spike Concentration (ug/mL): 10
Spike Reference #: EXP 5605

Surrogate Spike Amount (ml): 0.5
Surrogate Spike Conc. (ug/mL): 10
Surrogate Spike Reference #: EXP 5587

Relinquished to: RED
Date: 10/07/2015

Reviewed By: JJY
Date: 10/07/2015

Table 5

8330B Analysis Data Review Checklist

Analytical Run #: 119664	**Independent Reviewer: JJY**
Sequence Date: 10/9/2015; 10/14/2015; 10/15/2015	**Date of Review: 10/16/2015**
Analyst/Data Interpreter: RED	**Approval: yes**

Instructions: Complete one checklist per *analytical run* . Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirements:	Acceptance Criteria	Analyst Review		Independent Review		Comments (indicate reference to an attachment if necessary)
		Yes	No	Yes	No	
1. INITIAL CALIBRATION (ICAL)						
a. Was the Explosive initial calibration performed using a minimum of five varying standard concentration levels?	Lowest standard at or near MRL	X		X		MNX, DNX, TNX
b. Is the variation between calibration response factors for all concentration levels <15% RSD, is r^2 >.990, or r > 0.995 for the regression line?		X		X		
c. Was each ICAL uniquely identified (i.e. Standard Number)?	RSD<15%, r^2>0.990, or r>0.995	X		X		
d. Was an initial calibration blank (ICB) analyzed?		X		X		
2. INITIAL CALIBRATION VERIFICATION (ICV)						
a. Was there a second source ICV for all target analytes analyzed after the initial calibration and prior to analysis of any samples?	Second source	X		X		
b. Were the recoveries for the ICV between 85-115% (80-120% for QSM).	% Recovery	X		X		
c. Was the ICV uniquely identified (i.e. Standard Number)?		X		X		
3. CONTINUING CALIBRATION VERIFICATION (CCV)						
a. Were CCVs analyzed at the beginning of the sequence, after every 12 hours or every 20 samples (which ever comes first)(every 10 samples for QSM) and at the end of the analytical run?		X		X		
b. Were the recoveries for the CCVs within program limits?	%Recovery	X		X		
c. Was each CCV uniquely identified (i.e. Standard Number)?		X		X		

Additional Comments:

Analytical Run #: 119664

Table 5

8330B Analysis Data Review Checklist

Requirements:	Acceptance Criteria	Analyst		Independent		Comments (indicate reference to an attachment if necessary)
		Yes	No	Yes	No	
4. BLANKS						
a. Was a method blank (MB) analyzed prior to the analysis of samples?		X		X		
b. Was the MB result less than ½ the reporting limit (RL) or 5% of the sample amount (QSM: less than 1/2 the RL and <10% of the sample amount)?		X		X		
c. Was a MB prepped and analyzed at a frequency of one per Prep Batch?	Batch ≤20 samples	X		X		
5. LABORATORY CONTROL SAMPLE (LCS)						
a. Was a LCS analyzed at a frequency of one per Prep Batch?	Batch ≤20 samples	X		X		
b. Were the LCS recoveries in each LCS within the acceptance criteria?	Per Program	X		X		
6. MATRIX SPIKES						
a. Was a matrix spiked (MS) sample analyzed at a frequency one per Prep Batch?	Batch ≤20 samples	X		X		
b. Were MS recoveries in each MS within the acceptance criteria?	Per Program	X		X		
7. MATRIX SPIKE DUPLICATE						
a. Was a duplicate matrix spike sample analyzed at a frequency one per Prep Batch?	Batch <20 samples	X		X		
b. Were MSD within the acceptance criteria?	Per Program	X		X		see below
c. Is the relative percent difference (RPD) between a matrix spike (MS) and its duplicate (MSD) within the acceptance criteria?	Per Program QSM: 30% RPD	X		X		

Additional Comments:

The initial primary analysis of the MSD had low recoveries of all analytes. It was re-analyzed on the confirmation column. The confirmation analysis results had all analytes within the acceptable QC limits. This pointed to a possible misinjection on the primary analysis. The MSD was re-analyzed on the primary column and the data was reported from this second primary column analysis.

Analytical Run #: 119664

Table 5

8330B Analysis Data Review Checklist

Requirements:	Acceptance Criteria	Analyst		Independent		Comments (indicate reference to an attachment if necessary)
		Yes	No	Yes	No	
8. SAMPLES (INCLUDING BLANKS, STANDARDS, AND QC SAMPLES)						
a. Are chromatogram characteristics, including peak shapes and areas, consistent with those of the CCV?		X		X		
b. Are surrogate recoveries for all samples, blanks, standards, and QC samples within acceptance criteria?			X		X	SEE BELOW
c. Were all samples having analytes detected in amounts exceeding the calibration range diluted and reanalyzed?		X		X		
d. Were all samples extracted within holding times and analyzed within 40 days of extracting?	Analysis within 40 days of extraction	X		X		
e. Was there a acetonitrile:H2O injection preformed prior to sample analysis?		X		X		
f. If any analytes were detected in the soil grinding blanks, were the associated samples B-flagged?	< 1/2 RL	NA		NA		WATER SAMPLES
g. Was the batch soil triplicate RSD within acceptance criteria?	<20%	NA		NA		
9. RECORDS AND REPORTING						
a. Are Run, Prep Batch and Extraction sheets, Summary sheets, Sequence file, initial and rerun raw and process data present in the PDF file?		X		X		
b. Are all chromatograms dated and initialed?		X		X		
c. Are reported results whose amounts exceeded the acceptance criteria flagged with an appropriate qualifier and, if needed, a NCR completed?		X		X		
d. Do all values, dilution factors and qualifiers listed on the raw reports match the LIMS data?		X		X		
e. Is the ICAL method referenced on the Raw Data?		X		X		

Additional Comments:

Sample 640120 had low surrogate recovery on both the primary and confirmation analyses. There was no sample available for reprep. Surrogate was qualified with an "S".

Samples 640121 and 640122 had high surrogate recovery on the primary analysis due to interference. Recovery on the confirmation analysis was within QC limits. The primary result was reported in both samples and qualified with an "S".

Summary Report

Instrument I... **HPLC 2 (Offline)**
Data Path: **C:\Instarch\HPLC 2\Sequences\8330A_B\082415expic-primary.seq**
User ID: **red**
Printed Date: **Aug 24, 2015 14:54:24**

Run Number	Sample ID	Data Filename	Method Filename	Analysis Date	Data Description
1	1:1 ACN:EXP 5499	001.dat	082415expic-primary...	Aug 24, 2015 14:39:23	
2	8330 Pt. 1 EXP 5588	002.dat	082415expic-primary...	Aug 24, 2015 14:57:40	
3	8330 Pt. 2 EXP 5589	003.dat	082415expic-primary...	Aug 24, 2015 15:15:58	
4	8330 Pt. 3 EXP 5590	004.dat	082415expic-primary...	Aug 24, 2015 15:34:17	
5	8330 Pt. 4 EXP 5591	005.dat	082415expic-primary...	Aug 24, 2015 15:52:35	
6	8330 Pt. 5 EXP 5592	006.dat	082415expic-primary...	Aug 24, 2015 16:10:53	
7	8330 Pt. 6 EXP 5593	007.dat	082415expic-primary...	Aug 24, 2015 16:29:10	
8	8330 Pt. 7 EXP 5594	008.dat	082415expic-primary...	Aug 24, 2015 16:47:29	
9	8330 ICV EXP 5595	009.dat	082415expic-primary...	Aug 24, 2015 17:05:50	

Summary Report

Instrument I... **HPLC 2**
Data Path: **C:\Instarch\HPLC 2\Sequences\8330A_B\091715expic-confirm.seq**
User ID: **RED**
Printed Date: **Sep 18, 2015 08:53:51**

Run Number	Sample ID	Data Filename	Method Filename	Analysis Date	Data Description
1	1:1 ACN:EXP 5499	001.dat	091715expic-confirm...	Sep 17, 2015 15:18:52	
2	8330 Pt. 1 EXP 5597	002.dat	091715expic-confirm...	Sep 17, 2015 15:56:10	
3	8330 Pt. 2 EXP 5598	003.dat	091715expic-confirm...	Sep 17, 2015 16:33:28	
4	8330 Pt. 3 EXP 5599	004.dat	091715expic-confirm...	Sep 17, 2015 17:10:46	
5	8330 Pt. 4 EXP 5600	005.dat	091715expic-confirm...	Sep 17, 2015 17:48:04	
6	8330 Pt. 5 EXP 5601	006.dat	091715expic-confirm...	Sep 17, 2015 18:25:23	
7	8330 Pt. 6 EXP 5602	007.dat	091715expic-confirm...	Sep 17, 2015 19:02:41	
8	8330 Pt. 7 EXP 5603	008.dat	091715expic-confirm...	Sep 17, 2015 19:39:58	
9	8330 ICV EXP 5604	009.dat	091715expic-confirm...	Sep 17, 2015 20:17:20	
10	8330 CCV EXP 5600	010.dat	091715expic-confirm...	Sep 17, 2015 20:54:38	
11	118061,MBW,	011.dat	091715expic-confirm...	Sep 17, 2015 21:31:57	
12	118061,LCSW,	012.dat	091715expic-confirm...	Sep 17, 2015 22:09:14	
13	118061,577889,	013.dat	091715expic-confirm...	Sep 17, 2015 22:46:32	
14	118061,593991,	014.dat	091715expic-confirm...	Sep 17, 2015 23:23:50	
15	118061,593992,	015.dat	091715expic-confirm...	Sep 18, 2015 00:01:07	
16	118061,593993,	016.dat	091715expic-confirm...	Sep 18, 2015 00:38:25	
17	8330A/B water LOD/LOQ ...	017.dat	091715expic-confirm...	Sep 18, 2015 01:15:42	
18	8330A/B water LOD/LOQ ...	018.dat	091715expic-confirm...	Sep 18, 2015 01:53:00	
19	8330A/B water LOD/LOQ ...	019.dat	091715expic-confirm...	Sep 18, 2015 02:30:20	
20	8330A/B water LOD/LOQ ...	020.dat	091715expic-confirm...	Sep 18, 2015 03:07:39	
21	8330 CCV EXP 5600	021.dat	091715expic-confirm...	Sep 18, 2015 03:44:57	
22	8330A/B water LOD/LOQ ...	022.dat	091715expic-confirm...	Sep 18, 2015 04:22:14	
23	8330A/B water LOD/LOQ ...	023.dat	091715expic-confirm...	Sep 18, 2015 04:59:32	
24	8330A/B water LOD/LOQ ...	024.dat	091715expic-confirm...	Sep 18, 2015 05:36:49	
25	8330A Soil MBS	025.dat	091715expic-confirm...	Sep 18, 2015 06:14:07	
26	8330A Soil LOD/LOQ 100 ...	026.dat	091715expic-confirm...	Sep 18, 2015 06:51:24	
27	8330A Soil LOD/LOQ 160 ...	027.dat	091715expic-confirm...	Sep 18, 2015 07:28:41	
28	8330A Soil LOD/LOQ 200 ...	028.dat	091715expic-confirm...	Sep 18, 2015 08:05:59	
29	8330A Soil LOD/LOQ 280 ...	029.dat	091715expic-confirm...	Sep 18, 2015 08:43:20	
30	8330A Soil LOD/LOQ 320 ...	030.dat	091715expic-confirm...	Sep 18, 2015 09:20:38	
31	8330A Soil LOD/LOQ 560 ...	031.dat	091715expic-confirm...	Sep 18, 2015 09:57:57	
32	8330 CCV EXP 5600	032.dat	091715expic-confirm...	Sep 18, 2015 10:35:14	
33	116673,MBS,	033.dat	091715expic-confirm...	Sep 18, 2015 11:12:31	
34	8330B Soil LOD 0.2/0.4 m...	034.dat	091715expic-confirm...	Sep 18, 2015 11:49:48	
35	8330B Soil LOD/LOQ 0.3/...	035.dat	091715expic-confirm...	Sep 18, 2015 12:27:04	
36	8330B Soil LOD/LOQ 0.5/...	036.dat	091715expic-confirm...	Sep 18, 2015 13:04:21	
37	8330B Soil LOD/LOQ 0.6/...	037.dat	091715expic-confirm...	Sep 18, 2015 13:41:38	
38	8330B Soil LOD/LOQ 1.0/...	038.dat	091715expic-confirm...	Sep 18, 2015 14:18:55	
39	8330 CCV EXP 5600	039.dat	091715expic-confirm...	Sep 18, 2015 14:56:16	

Summary Report

Instrument I... **HPLC 2 (Offline)**
Data Path: **C:\Instarch\HPLC 2\Sequences\8330A_B\100815exp-primary.seq**
User ID: **red**
Printed Date: **Oct 09, 2015 10:00:09**

Run Number	Sample ID	Data Filename	Method Filename	Analysis Date	Data Description
1	1:1 ACN:Exp 5499	001.dat	100815exp-primary....	Oct 08, 2015 13:15:20	
2	8330 CCV EXP 5623	002.dat	100815exp-primary....	Oct 08, 2015 14:34:09	
3	119663,MBW,	003.dat	100815exp-primary....	Oct 08, 2015 15:08:44	
4	119663,LCSW,	004.dat	100815exp-primary....	Oct 08, 2015 15:27:02	
5	119663,640118,	005.dat	100815exp-primary....	Oct 08, 2015 15:45:20	
6	119663,640119,	006.dat	100815exp-primary....	Oct 08, 2015 16:03:38	Reason #3 applies to dat...
7	119663,640120,	007.dat	100815exp-primary....	Oct 08, 2015 16:21:56	Reason #3 applies to dat...
8	119663,640121,	008.dat	100815exp-primary....	Oct 08, 2015 16:40:14	
9	119663,640122,	009.dat	100815exp-primary....	Oct 08, 2015 16:58:36	Reason #3 applies to dat...
10	119663,MSW640119,	010.dat	100815exp-primary....	Oct 08, 2015 17:16:54	
11	119663,MSDW640119,	011.dat	100815exp-primary....	Oct 08, 2015 17:35:12	Reason #3 applies to dat...
12	8330 CCV EXP 5623	012.dat	100815exp-primary....	Oct 08, 2015 17:53:30	

Summary Report

Instrument I... **HPLC 2 (Offline)**
Data Path: **C:\Instarch\HPLC 2\Sequences\8330A_B\101315exp-confirm.seq**
User ID: **red**
Printed Date: **Oct 13, 2015 14:57:55**

Run Number	Sample ID	Data Filename	Method Filename	Analysis Date	Data Description
1	1:1 ACN:Exp 5499	001.dat	101315exp-confirm....	Oct 13, 2015 14:22:55	
2	8330 CCV EXP 5625	002.dat	101315exp-confirm....	Oct 13, 2015 15:29:50	Reason #3, #4 applies to ...
3	119663,MBW,	003.dat	101315exp-confirm....	Oct 13, 2015 16:07:08	
4	119663,640118,	004.dat	101315exp-confirm....	Oct 13, 2015 17:06:37	
5	119663,640119,	005.dat	101315exp-confirm....	Oct 13, 2015 17:43:55	Reason #4 applies to dat...
6	119663,640120,	006.dat	101315exp-confirm....	Oct 13, 2015 18:21:13	Reason #4 applies to dat...
7	119663,640121,	007.dat	101315exp-confirm....	Oct 13, 2015 18:58:31	Reason #4 applies to dat...
8	119663,640122,	008.dat	101315exp-confirm....	Oct 13, 2015 19:35:49	Reason #4 applies to dat...
9	119663,MSW640119,	009.dat	101315exp-confirm....	Oct 13, 2015 20:13:10	Reason #3,#4 applies to ...
10	119663,MSDW640119,	010.dat	101315exp-confirm....	Oct 13, 2015 20:50:29	Reason #3,#4 applies to ...
11	8330 CCV EXP 5625	011.dat	101315exp-confirm....	Oct 13, 2015 21:27:47	

Summary Report

Instrument I... **HPLC 2 (Offline)**
Data Path: **C:\Instarch\HPLC 2\Sequences\MDTNX\092915MDTNXic-primary.seq**
User ID: **red**
Printed Date: **Sep 29, 2015 15:17:40**

Run Number	Sample ID	Data Filename	Method Filename	Analysis Date	Data Description
1	1:1 ACN:0.1%FORMIC A...	001.dat	092915MTDNXic-pr...	Sep 29, 2015 15:05:09	
2	DNX MIX Pt. 1 EXP 5616	002.dat	092915MTDNXic-pr...	Sep 29, 2015 15:20:50	
3	DNX MIX Pt. 2 EXP 5617	003.dat	092915MTDNXic-pr...	Sep 29, 2015 15:36:32	
4	DNX MIX Pt. 3 EXP 5615	004.dat	092915MTDNXic-pr...	Sep 29, 2015 15:52:14	
5	DNX MIX Pt. 4 EXP 5618	005.dat	092915MTDNXic-pr...	Sep 29, 2015 16:07:56	
6	DNX MIX Pt. 5 EXP 5619	006.dat	092915MTDNXic-pr...	Sep 29, 2015 16:23:39	
7	DNX MIX Pt. 6 EXP 5620	007.dat	092915MTDNXic-pr...	Sep 29, 2015 16:39:19	
8	DNX MIX Pt. 7 EXP 5621	008.dat	092915MTDNXic-pr...	Sep 29, 2015 16:55:02	
9	DNX MIX ICV EXP 5622	009.dat	092915MTDNXic-pr...	Sep 29, 2015 17:10:47	
10	DNX MIX CCV EXP 5618	010.dat	092915MTDNXic-pr...	Sep 29, 2015 17:26:28	
11	MBW	011.dat	092915MTDNXic-pr...	Sep 29, 2015 17:42:11	
12	MDTNX RED W IDC 1	012.dat	092915MTDNXic-pr...	Sep 29, 2015 17:57:53	
13	MDTNX RED W IDC 2	013.dat	092915MTDNXic-pr...	Sep 29, 2015 18:13:33	
14	MDTNX RED W IDC 3	014.dat	092915MTDNXic-pr...	Sep 29, 2015 18:29:15	
15	MDTNX RED W IDC 4	015.dat	092915MTDNXic-pr...	Sep 29, 2015 18:44:58	
16	MDTNX RED W Blind	016.dat	092915MTDNXic-pr...	Sep 29, 2015 19:00:40	
17	DNX MIX CCV EXP 5618	017.dat	092915MTDNXic-pr...	Sep 29, 2015 19:16:20	
18	MDTNX W lod check 0.1 ...	018.dat	092915MTDNXic-pr...	Sep 29, 2015 19:32:02	
19	MDTNX W lod/loq check 0...	019.dat	092915MTDNXic-pr...	Sep 29, 2015 19:47:47	
20	MDTNX W loq check 0.4 u...	020.dat	092915MTDNXic-pr...	Sep 29, 2015 20:03:30	
21	DNX MIX CCV EXP 5618	021.dat	092915MTDNXic-pr...	Sep 29, 2015 20:19:11	
22	1:1 ACN:0.1%FORMIC A...	022.dat	092915MTDNXic-pr...	Sep 30, 2015 09:22:22	
23	DNX MIX CCV EXP 5618	023.dat	093015MTDNX-pri...	Sep 30, 2015 09:38:04	
24	MDTNX W lod check 0.1 ...	024.dat	093015MTDNX-pri...	Sep 30, 2015 09:53:45	
25	MDTNX W lod/loq check 0...	025.dat	093015MTDNX-pri...	Sep 30, 2015 10:09:30	
26	MDTNX W loq check 0.4 u...	026.dat	093015MTDNX-pri...	Sep 30, 2015 10:27:35	
27	DNX MIX CCV EXP 5618	027.dat	093015MTDNX-pri...	Sep 30, 2015 10:43:16	

Summary Report

Instrument I... **HPLC 2 (Offline)**
Data Path: **C:\Instarch\HPLC 2\Sequences\MDTNX\093015MDTNXic-confirm.seq**
User ID: **red**
Printed Date: **Sep 30, 2015 15:34:31**

Run Number	Sample ID	Data Filename	Method Filename	Analysis Date	Data Description
1	1:1 ACN:0.1%FORMIC A...	001.dat	093015MDTNXic-co...	Sep 30, 2015 15:16:30	
2	DNX MIX Pt. 1 EXP 5616	002.dat	093015MDTNXic-co...	Sep 30, 2015 15:36:48	
3	DNX MIX Pt. 2 EXP 5617	003.dat	093015MDTNXic-co...	Sep 30, 2015 15:57:06	
4	DNX MIX Pt. 3 EXP 5615	004.dat	093015MDTNXic-co...	Sep 30, 2015 16:17:25	
5	DNX MIX Pt. 4 EXP 5618	005.dat	093015MDTNXic-co...	Sep 30, 2015 16:37:42	
6	DNX MIX Pt. 5 EXP 5619	006.dat	093015MDTNXic-co...	Sep 30, 2015 16:58:00	
7	DNX MIX Pt. 6 EXP 5620	007.dat	093015MDTNXic-co...	Sep 30, 2015 17:18:18	
8	DNX MIX Pt. 7 EXP 5621	008.dat	093015MDTNXic-co...	Sep 30, 2015 17:38:37	
9	DNX MIX ICV EXP 5622	009.dat	093015MDTNXic-co...	Sep 30, 2015 17:58:57	
10	DNX MIX CCV EXP 5618	010.dat	093015MDTNXic-co...	Sep 30, 2015 18:19:15	
11	MDTNX W lod check 0.1 ...	011.dat	093015MDTNXic-co...	Sep 30, 2015 18:39:32	
12	MDTNX W lod/loq check 0...	012.dat	093015MDTNXic-co...	Sep 30, 2015 18:59:53	
13	MDTNX W loq check 0.4 u...	013.dat	093015MDTNXic-co...	Sep 30, 2015 19:20:12	
14	DNX MIX CCV EXP 5618	014.dat	093015MDTNXic-co...	Sep 30, 2015 19:40:30	

Summary Report

Instrument I... **HPLC 2**
Data Path: **C:\Instarch\HPLC 2\Sequences\MDTNX\100915MDTNX-primary.seq**
User ID: **RED**
Printed Date: **Oct 09, 2015 10:13:29**

Run Number	Sample ID	Data Filename	Method Filename	Analysis Date	Data Description
1	1:1 ACN:Exp 5499	001.dat	100915MTDNX-pri...	Oct 09, 2015 09:55:35	
2	MDTNX CCV EXP 5624	002.dat	100915MTDNX-pri...	Oct 09, 2015 10:11:16	
3	119664,MBW,	003.dat	100915MTDNX-pri...	Oct 09, 2015 10:26:59	
4	119664,LCSW,	004.dat	100915MTDNX-pri...	Oct 09, 2015 10:42:41	
5	119664,640118,	005.dat	100915MTDNX-pri...	Oct 09, 2015 10:58:22	
6	119664,640119,	006.dat	100915MTDNX-pri...	Oct 09, 2015 11:14:04	Reason #3 applies to dat...
7	119664,640120,	007.dat	100915MTDNX-pri...	Oct 09, 2015 11:29:46	
8	119664,640121,	008.dat	100915MTDNX-pri...	Oct 09, 2015 11:45:29	
9	119664,640122,	009.dat	100915MTDNX-pri...	Oct 09, 2015 12:01:14	
10	119664,MSW640119,	010.dat	100915MTDNX-pri...	Oct 09, 2015 12:16:56	Reason #3 applies to dat...
11	119664,MSDW640119,	011.dat	100915MTDNX-pri...	Oct 09, 2015 12:32:38	Reason #3 applies to dat...
12	MDTNX CCV EXP 5624	012.dat	100915MTDNX-pri...	Oct 09, 2015 12:48:20	

Summary Report

Instrument I... **HPLC 2 (Offline)**
Data Path: **C:\Instarch\HPLC 2\Sequences\MDTNX\101415MDTNX-confirm.seq**
User ID: **red**
Printed Date: **Oct 14, 2015 13:33:36**

Run Number	Sample ID	Data Filename	Method Filename	Analysis Date	Data Description
1	1:1 ACN:Exp 5499	001.dat	101415MDTNX-con...	Oct 14, 2015 13:15:37	
2	MDTNX CCV EXP 5626	002.dat	101415MDTNX-con...	Oct 14, 2015 13:35:54	
3	119664,MBW,	003.dat	101415MDTNX-con...	Oct 14, 2015 13:56:11	
4	119664,640118,	004.dat	101415MDTNX-con...	Oct 14, 2015 14:16:29	
5	119664,640119,	005.dat	101415MDTNX-con...	Oct 14, 2015 14:36:46	Reason #3 applies to dat...
6	119664,640120,	006.dat	101415MDTNX-con...	Oct 14, 2015 14:57:02	Reason #3 applies to dat...
7	119664,640121,	007.dat	101415MDTNX-con...	Oct 14, 2015 15:17:19	Reason #3 applies to dat...
8	119664,640122,	008.dat	101415MDTNX-con...	Oct 14, 2015 15:37:36	Reason #3 applies to dat...
9	119664,MSW640119,	009.dat	101415MDTNX-con...	Oct 14, 2015 15:57:52	Reason #3 applies to dat...
10	119664,MSDW640119,	010.dat	101415MDTNX-con...	Oct 14, 2015 16:18:12	
11	MDTNX CCV EXP 5626	011.dat	101415MDTNX-con...	Oct 14, 2015 16:38:30	Reason #1 applies to dat...
12	119664,MSDW640119,	012.dat	101415MDTNX-con...	Oct 14, 2015 17:07:17	Reason #1, #3 applies to ...
13	MDTNX CCV EXP 5626	013.dat	101415MDTNX-con...	Oct 14, 2015 17:27:36	Reason #1 applies to dat...

Summary Report

Instrument I... **HPLC 2**
Data Path: **C:\Instarch\HPLC 2\Sequences\MDTNX\101515MDTNX-primary.seq**
User ID: **RED**
Printed Date: **Oct 15, 2015 09:47:11**

Run Number	Sample ID	Data Filename	Method Filename	Analysis Date	Data Description
1	1:1 ACN:Exp 5499	001.dat	101515MDTNX-pri...	Oct 15, 2015 09:34:40	
2	MDTNX CCV EXP 5626	002.dat	101515MDTNX-pri...	Oct 15, 2015 09:50:22	
3	119664,MSDW640119,	003.dat	101515MDTNX-pri...	Oct 15, 2015 10:06:04	Reason #3 applies to dat...
4	MDTNX CCV EXP 5626	004.dat	101515MDTNX-pri...	Oct 15, 2015 10:57:41	

EXP 5497 8330 CCV
0.500 mL EXP5437 @ 10/20 ug/mL into 10mL 1:1 ACN:0.1% formic acid in H2O. Final conc = 0.5/1.0 ug/mL. Prepared 4/23/15 by REO. Expires 4/24/15.
[signature] 4/23/2015

EXP 5498 8330 CCV
0.500 mL EXP5437 @ 10/20 ug/mL into 10mL 1:1 ACN:0.1% formic acid in H2O. Final Conc = 0.5/1.0 ug/mL. Prepared 4/28/15 by REO. Expires 4/29/15.
[signature] 4/28/2015

EXP 5499 0.1% formic acid solution
4mL 99% formic acid lot 0186175E into 4L DI H2O
Final conc = 0.1% v/v. Prepared 4/29/15 by REO.
Expires 10/29/15.
[signature] 4/29/2015

EXP 5500 8330 CCV
0.500 mL EXP5437 @ 10/20 ug/mL into 1:1 ACN:0.1% formic acid in H2O to 10 mL final volume. Final Conc = 0.5/1.0 ug/mL. Prepared 5/5/15 by REO. Expires 5/6/15.
[signature] 5/5/2015

EXP 5501 8330 CCV
0.500 mL EXP5437 @ 10/20 ug/mL into 1:1 ACN:EXP5499 to a final volume of 10 mL. Final conc = 0.5/1.0 ug/mL. Prepared 5/6/15 by REO. Expires 5/7/15.
[signature] 5/6/2015

EXP 5502 8330 CCV
0.500 mL EXP5437 @ 10/20 ug/mL into 1:1 ACN:EXP5499 to 10 mL final volume. Final conc = 0.5/1.0 ug/mL. Prepared 5/7/15 by REO. Expires 5/8/15.
[signature] 5/7/2015

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Read and Understood By

Signed Date Signed Date

Exp 5507 8330 ICV Spike

0.500 mL S3157 @ 100 ug/mL
0.500 mL S3159 @ 100 ug/mL
0.050 mL S29226 @ 1000 ug/mL
0.050 mL S30984 @ 1000 ug/mL
0.100 mL S31660 @ 1000 ug/mL
0.100 mL S3158 @ 1000 ug/mL

} 50 mL final volume in ACN - Baker Lot 100556
Final conc. = 10/20 ug/mL

Prepared 5/15 1st by RED Expires 10/10/15.

5/15/15

	Standard Description	Solvent/Lot	Prep Date/Analyst/Exp. Date	STD Parent ID/analyte group & Concentration			Standard Volume (mL)	Final Volume (mL)	Final Concentration	
EXP 5508	8330 Pt 1	1:1 ACN:0.1% formic acid in H2O Lot 100556 EXP 5499	15-May-15 RED 16-May-15	EXP 5503 8330mix	10	ug/mL	0.003	1.00	0.03	ug/ml
				EXP 5503 NG-PETN	20	ug/mL	0.003	1.00	0.06	ug/ml
EXP 5509	8330 Pt 2			EXP 5503 8330mix	10	ug/mL	0.010	1.00	0.10	ug/ml
				EXP 5503 NG-PETN	20	ug/mL	0.010	1.00	0.20	ug/ml
EXP 5510	8330 Pt3			EXP 5503 8330mix	10	ug/mL	0.025	1.00	0.25	ug/ml
				EXP 5503 NG-PETN	20	ug/mL	0.025	1.00	0.50	ug/ml
EXP 5511	8330 Pt 4 (CCV)			EXP 5503 8330mix	10	ug/mL	0.500	10.00	0.50	ug/ml
				EXP 5503 NG-PETN	20	ug/mL	0.500	10.00	1.00	ug/ml
EXP 5512	8330 Pt 5			EXP 5503 8330mix	10	ug/mL	0.100	1.00	1.00	ug/ml
				EXP 5503 NG-PETN	20	ug/mL	0.100	1.00	2.00	ug/ml
EXP 5513	8330 Pt 6			EXP 5503 8330mix	10	ug/mL	0.200	1.00	2.00	ug/ml
				EXP 5503 NG-PETN	20	ug/mL	0.200	1.00	4.00	ug/ml
EXP 5514	8330 Pt 7			EXP 5503 8330mix	10	ug/mL	0.300	1.00	3.00	ug/ml
				EXP 5503 NG-PETN	20	ug/mL	0.300	1.00	6.00	ug/ml
EXP 5515	8330 ICV (second source)			EXP 5507 8330mix	10	ug/mL	0.050	1.00	0.50	ug/ml
				EXP 5507 NG-PETN	20	ug/mL	0.050	1.00	1.00	ug/ml

5/15/15

	Standard Description	Solvent/Lot	Prep Date/Analyst/Exp. Date	STD Parent ID/analyte group & Concentration			Standard Volume (mL)	Final Volume (mL)	Final Concentration	
EXP 5516	8330 Pt 1	1:1 ACN:0.1% formic acid in H2O Lot 100556:EXP 5499	18-May-15 RED 19-May-15	EXP 5503 8330mix	10	ug/mL	0.003	1.00	0.03	ug/ml
				EXP 5503 NG-PETN	20	ug/mL	0.003	1.00	0.06	ug/ml
EXP 5517	8330 Pt 2			EXP 5503 8330mix	10	ug/mL	0.010	1.00	0.10	ug/ml
				EXP 5503 NG-PETN	20	ug/mL	0.010	1.00	0.20	ug/ml
EXP 5518	8330 Pt3			EXP 5503 8330mix	10	ug/mL	0.025	1.00	0.25	ug/ml
				EXP 5503 NG-PETN	20	ug/mL	0.025	1.00	0.50	ug/ml
EXP 5519	8330 Pt 4 (CCV)			EXP 5503 8330mix	10	ug/mL	0.500	10.00	0.50	ug/ml
				EXP 5503 NG-PETN	20	ug/mL	0.500	10.00	1.00	ug/ml
EXP 5520	8330 Pt 5			EXP 5503 8330mix	10	ug/mL	0.100	1.00	1.00	ug/ml
				EXP 5503 NG-PETN	20	ug/mL	0.100	1.00	2.00	ug/ml
EXP 5521	8330 Pt 6			EXP 5503 8330mix	10	ug/mL	0.200	1.00	2.00	ug/ml
				EXP 5503 NG-PETN	20	ug/mL	0.200	1.00	4.00	ug/ml
EXP 5522	8330 Pt 7			EXP 5503 8330mix	10	ug/mL	0.300	1.00	3.00	ug/ml
				EXP 5503 NG-PETN	20	ug/mL	0.300	1.00	6.00	ug/ml
EXP 5523	8330 ICV (second source)			EXP 5507 8330mix	10	ug/mL	0.050	1.00	0.50	ug/ml
				EXP 5507 NG-PETN	20	ug/mL	0.050	1.00	1.00	ug/ml

5/19/15

Exp 5524 8330 CCV

0.500 mL Exp 5503 @ 10/20 ug/mL into 1:1 ACN: Exp 5499 to 10 mL.
Final conc = 0.5/10 ug/mL. Prepared 5/19/15 1st by RED
Expires 5/20/15.

5/19/2015

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EXP Logbook 01

01/19/2015

NOTEBOOK VIEW: LTN_EXP_Logbook01_Default, NOTEBOOK: EXP_Logbook01, PAGE: 29
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Author: rduranceau on: 03.07.2015 13:11:21
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Project: Unassigned
Page Title: 070315

Standard ID #	Standard Description	Solvent / Lot #	Prep Date	Expiration Date	Analyst
EXP 5543	8330 Spike Std.	ACN / Lot # JT Baker / 100556	07/03/2015	01/03/2016	RED

Stock Standards Used	Prep	Final Concentration
(1) 8330 Calibration Mix (1000 ug/mL) S3244 (2) 3,5-Dinitroaniline Standard (1,000 ug/mL) S3218 (3) 1,2-Dintrobenzene Standard (1,000 ug/mL) S3298B (4) Trinitroglycerin Standard (1,000 ug/mL) S3243B (5) PETN Standard (1,000 ug/mL) S3242B	0.500 mL Each of (1), (2), and (3) plus 1.00 mL each of (4) and (5) were added to a 50 mL volumetric flask containing ACN and brought to volume.	10.0 ug/mL (20.0 ug/mL NG/PETN)

EXP Logbook 01

01/19/2015

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Author: rduranceau on: 19.08.2015 14:55:57
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Project: Unassigned
Page Title: 081915

Standard ID #	Standard Description	Solvent / Lot #	Prep Date	Expiration Date	Analyst
EXP 5586	8330 Spike Std.	ACN / Lot # Macron/61650	8/19/2015	2/19/2016	RED

Stock Standards Used	Prep	Final Concentration
(1) 8330 Calibration Mix (1000 ug/mL) S3244 (2) 3,5-Dinitroaniline Standard (1,000 ug/mL) S3218/3302 (3) 1,2-Dintrobenzene Standard (1,000 ug/mL) S3298C (4) Trinitroglycerin Standard (1,000 ug/mL) S3243B/3333 (5) PETN Standard (1,000 ug/mL) S3331A	0.50 mL each of (1), (2), and (3) and 1.00 mL each of (4) and (5) were added to ACN in a 50 mL volumetric flask and brought to volume.	10.0 ug/mL (20.0 ug/mL NG/PETN)

Standard Number	Standard Description	Solvent Manufacturer Lot	Analyst	Prep Date	Expiration Date
EXP 5587	8330 Surrogate	ACN/Macron Lot 61650	RED	08/19/2015	02/19/2016

STD Parent ID	Parent Concentration	Units	Standard Volume (ml)	Final Volume (ml)	Final Concentration (ug/ml)
S3334A	1000	ug/mL	1.00	100	10.0

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EXP Logbook 01

01/19/2015

NOTEBOOK VIEW: LTN_EXP_Logbook01_Default, NOTEBOOK: EXP_Logbook01, PAGE: 44
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Author: rduranceau on: 24.08.2015 13:10:24
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Project: Unassigned
Page Title: 082415

Calibration:	Explosives Initial Calibration	Solvent / Lot #	Prep Date	Expiration Date	Analyst
		1:1 ACN: 0.1% formic acid in H_2O EXP 5499 / Lot 61650	8/24/2015	8/25/2015	RED

Standard ID #	Standard Description	Prep	Final Concentration
EXP 5588	8330 Calibration Pt. 1	Added 0.003 mL of 10 ug/mL (20 ug/mL NG/PETN) 8330 Custom Mix Std. EXP 5586 into 1.0 mL of 1:1 ACN: 0.1% formic acid in H_2O.	0.03 ug/mL (0.06 ug/mL NG/PETN)
EXP 5589	8330 Calibration Pt. 2	Added 0.010 mL of 10 ug/mL (20 ug/mL NG/PETN) 8330 Custom Mix Std. EXP 5586 into 1.0 mL of 1:1 ACN: 0.1% formic acid in H_2O.	0.10 ug/mL (0.20 ug/mL NG/PETN)
EXP 5590	8330 Calibration Pt. 3	Added 0.025 mL of 10 ug/mL (20 ug/mL NG/PETN) 8330 Custom Mix Std. EXP 5586 into 1.0 mL of 1:1 ACN: 0.1% formic acid in H_2O.	0.25 ug/mL (0.50 ug/mL NG/PETN)
EXP 5591	8330 Calibration Pt. 4 (CCV)	Added 0.500 mL of 10 ug/mL (20 ug/mL NG/PETN) 8330 Custom Mix Std. EXP 5586 into 10.0 mL of 1:1 ACN: 0.1% formic acid in H_2O.	0.50 ug/mL (1.00 ug/mL NG/PETN)
EXP 5592	8330 Calibration Pt. 5	Added 0.100 mL of 10 ug/mL (20 ug/mL NG/PETN) 8330 Custom Mix Std. EXP 5586 into 1.0 mL of 1:1 ACN: 0.1% formic acid in H_2O.	1.00 ug/mL (2.00 ug/mL NG/PETN)
EXP 5593	8330 Calibration Pt. 6	Added 0.200 mL of 10 ug/mL (20 ug/mL NG/PETN) 8330 Custom Mix Std. EXP 5586 into 1.0 mL of 1:1 ACN: 0.1% formic acid in H_2O.	2.00 ug/mL (4.00 ug/mL NG/PETN)
EXP 5594	8330 Calibration Pt. 7	Added 0.300 mL of 10 ug/mL (20 ug/mL NG/PETN) 8330 Custom Mix Std. EXP 5586 into 1.0 mL of 1:1 ACN: 0.1% formic acid in H_2O.	3.00 ug/mL (6.00 ug/mL NG/PETN)

EXP 5595	8330 ICV (Second Source)	Added 0.050 mL of 10 ug/mL (20 ug/mL NG/PETN) 8330 Custom Mix Std. EXP 5507 into 1.0 mL of 1:1 ACN: 0.1% formic acid in H_2O.	0.50 ug/mL (1.00 ug/mL NG/PETN)

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EXP Logbook 01

01/19/2015

NOTEBOOK VIEW: LTN_EXP_Logbook01_Default, NOTEBOOK: EXP_Logbook01, PAGE: 46
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Author: rduranceau on: 17.09.2015 15:01:29
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Project: Unassigned
Page Title: 091715

Calibration:	Explosives Initial Calibration	Solvent / Lot #	Prep Date	Expiration Date	Analyst
		1:1 ACN: 0.1% formic acid in H_2O EXP 5499 / Lot Macron 61650	09/17/2015	09/18/2015	RED

Standard ID #	Standard Description	Prep	Final Concentration
EXP 5597	8330 Calibration Pt. 1	Added 0.003 mL of 10 ug/mL (20 ug/mL NG/PETN) 8330 Custom Mix Std. EXP 5586 into 1.0 mL of 1:1 ACN: 0.1% formic acid in H_2O.	0.03 ug/mL (0.06 ug/mL NG/PETN)
EXP 5598	8330 Calibration Pt. 2	Added 0.010 mL of 10 ug/mL (20 ug/mL NG/PETN) 8330 Custom Mix Std. EXP 5586 into 1.0 mL of 1:1 ACN: 0.1% formic acid in H_2O.	0.10 ug/mL (0.20 ug/mL NG/PETN)
EXP 5599	8330 Calibration Pt. 3	Added 0.025 mL of 10 ug/mL (20 ug/mL NG/PETN) 8330 Custom Mix Std. EXP 5586 into 1.0 mL of 1:1 ACN: 0.1% formic acid in H_2O.	0.25 ug/mL (0.50 ug/mL NG/PETN)
EXP 5600	8330 Calibration Pt. 4 (CCV)	Added 0.500 mL of 10 ug/mL (20 ug/mL NG/PETN) 8330 Custom Mix Std. EXP 5586 into 10.0 mL of 1:1 ACN: 0.1% formic acid in H_2O.	0.50 ug/mL (1.00 ug/mL NG/PETN)
EXP 5601	8330 Calibration Pt. 5	Added 0.100 mL of 10 ug/mL (20 ug/mL NG/PETN) 8330 Custom Mix Std. EXP 5586 into 1.0 mL of 1:1 ACN: 0.1% formic acid in H_2O.	1.00 ug/mL (2.00 ug/mL NG/PETN)
EXP 5602	8330 Calibration Pt. 6	Added 0.200 mL of 10 ug/mL (20 ug/mL NG/PETN) 8330 Custom Mix Std. EXP 5586 into 1.0 mL of 1:1 ACN: 0.1% formic acid in H_2O.	2.00 ug/mL (4.00 ug/mL NG/PETN)
EXP 5603	8330 Calibration Pt. 7	Added 0.300 mL of 10 ug/mL (20 ug/mL NG/PETN) 8330 Custom Mix Std. EXP 5586 into 1.0 mL of 1:1 ACN: 0.1% formic acid in H_2O.	3.00 ug/mL (6.00 ug/mL NG/PETN)

EXP 5604	8330 ICV (Second Source)	Added 0.050 mL of 10 ug/mL (20 ug/mL NG/PETN) 8330 Custom Mix Std. EXP 5507 into 1.0 mL of 1:1 ACN: 0.1% formic acid in H_2O.	0.50 ug/mL (1.00 ug/mL NG/PETN)

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EXP Logbook 01

01/19/2015

NOTEBOOK VIEW: LTN_EXP_Logbook01_Default, NOTEBOOK: EXP_Logbook01, PAGE: 47
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Author: rduranceau on: 29.09.2015 10:00:47
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Project: Unassigned
Page Title: 092415

Standard Number	Standard Description	Solvent Manufacturer Lot	Analyst	Prep Date	Expiration Date
EXP 5605	MNX DNX TNX Spike	ACN/Macron/Lot 61650	RED	09/29/2015	01/09/2016

STD Parent ID	Parent Concentration	Units	Standard Volume (ml)	Final Volume (ml)	Final Concentration (ug/ml)
S3166	1000	ug/mL	0.179	10.0	10
S3165	1000	ug/mL	0.064	10.0	10
S3164	1000	ug/mL	0.054	10.0	10
S3334A	1000	ug/mL	0.100	10.0	10

Standard Number	Standard Description	Solvent Manufacturer Lot	Analyst	Prep Date	Expiration Date
EXP 5606	MNX DNX TNX 2nd Source Intermediate	ACN/Macron/Lot 61650	RED	09/29/2015	03/03/2016

STD Parent ID	Parent Concentration	Units	Standard Volume (ml)	Final Volume (ml)	Final Concentration (ug/ml)
S3167	1000	ug/mL	0.100	10.0	varied
S3334A	1000	ug/mL	0.100	10.0	10

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CT Laboratories LLC

EXP Logbook 01
01/19/2015
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	Initial Calibration	Solvent Manufacturer Lot	Analyst	Prep Date	Expiration Date
	MNX DNX TNX ICAL	50% ACN-Macron Lot 61650 50% EXP 5499	RED	09/29/2015	09/30/2015

Standard Number	Standard Description	Parent ID	Parent Concentration	Units	Standard Volume (ml)	Final Volume (ml)	Final Concentration (ug/ml)
EXP 5615	ICAL 3	EXP 5605	10	ug/mL	0.010	1.00	0.10
EXP 5616	ICAL 1	EXP 5615	0.1	ug/mL	0.100	1.00	0.01
EXP 5617	ICAL 2	EXP 5605	10	ug/mL	0.005	1.00	0.05
EXP 5618	ICAL 4 (CCV)	EXP 5605	10	ug/mL	0.500	10.00	0.50
EXP 5619	ICAL 5	EXP 5605	10	ug/mL	0.100	1.00	1.00
EXP 5620	ICAL 6	EXP 5605	10	ug/mL	0.200	1.00	2.00
EXP 5621	ICAL 7	EXP 5605	10	ug/mL	0.300	1.00	3.00
EXP 5622	ICV	EXP 5606	varied	ug/mL	0.100	1.00	varied

EXP Logbook 01

01/19/2015

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Author: rduranceau on: 08.10.2015 12:54:28
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Standard ID #	Standard Description	Solvent / Lot #	Prep Date	Expiration Date	Analyst
EXP 5623	8330 CCV Std.	1:1 ACN: 0.1% formic acid in H_2O EXP 5499 / Lot # Macron/61650	10/08/2015	10/09/2015	RED

Standards Used	Prep	Final Concentration
(1) 10 ug/mL (20 ug/mL NG/PETN) 8330 Spike Std. EXP 5586	0.500 mL of (1) into 10 mL of 1:1 ACN: 0.1% formic acid in H_2O.	0.50 ug/mL (1.00 ug/mL NG/PETN)

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CT Laboratories LLC

EXP Logbook 01

01/19/2015

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Standard Number	Standard Description	Solvent Manufacturer Lot	Analyst	Prep Date	Expiration Date
EXP 5624	MDTNX CCV	1:1 ACN, Macron Lot 61650: EXP 5499	RED	10/09/2015	10/10/2015

STD Parent ID	Parent Concentration	Units	Standard Volume (ml)	Final Volume (ml)	Final Concentration (ug/ml)
EXP 5605	10	ug/mL	0.500	10.00	0.50

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EXP Logbook 01

01/19/2015

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Author: rduranceau on: 12.10.2015 14:39:40
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Page Title: 101215

Standard ID #	Standard Description	Solvent / Lot #	Prep Date	Expiration Date	Analyst
EXP 5625	8330 CCV Std.	1:1 ACN: 0.1% formic acid in H_2O EXP 5499 / Lot # Macron 61650	10/12/2015	10/13/2015	RED

Standards Used	Prep	Final Concentration
(1) 10 ug/mL (20 ug/mL NG/PETN) 8330 Spike Std. EXP 5586	0.500 mL of (1) into 10 mL of 1:1 ACN: 0.1% formic acid in H_2O.	0.50 ug/mL (1.00 ug/mL NG/PETN)

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EXP Logbook 01

01/19/2015

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Author: rduranceau on: 14.10.2015 09:27:34
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Project: Unassigned
Page Title: 101415

Standard Number	Standard Description	Solvent Manufacturer Lot	Analyst	Prep Date	Expiration Date
EXP 5626	MDTNX CCV	1:1 ACN, Macron Lot 61650: EXP 5499	RED	10/14/2015	10/15/2015

STD Parent ID	Parent Concentration	Units	Standard Volume (ml)	Final Volume (ml)	Final Concentration (ug/ml)
EXP 5605	10.0	ug/mL	0.500	10.0	0.50

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CT Laboratories LLC

METALS
CLP FORMS
DOCUMENTS

CT LABORATORIES
delivering more than data from your environmental analyses

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INORGANIC ANALYSIS DATA SHEET

Sample Description

ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	114433
% Solids:		Lab Sample ID:	640611
Analytical Method:	EPA 7470A	Date Received:	10/03/2015
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	119700	Analysis Date/Time	10/12/2015 07:56
Analytical Prep Batch #:	54544	Prep. Date/Time:	10/09/2015 08:30
ICAL Calibration #:	10112015	Concentration Units:	ug/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7439-97-6	Total Mercury	0.060	U	0.030	0.060	0.12	0.12

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INORGANIC ANALYSIS DATA SHEET

Sample Description

ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	114433
% Solids:		Lab Sample ID:	640611
Analytical Method:	EPA 6010C	Date Received:	10/03/2015
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	119596	Analysis Date/Time	10/08/2015 09:19
Analytical Prep Batch #:	54510	Prep. Date/Time:	10/07/2015 07:30
ICAL Calibration #:		Concentration Units:	ug/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7440-09-7	Total Potassium	1070		90	250	500	500
7440-23-5	Total Sodium	40700		100	300	600	600

CT LABORATORIES
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INORGANIC ANALYSIS DATA SHEET

Sample Description

ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	114433
% Solids:		Lab Sample ID:	640611
Analytical Method:	EPA 6010C	Date Received:	10/03/2015
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	119595	Analysis Date/Time	10/09/2015 14:58
Analytical Prep Batch #:	54510	Prep. Date/Time:	10/07/2015 07:30
ICAL Calibration #:		Concentration Units:	ug/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7440-47-3	Total Chromium	7.1	J	0.60	2.0	4.0	4.0
7439-92-1	Total Lead	5.5		1.4	2.0	4.0	4.0

CT LABORATORIES
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Sample Description

ADW01

INORGANIC ANALYSIS DATA SHEET

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	114433
% Solids:		Lab Sample ID:	640611
Analytical Method:	EPA 6010C	Date Received:	10/03/2015
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	119595	Analysis Date/Time	10/07/2015 15:47
Analytical Prep Batch #:	54510	Prep. Date/Time:	10/07/2015 07:30
ICAL Calibration #:		Concentration Units:	ug/L

CAS #	Analyte	Concentration	Qualifiers		DL	LOD	LOQ	RL
7429-90-5	Total Aluminum	31.6	J		6.0	18	36	36
7440-36-0	Total Antimony	6.0	U		2.0	6.0	12	12
7440-38-2	Total Arsenic	12	U		4.0	12	24	24
7440-39-3	Total Barium	106			0.29	0.90	1.8	1.8
7440-41-7	Total Beryllium	0.30	U		0.10	0.30	0.60	0.60
7440-43-9	Total Cadmium	0.43	J		0.30	1.0	2.0	2.0
7440-70-2	Total Calcium	71200			17	50	100	100
7440-48-4	Total Cobalt	2.0	U		0.70	2.0	4.0	4.0
7440-50-8	Total Copper	3.5	U		1.2	3.5	7.0	7.0
7439-89-6	Total Iron	45.9	J	M	16	50	100	100
7439-95-4	Total Magnesium	22800			6.0	20	40	40
7439-96-5	Total Manganese	1.6	J		0.70	2.0	4.0	4.0
7440-02-0	Total Nickel	3.3	J		1.0	3.0	6.0	6.0
7782-49-2	Total Selenium	6.5	U		2.2	6.5	13	13
7440-22-4	Total Silver	2.0	U		0.70	2.0	4.0	4.0
7440-28-0	Total Thallium	5.9	J		2.5	7.5	15	15
7440-62-2	Total Vanadium	2.5	U		0.80	2.5	5.0	5.0
7440-66-6	Total Zinc	5.0	U		1.6	5.0	10	10

CT LABORATORIES
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Sample Description

ADW02

INORGANIC ANALYSIS DATA SHEET

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	114433
% Solids:		Lab Sample ID:	640616
Analytical Method:	EPA 7470A	Date Received:	10/03/2015
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	119700	Analysis Date/Time	10/12/2015 07:57
Analytical Prep Batch #:	54544	Prep. Date/Time:	10/09/2015 08:30
ICAL Calibration #:	10112015	Concentration Units:	ug/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7439-97-6	Total Mercury	0.060	U	0.030	0.060	0.12	0.12

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INORGANIC ANALYSIS DATA SHEET

Sample Description

ADW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	114433
% Solids:		Lab Sample ID:	640616
Analytical Method:	EPA 6010C	Date Received:	10/03/2015
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	119596	Analysis Date/Time	10/08/2015 09:39
Analytical Prep Batch #:	54510	Prep. Date/Time:	10/07/2015 07:30
ICAL Calibration #:		Concentration Units:	ug/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7440-09-7	Total Potassium	1230		90	250	500	500
7440-23-5	Total Sodium	53800		100	300	600	600

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INORGANIC ANALYSIS DATA SHEET

Sample Description

ADW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	114433
% Solids:		Lab Sample ID:	640616
Analytical Method:	EPA 6010C	Date Received:	10/03/2015
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	119595	Analysis Date/Time	10/09/2015 15:03
Analytical Prep Batch #:	54510	Prep. Date/Time:	10/07/2015 07:30
ICAL Calibration #:		Concentration Units:	ug/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7440-47-3	Total Chromium	2.8	J	0.60	2.0	4.0	4.0
7439-92-1	Total Lead	2.0	U	1.4	2.0	4.0	4.0
7782-49-2	Total Selenium	6.5	U	2.2	6.5	13	13

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INORGANIC ANALYSIS DATA SHEET

Sample Description

ADW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	114433
% Solids:		Lab Sample ID:	640616
Analytical Method:	EPA 6010C	Date Received:	10/03/2015
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	119595	Analysis Date/Time	10/07/2015 16:16
Analytical Prep Batch #:	54510	Prep. Date/Time:	10/07/2015 07:30
ICAL Calibration #:		Concentration Units:	ug/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7429-90-5	Total Aluminum	67.3		6.0	18	36	36
7440-36-0	Total Antimony	6.0	U	2.0	6.0	12	12
7440-38-2	Total Arsenic	7.5	J	4.0	12	24	24
7440-39-3	Total Barium	86.8		0.29	0.90	1.8	1.8
7440-41-7	Total Beryllium	0.30	U	0.10	0.30	0.60	0.60
7440-43-9	Total Cadmium	0.46	J	0.30	1.0	2.0	2.0
7440-70-2	Total Calcium	62000		17	50	100	100
7440-48-4	Total Cobalt	2.0	U	0.70	2.0	4.0	4.0
7440-50-8	Total Copper	1.5	J	1.2	3.5	7.0	7.0
7439-89-6	Total Iron	97.0	J	16	50	100	100
7439-95-4	Total Magnesium	23400		6.0	20	40	40
7439-96-5	Total Manganese	11.3		0.70	2.0	4.0	4.0
7440-02-0	Total Nickel	3.6	J	1.0	3.0	6.0	6.0
7440-22-4	Total Silver	2.0	U	0.70	2.0	4.0	4.0
7440-28-0	Total Thallium	7.5	U	2.5	7.5	15	15
7440-62-2	Total Vanadium	0.86	J	0.80	2.5	5.0	5.0
7440-66-6	Total Zinc	17.7		1.6	5.0	10	10

CT LABORATORIES
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Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 114433

Analytical Run #: 119700 Lab Sample ID: 644259

ICAL Calibration #: 10112015 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Mercury	10/12/15 07:28	3.00	3.08	103	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 114433

Analytical Run #: 119596 Lab Sample ID: 643237

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	10/8/15	08:10	100000	98600	99	90	110
Sodium	10/8/15	08:10	100000	96300	96	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

LLQC

2A-1

LOWER LIMIT OF QUANTITATION CHECK (LLQC)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 114433

Analytical Run #: 119596 Lab Sample ID: 643238

ICAL Calibration #: Concentration Units:

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	10/8/15	08:13	3000	3180	106	80	120
Sodium	10/8/15	08:13	3000	3250	108	80	120

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

LLQC

2A-1

LOWER LIMIT OF QUANTITATION CHECK (LLQC)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 114433

Analytical Run #: 119595 Lab Sample ID: 643388

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	10/7/15	14:03	1200	1120	93	80	120
Antimony	10/7/15	14:03	60.00	63.10	105	80	120
Arsenic	10/7/15	14:03	60.00	64.30	107	80	120
Barium	10/7/15	14:03	30.00	29.30	98	80	120
Beryllium	10/7/15	14:03	12.00	11.70	98	80	120
Cadmium	10/7/15	14:03	15.00	14.80	99	80	120
Calcium	10/7/15	14:03	1500	1450	97	80	120
Chromium	10/7/15	14:03	30.00	32.20	107	80	120
Cobalt	10/7/15	14:03	30.00	27.80	93	80	120
Copper	10/7/15	14:03	30.00	29.90	100	80	120
Iron	10/7/15	14:03	900.0	845.0	94	80	120
Lead	10/7/15	14:03	30.00	29.80	99	80	120
Magnesium	10/7/15	14:03	1500	1420	95	80	120
Manganese	10/7/15	14:03	30.00	28.70	96	80	120
Nickel	10/7/15	14:03	30.00	30.50	102	80	120
Selenium	10/7/15	14:03	60.00	63.20	105	80	120
Silver	10/7/15	14:03	60.00	51.40	86	80	120
Thallium	10/7/15	14:03	60.00	67.80	113	80	120
Vanadium	10/7/15	14:03	30.00	28.70	96	80	120
Zinc	10/7/15	14:03	30.00	30.10	100	80	120

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

LLQC

2A-1

LOWER LIMIT OF QUANTITATION CHECK (LLQC)

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 114433

Analytical Run #: 119595

Lab Sample ID: 643393

ICAL Calibration #:

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Silver	10/7/15 14:32	10.00	9.85	98	80	120

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 114433

Analytical Run #: 119595 Lab Sample ID: 643677

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	10/7/15	13:59	12000	11900	99	90	110
Antimony	10/7/15	13:59	500.0	512.0	102	90	110
Arsenic	10/7/15	13:59	2000	2000	100	90	110
Barium	10/7/15	13:59	2000	2010	100	90	110
Beryllium	10/7/15	13:59	50.00	47.00	94	90	110
Cadmium	10/7/15	13:59	50.00	48.50	97	90	110
Calcium	10/7/15	13:59	10000	9970	100	90	110
Chromium	10/7/15	13:59	200.0	192.0	96	90	110
Cobalt	10/7/15	13:59	500.0	507.0	101	90	110
Copper	10/7/15	13:59	250.0	262.0	105	90	110
Iron	10/7/15	13:59	5000	4870	97	90	110
Lead	10/7/15	13:59	500.0	498.0	100	90	110
Magnesium	10/7/15	13:59	10000	9790	98	90	110
Manganese	10/7/15	13:59	500.0	483.0	97	90	110
Nickel	10/7/15	13:59	500.0	519.0	104	90	110
Selenium	10/7/15	13:59	2000	1930	96	90	110
Silver	10/7/15	13:59	50.00	47.70	95	90	110
Thallium	10/7/15	13:59	2000	2180	109	90	110
Vanadium	10/7/15	13:59	500.0	509.0	102	90	110
Zinc	10/7/15	13:59	500.0	510.0	102	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 114433

Analytical Run #: 119595 Lab Sample ID: 644586

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	10/9/15	09:43	12000	12000	100	90	110
Antimony	10/9/15	09:43	500.0	516.0	103	90	110
Arsenic	10/9/15	09:43	2000	2100	105	90	110
Barium	10/9/15	09:43	2000	2100	105	90	110
Beryllium	10/9/15	09:43	50.00	48.00	96	90	110
Cadmium	10/9/15	09:43	50.00	47.10	94	90	110
Calcium	10/9/15	09:43	10000	9960	100	90	110
Chromium	10/9/15	09:43	200.0	208.0	104	90	110
Cobalt	10/9/15	09:43	500.0	502.0	100	90	110
Copper	10/9/15	09:43	250.0	261.0	104	90	110
Lead	10/9/15	09:43	500.0	498.0	100	90	110
Magnesium	10/9/15	09:43	10000	10300	103	90	110
Manganese	10/9/15	09:43	500.0	524.0	105	90	110
Nickel	10/9/15	09:43	500.0	514.0	103	90	110
Selenium	10/9/15	09:43	2000	1990	100	90	110
Silver	10/9/15	09:43	50.00	48.70	97	90	110
Vanadium	10/9/15	09:43	500.0	507.0	101	90	110
Zinc	10/9/15	09:43	500.0	495.0	99	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

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Sample No.

LLQC

2A-1

LOWER LIMIT OF QUANTITATION CHECK (LLQC)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 114433

Analytical Run #: 119595 Lab Sample ID: 644587

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	10/9/15	09:48	1200	1090	91	80	120
Antimony	10/9/15	09:48	60.00	60.90	102	80	120
Arsenic	10/9/15	09:48	60.00	59.40	99	80	120
Barium	10/9/15	09:48	30.00	28.80	96	80	120
Beryllium	10/9/15	09:48	12.00	11.20	93	80	120
Cadmium	10/9/15	09:48	15.00	14.00	93	80	120
Calcium	10/9/15	09:48	1500	1410	94	80	120
Chromium	10/9/15	09:48	30.00	30.60	102	80	120
Cobalt	10/9/15	09:48	30.00	27.30	91	80	120
Copper	10/9/15	09:48	30.00	31.50	105	80	120
Iron	10/9/15	09:48	900.0	855.0	95	80	120
Lead	10/9/15	09:48	30.00	29.80	99	80	120
Magnesium	10/9/15	09:48	1500	1420	95	80	120
Manganese	10/9/15	09:48	30.00	28.80	96	80	120
Nickel	10/9/15	09:48	30.00	29.20	97	80	120
Selenium	10/9/15	09:48	60.00	69.80	116	80	120
Silver	10/9/15	09:48	60.00	51.90	86	80	120
Thallium	10/9/15	09:48	60.00	65.00	108	80	120
Vanadium	10/9/15	09:48	30.00	28.20	94	80	120
Zinc	10/9/15	09:48	30.00	30.00	100	80	120

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

LLQC

2A-1

LOWER LIMIT OF QUANTITATION CHECK (LLQC)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 114433

Analytical Run #: 119595 Lab Sample ID: 644591

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Silver	10/9/15	10:15	10.00	9.57	96	80	120

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 114433

Analytical Run #: 119596 Lab Sample ID: 643243

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	10/8/15	08:52	100000	99000	99	90	110
Sodium	10/8/15	08:52	100000	95300	95	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 114433

Analytical Run #: 119596 Lab Sample ID: 643246

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	10/8/15	09:24	100000	100000	100	90	110
Sodium	10/8/15	09:24	100000	95200	95	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 114433

Analytical Run #: 119596 Lab Sample ID: 643249

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	10/8/15	09:55	100000	99600	100	90	110
Sodium	10/8/15	09:55	100000	94200	94	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV High Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 114433

Analytical Run #: 119595 Lab Sample ID: 643394

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	10/7/15	15:19	5000	4600	92	90	110
Antimony	10/7/15	15:19	5000	5010	100	90	110
Arsenic	10/7/15	15:19	5000	4790	96	90	110
Barium	10/7/15	15:19	5000	4790	96	90	110
Beryllium	10/7/15	15:19	500.0	453.0	91	90	110
Cadmium	10/7/15	15:19	500.0	491.0	98	90	110
Calcium	10/7/15	15:19	5000	4560	91	90	110
Chromium	10/7/15	15:19	5000	4570	91	90	110
Cobalt	10/7/15	15:19	5000	4680	94	90	110
Copper	10/7/15	15:19	5000	4670	93	90	110
Iron	10/7/15	15:19	5000	5360	107	90	110
Lead	10/7/15	15:19	5000	4920	98	90	110
Magnesium	10/7/15	15:19	5000	4590	92	90	110
Manganese	10/7/15	15:19	5000	4920	98	90	110
Nickel	10/7/15	15:19	5000	4900	98	90	110
Selenium	10/7/15	15:19	5000	4820	96	90	110
Silver	10/7/15	15:19	500.0	467.0	93	90	110
Thallium	10/7/15	15:19	5000	5180	104	90	110
Vanadium	10/7/15	15:19	5000	4550	91	90	110
Zinc	10/7/15	15:19	5000	4750	95	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV Low Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 114433

Analytical Run #: 119595 Lab Sample ID: 643395

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	10/7/15	15:23	500.0	491.0	98	90	110
Antimony	10/7/15	15:23	500.0	492.0	98	90	110
Arsenic	10/7/15	15:23	500.0	490.0	98	90	110
Barium	10/7/15	15:23	500.0	499.0	100	90	110
Beryllium	10/7/15	15:23	50.00	47.50	95	90	110
Cadmium	10/7/15	15:23	50.00	48.70	97	90	110
Calcium	10/7/15	15:23	500.0	494.0	99	90	110
Chromium	10/7/15	15:23	500.0	496.0	99	90	110
Cobalt	10/7/15	15:23	500.0	488.0	98	90	110
Copper	10/7/15	15:23	500.0	508.0	102	90	110
Iron	10/7/15	15:23	500.0	464.0	93	90	110
Lead	10/7/15	15:23	500.0	506.0	101	90	110
Magnesium	10/7/15	15:23	500.0	461.0	92	90	110
Manganese	10/7/15	15:23	500.0	462.0	92	90	110
Nickel	10/7/15	15:23	500.0	503.0	101	90	110
Selenium	10/7/15	15:23	500.0	508.0	102	90	110
Silver	10/7/15	15:23	50.00	47.80	96	90	110
Thallium	10/7/15	15:23	500.0	523.0	105	90	110
Vanadium	10/7/15	15:23	500.0	490.0	98	90	110
Zinc	10/7/15	15:23	500.0	487.0	97	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV High Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 114433

Analytical Run #: 119595 Lab Sample ID: 643399

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	10/7/15	16:21	5000	4670	93	90	110
Antimony	10/7/15	16:21	5000	4960	99	90	110
Arsenic	10/7/15	16:21	5000	4740	95	90	110
Barium	10/7/15	16:21	5000	4870	97	90	110
Beryllium	10/7/15	16:21	500.0	458.0	92	90	110
Cadmium	10/7/15	16:21	500.0	491.0	98	90	110
Calcium	10/7/15	16:21	5000	4560	91	90	110
Chromium	10/7/15	16:21	5000	4540	91	90	110
Cobalt	10/7/15	16:21	5000	4690	94	90	110
Copper	10/7/15	16:21	5000	4750	95	90	110
Iron	10/7/15	16:21	5000	5380	108	90	110
Lead	10/7/15	16:21	5000	4850	97	90	110
Magnesium	10/7/15	16:21	5000	4560	91	90	110
Manganese	10/7/15	16:21	5000	4900	98	90	110
Nickel	10/7/15	16:21	5000	4890	98	90	110
Selenium	10/7/15	16:21	5000	4770	95	90	110
Silver	10/7/15	16:21	500.0	468.0	94	90	110
Thallium	10/7/15	16:21	5000	5070	101	90	110
Vanadium	10/7/15	16:21	5000	4620	92	90	110
Zinc	10/7/15	16:21	5000	4760	95	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

CCV Low Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 114433

Analytical Run #: 119595 Lab Sample ID: 643400

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	10/7/15	16:25	500.0	482.0	96	90	110
Antimony	10/7/15	16:25	500.0	491.0	98	90	110
Arsenic	10/7/15	16:25	500.0	489.0	98	90	110
Barium	10/7/15	16:25	500.0	493.0	99	90	110
Beryllium	10/7/15	16:25	50.00	47.10	94	90	110
Cadmium	10/7/15	16:25	50.00	50.20	100	90	110
Calcium	10/7/15	16:25	500.0	490.0	98	90	110
Chromium	10/7/15	16:25	500.0	482.0	96	90	110
Cobalt	10/7/15	16:25	500.0	497.0	99	90	110
Copper	10/7/15	16:25	500.0	512.0	102	90	110
Iron	10/7/15	16:25	500.0	469.0	94	90	110
Lead	10/7/15	16:25	500.0	498.0	100	90	110
Magnesium	10/7/15	16:25	500.0	466.0	93	90	110
Manganese	10/7/15	16:25	500.0	468.0	94	90	110
Nickel	10/7/15	16:25	500.0	514.0	103	90	110
Selenium	10/7/15	16:25	500.0	501.0	100	90	110
Silver	10/7/15	16:25	50.00	48.00	96	90	110
Thallium	10/7/15	16:25	500.0	502.0	100	90	110
Vanadium	10/7/15	16:25	500.0	491.0	98	90	110
Zinc	10/7/15	16:25	500.0	502.0	100	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 114433

Analytical Run #: 119700 Lab Sample ID: 644261

ICAL Calibration #: 10112015 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Mercury	10/12/15 07:52	3.00	3.15	105	80	120

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 114433

Analytical Run #: 119700 Lab Sample ID: 644265

ICAL Calibration #: 10122015 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Mercury	10/12/15 08:15	3.00	3.20	107	80	120

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV High Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 114433

Analytical Run #: 119595 Lab Sample ID: 644598

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	10/9/15	14:08	5000	4720	94	90	110
Antimony	10/9/15	14:08	5000	4900	98	90	110
Arsenic	10/9/15	14:08	5000	5000	100	90	110
Beryllium	10/9/15	14:08	500.0	474.0	95	90	110
Cadmium	10/9/15	14:08	500.0	481.0	96	90	110
Calcium	10/9/15	14:08	5000	4940	99	90	110
Chromium	10/9/15	14:08	5000	4900	98	90	110
Iron	10/9/15	14:08	5000	4930	99	90	110
Lead	10/9/15	14:08	5000	4730	95	90	110
Magnesium	10/9/15	14:08	5000	4600	92	90	110
Manganese	10/9/15	14:08	5000	4720	94	90	110
Nickel	10/9/15	14:08	5000	4850	97	90	110
Selenium	10/9/15	14:08	5000	4650	93	90	110
Silver	10/9/15	14:08	500.0	458.0	92	90	110
Thallium	10/9/15	14:08	5000	5100	102	90	110
Zinc	10/9/15	14:08	5000	4690	94	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV Low Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 114433

Analytical Run #: 119595 Lab Sample ID: 644599

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Antimony	10/9/15	14:12	500.0	490.0	98	90	110
Arsenic	10/9/15	14:12	500.0	519.0	104	90	110
Beryllium	10/9/15	14:12	50.00	48.00	96	90	110
Cadmium	10/9/15	14:12	50.00	47.30	95	90	110
Chromium	10/9/15	14:12	500.0	504.0	101	90	110
Copper	10/9/15	14:12	500.0	462.0	92	90	110
Lead	10/9/15	14:12	500.0	488.0	98	90	110
Magnesium	10/9/15	14:12	500.0	454.0	91	90	110
Manganese	10/9/15	14:12	500.0	472.0	94	90	110
Nickel	10/9/15	14:12	500.0	505.0	101	90	110
Selenium	10/9/15	14:12	500.0	513.0	103	90	110
Silver	10/9/15	14:12	50.00	47.30	95	90	110
Thallium	10/9/15	14:12	500.0	531.0	106	90	110
Vanadium	10/9/15	14:12	500.0	495.0	99	90	110
Zinc	10/9/15	14:12	500.0	472.0	94	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV High Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 114433

Analytical Run #: 119595 Lab Sample ID: 644601

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	10/9/15	15:08	5000	4830	97	90	110
Antimony	10/9/15	15:08	5000	4980	100	90	110
Arsenic	10/9/15	15:08	5000	4830	97	90	110
Cadmium	10/9/15	15:08	500.0	484.0	97	90	110
Calcium	10/9/15	15:08	5000	4600	92	90	110
Chromium	10/9/15	15:08	5000	4880	98	90	110
Lead	10/9/15	15:08	5000	4810	96	90	110
Magnesium	10/9/15	15:08	5000	4650	93	90	110
Nickel	10/9/15	15:08	5000	4860	97	90	110
Selenium	10/9/15	15:08	5000	4710	94	90	110
Silver	10/9/15	15:08	500.0	448.0	90	90	110
Thallium	10/9/15	15:08	5000	5110	102	90	110
Zinc	10/9/15	15:08	5000	4640	93	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV Low Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 114433

Analytical Run #: 119595 Lab Sample ID: 644602

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Antimony	10/9/15	15:12	500.0	494.0	99	90	110
Arsenic	10/9/15	15:12	500.0	521.0	104	90	110
Beryllium	10/9/15	15:12	50.00	46.10	92	90	110
Cadmium	10/9/15	15:12	50.00	47.20	94	90	110
Chromium	10/9/15	15:12	500.0	507.0	101	90	110
Cobalt	10/9/15	15:12	500.0	466.0	93	90	110
Copper	10/9/15	15:12	500.0	503.0	101	90	110
Lead	10/9/15	15:12	500.0	480.0	96	90	110
Nickel	10/9/15	15:12	500.0	512.0	102	90	110
Selenium	10/9/15	15:12	500.0	492.0	98	90	110
Silver	10/9/15	15:12	50.00	46.40	93	90	110
Thallium	10/9/15	15:12	500.0	507.0	101	90	110
Vanadium	10/9/15	15:12	500.0	491.0	98	90	110
Zinc	10/9/15	15:12	500.0	475.0	95	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

MRL

2B

MRL STANDARD CHECK

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 114433

Analytical Run #: 119596 Lab Sample ID: 643240

ICAL Calibration #: Concentration Units:

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	10/8/15	08:18	1000	1070	107	70	130
Sodium	10/8/15	08:18	1000	1070	107	70	130

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 114433

Analytical Run #: 119596 Lab Sample ID: 643239

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Potassium	10/08/2015 08:16	28.00	U	90	250
Sodium	10/08/2015 08:16	21.00	U	100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 114433

Analytical Run #: 119595 Lab Sample ID: 643389

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit	
Aluminum	10/07/2015 14:13	-0.756	U	6	18	
Antimony	10/07/2015 14:13	-0.796	U	2.0	6.0	
Arsenic	10/07/2015 14:13	-7.90	U	4	12	
Barium	10/07/2015 14:13	-0.0820	U	0.29	0.90	
Beryllium	10/07/2015 14:13	-0.0180	U	0.10	0.30	
Cadmium	10/07/2015 14:13	0.158	U	0.3	1.0	
Calcium	10/07/2015 14:13	-0.654	U	17	50	
Chromium	10/07/2015 14:13	-5.50	U	0.6	2.0	
Cobalt	10/07/2015 14:13	-0.0100	U	0.7	2.0	
Copper	10/07/2015 14:13	-0.184	U	1.2	3.5	
Iron	10/07/2015 14:13	-11.9	U	16	50	
Lead	10/07/2015 14:13	6.42		1.4	2.0	FAIL
Magnesium	10/07/2015 14:13	0.0220	U	6	20	
Manganese	10/07/2015 14:13	-0.630	U	0.7	2.0	
Nickel	10/07/2015 14:13	0.0400	U	1.0	3.0	
Selenium	10/07/2015 14:13	3.99		2.2	6.5	
Silver	10/07/2015 14:13	-0.948	U	0.7	2.0	
Thallium	10/07/2015 14:13	5.52		2.5	7.5	
Vanadium	10/07/2015 14:13	0.360	U	0.8	2.5	
Zinc	10/07/2015 14:13	-0.590	U	1.6	4.0	

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 114433

Analytical Run #: 119595 Lab Sample ID: 644588

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Aluminum	10/09/2015 09:57	-14.0	U	6	18
Antimony	10/09/2015 09:57	1.21	U	2.0	6.0
Barium	10/09/2015 09:57	-0.205	U	0.29	0.90
Beryllium	10/09/2015 09:57	0.0340	U	0.10	0.30
Cadmium	10/09/2015 09:57	0.178	U	0.3	1.0
Calcium	10/09/2015 09:57	-2.89	U	17	50
Chromium	10/09/2015 09:57	0.157	U	0.6	2.0
Cobalt	10/09/2015 09:57	-0.111	U	0.7	2.0
Copper	10/09/2015 09:57	-1.25	U	1.2	3.5
Iron	10/09/2015 09:57	-14.6	U	16	50
Lead	10/09/2015 09:57	-0.229	U	1.4	2.0
Magnesium	10/09/2015 09:57	-2.92	U	6	20
Manganese	10/09/2015 09:57	-1.88	U	0.7	2.0
Nickel	10/09/2015 09:57	-0.450	U	1.0	3.0
Selenium	10/09/2015 09:57	-24.6	U	2.2	6.5
Silver	10/09/2015 09:57	-0.312	U	0.7	2.0
Thallium	10/09/2015 09:57	-4.30	U	2.5	7.5
Vanadium	10/09/2015 09:57	-0.373	U	0.8	2.5
Zinc	10/09/2015 09:57	-0.828	U	1.6	4.0

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 114433

Analytical Run #: 119700 Lab Sample ID: 644260

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: 10112015 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Mercury	10/12/2015 07:30	0	U	0.03	0.06

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 114433

Analytical Run #: 119596 Lab Sample ID: 643244

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Potassium	10/08/2015 08:55	41.00	U	90	250
Sodium	10/08/2015 08:55	70.00	U	100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 114433

Analytical Run #: 119596 Lab Sample ID: 643247

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Potassium	10/08/2015 09:26	4.00	U	90	250
Sodium	10/08/2015 09:26	72.00	U	100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 114433

Analytical Run #: 119596

Lab Sample ID: 643250

Analytical Prep Batch # 0

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Potassium	10/08/2015 09:58	35.00	U	90	250
Sodium	10/08/2015 09:58	66.00	U	100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 114433

Analytical Run #: 119595 Lab Sample ID: 643396

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit	
Aluminum	10/07/2015 15:28	15.00		6	18	
Antimony	10/07/2015 15:28	4.33		2.0	6.0	
Arsenic	10/07/2015 15:28	4.53		4	12	
Barium	10/07/2015 15:28	-0.0570	U	0.29	0.90	
Beryllium	10/07/2015 15:28	-0.153	U	0.10	0.30	
Cadmium	10/07/2015 15:28	0.226	U	0.3	1.0	
Calcium	10/07/2015 15:28	5.82	U	17	50	
Chromium	10/07/2015 15:28	-0.707	U	0.6	2.0	
Cobalt	10/07/2015 15:28	-0.189	U	0.7	2.0	
Copper	10/07/2015 15:28	0.495	U	1.2	3.5	
Iron	10/07/2015 15:28	-7.98	U	16	50	
Lead	10/07/2015 15:28	3.43		1.4	2.0	FAIL
Magnesium	10/07/2015 15:28	1.24	U	6	20	
Manganese	10/07/2015 15:28	0.227	U	0.7	2.0	
Nickel	10/07/2015 15:28	-0.224	U	1.0	3.0	
Selenium	10/07/2015 15:28	12.90		2.2	6.5	FAIL
Silver	10/07/2015 15:28	0.313	U	0.7	2.0	
Thallium	10/07/2015 15:28	2.53		2.5	7.5	
Vanadium	10/07/2015 15:28	-0.656	U	0.8	2.5	
Zinc	10/07/2015 15:28	-0.372	U	1.6	5.0	

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 114433

Analytical Run #: 119595 Lab Sample ID: 643401

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit	
Aluminum	10/07/2015 16:29	0.181	U	6	18	
Antimony	10/07/2015 16:29	-1.46	U	2.0	6.0	
Arsenic	10/07/2015 16:29	2.59	U	4	12	
Barium	10/07/2015 16:29	-0.0280	U	0.29	0.90	
Beryllium	10/07/2015 16:29	-0.106	U	0.10	0.30	
Cadmium	10/07/2015 16:29	0.156	U	0.3	1.0	
Calcium	10/07/2015 16:29	0.516	U	17	50	
Chromium	10/07/2015 16:29	-2.30	U	0.6	2.0	
Cobalt	10/07/2015 16:29	-0.0830	U	0.7	2.0	
Copper	10/07/2015 16:29	0.0380	U	1.2	3.5	
Iron	10/07/2015 16:29	4.25	U	16	50	
Lead	10/07/2015 16:29	2.05		1.4	2.0	FAIL
Magnesium	10/07/2015 16:29	0.570	U	6	20	
Manganese	10/07/2015 16:29	-0.802	U	0.7	2.0	
Nickel	10/07/2015 16:29	-0.527	U	1.0	3.0	
Selenium	10/07/2015 16:29	-3.31	U	2.2	6.5	
Silver	10/07/2015 16:29	-0.771	U	0.7	2.0	
Thallium	10/07/2015 16:29	0.513	U	2.5	7.5	
Vanadium	10/07/2015 16:29	-0.651	U	0.8	2.5	
Zinc	10/07/2015 16:29	-1.34	U	1.6	5.0	

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 114433

Analytical Run #: 119595 Lab Sample ID: 644600

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Aluminum	10/09/2015 14:17	-23.4	U	6	18
Antimony	10/09/2015 14:17	4.38		2.0	6.0
Arsenic	10/09/2015 14:17	-9.23	U	4	12
Barium	10/09/2015 14:17	-0.165	U	0.29	0.90
Beryllium	10/09/2015 14:17	0.0180	U	0.10	0.30
Cadmium	10/09/2015 14:17	-0.142	U	0.3	1.0
Calcium	10/09/2015 14:17	2.52	U	17	50
Chromium	10/09/2015 14:17	0.101	U	0.6	2.0
Cobalt	10/09/2015 14:17	0.742		0.7	2.0
Copper	10/09/2015 14:17	0.448	U	1.2	3.5
Iron	10/09/2015 14:17	-23.1	U	16	50
Lead	10/09/2015 14:17	-1.03	U	1.4	2.0
Magnesium	10/09/2015 14:17	-2.69	U	6	20
Manganese	10/09/2015 14:17	-0.337	U	0.7	2.0
Nickel	10/09/2015 14:17	-0.554	U	1.0	3.0
Selenium	10/09/2015 14:17	0.688	U	2.2	6.5
Silver	10/09/2015 14:17	0.270	U	0.7	2.0
Thallium	10/09/2015 14:17	-1.60	U	2.5	7.5
Vanadium	10/09/2015 14:17	0.411	U	0.8	2.5
Zinc	10/09/2015 14:17	-0.689	U	1.6	5.0

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 114433

Analytical Run #: 119595 Lab Sample ID: 644603

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Aluminum	10/09/2015 15:17	-16.3	U	6	18
Antimony	10/09/2015 15:17	2.27		2.0	6.0
Arsenic	10/09/2015 15:17	5.40		4	12
Barium	10/09/2015 15:17	-0.480	U	0.29	0.90
Beryllium	10/09/2015 15:17	0.0200	U	0.10	0.30
Cadmium	10/09/2015 15:17	-0.0180	U	0.3	1.0
Calcium	10/09/2015 15:17	0.908	U	17	50
Chromium	10/09/2015 15:17	-0.242	U	0.6	2.0
Cobalt	10/09/2015 15:17	0.188	U	0.7	2.0
Copper	10/09/2015 15:17	-0.460	U	1.2	3.5
Iron	10/09/2015 15:17	-21.2	U	16	50
Lead	10/09/2015 15:17	1.04	U	1.4	2.0
Magnesium	10/09/2015 15:17	-2.86	U	6	20
Manganese	10/09/2015 15:17	-0.421	U	0.7	2.0
Nickel	10/09/2015 15:17	0.179	U	1.0	3.0
Selenium	10/09/2015 15:17	-9.40	U	2.2	6.5
Silver	10/09/2015 15:17	0.0370	U	0.7	2.0
Thallium	10/09/2015 15:17	-1.13	U	2.5	7.5
Vanadium	10/09/2015 15:17	0.482	U	0.8	2.5
Zinc	10/09/2015 15:17	-0.405	U	1.6	5.0

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 114433

Analytical Run #: 119700 Lab Sample ID: 644262

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: 10112015 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Mercury	10/12/2015 07:54	0	U	0.03	0.06

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 114433

Analytical Run #: 119700 Lab Sample ID: 644266

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: 10122015 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Mercury	10/12/2015 08:17	0	U	0.03	0.06

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 114433

Analytical Run #: 119595 Lab Sample ID: 641575

Analytical Prep Batch # 54510 Preparation Date/Time: 10/07/2015 07:30

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: ReRun Re-Analysis #1

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Chromium	10/09/2015 14:54	-0.364	U	0.6	2.0
Total Selenium	10/09/2015 14:54	2.01	U	2.2	6.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 114433

Analytical Run #: 119595 Lab Sample ID: 641575

Analytical Prep Batch # 54510 Preparation Date/Time: 10/07/2015 07:30

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit	
Total Aluminum	10/07/2015 15:42	-8.32	U	6	18	
Total Antimony	10/07/2015 15:42	0.0970	U	2.0	6.0	
Total Arsenic	10/07/2015 15:42	-1.21	U	4	12	
Total Barium	10/07/2015 15:42	-0.0450	U	0.29	0.90	
Total Beryllium	10/07/2015 15:42	-0.0720	U	0.10	0.30	
Total Cadmium	10/07/2015 15:42	0.156	U	0.3	1.0	
Total Calcium	10/07/2015 15:42	26.00		17	50	FAIL
Total Cobalt	10/07/2015 15:42	-0.457	U	0.7	2.0	
Total Copper	10/07/2015 15:42	-0.296	U	1.2	3.5	
Total Iron	10/07/2015 15:42	-7.38	U	16	50	
Total Lead	10/07/2015 15:42	-0.748	U	1.4	2.0	
Total Magnesium	10/07/2015 15:42	10.80		6	20	FAIL
Total Manganese	10/07/2015 15:42	0.629	U	0.7	2.0	
Total Nickel	10/07/2015 15:42	0.291	U	1.0	3.0	
Total Silver	10/07/2015 15:42	-0.476	U	0.7	2.0	
Total Thallium	10/07/2015 15:42	-1.53	U	2.5	7.5	
Total Vanadium	10/07/2015 15:42	-0.470	U	0.8	2.5	
Total Zinc	10/07/2015 15:42	-0.974	U	1.6	5.0	

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 114433

Analytical Run #: 119596 Lab Sample ID: 641575

Analytical Prep Batch # 54510 Preparation Date/Time: 10/07/2015 07:30

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Potassium	10/08/2015 09:16	19.00	U	90	250
Total Sodium	10/08/2015 09:16	42.00	U	100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 114433

Analytical Run #: 119596 Lab Sample ID: 641575

Analytical Prep Batch # 54510 Preparation Date/Time: 10/07/2015 07:30

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Potassium	10/08/2015 09:16	19.00	U	90	250
Total Sodium	10/08/2015 09:16	42.00	U	100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 114433

Analytical Run #: 119700 Lab Sample ID: 642571

Analytical Prep Batch # 54544 Preparation Date/Time: 10/09/2015 08:30

ICAL Calibration #: 10112015 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Mercury	10/12/2015 07:50	0	U	0.03	0.06

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

4-1

ICP INTERFERENCE CHECK SAMPLE (SOL. A)

ICSA

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
ICP ID Number: TJA 6000
SDG No.: 114433
ICS Source: SPEX

Analytical Run #: 119596
Lab Sample ID: 643241
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	10/08/2015 08:21	500000	488000	98	80	120
Calcium	10/08/2015 08:21	500000	482000	96	80	120
Iron	10/08/2015 08:21	500000	485000	97	80	120
Magnesium	10/08/2015 08:21	500000	483000	97	80	120
Potassium	10/08/2015 08:21	0	0		-170	170
Sodium	10/08/2015 08:21	0	0		-140	140

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

4-1

ICP INTERFERENCE CHECK SAMPLE (SOL. A)

ICSA

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
ICP ID Number: TJA 6000
SDG No.: 114433
ICS Source: SPEX

Analytical Run #: 119595
Lab Sample ID: 643391
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	10/07/2015 14:22	500000	540000	108	80	120
Antimony	10/07/2015 14:22	0	0		-5	5
Arsenic	10/07/2015 14:22	0	-0.506		-6	6
Barium	10/07/2015 14:22	0	-0.284		-0.7	0.7
Beryllium	10/07/2015 14:22	0	0.0420		-0.29	0.29
Cadmium	10/07/2015 14:22	0	-0.00400		-0.26	0.26
Calcium	10/07/2015 14:22	500000	518000	104	80	120
Chromium	10/07/2015 14:22	0	0		-1.9	1.9
Cobalt	10/07/2015 14:22	0	0.241		-1.2	1.2
Copper	10/07/2015 14:22	0	0		-4	4
Iron	10/07/2015 14:22	500000	505000	101	80	120
Lead	10/07/2015 14:22	0	-0.00100		-1.5	1.5
Magnesium	10/07/2015 14:22	500000	429000	86	80	120
Manganese	10/07/2015 14:22	0	0		-1.6	1.6
Nickel	10/07/2015 14:22	0	0		-2.3	2.3
Selenium	10/07/2015 14:22	0	0.0650		-12	12
Silver	10/07/2015 14:22	0	-0.578		-2.0	2.0
Thallium	10/07/2015 14:22	0	0.542		-5	5
Vanadium	10/07/2015 14:22	0	-1.21		-1.7	1.7
Zinc	10/07/2015 14:22	0	-0.150		-2.4	2.4

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

4-1

ICP INTERFERENCE CHECK SAMPLE (SOL. A)

ICSA

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
ICP ID Number: TJA 6000
SDG No.: 114433
ICS Source: SPEX

Analytical Run #: 119595
Lab Sample ID: 644589
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	10/09/2015 10:06	500000	540000	108	80	120
Antimony	10/09/2015 10:06	0	0.633		-5	5
Arsenic	10/09/2015 10:06	0	-0.00300		-6	6
Barium	10/09/2015 10:06	0	-0.332		-0.7	0.7
Beryllium	10/09/2015 10:06	0	0.200		-0.29	0.29
Cadmium	10/09/2015 10:06	0	0.00300		-0.26	0.26
Calcium	10/09/2015 10:06	500000	497000	99	80	120
Chromium	10/09/2015 10:06	0	0		-1.9	1.9
Cobalt	10/09/2015 10:06	0	-0.795		-1.2	1.2
Copper	10/09/2015 10:06	0	0.0320		-4	4
Iron	10/09/2015 10:06	500000	463000	93	80	120
Lead	10/09/2015 10:06	0	-0.0660		-1.5	1.5
Magnesium	10/09/2015 10:06	500000	516000	103	80	120
Manganese	10/09/2015 10:06	0	-0.610		-1.6	1.6
Nickel	10/09/2015 10:06	0	0		-2.3	2.3
Selenium	10/09/2015 10:06	0	-0.00700		-12	12
Silver	10/09/2015 10:06	0	-0.343		-2.0	2.0
Thallium	10/09/2015 10:06	0	-0.697		-5	5
Vanadium	10/09/2015 10:06	0	0.970		-1.7	1.7
Zinc	10/09/2015 10:06	0	-0.164		-2.4	2.4

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

4-2

ICP INTERFERENCE CHECK SAMPLE (SOL. AB)

ICSAB

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
ICP ID Number: TJA 6000
SDG No.: 114433
ICS Source: SPEX, Ultra

Analytical Run #: 119596
Lab Sample ID: 643242
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	10/08/2015 08:24	500000	434000	87	80	120
Calcium	10/08/2015 08:24	500000	426000	85	80	120
Iron	10/08/2015 08:24	500000	433000	87	80	120
Magnesium	10/08/2015 08:24	500000	434000	87	80	120
Potassium	10/08/2015 08:24	100000	103000	103	80	120
Sodium	10/08/2015 08:24	100000	103000	103	80	120

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

4-2

ICP INTERFERENCE CHECK SAMPLE (SOL. AB)

ICSAB

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
ICP ID Number: TJA 6000
SDG No.: 114433
ICS Source: SPEX, Ultra

Analytical Run #: 119595
Lab Sample ID: 643392
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	10/07/2015 14:27	500000	546000	109	80	120
Antimony	10/07/2015 14:27	500.0	521.0	104	80	120
Arsenic	10/07/2015 14:27	500.0	467.0	93	80	120
Barium	10/07/2015 14:27	500.0	432.0	86	80	120
Beryllium	10/07/2015 14:27	500.0	505.0	101	80	120
Cadmium	10/07/2015 14:27	500.0	547.0	109	80	120
Calcium	10/07/2015 14:27	500000	531000	106	80	120
Chromium	10/07/2015 14:27	500.0	551.0	110	80	120
Cobalt	10/07/2015 14:27	500.0	505.0	101	80	120
Copper	10/07/2015 14:27	500.0	485.0	97	80	120
Iron	10/07/2015 14:27	500000	518000	104	80	120
Lead	10/07/2015 14:27	500.0	403.0	81	80	120
Magnesium	10/07/2015 14:27	500000	437000	87	80	120
Manganese	10/07/2015 14:27	500.0	484.0	97	80	120
Nickel	10/07/2015 14:27	500.0	422.0	84	80	120
Selenium	10/07/2015 14:27	500.0	414.0	83	80	120
Silver	10/07/2015 14:27	500.0	539.0	108	80	120
Thallium	10/07/2015 14:27	500.0	456.0	91	80	120
Vanadium	10/07/2015 14:27	500.0	491.0	98	80	120
Zinc	10/07/2015 14:27	500.0	515.0	103	80	120

CT LABORATORIES
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Sample No:

4-2

ICP INTERFERENCE CHECK SAMPLE (SOL. AB)

ICSAB

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
ICP ID Number: TJA 6000
SDG No.: 114433
ICS Source: SPEX, Ultra

Analytical Run #: 119595
Lab Sample ID: 644590
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	10/09/2015 10:11	500000	543000	109	80	120
Antimony	10/09/2015 10:11	500.0	557.0	111	80	120
Arsenic	10/09/2015 10:11	500.0	473.0	95	80	120
Barium	10/09/2015 10:11	500.0	412.0	82	80	120
Beryllium	10/09/2015 10:11	500.0	460.0	92	80	120
Cadmium	10/09/2015 10:11	500.0	572.0	114	80	120
Calcium	10/09/2015 10:11	500000	523000	105	80	120
Chromium	10/09/2015 10:11	500.0	512.0	102	80	120
Cobalt	10/09/2015 10:11	500.0	438.0	88	80	120
Copper	10/09/2015 10:11	500.0	531.0	106	80	120
Iron	10/09/2015 10:11	500000	476000	95	80	120
Lead	10/09/2015 10:11	500.0	424.0	85	80	120
Magnesium	10/09/2015 10:11	500000	524000	105	80	120
Manganese	10/09/2015 10:11	500.0	474.0	95	80	120
Nickel	10/09/2015 10:11	500.0	444.0	89	80	120
Selenium	10/09/2015 10:11	500.0	478.0	96	80	120
Silver	10/09/2015 10:11	500.0	565.0	113	80	120
Thallium	10/09/2015 10:11	500.0	472.0	94	80	120
Vanadium	10/09/2015 10:11	500.0	515.0	103	80	120
Zinc	10/09/2015 10:11	500.0	532.0	106	80	120

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5A

SPIKE SAMPLE RECOVERY

Sample Description: **ADW01**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	114433
% Solids for Sample:		Concentration Units:	ug/L
Sample No	641578	Parent Sample No.:	640611
Analytical Prep Batch #	54510	Analytical Preparation Date/Time:	10/07/2015 07:30
Analytical Run #:	119595	ICAL Calibration #:	

Analysis Type: *Initial Analysis* Analysis Date: ----- 10/07/2015 Analysis Time: -------- 16:01

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Total Aluminum	86-115	888		31.6	J	800	107		P	
Total Antimony	88-113	219		BDL	U	200	110		P	
Total Arsenic	87-113	873		BDL	U	800	109		P	
Total Barium	88-113	970		106		800	108		P	
Total Beryllium	89-112	20.3		BDL	U	20.0	102		P	
Total Cadmium	88-113	19.4		0.43	J	20.0	95		P	
Total Calcium	87-113	272000		71200		200000	100		P	
Total Chromium	90-113	112		7.1		80.0	131		P	*FAIL*
Total Cobalt	89-114	198		BDL	U	200	99		P	
Total Copper	86-114	104		BDL	U	100	104		P	
Total Iron	87-115	489		45.9	J	400	111		P	
Total Lead	86-113	193		5.5		200	94		P	
Total Magnesium	85-113	118000		22800		100000	95		P	
Total Manganese	90-114	223		1.6	J	200	111		P	
Total Nickel	88-113	202		3.3	J	200	99		P	
Total Selenium	83-114	835		BDL	U	800	104		P	
Total Silver	84-115	21.1		BDL	U	20.0	106		P	
Total Thallium	85-114	741		5.9	J	800	92		P	
Total Vanadium	90-111	215		BDL	U	200	108		P	
Total Zinc	87-115	220		BDL	U	200	110		P	

J

BDL = analyte concentration was below detection limit

CT LABORATORIES
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5A

SPIKE SAMPLE RECOVERY

Sample Description

ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	114433
% Solids for Sample:		Concentration Units:	ug/L
Sample No	641578	Parent Sample No.:	640611
Analytical Prep Batch #	54510	Analytical Preparation Date/Time:	10/07/2015 07:30
Analytical Run #:	119596	ICAL Calibration #:	

Analysis Type	*Initial Analysis*	Analysis Date: -----	10/08/2015	Analysis Time: --------	09:32

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Potassium	86-114	104000		1070		100000	103		P
Total Sodium	87-115	136000		40700		100000	95		P

BDL = analyte concentration was below detection limit

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5A

SPIKE SAMPLE RECOVERY

Sample Description

ADW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	114433
% Solids for Sample:		Concentration Units:	ug/L
Sample No	642574	Parent Sample No.:	640616
Analytical Prep Batch #	54544	Analytical Preparation Date/Time:	10/09/2015 08:30
Analytical Run #:	119700	ICAL Calibration #:	10122015

Analysis Type	*Initial Analysis*	Analysis Date: -----	10/12/2015	Analysis Time: --------	08:03

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Mercury	82-119	2.2		BDL	U	2.0	110		CV

BDL = analyte concentration was below detection limit

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5B

POST DIGESTION SPIKE SAMPLE RECOVERY

Sample Description

ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	114433
% Solids for Sample:		Concentration Units:	ug/L
Sample No	643248	Parent Sample No.:	640611
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	119596	ICAL Calibration #:	

Analysis Type	*Initial Analysis*	Analysis Date: -----	10/08/2015	Analysis Time: --------	09:37

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Potassium	80-120.	113000		1070		100000	112		P
Sodium	80-120.	148000		40700		100000	107		P

BDL = analyte concentration was below detection limit

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5B

POST DIGESTION SPIKE SAMPLE RECOVERY

Sample Description: **ADW01**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 114433
% Solids for Sample:
Concentration Units: ug/L
Sample No: 643398
Parent Sample No.: 640611
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
Analytical Run #: 119595
ICAL Calibration #:

Analysis Type: *Initial Analysis* Analysis Date: ----- 10/07/2015 Analysis Time: -------- 16:11

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Aluminum	80-120	4250		31.6	J	4000	105		P	
Antimony	80-120	1110		BDL	U	1000	111		P	
Arsenic	80-120	4210		BDL	U	4000	105		P	
Barium	80-120	4310		106		4000	105		P	
Beryllium	80-120	97.6		BDL	U	100	98		P	
Cadmium	80-120	88.6		0.43	J	100	88		P	
Calcium	80-120	483000		71200		400000	103		P	
Chromium	80-120	464		7.1		400	114		P	
Cobalt	80-120	1060		BDL	U	1000	106		P	
Copper	80-120	479		BDL	U	500	96		P	
Iron	80-120	24200		45.9	J	2000	1208		P	*FAIL*
Lead	80-120	1090		5.5		1000	108		P	
Magnesium	80-120	219000		22800		200000	98		P	
Manganese	80-120	1070		1.6	J	1000	107		P	
Nickel	80-120	926		3.3	J	1000	92		P	
Selenium	80-120	4110		BDL	U	4000	103		P	
Silver	80-120	107		BDL	U	100	107		P	
Thallium	80-120	3670		5.9	J	4000	92		P	
Vanadium	80-120	990		BDL	U	1000	99		P	

BDL = analyte concentration was below detection limit

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5B

POST DIGESTION SPIKE SAMPLE RECOVERY

Sample Description

ADW02

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 114433
% Solids for Sample:
Concentration Units: ug/L
Sample No 644264
Parent Sample No.: 640616
Analytical Prep Batch # 0
Analytical Preparation Date/Time:
Analytical Run #: 119700
ICAL Calibration #: 10122015

Analysis Type *Initial Analysis* Analysis Date: ----- 10/12/2015 Analysis Time: -------- 08:07

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Mercury	80-120	2.1		BDL	U	2	105		CV

BDL = analyte concentration was below detection limit

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5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description: **ADW01**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	114433
% Solids for Sample:		Concentration Units:	ug/L
Sample No	641579	Parent Sample No.:	641578
Analytical Prep Batch #	54510	Analytical Preparation Date/Time:	10/07/2015 07:30
Analytical Run #:	119595	ICAL Calibration #:	

Analysis Type: *Initial Analysis* Analysis Date: ----- 10/07/2015 Analysis Time: -------- 16:06

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Total Aluminum	86-115	888		31.6	J	800	107		P	
Total Antimony	88-113	216		BDL	U	200	108		P	
Total Arsenic	87-113	888		BDL	U	800	111		P	
Total Barium	88-113	974		106		800	108		P	
Total Beryllium	89-112	20.6		BDL	U	20.0	103		P	
Total Cadmium	88-113	19.3		0.43	J	20.0	94		P	
Total Calcium	87-113	271000		71200		200000	100		P	
Total Chromium	90-113	101		7.1		80.0	117		P	*FAIL*
Total Cobalt	89-114	195		BDL	U	200	98		P	
Total Copper	86-114	103		BDL	U	100	103		P	
Total Iron	87-115	495		45.9	J	400	112		P	
Total Lead	86-113	198		5.5		200	96		P	
Total Magnesium	85-113	119000		22800		100000	96		P	
Total Manganese	90-114	225		1.6	J	200	112		P	
Total Nickel	88-113	203		3.3	J	200	100		P	
Total Selenium	83-114	909		BDL	U	800	114		P	
Total Silver	84-115	21.3		BDL	U	20.0	106		P	
Total Thallium	85-114	803		5.9	J	800	100		P	
Total Vanadium	90-111	215		BDL	U	200	108		P	
Total Zinc	87-115	219		BDL	U	200	110		P	

BDL = analyte concentration was below detection limit

CT LABORATORIES
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5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description

ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	114433
% Solids for Sample:		Concentration Units:	ug/L
Sample No	641579	Parent Sample No.:	641578
Analytical Prep Batch #	54510	Analytical Preparation Date/Time:	10/07/2015 07:30
Analytical Run #:	119596	ICAL Calibration #:	

Analysis Type	*Initial Analysis*	Analysis Date: -----	10/08/2015	Analysis Time: --------	09:34

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Potassium	86-114	104000		1070		100000	103		P
Total Sodium	87-115	136000		40700		100000	95		P

BDL = analyte concentration was below detection limit

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5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description: **ADW02**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	114433
% Solids for Sample:		Concentration Units:	ug/L
Sample No	642575	Parent Sample No.:	642574
Analytical Prep Batch #	54544	Analytical Preparation Date/Time:	10/09/2015 08:30
Analytical Run #:	119700	ICAL Calibration #:	10122015

Analysis Type: *Initial Analysis* Analysis Date: ----- 10/12/2015 Analysis Time: -------- 08:05

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Mercury	82-119	2.1		BDL	U	2.0	105		CV

BDL = analyte concentration was below detection limit

CT LABORATORIES
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DUPLICATES

Sample Description

ADW01

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 114433
% Solid for Sample:
Concentration Units: ug/L
Analytical Prep Batch #: 1
Analytical Preparation Date/Time: 54510
Analytical Run #: 119595
ICAL Calibration #:
Sample #: 641577
Parent Sample #: 640611

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M	
Total Aluminum	10/07/2015	15:56	20	31.6	J	33.2	J	5		P	
Total Antimony	10/07/2015	15:56	20	2.0	U	2.0	U	0		P	
Total Arsenic	10/07/2015	15:56	20	4.0	U	4.0	U	0		P	
Total Barium	10/07/2015	15:56	20	106		108		2		P	
Total Beryllium	10/07/2015	15:56	20	0.10	U	0.10	U	0		P	
Total Cadmium	10/07/2015	15:56	20	0.43	J	0.55	J	24		P	*FAIL*
Total Calcium	10/07/2015	15:56	20	71200		72900		2		P	
Total Chromium	10/07/2015	15:56	20	7.1		26.0		114		P	*FAIL*
Total Cobalt	10/07/2015	15:56	20	0.70	U	0.70	U	0		P	
Total Copper	10/07/2015	15:56	20	1.2	U	1.2	U	0		P	
Total Iron	10/07/2015	15:56	20	45.9	J	49.7	J	8		P	
Total Lead	10/07/2015	15:56	20	5.5		6.2		12		P	
Total Magnesium	10/07/2015	15:56	20	22800		24000		5		P	
Total Manganese	10/07/2015	15:56	20	1.6	J	2.4	J	40		P	*FAIL*
Total Nickel	10/07/2015	15:56	20	3.3	J	3.0	J	10		P	
Total Selenium	10/07/2015	15:56	20	2.2	U	2.2	U	0		P	
Total Silver	10/07/2015	15:56	20	0.70	U	0.70	U	0		P	
Total Thallium	10/07/2015	15:56	20	5.9	J	2.5	U	200		P	*FAIL*
Total Vanadium	10/07/2015	15:56	20	0.80	U	0.80	U	0		P	
Total Zinc	10/07/2015	15:56	20	1.6	U	1.6	U	0		P	

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DUPLICATES

Sample Description

ADW01

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID

SDG No.: 114433

% Solid for Sample:

Concentration Units: ug/L

Analytical Prep Batch # 1

Analytical Preparation Date/Time 54510

Analytical Run #: 119596

ICAL Calibration #:

Sample #: 641577

Parent Sample #: 640611

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Total Potassium	10/08/2015	09:29	20	1070		1100		3		P
Total Sodium	10/08/2015	09:29	20	40700		42400		4		P

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6

DUPLICATES

Sample Description

ADW02

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID

SDG No.: 114433

% Solid for Sample:

Concentration Units: ug/L

Analytical Prep Batch # 1

Analytical Preparation Date/Time 54544

Analytical Run #: 119700

ICAL Calibration #: 10122015

Sample #: 642573

Parent Sample #: 640616

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Total Mercury	10/12/2015	08:01	20	0.030	U	0.030	U	0		CV

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6A

MATRIX SPIKE DUPLICATES

Sample Description: **ADW01**

Lab Name: CT Laboratories | Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID | SDG No.: 114433

% Solid for Sample: | Concentration Units: ug/L

Analytical Prep Batch #: 54510 | Analytical Preparation Date/Time: 10/07/2015 07:30

Analytical Run #: 119595 | ICAL Calibration #:

Sample #: 641579 | Parent Sample #: 641578

Analysis Type: *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Total Aluminum	10/07/2015	16:06	20	888		888		0		P
Total Antimony	10/07/2015	16:06	20	219		216		1		P
Total Arsenic	10/07/2015	16:06	20	873		888		2		P
Total Barium	10/07/2015	16:06	20	970		974		0		P
Total Beryllium	10/07/2015	16:06	20	20.3		20.6		1		P
Total Cadmium	10/07/2015	16:06	20	19.4		19.3		1		P
Total Calcium	10/07/2015	16:06	20	272000		271000		0		P
Total Chromium	10/07/2015	16:06	20	112		101		10		P
Total Cobalt	10/07/2015	16:06	20	198		195		2		P
Total Copper	10/07/2015	16:06	20	104		103		1		P
Total Iron	10/07/2015	16:06	20	489		495		1		P
Total Lead	10/07/2015	16:06	20	193		198		3		P
Total Magnesium	10/07/2015	16:06	20	118000		119000		1		P
Total Manganese	10/07/2015	16:06	20	223		225		1		P
Total Nickel	10/07/2015	16:06	20	202		203		0		P
Total Selenium	10/07/2015	16:06	20	835		909		8		P
Total Silver	10/07/2015	16:06	20	21.1		21.3		1		P
Total Thallium	10/07/2015	16:06	20	741		803		8		P
Total Vanadium	10/07/2015	16:06	20	215		215		0		P
Total Zinc	10/07/2015	16:06	20	220		219		0		P

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6A

MATRIX SPIKE DUPLICATES

Sample Description

ADW01

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 114433
% Solid for Sample:
Concentration Units: ug/L
Analytical Prep Batch #: 54510
Analytical Preparation Date/Time: 10/07/2015 07:30
Analytical Run #: 119596
ICAL Calibration #:
Sample #: 641579
Parent Sample #: 641578

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Total Potassium	10/08/2015	09:34	20	104000		104000		0		P
Total Sodium	10/08/2015	09:34	20	136000		136000		0		P

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6A

MATRIX SPIKE DUPLICATES

Sample Description: **ADW02**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 114433
% Solid for Sample:
Concentration Units: ug/L

Analytical Prep Batch #: 54544
Analytical Preparation Date/Time: 10/09/2015 08:30
Analytical Run #: 119700
ICAL Calibration #: 10122015
Sample #: 642575
Parent Sample #: 642574

Analysis Type: *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Total Mercury	10/12/2015	08:05	20	2.2		2.1		3		CV

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7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 114433

Concentration Units: ug/L

Analytical Run #: 119595 Sample No.:#: 641576

Analytical Prep Batch #: 54510 Preparation Date/Time: 10/07/2015 07:30

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Total Aluminum	10/07/2015 15:37	86-115	841.0		800.0	105		P
Total Antimony	10/07/2015 15:37	88-113	214.0		200.0	107		P
Total Arsenic	10/07/2015 15:37	87-113	877.0		800.0	110		P
Total Barium	10/07/2015 15:37	88-113	859.0		800.0	107		P
Total Beryllium	10/07/2015 15:37	89-112	20.20		20.00	101		P
Total Cadmium	10/07/2015 15:37	88-113	19.90		20.00	100		P
Total Calcium	10/07/2015 15:37	87-113	199000		200000	100		P
Total Cobalt	10/07/2015 15:37	89-114	199.0		200.0	100		P
Total Copper	10/07/2015 15:37	86-114	106.0		100.0	106		P
Total Iron	10/07/2015 15:37	87-115	459.0		400.0	115		P
Total Lead	10/07/2015 15:37	86-113	192.0		200.0	96		P
Total Magnesium	10/07/2015 15:37	85-113	96400		100000	96		P
Total Manganese	10/07/2015 15:37	90-114	222.0		200.0	111		P
Total Nickel	10/07/2015 15:37	88-113	204.0		200.0	102		P
Total Selenium	10/07/2015 15:37	83-114	840.0		800.0	105		P
Total Silver	10/07/2015 15:37	84-115	20.70		20.00	104		P
Total Thallium	10/07/2015 15:37	85-114	824.0		800.0	103		P
Total Vanadium	10/07/2015 15:37	90-111	214.0		200.0	107		P
Total Zinc	10/07/2015 15:37	87-115	217.0		200.0	108		P

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7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 114433

Concentration Units: ug/L

Analytical Run #: 119595 Sample No.:#: 641576

Analytical Prep Batch #: 54510 Preparation Date/Time: 10/07/2015 07:30

ICAL Calibration #:

ReRun Re-Analysis #1

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Total Chromium	10/09/2015 14:49	90-113	81.20		80.00	102		P

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7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 114433

Concentration Units: ug/L

Analytical Run #: 119596 Sample No.:#: 641576

Analytical Prep Batch #: 54510 Preparation Date/Time: 10/07/2015 07:30

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Total Potassium	10/08/2015	09:13	86-114	99900		100000	100		P
Total Sodium	10/08/2015	09:13	87-115	97300		100000	97		P

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7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 114433

Concentration Units: ug/L

Analytical Run #: 119700 Sample No.:#: 642572

Analytical Prep Batch #: 54544 Preparation Date/Time: 10/09/2015 08:30

ICAL Calibration #: 10112015

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Total Mercury	10/12/2015 07:48	82-119	3.10		3.00	103		CV

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ICP SERIAL DILUTION

Sample Description

ADW01

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID SDG No.: 114433

Concentration Units: ug/L

Sample No.: 643245 Parent Sample No.: 640611

LIMS Run #: 119596 ICAL Calibration #:.:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time		Initial Sample Result (I)	C (I)	Serial Dilution Result (S)	C (S)	% Diff.	Q	M	
Potassium	10/08/2015	09:21	1.07	U	450	U	100		P	*INVALID*
Sodium	10/08/2015	09:21	40.7	U	500	U	100		P	*INVALID*

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9

ICP SERIAL DILUTION

Sample Description: **ADW01**

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID SDG No.: 114433

Concentration Units: ug/L

Sample No.: 643397 Parent Sample No.: 640611

LIMS Run #: 119595 ICAL Calibration #:.:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time		Initial Sample Result (I)	C (I)	Serial Dilution Result (S)	C (S)	% Diff.	Q	M	
Aluminum	10/07/2015	15:52	31.6	J	30	U	100		P	*INVALID*
Antimony	10/07/2015	15:52	BDL	U	10	U	0		P	*INVALID*
Arsenic	10/07/2015	15:52	BDL	U	20	U	0		P	*INVALID*
Barium	10/07/2015	15:52	106.		126.5		19		P	*FAIL*
Beryllium	10/07/2015	15:52	BDL	U	0.5	U	0		P	*INVALID*
Cadmium	10/07/2015	15:52	.425	U	1.5	U	100		P	*INVALID*
Calcium	10/07/2015	15:52	71200.		86500		21		P	*FAIL*
Chromium	10/07/2015	15:52	7.09	J	73.5		937		P	*INVALID*
Cobalt	10/07/2015	15:52	BDL	U	3.5	U	0		P	*INVALID*
Copper	10/07/2015	15:52	BDL	U	6	U	0		P	*INVALID*
Iron	10/07/2015	15:52	45.9	U	80	U	100		P	*INVALID*
Lead	10/07/2015	15:52	5.52	U	19.1	J	246		P	*INVALID*
Magnesium	10/07/2015	15:52	22800.		27700		21		P	*FAIL*
Manganese	10/07/2015	15:52	1.60	U	3.5	U	100		P	*INVALID*
Nickel	10/07/2015	15:52	3.25	U	9.35	J	188		P	*INVALID*
Selenium	10/07/2015	15:52	BDL	U	11	U	0		P	*INVALID*
Silver	10/07/2015	15:52	BDL	U	3.5	U	0		P	*INVALID*
Thallium	10/07/2015	15:52	5.94	U	18.7	J	215		P	*INVALID*
Vanadium	10/07/2015	15:52	BDL	U	4	U	0		P	*INVALID*
Zinc	10/07/2015	15:52	BDL	U	8	U	0		P	*INVALID*

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9

CVAA SERIAL DILUTION

Sample Description

ADW02

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID SDG No.: 114433

Concentration Units: ug/L

Sample No.: 644263 Parent Sample No.: 640616

LIMS Run #: 119700 ICAL Calibration #:.: 10112015

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Initial Sample Result (I)	C (I)	Serial Dilution Result (S)	C (S)	% Diff.	Q	M	
Mercury	10/12/2015 07:59	BDL	U	0.15	U	0		CV	*INVALID*

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10

METHOD DETECTION LIMITS (ANNUALLY)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

ICP ID Number: TJA SDG No.: 114433

Matrix: LIQUID

Analyte	Wavelength (nm)	Background	CRDL (ug/L)	MDL (ug/L)	M
Total Aluminum	167.0			6	P
Total Antimony	217.5			2.0	P
Total Arsenic	193.7			4	P
Total Barium	455.4			0.29	P
Total Beryllium	313.041			0.10	P
Total Cadmium	226.502			0.3	P
Total Calcium	393.3			17	P
Total Chromium	267.716			0.6	P
Total Cobalt	228.616			0.7	P
Total Copper	327.3			1.2	P
Total Iron	259.9			16	P
Total Lead	220.35			1.4	P
Total Magnesium	279.5			6	P
Total Manganese	257.61			0.7	P
Total Nickel	231.604			1.0	P
Total Potassium	766.491			90	P
Total Selenium	196.02			2.2	P
Total Silver	328.068			0.7	P
Total Sodium	589.5			100	P
Total Thallium	190.864			2.5	P
Total Vanadium	292.402			0.8	P
Total Zinc	213.856			1.6	P

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10

METHOD DETECTION LIMITS (ANNUALLY)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 114433

Matrix: LIQUID

Analyte	Wavelength (nm)	Background	CRDL (ug/L)	MDL (ug/L)	M
Total Mercury	253.7			0.03	CV

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ICP INTERELEMENT CORRECTION FACTORS (ANNUAL)
ICP ID NUMBER: TA ICAP6000 / ICAP6500

Element, Wavelength and Order	Use?	# IECs	IEC	k1
Ag 328.068 {103}	☒	1	Fe	0.000006
Al 308.215 {109}	☒	None		
Al 309.271 {109}	☒	None		
Al 396.152 { 85}	☒	None		
Al 167.079 {502}	☒	1	Fe	0.000627
As 193.759 {474}	☒	3	Fe	-0.000324
			Mo	0.000000
			Co	0.000000
As 189.042 {479}	☒	1	Fe	0.000027
Ba 455.403 { 74}	☒	1	Fe	-0.000000
Ba 493.409 { 68}	☒	1	Fe	0.000106
Be 313.042 {108}	☒	1	Fe	0.000000
Be 234.861 {144}	☒	1	Fe	0.000101
Ca 315.887 {107}	☒	None		
Ca 317.933 {106}	☒	None		
Ca 393.366 { 86}	☒	None		
Ca 396.847 { 85}	☒	None		
Cd 226.502 {449}	☒	2	Fe	0.000381
			Ag	0.049000
Cd 228.802 {447}	☒	1	Fe	0.000100
Co 228.616 {447}	☒	6	Ti	-0.002110
			Mo	-0.001300
			Cr	-0.000235
			Ba	0.000315
			Ni	0.000000
			Fe	0.000017
Co 238.892 {141}	☒	1	Fe	0.000242
Cr 267.716 {126}	☒	1	Fe	0.000010
Cr 283.563 {119}	☒	1	Fe	0.000949
Cu 224.700 {450}	☒	2	Fe	0.000062
			Ag	-0.050000
Cu 324.754 {104}	☒	1	Fe	0.000200
Cu 327.396 {103}	☒	1	Fe	-0.000016
Fe 234.349 {144}	☒	None		
Fe 239.562 {141}	☒	None		
Fe 259.940 {130}	☒	None		
Mg 202.582 {466}	☒	None		
Mg 279.079 {121}	☒	None		
Mg 280.270 {120}	☒	None		
Mn 257.610 {131}	☒	1	Al	-0.000055
Mn 259.373 {130}	☒	1	Mg	0.001246
Mo 203.844 {465}	☒	1	Fe	-0.000027
Mo 202.030 {467}	☒	1	Fe	-0.000020
Mo 204.598 {465}	☒	1	Fe	-0.000100

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ICP INTERELEMENT CORRECTION FACTORS (ANNUAL)

ICP ID NUMBER: TA ICAP6000 / ICAP6500

Element, Wavelength and Order	Use?	# IECs	IEC	k1
Ni 221.647 (452)	☒	1	Ca	0.000022
Ni 231.604 (445)	☒	4	Fe	0.000117
			Co	-0.050000
			Ag	-0.050000
			Mo	-0.000200
Pb 216.999 (455)	☒	2	Al	0.000478
			Na	0.000000
Pb 220.353 (153)	☒	1	Fe	0.000024
Pb 220.353 (453)	☒	9	Fe	0.000071
			Si	0.000940
			Ti	0.000640
			Cu	0.000370
			Ni	0.000109
			Al	0.000000
			Co	-0.000149
			Mn	0.000074
			Ti	0.000004
Sb 206.833 (463)	☒	1	Fe	0.000032
Sb 217.581 (455)	☒	1	Fe	-0.000048
Se 196.090 (172)	☒	1	Fe	-0.000205
Se 196.090 (472)	☒	1	Fe	0.000022
Se 206.279 (463)	☒	1	Fe	0.001119
Tl 276.787 (122)	☒	1	Mg	0.006492
Tl 190.856 (477)	☒	10	Ti	0.000050
			Al	-0.000002
			V	0.000586
			Mn	0.000398
			Mo	-0.000120
			Be	-0.000013
			Fe	-0.000033
			Sr	-0.000027
			Co	0.000016
			Cr	0.000251
V 290.882 (116)	☒	1	Fe	0.000170
V 292.402 (115)	☒	1	Fe	0.000041
Zn 206.200 (463)	☒	1	Fe	0.000173
Zn 213.856 (458)	☒	1	Fe	0.000380
Y 360.073 (94)*	☒	None		
Na 330.298 (102)	☒	1	Fe	0.000991
Si 251.611 (134)	☒	1	Fe	-0.000042
Ti 334.941 (101)	☒	1	Fe	0.000050
Ti 337.280 (100)	☒	1	Fe	0.000006
Sr 407.771 (83)	☒	1	Fe	0.000039
Sr 421.552 (80)	☒	1	Fe	0.000039

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ICP INTERELEMENT CORRECTION FACTORS (ANNUAL)
ICP ID NUMBER: TA ICAP6000 / ICAP6500

Element, Wavelength and Order	Use?	# IECs	IEC	k1
Sn 189.989 {477}	☒	1	Fe	0.000011
Sn 283.999 {119}	☒	1	Fe	-0.003092
B 249.678 {135}	☒	1	Fe	-0.000918
B 249.773 {135}	☒	1	Fe	0.000199
Li 670.784 { 50}	☒	1	Fe	0.000029
K 766.490 { 44}	☒	1	Fe	0.006630

Element, Wavelength and Order	Use?	# IECs	IEC	k1
K 766.490 { 44}	☒	1	Fe	0.000178
Na 330.237 {102}	☒	1	Fe	-0.004289
Na 589.592 { 57}	☒	1	Fe	0.000173
Y 360.073 { 94}	☒	None		
Y 320.332 {105}*	☒	None		
Al 308.215 {109}	☒	1	Fe	0.000000
Al 396.152 { 85}	☒	None		
Mg 285.213 {118}	☒	None		
Ca 317.933 {106}	☒	None		
Fe 234.349 {144}	☒	None		

ICP LINEAR RANGES (QUARTERLY)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

ICP ID Number: TA SDG No.: 114433

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	M
Aluminum	15.00	1000000	P
Antimony	15.00	10000	P
Arsenic	15.00	10000	P
Barium	15.00	10000	P
Beryllium	15.00	1000	P
Boron	15.00	1000	P
Cadmium	15.00	1000	P
Calcium	15.00	1000000	P
Chromium	15.00	100000	P
Cobalt	15.00	10000	P
Copper	15.00	100000	P
Iron	15.00	1000000	P
Lead	15.00	100000	P
Lithium	15.00	10000	P
Magnesium	15.00	1000000	P
Manganese	15.00	100000	P
Molybdenum	15.00	10000	P
Nickel	15.00	10000	P
Potassium	15.00	200000	P
Selenium	15.00	10000	P
Silicon	15.00	1000	P
Silver	15.00	100	P
Sodium	15.00	200000	P
Strontium	15.00	10000	P
Thallium	15.00	10000	P
Tin	15.00	10000	P
Titanium	15.00	1000	P
Tungsten	15.00	10000	P
Vanadium	15.00	10000	P
Zinc	15.00	100000	P

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PREPARATION LOG

Lab Name: CT Laboratories

Project: BERING SEA ENVIRONMENTAL-RADFORD AAP

Method: EPA 3010A

SDG No.: 114433

Preparation Batch #: 54510

Preparation Date/Time: 10/07/2015 / 07:30

Lab Sample #	QC Type	Sample Description	Matrix	**Weight (g for solid/soil) or Volume (mL for liquid/aqueous)**
640611	Normal Sample	ADW01	GROUND WATER	50.0
640616	Normal Sample	ADW02	GROUND WATER	50.0
641575	Method Blank		LIQUID	50.0
641576	Lab Control Spike		LIQUID	50.0
641577	Lab Duplicate	ADW01	GROUND WATER	50
641578	Matrix Spike	ADW01	GROUND WATER	50
641579	Matrix Spike Duplicate	ADW01	GROUND WATER	50

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PREPARATION LOG

Lab Name: CT Laboratories | Project: BERING SEA ENVIRONMENTAL-RADFORD AAP

Method: EPA 7470A | SDG No.: 114433

Preparation Batch #: 54544 | Preparation Date/Time: 10/09/2015 / 08:30

Lab Sample #	QC Type	Sample Description	Matrix	**Weight (g for solid/soil) or Volume (mL for liquid/aqueous)**
640611	Normal Sample	ADW01	GROUND WATER	25.0
640616	Normal Sample	ADW02	GROUND WATER	25.0
642571	Method Blank		LIQUID	25.0
642572	Lab Control Spike		LIQUID	25.0
642573	Lab Duplicate	ADW02	GROUND WATER	25.0
642574	Matrix Spike	ADW02	GROUND WATER	25.0
642575	Matrix Spike Duplicate	ADW02	GROUND WATER	25.0

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ANALYSIS RUN LOG

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Lab Code: CTL

SDG No.: 114433

Instrument ID Number: TJA

Method Number: P

Start & End Date: 10/07/2015 to 10/09/2015

Analytical Run #: 119595

Sample Number	Analysis or QC Type	DF	Analysis Date/ Time	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Mo	Li	Ni	K	Se	Si	Ag	Na	Sr	Tl	Sn	W	V	Zn
643677	ICV	1.00	10/07 13:59	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
643388	ICVLL	1.00	10/07 14:03	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
643389	ICB	1.00	10/07 14:13	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
643391	ICSA	1.00	10/07 14:22	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
643392	ICSAB	1.00	10/07 14:27	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
643393	ICVLL	1.00	10/07 14:32																							X							
643394	CCV1	1.00	10/07 15:19	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
643395	CCV2	1.00	10/07 15:23	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
643396	CCB	1.00	10/07 15:28	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
641576	LCSW	1.00	10/07 15:37	X	X	X	X	X		X	X		X	X	X	X	X	X				X		X		X			X			X	X
641575	MBW	1.00	10/07 15:42	X	X	X	X	X		X	X		X	X	X	X	X	X				X				X			X			X	X
640611	Initial	1.00	10/07 15:47	X	X	X	X	X		X	X		X	X	X		X	X				X		X		X			X			X	X
643397	L	5	10/07 15:52	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
641577	DUP	1.00	10/07 15:56	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
641578	MSW	1.00	10/07 16:01	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
641579	MSDW	1.00	10/07 16:06	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
643398	PDSW	1.00	10/07 16:11	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
640616	Initial	1.00	10/07 16:16	X	X	X	X	X		X	X		X	X	X		X	X				X				X			X			X	X
643399	CCV1	1.00	10/07 16:21	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
643400	CCV2	1.00	10/07 16:25	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
643401	CCB	1.00	10/07 16:29	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
644586	ICV	1.00	10/09 09:43	X	X	X	X	X		X	X	X	X	X		X	X	X				X		X		X						X	X
644587	ICVLL	1.00	10/09 09:48	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
644588	ICB	1.00	10/09 09:57	X	X		X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
644589	ICSA	1.00	10/09 10:06	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
644590	ICSAB	1.00	10/09 10:11	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
644591	ICVLL	1.00	10/09 10:15																							X							
644598	CCV1	1.00	10/09 14:08	X	X	X		X		X	X	X			X	X	X	X				X		X		X			X				X

CT LABORATORIES
delivering more than data from your environmental analyses

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ANALYSIS RUN LOG

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Lab Code: CTL
SDG No.: 114433

Instrument ID Number: TJA
Method Number: P

Start & End Date: 10/07/2015 to 10/09/2015
Analytical Run #: 119595

Sample Number	Analysis or QC Type	DF	Analysis Date/ Time	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Mo	Li	Ni	K	Se	Si	Ag	Na	Sr	Tl	Sn	W	V	Zn
644599	CCV2	1.00	10/09 14:12		X	X		X		X		X		X		X	X	X				X		X		X			X			X	X
644600	CCB	1.00	10/09 14:17	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
641576	LCSW	1.00	10/09 14:49									X																					
641575	MBW	1.00	10/09 14:54									X												X									
640611	Re-Analysis	1.00	10/09 14:58									X				X																	
640616	Re-Analysis	1.00	10/09 15:03									X				X								X									
644601	CCV1	1.00	10/09 15:08	X	X	X				X	X	X				X	X					X		X		X			X				X
644602	CCV2	1.00	10/09 15:12		X	X		X		X		X	X	X		X						X		X		X			X			X	X
644603	CCB	1.00	10/09 15:17	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X

CT LABORATORIES
delivering more than data from your environmental analyses

14

ANALYSIS RUN LOG

Lab Name: CT Laboratories | Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Lab Code: CTL | SDG No.: 114433

Instrument ID Number: TJA | Method Number: P

Start & End Date: 10/08/2015 to 10/08/2015 | Analytical Run #: 119596

Sample Number	Analysis or QC Type	DF	Analysis Date/ Time	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Mo	Li	Ni	K	Se	Si	Ag	Na	Sr	Tl	Sn	W	V	Zn
643237	ICV	1.00	10/0E 08:10																				X				X					
643238	ICVLL	1.00	10/0E 08:13																				X				X					
643239	ICB	1.00	10/0E 08:16																				X				X					
643240	MRL	1.00	10/0E 08:18																				X				X					
643241	ICSA	1.00	10/0E 08:21	X							X				X		X						X				X					
643242	ICSAB	1.00	10/0E 08:24	X							X				X		X						X				X					
643243	CCV	1.00	10/0E 08:52																				X				X					
643244	CCB	1.00	10/0E 08:55																				X				X					
641576	LCSW	1.00	10/0E 09:13																				X				X					
641575	MBW	1.00	10/0E 09:16																				X				X					
640611	Initial	1.00	10/0E 09:19																				X				X					
643245	L	5	10/0E 09:21																				X				X					
643246	CCV	1.00	10/0E 09:24																				X				X					
643247	CCB	1.00	10/0E 09:26																				X				X					
641577	DUP	1.00	10/0E 09:29																				X				X					
641578	MSW	1.00	10/0E 09:32																				X				X					
641579	MSDW	1.00	10/0E 09:34																				X				X					
643248	PDSW	1.00	10/0E 09:37																				X				X					
640616	Initial	1.00	10/0E 09:39																				X				X					
643249	CCV	1.00	10/0E 09:55																				X				X					
643250	CCB	1.00	10/0E 09:58																				X				X					

CT LABORATORIES
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ANALYSIS RUN LOG

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Lab Code: CTL

SDG No.: 114433

Instrument ID Number: CETAC

Method Number: CV

Start & End Date: 10/12/2015 to 10/12/2015

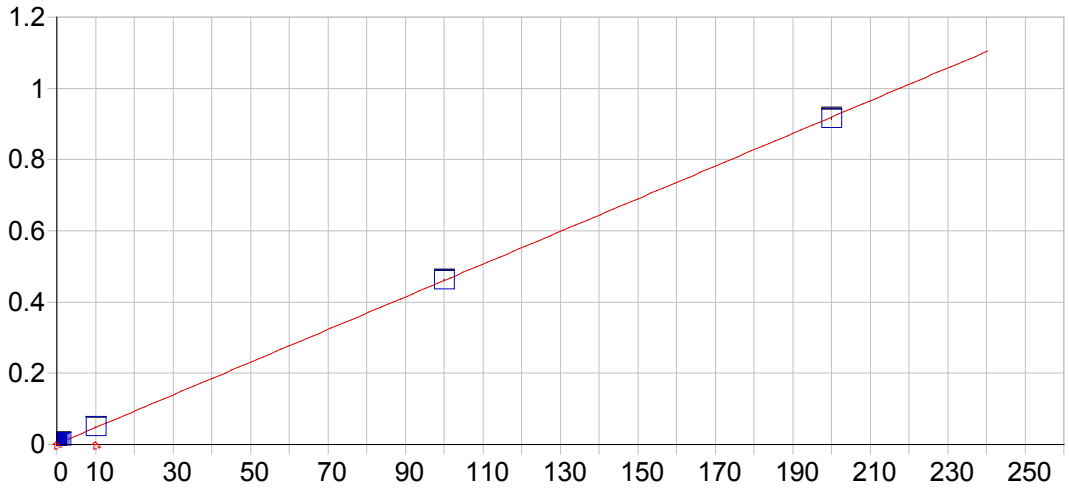
Analytical Run #: 119700

Sample Number	Analysis or QC Type	DF	Analysis Date/ Time	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Mo	Li	Ni	K	Se	Si	Ag	Na	Sr	Tl	Sn	W	V	Zn
644259	ICV	1.00	10/12 07:28																X													
644260	ICB	1.00	10/12 07:30																X													
642572	LCSW	1.00	10/12 07:48																X													
642571	MBW	1.00	10/12 07:50																X													
644261	CCV	1.00	10/12 07:52																X													
644262	CCB	1.00	10/12 07:54																X													
640611	Initial	1.00	10/12 07:56																X													
640616	Initial	1.00	10/12 07:57																X													
644263	L	5	10/12 07:59																X													
642573	DUP	1.00	10/12 08:01																X													
642574	MSW	1.00	10/12 08:03																X													
642575	MSDW	1.00	10/12 08:05																X													
644264	PDSW	1.00	10/12 08:07																X													
644265	CCV	1.00	10/12 08:15																X													
644266	CCB	1.00	10/12 08:17																X													

METALS
RAW DATA
DOCUMENTS

	Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)	Correlation	Std Error of Est	Predicted MDL	Predicted MQL
	K 766.490 { 44}	10/08/2015 10:34:32	10/08/2015 08:08:12	Linear	1/Conc	0.001586	0.004589	0.000000	1.000000	0.999953	0.000021	0.060469	0.201563
	Na 330.237 {102}	10/08/2015 10:34:32	10/08/2015 08:08:12	Curvilin	None	-0.000007	0.000055	0.000000	1.000000	0.999984	0.000050	2.403432	8.011439
	Na 589.592 { 57}	10/08/2015 10:34:32	10/08/2015 08:08:12	Linear	1/Conc	0.000756	0.038124	0.000000	1.000000	0.999990	0.000083	0.012818	0.042727
	Y 360.073 { 94}	10/08/2015 10:34:32	10/08/2015 07:49:52	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000
	Y 320.332 {105}*	10/08/2015 10:34:32	10/08/2015 07:49:52	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000
	Al 308.215 {109}	10/08/2015 10:34:32	10/08/2015 08:10:53	Linear	1/Conc	0.002389	0.000010	0.000000	1.000000	1.000000	0.000000	-1.000000	-1.000000
	Al 396.152 { 85}	10/08/2015 10:34:32	10/08/2015 08:10:53	Linear	1/Conc	-0.000118	0.013591	0.000000	1.000000	1.000000	0.000000	0.014749	0.049165
	Mg 285.213 {118}	10/08/2015 10:34:32	10/08/2015 08:10:53	Linear	None	0.000070	0.030752	0.000000	1.000000	1.000000	0.000000	0.002787	0.009289
	Ca 317.933 {106}	10/08/2015 10:34:32	10/08/2015 08:10:53	Linear	None	0.031364	0.008317	0.000000	1.000000	1.000000	0.000000	0.010998	0.036660
	Fe 234.349 {144}	10/08/2015 10:34:32	10/08/2015 08:10:53	Linear	None	-0.000004	0.000356	0.000000	1.000000	1.000000	0.000000	0.094286	0.314287

	Element, Wavelength and Order	Status	Reslope		QC Norm	
			Slope	Y-int	Slope factor	Offset
	K 766.490 { 44}	OK.	1.000000	0.000000	1	0
	Na 330.237 {102}	Warnin	1.000000	0.000000	1	0
	Na 589.592 { 57}	OK.	1.000000	0.000000	1	0
	Y 360.073 { 94}	Warnin	1.000000	0.000000	1	0
	Y 320.332 {105}*	Warnin	1.000000	0.000000	1	0
	Al 308.215 {109}	OK.	1.000000	0.000000	1	0
	Al 396.152 { 85}	OK.	1.000000	0.000000	1	0
	Mg 285.213 {118}	OK.	1.000000	0.000000	1	0
	Ca 317.933 {106}	OK.	1.000000	0.000000	1	0
	Fe 234.349 {144}	OK.	1.000000	0.000000	1	0

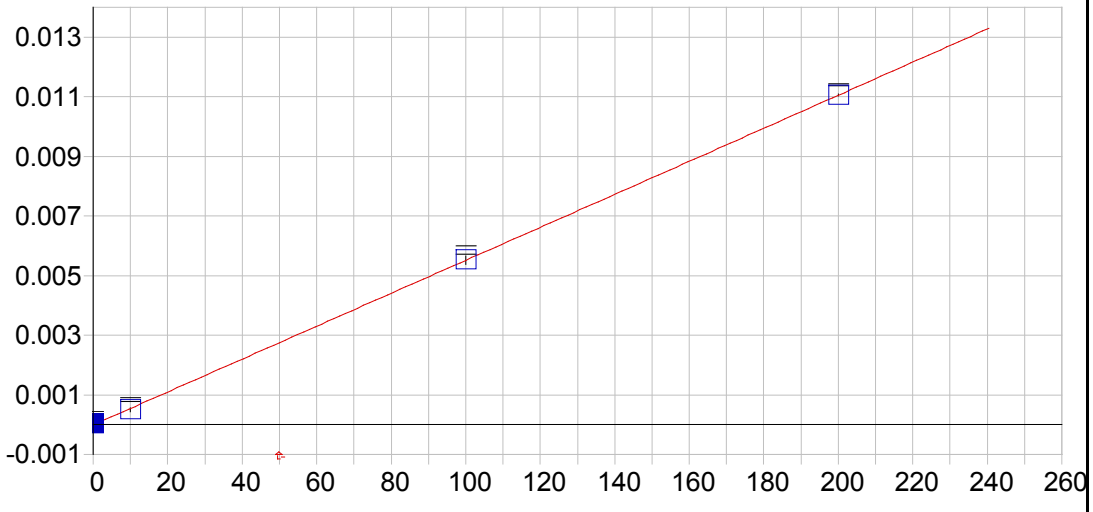


K 766.490 { 44}

Date of Fit:	10/08/2015 10:34:32	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.001586	Re-Slope:	1.000000
A1 (Gain):	0.004589	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999953	Status:	OK.
Std Error of Est:	0.000021		
Predicted MDL:	0.060469		
Predicted MQL:	0.201563		

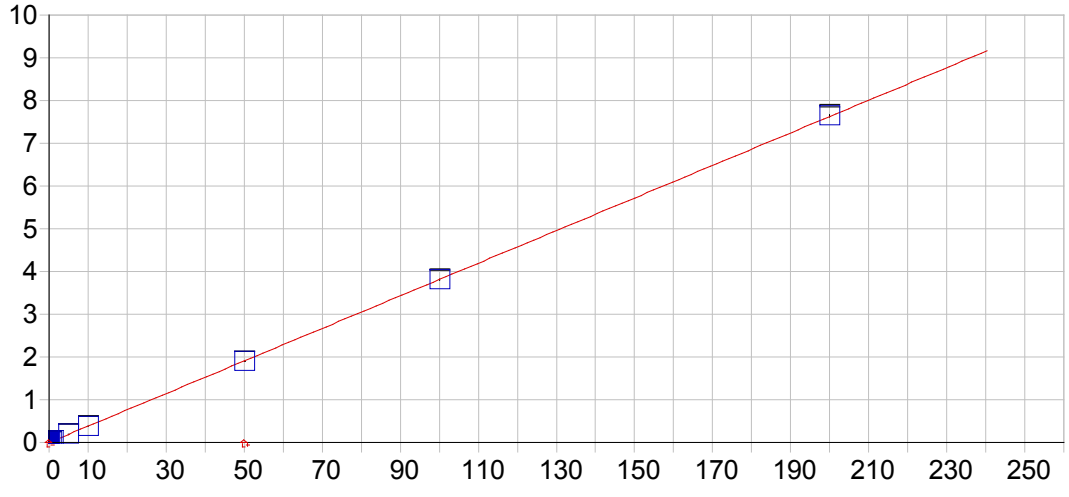
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00010	.000	.000	.00159	.000	1
CalibStd-1.0	1.0000	1.0123	.012	1.23	.00623	.000	1
CalibStd-10.0	10.000	10.394	.394	3.94	.04928	.000	1
CalibStd-0.5	.50000	.57029	.070	14.1	.00420	.000	1
CalibStd-200	200.00	199.24	-.761	-.381	.91584	.003	1
CalibStd-100	100.00	100.28	.284	.284	.46176	.002	1



Na 330.237 {102}

Date of Fit:	10/08/2015 10:34:32	Type of Fit:	Curvilinear	Weighting:	None
A0 (Offset):	-0.000007		Re-Slope:	1.000000	
A1 (Gain):	0.000055		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.999984		Status:	Warning	Positive Curvature
Std Error of Est:	0.000050				
Predicted MDL:	2.403432				
Predicted MQL:	8.011439				

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.58850	.588	.000	.00003	.000	1
CalibStd-200	200.00	199.97	-.031	-.015	.01105	.000	1
CalibStd-10.0	10.000	9.3119	-.688	-6.88	.00051	.000	1
CalibStd-100	100.00	100.13	.130	.130	.00552	.000	1



Na 589.592 { 57}

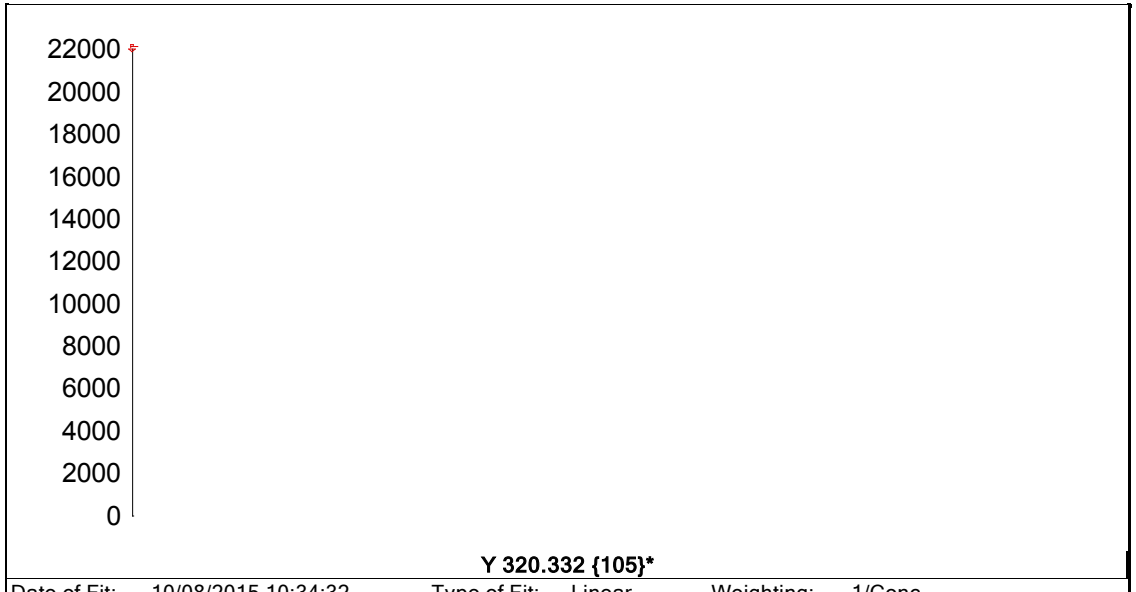
Date of Fit:	10/08/2015 10:34:32	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000756	Re-Slope:	1.000000
A1 (Gain):	0.038124	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999990	Status:	OK.
Std Error of Est:	0.000083		
Predicted MDL:	0.012818		
Predicted MQL:	0.042727		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00004	.000	.000	.00075	.000	1
CalibStd-0.5	.50000	.51754	.018	3.51	.02049	.000	1
CalibStd-1.0	1.0000	1.0392	.039	3.92	.04037	.000	1
CalibStd-5.0	5.0000	5.0999	.100	2.00	.19518	.002	1
CalibStd-10.0	10.000	9.9431	-.057	-.569	.37982	.001	1
CalibStd-50	50.000	49.738	-.262	-.524	1.8969	.001	1
CalibStd-100	100.00	99.774	-.226	-.226	3.8045	.016	1
CalibStd-200	200.00	200.39	.388	.194	7.6403	.033	1

Date of Fit:	10/08/2015 10:34:32	Type of Fit:	Linear	Weighting:	1/Conc	
A0 (Offset):	0.000000		Re-Slope:	1.000000		
A1 (Gain):	0.000000		Y-int:	0.000000		
A2 (Curvature):	0.000000					
n (Exponent):	1.000000					
Correlation:	0.000000		Status:	Warning	Zero Gain	
Std Error of Est:	0.000000					
Predicted MDL:	n/a					
Predicted MQL:	n/a					

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	214200.	1310.	1

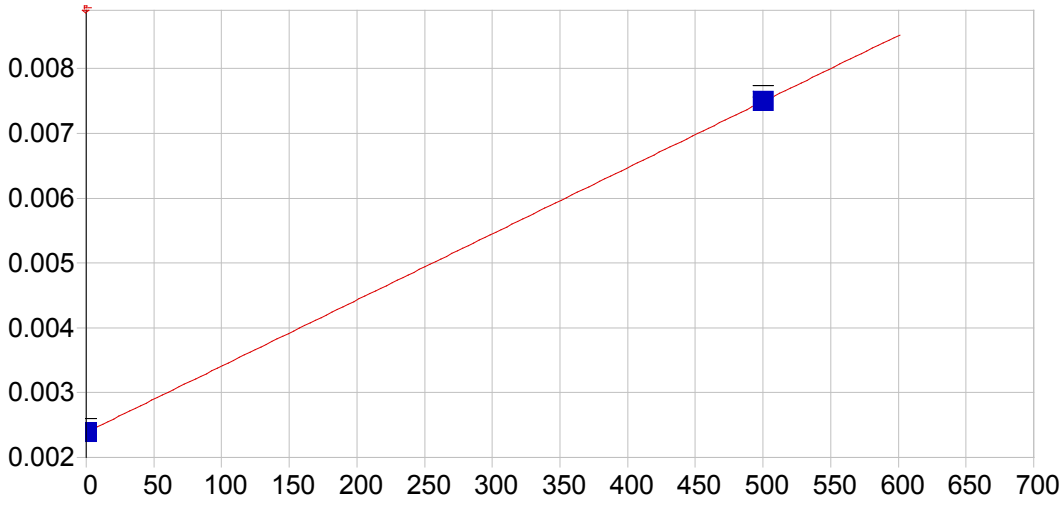


Y 320.332 {105}*

Date of Fit:	10/08/2015 10:34:32	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.000000	Status:	Warning Zero Gain
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	20326.	41.8	1

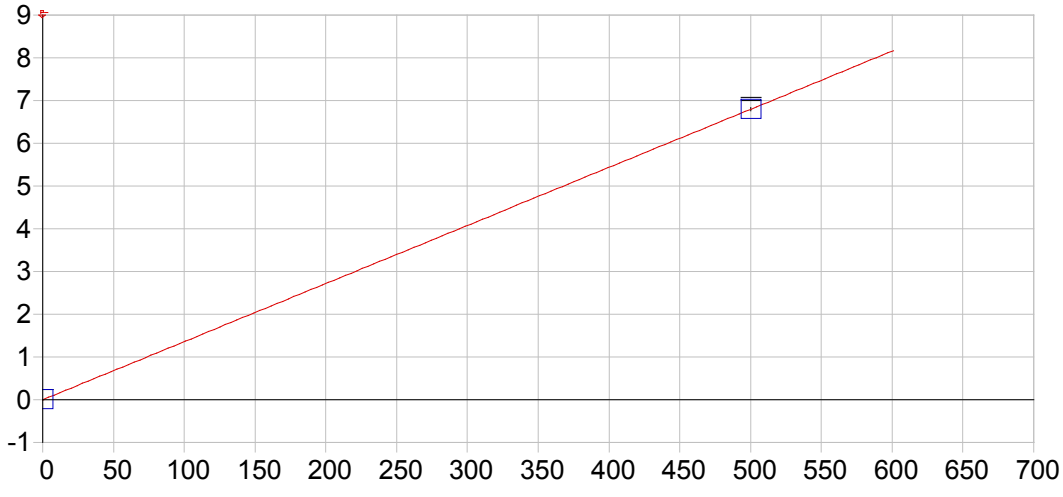


Al 308.215 {109}

Date of Fit:	10/08/2015 10:34:32	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.002389	Re-Slope:	1.000000
A1 (Gain):	0.000010	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00239	.000	1
CalibStd-500	500.00	500.00	.000	.000	.00749	.000	1

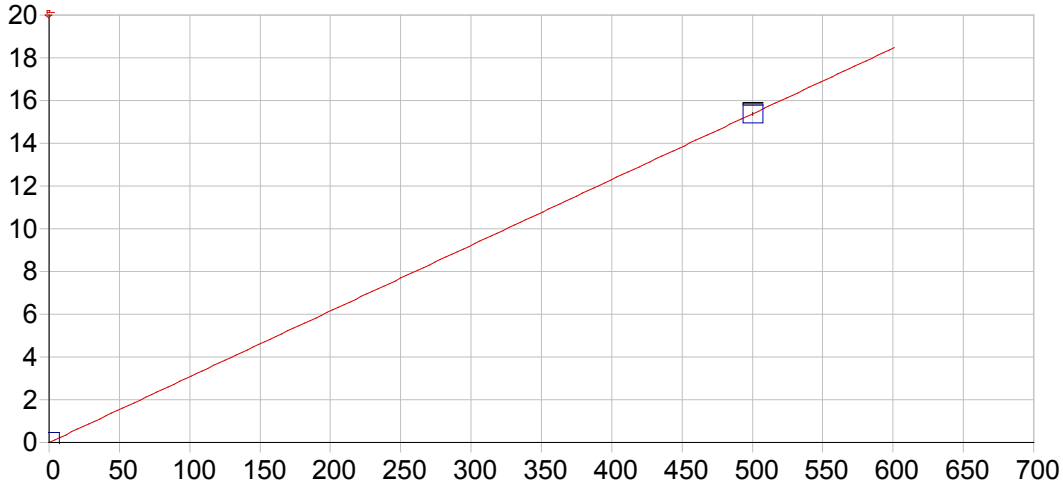


Al 396.152 { 85}

Date of Fit:	10/08/2015 10:34:32	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000118	Re-Slope:	1.000000
A1 (Gain):	0.013591	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.014749		
Predicted MQL:	0.049165		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	-.00012	.000	1
CalibStd-500	500.00	500.00	.000	.000	6.7956	.036	1

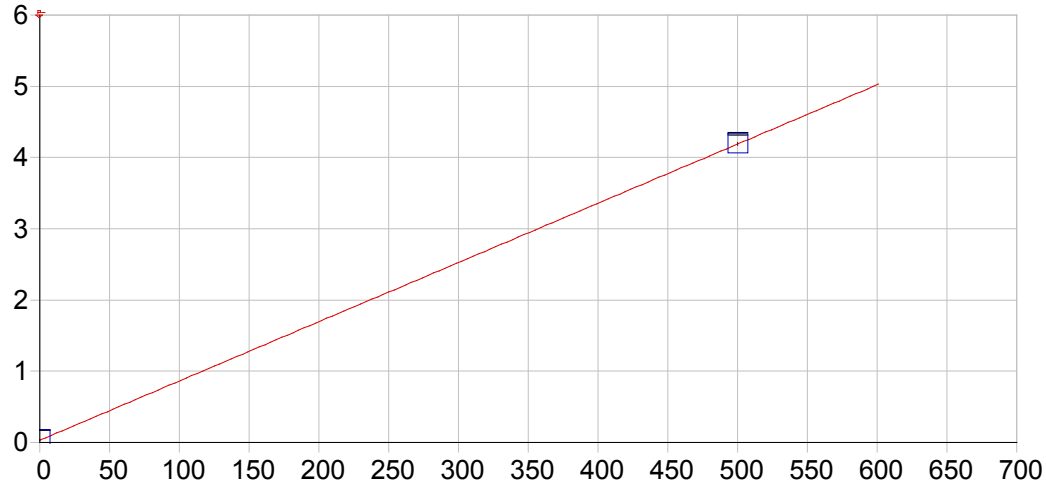


Mg 285.213 {118}

Date of Fit:	10/08/2015 10:34:32	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000070	Re-Slope:	1.000000
A1 (Gain):	0.030752	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.002787		
Predicted MQL:	0.009289		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00007	.000	1
CalibStd-500	500.00	500.00	.000	.000	15.376	.064	1

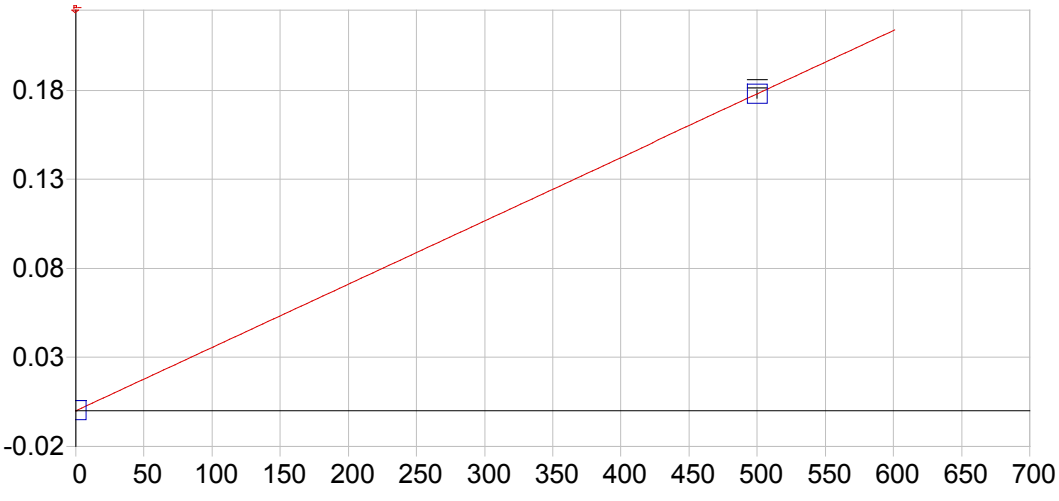


Ca 317.933 {106}

Date of Fit:	10/08/2015 10:34:32	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.031364	Re-Slope:	1.000000
A1 (Gain):	0.008317	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.010998		
Predicted MQL:	0.036660		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.03136	.000	1
CalibStd-500	500.00	500.00	.000	.000	4.1897	.018	1



Fe 234.349 {144}

Date of Fit:	10/08/2015 10:34:32	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	-0.000004	Re-Slope:	1.000000
A1 (Gain):	0.000356	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.094286		
Predicted MQL:	0.314287		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00000	.000	1
CalibStd-500	500.00	500.00	.000	.000	.17789	.002	1

Sample Name: Blank Acquired: 10/08/2015 07:47:08 Type: Cal
Method: Sodium and Potassium 1(v621) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.002**	**.000**	**.001**	**.000**	**.000**	**.031**	**.000**
Stddev	.000	.000	.000	.00	.000	.000	.00
%RSD	14.7	347.	60.8	179.	82.9	.403	296.

Int. Std.	Y_3203
Units	Cts/S
Avg	**20326.**
Stddev	42.
%RSD	.20589

Sample Name: CalibStd-0.5 Acquired: 10/08/2015 07:49:55 Type: Cal
Method: Sodium and Potassium 1(v621) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895
Units	Cts/S	Cts/S
Avg	**.004**	**.020**
Stddev	.000	.000
%RSD	3.93	.490

Int. Std.	Y_3203
Units	Cts/S
Avg	**20603.**
Stddev	99.
%RSD	.48232

Sample Name: CalibStd-1.0 Acquired: 10/08/2015 07:52:31 Type: Cal
Method: Sodium and Potassium 1(v621) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895
Units	Cts/S	Cts/S
Avg	**.006**	**.040**
Stddev	.000	.000
%RSD	4.77	.957

Int. Std.	Y_3203
Units	Cts/S
Avg	**20728.**
Stddev	63.
%RSD	.30613

Sample Name: CalibStd-5.0 Acquired: 10/08/2015 07:55:07 Type: Cal
Method: Sodium and Potassium 1(v621) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Na5895
Units	Cts/S
Avg	.195
Stddev	.002
%RSD	.910

Int. Std.	Y_3203
Units	Cts/S
Avg	20768.
Stddev	60.
%RSD	.28928

Sample Name: CalibStd-10.0 Acquired: 10/08/2015 07:57:44 Type: Cal
Method: Sodium and Potassium 1(v621) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Na5895
Units	Cts/S	Cts/S	Cts/S
Avg	**.049**	**.001**	**.380**
Stddev	.000	.000	.001
%RSD	.601	12.8	.362

Int. Std.	Y_3203
Units	Cts/S
Avg	**20582.**
Stddev	43.
%RSD	.20673

Sample Name: CalibStd-50 Acquired: 10/08/2015 08:00:21 Type: Cal
Method: Sodium and Potassium 1(v621) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Na5895
Units	Cts/S
Avg	**1.90**
Stddev	.00
%RSD	.058

Int. Std.	Y_3203
Units	Cts/S
Avg	**20593.**
Stddev	29.
%RSD	.14192

Sample Name: CalibStd-100 Acquired: 10/08/2015 08:02:59 Type: Cal
Method: Sodium and Potassium 1(v621) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Na5895
Units	Cts/S	Cts/S	Cts/S
Avg	**.462**	**.006**	**3.80**
Stddev	.002	.000	.02
%RSD	.409	2.42	.410

Int. Std.	Y_3203
Units	Cts/S
Avg	**20555.**
Stddev	51.
%RSD	.24688

Sample Name: CalibStd-200 Acquired: 10/08/2015 08:05:37 Type: Cal
Method: Sodium and Potassium 1(v621) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Na5895
Units	Cts/S	Cts/S	Cts/S
Avg	**.916**	**.011**	**7.64**
Stddev	.003	.000	.03
%RSD	.300	.301	.434

Int. Std.	Y_3203
Units	Cts/S
Avg	**20504.**
Stddev	62.
%RSD	.30031

Sample Name: CalibStd-500 Acquired: 10/08/2015 08:08:15 Type: Cal
Method: Sodium and Potassium 1(v621) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Mg2852	Ca3179	Fe2343
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**6.80**	**15.4**	**4.19**	**.178**
Stddev	.04	.1	.02	.002
%RSD	.526	.415	.427	1.26

Int. Std.	Y_3203
Units	Cts/S
Avg	**19542.**
Stddev	77.
%RSD	.39457

Sample Name: icv Acquired: 10/08/2015 08:10:57 Type: QC
Method: Sodium and Potassium 1(v621) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**98.6**	**96.3**	**.112**	**.116**	**.061**	**.249**
Stddev	.5	1.2	.006	.008	.011	.128
%RSD	.482	1.19	5.08	7.05	17.5	51.3
#1	99.0	96.4	.119	.122	.050	.133
#2	98.1	97.5	.111	.120	.063	.386
#3	98.7	95.2	.108	.107	.071	.228
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**20807.**
Stddev	100.
%RSD	.47975
#1	20718.
#2	20789.
#3	20915.

Sample Name: ICVLL Acquired: 10/08/2015 08:13:34 Type: QC
Method: Sodium and Potassium 1(v621) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**3.18**	**3.25**	**.036**	**.035**	**-.013**	**.092**
Stddev	.03	.01	.006	.002	.020	.123
%RSD	.786	.464	16.4	6.34	151.	134.
#1	3.18	3.23	.037	.036	-.016	.022
#2	3.16	3.27	.042	.032	-.032	.020
#3	3.21	3.25	.030	.036	.008	.233
Check ?	Chk Pass	Chk Pass	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**21235.**
Stddev	123.
%RSD	.57811
#1	21142.
#2	21374.
#3	21189.

Sample Name: icb Acquired: 10/08/2015 08:16:10 Type: QC
Method: Sodium and Potassium 1(v621) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.028**	**.021**	**.012**	**.014**	**-.038**	**.093**
Stddev	.033	.010	.009	.001	.020	.076
%RSD	117.	47.6	75.6	5.23	52.4	82.0
#1	.043	.023	.023	.015	-.024	.007
#2	-.010	.031	.007	.014	-.028	.152
#3	.050	.010	.007	.014	-.061	.120
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**21219.**
Stddev	31.
%RSD	.14649
#1	21185.
#2	21227.
#3	21246.

Sample Name: mrl Acquired: 10/08/2015 08:18:47 Type: QC
Method: Sodium and Potassium 1(v621) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**1.07**	**1.07**	**.008**	**.004**	**-.052**	**.015**
Stddev	.06	.01	.003	.000	.024	.037
%RSD	5.48	1.19	41.3	9.54	45.3	250.
#1	1.08	1.09	.005	.005	-.036	-.026
#2	1.12	1.06	.008	.004	-.079	.048
#3	1.00	1.06	.012	.004	-.042	.023
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**21291.**
Stddev	82.
%RSD	.38283
#1	21246.
#2	21385.
#3	21241.

Sample Name: icsa Acquired: 10/08/2015 08:21:24 Type: QC
Method: Sodium and Potassium 1(v621) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.000**	**.000**	**488.**	**483.**	**482.**	**485.**
Stddev	.009	.01	2.	1.	3.	4.
%RSD	4692e12	33e15	.403	.207	.585	.807
#1	-.002	-.008	486.	484.	485.	489.
#2	.010	.006	487.	483.	479.	482.
#3	-.008	.002	490.	482.	481.	482.
Check ?	Chk Pass	Chk Pass	None	None	None	None
High Limit						
Low Limit						

Int. Std.	Y_3203
Units	Cts/S
Avg	**19823.**
Stddev	52.
%RSD	.26118
#1	19763.
#2	19857.
#3	19848.

Sample Name: icsab Acquired: 10/08/2015 08:24:07 Type: QC
Method: Sodium and Potassium 1(v621) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**103.**	**103.**	**434.**	**434.**	**426.**	**433.**
Stddev	.	3.	1.	1.	2.	3.
%RSD	.070	3.21	.230	.241	.495	.804
#1	103.	98.8	434.	434.	424.	431.
#2	103.	105.	434.	433.	426.	432.
#3	103.	104.	432.	435.	428.	437.
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**19926.**
Stddev	29.
%RSD	.14759
#1	19947.
#2	19892.
#3	19939.

Sample Name: ccv Acquired: 10/08/2015 08:52:52 Type: QC
Method: Sodium and Potassium 1(v621) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**99.0**	**95.3**	**.010**	**.007**	**.050**	**-.020**
Stddev	.8	.4	.005	.002	.013	.071
%RSD	.847	.457	47.8	32.5	27.0	365.
#1	98.8	94.9	.008	.008	.035	-.035
#2	98.3	95.1	.006	.009	.053	-.082
#3	99.9	95.8	.015	.005	.061	.058
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**21051.**
Stddev	45.
%RSD	.21400
#1	21086.
#2	21000.
#3	21067.

Sample Name: ccb Acquired: 10/08/2015 08:55:30 Type: QC
Method: Sodium and Potassium 1(v621) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.041**	**.070**	**.001**	**.003**	**-.027**	**.053**
Stddev	.023	.007	.001	.002	.015	.060
%RSD	56.6	10.3	90.7	74.5	54.9	113.
#1	.042	.064	.002	.003	-.010	.072
#2	.064	.068	.002	.001	-.032	.100
#3	.018	.078	.000	.004	-.038	-.014
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**21222.**
Stddev	91.
%RSD	.43059
#1	21173.
#2	21166.
#3	21328.

Sample Name: lcsw54510 Acquired: 10/08/2015 09:13:46 Type: Unk
Method: Sodium and Potassium 1(v621) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**99.9**	**97.3**	**.770**	**94.6**	**170.**	**.404**
Stddev	.3	1.6	.016	.4	1.	.077
%RSD	.315	1.67	2.04	.412	.339	18.9
#1	100.	95.9	.777	94.9	171.	.392
#2	100.0	96.7	.781	94.8	170.	.335
#3	99.6	99.1	.752	94.2	170.	.487

Int. Std.	Y_3203
Units	Cts/S
Avg	**20395.**
Stddev	43.
%RSD	.21059
#1	20366.
#2	20374.
#3	20444.

Sample Name: mbw54510 Acquired: 10/08/2015 09:16:22 Type: Unk
Method: Sodium and Potassium 1(v621) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.019**	**.042**	**-.003**	**.009**	**-.048**	**-.001**
Stddev	.025	.010	.008	.002	.009	.094
%RSD	132.	25.0	252.	24.9	18.1	12600.
#1	.044	.052	-.008	.011	-.047	-.106
#2	.020	.041	.006	.006	-.058	.030
#3	-.007	.031	-.008	.010	-.040	.074

Int. Std.	Y_3203
Units	Cts/S
Avg	**21283.**
Stddev	29.
%RSD	.13700
#1	21253.
#2	21283.
#3	21312.

Sample Name: 640611 Acquired: 10/08/2015 09:19:00 Type: Unk
Method: Sodium and Potassium 1(v621) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**1.07**	**40.7**	**.042**	**24.0**	**63.5**	**.187**
Stddev	.03	.3	.002	.1	.4	.122
%RSD	2.48	.640	4.27	.271	.558	65.2
#1	1.07	40.4	.042	23.9	63.8	.322
#2	1.04	40.9	.040	24.1	63.1	.157
#3	1.09	40.7	.043	24.0	63.5	.083

Int. Std.	Y_3203
Units	Cts/S
Avg	**20940.**
Stddev	78.
%RSD	.37359
#1	20862.
#2	20938.
#3	21019.

Sample Name: I640611 Acquired: 10/08/2015 09:21:36 Type: Unk
Method: Sodium and Potassium 1(v621) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.169**	**8.22**	**.009**	**4.85**	**12.8**	**-.010**
Stddev	.036	.14	.013	.02	.0	.078
%RSD	21.5	1.75	134.	.401	.241	776.
#1	.190	8.38	-.004	4.86	12.8	.073
#2	.191	8.19	.022	4.86	12.8	-.081
#3	.127	8.10	.010	4.83	12.9	-.022

Int. Std.	Y_3203
Units	Cts/S
Avg	**21501.**
Stddev	42.
%RSD	.19688
#1	21537.
#2	21512.
#3	21454.

Sample Name: ccv Acquired: 10/08/2015 09:24:13 Type: QC
Method: Sodium and Potassium 1(v621) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**100.**	**95.2**	**.009**	**.011**	**.030**	**-.015**
Stddev	.	1.1	.006	.002	.009	.061
%RSD	.306	1.13	69.5	20.4	30.6	401.
#1	100.	96.3	.003	.012	.020	-.001
#2	101.	94.1	.008	.013	.037	.037
#3	99.9	95.2	.016	.008	.033	-.082
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**21043.**
Stddev	28.
%RSD	.13360
#1	21072.
#2	21040.
#3	21016.

Sample Name: ccb Acquired: 10/08/2015 09:26:50 Type: QC
Method: Sodium and Potassium 1(v621) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.004**	**.072**	**.006**	**.003**	**-.067**	**.023**
Stddev	.063	.005	.013	.001	.003	.027
%RSD	1420.	7.07	207.	41.6	4.05	119.
#1	-.027	.078	-.003	.002	-.068	.017
#2	-.037	.068	.001	.005	-.069	.052
#3	.077	.071	.020	.003	-.064	-.001
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**21280.**
Stddev	49.
%RSD	.23186
#1	21244.
#2	21336.
#3	21260.

Sample Name: dup640611 Acquired: 10/08/2015 09:29:28 Type: Unk
Method: Sodium and Potassium 1(v621) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**1.10**	**42.4**	**.042**	**24.3**	**64.0**	**.047**
Stddev	.03	.1	.010	.0	.1	.074
%RSD	3.12	.122	23.8	.110	.222	156.
#1	1.06	42.3	.032	24.3	63.8	.077
#2	1.13	42.4	.040	24.3	64.1	.102
#3	1.11	42.3	.052	24.3	64.0	-.037

Int. Std.	Y_3203
Units	Cts/S
Avg	**20963.**
Stddev	21.
%RSD	.10073
#1	20943.
#2	20960.
#3	20985.

Sample Name: msw640611 Acquired: 10/08/2015 09:32:04 Type: Unk
Method: Sodium and Potassium 1(v621) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**104.**	**136.**	**.819**	**118.**	**233.**	**.453**
Stddev	1.	1.	.007	.	.	.020
%RSD	.815	.630	.804	.394	.140	4.36
#1	105.	136.	.816	119.	233.	.473
#2	104.	137.	.827	118.	232.	.453
#3	103.	136.	.815	118.	233.	.433

Int. Std.	Y_3203
Units	Cts/S
Avg	**20403.**
Stddev	58.
%RSD	.28279
#1	20339.
#2	20418.
#3	20451.

Sample Name: msdw640611 Acquired: 10/08/2015 09:34:41 Type: Unk
Method: Sodium and Potassium 1(v621) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**104.**	**136.**	**.814**	**119.**	**232.**	**.470**
Stddev	1.	2.	.017	.	1.	.076
%RSD	.699	1.29	2.12	.193	.446	16.2
#1	104.	137.	.833	119.	231.	.508
#2	104.	136.	.809	119.	231.	.382
#3	103.	134.	.800	118.	233.	.519

Int. Std.	Y_3203
Units	Cts/S
Avg	**20322.**
Stddev	19.
%RSD	.09582
#1	20322.
#2	20303.
#3	20342.

Sample Name: pdsw640611 Acquired: 10/08/2015 09:37:18 Type: Unk
Method: Sodium and Potassium 1(v621) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**113.**	**148.**	**.037**	**23.7**	**61.9**	**.092**
Stddev	1.	1.	.022	.0	.3	.043
%RSD	.987	.783	60.2	.129	.539	46.8
#1	113.	147.	.040	23.7	61.6	.132
#2	113.	149.	.013	23.7	62.2	.098
#3	111.	148.	.057	23.7	62.1	.046

Int. Std.	Y_3203
Units	Cts/S
Avg	**20751.**
Stddev	49.
%RSD	.23595
#1	20791.
#2	20696.
#3	20766.

Sample Name: 640616 Acquired: 10/08/2015 09:39:56 Type: Unk
Method: Sodium and Potassium 1(v621) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**1.23**	**53.8**	**.064**	**24.2**	**55.5**	**.207**
Stddev	.04	2.3	.005	.3	.5	.101
%RSD	3.22	4.18	8.05	1.07	.852	48.5
#1	1.19	51.2	.070	23.9	56.0	.323
#2	1.26	55.2	.059	24.2	55.5	.141
#3	1.25	55.0	.064	24.4	55.0	.158

Int. Std.	Y_3203
Units	Cts/S
Avg	**20774.**
Stddev	9.
%RSD	.04468
#1	20785.
#2	20769.
#3	20769.

Sample Name: ccv Acquired: 10/08/2015 09:55:31 Type: QC
Method: Sodium and Potassium 1(v621) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**99.6**	**94.2**	**-.002**	**.010**	**.027**	**.071**
Stddev	.4	1.5	.010	.002	.019	.052
%RSD	.355	1.60	415.	22.3	70.6	72.5
#1	99.7	94.2	.009	.008	.018	.015
#2	100.0	95.7	-.009	.011	.014	.082
#3	99.2	92.7	-.007	.012	.048	.117
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**21345.**
Stddev	61.
%RSD	.28794
#1	21291.
#2	21412.
#3	21334.

Sample Name: ccb Acquired: 10/08/2015 09:58:07 Type: QC
Method: Sodium and Potassium 1(v621) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.035**	**.066**	**.010**	**.006**	**-.054**	**.058**
Stddev	.024	.007	.005	.001	.014	.070
%RSD	68.1	10.2	52.5	8.55	26.5	121.
#1	.063	.063	.006	.006	-.064	-.009
#2	.026	.062	.016	.006	-.038	.131
#3	.018	.074	.008	.005	-.061	.054
Check ?	None	None	None	None	None	None
Value						
Range						

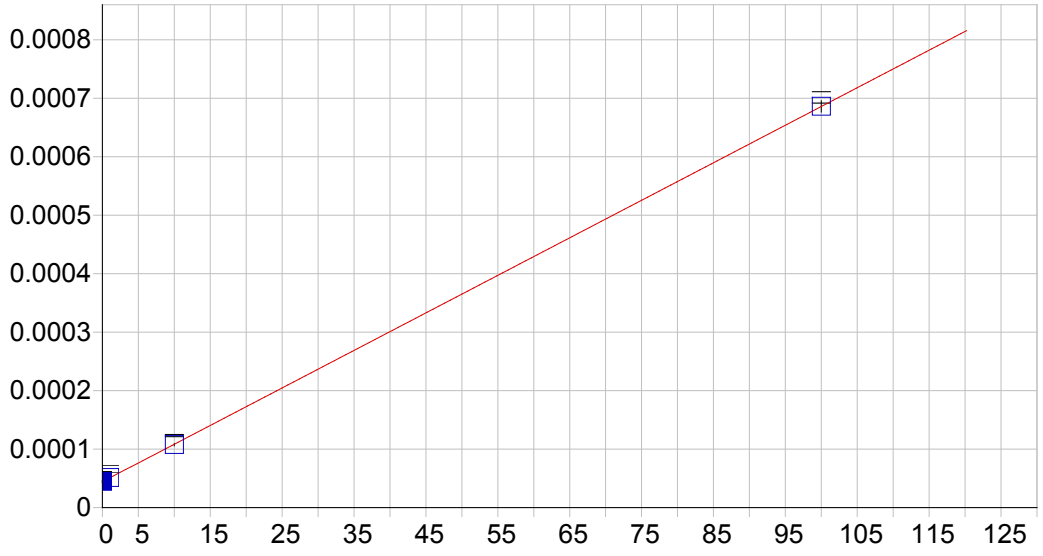
Int. Std.	Y_3203
Units	Cts/S
Avg	**21403.**
Stddev	43.
%RSD	.20189
#1	21452.
#2	21384.
#3	21372.

Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)	Correlation	Std Error of Est	Predicted MDL	Predicted MQL	Status	Resl Slope
Ag 328.068 {103}	10/08/2015 11:53:21	10/07/2015 13:26:20	Linear	None	0.000044	0.000006	0.000000	1.000000	0.999998	0.000001	0.803467	2.678225	OK.	1.000000
Al 308.215 {109}	10/08/2015 11:53:21	10/07/2015 13:54:22	Curvilin	1/Conc	0.000092	0.000002	0.000000	1.000000	0.999995	0.000009	18.349603	61.165343	OK.	1.000000
Al 309.271 {109}	10/08/2015 11:53:21	10/07/2015 13:44:45	Curvilin	None	0.000857	0.000002	0.000000	1.000000	1.000000	0.000031	19.615912	65.386375	OK.	1.000000
Al 396.152 { 85}	10/08/2015 11:53:21	10/07/2015 13:54:22	Curvilin	1/Var	0.000000	0.000005	0.000000	1.000000	0.999799	0.000108	9.671608	32.238693	OK.	1.000000
Al 167.079 {502}	10/08/2015 11:53:21	10/07/2015 13:30:38	Linear	None	0.000012	0.000000	0.000000	1.000000	0.999870	0.000002	20.138373	67.127910	OK.	1.000000
As 193.759 {474}	10/08/2015 11:53:21	10/07/2015 13:35:26	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.999736	0.000000	13.257352	44.191173	OK.	1.000000
As 189.042 {479}	10/08/2015 11:53:21	10/07/2015 13:35:26	Linear	None	-0.000000	0.000000	0.000000	1.000000	0.999978	0.000000	57.800545	192.668484	OK.	1.000000
Ba 455.403 { 74}	10/08/2015 11:53:21	10/07/2015 13:30:38	Linear	1/Conc	-0.000053	0.000387	0.000000	1.000000	0.999510	0.000011	0.189312	0.631041	OK.	1.000000
Ba 493.409 { 68}	10/08/2015 11:53:21	10/07/2015 13:35:26	Linear	1/Conc	-0.000581	0.000538	0.000000	1.000000	0.999960	0.000046	0.271668	0.905561	OK.	1.000000
Be 313.042 {108}	10/08/2015 11:53:21	10/07/2015 13:30:39	Linear	1/Var	-0.000042	0.000132	0.000000	1.000000	0.999610	0.000011	0.126504	0.421681	OK.	1.000000
Be 234.861 {144}	10/08/2015 11:53:21	10/07/2015 13:30:39	Linear	1/Conc	0.000000	0.000001	0.000000	1.000000	0.999997	0.000000	2.474180	8.247266	OK.	1.000000
Ca 315.887 {107}	10/08/2015 11:53:21	10/07/2015 13:54:22	Linear	1/Conc	0.000149	0.000001	0.000000	1.000000	0.999949	0.000022	17.428666	58.095554	OK.	1.000000
Ca 317.933 {106}	10/08/2015 11:53:21	10/07/2015 13:54:22	Curvilin	1/Var	0.007416	0.000001	0.000000	1.000000	0.999970	0.000014	12.259166	40.863887	OK.	1.000000
Ca 393.366 { 86}	10/08/2015 11:53:21	10/07/2015 13:30:39	Linear	None	0.002276	0.000811	0.000000	1.000000	0.999980	0.003006	0.048489	0.161629	OK.	1.000000
Ca 396.847 { 85}	10/08/2015 11:53:21	10/07/2015 13:35:27	Linear	None	0.002787	0.000318	0.000000	1.000000	0.999998	0.004175	0.102283	0.340942	OK.	1.000000
Cd 226.502 {149}	10/08/2015 11:53:21	10/07/2015 13:30:39	Linear	None	0.000006	0.000001	0.000000	1.000000	0.999652	0.000007	25.082875	83.609582	OK.	1.000000
Cd 226.502 {449}	10/08/2015 11:53:21	10/07/2015 13:30:39	Linear	1/Conc	0.000002	0.000003	0.000000	1.000000	0.999443	0.000000	0.448898	1.496326	OK.	1.000000
Cd 228.802 {447}	10/08/2015 11:53:21	10/07/2015 13:30:39	Linear	None	0.000011	0.000005	0.000000	1.000000	0.999996	0.000006	0.323409	1.078031	OK.	1.000000
Co 228.616 {147}	10/08/2015 11:53:21	10/07/2015 13:30:39	Linear	None	-0.000000	0.000000	0.000000	1.000000	0.999720	0.000001	16.699471	55.664904	OK.	1.000000
Co 228.616 {447}	10/08/2015 11:53:21	10/07/2015 13:30:39	Linear	1/Conc	-0.000002	0.000002	0.000000	1.000000	0.999584	0.000000	0.615739	2.052462	OK.	1.000000
Co 238.892 {141}	10/08/2015 11:53:21	10/07/2015 13:35:27	Linear	1/Var	-0.000000	0.000000	0.000000	1.000000	0.998530	0.000001	18.810235	62.700783	OK.	1.000000
Cr 267.716 {126}	10/08/2015 11:53:21	10/07/2015 13:30:39	Linear	1/Var	-0.000199	0.000050	0.000000	1.000000	0.999325	0.000231	9.445764	31.485879	OK.	1.000000
Cr 283.563 {119}	10/08/2015 11:53:21	10/07/2015 13:39:50	Curvilin	None	-0.000000	0.000000	0.000000	1.000000	1.000000	0.000011	4.700583	15.668609	OK.	1.000000
Cu 224.700 {450}	10/08/2015 11:53:21	10/07/2015 13:35:27	Linear	1/Conc	-0.000000	0.000001	0.000000	1.000000	0.999936	0.000000	1.198621	3.995403	OK.	1.000000
Cu 324.754 {104}	10/08/2015 11:53:21	10/07/2015 13:39:50	Linear	None	0.001934	0.000011	0.000000	1.000000	0.999997	0.001379	2.641354	8.804513	OK.	1.000000
Cu 327.396 {103}	10/08/2015 11:53:21	10/07/2015 13:39:50	Linear	1/Conc	-0.000098	0.000004	0.000000	1.000000	0.999978	0.000002	6.938471	23.128237	OK.	1.000000
Fe 234.349 {144}	10/08/2015 11:53:21	10/07/2015 13:54:22	Linear	1/Conc	0.000006	0.000000	0.000000	1.000000	0.998994	0.000011	54.095732	180.319106	OK.	1.000000
Fe 239.562 {141}	10/08/2015 11:53:21	10/07/2015 13:44:45	Linear	1/Conc	0.000014	0.000000	0.000000	1.000000	0.999941	0.000002	32.291816	107.639387	OK.	1.000000
Fe 259.940 {130}	10/08/2015 11:53:21	10/07/2015 13:35:27	Linear	1/Conc	0.000003	0.000000	0.000000	1.000000	0.999860	0.000000	7.876335	26.254451	OK.	1.000000
Mg 202.582 {466}	10/08/2015 11:53:21	10/07/2015 13:54:22	Full Fit	1/Conc	-0.000001	0.000000	0.000000	0.940000	0.999950	0.000002	4.205214	14.017381	OK.	1.000000
Mg 279.079 {121}	10/08/2015 11:53:21	10/07/2015 13:54:22	Full Fit	None	-0.000106	0.000000	0.000000	0.990000	0.999998	0.000264	45.329607	151.098691	OK.	1.000000
Mg 280.270 {120}	10/08/2015 11:53:21	10/07/2015 13:35:27	Linear	1/Conc	0.000007	0.000006	0.000000	1.000000	0.999832	0.000003	0.238166	0.793887	OK.	1.000000
Mn 257.610 {131}	10/08/2015 11:53:21	10/07/2015 13:35:28	Linear	1/Conc	0.000000	0.000001	0.000000	1.000000	0.999784	0.000000	1.091924	3.639748	OK.	1.000000
Mn 259.373 {130}	10/08/2015 11:53:21	10/07/2015 13:39:50	Linear	1/Conc	0.000002	0.000002	0.000000	1.000000	0.999682	0.000022	1.216107	4.053691	OK.	1.000000
Mo 202.030 {466}	10/08/2015 11:53:21	10/07/2015 13:30:40	Linear	None	-0.000001	0.000000	0.000000	1.000000	0.999938	0.000002	2.495433	8.318108	OK.	1.000000
Mo 203.844 {465}	10/08/2015 11:53:21	10/07/2015 13:30:40	Linear	1/Conc	0.000001	0.000000	0.000000	1.000000	0.999112	0.000000	3.117012	10.390040	OK.	1.000000
Mo 202.030 {467}	10/08/2015 11:53:21	10/07/2015 13:35:28	Linear	1/Conc	-0.000001	0.000002	0.000000	1.000000	0.999761	0.000001	3.844280	12.814265	OK.	1.000000
Mo 204.598 {465}	10/08/2015 11:53:21	10/07/2015 13:35:28	Linear	None	-0.000001	0.000000	0.000000	1.000000	0.999998	0.000002	4.679782	15.599273	OK.	1.000000
Ni 221.647 {452}	10/08/2015 11:53:21	10/07/2015 13:35:28	Linear	1/Conc	0.000001	0.000002	0.000000	1.000000	0.999897	0.000001	1.091186	3.637285	OK.	1.000000
Ni 231.604 {146}	10/08/2015 11:53:21	10/07/2015 13:35:28	Linear	None	0.000002	0.000000	0.000000	1.000000	0.999859	0.000002	104.697212	348.990706	OK.	1.000000
Ni 231.604 {445}	10/08/2015 11:53:21	10/07/2015 13:35:28	Linear	1/Conc	-0.000004	0.000002	0.000000	1.000000	0.999926	0.000000	1.079237	3.597456	OK.	1.000000
Pb 216.999 {455}	10/08/2015 11:53:21	10/07/2015 13:39:50	Curvilin	1/Conc	0.000001	0.000000	0.000000	1.000000	0.999920	0.000000	11.302856	37.676187	OK.	1.000000
Pb 220.353 {153}	10/08/2015 11:53:21	10/07/2015 13:39:50	Linear	None	-0.000001	0.000000	0.000000	1.000000	0.999991	0.000001	416.125113	1387.08371	OK.	1.000000
Pb 220.353 {453}	10/08/2015 11:53:21	10/07/2015 13:30:40	Linear	None	0.000261	0.000055	0.000000	1.000000	0.999988	0.000133	6.631920	22.106400	OK.	1.000000
Pb 283.306 {119}	10/08/2015 11:53:21	10/07/2015 13:39:50	Curvilin	1/Conc	-0.000002	0.000000	0.000000	1.000000	0.999330	0.000000	118.684743	395.615809	OK.	1.000000
Sb 206.833 {463}	10/08/2015 11:53:21	10/07/2015 13:35:28	Linear	1/Conc	-0.000000	0.000000	0.000000	1.000000	0.999989	0.000000	6.623674	22.078914	OK.	1.000000

Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)	Correlation	Std Error of Est	Predicted MDL	Predicted MQL	Status	Resl
														Slope
Sb 217.581 {455}	10/08/2015 11:53:21	10/07/2015 13:30:40	Linear	1/Conc	-0.000000	0.000000	0.000000	1.000000	0.998382	0.000000	6.164923	20.549745	OK.	1.000000
Se 196.090 {471}	10/08/2015 11:53:21	10/07/2015 13:35:28	Linear	None	-0.000013	0.000004	0.000000	1.000000	0.999985	0.000109	39.380227	131.267425	OK.	1.000000
Se 196.090 {472}	10/08/2015 11:53:21	10/07/2015 13:35:28	Linear	1/Conc	0.000107	0.000010	0.000000	1.000000	0.999577	0.000004	17.511768	58.372559	OK.	1.000000
Se 206.279 {463}	10/08/2015 11:53:21	10/07/2015 13:35:29	Linear	1/Conc	-0.000000	0.000000	0.000000	1.000000	0.999526	0.000000	54.582688	181.942295	OK.	1.000000
Tl 190.856 {476}	10/08/2015 11:53:21	10/07/2015 13:30:41	Linear	1/Conc	-0.000171	0.000026	0.000000	1.000000	0.999370	0.000004	9.505512	31.685041	OK.	1.000000
Tl 190.856 {477}	10/08/2015 11:53:21	10/07/2015 13:35:29	Linear	1/Conc	-0.000065	0.000007	0.000000	1.000000	0.998830	0.000005	26.811458	89.371528	OK.	1.000000
Tl 276.787 {122}	10/08/2015 11:53:21	10/07/2015 13:35:29	Linear	None	-0.000000	0.000000	0.000000	1.000000	0.999682	0.000002	212.502774	708.342580	OK.	1.000000
V 290.882 {116}	10/08/2015 11:53:21	10/07/2015 13:35:29	Linear	1/Conc	0.000054	0.000004	0.000000	1.000000	0.999832	0.000003	6.222922	20.743075	OK.	1.000000
V 292.402 {115}	10/08/2015 11:53:21	10/07/2015 13:30:41	Linear	1/Conc	0.000011	0.000012	0.000000	1.000000	0.999478	0.000002	0.645496	2.151652	OK.	1.000000
Zn 206.200 {463}	10/08/2015 11:53:21	10/07/2015 13:39:51	Curvilin	1/Conc	0.000001	0.000001	-0.000000	1.000000	1.000000	0.000000	1.328491	4.428302	OK.	1.000000
Zn 213.856 {458}	10/08/2015 11:53:21	10/07/2015 13:35:29	Curvilin	1/Conc	-0.000002	0.000002	-0.000000	1.000000	0.999948	0.000000	0.667402	2.224675	OK.	1.000000
Y 224.306 {451}*	10/08/2015 11:53:21	10/07/2015 12:49:37	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000
Y 324.228 {104}*	10/08/2015 11:53:21	10/07/2015 12:49:37	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000
Y 371.030 { 91}*	10/08/2015 11:53:21	10/07/2015 12:49:37	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000
Na 330.298 {102}	10/08/2015 11:53:21	10/07/2015 13:35:29	Linear	1/Conc	0.000022	0.000000	0.000000	1.000000	1.000000	0.000000	393.072510	1310.24170	OK.	1.000000
Na 588.995 { 57}	10/08/2015 11:53:21	10/07/2015 13:35:29	Linear	1/Conc	0.003726	0.000115	0.000000	1.000000	1.000000	0.000000	1.533372	5.111239	OK.	1.000000
Si 251.611 {134}	10/08/2015 11:53:21	10/07/2015 13:35:29	Linear	1/Conc	0.000052	0.000001	0.000000	1.000000	0.999910	0.000003	16.094542	53.648472	OK.	1.000000
Ti 334.941 {101}	10/08/2015 11:53:21	10/07/2015 13:35:29	Linear	1/Conc	0.000037	0.000016	0.000000	1.000000	0.999775	0.000003	1.469713	4.899043	OK.	1.000000
Ti 337.280 {100}	10/08/2015 11:53:21	10/07/2015 13:35:29	Linear	1/Conc	0.000003	0.000016	0.000000	1.000000	0.999896	0.000002	2.108767	7.029225	OK.	1.000000
Sr 407.771 { 83}	10/08/2015 11:53:21	10/07/2015 13:35:29	Linear	1/Conc	-0.000955	0.000429	0.000000	1.000000	0.999936	0.000019	0.100145	0.333818	OK.	1.000000
Sr 421.552 { 80}	10/08/2015 11:53:21	10/07/2015 13:35:29	Linear	1/Conc	-0.000079	0.000381	0.000000	1.000000	0.999954	0.000014	0.125724	0.419081	OK.	1.000000
Sn 189.989 {477}	10/08/2015 11:53:21	10/07/2015 13:35:29	Linear	None	-0.000144	0.000002	0.000000	1.000000	0.999118	0.000322	2.760993	9.203309	OK.	1.000000
Sn 189.989 {478}	10/08/2015 11:53:21	10/07/2015 13:35:30	Linear	None	-0.000041	0.000001	0.000000	1.000000	0.999107	0.000089	10.644864	35.482878	OK.	1.000000
Sn 283.999 {119}	10/08/2015 11:53:21	10/07/2015 13:35:30	Linear	None	-0.000024	0.000000	0.000000	1.000000	0.999632	0.000044	63.717027	212.390089	OK.	1.000000
B 249.678 {135}	10/08/2015 11:53:21	10/07/2015 13:35:30	Linear	1/Conc	0.000000	0.000002	0.000000	1.000000	0.999627	0.000001	11.245109	37.483696	OK.	1.000000
B 249.773 {135}	10/08/2015 11:53:21	10/07/2015 13:35:30	Linear	1/Conc	-0.000005	0.000003	0.000000	1.000000	0.999400	0.000001	5.206624	17.355413	OK.	1.000000
Li 670.784 { 50}	10/08/2015 11:53:21	10/07/2015 13:35:30	Linear	None	-0.002355	0.000130	0.000000	1.000000	0.999983	0.003865	0.958989	3.196628	OK.	1.000000
K 766.490 { 44}	10/08/2015 11:53:21	10/07/2015 13:35:30	Linear	1/Conc	0.000242	0.000005	0.000000	1.000000	1.000000	0.000000	24.089517	80.298391	OK.	1.000000
K 769.896 { 44}	10/08/2015 11:53:21	10/07/2015 13:35:30	Linear	1/Conc	0.000169	0.000002	0.000000	1.000000	1.000000	0.000000	47.872266	159.574221	OK.	1.000000
P 177.495 {489}	10/08/2015 11:53:21	10/07/2015 13:35:30	Linear	1/Conc	0.000006	0.000003	0.000000	1.000000	1.000000	0.000000	1.828471	6.094902	OK.	1.000000
P 213.618 {457}	10/08/2015 11:53:21	10/07/2015 13:35:30	Linear	1/Conc	-0.000045	0.000003	0.000000	1.000000	1.000000	0.000000	2.713059	9.043530	OK.	1.000000
S 180.731 {486}	10/08/2015 11:53:21	10/07/2015 13:44:46	Linear	1/Conc	0.000010	0.000000	0.000000	1.000000	1.000000	0.000000	72.944016	243.146718	OK.	1.000000
S 182.034 {485}	10/08/2015 11:53:21	10/07/2015 13:44:46	Linear	1/Conc	0.000004	0.000000	0.000000	1.000000	1.000000	0.000000	9507.73122	31692.4374	OK.	1.000000
W 239.709 {140}	10/08/2015 11:53:21	10/07/2015 13:30:41	Linear	1/Conc	0.000001	0.000000	0.000000	1.000000	1.000000	0.000000	100.741407	335.804690	OK.	1.000000
W 245.148 {137}	10/08/2015 11:53:21	10/07/2015 13:30:41	Linear	1/Conc	0.000025	0.000000	0.000000	1.000000	1.000000	0.000000	5297.40750	17658.0250	OK.	1.000000

Element, Wavelength and Order	ope	QC Norm	
	Y-int	Slope factor	Offset
Ag 328.068 {103}	0.000000	1	0
Al 308.215 {109}	0.000000	1	0
Al 309.271 {109}	0.000000	1	0
Al 396.152 { 85}	0.000000	1	0
Al 167.079 {502}	0.000000	1	0
As 193.759 {474}	0.000000	1	0
As 189.042 {479}	0.000000	1	0
Ba 455.403 { 74}	0.000000	1	0
Ba 493.409 { 68}	0.000000	1	0
Be 313.042 {108}	0.000000	1	0
Be 234.861 {144}	0.000000	1	0
Ca 315.887 {107}	0.000000	1	0
Ca 317.933 {106}	0.000000	1	0
Ca 393.366 { 86}	0.000000	1	0
Ca 396.847 { 85}	0.000000	1	0
Cd 226.502 {149}	0.000000	1	0
Cd 226.502 {449}	0.000000	1	0
Cd 228.802 {447}	0.000000	1	0
Co 228.616 {147}	0.000000	1	0
Co 228.616 {447}	0.000000	1	0
Co 238.892 {141}	0.000000	1	0
Cr 267.716 {126}	0.000000	1	0
Cr 283.563 {119}	0.000000	1	0
Cu 224.700 {450}	0.000000	1	0
Cu 324.754 {104}	0.000000	1	0
Cu 327.396 {103}	0.000000	1	0
Fe 234.349 {144}	0.000000	1	0
Fe 239.562 {141}	0.000000	1	0
Fe 259.940 {130}	0.000000	1	0
Mg 202.582 {466}	0.000000	1	0
Mg 279.079 {121}	0.000000	1	0
Mg 280.270 {120}	0.000000	1	0
Mn 257.610 {131}	0.000000	1	0
Mn 259.373 {130}	0.000000	1	0
Mo 202.030 {466}	0.000000	1	0
Mo 203.844 {465}	0.000000	1	0
Mo 202.030 {467}	0.000000	1	0
Mo 204.598 {465}	0.000000	1	0
Ni 221.647 {452}	0.000000	1	0
Ni 231.604 {146}	0.000000	1	0
Ni 231.604 {445}	0.000000	1	0
Pb 216.999 {455}	0.000000	1	0
Pb 220.353 {153}	0.000000	1	0
Pb 220.353 {453}	0.000000	1	0
Pb 283.306 {119}	0.000000	1	0
Sb 206.833 {463}	0.000000	1	0

	Element, Wavelength and Order	lope	QC Norm	
		Y-int	Slope factor	Offset
	Sb 217.581 {455}	0.000000	1	0
	Se 196.090 {471}	0.000000	1	0
	Se 196.090 {472}	0.000000	1	0
	Se 206.279 {463}	0.000000	1	0
	Tl 190.856 {476}	0.000000	1	0
	Tl 190.856 {477}	0.000000	1	0
	Tl 276.787 {122}	0.000000	1	0
	V 290.882 {116}	0.000000	1	0
	V 292.402 {115}	0.000000	1	0
	Zn 206.200 {463}	0.000000	1	0
	Zn 213.856 {458}	0.000000	1	0
	Y 224.306 {451}*	0.000000	1	0
	Y 324.228 {104}*	0.000000	1	0
	Y 371.030 { 91}*	0.000000	1	0
	Na 330.298 {102}	0.000000	1	0
	Na 588.995 { 57}	0.000000	1	0
	Si 251.611 {134}	0.000000	1	0
	Ti 334.941 {101}	0.000000	1	0
	Ti 337.280 {100}	0.000000	1	0
	Sr 407.771 { 83}	0.000000	1	0
	Sr 421.552 { 80}	0.000000	1	0
	Sn 189.989 {477}	0.000000	1	0
	Sn 189.989 {478}	0.000000	1	0
	Sn 283.999 {119}	0.000000	1	0
	B 249.678 {135}	0.000000	1	0
	B 249.773 {135}	0.000000	1	0
	Li 670.784 { 50}	0.000000	1	0
	K 766.490 { 44}	0.000000	1	0
	K 769.896 { 44}	0.000000	1	0
	P 177.495 {489}	0.000000	1	0
	P 213.618 {457}	0.000000	1	0
	S 180.731 {486}	0.000000	1	0
	S 182.034 {485}	0.000000	1	0
	W 239.709 {140}	0.000000	1	0
	W 245.148 {137}	0.000000	1	0

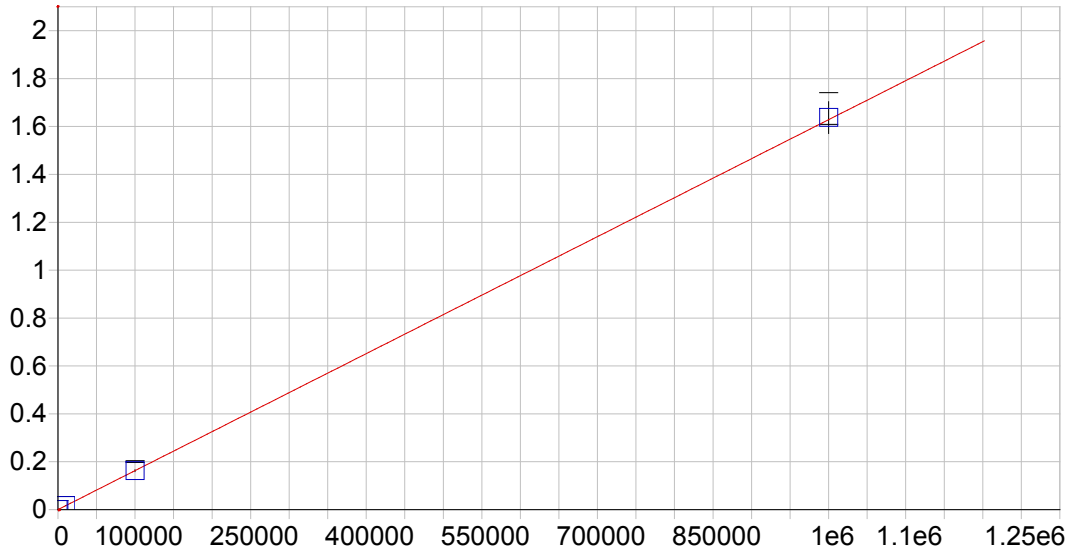


Ag 328.068 {103}

Date of Fit:	10/08/2015 11:53:21	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000044	Re-Slope:	1.000000
A1 (Gain):	0.000006	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999998	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.803467		
Predicted MQL:	2.678225		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.04409	.044	.000	.00004	.000	1
CalStd5=10	10.000	9.8733	-.127	-1.27	.00011	.000	1
CalStd8=100	100.00	100.01	.012	.012	.00069	.000	1
CalStd3=1	1.0000	1.0707	.071	7.07	.00005	.000	1

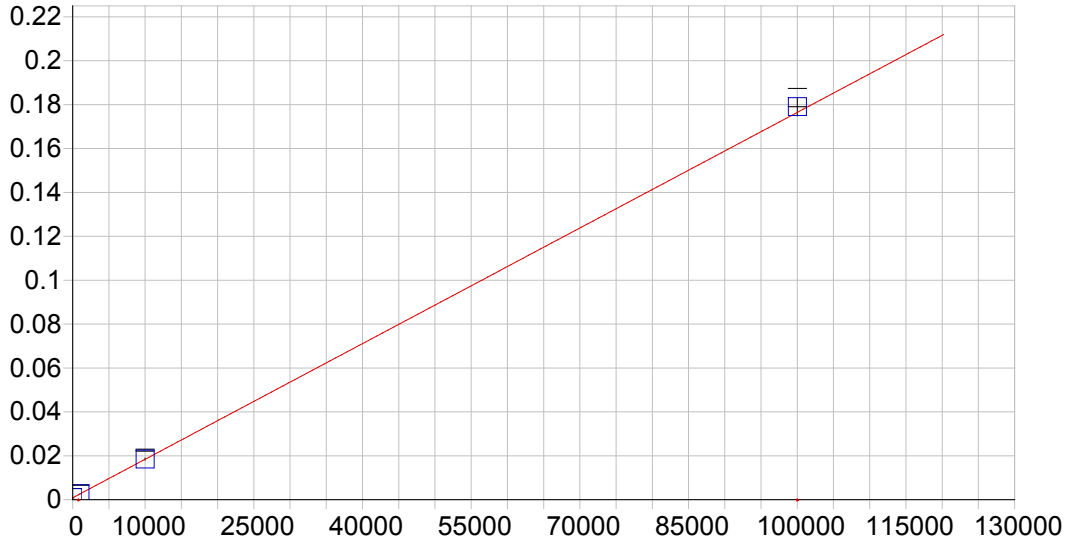


Al 308.215 {109}

Date of Fit:	10/08/2015 11:53:21	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	0.000092	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999995	Status:	OK.
Std Error of Est:	0.000009		
Predicted MDL:	18.349603		
Predicted MQL:	61.165343		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.04091	-.041	.000	.00009	.000	1
CalStd10=10	10000.	10321.	321.	3.21	.01690	.000	1
CalStd9=100	1000.0	1012.5	12.5	1.25	.00174	.000	1
CalStd12-100	100000.	99687.	-313.	-.313	.16242	.004	1
CalStd14-100	1000000.	1005400.	5420.	.542	1.6373	.066	1

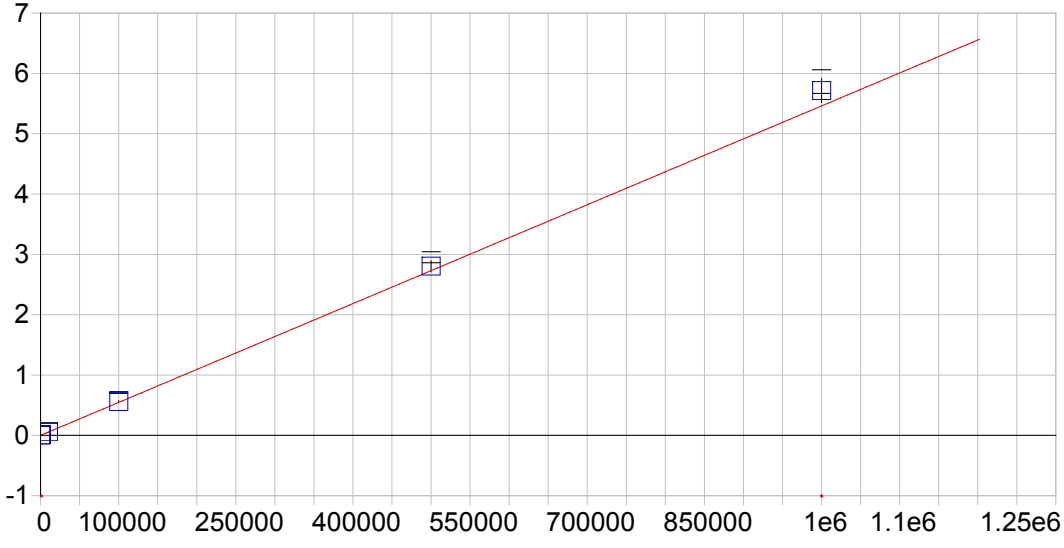


Al 309.271 {109}

Date of Fit:	10/08/2015 11:53:21	Type of Fit:	Curvilinear	Weighting:	None

A0 (Offset):	0.000857	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000031		
Predicted MDL:	19.615912		
Predicted MQL:	65.386375		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	11.620	11.6	.000	.00088	.000	1
CalStd10=10	10000.	10016.	16.3	.163	.01845	.000	1
CalStd9=100	1000.0	987.11	-12.9	-1.29	.00259	.000	1
CalStd12-100	100000.	101490.	1490.	1.49	.17907	.004	1

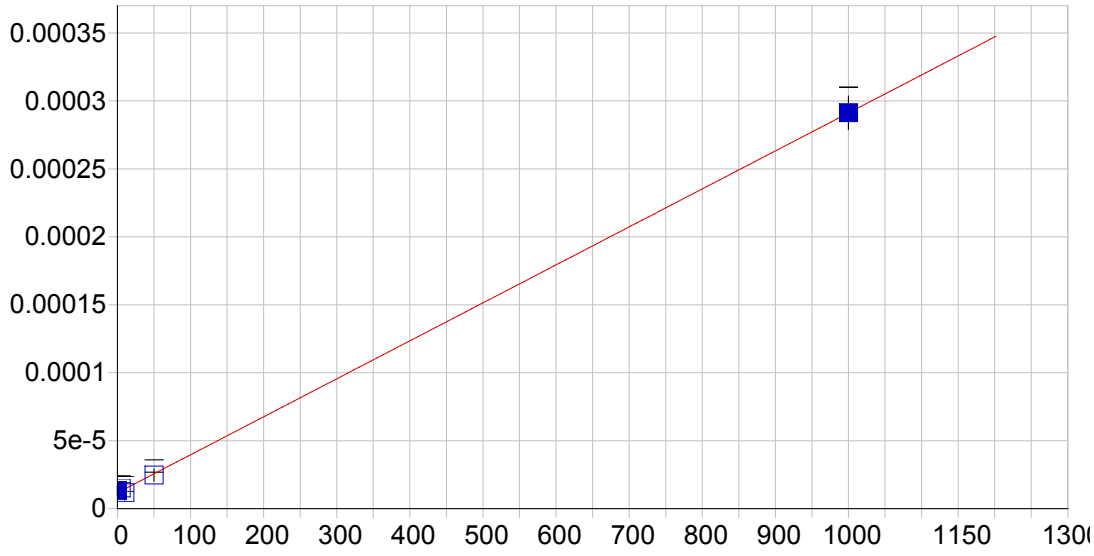


Al 396.152 { 85}

Date of Fit:	10/08/2015 11:53:21	Type of Fit:	Curvilinear	Weighting:	1/Var

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000005	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999799	Status:	OK.
Std Error of Est:	0.000108		
Predicted MDL:	9.671608		
Predicted MQL:	32.238693		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	4.6161	4.62	.000	.00003	.000	1
CalStd14-100	1000000.	1046300.	46300.	4.63	5.7135	.195	1
CalStd13=50	500000.	513120.	13100.	2.62	2.8021	.091	1
CalStd10=10	10000.	10185.	185.	1.85	.05562	.001	1
CalStd12-100	100000.	102380.	2380.	2.38	.55911	.014	1
CalStd9=100	1000.0	975.64	-24.4	-2.44	.00533	.000	1

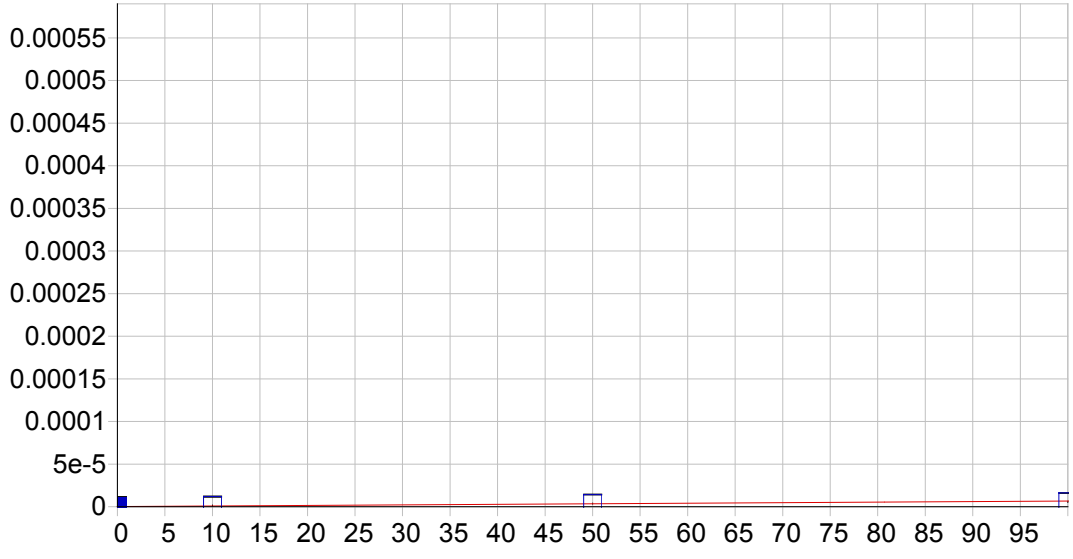


Al 167.079 {502}

Date of Fit:	10/08/2015 11:53:21	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000012	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999870	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	20.138373		
Predicted MQL:	67.127910		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	5.8292	5.83	.000	.00001	.000	1
CalStd9=100	1000.0	1000.2	.238	.024	.00029	.000	1
CalStd5=10	10.000	-.02660	-10.0	-100.	.00001	.000	1
CalStd4=5	5.0000	12.457	7.46	149.	.00002	.000	1
CalStd7=50	50.000	46.503	-3.50	-6.99	.00002	.000	1

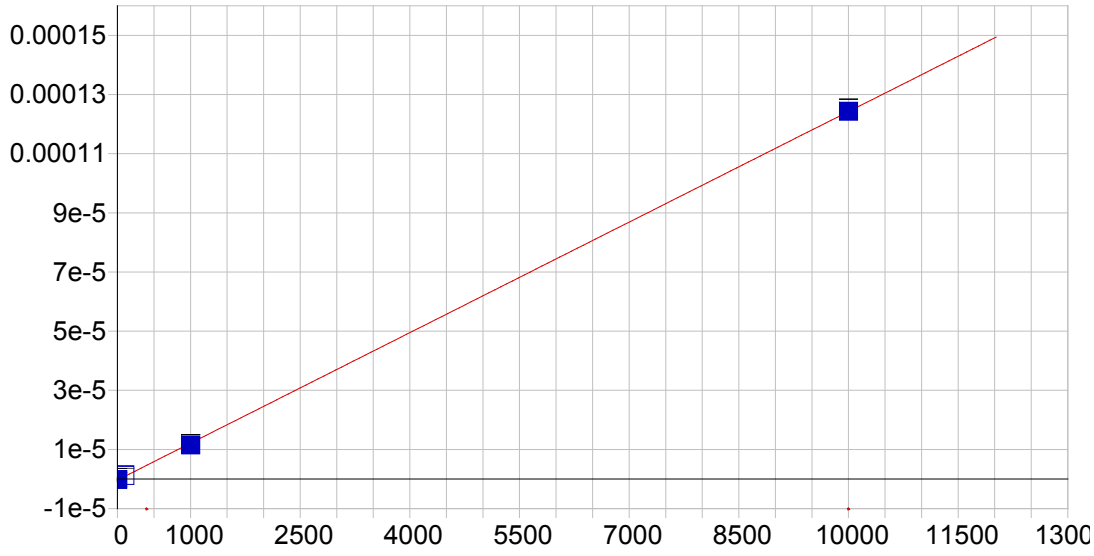


As 193.759 {474}

Date of Fit:	10/08/2015 11:53:21	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999736	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	13.257352		
Predicted MQL:	44.191173		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00419	-.004	.000	.00000	.000	1
CalStd9=100	1000.0	972.64	-27.4	-2.74	.00006	.000	1
CalStd7=50	50.000	52.870	2.87	5.74	.00000	.000	1
CalStd5=10	10.000	15.293	5.29	52.9	.00000	.000	1
CalStd8=100	100.00	85.646	-14.4	-14.4	.00001	.000	1
CalStd10=10	10000.	10034.	33.5	.335	.00063	.000	1

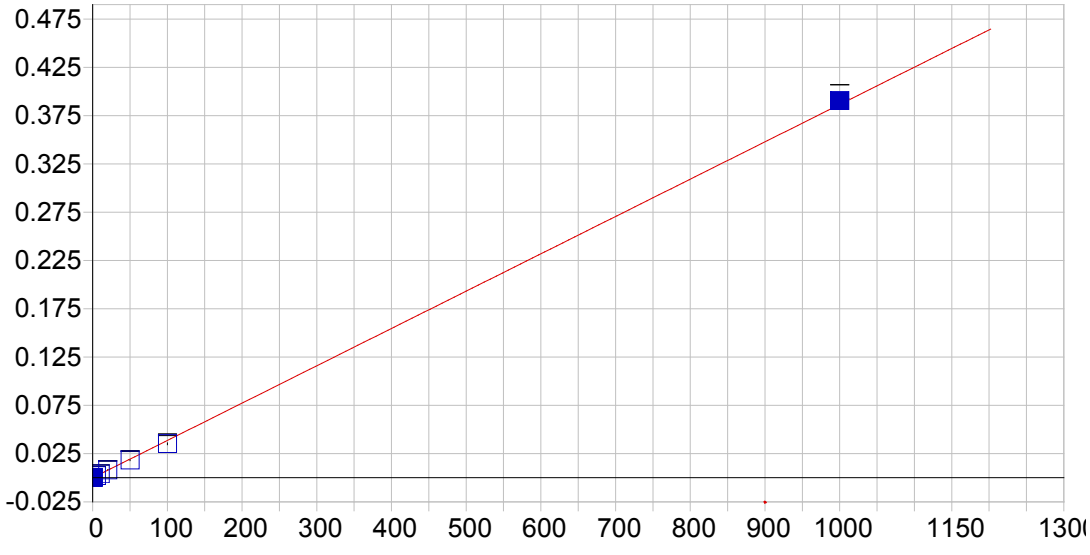


As 189.042 {479}

Date of Fit:	10/08/2015 11:53:21	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	-0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999978	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	57.800545		
Predicted MQL:	192.668484		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	12.045	12.0	.000	.00000	.000	1
CalStd9=100	1000.0	949.07	-50.9	-5.09	.00001	.000	1
CalStd10=10	10000.	10005.	4.89	.049	.00012	.000	1
CalStd8=100	100.00	119.10	19.1	19.1	.00000	.000	1
CalStd4=5	5.0000	19.882	14.9	298.	.00000	.000	1

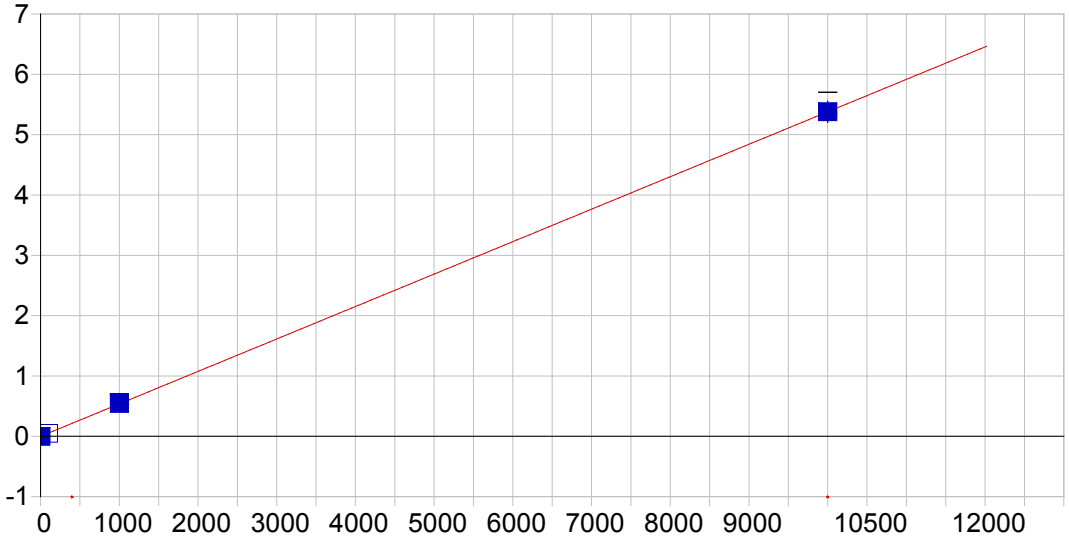


Ba 455.403 { 74}

Date of Fit:	10/08/2015 11:53:21	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000053	Re-Slope:	1.000000
A1 (Gain):	0.000387	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999510	Status:	OK.
Std Error of Est:	0.000011		
Predicted MDL:	0.189312		
Predicted MQL:	0.631041		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00010	.000	.000	-.00005	.000	1
CalStd7=50	50.000	47.204	-2.80	-5.59	.01820	.000	1
CalStd5=10	10.000	10.256	.256	2.56	.00391	.000	1
CalStd6=20	20.000	20.963	.963	4.81	.00805	.000	1
CalStd8=100	100.00	91.061	-8.94	-8.94	.03515	.001	1
CalStd4=5	5.0000	5.3412	.341	6.82	.00201	.000	1
CalStd9=100	1000.0	1010.3	10.3	1.03	.39050	.007	1
CalStd3=1	1.0000	1.0292	.029	2.92	.00034	.000	1
CalStd2=0.5	.50000	.38630	-.114	-22.7	.00010	.000	1

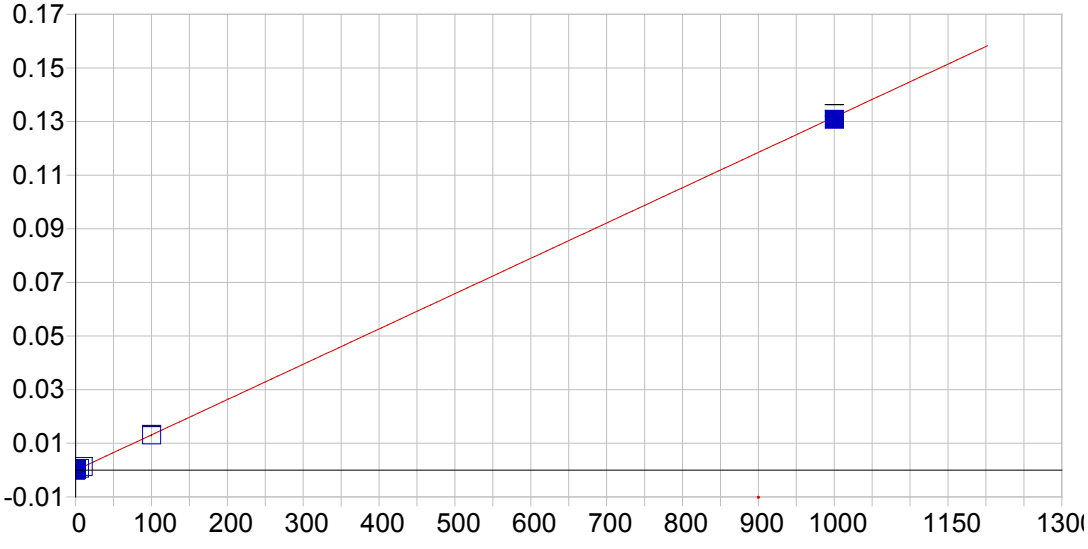


Ba 493.409 { 68}

Date of Fit:	10/08/2015 11:53:21	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000581	Re-Slope:	1.000000
A1 (Gain):	0.000538	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999960	Status:	OK.
Std Error of Est:	0.000046		
Predicted MDL:	0.271668		
Predicted MQL:	0.905561		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00023	.000	.000	-.00058	.000	1
CalStd9=100	1000.0	1009.2	9.18	.918	.54240	.011	1
CalStd10=10	10000.	9998.8	-1.25	-.012	5.3791	.175	1
CalStd8=100	100.00	91.447	-8.55	-8.55	.04861	.001	1
CalStd4=5	5.0000	5.6167	.617	12.3	.00244	.000	1

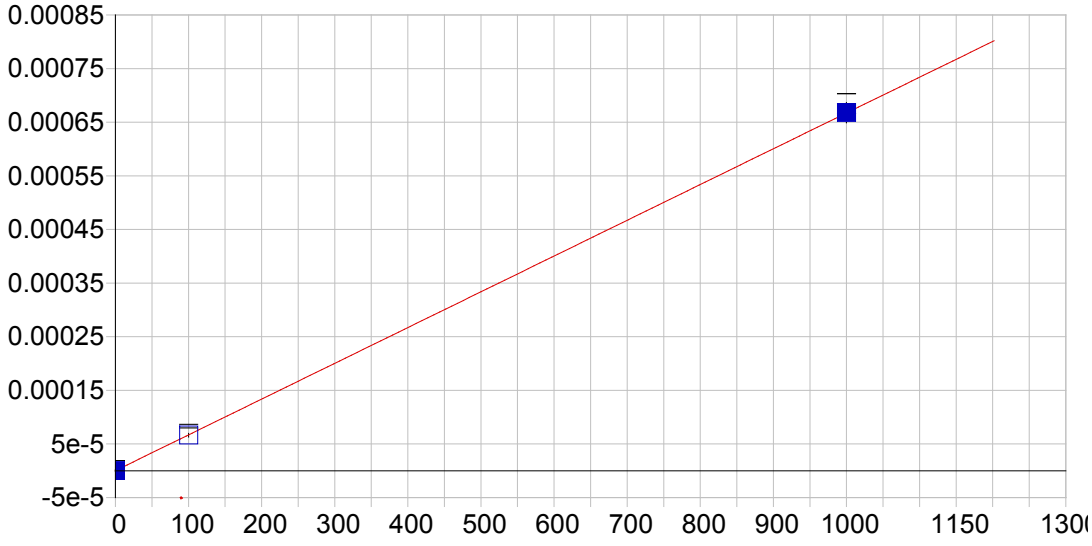


Be 313.042 {108}

Date of Fit:	10/08/2015 11:53:21	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-0.000042	Re-Slope:	1.000000
A1 (Gain):	0.000132	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999610	Status:	OK.
Std Error of Est:	0.000011		
Predicted MDL:	0.126504		
Predicted MQL:	0.421681		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.22447	-.224	.000	-.00007	.000	1
CalStd5=10	10.000	10.044	.044	.440	.00128	.000	1
CalStd8=100	100.00	99.331	-.669	-.669	.01304	.000	1
CalStd2=0.5	.50000	.46426	-.036	-7.15	.00002	.000	1
CalStd4=5	5.0000	5.0104	.010	.209	.00062	.000	1
CalStd1=0.25	.25000	.24441	-.006	-2.23	-.00001	.000	1
CalStd9=100	1000.0	993.45	-6.55	-.655	.13079	.002	1
CalStd3=1	1.0000	1.0272	.027	2.72	.00009	.000	1

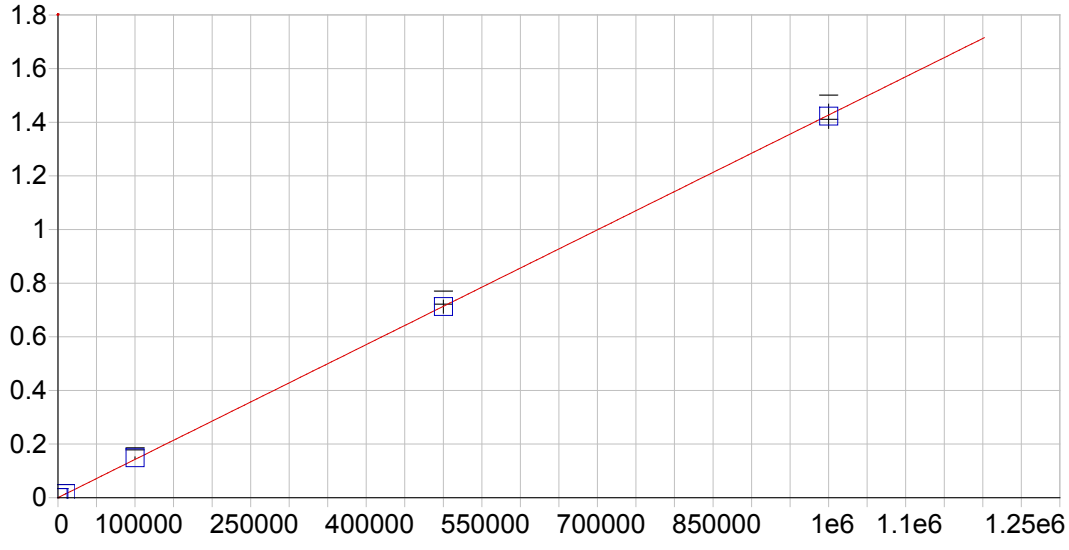


Be 234.861 {144}

Date of Fit:	10/08/2015 11:53:21	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999997	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	2.474180		
Predicted MQL:	8.247266		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00074	.001	.000	.00000	.000	1
CalStd9=100	1000.0	1000.8	.823	.082	.00067	.000	1
CalStd8=100	100.00	99.177	-.823	-.823	.00007	.000	1

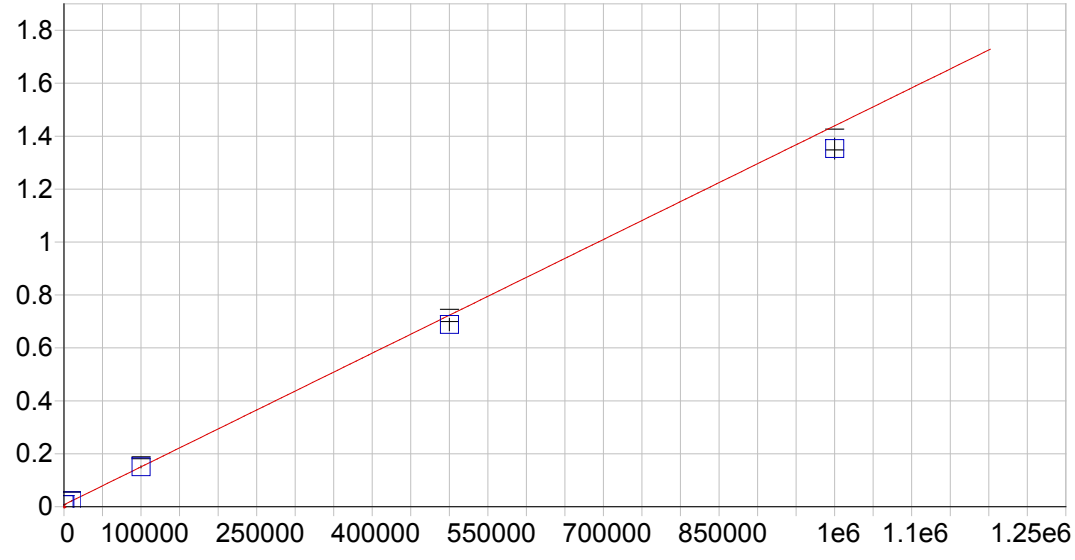


Ca 315.887 {107}

Date of Fit:	10/08/2015 11:53:21	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000149	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999949	Status:	OK.
Std Error of Est:	0.000022		
Predicted MDL:	17.428666		
Predicted MQL:	58.095554		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.07022	-.070	.000	.00015	.000	1
CalStd10=10	10000.	10202.	202.	2.02	.01471	.000	1
CalStd13=50	500000.	499190.	-806.	-.161	.71247	.024	1
CalStd14-100	1000000.	996760.	-3240.	-.324	1.4225	.045	1
CalStd9=100	1000.0	1016.6	16.6	1.66	.00160	.000	1
CalStd12-100	100000.	103830.	3830.	3.83	.14831	.004	1

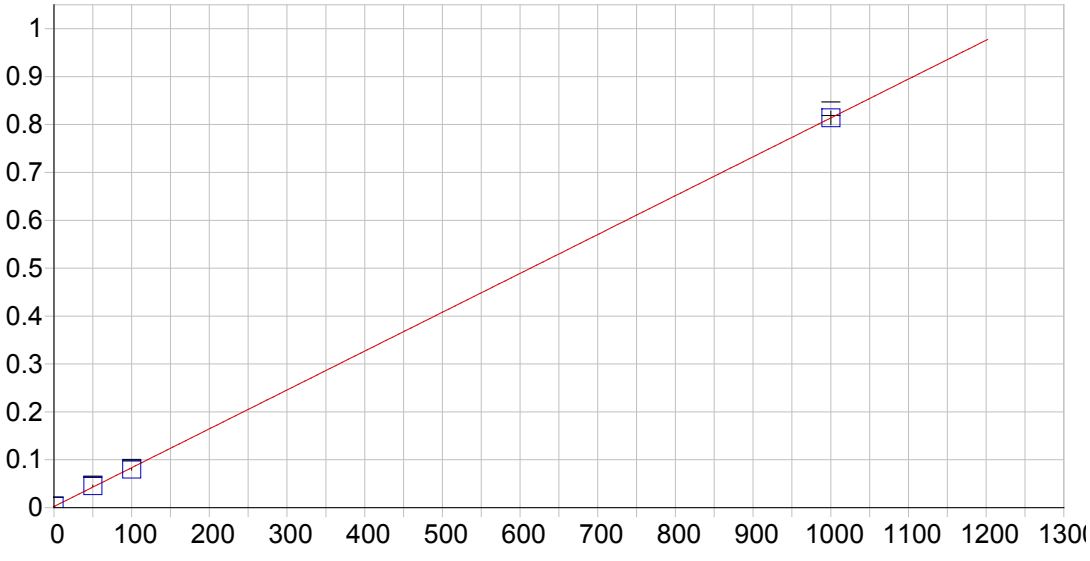


Ca 317.933 {106}

Date of Fit: 10/08/2015 11:53:21 Type of Fit: Curvilinear Weighting: 1/Var

A0 (Offset):	0.007416	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999970	Status:	OK.
Std Error of Est:	0.000014		
Predicted MDL:	12.259166		
Predicted MQL:	40.863887		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.63044	-.630	.000	.00741	.000	1
CalStd10=10	10000.	9951.7	-48.3	-.483	.02166	.000	1
CalStd13=50	500000.	475500.	-24500.	-4.90	.68821	.023	1
CalStd14-100	1000000.	939820.	-60200.	-6.02	1.3530	.040	1
CalStd9=100	1000.0	1000.8	.786	.079	.00885	.000	1
CalStd12-100	100000.	99995.	-4.94	-.005	.15058	.004	1

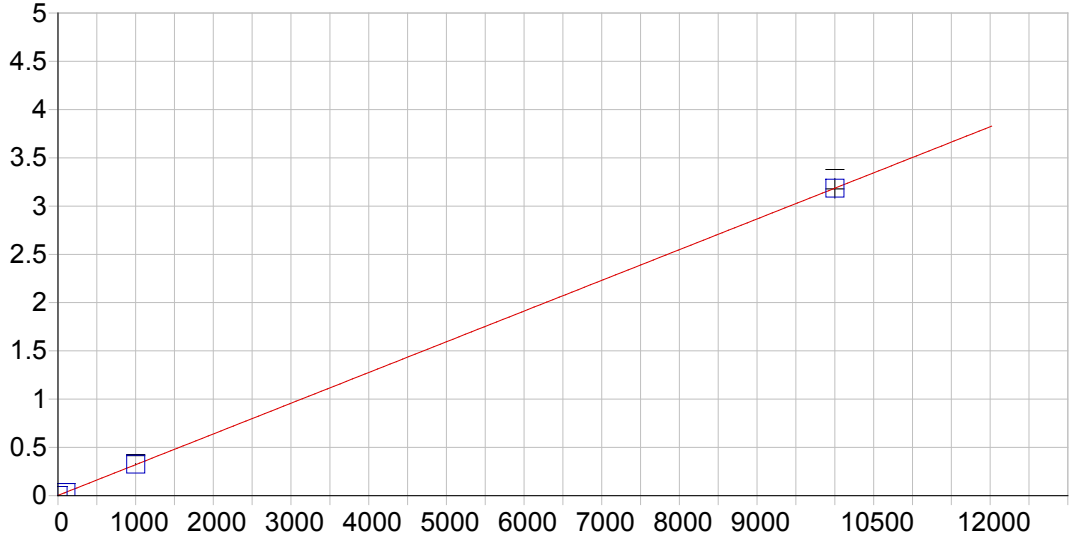


Ca 393.366 { 86}

Date of Fit:	10/08/2015 11:53:21	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.002276	Re-Slope:	1.000000
A1 (Gain):	0.000811	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999980	Status:	OK.
Std Error of Est:	0.003006		
Predicted MDL:	0.048489		
Predicted MQL:	0.161629		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.51004	.510	.000	.00269	.001	1
CalStd7=50	50.000	53.289	3.29	6.58	.04552	.001	1
CalStd9=100	1000.0	1000.2	.239	.024	.81391	.014	1
CalStd8=100	100.00	95.961	-4.04	-4.04	.08014	.002	1

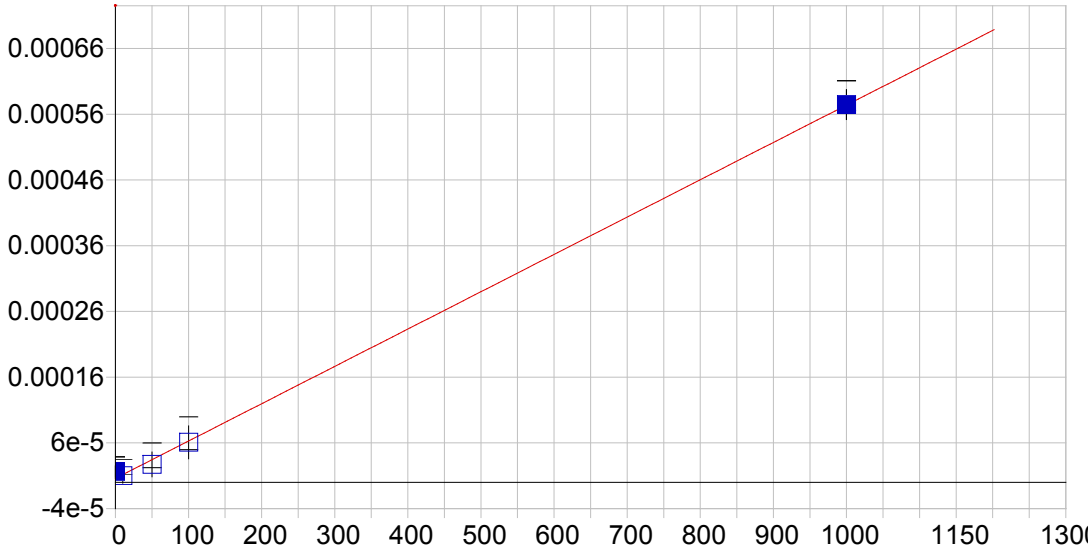


Ca 396.847 { 85}

Date of Fit:	10/08/2015 11:53:21	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.002787	Re-Slope:	1.000000
A1 (Gain):	0.000318	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999998	Status:	OK.
Std Error of Est:	0.004175		
Predicted MDL:	0.102283		
Predicted MQL:	0.340942		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-5.4549	-5.45	.000	.00105	.000	1
CalStd10=10	10000.	9998.5	-1.46	-.015	3.1846	.101	1
CalStd8=100	100.00	91.449	-8.55	-8.55	.03189	.001	1
CalStd9=100	1000.0	1015.5	15.5	1.55	.32594	.006	1

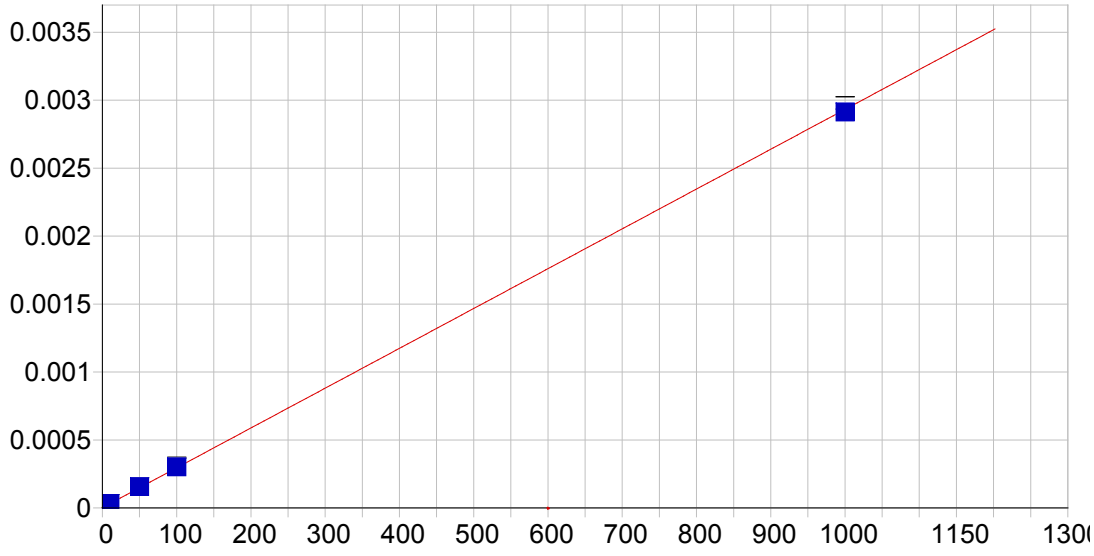


Cd 226.502 {149}

Date of Fit:	10/08/2015 11:53:21	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000006	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999652	Status:	OK.
Std Error of Est:	0.000007		
Predicted MDL:	25.082875		
Predicted MQL:	83.609582		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	18.262	18.3	.000	.00002	.000	1
CalStd7=50	50.000	37.288	-12.7	-25.4	.00003	.000	1
CalStd8=100	100.00	96.494	-3.51	-3.51	.00006	.000	1
CalStd5=10	10.000	6.9399	-3.06	-30.6	.00001	.000	1
CalStd9=100	1000.0	1001.0	1.02	.102	.00057	.000	1

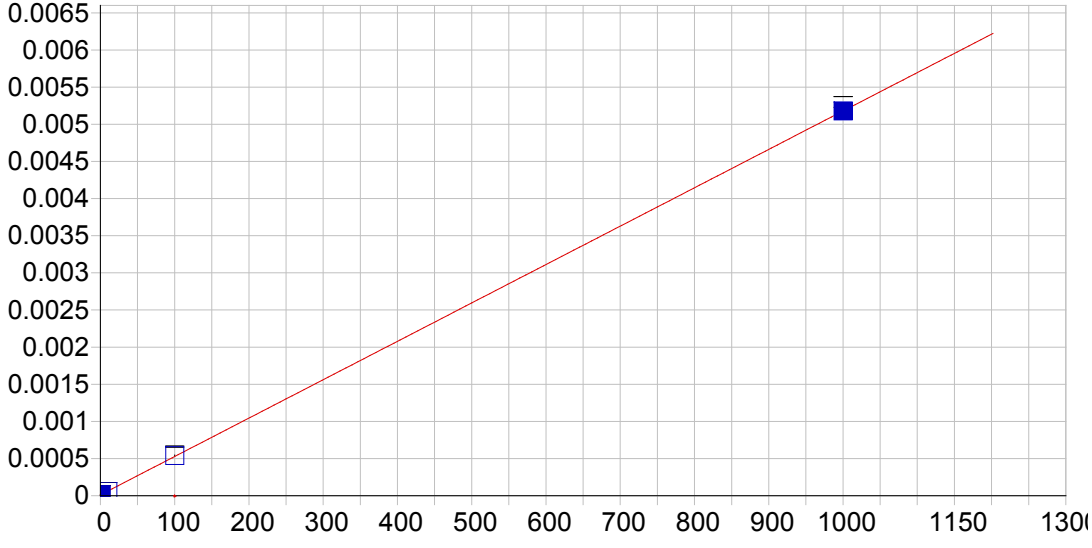


Cd 226.502 {449}

Date of Fit:	10/08/2015 11:53:21	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000003	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999443	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.448898		
Predicted MQL:	1.496326		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00097	-.001	.000	.00000	.000	1
CalStd7=50	50.000	52.422	2.42	4.84	.00016	.000	1
CalStd3=1	1.0000	1.4370	.437	43.7	.00001	.000	1
CalStd2=0.5	.50000	1.1426	.643	129.	.00001	.000	1
CalStd4=5	5.0000	5.4262	.426	8.52	.00002	.000	1
CalStd8=100	100.00	102.12	2.12	2.12	.00030	.000	1
CalStd5=10	10.000	10.634	.634	6.34	.00003	.000	1
CalStd9=100	1000.0	993.32	-6.68	-.668	.00291	.000	1

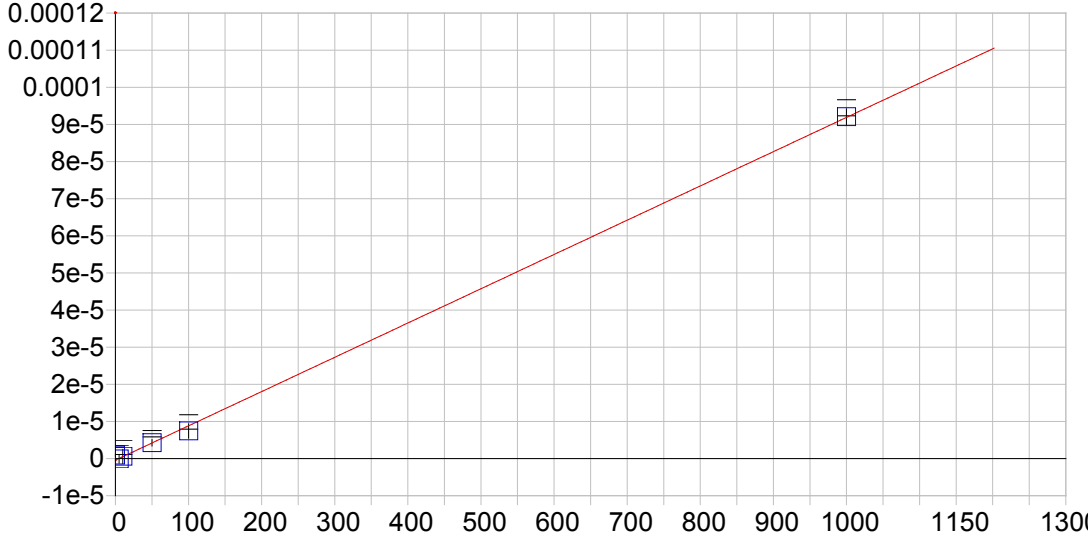


Cd 228.802 {447}

Date of Fit:	10/08/2015 11:53:21	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000011	Re-Slope:	1.000000
A1 (Gain):	0.000005	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999996	Status:	OK.
Std Error of Est:	0.000006		
Predicted MDL:	0.323409		
Predicted MQL:	1.078031		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.72905	-.729	.000	.00001	.000	1
CalStd9=100	1000.0	999.78	-.218	-.022	.00518	.000	1
CalStd8=100	100.00	102.22	2.22	2.22	.00054	.000	1
CalStd2=0.5	.50000	.09449	-.406	-81.1	.00001	.000	1
CalStd3=1	1.0000	.41916	-.581	-58.1	.00001	.000	1
CalStd5=10	10.000	9.7158	-.284	-2.84	.00006	.000	1

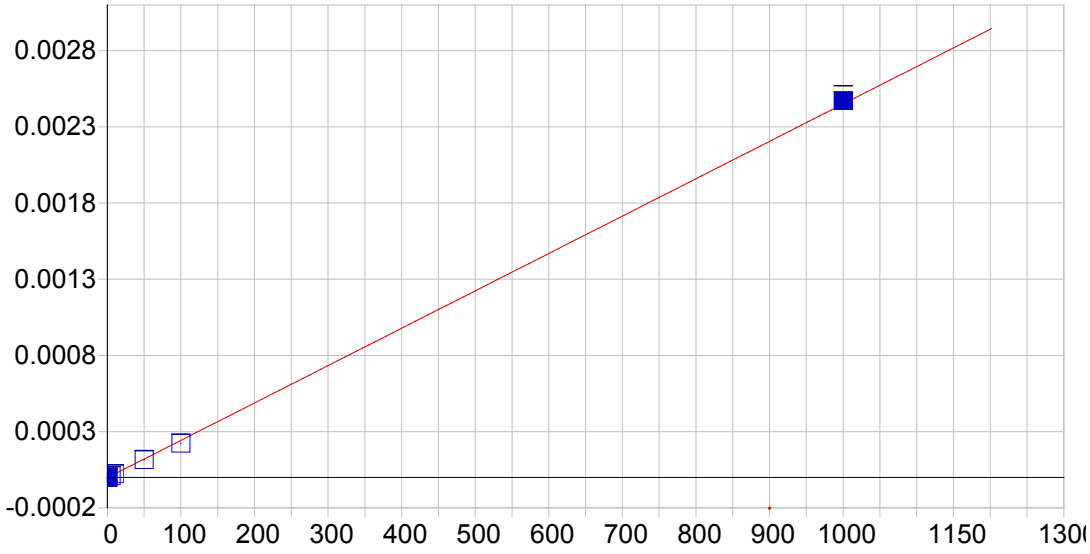


Co 228.616 {147}

Date of Fit:	10/08/2015 11:53:21	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	-0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999720	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	16.699471		
Predicted MQL:	55.664904		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	14.268	14.3	.000	.00000	.000	1
CalStd7=50	50.000	50.474	.474	.947	.00000	.000	1
CalStd5=10	10.000	10.894	.894	8.94	.00000	.000	1
CalStd4=5	5.0000	3.0342	-1.97	-39.3	.00000	.000	1
CalStd8=100	100.00	84.836	-15.2	-15.2	.00001	.000	1
CalStd9=100	1000.0	1001.5	1.49	.149	.00009	.000	1

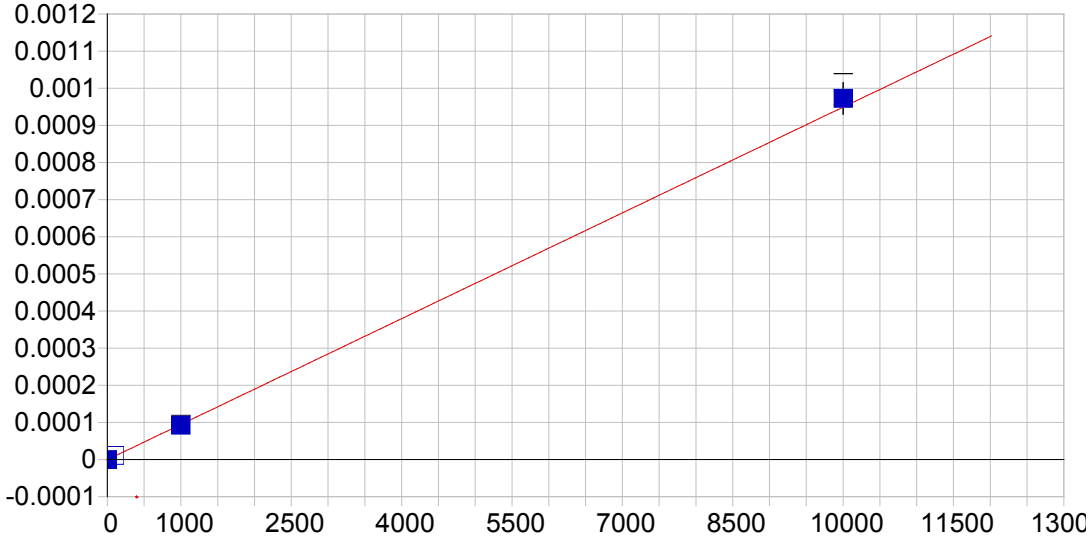


Co 228.616 {447}

Date of Fit: 10/08/2015 11:53:21 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	-0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999584	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.615739		
Predicted MQL:	2.052462		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00039	.000	.000	.00000	.000	1
CalStd7=50	50.000	48.250	-1.75	-3.50	.00012	.000	1
CalStd5=10	10.000	10.222	.222	2.22	.00002	.000	1
CalStd4=5	5.0000	5.2011	.201	4.02	.00001	.000	1
CalStd8=100	100.00	92.056	-7.94	-7.94	.00022	.000	1
CalStd9=100	1000.0	1008.8	8.84	.884	.00247	.000	1
CalStd3=1	1.0000	1.4316	.432	43.2	.00000	.000	1

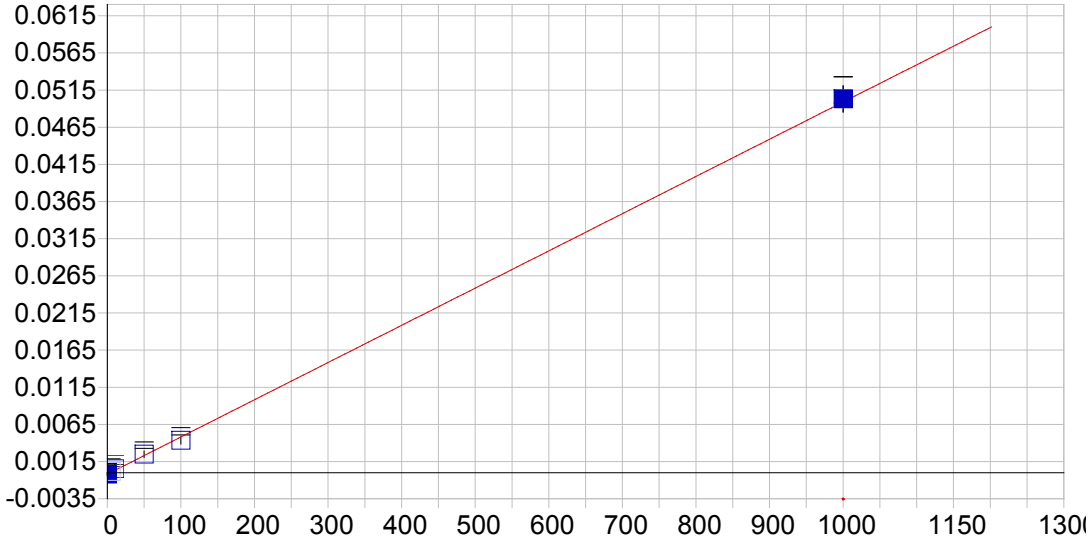


Co 238.892 {141}

Date of Fit:	10/08/2015 11:53:21	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998530	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	18.810235		
Predicted MQL:	62.700783		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-2.5201	-2.52	.000	.00000	.000	1
CalStd9=100	1000.0	975.92	-24.1	-2.41	.00009	.000	1
CalStd10=10	10000.	10245.	245.	2.45	.00097	.000	1
CalStd8=100	100.00	116.55	16.5	16.5	.00001	.000	1

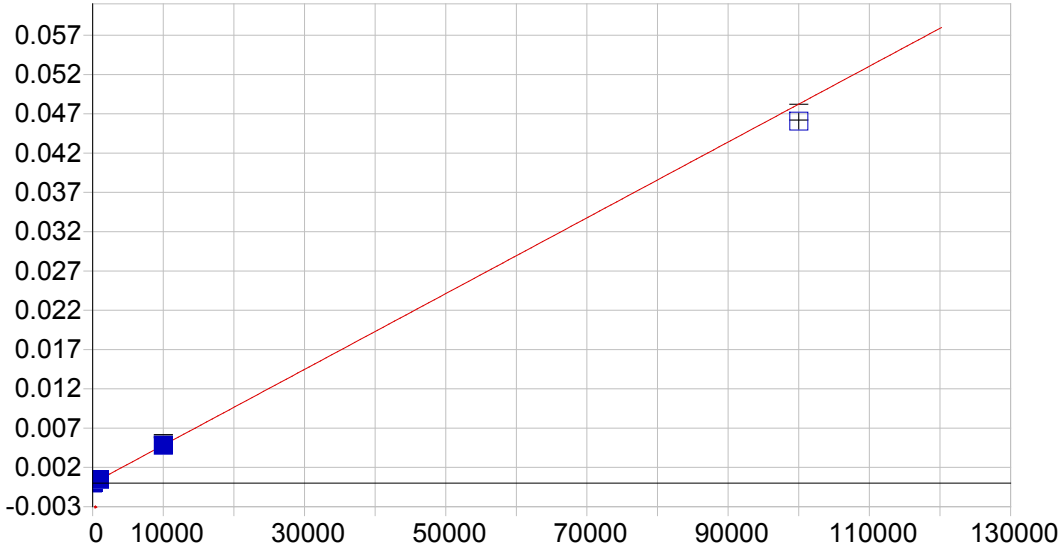


Cr 267.716 {126}

Date of Fit:	10/08/2015 11:53:21	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-0.000199	Re-Slope:	1.000000
A1 (Gain):	0.000050	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999325	Status:	OK.
Std Error of Est:	0.000231		
Predicted MDL:	9.445764		
Predicted MQL:	31.485879		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.23871	.239	.000	-.00019	.000	1
CalStd5=10	10.000	13.981	3.98	39.8	.00050	.001	1
CalStd7=50	50.000	53.610	3.61	7.22	.00249	.000	1
CalStd9=100	1000.0	1008.2	8.25	.825	.05031	.002	1
CalStd8=100	100.00	90.865	-9.13	-9.13	.00435	.000	1
CalStd4=5	5.0000	6.8412	1.84	36.8	.00014	.000	0

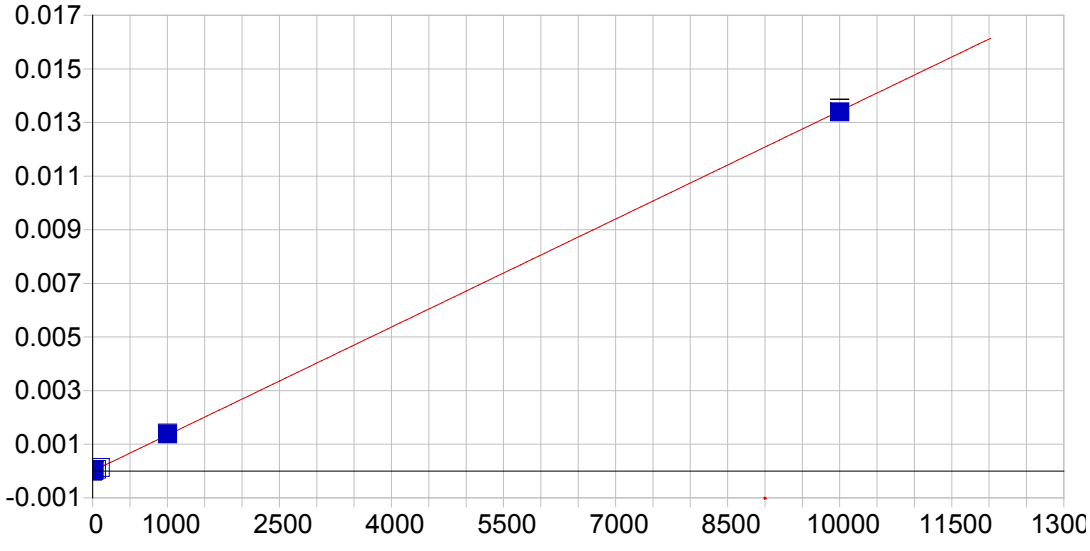


Cr 283.563 {119}

Date of Fit:	10/08/2015 11:53:21	Type of Fit:	Curvilinear	Weighting:	None

A0 (Offset):	-0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000011		
Predicted MDL:	4.700583		
Predicted MQL:	15.668609		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	17.258	17.3	.000	.00001	.000	1
CalStd7=50	50.000	60.083	10.1	20.2	.00003	.000	1
CalStd8=100	100.00	101.45	1.45	1.45	.00005	.000	1
CalStd9=100	1000.0	967.31	-32.7	-3.27	.00047	.000	1
CalStd10=10	10000.	9958.4	-41.6	-.416	.00481	.000	1
CalStd11-100	100000.	95490.	-4510.	-4.51	.04606	.001	1

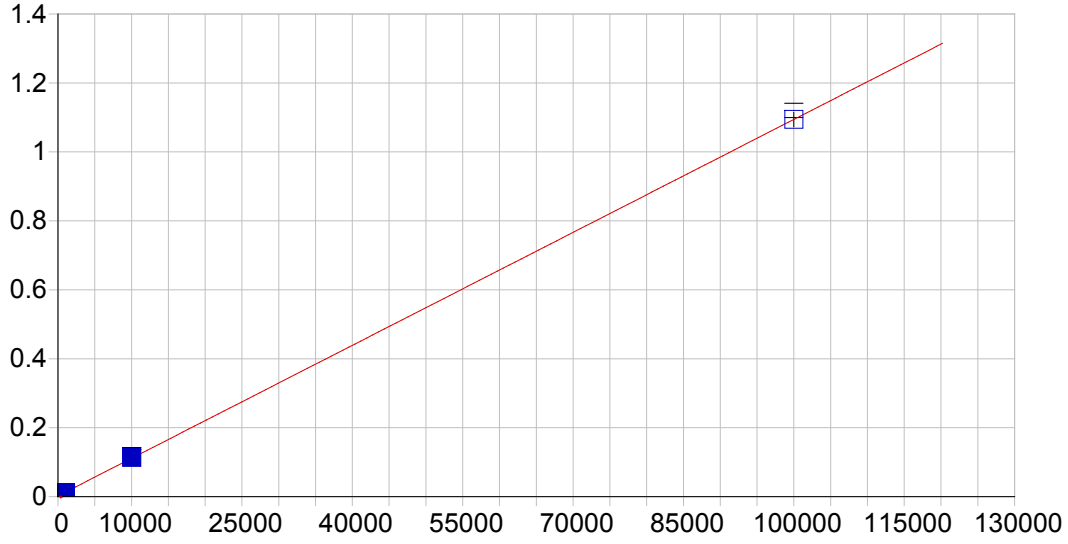


Cu 224.700 {450}

Date of Fit:	10/08/2015 11:53:21	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999936	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	1.198621		
Predicted MQL:	3.995403		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00023	.000	.000	.00000	.000	1
CalStd9=100	1000.0	1030.4	30.4	3.04	.00138	.000	1
CalStd7=50	50.000	48.917	-1.08	-2.17	.00007	.000	1
CalStd8=100	100.00	95.045	-4.96	-4.96	.00013	.000	1
CalStd5=10	10.000	9.4718	-.528	-5.28	.00001	.000	1
CalStd10=10	10000.	9974.9	-25.1	-.251	.01340	.000	1
CalStd4=5	5.0000	5.0955	.096	1.91	.00001	.000	1
CalStd6=20	20.000	21.456	1.46	7.28	.00003	.000	1
CalStd3=1	1.0000	.77789	-.222	-22.2	.00000	.000	1

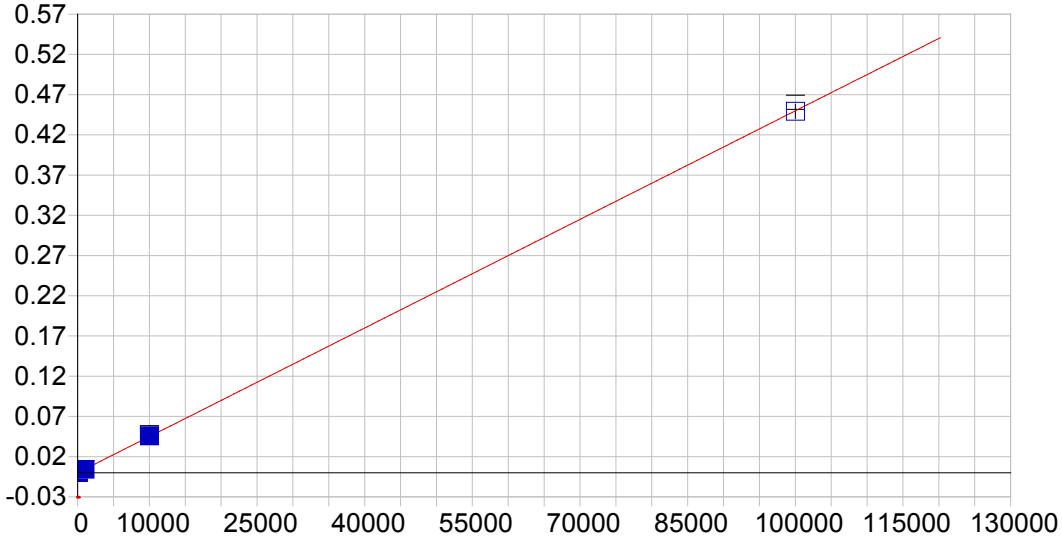


Cu 324.754 {104}

Date of Fit:	10/08/2015 11:53:21	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.001934	Re-Slope:	1.000000
A1 (Gain):	0.000011	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999997	Status:	OK.
Std Error of Est:	0.001379		
Predicted MDL:	2.641354		
Predicted MQL:	8.804513		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-51.070	-51.1	.000	.00138	.000	1
CalStd9=100	1000.0	940.06	-59.9	-5.99	.01220	.000	1
CalStd8=100	100.00	36.668	-63.3	-63.3	.00233	.000	1
CalStd10=10	10000.	10193.	193.	1.93	.11327	.003	1
CalStd11-100	100000.	99981.	-18.6	-.019	1.0940	.021	1

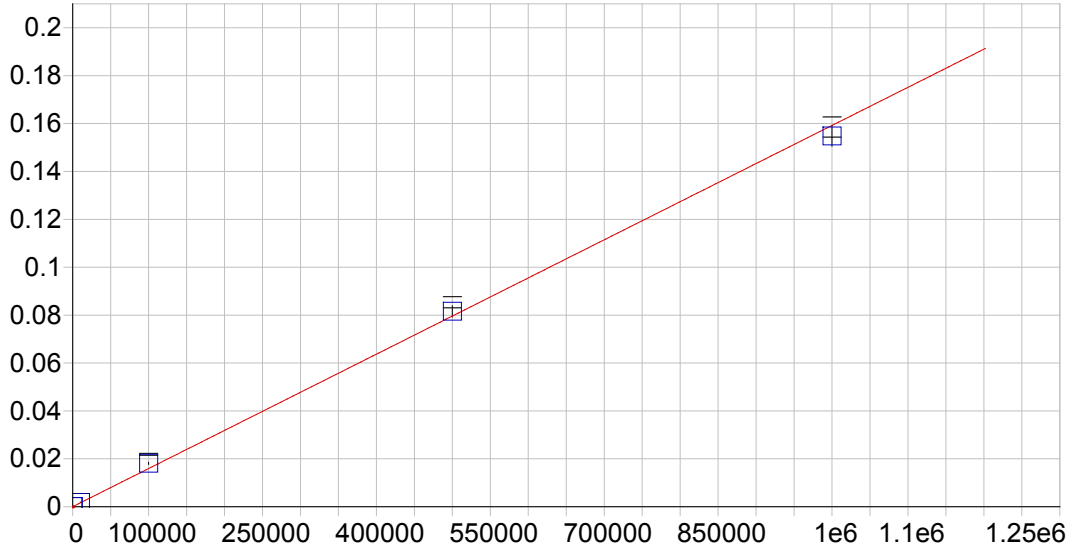


Cu 327.396 {103}

Date of Fit:	10/08/2015 11:53:21	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000098	Re-Slope:	1.000000
A1 (Gain):	0.000004	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999978	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	6.938471		
Predicted MQL:	23.128237		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00528	-.005	.000	-.00010	.000	1
CalStd6=20	20.000	25.179	5.18	25.9	.00002	.000	1
CalStd7=50	50.000	53.296	3.30	6.59	.00014	.000	1
CalStd8=100	100.00	93.298	-6.70	-6.70	.00032	.000	1
CalStd9=100	1000.0	991.80	-8.20	-.820	.00437	.000	1
CalStd10=10	10000.	10159.	159.	1.59	.04562	.001	1
CalStd11-100	100000.	99847.	-153.	-.153	.44920	.009	1

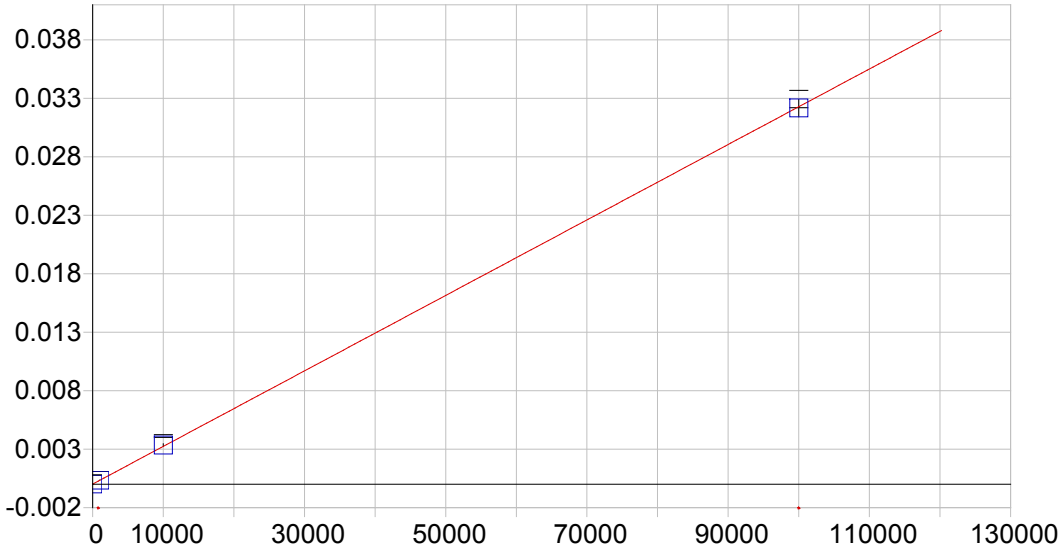


Fe 234.349 {144}

Date of Fit:	10/08/2015 11:53:21	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000006	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998994	Status:	OK.
Std Error of Est:	0.000011		
Predicted MDL:	54.095732		
Predicted MQL:	180.319106		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.50791	-.508	.000	.00001	.000	1
CalStd10=10	10000.	11669.	1670.	16.7	.00186	.000	1
CalStd13=50	500000.	512330.	12300.	2.47	.08158	.002	1
CalStd14-100	1000000.	972200.	-27800.	-2.78	.15480	.004	1
CalStd9=100	1000.0	1208.2	208.	20.8	.00020	.000	1
CalStd12-100	100000.	113590.	13600.	13.6	.01809	.000	1

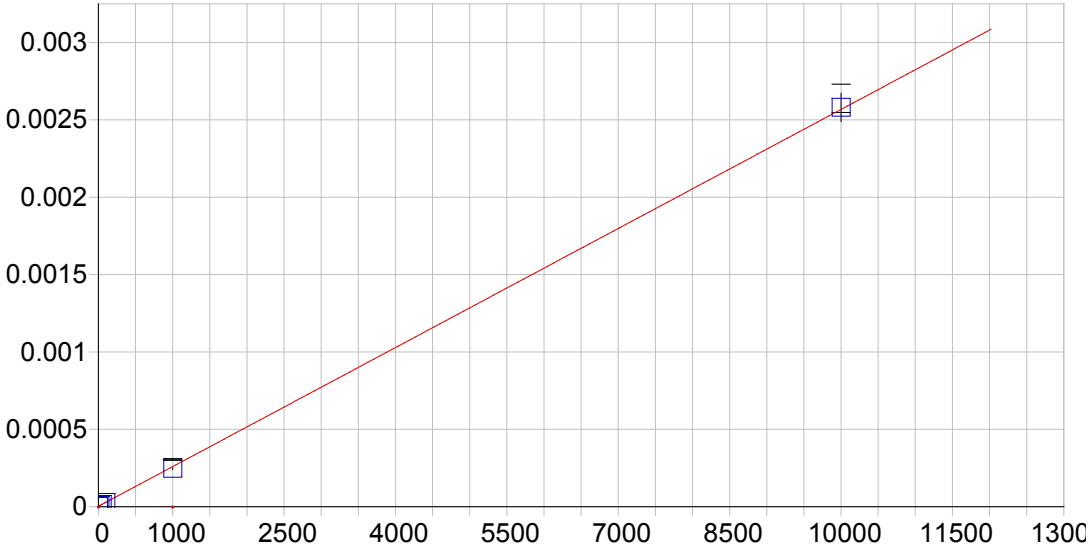


Fe 239.562 {141}

Date of Fit:	10/08/2015 11:53:21	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000014	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999941	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	32.291816		
Predicted MQL:	107.639387		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.06486	-.065	.000	.00001	.000	1
CalStd9=100	1000.0	1035.9	35.9	3.59	.00035	.000	1
CalStd10=10	10000.	10325.	325.	3.25	.00335	.000	1
CalStd12-100	100000.	99639.	-361.	-.361	.03217	.001	1

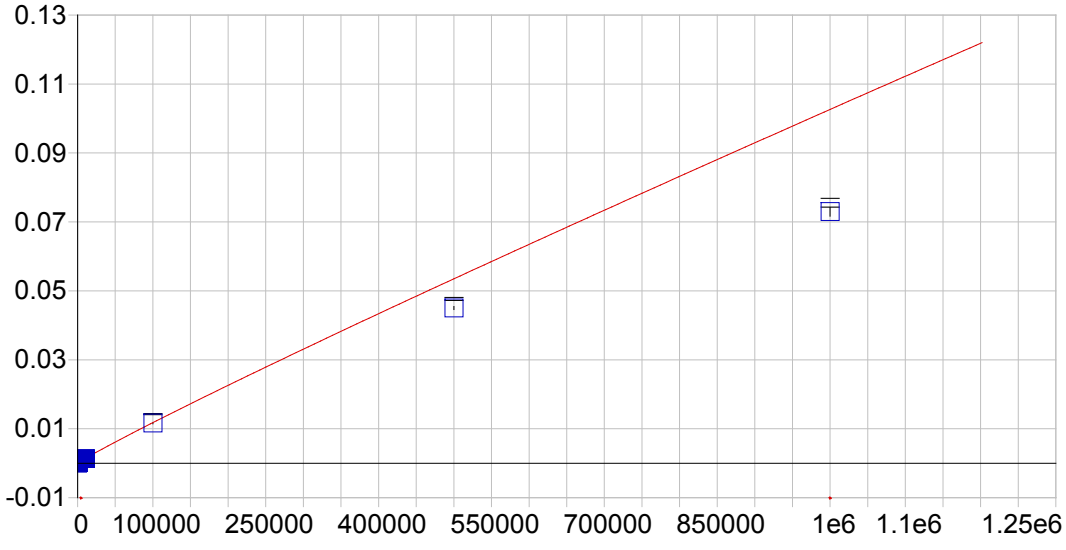


Fe 259.940 {130}

Date of Fit: 10/08/2015 11:53:21 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	0.000003	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999860	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	7.876335		
Predicted MQL:	26.254451		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00259	.003	.000	.00000	.000	1
CalStd9=100	1000.0	952.54	-47.5	-4.75	.00025	.000	1
CalStd7=50	50.000	44.699	-5.30	-10.6	.00001	.000	1
CalStd8=100	100.00	98.879	-1.12	-1.12	.00003	.000	1
CalStd6=20	20.000	20.600	.600	3.00	.00001	.000	1
CalStd10=10	10000.	10053.	53.3	.533	.00258	.000	1

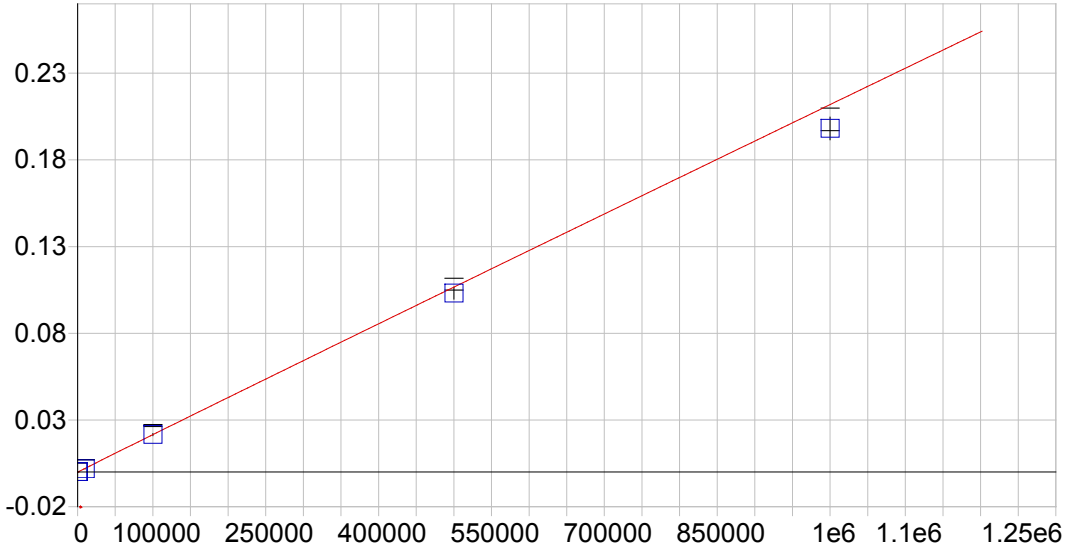


Mg 202.582 {466}

Date of Fit:	10/08/2015 11:53:21	Type of Fit:	Full Fit	Weighting:	1/Conc

A0 (Offset):	-0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	0.940000		
Correlation:	0.999950	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	4.205214		
Predicted MQL:	14.017381		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.05264	.053	.000	.00000	.000	1
CalStd13=50	500000.	416200.	-83800.	-16.8	.04502	.000	1
CalStd10=10	10000.	9763.5	-237.	-2.37	.00132	.000	1
CalStd14-100	1000000.	695490.	-305000.	-30.5	.07295	.001	1
CalStd12-100	100000.	98536.	-1460.	-1.46	.01162	.000	1
CalStd9=100	1000.0	903.74	-96.3	-9.63	.00014	.000	1

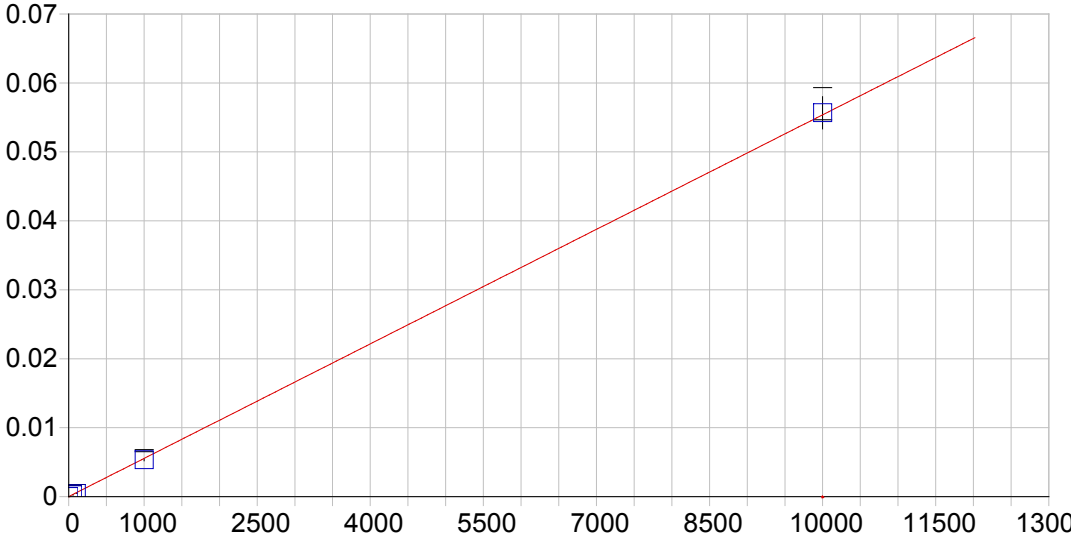


Mg 279.079 {121}

Date of Fit:	10/08/2015 11:53:21	Type of Fit:	Full Fit	Weighting:	None

A0 (Offset):	-0.000106	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	0.990000		
Correlation:	0.999998	Status:	OK.
Std Error of Est:	0.000264		
Predicted MDL:	45.329607		
Predicted MQL:	151.098691		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	470.56	471.	.000	.00000	.000	1
CalStd13=50	500000.	483290.	-16700.	-3.34	.10309	.003	1
CalStd10=10	10000.	8582.1	-1420.	-14.2	.00180	.000	1
CalStd14-100	1000000.	934460.	-65500.	-6.55	.19812	.007	1
CalStd12-100	100000.	100010.	14.3	.014	.02159	.001	1
CalStd9=100	1000.0	1391.8	392.	39.2	.00021	.000	1

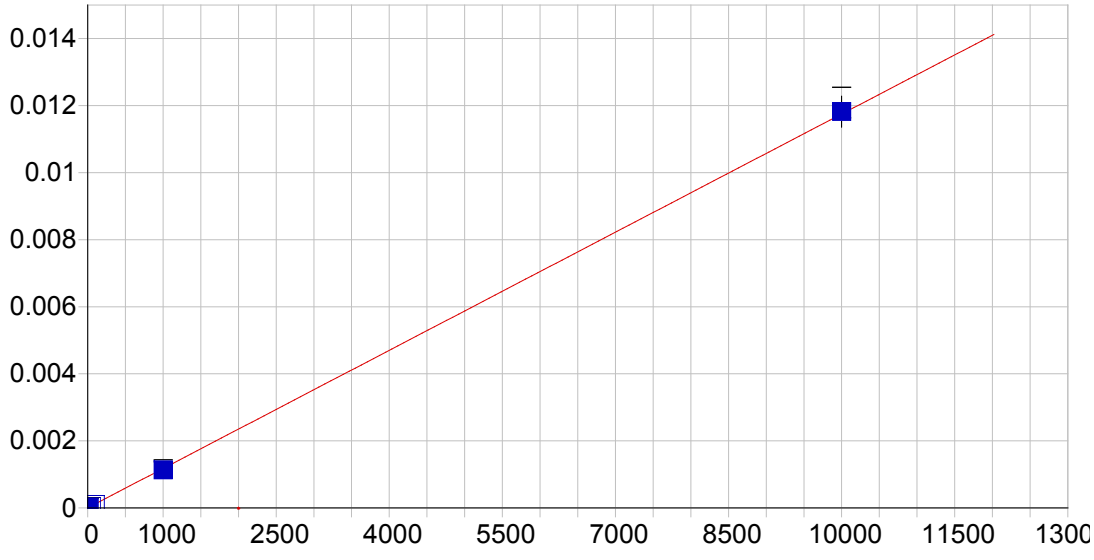


Mg 280.270 {120}

Date of Fit:	10/08/2015 11:53:21	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000007	Re-Slope:	1.000000
A1 (Gain):	0.000006	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999832	Status:	OK.
Std Error of Est:	0.000003		
Predicted MDL:	0.238166		
Predicted MQL:	0.793887		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.01273	.013	.000	.00001	.000	1
CalStd9=100	1000.0	964.51	-35.5	-3.55	.00535	.000	1
CalStd10=10	10000.	10053.	53.4	.534	.05567	.002	1
CalStd8=100	100.00	86.646	-13.4	-13.4	.00049	.000	1
CalStd7=50	50.000	45.456	-4.54	-9.09	.00026	.000	1

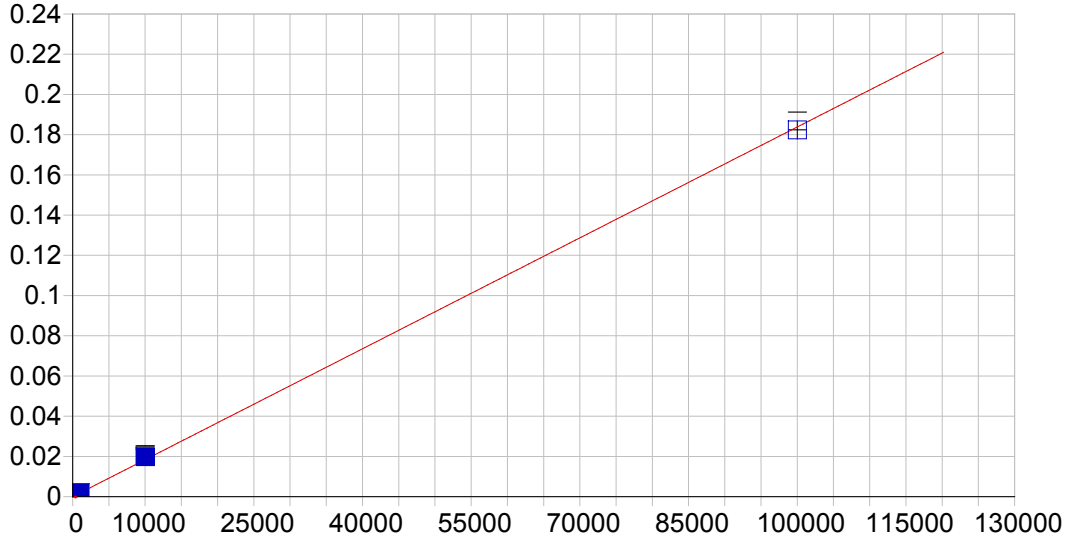


Mn 257.610 {131}

Date of Fit:	10/08/2015 11:53:21	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999784	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	1.091924		
Predicted MQL:	3.639748		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00304	.003	.000	.00000	.000	1
CalStd5=10	10.000	9.7738	-.226	-2.26	.00001	.000	1
CalStd7=50	50.000	43.576	-6.42	-12.8	.00005	.000	1
CalStd6=20	20.000	19.582	-.418	-2.09	.00002	.000	1
CalStd8=100	100.00	86.523	-13.5	-13.5	.00010	.000	1
CalStd4=5	5.0000	3.6527	-1.35	-26.9	.00000	.000	1
CalStd9=100	1000.0	961.95	-38.0	-3.80	.00113	.000	1
CalStd10=10	10000.	10060.	59.9	.599	.01182	.000	1

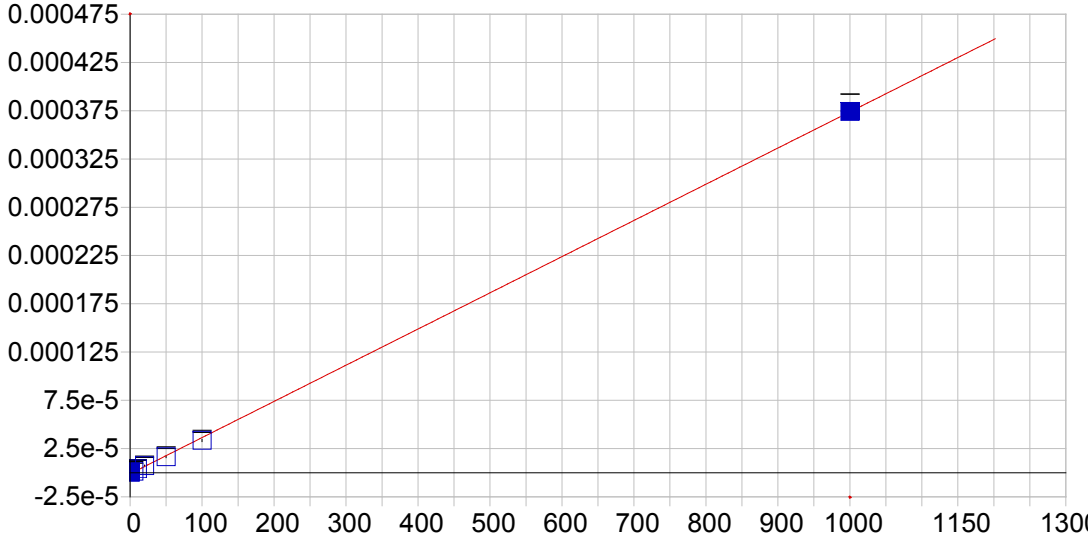


Mn 259.373 {130}

Date of Fit:	10/08/2015 11:53:21	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999682	Status:	OK.
Std Error of Est:	0.000022		
Predicted MDL:	1.216107		
Predicted MQL:	4.053691		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.09658	-.097	.000	.00000	.000	1
CalStd10=10	10000.	10795.	795.	7.95	.01987	.001	1
CalStd11-100	100000.	99178.	-822.	-.822	.18232	.004	1
CalStd9=100	1000.0	1025.3	25.3	2.53	.00189	.000	1

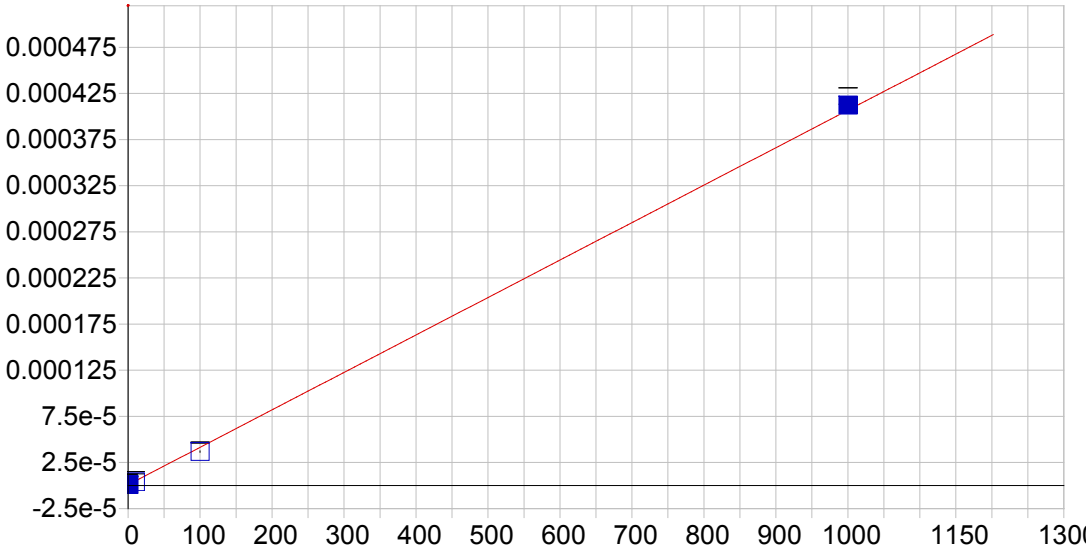


Mo 202.030 {466}

Date of Fit: 10/08/2015 11:53:21 Type of Fit: Linear Weighting: None

A0 (Offset):	-0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999938	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	2.495433		
Predicted MQL:	8.318108		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	3.4720	3.47	.000	.00000	.000	1
CalStd7=50	50.000	46.908	-3.09	-6.18	.00002	.000	1
CalStd6=20	20.000	21.959	1.96	9.80	.00001	.000	1
CalStd5=10	10.000	13.119	3.12	31.2	.00000	.000	1
CalStd8=100	100.00	92.122	-7.88	-7.88	.00003	.000	1
CalStd4=5	5.0000	6.5560	1.56	31.1	.00000	.000	1
CalStd9=100	1000.0	1000.9	.864	.086	.00037	.000	1

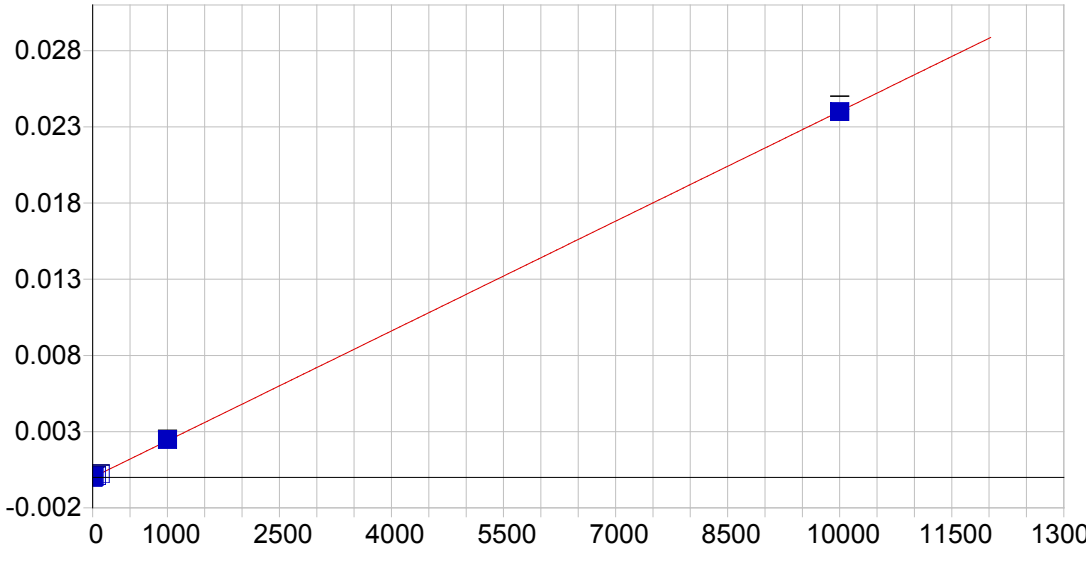


Mo 203.844 {465}

Date of Fit: 10/08/2015 11:53:21 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999112	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	3.117012		
Predicted MQL:	10.390040		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00028	.000	.000	.00000	.000	1
CalStd3=1	1.0000	1.0352	.035	3.52	.00000	.000	1
CalStd5=10	10.000	7.8574	-2.14	-21.4	.00000	.000	1
CalStd8=100	100.00	88.472	-11.5	-11.5	.00004	.000	1
CalStd9=100	1000.0	1013.6	13.6	1.36	.00041	.000	1

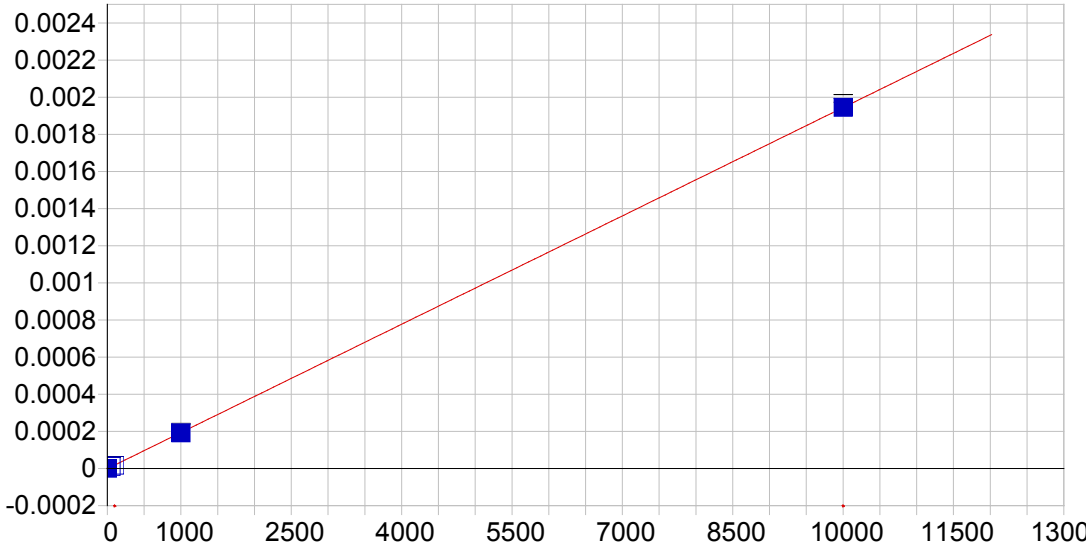


Mo 202.030 {467}

Date of Fit: 10/08/2015 11:53:21 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	-0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999761	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	3.844280		
Predicted MQL:	12.814265		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00744	.007	.000	.00000	.000	1
CalStd7=50	50.000	43.305	-6.69	-13.4	.00010	.000	1
CalStd6=20	20.000	18.912	-1.09	-5.44	.00004	.000	1
CalStd5=10	10.000	5.0985	-4.90	-49.0	.00001	.000	1
CalStd8=100	100.00	90.348	-9.65	-9.65	.00022	.000	1
CalStd9=100	1000.0	1032.3	32.3	3.23	.00248	.000	1
CalStd10=10	10000.	9990.0	-9.97	-.100	.02399	.000	1

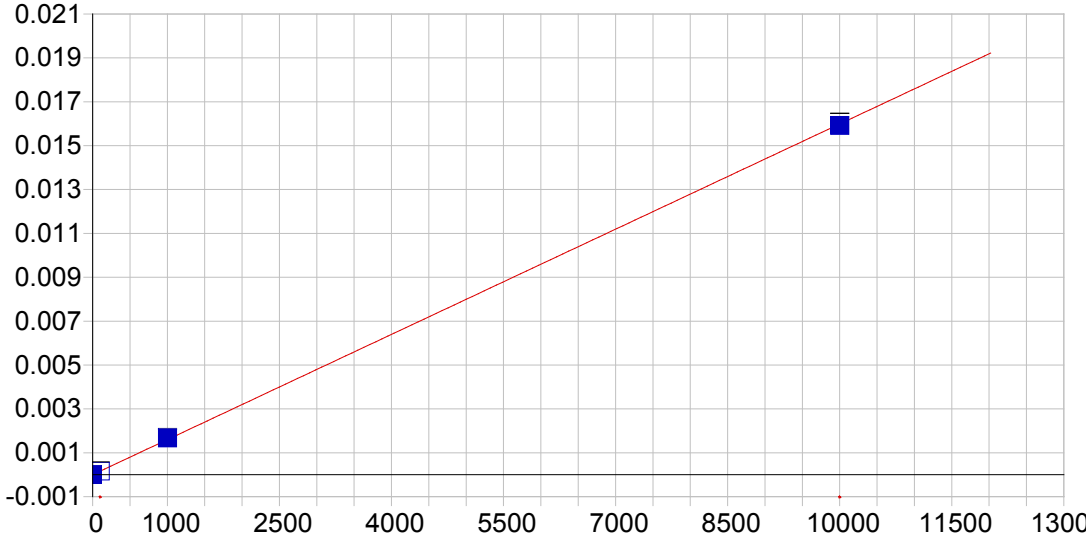


Mo 204.598 {465}

Date of Fit:	10/08/2015 11:53:21	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	-0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999998	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	4.679782		
Predicted MQL:	15.599273		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	9.3327	9.33	.000	.00000	.000	1
CalStd9=100	1000.0	987.92	-12.1	-1.21	.00019	.000	1
CalStd10=10	10000.	10001.	1.22	.012	.00194	.000	1
CalStd7=50	50.000	56.426	6.43	12.9	.00001	.000	1
CalStd8=100	100.00	95.093	-4.91	-4.91	.00002	.000	1

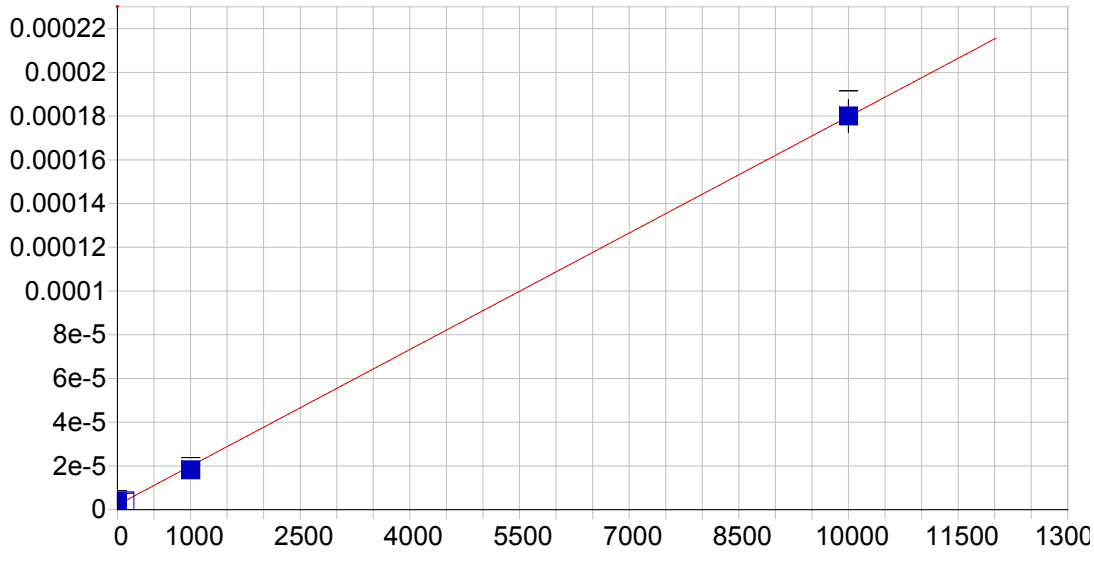


Ni 221.647 {452}

Date of Fit:	10/08/2015 11:53:21	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999897	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	1.091186		
Predicted MQL:	3.637285		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00625	-.006	.000	.00000	.000	1
CalStd10=10	10000.	9952.9	-47.1	-.471	.01591	.000	1
CalStd8=100	100.00	102.24	2.24	2.24	.00016	.000	1
CalStd9=100	1000.0	1044.8	44.8	4.48	.00167	.000	1

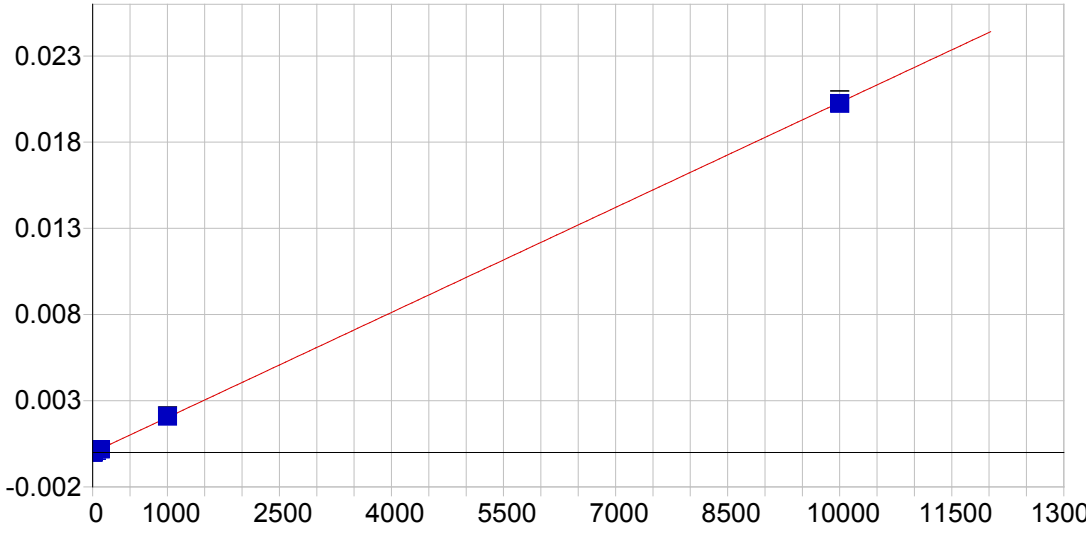


Ni 231.604 {146}

Date of Fit:	10/08/2015 11:53:21	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999859	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	104.697212		
Predicted MQL:	348.990706		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	96.806	96.8	.000	.00000	.000	1
CalStd10=10	10000.	10010.	10.2	.102	.00018	.000	1
CalStd8=100	100.00	94.630	-5.37	-5.37	.00000	.000	1
CalStd9=100	1000.0	898.34	-102.	-10.2	.00002	.000	1

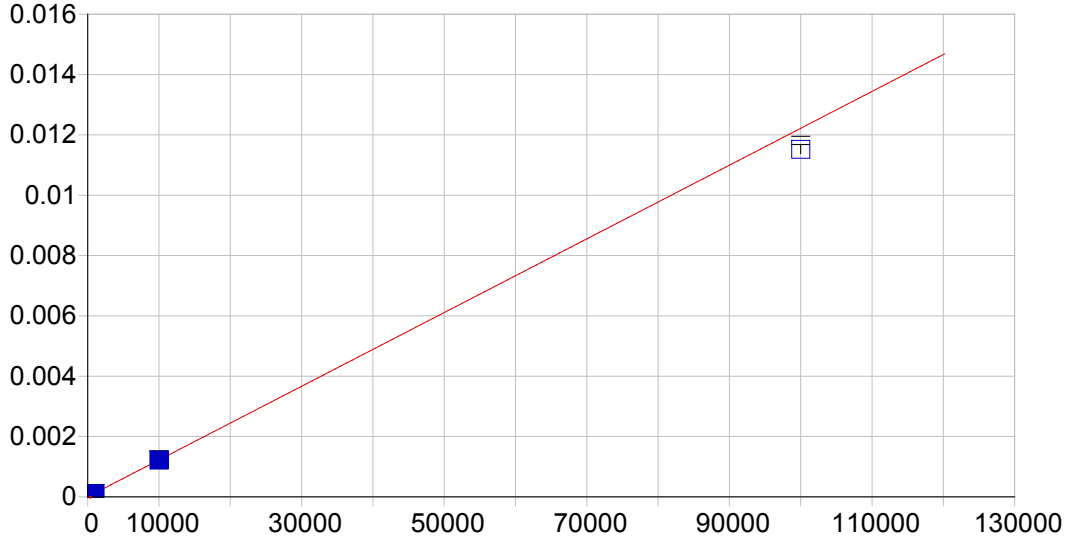


Ni 231.604 {445}

Date of Fit:	10/08/2015 11:53:21	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000004	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999926	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	1.079237		
Predicted MQL:	3.597456		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00057	-.001	.000	.00000	.000	1
CalStd7=50	50.000	50.220	.220	.439	.00010	.000	1
CalStd5=10	10.000	10.451	.451	4.51	.00002	.000	1
CalStd8=100	100.00	96.551	-3.45	-3.45	.00019	.000	1
CalStd4=5	5.0000	5.0830	.083	1.66	.00001	.000	1
CalStd9=100	1000.0	1033.8	33.8	3.38	.00210	.000	1
CalStd3=1	1.0000	1.5104	.510	51.0	.00000	.000	1
CalStd10=10	10000.	9968.4	-31.6	-.316	.02024	.000	1

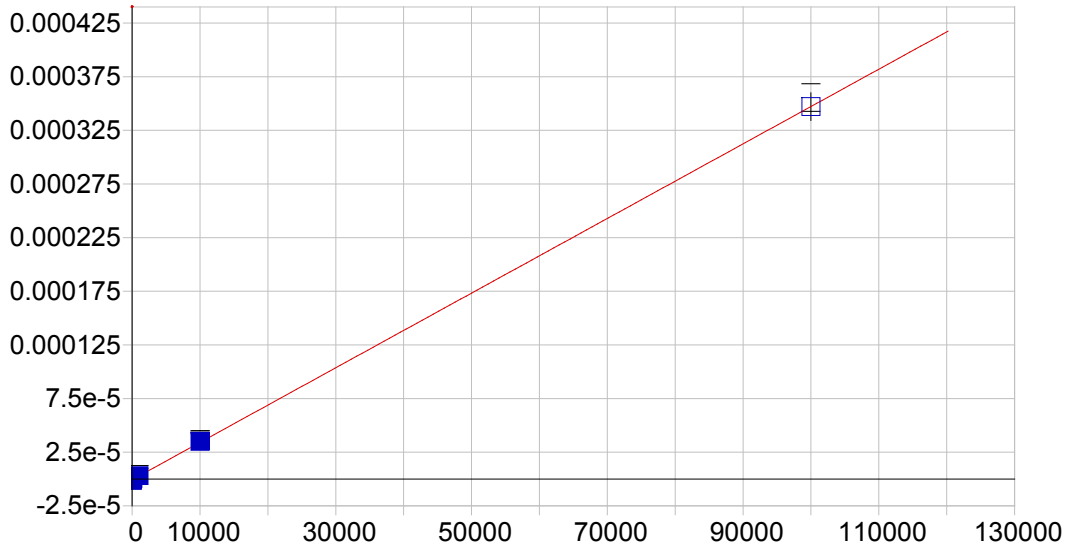


Pb 216.999 {455}

Date of Fit: 10/08/2015 11:53:21 Type of Fit: Curvilinear Weighting: 1/Conc

A0 (Offset):	0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999920	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	11.302856		
Predicted MQL:	37.676187		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.01011	-.010	.000	.00000	.000	1
CalStd9=100	1000.0	989.14	-10.9	-1.09	.00012	.000	1
CalStd10=10	10000.	9930.7	-69.3	-.693	.00121	.000	1
CalStd11-100	100000.	94253.	-5750.	-5.75	.01152	.000	1
CalStd8=100	100.00	109.80	9.80	9.80	.00001	.000	1
CalStd4=5	5.0000	13.426	8.43	169.	.00000	.000	1
CalStd5=10	10.000	12.502	2.50	25.0	.00000	.000	1

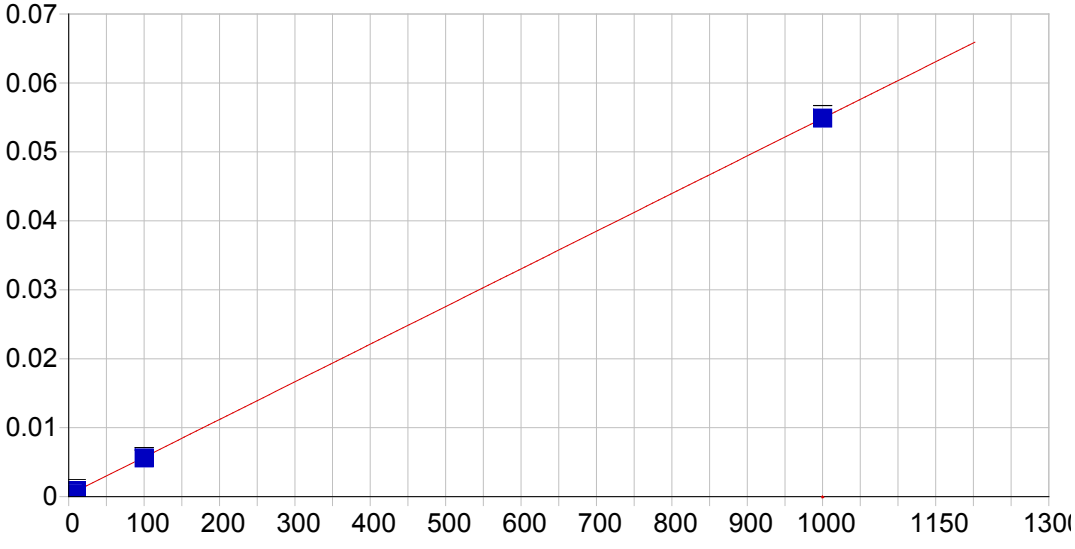


Pb 220.353 {153}

Date of Fit: 10/08/2015 11:53:21 Type of Fit: Linear Weighting: None

A0 (Offset):	-0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999991	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	416.125113		
Predicted MQL:	1387.083711		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-177.41	-177.	.000	.00000	.000	1
CalStd9=100	1000.0	1014.0	14.0	1.40	.00000	.000	1
CalStd10=10	10000.	10269.	269.	2.69	.00004	.000	1
CalStd8=100	100.00	205.94	106.	106.	.00000	.000	1
CalStd4=5	5.0000	-153.79	-159.	-3180.	.00000	.000	1
CalStd5=10	10.000	-15.455	-25.5	-255.	.00000	.000	1
CalStd11-100	100000.	99973.	-27.1	-.027	.00035	.000	1

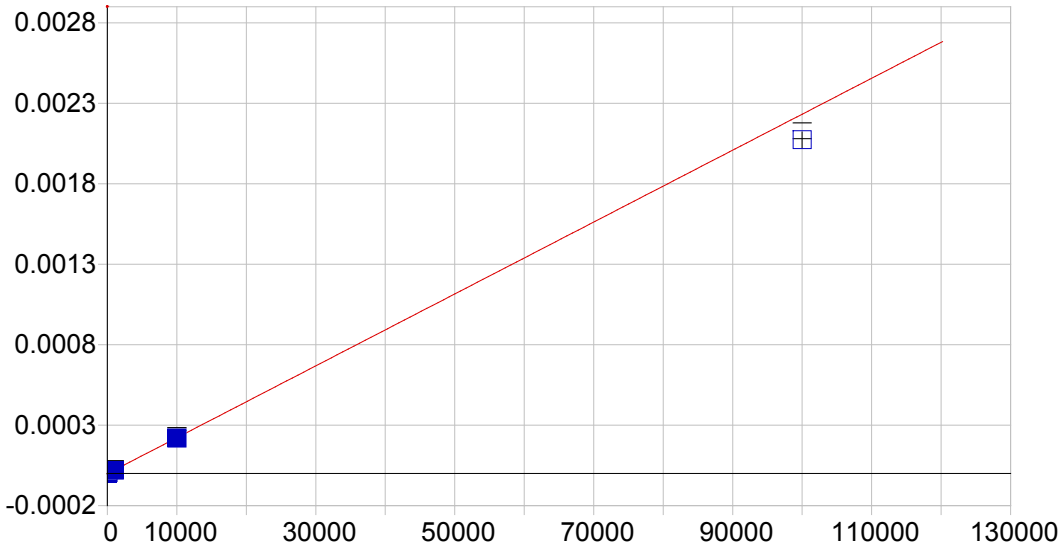


Pb 220.353 {453}

Date of Fit:	10/08/2015 11:53:21	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000261	Re-Slope:	1.000000
A1 (Gain):	0.000055	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999988	Status:	OK.
Std Error of Est:	0.000133		
Predicted MDL:	6.631920		
Predicted MQL:	22.106400		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	2.2090	2.21	.000	.00038	.000	1
CalStd5=10	10.000	11.877	1.88	18.8	.00091	.000	1
CalStd8=100	100.00	97.732	-2.27	-2.27	.00560	.000	1
CalStd4=5	5.0000	2.9640	-2.04	-40.7	.00042	.000	1
CalStd9=100	1000.0	1000.2	.218	.022	.05487	.001	1

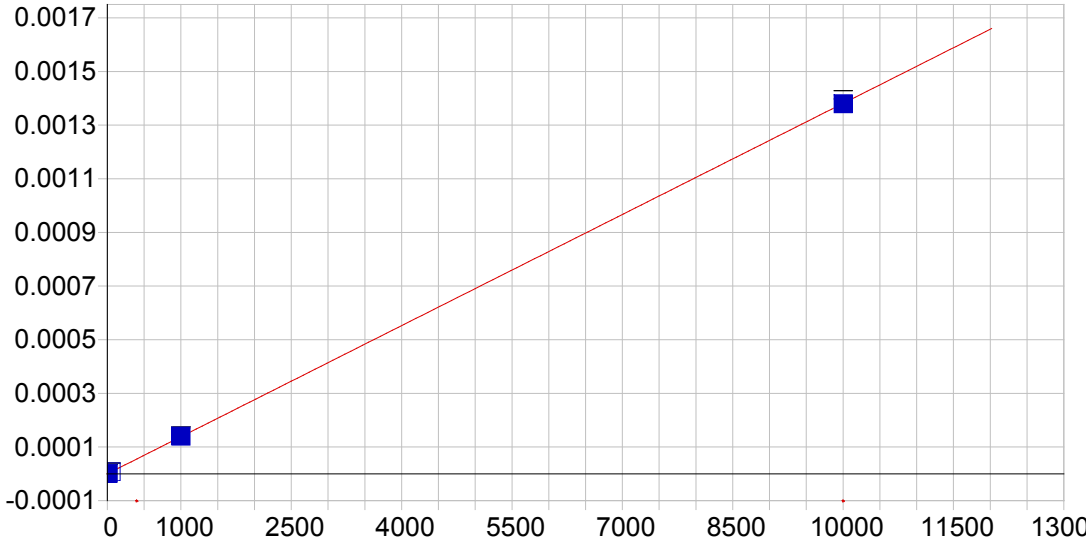


Pb 283.306 {119}

Date of Fit:	10/08/2015 11:53:21	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	-0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999330	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	118.684743		
Predicted MQL:	395.615809		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.10763	-.108	.000	.00000	.000	1
CalStd9=100	1000.0	952.82	-47.2	-4.72	.00002	.000	1
CalStd10=10	10000.	9854.8	-145.	-1.45	.00022	.000	1
CalStd11-100	100000.	92870.	-7130.	-7.13	.00207	.000	1
CalStd8=100	100.00	213.00	113.	113.	.00000	.000	1

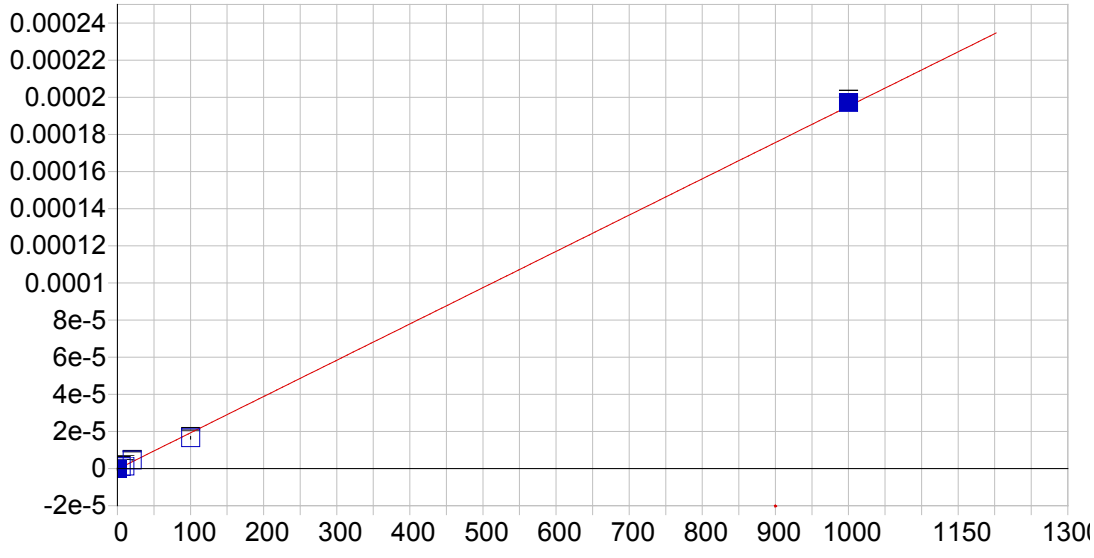


Sb 206.833 {463}

Date of Fit:	10/08/2015 11:53:21	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999989	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	6.623674		
Predicted MQL:	22.078914		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00052	-.001	.000	.00000	.000	1
CalStd9=100	1000.0	1013.4	13.4	1.34	.00014	.000	1
CalStd5=10	10.000	10.527	.527	5.27	.00000	.000	1
CalStd7=50	50.000	49.347	-.653	-1.31	.00001	.000	1
CalStd10=10	10000.	9986.7	-13.3	-.133	.00138	.000	1

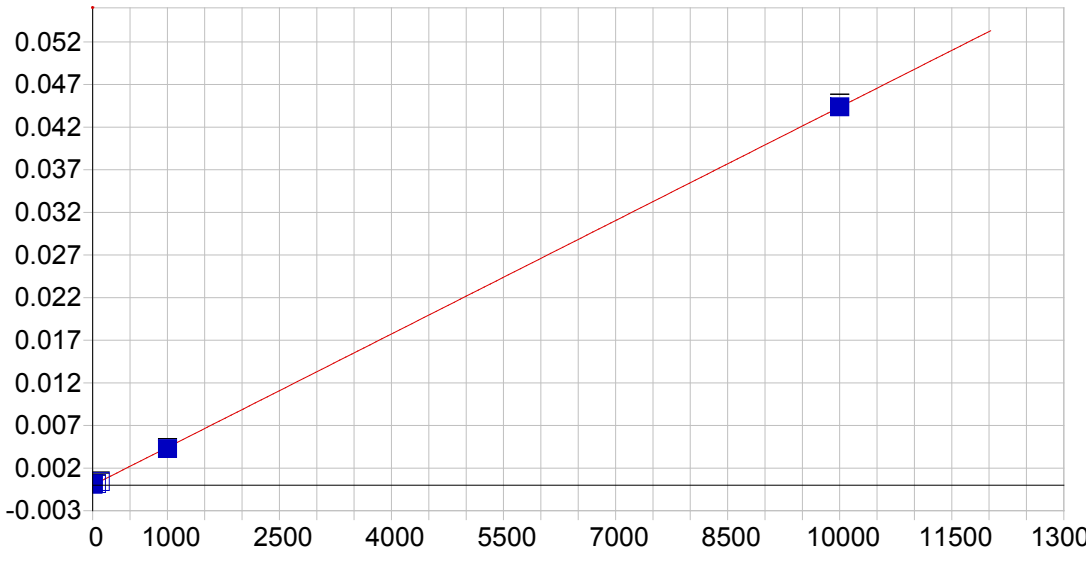


Sb 217.581 {455}

Date of Fit:	10/08/2015 11:53:21	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998382	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	6.164923		
Predicted MQL:	20.549745		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00055	-.001	.000	.00000	.000	1
CalStd9=100	1000.0	1010.2	10.2	1.02	.00020	.000	1
CalStd6=20	20.000	24.511	4.51	22.6	.00000	.000	1
CalStd5=10	10.000	7.9332	-2.07	-20.7	.00000	.000	1
CalStd8=100	100.00	86.244	-13.8	-13.8	.00002	.000	1
CalStd4=5	5.0000	6.0936	1.09	21.9	.00000	.000	1

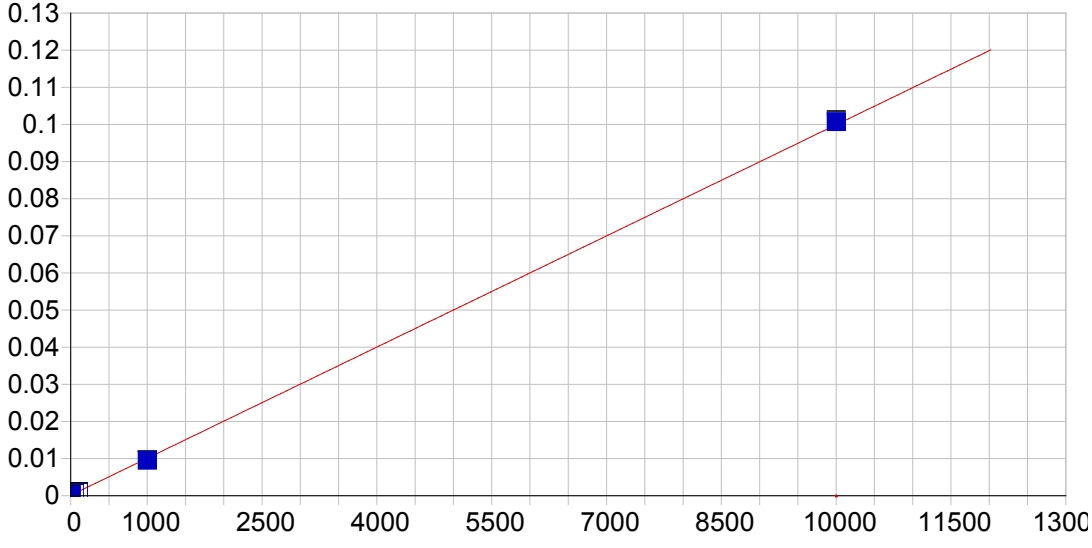


Se 196.090 {471}

Date of Fit:	10/08/2015 11:53:21	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	-0.000013	Re-Slope:	1.000000
A1 (Gain):	0.000004	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999985	Status:	OK.
Std Error of Est:	0.000109		
Predicted MDL:	39.380227		
Predicted MQL:	131.267425		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	27.032	27.0	.000	.00011	.000	1
CalStd7=50	50.000	40.311	-9.69	-19.4	.00017	.000	1
CalStd9=100	1000.0	965.57	-34.4	-3.44	.00427	.000	1
CalStd5=10	10.000	29.120	19.1	191.	.00012	.000	1
CalStd8=100	100.00	94.440	-5.56	-5.56	.00041	.000	1
CalStd10=10	10000.	10004.	3.53	.035	.04437	.000	1

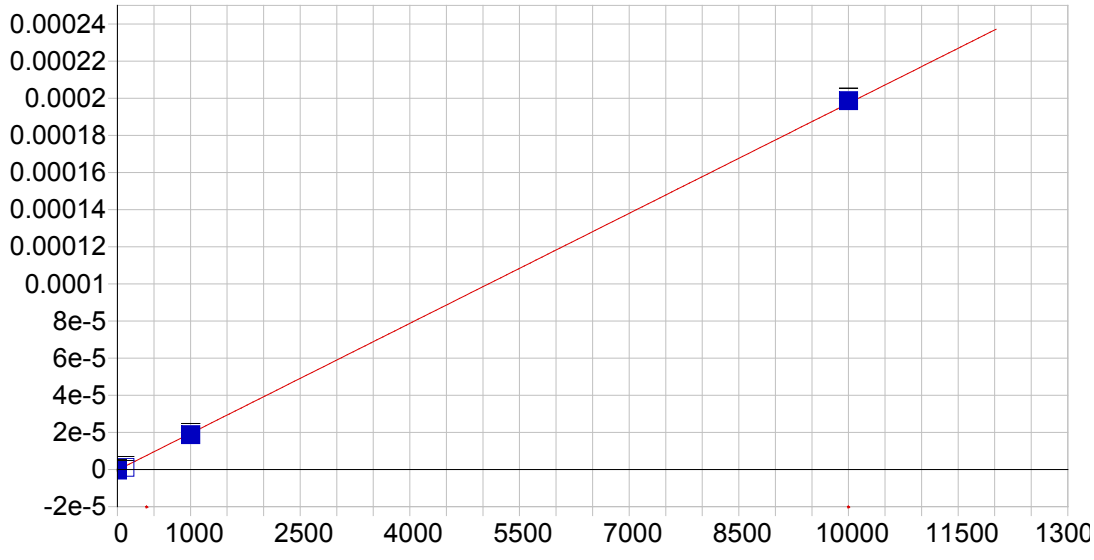


Se 196.090 {472}

Date of Fit:	10/08/2015 11:53:21	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000107	Re-Slope:	1.000000
A1 (Gain):	0.000010	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999577	Status:	OK.
Std Error of Est:	0.000004		
Predicted MDL:	17.511768		
Predicted MQL:	58.372559		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00848	.008	.000	.00011	.000	1
CalStd7=50	50.000	46.112	-3.89	-7.78	.00057	.000	1
CalStd9=100	1000.0	945.23	-54.8	-5.48	.00954	.000	1
CalStd5=10	10.000	4.2420	-5.76	-57.6	.00015	.000	1
CalStd8=100	100.00	85.205	-14.8	-14.8	.00096	.000	1
CalStd10=10	10000.	10079.	79.2	.792	.10068	.001	1

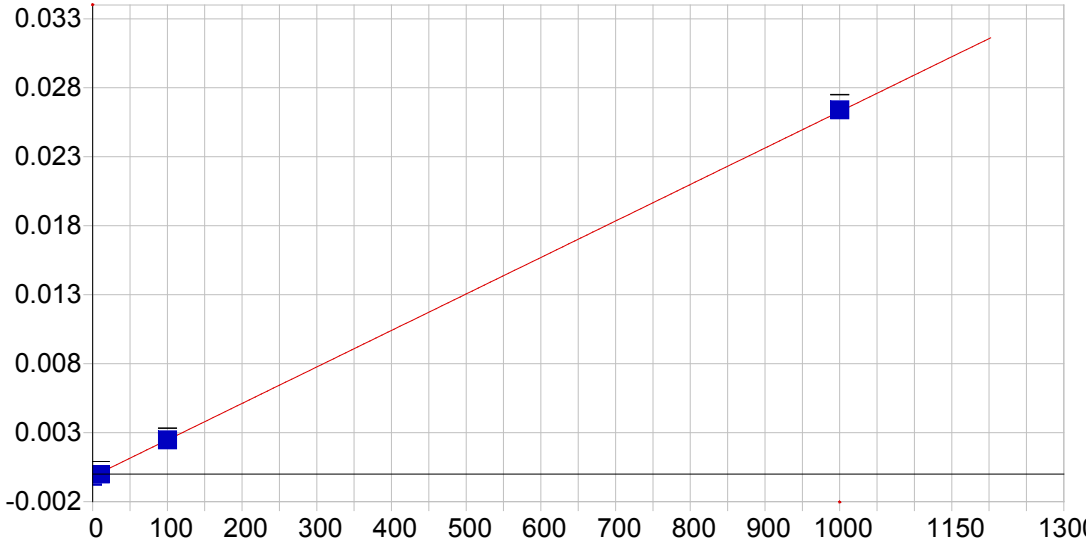


Se 206.279 {463}

Date of Fit:	10/08/2015 11:53:21	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999526	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	54.582688		
Predicted MQL:	181.942295		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.03254	.033	.000	.00000	.000	1
CalStd9=100	1000.0	962.32	-37.7	-3.77	.00002	.000	1
CalStd10=10	10000.	10067.	67.1	.671	.00020	.000	1
CalStd8=100	100.00	70.554	-29.4	-29.4	.00000	.000	1

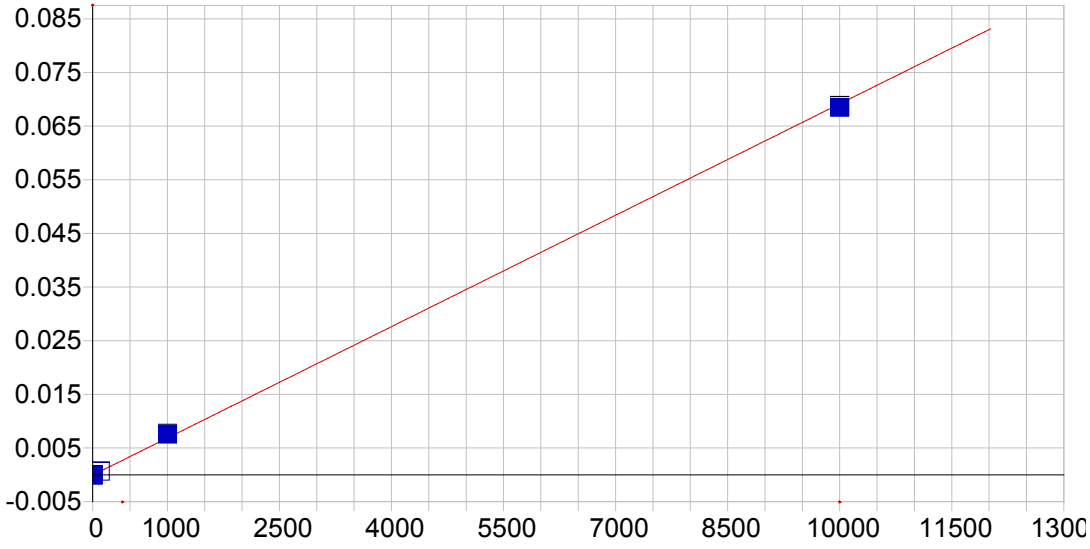


Tl 190.856 {476}

Date of Fit:	10/08/2015 11:53:21	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000171	Re-Slope:	1.000000
A1 (Gain):	0.000026	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999370	Status:	OK.
Std Error of Est:	0.000004		
Predicted MDL:	9.505512		
Predicted MQL:	31.685041		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00371	.004	.000	-.00017	.000	1
CalStd9=100	1000.0	1004.0	4.01	.401	.02641	.000	1
CalStd8=100	100.00	99.710	-.290	-.290	.00247	.000	1
CalStd5=10	10.000	6.2789	-3.72	-37.2	.00000	.000	1

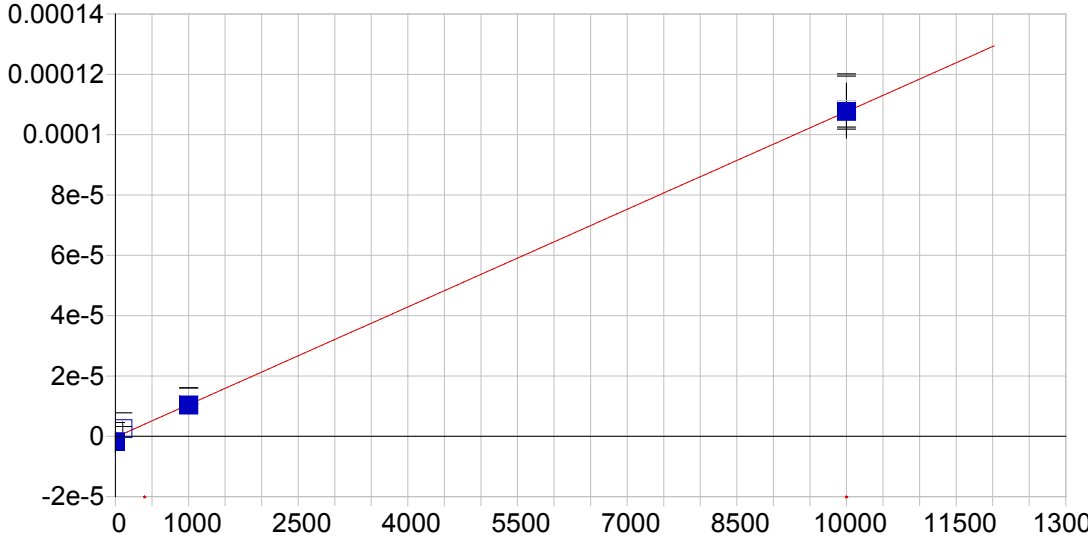


Tl 190.856 {477}

Date of Fit:	10/08/2015 11:53:21	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000065	Re-Slope:	1.000000
A1 (Gain):	0.000007	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998830	Status:	OK.
Std Error of Est:	0.000005		
Predicted MDL:	26.811458		
Predicted MQL:	89.371528		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.01064	.011	.000	-.00006	.000	1
CalStd9=100	1000.0	1102.9	103.	10.3	.00757	.000	1
CalStd8=100	100.00	104.12	4.12	4.12	.00066	.000	1
CalStd5=10	10.000	-1.9870	-12.0	-120.	-.00008	.000	1
CalStd10=10	10000.	9905.0	-95.0	-.950	.06849	.000	1

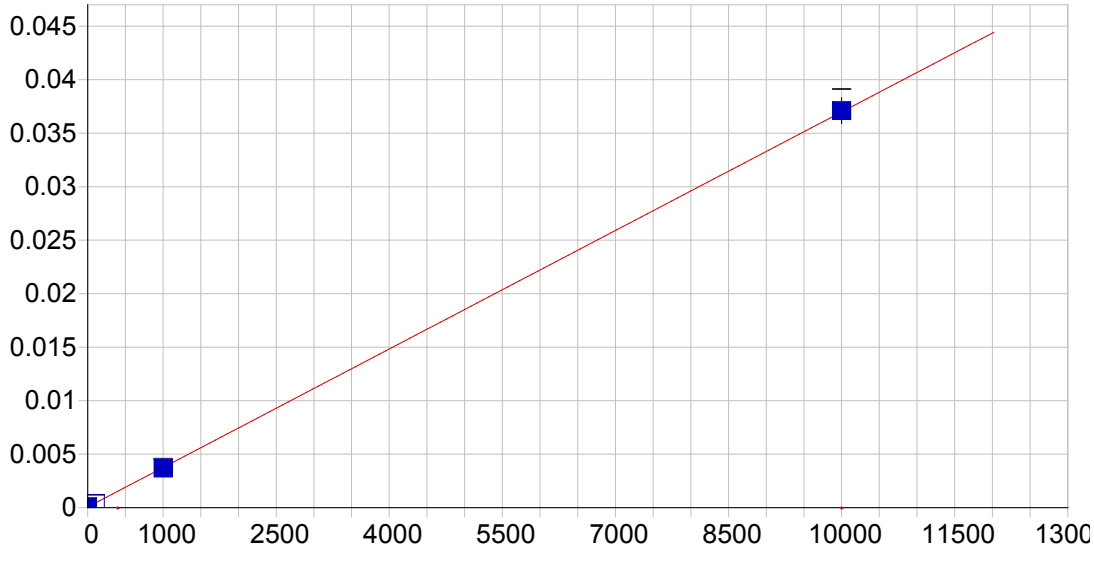


Tl 276.787 {122}

Date of Fit:	10/08/2015 11:53:21	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	-0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999682	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	212.502774		
Predicted MQL:	708.342580		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-141.72	-142.	.000	.00000	.000	1
CalStd9=100	1000.0	983.92	-16.1	-1.61	.00001	.000	1
CalStd10=10	10000.	10000.	.041	.000	.00011	.000	1
CalStd8=100	100.00	257.77	158.	158.	.00000	.000	1

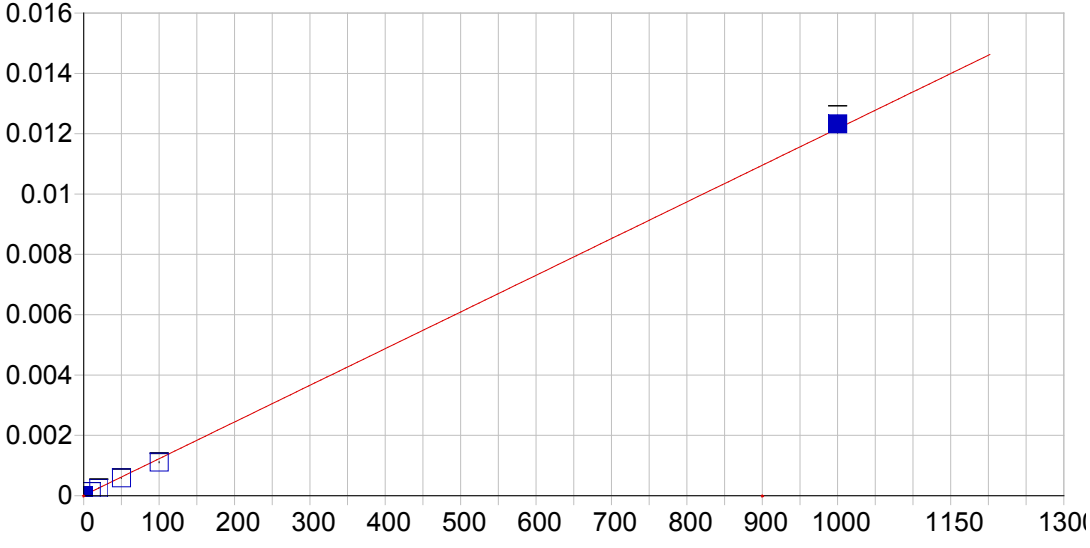


V 290.882 {116}

Date of Fit:	10/08/2015 11:53:21	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000054	Re-Slope:	1.000000
A1 (Gain):	0.000004	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999832	Status:	OK.
Std Error of Est:	0.000003		
Predicted MDL:	6.222922		
Predicted MQL:	20.743075		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.01959	.020	.000	.00005	.000	1
CalStd9=100	1000.0	984.23	-15.8	-1.58	.00369	.000	1
CalStd10=10	10000.	10034.	34.1	.341	.03711	.001	1
CalStd8=100	100.00	81.641	-18.4	-18.4	.00036	.000	1

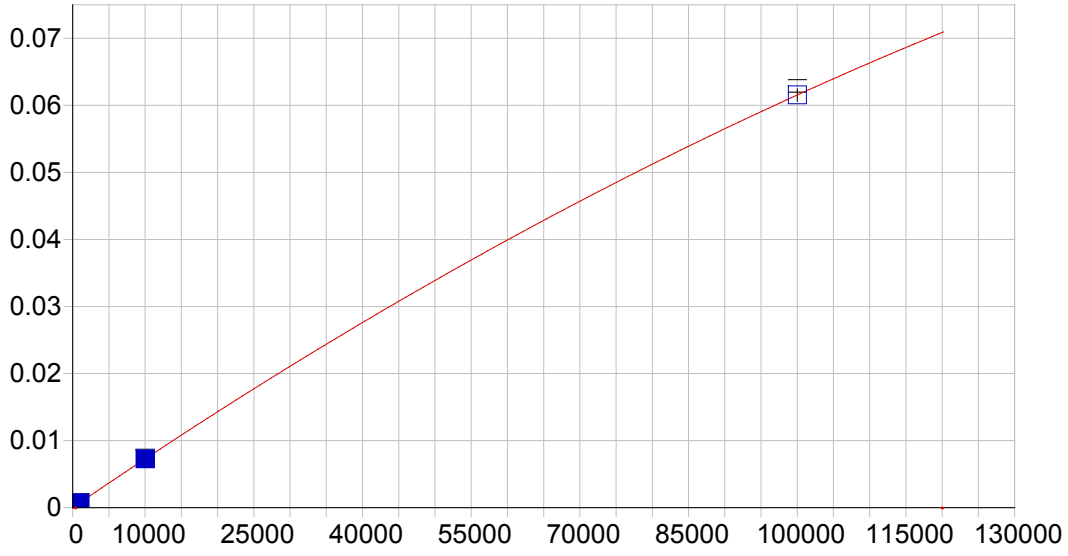


V 292.402 {115}

Date of Fit:	10/08/2015 11:53:21	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000011	Re-Slope:	1.000000
A1 (Gain):	0.000012	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999478	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	0.645496		
Predicted MQL:	2.151652		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00147	.001	.000	.00001	.000	1
CalStd7=50	50.000	47.208	-2.79	-5.58	.00059	.000	1
CalStd9=100	1000.0	1012.6	12.6	1.26	.01232	.000	1
CalStd6=20	20.000	19.571	-.429	-2.15	.00025	.000	1
CalStd5=10	10.000	10.127	.127	1.27	.00013	.000	1
CalStd8=100	100.00	90.482	-9.52	-9.52	.00111	.000	1

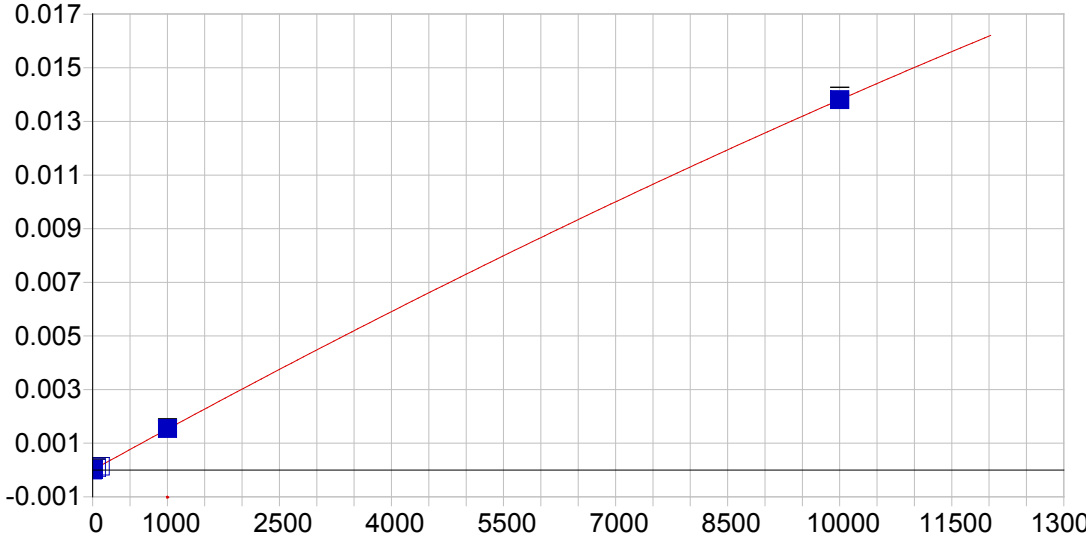


Zn 206.200 {463}

Date of Fit:	10/08/2015 11:53:21	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	1.328491		
Predicted MQL:	4.428302		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
CalStd10=10	10000.	9994.9	-5.05	-.051	.00727	.000	1
Blank	.00000	-.00395	-.004	.000	.00000	.000	1
CalStd9=100	1000.0	1004.5	4.45	.445	.00074	.000	1
CalStd11-100	100000.	100000.	.669	.001	.06155	.001	1

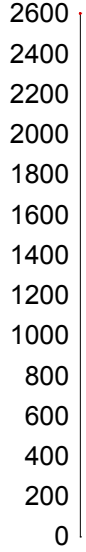


Zn 213.856 {458}

Date of Fit:	10/08/2015 11:53:21	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	-0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999948	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.667402		
Predicted MQL:	2.224675		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00071	.001	.000	.00000	.000	1
CalStd8=100	100.00	91.265	-8.73	-8.73	.00014	.000	1
CalStd7=50	50.000	48.318	-1.68	-3.36	.00007	.000	1
CalStd5=10	10.000	9.9526	-.047	-.474	.00001	.000	1
CalStd9=100	1000.0	1011.9	11.9	1.19	.00154	.000	1
CalStd4=5	5.0000	4.8559	-.144	-2.88	.00001	.000	1
CalStd10=10	10000.	9998.6	-1.35	-.014	.01381	.000	1

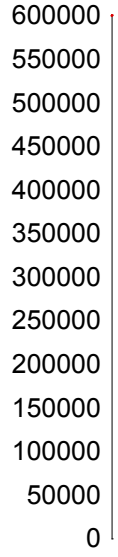


Y 224.306 {451}*

Date of Fit:	10/08/2015 11:53:21	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.000000	Status:	Warning Zero Gain
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	2411.4	18.9	1

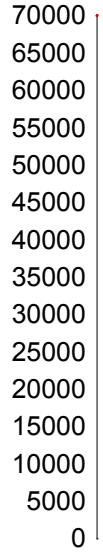


Y 324.228 {104}*

Date of Fit:	10/08/2015 11:53:21	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.000000	Status:	Warning Zero Gain
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	498120.	9130.	1

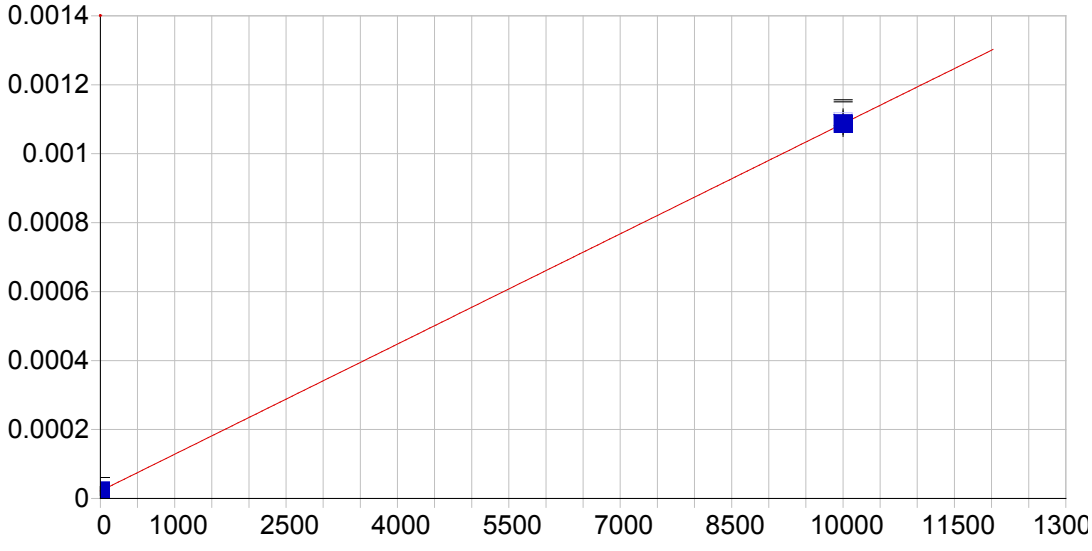


Y 371.030 { 91}*

Date of Fit:	10/08/2015 11:53:21	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.000000	Status:	Warning Zero Gain
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	59074.	334.	1

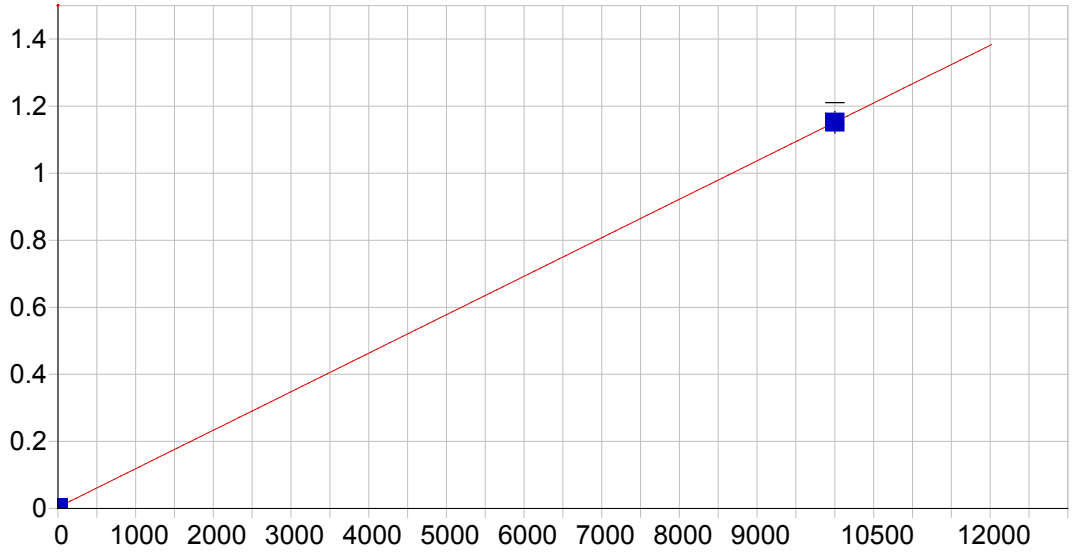


Na 330.298 {102}

Date of Fit:	10/08/2015 11:53:21	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000022	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	393.072510		
Predicted MQL:	1310.241701		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00002	.000	1
CalStd10=10	10000.	10000.	.000	.000	.00109	.000	1

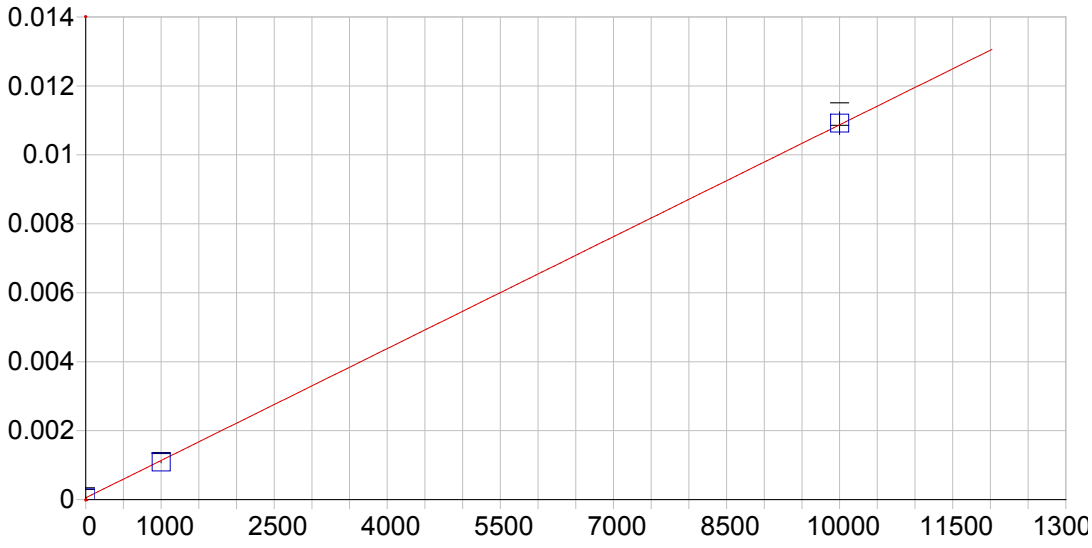


Na 588.995 { 57}

Date of Fit:	10/08/2015 11:53:21	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.003726	Re-Slope:	1.000000
A1 (Gain):	0.000115	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	1.533372		
Predicted MQL:	5.111239		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00373	.000	1
CalStd10=10	10000.	10000.	.000	.000	1.1520	.032	1

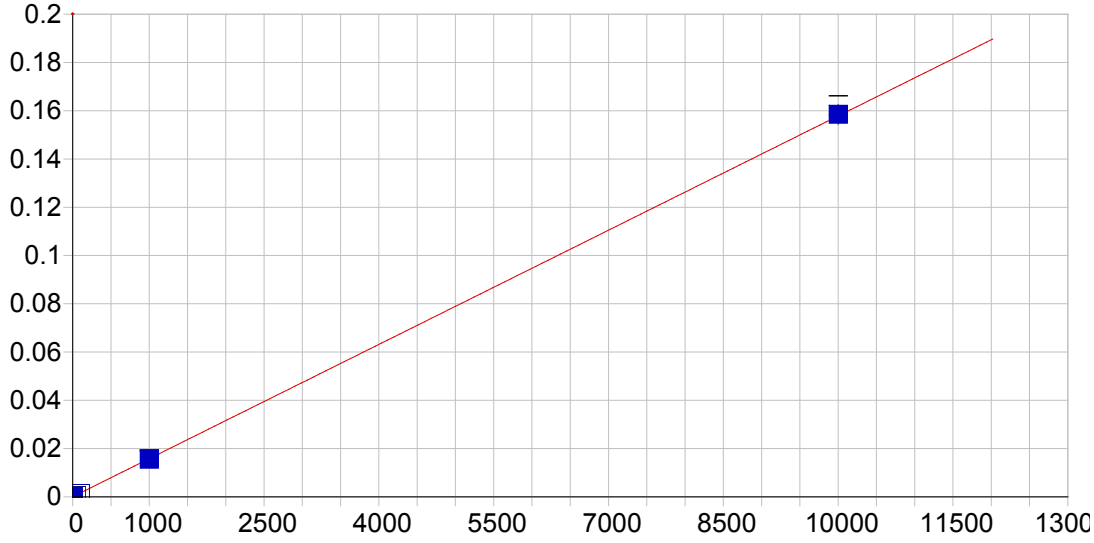


Si 251.611 {134}

Date of Fit:	10/08/2015 11:53:21	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000052	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999910	Status:	OK.
Std Error of Est:	0.000003		
Predicted MDL:	16.094542		
Predicted MQL:	53.648472		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.03825	.038	.000	.00005	.000	1
CalStd10=10	10000.	10043.	42.5	.425	.01092	.000	1
CalStd9=100	1000.0	957.50	-42.5	-4.25	.00109	.000	1

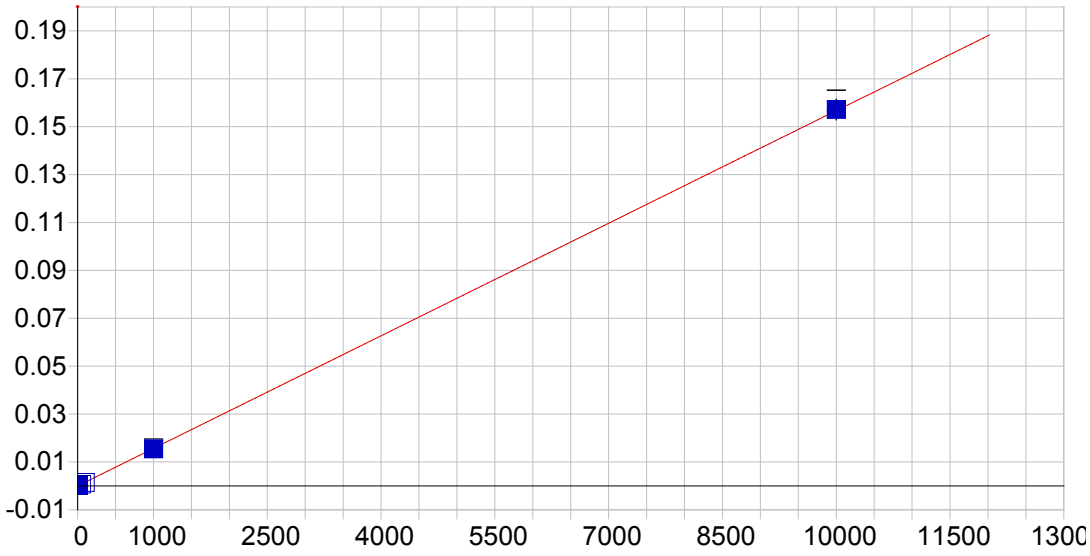


Ti 334.941 {101}

Date of Fit:	10/08/2015 11:53:21	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000037	Re-Slope:	1.000000
A1 (Gain):	0.000016	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999775	Status:	OK.
Std Error of Est:	0.000003		
Predicted MDL:	1.469713		
Predicted MQL:	4.899043		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00526	.005	.000	.00004	.000	1
CalStd5=10	10.000	7.5878	-2.41	-24.1	.00016	.000	1
CalStd8=100	100.00	87.226	-12.8	-12.8	.00141	.000	1
CalStd9=100	1000.0	982.90	-17.1	-1.71	.01555	.000	1
CalStd10=10	10000.	10042.	41.6	.416	.15851	.004	1
CalStd7=50	50.000	43.320	-6.68	-13.4	.00072	.000	1
CalStd4=5	5.0000	2.3136	-2.69	-53.7	.00007	.000	1

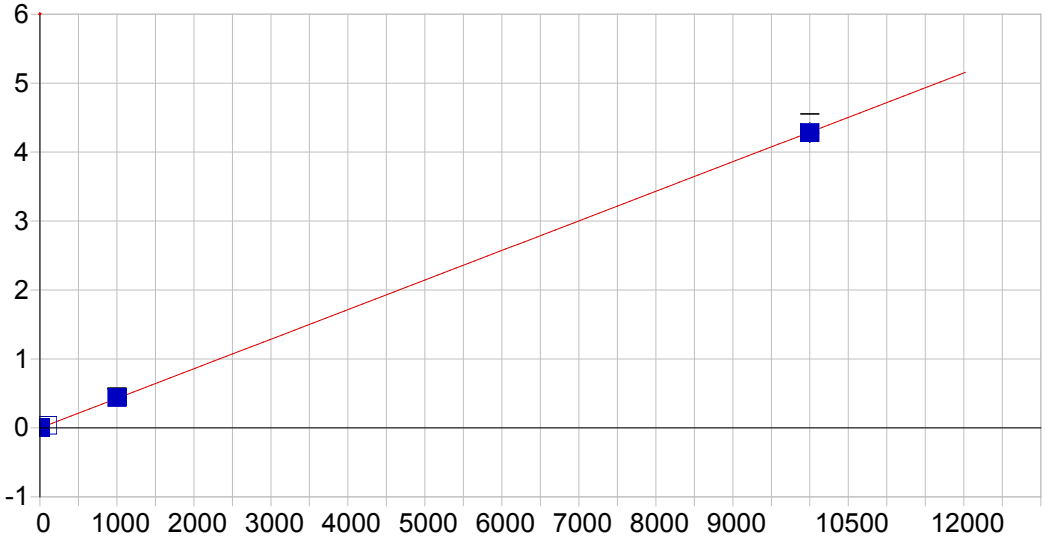


Ti 337.280 {100}

Date of Fit: 10/08/2015 11:53:21 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	0.000003	Re-Slope:	1.000000
A1 (Gain):	0.000016	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999896	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	2.108767		
Predicted MQL:	7.029225		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00159	.002	.000	.00000	.000	1
CalStd5=10	10.000	9.8637	-.136	-1.36	.00016	.000	1
CalStd8=100	100.00	88.189	-11.8	-11.8	.00138	.000	1
CalStd9=100	1000.0	985.86	-14.1	-1.41	.01545	.000	1
CalStd10=10	10000.	10032.	31.9	.319	.15718	.004	1
CalStd7=50	50.000	44.485	-5.52	-11.0	.00070	.000	1
CalStd4=5	5.0000	4.6738	-.326	-6.52	.00008	.000	1

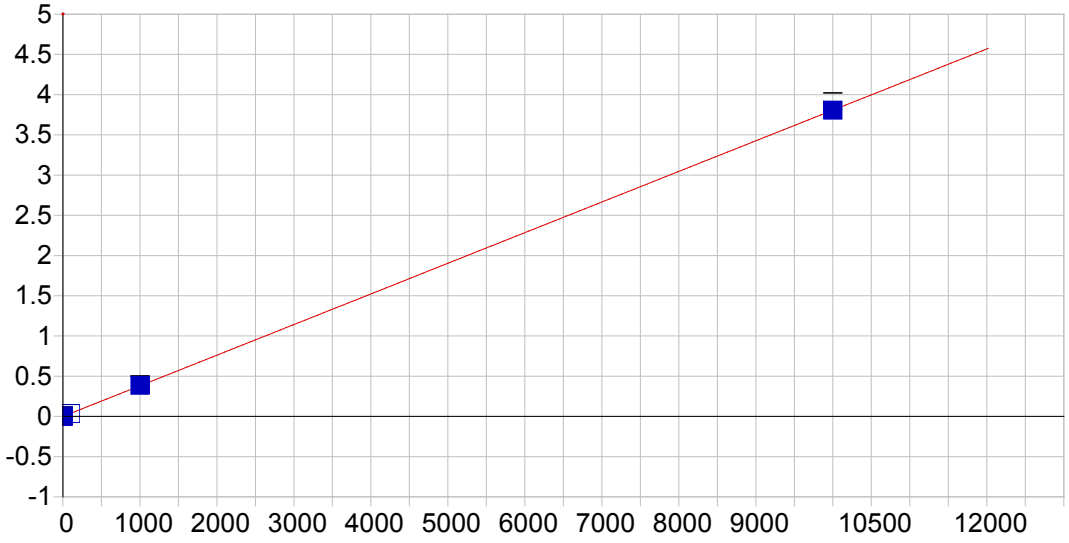


Sr 407.771 { 83}

Date of Fit: 10/08/2015 11:53:21 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	-0.000955	Re-Slope:	1.000000
A1 (Gain):	0.000429	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999936	Status:	OK.
Std Error of Est:	0.000019		
Predicted MDL:	0.100145		
Predicted MQL:	0.333818		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00039	.000	.000	-.00095	.000	1
CalStd3=1	1.0000	1.2357	.236	23.6	-.00042	.000	1
CalStd4=5	5.0000	5.6691	.669	13.4	.00148	.000	1
CalStd5=10	10.000	10.756	.756	7.56	.00366	.000	1
CalStd8=100	100.00	92.429	-7.57	-7.57	.03870	.001	1
CalStd9=100	1000.0	1024.6	24.6	2.46	.43865	.008	1
CalStd10=10	10000.	9981.3	-18.7	-.187	4.2816	.141	1

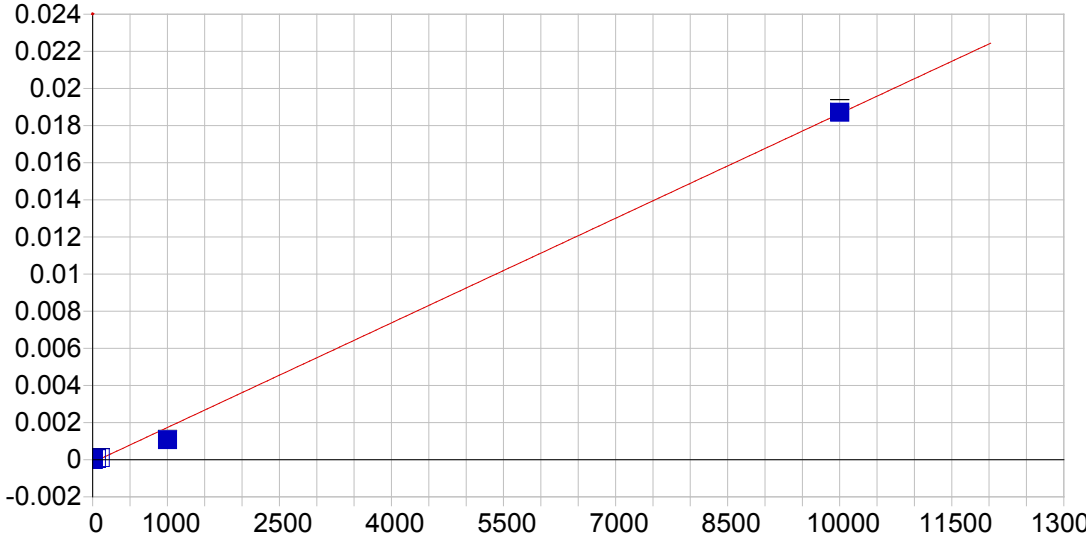


Sr 421.552 { 80}

Date of Fit:	10/08/2015 11:53:21	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000079	Re-Slope:	1.000000
A1 (Gain):	0.000381	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999954	Status:	OK.
Std Error of Est:	0.000014		
Predicted MDL:	0.125724		
Predicted MQL:	0.419081		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00015	.000	.000	-.00008	.000	1
CalStd3=1	1.0000	1.1097	.110	11.0	.00034	.000	1
CalStd4=5	5.0000	5.3908	.391	7.82	.00197	.000	1
CalStd5=10	10.000	10.379	.379	3.79	.00387	.000	1
CalStd8=100	100.00	90.837	-9.16	-9.16	.03450	.001	1
CalStd9=100	1000.0	1011.1	11.1	1.11	.38486	.007	1
CalStd10=10	10000.	9997.2	-2.82	-.028	3.8060	.102	1

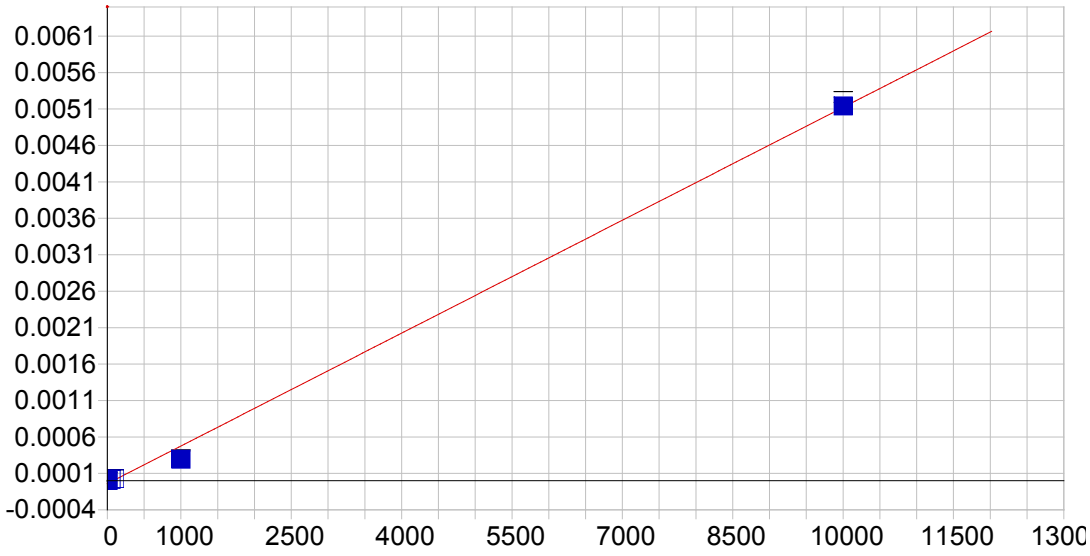


Sn 189.989 {477}

Date of Fit:	10/08/2015 11:53:21	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	-0.000144	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999118	Status:	OK.
Std Error of Est:	0.000322		
Predicted MDL:	2.760993		
Predicted MQL:	9.203309		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	79.383	79.4	.000	.00000	.000	1
CalStd10=10	10000.	10035.	34.5	.345	.01871	.000	1
CalStd9=100	1000.0	647.87	-352.	-35.2	.00107	.000	1
CalStd8=100	100.00	131.93	31.9	31.9	.00010	.000	1
CalStd5=10	10.000	84.864	74.9	749.	.00002	.000	1
CalStd7=50	50.000	105.92	55.9	112.	.00005	.000	1
CalStd4=5	5.0000	80.532	75.5	1510.	.00001	.000	1

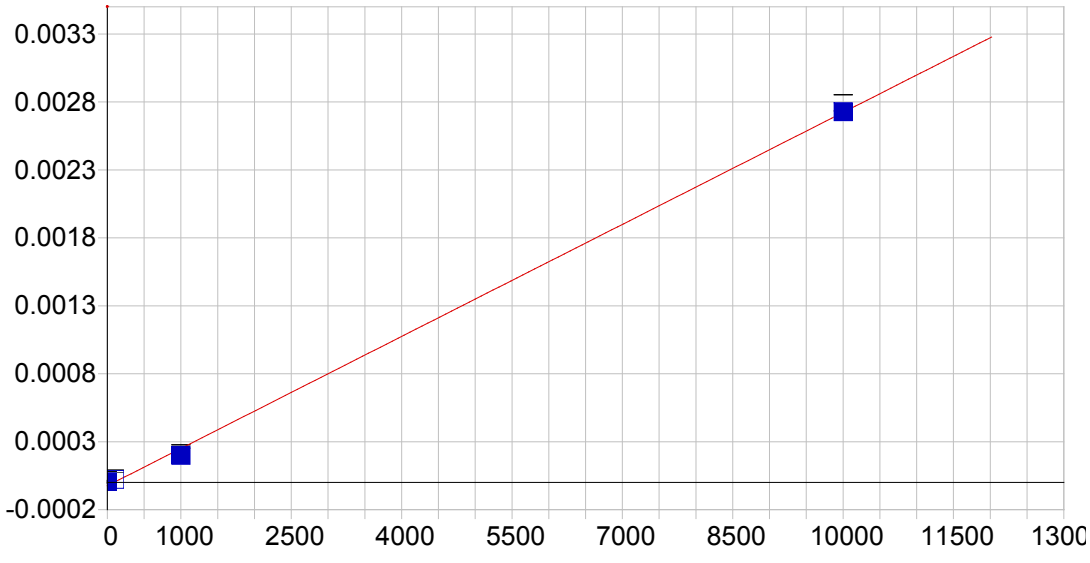


Sn 189.989 {478}

Date of Fit:	10/08/2015 11:53:21	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	-0.000041	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999107	Status:	OK.
Std Error of Est:	0.000089		
Predicted MDL:	10.644864		
Predicted MQL:	35.482878		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	76.057	76.1	.000	.00000	.000	1
CalStd10=10	10000.	10035.	34.7	.347	.00514	.000	1
CalStd9=100	1000.0	645.64	-354.	-35.4	.00029	.000	1
CalStd8=100	100.00	130.29	30.3	30.3	.00003	.000	1
CalStd5=10	10.000	83.905	73.9	739.	.00000	.000	1
CalStd7=50	50.000	109.97	60.0	120.	.00002	.000	1
CalStd4=5	5.0000	84.425	79.4	1590.	.00000	.000	1

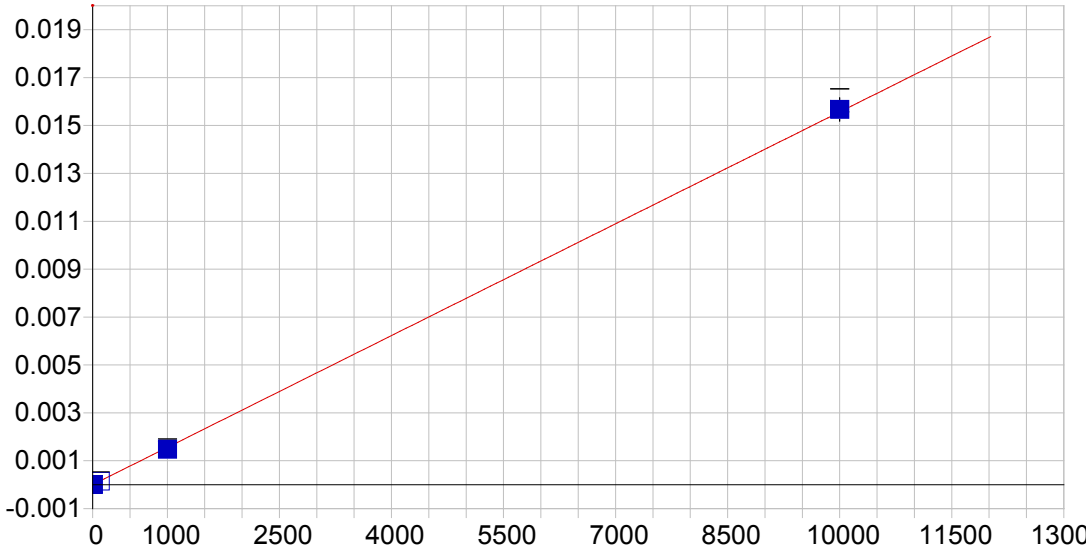


Sn 283.999 {119}

Date of Fit:	10/08/2015 11:53:21	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	-0.000024	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999632	Status:	OK.
Std Error of Est:	0.000044		
Predicted MDL:	63.717027		
Predicted MQL:	212.390089		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	104.88	105.	.000	.00000	.000	1
CalStd10=10	10000.	10018.	18.3	.183	.00272	.000	1
CalStd9=100	1000.0	810.68	-189.	-18.9	.00020	.000	1
CalStd8=100	100.00	166.17	66.2	66.2	.00002	.000	1

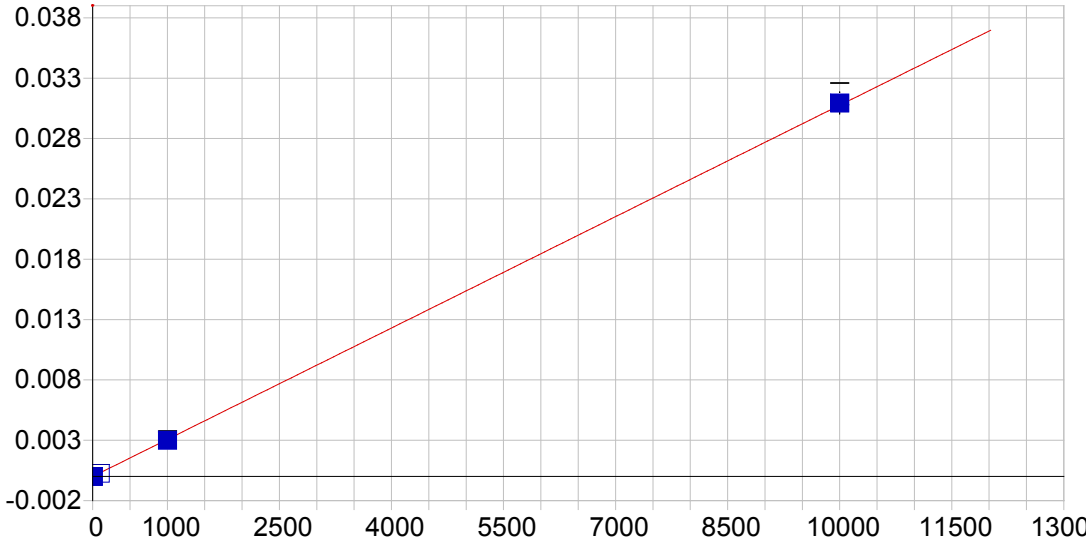


B 249.678 {135}

Date of Fit:	10/08/2015 11:53:21	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999627	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	11.245109		
Predicted MQL:	37.483696		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00791	.008	.000	.00000	.000	1
CalStd8=100	100.00	91.258	-8.74	-8.74	.00014	.000	1
CalStd5=10	10.000	3.4159	-6.58	-65.8	.00001	.000	1
CalStd9=100	1000.0	947.68	-52.3	-5.23	.00148	.000	1
CalStd10=10	10000.	10068.	67.6	.676	.01567	.000	1

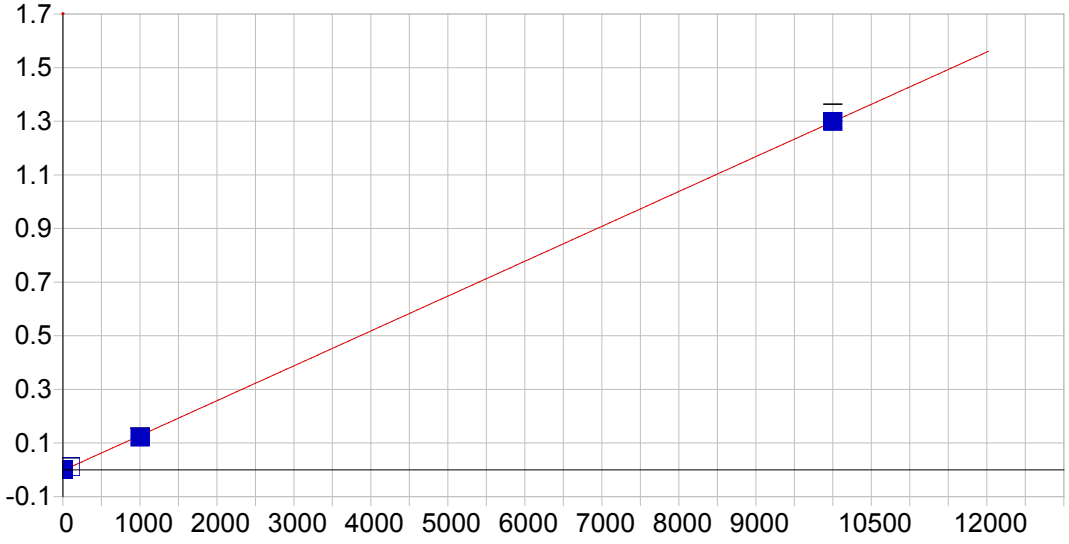


B 249.773 {135}

Date of Fit:	10/08/2015 11:53:21	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000005	Re-Slope:	1.000000
A1 (Gain):	0.000003	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999400	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	5.206624		
Predicted MQL:	17.355413		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.01174	.012	.000	.00000	.000	1
CalStd8=100	100.00	84.819	-15.2	-15.2	.00026	.000	1
CalStd5=10	10.000	.00543	-9.99	-99.9	.00000	.000	1
CalStd9=100	1000.0	971.77	-28.2	-2.82	.00299	.000	1
CalStd10=10	10000.	10053.	53.4	.534	.03097	.001	1

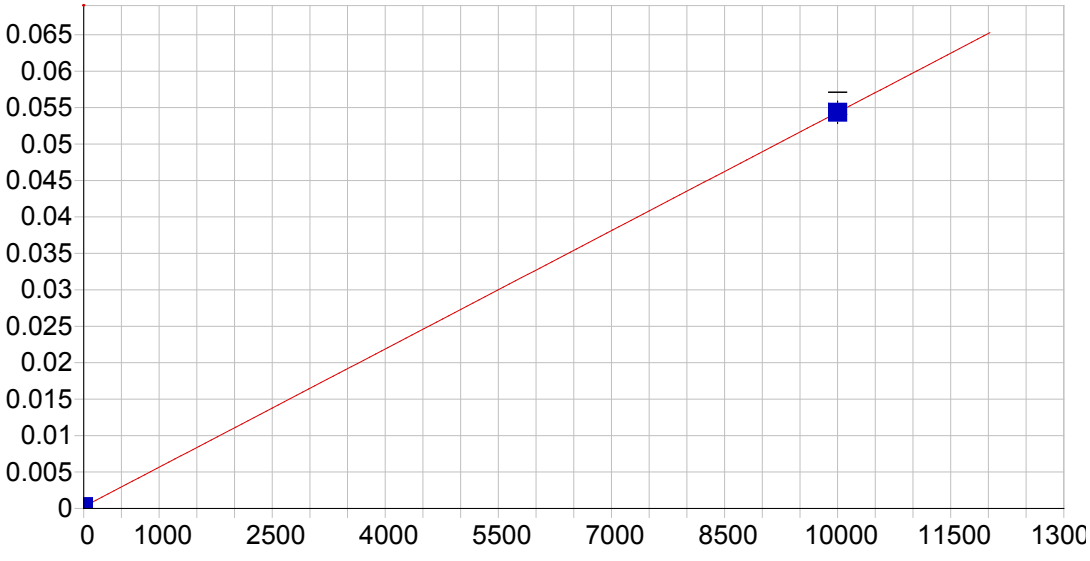


Li 670.784 { 50}

Date of Fit:	10/08/2015 11:53:21	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	-0.002355	Re-Slope:	1.000000
A1 (Gain):	0.000130	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999983	Status:	OK.
Std Error of Est:	0.003865		
Predicted MDL:	0.958989		
Predicted MQL:	3.196628		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	18.515	18.5	.000	.00005	.000	1
CalStd5=10	10.000	28.053	18.1	181.	.00129	.000	1
CalStd8=100	100.00	103.25	3.25	3.25	.01107	.000	1
CalStd9=100	1000.0	955.82	-44.2	-4.42	.12195	.002	1
CalStd10=10	10000.	10004.	4.37	.044	1.2987	.031	1

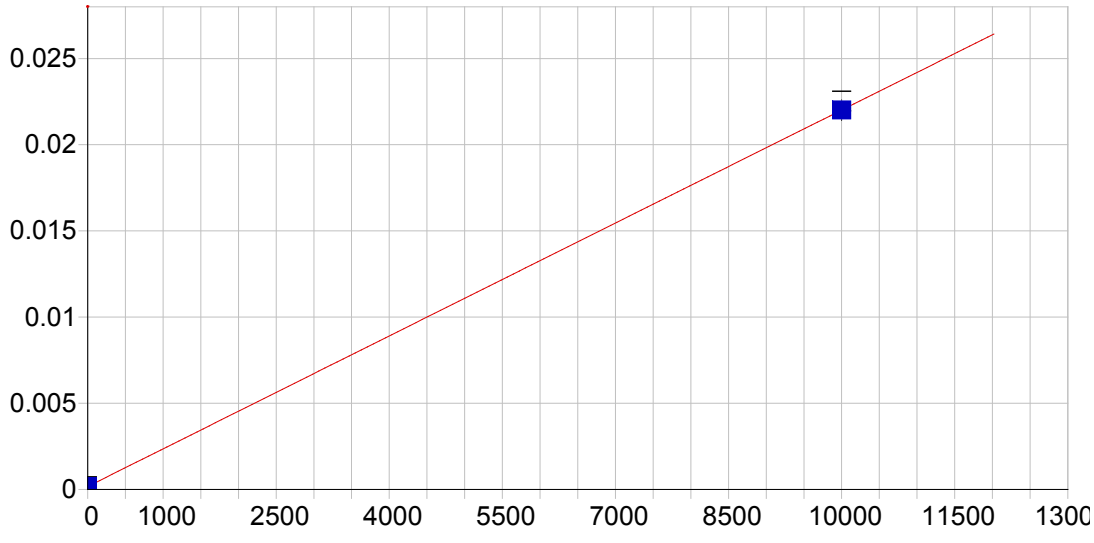


K 766.490 { 44}

Date of Fit:	10/08/2015 11:53:21	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000242	Re-Slope:	1.000000
A1 (Gain):	0.000005	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	24.089517		
Predicted MQL:	80.298391		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00024	.000	1
CalStd10=10	10000.	10000.	.000	.000	.05434	.002	1

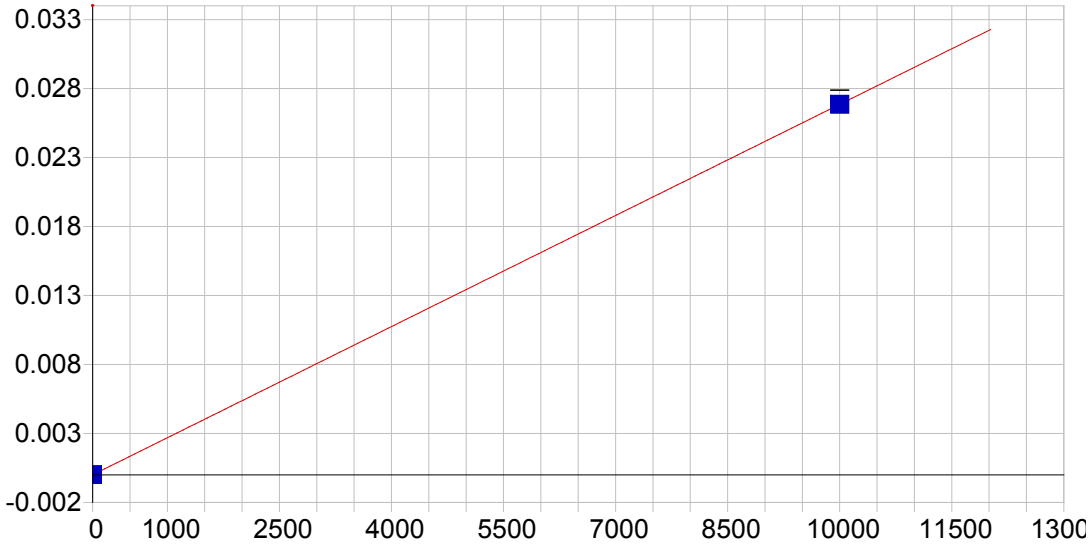


K 769.896 { 44}

Date of Fit:	10/08/2015 11:53:21	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000169	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	47.872266		
Predicted MQL:	159.574221		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00017	.000	1
CalStd10=10	10000.	10000.	.000	.000	.02201	.001	1

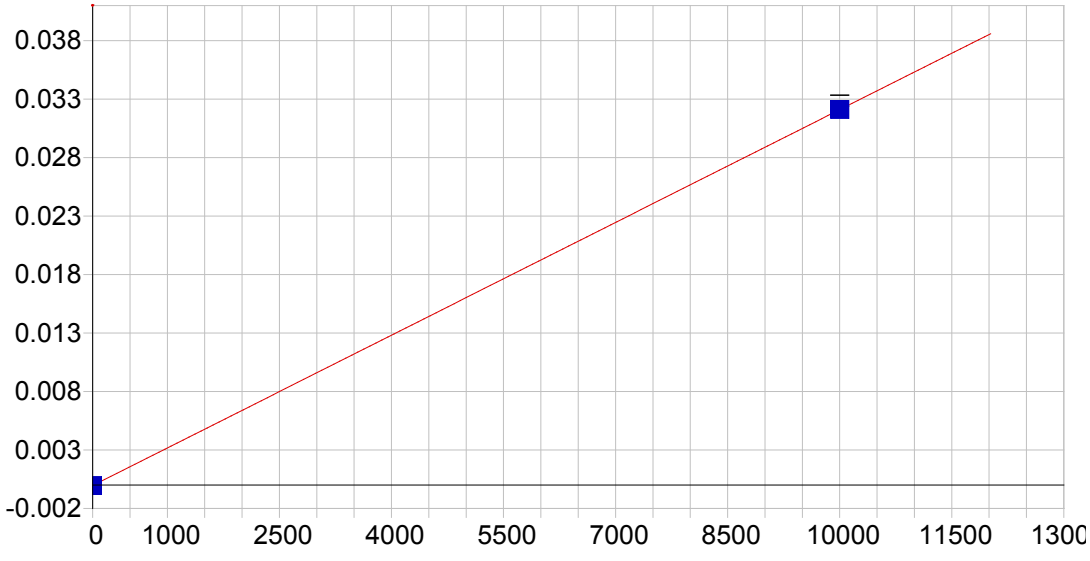


P 177.495 {489}

Date of Fit:	10/08/2015 11:53:21	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000006	Re-Slope:	1.000000
A1 (Gain):	0.000003	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	1.828471		
Predicted MQL:	6.094902		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00001	.000	1
CalStd10=10	10000.	10000.	.000	.000	.02686	.000	1

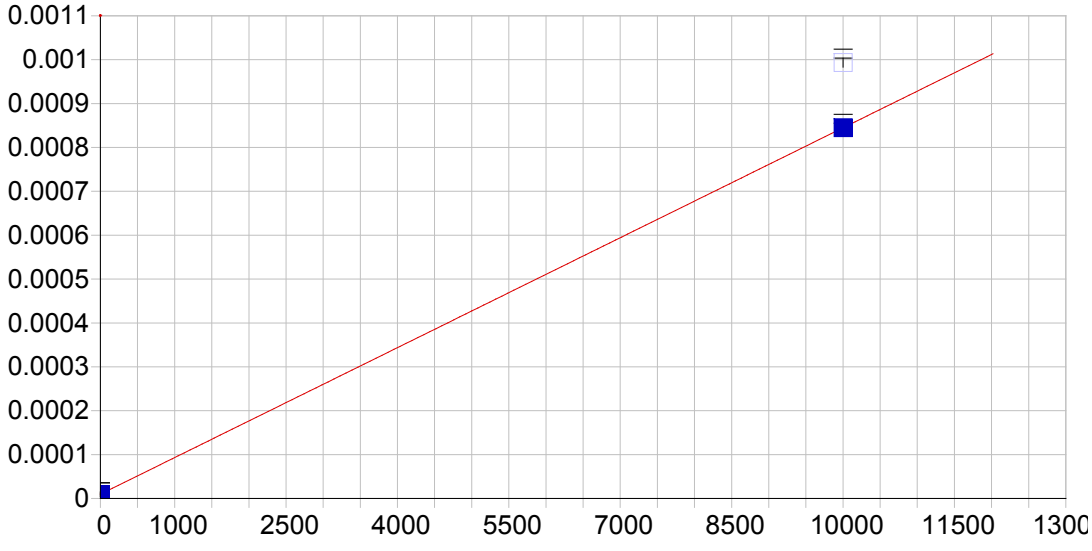


P 213.618 {457}

Date of Fit:	10/08/2015 11:53:21	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000045	Re-Slope:	1.000000
A1 (Gain):	0.000003	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	2.713059		
Predicted MQL:	9.043530		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	-.00005	.000	1
CalStd10=10	10000.	10000.	.000	.000	.03210	.000	1

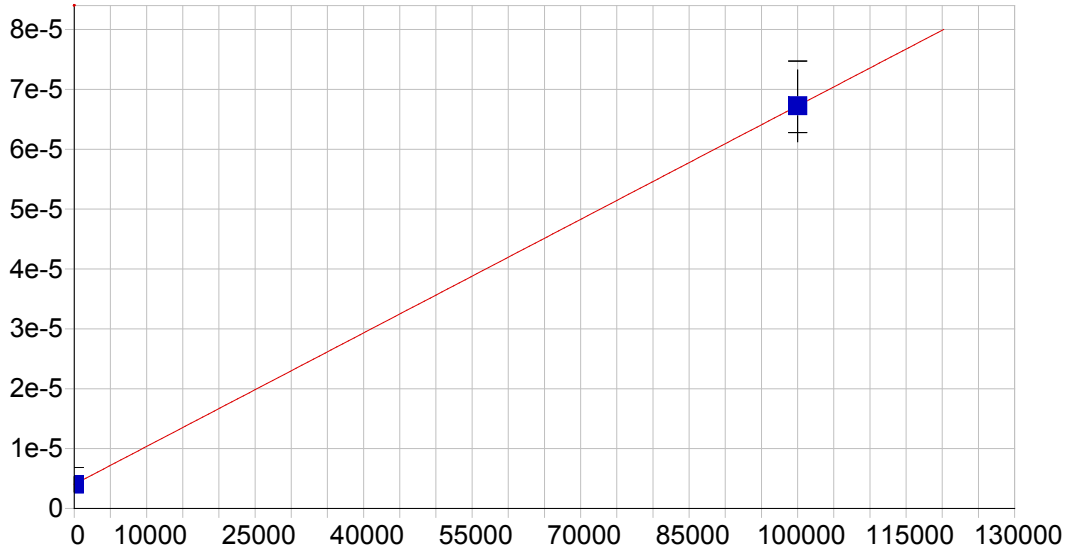


S 180.731 {486}

Date of Fit:	10/08/2015 11:53:21	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000010	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	72.944016		
Predicted MQL:	243.146718		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00001	.000	1
CalStd12-100	10000.	10000.	.000	.000	.00099	.000	1

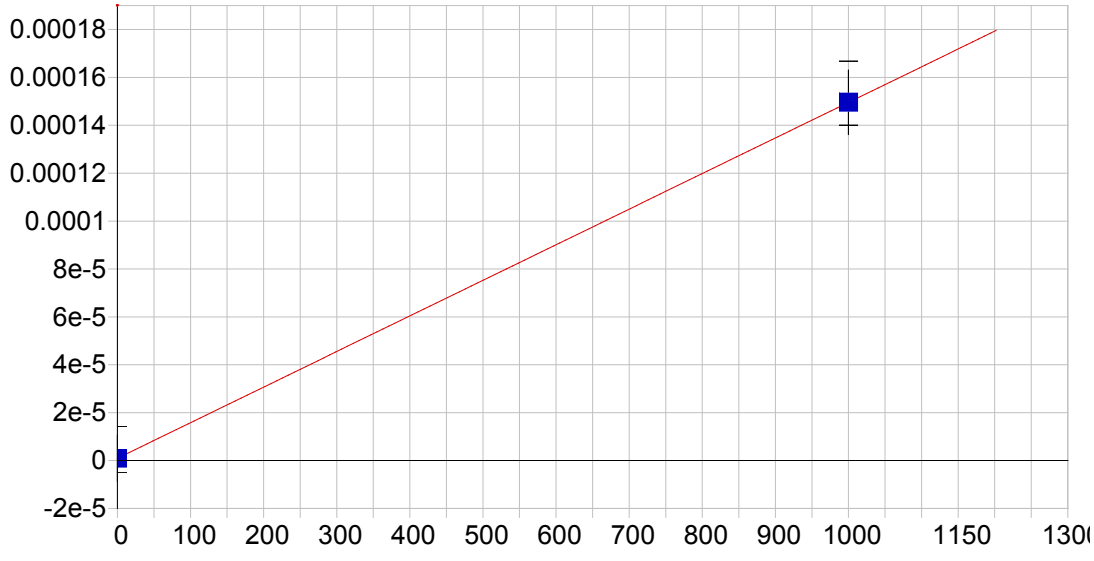


S 182.034 {485}

Date of Fit:	10/08/2015 11:53:21	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000004	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	9507.731224		
Predicted MQL:	31692.43741		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00000	.000	1
CalStd12-100	100000.	100000.	.000	.000	.00007	.000	1

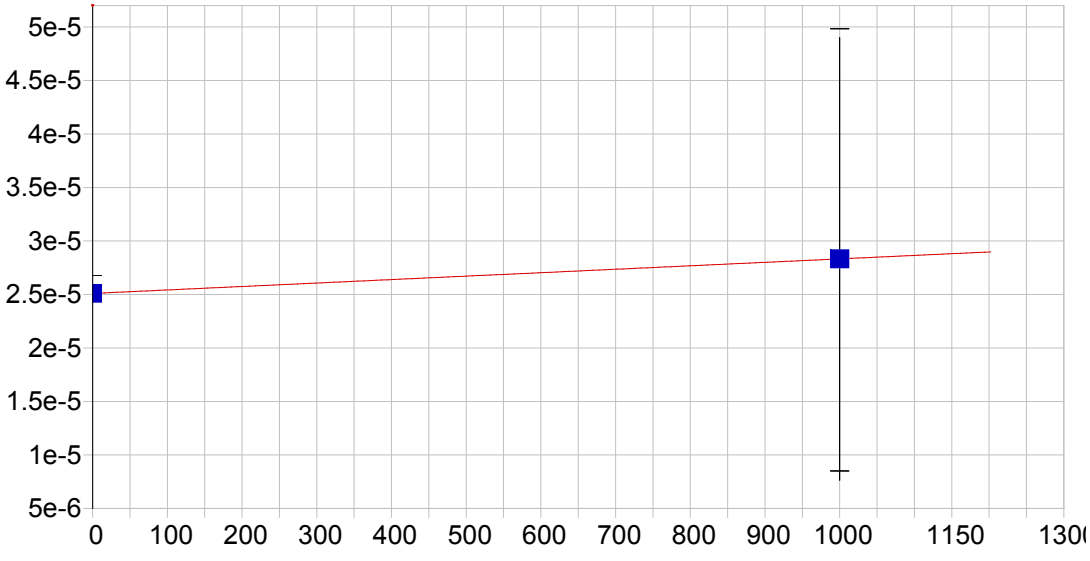


W 239.709 {140}

Date of Fit:	10/08/2015 11:53:21	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	100.741407		
Predicted MQL:	335.804690		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00000	.000	1
CalStd9=100	1000.0	1000.0	.000	.000	.00015	.000	1



W 245.148 {137}

Date of Fit:	10/08/2015 11:53:21	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000025	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	5297.407501		
Predicted MQL:	17658.02500		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00003	.000	1
CalStd9=100	1000.0	1000.00	.000	.000	.00003	.000	1

Sample Name: Blank Acquired: 10/07/2015 12:45:11 Type: Cal
Method: DOD Calibration Updated 060614(v894) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3082	Al3961	As1937	As1890	Ba4554	Ba4934	Be3130	Be2348	Ca3158	Ca3933	Cd2265
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**-.001**	**.000**	**.000**	**.000**	**.003**	**.000**
Stddev	.000	.000	.000	.000	.00	.00	.000	.00	.000	.000	.001	.000
%RSD	4.50	55.4	191.	533.	358.	107.	17.4	15.9	773.	.673	25.2	53.1

Elem	Cd2288	Co2286	Co2388	Cr2677	Cr2835	Cu2247	Cu3247	Fe2343	Fe2599	Mg2025	Mg2802	Mn2576
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.001**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	.000	.00	.00	.00	.000	.00	.000	.000	.000	.00	.000	.000
%RSD	23.1	19.9	44.0	107.	9.07	478.	2.26	86.3	85.7	121.	14.0	59.5

Elem	Mn2593	Mo2020	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Se2062	Tl1908
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	.000	.000	.000	.000	.00	.000	.000	.00	.00	.000	.00	.00
%RSD	37.8	344.	38.3	154.	19.5	39.7	37.9	10200.	202.	66.6	208.	74.7

Elem	Tl1908	V_2908	V_2924	Zn2062	Zn2138	B_2496	B_2497
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	.00	.000	.000	.000	.00	.000	.00
%RSD	291.	39.6	31.5	30.4	77.6	16400.	62.2

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**2411.4**	**498120.**	**59074.**
Stddev	18.9	9132.	334.
%RSD	.78362	1.8333	.56589

Sample Name: CalStd1=0.25 Acquired: 10/07/2015 12:49:48 Type: Cal
Method: DOD Calibration Updated 060614(v894) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Be3130
Units	Cts/S
Avg	**.000**
Stddev	.00
%RSD	194.

Int. Std.	Y_3710
Units	Cts/S
Avg	**59487.**
Stddev	183.
%RSD	.30723

Sample Name: CalStd2=0.5 Acquired: 10/07/2015 12:54:25 Type: Cal
Method: DOD Calibration Updated 060614(v894) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ba4554	Be3130	Cd2265	Cd2288
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**
Stddev	.000	.000	.000	.000
%RSD	73.8	65.0	33.5	8.25

Int. Std.	Y_3242	Y_3710
Units	Cts/S	Cts/S
Avg	**513660.**	**59568.**
Stddev	7163.	71.
%RSD	1.3944	.11931

Sample Name: CalStd3=1 Acquired: 10/07/2015 12:59:02 Type: Cal
Method: DOD Calibration Updated 060614(v894) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Ba4554	Be3130	Cd2265	Cd2288	Co2286	Cu2247	Ni2316
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.00
%RSD	11.4	21.2	4.06	16.8	5.96	138.	118.	148.

Int. Std.	Y_3242	Y_3710
Units	Cts/S	Cts/S
Avg	**516420.**	**59565.**
Stddev	8666.	126.
%RSD	1.6780	.21229

Sample Name: CalStd4=5 Acquired: 10/07/2015 13:03:40 Type: Cal
Method: DOD Calibration Updated 060614(v894) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	As1890	Ba4554	Ba4934	Be3130	Cd2265	Co2286	Cr2677	Cu2247	Mn2576	Mo2020	Ni2316	Pb2169
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.002**	**.002**	**.001**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	.00	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	769.	1.36	5.75	2.98	4.81	5.37	346.	20.6	14.0	67.6	9.32	39.8

Elem	Pb2203	Sb2175	Zn2138
Units	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**
Stddev	.000	.000	.000
%RSD	68.6	80.4	8.33

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**2430.7**	**512920.**	**59449.**
Stddev	6.7	4346.	194.
%RSD	.27737	.84730	.32599

Sample Name: CalStd5=10 Acquired: 10/07/2015 13:08:17 Type: Cal
Method: DOD Calibration Updated 060614(v894) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	As1937	Ba4554	Be3130	Cd2265	Cd2288	Co2286	Cr2677	Cu2247	Mn2576	Mo2020	Ni2316
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.004**	**.001**	**.000**	**.000**	**.000**	**.001**	**.000**	**.000**	**.000**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.001	.000	.000	.000	.000
%RSD	1.71	46.8	3.82	1.85	3.97	1.64	4.19	132.	7.07	7.24	15.1	9.16

Elem	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Tl1908	Tl1908	V_2924	Zn2138	B_2496	B_2497
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.001**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	.000	.000	.000	.000	.000	.00	.00	.000	.000	.000	.00
%RSD	32.7	34.7	69.7	80.2	37.8	5650.	205.	4.53	6.76	295.	170.

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**2415.8**	**511250.**	**59342.**
Stddev	8.8	3564.	303.
%RSD	.36609	.69702	.51065

Sample Name: CalStd6=20 Acquired: 10/07/2015 13:12:57 Type: Cal
Method: DOD Calibration Updated 060614(v894) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ba4554	Cu2247	Fe2599	Mn2576	Mo2020	Sb2175	V_2924
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.008**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000
%RSD	2.65	4.51	21.0	4.97	10.2	9.13	3.49

Int. Std.	Y_3242	Y_3710
Units	Cts/S	Cts/S
Avg	**514150.**	**59564.**
Stddev	4002.	193.
%RSD	.77846	.32414

Sample Name: CalStd7=50 Acquired: 10/07/2015 13:17:30 Type: Cal
Method: DOD Calibration Updated 060614(v894) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	As1937	Ba4554	Ca3933	Cd2265	Co2286	Cr2677	Cr2835	Cu2247	Fe2599	Mg2802	Mn2576	Mo2020
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.018**	**.046**	**.000**	**.000**	**.002**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	.000	.000	.001	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	12.7	2.67	2.72	.335	1.41	17.2	6.49	3.36	6.29	1.91	4.26	5.67

Elem	Mo2045	Ni2316	Sb2068	Se1960	V_2924	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.001**	**.001**	**.000**
Stddev	.000	.000	.000	.000	.000	.000
%RSD	5.51	1.65	5.02	12.4	1.13	1.53

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**2440.0**	**510330.**	**59604.**
Stddev	8.6	6007.	209.
%RSD	.35364	1.1770	.35054

Sample Name: CalStd8=100 Acquired: 10/07/2015 13:22:01 Type: Cal
Method: DOD Calibration Updated 060614(v894) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	As1937	As1890	Ba4554	Ba4934	Be3130	Be2348	Ca3933	Cd2265	Cd2288	Co2286	Co2388
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.001**	**.000**	**.000**	**.035**	**.049**	**.013**	**.000**	**.080**	**.000**	**.001**	**.000**	**.000**
Stddev	.000	.000	.000	.001	.001	.000	.000	.002	.000	.000	.000	.000
%RSD	1.42	11.2	41.1	2.41	2.51	1.75	5.23	2.20	1.46	1.65	.539	6.73

Elem	Cr2677	Cr2835	Cu2247	Cu3247	Fe2599	Mg2802	Mn2576	Mo2020	Mo2045	Ni2216	Ni2316	Pb2169
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.004**	**.000**	**.000**	**.002**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	11.4	7.86	1.52	1.33	6.87	1.90	3.81	3.69	5.32	1.89	1.39	9.56

Elem	Pb2203	Sb2175	Se1960	Se2062	Tl1908	Tl1908	V_2908	V_2924	Zn2138	B_2496	B_2497
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.006**	**.000**	**.001**	**.000**	**.002**	**.001**	**.000**	**.001**	**.000**	**.000**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	3.49	4.22	17.0	98.8	8.26	7.72	4.60	1.37	1.80	13.4	7.81

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**2456.0**	**516890.**	**59752.**
Stddev	19.2	3084.	118.
%RSD	.77993	.59664	.19682

Sample Name: CalStd9=1000 Acquired: 10/07/2015 13:26:34 Type: Cal
Method: DOD Calibration Updated 060614(v894) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3082	Al3961	As1937	As1890	Ba4554	Ba4934	Be3130	Be2348	Ca3158	Ca3933	Cd2265	Cd2288
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.002**	**.005**	**.000**	**.000**	**.390**	**.542**	**.131**	**.001**	**.002**	**.814**	**.003**	**.005**
Stddev	.000	.000	.000	.000	.007	.011	.002	.000	.000	.014	.000	.000
%RSD	2.80	2.05	.990	4.32	1.81	1.94	1.64	2.80	3.23	1.73	1.56	1.39

Elem	Co2286	Co2388	Cr2677	Cr2835	Cu2247	Cu3247	Fe2343	Fe2599	Mg2025	Mg2802	Mn2576	Mn2593
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.002**	**.000**	**.050**	**.000**	**.001**	**.012**	**.000**	**.000**	**.000**	**.005**	**.001**	**.002**
Stddev	.000	.000	.002	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	1.57	2.48	3.49	3.01	1.74	1.03	3.77	2.37	1.55	2.90	2.65	2.89

Elem	Mo2020	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Se2062	Tl1908	Tl1908
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.002**	**.002**	**.000**	**.055**	**.000**	**.000**	**.010**	**.000**	**.026**	**.008**
Stddev	.000	.000	.000	.000	.000	.001	.000	.000	.000	.000	.000	.000
%RSD	2.33	1.65	1.28	1.86	.895	.965	1.53	.864	1.23	6.25	1.70	1.87

Elem	V_2908	V_2924	Zn2062	Zn2138	B_2496	B_2497
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.004**	**.012**	**.001**	**.002**	**.001**	**.003**
Stddev	.000	.000	.000	.000	.000	.000
%RSD	1.65	2.43	1.80	1.80	3.53	2.00

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**2425.0**	**513160.**	**59626.**
Stddev	13.4	5083.	111.
%RSD	.55342	.99047	.18647

Sample Name: CalStd10=10000 Acquired: 10/07/2015 13:30:52 Type: Cal
Method: DOD Calibration Updated 060614(v894) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3082	Al3961	As1937	As1890	Ba4934	Ca3158	Co2388	Cr2835	Cu2247	Cu3247	Fe2343	Fe2599
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.017**	**.056**	**.001**	**.000**	**5.38**	**.015**	**.001**	**.005**	**.013**	**.113**	**.002**	**.003**
Stddev	.000	.001	.000	.000	.17	.000	.000	.000	.000	.003	.000	.000
%RSD	2.36	2.21	1.07	.847	3.25	3.39	4.36	3.87	1.01	2.43	2.58	3.55

Elem	Mg2025	Mg2802	Mn2576	Mn2593	Mo2045	Ni2216	Ni2316	Pb2169	Sb2068	Se1960	Se2062	Tl1908
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.001**	**.056**	**.012**	**.020**	**.002**	**.016**	**.020**	**.001**	**.001**	**.101**	**.000**	**.068**
Stddev	.000	.002	.000	.001	.000	.000	.000	.000	.000	.001	.000	.000
%RSD	1.06	4.18	3.86	4.04	1.06	.916	1.01	.926	1.12	.498	.919	.515

Elem	V_2908	Zn2062	Zn2138	B_2496	B_2497
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.037**	**.007**	**.014**	**.016**	**.031**
Stddev	.001	.000	.000	.000	.001
%RSD	3.17	.878	.939	3.06	2.91

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**2283.5**	**482640.**	**58662.**
Stddev	9.1	4551.	636.
%RSD	.39997	.94290	1.0837

Sample Name: CalStd11-100k Acquired: 10/07/2015 13:35:41 Type: Cal
Method: DOD Calibration Updated 060614(v894) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Cr2835	Cu3247	Mn2593	Pb2169	Zn2062
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.046**	**1.09**	**.182**	**.012**	**.062**
Stddev	.001	.02	.004	.000	.001
%RSD	2.19	1.91	2.43	1.21	1.50

Int. Std.	Y_3242	Y_3710
Units	Cts/S	Cts/S
Avg	**497750.**	**59099.**
Stddev	2964.	142.
%RSD	.59548	.24100

Sample Name: CalStd12-100000 Acquired: 10/07/2015 13:40:02 Type: Cal
Method: DOD Calibration Updated 060614(v894) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3082	Al3961	Ca3158	Fe2343	Mg2025
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.162**	**.559**	**.148**	**.018**	**.012**
Stddev	.004	.014	.004	.000	.000
%RSD	2.29	2.52	2.55	2.12	1.31

Int. Std.	Y_3242	Y_3710
Units	Cts/S	Cts/S
Avg	**478550.**	**57983.**
Stddev	6516.	109.
%RSD	1.3616	.18802

Sample Name: CalStd13=500000 Acquired: 10/07/2015 13:44:57 Type: Cal
Method: DOD Calibration Updated 060614(v894) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Ca3158	Fe2343	Mg2025
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**2.80**	**.712**	**.082**	**.045**
Stddev	.09	.024	.002	.000
%RSD	3.26	3.44	2.83	.950

Int. Std.	Y_3242	Y_3710
Units	Cts/S	Cts/S
Avg	**443300.**	**55111.**
Stddev	2197.	62.
%RSD	.49551	.11229

Sample Name: CalStd14-1000k Acquired: 10/07/2015 13:49:39 Type: Cal
Method: DOD Calibration Updated 060614(v894) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3082	Al3961	Ca3158	Fe2343	Mg2025
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**1.64**	**5.71**	**1.42**	**.155**	**.073**
Stddev	.07	.20	.04	.004	.001
%RSD	4.04	3.41	3.17	2.71	1.73

Int. Std.	Y_3242	Y_3710
Units	Cts/S	Cts/S
Avg	**409180.**	**52485.**
Stddev	5599.	154.
%RSD	1.3683	.29431

Sample Name: icv Acquired: 10/07/2015 13:59:09 Type: QC
Method: DOD Calibration Updated 060614(v894) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	As1890	Ba4934	Be3130	Ca3158	Cd2265	Co2286	Co2388	Cr2677	Cu2247
Avg	**47.7**	**11900.**	**2000.**	**1980.**	**2010.**	**47.0**	**9970.**	**48.5**	**507.**	**495.**	**192.**	**262.**
Stddev	.8	392.	22.	62.	75.	1.7	338.	.3	5.	36.	11.	1.
%RSD	1.77	3.30	1.12	3.11	3.72	3.70	3.39	.635	1.03	7.22	5.69	.514
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Fe2599	Mg2025	Mg2802	Mn2576	Mn2593	Mo2020	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175
Avg	**4870.**	**9790.**	**9740.**	**483.**	**508.**	**6.22**	**518.**	**519.**	**507.**	**498.**	**521.**	**512.**
Stddev	143.	113.	324.	19.	19.	.71	7.	6.	12.	19.	9.	6.
%RSD	2.94	1.15	3.33	3.90	3.64	11.5	1.35	1.06	2.34	3.80	1.74	1.11
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Se1960	Se2062	Tl1908	V_2908	V_2924	Zn2062	Zn2138	B_2496	B_2497
Avg	**1940.**	**1930.**	**2180.**	**478.**	**509.**	**506.**	**510.**	**495.**	**492.**
Stddev	16.	22.	19.	21.	4.	4.	5.	14.	21.
%RSD	.840	1.13	.862	4.48	.771	.883	1.07	2.88	4.17
Check ?	None	None	None	None	None	None	None	None	None
Value									
Range									

Sample Name: icv Acquired: 10/07/2015 13:59:09 Type: QC
Method: DOD Calibration Updated 060614(v894) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**2371.2**	**498350.**	**59207.**
Stddev	2.2	3572.	166.
%RSD	.09222	.71670	.28097

Sample Name: ICVLL Acquired: 10/07/2015 14:03:56 Type: QC
Method: DOD Calibration Updated 060614(v894) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba4554	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2802
Avg	**51.4**	**1120.**	**64.3**	**29.3**	**11.7**	**1450.**	**14.8**	**27.8**	**32.2**	**29.9**	**845.**	**1420.**
Stddev	1.4	25.	14.8	.5	.1	21.	.5	.6	23.8	1.1	12.	20.
%RSD	2.78	2.18	23.0	1.63	1.07	1.43	3.06	2.30	73.8	3.81	1.39	1.44
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138	B_2496
Avg	**28.7**	**32.0**	**30.5**	**29.8**	**63.1**	**63.2**	**67.8**	**28.7**	**30.1**	**51.4**
Stddev	.2	2.0	.5	8.3	4.0	14.2	5.8	1.0	1.0	9.1
%RSD	.646	6.08	1.71	27.7	6.35	22.5	8.56	3.40	3.37	17.8
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value										
Range										

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**2434.8**	**509240.**	**59633.**
Stddev	4.0	7631.	51.
%RSD	.16310	1.4986	.08620

Sample Name: icb Acquired: 10/07/2015 14:13:03 Type: QC
Method: DOD Calibration Updated 060614(v894) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3082	As1937	Ba4554	Be3130	Ca3158	Ca3933	Cd2265	Co2286	Cr2677	Cu2247	Fe2599
Avg	**-.948**	**-.756**	**-7.90**	**-.082**	**-.018**	**-5.42**	**-.654**	**.158**	**-.010**	**-5.50**	**-.184**	**-11.9**
Stddev	.381	2.39	3.21	.072	.015	10.3	.117	.639	.274	12.2	.696	6.3
%RSD	40.2	316.	40.6	87.8	84.7	190.	17.9	404.	2830.	223.	378.	53.3
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Mg2802	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138	B_2496	B_2497
Avg	**.022**	**-.630**	**3.17**	**.040**	**6.42**	**-.796**	**3.99**	**5.52**	**.360**	**-.590**	**-2.29**	**-1.46**
Stddev	.135	.160	1.01	.824	.01	2.00	8.45	11.5	.168	.063	3.33	3.11
%RSD	619.	25.3	31.8	2080.	.238	251.	212.	208.	46.7	10.7	145.	213.
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**2423.5**	**525480.**	**59746.**
Stddev	3.3	671.	7.
%RSD	.13719	.12772	.01142

Sample Name: icsa Acquired: 10/07/2015 14:22:31 Type: QC
Method: DOD Calibration Updated 060614(v894) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba4554	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2247	Fe2343
Avg	**-.578**	**540000.**	**-.506**	**-.284**	**.042**	**518000.**	**-.004**	**.241**	**.000**	**.000**	**505000.**
Stddev	.220	11400.	17.7	.133	.173	13700.	3.14	.380	19.7	.80	10900.
%RSD	38.1	2.11	3490.	46.8	409.	2.64	85900.	158.	26e6	858000.	2.16
Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None
High Limit											
Low Limit											

Elem	Mg2025	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138	B_2496
Avg	**429000.**	**.000**	**.000**	**.000**	**-.001**	**.000**	**.065**	**.542**	**-1.21**	**-.150**	**.000**
Stddev	5110.	1.55	9.06	1.53	14.3	15.1	44.9	7.46	1.35	2.05	16.4
%RSD	1.19	1290000.	9900000.	4790000.	1390000.	12e6	68600.	1380.	112.	1360.	8100000.
Check ?	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit											
Low Limit											

Elem	B_2497
Avg	**-.153**
Stddev	1.65
%RSD	1070.
Check ?	Chk Pass
High Limit	
Low Limit	

Sample Name: icsa Acquired: 10/07/2015 14:22:31 Type: QC
Method: DOD Calibration Updated 060614(v894) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**2000.2**	**436260.**	**54630.**
Stddev	21.5	2958.	276.
%RSD	1.0756	.67800	.50601

Sample Name: icsab Acquired: 10/07/2015 14:27:31 Type: QC
Method: DOD Calibration Updated 060614(v894) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	As1890	Ba4554	Ba4934	Be3130	Be2348	Ca3158	Cd2265	Cd2288
Avg	**539.**	**546000.**	**467.**	**475.**	**532.**	**432.**	**505.**	**539.**	**531000.**	**417.**	**547.**
Stddev	10.	9910.	17.	85.	11.	8.	9.	18.	9580.	9.	11.
%RSD	1.85	1.82	3.56	17.8	2.00	1.91	1.74	3.30	1.80	2.05	1.99
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Elem	Co2286	Co2388	Cr2677	Cu2247	Cu3247	Fe2343	Mg2025	Mn2576	Mn2593	Mo2020	Mo2045
Avg	**427.**	**505.**	**551.**	**420.**	**485.**	**518000.**	**437000.**	**523.**	**484.**	**478.**	**453.**
Stddev	7.	40.	28.	8.	16.	7180.	8490.	17.	21.	7.	19.
%RSD	1.72	7.99	5.12	1.80	3.37	1.39	1.94	3.22	4.28	1.48	4.20
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Elem	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Se2062	Tl1908	Tl1908	V_2908
Avg	**446.**	**422.**	**586.**	**403.**	**528.**	**521.**	**456.**	**414.**	**400.**	**456.**	**455.**
Stddev	6.	11.	34.	6.	15.	16.	21.	121.	37.	62.	5.
%RSD	1.31	2.58	5.72	1.57	2.85	2.99	4.56	29.3	9.26	13.5	1.20
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Sample Name: icsab Acquired: 10/07/2015 14:27:31 Type: QC
Method: DOD Calibration Updated 060614(v894) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	V_2924	Zn2062	Zn2138	B_2496	B_2497
Avg	**491.**	**447.**	**515.**	**503.**	**524.**
Stddev	12.	9.	12.	2.	9.
%RSD	2.35	1.99	2.37	.304	1.65
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value					
Range					

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**2020.4**	**436040.**	**54540.**
Stddev	11.3	8822.	110.
%RSD	.56016	2.0231	.20126

Sample Name: ICVLL ag Acquired: 10/07/2015 14:32:03 Type: Unk
Method: DOD Calibration Updated 060614(v894) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3082	As1937	Ba4554	Be3130	Ca3158	Ca3933	Cd2265	Co2286	Cr2677	Cu2247	Fe2599
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**9.85**	**78.3**	**.847**	**-.041**	**.056**	**57.0**	**54.6**	**.378**	**.394**	**1.33**	**-.089**	**264.**
Stddev	.43	20.2	15.8	.248	.074	18.9	15.1	.470	.382	.24	.604	48.
%RSD	4.33	25.8	1860.	606.	132.	33.1	27.6	124.	97.1	17.7	680.	18.2

Elem	Mg2802	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138	B_2496	B_2497
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**52.8**	**-.333**	**5.48**	**-.146**	**-1.31**	**.152**	**27.1**	**2.34**	**-.306**	**-.628**	**.649**	**.249**
Stddev	13.1	1.28	1.37	.554	7.05	2.61	8.8	10.5	.211	.200	6.52	5.18
%RSD	24.8	385.	25.0	381.	540.	1720.	32.4	450.	69.2	31.8	1010.	2080.

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**2450.5**	**518690.**	**59850.**
Stddev	14.4	9432.	230.
%RSD	.58585	1.8183	.38367

Sample Name: ccv1 Acquired: 10/07/2015 15:19:49 Type: QC
Method: DOD Calibration Updated 060614(v894) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	As1890	Ba4934	Be3130	Be2348	Ca3158	Cd2265	Cd2288	Co2388	Cr2835
Avg	**467.**	**4600.**	**4790.**	**4750.**	**4790.**	**453.**	**482.**	**4560.**	**471.**	**491.**	**4680.**	**4570.**
Stddev	7.	83.	108.	98.	100.	8.	15.	100.	7.	6.	144.	95.
%RSD	1.54	1.81	2.26	2.07	2.09	1.79	3.09	2.18	1.42	1.14	3.07	2.08
Check ?	None	Chk Pass	None	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Cu2247	Cu3247	Fe2343	Mg2025	Mg2802	Mn2593	Mo2045	Ni2216	Ni2316	Pb2169	Sb2068	Se1960
Avg	**4890.**	**4670.**	**5360.**	**4670.**	**4590.**	**4920.**	**4840.**	**5180.**	**4900.**	**4920.**	**5010.**	**4810.**
Stddev	85.	95.	80.	71.	108.	114.	79.	72.	73.	97.	76.	75.
%RSD	1.74	2.03	1.49	1.51	2.35	2.31	1.63	1.39	1.49	1.96	1.52	1.55
Check ?	None	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	None
Value												
Range												

Elem	Se2062	Tl1908	V_2908	Zn2062	B_2496	B_2497
Avg	**4820.**	**5180.**	**4550.**	**4750.**	**4540.**	**4550.**
Stddev	127.	96.	96.	56.	141.	124.
%RSD	2.64	1.85	2.11	1.18	3.11	2.73
Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: ccv1 Acquired: 10/07/2015 15:19:49 Type: QC
Method: DOD Calibration Updated 060614(v894) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**2345.3**	**495850.**	**60329.**
Stddev	19.9	7763.	51.
%RSD	.85046	1.5656	.08492

Sample Name: ccv2 Acquired: 10/07/2015 15:23:44 Type: QC
Method: DOD Calibration Updated 060614(v894) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3082	As1937	Ba4554	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2802
Avg	**47.8**	**491.**	**490.**	**499.**	**47.5**	**494.**	**48.7**	**488.**	**496.**	**508.**	**464.**	**461.**
Stddev	.6	29.	11.	10.	.7	9.	.5	4.	13.	5.	5.	5.
%RSD	1.20	5.87	2.17	2.06	1.42	1.79	.984	.798	2.57	.931	1.05	1.09
Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Mn2576	Mo2020	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138	B_2496
Avg	**462.**	**504.**	**510.**	**503.**	**506.**	**492.**	**508.**	**523.**	**490.**	**487.**	**501.**
Stddev	6.	5.	4.	3.	15.	8.	33.	5.	5.	3.	16.
%RSD	1.36	.994	.839	.687	2.90	1.69	6.51	1.01	1.11	.607	3.14
Check ?	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**2367.7**	**516350.**	**60402.**
Stddev	14.8	4278.	125.
%RSD	.62537	.82845	.20755

Sample Name: ccb Acquired: 10/07/2015 15:28:08 Type: QC
Method: DOD Calibration Updated 060614(v894) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3082	As1937	Ba4554	Be3130	Ca3158	Ca3933	Cd2265	Co2286	Cr2677	Cu2247	Fe2599
Avg	**.313**	**15.0**	**4.53**	**-.057**	**-.153**	**-2.33**	**5.82**	**.226**	**-.189**	**-.707**	**.495**	**-7.98**
Stddev	.872	18.8	15.0	.133	.068	51.8	7.22	.114	.224	13.2	.375	5.20
%RSD	279.	125.	331.	233.	44.5	2220.	124.	50.4	119.	1860.	75.8	65.1
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Mg2802	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138	B_2496	B_2497
Avg	**1.24**	**.227**	**7.51**	**-.224**	**3.43**	**4.33**	**12.9**	**2.53**	**-.656**	**-.372**	**12.8**	**7.61**
Stddev	.72	.341	.18	.594	2.85	1.55	7.9	2.40	1.00	.489	2.5	6.07
%RSD	57.7	151.	2.41	265.	83.3	35.8	61.3	95.0	153.	131.	19.2	79.7
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**2391.0**	**510670.**	**60406.**
Stddev	36.4	4596.	45.
%RSD	1.5233	.89992	.07457

Sample Name: lcsw54510 Acquired: 10/07/2015 15:37:37 Type: Unk
Method: DOD Calibration Updated 060614(v894) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3082	As1937	As1890	Ba4554	Ba4934	Be3130	Ca3158	Cd2265	Co2286	Cr2677
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**20.7**	**841.**	**877.**	**867.**	**856.**	**859.**	**20.2**	**199000.**	**19.9**	**199.**	**97.2**
Stddev	.6	30.	9.	128.	28.	28.	.5	5230.	.5	2.	16.9
%RSD	2.88	3.61	1.05	14.8	3.22	3.26	2.69	2.63	2.47	.894	17.4

Elem	Cu2247	Fe2599	Mg2025	Mn2576	Mo2020	Ni2216	Ni2316	Pb2203	Sb2175	Se1960	Se2062
Units	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**106.**	**459.**	**96400.**	**222.**	**5.62**	**214.**	**204.**	**192.**	**214.**	**841.**	**840.**
Stddev	2.	11.	1070.	6.	2.95	3.	3.	7.	7.	13.	98.
%RSD	1.48	2.35	1.11	2.76	52.5	1.47	1.28	3.74	3.14	1.49	11.6

Elem	Tl1908	Tl1908	V_2924	Zn2138	B_2496	B_2497
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**741.**	**824.**	**214.**	**217.**	**1940.**	**1950.**
Stddev	13.	17.	1.	2.	51.	67.
%RSD	1.79	2.04	.624	1.12	2.61	3.45

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**2115.2**	**454740.**	**57612.**
Stddev	10.8	1583.	186.
%RSD	.51083	.34800	.32363

Sample Name: mbw54510 Acquired: 10/07/2015 15:42:40 Type: Unk
Method: DOD Calibration Updated 060614(v894) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3082	As1937	Ba4554	Be3130	Ca3158	Ca3933	Cd2265	Co2286	Cr2677	Cu2247	Fe2599
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-.476**	**-8.32**	**-1.21**	**-.045**	**-.072**	**15.9**	**26.0**	**.156**	**-.457**	**12.9**	**-.296**	**-7.38**
Stddev	.340	10.5	18.6	.115	.081	37.1	5.7	.414	.770	6.3	.363	2.84
%RSD	71.4	126.	1530.	256.	113.	234.	21.9	265.	168.	49.0	123.	38.5

Elem	Mg2802	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138	B_2496	B_2497
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**10.8**	**.629**	**5.30**	**.291**	**-.748**	**.097**	**23.9**	**-1.53**	**-.470**	**-.974**	**9.75**	**7.59**
Stddev	2.2	.607	2.47	.989	4.19	8.14	7.5	4.66	.411	.390	5.28	3.69
%RSD	20.5	96.6	46.6	339.	560.	8410.	31.5	304.	87.4	40.0	54.1	48.6

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**2415.0**	**505770.**	**60614.**
Stddev	9.0	4789.	282.
%RSD	.37314	.94683	.46522

Sample Name: 640611 Acquired: 10/07/2015 15:47:15 Type: Unk
Method: DOD Calibration Updated 060614(v894) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3082	As1937	Ba4554	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2025
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L
Avg	**-.681**	**31.6**	**.999**	**106.**	**-.151**	**71200.**	**.425**	**-.782**	**12.6**	**.635**	**45.9**	**22800.**
Stddev	.635	17.7	11.5	3.	.246	2670.	.277	.513	10.8	1.27	8.4	139.
%RSD	93.3	56.0	1150.	2.71	163.	3.76	65.2	65.5	85.4	200.	18.2	.610

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138	B_2496	B_2497
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**1.60**	**8.84**	**3.25**	**1.38**	**-3.21**	**-10.3**	**5.94**	**.652**	**1.04**	**18.2**	**12.4**
Stddev	.62	1.60	1.04	4.75	2.42	18.3	3.06	.424	.79	9.2	3.5
%RSD	38.8	18.1	32.1	344.	75.5	178.	51.5	65.0	75.9	50.6	28.3

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**2211.1**	**488800.**	**59133.**
Stddev	15.7	3279.	207.
%RSD	.70947	.67090	.35031

Sample Name: I640611 Acquired: 10/07/2015 15:52:02 Type: Unk
Method: DOD Calibration Updated 060614(v894) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3082	As1937	Ba4554	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2025
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L
Avg	**-.130**	**5.30**	**1.07**	**25.3**	**-.085**	**17300.**	**.065**	**-.335**	**14.6**	**.235**	**1.70**	**5540.**
Stddev	.536	14.1	9.49	.5	.087	275.	.333	.547	5.2	.971	16.7	110.
%RSD	411.	267.	890.	1.93	103.	1.59	516.	163.	35.8	414.	986.	1.99

Elem	Mg2802	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138	B_2496	B_2497
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**5860.**	**-.072**	**5.58**	**1.87**	**3.82**	**-1.15**	**-11.2**	**3.74**	**-.193**	**.453**	**10.3**	**5.25**
Stddev	167.	.707	2.51	1.61	9.18	3.01	15.4	7.12	.743	.390	10.7	5.98
%RSD	2.84	981.	44.9	86.3	240.	262.	138.	190.	385.	86.2	104.	114.

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**2310.3**	**496590.**	**60406.**
Stddev	19.7	9232.	176.
%RSD	.85321	1.8590	.29134

Sample Name: dup640611 Acquired: 10/07/2015 15:56:53 Type: Unk
Method: DOD Calibration Updated 060614(v894) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3082	As1937	Ba4554	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2025
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L
Avg	**-.842**	**33.2**	**-8.85**	**108.**	**-.077**	**72900.**	**.546**	**-.838**	**26.0**	**.095**	**49.7**	**24000.**
Stddev	.452	14.9	7.29	4.	.119	2820.	.183	.433	14.8	1.39	6.5	231.
%RSD	53.6	44.7	82.4	3.64	154.	3.86	33.5	51.6	57.0	1470.	13.1	.963

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138	B_2496	B_2497
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**2.36**	**8.32**	**3.01**	**6.15**	**-2.04**	**-18.1**	**.647**	**.664**	**.626**	**11.0**	**11.6**
Stddev	1.20	1.97	.80	6.48	3.84	13.2	8.29	.614	.550	10.4	3.1
%RSD	50.9	23.7	26.5	105.	188.	73.3	1280.	92.6	87.9	94.9	26.3

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**2220.7**	**478000.**	**58589.**
Stddev	12.4	3225.	219.
%RSD	.56043	.67475	.37316

Sample Name: msw640611 Acquired: 10/07/2015 16:01:40 Type: Unk
Method: DOD Calibration Updated 060614(v894) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3082	As1937	As1890	Ba4934	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2247
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**21.1**	**888.**	**873.**	**867.**	**970.**	**20.3**	**272000.**	**19.4**	**198.**	**112.**	**104.**
Stddev	.9	5.	16.	63.	35.	.6	9190.	.5	.	14.	1.
%RSD	4.19	.586	1.86	7.27	3.55	3.12	3.38	2.71	.185	12.4	1.00

Elem	Fe2599	Mg2025	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Se2062	Tl1908	Tl1908
Units	ug/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**489.**	**118000.**	**223.**	**9.43**	**202.**	**193.**	**219.**	**852.**	**835.**	**701.**	**741.**
Stddev	24.	417.	7.	1.42	1.	6.	5.	17.	44.	7.	22.
%RSD	4.98	.352	3.16	15.0	.434	3.32	2.44	1.95	5.24	.972	2.99

Elem	V_2924	Zn2138	B_2496	B_2497
Units	ug/L	ug/L	ug/L	ug/L
Avg	**215.**	**220.**	**2000.**	**1990.**
Stddev	2.	2.	83.	71.
%RSD	.918	.767	4.17	3.55

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**2069.4**	**454590.**	**57113.**
Stddev	13.4	3104.	36.
%RSD	.64732	.68270	.06317

Sample Name: msdw640611 Acquired: 10/07/2015 16:06:37 Type: Unk
Method: DOD Calibration Updated 060614(v894) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3082	As1937	As1890	Ba4934	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2247
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**21.3**	**888.**	**888.**	**900.**	**974.**	**20.6**	**271000.**	**19.3**	**195.**	**101.**	**103.**
Stddev	.7	23.	21.	88.	31.	.4	8060.	.5	1.	14.	1.
%RSD	3.14	2.56	2.34	9.82	3.17	2.08	2.97	2.47	.401	14.3	.784

Elem	Fe2599	Mg2025	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Se2062	Tl1908	Tl1908
Units	ug/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**495.**	**119000.**	**225.**	**8.19**	**203.**	**198.**	**216.**	**865.**	**909.**	**739.**	**803.**
Stddev	15.	1050.	6.	2.92	2.	7.	5.	24.	35.	18.	60.
%RSD	3.03	.881	2.86	35.6	.779	3.56	2.34	2.79	3.83	2.48	7.42

Elem	V_2924	Zn2138	B_2496	B_2497
Units	ug/L	ug/L	ug/L	ug/L
Avg	**215.**	**219.**	**2000.**	**2000.**
Stddev	4.	2.	56.	66.
%RSD	1.75	.691	2.82	3.30

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**2065.8**	**451870.**	**57132.**
Stddev	19.5	3275.	129.
%RSD	.94380	.72482	.22661

Sample Name: pdsw640611 Acquired: 10/07/2015 16:11:35 Type: Unk
Method: DOD Calibration Updated 060614(v894) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	As1890	Ba4934	Be3130	Be2348	Ca3158	Cd2265	Cd2288	Co2388
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**107.**	**4250.**	**4270.**	**4210.**	**4310.**	**97.6**	**117.**	**483000.**	**88.6**	**120.**	**1060.**
Stddev	1.	108.	84.	31.	131.	3.1	9.	17100.	.9	2.	24.
%RSD	.757	2.55	1.97	.732	3.04	3.19	7.57	3.55	1.02	1.39	2.25

Elem	Cr2677	Cr2835	Cu2247	Cu3247	Fe2343	Mg2025	Mn2576	Mn2593	Mo2020	Ni2316	Pb2169
Units	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**464.**	**433.**	**479.**	**494.**	**2420.**	**219000.**	**1070.**	**816.**	**11.7**	**926.**	**1090.**
Stddev	34.	11.	7.	24.	77.	3320.	40.	44.	3.9	13.	8.
%RSD	7.26	2.59	1.56	4.76	3.19	1.52	3.71	5.40	33.2	1.44	.733

Elem	Pb2203	Sb2068	Se1960	Se2062	Tl1908	V_2908	Zn2062	B_2496	B_2497
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**902.**	**1110.**	**4300.**	**4110.**	**3670.**	**990.**	**908.**	**19.9**	**14.7**
Stddev	7.	14.	26.	82.	75.	26.	16.	12.0	7.7
%RSD	.827	1.25	.609	2.00	2.05	2.60	1.76	60.4	52.6

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**1978.1**	**436010.**	**56337.**
Stddev	17.6	4496.	85.
%RSD	.89032	1.0312	.15112

Sample Name: 640616 Acquired: 10/07/2015 16:16:27 Type: Unk
Method: DOD Calibration Updated 060614(v894) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3082	As1937	Ba4554	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2025
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L
Avg	**.380**	**67.3**	**7.52**	**86.8**	**-.137**	**62000.**	**.463**	**-.797**	**8.79**	**1.49**	**97.0**	**23400.**
Stddev	.557	8.8	9.22	2.3	.173	2540.	.172	.643	13.5	1.46	7.9	335.
%RSD	146.	13.0	123.	2.69	126.	4.10	37.2	80.7	154.	97.6	8.09	1.43

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138	B_2496	B_2497
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**11.3**	**7.48**	**3.63**	**3.63**	**1.32**	**19.2**	**.054**	**.857**	**17.7**	**24.4**	**23.7**
Stddev	1.8	1.87	.63	5.72	3.87	12.9	11.7	.585	.6	6.2	5.5
%RSD	15.6	25.0	17.4	157.	292.	67.4	21500.	68.2	3.26	25.2	23.2

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**2197.1**	**477210.**	**58490.**
Stddev	15.9	6914.	179.
%RSD	.72413	1.4488	.30596

Sample Name: ccv1 Acquired: 10/07/2015 16:21:13 Type: QC
Method: DOD Calibration Updated 060614(v894) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	As1890	Ba4934	Be3130	Be2348	Ca3158	Cd2265	Cd2288	Co2388	Cr2835
Avg	**468.**	**4670.**	**4740.**	**4630.**	**4870.**	**458.**	**480.**	**4560.**	**468.**	**491.**	**4690.**	**4540.**
Stddev	7.	85.	91.	133.	77.	8.	19.	115.	7.	8.	156.	135.
%RSD	1.59	1.81	1.92	2.88	1.58	1.67	4.01	2.52	1.60	1.55	3.33	2.98
Check ?	None	Chk Pass	None	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Cu2247	Cu3247	Fe2343	Mg2025	Mg2802	Mn2593	Mo2045	Ni2216	Ni2316	Pb2169	Sb2068	Se1960
Avg	**4860.**	**4750.**	**5380.**	**4640.**	**4560.**	**4900.**	**4780.**	**5180.**	**4890.**	**4850.**	**4960.**	**4810.**
Stddev	89.	78.	60.	84.	157.	163.	100.	85.	81.	69.	76.	26.
%RSD	1.83	1.65	1.11	1.81	3.44	3.32	2.09	1.64	1.65	1.43	1.54	.546
Check ?	None	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	None
Value												
Range												

Elem	Se2062	Tl1908	V_2908	Zn2062	B_2496	B_2497
Avg	**4770.**	**5070.**	**4620.**	**4760.**	**4670.**	**4650.**
Stddev	82.	28.	76.	91.	134.	73.
%RSD	1.72	.560	1.65	1.90	2.86	1.56
Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Sample Name: ccv1 Acquired: 10/07/2015 16:21:13 Type: QC
Method: DOD Calibration Updated 060614(v894) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**2361.5**	**504910.**	**60331.**
Stddev	6.7	6551.	262.
%RSD	.28558	1.2975	.43508

Sample Name: ccv2 Acquired: 10/07/2015 16:25:11 Type: QC
Method: DOD Calibration Updated 060614(v894) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3082	As1937	Ba4554	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2802
Avg	**48.0**	**482.**	**489.**	**493.**	**47.1**	**490.**	**50.2**	**497.**	**482.**	**512.**	**469.**	**466.**
Stddev	1.5	19.	5.	9.	.6	8.	.4	4.	10.	6.	10.	3.
%RSD	3.09	3.88	1.07	1.73	1.28	1.60	.862	.869	2.07	1.16	2.05	.571
Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138	B_2496
Avg	**468.**	**514.**	**514.**	**498.**	**491.**	**501.**	**502.**	**491.**	**502.**	**492.**
Stddev	3.	8.	6.	9.	10.	5.	6.	6.	5.	15.
%RSD	.716	1.53	1.22	1.74	2.09	.994	1.12	1.18	.988	2.98
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value										
Range										

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**2429.9**	**514270.**	**60821.**
Stddev	10.1	7456.	293.
%RSD	.41457	1.4498	.48220

Sample Name: ccb Acquired: 10/07/2015 16:29:36 Type: QC
Method: DOD Calibration Updated 060614(v894) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3082	As1937	Ba4554	Be3130	Ca3158	Ca3933	Cd2265	Co2286	Cr2677	Cu2247	Fe2599
Avg	**-.771**	**.181**	**2.59**	**-.028**	**-.106**	**3.56**	**.516**	**.156**	**-.083**	**-2.30**	**.038**	**4.25**
Stddev	.734	17.5	12.2	.089	.135	11.8	.090	.371	.310	5.18	.477	5.38
%RSD	95.2	9630.	470.	320.	128.	333.	17.4	239.	372.	225.	1270.	127.
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Mg2802	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138	B_2497
Avg	**.570**	**-.802**	**11.2**	**-.527**	**2.05**	**-1.46**	**-3.31**	**.513**	**-.651**	**-1.34**	**9.41**
Stddev	.232	.541	1.0	.415	8.37	3.99	14.1	3.59	.470	.65	4.04
%RSD	40.6	67.4	8.52	78.7	409.	274.	427.	700.	72.2	48.1	42.9
Check ?	None	None	None	None	None	None	None	None	None	None	None
Value											
Range											

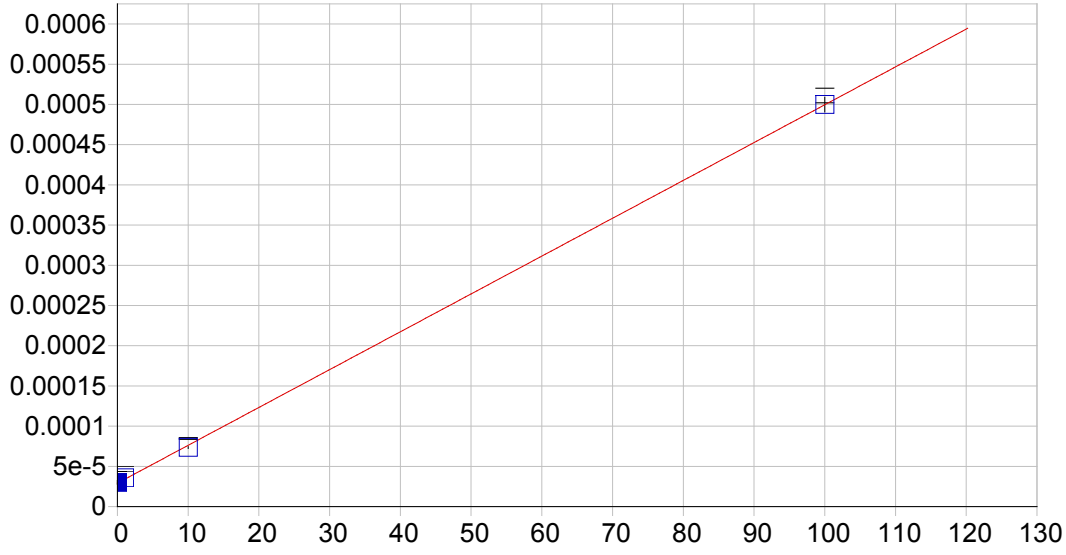
Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**2416.8**	**515630.**	**60858.**
Stddev	17.7	3320.	314.
%RSD	.73250	.64384	.51612

Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)	Correlation	Std Error of Est	Predicted MDL	Predicted MQL	Status	Resl Slope
Ag 328.068 {103}	10/09/2015 09:11:19	10/09/2015 09:11:19	Linear	None	0.000029	0.000005	0.000000	1.000000	0.999964	0.000002	0.861889	2.872963	OK.	1.000000
Al 308.215 {109}	10/09/2015 09:39:08	10/09/2015 09:39:08	Curvilin	1/Conc	0.000165	0.000002	0.000000	1.000000	0.999998	0.000007	18.450785	61.502617	OK.	1.000000
Al 309.271 {109}	10/09/2015 09:29:34	10/09/2015 09:29:34	Curvilin	None	0.000995	0.000002	0.000000	1.000000	1.000000	0.000106	19.893855	66.312851	OK.	1.000000
Al 396.152 { 85}	10/09/2015 09:39:08	10/09/2015 09:39:08	Curvilin	1/Var	-0.000118	0.000006	0.000000	1.000000	0.999627	0.000375	9.593638	31.978793	OK.	1.000000
Al 167.079 {502}	10/09/2015 09:15:34	10/09/2015 09:15:34	Linear	None	0.000014	0.000000	0.000000	1.000000	0.999884	0.000002	29.308206	97.694019	OK.	1.000000
As 193.759 {474}	10/09/2015 09:20:21	10/09/2015 09:20:21	Linear	1/Conc	-0.000000	0.000000	0.000000	1.000000	0.999635	0.000000	13.655566	45.518555	OK.	1.000000
As 189.042 {479}	10/09/2015 09:20:21	10/09/2015 09:20:21	Linear	None	-0.000000	0.000000	0.000000	1.000000	0.999987	0.000000	57.978876	193.262920	OK.	1.000000
Ba 455.403 { 74}	10/09/2015 09:15:34	10/09/2015 09:15:34	Linear	1/Conc	0.000058	0.000432	0.000000	1.000000	0.999680	0.000010	0.197531	0.658436	OK.	1.000000
Ba 493.409 { 68}	10/09/2015 09:20:21	10/09/2015 09:20:21	Linear	1/Conc	-0.000608	0.000600	0.000000	1.000000	0.999972	0.000043	0.284738	0.949127	OK.	1.000000
Be 313.042 {108}	10/09/2015 09:15:34	10/09/2015 09:15:34	Linear	1/Var	-0.000062	0.000155	0.000000	1.000000	0.999575	0.000021	0.126311	0.421037	OK.	1.000000
Be 234.861 {144}	10/09/2015 09:15:34	10/09/2015 09:15:34	Linear	1/Conc	0.000001	0.000001	0.000000	1.000000	0.999975	0.000000	2.249557	7.498522	OK.	1.000000
Ca 315.887 {107}	10/09/2015 09:39:08	10/09/2015 09:39:08	Linear	1/Conc	0.000146	0.000002	0.000000	1.000000	0.999897	0.000037	17.823871	59.412904	OK.	1.000000
Ca 317.933 {106}	10/09/2015 09:39:08	10/09/2015 09:39:08	Curvilin	1/Var	0.007301	0.000002	0.000000	1.000000	0.999852	0.000047	12.787220	42.624066	OK.	1.000000
Ca 393.366 { 86}	10/09/2015 09:15:34	10/09/2015 09:15:34	Linear	None	0.005532	0.000914	0.000000	1.000000	0.999975	0.003789	0.050596	0.168652	OK.	1.000000
Ca 396.847 { 85}	10/09/2015 09:20:22	10/09/2015 09:20:22	Linear	None	0.003337	0.000363	0.000000	1.000000	0.999999	0.003197	0.105641	0.352137	OK.	1.000000
Cd 226.502 {149}	10/09/2015 09:15:34	10/09/2015 09:15:34	Linear	None	0.000004	0.000001	0.000000	1.000000	0.999847	0.000010	15.851779	52.839262	OK.	1.000000
Cd 226.502 {449}	10/09/2015 09:15:34	10/09/2015 09:15:34	Linear	1/Conc	-0.000000	0.000002	0.000000	1.000000	0.999938	0.000000	0.445497	1.484991	OK.	1.000000
Cd 228.802 {447}	10/09/2015 09:15:35	10/09/2015 09:15:35	Linear	None	0.000007	0.000004	0.000000	1.000000	0.999999	0.000002	0.328263	1.094211	OK.	1.000000
Co 228.616 {147}	10/09/2015 09:15:35	10/09/2015 09:15:35	Linear	None	-0.000000	0.000000	0.000000	1.000000	0.999863	0.000001	17.117291	57.057636	OK.	1.000000
Co 228.616 {447}	10/09/2015 09:15:35	10/09/2015 09:15:35	Linear	1/Conc	-0.000002	0.000002	0.000000	1.000000	0.999590	0.000000	0.617108	2.057027	OK.	1.000000
Co 238.892 {141}	10/09/2015 09:20:22	10/09/2015 09:20:22	Linear	1/Var	-0.000000	0.000000	0.000000	1.000000	0.999759	0.000000	19.426388	64.754627	OK.	1.000000
Cr 205.560 {464}	10/09/2015 09:24:40	10/09/2015 09:24:40	Linear	1/Conc	-0.000001	0.000001	0.000000	1.000000	0.997169	0.000001	1.004723	3.349077	OK.	1.000000
Cr 267.716 {126}	10/09/2015 09:15:35	10/09/2015 09:15:35	Linear	1/Var	0.000040	0.000057	0.000000	1.000000	0.999526	0.000320	9.982892	33.276308	OK.	1.000000
Cr 283.563 {119}	10/09/2015 09:24:40	10/09/2015 09:24:40	Curvilin	None	0.000002	0.000000	0.000000	1.000000	1.000000	0.000004	4.934498	16.448327	OK.	1.000000
Cu 224.700 {450}	10/09/2015 09:20:22	10/09/2015 09:20:22	Linear	1/Conc	-0.000000	0.000001	0.000000	1.000000	0.999819	0.000000	1.198330	3.994435	OK.	1.000000
Cu 324.754 {104}	10/09/2015 09:24:40	10/09/2015 09:24:40	Linear	None	0.002333	0.000013	0.000000	1.000000	0.999993	0.002495	2.639866	8.799554	OK.	1.000000
Cu 327.396 {103}	10/09/2015 09:24:40	10/09/2015 09:24:40	Linear	1/Conc	-0.000072	0.000005	0.000000	1.000000	0.999970	0.000002	6.804887	22.682956	OK.	1.000000
Fe 234.349 {144}	10/09/2015 09:39:08	10/09/2015 09:39:08	Linear	1/Conc	0.000013	0.000000	0.000000	1.000000	0.998988	0.000013	56.210646	187.368820	OK.	1.000000
Fe 239.562 {141}	10/09/2015 09:29:34	10/09/2015 09:29:34	Linear	1/Conc	0.000007	0.000000	0.000000	1.000000	0.999986	0.000001	34.014689	113.382297	OK.	1.000000
Fe 259.940 {130}	10/09/2015 09:20:22	10/09/2015 09:20:22	Linear	1/Conc	0.000005	0.000000	0.000000	1.000000	0.999067	0.000000	8.067118	26.890395	OK.	1.000000
Mg 202.582 {466}	10/09/2015 09:39:08	10/09/2015 09:39:08	Full Fit	1/Conc	-0.000001	0.000000	0.000000	0.930000	0.999775	0.000003	3.730432	12.434775	OK.	1.000000
Mg 279.079 {121}	10/09/2015 09:39:08	10/09/2015 09:39:08	Full Fit	None	-0.000110	0.000000	0.000000	1.020000	0.999999	0.000220	64.542415	215.141383	OK.	1.000000
Mg 280.270 {120}	10/09/2015 09:20:22	10/09/2015 09:20:22	Linear	1/Conc	0.000018	0.000004	0.000000	1.000000	0.999829	0.000002	0.247037	0.823455	OK.	1.000000
Mn 257.610 {131}	10/09/2015 09:20:22	10/09/2015 09:20:22	Linear	1/Conc	0.000001	0.000001	0.000000	1.000000	0.999832	0.000000	1.150150	3.833832	OK.	1.000000
Mn 259.373 {130}	10/09/2015 09:24:41	10/09/2015 09:24:41	Linear	1/Conc	0.000003	0.000001	0.000000	1.000000	0.999829	0.000012	1.198598	3.995328	OK.	1.000000
Mo 202.030 {466}	10/09/2015 09:15:36	10/09/2015 09:15:36	Linear	None	-0.000001	0.000000	0.000000	1.000000	0.999917	0.000001	2.603523	8.678408	OK.	1.000000
Mo 203.844 {465}	10/09/2015 09:15:36	10/09/2015 09:15:36	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.998951	0.000000	3.073607	10.245357	OK.	1.000000
Mo 202.030 {467}	10/09/2015 09:20:22	10/09/2015 09:20:22	Linear	1/Conc	-0.000011	0.000003	0.000000	1.000000	0.999934	0.000000	3.969747	13.232489	OK.	1.000000
Mo 204.598 {465}	10/09/2015 09:20:22	10/09/2015 09:20:22	Linear	None	0.000000	0.000000	0.000000	1.000000	0.999999	0.000001	4.773114	15.910379	OK.	1.000000
Ni 221.647 {452}	10/09/2015 09:20:23	10/09/2015 09:20:23	Linear	1/Conc	0.000001	0.000001	0.000000	1.000000	0.999763	0.000001	1.120611	3.735370	OK.	1.000000
Ni 231.604 {146}	10/09/2015 09:20:23	10/09/2015 09:20:23	Linear	None	0.000001	0.000000	0.000000	1.000000	0.999914	0.000001	109.569584	365.231948	OK.	1.000000
Ni 231.604 {445}	10/09/2015 09:20:23	10/09/2015 09:20:23	Linear	1/Conc	-0.000003	0.000001	0.000000	1.000000	0.999828	0.000000	1.122866	3.742885	OK.	1.000000
Pb 216.999 {455}	10/09/2015 09:24:41	10/09/2015 09:24:41	Curvilin	1/Conc	0.000000	0.000000	0.000000	1.000000	0.999955	0.000000	6.755368	22.517894	OK.	1.000000
Pb 220.353 {153}	10/09/2015 09:24:41	10/09/2015 09:24:41	Linear	None	0.000000	0.000000	0.000000	1.000000	0.999998	0.000000	247.770759	825.902530	OK.	1.000000
Pb 220.353 {453}	10/09/2015 09:15:36	10/09/2015 09:15:36	Linear	None	0.000263	0.000065	0.000000	1.000000	0.999934	0.000377	6.559486	21.864955	OK.	1.000000
Pb 283.306 {119}	10/09/2015 09:24:41	10/09/2015 09:24:41	Curvilin	1/Conc	0.000002	0.000000	0.000000	1.000000	0.999709	0.000000	126.324212	421.080706	OK.	1.000000

Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)	Correlation	Std Error of Est	Predicted MDL	Predicted MQL	Status	Resl Slope
Sb 206.833 {463}	10/09/2015 09:20:23	10/09/2015 09:20:23	Linear	1/Conc	-0.000000	0.000000	0.000000	1.000000	0.999844	0.000000	6.761890	22.539632	OK.	1.000000
Sb 217.581 {455}	10/09/2015 09:15:37	10/09/2015 09:15:37	Linear	1/Conc	-0.000000	0.000000	0.000000	1.000000	0.998972	0.000000	5.932292	19.774307	OK.	1.000000
Se 196.090 {471}	10/09/2015 09:20:23	10/09/2015 09:20:23	Linear	None	0.000160	-0.000009	0.000000	1.000000	0.999994	0.000139	-1.000000	-1.000000	Warnin	1.000000
Se 196.090 {472}	10/09/2015 09:20:23	10/09/2015 09:20:23	Linear	1/Conc	0.000190	0.000012	0.000000	1.000000	0.999337	0.000006	17.806945	59.356482	OK.	1.000000
Se 206.279 {463}	10/09/2015 09:20:23	10/09/2015 09:20:23	Linear	1/Conc	-0.000000	0.000000	0.000000	1.000000	0.998675	0.000000	54.836804	182.789348	OK.	1.000000
Tl 190.856 {476}	10/09/2015 09:15:37	10/09/2015 09:15:37	Linear	1/Conc	-0.000060	0.000032	0.000000	1.000000	0.999135	0.000006	9.479282	31.597606	OK.	1.000000
Tl 190.856 {477}	10/09/2015 09:20:23	10/09/2015 09:20:23	Linear	1/Conc	-0.000037	0.000008	0.000000	1.000000	0.998955	0.000005	27.810986	92.703287	OK.	1.000000
Tl 276.787 {122}	10/09/2015 09:20:23	10/09/2015 09:20:23	Linear	None	0.000001	0.000000	0.000000	1.000000	0.999872	0.000001	226.474790	754.915968	OK.	1.000000
V 290.882 {116}	10/09/2015 09:20:23	10/09/2015 09:20:23	Linear	1/Conc	0.000035	0.000004	0.000000	1.000000	0.999978	0.000001	6.487789	21.625962	OK.	1.000000
V 292.402 {115}	10/09/2015 09:15:37	10/09/2015 09:15:37	Linear	1/Conc	0.000004	0.000009	0.000000	1.000000	0.999564	0.000001	0.722405	2.408016	OK.	1.000000
Zn 206.200 {463}	10/09/2015 09:24:41	10/09/2015 09:24:41	Curvilin	1/Conc	-0.000000	0.000001	0.000000	1.000000	0.999994	0.000001	1.373658	4.578861	OK.	1.000000
Zn 213.856 {458}	10/09/2015 09:20:23	10/09/2015 09:20:23	Curvilin	1/Conc	-0.000002	0.000001	-0.000000	1.000000	0.999928	0.000000	0.649673	2.165577	OK.	1.000000
Y 224.306 {451}*	10/09/2015 08:34:53	10/09/2015 08:34:53	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000
Y 324.228 {104}*	10/09/2015 08:34:53	10/09/2015 08:34:53	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000
Y 371.030 { 91}*	10/09/2015 08:34:53	10/09/2015 08:34:53	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000
Na 330.298 {102}	10/09/2015 09:20:23	10/09/2015 09:20:23	Linear	1/Conc	0.000015	0.000000	0.000000	1.000000	1.000000	0.000000	393.207730	1310.69243	OK.	1.000000
Na 588.995 { 57}	10/09/2015 09:20:24	10/09/2015 09:20:24	Linear	1/Conc	-0.001173	0.000132	0.000000	1.000000	1.000000	0.000000	1.564822	5.216072	OK.	1.000000
Si 251.611 {134}	10/09/2015 09:20:24	10/09/2015 09:20:24	Linear	1/Conc	0.000070	0.000001	0.000000	1.000000	0.999957	0.000002	16.740155	55.800516	OK.	1.000000
Ti 334.941 {101}	10/09/2015 09:20:24	10/09/2015 09:20:24	Linear	1/Conc	-0.000002	0.000018	0.000000	1.000000	0.999867	0.000003	1.555251	5.184171	OK.	1.000000
Ti 337.280 {100}	10/09/2015 09:20:24	10/09/2015 09:20:24	Linear	1/Conc	0.000013	0.000018	0.000000	1.000000	0.999844	0.000003	2.141942	7.139806	OK.	1.000000
Sr 407.771 { 83}	10/09/2015 09:20:24	10/09/2015 09:20:24	Linear	1/Conc	-0.000880	0.000481	0.000000	1.000000	0.999951	0.000019	0.102204	0.340679	OK.	1.000000
Sr 421.552 { 80}	10/09/2015 09:20:24	10/09/2015 09:20:24	Linear	1/Conc	-0.000099	0.000434	0.000000	1.000000	0.999967	0.000014	0.129189	0.430632	OK.	1.000000
Sn 189.989 {477}	10/09/2015 09:20:24	10/09/2015 09:20:24	Linear	None	-0.000166	0.000002	0.000000	1.000000	0.999089	0.000370	2.918580	9.728600	OK.	1.000000
Sn 189.989 {478}	10/09/2015 09:20:24	10/09/2015 09:20:24	Linear	None	-0.000047	0.000001	0.000000	1.000000	0.999077	0.000103	11.181209	37.270696	OK.	1.000000
B 249.678 {135}	10/09/2015 09:20:24	10/09/2015 09:20:24	Linear	1/Conc	0.000003	0.000003	0.000000	1.000000	0.999778	0.000001	7.166507	23.888358	OK.	1.000000
B 249.773 {135}	10/09/2015 09:20:24	10/09/2015 09:20:24	Linear	1/Conc	-0.000006	0.000004	0.000000	1.000000	0.999810	0.000001	5.235746	17.452487	OK.	1.000000
Li 670.784 { 50}	10/09/2015 09:20:24	10/09/2015 09:20:24	Linear	None	-0.003213	0.000147	0.000000	1.000000	0.999973	0.005449	0.990423	3.301410	OK.	1.000000
K 766.490 { 44}	10/09/2015 09:20:24	10/09/2015 09:20:24	Linear	1/Conc	0.000273	0.000006	0.000000	1.000000	1.000000	0.000000	25.687371	85.624569	OK.	1.000000
K 769.896 { 44}	10/09/2015 09:20:24	10/09/2015 09:20:24	Linear	1/Conc	0.000201	0.000002	0.000000	1.000000	1.000000	0.000000	51.076627	170.255424	OK.	1.000000
P 177.495 {489}	10/09/2015 09:20:24	10/09/2015 09:20:24	Linear	1/Conc	-0.000006	0.000003	0.000000	1.000000	1.000000	0.000000	2.078735	6.929117	OK.	1.000000
P 213.618 {457}	10/09/2015 09:20:24	10/09/2015 09:20:24	Linear	1/Conc	-0.000046	0.000010	0.000000	1.000000	1.000000	0.000000	1.037370	3.457899	OK.	1.000000
S 182.034 {485}	10/09/2015 09:29:34	10/09/2015 09:29:34	Linear	1/Conc	0.000001	0.000000	0.000000	1.000000	1.000000	0.000000	9585.31105	31951.0368	OK.	1.000000
W 239.709 {140}	10/09/2015 09:15:38	10/09/2015 09:15:38	Linear	1/Conc	0.000015	0.000000	0.000000	1.000000	1.000000	0.000000	117.996653	393.322177	OK.	1.000000

Element, Wavelength and Order	ope	QC Norm	
	Y-int	Slope factor	Offset
Ag 328.068 {103}	0.000000	1	0
Al 308.215 {109}	0.000000	1	0
Al 309.271 {109}	0.000000	1	0
Al 396.152 { 85}	0.000000	1	0
Al 167.079 {502}	0.000000	1	0
As 193.759 {474}	0.000000	1	0
As 189.042 {479}	0.000000	1	0
Ba 455.403 { 74}	0.000000	1	0
Ba 493.409 { 68}	0.000000	1	0
Be 313.042 {108}	0.000000	1	0
Be 234.861 {144}	0.000000	1	0
Ca 315.887 {107}	0.000000	1	0
Ca 317.933 {106}	0.000000	1	0
Ca 393.366 { 86}	0.000000	1	0
Ca 396.847 { 85}	0.000000	1	0
Cd 226.502 {149}	0.000000	1	0
Cd 226.502 {449}	0.000000	1	0
Cd 228.802 {447}	0.000000	1	0
Co 228.616 {147}	0.000000	1	0
Co 228.616 {447}	0.000000	1	0
Co 238.892 {141}	0.000000	1	0
Cr 205.560 {464}	0.000000	1	0
Cr 267.716 {126}	0.000000	1	0
Cr 283.563 {119}	0.000000	1	0
Cu 224.700 {450}	0.000000	1	0
Cu 324.754 {104}	0.000000	1	0
Cu 327.396 {103}	0.000000	1	0
Fe 234.349 {144}	0.000000	1	0
Fe 239.562 {141}	0.000000	1	0
Fe 259.940 {130}	0.000000	1	0
Mg 202.582 {466}	0.000000	1	0
Mg 279.079 {121}	0.000000	1	0
Mg 280.270 {120}	0.000000	1	0
Mn 257.610 {131}	0.000000	1	0
Mn 259.373 {130}	0.000000	1	0
Mo 202.030 {466}	0.000000	1	0
Mo 203.844 {465}	0.000000	1	0
Mo 202.030 {467}	0.000000	1	0
Mo 204.598 {465}	0.000000	1	0
Ni 221.647 {452}	0.000000	1	0
Ni 231.604 {146}	0.000000	1	0
Ni 231.604 {445}	0.000000	1	0
Pb 216.999 {455}	0.000000	1	0
Pb 220.353 {153}	0.000000	1	0
Pb 220.353 {453}	0.000000	1	0
Pb 283.306 {119}	0.000000	1	0

Element, Wavelength and Order	ope	QC Norm	
	Y-int	Slope factor	Offset
Sb 206.833 {463}	0.000000	1	0
Sb 217.581 {455}	0.000000	1	0
Se 196.090 {471}	0.000000	1	0
Se 196.090 {472}	0.000000	1	0
Se 206.279 {463}	0.000000	1	0
Tl 190.856 {476}	0.000000	1	0
Tl 190.856 {477}	0.000000	1	0
Tl 276.787 {122}	0.000000	1	0
V 290.882 {116}	0.000000	1	0
V 292.402 {115}	0.000000	1	0
Zn 206.200 {463}	0.000000	1	0
Zn 213.856 {458}	0.000000	1	0
Y 224.306 {451}*	0.000000	1	0
Y 324.228 {104}*	0.000000	1	0
Y 371.030 { 91}*	0.000000	1	0
Na 330.298 {102}	0.000000	1	0
Na 588.995 { 57}	0.000000	1	0
Si 251.611 {134}	0.000000	1	0
Ti 334.941 {101}	0.000000	1	0
Ti 337.280 {100}	0.000000	1	0
Sr 407.771 { 83}	0.000000	1	0
Sr 421.552 { 80}	0.000000	1	0
Sn 189.989 {477}	0.000000	1	0
Sn 189.989 {478}	0.000000	1	0
B 249.678 {135}	0.000000	1	0
B 249.773 {135}	0.000000	1	0
Li 670.784 { 50}	0.000000	1	0
K 766.490 { 44}	0.000000	1	0
K 769.896 { 44}	0.000000	1	0
P 177.495 {489}	0.000000	1	0
P 213.618 {457}	0.000000	1	0
S 182.034 {485}	0.000000	1	0
W 239.709 {140}	0.000000	1	0

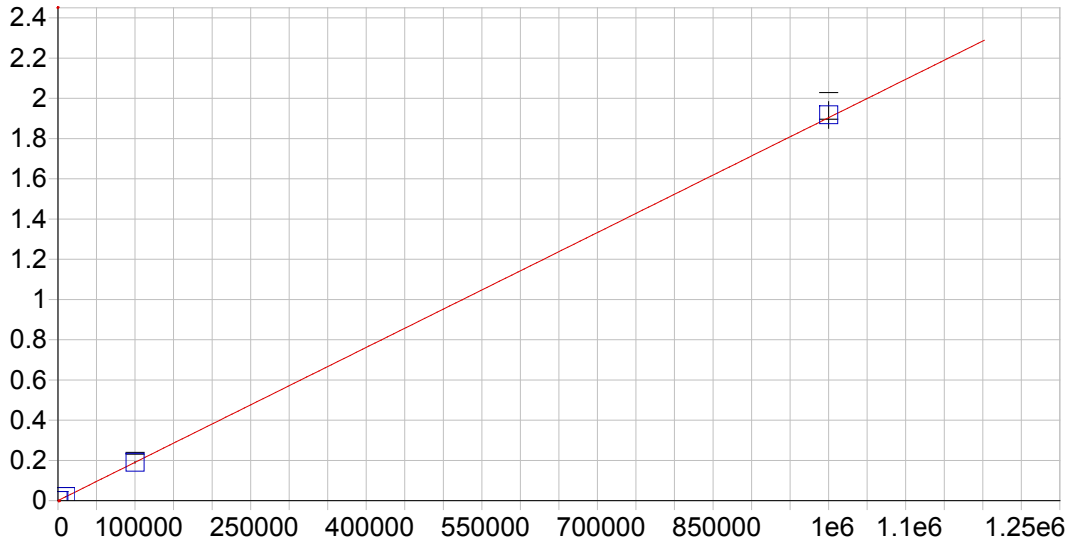


Ag 328.068 {103}

Date of Fit:	10/09/2015 09:11:19	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000029	Re-Slope:	1.000000
A1 (Gain):	0.000005	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999964	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	0.861889		
Predicted MQL:	2.872963		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.17100	.171	.000	.00003	.000	1
CalStd5=10	10.000	9.4109	-.589	-5.89	.00007	.000	1
CalStd8=100	100.00	100.06	.055	.055	.00050	.000	1
CalStd3=1	1.0000	1.3628	.363	36.3	.00004	.000	1

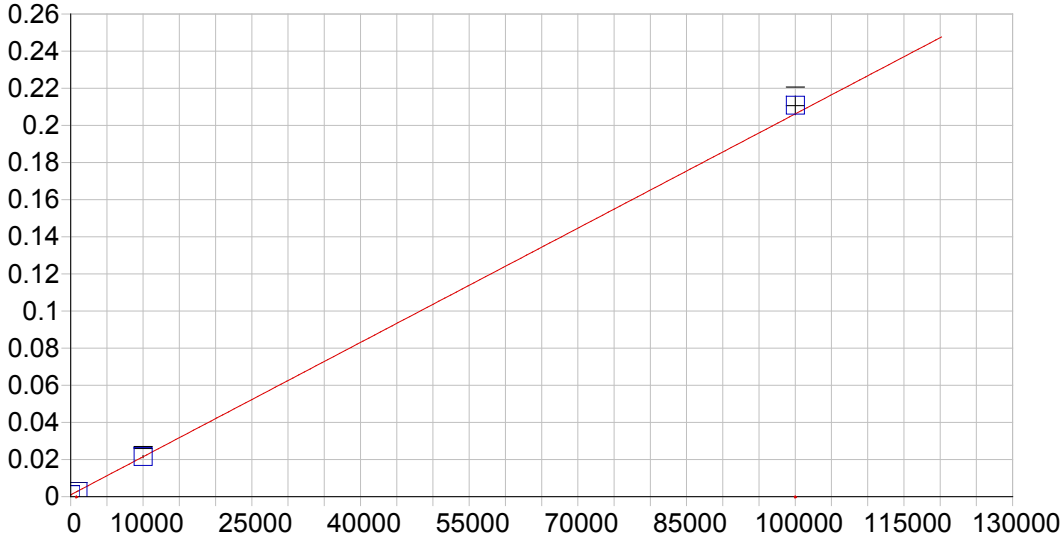


Al 308.215 {109}

Date of Fit:	10/09/2015 09:39:08	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	0.000165	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999998	Status:	OK.
Std Error of Est:	0.000007		
Predicted MDL:	18.450785		
Predicted MQL:	61.502617		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.01795	.018	.000	.00017	.000	1
CalStd10=10	10000.	10194.	194.	1.94	.01957	.001	1
CalStd9=100	1000.0	964.45	-35.5	-3.55	.00200	.000	1
CalStd12-100	100000.	99898.	-102.	-.102	.19035	.004	1
CalStd14-100	1000000.	1007200.	7150.	.715	1.9175	.066	1

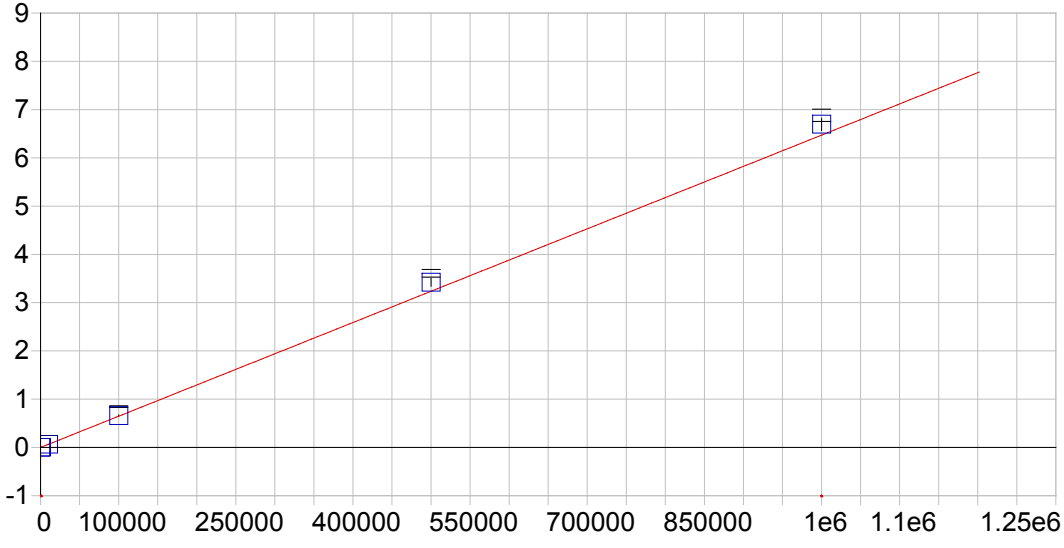


Al 309.271 {109}

Date of Fit:	10/09/2015 09:29:34	Type of Fit:	Curvilinear	Weighting:	None

A0 (Offset):	0.000995	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000106		
Predicted MDL:	19.893855		
Predicted MQL:	66.312851		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	34.357	34.4	.000	.00107	.000	1
CalStd10=10	10000.	10027.	26.6	.266	.02157	.001	1
CalStd9=100	1000.0	961.66	-38.3	-3.83	.00297	.000	1
CalStd12-100	100000.	102230.	2230.	2.23	.21078	.005	1

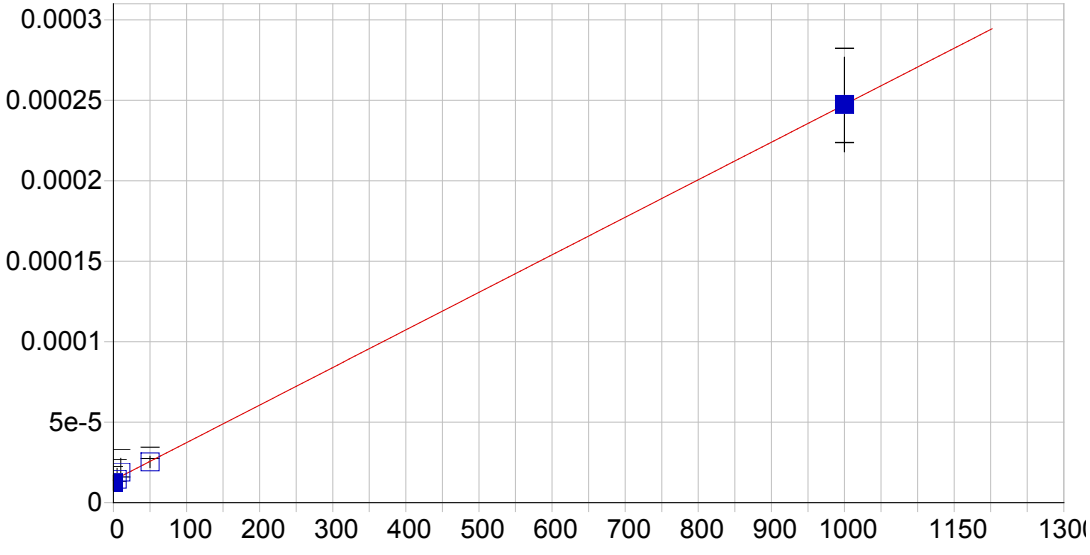


Al 396.152 { 85}

Date of Fit:	10/09/2015 09:39:08	Type of Fit:	Curvilinear	Weighting:	1/Var

A0 (Offset):	-0.000118	Re-Slope:	1.000000
A1 (Gain):	0.000006	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999627	Status:	OK.
Std Error of Est:	0.000375		
Predicted MDL:	9.593638		
Predicted MQL:	31.978793		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	24.268	24.3	.000	.00004	.000	1
CalStd14-100	1000000.	1034600.	34600.	3.46	6.6944	.127	1
CalStd13=50	500000.	528760.	28800.	5.75	3.4214	.078	1
CalStd10=10	10000.	10065.	65.3	.653	.06501	.002	1
CalStd12-100	100000.	101700.	1700.	1.70	.65800	.016	1
CalStd9=100	1000.0	961.86	-38.1	-3.81	.00611	.000	1

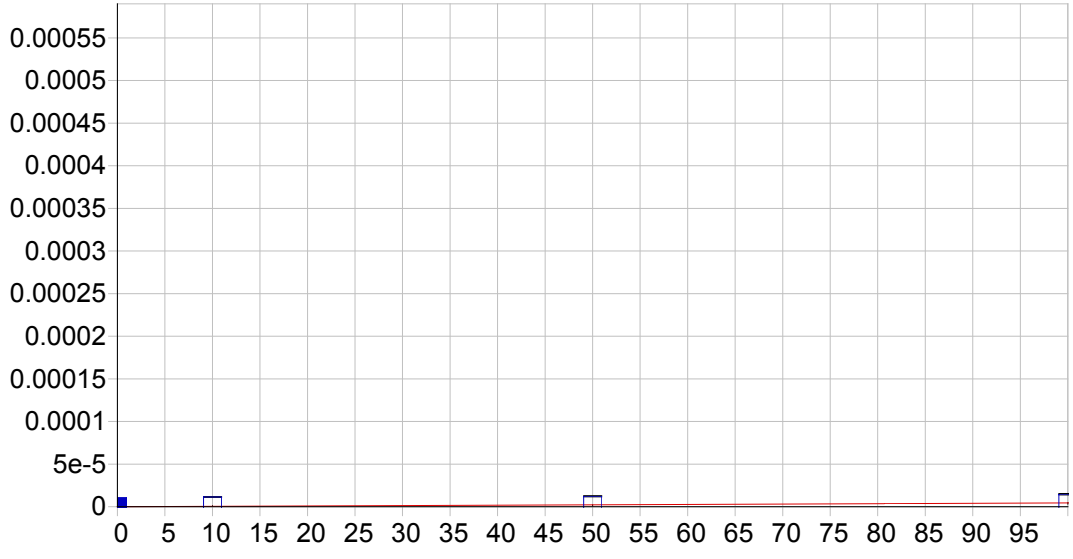


Al 167.079 {502}

Date of Fit:	10/09/2015 09:15:34	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000014	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999884	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	29.308206		
Predicted MQL:	97.694019		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-6.6750	-6.68	.000	.00001	.000	1
CalStd9=100	1000.0	999.98	-.023	-.002	.00025	.000	1
CalStd5=10	10.000	21.139	11.1	111.	.00002	.000	1
CalStd4=5	5.0000	2.0272	-2.97	-59.5	.00001	.000	1
CalStd7=50	50.000	48.532	-1.47	-2.94	.00003	.000	1

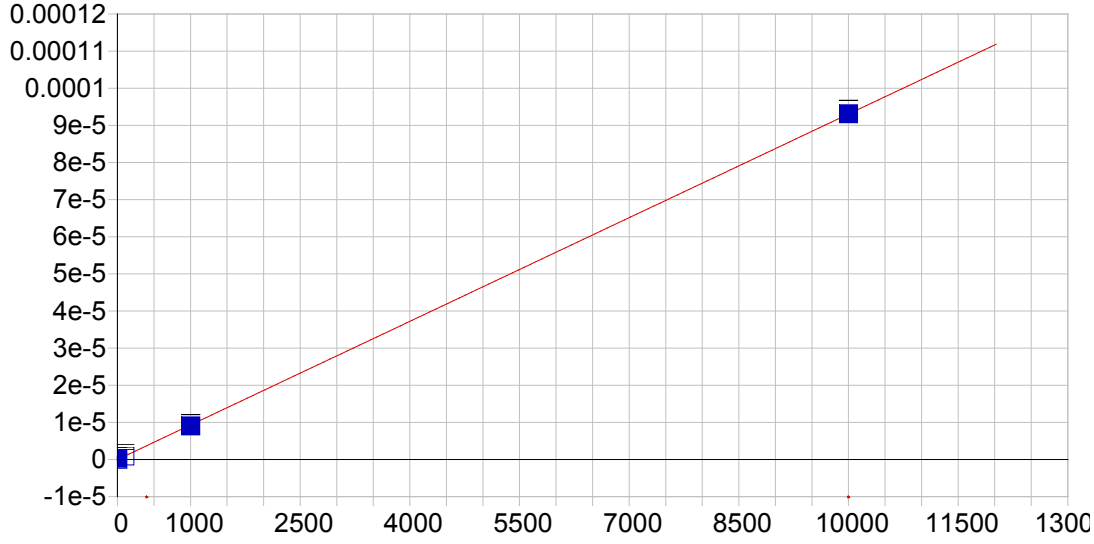


As 193.759 {474}

Date of Fit:	10/09/2015 09:20:21	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999635	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	13.655566		
Predicted MQL:	45.518555		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00274	-.003	.000	.00000	.000	1
CalStd9=100	1000.0	996.89	-3.11	-.311	.00005	.000	1
CalStd7=50	50.000	37.354	-12.6	-25.3	.00000	.000	1
CalStd5=10	10.000	16.272	6.27	62.7	.00000	.000	1
CalStd8=100	100.00	90.115	-9.88	-9.88	.00000	.000	1
CalStd10=10	10000.	10019.	19.4	.194	.00045	.000	1

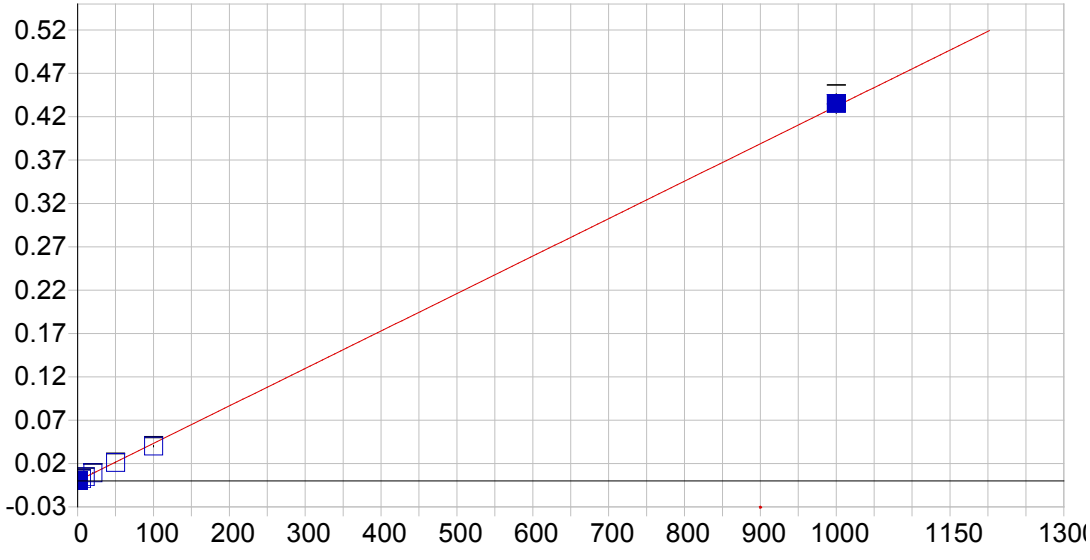


As 189.042 {479}

Date of Fit:	10/09/2015 09:20:21	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	-0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999987	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	57.978876		
Predicted MQL:	193.262920		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	33.527	33.5	.000	.00000	.000	1
CalStd9=100	1000.0	970.41	-29.6	-2.96	.00001	.000	1
CalStd10=10	10000.	10003.	2.97	.030	.00009	.000	1
CalStd8=100	100.00	99.659	-.341	-.341	.00000	.000	1
CalStd4=5	5.0000	-1.5649	-6.56	-131.	.00000	.000	1

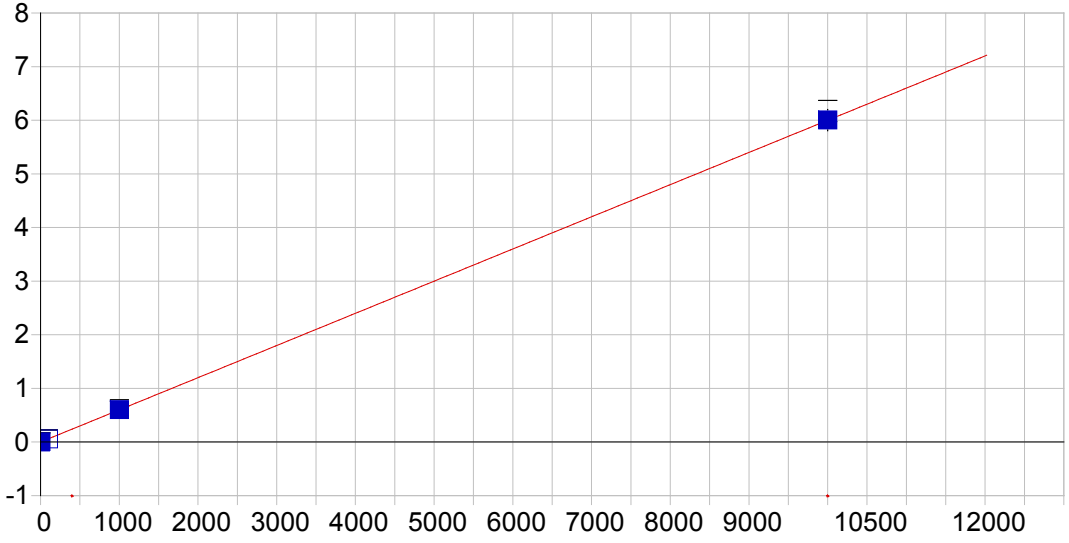


Ba 455.403 { 74}

Date of Fit:	10/09/2015 09:15:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000058	Re-Slope:	1.000000
A1 (Gain):	0.000432	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999680	Status:	OK.
Std Error of Est:	0.000010		
Predicted MDL:	0.197531		
Predicted MQL:	0.658436		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00019	.000	.000	.00006	.000	1
CalStd7=50	50.000	48.894	-1.11	-2.21	.02118	.000	1
CalStd5=10	10.000	10.286	.286	2.86	.00450	.000	1
CalStd6=20	20.000	21.101	1.10	5.50	.00917	.000	1
CalStd8=100	100.00	92.607	-7.39	-7.39	.04006	.001	1
CalStd4=5	5.0000	5.0332	.033	.663	.00223	.000	1
CalStd9=100	1000.0	1007.4	7.39	.739	.43522	.011	1
CalStd3=1	1.0000	.76612	-.234	-23.4	.00039	.000	1
CalStd2=0.5	.50000	.42571	-.074	-14.9	.00024	.000	1

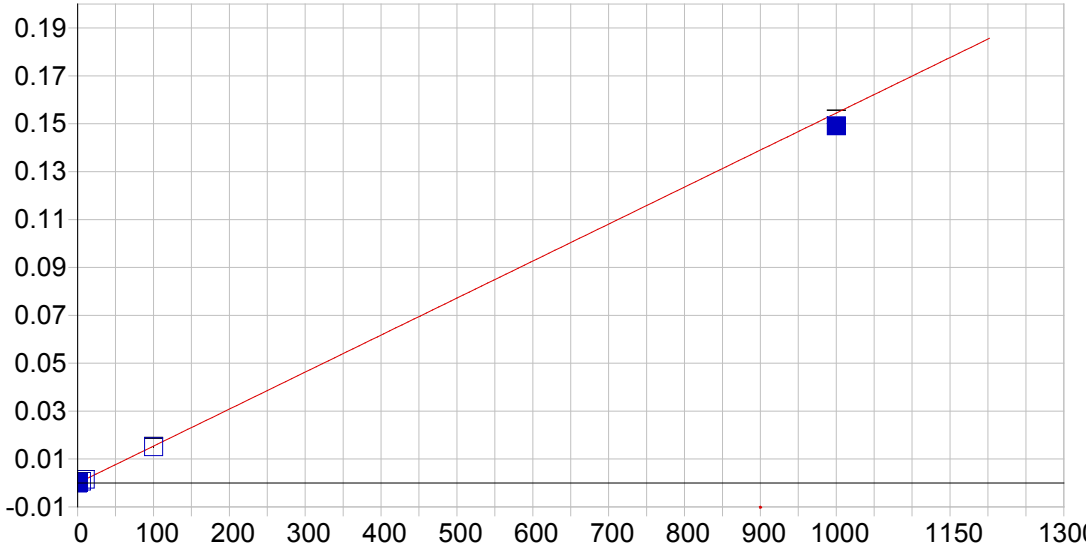


Ba 493.409 { 68}

Date of Fit:	10/09/2015 09:20:21	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000608	Re-Slope:	1.000000
A1 (Gain):	0.000600	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999972	Status:	OK.
Std Error of Est:	0.000043		
Predicted MDL:	0.284738		
Predicted MQL:	0.949127		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00025	.000	.000	-.00061	.000	1
CalStd9=100	1000.0	1002.8	2.77	.277	.60119	.015	1
CalStd10=10	10000.	10005.	4.95	.049	6.0037	.198	1
CalStd8=100	100.00	92.152	-7.85	-7.85	.05468	.001	1
CalStd4=5	5.0000	5.1260	.126	2.52	.00247	.000	1

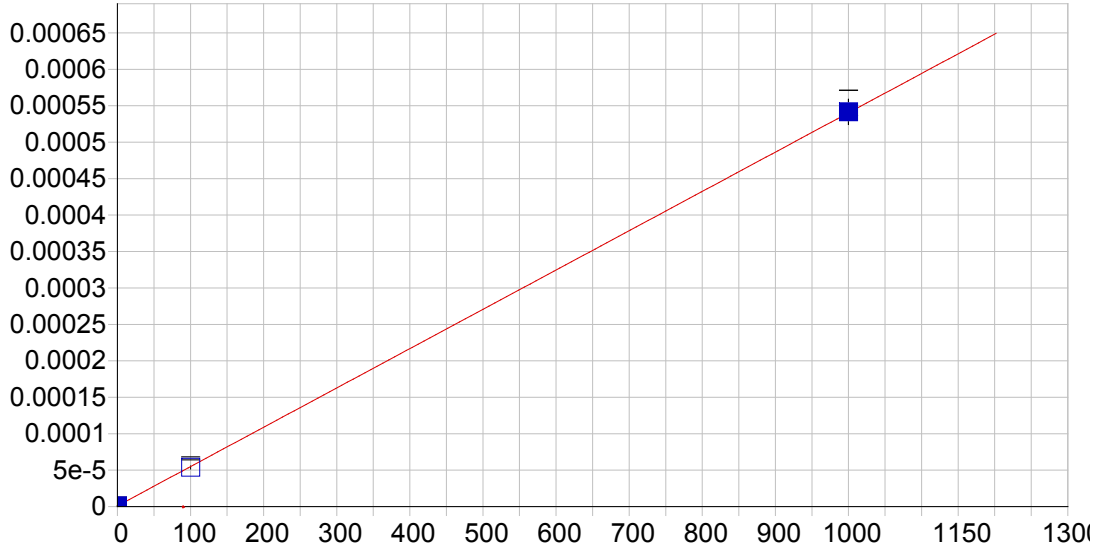


Be 313.042 {108}

Date of Fit:	10/09/2015 09:15:34	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-0.000062	Re-Slope:	1.000000
A1 (Gain):	0.000155	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999575	Status:	OK.
Std Error of Est:	0.000021		
Predicted MDL:	0.126311		
Predicted MQL:	0.421037		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.04469	.045	.000	-.00005	.000	1
CalStd5=10	10.000	10.204	.204	2.04	.00152	.000	1
CalStd8=100	100.00	97.871	-2.13	-2.13	.01506	.000	1
CalStd2=0.5	.50000	.51560	.016	3.12	.00002	.000	1
CalStd4=5	5.0000	5.0257	.026	.513	.00072	.000	1
CalStd1=0.25	.25000	.30366	.054	21.5	-.00001	.000	1
CalStd9=100	1000.0	965.41	-34.6	-3.46	.14912	.003	1
CalStd3=1	1.0000	.92412	-.076	-7.59	.00008	.000	1

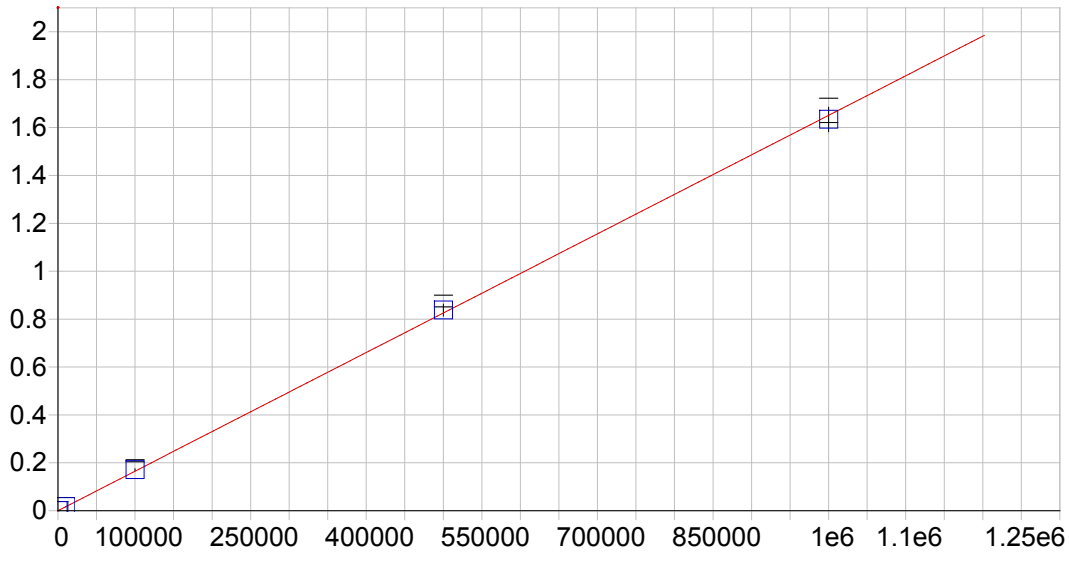


Be 234.861 {144}

Date of Fit:	10/09/2015 09:15:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999975	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	2.249557		
Predicted MQL:	7.498522		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00200	.002	.000	.00000	.000	1
CalStd9=100	1000.0	1002.2	2.22	.222	.00054	.000	1
CalStd8=100	100.00	97.780	-2.22	-2.22	.00005	.000	1

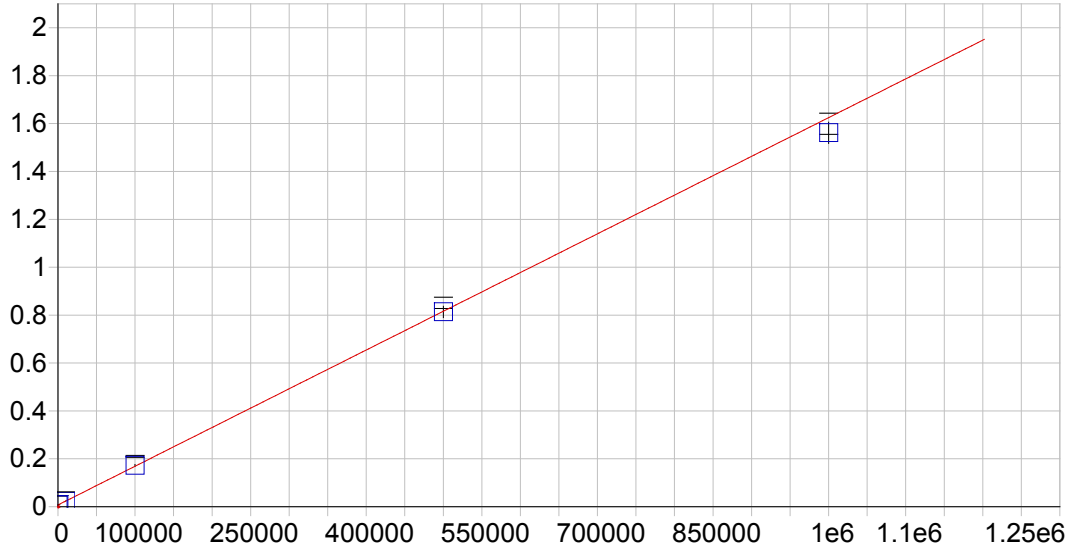


Ca 315.887 {107}

Date of Fit:	10/09/2015 09:39:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000146	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999897	Status:	OK.
Std Error of Est:	0.000037		
Predicted MDL:	17.823871		
Predicted MQL:	59.412904		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.01353	.014	.000	.00015	.000	1
CalStd10=10	10000.	9862.6	-137.	-1.37	.01643	.000	1
CalStd13=50	500000.	507380.	7380.	1.48	.83788	.025	1
CalStd14-100	1000000.	989490.	-10500.	-1.05	1.6339	.051	1
CalStd9=100	1000.0	962.90	-37.1	-3.71	.00174	.000	1
CalStd12-100	100000.	103310.	3310.	3.31	.17072	.004	1

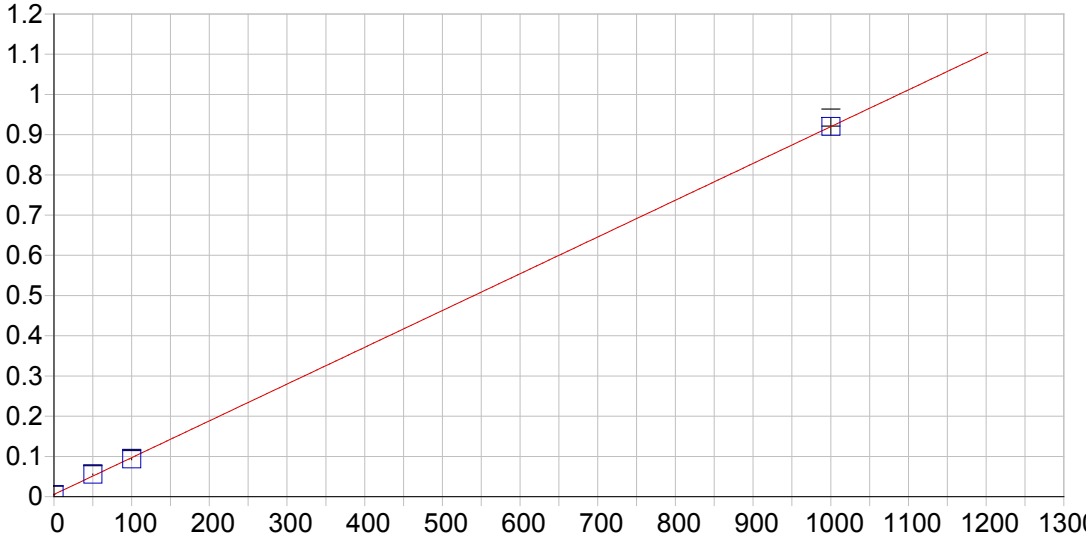


Ca 317.933 {106}

Date of Fit: 10/09/2015 09:39:08 Type of Fit: Curvilinear Weighting: 1/Var

A0 (Offset):	0.007301	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999852	Status:	OK.
Std Error of Est:	0.000047		
Predicted MDL:	12.787220		
Predicted MQL:	42.624066		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	18.358	18.4	.000	.00733	.000	1
CalStd10=10	10000.	9861.0	-139.	-1.39	.02325	.000	1
CalStd13=50	500000.	498400.	-1600.	-.320	.81346	.024	1
CalStd14-100	1000000.	960940.	-39100.	-3.91	1.5616	.044	1
CalStd9=100	1000.0	995.08	-4.92	-.492	.00891	.000	1
CalStd12-100	100000.	101970.	1970.	1.97	.17223	.004	1

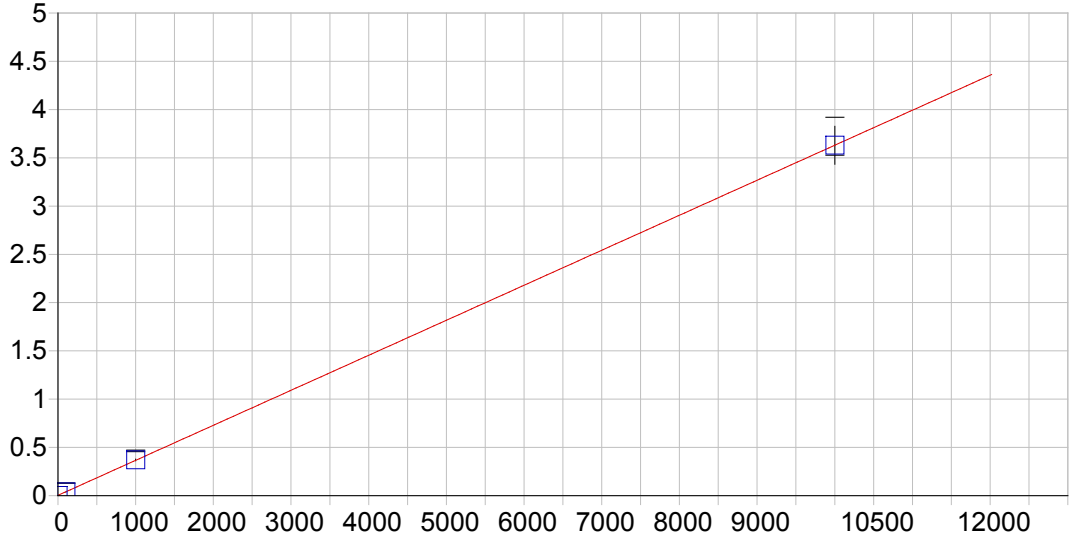


Ca 393.366 { 86}

Date of Fit:	10/09/2015 09:15:34	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.005532	Re-Slope:	1.000000
A1 (Gain):	0.000914	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999975	Status:	OK.
Std Error of Est:	0.003789		
Predicted MDL:	0.050596		
Predicted MQL:	0.168652		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.83013	-.830	.000	.00477	.001	1
CalStd7=50	50.000	54.425	4.42	8.85	.05530	.001	1
CalStd9=100	1000.0	1000.2	.154	.015	.92012	.021	1
CalStd8=100	100.00	96.252	-3.75	-3.75	.09355	.002	1

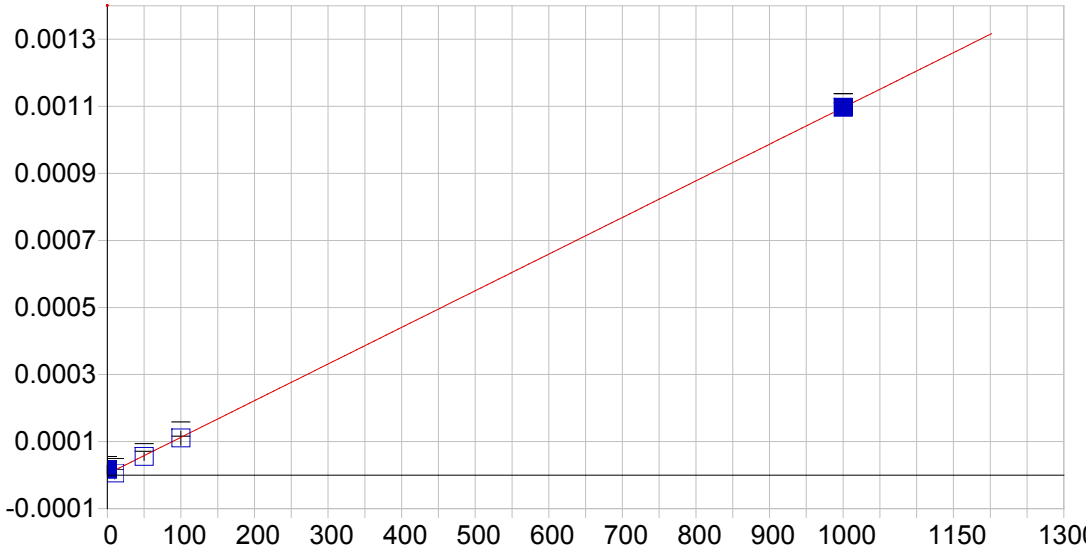


Ca 396.847 { 85}

Date of Fit:	10/09/2015 09:20:22	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.003337	Re-Slope:	1.000000
A1 (Gain):	0.000363	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999999	Status:	OK.
Std Error of Est:	0.003197		
Predicted MDL:	0.105641		
Predicted MQL:	0.352137		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-3.9406	-3.94	.000	.00191	.000	1
CalStd10=10	10000.	9999.0	-.987	-.010	3.6300	.197	1
CalStd8=100	100.00	94.505	-5.50	-5.50	.03761	.001	1
CalStd9=100	1000.0	1010.4	10.4	1.04	.36982	.008	1

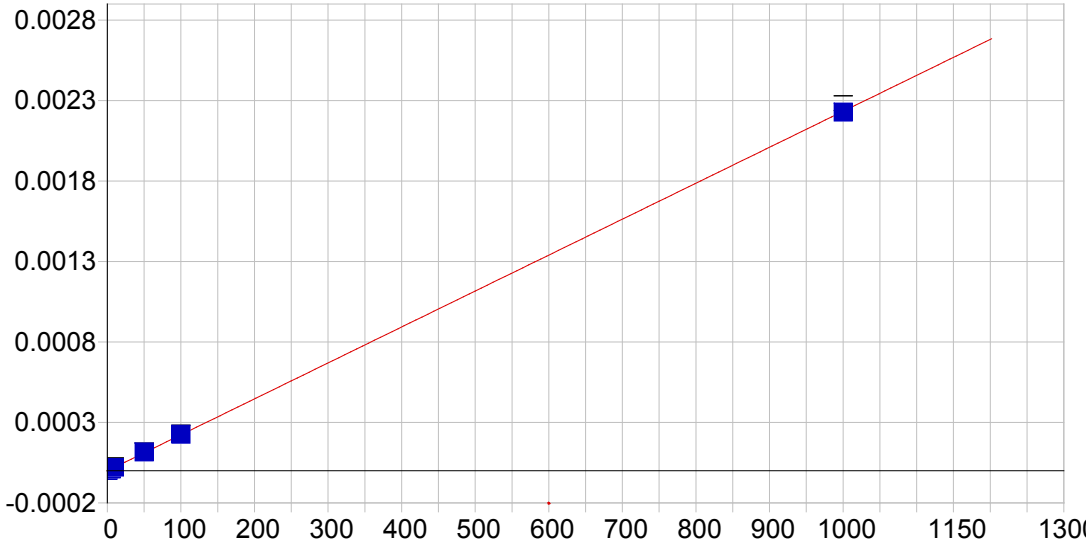


Cd 226.502 {149}

Date of Fit:	10/09/2015 09:15:34	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000004	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999847	Status:	OK.
Std Error of Est:	0.000010		
Predicted MDL:	15.851779		
Predicted MQL:	52.839262		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	12.341	12.3	.000	.00002	.000	1
CalStd7=50	50.000	47.423	-2.58	-5.15	.00006	.000	1
CalStd8=100	100.00	97.783	-2.22	-2.22	.00011	.000	1
CalStd5=10	10.000	2.0228	-7.98	-79.8	.00001	.000	1
CalStd9=100	1000.0	1000.4	.430	.043	.00110	.000	1

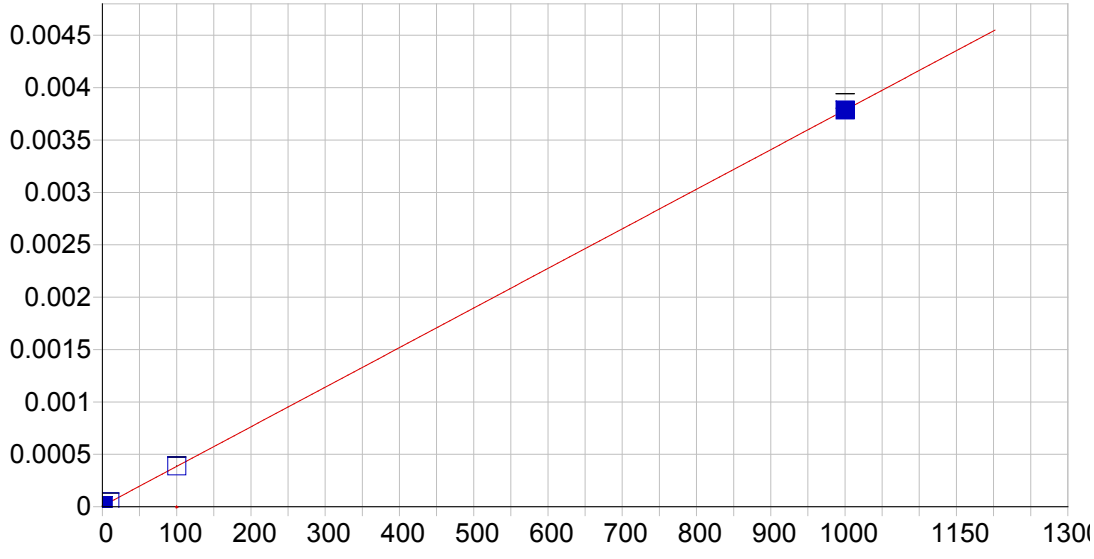


Cd 226.502 {449}

Date of Fit:	10/09/2015 09:15:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999938	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.445497		
Predicted MQL:	1.484991		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00011	.000	.000	.00000	.000	1
CalStd7=50	50.000	52.024	2.02	4.05	.00012	.000	1
CalStd3=1	1.0000	.85909	-.141	-14.1	.00000	.000	1
CalStd2=0.5	.50000	.46000	-.040	-8.00	.00000	.000	1
CalStd4=5	5.0000	4.6731	-.327	-6.54	.00001	.000	1
CalStd8=100	100.00	101.04	1.04	1.04	.00023	.000	1
CalStd5=10	10.000	10.107	.107	1.07	.00002	.000	1
CalStd9=100	1000.0	997.34	-2.66	-.266	.00223	.000	1

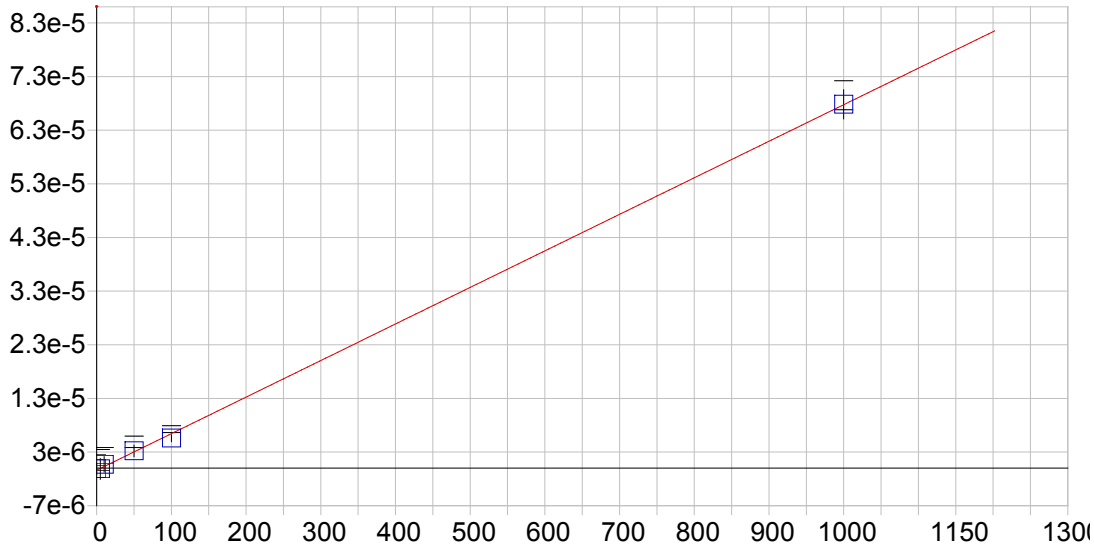


Cd 228.802 {447}

Date of Fit:	10/09/2015 09:15:35	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000007	Re-Slope:	1.000000
A1 (Gain):	0.000004	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999999	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	0.328263		
Predicted MQL:	1.094211		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.26327	-.263	.000	.00001	.000	1
CalStd9=100	1000.0	999.91	-.086	-.009	.00379	.000	1
CalStd8=100	100.00	100.85	.848	.848	.00039	.000	1
CalStd2=0.5	.50000	.14608	-.354	-70.8	.00001	.000	1
CalStd3=1	1.0000	.63333	-.367	-36.7	.00001	.000	1
CalStd5=10	10.000	10.222	.222	2.22	.00005	.000	1

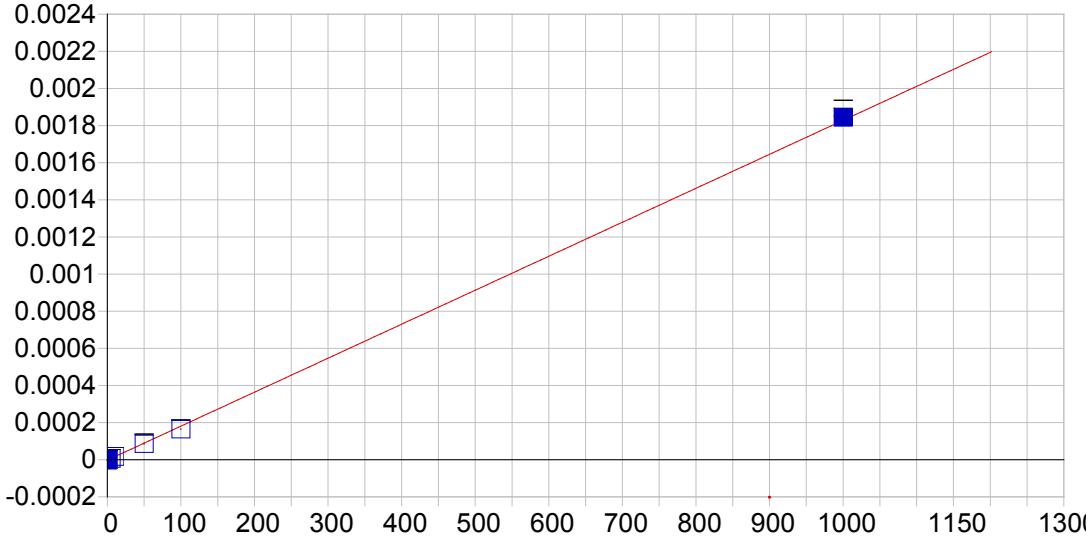


Co 228.616 {147}

Date of Fit:	10/09/2015 09:15:35	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	-0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999863	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	17.117291		
Predicted MQL:	57.057636		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	4.0854	4.09	.000	.00000	.000	1
CalStd7=50	50.000	52.656	2.66	5.31	.00000	.000	1
CalStd5=10	10.000	15.962	5.96	59.6	.00000	.000	1
CalStd4=5	5.0000	3.6527	-1.35	-26.9	.00000	.000	1
CalStd8=100	100.00	87.588	-12.4	-12.4	.00001	.000	1
CalStd9=100	1000.0	1001.1	1.06	.106	.00007	.000	1

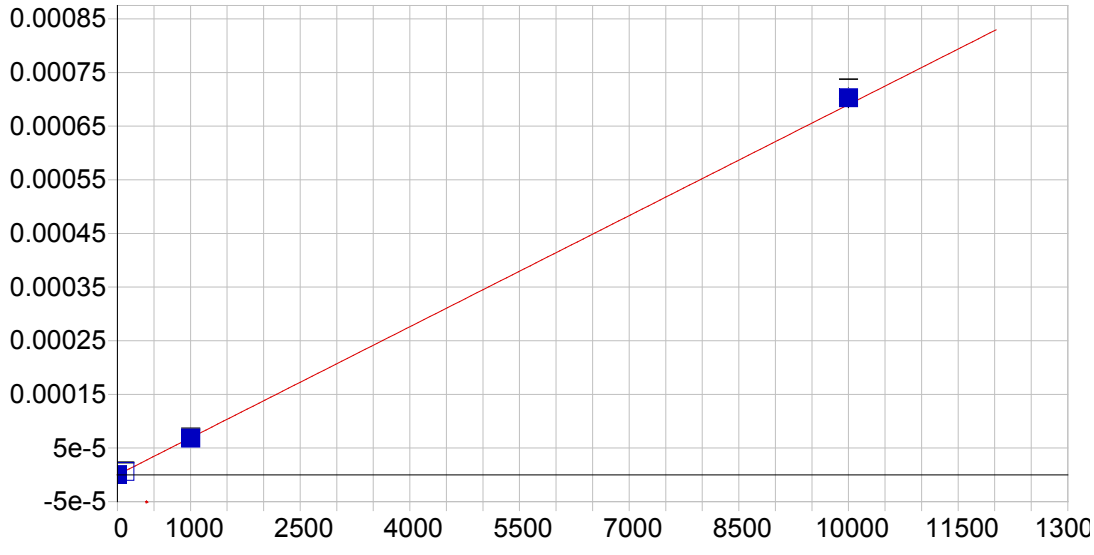


Co 228.616 {447}

Date of Fit:	10/09/2015 09:15:35	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999590	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.617108		
Predicted MQL:	2.057027		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00007	.000	.000	.00000	.000	1
CalStd7=50	50.000	48.745	-1.25	-2.51	.00009	.000	1
CalStd5=10	10.000	10.707	.707	7.07	.00002	.000	1
CalStd4=5	5.0000	5.1518	.152	3.04	.00001	.000	1
CalStd8=100	100.00	91.166	-8.83	-8.83	.00016	.000	1
CalStd9=100	1000.0	1009.2	9.15	.915	.00185	.000	1
CalStd3=1	1.0000	1.0763	.076	7.63	.00000	.000	1

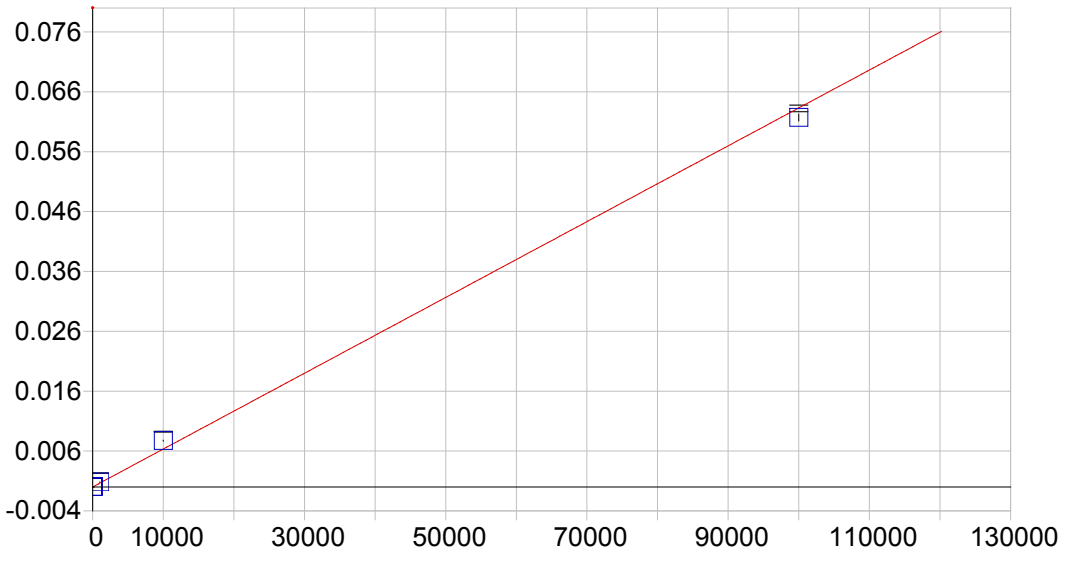


Co 238.892 {141}

Date of Fit:	10/09/2015 09:20:22	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999759	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	19.426388		
Predicted MQL:	64.754627		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	1.2161	1.22	.000	.00000	.000	1
CalStd9=100	1000.0	990.17	-9.83	-.983	.00007	.000	1
CalStd10=10	10000.	10181.	181.	1.81	.00070	.000	1
CalStd8=100	100.00	88.617	-11.4	-11.4	.00001	.000	1

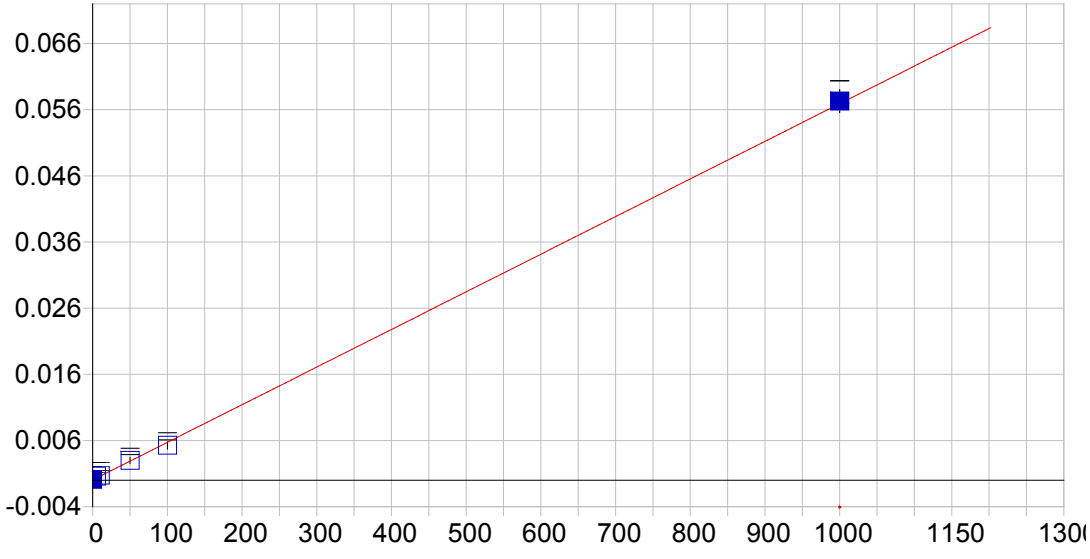


Cr 205.560 {464}

Date of Fit:	10/09/2015 09:24:40	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.997169	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	1.004723		
Predicted MQL:	3.349077		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00159	-.002	.000	.00000	.000	1
CalStd5=10	10.000	13.517	3.52	35.2	.00001	.000	1
CalStd7=50	50.000	61.326	11.3	22.7	.00004	.000	1
CalStd9=100	1000.0	1278.0	278.	27.8	.00081	.000	1
CalStd8=100	100.00	114.30	14.3	14.3	.00007	.000	1
CalStd4=5	5.0000	6.8375	1.84	36.7	.00000	.000	1
CalStd3=1	1.0000	1.0236	.024	2.36	.00000	.000	1
CalStd11-100	100000.	97488.	-2510.	-2.51	.06172	.001	1
CalStd10=10	10000.	12203.	2200.	22.0	.00772	.000	1

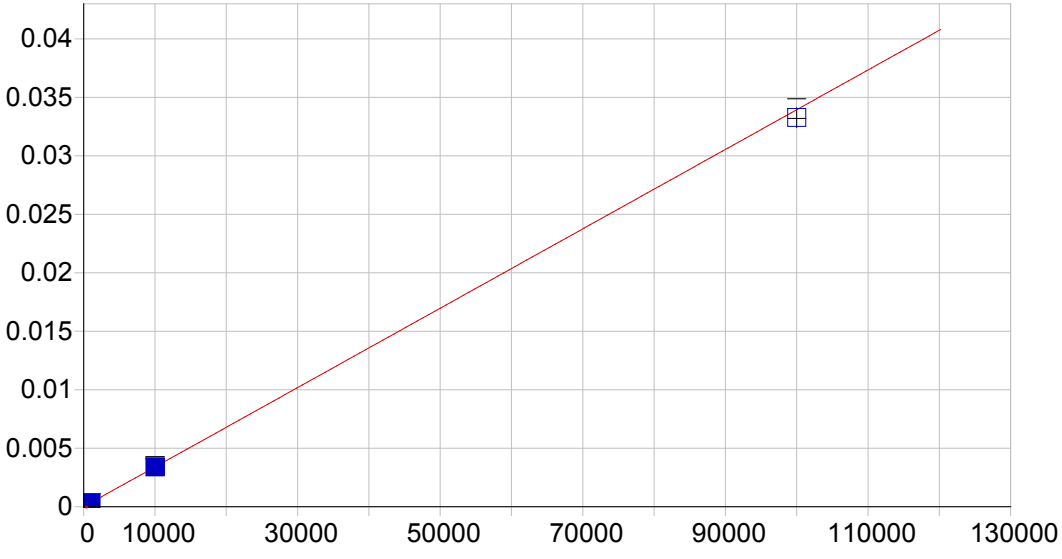


Cr 267.716 {126}

Date of Fit:	10/09/2015 09:15:35	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000040	Re-Slope:	1.000000
A1 (Gain):	0.000057	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999526	Status:	OK.
Std Error of Est:	0.000320		
Predicted MDL:	9.982892		
Predicted MQL:	33.276308		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	1.5508	1.55	.000	.00013	.001	1
CalStd5=10	10.000	12.220	2.22	22.2	.00074	.001	1
CalStd7=50	50.000	51.624	1.62	3.25	.00298	.000	1
CalStd9=100	1000.0	1006.7	6.74	.674	.05729	.002	1
CalStd8=100	100.00	91.799	-8.20	-8.20	.00526	.001	1
CalStd4=5	5.0000	9.8619	4.86	97.2	.00060	.001	1

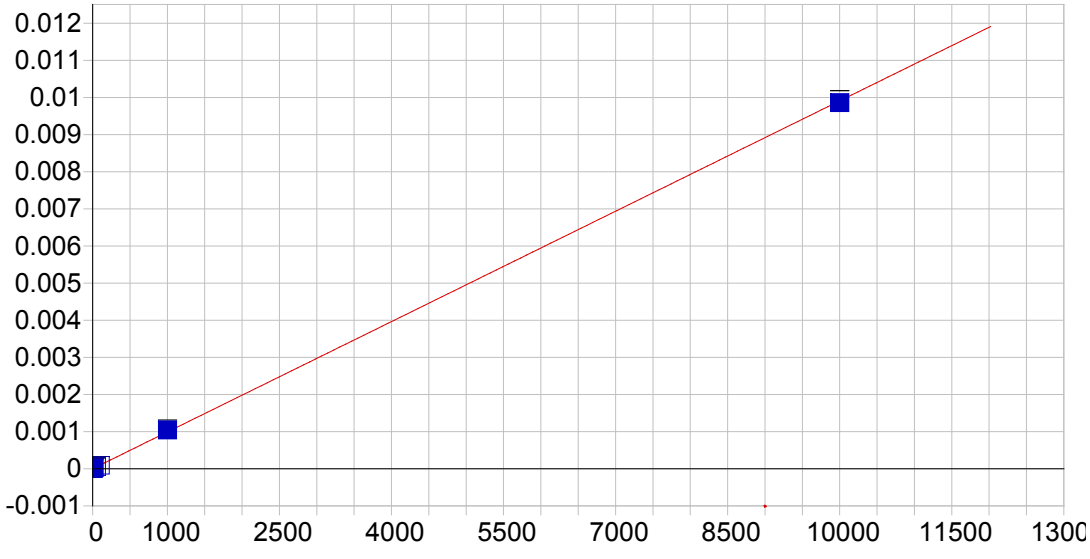


Cr 283.563 {119}

Date of Fit:	10/09/2015 09:24:40	Type of Fit:	Curvilinear	Weighting:	None

A0 (Offset):	0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000004		
Predicted MDL:	4.934498		
Predicted MQL:	16.448327		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	9.7189	9.72	.000	.00001	.000	1
CalStd7=50	50.000	57.905	7.90	15.8	.00002	.000	1
CalStd8=100	100.00	98.094	-1.91	-1.91	.00004	.000	1
CalStd9=100	1000.0	982.18	-17.8	-1.78	.00034	.000	1
CalStd10=10	10000.	9981.9	-18.1	-.181	.00340	.000	1
CalStd11-100	100000.	98001.	-2000.	-2.00	.03327	.001	1

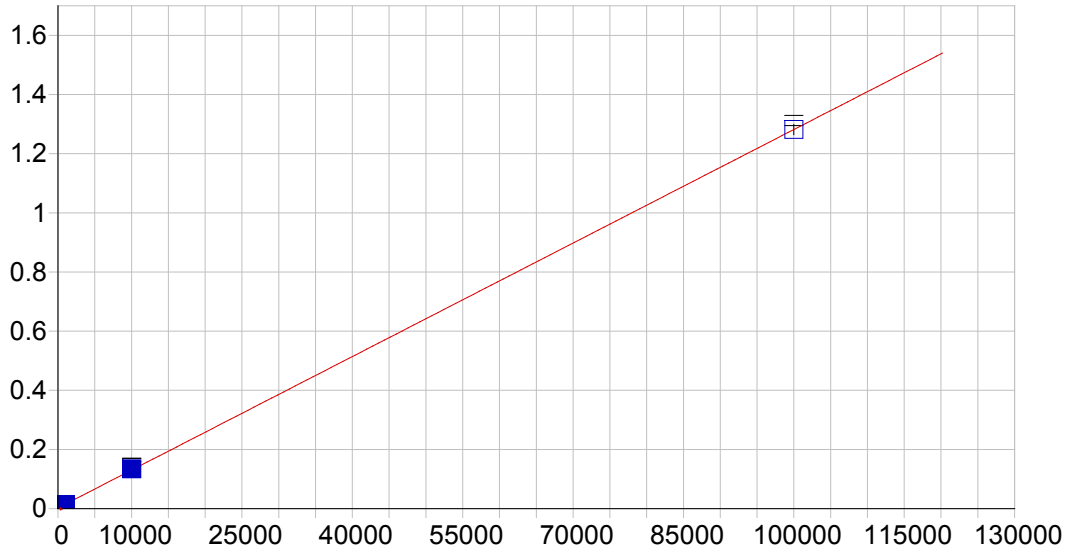


Cu 224.700 {450}

Date of Fit:	10/09/2015 09:20:22	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999819	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	1.198330		
Predicted MQL:	3.994435		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00072	-.001	.000	.00000	.000	1
CalStd9=100	1000.0	1052.8	52.8	5.28	.00104	.000	1
CalStd7=50	50.000	50.556	.556	1.11	.00005	.000	1
CalStd8=100	100.00	95.581	-4.42	-4.42	.00009	.000	1
CalStd5=10	10.000	11.410	1.41	14.1	.00001	.000	1
CalStd10=10	10000.	9946.2	-53.8	-.538	.00986	.000	1
CalStd4=5	5.0000	6.2628	1.26	25.3	.00001	.000	1
CalStd6=20	20.000	22.023	2.02	10.1	.00002	.000	1
CalStd3=1	1.0000	1.2120	.212	21.2	.00000	.000	1

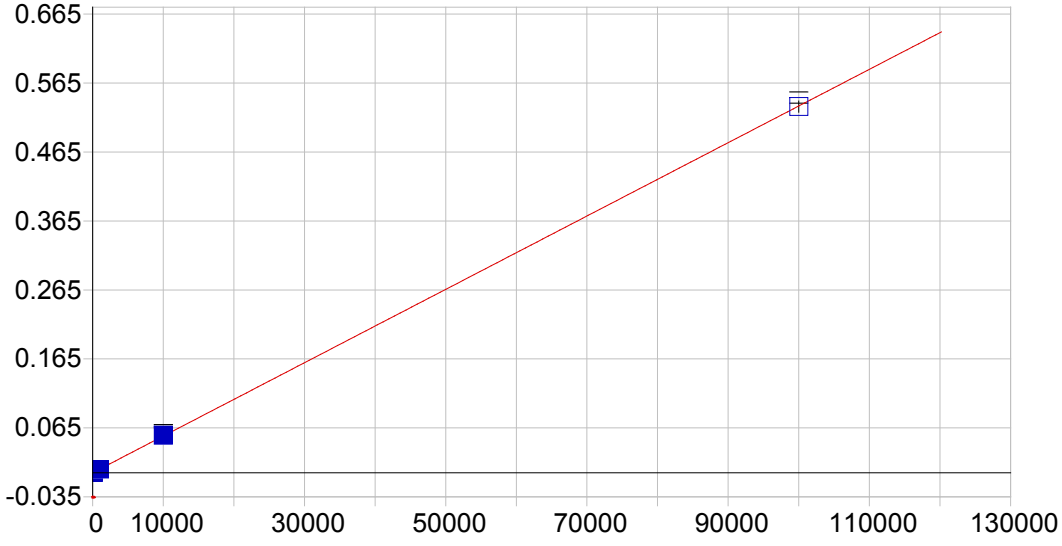


Cu 324.754 {104}

Date of Fit:	10/09/2015 09:24:40	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.002333	Re-Slope:	1.000000
A1 (Gain):	0.000013	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999993	Status:	OK.
Std Error of Est:	0.002495		
Predicted MDL:	2.639866		
Predicted MQL:	8.799554		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-80.956	-81.0	.000	.00130	.000	1
CalStd9=100	1000.0	904.55	-95.5	-9.55	.01390	.000	1
CalStd8=100	100.00	6.9746	-93.0	-93.0	.00242	.000	1
CalStd10=10	10000.	10298.	298.	2.98	.13407	.005	1
CalStd11-100	100000.	99971.	-28.8	-.029	1.2812	.017	1

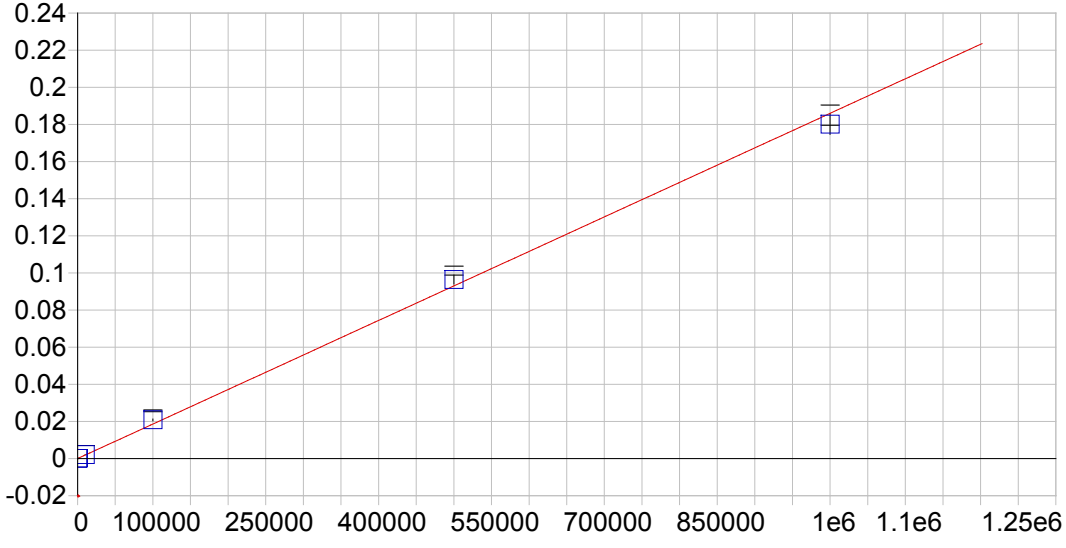


Cu 327.396 {103}

Date of Fit: 10/09/2015 09:24:40 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	-0.000072	Re-Slope:	1.000000
A1 (Gain):	0.000005	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999970	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	6.804887		
Predicted MQL:	22.682956		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00062	-.001	.000	-.00007	.000	1
CalStd6=20	20.000	22.624	2.62	13.1	.00005	.000	1
CalStd7=50	50.000	49.127	-.873	-1.75	.00019	.000	1
CalStd8=100	100.00	92.753	-7.25	-7.25	.00042	.000	1
CalStd9=100	1000.0	969.96	-30.0	-3.00	.00509	.000	1
CalStd10=10	10000.	10216.	216.	2.16	.05426	.002	1
CalStd11-100	100000.	99820.	-180.	-.180	.53077	.008	1

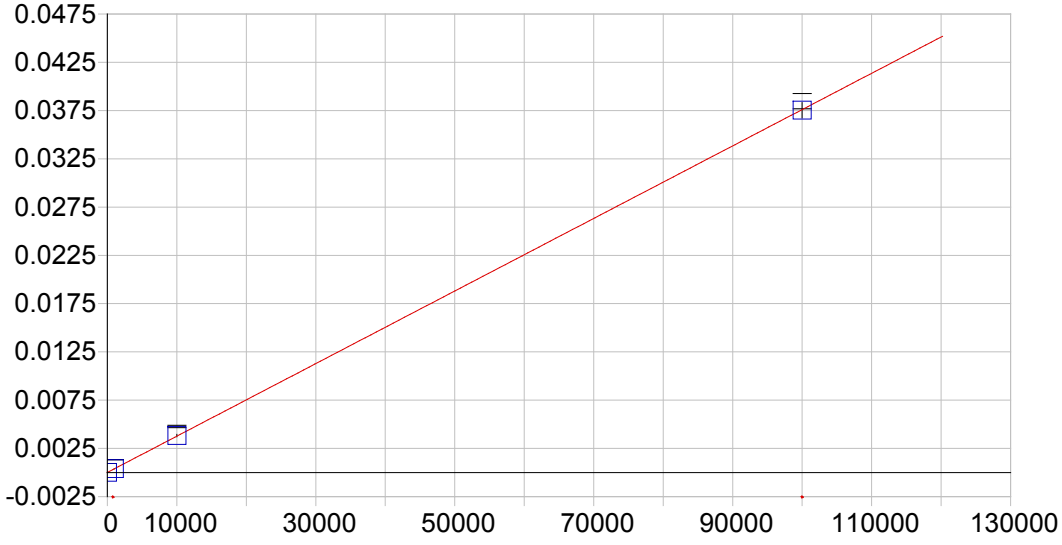


Fe 234.349 {144}

Date of Fit:	10/09/2015 09:39:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000013	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998988	Status:	OK.
Std Error of Est:	0.000013		
Predicted MDL:	56.210646		
Predicted MQL:	187.368820		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.37702	-.377	.000	.00001	.000	1
CalStd10=10	10000.	11209.	1210.	12.1	.00210	.000	1
CalStd13=50	500000.	518320.	18300.	3.66	.09641	.002	1
CalStd14-100	1000000.	968380.	-31600.	-3.16	.18010	.005	1
CalStd9=100	1000.0	1131.5	131.	13.1	.00022	.000	1
CalStd12-100	100000.	111960.	12000.	12.0	.02083	.000	1

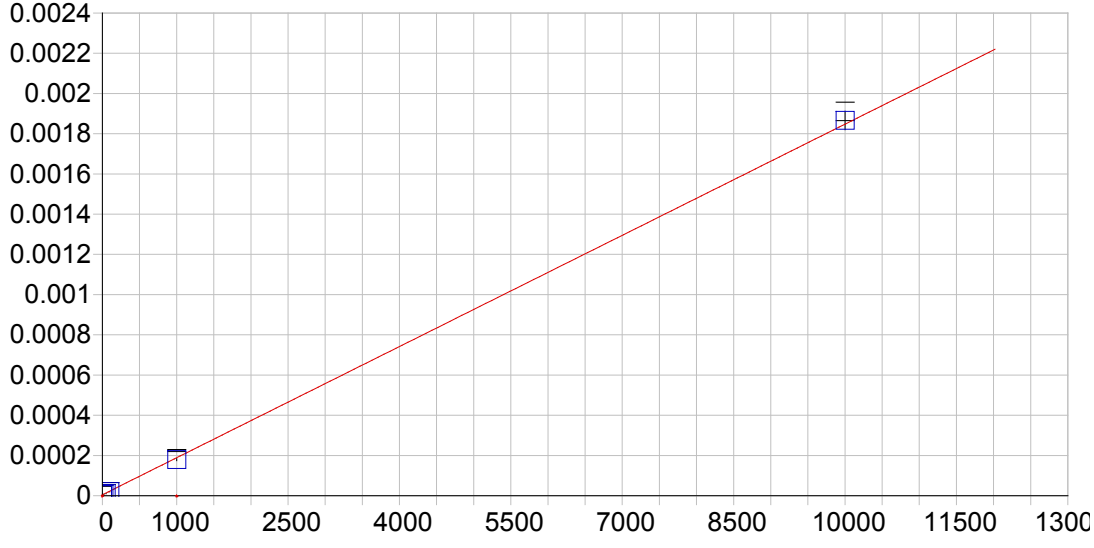


Fe 239.562 {141}

Date of Fit:	10/09/2015 09:29:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000007	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999986	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	34.014689		
Predicted MQL:	113.382297		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.02552	-.026	.000	.00001	.000	1
CalStd9=100	1000.0	1010.9	10.9	1.09	.00039	.000	1
CalStd10=10	10000.	10163.	163.	1.63	.00383	.000	1
CalStd12-100	100000.	99826.	-174.	-.174	.03753	.001	1

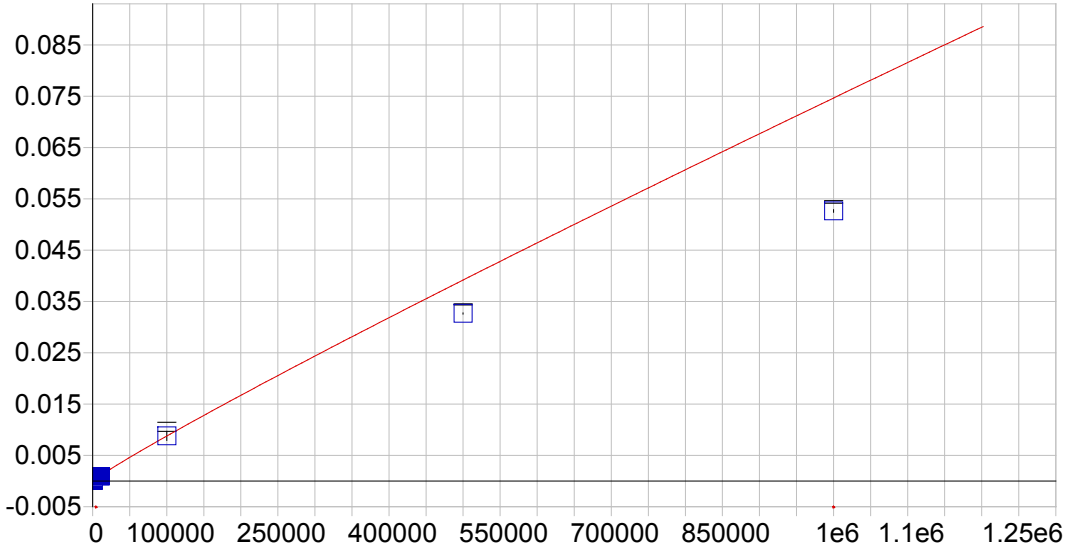


Fe 259.940 {130}

Date of Fit: 10/09/2015 09:20:22 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	0.000005	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999067	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	8.067118		
Predicted MQL:	26.890395		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.02385	.024	.000	.00000	.000	1
CalStd9=100	1000.0	947.64	-52.4	-5.24	.00018	.000	1
CalStd7=50	50.000	31.856	-18.1	-36.3	.00001	.000	1
CalStd8=100	100.00	82.940	-17.1	-17.1	.00002	.000	1
CalStd6=20	20.000	7.6639	-12.3	-61.7	.00001	.000	1
CalStd10=10	10000.	10100.	99.9	.999	.00187	.000	1

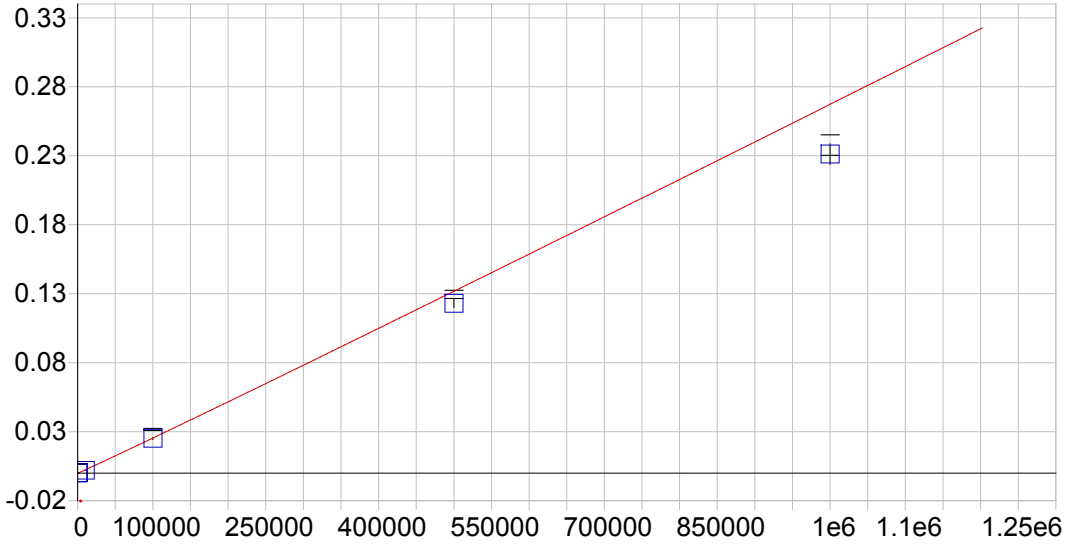


Mg 202.582 {466}

Date of Fit:	10/09/2015 09:39:08	Type of Fit:	Full Fit	Weighting:	1/Conc

A0 (Offset):	-0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	0.930000		
Correlation:	0.999775	Status:	OK.
Std Error of Est:	0.000003		
Predicted MDL:	3.730432		
Predicted MQL:	12.434775		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.11042	.110	.000	.00000	.000	1
CalStd13=50	500000.	411060.	-88900.	-17.8	.03266	.000	1
CalStd10=10	10000.	9086.4	-914.	-9.14	.00094	.000	1
CalStd14-100	1000000.	686850.	-313000.	-31.3	.05265	.000	1
CalStd12-100	100000.	100390.	392.	.392	.00880	.001	1
CalStd9=100	1000.0	825.84	-174.	-17.4	.00010	.000	1

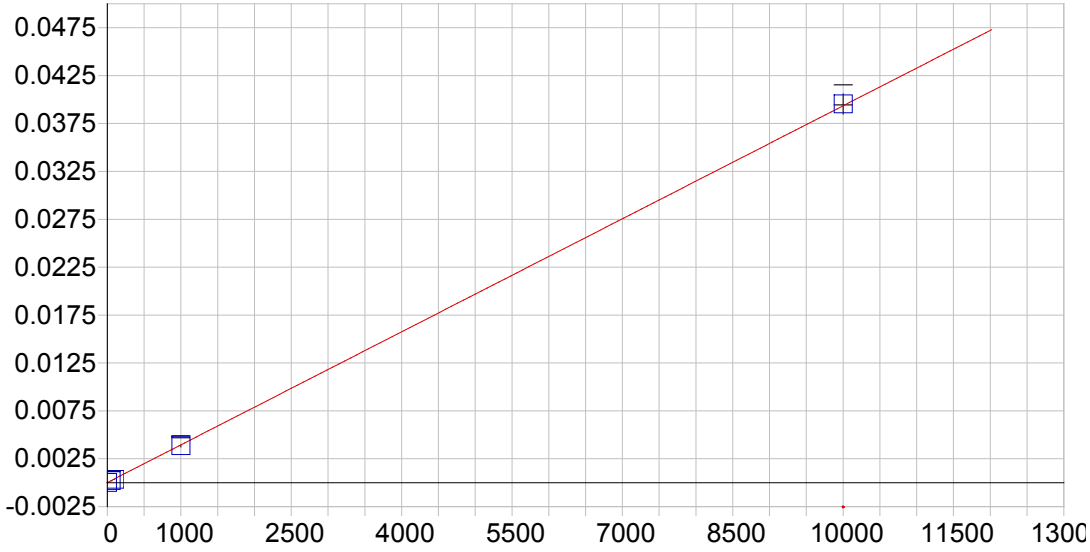


Mg 279.079 {121}

Date of Fit:	10/09/2015 09:39:08	Type of Fit:	Full Fit	Weighting:	None

A0 (Offset):	-0.000110	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.020000		
Correlation:	0.999999	Status:	OK.
Std Error of Est:	0.000220		
Predicted MDL:	64.542415		
Predicted MQL:	215.141383		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	501.58	502.	.000	.00001	.000	1
CalStd13=50	500000.	467360.	-32600.	-6.53	.12300	.003	1
CalStd10=10	10000.	8938.1	-1060.	-10.6	.00207	.000	1
CalStd14-100	1000000.	867520.	-132000.	-13.2	.23125	.007	1
CalStd12-100	100000.	98833.	-1170.	-1.17	.02513	.001	1
CalStd9=100	1000.0	1504.7	505.	50.5	.00024	.000	1

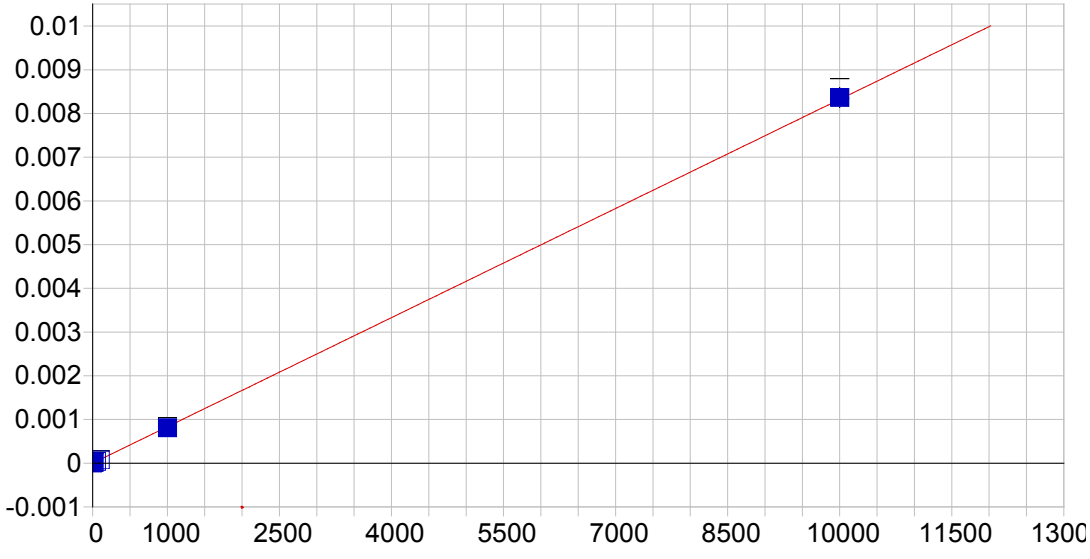


Mg 280.270 {120}

Date of Fit:	10/09/2015 09:20:22	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000018	Re-Slope:	1.000000
A1 (Gain):	0.000004	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999829	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	0.247037		
Predicted MQL:	0.823455		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.01396	.014	.000	.00002	.000	1
CalStd9=100	1000.0	974.00	-26.0	-2.60	.00385	.000	1
CalStd10=10	10000.	10047.	46.6	.466	.03953	.001	1
CalStd8=100	100.00	84.616	-15.4	-15.4	.00035	.000	1
CalStd7=50	50.000	44.804	-5.20	-10.4	.00019	.000	1

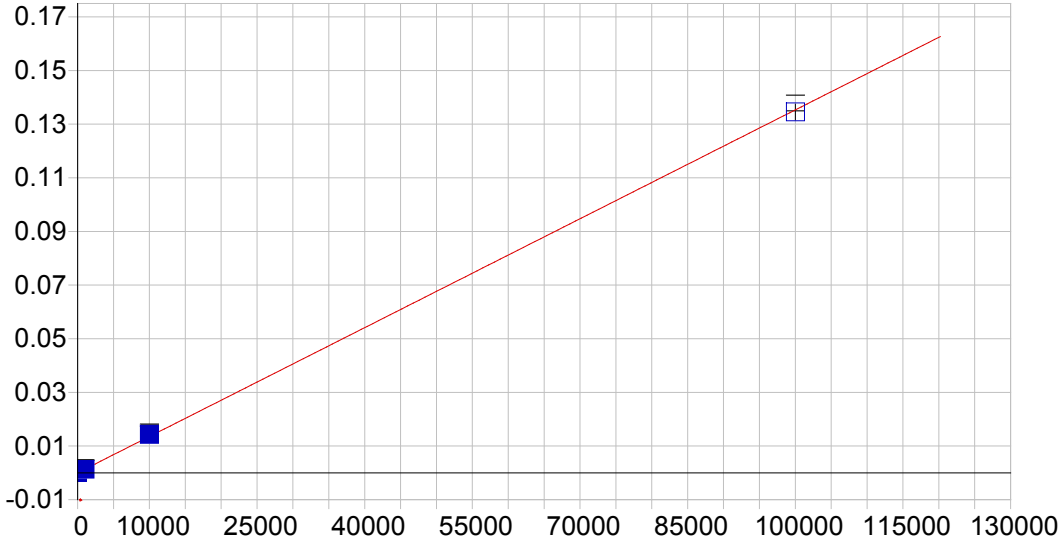


Mn 257.610 {131}

Date of Fit:	10/09/2015 09:20:22	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999832	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	1.150150		
Predicted MQL:	3.833832		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00278	.003	.000	.00000	.000	1
CalStd5=10	10.000	9.2398	-.760	-7.60	.00001	.000	1
CalStd7=50	50.000	45.319	-4.68	-9.36	.00004	.000	1
CalStd6=20	20.000	19.085	-.915	-4.58	.00002	.000	1
CalStd8=100	100.00	86.082	-13.9	-13.9	.00007	.000	1
CalStd4=5	5.0000	4.1170	-.883	-17.7	.00000	.000	1
CalStd9=100	1000.0	970.54	-29.5	-2.95	.00081	.000	1
CalStd10=10	10000.	10051.	50.6	.506	.00837	.000	1

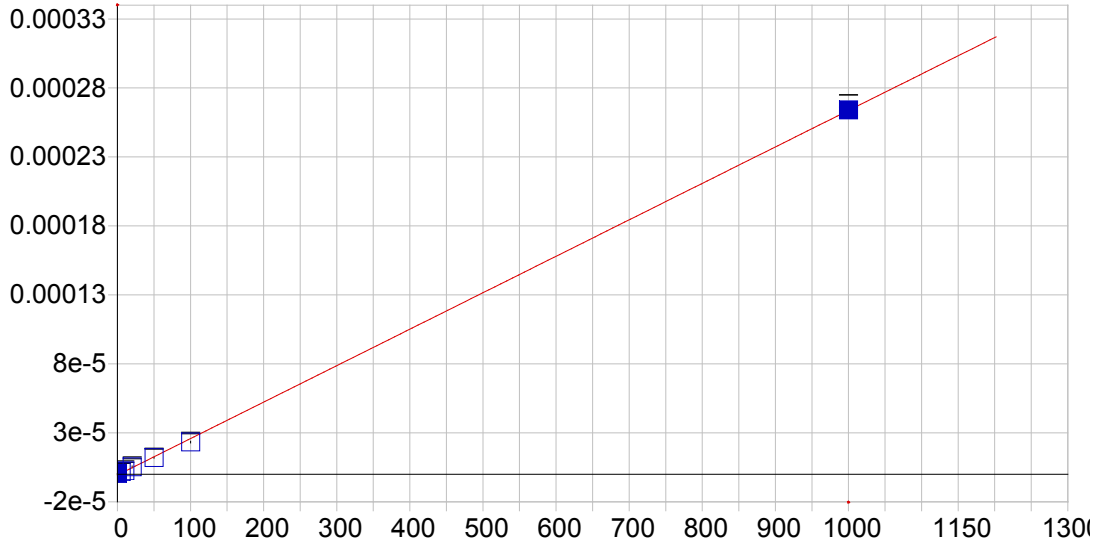


Mn 259.373 {130}

Date of Fit:	10/09/2015 09:24:41	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000003	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999829	Status:	OK.
Std Error of Est:	0.000012		
Predicted MDL:	1.198598		
Predicted MQL:	3.995328		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.06394	-.064	.000	.00000	.000	1
CalStd10=10	10000.	10585.	585.	5.85	.01435	.000	1
CalStd11-100	100000.	99402.	-598.	-.598	.13451	.003	1
CalStd9=100	1000.0	1011.4	11.4	1.14	.00137	.000	1

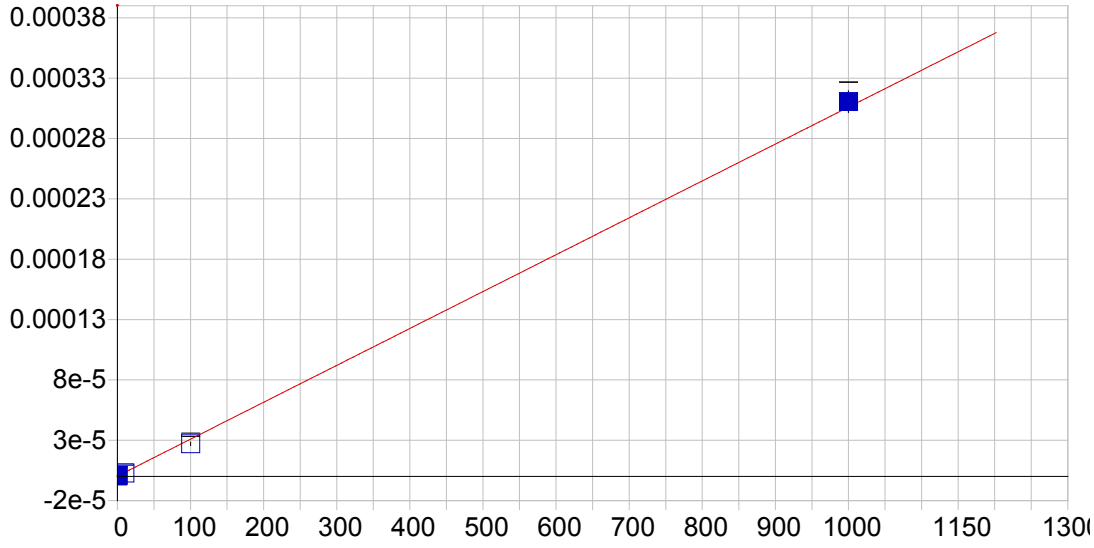


Mo 202.030 {466}

Date of Fit:	10/09/2015 09:15:36	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	-0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999917	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	2.603523		
Predicted MQL:	8.678408		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	3.7568	3.76	.000	.00000	.000	1
CalStd7=50	50.000	47.653	-2.35	-4.69	.00001	.000	1
CalStd6=20	20.000	22.113	2.11	10.6	.00001	.000	1
CalStd5=10	10.000	11.372	1.37	13.7	.00000	.000	1
CalStd8=100	100.00	90.352	-9.65	-9.65	.00002	.000	1
CalStd4=5	5.0000	8.7451	3.75	74.9	.00000	.000	1
CalStd9=100	1000.0	1001.0	1.01	.101	.00026	.000	1

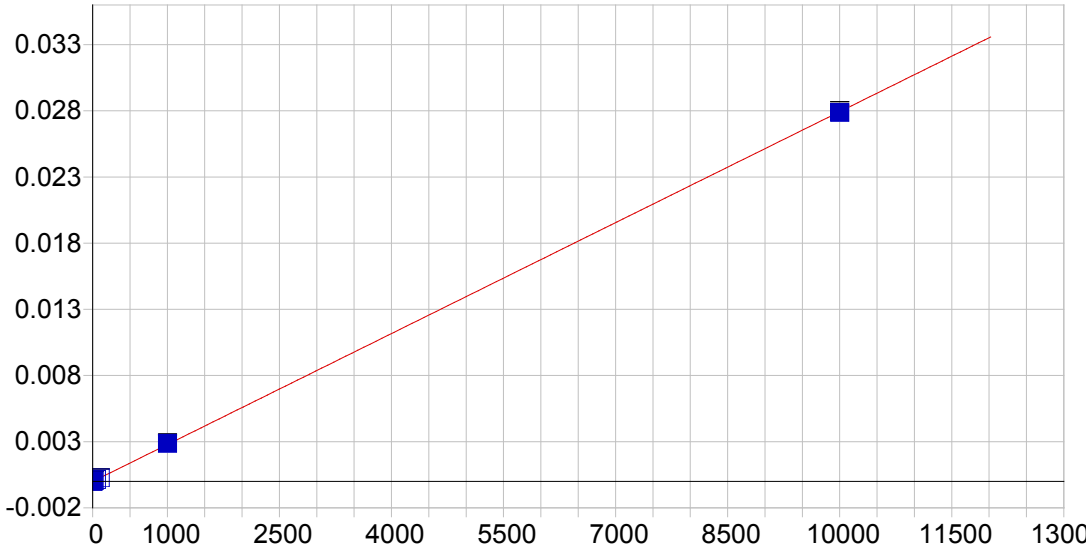


Mo 203.844 {465}

Date of Fit:	10/09/2015 09:15:36	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998951	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	3.073607		
Predicted MQL:	10.245357		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00024	.000	.000	.00000	.000	1
CalStd3=1	1.0000	1.0929	.093	9.29	.00000	.000	1
CalStd5=10	10.000	7.8233	-2.18	-21.8	.00000	.000	1
CalStd8=100	100.00	87.229	-12.8	-12.8	.00003	.000	1
CalStd9=100	1000.0	1014.9	14.9	1.49	.00031	.000	1

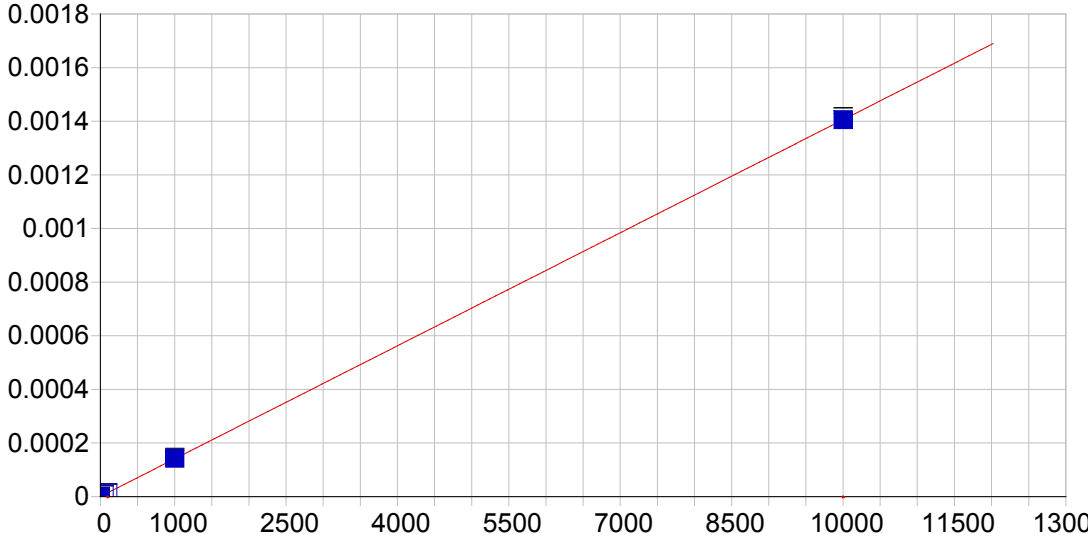


Mo 202.030 {467}

Date of Fit: 10/09/2015 09:20:22 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	-0.000011	Re-Slope:	1.000000
A1 (Gain):	0.000003	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999934	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	3.969747		
Predicted MQL:	13.232489		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00044	.000	.000	-.00001	.000	1
CalStd7=50	50.000	51.783	1.78	3.57	.00013	.000	1
CalStd6=20	20.000	21.209	1.21	6.04	.00005	.000	1
CalStd5=10	10.000	9.9726	-.027	-.274	.00002	.000	1
CalStd8=100	100.00	92.592	-7.41	-7.41	.00025	.000	1
CalStd9=100	1000.0	1027.2	27.2	2.72	.00286	.000	1
CalStd10=10	10000.	9977.3	-22.7	-.227	.02787	.000	1

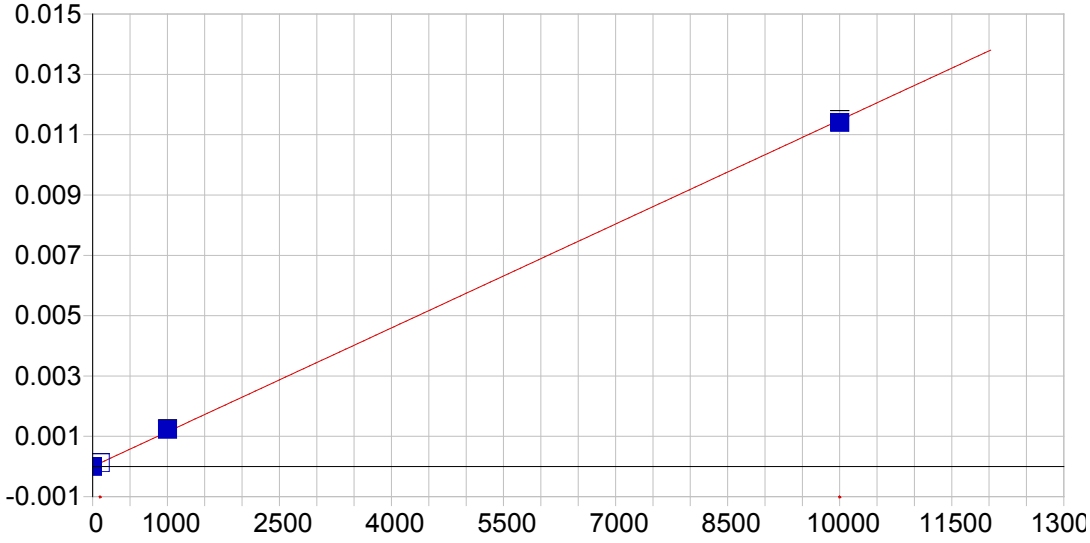


Mo 204.598 {465}

Date of Fit:	10/09/2015 09:20:22	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999999	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	4.773114		
Predicted MQL:	15.910379		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	2.2538	2.25	.000	.00000	.000	1
CalStd9=100	1000.0	1009.9	9.89	.989	.00014	.000	1
CalStd10=10	10000.	9999.1	-.896	-.009	.00141	.000	1
CalStd7=50	50.000	46.207	-3.79	-7.59	.00001	.000	1
CalStd8=100	100.00	92.542	-7.46	-7.46	.00001	.000	1

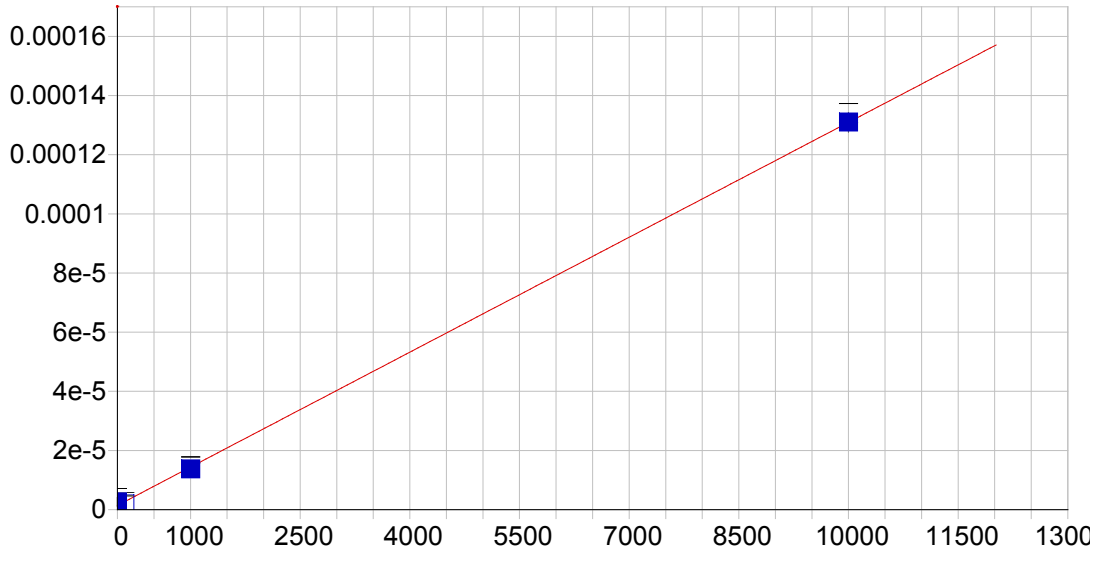


Ni 221.647 {452}

Date of Fit:	10/09/2015 09:20:23	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999763	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	1.120611		
Predicted MQL:	3.735370		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00908	-.009	.000	.00000	.000	1
CalStd10=10	10000.	9928.8	-71.2	-.712	.01140	.000	1
CalStd8=100	100.00	102.96	2.96	2.96	.00012	.000	1
CalStd9=100	1000.0	1068.3	68.3	6.83	.00123	.000	1

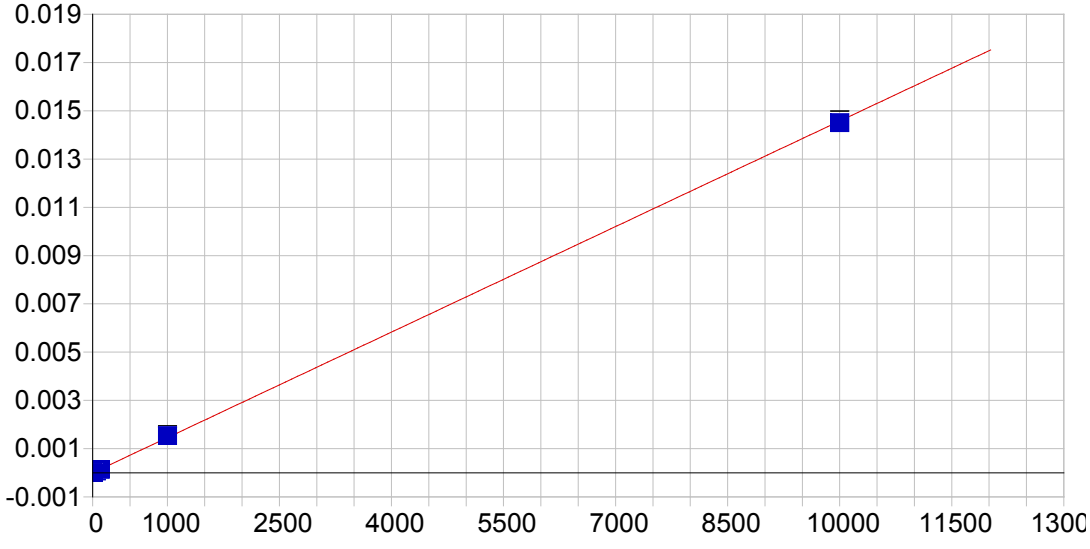


Ni 231.604 {146}

Date of Fit:	10/09/2015 09:20:23	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999914	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	109.569584		
Predicted MQL:	365.231948		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	87.688	87.7	.000	.00000	.000	1
CalStd10=10	10000.	10006.	5.55	.056	.00013	.000	1
CalStd8=100	100.00	58.080	-41.9	-41.9	.00000	.000	1
CalStd9=100	1000.0	948.68	-51.3	-5.13	.00001	.000	1

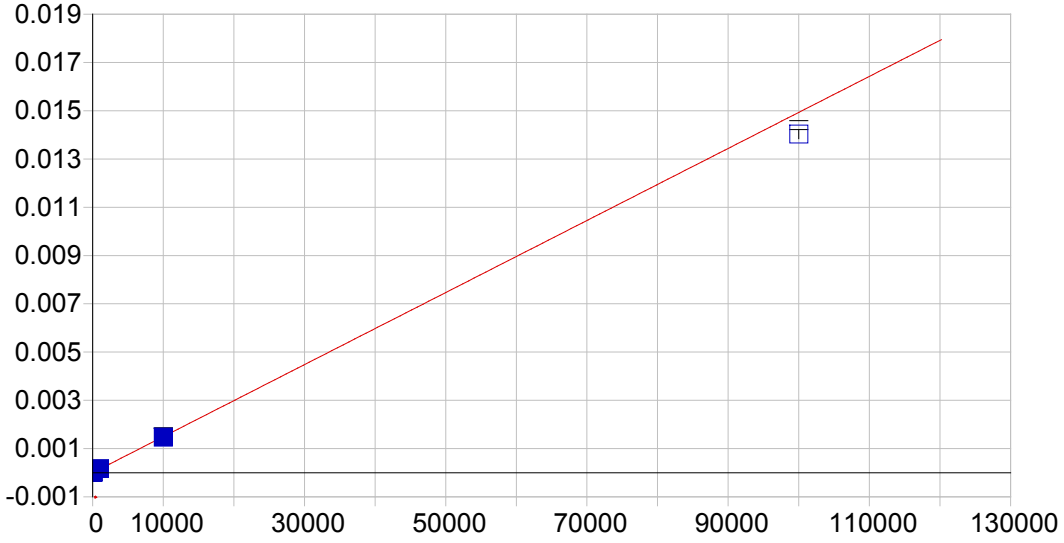


Ni 231.604 {445}

Date of Fit:	10/09/2015 09:20:23	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000003	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999828	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	1.122866		
Predicted MQL:	3.742885		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00044	.000	.000	.00000	.000	1
CalStd7=50	50.000	50.734	.734	1.47	.00007	.000	1
CalStd5=10	10.000	9.6645	-.336	-3.36	.00001	.000	1
CalStd8=100	100.00	95.855	-4.14	-4.14	.00014	.000	1
CalStd4=5	5.0000	4.6899	-.310	-6.20	.00000	.000	1
CalStd9=100	1000.0	1056.7	56.7	5.67	.00154	.000	1
CalStd3=1	1.0000	.62883	-.371	-37.1	.00000	.000	1
CalStd10=10	10000.	9947.7	-52.3	-.523	.01450	.000	1

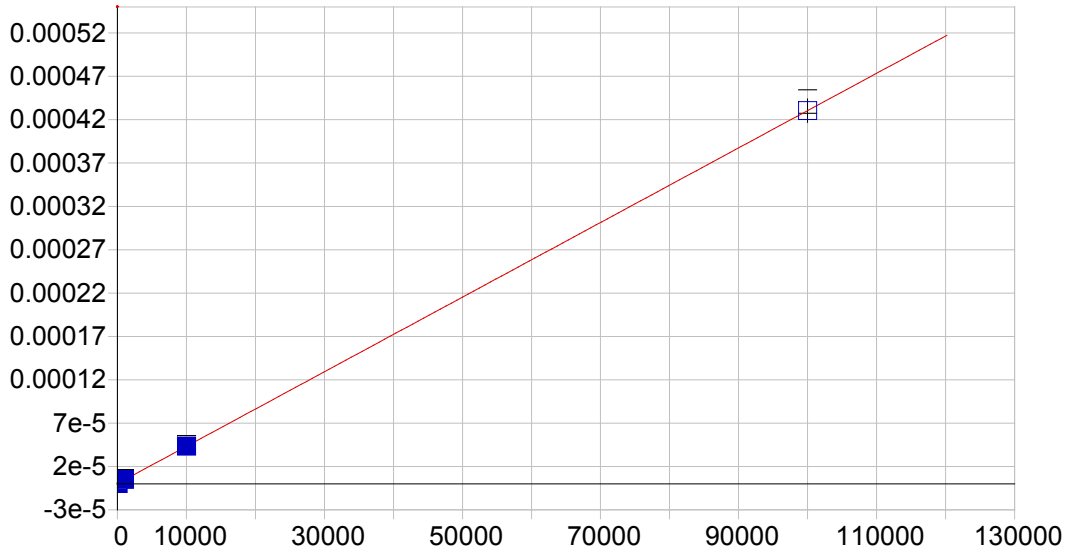


Pb 216.999 {455}

Date of Fit:	10/09/2015 09:24:41	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999955	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	6.755368		
Predicted MQL:	22.517894		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00276	-.003	.000	.00000	.000	1
CalStd9=100	1000.0	1075.7	75.7	7.57	.00016	.000	1
CalStd10=10	10000.	9856.9	-143.	-1.43	.00147	.000	1
CalStd11-100	100000.	93939.	-6060.	-6.06	.01403	.000	1
CalStd8=100	100.00	96.690	-3.31	-3.31	.00001	.000	1
CalStd4=5	5.0000	8.2323	3.23	64.6	.00000	.000	1
CalStd5=10	10.000	8.6998	-1.30	-13.0	.00000	.000	1

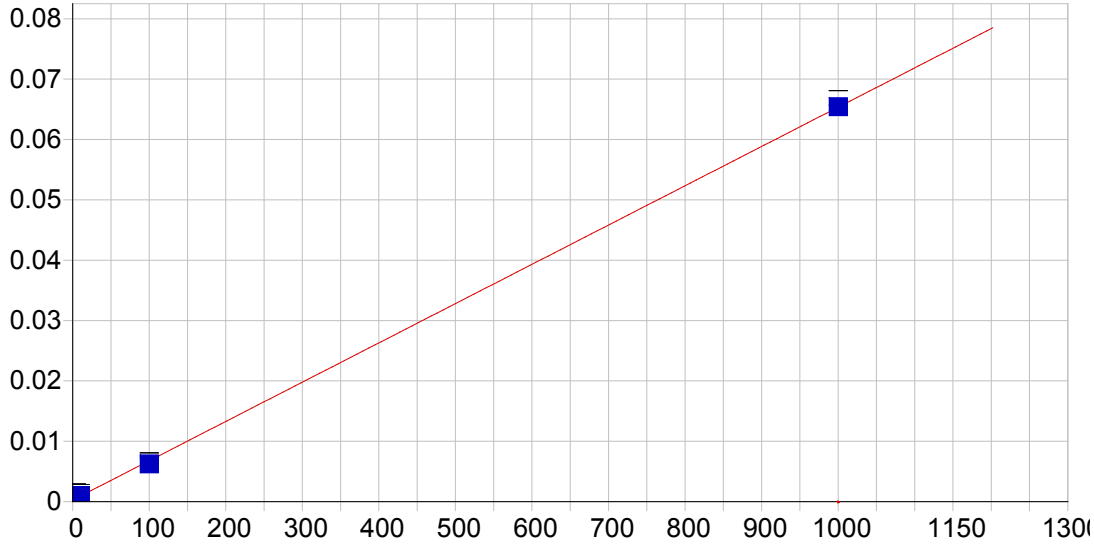


Pb 220.353 {153}

Date of Fit:	10/09/2015 09:24:41	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999998	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	247.770759		
Predicted MQL:	825.902530		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	40.860	40.9	.000	.00000	.000	1
CalStd9=100	1000.0	1103.8	104.	10.4	.00000	.000	1
CalStd10=10	10000.	10024.	24.4	.244	.00004	.000	1
CalStd8=100	100.00	4.0052	-96.0	-96.0	.00000	.000	1
CalStd4=5	5.0000	-6.1123	-11.1	-222.	.00000	.000	1
CalStd5=10	10.000	-48.604	-58.6	-586.	.00000	.000	1
CalStd11-100	100000.	99997.	-3.38	-.003	.00043	.000	1

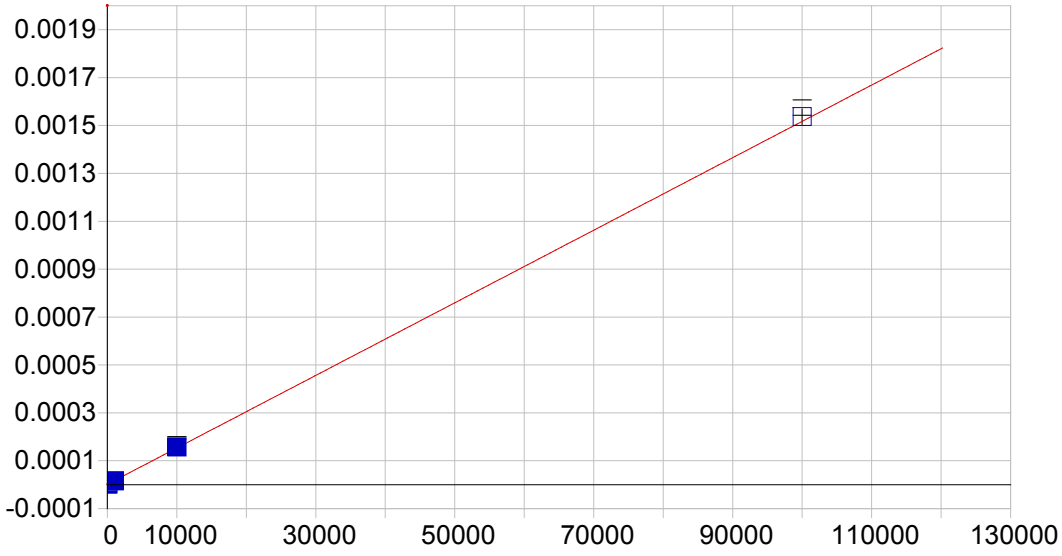


Pb 220.353 {453}

Date of Fit:	10/09/2015 09:15:36	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000263	Re-Slope:	1.000000
A1 (Gain):	0.000065	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999934	Status:	OK.
Std Error of Est:	0.000377		
Predicted MDL:	6.559486		
Predicted MQL:	21.864955		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.33780	.338	.000	.00029	.000	1
CalStd5=10	10.000	12.787	2.79	27.9	.00110	.000	1
CalStd8=100	100.00	91.545	-8.46	-8.46	.00622	.000	1
CalStd4=5	5.0000	9.5347	4.53	90.7	.00088	.001	1
CalStd9=100	1000.0	1000.8	.795	.080	.06538	.001	1

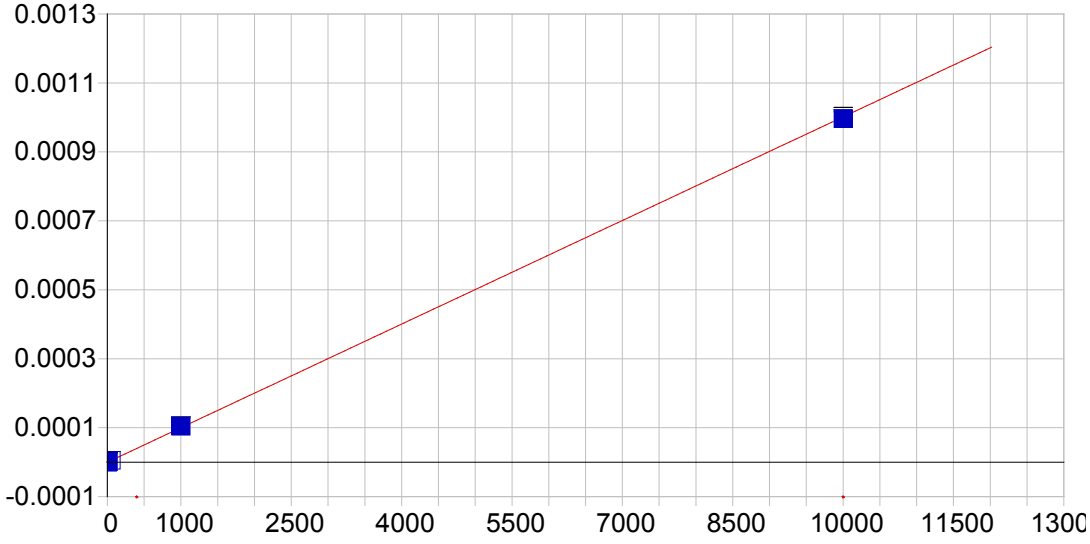


Pb 283.306 {119}

Date of Fit:	10/09/2015 09:24:41	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999709	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	126.324212		
Predicted MQL:	421.080706		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.07939	.079	.000	.00000	.000	1
CalStd9=100	1000.0	884.90	-115.	-11.5	.00002	.000	1
CalStd10=10	10000.	10217.	217.	2.17	.00016	.000	1
CalStd11-100	100000.	101300.	1300.	1.30	.00154	.000	1
CalStd8=100	100.00	30.110	-69.9	-69.9	.00000	.000	1

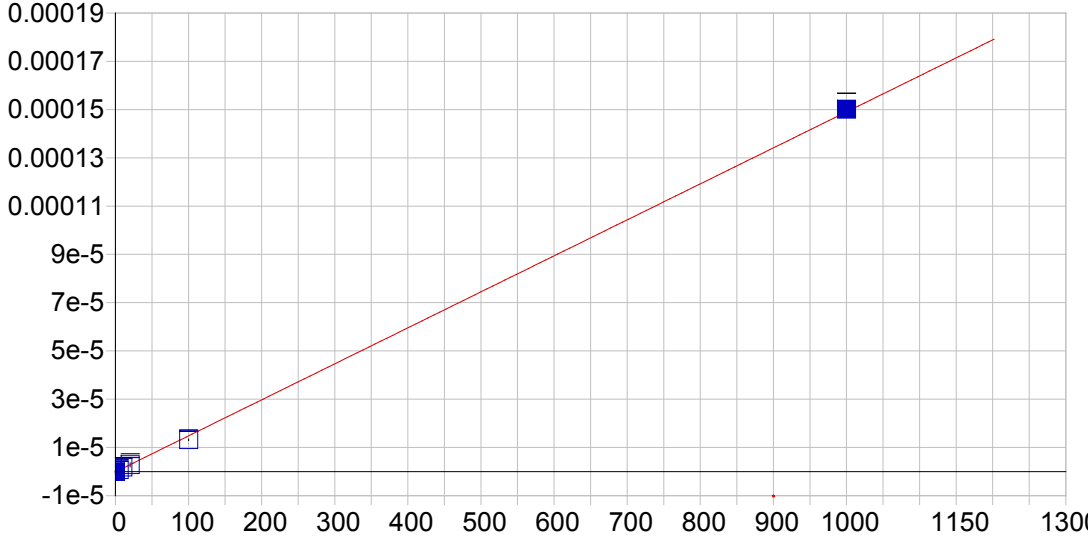


Sb 206.833 {463}

Date of Fit:	10/09/2015 09:20:23	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999844	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	6.761890		
Predicted MQL:	22.539632		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00425	-.004	.000	.00000	.000	1
CalStd9=100	1000.0	1043.9	43.9	4.39	.00010	.000	1
CalStd5=10	10.000	13.052	3.05	30.5	.00000	.000	1
CalStd7=50	50.000	54.033	4.03	8.07	.00001	.000	1
CalStd10=10	10000.	9949.0	-51.0	-.510	.00100	.000	1

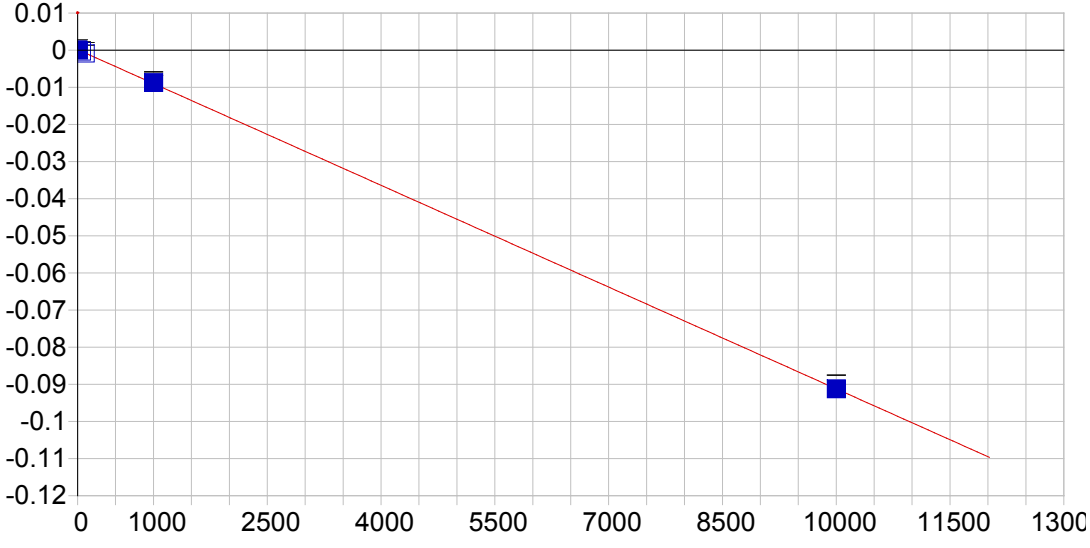


Sb 217.581 {455}

Date of Fit:	10/09/2015 09:15:37	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998972	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	5.932292		
Predicted MQL:	19.774307		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00180	-.002	.000	.00000	.000	1
CalStd9=100	1000.0	1007.3	7.32	.732	.00015	.000	1
CalStd6=20	20.000	19.520	-.480	-2.40	.00000	.000	1
CalStd5=10	10.000	13.081	3.08	30.8	.00000	.000	1
CalStd8=100	100.00	89.199	-10.8	-10.8	.00001	.000	1
CalStd4=5	5.0000	5.8786	.879	17.6	.00000	.000	1

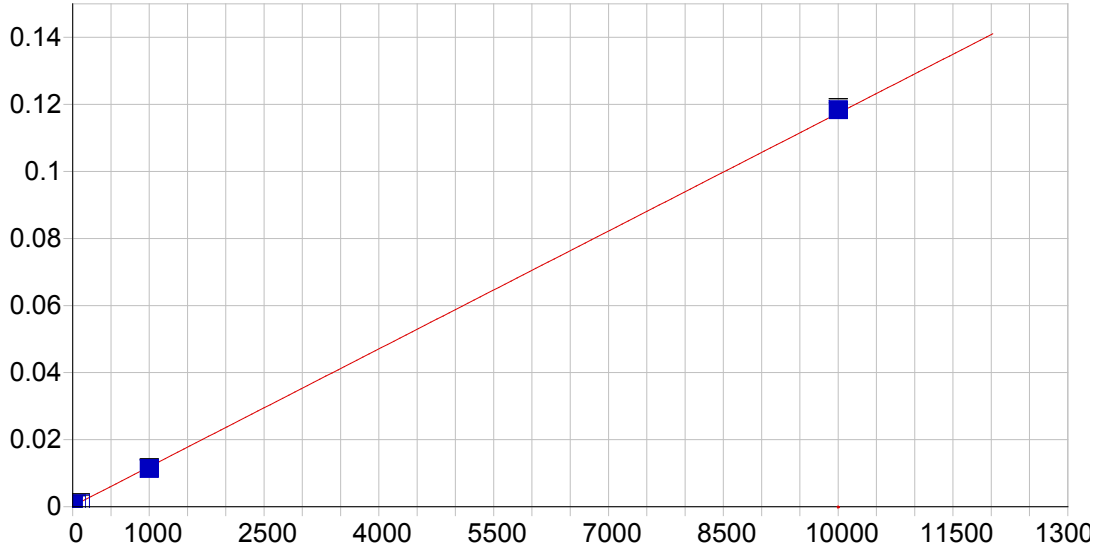


Se 196.090 {471}

Date of Fit:	10/09/2015 09:20:23	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000160	Re-Slope:	1.000000
A1 (Gain):	-0.000009	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999994	Status:	Warning
Std Error of Est:	0.000139		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	12.519	12.5	.000	.00005	.000	1
CalStd7=50	50.000	48.427	-1.57	-3.15	-.00028	.000	1
CalStd9=100	1000.0	973.95	-26.0	-2.60	-.00874	.000	1
CalStd5=10	10.000	17.902	7.90	79.0	.00000	.000	1
CalStd8=100	100.00	104.64	4.64	4.64	-.00080	.000	1
CalStd10=10	10000.	10003.	2.56	.026	-.09124	.001	1

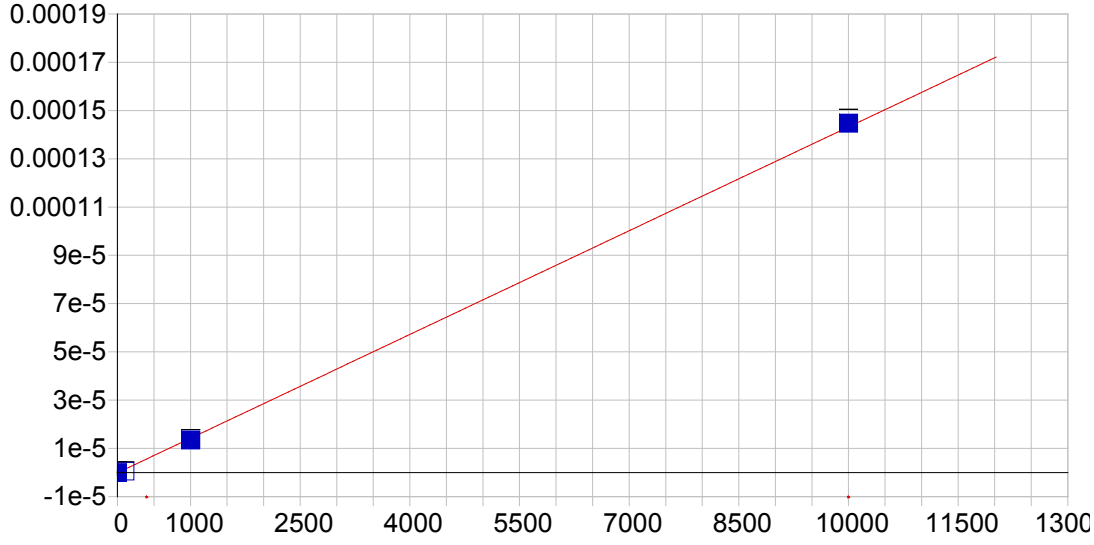


Se 196.090 {472}

Date of Fit:	10/09/2015 09:20:23	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000190	Re-Slope:	1.000000
A1 (Gain):	0.000012	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999337	Status:	OK.
Std Error of Est:	0.000006		
Predicted MDL:	17.806945		
Predicted MQL:	59.356482		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00432	.004	.000	.00019	.000	1
CalStd7=50	50.000	41.102	-8.90	-17.8	.00067	.000	1
CalStd9=100	1000.0	954.22	-45.8	-4.58	.01137	.000	1
CalStd5=10	10.000	11.039	1.04	10.4	.00032	.000	1
CalStd8=100	100.00	67.944	-32.1	-32.1	.00099	.000	1
CalStd10=10	10000.	10086.	85.7	.857	.11835	.001	1

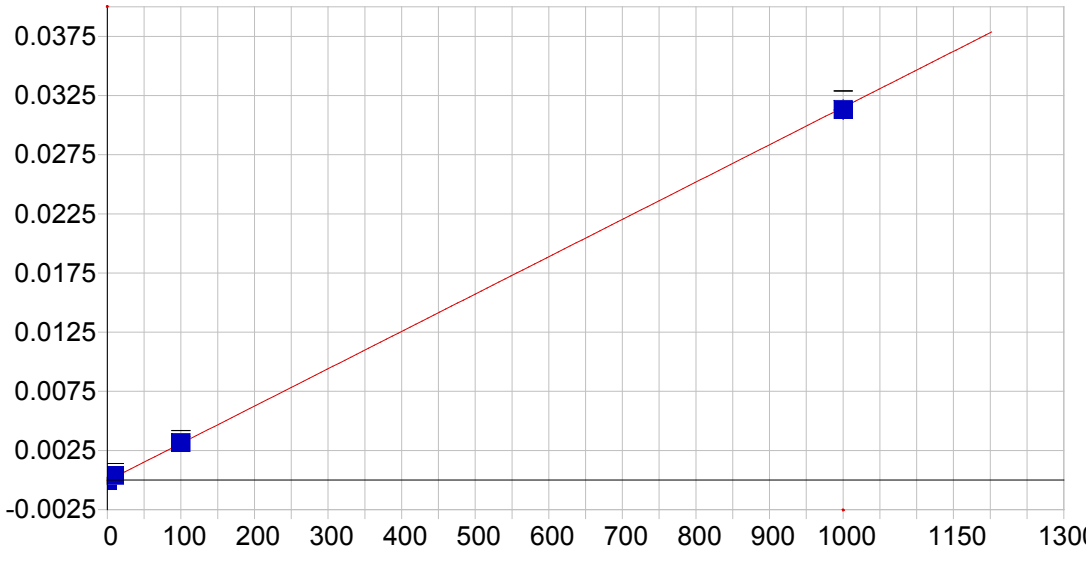


Se 206.279 {463}

Date of Fit:	10/09/2015 09:20:23	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998675	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	54.836804		
Predicted MQL:	182.789348		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.05485	.055	.000	.00000	.000	1
CalStd9=100	1000.0	946.79	-53.2	-5.32	.00001	.000	1
CalStd10=10	10000.	10104.	104.	1.04	.00014	.000	1
CalStd8=100	100.00	49.433	-50.6	-50.6	.00000	.000	1

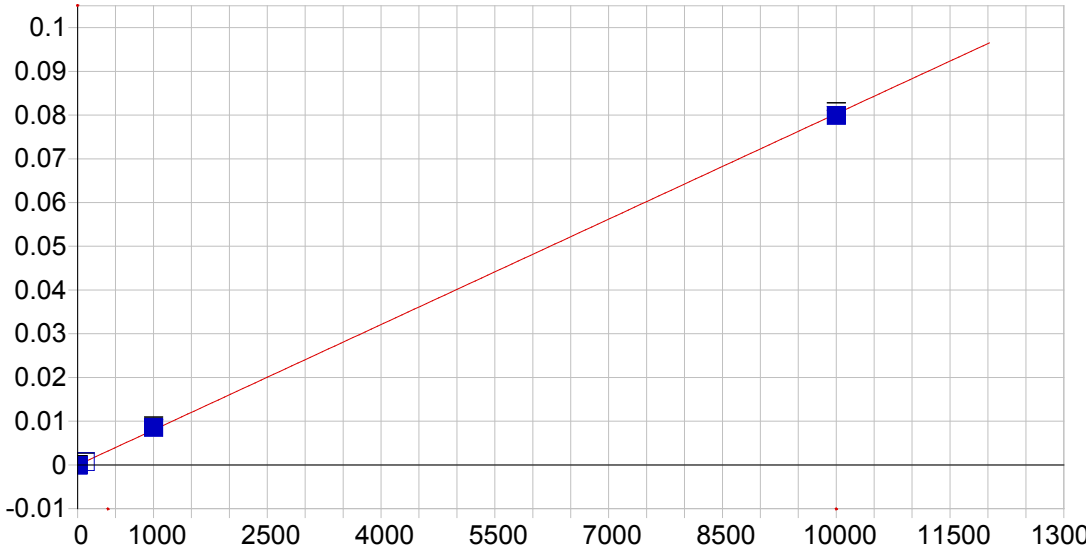


Tl 190.856 {476}

Date of Fit:	10/09/2015 09:15:37	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000060	Re-Slope:	1.000000
A1 (Gain):	0.000032	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999135	Status:	OK.
Std Error of Est:	0.000006		
Predicted MDL:	9.479282		
Predicted MQL:	31.597606		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00443	-.004	.000	-.00006	.000	1
CalStd9=100	1000.0	993.66	-6.34	-.634	.03133	.001	1
CalStd8=100	100.00	102.05	2.05	2.05	.00316	.000	1
CalStd5=10	10.000	14.293	4.29	42.9	.00039	.000	1

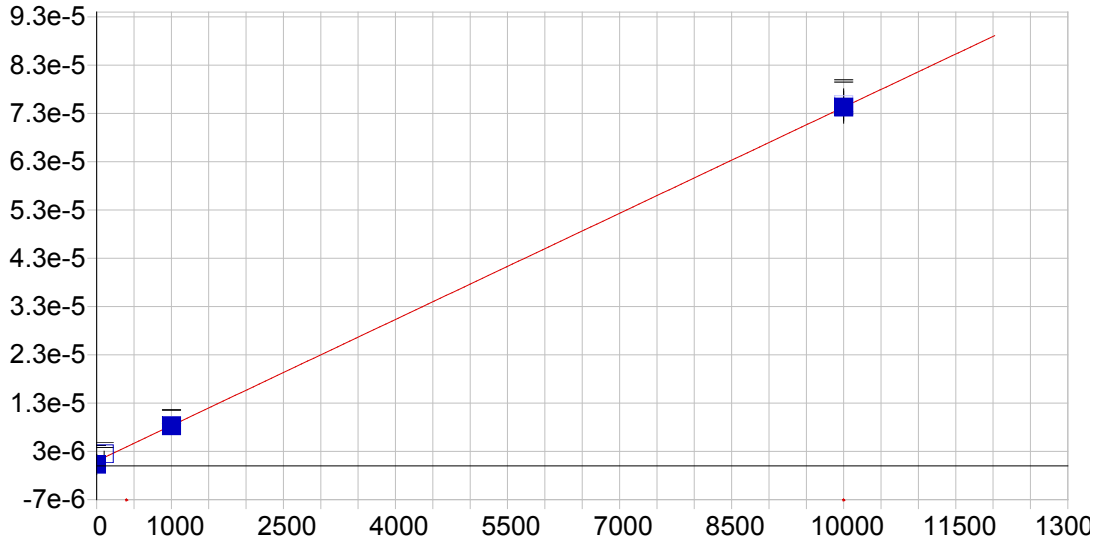


Tl 190.856 {477}

Date of Fit:	10/09/2015 09:20:23	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000037	Re-Slope:	1.000000
A1 (Gain):	0.000008	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998955	Status:	OK.
Std Error of Est:	0.000005		
Predicted MDL:	27.810986		
Predicted MQL:	92.703287		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.01324	.013	.000	-.00004	.000	1
CalStd9=100	1000.0	1069.8	69.8	6.98	.00856	.000	1
CalStd8=100	100.00	94.531	-5.47	-5.47	.00072	.000	1
CalStd5=10	10.000	-3.3419	-13.3	-133.	-.00006	.000	1
CalStd10=10	10000.	9949.0	-51.0	-.510	.07988	.001	1

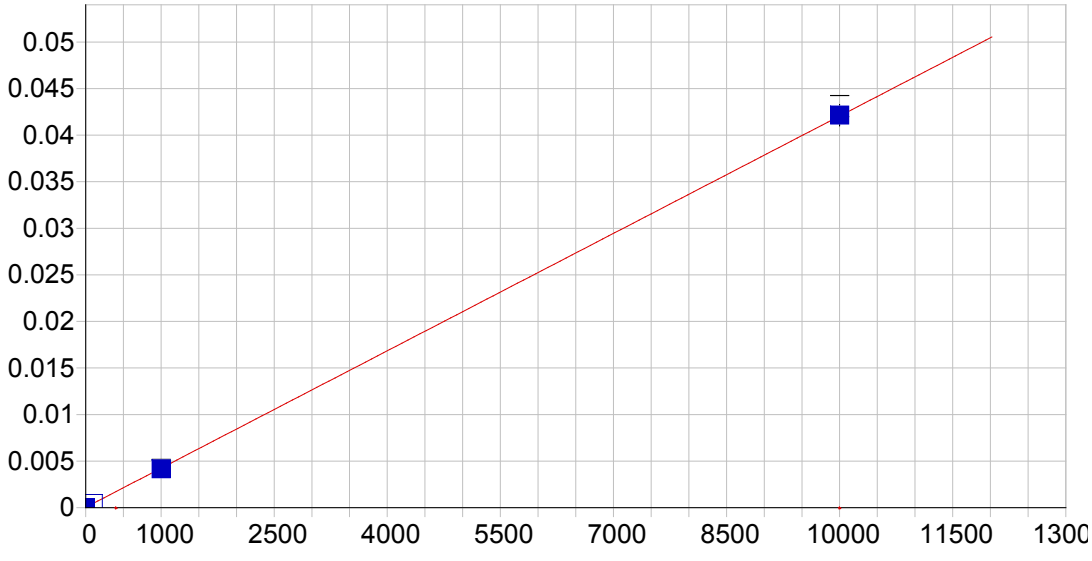


Tl 276.787 {122}

Date of Fit:	10/09/2015 09:20:23	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999872	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	226.474790		
Predicted MQL:	754.915968		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-90.632	-90.6	.000	.00000	.000	1
CalStd9=100	1000.0	991.14	-8.86	-.886	.00001	.000	1
CalStd10=10	10000.	9999.9	-.104	-.001	.00007	.000	1
CalStd8=100	100.00	199.59	99.6	99.6	.00000	.000	1

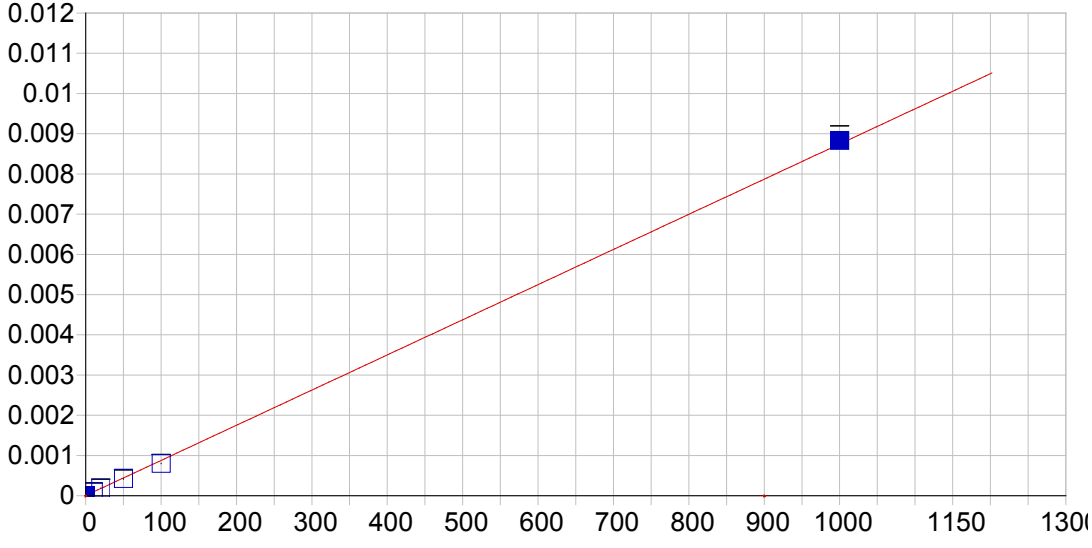


V 290.882 {116}

Date of Fit:	10/09/2015 09:20:23	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000035	Re-Slope:	1.000000
A1 (Gain):	0.000004	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999978	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	6.487789		
Predicted MQL:	21.625962		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00526	.005	.000	.00003	.000	1
CalStd9=100	1000.0	982.26	-17.7	-1.77	.00416	.000	1
CalStd10=10	10000.	10021.	21.4	.214	.04215	.001	1
CalStd8=100	100.00	96.303	-3.70	-3.70	.00044	.000	1

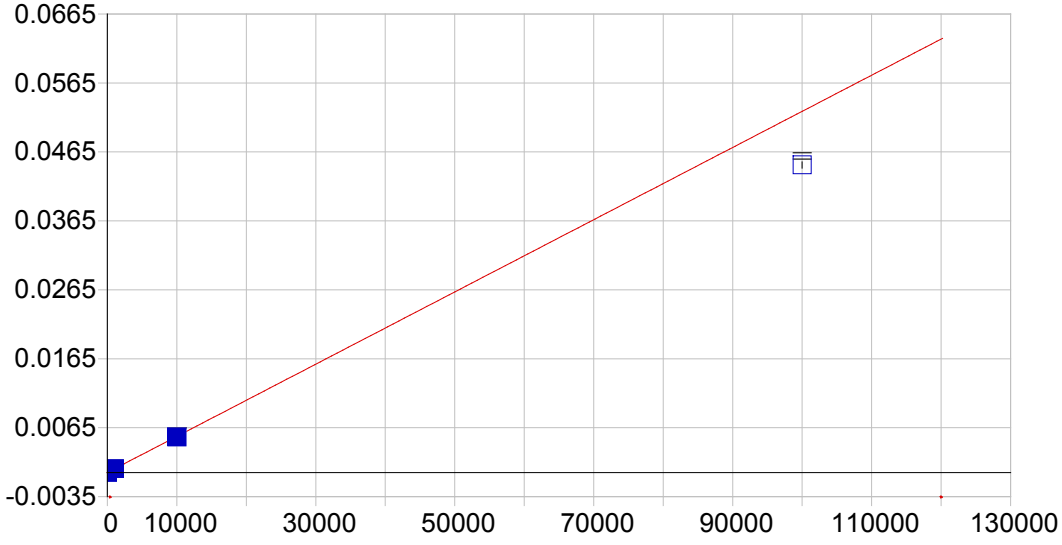


V 292.402 {115}

Date of Fit:	10/09/2015 09:15:37	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000004	Re-Slope:	1.000000
A1 (Gain):	0.000009	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999564	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.722405		
Predicted MQL:	2.408016		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00041	.000	.000	.00000	.000	1
CalStd7=50	50.000	47.930	-2.07	-4.14	.00042	.000	1
CalStd9=100	1000.0	1009.8	9.81	.981	.00883	.000	1
CalStd6=20	20.000	20.804	.804	4.02	.00019	.000	1
CalStd5=10	10.000	10.395	.395	3.95	.00009	.000	1
CalStd8=100	100.00	91.061	-8.94	-8.94	.00080	.000	1

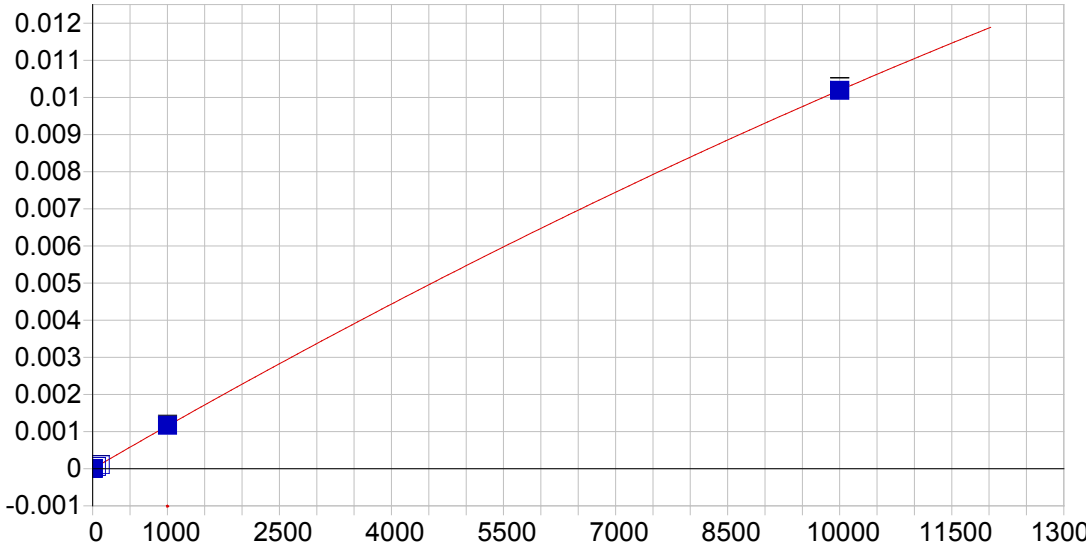


Zn 206.200 {463}

Date of Fit:	10/09/2015 09:24:41	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	-0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999994	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	1.373658		
Predicted MQL:	4.578861		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
CalStd10=10	10000.	9818.8	-181.	-1.81	.00514	.000	1
Blank	.00000	-.02647	-.026	.000	.00000	.000	1
CalStd9=100	1000.0	1028.2	28.2	2.82	.00054	.000	1
CalStd11-100	100000.	85155.	-14800.	-14.8	.04461	.000	1

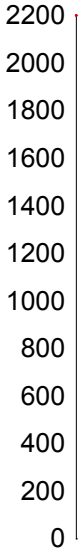


Zn 213.856 {458}

Date of Fit:	10/09/2015 09:20:23	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	-0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999928	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.649673		
Predicted MQL:	2.165577		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00041	.000	.000	.00000	.000	1
CalStd8=100	100.00	90.017	-9.98	-9.98	.00010	.000	1
CalStd7=50	50.000	47.950	-2.05	-4.10	.00005	.000	1
CalStd5=10	10.000	10.364	.364	3.64	.00001	.000	1
CalStd9=100	1000.0	1013.1	13.1	1.31	.00117	.000	1
CalStd4=5	5.0000	5.0481	.048	.962	.00000	.000	1
CalStd10=10	10000.	9998.4	-1.57	-.016	.01019	.000	1

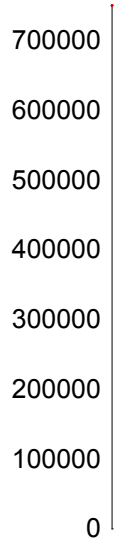


Y 224.306 {451}*

Date of Fit:	10/09/2015 08:34:53	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.000000	Status:	Warning Zero Gain
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	2015.2	8.95	1

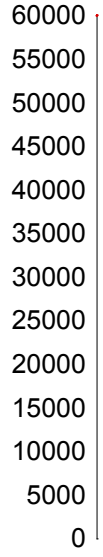


Y 324.228 {104}*

Date of Fit:	10/09/2015 08:34:53	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.000000	Status:	Warning Zero Gain
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	668680.	5590.	1

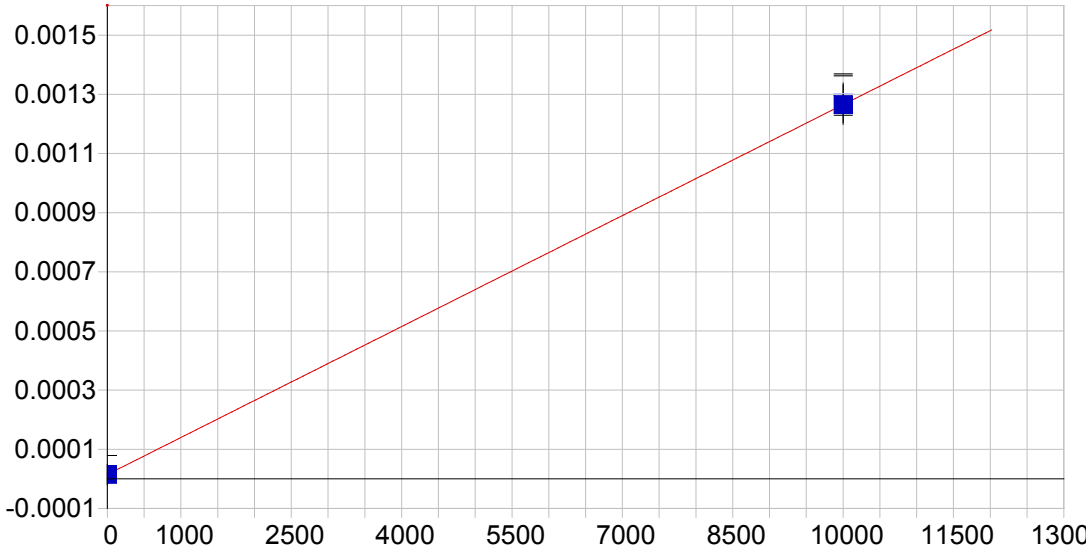


Y 371.030 { 91}*

Date of Fit:	10/09/2015 08:34:53	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.000000	Status:	Warning Zero Gain
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	49339.	271.	1

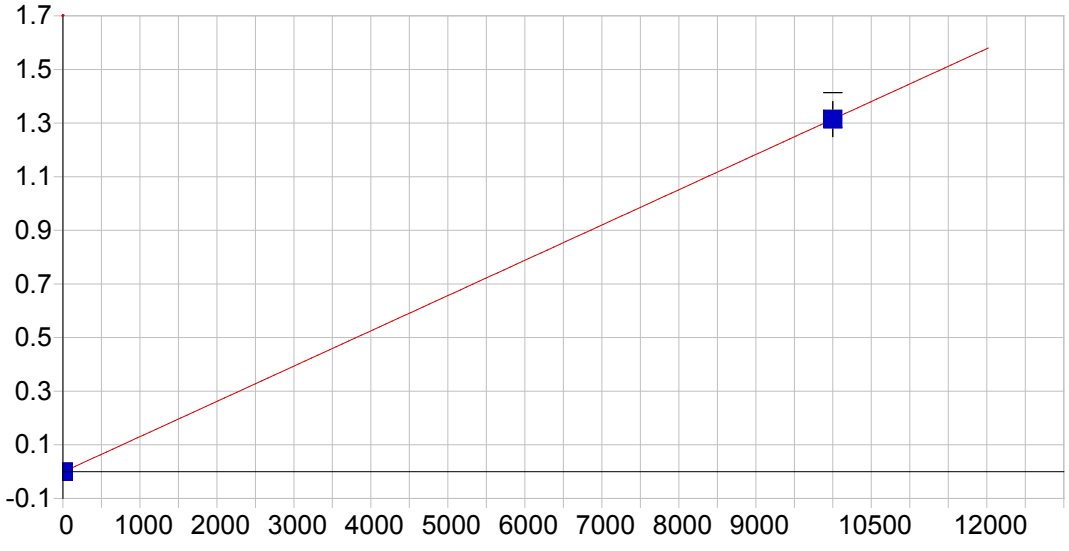


Na 330.298 {102}

Date of Fit:	10/09/2015 09:20:23	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000015	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	393.207730		
Predicted MQL:	1310.692434		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00001	.000	1
CalStd10=10	10000.	10000.	.000	.000	.00127	.000	1

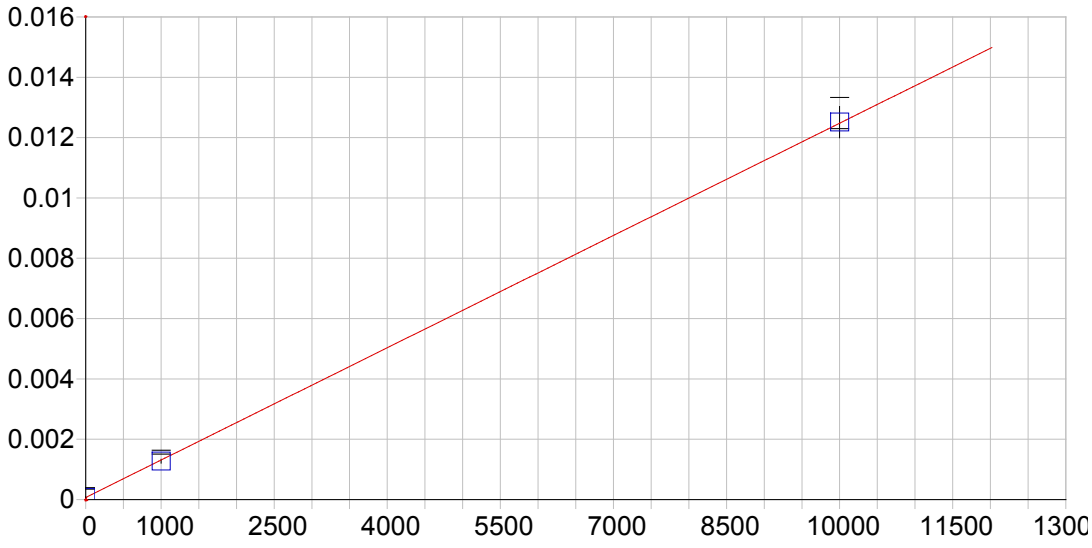


Na 588.995 { 57}

Date of Fit:	10/09/2015 09:20:24	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.001173	Re-Slope:	1.000000
A1 (Gain):	0.000132	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	1.564822		
Predicted MQL:	5.216072		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	-.00117	.001	1
CalStd10=10	10000.	10000.	.000	.000	1.3146	.065	1

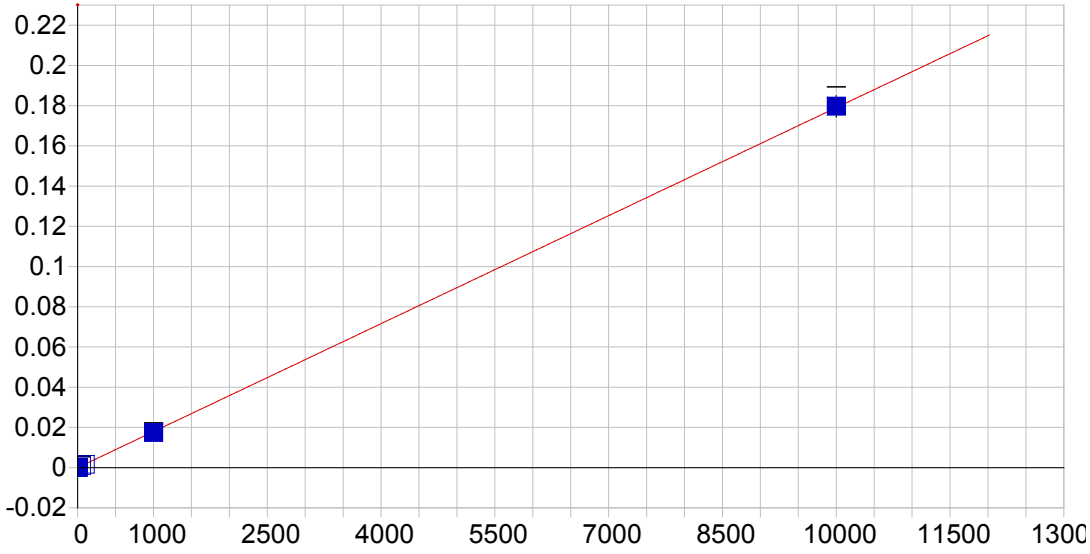


Si 251.611 {134}

Date of Fit:	10/09/2015 09:20:24	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000070	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999957	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	16.740155		
Predicted MQL:	55.800516		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.02650	.027	.000	.00007	.000	1
CalStd10=10	10000.	10029.	29.4	.294	.01251	.001	1
CalStd9=100	1000.0	970.55	-29.4	-2.94	.00127	.000	1

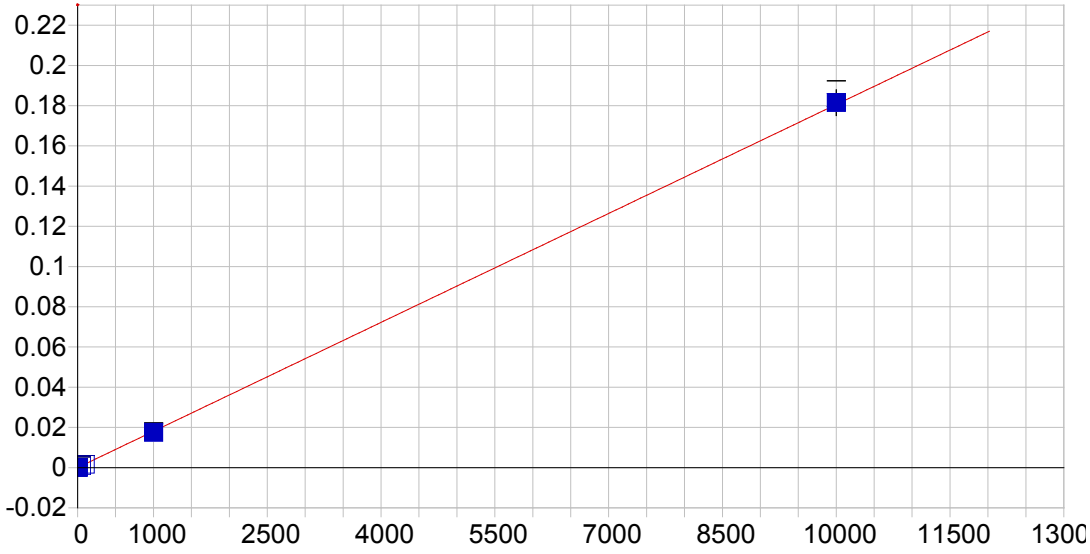


Ti 334.941 {101}

Date of Fit: 10/09/2015 09:20:24 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	-0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000018	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999867	Status:	OK.
Std Error of Est:	0.000003		
Predicted MDL:	1.555251		
Predicted MQL:	5.184171		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00196	-.002	.000	.00000	.000	1
CalStd5=10	10.000	10.893	.893	8.93	.00019	.000	1
CalStd8=100	100.00	90.471	-9.53	-9.53	.00162	.000	1
CalStd9=100	1000.0	972.24	-27.8	-2.78	.01740	.000	1
CalStd10=10	10000.	10036.	35.7	.357	.17965	.005	1
CalStd7=50	50.000	48.382	-1.62	-3.24	.00086	.000	1
CalStd4=5	5.0000	7.2719	2.27	45.4	.00013	.000	1

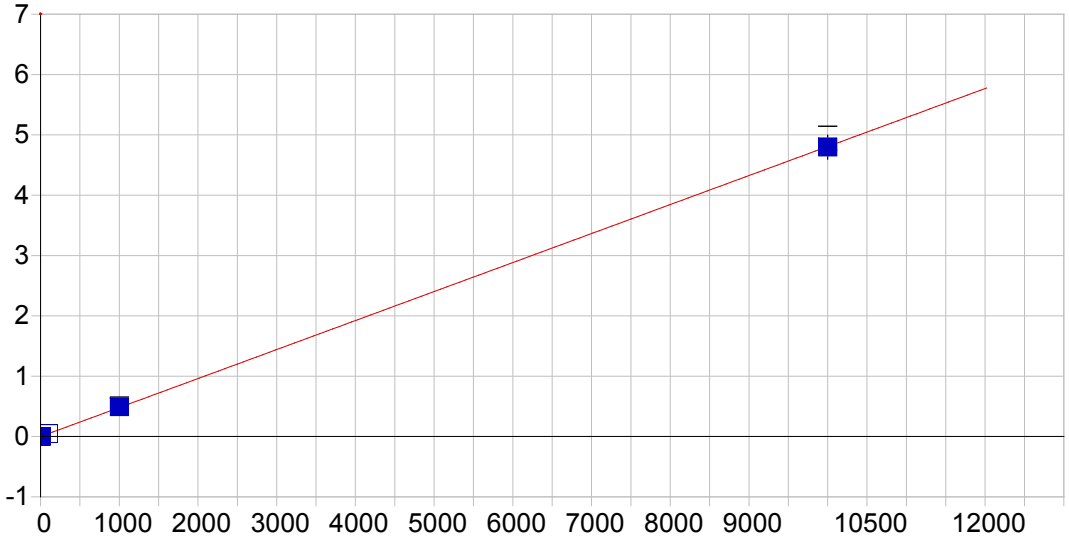


Ti 337.280 {100}

Date of Fit: 10/09/2015 09:20:24 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	0.000013	Re-Slope:	1.000000
A1 (Gain):	0.000018	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999844	Status:	OK.
Std Error of Est:	0.000003		
Predicted MDL:	2.141942		
Predicted MQL:	7.139806		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00288	.003	.000	.00001	.000	1
CalStd5=10	10.000	7.8909	-2.11	-21.1	.00016	.000	1
CalStd8=100	100.00	88.864	-11.1	-11.1	.00162	.000	1
CalStd9=100	1000.0	968.13	-31.9	-3.19	.01749	.000	1
CalStd10=10	10000.	10050.	50.4	.504	.18148	.006	1
CalStd7=50	50.000	45.371	-4.63	-9.26	.00083	.000	1
CalStd4=5	5.0000	4.3333	-.667	-13.3	.00009	.000	1

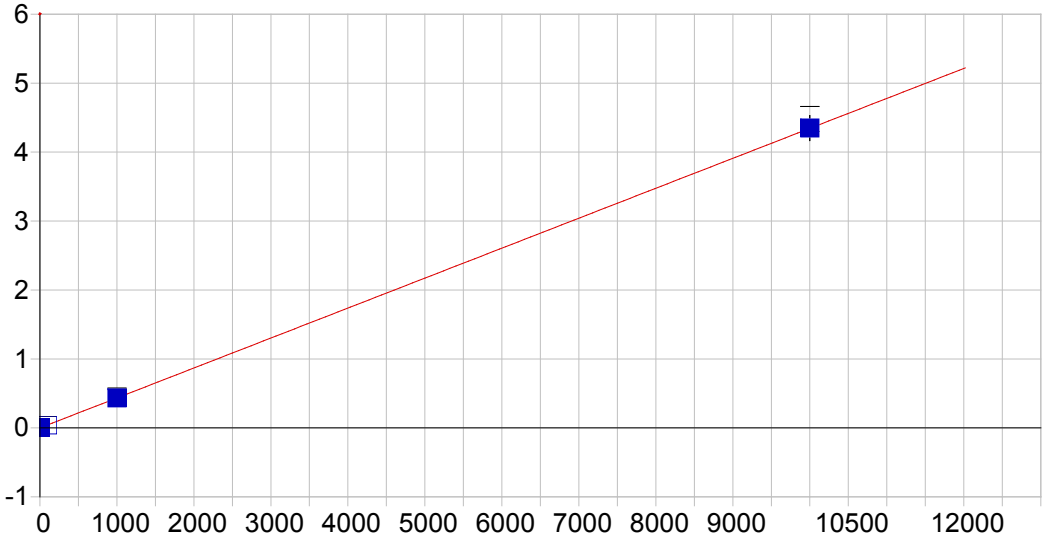


Sr 407.771 { 83}

Date of Fit:	10/09/2015 09:20:24	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000880	Re-Slope:	1.000000
A1 (Gain):	0.000481	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999951	Status:	OK.
Std Error of Est:	0.000019		
Predicted MDL:	0.102204		
Predicted MQL:	0.340679		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00031	.000	.000	-.00088	.000	1
CalStd3=1	1.0000	1.1172	.117	11.7	-.00034	.000	1
CalStd4=5	5.0000	5.6621	.662	13.2	.00184	.000	1
CalStd5=10	10.000	10.882	.882	8.82	.00435	.000	1
CalStd8=100	100.00	94.567	-5.43	-5.43	.04458	.001	1
CalStd9=100	1000.0	1023.8	23.8	2.38	.49128	.011	1
CalStd10=10	10000.	9980.0	-20.0	-.200	4.7968	.197	1

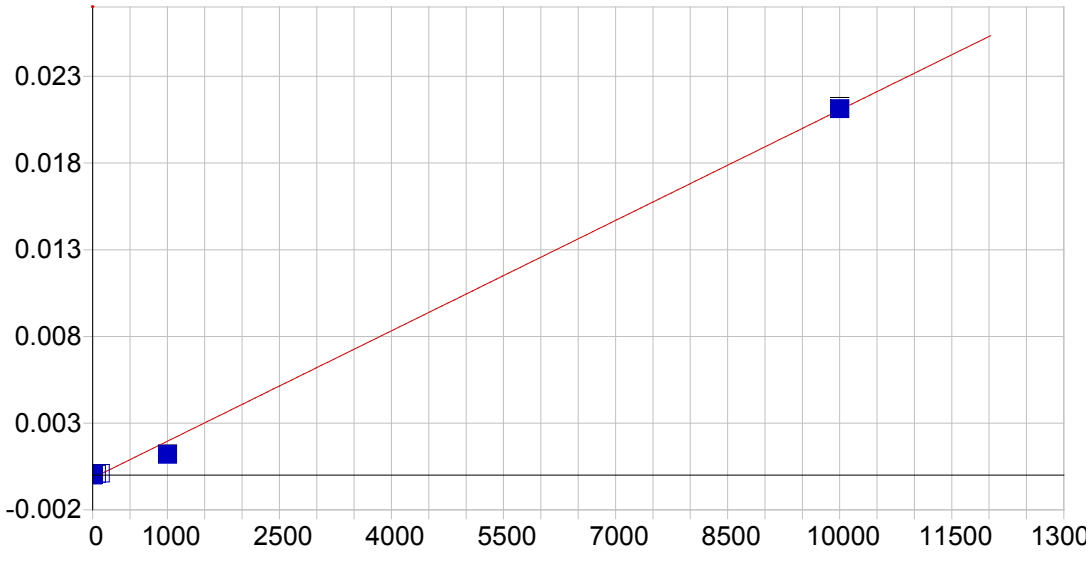


Sr 421.552 { 80}

Date of Fit:	10/09/2015 09:20:24	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000099	Re-Slope:	1.000000
A1 (Gain):	0.000434	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999967	Status:	OK.
Std Error of Est:	0.000014		
Predicted MDL:	0.129189		
Predicted MQL:	0.430632		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00023	.000	.000	-.00010	.000	1
CalStd3=1	1.0000	1.1628	.163	16.3	.00041	.000	1
CalStd4=5	5.0000	5.4856	.486	9.71	.00228	.000	1
CalStd5=10	10.000	10.450	.450	4.50	.00444	.000	1
CalStd8=100	100.00	92.118	-7.88	-7.88	.03992	.001	1
CalStd9=100	1000.0	998.20	-1.80	-.180	.43358	.010	1
CalStd10=10	10000.	10009.	8.59	.086	4.3482	.181	1

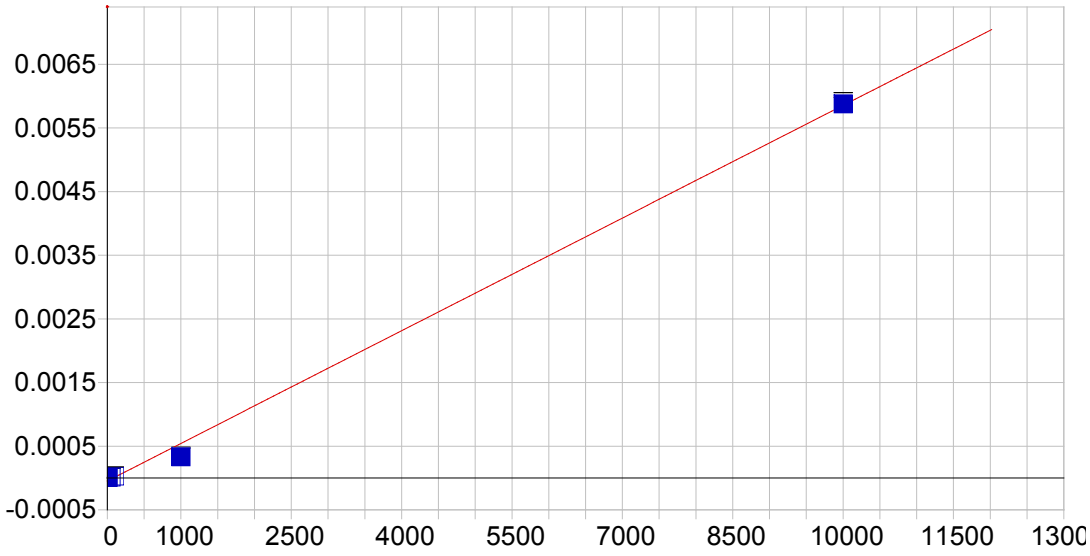


Sn 189.989 {477}

Date of Fit: 10/09/2015 09:20:24 Type of Fit: Linear Weighting: None

A0 (Offset):	-0.000166	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999089	Status:	OK.
Std Error of Est:	0.000370		
Predicted MDL:	2.918580		
Predicted MQL:	9.728600		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	78.403	78.4	.000	.00000	.000	1
CalStd10=10	10000.	10035.	35.1	.351	.02113	.000	1
CalStd9=100	1000.0	642.25	-358.	-35.8	.00120	.000	1
CalStd8=100	100.00	130.90	30.9	30.9	.00011	.000	1
CalStd5=10	10.000	86.598	76.6	766.	.00002	.000	1
CalStd7=50	50.000	108.35	58.4	117.	.00006	.000	1
CalStd4=5	5.0000	83.440	78.4	1570.	.00001	.000	1

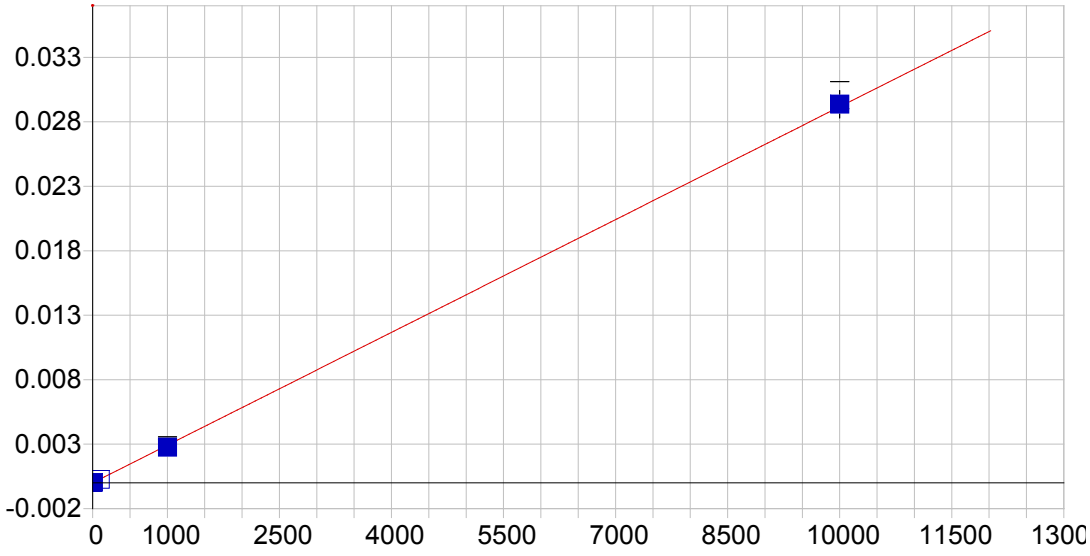


Sn 189.989 {478}

Date of Fit:	10/09/2015 09:20:24	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	-0.000047	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999077	Status:	OK.
Std Error of Est:	0.000103		
Predicted MDL:	11.181209		
Predicted MQL:	37.270696		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	83.389	83.4	.000	.00000	.000	1
CalStd10=10	10000.	10035.	35.3	.353	.00588	.000	1
CalStd9=100	1000.0	640.66	-359.	-35.9	.00033	.000	1
CalStd8=100	100.00	128.51	28.5	28.5	.00003	.000	1
CalStd5=10	10.000	94.434	84.4	844.	.00001	.000	1
CalStd7=50	50.000	101.47	51.5	103.	.00001	.000	1
CalStd4=5	5.0000	81.270	76.3	1530.	.00000	.000	1

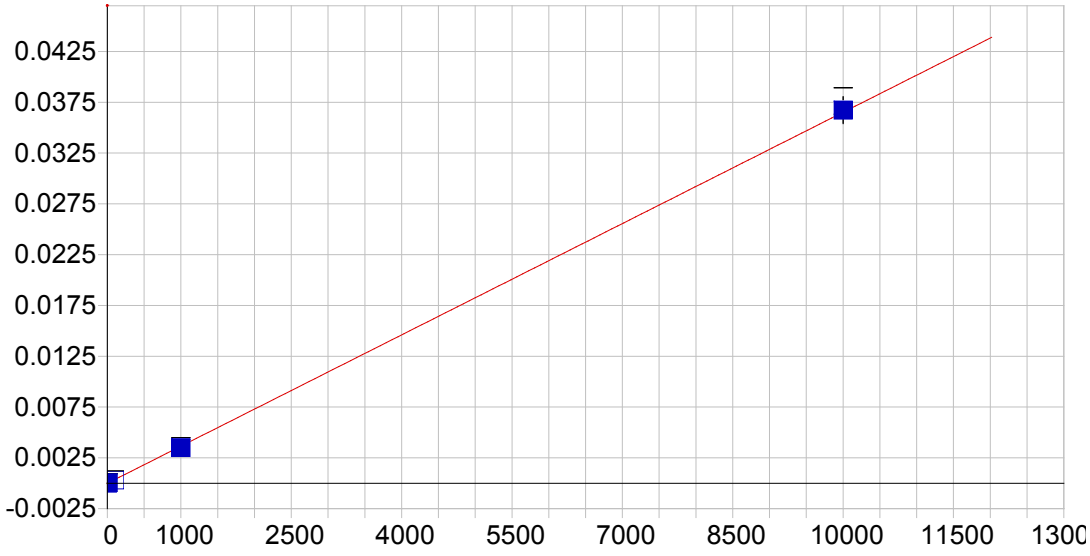


B 249.678 {135}

Date of Fit:	10/09/2015 09:20:24	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000003	Re-Slope:	1.000000
A1 (Gain):	0.000003	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999778	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	7.166507		
Predicted MQL:	23.888358		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00134	.001	.000	.00000	.000	1
CalStd8=100	100.00	88.301	-11.7	-11.7	.00026	.000	1
CalStd5=10	10.000	10.319	.319	3.19	.00003	.000	1
CalStd9=100	1000.0	944.30	-55.7	-5.57	.00276	.000	1
CalStd10=10	10000.	10067.	67.1	.671	.02936	.001	1

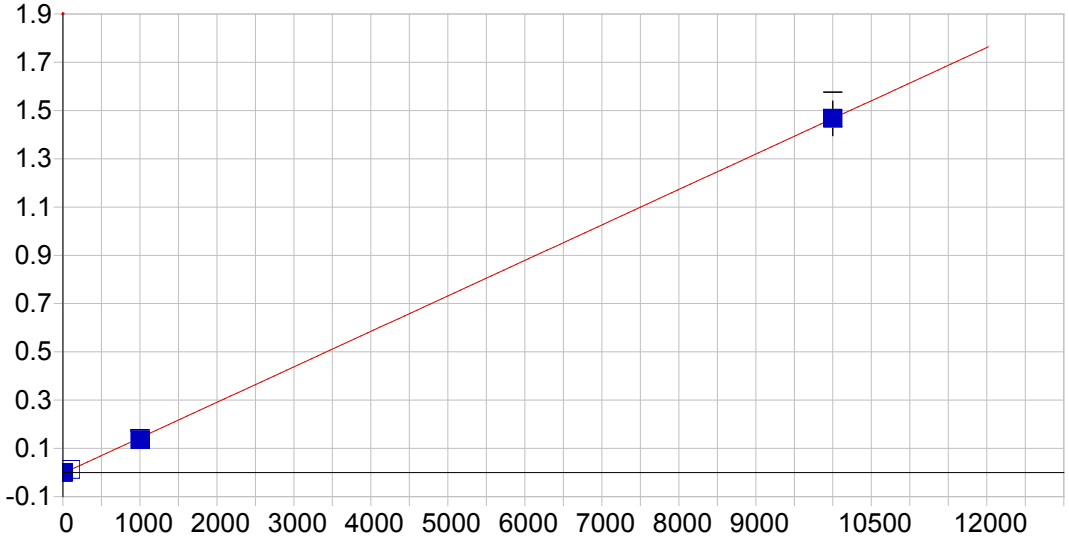


B 249.773 {135}

Date of Fit:	10/09/2015 09:20:24	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000006	Re-Slope:	1.000000
A1 (Gain):	0.000004	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999810	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	5.235746		
Predicted MQL:	17.452487		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00056	-.001	.000	-.00001	.000	1
CalStd8=100	100.00	86.425	-13.6	-13.6	.00031	.000	1
CalStd5=10	10.000	12.264	2.26	22.6	.00004	.000	1
CalStd9=100	1000.0	959.83	-40.2	-4.02	.00351	.000	1
CalStd10=10	10000.	10051.	51.5	.515	.03676	.001	1

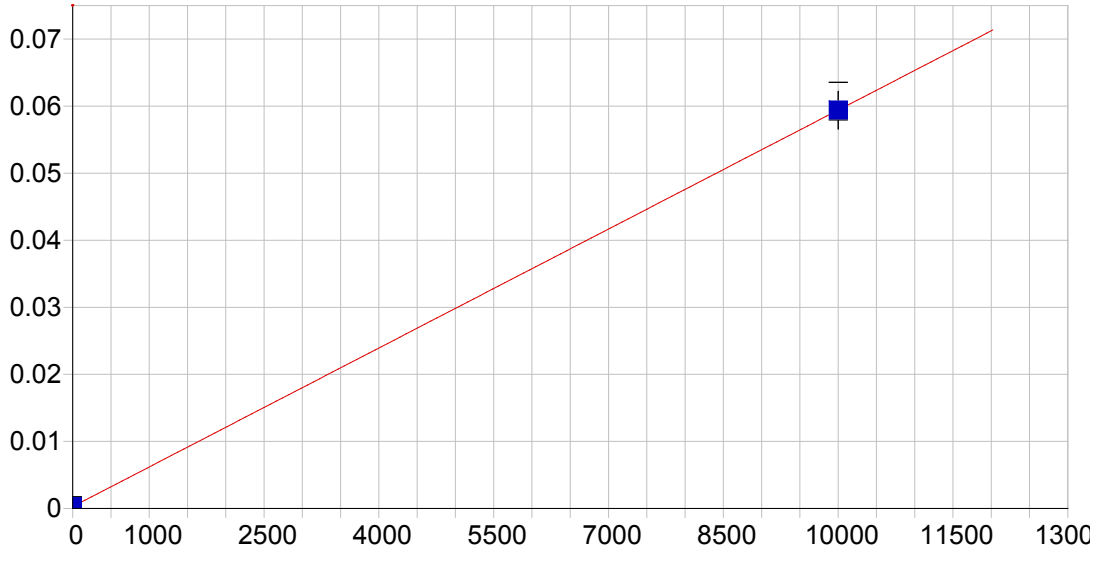


Li 670.784 { 50}

Date of Fit:	10/09/2015 09:20:24	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	-0.003213	Re-Slope:	1.000000
A1 (Gain):	0.000147	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999973	Status:	OK.
Std Error of Est:	0.005449		
Predicted MDL:	0.990423		
Predicted MQL:	3.301410		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	22.073	22.1	.000	.00003	.000	1
CalStd5=10	10.000	31.178	21.2	212.	.00137	.000	1
CalStd8=100	100.00	107.01	7.01	7.01	.01252	.000	1
CalStd9=100	1000.0	944.26	-55.7	-5.57	.13561	.004	1
CalStd10=10	10000.	10005.	5.48	.055	1.4678	.071	1

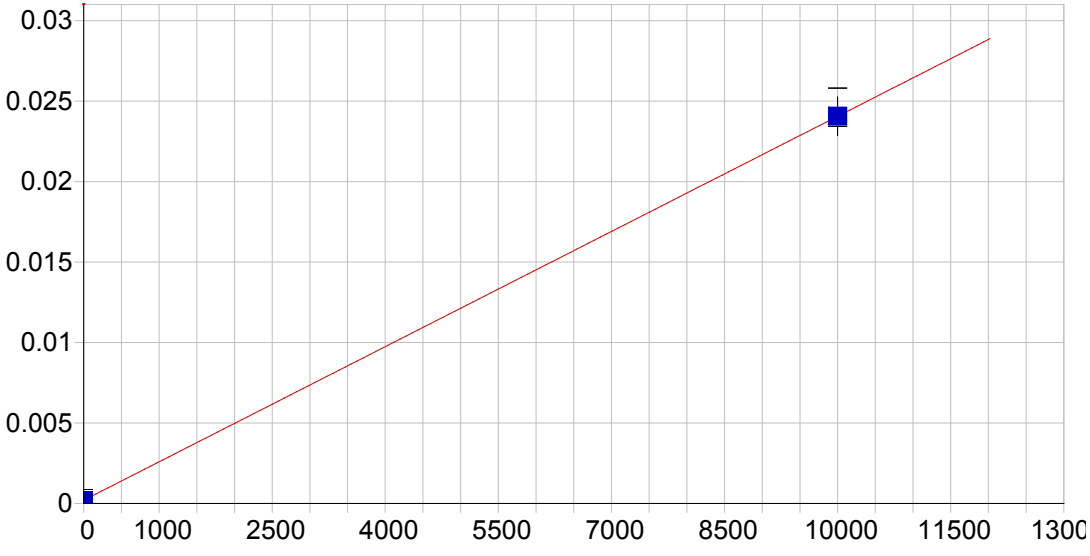


K 766.490 { 44}

Date of Fit:	10/09/2015 09:20:24	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000273	Re-Slope:	1.000000
A1 (Gain):	0.000006	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	25.687371		
Predicted MQL:	85.624569		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00027	.000	1
CalStd10=10	10000.	10000.	.000	.000	.05940	.003	1

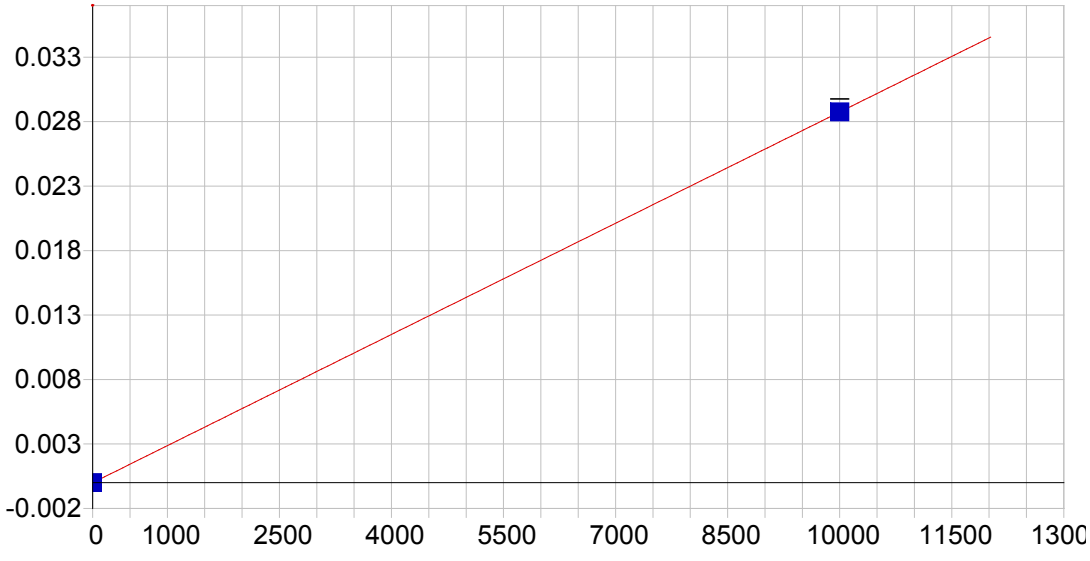


K 769.896 { 44}

Date of Fit:	10/09/2015 09:20:24	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000201	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	51.076627		
Predicted MQL:	170.255424		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00020	.000	1
CalStd10=10	10000.	10000.	.000	.000	.02406	.001	1

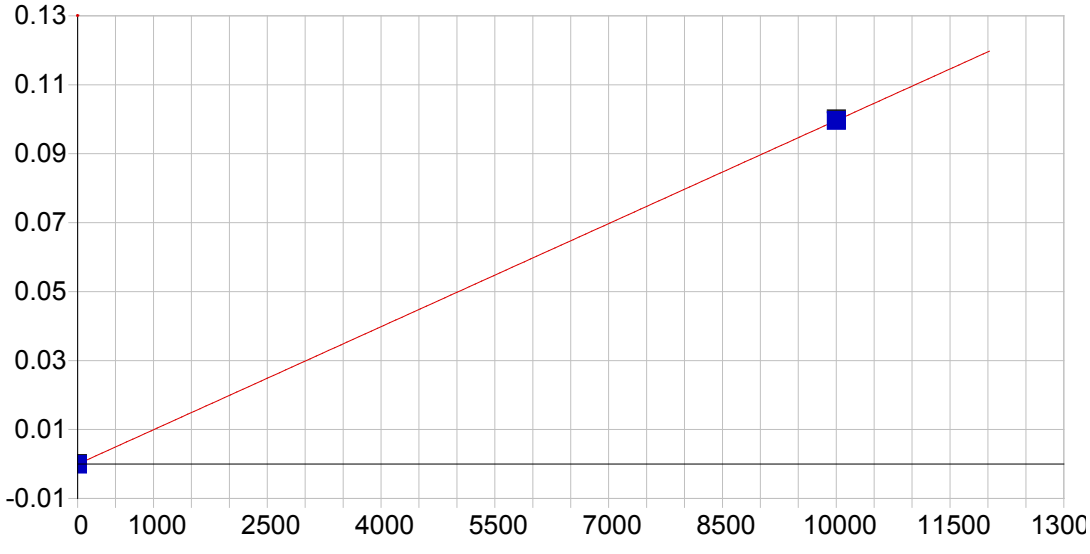


P 177.495 {489}

Date of Fit:	10/09/2015 09:20:24	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000006	Re-Slope:	1.000000
A1 (Gain):	0.000003	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	2.078735		
Predicted MQL:	6.929117		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	-.00001	.000	1
CalStd10=10	10000.	10000.	.000	.000	.02875	.000	1

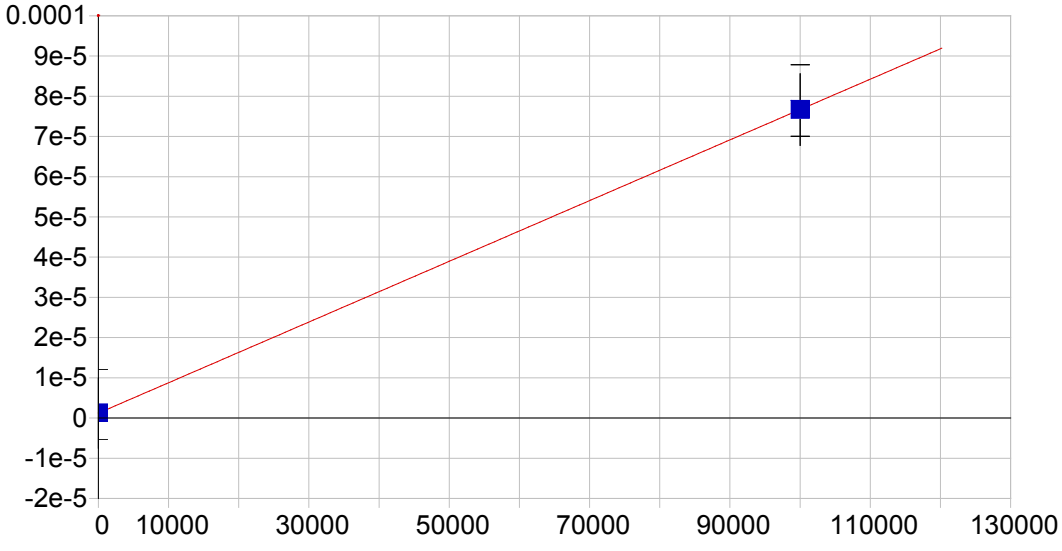


P 213.618 {457}

Date of Fit:	10/09/2015 09:20:24	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000046	Re-Slope:	1.000000
A1 (Gain):	0.000010	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	1.037370		
Predicted MQL:	3.457899		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	-.00005	.000	1
CalStd10=10	10000.	10000.0	.000	.000	.09963	.000	1

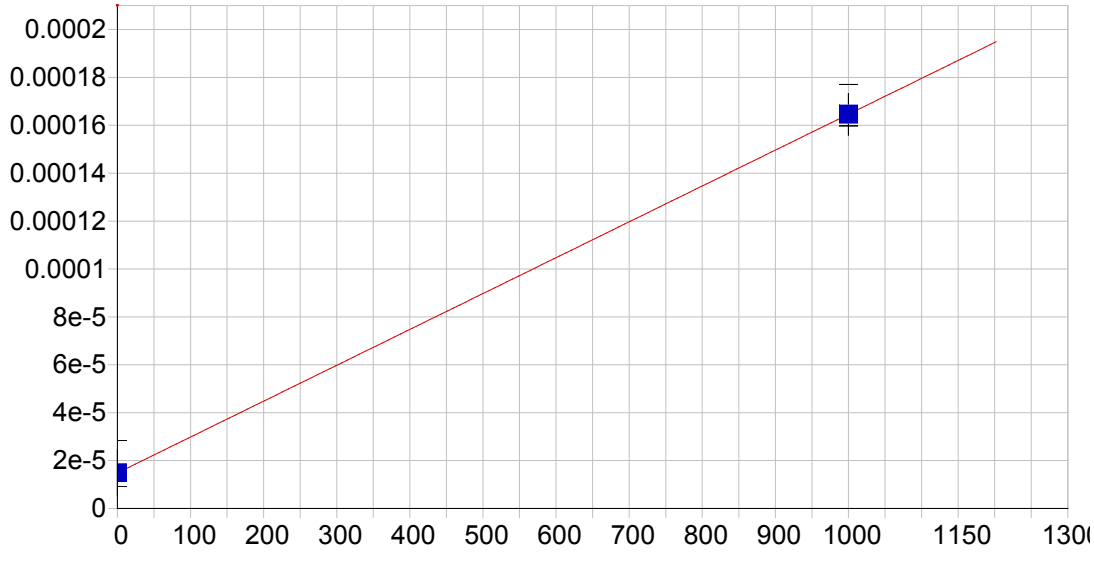


S 182.034 {485}

Date of Fit:	10/09/2015 09:29:34	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	9585.311051		
Predicted MQL:	31951.03683		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00000	.000	1
CalStd12-100	100000.	100000.	.000	.000	.00008	.000	1



W 239.709 {140}

Date of Fit:	10/09/2015 09:15:38	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000015	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	117.996653		
Predicted MQL:	393.322177		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00001	.000	1
CalStd9=100	1000.0	1000.0	.000	.000	.00016	.000	1

Sample Name: Blank Acquired: 10/09/2015 08:30:29 Type: Cal
Method: DOD Calibration Updated 060614(v899) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3082	Al3961	Al1670	As1937	As1890	Ba4554	Ba4934	Be3130	Be2348	Ca3158	Ca3933
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.101**	**.347**	**-6.67**	**-30.1**	**-2.69**	**.000**	**.000**	**.001**
Stddev	.000	.000	.000	.000	.322	.220	2.64	4.9	.57	.00	.000	.000
%RSD	8.12	5.17	358.	36.9	318.	63.5	39.6	16.3	21.3	112.	10.0	23.9

Elem	Cd2265	Cd2288	Co2286	Co2388	Cr2055	Cr2835	Cu2247	Cu3247	Fe2343	Fe2599	Mg2025	Mg2802
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.728**	**3.36**	**-.207**	**12.1**
Stddev	.00	.000	.00	.000	.00	.000	.00	.000	1.11	3.32	.643	14.7
%RSD	384.	15.2	37.0	161.	78.3	104.	46.0	2.07	152.	98.7	311.	121.

Elem	Mn2576	Mn2593	Mo2020	Mo2020	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.622**	**2.11**	**.459**	**.712**	**.000**	**.000**	**.000**	**.000**	**.001**	**.000**	**.000**	**.000**
Stddev	1.47	2.96	.416	.260	.000	.000	.00	.000	.000	.00	.00	.000
%RSD	236.	141.	90.6	36.5	49.8	200.	21.3	155.	22.8	474.	37.5	48.0

Elem	Se2062	Tl1908	Tl1908	V_2908	V_2924	Zn2062	Zn2138	B_2496	B_2497
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**-.396**	**-.152**
Stddev	.00	.00	.00	.000	.000	.00	.00	.907	1.34
%RSD	742.	268.	243.	59.3	49.8	122.	14.1	229.	885.

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**2466.2**	**483470.**	**152240.**
Stddev	11.2	4565.	973.
%RSD	.45259	.94421	.63914

Sample Name: CalStd1=0.25 Acquired: 10/09/2015 08:35:04 Type: Cal
Method: DOD Calibration Updated 060614(v899) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Be3130
Units	Cts/S
Avg	**-.732**
Stddev	.881
%RSD	120.

Sample Name: CalStd2=0.5 Acquired: 10/09/2015 08:39:38 Type: Cal
Method: DOD Calibration Updated 060614(v899) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ba4554	Be3130	Cd2265	Cd2288
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**-3.57**	**.912**	**.000**	**.000**
Stddev	2.27	.718	.000	.000
%RSD	63.6	78.7	100.	14.1

Int. Std.	Y_3242
Units	Cts/S
Avg	**486810.**
Stddev	1557.
%RSD	.31974

Sample Name: CalStd3=1 Acquired: 10/09/2015 08:44:13 Type: Cal
Method: DOD Calibration Updated 060614(v899) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Ba4554	Be3130	Cd2265	Cd2288	Co2286	Cr2055	Cu2247	Ni2316
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**4.34**	**4.13**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	.000	4.45	.40	.000	.000	.00	.000	.000	.00
%RSD	7.25	102.	9.63	43.9	4.80	299.	961.	121.	66.3

Int. Std.	Y_3242	Y_3710
Units	Cts/S	Cts/S
Avg	**488390.**	**156010.**
Stddev	4186.	1939.
%RSD	.85720	1.2431

Sample Name: CalStd4=5 Acquired: 10/09/2015 08:48:48 Type: Cal
Method: DOD Calibration Updated 060614(v899) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al1670	As1890	Ba4554	Ba4934	Be3130	Cd2265	Co2286	Cr2055	Cu2247	Mn2576	Mo2020	Ni2316
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.086**	**61.9**	**88.7**	**36.0**	**.000**	**.000**	**.000**	**.000**	**3.39**	**1.95**	**.000**
Stddev	.000	.322	2.1	7.8	2.0	.000	.000	.000	.000	.32	.24	.000
%RSD	47.1	372.	3.47	8.75	5.60	10.2	16.7	5.90	14.6	9.31	12.3	14.1

Elem	Pb2169	Pb2203	Sb2175	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.001**	**.000**	**.000**
Stddev	.000	.000	.000	.000
%RSD	76.3	36.7	127.	10.3

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**2442.4**	**492010.**	**155480.**
Stddev	16.0	5686.	640.
%RSD	.65578	1.1557	.41193

Sample Name: CalStd5=10 Acquired: 10/09/2015 08:53:25 Type: Cal
Method: DOD Calibration Updated 060614(v899) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba4554	Be3130	Cd2265	Cd2288	Co2286	Cr2055	Cu2247	Mn2576	Mo2020
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.485**	**134.**	**76.6**	**.000**	**.000**	**.000**	**.000**	**.000**	**6.31**	**2.75**
Stddev	.000	.000	.258	3.	1.1	.000	.000	.000	.000	.000	.61	.60
%RSD	1.47	45.7	53.2	2.19	1.41	3.39	.847	2.07	7.24	17.7	9.67	21.7

Elem	Mo2020	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Tl1908	Tl1908	V_2924	Zn2138	B_2496
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**1.16**	**.000**	**.000**	**.001**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**1.19**
Stddev	.36	.000	.000	.000	.000	.000	.000	.000	.00	.000	.000	.53
%RSD	30.9	14.3	26.7	11.0	53.8	21.5	50.4	45.9	307.	6.09	8.56	44.7

Elem	B_2497
Units	Cts/S
Avg	**3.53**
Stddev	.98
%RSD	27.9

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**2471.8**	**489050.**	**156140.**
Stddev	16.3	5682.	833.
%RSD	.65985	1.1617	.53331

Sample Name: CalStd6=20 Acquired: 10/09/2015 08:58:02 Type: Cal
Method: DOD Calibration Updated 060614(v899) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ba4554	Cu2247	Fe2599	Mn2576	Mo2020	Mo2020	Sb2175	V_2924
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**283.**	**.000**	**4.06**	**12.2**	**5.00**	**1.78**	**.000**	**.000**
Stddev	7.	.000	.68	1.1	.28	.11	.000	.000
%RSD	2.53	3.93	16.7	9.01	5.61	6.07	24.5	2.80

Int. Std.	Y_3242	Y_3710
Units	Cts/S	Cts/S
Avg	**488910.**	**156070.**
Stddev	4649.	482.
%RSD	.95088	.30874

Sample Name: CalStd7=50 Acquired: 10/09/2015 09:02:33 Type: Cal
Method: DOD Calibration Updated 060614(v899) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al1670	As1937	Ba4554	Ca3933	Cd2265	Co2286	Cr2055	Cr2835	Cu2247	Fe2599	Mg2802	Mn2576
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**1.14**	**649.**	**.007**	**.000**	**.000**	**.000**	**.000**	**.000**	**6.99**	**131.**	**27.7**
Stddev	.000	.34	21.	.000	.000	.000	.000	.000	.000	.57	2.	.5
%RSD	13.7	30.1	3.24	2.31	.766	3.10	1.23	6.52	2.38	8.15	1.34	1.90

Elem	Mo2020	Mo2020	Mo2045	Ni2316	Sb2068	Se1960	V_2924	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**11.6**	**3.51**	**.000**	**.000**	**.000**	**.001**	**.001**	**.000**
Stddev	.3	.21	.000	.000	.000	.000	.000	.000
%RSD	2.24	5.91	10.6	2.02	8.14	20.3	2.45	1.90

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**2434.7**	**486240.**	**154720.**
Stddev	51.1	5431.	1111.
%RSD	2.0985	1.1169	.71833

Sample Name: CalStd8=100 Acquired: 10/09/2015 09:07:03 Type: Cal
Method: DOD Calibration Updated 060614(v899) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	As1937	As1890	Ba4554	Ba4934	Be3130	Be2348	Ca3933	Cd2265	Cd2288	Co2286	Co2388
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.001**	**1.95**	**.419**	**1270.**	**2070.**	**760.**	**.000**	**.011**	**.000**	**.001**	**.000**	**.000**
Stddev	.000	.57	.097	24.	50.	14.	.000	.000	.000	.000	.000	.000
%RSD	1.82	29.1	23.2	1.87	2.43	1.81	2.59	.710	.759	.770	.311	13.4

Elem	Cr2055	Cr2835	Cu2247	Cu3247	Fe2599	Mg2802	Mn2576	Mo2020	Mo2020	Mo2045	Ni2216	Ni2316
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.001**	**13.2**	**240.**	**52.0**	**21.6**	**5.50**	**.000**	**.000**	**.000**
Stddev	.000	.000	.000	.000	.8	6.	1.6	.7	.34	.000	.000	.000
%RSD	.748	1.15	.820	2.19	6.09	2.33	3.09	3.26	6.13	6.01	1.12	.500

Elem	Pb2169	Pb2203	Sb2175	Se1960	Se2062	Tl1908	Tl1908	V_2908	V_2924	Zn2138	B_2496	B_2497
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.007**	**.000**	**.001**	**.000**	**.003**	**.001**	**.000**	**.001**	**.000**	**9.54**	**23.0**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.72	1.3
%RSD	2.01	2.46	2.24	21.5	53.9	6.19	14.1	6.89	.460	.958	7.55	5.52

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**2484.7**	**493130.**	**156390.**
Stddev	16.8	5378.	505.
%RSD	.67659	1.0906	.32302

Sample Name: CalStd9=1000 Acquired: 10/09/2015 09:11:32 Type: Cal
Method: DOD Calibration Updated 060614(v899) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3082	Al3961	Al1670	As1937	As1890	Ba4554	Ba4934	Be3130	Be2348	Ca3158	Ca3933
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.001**	**.002**	**.000**	**21.1**	**5.85**	**13700.**	**23000.**	**7530.**	**.001**	**.000**	**.112**
Stddev	.000	.000	.000	.7	.50	364.	687.	167.	.000	.000	.003
%RSD	3.86	3.14	11.9	3.09	8.49	2.65	2.98	2.22	3.11	5.20	3.02

Elem	Cd2265	Cd2288	Co2286	Co2388	Cr2055	Cr2835	Cu2247	Cu3247	Fe2343	Fe2599	Mg2025
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.003**	**.005**	**.003**	**.000**	**.001**	**.001**	**.001**	**.005**	**12.6**	**117.**	**66.8**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.5	2.	1.3
%RSD	2.01	1.78	2.26	1.85	2.22	1.77	2.15	1.96	3.57	1.68	2.00

Elem	Mg2802	Mn2576	Mn2593	Mo2020	Mo2020	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**2570.**	**569.**	**1040.**	**235.**	**56.8**	**.000**	**.002**	**.002**	**.000**	**.069**	**.000**
Stddev	56.	15.	24.	4.	1.1	.000	.000	.000	.000	.001	.000
%RSD	2.16	2.67	2.35	1.66	1.98	2.63	1.93	1.91	2.30	1.50	1.61

Elem	Sb2175	Se1960	Se2062	Tl1908	Tl1908	V_2908	V_2924	Zn2062	Zn2138	B_2496	B_2497
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.009**	**.000**	**.027**	**.007**	**.001**	**.012**	**.001**	**.002**	**107.**	**256.**
Stddev	.000	.000	.000	.001	.000	.000	.000	.000	.000	5.	8.
%RSD	1.75	1.41	4.06	2.57	3.57	1.24	1.50	2.08	2.17	4.23	3.11

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**2473.9**	**484220.**	**155400.**
Stddev	11.5	4239.	123.
%RSD	.46301	.87552	.07942

Sample Name: CalStd10=10000 Acquired: 10/09/2015 09:15:49 Type: Cal
Method: DOD Calibration Updated 060614(v899) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3082	Al3961	As1937	As1890	Ba4934	Ca3158	Co2388	Cr2055	Cr2835	Cu2247
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.006**	**.021**	**207.**	**56.8**	**227000.**	**.002**	**.001**	**.011**	**.006**	**.014**
Stddev	.000	.001	1.	.8	8050.	.000	.000	.000	.000	.000
%RSD	3.45	3.06	.611	1.45	3.54	2.90	2.74	.741	2.58	.736

Elem	Cu3247	Fe2343	Fe2599	Mg2025	Mg2802	Mn2576	Mn2593	Mo2020	Mo2045	Ni2216
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.043**	**118.**	**1180.**	**607.**	**25700.**	**5720.**	**10500.**	**543.**	**.002**	**.016**
Stddev	.002	4.	32.	5.	767.	162.	308.	4.	.000	.000
%RSD	3.74	3.43	2.71	.801	2.98	2.84	2.94	.813	.645	.748

Elem	Ni2316	Pb2169	Sb2068	Se1960	Se2062	Tl1908	V_2908	Zn2062	Zn2138	B_2496
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.020**	**.002**	**.001**	**.097**	**.000**	**.065**	**.014**	**.007**	**.014**	**1120.**
Stddev	.000	.000	.000	.001	.000	.001	.000	.000	.000	45.
%RSD	.685	.408	.542	.648	1.28	1.11	2.57	.855	.795	4.03

Elem	B_2497
Units	Cts/S
Avg	**2650.**
Stddev	102.
%RSD	3.86

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**2339.4**	**465220.**	**154670.**
Stddev	13.8	2783.	827.
%RSD	.59100	.59829	.53450

Sample Name: CalStd11-100k Acquired: 10/09/2015 09:20:36 Type: Cal
Method: DOD Calibration Updated 060614(v899) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Cr2055	Cr2835	Cu3247	Mn2593	Pb2169	Zn2062
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.085**	**.059**	**.414**	**99100.**	**.019**	**.062**
Stddev	.001	.002	.005	2490.	.000	.001
%RSD	.989	2.55	1.28	2.51	1.35	1.09

Int. Std.	Y_3242	Y_3710
Units	Cts/S	Cts/S
Avg	**476760.**	**156370.**
Stddev	4920.	655.
%RSD	1.0320	.41888

Sample Name: CalStd12-100000 Acquired: 10/09/2015 09:24:52 Type: Cal
Method: DOD Calibration Updated 060614(v899) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3082	Al3961	Ca3158	Fe2343	Mg2025
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.062**	**.214**	**.021**	**1170.**	**5290.**
Stddev	.001	.005	.002	24.	46.
%RSD	2.30	2.44	10.3	2.02	.871

Int. Std.	Y_3242	Y_3710
Units	Cts/S	Cts/S
Avg	**439740.**	**152440.**
Stddev	38679.	407.
%RSD	8.7958	.26679

Sample Name: CalStd13=500000 Acquired: 10/09/2015 09:29:46 Type: Cal
Method: DOD Calibration Updated 060614(v899) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Ca3158	Fe2343	Mg2025
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**1.10**	**.099**	**5050.**	**19100.**
Stddev	.03	.002	118.	80.
%RSD	2.28	2.34	2.33	.420

Int. Std.	Y_3242	Y_3710
Units	Cts/S	Cts/S
Avg	**425300.**	**144410.**
Stddev	2215.	208.
%RSD	.52068	.14418

Sample Name: CalStd14-1000k Acquired: 10/09/2015 09:34:26 Type: Cal
Method: DOD Calibration Updated 060614(v899) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3082	Al3961	Ca3158	Fe2343	Mg2025
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.622**	**2.17**	**.198**	**9020.**	**28800.**
Stddev	.024	.05	.006	327.	213.
%RSD	3.83	2.27	2.92	3.62	.742

Int. Std.	Y_3242	Y_3710
Units	Cts/S	Cts/S
Avg	**398100.**	**136970.**
Stddev	4959.	447.
%RSD	1.2456	.32637

Sample Name: icv Acquired: 10/09/2015 09:43:53 Type: QC
Method: DOD Calibration Updated 060614(v899) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	As1890	Ba4934	Be3130	Ca3158	Cd2265	Co2286	Co2388	Cr2055	Cu2247
Avg	**48.7**	**12000.**	**2100.**	**2080.**	**2100.**	**48.0**	**9840.**	**47.1**	**495.**	**502.**	**208.**	**261.**
Stddev	.9	51.	18.	33.	29.	.9	285.	1.2	9.	11.	5.	6.
%RSD	1.90	.424	.834	1.60	1.39	1.87	2.89	2.49	1.88	2.15	2.57	2.30
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Fe2343	Mg2025	Mn2576	Mn2593	Mo2020	Mo2020	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068
Avg	**5840.**	**10300.**	**514.**	**524.**	**523.**	**531.**	**520.**	**512.**	**514.**	**522.**	**498.**	**512.**
Stddev	97.	144.	9.	11.	9.	4.	9.	9.	11.	5.	12.	10.
%RSD	1.66	1.40	1.68	2.06	1.67	.667	1.75	1.79	2.12	.991	2.50	1.98
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Sb2175	Se1960	Se2062	Tl1908	V_2908	V_2924	Zn2062	Zn2138	B_2496	B_2497
Avg	**516.**	**1970.**	**1990.**	**2280.**	**501.**	**507.**	**500.**	**495.**	**517.**	**504.**
Stddev	10.	17.	26.	35.	5.	8.	10.	10.	11.	20.
%RSD	2.02	.864	1.29	1.54	1.04	1.52	1.93	2.04	2.05	3.97
Check ?	None	None	None	None	None	None	None	None	None	None
Value										
Range										

Sample Name: icv Acquired: 10/09/2015 09:43:53 Type: QC
Method: DOD Calibration Updated 060614(v899) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**2402.9**	**485380.**	**154600.**
Stddev	17.5	4274.	1402.
%RSD	.72649	.88060	.90713

Sample Name: ICVLL Acquired: 10/09/2015 09:48:36 Type: QC
Method: DOD Calibration Updated 060614(v899) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3082	Al3961	Al1670	As1937	Ba4554	Be3130	Ca3158	Ca3933	Cd2265	Co2286	Cr2055
Avg	**51.9**	**1070.**	**1090.**	F **1520.**	**59.4**	**28.8**	**11.2**	**1380.**	**1410.**	**14.0**	**27.3**	**30.6**
Stddev	1.6	13.	6.	36.	9.9	.2	.3	38.	27.	.5	.4	.9
%RSD	3.12	1.25	.580	2.35	16.6	.756	2.52	2.75	1.90	3.41	1.37	3.00
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value				1200.								
Range				20.0%								

Elem	Cu2247	Fe2599	Mg2025	Mg2802	Mn2576	Mo2020	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908
Avg	**31.5**	**855.**	**1310.**	**1420.**	**28.8**	**33.3**	**34.5**	**29.2**	**29.8**	**60.9**	**69.8**	**65.0**
Stddev	.3	13.	6.	14.	.9	2.1	11.6	.8	1.8	6.0	6.5	4.0
%RSD	.934	1.51	.436	.959	3.14	6.45	33.5	2.71	6.02	9.93	9.25	6.10
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	V_2924	Zn2138	B_2496	B_2497
Avg	**28.2**	**30.0**	**66.5**	**60.7**
Stddev	.2	.4	5.7	3.5
%RSD	.577	1.37	8.55	5.82
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value				
Range				

Sample Name: ICVLL Acquired: 10/09/2015 09:48:36 Type: QC
Method: DOD Calibration Updated 060614(v899) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**2429.8**	**489360.**	**154510.**
Stddev	5.2	3700.	891.
%RSD	.21256	.75599	.57644

Sample Name: icb Acquired: 10/09/2015 09:57:38 Type: QC
Method: DOD Calibration Updated 060614(v899) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3082	Al1670	As1937	Ba4554	Be3130	Ca3158	Ca3933	Cd2265	Co2286	Cr2055	Cu2247
Avg	**-.312**	**-14.0**	**-3.43**	**12.4**	**-.205**	**.034**	**-4.78**	**-2.89**	**.178**	**-.111**	**.157**	**-1.25**
Stddev	.312	12.6	9.68	22.1	.315	.116	15.5	.10	.255	.347	.508	.68
%RSD	100.0	90.2	282.	179.	154.	344.	324.	3.38	143.	313.	324.	54.4
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Fe2599	Mg2025	Mg2802	Mn2576	Mo2020	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924
Avg	**-14.6**	**7.39**	**-2.92**	**-1.88**	**2.98**	**1.67**	**-.450**	**-.229**	**1.21**	**-24.6**	**-4.30**	**-.373**
Stddev	4.1	1.12	.22	1.08	.60	3.10	.650	5.87	8.09	18.4	1.31	.628
%RSD	27.8	15.1	7.53	57.4	20.2	186.	144.	2560.	667.	74.9	30.6	168.
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Zn2138	B_2496	B_2497
Avg	**-.828**	**8.69**	**2.93**
Stddev	.088	5.52	1.47
%RSD	10.6	63.6	50.0
Check ?	None	None	None
Value			
Range			

Sample Name: icb Acquired: 10/09/2015 09:57:38 Type: QC
Method: DOD Calibration Updated 060614(v899) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**2459.1**	**492960.**	**154910.**
Stddev	11.4	10884.	140.
%RSD	.46287	2.2078	.09065

Sample Name: icsa Acquired: 10/09/2015 10:06:43 Type: QC
Method: DOD Calibration Updated 060614(v899) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba4554	Be3130	Ca3158	Cd2265	Co2286	Cr2055	Cu2247	Fe2343
Avg	**-.343**	**540000.**	**-.003**	**-.332**	**.200**	**497000.**	**.003**	**-.795**	**.000**	**.032**	**463000.**
Stddev	.733	16000.	14.2	.344	.067	17800.	2.67	1.37	.733	.772	13400.
%RSD	214.	2.96	425000.	104.	33.6	3.57	76500.	172.	2170000.	2400.	2.90
Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None
High Limit											
Low Limit											

Elem	Mg2025	Mn2576	Mo2020	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**516000.**	**-.610**	**.001**	**.000**	**.000**	**-.066**	**.633**	**-.007**	**-.697**	**.970**	**-.164**
Stddev	7140.	.407	1.10	7.72	1.39	9.94	8.76	40.8	15.2	1.01	3.87
%RSD	1.39	66.6	212000.	5240000.	1830000.	15000.	1390.	596000.	2180.	104.	2350.
Check ?	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit											
Low Limit											

Elem	B_2496	B_2497
Avg	**.243**	**-.291**
Stddev	1.99	8.06
%RSD	821.	2770.
Check ?	Chk Pass	Chk Pass
High Limit		
Low Limit		

Sample Name: icsa Acquired: 10/09/2015 10:06:43 Type: QC
Method: DOD Calibration Updated 060614(v899) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**2029.4**	**415250.**	**139980.**
Stddev	37.6	2798.	496.
%RSD	1.8530	.67391	.35454

Sample Name: icsab Acquired: 10/09/2015 10:11:25 Type: QC
Method: DOD Calibration Updated 060614(v899) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	As1890	Ba4554	Ba4934	Be3130	Be2348	Ca3158	Cd2265	Cd2288
Avg	**565.**	**543000.**	**473.**	**418.**	**497.**	**412.**	**460.**	**555.**	**523000.**	**439.**	**572.**
Stddev	21.	10700.	50.	79.	14.	8.	11.	28.	19400.	29.	23.
%RSD	3.70	1.97	10.5	18.9	2.82	1.96	2.39	5.12	3.71	6.51	4.08
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Elem	Co2286	Cr2055	Cu2247	Cu3247	Fe2343	Mg2025	Mn2576	Mo2020	Mo2020	Mo2045	Ni2216
Avg	**438.**	**512.**	**445.**	**531.**	**476000.**	**524000.**	**474.**	**409.**	**416.**	**475.**	**467.**
Stddev	19.	20.	19.	15.	9050.	6480.	10.	4.	4.	21.	21.
%RSD	4.39	3.89	4.25	2.74	1.90	1.24	2.13	1.08	.917	4.33	4.40
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Elem	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Se2062	Tl1908	Tl1908	V_2908	V_2924
Avg	**444.**	**588.**	**424.**	**565.**	**557.**	**436.**	**478.**	**441.**	**472.**	**485.**	**515.**
Stddev	19.	53.	8.	37.	29.	26.	108.	21.	21.	14.	17.
%RSD	4.27	8.95	1.85	6.57	5.25	5.86	22.5	4.64	4.46	2.90	3.21
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Sample Name: icsab Acquired: 10/09/2015 10:11:25 Type: QC
Method: DOD Calibration Updated 060614(v899) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Zn2062	Zn2138	B_2496	B_2497
Avg	**463.**	**532.**	**476.**	**474.**
Stddev	19.	32.	25.	14.
%RSD	4.07	6.02	5.20	2.85
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value				
Range				

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**2049.7**	**403480.**	**141860.**
Stddev	15.0	20079.	712.
%RSD	.73199	4.9764	.50188

Sample Name: ICVLL ag Acquired: 10/09/2015 10:15:56 Type: Unk
Method: DOD Calibration Updated 060614(v899) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3082	Al1670	As1937	Ba4554	Be3130	Ca3158	Ca3933	Cd2265	Co2286	Cr2055	Cu2247
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**9.57**	**84.5**	**47.7**	**5.52**	**-.169**	**.054**	**73.6**	**71.9**	**.068**	**.142**	**-.172**	**.006**
Stddev	.31	14.3	10.7	7.34	.222	.104	20.4	17.1	.093	.339	.221	.496
%RSD	3.22	16.9	22.5	133.	131.	193.	27.7	23.8	137.	239.	128.	7870.

Elem	Fe2599	Mg2025	Mg2802	Mn2576	Mo2020	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924
Units	ug/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**340.**	**16.8**	**71.7**	**-2.46**	**7.23**	**1.24**	**-.436**	**.614**	**2.82**	**-.769**	**-1.88**	**.450**
Stddev	45.	6.9	15.8	1.10	1.23	3.70	.712	3.90	3.19	34.6	2.88	.314
%RSD	13.1	41.1	22.1	44.8	17.1	299.	163.	635.	113.	4490.	153.	69.9

Elem	Zn2138	B_2496	B_2497
Units	ug/L	ug/L	ug/L
Avg	**-.324**	**8.27**	**.287**
Stddev	.169	9.26	6.20
%RSD	52.0	112.	2160.

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**2460.9**	**489450.**	**154050.**
Stddev	7.5	2337.	1215.
%RSD	.30492	.47746	.78856

Sample Name: ccv1 Acquired: 10/09/2015 11:04:00 Type: QC
Method: DOD Calibration Updated 060614(v899) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	As1890	Ba4934	Be3130	Be2348	Ca3158	Cd2265	Cd2288	Co2388	Cr2055
Avg	**467.**	**4830.**	**4960.**	**4960.**	**5290.**	**455.**	**507.**	**4900.**	**468.**	**501.**	**4830.**	**5100.**
Stddev	4.	48.	41.	26.	102.	8.	15.	80.	7.	6.	119.	75.
%RSD	.940	.987	.824	.517	1.92	1.70	2.95	1.62	1.45	1.28	2.46	1.47
Check ?	None	Chk Pass	None	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	None
Value												
Range												

Elem	Cr2835	Cu2247	Cu3247	Fe2343	Mg2025	Mg2802	Mn2593	Mo2020	Mo2045	Ni2216	Ni2316	Pb2169
Avg	**4720.**	**4990.**	**4950.**	**5430.**	**4760.**	**4620.**	**5000.**	**4480.**	**4790.**	**5290.**	**5060.**	**4960.**
Stddev	88.	63.	62.	40.	44.	69.	82.	79.	71.	70.	67.	59.
%RSD	1.86	1.26	1.24	.731	.933	1.50	1.64	1.77	1.49	1.32	1.33	1.19
Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	None	Chk Pass	Chk Pass	None	Chk Pass
Value												
Range												

Elem	Sb2068	Se1960	Se2062	Tl1908	V_2908	Zn2062	B_2496	B_2497
Avg	**5160.**	**4990.**	**4950.**	**5210.**	**4780.**	**4840.**	**4630.**	**4560.**
Stddev	73.	78.	105.	53.	55.	74.	130.	99.
%RSD	1.42	1.56	2.12	1.02	1.14	1.53	2.80	2.17
Check ?	Chk Pass	None	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Sample Name: ccv1 Acquired: 10/09/2015 11:04:00 Type: QC
Method: DOD Calibration Updated 060614(v899) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**2292.0**	**451120.**	**146830.**
Stddev	31.3	5633.	334.
%RSD	1.3650	1.2486	.22754

Sample Name: ccv2 Acquired: 10/09/2015 11:07:59 Type: QC
Method: DOD Calibration Updated 060614(v899) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3082	As1937	Ba4554	Be3130	Ca3158	Ca3933	Cd2265	Co2286	Cr2055	Cu2247	Fe2599
Avg	**48.3**	**473.**	**517.**	**486.**	**46.8**	**515.**	**504.**	**48.4**	**482.**	**519.**	**515.**	**475.**
Stddev	.9	10.	23.	6.	.5	10.	7.	.8	7.	9.	6.	9.
%RSD	1.83	2.04	4.38	1.33	1.08	1.87	1.31	1.68	1.54	1.65	1.26	1.93
Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Mg2802	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138	B_2496	B_2497
Avg	**473.**	**498.**	**499.**	**522.**	**490.**	**503.**	**514.**	**508.**	**504.**	**482.**	**502.**	**487.**
Stddev	9.	11.	3.	9.	4.	7.	11.	8.	9.	8.	8.	6.
%RSD	1.83	2.10	.518	1.65	.879	1.42	2.06	1.53	1.78	1.68	1.63	1.15
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**2392.3**	**472610.**	**149610.**
Stddev	13.4	4822.	278.
%RSD	.56058	1.0203	.18552

Sample Name: ccb Acquired: 10/09/2015 11:12:24 Type: QC
Method: DOD Calibration Updated 060614(v899) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3082	Al1670	As1937	Ba4554	Be3130	Ca3158	Ca3933	Cd2265	Co2286	Cr2055	Cu2247
Avg	**.146**	**-6.45**	**-3.14**	**-6.62**	**-.026**	**-.053**	**10.4**	**-1.26**	**.225**	**.072**	**-.619**	**-.457**
Stddev	.204	4.68	18.0	23.2	.204	.089	5.2	.28	.512	.490	.780	.248
%RSD	139.	72.5	572.	351.	793.	169.	50.2	22.0	227.	679.	126.	54.2
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Fe2599	Mg2025	Mg2802	Mn2576	Mo2020	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924
Avg	**-21.5**	**1.04**	**-2.41**	**.252**	**9.57**	**1.67**	**.125**	**1.26**	**1.42**	**-4.03**	**-1.58**	**.571**
Stddev	4.5	5.66	.23	.694	2.26	6.08	1.26	5.60	3.56	18.8	14.4	1.03
%RSD	21.0	543.	9.70	275.	23.6	365.	1000.	445.	252.	466.	914.	181.
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Zn2138	B_2496	B_2497
Avg	**-.434**	**12.5**	**10.9**
Stddev	.231	5.5	3.9
%RSD	53.3	44.5	35.5
Check ?	None	None	None
Value			
Range			

Sample Name: ccb Acquired: 10/09/2015 11:12:24 Type: QC
Method: DOD Calibration Updated 060614(v899) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**2402.8**	**480050.**	**150050.**
Stddev	10.9	13910.	1108.
%RSD	.45226	2.8976	.73817

Sample Name: lcss54579 Acquired: 10/09/2015 11:26:42 Type: Unk
Method: DOD Calibration Updated 060614(v899) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba4934	Be3130	Ca3158	Cd2265	Cd2288	Co2286	Co2388	Cr2055
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**85.5**	**3620.**	**3630.**	**3740.**	**83.1**	**177000.**	**92.0**	**103.**	**812.**	**887.**	**368.**
Stddev	1.1	86.	20.	158.	4.4	9850.	27.3	2.	12.	47.	7.
%RSD	1.27	2.36	.545	4.23	5.34	5.57	29.7	1.77	1.46	5.34	1.85

Elem	Cu2247	Cu3247	Fe2343	Mg2025	Mn2576	Mn2593	Mo2020	Mo2020	Ni2216	Ni2316	Pb2169
Units	ug/L	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**418.**	**472.**	**1900.**	**90200.**	**858.**	**743.**	**4.15**	**6.14**	**901.**	**850.**	**903.**
Stddev	7.	12.	117.	538.	52.	49.	2.26	4.18	16.	13.	21.
%RSD	1.71	2.51	6.15	.596	6.02	6.53	54.5	68.1	1.72	1.47	2.37

Elem	Sb2068	Se1960	Se2062	Tl1908	V_2908	Zn2062	Zn2138	B_2496	B_2497
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**956.**	**3440.**	**3450.**	**3080.**	**877.**	**843.**	**822.**	**7.45**	**1.63**
Stddev	18.	65.	125.	110.	33.	13.	16.	10.7	3.79
%RSD	1.90	1.90	3.62	3.58	3.71	1.58	1.99	143.	232.

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**2220.6**	**435200.**	**142030.**
Stddev	20.1	6670.	2465.
%RSD	.90632	1.5326	1.7356

Sample Name: mbs54579 Acquired: 10/09/2015 11:31:38 Type: Unk
Method: DOD Calibration Updated 060614(v899) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3082	Al1670	As1937	Ba4554	Be3130	Ca3158	Ca3933	Cd2265	Co2286	Cr2055	Cu2247
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**.151**	**-19.3**	**-7.91**	**-6.35**	**.026**	**-.067**	**34.0**	**14.0**	**.246**	**.494**	**.140**	**-.112**
Stddev	.951	10.9	23.1	22.1	.157	.001	6.9	3.3	.422	.435	.714	1.06
%RSD	631.	56.7	292.	348.	593.	1.68	20.3	23.3	172.	88.1	511.	946.

Elem	Fe2599	Mg2025	Mg2802	Mn2576	Mo2020	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924
Units	ug/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-22.1**	**5.31**	**3.51**	**-1.42**	**2.30**	**-4.47**	**-.493**	**-1.43**	**-1.16**	**1.07**	**-.011**	**.113**
Stddev	6.8	3.20	1.74	1.60	2.11	4.22	1.28	3.70	1.19	13.0	2.30	.538
%RSD	30.8	60.2	49.5	112.	91.8	94.3	260.	258.	102.	1210.	20200.	477.

Elem	Zn2138	B_2496	B_2497
Units	ug/L	ug/L	ug/L
Avg	**-1.04**	**4.95**	**-2.54**
Stddev	.59	3.56	4.36
%RSD	56.8	71.9	172.

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**2477.2**	**484700.**	**154400.**
Stddev	19.0	7490.	518.
%RSD	.76873	1.5452	.33526

Sample Name: 642793 Acquired: 10/09/2015 11:36:13 Type: Unk
Method: DOD Calibration Updated 060614(v899) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	As1890	Ba4554	Be3130	Ca3158	Cd2265	Co2286	Cr2055
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**4.73**	**10200.**	**631.**	**735.**	**26.6**	**1.24**	**6230000.**	**164.**	**129.**	**25.2**
Stddev	.93	169.	21.	84.	.4	.19	219000.	7.	2.	1.5
%RSD	19.7	1.65	3.26	11.4	1.63	15.5	3.52	4.15	1.34	5.98

Elem	Cu2247	Fe2343	Mg2025	Mn2593	Mo2038	Ni2316	Pb2169	Sb2175	Se1960	Se2062
Units	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**154.**	**644000.**	**.000**	**4350.**	**-3.18**	**577.**	**1990.**	**18.5**	**-199.**	**446.**
Stddev	4.	18800.	.000	136.	8.75	12.	59.	5.9	46.	80.
%RSD	2.33	2.92	.000	3.12	275.	2.02	2.98	31.7	23.0	17.9

Elem	Tl1908	V_2924	Zn2138	B_2496	B_2497
Units	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**36.3**	**62.5**	**534.**	**165.**	**302.**
Stddev	20.9	1.5	12.	14.	15.
%RSD	57.5	2.40	2.31	8.32	5.09

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**1507.5**	**309620.**	**120330.**
Stddev	13.2	5127.	1545.
%RSD	.87564	1.6558	1.2844

Sample Name: I642793 Acquired: 10/09/2015 11:41:09 Type: Unk
Method: DOD Calibration Updated 060614(v899) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	Al1670	As1937	Ba4554	Be3130	Ca3158	Cd2265	Co2286	Cr2055
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**.414**	**2070.**	**1620.**	**160.**	**7.14**	**.407**	**1610000.**	**-3.89**	**35.2**	**6.09**
Stddev	.883	72.	95.	30.	.31	.184	28300.	1.15	.5	1.02
%RSD	213.	3.47	5.86	18.4	4.38	45.1	1.75	29.5	1.41	16.7

Elem	Cu2247	Fe2343	Mg2025	Mn2576	Mo2020	Mo2020	Ni2316	Pb2203	Sb2175	Se1960
Units	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**48.1**	**193000.**	**848000.**	**1030.**	**2.89**	**4.40**	**159.**	**210.**	**3.10**	**-16.4**
Stddev	2.3	1780.	26800.	7.	.78	6.98	4.	12.	8.98	5.2
%RSD	4.86	.921	3.15	.665	27.0	159.	2.21	5.78	290.	31.7

Elem	Tl1908	V_2924	Zn2138	B_2496	B_2497
Units	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-3.10**	**13.1**	**65.8**	**91.0**	**74.0**
Stddev	7.81	1.0	1.8	7.5	3.7
%RSD	252.	7.37	2.76	8.21	5.04

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**1889.9**	**386100.**	**134940.**
Stddev	20.2	5218.	1978.
%RSD	1.0692	1.3513	1.4660

Sample Name: dup642793 Acquired: 10/09/2015 11:45:59 Type: Unk
Method: DOD Calibration Updated 060614(v899) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba4554	Be3130	Ca3158	Cd2265	Co2286	Cr2055	Cr2677
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-2.04**	**14100.**	**127.**	**36.8**	**1.56**	**5760000.**	**12.1**	**78.0**	**32.6**	**37.0**
Stddev	1.84	261.	29.	.8	.13	214000.	1.0	2.8	4.6	12.4
%RSD	90.3	1.85	22.9	2.22	8.45	3.71	8.09	3.55	14.2	33.6

Elem	Cu2247	Fe2343	Mg2802	Mn2593	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**25.9**	**67900.**	**493000.**	**4360.**	**10.5**	**130.**	**87.7**	**-11.2**	**-21.2**	**-13.5**
Stddev	1.4	1490.	6860.	123.	6.6	1.	6.1	13.9	29.0	12.4
%RSD	5.24	2.19	1.39	2.83	62.9	.630	6.93	124.	137.	92.0

Elem	V_2924	Zn2138	B_2496	B_2497
Units	ug/L	ug/L	ug/L	ug/L
Avg	**57.8**	**240.**	**390.**	**366.**
Stddev	2.6	5.	12.	16.
%RSD	4.55	1.92	2.96	4.36

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**1188.8**	**430500.**	**41416.**
Stddev	10.5	4132.	176.
%RSD	.88542	.95978	.42486

Sample Name: mss642793 Acquired: 10/09/2015 11:50:58 Type: Unk
Method: DOD Calibration Updated 060614(v899) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	As1890	Ba4934	Be3130	Be2348	Ca3158	Cd2265	Cd2288
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**149.**	**25000.**	**4450.**	**4420.**	**3640.**	**71.8**	**114.**	**5880000.**	**61.7**	**159.**
Stddev	3.	539.	40.	68.	78.	1.3	2.	104000.	1.2	2.
%RSD	1.83	2.15	.896	1.54	2.15	1.85	1.75	1.76	1.86	1.17

Elem	Co2286	Co2388	Cr2055	Cr2677	Cu2247	Cu3247	Fe2343	Mg2802	Mn2593	Mo2020
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**581.**	**1080.**	**384.**	**475.**	**270.**	**548.**	**64600.**	**491000.**	**5450.**	**17.7**
Stddev	5.	26.	5.	24.	4.	15.	1130.	7920.	131.	3.6
%RSD	.845	2.41	1.33	5.01	1.38	2.81	1.75	1.61	2.40	20.1

Elem	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Se2062	Tl1908	V_2908	V_2924
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**633.**	**1510.**	**501.**	**976.**	**874.**	**3940.**	**3790.**	**2070.**	**865.**	**842.**
Stddev	6.	30.	14.	32.	13.	28.	147.	54.	17.	16.
%RSD	.926	1.99	2.74	3.22	1.50	.699	3.88	2.59	1.93	1.88

Elem	Zn2062	B_2496	B_2497
Units	ug/L	ug/L	ug/L
Avg	**654.**	**419.**	**394.**
Stddev	5.	13.	11.
%RSD	.745	3.10	2.72

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**1191.5**	**429980.**	**41546.**
Stddev	4.2	2767.	110.
%RSD	.35589	.64351	.26417

Sample Name: msds642793 Acquired: 10/09/2015 11:56:05 Type: Unk
Method: DOD Calibration Updated 060614(v899) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	As1890	Ba4934	Be3130	Be2348	Ca3158	Cd2265	Cd2288
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**144.**	**23900.**	**4610.**	**4450.**	**3600.**	**70.5**	**119.**	**5600000.**	**61.3**	**157.**
Stddev	2.	738.	76.	116.	106.	1.5	4.	126000.	1.9	1.
%RSD	1.62	3.09	1.65	2.61	2.95	2.15	3.73	2.25	3.11	.872

Elem	Co2286	Co2388	Cr2055	Cr2677	Cu2247	Cu3247	Fe2343	Mg2802	Mn2593	Mo2020
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**622.**	**1090.**	**383.**	**441.**	**279.**	**544.**	**64400.**	**495000.**	**5170.**	**16.2**
Stddev	6.	68.	4.	39.	6.	16.	1400.	11200.	139.	9.3
%RSD	1.04	6.23	1.06	8.91	2.00	2.93	2.18	2.27	2.69	57.3

Elem	Ni2316	Pb2169	Pb2203	Sb2068	Se1960	Se2062	Tl1908	V_2908	V_2924	Zn2062
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**747.**	**1600.**	**540.**	**1020.**	**3950.**	**3710.**	**2050.**	**833.**	**849.**	**626.**
Stddev	7.	33.	24.	15.	43.	148.	85.	21.	18.	6.
%RSD	.930	2.09	4.46	1.46	1.09	4.00	4.14	2.54	2.11	.981

Elem	B_2496	B_2497
Units	ug/L	ug/L
Avg	**414.**	**394.**
Stddev	23.	21.
%RSD	5.48	5.35

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**1192.8**	**430090.**	**42103.**
Stddev	6.8	4824.	225.
%RSD	.57012	1.1217	.53414

Sample Name: pdss642793 Acquired: 10/09/2015 12:01:11 Type: Unk
Method: DOD Calibration Updated 060614(v899) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	As1890	Ba4934	Be3130	Be2348	Ca3158	Cd2265	Cd2288
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**151.**	**19000.**	**3140.**	**3060.**	**3350.**	**59.8**	**120.**	**6850000.**	**63.9**	**163.**
Stddev	4.	489.	10.	54.	76.	1.3	3.	180000.	1.1	2.
%RSD	2.67	2.57	.332	1.76	2.28	2.18	2.87	2.62	1.74	1.06

Elem	Co2286	Co2388	Cr2055	Cu2247	Cu3247	Fe2343	Mg2025	Mn2593	Mo2020	Ni2316
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L
Avg	**616.**	**1040.**	**324.**	**278.**	**647.**	**55700.**	**.000**	**3580.**	**4.58**	**661.**
Stddev	9.	43.	3.	8.	20.	1180.	.000	77.	2.98	12.
%RSD	1.44	4.12	.905	2.79	3.13	2.12	.000	2.15	65.2	1.85

Elem	Pb2169	Sb2068	Se1960	Se2062	Tl1908	V_2908	V_2924	Zn2062	B_2496	B_2497
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**1570.**	**1180.**	**3890.**	**3830.**	**2010.**	**870.**	**862.**	**675.**	**295.**	**295.**
Stddev	33.	21.	49.	110.	53.	19.	11.	12.	10.	14.
%RSD	2.07	1.77	1.25	2.86	2.63	2.18	1.32	1.82	3.42	4.88

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**1483.6**	**306380.**	**125510.**
Stddev	12.4	3615.	98.
%RSD	.83708	1.1801	.07788

Sample Name: ccv1 Acquired: 10/09/2015 12:06:18 Type: QC
Method: DOD Calibration Updated 060614(v899) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	As1890	Ba4934	Be3130	Be2348	Ca3158	Cd2265	Cd2288	Co2388	Cr2055
Avg	**444.**	**4750.**	**4990.**	**4990.**	F **5590.**	**468.**	**467.**	F **5680.**	**444.**	**480.**	F **4410.**	**4840.**
Stddev	5.	81.	21.	124.	137.	9.	17.	99.	5.	4.	123.	52.
%RSD	1.03	1.70	.427	2.48	2.45	1.95	3.57	1.73	1.11	.859	2.78	1.07
Check ?	None	Chk Pass	None	Chk Pass	Chk Fail	None	Chk Pass	Chk Fail	None	Chk Pass	Chk Fail	None
Value					5000.			5000.			5000.	
Range					10.4%			10.4%			-10.4%	

Elem	Cr2835	Cu2247	Cu3247	Fe2343	Mg2025	Mg2802	Mn2593	Mo2020	Mo2045	Ni2216	Ni2316	Pb2169
Avg	**4580.**	**4700.**	**4570.**	**5380.**	**4880.**	**5040.**	**5060.**	**4360.**	**4490.**	**5040.**	**4800.**	**4700.**
Stddev	119.	52.	133.	119.	12.	40.	92.	42.	52.	51.	50.	43.
%RSD	2.60	1.10	2.91	2.22	.252	.796	1.81	.962	1.15	1.02	1.03	.920
Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	None	Chk Pass	Chk Pass	None	Chk Pass
Value												
Range												

Elem	Sb2068	Se1960	Se2062	Tl1908	V_2908	Zn2062	B_2496	B_2497
Avg	**4870.**	**4690.**	**4700.**	**4990.**	F **4480.**	**4640.**	**4570.**	**4500.**
Stddev	49.	57.	79.	60.	124.	45.	103.	115.
%RSD	.999	1.21	1.67	1.21	2.78	.959	2.25	2.56
Check ?	Chk Pass	None	Chk Pass	None	Chk Fail	Chk Pass	Chk Pass	Chk Pass
Value					5000.			
Range					-10.4%			

Sample Name: ccv1 Acquired: 10/09/2015 12:06:18 Type: QC
Method: DOD Calibration Updated 060614(v899) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**2418.7**	**476300.**	**158950.**
Stddev	19.1	4538.	1735.
%RSD	.79098	.95264	1.0912

Sample Name: ccv2 Acquired: 10/09/2015 12:10:35 Type: QC
Method: DOD Calibration Updated 060614(v899) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3082	As1937	Ba4554	Be3130	Ca3933	Cd2265	Co2286	Cr2055	Cu2247	Fe2599	Mg2802
Avg	**48.1**	**467.**	**528.**	**510.**	**49.2**	F **608.**	**48.9**	**480.**	**521.**	**517.**	**478.**	**507.**
Stddev	1.9	22.	11.	5.	.6	28.	1.8	20.	23.	19.	10.	7.
%RSD	3.93	4.62	2.08	.965	1.16	4.58	3.70	4.08	4.36	3.73	2.00	1.28
Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						500.						
Range						10.4%						

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**514.**	**498.**	**522.**	**478.**	**501.**	**502.**	**508.**	**509.**	**485.**
Stddev	9.	2.	20.	4.	19.	20.	3.	19.	19.
%RSD	1.66	.407	3.91	.820	3.80	4.00	.528	3.68	3.95
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**2447.2**	**471740.**	**157700.**
Stddev	16.5	14269.	687.
%RSD	.67248	3.0248	.43539

Sample Name: ccb Acquired: 10/09/2015 12:14:59 Type: QC
Method: DOD Calibration Updated 060614(v899) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3082	As1937	Ba4554	Be3130	Ca3933	Cd2265	Co2286	Cr2055	Cu2247	Fe2599	Mg2025
Avg	**-.044**	**.463**	**-3.95**	**-.445**	**.053**	**76.4**	**.126**	**.179**	**.159**	**.325**	**-13.6**	**14.6**
Stddev	.724	12.9	14.9	.125	.075	23.9	.131	.334	.479	.765	5.3	6.2
%RSD	1650.	2800.	377.	28.1	143.	31.3	104.	186.	301.	236.	38.7	42.2
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Mg2802	Mn2576	Mo2020	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138	B_2496
Avg	**15.2**	**-.856**	**10.1**	**8.51**	**.160**	**2.56**	**1.34**	**-.678**	**-4.77**	**.049**	**-.765**	**16.9**
Stddev	6.9	.462	1.7	2.90	1.12	2.67	2.25	13.3	7.65	.617	.320	7.2
%RSD	45.3	54.0	16.8	34.1	699.	104.	168.	1960.	160.	1270.	41.8	42.6
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	B_2497
Avg	**7.92**
Stddev	4.23
%RSD	53.4
Check ?	None
Value	
Range	

Sample Name: ccb Acquired: 10/09/2015 12:14:59 Type: QC
Method: DOD Calibration Updated 060614(v899) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**2427.0**	**482970.**	**157690.**
Stddev	15.0	5992.	706.
%RSD	.61751	1.2407	.44741

Sample Name: 642800 Acquired: 10/09/2015 12:19:31 Type: Unk
Method: DOD Calibration Updated 060614(v899) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba4554	Be3130	Ca3158	Cd2265	Co2286	Cr2055	Cu2247
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-2.63**	**14800.**	**75.0**	**27.8**	**1.20**	**6690000.**	**14.6**	**65.3**	**25.3**	**20.3**
Stddev	2.57	335.	28.8	.6	.07	109000.	.5	1.6	3.0	3.0
%RSD	97.6	2.27	38.3	2.12	6.06	1.62	3.25	2.51	11.7	14.9

Elem	Fe2343	Mg2025	Mn2593	Mo2020	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908
Units	ug/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**51100.**	**.000**	**2780.**	**4.94**	**14.6**	**111.**	**77.0**	**-3.96**	**-26.2**	**-26.1**
Stddev	1580.	.000	102.	3.10	7.3	4.	10.6	5.81	22.0	6.7
%RSD	3.09	.000	3.66	62.8	50.0	3.68	13.8	147.	83.7	25.7

Elem	V_2924	Zn2138	B_2496	B_2497
Units	ug/L	ug/L	ug/L	ug/L
Avg	**50.6**	**178.**	**304.**	**312.**
Stddev	1.3	2.	9.	11.
%RSD	2.49	1.21	3.12	3.65

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**1484.8**	**301790.**	**123900.**
Stddev	8.8	5756.	919.
%RSD	.58972	1.9073	.74154

Sample Name: ccv1 Acquired: 10/09/2015 13:08:40 Type: QC
Method: DOD Calibration Updated 060614(v899) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	As1890	Ba4934	Be3130	Be2348	Ca3158	Cd2265	Cd2288	Co2388	Cr2055
Avg	**449.**	**4660.**	**4880.**	**4900.**	F **5600.**	**449.**	F **448.**	**4810.**	**448.**	**482.**	F **4240.**	**4880.**
Stddev	7.	80.	34.	41.	135.	10.	11.	172.	8.	9.	150.	97.
%RSD	1.51	1.71	.695	.840	2.41	2.13	2.45	3.57	1.70	1.86	3.54	1.99
Check ?	None	Chk Pass	None	Chk Pass	Chk Fail	None	Chk Fail	Chk Pass	None	Chk Pass	Chk Fail	None
Value					5000.		500.				5000.	
Range					10.4%		-10.4%				-10.4%	

Elem	Cr2835	Cu2247	Cu3247	Fe2343	Mg2025	Mg2802	Mn2593	Mo2020	Mo2045	Ni2216	Ni2316	Pb2169
Avg	**4480.**	**4770.**	**4600.**	**4870.**	**4710.**	**4450.**	**4730.**	**4300.**	**4550.**	**5070.**	**4850.**	**4780.**
Stddev	144.	83.	82.	141.	41.	101.	112.	38.	96.	92.	96.	90.
%RSD	3.22	1.73	1.78	2.91	.874	2.28	2.37	.874	2.10	1.82	1.97	1.88
Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	None	Chk Pass	Chk Pass	None	Chk Pass
Value												
Range												

Elem	Sb2068	Se1960	Se2062	Tl1908	V_2908	Zn2062
Avg	**4930.**	**4740.**	**4740.**	**5040.**	F **4370.**	**4640.**
Stddev	80.	5.	102.	54.	87.	84.
%RSD	1.63	.103	2.16	1.07	1.98	1.82
Check ?	Chk Pass	None	Chk Pass	None	Chk Fail	Chk Pass
Value					5000.	
Range					-10.4%	

Sample Name: ccv1 Acquired: 10/09/2015 13:08:40 Type: QC
Method: DOD Calibration Updated 060614(v899) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**2334.8**	**460970.**	**155570.**
Stddev	9.4	4911.	960.
%RSD	.40047	1.0653	.61732

Sample Name: ccv2 Acquired: 10/09/2015 13:12:45 Type: QC
Method: DOD Calibration Updated 060614(v899) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3082	As1937	Ba4554	Be3130	Ca3158	Ca3933	Cd2265	Co2286	Cr2055	Cu2247	Fe2599
Avg	**47.1**	**448.**	**513.**	**515.**	**47.2**	**510.**	**535.**	**47.4**	**469.**	**506.**	**508.**	**449.**
Stddev	1.1	14.	13.	12.	.9	15.	15.	.6	5.	6.	3.	9.
%RSD	2.32	3.13	2.58	2.31	1.82	2.95	2.80	1.16	1.10	1.18	.589	1.89
Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Mg2025	Mn2576	Mo2020	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138	B_2496
Avg	**449.**	**474.**	**489.**	**470.**	**511.**	**486.**	**497.**	**498.**	**518.**	**497.**	**473.**	**467.**
Stddev	10.	8.	2.	11.	6.	11.	8.	17.	15.	6.	5.	13.
%RSD	2.27	1.58	.329	2.25	1.15	2.19	1.62	3.50	2.86	1.20	1.14	2.76
Check ?	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	B_2497
Avg	**462.**
Stddev	8.
%RSD	1.72
Check ?	Chk Pass
Value	
Range	

Sample Name: ccv2 Acquired: 10/09/2015 13:12:45 Type: QC
Method: DOD Calibration Updated 060614(v899) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**2365.8**	**472010.**	**157430.**
Stddev	12.8	4836.	750.
%RSD	.54037	1.0245	.47628

Sample Name: ccb Acquired: 10/09/2015 13:17:09 Type: QC
Method: DOD Calibration Updated 060614(v899) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3082	Al1670	As1937	Ba4554	Be3130	Ca3158	Ca3933	Cd2265	Co2286	Cr2055	Cu2247
Avg	**.720**	**-15.3**	**-15.2**	**3.79**	**-.377**	**.070**	**18.5**	**.956**	**-.180**	**.198**	**.110**	**.146**
Stddev	.649	13.8	14.6	15.8	.187	.142	20.5	1.29	.264	.495	.727	1.58
%RSD	90.1	90.2	96.4	416.	49.5	201.	111.	134.	146.	250.	662.	1080.
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Fe2599	Mg2025	Mg2802	Mn2576	Mo2020	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924
Avg	**-17.2**	**6.86**	**-2.69**	**-1.83**	**10.9**	**12.9**	**.080**	**-1.95**	**.582**	**-.616**	**-1.04**	**.456**
Stddev	5.5	5.20	.20	.89	.3	4.5	.474	1.49	1.74	22.5	9.29	.422
%RSD	32.0	75.7	7.36	48.8	2.77	35.2	593.	76.8	298.	3660.	895.	92.6
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Zn2138	B_2496	B_2497
Avg	**-.313**	**11.6**	**7.11**
Stddev	.687	14.6	2.03
%RSD	219.	126.	28.5
Check ?	None	None	None
Value			
Range			

Sample Name: ccb Acquired: 10/09/2015 13:17:09 Type: QC
Method: DOD Calibration Updated 060614(v899) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**2389.1**	**475780.**	**156890.**
Stddev	12.7	2655.	1026.
%RSD	.53081	.55804	.65402

Sample Name: Blank Acquired: 10/09/2015 08:30:29 Type: Cal
Method: DOD Calibration Updated 060614(v899) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3082	Al3961	Al1670	As1937	As1890	Ba4554	Ba4934	Be3130	Be2348	Ca3158	Ca3933
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.101**	**.347**	**-6.67**	**-30.1**	**-2.69**	**.000**	**.000**	**.001**
Stddev	.000	.000	.000	.000	.322	.220	2.64	4.9	.57	.00	.000	.000
%RSD	8.12	5.17	358.	36.9	318.	63.5	39.6	16.3	21.3	112.	10.0	23.9

Elem	Cd2265	Cd2288	Co2286	Co2388	Cr2055	Cr2835	Cu2247	Cu3247	Fe2343	Fe2599	Mg2025	Mg2802
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.728**	**3.36**	**-.207**	**12.1**
Stddev	.00	.000	.00	.000	.00	.000	.00	.000	1.11	3.32	.643	14.7
%RSD	384.	15.2	37.0	161.	78.3	104.	46.0	2.07	152.	98.7	311.	121.

Elem	Mn2576	Mn2593	Mo2020	Mo2020	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.622**	**2.11**	**.459**	**.712**	**.000**	**.000**	**.000**	**.000**	**.001**	**.000**	**.000**	**.000**
Stddev	1.47	2.96	.416	.260	.000	.000	.00	.000	.000	.00	.00	.000
%RSD	236.	141.	90.6	36.5	49.8	200.	21.3	155.	22.8	474.	37.5	48.0

Elem	Se2062	Tl1908	Tl1908	V_2908	V_2924	Zn2062	Zn2138	B_2496	B_2497
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**-.396**	**-.152**
Stddev	.00	.00	.00	.000	.000	.00	.00	.907	1.34
%RSD	742.	268.	243.	59.3	49.8	122.	14.1	229.	885.

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**2466.2**	**483470.**	**152240.**
Stddev	11.2	4565.	973.
%RSD	.45259	.94421	.63914

Sample Name: CalStd1=0.25 Acquired: 10/09/2015 08:35:04 Type: Cal
Method: DOD Calibration Updated 060614(v899) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Be3130
Units	Cts/S
Avg	**-.732**
Stddev	.881
%RSD	120.

Sample Name: CalStd2=0.5 Acquired: 10/09/2015 08:39:38 Type: Cal
Method: DOD Calibration Updated 060614(v899) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ba4554	Be3130	Cd2265	Cd2288
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**-3.57**	**.912**	**.000**	**.000**
Stddev	2.27	.718	.000	.000
%RSD	63.6	78.7	100.	14.1

Int. Std.	Y_3242
Units	Cts/S
Avg	**486810.**
Stddev	1557.
%RSD	.31974

Sample Name: CalStd3=1 Acquired: 10/09/2015 08:44:13 Type: Cal
Method: DOD Calibration Updated 060614(v899) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Ba4554	Be3130	Cd2265	Cd2288	Co2286	Cr2055	Cu2247	Ni2316
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**4.34**	**4.13**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	.000	4.45	.40	.000	.000	.00	.000	.000	.00
%RSD	7.25	102.	9.63	43.9	4.80	299.	961.	121.	66.3

Int. Std.	Y_3242	Y_3710
Units	Cts/S	Cts/S
Avg	**488390.**	**156010.**
Stddev	4186.	1939.
%RSD	.85720	1.2431

Sample Name: CalStd4=5 Acquired: 10/09/2015 08:48:48 Type: Cal
Method: DOD Calibration Updated 060614(v899) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al1670	As1890	Ba4554	Ba4934	Be3130	Cd2265	Co2286	Cr2055	Cu2247	Mn2576	Mo2020	Ni2316
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.086**	**61.9**	**88.7**	**36.0**	**.000**	**.000**	**.000**	**.000**	**3.39**	**1.95**	**.000**
Stddev	.000	.322	2.1	7.8	2.0	.000	.000	.000	.000	.32	.24	.000
%RSD	47.1	372.	3.47	8.75	5.60	10.2	16.7	5.90	14.6	9.31	12.3	14.1

Elem	Pb2169	Pb2203	Sb2175	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.001**	**.000**	**.000**
Stddev	.000	.000	.000	.000
%RSD	76.3	36.7	127.	10.3

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**2442.4**	**492010.**	**155480.**
Stddev	16.0	5686.	640.
%RSD	.65578	1.1557	.41193

Sample Name: CalStd5=10 Acquired: 10/09/2015 08:53:25 Type: Cal
Method: DOD Calibration Updated 060614(v899) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba4554	Be3130	Cd2265	Cd2288	Co2286	Cr2055	Cu2247	Mn2576	Mo2020
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.485**	**134.**	**76.6**	**.000**	**.000**	**.000**	**.000**	**.000**	**6.31**	**2.75**
Stddev	.000	.000	.258	3.	1.1	.000	.000	.000	.000	.000	.61	.60
%RSD	1.47	45.7	53.2	2.19	1.41	3.39	.847	2.07	7.24	17.7	9.67	21.7

Elem	Mo2020	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Tl1908	Tl1908	V_2924	Zn2138	B_2496
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**1.16**	**.000**	**.000**	**.001**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**1.19**
Stddev	.36	.000	.000	.000	.000	.000	.000	.000	.00	.000	.000	.53
%RSD	30.9	14.3	26.7	11.0	53.8	21.5	50.4	45.9	307.	6.09	8.56	44.7

Elem	B_2497
Units	Cts/S
Avg	**3.53**
Stddev	.98
%RSD	27.9

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**2471.8**	**489050.**	**156140.**
Stddev	16.3	5682.	833.
%RSD	.65985	1.1617	.53331

Sample Name: CalStd6=20 Acquired: 10/09/2015 08:58:02 Type: Cal
Method: DOD Calibration Updated 060614(v899) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ba4554	Cu2247	Fe2599	Mn2576	Mo2020	Mo2020	Sb2175	V_2924
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**283.**	**.000**	**4.06**	**12.2**	**5.00**	**1.78**	**.000**	**.000**
Stddev	7.	.000	.68	1.1	.28	.11	.000	.000
%RSD	2.53	3.93	16.7	9.01	5.61	6.07	24.5	2.80

Int. Std.	Y_3242	Y_3710
Units	Cts/S	Cts/S
Avg	**488910.**	**156070.**
Stddev	4649.	482.
%RSD	.95088	.30874

Sample Name: CalStd7=50 Acquired: 10/09/2015 09:02:33 Type: Cal
Method: DOD Calibration Updated 060614(v899) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al1670	As1937	Ba4554	Ca3933	Cd2265	Co2286	Cr2055	Cr2835	Cu2247	Fe2599	Mg2802	Mn2576
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**1.14**	**649.**	**.007**	**.000**	**.000**	**.000**	**.000**	**.000**	**6.99**	**131.**	**27.7**
Stddev	.000	.34	21.	.000	.000	.000	.000	.000	.000	.57	2.	.5
%RSD	13.7	30.1	3.24	2.31	.766	3.10	1.23	6.52	2.38	8.15	1.34	1.90

Elem	Mo2020	Mo2020	Mo2045	Ni2316	Sb2068	Se1960	V_2924	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**11.6**	**3.51**	**.000**	**.000**	**.000**	**.001**	**.001**	**.000**
Stddev	.3	.21	.000	.000	.000	.000	.000	.000
%RSD	2.24	5.91	10.6	2.02	8.14	20.3	2.45	1.90

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**2434.7**	**486240.**	**154720.**
Stddev	51.1	5431.	1111.
%RSD	2.0985	1.1169	.71833

Sample Name: CalStd8=100 Acquired: 10/09/2015 09:07:03 Type: Cal
Method: DOD Calibration Updated 060614(v899) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	As1937	As1890	Ba4554	Ba4934	Be3130	Be2348	Ca3933	Cd2265	Cd2288	Co2286	Co2388
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.001**	**1.95**	**.419**	**1270.**	**2070.**	**760.**	**.000**	**.011**	**.000**	**.001**	**.000**	**.000**
Stddev	.000	.57	.097	24.	50.	14.	.000	.000	.000	.000	.000	.000
%RSD	1.82	29.1	23.2	1.87	2.43	1.81	2.59	.710	.759	.770	.311	13.4

Elem	Cr2055	Cr2835	Cu2247	Cu3247	Fe2599	Mg2802	Mn2576	Mo2020	Mo2020	Mo2045	Ni2216	Ni2316
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.001**	**13.2**	**240.**	**52.0**	**21.6**	**5.50**	**.000**	**.000**	**.000**
Stddev	.000	.000	.000	.000	.8	6.	1.6	.7	.34	.000	.000	.000
%RSD	.748	1.15	.820	2.19	6.09	2.33	3.09	3.26	6.13	6.01	1.12	.500

Elem	Pb2169	Pb2203	Sb2175	Se1960	Se2062	Tl1908	Tl1908	V_2908	V_2924	Zn2138	B_2496	B_2497
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.007**	**.000**	**.001**	**.000**	**.003**	**.001**	**.000**	**.001**	**.000**	**9.54**	**23.0**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.72	1.3
%RSD	2.01	2.46	2.24	21.5	53.9	6.19	14.1	6.89	.460	.958	7.55	5.52

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**2484.7**	**493130.**	**156390.**
Stddev	16.8	5378.	505.
%RSD	.67659	1.0906	.32302

Sample Name: CalStd9=1000 Acquired: 10/09/2015 09:11:32 Type: Cal
Method: DOD Calibration Updated 060614(v899) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3082	Al3961	Al1670	As1937	As1890	Ba4554	Ba4934	Be3130	Be2348	Ca3158	Ca3933
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.001**	**.002**	**.000**	**21.1**	**5.85**	**13700.**	**23000.**	**7530.**	**.001**	**.000**	**.112**
Stddev	.000	.000	.000	.7	.50	364.	687.	167.	.000	.000	.003
%RSD	3.86	3.14	11.9	3.09	8.49	2.65	2.98	2.22	3.11	5.20	3.02

Elem	Cd2265	Cd2288	Co2286	Co2388	Cr2055	Cr2835	Cu2247	Cu3247	Fe2343	Fe2599	Mg2025
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.003**	**.005**	**.003**	**.000**	**.001**	**.001**	**.001**	**.005**	**12.6**	**117.**	**66.8**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.5	2.	1.3
%RSD	2.01	1.78	2.26	1.85	2.22	1.77	2.15	1.96	3.57	1.68	2.00

Elem	Mg2802	Mn2576	Mn2593	Mo2020	Mo2020	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**2570.**	**569.**	**1040.**	**235.**	**56.8**	**.000**	**.002**	**.002**	**.000**	**.069**	**.000**
Stddev	56.	15.	24.	4.	1.1	.000	.000	.000	.000	.001	.000
%RSD	2.16	2.67	2.35	1.66	1.98	2.63	1.93	1.91	2.30	1.50	1.61

Elem	Sb2175	Se1960	Se2062	Tl1908	Tl1908	V_2908	V_2924	Zn2062	Zn2138	B_2496	B_2497
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.009**	**.000**	**.027**	**.007**	**.001**	**.012**	**.001**	**.002**	**107.**	**256.**
Stddev	.000	.000	.000	.001	.000	.000	.000	.000	.000	5.	8.
%RSD	1.75	1.41	4.06	2.57	3.57	1.24	1.50	2.08	2.17	4.23	3.11

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**2473.9**	**484220.**	**155400.**
Stddev	11.5	4239.	123.
%RSD	.46301	.87552	.07942

Sample Name: CalStd10=10000 Acquired: 10/09/2015 09:15:49 Type: Cal
Method: DOD Calibration Updated 060614(v899) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3082	Al3961	As1937	As1890	Ba4934	Ca3158	Co2388	Cr2055	Cr2835	Cu2247
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.006**	**.021**	**207.**	**56.8**	**227000.**	**.002**	**.001**	**.011**	**.006**	**.014**
Stddev	.000	.001	1.	.8	8050.	.000	.000	.000	.000	.000
%RSD	3.45	3.06	.611	1.45	3.54	2.90	2.74	.741	2.58	.736

Elem	Cu3247	Fe2343	Fe2599	Mg2025	Mg2802	Mn2576	Mn2593	Mo2020	Mo2045	Ni2216
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.043**	**118.**	**1180.**	**607.**	**25700.**	**5720.**	**10500.**	**543.**	**.002**	**.016**
Stddev	.002	4.	32.	5.	767.	162.	308.	4.	.000	.000
%RSD	3.74	3.43	2.71	.801	2.98	2.84	2.94	.813	.645	.748

Elem	Ni2316	Pb2169	Sb2068	Se1960	Se2062	Tl1908	V_2908	Zn2062	Zn2138	B_2496
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.020**	**.002**	**.001**	**.097**	**.000**	**.065**	**.014**	**.007**	**.014**	**1120.**
Stddev	.000	.000	.000	.001	.000	.001	.000	.000	.000	45.
%RSD	.685	.408	.542	.648	1.28	1.11	2.57	.855	.795	4.03

Elem	B_2497
Units	Cts/S
Avg	**2650.**
Stddev	102.
%RSD	3.86

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**2339.4**	**465220.**	**154670.**
Stddev	13.8	2783.	827.
%RSD	.59100	.59829	.53450

Sample Name: CalStd11-100k Acquired: 10/09/2015 09:20:36 Type: Cal
Method: DOD Calibration Updated 060614(v899) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Cr2055	Cr2835	Cu3247	Mn2593	Pb2169	Zn2062
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.085**	**.059**	**.414**	**99100.**	**.019**	**.062**
Stddev	.001	.002	.005	2490.	.000	.001
%RSD	.989	2.55	1.28	2.51	1.35	1.09

Int. Std.	Y_3242	Y_3710
Units	Cts/S	Cts/S
Avg	**476760.**	**156370.**
Stddev	4920.	655.
%RSD	1.0320	.41888

Sample Name: CalStd12-100000 Acquired: 10/09/2015 09:24:52 Type: Cal
Method: DOD Calibration Updated 060614(v899) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3082	Al3961	Ca3158	Fe2343	Mg2025
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.062**	**.214**	**.021**	**1170.**	**5290.**
Stddev	.001	.005	.002	24.	46.
%RSD	2.30	2.44	10.3	2.02	.871

Int. Std.	Y_3242	Y_3710
Units	Cts/S	Cts/S
Avg	**439740.**	**152440.**
Stddev	38679.	407.
%RSD	8.7958	.26679

Sample Name: CalStd13=500000 Acquired: 10/09/2015 09:29:46 Type: Cal
Method: DOD Calibration Updated 060614(v899) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Ca3158	Fe2343	Mg2025
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**1.10**	**.099**	**5050.**	**19100.**
Stddev	.03	.002	118.	80.
%RSD	2.28	2.34	2.33	.420

Int. Std.	Y_3242	Y_3710
Units	Cts/S	Cts/S
Avg	**425300.**	**144410.**
Stddev	2215.	208.
%RSD	.52068	.14418

Sample Name: CalStd14-1000k Acquired: 10/09/2015 09:34:26 Type: Cal
Method: DOD Calibration Updated 060614(v899) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3082	Al3961	Ca3158	Fe2343	Mg2025
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.622**	**2.17**	**.198**	**9020.**	**28800.**
Stddev	.024	.05	.006	327.	213.
%RSD	3.83	2.27	2.92	3.62	.742

Int. Std.	Y_3242	Y_3710
Units	Cts/S	Cts/S
Avg	**398100.**	**136970.**
Stddev	4959.	447.
%RSD	1.2456	.32637

Sample Name: icv Acquired: 10/09/2015 09:43:53 Type: QC
Method: DOD Calibration Updated 060614(v899) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	As1890	Ba4934	Be3130	Ca3158	Ca3179	Cd2265	Co2286	Co2388	Cr2055
Avg	**48.7**	**12000.**	**2100.**	**2080.**	**2100.**	**48.0**	**9840.**	**9960.**	**47.1**	**495.**	**502.**	**208.**
Stddev	.9	51.	18.	33.	29.	.9	285.	167.	1.2	9.	11.	5.
%RSD	1.90	.424	.834	1.60	1.39	1.87	2.89	1.68	2.49	1.88	2.15	2.57
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Cu2247	Fe2343	Mg2025	Mn2576	Mn2593	Mo2020	Mo2020	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203
Avg	**261.**	**5840.**	**10300.**	**514.**	**524.**	**523.**	**531.**	**520.**	**512.**	**514.**	**522.**	**498.**
Stddev	6.	97.	144.	9.	11.	9.	4.	9.	9.	11.	5.	12.
%RSD	2.30	1.66	1.40	1.68	2.06	1.67	.667	1.75	1.79	2.12	.991	2.50
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Sb2068	Sb2175	Se1960	Se2062	Tl1908	V_2908	V_2924	Zn2062	Zn2138	B_2496	B_2497
Avg	**512.**	**516.**	**1970.**	**1990.**	**2280.**	**501.**	**507.**	**500.**	**495.**	**517.**	**504.**
Stddev	10.	10.	17.	26.	35.	5.	8.	10.	10.	11.	20.
%RSD	1.98	2.02	.864	1.29	1.54	1.04	1.52	1.93	2.04	2.05	3.97
Check ?	None	None	None	None	None	None	None	None	None	None	None
Value											
Range											

Sample Name: icv Acquired: 10/09/2015 09:43:53 Type: QC
Method: DOD Calibration Updated 060614(v899) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**2402.9**	**485380.**	**154600.**
Stddev	17.5	4274.	1402.
%RSD	.72649	.88060	.90713

Sample Name: ICVLL Acquired: 10/09/2015 09:48:36 Type: QC
Method: DOD Calibration Updated 060614(v899) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3082	Al3961	Al1670	As1937	Ba4554	Be3130	Ca3158	Ca3933	Cd2265	Co2286	Cr2055
Avg	**51.9**	**1070.**	**1090.**	F **1520.**	**59.4**	**28.8**	**11.2**	**1380.**	**1410.**	**14.0**	**27.3**	**30.6**
Stddev	1.6	13.	6.	36.	9.9	.2	.3	38.	27.	.5	.4	.9
%RSD	3.12	1.25	.580	2.35	16.6	.756	2.52	2.75	1.90	3.41	1.37	3.00
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value				1200.								
Range				20.0%								

Elem	Cu2247	Fe2599	Mg2025	Mg2802	Mn2576	Mo2020	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908
Avg	**31.5**	**855.**	**1310.**	**1420.**	**28.8**	**33.3**	**34.5**	**29.2**	**29.8**	**60.9**	**69.8**	**65.0**
Stddev	.3	13.	6.	14.	.9	2.1	11.6	.8	1.8	6.0	6.5	4.0
%RSD	.934	1.51	.436	.959	3.14	6.45	33.5	2.71	6.02	9.93	9.25	6.10
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	V_2924	Zn2138	B_2496	B_2497
Avg	**28.2**	**30.0**	**66.5**	**60.7**
Stddev	.2	.4	5.7	3.5
%RSD	.577	1.37	8.55	5.82
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value				
Range				

Sample Name: ICVLL Acquired: 10/09/2015 09:48:36 Type: QC
Method: DOD Calibration Updated 060614(v899) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**2429.8**	**489360.**	**154510.**
Stddev	5.2	3700.	891.
%RSD	.21256	.75599	.57644

Sample Name: icb Acquired: 10/09/2015 09:57:38 Type: QC
Method: DOD Calibration Updated 060614(v899) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3082	Al1670	As1937	Ba4554	Be3130	Ca3158	Ca3933	Cd2265	Co2286	Cr2055	Cu2247
Avg	**-.312**	**-14.0**	**-3.43**	**12.4**	**-.205**	**.034**	**-4.78**	**-2.89**	**.178**	**-.111**	**.157**	**-1.25**
Stddev	.312	12.6	9.68	22.1	.315	.116	15.5	.10	.255	.347	.508	.68
%RSD	100.0	90.2	282.	179.	154.	344.	324.	3.38	143.	313.	324.	54.4
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Fe2599	Mg2025	Mg2802	Mn2576	Mo2020	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924
Avg	**-14.6**	**7.39**	**-2.92**	**-1.88**	**2.98**	**1.67**	**-.450**	**-.229**	**1.21**	**-24.6**	**-4.30**	**-.373**
Stddev	4.1	1.12	.22	1.08	.60	3.10	.650	5.87	8.09	18.4	1.31	.628
%RSD	27.8	15.1	7.53	57.4	20.2	186.	144.	2560.	667.	74.9	30.6	168.
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Zn2138	B_2496	B_2497
Avg	**-.828**	**8.69**	**2.93**
Stddev	.088	5.52	1.47
%RSD	10.6	63.6	50.0
Check ?	None	None	None
Value			
Range			

Sample Name: icb Acquired: 10/09/2015 09:57:38 Type: QC
Method: DOD Calibration Updated 060614(v899) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**2459.1**	**492960.**	**154910.**
Stddev	11.4	10884.	140.
%RSD	.46287	2.2078	.09065

Sample Name: icsa Acquired: 10/09/2015 10:06:43 Type: QC
Method: DOD Calibration Updated 060614(v899) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba4554	Be3130	Ca3158	Cd2265	Co2286	Cr2055	Cu2247	Fe2343
Avg	**-.343**	**540000.**	**-.003**	**-.332**	**.200**	**497000.**	**.003**	**-.795**	**.000**	**.032**	**463000.**
Stddev	.733	16000.	14.2	.344	.067	17800.	2.67	1.37	.733	.772	13400.
%RSD	214.	2.96	425000.	104.	33.6	3.57	76500.	172.	2170000.	2400.	2.90
Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None
High Limit											
Low Limit											

Elem	Mg2025	Mn2576	Mo2020	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**516000.**	**-.610**	**.001**	**.000**	**.000**	**-.066**	**.633**	**-.007**	**-.697**	**.970**	**-.164**
Stddev	7140.	.407	1.10	7.72	1.39	9.94	8.76	40.8	15.2	1.01	3.87
%RSD	1.39	66.6	212000.	5240000.	1830000.	15000.	1390.	596000.	2180.	104.	2350.
Check ?	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit											
Low Limit											

Elem	B_2496	B_2497
Avg	**.243**	**-.291**
Stddev	1.99	8.06
%RSD	821.	2770.
Check ?	Chk Pass	Chk Pass
High Limit		
Low Limit		

Sample Name: icsa Acquired: 10/09/2015 10:06:43 Type: QC
Method: DOD Calibration Updated 060614(v899) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**2029.4**	**415250.**	**139980.**
Stddev	37.6	2798.	496.
%RSD	1.8530	.67391	.35454

Sample Name: icsab Acquired: 10/09/2015 10:11:25 Type: QC
Method: DOD Calibration Updated 060614(v899) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	As1890	Ba4554	Ba4934	Be3130	Be2348	Ca3158	Cd2265	Cd2288
Avg	**565.**	**543000.**	**473.**	**418.**	**497.**	**412.**	**460.**	**555.**	**523000.**	**439.**	**572.**
Stddev	21.	10700.	50.	79.	14.	8.	11.	28.	19400.	29.	23.
%RSD	3.70	1.97	10.5	18.9	2.82	1.96	2.39	5.12	3.71	6.51	4.08
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Elem	Co2286	Cr2055	Cu2247	Cu3247	Fe2343	Mg2025	Mn2576	Mo2020	Mo2020	Mo2045	Ni2216
Avg	**438.**	**512.**	**445.**	**531.**	**476000.**	**524000.**	**474.**	**409.**	**416.**	**475.**	**467.**
Stddev	19.	20.	19.	15.	9050.	6480.	10.	4.	4.	21.	21.
%RSD	4.39	3.89	4.25	2.74	1.90	1.24	2.13	1.08	.917	4.33	4.40
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Elem	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Se2062	Tl1908	Tl1908	V_2908	V_2924
Avg	**444.**	**588.**	**424.**	**565.**	**557.**	**436.**	**478.**	**441.**	**472.**	**485.**	**515.**
Stddev	19.	53.	8.	37.	29.	26.	108.	21.	21.	14.	17.
%RSD	4.27	8.95	1.85	6.57	5.25	5.86	22.5	4.64	4.46	2.90	3.21
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Sample Name: icsab Acquired: 10/09/2015 10:11:25 Type: QC
Method: DOD Calibration Updated 060614(v899) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Zn2062	Zn2138	B_2496	B_2497
Avg	**463.**	**532.**	**476.**	**474.**
Stddev	19.	32.	25.	14.
%RSD	4.07	6.02	5.20	2.85
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value				
Range				

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**2049.7**	**403480.**	**141860.**
Stddev	15.0	20079.	712.
%RSD	.73199	4.9764	.50188

Sample Name: ICVLL ag Acquired: 10/09/2015 10:15:56 Type: Unk
Method: DOD Calibration Updated 060614(v899) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3082	Al1670	As1937	Ba4554	Be3130	Ca3158	Ca3933	Cd2265	Co2286	Cr2055	Cu2247
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**9.57**	**84.5**	**47.7**	**5.52**	**-.169**	**.054**	**73.6**	**71.9**	**.068**	**.142**	**-.172**	**.006**
Stddev	.31	14.3	10.7	7.34	.222	.104	20.4	17.1	.093	.339	.221	.496
%RSD	3.22	16.9	22.5	133.	131.	193.	27.7	23.8	137.	239.	128.	7870.

Elem	Fe2599	Mg2025	Mg2802	Mn2576	Mo2020	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924
Units	ug/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**340.**	**16.8**	**71.7**	**-2.46**	**7.23**	**1.24**	**-.436**	**.614**	**2.82**	**-.769**	**-1.88**	**.450**
Stddev	45.	6.9	15.8	1.10	1.23	3.70	.712	3.90	3.19	34.6	2.88	.314
%RSD	13.1	41.1	22.1	44.8	17.1	299.	163.	635.	113.	4490.	153.	69.9

Elem	Zn2138	B_2496	B_2497
Units	ug/L	ug/L	ug/L
Avg	**-.324**	**8.27**	**.287**
Stddev	.169	9.26	6.20
%RSD	52.0	112.	2160.

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**2460.9**	**489450.**	**154050.**
Stddev	7.5	2337.	1215.
%RSD	.30492	.47746	.78856

Sample Name: ccv1 Acquired: 10/09/2015 14:08:32 Type: QC
Method: DOD Calibration Updated 060614(v899) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	As1890	Ba4934	Be3130	Be2348	Ca3158	Cd2265	Cd2288	Co2388	Cr2055
Avg	**458.**	**4720.**	**5000.**	**5060.**	F **6300.**	**474.**	F **429.**	**4940.**	**452.**	**481.**	F **4080.**	**4900.**
Stddev	3.	50.	32.	84.	69.	3.	7.	98.	3.	4.	65.	37.
%RSD	.757	1.06	.643	1.66	1.09	.637	1.71	1.99	.744	.856	1.59	.745
Check ?	None	Chk Pass	None	Chk Pass	Chk Fail	None	Chk Fail	Chk Pass	None	Chk Pass	Chk Fail	None
Value					5000.		500.				5000.	
Range					10.4%		-10.4%				-10.4%	

Elem	Cr2835	Cu2247	Cu3247	Fe2343	Mg2025	Mg2802	Mn2593	Mo2020	Mo2045	Ni2216	Ni2316	Pb2169
Avg	F **4460.**	**4760.**	F **4370.**	**4930.**	**4860.**	**4600.**	**4720.**	**4590.**	**4580.**	**5090.**	**4850.**	**4730.**
Stddev	62.	27.	80.	41.	32.	41.	28.	15.	22.	41.	32.	59.
%RSD	1.40	.556	1.83	.828	.661	.901	.586	.322	.480	.813	.650	1.25
Check ?	Chk Fail	None	Chk Fail	Chk Pass	Chk Pass	None	Chk Pass	None	Chk Pass	Chk Pass	None	Chk Pass
Value	5000.		5000.									
Range	-10.4%		-10.4%									

Elem	Sb2068	Se1960	Se2062	Tl1908	V_2908	Zn2062	B_2496	B_2497
Avg	**4900.**	**4760.**	**4650.**	**5100.**	F **4160.**	**4690.**	F **4270.**	F **4240.**
Stddev	45.	46.	29.	27.	48.	44.	43.	64.
%RSD	.921	.964	.626	.527	1.15	.930	1.02	1.50
Check ?	Chk Pass	None	Chk Pass	None	Chk Fail	Chk Pass	Chk Fail	Chk Fail
Value					5000.		5000.	5000.
Range					-10.4%		-10.4%	-10.4%

Sample Name: ccv1 Acquired: 10/09/2015 14:08:32 Type: QC
Method: DOD Calibration Updated 060614(v899) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**2415.0**	**480140.**	**169810.**
Stddev	19.1	3336.	914.
%RSD	.79077	.69470	.53800

Sample Name: ccv2 Acquired: 10/09/2015 14:12:40 Type: QC
Method: DOD Calibration Updated 060614(v899) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3082	Al1670	As1937	Ba4554	Be3130	Ca3158	Ca3933	Cd2265	Co2286	Cr2055	Cu2247
Avg	**47.3**	**421.**	F **690.**	**519.**	F **573.**	**48.0**	**507.**	F **556.**	**47.3**	**467.**	**504.**	**502.**
Stddev	.5	25.	132.	19.	11.	.9	12.	9.	.6	6.	7.	7.
%RSD	1.11	6.02	19.1	3.73	1.93	1.91	2.38	1.65	1.22	1.28	1.37	1.30
Check ?	Chk Pass	None	Chk Fail	Chk Pass	Chk Fail	Chk Pass	None	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value			500.		500.			500.				
Range			10.4%		10.4%			10.4%				

Elem	Fe2599	Mg2025	Mg2802	Mn2576	Mo2020	Mo2020	Ni2316	Pb2203	Sb2068	Sb2175	Se1960	Se2062
Avg	F **438.**	**459.**	**454.**	**461.**	**500.**	**487.**	**505.**	**488.**	**490.**	**490.**	**501.**	**513.**
Stddev	12.	11.	8.	7.	6.	12.	4.	6.	14.	5.	11.	54.
%RSD	2.65	2.47	1.83	1.51	1.17	2.44	.839	1.15	2.80	.937	2.09	10.5
Check ?	Chk Fail	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	None
Value	500.											
Range	-10.4%											

Elem	Tl1908	Tl1908	V_2908	V_2924	Zn2062	Zn2138
Avg	**494.**	**531.**	**427.**	**495.**	**477.**	**472.**
Stddev	25.	19.	6.	6.	8.	5.
%RSD	5.04	3.54	1.50	1.31	1.66	1.16
Check ?	Chk Pass	Chk Pass	None	Chk Pass	None	Chk Pass
Value						
Range						

Sample Name: ccv2 Acquired: 10/09/2015 14:12:40 Type: QC
Method: DOD Calibration Updated 060614(v899) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**2420.2**	**486920.**	**165710.**
Stddev	25.6	3741.	240.
%RSD	1.0566	.76820	.14508

Sample Name: ccb Acquired: 10/09/2015 14:17:04 Type: QC
Method: DOD Calibration Updated 060614(v899) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3082	Al1670	As1937	Ba4554	Be3130	Ca3158	Ca3933	Cd2265	Co2286	Cr2055	Cu2247
Avg	**.270**	**-23.4**	**-20.0**	**-9.23**	**-.165**	**.018**	**1.02**	**2.52**	**-.142**	**.742**	**.101**	**.448**
Stddev	.269	13.7	3.4	10.9	.029	.118	7.86	.46	.255	.236	.414	.494
%RSD	99.5	58.7	17.2	118.	17.8	643.	769.	18.2	180.	31.8	410.	110.
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Fe2599	Mg2025	Mg2802	Mn2576	Mo2020	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924
Avg	**-23.1**	**5.13**	**-2.69**	**-.337**	**11.7**	**4.28**	**-.554**	**-1.03**	**4.38**	**.688**	**-1.60**	**.411**
Stddev	4.7	2.74	.41	.829	1.2	5.75	.538	1.19	4.55	14.8	12.7	.360
%RSD	20.5	53.3	15.0	246.	10.4	134.	97.2	115.	104.	2150.	795.	87.8
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Zn2138	B_2496	B_2497
Avg	**-.689**	**22.4**	**4.60**
Stddev	.836	1.2	3.36
%RSD	121.	5.42	72.9
Check ?	None	None	None
Value			
Range			

Sample Name: ccb Acquired: 10/09/2015 14:17:04 Type: QC
Method: DOD Calibration Updated 060614(v899) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**2420.6**	**477730.**	**165010.**
Stddev	25.4	1469.	65.
%RSD	1.0486	.30751	.03942

Sample Name: lcsw54510 Acquired: 10/09/2015 14:49:26 Type: Unk
Method: DOD Calibration Updated 060614(v899) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3082	Al1670	As1937	As1890	Ba4934	Be3130	Ca3158	Cd2265	Co2286	Cr2055
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**20.4**	**713.**	**1090.**	**827.**	**797.**	**1090.**	**18.5**	**192000.**	**17.5**	**184.**	**81.2**
Stddev	1.1	28.	23.	14.	41.	31.	.7	13600.	.9	7.	1.8
%RSD	5.45	3.90	2.06	1.74	5.17	2.88	3.59	7.10	5.04	3.61	2.23

Elem	Cu2247	Fe2599	Mg2025	Mn2576	Mo2020	Mo2020	Ni2216	Ni2316	Pb2203	Sb2175	Se1960
Units	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**102.**	**329.**	**95200.**	**182.**	**4.36**	**3.08**	**205.**	**198.**	**190.**	**215.**	**821.**
Stddev	4.	20.	629.	7.	.76	5.43	7.	8.	4.	9.	13.
%RSD	4.24	5.99	.661	3.95	17.4	176.	3.53	4.21	2.22	4.10	1.57

Elem	Se2062	Tl1908	Tl1908	V_2924	Zn2138	B_2496	B_2497
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**849.**	**775.**	**775.**	**211.**	**202.**	**1600.**	**1570.**
Stddev	30.	14.	29.	8.	6.	59.	68.
%RSD	3.53	1.74	3.70	3.58	3.15	3.67	4.31

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**2129.1**	**435660.**	**158350.**
Stddev	16.1	13601.	1024.
%RSD	.75672	3.1219	.64681

Sample Name: mbw54510 Acquired: 10/09/2015 14:54:26 Type: Unk
Method: DOD Calibration Updated 060614(v899) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3082	Al1670	As1937	Ba4554	Be3130	Ca3158	Ca3933	Cd2265	Co2286	Cr2055	Cu2247
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**.461**	**-27.2**	**-.108**	**-.618**	**-.341**	**-.092**	**29.6**	**19.1**	**.087**	**-.083**	**-.364**	**.032**
Stddev	.983	20.1	26.4	3.97	.187	.083	19.5	5.3	.088	.914	.765	.977
%RSD	213.	73.7	24400.	643.	54.8	90.4	65.9	27.4	101.	1100.	210.	3060.

Elem	Fe2599	Mg2025	Mg2802	Mn2576	Mo2020	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924
Units	ug/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-16.6**	**6.98**	**4.39**	**-1.09**	**4.13**	**3.96**	**.222**	**.494**	**2.39**	**2.01**	**.904**	**.265**
Stddev	2.3	2.36	1.79	1.06	1.87	6.12	.613	3.94	4.01	10.2	4.61	.613
%RSD	13.9	33.8	40.7	97.3	45.1	155.	277.	798.	168.	509.	510.	232.

Elem	Zn2138	B_2496	B_2497
Units	ug/L	ug/L	ug/L
Avg	**-.263**	**11.6**	**6.56**
Stddev	.183	3.7	4.21
%RSD	69.5	32.3	64.2

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**2411.9**	**479420.**	**165960.**
Stddev	14.2	4099.	847.
%RSD	.58965	.85497	.51064

Sample Name: 640611 Acquired: 10/09/2015 14:58:59 Type: Unk
Method: DOD Calibration Updated 060614(v899) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3082	Al1670	As1937	Ba4554	Be3130	Ca3158	Cd2265	Co2286	Cr2055	Cu2247	Fe2599
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**.247**	**-11.1**	**10.2**	**-19.3**	**119.**	**-.007**	**69800.**	**.071**	**-.212**	**7.09**	**.848**	**23.5**
Stddev	.542	9.4	31.4	10.1	3.	.073	728.	.465	.521	.84	1.90	8.3
%RSD	220.	84.8	308.	52.1	2.71	1040.	1.04	658.	246.	11.8	224.	35.4

Elem	Mg2025	Mn2576	Mo2020	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138	B_2496
Units	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**23500.**	**1.43**	**4.13**	**3.37**	**2.32**	**5.52**	**-5.91**	**.286**	**-7.52**	**1.05**	**1.61**	**13.6**
Stddev	87.	.50	1.76	3.58	.86	4.37	2.22	4.53	6.43	.90	.89	9.4
%RSD	.370	34.7	42.6	106.	37.2	79.1	37.6	1580.	85.4	85.1	54.8	69.4

Elem	B_2497
Units	ug/L
Avg	**9.12**
Stddev	3.96
%RSD	43.5

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**2225.0**	**453530.**	**163660.**
Stddev	17.5	4074.	285.
%RSD	.78440	.89831	.17426

Sample Name: 640616 Acquired: 10/09/2015 15:03:45 Type: Unk
Method: DOD Calibration Updated 060614(v899) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3082	Al1670	As1937	Ba4554	Be3130	Ca3158	Cd2265	Co2286	Cr2055	Cu2247	Fe2599
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**.296**	**14.4**	**67.7**	**-19.5**	**93.2**	**-.051**	**58500.**	**.049**	**-.174**	**2.77**	**1.30**	**63.1**
Stddev	.521	13.5	10.5	22.9	2.1	.018	2390.	.544	.382	1.14	.57	3.2
%RSD	176.	93.8	15.6	118.	2.26	36.4	4.09	1100.	219.	41.2	44.3	5.11

Elem	Mg2025	Mn2576	Mo2020	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138	B_2496
Units	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**22400.**	**8.34**	**4.66**	**-1.01**	**3.76**	**-2.67**	**-2.43**	**-16.8**	**.043**	**1.07**	**17.0**	**21.6**
Stddev	188.	2.06	1.12	5.15	.88	1.92	2.58	24.6	6.10	.23	.4	4.6
%RSD	.839	24.7	24.1	510.	23.2	71.9	106.	146.	14200.	21.5	2.11	21.2

Elem	B_2497
Units	ug/L
Avg	**15.4**
Stddev	2.8
%RSD	17.9

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**2137.7**	**435200.**	**159520.**
Stddev	14.8	1226.	622.
%RSD	.69253	.28167	.39003

Sample Name: ccv1 Acquired: 10/09/2015 15:08:29 Type: QC
Method: DOD Calibration Updated 060614(v899) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	As1890	Ba4934	Be3130	Be2348	Ca3158	Cd2265	Cd2288	Co2388	Cr2055
Avg	**448.**	**4830.**	**4830.**	**4880.**	F **6520.**	**433.**	F **399.**	**4600.**	**449.**	**484.**	F **3660.**	**4880.**
Stddev	7.	88.	41.	34.	96.	13.	20.	247.	10.	9.	181.	126.
%RSD	1.47	1.82	.852	.703	1.47	2.99	4.89	5.38	2.33	1.95	4.93	2.59
Check ?	None	Chk Pass	None	Chk Pass	Chk Fail	None	Chk Fail	Chk Pass	None	Chk Pass	Chk Fail	None
Value					5000.		500.				5000.	
Range					10.4%		-10.4%				-10.4%	

Elem	Cu3247	Fe2343	Mg2025	Mn2593	Mo2045	Ni2216	Ni2316	Pb2169	Sb2068	Se2062	Tl1908	V_2908
Avg	F **4440.**	F **4140.**	**4650.**	F **4190.**	**4560.**	**5080.**	**4860.**	**4810.**	**4980.**	**4710.**	**5110.**	F **3880.**
Stddev	75.	115.	67.	145.	102.	116.	104.	79.	76.	150.	39.	90.
%RSD	1.70	2.78	1.44	3.47	2.24	2.28	2.13	1.64	1.53	3.19	.762	2.31
Check ?	Chk Fail	Chk Fail	Chk Pass	Chk Fail	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	None	Chk Fail
Value	5000.	5000.		5000.								5000.
Range	-10.4%	-10.4%		-10.4%								-10.4%

Elem	Zn2062
Avg	**4640.**
Stddev	117.
%RSD	2.53
Check ?	Chk Pass
Value	
Range	

Sample Name: ccv1 Acquired: 10/09/2015 15:08:29 Type: QC
Method: DOD Calibration Updated 060614(v899) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**2296.2**	**453330.**	**160100.**
Stddev	15.9	4614.	2418.
%RSD	.69276	1.0177	1.5105

Sample Name: ccv2 Acquired: 10/09/2015 15:12:38 Type: QC
Method: DOD Calibration Updated 060614(v899) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3082	As1937	Ba4554	Be3130	Ca3158	Ca3933	Cd2265	Co2286	Cr2055	Cu2247	Fe2599
Avg	**46.4**	**416.**	**521.**	F **567.**	**46.1**	**489.**	F **564.**	**47.2**	**466.**	**507.**	**503.**	F **402.**
Stddev	1.0	25.	9.	7.	.9	8.	10.	.8	5.	7.	4.	6.
%RSD	2.24	6.09	1.75	1.25	1.99	1.57	1.69	1.66	1.17	1.30	.760	1.61
Check ?	Chk Pass	None	Chk Pass	Chk Fail	Chk Pass	None	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail
Value				500.			500.					500.
Range				10.4%			10.4%					-10.4%

Elem	Mg2802	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	F **425.**	F **433.**	**485.**	**512.**	**480.**	**494.**	**492.**	**507.**	**491.**	**475.**
Stddev	9.	9.	4.	8.	9.	5.	11.	18.	9.	6.
%RSD	2.23	2.06	.924	1.52	1.85	.928	2.32	3.62	1.92	1.18
Check ?	Chk Fail	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value	500.	500.								
Range	-10.4%	-10.4%								

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**2399.6**	**473110.**	**163290.**
Stddev	25.5	3426.	622.
%RSD	1.0624	.72419	.38088

Sample Name: ccb Acquired: 10/09/2015 15:17:02 Type: QC
Method: DOD Calibration Updated 060614(v899) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3082	Al1670	As1937	Ba4554	Be3130	Ca3158	Ca3933	Cd2265	Co2286	Cr2055	Cu2247
Avg	**.037**	**-16.3**	**-.325**	**5.40**	**-.480**	**.020**	**-3.61**	**.908**	**-.018**	**.188**	**-.242**	**-.460**
Stddev	.967	7.6	17.0	9.75	.091	.061	13.0	.051	.108	.576	1.20	1.59
%RSD	2590.	46.8	5240.	181.	18.9	309.	359.	5.61	603.	306.	495.	345.
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Fe2599	Mg2025	Mg2802	Mn2576	Mo2020	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924
Avg	**-21.2**	**3.46**	**-2.86**	**-.421**	**10.9**	**8.37**	**.179**	**1.04**	**2.27**	**-9.40**	**-1.13**	**.482**
Stddev	9.6	3.43	.16	.932	2.0	1.00	.740	2.93	2.83	5.22	4.31	.503
%RSD	45.2	99.1	5.44	221.	18.4	11.9	414.	281.	125.	55.5	381.	104.
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Zn2138	B_2496	B_2497
Avg	**-.405**	**15.8**	**4.74**
Stddev	.424	14.7	5.45
%RSD	105.	93.6	115.
Check ?	None	None	None
Value			
Range			

Sample Name: ccb Acquired: 10/09/2015 15:17:02 Type: QC
Method: DOD Calibration Updated 060614(v899) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**2403.1**	**476230.**	**161200.**
Stddev	13.2	6411.	744.
%RSD	.55022	1.3461	.46178

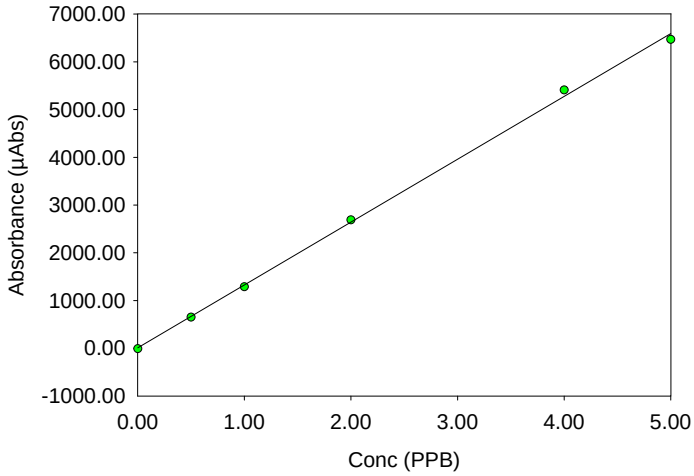
CETAC Hg Analysis Report - 15101200.DB - 10/12/2015, 09:21:25

Analyst
Date Started 10/12/2015, 07:16:30
Worksheet 7470 Water (5ppb as high std)
Comment

* All concentrations are dilution corrected.

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Dilution	Flags
Calibration Zero	12-Oct-2015, 07:16	0.00	80.00	-7.07	1.00	
Standard #1	12-Oct-2015, 07:18	0.50	7.82	653.00	1.00	
Standard #2	12-Oct-2015, 07:20	1.00	10.10	1290.00	1.00	
Standard #3	12-Oct-2015, 07:22	2.00	5.82	2690.00	1.00	
Standard #4	12-Oct-2015, 07:24	4.00	6.31	5410.00	1.00	
Standard #5	12-Oct-2015, 07:26	5.00	9.14	6470.00	1.00	

Calibration Data



Int.	8.908
Slope	1316.623
Correlation	0.99946

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Dilution	Flags
ICV	12-Oct-2015, 07:28	3.08	9.94	4070.00	1.00	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Dilution	Flags
ICB	12-Oct-2015, 07:30	-0.01	23.50	-4.32	1.00	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Dilution	Flags
643586 LCSW54585	12-Oct-2015, 07:32	3.14	4.34	4140.00	1.00	
643585 MBW54585	12-Oct-2015, 07:34	-0.03	7.36	-25.60	1.00	
642814	12-Oct-2015, 07:36	-0.02	20.20	-13.20	1.00	
L642814	12-Oct-2015, 07:38	-0.02	10.00	-19.10	1.00	
DUP642814	12-Oct-2015, 07:40	-0.02	14.40	-11.40	1.00	
MSW642814	12-Oct-2015, 07:42	2.34	3.62	3090.00	1.00	
MSDW642814	12-Oct-2015, 07:44	2.22	5.36	2940.00	1.00	
PDSW642814	12-Oct-2015, 07:46	2.32	4.88	3060.00	1.00	
642572 LCSW54544	12-Oct-2015, 07:48	3.10	6.80	4090.00	1.00	
642571 MBW54544	12-Oct-2015, 07:50	-0.02	22.10	-12.20	1.00	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Dilution	Flags
CCV	12-Oct-2015, 07:52	3.15	6.96	4160.00	1.00	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Dilution	Flags
CCB	12-Oct-2015, 07:54	-0.02	14.00	-13.10	1.00	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Dilution	Flags
640611	12-Oct-2015, 07:56	-0.02	10.00	-19.30	1.00	
640616	12-Oct-2015, 07:57	-0.02	12.80	-15.40	1.00	
L640616	12-Oct-2015, 07:59	-0.01	30.20	-7.28	1.00	
DUP640616	12-Oct-2015, 08:01	-0.02	12.90	-16.90	1.00	
MSW640616	12-Oct-2015, 08:03	2.17	7.51	2860.00	1.00	
MSDW640616	12-Oct-2015, 08:05	2.11	5.77	2790.00	1.00	
PDSW640616	12-Oct-2015, 08:07	2.12	6.73	2790.00	1.00	
642568 LCSW54543	12-Oct-2015, 08:09	3.06	8.16	4040.00	1.00	
642567 MSW54543	12-Oct-2015, 08:11	-0.01	19.20	-5.62	1.00	
642224	12-Oct-2015, 08:13	-0.02	6.31	-14.90	1.00	

Analyst
Date Started 10/12/2015, 08:15:26
Worksheet 7470 Water (5ppb as high std)
Comment

* All concentrations are dilution corrected.

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Dilution	Flags
CCV	12-Oct-2015, 08:15	3.20	9.13	4220.00	1.00	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Dilution	Flags
CCB	12-Oct-2015, 08:17	-0.01	12.20	-6.27	1.00	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Dilution	Flags
MSW642224	12-Oct-2015, 08:19	1.30	8.70	1720.00	1.00	
MSDW642224	12-Oct-2015, 08:21	1.18	9.12	1570.00	1.00	
PDSW642224	12-Oct-2015, 08:23	2.11	8.62	2790.00	1.00	
642560 LCSW54541	12-Oct-2015, 08:25	3.10	8.94	4090.00	1.00	
642559 MBW54541	12-Oct-2015, 08:27	-0.01	35.60	-4.13	1.00	
638646	12-Oct-2015, 08:29	-0.01	7.44	-3.33	1.00	
638651	12-Oct-2015, 08:31	-0.02	25.60	-14.30	1.00	
638652	12-Oct-2015, 08:33	-0.01	64.10	0.58	1.00	
638653	12-Oct-2015, 08:35	-0.01	23.90	-6.40	1.00	
MSW638653	12-Oct-2015, 08:36	2.16	9.53	2850.00	1.00	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Dilution	Flags
CCV	12-Oct-2015, 08:38	2.92	8.49	3850.00	1.00	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Dilution	Flags
CCB	12-Oct-2015, 08:40	-0.01	19.70	-3.19	1.00	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Dilution	Flags
MSDW638653	12-Oct-2015, 08:42	2.14	6.24	2830.00	1.00	
PDSW638653	12-Oct-2015, 08:44	2.15	7.93	2850.00	1.00	
638654	12-Oct-2015, 08:46	-0.02	9.79	-11.20	1.00	
638655	12-Oct-2015, 08:48	-0.01	34.10	-5.71	1.00	
638656	12-Oct-2015, 08:50	-0.01	15.10	-8.63	1.00	
638657	12-Oct-2015, 08:52	-0.02	22.10	-15.70	1.00	
642564 LCSW54542	12-Oct-2015, 08:54	2.99	15.60	3950.00	1.00	
642563 MBW54542	12-Oct-2015, 08:56	-0.01	21.30	-9.50	1.00	
642142	12-Oct-2015, 08:58	0.03	28.10	44.60	1.00	
MSW642142	12-Oct-2015, 09:00	2.23	8.68	2940.00	1.00	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Dilution	Flags
CCV	12-Oct-2015, 09:02	3.11	9.69	4100.00	1.00	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Dilution	Flags
CCB	12-Oct-2015, 09:04	-0.02	22.80	-12.30	1.00	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Dilution	Flags
MSDW642142	12-Oct-2015, 09:06	2.25	8.00	2970.00	1.00	
PDSW642142	12-Oct-2015, 09:08	2.17	8.62	2870.00	1.00	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Dilution	Flags
CCV	12-Oct-2015, 09:10	3.18	11.20	4190.00	1.00	

Sample ID	Analysis Time	Conc (PPB)	%RSD	Avg. µAbs	Dilution	Flags
CCB	12-Oct-2015, 09:12	-0.01	17.60	-4.96	1.00	

METALS
LOGBOOK
DOCUMENTS

MICP WATER QSM Analytical Run
119595 on 10/13/2015

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	643677								MICP WATER QSM				
					ICV								
	643388								MICP WATER QSM				
					ICVLL					0			
	643389								MICP WATER QSM				
					ICB					0			
	643391								MICP WATER QSM				
					ICSA					0			
	643392								MICP WATER QSM				
					ICSAB					0			
	643393								MICP WATER QSM				
					ICVLL					0			
	643394								MICP WATER QSM				
					CCV1					0			
	643395								MICP WATER QSM				
					CCV2					0			
	643396								MICP WATER QSM				
					CCB					0			
	641576								ICP TOTAL QSM 5.0				
					LCSW					54510			
	641575								ICP TOTAL QSM 5.0				
					MBW					54510			
114475	640611		10/02/2015	1330			BERING SEA ENVIRONMENTAL	RADFORD AAP	ICP TOTAL QSM 5.0		GW	**4**	
		ADW01								54510			
	643397								ICP TOTAL QSM 5.0				
					L	640611				0			
	641577		10/02/2015	1330					ICP TOTAL QSM 5.0				
		ADW01			DUP	640611				54510			
	641578		10/02/2015	1330					ICP TOTAL QSM 5.0				
		ADW01			MSW	640611				54510			
	641579		10/02/2015	1330					ICP TOTAL QSM 5.0				
		ADW01			MSDW	641578				54510			
	643398								ICP TOTAL QSM 5.0				
					PDSW	640611				0			
114475	640616		10/02/2015	1630			BERING SEA ENVIRONMENTAL	RADFORD AAP	ICP TOTAL QSM 5.0		GW	**4**	
		ADW02								54510			
	643399								MICP WATER QSM				
					CCV1					0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

MICP WATER QSM Analytical Run
119595 on 10/13/2015

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	643400							MICP WATER QSM				
					CCV2				0			
	643401							MICP WATER QSM				
					CCB				0			
	644586							MICP WATER QSM				
					ICV				0			
	644587							MICP WATER QSM				
					ICVLL				0			
	644588							MICP WATER QSM				
					ICB				0			
	644589							MICP WATER QSM				
					ICSA				0			
	644590							MICP WATER QSM				
					ICSAB				0			
	644591							MICP WATER QSM				
					ICVLL				0			
	644598							MICP WATER QSM				
					CCV1				0			
	644599							MICP WATER QSM				
					CCV2				0			
	644600							MICP WATER QSM				
					CCB				0			
	641576							ICP TOTAL QSM 5.0				
RERUN					LCSW				54510			
	641575							ICP TOTAL QSM 5.0				
RERUN					MBW				54510			
114475	640611		10/02/2015	1330		BERING SEA ENVIRONMENTAL	RADFORD AAP	ICP TOTAL QSM 5.0		GW	**4**	
RERUN		ADW01							54510			
RERUN		ADW01							54510			
114475	640616		10/02/2015	1630		BERING SEA ENVIRONMENTAL	RADFORD AAP	ICP TOTAL QSM 5.0		GW	**4**	
RERUN		ADW02							54510			
RERUN		ADW02							54510			
	644601							MICP WATER QSM				
					CCV1				0			
	644602							MICP WATER QSM				
					CCV2				0			
	644603							MICP WATER QSM				
					CCB				0			

39 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

MICP WATER QSM K&Na Analytical Run
119596 on 10/13/2015

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	643237								MICP WATER QSM K&Na				
					ICV					0			
	643238								MICP WATER QSM K&Na				
					ICVLL					0			
	643239								MICP WATER QSM K&Na				
					ICB					0			
	643240								MICP WATER QSM K&Na				
					MRL					0			
	643241								MICP WATER QSM K&Na				
					ICSA					0			
	643242								MICP WATER QSM K&Na				
					ICSAB					0			
	643243								MICP WATER QSM K&Na				
					CCV					0			
	643244								MICP WATER QSM K&Na				
					CCB					0			
	641576								ICP K TOTAL QSM 5.0				
					LCSW					54510			
	641576								ICP NA TOTAL QSM 5.0				
					LCSW					54510			
	641575								ICP K TOTAL QSM 5.0				
					MBW					54510			
	641575								ICP NA TOTAL QSM 5.0				
					MBW					54510			
114475	640611		10/02/2015	1330			BERING SEA ENVIRONMENTAL	RADFORD AAP	ICP K TOTAL QSM 5.0		GW	**4**	
		ADW01								54510			
114475	640611		10/02/2015	1330			BERING SEA ENVIRONMENTAL	RADFORD AAP	ICP NA TOTAL QSM 5.0		GW	**4**	
		ADW01								54510			
	643245								ICP K TOTAL QSM 5.0				
					L	640611				0			
	643245								ICP NA TOTAL QSM 5.0				
					L	640611				0			
	643246								MICP WATER QSM K&Na				
					CCV					0			
	643247								MICP WATER QSM K&Na				
					CCB					0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

MICP WATER QSM K&Na Analytical Run
119596 on 10/13/2015

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	641577		10/02/2015	1330					ICP K TOTAL QSM 5.0				
		ADW01			DUP	640611				54510			
	641577		10/02/2015	1330					ICP NA TOTAL QSM 5.0				
		ADW01			DUP	640611				54510			
	641578		10/02/2015	1330					ICP K TOTAL QSM 5.0				
		ADW01			MSW	640611				54510			
	641578		10/02/2015	1330					ICP NA TOTAL QSM 5.0				
		ADW01			MSW	640611				54510			
	641579		10/02/2015	1330					ICP K TOTAL QSM 5.0				
		ADW01			MSDW	641578				54510			
	641579		10/02/2015	1330					ICP NA TOTAL QSM 5.0				
		ADW01			MSDW	641578				54510			
	643248								ICP K TOTAL QSM 5.0				
					PDSW	640611				0			
	643248								ICP NA TOTAL QSM 5.0				
					PDSW	640611				0			
114475	640616		10/02/2015	1630			BERING SEA ENVIRONMENTAL	RADFORD AAP	ICP K TOTAL QSM 5.0		GW	**4**	
		ADW02								54510			
114475	640616		10/02/2015	1630			BERING SEA ENVIRONMENTAL	RADFORD AAP	ICP NA TOTAL QSM 5.0		GW	**4**	
		ADW02								54510			
	643249								MICP WATER QSM K&Na				
					CCV					0			
	643250								MICP WATER QSM K&Na				
					CCB					0			

30 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

MERCURY QSM Analytical Run
119700 on 10/13/2015

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	644259								MERCURY QSM				
					ICV					0			
	644260								MERCURY QSM				
					ICB					0			
	642572								MERCURY TOTAL QSM 5.0				
					LCSW					54544			
	642571								MERCURY TOTAL QSM 5.0				
					MBW					54544			
	644261								MERCURY QSM				
					CCV					0			
	644262								MERCURY QSM				
					CCB					0			
114475	640611		10/02/2015	1330			BERING SEA ENVIRONMENTAL	RADFORD AAP	MERCURY TOTAL QSM 5.0		GW	**4**	
		ADW01								54544			
114475	640616		10/02/2015	1630			BERING SEA ENVIRONMENTAL	RADFORD AAP	MERCURY TOTAL QSM 5.0		GW	**4**	
		ADW02								54544			
	644263								MERCURY TOTAL QSM 5.0				
					L	640616				0			
	642573		10/02/2015	1630					MERCURY TOTAL QSM 5.0				
		ADW02			DUP	640616				54544			
	642574		10/02/2015	1630					MERCURY TOTAL QSM 5.0				
		ADW02			MSW	640616				54544			
	642575		10/02/2015	1630					MERCURY TOTAL QSM 5.0				
		ADW02			MSDW	642574				54544			
	644264								MERCURY TOTAL QSM 5.0				
					PDSW	640616				0			
	644265								MERCURY QSM				
					CCV					0			
	644266								MERCURY QSM				
					CCB					0			

15 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

PREP WORKSHEET
on 10/13/2015

Prep Batch **54,510** Date Prepped: 10/07/2015 Prepped By NAH

Folder #	Order	QC Type	Link	Test	Matrix	Volume	Weight	Initial Volume	SDG Level	Notes
	641575	MBW		ICP K TOTAL QSM 5.0	LIQUID	50		50.0		
	641575	MBW		ICP NA TOTAL QSM 5.0	LIQUID	50		50.0		
	641575	MBW		ICP TOTAL QSM 5.0	LIQUID	50		50.0		
	641575	MBW		ICP TOTAL QSM 5.0	LIQUID	50		50.0		
	641576	LCSW		ICP TOTAL QSM 5.0	LIQUID	50		50.0		
	641576	LCSW		ICP K TOTAL QSM 5.0	LIQUID	50		50.0		
	641576	LCSW		ICP NA TOTAL QSM 5.0	LIQUID	50		50.0		
	641576	LCSW		ICP TOTAL QSM 5.0	LIQUID	50		50.0		
114475	640611			ICP TOTAL QSM 5.0	GROUND WATER	50		50.0	4	
	640611			ICP TOTAL QSM 5.0	GROUND WATER	50		50.0	4	
	640611			ICP TOTAL QSM 5.0	GROUND WATER	50		50.0	4	
	640611			ICP K TOTAL QSM 5.0	GROUND WATER	50		50.0	4	
	640611			ICP NA TOTAL QSM 5.0	GROUND WATER	50		50.0	4	
	640616			ICP K TOTAL QSM 5.0	GROUND WATER	50		50.0	4	
	640616			ICP NA TOTAL QSM 5.0	GROUND WATER	50		50.0	4	
	640616			ICP TOTAL QSM 5.0	GROUND WATER	50		50.0	4	
	640616			ICP TOTAL QSM 5.0	GROUND WATER	50		50.0	4	

PREP WORKSHEET
on 10/13/2015

Folder #	Order	QC Type	Link	Test	Matrix	Volume	Weight	Initial Volume	SDG Level	Notes
114475	640616			ICP TOTAL QSM 5.0	GROUND WATER	50		50.0	4	
	641577	DUP	640611	ICP K TOTAL QSM 5.0	GROUND WATER	50		50		
	641577	DUP	640611	ICP NA TOTAL QSM 5.0	GROUND WATER	50		50		
	641577	DUP	640611	ICP TOTAL QSM 5.0	GROUND WATER	50		50		
	641578	MSW	640611	ICP K TOTAL QSM 5.0	GROUND WATER	50		50		
	641578	MSW	640611	ICP NA TOTAL QSM 5.0	GROUND WATER	50		50		
	641578	MSW	640611	ICP TOTAL QSM 5.0	GROUND WATER	50		50		
	641579	MSDW	641578	ICP K TOTAL QSM 5.0	GROUND WATER	50		50		
	641579	MSDW	641578	ICP NA TOTAL QSM 5.0	GROUND WATER	50		50		
	641579	MSDW	641578	ICP TOTAL QSM 5.0	GROUND WATER	50		50		

Notes:_____

PREP WORKSHEET
on 10/13/2015

Prep Batch **54,544** Date Prepped: 10/09/2015 Prepped By LJF

Folder #	Order	QC Type	Link	Test	Matrix	Volume	Weight	Initial Volume	SDG Level	Notes
	642571	MBW		MERCURY TOTAL QSM	LIQUID	25		25.0		
	642572	LCSW		MERCURY TOTAL QSM	LIQUID	25		25.0		
114475	640611			MERCURY TOTAL QSM	GROUND WATER	25		25.0	4	
	640616			MERCURY TOTAL QSM	GROUND WATER	25		25.0	4	
	642573	DUP	640616	MERCURY TOTAL QSM	GROUND WATER	25		25.0		
	642574	MSW	640616	MERCURY TOTAL QSM	GROUND WATER	25		25.0		
	642575	MSDW	642574	MERCURY TOTAL QSM	GROUND WATER	25		25.0		

Notes:_____

Metals Digestion Bench Sheet

(Prep Methods 3010, 3020, 3005, & 3050)

Program: QSM

*Matrix: liquid

3010= ICP Liquids
3020= GFAA Liquids
3005= Sb Liquids
3050= ICP/GFAA Solids
7060/7740= GFAA, As & Se Liquids

Prep Batch #:	54510
Prep Method:	3010
Analyst:	NAH
Date:	10/07/2015
Start Time:	07:30

Prep Analyst: NAH

Balance ID:

End Date: 10/07/2015

End Time: 10:30

Digestion Tube Lot #: J218982-263

Block Used: A

Cell Position for Temp. Check: a1

Initial-DigestionTemp (ºC): 93.2

Final-Digestion Temp (ºC): 93.2

Reagent:	Ref. #
Nitric Acid:	AB.603
Hydrochloric Acid:	AB.604
Hydrogen Peroxide:	

Sample ID			(Solids) Sample Weight (g)	(Liquids) Sample Volume (ml)	Final Volume (ml)
641575	(MB)			50.0	50
641576	(LCS)			50.0	50
640611				50.0	50
640616	**Comments:**			50.0	50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
641577	(DUP) if applicable			50.0	50
641578	(MS)	Parent Sample		50.0	50
641579	(MSD)	640611		50.0	50
Leave >>	(DUP) if applicable				50
blank	(MS)	Parent Sample			50
if N/A	(MSD)				50

MB=Method Blank, LCS=Laboratory Control Sample, DUP=Duplicate, MS=Matrix Spike & MSD=Matrix Spike Duplicate

*Matrix: Soil, Sludge, Waste, GW=Groundwater, WW=Wastewater, Tissue, TLCP, SPLP, ASTM or other.

MS/MSD Spike Amount (ml)	Spike Ref. #
0.2	M12615
0.1	m12471
0.5	m12609
0.5	m12575

LCS Spike Amount (ml)	Spike Ref. #
0.2	M12615
0.1	m12471
0.5	m12609
0.5	m12575

Reviewed By/Date:

FMT12-03

Mercury Digestion Bench Sheet

(Prep Methods 7470A & 7471A)

CCV ID: M12633
ICV/LCSW ID: M12632

*Matrix: GW
Balance ID:

7470A= Hg Liquids
7471A= Hg Solids

Prep Batch #:	54544
Prep Method:	7070A
Analyst:	LJF
Date:	10/09/2015
Start Time:	08:30

End Date: 10/09/2015
End Time: 10:30
Digestion Tube Lot #: 15015123
Block Used: A
Cell Position for Temp. Check: F-4
Initial-DigestionTemp (ºC): 93.2
Final-Digestion Temp (ºC): 93.2
Additional KMnO4 added (ml):
Aqua Regia added (ml)
Calibration Stds: M12630

Reagent:	Ref. #
HNO3:	AB.603
H2SO4:	AB.605
NaCl/Hydrox.SO4:	M12643
KMnO4:	M12637
K2S2O8:	M12501
Aqua-Regia:	M12635

	Sample ID			(Solids) Sample Weight (g)	(Liquids) Sample Volume (ml)	Final Volume (ml)
	642571	(MB)			25.0	25
	642572	(LCS)			25.0	25
	640611				25.0	25
	640616	**Comments:**			25.0	25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
	642573	(DUP) if applicable			25.0	25
	642574	(MS)	Parent Sample		25.0	25
	642575	(MSD)	640616		25.0	25
Leave >>		(DUP) if applicable				25
blank		(MS)	Parent Sample			25
		(MSD)				25
		(DUP) if applicable				25
		(MS)	Parent Sample			25
if N/A		(MSD)				25

MB=Method Blank, LCS=Laboratory Control Sample, DUP=Duplicate, MS=Matrix Spike & MSD=Matrix Spike Duplicate
*Matrix: Soil, Sludge, Waste, GW=Groundwater, WW=Wastewater, Tissue, TLCP, SPLP, ASTM or other.

A: Spike Amount (ml)	Spike Conc. (ug/L)	Spike Ref. #
0.5	100ug/L	M12631

B: Spike Amount (ml)	Spike Conc. (ug/L)	Spike Ref. #

Reviewed By/Date:

ICAP 6000 / 6500 Data Review Checklist	Analysis Date: 10-7-15		Data File: 000Results (894, 899)		Date of review: 10/13/15
Cal Std ID: M125X1 LIMS #: 11957	Analyst:		Reviewer: MDS		Approved? Yes No
Is Audit Trail turned on or Manual Manipulations addressed? Yes / No (If no, any manual manipulations must be initialed, dated, and reason(s) stated for change)					
QC Parameters: 6010 / 200.7 / CSM / Other	**YES**	**NO**	**YES**	**NO**	**Comments:**
1) Calibration linearity: (> 0.995) r > 0.998	✓		✓		
2) ICV: 90-110% / 95-105%	✓		✓		
2) ICVLL: 70-130% / (80-120%)	✓		✓		
3) ICB: < 3X IDL / <LOD / <LOQ	✓		✓	✓	Pb > LOD Samples reanalyzed for Pb
4) ICSA: < ABS LOD	✓		✓		
5) ICSAB: 80-120%	✓		✓		
6) MRL: 70-130% / 80-120%					
7) MDL Check: >LOD					
8) CCV1/CCB1 (CCV: 90-110%)	✓		✓	✓	Pb + Se > LOD Samples Se < MDL
9) CCV2/CCB2 (CCB: < 3X IDL / <LOD / <LOQ)					
10) CCV3/CCB3					
11) CCV4/CCB4					
12) CCV5/CCB5					
Preparation Batch Parameters	**YES**	**NO**	**YES**	**NO**	
Prep Batch ID#: 54510 Dig. Meth. 3010	✓		✓		
LCS - generated limits or project specific limits	✓		✓		
MB - <LOD or ≤ ½ RL	✓		✓	✓	mg, Cu, Cr, Se
Spiked samples in batch:		✓			
a) [e406.1] matrix = DW	✓	✓	✓	✓	Chem Ba, Ca, Mg invalid
b) matrix =					Dup Anal'd
c) matrix =					MS, MSD Cr
PDS: ±15% / 20% / 25% Sample#: —	✓	✓	✓	✓	Fe Failed PDS "M"
Prep Batch ID#: Dig. Meth.					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					Did not pr Cr samples not enough
Spiked samples in batch:					Limited Sample.
a) matrix =					
b) matrix =					
c) matrix =					
PDS: ±15% / 20% / 25% Sample#:					
Prep Batch ID#: Dig. Meth.					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a) matrix =					
b) matrix =					
c) matrix =					
PDS: ±15% / 20% / 25% Sample#:					
Prep Batch ID#: Dig. Meth.					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a) matrix =					
b) matrix =					
c) matrix =					
PDS: ±15% / 20% / 25% Sample#:					

iCAP 6000 / 6500 Data Review Checklist	Analysis Date: 10/08/15	Data File: Na_C150815 v621	Date of review: 10-9-15
Cal Std ID: M12467 LIMS #: 119596	Analyst: MRS	Reviewer: [illegible]	Approved? Yes / No
Is Audit Trail turned on or Manual Manipulations addressed? Yes / No (If no, any manual manipulations must be initialed, dated, and reason(s) stated for change)			

QC Parameters : 6010 / 200.7 / QSM / Other	YES	NO	YES	NO	Comments:
1) Calibration linearity: r ≥ 0.995 / r > 0.998	✓		✓		
2) ICV: 90-110% / 95-105%	✓		✓		
2) ICVLL: 70-130% / 80-120%	✓		✓		
3) ICB: < 3X IDL / <LOD / <LOQ	✓		✓		
4) ICSA: < ABS LOD	✓		✓		
5) ICSAB: 80-120%	✓		✓		
6) MRL: 70-130% / 80-120%					
7) MDL Check: >LOD					
8) CCV1/CCB1 (CCV: 90-110%)	✓		✓		
9) CCV2/CCB2 (CCS: < 3X IDL / <LOD / <LOQ)					
10) CCV3/CCB3					
11) CCV4/CCB4					
12) CCV5/CCB5					

Preparation Batch Parameters	YES	NO	YES	NO	
Prep Batch ID#: 59510 Dig. Meth. 3010	✓		✓		
LCS - generated limits or project specific limits	✓		✓		
MB - <LOD or ≤ ½ RL	✓		✓		
Spiked samples in batch:					
a) 140611 matrix = low	✓	✓	✓	✓	Invalid, Dup invalid K
b) matrix =					
c) matrix =					
PDS: ±15% / 20% / 25% Sample#: 0	✓		✓		
Prep Batch ID#: Dig. Meth.					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a) matrix =					
b) matrix =					
c) matrix =					
PDS: ±15% / 20% / 25% Sample#:					
Prep Batch ID#: Dig. Meth.					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a) matrix =					
b) matrix =					
c) matrix =					
PDS: ±15% / 20% / 25% Sample#:					
Prep Batch ID#: Dig. Meth.					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a) matrix =					
b) matrix =					
c) matrix =					
PDS: ±15% / 20% / 25% Sample#:					

GFAA / CVAA Data Review checklist		Method: 200.9	7000 series AA	245.1	7470a / 7471a
Instrumentation:	THERMO M SERIES AA		CETAC Hg ANALYZER		
Analysis Date: 10/12/15	Data File: 151012b0	Date Review: 10-12-15	Analyte: Hg		
Cal Std ID: M12630	LIMS # : 119700	Analyst: LF	Reviewer:	Approved?	Yes / No
Is Audit Trail turned on or Manual Manipulations addressed? Yes / No (If no, any manual manipulations must be initialed, dated, and reason(s) stated for change)					

Calibration Parameters -	YES	NO	YES	NO	Comments:
1) Calibration linearity - r > 0.995	✓		✓		
2) ICV: 90-110% 95-105%	✓		✓		
3) ICB: <IDL / <LOD / <LOQ / <½ RL	✓		✓		
6) MRL: 70-130%					
7) CCV1/CCB1- (CCV: 90-110% / 80-120%)	✓		✓		
8) CCV2/CCB2 (CCB: <IDL / <LOD / <LOQ / <½ RL)					
9) CCV3/CCB3					
10) CCV4/CCB4					
11) CCV5/CCB5					
12) CCV6/CCB6					

Preparation Batch Parameters	YES	NO	YES	NO	Comments:
Prep Batch ID#: 54544 Dig. Meth. 7470A	✓		✓		
LCS - generated limits or project specific limits	✓		✓		
MB - <LOD / <2.2X LOD / ≤ ½RL	✓		✓		
Spiked samples in batch:					
a) 640616 matrix = low	✓		✓		AA 4, POS N/A
b) matrix =					
c) matrix =					
d) matrix =					
e) matrix =					
PDS: ±15% (20%) / 25% Sample# 640616	✓		✓		
MSA Performed? Yes No					
Prep Batch ID#: Dig. Meth.					
LCS - generated limits or project specific limits					
MB - <LOD / <2.2X LOD / ≤ ½RL					
Spiked samples in batch:					
a) matrix =					
b) matrix =					
c) matrix =					
d) matrix =					
e) matrix =					
PDS: ±15% / 20% / 25% Sample#					
MSA Performed? Yes No					
Prep Batch ID#: Dig. Meth.					
LCS - generated limits or project specific limits					
MB - <LOD / <2.2X LOD / ≤ ½RL					
Spiked samples in batch:					
a) matrix =					
b) matrix =					
c) matrix =					
d) matrix =					
e) matrix =					
PDS: ±15% / 20% / 25% Sample#					
MSA Performed? Yes No					

CT Laboratories Instrument Run Log

Instrument ID: ICP 6500 (See Journal for Wavelength Check)

Date	Time Start/End	Analyst	Method	LIMS# or Sample #	Sequence I.D.	Cal. STD I.D.	Comments	Pressure (KPa)
9/22/15	0911 : 1050	MDS	NaK	118925, 118962	NaK092215	M12467	V617	320
09/30/15	0738 : 1119	MDS	NaK	119104 119304 118994, 119286, 119498, 119038	NaK093015	M12467	V618, V625	320
10/06/15	1212 : 1502	MDS	NaK	119523, 119494, 119310	NaK100615	M12467	V619, V620	320
10/09/15	0747 : 1026	MDS	NaK	119600, 119598, 119596, 119613	NaK100915	M12467	V621	320
10/09/15	1108 : 1247	MDS	NaK	119655, 119668	NaK100915	M12467	V622	320
10/12/15	0851 : 0956	MDS	NaK	119716	NaK101215	M12467	V623	320
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Checked by: _____ Verified by: _____

CT Laboratories Instrument Run Log

Instrument ID: ICP 6500

Date	Time Start/End	Analyst	Analytes	LIMS run or Samples Analyzed	Sequence ID	Cal Std ID	Neb Pressure	Comments
10-6-15	0955 / 1832	JA	DOD Cal u	119549 119550	D100615	M12581	230	V891
10-7-15	1245 / 0021	JA	DOD Cal u	119594 119602 119597 119599 119595 119601 119602	D100715	M12581	230	V894
10-9-15	0850 / 1612	JA	DOD Cal u	119612 119653 119658, 119659 119696 119697	D100915	M12581	300	V897, V898, V899, V900
10-12-15	/	JA	DOD Cal u	119753, 119755				

CT Laboratories

Mercury Analyzer Instrument Run Log

Instrument ID: Cetac M-6000A

Analysis Date	Start Time	End Time	Analyst	LIMS Run # (s)	Method File ID #	Cal. Std. ID #	Lamp Current (mA)	Analysis Tube Lot #	Comments
08/26/15	11:22	14:22	LSF	118139, 118138, 118137, 118136	15082601	M17593	20.4	238109	Sncl2: M17599
09/09/15	07:13	10:20	LSF	118407, 118399, 118401, 118402, 118406, 118409	15090400	M12616	20.4	238109	Sncl2: M12622
09/04/15	10:41	13:27	LSF	118408, 118410, 118411	15090401	M12616	20.4	238109	Sncl2: ~~M12616~~ 09/04/15 LSF M12622
09/08/15	07:18	10:13	LSF	118537, 118544, 118540, 118538, 118543	15091000	M12616	20.4	238109	Sncl2: M12622
09/15/15	07:17	09:23	LSF	118699, 118700, 118698, 118694	15091500	M12616	20.4	238109	Sncl2: M12622
09/15/15	09:47	11:10	LSF	118727	15091501	M12616	20.4	238109	Sncl2: M12622
09/21/15	08:23	16:24	LSF	118903, 118900, 118901, 118902	15092100	M12630	20.4	238109	Sncl2: M12636
09/22/15	07:08	09:09	LSF	118945, 118938, 118937	15092200	M12630	20.4	238109	Sncl2: M12636
09/24/15	07:05	09:21	LSF	119099, 119101, 119097, 119098	15092400	M12630	20.4	238109	Sncl2: M12636
09/24/15	09:49	11:04	LSF	119100, 119095,	15092401	M12630	20.4	238109	Sncl2: M12636
09/28/15	07:31	08:46	LSF	119195, 119196	15092800	M12630	20.4	238109	Sncl2: M12636
10/01/15	07:36	08:10	LSF	119372	15100100	M12630	20.4	238109	Sncl2: M12636
10/05/15	07:05	11:06	LSF	119373, 119434, 119426, 119395, 119429, 119427, 119428	15100500	M12630	20.4	238109	Sncl2: M12636
10/05/15	11:36	16:26	LSF	119454, 119455, 119459, 119464, 119405, 119461	15100501	M12630	20.4	238109	Sncl2: M12636
10/06/15	07:55	~~09:11~~ ~~09:56~~ 10/06/15 LSF	LSF	119542	15100600	M12630	20.4	238109	Sncl2: M12636
10/07/15	~~07~~:06	08:47	LSF	119564, 119563, 119562	15100700	M12630	20.4	238109	Sncl2: M12636
10/12/15	07:16	09:12	LSF	119703, 119699, 119700, 119704	15101200	M12630	20.4	238109	Sncl2: M12636
10/12/15	09:43	10:59	LSF	119698, 119701	15101201	M12630	20.4	238109	Sncl2: M12636

Reviewed By/Date: _____

Type	Date/Time	Message	User name	Application	Sequence Name
	10/06/2015 14:39:04	Running icv (10)	MDS	Analyst	S_Sodium and Potas
	10/06/2015 14:41:40	Running ICVLL (17)	MDS	Analyst	S_Sodium and Potas
	10/06/2015 14:44:17	Running icb (11)	MDS	Analyst	S_Sodium and Potas
	10/06/2015 14:46:54	Running mrl (16)	MDS	Analyst	S_Sodium and Potas
	10/06/2015 14:49:31	Running icsa (12)	MDS	Analyst	S_Sodium and Potas
	10/06/2015 14:52:14	Running icsab (13)	MDS	Analyst	S_Sodium and Potas
	10/06/2015 14:54:56	Running msw638646 (25)	MDS	Analyst	S_Sodium and Potas
	10/06/2015 14:57:33	Running msdw638646 (26)	MDS	Analyst	S_Sodium and Potas
	10/06/2015 15:00:11	Running ccv (14)	MDS	Analyst	S_Sodium and Potas
	10/06/2015 15:02:48	Running ccb (15)	MDS	Analyst	S_Sodium and Potas
	10/06/2015 15:05:26	Plasma off	MDS	iTEVA Control Center	
	10/06/2015 15:05:26	Plasma extinguished successfully	MDS	Analyst	
	10/06/2015 15:05:28	Autosampler Run Completed	MDS	Analyst	S_Sodium and Potas
	10/08/2015 07:33:59	Plasma On	MDS	iTEVA Control Center	
	10/08/2015 07:34:04	Plasma ignition successful	MDS	Analyst	
	10/08/2015 07:34:51	D33534 - Debug:Wavelength check : x = -0.392, y =-0.413	MDS	Analyst	
	10/08/2015 07:46:47	Sequence Started	MDS	Analyst	S_Sodium and Potas
	10/08/2015 07:46:47	Autosampler Run Started	MDS	Analyst	
	10/08/2015 07:47:08	Running Blank (1)	MDS	Analyst	S_Sodium and Potas
	10/08/2015 07:49:55	Running CalibStd-0.5 (2)	MDS	Analyst	S_Sodium and Potas
	10/08/2015 07:52:31	Running CalibStd-1.0 (3)	MDS	Analyst	S_Sodium and Potas
	10/08/2015 07:55:07	Running CalibStd-5.0 (4)	MDS	Analyst	S_Sodium and Potas
	10/08/2015 07:57:44	Running CalibStd-10.0 (5)	MDS	Analyst	S_Sodium and Potas
	10/08/2015 08:00:21	Running CalibStd-50 (6)	MDS	Analyst	S_Sodium and Potas
	10/08/2015 08:02:59	Running CalibStd-100 (7)	MDS	Analyst	S_Sodium and Potas
	10/08/2015 08:05:37	Running CalibStd-200 (8)	MDS	Analyst	S_Sodium and Potas
	10/08/2015 08:08:15	Running CalibStd-500 (9)	MDS	Analyst	S_Sodium and Potas
	10/08/2015 08:10:57	Running icv (10)	MDS	Analyst	S_Sodium and Potas
	10/08/2015 08:13:34	Running ICVLL (17)	MDS	Analyst	S_Sodium and Potas
	10/08/2015 08:16:10	Running icb (11)	MDS	Analyst	S_Sodium and Potas
	10/08/2015 08:18:47	Running mrl (16)	MDS	Analyst	S_Sodium and Potas
	10/08/2015 08:21:24	Running icsa (12)	MDS	Analyst	S_Sodium and Potas
	10/08/2015 08:24:07	Running icsab (13)	MDS	Analyst	S_Sodium and Potas
	10/08/2015 08:26:49	Running lcsw54504 (1)	MDS	Analyst	S_Sodium and Potas
	10/08/2015 08:29:24	Running mbw54504 (2)	MDS	Analyst	S_Sodium and Potas
	10/08/2015 08:32:01	Running 638604 (3)	MDS	Analyst	S_Sodium and Potas
	10/08/2015 08:34:37	Running 639886 (4)	MDS	Analyst	S_Sodium and Potas
	10/08/2015 08:37:13	Running 639887 (5)	MDS	Analyst	S_Sodium and Potas
	10/08/2015 08:39:50	Running msw639887 (6)	MDS	Analyst	S_Sodium and Potas
	10/08/2015 08:42:26	Running msdw639887 (7)	MDS	Analyst	S_Sodium and Potas
	10/08/2015 08:45:02	Running pdsw639887 (8)	MDS	Analyst	S_Sodium and Potas
	10/08/2015 08:47:40	Running 641730 (9)	MDS	Analyst	S_Sodium and Potas
	10/08/2015 08:50:15	Running 641731 (10)	MDS	Analyst	S_Sodium and Potas
	10/08/2015 08:52:52	Running ccv (14)	MDS	Analyst	S_Sodium and Potas
	10/08/2015 08:55:30	Running ccb (15)	MDS	Analyst	S_Sodium and Potas
	10/08/2015 08:58:07	Running 641732 (11)	MDS	Analyst	S_Sodium and Potas
	10/08/2015 09:00:44	Running lcsw54507 (12)	MDS	Analyst	S_Sodium and Potas
	10/08/2015 09:03:21	Running mbw54507 (13)	MDS	Analyst	S_Sodium and Potas
	10/08/2015 09:05:59	Running 638811 (14)	MDS	Analyst	S_Sodium and Potas
	10/08/2015 09:08:34	Running 638812 (15)	MDS	Analyst	S_Sodium and Potas
	10/08/2015 09:11:10	Running pdsw638812 (16)	MDS	Analyst	S_Sodium and Potas
	10/08/2015 09:13:46	Running lcsw54510 (17)	MDS	Analyst	S_Sodium and Potas

Type	Date/Time	Message	User name	Application	Sequence Name
	10/08/2015 09:16:22	Running mbw54510 (18)	MDS	Analyst	S_Sodium and Potas
	10/08/2015 09:19:00	Running 640611 (19)	MDS	Analyst	S_Sodium and Potas
	10/08/2015 09:21:36	Running l640611 (20)	MDS	Analyst	S_Sodium and Potas
	10/08/2015 09:24:13	Running ccv (14)	MDS	Analyst	S_Sodium and Potas
	10/08/2015 09:26:50	Running ccb (15)	MDS	Analyst	S_Sodium and Potas
	10/08/2015 09:29:28	Running dup640611 (21)	MDS	Analyst	S_Sodium and Potas
	10/08/2015 09:32:04	Running msw640611 (22)	MDS	Analyst	S_Sodium and Potas
	10/08/2015 09:34:41	Running msdw640611 (23)	MDS	Analyst	S_Sodium and Potas
	10/08/2015 09:37:18	Running pdsw640611 (24)	MDS	Analyst	S_Sodium and Potas
	10/08/2015 09:39:56	Running 640616 (25)	MDS	Analyst	S_Sodium and Potas
	10/08/2015 09:42:32	Running lcss54531 (26)	MDS	Analyst	S_Sodium and Potas
	10/08/2015 09:45:09	Running mbs54531 (27)	MDS	Analyst	S_Sodium and Potas
	10/08/2015 09:47:46	Running 639871 (28)	MDS	Analyst	S_Sodium and Potas
	10/08/2015 09:50:20	Running 639877 (29)	MDS	Analyst	S_Sodium and Potas
	10/08/2015 09:52:55	Running mss639877 (30)	MDS	Analyst	S_Sodium and Potas
	10/08/2015 09:55:31	Running ccv (14)	MDS	Analyst	S_Sodium and Potas
	10/08/2015 09:58:07	Running ccb (15)	MDS	Analyst	S_Sodium and Potas
	10/08/2015 10:00:46	Running msds639877 (31)	MDS	Analyst	S_Sodium and Potas
	10/08/2015 10:03:20	Running pdss639877 (32)	MDS	Analyst	S_Sodium and Potas
	10/08/2015 10:05:56	Running 640253 (33)	MDS	Analyst	S_Sodium and Potas
	10/08/2015 10:08:32	Running 640820 (34)	MDS	Analyst	S_Sodium and Potas
	10/08/2015 10:11:16	Running 640821 (35)	MDS	Analyst	S_Sodium and Potas
	10/08/2015 10:14:01	Running 641143 (36)	MDS	Analyst	S_Sodium and Potas
	10/08/2015 10:16:35	Running 642124 (37)	MDS	Analyst	S_Sodium and Potas
	10/08/2015 10:19:10	Running 642147 (38)	MDS	Analyst	S_Sodium and Potas
	10/08/2015 10:21:45	Running 642152 (39)	MDS	Analyst	S_Sodium and Potas
	10/08/2015 10:24:22	Running ccv (14)	MDS	Analyst	S_Sodium and Potas
	10/08/2015 10:26:59	Running ccb (15)	MDS	Analyst	S_Sodium and Potas
	10/08/2015 10:29:33	Autosampler Run Completed	MDS	Analyst	S_Sodium and Potas
	10/08/2015 10:34:13	Plasma extinguished successfully	MDS	Analyst	
	10/08/2015 10:34:14	Plasma off	MDS	iTEVA Control Center	
	10/09/2015 11:00:24	Plasma On	MDS	iTEVA Control Center	
	10/09/2015 11:00:29	Plasma ignition successful	MDS	Analyst	
	10/09/2015 11:01:16	D33534 - Debug:Wavelength check : x = -0.523, y =-0.374	MDS	Analyst	
	10/09/2015 11:08:14	Sequence Started	MDS	Analyst	S_Sodium and Potas
	10/09/2015 11:08:14	Autosampler Run Started	MDS	Analyst	
	10/09/2015 11:08:34	Running Blank (1)	MDS	Analyst	S_Sodium and Potas
	10/09/2015 11:11:22	Running CalibStd-0.5 (2)	MDS	Analyst	S_Sodium and Potas
	10/09/2015 11:13:58	Running CalibStd-1.0 (3)	MDS	Analyst	S_Sodium and Potas
	10/09/2015 11:16:34	Running CalibStd-5.0 (4)	MDS	Analyst	S_Sodium and Potas
	10/09/2015 11:19:11	Running CalibStd-10.0 (5)	MDS	Analyst	S_Sodium and Potas
	10/09/2015 11:21:49	Running CalibStd-50 (6)	MDS	Analyst	S_Sodium and Potas
	10/09/2015 11:24:27	Running CalibStd-100 (7)	MDS	Analyst	S_Sodium and Potas
	10/09/2015 11:27:04	Running CalibStd-200 (8)	MDS	Analyst	S_Sodium and Potas
	10/09/2015 11:29:40	Running CalibStd-500 (9)	MDS	Analyst	S_Sodium and Potas
	10/09/2015 11:32:22	Running icv (10)	MDS	Analyst	S_Sodium and Potas
	10/09/2015 11:34:58	Running ICVLL (17)	MDS	Analyst	S_Sodium and Potas
	10/09/2015 11:37:35	Running icb (11)	MDS	Analyst	S_Sodium and Potas
	10/09/2015 11:40:12	Running mrl (16)	MDS	Analyst	S_Sodium and Potas
	10/09/2015 11:42:49	Running icsa (12)	MDS	Analyst	S_Sodium and Potas
	10/09/2015 11:45:32	Running icsab (13)	MDS	Analyst	S_Sodium and Potas
	10/09/2015 11:48:12	Running lcsw54577 (1)	MDS	Analyst	S_Sodium and Potas

Type	Date/Time	Message	User name	Application	Sequence Name
	10/07/2015 12:44:43	Autosampler Run Started	NAH	Analyst	
	10/07/2015 12:44:43	Sequence Started	NAH	Analyst	S_DOD Calibration
	10/07/2015 12:45:11	Running Blank (1)	NAH	Analyst	S_DOD Calibration
	10/07/2015 12:49:48	Running CalStd1=0.25 (2)	NAH	Analyst	S_DOD Calibration
	10/07/2015 12:54:25	Running CalStd2=0.5 (3)	NAH	Analyst	S_DOD Calibration
	10/07/2015 12:59:02	Running CalStd3=1 (4)	NAH	Analyst	S_DOD Calibration
	10/07/2015 13:03:40	Running CalStd4=5 (5)	NAH	Analyst	S_DOD Calibration
	10/07/2015 13:08:17	Running CalStd5=10 (6)	NAH	Analyst	S_DOD Calibration
	10/07/2015 13:12:57	Running CalStd6=20 (7)	NAH	Analyst	S_DOD Calibration
	10/07/2015 13:17:30	Running CalStd7=50 (8)	NAH	Analyst	S_DOD Calibration
	10/07/2015 13:22:01	Running CalStd8=100 (9)	NAH	Analyst	S_DOD Calibration
	10/07/2015 13:26:34	Running CalStd9=1000 (10)	NAH	Analyst	S_DOD Calibration
	10/07/2015 13:30:52	Running CalStd10=10000 (11)	NAH	Analyst	S_DOD Calibration
	10/07/2015 13:35:41	Running CalStd11-100k (12)	NAH	Analyst	S_DOD Calibration
	10/07/2015 13:40:02	Running CalStd12-100000 (13)	NAH	Analyst	S_DOD Calibration
	10/07/2015 13:44:57	Running CalStd13=500000 (14)	NAH	Analyst	S_DOD Calibration
	10/07/2015 13:49:39	Running CalStd14-1000k (15)	NAH	Analyst	S_DOD Calibration
	10/07/2015 13:54:34	Running blkrinse (22)	NAH	Analyst	S_DOD Calibration
	10/07/2015 13:59:09	Running icv (16)	NAH	Analyst	S_DOD Calibration
	10/07/2015 14:03:56	Running ICVLL (25)	NAH	Analyst	S_DOD Calibration
	10/07/2015 14:08:26	Running icb (17)	NAH	Analyst	S_DOD Calibration
	10/07/2015 14:13:03	Running icb (17)	NAH	Analyst	S_DOD Calibration
	10/07/2015 14:17:39	Running MRL (24)	NAH	Analyst	S_DOD Calibration
	10/07/2015 14:22:31	Running icsa (20)	NAH	Analyst	S_DOD Calibration
	10/07/2015 14:27:31	Running icsab (21)	NAH	Analyst	S_DOD Calibration
	10/07/2015 14:32:03	Running ICVLL ag (1)	NAH	Analyst	S_DOD Calibration
	10/07/2015 14:36:38	Running 638405 (2)	NAH	Analyst	S_DOD Calibration
	10/07/2015 14:41:24	Running msw638405 (3)	NAH	Analyst	S_DOD Calibration
	10/07/2015 14:46:01	Running msdw638405 (4)	NAH	Analyst	S_DOD Calibration
	10/07/2015 14:47:39	Closing will close the method and all associated samples.	NAH	Analyst	
	10/07/2015 14:50:38	Running lcsw54546 (5)	NAH	Analyst	S_DOD Calibration
	10/07/2015 14:55:43	Running mbw54546 (6)	NAH	Analyst	S_DOD Calibration
	10/07/2015 15:00:19	Running 642148 (7)	NAH	Analyst	S_DOD Calibration
	10/07/2015 15:05:07	Running msw642148 (8)	NAH	Analyst	S_DOD Calibration
	10/07/2015 15:09:46	Running msdw642148 (9)	NAH	Analyst	S_DOD Calibration
	10/07/2015 15:14:49	Running pdsw642148 (10)	NAH	Analyst	S_DOD Calibration
	10/07/2015 15:19:49	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	10/07/2015 15:23:44	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	10/07/2015 15:28:08	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	10/07/2015 15:32:46	Running pdsw642149 (11)	NAH	Analyst	S_DOD Calibration
	10/07/2015 15:37:37	Running lcsw54510 (12)	NAH	Analyst	S_DOD Calibration
	10/07/2015 15:42:40	Running mbw54510 (13)	NAH	Analyst	S_DOD Calibration
	10/07/2015 15:47:15	Running 640611 (14)	NAH	Analyst	S_DOD Calibration
	10/07/2015 15:52:02	Running l640611 (15)	NAH	Analyst	S_DOD Calibration
	10/07/2015 15:56:53	Running dup640611 (16)	NAH	Analyst	S_DOD Calibration
	10/07/2015 16:01:40	Running msw640611 (17)	NAH	Analyst	S_DOD Calibration
	10/07/2015 16:06:37	Running msdw640611 (18)	NAH	Analyst	S_DOD Calibration
	10/07/2015 16:11:35	Running pdsw640611 (19)	NAH	Analyst	S_DOD Calibration
	10/07/2015 16:16:27	Running 640616 (20)	NAH	Analyst	S_DOD Calibration
	10/07/2015 16:21:13	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	10/07/2015 16:25:11	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	10/07/2015 16:29:36	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	10/07/2015 16:34:13	Running lcsw54504,06,07 (21)	NAH	Analyst	S_DOD Calibration

Type	Date/Time	Message	User name	Application	Sequence Name
	10/08/2015 13:59:28	Plasma off	NAH	iTEVA Control Center	
	10/08/2015 13:59:28	Plasma extinguished successfully	NAH	Analyst	
	10/09/2015 07:00:58	Plasma On	NAH	iTEVA Control Center	
	10/09/2015 07:01:02	Plasma ignition successful	NAH	Analyst	
	10/09/2015 07:01:49	D33534 - Debug:Wavelength check : x = 2.283, y =-0.022	NAH	Analyst	
	10/09/2015 08:30:01	Autosampler Run Started	NAH	Analyst	
	10/09/2015 08:30:01	Sequence Started	NAH	Analyst	S_DOD Calibration
	10/09/2015 08:30:29	Running Blank (1)	NAH	Analyst	S_DOD Calibration
	10/09/2015 08:35:04	Running CalStd1=0.25 (2)	NAH	Analyst	S_DOD Calibration
	10/09/2015 08:39:38	Running CalStd2=0.5 (3)	NAH	Analyst	S_DOD Calibration
	10/09/2015 08:43:55	Closing will close the method and all associated samples.	NAH	Analyst	
	10/09/2015 08:44:13	Running CalStd3=1 (4)	NAH	Analyst	S_DOD Calibration
	10/09/2015 08:48:48	Running CalStd4=5 (5)	NAH	Analyst	S_DOD Calibration
	10/09/2015 08:53:25	Running CalStd5=10 (6)	NAH	Analyst	S_DOD Calibration
	10/09/2015 08:58:02	Running CalStd6=20 (7)	NAH	Analyst	S_DOD Calibration
	10/09/2015 08:59:12	Closing will close the method and all associated samples.	NAH	Analyst	
	10/09/2015 09:02:33	Running CalStd7=50 (8)	NAH	Analyst	S_DOD Calibration
	10/09/2015 09:07:03	Running CalStd8=100 (9)	NAH	Analyst	S_DOD Calibration
	10/09/2015 09:11:32	Running CalStd9=1000 (10)	NAH	Analyst	S_DOD Calibration
	10/09/2015 09:15:49	Running CalStd10=10000 (11)	NAH	Analyst	S_DOD Calibration
	10/09/2015 09:20:36	Running CalStd11-100k (12)	NAH	Analyst	S_DOD Calibration
	10/09/2015 09:24:52	Running CalStd12-100000 (13)	NAH	Analyst	S_DOD Calibration
	10/09/2015 09:29:46	Running CalStd13=500000 (14)	NAH	Analyst	S_DOD Calibration
	10/09/2015 09:34:26	Running CalStd14-1000k (15)	NAH	Analyst	S_DOD Calibration
	10/09/2015 09:39:20	Running blkrinse (22)	NAH	Analyst	S_DOD Calibration
	10/09/2015 09:43:53	Running icv (16)	NAH	Analyst	S_DOD Calibration
	10/09/2015 09:48:36	Running ICVLL (25)	NAH	Analyst	S_DOD Calibration
	10/09/2015 09:53:03	Running icb (17)	NAH	Analyst	S_DOD Calibration
	10/09/2015 09:57:38	Running icb (17)	NAH	Analyst	S_DOD Calibration
	10/09/2015 10:02:12	Running MRL (24)	NAH	Analyst	S_DOD Calibration
	10/09/2015 10:06:43	Running icsa (20)	NAH	Analyst	S_DOD Calibration
	10/09/2015 10:10:30	Closing will close the method and all associated samples.	NAH	Analyst	
	10/09/2015 10:11:25	Running icsab (21)	NAH	Analyst	S_DOD Calibration
	10/09/2015 10:15:56	Running ICVLL ag (1)	NAH	Analyst	S_DOD Calibration
	10/09/2015 10:20:29	Running 643005 (2)	NAH	Analyst	S_DOD Calibration
	10/09/2015 10:25:14	Running 643006 (3)	NAH	Analyst	S_DOD Calibration
	10/09/2015 10:30:01	Running msw643006 (4)	NAH	Analyst	S_DOD Calibration
	10/09/2015 10:34:58	Running msdw643006 (5)	NAH	Analyst	S_DOD Calibration
	10/09/2015 10:39:55	Running lcsw54593 (43)	NAH	Analyst	S_DOD Calibration
	10/09/2015 10:44:57	Running mbw54593 (44)	NAH	Analyst	S_DOD Calibration
	10/09/2015 10:49:30	Running 642967 (6)	NAH	Analyst	S_DOD Calibration
	10/09/2015 10:54:19	Running dup642967 (7)	NAH	Analyst	S_DOD Calibration
	10/09/2015 10:59:08	Running msw642967 (8)	NAH	Analyst	S_DOD Calibration
	10/09/2015 11:04:00	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	10/09/2015 11:07:59	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	10/09/2015 11:12:24	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	10/09/2015 11:16:58	Running ws 225 (9)	NAH	Analyst	S_DOD Calibration
	10/09/2015 11:21:49	Running ws 225 dup (10)	NAH	Analyst	S_DOD Calibration
	10/09/2015 11:26:42	Running lcss54579 (11)	NAH	Analyst	S_DOD Calibration
	10/09/2015 11:31:38	Running mbs54579 (12)	NAH	Analyst	S_DOD Calibration
	10/09/2015 11:36:13	Running 642793 (13)	NAH	Analyst	S_DOD Calibration
	10/09/2015 11:41:09	Running l642793 (14)	NAH	Analyst	S_DOD Calibration
	10/09/2015 11:45:59	Running dup642793 (15)	NAH	Analyst	S_DOD Calibration

Type	Date/Time	Message	User name	Application	Sequence Name
	10/09/2015 11:50:58	Running mss642793 (16)	NAH	Analyst	S_DOD Calibration
	10/09/2015 11:56:05	Running msds642793 (17)	NAH	Analyst	S_DOD Calibration
	10/09/2015 12:01:11	Running pdss642793 (18)	NAH	Analyst	S_DOD Calibration
	10/09/2015 12:06:18	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	10/09/2015 12:10:35	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	10/09/2015 12:11:06	Closing will close the method and all associated samples.	NAH	Analyst	
	10/09/2015 12:14:58	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	10/09/2015 12:19:31	Running 642800 (19)	NAH	Analyst	S_DOD Calibration
	10/09/2015 12:24:31	Running lcsw54577 78 (20)	NAH	Analyst	S_DOD Calibration
	10/09/2015 12:29:33	Running mbw54577 78 (21)	NAH	Analyst	S_DOD Calibration
	10/09/2015 12:34:06	Running 642862 (22)	NAH	Analyst	S_DOD Calibration
	10/09/2015 12:39:02	Running 642863 (23)	NAH	Analyst	S_DOD Calibration
	10/09/2015 12:44:01	Running 642869 (24)	NAH	Analyst	S_DOD Calibration
	10/09/2015 12:48:57	Running msw642869 (25)	NAH	Analyst	S_DOD Calibration
	10/09/2015 12:53:54	Running msdw642869 (26)	NAH	Analyst	S_DOD Calibration
	10/09/2015 12:58:53	Running pdsw642869 (27)	NAH	Analyst	S_DOD Calibration
	10/09/2015 13:03:42	Running 642870 (28)	NAH	Analyst	S_DOD Calibration
	10/09/2015 13:08:40	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	10/09/2015 13:12:45	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	10/09/2015 13:17:09	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	10/09/2015 13:21:44	Running 642908 (29)	NAH	Analyst	S_DOD Calibration
	10/09/2015 13:26:28	Running 642909 (30)	NAH	Analyst	S_DOD Calibration
	10/09/2015 13:31:26	Running mbs54531 (31)	NAH	Analyst	S_DOD Calibration
	10/09/2015 13:36:03	Running 635325 (32)	NAH	Analyst	S_DOD Calibration
	10/09/2015 13:40:42	Running 639716 (33)	NAH	Analyst	S_DOD Calibration
	10/09/2015 13:45:14	Running 639718 (34)	NAH	Analyst	S_DOD Calibration
	10/09/2015 13:49:45	Running 639877 (35)	NAH	Analyst	S_DOD Calibration
	10/09/2015 13:54:34	Running 640253 (36)	NAH	Analyst	S_DOD Calibration
	10/09/2015 13:59:19	Running 640821 (37)	NAH	Analyst	S_DOD Calibration
	10/09/2015 14:04:05	Running 641143 (38)	NAH	Analyst	S_DOD Calibration
	10/09/2015 14:08:32	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	10/09/2015 14:12:40	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	10/09/2015 14:17:04	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	10/09/2015 14:21:38	Running 642066 (39)	NAH	Analyst	S_DOD Calibration
	10/09/2015 14:26:03	Running 642124 (40)	NAH	Analyst	S_DOD Calibration
	10/09/2015 14:30:34	Running 642147 (41)	NAH	Analyst	S_DOD Calibration
	10/09/2015 14:35:14	Running 642152 (42)	NAH	Analyst	S_DOD Calibration
	10/09/2015 14:39:53	Running lcsw54504 (45)	NAH	Analyst	S_DOD Calibration
	10/09/2015 14:44:52	Running mbw54504 (46)	NAH	Analyst	S_DOD Calibration
	10/09/2015 14:49:26	Running lcsw54510 (47)	NAH	Analyst	S_DOD Calibration
	10/09/2015 14:54:26	Running mbw54510 (48)	NAH	Analyst	S_DOD Calibration
	10/09/2015 14:58:59	Running 640611 (49)	NAH	Analyst	S_DOD Calibration
	10/09/2015 15:03:45	Running 640616 (50)	NAH	Analyst	S_DOD Calibration
	10/09/2015 15:08:29	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	10/09/2015 15:12:38	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	10/09/2015 15:17:02	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	10/09/2015 15:21:37	Running 639638 (51)	NAH	Analyst	S_DOD Calibration
	10/09/2015 15:26:10	Running msw639638 (52)	NAH	Analyst	S_DOD Calibration
	10/09/2015 15:30:52	Running msdw639638 (53)	NAH	Analyst	S_DOD Calibration
	10/09/2015 15:35:34	Running pdsw639638 (54)	NAH	Analyst	S_DOD Calibration
	10/09/2015 15:40:08	Running 639683 (55)	NAH	Analyst	S_DOD Calibration
	10/09/2015 15:45:05	Running 641208 (56)	NAH	Analyst	S_DOD Calibration
	10/09/2015 15:49:52	Running 642142 (57)	NAH	Analyst	S_DOD Calibration

Standard Log #:	M12651	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	10/08/15	Expiration Date:	10/08/16
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12645. Dilute to 20 L and mix.		

Standard Log #:	M12650	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	10/07/15	Expiration Date:	10/07/16
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12645. Dilute to 20 L and mix.		

Standard Log #:	M12648	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	10/02/15	Expiration Date:	10/02/16
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12645. Dilute to 20 L and mix.		

Standard ID#:	M12649	Vendor:	MACRON
Analyst:	LJF	Chemical:	STANNOUS CHLORIDE
Date Received:	10/02/15	Lot #:	119473
Expiration Date (if any):	08/12/16	Catalog #:	8176-04

Standard Log #:	M12646	Reagent:	Potassium Persulfate Solution
Analyst:	LJF		
Prep Date:	10/01/15	Expiration Date:	04/01/16
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M11748 and brought up to volume.		

Standard Log #:	M12647	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	10/01/15	Expiration Date:	04/01/16
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

Standard Log #:	M12645	Reagent:	10N NaOH
Analyst:	LJF		
Prep Date:	09/29/15	Expiration Date:	09/29/16
Prep:	Into a 1 L volumetric flask, added **400 g** NaOH M12543 and brought up to volume.		

Standard Log #:	M12644	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	09/28/15	Expiration Date:	09/28/16
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12543. Dilute to 20 L and mix.		

Standard Log #:	M12641	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	MDS	pH:	4.93 ± 0.05
Prep Date:	09/24/2015	Expiration Date:	06/18/2016
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12543. Dilute to 20 L and mix.		

Standard Log #:	M12642	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	MDS	pH:	4.93 ± 0.05
Prep Date:	09/24/2015	Expiration Date:	06/18/2016
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12543. Dilute to 20 L and mix.		

Standard Log #:	M12643	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	09/24/15	Expiration Date:	03/24/16
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M12270 and **60 g** hydroxylamine sulfate M12548 and brought up to volume.		

Standard Log #:	M12638	Standard:	GFAA Instrument Check
Analyst:	MDS	Final Concentration:	10 µg/L As 6 µg/L Pb 22 µg/L Tl 24 µg/L Sb, Se 0.8 µg/L Ag
Prep Date:	09/22/2015	Expiration Date:	11/08/2015

Into six, 100 mL volumetric flasks, add the following and bring up to volume with milli-Q H_2O.

Element	Volume Pipetted (mL)	Standard Conc. (µg/mL)	Standard ID	New Conc. (µg/L)
As	1	1000	M12315	10,000
Pb	0.1	10,000	M12313	10,000
Tl	1	1000	M11997	10,000
Se	1	1000	M12600	10,000
Sb	1	1000	M12602	10,000
Ag	0.1	1000	M12599	1000

Into a 1 L volumetric flask, add the following and bring up to volume with Milli-Q H_20. (1% HNO_3)

Element	Volume Pipetted (mL)	Standard Conc. (µg/L)	New Conc. (µg/L)
As	1	10,000	10
Pb	0.6	10,000	6
Tl	2.2	10,000	22
Se	2.4	10,000	24
Sb	2.4	10,000	24
Ag	0.8	1000	0.8

		Instrument:	GFAA
Standard Log #:	M12639	Standard:	As Spiking Solution
Analyst:	MDS	Concentration:	10 ug/mL (As)
Prep Date:	09/22/2015	Expiration Date:	06/02/2016
Prep:	Into a 100 mL volumetric flask, pipetted **1.0 mL** of As (1000 mg/L) M12315 and brought to volume with Milli-Q DI H_2O. (3% HNO_3) *Pipette **0.075 mL** of spiking solution into 50 mL DI or sample for a final spike concentration of 15 ug/L		

		Instrument:	GFAA
Standard Log #:	M12640	Standard:	As/Se Spiking Solution
Analyst:	MDS	Concentration:	10 ug/mL (As,Se)
Prep Date:	09/22/2015	Expiration Date:	06/02/2016
Prep:	Into a 100 mL volumetric flask, pipetted **1.0 mL** of As (1000 mg/L) M12315 and **1.0 mL** of Se (1000 mg/L) M12600 and brought to volume with Milli-Q DI H_2O. (3% HNO_3) *Pipette **0.075 mL** of spiking solution into 50 mL DI or sample for a final spike concentration of 15 ug/L		

		Instrument:	CETAC
Standard Log #:	M12636	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	09/18/15	Expiration Date:	12/09/15
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.604 and dissolved **100 g** Stannous chloride M12549 and brought up to volume.		

Standard Log #:	M12637	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	09/18/15	Expiration Date:	03/18/16
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M12633	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	09/18/15	Expiration Date:	02/26/15
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M12634	Standard:	Hg MRL
Analyst:	LJF	Concentration:	0.2 ug/L Hg
Prep Date:	09/18/15	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12635	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	09/18/15	Expiration Date:	04/01/17
Prep:	Carefully mixed **3** parts HCl AB.604 with **1** part HNO_3 AB.603 in a hood.		

		Instrument:	CETAC
Standard Log #:	M12630	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	09/18/15	Expiration Date:	02/26/15
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M12631	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	09/18/15	Expiration Date:	06/30/16
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M12532 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M12632	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	09/18/15	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

Standard Log #:	M12628	Reagent:	10N NaOH
Analyst:	LJF		
Prep Date:	09/16/15	Expiration Date:	09/16/16
Prep:	Into a 1 L volumetric flask, added **400 g** NaOH M11852 and brought up to volume.		

Standard ID#:	M12629	Vendor:	GR ACS
Analyst:	LJF	Chemical:	SODIUM CHLORIDE
Date Received:	09/16/15	Lot #:	x131a
Expiration Date (if any):		Catalog #:	C710L50

		Instrument:	Hach 2100 turbidity meter
Standard Log #:	M12627	Standard:	Turbity ICAL
Analyst:	NAH	Concentrations:	20, 100, 200 ntu
Prep Date:	9/11/2015	Expiration Date:	08/2016
Prep:	Using the hach vials , pipet the following: *20 ntu Std.* = **1 ml** M12186 and 9 mls DI H20. *100 ntu Std.* = **5 mls** M12186 and 5 mls DI H20. *200 ntu Std.* = ***10 mls*** M12186 *and* 0 mls DI H20.		

Standard Log #:	M12626	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	09/10/15	Expiration Date:	09/10/16
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.577 and **128.6 mL** 10N NaOH M12543. Dilute to 20 L and mix.		

Standard Log #:	M12625	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	09/09/15	Expiration Date:	09/09/16
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.577 and **128.6 mL** 10N NaOH M12543. Dilute to 20 L and mix.		

		Instrument:	CETAC
Standard Log #:	M12622	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	09/03/15	Expiration Date:	12/09/15
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.604 and dissolved **100 g** Stannous chloride M12549 and brought up to volume.		

Standard Log #:	M12623	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	09/03/15	Expiration Date:	03/03/16
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M12270 and **60 g** hydroxylamine sulfate M11798 and brought up to volume.		

Standard Log #:	M12624	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	09/03/15	Expiration Date:	03/03/16
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M12619	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	09/03/15	Expiration Date:	02/26/15
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M12620	Standard:	Hg MRL
Analyst:	LJF	Concentration:	0.2 ug/L Hg
Prep Date:	09/03/15	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12621	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	09/03/15	Expiration Date:	04/01/17
Prep:	Carefully mixed **3** parts HCl AB.604 with **1** part HNO_3 AB.603 in a hood.		

		Instrument:	CETAC
Standard Log #:	M12616	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	09/03/15	Expiration Date:	02/26/15
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M12617	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	09/03/15	Expiration Date:	06/30/16
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M12532 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M12618	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	09/03/15	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

Standard ID#:	M12615	Vendor:	SPEX Certiprep
Analyst:	NAH	Chemical:	Custum Assurance Standard
Date Received:	09/01/2015	Lot #:	32-105CR
Expiration Date (if any):	09/20/2015	Catalog #:	XSPIKE-1-250

		Instrument:	ICP 6000
Standard Log #:	M12614	Standard:	NaK ICSAB
Analyst:	MDS	Concentrations:	500 mg/L (Al, Ca, Fe, Mg) 100 mg/L (Na, K)
Prep Date:	08/31/15	Expiration Date:	11/08/15
Prep:	Into a 250 mL volumetric flask, pipetted **25 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M12529, **2.5 mL** of K (10,000 mg/L) M12474, **2.5 mL** of Na (10,000 mg/L) M12010 and **7.5 mL** of Fe (10,000 mg/L) M12489 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

Standard Log #:	M12613	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	08/27/15	Expiration Date:	08/27/16
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12543. Dilute to 20 L and mix.		

Standard ID#:	M12612	Vendor:	CPI
Analyst:	NAH	Chemical:	Yttrium 10000 ug/mL
Date Received:	08/27/15	Lot #:	15E153
Expiration Date (if any):	02/20/17	Catalog #:	4400-10M671

Standard Log #:	M12611	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	08/24/15	Expiration Date:	08/24/16
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12543. Dilute to 20 L and mix.		

Standard ID#:	M12607	Vendor:	CPI
Analyst:	NAH	Chemical:	SODIUM 1000ug/mL
Date Received:	08/19/2015	Lot #:	15F159
Expiration Date (if any):	02/12/2017	Catalog #:	4400-1000521

Standard ID#:	M12608	Vendor:	CPI
Analyst:	NAH	Chemical:	POTASSIUM 1000ug/mL
Date Received:	08/19/2015	Lot #:	15E009
Expiration Date (if any):	02/12/2017	Catalog #:	4400-1000411

Standard ID#:	M12609	Vendor:	CPI
Analyst:	NAH	Chemical:	POTASSIUM 10000ug/mL
Date Received:	08/19/2015	Lot #:	15E086
Expiration Date (if any):	02/12/2017	Catalog #:	4400-10M411

Standard ID#:	M12610	Vendor:	ALFA AESAR
Analyst:	LJF	Chemical:	HYDROXYLAMINE SULFATE
Date Received:	08/20/15	Lot #:	Z16A019
Expiration Date (if any):		Catalog #:	88944

Standard ID#:	M12602	Vendor:	CPI
Analyst:	NAH	Chemical:	ANTIMONY 1000 ug/ml
Date Received:	08-14-2015	Lot #:	15D168
Expiration Date (if any):	02-10-2017	Catalog #:	S4400-100023

Standard ID#:	M12603	Vendor:	CPI
Analyst:	NAH	Chemical:	IRON 10000 ug/ml
Date Received:	08-14-2015	Lot #:	15C057
Expiration Date (if any):	02-10-2017	Catalog #:	4400-10M261

Standard ID#:	M12604	Vendor:	CPI
Analyst:	NAH	Chemical:	CALCIUM 10000 ug/ml
Date Received:	08-14-2015	Lot #:	15G076
Expiration Date (if any):	02-10-2017	Catalog #:	4400-10M91

Standard ID#:	M12605	Vendor:	CPI
Analyst:	NAH	Chemical:	ALUMINUM 10000 ug/ml
Date Received:	08-14-2015	Lot #:	15E015
Expiration Date (if any):	02-10-2017	Catalog #:	4400-10M11

Standard ID#:	M12606	Vendor:	CPI
Analyst:	NAH	Chemical:	MAGNESIUM 10000 ug/ml
Date Received:	08-14-2015	Lot #:	15G077
Expiration Date (if any):	02-10-2015	Catalog #:	4400-10M311

Standard ID#:	M12599	Vendor:	CPI
Analyst:	NAH	Chemical:	SILVER 1000 ug/ml
Date Received:	8-14-2015	Lot #:	15H040
Expiration Date (if any):	02-10-2017	Catalog #:	S4400-1000511

Standard ID#:	M12600	Vendor:	CPI
Analyst:	NAH	Chemical:	SELENIUM 1000 ug/ml
Date Received:	08-14-2015	Lot #:	15E095
Expiration Date (if any):	2-10-2017	Catalog #:	S4400-1000491

Standard ID#:	M12601	Vendor:	CPI
Analyst:	NAH	Chemical:	SILICON 1000 ug/ml
Date Received:	08-14-2015	Lot #:	15F050
Expiration Date (if any):	02-10-2017	Catalog #:	S4400-1000504F

		Instrument:	CETAC
Standard Log #:	M12596	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	08/13/15	Expiration Date:	02/26/16
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M12597	Standard:	Hg MRL
Analyst:	LJF	Concentration:	0.2 ug/L Hg
Prep Date:	08/13/15	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12598	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	08/13/15	Expiration Date:	04/01/17
Prep:	Carefully mixed **3** parts HCl AB.604 with **1** part HNO_3 AB.603 in a hood.		

		Instrument:	CETAC
Standard Log #:	M12599a	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	08/13/15	Expiration Date:	12/09/15
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.604 and dissolved **100 g** Stannous chloride M12549 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M12593	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	08/13/15	Expiration Date:	02/26/15
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M12594	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	08/13/15	Expiration Date:	06/30/16
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M12532 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M12595	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	08/13/15	Expiration Date:	06/30/15
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

Standard Log #:	M12592	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	08/12/15	Expiration Date:	08/12/16
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12543. Dilute to 20 L and mix.		

Standard Log #:	M12588	Instrument:	GFAA
Analyst:	MDS	Reagent:	Pd/Mg Matrix Modifier
Prep Date:	08/10/15	Expiration Date:	10/23/16
Prep:	Into a 50 mL volumetric flask, partially filled with milli-Q H_2O, pipetted **15 mL** Pd Modifier M12584 and **10 mL** Mg (10,000 mg/L) M12488 and brought up to volume.		

		Instrument:	ICP 6500
Standard Log #:	M12586	Standard:	ICSA
Analyst:	NAH	Concentrations:	**500,000 ug/L** Al, Ca, Fe, Mg
Prep Date:	08/05/15	Expiration Date:	07/16
Prep:	Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M12529 and **15 mL** Fe (10000 mg/L) M12489 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M12587	Standard:	ICSAB
Analyst:	NAH	Concentrations:	**500,000 ug/L** Al, Ca, Fe, Mg **500 ug/L** Ag, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Tl, V, Zn
Prep Date:	08/05/15	Expiration Date:	07/16
Prep:	Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M12529 , **15 mL** Fe (10,000 mg/L) M12489 , **2.5 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M12530 and **2.5 mL** Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12558 and brought up to volume with milli-Q H_2O.		

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Standard ID#:	M12584	Vendor:	Environmental Express
Analyst:	MDS	Chemical:	GFAA Pd Matrix Modifier
Date Received:	08/05/15	Lot #:	1421912
Expiration Date (if any):	07/31/17	Catalog #:	HP1900-100

		Instrument:	ICP 6500
Standard Log #:	M12585	Standard:	ICV Std.
Analyst:	NAH	Concentrations:	**12,000 mg/L** Al **10,000 mg/L** Ca, Mg **5000 mg/L** Fe **2000 mg/L** As, Ba, Se, Tl **500 mg/L** B, Co, Li, Mn, Mo, Ni, Pb, Sb, Sn, Sr, Ti, V, Zn **250 mg/L** Cu **200 mg/L** Cr **50 mg/L** Ag, Be, Cd
Prep Date:	08/05/15	Expiration Date:	11/15
Prep:	Into a 1 L volumetric flask, pipetted the following and brought up to volume with milli-Q H_2O. **10 mL** Custom Assurance Standard #18 ((200 mg/L Al, As, Ba, Se, Tl) (100 mg/L Fe) (50 mg/L Co, Mn, Ni, Pb, Sb, V, Zn) (25 mg/L Cu) (20 mg/L Cr) (5 mg/L Ag, Be, Cd)) M12574, **2 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M12529, **0.5 mL** Mo (1000 mg/L) M12008, **0.5 mL** B (1000 mg/L) M12471, **0.5 mL** Sr (1000 mg/L) M11999, **0.5 mL** Li (1000 mg/L) M11998, **0.5 mL** Sn (1000 mg/L) M11996 and **0.5 mL** Ti (1000 mg/L) M12003.		

		Instrument:	ICP 6500
Standard Log #:	M12582	Standard:	CCV1
Analyst:	NAH	Concentrations:	**5000 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn **500 µg/L** Ag, Be, Cd
Prep Date:	08/03/15	Expiration Date:	7/30/16
Prep:	Into a 1 L volumetric flask, pipetted **50 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12558 and **5.0 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M12530 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M12583	Standard:	CCV2
Analyst:	NAH	Concentrations:	**500 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn **50 µg/L** Ag, Be, Cd
Prep Date:	08/03/2015	Expiration Date:	7/30/16
Prep:	Into a 1 L volumetric flask, pipetted **5 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12558 and **0.5 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M12530 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M12581	Standard:	ICAL
Analyst:	NAH	Concentrations:	0.25, 0.5, 1, 5, 10, 20, 50, 100, 1000, 10,000, 100k, 100,000, 500,000 and 1000k (ug/L)
Prep Date:	08/03/15	Expiration Date:	11/2015

Prep:

Using 1 L volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O.
(5% HNO_3, 5% HCl)
1000 ug/L Std. - **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12558, **10 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M12530 and **1 mL** of Si (1000 mg/L) M11919.
0.25 ug/L Std. - **0.25 mL** of the 1000 ug/L Std.
0.5 ug/L Std. - **0.5 mL** of the 1000 ug/L Std.
1 ug/L Std. - **1 mL** of the 1000 ug/L Std.
5 ug/L Std. - **5 mL** of the 1000 ug/L Std.
10 ug/L Std. - **10 mL** of the 1000 ug/L Std.
20 ug/L Std. - **20 mL** of the 1000 ug/L Std.
50 ug/L Std. - **50 mL** of the 1000 ug/L Std.
100 ug/L Std. - **1 mL** of Custom Assurance Std. (CAS) #23 and **1 mL** of CAS #3
10,000 ug/L Std. - **100 mL** CAS #23, **100 mL** CAS #3 and **1 mL** of K (10,000 mg/L) M12474.
100k ug/L Std. - **10 mL** of Cu (10,000 mg/L) M12472, **10 mL** of Mn (10,000 mg/L) M12533, **10 mL** of Cr (10,000 mg/L) M12470, **10 mL** Pb (10,000 mg/L) M12313, **10 mL** of Zn (10,000 mg/L) M12005 and **10 mL** of Na (10,000 mg/L) M12010.
100,000 ug/L Std. - **10 mL** of Mg (10,000 mg/L) M12488, **10 mL** of Fe (10,000 mg/L) M12489, **10 mL** of Ca (10,000 mg/L) M12490 and **10 mL** Al (10,000 mg/L) M12400.
500,000 ug/L Std. - **50 mL** of Mg (10,000 mg/L), **50 mL** of Fe (10,000 mg/L), **50 mL** of Ca (10,000 mg/L) and **50 mL** of Al (10,000 mg/L)
1000k ug/L Std. - **100 mL** of Mg (10,000 mg/L), **100 mL** of Fe (10,000 mg/L), **100 mL** of Ca (10,000 mg/L) and **100 mL** of Al (10,000 mg/L)

Standard Log #:	M12580	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	07/30/15	Expiration Date:	07/30/16
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12543. Dilute to 20 L and mix.		

Standard Log #:	M12579	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	07/24/15	Expiration Date:	01/24/16
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M11285 and brought up to volume.		

		Instrument:	GFAA
Standard Log #:	M12576	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	07/23/2015	Expiration Date:	06/01/2016
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M12504 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M12577	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	07/23/2015	Expiration Date:	06/01/2016
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M12504 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M12578	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	07/23/2015	Expiration Date:	06/01/2016
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M12505 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

Standard ID#:	M12574	Vendor:	SpexCertiprep
Analyst:	NAH	Chemical:	Custum Assurance Std
Date Received:	07/21/2015	Lot #:	31-138CR
Expiration Date (if any):	07/30/2016	Catalog #:	XSPIKE-1-500

Standard ID#:	M12575	Vendor:	SpexCertiprep
Analyst:	NAH	Chemical:	Custum Assurance Std
Date Received:	07/21/2015	Lot #:	07-30-2016
Expiration Date (if any):	07/30/2015	Catalog #:	XCTWI-1-500

		Instrument:	ICP 6500
Standard Log #:	M12572	Standard:	DOD MRL
Analyst:	NAH	Concentrations:	4 ug/L: Be. 5 ug/L: Cd. 10 ug/L: Ag, Ba, Co, Cr, Cu, Mn, Mo. Ni, Pb, V, Zn, Sr, and Ti. 20 ug/L: Sb, As, Se, Tl, Li, Sn and B. 50 ug/L: W. 100 ug/L: Si. 300 ug/L: Fe. 400 ug/L Al. 500 ug/L: S, Ca and Mg. 1000 ug/L: K and Na.
Prep Date:	07/20/2015	Expiration Date:	09/20/2015
Prep:	Into a 500 mL volumetric flask, pipetted **10 mL** of MRL Base STD M12501 and brought to volume with Milli-Q H_2O. (5% HNO_3 & 5% HCL)		

		Instrument:	ICP 6500
Standard Log #:	M12573	Standard:	ICVLL
Analyst:	NAH	Concentrations:	12 ug/L: Be. 15 ug/L: Cd. 30 ug/L: Ag, Ba, Co, Cr, Cu, Mn, Mo. Ni, Pb, V, Zn, Sr, and Ti. 60 ug/L: Sb, As, Se, Tl, Li, Sn and B. 150 ug/L: W. 300 ug/L: Si. 900 ug/L: Fe. 1200 ug/L Al. 1500 ug/L: S, Ca and Mg. 3000 ug/L: K and Na.
Prep Date:	07/20/2015	Expiration Date:	09/15/2015
Prep:	Into a 500 mL volumetric flask, pipetted 30 **mL** of MRL Base STD M12501 and brought to volume with Milli-Q H_2O. (5% HNO_3 & 5% HCL)		

MRL BASE STD M12571

Analyst NAH

Prep Date 07/20/2015

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	(ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L	Expiration Date
Ag	20	M11908	1000	1	09/2015
Al	400	M12312	10000	2	06/2016
Ba	10	M12473	1000	0.5	10/2015
Be	4	M12006	1000	0.2	11/2015
Cd	5	M12002	1000	0.25	11/2015
Co	10	M12000	1000	0.5	11/2015
Cr	10	M12470	10000	0.05	10/2016
Cu	10	M12472	10000	0.05	10/2016
Mg	500	M12314	10000	2.5	06/2016
Mn	10	M12533	10000	0.05	11/2016
Mo	10	M12008	1000	0.5	11/2015
Ni	10	M12004	1000	0.5	11/2015
Pb	10	M12313	10000	0.05	06/2016
Sb	20	M11909	1000	1	09/2015
V	10	M12009	1000	0.5	11/2015
Zn	10	M12005	10000	0.05	11/2015
K	1000	M12294	10000	5	04/2016
Na	1000	M12010	10000	5	11/2015
As	20	M12315	1000	1	06/2016
Ca	500	M12310	10000	2.5	06/2016
Fe	300	M12311	10000	1.5	06/2016
Se	20	M11911	1000	1	09/2015
Tl	20	M11997	1000	1	11/2015
Si	100	M12007	1000	5	11/2015
B	20	M12471	1000	1	10/2016
Li	20	M11998	1000	1	11/2015
W	50	M12163	1000	2.5	02/2016
Ti	10	M12003	1000	0.5	11/2015
Sr	10	M11999	1000	0.5	11/2015
Sn	50	M11996	1000	2.5	11/2015
S	300	M11350	10000	1.5	01/2016

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expiration Date:
09/2015

Standard Log #:	M12570	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	MDS	pH:	4.93 ± 0.05
Prep Date:	07/17/2015	Expiration Date:	06/18/2016
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12543. Dilute to 20 L and mix.		

		Instrument:	CETAC
Standard Log #:	M12568	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	07/16/15	Expiration Date:	10/23/15
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.603 and dissolved **100 g** Stannous chloride M12478 and brought up to volume.		

Standard Log #:	M12569	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	07/16/15	Expiration Date:	07/16/16
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12543. Dilute to 20 L and mix.		

		Instrument:	CETAC
Standard Log #:	M12565	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	07/16/15	Expiration Date:	02/26/16
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M12566	Standard:	Hg MRL
Analyst:	LJF	Concentration:	0.2 ug/L Hg
Prep Date:	07/16/15	Expiration Date:	02/26/16
Prep:	Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M12563 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12567	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	07/16/15	Expiration Date:	04/01/17
Prep:	Carefully mixed **3** parts HCl AB.604 with **1** part HNO_3 AB.603 in a hood.		

		Instrument:	CETAC
Standard Log #:	M12562	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	07/16/15	Expiration Date:	02/26/16
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M12563	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	07/16/15	Expiration Date:	06/30/16
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M12532 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M12564	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	07/16/15	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M12563 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	ICP 6000
Standard Log #:	M12559	Standard:	B&Si ICAL
Analyst:	MDS	Concentrations:	50, 200, 1000, 2000 and 10,000 ug/L (B, Si)
Prep Date:	07/15/2015	Expiration Date:	11/08/2015
Prep:	Into five, 1 L volumetric flasks, pipetted the following from stock standards B (1000 mg/L) M12471 and Si (1000 mg/L) M12007 and brought up to volume using milli-Q H_2O. *50 ug/L std.* - **0.05 mL** of each *200 ug/L std.* - **0.2 mL** of each *1000 ug/L std.* -**1.0 mL** of each, also used for Continuing Calibration Verification *2000 ug/L std.* - **2.0 mL** of each *10,000 ug/L std.* -**10 mL** of each		

		Instrument:	ICP 6000
Standard Log #:	M12560	Standard:	B&Si CCV
Analyst:	MDS	Concentrations:	1000 ug/L (B, Si)
Prep Date:	07/15/2015	Expiration Date:	11/08/2015
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** B (1000 mg/L) M12471 and **1.0 mL** Si (1000 mg/L) M12007 and brought up to volume using milli-Q H_2O.		

		Instrument:	ICP 6000
Standard Log #:	M12561	Standard:	B & Si ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (B,Si)
Prep Date:	07/15/2015	Expiration Date:	11/08/2015
Prep:	Into a 100 mL volumetric flask, pipetted **10 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M12529, **0.05 mL** of B (1000 µg/mL) M12471, **0.05 mL** of Si (1000 µg/mL) M12007 and **3 mL** of Fe (10,000 mg/L) M12489 and brought up to volume using Milli-Q H_2O.		

Standard ID#:	M12558	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Custum Assurance Standard
Date Received:	07/13/2015	Lot #:	9-105WL
Expiration Date (if any):	07/30/2016	Catalog #:	XCTWI-5-500

		Instrument:	CETAC
Standard Log #:	M12556	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	07/09/15	Expiration Date:	02/01/17
Prep:	Carefully mixed **3** parts HCl AB.600 with **1** part HNO_3 AB.601 in a hood.		

		Instrument:	CETAC
Standard Log #:	M12557	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	07/09/15	Expiration Date:	10/23/15
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.600 and dissolved **100 g** Stannous chloride M12478 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M12553	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	07/09/15	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12554	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	07/09/15	Expiration Date:	02/26/16
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M12555	Standard:	Hg MRL
Analyst:	LJF	Concentration:	0.2 ug/L Hg
Prep Date:	07/09/15	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

Standard Log #:	M12550	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	07/09/15	Expiration Date:	01/09/16
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M11285 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M12551	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	07/09/15	Expiration Date:	02/26/16
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M12552	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	07/09/15	Expiration Date:	06/30/16
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M12532 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M12548	Vendor:	Alfa Aesar
Analyst:	LJF	Chemical:	Hydroxylamine Sulfate
Date Received:	07/08/15	Lot #:	Z16A019
Expiration Date (if any):	N/A	Catalog #:	88944

Standard ID#:	M12549	Vendor:	MACRON
Analyst:	LJF	Chemical:	Stannous Chloride
Date Received:	07/08/15	Lot #:	0000111217
Expiration Date (if any):	12/09/15	Catalog #:	8176-04

Standard Log #:	M12545	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	06/30/15	Expiration Date:	06/30/16
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12543. Dilute to 20 L and mix.		

Standard Log #:	M12546	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	06/30/15	Expiration Date:	06/30/16
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12543. Dilute to 20 L and mix.		

Standard Log #:	M12547	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	06/30/15	Expiration Date:	06/30/16
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12543. Dilute to 20 L and mix.		

Standard Log #:	M12543	Reagent:	10N NaOH
Analyst:	LJF		
Prep Date:	06/18/15	Expiration Date:	06/18/16
Prep:	Into a 1 L volumetric flask, added **400 g** NaOH M11852 and brought up to volume.		

Standard Log #:	M12544	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	06/18/15	Expiration Date:	06/18/16
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12543. Dilute to 20 L and mix.		

Standard Log #:	M12541	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	06/16/15	Expiration Date:	12/16/15
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M11285 and brought up to volume.		

Standard Log #:	M12542	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	06/16/15	Expiration Date:	12/16/15
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M12270 and **60 g** hydroxylamine sulfate M11798 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M12534	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	06/15/15	Expiration Date:	02/26/16
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M12535	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	06/15/15	Expiration Date:	06/30/16
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M12532 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M12536	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	06/15/15	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M12535 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12537	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	06/15/15	Expiration Date:	02/26/16
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M12538	Standard:	Hg MRL
Analyst:	LJF	Concentration:	0.2 ug/L Hg
Prep Date:	06/15/15	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M12535 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12539	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	06/15/15	Expiration Date:	02/01/17
Prep:	Carefully mixed **3** parts HCl AB.600 with **1** part HNO_3 AB.561 in a hood.		

		Instrument:	CETAC
Standard Log #:	M12540	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	06/15/15	Expiration Date:	10/23/15
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.600 and dissolved **100 g** Stannous chloride M12478 and brought up to volume.		

Standard ID#:	M12529	Vendor:	SPEX Certiprep
Analyst:	NAH	Chemical:	Interference-A
Date Received:	06/04/2015	Lot #:	12-101YPX
Expiration Date (if any):	06/30/2016	Catelog #:	INT-A1

Standard ID#:	M12530	Vendor:	SPEX Certiprep
Analyst:	NAH	Chemical:	Custom Assurance STD (3) Ag,Be,Cd
Date Received:	06/04/2015	Lot #:	30-152CR
Expiration Date (if any):	06/30/2016	Catelog #:	XCTWI-4-500

Standard ID#:	M12531	Vendor:	SPEX Certiprep
Analyst:	NAH	Chemical:	Custom Assurance STD (23)
Date Received:	06/04/2015	Lot #:	30-153CR
Expiration Date (if any):	06/30/2016	Catelog #:	XCTWI-5-500

Standard ID#:	M12532	Vendor:	SPEX Certiprep
Analyst:	NAH	Chemical:	Mercury 1000 mg/L
Date Received:	06/04/2015	Lot #:	CL7-180HGY
Expiration Date (if any):	06/30/2016	Catelog #:	CLHG4-2Y

Standard ID#:	M12533	Vendor:	CPI
Analyst:	NAH	Chemical:	Mn 10000 mg/L
Date Received:	06/04/2015	Lot #:	15E180
Expiration Date (if any):	11/29/2016	Catelog #:	P/N S4400-10M321

MRL BASE STD M12528

Analyst NAH

Prep Date 06/02/2015

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	(ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L	Expiration Date
Ag	20	M11908	1000	1	09/2015
Al	400	M12400	10000	2	07/2016
Ba	10	M12473	1000	0.5	10/2016
Be	4	M12006	1000	0.2	11/2015
Cd	5	M12002	1000	0.25	11/2015
Co	10	M12000	1000	0.5	11/2015
Cr	10	M12470	10000	0.05	10/2016
Cu	10	M12472	10000	0.05	10/2016
Mg	500	M12314	10000	2.5	10/2016
Mn	10	M11829	10000	0.05	07/2015
Mo	10	M12008	1000	0.5	11/2015
Ni	10	M12004	1000	0.5	11/2015
Pb	10	M12313	10000	0.05	06/2016
Sb	20	M11909	1000	1	09/2015
V	10	M12009	1000	0.5	11/2015
Zn	10	M12005	10000	0.05	11/2015
K	1000	M12474	10000	5	10/2016
Na	1000	M12010	10000	5	11/2015
As	20	M12315	1000	1	06/2016
Ca	500	M12310	10000	2.5	10/2016
Fe	300	M12401	10000	1.5	10/2016
Se	20	M11911	1000	1	09/2015
Tl	20	M11997	1000	1	11/2015
Si	100	M12007	1000	5	11/2015
B	20	M12471	1000	1	10/2016
Li	20	M11998	1000	1	11/2015
W	50	M12001	1000	2.5	11/2015
Ti	10	M12003	1000	0.5	11/2015
Sr	10	M11999	1000	0.5	11/2015
Sn	50	M11996	1000	2.5	11/2015
S	300	M12350	10000	1.5	01/2016

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expiration Date: 07/2015

		Instrument:	ICP 6500
Standard Log #:	M12526	Standard:	ICSA
Analyst:	NAH	Concentrations:	**500,000 ug/L** Al, Ca, Fe, Mg
Prep Date:	06/01/2015	Expiration Date:	8/2015
Prep:	Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M12164 and **15 mL** Fe (10000 mg/L) M12401 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M12527	Standard:	ICV Std.
Analyst:	NAH	Concentrations:	**12,000 mg/L** Al **10,000 mg/L** Ca, Mg **5000 mg/L** Fe **2000 mg/L** As, Ba, Se, Tl **500 mg/L** B, Co, Li, Mn, Mo, Ni, Pb, Sb, Sn, Sr, Ti, V, Zn **250 mg/L** Cu **200 mg/L** Cr **50 mg/L** Ag, Be, Cd
Prep Date:	06/01/2015	Expiration Date:	8/2015
Prep:	Into a 1 L volumetric flask, pipetted the following and brought up to volume with milli-Q H_2O. **10 mL** Custom Assurance Standard #18 ((200 mg/L Al, As, Ba, Se, Tl) 100 mg/L Fe) (50 mg/L Co, Mn, Ni, Pb, Sb, V, Zn) (25 mg/L Cu) (20 mg/L Cr) (5 mg/L Ag, Be, Cd)) M12502, **2 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M12164, **0.5 mL** Mo (1000 mg/L) M12008, **0.5 mL** B (1000 mg/L) M12471, **0.5 mL** Sr (1000 mg/L) M11999, **0.5 mL** Li (1000 mg/L) M11998, **0.5 mL** Sn (1000 mg/L) M11996 and **0.5 mL** Ti (1000 mg/L) M12003.		

		Instrument:	ICP 6500
Standard Log #:	M12523	Standard:	ICSAB
Analyst:	NAH	Concentrations:	**500,000 ug/L** Al, Ca, Fe, Mg **500 ug/L** Ag, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Tl, V, Zn
Prep Date:	06/01/2015	Expiration Date:	7/2015
Prep:	Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M12164 , **15 mL** Fe (10,000 mg/L) M12401 , **2.5 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M12125 and **2.5 mL** Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12374 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M12524	Standard:	CCV1
Analyst:	NAH	Concentrations:	**5000 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn **500 µg/L** Ag, Be, Cd
Prep Date:	06/01/2015	Expiration Date:	7/2015
Prep:	Into a 1 L volumetric flask, pipetted **50 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12374 and **5.0 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M12125 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M12525	Standard:	CCV2
Analyst:	NAH	Concentrations:	**500 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn **50 µg/L** Ag, Be, Cd
Prep Date:	06/01/2015	Expiration Date:	7/2015
Prep:	Into a 1 L volumetric flask, pipetted **5 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12374 and **0.5 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M12125 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M12522	Standard:	ICAL
Analyst:	NAH	Concentrations:	0.25, 0.5, 1, 5, 10, 20, 50, 100, 1000, 10,000, 100k, 100,000, 500,000 and 1000k (ug/L)
Prep Date:	06/01/2015	Expiration Date:	7/30/2015

Prep:

Using 1 L volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O.
(5% HNO_3, 5% HCl)
1000 ug/L Std. - **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12374, **10 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M12125 and **1 mL** of Si (1000 mg/L) M12007.
0.25 ug/L Std. - **0.25 mL** of the 1000 ug/L Std.
0.5 ug/L Std. - **0.5 mL** of the 1000 ug/L Std.
1 ug/L Std. - **1 mL** of the 1000 ug/L Std.
5 ug/L Std. - **5 mL** of the 1000 ug/L Std.
10 ug/L Std. - **10 mL** of the 1000 ug/L Std.
20 ug/L Std. - **20 mL** of the 1000 ug/L Std.
50 ug/L Std. - **50 mL** of the 1000 ug/L Std.
100 ug/L Std. - **1 mL** of Custom Assurance Std. (CAS) #23 and **1 mL** of CAS #3
10,000 ug/L Std. - **100 mL** CAS #23, **100 mL** CAS #3 and **1 mL** of K (10,000 mg/L) M12474.
100k ug/L Std. - **10 mL** of Cu (10,000 mg/L) M12472, **10 mL** of Mn (10,000 mg/L) M11829, **10 mL** of Cr (10,000 mg/L) M12470, **10 mL** Pb (10,000 mg/L) M12313, **10 mL** of Zn (10,000 mg/L) M12005 and **10 mL** of Na (10,000 mg/L) M12010.
100,000 ug/L Std. - **10 mL** of Mg (10,000 mg/L) M12488, **10 mL** of Fe (10,000 mg/L) M12489, **10 mL** of Ca (10,000 mg/L) M12490 and **10 mL** Al (10,000 mg/L) M12400.
500,000 ug/L Std. - **50 mL** of Mg (10,000 mg/L), **50 mL** of Fe (10,000 mg/L), **50 mL** of Ca (10,000 mg/L) and **50 mL** of Al (10,000 mg/L)
1000k ug/L Std. - **100 mL** of Mg (10,000 mg/L), **100 mL** of Fe (10,000 mg/L), **100 mL** of Ca (10,000 mg/L) and **100 mL** of Al (10,000 mg/L)

Standard ID#:	M12518	Vendor:	Alfa Aesar Specpure
Analyst:	MDS	Chemical:	GFAA Nickel Nitrate Modifier
Date Received:	05/29/2015	Lot #:	785159H
Expiration Date (if any):	11/30/2016	Catelog #:	39043

		Instrument:	GFAA
Standard Log #:	M12519	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	05/29/2015	Expiration Date:	06/01/2016
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M12504 and brought to volume with Milli-Q H_2O. ($1\% HNO_3$)		

		Instrument:	GFAA
Standard Log #:	M12520	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	05/29/2015	Expiration Date:	06/01/2016
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M12504 and brought to volume with Milli-Q DI H_2O. ($1\% HNO_3$)		

		Instrument:	GFAA
Standard Log #:	M12521	Standard:	ICV/Spike Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	05/29/2015	Expiration Date:	06/01/2016
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M12505 and brought to volume with Milli-Q DI H_2O. ($1\% HNO_3$)		

Standard Log #:	M12515	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	05/28/15	Expiration Date:	10/28/15
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M11285 and brought up to volume.		

Standard Log #:	M12516	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	05/28/15	Expiration Date:	10/28/15
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M12270 and **60 g** hydroxylamine sulfate M12096 and brought up to volume.		

Standard Log #:	M12517	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	MDS	pH:	4.93 ± 0.05
Prep Date:	05/28/15	Expiration Date:	06/28/15
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12440. Dilute to 20 L and mix.		

		Instrument:	CETAC
Standard Log #:	M12512	Standard:	Hg MRL
Analyst:	LJF	Concentration:	0.2 ug/L Hg
Prep Date:	05/27/15	Expiration Date:	02/26/16
Prep:	Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M12509 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12513	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	05/27/15	Expiration Date:	11/30/16
Prep:	Carefully mixed **3** parts HCl AB.597 with **1** part HNO_3 AB.599 in a hood.		

		Instrument:	CETAC
Standard Log #:	M12514	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	05/27/15	Expiration Date:	10/23/15
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.597 and dissolved **100 g** Stannous chloride M12478 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M12509	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	05/27/15	Expiration Date:	02/26/16
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M11819 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M12510	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	05/27/15	Expiration Date:	02/26/16
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M12509 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12511	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	05/27/15	Expiration Date:	02/26/16
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M12507	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	05/27/15	Expiration Date:	02/26/16
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	ICP 6000
Standard Log #:	M12508	Standard:	NaK ICSAB
Analyst:	MDS	Concentrations:	500 mg/L (Al, Ca, Fe, Mg) 100 mg/L (Na, K)
Prep Date:	05/27/2015	Expiration Date:	08/30/2015
Prep:	Into a 250 mL volumetric flask, pipetted **25 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M12164, **2.5 mL** of K (10,000 mg/L) M12474, **2.5 mL** of Na (10,000 mg/L) M12010 and **7.5 mL** of Fe (10,000 mg/L) M12401 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

Standard ID#:	M12504	Vendor:	Inorganic Ventures
Analyst:	MDS	Chemical:	GFAA ICAL/CCV Standard
Date Received:	05/26/2015	Lot #:	J2-MEB581070
Expiration Date (if any):	06/01/2016	Catelog #:	CTI-SPK-1

Standard ID#:	M12505	Vendor:	Inorganic Ventures
Analyst:	MDS	Chemical:	GFAA ICV/Spiking Standard
Date Received:	05/26/2015	Lot #:	J2-MEB581069
Expiration Date (if any):	06/01/2016	Catelog #:	CTI-GFCAL-1

Standard Log #:	M12503	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	05/21/15	Expiration Date:	05/21/16
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12440. Dilute to 20 L and mix.		

Standard ID#:	M12502	Vendor:	SpexCertiprep
Analyst:	NAH	Chemical:	Custum assurance standard
Date Received:	05-19-2015	Lot #:	30-096CR
Expiration Date (if any):	05-30-2016	Catelog #:	XSPIKE-1-250

Standard Log #:	M12501	Reagent:	Potassium Persulfate Solution
Analyst:	LJF		
Prep Date:	05/14/15	Expiration Date:	11/14/15
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M10987 and brought up to volume.		

		Instrument:	ICP 6000
Standard Log #:	M12500	Standard:	Sulfur ICV
Analyst:	MDS	Concentrations:	100,000 µg/L (S)
Prep Date:	05/13/2015	Expiration Date:	08/13/2015
Prep:	Into a 100 mL volumetric flask, pipetted **1.0 mL** of S (10,000 µg/mL) M12371 and brought up to volume using Milli-Q H_2O.		

#M12488 5-5-15 - Mg 10,000mg/L CPI Lot 15C248 ex 10/2016.

#M12489 5-5-15 - Fe 10,000 mg/L CPI Lot 15C290 ex 10/16.

#M12490 5-5-15 Ca 10,000mg/L CPI Lot 15A007 ex 10/16.

#M12491 05/06/15 13F TCLP Extraction Fluid #1: Fill a 20L carboy w/ 19L D.I. H2O. Add 114ml Glacial Acetic Acid (AB 579) and 128.6ml of 10N NaOH (#M12797). Dilute to 20L w/ D.I. H2O and mix. pH = 4.93 ± 0.05

EXP: 05/06/16

#M12492 05/06/15 13F SPLP Extraction Fluid #2 west: Fill a 20L carboy with D.I. H2O and adjust pH to 5.00 ± 0.05 with (#M12457) 60/40 HNO_3, H_2SO_4 mix w/w mix.

EXP: 05/06/16

#M12493 05/11/15 13F	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10 0ug/L Hg
#M12494 05/11/15 13F	Hg All Source Working Std: (0 2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M12495 05/11/15 13F	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M12494) into 100ml = 3.0ug/L Hg
#M12496 05/11/15 13F	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M12497 05/11/15 13F	Hg MRL (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M12494) into 100ml = 0 2ug/L Hg
#M12498 05/11/15 13F	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M12499 05/11/15 13F	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M12729) in 70 mL HCl (AB: 553) Bring up to volume with D I. Water.

#M12475 04/27/16 1N HCl for TCLP: Into a 1L vol flask partially filled with milli-Q H2O add 83mL of conc. HCl (AB: 5887) and bring up to vol. with milli-Q H2O.
Exp: 04/27/16

#M12476 04/28/16 TCLP Extraction Fluid #1: Fill a 20L carboy w/ 14L D.I. H2O. Add 114mL Glacial Acetic Acid (AB:579) and 128.6mL of 10N NaOH (#M12292). Dilute to 20L w/ D.I. H2O and mix. pH = 4.93 ± 0.05
Exp: 04/28/16

#M12477 04/28/16 TCLP Extraction Fluid #1: Fill a 20L carboy w/ 14L D.I. H2O. Add 114mL Glacial Acetic acid (AB:579) and 128.6mL of 10N NaOH (#M12292). Dilute to 20L w/ D.I. H2O and mix pH = 4.93 ± 0.05
Exp: 04/28/16

#M12478 04/29/16 Stannous Chloride (Macron) Lot# 0000161329

#M12479 04/29/16 TCLP Extraction Fluid #1: Fill a 20L carboy w/ 14L D.I. H2O. Add 114mL Glacial Acetic Acid (AB:579) and 128.6mL of 10N NaOH (#M12292). Dilute to 20L w/ D.I. H2O and mix. pH = 4.93 ± 0.05
Exp: 04/28/16

#M12480 04/29/16 TCLP Extraction Fluid #1: Fill a 20L carboy w/ 14L D.I. H2O. Add 114mL Glacial Acetic Acid (AB:579) and 128.6mL of 10N NaOH (#M12292). Dilute to 20L w/ D.I. H2O and mix. pH = 4.93 ± 0.05
Exp: 04/28/16

#M12481 05/04/16	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml = 5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M12482 05/04/16	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M12483 05/04/16	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M 12482) into 100ml = 3.0ug/L Hg
#M12484 05/04/16	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M12485 05/04/16	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M 12482) into 100ml = 0.2ug/L Hg
#M12486 05/04/16	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 563) with 1part HNO3 (AB: 554)
#M12487 05/04/16	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M12479) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water

#M12468 4/22/15 MDS

		Instrument:	ICP 6000
Standard Log #:	M12468	Standard:	Na,K ICVLL
Analyst:	MDS	Concentrations:	3 mg/L (Na,K)
Prep Date:	04/22/2015	Expiration Date:	11/8/2015
Prep:	Into a 500 mL volumetric flask, pipetted 0.15 mL of Na (10,000 µg/mL) M12010 and 0.15 mL K (10,000 µg/mL) M12294 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

#M12469 4/22/15 MDS

		Instrument:	ICP 6000
Standard Log #:	M12469	Standard:	Na,K MRL
Analyst:	MDS	Concentrations:	1 mg/L (Na,K)
Prep Date:	04/22/2015	Expiration Date:	04/29/2016
Prep:	Into a 500 mL volumetric flask, pipetted 0.5 mL of Na (1000 µg/mL) M12296 and 0.5 mL K (1000 µg/mL) M12295 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

M12470 ZT Cr 10,000 mg/L CPI 4-24-15 Lot # 13D123 exp oct/2016

M12471 ZT Boron 1000 mg/L CPI Lot # 15D007 exp oct/2016 4-24-15

M12472 ZT Cu 10,000 mg/L CPI Lot # 15B087 exp oct/2016

M12473 ZT Ba 1000 mg/L CPI Lot # 15C142 exp oct/2016

M12474 ZT K 10,000 mg/L CPI Lot # 15D114 exp oct/2016

#M12475 04/24/15 MDS

Standard Log #:	M12475	Instrument:	GFAA
Analyst:	MDS	Reagent:	Pd/Mg Matrix Modifier
Prep Date:	04/24/2015	Expiration Date:	08/07/2015
Prep:	Into a 50 mL volumetric flask, partially filled with milli-Q H_2O, pipetted 15 mL Pd Modifier M12158 and 10 mL Mg (10,000 mg/L) M12314 and brought up to volume.		

#M12459 04/20/15 SF	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M12460 04/20/15 SF	Hg All Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M12461 04/20/15 SF	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M12460) into 100ml = 3.0ug/L Hg
#M12462 04/20/15SF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M12463 04/20/15SF	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M12460) into 100ml = 0.2ug/L Hg
#M12464 04/20/15SF	Hg Aqua Regia Reagent.	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M12465 04/20/15SF	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M12299) in 70 mL HCl (AB: 553) Bring up to volume with D.I. Water

#M12466 04/22/15SF NaCl Hydroxylamine Sulfate Reagent: Dissolve 600g NaCl (#M11799) and 60g hydroxylamine Sulfate (#M12096) in 500ml of Milli-Q H_2O.
Exp: 10/22/15

#M12467
04/22/15
MDS

		Instrument:	ICP 6000
Standard Log #:	M12467	Standard:	Na & K ICAL
Analyst:	MDS	Concentrations:	0.5, 1, 5, 10, 50, 100, and 200 mg/L (Na,K)
Prep Date:	04/22/2015	Expiration Date:	04/29/2016
Prep:	Into seven, 200 mL volumetric flasks, pipetted the following from Na (1000 µg/mL) M12296 and K (1000 µg/mL) M12295 and brought up to volume using milli-Q H_2O. (2% HNO_3) *0.5 mg/L std.* - 0.1 mL of each *1.0 mg/L std.* - 0.2 mL of each *5.0 mg/L std.* - 1.0 mL of each *10 mg/L std* - 2.0 mL of each *50 mg/L std.* - 10 mL of each *100 mg/L std.* -20 mL of each, also used for Continuing Calibration Verification *200 mg/L std.* - 40 mL of each		

#M12453 04/07/15 ISF
LOQ Check
3050 QSM DOD

3050 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
K	2640	M12294	10000	13.2
Na	960	M12010	10000	4.8

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expires: 6-Nov

#M12454 04/08/15 ISF
LOQ check
3050 QSM DOD

3050 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
B	52	M11763	1000	2.6
Si	192	M12007	1000	9.6

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expires: 13-May

M12455 4/8/15 JH Environmental Express Y, 10,000mg/L lot# 1418108.
exp date 10/15

#M12456 04/14/15 ISF potassium permanganate Soln: 50g potassium permanganate (#M11285) dissolve into 1000mL of D.I. H_2O.
Exp: 10/14/15

#M12457 04/15/15 ISF Splp Ext. Fluid Acid mixture: Into a 2L vol. flask, add 11g H_2SO_4 (AB.598) and 8g conc. HNO_3 (AB.596). Bring up to volume with D.I. H_2O.
Exp: 04/15/16

#M12458 04/16/15 ISF SPLP Extraction Fluid Investigation: Fill a 2 gal carboy with D.I. H_2O and adjust pH to 5.00 ± 0.05 with #M12457 60:40 HNO_3, H_2SO_4 mix w/v mix.
Exp: 04/16/16

#M12449 04/07/15 13F
LOQ Check
3010 OSM DOD

3010 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following.

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
B	16	M11763	1000	0.8
Se	200	M12007	1000	10

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expires: 13-May

#M12450 04/07/15 13F
LOQ Check
3050 OSM DOD

3050 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
Li	14.4	M11998	1000	0.72
Sn	20	M11996	1000	1
Sr	3.2	M11999	1000	0.16
Tl	9.6	M12003	1000	0.48
W	24	M12001	1000	1.2

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expires: 8-Nov

#M12451 04/07/15 13F
LOQ Check
3050 OSM DOD

3050 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
Ag	4	M11908	1000	0.2
Al	9.6	M12312	10000	0.048
As	32	M12315	1000	1.6
Ba	2	M11768	1000	0.1
Be	1.6	M12006	1000	0.08
Ca	56	M12310	10000	0.28
Cd	1.6	M12002	1000	0.08
Co	9.6	M1200	1000	0.48
Cr	5.6	M11767	10000	0.028
Cu	16	M11764	10000	0.08
Fe	72	M1231	10000	0.36
Mg	32	M12314	10000	0.16
Mn	6	M11829	10000	0.03
Mo	9.6	M12008	1000	0.48
Ni	4.8	M12004	1000	0.24
Pb	10	M12313	10000	0.05
Sb	32	M11909	1000	1.6
Se	16	M11911	1000	0.8
Tl	19	M11997	1000	0.95
V	3.2	M12009	1000	0.16
Zn	12	M12005	10000	0.06

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard

Expires: 13-May

#M12452 04/07/15 13F
LOQ Check
3050 OSM DOD

3050 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
S	240	M11679	10000	1.2

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working

#M12447 mds 04/07/15

		Instrument:	GFAA
Standard Log #:	M12447	Standard:	LODW/LOQW Spiking Sol'n
Analyst:	MDS	Concentrations:	150 ug/L (Sb) 100 ug/L (As) 200 ug/L (Se) 45 ug/L (Pb) 40 ug/L (Tl)
Prep Date:	04/07/2015	Expiration Date:	9/18/2015
Prep:	Into a 100 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. 1.5 mL of Sb (1000 mg/L) M11909 1.0 mL of As (1000 mg/L) M12315 2.0 mL of Se (1000 mg/L) M11911 0.045 mL of Pb (10,000 mg/L) M12313 0.4 mL of Tl (1000 mg/L) M11997 From this diluted standard solution, pipetted 10 mL into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette 1 mL spiking solution into 50 mL H_2O for LOD (*3 ug/L* Sb, *2 ug/L* As, *4 ug/L* Se, *0.9 ug/L* Pb, *0.8 ug/L* Tl) and 2 mL spiking solution for LOQ (*6 ug/L* Sb, *4 ug/L* As, *8 ug/L* Se, *1.8 ug/L* Pb, *1.6 ug/L* Tl)		

#M12448 mds 04/07/15

		Instrument:	GFAA
Standard Log #:	M12448	Standard:	LODS/LOQS Spiking Sol'n
Analyst:	MDS	Concentrations:	60 ug/L (Sb) 160 ug/L (As,Se) 40 ug/L (Pb) 50 ug/L (Tl)
Prep Date:	04/07/2015	Expiration Date:	9/18/2015
Prep:	Into a 200 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. 2.2 mL of Sb (1000 mg/L) M11909 3.2 mL of As (1000 mg/L) M12315 3.2 mL of Se (1000 mg/L) M11911 0.08 mL of Pb (10,000 mg/L) M12313 1.0 mL of Tl (1000 mg/L) M11997 From this diluted standard solution, pipetted 10 mL into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette 1 mL spiking solution into 50 mL H_2O for LOD (*1.2 ug/L* Sb, *3.2 ug/L* As, *3.2 ug/L* Se, *0.8 ug/L* Pb, *1 ug/L* Tl) and 2 mL spiking solution for LOQ (*2.4 ug/L* Sb, *6.4 ug/L* As, *6.4 ug/L* Se, *1.6 ug/L* Pb, *2 ug/L* Tl)		

#M12445 04/06/15 LF
LOQ Check
3010 GSM DoD

3010 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
Li	10	M11998	1000	0.5
Sn	10	M11988	1000	0.5
Sr	2	M11999	1000	0.1
Te	8	M12003	1000	0.4
W	36	M12163	1000	1.8

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expires: 8-Nov

#M12446 04/06/15 LF
LOQ Check
3010 GSM DoD

3010 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
K	500	M12294	10000	2.5
Na	600	M12010	10000	3

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expires: 8-Nov

#M12442
04/02/15
MDS

		Instrument:	GFAA
Standard Log #:	M12442	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	04/02/2015	Expiration Date:	06/01/2015
Prep:	Into a 1 L volumetric flask, pipetted 0.1 mL of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M11978 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

#M12443
04/02/15
MDS

		Instrument:	GFAA
Standard Log #:	M12443	Standard:	CCV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	04/02/2015	Expiration Date:	06/01/2015
Prep:	Into a 1 L volumetric flask, pipetted 1.0 mL of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M11979 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

#M12444 04/06/15 BF
LOQ Check 3010GSM DoD

3010 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
Ag	4	M11908	1000	0.2
Al	36	M11914	10000	0.18
As	24	M11912	1000	1.2
Ba	1.8	M11768	1000	0.09
Be	0.6	M12006	1000	0.03
Ca	100	M11910	10000	0.5
Cd	2	M12002	1000	0.1
Co	4	M12050	1000	0.2
Cr	4	M11767	10000	0.02
Cu	7	M11764	10000	0.035
Fe	100	M11915	10000	0.5
Mg	40	M11976	10000	0.2
Mn	4	M11829	10000	0.02
Mo	7	M12008	1000	0.35
Ni	6	M12004	1000	0.3
Pb	4	M11682	10000	0.02
Sb	12	M11662	1000	0.6
Se	13	M11911	1000	0.65
Tl	15	M11997	1000	0.75
V	5	M12009	1000	0.25
Zn	10	M12005	10000	0.05

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std of 1 ml into 50 ml digestion tube for a digested working standard.

Expires: 13-May

#M12432 03/30/15 SF Potassium Persulfate: 50g potassium persulfate (#M10987) dissolve into 1,000mL of D.I. H_2O. Exp: 09/30/15

#M12433 03/31/15 SF	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M12434 03/31/15 SF	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9863) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M12435 03/31/15 SF	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M12434) into 100ml = 3.0ug/L Hg
#M12436 03/31/15 SF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M12437 03/31/15 SF	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M12434) into 100ml = 0.2ug/L Hg
#M12438 03/31/15 SF	Hg Aqua Regia Reagent	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M12439 03/31/15 SF	Stannous Chloride Reagent	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M12299) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12440 03/31/15 SF 10N NaOH: Into 1 L flask, add 400g NaOH (#M11145) and bring up to volume with D.I. H_2O. Exp: 10/31/15 03/31/15 SF

#M12441 04/02/15 MDS

		Instrument:	GFAA
Standard Log #:	M12441	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	04/02/2015	Expiration Date:	06/01/2015
Prep:	Into a 1 L volumetric flask, pipetted 0.25 mL of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M11978 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

#M12421 03/19/15 TCLP Extraction Fluid #1: Fill a 7oL carboy w/ 19L D.I. H2O. Add 114mL Glacial Acetic Acid (AB:579) and 128.6mL of 10N NaOH (#M12292). Dilute to 7oL w/ D.I. H2O and mix. pH = 4.93 ± 0.05
Exp: 03/19/16

#M12422 03/20/15 SF NaCl Hydroxylamine Sulfate Reagent: Dissolve 6g NaCl (#M11779) and 6g hydroxylamine Sulfate (#M12096 03/20/15 SF) in 500mL of milli-Q H2O.
Exp: 09/20/15

#M12423
SF 03/24/15

Standard Log #:	M12423	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	MDS	pH:	4.93 ± 0.05
Prep Date:	03/24/2015	Expiration Date:	09/24/2015
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add 114 mL Glacial acetic acid AB.579 and 128.6 mL 10N NaOH M12292. Dilute to 20 L and mix.		

#M12424 03/24/15 SF — Hg Working Stds: (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg
1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg
2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg
4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg
5.0ml of 100ug/L Hg into 100ml =5.0ug/L Hg
10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg

#M12425 03/24/15 SF — Hg Alt Source Working Std: (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg
1.0ml of 10mg/L into 100ml = 100ug/L Hg

#M12426 03/24/15 SF — Hg ICV / LCSW (0.2% HNO3, HCl)
3.0ml of 100ug/L Hg (#M12175) into 100ml = 3.0ug/L Hg

#M12427 03/24/15 SF — Hg CCV (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg

#M12428 03/24/15 SF — Hg MRL: (0.2% HNO3, HCl)
0.2ml of 100ug/L Hg (#M12175) into 100ml = 0.2ug/L Hg

#M12429 03/24/15 SF — Hg Aqua Regia Reagent:
"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)

#M12430 03/24/15 SF — Stannous Chloride Reagent:
Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M12299) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12431 03/25/15 SF potassium permanganate Sol'n: 50g potassium permanganate (#M11785) dissolve into 1000mL of D.I. H2O.
Exp: 09/25/15

#M12405e 03/04/15 15F	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M12406 03/04/15 15F	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M12408 03/04/15 15F	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M12405) into 100ml = 3.0ug/L Hg
#M12409 03/04/15 15F	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M12410 03/04/15 15F	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M12407) into 100ml = 0.2ug/L Hg
#M12411 03/04/15 15F	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M12412 03/04/15 15F	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M12299) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.
#M12413 03/17/15 15F	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M12414 03/17/15 15F	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M12415 03/17/15 15F	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M12414) into 100ml = 3.0ug/L Hg
#M12416 03/17/15 15F	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M12417 03/17/15 15F	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M12414) into 100ml = 0.2ug/L Hg
#M12418 03/17/15 15F	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M12419 03/17/15 15F	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M12299) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12420 03/04/15 15F TCLP Extraction Fluid #1: Add 0.702 Conc. w/ 19L D.I. H_2O. Add 114 mL Glacial Acetic Acid (AB: 549) and 122.6 mL of 10N NaOH (#M12402) Dilute to 20L w/ D.I. H_2O and mix. pH = 4.93 ± 0.05

Exp: 03/19/15

List 2 MRL/ICVLL Base SPIKE PREPARATION 50x

#M12395 02/04/15 MMS

0.5% HNO3
0.5% HCl

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	MRL (ug/L)	ICVLL (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) pipet into 1	Expired Date
Li	20	60	M11998	1000	1	11/08/2015
W	100	300	M12163	1000	5	02/06/2016
Ti	10	30	M12003	1000	0.5	11/08/2015
Sr	10	30	M11999	1000	0.5	11/08/2015
Sn	20	60	M11996	1000	1	11/08/2015

Pipette 10 mL into a 500 mL volumetric flask to create a [redacted] working MRL std. or 1 mL into a 50 mL digestion tube for a digested MRL working standard. Pipette 30 mL into 500mL for ICVLL Working

List 2 MRL

#M12396 02/23/15 MMS

Into a 500 mL volumetric flask, pipetted 10 mL of #M12395 and brought to volume with milli-Q H20.
Exp. 11/08/2015 0.5% HNO3, 0.5% HCl

List 2 ICVLL

#M12397 02/23/15 MMS

Into a 500 mL volumetric flask, pipetted 30 mL of #M12395 and brought to volume with milli-Q H20.
Exp. 11/08/2015 0.5% HNO3, 0.5% HCl

#M12398 02/23/15 ISF NaCl Hydroxylamine Sulfate Reagent: Dissolve 1kg NaCl (#M11799) and 1kg hydroxylamine sulfate (#M11998) in 500mL of milli-Q H2O.
Exp: 05/23/15

#M12399 02/24/15 ISF Potassium permanganate Soln: 50g potassium permanganate (#M11785) dissolve into 1000mL of D.I. H2O.
Exp: 08/24/15

#M12400 2-25-15 Al 10,000 mg/L CPI Lot# HK153 ex 7/2016

#M12401 2-25-15 Fe 10,000 mg/L CPI Lot# HJ165 7/2016

#M12402 02/26/15 ISF Stannous Chloride (Amarium) Lot# 0000096553

#M12403 02/26/15 ISF Sodium Chloride (Fisher) Lot# 145475

#M12404 03/04/15 ISF TCLP Extraction Fluid #1: Fill a 20L carboy w/19L D.I. H2O. Add 114mL Glacial Acetic Acid (AB579) and 128mL of 10N NaOH (#M12392). Dilute to 20L w/D.I. H2O and mix.
pH=4.93±0.05

#M12405 03/04/15 ISF TCLP Extraction Fluid #1: Fill a 20L Carboy w/19L D.I. H2O. 03/04/15 ISF Add 114mL Glacial Acetic Acid (AB579) and 128mL of 10N NaOH (#M12392). Dilute to 20L w/D.I. H2O and mix.
pH=4.93±0.05

#M12383 01/19/15 SF TCLP Extraction Fluid #1: Fill a 20L carboy w/ 19L D.I. H2O. Add 11.4mL Glacial Acetic Acid (AB: 571) and 128.6mL of 1N NaOH (#M1001). Dilute to 20L w/ D.I. H2O and mix.
pH=4.93 ± 0.05

#M12384 01/19/15 SF	Hg Working Stds. (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5 0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M12385 01/19/15 SF	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M12386 01/19/15 SF	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M12385) into 100ml = 3.0ug/L Hg
#M12387 01/19/15 SF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3 0ug/L Hg
#M12388 01/19/15 SF	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M12385) into 100ml = 0.2ug/L Hg
#M12389 01/19/15 SF	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M12390 01/19/15 SF	Stannous Chloride Reagent	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M12299) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

ICAP Working Standards List 2

.5% HNO3 .5%HCL

#M12391 02/03/15 MMS

Standard name — Pipetted the following respectively:

1	0.01mL of #M12316 and 0.001mL #M12001 into 1L = 1 ug/L
10	0.10mL of #M12316 and 0.01mL #M12001 into 1L = 10 ug/L
100	1mL of #M12316 and 0.1mL #M12001 into 1L = 100 ug/L
1000	2 mL of #M12316 and 0.2 mL #M12001 into 200 mL = 1000 ug/L
10000	20mL of #M12316 and 2mL #M12001 into 200mL = 10000 ug/L

Brought up to mark with milli-Q H20 Exp. 11/08/2015

#M12392 02/03/15 MMS — Continuing Calibration Standard (CCV)

Into a 200mL volumetric flask pipetted 2mL of #M12316 and 0.2mL #M12001 = 1000 ug/L
Brought up to mark with milli-Q H20 Exp. 11/08/2015 0.5% HNO3, 0.5% HCl

#M12393 02/03/15 MMS — Initial Calibration Standard (ICV) List 2

Into a 1 liter volumetric flask pipetted 1mL of #M12003, M11999, M11996, M11998, M12163
Brought up to mark with milli-Q H20 Exp. 11/08/2015 0.5% HNO3, 0.5% HCl

#M12394 02/03/15 MMS — ICASB List 2

Into a 200 mL volumetric flask, pipetted 20 mL Interferants A #M12164, 6 mL Fe (10,000 µg/mL) #M12311, and 0.1 mL of 1000mg/L Ti, Sr, Sn, Li, and W #M12003, M11999, M11996, M11998, and M12001 respectively.
Brought up to mark with milli-Q H20 Exp. 08/30/2015 0.5% HNO3, 0.5% HCl

M12378 2-10-15 K 1000mg/L CLI Lot# 141175 ex 7/16.

Standard Log #:	M12379	Standard:	GFAA Instrument Check
Analyst:	MDS	Final Concentration:	10 µg/L As 6 µg/L Pb 22 µg/L Tl 24 µg/L Sb, Se 0 8 µg/L Ag
Prep Date:	02/17/2015	Expiration Date:	09/16/2015

Into six, 100 mL volumetric flasks, add the following and bring up to volume with milli-Q H_2O.

#M12379 mds 02/17/15

Element	Volume Pipetted (mL)	Standard Conc. (µg/mL)	Standard ID	New Conc. (µg/L)
As	1	1000	M12315	10,000
Pb	0.1	10,000	M12313	10,000
Tl	1	1000	M11997	10,000
Se	1	1000	M11911	10,000
Sb	1	1000	M11909	10,000
Ag	0.1	1000	M11908	1000

Into a 1 L volumetric flask, add the following and bring up to volume with Milli-Q H20. (1% HNO3)

Element	Volume Pipetted (mL)	Standard Conc. (µg/L)	Final Conc. (µg/L)
As	1	10,000	10
Pb	0.6	10,000	6
Tl	2.2	10,000	22
Se	2.4	10,000	24
Sb	2.4	10,000	24
Ag	0.8	1000	0 8

#M12380 - Custom Assurance Std - Spex CertiPrep 2-17-15 MS

#M12381 02/18/15 SF TCLP Extraction Fluid #1: Fill a 2 L carboy w/ 1.92 L D.I. H2O. Add 11.4 mL Glacial Acetic Acid (AB539) and 128 mL of 1.0 N NaOH (M12392). Dilute to 2 L w/ D.I. H2O and mix. pH = 4.93 ± 0.05 Exp: 02/17/16

#M12382 02/18/15 SF TCLP Extraction Fluid #1: Fill a 2 L carboy w/ 1.92 L D.I. H2O. Add 11.4 mL Glacial Acetic Acid (AB539) and 128 mL of 1.0 N NaOH (M12392). Dilute to 2 L w/ D.I. H2O and mix. pH = 4.93 ± 0.05 Exp: 02/17/16

#M12364 02/04/15 LSF	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg into 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M12365 02/04/15 LSF	Hg All Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M12366 02/04/15 LSF	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M12365) into 100ml = 3.0ug/L Hg
#M12367 02/04/15 LSF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M12368 02/04/15 LSF	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M12365) into 100ml = 0.2ug/L Hg
#M12369 02/04/15 LSF	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M12370 02/04/15 LSF	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M 11995 in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12371 2-5-15 JA Sulfur 10,000mg/L SPC Science lot# S140717006 Exp 4/16.

#M12372 02/05/15 LSF TCLP Extraction Fluid #1: Fill a 20L carboy w/ 19L D.I. H2O. Add 114ml Glacial Acetic Acid (AB: 579) and 128.6 mL of 10N NaOH (#M11780). Dilute to 20L w/ D.I. H2O and mix. pH = 4.93 ± 0.05
Exp: 02/05/16

#M12373 02/05/15 LSF TCLP Extraction Fluid #1: Fill a 20L carboy w/ 19L D.I. H2O. Add 114ml Glacial Acetic Acid (AB: 579) and 128.6 mL of 10N NaOH (#M11780). Dilute to 20L w/ D.I. H2O and mix. pH = 4.93 ± 0.05
Exp: 02/05/16

#M12374 2/5/15 Custom Assurance Std 100ug/ml 23 Lot# 8-91NL Exp 1/16

#M12375 02/10/15 LSF 10N NaOH: Into a 1L flask, add 400g NaOH (#M11852) and bring up to volume with D.I. H2O.
Exp: 08/10/15

#M12376 02/10/15 LSF Potassium permanganate Soln: 50g potassium permanganate (#M11785) dissolve into 1000 mL of D.I. H2O.
Exp: 08/10/15

#M12377 2-10-15 Na 1000mg/L CPI lot# 142083 Exp 7/16.

#M12352 01/20/15 (3F Potassium Permanganate Solid: 50g potassium permanganate (#M11285) dissolve into 1,000mL of D.I. H2O
Exp: 07/20/15

#M12353 01-22-15 MM1 STCAL - Into 4, 100 ml vol. Flasks, pipetted the following and brought up to volume with milli-Q H2O. exp. 01-30-16
0.01 ml S (10,000ug/mL) #M12350 = 1000ug/L S
0.1 mL S (10,000ug/ml) # M12350 = 10,000 ug/L S
Used as CCV → 1.0 mL S (10,000ug/ml) # M12350 = 100,000 ug/L S
10 ml S (10,000ug/ml) # M12350 = 1000K ug/L S

#M12354 01-22-15 MM1 S ICV - Into a 100mL vol. flask, pipetted 1.0mL S(10,000ug/mL) #M11828 and brought to volume with milli-Q H2O. exp. 01-30-15

#M12355 01/22/15 5F — Hg Working Stds: (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg
1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg
2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg
4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg
5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg
10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg

#M12356 01/27/15 5F — Hg Alt Source Working Std: (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M9083) into 100ml = 10mg/L Hg
1.0ml of 10mg/L into 100ml = 100ug/L Hg

#M12357 01/27/15 5F — Hg ICV / LCSW (0.2% HNO3, HCl)
3.0ml of 100ug/L Hg (#M12356) into 100ml = 3.0ug/L Hg

#M12358 01/27/15 3F — Hg CCV (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg

#M12359 01/27/15 3F — Hg MRL: (0.2% HNO3, HCl)
0.2ml of 100ug/L Hg (#M12356) into 100ml = 0.2ug/L Hg

#M12360 01/27/15 3F — Hg Aqua Regia Reagent:
"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)

#M12361 01/27/15 3F — Stannous Chloride Reagent:
Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M1925) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12362 01/27/15 5F 10%wt Hydroxylamine Sulfate Reagent: Dissolve 100g NaCl (#M11799) and 100g hydroxylamine Sulfate (#M11798) in 500mL of Milli-Q H2O.
Exp: 02/27/15

#M12363 01/30/15 5F TCLP Extraction Fluid #1: Fill a 20L carboy w/ 14L D.I. H2O. Add 11.4mL Glacial Acetic Acid (AB: 579) and 12.8mL of 10N NaOH (#M12792). Dilute to 20L w/ D.I. H2O and mix. pH = 4.93 ± 0.05
01/30/15 5F

#M12340 1-9-15 JY
5% HCl
5% HNO3

3050 MDL Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	MDL (ug/L)	Sts ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
K	500	#M12294	10000	2.5
Na	500	#M12010	10000	2.5

Of the Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

EXPIRES 11/15

#M12341 01-14-15 MMS GFAA Lot/ICA Check Water Working Std. (Ag Only) - Into a 100mL vol. Flask, pipetted 0.1mL Ag (1000ug/mL) #M11098 and brought up to volume using milli-Q H2O. exp. 04-6-15

#M12342 01-14-15 MMS GFAA Lot/ICA Water Spiking Solution (Ag Only) - Into a 1L vol Flask, pipetted 10mL #M12341 and brought up to volume using milli-Q H2O (1% HNO3) exp. 04-6-15

#M12343 01/19/15SF Hg Working Stds: (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg
1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg
2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg
4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg
5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg
10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg

#M12344 01/19/15SF Hg Alt Source Working Std: (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg
1.0ml of 10mg/L into 100ml = 100ug/L Hg

#M12345 01/19/15SF Hg ICV / LCSW (0.2% HNO3, HCl)
3.0ml of 100ug/L Hg (#M12344) into 100ml = 3.0ug/L Hg

#M12346 01/19/15SF Hg CCV (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg

#M12347 01/19/15SF Hg MRL: (0.2% HNO3, HCl)
0.2ml of 100ug/L Hg (#M12344) into 100ml = 0.2ug/L Hg

#M12348 01/19/15SF Hg Aqua Regia Reagent. "Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)

#M12349 01/19/15SF Stannous Chloride Reagent: Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11995) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12350 1-19-15 JY Spex Cert.prep S. 10,000 mg/L Lot # AH15-855Y exp 1/16

#M12351 01/19/15SF TCLP Extraction Fluid #1: Fill a 2oL carboy w/1992 D.I. H2O. Add 11.4mL Glacial Acetic Acid (AB: 539) and 128.6mL of 10N NaOH (#M12297). Dilute to 2oL w/D.I. H2O and mix. pH=4.93±0.05

Exp: 01/19/16
01/19/15SF

#M12337 01/08/15SF — Hg MRL: (0.2% HNO3, HCl) — 0.2ml of 100ug/L Hg (#M 7331) into 100ml = 0.2ug/L Hg

#M12335 01/08/15SF — Hg Aqua Regia Reagent: "Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)

#M12336 01/08/15SF — Stannous Chloride Reagent: Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M 1495) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12337 1-9-15 21

5% HNO3

5% HCL

MDL Spiking Solution
Base SPIKE PREPARATION 50x B, Si, S

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	MDL (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
B	20	#M11783	1000	1
Si	100	#M12007	1000	5
S	200	#M11679	10000	1

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard. EXPIRES 5/15

#M12338 1-9-15 21

5% HNO3

5% HCL

MDL Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	MDL (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
Ag	5	#M11908	1000	0.25
Al	10	#M12312	10000	0.05
As	20	#M12315	1000	1
Ba	2	#M11763	1000	0.1
Be	0.5	#M12006	1000	0.025
Ca	50	#M12310	10000	0.25
Cd	0.5	#M12002	1000	0.025
Co	2.5	#M12000	1000	0.125
Cr	50	#M11787	10000	0.25
Cu	10	#M11764	10000	0.05
Fe	40	#M12311	10000	0.2
Mg	25	#M12314	10000	0.125
Mn	5	#M11829	10000	0.025
Mo	2.5	#M12008	1000	0.125
Ni	5	#M12004	1000	0.25
Pb	10	#M12313	10000	0.05
Sb	20	#M11909	1000	1
Se	20	#M11911	1000	1
Tl	20	#M11997	1000	1
V	5	#M12009	1000	0.25
Zn	5	#M12005	10000	0.025

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard. EXPIRES 15-Feb

#M12339 (1-9-15) 21

5% HNO3

5% HCL

MDL Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	MDL (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
Li	20	#M11998	1000	1
Sn	20	#M11996	1000	1
Sr	20	#M11899	1000	1
Ti	20	#M12003	1000	1
W	20	#M11679	1000	1

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard. EXPIRES 5/15

#M12328 1-8-15 Continuing Calibration Standard 2(CCV2)

Into a one liter volmetric flask pipet 5 mls of # M12316 (ex 12/15) and 0.5 ml of #M12125(ex 07/15).
ex 07/15
Bring up to mark with DI H2O

#M12329 - 1-8-15
MRL Stock Std

MRL Std
Base SPIKE PREPARATION SIN

Use a 1000 mL Volumetric Flask, pipet the following

Analyte	MRL (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L	Expiration Date
Ag	20	#M11908	1000	1	9/16
Al	400	#M12312	10000	2	6/16
Ba	10	#M11788	1000	0.5	5/15
Be	4	#M12005	1000	0.2	11/15
Cd	5	#M12002	1000	0.25	11/15
Co	10	#M12009	1000	0.5	11/15
Cr	10	#M11787	10000	0.05	5/15
Cu	10	#M11784	10000	0.05	5/15
Mg	500	#M12314	10000	2.5	8/16
Mn	20	#M11829	10000	0.05	7/16
Mo	10	#M12006	1000	0.5	11/15
Ni	40	#M12004	1000	0.5	11/15
Pb	50	#M12313	10000	0.05	6/16
Sb	20	#M11809	1000	1	6/16
V	20	#M12007	1000	0.5	11/15
Zn	50	#M12035	10000	0.05	11/15
K	1000	#M12304	10000	5	4/16
Na	1000	#M12310	10000	5	11/15
As	10	#M12315	1000	0.5	6/16
Ca	500	#M12310	10000	2.5	6/16
Fe	300	#M12311	10000	1.5	6/16
Se	10	#M11911	1000	0.5	9/16
Tl	20	#M11907	1000	1	11/15
Sr	10	#M11998	1000	0.5	11/15
Ti	10	#M12045	1000	0.5	11/15
U	20	#M11908	1000	1	11/15
Sn	20	#M11996	1000	1	11/15
B	20	#M11783	1000	1	5/15
Si	100	#M12007	1000	5	11/15
W	50	#M11879	1000	2.5	5/15
S	3,500	#M11870	10000	2.5	5/15

Of this Base a standard is spiked 50 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

#M12328 1-8-15 MRL working std into 500 ml vol. flask pipet
2% HCl 10 Mls of #M12329 Bring up to mark with
5% HNO3 DI H2O

#M12331 Hg Working Stds: (0.2% HNO3, HCl)
- 1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
- 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
- 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg
- 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg
- 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg
- 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg
- 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg
- 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg

#M12331 Hg Alt Source Working Std: (0.2% HNO3, HCl)
- 1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg
- 1.0ml of 10mg/L into 100ml = 100ug/L Hg

#M12332 Hg ICV / LCSW (0.2% HNO3, HCl)
- 3.0ml of 100ug/L Hg (#M 12331) into 100ml = 3.0ug/L Hg

#M12333 Hg CCV (0.2% HNO3, HCl)
- 1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
- 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
- 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg

#M12324 01/04/15SF Potassium persulfate 50g potassium persulfate @M10887 dissolve into 1000ml
Exp: 04/04/15 of D.I. H2O.

#M12325 01-06-15 MOS

Spiking Solution calc
Base SPIKE PREPARATION 50x 6 PAK MDL Waters

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	(ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
Ag	0 2	M11908	1000	0.01
As	2	M11912	1000	0.1
Pb	2	M12313	10000	0.01
Sb	2	M11909	1000	0.1
Se	2	M11911	1000	0.1
Tl	2	M11997	1000	0.1

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expires 09-18-15 2% HNO3

#M12326 1-8-15 JA

ICAP Working Standards
5% HNO3 5%HCL

Standard name	Std # Pipet the following respectively.
0.25	1 0.25 mls of standard 1000 ug/L into 1000 ml volumetric flask = 0.25 ug/L std
0.5	2 0.50 mls of standard 1000 ug/L into 1000ml volumentric flask= 0.50 ug/L std
1	3 1.0 mls of standard 1000ug/L into 1000 ml volumentric flask =1.00 ug/L std
5	4 5.0 mls of standard 1000ug/L into 1000 ml volumentric flask =5.00 ug/L std
10	5 10.0 mls of standard 1000ug/L into 1000 ml volumentric flask =10.0 ug/L std
20	6 20.0 mls of standard 1000ug/L into 1000 ml volumentric flask =20.0 ug/L std
50	7 50.0 mls of standard 1000ug/L into 1000 ml volumentric flask =50.0 ug/L std
100	8 1.0 mls of #M12316(ex 12/15) and 1.0 mls of #M12125 (ex 07/15) into 1000 ml volumetric flask= 100 ug/L std
1000	9 10.0 mls of #M12316(ex 12/15) and #M12125 (ex 07/15) and 1 mL of #M12007 Si into 1000 ml volumetric flask= 1000 ug/L std
10,000	10 100 mls #M12316 (ex 12/15),100 mls #M12125 (ex 07/15)
100k	11 10 mls of #M11764 Cu (ex 5/15) , 10 mls of #M11829 Mn (ex 7/15) , 10 mls of #M11767 Cr (ex 5/15), 10 mls #M12313 Pb (ex 6-16), 10 mls zn #M12005(ex 8-15), 10 mls #M12010 Na (ex 11/15),10 mls = 100,000 ug/L ~~Pb~~ #M12313 (ex 6/16)
100,000	12 10 mls of #M12314 Mg (ex 6/16) , 10 mls of #M121311 Fe (ex 06/16) ,10 mls of #M12310 Ca (ex 6/16),10 mls #M12312 AL (ex 6/16), 1.0 mls #12294 K (ex 4/16) into 1000 ml vol flask = 100,000 ug/l std
500,000	13 50 mls of #M12314 Mg (ex 6/16) , 50 mls of #M121311 Fe (ex 6/16) ,50 mls of #M12310 Ca (ex 6/16), 50 mls #M12312 AL (ex 6/16) into 1000 ml vol flask = 500,000 ug/l std
1000k	14 100 mls of #M12314 Mg (ex 6/16) , 100 mls of #M121311 Fe (ex 6/16) ,100 mls of #M12310 Ca (ex 6/16),100 mls #M12312 AL (ex 6/16) into 1000 ml vol flask = 1,000,000 ug/l std
	Bring the 1000 ml volumetric up to mark with DI H2O ex 05/15

#M12327
1-8-15

Continuing Calibration Standard 1(CCV1)

Into a one liter volmetric flask pipet 50mls of # M12316 (ex 12/15) and 5 ml of #M12125 (ex 07/15).
ex 07/15
Bring up to mark with DI H2O

#M12310 12-9-14 JL 10,000 mg/L Ca CPI Lot# 14K204 ex 6/16

#M12311 12-9-14 JL 10,000 mg/L Fe CPI Lot # 14J165 ex 6/16

#M12312 12-9-14 JL 10,000 mg/L Al CPI Lot # 14H211 ex 6/16

#M12313 12-9-14 JL 10,000 mg/L Pb CPI Lot # 14D135 ex 6/16

#M12314 12-9-14 JL 10,000 mg/L Mg CPI Lot # 14K161 ex 6/16

#M12315 12-9-14 JL 1000 mg/L As CPI Lot # 131194 ex 6/16

#M12316 12-9-14 JL Custom Assurance Std CPI Ex Centiprep Lot 27-185CR ex 12/15

#M12317 12-09-14 JMS GFAA Se Spike (1ug/mL) - Into a 100mL vol Flask, pipetted 1.0mL Se (1000mg/mL) #M11911 & brought to volume with DI H_2O. (3% HNO_3) Exp. 09/18/15

#M12318 12/09/14 JSF TCLP Extraction Fluid #1: Fill a 7oL carboy w/ 14L D.I H_2O. Add 114mL Glacial Acetic Acid (AB5379) and 128.6mL of 10N NaOH (#M12792) Dilute to 7oL w/ D.I H_2O and mix. Exp: 12/09/15 pH: 4.93 ± 0.05

#M12319 12/12/14 JSF potassium permanganate Soln: 50g potassium permanganate (#M11185) dissolve into 1 pooral of D.I H_2O. Exp: 06/12/15

#M12320 JL 12-15-14 Custom Assurance Std Spex Centiprep Lot 27-252CR XCTWT - 1-500

#M12321 JL 12-15-14 JL Custom Assurance Std Spex Centiprep Lot 27-231CR XSpike - 1-250

#M12322 12/15/14 JSF TCLP Extraction Fluid #1: Fill a 7oL Carboy w/ 14L D.I H_2O. Add 114mL Glacial Acetic Acid (AB5379) and 128.6mL of 10N NaOH (#M12792) Dilute to 7oL with D.I H_2O and mix. Exp: 12/15/15 pH: 4.93 ± 0.05

#M12323 12-22-14 JMS GFAA Pd/Mg Matrix Modifier - Into a 50mL vol. flask, pipetted 15mL of Pd modifier #M12158 & 10mL of Mg (1000mg/mL) #M12113 & brought up to volume using millipore H_2O. (2% HNO_3) exp. 8/7/15

#M12295 11-24-14 K 1000mg/mL CPI Lot 141165 Exp 4/16

#M12296 11-21-14 Na 1000 mg/L CPI Lot 141167 Exp 4/16

#M12297 11/24/N13F Potassium permanganate Soln: 56g potassium permanganate (#M11285) dissolved Exp: 05/21/15 into 1000mL of D.I. H2O.

#M12298 11/24/14 SF Stannous Chloride (Macron) Lot# 0000082782

#M12299 11-25-14 JT ICV 1 As + Pb. Add 1 Liter vol flask pipet 5mL #M11912, 0.5mL #M11682 Bring up to mark w/ DI H2O.

#M12300 11/25/N13F Stannous Chloride (Macron) lot# 0000090643

#M12301 12/02/N13F TCLP Extraction Fluid #1: Fill a 20L carboy w/ 19L D.I. H2O. Add 114mL Glacial Acetic Acid (AB: 57) and 128.6mL of 1N NaOH (#M12292). Dilute to 20L with D.I. H2O and mix. pH = 4.93 ± 0.05. Exp: 12/02/15

#M12302 12/05/N13F	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M12303 12/05/14 SF	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M12304 12/05/14 SF	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M12305) into 100ml = 3.0ug/L Hg
#M12305 12/05/14 SF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M12306 12/05/14 SF	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M12303) into 100ml = 0.2ug/L Hg
#M12307 12/05/14 SF	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M12308 12/05/14 SF	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11995) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12309 12/08/14 SF NaCl Hydroxylamine Sulfate Reagent: Dissolve 1kg NaCl (#M11999) and 1kg hydroxylamine sulfate (#M11998) in 500mL of milli-q H2O. Exp: 06/9/15

#M12282
11-13-14

ICASS List 2

Into a 200 mL volumetric flask, pipetted 20 mL Interferents A #M12082 and 0.1 mL of 1000mg/L Ti, Sr, Sn, Li, and W #M12003, M11999, M11998, M11998, and M12004 respectively.
Brought up to mark with milli-Q H20 Exp. 06/30/2015

#M12283 Yttrium 10,000 ug/mL Environmental Express Lot#1418108
11-14-14

#M12284 11/14/14 ISF	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M12285 11/14/14 ISF	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M12286 11/14/14 ISF	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M 12285) into 100ml = 3.0ug/L Hg
#M12287 11/14/14 ISF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10583) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M12288 11/14/14 ISF	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M 12285) into 100ml = 0.2ug/L Hg
#M12289 11/14/14 ISF	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M12290 11/14/14 ISF	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11995) in 70 mL HCl (AB: 553). Bring up to volume with D I Water.

#M12291 11/15/14 ISF Hydroxylamine Sulfate Reagent: Dissolve 60g NaCl (#M11799) and 60g Hydroxylamine Sulfate (#M11992) in 50ml of milli-Q H2O
Exp: 05/15/15

#M12292 11/20/14 ISF 10N NaOH: In to a 1L flask add 400g NaOH (#M11145) and bring up to volume with D.I. H2O.
Exp: 05/20/15

#M12293 11/20/14 ISF TCLP Extraction Fluid #1: Fill a 2L carboy w/ 19L D.I. H2O. Add 11.4ml Glacial Acetic Acid (AB, 571) and 128.6ml of 10N NaOH (#M12292) Dilute to 20L with D.I. H2O and mix. pH = 4.93 ± 0.05
Exp: 11/20/15

#M12294 11-21-14 K 10,000 ug/mL CPI Lot 14623 exp 4/29/16

#M12271 TCLP Extraction Fluid #1: Fill a 2L carboy w/1.9L D.I. H2O. Add 11.4mL Glacial Acetic Acid (#8.579) and 128mL 1.0N NaOH (#11955). Dilute to 2.0L with D.I. H2O and mix. pH = 4.93 ± 0.05

Exp: 05/11/14 I 11/04/14 SF

#M12272 11/05/14 SF	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M12273 11/05/14 SF	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M12274 11/05/14 SF	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M12273) into 100ml = 3.0ug/L Hg
#M12275 11/05/14 SF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M12276 11/05/14 SF	Hg MRL (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M12273) into 100ml = 0.2ug/L Hg
#M12277 11/05/14 SF	Hg Aqua Regia Reagent.	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M12276 11/05/14 SF	Stannous Chloride Reagent:	Into a 1000.mL volumetric flask, dissolve 100g Stannous Chloride (#M11285) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12277 11/07/14 SF Potassium permanganate (Fisher) lot#: 138740A

#M12278 11/13/14 SF potassium permanganate soln: 50g potassium permanganate (#M11285) dissolve into 1000mL of D.I. H2O.
Exp: 05/13/15

ICAP Working Standards List 2

#M12279 11-13-14 JMD

.5% HNO3 .5%HCL

Standard name	Pipetted the following respectively:
1	0.01mL of #M12165 and 0.001mL #M12001 into 1L = 1 ug/L
10	0.10mL of #M12165 and 0.01mL #M12001 into 1L = 10 ug/L
100	1mL of #M12165 and 0.1mL #M12001 into 1L = 100 ug/L
1000	2mL of #M12165 and 0.2mL #M12001 into 200mL = 1000 ug/L
10000	20mL of #M12165 and 2mL #M12001 into 200mL = 10000 ug/L

Brought up to mark with milli-Q H20 Exp. 08/30/2015

#M12280 11-13-14 JMD

Continuing Calibration Standard (CCV)

into a 200mL volumetric flask pipetted 2mL of #M12165 and 0.2mL #M12001 = 1000 ug/L

Brought up to mark with milli-Q H20 Exp. 08/30/2015

#M12281 11-13-14 JMD

Initial Calibration Standard (ICV) List 2

Into a 1 liter volumetric flask pipetted 1mL of #M12003, M11999, M11996, M11998 and M12163

Brought up to mark with milli-Q H20 Exp. 11/08/2015

#M12258 10/28/14 SF potassium permanganate 5% in 50g potassium permanganate (#M11285) dissolve into 1,000ml of D.I. H_2O.
Exp: 04/27/15

#M12259 10/27/14 SF Stannous Chloride (MaCron) lot# 0000087461

M12260 10/28/14 ICV/LCS boron and silicon

Into a one liter volmetric flask pipet 10ml of #M12165 and 1.0 ml #M11919

Bring up to mark with DI H2O

#M12261 10/28/14 SF	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M12262 10/28/14 SF	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M12263 10/28/14 SF	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M12262) into 100ml = 3.0ug/L Hg
#M12264 10/28/14 SF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M12265 10/28/14 SF	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M12262) into 100ml = 0.2ug/L Hg
#M12266 10/28/14 SF	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M12267 10/28/14 SF	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11285) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12268 10/29/14 SF potassium permanganate 5% in 50g potassium permanganate (#M11285) dissolve into 1,000ml of D.I. H_2O.
Exp: 04/29/15

#M12269 10/29/14 SF NaCl Hydroxylamine sulfate Reagent: Dissolve 60g NaCl (#M11798) and 60g hydroxylamine sulfate (#M11793) in 500ml of milli-Q H_2O.
Exp: 04/29/14

#M12270 11/04/14 SF Sodium Chloride (Fisher) lot# 142463

#M12244 10/13/14 SF — Hg MRL: (0.2% HNO3, HCl) — 0.2ml of 100ug/L Hg (#M12241) into 100ml = 0.2ug/L Hg

#M12245 10/13/14 SF — Hg Aqua Regia Reagent: — "Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)

#M12246 10/15/14 SF — Stannous Chloride Reagent: — Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11995) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12247 10/16/14 SF — Potassium persulfate — 50g potassium persulfate (#M10987) dissolve into 1000ml of D.I. H2O.
#M12248 10/16/14 SF — Exp: 04/16/15

#M12248 10/16/14 SF — Hg Working Stds: (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg
1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg
2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg
4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg
5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg
10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg

#M12249 10/16/14 SF — Hg Alt Source Working Std: (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg
1.0ml of 10mg/L into 100ml = 100ug/L Hg

#M12250 10/16/14 SF — Hg ICV / LCSW (0.2% HNO3, HCl) — 3.0ml of 100ug/L Hg (#M12249) into 100ml = 3.0ug/L Hg

#M12251 10/16/14 SF — Hg CCV (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg

#M12252 10/16/14 SF — Hg MRL: (0.2% HNO3, HCl) — 0.2ml of 100ug/L Hg (#M12249) into 100ml = 0.2ug/L Hg

#M12253 10/16/14 SF — Hg Aqua Regia Reagent: — "Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)

#M12254 10/16/14 SF — Stannous Chloride Reagent: — Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11995) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12255 10/16/14 SF — NaCl, Hydroxylamine Sulfate Reagent — Dissolve 60g NaCl (#M11798) and 60g hydroxylamine sulfate (#M11798) in 500ml of milli-Q H2O.
Exp 04/16/15

#M12256 10/16/14 mms — TCLP Extraction Fluid #1: Fill a 20L carboy with 19L DI H2O Add 114ml Glacial Acetic Acid AB 579 and 128.6 mL 10N NaOH #M11955 Dilute to 20L with DI H2O + mix. pH = 4.93
exp. 10/16/14

#M12257 10/16/14 mms — GFAA As Spike (10ug/mL) - Into a 100mL volumetric flask, pipeted 1.0mL As (1000ug/mL) #M11917 + brought up to volume using milli-Q H2O. (3% HNO3)
exp. 9/18/15

#M12235 LOQ ✓
10-9-14 3050
DOD
QSM

3050 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
S	240	M11879	10000	1.2

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expires: 16-May

#M12236 LOQ ✓
10-9-14 DOD
QSM

3010 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
S	200	M11879	10000	1
				#VALUE!

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expires: 15-May

#M12237 mas 10-09-14 GFAA Base Std (25ug/L) - Into a 1L vol Flask, pipetted 0.25mL #M11978 and brought up to vol using milli-Q H_2O (1% HNO_3) exp 06/01/15

#M12238 mas 10-09-14 GFAA CCV (10ug/L) - Into a 1L vol Flask, pipetted 0.10mL #M11979 and brought up to volume using milli-Q H_2O (1% HNO_3) exp 06/01/15

#M12239 mas 10-09-14 GFAA ICV (10ug/L) - Into a 1L vol Flask, pipetted 1.0mL #M11979 and brought up to volume using milli-Q H_2O (1% HNO_3) exp 06/01/15

#M12240 LSF 10/13/14 LSF — Hg Working Stds: (0.2% HNO3, HCl)

1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg
1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg
2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg
4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg
5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg
10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg

#M12241 LSF 10/13/14 LSF — Hg Alt Source Working Std: (0.2% HNO3, HCl)

1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg
1.0ml of 10mg/L into 100ml = 100ug/L Hg

#M12242 LSF 10/13/14 LSF — Hg ICV / LCSW (0.2% HNO3, HCl)

3.0ml of 100ug/L Hg (#M12241) into 100ml = 3.0ug/L Hg

#M12243 LSF 10/13/14 LSF — Hg CCV (0.2% HNO3, HCl)

1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg

#M12231 A
10-9-14 LOQ ✓
3050 QSM
DOD

3050 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
K	2640	M12011	10000	13.2
Na	960	M12010	10000	4.8

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expires: 15-Feb

#M12232 A
10-9-14 ~~3050~~
LOQ ✓ QSM DOD
3010

3010 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
K	500	M12011	10000	2.5
Na	600	M12010	10000	3

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expires: 15-Feb

#M12233 A
10-9-14 3050
LOQ ✓
QSM
DOD

3050 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
B	52	M11763	1000	2.6
Si	192	M12007	1000	9.6

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expires: 15-Feb

#M12234 A
10-9-14 3010
LOQ ✓ QSM
DOD

3010 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
B	16	M11763	1000	0.8
Si	200	M12007	1000	10

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expires: 15-Feb

M12228 LOQ check
10-9-14 3010 QSM
DOD

3010 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
Ag	4	M11908	1000	0.2
Al	36	M11914	10000	0.18
As	24	M11912	1000	1.2
Ba	1.8	M11788	1000	0.09
Be	0.6	M12006	1000	0.03
Ca	100	M11910	10000	0.5
Cd	2	M12002	1000	0.1
Co	4	M17690	1000	0.2
Cr	4	M11767	10000	0.02
Cu	7	M11764	10000	0.035
Fe	100	M11915	10000	0.5
Mg	40	M11976	10000	0.2
Mn	4	M11829	10000	0.02
Mo	7	M12008	1000	0.35
Ni	6	M12004	1000	0.3
Pb	4	M11682	10000	0.02
Sb	12	M11682	1000	0.6
Se	13	M11911	1000	0.65
Tl	15	M11997	1000	0.75
V	5	M12009	1000	0.25
Zn	10	M12005	10000	0.05

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expires: 15-Feb

M12229
10-9-14
LOQ check
QSM
DOD
3010

3010 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
Li	10	M11998	1000	0.5
Sn	10	M11935	1000	0.5
Sr	2	M11999	1000	0.1
Ti	8	M12003	1000	0.4
W	36	M12001	1000	1.8

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expires: 15-Feb

M12230
10-9-14 3050
LOQ Check
QSM

3050 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
Li	14.4	M11998	1000	0.72
Sn	20	M11935	1000	1
Sr	3.2	M11999	1000	0.16
Ti	9.6	M12003	1000	0.48
W	24	M12001	1000	1.2

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expires 15-Feb

#M12224 10-7-14 JA

TCLP Extraction Fluid #1

Into a 20L carboy, pipetted the following respectively:

114.0 mls Glacial Acetic Acid (# AB586) and # 128.6 mls (#M11955) 10N NaOH bring up to 20L with DI H2O. pH 4.93 +/- 0.05

#M12225 10-7-14 JA

TCLP Extraction Fluid #1

Into a 20L carboy, pipetted the following respectively:

114.0 mls Glacial Acetic Acid (# AB586) and # 128.6 mls (#M11955) 10N NaOH bring up to 20L with DI H2O. pH 4.93 +/- 0.05

#M12226 10-7-14 JA

SPLP Extraction Fluid East #1

Fill a 20L carboy with DI and adjust pH to 4.20 +/- .05 with (#M10857) 60/40 HNO3, H2SO4 mix w/v mix.

#M12227 3050 LOQ
JA 10-9-14 QSM
DOD

3050 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
Ag	4	M11908	1000	0.2
Al	9.6	M11914	10000	0.048
As	32	M11912	1000	1.6
Ba	2	M11768	1000	0.1
Be	1.6	M12006	1000	0.08
Ca	56	M11910	10000	0.28
Cd	1.6	M12002	1000	0.08
Co	9.6	M17000	1000	0.48
Cr	5.6	M11767	10000	0.028
Cu	16	M11764	10000	0.08
Fe	72	M11915	10000	0.36
Mg	32	M11976	10000	0.16
Mn	6	M11828	10000	0.03
Mo	9.6	M12008	1000	0.48
Ni	4.8	M12004	1000	0.24
Pb	10	M11682	10000	0.05
Sb	32	M11692	1000	1.6
Se	16	M11911	1000	0.8
Tl	19	M11997	1000	0.95
V	3.2	M12009	1000	0.16
Zn	12	M12005	10000	0.06

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expires: 15-Feb

#M12210 10/02/14SF TCLP Extraction Fluid #1: Fill/10/01/14SF into a 20L carboy w/ 19L DI H2O. Add 11.4mL Glacial Acetic Acid (AB: 599) and 128.6mL 10N NaOH (#M11955). Dilute to 20L with DI H2O and mix. pH = 4.93 ± 0.05
Exp: 10/01/15

#M12211 10/6/14 Custom Assurance Std Spex Certiprep Lot # 21-201CR ex 9/15

#M12212 10/6/14 Potassium 10,000 CPI Lot# 146213 ex 3/16

#M12213 10/6/14 Arsenic 10,000 CPI Lot# 132089 ex 3/16

#M12214 10/06/14SF	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M12215 10/06/14SF	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M12216 10/06/14SF	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M12215) into 100ml = 3.0ug/L Hg
#M12217 10/06/14SF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M12218 10/06/14SF	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M12215) into 100ml = 0.2ug/L Hg
#M12219 10/06/14SF	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M12220 10/06/14SF	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11985) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12221 10/06/14SF Potassium Permanganate Soln: 50g Potassium permanganate (#M11285) dissolve into 1000mL of DI H2O.
Exp: 04/06/15

#M12222 10/6/14 MMS 6PPA Lot/Low Check Water Working Std (Ag Only) - Into a 100mL vol. Flask, pipetted 0.1mL Ag (1000mg/mL) #M11908 and brought up to volume using milli-Q H2O. (1% HNO3) exp. 09/16/15

R M12223 10/16/14 MMS 6PPA Lot/Low Water Spiking Soln (Ag only) - Into a 1L vol. Flask, pipetted 1mL #M12222 and brought up to volume using milli-Q H2O (1% HNO3) exp. 11/15/15

#M12200 cont. Into a 1L volumetric Flask, pipetted 1mL As (10mg/L), 0.6mL Pb (10mg/L), 2.4mL Se (10mg/L), 2.4mL Sb (10mg/L), 2.2mL Tl (10mg/L) and 0.8mL Ag (1mg/L) and brought up to volume using milli-Q H_2O. ($1\%HNO_3$) exp. 2/05/15

Concentrations: 10ug/L As, 6ug/L Pb, 24ug/L Se, 24ug/L Sb, 22ug/L Tl, 0.8ug/L Ag

#M12201 MBS 09-24-14 GFAA ICV (10ug/L) = Into a 100mL volumetric Flask, pipetted the following:
1mL As (1000ug/mL) # M11912 = 10ug/mL As
0.1mL Pb (10,000ug/mL) # M11982 = 10ug/mL Pb
1mL Tl (1000ug/mL) # M11997 = 10ug/mL Tl
1mL Se (1000ug/mL) # M11911 = 10ug/mL Se
1mL Sb (1000ug/mL) # M11909 = 10 ug/mL Sb
0.1mL Ag (1000ug/mL) # M11908 = 1ug/mL Ag
and brought up to volume with milli-Q H_2O. From this mix, pipetted 1mL into a 1L volumetric Flask and brought up to volume using milli-Q H_2O. Final ICV concentrations are 10ug/L As, Pb, Tl, Se, Sb and 1ug/L Ag. (1% HNO_3) exp. 2/15/15

M12202 MBS 09-25-14 GFAA As/Se Spike (10ug/mL) = Into a 100mL vol. flask, pipetted 1mL As (1000ug/mL) # M11912 and 1mL Se (1000ug/mL) # M11911 and brought to volume using milli-Q H_2O. (3% HNO_3) exp. 9/19/15

#M12203 09/26/14 SF	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M12204 09/26/14 SF	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M12205 09/26/14/SF	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M12204) into 100ml = 3.0ug/L Hg
#M12206 09/26/14/SF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M12207 09/26/14/SF	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M12204) into 100ml = 0.2ug/L Hg.
#M12208 09/26/14/SF	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M12209 09/26/14/SF	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11975) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12188 09/16/14SF — Hg Working Stds: (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg
1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg
2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg
4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg
5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg
10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg

#M12189 09/16/14SF — Hg Alt Source Working Std: (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg
1.0ml of 10mg/L into 100ml = 100ug/L Hg

#M12190 09/16/14SF — Hg ICV / LCSW (0.2% HNO3, HCl)
3.0ml of 100ug/L Hg (#M12189) into 100ml = 3.0ug/L Hg

#M12191 09/16/14SF — Hg CCV (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg

#M12192 09/16/14SF — Hg MRL (0.2% HNO3, HCl)
0.2ml of 100ug/L Hg (#M12189) into 100ml = 0.2ug/L Hg

#M12193 09/16/14SF — Hg Aqua Regia Reagent:
"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)

#M12194 09/16/14SF — Stannous Chloride Reagent:
Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11795) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12195 09/17/14SF Acid Hydroxylamine Sulfate Reagent: Dissolve 60g Acid (#M11792) and 60g hydroxylamine Sulfate (#M11798) in 500ml of Milli-Q H2O
Exp 03/17/15

#M12196 09/19/14 MMS — GFAA Pd/Mg Matrix Modifier - Into a 50 mL vol flask, pipetted 15mL of # M11843 + 10mL # M11976 + brought to volume with milli-Q H2O (2% HNO3) expires: 01/28/15

#M12197 09-23-14 MMS — GFAA Base Std (25ug/L) - Into a 1L vol Flask, pipetted 0.25mL M11978 and brought to volume using milli-Q H2O (1% HNO3) exp 06/15

#M12198 09-23-14 MMS — GFAA CCV (10ug/L) - Into a 1L volumetric flask, pipetted 0.1mL M11978 and brought to volume using milli-Q H2O (1% HNO3) exp 06/15

#M12199 09-23-14 MMS — GFAA ICV (10ug/L) - Into a 1L vol flask, pipetted 1.0mL M11979 and brought to volume using milli-Q H2O (1% HNO3) exp 06/15

#M12200 09-24-14 MMS — GFAA Instrument check - Into 100mL vol flasks, pipetted the following + brought to volume using milli-Q H2O
1.0mL As (1000mg/mL) # M11912 = 10mg/L As
0.1mL Pb (1000mg/mL) # M11926 = 1mg/L Pb
1.0mL Tl (1000mg/mL) # M11997 = 10mg/L Tl
1.0mL Se (1000mg/mL) # M11911 = 10mg/L Se
1.0mL Sb (1000mg/mL) # M11909 = 10mg/L Sb
0.1mL Ag (1000mg/mL) # M11908 = 1mg/L Ag

~~#M12179 08/12/14SF Stannous Chloride 10%~~ 8/12/14SF

#M12179 9-4-15 Hg 1000 ug/mL CPI Lot# 14F110.

#M12180 09/04/14SF	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M12181 09/04/14SF	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M12182 09/04/14SF	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M12181) into 100ml = 3.0ug/L Hg
#M12183 09/04/14SF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M12184 09/04/14SF	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M12181) into 100ml = 0.2ug/L Hg
#M12185 09/04/14SF	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M12186 09/04/14SF	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M[illegible]) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12185 09/05/14SF TCLP Extraction Fluid #1: Fill a 20l carboy w/19L DI. H_2O. Add 114ml Glacial Acetic Acid (AB:579) and 128.6ml 1N NaOH (#M11955). Dilute to 20L w/ DI H_2O and mix. pH = 4.93 ± 0.05

Exp: 09/05/15

#M12186 9-9-14 StablCal Standard 200 ntu turbidity Hach Lot #A4216 exp 8/16

#M12187 9-9-14 Turbity Working Stds → into 3 Hach Vials →

~~pipet 1-5 ml 9-9-14~~

~~1 mls → 9 mls DI~~ 9-9-14

1 ml #M12186 → 9 mls DI H_2O = 20 ntu

5 mls M12186 → 5 mls DI H_2O = 100 ntu

10 #9-9-14 mls M12186 → 0 ml DI H_2O = 200 ntu

#M12166 08/15/14 SF	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10503) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M12167 08/15/14 SF	Hg All Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9053) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M12168 08/15/14 SF	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M12167) into 100ml = 3.0ug/L Hg
#M12169 08/15/14 SF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M12170 08/15/14 SF	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M12167) into 100ml = 0.2ug/L Hg
#M12171 08/15/14 SF	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M12172 08/15/14 SF	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11995) in 70 mL HCl (AB: 563). Bring up to volume with D.I. Water.

#M12173 08/18/14 SF potassium persulfate: 50g potassium persulfate (#M10987) dissolve into 1,000mL of D.I. H_2O.
Exp: 02/18/15

#M12174 08-22-14 MS 6FAA Base Std. (1% HNO_3) - Into a 1L volumetric Flask, pipetted 0.25mL of #M11978 and brought to volume with milli-Q H_2O. Exp. 06/15

#M12175 08-22-14 MS 6FAA CCV (1% HNO_3) - Into a 1L volumetric Flask, pipetted 0.1mL of #M11978 and brought to volume with milli-Q H_2O Exp. 06/15

#M12176 08-22-14 MS 6FAA ICV (1% HNO_3) - Into a 1L volumetric flask, pipetted 1.0mL #M11979 and brought to volume with milli-Q H_2O Exp. 06/15

#M12177 08/27/14 SF TCLP Extraction Fluid #1: Fill a 2gl carboy w/ 1.9L D.I. H_2O. Add 11.4mL Glacial Acetic Acid (AB579) and 12.8mL NaOH (#M11955). pH=4.93±.05 (#M11955). Dilute to 2gL with D.I. H_2O and mix.
Exp: 09/27/15

#M12178 08/27/14 SF TCLP Extraction Fluid #1: Fill a 2gl carboy w/ 1.9L D.I. H_2O 08/28/14 SF Add 11.4mL Glacial Acetic Acid (AB579) and 12.8mL NaOH (#M11955). Dilute to 2gL with D.I. H_2O and mix. pH=4.93±0.05
Exp: 09/27/15

#M12157 TMS 08-06-14

ICAP Working Standards Boron & Silicon

Standard name	Into a 1L volumetric flask, pipetted the following respectively:
50	0.05mL of #M11763 and 0.05mL #M12007 = 50 ug/L
200	0.2mL of #M11763 and 0.2mL #M12007 = 100 ug/L
1000	1.0mL of #M11763 and 1.0mL #M12007 = 1000 ug/L
2000	2.0mL of #M11763 and 2.0mL #M12007 = 1000 ug/L
10000	10.0mL of #M11763 and 10.0mL #M12007 = 10000 ug/L

Expires: 05/13/2015

Continuing Calibration Standard (CCV)

Into a 1L volumetric flask, pipetted 1.0mL of #M11763 and 1.0mL #M12007 = 1000 ug/L
Brought up to volume with DI H20. Expires 05/13/2015

#M12158 TMS 08/11/14: 1% Pd GFAA matrix modifier Environmental Express Lot# 1421912
Expires: 08/01/15

#M12159 TMS 08/11/14: 1% Nickel Nitrate GFAA matrix modifier Alfa Aesar Lot# 41-55398TD

#M12160 08/12/14 15F Friscolyt (Mettler Toledo) Lot# 17-134C

#M12161 08/12/14 13F TCLP Extraction Fluid #1: Into a 7oL Carboy w/ 19L D.I. H2O. Add 114mL Glacial Acetic Acid (AB579) and 128.6mL 10N NaOH (#M11955). Dilute to 7oL with D.I. H2O and mix pH = 4.93 ± 0.05
Exp: 08/12/15

#M12162 8-13-14 Potassium 1000 mg/L CPI Lot# 14F193 ex 2/16

#M12163 8-13-14 Tungsten Std. CPI Lot# 14F230 ex 2/16

#M12164 8-13-14 Interference A Spex Certiprep Lot# 11-384PX ex 8/15

#M12165 8-13-14 Custom Assurance Std Spex Certiprep Lot# 7-93WL ex 8/15

#M12149 5% HCl 5% HNO3 8-1-14 JB

Initial Calibration Standard (ICV) Alt source

Into one liter volumetric flask pipet 10 mls of M12020 (ex 5/15)
2.0 mls of #m12082 (ex 6/15) and 0.5 mls #M12008 Mo (ex11/15) and 0.5 mls
of #M11763 B (ex 5/15), 0.5 #m11999 Sr (ex 11/15), 0.5 #m11998 mls Li (ex 11/15).
0.5 mls sn # m11996 (ex 11/15),0.5 mls ti #m12003 (ex 11/15) and bring up to mark with DI H2O
ex 5/15

#M12150 5% HCl, 5% HNO3 8-1-14 JB

Continuing Calibration Standard 3(CCV3)

Into a one liter volmetric flask pipet 10 mls of # M119531 (ex 4/15)
and 1.0 ml of #M11585 (ex 07/15).
ex. 04/15
Bring up to mark with DI H2O

#M12151 5% HCl, 5% HNO3 8-1-14 JB

Interfering element check std. (Icsab)

Into 500 ml volumetric flask pipet 50 mls of #M12082 (ex 6/15), 15 mls #m11915 (ex8/15),
2.5 mls #M1215 (ex 7/15) and 2.5 mls #M11953 (ex 4/15) bring up to mark with DI H20.
ex 4/15

#M12152 JB 8-5-14. Hydroxylamine solution. Into 200 ml vol flask dissolve 24.0 g Hydroxylamine hydrochloric ($NH_4OH \cdot HCl$) #M12060 in DI H_2O. Bring up to mark with DI H_2O.

#M12153 JB 8-5-14 Stannous Chloride soln. 10 ml HCl (AB-583) is added to 400 mls DI H_2O in a 1 Liter vol flask & dissolve 20 g of Stannous Chloride (#M11995) in the flask. Bring up to mark with DI H_2O.

#M12154 JB 8-5-14 1:1 HCl Into 1 Liter vol flask pour 500 ml HCl (#AB-583) & Bring up to mark

#M12155 08/06/14 SF Exp: 02/06/15 potassium permanganate soln: 5g potassium permanganate (#M11785) dissolve into 1000ml of D.I. H_2O.

#M12156 08/06/14 SF Exp: 02/06/15 Acid Hydroxylamine Sulfate Reagent: Dissolve 6g NaCl (#M11799) and 6g hydroxylamine Sulfate (#M11798) in 500ml of milli-Q H_2O.

#M12148 07/30/14SF — Hg MRL: (0.2% HNO3, HCl) — 0.2ml of 100ug/L Hg (#M12139) into 100ml = 0.2ug/L Hg

#M12143 07/30/14SF — Hg Aqua Regia Reagent: "Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)

#M12144 07/30/14SF — Stannous Chloride Reagent: Into a 1000 mL volumetric flask, dissolve 100g ~~stannous chloride (M11995)~~ in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12145 07/4/14SF TCLP Extraction Fluid #1: 7 into a 2gl carboy w/ ~1gl D.I. H_2O. Add 11.4mL Glacial Acetic Acid (~~#M11952~~ AB.549) and 128.6mL 10N NaOH (#M11955). Dilute to 20l with D.I. H_2O and mix. pH = 4.93 ± 0.05

Exp: 07/31/15

#M12146 SA

8/1/14 TCLP working stds

ICAP Working Standards

5% HNO3 5%HCL

Standard name	Std # Pipet the following respectively:
0.25	1 0.25 mls of standard 1000 ug/L into 1000 ml volumetric flask = 0.25 ug/L std
0.5	2 0.50 mls of standard 1000 ug/L into 1000ml volumentric flask= 0.50 ug/L std
1	3 1.0 mls of standard 1000ug/L into 1000 ml volumentric flask =1.00 ug/L std
5	4 5.0 mls of standard 1000ug/L into 1000 ml volumentric flask =5.00 ug/L std
10	5 10.0 mls of standard 1000ug/L into 1000 ml volumentric flask =10.0 ug/L std
20	6 20.0 mls of standard 1000ug/L into 1000 ml volumentric flask =20.0 ug/L std
50	7 50.0 mls of standard 1000ug/L into 1000 ml volumentric flask =50.0 ug/L std
100	8 1.0 mls of #M11953(ex 05/15) and 1.0 mls of #M12125 (ex 07/15) into 1000 ml volumetric flask= 100 ug/L std
1000	9 10.0 mls of #M11953(ex 05/15) and #M11585 (ex 07/15) and 1 mL of #M12007 Si into 1000 ml volumetric flask= 1000 ug/L std
10,000	10 100 mls #M11953 (ex 05/15),100 mls #M11585 (ex 07/15), 1.0 mls (K) # M12011 ex 11/15
100k	11 10 mls of #M11764 Cu (ex 5/15) , 10 mls of #M11829 Mn (ex 7/15) , 10 mls of #M11787 Cr (ex 5/15), 10 mls #M11882 Pb (ex 2-15), 10 mls zn #M12005(ex 8-15), 10 mls #M12010 Na (ex 11/15),10 mls = 100,000 ug/L
100,000	12 10 mls of #M11976 Mg (ex 10/15) , 10 mls of #M11915 Fe (ex 09/15) ,10 mls of #M11910 Ca (ex 9/15),10 mls #M11914 AL (ex 9/15) , into 1000 ml vol flask = 100,000 ug/l std
500,000	13 50 mls of #M11976 Mg (ex 10/15) , 50 mls of #M11915 Fe (ex 9/15) ,50 mls of #M11910 Ca (ex 9/15), 50 mls #M11914 AL (ex 9/15) into 1000 ml vol flask = 500,000 ug/l std
1000k	14 100 mls of #M11976 Mg (ex 10/15) , 100 mls of #M11915 Fe (ex 9/15) ,100 mls of #M11910 Ca (ex 9/15),100 mls #M11914 AL (ex 9/15) into 1000 ml vol flask = 1,000,000 ug/l std
	Bring the 1000 ml volumetric up to mark with DI H2O ex 2/15

#M12147 SA — 5%HCL, 5% HNO3 — 8-1-14

Continuing Calibration Standard 1(CCV1)

Into a one liter volmetric flask pipet 50mls of # M11953 (ex 4/15) and 5 ml of #M12125 (ex 07/15).
ex. 04/15
Bring up to mark with DI H2O

#M12148 SA — 8-1-14 — 5%HCL, 5%HNO3

Continuing Calibration Standard 2(CCV2)

Into a one liter volmetric flask pipet 5 mls of # M11953 (ex 04/15) and 0.5 ml of #M12125(ex 07/15).
ex. 4/15
Bring up to mark with DI H2O

#M12134 MW
07-21-14

Working Standards for Sodium and Potassium - Into seven, 200 mL volumetric flasks, pipetted the following from #M11719 and #M11722 and brought up to volume using milli-Q H_2O. (2% HNO_3)

0.5 mg/L std - 0.1 mL of each
1.0 mg/L std - 0.2 mL of each
5.0 mg/L std - 1.0 mL of each
10.0 mg/L std - 2.0 mL of each
50.0 mg/L std -10 mL of each
100 mg/L std - 20 mL of each, used for Continuing Calibration Standard (CCV)
200 mg/L std - 40 mL of each
Expires: 04/24/15

#M12135 MW
07-21-14

Initial Calibration Standard (ICV) - Into a 250 mL volumetric flask, pipetted 2.5 mL of #M12010 and #M12011 and brought up to volume using milli-Q H_2O. (2% HNO_3)
Expires: 11/08/2015

M12136 MW
07-21-14

ICAP 6000 ICSAB Standard for Sodium and Potassium – Into a 250 mL volumetric flask, pipetted 25 mL of #M11776 and 2.5 mL of each #M12010 & #M12011 and brought to volume using milli-Q H_2O. (2% HNO_3) 1.5mL of #M11815
Expires: 12/30/14

#M12137 MW
07-22-14

TCLP Extraction Fluid #1 – Into a 20L Carboy, added 11.4mL Glacial Acetic acid #AB586 + 128.6mL 10N NaOH #M12086 + brought to volume w/ DI H_2O. Mix. pH = 4.93 ± 0.05

#M12138 07/30/14 SF — Hg Working Stds: (0.2% HNO3, HCl)

1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg
1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg
2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg
4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg
5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg
10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg

#M12139 07/30/14 SF — Hg Alt Source Working Std: (0.2% HNO3, HCl)

1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg
1.0ml of 10mg/L into 100ml = 100ug/L Hg

#M12140 07/30/14 SF — Hg ICV / LCSW (0.2% HNO3, HCl)

3.0ml of 100ug/L Hg (#M12139) into 100ml = 3.0ug/L Hg

#M12141 07/30/14 SF — Hg CCV (0.2% HNO3, HCl)

1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg

#M12113 04/15/14 LSF Potassium permanganate Soln: 5gm potassium permanganate (#M11285) dissolve into 1 Liter of D.I. H2O. Exp: 01/15/15 #M12121

#M12122 07-16-14 MDS 6PAA Base Std (25ug/L) - Into a 1L vol. flask, pipetted 0.25mL of M11978 + brought to volume with milli-Q H2O. (1% HNO3) exp. 8/6/15

#M12123 07-16-14 MDS 6PAA CCV (1ug/L) - Into a 1L vol. Flask, pipetted 0.1mL of M11978 + brought to volume with milli-Q H2O (1% HNO3). exp 8/6/15

#M12124 07-16-14 MDS 6PAA ICV (1ug/L) - Into a 1L vol. Flask, pipetted 1.0mL of M11979 + brought to volume with milli-Q H2O. (1% HNO3) exp 8/6/15

#M12125 7-17-14 LSF SpexCertiprep Lot # 11-12Y P (Custom Assurance Std) XCTWI-4-500

#M12126 7-17-14 LSF Spex Certiprep Lot # 11-111YP (Custom Assurance Std) XSpiKe-1-500

#M12127 07/18/14 LSF	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M12128 07/18/14 LSF	Hg Alt Source Working Std (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M12129 07/18/14 LSF	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M 12128) into 100ml = 3.0ug/L Hg
#M12130 07/18/14 LSF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M12131 07/18/14 LSF	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M 12128) into 100ml = 0.2ug/L Hg
#M12132 07/18/14 LSF	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M12133 07/18/14 LSF	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11995) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12105 07/08/14 ISF — Hg Working Stds: (0.2% HNO3, HCl)

1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg
1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg
2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg
4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg
5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg
10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg

#M12106 07/08/14 ISF — Hg Alt Source Working Std: (0.2% HNO3, HCl)

1.0ml of 1000mg/L Hg (#M8063) into 100ml = 10mg/L Hg
1.0ml of 10mg/L into 100ml = 100ug/L Hg

#M12107 07/08/14 ISF — Hg ICV / LCSW (0.2% HNO3, HCl)

3.0ml of 100ug/L Hg (#M12106) into 100ml = 3.0ug/L Hg

#M12108 07/08/14 ISF — Hg CCV (0.2% HNO3, HCl)

1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg

#M12109 07/08/14 ISF — Hg MRL: (0.2% HNO3, HCl)

0.2ml of 100ug/L Hg (#M12106) into 100ml = 0.2ug/L Hg

#M12110 07/08/14 ISF — Hg Aqua Regia Reagent:

"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)

#M12111 07/08/14 ISF — Stannous Chloride Reagent:

Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M4995) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12112 7-10-14 Ca 10,000 ug/L CPI Lot # 14D176 exp 1/16
D

#M12113 7-10-14 Mg 10,000 mg/L CPI Lot # 14F190 exp 1/16

#M12114 07/11/14 ISF — Hg Working Stds: (0.2% HNO3, HCl)

1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg
1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg
2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg
4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg
5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg
10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg

#M12115 07/11/14 ISF — Hg Alt Source Working Std: (0.2% HNO3, HCl)

1.0ml of 1000mg/L Hg (#M8063) into 100ml = 10mg/L Hg
1.0ml of 10mg/L into 100ml = 100ug/L Hg

#M12116 07/11/14 ISF — Hg ICV / LCSW (0.2% HNO3, HCl)

3.0ml of 100ug/L Hg (#M12115) into 100ml = 3.0ug/L Hg

#M12117 07/11/14 ISF — Hg CCV (0.2% HNO3, HCl)

1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg

#M12118 07/11/14 ISF — Hg MRL: (0.2% HNO3, HCl)

0.2ml of 100ug/L Hg (#M12115) into 100ml = 0.2ug/L Hg

#M12119 07/11/14 ISF — Hg Aqua Regia Reagent:

"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)

#M12120 07/11/14 ISF — Stannous Chloride Reagent:

Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M4995) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12099 7-1-14 MCL into 500 ml vol flask pipet 10 mls #M12098 bring up to mark w/DI H2O ex 2/15.
2% HCL
5% HNO3

#M12100 7-1-14 ICVLL into 500 ml vol flask pipet 30mls #M12098 Bring up to mark w/ DI H2O ex 2/15
5% HCL
5% HNO3

#M12101 7-1-14 ICSAB into 500 ml vol flask pipet 50mls #M12082 15 mls #M11915, 2.5mls #M11953, 2.5 mls M11585, Bring up to mark w/DI H2O ex 7/15.
5% HCL
5% HNO3

#M12102 7-1-14

ICAP Working Standards
5% HNO3 5%HCL

Standard name	Pipet the following respectively:
0.25	0.25 mls of standard 1000 ug/L into 1000 ml volumetric flask = 0.25 ug/L std
0.5	0.50 mls of standard 1000 ug/L into 1000ml volumentric flask= 0.50 ug/L std
1	1.0 mls of standard 1000ug/L into 1000 ml volumentric flask =1.00 ug/L std
5	5.0 mls of standard 1000ug/L into 1000 ml volumentric flask =5.00 ug/L std
10	10.0 mls of standard 1000ug/L into 1000 ml volumentric flask =10.0 ug/L std
20	20.0 mls of standard 1000ug/L into 1000 ml volumentric flask =20.0 ug/L std
50	50.0 mls of standard 1000ug/L into 1000 ml volumentric flask =50.0 ug/L std
100	1.0 mls of #M11953(ex 05/15) and 1.0 mls of #M11585 (ex 07/14) into 1000 ml volumectric flask= 100 ug/L std
1000	10.0 mls of #M11953(ex 05/15) and #M11585 (ex 07/14) and 1 mL of #M12007 Si into 1000 ml volumetric flask= 1000 ug/L std
10,000	100 mls #M11953 (ex 05/15), 100 mls #M11585 (ex 07/14), 1.0 mls (K) # M12011 ex 11/15
100k	10 mls of #M11764 Cu (ex 5/15) , 10 mls of #M11829 Mn (ex 7/15) , 10 mls of #M11767 Cr (ex 5/15), 10 mls #M11682 Pb (ex 2-15), 10 mls zn #M12005(ex 8-15), 10 mls #M12010 Na (ex 11/15),10 mls = 100,000 ug/L
100,000	10 mls of #M11976 Mg (ex 10/15) , 10 mls of #M11915 Fe (ex 09/15) , 10 mls of #M11910 Ca (ex 9/15),10 mls #M11914 AL (ex 9/15) , into 1000 ml vol flask = 100,000 ug/l std
500,000	50 mls of #M11976 Mg (ex 10/15) , 50 mls of #M11915 Fe (ex 9/15) ,50 mls of #M11910 Ca (ex 9/15), 50 mls #M11914 AL (ex 9/15) into 1000 ml vol flask = 500,000 ug/l std
1000k	100 mls of #M11976 Mg (ex 10/15) , 100 mls of #M11915 Fe (ex 9/15) , 100 mls of #M11910 Ca (ex 9/15),100 mls #M11914 AL (ex 9/15) into 1000 ml vol flask = 1,000,000 ug/l std

Bring the 1000 ml volumetric up to mark with DI H2O

ex 7/14

#M12103 07/03/15F NaCl Hydroxylamine Sulfate Reagent: Dissolve 60g NaCl (CH M11799) and 60g hydroxylamine Sulfate (CH M11798) in 500ml of milli-Q H2O.
Exp: 01/03/15

#M12104 07/09/15F TCLP Extraction Fluid #1: Fill a 20L carboy w/ 19L DI H2O. Add 114 mL Glacial Acetic Acid (AB5799) and 128.6mL 10N NaOH (CH M11955) Dilute to 20L with DI H2O and mix. pH = 4.93 ± 0.05
EXP: 07/09/15

#M12088 06/25/14 LSF	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg into 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M12089 06/25/14 LSF	Hg Alt Source Working Std (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9003) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M12090 06/25/14 LSF	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M 12089) into 100ml = 3.0ug/L Hg
#M12091 06/25/14 LSF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M12092 06/26/14 LSF	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M 12089) into 100ml = 0.2ug/L Hg
#M12093 06/25/14 LSF	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M12094 06/26/14 LSF	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M1925) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12095 06/27/14 TCLP Extraction Fluid #1: Fill a 20L carboy w/19L D.I. H2O. Add 114mL Glacial Acetic Acid (AB:539) and 128.6mL 10N NaOH (#M1905). Dilute to 20L with D.I. H2O and mix. pH=4.93 ± 0.05

Exp: 06/27/15

#M12096 06/24/14 LSF Hydroxylamine Sulfate (Fisher) Lot #134692A

#M12097 06/30/14 LSF Stannous Chloride (Macron) Lot #0000049133

#M12098 7-1-14 into 1 Liter volumetric pipet →

5% HCl
5% HNO3

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	(ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
Al	400	M11914	10000	2
Ba	10	M11768	1000	0.5
Be	4	M12006	1000	0.2
Cd	5	M12002	1000	0.25
Co	10	M17000	1000	0.5
Cr	10	M11767	10000	0.05
Cu	10	M11764	10000	0.05
Mg	500	M11978	10000	2.5
Mn	10	M11828	10000	0.05
Mo	10	M12008	1000	0.5
Ni	10	M12004	1000	0.5
Pb	10	M11682	10000	0.05
Sb	20	M11909	1000	1
V	10	M12009	1000	0.5
Zn	10	M12005	10000	0.05

K	1000	M12011	10000	5
Na	1000	M12010	10000	5
As	20	M11912	1000	1
Ca	500	M11910	10000	2.5
Fe	300	M11915	10000	1.5
Se	20	M11911	1000	1
Tl	20	M11997	1000	1
Si	100	M12007	1000	5
B	20	M11763	1000	1
Li	20	M11998	1000	1
W	50	M12001	1000	2.5
Ti	10	M12003	1000	0.5
Sr	10	M11999	1000	0.5
Sn	50	M11996	1000	2.5
S	100	M11679	10000	0.5

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

ent 2/15

#M12079 06/18/14SF NaCl Hydroxylamine sulfate Reagent: Dissolve 6g NaCl (#M11799) and 6g hydroxylamine sulfate (#M11998) in 500mL of milli-Q H2O
Exp: 12/18/14

ICAP Working Standards W Only

.5% HNO3 .5%HCL

#M12080 06/18/14 YMS

Standard name	Pipetted the following respectively:
100	0.1mL #M12001 into 1L = 100 ug/L
1000 M12080	1mL #M12001 into 1L = 1000 ug/L
10000	10mL #M12001 into 1L = 10000 ug/L

Bring up to mark with milli-Q H20 Exp. 11/08/15

Continuing Calibration Standard (CCV) M12086
Into a 1L volumetric flask pipetted 1mL #M12001 = 1000 ug/L
Bring up to mark with milli-Q H20 Exp. 11/08/15

#M12081 06/18/14 YMS

Initial Calibration Standard (ICV) W Only M12081
Into a 1 liter volumetric flask pipetted 1mL of #M11385
Bring up to mark with milli-Q H20 Exp. ~~04/25/15~~ 04/20/14
YMS 04/18/14

#M12082 6-23-14 JD Spex Custiprep ICV-A Lot # 11-38YPX exp 6/15

#M12083 JD 6-23-14 Spex Certiprep Cust. Assurance Std Thallium + Na exp 6/15

#M12084 JD 6-23-14 TCLP Extraction fluid into 20 liter carboy, Add 114mL Glacial acetic Acid (AB-558) + 128.6 mls 10N NaOH #M11955 Dilute up to 20L with DI H2O + mix pH=4.93±.05

#M12085 JD 6-23-14 TCLP Extraction fluid into 20 liter carboy add 114mL Glacial acetic Acid (AB-558), + 128.6 mls 10N NaOH #M11955 Dilute up to 20L with DI H2O + mix ph=4.93±.05

#M12086 JD 6-23-14 10N NaOH into 1 Liter vol dissolve 400g Sodium Hydroxide #M11145 Bring up to mark w/ DI H2O exp 6-23-15.

#M12087 (SF 06/25/14SF) Potassium permanganate Soln: 50g potassium permanganate (#M11285) dissolve into 1,000mL of DI H2O.
Exp: 12/25/14

#M12067 06/11/14SF — Hg Aqua Regia Reagent: "Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)

#M12063 06/11/14SF — Stannous Chloride Reagent: Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11785) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12068 06/12/14SF — potassium permanganate Soln: 50g potassium permanganate (#M11785) dissolve into 1,000ml of D.I. H2O. Exp: 12/12/14

#M12069 06/18/14SF — Hg Working Stds: (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg
1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg
2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg
4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg
5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg
10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg

#M12036 06/18/14SF — Hg All Source Working Std: (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg
1.0ml of 10mg/L into 100ml = 100ug/L Hg

#M12071 06/18/14SF — Hg ICV / LCSW (0.2% HNO3, HCl)
3.0ml of 100ug/L Hg (#M12071) into 100ml = 3.0ug/L Hg

#M12072 06/18/14SF — Hg CCV (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg

#M12073 06/18/14SF — Hg MRL: (0.2% HNO3, HCl)
0.2ml of 100ug/L Hg (#M12071) into 100ml = 0.2ug/L Hg

#M12074 06/18/14SF — Hg Aqua Regia Reagent: "Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)

#M12076 06/18/14SF — Stannous Chloride Reagent: Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11785) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12077 06/18/14 mrs

ICAP Working Standards List 2

.5% HNO3 .5%HCL

Standard name	Pipetted the following respectively:
1	0.01mL of #M11953 and 0.001mL #M11365 into 1L = 1 ug/L
10	0.10mL of #M11953 and 0.01mL #M11365 into 1L = 10 ug/L
100	1mL of #M11953 and 0.1mL #M11365 into 1L = 100 ug/L
1000	2mL of #M11953 and 0.2mL #M11365 into 200mL = 1000 ug/L
10000	20mL of #M11953 and 2mL #M11365 into 200mL = 10000 ug/L

M12077

Bring up to mark with milli-Q H20 Exp. 08/20/2014

Continuing Calibration Standard (CCV) M12077

Into a 200mL volumetric flask pipetted 2mL of #M11953 and 0.2mL #M11365 = 1000 ug/L
Bring up to mark with milli-Q H20 Exp. 08/20/2014

#M12078 06/18/14 mrs — Initial Calibration Standard (ICV) List 2 M12078

Into a 1 liter volumetric flask pipetted 1mL of #M11999, M11364, M11362, M11359 and M11826.
Bring up to mark with milli-Q H20 Exp. 08/20/2014

#M12053 06/04/14 SF — Hg Working Stds: (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg
1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg
2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg
4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg
5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg
10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg

#M12054 06/04/14 SF — Hg Alt Source Working Std. (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg
1.0ml of 10mg/L into 100ml = 100ug/L Hg

#M12055 06/04/14 SF — Hg ICV / LCSW (0.2% HNO3, HCl)
3.0ml of 100ug/L Hg (#M) into 100ml = 3.0ug/L Hg

#M12056 06/04/14 SF — Hg CCV (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg

#M12057 06/04/14 SF — Hg MRL: (0.2% HNO3, HCl)
0.2ml of 100ug/L Hg (#M) into 100ml = 0.2ug/L Hg

#M12058 06/04/14 SF — Hg Aqua Regia Reagent:
"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)

#M12059 06/04/14 SF — Stannous Chloride Reagent:
Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12060 6/11/14 JD Hydroxylamine hydrochloride Alpha Aesar lot# F12025

#M12061 6/11/14 JD Hydroxylamine hydrochloride sub. Hg. Dnto 100 ml vol flask dissolve 12g $NH_2OH \cdot HCl$ #M12060 Bring up to mark with DI H_2O.

#M12062 06/11/14 SF — Hg Working Stds: (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg
1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg
2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg
4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg
5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg
10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg

#M12063 06/11/14 SF — Hg Alt Source Working Std: (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg
1.0ml of 10mg/L into 100ml = 100ug/L Hg

#M12064 06/11/14 SF — Hg ICV / LCSW (0.2% HNO3, HCl)
3.0ml of 100ug/L Hg (#M12063) into 100ml = 3.0ug/L Hg

#M12065 06/11/14 SF — Hg CCV (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg

#M12066 06/11/14 SF — Hg MRL: (0.2% HNO3, HCl)
0.2ml of 100ug/L Hg (#M12063) into 100ml = 0.2ug/L Hg

#M12046 06/02/14 MMS — 6PPA 100/100 Soil Working Std: Into a 200mL vol. Flask, pipetted the following, and brought (1% HNO_3) exp. 08/15/15 the volume up using milli-Q H_2O.
1.2mL Sb 1000ug/mL (M11909) = 6,000ug/L Sb
3.2mL As 1000ug/mL (M11912) = 16,000ug/L As
3.2mL Se 1000ug/mL (M11911) = 16,000ug/L Se
0.08mL Pb 12000ug/mL (M11682) = 4000ug/L Pb
1.0mL Tl 1000ug/mL (M11997) = 5000ug/L Tl

#M12047 06/02/14 MMS — 6PPA 100/100 Soil Spiking Soln: Into a 1L vol. Flask, pipetted 10mL of #M12046 + brought (1% HNO_3) exp. 02/15/15 to volume using milli-Q H_2O

#M12048 06/02/14 MMS — 6PPA 100/100 Water working Std: Into a 100mL vol. Flask, pipetted the following + brought to (1% HNO_3) exp. 02/15/15 volume using milli-Q H_2O.
1.5mL Sb 1000ug/mL (M11909) = 15,000ug/L Sb
1.0mL As 1000ug/mL (M11912) = 10,000ug/L As
2.0mL Se 1000ug/mL (M11911) = 20,000ug/L Se
0.045mL Pb 10,000ug/mL (M11682) = 4500 ug/L Pb
0.4mL Tl 1000ug/mL (M11997) = 4000 ug/L Tl
0.1mL Ag 1000ug/mL (M11908) = 1000 ug/L Ag

#M12049 06/02/14 MMS — 6PPA 100/100 Water Spiking Soln: Into a 1L vol Flask, pipetted 10mL of #M12048 (1% HNO_3) exp 08/15/15 + brought to volume with milli-Q H_2O

#M12050 06/02/14 SF TCLP Extraction Fluid #1: Fill a 7oL carboy with 19L D.I. H_2O. Add 114mL Glacial Acetic Acid (AB579) and 128.6mL 10N NaOH (#M11955). Dilute to 7oL with D.I. H_2O and mix. pH = 4.93 ± 0.05
Exp: 06/02/15

#M12051 06/02/14 SF TCLP Extraction Fluid #1: Fill a 7oL carboy with 19L D.I. H_2O. Add 114mL Glacial Acetic Acid (AB579) and 128.6mL 10N NaOH (#M11955). Dilute to 7oL with D.I. H_2O and mix. pH = 4.93 ± 0.05
Exp: 06/02/15

#M12052 06/03/14 SF Potassium persulfate: 50g potassium persulfate (#M10987) dissolve into 1000mL D.I. H_2O
Exp: 12/03/14

#M12032 05/22/14 ISF — Hg Working Stds: (0.2% HNO3, HCl)

1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg
1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg
2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg
4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg
5.0ml of 100ug/L Hg into 100ml =5.0ug/L Hg
10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg

#M12033 05/22/14 ISF — Hg Alt Source Working Std: (0.2% HNO3, HCl)

1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg
1.0ml of 10mg/L into 100ml = 100ug/L Hg

#M12034 05/23/14 ISF — Hg ICV / LCSW (0.2% HNO3, HCl)

3.0ml of 100ug/L Hg (#M12033) into 100ml = 3.0ug/L Hg

#M12035 05/22/14 ISF — Hg CCV (0.2% HNO3, HCl)

1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg

#M12036 05/22/14 ISF — Hg MRL: (0.2% HNO3, HCl)

0.2ml of 100ug/L Hg (#M12033) into 100ml = 0.2ug/L Hg

#M12037 05/23/14 ISF — Hg Aqua Regia Reagent:

"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 564)

#M12038 05/23/14 ISF — Stannous Chloride Reagent:

Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11739) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12039 05-22-14 MMS — 6FAA Base STD (25ug/L) - Into a 1L vol Flask, pipetted 0.25mL of M11978 & brought to volume with milli-Q H_2O. ($1\%HNO_3$) exp 06/01/15

#M12040 05-22-14 MMS — 6FAA CCV (10ug/L) - Into a 1L vol Flask, pipetted 0.1mL of M11978 & brought to volume with milli-Q H_2O. ($1\%HNO_3$) exp 06/01/15

#M12041 05-22-14 MMS — 6FAA ICV (10ug/L) - Into a 1L vol Flask, pipetted 1.0mL of M11979 & brought to volume with milli-Q H_2O. ($1\%HNO_3$) exp 06/01/15

#M12042 05/28/14 ISF — Potassium Permanganate Soln: 50g potassium permanganate (#M11285) dissolve into 1,000mL of D.I. H_2O. Exp: 11/28/14

#M12043 05/28/14 ISF — NaCl Hydroxylamine Sulfate Reagent: Dissolve in 100g NaCl (#M11799) and 100g Hydroxylamine Sulfate (#M11798) in 500mL Milli-Q H_2O. Exp: 11/28/14

#M12044 06/02/14 MMS — 6FAA 100/100 Soil Ag Working Std: Into a 200mL vol Flask, pipetted 0.12 mL Ag 1000mg/L (M11908) & brought to volume using milli-Q H_2O to give me 600mg/L Ag. ($1\%HNO_3$) exp. 09/18/15

#M12045 06/02/14 MMS — 6FAA 100/100 Soil Spiking Soln: Into a 1L vol Flask, pipetted 10mL of #M12044 & brought to volume using milli-Q H_2O. ($1\%HNO_3$) exp 09/18/15

#M12020 5-19-14 Spex Centriprep Cesium Assurance Std exp 5/2015

#M12021 05/20/14SF	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M12022 05/20/14SF	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M12023 05/20/14SF	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M12022) into 100ml = 3.0ug/L Hg
#M12024 05/20/14SF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M12025 05/20/14SF	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M12022) into 100ml = 0.2ug/L Hg
#M12026 05/20/14SF	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M12027 05/20/14SF	Stanneus Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11477) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12028 5-20-14 Potassium Bromide Alfa Aesar Lot# 10175161 exp 5/15

#M12029 5-20-14 Potassium Bromate Alfa Aesar Lot# F27X076 exp 5/15

#M12030 5-21-14 create 500ml vol flask dissolve 2.78g $KBrO_3$ + 11.90g KBr bring up to mark with DI H_2O exp 3/15

~~#M12031SF 05/21/14SF Stannous Chloride (mercury) Lot# 00000~~

#M12031 5-23-14 Mercury stock soln 1.0ug/ml Teledyne Cetac Lot# 1358601 exp 4/15

#M12002 05/13/14 I5F Cadmium 1,000mg/L CPI Lot#14A402 Exp: 11/08/15

#M12003 05/13/14 I5F Titanium 1,000mg/L CPI Lot#13H001 Exp: 11/08/15

#M12004 05/13/14 I5F Nickel 1,000mg/L CPI Lot#14D214 Exp: 11/08/15

#M12005 05/13/14 I5F Zinc ~~1,000mg/L~~ 10,000 05/13/14 I5F mg/L CPI Lot#14A199 Exp: 11/08/15

#M12006 05/13/14 I5F Beryllium 1,000mg/L CPI Lot#14D241 Exp: 11/08/15

#M12007 05/13/14 I5F Silicon 1,000mg/L CPI Lot#13L019 Exp: 11/08/15

#M12008 05/13/14 I5F Molybdenum 1,000mg/L CPI Lot#14B183 Exp: 11/08/15

#M12009 05/13/14 I5F Vanadium 1,000mg/L CPI Lot#14A167 Exp: 11/08/15

#M12010 05/13/14 I5F Sodium 10,000mg/L CPI Lot#14B243 Exp: 11/08/15

#M12011 05/13/14 I5F Potassium 10,000mg/L CPI Lot#14C131 Exp: 11/08/15

#M12012 05/14/14 I5F Potassium permanganate soln: 50g Potassium permanganate (#M11285) dissolve into 1,000mL of D.I. H2O. Exp: 11/14/14

#M12013 05/14/14 I5F Hg Working Stds: (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg
1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg
2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg
4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg
5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg
10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg

#M12014 05/14/14 I5F Hg Alt Source Working Std: (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg
1.0ml of 10mg/L into 100ml = 100ug/L Hg

#M12015 05/14/14 I5F Hg ICV / LCSW (0.2% HNO3, HCl)
3.0ml of 100ug/L Hg (#M12014) into 100ml = 3.0ug/L Hg

#M12016 05/14/14 I5F Hg CCV (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg

#M12017 05/14/14 I5F Hg MRL: (0.2% HNO3, HCl)
0.2ml of 100ug/L Hg (#M12014) into 100ml = 0.2ug/L Hg

#M12018 05/14/14 I5F Hg Aqua Regia Reagent:
"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)

#M12019 05/14/14 I5F Stannous Chloride Reagent:
Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11~~739~~) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M 11986 05/08/14 I5F NaCl Hydroxylamine Sulfate Reagent: Dissolve into 1 Liter NaCl (#M11991) and 1 Liter Hydroxylamine Sulfate (#M11998) in 500mL Milli-Q H2O.

Exp: 11/08/14

#M11987 05/09/14 I5F	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M11988 05/09/14 I5F	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M11989 05/09/14 I5F	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M 11988) into 100ml = 3.0ug/L Hg
#M11990 05/09/14 I5F	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M11991 05/09/14 I5F	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M 11988) into 100ml = 0.2ug/L Hg
#M11992 05/09/14 I5F	Hg Aqua Regia Reagent	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M11993 05/09/14 I5F	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11999) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M11994 05/12/14 I3F Ilp Extraction Fluid #1: Fill a 7L carboy w/ 1 1/2 L D.I. H2O. Add 114mL Glacial Acetic Acid (AB.579) and 128.6mL 10.N NaOH (#M11995). Dilute to 7L with D.I. H2O and mix. pH = 4.93 ± 0.05

Exp: 05/11/15

#M11995 05/13/14 I5F Stannous Chloride (Macron) lot #0000076357 Exp: 02/14/15

#M11996 05/13/14 I5F Tin 1,000 mg/L CPI lot# 13H1338 Exp: 11/08/15

#M11997 05/13/14 I5F Thallium 1,000 mg/L CPI lot# 13I105 Exp: 11/08/15

#M11998 05/13/14 I5F Lithium 1,000 mg/L CPI lot# 14E049 Exp: 11/08/15

#M11999 05/13/14 I5F Strontium 1,000 mg/L CPI lot# 14C002 Exp: 11/08/15

#M12000 05/13/14 I5F Cobalt 1,000 mg/L CPI lot# 14D005 Exp: 11/08/15

#M12001 05/13/14 I3F Tungsten 1,000 mg/L CPI lot# 13H199 Exp: 11/08/15

M11980 05-06-14 GFAA Base STD (25ug/L) - Into a 1L vol. Flask, pipetted 0.25mL of M11978 + brought to volume with milli-Q H_2O. ($1\%HNO_3$) exp. 06/01/15
7H65

M11981 05-06-14 GFAA CCV (10ug/L) - Into a 1L vol. Flask, pipetted 0.1mL of M11978 + brought to volume with milli-Q H_2O. ($1\%HNO_3$) exp. 06/01/14
7H05

M11982 05-06-14 GFAA ICV (10ug/L) - Into a 1L vol Flask, pipetted 1.0mL of M11979 + brought to volume with milli-Q H_2O ($1\%HNO_3$) exp 06/01/15
7H05

EH M11983 5-7-14
2D
Stock MRL
5% HCL
5% HNO3

Spiking Solution calc
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	(ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
Ag	20	m11908	1000	1
Al	400	m11914	10000	2
Ba	10	m11768	1000	0.5
Be	4	m11239	1000	0.2
Cd	5	m11242	1000	0.25
Co	10	m11355	1000	0.5
Cr	10	m11767	10000	0.05
Cu	10	m11764	10000	0.05
Mg	500	m11976	10000	2.5
Mn	10	m11829	10000	0.05
Mo	10	m11357	1000	0.5
Ni	10	m11358	1000	0.5
Pb	10	m11882	10000	0.05
Sb	20	m11909	1000	1
V	10	m11241	1000	0.5
Zn	10	m11240	10000	0.05
K	1000	m11765	10000	5
Na	1000	m11366	10000	5
As	20	m11912	1000	1
Ca	500	m11910	10000	2.5
Fe	300	m11915	10000	1.5
Sc	20	m11911	1000	1
Ti	20	m11361	1000	1
Si	100	m11919	1000	5
B	20	m11763	1000	1
Li	20	m11362	1000	1
W	50	m11626	1000	2.5
Tl	10	m11364	1000	0.5
Sr	10	m11369	1000	0.5
Sn	50	?	1000	2.5
S	100	m11879	10000	0.5

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

ex 6/14

M11984 5-7-14 2A working MRL Into 500 ml Vol flask pipet 10 mls #M11983. Bring up to Mark with DI H_2O. ex 6/14
5% HCL
5% HNO3

M11985 5-7-14 2A LL ICV Into 500 ml Vol flask pipet 30 mls #M11983. Bring up to mark with DI H_2O. ex 6/14
5% HCL
5% HNO3

#M11967 04/30/14 MF — Hg Aqua Regia Reagent: "Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)

#M11968 04/30/14 MF — Stannous Chloride Reagent: Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M [illegible]) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M11969 05-02-14 MMS — GFAA Base STD (25ug/L)(NbAg) - Into a 1L volumetric flask, pipetted 0.25mL of M11752 + brought to volume with milli-Q H_2O.
exp. 11-30-14, (1% HNO_3)

#M11970 05-02-14 MMS — GFAA CCV (10ug/L)(NbAg) - Into a 1L vol. Flask, pipetted 0.10mL M11752 + brought to volume with milli-Q H_2O.
exp. 11-30-14 (1% HNO_3)

#M11971 05-02-14 MMS — GFAA ICV (10ug/L [Pb,Sb] 40ug/L Al,Se,Tl + 1ug/L [Ag]) - Into a 1L vol. Flask, pipetted 0.2mL M11827 + brought to volume with milli-Q H_2O.
exp. 01-30-15 (1% HNO_3)

#M11972 05-02-14 MMS — GFAA ICV (40ug/L Al,Se,Tl) - Into a 100mL vol. Flask, pipetted 25.0mL M11971 + brought to volume with milli-Q H_2O.
exp. 01-30-15 (1% HNO_3)

#M11973 05-05-14 MMS — GFAA Mixed STD (100ug/L) - Into a 250mL vol. flask, pipetted 1.0mL of the M11361, M11911, M11912, M11708, + M11909 + brought to volume with milli-Q H_2O. (2% HNO_3) exp. 08/20/14 MMS 5-05-14

#M11974 05-05-14 MMS — GFAA Base STD (25ug/L) - Into a 1L vol. Flask, pipetted 2.5mL of M11973 + brought to volume with milli-Q H_2O. (1% HNO_3) exp. 08/20/14

#M11975 05-05-14 MMS — GFAA CCV (10ug/L) - Into a 1L vol. Flask, pipetted 1.0mL M11973 + brought to volume with milli-Q H_2O (1% HNO_3) exp. 08/20/14

#M11976 5-6-14 2x — Mg 10,000 mg/L CPI International Lot # 14A231 exp 11/15

#M11977 5-6-14 2x — 5% HCl, 5% HNO_3 — Initial Calibration Standard (ICV)
Into one liter volumetric flask pipet 10 mls of M11827 (ex 1/15),
2.0 mls of #m11776 (ex 12/14) and 0.5 mls #M11357 Mo (ex 08/14) and 0.5 mls of #M11763 B (ex 5/15), 0.5 #m11360 Sr (ex 8/14), 0.5 #m11362 mls Li (ex 8/14), 0.5 mls sn # m11359 (ex 8/14), 0.5 mls ti #m11364 (ex 8/14) and bring up to mark with DI H_2O

#M11978 05-06-14 MMS — Custom Solution Inorganic Ventures Lot# H2-MEB527024 exp. 06/01/15

#M11979 05-06-14 MMS — Custom Solution Inorganic Ventures Lot# H2-MEB527023 exp 06/01/15

ICAP Working Standards
HNO3 5%HCL

Pipet the following respectively:

0.25	0.25 mls of standard 1000 ug/L into 1000 ml volumetric flask = 0.25 ug/L std
0.5	0.50 mls of standard 1000 ug/L into 1000ml volumentric flask= 0.50 ug/L std
1	1.0 mls of standard 1000ug/L into 1000 ml volumentric flask =1.00 ug/L std
5	5.0 mls of standard 1000ug/L into 1000 ml volumentric flask =5.00 ug/L std
10	10.0 mls of standard 1000ug/L into 1000 ml volumentric flask =10.0 ug/L std
20	20.0 mls of standard 1000ug/L into 1000 ml volumentric flask =20.0 ug/L std
50	50.0 mls of standard 1000ug/L into 1000 ml volumentric flask =50.0 ug/L std
100	1.0 mls of #M11752(ex 11/14) and 1.0 mls of #M11585 (ex 07/14) into 1000 ml volumetric flask= 100 ug/L std
1000	10.0 mls of #M11752(ex 11/14) and #M11585 (ex 07/14) and 1 mL of #M11356 Si into 1000 ml volumetric flask= 1000 ug/L std
10,000	100 mls #M11752 (ex 11/14),100 mls #M11585 (ex 07/14),
100K	10 mls of #M11764 Cu (ex 5/15) , 10 mls of #M11829 Mn (ex 7/15) , 10 mls of #M11767 Cr (ex 5/15), 10 mls #M11682 Pb (ex 2-15), 10 mls zn #M11240(ex 6-14), 10 mls #M11305 Na (ex 8/14), ~~10 mls #M11910 K (ex 9/15)~~ = 100,000 ug/L
100,000	10 mls of #M11771 Mg (ex 5/15) , 10 mls of #M11724 Fe (ex 4/15) ,10 mls of #M11766 Ca (ex 5/15),10 mls #M11769 AL (ex 5/15) , into 1000 ml vol flask = 100,000 ug/l std
500,000	50 mls of #M1171 Mg (ex 5/15) , 50 mls of #M11724 Fe (ex 4/15) ,50 mls of #M11766 Ca (ex 5/15), 50 mls #M11769 AL (ex 5/15) into 1000 ml vol flask = 500,000 ug/l std
1000K	100 mls of #M11771 Mg (ex 5/15) , 100 mls of #M11724 Fe (ex 4/15) ,100 mls of #M11766 Ca (ex 5/15),100 mls #M11769 AL (ex 5/15) into 1000 ml vol flask = 1,000,000 ug/l std

Bring the 1000 ml volumetric up to mark with DI H2O

ex 6/14

#M11960
4-29-14 ICV B, Si: into 500 ml vol flask pipet 25mls M11752 & 2.5mls M11919 bring up to mark with DI H_2O ex 11/14
JH

#M11961 ICSAB B, Si: into 500 ml vol flask pipet 0.25mls of #M11356 + #M11763 Bring up to mark w/ DI H_2O. ex 8/14
4-29-14 +50mls #M11776
+ 25mls #M11724
#2 4-29-14

#M11962 04/30/14SF	Hg Working Stds (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg into 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M11963 04/30/14SF	Hg All Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M11964 04/30/14SF	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M11963) into 100ml = 3.0ug/L Hg
#M11965 04/30/14SF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M11966 04/30/14SF	Hg MRL (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M11963) into 100ml = 0.2ug/L Hg

68 4-30-14

#M11946 04/21/14 ISF — Hg Aqua Regia Reagent: "Carefully" in hood, mix 3 parts HCl (AB: 553) with 1 part HNO3 (AB: 564)

#M11947 04/21/14 ISF — Stannous Chloride Reagent: Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11990) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M11948 04/28/14 ISF — potassium permanganate Sol'n: 50g potassium permanganate (#M11285) dissolve into 1000ml of D.I. H2O. Exp: 10/21/14

#M11949 4/22/14 — Yttrium 10,000 — Environmental Express lot # 140150 I ox 10/15

#M11950 MS 04/22/14 — GFAA Base STD (25mg/L) (1% HNO3) — Into a 1L vol. flask, pipetted 0.25mL of #M11930 + bring to volume with milli-Q H2O. Exp 05/04/14

#M11951 MS 04/22/14 — GFAA CCV STD (10mg/L) (1% HNO3) — Into a 1L vol flask, pipetted 0.10 mL of #M11930 + brought to volume with milli-Q H2O. Exp 05/04/14

#M11952 MS 04/22/14 — GFAA ICV (all source, 10mg/L) (1% HNO3) — Into a 1L vol. Flask, pipetted 1.0mL # M11931 + brought to volume with milli-Q H2O. Exp 05/14 + 05/04/14

#M11953 D 4-24-14 — Custom Assurance Std — 100mg/L — Spex certiprep (lot # 16-YNMWL) ox April 30 2015.

#M11954 ISF 04/25/14 ISF — 1N HCl for TCLP: Into a 1L Vol. flask partially filled with Milli-Q H2O add 83 ml of Conc. HCl (AB: 583) and bring up to volume with Milli-Q H2O. Exp 04/25/15

#M11955 ISF 04/29/14 ISF — 10 N NaOH: Into a 1L flask, add 400g NaOH (#M11145) and bring up to volume with D.I. H2O. Exp 10/29/14

#M11956 ISF 04/28/14 ISF — TCLP Extraction Fluid #1: Fill a 20L carboy with 19 Liters of D.I. H2O. Add 114 ml Glacial Acetic Acid (AB: 579) and 128.6 ml 10N NaOH (#M11839). Dilute to 20L with D.I. H2O and mix. pH = 4.93 ± 0.05 Exp 04/29/15

#M11957 ISF 04/28/14 ISF — TCLP Extraction Fluid #1: Fill a 20L carboy with 19 Liters of D.I. H2O. Add 114 ml Glacial acetic Acid (AB: 579) and 128.6 ml 10N NaOH (#M11839). Dilute to 20L with D.I. H2O and mix. pH = 4.93 ± 0.05 Exp 04/29/15

#M11958 4-29-14 JD — CCV 3 — add to 1000 ml vol flask pipet 10mL #M11752 10mL #M11585 bring up to mark with DI H2O ex 7/14.

[illegible]	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M11931) into 100ml = 3.0ug/L Hg
[illegible]	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
[illegible]	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M 11931) into 100ml = 0.2ug/L Hg
[illegible]	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
[illegible]	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11930) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M11937 [illegible] (1% HNO3) — GFAA working Stds:
- 0.05mL of M11931 (GFAA multi spike) into 100mL = 5ug/L As,Pb,Se,Tl,Sb + 0.75ug/L Hg
- 0.10 mL of M11931 into 100mL = 10ug/L As,Pb,Se,Tl,Sb + 1.5ug/L Hg
- 0.15mL of M11931 into 100mL = 15ug/L As,Pb,Se,Tl,Sb + 2.25ug/L Hg
- 0.20 mL of M11931 into 100mL = 20ug/L As,Pb,Se,Tl,Sb + 3.0 ug/L Hg
- 0.25mL of M11931 into 100mL = 25ug/L As,Pb,Se,Tl,Sb + 3.75ug/L Hg
- 0.50 mL of M11931 into 100mL = 50 ug/L As,Pb,Se,Tl,Sb + 7.5ug/L Hg

#M11938 [illegible] (GFAA ICV (5ug/L) (1% HNO3)) — 0.10mL of M11931 into 100mL of 1% HNO3 = 10ug/L As,Pb,Se,Tl,Sb + 1.5ug/L Hg

#M11939 [illegible] (GFAA ICV (all Source, 10ug/L) (1% HNO3)) — 0.1mL of M11930 (200ug/L As,Pb,Se,Tl,Sb + 30ug/L Hg) into a 1L volumetric flask + brought to volume with 1% HNO3

#M11940 04/15/15SF TCLP Extraction Fluid #1: Fill a 2qt carboy w/1.9L D.I. H2O. Add 11.4mL Glacial Acetic Acid (AB:579) and 128.6mL 1.0 N NaOH (#M11939). Dilute to 2qt with D.I. H2O. pH= 4.93 ± 0.05
Exp: 04/15/15

#M11941 04/20/15SF	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg into 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M11942 04/20/15SF	Hg Alt Source Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9083) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M11943 04/20/15SF	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M 11942) into 100ml = 3.0ug/L Hg
#M11944 04/20/15SF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M11945 04/20/15SF	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M 11942) into 100ml = 0.2ug/L Hg

#M11917 5 ICV(QC) ext 100 ml vol flask pipet from M11679 conc = 100,000 ug/L
4-1-14 = 100,000 ug/L S ox 5/15

#M11918 04/02/14/SF Potassium Permanganate soln: 50g potassium permanganate (#M11285) dissolve into 1 gal of D.I. H2O.
Exp 10/02/14 04/02/14/SF

M11919 4-2-14 Si 1000 mg/L Std Fisher Lot # 141902 ox 3/16

M11920 4-2-14 Amco Clear Turbidity Std 20 nts ox
Lot # C467460 ox 3/15

#M11921 04/03/14/SF Potassium persulfate: 50g potassium persulfate (#M10987) dissolve into
Exp 10/03/14 04/03/14/SF 1000 ml of D.I. H2O.

#M11922 04/04/14/SF Hg Working Stds: (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg
1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg
2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg
4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg
5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg
10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg

#M11923 04/04/14/SF Hg Alt Source Working Std: (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg
1.0ml of 10mg/L into 100ml = 100ug/L Hg

#M11924 04/04/14/SF Hg ICV / LCSW (0.2% HNO3, HCl)
3.0ml of 100ug/L Hg (#M11925) into 100ml = 3.0ug/L Hg

#M11925 04/04/14/SF Hg CCV (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg

#M11926 04/04/14/SF Hg MRL: (0.2% HNO3, HCl)
0.2ml of 100ug/L Hg (#M 11923) into 100ml = 0.2ug/L Hg

#M11927 04/04/14/SF Hg Aqua Regia Reagent
"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554).

#M11928 04/04/14/SF Stannous Chloride Reagent
into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11770) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M11929 04/04/14/SF 2 NaCl Hydroxylamine Sulfate Reagent: Dissolve into 600 ml (#M11999) water (A)
Exp 10/04/14 hydroxylamine Sulfate (#M11998) in 500 ml (A)

#M11930 04/04/14/SF Hg Working Stds: (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg
1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg
2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg
4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg
5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg
10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg

#M11931 04/04/14/SF Hg Alt Source Working Std: (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg
1.0ml of 10mg/L into 100ml = 100ug/L Hg

	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10583) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg into 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M11901 03/25/14SF	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M11902 03/25/14SF	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M11901) into 100ml = 3.0ug/L Hg
#M11903 03/25/14SF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10583) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M11904 03/25/14SF	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M11901) into 100ml = 0.2ug/L Hg
#M11905 03/25/14SF	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M11906 03/25/14SF	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11780) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water

#M11907 03/27/14SF TCLP Extraction Fluid #1: Fill a 2gl carboy with 1.9L D.I. H2O. Add 11.4mL Glacial Acetic Acid (AB: 571) and 128.6mL 1N NaOH (#M11877). Dilute to 2gL with D.I. H2O. pH = 4.93 ± 0.05 Exp: 03/27/15

#M11908 04/01/14SF Silver 1,000 mg/L CPI Lot # 133247 Exp: 09/18/15

#M11909 04/01/14SF Antimony 1,000 mg/L CPI Lot# 13F111 Exp: 09/18/15

#M11910 04/01/14SF Calcium 10,000 mg/L CPI Lot# 133146 Exp: 09/18/15

#M11911 04/01/14SF Selenium 1,000 mg/L CPI Lot# 133044 Exp: 09/18/15

#M11912 04/01/14SF Arsenic 1,000 mg/L CPI Lot# 143013 Exp: 09/18/15

#M11913 04/01/14SF Silver 10,000 mg/L CPI Lot# 10F168 Exp: 09/18/15

#M11914 04/01/14SF Aluminum 10,000 mg/L CPI Lot# 14A005 Exp: 09/18/15

#M11915 04/01/14 SF Iron 10,000 mg/L CPI Lot# 14B014 Exp: 09/18/15

#M11916 4/1/14 S working Stds. made 4 100 ml vol flasks, pipet respectively from #M11828 S 10,000 mg/L
0.01 mL → = 1000 ug/L S, 0.1 mL → = 10,000 ug/L S
1.0 mL → = 100,000 ug/L S, 1.0 mL → = 1000 K ug/L S brought to mark with DI H2O. Exp 1/15

M11891 3-7-14 2L
1% HNO3
2% HCl

9050 LOQ Setting Solution
Base SPIKE PREPARATION 50x

Into a 1000 ml Volumetric Flask, pipet the following

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
Ag	4	M11760	1000	0.2
Al	98	M11789	10000	0.049
As	32	M11779	1000	1.6
Ba	2	M13788	1000	0.1
Be	1.6	M11239	1000	0.08
Ca	58	M11756	10000	0.29
Cd	1.8	M11242	1000	0.09
Co	9.5	M11365	1000	0.48
Cr	5.6	M11782	10000	0.028
Cu	16	M11784	10000	0.08
Fe	72	M11723	10000	0.36
Mg	32	M11771	10000	0.16
Mn	6	M11829	10000	0.03
Mo	9.6	M11357	1000	0.48
Ni	4.8	M11358	1000	0.24
Pb	10	M11208	10000	0.05
Sb	32	M11172	1000	1.6
Se	16	M11173	1000	0.8
Tl	19	M11361	1000	0.95
V	3.2	M11241	1000	0.16
Zn	12	M11240	10000	0.06

Of this Spike solution, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expires: 14-Apr

Hg Working Stds: (0.2% HNO3, HCl)
#M11892 03/07/14 5F
1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg
1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg
2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg
4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg
5.0ml of 100ug/L Hg into 100ml = 5.0ug/L Hg
10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg

Hg Alt Source Working Std: (0.2% HNO3, HCl)
#M11893 03/07/14 5F
1.0ml of 1000mg/L Hg (#M9083) into 100ml = 10mg/L Hg
1.0ml of 10mg/L into 100ml = 100ug/L Hg

Hg ICV / LCSW (0.2% HNO3, HCl)
#M11894 03/07/14 5F
3.0ml of 100ug/L Hg (#M) into 100ml = 3.0ug/L Hg

Hg CCV (0.2% HNO3, HCl)
#M11895 03/07/14 5F
1.0ml of 1000mg/L Hg (#M10563) into 100ml= 10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg

Hg MRL (0.2% HNO3, HCl)
#M11896 03/07/14 5F
0.2ml of 100ug/L Hg (#M) into 100ml = 0.2ug/L Hg

Hg Aqua Regia Reagent:
#M11897 03/07/14 5F
"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)

Stannous Chloride Reagent:
#M11898 03/05/14 5F
Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M11899 03/07/14 5F TCLP Extraction Fluid #1: Exp: 03/07/15
Acetic Acid (AB: 539) and 128.6mL KOH (AB: 1
Dilute to 2L with DI H2O. pH = 4.93 ± 0.05

5 mL Hydroxylamine Sulfate Reagent: Dissolve into 100 mL ((#M11788) Fisher)
100g hydroxylamine sulfate (#M11788) into 500mL
Exp: 09/03/14 Milli-q H2O

M11788 1 Kg KF Potassium Permanganate Soln: 50g potassium permanganate (#M11785)
Exp: 09/03/14 dissolve into 1,000mL of DI H2O

M11889 3-7-14
20
1% HCl
1% HNO3

3010 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
Ag	4	M11760	1000	0.2
Al	38	M11758	10000	0.19
As	24	M11770	1000	1.2
Au	1.8	M11768	1000	0.09
Be	0.6	M11239	1000	0.03
Ca	100	M11786	10000	0.5
Cd	2	M11342	1000	0.1
Co	4	M11355	1000	0.2
Cr	4	M11767	10000	0.02
Cu	7	M11764	10000	0.035
Fe	100	M11783	10000	0.5
Mg	40	M11771	10000	0.2
Mn	4	M11529	10000	0.02
Mo	7	M11357	1000	0.35
Na	6	M11358	1000	0.3
Pb	4	M11708	10000	0.02
Sb	12	M11372	1000	0.6
Se	13	M11371	1000	0.65
Tl	16	M11381	1000	0.75
V	5	M11241	1000	0.25
Zn	10	M11240	10000	0.05

Of this base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expires: 14-Apr

M11889 3-7-14
1% HCl 20
1% HNO3

3010 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
Li	10	M11362	1000	0.5
Sn	90	M11359	1000	0.5
Sr	2	M11360	1000	0.1
Ti	8	M11364	1000	0.4
W	36	M11825	1000	1.8

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard

Expires: 14-Apr

M11890 3-7-14
1% HCl 20
1% HNO3

3050 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
Li	14.4	M11362	1000	0.72
Sn	20	M11359	1000	1
Sr	3.2	M11360	1000	0.16
Ti	0.8	M11364	1000	0.04
W	24	M11825	1000	1.2

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard

stock

#M11881 3-3-14 MRL Std

2

Spiking Solin

Spiking Solution calc
Base SPIKE PREPARATION 50+

Into a 1000 mL Volumetric Flask, pipet the following

Analyte	(ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
Ag	20	m11765	1000	1
Al	400	m11769	10000	2
As	50	m11783	1000	0.5
Be	4	m11239	1000	0.2
Cd	5	m11942	1000	0.25
Co	10	m11365	1000	0.5
Cr	10	m11767	10000	0.05
Cu	10	m11764	10000	0.05
Mg	500	m11771	10000	2.5
Mn	10	m11028	10000	0.05
Mo	10	m11357	1000	0.5
Ni	10	m11356	1000	0.5
Pb	10	m11708	1000	0.5
Sb	20	m11772	1000	1
V	10	m11241	1000	0.5
Zn	10	m11240	10000	0.05
K	5000	m11765	10000	5
Na	5000	m11366	10000	5
Ag	20	m11873	1000	1
Ca	500	m11788	10000	2.5
Fe	300	m11723	10000	1.5
Se	20	m11879	10000	0.1
Tl	20	m11383	1000	1
Sn	100	m11358	1000	5
B	20	m11763	1000	1
Li	20	m11382	1000	1
W	50	m11826	1000	2.5
Ti	10	m11364	1000	0.5
Sr	10	m11360	1000	0.5
Ba	50	m11359	1000	2.5
S	100	m11828	1000	5

Of Lvls Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard

#m11882 3-3-14 mrl working Std:
2% HCl
2% HNO3
Into 500 ml vol flask pipet 10 mls of #M11881 Bring up to mark w/ DI H2O.

#M11883 3-3-14 ICV Lt Std Into 500 ml vol flask pipet 30 mls of #M11881 (MRL stock std) Bring up to mark w/ DI H2O
1% HNO3
2% HCl

#M11884 3-3-14 ICSA Into 500 ml vol flask pipet 50 mls #M11881 + 15 mls #M11724 bring up to mark w/ DI H2O
10% HCl
1% HNO3

#M11885 3-3-14 ICSAB Into 500 ml vol flask pipet 50 mls #M11881 + 15 mls #M11724 + 25 mls #M11752 + 25 mls #M11585 bring up to mark with DI H2O
10% HCl
1% HNO3

Hg MRL: (0.2% HNO3, HCl) — 0.2ml of 10ug/L Hg (#M11871) into 100ml = 0.2ug/L Hg

Hg Aqua Regia Reagent: "Carefully" in hood, mix 3 parts HCl (AB; 553) with 1part HNO3 (AB; 554)

Stannous Chloride Reagent: Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11770) in 70 mL HCl (AB; 553). Bring up to volume with D.I. Water.

ICAP Working Standards
HNO3 5%HCL

Standard Value	Pipet the following respectively
0.25	0.25 mls of standard 100 ug/L into 1000 ml volumetric flask = 0.25 ug/L std
0.5	0.50 mls of standard 100 ug/L into 1000ml volumetric flask= 0.50 ug/L std
1	1.0 mls of standard 100 ug/L into 1000 ml volumetric flask =1.00 ug/L std
5	5.0 mls of standard 100 ug/L into 1000 ml volumetric flask =5.00 ug/L std
10	10.0 mls of standard 100 ug/L into 1000 ml volumetric flask =10.0 ug/L std
20	20.0 mls of standard 100 ug/L into 1000 ml volumetric flask =20.0 ug/L std
50	50.0 mls of standard 100 ug/L into 1000 ml volumetric flask =50.0 ug/L std
100	1.0 mls of #M11752(ex 11/14) and 1.0 mls of #M11585 (ex 07/14) into 1000 ml volumetric flask= 100 ug/L std
1000	10.0 mls of #M11752(ex 11/14) and #M11585 (ex 07/14) and 1 mL of #M11356 Se into 1000 ml volumetric flask= 1000 ug/L std
10,000	100 mls #M11752 (ex 11/14),100 mls #M11585 (ex 07/14).
100k	10 mls of #M11764 Cu (ex 5/15) , 10 mls of #M11829 Mn (ex 7/15) , 10 mls of #M11767 Cr (ex 5/15), 10 mls #M11682 Pb (ex 2-15), 10 mls zn #M11240(ex 6-14), 10 mls #M11366 Ni (ex 8/14),10 mls #M11173 As (ex 4/14)= 100,000 ug/L
100,000	10 mls of #M11771 Mg (ex 5/15) , 10 mls of #M11724 Fe (ex 4/15) ,10 mls of #M11766 Ca (ex 5/15),10 mls #M11769 AL (ex 5/15) , into 1000 ml vol flask = 100,000 ug/l std
500,000	50 mls of #M1171 Mg (ex 5/15) , 50 mls of #M11724 Fe (ex 4/15) ,50 mls of #M11766 Ca (ex 5/15), 50 mls #M11769 AL (ex 5/15) into 1000 ml vol flask = 500,000 ug/l std
1000k	100 mls of #M11771 Mg (ex 5/15) , 100 mls of #M11724 Fe (ex 4/15) ,100 mls of #M11766 Ca (ex 5/15),100 mls #M11769 AL (ex 5/15) into 1000 ml vol flask = 1,000,000 ug/l std
	Bring the 1000 ml volumetric up to mark with DI H2O

ex 4/14

#M11878 Continuing Calibration Standard 1(CCV1)
3-8-14
2 2

Into a one liter volmetric flask pipet 50mls of # M11752 (ex 11/14)
and 5 ml of #M11585 (ex 07/14).
ex. 07/14
Bring up to mark with DI H2O

11879 Continuing Calibration Standard 2(CCV2)
3-8-14
3

Into a one liter volmetric flask pipet 5 mls of # M11752 (ex 11/14)
and 0.5 ml of #M11585 (ex 07/14)
ex. 7/14
Bring up to mark with DI H2O

11880 Initial Calibration Standard (ICV)
3-3-14
2

Into one liter volumetric flask pipet 10 mls of M11827 (ex 1/15)
2.0 mls of #m11776 (ex 12/14) and 0.5 mls #M11357 Mo (ex 08/14) and 0.5 mls
of #M11763 B (ex 5/15), 0.5 #m11360 Sr (ex 8/14), 0.5 #m11362 mls, Li (ex 8/14) and bring up to mark with DI H2O

#1 2 4-14-14

#M11860 02/19/15F TCLP Extraction Fluid #1: Fill a 2qt carboy w/1qt D.I. H2O. Add 114ml Glacial Acetic Acid (AB:579) and 128.6ml 10N NaOH (#M11859). Dilute to 2qt with D.I. H2O. pH= 4.93 ± 0.05

Exp: 02/19/15

#M11861 02/02/15F TCLP Extraction Fluid #1: Fill a 2qt carboy w/1qt D.I. H2O. Add 114ml Glacial Acetic Acid (AB:579) and 128.6ml 10N NaOH (#M11859). Dilute to 2qt with D.I. H2O. pH= 4.93 ± 0.05

#M11862 02/24/15F — Hg Working Stds (0.2% HNO3, HCl)

1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg
1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg
2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg
4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg
5.0ml of 100ug/L Hg into 100ml =5.0ug/L Hg
10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg

#M11863 02/24/15F — Hg Alt Source Working Std: (0.2% HNO3, HCl)

1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg
1.0ml of 10mg/L into 100ml = 100ug/L Hg

#M11864 02/24/15F — Hg ICV / LCSW (0.2% HNO3, HCl)

3.0ml of 100ug/L Hg (#M11863) into 100ml = 3.0ug/L Hg

#M11865 02/24/15F — Hg CCV (0.2% HNO3, HCl)

1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg

#M11866 02/24/15F — Hg MRL: (0.2% HNO3, HCl)

0.2ml of 100ug/L Hg (#M11863) into 100ml = 0.2ug/L Hg

#M11867 02/24/15F — Hg Aqua Regia Reagent:

"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)

#M11868 02/24/15F — Stannous Chloride Reagent

Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11868) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M11869 2-24-15 Spike Hg prep 1000 ug/L

#M11870 03/06/15F — Hg Working Stds: (0.2% HNO3, HCl)

1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg.
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg
1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg
2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg
4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg
5.0ml of 100ug/L Hg into 100ml =5.0ug/L Hg
10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg

#M11871 03/06/15F — Hg Alt Source Working Std: (0.2% HNO3, HCl)

1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg
1.0ml of 10mg/L into 100ml = 100ug/L Hg

#M11872 03/06/15F — Hg ICV / LCSW (0.2% HNO3, HCl)

3.0ml of 100ug/L Hg (#M11871) into 100ml = 3.0ug/L Hg

#M11873 03/06/15F — Hg CCV (0.2% HNO3, HCl)

1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg

2-14-14: 2 Plasma Pure Tubidyne Lumen Lab Loamy Sand 4 Lot# A208C9 Exp. none

#M11845	02-11-14 JMS	Hg Working Stds: (0.2% HNO_3, HCl)	1.0mL of 1000mg/L Hg (#M10563) into 100mL = 10mg/L Hg 1.0mL of 10mg/L Hg into 100mL = 100ug/L Hg 0.5mL of 100ug/L Hg into 100mL = 0.5ug/L Hg 1.0mL of 100ug/L Hg into 100mL = 1.0ug/L Hg 2.0mL of 100ug/L Hg into 100mL = 2.0ug/L Hg 4.0mL of 100ug/L Hg into 100mL = 4.0ug/L Hg 10.0mL of 100ug/L Hg into 100mL = 10.0 ug/L Hg 12.5mL of 100ug/L Hg into 25mL = 50.0ug/L Hg
#M11846	02-11-14 JMS	Hg Alt Source Working Std: (0.2% HNO_3, HCl)	1.0mL of 1000ug/mL Hg (#M11845) into 10mL = 100ug/mL = 100g/L 0.1mL of 10mg/L Hg into 10mL = 100ug/L Hg
#M11847	02-11-14 JMS	Hg ICV/LCSW: (0.2% HNO_3, HCl)	6.0mL of 100ug/L Hg (#M11846) into 200mL = 3.0ug/L Hg
#M11850	02-11-14 JMS	Hg CCV: (0.2% HNO_3, HCl)	1.0mL of 1000mg/L Hg (#M11709) into 100mL = 10mg/L Hg 1.0mL of 10mg/L Hg into 100mL = 100ug/L Hg 6.0mL of 100ug/L Hg into 200mL = 3.0ug/L Hg
#M11851	02-11-14 JMS	Hg MRL: (0.2% HNO_3, HCl)	0.2mL of 100ug/L (#M11846) into 100mL = 0.2 ug/L Hg

#M11852 2-14-14 Sodium hydroxide Fisher Lot# 137159 Exp 2-14-15

#M11853 02/14/14SF	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg into 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M11854 02/14/14SF	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M11855 02/14/14SF	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M11854) into 100ml = 3.0ug/L Hg
#M11856 02/14/14SF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M11857 02/14/14SF	Hg MRL (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M11854) into 100ml = 0.2ug/L Hg
#M11858 02/14/14SF	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554).
#M11859 02/14/14SF	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M1390) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M11831 01-27-14 mrs 6%HA Nickel Nitrate Matrix Modifier Lot # 5308166E Alpha Resar

#M11832 01-27-14 mrs — Hg Working Stds: (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg
1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg
2.0ml of 100ug/L Hg into 100ml = 2 (ug/L Hg
4.0ml of 100ug/L Hg into 100ml = 4 0ug/L Hg
5.0ml of 100ug/L Hg into 100ml =5.0ug/L Hg
10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg

#M11833 01-27-14 mrs — Hg Alt Source Working Stds: (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M9083) into 100ml = 10mg/L Hg
1.0ml of 10mg/L into 100ml = 100ug/L Hg

#M11834 01-27-14 mrs — Hg ICV / LCSW (0.2% HNO3, HCl)
3.0ml of 100ug/L Hg (#M 11833) into 100ml = 3.0ug/L Hg

#M11835 01-27-14 mrs — Hg CCV (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg

#M11836 01-27-14 mrs — Hg MRL: (0.2% HNO3, HCl)
0.2ml of 10ug/L Hg (#M 11833) into 100ml = 0.2ug/L Hg

#M11837 01-27-14 mrs — Hg Aqua Regia Reagent:
"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)

#M11838 01-27-14 mrs — Stannous Chloride Reagent:
Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M 11839) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M11839 02-05-14 mrs — 10% Mont- Into a 1L flask, add 100g MgSO4 (M1105) + bring to volume w/ DI

#M11840 02-05-14 mrs — TCLP Extraction Fluid #1: Exp 02/06/15
Fill a 20L carboy w/ 18L DI water. Add 114mL Glacial Acetic acid (AA534) and 128mL 10N NaOH (M11837). Dilute to 20L with DI water. pH 4.93±0.05

#M11841 02/06/14 SF — TCLP Extraction Fluid #2: Exp 02/06/15
Fill a 20L carboy with 18L D.I. H2O. Add 114mL Glacial Acetic Acid (AA534) and 128mL 10N NaOH (#M11837). Dilute to 20L with D.I. H2O. pH 4.93±0.05

#M11842 02/06/14 SF — Potassium permanganate Soln: Exp: 08/06/14
50g potassium permanganate (#M11385) dissolve into 1,000mL of D.I. H2O.

#M11843 01-06-14 mrs — 1% 98 Matrix Modifier (6%HA) Lot # 123498 (Environmental Express) Exp 01-21-15

#M11844 2.9.14 JD — Diatomaceous Earth — Lot # 1347503 exp 1/15

#M11845 2.9.14 JD — Plasma Pure Tellurium Lot # 1347501 exp 1/15

#M11815 mix 01/15/14 GFAA Base Std (65ug/L): Into a 1 Liter volumetric Flask, pipet 0.65ml exp. 05/01/15 of M11820 bring up to volume with DI H2O

#M11816 mix 01/15/14 - GFAA ICV - Into a 1L vol Flask, pipet 0.1ml M11820 + bring up to volume w/ D.I. exp. 05/01/14 1% HNO3

#M11817 mix 01/15/14 - GFAA ICV - Into a 1L vol Flask, pipet 1ml M11821 + bring up to volume w/ DI water exp. 05/14 1% HNO3

#M11818 LSF 01/16/14	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg into 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M11819 LSF 01/16/14	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M11820 LSF 01/16/14	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M11819) into 100ml = 3.0ug/L Hg
#M11821 LSF 01/16/14	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M11822 LSF 01/16/14	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M11819) into 100ml = 0.2ug/L Hg
#M11823 LSF 01/16/14	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M11824 LSF 01/16/14	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11790) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

LSF 01/23/14 LSF 10% Hydroxylamine Sulfate Reagent: Dissolve into 100g 10% (#M11799) and 10g hydroxylamine Sulfate (#M11798) in 540mL Milli-Q H2O.
Exp: 07/23/14

1-23-14 Tungsten 1000 mg/L Spec Science Lot # 513-819-014 exp 1/15

1-23-14 Custom Assurance STD Lot 22-13 CR exp 1/15

1-23-14 Sulfur 10,000 mg/L Lot AF14-11635Y (Spex CertiPrep) exp 1/15

1-23-14 Mn 10,000 mg/L Lot 136091 (CPI) July/2015

LSF 01/16/14 TCLP Extraction Fluid #1: Fill a 2 L carboy with 1.9L DI H2O. Add 11.4mL Glacial Acetic Acid (AB: 549) and 1.9mL of 10N NaOH

01/17/15 (#M11823) Dilute to 2L with DI H2O and mix.

#M11811 1-13-14

MDL Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	MDL (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
K	500	M11365	10000	2.5
Na	500	M11356	10000	2.5

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

EXPIRES 14-Aug

#M11812 1-13-14

MDL Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	MDL (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
Li	5	M11362	1000	0.25
Sn	5	M11359	1000	0.25
Sr	5	M11360	1000	0.25
Tl	5	M11364	1000	0.25
W	10	M11365	1000	0.5

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard

EXPIRES 8/14

#M11813 1-13-14

MDL Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	MDL (ug/L)	Std ID #	Std Conc (ug/L)	Amount (mL) to pipet into 1 L
B	20	M11363	1000	5
Si	100	M11358	4000	5

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard

EXPIRES 14-Aug

#M11814 GFAA MDL Spiking Std DA 1-13-14

Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	(ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
Ag	0.2	M11170	1000	0.01
Pb	2	M11168	1000	0.1
Sb	2	M11172	1000	0.1
As	2	M11173	1000	0.1
Se	2	M11171	1000	0.1
Tl	2	M11361	1000	0.1

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

EXPIRES: 04/24/2014

#M11810 01/08/14 Potassium Permanganate Stock Potassium Permanganate (#M11128) Dissolve
Exp 03/08/14 into 1,000ml of D.I. H2O.

#M11807 01/08/14
JL

:CAP Working Standards List 2

.5% HNO3 .5%HCL

Standard

Name Prepare the following respectively

1	0.01 mls of #M11752 and .01 mls #M11365 = 1 ug/L
10	0.10 mls of #M11752 and .1 mls #M11365 = 10 ug/L
100	1 mls of #M11752 and 0.1 mls #M11365 = 100 ug/L
1000	10 mls of #M11752 and 1.0 mls #M11365 = 1000 ug/L
10000	100 mls of #M11752 and 10 mls #M11365 = 10000 ug/L

ec-8-14

#M11808 01/08/14
JL

Initial Calibration Standard (ICV) List 2

Into 3 Rinsed Plastic pipet 1 ml of #M11362 #M11364, #M11362, #M11359, and #M11366
bring up to mark with DI H2O ec 8/14

Continuing Calibration Standard (CCV) (#M11807) 1000 ppb

Into 1 Rinsed Plastic pipet 10 mls of #M11752 and 1.0 mls #M11365 = 1000 ug/L
bring up to mark with DI H2O ec 8-14

#M11809 1/10/14 Into 500 ml vol flask pipet 50mls #M11776
and 50mls #M11366 + 5.0 #M11765 bring up
JL to mark with DI H2O

#M11810
JL
1-13-14

MDL Spiking Solution
Basic SPIKE PREPARATION, Kit

Into a 1000 mL Volumetric Flask, pipet the following

Analyte	MDL (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
Ag	5	m11170	1000	5.00
Al	10	m11751	10000	5.25
As	25	m11175	1000	1
Ba	2	m11762	1000	0.1
Be	0.5	m11235	1000	0.025
Ca	50	m11766	10000	0.25
Cd	0.5	m11242	1000	0.025
Co	2.5	m11556	1000	0.125
Cr	5	m11767	10000	0.025
Cu	10	m11764	10000	0.05
Fe	20	m11724	10000	0.1
Mg	25	m11771	10000	0.125
Mn	5	m12054	10000	0.025
Mo	2.5	m11357	1000	0.125
Ni	5	m11358	1000	0.25
Pb	10	m11552	10000	0.05
Sb	20	m11172	1000	1
Se	20	m11173	1000	1
Tl	20	m11381	1000	1
V	5	m11241	1000	0.25
Zn	5	m11240	10000	0.025

Of the final prepared, pipet 10 mls from 500 ml volumetric to create a working stock of 1 ml into 50 ml digestion tube for a standard working standard.

DDREG 1-Feb

#M11794 01/03/15SF Hg Aqua Regia Reagent "Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)

#M11795 01/03/15SF – Stannous Chloride Reagent. into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11450) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M11796

Working Standards for Sodium and Potassium; into seven 500 ml volumetric flasks pipette from #M11621 and #M11720.

For the 0.5 mg/L std– 0.25 mls of each
1.0 mg/L std – 0.50 mls of each
5.0 mg/L std – 2.5 mls of each
10.0 mg/L std – 5.0 mls of each
50.0 mg/L std – 25.0 mls of each
100 mg/L std –50.0 mls each also used for Continuing Calibration Standard (CCV)
200 mg/L std -100.0 mls of each
Bring up to mark with DI H2O. Expires April 24, 2015.

#M11797 mls 1/6/14 Total Calibration Standard (ICV) – Into a 500 ml volumetric flask, pipet 5 mls of #M11366 & #M11765 bring up to volume with DI H2O. cap 1/6/14

#M11798 01/06/15SF Hydroxylamine Sulfate (Fisher) Lot# 134692

#M11799 01/06/15SF Sodium Chloride (Fisher) Lot# 132895

#M11800 01/06/15SF TCLP Extraction Fluid #1: Fill a 2L carboy with 1.9L D.I. H2O. Add 11.4mL Glacial Acetic Acid (AB: 5) and 11.8 mL 6N NaOH (#M11507). Dilute to 2L with D.I. H2O and mix. pH: 4.93 ± 0.05 Exp: 01/07/15

#M11801 01/10/15SF Potassium persulfate: 50g potassium persulfate (#M10957) dissolve into 1 liter of D.I. H2O. Exp: 07/07/14

#M11802 01/09/14 mls 65th Lot/Iron Soil Ag Working Std: Into a 200 mL vol flask, partially filled with D.I. water (1% HNO3) pipet 0.2 mL Ag (1000 mg/L) #M11720 (1000 mg/L) & bring up to volume with D.I. ex 4/24/14

#M11803 01/09/14 mls 65th Lot/Iron Soil Ag Spiking Soln: Into a 1L vol flask partially filled w/ DI water, (1% HNO3) pipet 10 mL of #M11802 & bring up to volume. ex 4/24/14

#M11804 01/09/14 mls 65th Lot/Iron Water Working Std Ag only: Into a 100mL vol flask partially filled w/ DI water (1% HNO3) pipet 0.1 mL Ag (1000 mg/L) #M11720 = 1 mg/L & bring up to volume with DI. ex 4/24/14

#M11805 01/09/14 mls 65th Lot/Iron Water Spiking Soln Ag only: Into a 1L vol flask, pipet 10 mL #M11804 & bring up to volume. ex 4/24/14 (1% HNO3)

[illegible]	Hg Working Stds (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (IM10553) into 100ml = 10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg into 100ml = 5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
[illegible]	Hg All Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (IM5063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
[illegible]	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (IM[illegible]) into 100ml = 3.0ug/L Hg
[illegible]	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (IM10553) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
[illegible]	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (IM [illegible]) into 100ml = 0.2ug/L Hg
[illegible]	Hg Aqua Regia Reagent	*Care fully* in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 564)
[illegible]	Stannous Chloride Reagent	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (IM[illegible]) in 70 mL HCl (AB: 553). Bring up to volume with DI Water.

[illegible] TCLP Extraction Fluid #1: Fill a 2L carboy with 1 L D.I. H_2O. Add 11.4 mL Glacial Acetic acid (AB: 57) and 12.8 mL 10 N NaOH (AB: 683). Dilute to 2 L with DI H_2O and mix. pH = 4.93 ± 0.05

Exp: [illegible]

[illegible] Acid Hydroxylamine Sulfate Reagent: Dissolve into 1 kg 1 M ([illegible]) and 1 kg Hydroxylamine Sulfate (IM[illegible]) in [illegible] DI H_2O.

Exp: [illegible]

[illegible]	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (IM10553) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg into 100ml = 5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
[illegible]	Hg All Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (IM5063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
[illegible]	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (IM[illegible]) into 100ml = 3.0ug/L Hg
[illegible]	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (IM10553) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
[illegible]	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (IM [illegible]) into 100ml = 0.2ug/L Hg

#M11361 12/03/13SF Hg Aqua Regia Reagent "Carefully" in hood, mix 3 parts HCl (AB: 563) with 1part HNO3 (AB: 564)

#M11362 12/03/13SF Stannous Chloride Reagent: into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11353) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M11363 12/03/13SF Boron 1,000 mg/L CPI lot#13I130 Exp:05/13/15

#M11364 12/03/13SF Copper 10,000 mg/L CPI lot#13B062 Exp: 05/13/15

#M11365 12/03/13SF Potassium 10,000 mg/L CPI lot#13I116 Exp:05/13/15

#M11366 12/03/13SF Calcium 10,000 mg/L CPI lot#13I209 Exp:05/13/15

#M11367 12/03/13SF Chromium 10,000 mg/L CPI lot#13D123 Exp:05/13/15

#M11368 12/03/13SF Barium 1,000 mg/L CPI lot#13I123 Exp:05/13/15

#M11369 12/03/13SF Aluminum 10,000 mg/L CPI lot#13I229 Exp:05/13/15

#M11370 12/04/13SF Iron 10,000 mg/L CPI lot#13I057 Exp:05/13/15

#M11371 12/04/13SF Magnesium 10,000 mg/L CPI lot#13H220 Exp:05/13/15

#M11372 12/04/13SF Spex Certiprep (Cardinal Health) 2nd source Lot# 9-356WY Custom Assurance Std Exp:12/30/14

#M11373 12/04/13SF Alpha Aesar Specpure Pt Nickel Metal Matrix modifier (6686) Lot 33-4576928

#M11374 12/11/13SF Stannous Chloride (Macron) Lot#0000064982

#M11375 12/12/13SF Potassium Permanganate Stock Std: 50g potassium permanganate (#M11288) dissolve in 1 liter of D.I. H_2O. Exp: 06/17/14

#M11376 12/04/13SF Spex Certiprep Interference A Lot# 10-FYYIX Exp. 12/30/14

#M11377 12/04/13SF Matrix mod. (NH4)2HPO4 (Dry) Into a 1L vol flask, pipet 0.50mL #M11330 + bring up to volume w/ D.I.

#M11378 12/04/13SF Matrix mod. (NH4)2HPO4 (Dry) (Reagent) Into a 500mL vol flask, pipet 5mL of #M11377 + bring to volume with D.I. water.

#M11379 12/04/13SF Matrix mod. (NH4)2HPO4 (Dry) (Reagent) Into a 500mL vol flask, pipet 10mL of #M11377 + bring to vol w/ D.I.

#M11380 12/04/13SF Matrix mod. (NH4)2HPO4 (Dry) (Reagent) Into a 1L vol flask, pipet 0.25mL #M11378 + bring to volume w/ D.I. water.

Hg Aqua Regia Reagent: "Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)

Stannous Chloride Reagent: Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M10552) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water

#M11[illegible]15F Potassium persulfate (Fisher) Lot#132059

#M11[illegible]15F Acid Hydroxylamine Sulfate Reagent: 12% solution 60g/500ml (#M8574) acid 60g hydroxylamine sulfate (#M8362) in 500mL Milli-Q H2O. Exp: 05/19/14

#M11[illegible]/22/13/15F Stannous Chloride (Macron) Lot #0000555565

#M11757 11/26/13 mas GFAA Blank Std Into a 1L vol flask, pipet 0.5mL #M11430 and bring up to volume with DI. Exp. 05/26/14

#M11702 11-26-1328 Custom Assurance STD Spex Certiprep Lot# 4-311-HY Exp Nov 30, 2014

#M11773 12-02-13 mas GFAA ICV (all same) Into a 100mL vol flask, pipet 1mL #M11431 + bring up to volume w/ DI Exp 05/14

#M11354 12/02/13SF TCLP Extraction Fluid #1: Fill a 2L carboy w/1L DI H2O. Add 11.4mL Glacial Acetic acid (AB:539) and 11.8mL 1N NaOH (#M1552). Dilute to 2L w/DI H2O. Mix well. pH=4.93 ± 0.05

#M11375 12/03/13 mas GFAA CCV = Into a 1L vol flask, pipet 0.5mL #M11430 + bring to volume Exp. 05/14

#M11[illegible] 12/03/13SF Hg Working Stds: (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M10562) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg
1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg
2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg
4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg
5.0ml of 100ug/L Hg into 100ml =5.0ug/L Hg
10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg

#M11757 12/03/13SF Hg All Source Working Std: (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg
1.0ml of 10mg/L into 100ml = 100ug/L Hg

#M11758 12/03/13SF Hg ICV / LCSW (0.2% HNO3, HCl)
3.0ml of 100ug/L Hg (#M11954) into 100ml = 3.0ug/L Hg

#M11759 12/03/13SF Hg CCV (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg

#M11[illegible]0 12/03/13SF Hg MRL (0.2% HNO3, HCl)
0.2ml of 100ug/L Hg (#M11954) into 100ml = 0.2ug/L Hg

4/30-11/2

#MM11336 11/14/13SF potassium permanganate soln: 50g potassium permanganate (MM1128) Exp 05/11/14 dissolve into 1 liter of D.I. H2O

MM1137 11-12-13 2:24

ICAP Working Standards Boron & Silicon

Standard Name	Into 1 liter Pipet the following respectively:
50	0.05 mls of #M 1205 and .05mls #MM1358 = 50 ug/L
100	.1 mls of #MM1205 and 0.1mls #MM1358 = 100 ug/L
1000	1.0 mls of #MM1205 and 1.0mls #MM1358 = 1000 ug/L
2000	2.0 mls of #MM1205 and 2.0mls #MM1358 = 2000 ug/L
10000	10.0 mls of #MM1205 and 10mls #MM1358 = 10000 ug/L

Exp 5/14

MM1138 11-13-13

Initial Calibration Standard (ICV) B, Si
Into 1 liter vol flask pipet 1 ml of #M10880,10 mls #11584B
bring up to mark with DI H2O ex 12/13

MM1139
Continuing Calibration Standard (CCV)
into 1 liter vol flask pipet 10 mls of #MM1205 and 1.0mls #M11358 = 1000 ug/L
bring up to mark with DI H2O ex 5-14

#MM1139 11/14/13SF TCLP Extraction Fluid #1: Fill a 2L carboy w/ 1.8L D.I. H2O. Add 11.4ml Glacial Acetic acid (CAS 64-19-7) and 11.6ml 5N NaOH (CAS 1310-73-2). Dilute to 2L w/ D.I. H2O and verify pH = 4.93 ± 0.05

Exp: 11/14/14

#MM1140 11/18/13 Spex Certiprep Custom Assurance Std. Lot # 14-286W-9 exp Nov 2014

MM1141 11/18/13SF

Hg Working Stds (0.2% HNO3 HCl)	1.0ml of 1000ug/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg into 100ml = 5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
Hg All Source Working Stds: (0.2% HNO3 HCl)	1.0ml of 1000ug/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
Hg ICV / LCSW (0.2% HNO3 HCl)	3.0ml of 100ug/L Hg (#MM1142) into 100ml = 3.0ug/L Hg
Hg CCV (0.2% HNO3 HCl)	1.0ml of 1000ug/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
Hg MRL (0.2% HNO3 HCl)	0.2ml of 1000ug/L Hg (#M10562) into 100ml = 0.2ug/L Hg

#MM1136 11/18/13SF

#MM1142 11/19/13SF

#MM1145 11/18/13SF

#MM1149 11/18/13SF

#MM1150 11/22/13SF St

#MM1151 11/22/13 MK
Exp 05/01/14

MM1152 11-26-13

MM1153 12-02-13 MK
exp. 05/14

MM1154 12/02/13SF TCL
Exp 12/1

MM1155 12/02/13 MK
Exp. 05/14

MM1156 12/03/13SF

MM1157 12/03/13SF

MM1158 12/03/13SF

MM1159 12/03/13SF

11
25-13
JY

3050 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
Ag	4	M11870	1000	0.2
Al	9.6	M11868	10000	0.048
As	32	M11873	1000	1.6
Ba	2	M11853	1000	0.1
Be	1.6	M11839	1000	0.08
Ca	56	M11839	10000	0.28
Cd	1.6	M11845	1000	0.08
Co	9.6	M11855	1000	0.48
Cr	5.6	M11903	10000	0.028
Cu	16	M11851	10000	0.08
Fe	79	M11724	10000	0.395
Mg	32	M11836	10000	0.16
Mn	6	M11864	10000	0.03
Mo	9.6	M11857	1000	0.48
Ni	5.6	M11858	1000	0.28
Pb	10	M11882	10000	0.05
Sb	32	M11877	1000	1.6
Se	10	M11874	1000	0.5
Tl	19	M11884	1000	0.95
V	3.2	M11848	1000	0.16
Zn	12	M11749	10000	0.06

Of this Base standard, pipet 10 mL into 500 mL volumetric to create a working std or 1 mL into 50 mL digestion tube for a digested working standard.

Expires: 14-Feb

#M11742 JY
11-5-13

3050 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
Li	14.4	M11882	1000	0.72
Sn	20	M11910	1000	1
Sr	3.2	M11860	1000	0.16
Ti	9.6	M11864	1000	0.48
W	24	M11905	1000	1.2

Of this Base standard, pipet 10 mL into 500 mL volumetric to create a working std or 1 mL into 50 mL digestion tube for a digested working standard.

Expires: 14-Feb

#M11743 JY
11-5-13

3050 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	LOQ (ug/L)	Std ID #	Std Conc. (mg/L)	Amount (mL) to pipet into 1 L
S	32	M11895	1000	2.8
Si	187	m14356	1000	9.0

Of this Base standard, pipet 10 mL into 500 mL volumetric to create a working std or 1 mL into 50 mL digestion tube for a digested working standard.

Expires: 14-Aug

#M11744 11/07/13 JF TCLP Extraction Fluid #1: Fill a 1gal Carboy w/ 1981 DCF H2O. Add 11.4 mL Glacial Acetic Acid (CAS# 64-19-7) and 12.8 mL 10 N NaOH (M1567) Dilute to 1gal with DI H2O. Check pH = 4.93 ± 0.05

Exp: 11/04/14

#M11736 11-5-13
JH

3010 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
B	16	M11705	1000	0.8
Si	200	m11395	1000	10

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expires: 14-Aug

#M11737
JH
11-5-13

3010 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
U	10	M11382	1000	0.5
Sn	10	M11359	1000	0.5
Sr	2	M11380	1000	0.1
Ti	8	M11364	1000	0.4
W	36	M11365	1000	1.8

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard

Expires: 14-Feb

#M11738
JH
11-5-13

3010

Into a 1000 mL Volumetric Flask, pipet the following

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
S	200	M11343	1000	10

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expires: 14-Aug

2 labels
#M11739
JH
11-5-13

Into a 1000 mL Volumetric Flask, pipet the following

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
S	240	M11343	1000	12

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expires: 14-Aug

3050 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

#M11740
11-5-13
JH

Into a 1000 mL Volumetric Flask, pipet the following

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
K	2640	M11823	10000	13.2
Na	950	M11366	10000	4.8

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expires: 14-Aug

Hg MRL (6.2% HNO3, HCl): 0.2ml of 100ug/L Hg (#M11426) into 100ml = 0.2ug/L Hg

Hg Aqua Regia Reagent: "Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)

Stannous Chloride Reagent: Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (## #338) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M11732 11-5-13F NaCl Hydroxylamine Sulfate Reagent: Dissolve into 600g NaCl (#M9574) and 6mg Hydroxylamine Sulfate (#M13746) in 500ml Milli-Q H2O.

Exp: 05/05/14

#M11733 11-5-13 #M1015 Turbidity Working Stds into 20 mls pipet from #M11115

(200) NTU

20 ml into 18 mL D.I. H_2O = 20NTU

10.0ml into 10 mL D.I. H_2O = 100NTU

20.0 ml into 0 mL D.I. H_2O = 200NTU

(exp Aug 2014)

Calc Std = 430

= 48.1

= 513

#M11734 11-5-13 2B

3010 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
Ag	4	M11170	1000	0.2
Al	36	M11363	10000	0.18
As	24	M11173	1000	1.2
Ba	1.8	M11052	1000	0.09
Be	0.6	M11239	1000	0.03
Ca	100	M11539	10000	0.5
Cd	2	M11242	1000	0.1
Co	4	M11335	1000	0.2
Cr	4	M11500	10000	0.02
Cu	7	M11051	10000	0.035
Fe	100	M11724	10000	0.5
Mg	40	M11538	10000	0.2
Mn	4	M11054	10000	0.02
Mo	7	M11357	1000	0.35
Ni	6	M11358	1000	0.3
Pb	6	M11682	10000	0.03
Sb	12	M11172	1000	0.6
Se	13	M11171	1000	0.65
Tl	15	M11361	1000	0.75
V	5	M11241	1000	0.25
Zn	10	M11240	10000	0.05

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std of 1 ml into 50 ml digestion tube for a digested working standard.

Expires: 14-Feb

3010 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following:

M11735 11-5-13 2B

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
K	500	M11623	10000	2.5
Na	600	M11356	10000	3

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std of 1 ml into 50 ml digestion tube for a digested working standard.

Expires: 15-Apr Aug/14

#M11715 10/29/13SF Potassium permanganate Sol'n 50g potassium permanganate (#M11) dissolve into 1000ml of D.I. H2O.
Exp 04/29/14

#M11716 11/01/13 mls 1% HNO3 Matrix modifier for CLP4 Environmental Express Lot# 1234858
exp: 10/25/14

#M11717 11/04/13 mls Yttrium (Y) 10,000ug/mL Env Express Lot# 1311349
exp 4/11/2015

#M11718 11/04/13 mls Spex Certiprep Lot# 4-153NY Custom Assurance Std
exp 10/30/2014

#M11719 11/04/13 mls Na 1000 ug/mL CPI Lot# 13E225
exp 4/23/2015

#M11720 11/04/13 mls K 1000 ug/mL CPI Lot# 13E108
exp 4/24/2015

#M11721 11/04/13 mls Na 1000 ug/mL CPI Lot# 13E225
exp 4/24/2015

#M11722 11/04/13 mls K 1000 ug/mL CPI Lot# 13E108
exp 4/24/2015

#M11723 11/04/13 mls Fe 10,000 ug/mL CPI Lot# 12J093
exp 4/24/2015

#M11724 11/04/13 mls Fe 10,000 ug/mL CPI Lot# 12J093
exp 4/24/2015

#M11725 11/05/13SF Hg Working Stds: (6.0% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg
1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg
2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg
4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg
5.0ml of 100ug/L Hg into 100ml =5.0ug/L Hg
10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg

#M11726 11/05/13SF Hg Alt Source Working Std: (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg
1.0ml of 10mg/L into 100ml = 100ug/L Hg

#M11727 11/05/13SF Hg ICV / LCSW (0.2% HNO3, HCl)
3.0ml of 100ug/L Hg (#M 11726) into 100ml = 3.0ug/L Hg

#M11728 11/05/13SF Hg CCV (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg

SPEX certiprep Lot#19-13IAS4 ex. 9/30/14

SPEX certiprep Lot# 19-61PBY ex. 9/30/14

Fluid #1: Fill a 2oL carboy w/ 1.9L D.I. H_2O. Add 114mL Glacial Acetic Acid (AB: 565) and 128.6mL 10N NaOH (#M11507). Dilute to 2oL with D.I. H_2O and verify pH = 4.93 ± 0.05

inganate Soln: 50g potassium permanganate (#M11285) dissolve into 1 gallon of D.I. H_2O.

Spex Certiprep Lot# 18-13IAS) Exp: 09/30/14

Spex Certiprep Lot# 19-61PBY Exp: 09/30/14

1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg
1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg
2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg
4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg
5.0ml of 100ug/L Hg into 100ml =5.0ug/L Hg
10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg

Std: 1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg
1.0ml of 10mg/L into 100ml = 100ug/L Hg

3.0ml of 100ug/L Hg (#M [illegible]) into 100ml = 3.0ug/L Hg

1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg

0.2ml of 100ug/L Hg (#M [illegible]) into 100ml = 0.2ug/L Hg

ml: "Carefully" in hood, mix 3 parts HCl (AB: 563) with 1part HNO_3 (AB: 554)

agent: Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M[illegible]) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

: 50g potassium permanganate (#M10573) dissolve into 1 gallon of D.I. H_2O.

agent: Dissolve into 60g sodium (#M9574) and 60g Hydroxylamine Sulfate (#M1376) in 500mL milliQ H_2O.
Exp: 09/30/14

#M11961 09/23/13SF AS 1000mg/L spex certiprep Lot# 18-13IAS) Exp: 09/30/14

#M11968 09/23/13SF Pb 1000mg/L spex certiprep Lot# 19-61PBY Exp: 09/30/14

#M11979 10/02/13SF Potassium permanganate Soln: 50g potassium permanganate (#M11285) dissolve into 1 gallon of D.I. H_2O.
Exp: 04/02/14

#M11980 10/02/13SF Stannous Chloride (Macron) - Lot. No. 0000035247 1

#M11981 10/10/13SF TCLP Extraction Fluid #1: Fill a 2oL carboy w/ 1.9L D.I. H_2O. Add 114mL Glacial Acetic Acid (AB: 565) and 128.6mL 10N NaOH (#M11507) Dilute to 2oL with D.I. H_2O and verify pH = 4.93 ± 0.05
Exp: 10/10/14

#M11982 10/10/13SF TCLP Extraction Fluid #1: Fill a 2oL carboy w/ 1.9L D.I. H_2O. Add 114mL Glacial Acetic Acid (AB: 565) and 128.6mL 10N NaOH (#M11507) Dilute to 2oL with D.I. H_2O and verify pH = 4.93 ± 0.05
Exp: 10/10/14

#M11983 10/14/13SF Potassium permanganate Soln: 50g potassium permanganate (#M11285) dissolve into 1 gallon of D.I. H_2O.
Exp: 04/14/14

#M11987 10/15/13SF and Hydroxylamine Sulfate Reagent: Dissolve into 60g sodium (#M9574) and 60g hydroxylamine Sulfate (#M1376) in 500mL milliQ H_2O.
Exp: 09/15/14

#M11988 10/15/13SF	Hg Working Stds: (0.2% HNO_3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg into 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M11989 10/15/13SF	Hg At Source Working Std: (0.2% HNO_3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
[illegible] 10/15/13SF	Hg ICV / LCSW (0.2% HNO_3, HCl)*	3.0ml of 100ug/L Hg (#M[illegible]) into 100ml = 3.0ug/L Hg
[illegible] 10/15/13SF	Hg CCV (0.2% HNO_3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
[illegible] 10/15/13SF	Hg MRL: (0.2% HNO_3, HCl)	0.2ml of 100ug/L Hg (#M [illegible]) into 100ml = 0.2ug/L Hg
[illegible] 10/15/13SF	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 563) with 1part HNO_3 (AB: 554)
[illegible] 10/15/13SF	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M[illegible]) in 70 mL HCl (AB: 563). Bring up to volume with D.I. Water.

#MM1691 09/04/13 As 1000mg/L SPEX certiprep Lot# 18-131AS Y ex 9/30/14

#MM1693 09/04/13 Pb 1000mg/L SPEX Certiprep Lot# 19-01PBY Ex. 9/30/14

#MM1694 09/05/13 15F TCLP Extraction Fluid #1: Fill a 2L carboy w/ 1.9L D.I. H_2O. Add 11.4mL Glacial Acetic Acid (AA3565) and 128.6mL 1.0N NaOH (#MM1502). Dilute to 2L with D.I. H_2O and mix. pH = 4.93 ± 0.05
Exp: 09/05/14

#MM1695 09/05/13 15F potassium permanganate 5% : 50g potassium permanganate (#MM0785) dissolve into 1 L total of D.I. H_2O.
Exp: 03/05/14

#MM1696 09/12/13 15E As 1000mg/L SPEX CertiPrep Lot# 18-131AS Y Exp: 09/30/14

#MM1697 09/12/13 15F Pb 1000mg/L SPEX CertiPrep Lot# 19-01PBY Exp: 09/30/14

#MM1698 09/17/13 15F

Hg Working Stds: (0.2% HNO_3, HCl)	1.0ml of 1000mg/L Hg (#MM0583) into 100ml = 10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg into 100ml = 5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#MM1699 09/17/13 15F Hg All Source Working Std: (0.2% HNO_3, HCl)	1.0ml of 1000mg/L Hg (#MM0583) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#MM1700 09/17/13 15F Hg ICV / LCSW (0.2% HNO_3, HCl)	3.0ml of 100ug/L Hg (#MM1699) into 100ml = 3.0ug/L Hg
#MM1701 09/17/13 15F Hg CCV (0.2% HNO_3, HCl)	1.0ml of 1000mg/L Hg (#MM0583) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#MM1702 09/17/13 15F Hg MRL: (0.2% HNO_3, HCl)	0.2ml of 100ug/L Hg (#MM1699) into 100ml = 0.2ug/L Hg
#MM1703 09/17/13 15F Hg Aqua Regia Reagent	"Carefully" in Excel, mix 3 parts HCl (AB: 553) with 1 part HNO_3 (AB: 554)
#MM1704 09/17/13 15F Stannous Chloride Reagent	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#MM0558) in 79 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#MM1705 09/18/13 15F Potassium persulfate: 50g potassium persulfate (#MM0573) dissolve into 1 L total of D.I. H_2O.
Exp: 03/18/14

#MM1706 09/19/13 15F 10% Hydroxylamine Sulfate Reagent: Dissolve into 50g NaCl (#MM0574) and 50g Hydroxylamine Sulfate (#MM0574) in 500mL with H_2O.
Exp: 03/19/14

#MM1691 09/23/13 15F As 1000mg/L spex certiprep Lot# 18-131AS Y

#MM1693 09/23/13 15F Pb 1000mg/L spex certiprep lot# 19-01PBY

#1677 8-20-13 As 1000mg/L Spex Certiprep Lot # 18-13IAS9 ex 8/30/14

#1678 8-20-13 Pb 1000 mg/L Spex Certiprep Lot# 19-01PB9 ex: 8/30/15

#1679 8-20-13 S 10,000 mg/L SPC Science Lot# S13072402L exp 5/15

#1680 8/12/13SF (Fisher) Hydroxylamine Sulfate Lot#127466 Exp: 08/22/14

#1681 8-22-13 Spex Certiprep Lot# 4-20HF ex 8/14 (Custom Mix. Std)

#1682 8-22-13 CPI Pb, 10,000 mg/L Lot# 11J007 ex 2/15

#1693 8/22/13SF TCLP Extraction Fluid #1: Fill a 2gl carboy w/1gL D.I. H2O. Add 114ml Glacial Acetic Acid (AB: 565) and 128.6ml 10N NaOH (#M110507). Dilute to 2gL with D.I. H2O and mix. pH=4.95±0.05
Exp: 08/22/14

#1684 8/22/13SF TCLP Extraction Fluid #1: Fill a 2gL carboy w/1gL D.I. H2O. Add 114ml Glacial Acetic Acid (AB: 565) and 128.6ml 10N NaOH (#M110507). Dilute to 2gL with D.I. H2O and mix. pH=4.95±0.05
Exp: 08/22/14

#1685 8/29/13SF	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=1.0mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg into 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
8/29/13SF	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1.000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#1687 9/19/13SF	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M11686) into 100ml = 3.0ug/L Hg
#1688 9/19/13SF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#1689 9/19/13SF	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M11686) into 100ml = 0.2ug/L Hg
#1691 9/19/13SF	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1 part HNO3 (AB: 554)
#1691 9/19/13SF	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M 11552) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

set 10mls
w/ DI H2O

2/15

pipet 50mls
rank w/ D.I H2O

2/15

2/15

2/15

acetate (#M 4285)
& D.I. H2O

(#M11493) and
(#11376) in 500ml

#M11618 8-13-13 MRL/ICV/LL into 1000 ml vol flask pipet the following => of Master Standard

.5% HCl, HNO3

Bring upto mark with DI H2O

8/12/13

Analyte	(ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
Ag	20	M11170	1000	1
Al	400	M11537	10000	2
Ba	10	M11052	1000	0.5
Be	4	M11239	1000	0.2
Cd	5	M11242	1000	0.25
Co	10	M11355	1000	0.5
Cr	10	M11053	10000	0.05
Cu	10	M11051	10000	0.05
Mg	500	M11536	10000	2.5
Mn	10	M11054	10000	0.05
Mo	10	M11357	1000	0.5
Ni	10	M11358	1000	0.5
Pb	10	M11400	1000	0.5
Sb	20	M11172	1000	1
V	10	M11241	1000	0.5
Zn	10	M11240	10000	0.05
K	1000	M11243	10000	5
Na	1000	M11356	10000	5
As	20	M11173	1000	1
Ca	500	M11539	10000	2.5
Fe	300	M11535	10000	1.5
Se	20	M11171	10000	0.1
Tl	20	M11361	1000	1
Si	100	M11356	1000	5
B	20	M11205	1000	1
Li	20	M11362	1000	1
W	50	M11365	1000	2.5
Ti	10	M11364	1000	0.5
Sr	10	M11359	1000	0.5
Sn	50	M11359	1000	2.5
S	100	M11343	1000	5

#M11677 8.20-13

#M11678 8

#M11679

#M11680 08/12/13

#M11681 8-2

#M11682 8-2

#M11683 08/22/13

#M11684 08/22/13

#M11619 8-13-13 MRL into 500 ml vol flask pipet 10mls .5% HCl, HNO3 of Master Std #M11618 Bring upto mark with DI H2O

8-28-13

#M11620 8-13-13 ICV/LL into 500 ml vol flask pipet 50mls .05% HCl, HNO3 of Master Std #M11618 Bring up to mark with DI H2O.

#M11621 8-19-13 Na 1000 mg/L CPI Lot 13E226 ex 2/15

#M11622 8-19-13 Fe 10,000mg/L CPI Lot 13H100 ex 2/15

#M11623 8-19-13 K 10,000 mg/L CPI Lot 13H099 ex 2/15

#M11624 8-19-13 K 1000 mg/L CPI Lot 13E108 ex 2/15

#M11625 08/20/13 15F Potassium permanganate Soln. 50g potassium permanganate (#M11785) dissolve into 1 liter of D.I. H2O Exp: 02/10/14

#M11626 08/20/13 15F NaCl Hydroxylamine Sulfate Reagent: Dissolve into 100g NaCl (#M11493) and 60g hydroxylamine sulfate (#M11336) in 500ml Milli-Q H2O. Exp: 02/20/14

[redacted]

M11160 Continuing Calibration Standard 1(CCV1)

8-7-13

Into a one liter volumetric flask pipet 50mls of # M115845 (ex 07/14)
and 5 ml of #M11585 (ex 07/14).
ex. 07/14
Bring up to mark with DI H2O

M11160 Continuing Calibration Standard 2(CCV2)

8-7-13

Into a one liter volumetric flask pipet 5 mls of # M115845 (ex 7/14)
and 0.5 ml of #M11585 (ex 07/14).
ex. 7/14
Bring up to mark with DI H2O

M11608 Initial Calibration Standard (ICV)

8-7-13

Into one liter volumetric flask pipet 10 mls of M11542 (ex 8/14)
2.0 mls of #m11339 (ex 03/14) and 0.5 m.s #M11357 Mo (ex 08/14) and 0.5 mls
of #M11205 B (ex 5/14) bring up to mark with DI H2O

HNO3 (AB: 554)

Chloride (#M11558)40

3-195NY

M11629 ICSAB (Doocal) into 500 ml vol flask pipet 50 mls #M11399
8-7-13 2.5mls #M11584b, 2.5 mls #M11585, 15mls #M11635. Bring up to mark
w/ DI H_2O. ex 3/14.

M11610 ICSA (Doocal) into 500 ml vol flask pipet 50 mls #M11399
8-7-13 15 mls #M11635. bring up to mark with D.I H_2O ex 3/14.

M11611 08/13/13SF Hg Working Stds: (0.2% HNO3, HCl)

1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg
1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg
2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg
4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg
5.0ml of 100ug/L Hg into 100ml =5.0ug/L Hg
10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg

08/13/13SF Hg All Source Working Std: (0.2% HNO3, HCl)

1.0ml of 1000mg/L Hg (#M90631) into 100ml = 10mg/L Hg
1.0ml of 10mg/L into 100ml = 100ug/L Hg

08/13/13SF Hg ICV / LCSW (0.2% HNO3, HCl)

3.0ml of 100ug/L Hg (#M11612) into 100ml = 3.0ug/L Hg

08/13/13SF Hg CCV (0.2% HNO3, HCl)

1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg

08/13/13SF Hg MRL: (0.2% HNO3, HCl)

0.2ml of 100ug/L Hg (#M 11612) into 100ml = 0.2ug/L Hg

08/13/13SF Hg Aqua Regia Reagent:

"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1 part HNO3 (AB: 554) .

08/15/13 SF Stannous Chloride Reagent:

into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M 11552) in
70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

g/L std
o flask= 1000 ug/L std

0 mls #M 1402 Pc (ex 3-14).

(10 mls #M11537 AL (ex 12/14).

; 50 mls #M11537 AL (ex 12/14)

2/14);100 mls #M11537 AL (ex 12/14)

ex 2-14

#M11597 08/05/13SF	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml= 10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg into 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M11598 08/05/13SF	Hg All Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M11599 08/05/13SF	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M 11598) into 100ml = 3.0ug/L Hg
#M11600 08/05/13SF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml= 10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M11601 08/05/13SF	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M 11598) into 100ml = 0.2ug/L Hg
#M11602 08/05/13SF	Hg Aqua Regia Reagent	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M11603 08/05/13SF	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11558) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M11604 8-6-13 Spex Centiprep Custom Assurance STD Lot # 3-195NY. ex Aug 2014.

#M11605 8-7-13

ICAP Working Standards

5% HNO3 5%HCL

Standard name	Pipet the following respectively:
0.25	0.25 mls of standard 100 ug/L into 1000 ml volumetric flask = 0.25 ug/L std
0.5	0.50 mls of standard 100 ug/L into 1000ml volumetric flask= 0.50 ug/L std
1	1.0 mls of standard 100ug/L into 1000 ml volumetric flask =1.00 ug/L std
5	5.0 mls of standard 100ug/L into 1000 ml volumetric flask =5.00 ug/L std
10	10.0 mls of standard 100ug/L into 1000 ml volumetric flask =10.0 ug/L std
20	20.0 mls of standard 100ug/L into 1000 ml volumetric flask =20.0 ug/L std
50	50.0 mls of standard 100ug/L into 1000 ml volumetric flask =50.0 ug/L std
100	1.0 mls of #M11598(ex 07/14) and 1.0 mls of #M11585 (ex 07/14) into 1000 ml volumetric flask= 100 ug/L std
1000	10.0 mls of #M11594(ex 07/14) and #M11585 (ex 07/14) and 1 mL of #M11556 Si into 1000 ml volumetric flask= 1000 ug/L std
10,000	100 mls #M11594(ex 07/14),100 mls #M11585 (ex 07/14),
1000	10 mls of #M11051 Cu (ex 2/14) , 10 mls of #M11554 Mn (ex 2/14) , 10 mls of #M11553 Cr (ex 2/14), 100 mls #M11400 Pb (ex 3-14), 10 mls of #M11240(ex 6-14), 10 mls #M11568 Na (ex 5/14)= 100,000 ug/L to make 1000 ml vol flask = 100ug/L AS (ex 8/14)
100,000	10 mls of #M11538 Mg (ex 12/14) , 10 mls of #M11535 Fe (ex 12/14) ,10 mls of #M11539 Ca (ex 12/14),10 mls #M11537 AL (ex 12/14) , into 1000 ml vol flask = 100,000 ug/l std
500,000	50 mls of #M11538 Mg (ex 12/14) , 50 mls of #M11535 Fe (ex 12/14) ,50 mls of #M11539 Ca (ex 12/14), 50 mls #M11537 AL (ex 12/14) into 1000 ml vol flask = 500,000 ug/l std
1000k	100 mls of #M11538 Mg (ex 12/14) , 100 mls of #M11535 Fe (ex 12/14) ,100 mls of #M11539 Ca (ex 12/14),100 mls #M11537 AL (ex 12/14) into 1000 ml vol flask = 1,000,000 ug/l std
	Bring the 1000 ml volumetric up to mark with DI H2O

ex 2-14

#M11606 8-7-13 5% HCl 5% HNO3

#M11607 8-7-13 5% HCl 5% HNO3

#M11608 8-7-13 5% HCl 5% HNO3

#M11609 8-7-13 5% HCl 5% HNO3

#M11610 8-7-13 5% HCl 5% HNO3

#M11611 08/13/13SF

#M11612 08/13/13SF

#M11613 08/13/13SF

#M11614 08/13/13SF

#M11615 08/13/13SF

#M11616 08/13/13SF

#M11617 08/13/13SF

#M11584b 7-29-13 Custom Assurance Std 100mg/L(2%) Spex Certiprep Lot# 20-105CR.
7A ex 7/14

#M11585 7-29-13 Custom Assurance Std 100mg/L(2%) Spex Certiprep Lot# 20-104CR.
7A ex 7/14

	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg into 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M11587) into 100m = 3.0ug/L Hg
	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M 11587) into 100ml = 0.2ug/L Hg
	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1 part HNO3 (AB: 554)
	Stannous Chloride Reagent:	into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11492) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M11593 08/31/13SF Acid Hydroxylamine Sulfate Reagent: Dissolve into 1kg well (#M11493) and 1kg hydroxylamine Sulfate (#M11336) in 5000mL Millipore H2O.
Exp: 01/31/13

#M11594 07/31/13 SMS TCLP Extraction Fluid #1: Fill a 20L Carboy with 19L D.I. H2O. Add 11.5mL Glacial Acetic (AB 565) and 128.6mL 1.0N NaOH (#M11507). Dilute to 20L with D.I. H2O and mix. pH = 4.93 ± 0.05

#M11595 07/31/13 SMS TCLP Extraction Fluid #2: Fill a 20L Carboy with 19L D.I. H2O. Add 11.5mL Glacial Acetic (AB 565) and 128.6mL 1.0N NaOH (#M11507). Dilute to 20L with D.I. H2O and mix. pH = 4.93 ± 0.05

#M11596 08/02/13SF Potassium permanganate Soln: 50g Potassium permanganate (#M11285) dissolve into 1000mL of D.I. H2O.
Exp: 08/02/14

#M11571 07/16/13SE TCLP Extraction Fluid #1: Fill a 20L carboy with 19L DI. H2O. Add 114 mL Glacial Acetic Acid (AB: 565) and 128.6 mL 10N NaOH (AB: 507). Dilute to 20L with DI. H2O and mix. pH = 4.93 ± 0.05

Exp: 07/16/14

#M11572 07/16/13 mes Nickel N. Fish Matrix Modifier Stock Aliquot - Separate Lot # 32-411193E, pkt # 39043

exp - 01/15

M11573 07/16/13 JL Spex Centiprep Custom Assurance Std Lot # 10-70YP

ex. 7/30/14

M11574 7-17-13 JL ICSAB Into 500 mL vol flask pipet 50 mL DI. #M11599 15mL #M11535 2.5mL #M11573 and bring up to mark with DI H2O & ex. 8/13

#M11575 07/23/13SE TCLP Extraction Fluid #1: Fill a 20L carboy with 19L DI. H2O. Add 114 mL Glacial Acetic (AB: 565) and 128.6 mL 10N NaOH (AB: 507). Dilute to 20L with DI. H2O and mix. pH = 4.93 ± 0.05

Exp: 07/23/14

M11576 07/24/13SE	Hg Working Stds: (0.2% HNO3, HCl)	5.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg into 100ml = 5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
M11577 07/24/13SE	Hg Alt Source Working Std (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
M11578 07/24/13SE	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M11577) into 100ml = 3.0ug/L Hg
M11579 07/24/13SE	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
M11580 07/24/13SE	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M11577) into 100ml = 0.2ug/L Hg
M11581 07/24/13SE	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 564)
M11582 07/24/13SE	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11583) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

M11583 07/25/13 mes 6FAA Base Std. Into a 1 Liter vol flask pipet 0.25mL #M11538. Bring up to volume w/ D.I. H2O.

exp. 05/14

M11584 07/25/13 JL 6FAA ICV (All Sources) - Into a 1 Liter vol flask, pipet 1mL #M11531. Bring up to volume with DI H2O.

11584 7-29-13 JL Custom Assurance Std 100mg/L(2%) Spex Certiprep ex 7/14

11585 7-29-13 JL Custom Assurance Std 100mg/L(2%) Spex Certiprep ex 7/14

#M11586 07/30/13SE	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg into 100ml = 5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M11587 07/30/13SE	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M11588 07/30/13SE	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M11587) into 100ml = 3.0ug/L Hg
#M11589 07/30/13SE	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M11590 07/30/13SE	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M11587) into 100ml = 0.2ug/L Hg
#M11591 07/30/13SE	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1
#M11592 07/30/13SE	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g S 70 mL HCl (AB: 553). Bring up to volume with D

#M11593 07/31/13SE Hydroxylamine Sulfate Reagent: Dissolve into 1 liter vol. hydroxylamine Sulfate (#A H2O.

Exp: 08/13/13

#M11594 07/31/13 mes TCLP Extraction Fluid #1: Fill a 20L Carboy with 19L DI H2O. Add and 128.6mL 10N NaOH (M11507). Dilute pH = 4.93 ± 0.05

#M11595 07/31/13 mes TCLP Extraction Fluid #1: Fill a 20L Carboy with 19L DI H2O. Add and 128.6 mL 10N NaOH (M11507). Dilute pH = 4.93 ± 0.05

#M11554 07/10/13 [illegible]	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M11555 07/10/13 [illegible]	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M11554) into 100ml = 0.2ug/L Hg
#M11556 07/10/13 [illegible]	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M11557 07/10/13 [illegible]	Stannous Chloride Reagent:	into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11572) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.
#M11558 07/08/13 [illegible]	Stannous Chloride (Mercury) - Lot# 000004 5932	
#M11559 07/10/13 MRS	GFAA Base Std. - Into a Liter vol. Flask pipet 0.25mL #M11450. Bring up to volume with D.I water.	
#M11560 07/10/13 MRS	GFAA ICV (Alt. Source) - Into a 1-Liter vol Flask, pipet 1ml #M11451 + bring up to volume with D.I water.	
#M11561 07/10/13 MRS	GFAA CCV - Into a 1-Liter vol. Flask, pipet 0.1mL #M11450 + bring up to volume with D.I water.	
#M11562 07/10/13 [illegible]	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg into 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M11563 07/10/13 [illegible]	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M11564 07/10/13 [illegible]	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M11563) into 100ml = 3.0ug/L Hg
#M11565 07/10/13 [illegible]	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M11566 07/10/13 [illegible]	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M11563) into 100ml = 0.2ug/L Hg
#M11567 07/10/13 [illegible]	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M11568 07/10/13 [illegible]	Stannous Chloride Reagent:	into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11572) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.
#M11569 07/15/13 [illegible]	Potassium permanganate 5% in 1	50g Potassium permanganate (#M11485) Dissolve into 1000mL of D.I. H2O.
07/16/13 [illegible]	ICV Extra [illegible]	fluid #1: Fill a 2gL carboy with 1 gL D.I. H2O. Add 1mL of Nitric Acid (AB: [illegible]) and 1mL of 10N NaOH (#M11444) & Dilute to 2L.

Exp: 07/16/14

Exp: 01/15/14

wate (#M11285)
= D.I. H2O

Prep Lot # 3-80x1

0mg/L Hg

10mg/L Hg

3.0ug/L Hg

10mg/L Hg

0.2ug/L Hg

with 1part HNO3 (AB: 554)

g Stannous Chloride (#M11572) in
h D.I. Water.

/311349 e 10/14

110563) into 100ml=10mg/L Hg
)0ml = 100ug/L Hg
00ml = 0.5ug/L Hg
00ml = 1.0ug/L Hg
00ml = 2.0ug/L Hg
00ml = 4.0ug/L Hg
00ml =5.0ug/L Hg
100ml = 10.0ug/L Hg

/9063) into 100ml = 10mg/L Hg
ml = 100ug/L Hg

(M552) into 100ml = 3.0ug/L Hg

#M11536 06/24/13 USF Na 1000mg/L CPI Lot# 13E225 Exp: 12/14/14

M11539 06/24/13 USF Ca 10,000mg/L CPI Lot# 13B105 Exp: 12/14/14

M11540 06/24/13 USF K 1000mg/L CPI Lot# 13E108 Exp: 12/14/14

M11541 06/25/13 USF potassium permanganate solin: 50g Potassium permanganate (#M11285) dissolve into 1,000ml of D.I. H2O. Exp: 12/25/13

M11542 06/26/13 Custom Assurance Std Spex CertiPrep Lot # 3-8 exp 6/14.

#M11543 06/26/13 USF — Hg Working Stds: (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg
1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg
2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg
4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg
5.0ml of 100ug/L Hg into 100ml =5.0ug/L Hg
10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg

#M11544 06/26/13 USF — Hg Alt Source Working Std: (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg
1.0ml of 10mg/L into 100ml = 100ug/L Hg

#M11545 06/26/13 USF — Hg ICV / LCSW (0.2% HNO3, HCl)
3.0ml of 100ug/L Hg (#M11544) into 100ml = 3.0ug/L Hg

#M11546 06/26/13 USF — Hg CCV (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg

#M11547 06/26/13 USF — Hg MRL: (0.2% HNO3, HCl)
0.2ml of 100ug/L Hg (#M11544) into 100ml = 0.2ug/L Hg

#M11548 06/26/13 USF — Hg Aqua Regia Reagent: "Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)

#M11549 06/26/13 USF — Stannous Chloride Reagent: Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M10[illegible]) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M11550 6-26-13 ZA 10,000 µg/mL Env Express Lot #1311349 exp 12/14

#M11551 07/03/13 USF — Hg Working Stds: (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg
1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg
2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg
4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg
5.0ml of 100ug/L Hg into 100ml =5.0ug/L Hg
10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg

#M11552 07/03/13 USF — Hg Alt Source Working Std: (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg
1.0ml of 10mg/L into 100ml = 100ug/L Hg

#M11553 07/03/13 USF — Hg ICV / LCSW (0.2% HNO3, HCl)
3.0ml of 100ug/L Hg (#M11552) into 100ml = 3.0ug/L Hg

#M11523 06/13/13 MDS GEAA LOD/LOQ Water Spiking Soln: Into a 1L vol. Flask, Pipet 10mL of #M11522 (1% HNO_3) and bring up to volume with DI water.

#M11524 06/13/13 13F Potassium Persulfate: 50g potassium persulfate (#M9903) dissolve into 1,000mL D.I. H_2O. Exp: 12/13/13

#M11525 06/14/13 MDS GEAA LOD/LOQ Soil Working Std: Into a 200mL vol. Flask partially filled with D.I H_2O, pipet the following and bring up to volume with D.I H_2O.

1.2mL Sb 1000mg/L (#M11172) = 6000ug/L Sb
3.2mL As 1000mg/L (#M11173) = 16,000ug/L As
3.2mL Se 1000mg/L (#M11171) = 16,000ug/L Se
0.08mL Pb 10,000mg/L (#M10674) = 4,000ug/L Pb
1.0mL Tl 1000mg/L (#M11361) = 5000ug/L Tl

#M11526 06/14/13 MDS GEAA LOD/LOQ Soil Spiking Std: Into a 1L vol. Flask, pipet 10mL of #M11525 + bring up to volume with DI H_2O.

#M11527 06/14/13 13F — Hg Working Stds: (0.2% HNO_3, HCl)
1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg
1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg
2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg
4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg
5.0ml of 100ug/L Hg into 100ml =5.0ug/L Hg
10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg

#M11528 06/14/13 13F — Hg Alt Source Working Std: (0.2% HNO_3, HCl)
1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg
1.0ml of 10mg/L into 100ml = 100ug/L Hg

#M11529 06/14/13 15F — Hg ICV / LCSW (0.2% HNO_3, HCl)
3.0ml of 100ug/L Hg (#M11528) into 100ml = 3.0ug/L Hg

#M11530 06/14/13 15F — Hg CCV (0.2% HNO_3, HCl)
1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg

#M11531 06/14/13 15F — Hg MRL: (0.2% HNO_3, HCl)
0.2ml of 100ug/L Hg (#M11528) into 100ml = 0.2ug/L Hg

#M11532 06/13/13 15F — Hg Aqua Regia Reagent: "Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO_3 (AB: 554)

#M11533 06/14/13 15F — Stannous Chloride Reagent: Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11495) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M11534 06/20/13 15F NaCl Hydroxylamine Sulfate Reagent: Dissolve into 60g NaCl (#M11493) and 60g hydroxylamine sulfate (#M11376) in 500mL Milli-Q H_2O. Exp: 12/20/13

#M11535 06/14/13 15F Fe 10,000 mg/L CPI lot# 13D184 Exp: 12/14/14

#M11536 06/14/13 15F Mg 10,000 mg/L CPI lot# 13B063 Exp: 12/14/14

#M11537 06/14/13 15F Al 10,000 mg/L CPI lot# 13D129 Exp: 12/14/14

#M11511 06/10/13 15F Nacl Hydroxylamine Sulfate Reagent: Dissolve 600g NaCl (#M11493) and 60g hydroxylamine Sulfate (#M11376) in Seral Milli-a H2O.
Exp: 12/10/13

#M11512 06/10/13 15F Hg Working Stds: (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg
1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg
2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg
4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg
5.0ml of 100ug/L Hg into 100ml =5.0ug/L Hg
10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg

#M11513 06/10/13 15F Hg Alt Source Working Std: (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg
1.0ml of 10mg/L into 100ml = 100ug/L Hg

#M11514 06/10/13 15F Hg ICV / LCSW (0.2% HNO3, HCl)
3.0ml of 100ug/L Hg (#M10573) into 100ml = 3.0ug/L Hg

#M11515 06/10/13 15F Hg CCV (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg

#M11516 06/10/13 15F Hg MRL: (0.2% HNO3, HCl)
0.2ml of 100ug/L Hg (#M10573) into 100ml = 0.2ug/L Hg

#M11517 06/10/13 15F Hg Aqua Regia Reagent: "Carefully" in hood, mix 3 parts HCl (AB: 555) with 1 part HNO3 (AB: 554)

#M11518 06/10/13 15F Stannous Chloride Reagent: Into a 1000 mL volumetric flask, dissolve 10Gg Stannous Chloride (#M[illegible] in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M11519 06/12/13 MES Pd/Mg Modifier: Into a 50mL vol. flask, pipet 15mL #M11511 and 5mL #M10551. Bring up to volume with milli-Q H2O.

#M11520 06/12/13 MES GFAA LOD/LOQ Soil Ag Spiking Sols: (1% HNO3) Exp 04/24/14
Into a 1L vol. Flask, pipet 10mL of #M11521 and bring up to volume w/ D.I. water.

#M11521 06/13/13 MES GFAA LOD/LOQ Soil Ag Working Std: (1% HNO3) Exp 04/24/14
Into a 250mL vol Flask, partially filled w/ DI water, pipet the following and bring up to volume w/ DI H2O
0.12mL Ag 100mg/L (#M11179) = 1.00 mg/L Ag

#M11522 06/13/13 MES GFAA LOD/LOQ Water Working Std: (1% HNO3)
Into a 100mL vol. Flask, partially filled with DI H2O, pipet the following + bring up to volume w/ DI H2O.
1.5mL Sb 1000mg/L (#M11172) = 15.000 mg/L Sb
1.0mL As 1000mg/L (#M11173) = 10.000 mg/L As
2.0mL Se 1000mg/L (#M11171) = 20.000 mg/L Se
0.045mL Pb 10,000 mg/L (#M10581) = 4500 mg/L Pb
0.4mL Tl 1000 mg/L (#M11361) = 4000 mg/L Tl
0.1mL Ag 1000 mg/L (#M11179) = 1000 mg/L Ag

#M11523 06/13/13 MES

#M11524 06/13/13 MES Exp

TCLP Extraction Fluid #1: Fill a 20L Carboy w/ 19L D.I. H2O. Add 114mL Glacial Acetic Acid (AB: 534) and 128.6mL 10N NaOH (#M13442). Dilute to 20L with D.I. H2O and mix. pH = 4.93 ± 0.05

Exp: 05/13/14

Potassium permanganate Soln: 50g potassium permanganate (#M11285) dissolve into 1 liter of D.I. H2O.

Exp: 5/01/13

Hg Working Stds: (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M10563) into 100ml = 10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100µg/L Hg
0.5ml of 100ug/L Hg into 100ml = 0.5µg/L Hg
1.0ml of 100ug/L Hg into 100ml = 1.0µg/L Hg
2.0ml of 100ug/L Hg into 100ml = 2.0µg/L Hg
4.0ml of 100µg/L Hg into 100ml = 4.0µg/L Hg
5.0ml of 100µg/L Hg into 100ml = 5.0µg/L Hg
10.0ml of 100µg/L Hg into 100ml = 10.0µg/L Hg

Hg Air Source Working Std: (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M9033) into 100ml = 10mg/L Hg
1.0ml of 10mg/L into 100ml = 100ug/L Hg

Hg ICV / LCSW (0.2% HNO3, HCl)
3.0ml of 100ug/L Hg (#M10560) into 100ml = 3.0ug/L Hg

Hg CCV (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M10563) into 100ml = 10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100µg/L Hg
3.0ml of 100ug/L Hg into 100ml = 3.0µg/L Hg

Hg MRL: (0.2% HNO3, HCl)
0.2ml of 100µg/L Hg (#M10560) into 100ml = 0.2µg/L Hg

Hg Aqua Regia Reagent: "Carefully" in hood, mix 3 parts HCl (AB: 553) with 1 part HNO3 (AB: 554)

Stannous Chloride Reagent: Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M10575) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

TCLP Extraction Fluid #1: Fill a 20L Carboy w/ 19L D.I. H2O. Add 114mL Glacial Acetic Acid and 128.6mL 10N NaOH (#M13442). Dilute to 20L w/ D.I. H2O and mix. pH = 4.93 ± 0.05

10N NaOH: Into a 1L Flask, add 400g NaOH (#M10445) and bring to volume w/ D.I. H2O.

TCLP Extraction Fluid #1: Fill a 20L Carboy w/ 19L D.I. H2O. Add 114mL Glacial Acetic Acid (AB: 565) and add 128.6mL 10N NaOH (#M13442). Dilute to 20L w/ D.I. H2O and mix. pH = 4.93 ± 0.05

TCLP Extraction Fluid #1: Fill a 20L Carboy w/ 19L D.I. H2O. Add 114mL Glacial Acetic Acid (AB: 565) and add 128.6mL 10N NaOH (#M13442). Dilute to 20L w/ D.I. H2O and mix. pH = 4.93 ± 0.05

Potassium permanganate Soln: 50g Potassium permanganate (#M11285) dissolve into 1 liter of D.I. H2O.

Exp: 5/01/13

#M11483 05/28/13 SF	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M12563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg into 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M11484 05/28/13 SF	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9033) into 100ml = 10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
#M11485 05/28/13 SF	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M11484) into 100ml = 3.0ug/L Hg
#M11486 05/28/13 SF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M12563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M11487 05/28/13 SF	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M11484) into 100ml = 0.2ug/L Hg
#M11488 05/28/13 SF	Hg Aqua Regia Reagent:	*Carefully* in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M11489 05/28/13 SF	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11485) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M11490 05/20/13 SF TCLP Extraction Fluid #1: Fill a 7gl carboy with 19L D.I. H_2O. Add 114mL Glacial Acetic Acid (AB:534) and 128.6mL 1N NaOH (#M11344). Dilute to 20L with D.I. H_2O and mix. pH = 4.93 ± 0.05

Exp: 05/20/14

#M11491 05/21/13 SF NaCl Hydroxylamine Sulfate Reagent: Dissolve 60g NaCl (#M12579) and 6g hydroxylamine sulfate (#M11039) in 50mL milli-Q H_2O.

Exp: 11/21/13

#M11492 05/28/13 SF Stannous Chloride (Mallinckrodt) - Lot #0000046028

#M11493 05/28/13 SF Stannous Chloride Fisher Lot no. 126180 F.W. 58.44

#M11494 05/21/13 SF TCLP Extraction Fluid #1: Fill a 7gl carboy with 19L D.I. H_2O. Add 114mL Glacial Acetic Acid (AB:534) and 128.6mL 1N NaOH (#M11344). Dilute to 20L with D.I. H_2O and mix. pH = 4.93 ± 0.05

Exp: 05/21/14

#M11495 05/28/13 SF TCLP Extraction Fluid #1: Fill a 7gl carboy with 19L D.I. H_2O. Add 114mL Glacial Acetic Acid (AB:534) and 128.6mL 1N NaOH (#M11344). Dilute to 20L with D.I. H_2O and mix. pH = 4.93 ± 0.05

Exp: 05/28/14

#M11496 05/28/13 SF TCLP Extraction Fluid #1: Fill a 7gl carboy with 19L D.I. H_2O. Add 114mL Glacial Acetic Acid (AB:534) and 128.6mL 1N NaOH (#M11344). Dilute to 20L with D.I. H_2O and mix. pH = 4.93 ± 0.05

Exp: 05/28/13

#M11497 05/28/13 SF

#M11498 05/28/13 SF

#M11499 05/28/13 SF

#M11500 05/28/13 SF

#M11501 05/28/13 SF

#M11502 05/28/13 SF

#M11503 05/28/13 SF

#M11504 05/28/13 SF

#M11505 05/28/13 SF

#M11506 05/29/13 SF

#M11507 05/29/13 SF

#M11508 05/29/13 SF

#M11509 05/29/13 SF

#M11510 05/29/13 SF

4mL Glacial (#M11394) 4.93±0.05

14mL Glacial (#M11394) 4.93±0.05

made to 1mL of DI H2O.

to volume with

(#M1635) in

pipet 5mL DI H2O.

2014

1771

137 Boron + Silicon ICV made to 200 mL vol flask prep'd 0.2mL HCl (PHS-7-13) #M11205 & #M11356 bring up to mark with DI H_2O. ex 5/14.

137 Working ICSA List 2 mix 500 mL vol flask prep'd 50mL of #M11225 at 0.25mL ea of #M11359, #M11362, #M11364, #M11365, #M11360 Bring up to mark with DI H_2O. ex 5/13

Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg into 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
Hg All Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M11444) into 100ml = 3.0ug/L Hg
Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M11444) into 100ml = 0.2ug/L Hg
Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M1635) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

Potassium Persulfate: 5g potassium persulfate (#M16573) dissolve into 100mL of D.I. H_2O. Exp: 11/6/13

Potassium permanganate Soln: 5g potassium permanganate (#M1823) dissolve into 100mL of D.I. H_2O. Exp: 11/6/13

TCLP Extraction Fluid #1: Fill a 2L carboy w/1.9L D.I. H_2O. Add 11.4mL Glacial Acetic Acid (AB:534) and 12.4mL 1.0N NaOH (#M11468). Dilute to 2L with D.I. H_2O and mix. pH: 4.93±0.05. Exp: 05/5/14

#M11458 05/01/13SF TCLP Extraction Fluid #1: Fill a 20L carboy w/19L D.I. H2O. Add 114ml Glacial Acetic Acid (AB: 34) and 128.6ml 1.0N NaOH (#M11344). Dilute to 20L with D.I. H2O and mix. pH = 4.93 ± 0.05
Exp: 04/29/14

#M11459 04/30/13SF TCLP Extraction Fluid #2: Fill a 20L carboy w/19L D.I. H2O. Add 114ml Glacial Acetic Acid (AB: 34) and 128.6ml 1.0N NaOH (#M11344). Dilute to 20L with D.I. H2O and mix. pH = 9.93 ± 0.05
Exp: 04/30/14

#M11460 05/01/13SF Potassium Permanganate Soln: 50g potassium permanganate (#M1905) dissolve into 1000ml of D.I. H2O
Exp: 11/01/13

#M11461 05/01/13SF Hg Working Stds: (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg
1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg
2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg
4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg
5.0ml of 100ug/L Hg into 100ml = 5.0ug/L Hg
10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg

#M11462 05/01/13SF Hg All Source Working Std: (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M8083) into 100ml = 10mg/L Hg
1.0ml of 10mg/L into 100ml = 100ug/L Hg

#M11463 05/01/13SF Hg ICV / LCSW (0.2% HNO3, HCl)
3.0ml of 100ug/L Hg (#M11462) into 100ml = 3.0ug/L Hg

#M11464 05/01/13SF Hg CCV (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg

#M11465 05/01/13SF Hg MRL: (0.2% HNO3, HCl)
0.2ml of 100ug/L Hg (#M11462) into 100ml = 0.2ug/L Hg

#M11466 05/01/13SF Hg Aqua Regia Reagent: "Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)

#M11467 05/01/13SF Stannous Chloride Reagent: Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M1035) in 70 mL HCl (AB: 553). Bring up to volume with DI Water.

#M11468 05/01/13SF 10% Hydroxylamine Sulfate Reagent: Dissolve 100g NaCl (#M1905) and 100g hydroxylamine Sulfate (#M11078) in 500ml Milli-Q H2O
Exp: 11/01/13

#M11469 05/01/13SF 10N NaOH: Into a 1L flask add 400g NaOH (#M1146) and bring up to volume with D.I. H2O.
Exp: 11/01/13

#M11470 - 20 5-1-13 ICV Sodium Potassium: Into a 500 ml vol flask pipet 5mls #M11243 & 5mls M11360's Bring up to mark with DI H2O. Store in HDPE bottle. Exp Jun/2014
No HNO3 No HCl

#M11471 5-1-13 Boron 10% HCl Exp 5-2-13

#M11472 5-1-13 Exp

#M11473 05/09/13SF

#M11474 05/09/13SF

#M11475 05/09/13SF

#M11476 05/09/13SF

#M11477 05/09/13SF

#M11478 05/09/13SF

#M11479 05/09/13SF

#M11480 05/09/13SF

#M11481 05/13/13SF

#M11482 05/13/13SF Exp:

(AB: 554)

de (#M[illegible]) in

Exp: 04/03/14

Exp: 04/03/14

Exp: 04/03/14

Exp: 04/03/14

Vial flush and fill DI

tank: pipet 1 with DI H2O

IO3 (AB: 554)

loride (#M[illegible]) in

#M11442 04/03/13SF TCLP Extraction Fluid #1: Fill a 2L carboy w/1.9L D.I. H2O. Add 11.4ml Glacial Acetic acid (AB: 534) and 12.6ml 1.0N NaOH (#M11344) Dilute to 2L with D.I. H2O and check pH: 4.93 ± 0.05

Exp: 04/03/14

#M11443 04/03/13SF	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml = 10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg into 100ml = 5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M11444 04/03/13SF	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M11445 04/03/13SF	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M 11444) into 100ml = 3.0ug/L Hg
#M11446 04/03/13SF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M11452 04/03/13SF	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M 11444) into 100ml = 0.2ug/L Hg
#M11448 04/03/13SF	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M11449 04/03/13SF	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M[illegible]) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M11450 04/03/13SF Potassium Permanganate Solin: Stg potassium permanganate (#M9703) dissolve into 1 Liter of D.I. H2O.

Exp: 10/03/13

#M11451 04/03/13SF	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg into 100ml = 5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M11444 04/03/13SF	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M11453 04/03/13SF	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M 11452) into 100ml = 3.0ug/L Hg
#M11447 04/03/13SF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M11452 04/03/13SF	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M 11452) into 100ml = 0.2ug/L Hg
#M11456 04/03/13SF	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M11457 04/03/13SF	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M[illegible]) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M11427 04/08/13SF	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M11429) into 100ml = 0.2ug/L Hg
#M11428 04/11/13SF	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1 part HNO3 (AB: 554)
#M11429 04/11/13SF	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11675) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.
#M11430 04/10/13SF	Custom Solution 04/10/13SF	Inorganic Ventures Lot#62-MEB471044 Exp: 04/01/14
#M11431 04/10/13SF	Custom Solution	Inorganic Ventures Lot#62-MEB471043 Exp: 04/01/14
#M11432 04-02-13	GFAA Base Std into Liter Vol flask pipet 2ml 0.5% HNO3 0.25 mls of #M11430 bring up to mark with DI H2O. #K 5/14	
#M11433 4-2-13	GFAA ICV (Alt Source) into 1 Liter Vol flask pipet 1ml 0.5% HNO3 #M11431 Bring up to mark with DI H2O. #K 5/14	
#M11434 4-2-13	GFAA CCV into 1 Liter Vol flask pipet 2ml 0.5% HNO3 0.1mls #M11430 Bring up to mark with DI H2O #K 5/14	
#M11435 04/05/13SF	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg into 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M11436 04/05/13SF	Hg All Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M11437 04/05/13SF	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M11435) into 100ml = 3.0ug/L Hg
#M11438 04/05/13SF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M11439 04/05/13SF	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M11436) into 100ml = 0.2ug/L Hg
#M11440 04/05/13SF	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1 part HNO3 (AB: 554).
#M11441 04/05/13SF	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11675) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M11442 04/08/13SF Ex

#M11443 04/12/13SF

#M11444 04/12/13SF

#M11445 04/12/13SF

#M11446 04/12/13SF

#M11447 04/12/13SF

#M11448 04/12/13SF

#M11449 04/12/13SF

#M11450 04/12/13SF Ex

#M11451 04/22/13SF

#M11452 04/22/13SF

#M11453 04/22/13SF

#M11454 04/22/13SF

#M11455 04/22/13SF

#M11456 04/22/13SF

#M11457 04/22/13SF

	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg into 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M [illegible]) into 100ml = 3.0ug/L Hg
	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M [illegible]) into 100ml = 0.2ug/L Hg
	Hg Aqua Regia Reagent:	"Caroluty" in Food, mix 3 parts HCl (AB: 553) with 1 part HNO3 (AB: 554)
	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M [illegible]) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

Potassium Permanganate Soln: 50g Potassium permanganate (#M[illegible]) dissolve into 1000ml of D.I. H2O
Exp: 09/25/13

Potassium Persulfate: 50g Potassium persulfate (#M10573) dissolve into 1000ml D.I. H2O.
Exp: 09/29/13

NaCl Hydroxylamine Sulfate Reagent: Dissolve 60g NaCl (#M9574) and 60g hydroxylamine sulfate (#M1039) in 500ml Milli-Q H2O.
Exp: 09/29/13

	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg into 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M [illegible]) into 100ml = 3.0ug/L Hg
	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg

#M11398 03/15/13 15F Custom Assurance Standards - Spex certiPrep lot# 1-222XL Exp: 03/30/14
Cat#: XCTW1-S-500 03/15/13

#M11399 03/15/13 15F Interferents A Standard - Spex CertiPrep Lot# 6-126YP Exp: 03/30/14

#M11400 03/15/13 15F Pb 1000mg/L Spex certiPrep Lot# 18-129PBY Exp: 03/30/14

#M11401 03/15/13 15F As 1000 mg/L Spex CertiPrep Lot#: 18-131ASY Exp: 03/30/14

#M11402 03/18/13 15F	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml = 10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg into 100ml = 5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M11403 03/18/13 15F	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M11404 03/18/13 15F	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M11405) into 100ml = 3.0ug/L Hg
#M11405 03/18/13 15F	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M11406 03/18/13 15F	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M11405) into 100ml = 0.2ug/L Hg
#M11407 03/18/13 15F	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1 part HNO3 (AB: 554)
#M11408 03/18/13 15F	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11415) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M11409 03/18/13 15F Hg 1000 mg/L CPI lot# 1211328 Exp: 09/15/14

#M11410 3/21/13 2P INV 2 ICP QC Std Dilute 1 Liter vol flask pipet 5mL #M11411
5% HCl + #M11420 Bring up to mark with DI H2O ex 3/14
5% HNO3 = 5000 ug/L As + Pb

#M11411 3-21-13 2P Pb/As ENV Express Lot# 1234818 ex 3/14

#M11412 03/21/13 15F VLP Correction Fluid #1 Fill a 1 gal carboy with 2 L D.I. H2O. Add 114 mL Glacial Acetic acid (AB: 559) and 128 mL KH2PO4 (#M11344). Dilute to 2 L with D.I. H2O and mix pH = 4.95 ± 0.05 03/21/13 15F

#MI1388 03/02/13SF GFAA Lab Spiking Solution

Spiking Solution calc
Base SPIKE PREPARATION 50x Exp: 4/13

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	(ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
Ag water	0.4	MI1170	1000	0.02
As water	4	MI1173	1000	0.2
Pb water	1.6	MI0839	1000	0.08
Sb water	6	MI1172	1000	0.3
Se water	8	MI1171	1000	0.4
TlSolid	1.2	MI0858	1000	0.06

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

#MI1389 03/02/13SF GFAA Soil Lab Spiking Solution

Spiking Solution calc
Base SPIKE PREPARATION 50x Exp: 4/13

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	(ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
Ag soil	0.48	MI1170	1000	0.024
As soil	6.4	MI1173	1000	0.32
Pb soil	1.6	MI0839	1000	0.08
Sb soil	2.4	MI1172	1000	0.12
Se soil	6.4	MI1171	1000	0.32
TlSolid	2	MI0858	1000	0.1

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working standard or 1 ml into 50 ml digestion tube for a digested working standard.

#MI1390 03/11/13SF — Hg Working Stds: (0.2% HNO3, HCl)

1.0ml of [illegible]ug/L Hg (#MI10563) into 100ml=10mg/L Hg
1.0ml of [illegible]mg/L Hg into 100ml = 100ug/L Hg
0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg
1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg
2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg
4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg
5.0ml of 100ug/L Hg into 100ml =5.0ug/L Hg
10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg

#MI1391 03/11/13SF — Hg All Source Working Std: (0.2% (HNO3, HCl)

1.0ml of 1000mg/L Hg (#M88063) into 100ml = 10mg/L Hg
1.0ml of 10mg/L into 100ml = 100ug/L Hg

#MI1392 03/11/13SF — Hg ICV / LCSW (0.2% HNO3, HCl)

3.0ml of 100ug/L Hg (#MI1391 03/11/13SF) into 100ml = 3.0ug/L Hg

#MI1393 03/11/13SF — Hg CCV (0.2% HNO3, HCl)

1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg

#MI1394 03/11/13SF — Hg MRL: (0.2% HNO3, HCl)

0.2ml of 100ug/L Hg (#MI1391 03/11/13SF) into 100ml = 0.2ug/L Hg

#MI1395 03/11/13SF — Hg Aqua Regia Reagent: "Carefully" in hood, mix 3 parts HCl (AB: 563) with 1 part HNO3 (AB: 554)

#MI1396 03/11/13SF — Stannous Chloride Reagent: Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M[illegible]) in 70 mL HCl (AB: 563). Bring up to volume with D.I. Water.

#MI1397 03/11/13SF TCLP Extraction Fluid #1: Fill a 2 L carboy with 991 mL DI H2O. Add 11.4 mL Glacial Acetic Acid (AB: 534) and 17.2 mL 1N NaOH (#MI1354). Dilute to 2 L with DI H2O and mix. pH = 4.93 ± 0.05

Exp: 03/14/14

#M113810364/13SF TCLP Extraction #1 #1: Fill a 2L carboy w/1.6L DI H2O. Add 11.4 mL Glacial Acetic Acid (#5.534) and 128 mL 1N NaOH (#M11344). Dilute to 2L with DI H2O and mix. pH=4.93±0.05

Exp: 03/6/14

#M113820 Working Stds ICB 2 into 4 200 mL vol flasks pipet

3-5-13 JD

PE NIMS		
17 Hg/L	10	0.02 mL #M11203 & .002 mL #M113165
	100 ng/L	0.2 mL #M11203 & .02 mL #M113165
	1000 ng/L	2 mL #M11203 & .2 mL #M113165
	10,000 ng/L	20 mL #M11203 & 2 mL #M113165

Bringing to mark with DI H2O or NON 2013

#M113830 ICV L2 into a 200 mL vol flask pipet 0.2 mL of #M113556, #M113565, #M113559, #M113560 and #M113561

5-5-13 JD

1% HNO3

1% HCl

Bring up to mark with DI H2O 5-12-13

#M113841 03/07/13SF LOD, LOQ Check (3050) 7 into 1 liter volumetric flask pipet 1 mL #M11343. bring up to mark with DI H2O x50 dilution use 1 mL in 50 mL for 140 ng/L or 6 ng/kg.

Exp: 01/28/14

#M113851 03/07/13SF LOD, LOQ Check 5 H2O. 7 into a 1 liter volumetric flask pipet 1 mL #M11343. bring up to mark with DI H2O 350 dilution use 1 mL in 50 or 10 into 500 mL for 20 ng/L or 6 ng/kg.

Exp: 01/28/14

#M113860 03/08/13SF Hg LOQ spiking solution

Spiking Solution calc
Base SPIKE PREPARATION 50x Exp: 04/13

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	[ug/L]	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
Hg water	0.12	M113563	1000	0.006

Of the Base standard, pipet 10 mL into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

#M113871 03/08/13SF Hg soil LOQ spiking solution

Spiking Solution calc
Base SPIKE PREPARATION 50x Exp: 04/13

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	[ug/L]	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
Hg soil	3.2	M113563	1000	0.01

Of the Base standard, pipet 10 mL into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

[redacted]

#M11368 01/16/13SF Fe 10,000mg/L CCI Lot# BB529 Exp: 08/20/14

#M1369 01/28/13SF	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml =0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg into 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M11370 01/28/13SF	Hg All Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M11371 01/29/13SF	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M 11370) into 100ml = 3.0ug/L Hg
#M11372 01/28/13SF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M11373 01/29/13SF	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M 11370) into 100ml = 0.2ug/L Hg
#M1374 01/28/13SF	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M11375 01/28/13SF	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M[redacted]) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water. [redacted]

#M11376 01/16/13SF (Fisher) Hydroxylamine Sulfate Lot#111647BA Exp: 03/01/14

M11377 5 working stds. made to 4 100 ml vol. flask pipet respectively
3-1-13 from #M 11343 10,000 mg/L S Spex Certiprep Lot# AC16-1755 Y&H
0.01 mls → = 1000 ug/L S
0.1 mls → = 10,000 ug/L S
1.0 mls → = 100,000 ug/L S
10 mls → = 1000 kg/L S
Bring up + mark w/ DI H2O ac 2/14

M11378 S IOV(RB) made 1 100 vol flask pipet from #M10773
3-1-13 Plasma Cal Lot S120116017 0.01 mls = 100 ug/L S. ac 10/13
bring up to mark w/DI

#M11379 03/04/13SF Stannous Chloride (Macron) - Lot #0000017703

M11380 3/4/13 IOV made 1 liter vol flask pipet 10 mls M11342, 2 mls #M11425, 0.5 mls #M11357. Bring up to mark with DI H2O. ac Nov. 2013

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#M11349 02/19/13SF — Hg MRL (0.2% HNO3, HCl): 0.2ml of 100ug/L Hg (#M11496) into 100ml = 0.2ug/L Hg

#M11350 02/19/13SF — Hg Aqua Regia Reagent: "Carefully" in hood, mix 3 parts HCl (AB: 553) with 1 part HNO3 (AB: 554)

#M11351 02/19/13SF — Stannous Chloride Reagent: Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11495) in 70 mL HC (AB: 553). Bring up to volume with D.I. Water.

#M11352 02/22/13SF Potassium permanganate Soln: 50g potassium permanganate (#M11493) dissolved into 1000mL of D.I. H2O. Exp: 08/22/13

#M11353 02/22/13SF NaCl Hydroxylamine Sulfate Reagent: Dissolve 60g NaCl (#M11574) and 60g hydroxylamine sulfate (#M11496) in 500mL milli-Q H2O. Exp: 08/22/13

#M11354 02/22/13SF TCLP Extraction Fluid #1: Fill a 2L carboy with 1.9L D.I. H2O. Add 11.4mL Glacial Acetic Acid (AB: 534) and 128.6mL 1.0N NaOH (#M11344). Dilute to 2L with D.I. H2O and mix. pH = 4.93 ± 0.05. Exp: 02/22/14

#M11355 2-22-13 CPF Ca 1000mg/L CPI Lot # 12H0167 ex. 8/20/14

#M11356 02/26/13 CSP Si 1000 mg/L CPI Lot#134214 Exp: 08/20/14

#M11357 02/26/13SF MO 1000 mg/L CPI Lot#12K060 Exp: 08/20/14

#M11358 02/26/13SF Al 1000 mg/L CPI Lot#13A215 Exp: 08/20/14

#M11359 02/26/13SF Sn 1000 mg/L CPI Lot#121135 Exp: 08/20/14

#M11360 02/26/13SF Sr 1000 mg/L CPI Lot#12L094 Exp: 08/20/14

#M11361 02/26/13SF Tl 1000mg/L CPI Lot#126229 Exp: 08/20/14

#M11362 02/26/13SF Li 1000mg/L CPI Lot#12A008 Exp: 08/20/14

#M11363 02/26/13SF Al 10,000mg/L CPI Lot#12K049 Exp: 08/20/14

#M11364 02/26/13SF Ti 1000mg/L CPI Lot#12K061 Exp: 08/20/14

#M11365 02/26/13SF V 1000mg/L CPI Lot#12H257 Exp: 08/20/14

#M11366 02/26/13SF Mo 1000mg/L CPI Lot#13A214 Exp: 08/20/14

#M11367 02/26/13SF Ca 10,000mg/L CPI Lot#12L059 Exp: 08/20/14

#M11336 02/13/13SF TCLP Extraction Fluid #1: Fill a 1gl carboy with 19L D.I. H2O. Add 114ml Glacial Acetic Acid (AB534) and 128.6ml 10N NaOH (#M10910). Dilute to 20L with D.I. H2O and mix. pH = 4.93 ± 0.05
Exp: 02/13/14

#M11337 02/08/13SF Potassium permanganate soln: 50g potassium permanganate (#M9903) dissolve into 1,000mL of D.I. H2O.
Exp: 08/08/13

#M11338 02/14/13SF TCLP Extraction Fluid #1: Fill a 20L carboy with 19L D.I. H2O. Add 114ml Glacial Acetic Acid (AB534) and 128.6ml 10N NaOH (#M10910). Dilute to 20L with D.I. H2O and mix. pH = 4.93 ± 0.05
Exp: 02/14/14

#M11339 2-13-13 TCLP Extraction Fluid #1: Fill a 20 Liter w/ 19L DI H2O. Add 114 ml Glacial Acetic Acid (AB-534) and 128.6 ml 10N NaOH (#M10910) Dilute to 20L with DI H2O & mix. pH = 4.93 ± .05
(Exp 2-13-13)

#M11340 02/16/13SF Splp Extraction Fluid #1: Into a 20L carboy add D.I. H2O to mark and adjust pH to 4.20 ± 0.05 with M10857.
Exp: 08/16/13

#M11341 02/16/13SF TCLP Extraction Fluid #1: Fill a 20L carboy with 19L D.I. H2O. Add 114ml Glacial Acetic Acid (AB534) and 128.6ml 10N NaOH (#M10910). Dilute to 20L with D.I. H2O and mix. pH = 4.93 ± 0.05
Exp: 02/16/14

#M11342 2-18-13 Cesium Assurance Std. x spike-1-250 Spec Cal/prep Lot# 18-157CE

#M11343 2-18-13 Sulfa 10,000 mg/L Spex Certiprep Lot# A6M-172-5X

#M11344 02/18/13SF 10N NaOH: Into a 1L flask add 400g NaOH (#M11145) and bring up to volume with D.I. H2O.
Exp: 08/18/13

#M11345 02/18/13SF Hg Working Stds: (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg
1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg
2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg
4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg
5.0ml of 100ug/L Hg into 100ml = 5.0ug/L Hg
10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg

#M11346 02/19/13SF Hg All Source Working Std: (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg
1.0ml of 10mg/L into 100ml = 100ug/L Hg

#M11347 02/19/13SF Hg ICV / LCSW (0.2% HNO3, HCl)
3.0ml of 100ug/L Hg (#M11346) into 100ml = 3.0ug/L Hg

#M11348 02/19/13SF Hg CCV (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg

#MM321 01/04/15F	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M1330) into 100ml = 3.0ug/L Hg
#MM322 01/04/15F	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#MM323 01/04/15F	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M1320) into 100ml = 0.2ug/L Hg
#MM324 01/04/15F	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1 part HNO3 (AB: 554)
#MM325 01/04/15F	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M1005) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.
#MM326 01/04/15F	TCLP Extraction Fluid #1:	Fill a 2L carboy w/ 1.92L D.I. H2O. Add 11.4mL Glacial Acetic Acid (AB: 534) and 11.2mL of 1N NaOH (#M1010). Dilute to 2L with D.I. H2O and mix. pH = 4.93 ± 0.05
Exp: 01/30/14		
#MM327 #MM328 01/04/15F	1N HCl for TCLP:	Into a 1L vol. flask, partially filled with Milli-Q H2O, add 83mL of Conc. HCl (AB: 560) and bring up to volume with Milli-Q H2O.
Exp: 01/05/14		
#MM329 01/04/15F	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg into 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#MM330 01/04/15F	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9963) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#MM331 01/04/15F	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M1329) into 100ml = 3.0ug/L Hg
#MM332 01/04/15F	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#MM333 01/04/15F	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M1329) into 100ml = 0.2ug/L Hg
#MM334 01/04/15F	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1 part HNO3 (AB: 554)
#MM335 01/04/15F	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M1005) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.
#MM336 01/04/15F	10% Hydroxylamine Sulfate Reagent:	Dissolve 100g HCl (#M0570) and 100g Hydroxylamine Sulfate (#M0566) in 700mL Milli-Q H2O.
Exp: 01/05/13		

#MM1308 01/17/13SF TCLP Extraction Fluid #1: Fill a 2gL carboy w/19L D.I. H2O. Add 11.4mL Glacial Acetic Acid (AB:534) and 128.6mL 1N NaOH (#MM1282). Dilute to 20L with D.I. H2O and mix. pH = 4.93 ± 0.05
Exp: 01/18/14

#MM1309 01/21/13SF TCLP Extraction Fluid #1: Fill a 2gL carboy w/19L D.I. H2O. Add 11.4mL Glacial Acetic Acid (AB:534) and 128.6mL 1N NaOH (#MM1282). Dilute to 20L with D.I. H2O and mix. pH = 4.93 ± 0.05
Exp: 01/21/14

#MM1310 1-22-13 Lachat Assurance Standard Spex Cert prep Lot# 18-068CR exp 1/14

#MM1311 01/22/13SF — Hg Working Stds: (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg
1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg
2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg
4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg
5.0ml of 100ug/L Hg into 100ml =5.0ug/L Hg
10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg

#MM1312 01/22/13SF — Hg Alt Source Working Std: (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg
1.0ml of 10mg/L into 100ml = 100ug/L Hg

#MM1313 01/22/13SF — Hg ICV / LCSW (0.2% HNO3, HCl)
3.0ml of 100ug/L Hg (#MM1312) into 100ml = 3.0ug/L Hg

#MM1314 01/22/13SF — Hg CCV (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg

#MM1315 01/22/13SF — Hg MRL: (0.2% HNO3, HCl)
0.2ml of 100ug/L Hg (#M 0312) into 100ml = 0.2ug/L Hg

#MM1316 01/22/13SF — Hg Aqua Regia Reagent:
"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1 part HNO3 (AB: 554)

#MM1317 01/22/13SF — Stannous Chloride Reagent:
Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M 8057) in ~70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#MM1318 01/23/13SF Potassium permanganate solution Potassium permanganate (#M7083)
Exp: #MM1318 01/23/13 dissolve into 1000ml of D.I. H2O

#MM1319 01/29/13SF — Hg Working Stds: (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg
1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg
2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg
4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg
5.0ml of 100ug/L Hg into 100ml =5.0ug/L Hg
10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg

#MM1320 01/29/13SF — Hg Alt Source Working Std: (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg
1.0ml of 10mg/L into 100ml = 100ug/L Hg

#M11306 01/15/13SF

MDL Spiking solin all 50X into 1 liter vol flask pipet the following:

Bring upto volume with D.I. H_2O. Use final into 50ml or 100ml into 500.

3050 MDL Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	MDL (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
As	5	M11175	1000	0.25
Al	10	M10870	10000	0.05
As	20	M11173	1000	5
Ba	2	M11052	1000	0.1
Be	0.5	M11259	1000	0.025
Ca	50	M10993	10000	0.25
Cd	0.5	M11242	1000	0.025
Cr	2.5	M10567	1000	0.125
Cr	5	M11053	10000	0.025
Cu	10	M11057	10000	0.05
Fe	20	M11228	10000	0.1
Mg	25	M10883	10000	0.125
Mn	5	M11054	10000	0.025
Mo	2.5	M10560	5000	0.125
Ni	5	M10585	5000	0.25
Pb	10	M10839	10000	0.05
Sb	20	M11172	5000	1
Se	20	M11171	5000	1
Tl	20	M10568	5000	1
V	5	M11247	5000	0.25
Zn	5	M11240	10000	0.025

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

EXPIRES 01/02/13

#M11301 01/15/13SF

MDL Spiking Solin B,Si into 1 L vol flask pipet the following:

Bring up to volume with D.I. H_2O. Use final into 5cmls or 10ml into 50cmls.

3050 MDL Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	MDL (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
B	20	M11206	1000	1
Si	100	M10990	5000	5

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

EXPIRES 01/02/13

#M11301 01/16/13SF TCLP Extraction Fluid #1 [illegible] a 20L carboy w/ 19L D.I. H_2O. Add 114mL Glacial Acetic Acid (AB-538) and 128.6mL 6N NaOH (#M1296). Dilute to 20L with D.I. H_2O and mix. pH=4.93 ± 0.05

Exp: 01/16/14

#M11292 01/04/13 SF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M11293 01/04/13 SF	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M10290) into 100ml = 0.2ug/L Hg
#M11294 01/04/13 SF	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
M11295 01/04/13 SF	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11015) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.
#M11296 01/02/13 SF Exp: 01/02/14	10N NaOH:	Into a 1L flask add 400g NaOH (#M10570) and bring up to volume with D.I. H2O.
#M11297 01/10/13 SF Exp: 07/10/13	Potassium persulfate:	50g Potassium persulfate (#M10533) dissolve into 1L of D.I. H2O.
#M11298 01/11/13 SF	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg into 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M11299 01/11/13 SF	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M11300 01/11/13 SF	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M11299) into 100ml = 3.0ug/L Hg
#M11301 01/11/13 SF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M11302 01/11/13 SF	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M11299) into 100ml = 0.2ug/L Hg
#M11303 01/11/13 SF	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M11304 01/11/13 SF	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M[illegible]) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M11284 @A
5% HCl 1-4-13
5% HNO3

3050 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	LOQ (ug/L)	Std ID #	Std Conc (ug/L)	Amount (mL) to pipet into 1 L
U	14.4	M12567	1000	0.72
Sn	20	M12562	1000	1
Sr	3.2	M10992	1000	0.16
Tl	9.6	M10739	1000	0.48
W	24	M12569	1000	1.2

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std at 1 mg into 50 ml digestion tube for a digested working standard.

Expires 4/13

#M11286 01/04/13SF Sodium Citrate (Macron) - lot no.

#M11285 Potassium Permanganate (Fisher) - Lot no. 123302
01/04/13SF

#M11286 01/07/13SF 10% Hydroxylamine Sulfate Reagent Dissolve 100g used (#M11574) and bag hydroxylamine sulfate (#M11575) in 500mL Milli-Q H2O.
Exp: 07/07/13

ICAP Working Standards Boron & Silicon

#M11287 2
1-7-13

Standard
ug/mL Into 1 liter Pipet the following respectively:

50 0.5 mls of #M11203 and .05mls #M10560 = 50 ug/L
100 1.0 mls of #M11203 and 0.1mls #M10560 = 100 ug/L
1000 10 mls of #M11203 and 1.0mls #M10560 = 1000 ug/L
2000 20 mls of #M11203 and 2.0mls #M10560 = 1000 ug/L
10000 100 mls of #M11203 and 10mls #M10560 = 10000 ug/L

5% HNO3 ex 12-13

#M11288 2
1-7-13

Initial Calibration Standard (ICV) B, Si
Into 1 liter vol flsk pipet 1 ml of #M11205 & M10564
bring up to mark with DI H2O ex #13

#M11289 01/04/13SF

Hg Working Stds:
(0.2% HNO3, HCl)

1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg
1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg
2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg
4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg
5.0ml of 100ug/L Hg into 100ml =5.0ug/L Hg
10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg

#M11290 01/04/13SF

Hg Alt Source Working Std:
(0.2% HNO3, HCl)

1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg
1.0ml of 10mg/L into 100ml = 100ug/L Hg

#M11291 01/07/13SF

Hg ICV / LCSW
(0.2% HNO3, HCl)

3.0ml of 100ug/L Hg (#M1290) into 100ml = 3.0ug/L Hg

#M11280 2I 1-4-13
5% HCl, 5% HNO3

3050 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
K	2440	M11243	50000	13.2
Na	965	M10970	10000	4.8

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expires: 4/13

#M11281 2I 1-4-13
5% HCl, 5% HNO3

3050 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
B	52	M11205	5000	2.8
Si	192	M10564	1000	9.6

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expires: 4/13

#M11282 2I 1-4-13
5% HCl, 5% HNO3

3010 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
B	10	M11205	1000	0.8
Si	200	M10564	1000	10

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expires: 13-Apr

#M10583 2I 1-4-13
5% HCl
5% HNO3

3010 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
Li	10	M10587	1000	0.5
Sn	10	M10592	1000	0.5
Sr	2	M10593	1000	0.1
Ti	6	M10705	1000	0.4
W	38	M10594	1000	1.9

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expires: 13-Apr

1-4-13

#M11278 1-4-13
5% HCl 5% HNO3
2l

3010 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
Ag	4	M11270	1000	0.2
Al	33	M11228	10000	0.18
As	24	M11173	1000	1.2
Ba	2.6	M10952	1000	0.09
Be	0.6	M11239	1000	0.03
Ca	100	M11227	99000	0.5
Cd	2	M11242	1000	0.1
Co	4	M10661	1000	0.2
Cr	2	M11053	10000	0.02
Cu	7	M11051	10000	0.035
Fe	20	M11228	25000	0.5
Mg	42	M11228	10000	0.2
Mn	4	M11054	10000	0.02
Mo	7	M10680	5000	0.35
Ni	6	M10665	5000	0.3
Pb	4	M10668	18000	0.09
Sb	12	M11172	1000	0.6
Se	13	M11171	1000	0.65
Tl	15	M10666	1200	0.15
V	5	M11241	1000	0.25
Zn	10	M11240	10000	0.05

Of this Base Standard, pipet 10 mL into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expires: 13-Apr

#M11279 1-4-13
5% HCl, 5% HNO3

3050 LOQ Spiking Solution:
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
Ag	4	M11270	1000	0.2
Al	9.2	M11228	10000	0.048
As	32	M11173	1000	1.6
Ba	2	M10952	1000	0.1
Be	1.8	M11239	1000	0.09
Ca	58	M11227	10000	0.28
Cd	1.6	M11242	1000	0.08
Co	9.6	M10661	5000	0.48
Cr	5.6	M11053	10000	0.028
Cu	16	M11051	10000	0.08
Fe	72	M11228	10000	0.36
Mg	32	M11228	10000	0.16
Mn	6	M11054	10000	0.03
Mo	9.6	M10680	1000	0.48
Ni	4.8	M10665	1000	0.24
Pb	80	M10668	18000	0.09
Sb	32	M11172	1000	1.6
Se	16	M11171	1000	0.8
Tl	19	M10666	1200	0.95
V	3.2	M11243	1000	0.16
Zn	12	M11240	10000	0.06

Of this Base standard, pipet 10 mL into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expires: 4/13

[redacted]

#M11268 Hg
1-2-13
ICV No. K
5% HCl 5% HNO3

Initial Calibration Standard (ICV) In to 500 ml volumetric pipette 5 mls of #M10570 and #M11243 and bring up to mark with DI H2O. expires april 2013.

#M11269 01/03/13SF — Hg Working Stds: (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg
1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg
2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg
4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg
5.0ml of 100ug/L Hg into 100ml =5.0ug/L Hg
10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg

#M11270 01/03/13SF — Hg All Source Working Std: (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg
1.0ml of 10mg/L into 100ml = 100ug/L Hg

#M11271 01/03/13SF — Hg ICV / LCSW (0.2% HNO3, HCl)
3.0ml of 100ug/L Hg (#M11270) into 100ml = 3.0ug/L Hg

#M11272 01/03/13SF — Hg CCV (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
3.0ml of 10mg/L Hg into 100ml = 300ug/L Hg
3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg

#M11273 01/03/13SF — Hg MRL: (0.2% HNO3, HCl)
0.2ml of 100ug/L Hg (#M11270) into 100ml = 0.2ug/L Hg

#M11274 01/03/13SF — Hg Aqua Regia Reagent: "Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 564)

#M10575 01/03/13SF — Stannous Chloride Reagent: Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M10575) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M11276 01/03/13SF — TCLP Extraction Fluid #1: Into a 20 L carboy with DI H2O, Add 11.4mL Glacial Acetic Acid (AB:534) and 128.6mL 1.0N NaOH (#M10901). Dilute to 20L with DI H2O and mix. pH = 4.93 ± 0.05
Exp: 01/03/14

#M11277 1-4-13SF — 5% HCl, 5% HNO3

3010 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

Into a 100 mL Volumetric Flask, pipet the following

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 100 mL
Cr	500	M11243	1000	2.5
Pb	600	M10570	1000	3

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expires: 13-Apr

#M11263 12/27/2012F
#M11264 12/27/2012F

Aqua Regia Reagent: "Carefully" in hood, mix 3 parts HCl (AB: 553) with 1 part HNO3 (AB: 554)

Stannous Chloride Reagent: Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M 1405) in ~70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M11265 12/28/2012F Potassium Permanganate Sol'n: 50g potassium permanganate (#M1708) dissolved into 1 liter of D.I. H_2O.
Exp: 06/28/13

#M11266 12-13
2%
2% HNO_3
5% HCl

ICAL Working Solution
Base STOCK PREPARATION 50x

→ Into a 1000 mL Volumetric Flask, pipet the following

Analyte	MDL (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
Ag	20	M11170	1000	1
Al	400	M11228	10000	2
As	2C	M11062	1000	2.5
Be	4	M11236	1000	2.5
Cd	5	M11242	1000	0.25
Co	3C	M12561	1000	2.5
Cr	3C	M11563	10000	0.05
Cu	3C	M11561	10000	0.05
Mg	500	M11229	10000	2.5
Mn	3C	M11564	10000	0.05
Mo	3C	M12560	1000	2.5
Ni	3C	M12565	1000	2.5
Pb	3C	M12559	10000	0.05
Sb	2C	M11172	1000	1
V	3C	M11241	1000	2.5
Zn	3C	M11240	10000	0.05
K	9000	M11243	10000	25
Na	1000	M10570	10000	5
As	2C	M11173	1000	5
Ca	500	M11227	10000	2.5
Fe	300	M11238	10000	1.5
Se	20	M11171	1000	1
Tl	20	M10566	1000	1
Si	100	M10564	1000	5
B	20	M11235	1000	1
Li	20	M10567	1000	1
W	50	M10569	1000	2.5
Ti	10	M10729	1000	0.5
Sr	10	M10568	1000	0.5
Mo	50	M10562	1000	2.5
S	500	M10775	2000	5

Of the Base standard, pipet 10 mls into 200 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard. EX 4-13

#M11267 1-2-13 NAK working Stds
2%

Working Standards for Sodium and Potassium; into seven, 200 ml volumetric flasks pipette from #M11245 and #M11244.

For the 0.5 mg/L std– 0.1 mls of each
1.0 mg/L std – 0.2 mls of each
5.0 mg/L std – 1.0 mls of each
10.0 mg/L std – 2.0 mls of each
50.0 mg/L std - 10.0 mls of each
100 mg/L std -20.0 mls each also used for Continuing Calibration Standard (CCV)
200 mg/L std -40.0 mls of each
Bring up to mark with DI H2O. Expires June 5 2014.

[redacted]

INORGANIC
CLP FORMS
DOCUMENTS

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INORGANIC ANALYSIS DATA SHEET

Sample Description

100215R1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	114433
% Solids:		Lab Sample ID:	640608
Analytical Method:	EPA 9060A	Date Received:	10/03/2015
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	119544	Analysis Date/Time	10/13/2015 09:49
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL W34137	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

100215R1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	114433
% Solids:		Lab Sample ID:	640607
Analytical Method:	EPA 9056A	Date Received:	10/03/2015
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	119481	Analysis Date/Time	10/03/2015 13:11
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	IC0218A NE	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	2.0	U	1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.11	J	0.080	0.15	0.40	0.40
14808-79-8	Sulfate	2.5	U	1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	114433
% Solids:		Lab Sample ID:	640605
Analytical Method:	EPA 9056A	Date Received:	10/03/2015
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	119481	Analysis Date/Time	10/03/2015 12:50
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	IC0218A NE	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	3.1	J	1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.38	J	0.080	0.15	0.40	0.40
14808-79-8	Sulfate	41		1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	114433
% Solids:		Lab Sample ID:	640606
Analytical Method:	EPA 9060A	Date Received:	10/03/2015
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	119544	Analysis Date/Time	10/06/2015 20:19
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	"	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	26		0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	114433
% Solids:		Lab Sample ID:	640601
Analytical Method:	EPA 9056A	Date Received:	10/03/2015
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	119481	Analysis Date/Time	10/03/2015 10:59
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	IC0218A NE	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	2.9	J	1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.31	J	0.080	0.15	0.40	0.40
14808-79-8	Sulfate	41	J M	1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	114433
% Solids:		Lab Sample ID:	640602
Analytical Method:	EPA 9060A	Date Received:	10/03/2015
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	119544	Analysis Date/Time	10/06/2015 19:53
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	"	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	23		0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW4

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	114433
% Solids:		Lab Sample ID:	640603
Analytical Method:	EPA 9056A	Date Received:	10/03/2015
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	119481	Analysis Date/Time	10/03/2015 12:29
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	IC0218A NE	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	5.1		1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.42		0.080	0.15	0.40	0.40
14808-79-8	Sulfate	33		1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW4

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	114433
% Solids:		Lab Sample ID:	640604
Analytical Method:	EPA 9060A	Date Received:	10/03/2015
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	119544	Analysis Date/Time	10/06/2015 20:06
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	"	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	23		0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	114433
% Solids:		Lab Sample ID:	640254
Analytical Method:	EPA 9056A	Date Received:	10/02/2015
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	119453	Analysis Date/Time	10/02/2015 13:36
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	IC0218A NE	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	9.9		1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	3.6		0.080	0.15	0.40	0.40

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INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	114433
% Solids:		Lab Sample ID:	640255
Analytical Method:	EPA 9060A	Date Received:	10/02/2015
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	119544	Analysis Date/Time	10/06/2015 17:40
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	"	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	23		0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	114433
% Solids:		Lab Sample ID:	640254
Analytical Method:	EPA 9056A	Date Received:	10/02/2015
Dilution Factor:	5.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	119453	Analysis Date/Time	10/02/2015 18:08
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	IC0218A NE	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
14808-79-8	Sulfate	140		6.5	13	25	25

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INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW07

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	114433
% Solids:		Lab Sample ID:	640251
Analytical Method:	EPA 9056A	Date Received:	10/02/2015
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	119453	Analysis Date/Time	10/02/2015 13:15
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	IC0218A NE	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	1.2	J	1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.97		0.080	0.15	0.40	0.40
14808-79-8	Sulfate	1.4	J	1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW07

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	114433
% Solids:		Lab Sample ID:	640252
Analytical Method:	EPA 9060A	Date Received:	10/02/2015
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	119544	Analysis Date/Time	10/06/2015 17:28
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	"	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	5.2		0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	114433
% Solids:		Lab Sample ID:	640260
Analytical Method:	EPA 9056A	Date Received:	10/02/2015
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	119453	Analysis Date/Time	10/02/2015 15:42
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	IC0218A NE	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	3.0	J	1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	1.3		0.080	0.15	0.40	0.40
14808-79-8	Sulfate	48		1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	114433
% Solids:		Lab Sample ID:	640261
Analytical Method:	EPA 9060A	Date Received:	10/02/2015
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	119544	Analysis Date/Time	10/06/2015 19:27
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	"	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	12		0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	114433
% Solids:		Lab Sample ID:	640258
Analytical Method:	EPA 9056A	Date Received:	10/02/2015
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	119453	Analysis Date/Time	10/02/2015 14:18
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	IC0218A NE	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	1.7	J	1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.76		0.080	0.15	0.40	0.40
14808-79-8	Sulfate	10		1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	114433
% Solids:		Lab Sample ID:	640259
Analytical Method:	EPA 9060A	Date Received:	10/02/2015
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	119544	Analysis Date/Time	10/06/2015 18:07
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	"	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers		DL	LOD	LOQ	RL
TOC	Total Organic Carbon	22	J	M	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	114433
% Solids:		Lab Sample ID:	640609
Analytical Method:	EPA 9056A	Date Received:	10/03/2015
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	119481	Analysis Date/Time	10/03/2015 13:32
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	IC0218A NE	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	2.1	J	1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	6.3		0.080	0.15	0.40	0.40
14808-79-8	Sulfate	27		1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	114433
% Solids:		Lab Sample ID:	640610
Analytical Method:	EPA 9060A	Date Received:	10/03/2015
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	119544	Analysis Date/Time	10/06/2015 20:46
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	"	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	25		0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	114433
% Solids:		Lab Sample ID:	640262
Analytical Method:	EPA 9056A	Date Received:	10/02/2015
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	119453	Analysis Date/Time	10/02/2015 16:02
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	IC0218A NE	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	5.6		1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.39	J	0.080	0.15	0.40	0.40
14808-79-8	Sulfate	2.5	U	1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	114433
% Solids:		Lab Sample ID:	640263
Analytical Method:	EPA 9060A	Date Received:	10/02/2015
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	119544	Analysis Date/Time	10/06/2015 19:40
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	"	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	16		0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	114433
% Solids:		Lab Sample ID:	640612
Analytical Method:	EPA 9056A	Date Received:	10/03/2015
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	119481	Analysis Date/Time	10/03/2015 13:53
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	IC0218A NE	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	1.3	J	1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.14	J	0.080	0.15	0.40	0.40
14808-79-8	Sulfate	19		1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	114433
% Solids:		Lab Sample ID:	640613
Analytical Method:	EPA 9060A	Date Received:	10/03/2015
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	119544	Analysis Date/Time	10/06/2015 20:59
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	"	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	15		0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW04

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RAAP
Matrix (soil/water):	GROUND WATER	SDG No.:	114433
% Solids:		Lab Sample ID:	640113
Analytical Method:	EPA 9056A	Date Received:	10/01/2015
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	119441	Analysis Date/Time	10/02/2015 11:30
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	IC0218A NE	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	4.8		1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.52		0.080	0.15	0.40	0.40
14808-79-8	Sulfate	43		1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW04

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RAAP
Matrix (soil/water):	GROUND WATER	SDG No.:	114433
% Solids:		Lab Sample ID:	640123
Analytical Method:	EPA 9060A	Date Received:	10/01/2015
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	119569	Analysis Date/Time	10/06/2015 17:15
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	"	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	17		0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49TM01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	114433
% Solids:		Lab Sample ID:	640256
Analytical Method:	EPA 9056A	Date Received:	10/02/2015
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	119453	Analysis Date/Time	10/02/2015 13:57
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	IC0218A NE	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	10		1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	3.7		0.080	0.15	0.40	0.40

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49TM01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	114433
% Solids:		Lab Sample ID:	640257
Analytical Method:	EPA 9060A	Date Received:	10/02/2015
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	119544	Analysis Date/Time	10/06/2015 17:54
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	"	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	26		0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49TM01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	114433
% Solids:		Lab Sample ID:	640256
Analytical Method:	EPA 9056A	Date Received:	10/02/2015
Dilution Factor:	5.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	119453	Analysis Date/Time	10/02/2015 18:29
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	IC0218A NE	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
14808-79-8	Sulfate	140		6.5	13	25	25

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INORGANIC ANALYSIS DATA SHEET

Sample Description

50MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	114433
% Solids:		Lab Sample ID:	640614
Analytical Method:	EPA 9056A	Date Received:	10/03/2015
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	119481	Analysis Date/Time	10/03/2015 14:14
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	IC0218A NE	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	6.7		1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	2.2		0.080	0.15	0.40	0.40
14808-79-8	Sulfate	66		1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

50MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	114433
% Solids:		Lab Sample ID:	640615
Analytical Method:	EPA 9060A	Date Received:	10/03/2015
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	119544	Analysis Date/Time	10/06/2015 21:12
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	"	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	34		0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RAAP
Matrix (soil/water):	GROUND WATER	SDG No.:	114433
% Solids:		Lab Sample ID:	640106
Analytical Method:	EPA 9056A	Date Received:	10/01/2015
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	119441	Analysis Date/Time	10/02/2015 08:43
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	IC0218A NE	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	2.8	J	1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.14	J	0.080	0.15	0.40	0.40
14808-79-8	Sulfate	25		1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RAAP
Matrix (soil/water):	GROUND WATER	SDG No.:	114433
% Solids:		Lab Sample ID:	640118
Analytical Method:	EPA 9060A	Date Received:	10/01/2015
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	119569	Analysis Date/Time	10/06/2015 15:03
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	"	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	4.1		0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RAAP
Matrix (soil/water):	GROUND WATER	SDG No.:	114433
% Solids:		Lab Sample ID:	640118
Analytical Method:	EPA 9060A	Date Received:	10/01/2015
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	119545	Analysis Date/Time	10/06/2015 22:34
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TIC	Total Inorganic Carbon	53		0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW10

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RAAP
Matrix (soil/water):	GROUND WATER	SDG No.:	114433
% Solids:		Lab Sample ID:	640121
Analytical Method:	EPA 9060A	Date Received:	10/01/2015
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	119545	Analysis Date/Time	10/07/2015 00:11
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TIC	Total Inorganic Carbon	30		0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW10

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RAAP
Matrix (soil/water):	GROUND WATER	SDG No.:	114433
% Solids:		Lab Sample ID:	640111
Analytical Method:	EPA 9056A	Date Received:	10/01/2015
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	119441	Analysis Date/Time	10/02/2015 10:48
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	IC0218A NE	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	6.2		1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.25	J	0.080	0.15	0.40	0.40
14808-79-8	Sulfate	23		1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW10

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RAAP
Matrix (soil/water):	GROUND WATER	SDG No.:	114433
% Solids:		Lab Sample ID:	640121
Analytical Method:	EPA 9060A	Date Received:	10/01/2015
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	119569	Analysis Date/Time	10/06/2015 16:49
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	"	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	8.1		0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW12

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RAAP
Matrix (soil/water):	GROUND WATER	SDG No.:	114433
% Solids:		Lab Sample ID:	640109
Analytical Method:	EPA 9056A	Date Received:	10/01/2015
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	119441	Analysis Date/Time	10/02/2015 09:04
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	IC0218A NE	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	5.1		1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.92		0.080	0.15	0.40	0.40
14808-79-8	Sulfate	24	M	1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW12

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RAAP
Matrix (soil/water):	GROUND WATER	SDG No.:	114433
% Solids:		Lab Sample ID:	640119
Analytical Method:	EPA 9060A	Date Received:	10/01/2015
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	119569	Analysis Date/Time	10/06/2015 15:15
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	"	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers		DL	LOD	LOQ	RL
TOC	Total Organic Carbon	8.3	J	Y	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW12

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RAAP
Matrix (soil/water):	GROUND WATER	SDG No.:	114433
% Solids:		Lab Sample ID:	640119
Analytical Method:	EPA 9060A	Date Received:	10/01/2015
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	119545	Analysis Date/Time	10/06/2015 22:48
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TIC	Total Inorganic Carbon	62		0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW13

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RAAP
Matrix (soil/water):	GROUND WATER	SDG No.:	114433
% Solids:		Lab Sample ID:	640110
Analytical Method:	EPA 9056A	Date Received:	10/01/2015
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	119441	Analysis Date/Time	10/02/2015 10:27
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	IC0218A NE	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	4.8		1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.50		0.080	0.15	0.40	0.40
14808-79-8	Sulfate	26		1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW13

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RAAP
Matrix (soil/water):	GROUND WATER	SDG No.:	114433
% Solids:		Lab Sample ID:	640120
Analytical Method:	EPA 9060A	Date Received:	10/01/2015
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	119569	Analysis Date/Time	10/06/2015 16:09
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	"	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	13		0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW13

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RAAP
Matrix (soil/water):	GROUND WATER	SDG No.:	114433
% Solids:		Lab Sample ID:	640120
Analytical Method:	EPA 9060A	Date Received:	10/01/2015
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	119545	Analysis Date/Time	10/06/2015 23:54
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TIC	Total Inorganic Carbon	55		0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	114433
% Solids:		Lab Sample ID:	640611
Analytical Method:	EPA 410.4	Date Received:	10/03/2015
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	119541	Analysis Date/Time	10/06/2015 08:25
Analytical Prep Batch #:	54494	Prep. Date/Time:	10/05/2015 14:30
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
COD	COD	23	J	15	35	75	75

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INORGANIC ANALYSIS DATA SHEET

Sample Description

ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	114433
% Solids:		Lab Sample ID:	640611
Analytical Method:	EPA 9040C	Date Received:	10/03/2015
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	119728	Analysis Date/Time	10/09/2015 17:00
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	S.U.

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
PH	pH	7.22					

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INORGANIC ANALYSIS DATA SHEET

Sample Description

ADW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	114433
% Solids:		Lab Sample ID:	640616
Analytical Method:	EPA 410.4	Date Received:	10/03/2015
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	119541	Analysis Date/Time	10/06/2015 08:25
Analytical Prep Batch #:	54494	Prep. Date/Time:	10/05/2015 14:30
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
COD	COD	65	J	15	35	75	75

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INORGANIC ANALYSIS DATA SHEET

Sample Description

ADW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	114433
% Solids:		Lab Sample ID:	640616
Analytical Method:	EPA 9040C	Date Received:	10/03/2015
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	119728	Analysis Date/Time	10/09/2015 17:00
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	S.U.

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
PH	pH	7.96					

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INORGANIC ANALYSIS DATA SHEET

Sample Description

SWMU54TM

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RAAP
Matrix (soil/water):	GROUND WATER	SDG No.:	114433
% Solids:		Lab Sample ID:	640122
Analytical Method:	EPA 9060A	Date Received:	10/01/2015
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	119545	Analysis Date/Time	10/07/2015 00:26
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TIC	Total Inorganic Carbon	31		0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

SWMU54TM

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RAAP
Matrix (soil/water):	GROUND WATER	SDG No.:	114433
% Solids:		Lab Sample ID:	640112
Analytical Method:	EPA 9056A	Date Received:	10/01/2015
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	119441	Analysis Date/Time	10/02/2015 11:09
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	IC0218A NE	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	6.1		1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.26	J	0.080	0.15	0.40	0.40
14808-79-8	Sulfate	24		1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

SWMU54TM

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RAAP
Matrix (soil/water):	GROUND WATER	SDG No.:	114433
% Solids:		Lab Sample ID:	640122
Analytical Method:	EPA 9060A	Date Received:	10/01/2015
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	119569	Analysis Date/Time	10/06/2015 17:02
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	"	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	6.9		0.50	1.5	3.0	3.0

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Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RAAP

SDG No.: 114433

Analytical Run #: 119441 Lab Sample ID: 641495

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	4/30/15	09:09	15.00	16.19	108	90	110
Nitrate Nitrogen	4/30/15	09:09	3.500	3.531	101	90	110
Sulfate	4/30/15	09:09	25.00	25.39	102	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 114433

Analytical Run #: 119541 Lab Sample ID: 642055

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
COD	8/18/15 13:00	400.0	437.0	109	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RAAP

SDG No.: 114433

Analytical Run #: 119569 Lab Sample ID: 643706

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	4/21/14	16:23	50.00	52.04	104	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RAAP

SDG No.: 114433

Analytical Run #: 119441 Lab Sample ID: 640486

ICAL Calibration #: IC0218A NE Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	10/2/15	06:58	15.00	14.66	98	90	110
Nitrate Nitrogen	10/2/15	06:58	3.500	3.549	101	90	110
Sulfate	10/2/15	06:58	25.00	25.02	100	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RAAP

SDG No.: 114433

Analytical Run #: 119441 Lab Sample ID: 640488

ICAL Calibration #: IC0218A NE Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	10/2/15	12:12	15.00	14.68	98	90	110
Nitrate Nitrogen	10/2/15	12:12	3.500	3.556	102	90	110
Sulfate	10/2/15	12:12	25.00	25.14	101	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 114433

Analytical Run #: 119453 Lab Sample ID: 641145

ICAL Calibration #: IC0218A NE Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	10/2/15	06:58	15.00	14.66	98	90	110
Nitrate Nitrogen	10/2/15	06:58	3.500	3.549	101	90	110
Sulfate	10/2/15	06:58	25.00	25.02	100	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 114433

Analytical Run #: 119453 Lab Sample ID: 641148

ICAL Calibration #: IC0218A NE Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	10/2/15	16:23	15.00	14.72	98	90	110
Nitrate Nitrogen	10/2/15	16:23	3.500	3.566	102	90	110
Sulfate	10/2/15	16:23	25.00	25.12	100	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 114433

Analytical Run #: 119453 Lab Sample ID: 641151

ICAL Calibration #: IC0218A NE Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	10/2/15	12:12	15.00	14.68	98	90	110
Nitrate Nitrogen	10/2/15	12:12	3.500	3.556	102	90	110
Sulfate	10/2/15	12:12	25.00	25.14	101	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 114433

Analytical Run #: 119481 Lab Sample ID: 641501

ICAL Calibration #: IC0218A NE Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	10/3/15	09:56	15.00	14.41	96	90	110
Nitrate Nitrogen	10/3/15	09:56	3.500	3.543	101	90	110
Sulfate	10/3/15	09:56	25.00	24.66	99	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 114433

Analytical Run #: 119481 Lab Sample ID: 641502

ICAL Calibration #: IC0218A NE Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	10/3/15	15:16	15.00	14.68	98	90	110
Nitrate Nitrogen	10/3/15	15:16	3.500	3.580	102	90	110
Sulfate	10/3/15	15:16	25.00	24.82	99	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 114433

Analytical Run #: 119541

Lab Sample ID: 641702

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
COD	10/6/15	08:25	400.0	429.0	107	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 114433

Analytical Run #: 119541

Lab Sample ID: 641703

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
COD	10/6/15	08:25	400.0	421.0	105	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 114433

Analytical Run #: 119453 Lab Sample ID: 642597

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	10/2/15	20:14	15.00	14.76	98	90	110
Nitrate Nitrogen	10/2/15	20:14	3.500	3.573	102	90	110
Sulfate	10/2/15	20:14	25.00	24.98	100	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 114433

Analytical Run #: 119544 Lab Sample ID: 642666

ICAL Calibration #: " Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	10/6/15	13:22	50.00	45.71	91	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 114433

Analytical Run #: 119544 Lab Sample ID: 642669

ICAL Calibration #: " Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	10/6/15	16:21	50.00	48.33	97	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 114433

Analytical Run #: 119544 Lab Sample ID: 642674

ICAL Calibration #: " Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	10/6/15 19:01	50.00	47.73	95	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 114433

Analytical Run #: 119544 Lab Sample ID: 642676

ICAL Calibration #: " Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	10/6/15	21:25	50.00	49.55	99	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RAAP

SDG No.: 114433

Analytical Run #: 119569 Lab Sample ID: 642683

ICAL Calibration #: " Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	10/6/15	13:22	50.00	45.71	91	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RAAP

SDG No.: 114433

Analytical Run #: 119569 Lab Sample ID: 642689

ICAL Calibration #: " Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	10/6/15	16:21	50.00	48.33	97	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RAAP

SDG No.: 114433

Analytical Run #: 119569 Lab Sample ID: 642691

ICAL Calibration #: " Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	10/6/15 19:01	50.00	47.73	95	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RAAP

SDG No.: 114433

Analytical Run #: 119545 Lab Sample ID: 642806

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Inorganic Carbon	10/6/15	21:52	50.00	49.65	99	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RAAP

SDG No.: 114433

Analytical Run #: 119545 Lab Sample ID: 642812

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Inorganic Carbon	10/7/15	00:57	50.00	50.00	100	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 114433

Analytical Run #: 119544 Lab Sample ID: 645147

ICAL Calibration #: ICAL W34137 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	10/13/15 09:08	50.00	49.37	99	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 114433

Analytical Run #: 119544 Lab Sample ID: 645150

ICAL Calibration #: ICAL W34137 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	10/13/15	11:51	50.00	50.01	100	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 114433

Analytical Run #: 119541

Lab Sample ID: 642056

Analytical Prep Batch #:

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
COD	08/18/2015 13:00	0			35

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RAAP

SDG No.: 114433

Analytical Run #: 119569

Lab Sample ID: 643707

Analytical Prep Batch #:

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	04/21/2014 16:37	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RAAP

SDG No.: 114433

Analytical Run #: 119441 Lab Sample ID: 641496

Analytical Prep Batch #: Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	04/30/2015 09:30	0	U	1.1	2.0
Nitrate Nitrogen	04/30/2015 09:30	0	U	0.08	0.20
Sulfate	04/30/2015 09:30	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RAAP

SDG No.: 114433

Analytical Run #: 119441 Lab Sample ID: 640487

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: IC0218A NE Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	10/02/2015 12:33	0.1305	U	1.1	2.0
Nitrate Nitrogen	10/02/2015 12:33	0	U	0.08	0.20
Sulfate	10/02/2015 12:33	0.5787	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 114433

Analytical Run #: 119453 Lab Sample ID: 641144

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: IC0218A NE Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	10/02/2015 16:44	0.1308	U	1.1	2.0
Nitrate Nitrogen	10/02/2015 16:44	0	U	0.08	0.20
Sulfate	10/02/2015 16:44	0.5780	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 114433

Analytical Run #: 119453 Lab Sample ID: 641147

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: IC0218A NE Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	10/02/2015 12:33	0.1305	U	1.1	2.0
Nitrate Nitrogen	10/02/2015 12:33	0	U	0.08	0.20
Sulfate	10/02/2015 12:33	0.5787	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 114433

Analytical Run #: 119481 Lab Sample ID: 641503

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: IC0218A NE Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	10/03/2015 15:37	0	U	1.1	2.0
Nitrate Nitrogen	10/03/2015 15:37	0	U	0.08	0.20
Sulfate	10/03/2015 15:37	0.5768	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 114433

Analytical Run #: 119541 Lab Sample ID: 641704

Analytical Prep Batch #: Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
COD	10/06/2015 08:25	0			35

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 114433

Analytical Run #: 119544 Lab Sample ID: 642670

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: " Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	10/06/2015 16:36	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 114433

Analytical Run #: 119544 Lab Sample ID: 642675

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: " Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	10/06/2015 19:16	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 114433

Analytical Run #: 119544 Lab Sample ID: 642677

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: " Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	10/06/2015 21:40	0.8600		0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RAAP

SDG No.: 114433

Analytical Run #: 119569 Lab Sample ID: 642690

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: " Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Dissolved Organic Carbon	10/06/2015 16:36	0	U	0.5	1.5
Total Organic Carbon	10/06/2015 16:36	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RAAP

SDG No.: 114433

Analytical Run #: 119569 Lab Sample ID: 642692

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: " Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	10/06/2015 19:16	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RAAP

SDG No.: 114433

Analytical Run #: 119545 Lab Sample ID: 642813

Analytical Prep Batch #: Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Inorganic Carbon	10/07/2015 01:13	0.8100		0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 114433

Analytical Run #: 119544 Lab Sample ID: 645151

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: ICAL W34137 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	10/13/2015 12:06	0.2900	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 114433

Analytical Run #: 119544 Lab Sample ID: 645154

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: ICAL W34137 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	10/13/2015 09:38	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 114433

Analytical Run #: 119453 Lab Sample ID: 642598

Analytical Prep Batch #: Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	10/02/2015 20:35	0.1300	U	1.1	2.0
Nitrate Nitrogen	10/02/2015 20:35	0	U	0.08	0.20
Sulfate	10/02/2015 20:35	0.5780	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RAAP

SDG No.: 114433

Analytical Run #: 119441 Lab Sample ID: 640491

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: IC0218A NE Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	10/02/2015 08:22	0	U	1.1	2.0
Nitrate Nitrogen	10/02/2015 08:22	0	U	0.08	0.20
Sulfate	10/02/2015 08:22	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 114433

Analytical Run #: 119453 Lab Sample ID: 641154

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: IC0218A NE Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	10/02/2015 08:22	0	U	1.1	2.0
Nitrate Nitrogen	10/02/2015 08:22	0	U	0.08	0.20
Sulfate	10/02/2015 08:22	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 114433

Analytical Run #: 119541 Lab Sample ID: 641182

Analytical Prep Batch # 54494 Preparation Date/Time: 10/05/2015 14:30

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total COD	10/06/2015 08:25	0	U	15	35

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 114433

Analytical Run #: 119481 Lab Sample ID: 641505

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: IC0218A NE Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	10/03/2015 10:38	0.1300	U	1.1	2.0
Nitrate Nitrogen	10/03/2015 10:38	0	U	0.08	0.20
Sulfate	10/03/2015 10:38	0.5774	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 114433

Analytical Run #: 119544 Lab Sample ID: 642668

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: " Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	10/06/2015 13:52	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RAAP

SDG No.: 114433

Analytical Run #: 119569 Lab Sample ID: 642685

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: " Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	10/06/2015 13:52	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RAAP

SDG No.: 114433

Analytical Run #: 119545 Lab Sample ID: 642808

Analytical Prep Batch #: Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit	
Total Inorganic Carbon	10/06/2015 22:22	0.7900		0.5	1.5	FAIL

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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5A

SPIKE SAMPLE RECOVERY

Sample Description

54MW12

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RAAP
Matrix:	LIQUID	SDG No.:	114433
% Solids for Sample:		Concentration Units:	mg/L
Sample No	640492	Parent Sample No.:	640109
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	119441	ICAL Calibration #:	IC0218A NE

Analysis Type *Initial Analysis* Analysis Date: ----- 10/02/2015 Analysis Time: -------- 09:46

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Chloride	87-111	12.5		5.1		8.00	92			
Nitrate Nitrogen	88-111	2.90		0.92		2.00	99			
Sulfate	87-112	30.8		24		8.00	85			*FAIL*

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5A

SPIKE SAMPLE RECOVERY

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	114433
% Solids for Sample:		Concentration Units:	mg/L
Sample No	641146	Parent Sample No.:	640258
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	119453	ICAL Calibration #:	IC0218A NE

Analysis Type	*Initial Analysis*	Analysis Date: -----	10/02/2015	Analysis Time: --------	15:00

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Chloride	87-111	44.6		1.7	U	40.0	107		
Nitrate Nitrogen	88-111	11.6		0.76	J	10.0	108		
Sulfate	87-112	52.8		10	J	40.0	107		

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5A

SPIKE SAMPLE RECOVERY

Sample Description

ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	114433
% Solids for Sample:		Concentration Units:	mg/L
Sample No	641184	Parent Sample No.:	640611
Analytical Prep Batch #	54494	Analytical Preparation Date/Time:	10/05/2015 14:30
Analytical Run #:	119541	ICAL Calibration #:	

Analysis Type	*Initial Analysis*	Analysis Date: -----	10/06/2015	Analysis Time: --------	08:25

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
COD	90-110	173		23	J	148	101		SP

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5A

SPIKE SAMPLE RECOVERY

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	114433
% Solids for Sample:		Concentration Units:	mg/L
Sample No	641506	Parent Sample No.:	640601
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	119481	ICAL Calibration #:	IC0218A NE

Analysis Type *Initial Analysis* Analysis Date: ----- 10/03/2015 Analysis Time: -------- 11:47

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Chloride	87-111	10.3		2.9	J	8.00	92			
Nitrate Nitrogen	88-111	2.26		0.31	J	2.00	98			
Sulfate	87-112	45.3		41		8.00	54			*FAIL*

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5A

SPIKE SAMPLE RECOVERY

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	114433
% Solids for Sample:		Concentration Units:	mg/L
Sample No	642672	Parent Sample No.:	640259
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	119544	ICAL Calibration #:	"

Analysis Type	*Initial Analysis*	Analysis Date: -----	10/06/2015	Analysis Time: --------	18:33

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Total Organic Carbon	85-111	60.2		22		50.0	76		TOC	*FAIL*

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5A

SPIKE SAMPLE RECOVERY

Sample Description

54MW12

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RAAP
Matrix:	LIQUID	SDG No.:	114433
% Solids for Sample:		Concentration Units:	mg/L
Sample No	642687	Parent Sample No.:	640119
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	119569	ICAL Calibration #:	"

Analysis Type	*Initial Analysis*	Analysis Date: -----	10/06/2015	Analysis Time: --------	15:40

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Organic Carbon	85-111	54.0		8.3		50.0	91		TOC

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description

54MW12

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RAAP
Matrix:	LIQUID	SDG No.:	114433
% Solids for Sample:		Concentration Units:	mg/L
Sample No	641139	Parent Sample No.:	640492
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	119441	ICAL Calibration #:	IC0218A NE

Analysis Type	*Initial Analysis*	Analysis Date: -----	10/02/2015	Analysis Time: --------	10:07

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Chloride	87-111	12.4		5.1		8.00	91			
Nitrate Nitrogen	88-111	2.88		0.92		2.00	98			
Sulfate	87-112	30.7		24		8.00	84			*FAIL*

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	114433
% Solids for Sample:		Concentration Units:	mg/L
Sample No	641155	Parent Sample No.:	641146
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	119453	ICAL Calibration #:	IC0218A NE

Analysis Type *Initial Analysis* Analysis Date: ----- 10/02/2015 Analysis Time: -------- 15:21

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Chloride	87-111	44.2		BDL	U	40.0	110		
Nitrate Nitrogen	88-111	11.4		0.76	J	10.0	106		
Sulfate	87-112	52.2		10	J	40.0	106		

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description

ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	114433
% Solids for Sample:		Concentration Units:	mg/L
Sample No	641185	Parent Sample No.:	641184
Analytical Prep Batch #	54494	Analytical Preparation Date/Time:	10/05/2015 14:30
Analytical Run #:	119541	ICAL Calibration #:	

Analysis Type	*Initial Analysis*	Analysis Date: -----	10/06/2015	Analysis Time: --------	08:25

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
COD	90-110	183		23	J	148	108		SP

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description: **48MW2**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	114433
% Solids for Sample:		Concentration Units:	mg/L
Sample No	642673	Parent Sample No.:	642672
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	119544	ICAL Calibration #:	"

Analysis Type: *Initial Analysis* Analysis Date: ----- 10/06/2015 Analysis Time: -------- 18:47

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Total Organic Carbon	85-111	58.7		22		50.0	73		TOC	*FAIL*

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description

54MW12

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RAAP
Matrix:	LIQUID	SDG No.:	114433
% Solids for Sample:		Concentration Units:	mg/L
Sample No	642688	Parent Sample No.:	642687
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	119569	ICAL Calibration #:	"

Analysis Type	*Initial Analysis*	Analysis Date: -----	10/06/2015	Analysis Time: --------	15:54

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Organic Carbon	85-111	54.0		8.3		50.0	91		TOC

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	114433
% Solids for Sample:		Concentration Units:	mg/L
Sample No	642710	Parent Sample No.:	641506
Analytical Prep Batch #		Analytical Preparation Date/Time:	
Analytical Run #:	119481	ICAL Calibration #:	

Analysis Type	*Initial Analysis*	Analysis Date: -----	10/03/2015	Analysis Time: --------	12:08

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Chloride	87-111	10.5		2.9	J	8.00	95		IC	
Nitrate Nitrogen	88-111	2.30		0.31	J	2.00	100		IC	
Sulfate	87-112	45.5		41		8.00	56		IC	*FAIL*

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

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DUPLICATES

Sample Description

54MW12

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RAAP
Matrix: LIQUID
SDG No.: 114433
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch # 1
Analytical Preparation Date/Time 0
Analytical Run #: 119441
ICAL Calibration #: IC0218A NE
Sample #: 640489
Parent Sample #: 640109

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Chloride	10/02/2015	09:25	10	5.1		5.04		1		
Nitrate Nitrogen	10/02/2015	09:25	10	0.92		0.916		0		
Sulfate	10/02/2015	09:25	10	24		24.4		2		

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6

DUPLICATES

Sample Description

48MW2

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 114433
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch # 1
Analytical Preparation Date/Time 0
Analytical Run #: 119453
ICAL Calibration #: IC0218A NE
Sample #: 641150
Parent Sample #: 640258

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Chloride	10/02/2015	14:39	10	1.7	J	1.83	J	7		
Nitrate Nitrogen	10/02/2015	14:39	10	0.76		0.763		0		
Sulfate	10/02/2015	14:39	10	10		10.4		4		

CT LABORATORIES
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6

DUPLICATES

Sample Description

13MW3

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 114433
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch # 1
Analytical Preparation Date/Time 0
Analytical Run #: 119481
ICAL Calibration #: IC0218A NE
Sample #: 641507
Parent Sample #: 640601

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Chloride	10/03/2015	11:26	10	2.9	J	2.99	J	3		
Nitrate Nitrogen	10/03/2015	11:26	10	0.31	J	0.318	J	3		
Sulfate	10/03/2015	11:26	10	41		40.6		1		

CT LABORATORIES
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6

DUPLICATES

Sample Description

ADW01

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID

SDG No.: 114433

% Solid for Sample:

Concentration Units: mg/L

Analytical Prep Batch # 1

Analytical Preparation Date/Time 54494

Analytical Run #: 119541

ICAL Calibration #:

Sample #: 641722

Parent Sample #: 640611

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
COD	10/06/2015	08:25	20	23	J	22.7	J	1		SP

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6

DUPLICATES

Sample Description

48MW2

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID

SDG No.: 114433

% Solid for Sample:

Concentration Units: mg/L

Analytical Prep Batch # 1

Analytical Preparation Date/Time 0

Analytical Run #: 119544

ICAL Calibration #: "

Sample #: 642671

Parent Sample #: 640259

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Dissolved Organic Carbon	10/06/2015	18:20	20	22		20.6		7		TOC

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6

DUPLICATES

Sample Description

54MW12

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RAAP
Matrix: LIQUID
SDG No.: 114433
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch # 1
Analytical Preparation Date/Time 0
Analytical Run #: 119569
ICAL Calibration #: "
Sample #: 642686
Parent Sample #: 640119

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M	
Total Organic Carbon	10/06/2015	15:27	20	8.3		11.7		34		TOC	*FAIL*

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6

DUPLICATES

Sample Description

54MW12

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RAAP

Matrix: LIQUID

SDG No.: 114433

% Solid for Sample:

Concentration Units: mg/L

Analytical Prep Batch # 1

Analytical Preparation Date/Time

Analytical Run #: 119545

ICAL Calibration #:

Sample #: 642809

Parent Sample #: 640119

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Total Inorganic Carbon	10/06/2015	23:04	20	62		58.8		5		TOC

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6

DUPLICATES

Sample Description

ADW01

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID

SDG No.: 114433

% Solid for Sample:

Concentration Units: S.U.

Analytical Prep Batch # 1

Analytical Preparation Date/Time

Analytical Run #: 119728

ICAL Calibration #:

Sample #: 644087

Parent Sample #: 640611

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
pH	10/09/2015	17:00	1	7.22		7.23		0		ELEC

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6A

MATRIX SPIKE DUPLICATES

Sample Description: **54MW12**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RAAP
Matrix: LIQUID
SDG No.: 114433
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
Analytical Run #: 119441
ICAL Calibration #: IC0218A NE
Sample #: 641139
Parent Sample #: 640492

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Chloride	10/02/2015	10:07	15	12.5		12.4		1		
Nitrate Nitrogen	10/02/2015	10:07	15	2.90		2.88		1		
Sulfate	10/02/2015	10:07	15	30.8		30.7		0		

CT LABORATORIES
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6A

MATRIX SPIKE DUPLICATES

Sample Description: **48MW2**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 114433
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
Analytical Run #: 119453
ICAL Calibration #: IC0218A NE
Sample #: 641155
Parent Sample #: 641146

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Chloride	10/02/2015	15:21	15	44.6		44.2		1		
Nitrate Nitrogen	10/02/2015	15:21	15	11.6		11.4		2		
Sulfate	10/02/2015	15:21	15	52.8		52.2		1		

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6A

MATRIX SPIKE DUPLICATES

Sample Description: **ADW01**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 114433
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch #: 54494
Analytical Preparation Date/Time: 10/05/2015 14:30
Analytical Run #: 119541
ICAL Calibration #:
Sample #: 641185
Parent Sample #: 641184

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
COD	10/06/2015	08:25	20	173		183		6		SP

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6A

MATRIX SPIKE DUPLICATES

Sample Description: **48MW2**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 114433
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
Analytical Run #: 119544
ICAL Calibration #: "
Sample #: 642673
Parent Sample #: 642672

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Total Organic Carbon	10/06/2015	18:47	20	60.2		58.7		3		TOC

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6A

MATRIX SPIKE DUPLICATES

Sample Description: **54MW12**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RAAP
Matrix: LIQUID
SDG No.: 114433
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
Analytical Run #: 119569
ICAL Calibration #: "
Sample #: 642688
Parent Sample #: 642687

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Total Organic Carbon	10/06/2015	15:54	20	54.0		54.0		0		TOC

CT LABORATORIES
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6A

MATRIX SPIKE DUPLICATES

Sample Description: **13MW3**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 114433
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch #:
Analytical Preparation Date/Time:
Analytical Run #: 119481
ICAL Calibration #:
Sample #: 642710
Parent Sample #: 641506

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Chloride	10/03/2015	12:08	15	10.3		10.5		2		IC
Nitrate Nitrogen	10/03/2015	12:08	15	2.26		2.30		2		IC
Sulfate	10/03/2015	12:08	15	45.3		45.5		0		IC

CT LABORATORIES
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7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RAAP

LCS Source: SPEX and Ultra SDG No.: 114433

Concentration Units: mg/L

Analytical Run #: 119441 Sample No.:#: 640490

Analytical Prep Batch #: 0 Preparation Date/Time:

ICAL Calibration #: IC0218A NE

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Chloride	10/02/2015 07:40	87-111	14.37		15.00	96		
Nitrate Nitrogen	10/02/2015 07:40	88-111	3.418		3.500	98		
Sulfate	10/02/2015 07:40	87-112	24.16		25.00	97		

CT LABORATORIES
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7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 114433

Concentration Units: mg/L

Analytical Run #: 119453 Sample No.:#: 641153

Analytical Prep Batch #: 0 Preparation Date/Time:

ICAL Calibration #: IC0218A NE

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Chloride	10/02/2015 07:40	87-111	14.37		15.00	96		
Nitrate Nitrogen	10/02/2015 07:40	88-111	3.418		3.500	98		
Sulfate	10/02/2015 07:40	87-112	24.16		25.00	97		

CT LABORATORIES
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7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 114433

Concentration Units: mg/L

Analytical Run #: 119541 Sample No.:#: 641183

Analytical Prep Batch #: 54494 Preparation Date/Time: 10/05/2015 14:30

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
COD	10/06/2015 08:25	90-110	418.0		400.0	104		SP

CT LABORATORIES
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7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 114433

Concentration Units: mg/L

Analytical Run #: 119481 Sample No.:#: 641504

Analytical Prep Batch #: 0 Preparation Date/Time:

ICAL Calibration #: IC0218A NE

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Chloride	10/03/2015 10:17	87-111	14.56		15.00	97		
Nitrate Nitrogen	10/03/2015 10:17	88-111	3.547		3.500	101		
Sulfate	10/03/2015 10:17	87-112	25.04		25.00	100		

CT LABORATORIES
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7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 114433

Concentration Units: mg/L

Analytical Run #: 119544 Sample No.:#: 642667

Analytical Prep Batch #: 0 Preparation Date/Time:

ICAL Calibration #: "

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Total Organic Carbon	10/06/2015 13:37	85-111	44.48		50.00	89		TOC

CT LABORATORIES
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7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RAAP

LCS Source: SPEX and Ultra SDG No.: 114433

Concentration Units: mg/L

Analytical Run #: 119569 Sample No.:#: 642684

Analytical Prep Batch #: 0 Preparation Date/Time:

ICAL Calibration #: "

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Total Organic Carbon	10/06/2015 13:37	85-111	44.48		50.00	89		TOC

CT LABORATORIES
delivering more than data from your environmental analyses

7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RAAP

LCS Source: SPEX and Ultra SDG No.: 114433

Concentration Units: mg/L

Analytical Run #: 119545 Sample No.:#: 642807

Analytical Prep Batch #: Preparation Date/Time:

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Total Inorganic Carbon	10/06/2015 22:06	85-111	47.69		50.00	95		TOC

INORGANICS
RAW DATA
DOCUMENTS

Sample table - 042915 - 114517 114565

	Method	Ident	Sample type	Position	Injections	Status	Dilution	Info 1	Info 2	Info 4	Value 1	Value 2
1	IC0218A	Blank	Sample	150	1	FINISHED ...	1		(02) No i-Di...		1	84
2	IC0218A	Std 1	Standard 1	150	1	FINISHED ...	1		(02) No i-Di...		1	84
3	IC0218A	Std 2	Standard 2	26	1	FINISHED ...	1		(02) No i-Di...		1	84
4	IC0218A	Std 3	Standard 3	27	1	FINISHED ...	1		(02) No i-Di...		1	84
5	IC0218A	Std 4	Standard 4	28	1	FINISHED ...	1		(02) No i-Di...		1	84
6	IC0218A	Std 5	Standard 5	29	1	FINISHED ...	1		(02) No i-Di...		1	84
7	IC0218A	Std 6	Standard 6	30	1	FINISHED ...	1		(02) No i-Di...		1	84
8	IC0218A	Std 7	Standard 7	31	1	FINISHED ...	1		(02) No i-Di...		1	84
9	IC0218A	Std 8	Standard 8	32	1	FINISHED ...	1		(02) No i-Di...		1	84
10	IC0218A	ICV	Sample	33	1	FINISHED ...	1		(02) No i-Di...		1	84
11	IC0218A	ICB	Sample	150	1	FINISHED ...	1		(02) No i-Di...		1	84

Calibration Concentrations

Analyte	ICV (mg/L)
Fluoride	3.50
Chloride	15.00
Nitrite	3.50
Bromide	3.50
Nitrate	3.50
O-Phoshorous	3.50
Sulfate	25.00

Instrument:	Metrohm (3)
Cal. File:	IC0218A
ICV:	IC0210
	IC0211
Analyst:	JJF
Date:	4/29/2015

Sample data

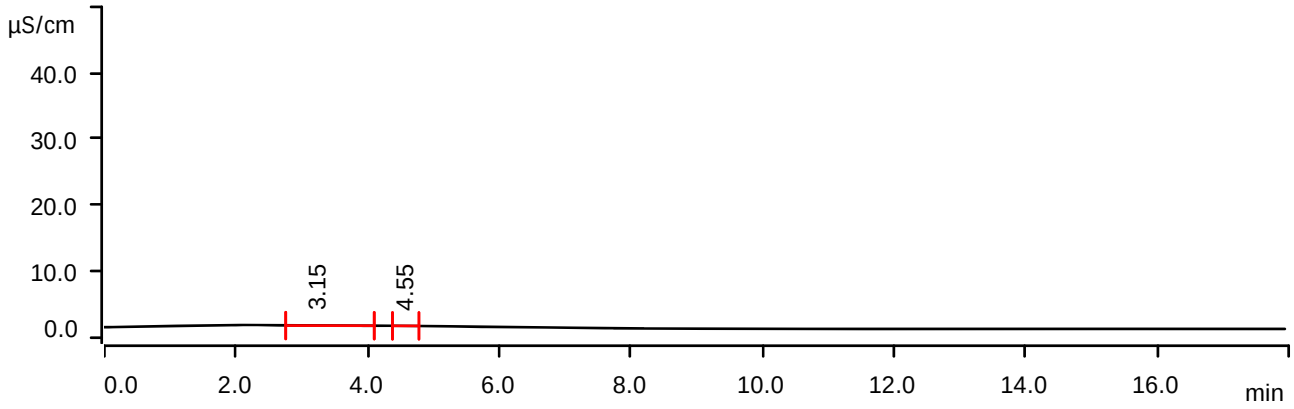
Ident	Blank	
Determination start	2015-04-30 05:59:35 UTC-5	
Method	IC0218A	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	7.67	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	3.150	0.0336	0.042	invalid	
2	4.545	0.0056	0.028	invalid	

Sample data

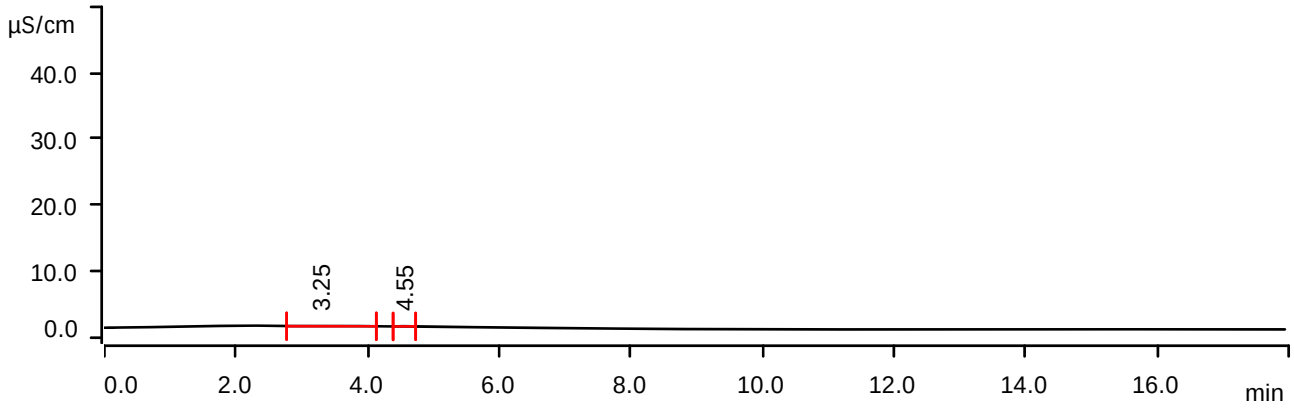
Ident	Std 1	
Determination start	2015-04-30 06:20:45 UTC-5	
Method	IC0218A	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	7.67	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	3.252	0.0358	0.042	invalid	
2	4.548	0.0040	0.023	invalid	

Sample data

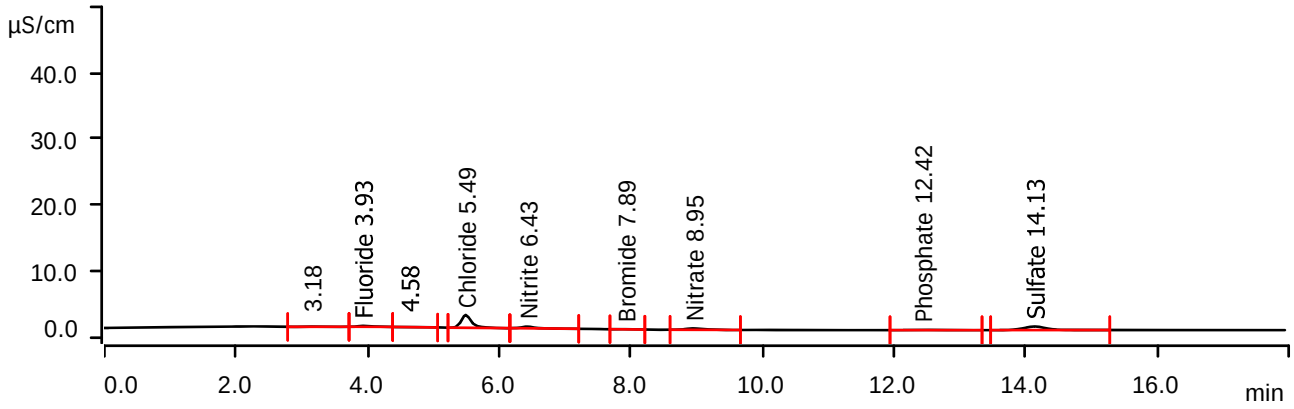
Ident	Std 2	
Determination start	2015-04-30 06:41:47 UTC-5	
Method	IC0218A	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	7.61	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	3.177	0.0171	0.030	invalid	
2	3.925	0.0343	0.151	0.145	Fluoride
3	4.575	0.0166	0.050	invalid	
4	5.492	0.3640	1.946	1.048	Chloride
5	6.428	0.0585	0.265	0.087	Nitrite
6	7.893	0.0070	0.031	0.220	Bromide
7	8.948	0.0608	0.218	0.172	Nitrate
8	12.422	0.0166	0.042	0.219	Phosphate
9	14.133	0.2173	0.549	1.348	Sulfate

Sample data

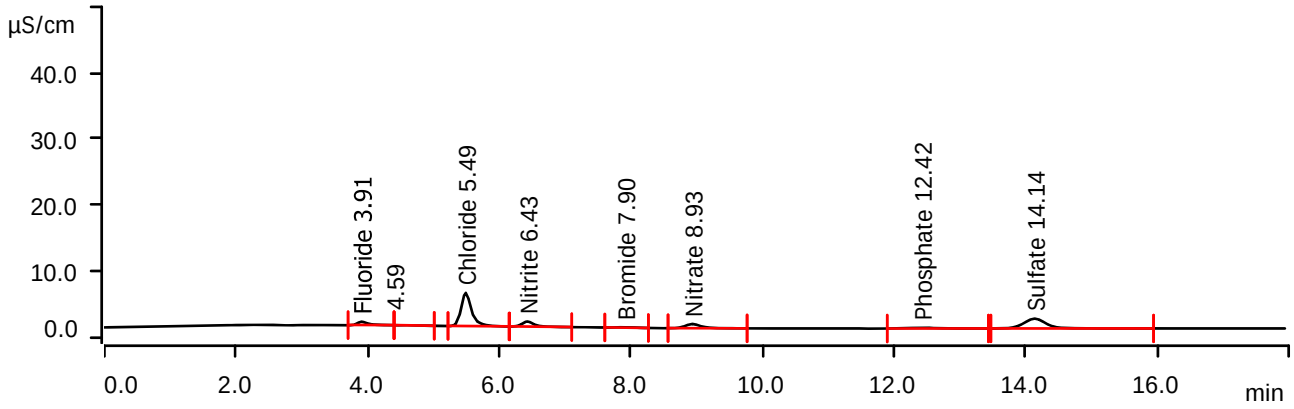
Ident . . . . . Std 3
Determination start 2015-04-30 07:02:56 UTC-5
Method IC0218A
Operator . . . . . JJF

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 18.0 min
Integration . . . . . Automatically
Column type . . . . . Metrosep A Supp 5 - 150/4.0
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 7.61 MPa
Temperature . . . . . 30.0 °C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	3.910	0.1052	0.537	0.268	Fluoride
2	4.585	0.0162	0.054	invalid	
3	5.492	0.9438	5.044	2.513	Chloride
4	6.428	0.1680	0.787	0.225	Nitrite
5	7.902	0.0228	0.097	0.329	Bromide
6	8.933	0.1788	0.645	0.293	Nitrate
7	12.418	0.0531	0.134	0.332	Phosphate
8	14.135	0.5855	1.496	2.669	Sulfate

Sample data

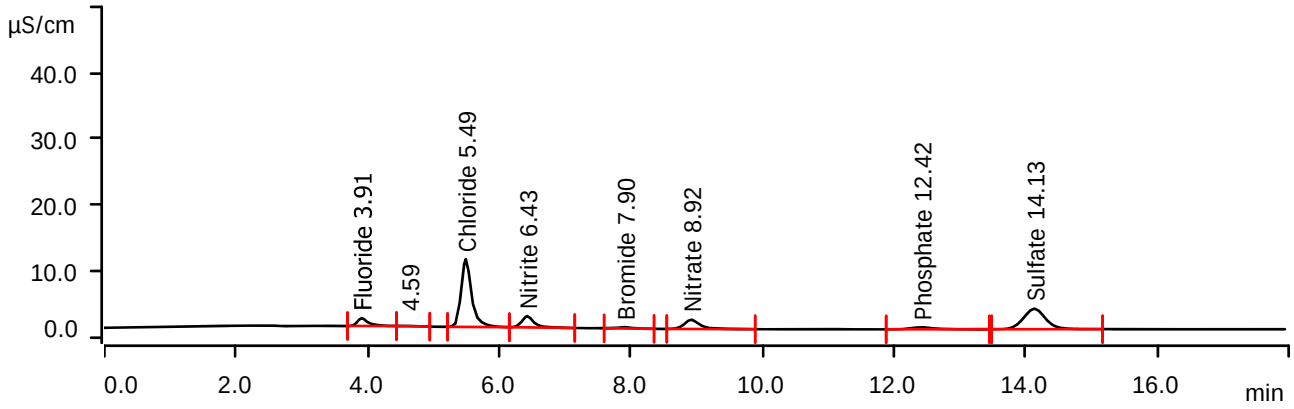
Ident	Std 4	
Determination start	2015-04-30 07:23:57 UTC-5	
Method	IC0218A	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	7.61	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	3.910	0.2303	1.198	0.484	Fluoride
2	4.590	0.0121	0.046	invalid	
3	5.492	1.9217	10.285	4.984	Chloride
4	6.425	0.3604	1.704	0.466	Nitrite
5	7.900	0.0512	0.210	0.524	Bromide
6	8.915	0.3813	1.396	0.501	Nitrate
7	12.415	0.1163	0.301	0.528	Phosphate
8	14.128	1.2135	3.115	4.922	Sulfate

Sample data

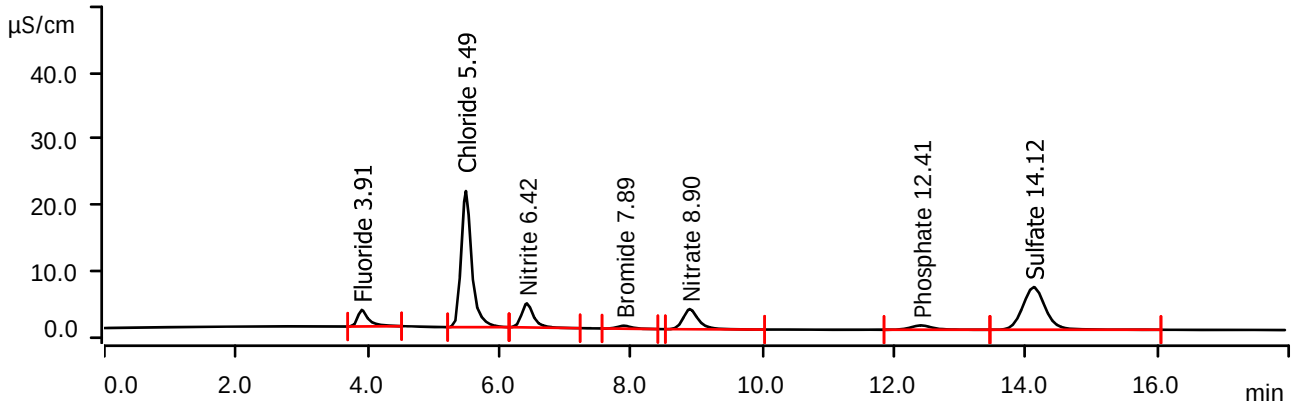
Ident . . . . . Std 5
Determination start 2015-04-30 07:44:58 UTC-5
Method IC0218A
Operator . . . . . JJF

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 18.0 min
Integration . . . . . Automatically
Column type . . . . . Metrosep A Supp 5 - 150/4.0
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 7.67 MPa
Temperature . . . . . 30.0 °C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	3.912	0.4804	2.504	0.918	Fluoride
2	5.493	3.8759	20.640	9.922	Chloride
3	6.420	0.7746	3.650	0.986	Nitrite
4	7.892	0.1135	0.459	0.952	Bromide
5	8.895	0.8297	3.056	0.961	Nitrate
6	12.407	0.2500	0.659	0.942	Phosphate
7	14.120	2.5874	6.466	9.851	Sulfate

Sample data

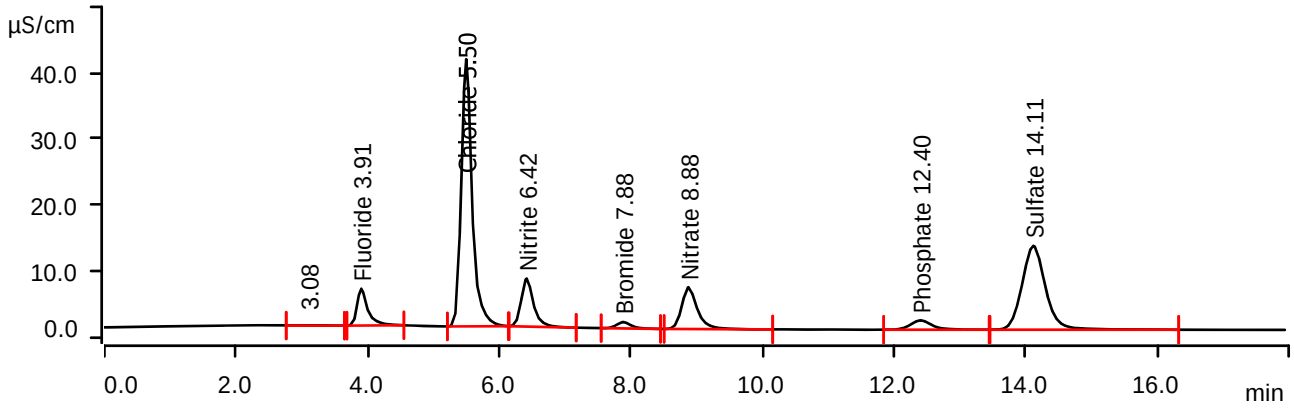
Ident . . . . . Std 6
Determination start 2015-04-30 08:05:59 UTC-5
Method IC0218A
Operator . . . . . JJF

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 18.0 min
Integration . . . . . Automatically
Column type . . . . . Metrosep A Supp 5 - 150/4.0
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 7.55 MPa
Temperature . . . . . 30.0 °C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	3.078	0.0152	0.027	invalid	
2	3.905	1.0518	5.578	1.907	Fluoride
3	5.498	7.7409	40.533	19.689	Chloride
4	6.417	1.5850	7.283	2.004	Nitrite
5	7.882	0.2426	0.967	1.839	Bromide
6	8.875	1.7450	6.339	1.901	Nitrate
7	12.402	0.5341	1.426	1.822	Phosphate
8	14.113	5.2489	12.732	19.400	Sulfate

Sample data

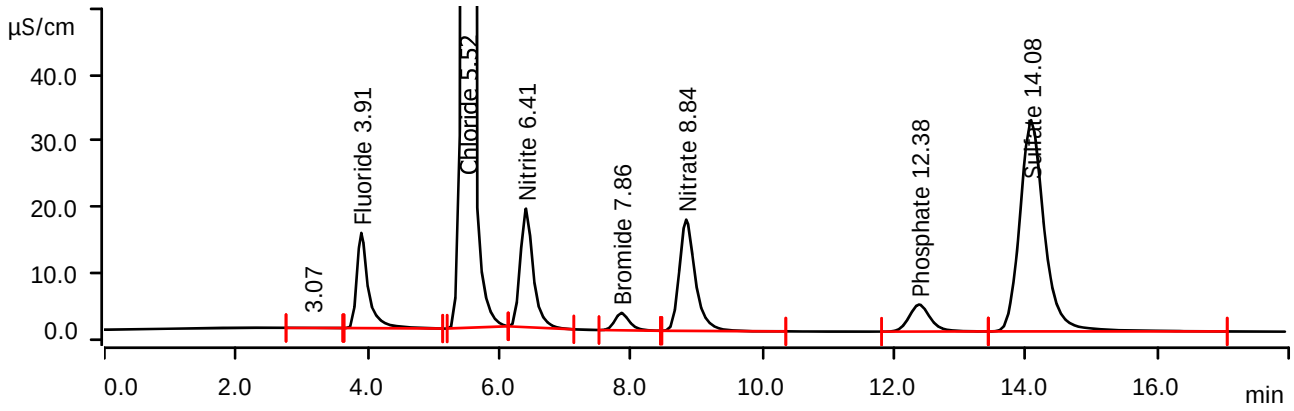
Ident	Std 7	
Determination start	2015-04-30 08:27:00 UTC-5	
Method	IC0218A	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	7.61	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	3.070	0.0079	0.013	invalid	
2	3.905	2.9544	14.443	5.204	Fluoride
3	5.518	19.9535	101.406	50.550	Chloride
4	6.407	4.0965	17.971	5.156	Nitrite
5	7.855	0.6889	2.627	4.905	Bromide
6	8.840	4.7632	16.876	5.000	Nitrate
7	12.378	1.5409	4.102	4.939	Phosphate
8	14.080	13.8774	32.061	50.356	Sulfate

Sample data

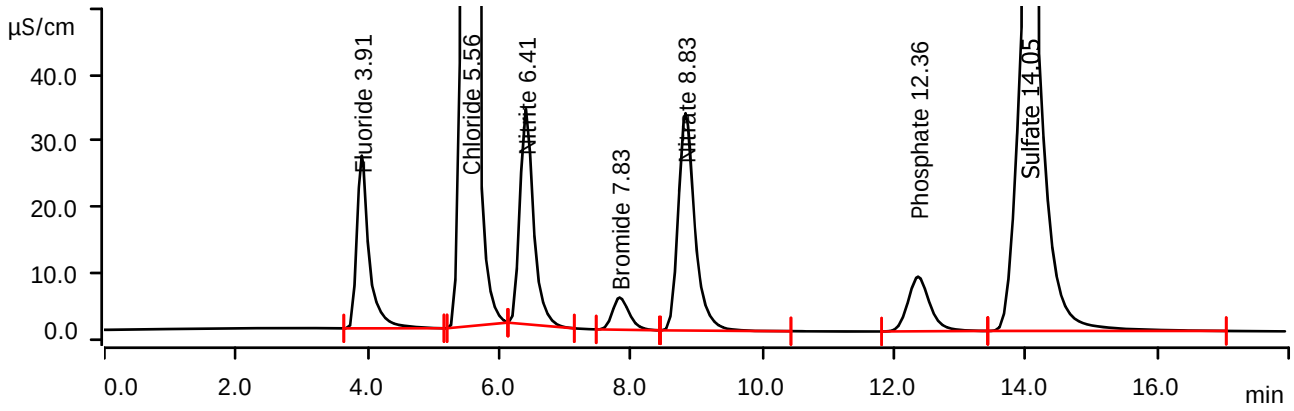
Ident	Std 8	
Determination start	2015-04-30 08:48:03 UTC-5	
Method	IC0218A	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	7.72	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	3.912	5.6797	26.198	9.925	Fluoride
2	5.560	39.4408	185.150	99.795	Chloride
3	6.407	7.8951	32.623	9.925	Nitrite
4	7.828	1.4420	4.888	10.080	Bromide
5	8.830	9.6555	32.974	10.022	Nitrate
6	12.363	3.1969	8.294	10.067	Phosphate
7	14.050	27.7018	62.261	99.953	Sulfate

Sample data

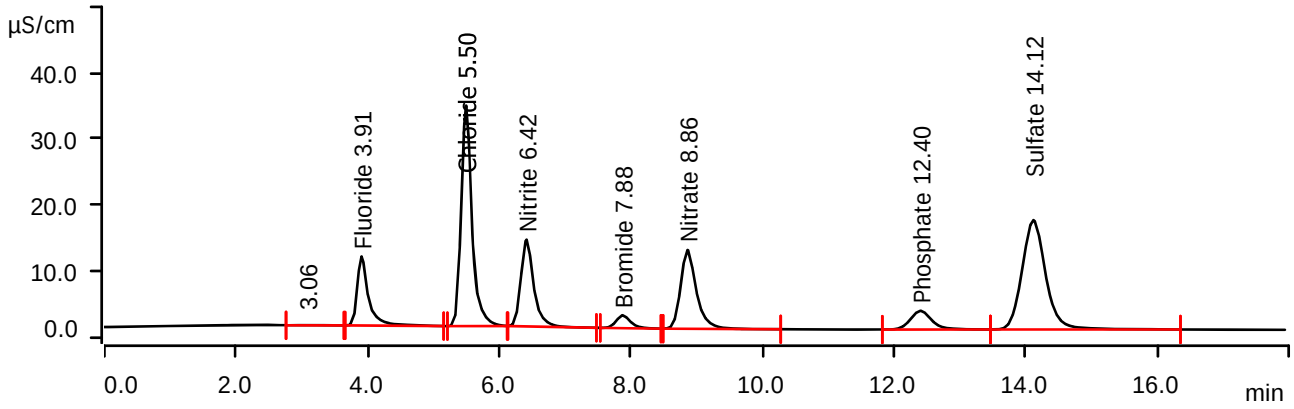
Ident	ICV
Determination start	2015-04-30 09:09:04 UTC-5
Method	IC0218A
Operator	JJF

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	7.67	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	3.057	0.0137	0.024	invalid	
2	3.908	2.0953	10.472	3.715	Fluoride
3	5.497	6.3556	33.460	16.188	Chloride
4	6.415	2.9861	13.169	3.763	Nitrite
5	7.875	0.5003	1.954	3.610	Bromide
6	8.860	3.3331	11.959	3.531	Nitrate
7	12.400	1.0710	2.852	3.484	Phosphate
8	14.115	6.9171	16.591	25.385	Sulfate

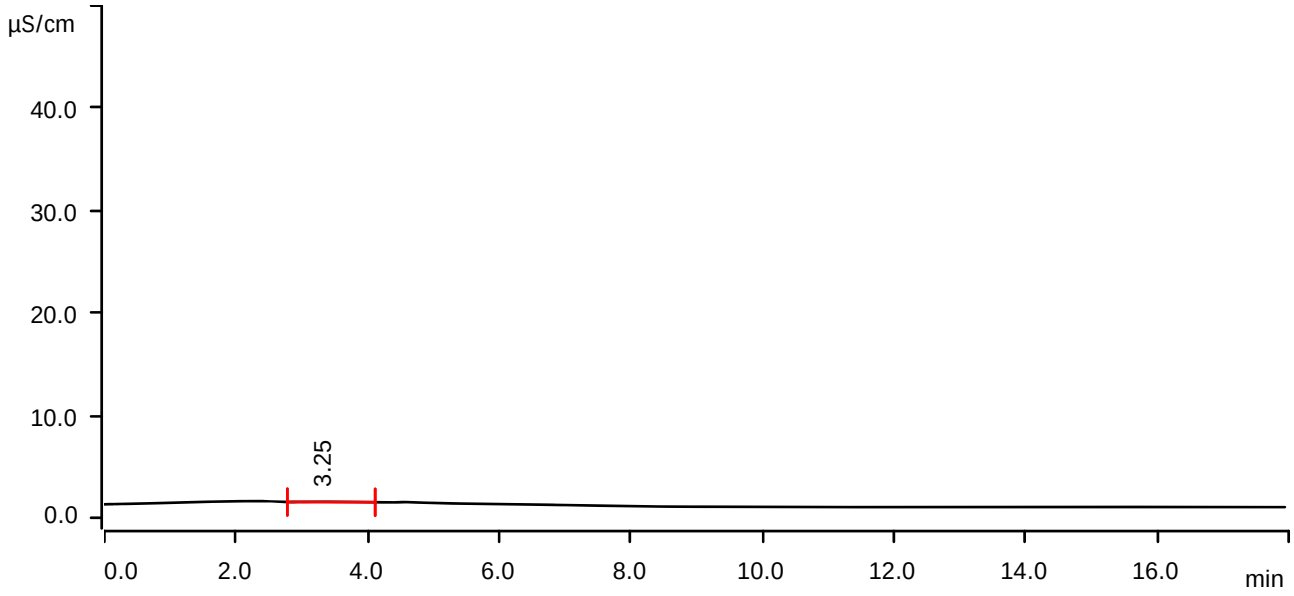
Sample data

Ident	ICB
Sample type	Sample
Determination start	2015-04-30 09:30:07 UTC-5
Method	IC0218A
Operator	JJF

Anions

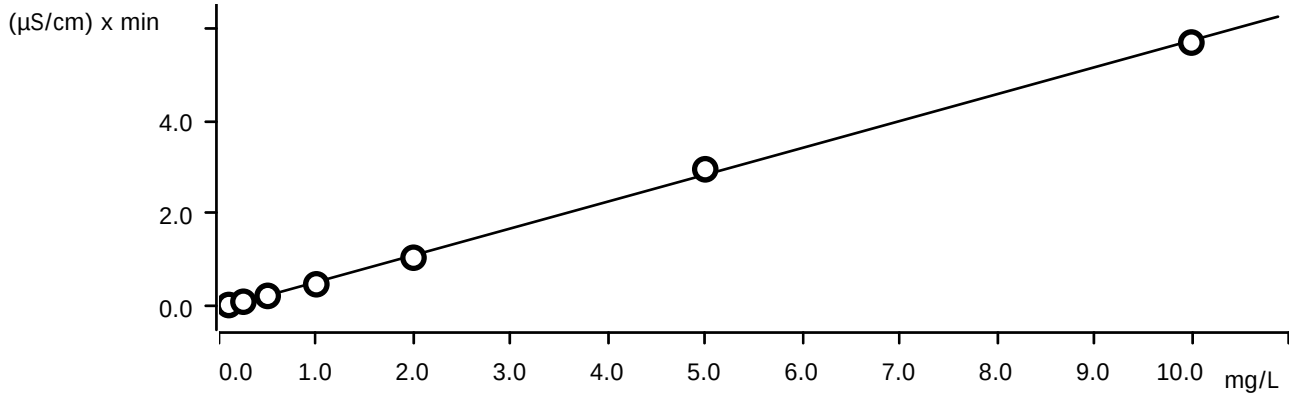
Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	7.72	MPa
Temperature	30.0	°C

Anions



Peak number	Retention time	Area	Height	Concentration	Component name
	min	(µS/cm) x min	µS/cm	mg/L	
1	3.252	0.0380	0.044	invalid	

Fluoride (Anions)



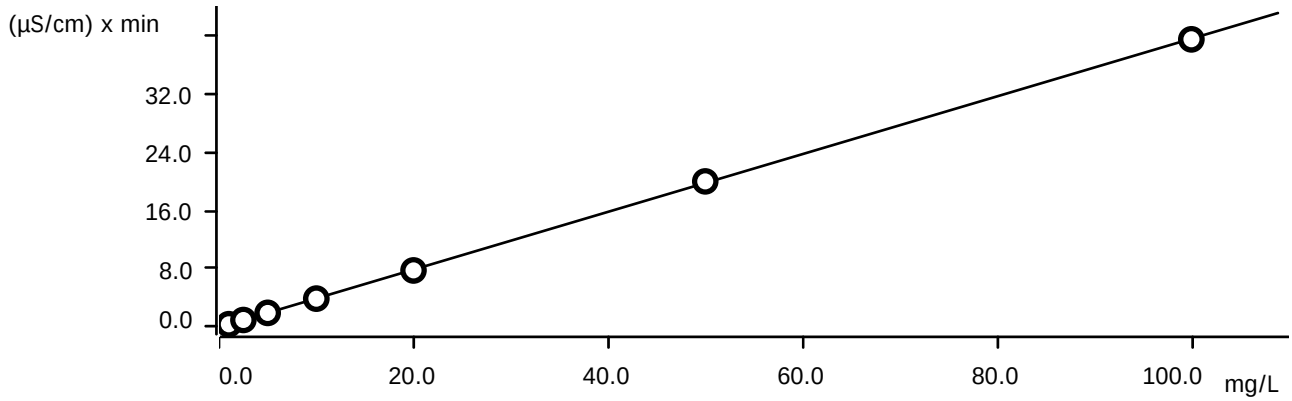
Function: . . . . . *A = - 0.0492627 + 0.0288616× Q*

Relative standard deviation . . . . . *4.372618 %*

Correlation coefficient *0.999592*

Sample type	Index	Conc.	Volume	Dilution	Sample amount	Area	Ident	Date
Standard 1	1	0.0000	20.0	1.0	1.0	n. d.	Std 1	2015-04-30 06:20:45 UTC-5
Standard 2	1	0.1000	20.0	1.0	1.0	0.0343	Std 2	2015-04-30 06:41:47 UTC-5
Standard 3	1	0.2500	20.0	1.0	1.0	0.1052	Std 3	2015-04-30 07:02:56 UTC-5
Standard 4	1	0.5000	20.0	1.0	1.0	0.2303	Std 4	2015-04-30 07:23:57 UTC-5
Standard 5	1	1.0000	20.0	1.0	1.0	0.4804	Std 5	2015-04-30 07:44:58 UTC-5
Standard 6	1	2.0000	20.0	1.0	1.0	1.0518	Std 6	2015-04-30 08:05:59 UTC-5
Standard 7	1	5.0000	20.0	1.0	1.0	2.9544	Std 7	2015-04-30 08:27:00 UTC-5
Standard 8	1	10.0000	20.0	1.0	1.0	5.6797	Std 8	2015-04-30 08:48:03 UTC-5

Chloride (Anions)



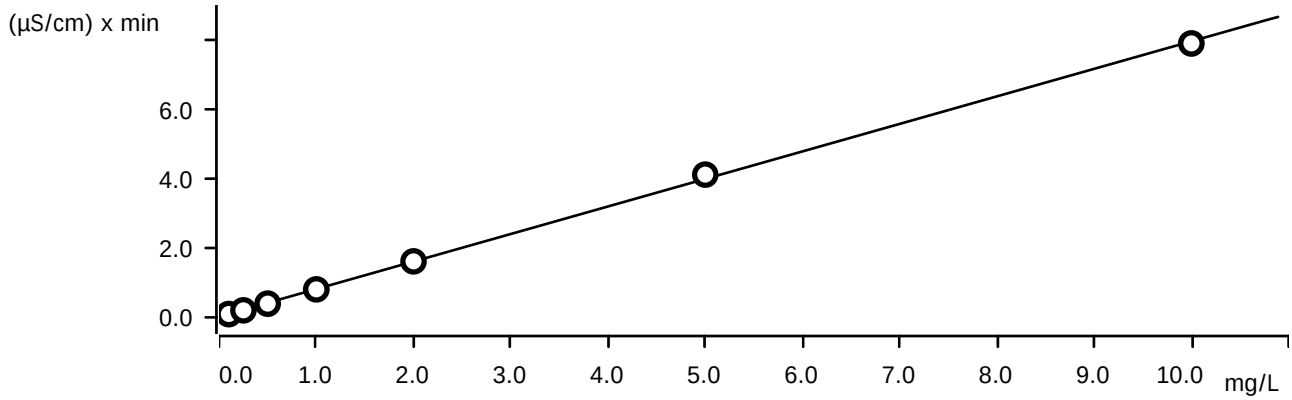
Function: . . . . . *A = - 0.0505151 + 0.0197862× Q*

Relative standard deviation . . . . . *1.119990 %*

Correlation coefficient *0.999972*

Sample type	Index	Conc.	Volume	Dilution	Sample amount	Area	Ident	Date
Standard 1	1	0.0000	20.0	1.0	1.0	n. d.	Std 1	2015-04-30 06:20:45 UTC-5
Standard 2	1	1.0000	20.0	1.0	1.0	0.3640	Std 2	2015-04-30 06:41:47 UTC-5
Standard 3	1	2.5000	20.0	1.0	1.0	0.9438	Std 3	2015-04-30 07:02:56 UTC-5
Standard 4	1	5.0000	20.0	1.0	1.0	1.9217	Std 4	2015-04-30 07:23:57 UTC-5
Standard 5	1	10.0000	20.0	1.0	1.0	3.8759	Std 5	2015-04-30 07:44:58 UTC-5
Standard 6	1	20.0000	20.0	1.0	1.0	7.7409	Std 6	2015-04-30 08:05:59 UTC-5
Standard 7	1	50.0000	20.0	1.0	1.0	19.9535	Std 7	2015-04-30 08:27:00 UTC-5
Standard 8	1	100.0000	20.0	1.0	1.0	39.4408	Std 8	2015-04-30 08:48:03 UTC-5

Nitrite (Anions)



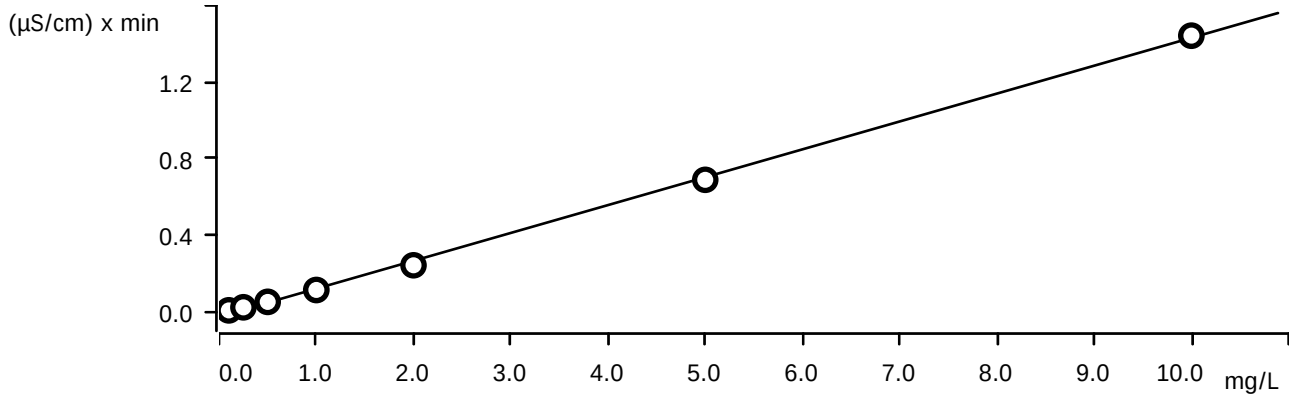
Function: . . . . . *A = - 0.0111570 + 0.0398306× Q*

Relative standard deviation . . . . . *2.996174 %*

Correlation coefficient *0.999798*

Sample type	Index	Conc.	Volume	Dilution	Sample amount	Area	Ident	Date
Standard 1	1	0.0000	20.0	1.0	1.0	n. d.	Std 1	2015-04-30 06:20:45 UTC-5
Standard 2	1	0.1000	20.0	1.0	1.0	0.0585	Std 2	2015-04-30 06:41:47 UTC-5
Standard 3	1	0.2500	20.0	1.0	1.0	0.1680	Std 3	2015-04-30 07:02:56 UTC-5
Standard 4	1	0.5000	20.0	1.0	1.0	0.3604	Std 4	2015-04-30 07:23:57 UTC-5
Standard 5	1	1.0000	20.0	1.0	1.0	0.7746	Std 5	2015-04-30 07:44:58 UTC-5
Standard 6	1	2.0000	20.0	1.0	1.0	1.5850	Std 6	2015-04-30 08:05:59 UTC-5
Standard 7	1	5.0000	20.0	1.0	1.0	4.0965	Std 7	2015-04-30 08:27:00 UTC-5
Standard 8	1	10.0000	20.0	1.0	1.0	7.8951	Std 8	2015-04-30 08:48:03 UTC-5

Bromide (Anions)



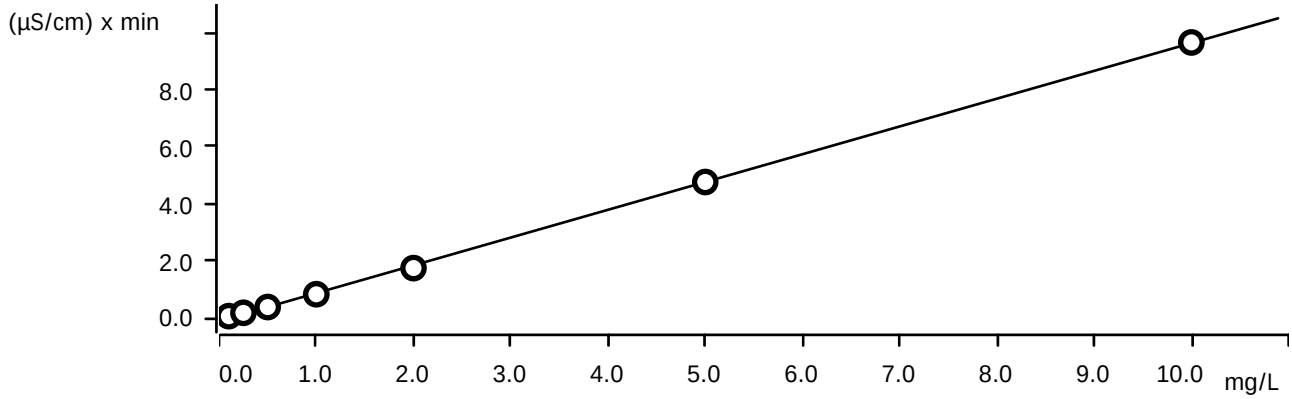
Function: . . . . . *A = - 0.0250794 + 7.27728E-3× Q*

Relative standard deviation . . . . . *4.519285 %*

Correlation coefficient *0.999593*

Sample type	Index	Conc.	Volume	Dilution	Sample amount	Area	Ident	Date
Standard 1	1	0.0000	20.0	1.0	1.0	n. d.	Std 1	2015-04-30 06:20:45 UTC-5
Standard 2	1	0.1000	20.0	1.0	1.0	0.0070	Std 2	2015-04-30 06:41:47 UTC-5
Standard 3	1	0.2500	20.0	1.0	1.0	0.0228	Std 3	2015-04-30 07:02:56 UTC-5
Standard 4	1	0.5000	20.0	1.0	1.0	0.0512	Std 4	2015-04-30 07:23:57 UTC-5
Standard 5	1	1.0000	20.0	1.0	1.0	0.1135	Std 5	2015-04-30 07:44:58 UTC-5
Standard 6	1	2.0000	20.0	1.0	1.0	0.2426	Std 6	2015-04-30 08:05:59 UTC-5
Standard 7	1	5.0000	20.0	1.0	1.0	0.6889	Std 7	2015-04-30 08:27:00 UTC-5
Standard 8	1	10.0000	20.0	1.0	1.0	1.4420	Std 8	2015-04-30 08:48:03 UTC-5

Nitrate (Anions)



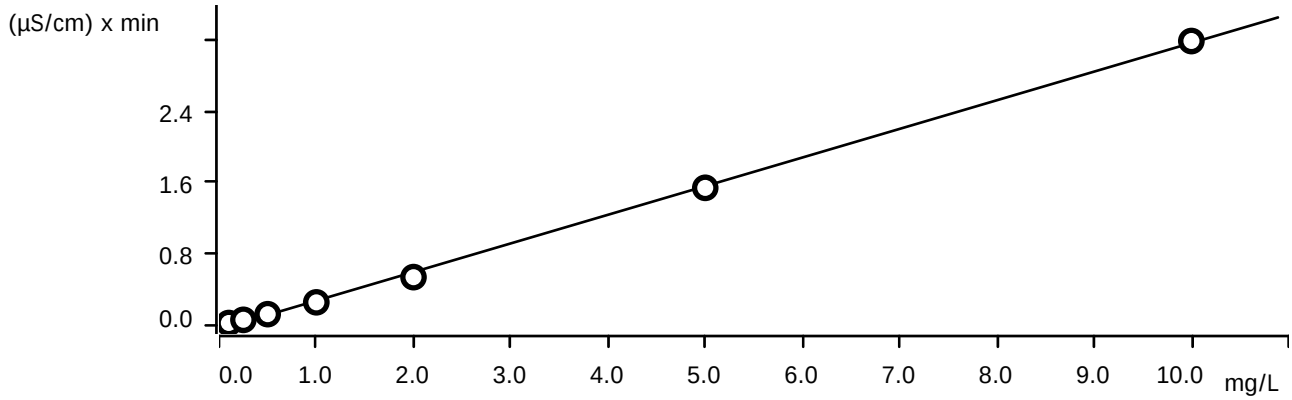
Function: . . . . . *A = - 0.106694 + 0.0487035× Q*

Relative standard deviation . . . . . *2.374342 %*

Correlation coefficient *0.999882*

Sample type	Index	Conc.	Volume	Dilution	Sample amount	Area	Ident	Date
Standard 1	1	0.0000	20.0	1.0	1.0	n. d.	Std 1	2015-04-30 06:20:45 UTC-5
Standard 2	1	0.1000	20.0	1.0	1.0	0.0608	Std 2	2015-04-30 06:41:47 UTC-5
Standard 3	1	0.2500	20.0	1.0	1.0	0.1788	Std 3	2015-04-30 07:02:56 UTC-5
Standard 4	1	0.5000	20.0	1.0	1.0	0.3813	Std 4	2015-04-30 07:23:57 UTC-5
Standard 5	1	1.0000	20.0	1.0	1.0	0.8297	Std 5	2015-04-30 07:44:58 UTC-5
Standard 6	1	2.0000	20.0	1.0	1.0	1.7450	Std 6	2015-04-30 08:05:59 UTC-5
Standard 7	1	5.0000	20.0	1.0	1.0	4.7632	Std 7	2015-04-30 08:27:00 UTC-5
Standard 8	1	10.0000	20.0	1.0	1.0	9.6555	Std 8	2015-04-30 08:48:03 UTC-5

Phosphate (Anions)



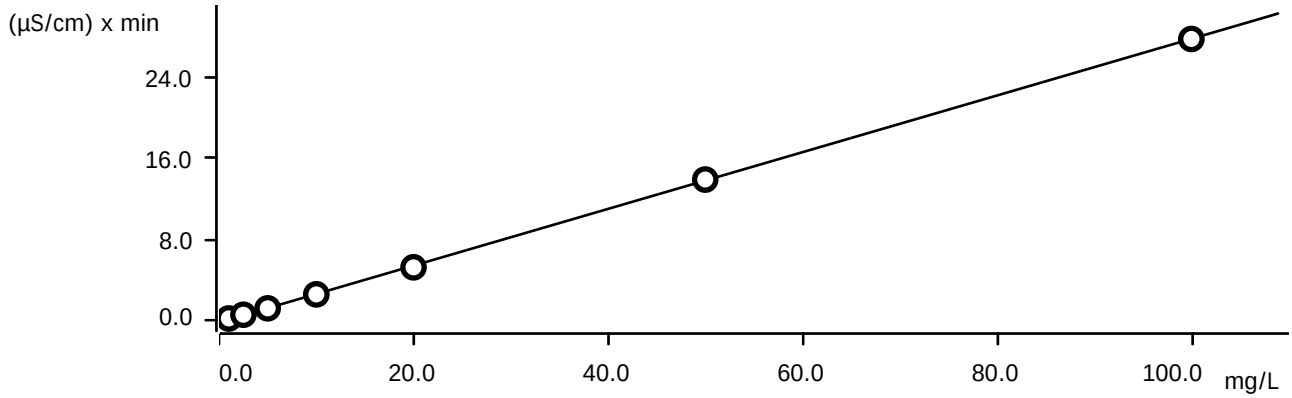
Function: . . . . . *A = - 0.0542333 + 0.0161473× Q*

Relative standard deviation . . . . . *4.520459 %*

Correlation coefficient *0.999591*

Sample type	Index	Conc.	Volume	Dilution	Sample amount	Area	Ident	Date
Standard 1	1	0.0000	20.0	1.0	1.0	n. d.	Std 1	2015-04-30 06:20:45 UTC-5
Standard 2	1	0.1000	20.0	1.0	1.0	0.0166	Std 2	2015-04-30 06:41:47 UTC-5
Standard 3	1	0.2500	20.0	1.0	1.0	0.0531	Std 3	2015-04-30 07:02:56 UTC-5
Standard 4	1	0.5000	20.0	1.0	1.0	0.1163	Std 4	2015-04-30 07:23:57 UTC-5
Standard 5	1	1.0000	20.0	1.0	1.0	0.2500	Std 5	2015-04-30 07:44:58 UTC-5
Standard 6	1	2.0000	20.0	1.0	1.0	0.5341	Std 6	2015-04-30 08:05:59 UTC-5
Standard 7	1	5.0000	20.0	1.0	1.0	1.5409	Std 7	2015-04-30 08:27:00 UTC-5
Standard 8	1	10.0000	20.0	1.0	1.0	3.1969	Std 8	2015-04-30 08:48:03 UTC-5

Sulfate (Anions)



Function: . . . . . *A = - 0.158495 + 0.0139367× Q*

Relative standard deviation . . . . . *1.385473 %*

Correlation coefficient *0.999958*

Sample type	Index	Conc.	Volume	Dilution	Sample amount	Area	Ident	Date
Standard 1	1	0.0000	20.0	1.0	1.0	n. d.	Std 1	2015-04-30 06:20:45 UTC-5
Standard 2	1	1.0000	20.0	1.0	1.0	0.2173	Std 2	2015-04-30 06:41:47 UTC-5
Standard 3	1	2.5000	20.0	1.0	1.0	0.5855	Std 3	2015-04-30 07:02:56 UTC-5
Standard 4	1	5.0000	20.0	1.0	1.0	1.2135	Std 4	2015-04-30 07:23:57 UTC-5
Standard 5	1	10.0000	20.0	1.0	1.0	2.5874	Std 5	2015-04-30 07:44:58 UTC-5
Standard 6	1	20.0000	20.0	1.0	1.0	5.2489	Std 6	2015-04-30 08:05:59 UTC-5
Standard 7	1	50.0000	20.0	1.0	1.0	13.8774	Std 7	2015-04-30 08:27:00 UTC-5
Standard 8	1	100.0000	20.0	1.0	1.0	27.7018	Std 8	2015-04-30 08:48:03 UTC-5

Sample table - 100115 - 119411 119415 119441 119453

	Method	Ident	Sample type	Position	Injections	Status	Dilution	Info 1	Info 2	Info 4	Value 1	Value 2
43	IC0218A NEW MIXING	CCV	Check standard 1	149	1	FINISHED ...	1	Auto CCV			1	84
44	IC0218A NEW MIXING	CCB	Sample	150	1	FINISHED ...	1	Auto CCB			1	84
45	IC0218A NEW MIXING	LCSW IC0389 IC0390	Check standard 2	2	1	FINISHED ...	1		(02) No i-Di...		1	84
46	IC0218A NEW MIXING	MBW	Sample	150	1	FINISHED ...	1		(02) No i-Di...		1	84
47	IC0218A NEW MIXING	640106	Sample	61	1	FINISHED ...	1		(02) No i-Di...		1	84
48	IC0218A NEW MIXING	640109	Sample	62	1	FINISHED ...	1		(02) No i-Di...		1	84
49	IC0218A NEW MIXING	DUP640109	Sample	63	1	FINISHED ...	1		(02) No i-Di...		1	84
50	IC0218A NEW MIXING	MSW640109	Sample	64	1	FINISHED ...	1		(02) No i-Di...		1	84

Sample table - 100115 - 119411 119415 119441 119453

	Method	Ident	Sample type	Position	Injections	Status	Dilution	Info 1	Info 2	Info 4	Value 1	Value 2
51	IC0218A NEW MIXING	MSDW640109	Sample	65	1	FINISHED ...	1		(02) No i-Di...		1	84
52	IC0218A NEW MIXING	640110	Sample	66	1	FINISHED ...	1		(02) No i-Di...		1	84
53	IC0218A NEW MIXING	640111	Sample	67	1	FINISHED ...	1		(02) No i-Di...		1	84
54	IC0218A NEW MIXING	640112	Sample	68	1	FINISHED ...	1		(02) No i-Di...		1	84
55	IC0218A NEW MIXING	640113	Sample	69	1	FINISHED ...	1		(02) No i-Di...		1	84
56	IC0218A NEW MIXING	640105	Sample	73	1	FINISHED ...	1		(02) No i-Di...		1	84
57	IC0218A NEW MIXING	CCV	Check standard 1	149	1	FINISHED ...	1	Auto CCV			1	84
58	IC0218A NEW MIXING	CCB	Sample	150	1	FINISHED ...	1	Auto CCB			1	84
59	IC0218A NEW MIXING	640135	Sample	74	1	FINISHED ...	1		(02) No i-Di...		1	84
60	IC0218A NEW MIXING	640251	Sample	45	1	FINISHED ...	1		(02) No i-Di...		1	84
61	IC0218A NEW MIXING	640254	Sample	46	1	FINISHED ...	1		(02) No i-Di...		1	84
62	IC0218A NEW MIXING	640256	Sample	47	1	FINISHED ...	1		(02) No i-Di...		1	84
63	IC0218A NEW MIXING	640258	Sample	48	1	FINISHED ...	1		(02) No i-Di...		1	84
64	IC0218A NEW MIXING	DUP640258	Sample	49	1	FINISHED ...	1		(02) No i-Di...		1	84
65	IC0218A NEW MIXING	MSW640258X5	Sample	50	1	FINISHED ...	1		(02) No i-Di...		1	84
66	IC0218A NEW MIXING	MSDW640258X5	Sample	51	1	FINISHED ...	1		(02) No i-Di...		1	84
67	IC0218A NEW MIXING	640260	Sample	52	1	FINISHED ...	1		(02) No i-Di...		1	84
68	IC0218A NEW MIXING	640262	Sample	53	1	FINISHED ...	1		(02) No i-Di...		1	84
69	IC0218A NEW MIXING	CCV	Check standard 1	149	1	FINISHED ...	1	Auto CCV			1	84
70	IC0218A NEW MIXING	CCB	Sample	150	1	FINISHED ...	1	Auto CCB			1	84
71	IC0218A NEW MIXING	639638X5	Sample	70	1	FINISHED ...	1		(02) No i-Di...		1	84
72	IC0218A NEW MIXING	639638X50	Sample	71	1	FINISHED ...	1		(02) No i-Di...		1	84
73	IC0218A NEW MIXING	638809X5	Sample	72	1	FINISHED ...	1		(02) No i-Di...		1	84
74	IC0218A NEW MIXING	640254X5	Sample	54	1	FINISHED ...	1		(02) No i-Di...		1	84
75	IC0218A NEW MIXING	CCV	Check standard 1	149	1	FINISHED ...	1	Auto CCV			1	84

Sample data

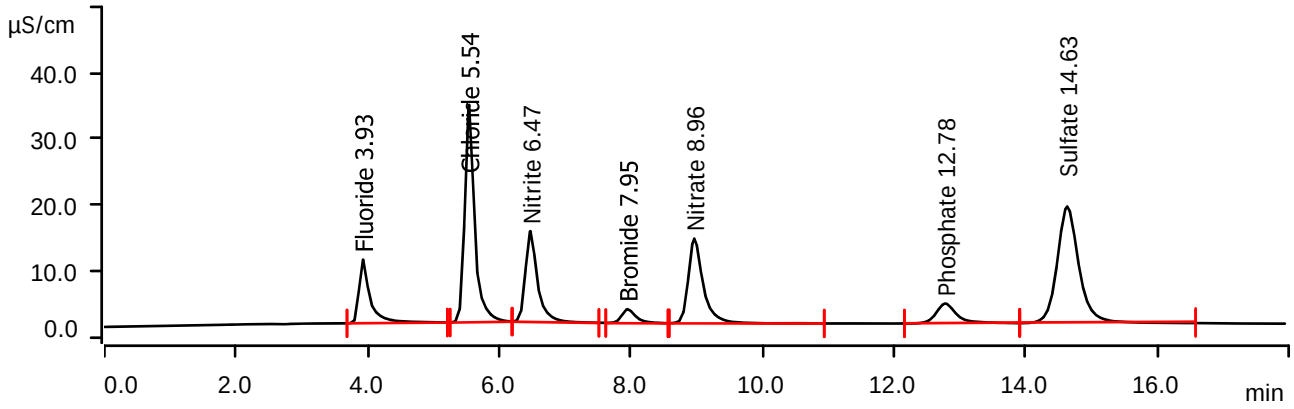
Ident	CCV	
Determination start	2015-10-02 06:58:34 UTC-5	
Method	IC0218A NEW MIXING	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	9.86	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	3.930	1.9145	9.634	3.402	Fluoride
2	5.543	5.7490	32.953	14.656	Chloride
3	6.473	2.9382	13.742	3.702	Nitrite
4	7.950	0.5136	2.092	3.701	Bromide
5	8.963	3.3502	12.832	3.549	Nitrate
6	12.775	1.0990	3.014	3.571	Phosphate
7	14.628	6.8144	17.687	25.016	Sulfate

Sample data

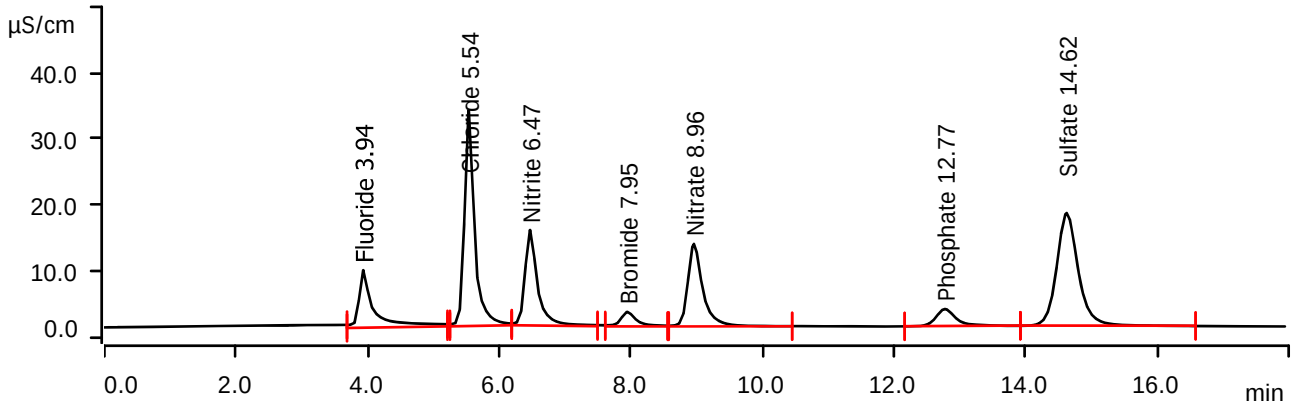
Ident	LCSW IC0389 IC0390
Determination start	2015-10-02 07:40:28 UTC-5
Method	IC0218A NEW MIXING
Operator	JJF

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	9.92	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	3.935	1.7505	8.283	3.118	Fluoride
2	5.538	5.6377	32.436	14.374	Chloride
3	6.468	3.0226	14.238	3.808	Nitrite
4	7.947	0.5028	2.052	3.627	Bromide
5	8.957	3.2221	12.426	3.417	Nitrate
6	12.770	0.9659	2.622	3.159	Phosphate
7	14.620	6.5749	17.134	24.157	Sulfate

Sample data

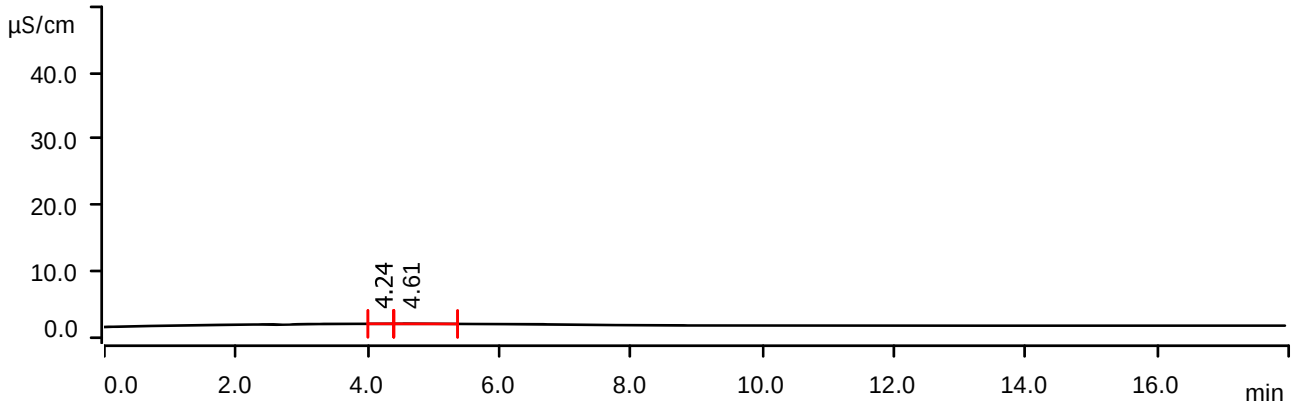
Ident . . . . . MBW
Determination start 2015-10-02 08:22:19 UTC-5
Method . . . . . IC0218A NEW MIXING
Operator . . . . . JJF

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 18.0 min
Integration . . . . . Automatically
Column type . . . . . Metrosep A Supp 5 - 150/4.0
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 9.92 MPa
Temperature . . . . . 30.0 °C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.242	0.0014	0.008	invalid	
2	4.608	0.0091	0.023	invalid	

Sample data

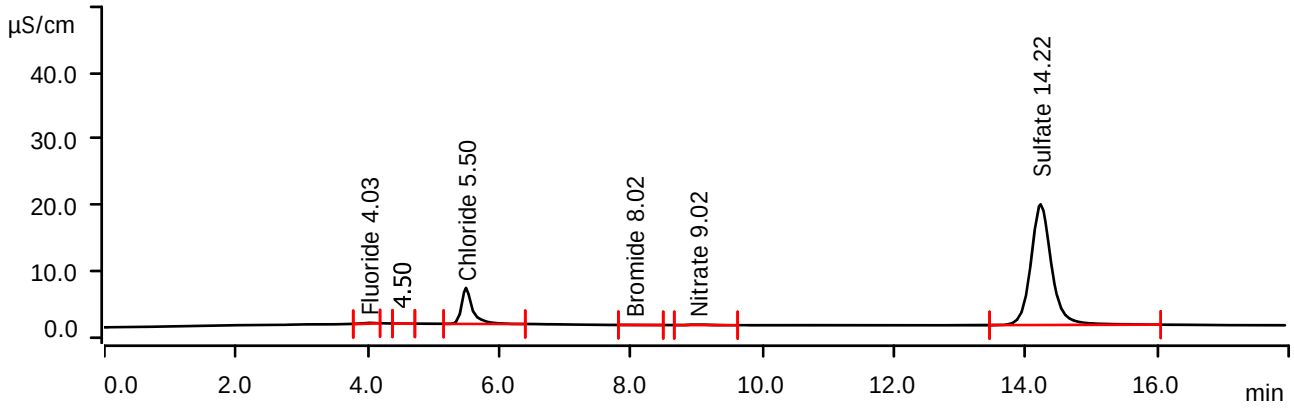
Ident 640106
Determination start 2015-10-02 08:43:17 UTC-5
Method . . . . . IC0218A NEW MIXING
Operator . . . . . JJF

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 18.0 min
Integration . . . . . Automatically
Column type . . . . . Metrosep A Supp 5 - 150/4.0
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 9.86 MPa
Temperature . . . . . 30.0 °C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.033	0.0205	0.101	0.121	Fluoride
2	4.503	0.0035	0.021	invalid	
3	5.495	1.0380	5.450	2.751	Chloride
4	8.022	0.0022	0.009	0.188	Bromide
5	9.015	0.0279	0.116	0.138	Nitrate
6	14.223	6.7062	18.319	24.628	Sulfate

Sample data

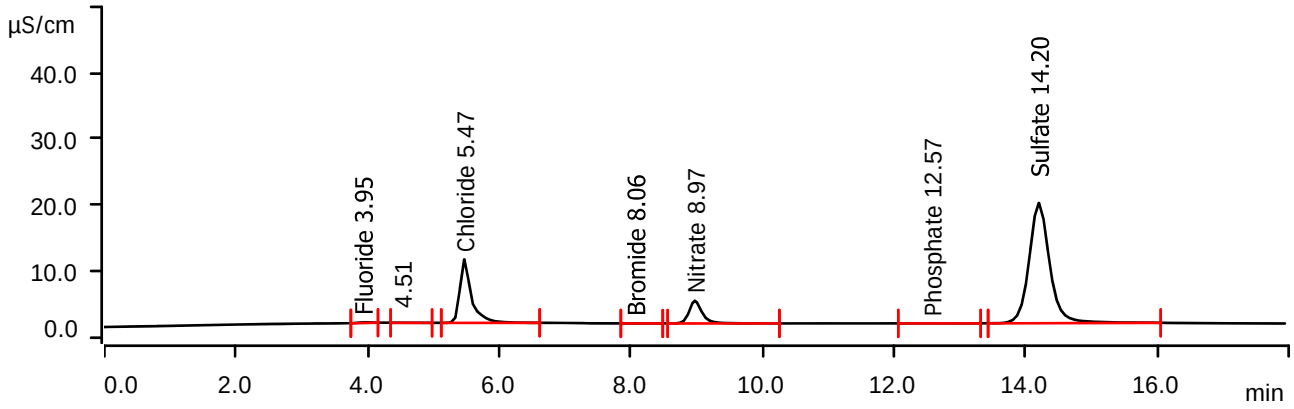
Ident	640109	
Determination start	2015-10-02 09:04:20 UTC-5	
Method	IC0218A NEW MIXING	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	9.86	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	3.953	0.0195	0.089	0.119	Fluoride
2	4.513	0.0050	0.014	invalid	
3	5.470	1.9694	9.625	5.104	Chloride
4	8.060	0.0035	0.016	0.196	Bromide
5	8.972	0.7889	3.442	0.919	Nitrate
6	12.570	0.0054	0.013	0.185	Phosphate
7	14.197	6.6563	18.239	24.449	Sulfate

Sample data

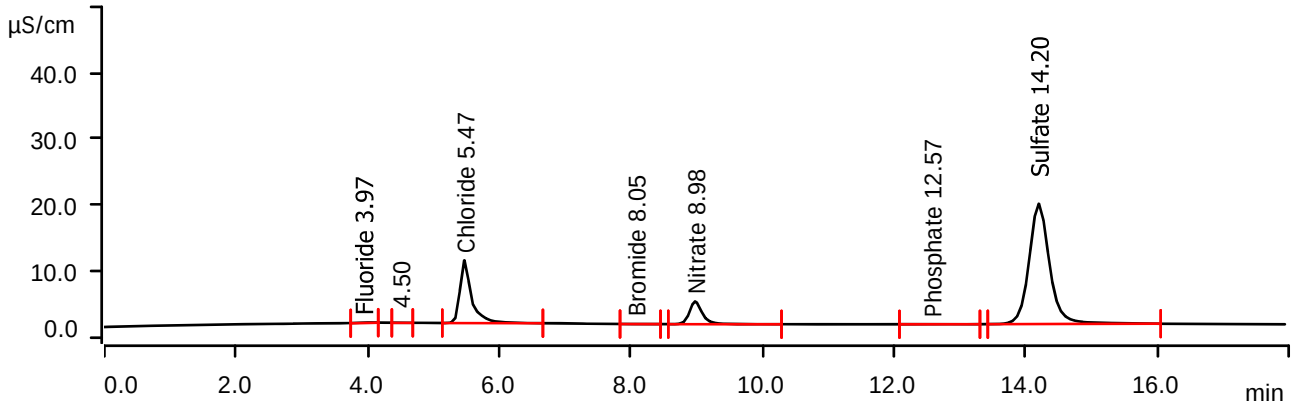
Ident	DUP640109	
Determination start	2015-10-02 09:25:15 UTC-5	
Method	IC0218A NEW MIXING	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	10.03	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	3.973	0.0156	0.066	0.112	Fluoride
2	4.502	0.0015	0.008	invalid	
3	5.472	1.9445	9.504	5.041	Chloride
4	8.048	0.0032	0.015	0.195	Bromide
5	8.975	0.7858	3.442	0.916	Nitrate
6	12.568	0.0051	0.011	0.184	Phosphate
7	14.195	6.6479	18.244	24.419	Sulfate

Sample data

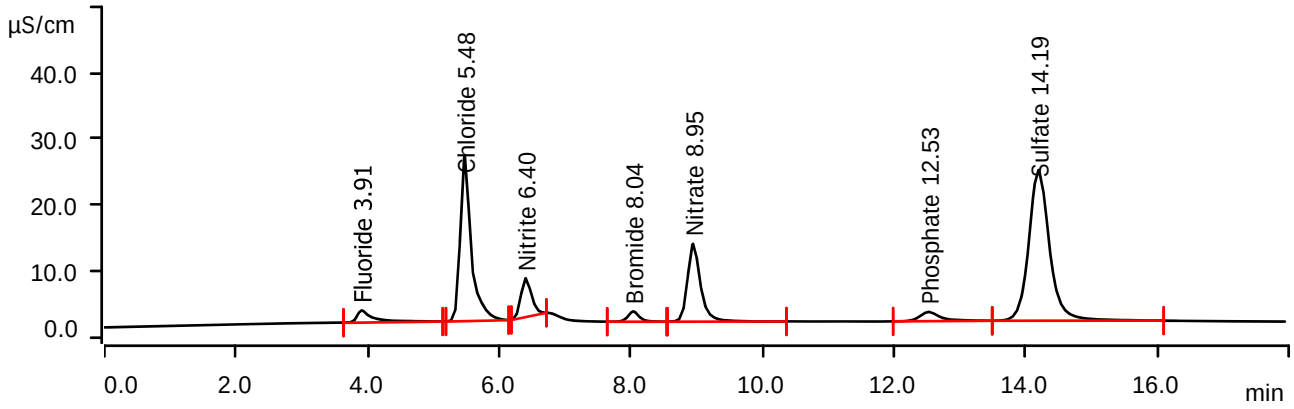
Ident	MSW640109	
Determination start	2015-10-02 09:46:09 UTC-5	
Method	IC0218A NEW MIXING	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	9.92	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	3.910	0.5221	1.826	0.990	Fluoride
2	5.477	4.8853	25.097	12.473	Chloride
3	6.403	1.1121	5.864	1.410	Nitrite
4	8.037	0.3042	1.558	2.263	Bromide
5	8.945	2.7226	11.796	2.905	Nitrate
6	12.525	0.5254	1.404	1.795	Phosphate
7	14.192	8.4232	22.861	30.788	Sulfate

Sample data

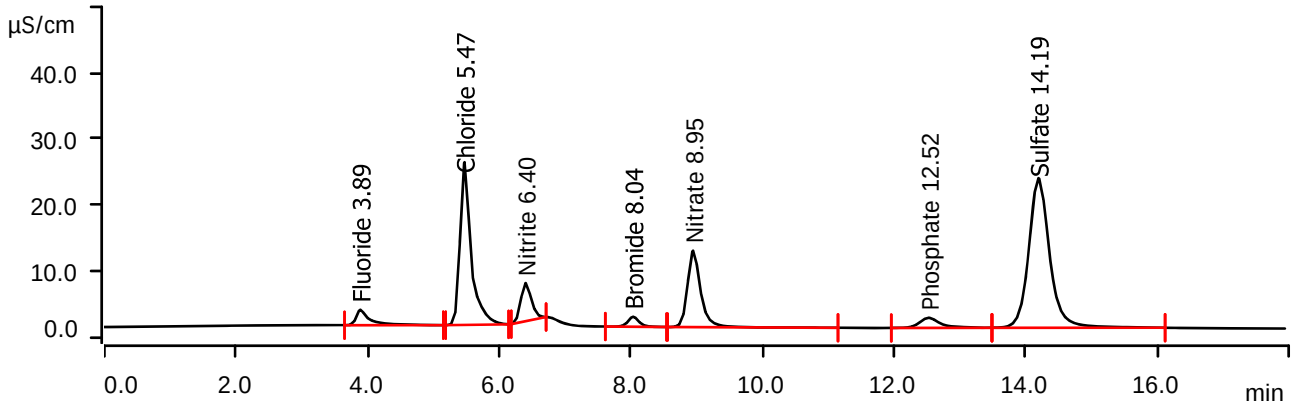
Ident MSDW640109
Determination start 2015-10-02 10:07:04 UTC-5
Method . . . . . IC0218A NEW MIXING
Operator . . . . . JJF

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 18.0 min
Integration . . . . . Automatically
Column type . . . . . Metrosep A Supp 5 - 150/4.0
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 9.75 MPa
Temperature . . . . . 30.0 °C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	3.892	0.5776	2.337	1.086	Fluoride
2	5.473	4.8545	24.685	12.395	Chloride
3	6.400	1.0968	5.778	1.391	Nitrite
4	8.035	0.2984	1.521	2.223	Bromide
5	8.945	2.6983	11.595	2.880	Nitrate
6	12.523	0.5692	1.542	1.931	Phosphate
7	14.192	8.4009	22.691	30.708	Sulfate

Sample data

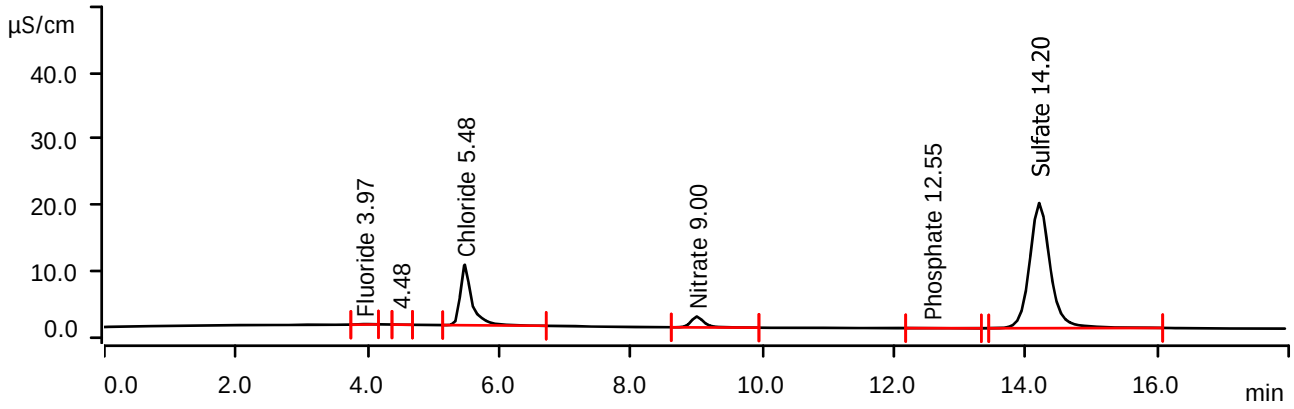
Ident 640110
Determination start 2015-10-02 10:27:59 UTC-5
Method . . . . . IC0218A NEW MIXING
Operator . . . . . JJF

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 18.0 min
Integration . . . . . Automatically
Column type . . . . . Metrosep A Supp 5 - 150/4.0
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 9.81 MPa
Temperature . . . . . 30.0 °C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	3.970	0.0153	0.066	0.112	Fluoride
2	4.478	0.0016	0.009	invalid	
3	5.477	1.8634	9.163	4.837	Chloride
4	9.000	0.3819	1.653	0.502	Nitrate
5	12.550	0.0053	0.012	0.184	Phosphate
6	14.203	6.9588	18.984	25.534	Sulfate

Sample data

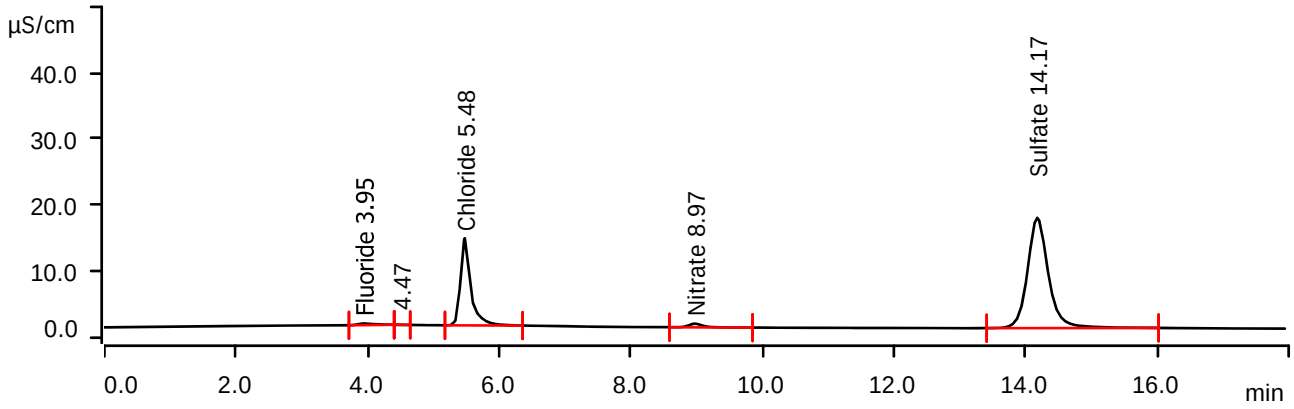
Ident	640111
Determination start	2015-10-02 10:48:54 UTC-5
Method	IC0218A NEW MIXING
Operator	JJF

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	9.81	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	3.945	0.0731	0.247	0.212	Fluoride
2	4.472	0.0011	0.007	invalid	
3	5.477	2.4094	13.211	6.216	Chloride
4	8.970	0.1380	0.565	0.251	Nitrate
5	14.173	6.1659	16.730	22.690	Sulfate

Sample data

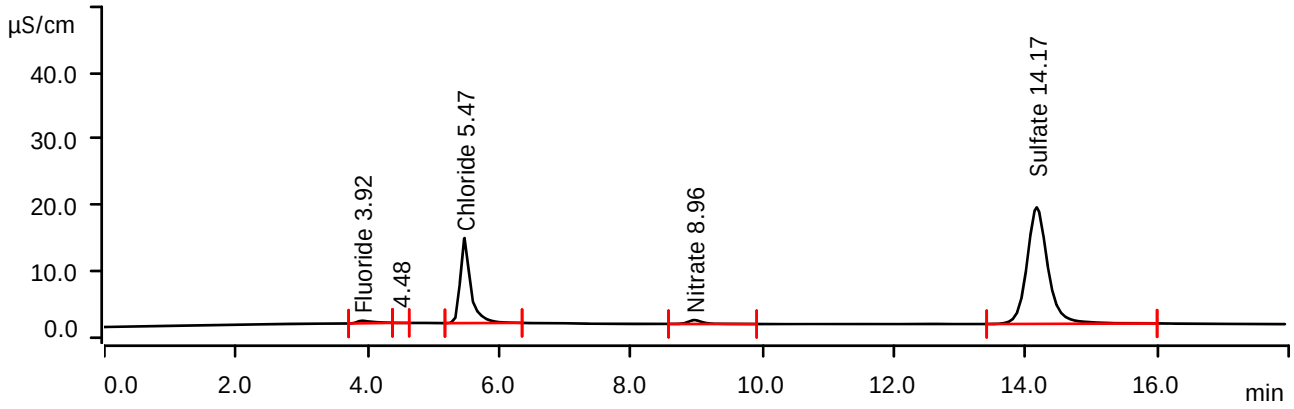
Ident	640112	
Determination start	2015-10-02 11:09:49 UTC-5	
Method	IC0218A NEW MIXING	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	9.75	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	3.917	0.0995	0.391	0.258	Fluoride
2	4.483	0.0015	0.011	invalid	
3	5.473	2.3688	12.887	6.114	Chloride
4	8.963	0.1486	0.602	0.262	Nitrate
5	14.165	6.5548	17.672	24.085	Sulfate

Sample data

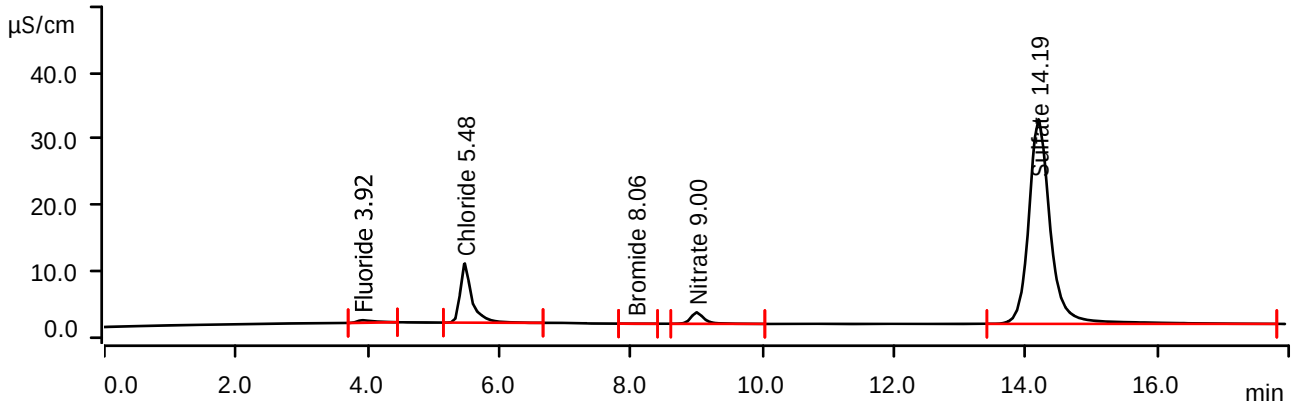
Ident 640113
Determination start 2015-10-02 11:30:44 UTC-5
Method . . . . . IC0218A NEW MIXING
Operator . . . . . JJF

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 18.0 min
Integration . . . . . Automatically
Column type . . . . . Metrosep A Supp 5 - 150/4.0
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 9.92 MPa
Temperature . . . . . 30.0 °C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	3.922	0.1086	0.386	0.274	Fluoride
2	5.477	1.8400	8.972	4.777	Chloride
3	8.060	0.0039	0.019	0.199	Bromide
4	8.998	0.4023	1.741	0.523	Nitrate
5	14.192	11.9524	31.032	43.450	Sulfate

Sample data

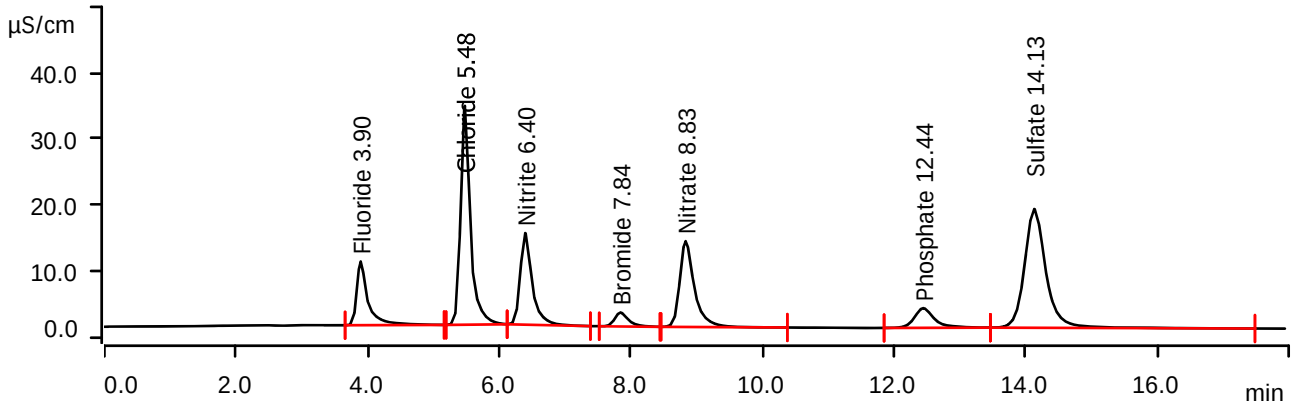
Ident	CCV	
Determination start	2015-10-02 12:12:35 UTC-5	
Method	IC0218A NEW MIXING	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	9.75	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	3.895	1.9170	9.651	3.406	Fluoride
2	5.478	5.7590	33.207	14.681	Chloride
3	6.395	2.9278	13.886	3.689	Nitrite
4	7.842	0.5142	2.116	3.705	Bromide
5	8.832	3.3566	13.005	3.555	Nitrate
6	12.442	1.0643	2.988	3.464	Phosphate
7	14.127	6.8495	18.023	25.142	Sulfate

Sample data

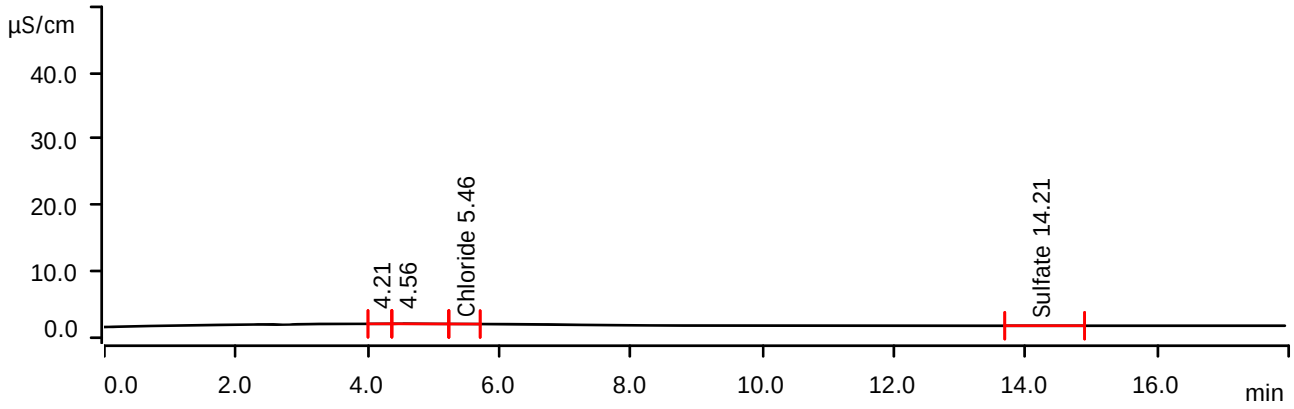
Ident	CCB	
Determination start	2015-10-02 12:33:34 UTC-5	
Method	IC0218A NEW MIXING	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	9.86	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.208	0.0024	0.014	invalid	
2	4.560	0.0081	0.023	invalid	
3	5.458	0.0011	0.007	0.131	Chloride
4	14.208	0.0028	0.007	0.579	Sulfate

Sample table - 100115 - 119411 119415 119441 119453

	Method	Ident	Sample type	Position	Injections	Status	Dilution	Info 1	Info 2	Info 4	Value 1	Value 2
43	IC0218A NEW MIXING	CCV	Check standard 1	149	1	READY 0 / 1	1	Auto CCV			1	84
45	IC0218A NEW MIXING	LCSW IC0389 IC0390	Check standard 2	2	1	READY 0 / 1	1		(02) No i-Di...		1	84
46	IC0218A NEW MIXING	MBW	Sample	150	1	READY 0 / 1	1		(02) No i-Di...		1	84

Sample table - 100115 - 119411 119415 119441 119453

	Method	Ident	Sample type	Position	Injections	Status	Dilution	Info 1	Info 2	Info 4	Value 1	Value 2
57	IC0218A NEW MIXING	CCV	Check standard 1	149	1	READY 0 / 1	1	Auto CCV			1	84
58	IC0218A NEW MIXING	CCB	Sample	150	1	READY 0 / 1	1	Auto CCB			1	84
60	IC0218A NEW MIXING	640251	Sample	45	1	READY 0 / 1	1		(02) No i-Di...		1	84
61	IC0218A NEW MIXING	640254	Sample	46	1	READY 0 / 1	1		(02) No i-Di...		1	84
62	IC0218A NEW MIXING	640256	Sample	47	1	READY 0 / 1	1		(02) No i-Di...		1	84
63	IC0218A NEW MIXING	640258	Sample	48	1	READY 0 / 1	1		(02) No i-Di...		1	84
64	IC0218A NEW MIXING	DUP640258	Sample	49	1	READY 0 / 1	1		(02) No i-Di...		1	84
65	IC0218A NEW MIXING	MSW640258X5	Sample	50	1	READY 0 / 1	1		(02) No i-Di...		1	84
66	IC0218A NEW MIXING	MSDW640258X5	Sample	51	1	READY 0 / 1	1		(02) No i-Di...		1	84
67	IC0218A NEW MIXING	640260	Sample	52	1	READY 0 / 1	1		(02) No i-Di...		1	84
68	IC0218A NEW MIXING	640262	Sample	53	1	READY 0 / 1	1		(02) No i-Di...		1	84
69	IC0218A NEW MIXING	CCV	Check standard 1	149	1	READY 0 / 1	1	Auto CCV			1	84
70	IC0218A NEW MIXING	CCB	Sample	150	1	READY 0 / 1	1	Auto CCB			1	84
74	IC0218A NEW MIXING	640254X5	Sample	54	1	READY 0 / 1	1		(02) No i-Di...		1	84
75	IC0218A NEW MIXING	640256X5	Sample	55	1	READY 0 / 1	1		(02) No i-Di...		1	84

Sample table - 100115 - 119411 119415 119441 119453

	Method	Ident	Sample type	Position	Injections	Status	Dilution	Info 1	Info 2	Info 4	Value 1	Value 2
76	IC0218A NEW MIXING	CCV	Check standard 1	149	1	READY 0 / 1	1	Auto CCV			1	84
77	IC0218A NEW MIXING	CCB	Sample	150	1	READY 0 / 1	1	Auto CCB			1	84

Sample data

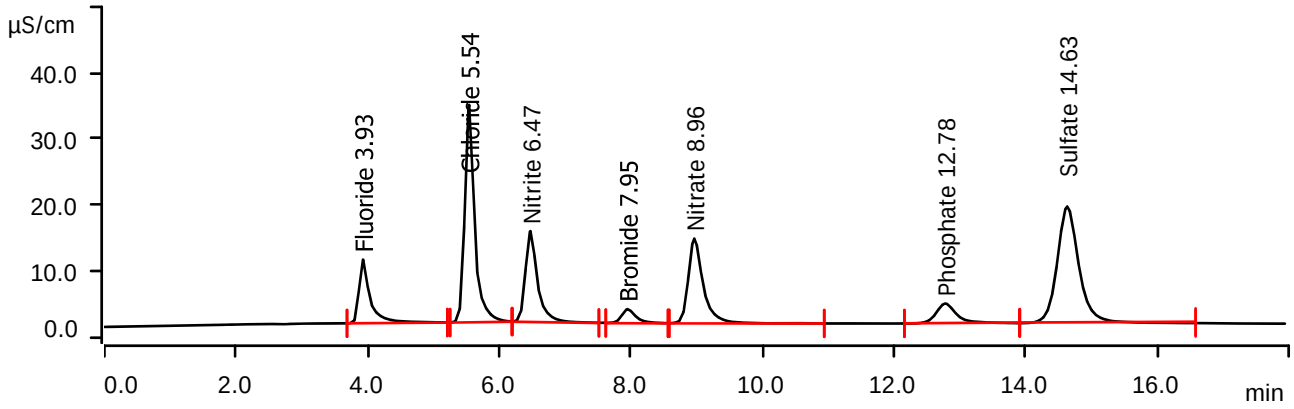
Ident	CCV	
Determination start	2015-10-02 06:58:34 UTC-5	
Method	IC0218A NEW MIXING	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	9.86	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	3.930	1.9145	9.634	3.402	Fluoride
2	5.543	5.7490	32.953	14.656	Chloride
3	6.473	2.9382	13.742	3.702	Nitrite
4	7.950	0.5136	2.092	3.701	Bromide
5	8.963	3.3502	12.832	3.549	Nitrate
6	12.775	1.0990	3.014	3.571	Phosphate
7	14.628	6.8144	17.687	25.016	Sulfate

Sample data

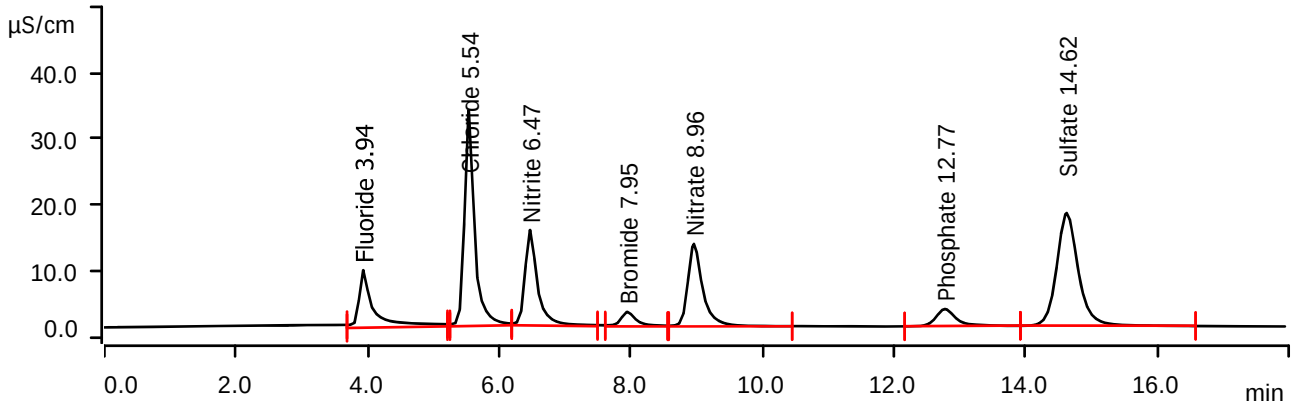
Ident	LCSW IC0389 IC0390
Determination start	2015-10-02 07:40:28 UTC-5
Method	IC0218A NEW MIXING
Operator	JJF

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	9.92	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	3.935	1.7505	8.283	3.118	Fluoride
2	5.538	5.6377	32.436	14.374	Chloride
3	6.468	3.0226	14.238	3.808	Nitrite
4	7.947	0.5028	2.052	3.627	Bromide
5	8.957	3.2221	12.426	3.417	Nitrate
6	12.770	0.9659	2.622	3.159	Phosphate
7	14.620	6.5749	17.134	24.157	Sulfate

Sample data

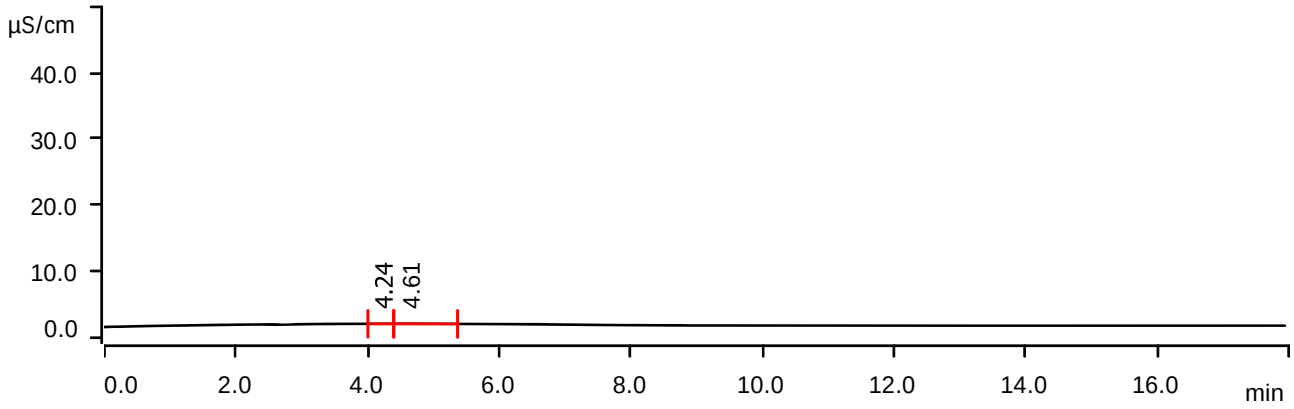
Ident	MBW	
Determination start	2015-10-02 08:22:19 UTC-5	
Method	IC0218A NEW MIXING	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	9.92	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time	Area	Height	Concentration	Component name
	min	(µS/cm) x min	µS/cm	mg/L	
1	4.242	0.0014	0.008	invalid	
2	4.608	0.0091	0.023	invalid	

Sample data

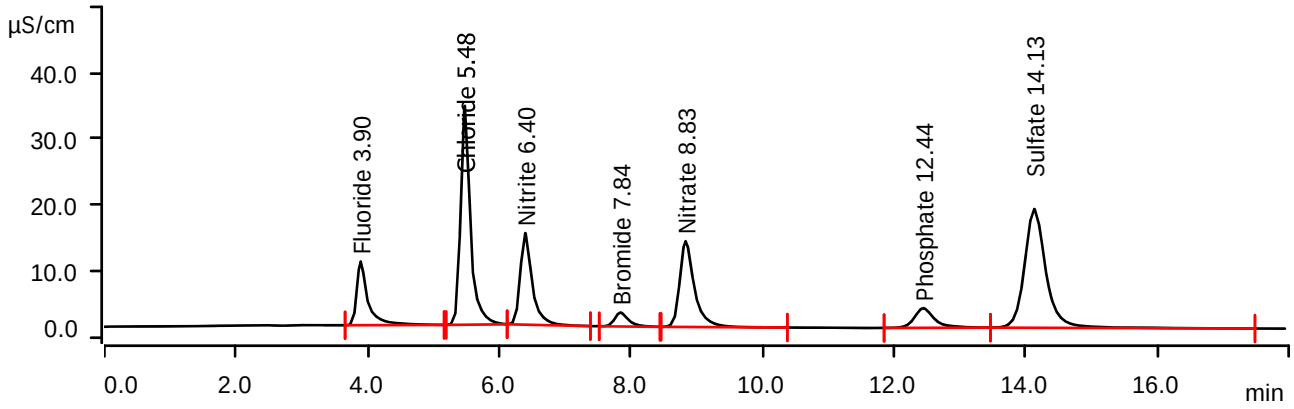
Ident	CCV	
Determination start	2015-10-02 12:12:35 UTC-5	
Method	IC0218A NEW MIXING	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	9.75	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	3.895	1.9170	9.651	3.406	Fluoride
2	5.478	5.7590	33.207	14.681	Chloride
3	6.395	2.9278	13.886	3.689	Nitrite
4	7.842	0.5142	2.116	3.705	Bromide
5	8.832	3.3566	13.005	3.555	Nitrate
6	12.442	1.0643	2.988	3.464	Phosphate
7	14.127	6.8495	18.023	25.142	Sulfate

Sample data

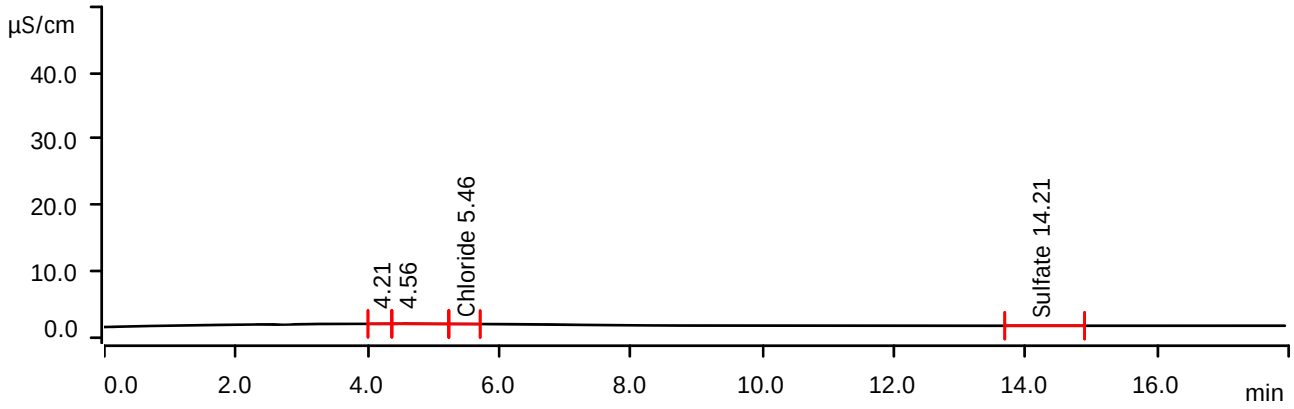
Ident	CCB	
Determination start	2015-10-02 12:33:34 UTC-5	
Method	IC0218A NEW MIXING	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	9.86	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.208	0.0024	0.014	invalid	
2	4.560	0.0081	0.023	invalid	
3	5.458	0.0011	0.007	0.131	Chloride
4	14.208	0.0028	0.007	0.579	Sulfate

Sample data

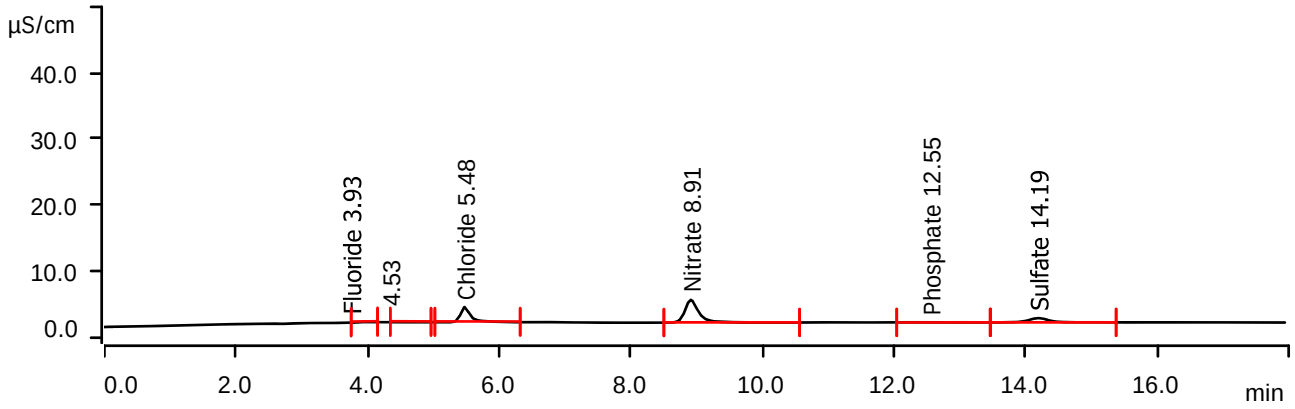
Ident 640251
Determination start 2015-10-02 13:15:30 UTC-5
Method . . . . . IC0218A NEW MIXING
Operator . . . . . JJF

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 18.0 min
Integration . . . . . Automatically
Column type . . . . . Metrosep A Supp 5 - 150/4.0
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 9.81 MPa
Temperature . . . . . 30.0 °C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	3.925	0.0129	0.068	0.108	Fluoride
2	4.530	0.0073	0.024	invalid	
3	5.477	0.4183	2.304	1.185	Chloride
4	8.910	0.8409	3.454	0.973	Nitrate
5	12.545	0.0069	0.015	0.189	Phosphate
6	14.190	0.2263	0.640	1.380	Sulfate

Sample data

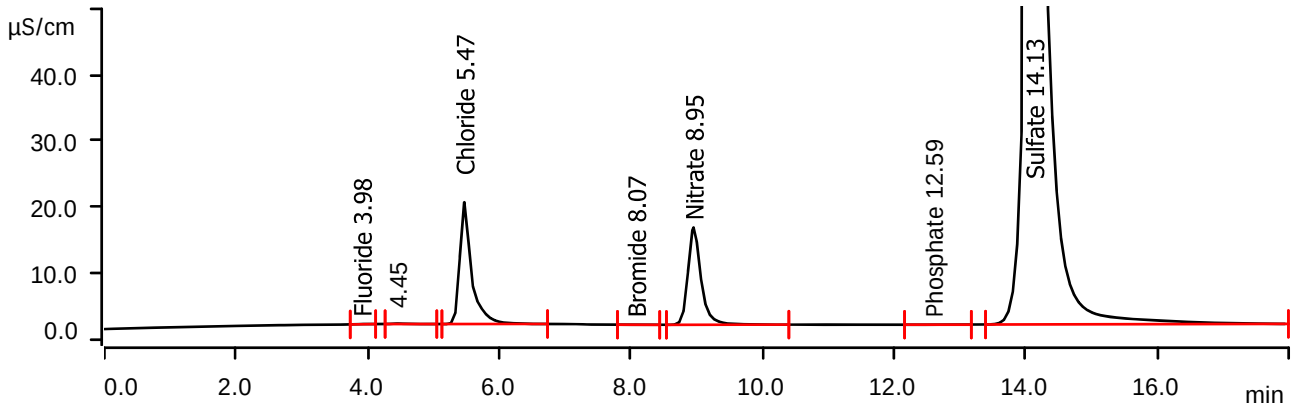
Ident	640254
Determination start	2015-10-02 13:36:31 UTC-5
Method	IC0218A NEW MIXING
Operator	JJF

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	9.70	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	3.977	0.0075	0.030	0.098	Fluoride
2	4.447	0.0201	0.087	invalid	
3	5.470	3.8844	18.469	9.943	Chloride
4	8.070	0.0066	0.031	0.218	Bromide
5	8.952	3.4131	14.759	3.613	Nitrate
6	12.592	0.0027	0.007	0.176	Phosphate
7	14.125	41.5903	101.760	149.780	Sulfate

Sample data

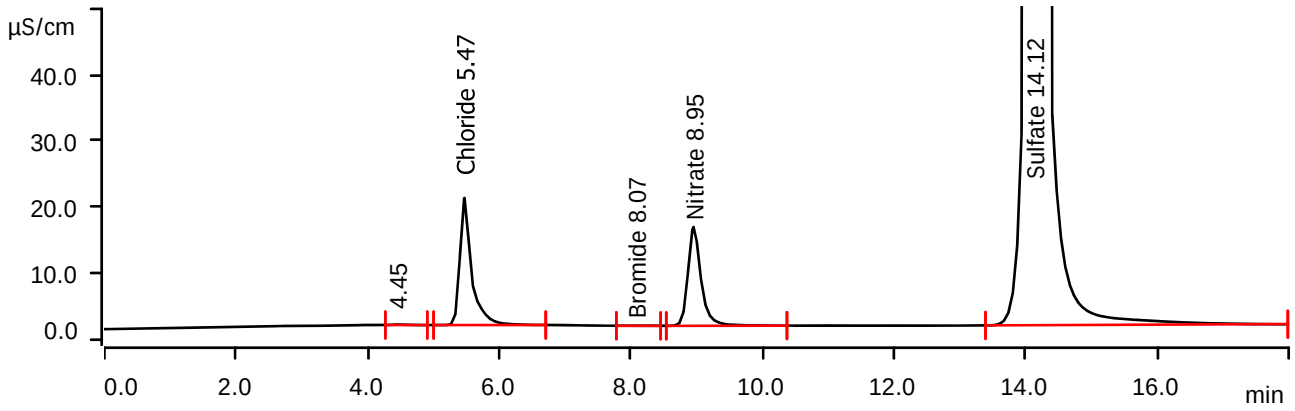
Ident	640256
Determination start	2015-10-02 13:57:26 UTC-5
Method	IC0218A NEW MIXING
Operator	JJF

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	9.70	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.445	0.0164	0.086	invalid	
2	5.472	4.0076	19.281	10.255	Chloride
3	8.070	0.0070	0.032	0.221	Bromide
4	8.952	3.4587	14.977	3.660	Nitrate
5	14.123	41.9193	102.719	150.961	Sulfate

Sample data

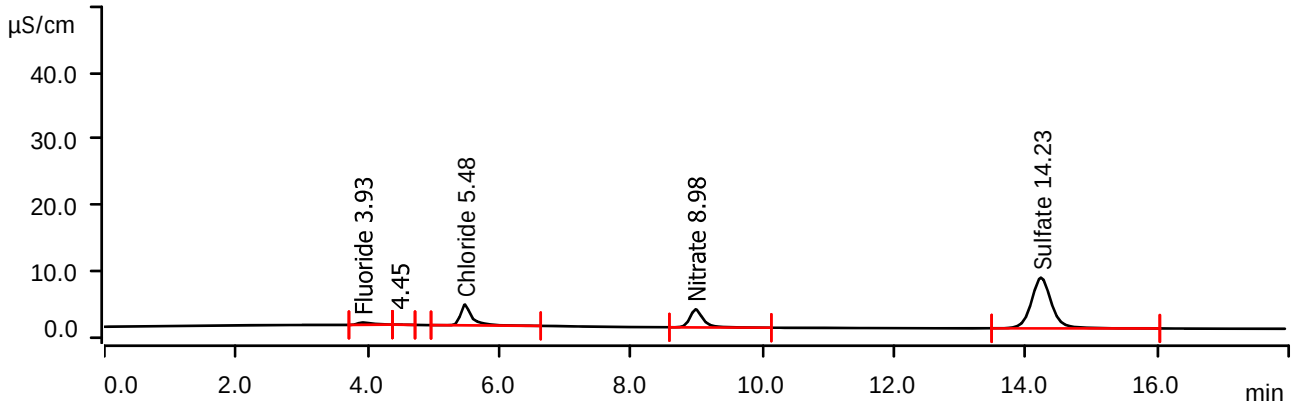
Ident 640258
Determination start 2015-10-02 14:18:22 UTC-5
Method . . . . . IC0218A NEW MIXING
Operator . . . . . JJF

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 18.0 min
Integration . . . . . Automatically
Column type . . . . . Metrosep A Supp 5 - 150/4.0
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 9.75 MPa
Temperature . . . . . 30.0 °C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	3.925	0.0928	0.360	0.246	Fluoride
2	4.447	0.0026	0.014	invalid	
3	5.480	0.6407	3.162	1.747	Chloride
4	8.983	0.6369	2.737	0.763	Nitrate
5	14.230	2.7435	7.696	10.411	Sulfate

Sample data

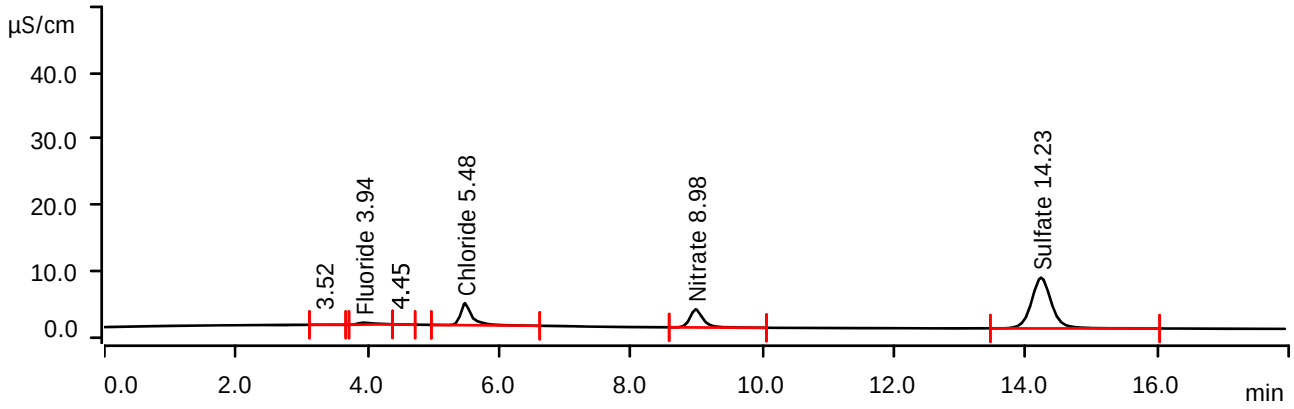
Ident DUP640258
Determination start 2015-10-02 14:39:17 UTC-5
Method . . . . . IC0218A NEW MIXING
Operator . . . . . JJF

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 18.0 min
Integration . . . . . Automatically
Column type . . . . . Metrosep A Supp 5 - 150/4.0
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 9.70 MPa
Temperature . . . . . 30.0 °C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	3.523	0.0013	0.003	invalid	
2	3.943	0.0827	0.296	0.229	Fluoride
3	4.445	0.0026	0.014	invalid	
4	5.482	0.6718	3.327	1.825	Chloride
5	8.983	0.6362	2.751	0.763	Nitrate
6	14.230	2.7365	7.703	10.386	Sulfate

Sample data

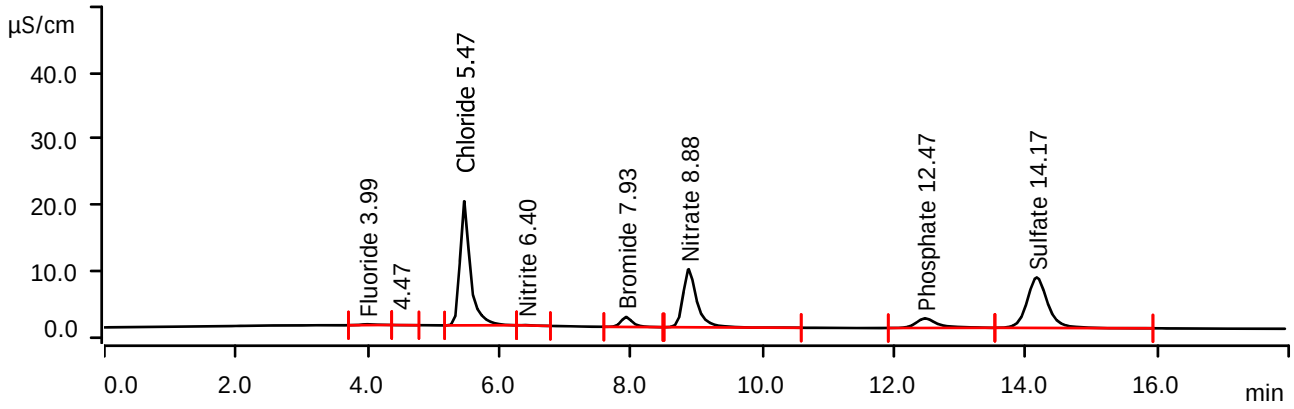
Ident	MSW640258X5	
Determination start	2015-10-02 15:00:12 UTC-5	
Method	IC0218A NEW MIXING	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	9.75	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	3.993	0.0345	0.144	0.145	Fluoride
2	4.465	0.0028	0.013	invalid	
3	5.470	3.4814	18.822	8.925	Chloride
4	6.397	0.0121	0.071	0.029	Nitrite
5	7.927	0.3135	1.505	2.327	Bromide
6	8.878	2.1543	8.807	2.321	Nitrate
7	12.468	0.5667	1.468	1.923	Phosphate
8	14.165	2.7857	7.664	10.563	Sulfate

Sample data

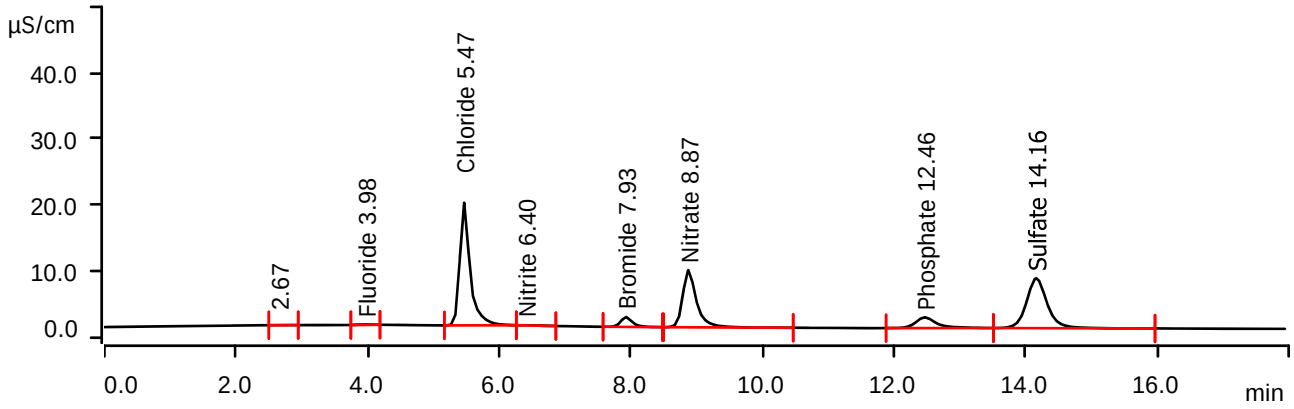
Ident MSDW640258X5
Determination start 2015-10-02 15:21:06 UTC-5
Method . . . . . IC0218A NEW MIXING
Operator . . . . . JJF

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 18.0 min
Integration . . . . . Automatically
Column type . . . . . Metrosep A Supp 5 - 150/4.0
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 9.75 MPa
Temperature . . . . . 30.0 °C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	2.670	0.0030	0.015	invalid	
2	3.982	0.0178	0.087	0.116	Fluoride
3	5.467	3.4491	18.598	8.844	Chloride
4	6.395	0.0126	0.070	0.030	Nitrite
5	7.925	0.3106	1.495	2.306	Bromide
6	8.873	2.1207	8.673	2.287	Nitrate
7	12.463	0.6188	1.644	2.084	Phosphate
8	14.158	2.7533	7.569	10.447	Sulfate

Sample data

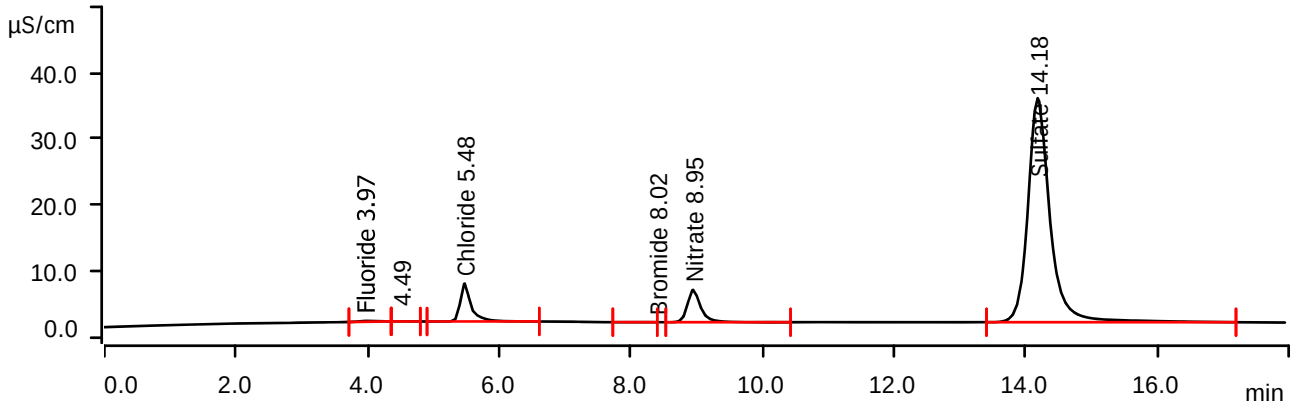
Ident 640260
Determination start 2015-10-02 15:42:01 UTC-5
Method . . . . . IC0218A NEW MIXING
Operator . . . . . JJF

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 18.0 min
Integration . . . . . Automatically
Column type . . . . . Metrosep A Supp 5 - 150/4.0
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 9.70 MPa
Temperature . . . . . 30.0 °C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	3.973	0.0448	0.150	0.163	Fluoride
2	4.493	0.0037	0.018	invalid	
3	5.475	1.1175	5.755	2.952	Chloride
4	8.017	0.0050	0.023	0.207	Bromide
5	8.945	1.1645	4.914	1.305	Nitrate
6	14.180	13.3354	33.990	48.411	Sulfate

Sample data

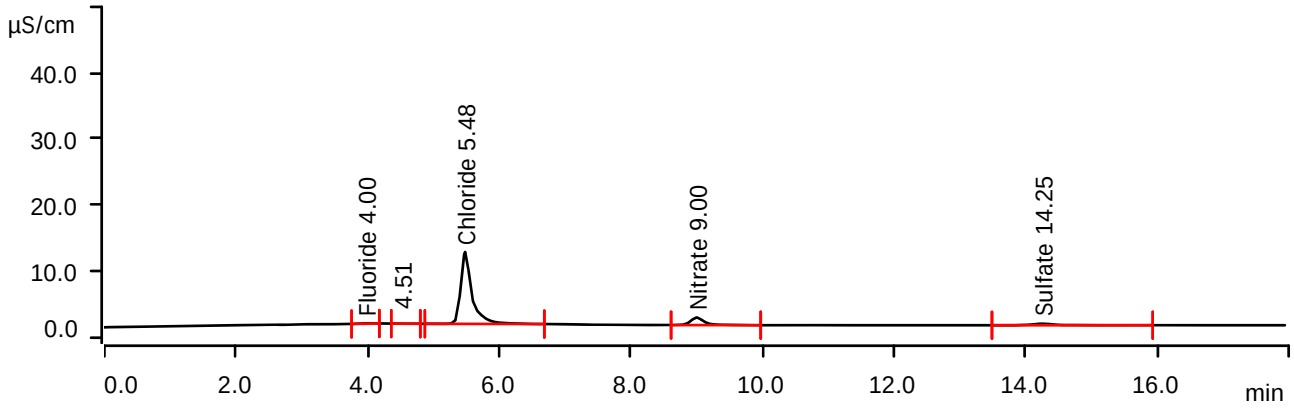
Ident	640262	
Determination start	2015-10-02 16:02:57 UTC-5	
Method	IC0218A NEW MIXING	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	9.92	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	3.998	0.0135	0.060	0.109	Fluoride
2	4.505	0.0025	0.012	invalid	
3	5.482	2.1634	10.901	5.595	Chloride
4	8.998	0.2711	1.156	0.388	Nitrate
5	14.253	0.0890	0.228	0.888	Sulfate

Sample data

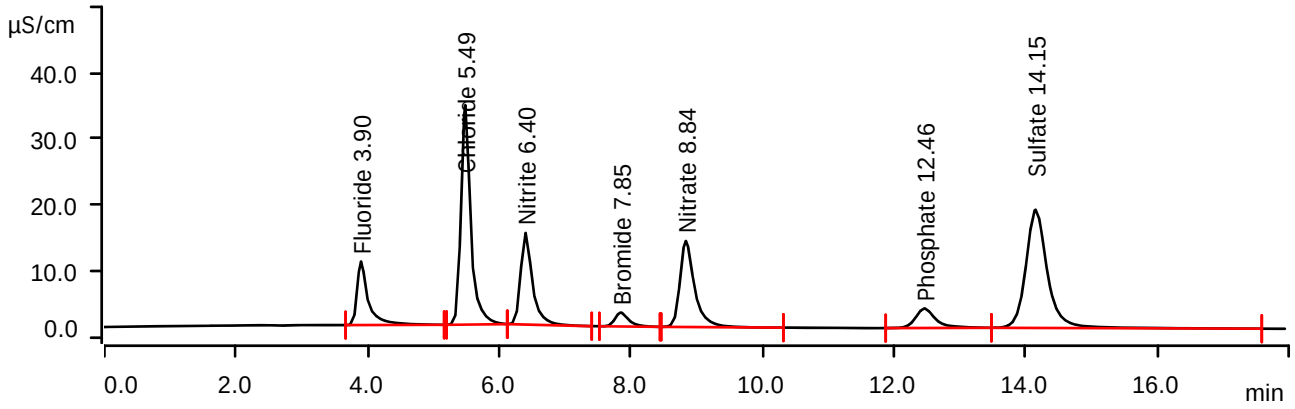
Ident	CCV	
Determination start	2015-10-02 16:23:52 UTC-5	
Method	IC0218A NEW MIXING	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	9.81	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	3.900	1.9144	9.638	3.402	Fluoride
2	5.485	5.7746	33.300	14.720	Chloride
3	6.400	2.9257	13.900	3.687	Nitrite
4	7.845	0.5152	2.124	3.712	Bromide
5	8.835	3.3668	13.056	3.566	Nitrate
6	12.458	1.0606	2.966	3.452	Phosphate
7	14.148	6.8419	17.938	25.115	Sulfate

Sample data

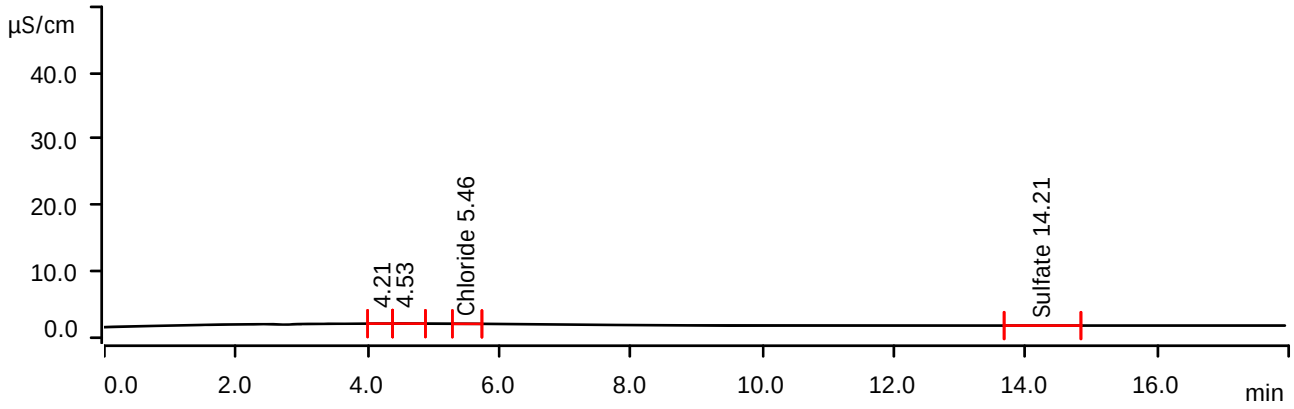
Ident	CCB	
Determination start	2015-10-02 16:44:53 UTC-5	
Method	IC0218A NEW MIXING	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	9.86	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.207	0.0042	0.023	invalid	
2	4.525	0.0039	0.019	invalid	
3	5.458	0.0013	0.008	0.131	Chloride
4	14.208	0.0026	0.007	0.578	Sulfate

Sample data

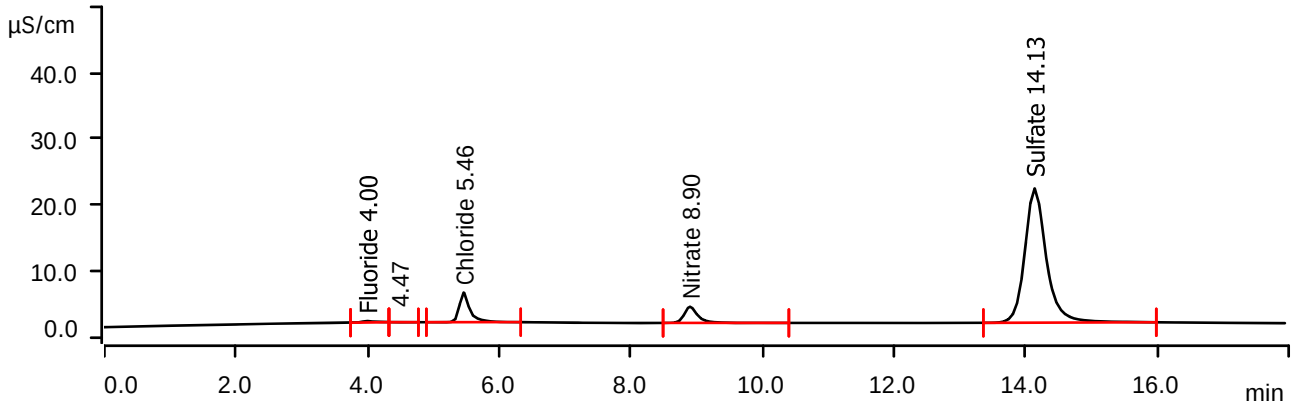
Ident	640254X5	
Determination start	2015-10-02 18:08:41 UTC-5	
Method	IC0218A NEW MIXING	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	9.75	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	3.998	0.0453	0.224	0.164	Fluoride
2	4.465	0.0043	0.021	invalid	
3	5.458	0.8436	4.492	2.260	Chloride
4	8.898	0.6006	2.467	0.726	Nitrate
5	14.132	7.7990	20.364	28.549	Sulfate

Sample data

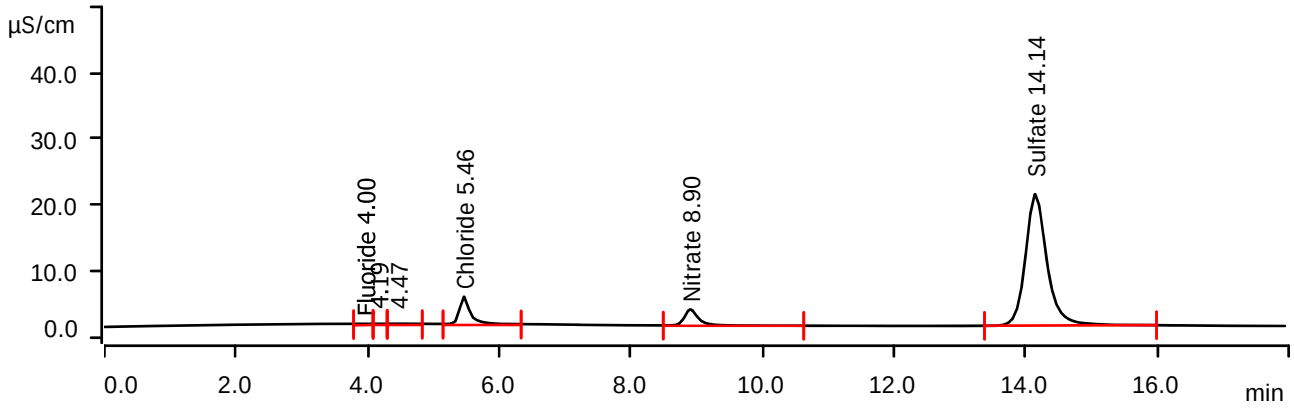
Ident 640256X5
Determination start 2015-10-02 18:29:41 UTC-5
Method . . . . . IC0218A NEW MIXING
Operator . . . . . JJF

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 18.0 min
Integration . . . . . Automatically
Column type . . . . . Metrosep A Supp 5 - 150/4.0
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 9.75 MPa
Temperature . . . . . 30.0 °C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.002	0.0030	0.018	0.091	Fluoride
2	4.187	0.0006	0.005	invalid	
3	4.467	0.0053	0.025	invalid	
4	5.463	0.7763	4.134	2.089	Chloride
5	8.903	0.5967	2.445	0.722	Nitrate
6	14.142	7.6498	19.959	28.013	Sulfate

Sample data

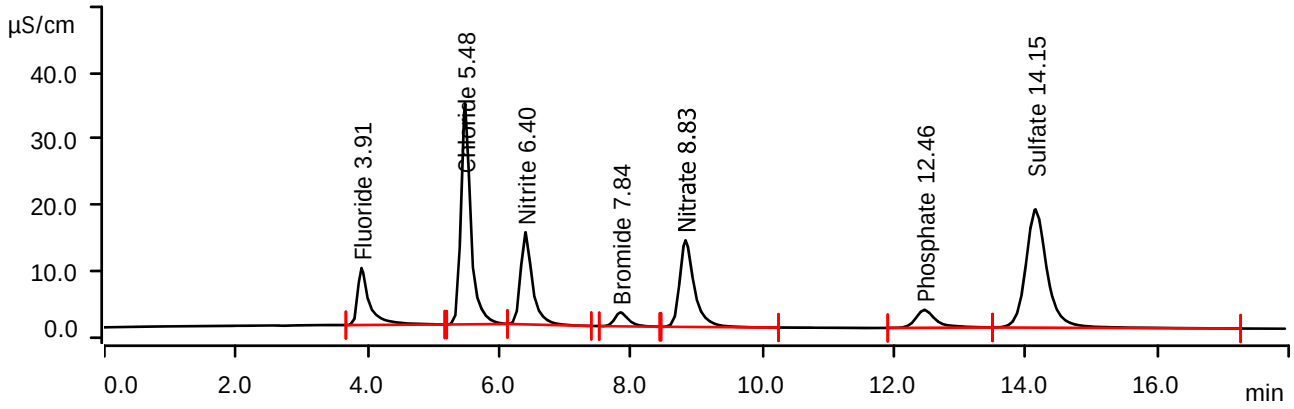
Ident	CCV	
Determination start	2015-10-02 20:14:24 UTC-5	
Method	IC0218A NEW MIXING	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	9.70	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	3.908	1.8162	8.632	3.232	Fluoride
2	5.483	5.7901	33.490	14.759	Chloride
3	6.398	2.9187	13.967	3.678	Nitrite
4	7.842	0.5168	2.118	3.723	Bromide
5	8.830	3.3736	13.133	3.573	Nitrate
6	12.458	0.9805	2.722	3.204	Phosphate
7	14.147	6.8049	17.945	24.982	Sulfate

Sample data

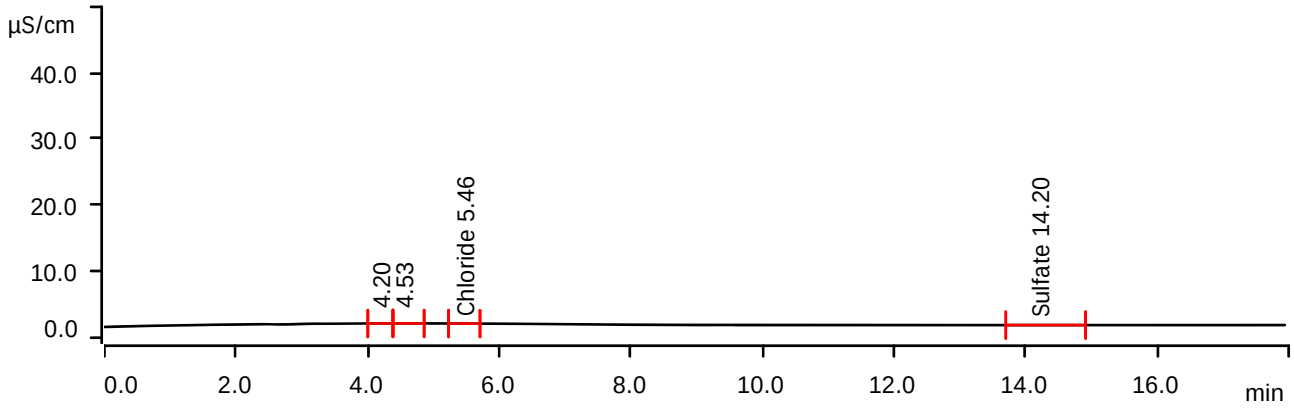
Ident	CCB	
Determination start	2015-10-02 20:35:18 UTC-5	
Method	IC0218A NEW MIXING	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	9.75	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.203	0.0055	0.030	invalid	
2	4.527	0.0037	0.018	invalid	
3	5.457	0.0011	0.007	0.130	Chloride
4	14.202	0.0025	0.007	0.578	Sulfate

Sample table - 100315 - 119481

	Method	Ident	Sample type	Position	Injections	Status	Dilution	Info 1	Info 2	Info 4	Value 1	Value 2
1	IC0218A NEW MIXING	CCV IC0401 IC0402	Check standard 1	149	1	FINISHED ...	1				1	84
2	IC0218A NEW MIXING	LCSW IC0389 IC0390	Check standard 2	149	1	FINISHED ...	1		(02) No i-Di...		1	84
3	IC0218A NEW MIXING	MBW	Sample	150	1	FINISHED ...	1		(02) No i-Di...		1	84
4	IC0218A NEW MIXING	640601	Sample	1	1	FINISHED ...	1	(01) Reset ...	(02) No i-Di...		1	84
5	IC0218A NEW MIXING	DUP640601	Sample	2	1	FINISHED ...	1		(02) No i-Di...		1	84
6	IC0218A NEW MIXING	MSW640601	Sample	3	1	FINISHED ...	1		(02) No i-Di...		1	84
7	IC0218A NEW MIXING	MSDW640601	Sample	4	1	FINISHED ...	1		(02) No i-Di...		1	84
8	IC0218A NEW MIXING	640603	Sample	5	1	FINISHED ...	1		(02) No i-Di...		1	84
9	IC0218A NEW MIXING	640605	Sample	6	1	FINISHED ...	1		(02) No i-Di...		1	84
10	IC0218A NEW MIXING	640607	Sample	7	1	FINISHED ...	1		(02) No i-Di...		1	84
11	IC0218A NEW MIXING	640609	Sample	8	1	FINISHED ...	1		(02) No i-Di...		1	84
12	IC0218A NEW MIXING	640612	Sample	9	1	FINISHED ...	1		(02) No i-Di...		1	84
13	IC0218A NEW MIXING	640614	Sample	10	1	FINISHED ...	1		(02) No i-Di...		1	84
14	IC0218A NEW MIXING	CCV	Check standard 1	149	1	FINISHED ...	1	Auto CCV			1	84
15	IC0218A NEW MIXING	CCB	Sample	150	1	FINISHED ...	1	Auto CCB			1	84

Sample data

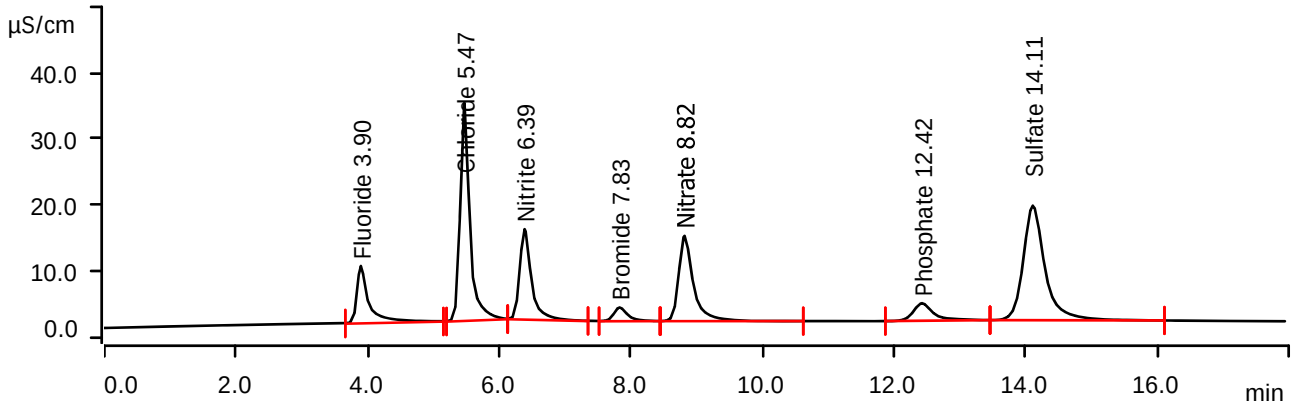
Ident . . . . . CCV IC0401 IC0402
Determination start 2015-10-03 09:56:30 UTC-5
Method . . . . . IC0218A NEW MIXING
Operator . . . . . JJF

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 18.0 min
Integration . . . . . Automatically
Column type . . . . . Metrosep A Supp 5 - 150/4.0
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 9.92 MPa
Temperature . . . . . 30.0 °C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	3.898	1.8070	8.612	3.216	Fluoride
2	5.472	5.6529	32.966	14.413	Chloride
3	6.385	2.8233	13.675	3.558	Nitrite
4	7.828	0.4968	2.056	3.586	Bromide
5	8.815	3.3441	12.917	3.543	Nitrate
6	12.422	0.9691	2.665	3.169	Phosphate
7	14.105	6.7153	17.379	24.661	Sulfate

Sample data

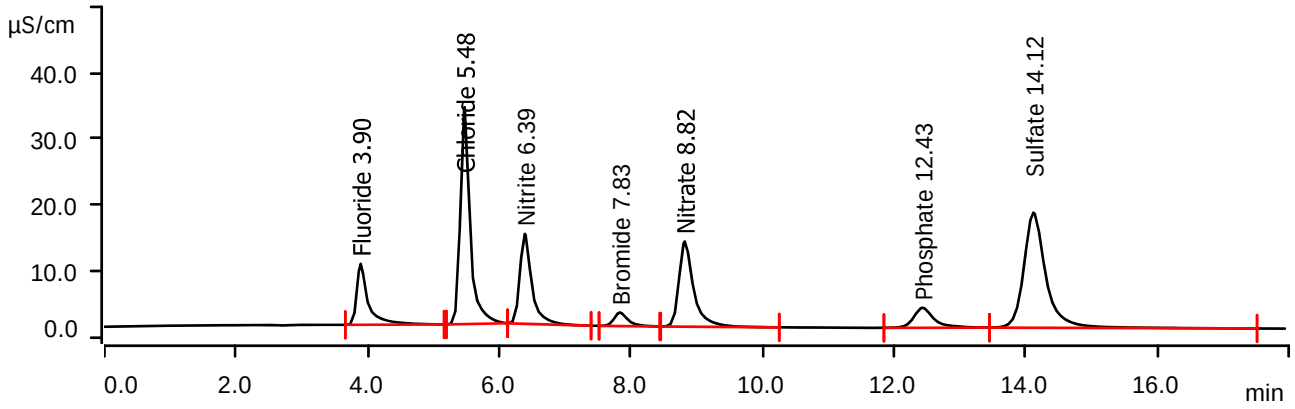
Ident	LCSW IC0389 IC0390
Determination start	2015-10-03 10:17:24 UTC-5
Method	IC0218A NEW MIXING
Operator	JJF

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	9.81	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	3.895	1.8873	9.249	3.355	Fluoride
2	5.475	5.7123	32.905	14.563	Chloride
3	6.388	2.8701	13.635	3.617	Nitrite
4	7.832	0.5029	2.060	3.628	Bromide
5	8.818	3.3484	12.923	3.547	Nitrate
6	12.430	1.0911	3.037	3.546	Phosphate
7	14.115	6.8218	17.469	25.043	Sulfate

Sample data

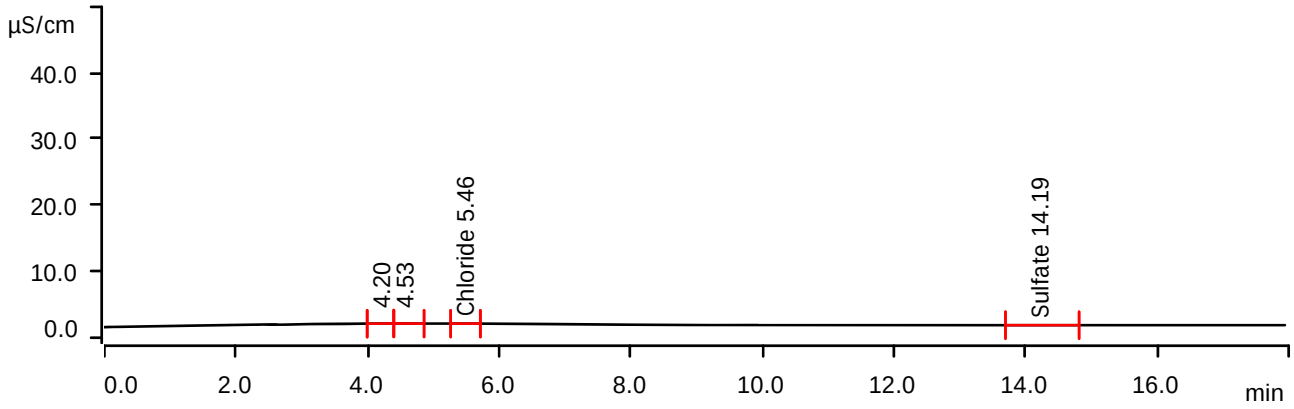
Ident	MBW	
Determination start	2015-10-03 10:38:18 UTC-5	
Method	IC0218A NEW MIXING	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	9.92	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.198	0.0108	0.058	invalid	
2	4.532	0.0034	0.016	invalid	
3	5.457	0.0009	0.006	0.130	Chloride
4	14.187	0.0024	0.007	0.577	Sulfate

Sample data

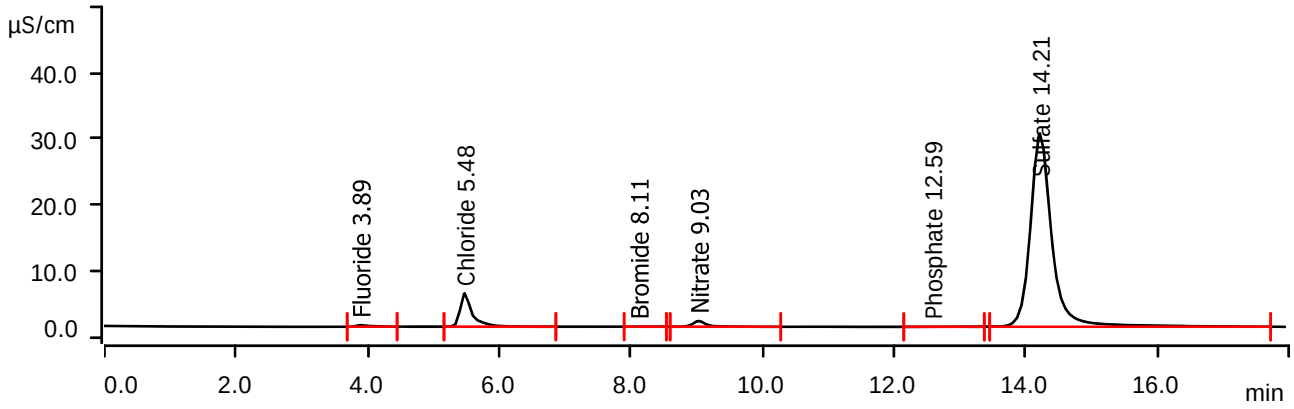
Ident	640601	
Determination start	2015-10-03 10:59:14 UTC-5	
Method	IC0218A NEW MIXING	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	9.81	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	3.892	0.0498	0.229	0.172	Fluoride
2	5.475	1.0793	5.069	2.855	Chloride
3	8.107	0.0028	0.013	0.192	Bromide
4	9.030	0.1986	0.871	0.313	Nitrate
5	12.585	0.0102	0.022	0.200	Phosphate
6	14.213	11.1743	29.324	40.658	Sulfate

Sample data

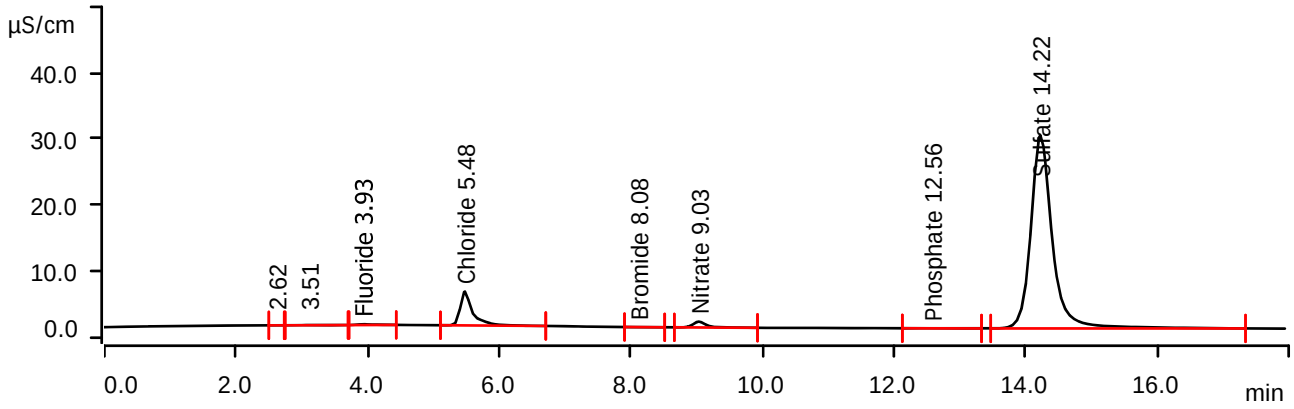
Ident DUP640601
Determination start 2015-10-03 11:26:44 UTC-5
Method . . . . . IC0218A NEW MIXING
Operator . . . . . JJF

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 18.0 min
Integration . . . . . Automatically
Column type . . . . . Metrosep A Supp 5 - 150/4.0
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 9.75 MPa
Temperature . . . . . 30.0 °C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	2.620	0.0012	0.010	invalid	
2	3.508	0.0114	0.010	invalid	
3	3.927	0.0326	0.112	0.142	Fluoride
4	5.478	1.1328	5.134	2.990	Chloride
5	8.078	0.0031	0.013	0.193	Bromide
6	9.032	0.2033	0.894	0.318	Nitrate
7	12.563	0.0102	0.027	0.200	Phosphate
8	14.220	11.1622	29.315	40.615	Sulfate

Sample data

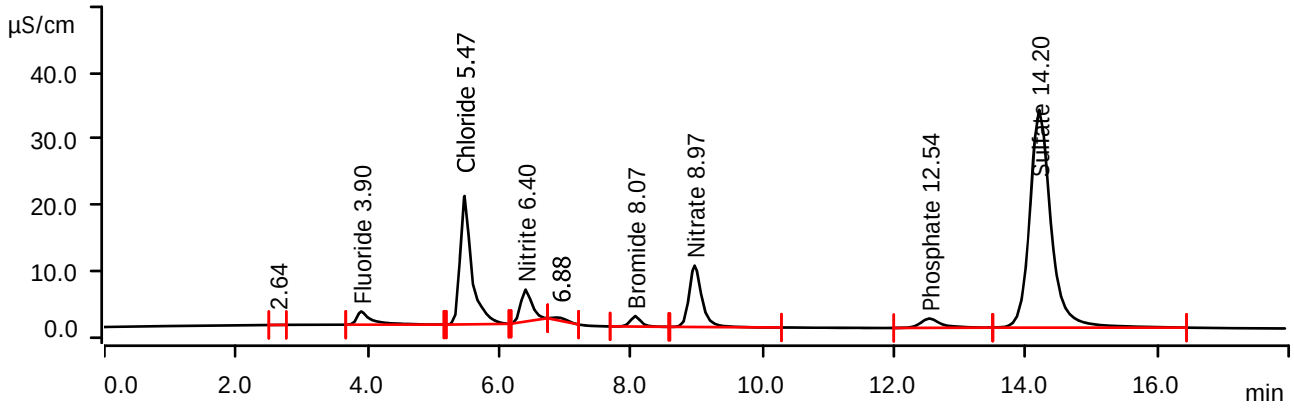
Ident MSW640601
Determination start 2015-10-03 11:47:39 UTC-5
Method . . . . . IC0218A NEW MIXING
Operator . . . . . JJF

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 18.0 min
Integration . . . . . Automatically
Column type . . . . . Metrosep A Supp 5 - 150/4.0
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 9.75 MPa
Temperature . . . . . 30.0 °C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	2.638	0.0014	0.011	invalid	
2	3.903	0.5370	2.009	1.016	Fluoride
3	5.473	4.0094	19.487	10.259	Chloride
4	6.400	0.9737	4.838	1.236	Nitrite
5	6.877	0.1095	0.403	invalid	
6	8.065	0.2996	1.591	2.230	Bromide
7	8.968	2.0913	9.315	2.256	Nitrate
8	12.535	0.5181	1.420	1.772	Phosphate
9	14.203	12.4728	33.048	45.317	Sulfate

Sample data

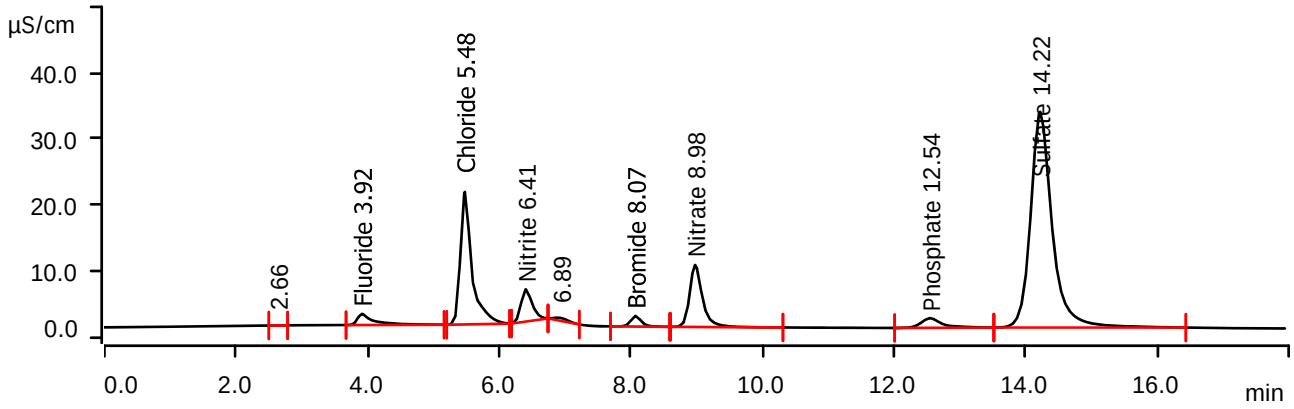
Ident	MSDW640601
Determination start	2015-10-03 12:08:34 UTC-5
Method	IC0218A NEW MIXING
Operator	JJF

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	9.70	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	2.662	0.0013	0.008	invalid	
2	3.915	0.4979	1.690	0.948	Fluoride
3	5.478	4.1006	20.096	10.490	Chloride
4	6.405	0.9764	4.879	1.240	Nitrite
5	6.885	0.1082	0.401	invalid	
6	8.072	0.3056	1.608	2.272	Bromide
7	8.975	2.1346	9.401	2.301	Nitrate
8	12.543	0.5428	1.469	1.849	Phosphate
9	14.217	12.5297	32.733	45.521	Sulfate

Sample data

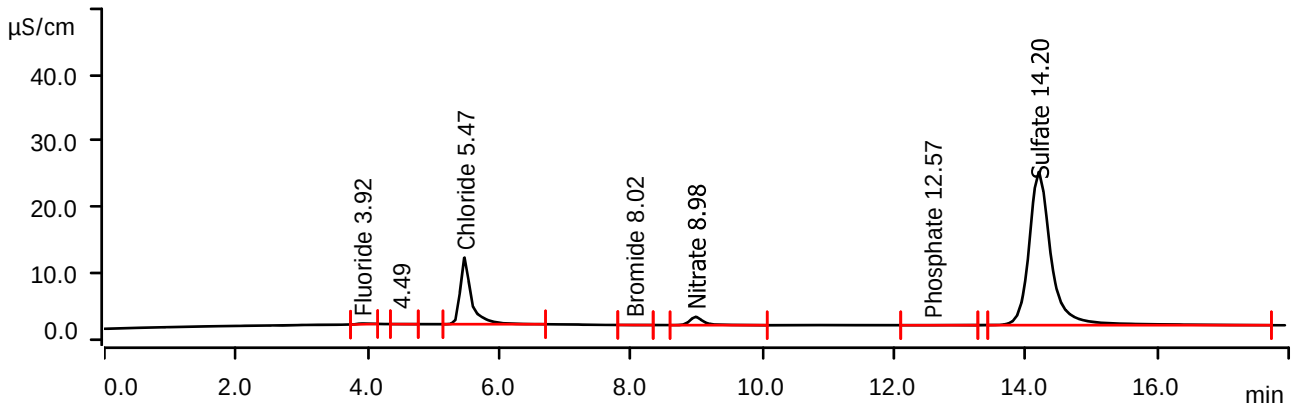
Ident	640603	
Determination start	2015-10-03 12:29:29 UTC-5	
Method	IC0218A NEW MIXING	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	9.70	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	3.918	0.0224	0.120	0.124	Fluoride
2	4.490	0.0022	0.013	invalid	
3	5.473	1.9858	10.106	5.146	Chloride
4	8.017	0.0019	0.009	0.185	Bromide
5	8.983	0.3007	1.260	0.418	Nitrate
6	12.570	0.0040	0.009	0.180	Phosphate
7	14.197	9.1594	23.250	33.429	Sulfate

Sample data

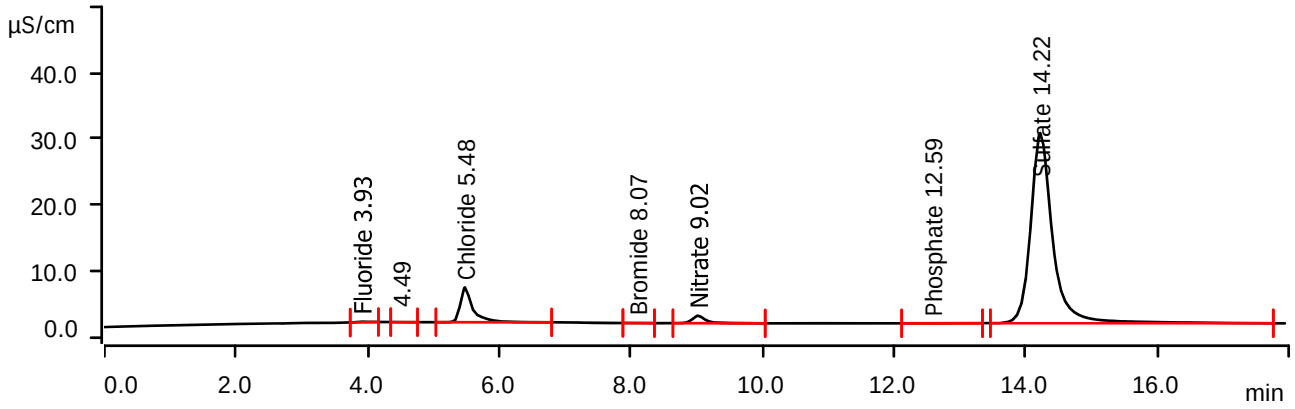
Ident	640605
Determination start	2015-10-03 12:50:23 UTC-5
Method	IC0218A NEW MIXING
Operator	JJF

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	9.70	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	3.925	0.0184	0.090	0.117	Fluoride
2	4.485	0.0016	0.009	invalid	
3	5.480	1.1704	5.273	3.085	Chloride
4	8.067	0.0018	0.009	0.185	Bromide
5	9.018	0.2618	1.133	0.378	Nitrate
6	12.587	0.0080	0.019	0.193	Phosphate
7	14.218	11.2905	28.870	41.075	Sulfate

Sample data

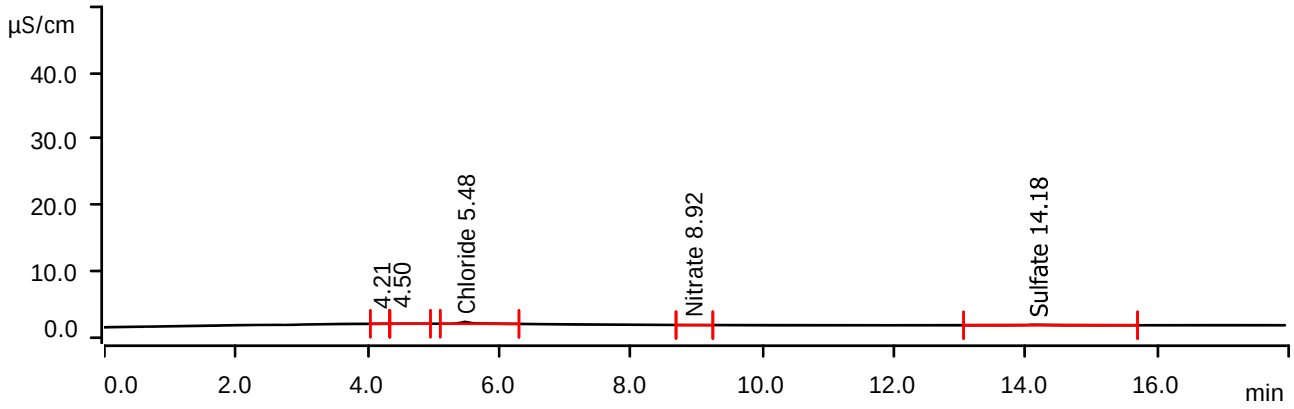
Ident	640607	
Determination start	2015-10-03 13:11:18 UTC-5	
Method	IC0218A NEW MIXING	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	9.75	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.212	0.0015	0.010	invalid	
2	4.500	0.0046	0.025	invalid	
3	5.480	0.0551	0.283	0.267	Chloride
4	8.918	0.0016	0.007	0.111	Nitrate
5	14.178	0.0359	0.091	0.697	Sulfate

Sample data

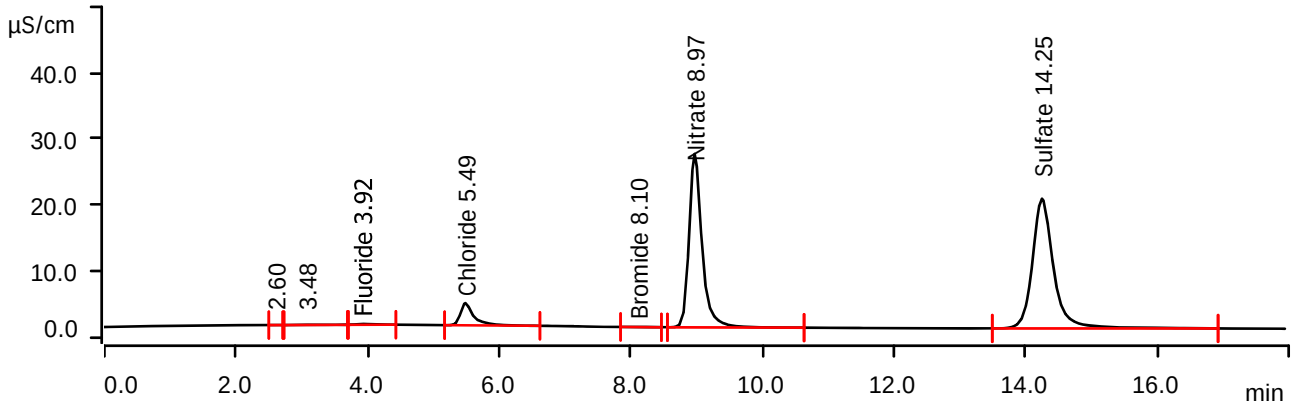
Ident 640609
Determination start 2015-10-03 13:32:13 UTC-5
Method . . . . . IC0218A NEW MIXING
Operator . . . . . JJF

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 18.0 min
Integration . . . . . Automatically
Column type . . . . . Metrosep A Supp 5 - 150/4.0
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 9.70 MPa
Temperature . . . . . 30.0 °C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	2.602	0.0010	0.009	invalid	
2	3.480	0.0114	0.010	invalid	
3	3.917	0.0376	0.135	0.151	Fluoride
4	5.487	0.7960	3.364	2.139	Chloride
5	8.097	0.0070	0.035	0.221	Bromide
6	8.968	6.0035	26.307	6.273	Nitrate
7	14.245	7.3822	19.683	27.053	Sulfate

Sample data

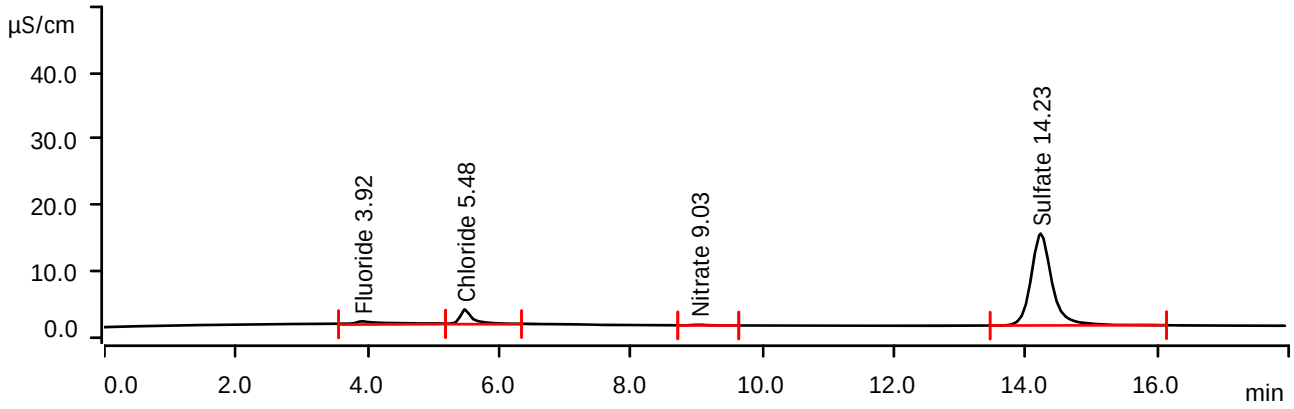
Ident	640612	
Determination start	2015-10-03 13:53:08 UTC-5	
Method	IC0218A NEW MIXING	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	9.64	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	3.915	0.1464	0.368	0.339	Fluoride
2	5.478	0.4468	2.150	1.257	Chloride
3	9.032	0.0248	0.105	0.135	Nitrate
4	14.225	5.2039	13.951	19.239	Sulfate

Sample data

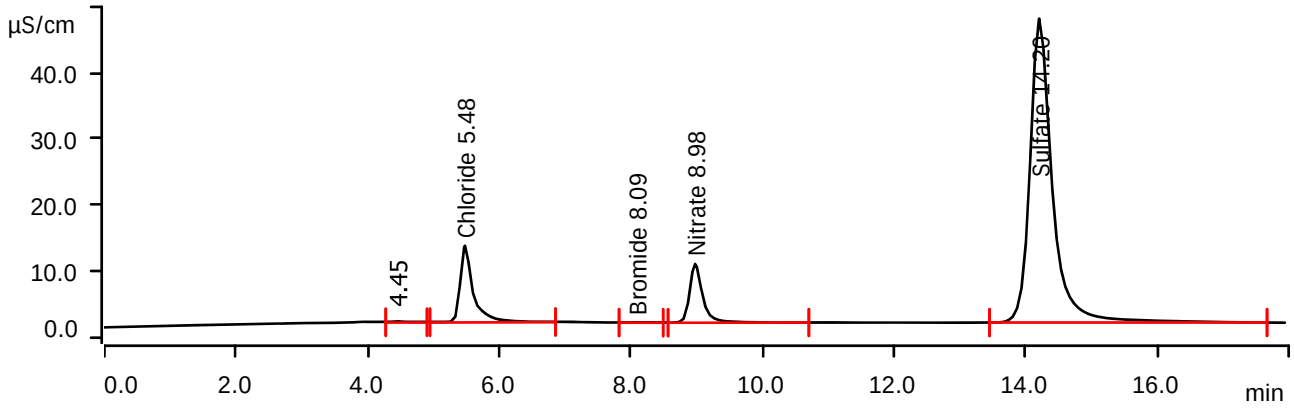
Ident	640614	
Determination start	2015-10-03 14:14:02 UTC-5	
Method	IC0218A NEW MIXING	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	9.70	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.453	0.0126	0.069	invalid	
2	5.480	2.6032	11.550	6.706	Chloride
3	8.085	0.0068	0.031	0.219	Bromide
4	8.975	2.0209	8.892	2.184	Nitrate
5	14.203	18.3045	46.126	66.239	Sulfate

Sample data

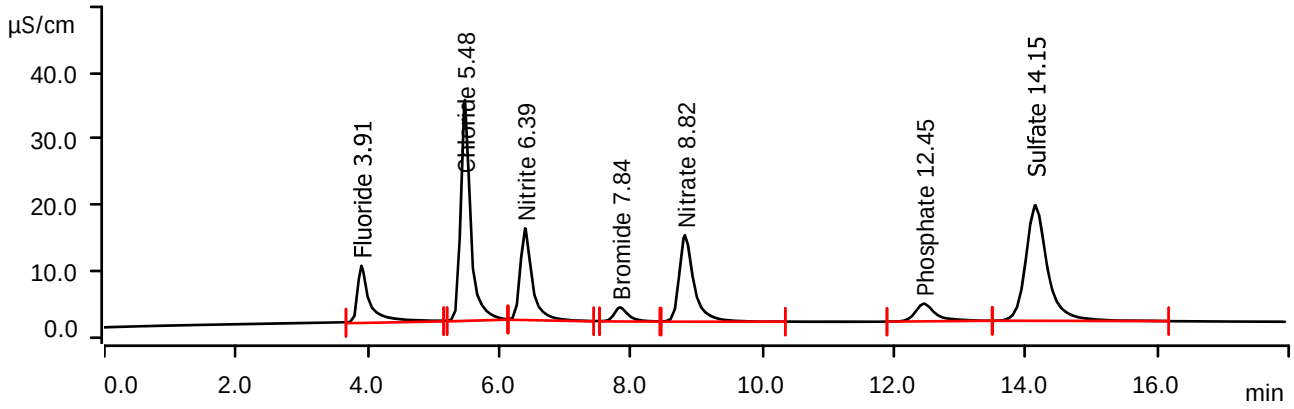
Ident	CCV	
Determination start	2015-10-03 15:16:53 UTC-5	
Method	IC0218A NEW MIXING	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	9.75	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	3.907	1.8139	8.535	3.228	Fluoride
2	5.480	5.7570	33.434	14.676	Chloride
3	6.393	2.8794	13.846	3.629	Nitrite
4	7.835	0.5102	2.102	3.678	Bromide
5	8.822	3.3807	13.101	3.580	Nitrate
6	12.452	0.9907	2.692	3.236	Phosphate
7	14.145	6.7590	17.542	24.818	Sulfate

Sample data

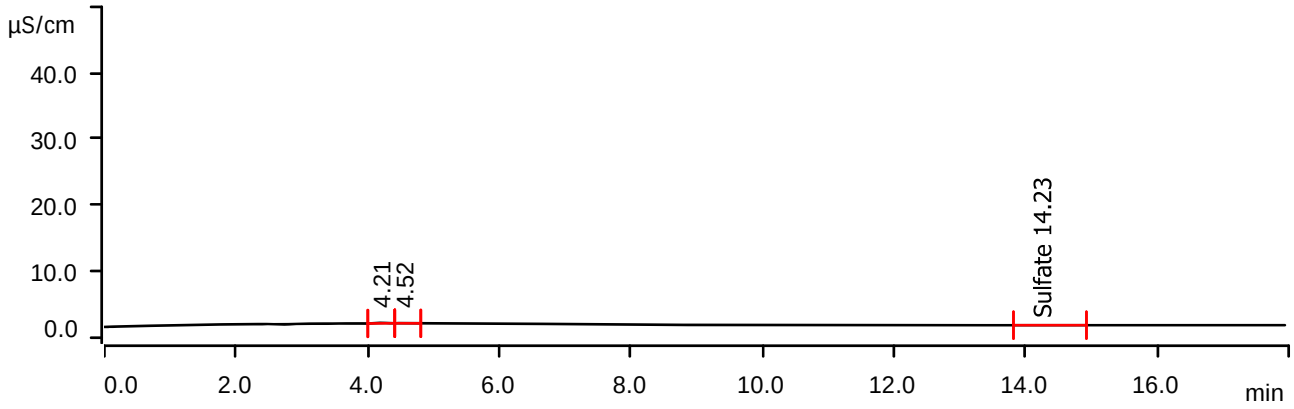
Ident	CCB	
Determination start	2015-10-03 15:37:47 UTC-5	
Method	IC0218A NEW MIXING	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Column type	Metrosep A Supp 5 - 150/4.0	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	9.70	MPa
Temperature	30.0	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.205	0.0127	0.068	invalid	
2	4.522	0.0025	0.014	invalid	
3	14.233	0.0023	0.006	0.577	Sulfate

ICAL081815

{13}{10}
ID#{32}{32}{32}1{32}{32}{32}TEST_23{32}{32}600{32}NM{32}-{32}{32}82.{32}C{13}{10}
LINEAR{32}CURVE{32}FIT{13}{10}
NOT{32}THROUGH{32}0{13}{10}
{13}{10}
{32}{32}{32}{32}{32}{32}{32}{32}{32}{32}{32}{32}{32}ENTERED{32}{32}{32}{32}CALCULATED{13}{10}
STD{32}{32}{32}ABS{32}{32}{32}{32}{32}{32}CONC{32}{32}{32}{32}{32}{32}{32}{32}CONC{32}{32}{32}{32}ERROR{13}{10}
{32}1{32}{32}-0.000{32}{32}{32}{32}0.000{32}{32}{32}{32}{32}{32}-6.843{32}{32}{32}-6.843{13}{10}
{32}2{32}{32}{32}0.006{32}{32}{32}{32}{32}10.0{32}{32}{32}{32}{32}{32}{32}{32}{32}9.5{32}{32}{32}{32}{32}-0.5{13}{10}
{32}3{32}{32}{32}0.012{32}{32}{32}{32}{32}25.0{32}{32}{32}{32}{32}{32}{32}{32}24.7{32}{32}{32}{32}{32}-0.3{13}{10}
{32}4{32}{32}{32}0.023{32}{32}{32}{32}{32}50.0{32}{32}{32}{32}{32}{32}{32}{32}53.7{32}{32}{32}{32}{32}{32}3.7{13}{10}
{32}5{32}{32}{32}0.037{32}{32}{32}{32}{32}100.{32}{32}{32}{32}{32}{32}{32}{32}91.{32}{32}{32}{32}{32}{32}-9.{13}{10}
{32}6{32}{32}{32}0.209{32}{32}{32}{32}{32}500.{32}{32}{32}{32}{32}{32}{32}{32}537.{32}{32}{32}{32}{32}{32}37.{13}{10}
{32}7{32}{32}{32}0.282{32}{32}{32}{32}{32}750.{32}{32}{32}{32}{32}{32}{32}{32}726.{32}{32}{32}{32}{32}-24.{13}{10}
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{13}{10}
SLOPE{32}{32}{32}{32}{32}{32}{32}{32}0.0004{13}{10}
INTERCEPT{32}{32}{32}{32}{32}0.002{13}{10}
CORR{32}COEFF{32}{32}{32}0.9959{13}{10}
----------{13}{10}
{13}{10}

ICAL W37443

ICV W37435
437.
ICB
-5.

1
429.
2
418.
3
-10.
4
22.6
5
22.7
6
173.
7
183.
8
65.
9
421.
10
-7.

FWC11-02

Chemical Oxygen Demand (COD)

Analyst: JJF Run 119541 Date: 10/5/2015

Calib. Std. W37443 CCV Std. W37433 ICV/LCS Std. W37435

Vial #	Spec #	Sample #	D.F.	BATCH	RESULTS
1		CCV			429
2		LCS			418
3		MBW			-10
4		640611			22.6
5		DUP640611			22.7
6		MSW640611			173
7		MSDW640611			183
8		640616			65
9					
10					
11					
12					
13					
1		CCV			421
3		CCB			-7
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
1		CCV			
3		CCB			

Spiking. Std. Ref: W37434

Spike Preparation

Spike Conc.: 2000

Matrix = Liquids

Spike Vol.: 0.2

Silver Sulfate: W36863

Sample Vol.: 2.5

Digestion Soln: W36944

Final Spike Value.: 148.2

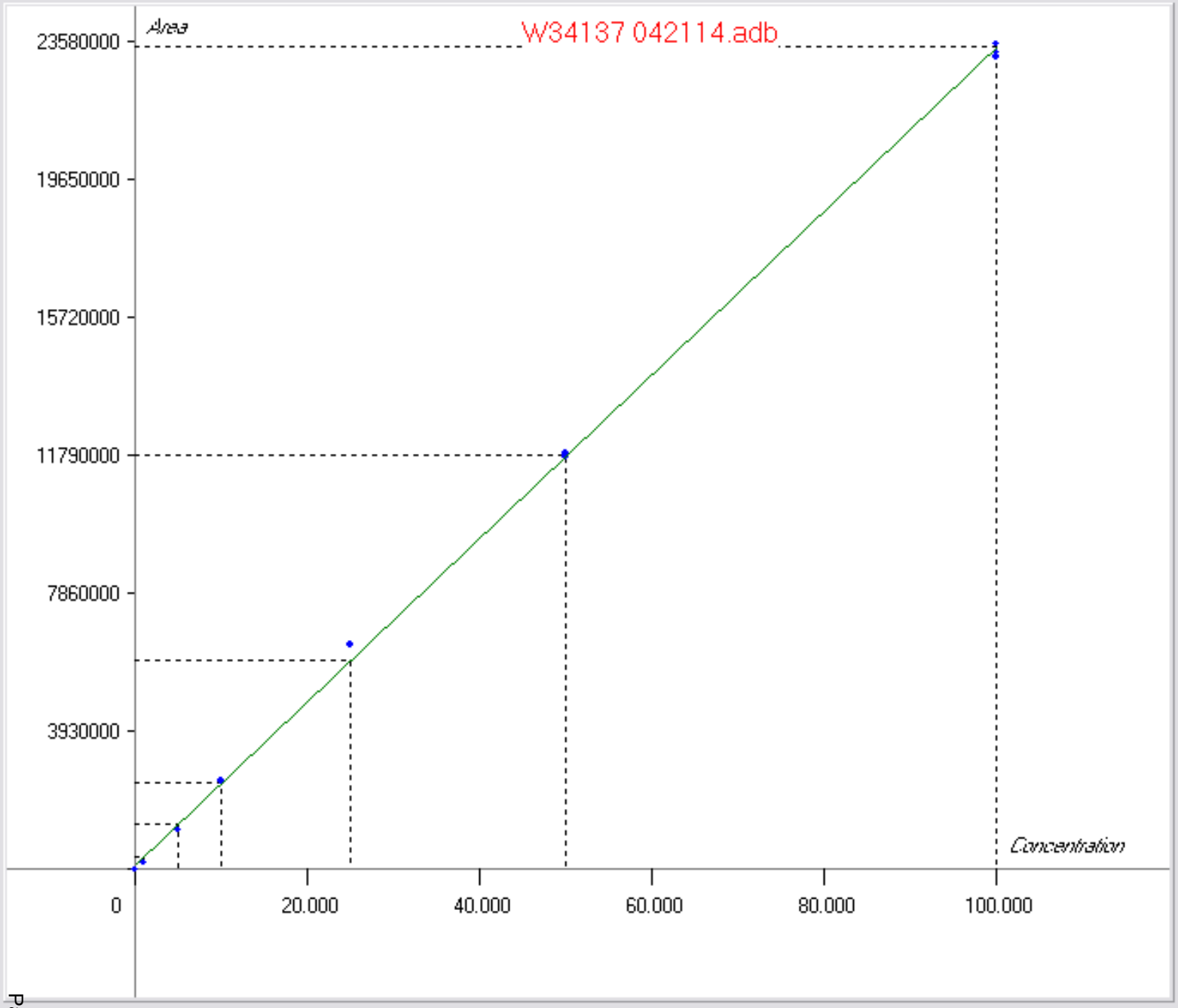
FWC20,21-02 pH Bench Sheet

Date: 10/09/2015 Analyst: LJS

Instrument: *Mettler Toledo Seven Easy* LIMS#: 119728

Time: 17:00 Slope (%): 95

	SAMPLE#	MATRIX	pH	TEMP (°C)	COMMENTS:
1	640611	GW	7.22	5.3	
2	DUP64611	GW	7.23	5.3	
3	640616	GW	7.96	4.6	
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					



Cursor Position

Concentration	Area
118.800 mg/l	786000

A2	0
A1	232983
A0	143764
Correlation	0.99963
Order	1
Volume	100 µl
Conc.	100.00
Area	23572615

Confidence Intervals 95%

Detection/Determination 95%

Conc.	Area	Sel.
0	0	☑
0	0	☑
0	0	☑
0	0	☑
1	235597	☑
1	223532	☑
1	230608	☑
1	226967	☑

• Used Value
• Ignored Value

CurveNo:1 CurveType:TC

<-- --> Print... Exit

Analysis Name W34137 042114.adb

Template Name CURVE TEMP.tdb
Method Name N / A
Operator MDS

Date Monday, April 21, 2014
Time 13:55

Start Oven Temp. 757 °C
Start Cooler Temp. 2 °C

Version 2.55 Release
Info ICAL - W34137
ICV - W34138

Element	Integration Time	Samples	Extra Samples	Max. CV
Carbon	60 s	4	1	10 %
SampleTime	240 s			

No	Type	FileName	Date/Time	Max. Area	Max Conc.	Order	Correlation	Volume	Sel.
1	TC	This Analysis	Apr 21 2014, 13:55	23572615	100	1	0.99963	100 µl	Yes
	A2: 0		*A1: 232982.714758512*		*A0: 143764.497303468*				

Inj. Order	Position	Type	Identification		Dilution Factor
1	1	Unknown	BLANK		1 x

	Injection Type	Conc.	Area	CV	Inj. Volume
	TC	**0.00**	**0**	**0.00**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 21 2014 14:06:18	0.72	311300	1	759	2	-	-
2	4 21 2014 14:09:41	0.00	0	0	758	2	-	Yes
3	4 21 2014 14:13:42	0.00	0	0	758	2	-	Yes
4	4 21 2014 14:17:43	0.00	0	0	758	2	-	Yes
5	4 21 2014 14:21:44	0.00	0	0	758	2	-	Yes

2	2	Unknown	BLANK		1 x
	TC	**0.00**	**0**	**0.00**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 21 2014 14:26:35	0.00	0	0	759	2	-	Yes
2	4 21 2014 14:31:13	0.00	0	0	758	2	-	Yes
3	4 21 2014 14:35:14	0.00	0	0	758	2	-	Yes
4	4 21 2014 14:39:15	0.00	0	0	757	2	-	Yes

3	S1	Standard	TC Std 0.00 mg/l		1 x
	TC	**0.00**	**0**	**0.00**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 21 2014 14:44:06	0.00	0	1	757	2	-	Yes
2	4 21 2014 14:48:42	0.00	0	1	757	2	-	Yes
3	4 21 2014 14:52:43	0.00	0	1	756	2	-	Yes
4	4 21 2014 14:56:44	0.00	0	1	756	2	-	Yes

4	S2	Standard	TC Std 1.00 mg/l		1 x
	TC	**0.37**	**229176**	**2.25**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 21 2014 15:01:38	0.39	235597	1	756	2	-	Yes
2	4 21 2014 15:04:49	0.34	223532	1	755	2	-	Yes
3	4 21 2014 15:07:19	0.37	230608	1	755	2	-	Yes
4	4 21 2014 15:09:52	0.36	226967	1	755	2	-	Yes

5	S3	Standard	TC Std. 5.00 mg/l		1 x
	TC	**4.34**	**1155835**	**0.30**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 21 2014 15:13:15	4.35	1157893	1	755	2	-	Yes
2	4 21 2014 15:16:41	4.36	1158734	1	755	2	-	Yes
3	4 21 2014 15:19:30	4.34	1155751	1	754	2	-	Yes
4	4 21 2014 15:22:15	4.32	1150964	1	754	2	-	Yes

6 S4 Standard TC Std. 10.00 mg/l 1 x

TC **10.34** **2551892** **0.66** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 21 2014 15:25:57	10.33	2550563	1	754	2	-	Yes
2	4 21 2014 15:29:32	10.44	2575084	1	753	2	-	Yes
3	4 21 2014 15:32:33	10.32	2547199	1	754	2	-	Yes
4	4 21 2014 15:35:33	10.26	2534724	1	754	2	-	Yes

7 S5 Standard TC Std. 25.00 mg/l 1 x

TC **26.93** **6418556** **0.35** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 21 2014 15:39:23	26.89	6407700	1	754	2	-	Yes
2	4 21 2014 15:43:09	26.95	6422983	1	753	2	-	Yes
3	4 21 2014 15:46:13	27.06	6447788	1	753	2	-	Yes
4	4 21 2014 15:49:25	26.83	6395756	1	753	2	-	Yes

8 S6 Standard TC Std. 50.00 mg/l 1 x

TC **50.23** **11846743** **0.45** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 21 2014 15:53:23	50.34	11871890	1	754	2	-	Yes
2	4 21 2014 15:57:15	50.50	11908449	1	753	2	-	Yes
3	4 21 2014 16:00:39	49.99	11789844	1	753	2	-	Yes
4	4 21 2014 16:03:51	50.10	11816789	1	753	2	-	Yes

9 S7 Standard TC Std. 100.00 mg/l 1 x

TC **99.41** **23303846** **0.82** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 21 2014 16:07:59	98.71	23142453	1	754	2	-	Yes
2	4 21 2014 16:12:05	99.37	23295974	1	754	2	-	Yes
3	4 21 2014 16:15:29	98.98	23204343	1	755	2	-	Yes
4	4 21 2014 16:18:52	100.56	23572615	1	754	2	-	Yes

10 S8 Unknown ICV - 50.00 mg/L 1 x

TC **52.04** **12268743** **0.56** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 21 2014 16:23:14	52.37	12344487	1	755	2	-	Yes
2	4 21 2014 16:27:09	52.00	12257775	1	754	2	-	Yes
3	4 21 2014 16:30:28	51.66	12180211	1	754	2	-	Yes
4	4 21 2014 16:33:44	52.14	12292500	1	753	2	-	Yes

11 S9 Unknown ICB 1 x

TC **0.00** **0** **0.00** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 21 2014 16:37:57	0	0	0	753	2	-	Yes
2	4 21 2014 16:42:35	0	0	0	753	2	-	Yes
3	4 21 2014 16:46:37	0	0	0	754	2	-	Yes
4	4 21 2014 16:50:39	0	0	0	754	2	-	Yes

Analysis Name 100615 - 119543 119544 119545 119546.adb

Template Name	100615 - 119543 119544 119545 119546.tdb
Method Name	N / A
Operator	JJF
Date	Tuesday, October 6, 2015
Time	12:54
Start Oven Temp.	748 °C
Start Cooler Temp.	2 °C
Version Info	2.55 Release

Element	Integration Time	Samples	Extra Samples	Max. CV
Carbon	60 s	4	1	10 %
SampleTime	240 s			

No	Type	FileName	Date/Time	Max. Area	Max Conc.	Order	Correlation	Volume	Sel.
1	TC	W34137 042114	Apr 21 2014, 13:55	23572615	100	1	0.99963	100 µl	Yes
	A2: 0		*A1: 232982.714758512*		*A0: 143764.497303468*				

Inj. Order	Position	Type	Identification	Dilution Factor
1	1	Unknown	BLANK	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**0.00**	**0**	**0.00**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 6 2015 13:05:08	0.00	0	0	754	2	-	Yes
2	10 6 2015 13:09:45	0.00	0	0	755	2	-	Yes
3	10 6 2015 13:13:47	0.00	0	0	756	2	-	Yes
4	10 6 2015 13:17:47	0.00	0	0	756	2	-	Yes

2	S1	Unknown	CCV	1 x

TC	**45.71**	**10793386**	**0.99**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 6 2015 13:22:38	45.15	10663532	1	757	2	-	Yes
2	10 6 2015 13:26:35	45.62	10772523	1	757	2	-	Yes
3	10 6 2015 13:29:55	45.80	10814817	1	757	2	-	Yes
4	10 6 2015 13:33:21	46.26	10922674	1	757	2	-	Yes

3	S5	Unknown	LCSW	1 x

TC	**44.48**	**10505566**	**2.01**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 6 2015 13:37:38	44.56	10526206	1	758	2	-	Yes
2	10 6 2015 13:41:40	43.97	10386852	1	758	2	-	Yes
3	10 6 2015 13:44:57	43.66	10314813	1	758	2	-	Yes
4	10 6 2015 13:48:10	45.71	10794395	1	758	2	-	Yes

4	S7	Unknown	MBW	1 x

TC	**0.00**	**0**	**0.00**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 6 2015 13:52:11	0	0	0	757	2	-	Yes
2	10 6 2015 13:56:49	0	0	0	757	2	-	Yes
3	10 6 2015 14:00:50	0	0	0	757	2	-	Yes
4	10 6 2015 14:04:52	0	0	0	756	2	-	Yes

5	2	Unknown	639638	1 x

TC	**1.55**	**505333**	**2.26**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 6 2015 14:09:47	1.60	515994	1	756	2	-	Yes
2	10 6 2015 14:13:13	1.48	489152	1	756	2	-	Yes
3	10 6 2015 14:15:50	1.56	507386	1	756	2	-	Yes
4	10 6 2015 14:18:30	1.57	508801	1	755	2	-	Yes

6 3 Unknown DUP639638 1 x

TC 1.98 606034 1.61 100 µl

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 6 2015 14:21:57	2.04	618743	1	755	2	-	Yes
2	10 6 2015 14:25:18	1.94	595214	1	755	2	-	Yes
3	10 6 2015 14:27:56	1.99	606924	1	755	2	-	Yes
4	10 6 2015 14:30:37	1.97	603256	1	755	2	-	Yes

7 4 Unknown MSW639638 1 x

TC 52.33 12336093 1.34 100 µl

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 6 2015 14:34:13	51.88	12231614	1	755	2	-	Yes
2	10 6 2015 14:38:07	52.52	12379459	1	756	2	-	Yes
3	10 6 2015 14:41:28	51.68	12183991	1	756	2	-	Yes
4	10 6 2015 14:44:39	53.25	12549311	1	756	2	-	Yes

8 5 Unknown MSDW639638 1 x

TC 52.83 12452239 4.66 100 µl

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 6 2015 14:48:48	56.53	13314579	1	756	2	-	Yes
2	10 6 2015 14:52:49	51.15	12061485	1	755	2	-	Yes
3	10 6 2015 14:56:01	51.96	12249802	1	755	2	-	Yes
4	10 6 2015 14:59:13	51.67	12183092	1	755	2	-	Yes

9 6 Unknown 640118 1 x

TC 4.10 1098036 3.82 100 µl

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 6 2015 15:03:12	4.35	1156484	1	755	2	-	Yes
2	10 6 2015 15:06:31	3.95	1064480	1	755	2	-	Yes
3	10 6 2015 15:09:04	3.98	1070948	1	755	2	-	Yes
4	10 6 2015 15:11:41	4.11	1100233	1	755	2	-	Yes

10 7 Unknown 640119 1 x

TC 8.25 2066466 2.20 100 µl

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 6 2015 15:15:09	8.53	2130980	1	754	2	-	Yes
2	10 6 2015 15:18:30	8.08	2027056	1	754	2	-	Yes
3	10 6 2015 15:21:13	8.16	2045134	1	754	2	-	Yes
4	10 6 2015 15:24:00	8.24	2062694	1	753	2	-	Yes

11 8 Unknown DUP640119 1 x

TC 11.70 2868939 2.02 100 µl

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 6 2015 15:27:37	12.07	2955755	1	754	2	-	Yes
2	10 6 2015 15:31:07	11.55	2834273	1	753	2	-	Yes
3	10 6 2015 15:33:53	11.59	2843615	1	753	2	-	Yes
4	10 6 2015 15:36:39	11.58	2842114	1	753	2	-	Yes

12 9 Unknown MSW640119 1 x

TC 54.00 12725299 2.11 100 µl

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 6 2015 15:40:19	54.53	12849246	1	754	2	-	Yes
2	10 6 2015 15:44:14	52.40	12353067	1	754	2	-	Yes
3	10 6 2015 15:47:23	55.07	12973303	1	753	2	-	Yes
4	10 6 2015 15:50:41	54.00	12725581	1	753	2	-	Yes

13 10 Unknown MSDW640119 1 x

TC 54.02 12729266 2.34 100 µl

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 6 2015 15:54:41	52.29	12325653	1	754	2	-	Yes
2	10 6 2015 15:58:32	54.07	12741565	1	753	2	-	Yes
3	10 6 2015 16:01:45	54.36	12809817	1	752	2	-	Yes
4	10 6 2015 16:04:56	55.35	13040031	1	753	2	-	Yes

14 11 Unknown 640120 1 x

TC 13.20 3217885 3.71 100 µl

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 6 2015 16:09:00	13.96	3396492	1	753	2	-	Yes
2	10 6 2015 16:12:31	12.89	3146225	1	752	2	-	Yes
3	10 6 2015 16:15:18	12.98	3167126	1	752	2	-	Yes
4	10 6 2015 16:18:09	12.95	3161699	1	752	2	-	Yes

15 S1 Unknown CCV 1 x

TC 48.33 11403773 1.80 100 µl

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 6 2015 16:21:46	47.91	11306268	1	752	2	-	Yes
2	10 6 2015 16:25:47	48.52	11447296	1	752	2	-	Yes
3	10 6 2015 16:29:06	49.47	11669261	1	752	2	-	Yes
4	10 6 2015 16:32:26	47.42	11192267	1	752	2	-	Yes

16 S7 Unknown CCB 1 x

TC ZERO ! 114494 13.82 100 µl

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 6 2015 16:36:33	ZERO !	80076	1	752	2	-	-
2	10 6 2015 16:39:41	ZERO !	131092	1	752	2	-	Yes
3	10 6 2015 16:42:01	ZERO !	123043	1	751	2	-	Yes
4	10 6 2015 16:44:22	ZERO !	108476	1	751	2	-	Yes
5	10 6 2015 16:46:44	ZERO !	95368	1	751	2	-	Yes

17 12 Unknown 640121 1 x

TC 8.09 2028181 2.81 100 µl

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 6 2015 16:49:58	8.44	2110470	1	752	2	-	Yes
2	10 6 2015 16:53:34	8.04	2015829	1	752	2	-	Yes
3	10 6 2015 16:56:24	7.88	1979328	1	752	2	-	Yes
4	10 6 2015 16:59:12	8.00	2007100	1	752	2	-	Yes

18 13 Unknown 640122 1 x

TC 6.86 1742492 2.30 100 µl

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 6 2015 17:02:51	7.10	1798715	1	752	2	-	Yes
2	10 6 2015 17:06:18	6.84	1737918	1	752	2	-	Yes
3	10 6 2015 17:09:04	6.70	1704383	1	752	2	-	Yes
4	10 6 2015 17:11:49	6.80	1728952	1	752	2	-	Yes

19 14 Unknown 640123 1 x

TC 17.01 4106367 1.65 100 µl

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 6 2015 17:15:27	17.30	4174104	1	752	2	-	Yes
2	10 6 2015 17:19:07	16.66	4026345	1	752	2	-	Yes
3	10 6 2015 17:22:03	16.88	4076251	1	752	2	-	Yes
4	10 6 2015 17:24:52	17.19	4148770	1	752	2	-	Yes

20 15 Unknown 640252 1 x

TC 5.16 1346640 1.79 100 µl

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 6 2015 17:28:37	5.23	1362153	1	752	2	-	Yes
2	10 6 2015 17:31:57	5.27	1371934	1	752	2	-	Yes
3	10 6 2015 17:34:34	5.09	1329976	1	752	2	-	Yes
4	10 6 2015 17:37:13	5.06	1322499	1	752	2	-	Yes

21 16 Unknown 640255 1 x

		TC	**23.24**	**5559590**	**1.36**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	10 6 2015 17:40:45	23.57	5635608	1	752	2	-	Yes
	2	10 6 2015 17:44:22	22.80	5456425	1	752	2	-	Yes
	3	10 6 2015 17:47:25	23.26	5562038	1	752	2	-	Yes
	4	10 6 2015 17:50:18	23.35	5584290	1	752	2	-	Yes

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22 17 Unknown 640257 1 x

		TC	**25.60**	**6107414**	**2.87**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	10 6 2015 17:54:10	26.69	6363126	1	752	2	-	Yes
	2	10 6 2015 17:57:56	25.48	6079432	1	752	2	-	Yes
	3	10 6 2015 18:00:49	25.12	5996825	1	752	2	-	Yes
	4	10 6 2015 18:03:40	25.09	5990274	1	752	2	-	Yes

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23 18 Unknown 640259 1 x

		TC	**21.80**	**5222627**	**2.42**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	10 6 2015 18:07:25	22.58	5405377	1	752	2	-	Yes
	2	10 6 2015 18:11:04	21.71	5201837	1	752	2	-	Yes
	3	10 6 2015 18:13:55	21.54	5162080	1	752	2	-	Yes
	4	10 6 2015 18:16:50	21.36	5121217	1	752	2	-	Yes

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24 19 Unknown DUP640259 1 x

		TC	**20.63**	**4949780**	**0.26**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	10 6 2015 18:20:32	20.66	4956461	1	752	2	-	Yes
	2	10 6 2015 18:24:07	20.59	4941667	1	752	2	-	Yes
	3	10 6 2015 18:27:02	20.69	4964655	1	752	2	-	Yes
	4	10 6 2015 18:29:51	20.57	4936339	1	752	2	-	Yes

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25 20 Unknown MSW640259 1 x

		TC	**60.22**	**14174385**	**1.32**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	10 6 2015 18:33:32	59.26	13950484	1	752	2	-	Yes
	2	10 6 2015 18:37:23	60.95	14344661	1	752	2	-	Yes
	3	10 6 2015 18:40:39	60.81	14312281	1	752	2	-	Yes
	4	10 6 2015 18:43:46	59.86	14090114	1	752	2	-	Yes

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26 21 Unknown MSDW640259 1 x

		TC	**58.69**	**13817261**	**1.64**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	10 6 2015 18:47:47	58.97	13882894	1	752	2	-	Yes
	2	10 6 2015 18:51:36	58.84	13853343	1	752	2	-	Yes
	3	10 6 2015 18:54:46	57.33	13499513	1	752	2	-	Yes
	4	10 6 2015 18:57:50	59.62	14033296	1	752	2	-	Yes

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27 S1 Unknown CCV 1 x

		TC	**47.73**	**11263809**	**0.49**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	10 6 2015 19:01:49	47.83	11288273	1	752	2	-	Yes
	2	10 6 2015 19:05:46	47.57	11227270	1	752	2	-	Yes
	3	10 6 2015 19:09:00	47.50	11209803	1	752	2	-	Yes
	4	10 6 2015 19:12:14	48.01	11329892	1	752	2	-	Yes

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28 S7 Unknown CCB 1 x

		TC	**ZERO !**	**137641**	**7.03**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	10 6 2015 19:16:21	ZERO !	124673	1	752	2	-	Yes
	2	10 6 2015 19:19:24	0.01	146913	1	752	2	-	Yes
	3	10 6 2015 19:21:40	ZERO !	142660	1	752	2	-	Yes
	4	10 6 2015 19:23:55	ZERO !	136319	1	752	2	-	Yes

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29 22 Unknown 640261 1 x

		TC	**12.05**	**2950195**	**2.31**		**100 µl**		
Sample		Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1		10 6 2015 19:27:37	12.48	3051490	1	752	2	-	Yes
2		10 6 2015 19:31:10	11.95	2928076	1	753	2	-	Yes
3		10 6 2015 19:34:02	11.90	2915419	1	752	2	-	Yes
4		10 6 2015 19:36:48	11.86	2905798	1	752	2	-	Yes

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30 23 Unknown 640263 1 x

		TC	**15.52**	**3759568**	**2.35**		**100 µl**		
Sample		Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1		10 6 2015 19:40:27	16.07	3886939	1	752	2	-	Yes
2		10 6 2015 19:43:59	15.22	3689788	1	752	2	-	Yes
3		10 6 2015 19:46:52	15.32	3713535	1	752	2	-	Yes
4		10 6 2015 19:49:44	15.47	3748012	1	752	2	-	Yes

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31 24 Unknown 640602 1 x

		TC	**22.91**	**5481139**	**2.33**		**100 µl**		
Sample		Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1		10 6 2015 19:53:28	23.72	5669702	1	753	2	-	Yes
2		10 6 2015 19:57:05	22.52	5389723	1	753	2	-	Yes
3		10 6 2015 20:00:03	22.73	5440528	1	752	2	-	Yes
4		10 6 2015 20:02:58	22.67	5424603	1	752	2	-	Yes

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32 25 Unknown 640604 1 x

		TC	**22.64**	**5419128**	**4.66**		**100 µl**		
Sample		Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1		10 6 2015 20:06:48	23.69	5664099	1	752	2	-	Yes
2		10 6 2015 20:10:25	23.46	5608747	1	753	2	-	Yes
3		10 6 2015 20:13:20	21.62	5181607	1	752	2	-	Yes
4		10 6 2015 20:16:14	21.80	5222059	1	752	2	-	Yes

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33 26 Unknown 640606 1 x

		TC	**26.32**	**6275279**	**1.44**		**100 µl**		
Sample		Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1		10 6 2015 20:19:58	26.80	6386562	1	752	2	-	Yes
2		10 6 2015 20:23:34	25.85	6165630	1	752	2	-	Yes
3		10 6 2015 20:26:34	26.32	6276204	1	752	2	-	Yes
4		10 6 2015 20:29:32	26.31	6272721	1	752	2	-	Yes

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34 27 Unknown 640608 1 x

		TC	**0.82**	**336056**	**15.01**		**100 µl**		
Sample		Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1		10 6 2015 20:33:16	0.70	307202	1	752	2	-	Yes
2		10 6 2015 20:36:17	1.30	445541	1	752	2	-	-
3		10 6 2015 20:38:38	1.09	398598	1	752	2	-	Yes
4		10 6 2015 20:40:57	0.90	353270	1	751	2	-	Yes
5		10 6 2015 20:43:15	0.61	285155	1	751	2	-	Yes

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35 28 Unknown 640610 1 x

		TC	**24.72**	**5904103**	**1.58**		**100 µl**		
Sample		Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1		10 6 2015 20:46:27	25.14	6000229	1	751	2	-	Yes
2		10 6 2015 20:50:01	24.25	5794260	1	752	2	-	Yes
3		10 6 2015 20:52:58	24.55	5863137	1	751	2	-	Yes
4		10 6 2015 20:55:53	24.96	5958788	1	752	2	-	Yes

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36 29 Unknown 640613 1 x

		TC	**15.44**	**3740229**	**3.23**		**100 µl**		
Sample		Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1		10 6 2015 20:59:42	16.17	3911583	1	752	2	-	Yes
2		10 6 2015 21:03:09	15.37	3724562	1	752	2	-	Yes
3		10 6 2015 21:05:57	15.24	3693870	1	751	2	-	Yes
4		10 6 2015 21:08:42	14.97	3630903	1	750	2	-	Yes

37 30 Unknown 640615 1 x

TC **34.09** **8085976** **1.00** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 6 2015 21:12:19	34.55	8194096	1	751	2	-	Yes
2	10 6 2015 21:15:56	33.75	8006526	1	750	2	-	Yes
3	10 6 2015 21:18:55	33.93	8049140	1	750	2	-	Yes
4	10 6 2015 21:21:50	34.12	8094144	1	751	2	-	Yes

38 S2 Unknown CCV 1 x

TC **49.55** **11686853** **2.72** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 6 2015 21:25:40	47.95	11315109	1	751	2	-	Yes
2	10 6 2015 21:29:44	51.25	12084265	1	751	2	-	Yes
3	10 6 2015 21:33:04	49.74	11732488	1	751	2	-	Yes
4	10 6 2015 21:36:24	49.24	11615551	1	751	2	-	Yes

39 S8 Unknown CCB 1 x

TC **0.86** **344252** **7.44** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 6 2015 21:40:37	0.70	306208	1	751	2	-	Yes
2	10 6 2015 21:43:47	0.93	360125	1	751	2	-	Yes
3	10 6 2015 21:46:15	0.92	358528	1	751	2	-	Yes
4	10 6 2015 21:48:40	0.89	352147	1	751	2	-	Yes

40 S2 Unknown CCV 1 x

TC **49.65** **11712070** **1.03** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 6 2015 21:52:00	49.11	11586374	1	751	2	-	Yes
2	10 6 2015 21:56:04	50.21	11842392	1	751	2	-	Yes
3	10 6 2015 21:59:27	49.32	11635260	1	751	2	-	Yes
4	10 6 2015 22:02:45	49.96	11784257	1	751	2	-	Yes

41 S5 Unknown LCSW 1 x

TC **47.69** **11253499** **0.83** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 6 2015 22:06:58	48.01	11330312	1	751	2	-	Yes
2	10 6 2015 22:11:09	47.10	11116976	1	751	2	-	Yes
3	10 6 2015 22:14:30	47.85	11291022	1	752	2	-	Yes
4	10 6 2015 22:18:03	47.78	11275687	1	752	2	-	Yes

42 S8 Unknown MBW 1 x

TC **0.79** **328510** **2.79** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 6 2015 22:22:19	0.75	319258	1	752	2	-	Yes
2	10 6 2015 22:25:32	0.79	328901	1	752	2	-	Yes
3	10 6 2015 22:28:06	0.85	340927	1	751	2	-	Yes
4	10 6 2015 22:30:36	0.78	324955	1	751	2	-	Yes

43 31 Unknown 640118 1 x

TC **57.09** **13444030** **0.37** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 6 2015 22:34:01	56.95	13412696	1	752	2	-	Yes
2	10 6 2015 22:37:53	57.40	13518086	1	751	2	-	Yes
3	10 6 2015 22:41:15	57.02	13427344	1	752	2	-	Yes
4	10 6 2015 22:44:27	56.98	13417994	1	752	2	-	Yes

44 32 Unknown 640119 1 x

TC **70.61** **16594394** **0.46** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 6 2015 22:48:33	70.19	16497510	1	752	2	-	Yes
2	10 6 2015 22:52:45	70.67	16608829	1	752	2	-	Yes

3	10 6 2015 22:56:08	70.98	16681696	1	752	2	-	Yes
4	10 6 2015 22:59:41	70.59	16589542	1	752	2	-	Yes

45 33 Unknown DUP640119 1 x

TC **70.50** **16567725** **0.17** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 6 2015 23:04:00	70.35	16535138	1	752	2	-	Yes
2	10 6 2015 23:08:11	70.44	16554326	1	753	2	-	Yes
3	10 6 2015 23:11:38	70.61	16593956	1	753	2	-	Yes
4	10 6 2015 23:15:06	70.58	16587480	1	752	2	-	Yes

46 34 Unknown MSW640119 1 x

TC **115.83** **27131608** **0.88** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 6 2015 23:19:55	115.92	27150678	1	753	2	-	Yes
2	10 6 2015 23:24:33	115.73	27106873	1	753	2	-	Yes
3	10 6 2015 23:28:33	117.10	27426634	1	753	2	-	Yes
4	10 6 2015 23:32:35	114.59	26842250	1	753	2	-	Yes

47 35 Unknown MSDW640119 1 x

TC **116.14** **27203385** **0.41** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 6 2015 23:37:25	115.99	27167072	1	753	2	-	Yes
2	10 6 2015 23:42:02	116.84	27366012	1	753	2	-	Yes
3	10 6 2015 23:46:02	115.78	27119508	1	753	2	-	Yes
4	10 6 2015 23:50:03	115.96	27160949	1	753	2	-	Yes

48 36 Unknown 640120 1 x

TC **68.22** **16037185** **0.36** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 6 2015 23:54:55	67.91	15965742	1	753	2	-	Yes
2	10 6 2015 23:59:16	68.15	16022684	1	753	2	-	Yes
3	10 7 2015 0:03:01	68.30	16056062	1	753	2	-	Yes
4	10 7 2015 0:06:35	68.51	16104255	1	753	2	-	Yes

49 37 Unknown 640121 1 x

TC **38.52** **9119896** **0.33** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 7 2015 0:11:25	38.36	9081716	1	753	2	-	Yes
2	10 7 2015 0:15:18	38.65	9149379	1	752	2	-	Yes
3	10 7 2015 0:18:38	38.49	9111137	1	752	2	-	Yes
4	10 7 2015 0:22:05	38.60	9137353	1	752	2	-	Yes

50 38 Unknown 640122 1 x

TC **37.63** **8912021** **0.55** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 7 2015 0:26:19	37.73	8934968	1	752	2	-	Yes
2	10 7 2015 0:30:19	37.73	8934145	1	752	2	-	Yes
3	10 7 2015 0:33:31	37.76	8940092	1	752	2	-	Yes
4	10 7 2015 0:36:44	37.32	8838881	1	752	2	-	Yes

51 39 Unknown 640123 1 x

TC **73.24** **17207043** **0.34** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 7 2015 0:40:54	73.00	17151296	1	753	2	-	Yes
2	10 7 2015 0:45:06	73.33	17227951	1	752	2	-	Yes
3	10 7 2015 0:49:07	73.55	17280029	1	752	2	-	Yes
4	10 7 2015 0:53:09	73.07	17168899	1	752	2	-	Yes

52 S2 Unknown CCV 1 x

TC **50.00** **11793094** **0.86** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.

	1	10 7 2015 0:57:44	50.64	11942933	1	752	2	-	Yes
	2	10 7 2015 1:02:01	49.83	11754441	1	751	2	-	Yes
	3	10 7 2015 1:05:40	49.69	11719893	1	752	2	-	Yes
	4	10 7 2015 1:09:03	49.84	11755111	1	752	2	-	Yes

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53 S8 Unknown CCB 1 x

	TC	**0.81**	**331564**	**3.80**		**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 7 2015 1:13:18	0.87	346939	1	752	2	-	Yes
2	10 7 2015 1:16:41	0.83	336282	1	751	2	-	Yes
3	10 7 2015 1:19:13	0.78	324337	1	751	2	-	Yes
4	10 7 2015 1:21:42	0.75	318698	1	750	2	-	Yes

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54 140 Unknown BLANK 1 x

	TC	**0.81**	**331318**	**0.93**		**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 7 2015 1:25:06	0.80	329220	1	751	2	-	Yes
2	10 7 2015 1:28:22	0.82	334524	1	750	2	-	Yes
3	10 7 2015 1:31:01	0.81	333359	1	750	2	-	Yes
4	10 7 2015 1:33:36	0.79	328172	1	750	2	-	Yes

---

55 141 Unknown BLANK 1 x

	TC	**0.57**	**276372**	**2.44**		**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 7 2015 1:37:00	0.61	285498	1	750	2	-	Yes
2	10 7 2015 1:40:17	0.56	273383	1	750	2	-	Yes
3	10 7 2015 1:42:45	0.57	276866	1	750	2	-	Yes
4	10 7 2015 1:45:11	0.54	269742	1	750	2	-	Yes

---

56 142 Unknown BLANK 1 x

	TC	**0.55**	**271199**	**1.99**		**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 7 2015 1:48:35	0.54	268608	1	750	2	-	Yes
2	10 7 2015 1:51:50	0.58	278587	1	750	2	-	Yes
3	10 7 2015 1:54:20	0.55	271528	1	750	2	-	Yes
4	10 7 2015 1:56:50	0.52	266076	1	750	2	-	Yes

Analysis Name 101315 - 119798 119799.adb

Template Name 101315 - 119798 119799.tdb
Method Name N / A
Operator JJF

Date Tuesday, October 13, 2015
Time 8:42

Start Oven Temp. 739 °C
Start Cooler Temp. 2 °C

Version 2.55 Release
Info ICAL W34137 SPIKE TOC0011
CCV TOC 0035
LCSW TOC0036

Element	Integration Time	Samples	Extra Samples	Max. CV
Carbon	60 s	4	1	10 %
SampleTime	240 s			

No	Type	FileName	Date/Time	Max. Area	Max Conc.	Order	Correlation	Volume	Sel.
1	TC	W34137 042114	Apr 21 2014, 13:55	23572615	100	1	0.99963	100 µl	Yes
	A2: 0		*A1: 232982.714758512*		*A0: 143764.497303468*				

Inj. Order	Position	Type	Identification	Dilution Factor
1	1	Unknown	BLANK	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**ZERO !**	**170166**	**54.19**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 13 2015 8:53:29	0.24	200376	1	749	2	-	Yes
2	10 13 2015 8:56:52	ZERO !	90854	1	749	2	-	Yes
3	10 13 2015 8:59:18	ZERO !	102253	1	750	2	-	Yes
4	10 13 2015 9:01:39	0	0	0	751	2	-	-
5	10 13 2015 9:05:39	0.62	287184	1	754	2	-	Yes

Inj. Order	Position	Type	Identification	Dilution Factor
2	S1	Unknown	CCV	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**49.37**	**11644736**	**1.14**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 13 2015 9:08:59	48.68	11484544	1	755	2	-	Yes
2	10 13 2015 9:12:54	49.49	11673457	1	756	2	-	Yes
3	10 13 2015 9:16:06	49.24	11615547	1	756	2	-	Yes
4	10 13 2015 9:19:22	50.05	11805398	1	757	2	-	Yes

Inj. Order	Position	Type	Identification	Dilution Factor
3	S5	Unknown	LCSW	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**51.89**	**12232518**	**1.71**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 13 2015 9:23:31	52.80	12445325	1	758	2	-	Yes
2	10 13 2015 9:27:32	51.18	12068704	1	759	2	-	Yes
3	10 13 2015 9:30:45	51.06	12038903	1	759	2	-	Yes
4	10 13 2015 9:33:58	52.51	12377141	1	759	2	-	Yes

Inj. Order	Position	Type	Identification	Dilution Factor
4	S9	Unknown	MBW	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**ZERO !**	**120534**	**4.52**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 13 2015 9:38:08	ZERO !	117174	1	760	2	-	Yes
2	10 13 2015 9:41:17	ZERO !	117898	1	760	2	-	Yes
3	10 13 2015 9:43:37	ZERO !	118387	1	759	2	-	Yes
4	10 13 2015 9:45:54	ZERO !	128678	1	759	2	-	Yes

Inj. Order	Position	Type	Identification	Dilution Factor
5	2	Unknown	640608	1 x

		TC	**ZERO !**	**143039**	**6.93**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	10 13 2015 9:49:22	0.02	149449	1	759	2	-	Yes
	2	10 13 2015 9:52:30	ZERO !	136530	1	759	2	-	Yes
	3	10 13 2015 9:54:51	0.04	153360	1	758	2	-	Yes
	4	10 13 2015 9:57:18	ZERO !	132819	1	758	2	-	Yes

---

6 3 Unknown 642057 1 x

		TC	**ZERO !**	**94823**	**12.41**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	10 13 2015 10:00:39	ZERO !	121549	1	758	2	-	-
	2	10 13 2015 10:03:40	ZERO !	111353	1	758	2	-	Yes
	3	10 13 2015 10:05:56	ZERO !	92263	1	757	2	-	Yes
	4	10 13 2015 10:08:12	ZERO !	92202	1	757	2	-	Yes
	5	10 13 2015 10:10:28	ZERO !	83474	1	756	2	-	Yes

---

7 4 Unknown DUP642057 1 x

		TC	**ZERO !**	**98826**	**8.04**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	10 13 2015 10:13:33	ZERO !	102185	1	757	2	-	Yes
	2	10 13 2015 10:16:32	ZERO !	87157	1	757	2	-	Yes
	3	10 13 2015 10:18:45	ZERO !	85182	1	757	2	-	-
	4	10 13 2015 10:21:02	ZERO !	104877	1	757	2	-	Yes
	5	10 13 2015 10:23:19	ZERO !	101085	1	757	2	-	Yes

---

8 5 Unknown MSW642057 1 x

		TC	**52.30**	**12329136**	**2.86**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	10 13 2015 10:26:27	52.30	12329024	1	757	2	-	Yes
	2	10 13 2015 10:30:14	50.31	11863970	1	758	2	-	Yes
	3	10 13 2015 10:33:25	52.64	12407077	1	757	2	-	Yes
	4	10 13 2015 10:36:45	53.96	12716474	1	757	2	-	Yes

---

9 6 Unknown MSDW642057 1 x

		TC	**52.07**	**12273472**	**2.40**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	10 13 2015 10:40:44	53.51	12610794	1	757	2	-	Yes
	2	10 13 2015 10:44:44	52.68	12416343	1	756	2	-	Yes
	3	10 13 2015 10:48:00	50.71	11957411	1	756	2	-	Yes
	4	10 13 2015 10:51:07	51.36	12109340	1	755	2	-	Yes

---

10 7 Unknown 643750 1 x

		TC	**0.91**	**355033**	**4.19**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	10 13 2015 10:55:04	0.97	369581	1	756	2	-	Yes
	2	10 13 2015 10:58:11	0.95	366037	1	755	2	-	Yes
	3	10 13 2015 11:00:37	0.86	343792	1	755	2	-	Yes
	4	10 13 2015 11:03:01	0.85	340722	1	755	2	-	Yes

---

11 8 Unknown 643751 1 x

		TC	**2.05**	**622267**	**1.54**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	10 13 2015 11:06:15	2.10	632686	1	755	2	-	Yes
	2	10 13 2015 11:09:26	2.03	617241	1	754	2	-	Yes
	3	10 13 2015 11:11:54	2.01	611616	1	754	2	-	Yes
	4	10 13 2015 11:14:27	2.08	627527	1	754	2	-	Yes

---

12 9 Unknown 643752 1 x

		TC	**0.94**	**361382**	**4.25**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	10 13 2015 11:17:49	1.03	382804	1	754	2	-	Yes
	2	10 13 2015 11:20:53	0.90	353053	1	754	2	-	Yes
	3	10 13 2015 11:23:15	0.94	361673	1	753	2	-	Yes
	4	10 13 2015 11:25:38	0.88	348001	1	753	2	-	Yes

---

13 10 Unknown 643753 1 x

TC **2.00** **611181** **0.88** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 13 2015 11:28:57	2.03	617616	1	754	2	-	Yes
2	10 13 2015 11:32:09	2.02	613537	1	753	2	-	Yes
3	10 13 2015 11:34:39	1.98	606078	1	753	2	-	Yes
4	10 13 2015 11:37:07	1.99	607493	1	753	2	-	Yes

---

14 11 Unknown 643754 1 x

TC **2.02** **614876** **1.23** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 13 2015 11:40:28	2.04	617956	1	753	2	-	Yes
2	10 13 2015 11:43:37	2.00	610842	1	753	2	-	Yes
3	10 13 2015 11:46:02	2.06	623915	1	753	2	-	Yes
4	10 13 2015 11:48:31	1.99	606794	1	753	2	-	Yes

---

15 S1 Unknown CCV 1 x

TC **50.01** **11795494** **1.41** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 13 2015 11:51:52	50.69	11953848	1	753	2	-	Yes
2	10 13 2015 11:55:53	50.32	11867349	1	753	2	-	Yes
3	10 13 2015 11:59:03	49.03	11566955	1	753	2	-	Yes
4	10 13 2015 12:02:09	50.00	11793826	1	753	2	-	Yes

---

16 S9 Unknown CCB 1 x

TC **0.29** **211763** **5.42** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 13 2015 12:06:18	0.30	213907	1	753	2	-	Yes
2	10 13 2015 12:09:31	0.27	207728	1	752	2	-	Yes
3	10 13 2015 12:11:51	0.35	226344	1	752	2	-	Yes
4	10 13 2015 12:14:14	0.24	199074	1	752	2	-	Yes

---

17 12 Unknown 643755 1 x

TC **2.26** **669465** **3.21** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 13 2015 12:17:36	2.37	696803	1	752	2	-	Yes
2	10 13 2015 12:20:59	2.28	675869	1	752	2	-	Yes
3	10 13 2015 12:23:29	2.20	656247	1	752	2	-	Yes
4	10 13 2015 12:25:59	2.17	648941	1	752	2	-	Yes

---

18 13 Unknown 643756 1 x

TC **2.38** **699343** **1.37** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 13 2015 12:29:21	2.44	711415	1	752	2	-	Yes
2	10 13 2015 12:32:37	2.35	690952	1	752	2	-	Yes
3	10 13 2015 12:35:10	2.35	692433	1	752	2	-	Yes
4	10 13 2015 12:37:42	2.40	702573	1	752	2	-	Yes

---

19 14 Unknown 640845 1 x

TC **1.92** **591458** **2.69** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 13 2015 12:41:10	1.85	574934	1	752	2	-	Yes
2	10 13 2015 12:44:25	1.89	583731	1	752	2	-	Yes
3	10 13 2015 12:46:59	1.94	595400	1	751	2	-	Yes
4	10 13 2015 12:49:37	2.01	611768	1	751	2	-	Yes

---

20 15 Unknown LQCKW 1 x

TC **3.42** **940908** **0.94** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 13 2015 12:53:06	3.45	946579	1	752	2	-	Yes
2	10 13 2015 12:56:29	3.45	946479	1	752	2	-	Yes
3	10 13 2015 12:59:11	3.43	942577	1	752	2	-	Yes
4	10 13 2015 13:01:53	3.37	927997	1	752	2	-	Yes

INORGANICS
LOGBOOK
DOCUMENTS

WANIONS IC QSM 5.0 Analytical Run
119441 on 10/5/2015

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	641495						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		ICV							
		Chloride		ICV							
		Sulfate		ICV							
	641496						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		ICB							
		Chloride		ICB							
		Sulfate		ICB							
	640486						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCV				0			
		Chloride		CCV				0			
		Sulfate		CCV				0			
	640490						WANIONS IC QSM 5.0				
		Chloride		LCSW				0			
		Nitrate Nitrogen		LCSW				0			
		Sulfate		LCSW				0			
	640491						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		MBW				0			
		Chloride		MBW				0			
		Sulfate		MBW				0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
119441 on 10/5/2015

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
114433	640106		9/30/2015	0915		BERING SEA ENVIRONMENTAL	RAAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
114433	640109		9/30/2015	1130		BERING SEA ENVIRONMENTAL	RAAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride			*							
		Nitrate Nitrogen			*							
		Sulfate			*							
	640489		9/30/2015	1130				ANIONS IC QSM 5.0				
		Nitrate Nitrogen			DUP	640109			0			
		Chloride			DUP	640109			0			
		Sulfate			DUP	640109			0			
	640492		9/30/2015	1130				ANIONS IC QSM 5.0				
		Nitrate Nitrogen			MSW	640109			0			
		Chloride			MSW	640109			0			
		Sulfate			MSW	640109			0			
	641139		9/30/2015	1130				ANIONS IC QSM 5.0				
		Nitrate Nitrogen			MSDW	640492			0			
		Chloride			MSDW	640492			0			
		Sulfate			MSDW	640492			0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
119441 on 10/5/2015

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
114433	640110		9/30/2015	1355		BERING SEA ENVIRONMENTAL	RAAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
114433	640111		9/30/2015	1425		BERING SEA ENVIRONMENTAL	RAAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
114433	640112		9/30/2015	1425		BERING SEA ENVIRONMENTAL	RAAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
114433	640113		9/30/2015	1625		BERING SEA ENVIRONMENTAL	RAAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
	640488							WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCV				0			
		Chloride			CCV				0			
		Sulfate			CCV				0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
119441 on 10/7/2015

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	640487						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCB				0			
		Chloride		CCB				0			
		Sulfate		CCB				0			

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Page 1601

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

FWC37-03 Data Review Checklist

LIMS RUN# 119411 119415 119441 119453		Method: Anions by Ion Chromatography 300.0/9056	Independent Data Review Checklist		
Analysis Date	Analyst / Data Interpreter	Independent Reviewer	Date of Review	Approved (Yes/No)	Instrument
10/01/15	JJF	RLD	10/08/15	Yes	Metrohm-System 3

Instructions: Complete one checklist per *analytical sequence* . Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement:	Acceptance	Analyst Review		Independent Review		Comments:
	Criteria	Yes	No	Yes	No	(indicate reference to an attachment if necessary)
1. Were the samples analyzed within hold time?	28 days for Cl, F, SO_4;14 days for preserved NO_2+NO_3; 48 hours for O.Phos, and unpreserved NO_2 and NO_3	Yes		Yes		If no: Qualify date with an "H" flag.
2. Was the calibration performed using the required number of standards?	Minimum three plus a blank	Yes		Yes		If no: reacalibrate instrument minimum of 3 standaard + a blank.
3. Is the standard prep log number noted on the analytical report bench sheet?	---	Yes		Yes		If no: document all standards used.
4. Was the correlation coefficient acceptable?	≥ .995	Yes		Yes		If no: Reacalibrate instrument
5. Were the ICV and ICB run immediately after the calibration check standard?	---	Yes		Yes		If no: Analyze an ICV and ICB prior to sample analyses.
6. Was the ICV recovery acceptable?	90 – 110 % or contract/program specific	Yes		Yes		If no: reanalyze ICV or recalibrate if necessary.
7. Was the ICB result acceptable?	< LOD or contract/program specific	Yes		Yes		If no: reanalyze blank. Instrument must be confirmed free from contamination prior to sample analyses.
8. Were the CCV's and the CCB's analyzed at the required frequency?	1 / 10 samples or contract/program specific	Yes		Yes		If no: outliers should be reanalyzed with QC samples anlayzed at the proper frequency.
9. Were the CCV recoveries acceptable?	90 – 110 % or contract/program specific	Yes		Yes		If no: reanalyze affected data with acceptable CCV results.
10. Were the CCB results acceptable?	< LOD or program/project specific	Yes		Yes		If no: reanalyze affected sample if possible; otherwise sample detects must be qualified with a "B" flag.
11. Was the MB analyzed at the required frequency?	1 / 20 samples or contract/program specific	Yes		Yes		If no: affected sample must be reanalyzed including the MB.
12. Were the MB results acceptable?	< LOD or contract/program specific	Yes		Yes		If no: reanalyze affected samples with an acceptable MB if possible. If sample result is >20x the result detected in the blank results can be reported without qualificaton. If sample result is <20x the MB result and the MB was not reanalyzed, sample result must be qualified with a "B" flag.

13. Was a LCS run at the required frequency?	1 / 20 samples or contract/program specific	Yes		Yes		If no: affected sample must be reanalyzed including the LCS.
14. Was the LCS recovery acceptable?	Within in-house or contract/program specific limits	Yes		Yes		If no: affected sample should be reanalyzed with accecptable LCS recoveries if possible. Detects reported with an LCS failure must be qualified with a "Q" flag. Nondetected analytes reported with a low LCS recovery must also be qualified with a "Q" flag.
15. Was the LCS used before the indicated expiration date?	---	Yes		Yes		If no: samples should be reanalyed with non expired standards.
16. Were the MS and MSD (when required) prepared at the required frequency?	1per 20 samples per matrix or contract/program specific	Yes		Yes		If no: analyze a MS and MSD (if needed) to be included with the sample data.
17. Were the MS and MSD (when required) recoveries acceptable?	Within In-house or contract/program specific limits		No		No	If no: qualify parent sample results with an "M" flag if recoveries were low. If recoveries were high then qualify any affected detects in the parent sample.
18. Was the RPD between the MS and MSD (when required) acceptable?	Within in house or contract/program specific limits	Yes		Yes		If no: qualify the parent sample result with a "Y" flag.
19. Was a sample duplicate prepared at the required frequency?	Contract/program specific or 1 per 20 samples (1 / 10 for SDWA samples)	Yes		Yes		If no: analyze one of the sample from the batch as a duplicate.
20. Was the duplicate within precision limits?	Within in-house or contract/program specific limits	Yes		Yes		If no: qualify the parent sample result with a "Y" flag.
21. Were all chromatograms checked to ensure accurate peak identification?	---	Yes		Yes		If no: review the IC data to ensure proper retention times and peak identification.
22. Are all samples on the job lists accounted for?	---	Yes		Yes		If no: include and analzye missing sample with another batch.
23. Were non-matrix related nonconformities (if applicable) documented in the NCR spreadsheet?	---	Yes		Yes		If no: Enter nonconformities into the NCR spreadsheet before data review/validation..

WANIONS IC QSM 5.0 Analytical Run
119453 on 10/21/15

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	641145						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCV				0			
		Chloride		CCV				0			
		Sulfate		CCV				0			
	641153						WANIONS IC QSM 5.0				
		Chloride		LCSW				0			
		Nitrate Nitrogen		LCSW				0			
		Sulfate		LCSW				0			
	641154						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		MBW				0			
		Chloride		MBW				0			
		Sulfate		MBW				0			
	641151						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCV				0			
		Chloride		CCV				0			
		Sulfate		CCV				0			
	641147						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCB				0			
		Chloride		CCB				0			
		Sulfate		CCB				0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
119453 on 10/21/15

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
114442	640251		10/01/15	0855		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
114442	640254		10/01/15	1025		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
114442	640256		10/01/15	1025		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
114442	640258		10/01/15	1105		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride			*							
		Nitrate Nitrogen			*							
		Sulfate			*							
	641150		10/01/15	1105				ANIONS IC QSM 5.0				
		Nitrate Nitrogen			DUP	640258			0			
		Chloride			DUP	640258			0			
		Sulfate			DUP	640258			0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
119453 on 10/21/15

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	641146		10/01/15	1105					ANIONS IC QSM 5.0				
		Nitrate Nitrogen			MSW	640258				0			
		Chloride			MSW	640258				0			
		Sulfate			MSW	640258				0			
	641155		10/01/15	1105					ANIONS IC QSM 5.0				
		Nitrate Nitrogen			MSDW	641146				0			
		Chloride			MSDW	641146				0			
		Sulfate			MSDW	641146				0			
114442	640260		10/01/15	1440			BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride											
		Nitrate Nitrogen											
		Sulfate											
114442	640262		10/01/15	1620			BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride											
		Nitrate Nitrogen											
		Sulfate											
	641148								WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCV					0			
		Chloride			CCV					0			
		Sulfate			CCV					0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
119453 on 10/21/15

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	641144							WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCB				0			
		Chloride			CCB				0			
		Sulfate			CCB				0			
114442	640254		10/01/15	1025		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride		***RERUN***								
		Nitrate Nitrogen		***RERUN***								
		Sulfate		***RERUN***								
114442	640256		10/01/15	1025		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride		***RERUN***								
		Nitrate Nitrogen		***RERUN***								
		Sulfate		***RERUN***								
	642597							WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCV							
		Chloride			CCV							
		Sulfate			CCV							
	642598							WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCB							
		Chloride			CCB							
		Sulfate			CCB							

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Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

FWC37-03 Data Review Checklist

LIMS RUN# 119411 119415 119441 119453	Method: Anions by Ion Chromatography 300.0/9056		Independent Data Review Checklist		
Analysis Date	Analyst / Data Interpreter	Independent Reviewer	Date of Review	Approved (Yes/No)	Instrument
10/01/15	JJF	RLD	10/08/15	Yes	Metrohm-System 3

Instructions: Complete one checklist per *analytical sequence* . Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement:	Acceptance	Analyst Review		Independent Review		Comments:
	Criteria	Yes	No	Yes	No	(indicate reference to an attachment if necessary)
1. Were the samples analyzed within hold time?	28 days for Cl, F, SO_4;14 days for preserved NO_2+NO_3; 48 hours for O.Phos, and unpreserved NO_2 and NO_3	Yes		Yes		If no: Qualify date with an "H" flag.
2. Was the calibration performed using the required number of standards?	Minimum three plus a blank	Yes		Yes		If no: reacalibrate instrument minimum of 3 standaard + a blank.
3. Is the standard prep log number noted on the analytical report bench sheet?	---	Yes		Yes		If no: document all standards used.
4. Was the correlation coefficient acceptable?	≥ .995	Yes		Yes		If no: Reacalibrate instrument
5. Were the ICV and ICB run immediately after the calibration check standard?	---	Yes		Yes		If no: Analyze an ICV and ICB prior to sample analyses.
6. Was the ICV recovery acceptable?	90 – 110 % or contract/program specific	Yes		Yes		If no: reanalyze ICV or recalibrate if necessary.
7. Was the ICB result acceptable?	< LOD or contract/program specific	Yes		Yes		If no: reanalyze blank. Instrument must be confirmed free from contamination prior to sample analyses.
8. Were the CCV's and the CCB's analyzed at the required frequency?	1 / 10 samples or contract/program specific	Yes		Yes		If no: outliers should be reanalyzed with QC samples anlayzed at the proper frequency.
9. Were the CCV recoveries acceptable?	90 – 110 % or contract/program specific	Yes		Yes		If no: reanalyze affected data with acceptable CCV results.
10. Were the CCB results acceptable?	< LOD or program/project specific	Yes		Yes		If no: reanalyze affected sample if possible; otherwise sample detects must be qualified with a "B" flag.
11. Was the MB analyzed at the required frequency?	1 / 20 samples or contract/program specific	Yes		Yes		If no: affected sample must be reanalyzed including the MB.
12. Were the MB results acceptable?	< LOD or contract/program specific	Yes		Yes		If no: reanalyze affected samples with an acceptable MB if possible. If sample result is >20x the result detected in the blank results can be reported without qualificaton. If sample result is <20x the MB result and the MB was not reanalyzed, sample result must be qualified with a "B" flag.

13. Was a LCS run at the required frequency?	1 / 20 samples or contract/program specific	Yes		Yes		If no: affected sample must be reanalyzed including the LCS.
14. Was the LCS recovery acceptable?	Within in-house or contract/program specific limits	Yes		Yes		If no: affected sample should be reanalyzed with acceeptable LCS recoveries if possible. Detects reported with an LCS failure must be qualified with a "Q" flag. Nondetected analytes reported with a low LCS recovery must also be qualified with a "Q" flag.
15. Was the LCS used before the indicated expiration date?	---	Yes		Yes		If no: samples should be reanalyed with non expired standards.
16. Were the MS and MSD (when required) prepared at the required frequency?	1per 20 samples per matrix or contract/program specific	Yes		Yes		If no: analyze a MS and MSD (if needed) to be included with the sample data.
17. Were the MS and MSD (when required) recoveries acceptable?	Within In-house or contract/program specific limits		No		No	If no: qualify parent sample results with an "M" flag if recoveries were low. If recoveries were high then qualify any affected detects in the parent sample.
18. Was the RPD between the MS and MSD (when required) acceptable?	Within in house or contract/program specific limits	Yes		Yes		If no: qualify the parent sample result with a "Y" flag.
19. Was a sample duplicate prepared at the required frequency?	Contract/program specific or 1 per 20 samples (1 / 10 for SDWA samples)	Yes		Yes		If no: analyze one of the sample from the batch as a duplicate.
20. Was the duplicate within precision limits?	Within in-house or contract/program specific limits	Yes		Yes		If no: qualify the parent sample result with a "Y" flag.
21. Were all chromatograms checked to ensure accurate peak identification?	---	Yes		Yes		If no: review the IC data to ensure proper retention times and peak identification.
22. Are all samples on the job lists accounted for?	---	Yes		Yes		If no: include and analzye missing sample with another batch.
23. Were non-matrix related nonconformities (if applicable) documented in the NCR spreadsheet?	---	Yes		Yes		If no: Enter nonconformities into the NCR spreadsheet before data review/validation..

WANIONS IC QSM 5.0 Analytical Run
119481 on 10/21/15

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	641501							WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCV				0			
		Chloride			CCV				0			
		Sulfate			CCV				0			
	641504							WANIONS IC QSM 5.0				
		Chloride			LCSW				0			
		Nitrate Nitrogen			LCSW				0			
		Sulfate			LCSW				0			
	641505							WANIONS IC QSM 5.0				
		Nitrate Nitrogen			MBW				0			
		Chloride			MBW				0			
		Sulfate			MBW				0			
114475	640601		10/02/15	0835		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
	641507		10/02/15	0835				ANIONS IC QSM 5.0				
		Nitrate Nitrogen			DUP	640601			0			
		Chloride			DUP	640601			0			
		Sulfate			DUP	640601			0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
119481 on 10/21/15

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	641506		10/02/15	0835					ANIONS IC QSM 5.0				
		Nitrate Nitrogen			MSW	640601				0			
		Chloride			MSW	640601				0			
		Sulfate			MSW	640601				0			
	642710		10/02/15	0835					ANIONS IC QSM 5.0				
		Nitrate Nitrogen			MSDW	641506							
		Chloride			MSDW	641506							
		Sulfate			MSDW	641506							
114475	640603		10/02/15	0940			BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride											
		Nitrate Nitrogen											
		Sulfate											
114475	640605		10/02/15	1050			BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride											
		Nitrate Nitrogen											
		Sulfate											
114475	640607		10/02/15	1206			BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride											
		Nitrate Nitrogen											
		Sulfate											

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
119481 on 10/21/15

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
114475	640609		10/02/15 1240		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride									
		Nitrate Nitrogen									
		Sulfate									
114475	640612		10/02/15 1410		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride									
		Nitrate Nitrogen									
		Sulfate									
114475	640614		10/02/15 1705		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride									
		Nitrate Nitrogen									
		Sulfate									
	641502						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCV				0			
		Chloride		CCV				0			
		Sulfate		CCV				0			
	641503						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCB				0			
		Chloride		CCB				0			
		Sulfate		CCB				0			

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Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

FWC37-03 Data Review Checklist

LIMS RUN# 119481	Method: Anions by Ion Chromatography 300.0/9056		Independent Data Review Checklist		
Analysis Date	Analyst / Data Interpreter	Independent Reviewer	Date of Review	Approved (Yes/No)	Instrument
10/03/15	AGK	RLD	10/08/15	Yes	Metrohm-System 3

Instructions: Complete one checklist per *analytical sequence* . Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement:	Acceptance	Analyst Review		Independent Review		Comments:
	Criteria	Yes	No	Yes	No	(indicate reference to an attachment if necessary)
1. Were the samples analyzed within hold time?	28 days for Cl, F, SO_4;14 days for preserved NO_2+NO_3; 48 hours for O.Phos, and unpreserved NO_2 and NO_3	Yes		Yes		If no: Qualify date with an "H" flag.
2. Was the calibration performed using the required number of standards?	Minimum three plus a blank	Yes		Yes		If no: reacalibrate instrument minimum of 3 standaard + a blank.
3. Is the standard prep log number noted on the analytical report bench sheet?	---	Yes		Yes		If no: document all standards used.
4. Was the correlation coefficient acceptable?	≥ .995	Yes		Yes		If no: Reacalibrate instrument
5. Were the ICV and ICB run immediately after the calibration check standard?	---	Yes		Yes		If no: Analyze an ICV and ICB prior to sample analyses.
6. Was the ICV recovery acceptable?	90 – 110 % or contract/program specific	Yes		Yes		If no: reanalyze ICV or recalibrate if necessary.
7. Was the ICB result acceptable?	< LOD or contract/program specific	Yes		Yes		If no: reanalyze blank. Instrument must be confirmed free from contamination prior to sample analyses.
8. Were the CCV's and the CCB's analyzed at the required frequency?	1 / 10 samples or contract/program specific	Yes		Yes		If no: outliers should be reanalyzed with QC samples anlayzed at the proper frequency.
9. Were the CCV recoveries acceptable?	90 – 110 % or contract/program specific	Yes		Yes		If no: reanalyze affected data with acceptable CCV results.
10. Were the CCB results acceptable?	< LOD or program/project specific	Yes		Yes		If no: reanalyze affected sample if possible; otherwise sample detects must be qualified with a "B" flag.
11. Was the MB analyzed at the required frequency?	1 / 20 samples or contract/program specific	Yes		Yes		If no: affected sample must be reanalyzed including the MB.
12. Were the MB results acceptable?	< LOD or contract/program specific	Yes		Yes		If no: reanalyze affected samples with an acceptable MB if possible. If sample result is >20x the result detected in the blank results can be reported without qualificaton. If sample result is <20x the MB result and the MB was not reanalyzed, sample result must be qualified with a "B" flag.

13. Was a LCS run at the required frequency?	1 / 20 samples or contract/program specific	Yes		Yes		If no: affected sample must be reanalyzed including the LCS.
14. Was the LCS recovery acceptable?	Within in-house or contract/program specific limits	Yes		Yes		If no: affected sample should be reanalyzed with acceeptable LCS recoveries if possible. Detects reported with an LCS failure must be qualified with a "Q" flag. Nondetected analytes reported with a low LCS recovery must also be qualified with a "Q" flag.
15. Was the LCS used before the indicated expiration date?	---	Yes		Yes		If no: samples should be reanalyed with non expired standards.
16. Were the MS and MSD (when required) prepared at the required frequency?	1per 20 samples per matrix or contract/program specific	Yes		Yes		If no: analyze a MS and MSD (if needed) to be included with the sample data.
17. Were the MS and MSD (when required) recoveries acceptable?	Within In-house or contract/program specific limits		No		No	If no: qualify parent sample results with an "M" flag if recoveries were low. If recoveries were high then qualify any affected detects in the parent sample.
18. Was the RPD between the MS and MSD (when required) acceptable?	Within in house or contract/program specific limits	Yes		Yes		If no: qualify the parent sample result with a "Y" flag.
19. Was a sample duplicate prepared at the required frequency?	Contract/program specific or 1 per 20 samples (1 / 10 for SDWA samples)	Yes		Yes		If no: analyze one of the sample from the batch as a duplicate.
20. Was the duplicate within precision limits?	Within in-house or contract/program specific limits	Yes		Yes		If no: qualify the parent sample result with a "Y" flag.
21. Were all chromatograms checked to ensure accurate peak identification?	---	Yes		Yes		If no: review the IC data to ensure proper retention times and peak identification.
22. Are all samples on the job lists accounted for?	---	Yes		Yes		If no: include and analzye missing sample with another batch.
23. Were non-matrix related nonconformities (if applicable) documented in the NCR spreadsheet?	---	Yes		Yes		If no: Enter nonconformities into the NCR spreadsheet before data review/validation..

Metrohm Run Log - System 3													
Start Date	Start Time	End Date	End Time	Analyst	Lims Run #(s)	Calibration ID#	Data File	Spike ID's	Total Cond.	Pressure (Mpa)	Flow (mL/min)	Comments	Reviewed/Date
09/11/15	9:28	09/12/15	17:40	JJF	118621 118623 118657 118658	IC0218A New Method NO2 IC0232	091115-RUN#	IC0397 IC0398	1.25	8.2	0.7		
09/14/15	9:36	09/14/15	20:25	JJF	118667	IC0218A New Method	091415-RUN#	IC0397 IC0398	1.36	8.2	0.7		
09/15/15	8:59	09/15/15	23:44	JJF	118728 118767	IC0218A New Method	091515-RUN#	IC0397 IC0398	1.77	8.1	0.7		
09/16/15	10:00	09/16/15	14:56	JJF	118784	IC0218A New Method	091615-RUN#	IC0397 IC0398	1.63	8.3	0.7		
09/17/15	14:06	09/18/15	9:32	JJF	118850	IC0218A New Method	091715-RUN#	IC0397 IC0398	1.25	8.6	0.7		
09/18/15	8:51	09/19/15	20:04	JJF	118837 118879 118880 118887	IC0218A New MethoD	091815-RUN#	IC0397 IC0398	1.2	8.6	0.7		
09/21/15	8:25	09/22/15	20:00	JJF	RR118879 118880 118887	IC0218A New Method	092115-RUN#	IC0397 IC0398	1.29	8.7	0.7		
09/23/15	8:02	09/23/15	5:51	JJF	119077 119056	IC0218A New Method	092315-RUN#	IC0397 IC0398	1.86	8.9	0.7		
09/24/15	8:46	09/25/15	4:44	JJF	RR119056 119094 119142 119135	IC0218A New Method	092415-RUN#	IC0397 IC0398	1.24	9.6	0.7		
09/25/15	12:28	09/26/15	13:44	AGK	119199 119206	IC0218A New Method	092515-RUN#	IC0397 IC0398	1.15	9.6	0.7		
09/28/15	9:19	09/28/15	20:50	JJF	119233 19277	IC0218A New Method	092815-RUN#	IC0397 IC0398	1.06	9.6	0.7		
09/29/15	10:48	10/01/15	13:00	JJF	119207 119295 119320 119334 119353	IC0218A NEW METHOD LLIC0182A NO2IC0232	092915-RUN#	IC0397 IC0398	1.25	9.5	0.7		
10/01/15	14:55	10/02/15	3:08	JJF	119411 119414 119441 119453	IC0218A NEW METHOD	100115-RUN#	IC0397 IC0398	1.3	9.8	0.7		
10/03/15	9:56	10/03/15	15:37	AGK	119481	IC0218A NEW METHOD	100315-RUN#	IC0397 IC0398	1.25	9.9	0.7		
10/05/15	14:32	10/06/15	4:53	JJF	119524 119530	IC0218A NEW METHOD	100515-RUN#	IC0397 IC0398	1.32	10	0.7		
10/07/15	9:32	10/07/15	19:39	JJF	119592 119593 119635	IC0218A NEW METHOD	100715-RUN#	IC0397 IC0398	1.35	9.9	0.7		
10/08/15	11:56	10/08/15	14:44	JJF	119657	IC0218A NEW METHOD	100815-RUN#	IC0397 IC0398	1.88	9.7	0.7		
10/12/15	8:30	10/12/15	23:30	JJF	119739 119775	IC0218A NEW METHOD	101215-RUN#	IC0414 IC0415	1.85	9.5	0.7		
10/13/15	8:20			JJF	RR119775 119813	IC0218A NEW METHOD	101315-RUN#	IC0414 IC0415	1.49	9.4	0.7		

LPVO3-02
IC Prep Logbook
Logbook Created: 08/13/2015
NOTEBOOK VIEW: LTN_LPVO3_02_IC_Default, NOTEBOOK: LPVO3_02_IC, PAGE: 15
Page is Unlocked
Page is not Witnessed
Project: Unassigned
Page Title: 101215

Standard Log #:	IC0414	Standard:	IC Spike Mixed
Analyst:	JJF	Concentrations:	64 mg/L - Br, NO_3, PO_4 256 mg/L - Cl, SO_4
Prep Date:	10/12/2015	Expiration Date (1 Month):	11/12/2015
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Bromide IC0178, Nitrate IC0403, and Phosphate IC0001 and 25.6 mL 1000 mg/L Chloride IC and Sulfate IC and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0415	Standard:	IC Spike Nitrite & Fluoride
Analyst:	JJF	Concentrations:	32 mg/L - Fluoride 64 mg/L - Nitrite
Prep Date:	10/12/2015	Expiration Date (1 Month):	11/12/2015
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite IC0396 and 3.2 mL 1000 mg/L Fluoride IC0395 and brought to volume with Milli-Q DI H_20.		

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CT Laboratories, LLC

LPVO3-02
IC Prep Logbook
Logbook Created: 08/13/2015
NOTEBOOK VIEW: LTN_LPVO3_02_IC_Default, NOTEBOOK: LPVO3_02_IC, PAGE: 13
Page is Locked
Author: JFAUST on: 12.10.2015 08:33:52
Page is not Witnessed
Project: Unassigned
Page Title: 100515

Standard Log #:	IC0409	Standard:	IC LCSW/ICV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	10/05/2015	Expiration Date (1 Month):	11/05/2016
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) IC0391 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0410	Standard:	IC LCSW/ICV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L
Prep Date:	10/05/2015	Expiration Date (1 Month):	11/05/2015
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL 1000 mg/L Nitrite W37105 and brought to volume with Milli-Q DI H_20.		

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LPVO3-02
IC Prep Logbook
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Author: JFAUST on: 12.10.2015 08:32:53
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Project: Unassigned
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Standard Log #:	IC0401	Standard:	IC CCV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	09/22/2015	Expiration Date (1 Month):	10/22/2015
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride IC0395, Phosphate IC0001, Bromide IC0178, and Nitrate IC, 15 ml 1000 mg/L Chloride IC0287, and 25 ml 1000 mg/L Sulfate IC0186 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0402	Standard:	IC CCV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - NO_2
Prep Date:	09/22/2015	Expiration Date (1 Month):	10/22/2015
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. IC0396 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0403	Standard/Reagent:	NO3 STANDARD
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	09/22/2015	Expiration Date:	9/22/2016
Prep:	Accu SPEC Nitrate Standard for Ion Chromatography Cat #250-220-521 Lot # S150804004		

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Standard Log #:	IC0395	Standard/Reagent:	Fluoride Std
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	09/09/2015	Expiration Date:	09/09/2016
Prep:	AccuSPEC IC Standard @ 1000 ug/ml Lot # S150818016 Catalog # 250-220-40x		

Standard Log #:	IC0396	Standard/Reagent:	Nitrite Std
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	09/09/2015	Expiration Date:	09/09/2016
Prep:	AccuSPEC IC Standard @ 1000 ug/ml Lot # S150410003 Catalog # 250-220-55x		

Standard Log #:	IC0397	Standard:	IC Spike Mixed
Analyst:	JJF	Concentrations:	64 mg/L - Br, NO_3, PO_4 256 mg/L - Cl, SO_4
Prep Date:	09/09/2015	Expiration Date (1 Month):	10/09/2015
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Bromide IC0178, Nitrate W35940, and Phosphate IC0001 and 25.6 mL 1000 mg/L Chloride IC0287 and Sulfate IC0186 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0398	Standard:	IC Spike Nitrite & Fluorid
Analyst:	JJF	Concentrations:	32 mg/L - Fluoride 64 mg/L - Nitrite
Prep Date:	09/09/2015	Expiration Date (1 Month):	10/09/2015
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite IC0396 and 3.2 mL 1000 mg/L Fluoride IC0395 and brought to volume with Milli-Q DI H_20.		

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Standard Log #:	IC0394	Standard:	IC Calibration Metrohm
Analyst:	JJF	Concentrations:	10mg/L - NO_2, NO_3, PO_4, Br, F 100mg/L - SO_4, Cl
Prep Date:	09/03/2015	Expiration Date (48 hours):	09/05/2015
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) W35388, Nitrite (1000mg/L) W35415, Bromide (1000mg/L) IC0178, Nitrate (1000mg/L) W35940, Phosphate (1000mg/L) IC0001, and 10 mL each of Sulfate (1000mg/L) IC0186, and Chloride (1000mg/L) IC0287.		

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LPVO3-02
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Author: JFAUST on: 03.09.2015 15:36:31
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Project: Unassigned
Page Title: N/A

Standard Log #:	IC0388	Standard:	IC Suppressor Regen Metrohm
Analyst:	JJF	Concentrations:	0.1 M Sulfuric Acid
Prep Date:	08/31/2015	Expiration Date (6 months):	03/02/2016
Prep:	Into a 1L volumetric flask, pipetted 5.6mL of Sulfuric Acid W37170 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0389	Standard:	IC LCSW/ICV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	08/31/2015	Expiration Date (1 Month):	10/1/2016
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) IC0391 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0390	Standard:	IC LCSW/ICV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L
Prep Date:	08/31/2015	Expiration Date (1 Month):	10/01/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL 1000 mg/L Nitrite W37105 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0391	Standard/Reagent:	Custom Ion Standard
Analyst:	JJF	Final Concentration:	1250 mg/L SO4, 750mg/L C
Prep Date:	08/31/2015	Expiration Date:	08/30/2016
Prep:	Cat# VCTI-3-500 Lot# 7-60-JKS		

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Author: JFAUST on: 31.08.2015 09:29:32
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Project: Unassigned
Page Title: 082715

Standard Log #:	0381	Standard:	IC ICAL Mixed Std. Dionex
Analyst:	JJF	Concentrations:	50mg/L - NO_2, NO_3, PO_4, Br, F
Prep Date:	08/27/2015	Expiration Date (48 Hours):	08/29/2015
Prep:	Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite W35415, Fluoride W35388, Bromide IC0178, Nitrate W35940, and Phosphate IC0001 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0382	Standard:	IC_Calibration_Dionex_E
Analyst:	JJF	Concentrations:	N/A
Prep Date:	08/27/2015	Expiration Date (48 hours):	08/29/2015

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Mixed Std (50mg/L) IC0381	0	0.2	0.5	1.0	2.0	4.0	10.0	14.0	20.0
Chloride (1000mg/L) IC0287	0	0.05	0.075	0.1	0.5	1.0	2.0	3.0	3.5
Sulfate (1000mg/L) IC0186	0	0.05	0.075	0.1	0.5	1.0	3.0	5.0	6.0

Standard Log #:	IC0383	Standard:	IC Low Level o-Phos CCV
Analyst:	JJF	Concentrations:	0.1mg/L Phosphate
Prep Date:	08/27/2015	Expiration Date (1 month):	09/27/2015
Prep:	Into a 200 ml volumetric flask pipette 0.02ml Phosphate(1000mg/L) IC0001 and fill to volume with Milli Q H_2O.		

Standard Log #:	IC0384	Standard:	IC Low Level LCS-ICV
Analyst:	JJF	Concentrations:	0.1mg/L Phosphate
Prep Date:	08/27/2015	Expiration Date (1 Month):	09/27/2015
Prep:	Into a 100 ml volumetric flask pipette 0.01 ml of Phosphate (1000mg/L) IC0016 and fill to volume with Milli-Q H_2O.		

Standard Log #:	IC0386	Standard:	IC CCV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	08/27/2015	Expiration Date (1 Month):	09/27/2015
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride W35388, Phosphate IC0001, Bromide IC0178, and Nitrate w35940, 15 ml 1000 mg/L Chloride IC0287, and 25 ml 1000 mg/L Sulfate IC0186 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0387	Standard:	IC CCV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - NO_2
Prep Date:	08/27/2015	Expiration Date (1 Month):	09/22/2015
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. W35415 and brought to volume with Milli-Q DI H_20.		

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Author: JFAUST on: 31.08.2015 09:26:16
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Standard Log #:	IC0380	Standard:	IC_Calibration_Dionex_E
Analyst:	JJF	Concentrations:	N/A
Prep Date:	08/26/2015	Expiration Date (48 hours):	08/27/2015

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Mixed Std (50mg/L) IC0377	0	0.2	0.5	1.0	2.0	4.0	10.0	14.0	20.0
Chloride (1000mg/L) IC0286	0	0.05	0.075	0.1	0.5	1.0	2.0	3.0	3.5
Sulfate (1000mg/L) IC0187	0	0.05	0.075	0.1	0.5	1.0	3.0	5.0	6.0

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Author: JFAUST on: 26.08.2015 10:30:58
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Standard Log #:	IC0377	Standard:	IC ICAL Mixed Std. Dionex
Analyst:	JJF	Concentrations:	50mg/L - NO_2, NO_3, PO_4, Br, F
Prep Date:	08/25/2015	Expiration Date (48 Hours):	08/27/2015
Prep:	Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite W35415, Fluoride W35388, Bromide IC0178, Nitrate W35940, and Phosphate IC0001 and brought to volume with Milli-Q DI H_20.		

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IC Prep Logbook
Notebook Created: 01/12/2015

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Author: jfaust on: 11.08.2015 09:21:28
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Project: Unassigned
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Standard Log #:	IC0322	Standard:	IC CCV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	08/10/2015	Expiration Date (1 Month):	09/10/2015
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride W35388, Phosphate IC0001, Bromide IC0178, and Nitrate W35940, 15 ml 1000 mg/L Chloride IC0287, and 25 ml 1000 mg/L Sulfate IC0186 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0323	Standard:	IC CCV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - NO_2
Prep Date:	08/10/2015	Expiration Date (1 Month):	09/10/2015
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. W35415 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0324	Standard/Reagent:	IC MIDLEVEL CCV MIXED
Analyst:	JJF	Final Concentration:	3.5 mg/L Cl and 5 mg/L SO4
Prep Date:	08/10/2015	Expiration Date:	09/10/2015
Prep:	Into 100 mL volumetric add 10 mL CCV mixed IC0322 and 10 mL CCV NO2 IC0323 and dilute to 100 mL with Milli-Q water.		

Standard Log #:	IC0325	Standard:	IC Spike Mixed
Analyst:	JJF	Concentrations:	64 mg/L - Br, NO_3, PO_4 256 mg/L - Cl, SO_4
Prep Date:	08/10/2015	Expiration Date (1 Month):	09/10/2015
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Bromide IC0178, Nitrate W35940, and Phosphate IC0001 and 25.6 mL 1000 mg/L Chloride IC0287 and Sulfate IC0186 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0326	Standard:	IC Spike Nitrite & Fluorid
Analyst:	JJF	Concentrations:	32 mg/L - Fluoride 64 mg/L - Nitrite
Prep Date:	08/10/2015	Expiration Date (1 Month):	09/10/2015
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite W35415 and 3.2 mL 1000 mg/L Fluoride W35388 and brought to volume with Milli-Q DI H_20.		

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Author: jfaust on: 31.07.2015 09:36:40
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Standard Log #:	IC0313	Standard:	IC LL o-Phos Working Std.
Analyst:	JJF	Concentrations:	50mg/L Phosphate
Prep Date:	07/29/2015	Expiration Date (48 hours):	07/31/2015
Prep:	Into a 100 ml volumetric flask pipette 5ml Phosphate(1000mg/L) IC0001 and fill to volume with Milli Q H_2O.		

Standard Log #:	IC0314	Standard:	IC LL Phosphate Cal
Analyst:	JJF	Concentrations:	NA
Prep Date:	07/29/2015	Expiration Date (48 hours):	07/31/2015
Prep:	Into 8 separate 100 ml volumetric flasks pipette 0, 0.01, 0.02, 0.04, 0.06, 0.1, 0.2, and 0.4ml LL Ophos ICal Working (50mg/L) IC0313 and fill to volume with Milli-Q H_2O.		

Standard Log #:	IC0315	Standard:	IC LCSW/ICV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	07/29/2015	Expiration Date (1 Month):	08/29/2015
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) IC and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0316	Standard:	IC LCSW/ICV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L
Prep Date:	07/29/2015	Expiration Date (1 Month):	08/29/2015
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL 1000 mg/L Nitrite IC and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0317	Standard:	IC Low Level Spike
Analyst:	JJF	Concentrations:	30 mg/L
Prep Date:	07/29/2015	Expiration Date (1 Month):	08/29/2015
Prep:	Into a 100 ml volumetric flask pipette 3.0 ml of Phosphate (1000mg/L) IC0001 and fill to volume with Milli-Q H_2O.		

Standard Log #:	IC0318	Standard/Reagent:	Mid Level LCS
Analyst:	JJF	Final Concentration:	3 mg/L Cl and 5 mg/L SO4
Prep Date:	07/29/2015	Expiration Date:	08/29/2015
Prep:	Into a 100 mL volumetric pipet 10 mL LCS mixed IC0315 and 10 mL LCS NO2 IC0316 and dilute to 100 mL with Milli-Q water		

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Standard Log #:	IC0310	Standard:	IC LL o-Phos Working Std.
Analyst:	JJF	Concentrations:	50mg/L Phosphate
Prep Date:	07/24/2015	Expiration Date (48 hours):	07/26/2015
Prep:	Into a 100 ml volumetric flask pipette 5ml Phosphate(1000mg/L) IC0001 and fill to volume with Milli Q H_2O.		

Standard Log #:	IC0311	Standard:	IC LL Phosphate Cal
Analyst:	JJF	Concentrations:	NA
Prep Date:	07/24/2015	Expiration Date (48 hours):	07/26/2015
Prep:	Into 8 separate 100 ml volumetric flasks pipette 0, 0.01, 0.02, 0.04, 0.06, 0.1, 0.2, and 0.4ml LL Ophos ICal Working (50mg/L) IC0310 and fill to volume with Milli-Q H_2O.		

Standard Log #:	IC0312	Standard/Reagent:	IC Chlorate Standard
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	07/24/2015	Expiration Date:	07/24/2016
Prep:	Accu SPEC Chlorate Standard @ 990 or - 10 mg/L Lot # S141009020 Catalog # 250-220-355		

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Author: JFAUST on: 24.07.2015 08:08:57
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Standard Log #:	IC0304	Standard/Reagent:	LL OPhos Calibration
Analyst:	JJF	Final Concentration:	
Prep Date:	07/23/2015	Expiration Date:	07/25/2015
Prep:	Into 9 volumetric flasks add 0, 0.01, 0.02, 0.03, 0.04, 0.06, 0.10, 0.20, 0.40 working standard IC0297 and dilute to volume with Milli-Q water.		

Standard Log #:	IC0305	Standard/Reagent:	LL OPhos LOQ CHK
Analyst:	JJF	Final Concentration:	0.02 mg/L
Prep Date:	07/23/2015	Expiration Date:	07/25/2015
Prep:	Into a 50 mL volumetric add 10 mL IC0274 and dilute to 50 mL with Milli-Q water.		

Standard Log #:	IC0306	Standard/Reagent:	LL OPhos LOD CHK
Analyst:	JJF	Final Concentration:	0.01 mg/L
Prep Date:	07/23/2015	Expiration Date:	07/25/2015
Prep:	into A 50 mL volumetric add 25 mL IC0305 and dilute to 50 mL with Milli-Q water.		

Standard Log #:	IC0307	Standard:	IC Low Level o-Phos CC
Analyst:	JJF	Concentrations:	0.1mg/L Phosphate
Prep Date:	07/23/2015	Expiration Date (1 month):	08/23/2015
Prep:	Into a 200 ml volumetric flask pipette 0.02ml Phosphate(1000mg/L) IC0001 and fill to volume with Milli Q H_2O.		

Standard Log #:	IC0308	Standard:	IC LL o-Phos Working Std.
Analyst:	JJF	Concentrations:	50mg/L Phosphate
Prep Date:	07/23/2015	Expiration Date (48 hours):	07/25/2015
Prep:	Into a 100 ml volumetric flask pipette 5ml Phosphate(1000mg/L) IC0016 and fill to volume with Milli Q H_2O.		

Standard Log #:	IC0309	Standard/Reagent:	IC LL o-Phos LCS
Analyst:	JJF	Final Concentration:	0.10 mg/L
Prep Date:	07/23/2015	Expiration Date:	08/23/2015
Prep:	Into a 100 mL volumetric add 0.20 ml IC0308 LL working std and dilute to 100 mL with Milli-Q water.		

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Author: JFAUST on: 24.07.2015 08:08:44
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Standard Log #:	IC0302	Standard/Reagent:	LL OPHOS CALIBRATION
Analyst:	JJF	Final Concentration:	
Prep Date:	07/22/2015	Expiration Date:	07/24/2015
Prep:	Into 7 volumetric flasks pipet 0.02, 0.03, 0.04, 0.06, 0.10, 0.20 and 0.40 working standard IC0297 and dilute to volume with Milli-Q water.		

Standard Log #:	IC0303	Standard/Reagent:	Metrohm A Supp 5 Column
Analyst:	JJF	Final Concentration:	
Prep Date:	07/22/2015	Expiration Date:	
Prep:	Metrosep A Supp 5 150/4.0 150 mml x 4.0 mmID Catalog # 6.1006.520 column lot # 7408572		

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Author: JFAUST on: 24.07.2015 08:08:35
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Standard Log #:	IC0297	Standard:	IC LL o-Phos Working Std.
Analyst:	JJF	Concentrations:	50mg/L Phosphate
Prep Date:	07/21/2015	Expiration Date (48 hours):	07/23/2015
Prep:	Into a 100 ml volumetric flask pipette 5ml Phosphate(1000mg/L) IC0001 and fill to volume with Milli Q H_2O.		

Standard Log #:	IC0298	Standard:	IC LL Phosphate Cal
Analyst:	JJF	Concentrations:	NA
Prep Date:	07/21/2015	Expiration Date (48 hours):	07/23/2015
Prep:	Into 8 separate 100 ml volumetric flasks pipette 0, 0.01, 0.02, 0.04, 0.06, 0.1, 0.2, and 0.4ml LL Ophos ICal Working (50mg/L) IC0297 and fill to volume with Milli-Q H_2O.		

Standard Log #:	IC0299	Standard:	IC Eluent Dionex
Analyst:	JJF	Concentrations:	3.5 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	07/21/2015	Expiration Date (1 Year):	07/21/2016
Prep:	Into a 10L carboy, pipetted 20mL of Dionex eluent concentrate W35344 and brought to volume with Milli-Q DI H_20.		

Standard ID#:	IC0300	Vendor:	SPEX CertiPrep
Analyst:	JJF	Chemical:	Chlorite Anion Standard 1000 ug/mL
Date Received:	07/21/2015	Lot #:	3-114CLO2-2Y
Expiration Date (if any):	1/30/2016	Catalog #:	AS-CLO29-2Y

Standard Log #:	IC0301	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	07/21/2015	Expiration Date (1 Year):	07/21/2016
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0141 and brought to volume with Milli-Q Di water.		

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Author: JFAUST on: 17.07.2015 10:09:38
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Project: Unassigned
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Standard Log #:	IC0291	Standard/Reagent:	LL O PHOS LOD CHECK S
Analyst:	JJF	Final Concentration:	0.02 mg/L
Prep Date:	07/15/2015	Expiration Date:	07/17/2015
Prep:	Into a 50 ml volumetric add 10 mL of ICV/LCS standard IC0274 and dilute to 50 mL with Milli-Q water.		

Standard Log #:	IC0292	Standard/Reagent:	MID LEVEL CCV
Analyst:	JJF	Final Concentration:	3 mg/L Cl & 5 mg/L SO4
Prep Date:	07/15/2015	Expiration Date:	08/15/2015
Prep:	Into a 100 mL volumetric add 10 mL CCV IC0285 and 10 mL CCV IC0286 and bring to volume with Milli-Q water.		

Standard Log #:	IC0293	Standard/Reagent:	MID LEVEL LCS
Analyst:	JJF	Final Concentration:	3 mg/L Cl & 5 mg/L SO4
Prep Date:	07/15/2015	Expiration Date:	08/15/2015
Prep:	Into a 100 mL volumetric add 10 mL LCS IC0276 & 10 mL LCS IC0277 and dilute to 100 mL with Milli-Q water.		

Standard Log #:	IC0294	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	07/15/2015	Expiration Date (1 Year):	07/15/2016

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Author: jfaust on: 15.07.2015 11:16:31
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Project: Unassigned
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Standard Log #:	IC0290	Standard:	IC LOD-LOQ2
Analyst:	JJF	Concentrations:	
Prep Date:	07-14-2015	Expiration Date (48 hours):	07-16-2015

Prep:

LOD Check:
Into a 100mL Volumetric flask pipetted the following, then brought to volume with Milli-Q DI water.

Fluoride	0.010	mL	W35388	Nitrate	0.015	mL	W35940
Chloride	0.200	mL	IC0287	Phosphate	0.025	mL	IC0001
Nitrite	0.020	mL	W35415	Sulfate	0.250	mL	IC0186
Bromide	0.020	mL	IC0178				

LOQ Check:
Into a 100mL Volumetric flask pipetted the following, then brought to volume with Milli-Q DI water.

Fluoride	0.030	mL	W35388	Nitrate	0.040	mL	W35940
Chloride	0.400	mL	IC0287	Phosphate	0.050	mL	IC0001
Nitrite	0.040	mL	W35415	Sulfate	0.500	mL	IC0186
Bromide	0.050	mL	IC0178				

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Author: JFAUST on: 10.07.2015 14:23:36
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Project: Unassigned
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Standard Log #:	IC0283	Standard:	IC Spike Mixed
Analyst:	JJF	Concentrations:	64 mg/L - Br, NO_3, PO_4 256 mg/L - Cl, SO_4
Prep Date:	07/09/2015	Expiration Date (1 Month):	08/09/2015
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Bromide IC0178, Nitrate W35940, and Phosphate IC0001 and 25.6 mL 1000 mg/L Chloride IC0287 and Sulfate IC0186 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0284	Standard:	IC Spike Nitrite & Fluorid
Analyst:	JJF	Concentrations:	32 mg/L - Fluoride 64 mg/L - Nitrite
Prep Date:	07/09/2015	Expiration Date (1 Month):	08/09/2015
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite W35415 and 3.2 mL 1000 mg/L Fluoride W35388 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0285	Standard:	IC CCV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	07/09/2015	Expiration Date (1 Month):	08/09/2015
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride W35388, Phosphate IC0001, Bromide IC0178, and Nitrate W35940, 15 ml 1000 mg/L Chloride IC0287, and 25 ml 1000 mg/L Sulfate IC0186 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0286	Standard:	IC CCV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - NO_2
Prep Date:	07/09/2015	Expiration Date (1 Month):	08/09/2015
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. W35415 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0287	Standard/Reagent:	ANIONS CHLORIDE STD
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	07/09/2015	Expiration Date:	07/09/2016
Prep:	ACCU SPEC Chloride Standard Lot #S141030011 Catalog # 250-220-371		

Standard Log #:	IC0288	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	07/09/2015	Expiration Date (1 Year):	07/09/2016
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0141 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0289	Standard:	IC Eluent Dionex
Analyst:	JJF	Concentrations:	3.5 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	07/09/2015	Expiration Date (1 Year):	07/09/2016
Prep:	Into a 10L carboy, pipetted 20mL of Dionex eluent concentrate W35344 and brought to volume with Milli-Q DI H_20.		

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Author: JFAUST on: 09.07.2015 09:32:55
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Standard Log #:	IC0282	Standard:	IC_Calibration_Dionex_D
Analyst:	JJF	Concentrations:	N/A
Prep Date:	07/07/2015	Expiration Date (48 hours):	07/09/2015

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Mixed Std (50mg/L) IC0280	0	0.2	1.0	2.0	4.0	10.0	14.0	20.0	
Chloride (1000mg/L) IC0057	0	0.05	0.1	0.5	1.0	2.0	3.0	3.5	4.0
Sulfate (1000mg/L) IC0186	0	0.05	0.1	0.5	1.0	3.0	5.0	6.0	7.0

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Author: JFAUST on: 09.07.2015 09:24:16
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Standard Log #:	IC0280	Standard:	IC ICAL Mixed Std. Dionex
Analyst:	JJF	Concentrations:	50mg/L - NO_2, NO_3, PO_4, Br, F
Prep Date:	07/06/2015	Expiration Date (48 Hours):	07/08/3015
Prep:	Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite W35415, Fluoride W35388, Bromide IC0178, Nitrate W35940, and Phosphate IC0001 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0281	Standard:	IC_Calibration_Dionex_B
Analyst:	JJF	Concentrations:	N/A
Prep Date:	07/06/2015	Expiration Date (48 hours):	07/08/2015

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Mixed Std (50mg/L) IC0280	0	0.2	0.6	1.0	2.0	4.0	10.0	14.0	28.0 20
Chloride (1000mg/L) IC0057	0	0.05	0.075	0.1	0.5	1.0	2.0	3.0	4.0
Sulfate (1000mg/L) IC0186	0	0.05	0.075	0.1	0.5	1.0	3.0	5.0	7.0

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Author: JFAUST on: 01.07.2015 08:58:18
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Standard Log #:	IC0276	Standard:	IC LCSW/ICV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	06/29/2015	Expiration Date (1 Month):	07/29/2015
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) W35338 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0277	Standard:	IC LCSW/ICV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L
Prep Date:	06/29/2015	Expiration Date (1 Month):	07/29/2015
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL 1000 mg/L Nitrite W37105 and brought to volume with Milli-Q DI H_20.		

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Author: jfaust on: 23.06.2015 14:12:42
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Project: Unassigned
Page Title: 061915

Standard Log #:	IC0269	Standard:	IC CCV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	06/19/2015	Expiration Date (1 Month):	07/19/2015
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride W35388, Phosphate IC0001, Bromide IC0178, and Nitrate W35940, 15 ml 1000 mg/L Chloride IC0057, and 25 ml 1000 mg/L Sulfate IC0186 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0270	Standard:	IC CCV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - NO_2
Prep Date:	06/19/2015	Expiration Date (1 Month):	07/19/2015
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. W35415 and brought to volume with Milli-Q DI H_20.		

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Project: Unassigned
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Standard Log #:	IC0259	Standard/Reagent:	MID LEVEL CCV
Analyst:	JJF	Final Concentration:	3 mg/L Cl and 5 mg/L SO4
Prep Date:	06/08/2015	Expiration Date:	07/08/2015
Prep:	Into a 100 mL volumetric add 10 mL CCV IC0257 and dilute to volume with Milli-Q water.		

Standard Log #:	IC0260	Standard:	IC Mid Level LCS
Analyst:	JJF	Concentrations:	0.70 mg/L F, NO_2, Br, NO_3, $P0_4$, 3.0 mg/L Cl, 5.0 mg/L SO_4
Prep Date:	06/08/2015	Expiration Date (48 hours):	07/08/2015
Prep:	Into a 100 ml volumetric flask pipette 10ml Mixed LCS (7mg/L F, NO_3, PO_4, Br & 50 mg/L SO_4 & 30 mg/L Cl) IC0247 and 10 mL Nitrite LCS (7 mg/L NO_2) IC0248 and dilute to		

Standard Log #:	IC0261	Standard/Reagent:	IC Mid Level Working Std.
Analyst:	JJF	Final Concentration:	
Prep Date:	06/08/2015	Expiration Date:	06/10/2015
Prep:	Into a 100 mL volumetric flask add 1 mL of Bromide (IC0178), Phosphate(IC0001), Fluoride (W35388), Nitrate (W35940), Nitrite (W35415) and 10 mL Chloride (IC0057) and Sulfate (IC0186) and dilute to volume with Milli-Q water.		

Standard Log #:	IC0262	Standard:IC_CAL_ML_Met_B
Analyst:	JJF	Concentrations: n/a
Prep Date:	06/08/2015	Expiration Date (48 hours): 06/10/2015

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Working Std 10mg/L (F, NO2, Br, NO3, & o-P) 100mg/L (Cl & SO4) IC0261	0	0.1	0.25	0.50	1.0	2.0	5.0	7.5	10.0

Standard Log #:	IC0263	Standard:	IC Spike Mixed
Analyst:	JJF	Concentrations:	64 mg/L - Br, NO_3, PO_4 256 mg/L - Cl, SO_4
Prep Date:	06/08/2015	Expiration Date (1 Month):	07/08/2015
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Bromide IC0178, Nitrate W35940, and Phosphate IC0001 and 25.6 mL 1000 mg/L Chloride IC0057 and Sulfate IC0186 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0264	Standard:	IC Spike Nitrite & Fluoride
Analyst:	JJF	Concentrations:	32 mg/L - Fluoride 64 mg/L - Nitrite
Prep Date:	06/08/2015	Expiration Date (1 Month):	07/08/2015
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite W35415 and 3.2 mL 1000 mg/L Fluoride W35388 and brought to volume with Milli-Q DI H_20.		

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Author: jfaust on: 05.06.2015 14:54:11
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Project: Unassigned
Page Title: 060415

Standard Log #:	IC0258	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	06/04/2015	Expiration Date (1 Year):	06/04/2016
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0141 and brought to volume with Milli-Q Di water.		

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Author: JFAUST on: 04.06.2015 10:05:53
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Page Title: N/A

Standard Log #:	IC0257	Standard:	IC CCV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	06/01/2015	Expiration Date (1 Month):	07/01/2015
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride W35388, Phosphate IC0001, Bromide IC0178, and Nitrate W35940, 15 ml 1000 mg/L Chloride IC0057, and 25 ml 1000 mg/L Sulfate IC0186 and brought to volume with Milli-Q DI H_20.		

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Author: JFAUST on: 04.06.2015 10:05:45
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Standard Log #:	IC0256	Standard:	IC_Calibration_Dionex_D
Analyst:	JJF	Concentrations:	N/A
Prep Date:	05/29/2015	Expiration Date (48 hours):	05/31/2015

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Mixed Std (50mg/L) IC0252	0	0.2	1.0	2.0	4.0	10.0	14.0	20.0	
Chloride (1000mg/L) IC0057	0	0.05	0.1	0.5	1.0	2.0	3.0	3.5	4.0
Sulfate (1000mg/L) IC0186	0	0.05	0.1	0.5	1.0	3.0	5.0	6.0	7.0

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Author: jfaust on: 01.06.2015 13:58:20
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Standard Log #:	IC0252	Standard:	IC ICAL Mixed Std. Dionex
Analyst:	JJF	Concentrations:	50mg/L - NO_2, NO_3, PO_4, Br, F
Prep Date:	05/28/2015	Expiration Date (48 Hours):	05/30/2015
Prep:	Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite W35415, Fluoride W35388, Bromide IC0178, Nitrate W35940, and Phosphate IC0001 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0254	Standard:	IC CCV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	05/28/2015	Expiration Date (1 Month):	06/28/2015
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride W35388, Phosphate IC0001, Bromide IC0178, and Nitrate W35940, 15 ml 1000 mg/L Chloride IC0057, and 25 ml 1000 mg/L Sulfate IC0186 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0255	Standard:	IC CCV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - NO_2
Prep Date:	05/28/2015	Expiration Date (1 Month):	06/28/2015
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. W35415 and brought to volume with Milli-Q DI H_20.		

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Author: jfaust on: 01.06.2015 11:02:51
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Standard Log #:	IC0250	Standard/Reagent:	Dionex Ion Pac Guard
Analyst:	JJF	Final Concentration:	N/A
Prep Date:	05/27/2015	Expiration Date:	
Prep:	AG14 Guard 4 x 50 mm Lot # 014-11-086 Serial #039909 Product # 046134		

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Standard Log #:	IC0247	Standard:	IC LCSW/ICV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	05/26/2015	Expiration Date (1 Month):	06/26/2015
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) W35338 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0248	Standard:	IC LCSW/ICV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L
Prep Date:	05/26/2015	Expiration Date (1 Month):	06/26/2015
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL 1000 mg/L Nitrite W34871 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0249	Standard:	IC Eluent Dionex
Analyst:	JJF	Concentrations:	3.5 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	05/26/2015	Expiration Date (1 Year):	05/26/2016
Prep:	Into a 10L carboy, pipetted 20mL of Dionex eluent concentrate W35344 and brought to volume with Milli-Q DI H_20.		

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Standard Log #:	IC0244	Standard/Reagent:	LOD CHK QSM 5.0
Analyst:	JJF	Final Concentration:	
Prep Date:	05/22/2015	Expiration Date:	05/24/2015
Prep:	Into a 100 mL volumetric add 0.10 mL Bromide (IC0241) and Nitrite (IC0239), 0.08 mL Nitrate (IC0238), 0.05 mL Fluoride (IC0243), 1.1 mL Chloride (IC0240) and 1.3 mL Sulfate (IC0242) and dilute to 100 mL with Milli-Q water.		

Standard Log #:	IC0245	Standard/Reagent:	LOQ CHK QSM 5.0
Analyst:	JJF	Final Concentration:	
Prep Date:	05/22/2015	Expiration Date:	05/24/2015
Prep:	Into a 100 mL volumetric add 0.34 mL Bromide (IC0241) and Nitrite (IC0239), 0.26 mL Nitrate (IC0238), 0.15 mL Fluoride (IC0243), 3.7 mL Chloride (IC0240) and 4.3 mL Sulfate (IC0242) and dilute to 100 mL with Milli-Q water.		

Standard Log #:	IC0246	Standard:	IC LOD-LOQ2
Analyst:	JJF	Concentrations:	
Prep Date:	05/22/2015	Expiration Date (48 hours):	05/24/2015

Prep:

LOD Check:
Into a 100mL Volumetric flask pipetted the following, then brought to volume with Milli-Q DI water.

Fluoride	0.010	mL	W35388	Nitrate	0.015	mL	W35940
Chloride	0.200	mL	IC0078	Phosphate	0.025	mL	N/A
Nitrite	0.020	mL	W35415	Sulfate	0.250	mL	IC0186
Bromide	0.020	mL	IC0178				

LOQ Check:
Into a 100mL Volumetric flask pipetted the following, then brought to volume with Milli-Q DI water.

Fluoride	0.030	mL	W35388	Nitrate	0.040	mL	W35940
Chloride	0.400	mL	IC0078	Phosphate	0.050	mL	N/A
Nitrite	0.040	mL	W35415	Sulfate	0.500	mL	IC0186
Bromide	0.050	mL	IC0178				

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Standard Log #:	IC0231	Standard:	IC Cal Nitrite Metrohm
Analyst:	JJF	Concentrations:	10.0mg/L Nitrite
Prep Date:	05/14/2015	Expiration Date (48 Hours):	05/16/2015
Prep:	Into a 100 mL volumetric flask pipetted 1.0 mL of Nitrite (1000 mg/L) W35415 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0232	Standard:IC_Nitrite_Cal_Metrohm_B
Analyst:	JJF	Concentrations: n/a
Prep Date:	05/14/2015	Expiration Date (48 hours): 05/16/2015

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8
Working Std 10mg/L NO2 IC0231	0	1.00	2.50	5.00	10.0	20.0	50.0	100

Standard Log #:	IC0233	Standard:	IC CCV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	05/14/2015	Expiration Date (1 Month):	06/14/2015
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride W35388, Phosphate IC0001, Bromide IC0178, and Nitrate W35940, 15 ml 1000 mg/L Chloride IC0057, and 25 ml 1000 mg/L Sulfate IC0186 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0234	Standard:	IC CCV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - NO_2
Prep Date:	05/14/2015	Expiration Date (1 Month):	06/14/2015
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. W35415 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0225	Standard:	IC Spike Mixed
Analyst:	JJF	Concentrations:	64 mg/L - Br, NO_3, PO_4 256 mg/L - Cl, SO_4
Prep Date:	05-05-2015	Expiration Date (1 Month):	06-05-2015
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Bromide IC0178, Nitrate W35940, and Phosphate IC0001 and 25.6 mL 1000 mg/L Chloride IC0057 and Sulfate IC0186 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0226	Standard:	IC Spike Nitrite & Fluoride
Analyst:	JJF	Concentrations:	32 mg/L - Fluoride 64 mg/L - Nitrite
Prep Date:	05-05-2015	Expiration Date (1 Month):	06-05-2015
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite W35415 and 3.2 mL 1000 mg/L Fluoride W35388 and brought to volume with Milli-Q DI H_20.		

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Author: jfaust on: 05.05.2015 10:22:39
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Project: Unassigned
Page Title: N/A

Standard Log #:	IC0219	Standard:	IC LCSW/ICV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	04/29/2015	Expiration Date (1 Month):	05/29/2015
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) W35388 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0220	Standard:	IC Eluent Dionex
Analyst:	JJF	Concentrations:	3.5 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	04/29/2015	Expiration Date (1 Year):	04/29/2016
Prep:	Into a 10L carboy, pipetted 20mL of Dionex eluent concentrate W35344 and brought to volume with Milli-Q DI H_20.		

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Standard Log #:	IC0218	Standard:	IC Calibration - Methrohm - C
Analyst:	JJF	Concentrations:	N/A
Prep Date:	04/27/2015	Expiration Date (48 hours):	04/29/2015

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8
Working Std 20mg/L (F, NO_2, Br, NO_3, & o-P) 200mg/L (Cl & SO_4) IC0217	0	0.50	1.25	2.50	5.0	10.0	25.0	50.0

Standard Log #:	IC0217	Standard:	IC Calibration Metrohm B
Analyst:	JJF	Concentrations:	20mg/L - NO_2, NO_3, PO_4, Br, F 200mg/L - SO_4, Cl
Prep Date:	04/27/2015	Expiration Date (48 hours):	04/29/2015

Prep:

Into a 100 mL volumetric flask, pipetted 2.0 mL each of Fluoride (1000mg/L) W35388, Nitrite (1000mg/L) W35415, Bromide (1000mg/L) IC0178, Nitrate (1000mg/L) W35940, Phosphate (1000mg/L) IC0001, and 20 mL each of Sulfate (1000mg/L) IC0186, and Chloride (1000mg/L) IC0057.

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Author: jfaust on: 27.04.2015 14:52:07
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Project: Unassigned
Page Title: 042415

Standard Log #:	IC0210	Standard:	IC LCSW/ICV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	04/24/2015	Expiration Date (1 Month):	05/24/2015
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) W35388 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0211	Standard:	IC LCSW/ICV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L
Prep Date:	04/24/2015	Expiration Date (1 Month):	05/24/2015
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL 1000 mg/L Nitrite W34699 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0214	Standard/Reagent:	Metrsep A Supp 10- Column
Analyst:	JJF	Final Concentration:	
Prep Date:	04/24/2015	Expiration Date:	
Prep:	Metrohm Metrosep A Supp 10 -250/ 2.0 Column Catalog # 6.1020.230 Column S/N: 0016.3025		

Standard Log #:	IC0215	Standard/Reagent:	Metrosep A Guard Column
Analyst:	JJF	Final Concentration:	
Prep Date:	04/24/2015	Expiration Date:	
Prep:	Metrohm Metrosep A sup 10 Guard column 6.1020.600		

Standard Log #:	IC0186	Standard/Reagent:	Sulfate IC Standard
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	04/08/2015	Expiration Date:	04/08/2016
Prep:	AccuSPEC IC Standard 1000 mg/L Lot # S150115013 Catalog # 250-220-70x		

Standard Log #:	IC0181	Standard:	IC LL o-Phos Working Std.
Analyst:	JJF	Concentrations:	50mg/L Phosphate
Prep Date:	04/06/2015	Expiration Date (48 hours):	04/08/2015
Prep:	Into a 100 ml volumetric flask pipette 5ml Phosphate(1000mg/L) IC0001 and fill to volume with Milli Q H_2O.		

Standard Log #:	IC0182	Standard:	IC LL Phosphate Cal
Analyst:	JJF	Concentrations:	NA
Prep Date:	04/06/2015	Expiration Date (48 hours):	04/08/2015
Prep:	Into 8 separate 100 ml volumetric flasks pipette 0, 0.01, 0.02, 0.04, 0.06, 0.1, 0.2, and 0.4ml LL Ophos ICal Working (50mg/L) IC0181 and fill to volume with Milli-Q H_2O.		

Standard Log #:	IC0178	Standard/Reagent:	Bromide IC Standard
Analyst:	JJF	Final Concentration:	1000mg/L
Prep Date:	04/06/2015	Expiration Date:	4/06/2016
Prep:	AccuSPEC IC Standard Lot #S141117006 Catalog # 250-220-235		

Standard Log #:	IC0172	Standard:	IC Low Level LCS-ICV
Analyst:	JJF	Concentrations:	0.1mg/L Phosphate
Prep Date:	04/03/2015	Expiration Date (1 Month):	05/03/2015
Prep:	Into a 100 ml volumetric flask pipette 0.01 ml of Phosphate (1000mg/L) IC0016 and fill to volume with Milli-Q H_2O.		

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Author: jfaust on: 17.03.2015 15:23:44
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Project: Unassigned
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Standard Log #:	IC0152	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	03/10/2015	Expiration Date (1 Year):	03/10/2016
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate W35069 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0153	Standard:	IC Cal Nitrite WS Dionex
Analyst:	JJF	Concentrations:	50mg/L Nitrite
Prep Date:	03/10/2015	Expiration Date (48 Hours):	03/12/2015
Prep:	Into a 100 mL volumetric flasks pipetted 5.0 mL of Nitrite (1000 mg/L) W35415 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0154	Standard:	IC Cal Nitrite Dionex
Analyst:	JJF	Concentrations:	N/A
Prep Date:	03/10/2015	Expiration Date (48 Hours):	03/12/2015
Prep:	Into 6 separate 100 mL volumetric flasks pipetted 0, 0.2, 1.0, 2.0, 4.0, 10.0 mL of Nitrite working standard (50 mg/L) IC0153 and brought to volume with Milli-Q DI H_20.		

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Standard Log #:	IC0141	Standard:	IC Eluent Conc. Metrohm
Analyst:	JJF	Concentrations:	0.64M Sodium Carbonate 0.20M Sodium Bicarbonate
Prep Date:	03/03/2015	Expiration Date (1 Year):	03/03/2016
Prep:	Into a 1L volumetric flask, dissolved 67.8g of Sodium Carbonate W35065 and 16.8g of Sodium Bicarbonate W25134 and brought to volume with Milli-Q DI water. (200x concentrate)		

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Author: jfaust on: 02.03.2015 08:19:04
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Project: Unassigned
Page Title: 022715

Standard Log #:	IC0133	Standard/Reagent:	IC ML CCV
Analyst:	JJF	Final Concentration:	0.70 mg/L F,Br,NO2,NO3, o
Prep Date:	02/27/2015	Expiration Date:	03/27/2015
Prep:	Into a 100 mL volumetric add 10 ml mixed CCV (IC0095) and 10 mL NO2 CCV (IC0096) and dilute to 100 mL with Milli-Q water.		

Standard Log #:	IC0134	Standard/Reagent:	IC ML LCS
Analyst:	JJF	Final Concentration:	0.70 mg/L F, Br, NO2, NO3,
Prep Date:	02/27/2015	Expiration Date:	03/27/2015
Prep:	Into a 100 mL volumetric add 10 mL mixed LCS (IC0109) and 10 mL NO2 LCS (IC0110) and dilute to 100 mL with Milli-Q water		

Standard Log #:	IC0135	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	02/27/2015	Expiration Date (1 Year):	02/27/2016
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate W35069 and brought to volume with Milli-Q Di water.		

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Author: jfaust on: 02.03.2015 08:15:38
Witness: akurth on: 10.03.2015 10:28:01
Project: Unassigned
Page Title: 022515

Standard Log #:	IC0123	Standard/Reagent:	ML WORKING STD
Analyst:	JJF	Final Concentration:	10 mg/L F,Br, NO2, NO3, o-
Prep Date:	02/25/2015	Expiration Date:	02/27/2015
Prep:	Into a 100 mL volumetric add 1 ml each of 1000 mg/L standard Fluoride (W35388) Nitrite (W35415), Nitrate (W35940), Bromide (W34057) and Phosphate (IC0001) and 10ml each of 1000mg/L Chloride (IC0057) and Sulfate (W35941).		

Standard Log #:	IC0124	Standard:IC_CAL_ML_Met_B
Analyst:	JJF	Concentrations: n/a
Prep Date:	02/25/2015	Expiration Date (48 hours):

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Working Std 10mg/L (F, NO2, Br, NO3, & o-P) 100mg/L (Cl & SO4) IC0123	0	0.1	0.25	0.50	1.0	2.0	5.0	7.5	10.0

Standard Log #:	IC0110	Standard:	IC LCSW/ICV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L
Prep Date:	02/23/2015	Expiration Date (1 Month):	03/23/2015
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL 1000 mg/L Nitrite W34699 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0077	Standard:	IC LL o-Phos Working Std.
Analyst:	JJF	Concentrations:	50mg/L Phosphate
Prep Date:	02/09/2015	Expiration Date (48 hours):	02/11/2015
Prep:	Into a 100 ml volumetric flask pipette 5ml Phosphate(1000mg/L) IC0001 and fill to volume with Milli Q H_2O.		

Standard Log #:	IC0078	Standard:	IC LL Phosphate Cal
Analyst:	JJF	Concentrations:	NA
Prep Date:	02/09/2015	Expiration Date (48 hours):	02/11/2015
Prep:	Into 8 separate 100 ml volumetric flasks pipette 0, 0.01, 0.02, 0.04, 0.06, 0.1, 0.2, and 0.4ml LL Ophos ICal Working (50mg/L) IC0077 and fill to volume with Milli-Q H_2O.		

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CT Laboratories, LLC

Standard Log #:	IC0057	Standard/Reagent:	Chloride
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	01/30/2015	Expiration Date:	1/30/2016
Prep:	AccuSPEC Ion Chromatography Chloride Standard Cat #250-220-371 Lot #S141030011		

AccuSPEC Ion Chromatography Chloride Standard Cat #250-220-371 Lot #S141030011

Standard Log #:	IC0016	Standard/Reagent:	Phosphate Standard IC
Analyst:	JJF	Final Concentration:	1000 ug/mL
Prep Date:	01/12/2015	Expiration Date:	12/30/2015
Prep:	Lot # 3-105PO4P-2X SPEX CertiPrep Cat # AS-PO4P9-2X		

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Author: JFAUST on: 09.03.2015 15:20:41
Witness: akurth on: 10.03.2015 10:05:01
Project: Unassigned
Page Title: 122214

Standard ID#:	IC0001	Vendor:	AccuSPEC
Analyst:	JJF	Chemical:	IC Phosphate Stock Std - 1000 ug/mL
Date Received:	12/22/2014	Lot #:	S140411008
Expiration Date (if any):	12/22/2015	Catalog #:	250-220-61x

W35940 12-1-14 JJF — Accu Spec Nitrite kit | M. Hydro | 9923-11491-00 | 250-022-531 | Lot # S1401210215 | Exp 10/31/15

W35941 12-2-14 JJF — Accu Spec 504 Standard @ 1000 ± 10 ppm Stnd Cat # 250-026-701 | Lot # S1410/15607 | Exp 12-2-2015

W35942 12-2-14 JJF

IC CCV Mixed Standard (7 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 50 mg/L Sulfate, and 30 mg/L Chloride) *Diluted 1:1 daily with IC CCV Nitrite Standard to equal a value of 3.5 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 25 mg/L Sulfate, and 15 mg/L Chloride

Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride W 35288, Phosphate W 34449, Bromide W 34057, and Nitrate W 35940, 15 ml 1000 mg/L Chloride W 35237, and 25 ml 1000 mg/L Sulfate W 35238 and brought to volume with Milli-Q DI H_2O. EXP (1 Month): 1-2-2015

W35943 12-2-14 JJF

IC CCV Nitrite Standard (7 mg/L) *Diluted 1:1 daily with IC CCV Mixed Standard to equal a value of 3.5 mg/L Nitrite

Into a 500 mL volumetric flask piepetted 3.5 mL 1000 mg/L Nitrite W 35415 and brought to volume with Milli-Q DI H_2O. EXP (1 month): 12-2-2015

W35944 12-2-14 JJF

IC Nitrite and Fluoride Spike Standard (64 mg/L Nitrite and 32 mg/L Fluoride)

Into a 100 mL volumetric flask pipetted 6.4 mL 1000 mg/L Nitrite W 35415 and 3.2 mL 1000 mg/L Fluoride W 35388 and brought to volume with Milli-Q DI H_2O. EXP (1 Month): 1-2-2015

W35945 12-2-14 JJF

IC Mixed Spike Standard (64 mg/L Bromide, Nitrate, and Phosphate, 256 mg/L Chloride and Sulfate)

Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Bromide W 34057, Nitrate W 35940, and Phosphate W 34449 and 25.6 mL 1000 mg/L Chloride W 35237 and Sulfate W 35941 and brought to volume with Milli-Q DI H_2O. EXP (1 Month): 1-2-15

Standard Log #:	W35946	Reagent:	SULFIDE LCS
Analyst:	LJS	Concentration:	5 mg/L
Prep Date:	12/2/14	Expiration Date (1Day):	12/3/14
Prep:	Into a 200 mL volumetric flask pipette 1.0 mL sulfide stock (1000 mg/L) W35776 and fill to volume with DI H_2O.		

Read and Understood By:

12/6/14 — Signed — Date — Signed — Date

W35469 IC Control Sand - Silica Sand rinsed w milliQ DI H2O
RD 9/29/14 + Dried in an oven overnight @ 175°C. Exp. 9/29/15

W35470
9-30-14
JJF

IC LCS/ICV Nitrite Standard (7 mg/L) *Diluted 1:1 daily with IC LCS/ICV Mixed Standard to equal a value of 3.5 mg/L Nitrite

Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite W 34699 and brought to volume with Milli-Q DI H_2O. EXP (1 month): 10-30-14

Read and Understood By

Signed Date Signed Date

35F Nitrate Nitrite Acc Spec 996 +/- 10 g/mL Anion IC Standard
W35418 Lot # 5140965007 Exp 9-22-15
9-22-14

IC CCV Nitrite Standard (7 mg/L) *Diluted 1:1 daily with IC CCV Mixed Standard to equal a value of 3.5 mg/L Nitrite

W 35416 JDF 9-22-14

Into a 500 mL volumetric flask piepetted 3.5 mL 1000 mg/L Nitrite W 35415 and brought to volume with Milli-Q DI H_2O. EXP (1 month): 10-22-14

IC ICAL (Metrohm):

W 35417 JDF 9-22-14

Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (W 35398), Nitrite (W 35415), Bromide (W 34057), Nitrate (W 33325), Phosphate (W 34449), and 10 mL each of Sulfate (W 35238), and Chloride (W 35237).
Expires (48 hours): 9-24-14

IC Eluent

W 35418 JDF 9-22-14

35344 JDF 9-22-14

Into a large carboy, pipetted 20mL eluent concentrate W 35344 and filled to a final volume of 10L with Milli Q DI H_2O.
Exp:_____

9/27/14 DS

Signed Date Signed Date

W35397 Cr⁶ Calibration
AHL 9-16-14 Into a 100 mL volumetric pipetted 0.500 mL of W35379 and BTW w/ Milli-Q H_2O Exp 9/30/14

W35388 JJF 9-16-14 Fluoride IC Standard Accu SPEC @ 1003 ± 10 ug/mL
lot # S140409030 Exp 9-16-15

W35389 JJF 9-16-14

IC CCV Mixed Standard (7 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 50 mg/L Sulfate, and 30 mg/L Chloride) *Diluted 1:1 daily with IC CCV Nitrite Standard to equal a value of 3.5 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 25 mg/L Sulfate, and 15 mg/L Chloride
Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride W 35388, Phosphate W 34449, Bromide W 34057, and Nitrate W 33225, 15 ml 1000 mg/L Chloride W 35237, and 25 ml 1000 mg/L Sulfate W 35238 and brought to volume with Milli-Q DI H_2O. EXP (1 Month): 10-16-14

W35390 JJF 9-16-14

IC Nitrite and Fluoride Spike Standard (64 mg/L Nitrite and 32 mg/L Fluoride)
Into a 100 mL volumetric flask pipetted 6.4 mL 1000 mg/L Nitrite W 32990 and 3.2 mL 1000 mg/L Fluoride W 35388 and brought to volume with Milli-Q DI H_2O. EXP (1 Month): 10-16-14

W35391 9-16-14 JJF IC ICAL Nitrite Standard (50mg/L)
Into a 100mL volumetric flask pipet 5mL of 1000mg/L Nitrite W32990 + dilute to volume with milli Q DI H_2O
Exp 48 hours 9-18-14

W35393 9-16-14 JJF IC ICAL
Prepared in 100mL volumetric flasks + brought to volume with milli Q DI H_2O

	1	2	3	4	5	6
mls Nitrite Std 50mg/L (W35391)	0	0.2	1.0	2.0	4.0	10.0

exp 48 hrs 9-18-14

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Read and Understood By

Signed 9/20/14 Date Signed Date

W 35368
9-15-14
DOE

IC Mixed Spike Standard (64 mg/L Bromide, Nitrate, and Phosphate, 256 mg/L Chloride and Sulfate)

Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Bromide W 34057, Nitrate W 33225, and Phosphate W 34449 and 25.6 mL 1000 mg/L Chloride W 35237 and Sulfate W 35238 and brought to volume with Milli-Q DI H_2O. EXP (1 Month): 10-15-14

W 35368 Fisher Ammonium Sulfate (A702-500)
AGC CAS 7783-20-2 LOT# 135994A
9/15/14 Opened 09/15/14

W35342
9-8-14
JJF

LL Ophos CCV (0.1 mg/L)
Into a 200 ml volumetric flask pipette 0.02ml Tphos CCV stock standard (1000mg/L) W 34449 and fill to volume with Milli Q H_2O.
Exp (One month): 10-8-14

W35343
9-8-14
JJF

LL Ophos ICV/LCS (0.1 mg/L)
Into a 100 ml volumetric flask pipette 0.01ml Tphos ICV/LCS stock standard (1000mg/L) W 33243 and fill to volume with Milli Q H_2O.
Exp (One month): 10-8-14

W35344
9-9-14
DSF

IC Eluent Concentrate) Into a 1L volumetric flask slowly add 1.855g Sodium carbonate (W ~~28230~~ 35065) and 4.2g Sodium Bicarbonate (W 25134) + bring to volume w/ DI H_2O. exp 9-9-15

Read and Understood By

IC CCV Mixed Standard (7 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 50 mg/L Sulfate, and 30 mg/L Chloride) *Diluted 1:1 daily with IC CCV Nitrite Standard to equal a value of 3.5 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 25 mg/L Sulfate, and 15 mg/L Chloride

Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride W 32406, Phosphate W 34449, Bromide W 34057, and Nitrate W 33925, 15 ml 1000 mg/L Chloride W 35237, and 25 ml 1000 mg/L Sulfate W 35238 and brought to volume with Milli-Q DI H_2O. EXP (1 Month): 10-8-14

JJF W35338 9-8-14 Custom Ion Standard Lot # 5-90 JKS Vol 500ml Exp 8-30-2015
Spex-Certiprep, Cat# VCTAS-8-500 (50+250 mg/L, Cl⁻ 750 mg/L, Br, F, NO_2-N, PO_4-P = 175 mg/L).

JJF W35339 9.8-14

IC LCS/ICV Mixed Standard (7 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 50 mg/L Sulfate, and 30 mg/L Chloride) *Diluted 1:1 daily with IC LCS/ICV Nitrite Standard to equal a value of 3.5 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 25 mg/L Sulfate, and 15 mg/L Chloride

Into a 500 mL volumetric flask pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) W 35338 and brought to volume with Milli-Q DI H_2O.
EXP (1 Month): 10-8-14

Signed Date Signed Date

MFD 9/2/14

MED 9/2/14

W35295 9-3-14 JJF

IC ICAL (Metrohm):
Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (W 32406), Nitrite (W 32990), Bromide (W 34057), Nitrate (W 32025), Phosphate (W 34997), and 10 mL each of Sulfate (W 35238), and Chloride (W 35237).
Expires (48 hours): 9-5-14

W35296 09/03/14 AGK

Dionex Analytical Column
Serial # 033131, Lot# 013-29-186

W 35297 9/3/14 JJF

IC LCS/ICV Nitrite Standard (7 mg/L) *Diluted 1:1 daily with IC LCS/ICV Mixed Standard to equal a value of 3.5 mg/L Nitrite
Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite W 34699 and brought to volume with Milli-Q DI H_2O. EXP (1 month): 10-3-14

Read and Understood By

Signed	Date	Signed	Date
9/6/14			

VFA ICAL

W35096 A64 10-05-14

Into 100 mL volumetric flasks pipette ICAL Stock W 33151, and fill to volume with Eluent W 35092. Exp. (one month) 09/05/14

	ICAL Stock (mLs)	True Value (mg/L)
A	0	0
B	0.1	1.0
C	0.2	2.0
D	0.5	5.0
E	1.0	10
F	2.5	25
G	5.0	50
H	10	100

Signed Date Signed Date

W35090 Sigma Aldrich T-butylammonium hydroxide solution
AGK 40% # BCBM9041V Exp: 08/04/15
08/04/14

VFA Regenerate

Into a 2L volumetric flask pipetted 20 mL of W 35090 (**tetrabutylammonium hydroxide solution**) and brought to volume with **Milli-Q DI H2O**, then added this solution to a carboy containing 2L of **Milli-Q DI H20** for a final volume of 4L. Exp (three months): ~~8~~ 11/04/14
AGK 08/04/14

W35091 AGK 08/04/14

VFA Eluent

Into a 2 L volumetric flask volumetrically add 50 mL **eluent concentrate** W 34379 and fill to volume with Milli Q H_2O. Exp. (one month): 9-4-14

W35092 JOF 8/04/14

VFA CCV (10 mg/L)

Into a 100 mL volumetric flask pipette 1.0 mL ICAL/ CCV stock W 35151, and fill to volume with **Milli-Q DI H20**. Exp. (six months): 2-4-15

W35093 JOF 8/4/14

VFA LCS (10 mg/L)

Into a 100 mL volumetric flask pipette 1.0 mL **ICV/ LCS** Stock W 33153, and fill to volume with **Milli-Q DI H20**. Exp. (six months): 2-4-15
4 JOF

W35094 JOF 8/4/14

AGK 08/05/14

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Read and Understood By

Signed Date Signed Date

W 3506 Sodium Carbonate, Anhydrous Powder 500g 3602-01 JT Baker
W 3556 Batch# 0000071361 Retest Date 1/27/2021

CKS 7/30/17

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Read and Understood By

8/9/17 CS
Signed Date Signed Date

6/23/15 JJF	W34699	1000 mg/L	Nitrite Nitrogen Std	SPEX (2nd Source)			
		Lot # 3-61 NO2N-2Y	1003 mg/L ± 5 mg/L	exp 6/30/15			
6/23/15 JJF	W34700	Effluent IC Metrohm					
	Into a 2L volumetric add 20 ml of W31492 and D.I.						
	with Milli-Q H2O	Exp 6/23/15					

W34358 AGK 05/13/14 VFA CCV: Into a 100ml volumetric flask, pipetted 1mL of W33151 and brought to volume with Milli-Q water. Exp: 11/13/14

W34359 05-13-14 AGK VFA Eluent: Into a 2L volumetric flask, pipetted 50 mL of w34349 and brought to volume with Milli-Q water. Exp: 06/13/14

AGK W34360 05/13/14 VFA regenerate: Into a 2L volumetric flask, pipetted 20mL of W33199 and brought to volume with Milli-Q Water. Exp: 06/13/14

Read and Understood By

5/14/14 GJ

Signed | Date | Signed | Date

VAA Stock Hydrofluoroboric Acid Concentrate
A6K Into a L vol added 21.4g W26351 and BTV with 4
W34349 M.W.: -Q H2O Exp: 05-13-15
05/13/14

Read and Understood By

5/14/14 CS
Signed Date Signed Date

W33939 IC Rinse Solution
Agil 03-24-14 Metrohm Rinse Solution (1% Methanol in Milli-Q H_2O)
Part # REAIC 1150C Lot # M1401230I

W33940 IC Colum A-Supp-5 150/4.0
Agil 03-24-14 Metrohm CAT # 6.1006.520 Gel # 130520

W33941 IC Column A-Supp 10 - 250/4.0
Agil 03-24-14 Metrohm CAT # 6.1020.030 SN 0077 3035

W33942 IC Column A Supp 5 - 150/4.0
Agil 03-24-14 Metrohm CAT # 6.1006.520 Gel # 130930

W33943 IC Column A-Supp 5 150/4.0
Agil 03-24-14 Metrohm CAT # 6.1006.520 Gel # 130625

3/28/14 CG
Signed Date Signed Date

6
PROJECT

Notebook No. ____ ____
Continued From Page ____

W25134 CES Sodium Bicarbonate Fisher Cat# S233500 lot#
11/23/14 164706 exp 11/23/15

Continued on Page

Read and Understood By

Signed Date Signed Date

WCOD QSM Analytical Run
119541 on 10/6/2015

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	642055								WCOD QSM				
					ICV								
	642056								WCOD QSM				
					ICB								
114475	640611		10/2/2015	1330			BERING SEA ENVIRONMENTAL	RADFORD AAP	COD QSM		GW	**4**	
		ADW01								54494			
114475	640616		10/2/2015	1630			BERING SEA ENVIRONMENTAL	RADFORD AAP	COD QSM		GW	**4**	
		ADW02								54494			
	641182								COD QSM				
					MBW					54494			
	641183								COD QSM				
					LCSW					54494			
	641184		10/2/2015	1330					COD QSM				
		ADW01			MSW	640611				54494			
	641185		10/2/2015	1330					COD QSM				
		ADW01			MSDW	641184				54494			
	641702								WCOD QSM				
					CCV								
	641703								WCOD QSM				
					CCV								
	641704								WCOD QSM				
					CCB								
	641722		10/2/2015	1330					COD QSM				
		ADW01			DUP	640611				54494			

12 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

PREP WORKSHEET
on 10/15/2015

Prep Batch **54,494** Date Prepped: 10/5/2015 Prepped By JJF

Folder #	Order	QC Type	Link	Test	Matrix	Volume	Weight	Initial Volume	SDG Level	Notes
	641182	MBW		COD QSM	LIQUID					
	641183	LCSW		COD QSM	LIQUID					
114475	640611			COD QSM	GROUND WATER				4	
	640616			COD QSM	GROUND WATER				4	
	641184	MSW	640611	COD QSM	GROUND WATER					
	641185	MSDW	641184	COD QSM	GROUND WATER					
	641722	DUP	640611	COD QSM	GROUND WATER					

Notes:_____

COD Data Validation Checklist

LIMS #: 119541	Method: Chemical Oxygen Demand EPA 410.4			
Analysis Date	Analyst / Data Interpreter	Independent Reviewer	Date of Review	Approved
10-05-15	JJF	[illegible]	10/16/15	(Yes) ... No

Instructions: Complete one checklist per *analytical run*. Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement:	Acceptance Criteria	Analyst Review		Independent Review		Comments: (indicate reference to an attachment if necessary)
		Yes	No	Yes	No	
1. Does a digestion sheet accompany the data package?	—	✓		X		
2. Does the digestion sheet include all reagent and standard prep log numbers?	—	✓		X		
3. Was a Method Blank prepared at the required frequency?	1per 20 samples or at contract/program specific frequencies	✓		X		
4. Was the method blank within acceptance criteria?	< RL or client/project specific	✓		X		
5. Was an LCS prepared at the required frequency?	1per 20 samples or at contract/program specific frequencies	✓		X		
6. Was the LCS used before the indicated expiration date?	—	✓		X		
7. Did the LCS meet the acceptance criteria?	Within in-house or client/project specific limits	✓		X		
8. Was an MS and MSD prepared at the required frequency?	1per 20 of the same matrix or at contract/program specific frequencies	✓		X		
9. Did the MS/ MSD's meet the acceptance criteria?	Within in-house or contract/program specific limits	✓		X		
10. Did the MS/MSD's meet the RPD criteria?	Within in-house or contract/program specific limits	✓		X		
11. Was a Duplicate prepared at the required frequency?	1per 20 of the same matrix or at contract/program specific frequencies	✓		X		
12. Did the Duplicate meet the RPD criteria?	Within in-house or contract/program specific limits	✓		X		
13. Were the samples digested within hold time?	28 days	✓		X		
14. Are all samples on the job lists accounted for?	—	✓		X		

Spec. 401 Accuracy Check / Maintenance Logbook

Date/Time	*Acceptance Range: +/- 2 nm 529 nm	742 nm	Analyst	Comments or Performed Maintenance:
7/1/15 1400	529	742	LJS	
7/9/15 1335	530	741	SER	
7/22/15 1445	530	741	SER	
7/23/15 1350	530	741	MER	
8/3/15 0910	530	741	LJS	
8/11/15 1550	529	740	SER	
8/12/15 1410	529	741	MER	
8/17/15 1255	530	741	MER/JJF	
9/1/15 1045	530	741	JJF	
9/9/15 1534	529	741	JJF	
9/15/15 1445	529	741	MER	
9/24/15 1727	529	740	MER	
10/06/15 0805	530	741	JJF	

*If values obtained are not within Acceptance Range, correct and document the problem then re-check the accuracy.

Reviewed By: _____

Spec. 401 Instrument Run Logbook

Milton Roy Spectronic 401

	Time				Spectrophotometer	
Date	Start	End	Analyst	Analytes/Test	Cal. Std. ID #	Comments: Run #
8/3/15	15:05	15:18	MER	Chlor. A	—	117348
8/11/15	1550	1605	SLR	COD	test 20	117673
8/12/15	1410	1416	MER	COD	Test 20	117673 Rerun
8/18/15	1300	1325	MER/JJF	COD	Test 23	11787
9/1/15	1045	1120	JJF	COD	Test 24 23	118287
9/9/15	15:35	16:10	JJF	COD	Test 23	118530
9/15/15	14:53	15:26	MER	COD	Test 23	118732, 733, 734
9/24/15	1728	1754	MER	COD	Test 23	119108, 109, 110
10/06/15	08:25	09:20	JJF	COD	Test 23	119540, 119541

Reviewed By:_____

COD

PROJECT

Notebook No.

Continued From Page

W18817 mvd 4-18-08 TOC Std. Prep Stock Std. 1000mg/L into a 100mL Vol. dissolved 0.2128g Potassium Hydrogen Phthalate W16594 + brought to Vol. w/mQ DI H_2O exp 10-18-08

W18818 mvd 4-18-08 TOC LCS/PCV Stock Std 1000mg/L into a 100mL Vol. dissolved 0.2128g Potassium Hydrogen Phthalate W16592 + brought to Vol. w/ mQ DI H_2O exp 10-18-08

W18819 (A+B) KMB 4-18-08 Baker Potassium Dichromate Cat # 3098-01 Lot # E18990 (2-bottles, A+B) Mercury

W18820 KMB 4-18-08 Spex Certiprep Custom Ion Std 1250 mg/L SO_4^-, 750 mg/L Cl and 175 mg/L Cat # VCIWI-3-500 Lot # 38-81AS exp OH/2009

W18821 KMB 4-18-08 Spex Certiprep NO_2^- Std 1000 mg/L Cat # AS-NO2W9-2Y Lot # 1+8 NO2W-2 exp. 4-15-2009

W18822 mvd 4-18-08 Pyridine Std 500mL Vol. dissolved 7.5g Barbituric acid W17815 + Pyridine 7.5mL HCl W18424 + volumetrically added 32.5mL Pyridine W17409 + brought to Vol. w/DI H_2O exp 4-25-08

W18823 mvd 4-18-08 Chloramines T into a 500mL Vol. dissolved 2g W17811 + brought to Vol. w/DI H_2O exp 4-18-08

W18824 CES 4-21-08 NH_3 LCS. Into a 200mL Vol. pipetted 1mL W18721 + filled to Vol. w/DI H_2O.

W18825 KMB 4-21-08 1% N Hypochlorite - Into a 500mL vol. pipetted 30mL Bleach W18411 and brought to Vol. w/DI H_2O. exp 4-22-08

W18826 KMB 4-21-08 0.8M NaOH - Into a 1L Vol. dissolved 32g NaOH W18384 and brought to Vol. w/DI H_2O exp. 5-21-08

W18827 KMB 4-21-08 Na Nitroprusside/Na Salicylate - Into a 1L vol. dissolved 150g Salicylate W17871 and 1g Nitroprusside W18547 and brought to Vol. w/DI H_2O. exp. 5-21-08

Continued on Page

Read and Understood By

RS 4/23/08

Signed Date

PROJECT _____ Notebook No. _____ 31

Continued From Page _____

W33266 GES 1/7/14 — Sodium hypochlorite soln - Fisher cat# SS290-4 lot # 133012 exp 7/2014

W33267 GES 1/7/14 — NH3 IL Hypo dilution Into a 500mL vol. volumetric flask combine 30mL W33266 & filled to volume w/ DI H2O exp 1/8/14

W33268 BJS 1/7/14 — TKN MDL ✓: (0.4 mg/L) Into a 100mL vol flask pipetted 0.4mL NH3/TKN 1000 mg/L Stock W33267 & filled to volume w/ DI. Then pipetted 20mL into TKN + HDE.

W33269 Bmsl 01/07/14 — Potassium Hydrogen Phthalate (KHP): Agros Organics Catalog #: 142406 (000, Lot#: A0317291 (Received 06/24/13)

W33270 AGK 01/07/14 — TOCW ICAL/CCV stock (1000 mg/L): 0.2128g KHP (W 33269) and brought to volume w/ milli-Q H2O Exp: 07/07/14

W33271 AGK 01/07/14 — TOCW ICV/LCS stock (1000 mg/L) Into a 100mL vol. dissolved 0.2128g KHP (lot 29079) and brought to volume w/ milli-Q H2O Exp: 07/07/14

W33272 AGK 01/07/14 — TOCW CCV Sto: Into a 100mL vol pipetted 5.0mL of W33270 and brought to volume with Milli-Q H2O Exp: 02-07-14

W33273 AGK 01/07/14 — TOCW LCS Sto: Into a 100mL vol pipetted 5.0mL of W33271 and brought to volume w/ milli-Q H2O Exp: 02-07-14

W33274 AGK 01/07/14 — TOCW ICal Std: Into 7 50mL vol, pipetted 0.05, 0.25, 0.5, 1.25, 2.5, and 5.0mL of W33270 and brought to volume with milli-Q H2O Exp: 02/07/14

Continued on Page _____

Read and Understood By

1/9/14 CMS
Signed — Date — Signed — Date

Notebook No. _____ 41

PROJECT _____ Continued From Page _____

W34206 MER 4/28/14 KHP Buffer (pH 3.1)

Into a large beaker dissolve 2.5g potassium hydrogen phthalate (KHP) W 29079 + W34207 in 450 ml CO_2-free DI water. Add 42.5ml of 0.1 M HCL W 33112 and adjust pH to 3.1+ 0.05.

EXP (one week): 5/5/14

W34207 MER 4/28/14 Potassium Hydrogen Phthalate (KHP) - Fisher Scientific Cat # P243-100 Lot-# 132808

W34208 MER 04-28-14 IC ICAL Mixed Standard (50 mg/L):

Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite W32990, Fluoride W32406., Bromide W34057, Nitrate W33225, and Phosphate W32479 and brought to volume with Milli-Q DI H_2O.

EXP (48 Hours):04/30/14

W34209 MER 04-28-14 IC ICAL

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_2O.

	1	2	3	4	5	6	7	8
mLs Mixed Std 50mg/L W34208	0	0.2	1.0	2.0	4.0	10.0	14.0	28.0
mLs Chloride 1000mg/L W34199	0	0.05	0.1	0.5	1.0	2.0	3.0	4.0
mLs Sulfate 1000mg/L W33537	0	0.05	0.1	0.5	1.0	3.0	5.0	7.0

EXP (48 Hours):04/30/14

W34210 4/28/14 Cyanide In-Line Phosphate Buffer

Into a 1L volumetric flask, dissolve 97 g potassium dihydrogen phosphate monobasic W ~~32406~~ W33932 and fill to volume with DI H_2O. Exp. (One month): 5/28/14

W34211 4/28/14 Sodium Salicylate-Nitroprusside Color Reagent

Into a 1L volumetric flask dissolved 150g sodium salicylate W 34212 and 1g sodium nitroprusside W 33031 and brought to volume with DI H_2O.

EXP(1 month): 5/28/14

W34212 4/28/14 Sodium Salicylate - Alfa Aesar - cat # A17056 Lot # J03Z041

W34213 4/28/14 0.8M Sodium Hydroxide

Into a 1L volumetric flask dissolved 32g NaOH W 33021 and brought to volume with DI H_2O. EXP(1 month): 5/28/14

Read and Understood By

5/9/14 MS

Signed Date Signed Date

Notebook No. _____ 69

PROJECT _____ Continued From Page _____

W34448 MER 5/23/14

TKN/ TPHOS Cupric ICal using 250mg/L working W 34447 and brought to volume with diluent W 34265 Exp (one month) 6/23/14

	mL 250mg/L working	Final volume (mL)	True Value (mg/L)	Corrected Value (mg/L)
A	8	100	20	21.0
B	3.2	50	16	16.8
C	10	250	10	10.5
D	0.8	50	4	4.2
E	0.4	50	2	2.1
F	0.2	50	1	1.05
G	0.04	50	0.2	0.21
H	0	50	0	0

W34449 Phosphate Standard 1000mg/L CCV/ICAL AGK 5/23/14
AccuSpec Lot # 514641008 Exp: 05-23-15

W34450 MER 5/23/14

Potassium Dichromate Digestion Solution W19633 W 34451 MER 5/23/14
Into a 2L volumetric flask dissolve 66.6g mercuric sulfate W 29723 in about 500mL DI H_2O. Volumetrically add 334mL H_2SO_4 W 34363 and dissolve 20.42g potassium dichromate W 18819A then fill to volume with DI H_2O.
Exp (one year): 5/23/15

W34451 MER 5/23/14 Mercury (II) sulfate Acros Organics Code# 41365 1000
Lot # A0330723 CAS: 7783-35-9

W34452 MER 5/23/14

TKN/ TPHOS Cupric Diluent
Into a 1L volumetric flask volumetrically add ~~800~~ 400 MER 5/23/14 mL cupric digestion solution W 34424 and fill to volume with DI H_2O. Exp (one month): 6/23/14

W34453 GS 5/24/14

Cr^{+6} ICal (200mg/L)
Into a 250mL volumetric flask pipette 5mL Ical/CCV working (10.0 mg/L) W ~~33802~~ W34460 and fill to volume with DI H_2O. Exp. ~~(one year)~~: 5/24/15 GS 5/24/14

W34454 GS 5/24/14

Cr^{+6} CCV (100µg/L)
Into a 250mL volumetric flask pipette 2.5mL Ical/CCV working (10mg/L) W ~~33802~~ WB4460 and fill to volume with DI H_2O. Exp. ~~(one year)~~: 5/24/15 GS 5/24/14

W34455 GS 5/24/14

Cr^{+6} ICV/LCS (100µg/L)
Into a 250mL volumetric flask pipette 2.5mL ICV/LCS working (10mg/L) W 34462 and fill to volume with DI H_2O. Exp. (one year): 5/24/15

Continued on Page

Read and Understood By

5/31/14 GS
Signed Date Signed Date

WetChem Logbook 3
02/04/2015
NOTEBOOK VIEW: LTN_WetChem_3_Default, NOTEBOOK: WetChem_3, PAGE: 54
Page is Locked
Author: mradske on: 27.05.2015 17:17:54
Page is not Witnessed
Project: Unassigned
Page Title: 042815

Standard Log #:	W36769	Reagent:	NO2 NO3 BUFFER
Analyst:	MER		
Prep Date:	4/28/15	Expiration Date (1 Month):	5/28/15
Prep:	Into a 1 L volumetric flask dissolve 85g ammonium chloride W31507 and 1g EDTA W35251 and fill to volume with DI H_2O and degas. Adjust pH to 8.5 with 15 N NaOH W34485		

Standard Log #:	W36770	Reagent:	CN SOLID BUFFER
Analyst:	MER		
Prep Date:	4/28/15	Expiration Date (1 Month):	5/28/15
Prep:	Into a 500 mL volumetric flask dissolved 48.5 g potassium phosphate monobasic W35758 and brought to volume with DI H_2O.		

Standard ID#:	W36771	Vendor:	MACRON
Analyst:	LJS	Chemical:	SULFURIC ACID
Date Received:	N/A	Lot #:	91540
Expiration Date (if any):	9/9/19	Catalog #:	5557-46

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WetChem Logbook 3

02/04/2015

NOTEBOOK VIEW: LTN_WetChem_3_Default, NOTEBOOK: WetChem_3, PAGE: 62
Page is Locked
Author: mradske on: 27.05.2015 17:21:36
Page is not Witnessed
Project: Unassigned
Page Title: 051115

Standard Log #:	W36859	Reagent:	COD ICAL/CCV STK
Analyst:	LJS	Concentration:	1000 mg/L
Prep Date:	5/11/15	Expiration Date (3 Months):	8/11/15
Prep:	Into a 500mL volumetric flask dissolve 0.425g Potassium Hydrogen Phthalate W33269 and fill to volume with DI H_2O.		

Standard Log #:	W36860	Reagent:	COD SPIKE/ LCS STK
Analyst:	LJS	Concentration:	2000 mg/L
Prep Date:	5/11/15	Expiration Date (3 Months):	8/11/15
Prep:	Into a 500mL volumetric flask dissolve 0.85g Potassium Hydrogen Phthalate (KHP) W34207 and fill to volume with DI H_2O.		

Standard Log #:	W36861	Standard:	COD CCV
Analyst:	LJS	Concentration:	400 mg/L
Prep Date:	5/11/15	Expiration Date (3 Months):	8/11/15
Prep:	Into a 250mL volumetric flask volumetrically added 100ml ICal/CCV Stock (1000mg/L) W36859 and fill to volume with DI H_2O.		

WetChem Logbook 3

02/04/2015

NOTEBOOK VIEW: LTN_WetChem_3_Default, NOTEBOOK: WetChem_3, PAGE: 73
Page is Locked
Author: mradske on: 27.05.2015 17:25:41
Page is not Witnessed
Project: Unassigned
Page Title: 052715

Standard Log #:	W36944	Reagent:	DICHROMATE DIG
Analyst:	MER		
Prep Date:	5/27/15	Expiration Date (1Year):	5/27/16
Prep:	Into a 2L volumetric flask dissolve 66.6g mercuric sulfate W34451 in about 500mL DI H_2O. Volumetrically add 334mL H_2SO_4 W36771 and dissolve 20.42g potassium dichromate W18819A then fill to volume with DI H_2O.		

Standard Log #:	W36945	Reagent:	COD ICAL
Analyst:	MER		
Prep Date:	5/27/15	Expiration Date (3 Months):	8/27/15
Prep:	Use ICal/CCV Stock (1000mg/L) W36859 and fill to a final volume of 100 mL with DI H_2O.		

	ICal Stock (mLs)	True Value (mg/L)
A	0	0
B	1	10
C	2.5	25
D	5	50
E	10	100
F	50	500
G	75	750

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LPWC-04
WetChem Prep Logbook
Logbook Created 07/07/15

NOTEBOOK VIEW: LTN_WetChem_4_Default, NOTEBOOK: WetChem_4, PAGE: 29
Page is Locked
Author: mradske on: 18.08.2015 14:29:04
Witness: lsilvers on: 19.08.2015 16:05:38
Project: Unassigned
Page Title: 081715

Standard Log #:	W37432	Reagent:	COD ICAL/CCV STK
Analyst:	MER	Concentration:	1000 mg/L
Prep Date:	8/17/15	Expiration Date (3 Months):	11/17/15
Prep:	Into a 500mL volumetric flask dissolve 0.425g Potassium Hydrogen Phthalate W33269 and fill to volume with DI H_2O.		

Standard Log #:	W37433	Standard:	COD CCV
Analyst:	MER	Concentration:	400 mg/L
Prep Date:	8/17/15	Expiration Date (3 Months):	11/17/15
Prep:	Into a 250mL volumetric flask volumetrically added 100ml ICal/CCV Stock (1000mg/L) W37432 and fill to volume with DI H_2O.		

Standard Log #:	W37434	Reagent:	COD SPIKE/ LCS STK
Analyst:	MER	Concentration:	2000 mg/L
Prep Date:	8/17/15	Expiration Date (3 Months):	11/17/15
Prep:	Into a 500mL volumetric flask dissolve 0.85g Potassium Hydrogen Phthalate (KHP) W34207 and fill to volume with DI H_2O.		

Standard Log #:	W37435	Standard:	COD LCS
Analyst:	MER	Concentration:	400 mg/L
Prep Date:	8/17/15	Expiration Date (3 Months):	11/17/15
Prep:	Into a 250mL volumetric flask, pipette 50mL of 2000mg/L COD Spike/LCS Stock (1) and fill to volume with DI water. (1) W37434		

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Standard Log #:	W36862	Standard:	COD LCS
Analyst:	LJS	Concentration:	400 mg/L
Prep Date:	5/11/15	Expiration Date (3 Months):	8/11/15
Prep:	Into a 250mL volumetric flask, pipette 50mL of 2000mg/L COD Spike/LCS Stock (1) and fill to volume with DI water. (1) W36860		

Standard Log #:	W36863	Reagent:	H2SO4/ AG SULFATE
Analyst:	LJS		
Prep Date:	5/11/15	Expiration Date (1Year):	5/11/16
Prep:	Into a new 2.5 L sulfuric acid W36864 dissolve 25g silver sulfate W36865 .		

Standard ID#:	W36864	Vendor:	FISHER
Analyst:	LJS	Chemical:	SULFURIC ACID
Date Received:	N/A	Lot #:	150268
Expiration Date (if any):	N/A	Catalog #:	7664-93-9

Standard ID#:	W36865	Vendor:	FISHER
Analyst:	LJS	Chemical:	SILVER SULFATE
Date Received:	N/A	Lot #:	150577
Expiration Date (if any):	N/A	Catalog #:	190-25

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Ct Laboratories LLC

LPWC-04
WetChem Prep Logbook
Logbook Created 07/07/15

NOTEBOOK VIEW: LTN_WetChem_4_Default, NOTEBOOK: WetChem_4, PAGE: 30
Page is Locked
Author: mradske on: 19.08.2015 09:20:23
Witness: lsilvers on: 19.08.2015 16:05:57
Project: Unassigned
Page Title: 081815

Standard Log #:	W37443	Reagent:	COD ICAL
Analyst:	MER		
Prep Date:	8/18/15	Expiration Date (3 Months):	11/18/15

Prep:

Use ICal/CCV Stock (1000mg/L) W37432 and fill to a final volume of 100 mL with DI H_2O.

	ICal Stock (mLs)	True Value (mg/L)
A	0	0
B	1	10
C	2.5	25
D	5	50
E	10	100
F	50	500
G	75	750

WPH Analytical Run
119728 on 10/14/2015

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
114475	640611		10/2/2015	1330		BERING SEA ENVIRONMENTAL	RADFORD AAP	PH		GW	**4**	
		ADW01										
114475	640616		10/2/2015	1630		BERING SEA ENVIRONMENTAL	RADFORD AAP	PH		GW	**4**	
		ADW02										
	644087		10/2/2015	1330				PH				
		ADW01			DUP 640611							

3 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

FWC20,21-01
Data Validation Checklist

CT Laboratories

LIMS #: 119728	Method: pH EPA 150.1			
Analysis Date	Analyst / Data Interpreter	Independent Reviewer	Date of Review	Approved
10/9/15	DS LJS	QS QS 10/14	10/14/15	Yes ... No

Instructions: Complete one checklist per *analytical run*. Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement:	Acceptance Criteria	Analyst Review		Independent Review		Comments: (indicate reference to an attachment if necessary)
		Yes	No	Yes	No	
1. Was the calibration slope recorded on the bench sheet?	---	X		X		
2. Were duplicates analyzed at the appropriate frequency?	1 every 20 samples of the same matrix	X		X		
3. Were the duplicates within acceptable limits?	Differ by ≤ 0.10 pH units	X		X		
4. Are all samples on the job lists accounted for?	---	X		X		

Mettler Toledo (Easy Seven) Instrument Run Logbook

Date/Init.	Start Time	End Time	Test (Analyte)	Sample Run # (s) / Prep Batch # (s)	Comments:
6/17/15 SLR	1250	1330	pH	115878, 115879	
6/26/15 MER	1130	1500	pH	116148, 149, 150, 151, 152	
7/1/15 UTS	1300	1400	Cl+Lo	116237, 116238	
7/1/15 SLR	0940	1040	pH	116316, 116317, 116318, 116319	
7/8/15 SLR	1055	1245	pH	116476, 116477, 116478	
7/14/15 MER	1010	1150	pH	116665, 666, 667	
7/22/15 mm	1330	1450	pH	116923, 116924, 116925, 116926	
7/29/15 MER	1300	1625	pH	117209, 208, 209, 210, 211	
8/4/15 SLR	1100	1145	pH	117396, 97, 98, 99	
8/12/15 UTS	1500	1600	pH	117714, 15, 16, 16	
8/21/15 UTS	1300	1400	pH	118018, 19, 27	
8/28/15 MER	1030	1050	pH	118222	
8/31/15 UTS	1300	1500	pH	118265, 63, 64, 66, 67, 68	
9/3/15 UTS	1600	1630	pH	118419, 21, 22	
9/8/15 MER	1320	1510	pH	118499, 500	
9/15/15 UTS	1000	1100	pH	118729, 30	
9/21/15 MER	1710	1735	pH	118970, 971	
9/25/15 UTS	1530	1630	pH	119217, 18, 19, 20, 21 (9 on 9/23/15)	
10/2/15 MER	1500	1645	pH	119471, 472, 473, 474	
10/9/15 UTS	1700	1720	pH	119728, 29, 30	
10/14/15 MER	1415	1430	pH	119860, 861, 862	

Reviewed By: _____

Daily pH Calibration & Maintenance Logbook

	pH Buffer Reference ID #			----3 Point Calibration----					
Date	Analyst	pH 7	pH 4	pH 10	1st Buffer	2nd Buffer	3rd Buffer	Slope %	Temp. °C	Comments / Maintenance Performed (if any)
9/15/15	UJS	W36459	W36995	W34786	7.03	4.00	10.10	95	18.8	
9/21/15	MER	W36459	W36995	W34786	7.03	4.00	10.08	95	18.9	
9/25/15	UJS	W36459	W36995	W34786	7.02	4.00	10.07	95	19.3	
10/2/15	MER	W36459	W36995	W37688	7.03	4.00	9.96	95	18.9	
10/9/15	UJS	W36459	W36995	W37688	7.02	4.00	9.98	95	20.8	
10/14/15	MER	W36459	W36995	W37688	7.02	4.00	10.06	98	19.2	

Reviewed By:_____

WetChem Logbook 3
02/04/2015
NOTEBOOK VIEW: LTN_WetChem_3_Default, NOTEBOOK: WetChem_3, PAGE: 16
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Project: Unassigned
Page Title: 022615

Standard ID#:	W36459	Vendor:	MG SCIENTIFIC
Analyst:	MER	Chemical:	PH 7 BUFFER
Date Received:	11/8/14	Lot #:	4408476
Expiration Date (if any):	08/2016	Catalog #:	1551-1

Standard Log #:	W36460	Standard:	RESIDUAL CL LCS
Analyst:	MER	Concentration:	1mg/L
Prep Date:	2/26/15	Expiration Date (2 Years):	2/26/17
Prep:	Into a 100 mL volumetric flask, pipette 0.1mL potassium permanganate stock (1000 mg/L) W33725 and fill to volume with DI H_2O.		

Standard Log #:	W36461	Standard:	TKN/TPHOS Spiking Solution
Analyst:	MER	Concentration:	200mg/L NH_3 as N and PO_4^{-3} as P
Prep Date:	2/26/15	Expiration Date (1 month):	3/26/15
Prep:	Into a 100mL volumetric flask, pipetted 20mL of TPHOS ICV/LCS Stock Standard (1000mg/L) W36090 and 20mL NH_3/TKN ICV/LCS Stock Standard (1000mg/L) W35823 and brought to volume with DI H_2O.		

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WetChem Logbook 3
02/04/2015
NOTEBOOK VIEW: LTN_WetChem_3_Default, NOTEBOOK: WetChem_3, PAGE: 77
Page is Locked
Author: mradske on: 03.06.2015 09:18:44
Page is not Witnessed
Project: Unassigned
Page Title: 060215

Standard Log #:	W36993	Standard:	LCS/ICV Working
Analyst:	MML	Concentration:	10 mg/L
Prep Date:	6/2/15	Expiration Date (1 Week):	6/9/15
Prep:	Into a 100 mL volumetric flask pipette 1 mL CN LCS/ICV stock (1000mg/L) W36845 and fill to volume with 0.25N NaOH W36990 .		

Standard Log #:	W36994	Standard:	CN SOLID LCS/ICV
Analyst:	MML	Concentration:	50 pg/L
Prep Date:	6/2/15	Expiration Date (1 Week):	6/9/15
Prep:	Into a 200 mL volumetric flask pipetted 1 mL CN LCS/ICV WORKING STD 10,000 µg/L W36993 and brought to volume with 0.25 M NaOH W36990		

Standard ID#:	W36995	Vendor:	RICCA
Analyst:	MER	Chemical:	PH 4 BUFFER
Date Received:	5/29/15	Lot #:	4505426
Expiration Date (if any):	5/31/17	Catalog #:	1501-1

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LPWC-04
WetChem Prep Logbook
Logbook Created 07/07/15

NOTEBOOK VIEW: LTN_WetChem_4_Default, NOTEBOOK: WetChem_4, PAGE: 63
Page is Locked
Author: mradske on: 05.10.2015 15:38:48
Witness: LSILVERS on: 06.10.2015 13:58:41
Project: Unassigned
Page Title: 100215

Standard ID#:	W37688	Vendor:	THOMAS SCIENTIFIC
Analyst:	MER	Chemical:	PH 10 BUFFER
Date Received:	9/21/15	Lot #:	2154825
Expiration Date (if any):	06/2017	Catalog #:	4120G70

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WORGANIC CARBON QSM 5.0 Analytical Run
119544 on 10/14/2015

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	642666								WORGANIC CARBON QSM 5.0				
					CCV					0			
	642667								WORGANIC CARBON QSM 5.0				
					LCSW					0			
	642668								WORGANIC CARBON QSM 5.0				
					MBW					0			
	642669								WORGANIC CARBON QSM 5.0				
					CCV					0			
	642670								WORGANIC CARBON QSM 5.0				
					CCB					0			
114442	640252		10/1/2015	0855			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	**4**	
		48MW07											
114442	640255		10/1/2015	1025			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	**4**	
		48MW06											
114442	640257		10/1/2015	1025			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	**4**	
		49TM01											
114442	640259		10/1/2015	1105			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	**4**	
		48MW2			Designated MS/MSD								
	642671		10/1/2015	1105					ORGAN CARBON T QSM 5.0				
		48MW2			DUP	640259				0			
	642672		10/1/2015	1105					ORGAN CARBON T QSM 5.0				
		48MW2			MSW	640259				0			
	642673		10/1/2015	1105					ORGAN CARBON T QSM 5.0				
		48MW2			MSDW	642672				0			
	642674								WORGANIC CARBON QSM 5.0				
					CCV					0			
	642675								WORGANIC CARBON QSM 5.0				
					CCB					0			
114442	640261		10/1/2015	1440			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	**4**	
		48MW1											
114442	640263		10/1/2015	1620			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	**4**	
		49MW01											
114475	640602		10/2/2015	0835			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	**4**	
		13MW3											
114475	640604		10/2/2015	0940			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	**4**	
		13MW4											
114475	640606		10/2/2015	1050			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	**4**	
		13MW2											

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WORGANIC CARBON QSM 5.0 Analytical Run
119544 on 10/14/2015

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
114475	640610		10/2/2015	1240		BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	**4**	
		48MW3										
114475	640613		10/2/2015	1410		BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	**4**	
		49MW02										
114475	640615		10/2/2015	1705		BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	**4**	
		50MW02										
	642676							WORGANIC CARBON QSM 5.0				
					CCV				0			
	642677							WORGANIC CARBON QSM 5.0				
					CCB				0			
	645147							WORGANIC CARBON QSM 5.0				
					CCV				0			
	645154							WORGANIC CARBON QSM 5.0				
					CCB				0			
114475	640608		10/2/2015	1206		BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	**4**	
		100215R1										
	645150							WORGANIC CARBON QSM 5.0				
					CCV				0			
	645151							WORGANIC CARBON QSM 5.0				
					CCB				0			

29 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

W CARBON, INORG & ORG Analytical Run # 119545 on Oct 09, 2015

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	642806						W CARBON, INORG & ORG				
				CCV							
	642807						W CARBON, INORG & ORG				
				LCSW							
	642808						W CARBON, INORG & ORG				
				MBW							
114433	640118		Sep 30, 2015 0915		BERING SEA ENVIRONMENTAL	RAAP	CARBON, INORG & ORG		GW	**4**	
		54MW1									
114433	640119		Sep 30, 2015 1130		BERING SEA ENVIRONMENTAL	RAAP	CARBON, INORG & ORG		GW	**4**	
		54MW12		Designated MS/MSD							
	642809		Sep 30, 2015 1130				CARBON, INORG & ORG				
		54MW12		DUP 640119							
114433	640120		Sep 30, 2015 1355		BERING SEA ENVIRONMENTAL	RAAP	CARBON, INORG & ORG		GW	**4**	
		54MW13									
114433	640121		Sep 30, 2015 1425		BERING SEA ENVIRONMENTAL	RAAP	CARBON, INORG & ORG		GW	**4**	
		54MW10									
114433	640122		Sep 30, 2015 1425		BERING SEA ENVIRONMENTAL	RAAP	CARBON, INORG & ORG		GW	**4**	
		SWMU54TM									
	642812						W CARBON, INORG & ORG				
				CCV							
	642813						W CARBON, INORG & ORG				
				CCB							

11 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WORGANIC CARBON QSM 5.0 Analytical Run # 119569 on Oct 09, 2015

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME	QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	643706							WORGANIC CARBON QSM 5.0				
				ICV								
	643707							WORGANIC CARBON QSM 5.0				
				ICB								
	642683							WORGANIC CARBON QSM 5.0				
				CCV					0			
	642684							WORGANIC CARBON QSM 5.0				
				LCSW					0			
	642685							WORGANIC CARBON QSM 5.0				
				MBW					0			
114433	640118		Sep 30, 2015 0915			BERING SEA ENVIRONMENTAL	RAAP	ORGAN CARBON T QSM 5.0		GW	**4**	
		54MW1										
114433	640119		Sep 30, 2015 1130			BERING SEA ENVIRONMENTAL	RAAP	ORGAN CARBON T QSM 5.0		GW	**4**	
		54MW12		Designated MS/MSD								
	642686		Sep 30, 2015 1130					ORGAN CARBON T QSM 5.0				
		54MW12		DUP	640119				0			
	642687		Sep 30, 2015 1130					ORGAN CARBON T QSM 5.0				
		54MW12		MSW	640119				0			
	642688		Sep 30, 2015 1130					ORGAN CARBON T QSM 5.0				
		54MW12		MSDW	642687				0			
114433	640120		Sep 30, 2015 1355			BERING SEA ENVIRONMENTAL	RAAP	ORGAN CARBON T QSM 5.0		GW	**4**	
		54MW13										
	642689							WORGANIC CARBON QSM 5.0				
				CCV					0			
	642690							WORGANIC CARBON QSM 5.0				
				CCB					0			
114433	640121		Sep 30, 2015 1425			BERING SEA ENVIRONMENTAL	RAAP	ORGAN CARBON T QSM 5.0		GW	**4**	
		54MW10										
114433	640122		Sep 30, 2015 1425			BERING SEA ENVIRONMENTAL	RAAP	ORGAN CARBON T QSM 5.0		GW	**4**	
		SWMU54TM										
114433	640123		Sep 30, 2015 1625			BERING SEA ENVIRONMENTAL	RAAP	ORGAN CARBON T QSM 5.0		GW	**4**	
		49MW04										
	642691							WORGANIC CARBON QSM 5.0				
				CCV					0			
	642692							WORGANIC CARBON QSM 5.0				
				CCB					0			

18 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

FWC39-01 Data Review Checklist

		Method: Total Organic Carbon Method 415.1/9060		Independent Data Review Checklist	
LIMS Run #(s)	**Analysis Date**	**Interpreter**	**Independent Reviewer**	**Date of Review**	**Approved? (Yes or No)**
119543-545, 119569	10/06/2015 & 10/13/2015	JJF	RLD	10/14/15	Yes

Instructions: Complete one checklist per *analytical sequence* . Enter the appropriate response for each question.
Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

		Analyst Review		**Independent Review**		**Comments:**
		Yes	No	Yes	No	(indicate reference to an attachment if necessary)
1. Were the samples preserved prior to analysis and analyzed within hold time?	pH <2, 28 days or program/project specific	Yes		Yes		If No: Qualify data analyzed after hold time (H).
2. Was the calibration curve performed using the required number of standards?	3 standards and a blank	Yes		Yes		If No: Recalibrate using required number of standards.
3. Was the correlation coefficient acceptable?	r ≥ .995	Yes		Yes		If No: Recalibrate.
4. Were the ICV and ICB analyzed?	---	Yes		Yes		If No: Analyze ICV and ICB prior to any sample analyses.
5. Was the ICV result acceptable?	90 – 110 % Rec. or contract/program specific	Yes		Yes		If No: Reanalyze, if NO after second analysis, address problem and recalibrate.
6. Was the ICB result acceptable?	< LOD or contract/program specific	Yes		Yes		If No: address possible contamination and reanalyze.
7. Was an LCS & MB run with each batch of samples?	One each per analytical batch or contract/program specific frequency.	Yes		Yes		If No: Reanalyze affected samples with appropriate QC.
8. Was the LCS recovery acceptable?	In-house derived or contract/program specific limits.	Yes		Yes		If No: Reanalyze affected samples with an acceptable LCS when possible, otherwise qualify affected samples (Q).
9. Were the MB results acceptable?	< LOD or project/ program specific (<1/2 RL for DOD-QSM).		No		No	If No: Reanalyze affected samples with acceptable MB when possible, otherwise qualify affected samples (B).
10. Were the CCV's analyzed at the required frequency?	Beginning, after every 10 sample, & at the end of a sequence.	Yes		Yes		If No: Reanalyze affected samples with appropriate CCV intervals.
11. Were the CCB's analyzed at the required frequency?	After each CCV (unless MB analyzed after CCV)	Yes		Yes		If No: Reanalyze affected samples with appropriate CCB intervals.
12. Were the CCV recoveries acceptable?	90 – 110 % Rec. or project/ program specific	Yes		Yes		If No: Reanalyze affected samples.
13. Were the CCB results acceptable?	< LOD or project/ program specific	Yes		Yes		If No: Reanalyze affected samples with acceptable CCB when possible, otherwise qualify affected samples (B).

14. Were all positive results that were reported within the calibration curve?	---	Yes		Yes		If No: Dilute sample and reanalyze.
15. Was an MS and MSD analyzed at the required frequency?	1 / 20 of the same matrix or project/ program specific	Yes		Yes		If No: Prepare and analyze the matrix spikes.
16. Were the MS and MSD recoveries acceptable?	In-house derived or project/ program specific limits		No		No	If No: Qualify the affected parent sample result (M).
17. Was the RPD between the MS and MSD acceptable?	In-house derived or project/ program specific limits	Yes		Yes		If No: Qualify the affected parent sample result (Y).
18. Was a Duplicate analyzed at the required frequency?	1 per 20 of the same matrix or contract/program specific	Yes		Yes		If No: Analyze the duplicate for appropriate sample.
19. Was the RPD between the Duplicate (if valid) and the sample acceptable?	In-house derived or project/ program specific limits (QSM samples, duplicate only valid when sample result ≥5x the LOQ)		No		No	If No: Qualify the affected parent sample result (Y).
20. Are all samples on the job lists accounted for?	---	Yes		Yes		If No: Analyze samples that were missed.
21. Is the standards prep log numbers noted on the analytical report?	---	Yes		Yes		If No: Document the standards used for calibration and analysis.
22. Were post analysis corrections addressed and/or the Audit Trail function turned on (if available)?	Correction should be initialed, dated, and reason given. Audit trail must be on (if available)	Yes		Yes		If No: Initial, date, and state reason for any changes or corrections.
23. Were non-matrix related nonconformities (if applicable) documented in the NCR spreadsheet?	---	Yes		Yes		If No: Enter nonconformity information into the NCR spreadsheet before data review/validation.

TOC Instrument Run Logbook

Start Date	Start Time	End Date	End Time	Analysi	LIMs Run #	Matrix (S or W)	Calibration ID #	COMMENTS
09/25/15	08:39	09/25/15	14:12	MDS	119168	S	W35182	
09/28/15	16:32	09/29/15	05:34	BMS	119079, 119080, 119275	W	W34137	
09/29/15	12:19	09/29/15	16:59	JJF	119232	S	W35182	
09/30/15	10:06	09/30/15	14:35	JJF	119319	S	W35182	
10/01/15	15:40	10/02/15	03:50	JJF	119234, 119235, 119236, 119237	W	W34137	
10/06/15	13:22	10/07/15	01:13	JJF	119543, 119544, 119545, 119569	W	W34137	
10/07/15	13:45	10/07/15	17:20	JJF	119609	S	W35182	
10/08/15	09:24	10/08/15	13:48	JJF	119636	S	W35182	
10/09/15	09:43	10/09/15	14:42	JJF	119686 119687	S	W35182	
10/12/15	11:39	10/12/15	16:15	JJF	119740 119742	S	W35182	
10/13/15	09:08	10/13/15	14:04	JJF	RR119544 119798 119799	W	W34137	

Reviewed By:_____

LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 21
Page is Locked
Author: JFAUST on: 12.10.2015 09:16:28
Page is not Witnessed
Project: Unassigned
Page Title: 100815

Standard Log #:	TOC0035	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	10/08/2015	Expiration Date (1 Month):	11/08/2015
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) W34157 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0036	Standard:	TOCW LCS Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	10/08/2015	Expiration Date (1 Month):	11/08/2015
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0011 and brought to volume with Milli-Q DI H_2O.		

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 20
Page is Locked
Author: akurth on: 23.09.2015 17:08:58
Page is not Witnessed
Project: Unassigned
Page Title: N/A

Standard Log #:	TOC0034	Standard:	TOCW CCV Std.
Analyst:	AGK	Concentration:	50 mg/L
Prep Date:	09/23/15	Expiration Date (1 Month):	10/23/15
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) W34157 and brought to volume with Milli-Q DI H_2O.		

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 19
Page is Locked
Author: JFAUST on: 10.09.2015 13:10:31
Page is not Witnessed
Project: Unassigned
Page Title: 090815

Standard Log #:	TOC0033	Standard:	TOCW LCS Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	09/08/2015	Expiration Date (1 Month):	10/08/2015
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0011 and brought to volume with Milli-Q DI H_2O.		

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 18
Page is Locked
Author: JFAUST on: 08.09.2015 10:40:30
Page is not Witnessed
Project: Unassigned
Page Title: 082715

Standard Log #:	TOC0032	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	08/27/2015	Expiration Date (1 Month):	09/27/2015
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) W34157 and brought to volume with Milli-Q DI H_2O.		

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 17
Page is Locked
Author: JFAUST on: 27.08.2015 13:37:05
Page is not Witnessed
Project: Unassigned
Page Title: 080315

Standard Log #:	TOC0031	Standard:	TOCW LCS Std.
Analyst:	MDS	Concentration:	50 mg/L
Prep Date:	08/03/2015	Expiration Date (1 Month):	09/03/2015
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0011 and brought to volume with Milli-Q DI H_2O.		

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 16
Page is Locked
Author: JFAUST on: 27.08.2015 13:36:59
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Project: Unassigned
Page Title: 073115

Standard Log #:	TOC0030	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	07/31/2015	Expiration Date (1 Month):	08/31/2015
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) W34157 and brought to volume with Milli-Q DI H_2O.		

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 15
Page is Locked
Author: jfaust on: 31.07.2015 11:23:43
Page is not Witnessed
Project: Unassigned
Page Title: 072415

Standard Log #:	TOC0029	Standard:	TOCW LCS Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	07/24/2015	Expiration Date (1 Month):	08/24/2015
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0011 and brought to volume with Milli-Q DI H_2O.		

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 14
Page is Unlocked
Page is not Witnessed
Project: Unassigned
Page Title: 071615

Standard Log #:	TOC0028	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	07/16/2015	Expiration Date (1 Month):	-8/16/2015
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) W34157 and brought to volume with Milli-Q DI H_2O.		

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 12
Page is Locked
Author: JFAUST on: 16.07.2015 07:52:04
Page is not Witnessed
Project: Unassigned
Page Title: 061615

Standard Log #:	TOC0024	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	06/16/2016	Expiration Date (1 Month):	07/16/2015
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) W34157 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0025	Standard:	TOCW LCS Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	06/16/2015	Expiration Date (1 Month):	07/16/2015
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0011 and brought to volume with Milli-Q DI H_2O.		

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CT Laboratories, LLC

Standard Log #:	TOC0021	Standard:	TOCW LCS Std.
Analyst:	BMS	Concentration:	50 mg/L
Prep Date:	05/27/2015	Expiration Date (1 Month):	06/27/2015
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0011 and brought to volume with Milli-Q DI H_2O.		

TOC Logbook 01
01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 10
Page is Unlocked
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Project: Unassigned
Page Title: 050815

Standard Log #:	TOC0020	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	05/08/2015	Expiration Date (1 Month):	06/05/2015
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) W34157 and brought to volume with Milli-Q DI H_2O.		

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TOC Logbook 01
01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 6
Page is Unlocked
Page is not Witnessed
Project: Unassigned
Page Title: 031715

Standard ID#:	TOC0011	Vendor:	SCP Science
Analyst:	BMS	Chemical:	TOCW LCS Stock Std. (1000mg/L)
Date Received:	03/17/2015	Lot #:	S150304004
Expiration Date (if any):	03/2017	Catalog #:	250-250-05x

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PROJECT _____ Notebook No. _____ 15

Continued from Page ___

Standard Log #:	W35209	Reagent:	LL H2SO4 Diluent
Analyst:	CES		
Prep Date:	8/20/14	Expiration Date (3 Months):	11/20/14
Prep:	Into a 2 L volumetric flask, volumetrically add 4mL TMG H_2SO_4 W34615 and fill to volume with DI H_2O.		

Standard Log #:	W35210	Standard:	TOCW lcal/CCV Stock Std.
Analyst:	MDS	Concentration:	1000 mg/L
Prep Date:	08/20/2014	Expiration Date (6 Months):	02/20/2014
Prep:	Into a 100 mL volumetric flask, dissolved 0.2128g of potassium hydrogen phthalate (KHP) W33269 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	W35211	Standard:	TOCW CCV Std.
Analyst:	MDS	Concentration:	50 mg/L
Prep Date:	08/20/2014	Expiration Date (1 Month):	09/20/2014
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW lcal/CCV Stock (1000mg/L) W35210 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	W35212	Standard:	TOCW LCS Std.
Analyst:	MDS	Concentration:	50 mg/L
Prep Date:	08/20/2014	Expiration Date (1 Month):	09/20/2014
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) W35118 and brought to volume with Milli-Q DI H_2O.		

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Read and Understood By

8/25/14 43 _____ _____ _____

Signed Date Signed Date

W34154 COD PT Into a 1000ml lo m pipetted 5ml of 444906 VS 4/23/14 and filled to volume w/ DI H2O. Exp 5/22/14

W34155 MER 4/22/14 Methyl Orange Reagent
Into a 1 L volumetric flask, volumetrically added 100 ml methyl orange solution W 33215 and brought to volume with CO_2-free DI H_2O.
EXP (1 month): 5/22/14

W34156 CGD 4/22/14 TPhos 8500 Ascorbic
Into a 1 L volumetric flask dissolve 70g ascorbic acid W 33837 and 1.0 g SDS W 32316 and fill to volume with DI H_2O. Exp. (two days): 4/24/14

W34157 BMS 04/23/14 TOCW CCV/ICal. Stock Std (1000mg/L): Ultra Scientific catalog # IQC-106, Lot# R01266 Exp: 12/31/15

W34158 VS 04/22/14 MER Blind Spike - Alkalinity (TV = 300mg/L) Into 100 mL vol flask pipetted 12mL of Alk ICV/LCS Stock (2500mg/L) W 34145 and filled to vol w/ CO_2 free DI H_2O. EXP

W34159 04-22-14 AGK IC LL Ophos ICal
Into 8 separate 100 ml volumetric flasks pipette 0, 0.01, 0.02, 0.04, 0.06, 0.1, 0.2, and 0.4ml LL Ophos ICal Working (50mg/L) W 32479 and fill to volume with MilliQ H_2O. Exp (two days): 04-24-14

W34160 04-22-14 AGK LL Ophos CCV (0.1 mg/L)
Into a 200 ml volumetric flask pipette 0.02ml Tphos CCV stock standard (1000mg/L) W 32479 and fill to volume with Milli Q H_2O.
Exp (One month): 05-22-14

W34161 04-22-14 AGK LL Ophos ICV/LCS (0.1 mg/L)
Into a 100 ml volumetric flask pipette 0.01ml Tphos ICV/LCS stock standard (1000mg/L) W 33243 and fill to volume with Milli Q H_2O.
Exp (One month): 05-22-14

W34162 04-22-14 AGK LL Ophos Spike (30 mg/L)
Into a 100 ml volumetric flask pipette 3.0 ml Tphos ICV/LCS stock standard (1000mg/L) W 32479 and fill to volume with Milli Q H_2O.
Exp (One month): 05-22-14

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4/26/14 OK
Signed Date Signed Date

W34137 TOCW ICAL Into seven 50mL vol. Flasks, pipetted 0, 0.05, 0.25, 0.50, 1.25, 2.50 and 5.0 mL of 1000 mg/L ICAL/LCV Stock (W34125) and brought to volume with milli-Q H_2O. Exp. 05/21/14
MMS 04/21/14

W34138 TOCW ICV Into a 50mL vol. Flask, pipetted 2.50 mL of 1000mg/L ICV/LCS Stock std (W34126) and brought to volume with milli-Q H_2O. Exp. 05/21/14
MMS 04/21/14

W3439 MER 4/21/14 1N Sodium Hydroxide
Into a 500mL volumetric flask dissolved 20g NaOH W 33021 and brought to volume with DI H_2O. EXP(1 year): 4/21/15

W34140 CS 4/21/14 LL TPhos 8500 H_2SO_4 Diluent
Into a 2L volumetric flask pipette 4 mL trace metal grade H_2SO_4 W 33701 and fill to volume with DI H_2O. Exp. (three months): 7/21/14

W34141 CS 4/21/14 TPhos 8500 0.72N Sulfuric Acid Carrier
Into a 2L volumetric flask volumetrically add 76 mL trace metal grade H_2SO_4 W 33704 and dissolve 10g NaCl W 30481 and 2g SDS W 32316 and fill to volume with DI H_2O. Exp. (one month): 5/21/14

W34142 CS 4/21/14 TPhos 8500 Digestion Solution #2
Into a 2L volumetric flask dissolve 52g potassium persulfate W 33955 and fill to volume with DI H_2O. Exp. (one month): 5/21/14

W34143 CS 4/21/14 TPhos 8500 Molybdate
Into a 1 L volumetric flask volumetrically add 213 mL Ammonium Molybdate W 34005 and 72 mL Antimony Potassium Tartrate W 34004 then dissolve 22.8g NaOH W 33021 and fill to volume with DI H_2O. Exp. (one month) 5/21/14

W34144 MER 4/22/14 KHP Buffer (pH 3.1)
Into a large beaker dissolve 2.5g potassium hydrogen phthalate (KHP) W 29079 in 450 ml CO_2-free DI water. Add 42.5ml of 0.1 M HCL W 33112 and adjust pH to 3.1± 0.05.
EXP (one week): 4/29/14

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4/22/14 CS

Signed Date Signed Date

W34120 ml 4-17-14 NH_3 Sodium Hypochloride
Into a 500mL volumetric flask volumetrically added 250mL Bleach W 33266 and brought to volume with DI H_2O. EXP(24 hours): 4-18-14

W34121 ml 4-17-14 Sodium Phenolate Color Reagent
Into a 500mL volumetric flask dissolved 16g NaOH W 33021 and volumetrically added 44mL phenol W 32542 and brought to volume with DI H_2O. EXP(1 week): 4/24/14

W34122 AGK 04-17-14 10x Eluent (32mM Sodium Carbonate / 10mM Sodium Bicarbonate)
Into a 1L flask added 3390g W32947 and 8.40g of W25134 and BTV with Milli-Q H_2O

W34123 MS 04/18/14 TOCW LCV Std (50mg/L) - Into a 100mL vol Flask pipetted 5.0 mL of W33370 mes 04/18/14 W34125 exp 05/18/14 & brought to volume with milli-Q H_2O

W34124 MS 04/18/14 TOCW LCS Std (50mg/L) - Into a 100mL vol Flask pipetted 5.0 mL of W33371 mes 04/18/14 W34126 exp 05/18/14 & brought to volume with milli-Q H_2O

W34125 BMS 04/18/14 TOCW ICal/CCV Stock Std. (1000 mg/L): Into a 100 mL vol. dissolved 0.2128g of KHP (W33269) and brought to volume with Milli Q H_2O. Exp. 10/18/14

W34126 BMS 04/18/14 TOCW ICV/LCS Stock Std (1000 mg/L): Into a 100mL vol. dissolved 0.2128g of KHP (W33269) and brought to volume with Milli Q H_2O. Exp 10/18/14.

W34127 HER 4/18/14 TKN Hypochlorite
Into a 500 mL volumetric flask volumetrically add 30 mL sodium hypochlorite solution W 33266 and fill to volume with DI H_2O. Exp. (one day): 4/19/14

W34127CC 4/18/14 TPhos 8500 Ascorbic
Into a 1 L volumetric flask dissolve 70g ascorbic acid W 33832 and 1.0 g SDS W 32316 and fill to volume with DI H_2O. Exp. (two days): 4/20/14

W34128CC 4/18/14 TPhos 8500 Digestion Solution #1
Into a 2L volumetric flask volumetrically add 213mL trace metal grade H2SO4 W 33204 and fill to volume with DI H_2O. Exp. (one month): 5/18/14

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4/19/14 03*
Signed Date Signed Date

W33266 GES 1/7/14 Sodium hypochlorite soln - Fisher cat # SS290-4 lot # 133012 exp 7/2014

W33267 GES 1/7/14 NH3 TL Hypochlorite: Into a 500mL vol volumetrically cylinder 30mL W33266 & filled to mark w/ DI H2O exp 1/8/14

W33268 DJS 1/7/14 TKN MDL ✓: (0.46mg/L) Into a 100mL vol flask pipetted 0.46mL NH3/TKN 1000mg/L Stock W32416 + filled to volume w/ DI. Then pipetted 20mL into TKN tube

W33269 Bons 01/07/14 Potassium Hydrogen Phthalate (KHP): Agros Organics Catelog #: 424061000, Lot#: A0317291 (Received 06/24/13)

W33270 AGK 01/07/14 TOCW ICAL/ICV stock (1000mg/L): Into a 100mL vol, dissolved 0.2128g KHP (W 33269) and brought to volume w/ milli-Q H_2O Exp: 07/07/14

W33271 01/07/14 AGK TOCW ICV/LCS stock (1000mg/L) Into a 100mL vol, dissolved 0.2128g KHP (W 29079) and brought to volume w/ milli-Q H_2O Exp: 07/07/14

W33272 AGK 01/07/14 AGK TOCW CCV Sto: Into a 100mL vol pipetted 5.0mL of Into W33270 and Brought to Volume with Milli-Q H_2O Exp: 02-07-14

W33273 01/07/14 AGK TOCW LCS Sto: Into a 100mL vol pipetted 5.0mL of W33271 and brought to volume w/ milli-Q H_2O Exp: 02-07-14

W33274 01/07/14 AGK TOCW Ical: Into 7 50mL vol, pipetted 0.005, 0.25, 0.5, 1.25, 2.5, and 5.0mL of W33270 and brought to volume with milli-Q H_2O Exp: 02/07/14

Continued on Page

Read and Understood By

Signed Date Signed Date

SUBCONTRACTED ANALYSIS DOCUMENTS

Microbac

Laboratory Report Number: L15100560

Patrick Letterer
CT Laboratories
1230 Lange Court
Baraboo, WI 53913

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac's Ohio Valley Division (OVD). If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed below.

Laboratory Contact:
Stephanie Mossburg – Team Chemist/Data Specialist
(740) 373-4071
Stephanie.Mossburg@microbac.com

I certify that all test results meet all of the requirements of the DoD QSM and other applicable contract terms and conditions. Any exceptions are attached to this cover page or addressed in the method narratives presented in the report. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories, DoD ELAP certification number 2936.01. The reported results are related only to the samples analyzed as received.

This report was certified on October 16 2015

David Vandenberg – Managing Director

State of Origin: MI
Accrediting Authority: N/A ID:N/A
QAPP: DOD Ver 5.0

Microbac

Lab Report #: L15100560
Lab Project #: 2694.005
Project Name: CT Labs DOD
Lab Contact: Stephanie Mossburg

Record of Sample Receipt and Inspection

Comments/Discrepancies

This is the record of the shipment conditions and the inspection records for the samples received and reported as a sample delivery group (SDG). All of the samples were inspected and observed to conform to our receipt policies, except as noted below.

The following discrepancies were noted:

Discrepancy	Resolution
Sample ID: 640119 (9/30 @ 11:30). Received (2) extra bottles for this ID labeled MS/MSD. BRG	Please log these as parent, MS and MSD. SLM

Coolers

Cooler #	Temperature Gun	Temperature	COC #	Airbill #	Temp Required?
00113192	I	2.0		1Z1A4A851341640922	X

Inspection Checklist

#	Question	Result
1	Were shipping coolers sealed?	Yes
2	Were custody seals intact?	Yes
3	Were cooler temperatures in range of 0-6?	Yes
4	Was ice present?	Yes
5	Were COC's received/information complete/signed and dated?	Yes
6	Were sample containers intact and match COC?	Yes
7	Were sample labels intact and match COC?	No
8	Were the correct containers and volumes received?	Yes
9	Were samples received within EPA hold times?	Yes
10	Were correct preservatives used? (water only)	Yes
11	Were pH ranges acceptable? (voa's excluded)	NA
12	Were VOA samples free of headspace (less than 6mm)?	NA

Microbac

Lab Report #: L15100560
Lab Project #: 2694.005
Project Name: CT Labs DOD
Lab Contact: Stephanie Mossburg

Samples Received

Client ID	Laboratory ID	Date Collected	Date Received
54MW1	L15100560-01	09/30/2015 09:15	10/08/2015 11:05
54MW12	L15100560-02	09/30/2015 11:30	10/08/2015 11:05
54MW12 MS	L15100560-03	09/30/2015 11:30	10/08/2015 11:05
54MW12 MSD	L15100560-04	09/30/2015 11:30	10/08/2015 11:05
54MW13	L15100560-05	09/30/2015 13:55	10/08/2015 11:05
54MW10	L15100560-06	09/30/2015 14:25	10/08/2015 11:05
SWMU54TM	L15100560-07	09/30/2015 14:25	10/08/2015 11:05

Microbac REPORT L15100560
PREPARED FOR CT Laboratories
WORK ID:

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1.0 Summary Data

1.1 Narratives

Login Number: L15100560
Department: General Chromatography
Analyst: John W. Richards Jr.

METHOD

Analysis SW-846 6850

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: For all compounds that yielded a %RSD greater than 15%, linear or higher order equations were applied. All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Continuing Calibration and Tune: All acceptance criteria were met.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Matrix Spikes: Recoveries out of range were observed for the following analytes: Perchlorate. Please see the applicable QC report for a detailed presentation of the failures.

Sample #	Analyte	Date	Result	Lower	Upper	Type
L15100560-03	Perchlorate	2015-10-15 18:15:19	82.5	84	119	Recovery
L15100560-04	Perchlorate	2015-10-15 18:34:14	72.0	84	119	Recovery

SAMPLES

Samples: All acceptance criteria were met.

Internal Standards: All acceptance criteria were met.

Manual Integration Reason Codes

Reason #1: Data System Fails to Select Correct Peak In some cases the chromatography system selects and integrates the 'wrong peak'. In this case the analyst must correct the selection and force the system to integrate the proper peak. Other times the system may miss the peak completely.

Reason #2: Data System Splits the Peak Incorrectly or Integrates a False Peak as a Rider Peak This phenomena is common at low concentrations where the signal:noise ratio is low. A single compound (peak) is incorrectly split into multiple peaks or integrated as a main peak with one or more rider peaks resulting in low area counts for the target compound.

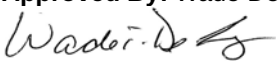
Reason #3: Improperly Integrated Isomers and/or coeluting compounds. This system often fails to distinguish coeluting compounds and or isomers. The integration areas and concentrations are wrong, and they must be corrected by manual integration. Prime examples are benzo(k)fluoranthene and benzo(b)fluoranthene which are often unresolved and integrated improperly when both are present at low concentrations in standards or samples.

Reason #4: System Establishes Incorrect Baseline There are numerous situations in chromatography where the system establishes the baseline incorrectly. Some baseline errors will be obvious to the analyst and should be corrected via manual procedures.

Reason #5: Miscellaneous Other situations involving integration errors may require in-depth review and technical judgment. These cases should be brought to the attention of the laboratory management. If the form of manual integration is not clearly covered by these four cases, then review and approval by the Laboratory Director or the QA/QC Supervisor will be required.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Microbac Laboratories Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Narrative ID: 105197
Approved By: Wade DeLong



1.2 Certificate of Analysis

Microbac

Lab Report #: L15100560
Lab Project #: 2694.005
Project Name: CT Labs DOD
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L15100560-01	**PrePrep Method:**	N/A	**Instrument:**	LCMS1
Client ID:	54MW1	**Prep Method:**	6850	**Prep Date:**	10/15/2015 14:30
Matrix:	Water	**Analytical Method:**	6850	**Cal Date:**	10/13/2015 18:07
Workgroup #:	WG543057	**Analyst:**	JWR	**Run Date:**	10/15/2015 17:37
Collect Date:	09/30/2015 09:15	**Dilution:**	1	**File ID:**	1LM.LM31850
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Perchlorate	14797-73-0	0.200	U	0.400	0.200	0.100

U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L15100560-02	**PrePrep Method:**	N/A	**Instrument:**	LCMS1
Client ID:	54MW12	**Prep Method:**	6850	**Prep Date:**	10/15/2015 14:30
Matrix:	Water	**Analytical Method:**	6850	**Cal Date:**	10/13/2015 18:07
Workgroup #:	WG543057	**Analyst:**	JWR	**Run Date:**	10/15/2015 17:56
Collect Date:	09/30/2015 11:30	**Dilution:**	1	**File ID:**	1LM.LM31851
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Perchlorate	14797-73-0	0.737	J	0.400	0.200	0.100

Certificate of Analysis

Sample #:	L15100560-03	**PrePrep Method:**	N/A	**Instrument:**	LCMS1
Client ID:	54MW12 MS	**Prep Method:**	6850	**Prep Date:**	10/15/2015 14:30
Matrix:	Water	**Analytical Method:**	6850	**Cal Date:**	10/13/2015 18:07
Workgroup #:	WG543057	**Analyst:**	JWR	**Run Date:**	10/15/2015 18:15
Collect Date:	09/30/2015 11:30	**Dilution:**	1	**File ID:**	1LM.LM31852
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Perchlorate	14797-73-0	0.902		0.400	0.200	0.100

Certificate of Analysis

Sample #:	L15100560-04	**PrePrep Method:**	N/A	**Instrument:**	LCMS1
Client ID:	54MW12 MSD	**Prep Method:**	6850	**Prep Date:**	10/15/2015 14:30
Matrix:	Water	**Analytical Method:**	6850	**Cal Date:**	10/13/2015 18:07
Workgroup #:	WG543057	**Analyst:**	JWR	**Run Date:**	10/15/2015 18:34
Collect Date:	09/30/2015 11:30	**Dilution:**	1	**File ID:**	1LM.LM31853
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Perchlorate	14797-73-0	0.881		0.400	0.200	0.100

Certificate of Analysis

Microbac

Lab Report #: L15100560
Lab Project #: 2694.005
Project Name: CT Labs DOD
Lab Contact: Stephanie Mossburg

Sample #:	L15100560-05	**PrePrep Method:**	N/A	**Instrument:**	LCMS1
Client ID:	54MW13	**Prep Method:**	6850	**Prep Date:**	10/15/2015 14:30
Matrix:	Water	**Analytical Method:**	6850	**Cal Date:**	10/13/2015 18:07
Workgroup #:	WG543057	**Analyst:**	JWR	**Run Date:**	10/15/2015 19:49
Collect Date:	09/30/2015 13:55	**Dilution:**	1	**File ID:**	1LM.LM31857
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Perchlorate	14797-73-0	0.270	J	0.400	0.200	0.100

J	Estimated value ; the analyte concentration was less than the LOQ.

Certificate of Analysis

Sample #:	L15100560-06	**PrePrep Method:**	N/A	**Instrument:**	LCMS1
Client ID:	54MW10	**Prep Method:**	6850	**Prep Date:**	10/15/2015 14:30
Matrix:	Water	**Analytical Method:**	6850	**Cal Date:**	10/13/2015 18:07
Workgroup #:	WG543057	**Analyst:**	JWR	**Run Date:**	10/15/2015 20:08
Collect Date:	09/30/2015 14:25	**Dilution:**	1	**File ID:**	1LM.LM31858
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Perchlorate	14797-73-0	0.200	U	0.400	0.200	0.100

U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L15100560-07	**PrePrep Method:**	N/A	**Instrument:**	LCMS1
Client ID:	SWMU54TM	**Prep Method:**	6850	**Prep Date:**	10/15/2015 14:30
Matrix:	Water	**Analytical Method:**	6850	**Cal Date:**	10/13/2015 18:07
Workgroup #:	WG543057	**Analyst:**	JWR	**Run Date:**	10/15/2015 20:27
Collect Date:	09/30/2015 14:25	**Dilution:**	1	**File ID:**	1LM.LM31859
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Perchlorate	14797-73-0	0.200	U	0.400	0.200	0.100

U	Analyte was not detected. The concentration is below the reported LOD.

2.0 Full Sample Data Package

2.1 General Chromatography Data

2.1.1 6850 LC/MS Data

2.1.1.1 Summary Data

Login Number: L15100560
Department: General Chromatography
Analyst: John W. Richards Jr.

METHOD

Analysis SW-846 6850

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: For all compounds that yielded a %RSD greater than 15%, linear or higher order equations were applied. All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Continuing Calibration and Tune: All acceptance criteria were met.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Matrix Spikes: Recoveries out of range were observed for the following analytes: Perchlorate. Please see the applicable QC report for a detailed presentation of the failures.

Sample #	Analyte	Date	Result	Lower	Upper	Type
L15100560-03	Perchlorate	2015-10-15 18:15:19	82.5	84	119	Recovery
L15100560-04	Perchlorate	2015-10-15 18:34:14	72.0	84	119	Recovery

SAMPLES

Samples: All acceptance criteria were met.

Internal Standards: All acceptance criteria were met.

Manual Integration Reason Codes

Reason #1: Data System Fails to Select Correct Peak In some cases the chromatography system selects and integrates the 'wrong peak'. In this case the analyst must correct the selection and force the system to integrate the proper peak. Other times the system may miss the peak completely.

Reason #2: Data System Splits the Peak Incorrectly or Integrates a False Peak as a Rider Peak This phenomena is common at low concentrations where the signal:noise ratio is low. A single compound (peak) is incorrectly split into multiple peaks or integrated as a main peak with one or more rider peaks resulting in low area counts for the target compound.

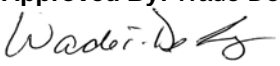
Reason #3: Improperly Integrated Isomers and/or coeluting compounds. This system often fails to distinguish coeluting compounds and or isomers. The integration areas and concentrations are wrong, and they must be corrected by manual integration. Prime examples are benzo(k)fluoranthene and benzo(b)fluoranthene which are often unresolved and integrated improperly when both are present at low concentrations in standards or samples.

Reason #4: System Establishes Incorrect Baseline There are numerous situations in chromatography where the system establishes the baseline incorrectly. Some baseline errors will be obvious to the analyst and should be corrected via manual procedures.

Reason #5: Miscellaneous Other situations involving integration errors may require in-depth review and technical judgment. These cases should be brought to the attention of the laboratory management. If the form of manual integration is not clearly covered by these four cases, then review and approval by the Laboratory Director or the QA/QC Supervisor will be required.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Microbac Laboratories Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Narrative ID: 105197
Approved By: Wade DeLong



Microbac

Lab Report #: L15100560
Lab Project #: 2694.005
Project Name: CT Labs DOD
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L15100560-01	**PrePrep Method:**	N/A	**Instrument:**	LCMS1
Client ID:	54MW1	**Prep Method:**	6850	**Prep Date:**	10/15/2015 14:30
Matrix:	Water	**Analytical Method:**	6850	**Cal Date:**	10/13/2015 18:07
Workgroup #:	WG543057	**Analyst:**	JWR	**Run Date:**	10/15/2015 17:37
Collect Date:	09/30/2015 09:15	**Dilution:**	1	**File ID:**	1LM.LM31850
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Perchlorate	14797-73-0	0.200	U	0.400	0.200	0.100

U	Analyte was not detected. The concentration is below the reported LOD.

Sample #:	L15100560-02	**PrePrep Method:**	N/A	**Instrument:**	LCMS1
Client ID:	54MW12	**Prep Method:**	6850	**Prep Date:**	10/15/2015 14:30
Matrix:	Water	**Analytical Method:**	6850	**Cal Date:**	10/13/2015 18:07
Workgroup #:	WG543057	**Analyst:**	JWR	**Run Date:**	10/15/2015 17:56
Collect Date:	09/30/2015 11:30	**Dilution:**	1	**File ID:**	1LM.LM31851
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Perchlorate	14797-73-0	0.737	J	0.400	0.200	0.100

Sample #:	L15100560-03	**PrePrep Method:**	N/A	**Instrument:**	LCMS1
Client ID:	54MW12 MS	**Prep Method:**	6850	**Prep Date:**	10/15/2015 14:30
Matrix:	Water	**Analytical Method:**	6850	**Cal Date:**	10/13/2015 18:07
Workgroup #:	WG543057	**Analyst:**	JWR	**Run Date:**	10/15/2015 18:15
Collect Date:	09/30/2015 11:30	**Dilution:**	1	**File ID:**	1LM.LM31852
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Perchlorate	14797-73-0	0.902		0.400	0.200	0.100

Certificate of Analysis

Sample #:	L15100560-04	**PrePrep Method:**	N/A	**Instrument:**	LCMS1
Client ID:	54MW12 MSD	**Prep Method:**	6850	**Prep Date:**	10/15/2015 14:30
Matrix:	Water	**Analytical Method:**	6850	**Cal Date:**	10/13/2015 18:07
Workgroup #:	WG543057	**Analyst:**	JWR	**Run Date:**	10/15/2015 18:34
Collect Date:	09/30/2015 11:30	**Dilution:**	1	**File ID:**	1LM.LM31853
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Perchlorate	14797-73-0	0.881		0.400	0.200	0.100

Sample #:	L15100560-05	**PrePrep Method:**	N/A	**Instrument:**	LCMS1
Client ID:	54MW13	**Prep Method:**	6850	**Prep Date:**	10/15/2015 14:30
Matrix:	Water	**Analytical Method:**	6850	**Cal Date:**	10/13/2015 18:07
Workgroup #:	WG543057	**Analyst:**	JWR	**Run Date:**	10/15/2015 19:49
Collect Date:	09/30/2015 13:55	**Dilution:**	1	**File ID:**	1LM.LM31857
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Perchlorate	14797-73-0	0.270	J	0.400	0.200	0.100

J	Estimated value ; the analyte concentration was less than the LOQ.

Sample #:	L15100560-06	**PrePrep Method:**	N/A	**Instrument:**	LCMS1
Client ID:	54MW10	**Prep Method:**	6850	**Prep Date:**	10/15/2015 14:30
Matrix:	Water	**Analytical Method:**	6850	**Cal Date:**	10/13/2015 18:07
Workgroup #:	WG543057	**Analyst:**	JWR	**Run Date:**	10/15/2015 20:08
Collect Date:	09/30/2015 14:25	**Dilution:**	1	**File ID:**	1LM.LM31858
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Perchlorate	14797-73-0	0.200	U	0.400	0.200	0.100

U	Analyte was not detected. The concentration is below the reported LOD.

Microbac

Lab Report #: L15100560
Lab Project #: 2694.005
Project Name: CT Labs DOD
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L15100560-07	**PrePrep Method:**	N/A	**Instrument:**	LCMS1
Client ID:	SWMU54TM	**Prep Method:**	6850	**Prep Date:**	10/15/2015 14:30
Matrix:	Water	**Analytical Method:**	6850	**Cal Date:**	10/13/2015 18:07
Workgroup #:	WG543057	**Analyst:**	JWR	**Run Date:**	10/15/2015 20:27
Collect Date:	09/30/2015 14:25	**Dilution:**	1	**File ID:**	1LM.LM31859
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Perchlorate	14797-73-0	0.200	U	0.400	0.200	0.100

U	Analyte was not detected. The concentration is below the reported LOD.

2.1.1.2 QC Summary Data

Example Calculation 6850 - Perchlorate

Concentration from Linear Regression

Step 1: Retrieve Curve Data From Plot, y = mx + b

y = response ratio = response of analyte / response of internal standard (IS) = Rx/Ristd

x = amount ratio = concentration analyte/concentration internal standard (IS) = Cx / Cistd

m = slope from curve (1.45)

b = intercept from curve (-0.00242)

y = 1.45x + -0.00242

Step 2: Substitute the value for y

where y = 12600/226000 = 0.055752

Step 3: Solve for x

x = (y - b)/m = 0.0040119

Step 4: Solve for analyte concentration Cx

Cx = (Cis)(x) = (5 ug/L)(0.040119) = 0.200594 ug/L

Example Calculation - Water:

Slope from curve, m:	1.45
Intercept from curve, b:	-0.00242
Response of analyte, Rx:	12600
Response of Internal Standard , Ristd:	226000
Concentration of IS, Cistd (ug/L):	5.00
Response Ratio:	0.05575
Amount Ratio:	0.04012
Analyte Concentration, Cx (ug/L) :	0.200594

Example Calculation - Soil:

Analyte Concentration, Cx (ug/L):	0.20059
Amount of soil extracted (g):	5.00
Final volume of extract (mL):	50.00
Percent solids (Pct wt.)	100
Concentration in soil (ug/kg):	2.005938

Perchlorate Conductivity Check
(perchlorate)

Conductivity Probe Calibration Check: 1405 /1410 µs/cm

Working MCT Level: 10,000 µs/cm

Sample	Conductivity (µs/cm)	Pretreatment or Dilution Needed
WG543057-01 MCT	10,020.	
WG543057-02 Blank	0.03	
WG543057-03 LCS	0.70	
L15100027-01 LOD	0.52	
L15100029-01 LOQ	0.68	
-09 LOQ	0.65	
L15100560-01	398.	
-02 RS	479.	
-03 MS	470.	
-04 MSD	477.	
-05	463.	
-06	303.	
-07	308.	
L15100877-01	3,470.	

Analyst: John Richards

Date/Time: 10/15/15 : 15:05

DCN#114006

Microbac Laboratories Inc.

Instrument Run Log

Instrument: LCMS1 Dataset: 101315_JWR.TXT
Analyst1: JWR Analyst2: NA
Method: 6850 SOP: HPLC06 Rev: 7

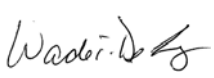
Maintenance Log ID: Syringe Filter Lot#: 140701254
Eluent ID#:

Workgroups: Column 1 ID: KP-RPPX250 Column 2 ID: NA
Analytical WG540594 (waters)
Internal STD: COA18071 Surrogate STD: NA Calibration STD STD72683 (10/13/2015)
CCV STD: STD72683 LCS STD: STD72685 MS/MSD STD: STD72685

Comments: ICAL WG542643 : Alternate Source STD72685

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	1LM.LM31807	WG542643-01 CCB	1	1		10/13/15 15:54
2	1LM.LM31808	WG542643-02 STD (0.1 ug/L)	1	1	STD72683	10/13/15 16:13
3	1LM.LM31809	WG542643-03 STD (0.2 ug/L)	1	1	STD72683	10/13/15 16:32
4	1LM.LM31810	WG542643-04 STD (0.5 ug/L)	1	1	STD72683	10/13/15 16:51
5	1LM.LM31811	WG542643-05 STD (1.0 ug/L)	1	1	STD72683	10/13/15 17:10
6	1LM.LM31812	WG542643-06 STD (2.0 ug/L)	1	1	STD72683	10/13/15 17:29
7	1LM.LM31813	WG542643-07 STD (5.0 ug/L)	1	1	STD72683	10/13/15 17:48
8	1LM.LM31814	WG542643-08 STD (10 ug/L)	1	1	STD72683	10/13/15 18:07
9	1LM.LM31815	WG542643-09 SSCV (1.0 ug/L)	1	1	STD72685	10/13/15 18:26
10	1LM.LM31816	WG540596-01 CCB	1	1		10/13/15 18:44
11	1LM.LM31817	WG540596-02 CCV (1.0ug/L)	1	1	STD72683	10/13/15 19:03
12	1LM.LM31818	WG540594-07 MRL (0.2ug/L)	1	1	STD72683	10/13/15 19:22
13	1LM.LM31819	WG540594-01 MCT (0.2ug/L)	1	1	STD72685	10/13/15 19:41
14	1LM.LM31820	WG540594-02 BLANK	1	1		10/13/15 20:00
15	1LM.LM31821	WG540594-03 LCS (0.2ug/L)	1	1	STD72685	10/13/15 20:19
16	1LM.LM31822	L15091305-01	1	1		10/13/15 20:38
17	1LM.LM31823	L15091305-02	1	1		10/13/15 20:57
18	1LM.LM31824	L15091305-03	1	1		10/13/15 21:16
19	1LM.LM31825	L15091305-04	1	1		10/13/15 21:35
20	1LM.LM31826	L15091305-05	1	1		10/13/15 21:54
21	1LM.LM31827	L15091305-09	1	1		10/13/15 22:13
22	1LM.LM31828	L15091305-10	1	1		10/13/15 22:32
23	1LM.LM31829	WG540596-03 CCV (1.0ug/L)	1	1	STD72683	10/13/15 22:51
24	1LM.LM31830	WG540594-08 MRL (0.2ug/L)	1	1	STD72683	10/13/15 23:10
25	1LM.LM31831	WG540596-04 CCB	1	1		10/13/15 23:29
26	1LM.LM31832	L15091305-06 RS	1	1		10/13/15 23:47
27	1LM.LM31833	L15091305-07 MS	1	1	STD72685	10/14/15 00:06
28	1LM.LM31834	L15091305-08 MSD	1	1	STD72685	10/14/15 00:25
29	1LM.LM31835	L15091305-11	1	1		10/14/15 00:44
30	1LM.LM31836	L15091305-12	1	1		10/14/15 01:03
31	1LM.LM31837	L15100296-01	1	1		10/14/15 01:22
32	1LM.LM31838	WG540596-05 CCV (1.0ug/L)	1	1	STD72683	10/14/15 01:41
33	1LM.LM31839	WG540594-09 MRL (0.2ug/L)	1	1	STD72683	10/14/15 02:00

Page: 1 Approved: 14-OCT-15



Microbac Laboratories Inc.

Instrument Run Log

Instrument: LCMS1 Dataset: 101315_JWR.TXT

Analyst1: JWR Analyst2: NA

Method: 6850 SOP: HPLC06 Rev: 7

Maintenance Log ID: Syringe Filter Lot#: 140701254

Eluent ID#:

Workgroups: Column 1 ID: KP-RPPX250 Column 2 ID: NA

Analytical WG540594 (waters)

Internal STD: COA18071 Surrogate STD: NA STD72683 (10/13/2015)

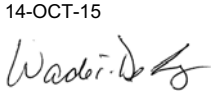
CCV STD: STD72683 LCS STD: STD72685 STD72685

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
34	1LM.LM31840	WG540596-06 CCB	1	1		10/14/15 02:19

Comments

Seq.	Rerun	Dil.	Reason	Analytes

Page: 2 Approved: 14-OCT-15



Microbac Laboratories Inc.

Instrument Run Log

Instrument: LCMS1 Dataset: 101515_JWR.TXT
Analyst1: JWR Analyst2: NA
Method: 6850 SOP: HPLC06 Rev: 7

Maintenance Log ID: Syringe Filter Lot#: 140701254
Eluent ID#:

Workgroups: Column 1 ID: KP-RPPX250 Column 2 ID: NA
Analytical WG543057 (waters)
Internal STD: COA18071 Surrogate STD: NA Calibration STD STD72683 (10/13/2015)
CCV STD: STD72683 LCS STD: STD72685 MS/MSD STD: STD72685

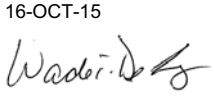
Comments:

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	1LM.LM31841	WG543058-01 CCB	1	1		10/15/15 14:46
2	1LM.LM31842	WG543058-02 CCV (1.0ug/L)	1	1	STD72683	10/15/15 15:05
3	1LM.LM31843	WG543057-07 MRL (0.2ug/L)	1	1	STD72683	10/15/15 15:24
4	1LM.LM31844	WG543057-01 MCT (0.2ug/L)	1	1	STD72685	10/15/15 15:43
5	1LM.LM31845	WG543057-02 BLANK	1	1		10/15/15 16:02
6	1LM.LM31846	WG543057-03 LCS (0.2ug/L)	1	1	STD72685	10/15/15 16:21
7	1LM.LM31847	L15100029-01 LOQ (0.2ug/L)	1	1	STD72685	10/15/15 16:40
8	1LM.LM31848	L15100029-09 LOQ (0.2ug/L)	1	1	STD72685	10/15/15 16:59
9	1LM.LM31849	L15100027-01 LOD (0.1ug/L)	1	1	STD72685	10/15/15 17:18
10	1LM.LM31850	L15100560-01	1	1		10/15/15 17:37
11	1LM.LM31851	L15100560-02 RS	1	1		10/15/15 17:56
12	1LM.LM31852	L15100560-03 MS	1	1	STD72685	10/15/15 18:15
13	1LM.LM31853	L15100560-04 MSD	1	1	STD72685	10/15/15 18:34
14	1LM.LM31854	WG543058-03 CCV (1.0ug/L)	1	1	STD72683	10/15/15 18:53
15	1LM.LM31855	WG543057-08 MRL (0.2ug/L)	1	1	STD72683	10/15/15 19:12
16	1LM.LM31856	WG543058-04 CCB	1	1		10/15/15 19:31
17	1LM.LM31857	L15100560-05	1	1		10/15/15 19:49
18	1LM.LM31858	L15100560-06	1	1		10/15/15 20:08
19	1LM.LM31859	L15100560-07	1	1		10/15/15 20:27
20	1LM.LM31860	L15100877-01	1	1		10/15/15 20:46
21	1LM.LM31861	WG543058-05 CCV (1.0ug/L)	1	1	STD72683	10/15/15 21:05
22	1LM.LM31862	WG543057-09 MRL (0.2ug/L)	1	1	STD72683	10/15/15 21:24
23	1LM.LM31863	WG543058-06 CCB	1	1		10/15/15 21:43

Comments

Seq.	Rerun	Dil.	Reason	Analytes
12				
	L15100560-03 MS : The MS %Rec was 82.5%. This is below the lower advisory limit of 84%. MS and MSD samples are spiked at the reporting limit, as per method requirements.			
13				
	L15100560-04 MSD : The MSD %Rec was 72.0%. This is below the lower advisory limit of 84%. MS and MSD samples are spiked at the reporting limit, as per method requirements.			

Page: 1 Approved: 16-OCT-15



Microbac Laboratories Inc.

Data Checklist

Date: 13-OCT-2015
Analyst: JWR
Analyst: NA
Method: 6850
Instrument: LCMS1
Curve Workgroup: WG542643
Runlog ID: 71052
Analytical Workgroups: L15091305 L15100296

ANALYTICAL	
System Performance Check	NA
DFTPP (GCMS)	NA
Endrin/DDT breakdown (8081/GCMS)	NA
Pentachlorophenol/benzidine tailing (GCMS)	NA
Eluent check (IC)/system pressure (HPLC)	NA
Window standard (FID)	NA
Initial Calibration	X
Average RF	NA
Linear regression or higher order curve	X
Alternate source standard (ICV) % Difference	X
Continuing Calibration (CCV)	X
% D/% Drift	X
Minimum response factors (GCMS)	X
Continuing calibration blank (CCB) (IC/LCMS)	X
Limit of quantitation verification (LOQV) (LCMS)	X
Special standards	NA
Blanks	X
TCL hits	ND
Surrogate recoveries	NA
LCS/LCSD (Laboratory Control Sample)	X
Recoveries	X
Surrogate recoveries	NA
MS/MSD/Sample duplicates	X
Recoveries	X
%RPD	X
Interference check sample (ICS) (LCMS)	MCT
Samples	X
TCL hits	X
Mass spectra (MS/HPLC)/2nd column confirmations (ECD/FID/HPLC)	NA
Surrogate recoveries	NA
Internal standard areas (MS)	X
Library searches (GCMS)	NA
Calculations & correct factors	X
Compounds above calibration range	NA
Reruns	NA
Manual integrations	X
Project/client specific requirements	X
REPORTING	
Upload batch form	X
KOBRA workgroup data/forms/bench sheets	X
Case narratives	
Check for completeness	X
Primary Reviewer	JWR
SUPERVISORY/SECONDARY REVIEW	
Check for compliance with method and project specific requirements	X
Check the completeness/accuracy of reported information	X
Data qualifiers	X
Secondary Reviewer	WTD

Primary Reviewer:
14-OCT-2015

John Richards

Secondary Reviewer:
14-OCT-2015

Wadei D

CHECKLIST1 - Modified 03/05/2008
Generated: OCT-14-2015 12:56:14

Microbac Laboratories Inc.

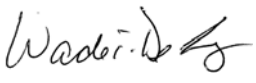
Data Checklist

Date: 15-OCT-2015
Analyst: JWR
Analyst: NA
Method: 6850
Instrument: LCMS1
Curve Workgroup: NA
Runlog ID: 71105
Analytical Workgroups: L15100027(LOD), 0029(LOQ'S), 0560, 0877 (WATERS)

ANALYTICAL	
System Performance Check	NA
DFTPP (GCMS)	NA
Endrin/DDT breakdown (8081/GCMS)	NA
Pentachlorophenol/benzidine tailing (GCMS)	NA
Eluent check (IC)/system pressure (HPLC)	NA
Window standard (FID)	NA
Initial Calibration	NA
Average RF	NA
Linear regression or higher order curve	NA
Alternate source standard (ICV) % Difference	NA
Continuing Calibration (CCV)	X
% D/% Drift	X
Minimum response factors (GCMS)	X
Continuing calibration blank (CCB) (IC/LCMS)	X
Limit of quantitation verification (LOQV) (LCMS)	X
Special standards	NA
Blanks	X
TCL hits	ND
Surrogate recoveries	NA
LCS/LCSD (Laboratory Control Sample)	X
Recoveries	X
Surrogate recoveries	NA
MS/MSD/Sample duplicates	X
Recoveries	X
%RPD	X
Interference check sample (ICS) (LCMS)	MCT
Samples	X
TCL hits	X
Mass spectra (MS/HPLC)/2nd column confirmations (ECD/FID/HPLC)	NA
Surrogate recoveries	NA
Internal standard areas (MS)	X
Library searches (GCMS)	NA
Calculations & correct factors	X
Compounds above calibration range	NA
Reruns	NA
Manual integrations	NA
Project/client specific requirements	X
REPORTING	
Upload batch form	X
KOBRA workgroup data/forms/bench sheets	X
Case narratives	
Check for completeness	X
Primary Reviewer	JWR
SUPERVISORY/SECONDARY REVIEW	
Check for compliance with method and project specific requirements	X
Check the completeness/accuracy of reported information	X
Data qualifiers	X
Secondary Reviewer	WTD

Primary Reviewer:
16-OCT-2015

Secondary Reviewer:
16-OCT-2015



CHECKLIST1 - Modified 03/05/2008
Generated: OCT-16-2015 15:24:51

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 6850 **AAB#:** WG543057

Login Number: L15100560

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
54MW1	01	09/30/15					10/15/2015	15.2	28		10/15/15	.1	28	
54MW12	02	09/30/15					10/15/2015	15.1	28		10/15/15	.1	28	
54MW12 MS	03	09/30/15					10/15/2015	15.1	28		10/15/15	.2	28	
54MW12 MSD	04	09/30/15					10/15/2015	15.1	28		10/15/15	.2	28	
54MW13	05	09/30/15					10/15/2015	15	28		10/15/15	.2	28	
54MW10	06	09/30/15					10/15/2015	15	28		10/15/15	.2	28	
SWMU54TM	07	09/30/15					10/15/2015	15	28		10/15/15	.2	28	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 4446962
Report generated 10/16/2015 15:39

Microbac Laboratories Inc.

METHOD BLANK SUMMARY

Login Number: L15100560
Blank File ID: 1LM.LM31845
Prep Date: 10/15/15 14:30
Analyzed Date: 10/15/15 16:02
Analyst: JWR

Work Group: WG543057
Blank Sample ID: WG543057-02
Instrument ID: LCMS1
Method: 6850

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
QCMRL	WG543057-07	1LM.LM31843	10/15/15 15:24	01
MCT	WG543057-01	1LM.LM31844	10/15/15 15:43	01
LCS	WG543057-03	1LM.LM31846	10/15/15 16:21	01
54MW1	L15100560-01	1LM.LM31850	10/15/15 17:37	01
54MW12	L15100560-02	1LM.LM31851	10/15/15 17:56	01
54MW12 MS	L15100560-03	1LM.LM31852	10/15/15 18:15	01
54MW12 MSD	L15100560-04	1LM.LM31853	10/15/15 18:34	01
QCMRL	WG543057-08	1LM.LM31855	10/15/15 19:12	01
54MW13	L15100560-05	1LM.LM31857	10/15/15 19:49	01
54MW10	L15100560-06	1LM.LM31858	10/15/15 20:08	01
SWMU54TM	L15100560-07	1LM.LM31859	10/15/15 20:27	01
QCMRL	WG543057-09	1LM.LM31862	10/15/15 21:24	01

Report Name: BLANK_SUMMARY
PDF File ID: 4446963
Report generated 10/16/2015 15:39

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L15100560 Prep Date: 10/15/15 14:30 Sample ID: WG543057-02
Instrument ID: LCMS1 Run Date: 10/15/15 16:02 Prep Method: 6850
File ID: 1LM.LM31845 Analyst: JWR Method: 6850
Workgroup (AAB#): WG543057 Matrix: Water Units: ug/L
Contract #: Cal ID: LCMS1-13-OCT-15

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
Perchlorate	0.100	0.400	0.100	1	U

DL Method Detection Limit
LOQ Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > 1/2 RL

Report Name:BLANK
PDF ID: 4446964
16-OCT-2015 15:39

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L15100560 **Run Date:** 10/15/2015 **Sample ID:** WG543057-03
Instrument ID: LCMS1 **Run Time:** 16:21 **Prep Method:** 6850
File ID: 1LM.LM31846 **Analyst:** JWR **Method:** 6850
Workgroup (AAB#): WG543057 **Matrix:** Water **Units:** ug/L
QC Key: DOD5 **Lot#:** STD72685 **Cal ID:** LCMS1-13-OCT-15

Analytes	Expected	Found	% Rec	LCS Limits	Q
Perchlorate	0.200	0.199	99.5	84 - 119	

LCS - Modified 03/06/2008
PDF File ID: 4446965
Report generated: 10/16/2015 15:39

Microbac Laboratories Inc.

MS/MSD REPORT

Loginnum:L15100560 Cal ID:LCMS1- 13-OCT-15 Worknum:WG543057

Instrument ID:LCMS1 Contract #: Prep Method:6850

Parent ID:L15100560-02 File ID:1LM.LM31851 Dil:1 Method:6850

Sample ID:L15100560-03 MS File ID:1LM.LM31852 Dil:1 Matrix:Water

Sample ID:L15100560-04 MSD File ID:1LM.LM31853 Dil:1 Units:ug/L

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Perchlorate	0.737	0.200	0.902	82.5	0.200	0.881	72	2.36	84 - 119	15	*

* FAILS %REC LIMIT

FAILS RPD LIMIT

MS_MSD - Modified 03/06/2008

PDF File ID: 4446966

Report generated 10/16/2015 15:39

Microbac Laboratories Inc.

INITIAL CALIBRATION SUMMARY

Login Number: L15100560 **Instrument ID:** LCMS1

Analytical Method: 6850 **Initial Calibration Date:** 13-OCT-15 18:07

ICAL Workgroup: WG542643 **Column ID:** F

Analyte		AVG RF	% RSD	LINEAR (R)	QUAD (R^2)
Perchlorate		1.489	2.77	1.00000	

R = Correlation coefficient; 0.995 minimum
R^2 = Coefficient of determination; 0.99 minimum

INT_CAL - Modified 03/06/2008
PDF File ID: 4447061
Report generated 10/16/2015 15:39

Microbac Laboratories Inc.

INITIAL CALIBRATION DATA

Login Number: L15100560
Analytical Method: 6850
Instrument ID: LCMS1
Initial Calibration Date: 13-OCT-15 18:07
Column ID: F

Analyte	WG542643-02			WG542643-03			WG542643-04		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Perchlorate	0.100	6740.00000	1.437	0.200	14100.0000	1.493	0.500	34600.0000	1.480

INT_CAL - Modified 03/06/2008
PDF File ID: 4447061
Report generated 10/16/2015 15:39

Microbac Laboratories Inc.

INITIAL CALIBRATION DATA

Login Number: L15100560
Analytical Method: 6850
Instrument ID: LCMS1
Initial Calibration Date: 13-OCT-15 18:07
Column ID: F

Analyte	WG542643-05			WG542643-06			WG542643-07		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Perchlorate	1.00	70200.0000	1.512	2.00	137000.000	1.513	5.00	338000.000	1.493

INT_CAL - Modified 03/06/2008
PDF File ID: 4447061
Report generated 10/16/2015 15:39

Microbac Laboratories Inc.

INITIAL CALIBRATION DATA

Login Number: L15100560
Analytical Method: 6850

Instrument ID: LCMS1
Initial Calibration Date: 13-OCT-15 18:07
Column ID: F

Analyte	WG542643-08		
	CONC	RESP	RF
Perchlorate	10.0	650000.000	1.493

INT_CAL - Modified 03/06/2008
PDF File ID: 4447061
Report generated 10/16/2015 15:39

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L15100560 Run Date: 10/13/2015 Sample ID: WG542643-09
Instrument ID: LCMS1 Run Time: 18:26 Method: 6850
File ID: 1LM.LM31815 Analyst: JWR QC Key: DOD5
ICal Workgroup: WG542643 Cal ID: LCMS1 - 13-OCT-15

Analyte		Expected	Found	Units	RF	%D	UCL	Q
Perchlorate		1.00	1.01	ug/L	1.51	1.00	15	

* Exceeds %D Limit

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 4447062
Report generated 10/16/2015 15:40

Microbac Laboratories Inc.

CONTINUING CALIBRATION BLANK (CCB)

Login Number: L15100560 Run Date: 10/15/2015 Sample ID: WG543058-01

Instrument ID: LCMS1 Run Time: 14:46 Method: 6850

File ID: 1LM.LM31841 Analyst: JWR Units: ug/L

Workgroup (AAB#): WG543057 Cal ID: LCMS1 - 13-OCT-15

Matrix: WATER QAPP: DOD5

Analytes	MDL	RDL	Concentration	Qualifier
Perchlorate	0.100	0.400	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 4446969
Report generated 10/16/2015 15:40

Microbac Laboratories Inc.

CONTINUING CALIBRATION BLANK (CCB)

Login Number:	L15100560	Run Date:	10/15/2015	Sample ID:	WG543058-04
Instrument ID:	LCMS1	Run Time:	19:31	Method:	6850
File ID:	1LM.LM31856	Analyst:	JWR	Units:	ug/L
Workgroup (AAB#):	WG543057	Cal ID:	LCMS1 - 13-OCT-15		
Matrix:	WATER	QAPP:	DOD5		

Analytes	MDL	RDL	Concentration	Qualifier
Perchlorate	0.100	0.400	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 4446969
Report generated 10/16/2015 15:40

Microbac Laboratories Inc.

CONTINUING CALIBRATION BLANK (CCB)

Login Number:	L15100560	Run Date:	10/15/2015	Sample ID:	WG543058-06
Instrument ID:	LCMS1	Run Time:	21:43	Method:	6850
File ID:	1LM.LM31863	Analyst:	JWR	Units:	ug/L
Workgroup (AAB#):	WG543057	Cal ID:	LCMS1 - 13-OCT-15		
Matrix:	WATER	QAPP:	DOD5		

Analytes	MDL	RDL	Concentration	Qualifier
Perchlorate	0.100	0.400	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 4446969
Report generated 10/16/2015 15:40

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L15100560 Run Date: 10/15/2015 Sample ID: WG543058-02

Instrument ID: LCMS1 Run Time: 15:05 Method: 6850

File ID: 1LM.LM31842 Analyst: JWR QC Key: DOD5

Workgroup (AAB#): WG543057 Cal ID: LCMS1 - 13-OCT-15

Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Perchlorate		1.00	0.998	ug/L	1.49	0.200	15	

* Exceeds %D Criteria

CCV - Modified 03/05/2008

PDF File ID: 4446968

Report generated 10/16/2015 15:40

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L15100560 Run Date: 10/15/2015 Sample ID: WG543058-03

Instrument ID: LCMS1 Run Time: 18:53 Method: 6850

File ID: 1LM.LM31854 Analyst: JWR QC Key: DOD5

Workgroup (AAB#): WG543057 Cal ID: LCMS1 - 13-OCT-15

Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Perchlorate		1.00	0.916	ug/L	1.37	8.40	15	

* Exceeds %D Criteria

CCV - Modified 03/05/2008

PDF File ID: 4446968

Report generated 10/16/2015 15:40

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L15100560 Run Date: 10/15/2015 Sample ID: WG543058-05

Instrument ID: LCMS1 Run Time: 21:05 Method: 6850

File ID: 1LM.LM31861 Analyst: JWR QC Key: DOD5

Workgroup (AAB#): WG543057 Cal ID: LCMS1 - 13-OCT-15

Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Perchlorate		1.00	0.940	ug/L	1.40	6.00	15	

* Exceeds %D Criteria

CCV - Modified 03/05/2008

PDF File ID: 4446968

Report generated 10/16/2015 15:40

Microbac Laboratories Inc.
QCMRL SAMPLE

Login Number: L15100560 Run Date: 10/15/2015 Sample ID: WG543057-07
Instrument ID: LCMS1 Run Time: 15:24 Prep Method: 6850
File ID: 1LM.LM31843 Analyst: JWR Method: 6850
Workgroup (AAB#): WG543057 Matrix: Water Units: ug/L
Contract #: Cal ID: LCMS1-13-OCT-15

Analytes	Expected	Found	% Rec	Limits	Q
Perchlorate	0.200	0.191	95.5	70 - 130	

QCMRL - Modified 03/06/2007
PDF File ID: 4446967
Report generated 10/16/2015 15:39

Microbac Laboratories Inc.

QCMRL SAMPLE

Login Number: L15100560 Run Date: 10/15/2015 Sample ID: WG543057-08

Instrument ID: LCMS1 Run Time: 19:12 Prep Method: 6850

File ID: 1LM.LM31855 Analyst: JWR Method: 6850

Workgroup (AAB#): WG543057 Matrix: Water Units: ug/L

Contract #: Cal ID: LCMS1-13-OCT-15

Analytes	Expected	Found	% Rec	Limits	Q
Perchlorate	0.200	0.183	91.5	70 - 130	

QCMRL - Modified 03/06/2007

PDF File ID: 4446967

Report generated 10/16/2015 15:39

Microbac Laboratories Inc.

QCMRL SAMPLE

Login Number:	L15100560	**Run Date:**	10/15/2015	**Sample ID:**	WG543057-09
Instrument ID:	LCMS1	**Run Time:**	21:24	**Prep Method:**	6850
File ID:	1LM.LM31862	**Analyst:**	JWR	**Method:**	6850
Workgroup (AAB#):	WG543057	**Matrix:**	Water	**Units:**	ug/L
Contract #:		**Cal ID:**	LCMS1-13-OCT-15		

Analytes	Expected	Found	% Rec	Limits	Q
Perchlorate	0.200	0.186	93.0	70 - 130	

QCMRL - Modified 03/06/2007
PDF File ID: 4446967
Report generated 10/16/2015 15:39

Microbac Laboratories Inc.

INTERNAL STANDARD AREA SUMMARY
(COMPARED TO AVERAGE OF ICAL)

Login Number:L15100560
Instrument ID:LCMS1
Workgroup (AAB#):WG543057

ICAL CCV Number:WG542643-05
CAL ID: LCMS1-13-OCT-15
Matrix:WATER

Sample Number	Dilution	Tag	IS-1
WG542643	NA	NA	229000
Upper Limit	NA	NA	343500
Lower Limit	NA	NA	114500
L15100560-01	1.00	01	332000
L15100560-02	1.00	01	328000
L15100560-03	1.00	01	319000
L15100560-04	1.00	01	319000
L15100560-05	1.00	01	323000
L15100560-06	1.00	01	323000
L15100560-07	1.00	01	333000
WG543057-02	1.00	01	261000
WG543057-03	1.00	01	247000

IS-1 - O18LP

Underline = Response outside limits

INTERNAL_STD_AVG_ICAL - Modified 03/10/2010
PDF File ID: 4446970
Report generated 10/16/2015 15:40

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L15100560	**Prep Method:**	6850	**Samplenum:**	L15100560-01
Instrument:	LCMS1	**Prep Date:**	10/15/2015 14:30	**File ID:**	1LM.LM31850
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG543057	**Analysis Date:**	10/15/2015 17:37	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	0.000	0.000	0.000	2.3	3.8	*

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L15100560	**Prep Method:**	6850	**Samplenum:**	L15100560-02
Instrument:	LCMS1	**Prep Date:**	10/15/2015 14:30	**File ID:**	1LM.LM31851
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG543057	**Analysis Date:**	10/15/2015 17:56	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	72100	23500	3.07	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L15100560	**Prep Method:**	6850	**Samplenum:**	L15100560-03
Instrument:	LCMS1	**Prep Date:**	10/15/2015 14:30	**File ID:**	1LM.LM31852
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG543057	**Analysis Date:**	10/15/2015 18:15	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	86000	27300	3.15	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L15100560	**Prep Method:**	6850	**Samplenum:**	L15100560-04
Instrument:	LCMS1	**Prep Date:**	10/15/2015 14:30	**File ID:**	1LM.LM31853
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG543057	**Analysis Date:**	10/15/2015 18:34	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	84000	27600	3.04	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L15100560	**Prep Method:**	6850	**Samplenum:**	L15100560-05
Instrument:	LCMS1	**Prep Date:**	10/15/2015 14:30	**File ID:**	1LM.LM31857
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG543057	**Analysis Date:**	10/15/2015 19:49	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	26000	8400	3.10	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L15100560	**Prep Method:**	6850	**Samplenum:**	L15100560-06
Instrument:	LCMS1	**Prep Date:**	10/15/2015 14:30	**File ID:**	1LM.LM31858
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG543057	**Analysis Date:**	10/15/2015 20:08	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	9170	3130	2.93	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L15100560	**Prep Method:**	6850	**Samplenum:**	L15100560-07
Instrument:	LCMS1	**Prep Date:**	10/15/2015 14:30	**File ID:**	1LM.LM31859
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG543057	**Analysis Date:**	10/15/2015 20:27	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	9590	3020	3.18	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L15100560	**Prep Method:**		**Samplenum:**	WG542643-02
Instrument:	LCMS1	**Prep Date:**		**File ID:**	1LM.LM31808
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG543057	**Analysis Date:**	10/13/2015 16:13	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	6740	2230	3.02	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L15100560	**Prep Method:**		**Samplenum:**	WG542643-03
Instrument:	LCMS1	**Prep Date:**		**File ID:**	1LM.LM31809
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG543057	**Analysis Date:**	10/13/2015 16:32	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	14100	4740	2.97	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L15100560	**Prep Method:**		**Samplenum:**	WG542643-04
Instrument:	LCMS1	**Prep Date:**		**File ID:**	1LM.LM31810
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG543057	**Analysis Date:**	10/13/2015 16:51	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	34600	10900	3.17	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L15100560	**Prep Method:**		**Samplenum:**	WG542643-05
Instrument:	LCMS1	**Prep Date:**		**File ID:**	1LM.LM31811
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG543057	**Analysis Date:**	10/13/2015 17:10	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	70200	22300	3.15	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L15100560	**Prep Method:**		**Samplenum:**	WG542643-06
Instrument:	LCMS1	**Prep Date:**		**File ID:**	1LM.LM31812
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG543057	**Analysis Date:**	10/13/2015 17:29	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	137000	42700	3.21	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L15100560	**Prep Method:**		**Samplenum:**	WG542643-07
Instrument:	LCMS1	**Prep Date:**		**File ID:**	1LM.LM31813
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG543057	**Analysis Date:**	10/13/2015 17:48	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	338000	106000	3.19	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L15100560	**Prep Method:**		**Samplenum:**	WG542643-08
Instrument:	LCMS1	**Prep Date:**		**File ID:**	1LM.LM31814
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG543057	**Analysis Date:**	10/13/2015 18:07	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	650000	205000	3.17	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L15100560	**Prep Method:**		**Samplenum:**	WG542643-09
Instrument:	LCMS1	**Prep Date:**		**File ID:**	1LM.LM31815
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG543057	**Analysis Date:**	10/13/2015 18:26	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	72500	22600	3.21	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L15100560	**Prep Method:**	6850	**Samplenum:**	WG543057-01
Instrument:	LCMS1	**Prep Date:**	10/15/2015 14:30	**File ID:**	1LM.LM31844
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG543057	**Analysis Date:**	10/15/2015 15:43	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	16200	4670	3.47	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L15100560	**Prep Method:**	6850	**Samplenum:**	WG543057-02
Instrument:	LCMS1	**Prep Date:**	10/15/2015 14:30	**File ID:**	1LM.LM31845
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG543057	**Analysis Date:**	10/15/2015 16:02	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	337	153	2.20	2.3	3.8	*

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L15100560	**Prep Method:**	6850	**Samplenum:**	WG543057-03
Instrument:	LCMS1	**Prep Date:**	10/15/2015 14:30	**File ID:**	1LM.LM31846
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG543057	**Analysis Date:**	10/15/2015 16:21	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	14600	4630	3.15	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L15100560	**Prep Method:**	6850	**Samplenum:**	WG543057-07
Instrument:	LCMS1	**Prep Date:**	10/15/2015 14:30	**File ID:**	1LM.LM31843
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG543057	**Analysis Date:**	10/15/2015 15:24	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	14100	4780	2.95	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L15100560	**Prep Method:**	6850	**Samplenum:**	WG543057-08
Instrument:	LCMS1	**Prep Date:**	10/15/2015 14:30	**File ID:**	1LM.LM31855
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG543057	**Analysis Date:**	10/15/2015 19:12	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	14100	4590	3.07	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L15100560	**Prep Method:**	6850	**Samplenum:**	WG543057-09
Instrument:	LCMS1	**Prep Date:**	10/15/2015 14:30	**File ID:**	1LM.LM31862
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG543057	**Analysis Date:**	10/15/2015 21:24	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	14800	4480	3.30	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L15100560	**Prep Method:**		**Samplenum:**	WG543058-01
Instrument:	LCMS1	**Prep Date:**		**File ID:**	1LM.LM31841
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG543057	**Analysis Date:**	10/15/2015 14:46	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	0.000	0.000	0.000	2.3	3.8	*

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L15100560	**Prep Method:**		**Samplenum:**	WG543058-02
Instrument:	LCMS1	**Prep Date:**		**File ID:**	1LM.LM31842
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG543057	**Analysis Date:**	10/15/2015 15:05	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	70300	21800	3.22	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L15100560	**Prep Method:**		**Samplenum:**	WG543058-03
Instrument:	LCMS1	**Prep Date:**		**File ID:**	1LM.LM31854
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG543057	**Analysis Date:**	10/15/2015 18:53	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	74600	24300	3.07	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L15100560	**Prep Method:**		**Samplenum:**	WG543058-04
Instrument:	LCMS1	**Prep Date:**		**File ID:**	1LM.LM31856
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG543057	**Analysis Date:**	10/15/2015 19:31	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	0.000	0.000	0.000	2.3	3.8	*

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L15100560	**Prep Method:**		**Samplenum:**	WG543058-05
Instrument:	LCMS1	**Prep Date:**		**File ID:**	1LM.LM31861
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG543057	**Analysis Date:**	10/15/2015 21:05	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	77100	24700	3.12	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L15100560	**Prep Method:**		**Samplenum:**	WG543058-06
Instrument:	LCMS1	**Prep Date:**		**File ID:**	1LM.LM31863
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG543057	**Analysis Date:**	10/15/2015 21:43	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	0.000	0.000	0.000	2.3	3.8	*

2.1.1.3 Sample Data

Data File	LM31850.wiff	**Result Table**	101515_JWR.rdb
Acquisition Date	10/15/2015 5:37:23 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

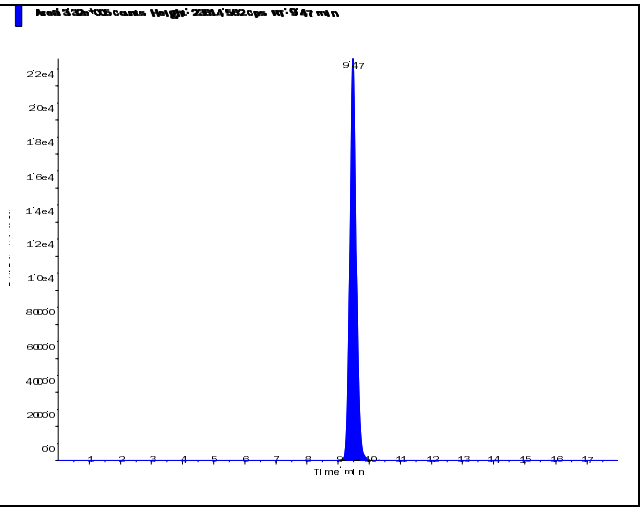
Sample Name	L15100560-01	**Injection Vial**	10.00
Data File	LM31850.wiff	**Injection Volume**	10.00
Acquisition Date	10/15/2015 5:37:23 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Unknown
Instrument Name	API 4000	**Result Table**	101515_JWR.rdb
Sample ID	L15100560-01	**Dilution Factor**	1.00
Sample Comment	1,1 (No Hist)	**Weight to Volume**	0.00

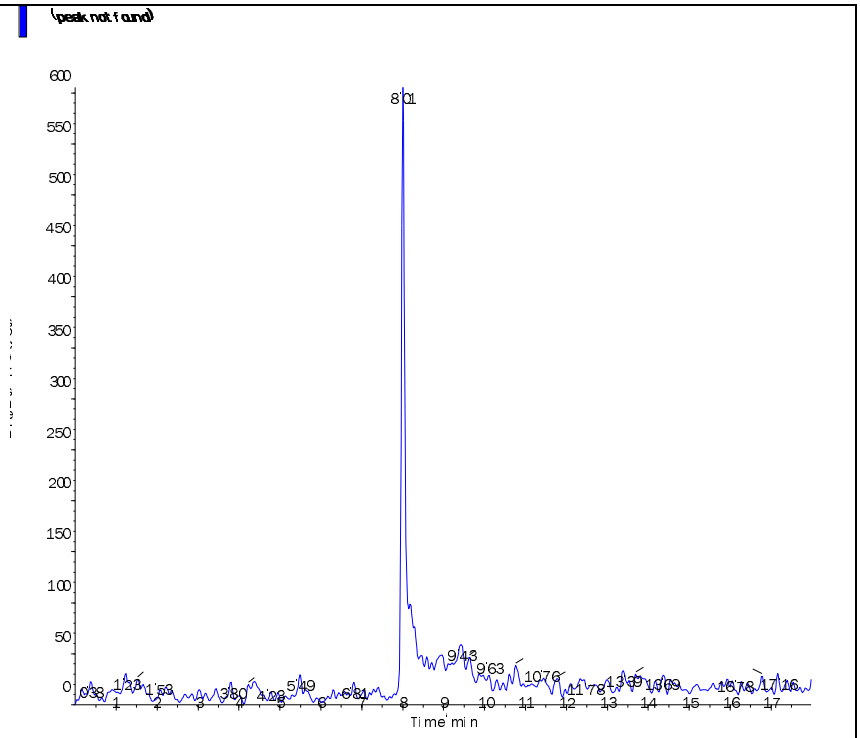
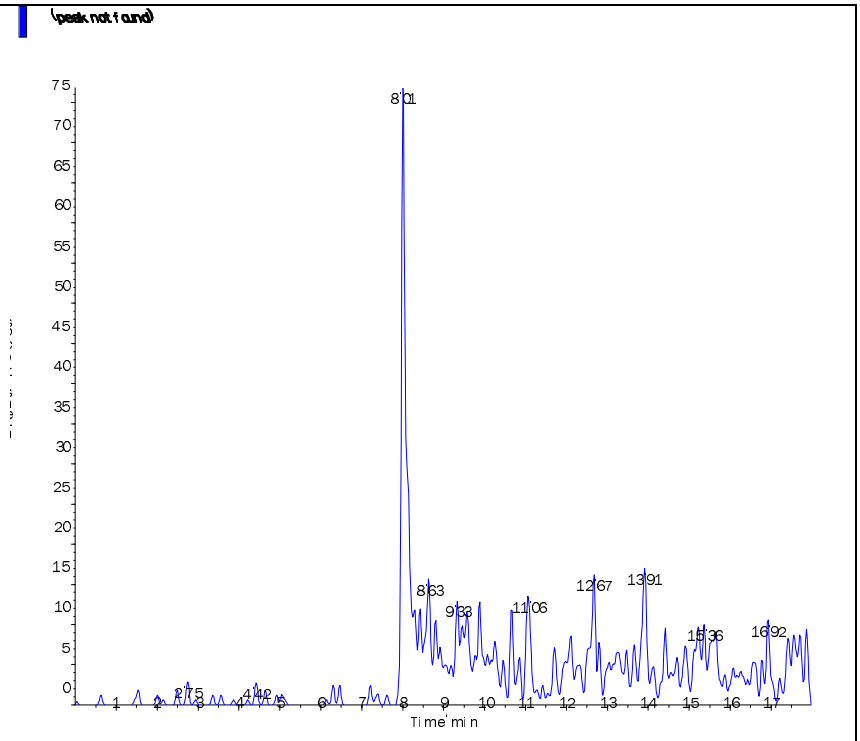
Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	3.320e+05	9.47	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	0.000e+00	0.00	N/A	No Peak
Perchlorate conf	0.000e+00	0.00	N/A	No Peak

O18LP (Internal Standard)

RT (Exp. RT): 9.47(9.88) min
Concentration: 5.00 ug/L
Sample Type: (Unknown)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): 0.00 (9.90) min Calculated conc: No Peak ng/ml Area Ratio: 0.00 Sample Type: (Unknown)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 0.00 (9.88) min Calculated conc: No Peak ng/ml Area Ratio: 0.00 Sample Type: (Unknown)	

Data File	LM31851.wiff	**Result Table**	101515_JWR.rdb
Acquisition Date	10/15/2015 5:56:20 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

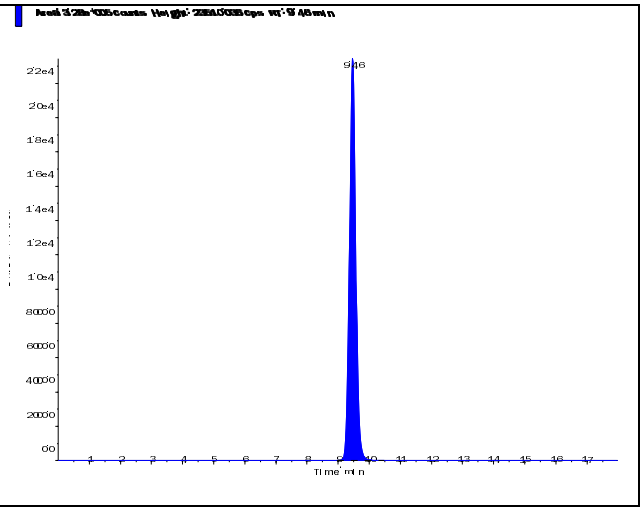
Sample Name	L15100560-02 RS	**Injection Vial**	11.00
Data File	LM31851.wiff	**Injection Volume**	10.00
Acquisition Date	10/15/2015 5:56:20 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Unknown
Instrument Name	API 4000	**Result Table**	101515_JWR.rdb
Sample ID	WG543057-04	**Dilution Factor**	1.00
Sample Comment	1,1 (No Hist)	**Weight to Volume**	0.00

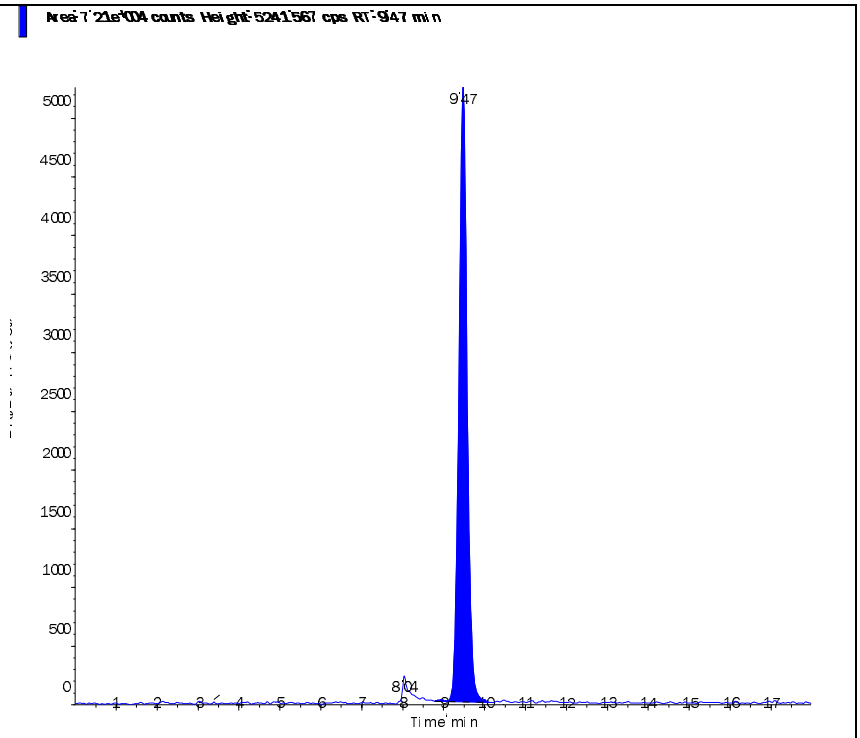
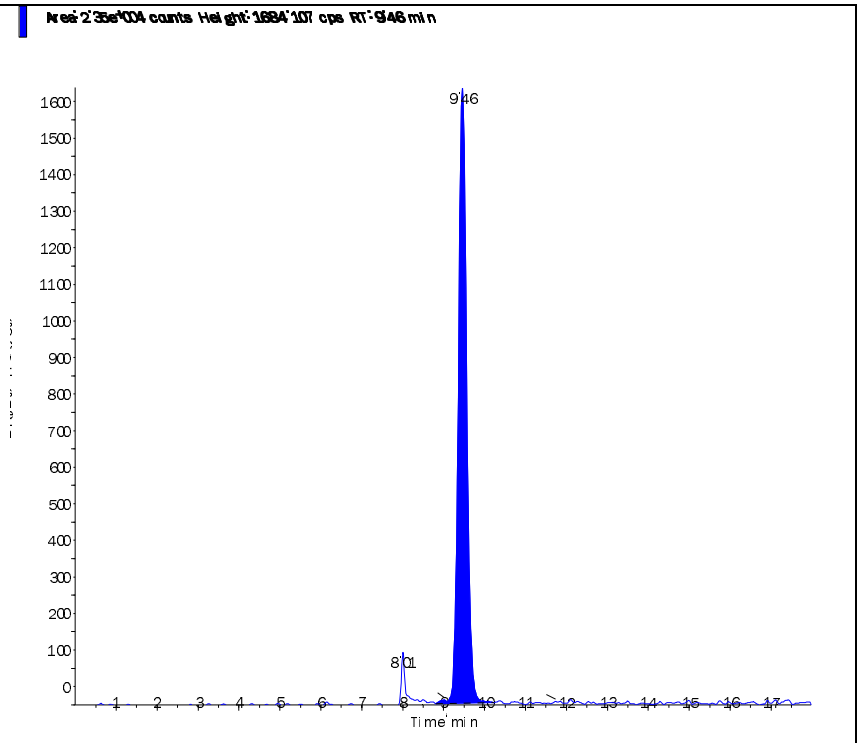
Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	3.280e+05	9.46	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	7.210e+04	9.47	N/A	0.737
Perchlorate conf	2.350e+04	9.46	N/A	0.756

O18LP (Internal Standard)

RT (Exp. RT): 9.46(9.88) min
Concentration: 5.00 ug/L
Sample Type: (Unknown)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): 9.47 (9.90) min Calculated conc: 0.737 ng/ml Area Ratio: 0.22 Sample Type: (Unknown)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 9.46 (9.88) min Calculated conc: 0.756 ng/ml Area Ratio: 0.072 Sample Type: (Unknown)	

Data File	LM31852.wiff	**Result Table**	101515_JWR.rdb
Acquisition Date	10/15/2015 6:15:19 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	L15100560-03 MS	**Injection Vial**	12.00
Data File	LM31852.wiff	**Injection Volume**	10.00
Acquisition Date	10/15/2015 6:15:19 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Unknown
Instrument Name	API 4000	**Result Table**	101515_JWR.rdb
Sample ID	WG543057-05	**Dilution Factor**	1.00
Sample Comment	1,1 STD72685	**Weight to Volume**	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	3.190e+05	9.47	5.00	-

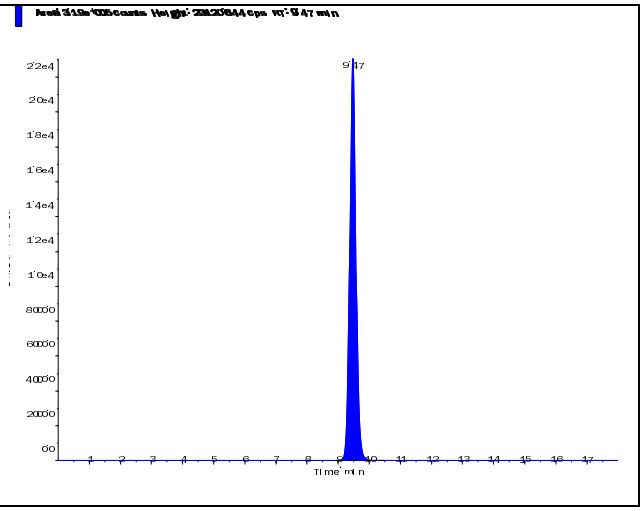
Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	8.600e+04	9.48	N/A	0.902
Perchlorate conf	2.730e+04	9.47	N/A	0.904

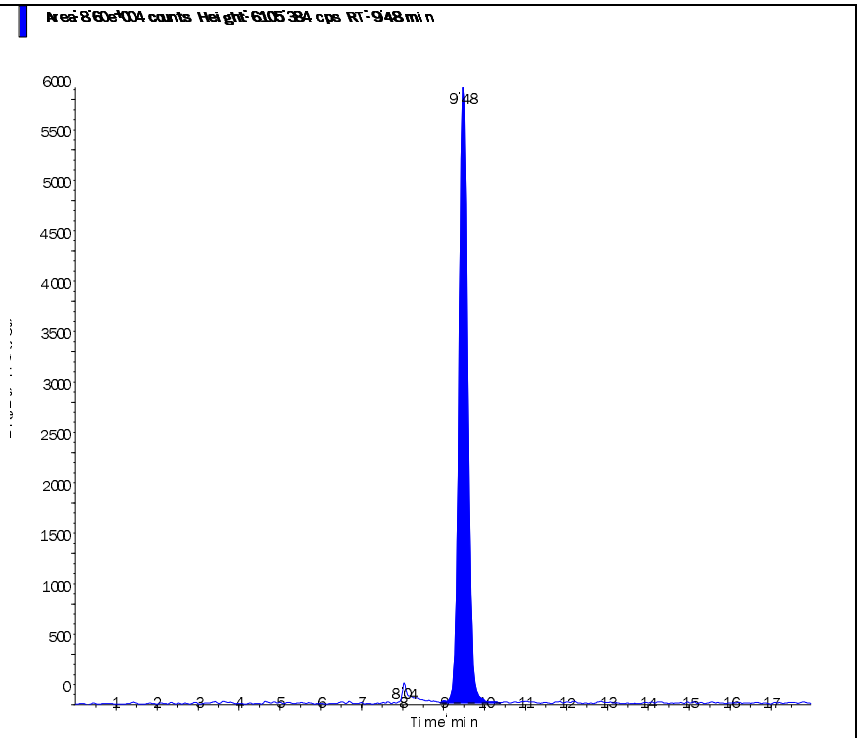
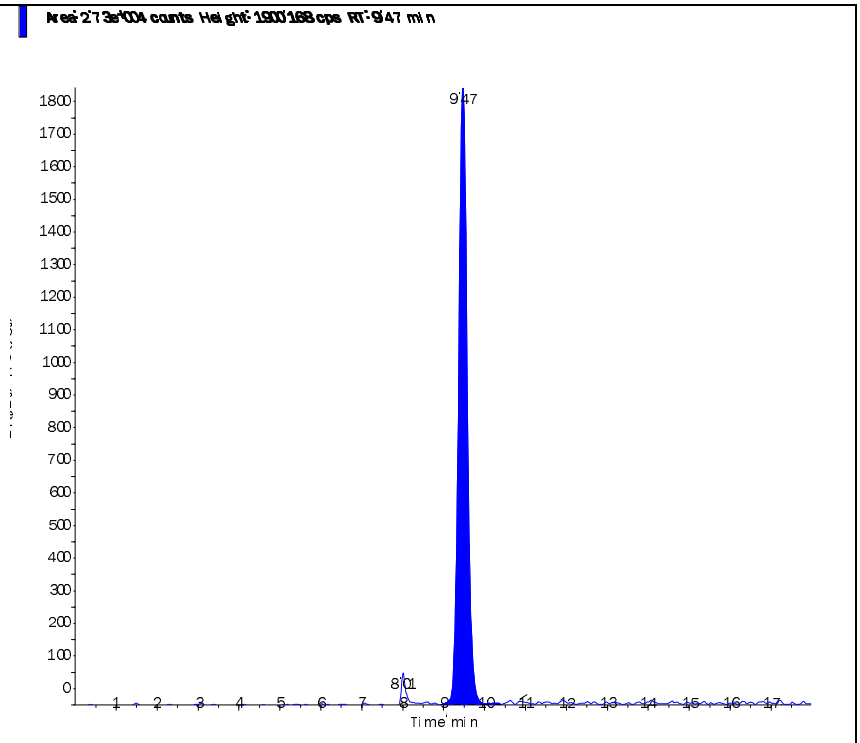
O18LP (Internal Standard)

RT (Exp. RT): 9.47(9.88) min

Concentration: 5.00 ug/L

Sample Type: (Unknown)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): 9.48 (9.90) min Calculated conc: 0.902 ng/ml Area Ratio: 0.269 Sample Type: (Unknown)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 9.47 (9.88) min Calculated conc: 0.904 ng/ml Area Ratio: 0.085 Sample Type: (Unknown)	

Data File	LM31853.wiff	**Result Table**	101515_JWR.rdb
Acquisition Date	10/15/2015 6:34:14 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

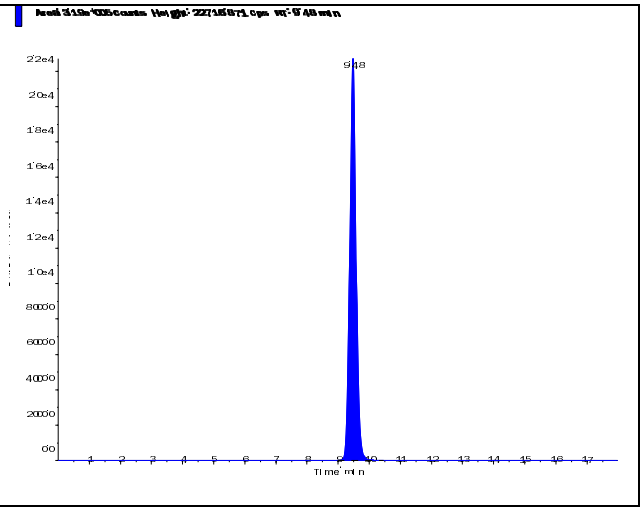
Sample Name	L15100560-04 MSD	**Injection Vial**	13.00
Data File	LM31853.wiff	**Injection Volume**	10.00
Acquisition Date	10/15/2015 6:34:14 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Unknown
Instrument Name	API 4000	**Result Table**	101515_JWR.rdb
Sample ID	WG543057-06	**Dilution Factor**	1.00
Sample Comment	1,1 STD72685	**Weight to Volume**	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	3.190e+05	9.48	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	8.400e+04	9.48	N/A	0.881
Perchlorate conf	2.760e+04	9.47	N/A	0.915

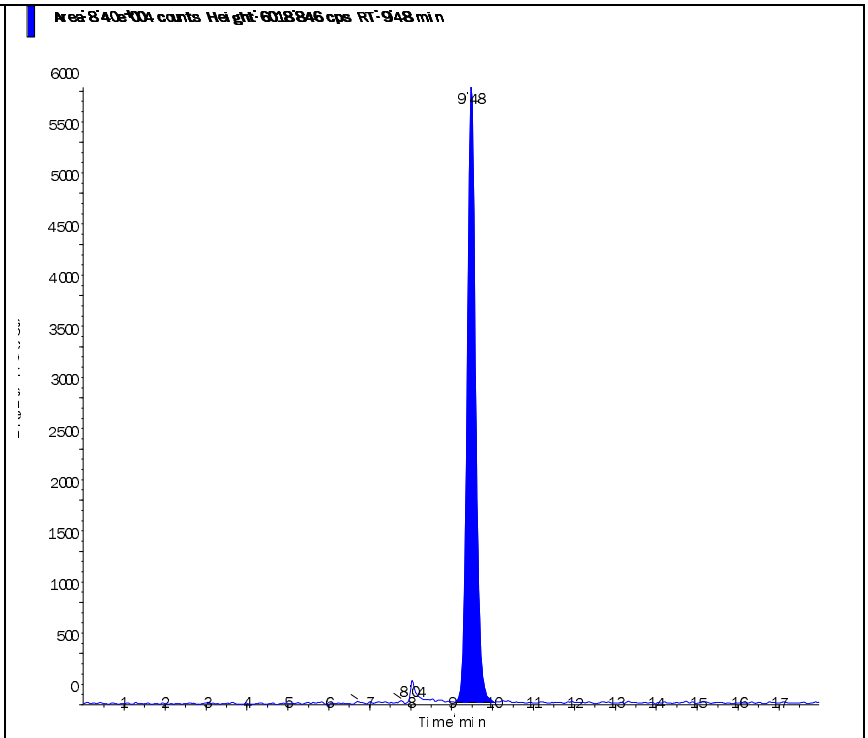
O18LP (Internal Standard)

RT (Exp. RT): 9.48(9.88) min
Concentration: 5.00 ug/L
Sample Type: (Unknown)



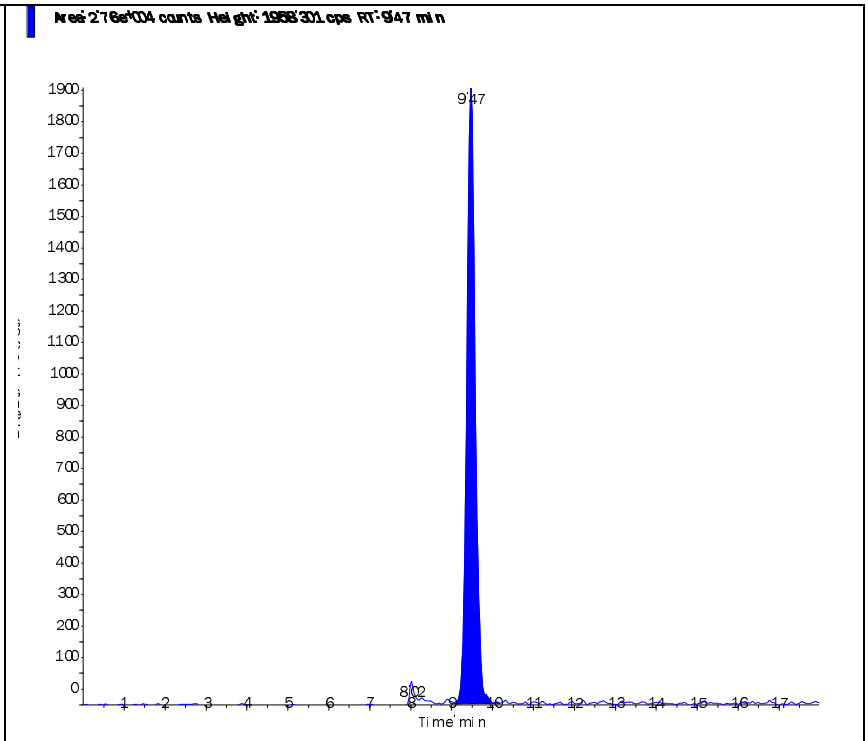
Perchlorate (98.8/83.3 amu)

RT (Exp. RT):	9.48 (9.90) min
Calculated conc:	0.881 ng/ml
Area Ratio:	0.263
Sample Type:	(Unknown)



Perchlorate conf (100.8/85.2 amu)

RT (Exp. RT):	9.47 (9.88) min
Calculated conc:	0.915 ng/ml
Area Ratio:	0.087
Sample Type:	(Unknown)



Data File	LM31857.wiff	**Result Table**	101515_JWR.rdb
Acquisition Date	10/15/2015 7:49:58 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

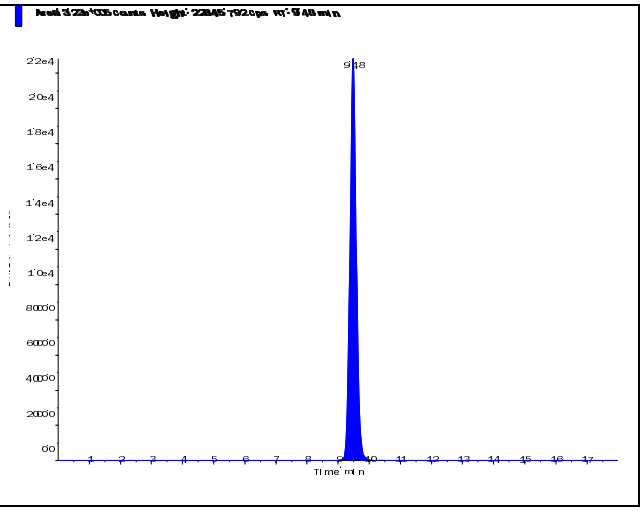
Sample Name	L15100560-05	**Injection Vial**	14.00
Data File	LM31857.wiff	**Injection Volume**	10.00
Acquisition Date	10/15/2015 7:49:58 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Unknown
Instrument Name	API 4000	**Result Table**	101515_JWR.rdb
Sample ID	L15100560-05	**Dilution Factor**	1.00
Sample Comment	1,1 (No Hist)	**Weight to Volume**	0.00

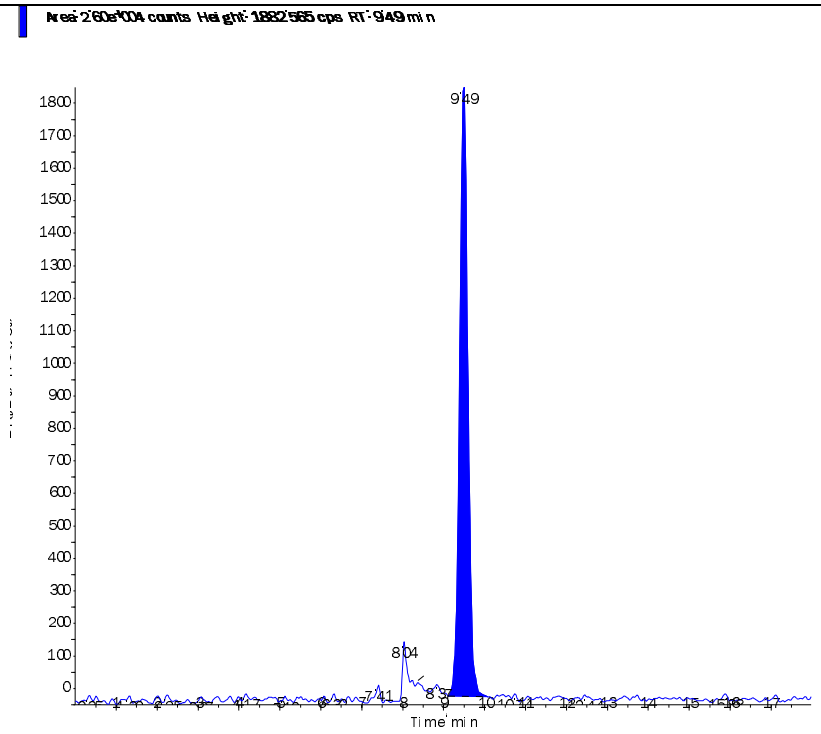
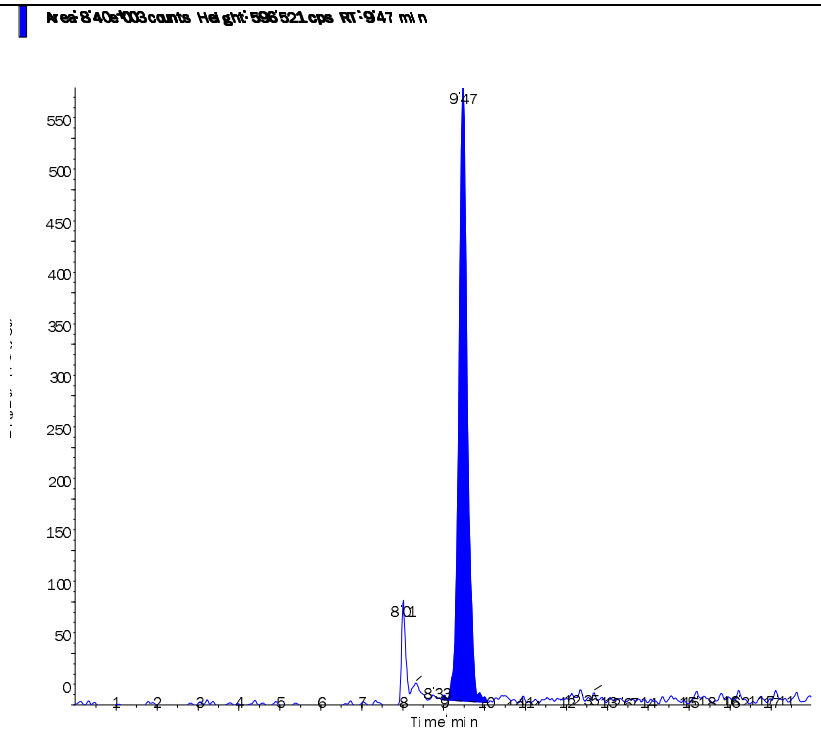
Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	3.230e+05	9.48	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	2.600e+04	9.49	N/A	0.27
Perchlorate conf	8.400e+03	9.47	N/A	0.271

O18LP (Internal Standard)

RT (Exp. RT): 9.48(9.88) min
Concentration: 5.00 ug/L
Sample Type: (Unknown)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): 9.49 (9.90) min Calculated conc: 0.27 ng/ml Area Ratio: 0.08 Sample Type: (Unknown)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 9.47 (9.88) min Calculated conc: 0.271 ng/ml Area Ratio: 0.026 Sample Type: (Unknown)	

Data File	LM31858.wiff	**Result Table**	101515_JWR.rdb
Acquisition Date	10/15/2015 8:08:54 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

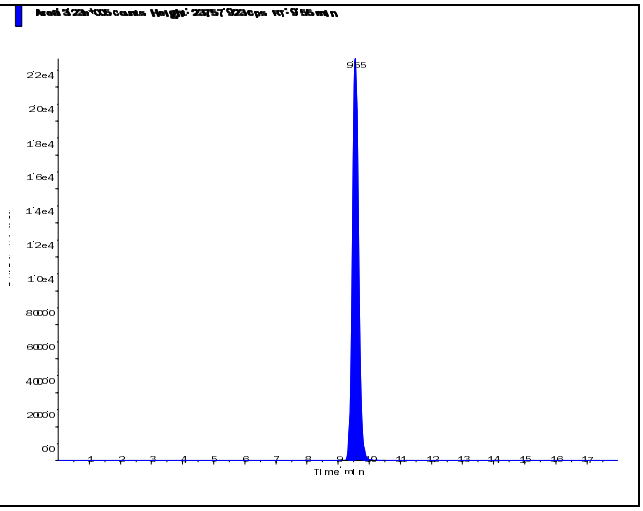
Sample Name	L15100560-06	**Injection Vial**	15.00
Data File	LM31858.wiff	**Injection Volume**	10.00
Acquisition Date	10/15/2015 8:08:54 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Unknown
Instrument Name	API 4000	**Result Table**	101515_JWR.rdb
Sample ID	L15100560-06	**Dilution Factor**	1.00
Sample Comment	1,1 (No Hist)	**Weight to Volume**	0.00

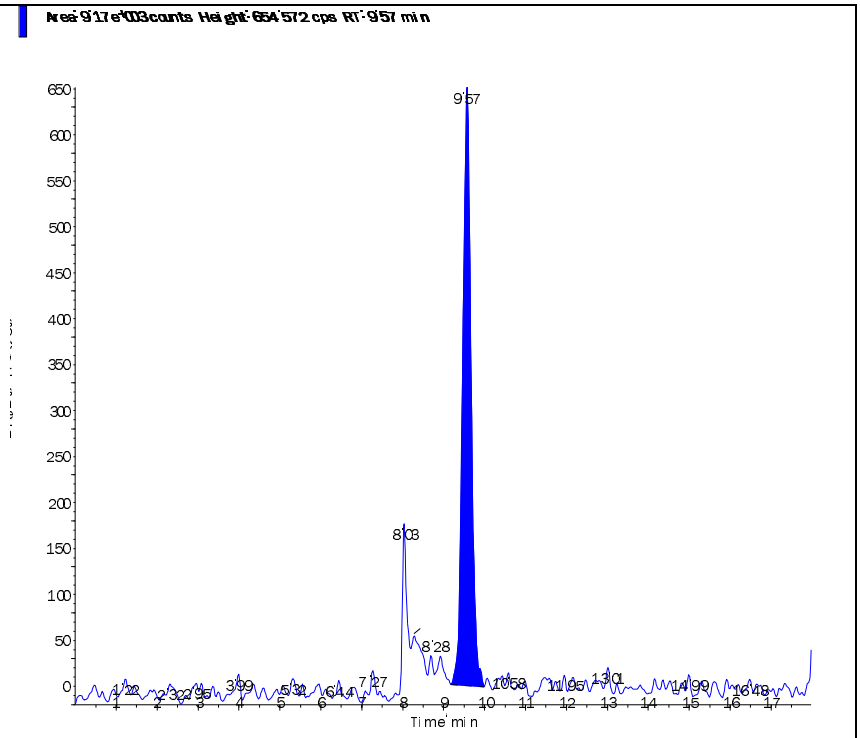
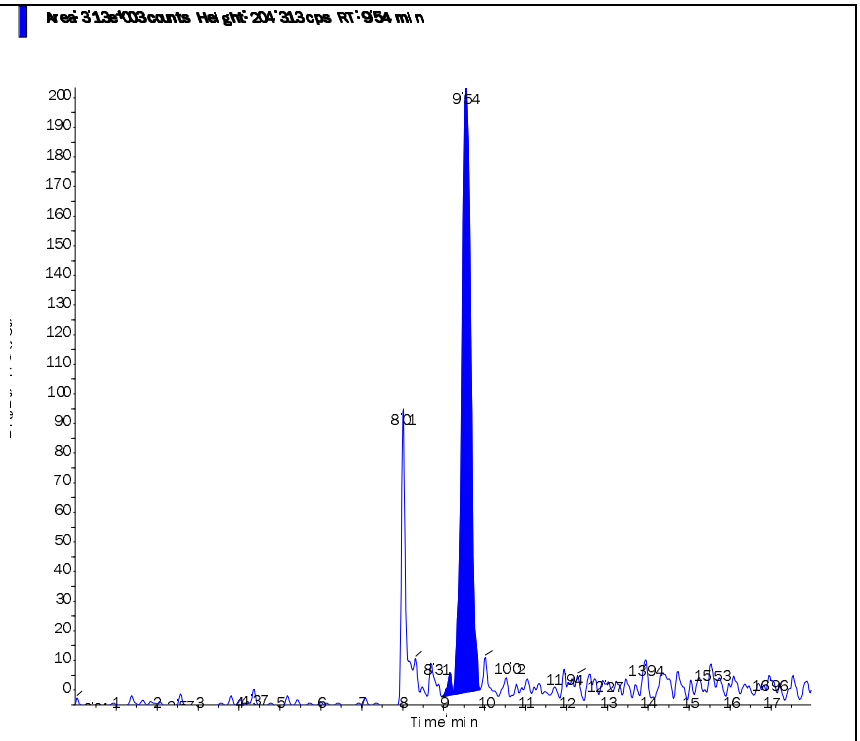
Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	3.230e+05	9.55	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	9.170e+03	9.57	N/A	0.0968
Perchlorate conf	3.130e+03	9.54	N/A	0.0975

O18LP (Internal Standard)

RT (Exp. RT): 9.55(9.88) min
Concentration: 5.00 ug/L
Sample Type: (Unknown)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): 9.57 (9.90) min Calculated conc: 0.0968 ng/ml Area Ratio: 0.028 Sample Type: (Unknown)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 9.54 (9.88) min Calculated conc: 0.0975 ng/ml Area Ratio: 0.01 Sample Type: (Unknown)	

Data File	LM31859.wiff	**Result Table**	101515_JWR.rdb
Acquisition Date	10/15/2015 8:27:49 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

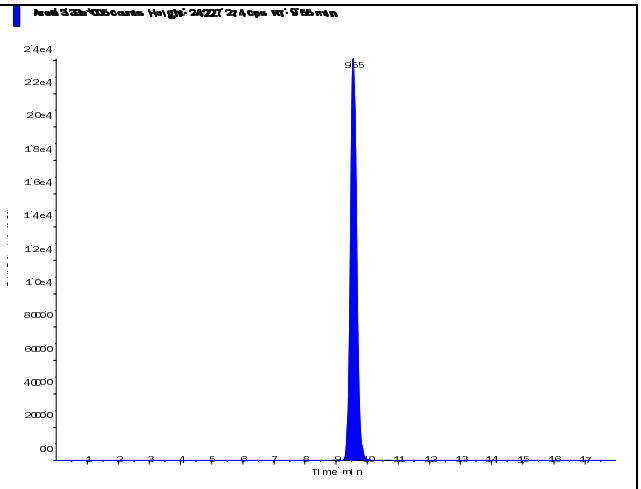
Sample Name	L15100560-07	**Injection Vial**	16.00
Data File	LM31859.wiff	**Injection Volume**	10.00
Acquisition Date	10/15/2015 8:27:49 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Unknown
Instrument Name	API 4000	**Result Table**	101515_JWR.rdb
Sample ID	L15100560-07	**Dilution Factor**	1.00
Sample Comment	1,1 (No Hist)	**Weight to Volume**	0.00

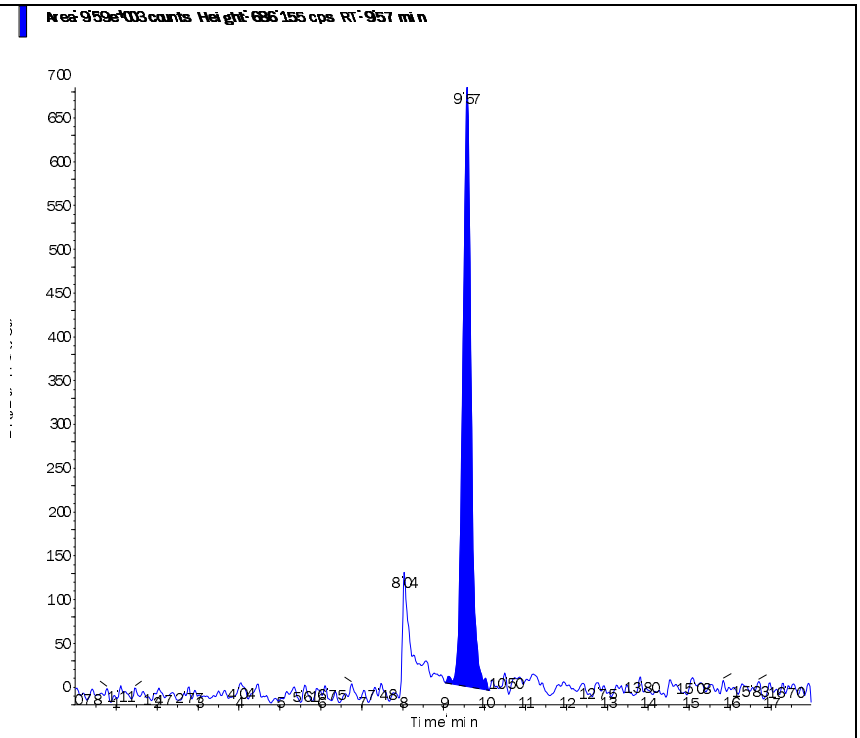
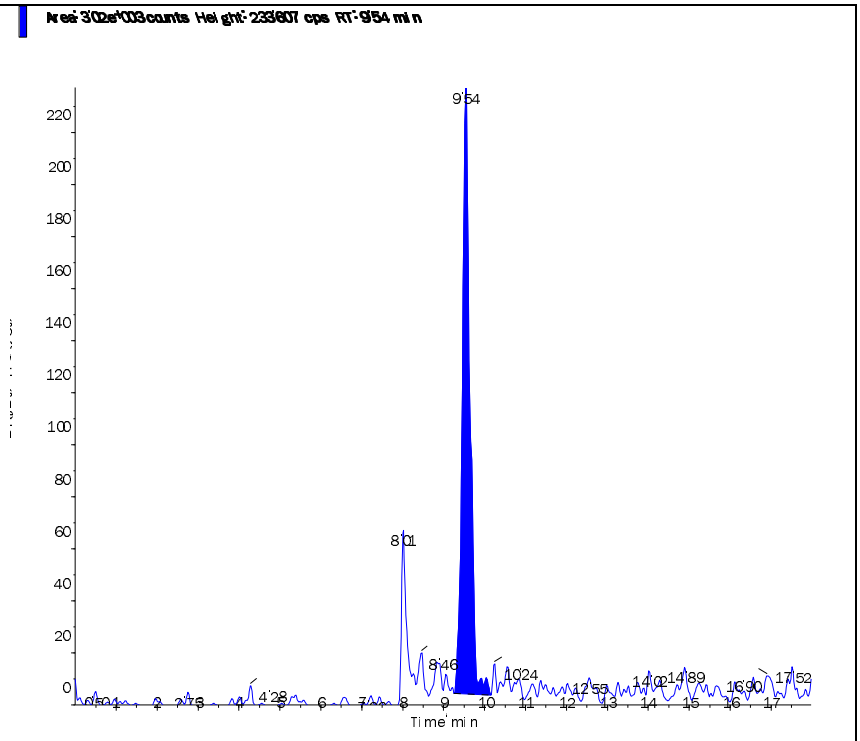
Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	3.330e+05	9.55	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	9.590e+03	9.57	N/A	0.0982
Perchlorate conf	3.020e+03	9.54	N/A	0.0909

O18LP (Internal Standard)

RT (Exp. RT): 9.55(9.88) min
Concentration: 5.00 ug/L
Sample Type: (Unknown)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): 9.57 (9.90) min Calculated conc: 0.0982 ng/ml Area Ratio: 0.029 Sample Type: (Unknown)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 9.54 (9.88) min Calculated conc: 0.0909 ng/ml Area Ratio: 0.009 Sample Type: (Unknown)	

2.1.1.4 Standards Data

Data File	LM31807.wiff	**Result Table**	101515_JWR.rdb
Acquisition Date	10/13/2015 3:54:34 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

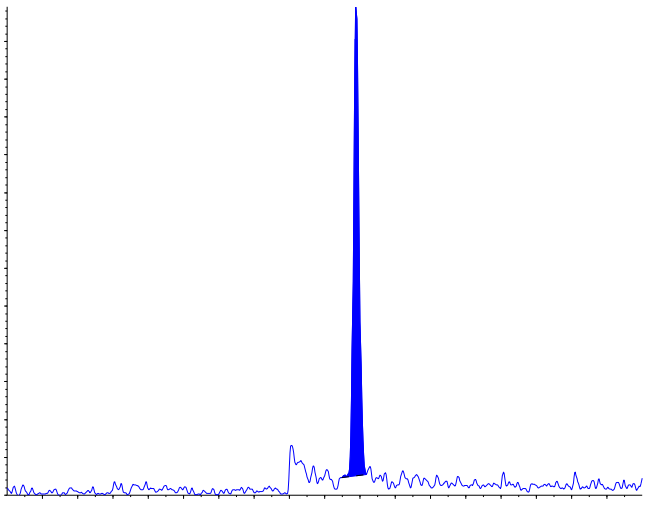
Sample Name	WG542643-01 CCB	**Injection Vial**	1.00
Data File	LM31807.wiff	**Injection Volume**	10.00
Acquisition Date	10/13/2015 3:54:34 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Unknown
Instrument Name	API 4000	**Result Table**	101515_JWR.rdb
Sample ID	WG542643-01	**Dilution Factor**	1.00
Sample Comment	11.00	**Weight to Volume**	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	2.480e+05	9.89	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	0.000e+00	0.00	N/A	No Peak
Perchlorate conf	2.250e+02	9.91	N/A	0.004

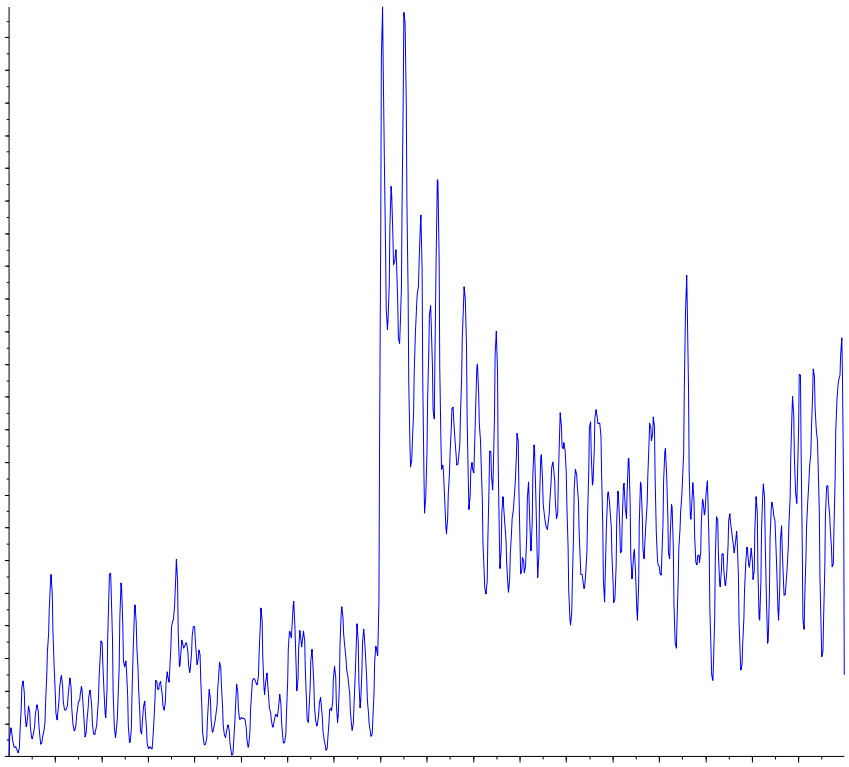
O18LP (Internal Standard)

RT (Exp. RT): 9.89(9.88) min
Concentration: 5.00 ug/L
Sample Type: (Unknown)



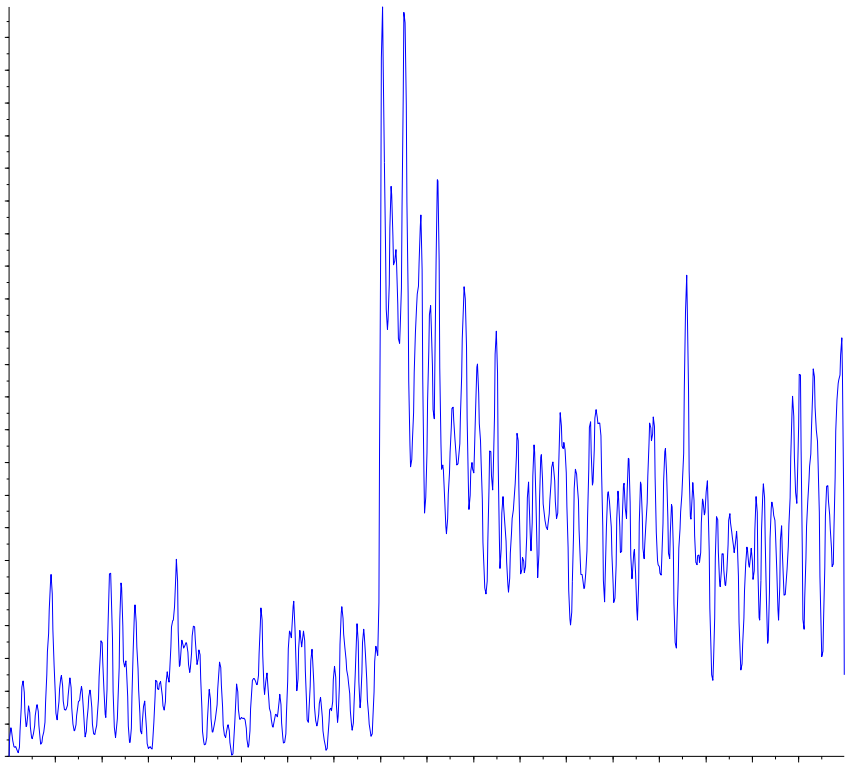
Perchlorate (98.8/83.3 amu)

RT (Exp. RT):	0.00 (9.90) min
Calculated conc:	No Peak ng/ml
Area Ratio:	0.00
Sample Type:	(Unknown)



Perchlorate conf (100.8/85.2 amu)

RT (Exp. RT):	9.91 (9.88) min
Calculated conc:	0.004 ng/ml
Area Ratio:	0.001
Sample Type:	(Unknown)

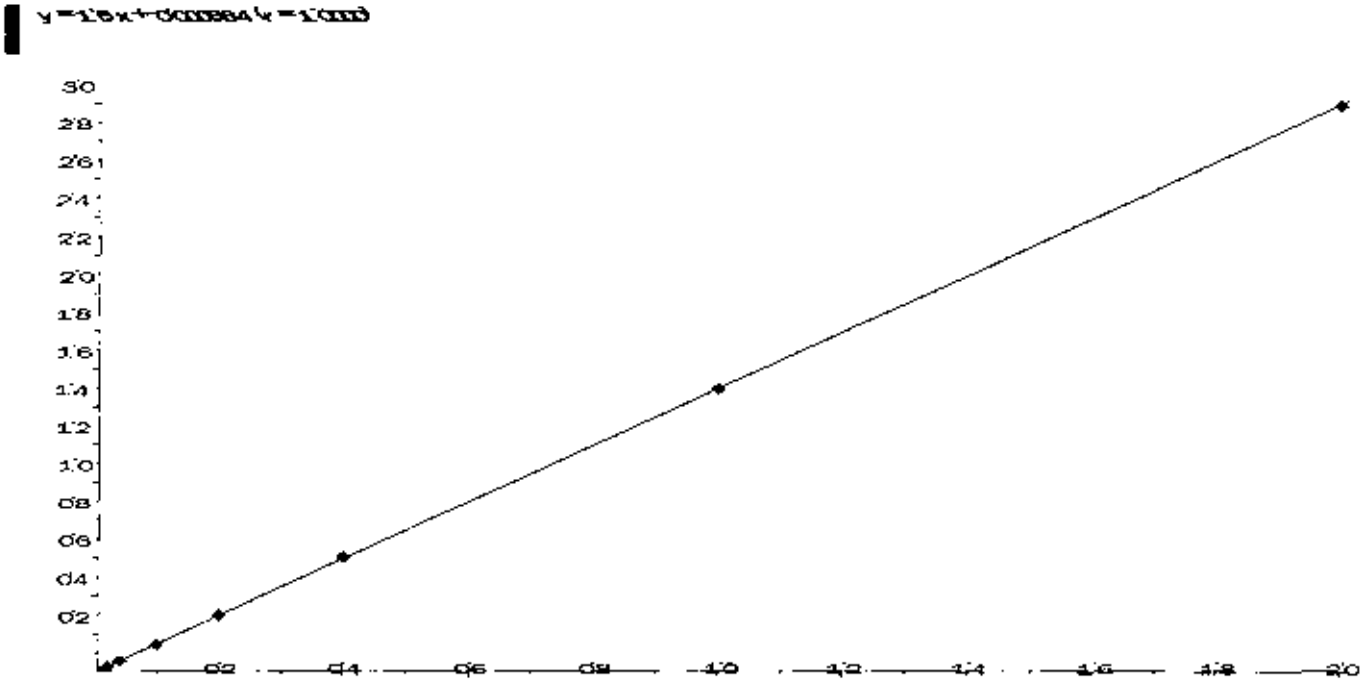


Analyte Name: **Perchlorate**
Internal Standard: O18LP

Data File	LM31807.wiff	**Result Table**	101315_JWR.rdb
Acquisition Date	10/13/2015 3:54:34 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

Regression Equation: y = 1.5 x + -0.000584 (r = 1.0000)

Expected Concentration	Number of Values	Mean Calculated Concentration	% Accuracy	Std. Deviation	%CV
0.10	1	0.10	98.0	N/A	N/A
0.20	1	0.20	100.7	N/A	N/A
0.50	1	0.50	99.3	N/A	N/A
1.00	1	1.01	101.2	N/A	N/A
2.00	1	2.02	101.2	N/A	N/A
5.00	1	4.99	99.8	N/A	N/A
10.00	1	9.98	99.8	N/A	N/A

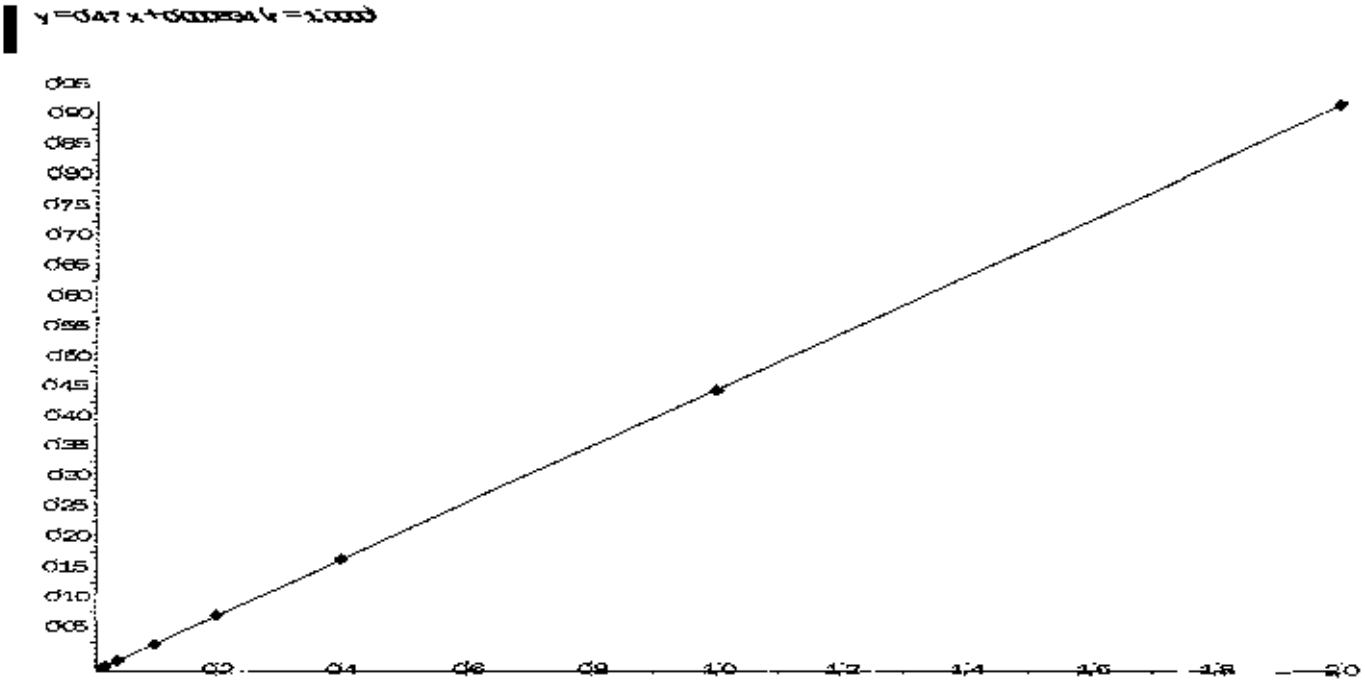


Analyte Name: **Perchlorate conf**
Internal Standard: O18LP

Data File	LM31807.wiff	**Result Table**	101315_JWR.rdb
Acquisition Date	10/13/2015 3:54:34 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

Regression Equation: y = 0.47 x + 0.000534 (r = 1.0000)

Expected Concentration	Number of Values	Mean Calculated Concentration	% Accuracy	Std. Deviation	%CV
0.10	1	0.10	95.5	N/A	N/A
0.20	1	0.21	104.3	N/A	N/A
0.50	1	0.49	98.4	N/A	N/A
1.00	1	1.02	101.8	N/A	N/A
2.00	1	2.01	100.4	N/A	N/A
5.00	1	4.99	99.7	N/A	N/A
10.00	1	9.99	99.9	N/A	N/A



Data File	LM31808.wiff	**Result Table**	101515_JWR.rdb
Acquisition Date	10/13/2015 4:13:30 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	WG542643-02 STD (0.1 ug/L)	**Injection Vial**	2.00
Data File	LM31808.wiff	**Injection Volume**	10.00
Acquisition Date	10/13/2015 4:13:30 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Standard
Instrument Name	API 4000	**Result Table**	101515_JWR.rdb
Sample ID	WG542643-02	**Dilution Factor**	1.00
Sample Comment	1,1 STD72683	**Weight to Volume**	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	2.340e+05	9.88	5.00	-

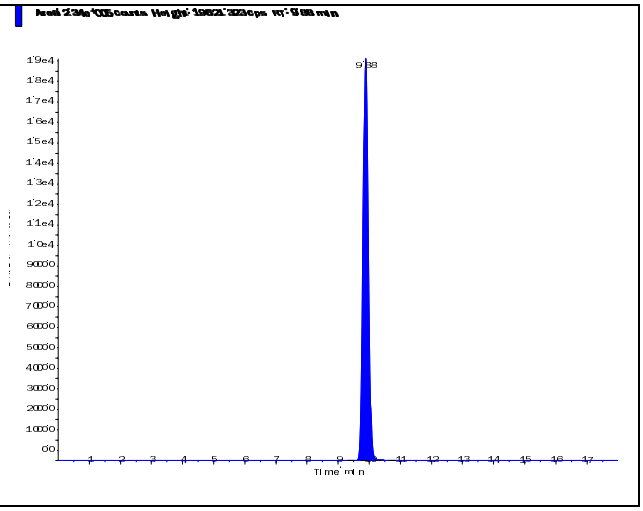
Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	6.740e+03	9.89	0.10	0.098
Perchlorate conf	2.230e+03	9.87	0.10	0.0955

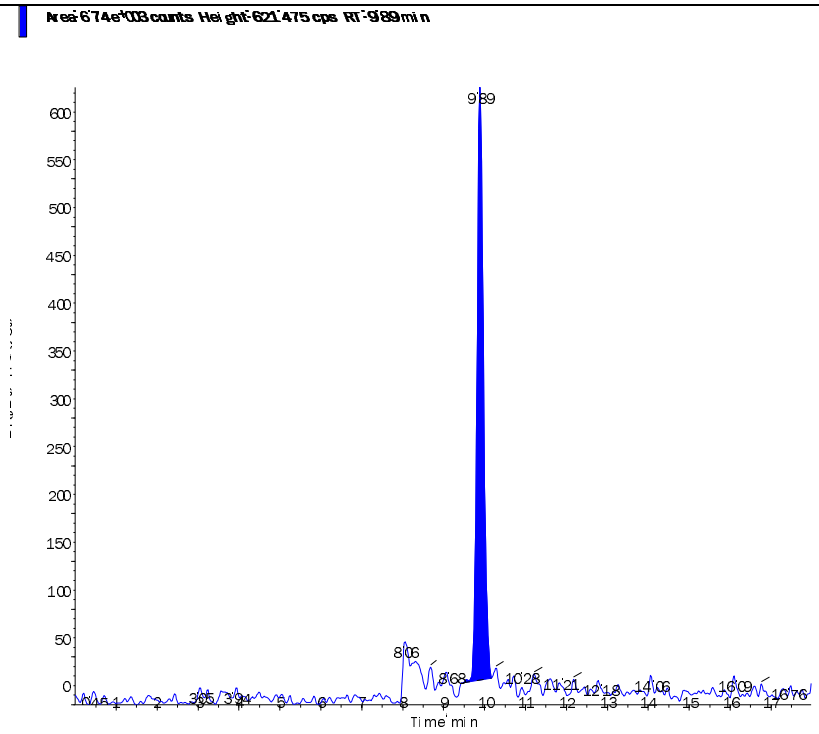
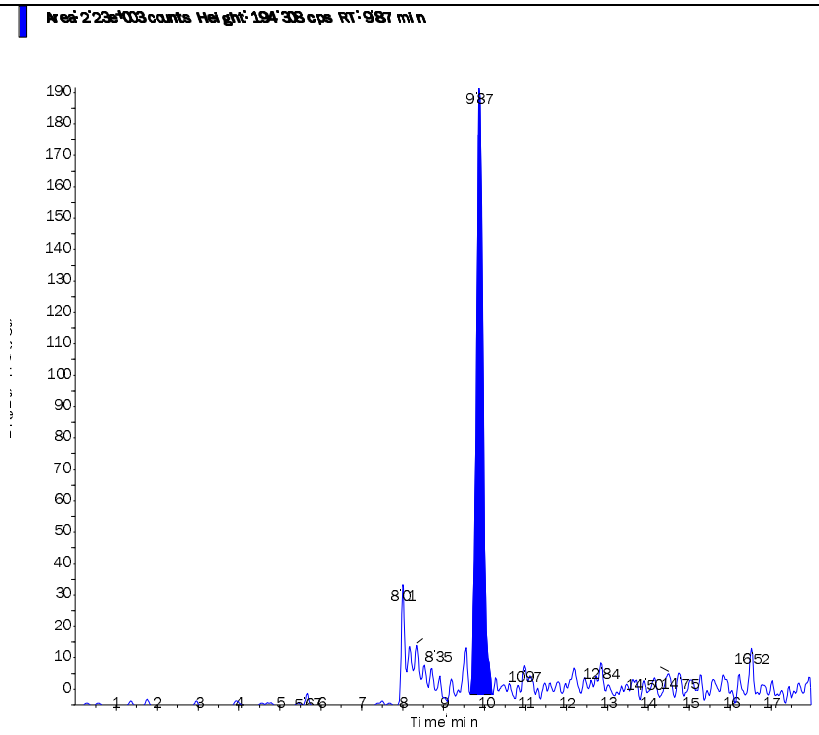
O18LP (Internal Standard)

RT (Exp. RT): 9.88(9.88) min

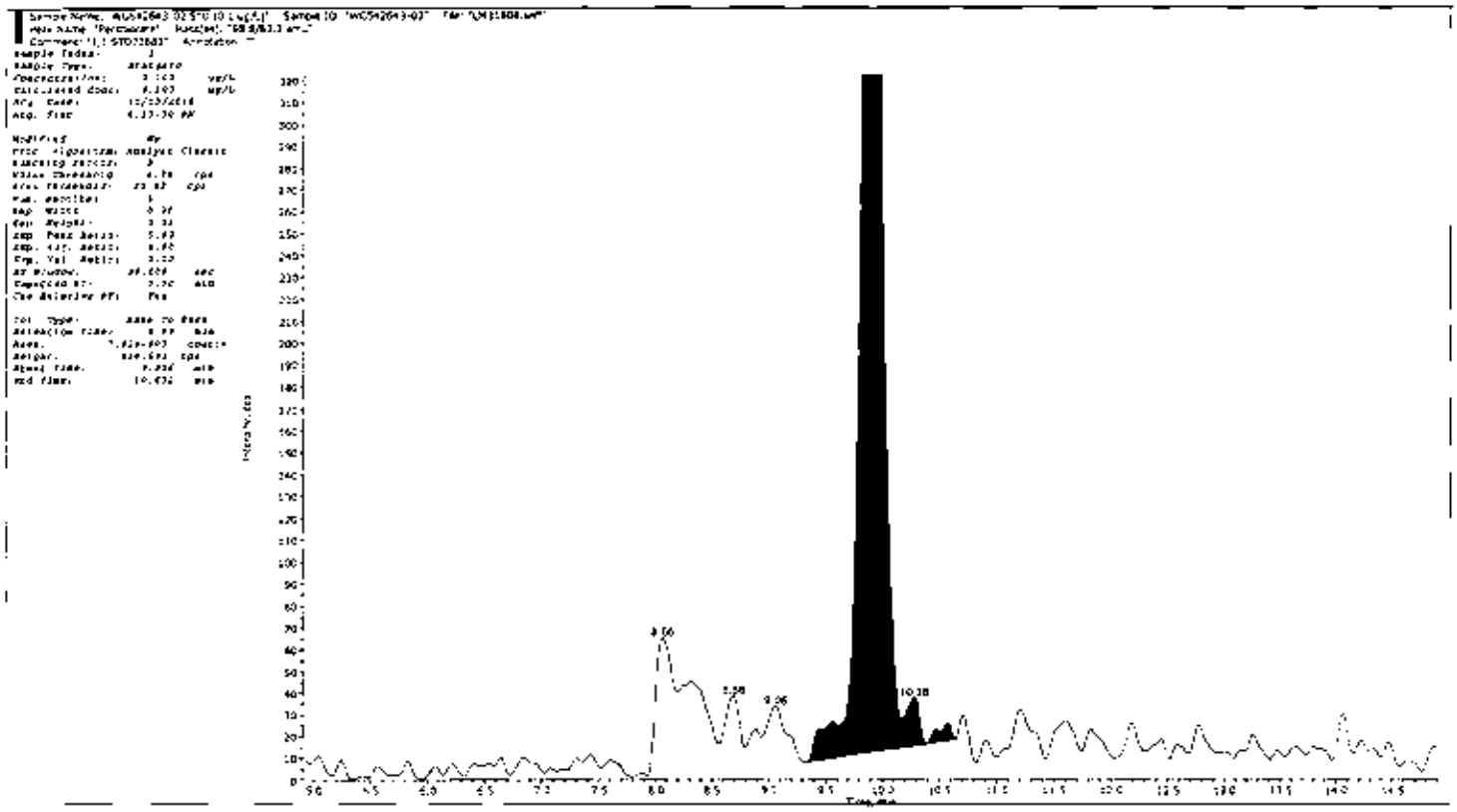
Concentration: 5.00 ug/L

Sample Type: (Standard)



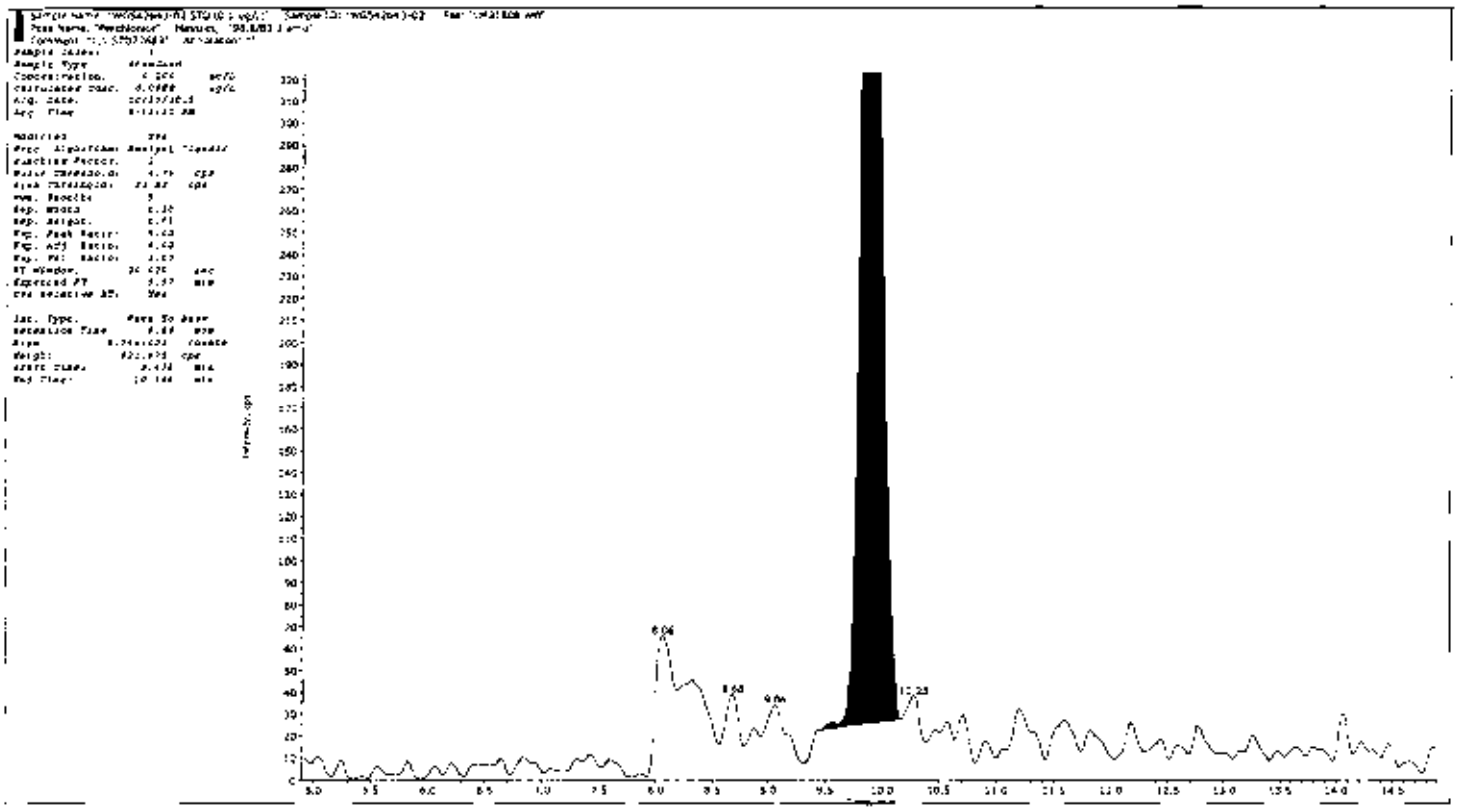
Perchlorate (98.8/83.3 amu) RT (Exp. RT): 9.89 (9.90) min Calculated conc: 0.098 ng/ml Area Ratio: 0.029 Sample Type: (Standard)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 9.87 (9.88) min Calculated conc: 0.0955 ng/ml Area Ratio: 0.01 Sample Type: (Standard)	

Printing Time: 9:30:32 AM
Printing Date: Wednesday, October 14, 2015



Collected By: N/A
Electronic Signature: no
Operator: lcms1

Printing Time: 9:31:18 AM
Printing Date: Wednesday, October 14, 2015



#4
JWR/10/14/2015

✓ WD
10-14-15

Collected by: N/A
Electronic Signature: no
Operator: jgrai

Data File	LM31809.wiff	**Result Table**	101515_JWR.rdb
Acquisition Date	10/13/2015 4:32:25 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	WG542643-03 STD (0.2 ug/L)	**Injection Vial**	3.00
Data File	LM31809.wiff	**Injection Volume**	10.00
Acquisition Date	10/13/2015 4:32:25 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Standard
Instrument Name	API 4000	**Result Table**	101515_JWR.rdb
Sample ID	WG542643-03	**Dilution Factor**	1.00
Sample Comment	1,1 STD72683	**Weight to Volume**	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	2.350e+05	9.88	5.00	-

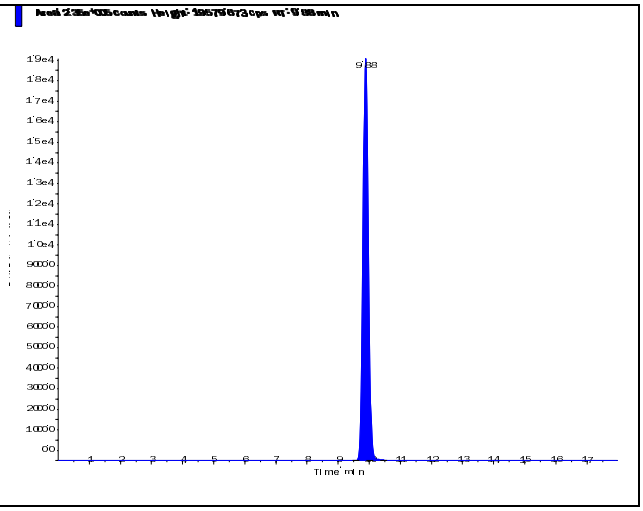
Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	1.410e+04	9.90	0.20	0.201
Perchlorate conf	4.740e+03	9.88	0.20	0.209

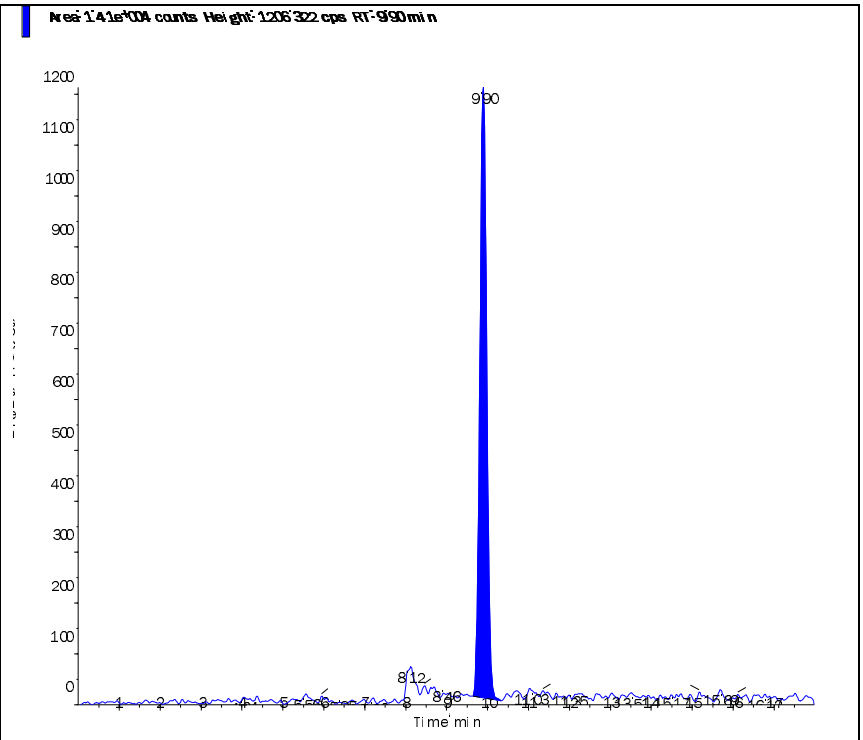
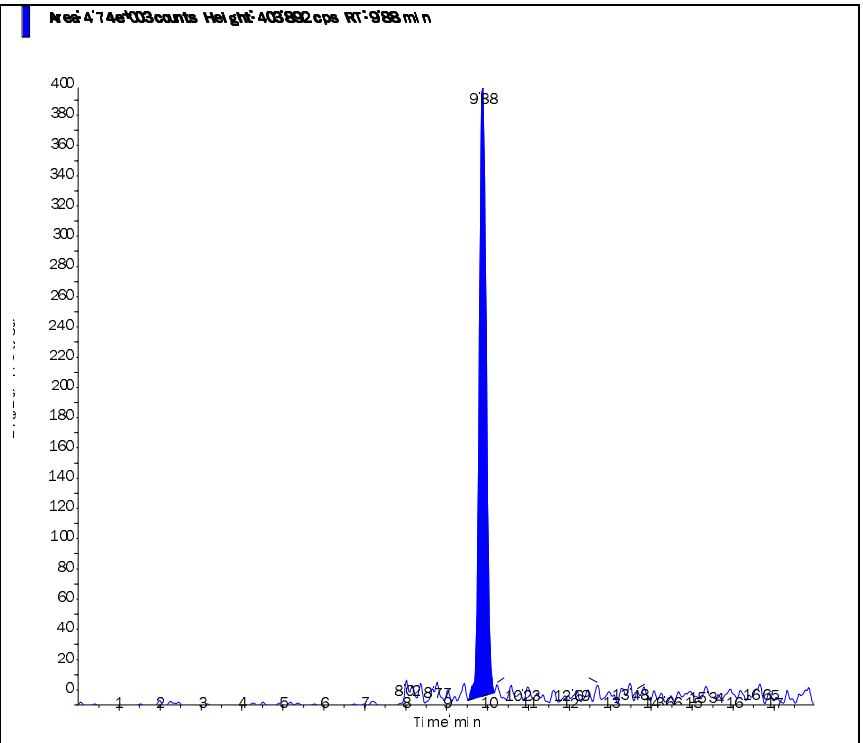
O18LP (Internal Standard)

RT (Exp. RT): 9.88(9.88) min

Concentration: 5.00 ug/L

Sample Type: (Standard)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): 9.90 (9.90) min Calculated conc: 0.201 ng/ml Area Ratio: 0.06 Sample Type: (Standard)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 9.88 (9.88) min Calculated conc: 0.209 ng/ml Area Ratio: 0.02 Sample Type: (Standard)	

Data File	LM31810.wiff	**Result Table**	101515_JWR.rdb
Acquisition Date	10/13/2015 4:51:20 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	WG542643-04 STD (0.5 ug/L)	**Injection Vial**	4.00
Data File	LM31810.wiff	**Injection Volume**	10.00
Acquisition Date	10/13/2015 4:51:20 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Standard
Instrument Name	API 4000	**Result Table**	101515_JWR.rdb
Sample ID	WG542643-04	**Dilution Factor**	1.00
Sample Comment	1,1 STD72683	**Weight to Volume**	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	2.340e+05	9.88	5.00	-

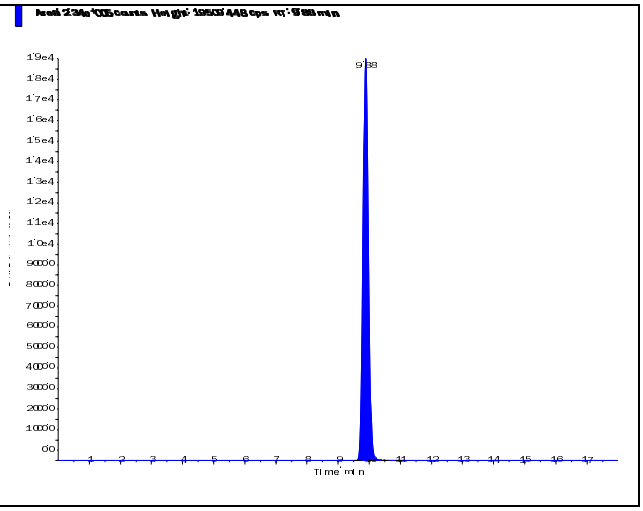
Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	3.460e+04	9.89	0.50	0.496
Perchlorate conf	1.090e+04	9.89	0.50	0.492

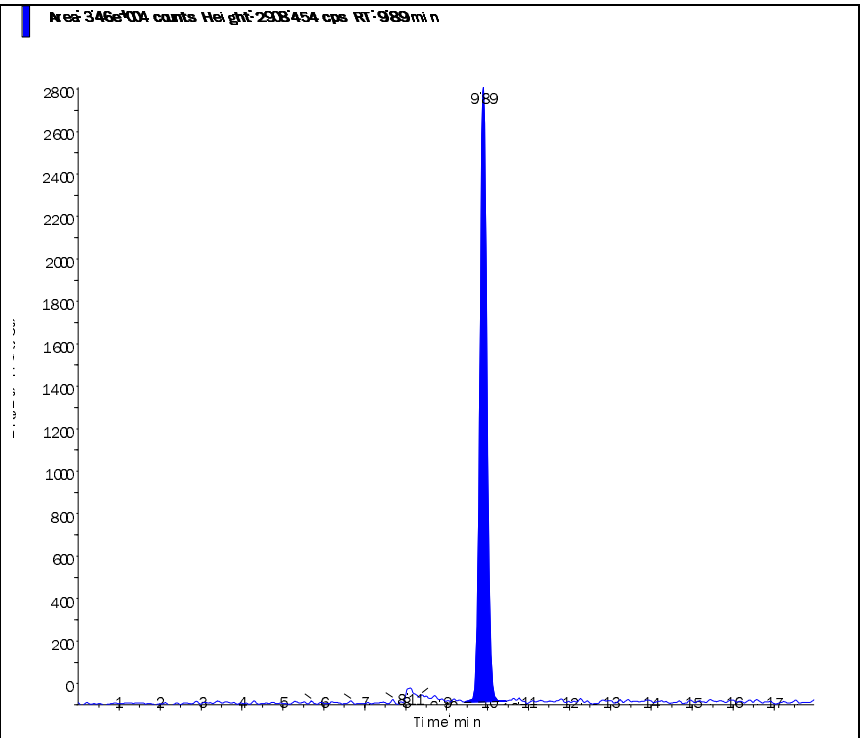
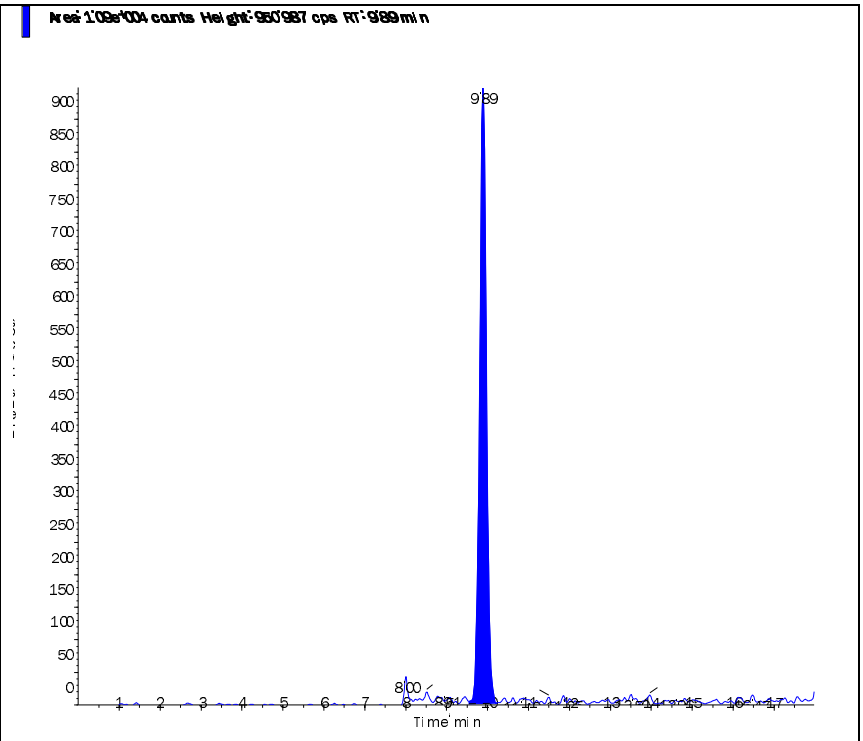
O18LP (Internal Standard)

RT (Exp. RT): 9.88(9.88) min

Concentration: 5.00 ug/L

Sample Type: (Standard)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): 9.89 (9.90) min Calculated conc: 0.496 ng/ml Area Ratio: 0.148 Sample Type: (Standard)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 9.89 (9.88) min Calculated conc: 0.492 ng/ml Area Ratio: 0.047 Sample Type: (Standard)	

Data File	LM31811.wiff	**Result Table**	101515_JWR.rdb
Acquisition Date	10/13/2015 5:10:15 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	WG542643-05 STD (1.0 ug/L)	**Injection Vial**	5.00
Data File	LM31811.wiff	**Injection Volume**	10.00
Acquisition Date	10/13/2015 5:10:15 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Standard
Instrument Name	API 4000	**Result Table**	101515_JWR.rdb
Sample ID	WG542643-05	**Dilution Factor**	1.00
Sample Comment	1,1 STD72683	**Weight to Volume**	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	2.320e+05	9.88	5.00	-

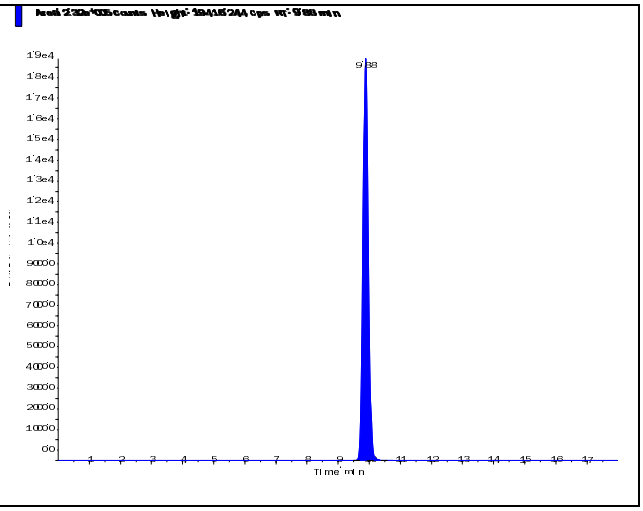
Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	7.020e+04	9.90	1.00	1.01
Perchlorate conf	2.230e+04	9.89	1.00	1.02

O18LP (Internal Standard)

RT (Exp. RT): 9.88(9.88) min

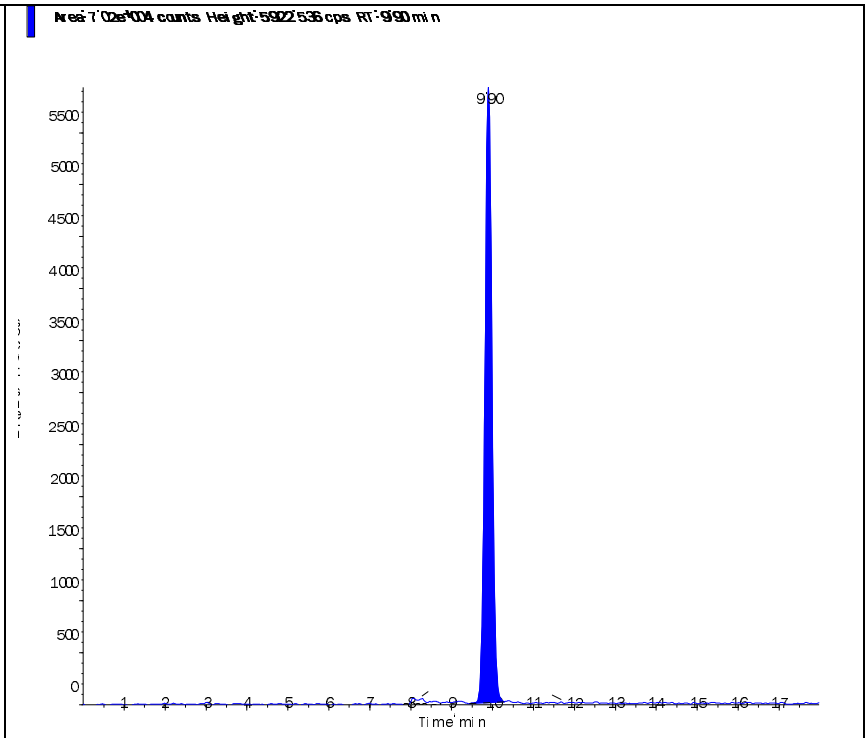
Concentration: 5.00 ug/L

Sample Type: (Standard)



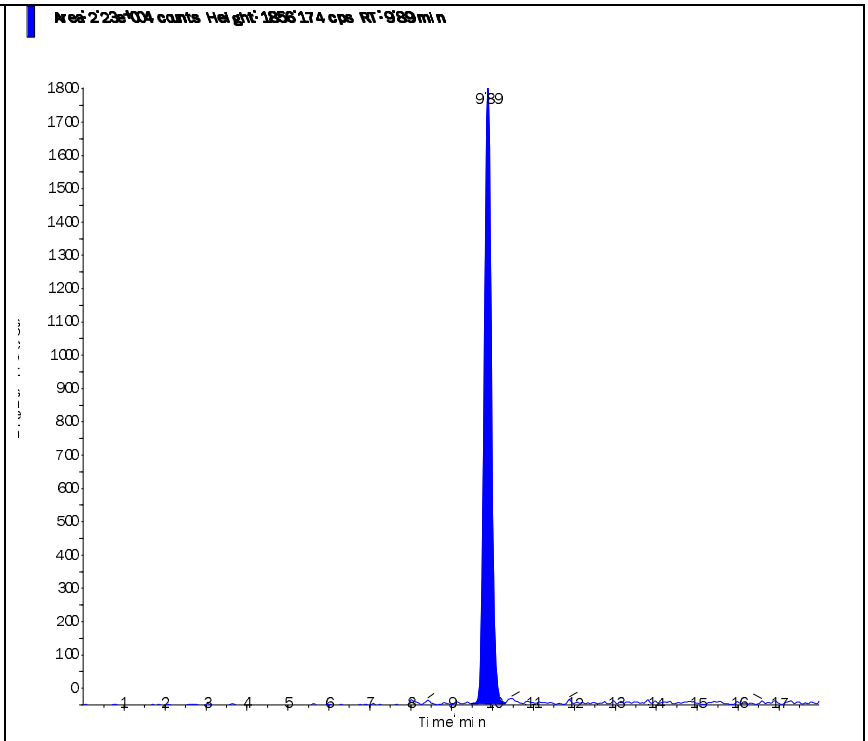
Perchlorate (98.8/83.3 amu)

RT (Exp. RT):	9.90 (9.90) min
Calculated conc:	1.01 ng/ml
Area Ratio:	0.302
Sample Type:	(Standard)



Perchlorate conf (100.8/85.2 amu)

RT (Exp. RT):	9.89 (9.88) min
Calculated conc:	1.02 ng/ml
Area Ratio:	0.096
Sample Type:	(Standard)



Data File	LM31812.wiff	**Result Table**	101515_JWR.rdb
Acquisition Date	10/13/2015 5:29:10 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	WG542643-06 STD (2.0 ug/L)	**Injection Vial**	6.00
Data File	LM31812.wiff	**Injection Volume**	10.00
Acquisition Date	10/13/2015 5:29:10 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Standard
Instrument Name	API 4000	**Result Table**	101515_JWR.rdb
Sample ID	WG542643-06	**Dilution Factor**	1.00
Sample Comment	1,1 STD72683	**Weight to Volume**	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	2.260e+05	9.89	5.00	-

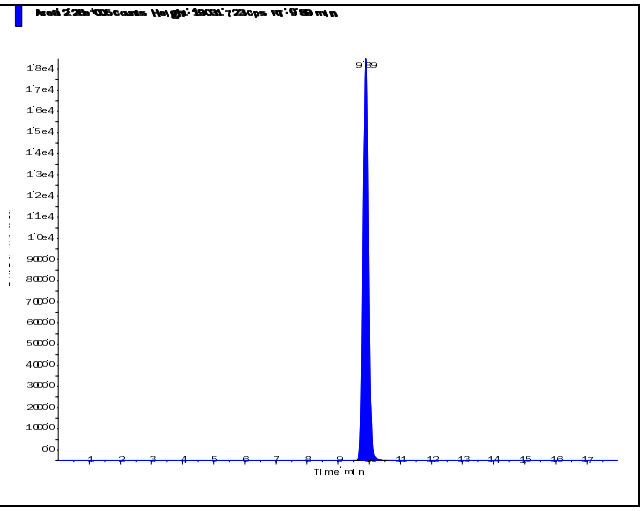
Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	1.370e+05	9.90	2.00	2.02
Perchlorate conf	4.270e+04	9.88	2.00	2.01

O18LP (Internal Standard)

RT (Exp. RT): 9.89(9.88) min

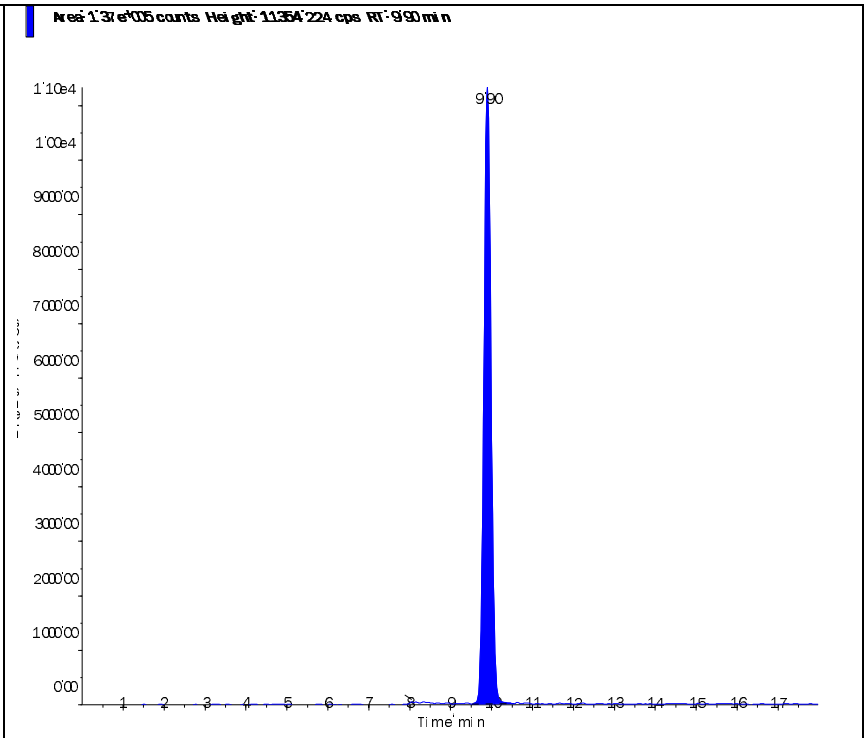
Concentration: 5.00 ug/L

Sample Type: (Standard)



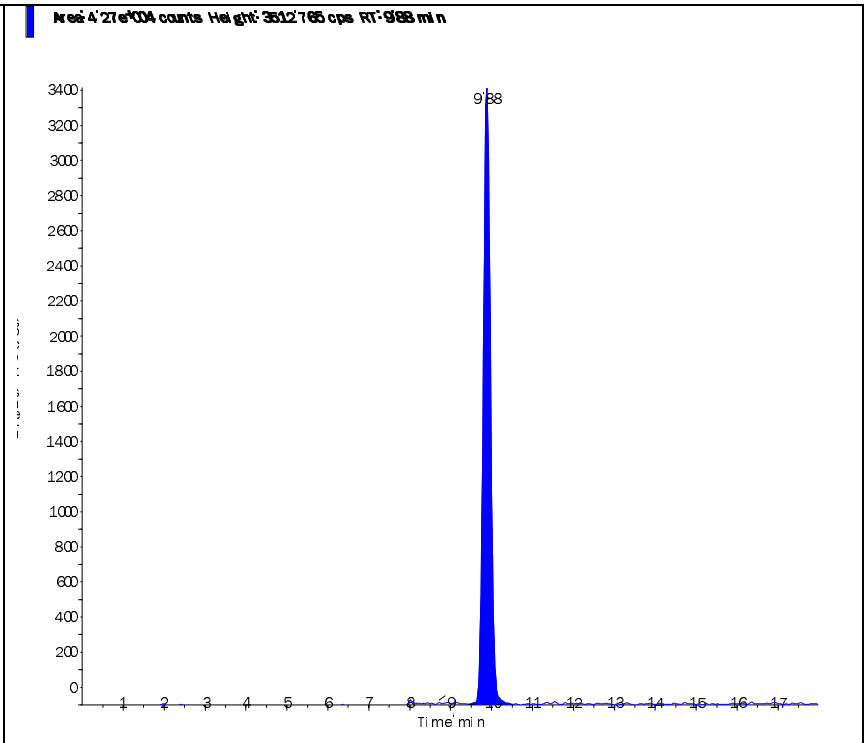
Perchlorate (98.8/83.3 amu)

RT (Exp. RT):	9.90 (9.90) min
Calculated conc:	2.02 ng/ml
Area Ratio:	0.605
Sample Type:	(Standard)



Perchlorate conf (100.8/85.2 amu)

RT (Exp. RT):	9.88 (9.88) min
Calculated conc:	2.01 ng/ml
Area Ratio:	0.189
Sample Type:	(Standard)



Data File	LM31813.wiff	**Result Table**	101515_JWR.rdb
Acquisition Date	10/13/2015 5:48:05 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

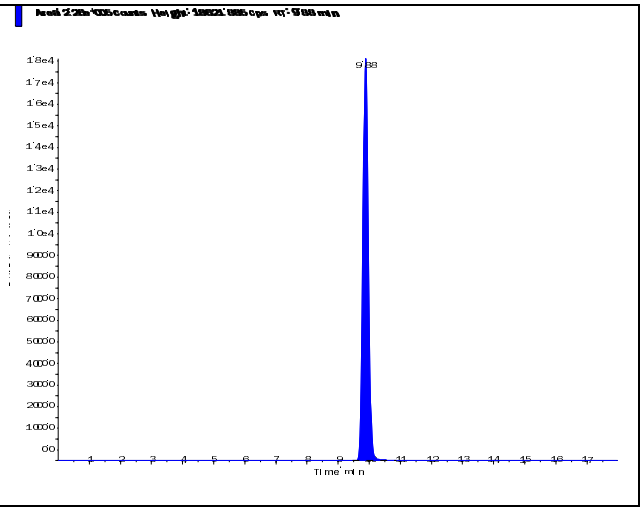
Sample Name	WG542643-07 STD (5.0 ug/L)	**Injection Vial**	7.00
Data File	LM31813.wiff	**Injection Volume**	10.00
Acquisition Date	10/13/2015 5:48:05 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Standard
Instrument Name	API 4000	**Result Table**	101515_JWR.rdb
Sample ID	WG542643-07	**Dilution Factor**	1.00
Sample Comment	1,1 STD72683	**Weight to Volume**	0.00

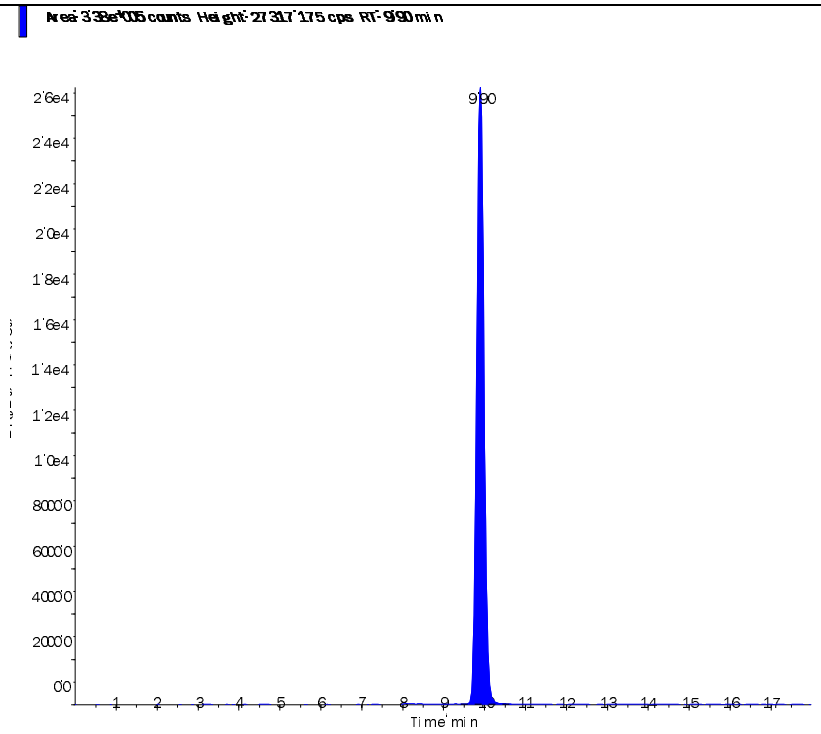
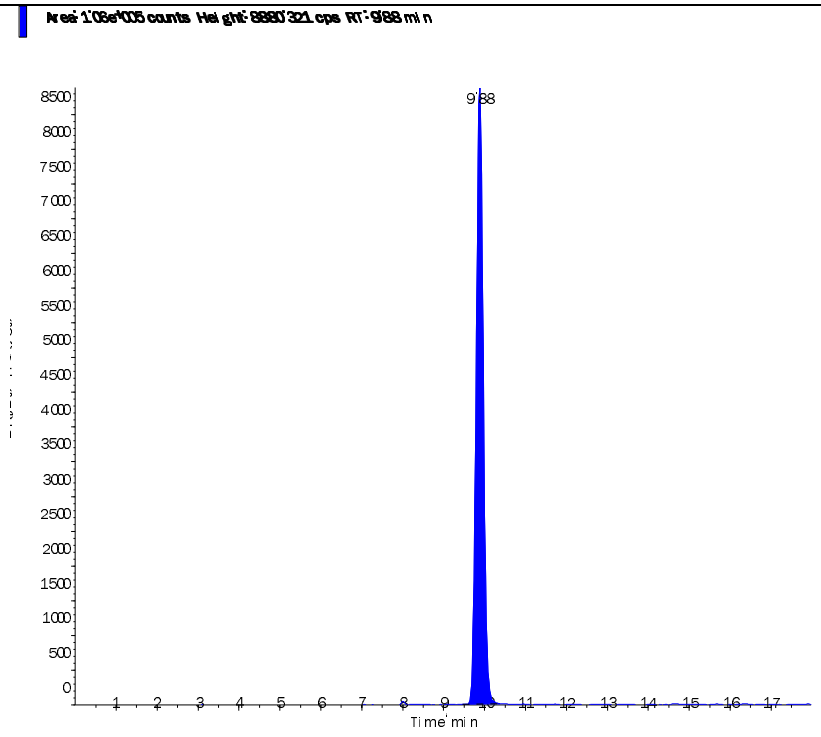
Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	2.260e+05	9.88	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	3.380e+05	9.90	5.00	4.99
Perchlorate conf	1.060e+05	9.88	5.00	4.99

O18LP (Internal Standard)

RT (Exp. RT): 9.88(9.88) min
Concentration: 5.00 ug/L
Sample Type: (Standard)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): 9.90 (9.90) min Calculated conc: 4.99 ng/ml Area Ratio: 1.493 Sample Type: (Standard)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 9.88 (9.88) min Calculated conc: 4.99 ng/ml Area Ratio: 0.469 Sample Type: (Standard)	

Data File	LM31814.wiff	**Result Table**	101515_JWR.rdb
Acquisition Date	10/13/2015 6:07:00 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	WG542643-08 STD (10 ug/L)	**Injection Vial**	8.00
Data File	LM31814.wiff	**Injection Volume**	10.00
Acquisition Date	10/13/2015 6:07:00 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Standard
Instrument Name	API 4000	**Result Table**	101515_JWR.rdb
Sample ID	WG542643-08	**Dilution Factor**	1.00
Sample Comment	1,1 STD72683	**Weight to Volume**	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	2.180e+05	9.88	5.00	-

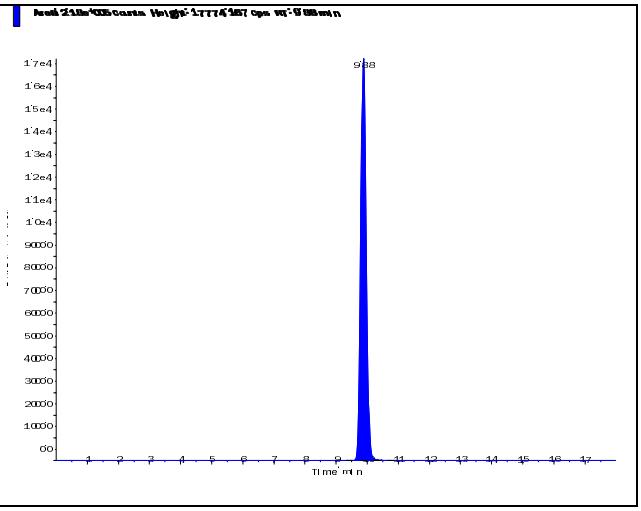
Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	6.500e+05	9.89	10.00	9.98
Perchlorate conf	2.050e+05	9.87	10.00	9.99

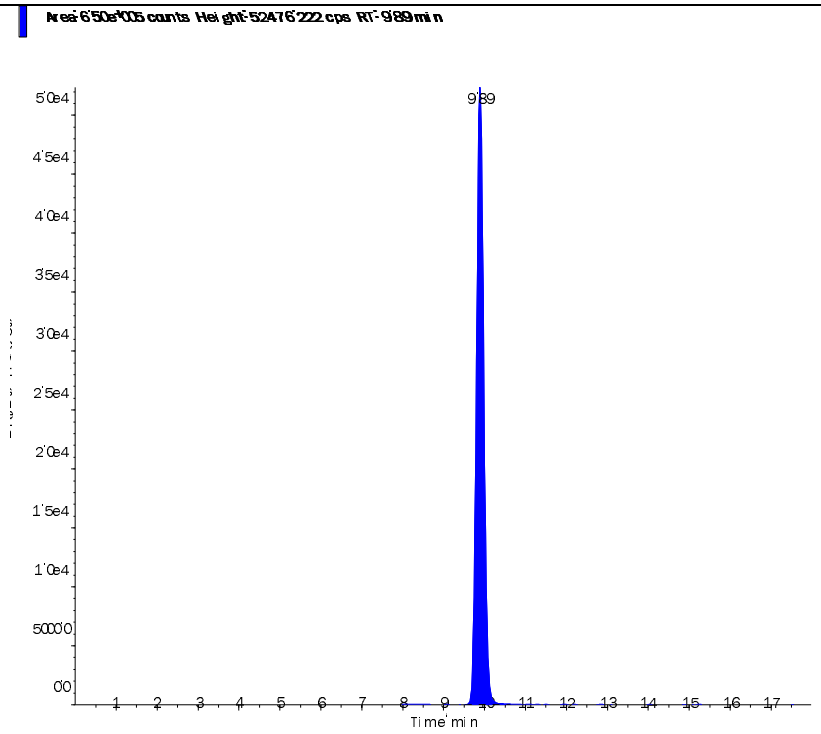
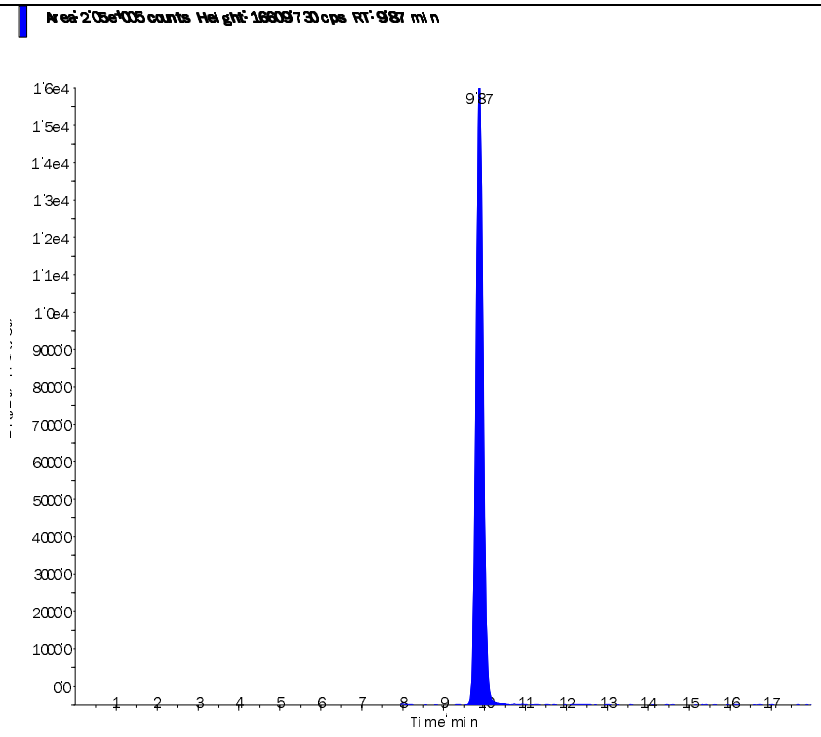
O18LP (Internal Standard)

RT (Exp. RT): 9.88(9.88) min

Concentration: 5.00 ug/L

Sample Type: (Standard)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): 9.89 (9.90) min Calculated conc: 9.98 ng/ml Area Ratio: 2.986 Sample Type: (Standard)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 9.87 (9.88) min Calculated conc: 9.99 ng/ml Area Ratio: 0.94 Sample Type: (Standard)	

Data File	LM31815.wiff	**Result Table**	101315_JWR.rdb
Acquisition Date	10/13/2015 6:26:01 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	WG542643-09 SSCV (1.0 ug/L)	**Injection Vial**	9.00
Data File	LM31815.wiff	**Injection Volume**	10.00
Acquisition Date	10/13/2015 6:26:01 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Quality Control
Instrument Name	API 4000	**Result Table**	101315_JWR.rdb
Sample ID	WG542643-09	**Dilution Factor**	1.00
Sample Comment	1,1 STD72685	**Weight to Volume**	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	2.400e+05	9.88	5.00	-

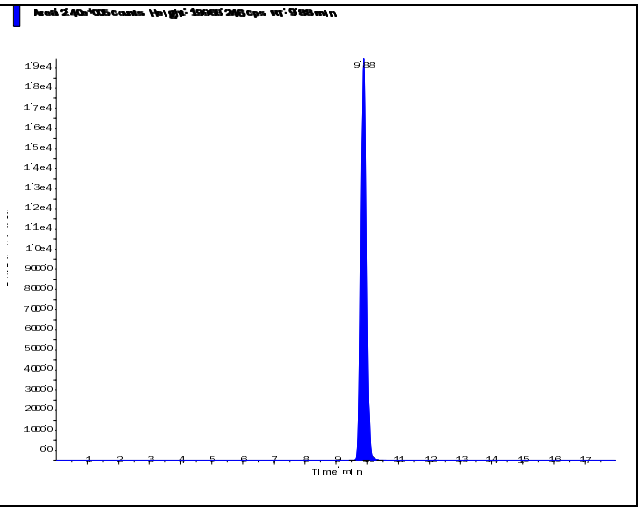
Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	7.250e+04	9.90	1.00	1.01
Perchlorate conf	2.260e+04	9.88	1.00	0.997

O18LP (Internal Standard)

RT (Exp. RT): 9.88(9.88) min

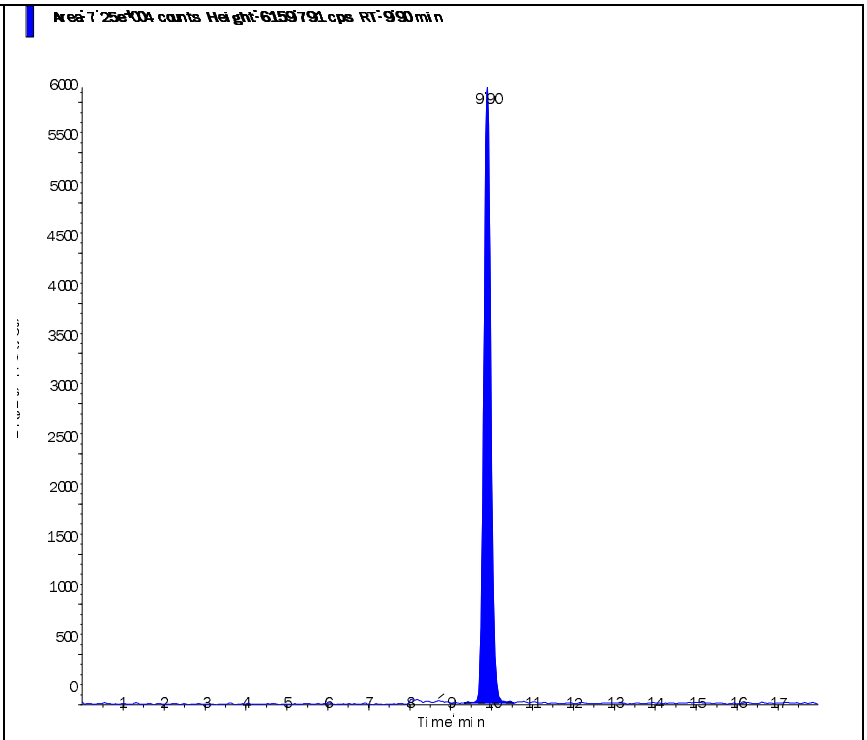
Concentration: 5.00 ug/L

Sample Type: (Quality Control)



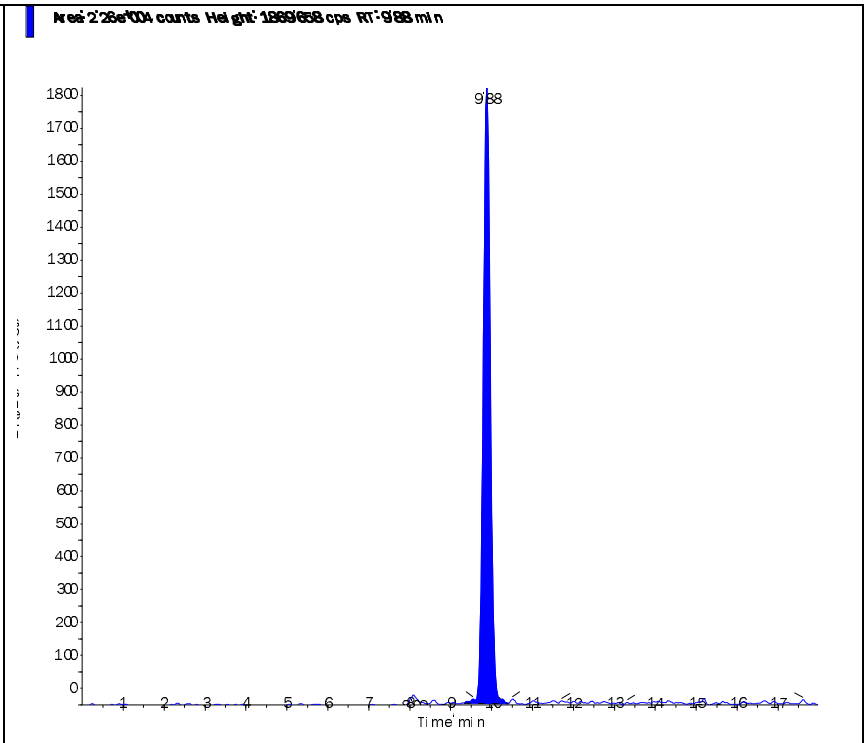
Perchlorate (98.8/83.3 amu)

RT (Exp. RT):	9.90 (9.90) min
Calculated conc:	1.01 ng/ml
Area Ratio:	0.302
Sample Type:	(Quality Control)



Perchlorate conf (100.8/85.2 amu)

RT (Exp. RT):	9.88 (9.88) min
Calculated conc:	0.997 ng/ml
Area Ratio:	0.094
Sample Type:	(Quality Control)



Data File	LM31842.wiff	**Result Table**	101515_JWR.rdb
Acquisition Date	10/15/2015 3:05:53 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	WG543058-02 CCV (1.0ug/L)	**Injection Vial**	3.00
Data File	LM31842.wiff	**Injection Volume**	10.00
Acquisition Date	10/15/2015 3:05:53 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Quality Control
Instrument Name	API 4000	**Result Table**	101515_JWR.rdb
Sample ID	WG543058-02	**Dilution Factor**	1.00
Sample Comment	1,1 STD72683	**Weight to Volume**	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	2.360e+05	9.83	5.00	-

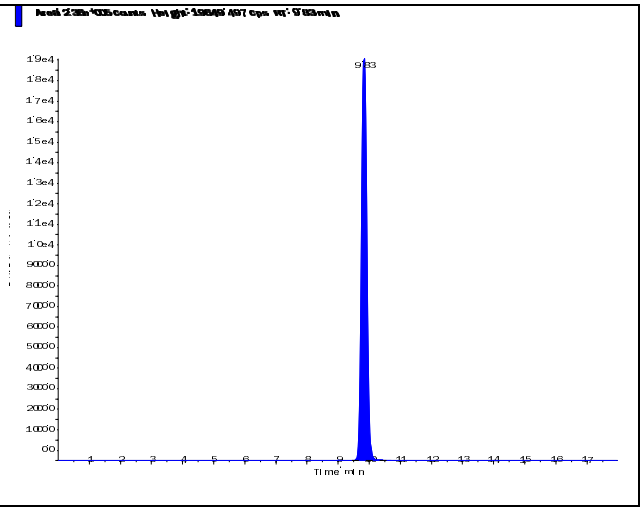
Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	7.030e+04	9.85	1.00	0.998
Perchlorate conf	2.180e+04	9.83	1.00	0.976

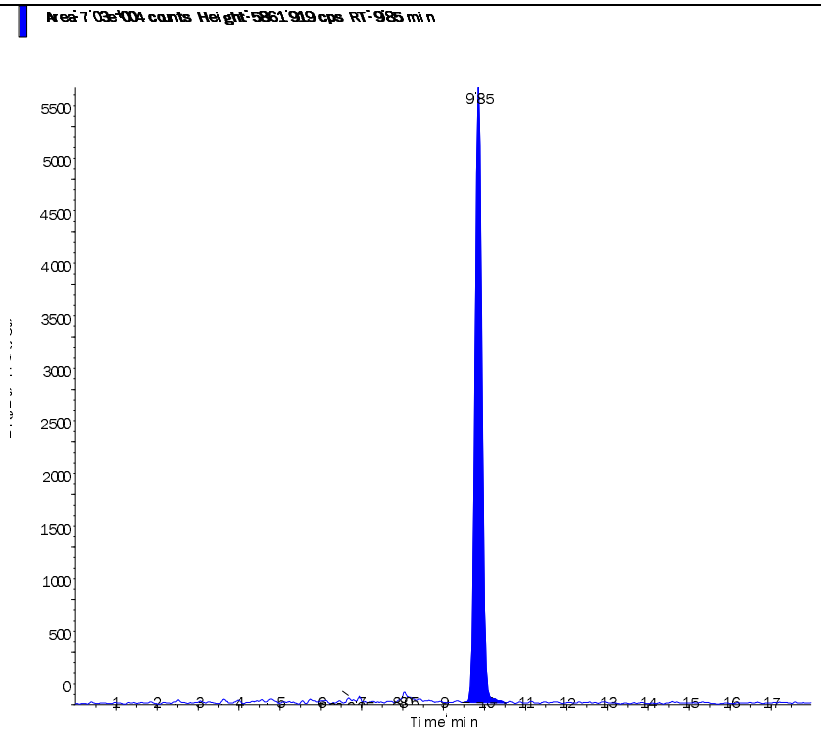
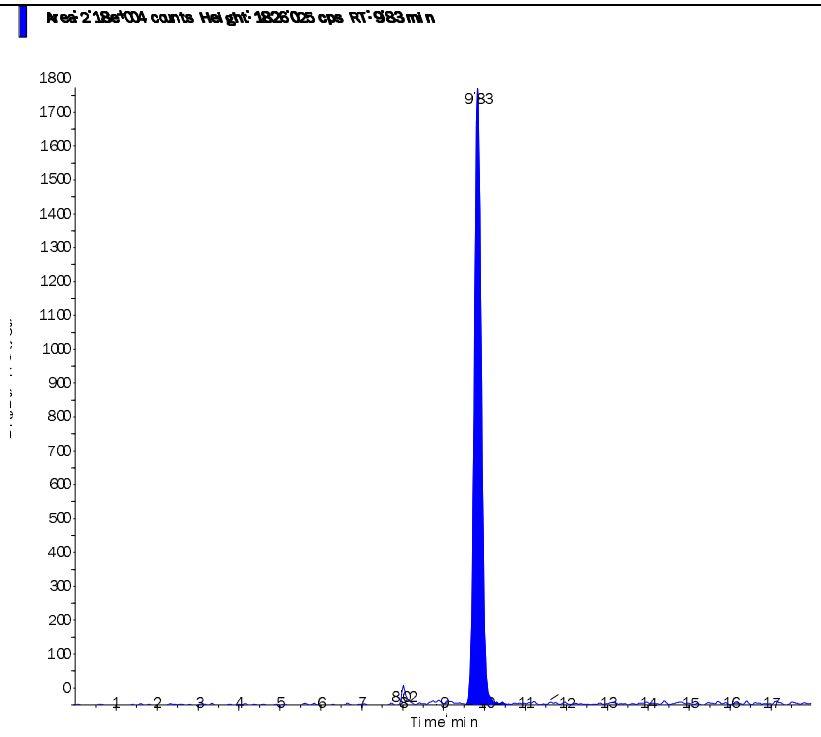
O18LP (Internal Standard)

RT (Exp. RT): 9.83(9.88) min

Concentration: 5.00 ug/L

Sample Type: (Quality Control)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): 9.85 (9.90) min Calculated conc: 0.998 ng/ml Area Ratio: 0.298 Sample Type: (Quality Control)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 9.83 (9.88) min Calculated conc: 0.976 ng/ml Area Ratio: 0.092 Sample Type: (Quality Control)	

Data File	LM31854.wiff	**Result Table**	101515_JWR.rdb
Acquisition Date	10/15/2015 6:53:10 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

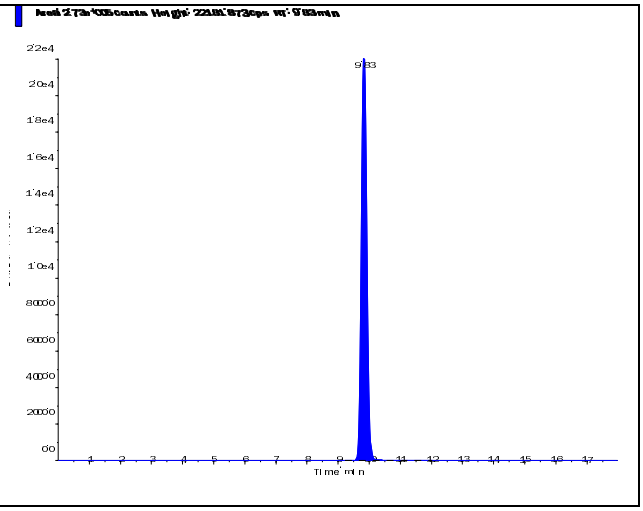
Sample Name	WG543058-03 CCV (1.0ug/L)	**Injection Vial**	3.00
Data File	LM31854.wiff	**Injection Volume**	10.00
Acquisition Date	10/15/2015 6:53:10 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Quality Control
Instrument Name	API 4000	**Result Table**	101515_JWR.rdb
Sample ID	WG543058-03	**Dilution Factor**	1.00
Sample Comment	1,1 STD72683	**Weight to Volume**	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	2.730e+05	9.83	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	7.460e+04	9.84	1.00	0.916
Perchlorate conf	2.430e+04	9.83	1.00	0.942

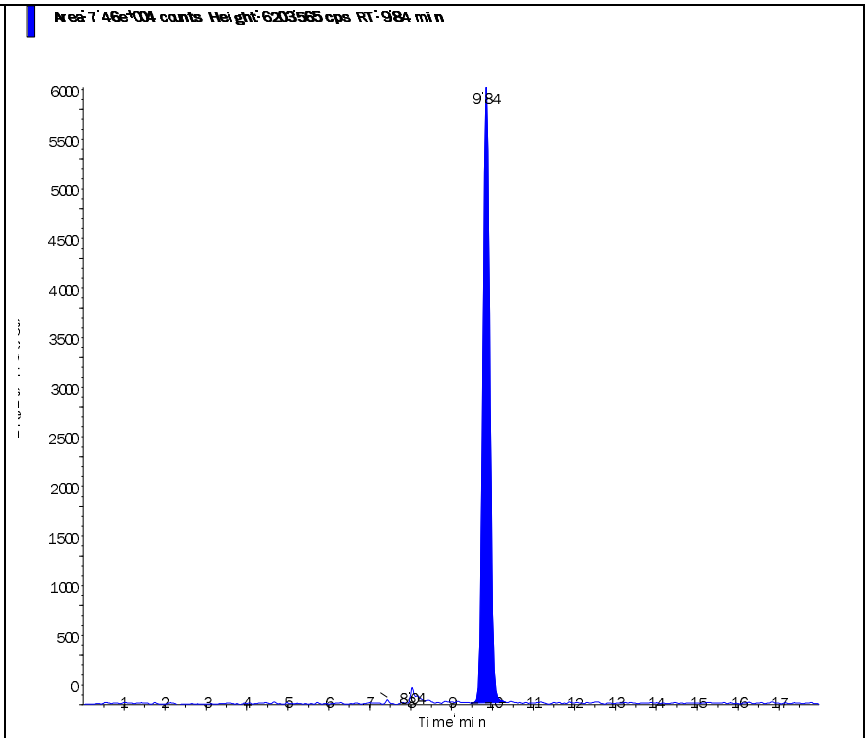
O18LP (Internal Standard)

RT (Exp. RT): 9.83(9.88) min
Concentration: 5.00 ug/L
Sample Type: (Quality Control)



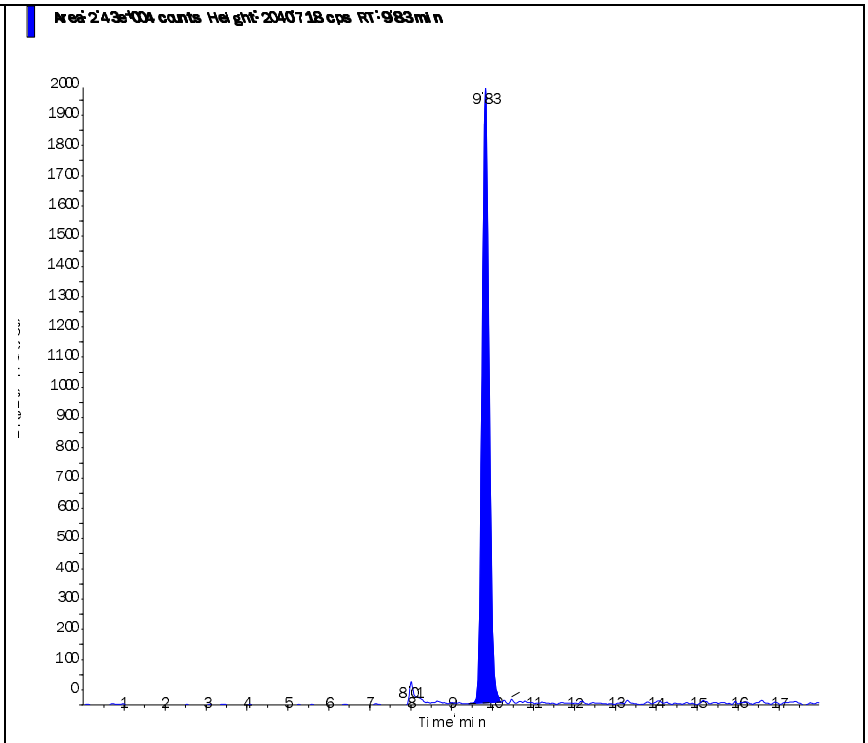
Perchlorate (98.8/83.3 amu)

RT (Exp. RT):	9.84 (9.90) min
Calculated conc:	0.916 ng/ml
Area Ratio:	0.273
Sample Type:	(Quality Control)



Perchlorate conf (100.8/85.2 amu)

RT (Exp. RT):	9.83 (9.88) min
Calculated conc:	0.942 ng/ml
Area Ratio:	0.089
Sample Type:	(Quality Control)



Data File	LM31861.wiff	**Result Table**	101515_JWR.rdb
Acquisition Date	10/15/2015 9:05:40 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

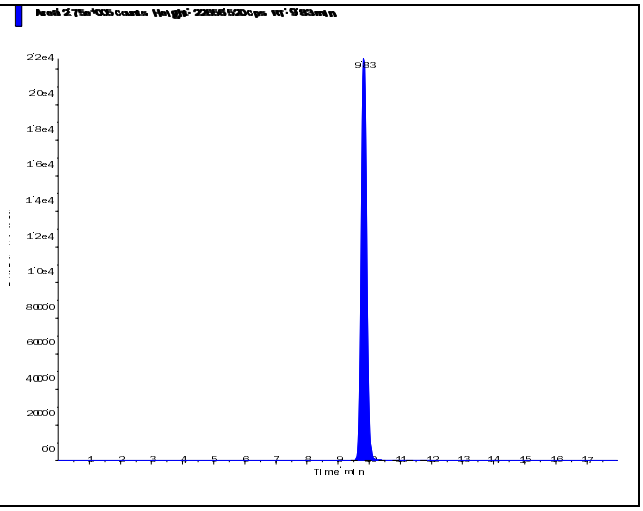
Sample Name	WG543058-05 CCV (1.0ug/L)	**Injection Vial**	3.00
Data File	LM31861.wiff	**Injection Volume**	10.00
Acquisition Date	10/15/2015 9:05:40 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Quality Control
Instrument Name	API 4000	**Result Table**	101515_JWR.rdb
Sample ID	WG543058-05	**Dilution Factor**	1.00
Sample Comment	1,1 STD72683	**Weight to Volume**	0.00

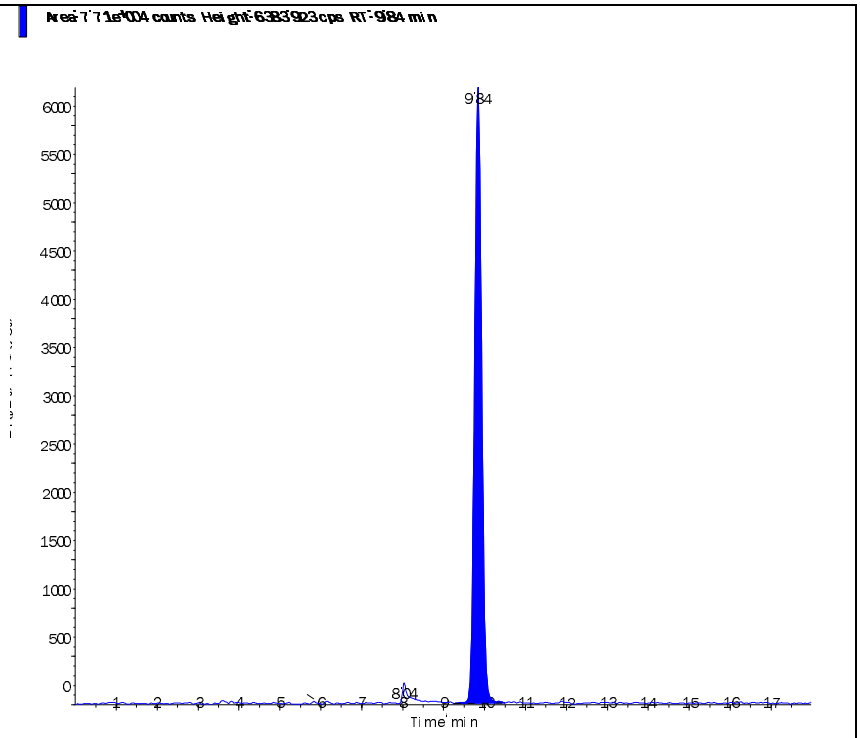
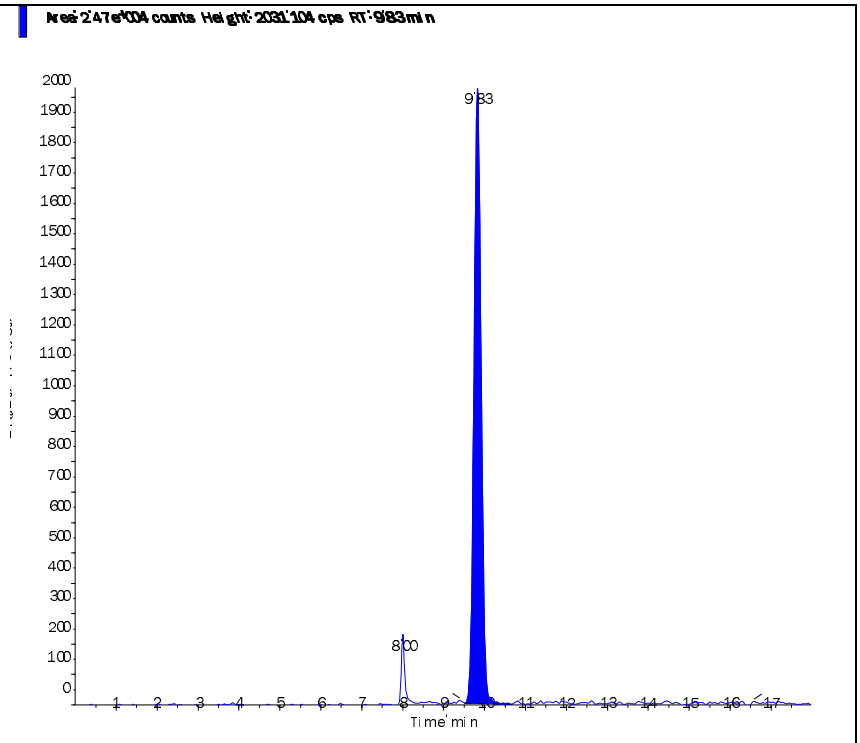
Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	2.750e+05	9.83	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	7.710e+04	9.84	1.00	0.94
Perchlorate conf	2.470e+04	9.83	1.00	0.949

O18LP (Internal Standard)

RT (Exp. RT): 9.83(9.88) min
Concentration: 5.00 ug/L
Sample Type: (Quality Control)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): 9.84 (9.90) min Calculated conc: 0.94 ng/ml Area Ratio: 0.281 Sample Type: (Quality Control)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 9.83 (9.88) min Calculated conc: 0.949 ng/ml Area Ratio: 0.09 Sample Type: (Quality Control)	

Data File	LM31843.wiff	**Result Table**	101515_JWR.rdb
Acquisition Date	10/15/2015 3:24:51 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	WG543057-07 MRL (0.2ug/L)	**Injection Vial**	2.00
Data File	LM31843.wiff	**Injection Volume**	10.00
Acquisition Date	10/15/2015 3:24:51 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Unknown
Instrument Name	API 4000	**Result Table**	101515_JWR.rdb
Sample ID	WG543057-07	**Dilution Factor**	1.00
Sample Comment	1,1 STD72683	**Weight to Volume**	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	2.500e+05	9.83	5.00	-

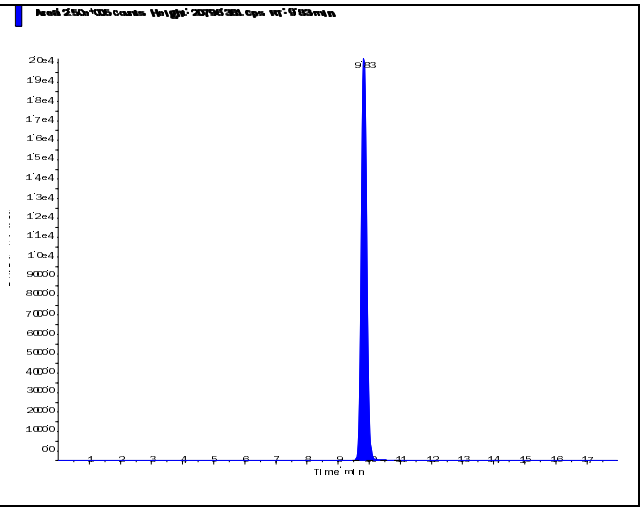
Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	1.410e+04	9.84	N/A	0.191
Perchlorate conf	4.780e+03	9.84	N/A	0.198

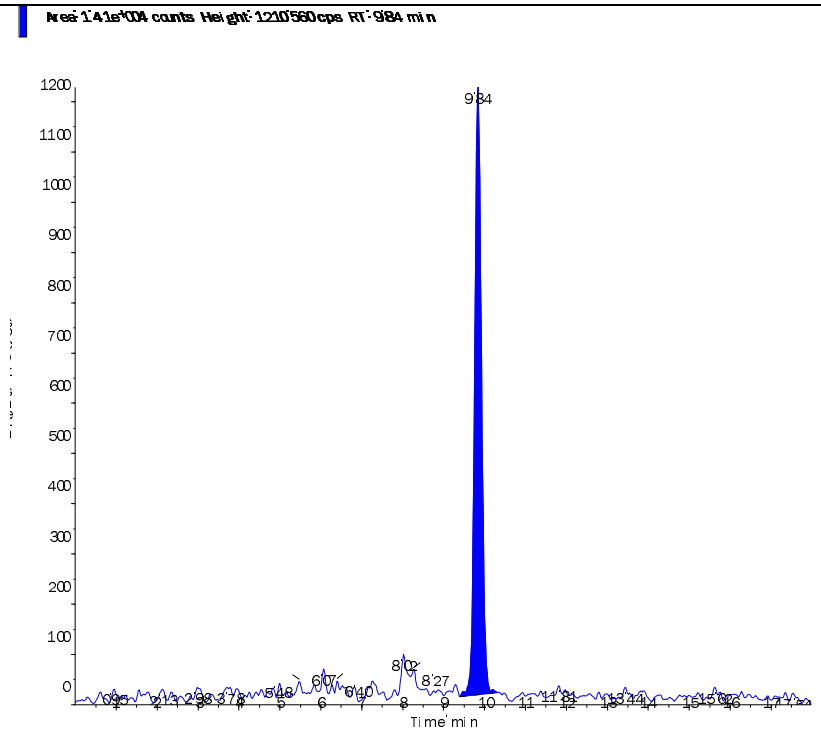
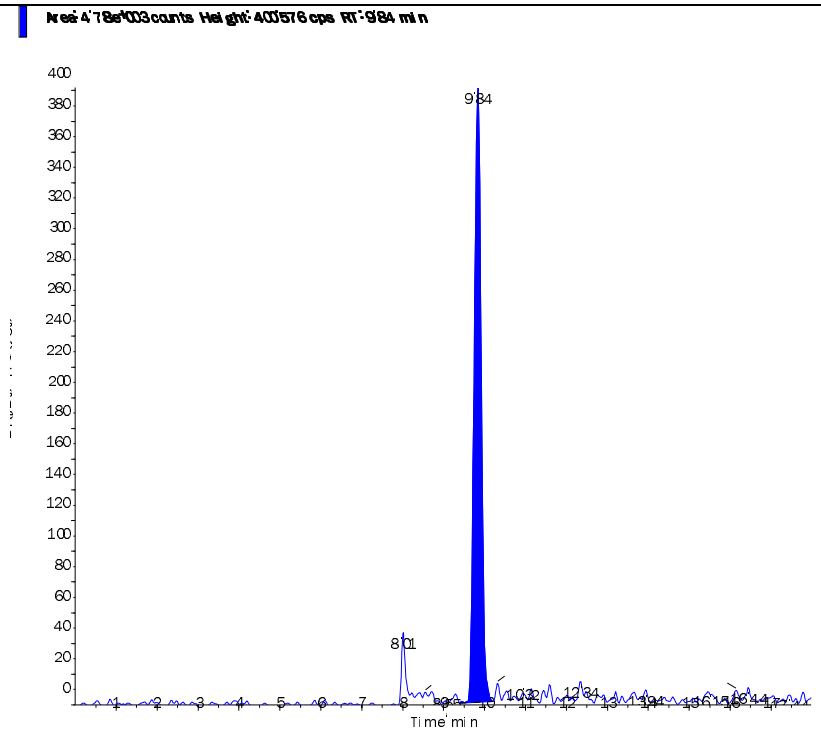
O18LP (Internal Standard)

RT (Exp. RT): 9.83(9.88) min

Concentration: 5.00 ug/L

Sample Type: (Unknown)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): 9.84 (9.90) min Calculated conc: 0.191 ng/ml Area Ratio: 0.057 Sample Type: (Unknown)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 9.84 (9.88) min Calculated conc: 0.198 ng/ml Area Ratio: 0.019 Sample Type: (Unknown)	

Data File	LM31855.wiff	**Result Table**	101515_JWR.rdb
Acquisition Date	10/15/2015 7:12:06 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

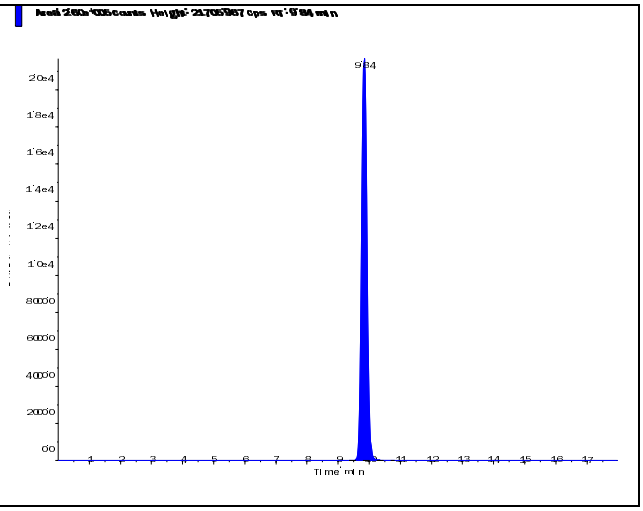
Sample Name	WG543057-08 MRL (0.2ug/L)	**Injection Vial**	2.00
Data File	LM31855.wiff	**Injection Volume**	10.00
Acquisition Date	10/15/2015 7:12:06 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Unknown
Instrument Name	API 4000	**Result Table**	101515_JWR.rdb
Sample ID	WG543057-08	**Dilution Factor**	1.00
Sample Comment	1,1 STD72683	**Weight to Volume**	0.00

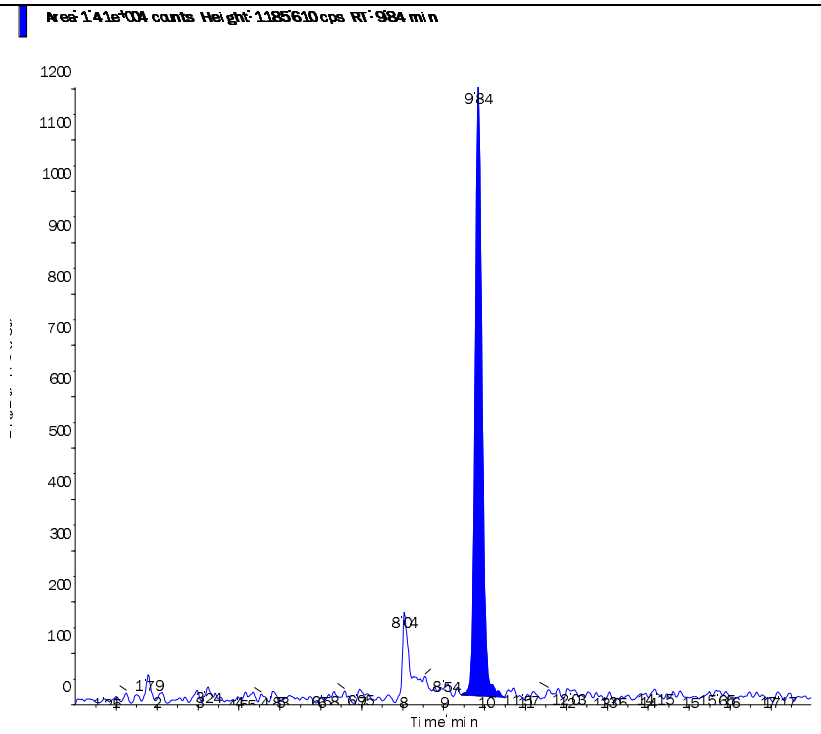
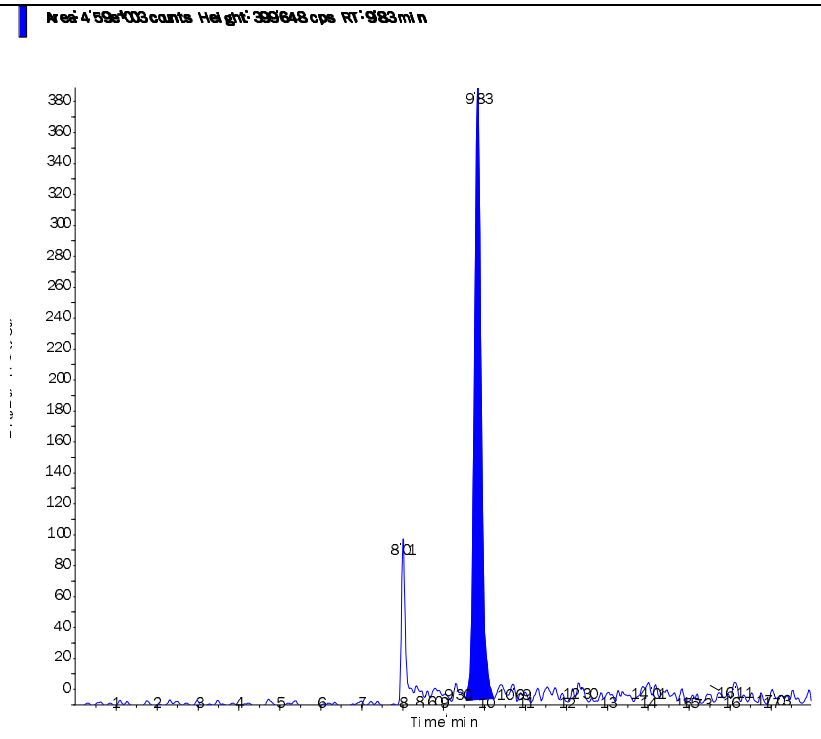
Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	2.600e+05	9.84	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	1.410e+04	9.84	N/A	0.183
Perchlorate conf	4.590e+03	9.83	N/A	0.182

O18LP (Internal Standard)

RT (Exp. RT): 9.84(9.88) min
Concentration: 5.00 ug/L
Sample Type: (Unknown)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): 9.84 (9.90) min Calculated conc: 0.183 ng/ml Area Ratio: 0.054 Sample Type: (Unknown)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 9.83 (9.88) min Calculated conc: 0.182 ng/ml Area Ratio: 0.018 Sample Type: (Unknown)	

Data File	LM31862.wiff	**Result Table**	101515_JWR.rdb
Acquisition Date	10/15/2015 9:24:36 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	WG543057-09 MRL (0.2ug/L)	**Injection Vial**	2.00
Data File	LM31862.wiff	**Injection Volume**	10.00
Acquisition Date	10/15/2015 9:24:36 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Unknown
Instrument Name	API 4000	**Result Table**	101515_JWR.rdb
Sample ID	WG543057-09	**Dilution Factor**	1.00
Sample Comment	1,1 STD72683	**Weight to Volume**	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	2.690e+05	9.83	5.00	-

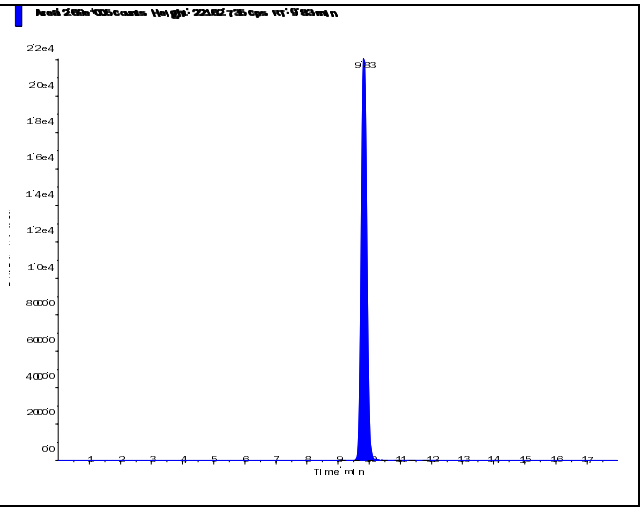
Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	1.480e+04	9.85	N/A	0.186
Perchlorate conf	4.480e+03	9.83	N/A	0.171

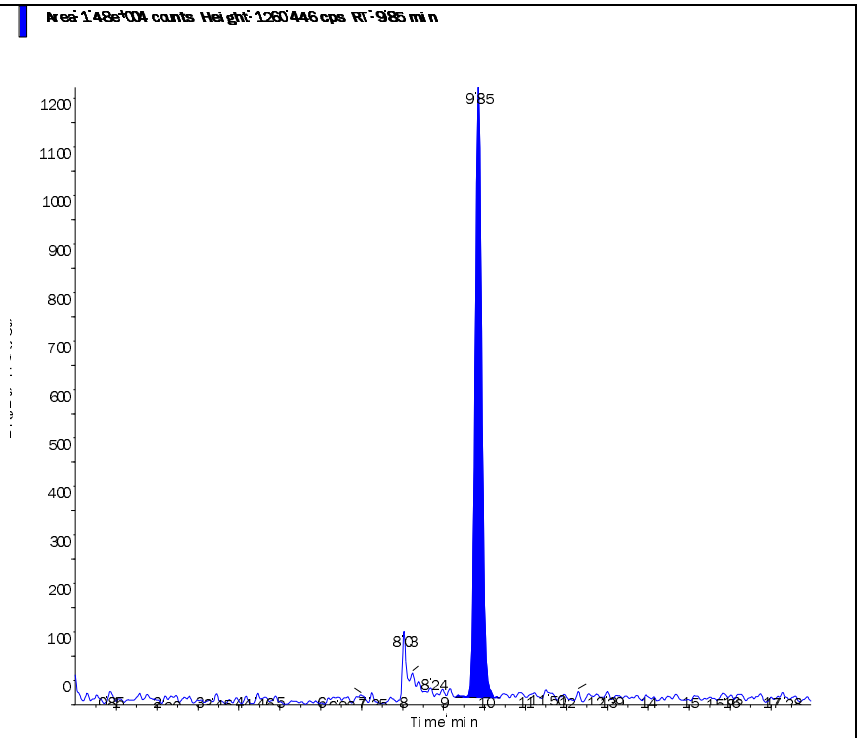
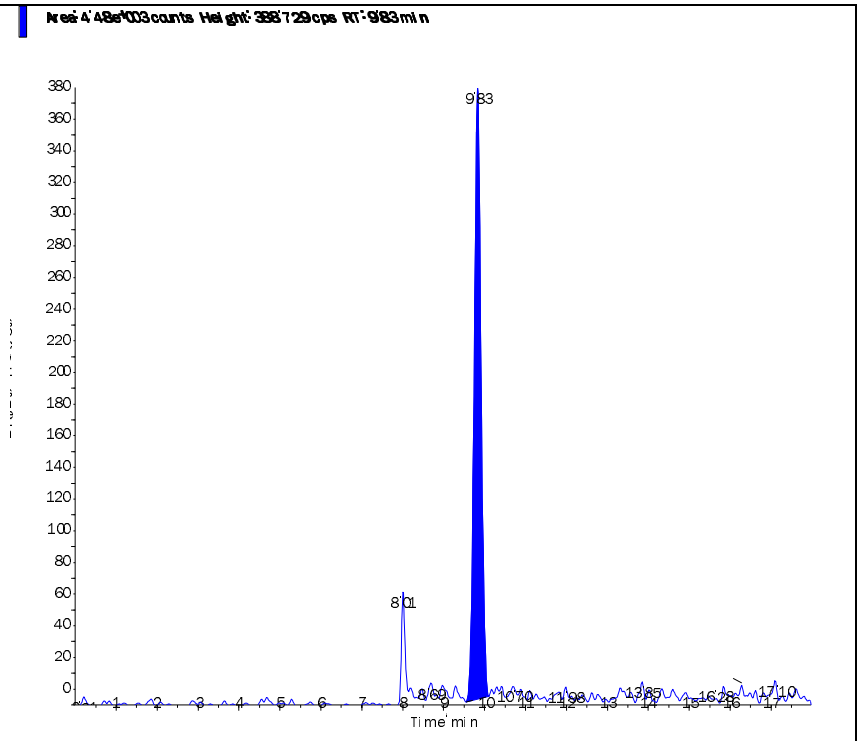
O18LP (Internal Standard)

RT (Exp. RT): 9.83(9.88) min

Concentration: 5.00 ug/L

Sample Type: (Unknown)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): 9.85 (9.90) min Calculated conc: 0.186 ng/ml Area Ratio: 0.055 Sample Type: (Unknown)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 9.83 (9.88) min Calculated conc: 0.171 ng/ml Area Ratio: 0.017 Sample Type: (Unknown)	

Data File	LM31841.wiff	**Result Table**	101515_JWR.rdb
Acquisition Date	10/15/2015 2:46:57 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	WG543058-01 CCB	**Injection Vial**	1.00
Data File	LM31841.wiff	**Injection Volume**	10.00
Acquisition Date	10/15/2015 2:46:57 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Unknown
Instrument Name	API 4000	**Result Table**	101515_JWR.rdb
Sample ID	WG543058-01	**Dilution Factor**	1.00
Sample Comment	11.00	**Weight to Volume**	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	2.070e+05	9.83	5.00	-

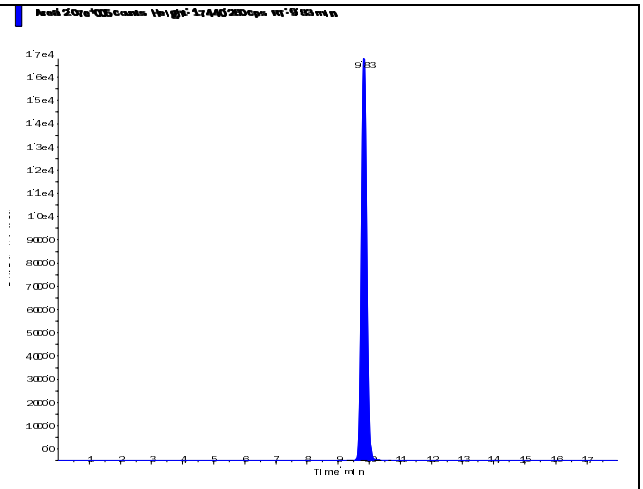
Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	0.000e+00	0.00	N/A	No Peak
Perchlorate conf	0.000e+00	0.00	N/A	No Peak

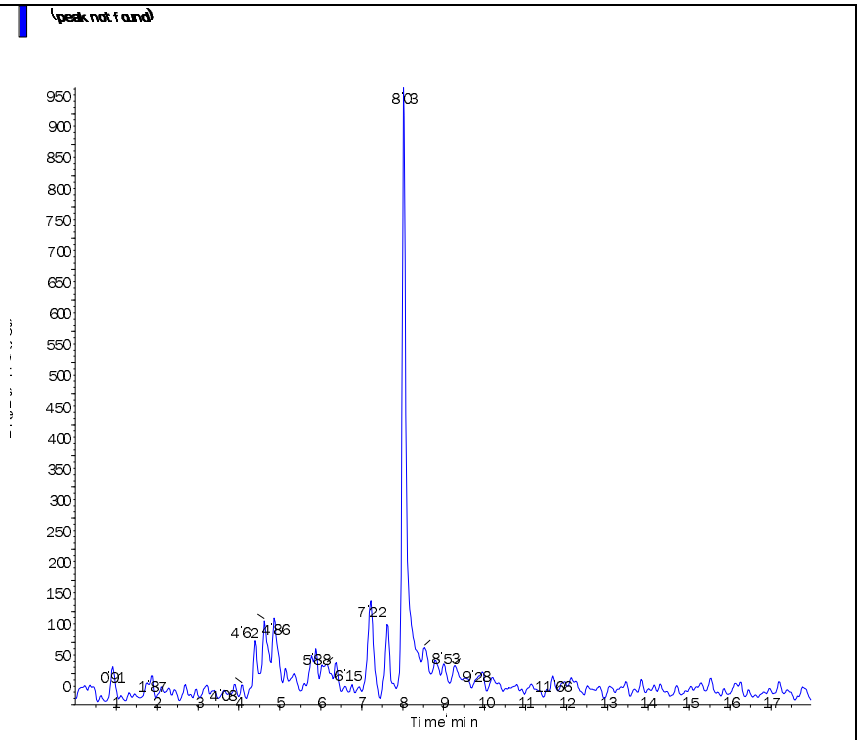
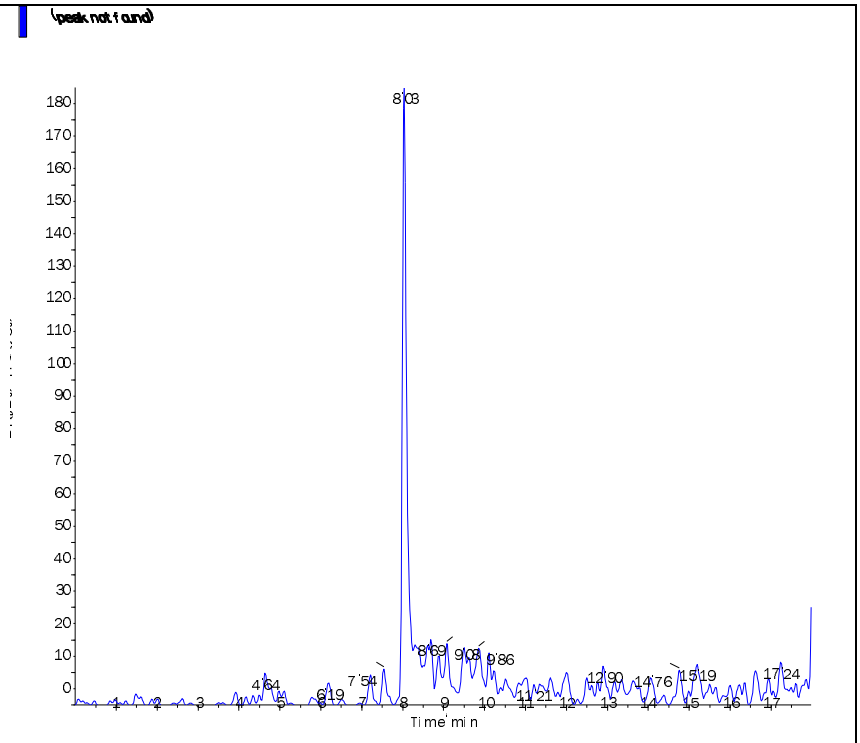
O18LP (Internal Standard)

RT (Exp. RT): 9.83(9.88) min

Concentration: 5.00 ug/L

Sample Type: (Unknown)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): 0.00 (9.90) min Calculated conc: No Peak ng/ml Area Ratio: 0.00 Sample Type: (Unknown)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 0.00 (9.88) min Calculated conc: No Peak ng/ml Area Ratio: 0.00 Sample Type: (Unknown)	

Data File	LM31856.wiff	**Result Table**	101515_JWR.rdb
Acquisition Date	10/15/2015 7:31:03 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

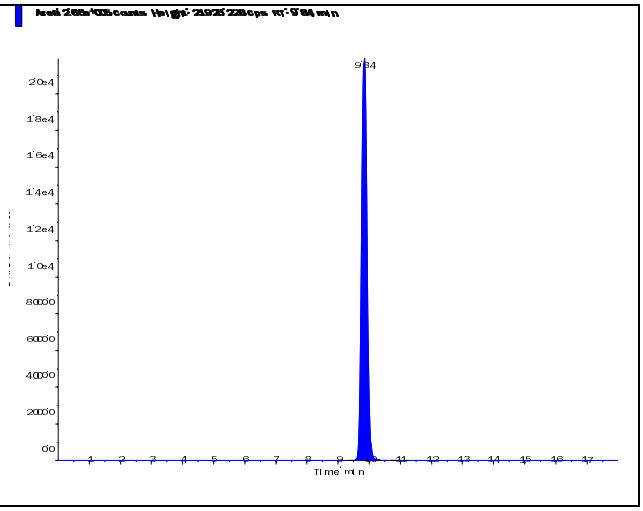
Sample Name	WG543058-04 CCB	**Injection Vial**	1.00
Data File	LM31856.wiff	**Injection Volume**	10.00
Acquisition Date	10/15/2015 7:31:03 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Unknown
Instrument Name	API 4000	**Result Table**	101515_JWR.rdb
Sample ID	WG543058-04	**Dilution Factor**	1.00
Sample Comment	11.00	**Weight to Volume**	0.00

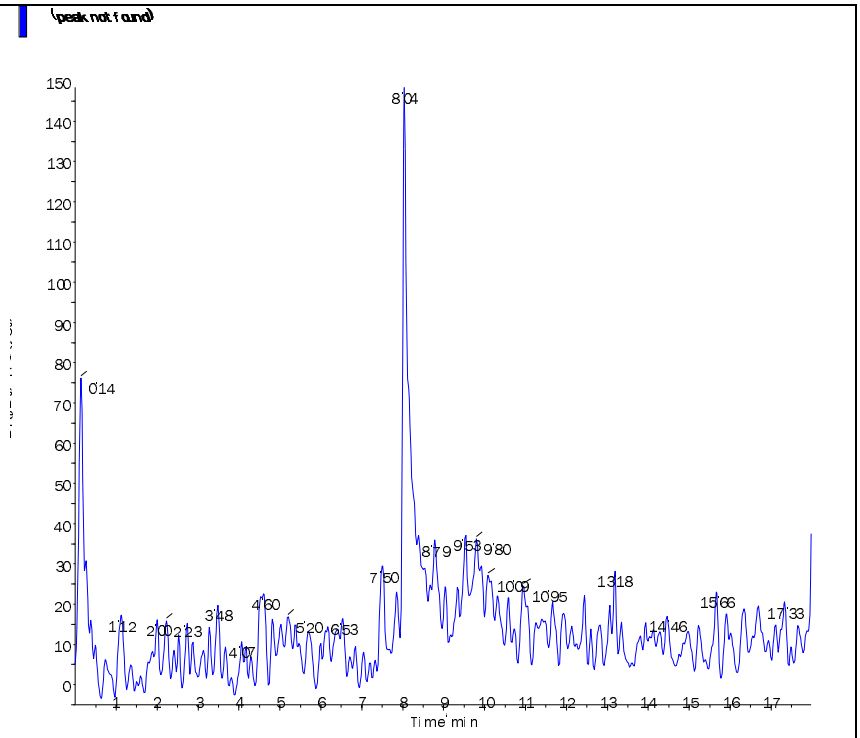
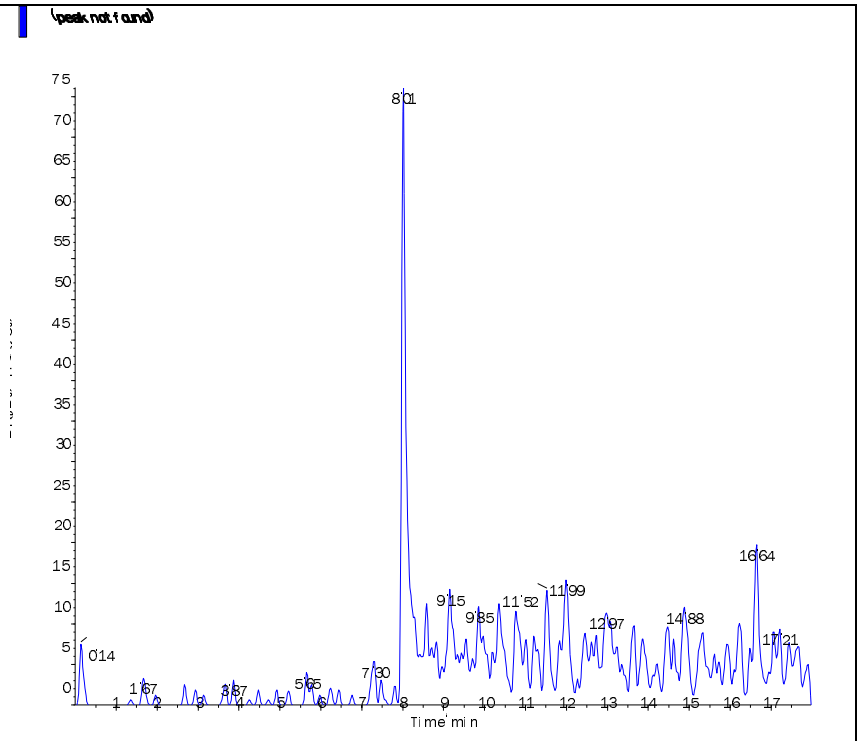
Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	2.660e+05	9.84	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	0.000e+00	0.00	N/A	No Peak
Perchlorate conf	0.000e+00	0.00	N/A	No Peak

O18LP (Internal Standard)

RT (Exp. RT): 9.84(9.88) min
Concentration: 5.00 ug/L
Sample Type: (Unknown)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): 0.00 (9.90) min Calculated conc: No Peak ng/ml Area Ratio: 0.00 Sample Type: (Unknown)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 0.00 (9.88) min Calculated conc: No Peak ng/ml Area Ratio: 0.00 Sample Type: (Unknown)	

Data File	LM31863.wiff	**Result Table**	101515_JWR.rdb
Acquisition Date	10/15/2015 9:43:31 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

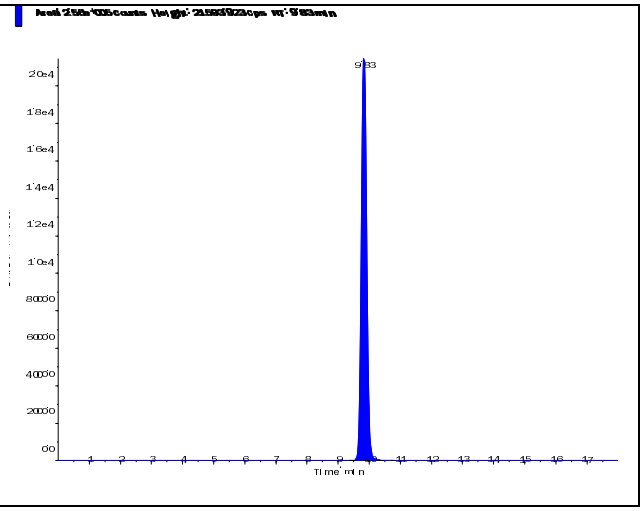
Sample Name	WG543058-06 CCB	**Injection Vial**	1.00
Data File	LM31863.wiff	**Injection Volume**	10.00
Acquisition Date	10/15/2015 9:43:31 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Unknown
Instrument Name	API 4000	**Result Table**	101515_JWR.rdb
Sample ID	WG543058-06	**Dilution Factor**	1.00
Sample Comment	11.00	**Weight to Volume**	0.00

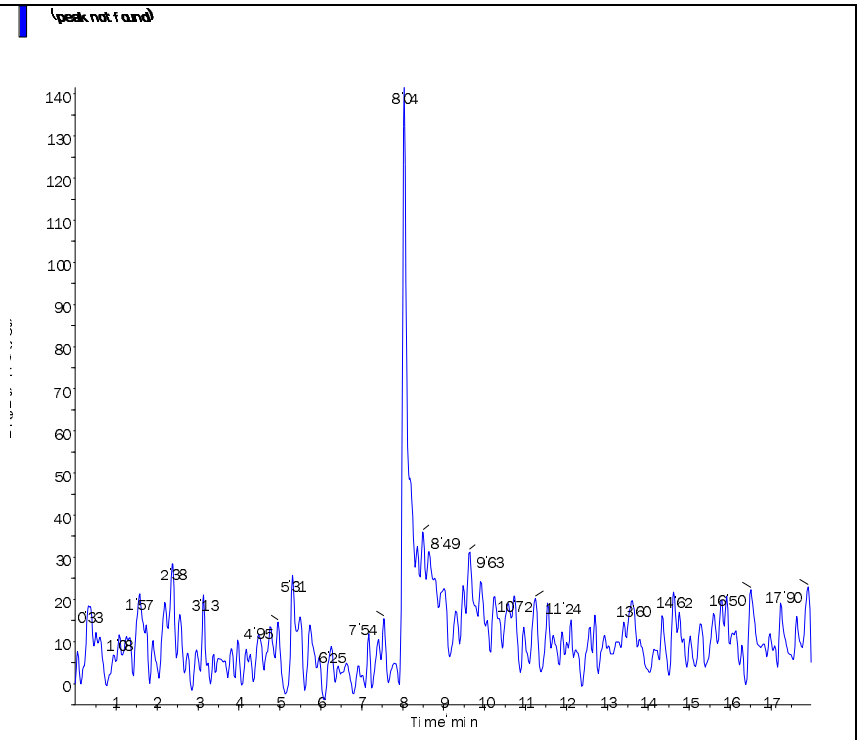
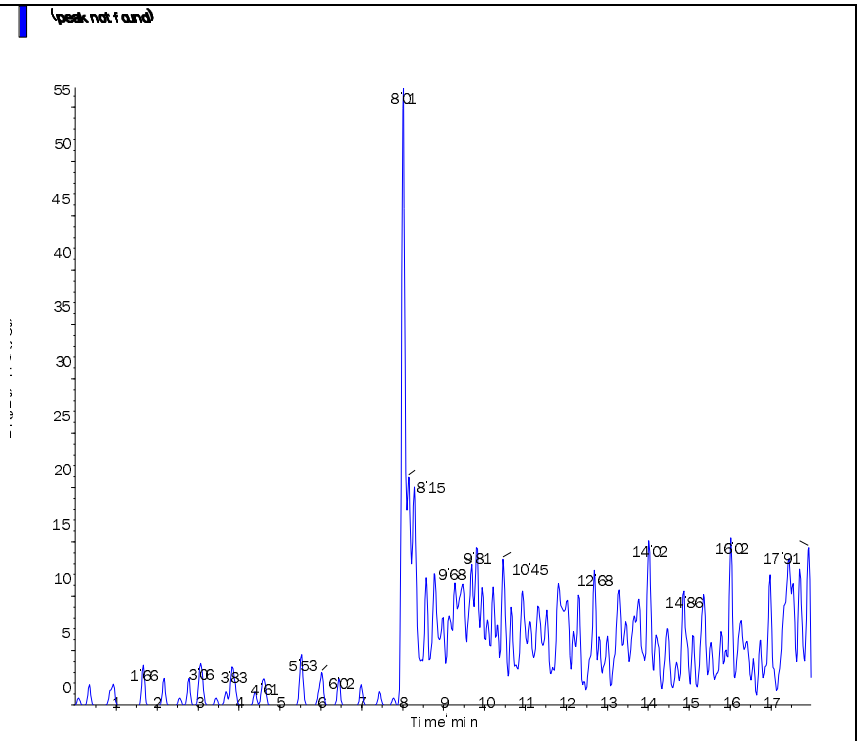
Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	2.560e+05	9.83	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	0.000e+00	0.00	N/A	No Peak
Perchlorate conf	0.000e+00	0.00	N/A	No Peak

O18LP (Internal Standard)

RT (Exp. RT): 9.83(9.88) min
Concentration: 5.00 ug/L
Sample Type: (Unknown)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): 0.00 (9.90) min Calculated conc: No Peak ng/ml Area Ratio: 0.00 Sample Type: (Unknown)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 0.00 (9.88) min Calculated conc: No Peak ng/ml Area Ratio: 0.00 Sample Type: (Unknown)	

Data File	LM31844.wiff	**Result Table**	101515_JWR.rdb
Acquisition Date	10/15/2015 3:43:48 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

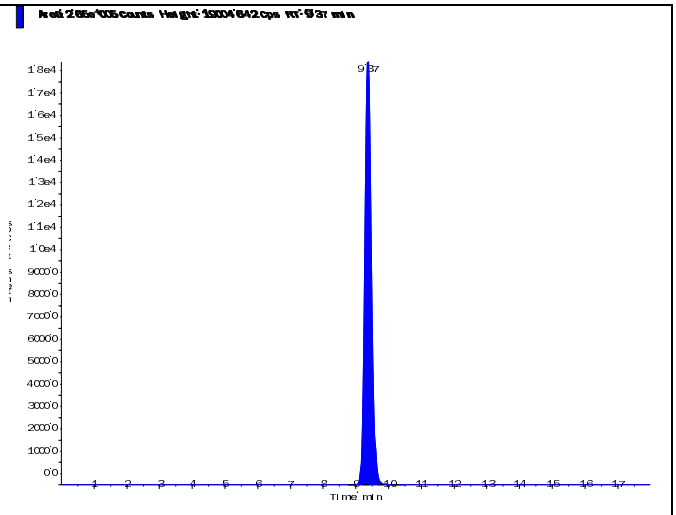
Sample Name	WG543057-01 MCT (0.2ug/L)	**Injection Vial**	4.00
Data File	LM31844.wiff	**Injection Volume**	10.00
Acquisition Date	10/15/2015 3:43:48 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Unknown
Instrument Name	API 4000	**Result Table**	101515_JWR.rdb
Sample ID	WG543057-01	**Dilution Factor**	1.00
Sample Comment	1,1 STD72685	**Weight to Volume**	0.00

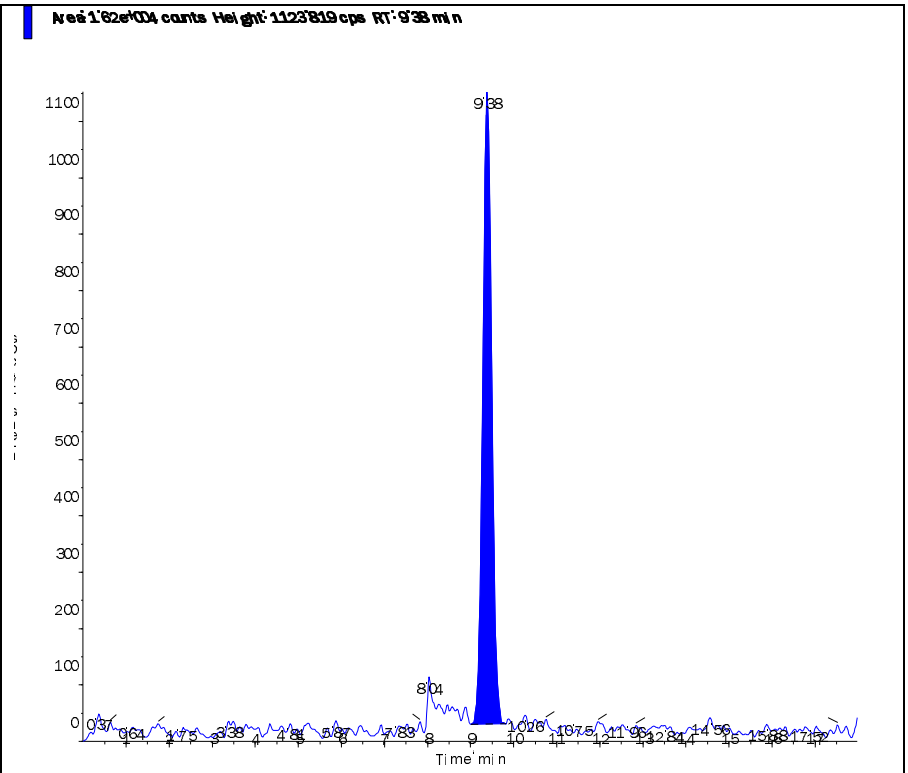
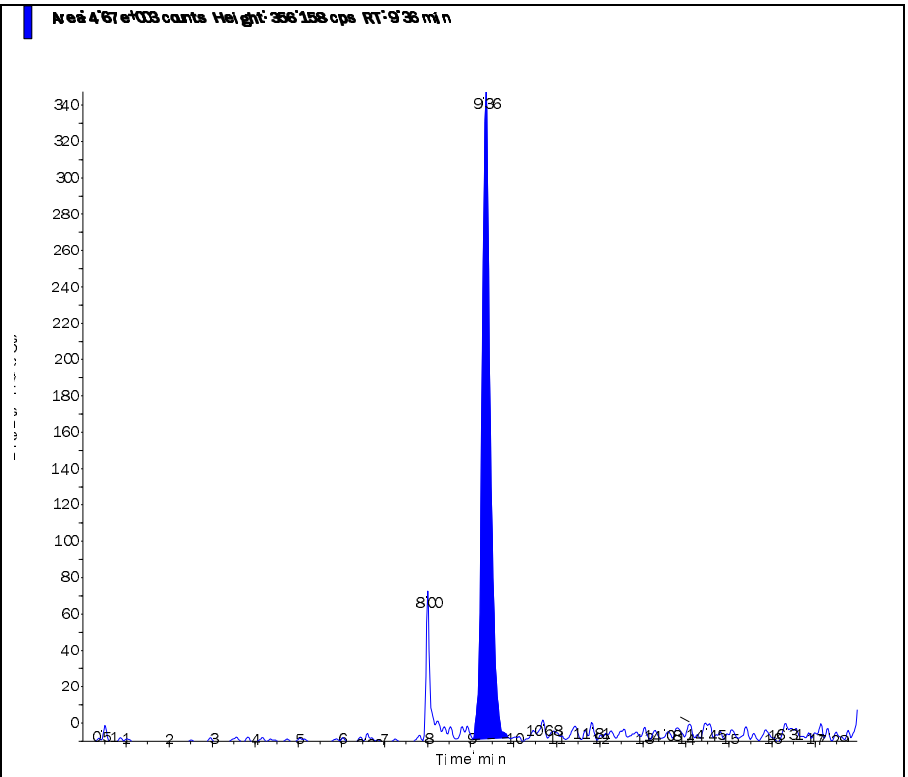
Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	2.650e+05	9.37	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	1.620e+04	9.38	N/A	0.206
Perchlorate conf	4.670e+03	9.36	N/A	0.182

O18LP (Internal Standard)

RT (Exp. RT): 9.37(9.88) min
Concentration: 5.00 ug/L
Sample Type: (Unknown)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): 9.38 (9.90) min Calculated conc: 0.206 ng/ml Area Ratio: 0.061 Sample Type: (Unknown)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 9.36 (9.88) min Calculated conc: 0.182 ng/ml Area Ratio: 0.018 Sample Type: (Unknown)	

2.1.1.5 Raw QC Data

Data File	LM31845.wiff	**Result Table**	101515_JWR.rdb
Acquisition Date	10/15/2015 4:02:44 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

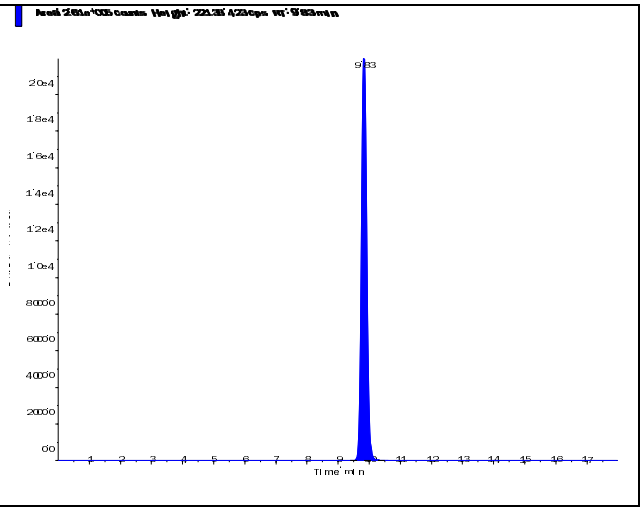
Sample Name	WG543057-02 BLANK	**Injection Vial**	5.00
Data File	LM31845.wiff	**Injection Volume**	10.00
Acquisition Date	10/15/2015 4:02:44 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Unknown
Instrument Name	API 4000	**Result Table**	101515_JWR.rdb
Sample ID	WG543057-02	**Dilution Factor**	1.00
Sample Comment	11.00	**Weight to Volume**	0.00

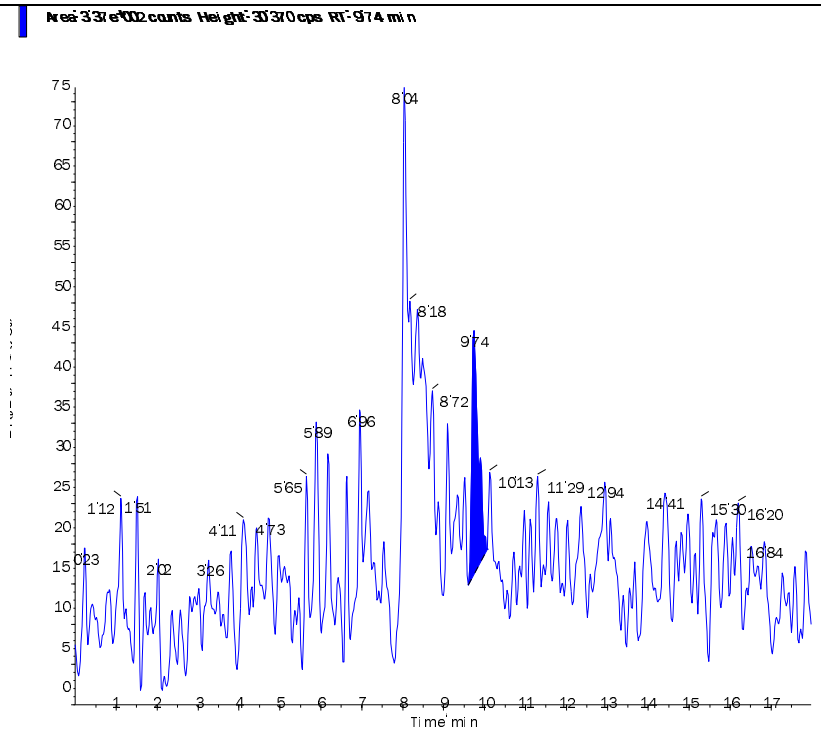
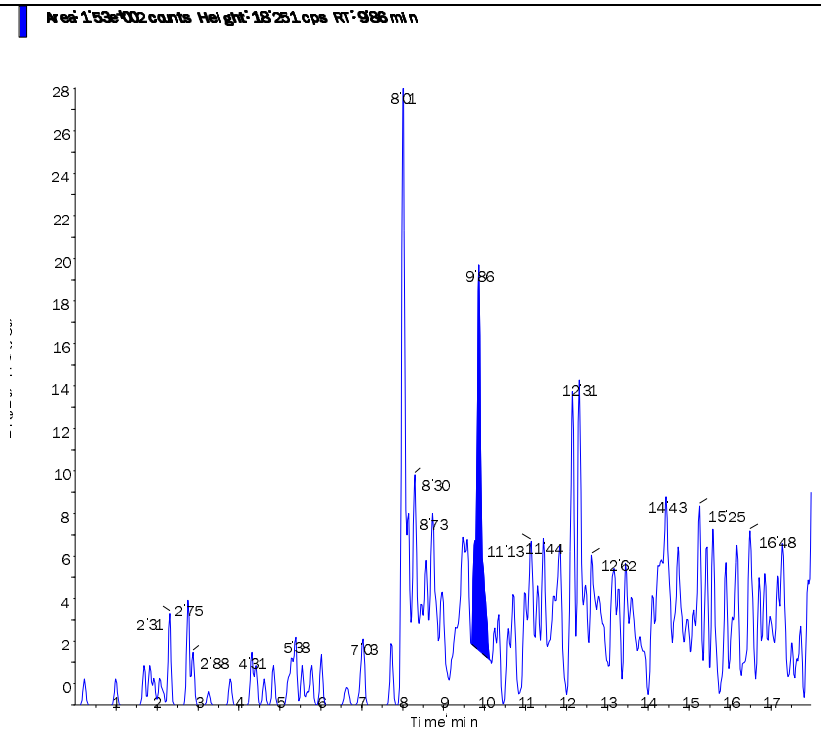
Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	2.610e+05	9.83	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	3.370e+02	9.74	N/A	0.0063
Perchlorate conf	1.530e+02	9.86	N/A	0.0005

O18LP (Internal Standard)

RT (Exp. RT): 9.83(9.88) min
Concentration: 5.00 ug/L
Sample Type: (Unknown)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): 9.74 (9.90) min Calculated conc: 0.0063 ng/ml Area Ratio: 0.001 Sample Type: (Unknown)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 9.86 (9.88) min Calculated conc: 0.0005 ng/ml Area Ratio: 0.001 Sample Type: (Unknown)	

Data File	LM31846.wiff	**Result Table**	101515_JWR.rdb
Acquisition Date	10/15/2015 4:21:41 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	WG543057-03 LCS (0.2ug/L)	**Injection Vial**	6.00
Data File	LM31846.wiff	**Injection Volume**	10.00
Acquisition Date	10/15/2015 4:21:41 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Unknown
Instrument Name	API 4000	**Result Table**	101515_JWR.rdb
Sample ID	WG543057-03	**Dilution Factor**	1.00
Sample Comment	1,1 STD72685	**Weight to Volume**	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	2.470e+05	9.83	5.00	-

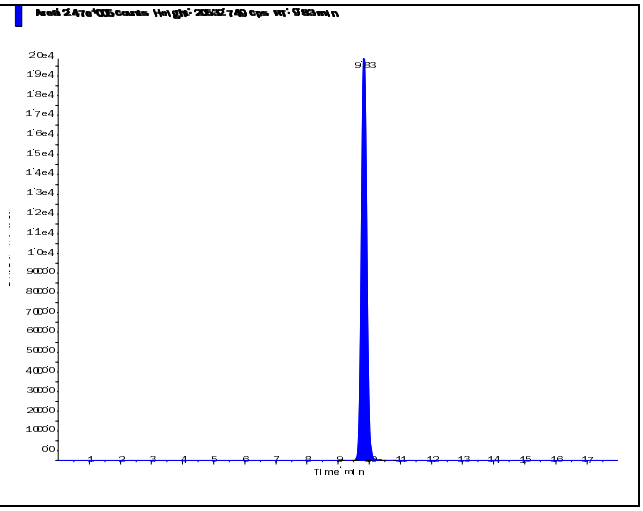
Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	1.460e+04	9.83	N/A	0.199
Perchlorate conf	4.630e+03	9.82	N/A	0.194

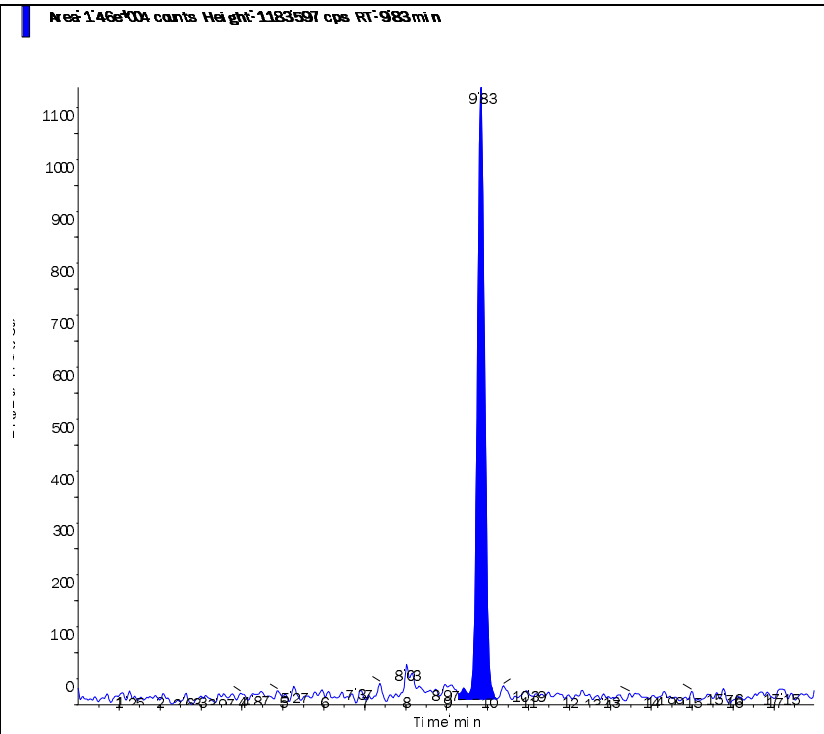
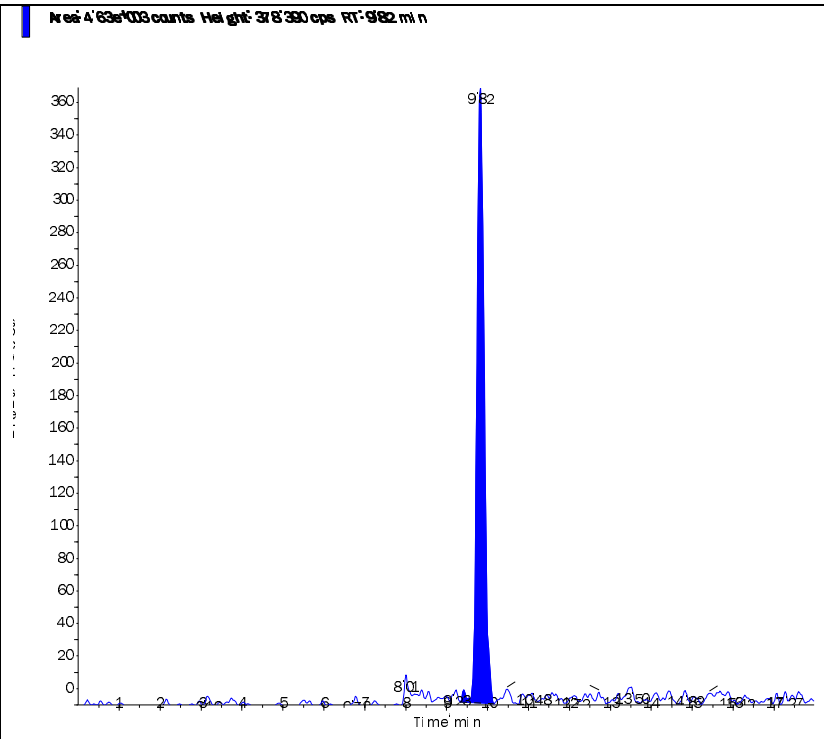
O18LP (Internal Standard)

RT (Exp. RT): 9.83(9.88) min

Concentration: 5.00 ug/L

Sample Type: (Unknown)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): 9.83 (9.90) min Calculated conc: 0.199 ng/ml Area Ratio: 0.059 Sample Type: (Unknown)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 9.82 (9.88) min Calculated conc: 0.194 ng/ml Area Ratio: 0.019 Sample Type: (Unknown)	

3.0 Attachments

Microbac Laboratories Inc.
Ohio Valley Division Analyst List
October 16, 2015

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001 – BIO-CHEM TESTING WVDEP 220	002 – REIC Consultants, Inc. WVDEP 060
003 – Sturm Environmental	004 – MICROBAC PITTSBURGH
005 – ES LABORATORIES	006 – ALCOSAN LABORATORIES
007 – ALS LABORATORIES	008 – BENCHMARK LABORATORIES
010 – MICROBAC CHICAGOLAND	AC – AMBER R. CARMICHAEL
ADC – ANTHONY D. CANTER	ADG – APRIL D. GREENE
AED – ALLEN E. DAVIS	ALS – ADRIANE L. STEED
AWE – ANDREW W. ESSIG	AZH – AFTER HOURS
BJO – BRIAN J. OGDEN	BKT – BRENDAN TORRENCE
BLG – BRENDA L. GREENWALT	BRG – BRENDA R. GREGORY
CAA – CASSIE A. AUGENSTEIN	CAF – CHERYL A. FLOWERS
CEB – CHAD E. BARNES	CJR – COURTNEY J. REXROAD
CLC – CHRYS L. CRAWFORD	CLS – CARA L. STRICKLER
CLW – CHARISSA L. WINTERS	CPD – CHAD P. DAVIS
CSH – CHRIS S. HILL	DAK – DEAN A. KETELSEN
DCM – DAVID C. MERCKLE	DEV – DAVID E. VANDENBERG
DIH – DEANNA I. HESSON	DLB – DAVID L. BUMGARNER
DLP – DOROTHY L. PAYNE	DLW – DIANA L. WRIGHT
DSM – DAVID S. MOSSOR	ECL – ERIC C. LAWSON
ENY – EMILY N. YOAK	EPT – ETHAN P. TIDD
ERP – ERIN R. PORTER	FJB – FRANCES J. BOLDEN
JBK – JEREMY B. KINNEY	JDH – JUSTIN D. HESSON
JDS – JARED D. SMITH	JJS – JOHN J. STE MARIE
JKP – JACQUELINE K. PARSONS	JLL – JOHN L. LENT
JMW – JEANA M. WHITE	JTP – JOSHUA T. PEMBERTON
JWR – JOHN W. RICHARDS	JWS – JACK W. SHEAVES
JYH – JI Y. HU	KAJ – KELLIE A. JOHNSON
KAT – KATHY A. TUCKER	KDW – KATHRYN D. WELCH
KEB – KATIE E. BARNES	KHR – KIM H. RHODES
KKB – KERRI K. BUCK	KRA – KATHY R. ALBERTSON
KRB – KAELY R. BECKER	KRP – KATHY R. PARSONS
LEC – LAURA E. CARPENTER	LKN – LINDA K. NEDEFF
LLS – LARRY L. STEPHENS	LSB – LESLIE S. BUCINA
MBK – MORGAN B. KNOWLTON	MDA – MIKE D. ALBERTSON
MDC – MIKE D. COCHRAN	MES – MARY E. SCHILLING
MLB – MEGAN L. BACHE	MMB – MAREN M. BEERY
MRT – MICHELLE R. TAYLOR	MSW – MATT S. WILSON
PDM – PIERCE D. MORRIS	PIT – MICROBAC WARRENDALE
PRL – PAIGE R. LAMB	PSW – PEGGY S. WEBB
QX – QIN XU	RAH – ROY A. HALSTEAD
REK – BOB E. KYER	RLB – BOB BUCHANAN
RM – RAYMOND MALEKE	RNP – RICK N. PETTY
RST – ROBIN S. TURNER	SAV – SARAH A. VANDENBERG
SCB – SARAH C. BOGOLIN	SDC – SHALYN D. CONLEY
SLM – STEPHANIE L. MOSSBURG	SLP – SHERI L. PFALZGRAF
TB – TODD BOYLE	TGF – TIM G. FELTON
TMB – TIFFANY M. BAILEY	TMM – TAMMY M. MORRIS
VC – VICKI COLLIER	WJB – WILL J. BEASLEY
WRR – WESLEY R. RICHARDS	WTD – WADE T. DELONG
XXX – UNAVAILABLE OR SUBCONTRACT	

Microbac Laboratories Inc.
List of Valid Qualifiers
October 16, 2015

Qualkey: DOD

Qualifier	Description
*	Surrogate or spike compound out of range
+	Correlation coefficient for the MSA is less than 0.995
<	Result is less than the associated numerical value.
>	Greater than
A	See the report narrative
B	The reported result is associated with a contaminated method blank.
B,H1	Analyte present in method blank. Sample analysis performed past holding time.
B1	Target analyte detected in method blank at or above the method reporting limit
B3	Target analyte detected in calibration blank at or above the method reporting limit
B4	The BOD unseeded dilution water blank exceeded 0.2 mg/L
C	Confirmed by GC/MS
CG	Confluent growth
CT1	Cooler temperature at sample reciept exceeded regulatory limit.
DL	Surrogate or spike compound was diluted out
E	Estimated concentration due to sample matrix interference
E,CT1	Estimated results. The cooler temperature at receipt exceeded regulatory guidelines for requested testing.
EDL	Elevated sample reporting limits, presence of non-target analytes
EMPC	Estimated Maximum Possible Concentration
F, S	Estimated result below quantitation limit; method of standard additions(MSA)
F,CT1	Estimated value; the analyte concentration was less than the RL/LOQ. The cooler temperature at receipt exceeded regula
FL	Free Liquid
FP1	Did not ignite.
H1	Sample analysis performed past holding time.
H1,CT1	Sample analysis performed past holding time. The cooler temperature at receipt exceeded regulatory guidelines for reque
I	Semiquantitative result (out of instrument calibration range)
J	Estimated concentration; sample matrix interference.
J	Estimated value ; the analyte concentration was greater than the highest standard
J	Estimated value ; the analyte concentration was less than the LOQ.
J	The reported result is an estimated value.
J,B	Analyte detected in both the method blank and sample above the MDL.
J,CT1	Estimated value ; the analyte concentration was less than the LOQ. Cooler temperature at sample reciept exceeded regu
J,H1	Estimated value ; the analyte concentration was less than the LOQ. Sample analysis performed past holding time.
J,H1	The reported result is an estimated value. Sample was analyzed past holding time.
J,P	Estimate; columns don't agree to within 40%
J,S	Estimated concentration; analyzed by method of standard addition (MSA)
JB	The reported result is an estimated value. The reported result is also associated with a contaminated method blank.
JQ	The reported result is an estimated value and one or more quality control criteria failed. See narrative.
L	Sample reporting limits elevated due to matrix interference
L1	The associated blank spike (LCS) recovery was above the laboratory acceptance limits.
L2	The associated blank spike (LCS) recovery was below the laboratory acceptance limits.
M	Matrix effect; the concentration is an estimate due to matrix effect.
N	Nontarget analyte; the analyte is a tentativlely identified compound (TIC) by GC/MS
NA	Not applicable
ND	Not detected at or above the reporting limit (RL)
ND, B	Not detected at or above the reporting limit (RL). Analyte present in method blank.
ND, CT1	Analyte was not detected. The concentration is below the reported LOD. The cooler temperature at receipt exceeded reg
ND, L	Not detected; sample reporting limit (RL) elevated due to interference
ND, S	Not detected; analyzed by method of standard addition (MSA)
ND,H1	Not detected; Sample analysis performed past holding time.
ND,H1,CT1	Not detected; Sample analysis performed past holding time. The cooler temperature at receipt exceeded regulatory guide
NF	Not found by library search
NFL	No free liquid
NI	Non-ignitable
NR	Analyte is not required to be analyzed
NS	Not spiked
P	Concentrations >40% difference between the two GC columns
Q	One or more quality control criteria failed. See narrative.
Q,H1	One or more quality control criteria failed. Sample analyzed past holding time. See narrative.
QNS	Quantity of sample not sufficient to perform analysis
RA	Reanalysis confirms reported results
RE	Reanalysis confirms sample matrix interference
S	Analyzed by method of standard addition (MSA)
SMI	Sample matrix interference on surrogate
SP	Reported results are for spike compounds only
T5	Laboratory not licensed for this parameter
TIC	Library Search Compound
TNTC	Too numerous to count

Qualkey: DOD

TNTC, B	Too numerous to count. Analyte present in method blank.
TNTC,CT1	Too numerous to count. The cooler temperature at receipt exceeded regulatory guidelines for requested testing.
TNTC,H1	Too numerous to count. Sample analysis performed past holding time.
U	Analyte was not detected. The concentration is below the reported LOD.
U,CT1	Analyte was not detected. The concentration is below the reported LOD. Cooler temperature at sample reciept exceeded
U,H1	Not detected; Sample analysis performed past holding time.
UJ	Undetected; the MDL and RL are estimated due to quality control discrepancies.
UQ	Undetected; the analyte was analyzed for, but not detected.
W	Post-digestion spike for furnace AA out of control limits
X	Exceeds regulatory limit
X, S	Exceeds regulatory limit; method of standard additions (MSA)
Z	Cannot be resolved from isomer - see below

CT LABORATORIES
1230 Lange Court • Baraboo, WI 53913 • 608-356-2760
www.ctlaboratories.com

Sub-Contract Laboratory Chain-of-Custody and Purchase Order

PURCHASE ORDER # 114433 MICROBAC *The PO# must appear on all invoice and reports!*

Upon Receipt of Samples, please verify that samples were received in acceptable condition then sign this form and fax to (608)356-2766 or email to the project manager. Sample temperature, upon receipt, must be recorded on this document unless thermal preservation is not a method requirement.

Ship to: Microbac
158 Starlight Drive
Marietta, OH 45750

Return Invoice and Results to: pletterer@ctlaboratories.com

CTLaboratories
Pat Letterer
1230 Lange Court
Baraboo WI 53913

Date Due: 10/16/15 *RUSH TURNAROUND NEEDED? Y or N (Circle One)*

Project Name: RAAP **Project State:** VA

Analytical/QC Criteria: NONE INDICATED STATE (DOD QSM) NELAP (Circle one) OTHER _____

Report results as EDD? N (Y) (Circle one and indicate type: ERPIMS) Data Deliverable Package LEVEL: VI

CTLabs ID#	Sample Date/Time	Matrix	Sample Description	Analyses / Method		Cost
640118	9/30/2015 0915	GROUND WATER	54MW1	PERCHLORATE	SW6850	
640119	9/30/2015 1130	GROUND WATER	54MW12	PERCHLORATE	SW6850	
640120	9/30/2015 1355	GROUND WATER	54MW13	PERCHLORATE	SW6850	
640121	9/30/2015 1425	GROUND WATER	54MW10	PERCHLORATE	SW6850	
640122	9/30/2015 1425	GROUND WATER	SWMU54TM	PERCHLORATE	SW6850	

Relinquished by: _____ Date/Time: 10/7/15 1447

Received by: _____ Date/Time: _____ Receipt Temperature (C) _____

COMMENTS:

REPORT ALL SOLIDS ON A DRY WEIGHT BASIS UNLESS OTHERWISE INDICATED

Microbac OVD
Received: 10/08/2015 11 05
By: BRIAN OGDEN
221000076522

10-07-15

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L15100560
Account: 2694
Project: 2694.005
Samples: 7
Due Date: 19-OCT-2015

Samplenum	Container ID	Products
L15100560-01	644189	6850

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	09-OCT-2015 09:40	CLS		
2	ANALYZ	W1	SEM	15-OCT-2015 13:46	JWR	CLS	

Samplenum	Container ID	Products
L15100560-02	644190	6850

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	09-OCT-2015 09:40	CLS		
2	ANALYZ	W1	SEM	15-OCT-2015 13:46	JWR	CLS	

Samplenum	Container ID	Products
L15100560-03	644191	6850

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	09-OCT-2015 09:40	CLS		
2	ANALYZ	W1	SEM	15-OCT-2015 13:46	JWR	CLS	

Samplenum	Container ID	Products
L15100560-04	644192	6850

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	09-OCT-2015 09:40	CLS		
2	ANALYZ	W1	SEM	15-OCT-2015 13:46	JWR	CLS	

Samplenum	Container ID	Products
L15100560-05	644193	6850

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	09-OCT-2015 09:40	CLS		
2	ANALYZ	W1	SEM	15-OCT-2015 13:46	JWR	CLS	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Internal Chain of Custody Report

Login: L15100560
Account: 2694
Project: 2694.005
Samples: 7
Due Date: 19-OCT-2015

Samplenum	Container ID	Products
L15100560-06	644194	6850

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	09-OCT-2015 09:40	CLS		
2	ANALYZ	W1	SEM	15-OCT-2015 13:46	JWR	CLS	

Samplenum	Container ID	Products
L15100560-07	644195	6850

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	09-OCT-2015 09:40	CLS		
2	ANALYZ	W1	SEM	15-OCT-2015 13:47	JWR	CLS	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

October 13, 2015

Jodi Serstad
CTLaboratories
1230 Lange Court
Baraboo, WI 53913
TEL: 608-356-2760
FAX: 608-356-2766

RE: RAAP

Dear Jodi Serstad:

Order No.: 15100587

Summit Environmental Technologies, Inc. received 5 sample(s) on 10/8/2015 for the analyses presented in the following report.

There were no problems with the analytical events associated with this report unless noted in the Case Narrative.

Quality control data is within laboratory defined or method specified acceptance limits except where noted.

If you have any questions regarding these tests results, please feel free to call the laboratory.

Sincerely,

Bachar Najm

Project Manager

3310 Win St.
Cuyahoga Falls, Ohio 44223

A2LA 0724.01, Alabama 41600, Arizona AZ0788, Arkansas 88-0735, California 07256CA, Colorado, Connecticut PH-0105, Delaware, Florida NELAC E87688, Georgia E87688 and 943, Idaho OH00923, Illinois 200061 and Reg.5, Indiana C-OH-13, Kansas E-10347, Kentucky (Underground Storage Tank) 3, Kentucky 90146, Louisiana 04061 and LA12004, Maine 2012015, Maryland 339, Massachusetts M-OPH923, Minnesota 409711, Montana CERT0099, New Hampshire 2996, New Jersey OH006, New York 11777, North Carolina 39705 and 631, Ohio Drinking Water 4170, Ohio VAP CL0052, Oklahoma 9940, Oregon OH200001, Rhode Island LA000317, South Carolina 92016001, Tennessee TN04018, Texas T104704466-11-5, Region 8 8TMS-L, USDA/APHIS P330-11-00244, Utah OH009232011-1, Vermont VT-87688, Virginia 00440 and 1581, Washington C891, West Virginia 248 and 9957C and E87688, Wisconsin 399013010

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

Case Narrative

WO#: **15100587**
Date: **10/13/2015**

CLIENT: CTLaboratories
Project: RAAP

This report in its entirety consists of the documents listed below. All documents contain the Summit Environmental Technologies, Inc., Work Order Number assigned to this report.

Paginated Report including Cover Letter, Case Narrative, Analytical Results, Applicable Quality Control Summary Reports, and copies of the Chain of Custody Documents are supplied with this sample set.

Concentrations reported with a J-Flag in the Qualifier Field are values below the Limit of Quantitation (LOQ) but greater than the established Method Detection Limit (MDL).

Method numbers, unless specified as SM (Standard Methods) or ASTM, are EPA methods.

Estimated uncertainty values are available upon request.

Analysis performed by DBM, VRM, or SFG were performed at Summit Labs 2704 Eatonton Highway Haddock, GA 31033

All results for Solid Samples are reported on an "as received" or "wet weight" basis unless indicated as "dry weight" using the "-dry" designation on the reporting units.

Summit Environmental Technologies, Inc., holds the accreditations/certifications listed at the bottom of the cover letter that may or may not pertain to this report.

The information contained in this analytical report is the sole property of Summit Environmental Technologies, Inc. and that of the customer. It cannot be reproduced in any form without the consent of Summit Environmental Technologies, Inc. or the customer for which this report was issued. The results contained in this report are only representative of the samples received. Conditions can vary at different times and at different sampling conditions. Summit Environmental Technologies, Inc. is not responsible for use or interpretation of the data included herein.

This report is believed to meet all of the requirements of NELAC or the accrediting / certifying agency. Any comments or problems with the analytical events associated with this report are noted below.

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC
Analytical Laboratories

Summit Environmental Technologies, In
3310 Win S
Cuyahoga Falls, Ohio 4422
TEL: (330) 253-8211 FAX: (330) 253-448
Website: http://www.settek.co

Qualifiers and Acronyms

WO#: **15100587**
Date: **10/13/2015**

These commonly used Qualifiers and Acronyms may or may not be present in this report.

Qualifiers

U	The compound was analyzed for but was not detected.
J	The reported value is greater than the Method Detection Limit but less than the Reporting Limit.
H	The hold time for sample preparation and/or analysis was exceeded.
D	The result is reported from a dilution.
E	The result exceeded the linear range of the calibration or is estimated due to interference.
MC	The result is below the Minimum Compound Limit.
*****	The result exceeds the Regulatory Limit or Maximum Contamination Limit.
m	Manual integration was used to determine the area response.
N	The result is presumptive based on a Mass Spectral library search assuming a 1:1 response.
P	The second column confirmation exceeded 25% difference.
C	The result has been confirmed by GC/MS.
X	The result was not confirmed when GC/MS Analysis was performed.
B/MB+	The analyte was detected in the associated blank.
G	The ICB or CCB contained reportable amounts of analyte.
QC-/+	The CCV recovery failed low (-) or high (+).
R/QDR	The RPD was outside of accepted recovery limits.
QL-/+	The LCS or LCSD recovery failed low (-) or high (+).
QLR	The LCS/LCSD RPD was outside of accepted recovery limits.
QM-/+	The MS or MSD recovery failed low (-) or high (+).
QMR	The MS/MSD RPD was outside of accepted recovery limits.
QV-/+	The ICV recovery failed low (-) or high (+).
S	The spike result was outside of accepted recovery limits.
Z	Deviation; A deviation from the method was performed; Please refer to the Case Narrative for additional information

Acronyms

ND	Not Detected	**RL**	Reporting Limit
QC	Quality Control	**MDL**	Method Detection Limit
MB	Method Blank	**LOD**	Level of Detection
LCS	Laboratory Control Sample	**LOQ**	Level of Quantitation
LCSD	Laboratory Control Sample Duplicate	**PQL**	Practical Quantitation Limit
QCS	Quality Control Sample	**CRQL**	Contract Required Quantitation Limit
DUP	Duplicate	**PL**	Permit Limit
MS	Matrix Spike	**RegLvl**	Regulatory Limit
MSD	Matrix Spike Duplicate	**MCL**	Maximum Contamination Limit
RPD	Relative Percent Different	**MinCL**	Minimum Compound Limit
ICV	Initial Calibration Verification	**RA**	Reanalysis
ICB	Initial Calibration Blank	**RE**	Reextraction
CCV	Continuing Calibration Verification	**TIC**	Tentatively Identified Compound
CCB	Continuing Calibration Blank	**RT**	Retention Time
RLC	Reporting Limit Check	**CF**	Calibration Factor
DF	Dilution Factor	**RF**	Response Factor

This list of Qualifiers and Acronyms reflects the most commonly utilized Qualifiers and Acronyms for reporting. Please refer to the Analytical Notes in the Case Narrative for any Qualifiers or Acronyms that do not appear in this list or for additional information regarding the use of these Qualifiers on reported data.

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

Workorder Sample Summary

WO#: **15100587**
13-Oct-15

CLIENT: CTLaboratories
Project: RAAP

Lab SampleID	Client Sample ID	Tag No	Date Collected	Date Received	Matrix
15100587-001	640118		9/30/2015 9:15:00 AM	10/8/2015 10:10:00 AM	Drinking Water
15100587-002	640119		9/30/2015 11:30:00 AM	10/8/2015 10:10:00 AM	Drinking Water
15100587-003	640120		9/30/2015 1:55:00 PM	10/8/2015 10:10:00 AM	Drinking Water
15100587-004	640121		9/30/2015 2:25:00 PM	10/8/2015 10:10:00 AM	Drinking Water
15100587-005	640122		9/30/2015 2:25:00 PM	10/8/2015 10:10:00 AM	Drinking Water

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

WO#: **15100587**
Date Reported: **10/13/2015**
Company: CTLaboratories
Address: 1230 Lange Court
Baraboo WI 53913
Received: 10/8/2015
Project#: RAAP

Client ID#	Lab#	Collected	Analyte	Result	Units	Qual	Matrix	Method	DF	LOD	LOQ	Run	Analyst
640118	001	9/30/2015	Chlorate	ND	µg/L		Drinking Water	EPA 300.1	1	10.0	20.0	10/12/2015	RMT
640118	001	9/30/2015	Chlorite	ND	µg/L		Drinking Water	EPA 300.1	1	10.0	20.0	10/12/2015	RMT
640119	002	9/30/2015	Chlorate	ND	µg/L		Drinking Water	EPA 300.1	1	10.0	20.0	10/12/2015	RMT
640119	002	9/30/2015	Chlorite	ND	µg/L		Drinking Water	EPA 300.1	1	10.0	20.0	10/12/2015	RMT
640120	003	9/30/2015	Chlorate	ND	µg/L		Drinking Water	EPA 300.1	1	10.0	20.0	10/12/2015	RMT
640120	003	9/30/2015	Chlorite	ND	µg/L		Drinking Water	EPA 300.1	1	10.0	20.0	10/12/2015	RMT
640121	004	9/30/2015	Chlorate	ND	µg/L		Drinking Water	EPA 300.1	1	10.0	20.0	10/12/2015	RMT
640121	004	9/30/2015	Chlorite	ND	µg/L		Drinking Water	EPA 300.1	1	10.0	20.0	10/12/2015	RMT
640122	005	9/30/2015	Chlorate	ND	µg/L		Drinking Water	EPA 300.1	1	10.0	20.0	10/12/2015	RMT
640122	005	9/30/2015	Chlorite	ND	µg/L		Drinking Water	EPA 300.1	1	10.0	20.0	10/12/2015	RMT

CT LABORATORIES
delivering more than data from your environmental analyses

1230 Lange Court • Baraboo, WI 53913 • 608-356-2760
www.ctlaboratories.com

Sub-Contract Laboratory Chain-of-Custody and Purchase Order

PURCHASE ORDER # 114433 Summit

The PO# must appear on all invoice and reports!

Upon Receipt of Samples, please verify that samples were received in acceptable condition then sign this form and fax to (608)356-2766 or email to the project manager. Sample temperature, upon receipt, must be recorded on this document unless thermal preservation is not a method requirement.

Ship to: **Summit Environmental Technol**
3310 Win Street
Cuyahoga Falls, Ohio 44223

Return Invoice and Results to: **pletterer@ctlaboratories.com**

CTLaboratories
Pat Letterer
1230 Lange Court
Baraboo WI 53913

Date Due: 10/16/15 ***RUSH TURNAROUND NEEDED? Y or N (Circle One)***

Project Name: RAAP **Project State:** VA

Analytical/QC Criteria: NONE INDICATED STATE (DOD QSM) NELAP (Circle one) OTHER ✓

Report results as EDD? N (Y) (Circle one and indicate type: ERPIMS) Data Deliverable Package LEVEL: VI

PML 10-07-15

CTLabs ID#	Sample Date/Time	Matrix	Sample Description	Analyses / Method		Cost
640118	9/30/2015 0915	GROUND WATER	54MW1	CHLORATE/CHLORITE	300.1	
640119	9/30/2015 1130	GROUND WATER	54MW12	CHLORATE/CHLORITE	300.1	
640120	9/30/2015 1355	GROUND WATER	54MW13	CHLORATE/CHLORITE	300.1	
640121	9/30/2015 1425	GROUND WATER	54MW10	CHLORATE/CHLORITE	300.1	
640122	9/30/2015 1425	GROUND WATER	SWMU54TM	CHLORATE/CHLORITE	300.1	

Relinquished by: [signature] Date/Time: 10/7/15 1500

Received by: [signature] Date/Time: 10-8-15 10:10 Receipt Temperature (C) _____

COMMENTS:

15100587-001-005SC

REPORT ALL SOLIDS ON A DRY WEIGHT BASIS UNLESS OTHERWISE INDICATED

DC-7
Rev. 14

06/15/15

Summit Environmental Technologies, Inc.
Cooler Receipt Form

Initials of person inspecting cooler and samples: F.C

Client: CT LABS Order Number: 15700587

Date Received: 10.8.15 Time Received: 10:10 AM Date cooler(s) opened and samples inspected: 10.8.15

Number of Coolers/Boxes: 1 N/A

Shipper: FED EX (UPS) DHL Airborne US Postal Walk-in Pickup Other: _____

Packaging: Peanuts Bubble Wrap Paper Foam None (Other): _____

Tape on cooler/box:	(Y)	N	N/A
Custody Seals intact	(Y)	N	N/A
C-O-C in plastic	(Y)	N	N/A
Ice ✓ Blue ice _____	(present) / absent / melted		N/A
Sample Temperature IR Gun #16020459 CF 0.0 °C	2.1 °C		N/A
Radiological Testing Instrument serial #35127 (see page 2 for scan results)	Y	N	(N/A)

**Use 1 sheet per sample for Radiological Testing. If sample is HOT, the Radiological Safety Officer must be notified immediately.

C-O-C filled out properly	(Y)	N	N/A
Samples in separate bags	Y	(N)	N/A
Sample containers intact*	(Y)	N	N/A

*If no, list broken sample(s): _____

Sample label(s) complete (ID, date, etc.)	(Y)	N	N/A
Label(s) agree with C-O-C	(Y)	N	N/A
Correct containers used	(Y)	N	N/A
Sufficient sample received	(Y)	N	N/A
Samples received within holding time	(Y)	N	
Bubbles absent from 40 mL vials**	Y	N	(N/A)

** Samples with bubbles <6mm are acceptable. Indicate bubble size if >6mm. _____

Was client contacted about samples	Y	N
Will client send new samples	Y	N

Client contact: _____

Date/Time: _____

Logged in by: _____

Comments: _____

Summit Environmental Technologies, Inc.
Sample Receipt

pH and Chlorine test on samples

pH strip SET (0-14)# OES-01-0207 pH strip (2.8-4.6) SET#OES-01-0149
Total DPD packet SET#_____ Free DPD packet SET#_____
Disp. Pipette SET# WC-03-0510

ID	Method	pH	Chlorine (±)	Comments
640118	CHLORATE CHLORITE	10		
640119x3	"	8		
640120	"	8		
640121	"	8		
640122	"	10		

Radiological scan on sample

ID	scan	CPM

P = Permanganate interference
504.1, 508, 515.1, 525.2, 547, 548.1, 549.1, 531.2, 1613 methods checked for **Total** chlorine
552.2 checked for **Free** chlorine
531.2 pH is checked for ~3.8 (SET# OES-01-0149)
524.2 = pH and Chlorine checked at bench and not log in department

CHAIN OF CUSTODY,
PM CONFIRMATION
AND
SAMPLE CONDITION FORMS
DOCUMENTS

Rev 8/2014

CHAIN OF CUSTODY

Page 1 of 1

Company: BSEN
Project Contact: S. JULIA LIU
Telephone: (757)256-6281
Project Name: RAAP
Project #: 313010-001
Location: RADFORD, VA
Sampled By: PJW

CT LABORATORIES
1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Lab Use Only
Place Header Sticker Here:
114433

Program:
QSM RCRA SDWA NPDES ✓
Solid Waste Other

PO #

Report To:
EMAIL: SLIU@BSENV.COM
Company: BSEN
Address: 615 E. 82ND AVE #200 ANCHORAGE, AK 99518

Invoice To:*
EMAIL: SLIU@BSENV.COM
Company: BSEN
Address:

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

Client Special Instructions

Matrix:
GW - groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Collection Date	Collection Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	EXPLOSIVES	NAxDNX /TNX	TOC	PERCHLORATE	CHLORATE /CHLORITE	TIC, CHLORIDE,	NITRATE, SULFATE	TCL VOCs	METHANE /ETHENE/ ETHANE						Total # Containers	Designated MS/MSD	CT Lab ID # (Lab use only)
							Fill in Spaces with Bottles per Test																	
09/30/15	0915	GW	GRAB		54MW1	N	X	X	X	X	X	X	X		640106	1118					6		LAB MUST FILTER
	1130	GW			54MW12	N	X	X	X	X	X	X	X		640109	1119					18	X	LAB MUST FILTER
	1355	GW			54MW13	N	X	X	X	X	X	X	X		640110	1120					6		LAB MUST FILTER
	1425	GW			54MW10	N	X	X	X	X	X	X	X		640111	1121					6		LAB MUST FILTER
09/30/15	1425	GW	GRAB		SW-MW54TM	N	X	X	X	X	X	X	X		640112	1122					6		LAB MUST FILTER
09/30/15	1625	GW	GRAB		49MW04	N			X			X	X	X	X	640113	1123				6		LAB MUST FILTER; NO TIC
~~09/30/15~~	~~1625~~				~~Trip Blank~~									X							2		

Relinquished By:	Date/Time	Received By:	Date/Time	Lab Use Only
	09/30/15 1730	TWR	10/1/15 1115	Ice Present (Yes) No
Received by:	Date/Time	Received for Laboratory by:	Date/Time	Temp 2.5° IR Gun # 10
			10/2/15 0731	Cooler # 5520, 5484

CT Laboratories Terms and Conditions

Where a purchaser (Client) places an order for laboratory, consulting or sampling services from CT Laboratories (CTL), CTL shall provide the ordered services pursuant to these Terms and Conditions, and the related Quotation, or as agreed in a negotiated contract. In the absence of a written agreement to the contrary, the Order constitutes an acceptance by the Client of CTL's offer to do business under these Terms and Conditions and an agreement to be bound by these Terms and Conditions. No contrary or additional terms and conditions expressed in a Client's document shall be deemed to become a part of the contract created upon acceptance of these Terms and Conditions, unless accepted by CTL in advance of the start of the project and in writing.

1. ORDERS AND RECEIPT OF SAMPLES (Sample Acceptance Policy)

1.1 The Client may place the Order (i.e., specify a Scope of Work) either by submitting a purchase order to CTL in writing, by telephone (confirmed in writing) or by negotiated contract. Whichever option the Client selects for placing the Order, the Order shall not be valid unless it contains sufficient specification to enable CTL to carry out the Client's requirements. It is the policy of CT Laboratories that samples not meeting the acceptance criteria, outlined in the NELAC standards and Section 6.6.3.2 of the DOD QSM, will not be accepted by the laboratory or will be qualified on the final report. All samples submitted to the laboratory must: (1) be accompanied by proper, full and complete documentation, including sample identification, location, date and time of collection, the collector's name, type of preservation (if any), type of sample, any special comments concerning the sample and any additional pertinent fields on the chain-of-custody. In the absence of any of the required information, the laboratory will attempt to contact the client to obtain the information; if unable to obtain the necessary information, the final report will be qualified. (2) be labeled appropriately with a unique sample identification written with indelible ink on water resistant labels. If the laboratory cannot determine the identity of a sample, it will be rejected and the client will be contacted for further instructions or resampling. (3) be in an appropriate sample container. If the container is inappropriate, the client will be contacted for further instructions or resampling. If analysis is possible, the final report will be qualified. CT Laboratories can provide a sampling guide containing approved containers and preservations for analytical methods requested. (4) adhere to specified holding times. If samples are received with less than ½ the holding time remaining for the requested test, CT Laboratories will make its best effort to analyze the samples and notify the client. If holding times are exceeded, the final report will be qualified. (5) contain adequate sample volume to perform the necessary testing. If sufficient volume is not present, the sample will be rejected and the client will be contacted for further instructions or resampling. If samples show signs of damage, contamination or inadequate preservation, the client will be notified. If analysis can be performed, the final report will be qualified. If not, the samples will be rejected and the client notified for further instructions or resampling.

1.2 CT Laboratories must be supplied with complete written disclosure of the known or suspected presence of any hazardous substances, as defined by applicable federal or state law. Where any samples which were not accompanied by the required disclosure, cause interruptions in the lab's ability to process work due to contamination of instruments or work areas, the Client will be responsible for the costs of clean up and recovery.

1.3 Prior to Sample Acceptance, the entire risk of loss or damage to samples remains with the Client. In no event will CTL have any responsibility or liability for the action or inaction of any carrier shipping or delivering any sample to or from CTL's premises. Client is responsible to ensure that any sample containing any hazardous substance which is to be delivered to CTL's premises will be packaged, labeled, transported and delivered properly and in accordance with applicable laws.

2. PAYMENT TERMS

2.1 Services performed by CTL will be in accordance with prices quoted and later confirmed in writing or as stated in the Price Schedule. Invoices may be submitted to Client upon completion of any sample delivery group. Payment in advance is required for all Clients except those whose credit has been established with CTL. For Clients with approved credit, payment terms are net 30 days from the date of invoice by CTL. All overdue payments are subject to an additional interest and service charge of one and one-half percent (1.5%) (or the maximum rate permissible by law, whichever is lesser) per month or portion thereof from the due date until the date of payment. All fees are charged or billed directly to the Client. The billing of a third party will not be accepted without a statement, signed by the third party that acknowledges and accepts payment responsibility. CTL may suspend work and withhold delivery of data under this order at any time in the event Client fails to make timely payment of its invoices. Client shall be responsible for all costs and expenses of collection including reasonable attorney's fees. CTL reserves the right to refuse to proceed with work at any time based upon an unfavorable Client credit report.

3. CHANGE ORDERS, TERMINATION

3.1 Changes to the Scope of Work, price, or result delivery date may be initiated by CTL after Sample Acceptance due to any condition which conflicts with analytical, QA or other protocols warranted in these Terms and Conditions. CTL will not proceed with such changes until an agreement with the Client is reached on the amount of any cost, schedule change or technical change to the Scope of Work, and such agreement is documented in writing.

3.2 Changes to the Scope of Work, including but not limited to increasing or decreasing the work, changing test and analysis specification or acceleration in the performance of the work may be initiated by the Client after sample acceptance. Such a change will be documented in writing and may result in a change in cost and turnaround time commitment. CTL's acceptance of such changes is contingent upon technical feasibility and operational capacity.

3.3 Suspension or termination of all or any part of the work may be initiated by the Client. CTL will be compensated consistent with Section 2 of these Terms and Conditions. CTL will complete all work in progress and be paid in full for all work completed.

4. WARRANTIES AND LIABILITY

4.1 Where applicable, CTL will use analytical methodologies which are in substantial conformity with published test methods. CTL has implemented these methods in its Laboratory Quality Manuals and referenced Standard Operating Procedures and where the nature or composition of the sample requires it, CTL reserves the right to deviate from these methodologies as necessary or appropriate, based on the reasonable judgment of CTL, which deviations, if any, will be made on a basis consistent with recognized standards of the industry and/or CTL's Laboratory Quality Manuals. Client may request that CTL perform according to a mutually agreed Quality Assurance Project Plan (QAPP). In the event that samples arrive prior to agreement on a QAPP, CTL will proceed with analyses under its standard Quality Manuals then in effect, and CTL will not be responsible for any reanalyzing or other charges if work must be repeated to comply with a subsequently finalized QAPP.

4.2 CTL shall start preparation and/or analysis within holding times provided that Sample Acceptance occurs within 48 hours of sampling or 1/2 of the holding time for the test, whichever is less. Where resolution of inconsistencies leading to Sample Acceptance does not occur within this period, CTL will use its best efforts to meet holding times and will proceed with the work provided that, in CTL's judgment, the chain-of-custody or definition of the Scope of Work provide sufficient guidance. Reanalysis of samples to comply with CTL's Quality Manuals will be deemed to have met holding times provided the initial analysis was performed within the applicable holding time. Where reanalysis demonstrates that sample matrix interference is the cause of failure to meet any Quality Manual requirements, the warranty will be deemed to have been met.

4.3 CTL warrants that it possesses and maintains all licenses and certifications which are required to perform services under these Terms and Conditions provided that such requirements are specified in writing to CTL prior to Sample Acceptance. CTL will notify the Client in writing of any decertification or revocation of any license, or notice of either, which affects work in progress.

4.4 The warranty obligations set forth in Sections 4.1, 4.2 and 4.3 are the sole and exclusive warranties given by CTL in connection with any services performed by CTL or any Results generated from such services, and CTL gives and makes NO OTHER REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. No representative of CTL is authorized to give or make any other representation or warranty or modify this warranty in any way.

4.5 Client's sole and exclusive remedy for the breach of warranty in connection with any services performed by CTL will be limited to reperforming any services performed, contingent on the Client's providing, at the request of CTL and at the Client's expense, additional sample(s) if necessary. Any reanalysis requested by the Client generating Results consistent with the original Results will be at the Client's expense. If resampling is necessary, CTL's liability for resampling costs will be limited to actual cost or one hundred fifty dollars ($150) per sample, whichever is less.

4.6 CTL's liability for any and all causes of action arising hereunder, whether based in contract, tort, warranty, negligence or otherwise, shall be limited to the lesser amount of compensation for the services performed or $100,000. All claims, including those for negligence, shall be deemed waived unless suit thereon is filed within one year after CTL's completion of the services. Under no circumstances, whether arising in contract, tort (including negligence), or otherwise, shall CTL be responsible for loss of use, loss of profits, or for any special, indirect, incidental or consequential damages occasioned by the services performed or by application or use of the reports prepared.

4.7 In no event shall CTL have any responsibility or liability to the Client for any failure or delay in performance by CTL which results, directly or indirectly, in whole or in part, from any cause or circumstance beyond the reasonable control of CTL. Such causes and circumstances shall include, but not be limited to, acts of God, acts of Client, acts or orders of any governmental authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, equipment breakdown, matrix interference or unknown highly contaminated samples that impact instrument operation, unavailability of supplies from usual suppliers, difficulties or delays in transportation, mail or delivery services, or any other cause beyond CTL's reasonable control.

5. RESULTS, WORK PRODUCT

5.1 Data or information provided to CTL or generated by services performed under this agreement shall only become the property of the Client upon receipt in full by CTL of payment for the whole Order. Ownership of any analytical method, QA/QC protocols, software programs or equipment developed by CTL for performance of work will be retained by CTL, and Client shall not disclose such information to any third party.

5.2 Data and sample materials provided by Client or at Client's request, and the result obtained by CTL shall be held in confidence (unless such information is generally available to the public or is in the public domain or Client has failed to pay CTL for all services rendered or is otherwise in breach of these Terms and Conditions), subject to any disclosure required by law or legal process.

5.3 Should the Results delivered by CTL be used by the Client or Client's client, even though subsequently determined not to meet the warranties described in these Terms and Conditions, then the compensation will be adjusted based upon mutual agreement. In no case shall the Client unreasonably withhold CTL's right to independently defend its data.

5.4 CTL reserves the right to subcontract services ordered by the Client to another laboratory or laboratories, if, in CTL's sole judgment, it is reasonably necessary, appropriate or advisable to do so, and with the Client's permission. CTL will in no way be liable for any subcontracted services and all applicable warranties, guarantees and insurance are those of the subcontracted laboratory.

5.5 CTL shall dispose of the Client's samples 30 days after the analytical report is issued, unless instructed to store them for an alternate period of time or to return such samples to the Client, in a manner consistent with U.S. Environmental Protection Agency regulations or other applicable Federal, state or local requirements. Any samples for projects that are cancelled or not accepted, or for which return was requested, will be returned to the Client at their own expense. CTL reserves the right to return to the Client any sample or unused portion of a sample that is not within CTL's permitted capability or the capabilities of CTL's designated waste disposal vendor(s).

5.6 Unless a different time period is agreed to in any order under these Terms and Conditions, CTL agrees to retain all records for five (5) years.

5.7 In the event that CTL is required to respond to legal process related to services for Client, Client agrees to reimburse CTL for hourly charges for personnel involved in the response and attorney fees reasonably incurred in obtaining advice concerning the response, preparation to testify, and appearances related to the legal process, travel and all reasonable expenses associated with the litigation.

6. INSURANCE

6.1 CTL shall maintain in force during the performance of services under these Terms and Conditions, Workers' Compensation and Employer's Liability insurance in accordance with the laws of the state having jurisdiction over CTL's employees who are engaged in the performance of the work. CTL shall also maintain during such period, Comprehensive General and Contractual Liability (limit of $2,000,000 per occurrence/ aggregate), Comprehensive Automobile Liability, owned and hired, ($1,000,000 combined single limit), and Professional/Pollution Liability Insurance (limit of $5,000,000 per occurrence/aggregate). Any Client required changes to these limits or conditions may result in a change in cost to the Client.

7. AUDIT

7.1 Upon prior notice to CTL, the Client may audit and inspect CTL's records and accounts covering reimbursable costs related to work done for the Client, for a period of one (1) year after completion of the work. The purpose of any such audit shall be only for verification of such costs, and CTL shall not be required to provide access to cost records where prices are represented as fixed fees or published unit prices.

Cooler Receipt Form

Ice Present (YES) NO

Temperature 2.5°

IR Gun # 10

Initials TLR

Date 10/1/15 Time 1115

Cooler #: 5520

Cooler Receipt Form

Ice Present (YES) NO

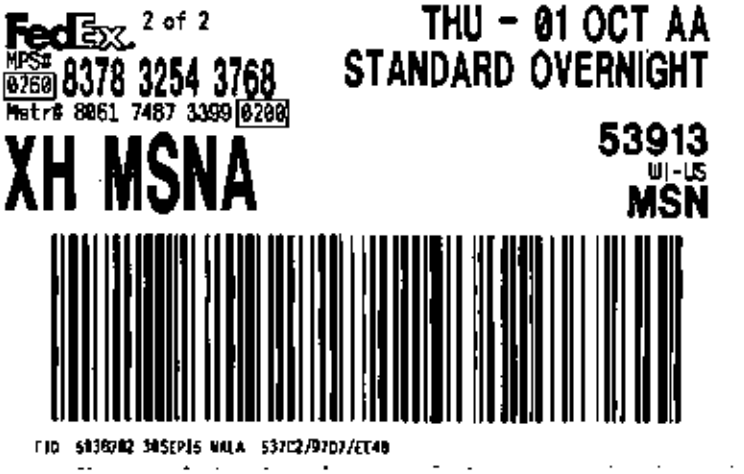
Temperature 3.3°

IR Gun # 10

Initials TKV

Date 10/1/15 Time 1115

Cooler #: 5484



Folder #: 114433

PM LOGIN CONFIRMATION

Contract #: 2842

Company: BERING SEA ENVIRONMENTAL **Project:** RAAP **Proj #:** 313010-001

Project Phase: **PO Number:** **Invoice #:** 114951

Project Manager: *PML* **Date Received:** 10/01/15 **Log Date:** 10/01/2015

Report To: S. JULIA LIU CC:
615 E 82ND AVE
#200
ANCHORAGE, AK 99518
Phone: 757-256-6281: Fax:
Rep. E-Mail SLIU@BSENV.COM

Collected By:
Collector's Phone: 757-256-6281

Invoice To :ACCOUNTS PAYABLE CC:
615 E 82ND AVE
#200
ANCHORAGE, AK 99518
Phone: Fax:
EMail:

Arrival Temperature: 2.5 oC

SAMPLE #: 640106 DESCR: 54MW1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED: 9/30/2015 Time: 0915**

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)					10/13/2015		Entered
1227	ANIONS IC QSM 5.0	(EPA 9056A)				10/2/2015	10/13/2015		Entered
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 640109 DESCR: 54MW12 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED: 9/30/2015 Time: 1130**

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)			***DESIGNATED MATRIX SPIKE***		10/13/2015		Entered
1227	ANIONS IC QSM 5.0	(EPA 9056A)			***DESIGNATED MATRIX SPIKE***	10/2/2015	10/13/2015		Entered
			Chloride						
			Nitrate Nitrogen						

C:\LIMSREPS\CONFIRMATION.RPT

Folder #: 114433 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RAAP

SAMPLE #: 640109 **DESCR:** 54MW12 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 9/30/2015 **Time:** 1130

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
			Sulfate						

SAMPLE #: 640110 **DESCR:** 54MW13 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 9/30/2015 **Time:** 1355

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)					10/13/2015		Entered
1227	ANIONS IC QSM 5.0	(EPA 9056A)				10/2/2015	10/13/2015		Entered
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 640111 **DESCR:** 54MW10 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 9/30/2015 **Time:** 1425

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)					10/13/2015		Entered
1227	ANIONS IC QSM 5.0	(EPA 9056A)				10/2/2015	10/13/2015		Entered
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 640112 **DESCR:** SWMU54TM **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 9/30/2015 **Time:** 1425

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)					10/13/2015		Entered
1227	ANIONS IC QSM 5.0	(EPA 9056A)				10/2/2015	10/13/2015		Entered
			Chloride						

Folder #: 114433 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RAAP

SAMPLE #: 640112 **DESCR:** SWMU54TM **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 9/30/2015 **Time:** 1425

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 640113 **DESCR:** 49MW04 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 9/30/2015 **Time:** 1625

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)					10/13/2015		Entered
1227	ANIONS IC QSM 5.0	(EPA 9056A)				10/2/2015	10/13/2015		Entered
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 640118 **DESCR:** 54MW1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 9/30/2015 **Time:** 0915

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
759	CARBON, INORG & ORG	(EPA 9060A)				10/14/2015	10/13/2015		Logged
878	SUB PERCHLORATE	(SW6850)				10/28/2015	10/13/2015		Logged
1230	ORGAN CARBON T QSM 5.(	EPA 9060A)				10/28/2015	10/13/2015		Logged
1240	8330B EXPLOSIVES QSM 5	(EPA 8330B)					10/13/2015		NeedPrep
1279	SUB CHLORATE/CHLORITE	(300.1)					10/13/2015		Logged
1280	8330B Breakdown Pdts QSM 5	(EPA 8330B)					10/13/2015		NeedPrep

SAMPLE #: 640119 **DESCR:** 54MW12 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 9/30/2015 **Time:** 1130

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
759	CARBON, INORG & ORG	(EPA 9060A)			***DESIGNATED MATRIX SPIKE***	10/14/2015	10/13/2015		Logged

Folder #: 114433 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RAAP

SAMPLE #: 640119 **DESCR:** 54MW12 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 9/30/2015 **Time:** 1130

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
878	SUB PERCHLORATE	(SW6850)			***DESIGNATED MATRIX SPIKE***	10/28/2015	10/13/2015		Logged
1230	ORGAN CARBON T QSM 5.0	(EPA 9060A)			***DESIGNATED MATRIX SPIKE***	10/28/2015	10/13/2015		Logged
1240	8330B EXPLOSIVES QSM 5	(EPA 8330B)			***DESIGNATED MATRIX SPIKE***		10/13/2015		NeedPrep
1279	SUB CHLORATE/CHLORITE	(300.1)			***DESIGNATED MATRIX SPIKE***		10/13/2015		Logged
1280	8330B Breakdown Pdts QSM 5	(EPA 8330B)			***DESIGNATED MATRIX SPIKE***		10/13/2015		NeedPrep

SAMPLE #: 640120 **DESCR:** 54MW13 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 9/30/2015 **Time:** 1355

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
759	CARBON, INORG & ORG	(EPA 9060A)				10/14/2015	10/13/2015		Logged
878	SUB PERCHLORATE	(SW6850)				10/28/2015	10/13/2015		Logged
1230	ORGAN CARBON T QSM 5.0	(EPA 9060A)				10/28/2015	10/13/2015		Logged
1240	8330B EXPLOSIVES QSM 5	(EPA 8330B)					10/13/2015		NeedPrep
1279	SUB CHLORATE/CHLORITE	(300.1)					10/13/2015		Logged
1280	8330B Breakdown Pdts QSM 5	(EPA 8330B)					10/13/2015		NeedPrep

SAMPLE #: 640121 **DESCR:** 54MW10 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 9/30/2015 **Time:** 1425

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
759	CARBON, INORG & ORG	(EPA 9060A)				10/14/2015	10/13/2015		Logged
878	SUB PERCHLORATE	(SW6850)				10/28/2015	10/13/2015		Logged
1230	ORGAN CARBON T QSM 5.0	(EPA 9060A)				10/28/2015	10/13/2015		Logged
1240	8330B EXPLOSIVES QSM 5	(EPA 8330B)					10/13/2015		NeedPrep
1279	SUB CHLORATE/CHLORITE	(300.1)					10/13/2015		Logged
1280	8330B Breakdown Pdts QSM 5	(EPA 8330B)					10/13/2015		NeedPrep

Folder #: 114433 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RAAP

SAMPLE #: 640122 **DESCR:** SWMU54TM **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 9/30/2015 **Time:** 1425

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
759	CARBON, INORG & ORG	(EPA 9060A)				10/14/2015	10/13/2015		Logged
878	SUB PERCHLORATE	(SW6850)				10/28/2015	10/13/2015		Logged
1230	ORGAN CARBON T QSM 5.0	(EPA 9060A)				10/28/2015	10/13/2015		Logged
1240	8330B EXPLOSIVES QSM 5	(EPA 8330B)					10/13/2015		NeedPrep
1279	SUB CHLORATE/CHLORITE	(300.1)					10/13/2015		Logged
1280	8330B Breakdown Pdts QSM 5	(EPA 8330B)					10/13/2015		NeedPrep

SAMPLE #: 640123 **DESCR:** 49MW04 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 9/30/2015 **Time:** 1625

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	10/14/2015	10/13/2015		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				10/14/2015	10/13/2015		NeedPrep
			Ethane						
			Ethene						
			Methane						
1230	ORGAN CARBON T QSM 5.0	(EPA 9060A)				10/28/2015	10/13/2015		Logged

Folder #: 114433 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RAAP

Invoice Number: 114951 **Preliminary Invoice Estimate:** $ 2,005.00

Item	Matrix	Quantity	Price	Expedited TAT Surcharge	Total
8330B Breakdown Pdts QSM 5	GROUND WATER	5	$ 0.00	0.00	$ 0.00
8330B EXPLOSIVES QSM 5	GROUND WATER	5	$ 85.00	0.00	$ 425.00
ANIONS IC QSM 5.0 Chloride	GROUND WATER	6	$ 10.00	0.00	$ 60.00
ANIONS IC QSM 5.0 Nitrate Nitrogen	GROUND WATER	6	$ 10.00	0.00	$ 60.00
ANIONS IC QSM 5.0 Sulfate	GROUND WATER	6	$ 10.00	0.00	$ 60.00
CARBON, INORG & ORG	GROUND WATER	5	$ 25.00	0.00	$ 125.00
FILTRATION, SAMPLE	GROUND WATER	6	$ 10.00	0.00	$ 60.00
METH,ETH,ETHE QSM 5.0 Ethane	GROUND WATER	1	$ 0.00	0.00	$ 0.00
METH,ETH,ETHE QSM 5.0 Ethene	GROUND WATER	1	$ 0.00	0.00	$ 0.00
METH,ETH,ETHE QSM 5.0 Methane	GROUND WATER	1	$ 40.00	0.00	$ 40.00
ORGAN CARBON T QSM 5.0	GROUND WATER	6	$ 25.00	0.00	$ 150.00
SUB CHLORATE/CHLORITE	GROUND WATER	5	$ 90.00	0.00	$ 450.00
SUB PERCHLORATE	GROUND WATER	5	$ 104.00	0.00	$ 520.00
VOC 8260 QSM 5.0	GROUND WATER	1	$ 55.00	0.00	$ 55.00
Temporary Fuel Surcharge on lab supplies and services (if applicable):					$ 0.00

Bottle Information

Container	# Containers	Tests
AMBER GL	**13**	EXPL
AMBER GL H2SO4	**2**	TOC
H2SO4 PL	**6**	TOC
MISC	**7**	CHLORATE,CHLORITE
UNPRES PL	**15**	Perchlorate
VOA	**12**	CARBON
VOA HCL	**4**	GAS,VOC

CT LABORATORIES
delivering more than data from your environmental analyses

Sample Condition Report

Folder #: 114433
Client: BERING SEA ENVIRONMENTAL

Print Date / Time: 10/02/2015 07:57
Received Date / Time / By: 10/01/2015 1115 JLS

Project Name: RAAP
Project Phase:

Log-In Date / Time / By: 10/02/2015 0731 JLS
Project #: 313010-001 PM: PML

Coolers: 5520,5484
Custody Seals Present : **Y**

Temperature: 2.5,3.3 C On Ice: **Y**
COC Present:? **Y** Complete? **Y**

Seal Intact? **Y**
Ship Method: FEDEX EXPRESS
Adequate Packaging: **Y**

Numbers: DATED AND SIGNED
Tracking Number: 806174873399
Temp Blank Enclosed? **Y**

Notes: SAMPLES RECEIVED ON ICE.

1 AMBER GLASS FOR MW-54 RECEIVED BROKEN.

CHB ADVISED PER CONVERSATION WITH CLIENT TO FILTER ANIONS BEFORE ANALYZING

NO TRIP BLANKS WERE RECEIVED WITH THIS SHIPMENT

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
640106 54MW1				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type (*UNPRES PL*) = 1			
Sample ID / Description	**Container Type**	**Cond. Code**	**pH OK?/Filtered?**	**Tests**
640109 54MW12				
	UNPRES PL	1	/	Anions
	UNPRES PL	1	/	ANIONS
	UNPRES PL	1	/	ANIONS
	Total # of Containers of Type (*UNPRES PL*) = 3			
Sample ID / Description	**Container Type**	**Cond. Code**	**pH OK?/Filtered?**	**Tests**
640110 54MW13				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type (*UNPRES PL*) = 1			
Sample ID / Description	**Container Type**	**Cond. Code**	**pH OK?/Filtered?**	**Tests**
640111 54MW10				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type (*UNPRES PL*) = 1			
Sample ID / Description	**Container Type**	**Cond. Code**	**pH OK?/Filtered?**	**Tests**

640112 SWMU54TM

UNPRES PL	1		/	Anions
Total # of Containers of Type	**(*UNPRES PL*) =**	**1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

640113 49MW04

UNPRES PL	1		/	Anions
Total # of Containers of Type	**(*UNPRES PL*) =**	**1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

640118 54MW1

VOA	1		/	CARBON
VOA	1		/	CARBON
Total # of Containers of Type	**(*VOA*) =**	**2**		

640118 54MW1

MISC	1		/	CHLORATE CHLORITE
Total # of Containers of Type	**(*MISC*) =**	**1**		

640118 54MW1

AMBER GL	1		/	EXPL
AMBER GL	1		/	EXPL
Total # of Containers of Type	**(*AMBER GL*) =**	**2**		

640118 54MW1

UNPRES PL	1		/	Perchlorate
Total # of Containers of Type	**(*UNPRES PL*) =**	**1**		

640118 54MW1

H2SO4 PL	1	Y	/	TOC
Total # of Containers of Type	**(*H2SO4 PL*) =**	**1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

640119 54MW12

VOA	1		/	CARBON
VOA	1		/	CARBON
VOA	1		/	CARBON
VOA	1		/	CARBON
Total # of Containers of Type	**(*VOA*) =**	**4**		

640119 54MW12

MISC	1		/	CHLORATE,CHLORITE
MISC	1		/	CHLORATE,CHLORITE
MISC	1		/	CHLORATE,CHLORITE
Total # of Containers of Type	**(*MISC*) =**	**3**		

640119 54MW12

AMBER GL	1		/	EXPL
AMBER GL	1		/	EXPL
AMBER GL	1		/	EXPL
AMBER GL	1		/	EXPL

114433

AMBER GL	1		/	EXPL
AMBER GL	1		/	EXPL
Total # of Containers of Type	**(*AMBER GL*) = 6**			

640119 54MW12

UNPRES PL	1		/	Perchlorate
UNPRES PL	1		/	PERCHLORATE
UNPRES PL	1		/	PERCHLORATE
Total # of Containers of Type	**(*UNPRES PL*) = 3**			

640119 54MW12

AMBER GL H2SO4	1	Y	/	TOC
AMBER GL H2SO4	1	Y	/	TOC
Total # of Containers of Type	**(*AMBER GL H2SO4*) = 2**			

640119 54MW12

H2SO4 PL	1	Y	/	TOC
Total # of Containers of Type	**(*H2SO4 PL*) = 1**			

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

---

640120 54MW13

VOA	1		/	CARBOB
VOA	1		/	CARBOB
Total # of Containers of Type	**(*VOA*) = 2**			

640120 54MW13

MISC	1		/	CHLORATE, CHLORITE
Total # of Containers of Type	**(*MISC*) = 1**			

640120 54MW13

AMBER GL	1		/	EXPL
AMBER GL	1		/	EXPL
Total # of Containers of Type	**(*AMBER GL*) = 2**			

640120 54MW13

UNPRES PL	1		/	Perchlorate
Total # of Containers of Type	**(*UNPRES PL*) = 1**			

640120 54MW13

H2SO4 PL	1	Y	/	TOC
Total # of Containers of Type	**(*H2SO4 PL*) = 1**			

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

---

640121 54MW10

VOA	1		/	CARBON
VOA	1		/	CARBON
Total # of Containers of Type	**(*VOA*) = 2**			

640121 54MW10

MISC	1		/	CHLORATE,CHLORITE
Total # of Containers of Type	**(*MISC*) = 1**			

640121	54MW10					
		AMBER GL	1		/	EXPL
		AMBER GL	1		/	EXPL
		Total # of Containers of Type		**(*AMBER GL*) = 2**		
640121	54MW10					
		UNPRES PL	1		/	Perchlorate
		Total # of Containers of Type		**(*UNPRES PL*) = 1**		
640121	54MW10					
		H2SO4 PL	1	Y	/	TOC
		Total # of Containers of Type		**(*H2SO4 PL*) = 1**		

Sample ID / Description		Container Type	Cond. Code	pH OK?/Filtered?		Tests
640122	SWMU54TM					
		VOA	1		/	CARBON
		VOA	1		/	CARBON
		Total # of Containers of Type		**(*VOA*) = 2**		
640122	SWMU54TM					
		MISC	1		/	CHLORATE, CHLORITE
		Total # of Containers of Type		**(*MISC*) = 1**		
640122	SWMU54TM					
		AMBER GL	1		/	EXPL
		Total # of Containers of Type		**(*AMBER GL*) = 1**		
640122	SWMU54TM					
		UNPRES PL	1		/	Perchlorate
		Total # of Containers of Type		**(*UNPRES PL*) = 1**		
640122	SWMU54TM					
		H2SO4 PL	1	Y	/	TOC
		Total # of Containers of Type		**(*H2SO4 PL*) = 1**		

Sample ID / Description		Container Type	Cond. Code	pH OK?/Filtered?		Tests
640123	49MW04					
		VOA HCL	1		/	GAS,VOC
		VOA HCL	1		/	GAS,VOC
		VOA HCL	1		/	GAS,VOC
		VOA HCL	1		/	GAS,VOC
		Total # of Containers of Type		**(*VOA HCL*) = 4**		
640123	49MW04					
		H2SO4 PL	1	Y	/	TOC
		Total # of Containers of Type		**(*H2SO4 PL*) = 1**		

Condition Code	*Condition Description*
1	Sample Received OK

114433

Rev 8/2014

CHAIN OF CUSTODY

Page 1 of

Company: BSEN

Project Contact: S. JULIA LIU

Telephone: (757) 256-6281

Project Name: RAAP

Project #: 313010-001

Location: RADFORD, VA

Sampled By: PJW / SJL

CT LABORATORIES

1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Folder #: 114442

Company: BERING SEA ENVIRON

Project: RADFORD AAP

Logged By: JLS PM PM

Program:
RCRA SDWA NPDES
Solid Waste Other MMSD

PO #

Report To: S. JULIA LIU
EMAIL: SLIUBSENV.COM
Company: BSEN
Address: 615 E. 82ND AVE #200 ANCHORAGE, AK 99518

Invoice To: SAME
EMAIL:
Company:
Address:

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

Client Special Instructions

Matrix:
GW - groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Turnaround Time
Normal RUSH*
Date Needed:
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

Collection Date	Collection Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	VOC	METHANE, ETHANE, ETHENE	TOC	NITRATE, SULFATE, CHLORIDE									Total # Containers	Designated MS/MSD	CT Lab ID # (Lab use only)
							Fill in Spaces with Bottles per Test															
10/1/15	0855	GW	GRAB		48MW07	N	X	X	X	X				640251/252					6		LAB MUST FILTER
	1025				48MW06	N	X	X	X	X				640254/255					6		LAB MUST FILTER
	1025				49TM01	N	X	X	X	X				640256/257					6		LAB MUST FILTER
	1105				48MW2	N	X	X	X	X				640258/259					18	X	LAB MUST FILTER
	1440				48MW1	N	X	X	X	X				640260/261					6		LAB MUST FILTER
	1620				49MW01	N	X	X	X	X				640262/263					6		LAB MUST FILTER
					100115T1	N	X	X						640297					2		

Relinquished By: Date/Time: 10/1/15 1726

Received by: Date/Time:

Received By: Date/Time:

Received for Laboratory by: Date/Time: 10/2/15

Lab use only
Ice Present Yes No
Temp 1.9 IR Gun # 8
Cooler # 5235

10/2/15 1000

CT Laboratories Terms and Conditions

Where a purchaser (Client) places an order for laboratory, consulting or sampling services from CT Laboratories (CTL), CTL shall provide the ordered services pursuant to these Terms and Conditions, and the stated Quotation, or as agreed in a negotiated contract. In the absence of a written agreement to the contrary, the Order constitutes an acceptance by the Client of CTL's offer to do business under these Terms and Conditions, and an agreement to be bound by these Terms and Conditions. No contrary or additional terms and conditions expressed in a Client's document shall be deemed to become a part of the contract created upon acceptance of these Terms and Conditions, unless accepted by CTL in advance of the start of the project and in writing.

1. ORDERS AND RECEIPT OF SAMPLES (Sample Acceptance Policy)

1.1 The Client may place the Order (i.e., specify a Scope of Work) either by submitting a purchase order to CTL in writing, by telephone (confirmed in writing) or by negotiated contract. Whichever option the Client selects for placing the Order, the Order shall not be initial unless it contains sufficient specification to enable CTL to carry out the Client's requirements. It is the policy of CT Laboratories that samples not meeting the acceptance criteria, outlined in the NELAC standards and Section 5.8.3.2 of the DOD QSM, will not be accepted by the laboratory or will be qualified on the final report. All samples submitted to the laboratory must (1) be accompanied by proper, full and complete documentation, including sample identification, location, date and time of collection, the collector's name, type of preservation (if any), type of sample, any special comments concerning the sample and any additional pertinent detail of the chain-of-custody. In the absence of any of the required information, the laboratory will attempt to contact the client to obtain the information; if unable to obtain the necessary information, the final report will be qualified. (2) be labeled adequately with a unique sample identification written with indelible ink on water resistant labels. If the laboratory cannot determine the identity of a sample, it will be rejected and the client will be contacted for further instructions or resampling. (3) be in an appropriate sample container. If the container is improper for the analysis, the client will be contacted for further instructions or resampling. If analysis is possible, the final report will be qualified. CT Laboratories can provide a sampling guide containing approved containers and preservations for analytical methods requested. (4) adhere to specified holding times. If samples are received with less than ½ the holding time remaining for the requested test, CT Laboratories will make its best effort to analyze the samples and notify the client. If holding times are exceeded, the final report will be qualified. (5) contain adequate sample volume to perform the necessary testing. If sufficient volume is not present, the sample will be rejected and the client will be contacted for further instructions or resampling. If samples show signs of damage, contamination or inadequate preservation, the client will be notified. If analysis can be performed, the final report will be qualified, if not the samples will be rejected and the client notified for further instructions or resampling.

1.2 CT Laboratories must be supplied with complete written disclosure of the known or suspected presence of any hazardous substances, as defined by applicable federal or state law. Where any samples which were not accompanied by the required disclosure, cause interruptions in the lab's ability to process work due to contamination of instruments or work areas, the Client will be responsible for the costs of clean up and recovery.

1.3 Prior to Sample Acceptance, the entire risk of loss or damage to samples remains with the Client. In no event will CTL have any responsibility or liability for the action or inaction of any carrier shipping or delivering any sample to or from CTL's premises. Client is responsible to assure that any sample containing any hazardous substance which is to be delivered to CTL's premises will be packaged, labeled, transported and delivered properly and in accordance with applicable laws.

2. PAYMENT TERMS

2.1 Services performed by CTL will be in accordance with prices quoted and later confirmed in writing or as stated in the Price Schedule. Invoices may be submitted to Client upon completion of any sample delivery group. Payment in advance is required for all Clients except those whose credit has been established with CTL. For Clients with approved credit, payment terms are net 30 days from the date of invoice by CTL. All overdue payments are subject to an additional interest and service charge of one and one-half percent (1.5%) (or the maximum rate permissible by law, whichever is lesser) per month or portion thereof from the due date until the date of payment. All fees are charged or billed directly to the Client. The billing of a third party will not be accepted without a statement, signed by the third party that acknowledges and accepts payment responsibility. CTL may suspend work, and withhold delivery of data under this order at any time in the event Client fails to make timely payment of its invoices. Client shall be responsible for all costs and expenses of collection including reasonable attorney's fees. CTL reserves the right to refuse to proceed with work at any time based upon an unfavorable Client credit report.

3. CHANGE ORDERS, TERMINATION

3.1 Changes to the Scope of Work, price, or result delivery date may be initiated by CTL after Sample Acceptance due to any condition which conflicts with analytical, QA or other protocols warranted in these Terms and Conditions. CTL will not proceed with such changes until an agreement with the Client is reached on the amount of any cost, schedule change or technical change to the Scope of Work, and such agreement is documented in writing.

3.2 Changes to the Scope of Work, including but not limited to increasing or decreasing the work, changing test and analysis specification or modification in the performance of the work may be initiated by the Client, after sample acceptance. Such a change will be documented in writing and may result in a change in cost and turnaround time commitment. CTL's acceptance of such changes is contingent upon technical feasibility and operational capacity.

3.3 Suspension or termination of all or any part of the work may be initiated by the Client. CTL will be compensated consistent with Section 2 of these Terms and Conditions. CTL will complete all work in progress and be paid in full for all work completed.

4. WARRANTIES AND LIABILITY

4.1 Where applicable, CTL will use analytical methodologies which are in substantial conformity with published test methods. CTL has implemented these methods in its Laboratory Quality Manuals and referenced Standard Operating Procedures and where the nature or composition of the sample requires it, CTL reserves the right to deviate from these methodologies as necessary or appropriate, based on the reasonable judgment of CTL, which deviations, if any, will be made on a basis consistent with recognized standards of the industry and/or CTL's Laboratory Quality Manuals. Client may request that CTL perform according to a mutually agreed Quality Assurance Project Plan (QAPP). In the event that samples arrive prior to agreement on a QAPP, CTL will proceed with analyses under its standard Quality Manuals then in effect, and CTL will not be responsible for any resampling or other charges if work must be repeated to comply with a subsequently finalized QAPP.

4.2 CTL shall start preparation and/or analysis within holding times provided that Sample Acceptance occurs within 48 hours of sampling or ½ of the holding time for the test, whichever is less. Where resolution of inconsistencies leading to Sample Acceptance does not occur within this period, CTL will use its best efforts to meet holding times and will proceed with the work provided that, in CTL's judgment, the chain-of-custody or definition of the Scope of Work provide sufficient guidance. Reanalysis of samples to comply with CTL's Quality Manuals will be deemed to have met holding times provided the initial analysis was performed within the applicable holding time. Where reanalysis demonstrates that sample matrix interference is the cause of failure to meet any Quality Manual requirements, the noncompliance will be deemed to have been met.

4.3 CTL warrants that it possesses and maintains all licenses and certifications which are required to perform services under these Terms and Conditions provided that such requirements are specified in writing to CTL prior to Sample Acceptance. CTL will notify the Client in writing of any decertification or revocation of any license or notice of either, which affects work in progress.

4.4 The warranty obligations set forth in Sections 4.1, 4.2 and 4.3 are the sole and exclusive warranties given by CTL in connection with any services performed by CTL or any Results generated from such services, and CTL gives and Client has NO OTHER REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. No representative of CTL is authorized to give or make any other representation or warranty or modify this warranty in any way.

4.5 Client's sole and exclusive remedy for any breach of warranty in connection with any services performed by CTL, will be limited to reperforming any services performed, contingent on the Client's providing, at the request of CTL and at the Client's expense, additional sample(s) if necessary. Any reanalysis requested by the Client generating Results consistent with the original Results will be at the Client's expense. If resampling is necessary, CTL's liability for resampling costs will be limited to actual cost or one hundred or one hundred fifty dollars ($150) per sample, whichever is less.

4.6 CTL's liability for any and all causes of action arising hereunder, whether based in contract, tort, warranty, negligence or otherwise, shall be limited to the lesser amount of compensation for the services performed or $100,000. All claims, including those for negligence, shall be deemed waived unless such action is filed within one year after CTL's completion of the services. Under no circumstances, whether arising in contract, tort (including negligence), or otherwise, shall CTL be responsible for loss of use, loss of profits, or for any special, indirect, incidental or consequential damages occasioned by the services performed or by application or use of the reports prepared.

4.7 In no event shall CTL have any responsibility or liability to the Client for any failure or delay in performance by CTL which results, directly or indirectly, in whole or in part, from any cause or circumstance beyond the reasonable control of CTL. Such causes and circumstances shall include, but not be limited to, acts of God, acts of Client, acts or orders of any governmental authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, equipment breakdown, malicious interference or unknown, highly contaminated samples that impact instrument operation, unavailability of supplies from usual suppliers, difficulties or delays in transportation, mail or delivery services, or any other cause beyond CTL's reasonable control.

5. RESULTS, WORK PRODUCT

5.1 Title to all information provided by CTL or generated by services performed under this agreement shall only become the property of the Client upon receipt in full by CTL of payment for the whole Order. Ownership of any analytical method, QA/QC protocols, software programs or equipment developed by CTL for performance of work will be retained by CTL, and Client shall not disclose such information to any third party.

5.2 Data and sample materials provided by Client or at Client's request, and the result obtained by CTL shall be held in confidence (unless such information is generally available to the public or is in the public domain or Client has failed to pay CTL for all services rendered or is otherwise in breach of these Terms and Conditions), subject to any disclosure required by law or legal process.

5.3 Should the Results delivered by CTL be used by the Client or Client's client, even though subsequently determined not to meet the warranties described in these Terms and Conditions, then the compensation will be adjusted based upon mutual agreement. In no case shall the Client unreasonably withhold CTL's right to independently defend its data.

5.4 CTL reserves the right to subcontract services ordered by the Client to another laboratory or laboratories, if, in CTL's sole judgment, it is reasonably necessary, appropriate or advisable to do so, and with the Client's permission. CTL will in no way be liable for any subcontracted services and all applicable warranties, guarantees and insurance are those of the subcontracted laboratory.

5.5 CTL shall dispose of the Client's samples 30 days after the analytical report is issued, unless instructed to store them for an alternate period of time or to return such samples to the Client, in a manner consistent with U.S. Environmental Protection Agency regulations or other applicable Federal, state or local requirements. Any samples for projects that are canceled or not accepted, or for which return was requested, will be returned to the Client at their own expense. CTL reserves the right to return to the Client any sample or unused portion of a sample that is not within CTL's permitted capability or the capabilities of CTL's designated waste disposal vendor(s).

5.6 Unless a different time period is agreed to in any order under these Terms and Conditions, CTL agrees to retain all records for five (5) years.

5.7 In the event that CTL is required to respond to legal process related to services for Client, Client agrees to reimburse CTL for hourly charges for personnel involved in the response and attorney fees reasonably incurred in obtaining advice concerning the response, preparation to testify, and appearances related to the legal process, travel and all reasonable expenses associated with the litigation.

6. INSURANCE

6.1 CTL shall maintain in force during the performance of services under these Terms and Conditions, Workers' Compensation and Employer's Liability insurance in accordance with the laws of the states having jurisdiction over CTL's employees who are engaged in the performance of the work. CTL shall also maintain during such period, Comprehensive General and Contractual Liability (limit of $2,000,000 per occurrence/ aggregate), Comprehensive Automobile Liability, owned and hired, ($1,000,000 combined single limit), and Professional/Pollution Liability Insurance (limit of $5,000,000 per occurrence/aggregate). Any Client required changes to these limits or conditions may result in a change in cost to the Client.

7. AUDIT

7.1 Upon prior notice to CTL, the Client may audit and inspect CTL's records and accounts covering reimbursable costs related to work done for the Client, for a period of one (1) year after completion of the work. The purpose of any such audit shall be only for verification of such costs, and CTL shall not be required to provide access to cost records unless prices are expressed as fixed fees or published unit prices.

Ice Present (YES) NO

Cooler Receipt Form

Temperature 1.9

IR Gun # 8

Initials JS

Date 10/2/15 Time 1000

Cooler #: 5235

CUSTODY SEAL
DATE 10/1/15
SIGNATURE

QEC
Quality Environmental Containers
800-255-3950 • 304-255-3900

CUSTODY SEAL
DATE 10/1/15
SIGNATURE

QEC
Quality Environmental Containers
800-255-3950 • 304-255-3900

FedEx Express US Airbill FedEx Tracking Number 8061 7487 3150

Unit No. 0200

1 From
Date
Sender's Name Phone
Company
Address
Dept/Floor/Suite/Room
City State ZIP

2 Your Internal Billing Reference

3 To
Recipient's Name Phone
Company
Address
We cannot deliver to P.O. boxes or P.O. ZIP codes. Dept/Floor/Suite/Room
Address
Use this line for the HOLD location address or for continuation of your shipping address.
City State ZIP

HOLD Weekday
FedEx location address required for FedEx First Overnight.

HOLD Saturday
FedEx location address required for FedEx Priority Overnight and FedEx Standard Overnight.

4 Express Package Service
NOTE: Service and fees may change. Please select carefully.
Packages up to 150 lbs.

Next Business Day
- FedEx First Overnight
- FedEx Priority Overnight
- FedEx Standard Overnight

2 or 3 Business Days
- FedEx 2Day A.M.
- FedEx 2Day
- FedEx Express Saver

5 Packaging
FedEx Envelope* FedEx Pak* FedEx Box FedEx Tube Other

6 Special Handling and Delivery Signature Options
SATURDAY Delivery
NOT available for FedEx Standard Overnight, FedEx 2Day A.M., or FedEx Express Saver
No Signature Required
Direct Signature
Indirect Signature

Does this shipment contain dangerous goods?
One box must be checked.
No
Yes As per attached Shipper's Declaration
Yes Shipper's Declaration not required
Dry Ice
Cargo Aircraft Only

7 Payment Bill to:
Enter FedEx Acct. No. or Credit Card No. below
Sender Recipient Third Party Credit Card Cash/Check

Total Packages Total Weight Credit Card Auth.

644

8061 7487 3150

Folder #: 114442

PM LOGIN CONFIRMATION

Contract #: 2842

Company: BERING SEA ENVIRONMENTAL **Project:** RADFORD AAP **Proj #:** 313010-001

Project Phase: **PO Number:** **Invoice #:** 114956

Project Manager: *PML* **Date Received:** 10/02/15 **Log Date:** 10/02/2015

Report To: S. JULIA LIU CC:
615 E 82ND AVE
#200
ANCHORAGE, AK 99518
Phone: 757-256-6281: Fax:
Rep. E-Mail SLIU@BSENV.COM

Invoice To :ACCOUNTS PAYABLE CC:
615 E 82ND AVE
#200
ANCHORAGE, AK 99518
Phone: Fax:
EMail:

Collected By:
Collector's Phone: 757-256-6281

Arrival Temperature: 1.9 oC

SAMPLE #: 640251 DESCR: 48MW07 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED: 10/1/2015 Time: 0855**

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)					10/14/2015		Entered
1227	ANIONS IC QSM 5.0	(EPA 9056A)				10/3/2015	10/14/2015		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 640252 DESCR: 48MW07 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED: 10/1/2015 Time: 0855**

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	10/15/2015	10/14/2015		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				10/15/2015	10/14/2015		NeedPrep
			Ethane						
			Ethene						

C:\LIMSREPS\CONFIRMATION.RPT

Folder #: 114442 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 640252 **DESCR:** 48MW07 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 10/1/2015 **Time:** 0855

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
			Methane						
1230	ORGAN CARBON T QSM 5.(	EPA 9060A)				10/29/2015	10/14/2015		Logged

SAMPLE #: 640254 **DESCR:** 48MW06 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 10/1/2015 **Time:** 1025

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)					10/14/2015		Entered
1227	ANIONS IC QSM 5.0	(EPA 9056A)				10/3/2015	10/14/2015		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 640255 **DESCR:** 48MW06 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 10/1/2015 **Time:** 1025

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	10/15/2015	10/14/2015		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				10/15/2015	10/14/2015		NeedPrep
			Ethane						
			Ethene						
			Methane						
1230	ORGAN CARBON T QSM 5.(	EPA 9060A)				10/29/2015	10/14/2015		Logged

SAMPLE #: 640256 **DESCR:** 49TM01 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 10/1/2015 **Time:** 1025

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)					10/14/2015		Entered

Folder #: 114442 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 640256 **DESCR:** 49TM01 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 10/1/2015 **Time:** 1025

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1227	ANIONS IC QSM 5.0	(EPA 9056A)				10/3/2015	10/14/2015		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 640257 **DESCR:** 49TM01 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 10/1/2015 **Time:** 1025

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			***Y***	10/15/2015	10/14/2015		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				10/15/2015	10/14/2015		NeedPrep
			Ethane						
			Ethene						
			Methane						
1230	ORGAN CARBON T QSM 5.0	(EPA 9060A)				10/29/2015	10/14/2015		Logged

SAMPLE #: 640258 **DESCR:** 48MW2 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 10/1/2015 **Time:** 1105

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)			***DESIGNATED MATRIX SPIKE***		10/14/2015		Entered
1227	ANIONS IC QSM 5.0	(EPA 9056A)			***DESIGNATED MATRIX SPIKE***	10/3/2015	10/14/2015		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

Folder #: 114442 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 640259 **DESCR:** 48MW2 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 10/1/2015 **Time:** 1105

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y* ***DESIGNATED MATRIX SPIKE***	10/15/2015	10/14/2015		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)			***DESIGNATED MATRIX SPIKE***	10/15/2015	10/14/2015		NeedPrep
			Ethane						
			Ethene						
			Methane						
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)			***DESIGNATED MATRIX SPIKE***	10/29/2015	10/14/2015		Logged

SAMPLE #: 640260 **DESCR:** 48MW1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 10/1/2015 **Time:** 1440

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)					10/14/2015		Entered
1227	ANIONS IC QSM 5.0	(EPA 9056A)				10/3/2015	10/14/2015		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 640261 **DESCR:** 48MW1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 10/1/2015 **Time:** 1440

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	10/15/2015	10/14/2015		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				10/15/2015	10/14/2015		NeedPrep
			Ethane						
			Ethene						
			Methane						
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)				10/29/2015	10/14/2015		Logged

Folder #: 114442 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 640262 **DESCR:** 49MW01 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 10/1/2015 **Time:** 1620

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)					10/14/2015		Entered
1227	ANIONS IC QSM 5.0	(EPA 9056A)				10/3/2015	10/14/2015		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 640263 **DESCR:** 49MW01 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 10/1/2015 **Time:** 1620

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	10/15/2015	10/14/2015		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				10/15/2015	10/14/2015		NeedPrep
			Ethane						
			Ethene						
			Methane						
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)				10/29/2015	10/14/2015		Logged

SAMPLE #: 640297 **DESCR:** 100115T1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / TRIP BLANK **SAMPLED:** 10/1/2015

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	10/15/2015	10/14/2015		Logged

Folder #: 114442 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

Invoice Number: 114956 **Preliminary Invoice Estimate:** $ 1,015.00

Item	Matrix	Quantity	Price	Expedited TAT Surcharge	Total
ANIONS IC QSM 5.0 Chloride	GROUND WATER	6	$ 10.00	0.00	$ 60.00
ANIONS IC QSM 5.0 Nitrate Nitrogen	GROUND WATER	6	$ 10.00	0.00	$ 60.00
ANIONS IC QSM 5.0 Sulfate	GROUND WATER	6	$ 10.00	0.00	$ 60.00
FILTRATION, SAMPLE	GROUND WATER	6	$ 10.00	0.00	$ 60.00
METH,ETH,ETHE QSM 5.0 Ethane	GROUND WATER	6	$ 0.00	0.00	$ 0.00
METH,ETH,ETHE QSM 5.0 Ethene	GROUND WATER	6	$ 0.00	0.00	$ 0.00
METH,ETH,ETHE QSM 5.0 Methane	GROUND WATER	6	$ 40.00	0.00	$ 240.00
ORGAN CARBON T QSM 5.0	GROUND WATER	6	$ 25.00	0.00	$ 150.00
VOC 8260 QSM 5.0	GROUND WATER	6	$ 55.00	0.00	$ 330.00
VOC 8260 QSM 5.0	TRIP BLANK	1	$ 55.00	0.00	$ 55.00
Temporary Fuel Surcharge on lab supplies and services (if applicable):					$ 0.00

Bottle Information

Container	# Containers	Tests
AMBER GL H2SO4	**2**	TOC
H2SO4 PL	**6**	TOC
LABEL ONLY	**10**	Anions
UNPRES PL	**6**	Anions
VOA HCL	**34**	GAS,VOC

CT LABORATORIES
delivering more than data from your environmental analyses

Sample Condition Report

Folder #: 114442
Client: BERING SEA ENVIRONMENTAL

Print Date / Time: 10/02/2015 12:16
Received Date / Time / By: 10/02/2015 1000 JLS

Project Name: RADFORD AAP
Project Phase:

Log-In Date / Time / By: 10/02/2015 1130 JLS
Project #: 313010-001 PM: PML

Coolers: 5235
Custody Seals Present : **Y**

Temperature: 1.9 C On Ice: **Y**
COC Present:? **Y** Complete? **Y**

Seal Intact? **Y**
Ship Method: FEDEX EXPRESS
Adequate Packaging: **Y**

Numbers: DATED AND SIGNED
Tracking Number: 806174873150
Temp Blank Enclosed? **Y**

Notes: SAMPLES RECEIVED ON ICE.

1 TRIP BLANK RECEIVED BROKEN. DUE TO LOW VOLUME TRIP BLANK ONLY LOGGED IN FOR VOC ANALYSIS

2 CUSTODY SEALS PRESENT AND INTACT, DATED 10/1/15 AND SIGNED

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
640251 48MW07				
	LABEL ONLY	1	/	Anions
	Total # of Containers of Type (*LABEL ONLY*) = 1			
640251 48MW07				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type (*UNPRES PL*) = 1			

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
640252 48MW07				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type (*VOA HCL*) = 4			
640252 48MW07				
	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type (*H2SO4 PL*) = 1			

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
640254 48MW06				
	LABEL ONLY	1	/	Anions
	Total # of Containers of Type (*LABEL ONLY*) = 1			
640254 48MW06				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type (*UNPRES PL*) = 1			

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
640255 48MW06				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type	**(*VOA HCL*) = 4**		
640255 48MW06				
	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type	**(*H2SO4 PL*) = 1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
640256 49TM01				
	LABEL ONLY	1	/	Anions
	Total # of Containers of Type	**(*LABEL ONLY*) = 1**		
640256 49TM01				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type	**(*UNPRES PL*) = 1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
640257 49TM01				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type	**(*VOA HCL*) = 4**		
640257 49TM01				
	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type	**(*H2SO4 PL*) = 1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
640258 48MW2				
	LABEL ONLY	1	/	Anions
	LABEL ONLY	1	/	Anions
	LABEL ONLY	1	/	Anions
	LABEL ONLY	1	/	Anions
	LABEL ONLY	1	/	Anions
	Total # of Containers of Type	**(*LABEL ONLY*) = 5**		
640258 48MW2				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type	**(*UNPRES PL*) = 1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
640259 48MW2				

		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		Total # of Containers of Type	**(*VOA HCL*) = 12**		

640259	48MW2					
		AMBER GL H2SO4	1	Y /		TOC
		AMBER GL H2SO4	1	Y /		TOC
		Total # of Containers of Type	**(*AMBER GL H2SO4*) = 2**			
640259	48MW2					
		H2SO4 PL	1	Y /		TOC
		Total # of Containers of Type	**(*H2SO4 PL*) = 1**			

Sample ID / Description	**Container Type**	**Cond. Code**	**pH OK?/Filtered?**	**Tests**
640260 48MW1				
	LABEL ONLY	1	/	Anions
	Total # of Containers of Type	**(*LABEL ONLY*) = 1**		
640260 48MW1				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type	**(*UNPRES PL*) = 1**		

Sample ID / Description	**Container Type**	**Cond. Code**	**pH OK?/Filtered?**	**Tests**
640261 48MW1				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type	**(*VOA HCL*) = 4**		
640261 48MW1				
	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type	**(*H2SO4 PL*) = 1**		

Sample ID / Description	**Container Type**	**Cond. Code**	**pH OK?/Filtered?**	**Tests**
640262 49MW01				
	LABEL ONLY	1	/	Anions
	Total # of Containers of Type	**(*LABEL ONLY*) = 1**		
640262 49MW01				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type	**(*UNPRES PL*) = 1**		

Sample ID / Description	**Container Type**	**Cond. Code**	**pH OK?/Filtered?**	**Tests**

640263	49MW01				
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		Total # of Containers of Type	**(*VOA HCL*) = 4**		

640263	49MW01				
		H2SO4 PL	1	Y /	TOC
		Total # of Containers of Type	**(*H2SO4 PL*) = 1**		

Sample ID / Description	**Container Type**	**Cond. Code**	**pH OK?/Filtered?**	**Tests**
640297 100115T1				
	VOA HCL	1	/	VOC
	VOA HCL	3	/	VOC
	Total # of Containers of Type	**(*VOA HCL*) = 2**		

Condition Code	*Condition Description*
3	Broken Container

114442

Rev 8/2014

CHAIN OF CUSTODY

Page 1 of

Company: BSEN
Project Contact: S. JULIA LIU
Telephone: (757)256-6291
Project Name: RAAP
Project #: 353010-018
Location: RADFORD, VA
Sampled By:

CT LABORATORIES

Folder #: 114475
Company: BERING SEA ENVIRON
Project: RADFORD AAP
Logged By: JLS PM PM

1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Program:
M RCRA SDWA NPDES
id Waste Other

CT Lab Quote #
BSN-1206

Report To: S. JULIA LIU
EMAIL: SLIU@BSENN.COM
Company: BSEN
Address: 615 E. 82ND AVE #200 ANCHORAGE, AK 99518
Invoice To:*
EMAIL:
Company: SAME
Address:

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

Client Special Instructions

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

ANALYSES REQUESTED

Collection Date	Collection Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	VOC	METHANE, ETHANE, ETHENE	TOC	NITRATE, SULFATE, CHLORIDE	TAL METALS	PH	COD	Total # Containers	Designated MS/MSD	CT Lab ID # (Lab use only)
						Fill in Spaces with Bottles per Test										
10/2/15	0835	GW	GRAB		13MW3	N	X	X	X	X			640601/602	6		LAB MUST FILTER
	0940				13MW4	N	X	X	X	X			640603/604	6		LAB MUST FILTER
	1060				13MW2	N	X	X	X	X			640605/606	6		LAB MUST FILTER
	1206				100215R1	N	X	X	X	X			640607/608	6		LAB MUST FILTER
	1290				48MW3	N	X	X	X	X			640609/610	6		LAB MUST FILTER
	1330				ADW01	N					X	X	X 640611	4		
	1410				49MW02	N	X	X	X	X			640612/613	6		LAB MUST FILTER
	1705				50MW02	N	X	X	X	X			640614/615	6		LAB MUST FILTER
	1630				ADW02	N					X	X	X 640616	4		
10/2					TRIP BLANKS		X	X					640617	2		

Turnaround Time
(Normal) RUSH*
Date Needed:
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

Relinquished By:	Date/Time	Received By:	Date/Time
S. Liu	10/2/15 1717		
Received by:	**Date/Time**	**Received for Laboratory by:**	**Date/Time**
			10/3/15 1046

Lab Use Only
Ice Present (Yes) No
Temp 23 IR Gun # 11
Cooler # 5535

* added by JLS

10/3/15 1035

CT Laboratories Terms and Conditions

Where a purchaser (Client) places an order for laboratory, consulting or sampling services from CT Laboratories (CTL), CTL shall provide the ordered services pursuant to these Terms and Conditions, and the related Quotation, or as agreed in a negotiated contract. In the absence of a written agreement to the contrary, the Order constituted an acceptance by the Client of CTL's offer to do business under these Terms and Conditions, and an agreement to be bound by these Terms and Conditions. No contrary or additional terms and conditions expressed in a Client's document shall be deemed to become a part of the contract created upon acceptance of these Terms and Conditions, unless accepted by CTL in advance of the start of the project and in writing.

1. ORDERS AND RECEIPT OF SAMPLES (Sample Acceptance Policy)

1.1 The Client may place the Order (i.e., specify a Scope of Work) either by submitting a purchase order to CTL in writing, by telephone (confirmed in writing) or by negotiated contract. Whichever option the Client selects for placing the Order, the Order shall not be valid unless it contains sufficient specification to enable CTL to carry out the Client's requirements. It is the policy of CT Laboratories that samples not meeting the acceptance criteria, outlined in the NELAC standards and Section 5.8.3.2 of the DOD QSM, will not be accepted by the laboratory or will be qualified on the final report. All samples submitted to the laboratory must: (1) be accompanied by proper, full and complete documentation, including sample identification, location, date and time of collection, the collector's name, type of preservation (if any), type of samples, any special comments concerning the sample and any additional pertinent fields on the chain-of-custody. In the absence of any of the required information, the laboratory will attempt to contact the client to obtain the information: if unable to obtain the necessary information, the final report will be qualified. (2) be labeled appropriately with a unique sample identification written with indelible ink on water resistant labels. If the laboratory cannot determine the identity of a sample, it will be rejected and the client will be contacted for further instructions or resampling. (3) be in an appropriate sample container. If the container is inappropriate, the client will be contacted for further instructions or resampling. If analysis is possible, the final report will be qualified. CT Laboratories can provide a sampling guide containing approved containers and preservations for analytical methods requested. (4) adhere to specified holding times. If samples are received with less than ½ the holding time remaining for the requested test, CT Laboratories will make its best effort to analyze the samples and notify the client. If holding times are exceeded, the final report will be qualified. (5) contain adequate sample volume to perform the necessary testing. If sufficient volume is not present, the sample will be rejected and the client will be contacted for further instructions or resampling. If samples show signs of damage, contamination or inadequate preservation, the client will be notified. If analysis can be performed, the final report will be qualified. If not, the samples will be rejected and the client notified for further instructions or resampling.

1.2 CT Laboratories must be supplied with complete written disclosure of the known or suspected presence of any hazardous substances, as defined by applicable federal or state law. Where any samples which were not accompanied by the required disclosure, cause interruptions in the lab's ability to process work due to contamination of instruments or work areas, the Client will be responsible for the costs of clean up and recovery.

1.3 Prior to Sample Acceptance, the entire risk of loss or damage to samples remains with the Client. In no event will CTL have any responsibility or liability for the action or inaction of any carrier shipping or delivering any sample to or from CTL's premises. Client is responsible to assure that any sample containing any hazardous substance which is to be delivered to CTL's premises will be packaged, labeled, transported and delivered properly and in accordance with applicable laws.

2. PAYMENT TERMS

2.1 Services performed by CTL will be in accordance with prices quoted and later confirmed in writing or as stated in the Price Schedule. Invoices may be submitted to Client upon completion of any sample delivery group. Payment in advance is required for all Clients except those whose credit has been established with CTL. For Clients with approved credit, payment terms are net 30 days from the date of invoice by CTL. All overdue payments are subject to an additional interest and service charge of one and one-half percent (1.5%) (or the maximum rate permissible by law, whichever is lesser) per month or portion thereof from the due date until the date of payment. All fees are charged or billed directly to the Client. The billing of a third party will not be accepted without a statement, signed by the third party that acknowledges and accepts payment responsibility. CTL may suspend work and withhold delivery of data under this order at any time in the event Client fails to make timely payment of its invoices. Client shall be responsible for all costs and expenses of collection including reasonable attorney's fees. CTL reserves the right to refuse to proceed with work at any time based upon an unfavorable Client credit report.

3. CHANGE ORDERS, TERMINATION

3.1 Changes to the Scope of Work, price, or result delivery date may be initiated by CTL after Sample Acceptance due to any condition which conflicts with analytical, QA or other protocols warranted in these Terms and Conditions. CTL will not proceed with such changes until an agreement with the Client is reached on the amount of any cost, schedule change or technical change to the Scope of Work, and such agreement is documented in writing.

3.2 Changes to the Scope of Work, including but not limited to increasing or decreasing the work, changing test and analysis specification or acceleration in the performance of the work may be initiated by the Client after sample acceptance. Such a change will be documented in writing and may result in a change in cost and turnaround time commitment. CTL's acceptance of such changes is contingent upon technical feasibility and operational capacity.

3.3 Suspension or termination of all or any part of the work may be initiated by the Client. CTL will be compensated consistent with Section 2 of these Terms and Conditions. CTL will complete all work in progress and be paid in full for all work completed.

4. WARRANTIES AND LIABILITY

4.1 Where applicable, CTL will use analytical methodologies which are in substantial conformity with published test methods. CTL has implemented these methods in its Laboratory Quality Manuals and referenced Standard Operating Procedures and where the nature or composition of the sample requires it, CTL reserves the right to deviate from these methodologies as necessary or appropriate, based on the reasonable judgment of CTL, which deviations, if any, will be made on a basis consistent with recognized standards of the industry and/or CTL's Laboratory Quality Manuals. Client may request that CTL perform according to a mutually agreed Quality Assurance Project Plan (QAPP). In the event that samples arrive prior to agreement on a QAPP, CTL will proceed with analyses under its standard Quality Manuals then in effect, and CTL will not be responsible for any recampling or other charges it work must by requested to comply with a subsequently finalized QAPP.

4.2 CTL shall start preparation and/or analysis within holding times provided that Sample Acceptance occurs within 48 hours of sampling or 1/2 of the holding time for the test, whichever is less. Where resolution of inconsistencies leading to Sample Acceptance does not occur within this period, CTL will use its best efforts to meet holding times and will proceed with the work provided that, in CTL's judgment, the chain-of-custody or definition of the Scope of Work provide sufficient guidance. Reanalysis of samples to comply with CTL's Quality Manuals will be deemed to have met holding times provided the initial analysis was performed within the applicable holding time. Where reanalysis demonstrates that sample matrix interference is the cause of failure to meet any Quality Manual requirements, the warranty will be deemed to have been met.

4.3 CTL warrants that it possesses and maintains all licenses and certifications which are required to perform services under these Terms and Conditions provided that such requirements are specified in writing to CTL prior to Sample Acceptance. CTL will notify the Client in writing of any discontinuation or revocation of any license, or notice of either, which affects work in progress.

4.4 The warranty obligations set forth in Sections 4.1, 4.2 and 4.3 are the sole and exclusive warranties given by CTL in connection with any services performed by CTL or any Results generated from such services, and CTL gives and makes NO OTHER REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. No representative of CTL is authorized to give or make any other representation or warranty or modify this warranty in any way.

4.5 Client's sole and exclusive remedy for the breach of warranty in connection with any services performed by CTL will be limited to repeating any services performed, contingent on the Client's providing, at the request of CTL and at the Client's expense, additional sample(s) if necessary. Any reanalysis requested by the Client generating Results consistent with the original Results will be at the Client's expense. If resampling is necessary, CTL's liability for resampling costs will be limited to actual cost or one hundred or one hundred fifty dollars ($150) per sample, whichever is less.

4.6 CTL's liability for any and all causes of action arising hereunder, whether based in contract, tort, warranty, negligence or otherwise, shall be limited to the lesser amount of compensation for the services performed or $100,000. All claims, including those for negligence, shall be deemed waived unless suit thereon is filed within one year after CTL's completion of the services. Under no circumstances, whether arising in contract, tort (including negligence), or otherwise, shall CTL be responsible for loss of use, loss of profits, or for any special, indirect, incidental or consequential damages occasioned by the services performed or by application or use of the reports prepared.

4.7 In no event shall CTL have any responsibility or liability to the Client for any failure or delay in performance by CTL which results, directly or indirectly, in whole or in part, from any cause or circumstance beyond the reasonable control of CTL. Such causes and circumstances shall include, but not be limited to, acts of God, acts of Client, acts or orders of any governmental authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, equipment breakdown, matrix interference or unknown highly contaminated samples that impact instrument operation, unavailability of supplies from usual suppliers, difficulties or delays in transportation, mail or delivery services, or any other cause beyond CTL's reasonable control.

5. RESULTS, WORK PRODUCT

5.1 Data or information provided to CTL or generated by services performed under this agreement shall only become the property of the Client upon receipt in full by CTL of payment for the whole Order. Ownership of any analytical method, QA/QC protocols, software programs or equipment developed by CTL for performance of work will be retained by CTL, and Client shall not disclose such information to any third party.

5.2 Data and sample materials provided by Client or at Client's request, and the result obtained by CTL shall be held in confidence (unless such information is generally available to the public or is in the public domain or Client has failed to pay CTL for all services rendered or is otherwise in breach of these Terms and Conditions), subject to any disclosure required by law or legal process.

5.3 Should the Results delivered by CTL be used by the Client or Client's client, even though subsequently determined not to meet the warranties described in these Terms and Conditions, then the compensation will be adjusted based upon mutual agreement. In no case shall the Client unreasonably withhold CTL's right to independently defend its data.

5.4 CTL reserves the right to subcontract services ordered by the Client to another laboratory or laboratories, if, in CTL's sole judgment, it is reasonably necessary, appropriate or advisable to do so, and with the Client's permission. CTL will in no way be liable for any subcontracted services, and all applicable warranties, guarantees and insurance are those of the subcontracted laboratory.

5.5 CTL shall dispose of the Client's samples 30 days after the analytical report is issued, unless instructed to store them for an alternate period of time or to return such samples to the Client, in a manner consistent with U.S. Environmental Protection Agency regulations or other applicable Federal, State or local requirements. Any samples for projects that are canceled or not accepted, or for which return was requested, will be returned to the Client at their own expense. CTL reserves the right to return to the Client any sample or unused portion of a sample that is not within CTL's permitted capability or the capabilities of CTL's designated waste disposal vendor(s).

5.6 Unless a different time period is agreed to in any order under these Terms and Conditions, CTL agrees to retain all records for five (5) years.

5.7 In the event that CTL is required to respond to legal process related to services for Client, Client agrees to reimburse CTL for hourly charges for personnel involved in the response and attorney fees reasonably incurred in obtaining advice concerning the response, preparation to testify, and appearances related to the legal process, travel and all reasonable expenses associated with the litigation.

6. INSURANCE

6.1 CTL shall maintain in force during the performance of services under these Terms and Conditions, Workers' Compensation and Employer's Liability insurance in accordance with the laws of the state having jurisdiction over CTL's employees who are engaged in the performance of the work. CTL shall also maintain during such period, Comprehensive General and Contractual Liability (limit of $2,000,000 per occurrence/ aggregate), Comprehensive Automobile Liability, owned and hired, ($1,000,000 combined single limit), and Professional/Pollution Liability Insurance (limit of $5,000,000 per occurrence/aggregate). Any Client required changes to these limits or conditions may result in a change in cost to the Client.

7. AUDIT

7.1 Upon prior notice to CTL, the Client may audit and inspect CTL's records and accounts covering reimbursable costs related to work done for the Client, for a period of one (1) year after completion of the work. The purpose of any such audit shall be only for verification of such costs, and CTL shall not be required to provide access to cost records where prices are expressed as fixed fees or published unit prices.

Cooler Receipt Form

Ice Present (YES) NO

Temperature 2.3

IR Gun # 11

Initials [illegible]

Date 10/3/15 Time 1035

Cooler #: 5535

ORIGIN ID:WALA (757) 256-6281
S JULIA LIU
BSEN
815 E 82ND AVE STE 200

ANCHORAGE, AK 99518
UNITED STATES US

SHIP DATE: 02OCT15
ACTWGT: 56.30 LB
CAD: 0069955155/SSFE4621
DIMS: 23x13x14 IN

BILL THIRD PARTY

TO SAMPLE RECEIVING
CT LAB
1230 LANGE CT

BARABOO WI 53913
(608) 356-2760

INV:
PO:
DEPT:

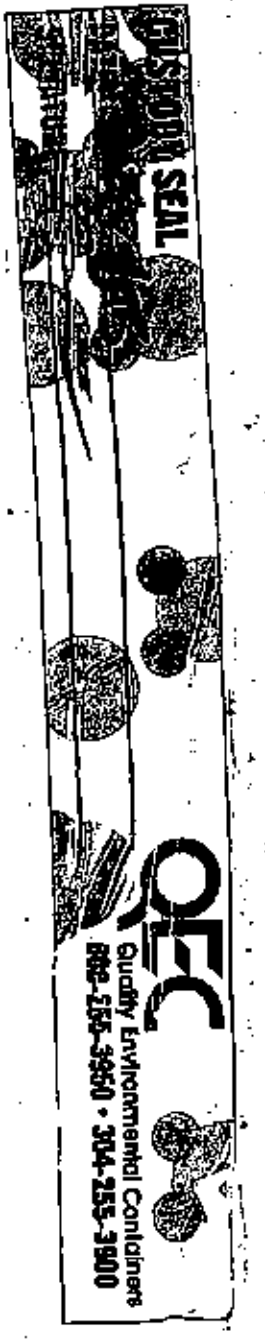
FedEx Express

TRK# 0201 7814 4427 0586

SATURDAY 12:00P
PRIORITY OVERNIGHT

XO MSNA

53913
WI-US MSN



Folder #: 114475

PM LOGIN CONFIRMATION

Contract #: 2842

Company: BERING SEA ENVIRONMENTAL **Project:** RADFORD AAP **Proj #:** 313010-010

Project Phase: **PO Number:** BSN-1206 **Invoice #:** 114989

Project Manager: *PML* **Date Received:** 10/03/15 **Log Date:** 10/03/2015

Report To: S. JULIA LIU CC:
615 E 82ND AVENUE
200
ANCHORAGE, AK 99518
Phone: 757-256-6281: Fax:
Rep. E-Mail SLIU@BSENV.COM

Invoice To :ACCOUNTS PAYABLE CC:
615 E 82ND AVENUE
200
ANCHORAGE, AK 99518
Phone: Fax:
EMail:

Collected By:
Collector's Phone: 757-256-6281

Arrival Temperature: 2.3 oC

SAMPLE #: 640601 DESCR: 13MW3 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED: 10/2/2015 Time: 0835**

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)					10/15/2015		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)				10/4/2015	10/15/2015		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 640602 DESCR: 13MW3 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED: 10/2/2015 Time: 0835**

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	10/16/2015	10/15/2015		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				10/16/2015	10/15/2015		NeedPrep
			Ethane						
			Ethene						

C:\LIMSREPS\CONFIRMATION.RPT

Folder #: 114475 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 640602 **DESCR:** 13MW3 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 10/2/2015 **Time:** 0835

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
			Methane						
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)				10/30/2015	10/15/2015		Logged

SAMPLE #: 640603 **DESCR:** 13MW4 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 10/2/2015 **Time:** 0940

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)					10/15/2015		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)				10/4/2015	10/15/2015		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 640604 **DESCR:** 13MW4 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 10/2/2015 **Time:** 0940

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	10/16/2015	10/15/2015		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				10/16/2015	10/15/2015		NeedPrep
			Ethane						
			Ethene						
			Methane						
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)				10/30/2015	10/15/2015		Logged

SAMPLE #: 640605 **DESCR:** 13MW2 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 10/2/2015 **Time:** 1050

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)					10/15/2015		Logged

Folder #: 114475 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 640605 **DESCR:** 13MW2 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 10/2/2015 **Time:** 1050

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1227	ANIONS IC QSM 5.0	(EPA 9056A)				10/4/2015	10/15/2015		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 640606 **DESCR:** 13MW2 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 10/2/2015 **Time:** 1050

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	10/16/2015	10/15/2015		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				10/16/2015	10/15/2015		NeedPrep
			Ethane						
			Ethene						
			Methane						
1230	ORGAN CARBON T QSM 5.0	(EPA 9060A)				10/30/2015	10/15/2015		Logged

SAMPLE #: 640607 **DESCR:** 100215R1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 10/2/2015 **Time:** 1206

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)					10/15/2015		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)				10/4/2015	10/15/2015		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

Folder #: 114475 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 640608 **DESCR:** 100215R1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 10/2/2015 **Time:** 1206

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	10/16/2015	10/15/2015		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				10/16/2015	10/15/2015		NeedPrep
			Ethane						
			Ethene						
			Methane						
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)				10/30/2015	10/15/2015		Logged

SAMPLE #: 640609 **DESCR:** 48MW3 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 10/2/2015 **Time:** 1240

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)					10/15/2015		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)				10/4/2015	10/15/2015		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 640610 **DESCR:** 48MW3 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 10/2/2015 **Time:** 1240

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	10/16/2015	10/15/2015		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				10/16/2015	10/15/2015		NeedPrep
			Ethane						
			Ethene						
			Methane						
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)				10/30/2015	10/15/2015		Logged

Folder #: 114475 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 640611 **DESCR:** ADW01 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 10/2/2015 **Time:** 1330

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
203	PH	(EPA 9040C)					10/15/2015		Logged
989	COD QSM	(EPA 410.4)				10/30/2015	10/15/2015		NeedPrep
1183	ICP K TOTAL QSM 5.0	(EPA 6010C)				3/30/2016	10/15/2015		NeedPrep
1190	ICP NA TOTAL QSM 5.0	(EPA 6010C)				3/30/2016	10/15/2015		NeedPrep
1200	ICP TOTAL QSM 5.0	(EPA 6010C)				3/30/2016	10/15/2015		NeedPrep
			Total Aluminum						
			Total Antimony						
			Total Arsenic						
			Total Barium						
			Total Beryllium						
			Total Cadmium						
			Total Calcium						
			Total Chromium						
			Total Cobalt						
			Total Copper						
			Total Iron						
			Total Lead						
			Total Magnesium						
			Total Manganese						
			Total Nickel						
			Total Selenium						
			Total Silver						
			Total Thallium						
			Total Vanadium						
			Total Zinc						
1208	MERCURY TOTAL QSM 5.0	(EPA 7470A)				10/30/2015	10/15/2015		NeedPrep

Folder #: 114475 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 640612 **DESCR:** 49MW02 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 10/2/2015 **Time:** 1410

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)					10/15/2015		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)				10/4/2015	10/15/2015		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 640613 **DESCR:** 49MW02 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 10/2/2015 **Time:** 1410

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	10/16/2015	10/15/2015		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				10/16/2015	10/15/2015		NeedPrep
			Ethane						
			Ethene						
			Methane						
1230	ORGAN CARBON T QSM 5.(	EPA 9060A)				10/30/2015	10/15/2015		Logged

SAMPLE #: 640614 **DESCR:** 50MW02 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 10/2/2015 **Time:** 1705

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)					10/15/2015		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)				10/4/2015	10/15/2015		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

Folder #: 114475 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 640615 **DESCR:** 50MW02 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 10/2/2015 **Time:** 1705

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	10/16/2015	10/15/2015		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				10/16/2015	10/15/2015		NeedPrep
			Ethane						
			Ethene						
			Methane						
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)				10/30/2015	10/15/2015		Logged

SAMPLE #: 640616 **DESCR:** ADW02 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 10/2/2015 **Time:** 1630

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
203	PH	(EPA 9040C)					10/15/2015		Logged
989	COD QSM	(EPA 410.4)				10/30/2015	10/15/2015		NeedPrep
1183	ICP K TOTAL QSM 5.0	(EPA 6010C)				3/30/2016	10/15/2015		NeedPrep
1190	ICP NA TOTAL QSM 5.0	(EPA 6010C)				3/30/2016	10/15/2015		NeedPrep
1200	ICP TOTAL QSM 5.0	(EPA 6010C)				3/30/2016	10/15/2015		NeedPrep
			Total Aluminum						
			Total Antimony						
			Total Arsenic						
			Total Barium						
			Total Beryllium						
			Total Cadmium						
			Total Calcium						
			Total Chromium						
			Total Cobalt						
			Total Copper						
			Total Iron						
			Total Lead						

Folder #: 114475 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 640616 **DESCR:** ADW02 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 10/2/2015 **Time:** 1630

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
			Total Magnesium						
			Total Manganese						
			Total Nickel						
			Total Selenium						
			Total Silver						
			Total Thallium						
			Total Vanadium						
			Total Zinc						
1208	MERCURY TOTAL QSM 5.0	(EPA 7470A)				10/30/2015	10/15/2015		NeedPrep

SAMPLE #: 640617 **DESCR:** TRIP BLANK **PRIMARY / DETAILED MATRIX:** AQUEOUS / TRIP BLANK **SAMPLED:** 10/2/2015

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	10/16/2015	10/15/2015		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				10/16/2015	10/15/2015		NeedPrep
			Ethane						
			Ethene						
			Methane						

Folder #: 114475 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

Invoice Number: 114989 **Preliminary Invoice Estimate:** $ 1,425.00

Item	Matrix	Quantity	Price	Expedited TAT Surcharge	Total
ANIONS IC QSM 5.0 Chloride	GROUND WATER	7	$ 10.00	0.00	$ 70.00
ANIONS IC QSM 5.0 Nitrate Nitrogen	GROUND WATER	7	$ 10.00	0.00	$ 70.00
ANIONS IC QSM 5.0 Sulfate	GROUND WATER	7	$ 10.00	0.00	$ 70.00
COD QSM	GROUND WATER	2	$ 0.00	0.00	$ 0.00
FILTRATION, SAMPLE	GROUND WATER	7	$ 10.00	0.00	$ 70.00
ICP K TOTAL QSM 5.0	GROUND WATER	2	$ 3.25	0.00	$ 6.50
ICP NA TOTAL QSM 5.0	GROUND WATER	2	$ 3.25	0.00	$ 6.50
ICP TOTAL QSM 5.0 Total Aluminum	GROUND WATER	2	$ 3.25	0.00	$ 6.50
ICP TOTAL QSM 5.0 Total Antimony	GROUND WATER	2	$ 3.25	0.00	$ 6.50
ICP TOTAL QSM 5.0 Total Arsenic	GROUND WATER	2	$ 3.25	0.00	$ 6.50
ICP TOTAL QSM 5.0 Total Barium	GROUND WATER	2	$ 3.25	0.00	$ 6.50
ICP TOTAL QSM 5.0 Total Beryllium	GROUND WATER	2	$ 3.25	0.00	$ 6.50
ICP TOTAL QSM 5.0 Total Cadmium	GROUND WATER	2	$ 3.25	0.00	$ 6.50
ICP TOTAL QSM 5.0 Total Calcium	GROUND WATER	2	$ 3.25	0.00	$ 6.50
ICP TOTAL QSM 5.0 Total Chromium	GROUND WATER	2	$ 3.25	0.00	$ 6.50
ICP TOTAL QSM 5.0 Total Cobalt	GROUND WATER	2	$ 3.25	0.00	$ 6.50
ICP TOTAL QSM 5.0 Total Copper	GROUND WATER	2	$ 3.25	0.00	$ 6.50
ICP TOTAL QSM 5.0 Total Iron	GROUND WATER	2	$ 3.25	0.00	$ 6.50
ICP TOTAL QSM 5.0 Total Lead	GROUND WATER	2	$ 3.25	0.00	$ 6.50
ICP TOTAL QSM 5.0 Total Magnesium	GROUND WATER	2	$ 3.25	0.00	$ 6.50
ICP TOTAL QSM 5.0 Total Manganese	GROUND WATER	2	$ 3.25	0.00	$ 6.50
ICP TOTAL QSM 5.0 Total Nickel	GROUND WATER	2	$ 3.25	0.00	$ 6.50
ICP TOTAL QSM 5.0 Total Selenium	GROUND WATER	2	$ 3.25	0.00	$ 6.50
ICP TOTAL QSM 5.0 Total Silver	GROUND WATER	2	$ 3.25	0.00	$ 6.50
ICP TOTAL QSM 5.0 Total Thallium	GROUND WATER	2	$ 3.25	0.00	$ 6.50
ICP TOTAL QSM 5.0 Total Vanadium	GROUND WATER	2	$ 3.25	0.00	$ 6.50
ICP TOTAL QSM 5.0 Total Zinc	GROUND WATER	2	$ 3.25	0.00	$ 6.50
MERCURY TOTAL QSM 5.0	GROUND WATER	2	$ 23.50	0.00	$ 47.00
METH,ETH,ETHE QSM 5.0 Ethane	GROUND WATER	7	$ 0.00	0.00	$ 0.00

METH,ETH,ETHE QSM 5.0	Ethane	TRIP BLANK	1	$ 0.00	0.00	$ 0.00
METH,ETH,ETHE QSM 5.0	Ethene	GROUND WATER	7	$ 0.00	0.00	$ 0.00
METH,ETH,ETHE QSM 5.0	Ethene	TRIP BLANK	1	$ 0.00	0.00	$ 0.00
METH,ETH,ETHE QSM 5.0	Methane	GROUND WATER	7	$ 40.00	0.00	$ 280.00
METH,ETH,ETHE QSM 5.0	Methane	TRIP BLANK	1	$ 40.00	0.00	$ 40.00
ORGAN CARBON T QSM 5.0		GROUND WATER	7	$ 25.00	0.00	$ 175.00
PH		GROUND WATER	2	$ 10.00	0.00	$ 20.00
VOC 8260 QSM 5.0		GROUND WATER	7	$ 55.00	0.00	$ 385.00
VOC 8260 QSM 5.0		TRIP BLANK	1	$ 55.00	0.00	$ 55.00
Temporary Fuel Surcharge on lab supplies and services (if applicable):						$ 0.00

Bottle Information

Container	# Containers	Tests
H2SO4 PL	**9**	TOC
HNO3	**4**	HG,ICP,K,NA
Trip Blank	**1**	GAS
UNPRES PL	**9**	Anions
VOA HCL	**29**	GAS,VOC

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Sample Condition Report

Folder #: 114475
Client: BERING SEA ENVIRONMENTAL

Print Date / Time: 10/03/2015 10:52
Received Date / Time / By: 10/03/2015 1035 JLS

Project Name: RADFORD AAP
Project Phase:

Log-In Date / Time / By: 10/03/2015 1046 JLS
Project #: 313010-010 PM: PML

Coolers: 5335
Custody Seals Present : **Y**

Temperature: 2.3 C On Ice: **Y**
COC Present:? **Y** Complete? **Y**

Seal Intact? **Y**
Ship Method: FEDEX EXPRESS
Adequate Packaging: **Y**

Numbers: DATED AND SIGNED
Tracking Number: 781444270586
Temp Blank Enclosed? **Y**

Notes: SAMPLES RECEIVED IN GOOD CONDITION ON ICE

2 TRIP BLANKS INCLUDED IN COOLER, BUT NOT LISTED ON COC. ADDED TO COC AND LOGGED BY JLS

SAMPLE 49MW02 INDICATED A TIME OF 1410 ON COC- BUT ALL BOTTLES INDICATED A TIME OF 1415- ALL OTHER INFORMATION MATCHED. LOGGED PER COC

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
640601 13MW3				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type (*UNPRES PL*) = 1			
Sample ID / Description	**Container Type**	**Cond. Code**	**pH OK?/Filtered?**	**Tests**
640602 13MW3				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type (*VOA HCL*) = 4			
640602 13MW3				
	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type (*H2SO4 PL*) = 1			
Sample ID / Description	**Container Type**	**Cond. Code**	**pH OK?/Filtered?**	**Tests**
640603 13MW4				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type (*UNPRES PL*) = 1			
Sample ID / Description	**Container Type**	**Cond. Code**	**pH OK?/Filtered?**	**Tests**
640604 13MW4				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC

	VOA HCL	1		/	GAS,VOC
	VOA HCL	1		/	GAS,VOC
	Total # of Containers of Type	**(*VOA HCL*) =**	**4**		

640604 13MW4

H2SO4 PL	1	Y	/	TOC
Total # of Containers of Type	**(*H2SO4 PL*) =**	**1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

---

640605 13MW2

UNPRES PL	1		/	Anions
Total # of Containers of Type	**(*UNPRES PL*) =**	**1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

---

640606 13MW2

VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
Total # of Containers of Type	**(*VOA HCL*) =**	**4**		

640606 13MW2

H2SO4 PL	1	Y	/	TOC
Total # of Containers of Type	**(*H2SO4 PL*) =**	**1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

---

640607 100215R1

UNPRES PL	1		/	Anions
Total # of Containers of Type	**(*UNPRES PL*) =**	**1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

---

640608 100215R1

VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
Total # of Containers of Type	**(*VOA HCL*) =**	**4**		

640608 100215R1

H2SO4 PL	1	Y	/	TOC
Total # of Containers of Type	**(*H2SO4 PL*) =**	**1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

---

640609 48MW3

UNPRES PL	1		/	Anions
Total # of Containers of Type	**(*UNPRES PL*) =**	**1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
640610 48MW3				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type	**(*VOA HCL*) = 4**		
640610 48MW3				
	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type	**(*H2SO4 PL*) = 1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
640611 ADW01				
	H2SO4 PL	1	Y /	COD
	Total # of Containers of Type	**(*H2SO4 PL*) = 1**		
640611 ADW01				
	HNO3	1	Y /	HG,ICP,K,NA
	HNO3	1	Y /	HG,ICP,K,NA
	Total # of Containers of Type	**(*HNO3*) = 2**		
640611 ADW01				
	UNPRES PL	1	/	pH
	Total # of Containers of Type	**(*UNPRES PL*) = 1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
640612 49MW02				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type	**(*UNPRES PL*) = 1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
640613 49MW02				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type	**(*VOA HCL*) = 4**		
640613 49MW02				
	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type	**(*H2SO4 PL*) = 1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
640614 50MW02				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type	**(*UNPRES PL*) = 1**		

114475

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
640615 50MW02				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type		**(*VOA HCL*) = 4**	
640615 50MW02				
	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type		**(*H2SO4 PL*) = 1**	

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
640616 ADW02				
	H2SO4 PL	1	Y /	COD
	Total # of Containers of Type		**(*H2SO4 PL*) = 1**	
640616 ADW02				
	HNO3	1	Y /	HG,ICP,K,NA
	HNO3	1	Y /	HG,ICP,K,NA
	Total # of Containers of Type		**(*HNO3*) = 2**	
640616 ADW02				
	UNPRES PL	1	/	pH
	Total # of Containers of Type		**(*UNPRES PL*) = 1**	

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
640617 TRIP BLANK				
	Trip Blank	1	/	GAS
	Total # of Containers of Type		**(*Trip Blank*) = 1**	
640617 TRIP BLANK				
	VOA HCL	1	/	VOC
	Total # of Containers of Type		**(*VOA HCL*) = 1**	

Condition Code	*Condition Description*
1	Sample Received OK

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ANALYTICAL RESULTS FOR:

S JULIA LIU
BERING SEA ENVIRONMENTAL
615 E 82ND AVENUE, #200
ANCHORAGE, AL 99518

PROJECT SITE:	RAAP, RADFORD, VA
PROJECT #:	313010-001
SDG:	116426
	(Folders 116426, 116448, 116472, 116508, 116524)
PREPARED:	February 5, 2016
DOCUMENT PAGES:	2725

The data contained in the following report have been reviewed by the appropriate CT Laboratories' LLC staff members. In addition, CT Laboratories LLC certifies that to the best of our knowledge that the analyses reported herein are true, complete and correct within the limits of the methods employed and that they follow the applicable requirements as specified by the project plan, state-specific, NELAC or DOD QSM requirements. The estimated uncertainty of measurement is only available upon request. The reported results relate only to the tested samples. This report shall not be reproduced, except in full, without written approval of CT Laboratories LLC.

APPROVED BY: _____
LABORATORY DIRECTOR

APPROVED BY: _____
QA OFFICER

APPROVED BY: Patrick Letterer
PROJECT MANAGER

Certifications: IL (NELAP 002413), KS (NELAP E-10368), KY (0023), NC (674), WI (157066030), DOD ELAP (A2LA 3806.01), VA (7608), MD (344), LA (NELAP 115843), ISO17025 (A2LA 3806.01, GA EDP Stipulation (Accreditor: LA NELAP, ACC#: E971111, Scope: Non-potable water solid and chemical materials, biological tissue, Effective: 12/10/2014, Expires: annually)

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Case Narrative

Client: Bering Sea Environmental
Project: RAAP, Radford, VA
Sample Receipt Date(s): 01/12 through 01/16/2016
SDG #: 116426 (Folders 116426, 116448, 116472, 116508, 116524)

Twenty-five water samples were received for the a variety of analyses, including: pH, COD, anions, TOC, TIC, perchlorate, chlorate/chlorite, metals, explosives, dissolved gases, and VOC's. Three trip blanks were included with the VOC analyses. Chlorite/chlorate were sub-contracted to Summit Laboratories, Cuyahoga Falls, OH and perchlorate was sub-contracted to Microbac Laboratories, Marietta, OH. The assigned sample ID number, date sampled, and date received are indicated in the attached Project Summary. The samples were received intact and at a temperature within method specified acceptance limits. A breakdown of sample receipt information can be found on the Sample Condition Report located in the last section of the data package and any exceptions are noted below. The analyses were performed following DOD QSM 5.

Manual integrations may have been performed on the data provided with this package. If manual integrations were performed, a Reason #(s) was included on the raw data that corresponds to the "Index Key for Manual Integration Rationale." The raw data includes a "Before" and "After" manual integration illustration. The manual integrations were initialed and dated by the analyst, as well as, by the person reviewing the data.

Sample Analysis and Quality Control

Volatile Analysis:

The samples were analyzed using US EPA Methods 8260C and RSK-175. All samples were analyzed within the holding time. The following summaries of quality control procedures are included:

Surrogate Recovery Data
Matrix Spike/Matrix Spike Duplicate Recovery Data
Laboratory Control Spike Data
Method Blank Data
Initial Calibration Summary
Calibration Check Summary
Analysis Run Log
Prep Log
Chromatograms

All analysis results met the method specified quality control criteria with the following exceptions:

VOC (8260C) Water Analyses

Detailed reports were provided for the 8260 data for all detected compounds, as well as, for those compounds manually integrated (if applicable). Compounds not reported on the form 1's were either not detected or did not meet identification criteria so they were reported as non-detects.

Compounds that may not meet the recommended minimum average response factor (ARF) criteria for 8260C (such as several of the ketones) are analyzed at concentrations 2 to 50 times higher than normal to

make up for their lack of response. However, the ARF on the response factor (RF) forms do not reflect this change in concentration. These compounds may be "flagged" on RF forms as a result.

Some samples may have been analyzed and/or reanalyzed diluted to obtain results for all target compounds within the calibration range of the instrument.

VOC (8260C) Water Analyses

Level 8 was not used for 4-methyl-2-pentanone and 2-hexanone on the initial calibration curve (W012016) due to loss in linearity. Acetone, methyl acetate, 1,4-dioxane, 4-methyl-2-pentanone, and 2-hexanone were calibrated using quadratic regression (two ICV's were analyzed for these compounds).

Analytical Run # 122700

CCV1 had a high recovery outside specified criteria for bromomethane (>20% Dev.). This compound was qualified with a "Z" flag on all associated samples.

A Matrix Spike (MS) and a Matrix Spike Duplicate (MSD) were not analyzed with this SDG due to insufficient # of sample vials.

Analytical Run # 122833

CCV1 had a high recovery outside specified criteria for methyl acetate (>20% Drift). This compound was qualified with a "Z" flag on all associated samples.

CCV2 had a high recovery outside specified criteria for bromomethane (>20% Dev.). This compound was qualified with a "Z" flag on all associated samples.

The MS and/or the MSD for sample # 681533 had high recoveries for bromomethane and trichlorofluoromethane. These compounds were qualified with an "M" flag on the parent sample. The MS and MSD exceeded Relative Percent Difference (RPD) limits for 1,1,2,2-tetrachloroethane, 1,2-dibromomethane, 2-butanone, 2-hexanone, 4-methyl-2-pentanone, acetone, bromodichloromethane, bromoform, ethylbenzene, trans-1,3-dichloropropene, trichlorofluoromethane, 1,4-dioxane, cyclohexane, and methyl acetate. These compounds were qualified with a "Y" flag on the parent sample.

Dissolved Gases (RSK-175) Water Analysis

Analytical Run # 122794

All analysis results for this SDG met the method/project specified quality control criteria.

Explosives Analysis:

The samples were analyzed using US EPA Method 8330B (explosives). All samples were analyzed within the holding time. The following summaries of quality control procedures are included:

Surrogate Recovery Data
Matrix Spike/Matrix Spike Duplicate Recovery Data
Laboratory Control Spike Data
Method Blank Data
Initial Calibration Summary
Calibration Check Summary
Analysis Run Log
Prep Log
Chromatograms

All analysis results met the method specified quality control criteria with the following exceptions:

Explosives (8330B) Water Analyses

Analytical Run # 122857

The standards for MNX, DNX, and TNX are not commercially available at this time. The primary source standard that was used in the last calibration for making CCV's and for spiking the LCS, MS, and MSD was expired when samples arrived. The second source standard used to make the ICV during calibration was still good until March. This standard was used to prepare CCVs and to spike the LCS, MS, and MSD for this round of samples. The second source standard has different concentration levels for the analytes than the primary source standard did. CCV spike levels had to be adjusted in the data software and LCS, MS, and MSD spike levels had to be adjusted in LIMS.

The MS and MSD were performed on sample 679979. This sample needed a 1:10 dilution for 1,3,5-trinitrobenzene (135-TNB), RDX, and 2,4,6-trinitrotoluene (246-TNT). These peaks were large and interfered with quantitation of neighboring peaks in some cases. This caused extremely high surrogate recovery in these samples in the primary analysis, as well as delayed carryover interferences in the confirmation analysis. The primary analysis samples were re-analyzed at a 1:10 dilution to bring the surrogate within range of the curve. Surrogates on the confirmation analysis for these samples had less interference problems and more normal-range recoveries. Surrogate values were reported from the primary analysis at the 1:10 dilution and qualified with an "S". TNX and DNX had low recoveries in both the MS and MSD. They were qualified with an "M" in the parent sample. The RPD failed for MNX and it was qualified with a "Y" in the parent sample.

Analytical Run 122858

The MS and MSD were performed on sample 679979. This sample needed a 1:10 dilution for 1,3,5-trinitrobenzene (135-TNB), RDX, and 2,4,6-trinitrotoluene (246-TNT). These peaks were large and interfered with quantitation of neighboring peaks in some cases. This caused 4-amino-2,6-dinitrotoluene (4-AM-26-DNT) and nitroglycerin (NG) to have high recoveries in both the MS and MSD. These were qualified with an "M" in the parent sample. In the 1:10 dilution, the MS and MSD both had high recoveries of all three analytes. These were also qualified with an "M" in the parent sample.

Sample 679979 had a positive detect for 4-AM-26-DNT that was evident on the confirmation analysis, but it was masked by the large 246-TNT peak on the primary analysis. 4-AM-26-DNT was reported, because of this interference, as a non-detect in this sample.

Metals Analysis:

The samples were analyzed using US EPA Methods 6010C (ICP) and 7470A (Hg). All samples were analyzed within the holding time. The following summaries of quality control procedures are included:

Initial and Continuing Calibration Verification
Blanks Summary
ICP Interference Check Data
Spike Sample Recovery
Duplicates Data
Laboratory Control Sample Data
Analysis Run Log

All analysis results met the method specified quality control criteria with the following exceptions:

ICP Metals (6010C) Water Analyses

Continuing Calibration Verification (CCV) standards were analyzed at two levels (CCV1 & CCV2) with potentially differing wavelengths. Data associated with CCV's were evaluated based on the concentration of the element in the samples and compared to the appropriate CCV level/wavelength.

Some samples may have been analyzed and/or reanalyzed diluted to obtain results for all target analytes within the calibration range of the instrument.

Analytical Run # 122716

Multiple elements exceeded the recovery limit in the CCV1 standard. The sample was reported using the CCV2 wavelengths for the failing elements and was reanalyzed for magnesium using an acceptable CCV1 standard.

Selenium was detected in the CCB standard greater than the Limit of Detection (LOD). The sample was reanalyzed using an acceptable CCB standard.

The Laboratory Control Sample (LCS) was reanalyzed and was acceptable.

Arsenic, calcium, iron, selenium, and silver were detected in the Method Blank (MB) greater than the Method Detection Limit (MDL) but less than ½ the Reporting Limit (RL). The sample was reported and qualified with a "B" flag for iron, selenium, and silver because the MB raw results were greater than $1/10^{th}$ of the sample raw results. The sample was reported and not qualified for arsenic and calcium because the sample arsenic result was less than the MDL and the MB calcium result was less than $1/10^{th}$ of the sample result.

Barium was detected in the MB above the MDL and greater than ½ the RL. The sample was reported and not reanalyzed or qualified because the MB result was less than $1/10^{th}$ of the sample result.

The Serial Dilution (L) for sample # 679984 was not applicable for multiple elements because the parent sample raw results were less than 50 times the Limit of Quantitation (LOQ). A Post Digestion Spike (PDS) was analyzed and was unacceptable for silver, aluminum, cadmium, cobalt, chromium, iron, manganese, nickel, lead, thallium, vanadium, and zinc. The parent sample was reported and qualified with an "M" flag for the failing elements.

The L for sample # 679984 was not acceptable for calcium and magnesium because the results exceeded the Relative Percent Difference (RPD) limit. A PDS was analyzed and was unacceptable for magnesium. The parent sample was reported and qualified with an "M" flag for magnesium.

The Duplicate (DUP) for sample # 679984 was not applicable for multiple elements because the parent sample results were less than five times the LOQ. A Matrix Spike Duplicate (MSD) was analyzed to

demonstrate precision and was unacceptable for iron. The parent sample was reported and qualified with a "Y" flag for iron.

The Matrix Spike (MS) and MSD for sample # 679984 exceeded the recovery limit for multiple elements. A PDS was analyzed and was unacceptable for silver, aluminum, cadmium, cobalt, chromium, iron, magnesium, manganese, nickel, lead, thallium, vanadium, and zinc. The parent sample was reported and qualified with an "M" flag for the failing elements.

Analytical Run # 122762

The CCV1 standard exceeded the recovery limit for multiple elements. The sample results were either reported using the CCV2 wavelengths or were reanalyzed using an acceptable CCV1 standard.

The CCV2 standard exceeded the recovery limit for barium, beryllium, calcium, and vanadium. The sample was reported for calcium using the CCV1 wavelength and was reanalyzed for barium, beryllium, and vanadium using an acceptable CCV2 standard.

Barium and iron were detected in the CCB standard greater than the LOD. The sample was reanalyzed for barium and iron using an acceptable CCB standard.

The LCS was reanalyzed for multiple elements and was acceptable.

Iron, aluminum, calcium, and silver were detected in the MB greater than the MDL but less than ½ the RL. The sample was reported and qualified with a "B" flag for silver because the MB raw result was greater than 1/10th of the sample raw result. The sample was reported and not qualified for iron, aluminum, and calcium because the MB results were less than 1/10th of the sample results.

Selenium was detected in the MB above the MDL and greater than ½ the RL. The sample was reported and not reanalyzed or qualified because the result was less than the MDL.

The L for sample # 681538 was not applicable for multiple elements because the parent sample raw results were less than 50 times the LOQ. A PDS was analyzed and was acceptable. The parent sample was reported and not qualified.

The L for sample # 681538 was not acceptable for barium and calcium because the results exceeded the RPD limit. A PDS was analyzed and was acceptable. The parent sample was reported and not qualified.

The DUP for sample # 681538 was not applicable for multiple elements because the parent sample results were less than five times the LOQ. An MSD was analyzed to demonstrate precision and was acceptable. The parent sample was reported and not qualified.

The MS and MSD for sample # 681538 exceeded the recovery limit for multiple elements. A PDS was analyzed and was acceptable. The parent sample was reported and not qualified.

Analytical Run # 122821

Selenium and silver were detected in the MB greater than the MDL but less than ½ the RL. The sample was reported and qualified with a "B" flag for selenium and silver because the MB raw results were greater than 1/10th of the sample raw results.

Manganese was detected in the MB above the MDL and greater than ½ the RL. The sample was reported and not reanalyzed or qualified because the result was less than the MDL.

The L for sample # 681537 was not applicable because the parent sample raw results were less than 50 times the LOQ. A PDS was analyzed and was acceptable. The parent sample was reported and not qualified.

The DUP for sample # 681537 was not applicable because the parent sample results were less than five times the LOQ. An MSD was analyzed to demonstrate precision and was acceptable. The parent sample was reported and not qualified.

The MSD for sample # 681537 exceeded the recovery limit for iron. A PDS was analyzed and was acceptable. The parent sample was reported and not qualified.

ICP Sodium and Potassium (6010C) Water Analyses

Analytical Run # 122717

The L for sample # 679984 was not applicable for sodium and potassium because the parent sample raw results were less than 50 times the LOQ. A PDS was analyzed and was acceptable. The parent sample was reported and not qualified.

The DUP for sample # 679984 was not applicable for potassium because the parent sample result was less than five times the LOQ. An MSD was analyzed to demonstrate precision and was acceptable. The parent sample was reported and not qualified.

Analytical Run # 122763

The L for sample # 681538 was not applicable for sodium and potassium because the parent sample raw results were less than 50 times the LOQ. A PDS was analyzed and was acceptable. The parent sample was reported and not qualified.

The DUP for sample # 681538 was not applicable for potassium because the parent sample result was less than five times the LOQ. An MSD was analyzed to demonstrate precision and was acceptable. The parent sample was reported and not qualified.

CVAA Mercury (7470A) Water Analysis

Analytical Run # 122800

The DUP for sample # 681537 was not applicable for mercury because the parent sample result was less than five times the LOQ. An MSD was analyzed to demonstrate precision and was acceptable. The parent sample was reported and not qualified.

Inorganic Analyses:

The samples were analyzed using US EPA Methods 9060A (TOC & TIC), 9040C (pH), 410.4 (COD) and 9056A (anions). All samples were analyzed within the holding time. The following summaries of quality control procedures are included:

Duplicate Analysis Data
Laboratory Control Spike Data
Method Blank Data
Initial Calibration Summary
Calibration Check Summary
Analysis Run Log
Prep Log

All analysis results met the method specified quality control criteria with the following exceptions:

Anions (9056A) Water Analyses

Analytical Run # 122594

The Matrix Spike Duplicate (MSD) for sample # 679480 had a high recovery for sulfate. The parent sample result for this analyte was qualified with an "M" flag.

Analytical Run # 122614, 122661. 122704

All analysis results for this SDG met the method/project specified quality control criteria.

Analytical Run # 122684

All analysis results for this SDG met the method/project specified quality control criteria.

Sample #'s 681424 & 681425 were received past hold time for nitrate. The parent sample results for this analyte were qualified with an "H" flag.

COD (410.4) Water Analyses

Analytical Run # 122773

All analysis results for this SDG met the method/project specified quality control criteria.

pH (9040C) Water Analyses

Analytical Run # 122651, 122842

All analysis results for this SDG met the method/project specified quality control criteria.

Total Inorganic Carbon (TIC) (9060A) Water Analyses

Analytical Run # 122618

A Continuing Calibration Verification (CCV # 680436) standard had a high recovery. Two more CCV's were analyzed following the failing CCV with acceptable recoveries. The associated data was not qualified.

Total Organic Carbon (TOC) (906A)n Water Analyses

Analytical Run # 122608

A Continuing Calibration Verification (CCV # 680412) standard had a high recovery. Two more CCV's were analyzed following the failing CCV with acceptable recoveries. The associated data was not qualified.

The Duplicate (DUP) for sample # 679979 exceeded Relative Percent Difference (RPD) limits. The DUP result was less than the Limit of Detection (LOD) and precision could not be calculated. The DUP was considered invalid and the parent sample result was not qualified for the precision failure.

Analytical Run # 122770

The DUP for sample # 681533 exceeded Relative Percent Difference (RPD) limits. The parent sample result was qualified with a "Y" flag.

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Data Qualifiers

Code	Description
A	Analyte averaged calibration criteria within acceptable limits.
B	Analyte detected in associated Method Blank.
C	Toxicity present in BOD sample.
D	Diluted Out.
E	Safe, No Total Coliform detected.
F	Unsafe, Total Coliform detected, no E. Coli detected.
G	Unsafe, Total Coliform detected and E. Coli detected.
H	Holding time exceeded.
J	Estimated value.
L	Significant peaks were detected outside the chromatographic window.
M	Matrix spike and/or Matrix Spike Duplicate recovery outside acceptance limits.
N	Insufficient BOD oxygen depletion.
O	Complete BOD oxygen depletion.
P	Concentration of analyte differs more than 40% between primary and confirmation analysis.
Q	Laboratory Control Sample outside acceptance limits.
R	See Narrative at end of report.
S	Surrogate standard recovery outside acceptance limits due to apparent matrix effects.
T	Sample received with improper preservation or temperature.
U	Analyte concentration was not above the detection level.
V	Raised Quantitation or Reporting Limit due to limited sample amount or dilution for matrix background interference.
W	Sample amount received was below program minimum.
X	Analyte exceeded calibration range.
Y	Replicate/Duplicate precision outside acceptance limits.
Z	Calibration criteria exceeded.

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MANUAL INTEGRATION REASON CODES

CTLaboratories has identified four general cases with valid reasons supporting the use of manual integration techniques. These codes are used on chromatograms in this data package to document the reasons for manual integrations per CTLaboratories' SOP SS-10 current revision.

#1: **Data system failed to select the correct peak or missed the peak entirely.**
In some cases the chromatography system selects and integrates the "wrong peak". In this case the analyst must correct the selection and force the system to integrate the proper peak. In other instances the system may miss the peak completely. In this case the analyst manually integrated the peak

#2: **Data System Splits the Peak Incorrectly or Integrates a False Peak as a Rider Peak.**
This phenomenon is common at low concentrations where the signal to noise ratio is low. A single compound (peak) is incorrectly split into multiple peaks or integrated as a main peak with one or more rider peaks resulting in low or high area counts for the target compound.

#3: Improperly Integrated Isomers and/or coeluting compounds.
For when the system fails to distinguish coeluting compounds and or isomers. The integration areas and concentrations may be inaccurate, and they must be corrected by manual integration. Prime examples are compounds that are unresolved and integrated improperly when present at low concentrations in standards or samples.

#4: System Established Incorrect Baseline.
There are numerous situations in chromatography where the system establishes the baseline incorrectly. Some baseline errors will be obvious to the analyst and may be corrected via manual procedures.

#5: Miscellaneous.
Some situations involving integration errors may require in-depth review and technical judgment. These cases should be brought to the attention of the group supervisor. If the form of manual integration is not clearly covered by these four cases, then review and approval by the group supervisor or the *QA/QC* Supervisor will be required.

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Sample Delivery Group

116426

BERING SEA ENVIRONMENTAL
S. JULIA LIU

Project Name: RADFORD AAP
Project #: 313010-010

CT Sample #	Folder #	Client Sample #	Sample Description	Matrix	Date Sampled	Date Received
679480	116426		54MW10	GROUND WATER	01/11/2016	01/12/2016
679481	116426		54MW10	GROUND WATER	01/11/2016	01/12/2016
679482	116426		54TM10	GROUND WATER	01/11/2016	01/12/2016
679483	116426		54TM10	GROUND WATER	01/11/2016	01/12/2016
679978	116448		54MW12	GROUND WATER	01/12/2016	01/13/2016
679979	116448		54MW12	GROUND WATER	01/12/2016	01/13/2016
679980	116448		54MW1	GROUND WATER	01/12/2016	01/13/2016
679981	116448		54MW1	GROUND WATER	01/12/2016	01/13/2016
679982	116448		54MW13	GROUND WATER	01/12/2016	01/13/2016
679983	116448		54MW13	GROUND WATER	01/12/2016	01/13/2016
679984	116448		54ADW01	GROUND WATER	01/12/2016	01/13/2016
680615	116472		13MW3	GROUND WATER	01/13/2016	01/14/2016
680616	116472		13MW3	GROUND WATER	01/13/2016	01/14/2016
680617	116472		49TM01	GROUND WATER	01/13/2016	01/14/2016
680618	116472		49TM01	GROUND WATER	01/13/2016	01/14/2016
680619	116472		13MW4	GROUND WATER	01/13/2016	01/14/2016
680620	116472		13MW4	GROUND WATER	01/13/2016	01/14/2016
680621	116472		49MW04	GROUND WATER	01/13/2016	01/14/2016
680622	116472		49MW04	GROUND WATER	01/13/2016	01/14/2016
680623	116472		13MW2	GROUND WATER	01/13/2016	01/14/2016
680624	116472		13MW2	GROUND WATER	01/13/2016	01/14/2016
680625	116472		49MW05	GROUND WATER	01/13/2016	01/14/2016
680626	116472		49MW05	GROUND WATER	01/13/2016	01/14/2016
680627	116472		011316T1	GROUND WATER	01/13/2016	01/14/2016
680628	116472		13MW5	GROUND WATER	01/13/2016	01/14/2016
680629	116472		13MW5	GROUND WATER	01/13/2016	01/14/2016
681413	116508		48MW07	GROUND WATER	01/14/2016	01/15/2016
681414	116508		48MW07	GROUND WATER	01/14/2016	01/15/2016
681415	116508		48MW06	GROUND WATER	01/14/2016	01/15/2016
681416	116508		48MW06	GROUND WATER	01/14/2016	01/15/2016
681417	116508		48MW1	GROUND WATER	01/14/2016	01/15/2016
681418	116508		48MW1	GROUND WATER	01/14/2016	01/15/2016

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Sample Delivery Group

116426

BERING SEA ENVIRONMENTAL
S. JULIA LIU

Project Name: RADFORD AAP
Project #: 313010-001

CT Sample #	Folder #	Client Sample #	Sample Description	Matrix	Date Sampled	Date Received
681419	116508		49MW03	GROUND WATER	01/14/2016	01/15/2016
681420	116508		49MW03	GROUND WATER	01/14/2016	01/15/2016
681421	116508		49MW01	GROUND WATER	01/14/2016	01/15/2016
681422	116508		49MW01	GROUND WATER	01/14/2016	01/15/2016
681423	116508		011416T1	TRIP BLANK	01/14/2016	01/15/2016
681527	116524		49MW02	GROUND WATER	01/15/2016	01/16/2016
681528	116524		49MW02	GROUND WATER	01/15/2016	01/16/2016
681529	116524		48MW3	GROUND WATER	01/15/2016	01/16/2016
681531	116524		48MW3	GROUND WATER	01/15/2016	01/16/2016
681532	116524		48MW2	GROUND WATER	01/15/2016	01/16/2016
681533	116524		48MW2	GROUND WATER	01/15/2016	01/16/2016
681534	116524		50MW02	GROUND WATER	01/15/2016	01/16/2016
681535	116524		50MW02	GROUND WATER	01/15/2016	01/16/2016
681536	116524		011516R1	GROUND WATER	01/15/2016	01/16/2016
681537	116524		011516R1	GROUND WATER	01/15/2016	01/16/2016
681538	116524		49ADW01	GROUND WATER	01/15/2016	01/16/2016
681539	116524		011516T1	TRIP BLANK	01/15/2016	01/16/2016

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QC Batch Cross Reference Summary

BERING SEA ENVIRONMENTAL
S. JULIA LIU

Project Name:	RADFORD AAP
Project #:	313010-001
Report Date:	02/05/2016
Date Received:	1/13/2016
SDG #:	116426

Inorganic Parameters

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
679984	pH	EPA 9040C	GROUND WATER		122651
681538	pH	EPA 9040C	GROUND WATER		122842

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
679480	Sample Filtration	SOP #FO-10	GROUND WATER		122951
679482	Sample Filtration	SOP #FO-10	GROUND WATER		122951
679978	Sample Filtration	SOP #FO-10	GROUND WATER		122952
679980	Sample Filtration	SOP #FO-10	GROUND WATER		122952
679982	Sample Filtration	SOP #FO-10	GROUND WATER		122952
680615	Sample Filtration	SOP #FO-10	GROUND WATER		122953
680617	Sample Filtration	SOP #FO-10	GROUND WATER		122953
680619	Sample Filtration	SOP #FO-10	GROUND WATER		122953
680621	Sample Filtration	SOP #FO-10	GROUND WATER		122953
680623	Sample Filtration	SOP #FO-10	GROUND WATER		122953
680625	Sample Filtration	SOP #FO-10	GROUND WATER		122953
680628	Sample Filtration	SOP #FO-10	GROUND WATER		122953
681413	Sample Filtration	SOP #FO-10	GROUND WATER		122954
681415	Sample Filtration	SOP #FO-10	GROUND WATER		122954
681417	Sample Filtration	SOP #FO-10	GROUND WATER		122954
681419	Sample Filtration	SOP #FO-10	GROUND WATER		122954
681421	Sample Filtration	SOP #FO-10	GROUND WATER		122954
681527	Sample Filtration	SOP #FO-10	GROUND WATER		122955
681529	Sample Filtration	SOP #FO-10	GROUND WATER		122955
681532	Sample Filtration	SOP #FO-10	GROUND WATER		122955
681534	Sample Filtration	SOP #FO-10	GROUND WATER		122955
681536	Sample Filtration	SOP #FO-10	GROUND WATER		122955

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #

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Project Name: RADFORD AAP
Project #: 313010-010
SDG #: 116426

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
679481	Carbon , Total Inorganic and Orga	EPA 9060A	GROUND WATER		122618
679483	Carbon , Total Inorganic and Orga	EPA 9060A	GROUND WATER		122618
679979	Carbon , Total Inorganic and Orga	EPA 9060A	GROUND WATER		122618
679981	Carbon , Total Inorganic and Orga	EPA 9060A	GROUND WATER		122618
679983	Carbon , Total Inorganic and Orga	EPA 9060A	GROUND WATER		122618

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
679984	COD QSM	EPA 410.4	GROUND WATER	55935	122773
681538	COD QSM	EPA 410.4	GROUND WATER	55935	122773

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
679480	Anions QSM 5.0	EPA 9056A	GROUND WATER		122594
679482	Anions QSM 5.0	EPA 9056A	GROUND WATER		122594
679978	Anions QSM 5.0	EPA 9056A	GROUND WATER		122614
679980	Anions QSM 5.0	EPA 9056A	GROUND WATER		122614
679982	Anions QSM 5.0	EPA 9056A	GROUND WATER		122614
680615	Anions QSM 5.0	EPA 9056A	GROUND WATER		122661
680617	Anions QSM 5.0	EPA 9056A	GROUND WATER		122661
680619	Anions QSM 5.0	EPA 9056A	GROUND WATER		122661
680621	Anions QSM 5.0	EPA 9056A	GROUND WATER		122661
680623	Anions QSM 5.0	EPA 9056A	GROUND WATER		122661
680625	Anions QSM 5.0	EPA 9056A	GROUND WATER		122661
680628	Anions QSM 5.0	EPA 9056A	GROUND WATER		122661
681413	Anions QSM 5.0	EPA 9056A	GROUND WATER		122684
681415	Anions QSM 5.0	EPA 9056A	GROUND WATER		122684
681417	Anions QSM 5.0	EPA 9056A	GROUND WATER		122684
681419	Anions QSM 5.0	EPA 9056A	GROUND WATER		122684
681421	Anions QSM 5.0	EPA 9056A	GROUND WATER		122684
681527	Anions QSM 5.0	EPA 9056A	GROUND WATER		122704
681529	Anions QSM 5.0	EPA 9056A	GROUND WATER		122704
681532	Anions QSM 5.0	EPA 9056A	GROUND WATER		122704
681534	Anions QSM 5.0	EPA 9056A	GROUND WATER		122704
681536	Anions QSM 5.0	EPA 9056A	GROUND WATER		122704
679480	Anions QSM 5.0	EPA 9056A	GROUND WATER		122594
679482	Anions QSM 5.0	EPA 9056A	GROUND WATER		122594
680615	Anions QSM 5.0	EPA 9056A	GROUND WATER		122661
680617	Anions QSM 5.0	EPA 9056A	GROUND WATER		122661
680623	Anions QSM 5.0	EPA 9056A	GROUND WATER		122661
681415	Anions QSM 5.0	EPA 9056A	GROUND WATER		122684

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
679481	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		122608
679483	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		122608

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Project Name: RADFORD AAP
Project #: 313010-001
SDG #: 116426

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
679979	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		122608
679981	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		122608
679983	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		122608
680616	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		122770
680618	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		122770
680620	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		122770
680622	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		122770
680624	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		122770
680626	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		122770
680629	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		122770
681414	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		122770
681416	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		122770
681418	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		122770
681420	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		122770
681422	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		122770
681528	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		122770
681531	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		122770
681533	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		122770
681535	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		122770
681537	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		122770

Metal Parameters

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
679984	Potassium, Total QSM 5.0	EPA 6010C	GROUND WATER	55898	122717
681538	Potassium, Total QSM 5.0	EPA 6010C	GROUND WATER	55928	122763

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
679984	Sodium, Total QSM 5.0	EPA 6010C	GROUND WATER	55898	122717
681538	Sodium, Total QSM 5.0	EPA 6010C	GROUND WATER	55928	122763

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
679984	ICP Metals, Total QSM 5.0	EPA 6010C	GROUND WATER	55898	122716
681537	ICP Metals, Total QSM 5.0	EPA 6010C	GROUND WATER	55959	122821
681538	ICP Metals, Total QSM 5.0	EPA 6010C	GROUND WATER	55928	122762
679984	ICP Metals, Total QSM 5.0	EPA 6010C	GROUND WATER	55898	122716
681538	ICP Metals, Total QSM 5.0	EPA 6010C	GROUND WATER	55928	122762
679984	ICP Metals, Total QSM 5.0	EPA 6010C	GROUND WATER	55898	122716
681538	ICP Metals, Total QSM 5.0	EPA 6010C	GROUND WATER	55928	122762
681538	ICP Metals, Total QSM 5.0	EPA 6010C	GROUND WATER	55928	122762

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Project Name: RADFORD AAP
Project #: 313010-001
SDG #: 116426

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
681538	ICP Metals, Total QSM 5.0	EPA 6010C	GROUND WATER	55928	122762

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
679984	Mercury, Total QSM	EPA 7470A	GROUND WATER	55940	122800
681537	Mercury, Total QSM	EPA 7470A	GROUND WATER	55940	122800
681538	Mercury, Total QSM	EPA 7470A	GROUND WATER	55940	122800

Organic Parameters

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
680616	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		122700
680618	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		122700
680620	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		122700
680622	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		122700
680624	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		122700
680626	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		122700
680627	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		122700
680629	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		122700
681414	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		122700
681416	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		122700
681418	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		122700
681420	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		122700
681422	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		122700
681423	VOC's by 8260 QSM 5.0	EPA 8260C	TRIP BLANK		122700
681528	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		122833
681531	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		122833
681533	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		122833
681535	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		122833
681537	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		122833
681539	VOC's by 8260 QSM 5.0	EPA 8260C	TRIP BLANK		122833

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
680616	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	55942	122794
680618	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	55942	122794
680620	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	55942	122794
680622	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	55942	122794
680624	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	55942	122794
680626	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	55942	122794
680629	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	55942	122794
681414	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	55942	122794

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Project Name: RADFORD AAP
Project #: 313010-001
SDG #: 116426

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
681416	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	55942	122794
681418	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	55942	122794
681420	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	55942	122794
681422	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	55942	122794
681528	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	55942	122794
681531	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	55942	122794
681533	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	55942	122794
681535	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	55942	122794
681537	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	55942	122794

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
679481	Explosives by 8330	EPA 8330B	GROUND WATER	55926	122858
679483	Explosives by 8330	EPA 8330B	GROUND WATER	55926	122858
679979	Explosives by 8330	EPA 8330B	GROUND WATER	55926	122858
679981	Explosives by 8330	EPA 8330B	GROUND WATER	55926	122858
679983	Explosives by 8330	EPA 8330B	GROUND WATER	55926	122858
679979	Explosives by 8330	EPA 8330B	GROUND WATER	55926	122858

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
679481	Explosives by 8330	EPA 8330B	GROUND WATER	55925	122857
679483	Explosives by 8330	EPA 8330B	GROUND WATER	55925	122857
679979	Explosives by 8330	EPA 8330B	GROUND WATER	55925	122857
679981	Explosives by 8330	EPA 8330B	GROUND WATER	55925	122857
679983	Explosives by 8330	EPA 8330B	GROUND WATER	55925	122857

VOLATILE ORGANIC ANALYSIS
QUALITY CONTROL SUMMARY
DOCUMENTS

CT LABORATORIES
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1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **011316T1**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	680627
% Solids:		Date Received:	01/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	122700	Dilution Factor:	1.00
Date & Time Analyzed:	01/21/2016 / 18:47	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W012016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U Z	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description: **011316T1**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	680627
% Solids:		Date Received:	01/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	122700	Dilution Factor:	1.00
Date & Time Analyzed:	01/21/2016 / 18:47	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W012016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	0.50	U	0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.25	U	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.0	U	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

011316T1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	680627
% Solids:		Date Received:	01/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	122700	Dilution Factor:	1.00
Date & Time Analyzed:	01/21/2016 / 18:47	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W012016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	0.50	U	0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description: **011416T1**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	TRIP BLANK	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	681423
% Solids:		Date Received:	01/15/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	122700	Dilution Factor:	1.00
Date & Time Analyzed:	01/21/2016 / 19:17	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W012016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U Z	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

011416T1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	TRIP BLANK	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	681423
% Solids:		Date Received:	01/15/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	122700	Dilution Factor:	1.00
Date & Time Analyzed:	01/21/2016 / 19:17	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W012016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	0.50	U	0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.25	U	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.0	U	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

011416T1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	TRIP BLANK	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	681423
% Solids:		Date Received:	01/15/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	122700	Dilution Factor:	1.00
Date & Time Analyzed:	01/21/2016 / 19:17	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W012016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	0.50	U	0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

011516R1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	681537
% Solids:		Date Received:	01/16/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	01/19/2016 / 10:30
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	55942
Analytical Run #:	122794	Dilution Factor:	1.00
Date & Time Analyzed:	01/20/2016 / 12:25	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description: **011516R1**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	681537
% Solids:		Date Received:	01/16/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	122833	Dilution Factor:	1.00
Date & Time Analyzed:	01/22/2016 / 15:03	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W012016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U Z	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description: **011516R1**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	681537
% Solids:		Date Received:	01/16/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	122833	Dilution Factor:	1.00
Date & Time Analyzed:	01/22/2016 / 15:03	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W012016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	0.50	U	0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.25	U	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.0	U	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	4.3		0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

011516R1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	681537
% Solids:		Date Received:	01/16/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	122833	Dilution Factor:	1.00
Date & Time Analyzed:	01/22/2016 / 15:03	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W012016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	0.50	U	0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description: **011516T1**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	TRIP BLANK	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	681539
% Solids:		Date Received:	01/16/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	122833	Dilution Factor:	1.00
Date & Time Analyzed:	01/22/2016 / 12:37	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W012016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U Z	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description: **011516T1**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	TRIP BLANK	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	681539
% Solids:		Date Received:	01/16/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	122833	Dilution Factor:	1.00
Date & Time Analyzed:	01/22/2016 / 12:37	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W012016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	0.50	U	0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.25	U	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.0	U	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

011516T1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	TRIP BLANK	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	681539
% Solids:		Date Received:	01/16/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	122833	Dilution Factor:	1.00
Date & Time Analyzed:	01/22/2016 / 12:37	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W012016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	0.50	U	0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	680624
% Solids:		Date Received:	01/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	01/19/2016 / 10:30
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	55942
Analytical Run #:	122794	Dilution Factor:	1.00
Date & Time Analyzed:	01/20/2016 / 11:28	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	680624
% Solids:		Date Received:	01/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	122700	Dilution Factor:	1.00
Date & Time Analyzed:	01/21/2016 / 21:44	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W012016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U Z	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	680624
% Solids:		Date Received:	01/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	122700	Dilution Factor:	1.00
Date & Time Analyzed:	01/21/2016 / 21:44	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W012016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	0.50	U	0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.25	U	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.0	U	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	680624
% Solids:		Date Received:	01/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	122700	Dilution Factor:	1.00
Date & Time Analyzed:	01/21/2016 / 21:44	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W012016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	0.50	U	0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	680616
% Solids:		Date Received:	01/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	01/19/2016 / 10:30
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	55942
Analytical Run #:	122794	Dilution Factor:	1.00
Date & Time Analyzed:	01/20/2016 / 11:06	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	680616
% Solids:		Date Received:	01/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	122700	Dilution Factor:	1.00
Date & Time Analyzed:	01/21/2016 / 19:47	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W012016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U Z	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	680616
% Solids:		Date Received:	01/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	122700	Dilution Factor:	1.00
Date & Time Analyzed:	01/21/2016 / 19:47	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W012016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	3.8		0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.53		0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.0	U	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	680616
% Solids:		Date Received:	01/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	122700	Dilution Factor:	1.00
Date & Time Analyzed:	01/21/2016 / 19:47	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W012016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	0.82	J	0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

13MW4

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	680620
% Solids:		Date Received:	01/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	01/19/2016 / 10:30
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	55942
Analytical Run #:	122794	Dilution Factor:	1.00
Date & Time Analyzed:	01/20/2016 / 11:13	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

13MW4

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	680620
% Solids:		Date Received:	01/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	122700	Dilution Factor:	1.00
Date & Time Analyzed:	01/21/2016 / 20:46	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W012016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U Z	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

13MW4

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	680620
% Solids:		Date Received:	01/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	122700	Dilution Factor:	1.00
Date & Time Analyzed:	01/21/2016 / 20:46	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W012016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	0.50	U	0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.25	U	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.0	U	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

13MW4

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	680620
% Solids:		Date Received:	01/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	122700	Dilution Factor:	1.00
Date & Time Analyzed:	01/21/2016 / 20:46	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W012016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	1.1		0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

13MW5

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	680629
% Solids:		Date Received:	01/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	01/19/2016 / 10:30
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	55942
Analytical Run #:	122794	Dilution Factor:	1.00
Date & Time Analyzed:	01/20/2016 / 11:36	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

13MW5

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	680629
% Solids:		Date Received:	01/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	122700	Dilution Factor:	1.00
Date & Time Analyzed:	01/21/2016 / 22:44	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W012016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U Z	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

13MW5

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	680629
% Solids:		Date Received:	01/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	122700	Dilution Factor:	1.00
Date & Time Analyzed:	01/21/2016 / 22:44	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W012016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	0.50	U	0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.25	U	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.0	U	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

13MW5

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	680629
% Solids:		Date Received:	01/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	122700	Dilution Factor:	1.00
Date & Time Analyzed:	01/21/2016 / 22:44	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W012016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	0.50	U	0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	681416
% Solids:		Date Received:	01/15/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	01/19/2016 / 10:30
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	55942
Analytical Run #:	122794	Dilution Factor:	1.00
Date & Time Analyzed:	01/20/2016 / 11:43	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.73		0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	681416
% Solids:		Date Received:	01/15/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	122700	Dilution Factor:	1.00
Date & Time Analyzed:	01/21/2016 / 23:43	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W012016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	1.2		0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	5.3		0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.61	J	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	1.7		0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U Z	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	681416
% Solids:		Date Received:	01/15/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	122700	Dilution Factor:	1.00
Date & Time Analyzed:	01/21/2016 / 23:43	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W012016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	0.50	U	0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.25	U	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.0	U	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	8.1		0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.87	J	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	681416
% Solids:		Date Received:	01/15/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	122700	Dilution Factor:	1.00
Date & Time Analyzed:	01/21/2016 / 23:43	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W012016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	5.9		0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW07

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	681414
% Solids:		Date Received:	01/15/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	01/19/2016 / 10:30
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	55942
Analytical Run #:	122794	Dilution Factor:	1.00
Date & Time Analyzed:	01/20/2016 / 11:39	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW07

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	681414
% Solids:		Date Received:	01/15/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	122700	Dilution Factor:	1.00
Date & Time Analyzed:	01/21/2016 / 23:14	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W012016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U Z	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW07

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	681414
% Solids:		Date Received:	01/15/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	122700	Dilution Factor:	1.00
Date & Time Analyzed:	01/21/2016 / 23:14	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W012016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	0.50	U	0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.25	U	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.0	U	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW07

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	681414
% Solids:		Date Received:	01/15/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	122700	Dilution Factor:	1.00
Date & Time Analyzed:	01/21/2016 / 23:14	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W012016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	0.50	U	0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	681418
% Solids:		Date Received:	01/15/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	122700	Dilution Factor:	1.00
Date & Time Analyzed:	01/22/2016 / 00:12	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W012016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.46	J	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.96	J	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U Z	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	681418
% Solids:		Date Received:	01/15/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	122700	Dilution Factor:	1.00
Date & Time Analyzed:	01/22/2016 / 00:12	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W012016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	0.50	U	0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.25	U	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.0	U	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.75	J	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	681418
% Solids:		Date Received:	01/15/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	122700	Dilution Factor:	1.00
Date & Time Analyzed:	01/22/2016 / 00:12	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W012016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	2.3		0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	681418
% Solids:		Date Received:	01/15/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	01/19/2016 / 10:30
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	55942
Analytical Run #:	122794	Dilution Factor:	1.00
Date & Time Analyzed:	01/20/2016 / 11:46	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	681533
% Solids:		Date Received:	01/16/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	01/19/2016 / 10:30
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	55942
Analytical Run #:	122794	Dilution Factor:	1.00
Date & Time Analyzed:	01/20/2016 / 12:09	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	681533
% Solids:		Date Received:	01/16/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	122833	Dilution Factor:	1.00
Date & Time Analyzed:	01/22/2016 / 14:04	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W012016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U Y	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U Y	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U Y	5.0	13	25	25
78-93-3	2-Butanone	5.0	U Y	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U Y	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U Y	3.0	5.0	10	10
67-64-1	Acetone	10	U Y	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U Y	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U Y,M,Z	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	681533
% Solids:		Date Received:	01/16/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	122833	Dilution Factor:	1.00
Date & Time Analyzed:	01/22/2016 / 14:04	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W012016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	66		0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	5.9		0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.0	U	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U Y	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	681533
% Solids:		Date Received:	01/16/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	122833	Dilution Factor:	1.00
Date & Time Analyzed:	01/22/2016 / 14:04	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W012016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U Y	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	7.9		0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U M	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	681531
% Solids:		Date Received:	01/16/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	01/19/2016 / 10:30
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	55942
Analytical Run #:	122794	Dilution Factor:	1.00
Date & Time Analyzed:	01/20/2016 / 12:05	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	681531
% Solids:		Date Received:	01/16/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	122833	Dilution Factor:	1.00
Date & Time Analyzed:	01/22/2016 / 13:35	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W012016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U Z	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	681531
% Solids:		Date Received:	01/16/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	122833	Dilution Factor:	1.00
Date & Time Analyzed:	01/22/2016 / 13:35	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W012016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	62		0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	7.5		0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.0	U	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	681531
% Solids:		Date Received:	01/16/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	122833	Dilution Factor:	1.00
Date & Time Analyzed:	01/22/2016 / 13:35	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W012016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	9.7		0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	681422
% Solids:		Date Received:	01/15/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	122700	Dilution Factor:	1.00
Date & Time Analyzed:	01/22/2016 / 01:12	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W012016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U Z	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	681422
% Solids:		Date Received:	01/15/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	122700	Dilution Factor:	1.00
Date & Time Analyzed:	01/22/2016 / 01:12	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W012016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	3.1		0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.40	J	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.0	U	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	681422
% Solids:		Date Received:	01/15/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	122700	Dilution Factor:	1.00
Date & Time Analyzed:	01/22/2016 / 01:12	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W012016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	0.50	U	0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	681422
% Solids:		Date Received:	01/15/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	01/19/2016 / 10:30
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	55942
Analytical Run #:	122794	Dilution Factor:	1.00
Date & Time Analyzed:	01/20/2016 / 11:58	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	681528
% Solids:		Date Received:	01/16/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	01/19/2016 / 10:30
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	55942
Analytical Run #:	122794	Dilution Factor:	1.00
Date & Time Analyzed:	01/20/2016 / 12:01	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	681528
% Solids:		Date Received:	01/16/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	122833	Dilution Factor:	1.00
Date & Time Analyzed:	01/22/2016 / 13:06	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W012016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U Z	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	681528
% Solids:		Date Received:	01/16/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	122833	Dilution Factor:	1.00
Date & Time Analyzed:	01/22/2016 / 13:06	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W012016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	0.50	U	0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.25	U	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.0	U	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	681528
% Solids:		Date Received:	01/16/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	122833	Dilution Factor:	1.00
Date & Time Analyzed:	01/22/2016 / 13:06	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W012016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	0.50	U	0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW03

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	681420
% Solids:		Date Received:	01/15/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	122700	Dilution Factor:	1.00
Date & Time Analyzed:	01/22/2016 / 00:42	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W012016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U Z	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW03

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	681420
% Solids:		Date Received:	01/15/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	122700	Dilution Factor:	1.00
Date & Time Analyzed:	01/22/2016 / 00:42	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W012016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	0.50	U	0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.25	U	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.0	U	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW03

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	681420
% Solids:		Date Received:	01/15/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	122700	Dilution Factor:	1.00
Date & Time Analyzed:	01/22/2016 / 00:42	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W012016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	0.50	U	0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW03

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	681420
% Solids:		Date Received:	01/15/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	01/19/2016 / 10:30
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	55942
Analytical Run #:	122794	Dilution Factor:	1.00
Date & Time Analyzed:	01/20/2016 / 11:54	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW04

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	680622
% Solids:		Date Received:	01/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	01/19/2016 / 10:30
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	55942
Analytical Run #:	122794	Dilution Factor:	1.00
Date & Time Analyzed:	01/20/2016 / 11:24	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW04

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	680622
% Solids:		Date Received:	01/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	122700	Dilution Factor:	1.00
Date & Time Analyzed:	01/21/2016 / 21:15	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W012016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U Z	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW04

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	680622
% Solids:		Date Received:	01/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	122700	Dilution Factor:	1.00
Date & Time Analyzed:	01/21/2016 / 21:15	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W012016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	0.94	J	0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.25	U	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.0	U	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW04

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	680622
% Solids:		Date Received:	01/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	122700	Dilution Factor:	1.00
Date & Time Analyzed:	01/21/2016 / 21:15	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W012016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	0.50	U	0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW05

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	680626
% Solids:		Date Received:	01/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	01/19/2016 / 10:30
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	55942
Analytical Run #:	122794	Dilution Factor:	1.00
Date & Time Analyzed:	01/20/2016 / 11:32	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW05

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	680626
% Solids:		Date Received:	01/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	122700	Dilution Factor:	1.00
Date & Time Analyzed:	01/21/2016 / 22:14	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W012016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U Z	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW05

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	680626
% Solids:		Date Received:	01/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	122700	Dilution Factor:	1.00
Date & Time Analyzed:	01/21/2016 / 22:14	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W012016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	0.50	U	0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.25	U	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.0	U	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW05

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	680626
% Solids:		Date Received:	01/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	122700	Dilution Factor:	1.00
Date & Time Analyzed:	01/21/2016 / 22:14	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W012016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	0.50	U	0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49TM01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	680618
% Solids:		Date Received:	01/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	01/19/2016 / 10:30
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	55942
Analytical Run #:	122794	Dilution Factor:	1.00
Date & Time Analyzed:	01/20/2016 / 11:09	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

49TM01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	680618
% Solids:		Date Received:	01/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	122700	Dilution Factor:	1.00
Date & Time Analyzed:	01/21/2016 / 20:16	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W012016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U Z	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49TM01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	680618
% Solids:		Date Received:	01/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	122700	Dilution Factor:	1.00
Date & Time Analyzed:	01/21/2016 / 20:16	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W012016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	4.1		0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.55		0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.0	U	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49TM01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	680618
% Solids:		Date Received:	01/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	122700	Dilution Factor:	1.00
Date & Time Analyzed:	01/21/2016 / 20:16	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W012016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	0.94	J	0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

50MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	681535
% Solids:		Date Received:	01/16/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	01/19/2016 / 10:30
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	55942
Analytical Run #:	122794	Dilution Factor:	1.00
Date & Time Analyzed:	01/20/2016 / 12:21	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	4.3		0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

50MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	681535
% Solids:		Date Received:	01/16/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	122833	Dilution Factor:	1.00
Date & Time Analyzed:	01/22/2016 / 14:34	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W012016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	J	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U Z	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

50MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	681535
% Solids:		Date Received:	01/16/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	122833	Dilution Factor:	1.00
Date & Time Analyzed:	01/22/2016 / 14:34	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W012016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	0.56	J	0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.25	U	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.0	U	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.29	J	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

50MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	681535
% Solids:		Date Received:	01/16/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	122833	Dilution Factor:	1.00
Date & Time Analyzed:	01/22/2016 / 14:34	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W012016.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	1.1		0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS (MB or CCB)

Sample Description

METHOD BLANK

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:		SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	682146
% Solids:		Date Received:	01/16/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	01/19/2016 / 10:30
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	55942
Analytical Run #:	122794	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
74-84-0	Ethane	01/20/2016	11:02	0.4	U	0.4	0.8	***0.4***
74-85-1	Ethene	01/20/2016	11:02	0.5	U	0.5	1.1	***0.6***
74-82-8	Methane	01/20/2016	11:02	0.3	U	0.3	0.7	***0.4***

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1A-2

VOLATILE ORGANICS ANALYSIS (MB or CCB)

Sample Description: **METHOD BLANK**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:		SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	683454
% Solids:		Date Received:	01/15/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	0
Analytical Run #:	122700	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W012016.	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
71-55-6	1,1,1-Trichloroethane	01/21/2016	18:18	0.21	U	0.21	1.00	***0.50***
79-34-5	1,1,2,2-Tetrachloroethane	01/21/2016	18:18	0.19	U	0.19	1.00	***0.50***
79-00-5	1,1,2-Trichloroethane	01/21/2016	18:18	0.26	U	0.26	1.00	***0.50***
75-34-3	1,1-Dichloroethane	01/21/2016	18:18	0.20	U	0.20	1.00	***0.50***
75-35-4	1,1-Dichloroethene	01/21/2016	18:18	0.24	U	0.24	1.00	***0.50***
87-61-6	1,2,3-Trichlorobenzene	01/21/2016	18:18	0.3	U	0.3	1.0	***0.5***
120-82-1	1,2,4-Trichlorobenzene	01/21/2016	18:18	0.3	U	0.3	1.0	***0.5***
96-12-8	1,2-Dibromo-3-chloropropane	01/21/2016	18:18	0.4	U	0.4	1.0	***0.5***
106-93-4	1,2-Dibromoethane	01/21/2016	18:18	0.16	U	0.16	0.50	***0.25***
95-50-1	1,2-Dichlorobenzene	01/21/2016	18:18	0.23	U	0.23	1.00	***0.50***
107-06-2	1,2-Dichloroethane	01/21/2016	18:18	0.3	U	0.3	1.0	***0.5***
78-87-5	1,2-Dichloropropane	01/21/2016	18:18	0.22	U	0.22	1.00	***0.50***
541-73-1	1,3-Dichlorobenzene	01/21/2016	18:18	0.26	U	0.26	1.00	***0.50***
106-46-7	1,4-Dichlorobenzene	01/21/2016	18:18	0.23	U	0.23	1.00	***0.50***
123-91-1	1,4-Dioxane	01/21/2016	18:18	5	U	5	25	***12.5***
78-93-3	2-Butanone	01/21/2016	18:18	2.4	U	2.4	10.0	***5.0***
591-78-6	2-Hexanone	01/21/2016	18:18	4	U	4	20	***10***
108-10-1	4-Methyl-2-pentanone	01/21/2016	18:18	3	U	3	10	***5***
67-64-1	Acetone	01/21/2016	18:18	5	U	5	20	***10***
71-43-2	Benzene	01/21/2016	18:18	0.19	U	0.19	1.00	***0.50***
74-97-5	Bromochloromethane	01/21/2016	18:18	0.19	U	0.19	1.00	***0.50***
75-27-4	Bromodichloromethane	01/21/2016	18:18	0.20	U	0.20	1.00	***0.50***
75-25-2	Bromoform	01/21/2016	18:18	0.22	U	0.22	1.00	***0.50***

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VOLATILE ORGANICS ANALYSIS (MB or CCB)

Sample Description: **METHOD BLANK**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:		SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	683454
% Solids:		Date Received:	01/15/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	0
Analytical Run #:	122700	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W012016.	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
74-83-9	Bromomethane	01/21/2016	18:18	0.5	U	0.5	1.0	***0.5***
75-15-0	Carbon disulfide	01/21/2016	18:18	0.5	U	0.5	1.0	***0.5***
56-23-5	Carbon tetrachloride	01/21/2016	18:18	0.23	U	0.23	1.00	***0.50***
108-90-7	Chlorobenzene	01/21/2016	18:18	0.24	U	0.24	1.00	***0.50***
75-00-3	Chloroethane	01/21/2016	18:18	0.4	U	0.4	2.0	***1.0***
67-66-3	Chloroform	01/21/2016	18:18	0.15	U	0.15	0.50	***0.25***
74-87-3	Chloromethane	01/21/2016	18:18	0.4	U	0.4	2.0	***1.0***
156-59-2	cis-1,2-Dichloroethene	01/21/2016	18:18	0.25	U	0.25	1.00	***0.50***
10061-01-5	cis-1,3-Dichloropropene	01/21/2016	18:18	0.19	U	0.19	1.00	***0.50***
110-82-7	Cyclohexane	01/21/2016	18:18	0.28	U	0.28	1.00	***0.50***
124-48-1	Dibromochloromethane	01/21/2016	18:18	0.19	U	0.19	1.00	***0.50***
75-71-8	Dichlorodifluoromethane	01/21/2016	18:18	0.26	U	0.26	1.00	***0.50***
100-41-4	Ethylbenzene	01/21/2016	18:18	0.22	U	0.22	1.00	***0.50***
76-13-1	Freon 113	01/21/2016	18:18	0.5	U	0.5	2.0	***1.0***
98-82-8	Isopropylbenzene	01/21/2016	18:18	0.18	U	0.18	1.00	***0.50***
179601-23-1	m & p-Xylene	01/21/2016	18:18	0.5	U	0.5	2.0	***1.0***
79-20-9	Methyl Acetate	01/21/2016	18:18	0.3	U	0.3	1.0	***0.5***
1634-04-4	Methyl tert-butyl ether	01/21/2016	18:18	0.29	U	0.29	1.00	***0.50***
108-87-2	Methylcyclohexane	01/21/2016	18:18	0.23	U	0.23	1.00	***0.50***
75-09-2	Methylene chloride	01/21/2016	18:18	0.4	U	0.4	2.0	***1.0***
95-47-6	o-Xylene	01/21/2016	18:18	0.24	U	0.24	1.00	***0.50***
100-42-5	Styrene	01/21/2016	18:18	0.20	U	0.20	1.00	***0.50***
127-18-4	Tetrachloroethene	01/21/2016	18:18	0.3	U	0.3	1.0	***0.5***

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VOLATILE ORGANICS ANALYSIS (MB or CCB)

Sample Description

METHOD BLANK

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:		SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	683454
% Solids:		Date Received:	01/15/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	0
Analytical Run #:	122700	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W012016.	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
108-88-3	Toluene	01/21/2016	18:18	0.22	U	0.22	1.00	***0.50***
156-60-5	trans-1,2-Dichloroethene	01/21/2016	18:18	0.25	U	0.25	1.00	***0.50***
10061-02-6	trans-1,3-Dichloropropene	01/21/2016	18:18	0.19	U	0.19	1.00	***0.50***
79-01-6	Trichloroethene	01/21/2016	18:18	0.21	U	0.21	1.00	***0.50***
75-69-4	Trichlorofluoromethane	01/21/2016	18:18	0.20	U	0.20	1.0	***0.5***
75-01-4	Vinyl chloride	01/21/2016	18:18	0.18	U	0.18	1.00	***0.50***

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VOLATILE ORGANICS ANALYSIS (MB or CCB)

Sample Description: **METHOD BLANK**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:		SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	683723
% Solids:		Date Received:	01/16/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	0
Analytical Run #:	122833	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W012016.	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
71-55-6	1,1,1-Trichloroethane	01/22/2016	11:38	0.21	U	0.21	1.00	***0.50***
79-34-5	1,1,2,2-Tetrachloroethane	01/22/2016	11:38	0.19	U	0.19	1.00	***0.50***
79-00-5	1,1,2-Trichloroethane	01/22/2016	11:38	0.26	U	0.26	1.00	***0.50***
75-34-3	1,1-Dichloroethane	01/22/2016	11:38	0.20	U	0.20	1.00	***0.50***
75-35-4	1,1-Dichloroethene	01/22/2016	11:38	0.24	U	0.24	1.00	***0.50***
87-61-6	1,2,3-Trichlorobenzene	01/22/2016	11:38	0.3	U	0.3	1.0	***0.5***
120-82-1	1,2,4-Trichlorobenzene	01/22/2016	11:38	0.3	U	0.3	1.0	***0.5***
96-12-8	1,2-Dibromo-3-chloropropane	01/22/2016	11:38	0.4	U	0.4	1.0	***0.5***
106-93-4	1,2-Dibromoethane	01/22/2016	11:38	0.16	U	0.16	0.50	***0.25***
95-50-1	1,2-Dichlorobenzene	01/22/2016	11:38	0.23	U	0.23	1.00	***0.50***
107-06-2	1,2-Dichloroethane	01/22/2016	11:38	0.3	U	0.3	1.0	***0.5***
78-87-5	1,2-Dichloropropane	01/22/2016	11:38	0.22	U	0.22	1.00	***0.50***
541-73-1	1,3-Dichlorobenzene	01/22/2016	11:38	0.26	U	0.26	1.00	***0.50***
106-46-7	1,4-Dichlorobenzene	01/22/2016	11:38	0.23	U	0.23	1.00	***0.50***
123-91-1	1,4-Dioxane	01/22/2016	11:38	5	U	5	25	***12.5***
78-93-3	2-Butanone	01/22/2016	11:38	2.4	U	2.4	10.0	***5.0***
591-78-6	2-Hexanone	01/22/2016	11:38	4	U	4	20	***10***
108-10-1	4-Methyl-2-pentanone	01/22/2016	11:38	3	U	3	10	***5***
67-64-1	Acetone	01/22/2016	11:38	5	U	5	20	***10***
71-43-2	Benzene	01/22/2016	11:38	0.19	U	0.19	1.00	***0.50***
74-97-5	Bromochloromethane	01/22/2016	11:38	0.19	U	0.19	1.00	***0.50***
75-27-4	Bromodichloromethane	01/22/2016	11:38	0.20	U	0.20	1.00	***0.50***
75-25-2	Bromoform	01/22/2016	11:38	0.22	U	0.22	1.00	***0.50***

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1A-2

VOLATILE ORGANICS ANALYSIS (MB or CCB)

Sample Description

METHOD BLANK

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:		SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	683723
% Solids:		Date Received:	01/16/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	0
Analytical Run #:	122833	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W012016.	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
74-83-9	Bromomethane	01/22/2016	11:38	0.5	U	0.5	1.0	***0.5***
75-15-0	Carbon disulfide	01/22/2016	11:38	0.5	U	0.5	1.0	***0.5***
56-23-5	Carbon tetrachloride	01/22/2016	11:38	0.23	U	0.23	1.00	***0.50***
108-90-7	Chlorobenzene	01/22/2016	11:38	0.24	U	0.24	1.00	***0.50***
75-00-3	Chloroethane	01/22/2016	11:38	0.4	U	0.4	2.0	***1.0***
67-66-3	Chloroform	01/22/2016	11:38	0.15	U	0.15	0.50	***0.25***
74-87-3	Chloromethane	01/22/2016	11:38	0.4	U	0.4	2.0	***1.0***
156-59-2	cis-1,2-Dichloroethene	01/22/2016	11:38	0.25	U	0.25	1.00	***0.50***
10061-01-5	cis-1,3-Dichloropropene	01/22/2016	11:38	0.19	U	0.19	1.00	***0.50***
110-82-7	Cyclohexane	01/22/2016	11:38	0.28	U	0.28	1.00	***0.50***
124-48-1	Dibromochloromethane	01/22/2016	11:38	0.19	U	0.19	1.00	***0.50***
75-71-8	Dichlorodifluoromethane	01/22/2016	11:38	0.26	U	0.26	1.00	***0.50***
100-41-4	Ethylbenzene	01/22/2016	11:38	0.22	U	0.22	1.00	***0.50***
76-13-1	Freon 113	01/22/2016	11:38	0.5	U	0.5	2.0	***1.0***
98-82-8	Isopropylbenzene	01/22/2016	11:38	0.18	U	0.18	1.00	***0.50***
179601-23-1	m & p-Xylene	01/22/2016	11:38	0.5	U	0.5	2.0	***1.0***
79-20-9	Methyl Acetate	01/22/2016	11:38	0.3	U	0.3	1.0	***0.5***
1634-04-4	Methyl tert-butyl ether	01/22/2016	11:38	0.29	U	0.29	1.00	***0.50***
108-87-2	Methylcyclohexane	01/22/2016	11:38	0.23	U	0.23	1.00	***0.50***
75-09-2	Methylene chloride	01/22/2016	11:38	0.4	U	0.4	2.0	***1.0***
95-47-6	o-Xylene	01/22/2016	11:38	0.24	U	0.24	1.00	***0.50***
100-42-5	Styrene	01/22/2016	11:38	0.20	U	0.20	1.00	***0.50***
127-18-4	Tetrachloroethene	01/22/2016	11:38	0.3	U	0.3	1.0	***0.5***

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VOLATILE ORGANICS ANALYSIS (MB or CCB)

Sample Description

METHOD BLANK

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:		SDG No.:	116426
Sample wt/vol:	(g/mL)	CTL Sample ID:	683723
% Solids:		Date Received:	01/16/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	0
Analytical Run #:	122833	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W012016.	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
108-88-3	Toluene	01/22/2016	11:38	0.22	U	0.22	1.00	***0.50***
156-60-5	trans-1,2-Dichloroethene	01/22/2016	11:38	0.25	U	0.25	1.00	***0.50***
10061-02-6	trans-1,3-Dichloropropene	01/22/2016	11:38	0.19	U	0.19	1.00	***0.50***
79-01-6	Trichloroethene	01/22/2016	11:38	0.21	U	0.21	1.00	***0.50***
75-69-4	Trichlorofluoromethane	01/22/2016	11:38	0.20	U	0.20	1.0	***0.5***
75-01-4	Vinyl chloride	01/22/2016	11:38	0.18	U	0.18	1.00	***0.50***

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WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Analytical Method:	EPA 8260C	SDG:	116426
Analytical Run #:	122700	ICAL Calibration #:	W012016.

CTLab #	680616				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	99	81	118	
Bromofluorobenzene	100	101	85	114	
d8-Toluene	100	99	89	112	
Dibromofluoromethane	100	92	80	119	

CTLab #	680618				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	102	81	118	
Bromofluorobenzene	100	96	85	114	
d8-Toluene	100	97	89	112	
Dibromofluoromethane	100	93	80	119	

CTLab #	680620				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	93	81	118	
Bromofluorobenzene	100	99	85	114	
d8-Toluene	100	98	89	112	
Dibromofluoromethane	100	91	80	119	

CTLab #	680622				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	102	81	118	
Bromofluorobenzene	100	100	85	114	
d8-Toluene	100	99	89	112	
Dibromofluoromethane	100	94	80	119	

CTLab #	680624				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	101	81	118	
Bromofluorobenzene	100	102	85	114	
d8-Toluene	100	98	89	112	
Dibromofluoromethane	100	93	80	119	

CTLab #	680626				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	102	81	118	
Bromofluorobenzene	100	101	85	114	
d8-Toluene	100	99	89	112	
Dibromofluoromethane	100	94	80	119	

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WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Analytical Method:	EPA 8260C	SDG:	116426
Analytical Run #:	122700	ICAL Calibration #:	W012016.

CTLab #	680627				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	99	81	118	
Bromofluorobenzene	100	101	85	114	
d8-Toluene	100	97	89	112	
Dibromofluoromethane	100	94	80	119	

CTLab #	680629				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	102	81	118	
Bromofluorobenzene	100	103	85	114	
d8-Toluene	100	100	89	112	
Dibromofluoromethane	100	93	80	119	

CTLab #	681414				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	97	81	118	
Bromofluorobenzene	100	102	85	114	
d8-Toluene	100	98	89	112	
Dibromofluoromethane	100	95	80	119	

CTLab #	681416				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	93	81	118	
Bromofluorobenzene	100	98	85	114	
d8-Toluene	100	96	89	112	
Dibromofluoromethane	100	93	80	119	

CTLab #	681418				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	99	81	118	
Bromofluorobenzene	100	98	85	114	
d8-Toluene	100	100	89	112	
Dibromofluoromethane	100	96	80	119	

CTLab #	681420				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	100	81	118	
Bromofluorobenzene	100	100	85	114	
d8-Toluene	100	100	89	112	
Dibromofluoromethane	100	94	80	119	

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WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Analytical Method:	EPA 8260C	SDG:	116426
Analytical Run #:	122700	ICAL Calibration #:	W012016.

CTLab #	681422				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	96	81	118	
Bromofluorobenzene	100	100	85	114	
d8-Toluene	100	98	89	112	
Dibromofluoromethane	100	94	80	119	

CTLab #	681423				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	98	81	118	
Bromofluorobenzene	100	99	85	114	
d8-Toluene	100	97	89	112	
Dibromofluoromethane	100	93	80	119	

CTLab #	683450	Sample Type:	Normal Field Sample		
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	97.0	50	150	
Bromofluorobenzene	100	101	50	150	
d8-Toluene	100	99.0	50	150	
Dibromofluoromethane	100	98.0	50	150	

CTLab #	683454	Sample Type:	Method Blank		
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	97.0	70	120	
Bromofluorobenzene	100	96.0	75	120	
d8-Toluene	100	99.0	85	120	
Dibromofluoromethane	100	94.0	85	115	

CTLab #	683457	Sample Type:	Normal Field Sample		
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	92.0	70	120	
Bromofluorobenzene	100	99.0	70	120	
d8-Toluene	100	99.0	85	120	
Dibromofluoromethane	100	100	85	115	

CTLab #	683472	Sample Type:	Lab Control Spike		
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	92.0	81	118	
Bromofluorobenzene	100	99.0	85	114	
d8-Toluene	100	99.0	89	112	
Dibromofluoromethane	100	100	80	119	

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WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Analytical Method:	EPA 8260C	SDG:	116426
Analytical Run #:	122833	ICAL Calibration #:	W012016.

CTLab #	681528				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	100	81	118	
Bromofluorobenzene	100	95	85	114	
d8-Toluene	100	100	89	112	
Dibromofluoromethane	100	93	80	119	

CTLab #	681531				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	98	81	118	
Bromofluorobenzene	100	99	85	114	
d8-Toluene	100	98	89	112	
Dibromofluoromethane	100	90	80	119	

CTLab #	681533				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	92	81	118	
Bromofluorobenzene	100	99	85	114	
d8-Toluene	100	100	89	112	
Dibromofluoromethane	100	96	80	119	

CTLab #	681535				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	105	81	118	
Bromofluorobenzene	100	100	85	114	
d8-Toluene	100	100	89	112	
Dibromofluoromethane	100	97	80	119	

CTLab #	681537				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	99	81	118	
Bromofluorobenzene	100	100	85	114	
d8-Toluene	100	96	89	112	
Dibromofluoromethane	100	91	80	119	

CTLab #	681539				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	100	81	118	
Bromofluorobenzene	100	102	85	114	
d8-Toluene	100	99	89	112	
Dibromofluoromethane	100	92	80	119	

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WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Analytical Method:	EPA 8260C	SDG:	116426
Analytical Run #:	122833	ICAL Calibration #:	W012016.

CTLab #	683623	Sample Type:		Lab Control Spike	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	102	81	118	
Bromofluorobenzene	100	102	85	114	
d8-Toluene	100	102	89	112	
Dibromofluoromethane	100	99.0	80	119	

CTLab #	683636	Sample Type:		Normal Field Sample	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	102	70	120	
Bromofluorobenzene	100	102	70	120	
d8-Toluene	100	102	85	120	
Dibromofluoromethane	100	99.0	85	115	

CTLab #	683723	Sample Type:		Method Blank	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	91.0	70	120	
Bromofluorobenzene	100	95.0	75	120	
d8-Toluene	100	98.0	85	120	
Dibromofluoromethane	100	92.0	85	115	

CTLab #	683856	Sample Type:		Matrix Spike	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	100	81	118	
Bromofluorobenzene	100	99.0	85	114	
d8-Toluene	100	101	89	112	
Dibromofluoromethane	100	93.0	80	119	

CTLab #	683857	Sample Type:		Matrix Spike Duplicate	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	95.0	81	118	
Bromofluorobenzene	100	99.0	85	114	
d8-Toluene	100	99.0	89	112	
Dibromofluoromethane	100	95.0	80	119	

CTLab #	683864	Sample Type:		Normal Field Sample	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	92.0	50	150	
Bromofluorobenzene	100	98.0	50	150	
d8-Toluene	100	102	50	150	
Dibromofluoromethane	100	90.0	50	150	

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WATER VOLATILE MATRIX SPIKE RECOVERY

Sample Description: **48MW2**

Lab Name: CT Laboratories | Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: GROUND WATER | SDG No.: 116426

Analytical Method: EPA 8260C | Concentration Units: ug/L

Analytical Run #: 122833 | Sample No.: 683856 | Parent Sample No.: 681533

Analytical Prep Batch #: 0 | Analytical Preparation Date/Time:

ICAL Calibration #: W012016.

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R	
1,1,1-Trichloroethane	01/22/2016	16:01	74-131	10.2	BDL	10.0	102	
1,1,2,2-Tetrachloroethane	01/22/2016	16:01	71-121	9.11	BDL	10.0	91	
1,1,2-Trichloroethane	01/22/2016	16:01	80-119	9.70	BDL	10.0	97	
1,1-Dichloroethane	01/22/2016	16:01	77-125	10.1	BDL	10.0	101	
1,1-Dichloroethene	01/22/2016	16:01	71-131	10.2	BDL	10.0	102	
1,2,3-Trichlorobenzene	01/22/2016	16:01	69-129	10.0	BDL	10.0	100	
1,2,4-Trichlorobenzene	01/22/2016	16:01	69-130	9.76	BDL	10.0	98	
1,2-Dibromo-3-chloropropane	01/22/2016	16:01	62-128	9.20	BDL	10.0	92	
1,2-Dibromoethane	01/22/2016	16:01	77-121	8.49	BDL	10.0	85	
1,2-Dichlorobenzene	01/22/2016	16:01	80-119	10.1	BDL	10.0	101	
1,2-Dichloroethane	01/22/2016	16:01	73-128	9.87	BDL	10.0	99	
1,2-Dichloropropane	01/22/2016	16:01	78-122	10.1	BDL	10.0	101	
1,3-Dichlorobenzene	01/22/2016	16:01	80-119	9.97	BDL	10.0	100	
1,4-Dichlorobenzene	01/22/2016	16:01	79-118	10.1	BDL	10.0	101	
1,4-Dioxane	01/22/2016	16:01	59-139	365	BDL	500	73	
2-Butanone	01/22/2016	16:01	56-143	83.1	BDL	100	83	
2-Hexanone	01/22/2016	16:01	57-139	98.0	BDL	100	98	
4-Methyl-2-pentanone	01/22/2016	16:01	67-130	95.4	BDL	100	95	
Acetone	01/22/2016	16:01	39-160	57.6	BDL	100	58	
Benzene	01/22/2016	16:01	79-120	9.94	BDL	10.0	99	
Bromochloromethane	01/22/2016	16:01	78-123	9.81	BDL	10.0	98	
Bromodichloromethane	01/22/2016	16:01	79-125	8.78	BDL	10.0	88	
Bromoform	01/22/2016	16:01	66-130	8.19	BDL	10.0	82	
Bromomethane	01/22/2016	16:01	53-141	15.5	BDL	10.0	155	*FAIL*
Carbon disulfide	01/22/2016	16:01	64-133	21.2	BDL	20.0	106	
Carbon tetrachloride	01/22/2016	16:01	72-136	77.6	66	10.0	116	
Chlorobenzene	01/22/2016	16:01	82-118	10.1	BDL	10.0	101	
Chloroethane	01/22/2016	16:01	60-138	13.1	BDL	10.0	131	
Chloroform	01/22/2016	16:01	79-124	14.8	5.9	10.0	89	
Chloromethane	01/22/2016	16:01	50-139	11.3	BDL	10.0	113	
cis-1,2-Dichloroethene	01/22/2016	16:01	78-123	9.52	BDL	10.0	95	

CT LABORATORIES
delivering more than data from your environmental analyses

3A

WATER VOLATILE MATRIX SPIKE RECOVERY

Sample Description: **48MW2**

Lab Name: CT Laboratories | Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: GROUND WATER | SDG No.: 116426

Analytical Method: EPA 8260C | Concentration Units: ug/L

Analytical Run #: 122833 | Sample No.: 683856 | Parent Sample No.: 681533

Analytical Prep Batch #: 0 | Analytical Preparation Date/Time:

ICAL Calibration #: W012016.

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R	
cis-1,3-Dichloropropene	01/22/2016	16:01	75-124	9.29	BDL	10.0	93	
Cyclohexane	01/22/2016	16:01	71-130	10.6	BDL	10.0	106	
Dibromochloromethane	01/22/2016	16:01	74-126	8.55	BDL	10.0	86	
Dichlorodifluoromethane	01/22/2016	16:01	32-152	11.0	BDL	10.0	110	
Ethylbenzene	01/22/2016	16:01	79-121	10.5	BDL	10.0	105	
Freon 113	01/22/2016	16:01	70-136	21.6	BDL	20.0	108	
Isopropylbenzene	01/22/2016	16:01	72-131	10.8	BDL	10.0	108	
m & p-Xylene	01/22/2016	16:01	80-121	20.8	BDL	20.0	104	
Methyl Acetate	01/22/2016	16:01	56-136	9.17	BDL	10.0	92	
Methyl tert-butyl ether	01/22/2016	16:01	71-124	8.95	BDL	10.0	90	
Methylcyclohexane	01/22/2016	16:01	72-132	11.0	BDL	10.0	110	
Methylene chloride	01/22/2016	16:01	74-124	8.51	BDL	10.0	85	
o-Xylene	01/22/2016	16:01	78-122	10.3	BDL	10.0	103	
Styrene	01/22/2016	16:01	78-123	10.0	BDL	10.0	100	
Tetrachloroethene	01/22/2016	16:01	74-129	9.92	BDL	10.0	99	
Toluene	01/22/2016	16:01	80-121	10.1	BDL	10.0	101	
trans-1,2-Dichloroethene	01/22/2016	16:01	75-124	9.46	BDL	10.0	95	
trans-1,3-Dichloropropene	01/22/2016	16:01	73-127	8.72	BDL	10.0	87	
Trichloroethene	01/22/2016	16:01	79-123	17.3	7.9	10.0	94	
Trichlorofluoromethane	01/22/2016	16:01	65-141	16.8	BDL	10.0	168	*FAIL*
Vinyl chloride	01/22/2016	16:01	58-137	12.4	BDL	10.0	124	

Spike Recovery: 2 out of 52 outside QC limits

CT LABORATORIES
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3A

WATER VOLATILE MATRIX SPIKE RECOVERY

Sample Description

48MW2

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: GROUND WATER SDG No.: 116426

Analytical Method: Mod RSK 175 Concentration Units: ug/L

Analytical Run #: 122794 Sample No.: 682538 Parent Sample No.: 681533

Analytical Prep Batch #: 55942 Analytical Preparation Date/Time: 01/19/2016 10:30

ICAL Calibration #: P4DG020315

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
Ethane	01/20/2016	12:13	74-131	4.55	BDL	4.79	95
Ethene	01/20/2016	12:13	72-133	6.38	BDL	6.81	94
Methane	01/20/2016	12:13	73-125	2.23	BDL	2.30	97

Spike Recovery: 0 out of 3 outside QC limits

CT LABORATORIES
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3A

WATER VOLATILE MATRIX SPIKE DUPLICATE RECOVERY

Sample Description: **48MW2**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: GROUND WATER
SDG No.: 116426
Analytical Method: EPA 8260C
Concentration Units: ug/L
Analytical Run #: 122833
Sample No.: 683857
Parent Sample No.: 683856
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
ICAL Calibration #: W012016.

Analyte	Analysis Date/Time		Spike Result	Spike Amount	%R	%RPD	Control Limits (%R)	Control Limits (%RPD)	
1,1,1-Trichloroethane	01/22/2016	16:31	10.8	10.0	108	6	74-131	20	
1,1,2,2-Tetrachloroethane	01/22/2016	16:31	11.9	10.0	119	27	71-121	20	FAIL
1,1,2-Trichloroethane	01/22/2016	16:31	11.0	10.0	110	13	80-119	20	
1,1-Dichloroethane	01/22/2016	16:31	10.8	10.0	108	7	77-125	20	
1,1-Dichloroethene	01/22/2016	16:31	10.2	10.0	102	1	71-131	20	
1,2,3-Trichlorobenzene	01/22/2016	16:31	10.9	10.0	109	9	69-129	20	
1,2,4-Trichlorobenzene	01/22/2016	16:31	11.6	10.0	116	17	69-130	20	
1,2-Dibromo-3-chloropropane	01/22/2016	16:31	9.82	10.0	98	7	62-128	20	
1,2-Dibromoethane	01/22/2016	16:31	11.7	10.0	117	32	77-121	20	FAIL
1,2-Dichlorobenzene	01/22/2016	16:31	11.3	10.0	113	12	80-119	20	
1,2-Dichloroethane	01/22/2016	16:31	11.2	10.0	112	12	73-128	20	
1,2-Dichloropropane	01/22/2016	16:31	11.1	10.0	111	9	78-122	20	
1,3-Dichlorobenzene	01/22/2016	16:31	11.1	10.0	111	10	80-119	20	
1,4-Dichlorobenzene	01/22/2016	16:31	11.1	10.0	111	9	79-118	20	
1,4-Dioxane	01/22/2016	16:31	600	500	120	49	59-139	20	FAIL
2-Butanone	01/22/2016	16:31	116	100	116	33	56-143	20	FAIL
2-Hexanone	01/22/2016	16:31	127	100	127	26	57-139	20	FAIL
4-Methyl-2-pentanone	01/22/2016	16:31	126	100	126	28	67-130	20	FAIL
Acetone	01/22/2016	16:31	92.4	100	92	46	39-160	20	FAIL
Benzene	01/22/2016	16:31	11.1	10.0	111	11	79-120	20	
Bromochloromethane	01/22/2016	16:31	9.92	10.0	99	1	78-123	20	
Bromodichloromethane	01/22/2016	16:31	10.8	10.0	108	21	79-125	20	FAIL
Bromoform	01/22/2016	16:31	10.0	10.0	100	20	66-130	20	
Bromomethane	01/22/2016	16:31	12.5	10.0	125	22	53-141	20	FAIL
Carbon disulfide	01/22/2016	16:31	21.7	20.0	108	3	64-133	20	
Carbon tetrachloride	01/22/2016	16:31	76.0	10.0	100	2	72-136	20	
Chlorobenzene	01/22/2016	16:31	11.6	10.0	116	13	82-118	20	
Chloroethane	01/22/2016	16:31	12.3	10.0	123	6	60-138	20	
Chloroform	01/22/2016	16:31	16.6	10.0	107	12	79-124	20	
Chloromethane	01/22/2016	16:31	10.1	10.0	101	11	50-139	20	
cis-1,2-Dichloroethene	01/22/2016	16:31	10.5	10.0	105	10	78-123	20	

CT LABORATORIES
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3A

Sample Description

48MW2

WATER VOLATILE MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: GROUND WATER SDG No.: 116426

Analytical Method: EPA 8260C Concentration Units: ug/L

Analytical Run #: 122833 Sample No.: 683857 Parent Sample No.: 683856

Analytical Prep Batch #: 0 Analytical Preparation Date/Time:

ICAL Calibration #: W012016.

Analyte	Analysis Date/Time		Spike Result	Spike Amount	%R	%RPD	Control Limits (%R)	Control Limits (%RPD)	
cis-1,3-Dichloropropene	01/22/2016	16:31	10.9	10.0	109	16	75-124	20	
Cyclohexane	01/22/2016	16:31	10.8	10.0	108	1	71-130	20	
Dibromochloromethane	01/22/2016	16:31	10.3	10.0	103	19	74-126	20	
Dichlorodifluoromethane	01/22/2016	16:31	10.9	10.0	109	1	32-152	20	
Ethylbenzene	01/22/2016	16:31	12.3	10.0	123	16	79-121	20	*FAIL*
Freon 113	01/22/2016	16:31	21.4	20.0	107	1	70-136	20	
Isopropylbenzene	01/22/2016	16:31	12.5	10.0	125	15	72-131	20	
m & p-Xylene	01/22/2016	16:31	23.7	20.0	118	13	80-121	20	
Methyl Acetate	01/22/2016	16:31	11.7	10.0	117	24	56-136	20	*FAIL*
Methyl tert-butyl ether	01/22/2016	16:31	10.9	10.0	109	19	71-124	20	
Methylcyclohexane	01/22/2016	16:31	11.3	10.0	113	3	72-132	20	
Methylene chloride	01/22/2016	16:31	9.88	10.0	99	15	74-124	20	
o-Xylene	01/22/2016	16:31	11.6	10.0	116	11	78-122	20	
Styrene	01/22/2016	16:31	12.0	10.0	120	18	78-123	20	
Tetrachloroethene	01/22/2016	16:31	10.9	10.0	109	10	74-129	20	
Toluene	01/22/2016	16:31	10.7	10.0	107	6	80-121	20	
trans-1,2-Dichloroethene	01/22/2016	16:31	9.84	10.0	98	4	75-124	20	
trans-1,3-Dichloropropene	01/22/2016	16:31	11.2	10.0	112	25	73-127	20	*FAIL*
Trichloroethene	01/22/2016	16:31	18.2	10.0	103	5	79-123	20	
Trichlorofluoromethane	01/22/2016	16:31	17.1	10.0	171	2	65-141	20	*FAIL*
Vinyl chloride	01/22/2016	16:31	12.6	10.0	126	2	58-137	20	

RPD or Spike Recovery: 13 out of 52 outside QC limits

CT LABORATORIES
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3A

Sample Description

WATER VOLATILE MATRIX SPIKE DUPLICATE RECOVERY

48MW2

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: GROUND WATER SDG No.: 116426

Analytical Method: Mod RSK 175 Concentration Units: ug/L

Analytical Run #: 122794 Sample No.: 682539 Parent Sample No.: 682538

Analytical Prep Batch #: 55942 Analytical Preparation Date/Time: 01/19/2016 10:30

ICAL Calibration #: P4DG020315

Analyte	Analysis Date/Time	Spike Result	Spike Amount	%R	%RPD	Control Limits (%R)	Control Limits (%RPD)
Ethane	01/20/2016 12:17	4.61	4.79	96	1	74-131	30
Ethene	01/20/2016 12:17	6.45	6.81	95	1	72-133	30
Methane	01/20/2016 12:17	2.24	2.30	97	0	73-125	30

RPD or Spike Recovery: 0 out of 3 outside QC limits

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3A

Sample Description

WATER VOLATILE LAB CONTROL SAMPLE

LCS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Sample No.: 682147 SDG No.: 116426

Analytical Method: Mod RSK 175 Concentration Units: ug/L

Sample No.: 682147 Parent Sample No.: 0

Analytical Prep Batch #: 55942 Analytical Preparation Date/Time: 01/19/2016 10:30

Analytical Run #: 122794 ICAL Calibration #: P4DG020315

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
Ethane	01/20/2016	10:58	74-131	4.86		4.79	101
Ethene	01/20/2016	10:58	72-133	6.82		6.81	100
Methane	01/20/2016	10:58	73-125	2.37		2.30	103

Spike Recovery: 0 out of 3 outside limits

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3A

Sample Description

WATER VOLATILE LAB CONTROL SAMPLE

LCS

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Sample No.: 683472
SDG No.: 116426
Analytical Method: EPA 8260C
Concentration Units: ug/L

Sample No.: 683472
Parent Sample No.: 0
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
Analytical Run #: 122700
ICAL Calibration #: W012016.

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
1,1,1-Trichloroethane	01/21/2016	17:17	74-131	10.2		10.0	102
1,1,2,2-Tetrachloroethane	01/21/2016	17:17	71-121	10.5		10.0	105
1,1,2-Trichloroethane	01/21/2016	17:17	80-119	9.37		10.0	94
1,1-Dichloroethane	01/21/2016	17:17	77-125	10.2		10.0	102
1,1-Dichloroethene	01/21/2016	17:17	71-131	10.1		10.0	101
1,2,3-Trichlorobenzene	01/21/2016	17:17	69-129	10.3		10.0	103
1,2,4-Trichlorobenzene	01/21/2016	17:17	69-130	9.55		10.0	96
1,2-Dibromo-3-chloropropane	01/21/2016	17:17	62-128	9.30		10.0	93
1,2-Dibromoethane	01/21/2016	17:17	77-121	9.73		10.0	97
1,2-Dichlorobenzene	01/21/2016	17:17	80-119	10.3		10.0	103
1,2-Dichloroethane	01/21/2016	17:17	73-128	11.3		10.0	113
1,2-Dichloropropane	01/21/2016	17:17	78-122	11.2		10.0	112
1,3-Dichlorobenzene	01/21/2016	17:17	80-119	10.7		10.0	107
1,4-Dichlorobenzene	01/21/2016	17:17	79-118	10.4		10.0	104
1,4-Dioxane	01/21/2016	17:17	59-139	505		500	101
2-Butanone	01/21/2016	17:17	56-143	104		100	104
2-Hexanone	01/21/2016	17:17	57-139	103		100	103
4-Methyl-2-pentanone	01/21/2016	17:17	67-130	106		100	106
Acetone	01/21/2016	17:17	39-160	98.8		100	99
Benzene	01/21/2016	17:17	79-120	10.6		10.0	106
Bromochloromethane	01/21/2016	17:17	78-123	9.45		10.0	94
Bromodichloromethane	01/21/2016	17:17	79-125	10.3		10.0	103
Bromoform	01/21/2016	17:17	66-130	9.35		10.0	94
Bromomethane	01/21/2016	17:17	53-141	13.1		10.0	131
Carbon disulfide	01/21/2016	17:17	64-133	21.8		20.0	109
Carbon tetrachloride	01/21/2016	17:17	72-136	10.0		10.0	100
Chlorobenzene	01/21/2016	17:17	82-118	9.85		10.0	98
Chloroethane	01/21/2016	17:17	60-138	10.4		10.0	104

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3A

Sample Description

WATER VOLATILE LAB CONTROL SAMPLE

LCS

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Sample No.: 683472
SDG No.: 116426
Analytical Method: EPA 8260C
Concentration Units: ug/L

Sample No.: 683472
Parent Sample No.: 0
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
Analytical Run #: 122700
ICAL Calibration #: W012016.

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
Chloroform	01/21/2016	17:17	79-124	10.2		10.0	102
Chloromethane	01/21/2016	17:17	50-139	10.4		10.0	104
cis-1,2-Dichloroethene	01/21/2016	17:17	78-123	10.4		10.0	104
cis-1,3-Dichloropropene	01/21/2016	17:17	75-124	10.1		10.0	101
Cyclohexane	01/21/2016	17:17	71-130	10.4		10.0	104
Dibromochloromethane	01/21/2016	17:17	74-126	9.23		10.0	92
Dichlorodifluoromethane	01/21/2016	17:17	32-152	10.7		10.0	107
Ethylbenzene	01/21/2016	17:17	79-121	10.5		10.0	105
Freon 113	01/21/2016	17:17	70-136	20.5		20.0	102
Isopropylbenzene	01/21/2016	17:17	72-131	10.6		10.0	106
m & p-Xylene	01/21/2016	17:17	80-121	20.3		20.0	102
Methyl Acetate	01/21/2016	17:17	56-136	11.9		10.0	119
Methyl tert-butyl ether	01/21/2016	17:17	71-124	10.5		10.0	105
Methylcyclohexane	01/21/2016	17:17	72-132	10.2		10.0	102
Methylene chloride	01/21/2016	17:17	74-124	10.5		10.0	105
o-Xylene	01/21/2016	17:17	78-122	9.88		10.0	99
Styrene	01/21/2016	17:17	78-123	10.3		10.0	103
Tetrachloroethene	01/21/2016	17:17	74-129	10.5		10.0	105
Toluene	01/21/2016	17:17	80-121	10.2		10.0	102
trans-1,2-Dichloroethene	01/21/2016	17:17	75-124	9.89		10.0	99
trans-1,3-Dichloropropene	01/21/2016	17:17	73-127	9.91		10.0	99
Trichloroethene	01/21/2016	17:17	79-123	10.9		10.0	109
Trichlorofluoromethane	01/21/2016	17:17	65-141	9.69		10.0	97
Vinyl chloride	01/21/2016	17:17	58-137	11.8		10.0	118

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3A

Sample Description

LCS

WATER VOLATILE LAB CONTROL SAMPLE

Lab Name:	CT Laboratories	Contract	BERING SEA ENVIRONMENTAL-RADFORD AAP
Sample No.:	683472	SDG No.:	116426
Analytical Method:	EPA 8260C	Concentration Units:	ug/L

Spike Recovery: 0 out of 52 outside limits

CT LABORATORIES
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3A

Sample Description

WATER VOLATILE LAB CONTROL SAMPLE

LCS

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Sample No.: 683623
SDG No.: 116426
Analytical Method: EPA 8260C
Concentration Units: ug/L

Sample No.: 683623
Parent Sample No.: 0
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
Analytical Run #: 122833
ICAL Calibration #: W012016.

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
1,1,1-Trichloroethane	01/22/2016	10:40	74-131	9.32		10.0	93
1,1,2,2-Tetrachloroethane	01/22/2016	10:40	71-121	9.94		10.0	99
1,1,2-Trichloroethane	01/22/2016	10:40	80-119	9.55		10.0	96
1,1-Dichloroethane	01/22/2016	10:40	77-125	9.62		10.0	96
1,1-Dichloroethene	01/22/2016	10:40	71-131	9.14		10.0	91
1,2,3-Trichlorobenzene	01/22/2016	10:40	69-129	9.09		10.0	91
1,2,4-Trichlorobenzene	01/22/2016	10:40	69-130	9.80		10.0	98
1,2-Dibromo-3-chloropropane	01/22/2016	10:40	62-128	8.98		10.0	90
1,2-Dibromoethane	01/22/2016	10:40	77-121	9.37		10.0	94
1,2-Dichlorobenzene	01/22/2016	10:40	80-119	9.37		10.0	94
1,2-Dichloroethane	01/22/2016	10:40	73-128	10.9		10.0	109
1,2-Dichloropropane	01/22/2016	10:40	78-122	9.85		10.0	98
1,3-Dichlorobenzene	01/22/2016	10:40	80-119	9.25		10.0	92
1,4-Dichlorobenzene	01/22/2016	10:40	79-118	9.53		10.0	95
1,4-Dioxane	01/22/2016	10:40	59-139	533		500	107
2-Butanone	01/22/2016	10:40	56-143	106		100	106
2-Hexanone	01/22/2016	10:40	57-139	108		100	108
4-Methyl-2-pentanone	01/22/2016	10:40	67-130	107		100	107
Acetone	01/22/2016	10:40	39-160	113		100	113
Benzene	01/22/2016	10:40	79-120	9.98		10.0	100
Bromochloromethane	01/22/2016	10:40	78-123	9.38		10.0	94
Bromodichloromethane	01/22/2016	10:40	79-125	9.17		10.0	92
Bromoform	01/22/2016	10:40	66-130	9.16		10.0	92
Bromomethane	01/22/2016	10:40	53-141	11.1		10.0	111
Carbon disulfide	01/22/2016	10:40	64-133	19.2		20.0	96
Carbon tetrachloride	01/22/2016	10:40	72-136	8.73		10.0	87
Chlorobenzene	01/22/2016	10:40	82-118	9.31		10.0	93
Chloroethane	01/22/2016	10:40	60-138	11.4		10.0	114

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3A

Sample Description

WATER VOLATILE LAB CONTROL SAMPLE

LCS

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Sample No.: 683623

SDG No.: 116426

Analytical Method: EPA 8260C

Concentration Units: ug/L

Sample No.: 683623

Parent Sample No.: 0

Analytical Prep Batch #: 0

Analytical Preparation Date/Time:

Analytical Run #: 122833

ICAL Calibration #: W012016.

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
Chloroform	01/22/2016	10:40	79-124	9.46		10.0	95
Chloromethane	01/22/2016	10:40	50-139	10.0		10.0	100
cis-1,2-Dichloroethene	01/22/2016	10:40	78-123	9.17		10.0	92
cis-1,3-Dichloropropene	01/22/2016	10:40	75-124	9.39		10.0	94
Cyclohexane	01/22/2016	10:40	71-130	9.00		10.0	90
Dibromochloromethane	01/22/2016	10:40	74-126	8.79		10.0	88
Dichlorodifluoromethane	01/22/2016	10:40	32-152	9.80		10.0	98
Ethylbenzene	01/22/2016	10:40	79-121	9.82		10.0	98
Freon 113	01/22/2016	10:40	70-136	18.5		20.0	92
Isopropylbenzene	01/22/2016	10:40	72-131	9.86		10.0	99
m & p-Xylene	01/22/2016	10:40	80-121	19.2		20.0	96
Methyl Acetate	01/22/2016	10:40	56-136	12.9		10.0	129
Methyl tert-butyl ether	01/22/2016	10:40	71-124	10.2		10.0	102
Methylcyclohexane	01/22/2016	10:40	72-132	9.61		10.0	96
Methylene chloride	01/22/2016	10:40	74-124	9.81		10.0	98
o-Xylene	01/22/2016	10:40	78-122	9.12		10.0	91
Styrene	01/22/2016	10:40	78-123	9.66		10.0	97
Tetrachloroethene	01/22/2016	10:40	74-129	9.22		10.0	92
Toluene	01/22/2016	10:40	80-121	9.55		10.0	96
trans-1,2-Dichloroethene	01/22/2016	10:40	75-124	9.16		10.0	92
trans-1,3-Dichloropropene	01/22/2016	10:40	73-127	9.77		10.0	98
Trichloroethene	01/22/2016	10:40	79-123	9.48		10.0	95
Trichlorofluoromethane	01/22/2016	10:40	65-141	8.86		10.0	89
Vinyl chloride	01/22/2016	10:40	58-137	11.0		10.0	110

CT LABORATORIES
delivering more than data from your environmental analyses

3A

Sample Description

WATER VOLATILE LAB CONTROL SAMPLE

LCS

Lab Name:	CT Laboratories	Contract	BERING SEA ENVIRONMENTAL-RADFORD AAP
Sample No.:	683623	SDG No.:	116426
Analytical Method:	EPA 8260C	Concentration Units:	ug/L

Spike Recovery: 0 out of 52 outside limits

CT LABORATORIES
delivering more than data from your environmental analyses

4A

VOLATILE METHOD BLANK SUMMARY

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Sample ID:	682146	SDG No.:	116426
Matrix:	LIQUID	Date Extracted:	01/19/2016
Date Analyzed:	01/20/2016	Time Analyzed:	11:02
Analytical Method:	Mod RSK 175	Extraction Method:	METHOD
Analytical Run #:	122794	Extraction Batch #:	55942
		ICAL Calibration #:	P4DG020315

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES AND QC:

SEQUENCE	SAMPLE DESCRIPTION	SAMPLE ID	DATE/TIME ANALYZED	CALIBRATION # ID
1	CCV	682729	01/20/2016 10:54	P4DG020315
2	LCSW	682147	01/20/2016 10:58	P4DG020315
3	MBW	682146	01/20/2016 11:02	P4DG020315
4	13MW3	680616	01/20/2016 11:06	P4DG020315
5	49TM01	680618	01/20/2016 11:09	P4DG020315
6	13MW4	680620	01/20/2016 11:13	P4DG020315
7	49MW04	680622	01/20/2016 11:24	P4DG020315
8	13MW2	680624	01/20/2016 11:28	P4DG020315
9	49MW05	680626	01/20/2016 11:32	P4DG020315
10	13MW5	680629	01/20/2016 11:36	P4DG020315
11	48MW07	681414	01/20/2016 11:39	P4DG020315
12	48MW06	681416	01/20/2016 11:43	P4DG020315
13	48MW1	681418	01/20/2016 11:46	P4DG020315
14	CCV	682730	01/20/2016 11:50	P4DG020315
15	49MW03	681420	01/20/2016 11:54	P4DG020315
16	49MW01	681422	01/20/2016 11:58	P4DG020315
17	49MW02	681528	01/20/2016 12:01	P4DG020315
18	48MW3	681531	01/20/2016 12:05	P4DG020315
19	48MW2	681533	01/20/2016 12:09	P4DG020315
20	48MW2MSW	682538	01/20/2016 12:13	P4DG020315
21	48MW2MSDW	682539	01/20/2016 12:17	P4DG020315
22	50MW02	681535	01/20/2016 12:21	P4DG020315
23	011516R1	681537	01/20/2016 12:25	P4DG020315
24	CCV	682731	01/20/2016 12:28	P4DG020315

CT LABORATORIES
delivering more than data from your environmental analyses

4A

VOLATILE METHOD BLANK SUMMARY

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Sample ID:	683454	SDG No.:	116426
Matrix:	LIQUID	Date Extracted:	
Date Analyzed:	01/21/2016	Time Analyzed:	18:18
Analytical Method:	EPA 8260C	Extraction Method:	NONE
Analytical Run #:	122700	Extraction Batch #:	0
		ICAL Calibration #:	W012016.

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES AND QC:

SEQUENCE	SAMPLE DESCRIPTION	SAMPLE ID	DATE/TIME ANALYZED	CALIBRATION # ID
1	BFB	683730	01/21/2016 16:28	
2	CCV	683457	01/21/2016 17:17	W012016.
3	LCSW	683472	01/21/2016 17:17	W012016.
4	MBW	683454	01/21/2016 18:18	W012016.
5	011316T1	680627	01/21/2016 18:47	W012016.
6	011416T1	681423	01/21/2016 19:17	W012016.
7	13MW3	680616	01/21/2016 19:47	W012016.
8	49TM01	680618	01/21/2016 20:16	W012016.
9	13MW4	680620	01/21/2016 20:46	W012016.
10	49MW04	680622	01/21/2016 21:15	W012016.
11	13MW2	680624	01/21/2016 21:44	W012016.
12	49MW05	680626	01/21/2016 22:14	W012016.
13	13MW5	680629	01/21/2016 22:44	W012016.
14	48MW07	681414	01/21/2016 23:14	W012016.
15	48MW06	681416	01/21/2016 23:43	W012016.
16	48MW1	681418	01/22/2016 00:12	W012016.
17	49MW03	681420	01/22/2016 00:42	W012016.
18	49MW01	681422	01/22/2016 01:12	W012016.
19	CCVF	683450	01/22/2016 03:40	W012016.

CT LABORATORIES
delivering more than data from your environmental analyses

4A

VOLATILE METHOD BLANK SUMMARY

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Sample ID:	683723	SDG No.:	116426
Matrix:	LIQUID	Date Extracted:	
Date Analyzed:	01/22/2016	Time Analyzed:	11:38
Analytical Method:	EPA 8260C	Extraction Method:	NONE
Analytical Run #:	122833	Extraction Batch #:	0
		ICAL Calibration #:	W012016.

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES AND QC:

SEQUENCE	SAMPLE DESCRIPTION	SAMPLE ID	DATE/TIME ANALYZED	CALIBRATION # ID
1	BFB	683580	01/22/2016 09:07	
2	LCSW	683623	01/22/2016 10:40	W012016.
3	CCV	683636	01/22/2016 10:40	W012016.
4	MBW	683723	01/22/2016 11:38	W012016.
5	011516T1	681539	01/22/2016 12:37	W012016.
6	49MW02	681528	01/22/2016 13:06	W012016.
7	48MW3	681531	01/22/2016 13:35	W012016.
8	48MW2	681533	01/22/2016 14:04	W012016.
9	50MW02	681535	01/22/2016 14:34	W012016.
10	011516R1	681537	01/22/2016 15:03	W012016.
11	48MW2MSW	683856	01/22/2016 16:01	W012016.
12	48MW2MSDW	683857	01/22/2016 16:31	W012016.
13	CCVF	683864	01/22/2016 20:27	W012016.

Data File : C:\INSTARCH\DATA\JAN2016\BFB1.D Vial: 1
Acq On : 20 Jan 2016 13:25 Operator: AGK-RLD
Sample : BFB INJECTION Inst : VMS3
Misc : 25 ng Inj. Multiplr: 1.00
Integration File: VOC.P

Method : C:\INSTARCH\METHODS\W012016.M
Title : 8260C Waters Method

Spectrum Information: Average of 4.638 to 4.644 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	21.9	21942	PASS
75	95	30	60	52.4	52435	PASS
95	95	100	100	100.0	100000	PASS
96	95	5	9	5.9	5913	PASS
173	174	0.00	2	1.4	1318	PASS
174	95	50	100	92.2	92241	PASS
175	174	5	9	8.8	8158	PASS
176	174	95	101	99.3	91558	PASS
177	176	5	9	7.9	7202	PASS

W012016.M Tue Feb 02 10:39:27 2016

Injection Log Summary Report

Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Start (Tune) File ID : C:\INSTARCH\DATA\JAN2016\BFB1.D
Injection Date : 20 Jan 2016 Log Time Period (hrs) : ALL
Injection Time : 13:25 Total files within period : 17
Sample Directory : C:\INSTARCH\DATA\JAN2016\

Injection Log Summary Table

File ID	Multiplier I	S	T	Sample Name / Misc Info	Date	Time
WCAL1	1.00	1.00	1.00	INITIAL CALIB. PT1 0.50/5.00 ug/L, 5.0 mL Pu	20 Jan 2016	15:44
WCAL2	1.00	1.00	1.00	INITIAL CALIB. PT2 2.00/20.0 ug/L, 5.0 mL Pu	20 Jan 2016	16:14
WCAL3	1.00	1.00	1.00	INITIAL CALIB. PT3 5.00/50.0 ug/L, 5.0 mL Pu	20 Jan 2016	16:44
WCAL4	1.00	1.00	1.00	INITIAL CALIB. PT4 10.0/100 ug/L, 5.0 mL Pur	20 Jan 2016	17:13
WCAL5	1.00	1.00	1.00	INITIAL CALIB. PT5 20.0/200 ug/L, 5.0 mL Pur	20 Jan 2016	17:42
WCAL6	1.00	1.00	1.00	INITIAL CALIB. PT6 30.0/300 ug/L, 5.0 mL Pur	20 Jan 2016	18:11
WCAL7	1.00	1.00	1.00	INITIAL CALIB. PT7 40.0/400 ug/L, 5.0 mL Pur	20 Jan 2016	18:41
WCAL8	1.00	1.00	1.00	INITIAL CALIB. PT8 80.0/800 ug/L, 5.0 mL Pur	20 Jan 2016	19:10
ICV1	1.00	1.00	1.00	INITIAL CALIB. VERIF. 10.0/100 ug/L, 5.0 mL Pur	20 Jan 2016	20:09
ICV2	1.00	1.00	1.00	INITIAL CALIB. VERIF. 30.0/300 ug/L, 5.0 mL Pur	20 Jan 2016	20:39
ICB1	1.00	1.00	1.00	INITIAL CALIB. BLANK pH<2, 5.0 mL DI H20 Purge	20 Jan 2016	21:38

8260 ISTD/SSTD 20ug/ml VOC0132
8260 BFB STD. 50ug/ml VOC0131
8260 ICV STD. 100ug/ml VOC0133
8260 CCV/CALIB. 100ug/ml VOC0134

Data File : C:\INSTARCH\Data\JAN2116\BFB2.D Vial: 13
Acq On : 21 Jan 2016 16:28 Operator: AGK-RLD
Sample : 122700,BFB, Inst : VMS3
Misc : 25 ng Inj. Multiplr: 1.00
Integration File: VOC.P

Method : C:\INSTARCH\METHODS\W012016.M
Title : 8260C Waters Method

Spectrum Information: Average of 4.638 to 4.651 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	26.3	26326	PASS
75	95	30	60	57.8	57764	PASS
95	95	100	100	100.0	100000	PASS
96	95	5	9	5.2	5237	PASS
173	174	0.00	2	1.9	1722	PASS
174	95	50	100	92.3	92350	PASS
175	174	5	9	8.7	8058	PASS
176	174	95	101	100.8	93098	PASS
177	176	5	9	7.8	7258	PASS

W012016.M Fri Jan 22 10:01:05 2016

Injection Log Summary Report

Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Start (Tune) File ID : C:\INSTARCH\DATA\JAN2116\BFB1.D
Injection Date : 21 Jan 2016 Log Time Period (hrs) : ALL
Injection Time : 08:57 Total files within period : 35
Sample Directory : C:\INSTARCH\DATA\JAN2116\

Injection Log Summary Table

File ID	Multiplier I	S	T	Sample Name / Misc Info	Date	Time
BFB2	1.00	1.00	1.00	122700,BFB, 25 ng Inj.	21 Jan 2016	16:28
CCV-LCS2	1.00	1.00	1.00	122700,LCSW, 10.0/100 ug/L, 5.0 mL Pur	21 Jan 2016	17:17
IB4	1.00	1.00	1.00	INSTRUMENT BLANK 5.0 mL DI H20 Purged + IS	21 Jan 2016	17:48
MB2-CCB1	1.00	1.00	1.00	122700,MBW, pH<2, 5.0 mL DI H20 Purge	21 Jan 2016	18:18
680627	1.00	1.00	1.00	122700,680627, pH<2, 5.0 mL Purged + IS/	21 Jan 2016	18:47
681423	1.00	1.00	1.00	122700,681423, pH<2, 5.0 mL Purged + IS/	21 Jan 2016	19:17
680616	1.00	1.00	1.00	122700,680616, pH<2, 5.0 mL Purged + IS/	21 Jan 2016	19:47
680618	1.00	1.00	1.00	122700,680618, pH<2, 5.0 mL Purged + IS/	21 Jan 2016	20:16
680620	1.00	1.00	1.00	122700,680620, pH<2, 5.0 mL Purged + IS/	21 Jan 2016	20:46
680622	1.00	1.00	1.00	122700,680622, pH<2, 5.0 mL Purged + IS/	21 Jan 2016	21:15

Injection Log Summary Report

Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Start (Tune) File ID : C:\INSTARCH\DATA\JAN2116\BFB1.D
Injection Date : 21 Jan 2016 Log Time Period (hrs) : ALL
Injection Time : 08:57 Total files within period : 35
Sample Directory : C:\INSTARCH\DATA\JAN2116\

Injection Log Summary Table

File ID	Multiplier I	S	T	Sample Name / Misc Info	Date	Time
680624	1.00	1.00	1.00	122700,680624, pH<2, 5.0 mL Purged + IS/	21 Jan 2016	21:44
680626	1.00	1.00	1.00	122700,680626, pH<2, 5.0 mL Purged + IS/	21 Jan 2016	22:14
680629	1.00	1.00	1.00	122700,680629, pH<2, 5.0 mL Purged + IS/	21 Jan 2016	22:44
681414	1.00	1.00	1.00	122700,681414, pH<2, 5.0 mL Purged + IS/	21 Jan 2016	23:14
681416	1.00	1.00	1.00	122700,681416, pH<2, 5.0 mL Purged + IS/	21 Jan 2016	23:43
681418	1.00	1.00	1.00	122700,681418, pH<2, 5.0 mL Purged + IS/	22 Jan 2016	00:12
681420	1.00	1.00	1.00	122700,681420, pH<2, 5.0 mL Purged + IS/	22 Jan 2016	00:42
681422	1.00	1.00	1.00	122700,681422, pH<2, 5.0 mL Purged + IS/	22 Jan 2016	01:12
680616MS	1.00	1.00	1.00	122700,MSW680616, pH<2, 10.0/100 ug/L, 5.0	22 Jan 2016	01:41
680616SD	1.00	1.00	1.00	122700,MSDW680616, pH<2, 10.0/100 ug/L, 5.0	22 Jan 2016	02:11
CCVF1	1.00	1.00	1.00	122701,CCVF, 10.0/100 ug/L, 5.0 mL Pur	22 Jan 2016	03:40

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name : CT Laboratories, LLC Contract :
Project : Site : Location : Group :
Lab File ID (Standard): WCAL4.D Date Analyzed : 20 Jan 2016
Instrument ID : VMS3 Time Analyzed : 17:13
GC Column : DB-624UI ID : VMS3(mm) Heated Purge (Y:N) : N

	IS1		IS2		IS3	
	Area #	RT #	Area #	RT #	Area #	RT #
12 HOUR STD	1112155	7.68	858964	11.60	455640	14.90
UPPER LIMIT	2224310	8.18	1717928	12.10	911280	15.40
LOWER LIMIT	556078	7.18	429482	11.10	227820	14.40
File ID Sample						
680616 122700,68	954313	7.68	678592	11.60	355544	14.90
680616MS 122700,MS	914641	7.69	678990	11.60	359226	14.90
680616SD 122700,MS	897969	7.69	688701	11.60	351011	14.90
680618 122700,68	935477	7.69	662677	11.60	360493	14.90
680620 122700,68	948606	7.68	682396	11.60	359381	14.90
680622 122700,68	916013	7.69	672626	11.60	353969	14.90
680624 122700,68	888292	7.68	649971	11.60	338502	14.90
680626 122700,68	911464	7.69	662844	11.60	342251	14.90
680627 122700,68	952565	7.68	691245	11.60	357422	14.90
680629 122700,68	911951	7.68	658069	11.60	332314	14.90
681414 122700,68	921142	7.69	658315	11.60	337375	14.90
681416 122700,68	913297	7.68	643825	11.60	337064	14.90
681418 122700,68	910341	7.68	669258	11.60	343858	14.90
681420 122700,68	905644	7.68	656739	11.60	339876	14.90
681422 122700,68	894960	7.68	666883	11.60	335096	14.90
681423 122700,68	962037	7.68	682038	11.60	364867	14.90
CCVF1 122701,CC	933329	7.69	694186	11.60	352673	14.90

IS1 = FLUOROBENZENE**ISTD**
IS2 = d5-CHLOROBENZENE**ISTD**
IS3 = d4-1,4-DICHLOROBENZENE**IS

AREA UPPER LIMIT = 200% of internal standard area
AREA LOWER LIMIT = 50% of internal standard area
RT UPPER LIMIT = 0.5 minutes of internal standard RT
RT LOWER LIMIT = -0.5 minutes of internal standard RT

Column to be used to flag values outside QC limit with an asterisk
* Values outside of contract required QC limits

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name : CT Laboratories, LLC Contract :
Project : Site : Location : Group :
Lab File ID (Standard): WCAL4.D Date Analyzed : 20 Jan 2016
Instrument ID : VMS3 Time Analyzed : 17:13
GC Column : DB-624UI ID : VMS3(mm) Heated Purge (Y:N) : N

	IS1		IS2		IS3	
	Area #	RT #	Area #	RT #	Area #	RT #
12 HOUR STD	1112155	7.68	858964	11.60	455640	14.90
UPPER LIMIT	2224310	8.18	1717928	12.10	911280	15.40
LOWER LIMIT	556078	7.18	429482	11.10	227820	14.40
File ID Sample						
CCV-LCS2 122700,LC	975138	7.69	739660	11.60	382523	14.90
MB2-CCB1 122700,MB	962194	7.68	702976	11.60	359405	14.90

IS1 = FLUOROBENZENE**ISTD**
IS2 = d5-CHLOROBENZENE**ISTD**
IS3 = d4-1,4-DICHLOROBENZENE**IS

AREA UPPER LIMIT = 200% of internal standard area
AREA LOWER LIMIT = 50% of internal standard area
RT UPPER LIMIT = 0.5 minutes of internal standard RT
RT LOWER LIMIT = -0.5 minutes of internal standard RT

Column to be used to flag values outside QC limit with an asterisk
* Values outside of contract required QC limits

BFB

Data File : C:\INSTARCH\Data\JAN2216\BFB1.D Vial: 1
Acq On : 22 Jan 2016 9:07 Operator: AGK-RLD
Sample : 122833,BFB, Inst : VMS3
Misc : 25 ng Inj. Multiplr: 1.00
Integration File: VOC.P

Method : C:\INSTARCH\METHODS\W012016.M
Title : 8260C Waters Method

Spectrum Information: Average of 4.657 to 4.669 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	21.1	10133	PASS
75	95	30	60	51.0	24528	PASS
95	95	100	100	100.0	48136	PASS
96	95	5	9	5.1	2448	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	95.4	45925	PASS
175	174	5	9	6.6	3052	PASS
176	174	95	101	95.8	44002	PASS
177	176	5	9	6.5	2847	PASS

W012016.M Tue Jan 26 10:53:59 2016

Injection Log Summary Report

Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Start (Tune) File ID : C:\INSTARCH\DATA\JAN2216\BFB1.D
Injection Date : 22 Jan 2016 Log Time Period (hrs) : ALL
Injection Time : 09:07 Total files within period : 23
Sample Directory : C:\INSTARCH\DATA\JAN2216\

Injection Log Summary Table

File ID	Multiplier I	S	T	Sample Name Misc Info	Date	Time
CCV-LCS1	1.00	1.00	1.00	122833,LCSW, 10.0/100 ug/L, 5.0 mL Pur	22 Jan 2016	10:40
MB1	1.00	1.00	1.00	122833,MBW, pH<2, 5.0 mL DI H20 Purge	22 Jan 2016	11:38
681539	1.00	1.00	1.00	122833,681539, pH<2, 5.0 mL Purged + IS/	22 Jan 2016	12:37
681528	1.00	1.00	1.00	122833,681528, pH<2, 5.0 mL Purged + IS/	22 Jan 2016	13:06
681531	1.00	1.00	1.00	122833,681531, pH<2, 5.0 mL Purged + IS/	22 Jan 2016	13:35
681533	1.00	1.00	1.00	122833,681533, pH<2, 5.0 mL Purged + IS/	22 Jan 2016	14:04
681535	1.00	1.00	1.00	122833,681535, pH<2, 5.0 mL Purged + IS/	22 Jan 2016	14:34
681537	1.00	1.00	1.00	122833,681537, pH<2, 5.0 mL Purged + IS/	22 Jan 2016	15:03
681533MS	1.00	1.00	1.00	122833,MSW681533, pH<2, 10.0/100 ug/L, 5.0	22 Jan 2016	16:01
681533SD	1.00	1.00	1.00	122833,MSDW681533, pH<2, 10.0/100 ug/L, 5.0	22 Jan 2016	16:31
CCVF1	**1.00**	**1.00**	**1.00**	**122833,CCVF, 10.0/100 ug/L, 5.0 mL Pur**	**22 Jan 2016**	**20:27**

8260 ISTD/SSTD 20ug/ml VOC0132
8260 BFB STD. 50ug/ml VOC0131
8260 ICV STD. 100ug/ml VOC0133
8260 CCV/CALIB. 100ug/ml VOC0134

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name : CT Laboratories, LLC Contract :
Project : Site : Location : Group :
Lab File ID (Standard): WCAL4.D Date Analyzed : 20 Jan 2016
Instrument ID : VMS3 Time Analyzed : 17:13
GC Column : DB-624UI ID : VMS3(mm) Heated Purge (Y:N) : N

	IS1		IS2		IS3	
	Area #	RT #	Area #	RT #	Area #	RT #
12 HOUR STD	1112155	7.68	858964	11.60	455640	14.90
UPPER LIMIT	2224310	8.18	1717928	12.10	911280	15.40
LOWER LIMIT	556078	7.18	429482	11.10	227820	14.40
File ID Sample						
681528 122833,68	872715	7.68	632828	11.60	331127	14.90
681531 122833,68	899508	7.68	652336	11.60	332241	14.90
681533 122833,68	862183	7.68	655199	11.60	326887	14.90
681533MS 122833,MS	899654	7.68	647508	11.60	341118	14.90
681533SD 122833,MS	909070	7.68	665381	11.60	364837	14.90
681535 122833,68	873420	7.68	643833	11.60	336061	14.90
681537 122833,68	887844	7.68	639584	11.60	330994	14.90
681539 122833,68	918449	7.68	652761	11.60	344823	14.90
CCVF1 122833,CC	856116	7.68	643851	11.60	340323	14.90
CCV-LCS1 122833,LC	915910	7.68	679626	11.60	363339	14.90
MB1 122833,MB	909478	7.68	654544	11.60	347431	14.90

IS1 = FLUOROBENZENE**ISTD**
IS2 = d5-CHLOROBENZENE**ISTD**
IS3 = d4-1,4-DICHLOROBENZENE**IS

AREA UPPER LIMIT = 200% of internal standard area
AREA LOWER LIMIT = 50% of internal standard area
RT UPPER LIMIT = 0.5 minutes of internal standard RT
RT LOWER LIMIT = -0.5 minutes of internal standard RT

Column to be used to flag values outside QC limit with an asterisk
* Values outside of contract required QC limits

VOLATILE ORGANIC ANALYSIS
SAMPLE DATA
DOCUMENTS

Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2116\680627.D Vial: 17
Acq On : 21 Jan 2016 18:47 Operator: AGK-RLD
Sample : 122700,680627, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 19:08:25 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.68	96	952565	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.60	117	691245	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.90	152	357422	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.82	113	226197	18.853	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 94 %			
45) SURR12DCAd4	7.24	102	68175	19.860	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 99 %			
61) SURRd8Tolule	9.69	98	942351	19.473	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 97 %			
83) SURR4BrFBenz	13.23	95	290015	20.182	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 101 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	0.00	50	0	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	2.69	94	6625	0.7014	ug/L #	4
6) Chloroethane	2.85	64	6473	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	4.04	58	13137	Below Cal	#	67
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	4.04	43	43477	Below Cal		92
16) Iodomethane	0.00	142	0	N.D.		
17) Carbon Dislf	4.23	76	5898	N.D.		
18) allylchloride	4.38	41	16122	1.1049	ug/L #	21
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	4.83	59	7701	Below Cal	#	56
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	6.63	42	9635	Below Cal	#	34

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2116\680627.D Vial: 17
Acq On : 21 Jan 2016 18:47 Operator: AGK-RLD
Sample : 122700,680627, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 19:08:25 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	0.00	119	0	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	0.00	78	0	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	0.00	95	0	N.D.	
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	0.00	92	0	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	0.00	91	0	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	0.00	106	0	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	0.00	55	0	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	0.00	105	0	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	0.00	91	0	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2116\680627.D Vial: 17
Acq On : 21 Jan 2016 18:47 Operator: AGK-RLD
Sample : 122700,680627, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 19:08:25 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	0.00	128	0	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

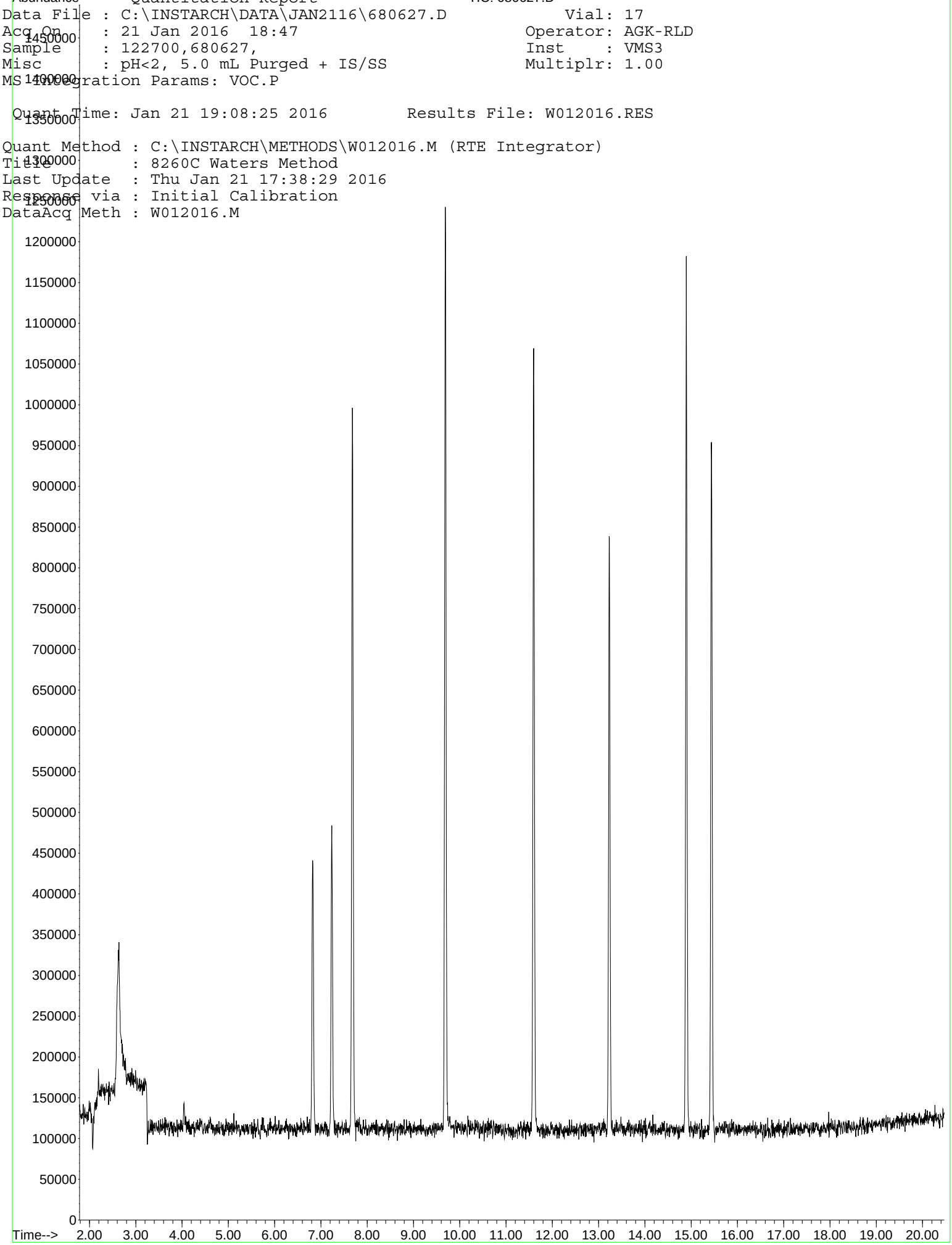
(#) = qualifier out of range (m) = manual integration

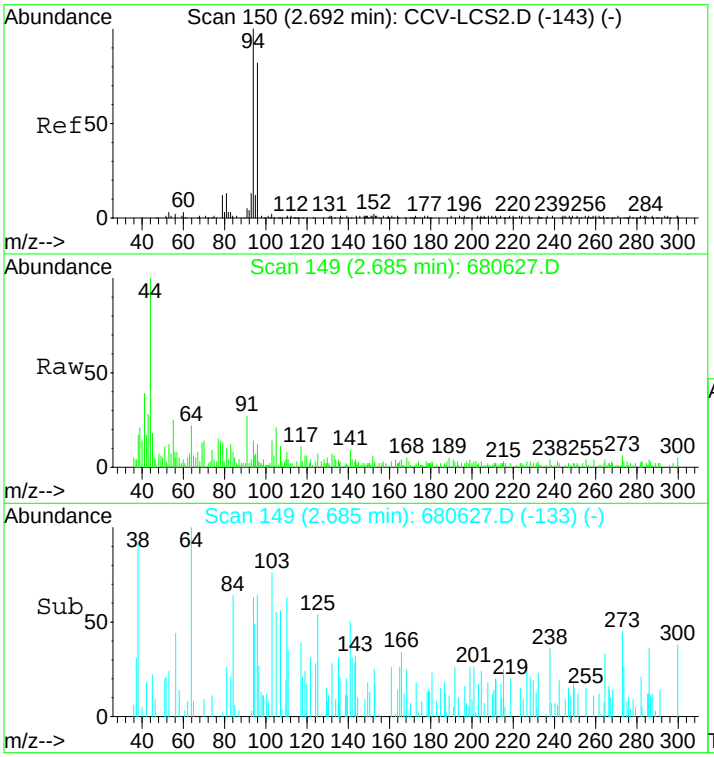
Abundance Quantitation Report TIC: 680627.D

Data File : C:\INSTARCH\DATA\JAN2116\680627.D Vial: 17
Acq On : 21 Jan 2016 18:47 Operator: AGK-RLD
Sample : 122700,680627, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 19:08:25 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

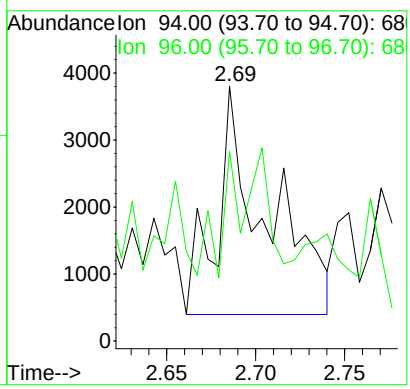




#5
Bromomethane
Concen: 0.70 ug/L
RT: 2.69 min Scan# 149
Delta R.T. 0.00 min
Lab File: 680627.D
Acq: 21 Jan 2016 18:47

Tgt Ion: 94 Resp: 6625

Ion	Ratio	Lower	Upper
94	100		
96	0.0	71.0	111.0#



Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2116\681423.D Vial: 18
Acq On : 21 Jan 2016 19:17 Operator: AGK-RLD
Sample : 122700,681423, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 19:38:11 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.68	96	962037	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.60	117	682038	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.90	152	364867	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.83	113	226214	18.669	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 93 %			
45) SURR12DCAd4	7.24	102	68144	19.656	ug/L	0.01
Spiked Amount 20.000	Range 89 - 112		Recovery = 98 %			
61) SURRd8Tolule	9.69	98	949791	19.434	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 97 %			
83) SURR4BrFBenz	13.23	95	289104	19.708	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 99 %			

Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	0.00	50	0	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	2.69	94	7481	0.7842	ug/L #	4
6) Chloroethane	2.82	64	26441	1.5634	ug/L #	44
7) Dichloroflmethane	3.03	67	8972	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	4.04	58	19140	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	4.04	43	48454	Below Cal		92
16) Iodomethane	0.00	142	0	N.D.		
17) Carbon Dislf	0.00	76	0	N.D.		
18) allylchloride	4.37	41	10283	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	4.83	59	6691	Below Cal	#	1
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	6.20	77	5153	0.2810	ug/L #	46
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	6.62	42	7325	Below Cal	#	34

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2116\681423.D Vial: 18
Acq On : 21 Jan 2016 19:17 Operator: AGK-RLD
Sample : 122700,681423, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 19:38:11 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	0.00	119	0	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	0.00	78	0	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	0.00	95	0	N.D.	
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	0.00	92	0	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	0.00	91	0	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	0.00	106	0	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	0.00	55	0	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	0.00	105	0	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	0.00	91	0	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2116\681423.D Vial: 18
Acq On : 21 Jan 2016 19:17 Operator: AGK-RLD
Sample : 122700,681423, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 19:38:11 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

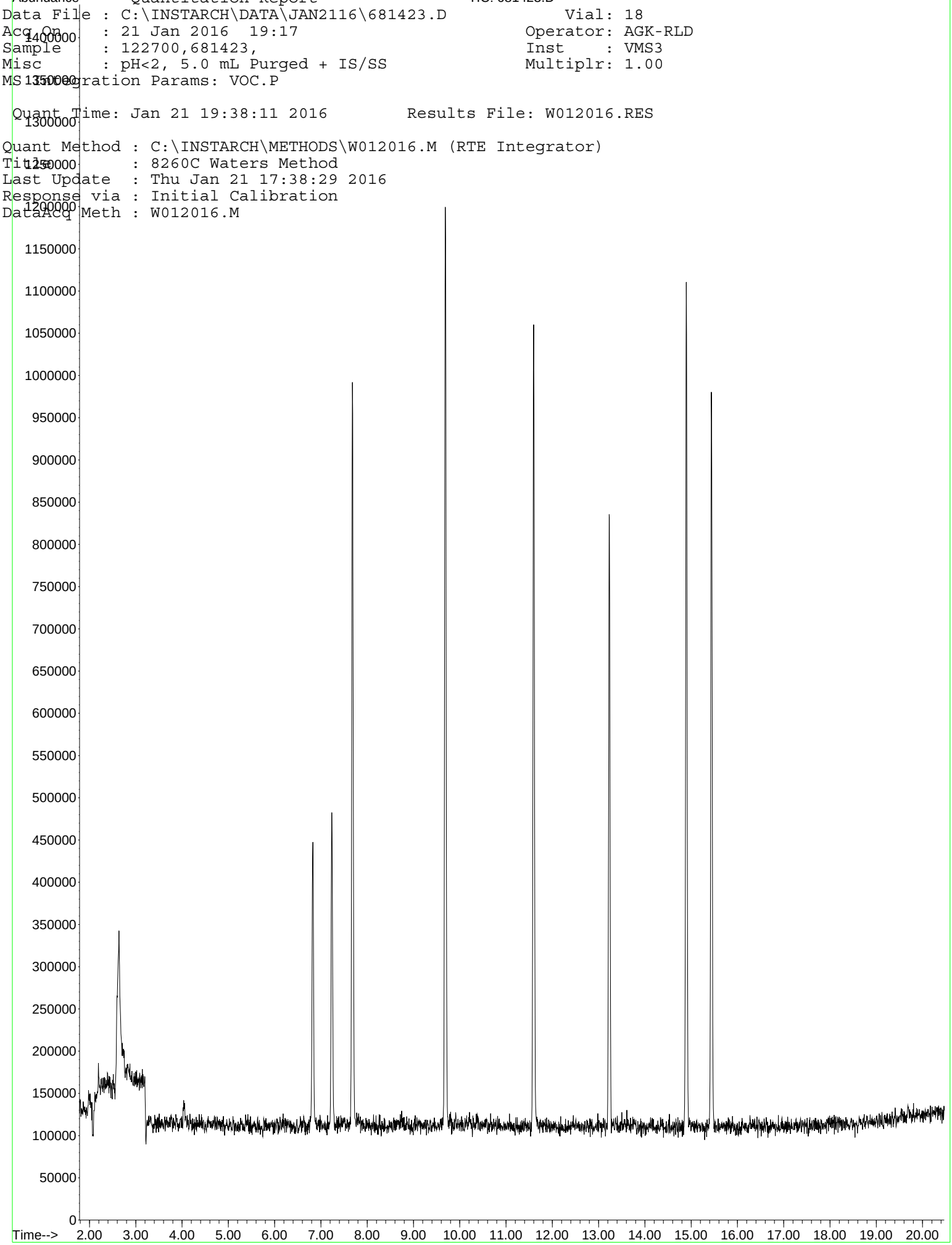
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	0.00	128	0	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

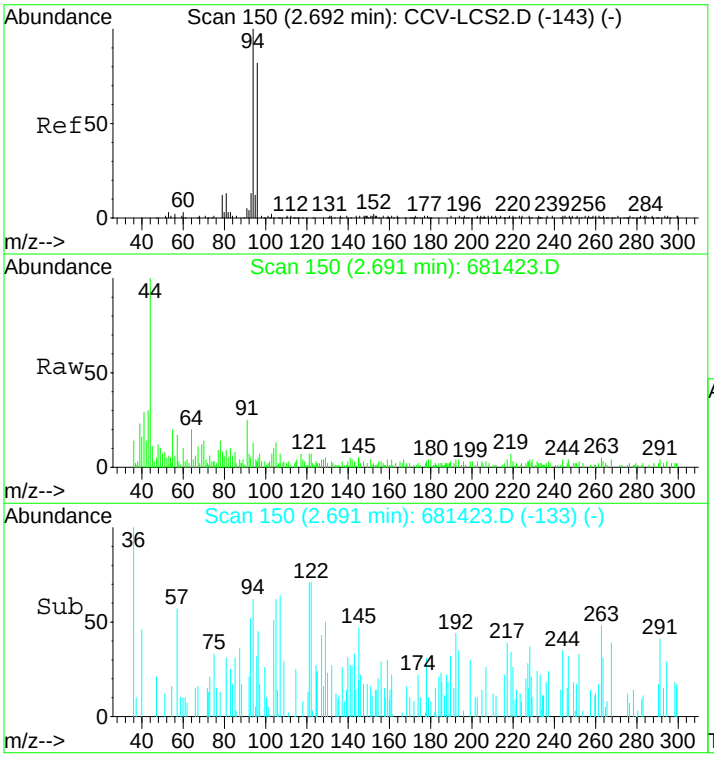
(#) = qualifier out of range (m) = manual integration

Data File : C:\INSTARCH\DATA\JAN2116\681423.D Vial: 18
Acq On : 21 Jan 2016 19:17 Operator: AGK-RLD
Sample : 122700,681423, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 19:38:11 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

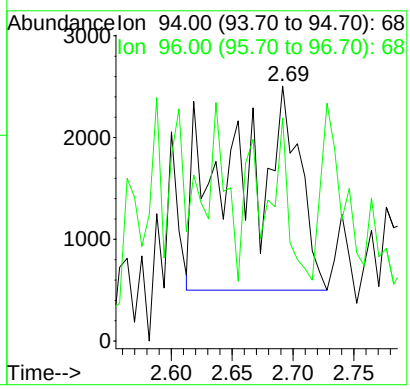


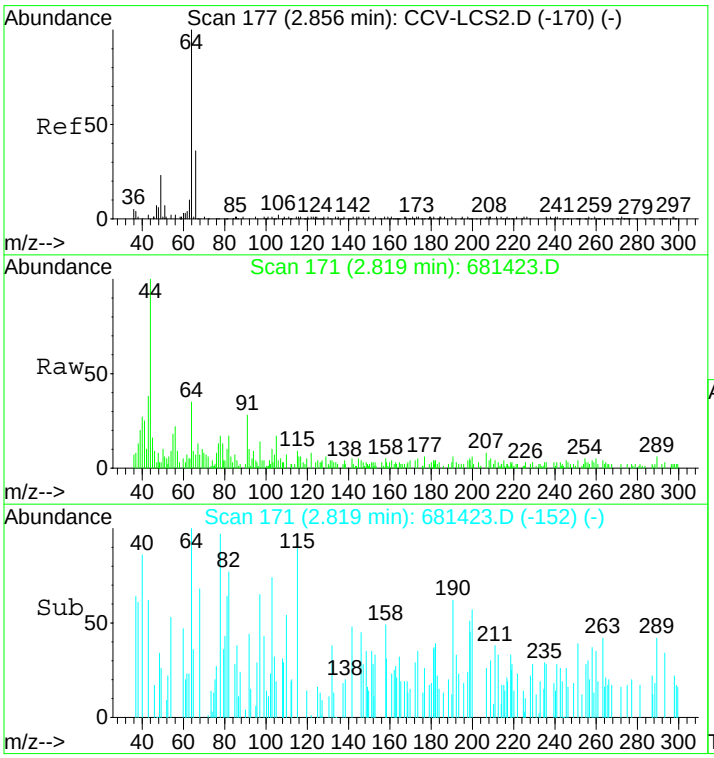


#5
Bromomethane
Concen: 0.78 ug/L
RT: 2.69 min Scan# 150
Delta R.T. 0.01 min
Lab File: 681423.D
Acq: 21 Jan 2016 19:17

Tgt Ion: 94 Resp: 7481

Ion	Ratio	Lower	Upper
94	100		
96	0.0	71.0	111.0#

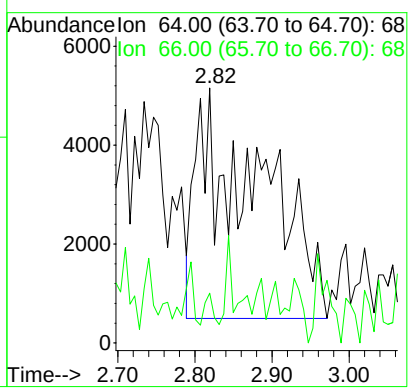




#6
Chloroethane
Concen: 1.56 ug/L
RT: 2.82 min Scan# 171
Delta R.T. -0.04 min
Lab File: 681423.D
Acq: 21 Jan 2016 19:17

Tgt Ion: 64 Resp: 26441

Ion	Ratio	Lower	Upper
64	100		
66	0.0	10.9	50.9#



Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2116\680616.D Vial: 19
Acq On : 21 Jan 2016 19:47 Operator: AGK-RLD
Sample : 122700,680616, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 20:07:53 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.68	96	954313	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.60	117	678592	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.90	152	355544	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.83	113	220591	18.352	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 92 %			
45) SURR12DCAd4	7.24	102	67996	19.772	ug/L	0.01
Spiked Amount 20.000	Range 89 - 112		Recovery = 99 %			
61) SURRd8Tolule	9.69	98	958084	19.762	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 99 %			
83) SURR4BrFBenz	13.23	95	287461	20.110	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 101 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	0.00	50	0	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	0.00	94	0	N.D.		
6) Chloroethane	2.89	64	26425	1.5751	ug/L #	44
7) Dichloroflmethane	3.17	67	14093	0.4219	ug/L #	48
8) Trichlorofma	3.23	101	5591	0.3397	ug/L #	26
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	4.04	58	5741	Below Cal	#	44
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	4.05	43	9962	Below Cal	#	61
16) Iodomethane	0.00	142	0	N.D.		
17) Carbon Dislf	0.00	76	0	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	0.00	59	0	N.D.		
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	0.00	42	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2116\680616.D Vial: 19
Acq On : 21 Jan 2016 19:47 Operator: AGK-RLD
Sample : 122700,680616, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 20:07:53 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	6.63	83	10267	0.5329 ug/L #	19
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	7.10	119	55942	3.8304 ug/L	95
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	0.00	78	0	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	8.14	95	9253	0.8177 ug/L #	80
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	0.00	92	0	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	0.00	91	0	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	11.98	106	5576	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	0.00	55	0	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	0.00	105	0	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	0.00	91	0	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2116\680616.D Vial: 19
Acq On : 21 Jan 2016 19:47 Operator: AGK-RLD
Sample : 122700,680616, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 20:07:53 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

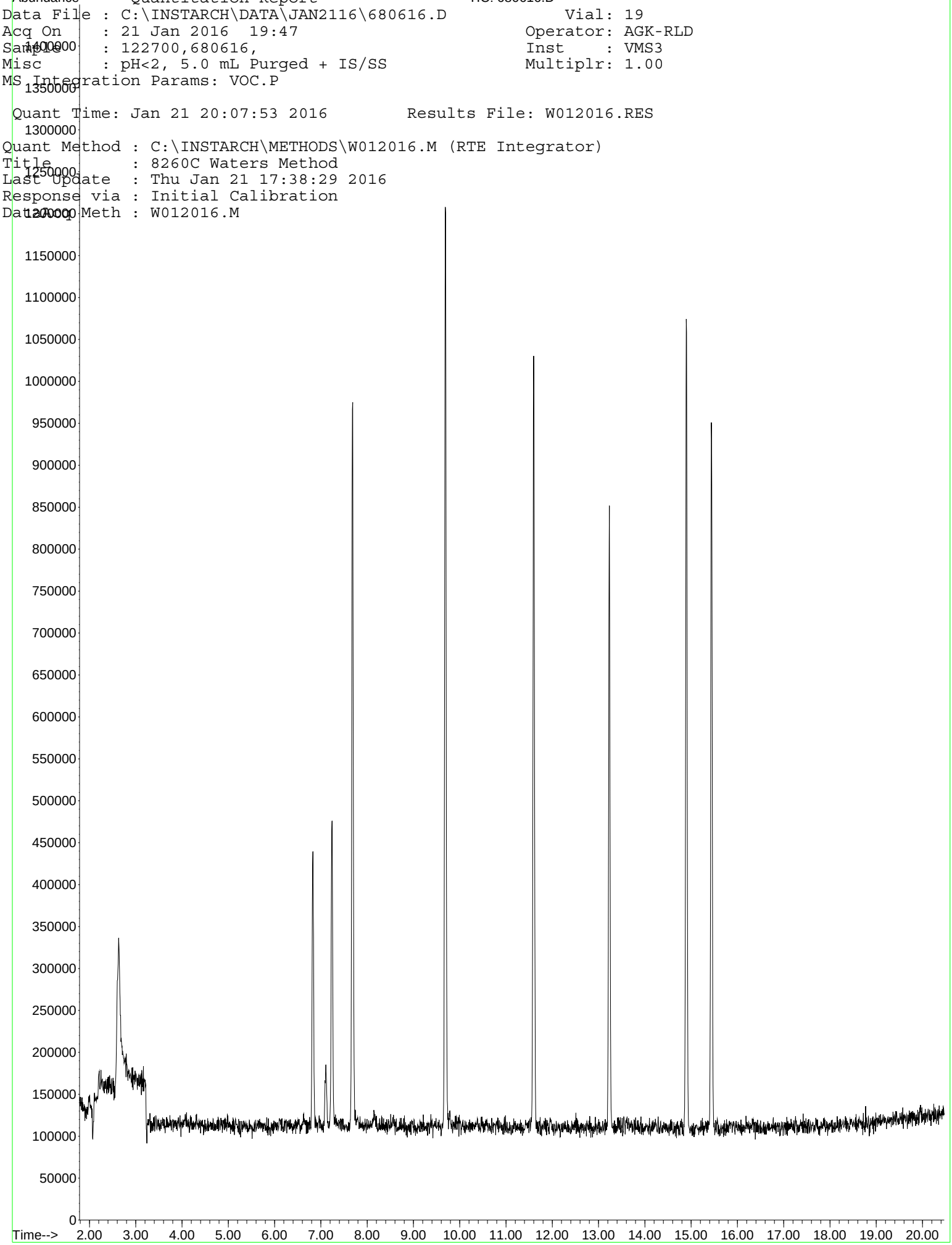
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	0.00	128	0	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

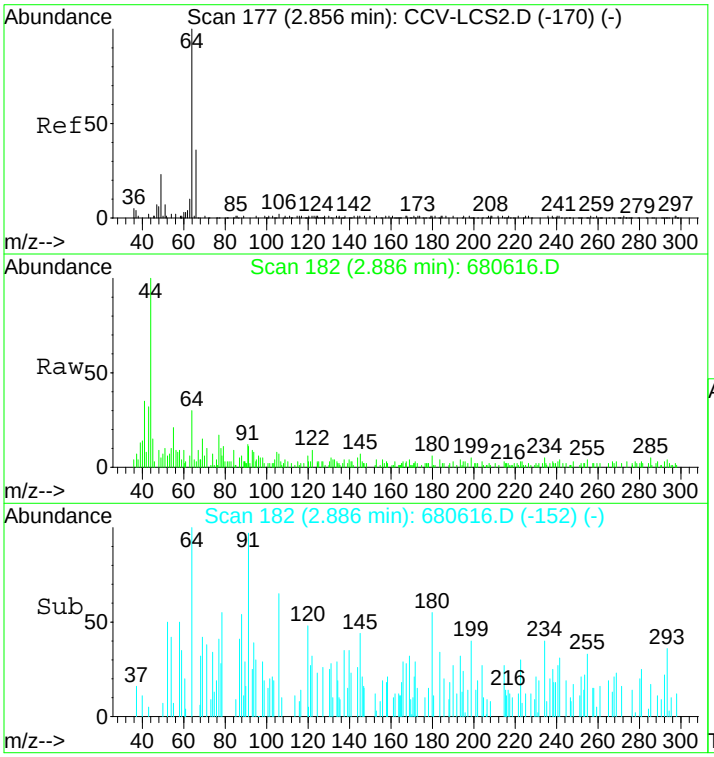
(#) = qualifier out of range (m) = manual integration

Data File : C:\INSTARCH\DATA\JAN2116\680616.D Vial: 19
Acq On : 21 Jan 2016 19:47 Operator: AGK-RLD
Sample : 122700,680616, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 20:07:53 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
Data Path Meth : W012016.M

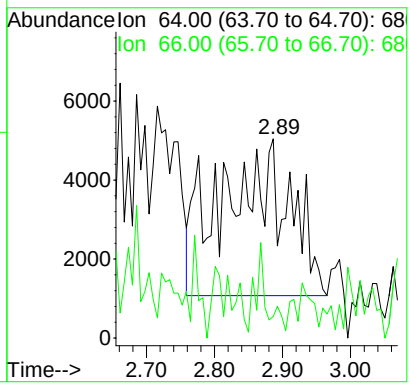




#6
Chloroethane
Concen: 1.58 ug/L
RT: 2.89 min Scan# 182
Delta R.T. 0.03 min
Lab File: 680616.D
Acq: 21 Jan 2016 19:47

Tgt Ion: 64 Resp: 26425

Ion	Ratio	Lower	Upper
64	100		
66	0.0	10.9	50.9#



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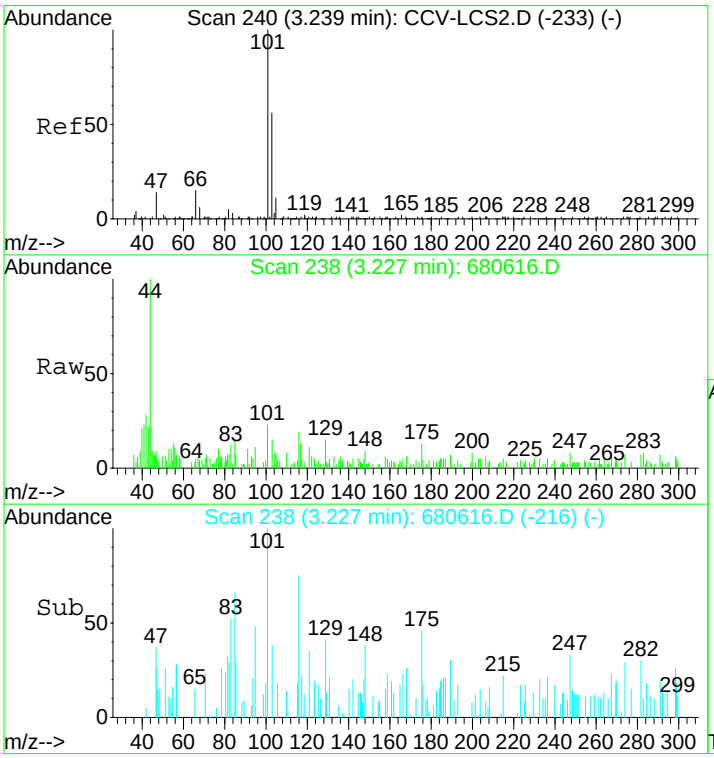
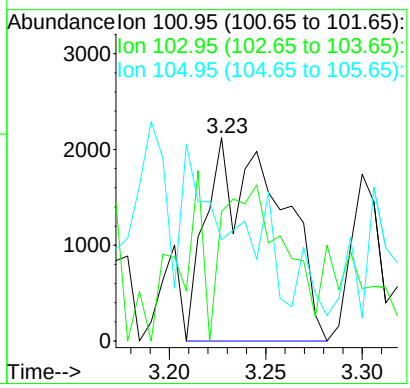


#8
Trichlorofma
Concen: 0.34 ug/L
RT: 3.23 min Scan# 238
Delta R.T. -0.02 min
Lab File: 680616.D
Acq: 21 Jan 2016 19:47

Tgt Ion:101 Resp: 5591

Ion	Ratio	Lower	Upper
101	100		
103	0.0	44.9	84.9#
105	0.0	0.0	32.2



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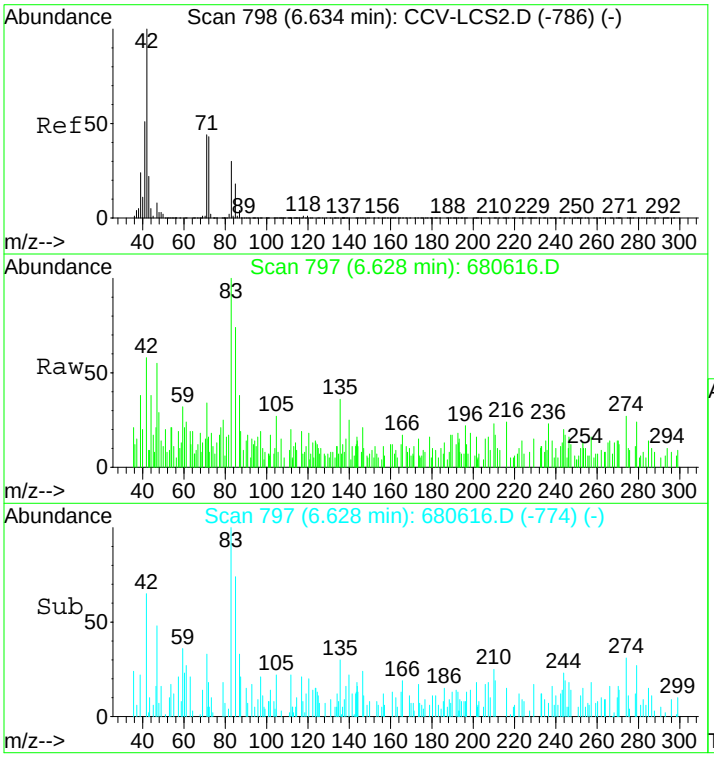
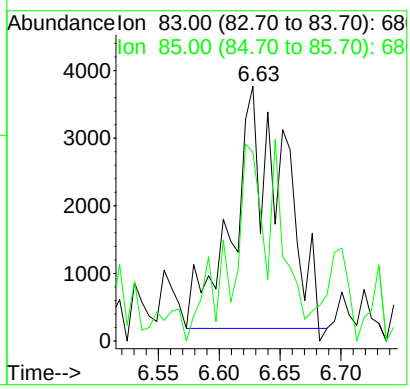
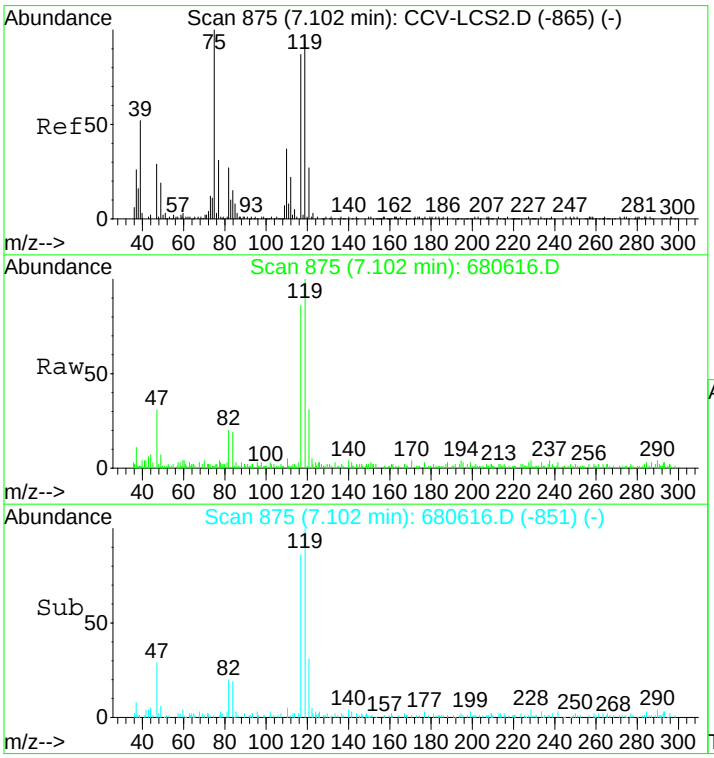


#39
Chloroform
Concen: 0.53 ug/L
RT: 6.63 min Scan# 797
Delta R.T. -0.01 min
Lab File: 680616.D
Acq: 21 Jan 2016 19:47

Tgt Ion: 83 Resp: 10267

Ion	Ratio	Lower	Upper
83	100		
85	0.0	42.8	82.8#

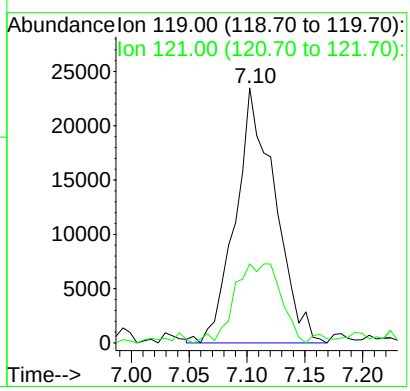


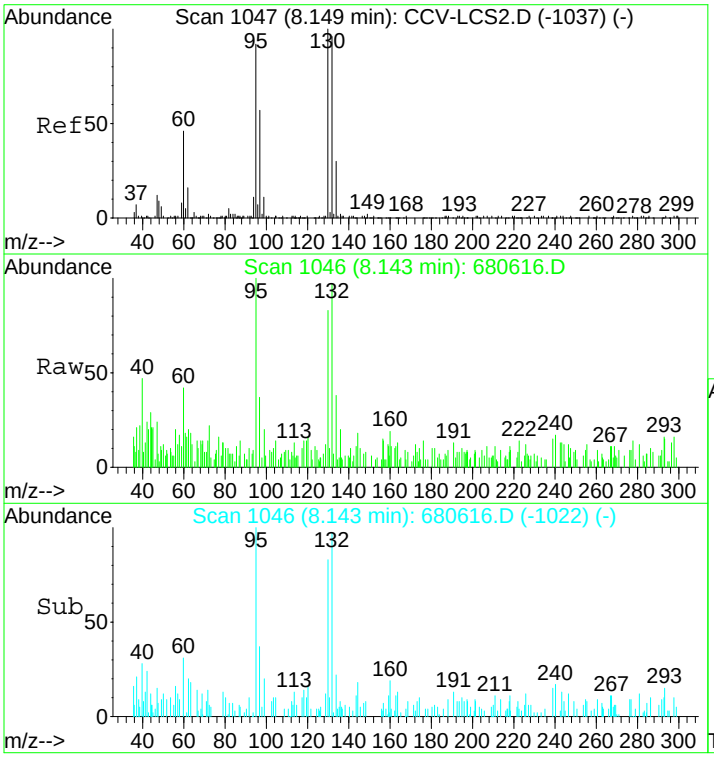


#43
Carbtetraclo
Concen: 3.83 ug/L
RT: 7.10 min Scan# 875
Delta R.T. -0.01 min
Lab File: 680616.D
Acq: 21 Jan 2016 19:47

Tgt Ion:119 Resp: 55942

Ion	Ratio	Lower	Upper
119	100		
121	36.4	13.7	53.7

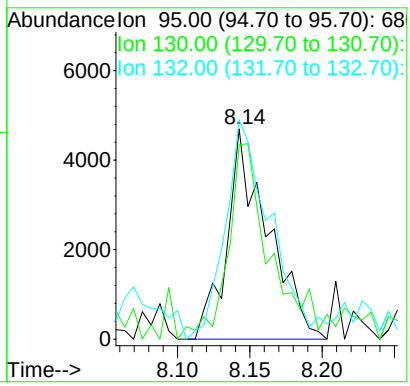




#49
trichloroete
Concen: 0.82 ug/L
RT: 8.14 min Scan# 1046
Delta R.T. -0.01 min
Lab File: 680616.D
Acq: 21 Jan 2016 19:47

Tgt Ion: 95 Resp: 9253

Ion	Ratio	Lower	Upper
95	100		
130	83.1	83.9	123.9#
132	118.3	79.1	119.1



Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2116\680618.D Vial: 20
Acq On : 21 Jan 2016 20:16 Operator: AGK-RLD
Sample : 122700,680618, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 20:37:24 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.69	96	935477	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.60	117	662677	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.90	152	360493	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.83	113	218094	18.510	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 93 %			
45) SURR12DCAd4	7.24	102	68856	20.425	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 102 %			
61) SURRd8Tolule	9.69	98	924712	19.458	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 97 %			
83) SURR4BrFBenz	13.23	95	279548	19.287	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 96 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	0.00	50	0	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	2.71	94	5926	0.6388	ug/L #	4
6) Chloroethane	2.87	64	12389	0.7534	ug/L #	44
7) Dichloroflmethane	3.16	67	6893	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	4.05	43	5595	Below Cal	#	40
16) Iodomethane	0.00	142	0	N.D.		
17) Carbon Dislf	0.00	76	0	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	4.82	59	7394	Below Cal	#	1
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	0.00	42	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2116\680618.D Vial: 20
Acq On : 21 Jan 2016 20:16 Operator: AGK-RLD
Sample : 122700,680618, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 20:37:24 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.63	83	10409	0.5512	ug/L		92
40)	111trichlota	6.89	97	5317	0.3185	ug/L	#	23
42)	Cyclohexane	0.00	56	0	N.D.			
43)	Carbtetraclo	7.11	119	59023	4.1228	ug/L		99
44)	11dicloprope	0.00	110	0	N.D.			
46)	Benzene	0.00	78	0	N.D.			
47)	12dichlorota	0.00	62	0	N.D.			
48)	TAME	0.00	73	0	N.D.			
49)	trichloroete	8.15	95	10476	0.9444	ug/L		93
50)	methylcyclohexane	0.00	83	0	N.D.			
51)	12dicloropra	0.00	63	0	N.D.			
52)	23Dicl1propene	0.00	75	0	N.D.			
53)	Dibromometha	0.00	93	0	N.D.			
54)	methylmethacrylate	0.00	69	0	N.D.			
55)	14dioxane	0.00	88	0	N.D.			
56)	Bromodiclrma	0.00	83	0	N.D.			
57)	2Nitropropane	0.00	43	0	N.D.			
58)	2CLEVE	0.00	63	0	N.D.			
59)	c13dicloproe	0.00	75	0	N.D.			
60)	4Meth2Pentan	0.00	43	0	N.D.			
62)	Toluene	9.78	92	6120	N.D.			
63)	t13Dicloprop	0.00	75	0	N.D.			
64)	ethylmethacrylate	0.00	69	0	N.D.			
65)	112Triclotha	0.00	83	0	N.D.			
66)	Tetrachlorte	0.00	166	0	N.D.			
67)	13Diclorpropa	0.00	76	0	N.D.			
69)	2Hexanone	10.61	43	5841	Below	Cal	#	30
70)	Clorodibrmta	0.00	129	0	N.D.			
71)	12Dibrometha	0.00	107	0	N.D.			
72)	Chlorobenzen	0.00	112	0	N.D.			
73)	1Clhexane	0.00	91	0	N.D.			
74)	1112Tetclota	0.00	131	0	N.D.			
75)	Ethylbenzene	0.00	91	0	N.D.			
76)	m p-Xylene	0.00	106	0	N.D.			
77)	o-Xylene	0.00	106	0	N.D.			
78)	Styrene	0.00	104	0	N.D.			
79)	Bromoform	0.00	173	0	N.D.			
80)	Isopropylben	0.00	105	0	N.D.			
81)	cyclohexanone	0.00	55	0	N.D.			
84)	Bromobenzene	0.00	156	0	N.D.			
85)	1122Tetrclta	0.00	83	0	N.D.			
86)	123Triclproa	0.00	75	0	N.D.			
87)	14dichloro2butene	0.00	53	0	N.D.			
88)	n-Propylbenz	0.00	91	0	N.D.			
89)	2chlorotolue	0.00	91	0	N.D.			
90)	4chlorotolue	0.00	91	0	N.D.			
91)	135Trimebenz	0.00	105	0	N.D.			
92)	tbutylbenzen	0.00	119	0	N.D.			
93)	124Trimetben	0.00	105	0	N.D.			
94)	sbutylbenzen	0.00	105	0	N.D.			
95)	13Diclorbenz	0.00	146	0	N.D.			
96)	pIsopropylto	0.00	119	0	N.D.			
97)	14dichlorobe	0.00	146	0	N.D.			
98)	12dichlorobe	0.00	146	0	N.D.			
99)	nButylbenzen	0.00	91	0	N.D.			
100)	12dibromo3cl	0.00	157	0	N.D.			
101)	135Trichlorobenzene	0.00	180	0	N.D.			

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2116\680618.D Vial: 20
Acq On : 21 Jan 2016 20:16 Operator: AGK-RLD
Sample : 122700,680618, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 20:37:24 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	0.00	128	0	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

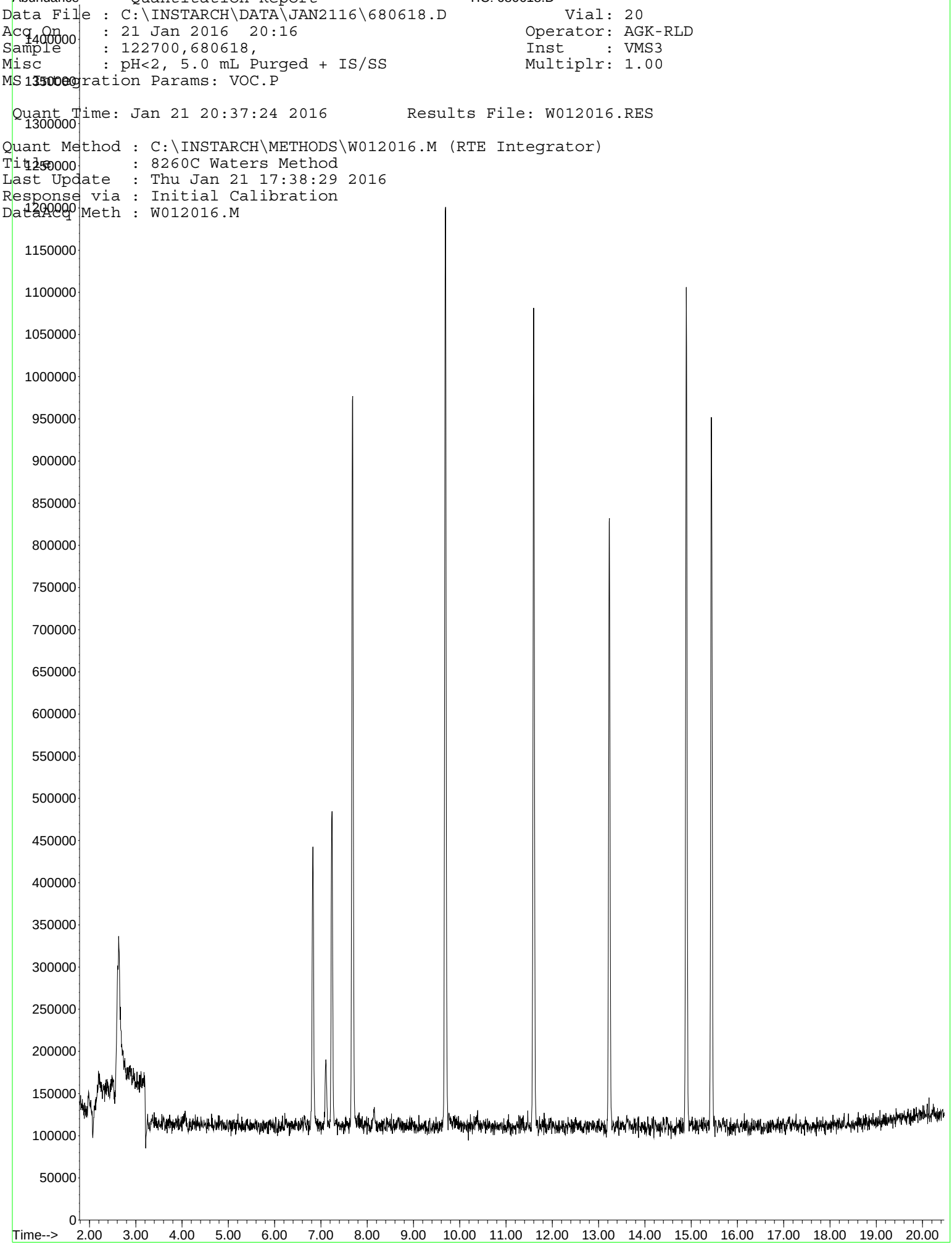
(#) = qualifier out of range (m) = manual integration

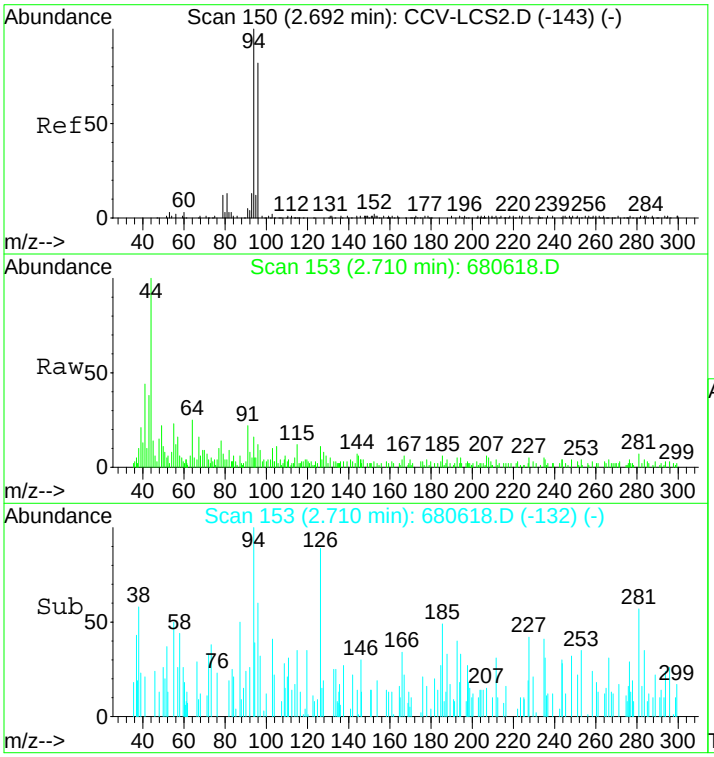
Abundance Quantitation Report TIC: 680618.D

Data File : C:\INSTARCH\DATA\JAN2116\680618.D Vial: 20
Acq On : 21 Jan 2016 20:16 Operator: AGK-RLD
Sample : 122700,680618, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 20:37:24 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

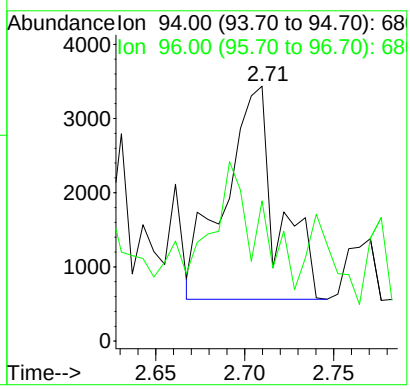




#5
Bromomethane
Concen: 0.64 ug/L
RT: 2.71 min Scan# 153
Delta R.T. 0.02 min
Lab File: 680618.D
Acq: 21 Jan 2016 20:16

Tgt Ion: 94 Resp: 5926

Ion	Ratio	Lower	Upper
94	100		
96	0.0	71.0	111.0#



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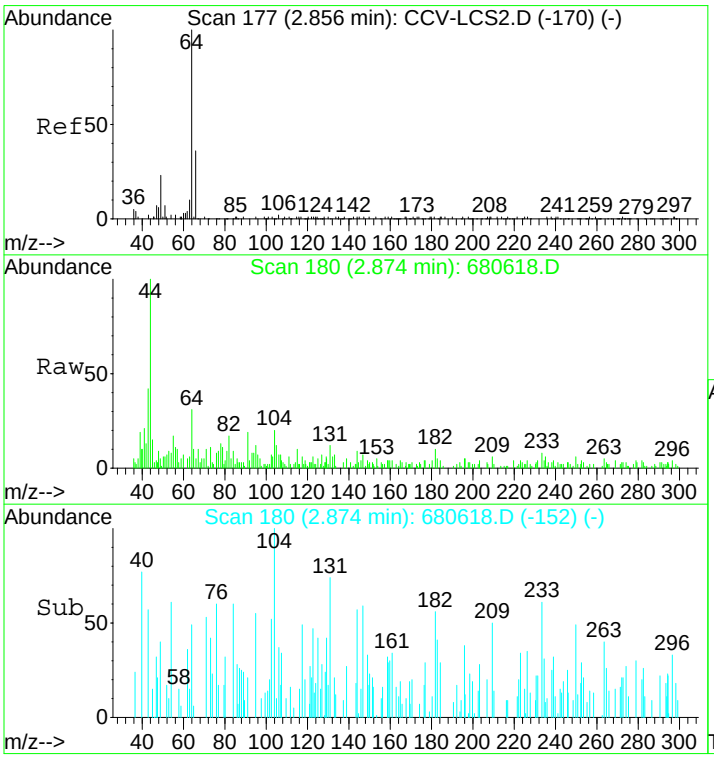
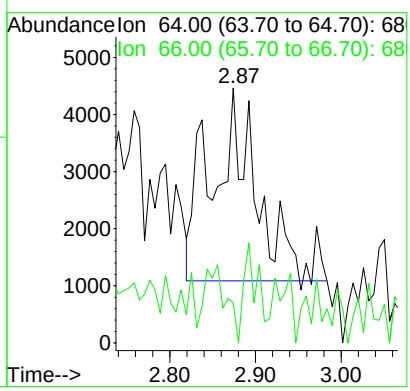


#6
Chloroethane
Concen: 0.75 ug/L
RT: 2.87 min Scan# 180
Delta R.T. 0.02 min
Lab File: 680618.D
Acq: 21 Jan 2016 20:16

Tgt Ion: 64 Resp: 12389

Ion	Ratio	Lower	Upper
64	100		
66	0.0	10.9	50.9#



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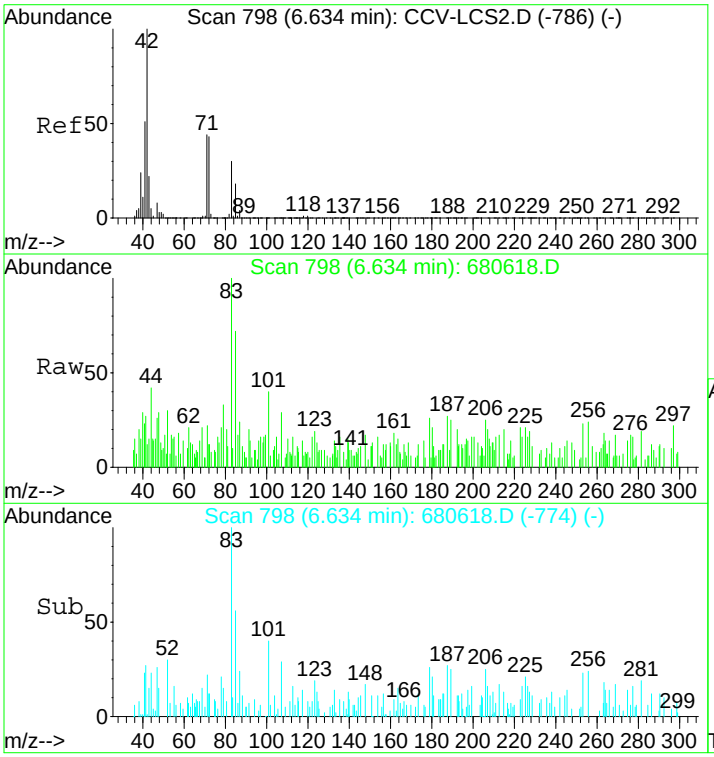
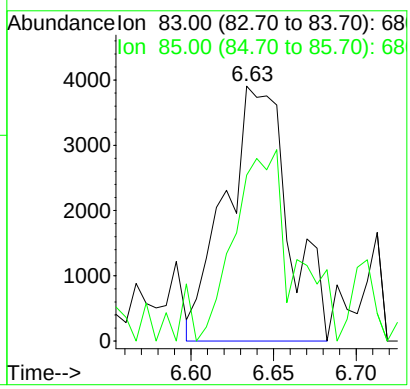
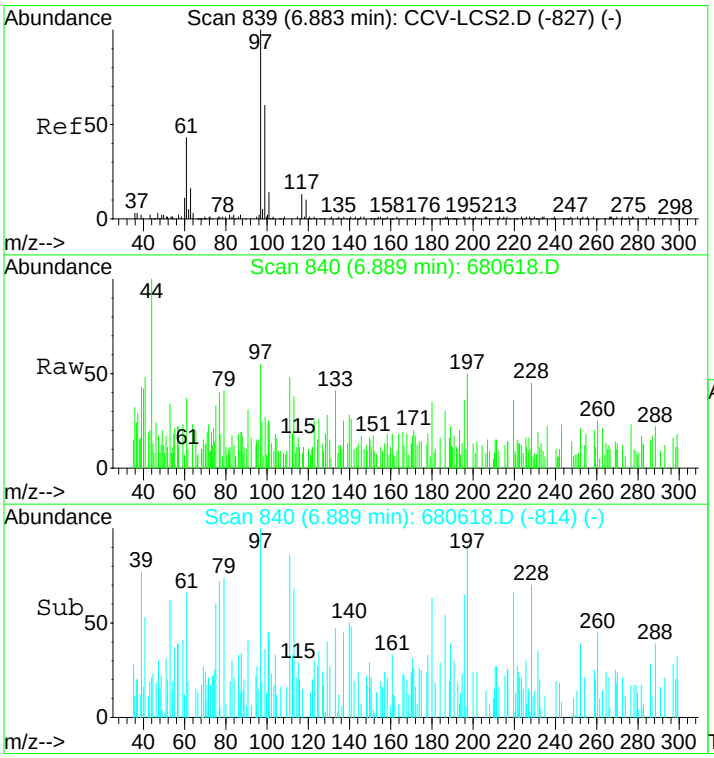


#39
Chloroform
Concen: 0.55 ug/L
RT: 6.63 min Scan# 798
Delta R.T. -0.01 min
Lab File: 680618.D
Acq: 21 Jan 2016 20:16

Tgt Ion: 83 Resp: 10409

Ion	Ratio	Lower	Upper
83	100		
85	69.2	42.8	82.8

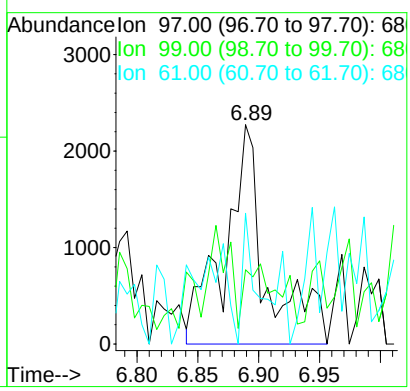


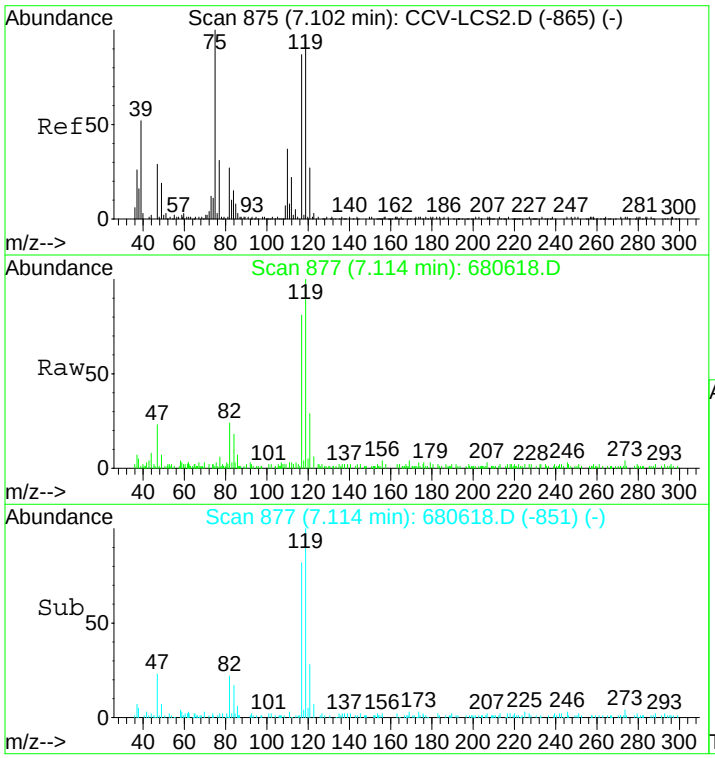


#40
111trichlota
Concen: 0.32 ug/L
RT: 6.89 min Scan# 840
Delta R.T. 0.01 min
Lab File: 680618.D
Acq: 21 Jan 2016 20:16

Tgt Ion: 97 Resp: 5317

Ion	Ratio	Lower	Upper
97	100		
99	0.0	44.4	84.4#
61	0.0	25.7	65.7#

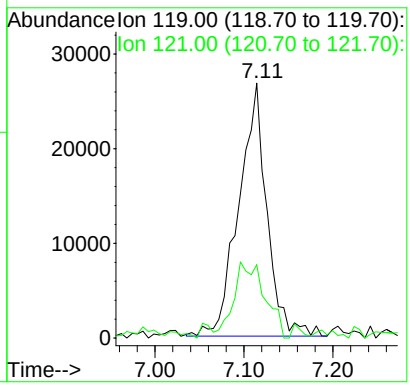


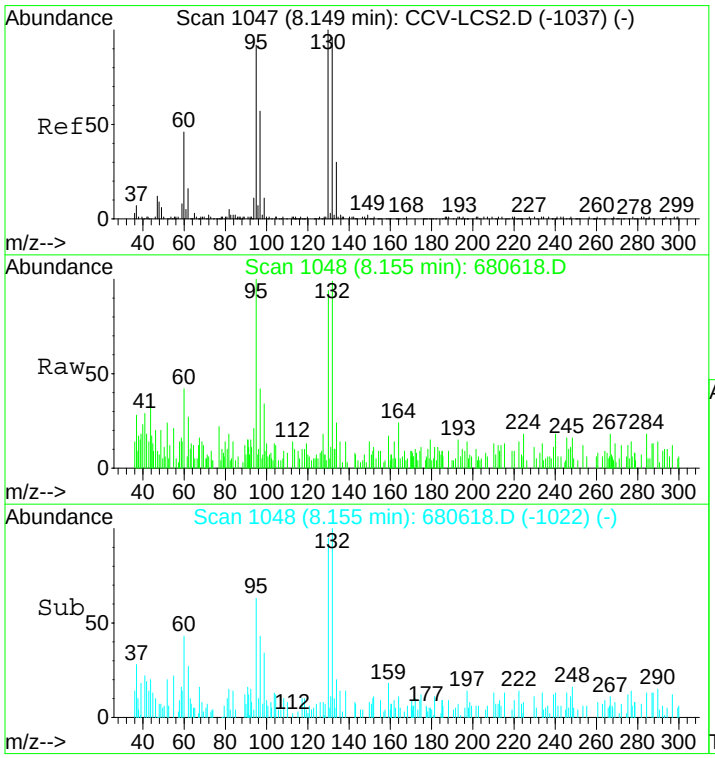


#43
Carbtetraclo
Concen: 4.12 ug/L
RT: 7.11 min Scan# 877
Delta R.T. 0.01 min
Lab File: 680618.D
Acq: 21 Jan 2016 20:16

Tgt Ion:119 Resp: 59023

Ion	Ratio	Lower	Upper
119	100		
121	33.1	13.7	53.7

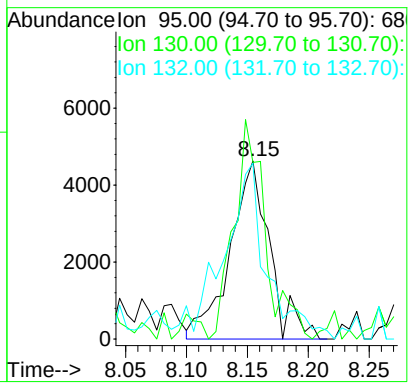




#49
trichloroete
Concen: 0.94 ug/L
RT: 8.15 min Scan# 1048
Delta R.T. 0.01 min
Lab File: 680618.D
Acq: 21 Jan 2016 20:16

Tgt Ion: 95 Resp: 10476

Ion	Ratio	Lower	Upper
95	100		
130	98.2	83.9	123.9
132	107.6	79.1	119.1



Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2116\680620.D Vial: 21
Acq On : 21 Jan 2016 20:46 Operator: AGK-RLD
Sample : 122700,680620, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 21:06:50 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.68	96	948606	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.60	117	682396	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.90	152	359381	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.82	113	216323	18.105	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 91 %			
45) SURR12DCAd4	7.24	102	63555	18.592	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 93 %			
61) SURRd8Tolule	9.69	98	945675	19.623	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 98 %			
83) SURR4BrFBenz	13.23	95	286986	19.862	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 99 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	0.00	50	0	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	0.00	94	0	N.D.		
6) Chloroethane	2.86	64	5773	N.D.		
7) Dichloroflmethane	3.15	67	5142	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	4.05	43	6190	Below	Cal #	40
16) Iodomethane	0.00	142	0	N.D.		
17) Carbon Dislf	0.00	76	0	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	0.00	59	0	N.D.		
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	0.00	42	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2116\680620.D Vial: 21
Acq On : 21 Jan 2016 20:46 Operator: AGK-RLD
Sample : 122700,680620, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 21:06:50 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.		
40)	111trichlota	0.00	97	0	N.D.		
42)	Cyclohexane	0.00	56	0	N.D.		
43)	Carbtetraclo	0.00	119	0	N.D.		
44)	11dicloprope	0.00	110	0	N.D.		
46)	Benzene	0.00	78	0	N.D.		
47)	12dichlorota	0.00	62	0	N.D.		
48)	TAME	0.00	73	0	N.D.		
49)	trichloroete	8.15	95	11939	1.0614	ug/L	98
50)	methylcyclohexane	0.00	83	0	N.D.		
51)	12dicloropra	0.00	63	0	N.D.		
52)	23Dicl1propene	0.00	75	0	N.D.		
53)	Dibromometha	0.00	93	0	N.D.		
54)	methylmethacrylate	0.00	69	0	N.D.		
55)	14dioxane	0.00	88	0	N.D.		
56)	Bromodiclrma	0.00	83	0	N.D.		
57)	2Nitropropane	0.00	43	0	N.D.		
58)	2CLEVE	0.00	63	0	N.D.		
59)	c13dicloproe	0.00	75	0	N.D.		
60)	4Meth2Pentan	0.00	43	0	N.D.		
62)	Toluene	0.00	92	0	N.D.		
63)	t13Dicloprop	0.00	75	0	N.D.		
64)	ethylmethacrylate	0.00	69	0	N.D.		
65)	112Triclotha	0.00	83	0	N.D.		
66)	Tetrachlorte	0.00	166	0	N.D.		
67)	13Diclorpropa	0.00	76	0	N.D.		
69)	2Hexanone	0.00	43	0	N.D.		
70)	Clorodibrmta	0.00	129	0	N.D.		
71)	12Dibrometha	0.00	107	0	N.D.		
72)	Chlorobenzen	0.00	112	0	N.D.		
73)	1Clhexane	0.00	91	0	N.D.		
74)	1112Tetclota	0.00	131	0	N.D.		
75)	Ethylbenzene	0.00	91	0	N.D.		
76)	m p-Xylene	0.00	106	0	N.D.		
77)	o-Xylene	0.00	106	0	N.D.		
78)	Styrene	0.00	104	0	N.D.		
79)	Bromoform	0.00	173	0	N.D.		
80)	Isopropylben	0.00	105	0	N.D.		
81)	cyclohexanone	0.00	55	0	N.D.		
84)	Bromobenzene	0.00	156	0	N.D.		
85)	1122Tetrclta	0.00	83	0	N.D.		
86)	123Triclproa	0.00	75	0	N.D.		
87)	14dichloro2butene	0.00	53	0	N.D.		
88)	n-Propylbenz	0.00	91	0	N.D.		
89)	2chlorotolue	0.00	91	0	N.D.		
90)	4chlorotolue	0.00	91	0	N.D.		
91)	135Trimebenz	0.00	105	0	N.D.		
92)	tbutylbenzen	0.00	119	0	N.D.		
93)	124Trimetben	14.42	105	5282	N.D.		
94)	sbutylbenzen	0.00	105	0	N.D.		
95)	13Diclorbenz	0.00	146	0	N.D.		
96)	pIsopropylto	0.00	119	0	N.D.		
97)	14dichlorobe	0.00	146	0	N.D.		
98)	12dichlorobe	0.00	146	0	N.D.		
99)	nButylbenzen	0.00	91	0	N.D.		
100)	12dibromo3cl	0.00	157	0	N.D.		
101)	135Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

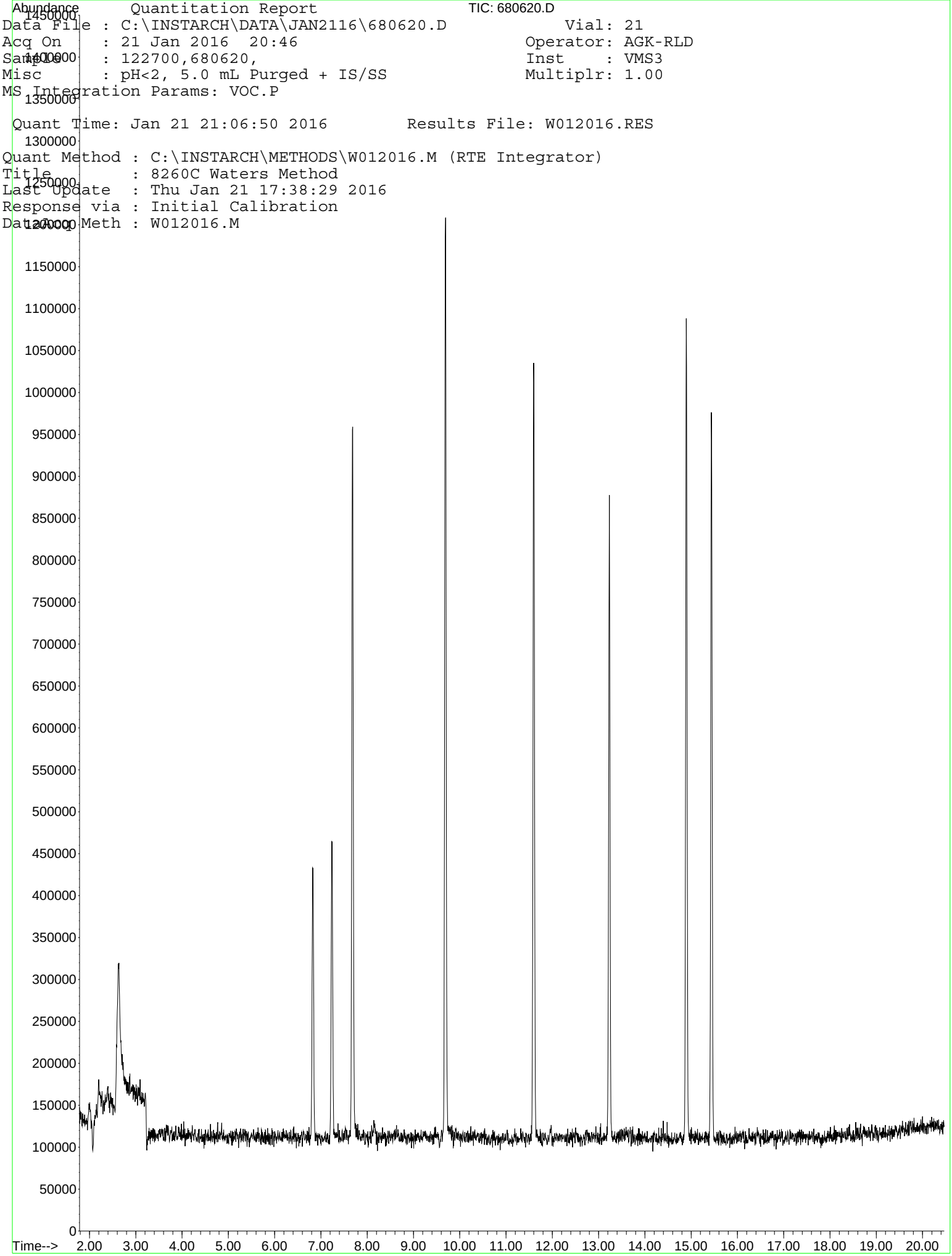
Data File : C:\INSTARCH\DATA\JAN2116\680620.D Vial: 21
Acq On : 21 Jan 2016 20:46 Operator: AGK-RLD
Sample : 122700,680620, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

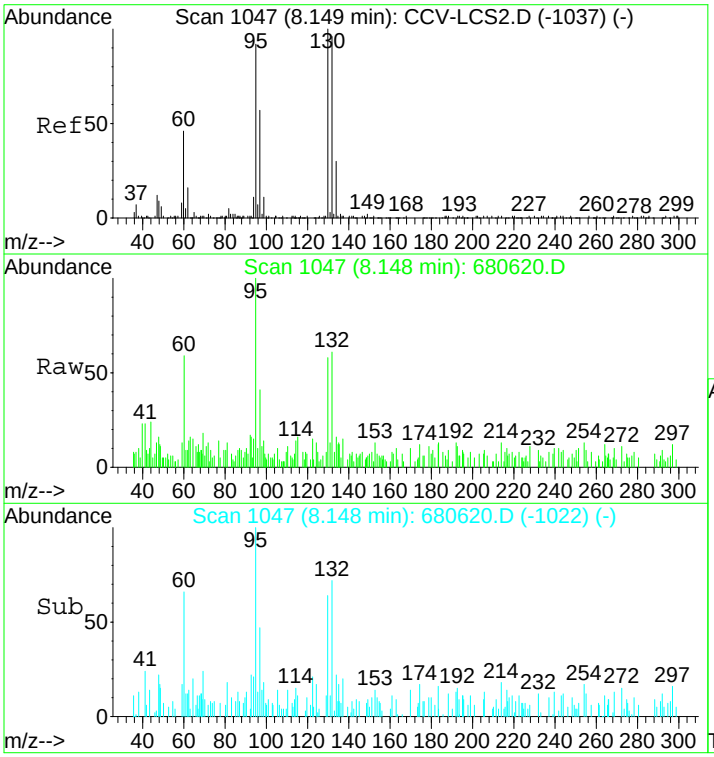
Quant Time: Jan 21 21:06:50 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	0.00	128	0	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

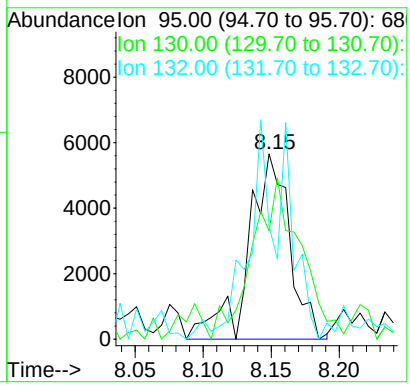

Abundance
Quantitation Report
TIC: 680620.D
Data File : C:\INSTARCH\DATA\JAN2116\680620.D
Vial: 21
Acq On : 21 Jan 2016 20:46
Operator: AGK-RLD
Sample : 122700,680620,
Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS
Multiplr: 1.00
MS Integration Params: VOC.P
Quant Time: Jan 21 21:06:50 2016
Results File: W012016.RES
Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M
1450000
1400000
1350000
1300000
1250000
1200000
1150000
1100000
1050000
1000000
950000
900000
850000
800000
750000
700000
650000
600000
550000
500000
450000
400000
350000
300000
250000
200000
150000
100000
50000
0
Time-->
2.00
3.00
4.00
5.00
6.00
7.00
8.00
9.00
10.00
11.00
12.00
13.00
14.00
15.00
16.00
17.00
18.00
19.00
20.00



#49
trichloroete
Concen: 1.06 ug/L
RT: 8.15 min Scan# 1047
Delta R.T. -0.00 min
Lab File: 680620.D
Acq: 21 Jan 2016 20:46

Tgt Ion: 95 Resp: 11939

Ion	Ratio	Lower	Upper
95	100		
130	100.8	83.9	123.9
132	100.2	79.1	119.1



Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2116\680622.D Vial: 22
Acq On : 21 Jan 2016 21:15 Operator: AGK-RLD
Sample : 122700,680622, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 21:36:04 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.69	96	916013	20.00 ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.60	117	672626	20.00 ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.90	152	353969	20.00 ug/L	0.00 NA%
System Monitoring Compounds					
41) SURRDibrflma	6.83	113	216977	18.806 ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 94 %		
45) SURR12DCAd4	7.24	102	67305	20.389 ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 102 %		
61) SURRd8Tolule	9.69	98	923098	19.836 ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 99 %		
83) SURR4BrFBenz	13.23	95	285117	20.034 ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 100 %		
Target Compounds					Qvalue
2) Dichlorodi	0.00	85	0	N.D.	
3) Chloromethan	0.00	50	0	N.D.	
4) VinylChlorid	0.00	62	0	N.D.	
5) Bromomethane	0.00	94	0	N.D.	
6) Chloroethane	2.90	64	16062	0.9975 ug/L #	44
7) Dichloroflmethane	0.00	67	0	N.D.	
8) Trichlorofma	0.00	101	0	N.D.	
9) Ethylether	0.00	59	0	N.D.	
10) dichlorotfluoroethan	0.00	67	0	N.D.	
11) propyleneoxide	0.00	58	0	N.D.	
12) Acrolein	0.00	56	0	N.D.	
13) 11dichlorthe	0.00	96	0	N.D.	
14) Trichlorotfluoroeth	0.00	101	0	N.D.	
15) Acetone	0.00	43	0	N.D.	
16) Iodomethane	0.00	142	0	N.D.	
17) Carbon Dislf	4.24	76	5436	N.D.	
18) allylchloride	4.53	41	5370	N.D.	
19) methylacetate	0.00	74	0	N.D.	
20) Methylchlorid	0.00	84	0	N.D.	
21) tbutylalcohol	0.00	59	0	N.D.	
22) Acrylonitrile	0.00	53	0	N.D.	
23) t12dichlorte	0.00	96	0	N.D.	
24) MtBE	0.00	73	0	N.D.	
25) Hexane	0.00	57	0	N.D.	
26) 11dichlorota	0.00	63	0	N.D.	
27) Vinylacetate	0.00	43	0	N.D.	
28) chloroprene	0.00	53	0	N.D.	
29) Diisopether	0.00	45	0	N.D.	
30) ETBE	0.00	59	0	N.D.	
31) 22dichloropr	0.00	77	0	N.D.	
32) c12dichlorte	0.00	96	0	N.D.	
33) 2Butanone	0.00	72	0	N.D.	
34) propionitrile	0.00	54	0	N.D.	
35) Ethylacetate	0.00	88	0	N.D.	
36) methacrylonitrile	0.00	67	0	N.D.	
37) Bromochlorma	0.00	128	0	N.D.	
38) Tetrahydofur	0.00	42	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2116\680622.D Vial: 22
Acq On : 21 Jan 2016 21:15 Operator: AGK-RLD
Sample : 122700,680622, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 21:36:04 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.		
40)	111trichlota	0.00	97	0	N.D.		
42)	Cyclohexane	0.00	56	0	N.D.		
43)	Carbtetraclo	7.10	119	13194	0.9412	ug/L	68
44)	11dicloprope	0.00	110	0	N.D.		
46)	Benzene	0.00	78	0	N.D.		
47)	12dichlorota	0.00	62	0	N.D.		
48)	TAME	0.00	73	0	N.D.		
49)	trichloroete	0.00	95	0	N.D.		
50)	methylcyclohexane	0.00	83	0	N.D.		
51)	12dicloropra	0.00	63	0	N.D.		
52)	23Dicl1propene	0.00	75	0	N.D.		
53)	Dibromometha	0.00	93	0	N.D.		
54)	methylmethacrylate	0.00	69	0	N.D.		
55)	14dioxane	0.00	88	0	N.D.		
56)	Bromodiclrma	0.00	83	0	N.D.		
57)	2Nitropropane	0.00	43	0	N.D.		
58)	2CLEVE	0.00	63	0	N.D.		
59)	c13dicloproe	0.00	75	0	N.D.		
60)	4Meth2Pentan	0.00	43	0	N.D.		
62)	Toluene	0.00	92	0	N.D.		
63)	t13Dicloprop	0.00	75	0	N.D.		
64)	ethylmethacrylate	0.00	69	0	N.D.		
65)	112Triclotha	0.00	83	0	N.D.		
66)	Tetrachlorte	0.00	166	0	N.D.		
67)	13Diclorpropa	0.00	76	0	N.D.		
69)	2Hexanone	0.00	43	0	N.D.		
70)	Clorodibrmta	0.00	129	0	N.D.		
71)	12Dibrometha	0.00	107	0	N.D.		
72)	Chlorobenzen	0.00	112	0	N.D.		
73)	1Clhexane	0.00	91	0	N.D.		
74)	1112Tetclota	0.00	131	0	N.D.		
75)	Ethylbenzene	0.00	91	0	N.D.		
76)	m p-Xylene	0.00	106	0	N.D.		
77)	o-Xylene	0.00	106	0	N.D.		
78)	Styrene	0.00	104	0	N.D.		
79)	Bromoform	0.00	173	0	N.D.		
80)	Isopropylben	0.00	105	0	N.D.		
81)	cyclohexanone	0.00	55	0	N.D.		
84)	Bromobenzene	0.00	156	0	N.D.		
85)	1122Tetrclta	0.00	83	0	N.D.		
86)	123Triclproa	0.00	75	0	N.D.		
87)	14dichloro2butene	0.00	53	0	N.D.		
88)	n-Propylbenz	0.00	91	0	N.D.		
89)	2chlorotolue	0.00	91	0	N.D.		
90)	4chlorotolue	0.00	91	0	N.D.		
91)	135Trimebenz	0.00	105	0	N.D.		
92)	tbutylbenzen	0.00	119	0	N.D.		
93)	124Trimetben	0.00	105	0	N.D.		
94)	sbutylbenzen	0.00	105	0	N.D.		
95)	13Diclorbenz	0.00	146	0	N.D.		
96)	pIsopropylto	0.00	119	0	N.D.		
97)	14dichlorobe	0.00	146	0	N.D.		
98)	12dichlorobe	0.00	146	0	N.D.		
99)	nButylbenzen	0.00	91	0	N.D.		
100)	12dibromo3cl	0.00	157	0	N.D.		
101)	135Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2116\680622.D Vial: 22
Acq On : 21 Jan 2016 21:15 Operator: AGK-RLD
Sample : 122700,680622, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 21:36:04 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

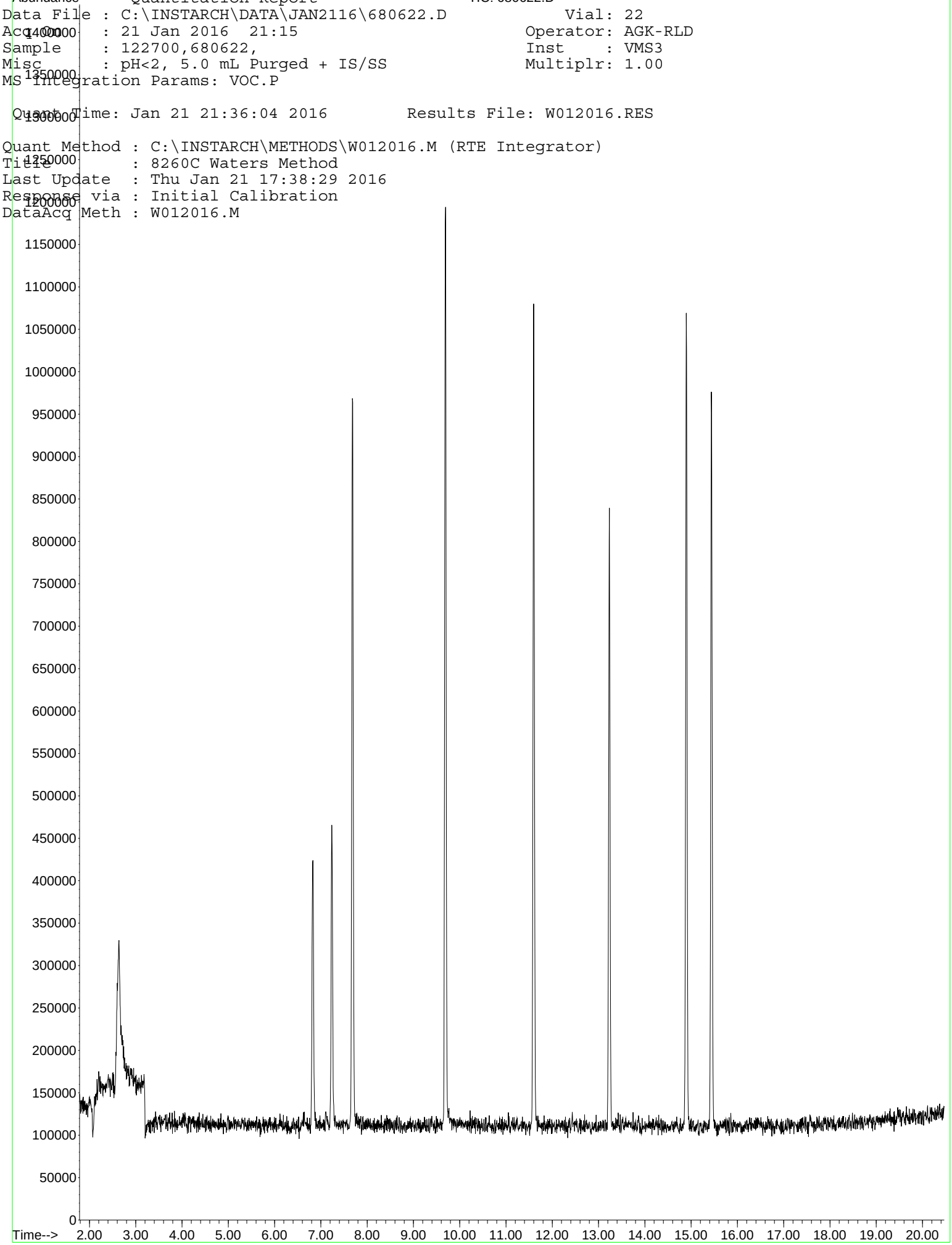
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	0.00	128	0	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

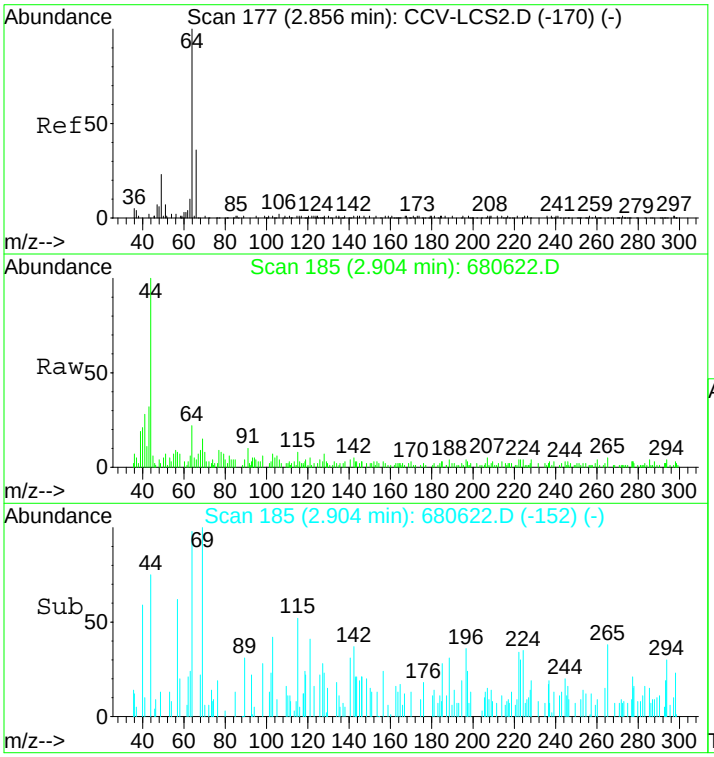
(#) = qualifier out of range (m) = manual integration

Data File : C:\INSTARCH\DATA\JAN2116\680622.D Vial: 22
Acq On : 21 Jan 2016 21:15 Operator: AGK-RLD
Sample : 122700,680622, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 21:36:04 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

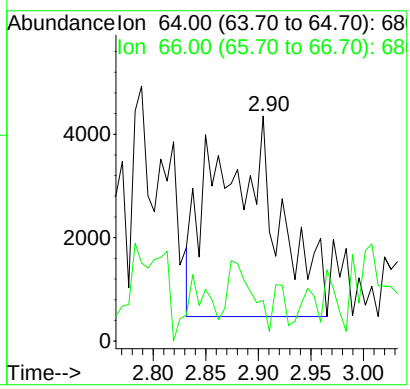


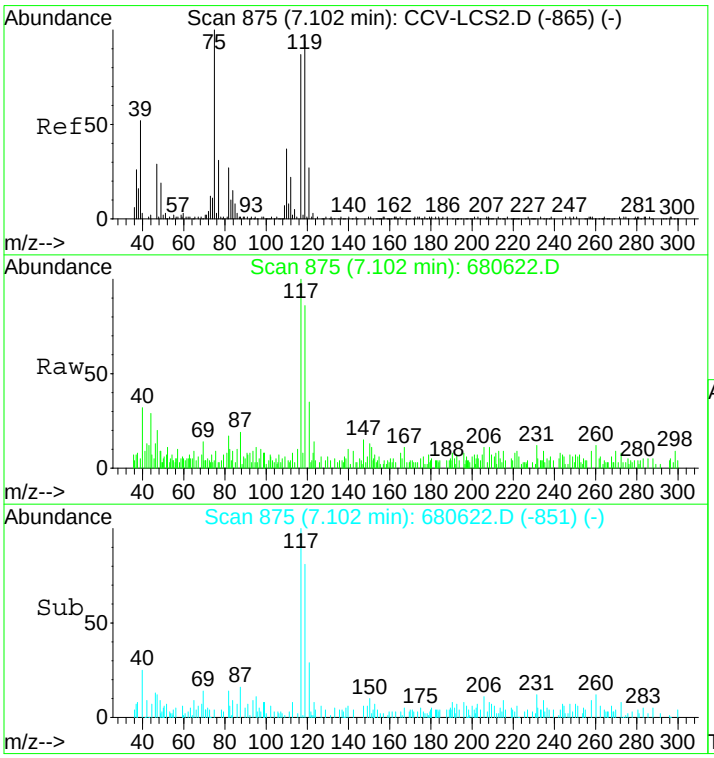


#6
Chloroethane
Concen: 1.00 ug/L
RT: 2.90 min Scan# 185
Delta R.T. 0.05 min
Lab File: 680622.D
Acq: 21 Jan 2016 21:15

Tgt Ion: 64 Resp: 16062

Ion	Ratio	Lower	Upper
64	100		
66	0.0	10.9	50.9#

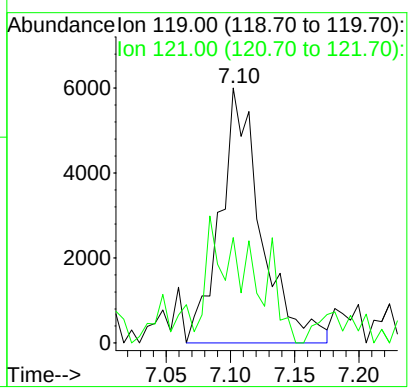




#43
Carbtetraclo
Concen: 0.94 ug/L
RT: 7.10 min Scan# 875
Delta R.T. -0.01 min
Lab File: 680622.D
Acq: 21 Jan 2016 21:15

Tgt Ion:119 Resp: 13194

Ion	Ratio	Lower	Upper
119	100		
121	51.7	13.7	53.7



Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2116\680624.D Vial: 23
Acq On : 21 Jan 2016 21:44 Operator: AGK-RLD
Sample : 122700,680624, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 22:05:28 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.68	96	888292	20.00 ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.60	117	649971	20.00 ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.90	152	338502	20.00 ug/L	0.00 NA%
System Monitoring Compounds					
41) SURRDibrflma	6.82	113	207201	18.519 ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 93 %		
45) SURR12DCAd4	7.24	102	64951	20.290 ug/L	0.01
Spiked Amount 20.000	Range 89 - 112		Recovery = 101 %		
61) SURRd8Tolule	9.69	98	887230	19.661 ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 98 %		
83) SURR4BrFBenz	13.23	95	278138	20.437 ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 102 %		

Target Compounds					Qvalue
2) Dichlorodi	0.00	85	0	N.D.	
3) Chloromethan	0.00	50	0	N.D.	
4) VinylChlorid	0.00	62	0	N.D.	
5) Bromomethane	0.00	94	0	N.D.	
6) Chloroethane	2.90	64	5493	N.D.	
7) Dichloroflmethane	3.17	67	5649	N.D.	
8) Trichlorofma	0.00	101	0	N.D.	
9) Ethylether	0.00	59	0	N.D.	
10) dichlorotfluoroethan	0.00	67	0	N.D.	
11) propyleneoxide	0.00	58	0	N.D.	
12) Acrolein	0.00	56	0	N.D.	
13) 11dichlorthe	0.00	96	0	N.D.	
14) Trichlorotfluoroeth	0.00	101	0	N.D.	
15) Acetone	4.05	43	5910	Below Cal # 40	
16) Iodomethane	0.00	142	0	N.D.	
17) Carbon Dislf	0.00	76	0	N.D.	
18) allylchloride	0.00	41	0	N.D.	
19) methylacetate	0.00	74	0	N.D.	
20) Methylchlorid	0.00	84	0	N.D.	
21) tbutylalcohol	4.81	59	7157	Below Cal # 56	
22) Acrylonitrile	0.00	53	0	N.D.	
23) t12dichlorte	0.00	96	0	N.D.	
24) MtBE	0.00	73	0	N.D.	
25) Hexane	0.00	57	0	N.D.	
26) 11dichlorota	0.00	63	0	N.D.	
27) Vinylacetate	0.00	43	0	N.D.	
28) chloroprene	0.00	53	0	N.D.	
29) Diisopether	0.00	45	0	N.D.	
30) ETBE	0.00	59	0	N.D.	
31) 22dichloropr	0.00	77	0	N.D.	
32) c12dichlorte	0.00	96	0	N.D.	
33) 2Butanone	0.00	72	0	N.D.	
34) propionitrile	0.00	54	0	N.D.	
35) Ethylacetate	0.00	88	0	N.D.	
36) methacrylonitrile	0.00	67	0	N.D.	
37) Bromochlorma	0.00	128	0	N.D.	
38) Tetrahydofur	0.00	42	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2116\680624.D Vial: 23
Acq On : 21 Jan 2016 21:44 Operator: AGK-RLD
Sample : 122700,680624, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 22:05:28 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	0.00	119	0	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	0.00	78	0	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	0.00	95	0	N.D.	
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	9.77	92	5352	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	0.00	91	0	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	0.00	106	0	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	0.00	55	0	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	0.00	105	0	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	15.44	91	5706	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2116\680624.D Vial: 23
Acq On : 21 Jan 2016 21:44 Operator: AGK-RLD
Sample : 122700,680624, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 22:05:28 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	0.00	128	0	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

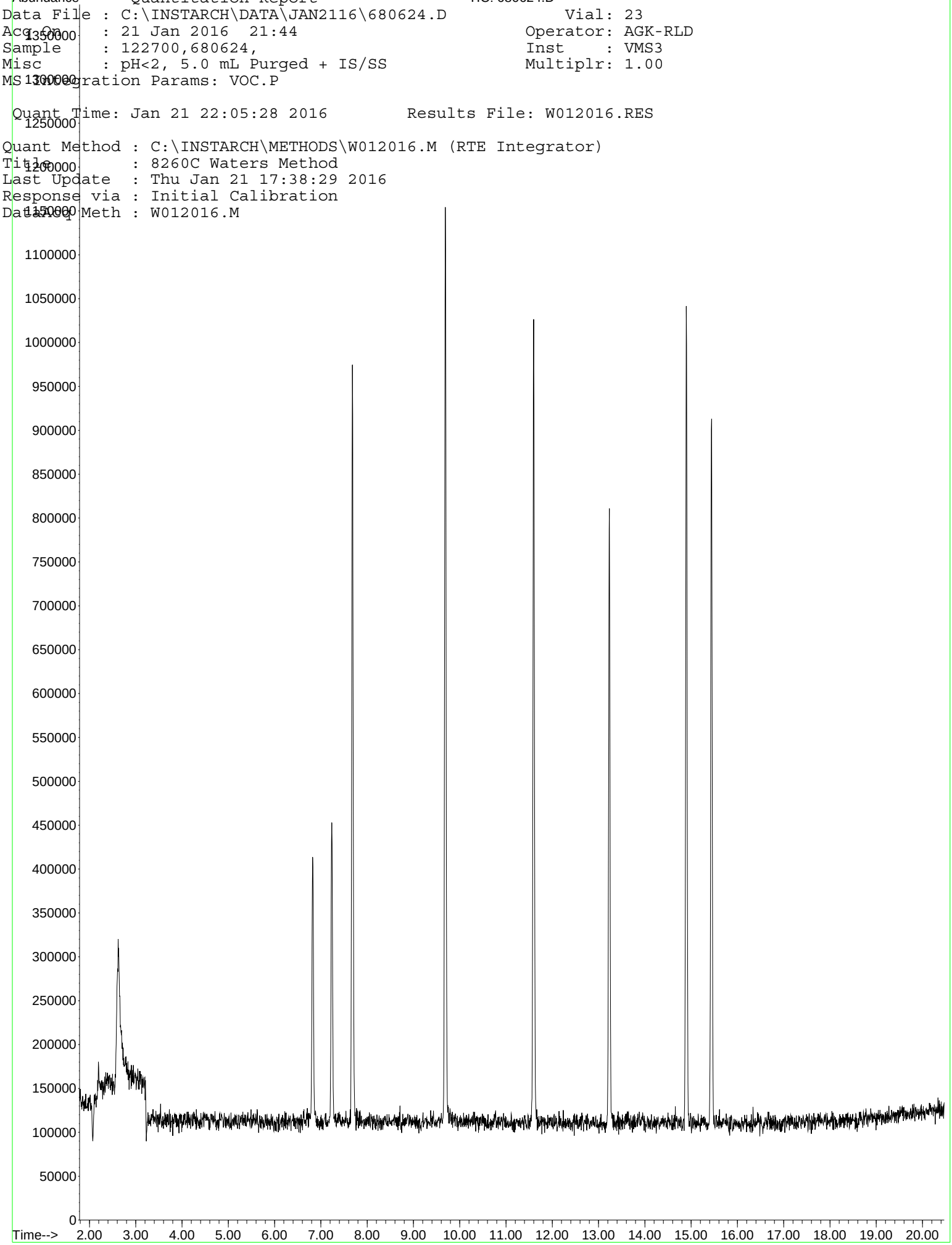
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: 680624.D

Data File : C:\INSTARCH\DATA\JAN2116\680624.D Vial: 23
Acq On : 21 Jan 2016 21:44 Operator: AGK-RLD
Sample : 122700,680624, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 22:05:28 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M



Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2116\680626.D Vial: 24
Acq On : 21 Jan 2016 22:14 Operator: AGK-RLD
Sample : 122700,680626, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 22:34:59 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.69	96	911464	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.60	117	662844	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.90	152	342251	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.83	113	214803	18.711	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 94 %			
45) SURR12DCAd4	7.24	102	66953	20.384	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 102 %			
61) SURRd8Tolule	9.69	98	920724	19.884	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 99 %			
83) SURR4BrFBenz	13.23	95	277002	20.130	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 101 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	0.00	50	0	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	0.00	94	0	N.D.		
6) Chloroethane	2.92	64	9726	0.6070	ug/L #	44
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	4.05	43	8536	Below Cal	#	40
16) Iodomethane	0.00	142	0	N.D.		
17) Carbon Dislf	0.00	76	0	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	0.00	59	0	N.D.		
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	0.00	42	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2116\680626.D Vial: 24
Acq On : 21 Jan 2016 22:14 Operator: AGK-RLD
Sample : 122700,680626, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 22:34:59 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	0.00	119	0	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	0.00	78	0	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	0.00	95	0	N.D.	
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	0.00	92	0	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	0.00	91	0	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	0.00	106	0	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	0.00	55	0	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	0.00	105	0	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	0.00	91	0	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2116\680626.D Vial: 24
Acq On : 21 Jan 2016 22:14 Operator: AGK-RLD
Sample : 122700,680626, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 22:34:59 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

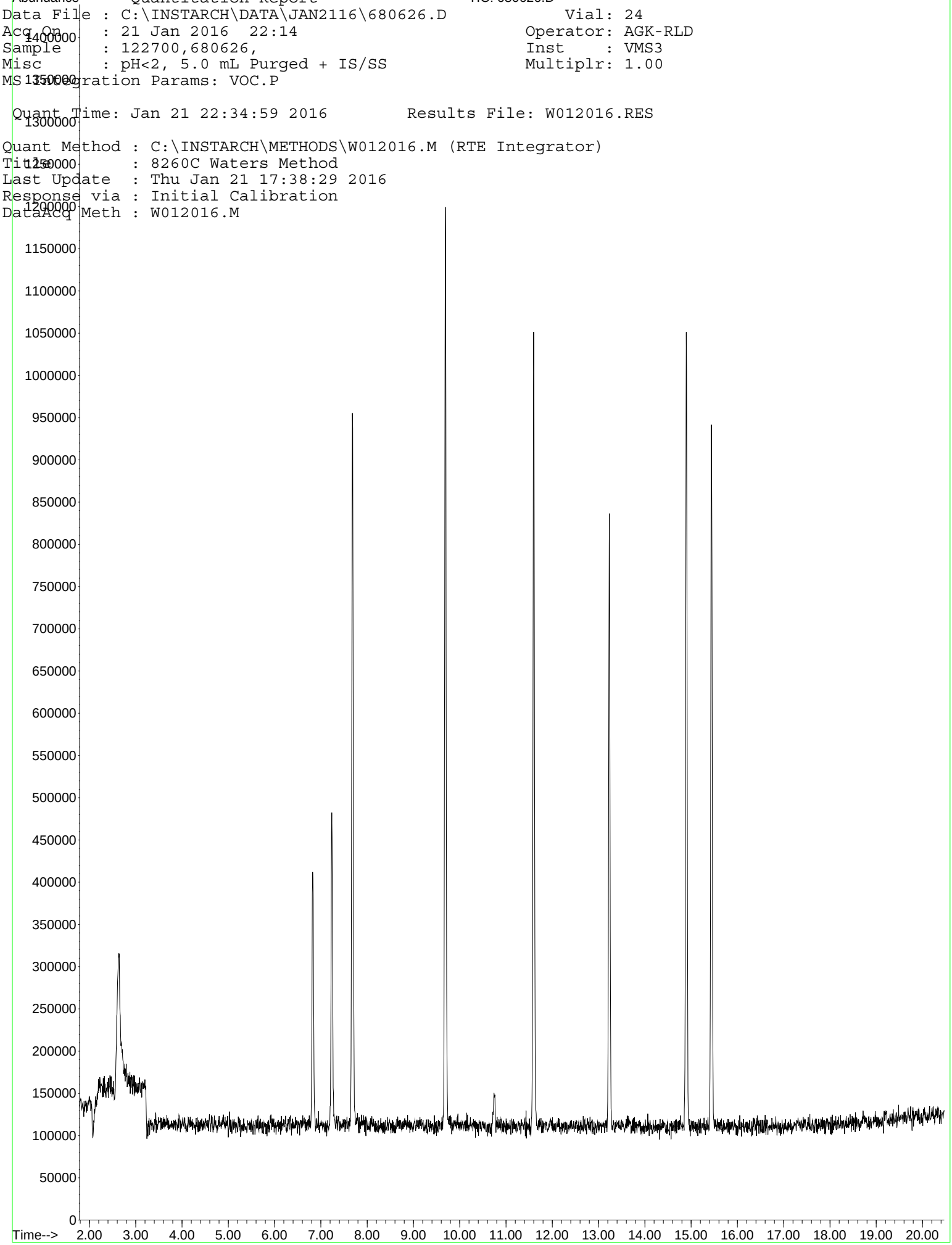
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	0.00	128	0	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

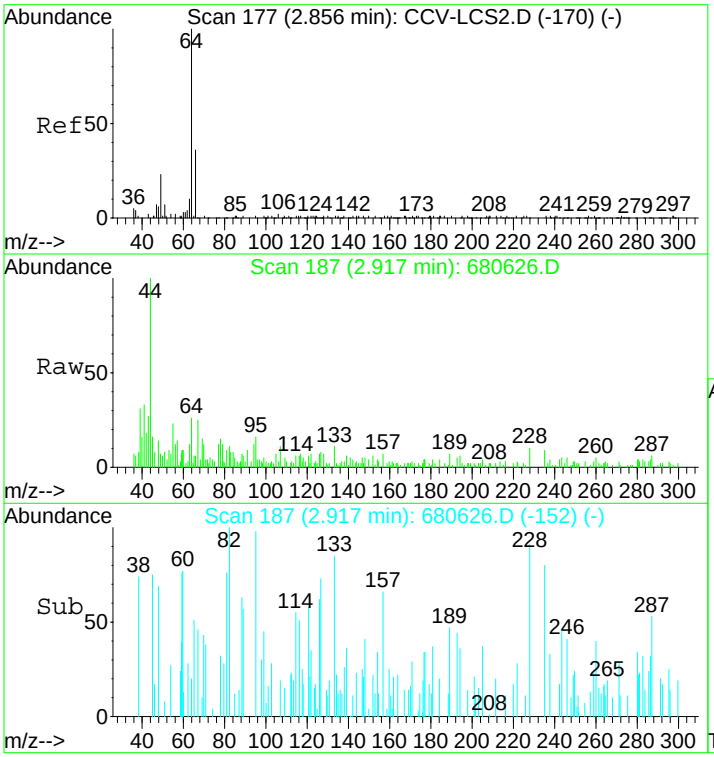
(#) = qualifier out of range (m) = manual integration

Data File : C:\INSTARCH\DATA\JAN2116\680626.D Vial: 24
Acq On : 21 Jan 2016 22:14 Operator: AGK-RLD
Sample : 122700,680626, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 22:34:59 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

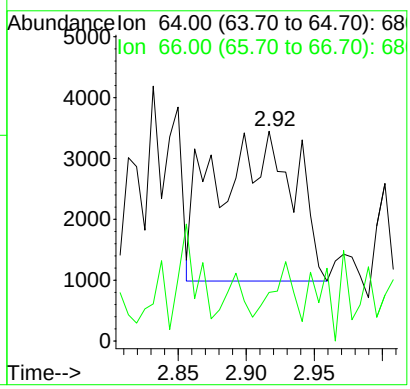




#6
Chloroethane
Concen: 0.61 ug/L
RT: 2.92 min Scan# 187
Delta R.T. 0.06 min
Lab File: 680626.D
Acq: 21 Jan 2016 22:14

Tgt Ion: 64 Resp: 9726

Ion	Ratio	Lower	Upper
64	100		
66	0.0	10.9	50.9#



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Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2116\680629.D Vial: 25
Acq On : 21 Jan 2016 22:44 Operator: AGK-RLD
Sample : 122700,680629, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 23:04:49 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.68	96	911951	20.00 ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.60	117	658069	20.00 ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.90	152	332314	20.00 ug/L	0.00 NA%
System Monitoring Compounds					
41) SURRDibrflma	6.82	113	214269	18.654 ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 93 %		
45) SURR12DCAd4	7.23	102	66828	20.335 ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 102 %		
61) SURRd8Tolule	9.69	98	930210	20.078 ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100 %		
83) SURR4BrFBenz	13.23	95	275283	20.604 ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 103 %		
Target Compounds					Qvalue
2) Dichlorodi	0.00	85	0	N.D.	
3) Chloromethan	0.00	50	0	N.D.	
4) VinylChlorid	0.00	62	0	N.D.	
5) Bromomethane	0.00	94	0	N.D.	
6) Chloroethane	2.83	64	22924	1.4299 ug/L #	44
7) Dichloroflmethane	0.00	67	0	N.D.	
8) Trichlorofma	0.00	101	0	N.D.	
9) Ethylether	0.00	59	0	N.D.	
10) dichlorotfluoroethan	0.00	67	0	N.D.	
11) propyleneoxide	0.00	58	0	N.D.	
12) Acrolein	0.00	56	0	N.D.	
13) 11dichlorthe	0.00	96	0	N.D.	
14) Trichlorotfluoroeth	0.00	101	0	N.D.	
15) Acetone	4.04	43	7819	Below Cal #	40
16) Iodomethane	0.00	142	0	N.D.	
17) Carbon Dislf	0.00	76	0	N.D.	
18) allylchloride	0.00	41	0	N.D.	
19) methylacetate	0.00	74	0	N.D.	
20) Methylchlorid	0.00	84	0	N.D.	
21) tbutylalcohol	4.84	59	5605	Below Cal #	1
22) Acrylonitrile	0.00	53	0	N.D.	
23) t12dichlorte	0.00	96	0	N.D.	
24) MtBE	0.00	73	0	N.D.	
25) Hexane	0.00	57	0	N.D.	
26) 11dichlorota	0.00	63	0	N.D.	
27) Vinylacetate	0.00	43	0	N.D.	
28) chloroprene	0.00	53	0	N.D.	
29) Diisopether	0.00	45	0	N.D.	
30) ETBE	0.00	59	0	N.D.	
31) 22dichloropr	0.00	77	0	N.D.	
32) c12dichlorte	0.00	96	0	N.D.	
33) 2Butanone	0.00	72	0	N.D.	
34) propionitrile	0.00	54	0	N.D.	
35) Ethylacetate	0.00	88	0	N.D.	
36) methacrylonitrile	0.00	67	0	N.D.	
37) Bromochlorma	0.00	128	0	N.D.	
38) Tetrahydofur	0.00	42	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2116\680629.D Vial: 25
Acq On : 21 Jan 2016 22:44 Operator: AGK-RLD
Sample : 122700,680629, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 23:04:49 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	0.00	119	0	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	0.00	78	0	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	0.00	95	0	N.D.	
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	0.00	92	0	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	0.00	91	0	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	0.00	106	0	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	0.00	55	0	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	0.00	105	0	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	0.00	91	0	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2116\680629.D Vial: 25
Acq On : 21 Jan 2016 22:44 Operator: AGK-RLD
Sample : 122700,680629, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 23:04:49 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

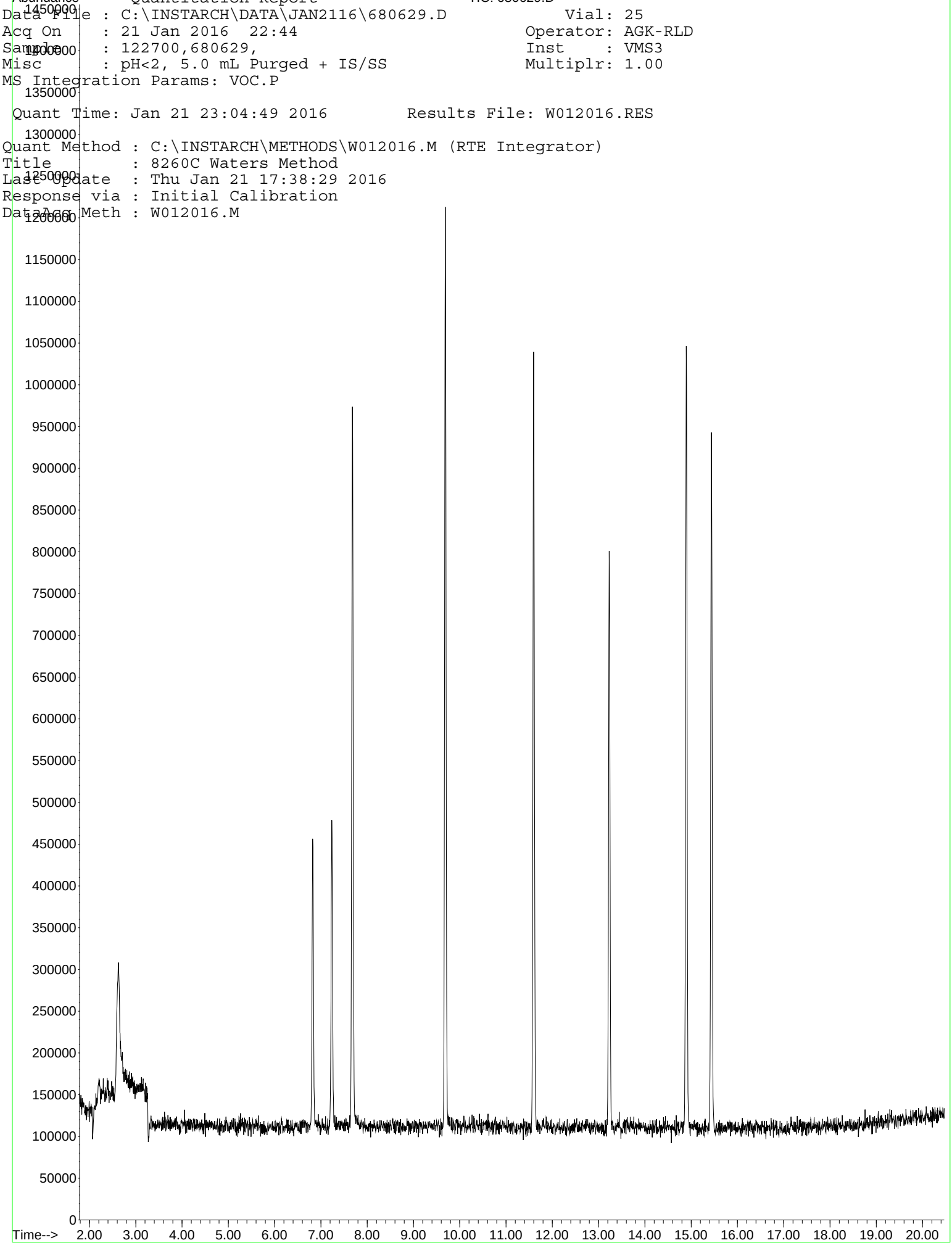
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	0.00	128	0	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

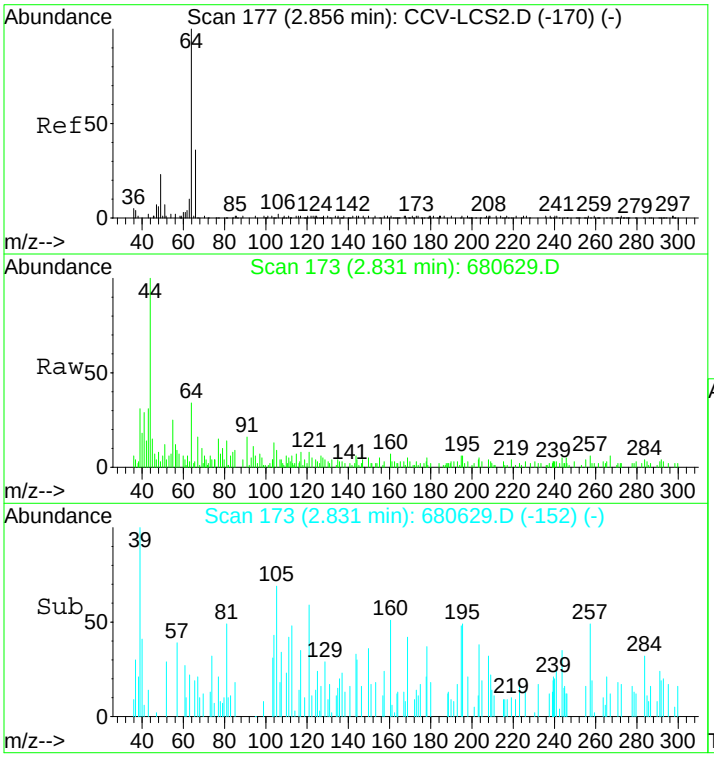
(#) = qualifier out of range (m) = manual integration

Data File : C:\INSTARCH\DATA\JAN2116\680629.D Vial: 25
Acq On : 21 Jan 2016 22:44 Operator: AGK-RLD
Sample : 122700,680629, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 23:04:49 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

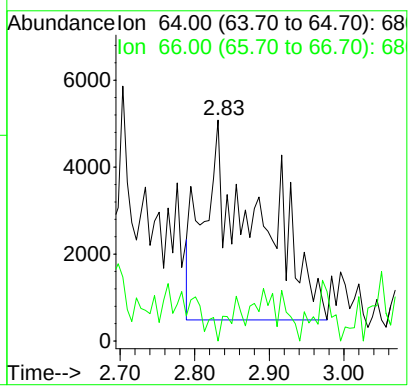




#6
Chloroethane
Concen: 1.43 ug/L
RT: 2.83 min Scan# 173
Delta R.T. -0.02 min
Lab File: 680629.D
Acq: 21 Jan 2016 22:44

Tgt Ion: 64 Resp: 22924

Ion	Ratio	Lower	Upper
64	100		
66	0.0	10.9	50.9#



Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2116\681414.D Vial: 26
Acq On : 21 Jan 2016 23:14 Operator: AGK-RLD
Sample : 122700,681414, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 23:34:49 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.69	96	921142	20.00 ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.60	117	658315	20.00 ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.90	152	337375	20.00 ug/L	0.00 NA%
System Monitoring Compounds					
41) SURRDibrflma	6.82	113	221523	19.093 ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 95 %		
45) SURR12DCAd4	7.24	102	64471	19.422 ug/L	0.01
Spiked Amount 20.000	Range 89 - 112		Recovery = 97 %		
61) SURRd8Tolule	9.69	98	921404	19.690 ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 98 %		
83) SURR4BrFBenz	13.23	95	276875	20.412 ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 102 %		

Target Compounds					Qvalue
2) Dichlorodi	0.00	85	0	N.D.	
3) Chloromethan	0.00	50	0	N.D.	
4) VinylChlorid	0.00	62	0	N.D.	
5) Bromomethane	0.00	94	0	N.D.	
6) Chloroethane	2.86	64	5502	N.D.	
7) Dichloroflmethane	0.00	67	0	N.D.	
8) Trichlorofma	0.00	101	0	N.D.	
9) Ethylether	0.00	59	0	N.D.	
10) dichlorotfluoroethan	0.00	67	0	N.D.	
11) propyleneoxide	0.00	58	0	N.D.	
12) Acrolein	0.00	56	0	N.D.	
13) 11dichlorthe	0.00	96	0	N.D.	
14) Trichlorotfluoroeth	0.00	101	0	N.D.	
15) Acetone	0.00	43	0	N.D.	
16) Iodomethane	0.00	142	0	N.D.	
17) Carbon Dislf	0.00	76	0	N.D.	
18) allylchloride	0.00	41	0	N.D.	
19) methylacetate	0.00	74	0	N.D.	
20) Methylchlorid	0.00	84	0	N.D.	
21) tbutylalcohol	0.00	59	0	N.D.	
22) Acrylonitrile	0.00	53	0	N.D.	
23) t12dichlorte	0.00	96	0	N.D.	
24) MtBE	0.00	73	0	N.D.	
25) Hexane	0.00	57	0	N.D.	
26) 11dichlorota	0.00	63	0	N.D.	
27) Vinylacetate	0.00	43	0	N.D.	
28) chloroprene	0.00	53	0	N.D.	
29) Diisopether	0.00	45	0	N.D.	
30) ETBE	0.00	59	0	N.D.	
31) 22dichloropr	0.00	77	0	N.D.	
32) c12dichlorte	0.00	96	0	N.D.	
33) 2Butanone	0.00	72	0	N.D.	
34) propionitrile	0.00	54	0	N.D.	
35) Ethylacetate	0.00	88	0	N.D.	
36) methacrylonitrile	0.00	67	0	N.D.	
37) Bromochlorma	0.00	128	0	N.D.	
38) Tetrahydofur	0.00	42	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2116\681414.D Vial: 26
Acq On : 21 Jan 2016 23:14 Operator: AGK-RLD
Sample : 122700,681414, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 23:34:49 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	0.00	83	0	N.D.			
40)	111trichlota	0.00	97	0	N.D.			
42)	Cyclohexane	6.95	56	6270	0.3149	ug/L	#	16
43)	Carbtetraclo	0.00	119	0	N.D.			
44)	11dicloprope	0.00	110	0	N.D.			
46)	Benzene	0.00	78	0	N.D.			
47)	12dichlorota	0.00	62	0	N.D.			
48)	TAME	0.00	73	0	N.D.			
49)	trichloroete	0.00	95	0	N.D.			
50)	methylcyclohexane	0.00	83	0	N.D.			
51)	12dicloropra	0.00	63	0	N.D.			
52)	23Dicl1propene	0.00	75	0	N.D.			
53)	Dibromometha	0.00	93	0	N.D.			
54)	methylmethacrylate	0.00	69	0	N.D.			
55)	14dioxane	0.00	88	0	N.D.			
56)	Bromodiclrma	0.00	83	0	N.D.			
57)	2Nitropropane	0.00	43	0	N.D.			
58)	2CLEVE	0.00	63	0	N.D.			
59)	c13dicloproe	0.00	75	0	N.D.			
60)	4Meth2Pentan	9.40	43	5543	Below	Cal	#	39
62)	Toluene	0.00	92	0	N.D.			
63)	t13Dicloprop	0.00	75	0	N.D.			
64)	ethylmethacrylate	0.00	69	0	N.D.			
65)	112Triclotha	0.00	83	0	N.D.			
66)	Tetrachlorte	0.00	166	0	N.D.			
67)	13Diclorpropa	0.00	76	0	N.D.			
69)	2Hexanone	0.00	43	0	N.D.			
70)	Clorodibrmta	0.00	129	0	N.D.			
71)	12Dibrometha	0.00	107	0	N.D.			
72)	Chlorobenzen	0.00	112	0	N.D.			
73)	1Clhexane	0.00	91	0	N.D.			
74)	1112Tetclota	0.00	131	0	N.D.			
75)	Ethylbenzene	0.00	91	0	N.D.			
76)	m p-Xylene	0.00	106	0	N.D.			
77)	o-Xylene	0.00	106	0	N.D.			
78)	Styrene	0.00	104	0	N.D.			
79)	Bromoform	0.00	173	0	N.D.			
80)	Isopropylben	0.00	105	0	N.D.			
81)	cyclohexanone	0.00	55	0	N.D.			
84)	Bromobenzene	0.00	156	0	N.D.			
85)	1122Tetrclta	0.00	83	0	N.D.			
86)	123Triclproa	0.00	75	0	N.D.			
87)	14dichloro2butene	0.00	53	0	N.D.			
88)	n-Propylbenz	0.00	91	0	N.D.			
89)	2chlorotolue	0.00	91	0	N.D.			
90)	4chlorotolue	0.00	91	0	N.D.			
91)	135Trimebenz	0.00	105	0	N.D.			
92)	tbutylbenzen	0.00	119	0	N.D.			
93)	124Trimetben	0.00	105	0	N.D.			
94)	sbutylbenzen	0.00	105	0	N.D.			
95)	13Diclorbenz	0.00	146	0	N.D.			
96)	pIsopropylto	0.00	119	0	N.D.			
97)	14dichlorobe	0.00	146	0	N.D.			
98)	12dichlorobe	0.00	146	0	N.D.			
99)	nButylbenzen	0.00	91	0	N.D.			
100)	12dibromo3cl	0.00	157	0	N.D.			
101)	135Trichlorobenzene	0.00	180	0	N.D.			

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2116\681414.D Vial: 26
Acq On : 21 Jan 2016 23:14 Operator: AGK-RLD
Sample : 122700,681414, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 23:34:49 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

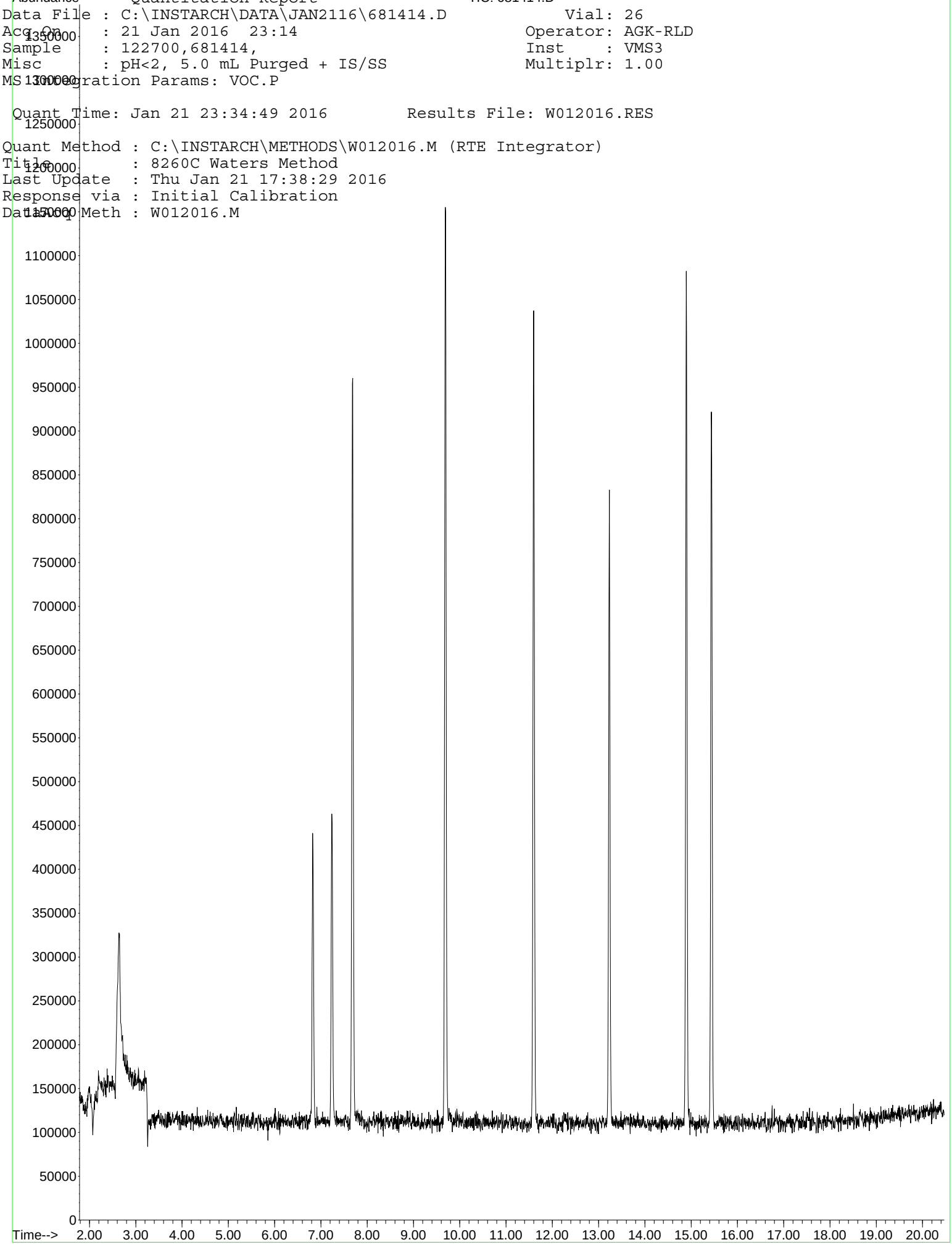
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	0.00	128	0	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

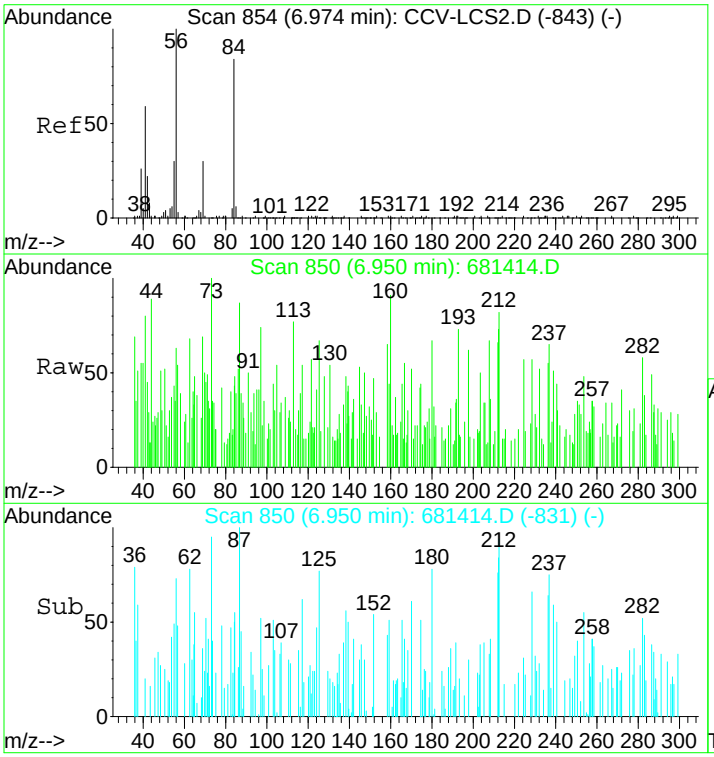
(#) = qualifier out of range (m) = manual integration

Data File : C:\INSTARCH\DATA\JAN2116\681414.D Vial: 26
Acq On : 21 Jan 2016 23:14 Operator: AGK-RLD
Sample : 122700,681414, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 23:34:49 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

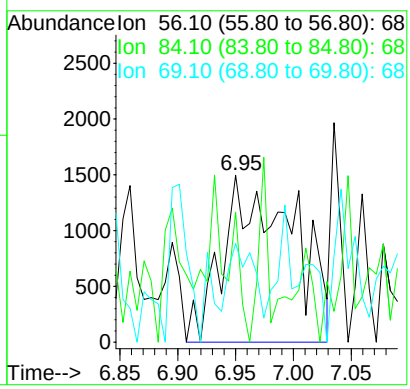




#42
Cyclohexane
Concen: 0.31 ug/L
RT: 6.95 min Scan# 850
Delta R.T. -0.04 min
Lab File: 681414.D
Acq: 21 Jan 2016 23:14

Tgt Ion: 56 Resp: 6270

Ion	Ratio	Lower	Upper
56	100		
84	0.0	66.0	106.0#
69	0.0	8.5	48.5#



[redacted]

Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2116\681416.D Vial: 27
Acq On : 21 Jan 2016 23:43 Operator: AGK-RLD
Sample : 122700,681416, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 22 00:04:13 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.68	96	913297	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.60	117	643825	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.90	152	337064	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.83	113	213417	18.553	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 93 %			
45) SURR12DCAd4	7.24	102	61287	18.621	ug/L	0.01
Spiked Amount 20.000	Range 89 - 112		Recovery = 93 %			
61) SURRd8Tolule	9.69	98	894832	19.286	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 96 %			
83) SURR4BrFBenz	13.23	95	265970	19.626	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 98 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	0.00	50	0	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	0.00	94	0	N.D.		
6) Chloroethane	2.80	64	5475	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	3.69	67	10729	0.8779	ug/L #	72
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	3.96	96	6419	0.6091	ug/L #	45
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	4.04	43	8695	Below Cal	#	40
16) Iodomethane	0.00	142	0	N.D.		
17) Carbon Dislf	0.00	76	0	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	4.82	59	6908	Below Cal	#	56
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	5.51	63	99241	5.2720	ug/L	89
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	6.24	96	101212	8.1060	ug/L	91
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	0.00	42	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2116\681416.D Vial: 27
Acq On : 21 Jan 2016 23:43 Operator: AGK-RLD
Sample : 122700,681416, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 22 00:04:13 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	0.00	83	0	N.D.			
40)	111trichlota	6.88	97	19764	1.2127	ug/L		94
42)	Cyclohexane	0.00	56	0	N.D.			
43)	Carbtetraclo	0.00	119	0	N.D.			
44)	11dicloprope	0.00	110	0	N.D.			
46)	Benzene	7.33	78	74706	1.7195	ug/L		93
47)	12dichlorota	0.00	62	0	N.D.			
48)	TAME	0.00	73	0	N.D.			
49)	trichloroete	8.15	95	64061	5.9151	ug/L		95
50)	methylcyclohexane	0.00	83	0	N.D.			
51)	12dicloropra	0.00	63	0	N.D.			
52)	23Dicl1propene	0.00	75	0	N.D.			
53)	Dibromometha	0.00	93	0	N.D.			
54)	methylmethacrylate	0.00	69	0	N.D.			
55)	14dioxane	0.00	88	0	N.D.			
56)	Bromodiclrma	0.00	83	0	N.D.			
57)	2Nitropropane	0.00	43	0	N.D.			
58)	2CLEVE	0.00	63	0	N.D.			
59)	c13dicloproe	0.00	75	0	N.D.			
60)	4Meth2Pentan	0.00	43	0	N.D.			
62)	Toluene	0.00	92	0	N.D.			
63)	t13Dicloprop	0.00	75	0	N.D.			
64)	ethylmethacrylate	0.00	69	0	N.D.			
65)	112Triclotha	0.00	83	0	N.D.			
66)	Tetrachlorte	10.51	166	10139	0.8650	ug/L		93
67)	13Diclorpropa	0.00	76	0	N.D.			
69)	2Hexanone	0.00	43	0	N.D.			
70)	Clorodibrmta	0.00	129	0	N.D.			
71)	12Dibrometha	0.00	107	0	N.D.			
72)	Chlorobenzen	0.00	112	0	N.D.			
73)	1Clhexane	0.00	91	0	N.D.			
74)	1112Tetclota	0.00	131	0	N.D.			
75)	Ethylbenzene	0.00	91	0	N.D.			
76)	m p-Xylene	0.00	106	0	N.D.			
77)	o-Xylene	0.00	106	0	N.D.			
78)	Styrene	0.00	104	0	N.D.			
79)	Bromoform	0.00	173	0	N.D.			
80)	Isopropylben	0.00	105	0	N.D.			
81)	cyclohexanone	0.00	55	0	N.D.			
84)	Bromobenzene	0.00	156	0	N.D.			
85)	1122Tetrclta	0.00	83	0	N.D.			
86)	123Triclproa	0.00	75	0	N.D.			
87)	14dichloro2butene	0.00	53	0	N.D.			
88)	n-Propylbenz	0.00	91	0	N.D.			
89)	2chlorotolue	0.00	91	0	N.D.			
90)	4chlorotolue	0.00	91	0	N.D.			
91)	135Trimebenz	0.00	105	0	N.D.			
92)	tbutylbenzen	0.00	119	0	N.D.			
93)	124Trimetben	0.00	105	0	N.D.			
94)	sbutylbenzen	14.66	105	15177	0.3483	ug/L	#	53
95)	13Diclorbenz	0.00	146	0	N.D.			
96)	pIsopropylto	0.00	119	0	N.D.			
97)	14dichlorobe	0.00	146	0	N.D.			
98)	12dichlorobe	0.00	146	0	N.D.			
99)	nButylbenzen	0.00	91	0	N.D.			
100)	12dibromo3cl	0.00	157	0	N.D.			
101)	135Trichlorobenzene	0.00	180	0	N.D.			

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2116\681416.D Vial: 27
Acq On : 21 Jan 2016 23:43 Operator: AGK-RLD
Sample : 122700,681416, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 22 00:04:13 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	0.00	128	0	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

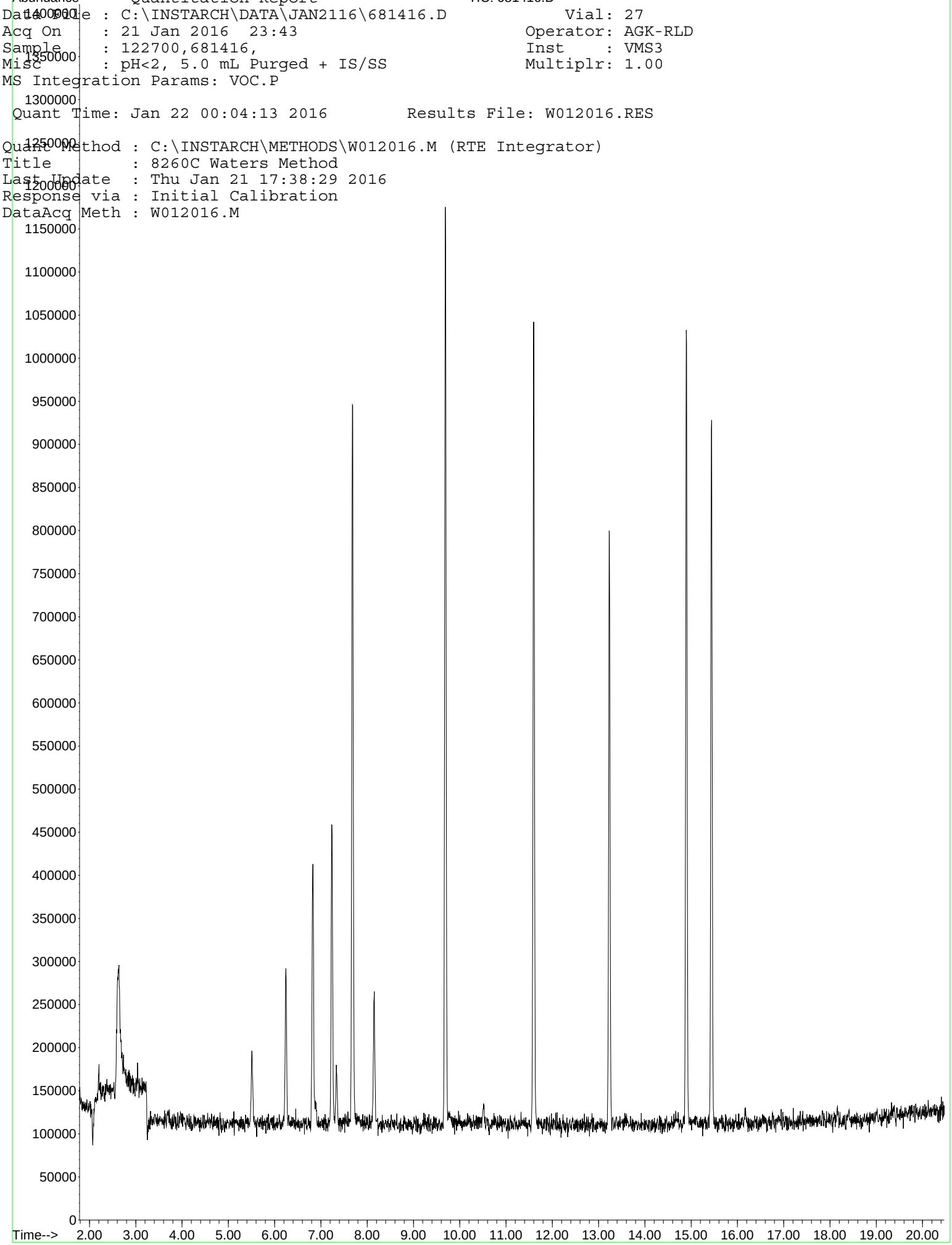
(#) = qualifier out of range (m) = manual integration

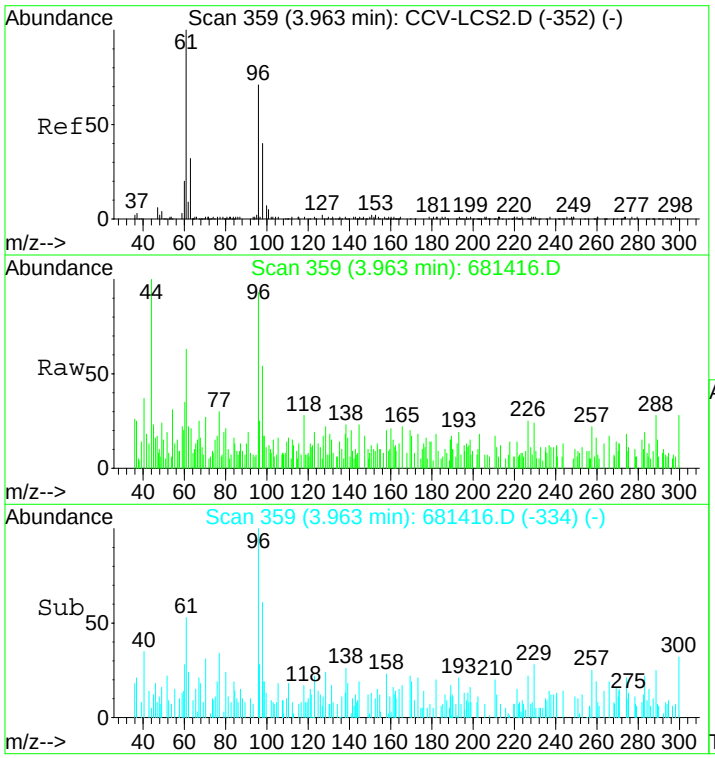
Abundance Quantitation Report TIC: 681416.D

Data File : C:\INSTARCH\DATA\JAN2116\681416.D Vial: 27
Acq On : 21 Jan 2016 23:43 Operator: AGK-RLD
Sample : 122700,681416, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 22 00:04:13 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

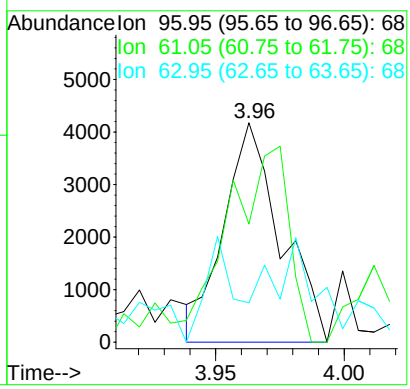


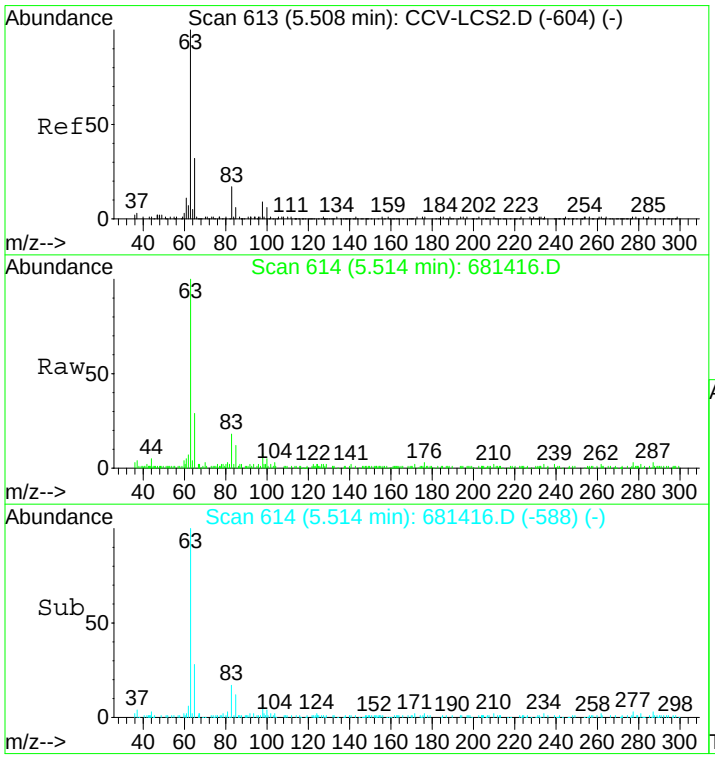


#13
11dichlorthe
Concen: 0.61 ug/L
RT: 3.96 min Scan# 359
Delta R.T. -0.00 min
Lab File: 681416.D
Acq: 21 Jan 2016 23:43

Tgt Ion: 96 Resp: 6419

Ion	Ratio	Lower	Upper
96	100		
61	95.6	136.0	176.0#
63	0.0	36.6	76.6#

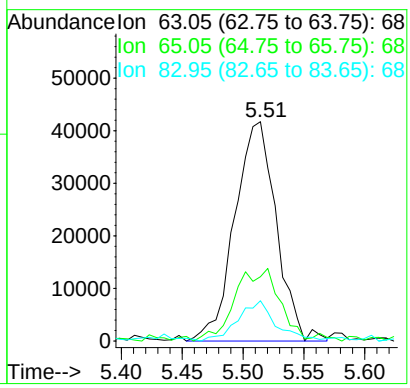


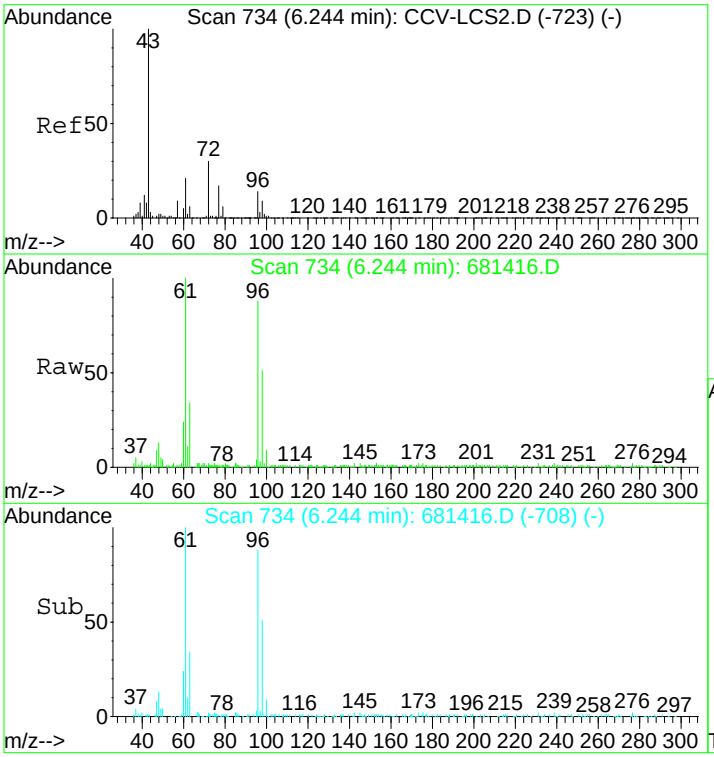


#26
11dichlorota
Concen: 5.27 ug/L
RT: 5.51 min Scan# 614
Delta R.T. 0.01 min
Lab File: 681416.D
Acq: 21 Jan 2016 23:43

Tgt Ion: 63 Resp: 99241

Ion	Ratio	Lower	Upper
63	100		
65	35.5	10.0	50.0
83	17.5	0.0	32.8

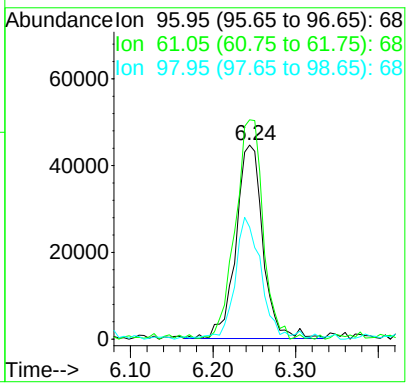


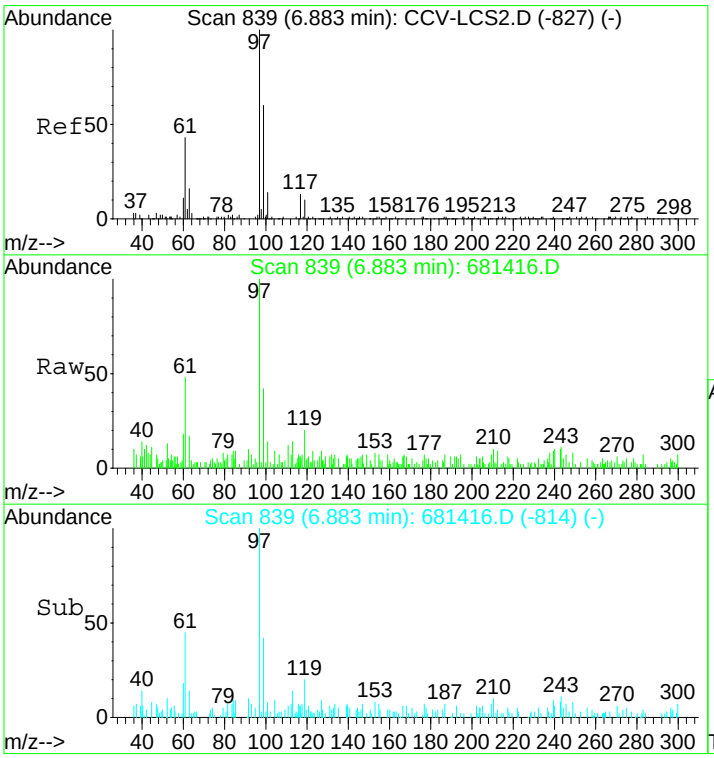


#32
c12dichlorte
Concen: 8.11 ug/L
RT: 6.24 min Scan# 734
Delta R.T. 0.01 min
Lab File: 681416.D
Acq: 21 Jan 2016 23:43

Tgt Ion: 96 Resp: 101212

Ion	Ratio	Lower	Upper
96	100		
61	115.0	110.4	150.4
98	58.0	38.8	78.8

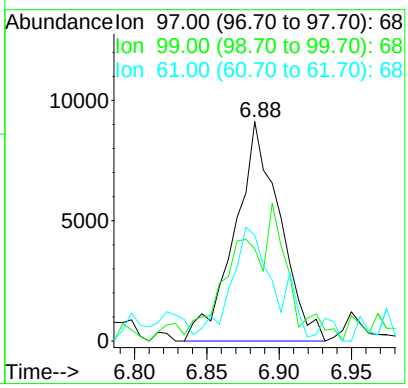


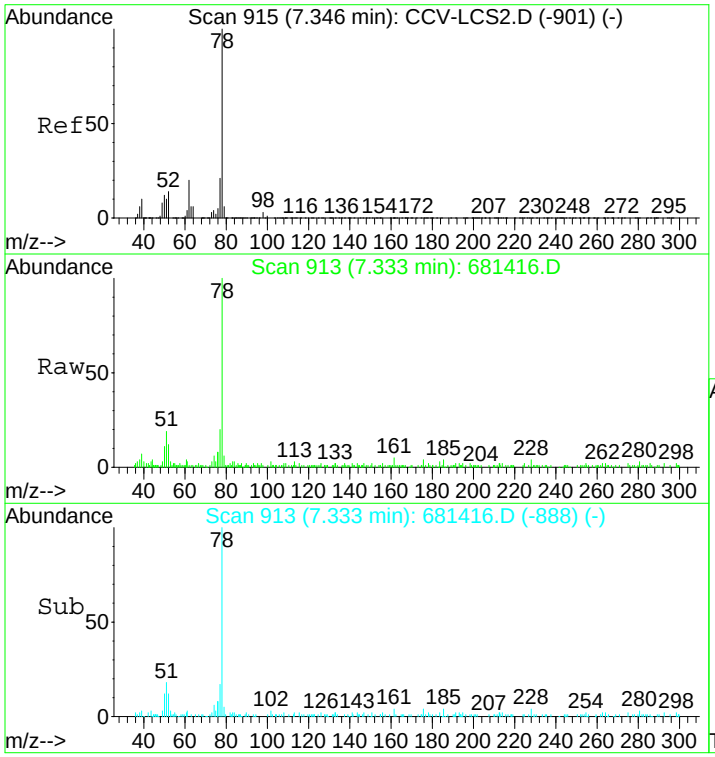


#40
111trichlota
Concen: 1.21 ug/L
RT: 6.88 min Scan# 839
Delta R.T. -0.00 min
Lab File: 681416.D
Acq: 21 Jan 2016 23:43

Tgt Ion: 97 Resp: 19764

Ion	Ratio	Lower	Upper
97	100		
99	72.4	44.4	84.4
61	45.0	25.7	65.7

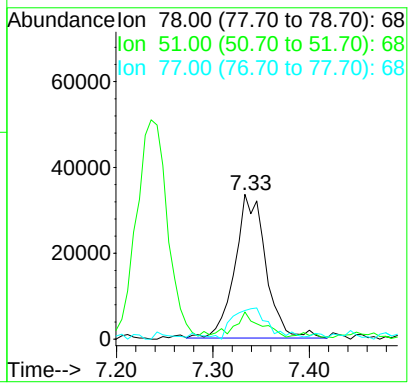


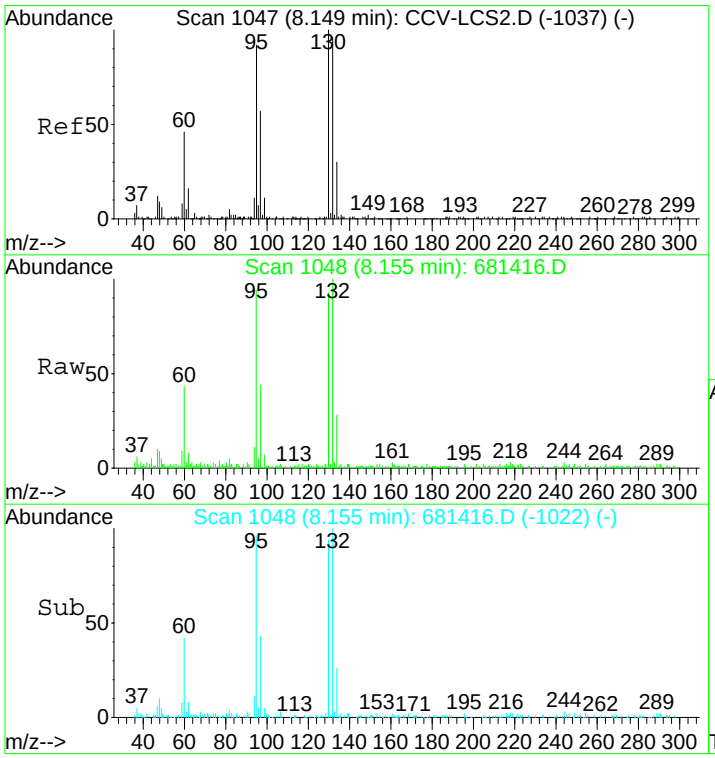


#46
Benzene
Concen: 1.72 ug/L
RT: 7.33 min Scan# 913
Delta R.T. -0.00 min
Lab File: 681416.D
Acq: 21 Jan 2016 23:43

Tgt Ion: 78 Resp: 74706

Ion	Ratio	Lower	Upper
78	100		
51	15.5	0.0	38.7
77	21.6	4.6	44.6

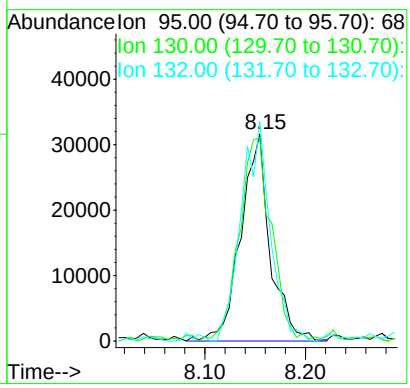


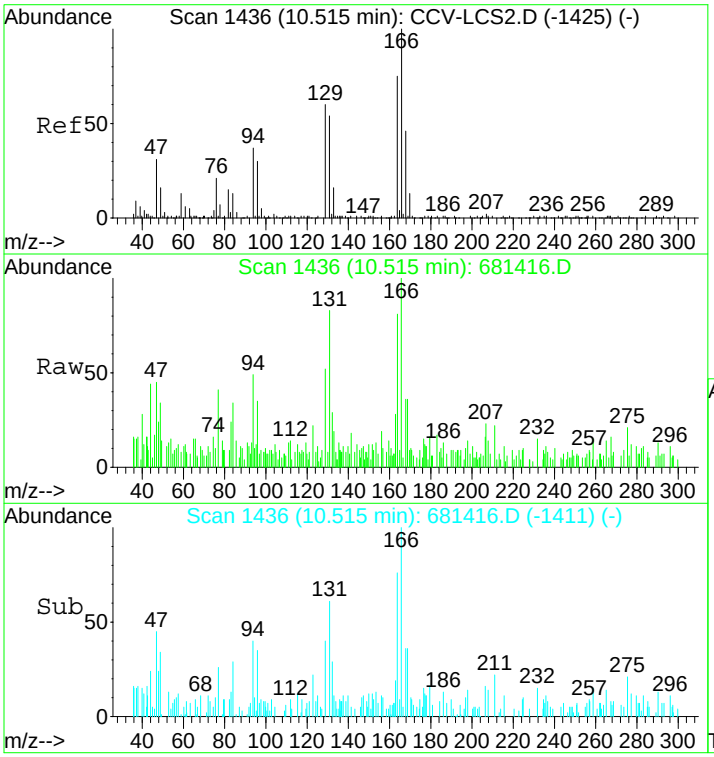


#49
trichloroete
Concen: 5.92 ug/L
RT: 8.15 min Scan# 1048
Delta R.T. 0.01 min
Lab File: 681416.D
Acq: 21 Jan 2016 23:43

Tgt Ion: 95 Resp: 64061

Ion	Ratio	Lower	Upper
95	100		
130	108.2	83.9	123.9
132	105.7	79.1	119.1

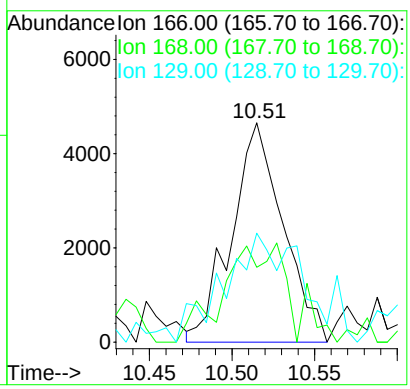




#66
Tetrachlorte
Concen: 0.87 ug/L
RT: 10.51 min Scan# 1436
Delta R.T. -0.00 min
Lab File: 681416.D
Acq: 21 Jan 2016 23:43

Tgt Ion:166 Resp: 10139

Ion	Ratio	Lower	Upper
166	100		
168	50.8	29.3	69.3
129	76.8	48.4	88.4



Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2116\681418.D Vial: 28
Acq On : 22 Jan 2016 00:12 Operator: AGK-RLD
Sample : 122700,681418, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 22 00:33:31 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.68	96	910341	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.60	117	669258	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.90	152	343858	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.82	113	220651	19.244	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 96 %			
45) SURR12DCAd4	7.24	102	64948	19.798	ug/L	0.01
Spiked Amount 20.000	Range 89 - 112		Recovery = 99 %			
61) SURRd8Tolule	9.69	98	928529	20.077	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100 %			
83) SURR4BrFBenz	13.23	95	269937	19.525	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 98 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	0.00	50	0	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	0.00	94	0	N.D.		
6) Chloroethane	2.86	64	11895	0.7433	ug/L #	44
7) Dichloroflmethane	3.18	67	13547	0.4251	ug/L #	48
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	4.04	43	6731	Below Cal	#	40
16) Iodomethane	0.00	142	0	N.D.		
17) Carbon Dislf	0.00	76	0	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	4.82	59	7705	Below Cal	#	56
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	5.51	63	17955	0.9569	ug/L #	50
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	6.26	96	9388	0.7543	ug/L #	79
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	0.00	42	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2116\681418.D Vial: 28
Acq On : 22 Jan 2016 00:12 Operator: AGK-RLD
Sample : 122700,681418, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 22 00:33:31 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	0.00	83	0	N.D.			
40)	111trichlota	6.88	97	7469	0.4598	ug/L	#	63
42)	Cyclohexane	0.00	56	0	N.D.			
43)	Carbtetraclo	0.00	119	0	N.D.			
44)	11dicloprope	0.00	110	0	N.D.			
46)	Benzene	0.00	78	0	N.D.			
47)	12dichlorota	0.00	62	0	N.D.			
48)	TAME	0.00	73	0	N.D.			
49)	trichloroete	8.15	95	24574	2.2764	ug/L		92
50)	methylcyclohexane	0.00	83	0	N.D.			
51)	12dicloropra	0.00	63	0	N.D.			
52)	23Dicl1propene	0.00	75	0	N.D.			
53)	Dibromometha	0.00	93	0	N.D.			
54)	methylmethacrylate	0.00	69	0	N.D.			
55)	14dioxane	0.00	88	0	N.D.			
56)	Bromodiclrma	0.00	83	0	N.D.			
57)	2Nitropropane	0.00	43	0	N.D.			
58)	2CLEVE	0.00	63	0	N.D.			
59)	c13dicloproe	0.00	75	0	N.D.			
60)	4Meth2Pentan	0.00	43	0	N.D.			
62)	Toluene	0.00	92	0	N.D.			
63)	t13Dicloprop	0.00	75	0	N.D.			
64)	ethylmethacrylate	0.00	69	0	N.D.			
65)	112Triclotha	0.00	83	0	N.D.			
66)	Tetrachlorte	0.00	166	0	N.D.			
67)	13Diclorpropa	0.00	76	0	N.D.			
69)	2Hexanone	0.00	43	0	N.D.			
70)	Clorodibrmta	0.00	129	0	N.D.			
71)	12Dibrometha	0.00	107	0	N.D.			
72)	Chlorobenzen	0.00	112	0	N.D.			
73)	1Clhexane	0.00	91	0	N.D.			
74)	1112Tetclota	0.00	131	0	N.D.			
75)	Ethylbenzene	0.00	91	0	N.D.			
76)	m p-Xylene	0.00	106	0	N.D.			
77)	o-Xylene	0.00	106	0	N.D.			
78)	Styrene	0.00	104	0	N.D.			
79)	Bromoform	0.00	173	0	N.D.			
80)	Isopropylben	0.00	105	0	N.D.			
81)	cyclohexanone	0.00	55	0	N.D.			
84)	Bromobenzene	0.00	156	0	N.D.			
85)	1122Tetrclta	0.00	83	0	N.D.			
86)	123Triclproa	0.00	75	0	N.D.			
87)	14dichloro2butene	0.00	53	0	N.D.			
88)	n-Propylbenz	0.00	91	0	N.D.			
89)	2chlorotolue	0.00	91	0	N.D.			
90)	4chlorotolue	0.00	91	0	N.D.			
91)	135Trimebenz	0.00	105	0	N.D.			
92)	tbutylbenzen	0.00	119	0	N.D.			
93)	124Trimetben	0.00	105	0	N.D.			
94)	sbutylbenzen	0.00	105	0	N.D.			
95)	13Diclorbenz	0.00	146	0	N.D.			
96)	pIsopropylto	0.00	119	0	N.D.			
97)	14dichlorobe	0.00	146	0	N.D.			
98)	12dichlorobe	0.00	146	0	N.D.			
99)	nButylbenzen	0.00	91	0	N.D.			
100)	12dibromo3cl	0.00	157	0	N.D.			
101)	135Trichlorobenzene	0.00	180	0	N.D.			

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2116\681418.D Vial: 28
Acq On : 22 Jan 2016 00:12 Operator: AGK-RLD
Sample : 122700,681418, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 22 00:33:31 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	0.00	128	0	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

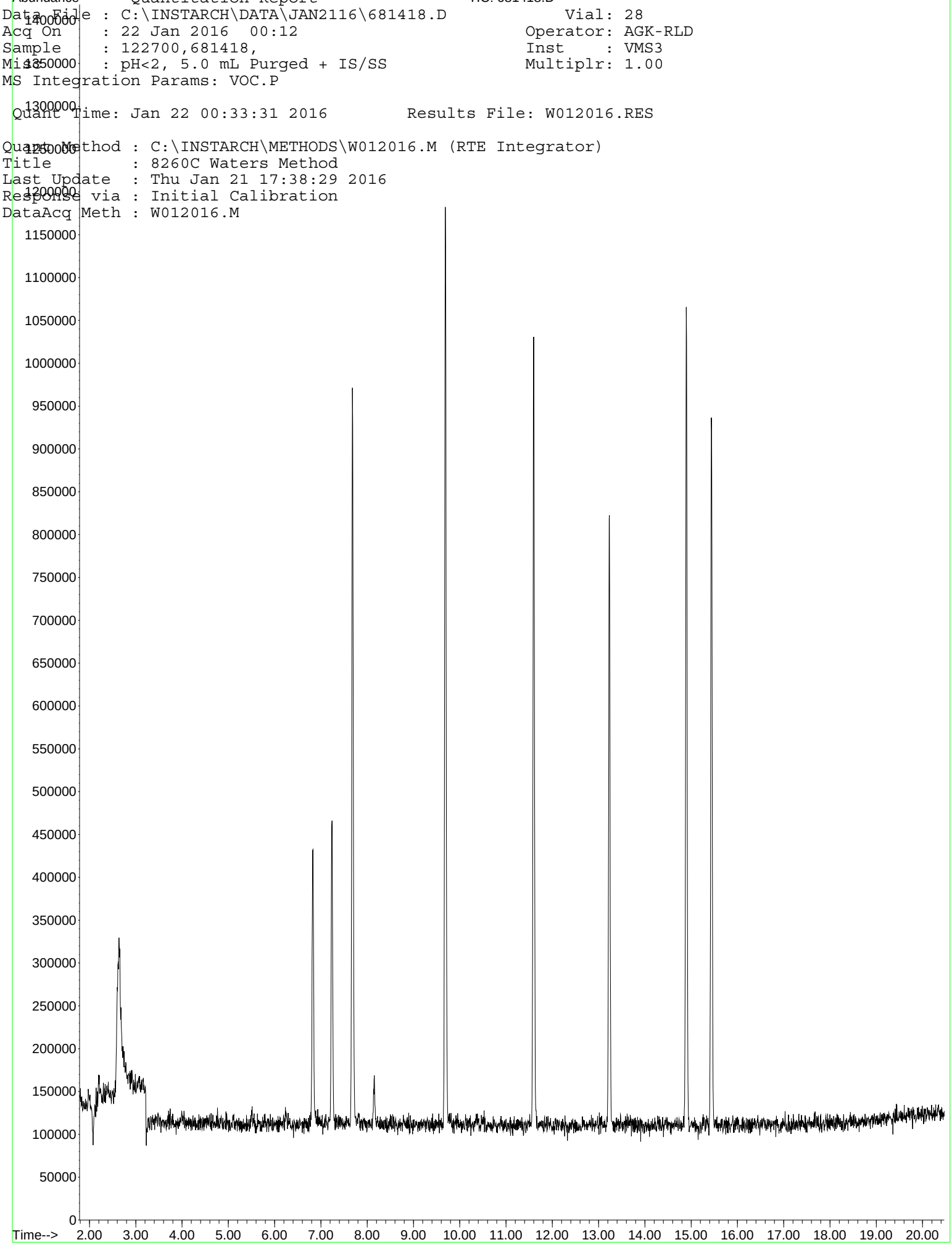
(#) = qualifier out of range (m) = manual integration

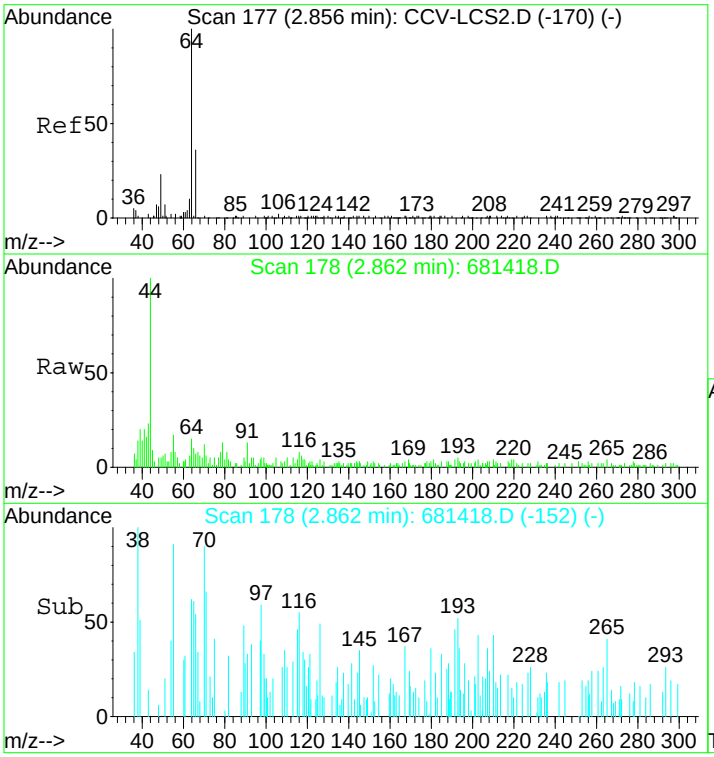
Abundance Quantitation Report TIC: 681418.D

Data File : C:\INSTARCH\DATA\JAN2116\681418.D Vial: 28
Acq On : 22 Jan 2016 00:12 Operator: AGK-RLD
Sample : 122700,681418, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 22 00:33:31 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

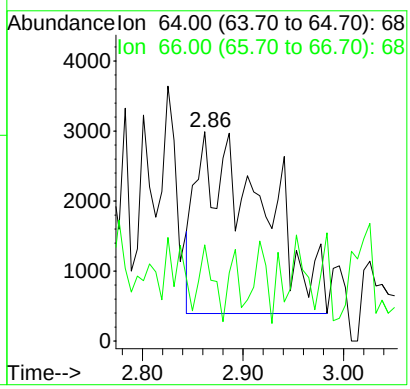


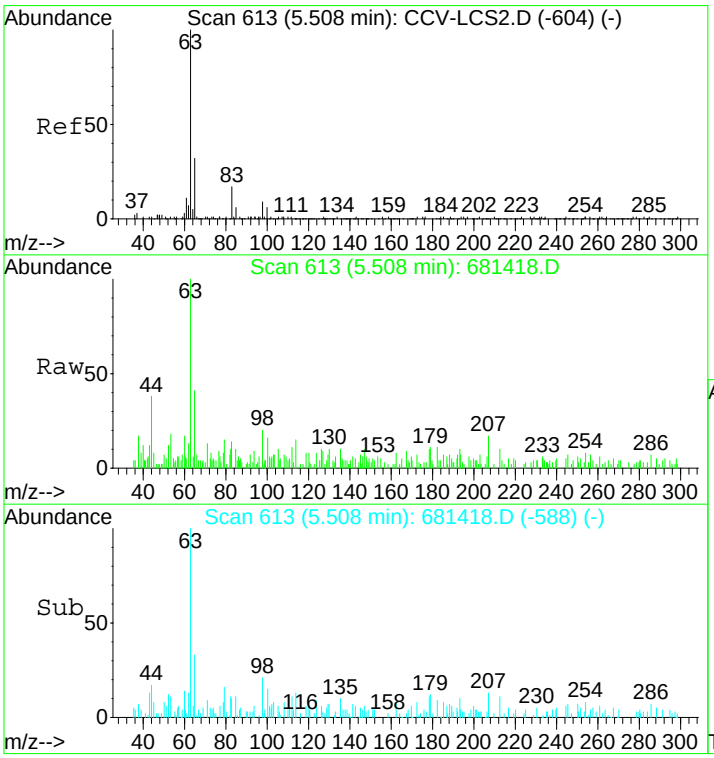


#6
Chloroethane
Concen: 0.74 ug/L
RT: 2.86 min Scan# 178
Delta R.T. 0.01 min
Lab File: 681418.D
Acq: 22 Jan 2016 00:12

Tgt Ion: 64 Resp: 11895

Ion	Ratio	Lower	Upper
64	100		
66	0.0	10.9	50.9#

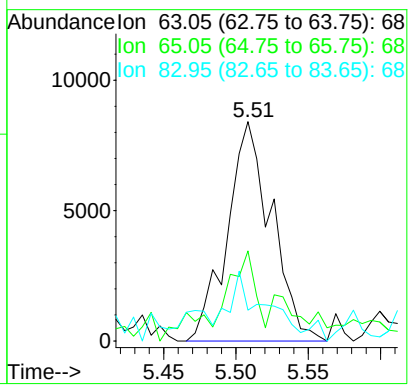


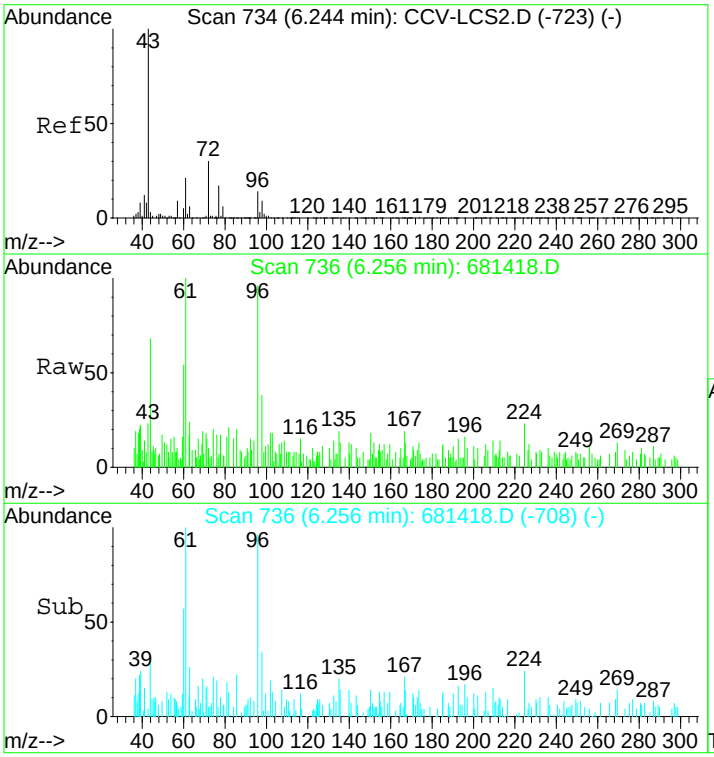


#26
11dichlorota
Concen: 0.96 ug/L
RT: 5.51 min Scan# 613
Delta R.T. -0.00 min
Lab File: 681418.D
Acq: 22 Jan 2016 00:12

Tgt Ion: 63 Resp: 17955

Ion	Ratio	Lower	Upper
63	100		
65	0.0	10.0	50.0#
83	28.0	0.0	32.8

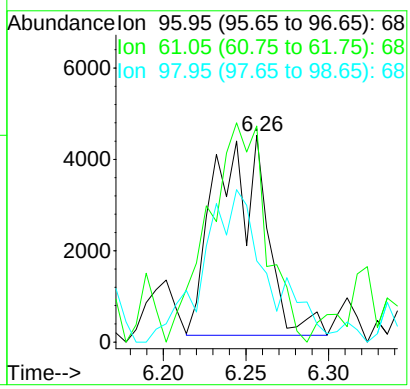


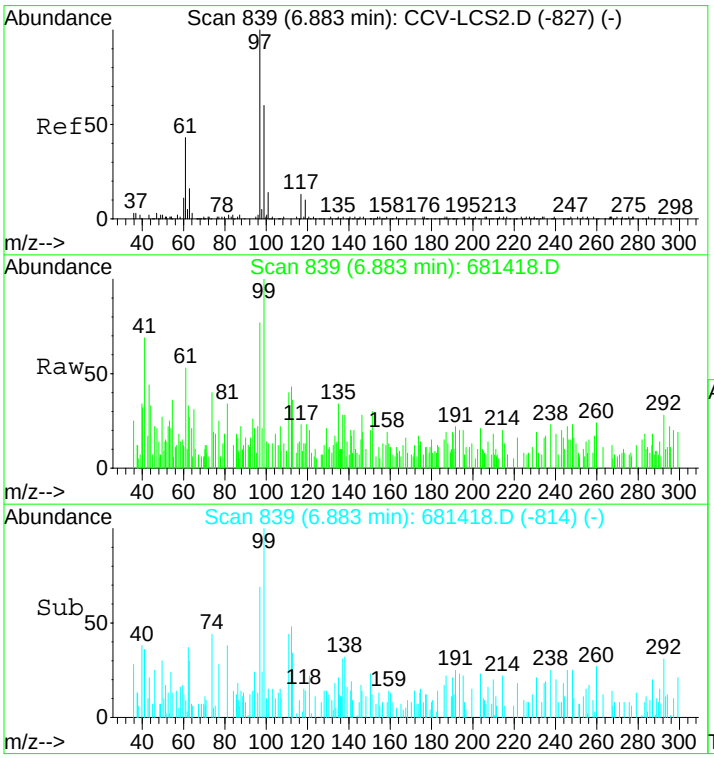


#32
c12dichlorte
Concen: 0.75 ug/L
RT: 6.26 min Scan# 736
Delta R.T. 0.02 min
Lab File: 681418.D
Acq: 22 Jan 2016 00:12

Tgt Ion: 96 Resp: 9388

Ion	Ratio	Lower	Upper
96	100		
61	123.5	110.4	150.4
98	100.1	38.8	78.8#

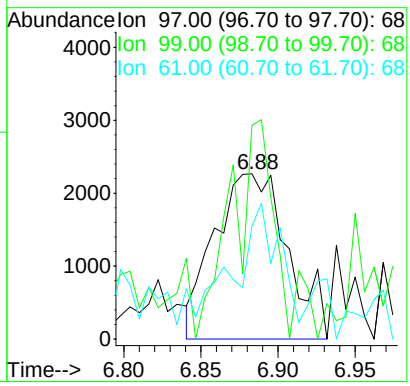


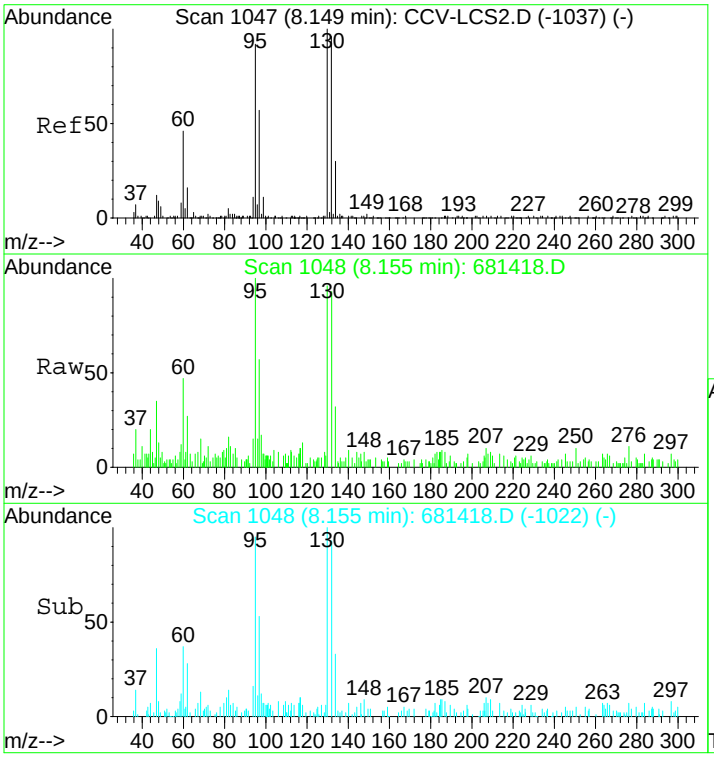


#40
111trichlota
Concen: 0.46 ug/L
RT: 6.88 min Scan# 839
Delta R.T. -0.00 min
Lab File: 681418.D
Acq: 22 Jan 2016 00:12

Tgt Ion: 97 Resp: 7469

Ion	Ratio	Lower	Upper
97	100		
99	75.2	44.4	84.4
61	0.0	25.7	65.7#

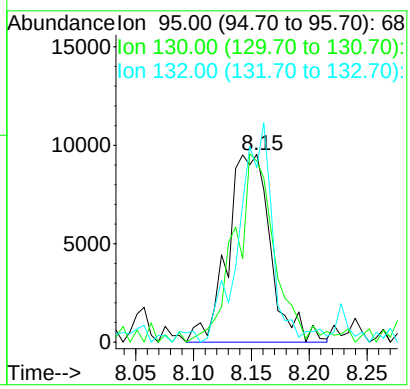




#49
trichloroete
Concen: 2.28 ug/L
RT: 8.15 min Scan# 1048
Delta R.T. 0.01 min
Lab File: 681418.D
Acq: 22 Jan 2016 00:12

Tgt Ion: 95 Resp: 24574

Ion	Ratio	Lower	Upper
95	100		
130	95.1	83.9	123.9
132	91.0	79.1	119.1



Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2116\681420.D Vial: 29
Acq On : 22 Jan 2016 00:42 Operator: AGK-RLD
Sample : 122700,681420, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 22 01:02:53 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.68	96	905644	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.60	117	656739	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.90	152	339876	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.83	113	215483	18.891	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 94 %			
45) SURR12DCAd4	7.24	102	65528	20.078	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 100 %			
61) SURRd8Tolule	9.69	98	924149	20.086	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100 %			
83) SURR4BrFBenz	13.23	95	271963	19.902	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 100 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	0.00	50	0	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	0.00	94	0	N.D.		
6) Chloroethane	2.86	64	16407	1.0305	ug/L #	44
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	4.05	43	5052	Below Cal	#	40
16) Iodomethane	0.00	142	0	N.D.		
17) Carbon Dislf	0.00	76	0	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	0.00	59	0	N.D.		
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	0.00	42	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2116\681420.D Vial: 29
Acq On : 22 Jan 2016 00:42 Operator: AGK-RLD
Sample : 122700,681420, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 22 01:02:53 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	0.00	119	0	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	0.00	78	0	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	0.00	95	0	N.D.	
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	0.00	92	0	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	0.00	91	0	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	0.00	106	0	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	0.00	55	0	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	0.00	105	0	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	0.00	91	0	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

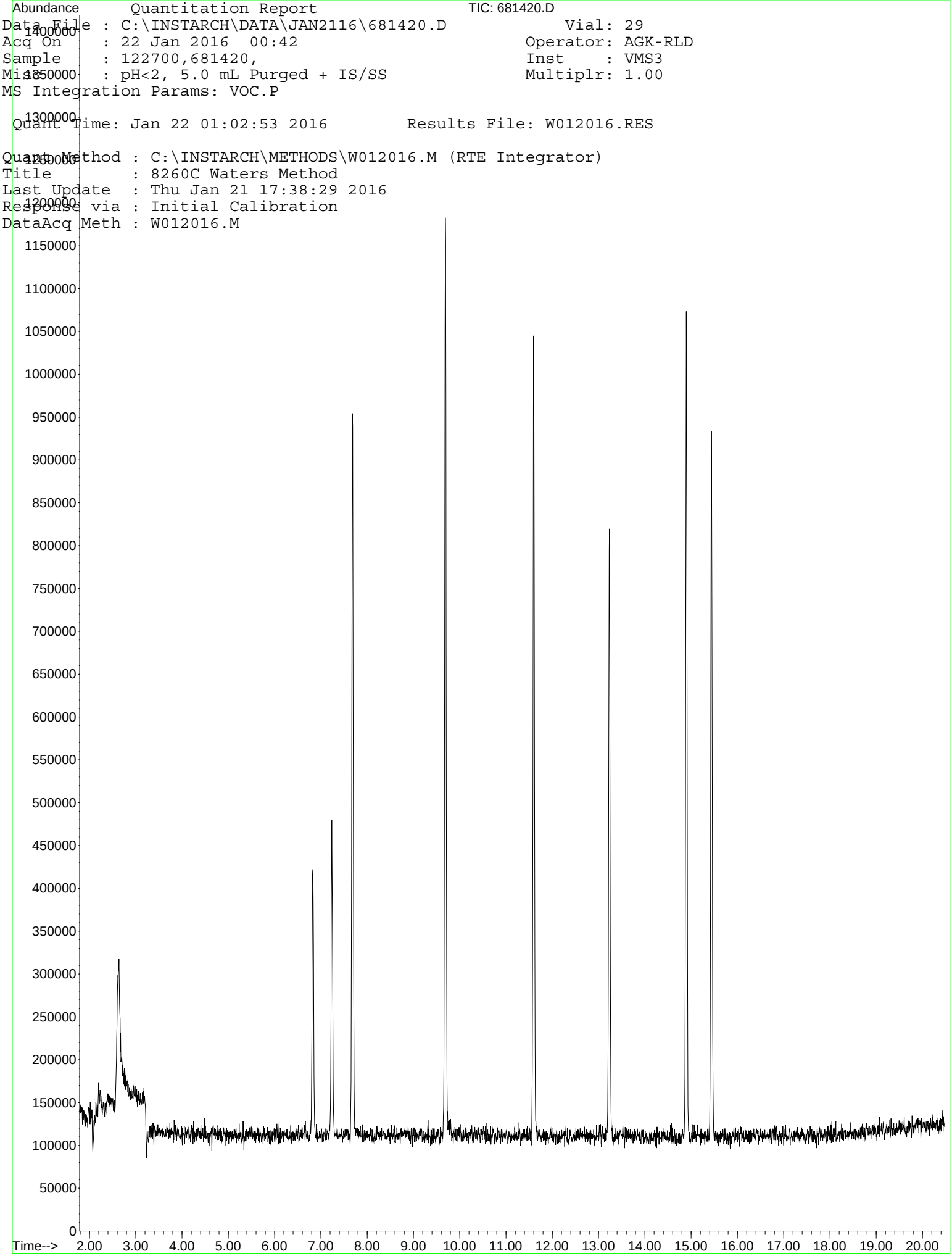
Data File : C:\INSTARCH\DATA\JAN2116\681420.D Vial: 29
Acq On : 22 Jan 2016 00:42 Operator: AGK-RLD
Sample : 122700,681420, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 22 01:02:53 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	0.00	128	0	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration


Abundance
Quantitation Report
TIC: 681420.D
Data File : C:\INSTARCH\DATA\JAN2116\681420.D
Vial: 29
Acq On : 22 Jan 2016 00:42
Operator: AGK-RLD
Sample : 122700,681420,
Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS
Multiplr: 1.00
MS Integration Params: VOC.P
Quant Time: Jan 22 01:02:53 2016
Results File: W012016.RES
Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M
1400000
1350000
1300000
1250000
1200000
1150000
1100000
1050000
1000000
950000
900000
850000
800000
750000
700000
650000
600000
550000
500000
450000
400000
350000
300000
250000
200000
150000
100000
50000
0
Time-->
2.00
3.00
4.00
5.00
6.00
7.00
8.00
9.00
10.00
11.00
12.00
13.00
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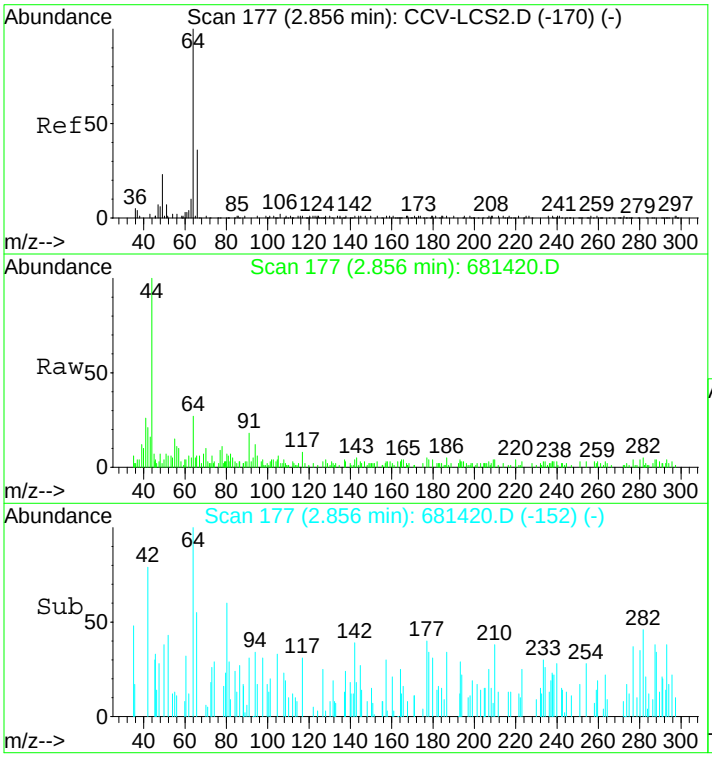
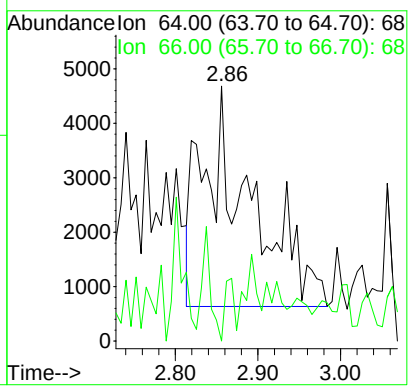
19.00
20.00



#6
Chloroethane
Concen: 1.03 ug/L
RT: 2.86 min Scan# 177
Delta R.T. 0.00 min
Lab File: 681420.D
Acq: 22 Jan 2016 00:42

Tgt Ion: 64 Resp: 16407

Ion	Ratio	Lower	Upper
64	100		
66	0.0	10.9	50.9#



Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2116\681422.D Vial: 30
Acq On : 22 Jan 2016 1:12 Operator: AGK-RLD
Sample : 122700,681422, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 22 01:32:37 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.68	96	894960	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.60	117	666883	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.90	152	335096	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.82	113	211728	18.783	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 94 %			
45) SURR12DCAd4	7.24	102	61900	19.193	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 96 %			
61) SURRd8Tolule	9.69	98	888973	19.553	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 98 %			
83) SURR4BrFBenz	13.23	95	268518	19.931	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 100 %			

Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	0.00	50	0	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	0.00	94	0	N.D.		
6) Chloroethane	2.90	64	6809	0.4328	ug/L #	44
7) Dichloroflmethane	3.18	67	7115	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	3.68	67	17295	1.4442	ug/L #	86
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	4.02	101	7247	0.7707	ug/L #	42
15) Acetone	4.05	43	9641	Below Cal	#	40
16) Iodomethane	0.00	142	0	N.D.		
17) Carbon Dislf	0.00	76	0	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	0.00	59	0	N.D.		
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	6.62	42	5458	Below Cal	#	34

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2116\681422.D Vial: 30
Acq On : 22 Jan 2016 1:12 Operator: AGK-RLD
Sample : 122700,681422, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 22 01:32:37 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.64	83	7219	0.3996	ug/L	#	19
40)	111trichlota	0.00	97	0	N.D.			
42)	Cyclohexane	0.00	56	0	N.D.			
43)	Carbtetraclo	7.11	119	42081	3.0724	ug/L		90
44)	11dicloprope	0.00	110	0	N.D.			
46)	Benzene	0.00	78	0	N.D.			
47)	12dichlorota	0.00	62	0	N.D.			
48)	TAME	0.00	73	0	N.D.			
49)	trichloroete	0.00	95	0	N.D.			
50)	methylcyclohexane	0.00	83	0	N.D.			
51)	12dicloropra	0.00	63	0	N.D.			
52)	23Dicl1propene	0.00	75	0	N.D.			
53)	Dibromometha	0.00	93	0	N.D.			
54)	methylmethacrylate	0.00	69	0	N.D.			
55)	14dioxane	0.00	88	0	N.D.			
56)	Bromodiclrma	0.00	83	0	N.D.			
57)	2Nitropropane	0.00	43	0	N.D.			
58)	2CLEVE	0.00	63	0	N.D.			
59)	c13dicloproe	0.00	75	0	N.D.			
60)	4Meth2Pentan	0.00	43	0	N.D.			
62)	Toluene	0.00	92	0	N.D.			
63)	t13Dicloprop	0.00	75	0	N.D.			
64)	ethylmethacrylate	0.00	69	0	N.D.			
65)	112Triclotha	0.00	83	0	N.D.			
66)	Tetrachlorte	0.00	166	0	N.D.			
67)	13Diclorpropa	0.00	76	0	N.D.			
69)	2Hexanone	0.00	43	0	N.D.			
70)	Clorodibrmta	0.00	129	0	N.D.			
71)	12Dibrometha	0.00	107	0	N.D.			
72)	Chlorobenzen	0.00	112	0	N.D.			
73)	1Clhexane	0.00	91	0	N.D.			
74)	1112Tetclota	0.00	131	0	N.D.			
75)	Ethylbenzene	0.00	91	0	N.D.			
76)	m p-Xylene	0.00	106	0	N.D.			
77)	o-Xylene	0.00	106	0	N.D.			
78)	Styrene	0.00	104	0	N.D.			
79)	Bromoform	0.00	173	0	N.D.			
80)	Isopropylben	0.00	105	0	N.D.			
81)	cyclohexanone	0.00	55	0	N.D.			
84)	Bromobenzene	0.00	156	0	N.D.			
85)	1122Tetrclta	0.00	83	0	N.D.			
86)	123Triclproa	0.00	75	0	N.D.			
87)	14dichloro2butene	0.00	53	0	N.D.			
88)	n-Propylbenz	0.00	91	0	N.D.			
89)	2chlorotolue	0.00	91	0	N.D.			
90)	4chlorotolue	0.00	91	0	N.D.			
91)	135Trimebenz	0.00	105	0	N.D.			
92)	tbutylbenzen	0.00	119	0	N.D.			
93)	124Trimetben	0.00	105	0	N.D.			
94)	sbutylbenzen	0.00	105	0	N.D.			
95)	13Diclorbenz	0.00	146	0	N.D.			
96)	pIsopropylto	0.00	119	0	N.D.			
97)	14dichlorobe	0.00	146	0	N.D.			
98)	12dichlorobe	0.00	146	0	N.D.			
99)	nButylbenzen	0.00	91	0	N.D.			
100)	12dibromo3cl	0.00	157	0	N.D.			
101)	135Trichlorobenzene	0.00	180	0	N.D.			

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2116\681422.D Vial: 30
Acq On : 22 Jan 2016 1:12 Operator: AGK-RLD
Sample : 122700,681422, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 22 01:32:37 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

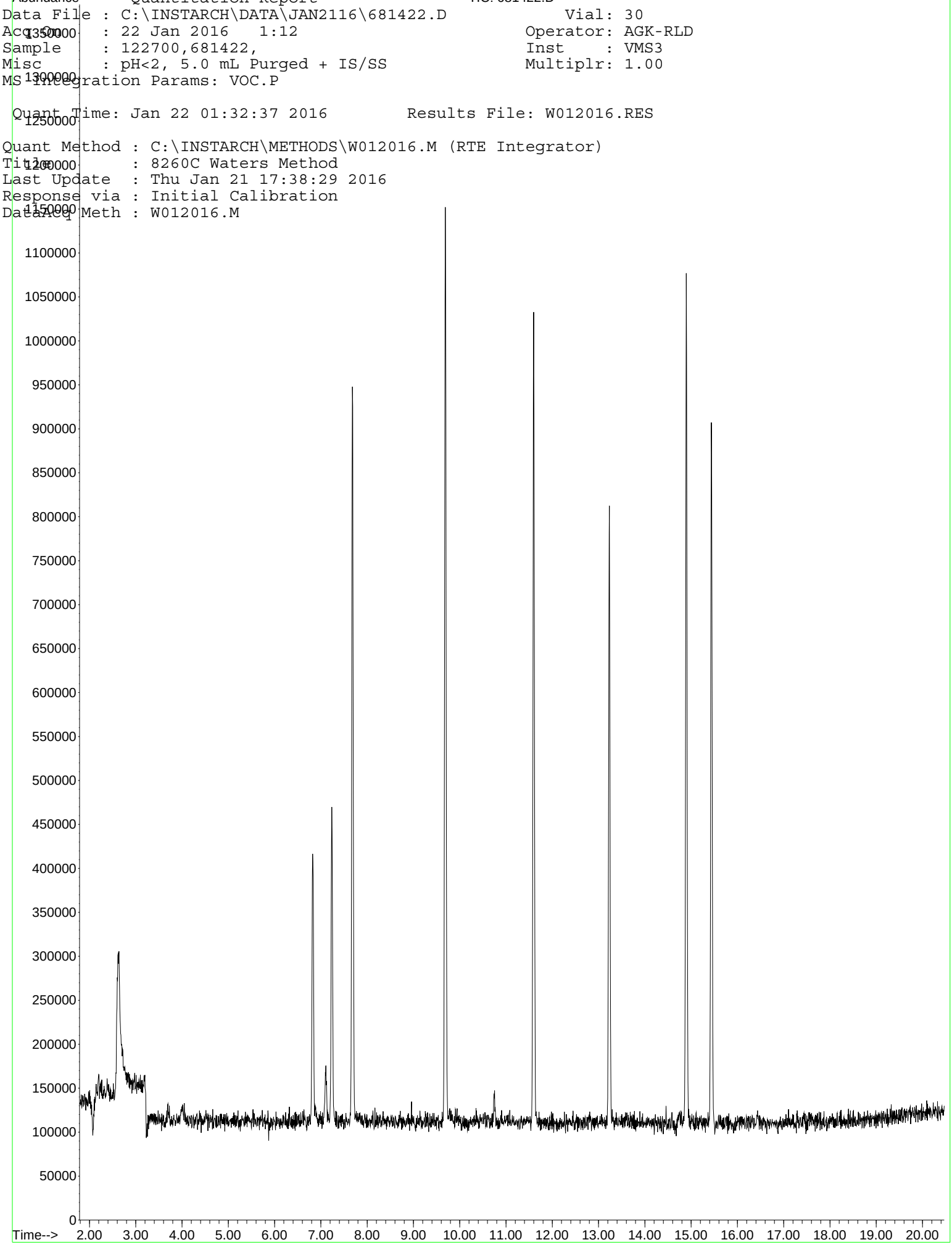
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	0.00	128	0	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

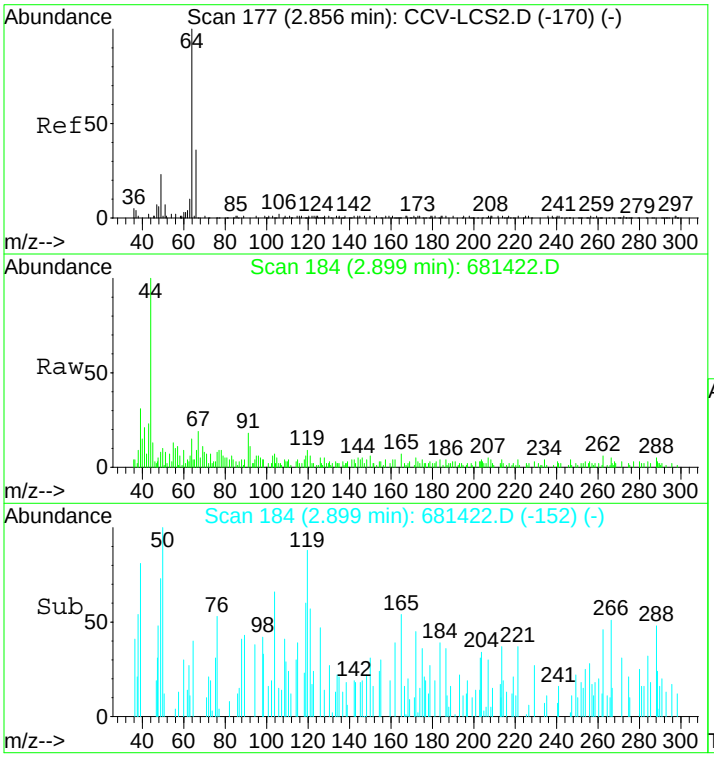
(#) = qualifier out of range (m) = manual integration

Data File : C:\INSTARCH\DATA\JAN2116\681422.D Vial: 30
Acq On : 22 Jan 2016 1:12 Operator: AGK-RLD
Sample : 122700,681422, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 22 01:32:37 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

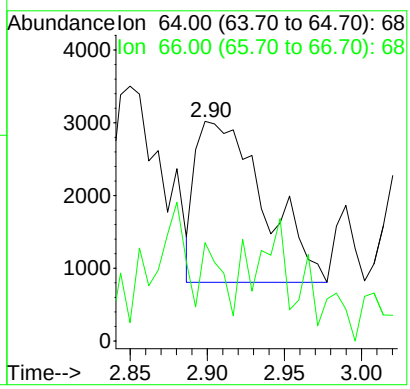




#6
Chloroethane
Concen: 0.43 ug/L
RT: 2.90 min Scan# 184
Delta R.T. 0.04 min
Lab File: 681422.D
Acq: 22 Jan 2016 1:12

Tgt Ion: 64 Resp: 6809

Ion	Ratio	Lower	Upper
64	100		
66	0.0	10.9	50.9#



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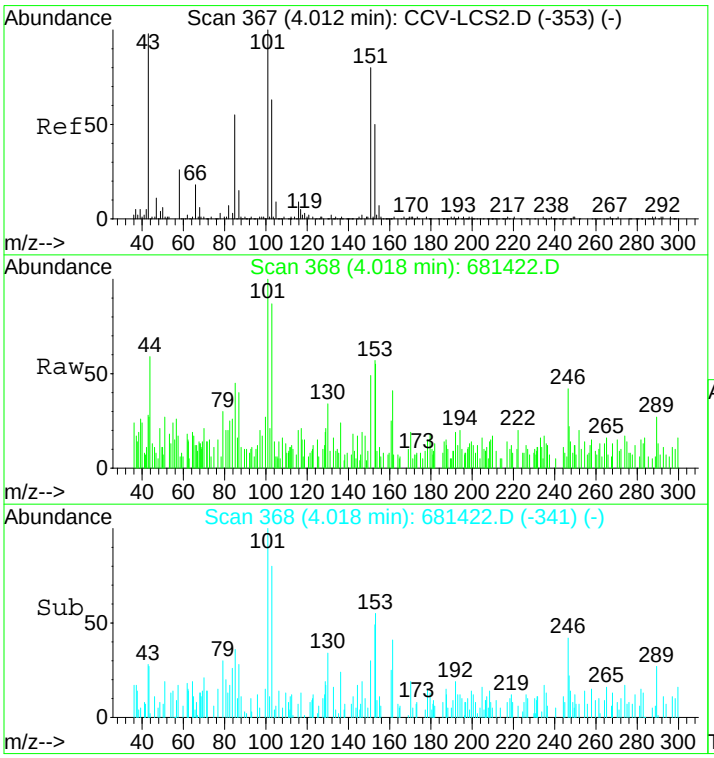
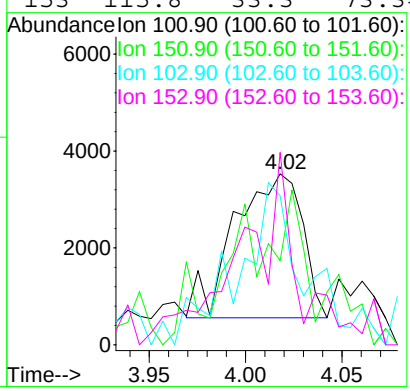


#14
Trichlorotfluoroeth
Concen: 0.77 ug/L
RT: 4.02 min Scan# 368
Delta R.T. 0.01 min
Lab File: 681422.D
Acq: 22 Jan 2016 1:12

Tgt Ion:101 Resp: 7247

Ion	Ratio	Lower	Upper
101	100		
151	108.7	61.2	101.2#
103	115.5	43.1	83.1#
153	115.8	33.3	73.3#



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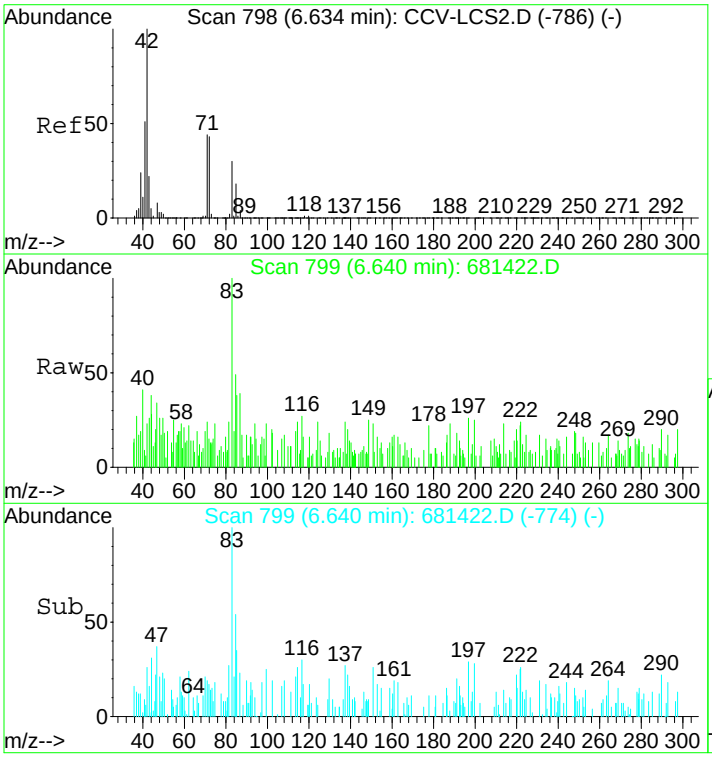
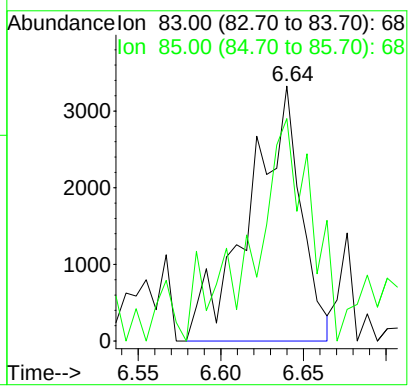
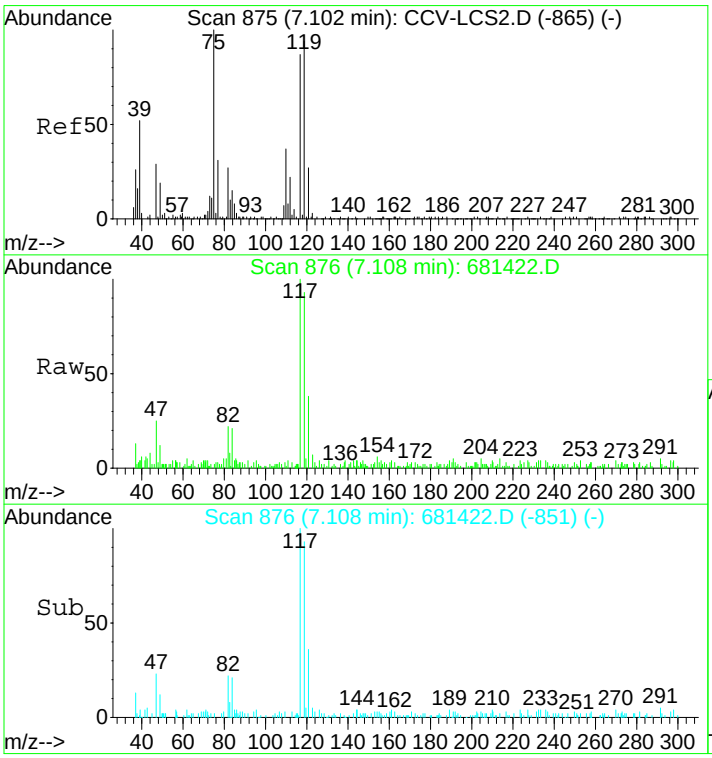


#39
Chloroform
Concen: 0.40 ug/L
RT: 6.64 min Scan# 799
Delta R.T. 0.00 min
Lab File: 681422.D
Acq: 22 Jan 2016 1:12

Tgt Ion: 83 Resp: 7219

Ion	Ratio	Lower	Upper
83	100		
85	0.0	42.8	82.8#

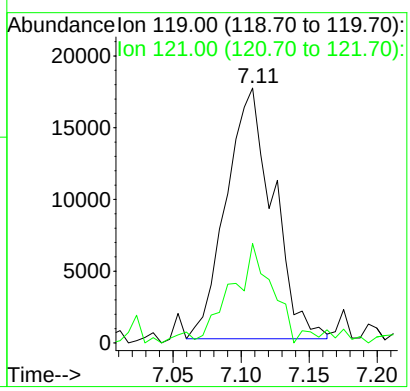




#43
Carbtetraclo
Concen: 3.07 ug/L
RT: 7.11 min Scan# 876
Delta R.T. 0.00 min
Lab File: 681422.D
Acq: 22 Jan 2016 1:12

Tgt Ion:119 Resp: 42081

Ion	Ratio	Lower	Upper
119	100		
121	39.2	13.7	53.7



Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2216\681539.D Vial: 6
Acq On : 22 Jan 2016 12:37 Operator: AGK-RLD
Sample : 122833,681539, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 22 12:57:55 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.68	96	918449	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.60	117	652761	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.90	152	344823	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.82	113	212526	18.372	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 92 %			
45) SURR12DCAd4	7.24	102	66234	20.012	ug/L	0.01
Spiked Amount 20.000	Range 89 - 112		Recovery = 100 %			
61) SURRd8Tolule	9.69	98	919200	19.700	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 99 %			
83) SURR4BrFBenz	13.23	95	283254	20.431	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 102 %			

Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	0.00	50	0	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	2.70	94	5820	0.6390	ug/L #	4
6) Chloroethane	2.90	64	9060	0.5611	ug/L #	44
7) Dichloroflmethane	3.15	67	5201	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	4.04	58	11502	Below Cal	#	74
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	4.04	43	38804	Below Cal		91
16) Iodomethane	0.00	142	0	N.D.		
17) Carbon Dislf	0.00	76	0	N.D.		
18) allylchloride	4.38	41	9533	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	0.00	59	0	N.D.		
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	0.00	42	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2216\681539.D Vial: 6
Acq On : 22 Jan 2016 12:37 Operator: AGK-RLD
Sample : 122833,681539, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 22 12:57:55 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	0.00	119	0	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	0.00	78	0	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	0.00	95	0	N.D.	
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	0.00	92	0	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	0.00	91	0	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	0.00	106	0	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	0.00	55	0	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	0.00	105	0	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	0.00	91	0	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2216\681539.D Vial: 6
Acq On : 22 Jan 2016 12:37 Operator: AGK-RLD
Sample : 122833,681539, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 22 12:57:55 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

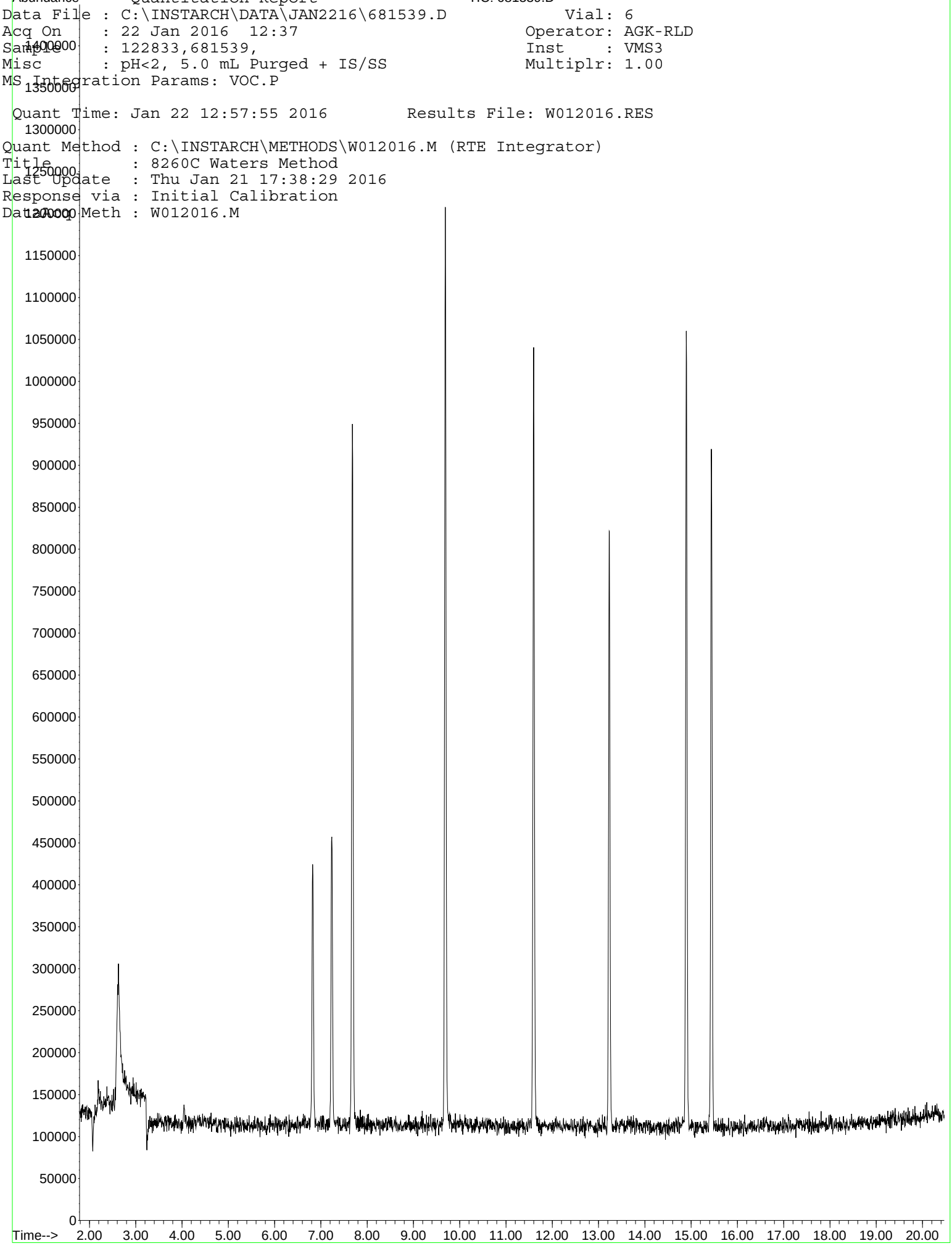
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	0.00	128	0	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

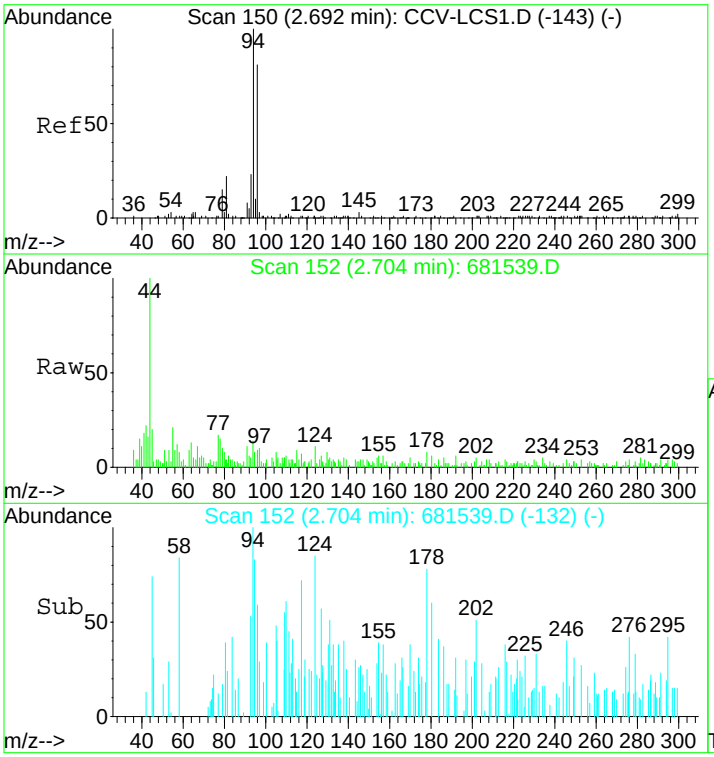
(#) = qualifier out of range (m) = manual integration

Data File : C:\INSTARCH\DATA\JAN2216\681539.D Vial: 6
Acq On : 22 Jan 2016 12:37 Operator: AGK-RLD
Sample : 122833,681539, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 22 12:57:55 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
Data Meth : W012016.M

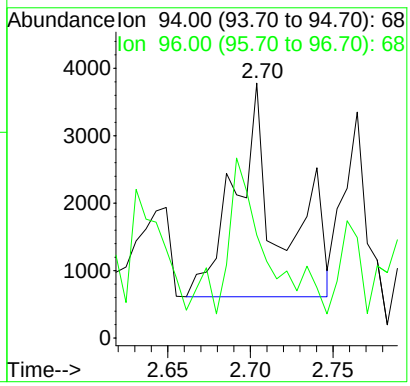




#5
Bromomethane
Concen: 0.64 ug/L
RT: 2.70 min Scan# 152
Delta R.T. 0.02 min
Lab File: 681539.D
Acq: 22 Jan 2016 12:37

Tgt Ion: 94 Resp: 5820

Ion	Ratio	Lower	Upper
94	100		
96	0.0	71.0	111.0#



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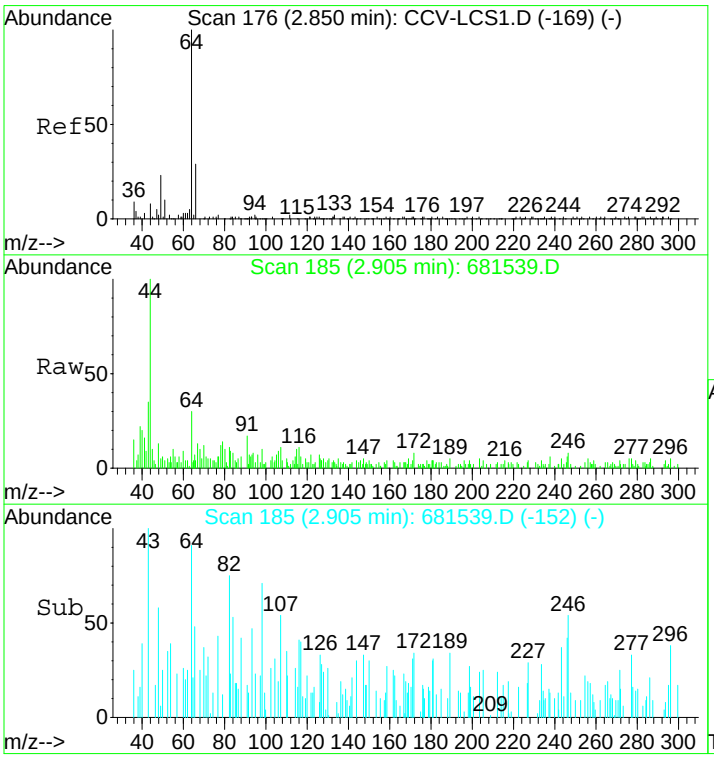
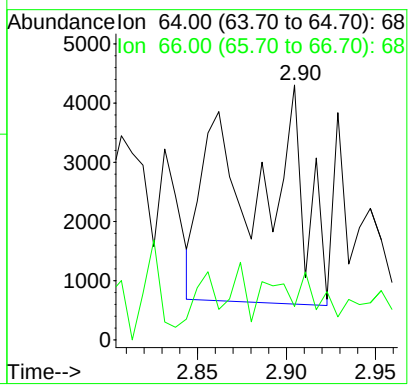


#6
Chloroethane
Concen: 0.56 ug/L
RT: 2.90 min Scan# 185
Delta R.T. 0.05 min
Lab File: 681539.D
Acq: 22 Jan 2016 12:37

Tgt Ion: 64 Resp: 9060

Ion	Ratio	Lower	Upper
64	100		
66	0.0	10.9	50.9#



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Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2216\681528.D Vial: 7
Acq On : 22 Jan 2016 13:06 Operator: AGK-RLD
Sample : 122833,681528, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 22 13:26:58 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.68	96	872715	20.00 ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.60	117	632828	20.00 ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.90	152	331127	20.00 ug/L	0.00 NA%
System Monitoring Compounds					
41) SURRDibrflma	6.83	113	204284	18.585 ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 93 %		
45) SURR12DCAd4	7.24	102	62643	19.918 ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 100 %		
61) SURRd8Tolule	9.69	98	890771	20.091 ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100 %		
83) SURR4BrFBenz	13.23	95	253110	19.012 ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 95 %		

Target Compounds					Qvalue
2) Dichlorodi	0.00	85	0	N.D.	
3) Chloromethan	0.00	50	0	N.D.	
4) VinylChlorid	0.00	62	0	N.D.	
5) Bromomethane	0.00	94	0	N.D.	
6) Chloroethane	2.89	64	5449	N.D.	
7) Dichloroflmethane	0.00	67	0	N.D.	
8) Trichlorofma	0.00	101	0	N.D.	
9) Ethylether	0.00	59	0	N.D.	
10) dichlorotfluoroethan	0.00	67	0	N.D.	
11) propyleneoxide	0.00	58	0	N.D.	
12) Acrolein	0.00	56	0	N.D.	
13) 11dichlorthe	0.00	96	0	N.D.	
14) Trichlorotfluoroeth	0.00	101	0	N.D.	
15) Acetone	4.05	43	8238	Below Cal #	40
16) Iodomethane	0.00	142	0	N.D.	
17) Carbon Dislf	4.22	76	5821	N.D.	
18) allylchloride	0.00	41	0	N.D.	
19) methylacetate	0.00	74	0	N.D.	
20) Methylchlorid	0.00	84	0	N.D.	
21) tbutylalcohol	4.85	59	7476	Below Cal #	56
22) Acrylonitrile	0.00	53	0	N.D.	
23) t12dichlorte	0.00	96	0	N.D.	
24) MtBE	0.00	73	0	N.D.	
25) Hexane	0.00	57	0	N.D.	
26) 11dichlorota	0.00	63	0	N.D.	
27) Vinylacetate	0.00	43	0	N.D.	
28) chloroprene	0.00	53	0	N.D.	
29) Diisopether	0.00	45	0	N.D.	
30) ETBE	0.00	59	0	N.D.	
31) 22dichloropr	0.00	77	0	N.D.	
32) c12dichlorte	0.00	96	0	N.D.	
33) 2Butanone	0.00	72	0	N.D.	
34) propionitrile	0.00	54	0	N.D.	
35) Ethylacetate	0.00	88	0	N.D.	
36) methacrylonitrile	0.00	67	0	N.D.	
37) Bromochlorma	0.00	128	0	N.D.	
38) Tetrahydofur	0.00	42	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2216\681528.D Vial: 7
Acq On : 22 Jan 2016 13:06 Operator: AGK-RLD
Sample : 122833,681528, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 22 13:26:58 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	0.00	119	0	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	0.00	78	0	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	0.00	95	0	N.D.	
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	0.00	92	0	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	0.00	91	0	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	0.00	106	0	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	0.00	55	0	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	0.00	105	0	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	0.00	91	0	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2216\681528.D Vial: 7
Acq On : 22 Jan 2016 13:06 Operator: AGK-RLD
Sample : 122833,681528, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 22 13:26:58 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	0.00	128	0	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

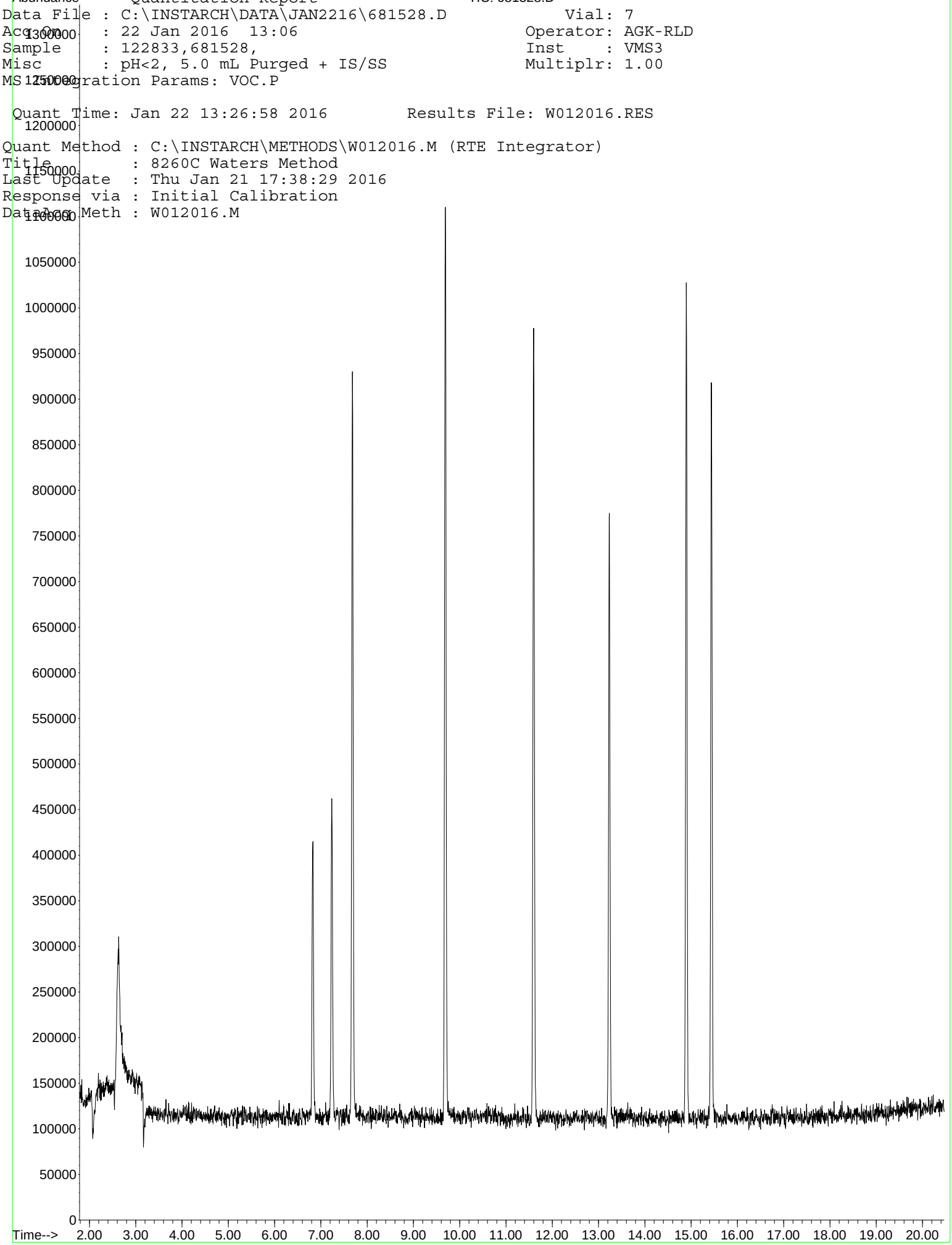
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: 681528.D

Data File : C:\INSTARCH\DATA\JAN2216\681528.D Vial: 7
Acq On : 22 Jan 2016 13:06 Operator: AGK-RLD
Sample : 122833,681528, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 22 13:26:58 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M



Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2216\681531.D Vial: 8
Acq On : 22 Jan 2016 13:35 Operator: AGK-RLD
Sample : 122833,681531, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 22 13:56:18 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.68	96	899508	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.60	117	652336	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.90	152	332241	20.00	ug/L	0.00 NA%

System Monitoring Compounds						
41) SURRDibrflma	6.82	113	204099	18.015	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 90 %			
45) SURR12DCAd4	7.24	102	63699	19.651	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 98 %			
61) SURRd8Tolule	9.69	98	892756	19.536	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 98 %			
83) SURR4BrFBenz	13.23	95	263207	19.704	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 99 %			

Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	0.00	50	0	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	2.69	94	5820	0.6525	ug/L #	4
6) Chloroethane	2.81	64	5376	N.D.		
7) Dichloroflmethane	3.15	67	7668	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	4.05	43	7090	Below Cal	#	40
16) Iodomethane	0.00	142	0	N.D.		
17) Carbon Dislf	0.00	76	0	N.D.		
18) allylchloride	4.40	41	5199	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	4.83	59	6189	Below Cal	#	56
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	0.00	42	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2216\681531.D Vial: 8
Acq On : 22 Jan 2016 13:35 Operator: AGK-RLD
Sample : 122833,681531, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 22 13:56:18 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.63	83	135284	7.4502	ug/L	99
40)	111trichlota	0.00	97	0	N.D.		
42)	Cyclohexane	0.00	56	0	N.D.		
43)	Carbtetraclo	7.11	119	856695	62.2331	ug/L	99
44)	11dicloprope	0.00	110	0	N.D.		
46)	Benzene	0.00	78	0	N.D.		
47)	12dichlorota	0.00	62	0	N.D.		
48)	TAME	0.00	73	0	N.D.		
49)	trichloroete	8.15	95	103494	9.7026	ug/L	96
50)	methylcyclohexane	0.00	83	0	N.D.		
51)	12dicloropra	0.00	63	0	N.D.		
52)	23Dicl1propene	0.00	75	0	N.D.		
53)	Dibromometha	0.00	93	0	N.D.		
54)	methylmethacrylate	0.00	69	0	N.D.		
55)	14dioxane	0.00	88	0	N.D.		
56)	Bromodiclrma	0.00	83	0	N.D.		
57)	2Nitropropane	0.00	43	0	N.D.		
58)	2CLEVE	0.00	63	0	N.D.		
59)	c13dicloproe	0.00	75	0	N.D.		
60)	4Meth2Pentan	0.00	43	0	N.D.		
62)	Toluene	0.00	92	0	N.D.		
63)	t13Dicloprop	0.00	75	0	N.D.		
64)	ethylmethacrylate	0.00	69	0	N.D.		
65)	112Triclotha	0.00	83	0	N.D.		
66)	Tetrachlorte	0.00	166	0	N.D.		
67)	13Diclorpropa	0.00	76	0	N.D.		
69)	2Hexanone	0.00	43	0	N.D.		
70)	Clorodibrmta	0.00	129	0	N.D.		
71)	12Dibrometha	0.00	107	0	N.D.		
72)	Chlorobenzen	0.00	112	0	N.D.		
73)	1Clhexane	0.00	91	0	N.D.		
74)	1112Tetclota	0.00	131	0	N.D.		
75)	Ethylbenzene	0.00	91	0	N.D.		
76)	m p-Xylene	0.00	106	0	N.D.		
77)	o-Xylene	0.00	106	0	N.D.		
78)	Styrene	0.00	104	0	N.D.		
79)	Bromoform	0.00	173	0	N.D.		
80)	Isopropylben	0.00	105	0	N.D.		
81)	cyclohexanone	0.00	55	0	N.D.		
84)	Bromobenzene	0.00	156	0	N.D.		
85)	1122Tetrclta	0.00	83	0	N.D.		
86)	123Triclproa	0.00	75	0	N.D.		
87)	14dichloro2butene	0.00	53	0	N.D.		
88)	n-Propylbenz	0.00	91	0	N.D.		
89)	2chlorotolue	0.00	91	0	N.D.		
90)	4chlorotolue	0.00	91	0	N.D.		
91)	135Trimebenz	0.00	105	0	N.D.		
92)	tbutylbenzen	0.00	119	0	N.D.		
93)	124Trimetben	0.00	105	0	N.D.		
94)	sbutylbenzen	0.00	105	0	N.D.		
95)	13Diclorbenz	0.00	146	0	N.D.		
96)	pIsopropylto	0.00	119	0	N.D.		
97)	14dichlorobe	0.00	146	0	N.D.		
98)	12dichlorobe	0.00	146	0	N.D.		
99)	nButylbenzen	0.00	91	0	N.D.		
100)	12dibromo3cl	0.00	157	0	N.D.		
101)	135Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2216\681531.D Vial: 8
Acq On : 22 Jan 2016 13:35 Operator: AGK-RLD
Sample : 122833,681531, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 22 13:56:18 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	0.00	128	0	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

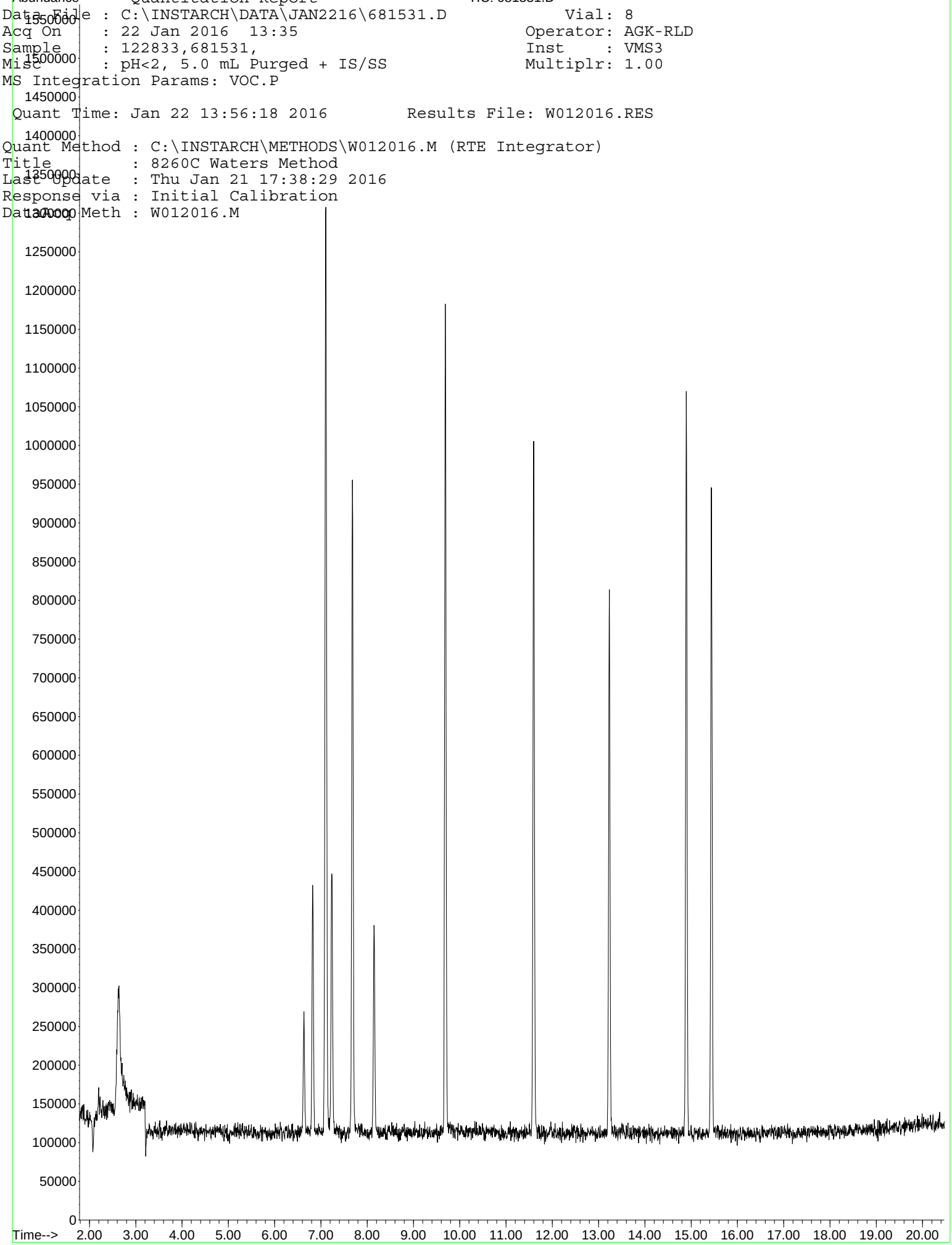
(#) = qualifier out of range (m) = manual integration

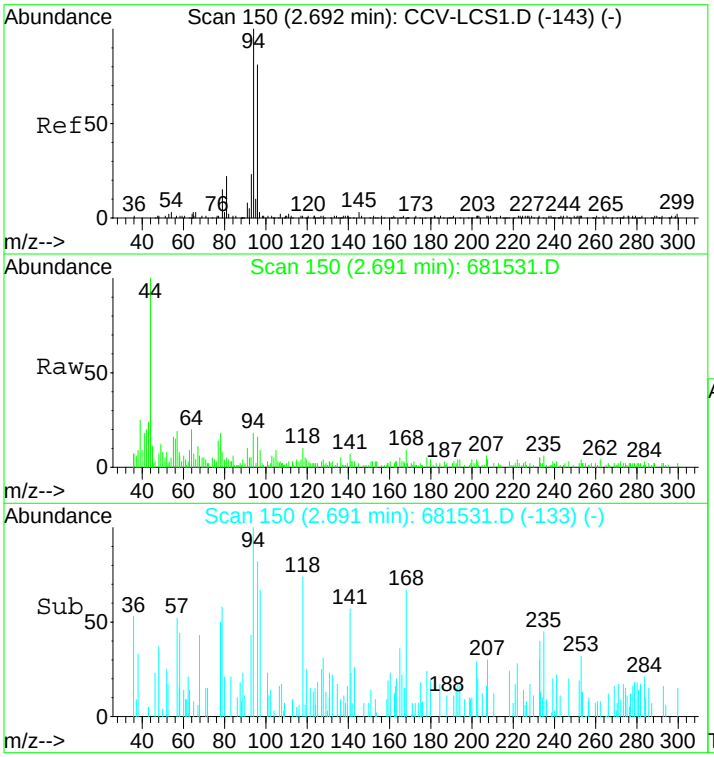
Abundance Quantitation Report TIC: 681531.D

Data File : C:\INSTARCH\DATA\JAN2216\681531.D Vial: 8
Acq On : 22 Jan 2016 13:35 Operator: AGK-RLD
Sample : 122833,681531, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 22 13:56:18 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
Data Path Meth : W012016.M

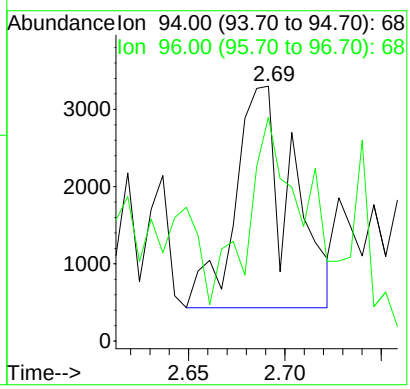


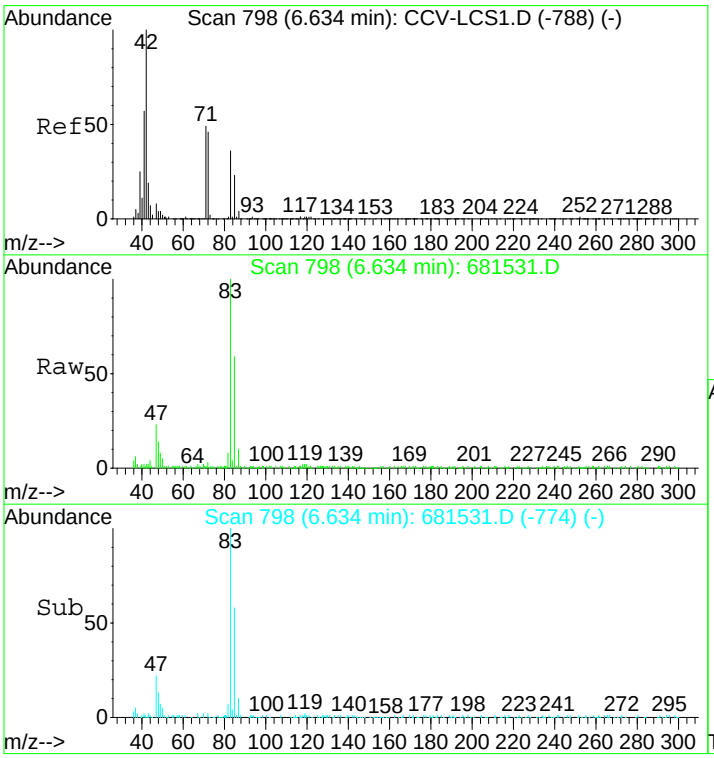


#5
Bromomethane
Concen: 0.65 ug/L
RT: 2.69 min Scan# 150
Delta R.T. 0.01 min
Lab File: 681531.D
Acq: 22 Jan 2016 13:35

Tgt Ion: 94 Resp: 5820

Ion	Ratio	Lower	Upper
94	100		
96	0.0	71.0	111.0#

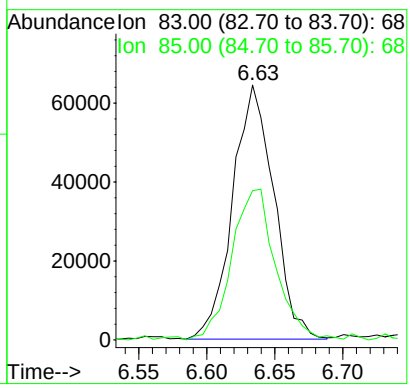


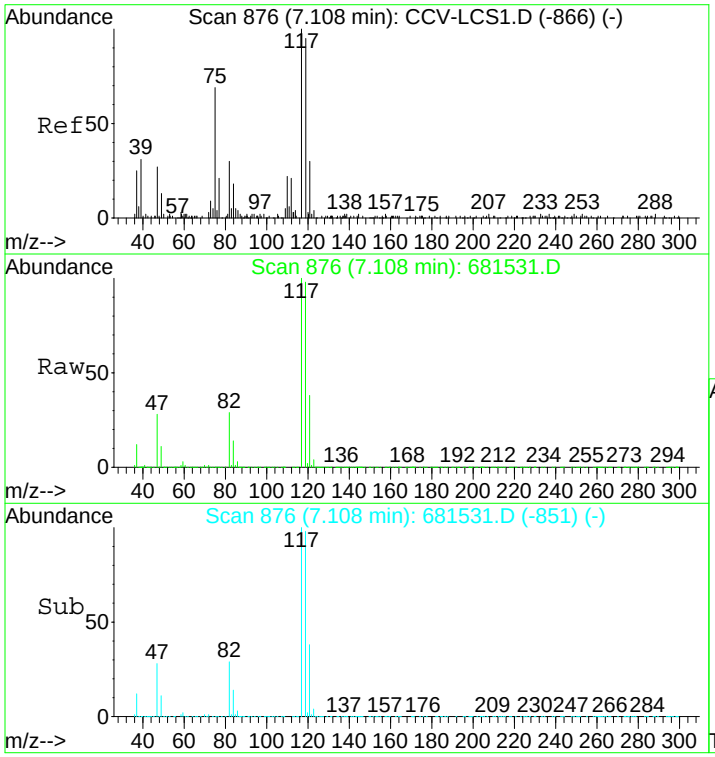


#39
Chloroform
Concen: 7.45 ug/L
RT: 6.63 min Scan# 798
Delta R.T. -0.01 min
Lab File: 681531.D
Acq: 22 Jan 2016 13:35

Tgt Ion: 83 Resp: 135284

Ion	Ratio	Lower	Upper
83	100		
85	63.2	42.8	82.8

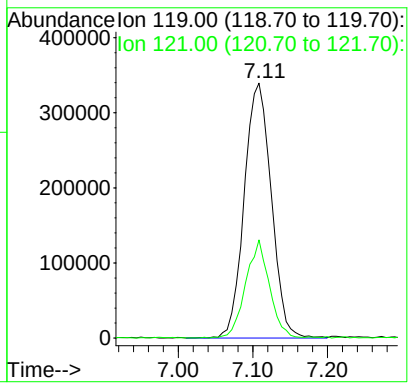


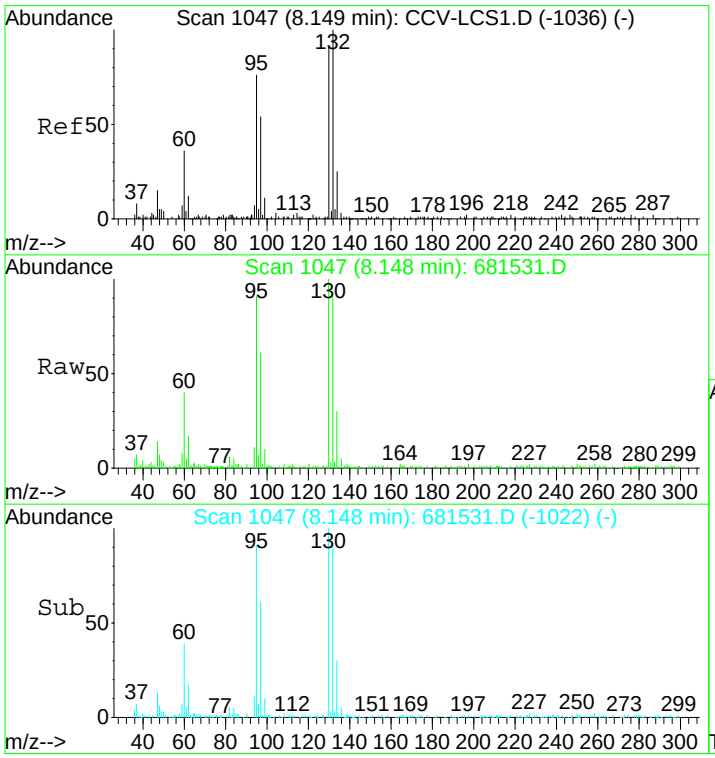


#43
Carbtetraclo
Concen: 62.23 ug/L
RT: 7.11 min Scan# 876
Delta R.T. -0.00 min
Lab File: 681531.D
Acq: 22 Jan 2016 13:35

Tgt Ion:119 Resp: 856695

Ion	Ratio	Lower	Upper
119	100		
121	34.0	13.7	53.7

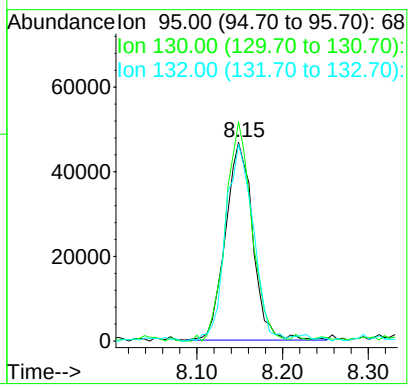




#49
trichloroete
Concen: 9.70 ug/L
RT: 8.15 min Scan# 1047
Delta R.T. -0.00 min
Lab File: 681531.D
Acq: 22 Jan 2016 13:35

Tgt Ion: 95 Resp: 103494

Ion	Ratio	Lower	Upper
95	100		
130	107.1	83.9	123.9
132	103.8	79.1	119.1



Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2216\681533.D Vial: 9
Acq On : 22 Jan 2016 14:04 Operator: AGK-RLD
Sample : 122833,681533, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 22 14:25:34 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.68	96	862183	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.60	117	655199	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.90	152	326887	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.83	113	208938	19.240	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 96 %			
45) SURR12DCAd4	7.24	102	57107	18.380	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 92 %			
61) SURRd8Tolule	9.69	98	877077	20.024	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100 %			
83) SURR4BrFBenz	13.23	95	259209	19.723	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 99 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	0.00	50	0	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	0.00	94	0	N.D.		
6) Chloroethane	2.87	64	8117	0.5355	ug/L #	44
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	4.04	43	5576	Below Cal	#	40
16) Iodomethane	0.00	142	0	N.D.		
17) Carbon Dislf	0.00	76	0	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	0.00	59	0	N.D.		
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	0.00	42	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2216\681533.D Vial: 9
Acq On : 22 Jan 2016 14:04 Operator: AGK-RLD
Sample : 122833,681533, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 22 14:25:34 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.63	83	103370	5.9391	ug/L	95
40)	111trichlota	0.00	97	0	N.D.		
42)	Cyclohexane	0.00	56	0	N.D.		
43)	Carbtetraclo	7.11	119	867842	65.7720	ug/L	99
44)	11dicloprope	0.00	110	0	N.D.		
46)	Benzene	0.00	78	0	N.D.		
47)	12dichlorota	0.00	62	0	N.D.		
48)	TAME	0.00	73	0	N.D.		
49)	trichloroete	8.15	95	81169	7.9390	ug/L	97
50)	methylcyclohexane	0.00	83	0	N.D.		
51)	12dicloropra	0.00	63	0	N.D.		
52)	23Dicl1propene	0.00	75	0	N.D.		
53)	Dibromometha	0.00	93	0	N.D.		
54)	methylmethacrylate	0.00	69	0	N.D.		
55)	14dioxane	0.00	88	0	N.D.		
56)	Bromodiclrma	0.00	83	0	N.D.		
57)	2Nitropropane	0.00	43	0	N.D.		
58)	2CLEVE	0.00	63	0	N.D.		
59)	c13dicloproe	0.00	75	0	N.D.		
60)	4Meth2Pentan	0.00	43	0	N.D.		
62)	Toluene	0.00	92	0	N.D.		
63)	t13Dicloprop	0.00	75	0	N.D.		
64)	ethylmethacrylate	0.00	69	0	N.D.		
65)	112Triclotha	0.00	83	0	N.D.		
66)	Tetrachlorte	0.00	166	0	N.D.		
67)	13Diclorpropa	0.00	76	0	N.D.		
69)	2Hexanone	0.00	43	0	N.D.		
70)	Clorodibrmta	0.00	129	0	N.D.		
71)	12Dibrometha	0.00	107	0	N.D.		
72)	Chlorobenzen	0.00	112	0	N.D.		
73)	1Clhexane	0.00	91	0	N.D.		
74)	1112Tetclota	0.00	131	0	N.D.		
75)	Ethylbenzene	0.00	91	0	N.D.		
76)	m p-Xylene	0.00	106	0	N.D.		
77)	o-Xylene	0.00	106	0	N.D.		
78)	Styrene	0.00	104	0	N.D.		
79)	Bromoform	0.00	173	0	N.D.		
80)	Isopropylben	0.00	105	0	N.D.		
81)	cyclohexanone	0.00	55	0	N.D.		
84)	Bromobenzene	0.00	156	0	N.D.		
85)	1122Tetrclta	0.00	83	0	N.D.		
86)	123Triclproa	0.00	75	0	N.D.		
87)	14dichloro2butene	0.00	53	0	N.D.		
88)	n-Propylbenz	0.00	91	0	N.D.		
89)	2chlorotolue	0.00	91	0	N.D.		
90)	4chlorotolue	0.00	91	0	N.D.		
91)	135Trimebenz	0.00	105	0	N.D.		
92)	tbutylbenzen	0.00	119	0	N.D.		
93)	124Trimetben	0.00	105	0	N.D.		
94)	sbutylbenzen	0.00	105	0	N.D.		
95)	13Diclorbenz	0.00	146	0	N.D.		
96)	pIsopropylto	0.00	119	0	N.D.		
97)	14dichlorobe	0.00	146	0	N.D.		
98)	12dichlorobe	0.00	146	0	N.D.		
99)	nButylbenzen	0.00	91	0	N.D.		
100)	12dibromo3cl	0.00	157	0	N.D.		
101)	135Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2216\681533.D Vial: 9
Acq On : 22 Jan 2016 14:04 Operator: AGK-RLD
Sample : 122833,681533, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 22 14:25:34 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	0.00	128	0	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

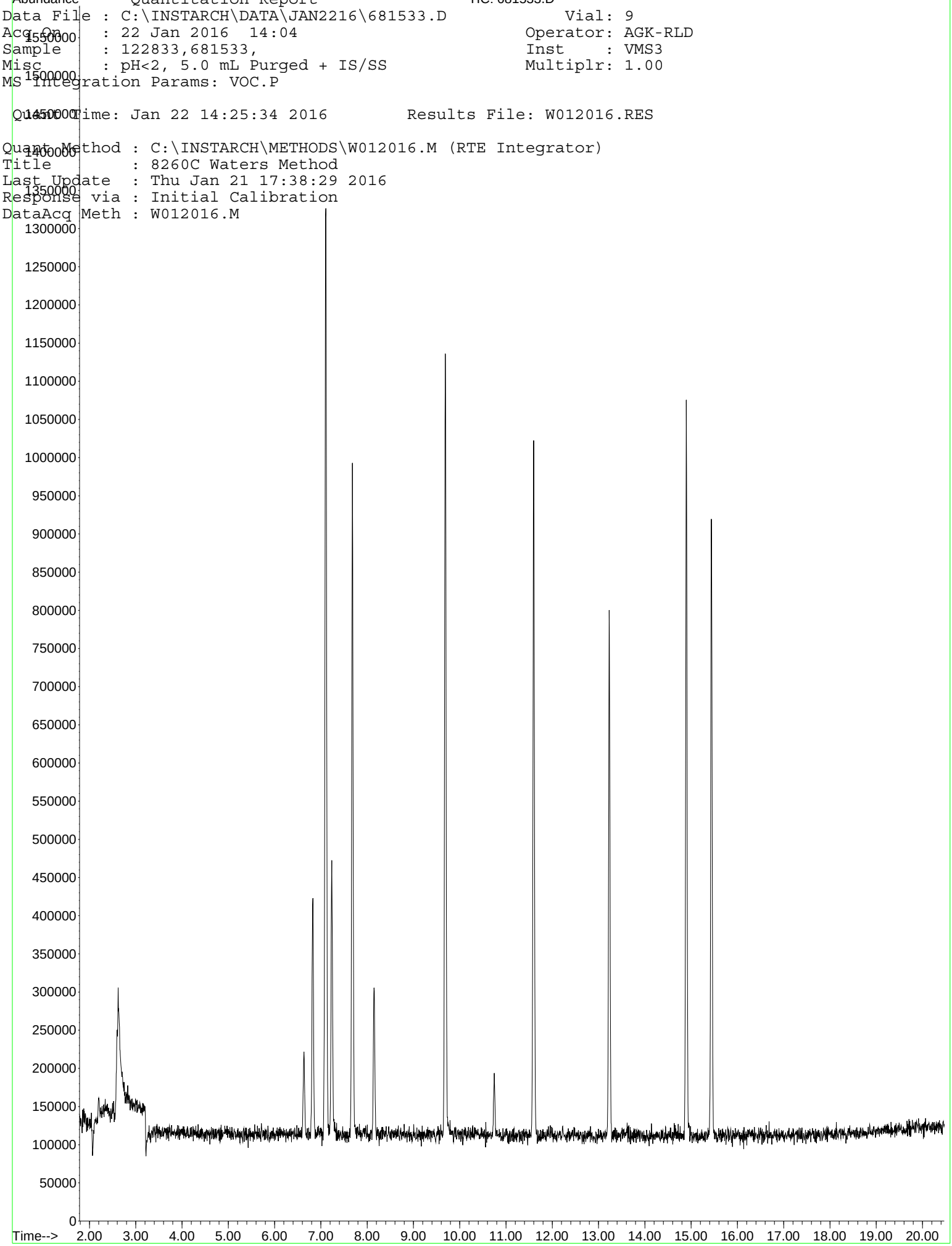
(#) = qualifier out of range (m) = manual integration

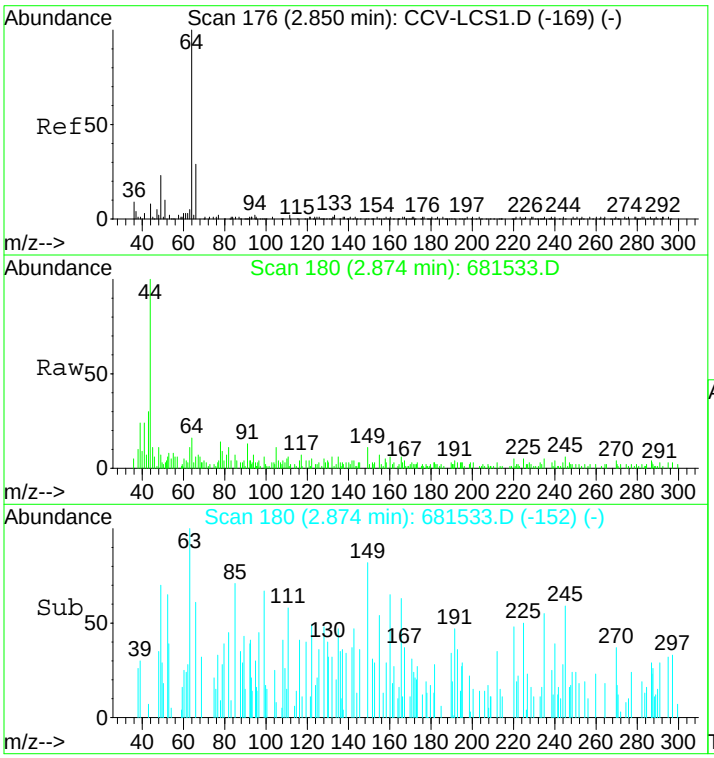
Quantitation Report (TIC: 681533.D)

Data File : C:\INSTARCH\DATA\JAN2216\681533.D Vial: 9
Acq On : 22 Jan 2016 14:04 Operator: AGK-RLD
Sample : 122833,681533, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 22 14:25:34 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

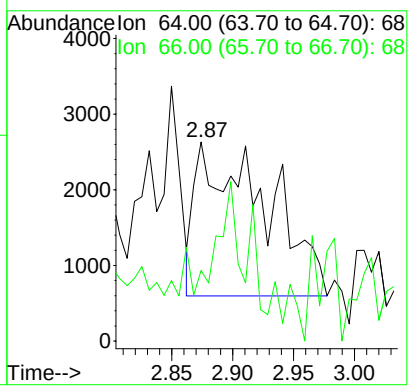


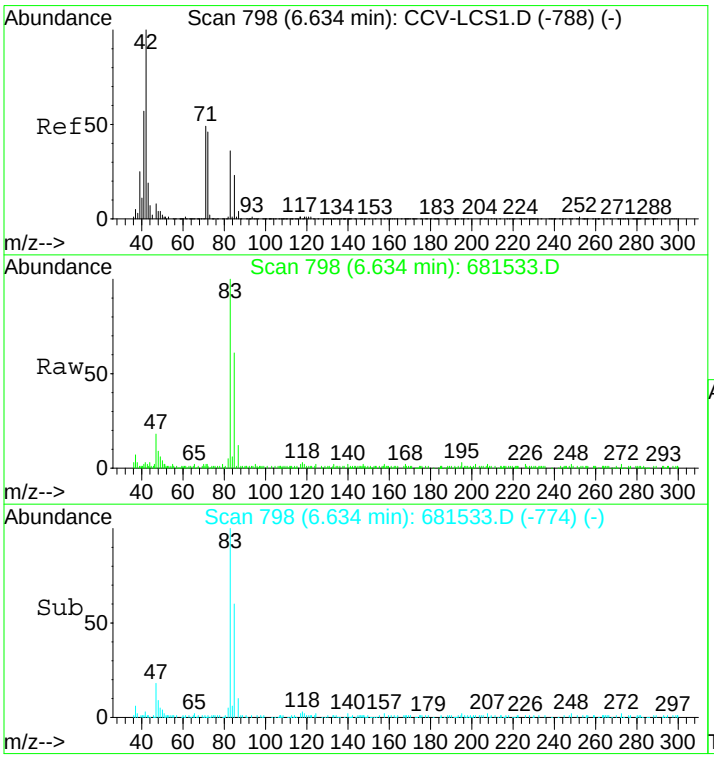


#6
Chloroethane
Concen: 0.54 ug/L
RT: 2.87 min Scan# 180
Delta R.T. 0.02 min
Lab File: 681533.D
Acq: 22 Jan 2016 14:04

Tgt Ion: 64 Resp: 8117

Ion	Ratio	Lower	Upper
64	100		
66	0.0	10.9	50.9#

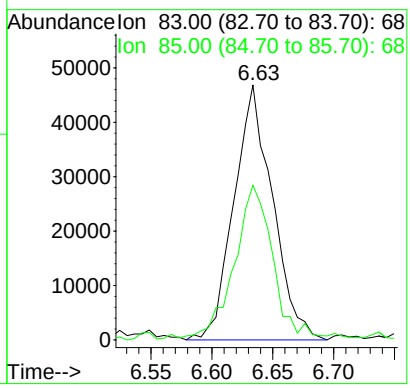


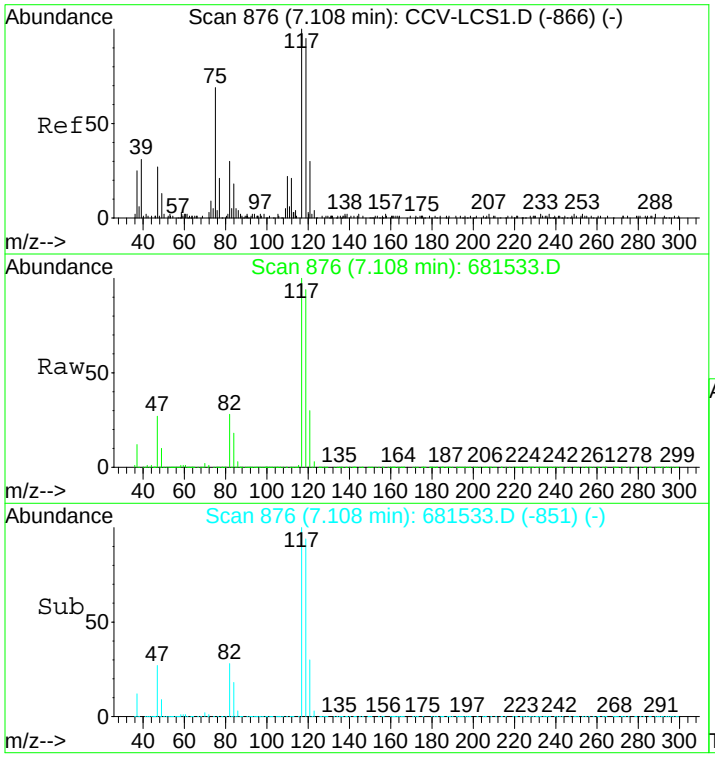


#39
Chloroform
Concen: 5.94 ug/L
RT: 6.63 min Scan# 798
Delta R.T. -0.01 min
Lab File: 681533.D
Acq: 22 Jan 2016 14:04

Tgt Ion: 83 Resp: 103370

Ion	Ratio	Lower	Upper
83	100		
85	58.7	42.8	82.8

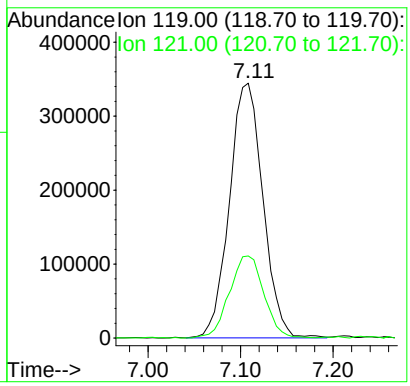


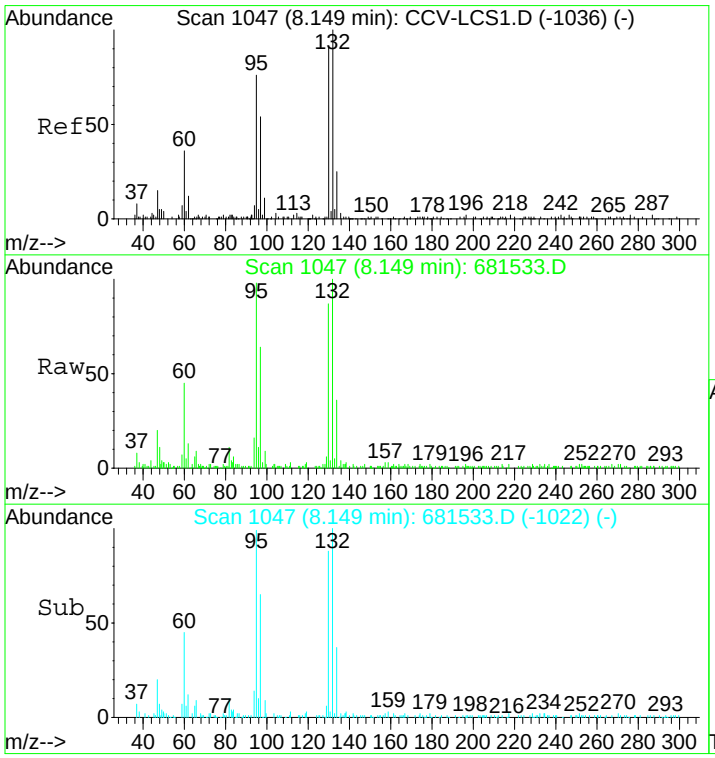


#43
Carbtetraclo
Concen: 65.77 ug/L
RT: 7.11 min Scan# 876
Delta R.T. 0.00 min
Lab File: 681533.D
Acq: 22 Jan 2016 14:04

Tgt Ion:119 Resp: 867842

Ion	Ratio	Lower	Upper
119	100		
121	33.0	13.7	53.7

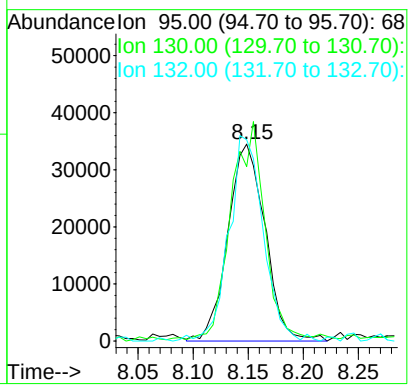




#49
trichloroete
Concen: 7.94 ug/L
RT: 8.15 min Scan# 1047
Delta R.T. 0.00 min
Lab File: 681533.D
Acq: 22 Jan 2016 14:04

Tgt Ion: 95 Resp: 81169

Ion	Ratio	Lower	Upper
95	100		
130	101.3	83.9	123.9
132	96.1	79.1	119.1



Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2216\681535.D Vial: 10
Acq On : 22 Jan 2016 14:34 Operator: AGK-RLD
Sample : 122833,681535, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 22 14:54:44 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.68	96	873420	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.60	117	643833	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.90	152	336061	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.82	113	213485	19.406	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 97 %			
45) SURR12DCAd4	7.24	102	65913	20.941	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 105 %			
61) SURRd8Tolule	9.69	98	883665	19.915	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100 %			
83) SURR4BrFBenz	13.23	95	271080	20.063	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 100 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	2.10	50	5864	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	0.00	94	0	N.D.		
6) Chloroethane	2.86	64	7550	0.4917	ug/L #	44
7) Dichloroflmethane	3.11	67	13130	0.4294	ug/L #	48
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	3.91	58	7891	Below Cal	#	1
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	4.05	43	5370	Below Cal	#	40
16) Iodomethane	0.00	142	0	N.D.		
17) Carbon Dislf	0.00	76	0	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	4.81	59	6594	Below Cal	#	56
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	5.50	63	8996	0.4997	ug/L #	52
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	0.00	42	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2216\681535.D Vial: 10
Acq On : 22 Jan 2016 14:34 Operator: AGK-RLD
Sample : 122833,681535, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 22 14:54:44 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	7.11	119	7441	0.5567 ug/L #	41
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	0.00	78	0	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	8.15	95	11389	1.0996 ug/L	90
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	9.78	92	7755	0.2919 ug/L #	57
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	0.00	91	0	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	11.98	106	5067	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	0.00	55	0	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	0.00	105	0	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	0.00	91	0	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2216\681535.D Vial: 10
Acq On : 22 Jan 2016 14:34 Operator: AGK-RLD
Sample : 122833,681535, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 22 14:54:44 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

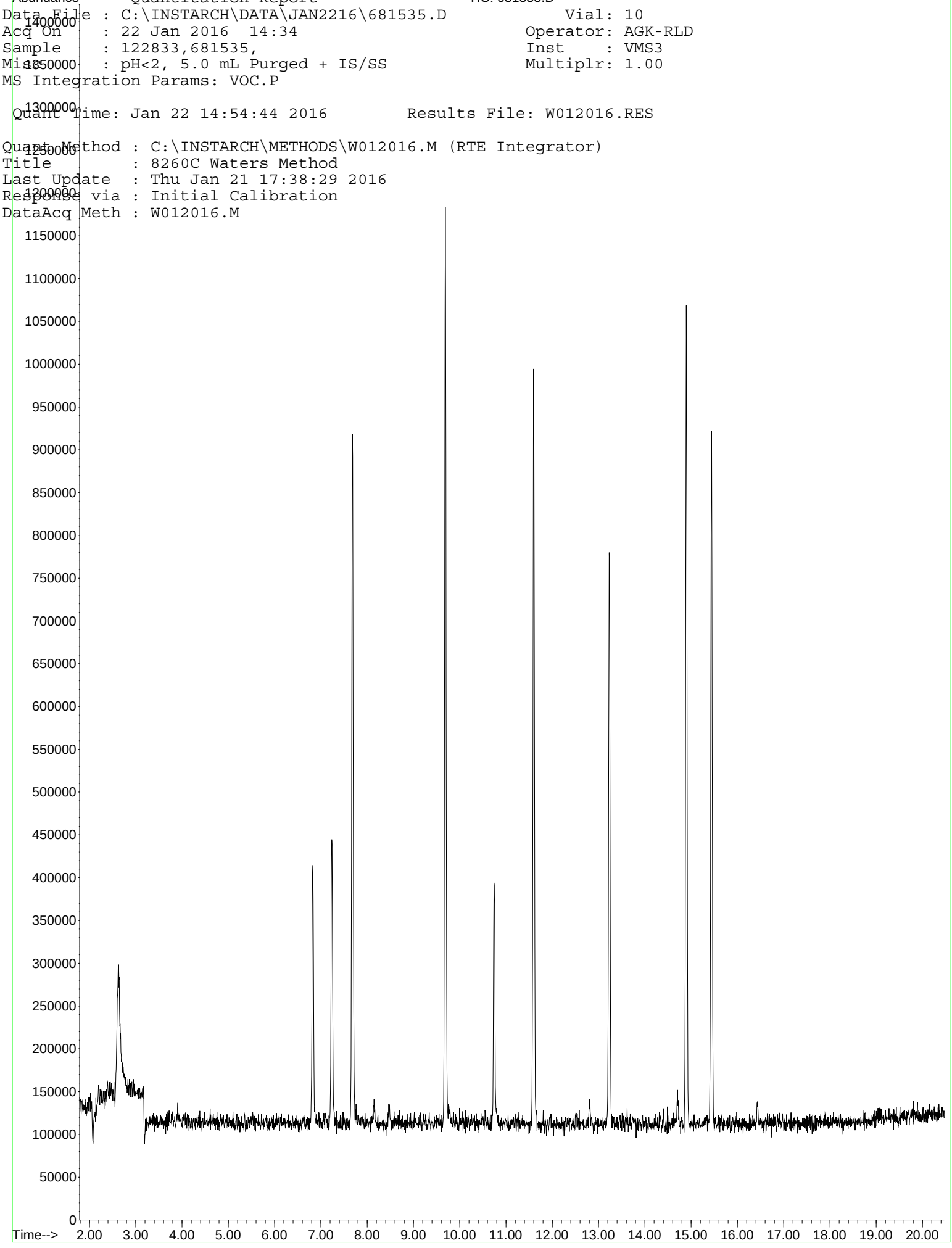
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	0.00	128	0	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

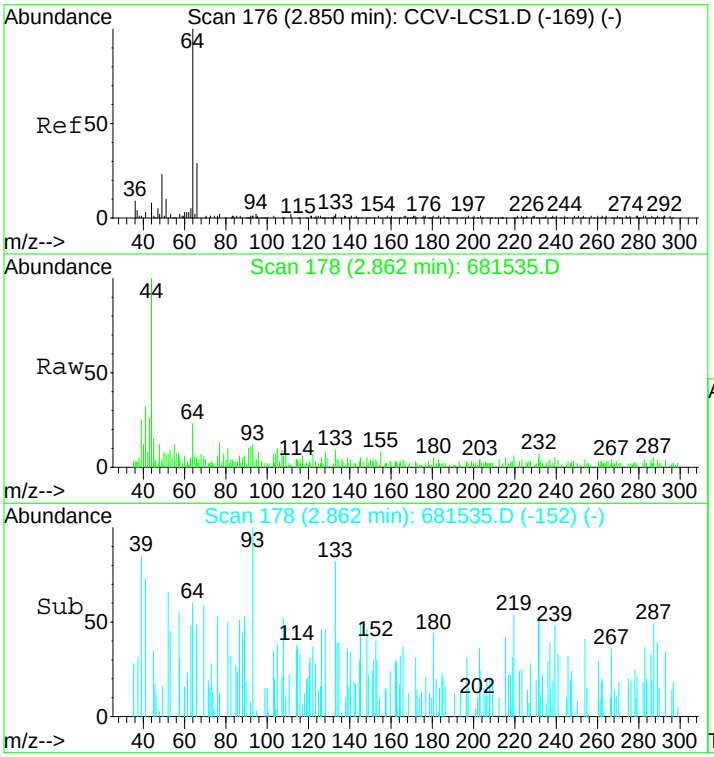
(#) = qualifier out of range (m) = manual integration

Data File : C:\INSTARCH\DATA\JAN2216\681535.D Vial: 10
Acq On : 22 Jan 2016 14:34 Operator: AGK-RLD
Sample : 122833,681535, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 22 14:54:44 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

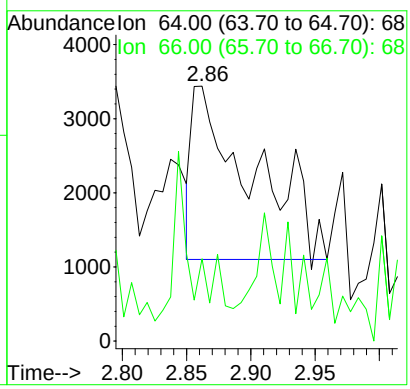


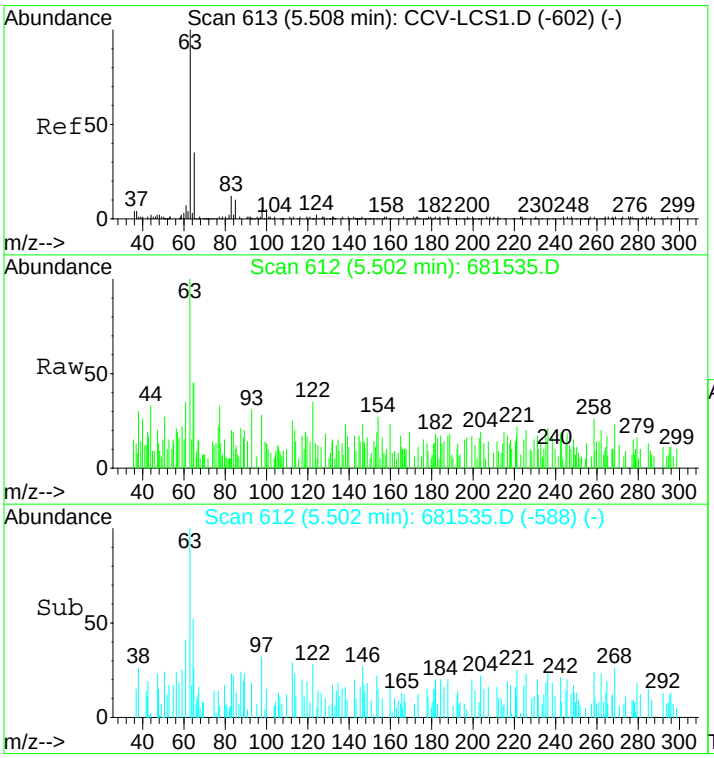


#6
Chloroethane
Concen: 0.49 ug/L
RT: 2.86 min Scan# 178
Delta R.T. 0.01 min
Lab File: 681535.D
Acq: 22 Jan 2016 14:34

Tgt Ion: 64 Resp: 7550

Ion	Ratio	Lower	Upper
64	100		
66	0.0	10.9	50.9#

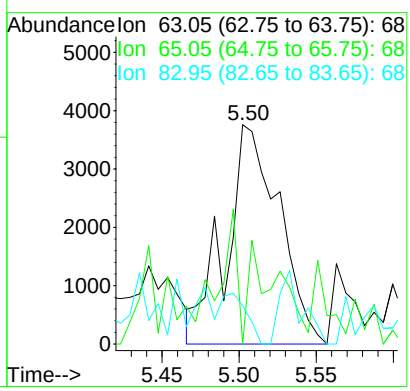


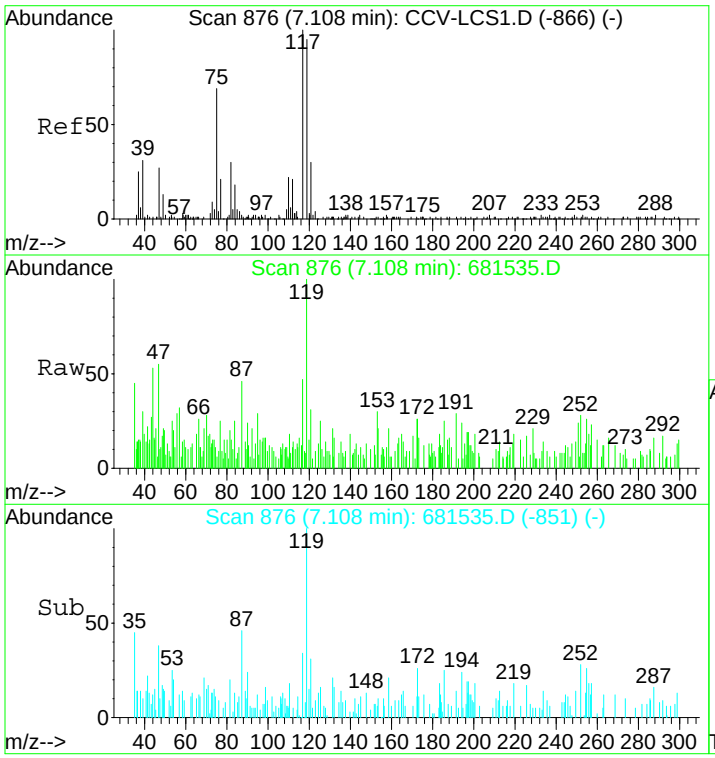


#26
11dichlorota
Concen: 0.50 ug/L
RT: 5.50 min Scan# 612
Delta R.T. -0.01 min
Lab File: 681535.D
Acq: 22 Jan 2016 14:34

Tgt Ion: 63 Resp: 8996

Ion	Ratio	Lower	Upper
63	100		
65	0.0	10.0	50.0#
83	0.0	0.0	32.8

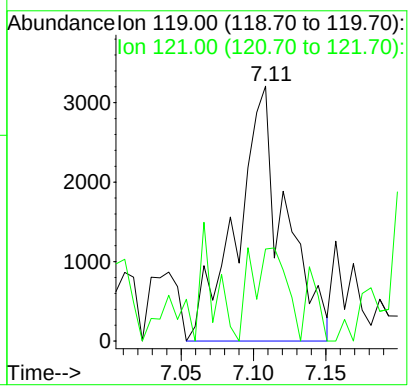


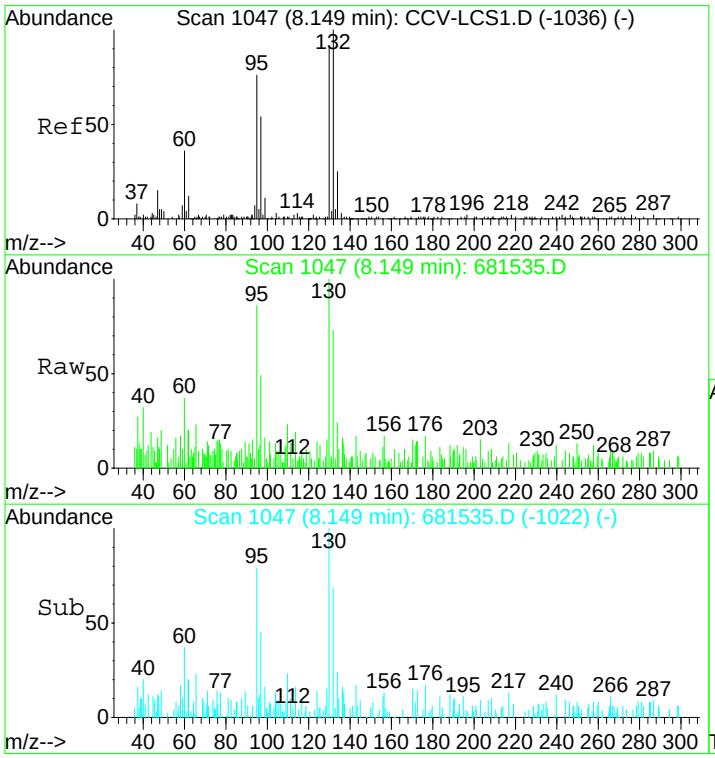


#43
Carbtetraclo
Concen: 0.56 ug/L
RT: 7.11 min Scan# 876
Delta R.T. 0.00 min
Lab File: 681535.D
Acq: 22 Jan 2016 14:34

Tgt Ion:119 Resp: 7441

Ion	Ratio	Lower	Upper
119	100		
121	0.0	13.7	53.7#

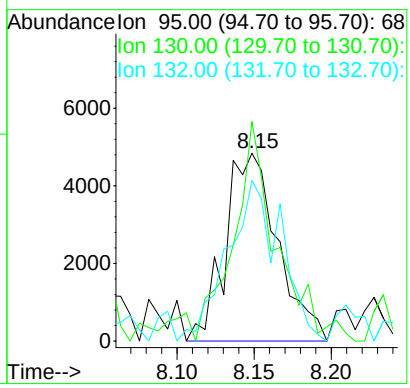


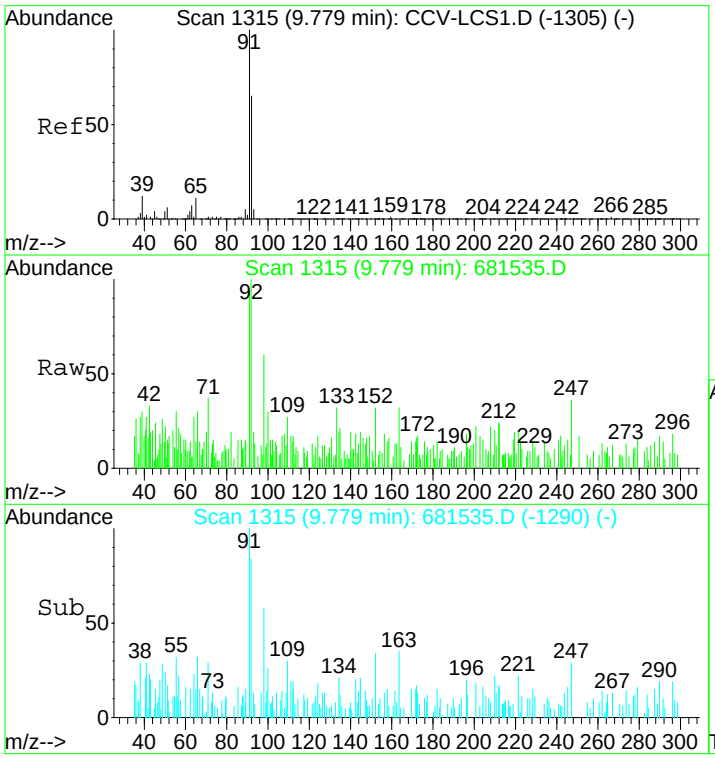


#49
trichloroete
Concen: 1.10 ug/L
RT: 8.15 min Scan# 1047
Delta R.T. 0.00 min
Lab File: 681535.D
Acq: 22 Jan 2016 14:34

Tgt Ion: 95 Resp: 11389

Ion	Ratio	Lower	Upper
95	100		
130	96.1	83.9	123.9
132	87.6	79.1	119.1

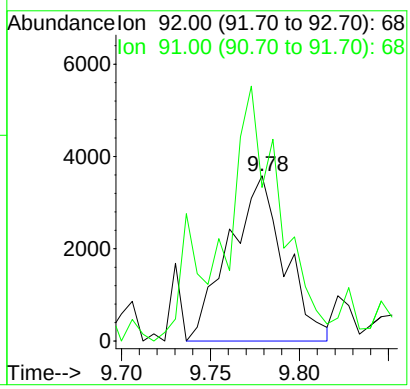




#62
Toluene
Concen: 0.29 ug/L
RT: 9.78 min Scan# 1315
Delta R.T. 0.00 min
Lab File: 681535.D
Acq: 22 Jan 2016 14:34

Tgt Ion: 92 Resp: 7755

Ion	Ratio	Lower	Upper
92	100		
91	112.0	150.3	190.3#



Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2216\681537.D Vial: 11
Acq On : 22 Jan 2016 15:03 Operator: AGK-RLD
Sample : 122833,681537, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 22 15:23:57 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.68	96	887844	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.60	117	639584	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.90	152	330994	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.83	113	204271	18.267	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 91 %			
45) SURR12DCAd4	7.24	102	63470	19.837	ug/L	0.01
Spiked Amount 20.000	Range 89 - 112		Recovery = 99 %			
61) SURRd8Tolule	9.69	98	867161	19.226	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 96 %			
83) SURR4BrFBenz	13.23	95	266709	20.042	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 100 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	0.00	50	0	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	0.00	94	0	N.D.		
6) Chloroethane	2.78	64	5481	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	4.04	58	22367	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	4.05	43	56187	Below Cal		92
16) Iodomethane	0.00	142	0	N.D.		
17) Carbon Dislf	0.00	76	0	N.D.		
18) allylchloride	4.39	41	6425	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	4.60	84	47986	4.2679	ug/L	96
21) tbutylalcohol	0.00	59	0	N.D.		
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	6.38	88	10505	11.9863	ug/L #	67
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	0.00	42	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2216\681537.D Vial: 11
Acq On : 22 Jan 2016 15:03 Operator: AGK-RLD
Sample : 122833,681537, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 22 15:23:57 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	0.00	119	0	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	0.00	78	0	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	0.00	95	0	N.D.	
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	0.00	92	0	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	0.00	91	0	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	0.00	106	0	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	0.00	55	0	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	0.00	105	0	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	0.00	91	0	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

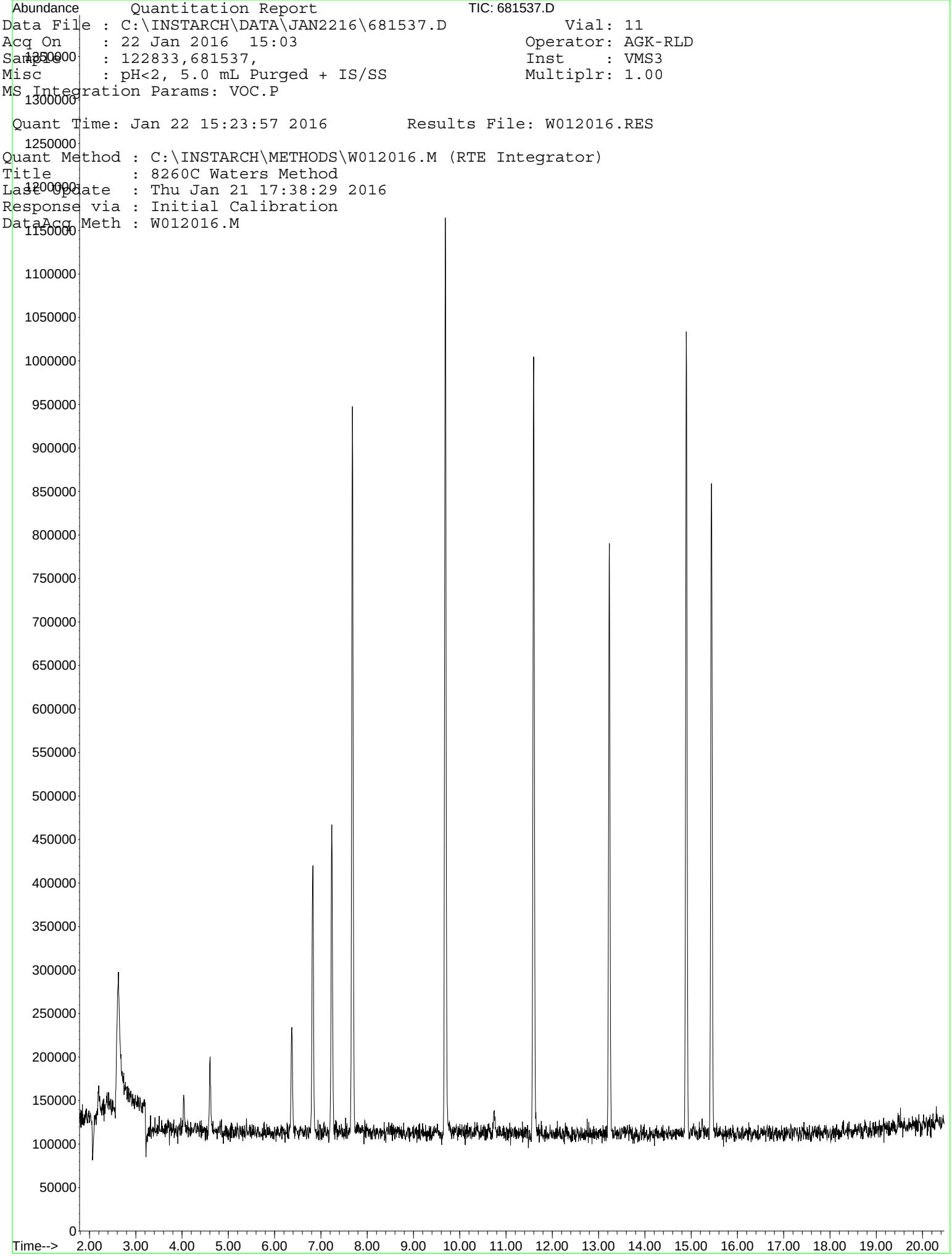
Data File : C:\INSTARCH\DATA\JAN2216\681537.D Vial: 11
Acq On : 22 Jan 2016 15:03 Operator: AGK-RLD
Sample : 122833,681537, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

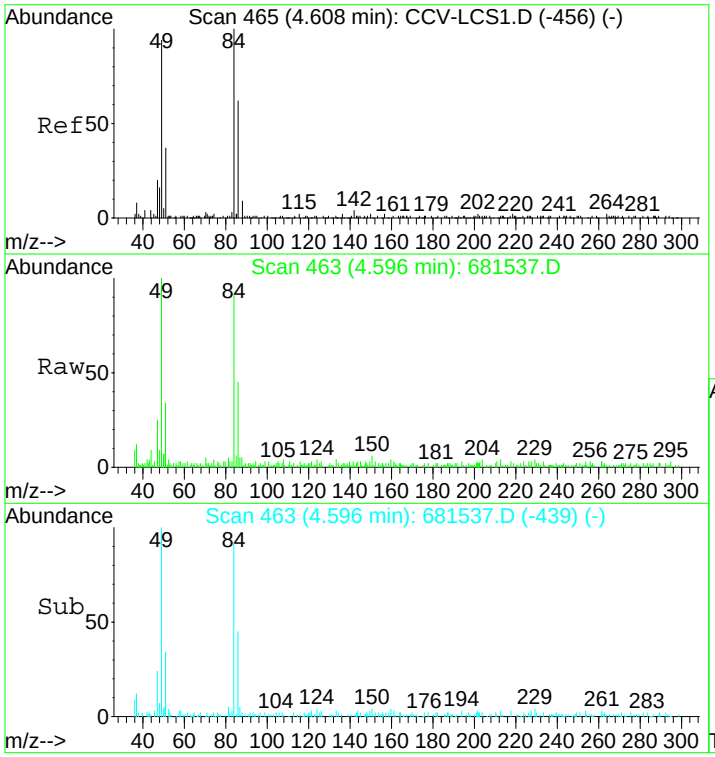
Quant Time: Jan 22 15:23:57 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	0.00	128	0	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

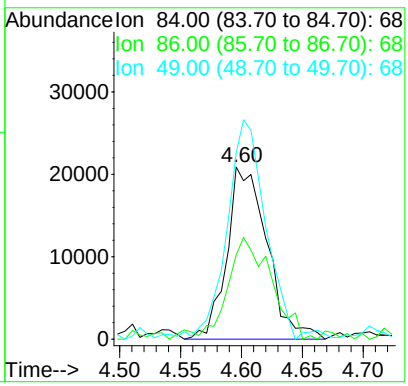

Abundance
Quantitation Report
TIC: 681537.D
Data File : C:\INSTARCH\DATA\JAN2216\681537.D
Vial: 11
Acq On : 22 Jan 2016 15:03
Operator: AGK-RLD
Sample : 122833,681537,
Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS
Multiplr: 1.00
MS Integration Params: VOC.P
Quant Time: Jan 22 15:23:57 2016
Results File: W012016.RES
Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M
1350000
1300000
1250000
1200000
1150000
1100000
1050000
1000000
950000
900000
850000
800000
750000
700000
650000
600000
550000
500000
450000
400000
350000
300000
250000
200000
150000
100000
50000
0
Time-->
2.00
3.00
4.00
5.00
6.00
7.00
8.00
9.00
10.00
11.00
12.00
13.00
14.00
15.00
16.00
17.00
18.00
19.00
20.00



#20
Methylchlorid
Concen: 4.27 ug/L
RT: 4.60 min Scan# 463
Delta R.T. -0.01 min
Lab File: 681537.D
Acq: 22 Jan 2016 15:03

Tgt Ion: 84 Resp: 47986

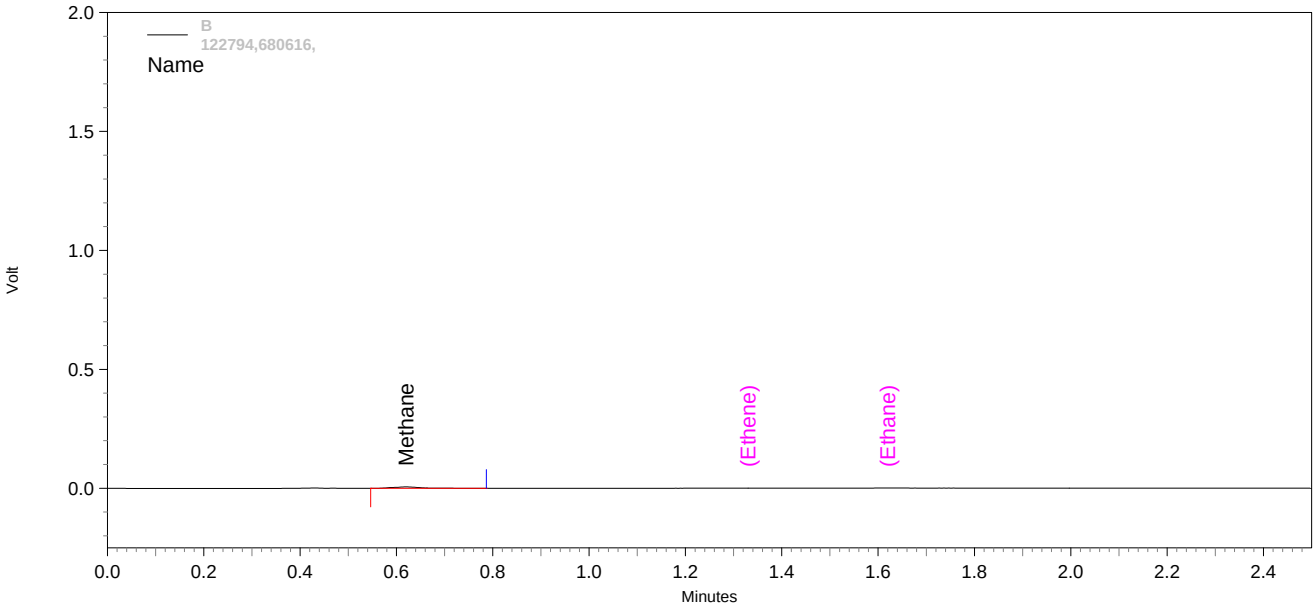
Ion	Ratio	Lower	Upper
84	100		
86	62.7	43.9	83.9
49	117.1	103.8	143.8



Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\012016\004.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 122794,680616,
Acquired: Jan 20, 2016 11:06:25
File Desc. 1.0 mL injection (Methane, Ethene, Ethane)



B Results

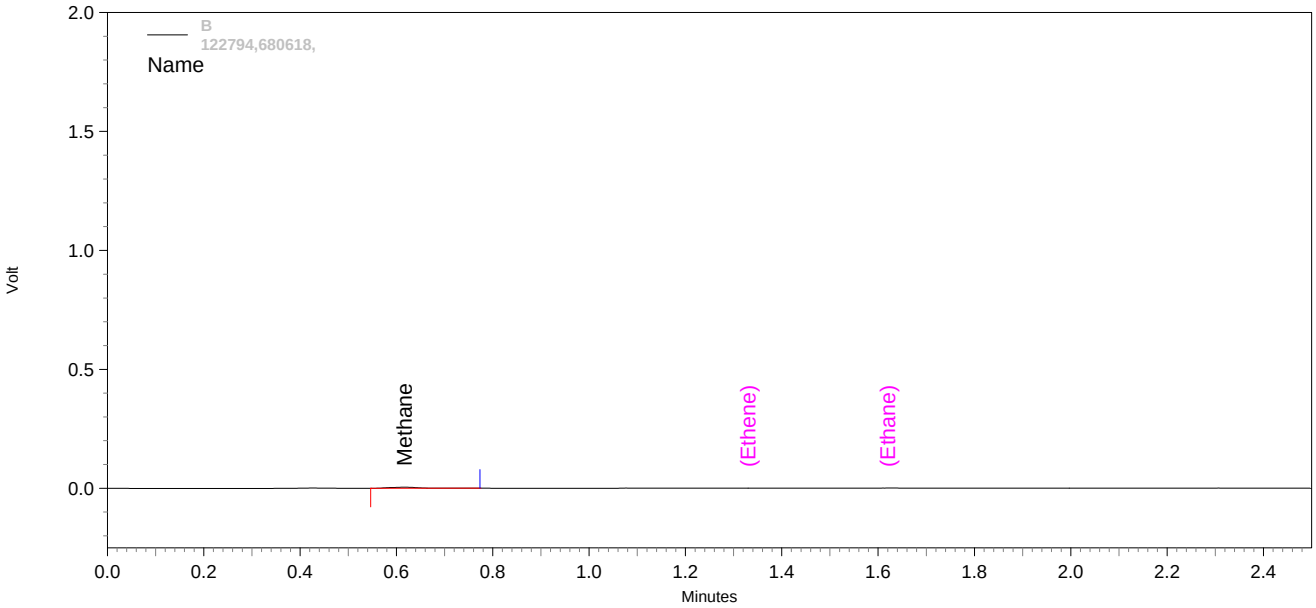
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.620	22402	**2.426**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			22402	**2.426**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\012016\005.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 122794,680618,
Acquired: Jan 20, 2016 11:09:58
File Desc. 1.0 mL injection (Methane, Ethene, Ethane)



B Results

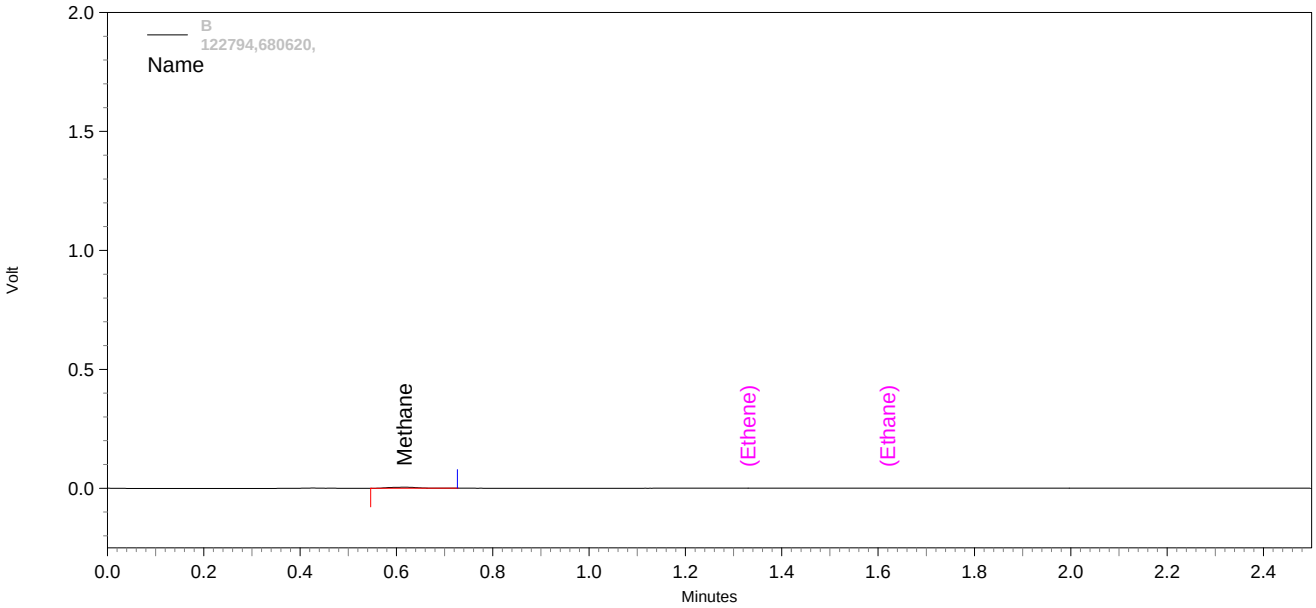
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.617	18429	**1.980**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			18429	**1.980**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\012016\006.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 122794,680620,
Acquired: Jan 20, 2016 11:13:26
File Desc. 1.0 mL injection (Methane, Ethene, Ethane)



B Results

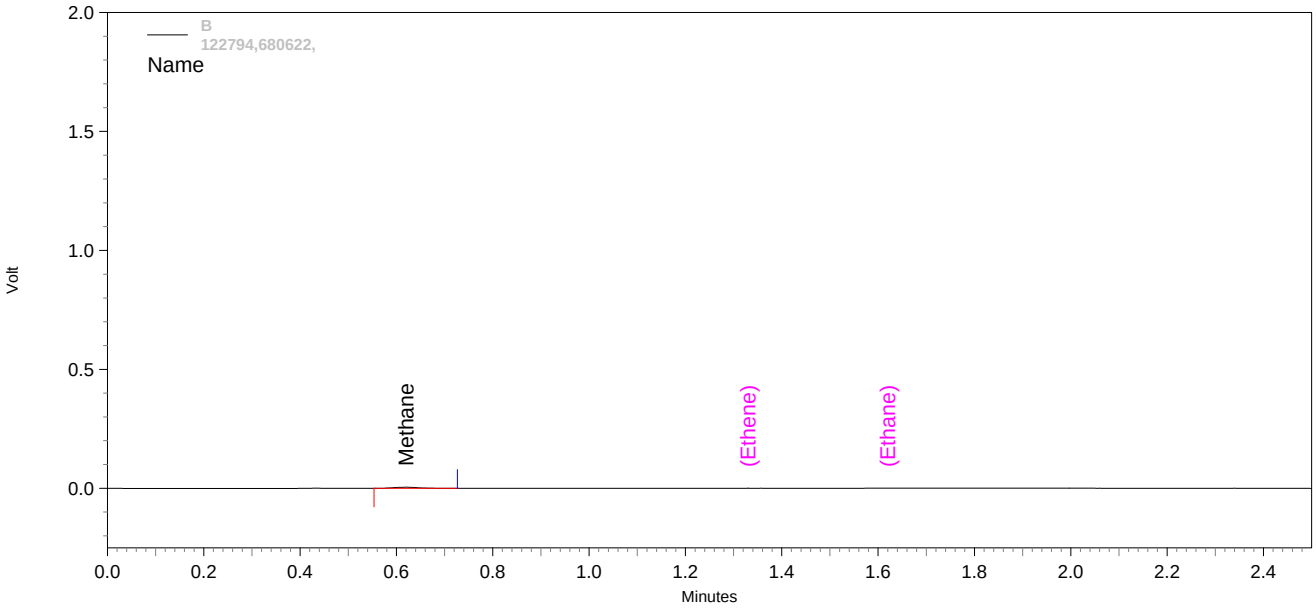
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.617	17697	**1.898**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			17697	**1.898**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\012016\007.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 122794,680622,
Acquired: Jan 20, 2016 11:24:25
File Desc. 1.0 mL injection (Methane, Ethene, Ethane)



B Results

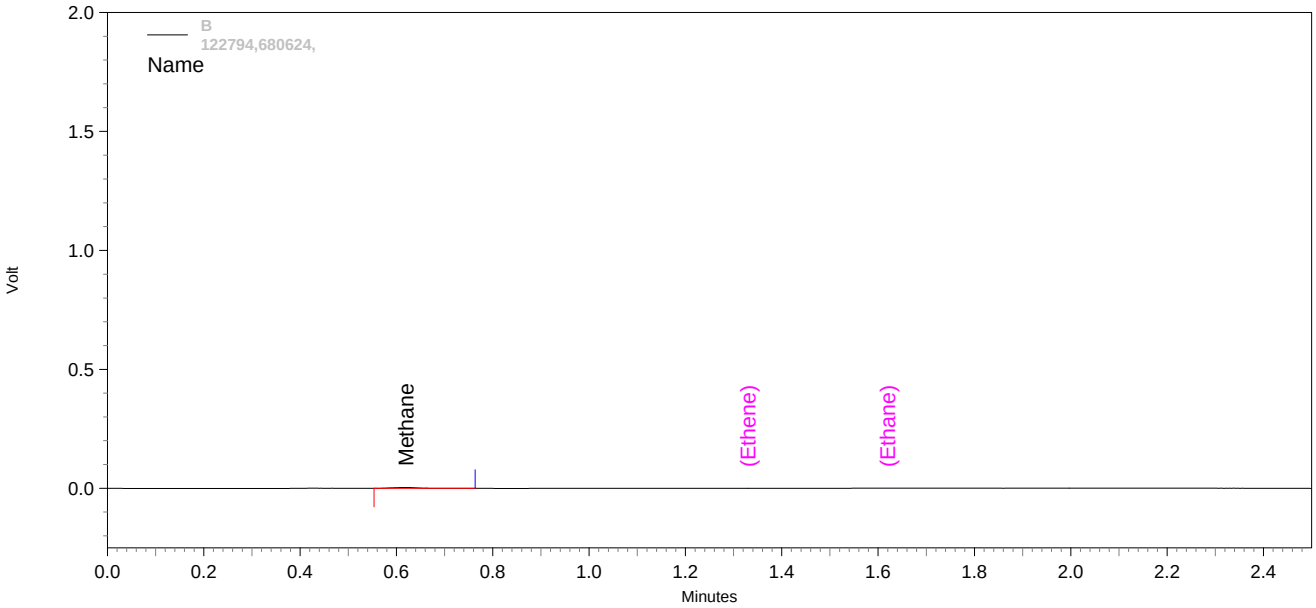
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.620	16230	**1.734**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			16230	**1.734**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\012016\008.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 122794,680624,
Acquired: Jan 20, 2016 11:28:43
File Desc. 1.0 mL injection (Methane, Ethene, Ethane)



B Results

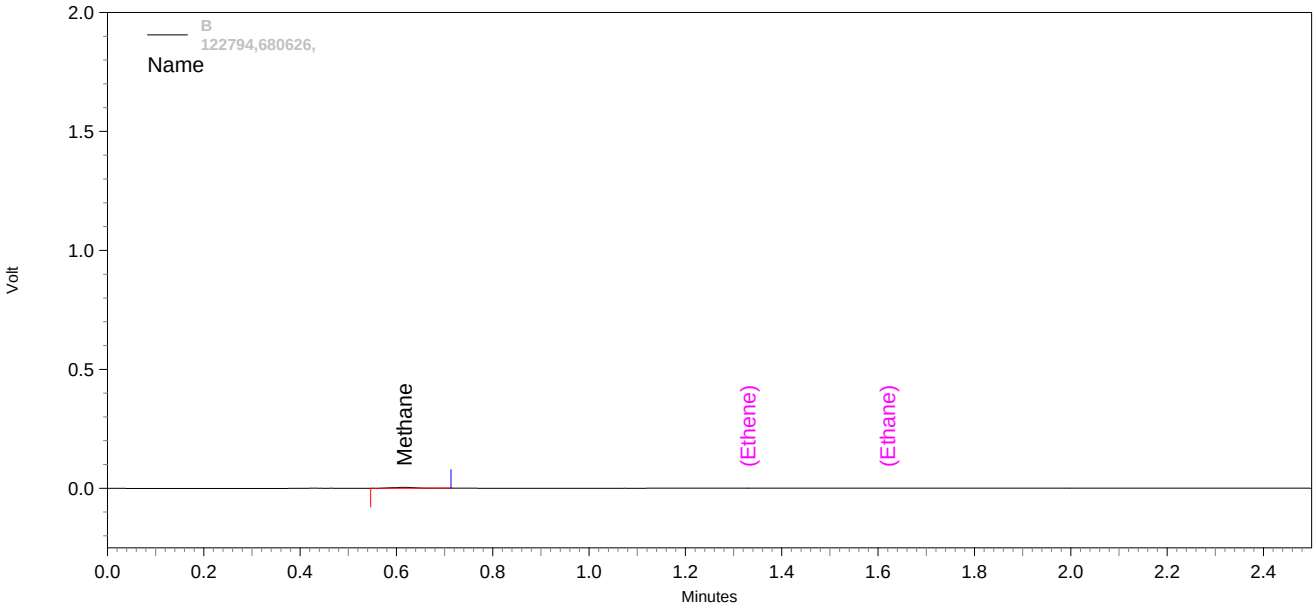
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.620	12763	**1.345**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			12763	**1.345**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\012016\009.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 122794,680626,
Acquired: Jan 20, 2016 11:32:19
File Desc. 1.0 mL injection (Methane, Ethene, Ethane)



B Results

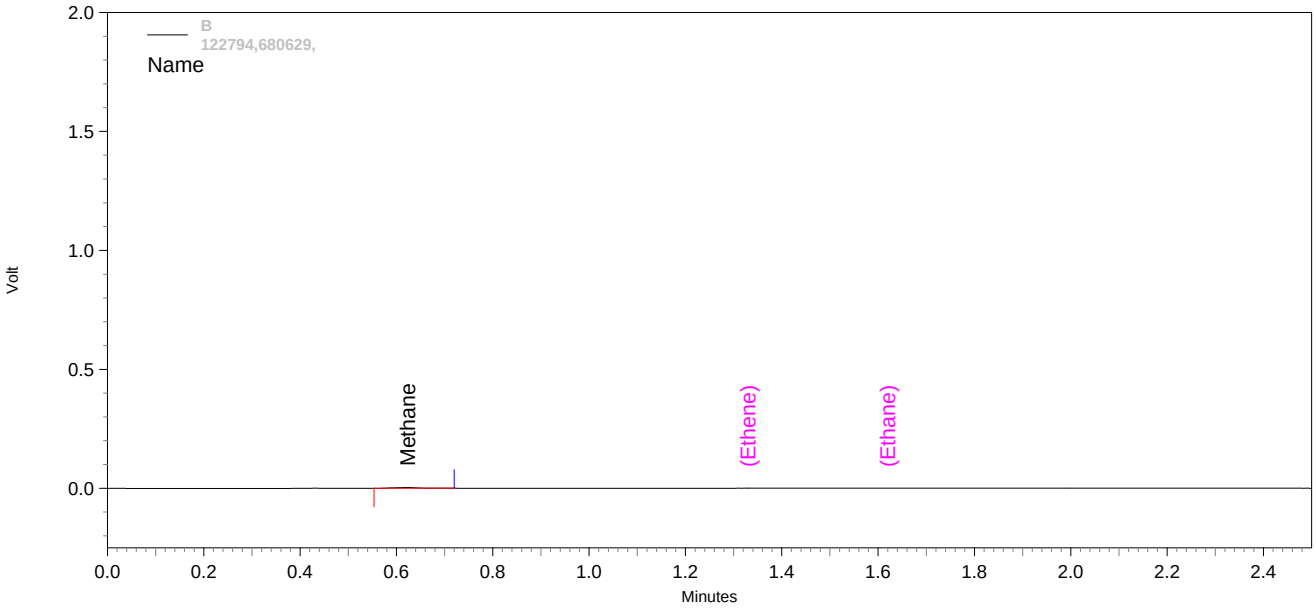
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.617	12688	**1.336**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			12688	**1.336**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\012016\010.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 122794,680629,
Acquired: Jan 20, 2016 11:36:13
File Desc. 1.0 mL injection (Methane, Ethene, Ethane)



B Results

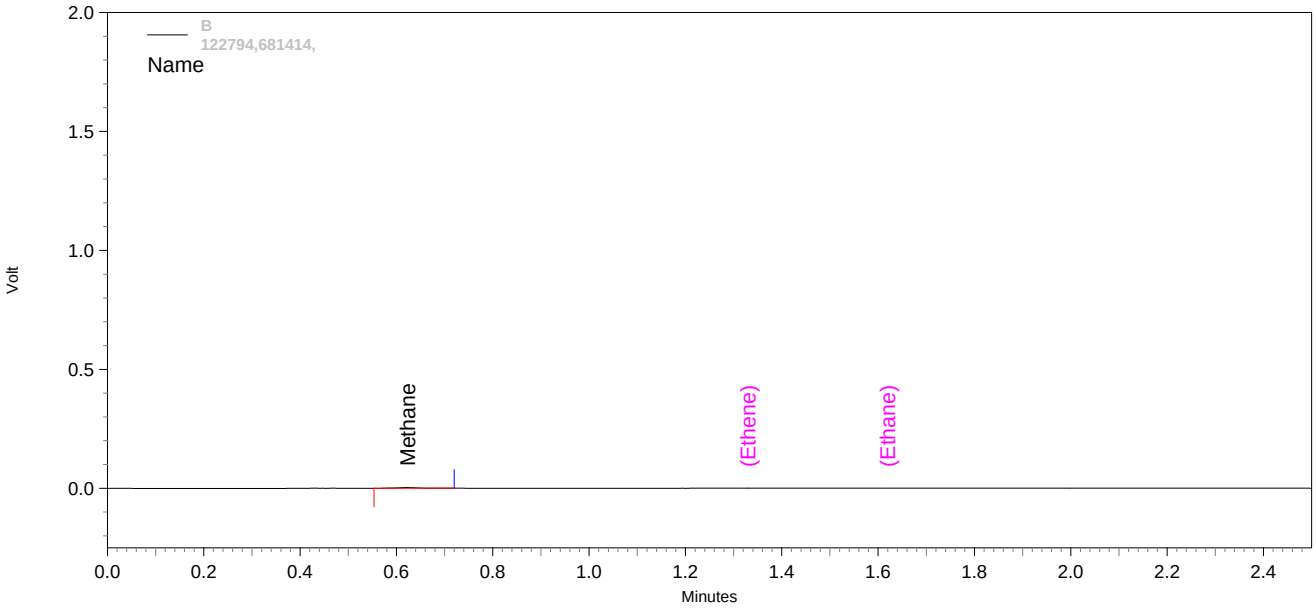
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.623	11272	**1.178**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			11272	**1.178**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\012016\011.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 122794,681414,
Acquired: Jan 20, 2016 11:39:54
File Desc. 1.0 mL injection (Methane, Ethene, Ethane)



B Results

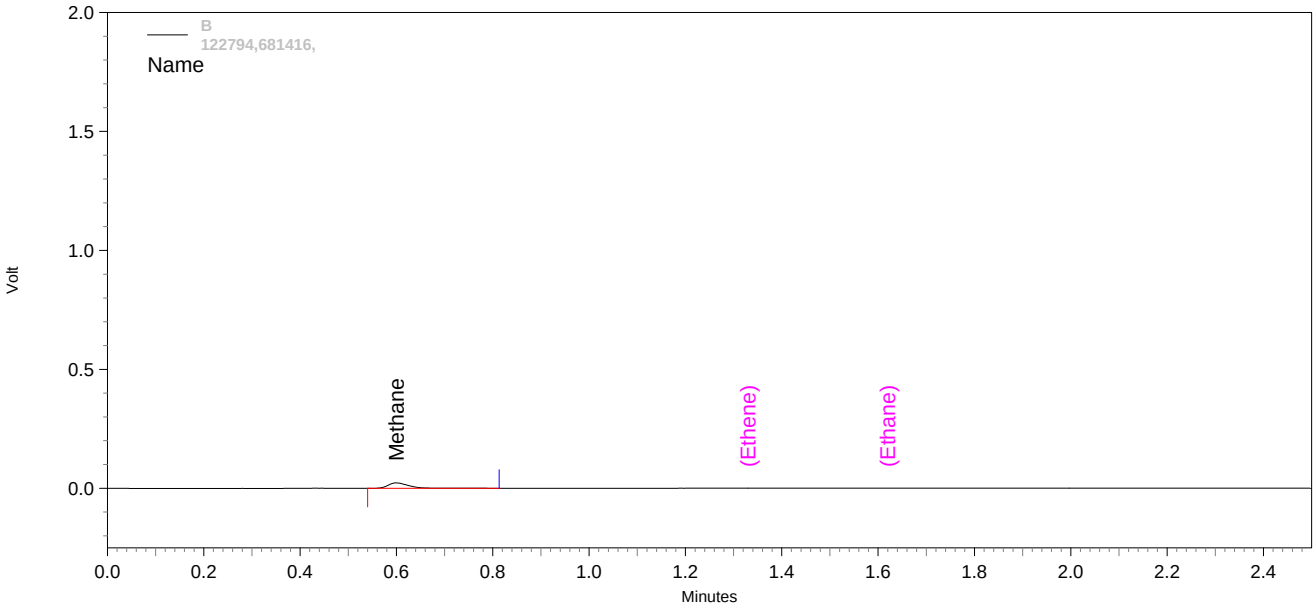
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.623	9821	**1.015**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			9821	**1.015**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\012016\012.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 122794,681416,
Acquired: Jan 20, 2016 11:43:26
File Desc. 1.0 mL injection (Methane, Ethene, Ethane)



B Results

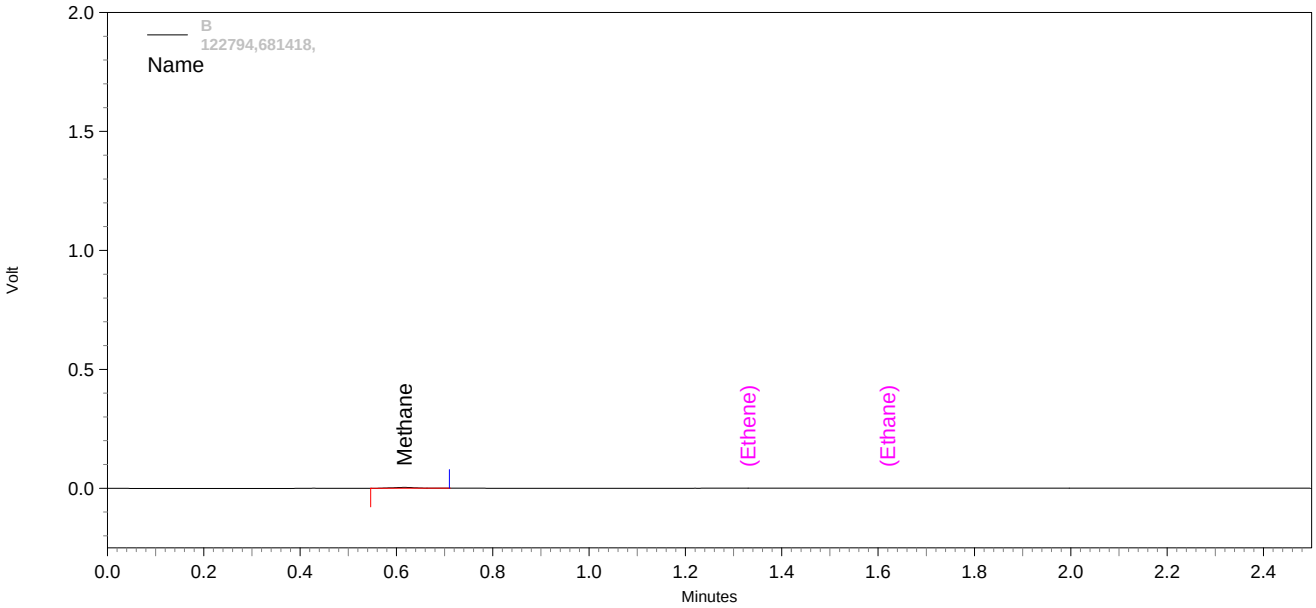
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.600	71138	**7.891**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			71138	**7.891**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\012016\013.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 122794,681418,
Acquired: Jan 20, 2016 11:46:54
File Desc. 1.0 mL injection (Methane, Ethene, Ethane)



B Results

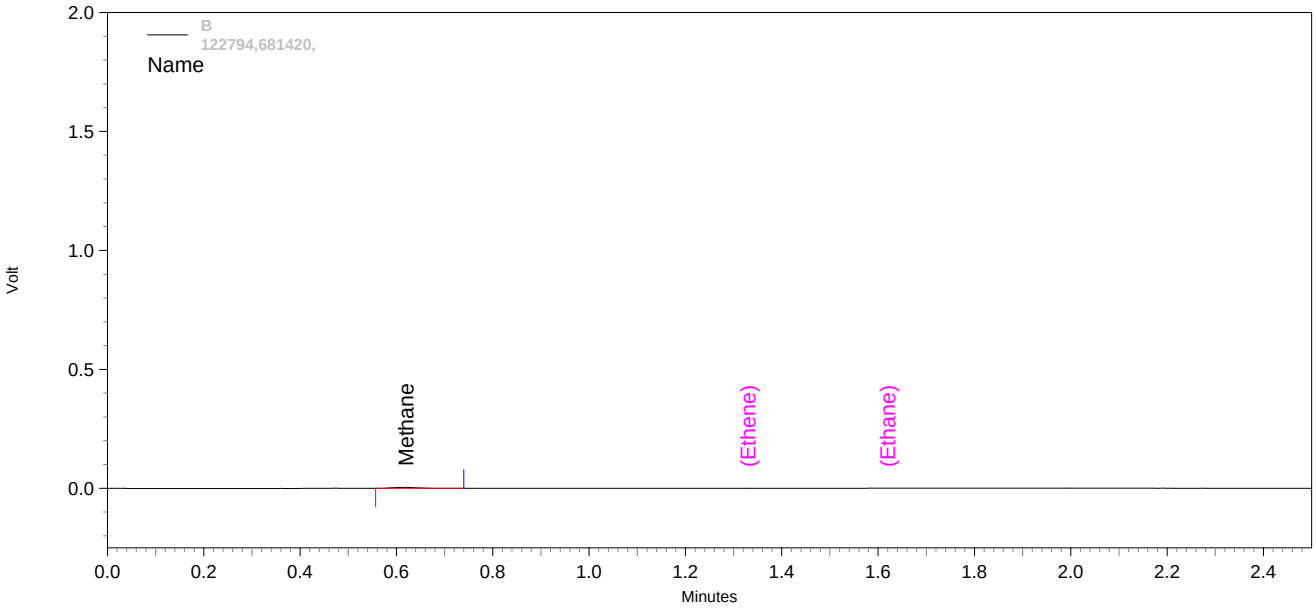
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.617	11690	**1.225**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			11690	**1.225**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\012016\015.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 122794,681420,
Acquired: Jan 20, 2016 11:54:46
File Desc. 1.0 mL injection (Methane, Ethene, Ethane)



B Results

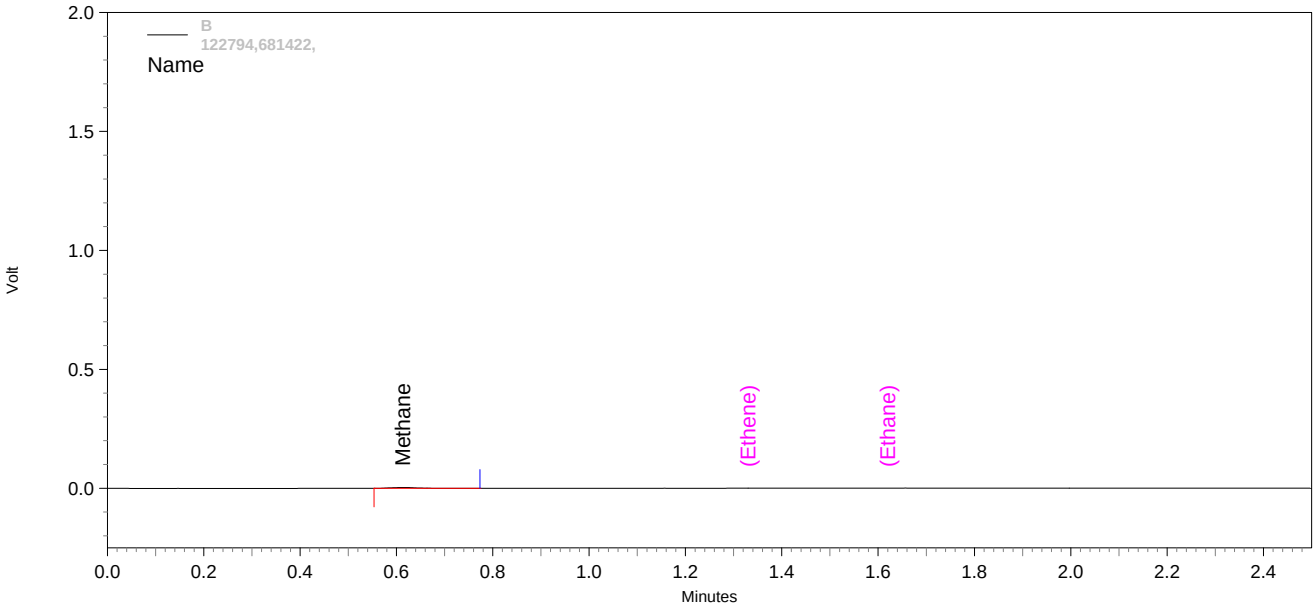
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.620	14137	**1.499**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			14137	**1.499**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\012016\016.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 122794,681422,
Acquired: Jan 20, 2016 11:58:20
File Desc. 1.0 mL injection (Methane, Ethene, Ethane)



B Results

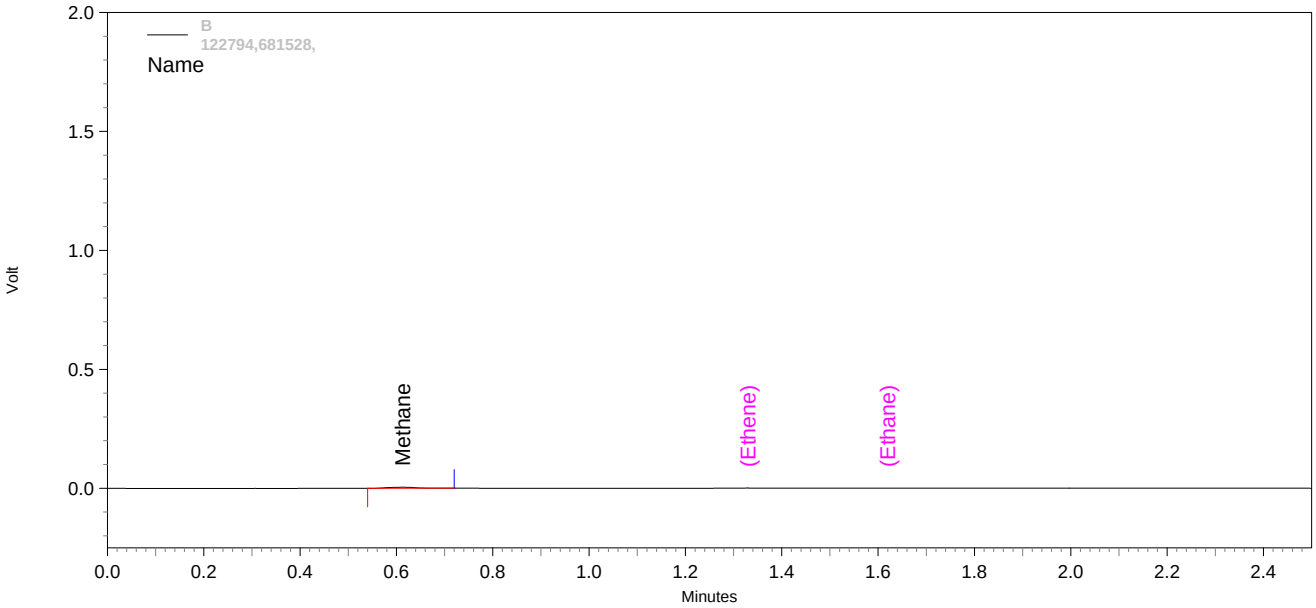
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.613	12680	**1.336**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			12680	**1.336**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\012016\017.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 122794,681528,
Acquired: Jan 20, 2016 12:01:51
File Desc. 1.0 mL injection (Methane, Ethene, Ethane)



B Results

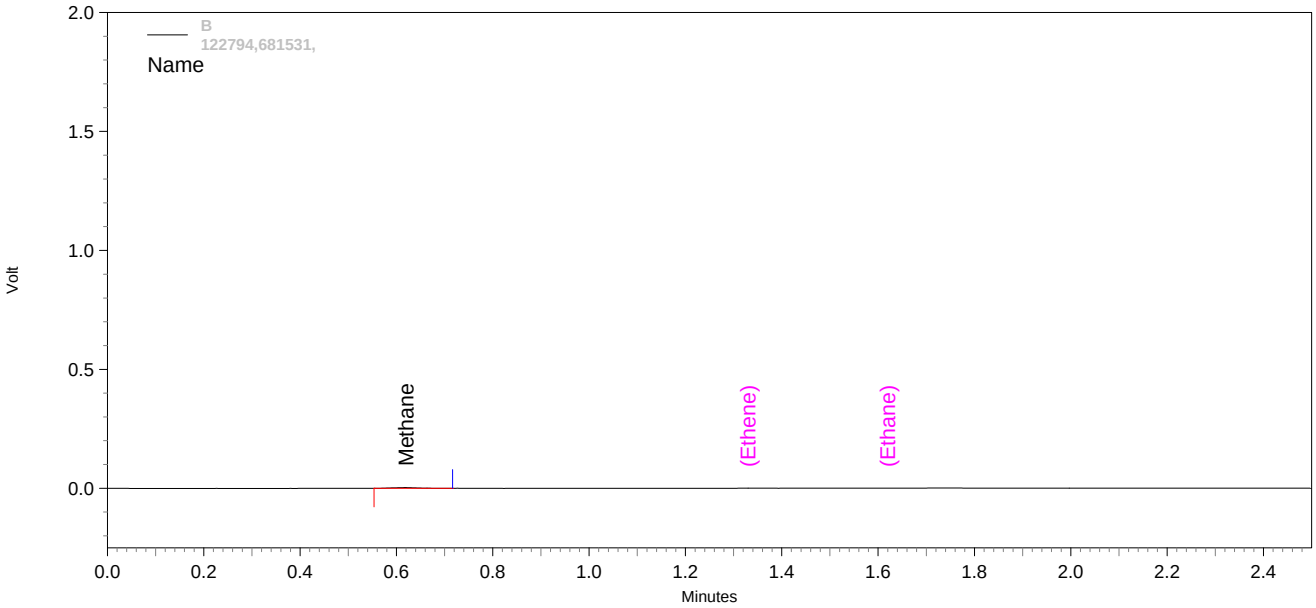
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.613	17103	**1.832**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			17103	**1.832**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\012016\018.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 122794,681531,
Acquired: Jan 20, 2016 12:05:31
File Desc. 1.0 mL injection (Methane, Ethene, Ethane)



B Results

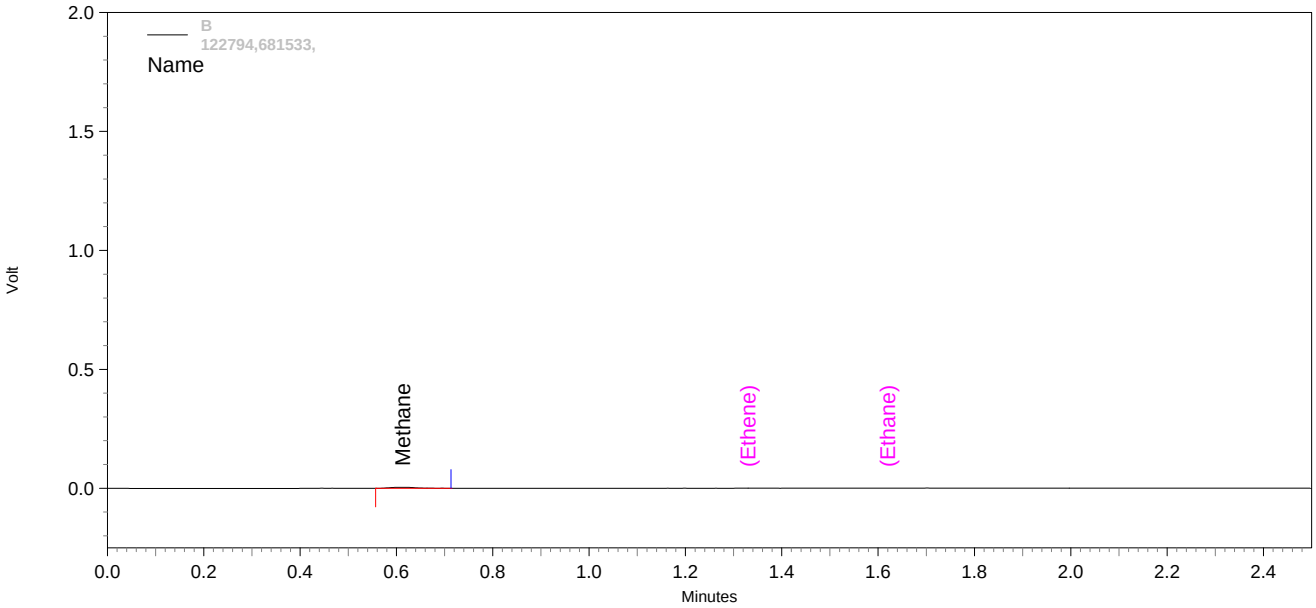
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.620	9835	**1.017**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			9835	**1.017**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\012016\019.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 122794,681533,
Acquired: Jan 20, 2016 12:09:18
File Desc. 1.0 mL injection (Methane, Ethene, Ethane)



B Results

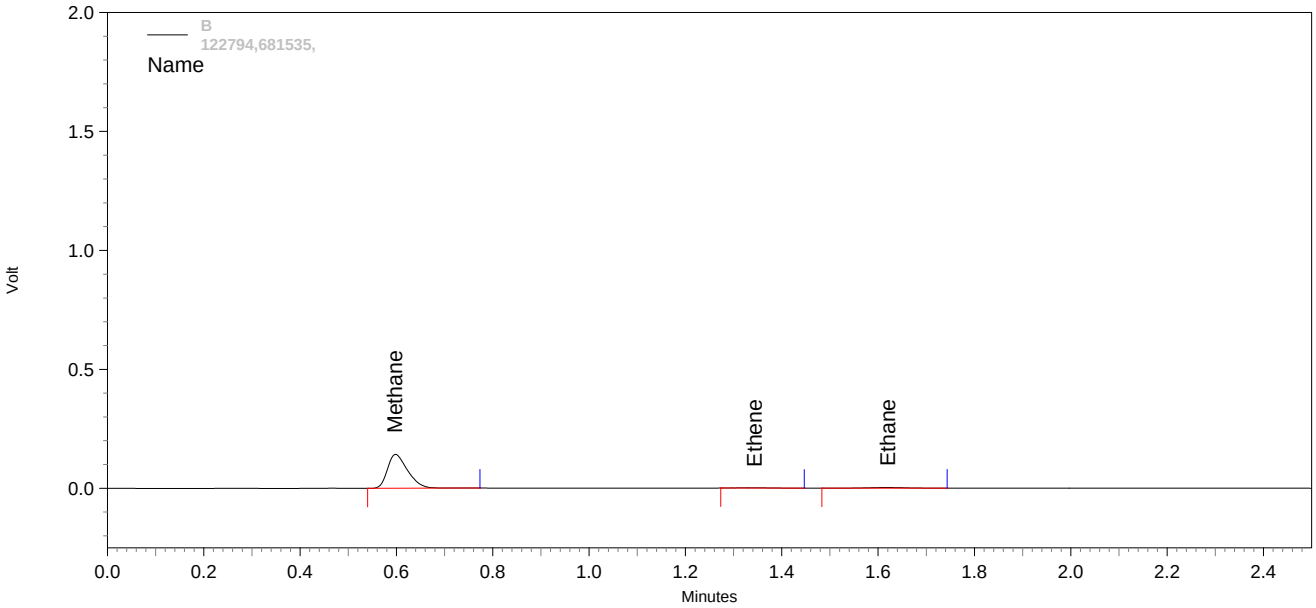
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.613	14736	**1.566**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			14736	**1.566**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\012016\022.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 122794,681535,
Acquired: Jan 20, 2016 12:21:28
File Desc. 1.0 mL injection (Methane, Ethene, Ethane)



B Results

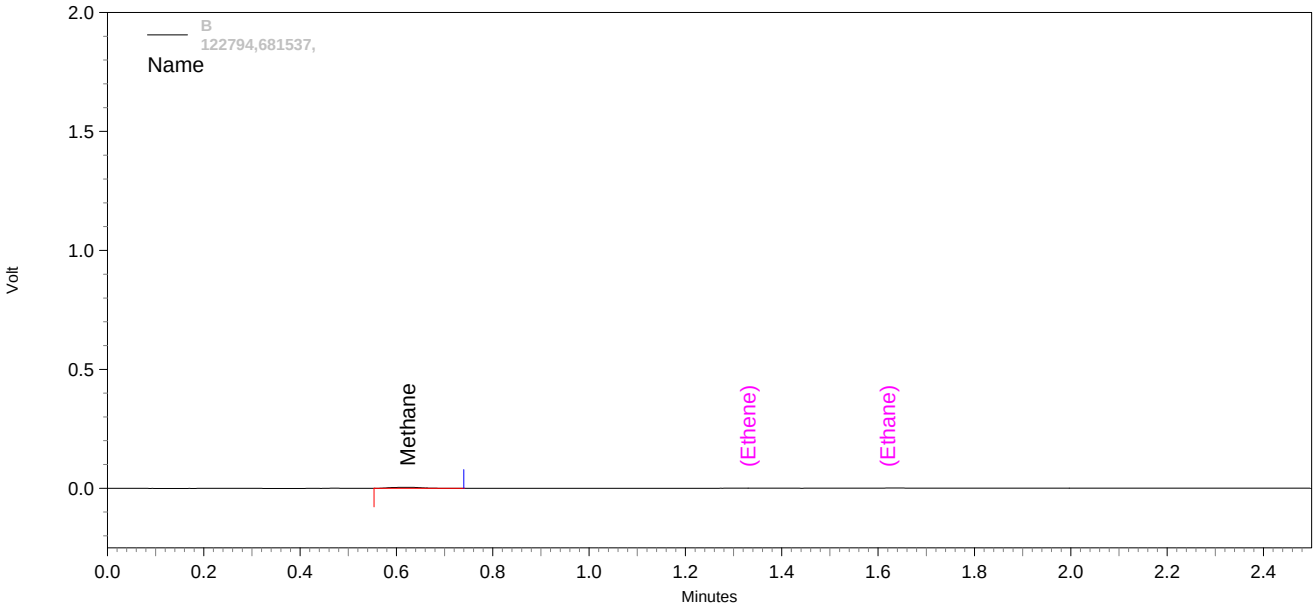
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.597	413779	**46.312**
2	Ethene	1.343	5085	**0.504**
3	Ethane	1.620	12030	**1.301**

Totals			430894	**48.117**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\012016\023.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 122794,681537,
Acquired: Jan 20, 2016 12:25:21
File Desc. 1.0 mL injection (Methane, Ethene, Ethane)



B Results

Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.623	17425	**1.868**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			17425	**1.868**

VOLATILE ORGANIC ANALYSIS
INITIAL CALIBRATION
DOCUMENTS

Method Path : C:\INSTARCH\METHODS\
Method File : W012016.M
Title : 8260C Waters Method
Last Update : Fri Jan 22 22:15:24 2016
Response Via : Initial Calibration

RJ 02/02/2016

Calibration Files ug/L
1 0.50/5.0 =WCAL1.D 2 2.0/20.0 =WCAL2.D 3 5.0/50.0 =WCAL3.D
4 10.0/100 =WCAL4.D 5 20.0/200 =WCAL5.D 6 30.0/300 =WCAL6.D
7 40.0/400 =WCAL7.D 8 80.0/800 =WCAL8.D

		Compound	1	2	3	4	5	6	7	8	Avg	%RSD
1)	I	FLUOROBENZENE**ISTD**	----------ISTD----------									
2)	PT	Dichlorodi	0.240	0.287	0.281	0.290	0.260	0.258	0.256	0.265	0.248	7.05
3)	PT	Chloromethan	0.433	0.471	0.412	0.398	0.381	0.368	0.335	0.393	0.344	11.68
4)	PT	VinylChlorid	0.578	0.523	0.556	0.556	0.498	0.510	0.481	0.519	0.450	8.28
5)	PT	Bromomethane	0.171	0.214	0.180	0.200	0.186	0.212	0.174	0.198	0.249	13.30
6)	PT	Chloroethane	0.384	0.326	0.443	0.372	0.328	0.335	0.319	0.352	0.306	12.91
7)	T	Dichloroflmetha	0.767	0.729	0.841	0.624	0.716	0.595	0.692	0.700	0.636	11.66
8)	PT	Trichlorofma	0.344	0.338	0.417	0.337	0.324	0.317	0.369	0.345	0.314	9.88
9)	T	Ethylether	0.216	0.256	0.233	0.219	0.211	0.211	0.213	0.221	0.208	7.24
10)	T	dichlorotfluoro	0.267	0.306	0.259	0.295	0.256	0.264	0.246	0.268	0.247	8.18
11)	T	propyleneoxide	0.056	0.065	0.064	0.071	0.051	0.047	0.053	-----	0.043	
								Q	A= -0.000 R=0.993			
									B= 0.055			
									C= 0.018			
12)	T	Acrolein	0.067	0.088	0.093	0.097	0.083	0.078	0.083	0.084	0.083	11.06
13)	PT	11dichlorthe	0.286	0.242	0.223	0.229	0.220	0.218	0.213	0.231	0.215	10.54
14)	PT	Trichlorotfluor	0.215	0.217	0.206	0.221	0.206	0.211	0.202	0.210	0.201	3.50
15)	PT	Acetone	0.242	0.185	0.191	0.204	0.140	0.121	0.138	-----	0.106	
								Q	A= -0.001 R=0.990			
									B= 0.147			
									C= 0.090			
16)	T	Iodomethane	0.105	0.114	0.123	0.169	0.191	0.210	0.187	-----	0.209	
								Q	A= 0.002 R=0.998			
									B= 0.193			
									C= -0.016			
17)	PT	Carbon Dislf	0.664	0.661	0.627	0.628	0.565	0.569	0.537	0.590	0.471	11.34
18)	T	allylchloride	0.307	0.346	0.316	0.325	0.300	0.307	0.286	0.306	0.264	8.02
19)	PT	methylacetate	0.029	0.101	0.102	0.092	0.088	0.085	0.081	----- #	0.083	
								Q	A= 0.000 R=0.999			
									B= 0.082			
									C= 0.003			
20)	PT	Methylchlorid	0.315	0.285	0.266	0.250	0.232	0.232	0.227	0.253	0.219	13.14
21)	T	tbutylalcohol	0.081	0.079	0.094	0.088	0.073	0.058	0.056	-----		

0.041

Q A= -0.000 R=0.994
B= 0.070
C= 0.216

22)	T	Acrylonitrile	0.155	0.171	0.182	0.175	0.160	0.147	0.150	0.159	10.18
			0.133								
23)	PT	t12dichlorte	0.332	0.245	0.247	0.247	0.232	0.242	0.231	0.251	13.50
			0.228								
24)	PT	MtBE	0.941	0.750	0.682	0.712	0.659	0.664	0.659	0.710	14.38
			0.611								
25)	T	Hexane	0.301	0.363	0.312	0.330	0.318	0.316	0.303	0.317	6.92
			0.291								
26)	PT	11dichlorota	0.468	0.408	0.408	0.442	0.399	0.409	0.387	0.412	7.16
			0.377								
27)	T	Vinylacetate	0.500	0.527	0.525	0.444	0.413	0.371	0.335	-----	

Q A= -0.007 R=1.000
B= 0.480
C= 0.056

28)	T	chloroprene	0.392	0.380	0.362	0.374	0.355	0.362	0.347	0.364	4.62
			0.341								
29)	T	Diisopether	0.844	0.820	0.758	0.764	0.719	0.729	0.704	0.751	7.73
			0.672								
30)	T	ETBE	0.918	0.781	0.669	0.682	0.646	0.654	0.643	0.698	14.84
			0.593								
31)	T	22dichloropr	0.503	0.427	0.364	0.362	0.344	0.355	0.342	0.381	14.68
			0.352								
32)	PT	c12dichlorte	0.310	0.291	0.262	0.284	0.254	0.267	0.258	0.273	7.15
			0.263								
33)	PT	2Butanone	0.086	0.075	0.081	0.082	0.072	0.063	0.070	0.074#	11.64
			0.064								
34)	T	propionitrile	0.081	0.075	0.086	0.083	0.075	0.066	0.068	0.075	11.06
			0.063								
35)	T	Ethylacetate	0.015	0.021	0.023	0.020	0.019	0.019	0.020	0.020#	11.53
			0.020								
36)	T	methacrylonitri	0.116	0.200	0.186	0.176	0.175	0.163	0.170	0.169	14.57
			0.165								
37)	T	Bromochlorma	0.137	0.141	0.107	0.119	0.103	0.113	0.099	0.115	13.83
			0.103								
38)	T	Tetrahydofur	0.206	0.186	0.202	0.193	0.171	0.150	0.152	-----	
			0.126								

Q A= -0.001 R=0.999
B= 0.171
C= 0.055

39)	PT	Chloroform	0.491	0.421	0.399	0.398	0.369	0.383	0.384	0.404	9.52
			0.385								
40)	PT	111trichlota	0.380	0.365	0.367	0.358	0.342	0.350	0.349	0.357	3.69
			0.344								
41)	S	SURRDibrflma	0.247	0.245	0.255	0.252	0.252	0.255	0.249	0.252	1.97
			0.261								
42)	PT	Cyclohexane	0.434	0.464	0.408	0.454	0.423	0.434	0.428	0.432	4.43
			0.413								
43)	PT	Carbtetraclo	0.343	0.310	0.315	0.300	0.284	0.301	0.293	0.306	5.78
			0.304								
44)	T	11dicloprope	0.104	0.140	0.122	0.120	0.117	0.123	0.117	0.121	8.17
			0.123								
45)	S	SURR12DCAd4	0.074	0.073	0.071	0.073	0.075	0.071	0.069	0.072	2.68
			0.071								
46)	PT	Benzene	1.169	1.035	0.968	0.985	0.909	0.899	0.860	0.951	12.32
			0.786								
47)	PT	12dichlorota	0.211	0.298	0.300	0.300	0.280	0.291	0.285	0.280	10.50
			0.280								
48)	T	TAME	0.765	0.785	0.730	0.749	0.691	0.699	0.680	0.716	7.19
			0.627								
49)	PT	trichloroete	0.187	0.272	0.253	0.256	0.232	0.237	0.228	0.237	10.64
			0.231								
50)	PT	methylcyclohexa	0.325	0.452	0.424	0.452	0.417	0.430	0.412	0.416	9.61
			0.415								
51)	PT	12dicloropra	0.277	0.300	0.249	0.256	0.255	0.247	0.246	0.260	7.45
			0.247								

```
52) T   23Dicl1propene  0.355 0.342 0.358 0.357 0.346 0.348 0.355 0.349   2.70
                        0.330
53) T   Dibromometha    0.120 0.184 0.151 0.156 0.142 0.149 0.145 0.149  11.83
                        0.147
54) T   methylmethacryl 0.176 0.289 0.281 0.270 0.263 0.260 0.249 0.255  13.71
                        0.248
55) T   14dioxane       0.006 0.004 0.006 0.006 0.005 0.004 0.005 ----- #
                        0.004
                                                    Q  A= -0.000 R=0.996
                                                       B=  0.005
                                                       C=  0.008
56) PT  Bromodiclrma    0.327 0.328 0.332 0.300 0.290 0.302 0.298 0.308   5.83
                        0.288
57) T   2Nitropropane   0.163 0.128 0.138 0.135 0.127 0.115 0.117 0.128  14.43
                        0.101
58) T   2CLEVE          0.106 0.070 0.094 0.095 0.086 0.087 0.102 0.093  12.41
                        0.102
59) PT  c13dicloproe    0.517 0.406 0.366 0.383 0.369 0.373 0.368 0.392  13.45
                        0.354
60) PT  4Meth2Pentan    0.513 0.479 0.478 0.451 0.368 0.317 0.289 -----
                                                    Q  A= -0.008 R=0.998
                                                       B=  0.440
                                                       C=  0.093
61) S   SURRd8Tolule    1.014 1.011 1.001 1.021 1.004 1.021 1.020 1.016   1.13
                        1.037
62) PT  Toluene         0.733 0.642 0.614 0.607 0.577 0.584 0.569 0.608   9.71
                        0.541
63) PT  t13Dicloprop    0.412 0.357 0.364 0.343 0.332 0.332 0.337 0.350   8.05
                        0.326
64) T   ethylmethacryla 0.441 0.414 0.391 0.402 0.381 0.374 0.369 0.388   8.16
                        0.335
65) PT  112Triclotha    0.237 0.242 0.172 0.204 0.181 0.186 0.188 0.199  13.39
                        0.182
66) PT  Tetrachlorte    0.227 0.268 0.271 0.256 0.261 0.262 0.254 0.257   5.29
                        0.254
67) T   13Diclorpropa   0.510 0.428 0.428 0.412 0.380 0.391 0.376 0.411  11.39
                        0.363

68) I   d5-CHLOROBENZENE**IST ----------------ISTD---------------------
69) PT  2Hexanone       0.543 0.525 0.543 0.504 0.429 0.368 0.341 -----
                                                    Q  A= -0.009 R=0.998
                                                       B=  0.504
                                                       C=  0.083
70) PT  Clorodibrmta    0.431 0.379 0.329 0.326 0.330 0.330 0.331 0.347  11.06
                        0.324
71) PT  12Dibrometha    0.439 0.336 0.318 0.302 0.309 0.318 0.307 0.327  14.42
                        0.289
72) PT  Chlorobenzen    1.145 0.962 0.864 0.850 0.817 0.819 0.803 0.875  14.49
                        0.736
73) T   1Clhexane       0.618 0.478 0.482 0.474 0.456 0.457 0.453 0.482  11.75
                        0.440
74) T   1112Tetclota    0.284 0.314 0.308 0.286 0.302 0.302 0.288 0.296   4.14
                        0.282
75) PT  Ethylbenzene    1.691 1.625 1.482 1.442 1.375 1.392 1.313 1.431  12.39
                        1.126
76) PT  m p-Xylene      0.668 0.600 0.596 0.591 0.565 0.563 0.538 0.576   8.98
                        0.491
77) PT  o-Xylene        0.634 0.624 0.580 0.549 0.556 0.574 0.568 0.577   6.23
                        0.528
78) PT  Styrene         1.028 0.911 0.878 0.875 0.850 0.876 0.866 0.885   7.49
                        0.797
79) PT  Bromoform       0.167 0.269 0.250 0.251 0.252 0.249 0.252 0.243  12.89
                        0.251
80) PT  Isopropylben    1.541 1.506 1.392 1.431 1.368 1.361 1.283 1.376   9.45
                        1.127
81) T   cyclohexanone   0.032 0.027 0.031 0.030 0.028 0.023 0.025 0.027# 13.58
                        0.022
```

82)	I	d4-1,4-DICHLOROBENZEN	----------ISTD----------								
83)	S	SURR4BrFBenz	0.838	0.814	0.790	0.842	0.780	0.806	0.780	0.804	3.16
			0.783								
84)	T	Bromobenzene	0.722	0.708	0.651	0.703	0.638	0.650	0.639	0.665	6.08
			0.610								
85)	PT	1122Tetrclta	1.091	1.028	0.944	0.929	0.905	0.909	0.878	0.940	8.81
			0.833								
86)	T	123Triclproa	1.269	1.246	1.207	1.277	1.189	1.153	1.158	1.202	4.86
			1.116								
87)	T	14dichloro2bute	0.346	0.233	0.249	0.238	0.256	0.253	0.251	0.261	13.57
			0.265								
88)	T	n-Propylbenz	3.146	3.191	3.065	3.086	2.877	2.843	2.643	2.892	10.60
			2.282								
89)	T	2chlorotolue	2.124	1.774	1.758	1.716	1.620	1.633	1.576	1.707	11.64
			1.452								
90)	T	4chlorotolue	2.548	2.017	1.962	1.986	1.837	1.873	1.793	1.961	13.38
			1.674								
91)	T	135Trimebenz	2.198	2.167	2.067	2.084	1.937	1.982	1.870	2.005	7.79
			1.734								
92)	T	tbutylbenzen	2.129	1.889	1.886	1.877	1.825	1.838	1.715	1.841	8.63
			1.573								
93)	T	124Trimetben	2.069	1.940	2.091	2.083	1.882	1.952	1.810	1.938	7.50
			1.680								
94)	T	sbutylbenzen	2.664	2.829	2.719	2.705	2.621	2.600	2.415	2.586	8.42
			2.134								
95)	PT	13Diclorbenz	1.640	1.216	1.195	1.203	1.142	1.169	1.123	1.219	14.54
			1.063								
96)	T	pIsopropylto	2.292	2.139	2.201	2.243	2.146	2.147	2.012	2.126	6.88
			1.828								
97)	PT	14dichlorobe	1.569	1.268	1.214	1.192	1.103	1.158	1.141	1.216	12.70
			1.084								
98)	PT	12dichlorobe	1.451	1.080	1.157	1.183	1.088	1.101	1.064	1.143	11.80
			1.018								
99)	T	nButylbenzen	2.221	1.881	2.007	1.998	1.876	1.930	1.828	1.930	7.95
			1.697								
100)	PT	12dibromo3cl	0.282	0.286	0.301	0.286	0.274	0.257	0.259	0.276	5.93
			0.259								
101)	T	135Trichloroben	0.846	0.799	0.811	0.777	0.742	0.751	0.726	0.771	5.94
			0.713								
102)	PT	124Trichlobe	0.965	0.650	0.712	0.682	0.701	0.688	0.681	0.716	14.38
			0.650								
103)	T	Hexachlorobu	0.213	0.324	0.342	0.337	0.318	0.350	0.324	0.317	13.66
			0.329								
104)	T	Naphthalene	2.811	2.175	2.266	2.290	2.228	2.120	2.044	2.213	13.22
			1.772								
105)	T	123Trichlben	0.809	0.659	0.652	0.660	0.654	0.646	0.631	0.666	8.91
			0.619								

Total Average %RSD 9.61

L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range

W012016.M Tue Feb 02 10:14:45 2016

Data File : C:\INSTARCH\DATA\JAN2016\BFB1.D Vial: 1
Acq On : 20 Jan 2016 13:25 Operator: AGK-RLD
Sample : BFB INJECTION Inst : VMS3
Misc : 25 ng Inj. Multiplr: 1.00
Integration File: VOC.P

Method : C:\INSTARCH\METHODS\W012016.M
Title : 8260C Waters Method

Spectrum Information: Average of 4.638 to 4.644 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	21.9	21942	PASS
75	95	30	60	52.4	52435	PASS
95	95	100	100	100.0	100000	PASS
96	95	5	9	5.9	5913	PASS
173	174	0.00	2	1.4	1318	PASS
174	95	50	100	92.2	92241	PASS
175	174	5	9	8.8	8158	PASS
176	174	95	101	99.3	91558	PASS
177	176	5	9	7.9	7202	PASS

W012016.M Tue Feb 02 10:39:27 2016

Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2016\WCAL1.D Vial: 6
Acq On : 20 Jan 2016 15:44 Operator: AGK-RLD
Sample : INITIAL CALIB. PT1 Inst : VMS3
Misc : 0.50/5.00 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 07:43:33 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 07:22:17 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.68	96	1180414	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.60	117	878750	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.90	152	452552	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.82	113	291754	19.623	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 98 %			
45) SURR12DCAd4	7.24	102	87540	20.579	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 103 %			
61) SURRd8Tolule	9.69	98	1196420	19.951	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100 %			
83) SURR4BrFBenz	13.23	95	379174	20.839	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 104 %			
Target Compounds						Qvalue
2) Dichlorodi	1.83	85	7077	0.4524	ug/L #	45
3) Chloromethan	2.10	50	12776m	0.5249	ug/L #	39
4) VinylChlorid	2.24	62	17060	0.5567	ug/L #	1
5) Bromomethane	2.69	94	5052m	0.3759	ug/L #	67
6) Chloroethane	2.86	64	11323m	0.4243	ug/L #	88
7) Dichloroflmethane	3.15	67	22648m	0.5010	ug/L #	33
8) Trichlorofma	3.25	101	10148	0.4563	ug/L #	72
9) Ethylether	3.70	59	6370m	0.4560	ug/L #	52
10) dichlorotfluoroethan	3.68	67	7875	0.4986	ug/L #	65
11) propyleneoxide	4.03	58	16448m	4.4910	ug/L #	90
12) Acrolein	3.82	56	9848m	1.7294	ug/L #	82
13) 11dichlorthe	3.98	96	8454	0.6207	ug/L	92
14) Trichlorotfluoroeth	4.02	101	12715	1.0252	ug/L	92
15) Acetone	4.04	43	71403m	6.9901	ug/L	98
16) Iodomethane	4.14	142	6168	0.6395	ug/L #	44
17) Carbon Dislf	4.24	76	39204	1.1256	ug/L	87
18) allylchloride	4.45	41	18148	1.0036	ug/L #	67
19) methylacetate	4.52	74	845m	0.1353	ug/L #	40
20) Methylchlorid	4.60	84	9297m	0.5946	ug/L #	81
21) tbutylalcohol	4.83	59	120114m	27.3930	ug/L	98
22) Acrylonitrile	4.91	53	22822m	2.2557	ug/L #	87
23) t12dichlorte	4.98	96	9804	0.6628	ug/L	88
24) MtBE	5.03	73	27763	0.6629	ug/L	90
25) Hexane	5.39	57	17768	0.9507	ug/L #	68
26) 11dichlorota	5.51	63	13815	0.5678	ug/L #	52
27) Vinylacetate	5.60	43	147493m	5.7696	ug/L	96
28) chloroprene	5.65	53	23114	1.0756	ug/L	89
29) Diisopether	5.68	45	24893	0.5614	ug/L	92
30) ETBE	6.12	59	27098	0.6575	ug/L	85
31) 22dichloropr	6.25	77	14840	0.6596	ug/L #	46
32) c12dichlorte	6.24	96	9152	0.5671	ug/L #	76
33) 2Butanone	6.26	72	25454	5.8119	ug/L	98
34) propionitrile	6.29	54	23812	5.4022	ug/L	71
35) Ethylacetate	6.37	88	2287m	1.6743	ug/L #	32
36) methacrylonitrile	6.49	67	6824m	0.6112	ug/L #	84
37) Bromochlorma	6.53	128	4057m	0.6130	ug/L #	0
38) Tetrahydofur	6.63	42	60873m	5.8537	ug/L	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2016\WCAL1.D Vial: 6
Acq On : 20 Jan 2016 15:44 Operator: AGK-RLD
Sample : INITIAL CALIB. PT1 Inst : VMS3
Misc : 0.50/5.00 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 07:43:33 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 07:22:17 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
39)	Chloroform	6.64	83	14483	0.6078 ug/L		77
40)	111trichlota	6.88	97	11219	0.5326 ug/L		95
42)	Cyclohexane	6.98	56	12814	0.5022 ug/L	#	74
43)	Carbtetraclo	7.10	119	10113	0.5598 ug/L	#	41
44)	11dicloprope	7.10	110	3083m	0.3788 ug/L	#	36
46)	Benzene	7.34	78	34510	0.6146 ug/L	#	76
47)	12dichlorota	7.33	62	6215m	0.3364 ug/L	#	51
48)	TAME	7.51	73	22569m	0.5125 ug/L		85
49)	trichloroete	8.15	95	5531m	0.3460 ug/L	#	62
50)	methylcyclohexane	8.43	83	9593m	0.3991 ug/L		65
51)	12dicloropra	8.40	63	8180m	0.5124 ug/L	#	39
52)	23Dicl1propene	8.45	75	10465	0.5082 ug/L	#	47
53)	Dibromometha	8.54	93	3540m	0.3710 ug/L	#	77
54)	methylmethacrylate	8.57	69	5191m	0.3074 ug/L	#	44
55)	14dioxane	8.60	88	9136	30.2056 ug/L	#	26
56)	Bromodiclrma	8.74	83	9654m	0.4996 ug/L		81
57)	2Nitropropane	8.99	43	48132	6.3735 ug/L		94
58)	2CLEVE	9.13	63	15622	2.8564 ug/L	#	63
59)	c13dicloproe	9.32	75	15261	0.6595 ug/L	#	53
60)	4Meth2Pentan	9.52	43	151316m	6.5412 ug/L		94
62)	Toluene	9.78	92	21643	0.6028 ug/L		100
63)	t13Dicloprop	10.03	75	12164	0.5885 ug/L	#	41
64)	ethylmethacrylate	10.19	69	26004m	1.0745 ug/L		86
65)	112Triclotha	10.27	83	6993m	0.5890 ug/L	#	87
66)	Tetrachlorte	10.52	166	6699	0.4422 ug/L	#	53
67)	13Diclorpropa	10.49	76	15063	0.6207 ug/L		89
69)	2Hexanone	10.61	43	119333m	6.1755 ug/L		93
70)	Clorodibrmta	10.79	129	9479	0.6212 ug/L	#	86
71)	12Dibrometha	10.95	107	9636	0.6704 ug/L		98
72)	Chlorobenzen	11.63	112	25161	0.6548 ug/L		98
73)	1Clhexane	11.62	91	13580	0.6408 ug/L	#	30
74)	1112Tetclota	11.75	131	6240	0.4800 ug/L	#	57
75)	Ethylbenzene	11.80	91	37158	0.5911 ug/L		97
76)	m p-Xylene	11.97	106	29359	1.1591 ug/L		96
77)	o-Xylene	12.52	106	13921	0.5494 ug/L		99
78)	Styrene	12.52	104	22591	0.5809 ug/L		97
79)	Bromoform	12.74	173	3664m	0.3068 ug/L	#	29
80)	Isopropylben	13.03	105	33862	0.5600 ug/L		93
81)	cyclohexanone	13.12	55	14049m	11.5938 ug/L		88
84)	Bromobenzene	13.44	156	8170m	0.5137 ug/L		63
85)	1122Tetrclta	13.39	83	12342m	0.5586 ug/L		91
86)	123Triclproa	13.47	75	14356m	0.4976 ug/L	#	51
87)	14dichloro2butene	13.51	53	3910m	0.6931 ug/L	#	0
88)	n-Propylbenz	13.62	91	35592	0.5440 ug/L		99
89)	2chlorotolue	13.73	91	24026	0.6222 ug/L		94
90)	4chlorotolue	13.89	91	28827	0.6496 ug/L		93
91)	135Trimebenz	13.87	105	24871	0.5482 ug/L		88
92)	tbutylbenzen	14.34	119	24089	0.5781 ug/L		92
93)	124Trimetben	14.41	105	23410	0.5338 ug/L		86
94)	sbutylbenzen	14.67	105	30140	0.5151 ug/L		93
95)	13Diclorbenz	14.80	146	18551	0.6727 ug/L		92
96)	pIsopropylto	14.88	119	25927	0.5390 ug/L	#	95
97)	14dichlorobe	14.93	146	17751	0.6450 ug/L	#	59
98)	12dichlorobe	15.47	146	16417	0.6349 ug/L	#	69
99)	nButylbenzen	15.48	91	25123	0.5753 ug/L		97
100)	12dibromo3cl	16.57	157	3195m	0.4738 ug/L	#	12
101)	135Trichlorobenzene	16.89	180	9566	0.5486 ug/L	#	68

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2016\WCAL1.D Vial: 6
Acq On : 20 Jan 2016 15:44 Operator: AGK-RLD
Sample : INITIAL CALIB. PT1 Inst : VMS3
Misc : 0.50/5.00 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 07:43:33 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 07:22:17 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
102) 124Trichlobe	17.71	180	10921	0.6739	ug/L		88
103) Hexachlorobu	17.96	225	2414m	0.3213	ug/L	#	0
104) Naphthalene	18.01	128	31803	0.6350	ug/L	#	72
105) 123Trichlben	18.32	180	9155	0.6072	ug/L	#	81

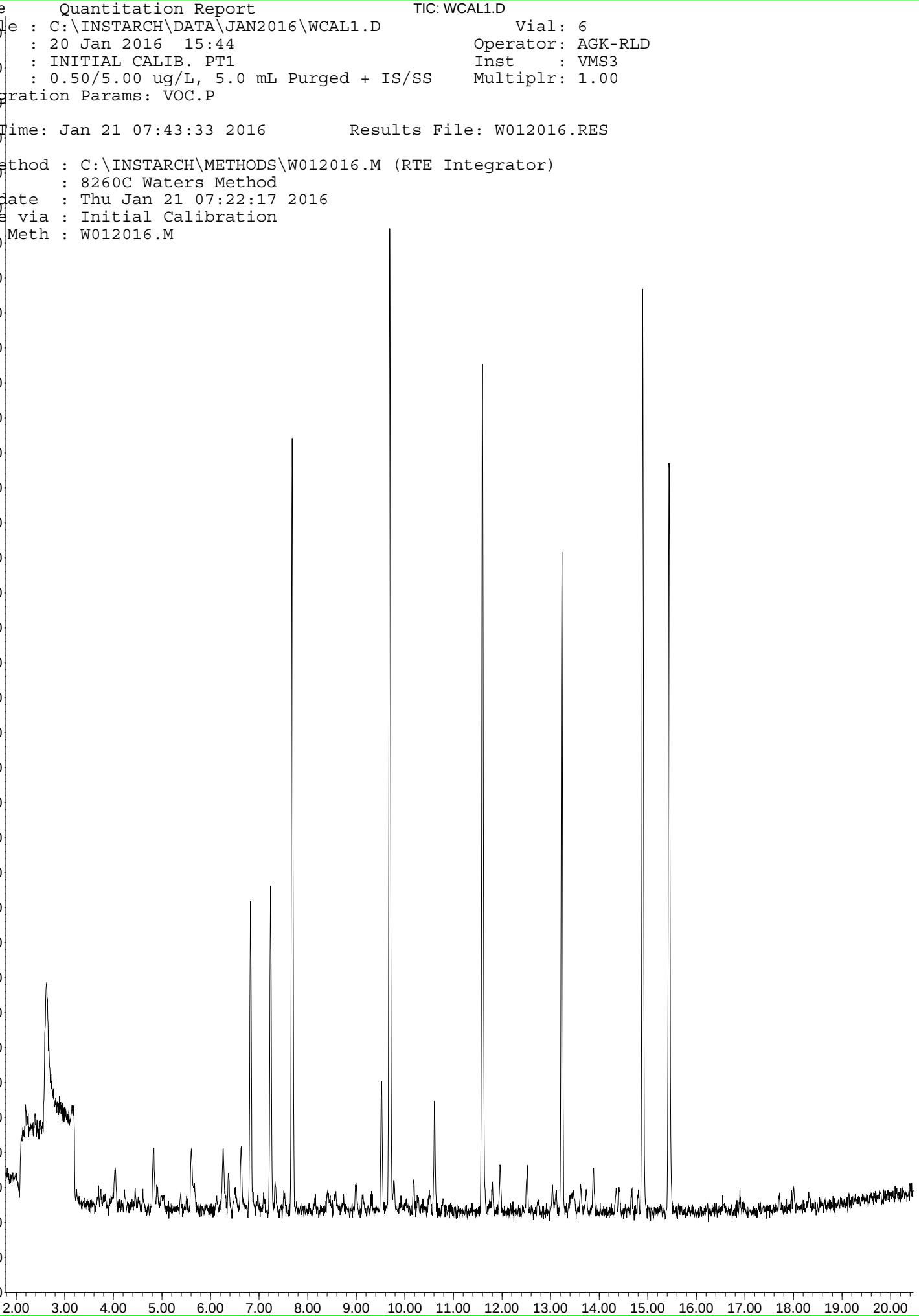
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: WCAL1.D

Data File : C:\INSTARCH\DATA\JAN2016\WCAL1.D Vial: 6
Acq On : 20 Jan 2016 15:44 Operator: AGK-RLD
Sample : INITIAL CALIB. PT1 Inst : VMS3
Misc : 0.50/5.00 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

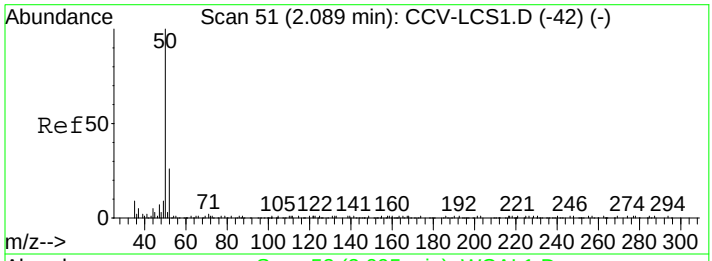
Quant Time: Jan 21 07:43:33 2016 Results File: W012016.RES

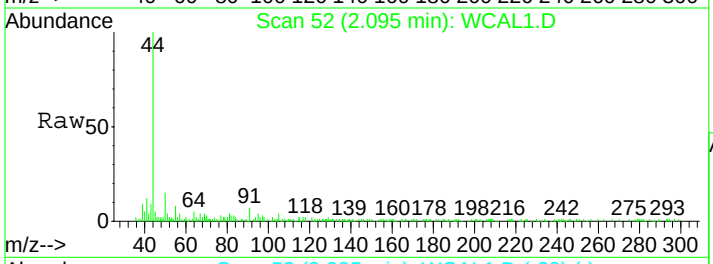
Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 07:22:17 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

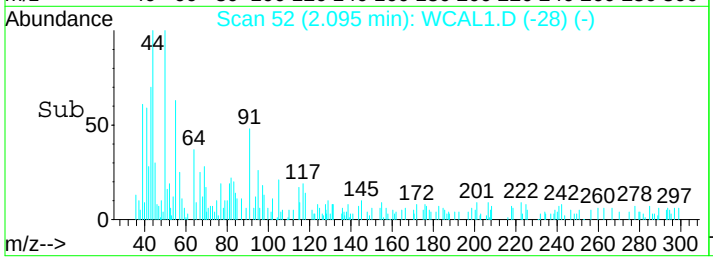


After Manual Integration

AGK
02/02/16



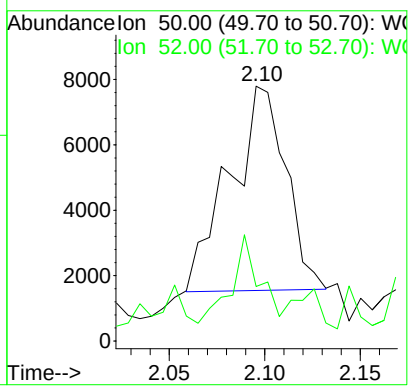


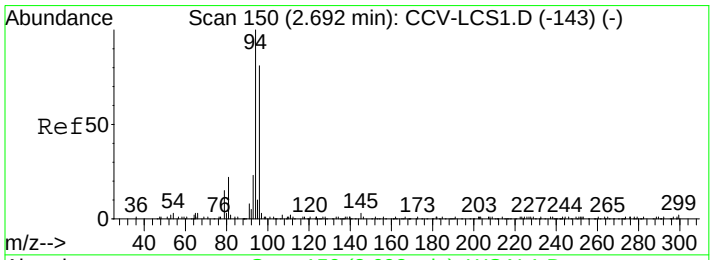


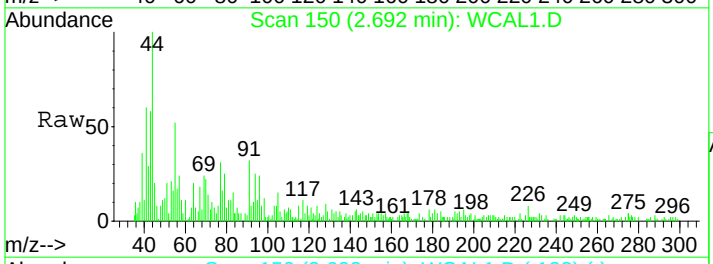
#3
Chloromethan
Concen: 0.52 ug/L m
RT: 2.10 min Scan# 52
Delta R.T. -0.01 min
Lab File: WCAL1.D
Acq: 20 Jan 2016 15:44

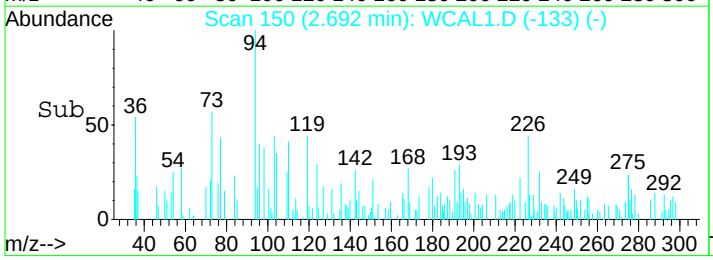
Tgt Ion: 50 Resp: 12776

Ion	Ratio	Lower	Upper
50	100		
52	0.0	15.6	55.6#





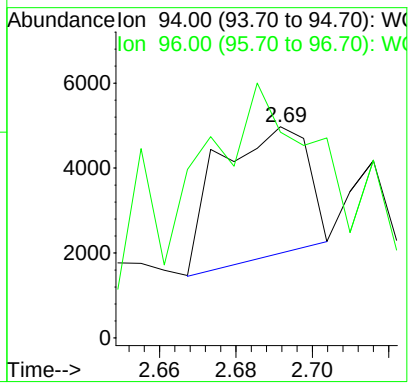




#5
Bromomethane
Concen: 0.38 ug/L m
RT: 2.69 min Scan# 150
Delta R.T. 0.01 min
Lab File: WCAL1.D
Acq: 20 Jan 2016 15:44

Tgt Ion: 94 Resp: 5052

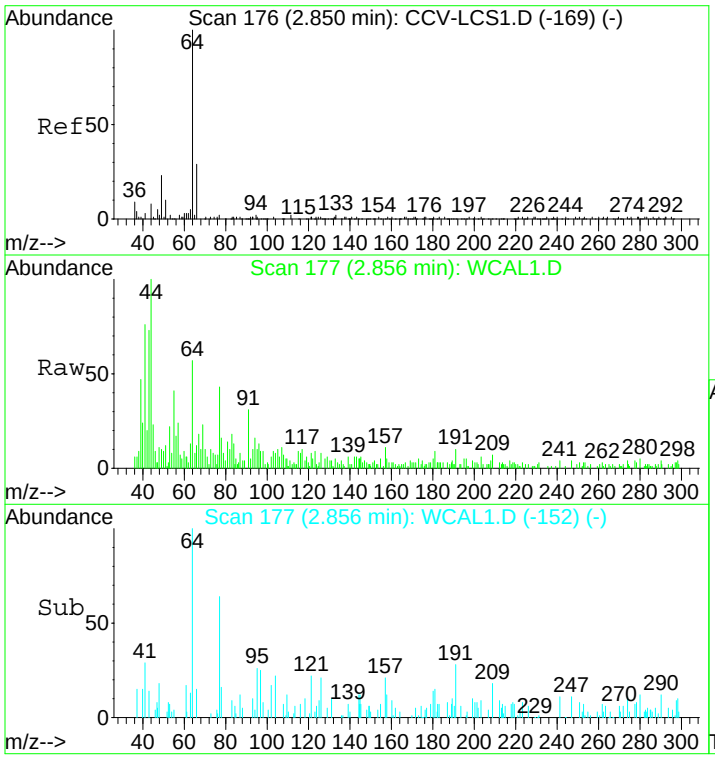
Ion	Ratio	Lower	Upper
94	100		
96	255.0	71.0	111.0#



RJ02/02/2016

After Manual Integration

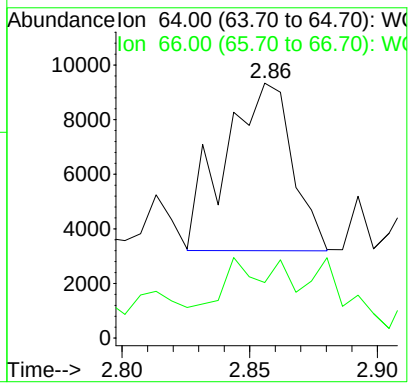
AGK
02/02/16

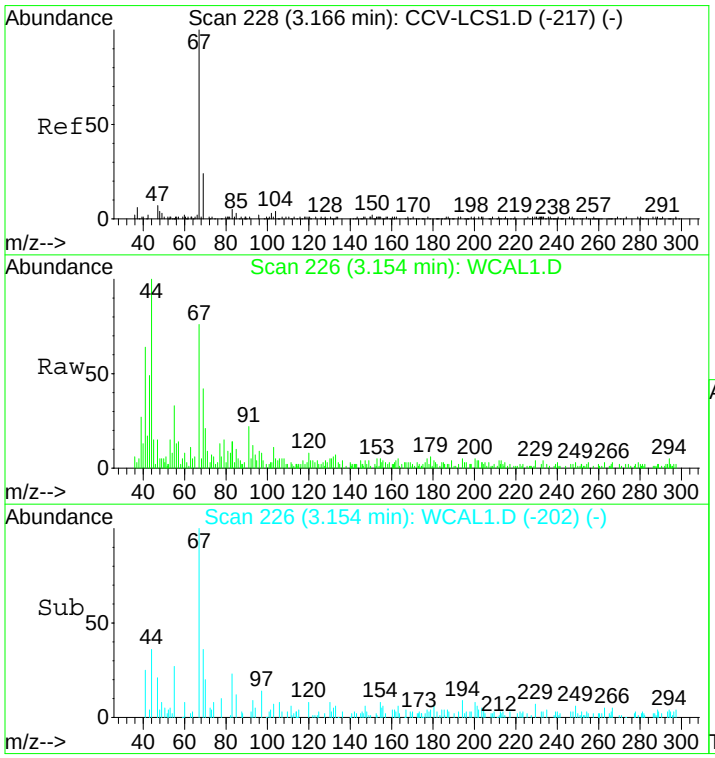


#6
Chloroethane
Concen: 0.42 ug/L m
RT: 2.86 min Scan# 177
Delta R.T. 0.00 min
Lab File: WCAL1.D
Acq: 20 Jan 2016 15:44

Tgt Ion: 64 Resp: 11323

Ion	Ratio	Lower	Upper
64	100		
66	60.7	10.9	50.9#

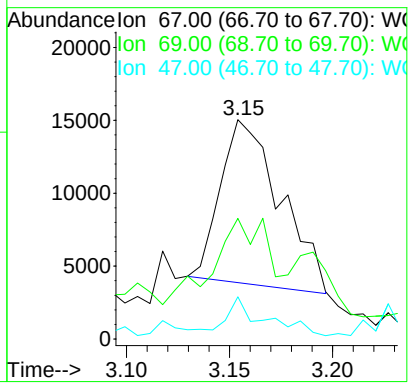




#7
Dichloroflmethane
Concen: 0.50 ug/L m
RT: 3.15 min Scan# 226
Delta R.T. -0.01 min
Lab File: WCAL1.D
Acq: 20 Jan 2016 15:44

Tgt Ion: 67 Resp: 22648

Ion	Ratio	Lower	Upper
67	100		
69	123.2	14.3	54.3#
47	0.0	0.0	29.9



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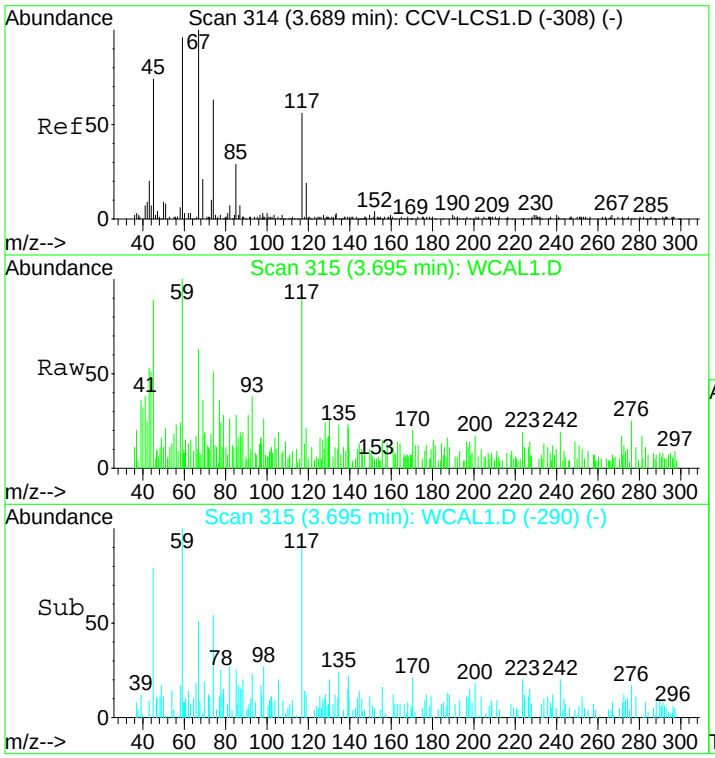
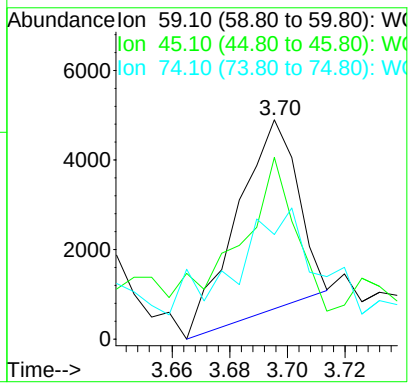
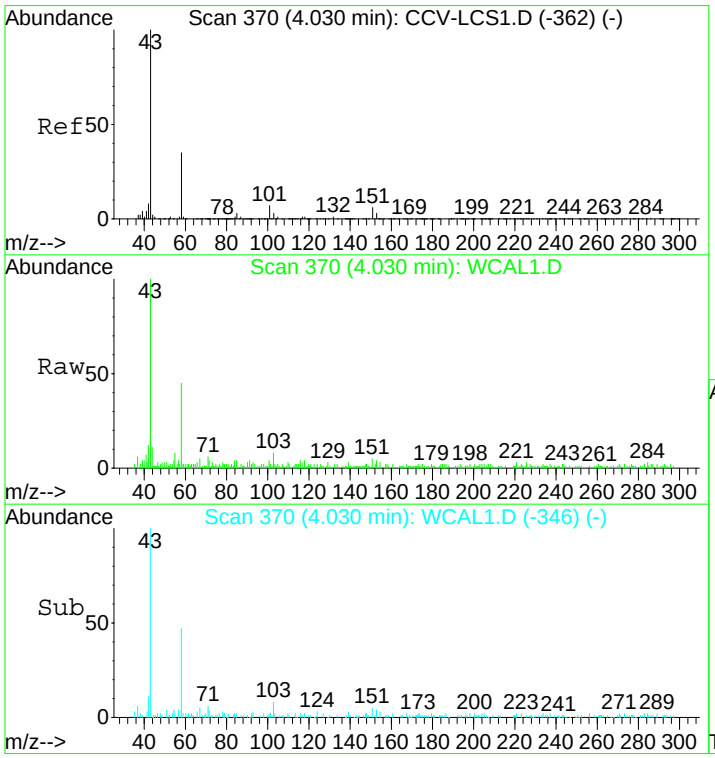


#9
Ethylether
Concen: 0.46 ug/L m
RT: 3.70 min Scan# 315
Delta R.T. 0.00 min
Lab File: WCAL1.D
Acq: 20 Jan 2016 15:44

Tgt Ion: 59 Resp: 6370

Ion	Ratio	Lower	Upper
59	100		
45	0.0	52.9	92.9#
74	119.8	50.0	90.0#

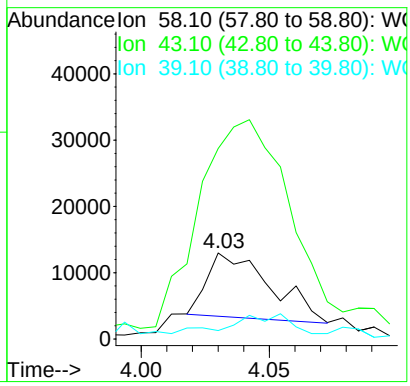




#11
propyleneoxide
Concen: 4.49 ug/L m
RT: 4.03 min Scan# 370
Delta R.T. -0.01 min
Lab File: WCAL1.D
Acq: 20 Jan 2016 15:44

Tgt Ion: 58 Resp: 16448

Ion	Ratio	Lower	Upper
58	100		
43	514.7	266.3	306.3#
39	0.0	0.0	30.9



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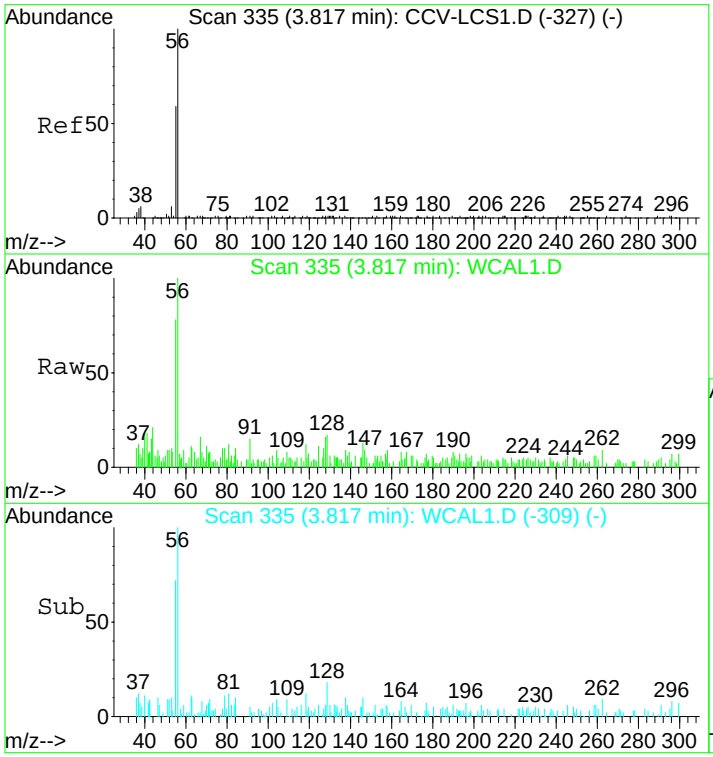
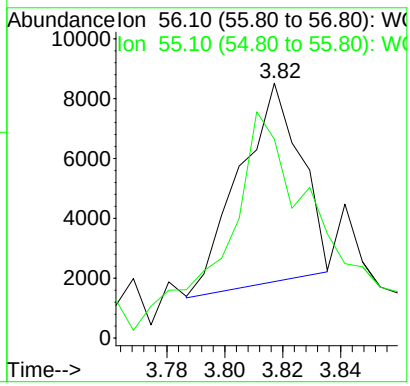
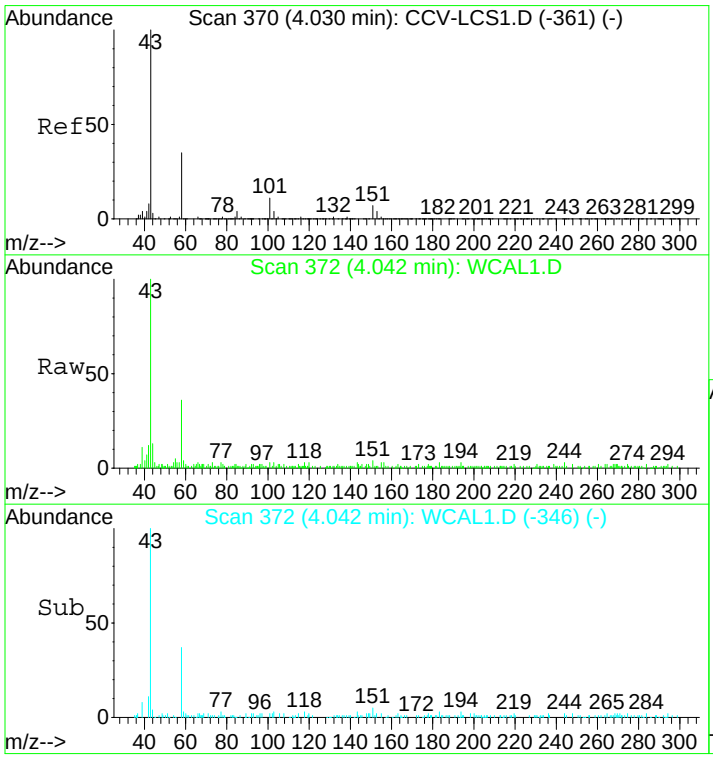


#12
Acrolein
Concen: 1.73 ug/L m
RT: 3.82 min Scan# 335
Delta R.T. 0.01 min
Lab File: WCAL1.D
Acq: 20 Jan 2016 15:44

Tgt Ion: 56 Resp: 9848

Ion	Ratio	Lower	Upper
56	100		
55	192.9	42.8	82.8#

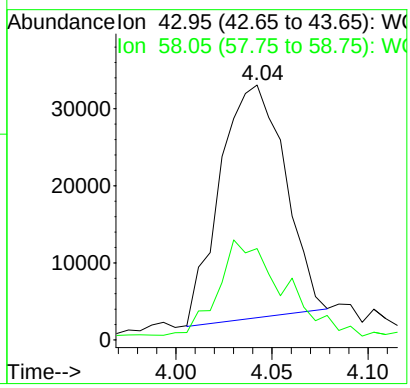




#15
Acetone
Concen: 6.99 ug/L m
RT: 4.04 min Scan# 372
Delta R.T. 0.01 min
Lab File: WCAL1.D
Acq: 20 Jan 2016 15:44

Tgt Ion: 43 Resp: 71403

Ion	Ratio	Lower	Upper
43	100		
58	44.2	14.9	54.9



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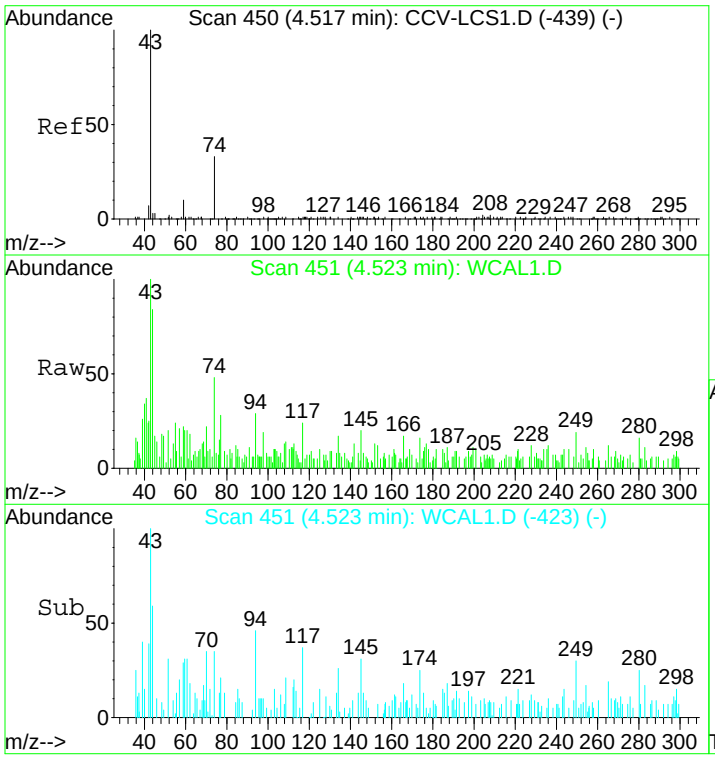
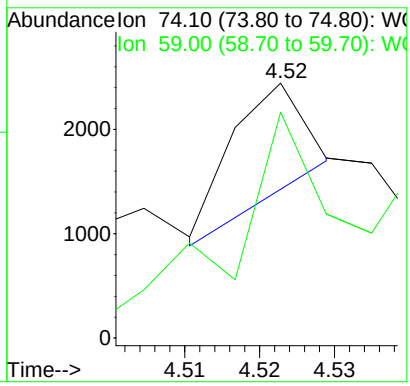
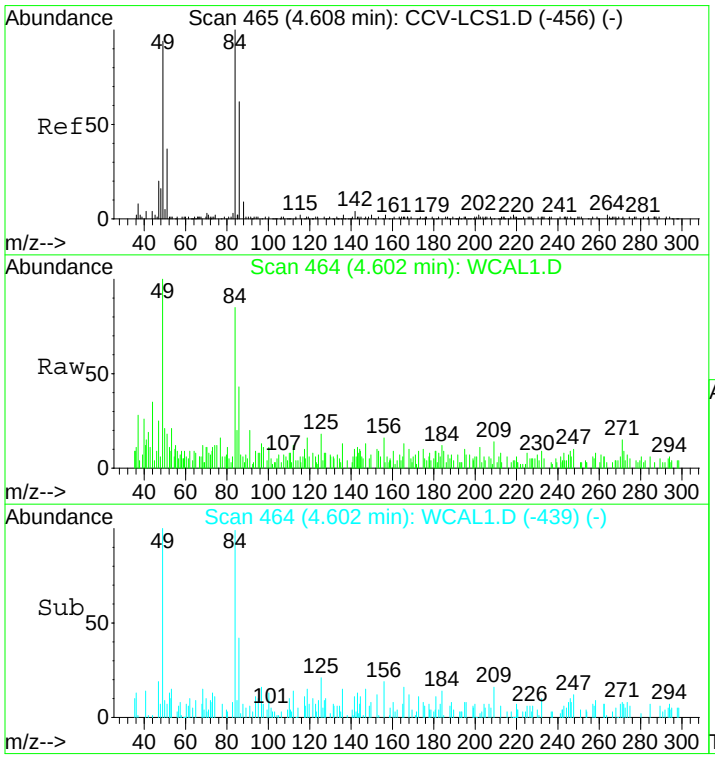


#19
methylacetate
Concen: 0.14 ug/L m
RT: 4.52 min Scan# 451
Delta R.T. 0.02 min
Lab File: WCAL1.D
Acq: 20 Jan 2016 15:44

Tgt Ion: 74 Resp: 845

Ion	Ratio	Lower	Upper
74	100		
59	0.0	14.3	54.3#

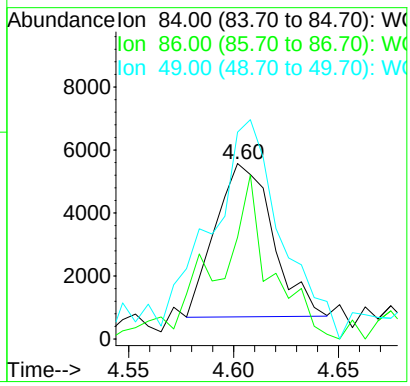




#20
Methylchlorid
Concen: 0.59 ug/L m
RT: 4.60 min Scan# 464
Delta R.T. 0.00 min
Lab File: WCAL1.D
Acq: 20 Jan 2016 15:44

Tgt Ion: 84 Resp: 9297

Ion	Ratio	Lower	Upper
84	100		
86	100.7	43.9	83.9#
49	189.0	103.8	143.8#



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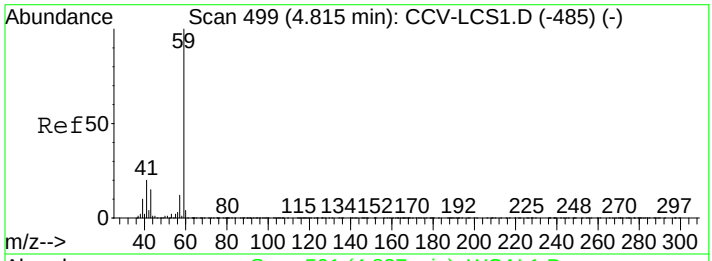
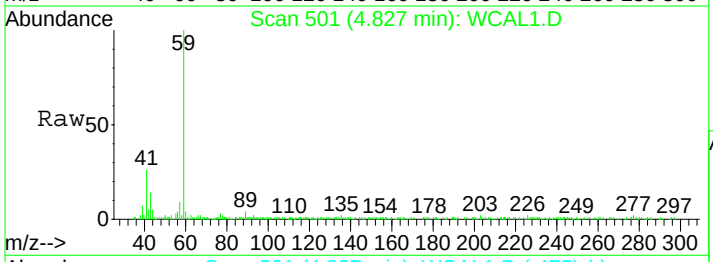
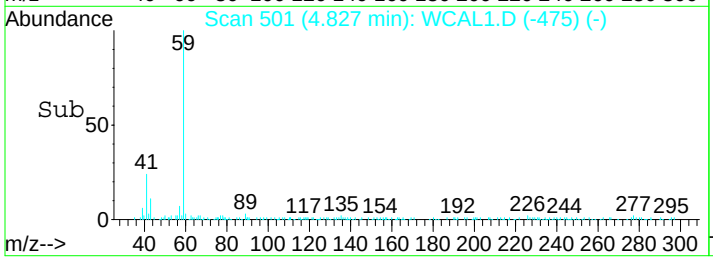


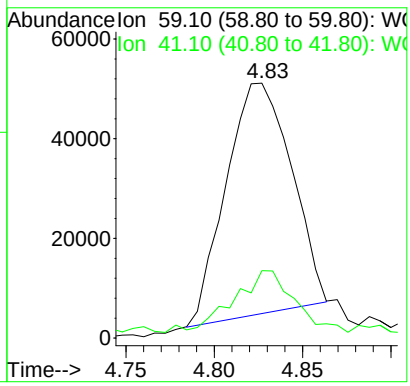


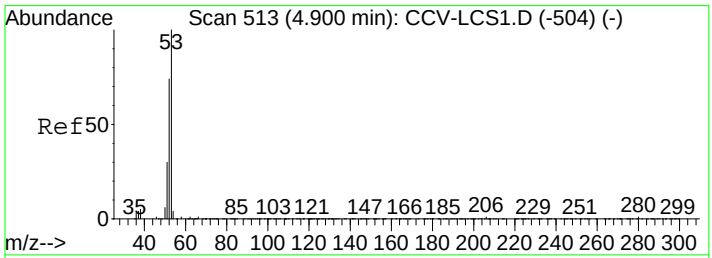


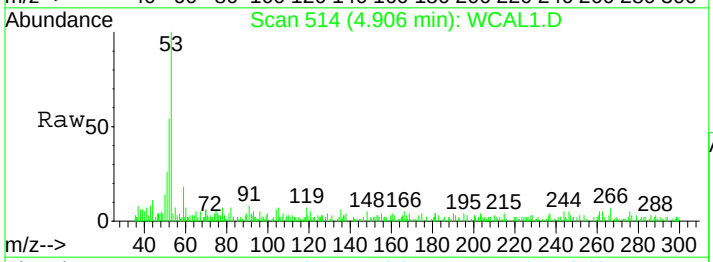
#21
tbutylalcohol
Concen: 27.39 ug/L m
RT: 4.83 min Scan# 501
Delta R.T. 0.01 min
Lab File: WCAL1.D
Acq: 20 Jan 2016 15:44

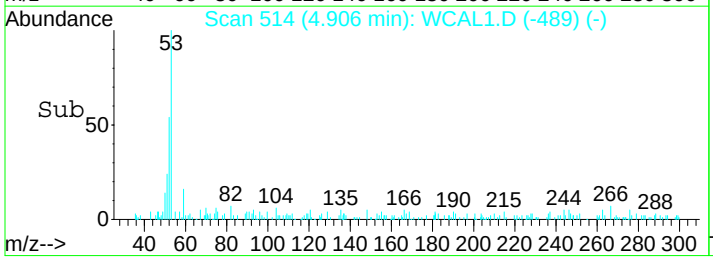
Tgt Ion: 59 Resp: 120114

Ion	Ratio	Lower	Upper
59	100		
41	24.8	0.2	40.2





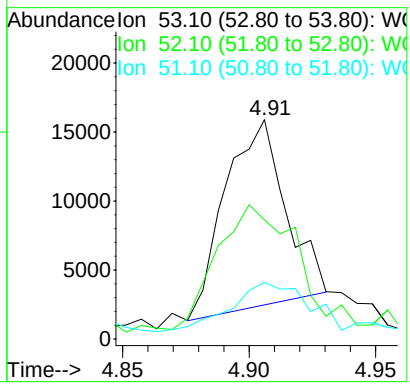




#22
Acrylonitrile
Concen: 2.26 ug/L m
RT: 4.91 min Scan# 514
Delta R.T. 0.00 min
Lab File: WCAL1.D
Acq: 20 Jan 2016 15:44

Tgt Ion: 53 Resp: 22822

Ion	Ratio	Lower	Upper
53	100		
52	112.9	64.0	104.0#
51	53.8	14.2	54.2



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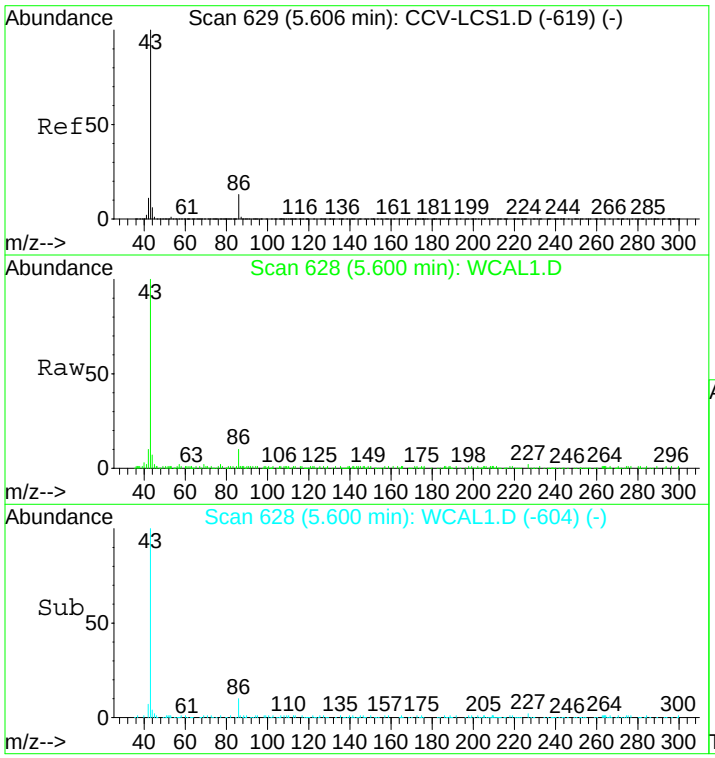
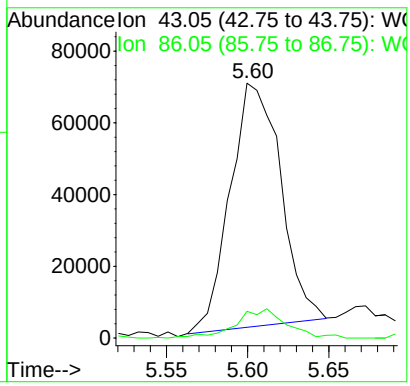
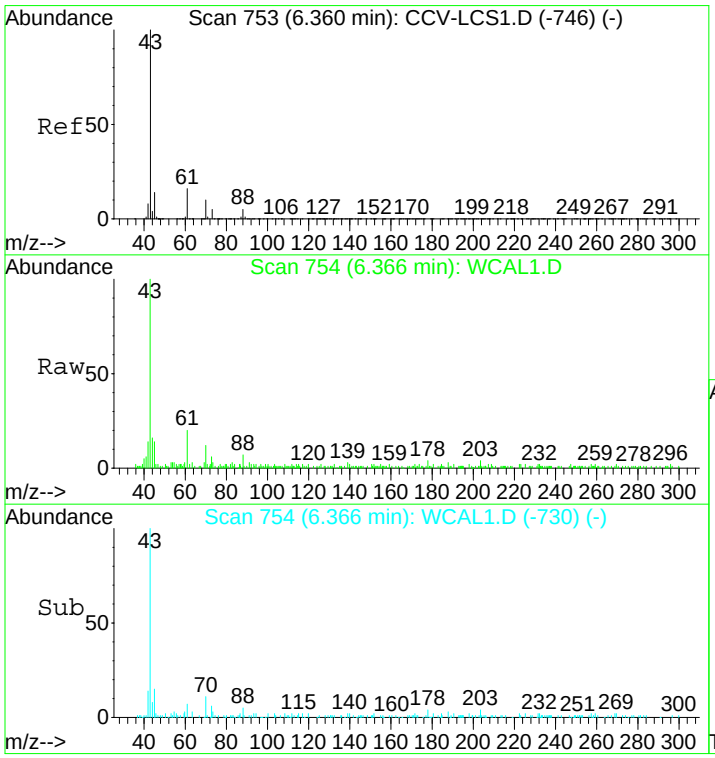


#27
Vinylacetate
Concen: 5.77 ug/L m
RT: 5.60 min Scan# 628
Delta R.T. -0.01 min
Lab File: WCAL1.D
Acq: 20 Jan 2016 15:44

Tgt Ion: 43 Resp: 147493

Ion	Ratio	Lower	Upper
43	100		
86	12.1	0.0	31.3

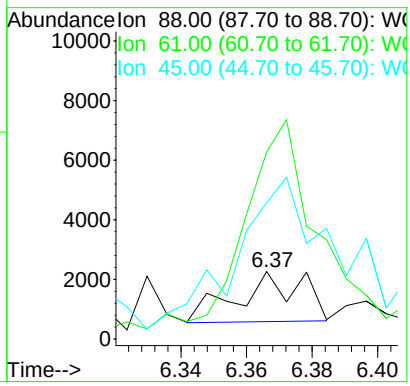




#35
Ethylacetate
Concen: 1.67 ug/L m
RT: 6.37 min Scan# 754
Delta R.T. -0.01 min
Lab File: WCAL1.D
Acq: 20 Jan 2016 15:44

Tgt Ion: 88 Resp: 2287

Ion	Ratio	Lower	Upper
88	100		
61	586.1	309.5	349.5#
45	462.6	316.6	356.6#



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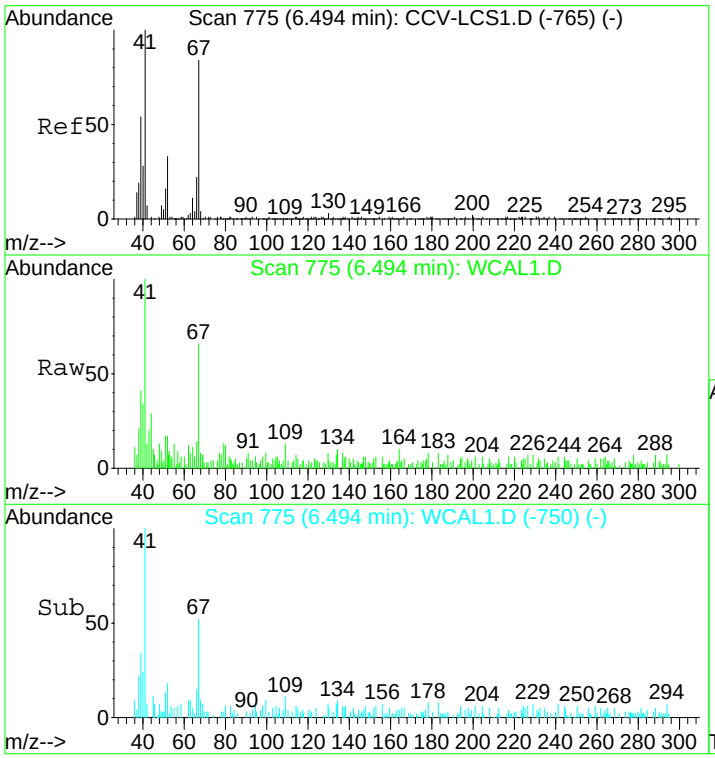
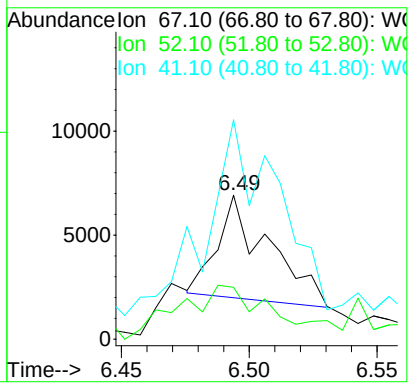
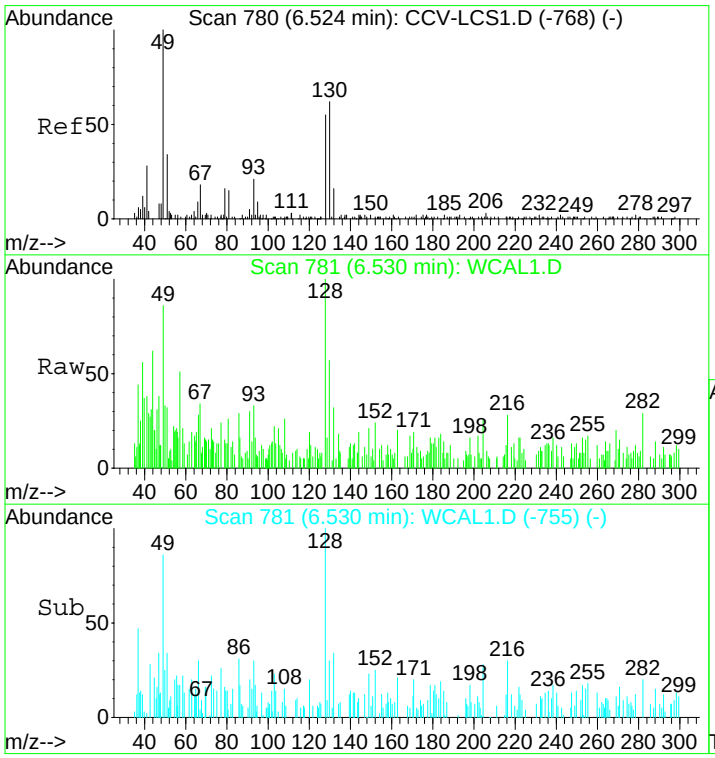


#36
methacrylonitrile
Concen: 0.61 ug/L m
RT: 6.49 min Scan# 775
Delta R.T. 0.00 min
Lab File: WCAL1.D
Acq: 20 Jan 2016 15:44

Tgt Ion: 67 Resp: 6824

Ion	Ratio	Lower	Upper
67	100		
52	99.9	18.0	58.0#
41	305.4	129.8	169.8#

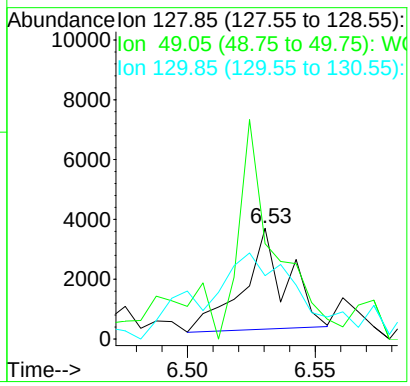




#37
Bromochlorma
Concen: 0.61 ug/L m
RT: 6.53 min Scan# 781
Delta R.T. 0.01 min
Lab File: WCAL1.D
Acq: 20 Jan 2016 15:44

Tgt Ion:128 Resp: 4057

Ion	Ratio	Lower	Upper
128	100		
49	0.0	151.1	191.1#
130	0.0	103.2	143.2#



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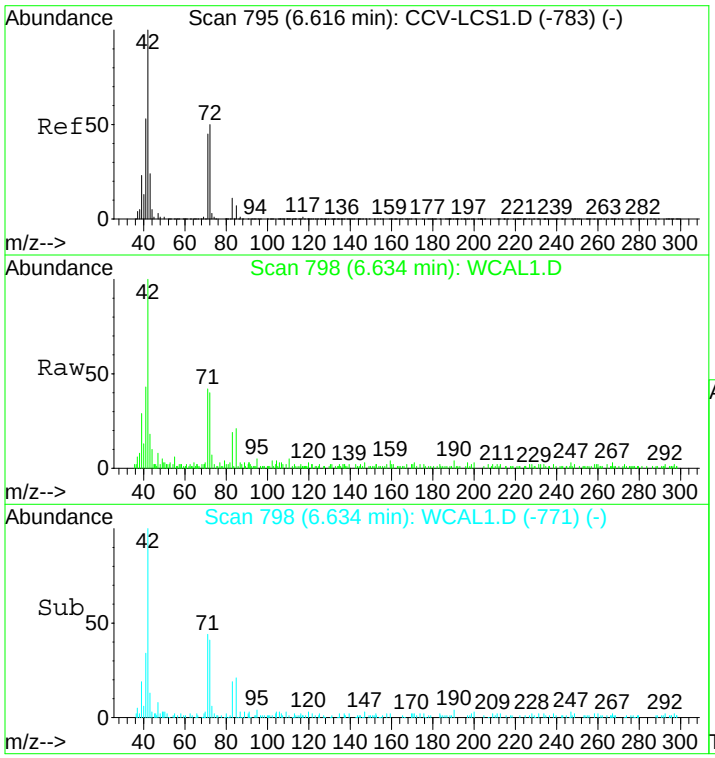
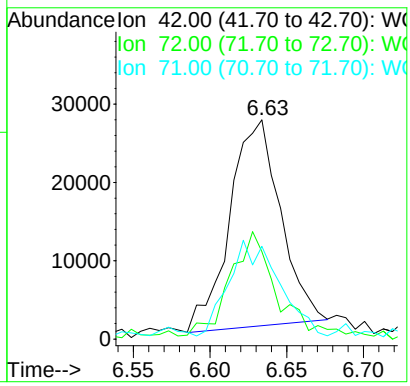
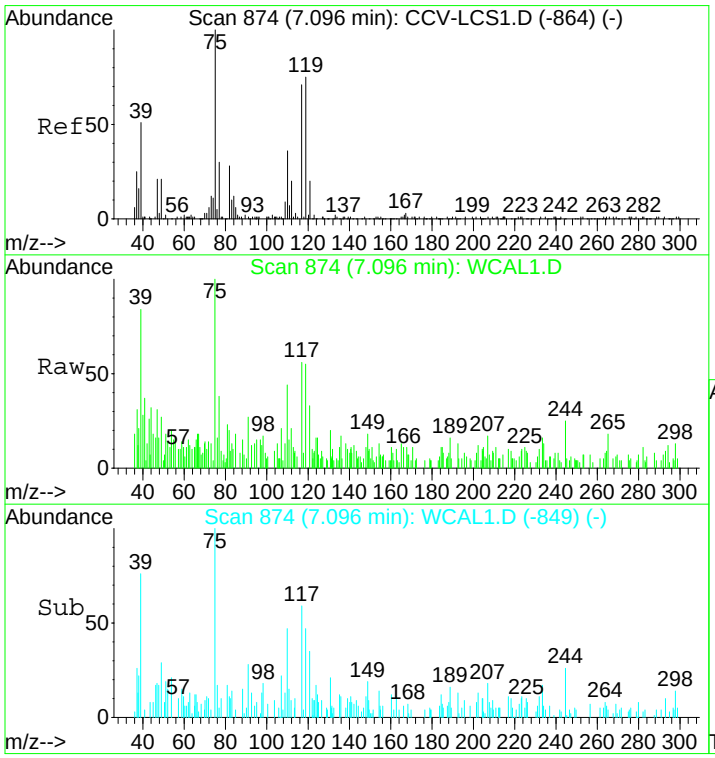


#38
Tetrahydofur
Concen: 5.85 ug/L m
RT: 6.63 min Scan# 798
Delta R.T. 0.01 min
Lab File: WCAL1.D
Acq: 20 Jan 2016 15:44

Tgt Ion: 42 Resp: 60873

Ion	Ratio	Lower	Upper
42	100		
72	51.7	22.6	62.6
71	45.7	20.8	60.8

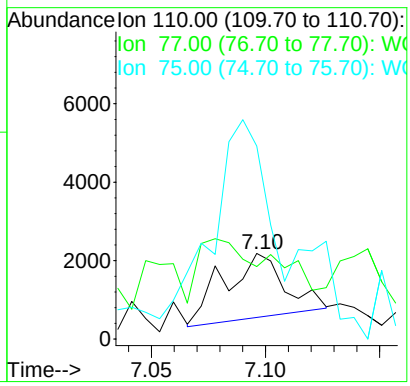




#44
11dicloprope
Concen: 0.38 ug/L m
RT: 7.10 min Scan# 874
Delta R.T. 0.00 min
Lab File: WCAL1.D
Acq: 20 Jan 2016 15:44

Tgt Ion:110 Resp: 3083

Ion	Ratio	Lower	Upper
110	100		
77	0.0	68.8	108.8#
75	417.9	263.0	303.0#



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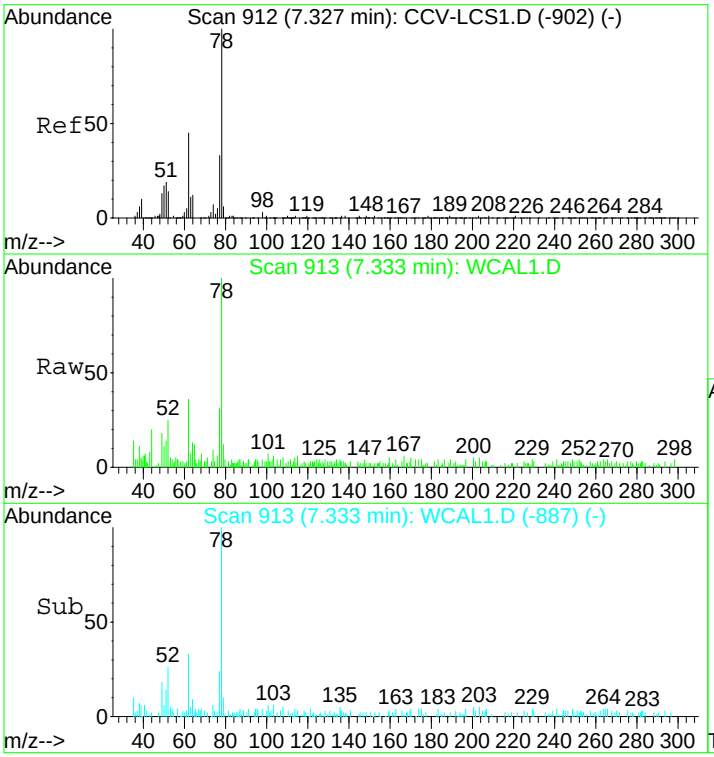
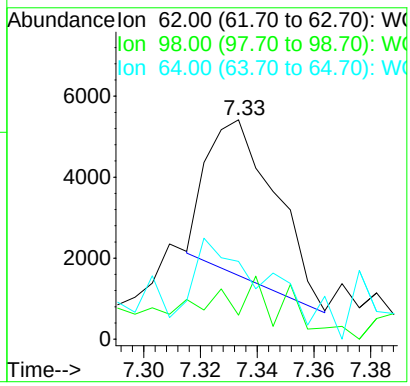
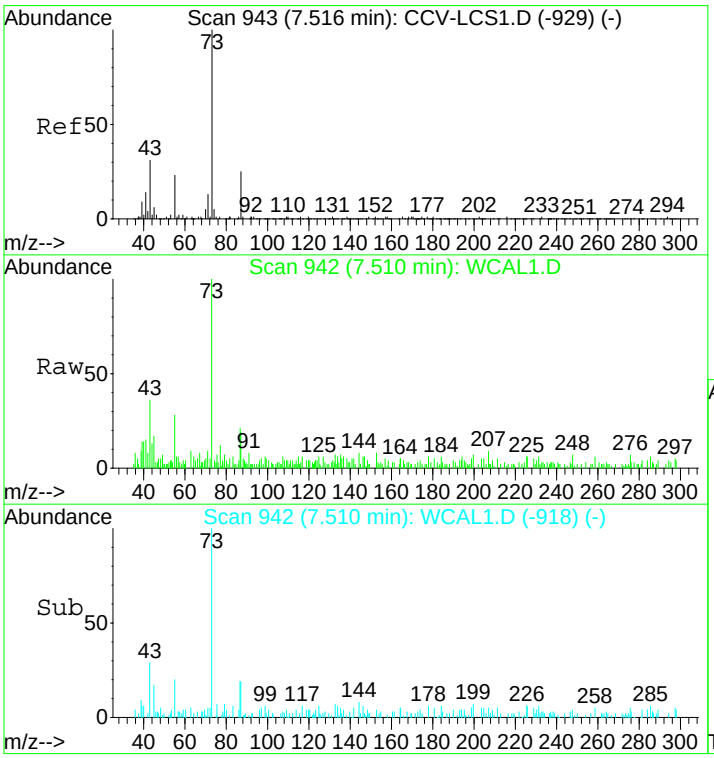


#47
12dichlorota
Concen: 0.34 ug/L m
RT: 7.33 min Scan# 913
Delta R.T. 0.01 min
Lab File: WCAL1.D
Acq: 20 Jan 2016 15:44

Tgt Ion: 62 Resp: 6215

Ion	Ratio	Lower	Upper
62	100		
98	0.0	0.0	30.6
64	0.0	11.2	51.2#

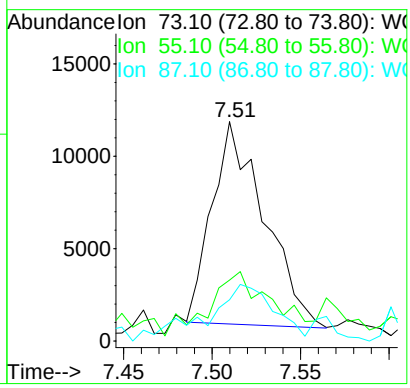




#48
TAME
Concen: 0.51 ug/L m
RT: 7.51 min Scan# 942
Delta R.T. -0.01 min
Lab File: WCAL1.D
Acq: 20 Jan 2016 15:44

Tgt Ion: 73 Resp: 22569

Ion	Ratio	Lower	Upper
73	100		
55	38.6	0.0	39.6
87	23.2	1.6	41.6



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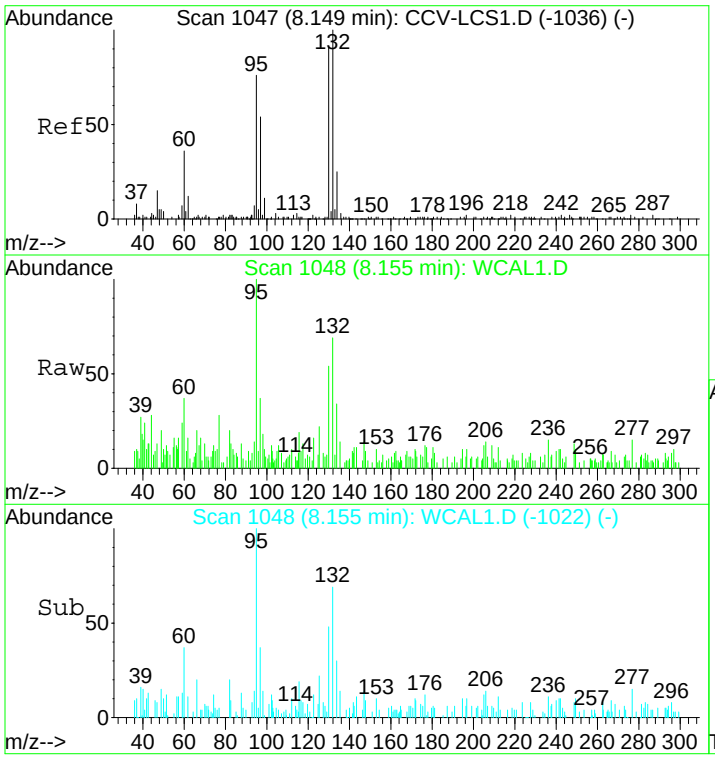
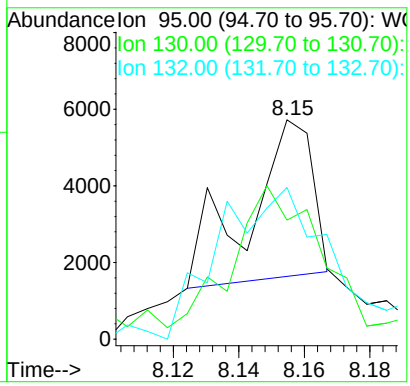
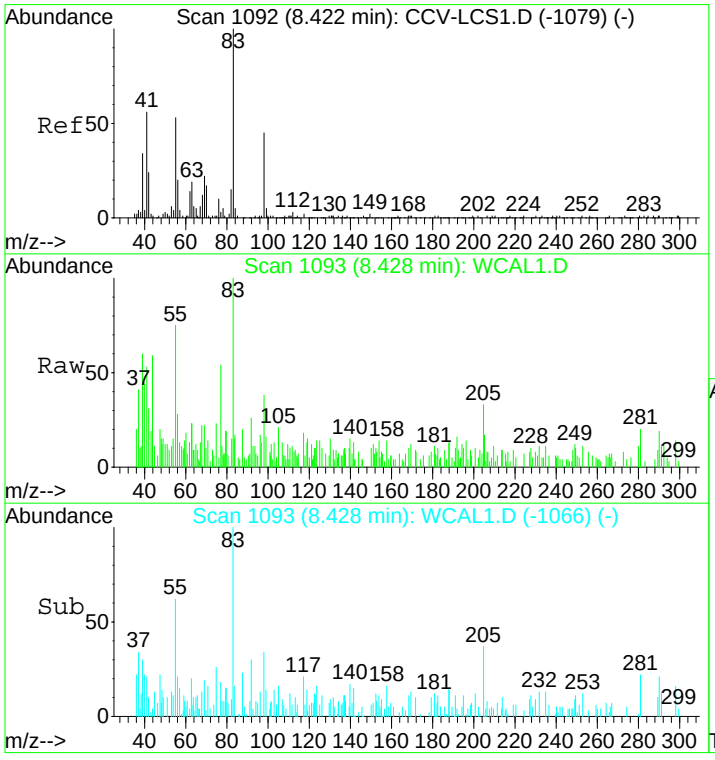


#49
trichloroete
Concen: 0.35 ug/L m
RT: 8.15 min Scan# 1048
Delta R.T. 0.01 min
Lab File: WCAL1.D
Acq: 20 Jan 2016 15:44

Tgt Ion: 95 Resp: 5531

Ion	Ratio	Lower	Upper
95	100		
130	118.9	83.9	123.9
132	191.5	79.1	119.1#

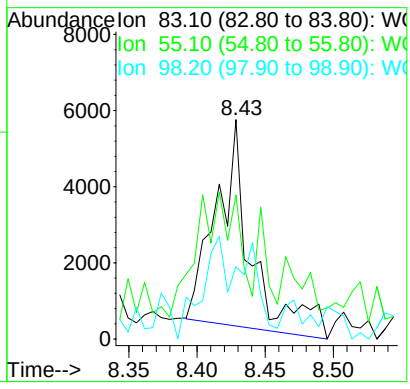




#50
methylcyclohexane
Concen: 0.40 ug/L m
RT: 8.43 min Scan# 1093
Delta R.T. 0.01 min
Lab File: WCAL1.D
Acq: 20 Jan 2016 15:44

Tgt Ion: 83 Resp: 9593

Ion	Ratio	Lower	Upper
83	100		
55	71.9	53.1	93.1
98	65.0	26.8	66.8



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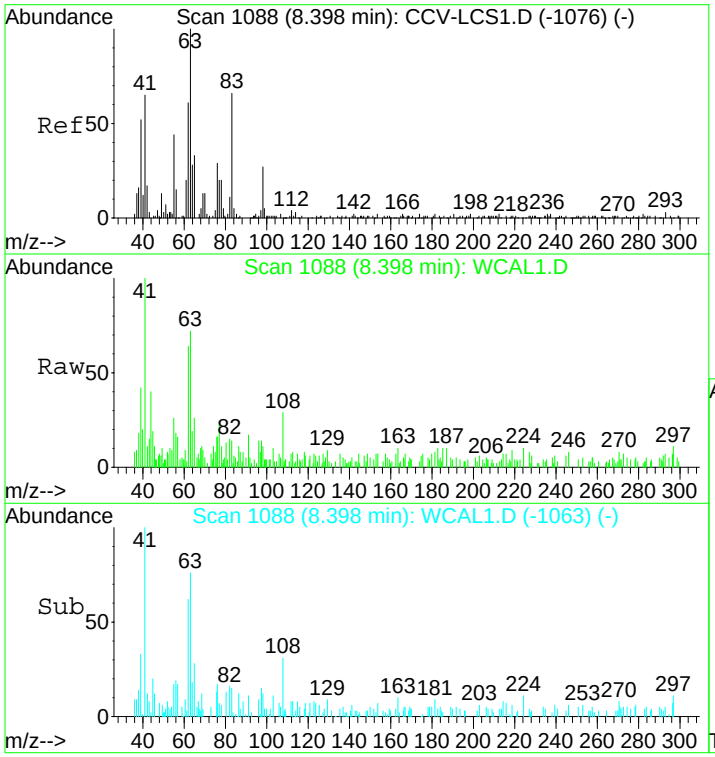
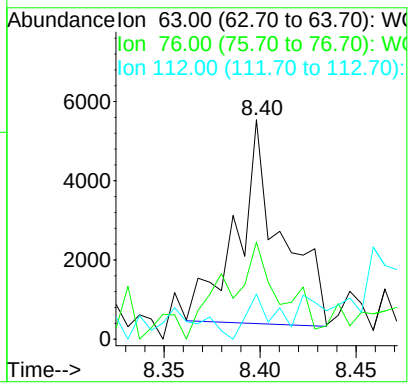
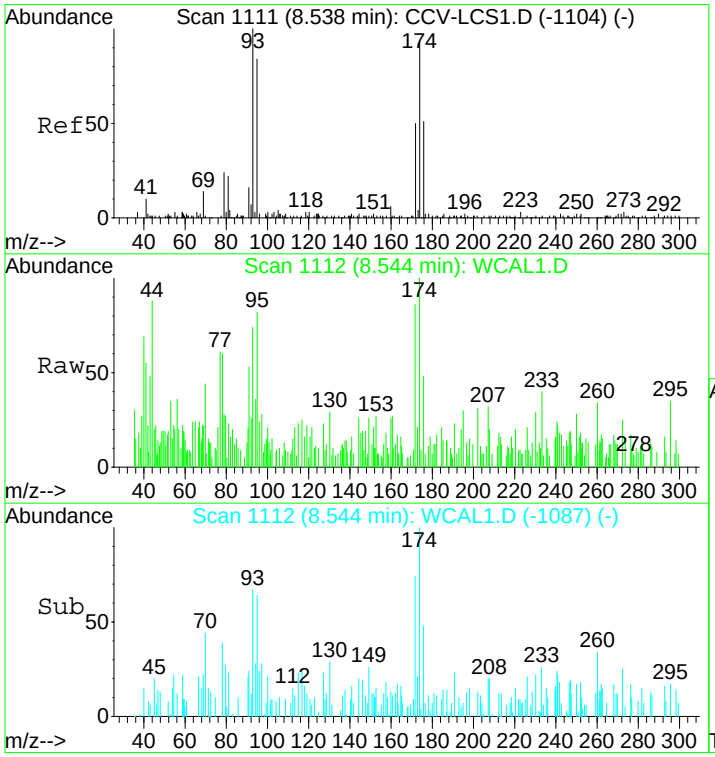


#51
12dicloropra
Concen: 0.51 ug/L m
RT: 8.40 min Scan# 1088
Delta R.T. 0.00 min
Lab File: WCAL1.D
Acq: 20 Jan 2016 15:44

Tgt Ion: 63 Resp: 8180

Ion	Ratio	Lower	Upper
63	100		
76	0.0	21.0	61.0#
112	0.0	0.0	24.2

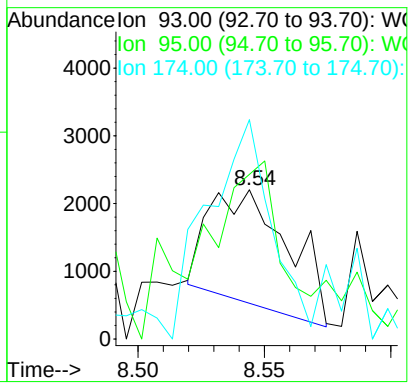




#53
Dibromometha
Concen: 0.37 ug/L m
RT: 8.54 min Scan# 1112
Delta R.T. 0.00 min
Lab File: WCAL1.D
Acq: 20 Jan 2016 15:44

Tgt Ion: 93 Resp: 3540

Ion	Ratio	Lower	Upper
93	100		
95	198.6	59.1	99.1#
174	161.8	83.5	123.5#



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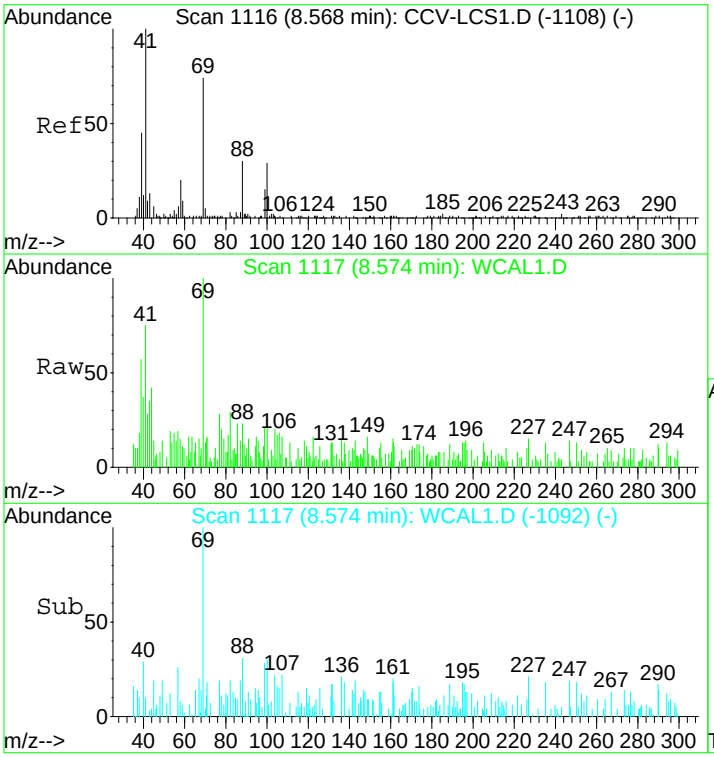
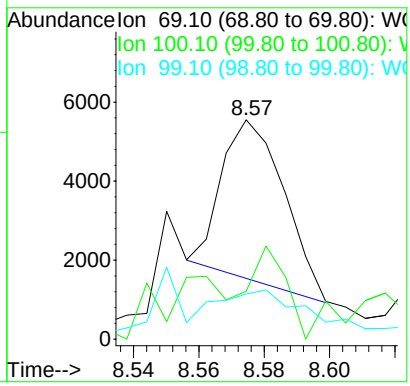
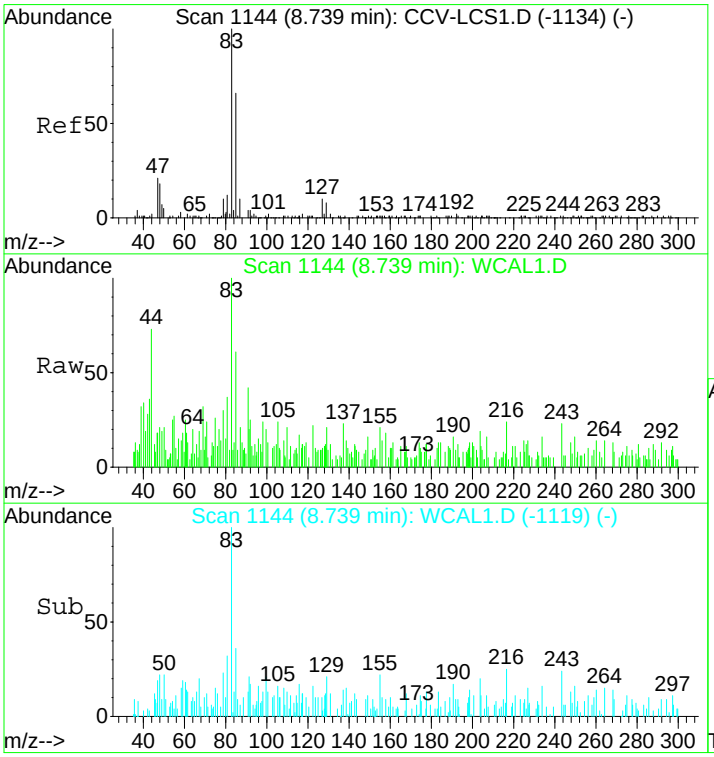


#54
methylmethacrylate
Concen: 0.31 ug/L m
RT: 8.57 min Scan# 1117
Delta R.T. 0.00 min
Lab File: WCAL1.D
Acq: 20 Jan 2016 15:44

Tgt Ion: 69 Resp: 5191

Ion	Ratio	Lower	Upper
69	100		
100	0.0	15.7	55.7#
99	0.0	2.9	42.9#

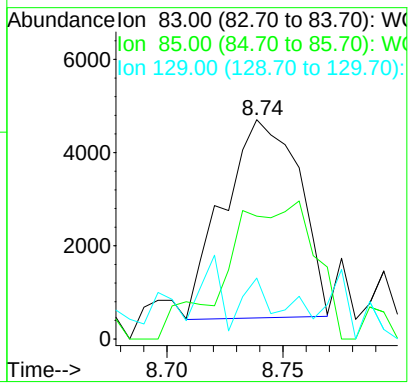




#56
Bromodiclrma
Concen: 0.50 ug/L m
RT: 8.74 min Scan# 1144
Delta R.T. 0.00 min
Lab File: WCAL1.D
Acq: 20 Jan 2016 15:44

Tgt Ion: 83 Resp: 9654

Ion	Ratio	Lower	Upper
83	100		
85	81.2	48.6	88.6
129	0.0	0.0	31.5



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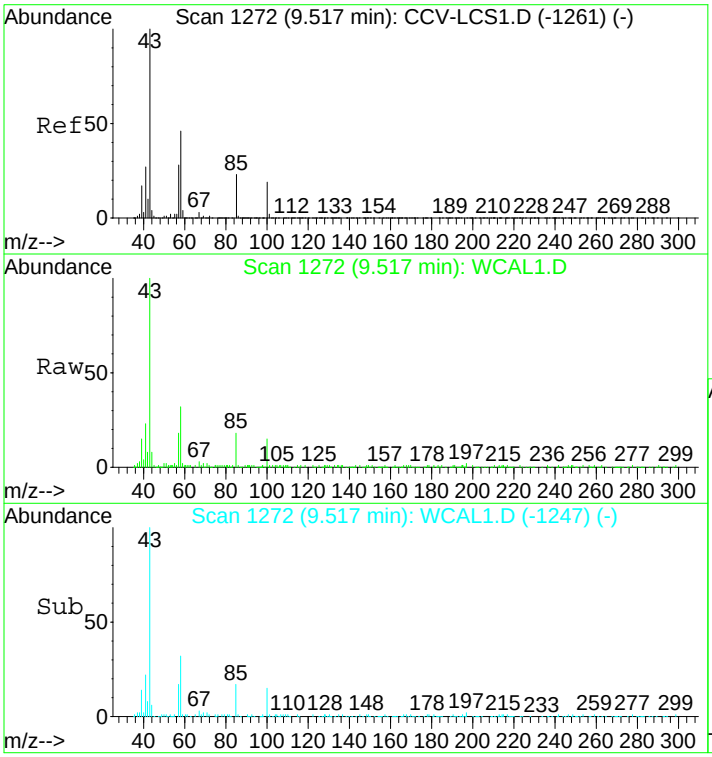
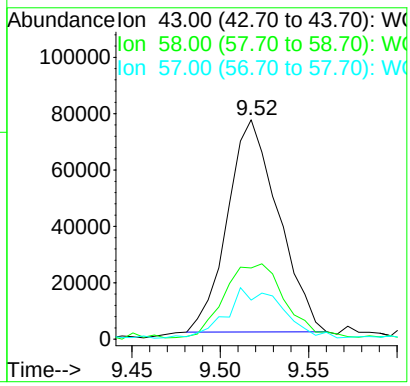
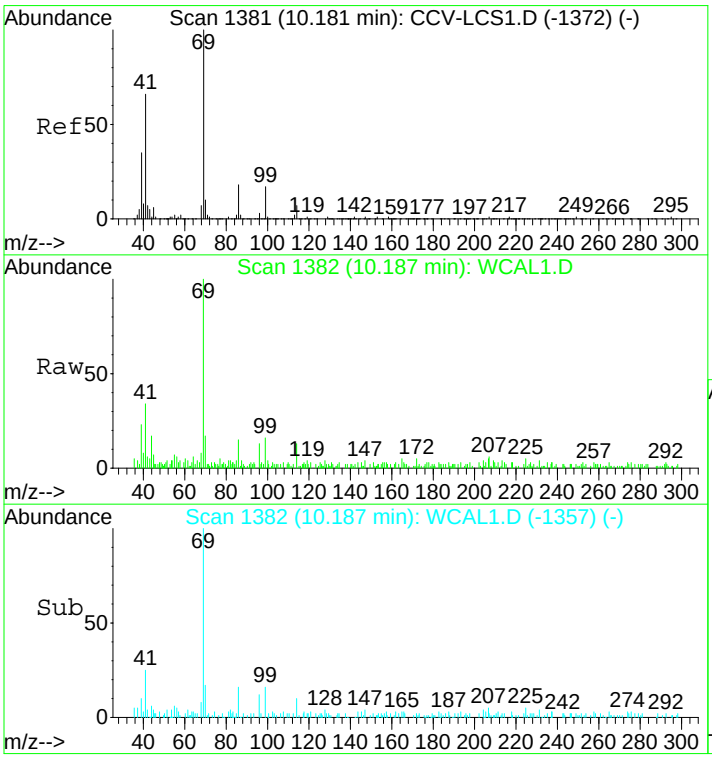


#60
4Meth2Pentan
Concen: 6.54 ug/L m
RT: 9.52 min Scan# 1272
Delta R.T. 0.00 min
Lab File: WCAL1.D
Acq: 20 Jan 2016 15:44

Tgt Ion: 43 Resp: 151316

Ion	Ratio	Lower	Upper
43	100		
58	41.7	22.6	62.6
57	25.9	6.6	46.6

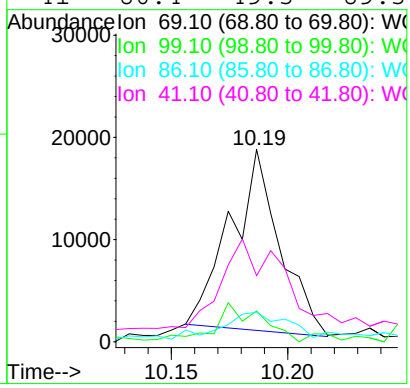




#64
ethylmethacrylate
Concen: 1.07 ug/L m
RT: 10.19 min Scan# 1382
Delta R.T. 0.00 min
Lab File: WCAL1.D
Acq: 20 Jan 2016 15:44

Tgt Ion: 69 Resp: 26004

Ion	Ratio	Lower	Upper
69	100		
99	20.5	0.0	36.8
86	34.0	0.0	36.1
41	80.4	49.3	89.3



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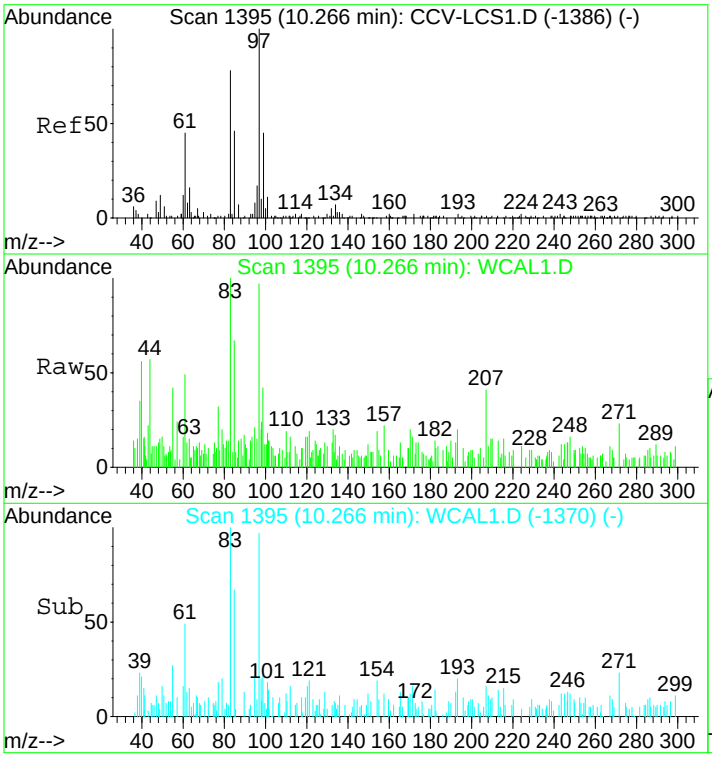
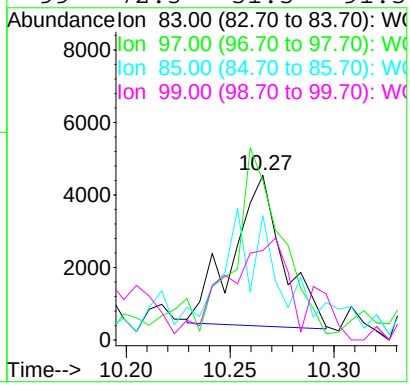
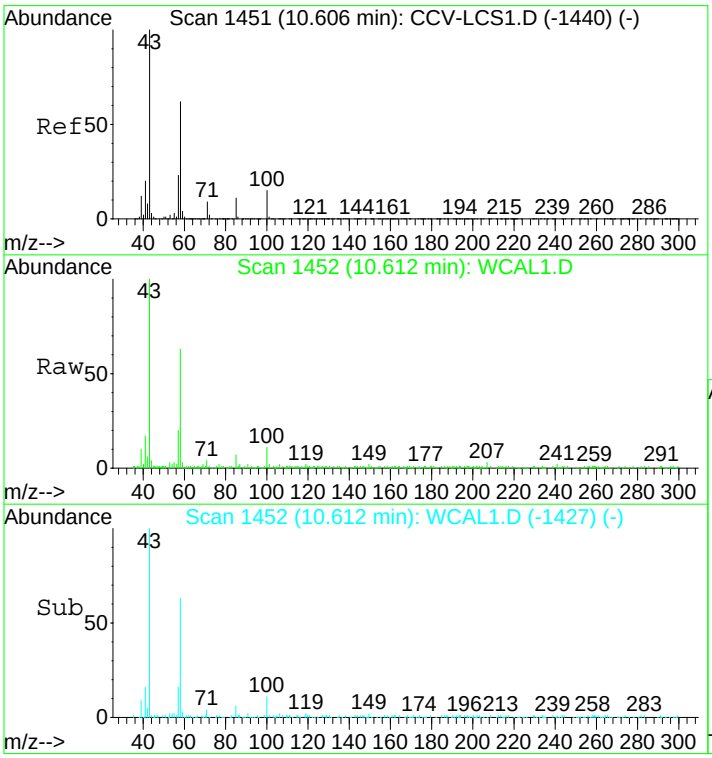


#65
112Triclotha
Concen: 0.59 ug/L m
RT: 10.27 min Scan# 1395
Delta R.T. 0.00 min
Lab File: WCAL1.D
Acq: 20 Jan 2016 15:44

Tgt Ion: 83 Resp: 6993

Ion	Ratio	Lower	Upper
83	100		
97	119.0	93.0	133.0
85	99.0	40.1	80.1#
99	72.3	51.5	91.5

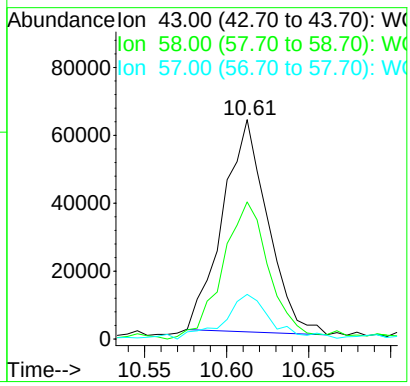




#69
2Hexanone
Concen: 6.18 ug/L m
RT: 10.61 min Scan# 1452
Delta R.T. 0.00 min
Lab File: WCAL1.D
Acq: 20 Jan 2016 15:44

Tgt Ion: 43 Resp: 119333

Ion	Ratio	Lower	Upper
43	100		
58	70.3	38.9	78.9
57	21.4	0.2	40.2



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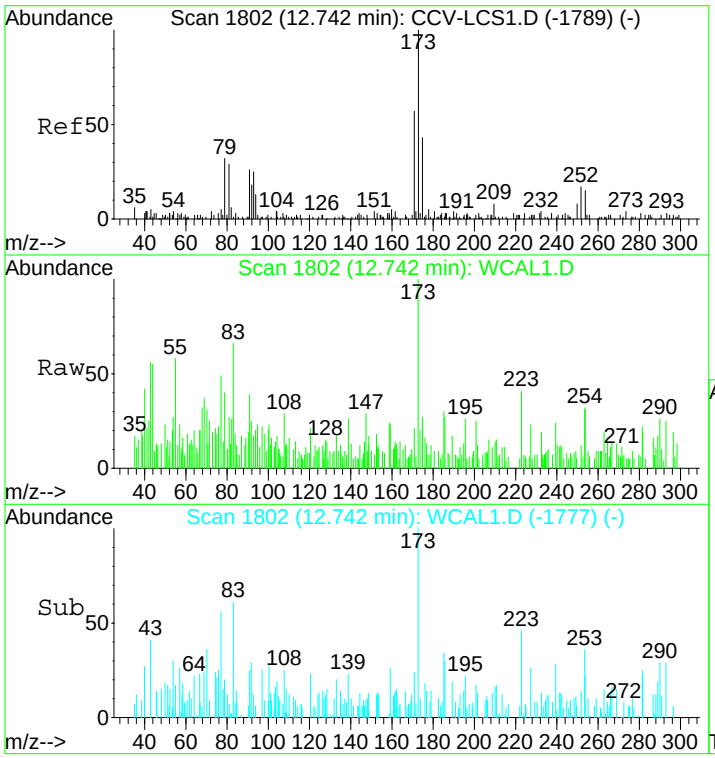
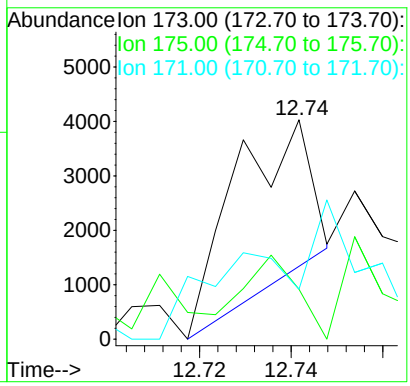
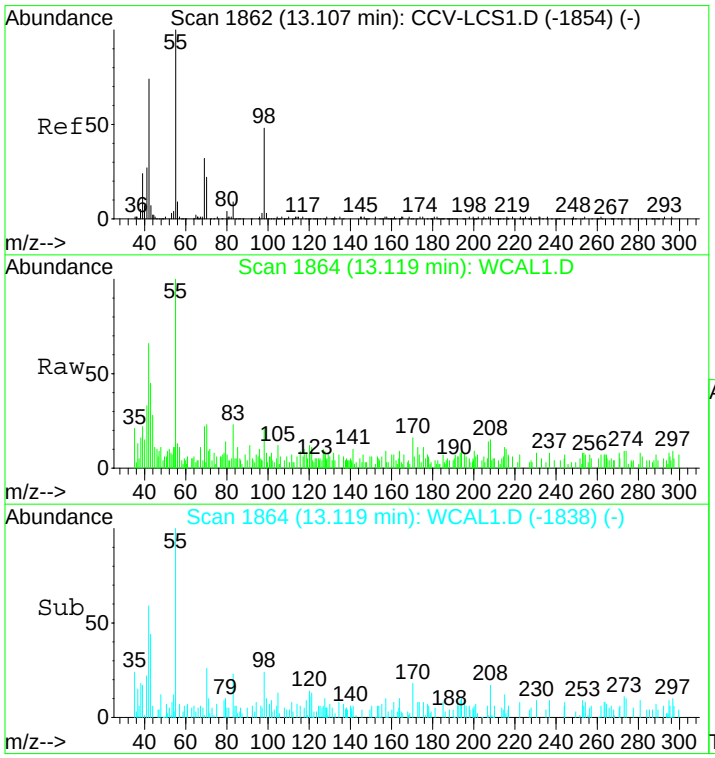


#79
Bromoform
Concen: 0.31 ug/L m
RT: 12.74 min Scan# 1802
Delta R.T. 0.00 min
Lab File: WCAL1.D
Acq: 20 Jan 2016 15:44

Tgt Ion:173 Resp: 3664

Ion	Ratio	Lower	Upper
173	100		
175	0.0	25.8	65.8#
171	0.0	29.9	69.9#

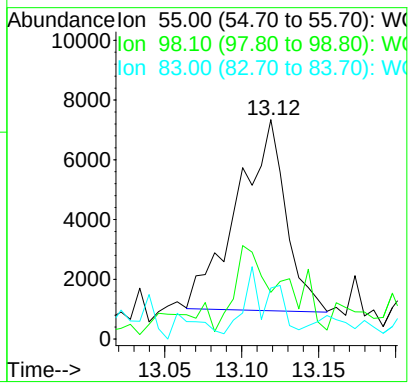




#81
cyclohexanone
Concen: 11.59 ug/L m
RT: 13.12 min Scan# 1864
Delta R.T. 0.01 min
Lab File: WCAL1.D
Acq: 20 Jan 2016 15:44

Tgt Ion: 55 Resp: 14049

Ion	Ratio	Lower	Upper
55	100		
98	44.3	26.1	66.1
83	0.0	0.0	30.4



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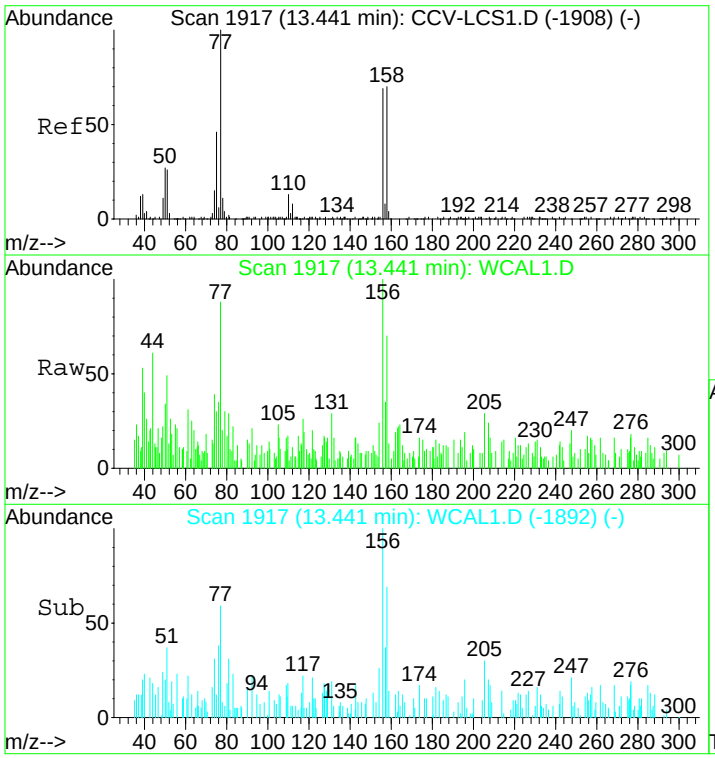
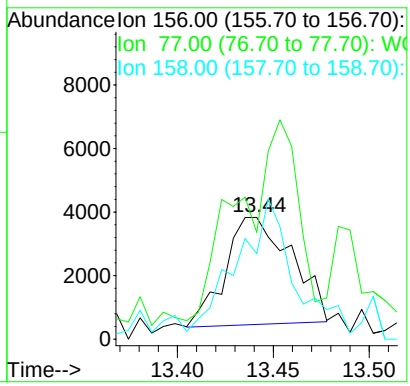
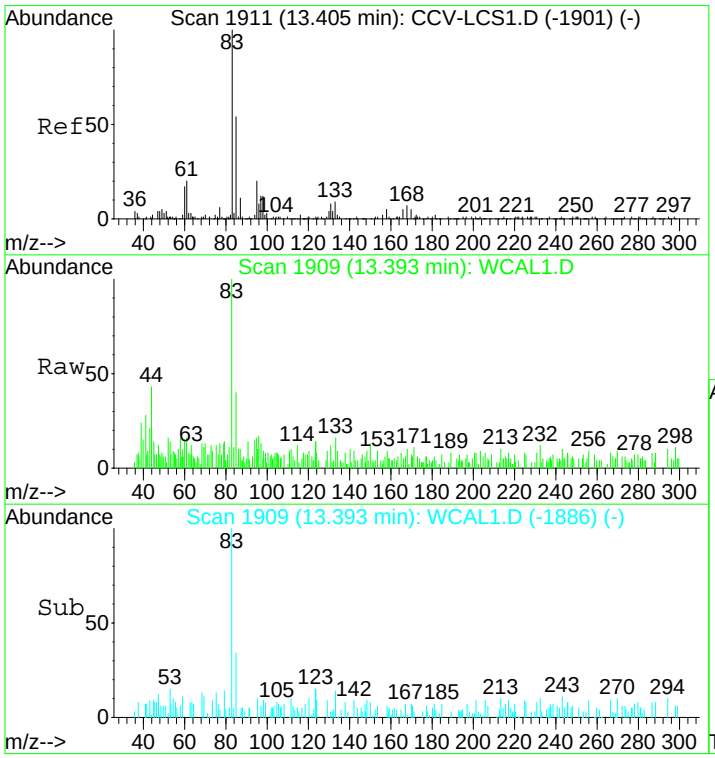


#84
Bromobenzene
Concen: 0.51 ug/L m
RT: 13.44 min Scan# 1917
Delta R.T. 0.00 min
Lab File: WCAL1.D
Acq: 20 Jan 2016 15:44

Tgt Ion:156 Resp: 8170

Ion	Ratio	Lower	Upper
156	100		
77	171.1	167.8	207.8
158	104.3	71.0	111.0

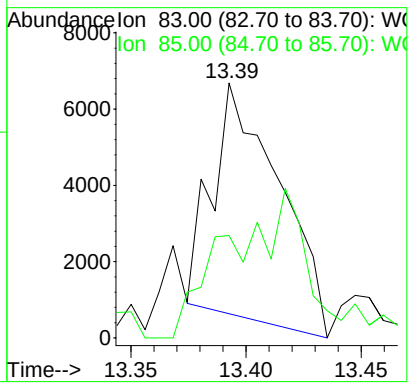




#85
1122Tetrclta
Concen: 0.56 ug/L m
RT: 13.39 min Scan# 1909
Delta R.T. -0.01 min
Lab File: WCAL1.D
Acq: 20 Jan 2016 15:44

Tgt Ion: 83 Resp: 12342

Ion	Ratio	Lower	Upper
83	100		
85	77.8	48.6	88.6



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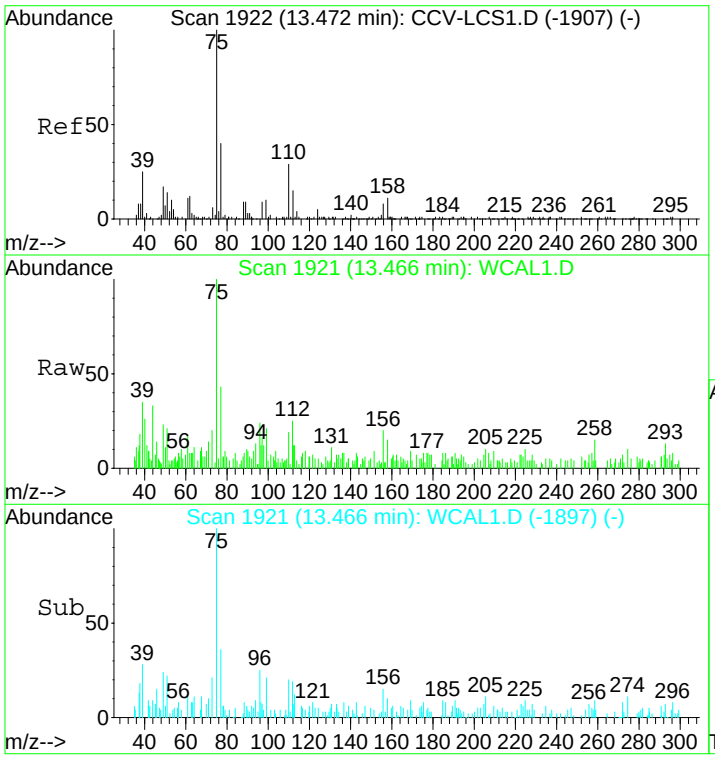
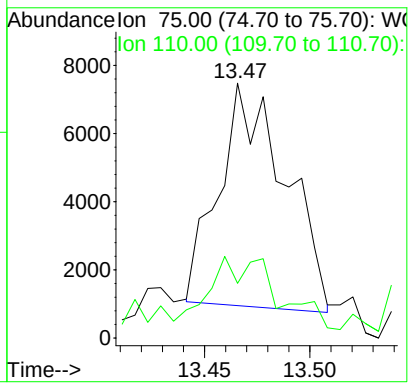
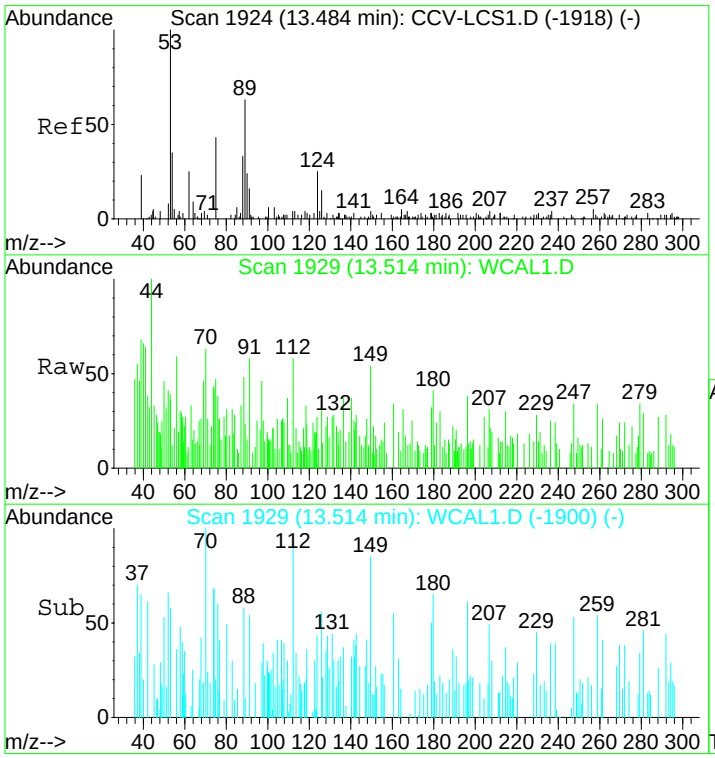


#86
123Triclproa
Concen: 0.50 ug/L m
RT: 13.47 min Scan# 1921
Delta R.T. -0.01 min
Lab File: WCAL1.D
Acq: 20 Jan 2016 15:44

Tgt Ion: 75 Resp: 14356

Ion	Ratio	Lower	Upper
75	100		
110	0.0	4.0	44.0#

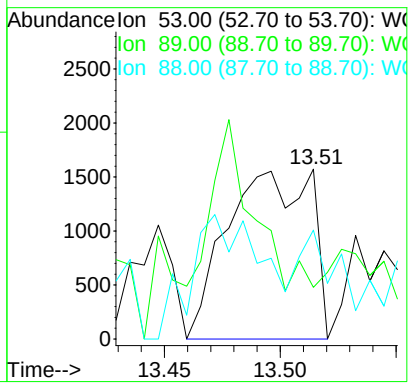




#87
14dichloro2butene
Concen: 0.69 ug/L m
RT: 13.51 min Scan# 1929
Delta R.T. 0.02 min
Lab File: WCAL1.D
Acq: 20 Jan 2016 15:44

Tgt Ion: 53 Resp: 3910

Ion	Ratio	Lower	Upper
53	100		
89	0.0	54.2	94.2#
88	0.0	30.4	70.4#



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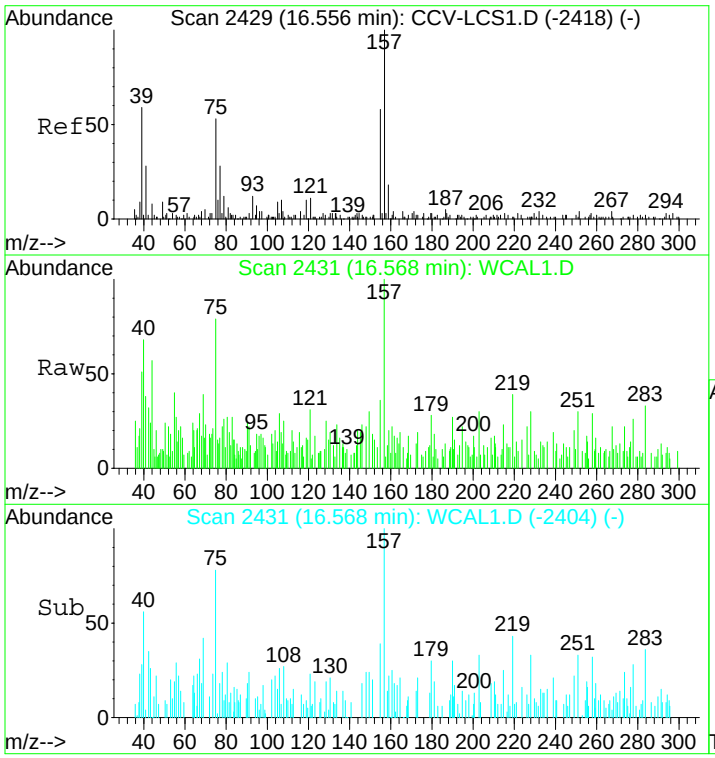
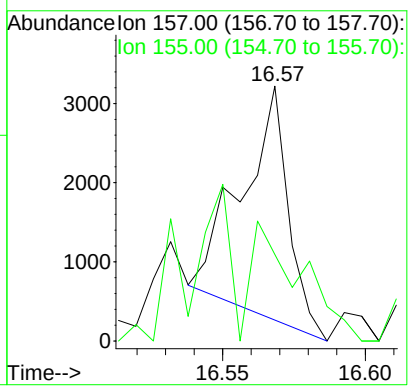
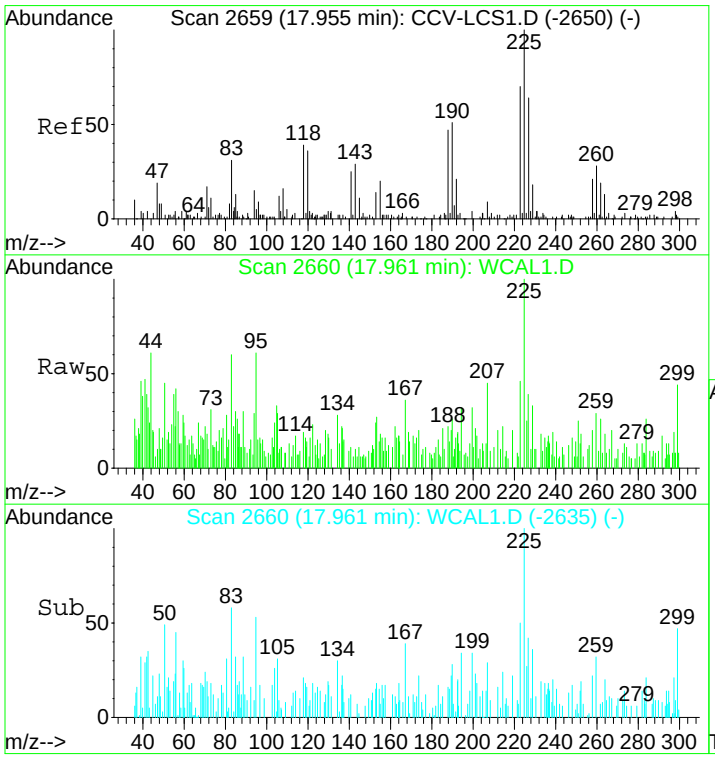


#100
12dibromo3cl
Concen: 0.47 ug/L m
RT: 16.57 min Scan# 2431
Delta R.T. 0.01 min
Lab File: WCAL1.D
Acq: 20 Jan 2016 15:44

Tgt Ion:157 Resp: 3195

Ion	Ratio	Lower	Upper
157	100		
155	0.0	54.2	94.2#

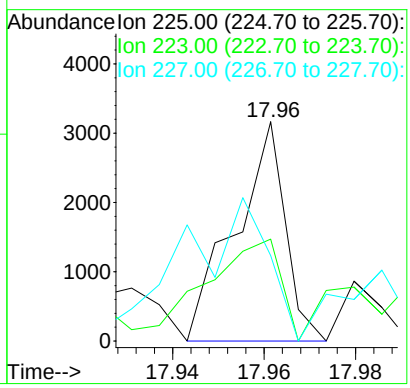




#103
Hexachlorobu
Concen: 0.32 ug/L m
RT: 17.96 min Scan# 2660
Delta R.T. 0.00 min
Lab File: WCAL1.D
Acq: 20 Jan 2016 15:44

Tgt Ion:225 Resp: 2414

Ion	Ratio	Lower	Upper
225	100		
223	0.0	45.7	85.7#
227	0.0	52.8	92.8#



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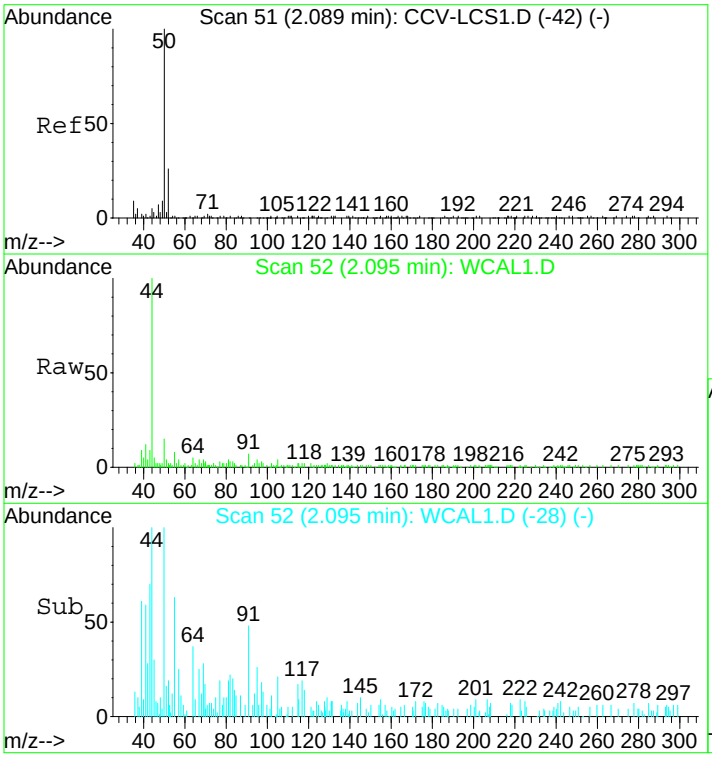
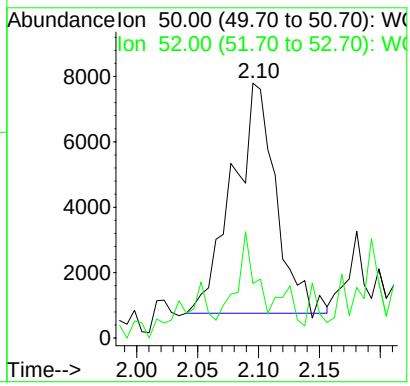


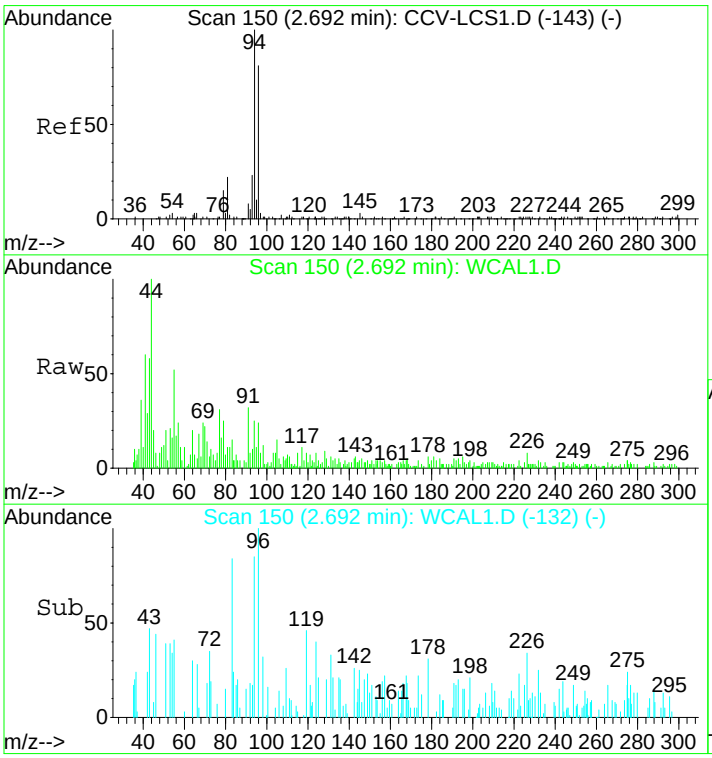
#3
Chloromethan
Concen: 0.75 ug/L
RT: 2.10 min Scan# 52
Delta R.T. -0.01 min
Lab File: WCAL1.D
Acq: 20 Jan 2016 15:44

Tgt Ion: 50 Resp: 17386

Ion	Ratio	Lower	Upper
50	100		
52	0.0	15.6	55.6#



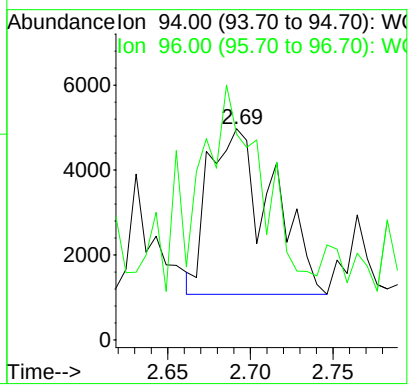
REASON # 2



#5
Bromomethane
Concen: 0.90 ug/L
RT: 2.69 min Scan# 150
Delta R.T. 0.01 min
Lab File: WCAL1.D
Acq: 20 Jan 2016 15:44

Tgt Ion: 94 Resp: 10511

Ion	Ratio	Lower	Upper
94	100		
96	122.6	71.0	111.0#



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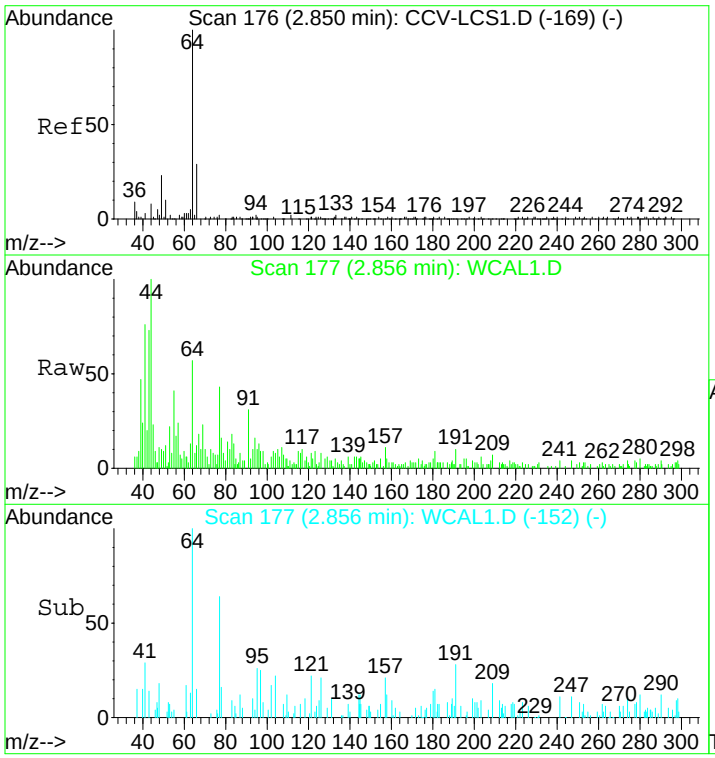
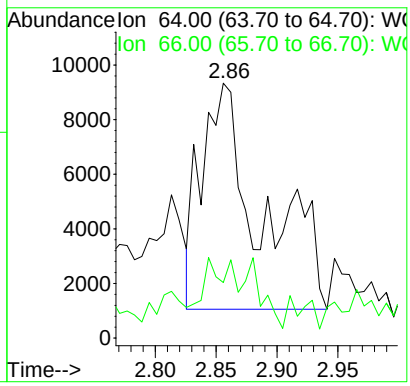


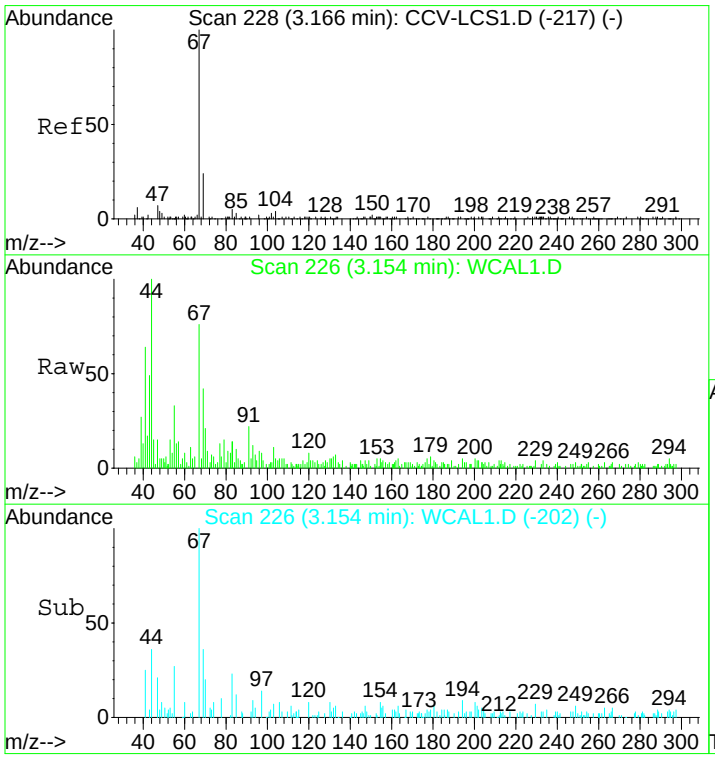
#6
Chloroethane
Concen: 1.37 ug/L
RT: 2.86 min Scan# 177
Delta R.T. 0.00 min
Lab File: WCAL1.D
Acq: 20 Jan 2016 15:44

Tgt Ion: 64 Resp: 28462

Ion	Ratio	Lower	Upper
64	100		
66	24.1	10.9	50.9



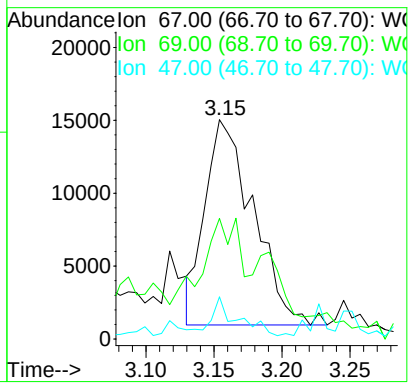
REASON # 2



#7
Dichloroflmethane
Concen: 0.85 ug/L
RT: 3.15 min Scan# 226
Delta R.T. -0.01 min
Lab File: WCAL1.D
Acq: 20 Jan 2016 15:44

Tgt Ion: 67 Resp: 34935

Ion	Ratio	Lower	Upper
67	100		
69	79.8	14.3	54.3#
47	0.0	0.0	29.9



REASON # 2

Before Manual Integration

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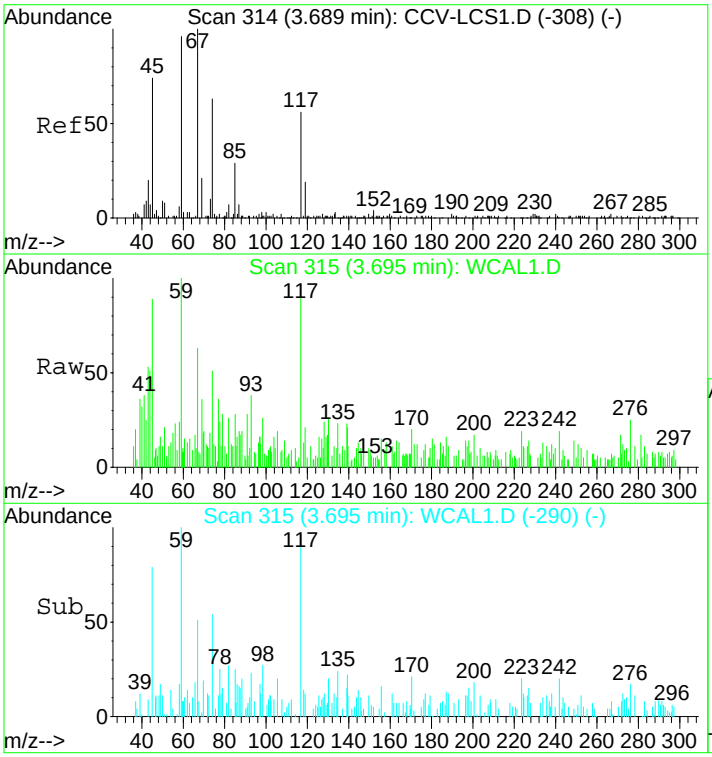
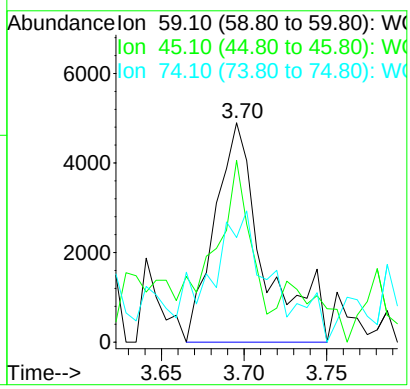


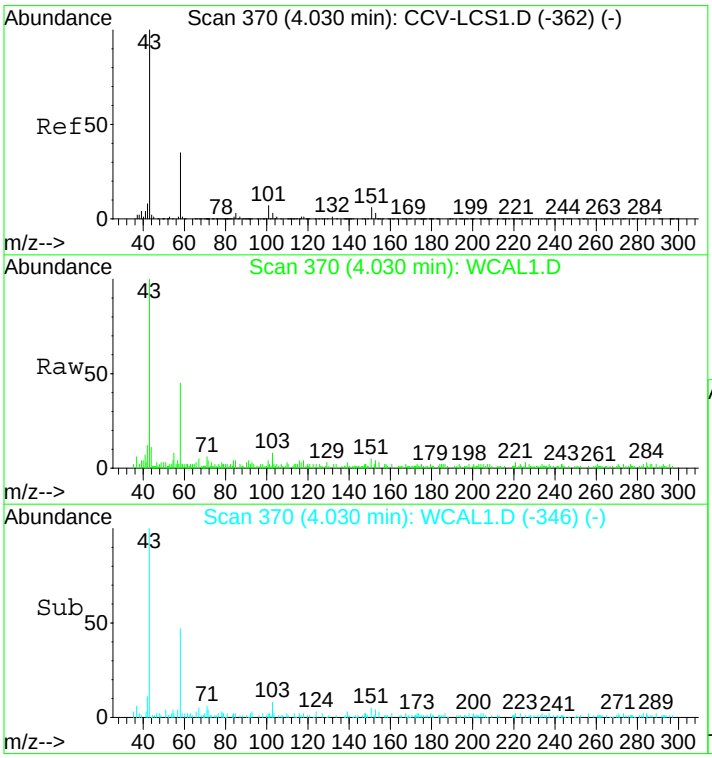
#9
Ethylether
Concen: 0.78 ug/L
RT: 3.70 min Scan# 315
Delta R.T. 0.00 min
Lab File: WCAL1.D
Acq: 20 Jan 2016 15:44

Tgt Ion: 59 Resp: 10125

Ion	Ratio	Lower	Upper
59	100		
45	0.0	52.9	92.9#
74	75.4	50.0	90.0



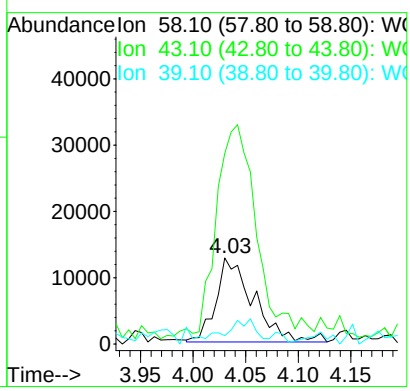
REASON # 2



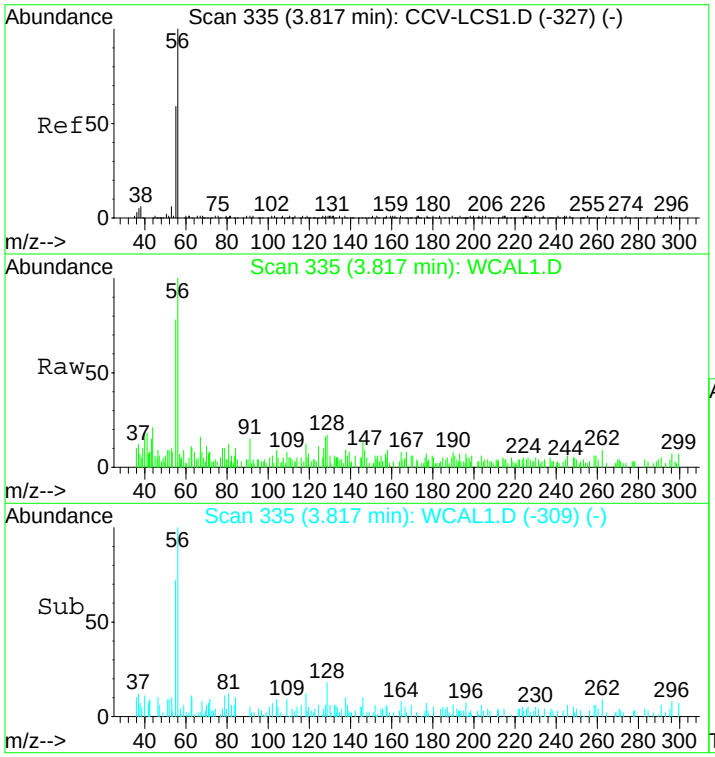
#11
propyleneoxide
Concen: 3.19 ug/L
RT: 4.03 min Scan# 370
Delta R.T. -0.01 min
Lab File: WCAL1.D
Acq: 20 Jan 2016 15:44

Tgt Ion: 58 Resp: 31548

Ion	Ratio	Lower	Upper
58	100		
43	268.4	266.3	306.3
39	0.0	0.0	30.9



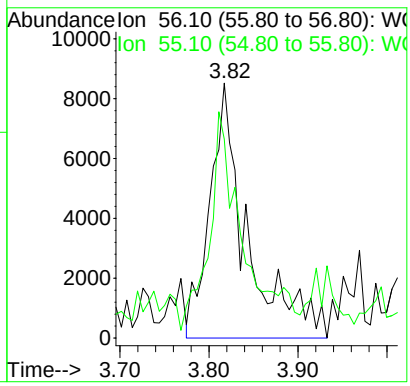
REASON # 2



#12
Acrolein
Concen: 5.00 ug/L
RT: 3.82 min Scan# 335
Delta R.T. 0.01 min
Lab File: WCAL1.D
Acq: 20 Jan 2016 15:44

Tgt Ion: 56 Resp: 24760

Ion	Ratio	Lower	Upper
56	100		
55	76.7	42.8	82.8



Before Manual Integration

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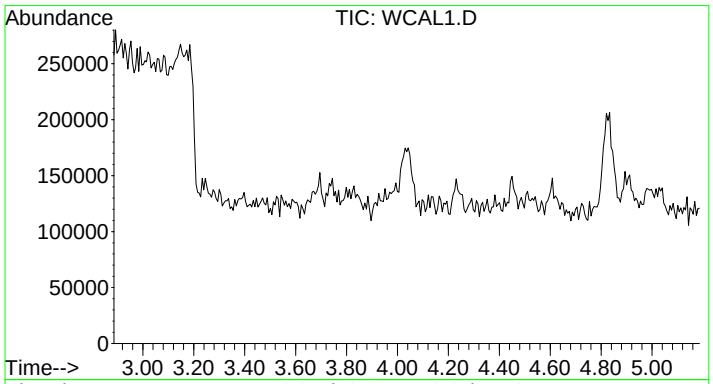
REASON # 2

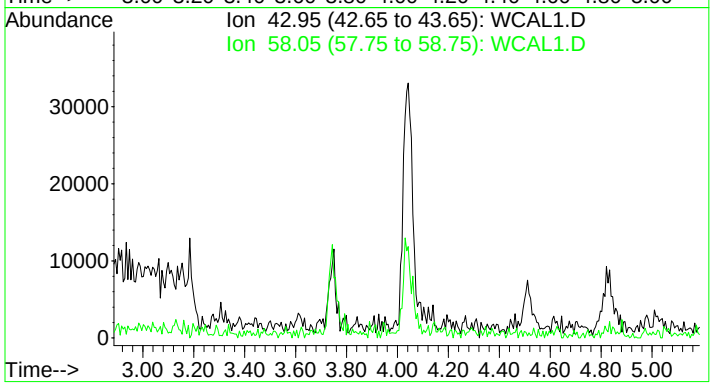


#15
Acetone
Concen: Below Cal
Expected RT: 4.04 min

Lab File: WCAL1.D
Acq: 20 Jan 2016 15:44

Tgt Ion: 43

Sig	Exp Ratio
43	100
58	34.9



Before Manual Integration

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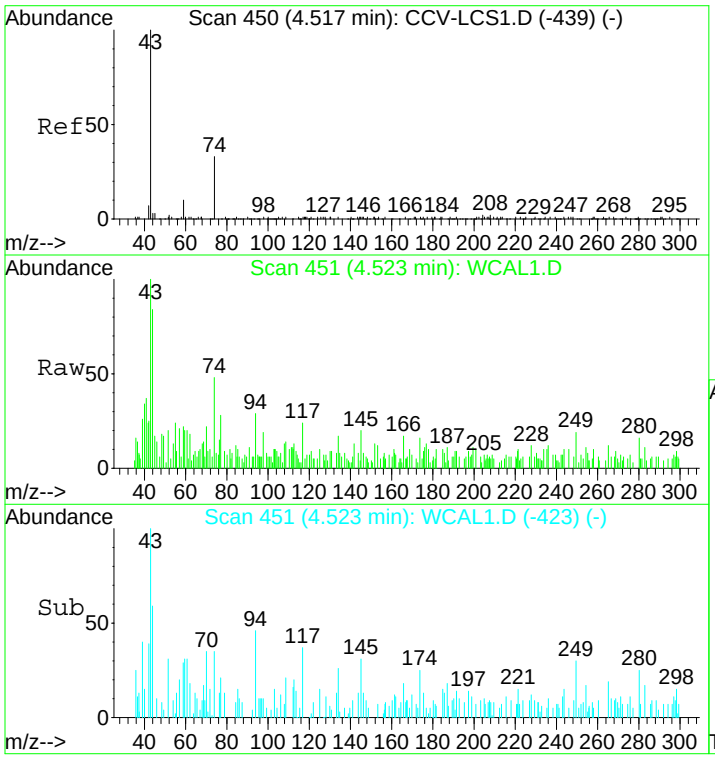
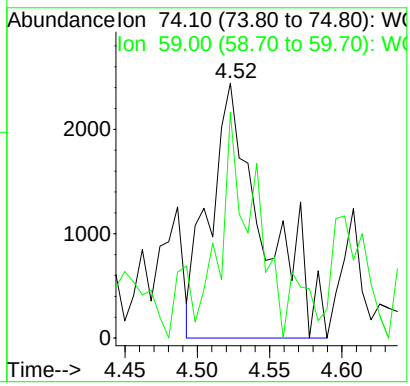


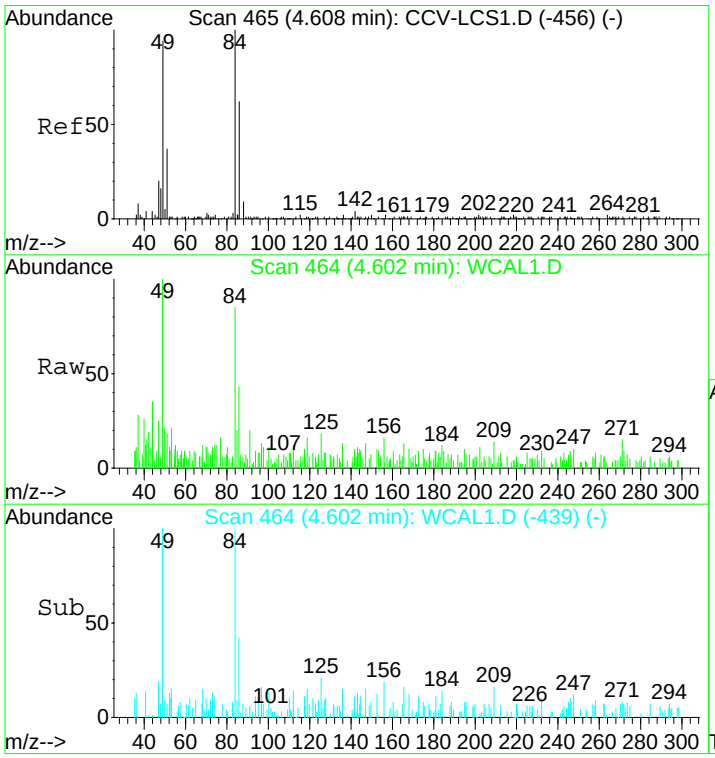
#19
methylacetate
Concen: 0.65 ug/L
RT: 4.52 min Scan# 451
Delta R.T. 0.02 min
Lab File: WCAL1.D
Acq: 20 Jan 2016 15:44

Tgt Ion: 74 Resp: 6347

Ion	Ratio	Lower	Upper
74	100		
59	0.0	14.3	54.3#



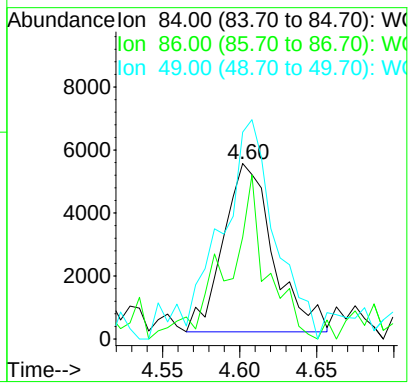
REASON # 2



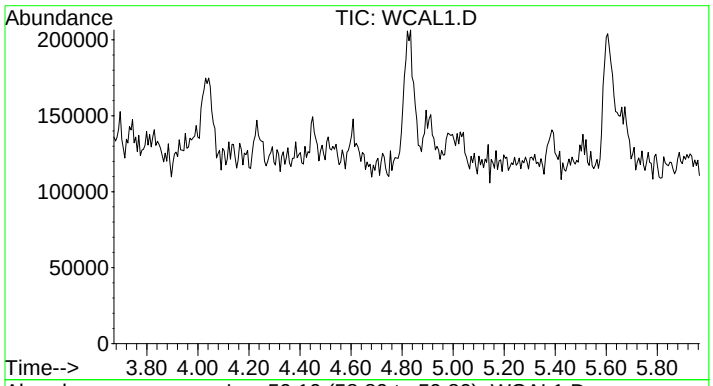
#20
Methylchlorid
Concen: 0.81 ug/L
RT: 4.60 min Scan# 464
Delta R.T. 0.00 min
Lab File: WCAL1.D
Acq: 20 Jan 2016 15:44

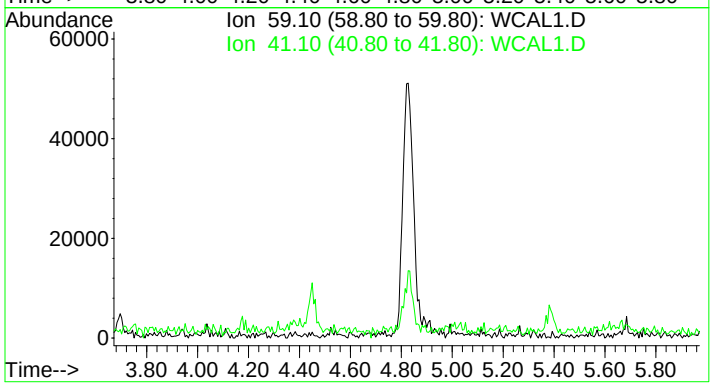
Tgt Ion: 84 Resp: 12050

Ion	Ratio	Lower	Upper
84	100		
86	77.7	43.9	83.9
49	145.8	103.8	143.8#



REASON # 2





#21
tbutylalcohol
Concen: Below Cal
Expected RT: 4.82 min

Lab File: WCAL1.D
Acq: 20 Jan 2016 15:44

Tgt Ion: 59

Sig	Exp Ratio
59	100
41	20.2

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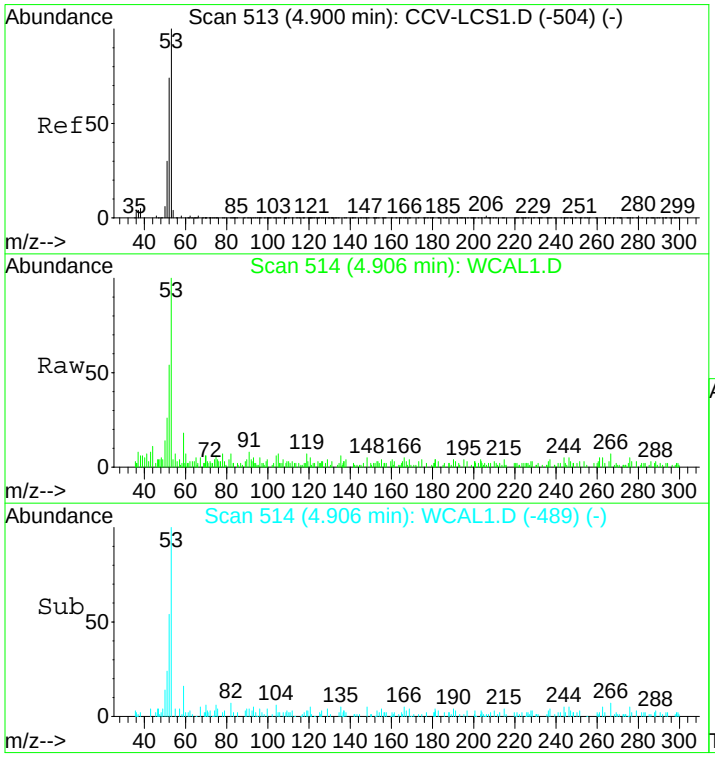
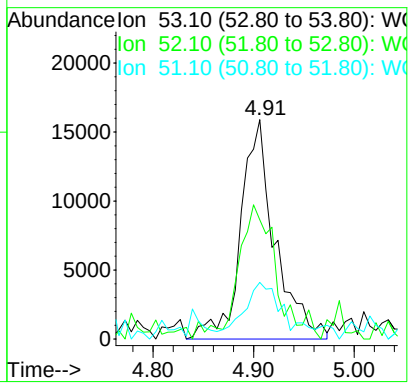


#22
Acrylonitrile
Concen: 4.01 ug/L
RT: 4.91 min Scan# 514
Delta R.T. 0.00 min
Lab File: WCAL1.D
Acq: 20 Jan 2016 15:44

Tgt Ion: 53 Resp: 37574

Ion	Ratio	Lower	Upper
53	100		
52	68.6	64.0	104.0
51	32.6	14.2	54.2



REASON # 2

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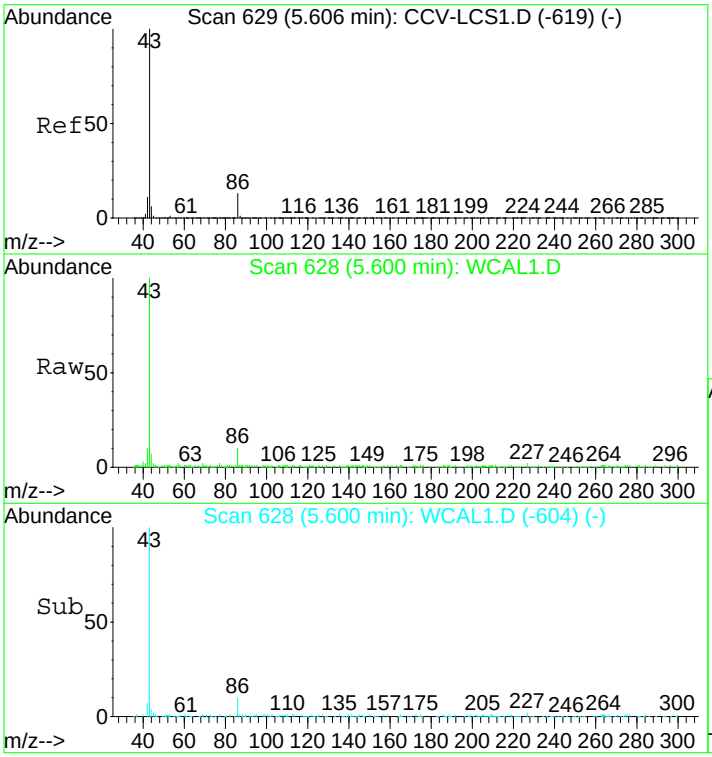
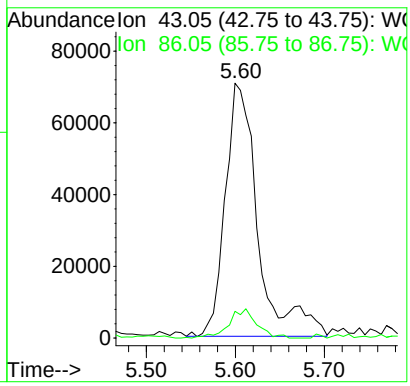


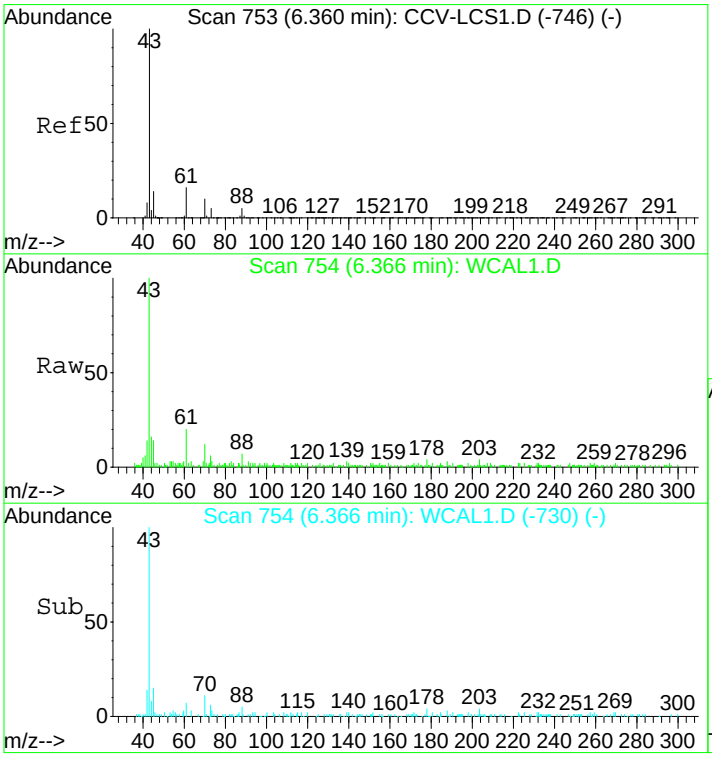
#27
Vinylacetate
Concen: 4.03 ug/L
RT: 5.60 min Scan# 628
Delta R.T. -0.01 min
Lab File: WCAL1.D
Acq: 20 Jan 2016 15:44

Tgt Ion: 43 Resp: 179834

Ion	Ratio	Lower	Upper
43	100		
86	9.9	0.0	31.3



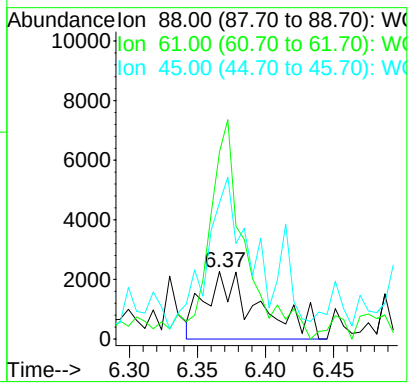
REASON # 2



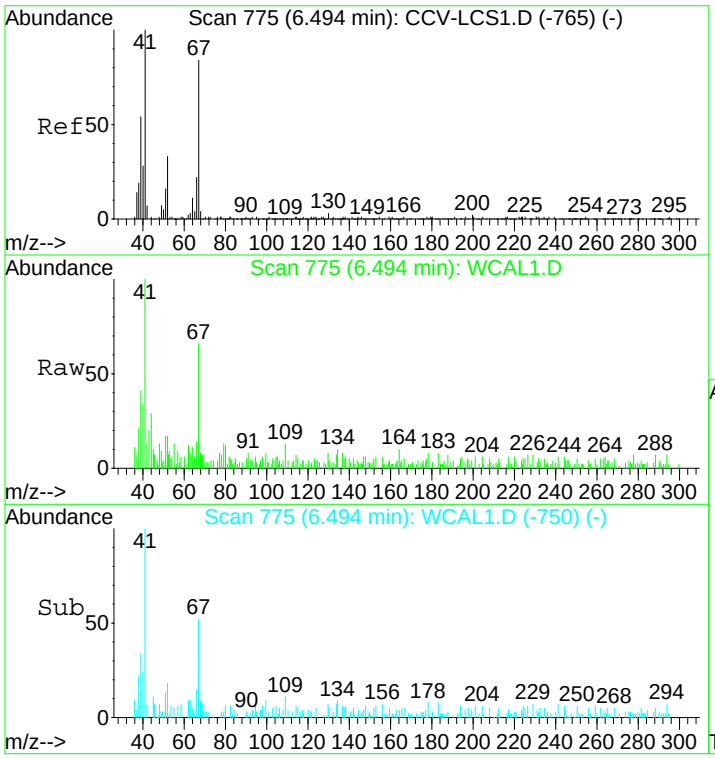
#35
Ethylacetate
Concen: 5.41 ug/L
RT: 6.37 min Scan# 754
Delta R.T. -0.01 min
Lab File: WCAL1.D
Acq: 20 Jan 2016 15:44

Tgt Ion: 88 Resp: 6302

Ion	Ratio	Lower	Upper
88	100		
61	212.7	309.5	349.5#
45	167.9	316.6	356.6#



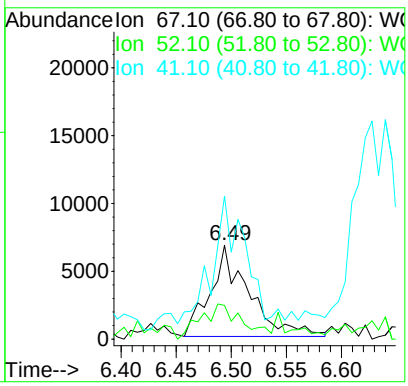
REASON # 2



#36
methacrylonitrile
Concen: 1.65 ug/L
RT: 6.49 min Scan# 775
Delta R.T. 0.00 min
Lab File: WCAL1.D
Acq: 20 Jan 2016 15:44

Tgt Ion: 67 Resp: 16437

Ion	Ratio	Lower	Upper
67	100		
52	41.5	18.0	58.0
41	126.8	129.8	169.8#



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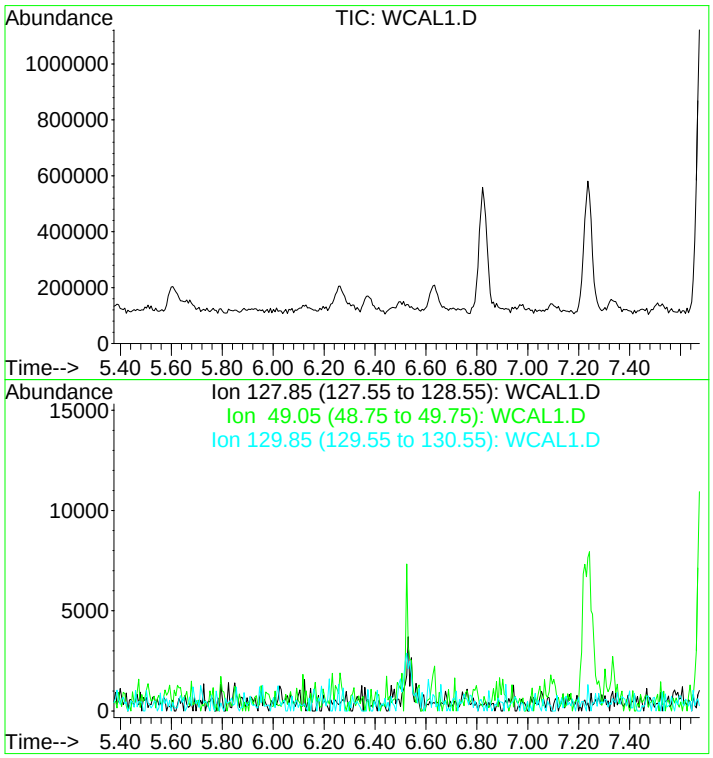
REASON # 2



#37
Bromochlorma
Concen: N.D.
Expected RT: 6.52 min

Lab File: WCAL1.D
Acq: 20 Jan 2016 15:44

Tgt Ion: 128

Sig	Exp Ratio
128	100
49	171.1
130	123.2

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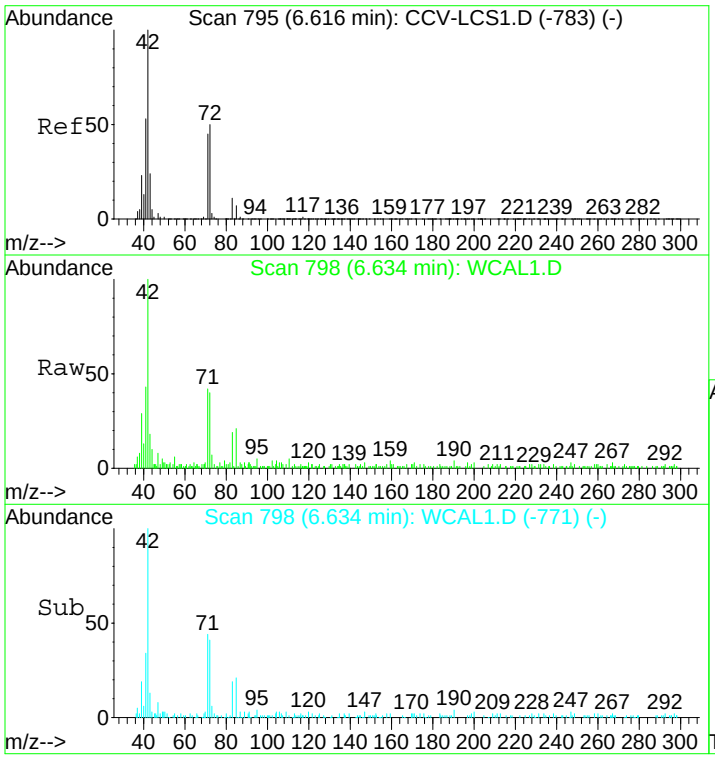
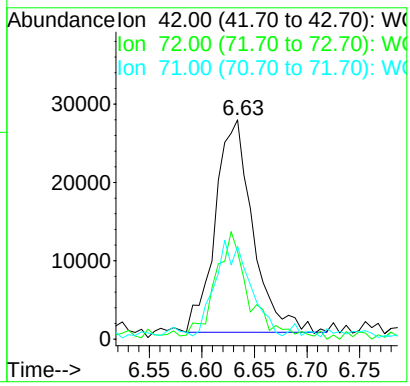


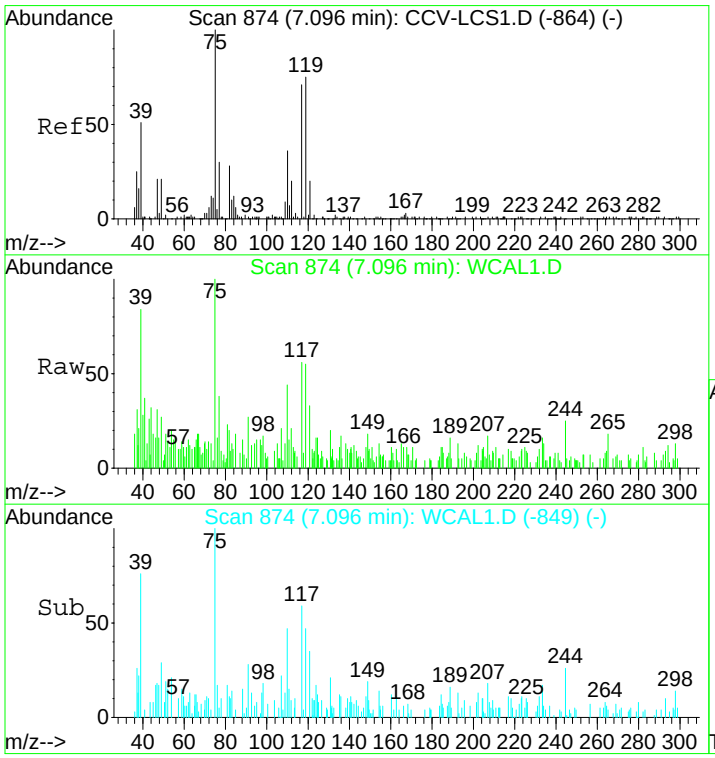
#38
Tetrahydofur
Concen: 0.22 ug/L
RT: 6.63 min Scan# 798
Delta R.T. 0.01 min
Lab File: WCAL1.D
Acq: 20 Jan 2016 15:44

Tgt Ion: 42 Resp: 67558

Ion	Ratio	Lower	Upper
42	100		
72	46.6	22.6	62.6
71	41.2	20.8	60.8



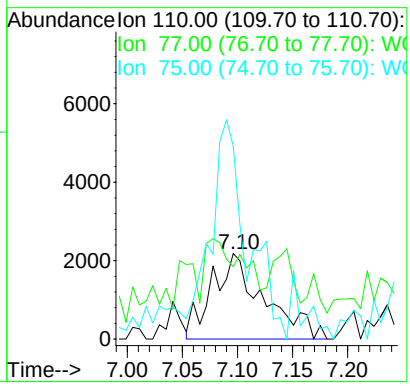
REASON # 2



#44
11dicloprope
Concen: 1.00 ug/L
RT: 7.10 min Scan# 874
Delta R.T. 0.00 min
Lab File: WCAL1.D
Acq: 20 Jan 2016 15:44

Tgt Ion:110 Resp: 7145

Ion	Ratio	Lower	Upper
110	100		
77	0.0	68.8	108.8#
75	180.3	263.0	303.0#



REASON # 2

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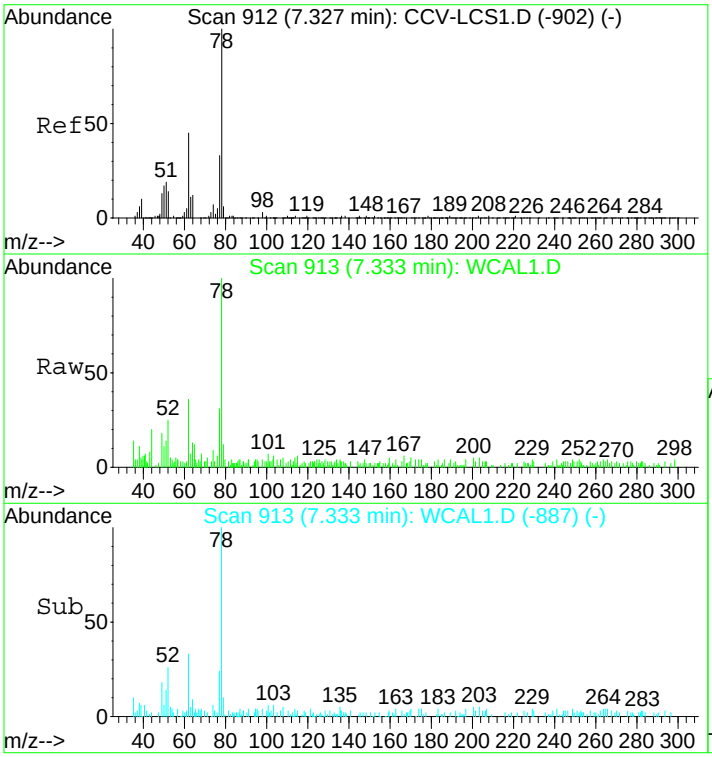
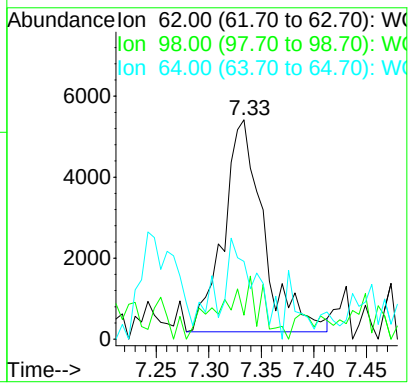


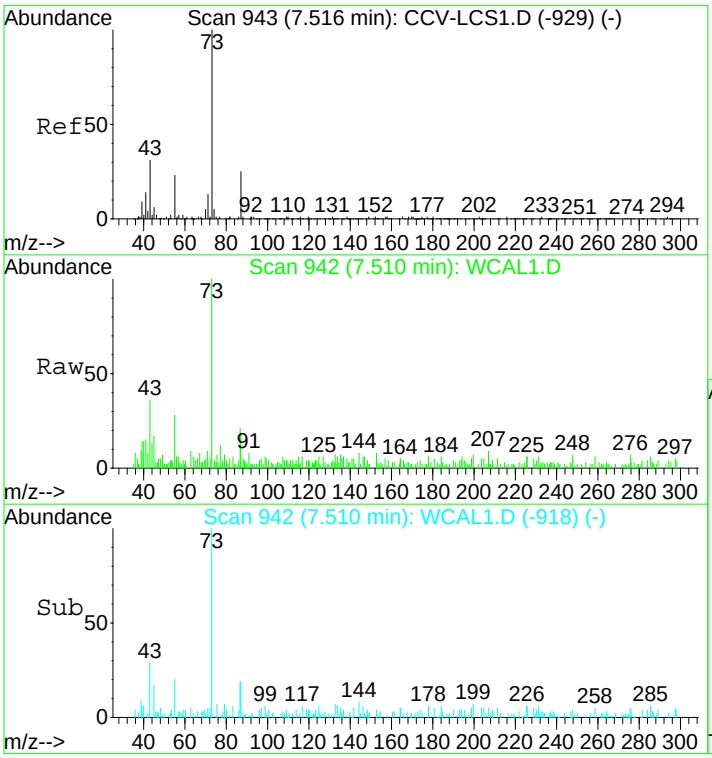
#47
12dichlorota
Concen: 0.84 ug/L
RT: 7.33 min Scan# 913
Delta R.T. 0.01 min
Lab File: WCAL1.D
Acq: 20 Jan 2016 15:44

Tgt Ion: 62 Resp: 13897

Ion	Ratio	Lower	Upper
62	100		
98	0.0	0.0	30.6
64	0.0	11.2	51.2#



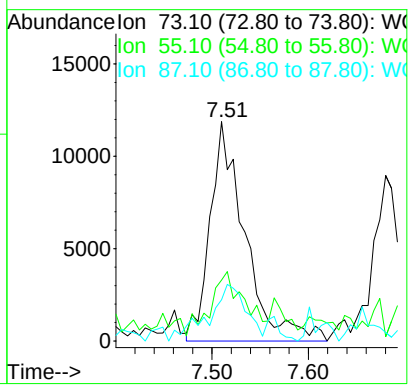
REASON # 2



#48
TAME
Concen: 0.70 ug/L
RT: 7.51 min Scan# 942
Delta R.T. -0.01 min
Lab File: WCAL1.D
Acq: 20 Jan 2016 15:44

Tgt Ion: 73 Resp: 29764

Ion	Ratio	Lower	Upper
73	100		
55	29.3	0.0	39.6
87	17.6	1.6	41.6



REASON # 2

Before Manual Integration

AGK
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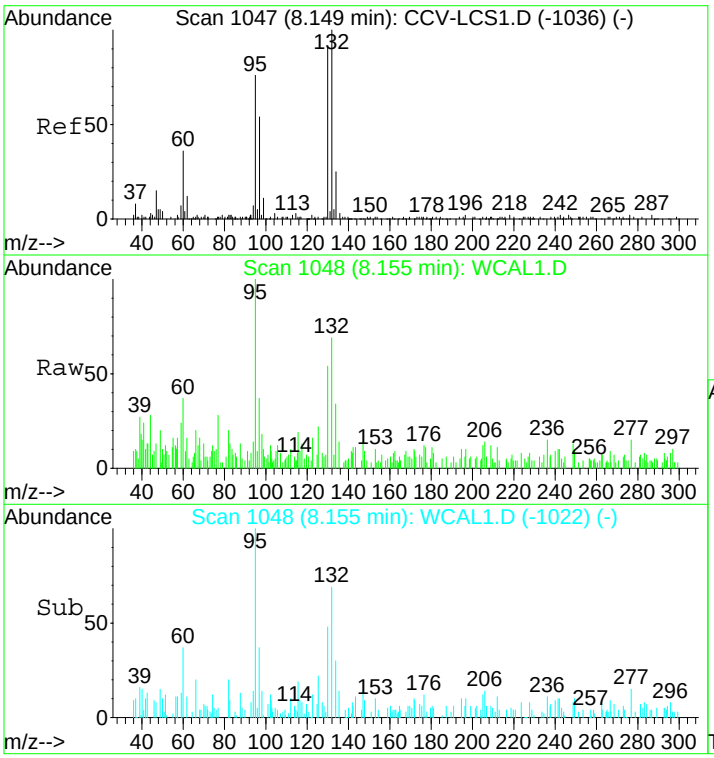
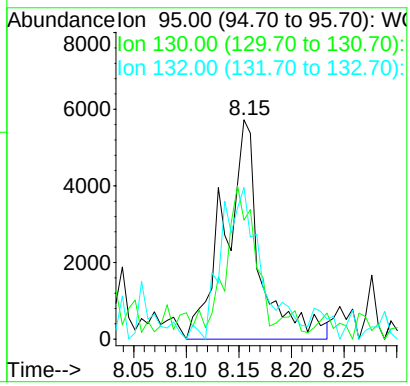


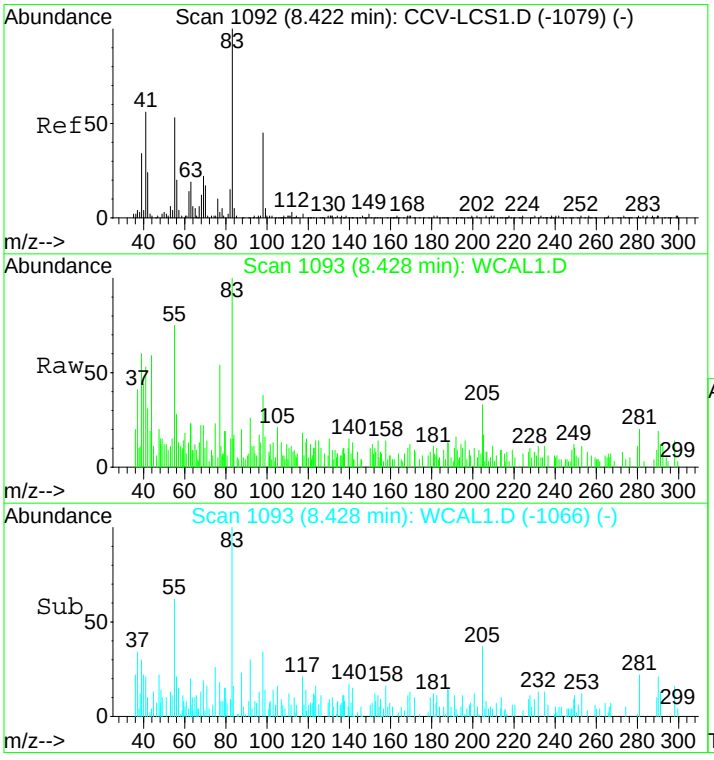
#49
trichloroete
Concen: 0.96 ug/L
RT: 8.15 min Scan# 1048
Delta R.T. 0.01 min
Lab File: WCAL1.D
Acq: 20 Jan 2016 15:44

Tgt Ion: 95 Resp: 13489

Ion	Ratio	Lower	Upper
95	100		
130	48.8	83.9	123.9#
132	78.5	79.1	119.1#



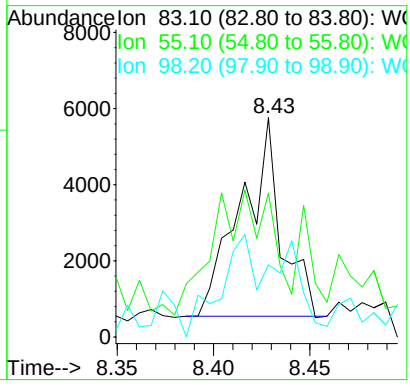
REASON # 2



#50
methylcyclohexane
Concen: 0.31 ug/L
RT: 8.43 min Scan# 1093
Delta R.T. 0.01 min
Lab File: WCAL1.D
Acq: 20 Jan 2016 15:44

Tgt Ion: 83 Resp: 7504

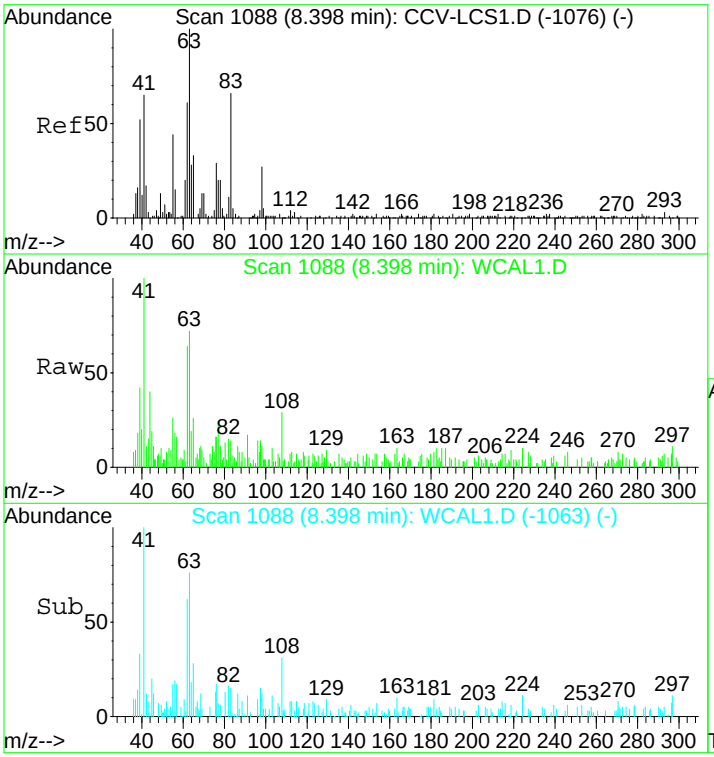
Ion	Ratio	Lower	Upper
83	100		
55	91.9	53.1	93.1
98	83.1	26.8	66.8#



REASON # 2

Before Manual Integration

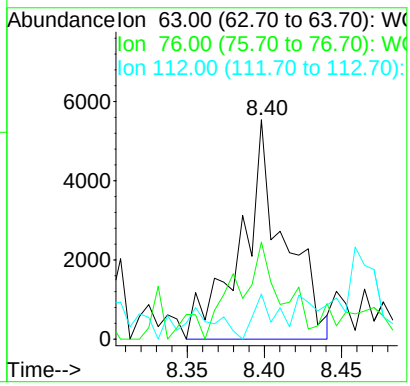
AGK
02/02/16



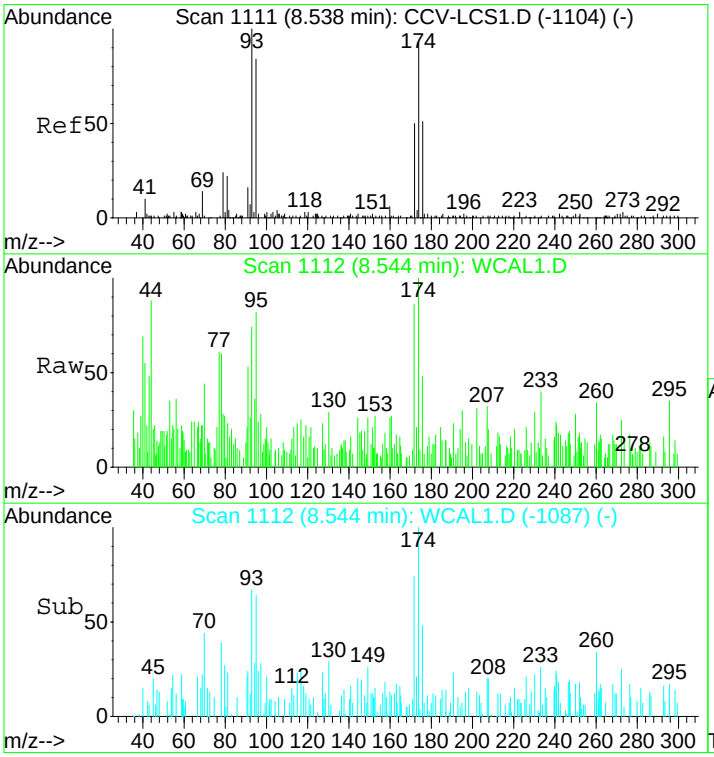
#51
12dicloropra
Concen: 0.70 ug/L
RT: 8.40 min Scan# 1088
Delta R.T. 0.00 min
Lab File: WCAL1.D
Acq: 20 Jan 2016 15:44

Tgt Ion: 63 Resp: 10730

Ion	Ratio	Lower	Upper
63	100		
76	0.0	21.0	61.0#
112	0.0	0.0	24.2



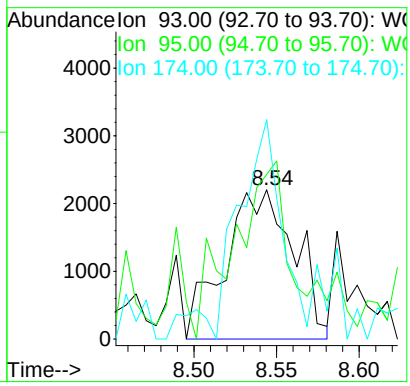
REASON # 2



#53
Dibromometha
Concen: 0.73 ug/L
RT: 8.54 min Scan# 1112
Delta R.T. 0.00 min
Lab File: WCAL1.D
Acq: 20 Jan 2016 15:44

Tgt Ion: 93 Resp: 6446

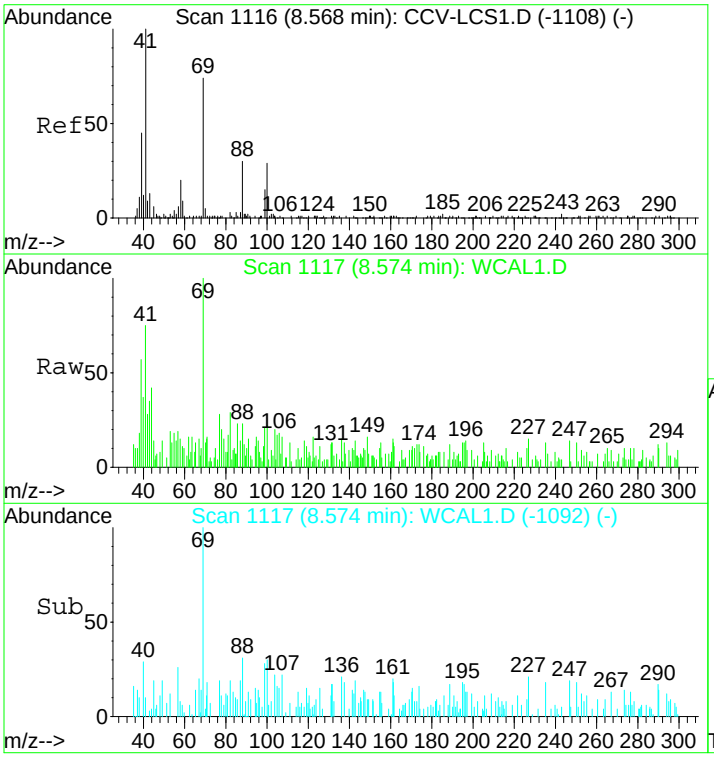
Ion	Ratio	Lower	Upper
93	100		
95	109.1	59.1	99.1#
174	88.8	83.5	123.5



REASON # 2

Before Manual Integration

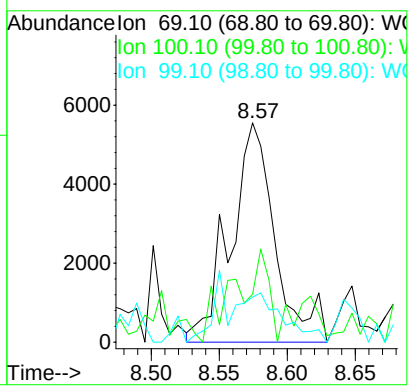
AGK
02/02/16



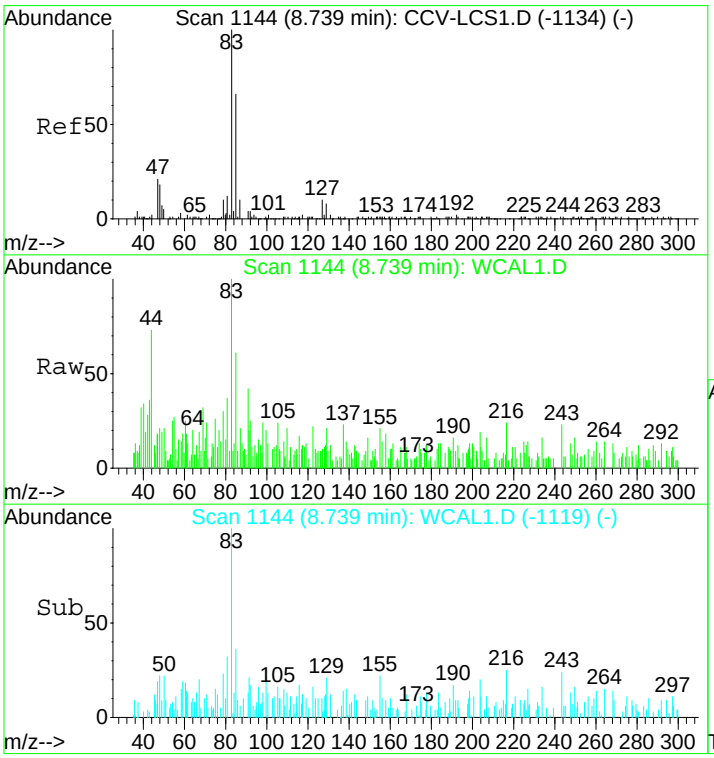
#54
methylmethacrylate
Concen: 0.84 ug/L
RT: 8.57 min Scan# 1117
Delta R.T. 0.00 min
Lab File: WCAL1.D
Acq: 20 Jan 2016 15:44

Tgt Ion: 69 Resp: 12620

Ion	Ratio	Lower	Upper
69	100		
100	0.0	15.7	55.7#
99	0.0	2.9	42.9#



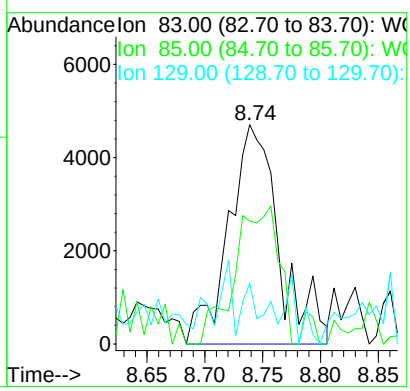
REASON # 2



#56
Bromodiclrma
Concen: 0.78 ug/L
RT: 8.74 min Scan# 1144
Delta R.T. 0.00 min
Lab File: WCAL1.D
Acq: 20 Jan 2016 15:44

Tgt Ion: 83 Resp: 14232

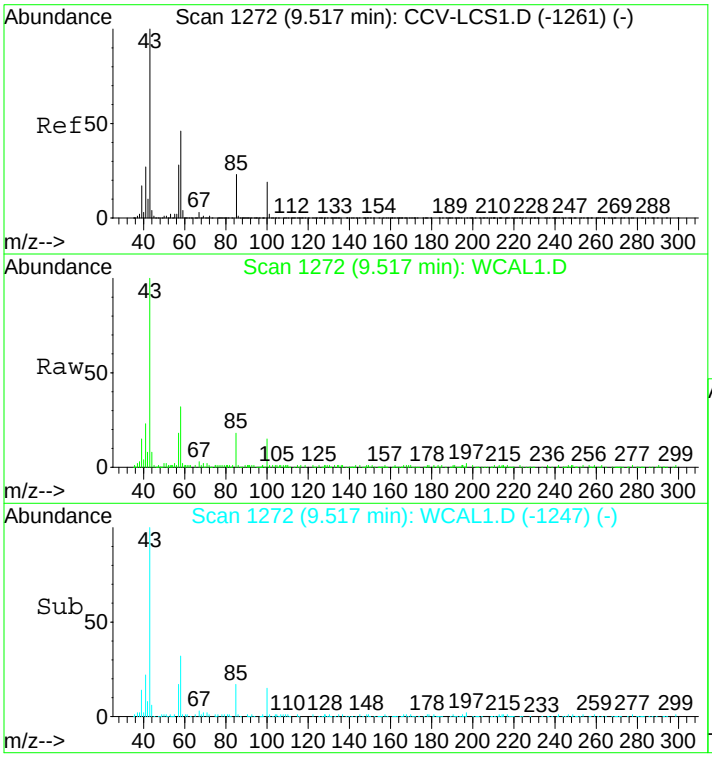
Ion	Ratio	Lower	Upper
83	100		
85	55.1	48.6	88.6
129	0.0	0.0	31.5



REASON # 2

Before Manual Integration

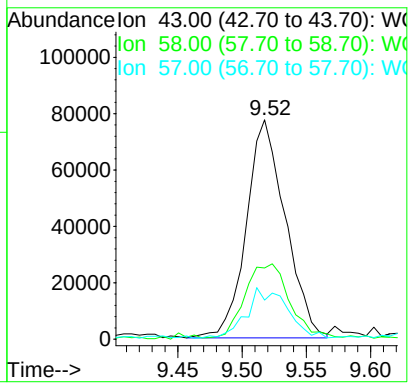
AGK
02/02/16



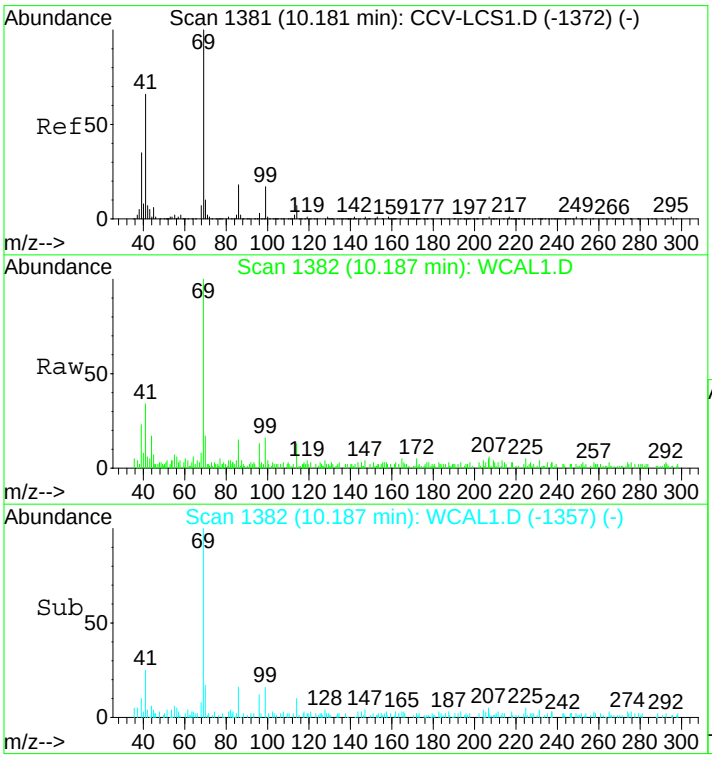
#60
4Meth2Pentan
Concen: 2.07 ug/L
RT: 9.52 min Scan# 1272
Delta R.T. 0.00 min
Lab File: WCAL1.D
Acq: 20 Jan 2016 15:44

Tgt Ion: 43 Resp: 163896

Ion	Ratio	Lower	Upper
43	100		
58	38.5	22.6	62.6
57	24.0	6.6	46.6



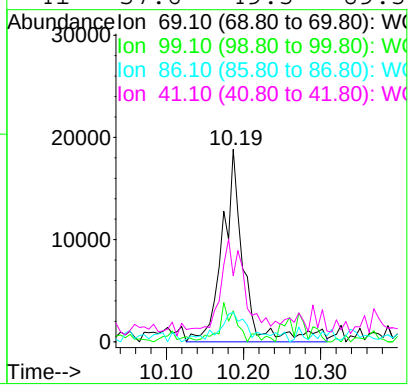
REASON # 2



#64
ethylmethacrylate
Concen: 1.58 ug/L
RT: 10.19 min Scan# 1382
Delta R.T. 0.00 min
Lab File: WCAL1.D
Acq: 20 Jan 2016 15:44

Tgt Ion: 69 Resp: 36282

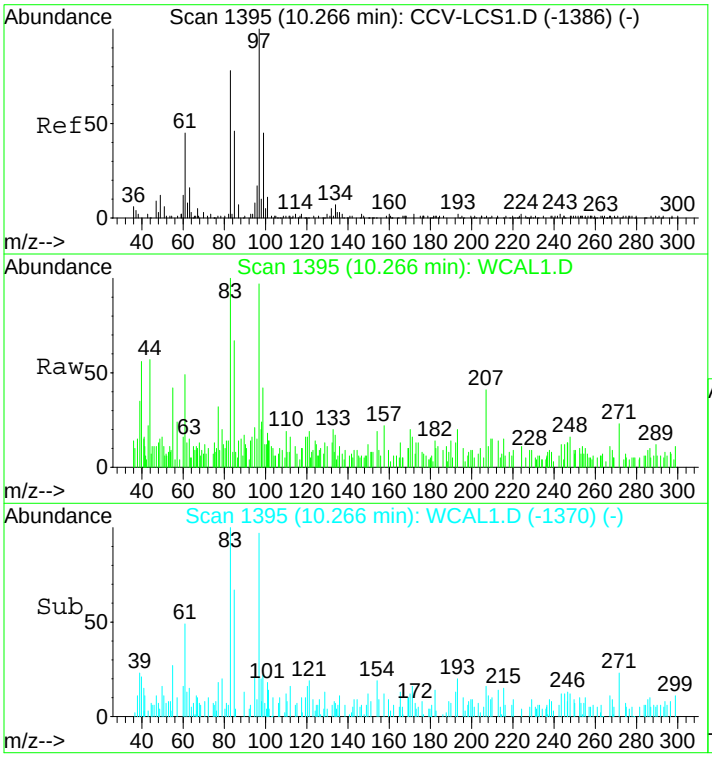
Ion	Ratio	Lower	Upper
69	100		
99	14.7	0.0	36.8
86	24.3	0.0	36.1
41	57.6	49.3	89.3



REASON # 2

Before Manual Integration

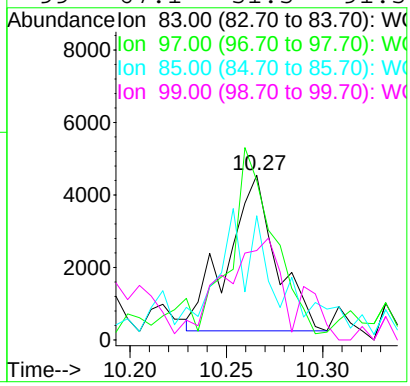
AGK
02/02/16



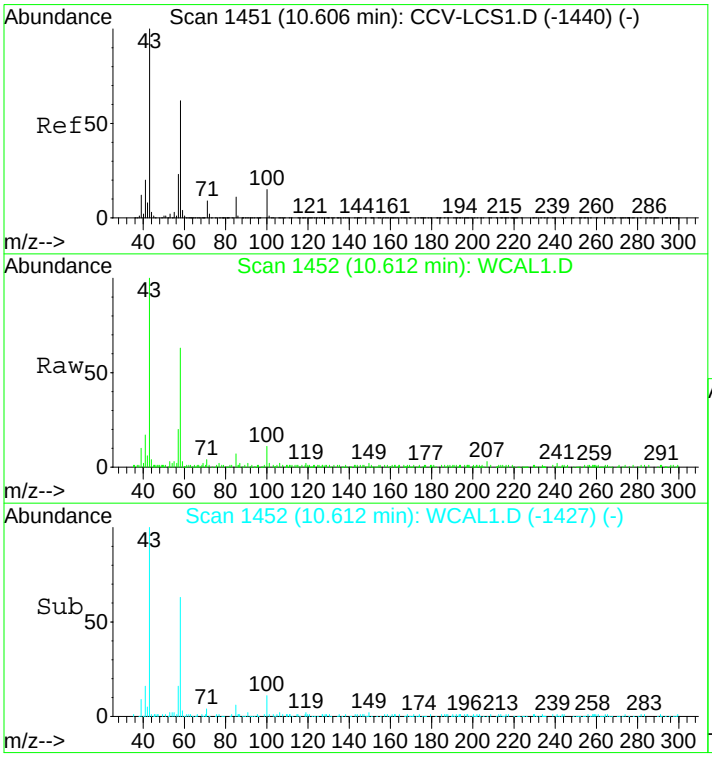
#65
112Trichlotha
Concen: 0.64 ug/L
RT: 10.27 min Scan# 1395
Delta R.T. 0.00 min
Lab File: WCAL1.D
Acq: 20 Jan 2016 15:44

Tgt Ion: 83 Resp: 7535

Ion	Ratio	Lower	Upper
83	100		
97	110.5	93.0	133.0
85	91.9	40.1	80.1#
99	67.1	51.5	91.5



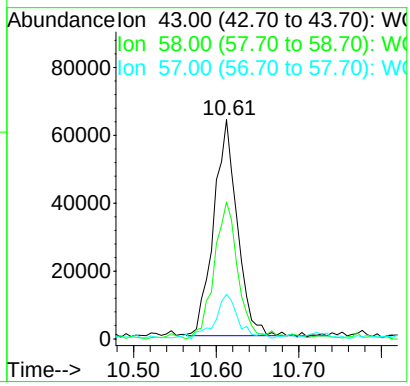
REASON # 2



#69
2Hexanone
Concen: 2.45 ug/L
RT: 10.61 min Scan# 1452
Delta R.T. 0.00 min
Lab File: WCAL1.D
Acq: 20 Jan 2016 15:44

Tgt Ion: 43 Resp: 126882

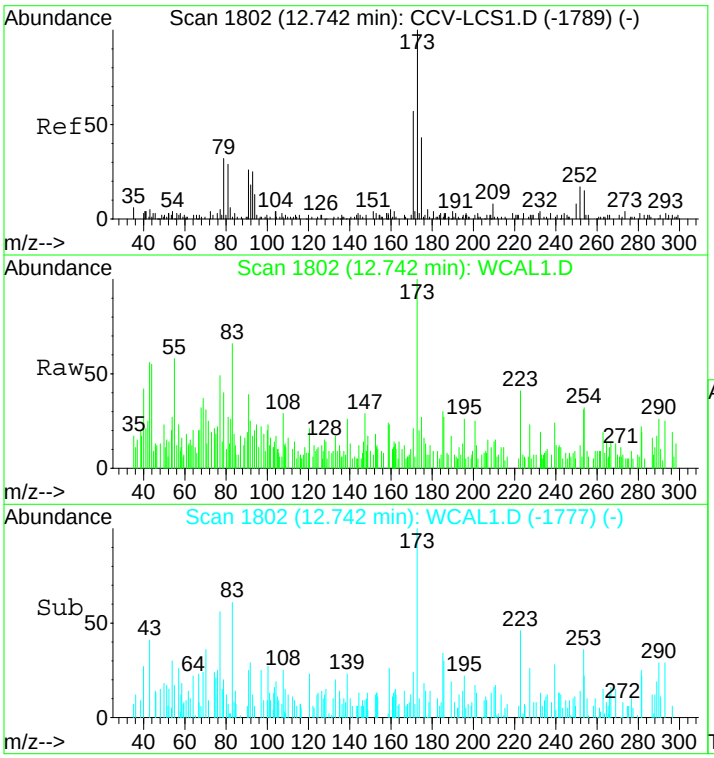
Ion	Ratio	Lower	Upper
43	100		
58	66.1	38.9	78.9
57	20.1	0.2	40.2



REASON # 2

Before Manual Integration

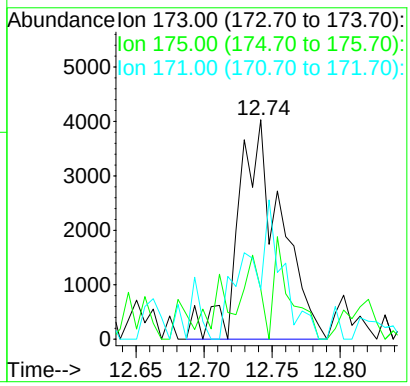
AGK
02/02/16



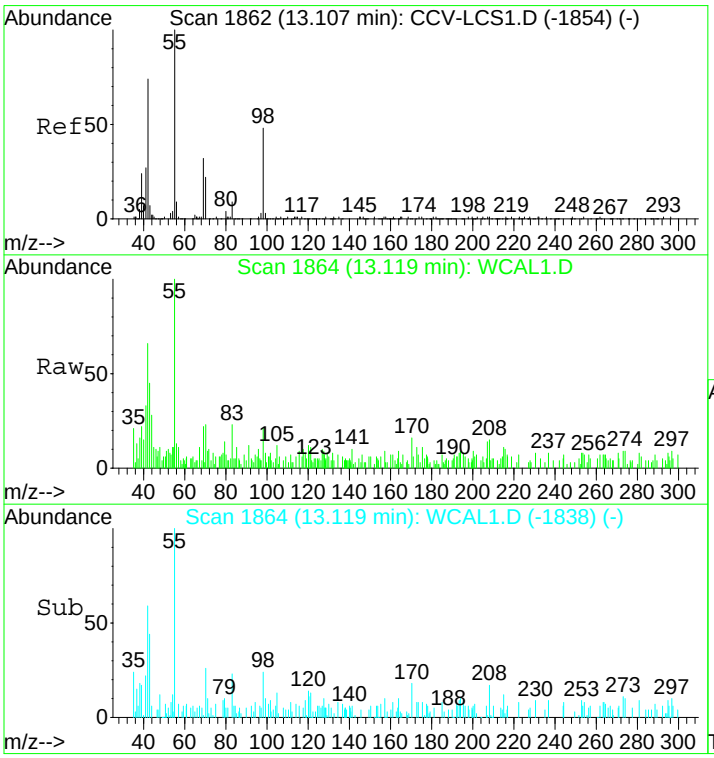
#79
Bromoform
Concen: 0.83 ug/L
RT: 12.74 min Scan# 1802
Delta R.T. 0.00 min
Lab File: WCAL1.D
Acq: 20 Jan 2016 15:44

Tgt Ion:173 Resp: 8794

Ion	Ratio	Lower	Upper
173	100		
175	0.0	25.8	65.8#
171	0.0	29.9	69.9#



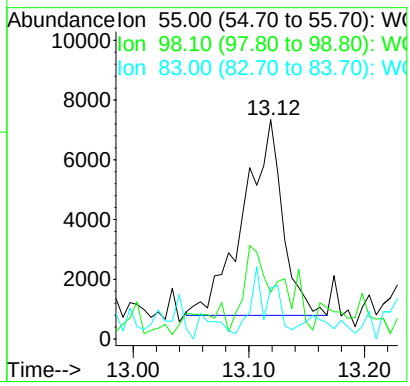
REASON # 2



#81
cyclohexanone
Concen: 12.94 ug/L
RT: 13.12 min Scan# 1864
Delta R.T. 0.01 min
Lab File: WCAL1.D
Acq: 20 Jan 2016 15:44

Tgt Ion: 55 Resp: 15451

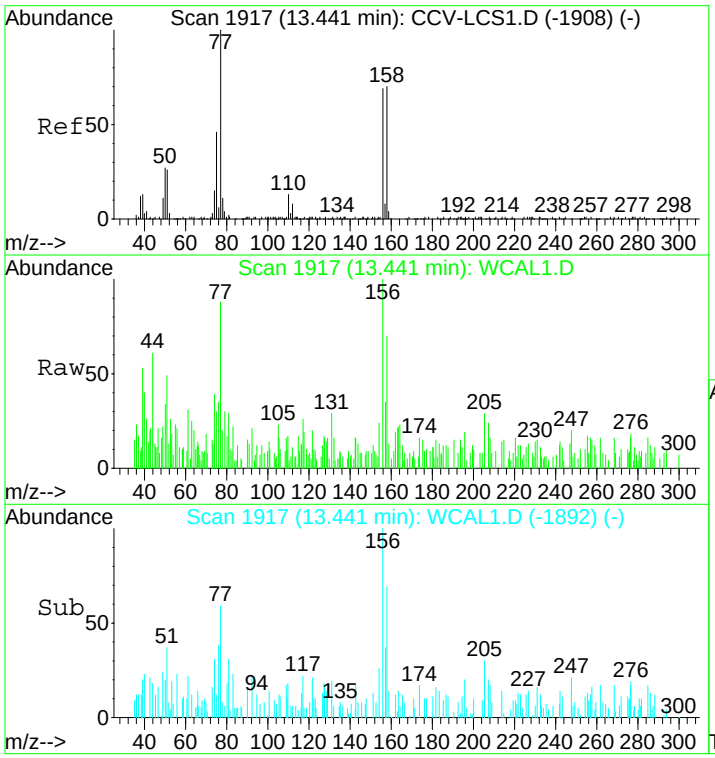
Ion	Ratio	Lower	Upper
55	100		
98	40.3	26.1	66.1
83	0.0	0.0	30.4



REASON # 2

Before Manual Integration

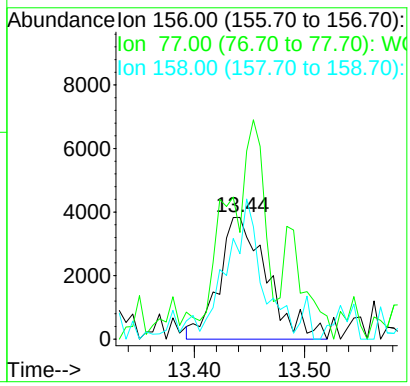
AGK
02/02/16



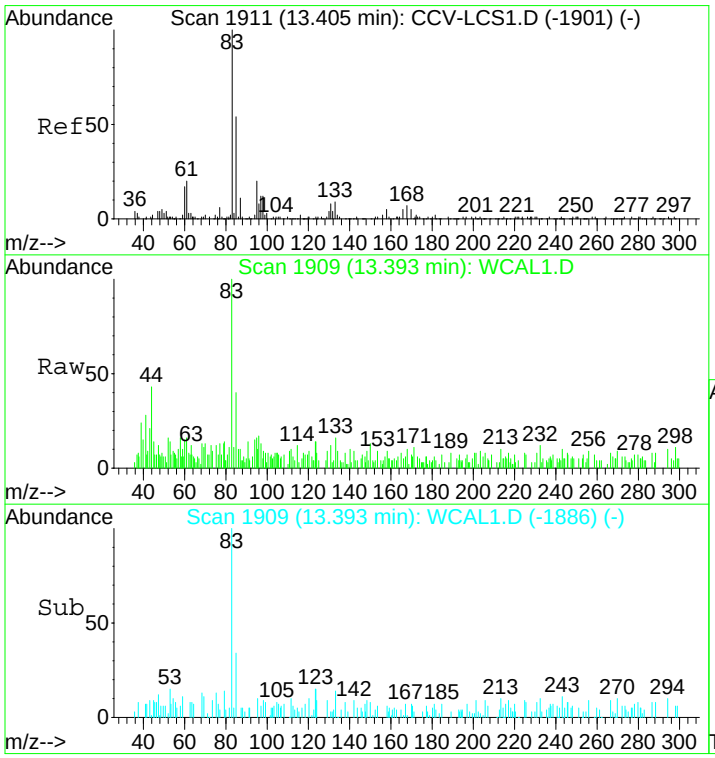
#84
Bromobenzene
Concen: 0.77 ug/L
RT: 13.44 min Scan# 1917
Delta R.T. 0.00 min
Lab File: WCAL1.D
Acq: 20 Jan 2016 15:44

Tgt Ion:156 Resp: 11589

Ion	Ratio	Lower	Upper
156	100		
77	120.6	167.8	207.8#
158	73.6	71.0	111.0



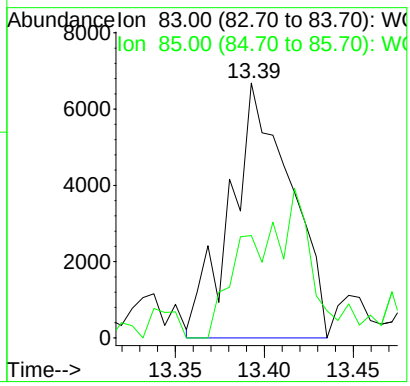
REASON # 2



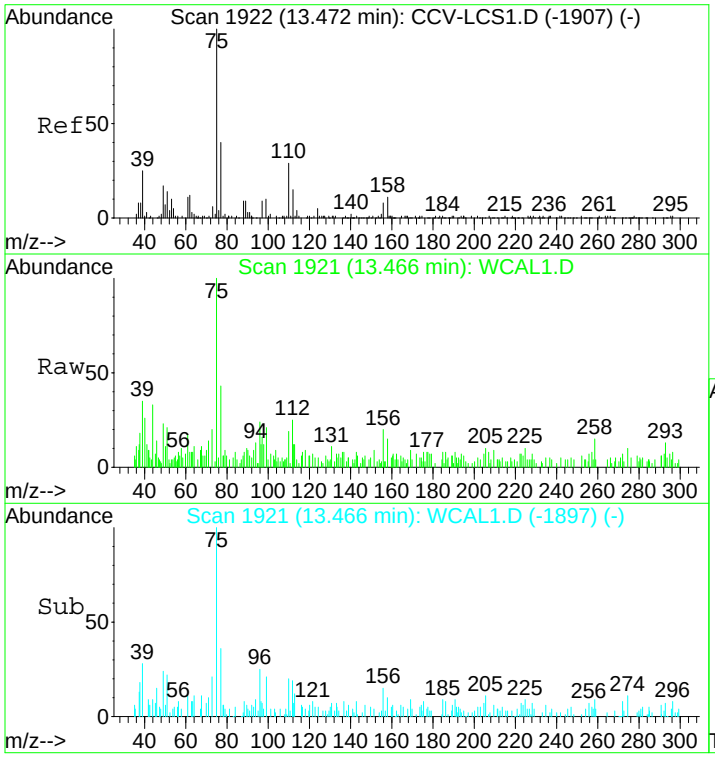
#85
1122Tetrclta
Concen: 0.74 ug/L
RT: 13.39 min Scan# 1909
Delta R.T. -0.01 min
Lab File: WCAL1.D
Acq: 20 Jan 2016 15:44

Tgt Ion: 83 Resp: 15664

Ion	Ratio	Lower	Upper
83	100		
85	61.3	48.6	88.6



REASON # 2



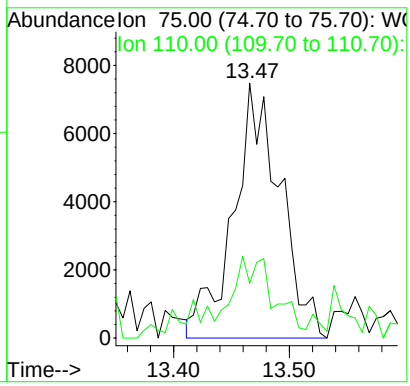
#86
123Triclproa
Concen: 0.77 ug/L
RT: 13.47 min Scan# 1921
Delta R.T. -0.01 min
Lab File: WCAL1.D
Acq: 20 Jan 2016 15:44

Tgt Ion: 75 Resp: 20988

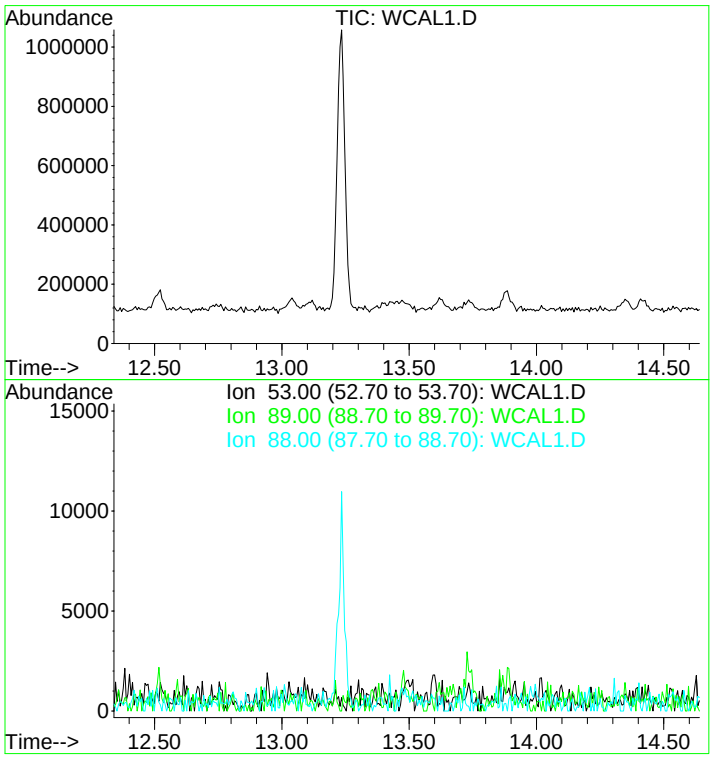
Ion	Ratio	Lower	Upper
75	100		
110	0.0	4.0	44.0#

Before Manual Integration

AGK
02/02/16



REASON # 2

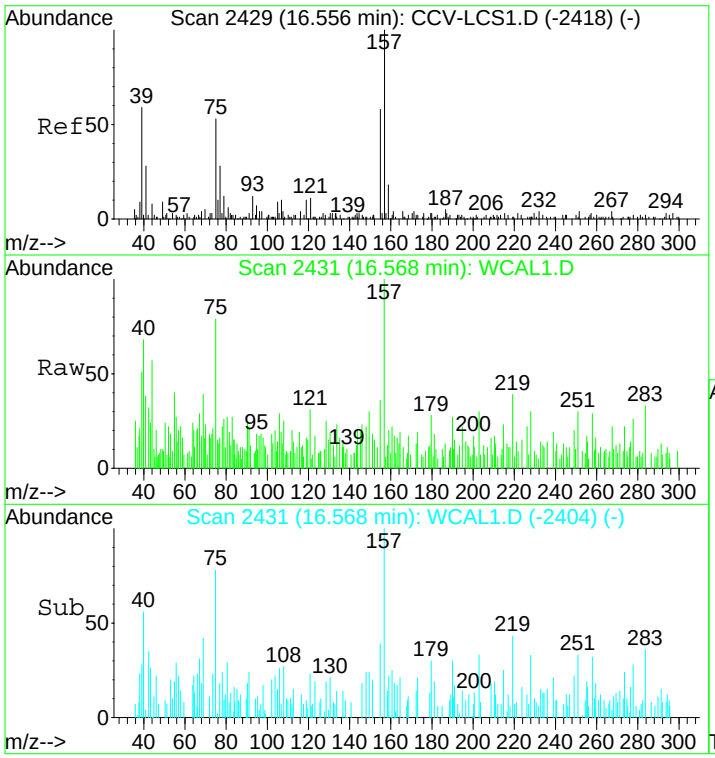


#87
14dichloro2butene
Concen: N.D.
Expected RT: 13.49 min

Lab File: WCAL1.D
Acq: 20 Jan 2016 15:44

Tgt Ion: 53

Sig	Exp Ratio
53	100
89	74.2
88	50.4



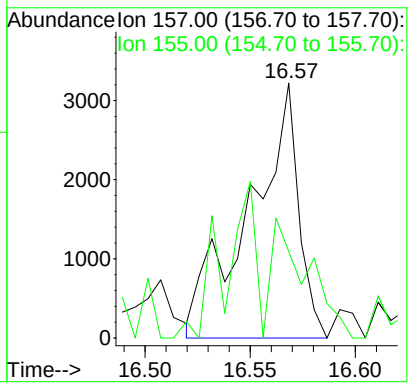
#100
12dibromo3cl
Concen: 0.84 ug/L
RT: 16.57 min Scan# 2431
Delta R.T. 0.01 min
Lab File: WCAL1.D
Acq: 20 Jan 2016 15:44

Tgt Ion:157 Resp: 5229

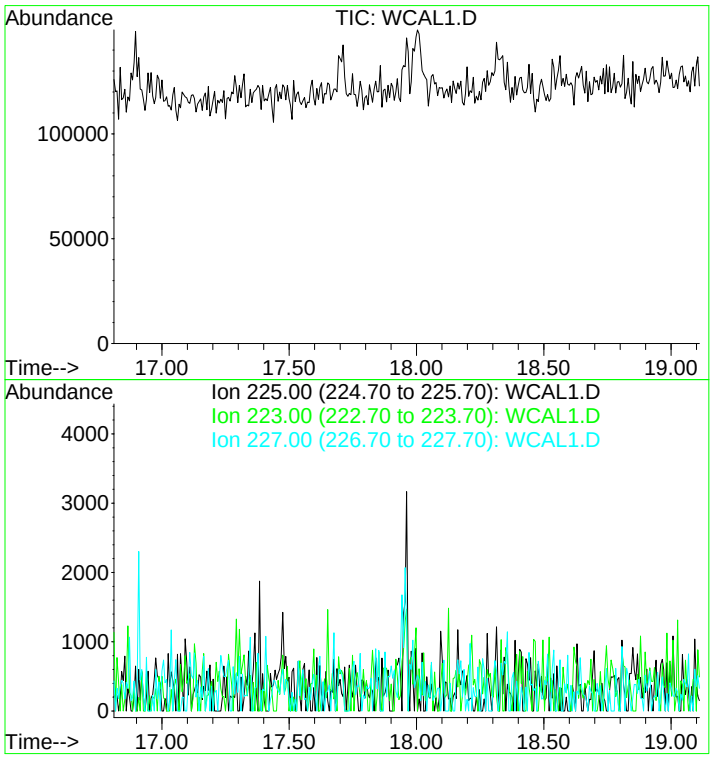
Ion	Ratio	Lower	Upper
157	100		
155	0.0	54.2	94.2#

Before Manual Integration

AGK
02/02/16



REASON # 2



#103
Hexachlorobu
Concen: N.D.
Expected RT: 17.96 min

Lab File: WCAL1.D
Acq: 20 Jan 2016 15:44

Tgt Ion: 225

Sig	Exp Ratio
225	100
223	65.7
227	72.8

Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2016\WCAL2.D Vial: 7
Acq On : 20 Jan 2016 16:14 Operator: AGK-RLD
Sample : INITIAL CALIB. PT2 Inst : VMS3
Misc : 2.00/20.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 07:45:31 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 07:23:27 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.68	96	1170516	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.60	117	866733	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.90	152	466593	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.82	113	286767	19.451	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 97 %			
45) SURR12DCAd4	7.24	102	85296	20.221	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 101 %			
61) SURRd8Tolule	9.69	98	1182821	19.891	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 99 %			
83) SURR4BrFBenz	13.23	95	379678	20.239	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 101 %			
Target Compounds						Qvalue
2) Dichlorodi	1.83	85	33575	2.1643	ug/L	89
3) Chloromethan	2.10	50	55189	2.2866	ug/L	91
4) VinylChlorid	2.23	62	61246	2.0155	ug/L #	65
5) Bromomethane	2.70	94	25104m	1.8838	ug/L	98
6) Chloroethane	2.86	64	38178m	1.4427	ug/L	88
7) Dichloroflmethane	3.17	67	85360m	1.9041	ug/L	89
8) Trichlorofma	3.25	101	39571	1.7943	ug/L	88
9) Ethylether	3.70	59	29926	2.1602	ug/L	93
10) dichlorotfluoroethan	3.68	67	35856	2.2892	ug/L	95
11) propyleneoxide	4.04	58	75779	20.8658	ug/L	98
12) Acrolein	3.82	56	51305	9.0860	ug/L	98
13) 11dichlorthe	3.96	96	28335	2.0979	ug/L	92
14) Trichlorotfluoroeth	4.01	101	50896	4.1383	ug/L	98
15) Acetone	4.04	43	216991	21.4224	ug/L	100
16) Iodomethane	4.14	142	26599	2.7813	ug/L	91
17) Carbon Dislf	4.24	76	154685	4.4786	ug/L	96
18) allylchloride	4.46	41	80908	4.5123	ug/L	99
19) methylacetate	4.52	74	11823	1.9084	ug/L #	40
20) Methylchlorid	4.61	84	33396	2.1538	ug/L	93
21) tbutylalcohol	4.82	59	464283	106.7788	ug/L	94
22) Acrylonitrile	4.91	53	99934	9.9607	ug/L	96
23) t12dichlorte	4.99	96	28698	1.9564	ug/L	87
24) MtBE	5.03	73	87794	2.1139	ug/L	89
25) Hexane	5.39	57	84892	4.5805	ug/L #	89
26) 11dichlorota	5.51	63	47713	1.9777	ug/L	80
27) Vinylacetate	5.61	43	617042	24.3415	ug/L	95
28) chloroprene	5.65	53	88880	4.1709	ug/L	99
29) Diisopether	5.67	45	96037	2.1844	ug/L	95
30) ETBE	6.12	59	91435	2.2372	ug/L	94
31) 22dichloropr	6.24	77	49948	2.2387	ug/L	99
32) c12dichlorte	6.24	96	34029	2.1265	ug/L	97
33) 2Butanone	6.26	72	88037	20.2714	ug/L	96
34) propionitrile	6.29	54	87849	20.0986	ug/L	87
35) Ethylacetate	6.38	88	12555	9.2690	ug/L	94
36) methacrylonitrile	6.49	67	46818	4.2289	ug/L	87
37) Bromochlorma	6.52	128	16460	2.4392	ug/L #	86
38) Tetrahydofur	6.63	42	218029	21.1434	ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2016\WCAL2.D Vial: 7
Acq On : 20 Jan 2016 16:14 Operator: AGK-RLD
Sample : INITIAL CALIB. PT2 Inst : VMS3
Misc : 2.00/20.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 07:45:31 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 07:23:27 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.65	83	49336	2.0879	ug/L		97
40)	111trichlota	6.89	97	42719	2.0452	ug/L		94
42)	Cyclohexane	6.97	56	54338	2.1475	ug/L		96
43)	Carbtetraclo	7.11	119	36329	2.0280	ug/L		91
44)	11dicloprope	7.09	110	16397	2.0317	ug/L	#	72
46)	Benzene	7.33	78	121198	2.1765	ug/L		94
47)	12dichlorota	7.33	62	34840	1.9017	ug/L	#	77
48)	TAME	7.52	73	91838	2.1031	ug/L		89
49)	trichloroete	8.15	95	31842	2.0086	ug/L		98
50)	methylcyclohexane	8.42	83	52963	2.2222	ug/L		97
51)	12dicloropra	8.39	63	35157	2.2209	ug/L	#	90
52)	23Dicl1propene	8.46	75	40068	1.9621	ug/L		88
53)	Dibromometha	8.54	93	21524	2.2750	ug/L		98
54)	methylmethacrylate	8.57	69	33881	2.0236	ug/L		93
55)	14dioxane	8.59	88	26088	86.9819	ug/L		94
56)	Bromodiclrma	8.74	83	38388	2.0034	ug/L	#	93
57)	2Nitropropane	8.99	43	149537	19.9686	ug/L		98
58)	2CLEVE	9.13	63	41227	7.6019	ug/L		94
59)	c13dicloproe	9.32	75	47478	2.0691	ug/L		98
60)	4Meth2Pentan	9.52	43	560367	24.4289	ug/L		96
62)	Toluene	9.78	92	75116	2.1098	ug/L		95
63)	t13Dicloprop	10.03	75	41741	2.0364	ug/L		92
64)	ethylmethacrylate	10.18	69	96804	4.0339	ug/L		90
65)	112Triclotha	10.26	83	28307	2.4043	ug/L		90
66)	Tetrachlorte	10.51	166	31426	2.0920	ug/L		93
67)	13Diclorpropa	10.49	76	50153	2.0842	ug/L		99
69)	2Hexanone	10.61	43	454719	23.8582	ug/L		95
70)	Clorodibrmta	10.79	129	32817	2.1803	ug/L		97
71)	12Dibrometha	10.94	107	29162	2.0571	ug/L		89
72)	Chlorobenzen	11.63	112	83400	2.2005	ug/L		93
73)	1Clhexane	11.62	91	41446	1.9828	ug/L	#	72
74)	1112Tetclota	11.75	131	27256	2.1257	ug/L		96
75)	Ethylbenzene	11.80	91	140872	2.2721	ug/L		92
76)	m p-Xylene	11.97	106	103986	4.1624	ug/L		95
77)	o-Xylene	12.51	106	54051	2.1628	ug/L		94
78)	Styrene	12.52	104	78946	2.0582	ug/L		96
79)	Bromoform	12.75	173	23279	1.9765	ug/L		83
80)	Isopropylben	13.04	105	130558	2.1891	ug/L		98
81)	cyclohexanone	13.12	55	46538	38.9376	ug/L		94
84)	Bromobenzene	13.44	156	33050	2.0154	ug/L		92
85)	1122Tetrclta	13.40	83	47950	2.1050	ug/L		94
86)	123Triclproa	13.47	75	58128	1.9540	ug/L		91
87)	14dichloro2butene	13.50	53	10887	1.7857	ug/L		97
88)	n-Propylbenz	13.62	91	148889	2.2070	ug/L		99
89)	2chlorotolue	13.74	91	82770	2.0790	ug/L		97
90)	4chlorotolue	13.89	91	94094	2.0565	ug/L		99
91)	135Trimebenz	13.87	105	101107	2.1616	ug/L		97
92)	tbutylbenzen	14.35	119	88123	2.0513	ug/L		96
93)	124Trimetben	14.41	105	90509	2.0016	ug/L		95
94)	sbutylbenzen	14.67	105	131979	2.1878	ug/L		97
95)	13Diclorbenz	14.80	146	56751	1.9959	ug/L		93
96)	pIsopropylto	14.88	119	99810	2.0125	ug/L	#	99
97)	14dichlorobe	14.93	146	59157	2.0850	ug/L		92
98)	12dichlorobe	15.47	146	50389	1.8901	ug/L		74
99)	nButylbenzen	15.47	91	87747	1.9490	ug/L		97
100)	12dibromo3cl	16.56	157	13360	1.9215	ug/L		96
101)	135Trichlorobenzene	16.90	180	37287	2.0741	ug/L		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2016\WCAL2.D Vial: 7
Acq On : 20 Jan 2016 16:14 Operator: AGK-RLD
Sample : INITIAL CALIB. PT2 Inst : VMS3
Misc : 2.00/20.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 07:45:31 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 07:23:27 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

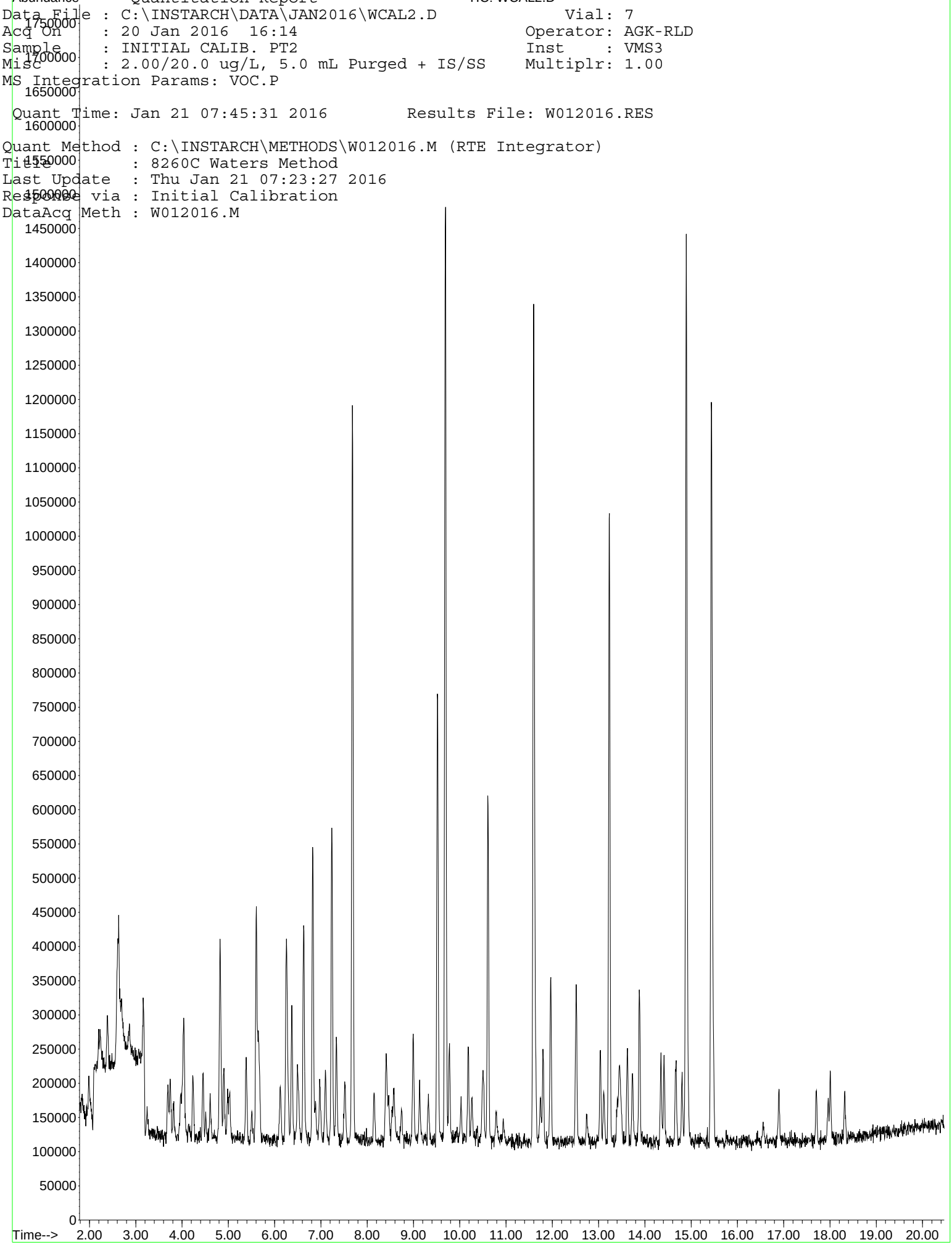
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102)	124Trichlobe	17.70	180	30331	1.8152	ug/L	98
103)	Hexachlorobu	17.96	225	15139	2.0457	ug/L	84
104)	Naphthalene	18.01	128	101484	1.9653	ug/L	97
105)	123Trichlben	18.32	180	30757	1.9784	ug/L	89

(#) = qualifier out of range (m) = manual integration

Data File : C:\INSTARCH\DATA\JAN2016\WCAL2.D Vial: 7
Acq On : 20 Jan 2016 16:14 Operator: AGK-RLD
Sample : INITIAL CALIB. PT2 Inst : VMS3
Misc : 2.00/20.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

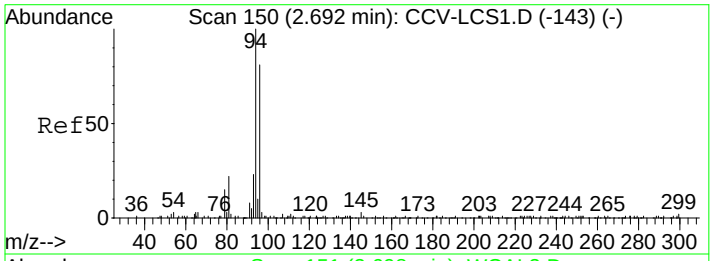
Quant Time: Jan 21 07:45:31 2016 Results File: W012016.RES

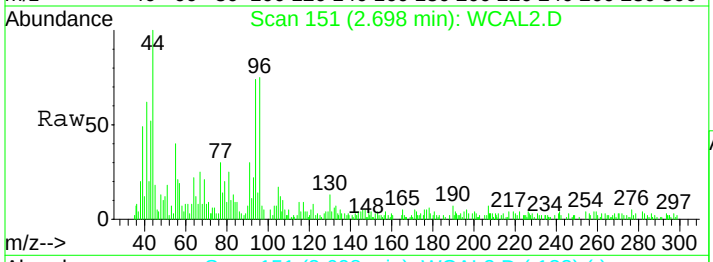
Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 07:23:27 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

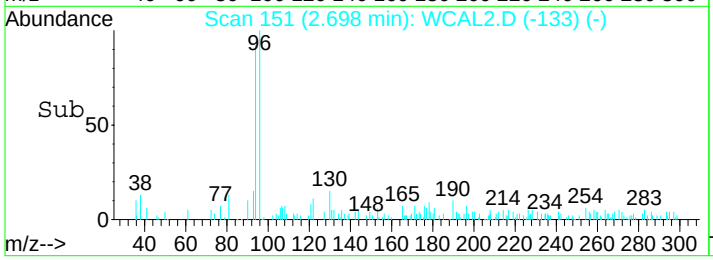


After Manual Integration

AGK
02/02/16



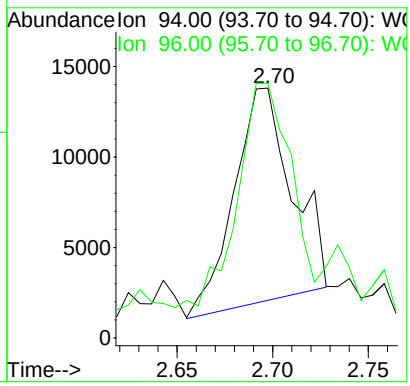


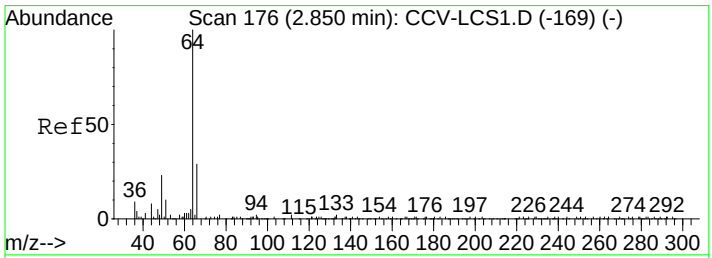


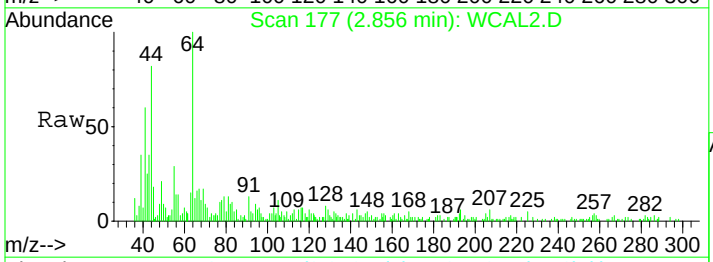
#5
Bromomethane
Concen: 1.88 ug/L m
RT: 2.70 min Scan# 151
Delta R.T. 0.01 min
Lab File: WCAL2.D
Acq: 20 Jan 2016 16:14

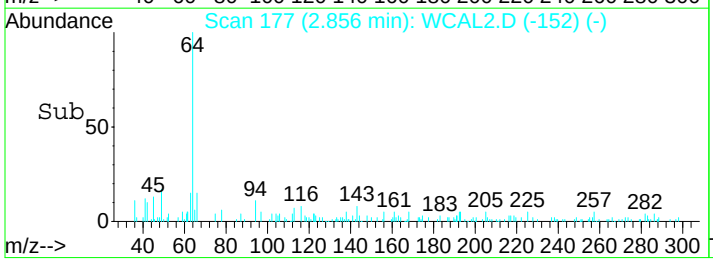
Tgt Ion: 94 Resp: 25104

Ion	Ratio	Lower	Upper
94	100		
96	110.0	71.0	111.0





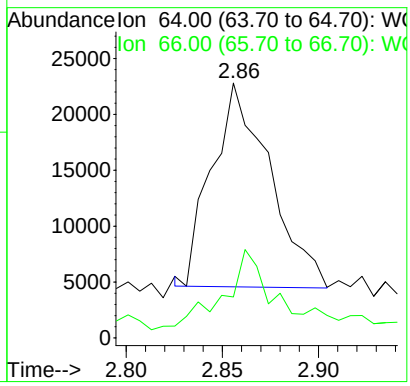




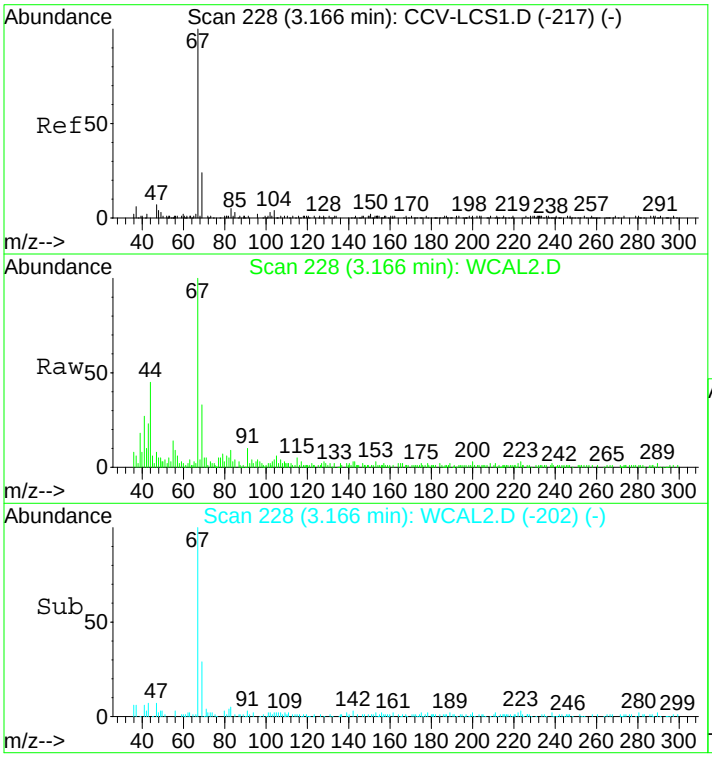
#6
Chloroethane
Concen: 1.44 ug/L m
RT: 2.86 min Scan# 177
Delta R.T. -0.00 min
Lab File: WCAL2.D
Acq: 20 Jan 2016 16:14

Tgt Ion: 64 Resp: 38178

Ion	Ratio	Lower	Upper
64	100		
66	41.3	10.9	50.9



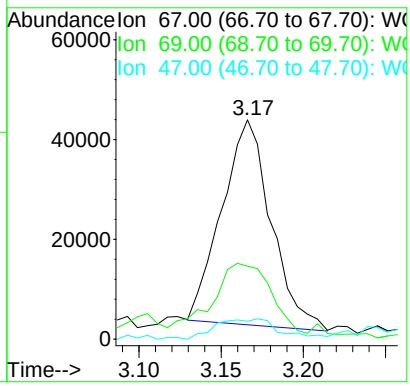
RJ 02/02/2016



#7
Dichloroflmethane
Concen: 1.90 ug/L m
RT: 3.17 min Scan# 228
Delta R.T. 0.01 min
Lab File: WCAL2.D
Acq: 20 Jan 2016 16:14

Tgt Ion: 67 Resp: 85360

Ion	Ratio	Lower	Upper
67	100		
69	48.7	14.3	54.3
47	11.0	0.0	29.9



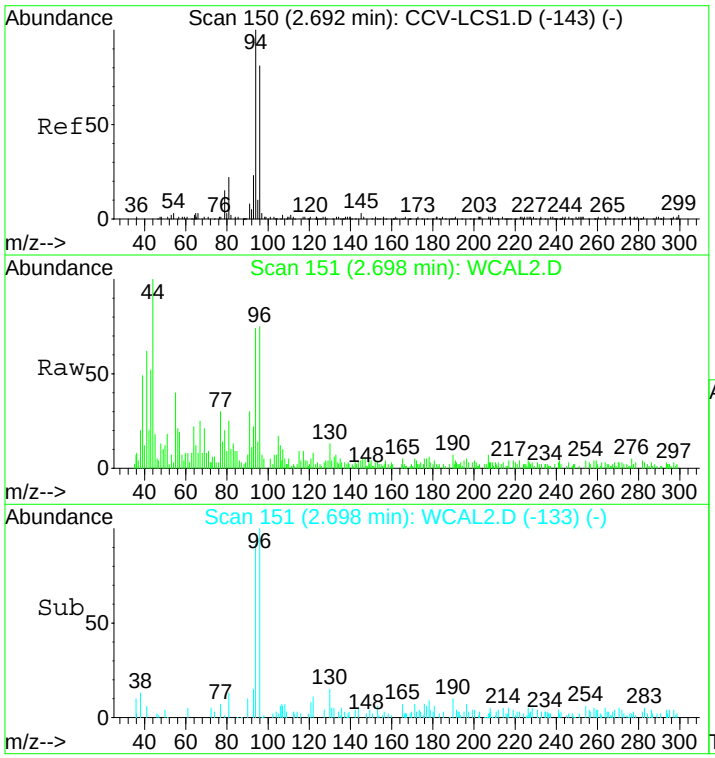
After Manual Integration

AGK
02/02/16

RJ 02/02/2016

Before Manual Integration

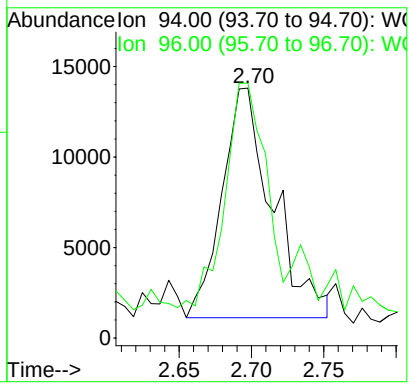
AGK
02/02/16



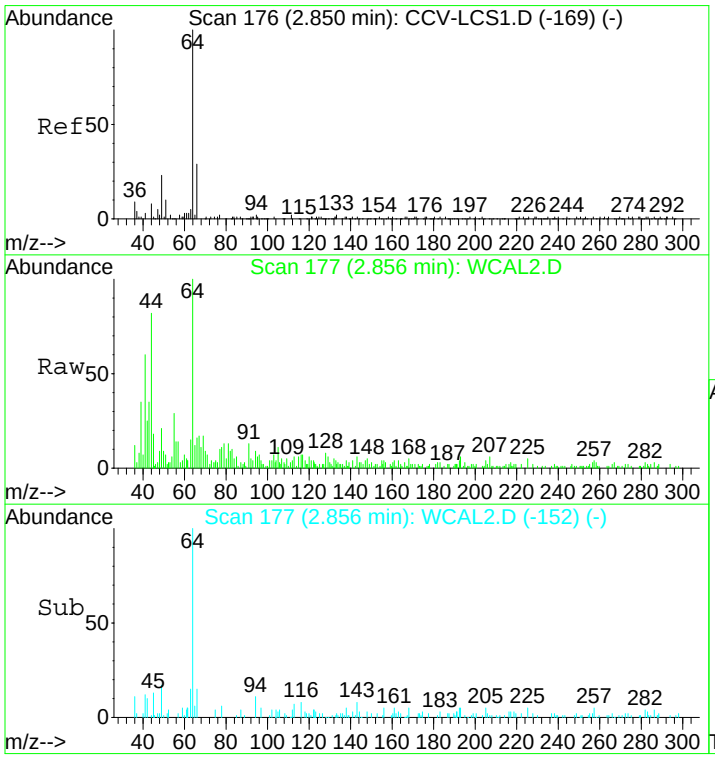
#5
Bromomethane
Concen: 2.67 ug/L
RT: 2.70 min Scan# 151
Delta R.T. 0.01 min
Lab File: WCAL2.D
Acq: 20 Jan 2016 16:14

Tgt Ion: 94 Resp: 30958

Ion	Ratio	Lower	Upper
94	100		
96	89.2	71.0	111.0



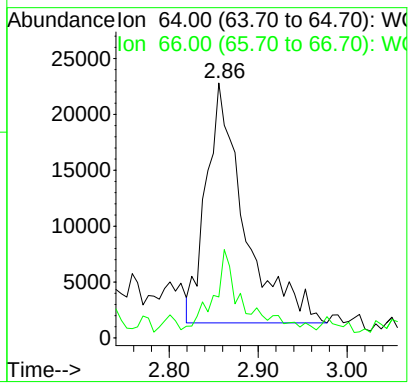
REASON # 2



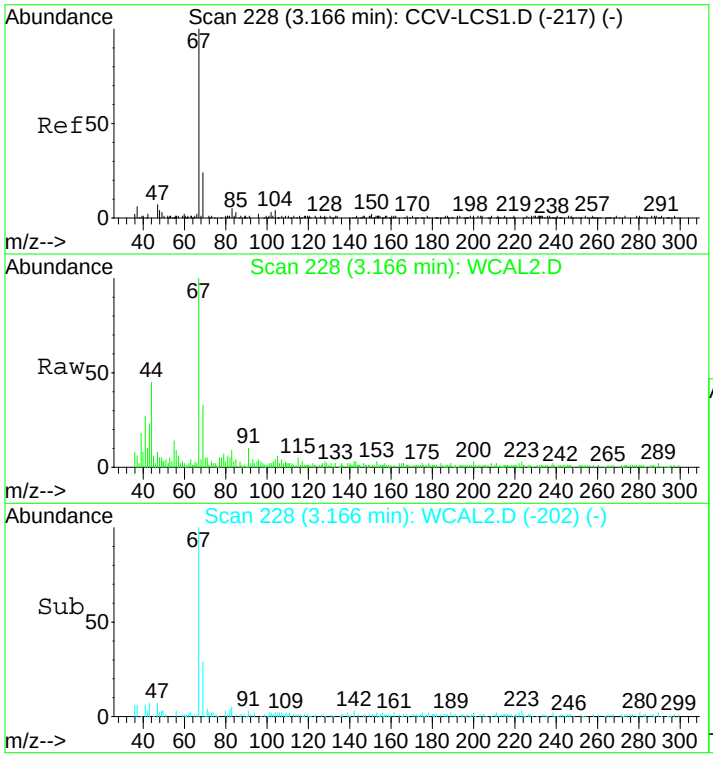
#6
Chloroethane
Concen: 3.13 ug/L
RT: 2.86 min Scan# 177
Delta R.T. 0.00 min
Lab File: WCAL2.D
Acq: 20 Jan 2016 16:14

Tgt Ion: 64 Resp: 64381

Ion	Ratio	Lower	Upper
64	100		
66	24.5	10.9	50.9



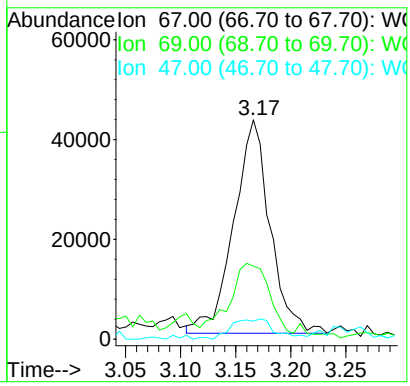
REASON # 2



#7
Dichloroflmethane
Concen: 2.40 ug/L
RT: 3.17 min Scan# 228
Delta R.T. 0.01 min
Lab File: WCAL2.D
Acq: 20 Jan 2016 16:14

Tgt Ion: 67 Resp: 98289

Ion	Ratio	Lower	Upper
67	100		
69	42.3	14.3	54.3
47	9.6	0.0	29.9



Before Manual Integration

AGK
02/02/16

REASON # 2

Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2016\WCAL3.D Vial: 8
Acq On : 20 Jan 2016 16:44 Operator: AGK-RLD
Sample : INITIAL CALIB. PT3 Inst : VMS3
Misc : 5.00/50.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 07:47:17 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 07:47:12 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.68	96	1157826	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.60	117	864059	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.90	152	456966	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.82	113	294921	20.223	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101	%		
45) SURR12DCAd4	7.24	102	82051	19.665	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 98	%		
61) SURRd8Tolule	9.69	98	1158842	19.701	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 99	%		
83) SURR4BrFBenz	13.23	95	361006	19.649	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 98	%		
Target Compounds						Qvalue
2) Dichlorodi	1.84	85	81477	5.3096	ug/L	98
3) Chloromethan	2.09	50	119373	5.2487	ug/L	90
4) VinylChlorid	2.23	62	161046	5.3578	ug/L	73
5) Bromomethane	2.68	94	52092	4.5370	ug/L	92
6) Chloroethane	2.85	64	128176	6.2974	ug/L	97
7) Dichloroflmethane	3.16	67	243533	6.0085	ug/L	99
8) Trichlorofma	3.25	101	120827	5.7849	ug/L	89
9) Ethylether	3.70	59	67333	5.2678	ug/L	98
10) dichlorotfluoroethan	3.70	67	74903	4.8345	ug/L	95
11) propyleneoxide	4.04	58	184271	57.1900	ug/L	93
12) Acrolein	3.81	56	134778	27.7661	ug/L	94
13) 11dichlorthe	3.96	96	64439	4.8233	ug/L	96
14) Trichlorotfluoroeth	4.01	101	119498	9.8226	ug/L	94
15) Acetone	4.04	43	552397	57.4566	ug/L	97
16) Iodomethane	4.15	142	71213	7.5279	ug/L	96
17) Carbon Dislf	4.23	76	362730	10.6172	ug/L	100
18) allylchloride	4.45	41	183106	10.3239	ug/L	98
19) methylacetate	4.51	74	29398	6.1518	ug/L	83
20) Methylchlorid	4.61	84	76916	5.2458	ug/L	100
21) tbutylalcohol	4.82	59	1356071	328.4899	ug/L	99
22) Acrylonitrile	4.90	53	263273	28.6149	ug/L	99
23) t12dichlorte	4.99	96	71572	4.9328	ug/L	94
24) MtBE	5.03	73	197505	4.8076	ug/L	93
25) Hexane	5.39	57	180575	9.8500	ug/L	97
26) 11dichlorota	5.51	63	118142	4.9506	ug/L	87
27) Vinylacetate	5.61	43	1519839	62.5926	ug/L	98
28) chloroprene	5.64	53	209538	9.9407	ug/L	100
29) Diisopether	5.67	45	219521	5.0477	ug/L	97
30) ETBE	6.12	59	193541	4.7874	ug/L	96
31) 22dichloropr	6.24	77	105448	4.7781	ug/L	98
32) c12dichlorte	6.24	96	75746	4.7852	ug/L	88
33) 2Butanone	6.26	72	235310	54.7763	ug/L	100
34) propionitrile	6.28	54	248665	57.5146	ug/L	98
35) Ethylacetate	6.37	88	33931	29.6878	ug/L #	84
36) methacrylonitrile	6.49	67	107629	11.0136	ug/L	95
37) Bromochlorma	6.53	128	30910	4.6307	ug/L	88
38) Tetrahydofur	6.62	42	584965	58.2856	ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2016\WCAL3.D Vial: 8
Acq On : 20 Jan 2016 16:44 Operator: AGK-RLD
Sample : INITIAL CALIB. PT3 Inst : VMS3
Misc : 5.00/50.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 07:47:17 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 07:47:12 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.63	83	115424	4.9383	ug/L		100
40)	111trichlota	6.88	97	106257	5.1429	ug/L		97
42)	Cyclohexane	6.97	56	118080	4.7178	ug/L		93
43)	Carbtetraclo	7.10	119	91085	5.1405	ug/L		95
44)	11dicloprope	7.08	110	35336	5.0574	ug/L		93
46)	Benzene	7.33	78	280210	5.0873	ug/L		98
47)	12dichlorota	7.33	62	86775	5.3440	ug/L		98
48)	TAME	7.52	73	211228	5.0985	ug/L		95
49)	trichloroete	8.15	95	73304	5.3390	ug/L		97
50)	methylcyclohexane	8.42	83	122669	5.0926	ug/L		95
51)	12dicloropra	8.40	63	72206	4.8032	ug/L	#	93
52)	23Dicl1propene	8.46	75	103618	5.1298	ug/L		98
53)	Dibromometha	8.53	93	43716	5.0563	ug/L		92
54)	methylmethacrylate	8.57	69	81457	5.5264	ug/L		95
55)	14dioxane	8.59	88	86974	293.1645	ug/L		96
56)	Bromodiclrma	8.73	83	95960	5.3816	ug/L		90
57)	2Nitropropane	8.99	43	398037	53.7349	ug/L		98
58)	2CLEVE	9.13	63	135575	25.2728	ug/L		94
59)	c13dicloproe	9.32	75	105996	4.6699	ug/L		93
60)	4Meth2Pentan	9.52	43	1383753	61.8256	ug/L		98
62)	Toluene	9.77	92	177710	5.0460	ug/L		98
63)	t13Dicloprop	10.03	75	105249	5.1909	ug/L		92
64)	ethylmethacrylate	10.19	69	226122	10.0601	ug/L		99
65)	112Triclotha	10.27	83	49686	4.3156	ug/L		82
66)	Tetrachlorte	10.52	166	78443	5.2792	ug/L		94
67)	13Diclorpropa	10.48	76	123948	5.2073	ug/L		98
69)	2Hexanone	10.61	43	1172412	62.3130	ug/L		97
70)	Clorodibrmta	10.79	129	71001	4.7318	ug/L		94
71)	12Dibrometha	10.95	107	68690	4.8605	ug/L		95
72)	Chlorobenzen	11.64	112	186539	4.9370	ug/L		98
73)	1Clhexane	11.62	91	104062	4.9938	ug/L		99
74)	1112Tetclota	11.75	131	66631	5.2127	ug/L		92
75)	Ethylbenzene	11.80	91	320044	5.1778	ug/L		100
76)	m p-Xylene	11.96	106	257661	10.3458	ug/L		95
77)	o-Xylene	12.51	106	125233	5.0267	ug/L		91
78)	Styrene	12.52	104	189689	4.9607	ug/L		99
79)	Bromoform	12.75	173	54083	5.1602	ug/L		96
80)	Isopropylben	13.04	105	300672	5.0570	ug/L		93
81)	cyclohexanone	13.11	55	133581	113.7561	ug/L		99
84)	Bromobenzene	13.45	156	74377	4.8941	ug/L		90
85)	1122Tetrclta	13.40	83	107851	5.0232	ug/L		93
86)	123Triclproa	13.47	75	137882	5.0211	ug/L		97
87)	14dichloro2butene	13.49	53	28491	4.7715	ug/L		98
88)	n-Propylbenz	13.62	91	350173	5.3000	ug/L		98
89)	2chlorotolue	13.73	91	200860	5.1515	ug/L		97
90)	4chlorotolue	13.89	91	224095	5.0010	ug/L		100
91)	135Trimebenz	13.88	105	236160	5.1554	ug/L		97
92)	tbutylbenzen	14.34	119	215481	5.1215	ug/L		98
93)	124Trimetben	14.41	105	238851	5.3935	ug/L		99
94)	sbutylbenzen	14.67	105	310676	5.2586	ug/L		99
95)	13Diclorbenz	14.80	146	136493	4.9014	ug/L		94
96)	pIsopropylto	14.88	119	251404	5.1758	ug/L		99
97)	14dichlorobe	14.93	146	138693	4.9912	ug/L		98
98)	12dichlorobe	15.47	146	132150	5.0613	ug/L		95
99)	nButylbenzen	15.48	91	229267	5.1996	ug/L		98
100)	12dibromo3cl	16.56	157	34421	5.4671	ug/L		97
101)	135Trichlorobenzene	16.90	180	92656	5.2625	ug/L		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

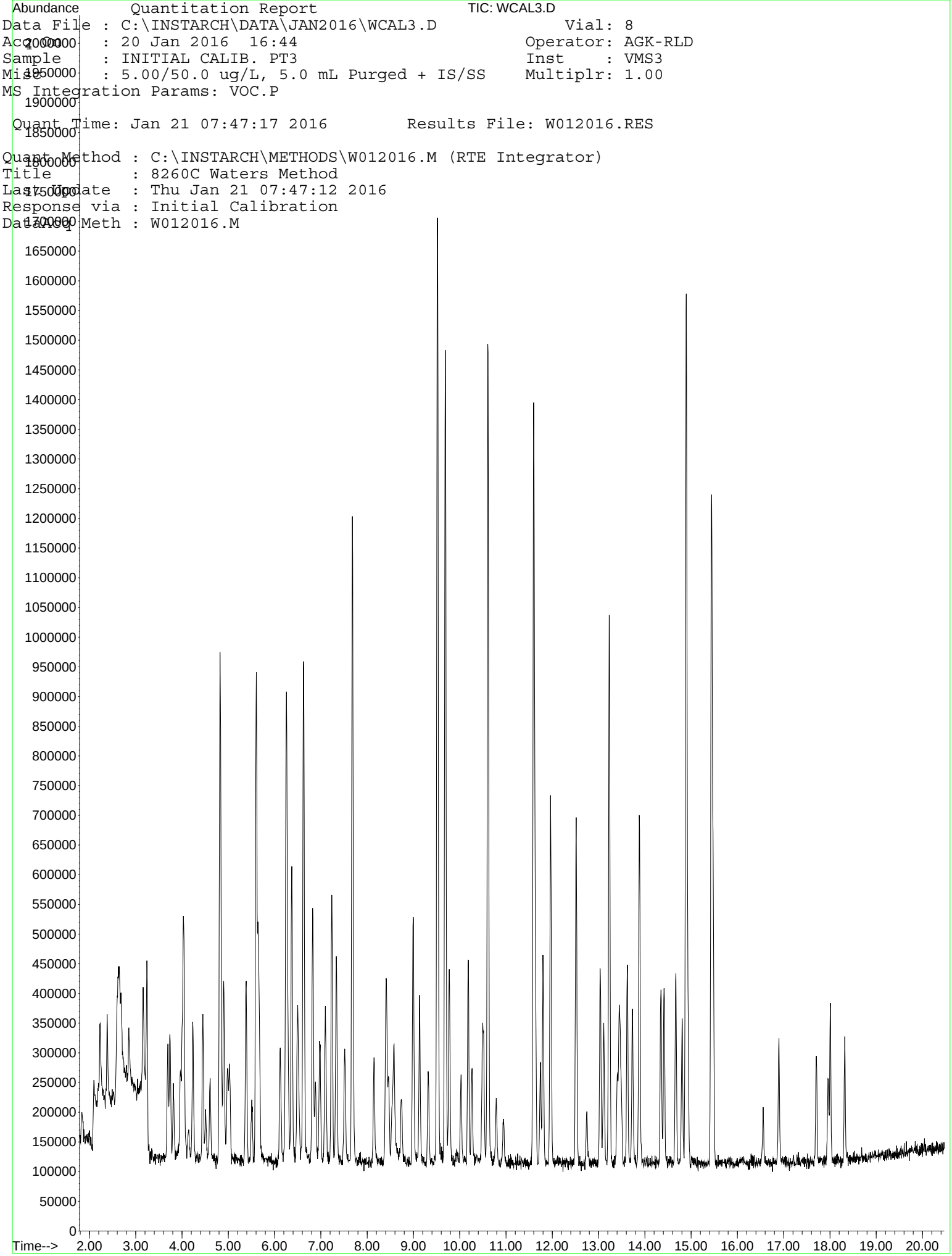
Data File : C:\INSTARCH\DATA\JAN2016\WCAL3.D Vial: 8
Acq On : 20 Jan 2016 16:44 Operator: AGK-RLD
Sample : INITIAL CALIB. PT3 Inst : VMS3
Misc : 5.00/50.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 07:47:17 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 07:47:12 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.71	180	81387	4.9734	ug/L	99
103) Hexachlorobu	17.96	225	39092	5.3937	ug/L	90
104) Naphthalene	18.01	128	258924	5.1198	ug/L	97
105) 123Trichlben	18.32	180	74527	4.8949	ug/L	98

(#) = qualifier out of range (m) = manual integration


Abundance
Quantitation Report
TIC: WCAL3.D
Data File : C:\INSTARCH\DATA\JAN2016\WCAL3.D
Vial: 8
Acq On : 20 Jan 2016 16:44
Operator: AGK-RLD
Sample : INITIAL CALIB. PT3
Inst : VMS3
Misc : 5.00/50.0 ug/L, 5.0 mL Purged + IS/SS
Multiplr: 1.00
MS Integration Params: VOC.P
Quant Time: Jan 21 07:47:17 2016
Results File: W012016.RES
Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 07:47:12 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M
Time-->

Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2016\WCAL4.D Vial: 9
Acq On : 20 Jan 2016 17:13 Operator: AGK-RLD
Sample : INITIAL CALIB. PT4 Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 07:20:53 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 07:20:44 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.68	96	1112155	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.60	117	858964	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.90	152	455640	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.82	113	280517	20.196	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101 %			
45) SURR12DCAd4	7.23	102	81154	20.070	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 100 %			
61) SURRd8Tolule	9.69	98	1135942	20.194	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101 %			
83) SURR4BrFBenz	13.23	95	383796	20.520	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 103 %			
Target Compounds						Qvalue
2) Dichlorodi	1.83	85	161270	10.5589	ug/L	100
3) Chloromethan	2.10	50	221534	8.5151	ug/L	100
4) VinylChlorid	2.23	62	309263	10.0485	ug/L	100
5) Bromomethane	2.69	94	111066	7.9645	ug/L	99
6) Chloroethane	2.86	64	206879	6.3886	ug/L	100
7) Dichloroflmethane	3.16	67	346932	7.1531	ug/L	100
8) Trichlorofma	3.25	101	187576	7.9701	ug/L	100
9) Ethylether	3.70	59	121511	8.3252	ug/L	100
10) dichlorotfluoroethan	3.70	67	164154	10.4759	ug/L	100
11) propyleneoxide	4.04	58	397345	93.1736	ug/L	99
12) Acrolein	3.81	56	269631	43.5291	ug/L	100
13) 11dichlorthe	3.96	96	127387	9.3479	ug/L	100
14) Trichlorotfluoroeth	4.01	101	245826	20.5544	ug/L	100
15) Acetone	4.04	43	1133527	92.7916	ug/L	100
16) Iodomethane	4.15	142	187645	26.4735	ug/L	100
17) Carbon Dislf	4.24	76	698716	19.4792	ug/L	100
18) allylchloride	4.46	41	361223	20.0773	ug/L	100
19) methylacetate	4.50	74	51141	7.2186	ug/L	100
20) Methylchlorid	4.60	84	138743	8.2557	ug/L	100
21) tbutylalcohol	4.82	59	2444179	480.0933	ug/L	100
22) Acrylonitrile	4.91	53	485530	44.6652	ug/L	100
23) t12dichlorte	4.99	96	137243	9.2138	ug/L	100
24) MtBE	5.02	73	395942	9.2300	ug/L	100
25) Hexane	5.39	57	366496	20.1995	ug/L	100
26) 11dichlorota	5.51	63	245749	10.2427	ug/L	100
27) Vinylacetate	5.61	43	2468403	84.3303	ug/L	100
28) chloroprene	5.64	53	415459	19.8334	ug/L	100
29) Diisopether	5.67	45	424852	9.5909	ug/L	100
30) ETBE	6.12	59	379486	8.9486	ug/L	100
31) 22dichloropr	6.25	77	201528	8.7541	ug/L	100
32) c12dichlorte	6.24	96	157717	9.8983	ug/L	100
33) 2Butanone	6.26	72	457909	101.3160	ug/L	100
34) propionitrile	6.29	54	462883	102.4848	ug/L	100
35) Ethylacetate	6.37	88	54869	36.7692	ug/L	100
36) methacrylonitrile	6.49	67	195481	16.7364	ug/L	100
37) Bromochlorma	6.52	128	66256	9.7515	ug/L	100
38) Tetrahydofur	6.62	42	1075105	95.4015	ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2016\WCAL4.D Vial: 9
Acq On : 20 Jan 2016 17:13 Operator: AGK-RLD
Sample : INITIAL CALIB. PT4 Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 07:20:53 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 07:20:44 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.64	83	221577	9.3236	ug/L	100
40)	111trichlota	6.88	97	199113	9.7414	ug/L	100
42)	Cyclohexane	6.99	56	252387	10.3138	ug/L	100
43)	Carbtetraclo	7.11	119	166713	9.4609	ug/L	100
44)	11dicloprope	7.10	110	66813	7.6967	ug/L	100
46)	Benzene	7.33	78	547700	9.4755	ug/L	100
47)	12dichlorota	7.33	62	167004	8.7771	ug/L	100
48)	TAME	7.52	73	416737	9.1607	ug/L	100
49)	trichloroete	8.15	95	142533	8.2771	ug/L	100
50)	methylcyclohexane	8.42	83	251560	11.4315	ug/L	100
51)	12dicloropra	8.40	63	142226	8.7503	ug/L	100
52)	23Dicl1propene	8.46	75	198597	10.1169	ug/L	100
53)	Dibromometha	8.54	93	87011	8.8176	ug/L	100
54)	methylmethacrylate	8.57	69	149983	8.5069	ug/L	100
55)	14dioxane	8.59	88	158964	511.0225	ug/L	100
56)	Bromodiclrma	8.74	83	166715	8.3528	ug/L	99
57)	2Nitropropane	8.99	43	751314	95.9114	ug/L	100
58)	2CLEVE	9.13	63	263620	52.0794	ug/L	100
59)	c13dicloproe	9.32	75	212902	9.1605	ug/L	100
60)	4Meth2Pentan	9.52	43	2505531	91.8312	ug/L	100
62)	Toluene	9.78	92	337370	9.3490	ug/L	100
63)	t13Dicloprop	10.03	75	190944	9.3070	ug/L	100
64)	ethylmethacrylate	10.19	69	447226	17.6723	ug/L	100
65)	112Triclotha	10.27	83	113269	9.3382	ug/L	100
66)	Tetrachlorte	10.52	166	142394	10.0168	ug/L	100
67)	13Diclorpropa	10.48	76	229171	9.2651	ug/L	100
69)	2Hexanone	10.61	43	2164934	93.8252	ug/L	100
70)	Clorodibrmta	10.79	129	139875	8.8956	ug/L	100
71)	12Dibrometha	10.95	107	129494	8.6481	ug/L	100
72)	Chlorobenzen	11.64	112	365146	8.8996	ug/L	100
73)	1Clhexane	11.62	91	203589	9.2399	ug/L	100
74)	1112Tetclota	11.74	131	122721	9.5830	ug/L	100
75)	Ethylbenzene	11.80	91	619234	9.2422	ug/L	100
76)	m p-Xylene	11.96	106	507662	19.2554	ug/L	100
77)	o-Xylene	12.52	106	235819	9.2033	ug/L	100
78)	Styrene	12.52	104	375817	9.4796	ug/L	100
79)	Bromoform	12.74	173	107620	8.5681	ug/L	100
80)	Isopropylben	13.03	105	614590	9.7503	ug/L	100
81)	cyclohexanone	13.11	55	258002	195.4089	ug/L	100
84)	Bromobenzene	13.44	156	160198	9.1118	ug/L	100
85)	1122Tetrclta	13.40	83	211715	8.6739	ug/L	100
86)	123Triclproa	13.47	75	290859	9.1446	ug/L	100
87)	14dichloro2butene	13.49	53	54178	9.9014	ug/L	100
88)	n-Propylbenz	13.62	91	703016	9.8842	ug/L	100
89)	2chlorotolue	13.73	91	390960	9.3116	ug/L	100
90)	4chlorotolue	13.89	91	452512	9.3335	ug/L	100
91)	135Trimebenz	13.88	105	474884	9.7898	ug/L	100
92)	tbutylbenzen	14.35	119	427633	9.6494	ug/L	100
93)	124Trimetben	14.42	105	474436	10.1807	ug/L	100
94)	sbutylbenzen	14.67	105	616193	9.9104	ug/L	100
95)	13Diclorbenz	14.80	146	273964	9.1565	ug/L	100
96)	pIsopropylto	14.88	119	511023	10.1103	ug/L	100
97)	14dichlorobe	14.93	146	271546	9.0939	ug/L	100
98)	12dichlorobe	15.47	146	269447	9.7134	ug/L	100
99)	nButylbenzen	15.48	91	455220	9.8599	ug/L	100
100)	12dibromo3cl	16.56	157	65209	8.5695	ug/L	100
101)	135Trichlorobenzene	16.90	180	177114	9.6183	ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2016\WCAL4.D Vial: 9
Acq On : 20 Jan 2016 17:13 Operator: AGK-RLD
Sample : INITIAL CALIB. PT4 Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 07:20:53 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 07:20:44 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102)	124Trichlobe	17.71	180	155434	9.0666	ug/L	100
103)	Hexachlorobu	17.96	225	76761	10.0720	ug/L	100
104)	Naphthalene	18.01	128	521806	9.6006	ug/L	100
105)	123Trichlben	18.32	180	150325	9.4921	ug/L	100

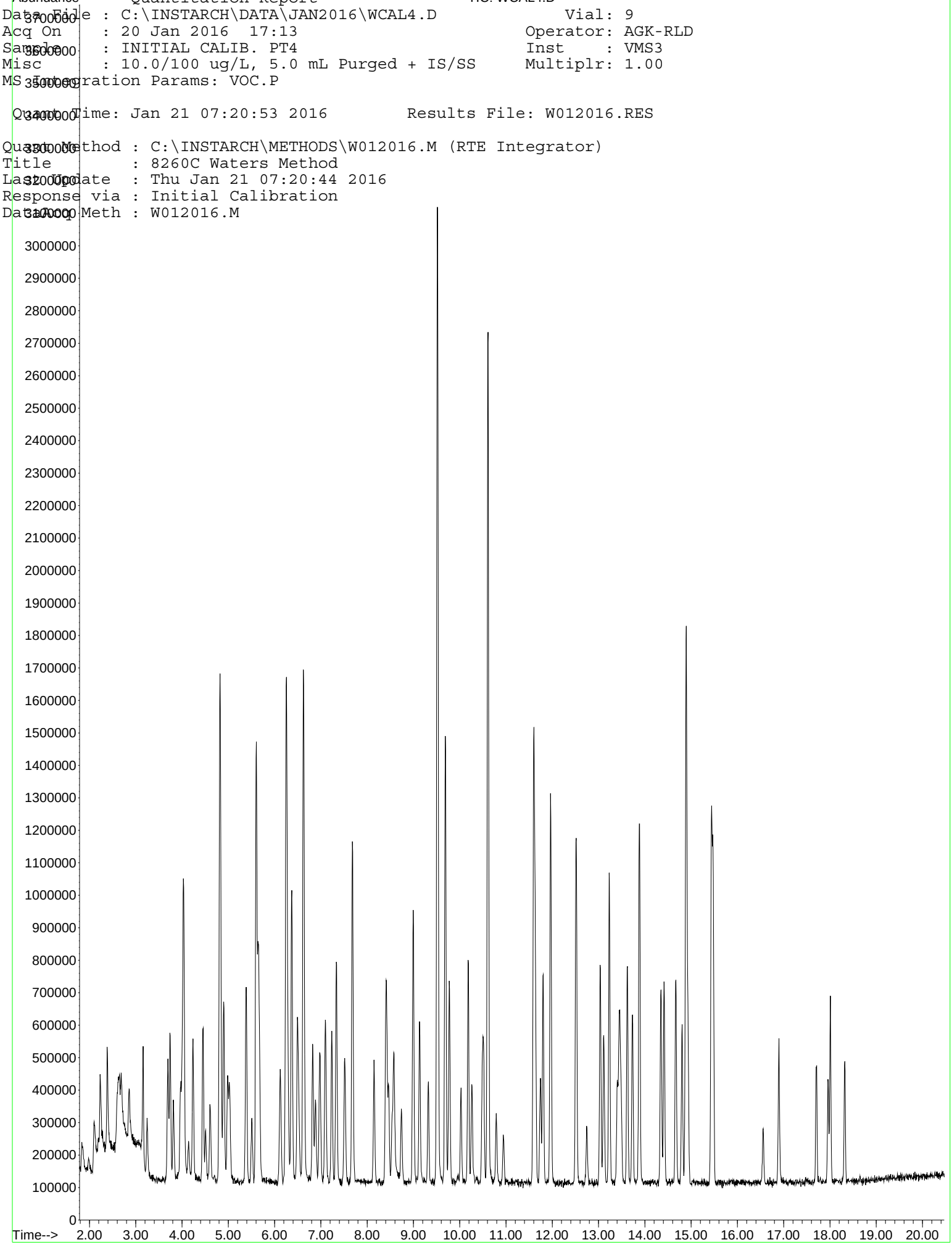
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: WCAL4.D

Data File : C:\INSTARCH\DATA\JAN2016\WCAL4.D Vial: 9
Acq On : 20 Jan 2016 17:13 Operator: AGK-RLD
Sample : INITIAL CALIB. PT4 Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 07:20:53 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 07:20:44 2016
Response via : Initial Calibration
Data Acq Meth : W012016.M



Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2016\WCAL5.D Vial: 10
Acq On : 20 Jan 2016 17:42 Operator: AGK-RLD
Sample : INITIAL CALIB. PT5 Inst : VMS3
Misc : 20.0/200 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 07:21:11 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 07:21:02 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.68	96	1189713	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.60	117	881285	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.90	152	477646	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.82	113	299405	20.151	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101 %			
45) SURR12DCAd4	7.24	102	88710	20.508	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 103 %			
61) SURRd8Tolule	9.69	98	1194569	19.852	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 99 %			
83) SURR4BrFBenz	13.23	95	372511	18.999	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 95 %			
Target Compounds						Qvalue
2) Dichlorodi	1.83	85	309548	18.9546	ug/L	93
3) Chloromethan	2.10	50	453356	16.2897	ug/L	96
4) VinylChlorid	2.24	62	592371	17.9924	ug/L	88
5) Bromomethane	2.69	94	220834	14.8443	ug/L	98
6) Chloroethane	2.86	64	390094	11.2612	ug/L	94
7) Dichloroflmethane	3.16	67	851637	16.4146	ug/L	99
8) Trichlorofma	3.25	101	385078	15.3062	ug/L	97
9) Ethylether	3.70	59	251144	16.0851	ug/L	94
10) dichlorotfluoroethan	3.70	67	304560	18.1693	ug/L	98
11) propyleneoxide	4.04	58	602281	132.0223	ug/L	95
12) Acrolein	3.82	56	492747	74.3630	ug/L	91
13) 11dichlorthe	3.97	96	261416	17.9326	ug/L	98
14) Trichlorotfluoroeth	4.01	101	491179	38.3920	ug/L	99
15) Acetone	4.04	43	1669851	127.8860	ug/L	98
16) Iodomethane	4.14	142	454944	60.0005	ug/L	93
17) Carbon Dislf	4.24	76	1343916	35.0292	ug/L	100
18) allylchloride	4.46	41	713599	37.0772	ug/L	98
19) methylacetate	4.52	74	105039	13.8598	ug/L	99
20) Methylchlorid	4.61	84	276235	15.3655	ug/L	99
21) tbutylalcohol	4.82	59	4320203	793.2680	ug/L	95
22) Acrylonitrile	4.91	53	948803	81.5929	ug/L	98
23) t12dichlorte	4.99	96	276248	17.3368	ug/L	97
24) MtBE	5.03	73	783623	17.0794	ug/L	98
25) Hexane	5.39	57	755758	38.9383	ug/L	99
26) 11dichlorota	5.51	63	474358	18.4821	ug/L	96
27) Vinylacetate	5.61	43	4912000	156.8733	ug/L	95
28) chloroprene	5.64	53	845267	37.7213	ug/L	99
29) Diisopether	5.67	45	855098	18.0452	ug/L	96
30) ETBE	6.12	59	768224	16.9343	ug/L	100
31) 22dichloropr	6.25	77	409763	16.6357	ug/L	98
32) c12dichlorte	6.24	96	301834	17.7081	ug/L	91
33) 2Butanone	6.26	72	859238	177.7197	ug/L	99
34) propionitrile	6.29	54	890864	184.3838	ug/L	98
35) Ethylacetate	6.37	88	114558	71.7639	ug/L	96
36) methacrylonitrile	6.49	67	416775	33.3567	ug/L	90
37) Bromochlorma	6.53	128	123052	16.9300	ug/L	94
38) Tetrahydofur	6.62	42	2033875	168.7143	ug/L	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2016\WCAL5.D Vial: 10
Acq On : 20 Jan 2016 17:42 Operator: AGK-RLD
Sample : INITIAL CALIB. PT5 Inst : VMS3
Misc : 20.0/200 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 07:21:11 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 07:21:02 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.64	83	438942	17.2658	ug/L	93
40)	111trichlota	6.88	97	406949	18.6117	ug/L	99
42)	Cyclohexane	6.98	56	503480	19.2334	ug/L	95
43)	Carbtetraclo	7.11	119	337511	17.9050	ug/L	99
44)	11dicloprope	7.10	110	138616	14.9272	ug/L	98
46)	Benzene	7.34	78	1080928	17.4814	ug/L	99
47)	12dichlorota	7.33	62	332860	16.3534	ug/L	94
48)	TAME	7.52	73	821626	16.8835	ug/L	96
49)	trichloroete	8.15	95	276539	15.0121	ug/L	93
50)	methylcyclohexane	8.42	83	496520	21.0922	ug/L	96
51)	12dicloropra	8.40	63	303348	17.4465	ug/L	95
52)	23Dicl1propene	8.46	75	411475	19.5949	ug/L	98
53)	Dibromometha	8.54	93	169208	16.0296	ug/L	96
54)	methylmethacrylate	8.57	69	313433	16.6186	ug/L	98
55)	14dioxane	8.59	88	313505	942.1257	ug/L	98
56)	Bromodiclrma	8.74	83	344718	16.0798	ug/L	96
57)	2Nitropropane	8.99	43	1514226	180.7018	ug/L	97
58)	2CLEVE	9.13	63	511014	94.1928	ug/L	95
59)	c13dicloproe	9.32	75	438732	17.6466	ug/L	98
60)	4Meth2Pentan	9.52	43	4382143	150.1311	ug/L	93
62)	Toluene	9.78	92	686300	17.7785	ug/L	97
63)	t13Dicloprop	10.03	75	394505	17.9754	ug/L	94
64)	ethylmethacrylate	10.18	69	906551	33.4763	ug/L	98
65)	112Triclotha	10.27	83	214771	16.5520	ug/L	96
66)	Tetrachlorte	10.52	166	310818	20.4394	ug/L	98
67)	13Diclorpropa	10.49	76	451810	17.0754	ug/L	99
69)	2Hexanone	10.61	43	3779406	159.6456	ug/L	95
70)	Clorodibrmta	10.80	129	290433	18.0027	ug/L	96
71)	12Dibrometha	10.94	107	272454	17.7347	ug/L	99
72)	Chlorobenzen	11.63	112	719876	17.1010	ug/L	97
73)	1Clhexane	11.62	91	401877	17.7773	ug/L	97
74)	1112Tetclota	11.74	131	265912	20.2385	ug/L	95
75)	Ethylbenzene	11.80	91	1211545	17.6246	ug/L	98
76)	m p-Xylene	11.97	106	995423	36.7997	ug/L	99
77)	o-Xylene	12.51	106	490403	18.6568	ug/L	91
78)	Styrene	12.52	104	748768	18.4085	ug/L	98
79)	Bromoform	12.75	173	222106	17.2350	ug/L	97
80)	Isopropylben	13.03	105	1205401	18.6390	ug/L	96
81)	cyclohexanone	13.11	55	489044	361.0171	ug/L	99
84)	Bromobenzene	13.44	156	304553	16.5245	ug/L	94
85)	1122Tetrclta	13.40	83	432411	16.8996	ug/L	97
86)	123Triclproa	13.47	75	568042	17.0364	ug/L	97
87)	14dichloro2butene	13.49	53	122088	21.2845	ug/L	97
88)	n-Propylbenz	13.62	91	1374299	18.4321	ug/L	97
89)	2chlorotolue	13.73	91	773550	17.5751	ug/L	97
90)	4chlorotolue	13.88	91	877411	17.2637	ug/L	98
91)	135Trimebenz	13.88	105	925220	18.1948	ug/L	98
92)	tbutylbenzen	14.35	119	871541	18.7600	ug/L	98
93)	124Trimetben	14.41	105	898769	18.3976	ug/L	97
94)	sbutylbenzen	14.66	105	1251672	19.2035	ug/L	100
95)	13Diclorbenz	14.80	146	545504	17.3920	ug/L	97
96)	pIsopropylto	14.88	119	1024956	19.3440	ug/L	98
97)	14dichlorobe	14.93	146	526757	16.8280	ug/L	96
98)	12dichlorobe	15.47	146	519870	17.8775	ug/L	97
99)	nButylbenzen	15.48	91	896254	18.5182	ug/L	97
100)	12dibromo3cl	16.56	157	131004	16.4229	ug/L	98
101)	135Trichlorobenzene	16.90	180	354245	18.3512	ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2016\WCAL5.D Vial: 10
Acq On : 20 Jan 2016 17:42 Operator: AGK-RLD
Sample : INITIAL CALIB. PT5 Inst : VMS3
Misc : 20.0/200 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 07:21:11 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 07:21:02 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

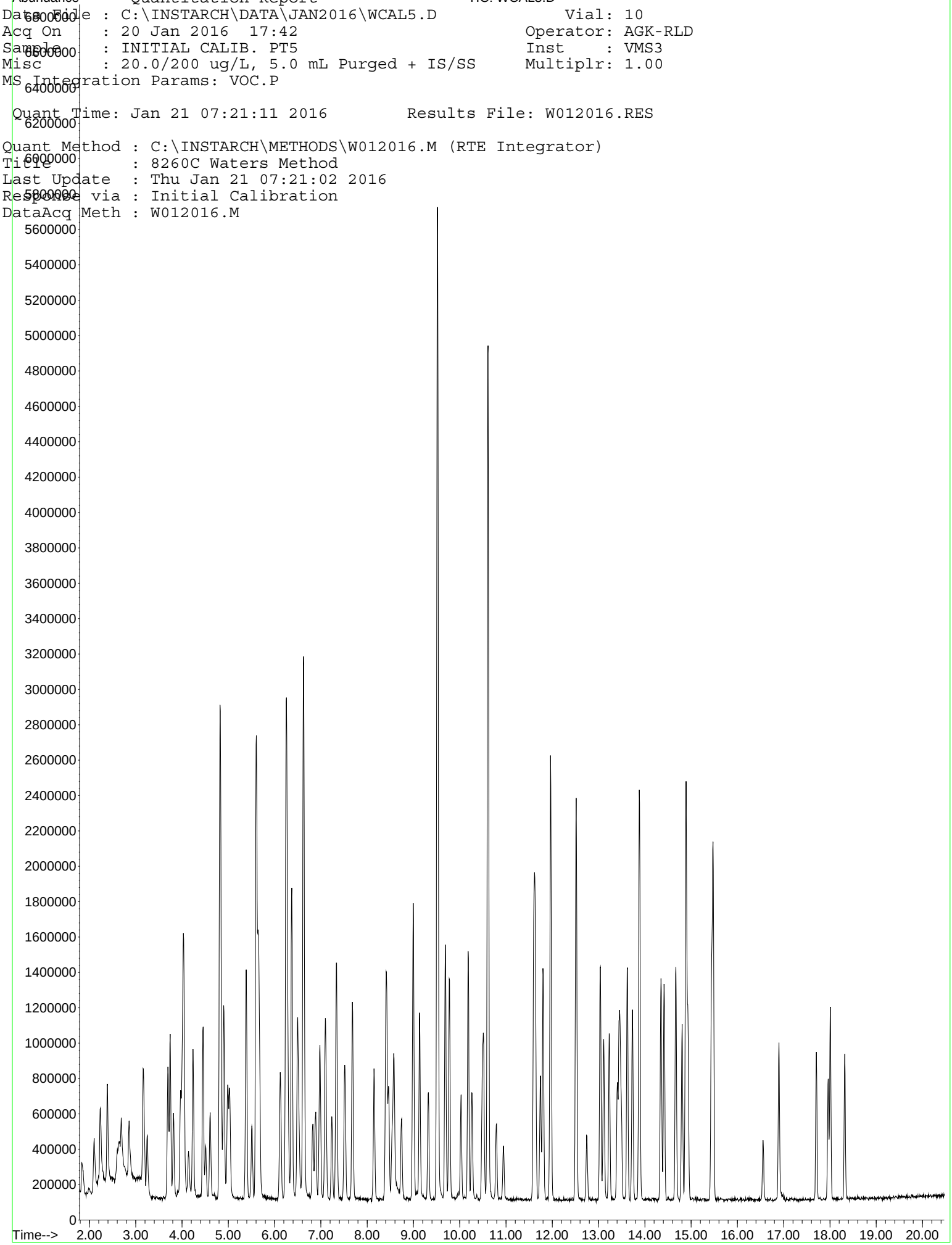
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.71	180	334822	18.6307	ug/L	95
103) Hexachlorobu	17.96	225	151748	18.9939	ug/L	97
104) Naphthalene	18.01	128	1064345	18.6804	ug/L	99
105) 123Trichlben	18.32	180	312156	18.8027	ug/L	99

(#) = qualifier out of range (m) = manual integration

Data File : C:\INSTARCH\DATA\JAN2016\WCAL5.D Vial: 10
Acq On : 20 Jan 2016 17:42 Operator: AGK-RLD
Sample : INITIAL CALIB. PT5 Inst : VMS3
Misc : 20.0/200 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 07:21:11 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 07:21:02 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M



Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2016\WCAL6.D Vial: 11
Acq On : 20 Jan 2016 18:11 Operator: AGK-RLD
Sample : INITIAL CALIB. PT6 Inst : VMS3
Misc : 30.0/300 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 07:21:28 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 07:21:20 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.68	96	1192015	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.60	117	882322	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.90	152	478919	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.82	113	304097	20.396	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 102	%		
45) SURR12DCAd4	7.24	102	84601	19.422	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 97	%		
61) SURRd8Tolule	9.69	98	1217090	20.217	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101	%		
83) SURR4BrFBenz	13.23	95	386124	19.840	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 99	%		
Target Compounds						Qvalue
2) Dichlorodi	1.83	85	461912	28.5279	ug/L	93
3) Chloromethan	2.10	50	658028	24.5075	ug/L	96
4) VinylChlorid	2.23	62	912386	28.2256	ug/L	94
5) Bromomethane	2.69	94	379846	26.8689	ug/L	97
6) Chloroethane	2.86	64	599680	18.9325	ug/L	98
7) Dichloroflmethane	3.16	67	1063278	21.2149	ug/L	98
8) Trichlorofma	3.25	101	566122	23.5651	ug/L	98
9) Ethylether	3.70	59	377661	25.1251	ug/L	95
10) dichlorotfluoroethan	3.69	67	472818	28.6777	ug/L	98
11) propyleneoxide	4.03	58	768816	180.4699	ug/L	98
12) Acrolein	3.82	56	698852	110.9527	ug/L	94
13) 11dichlorthe	3.96	96	389851	27.2548	ug/L	96
14) Trichlorotfluoroeth	4.01	101	756104	59.4632	ug/L	99
15) Acetone	4.03	43	2172256	178.9460	ug/L	99
16) Iodomethane	4.15	142	752710	90.0723	ug/L	99
17) Carbon Dislf	4.24	76	2034057	54.2640	ug/L	99
18) allylchloride	4.45	41	1097684	57.7675	ug/L	98
19) methylacetate	4.51	74	151639	21.2764	ug/L	100
20) Methylchlorid	4.61	84	415377	24.1813	ug/L	98
21) tbutylalcohol	4.82	59	5183490	990.9160	ug/L	94
22) Acrylonitrile	4.90	53	1317349	117.3890	ug/L	98
23) t12dichlorte	4.99	96	433167	27.8746	ug/L	97
24) MtBE	5.03	73	1186964	26.5972	ug/L	98
25) Hexane	5.39	57	1129090	58.3706	ug/L	98
26) 11dichlorota	5.51	63	731072	28.8674	ug/L	96
27) Vinylacetate	5.61	43	6629993	220.8563	ug/L	90
28) chloroprene	5.64	53	1295831	58.3818	ug/L	100
29) Diisopether	5.67	45	1303171	27.9951	ug/L	99
30) ETBE	6.12	59	1169808	26.5508	ug/L	98
31) 22dichloropr	6.25	77	634257	26.5948	ug/L	98
32) c12dichlorte	6.24	96	477126	28.5935	ug/L	95
33) 2Butanone	6.26	72	1129189	238.4157	ug/L	99
34) propionitrile	6.28	54	1185359	248.7466	ug/L	98
35) Ethylacetate	6.37	88	167160	110.7691	ug/L	93
36) methacrylonitrile	6.49	67	582019	48.0895	ug/L	93
37) Bromochlorma	6.52	128	201830	28.8209	ug/L	99
38) Tetrahydofur	6.62	42	2685024	229.4777	ug/L	94

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2016\WCAL6.D Vial: 11
Acq On : 20 Jan 2016 18:11 Operator: AGK-RLD
Sample : INITIAL CALIB. PT6 Inst : VMS3
Misc : 30.0/300 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 07:21:28 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 07:21:20 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.63	83	684493	27.6280	ug/L	95
40)	111trichlota	6.89	97	626309	28.9912	ug/L	99
42)	Cyclohexane	6.98	56	776411	29.8310	ug/L	98
43)	Carbtetraclo	7.11	119	537864	29.0881	ug/L	100
44)	11dicloprope	7.10	110	219346	24.8350	ug/L	92
46)	Benzene	7.34	78	1607059	26.6104	ug/L	96
47)	12dichlorota	7.33	62	520403	26.4838	ug/L	98
48)	TAME	7.52	73	1249287	26.4460	ug/L	96
49)	trichloroete	8.15	95	422868	24.1141	ug/L	96
50)	methylcyclohexane	8.42	83	768469	32.2296	ug/L	98
51)	12dicloropra	8.40	63	441568	26.0111	ug/L	95
52)	23Dicl1propene	8.46	75	622901	29.7264	ug/L	96
53)	Dibromometha	8.54	93	266846	26.2735	ug/L	97
54)	methylmethacrylate	8.57	69	464468	25.4393	ug/L	98
55)	14dioxane	8.59	88	381796	1158.5438	ug/L	99
56)	Bromodiclrma	8.74	83	540562	26.1934	ug/L	97
57)	2Nitropropane	8.99	43	2051796	249.1894	ug/L	98
58)	2CLEVE	9.13	63	775664	144.3752	ug/L	99
59)	c13dicloproe	9.32	75	667205	27.4299	ug/L	99
60)	4Meth2Pentan	9.52	43	5659314	203.6689	ug/L	88
62)	Toluene	9.77	92	1044309	27.6138	ug/L	95
63)	t13Dicloprop	10.03	75	592768	27.5140	ug/L	94
64)	ethylmethacrylate	10.18	69	1337689	50.9640	ug/L	98
65)	112Triclotha	10.27	83	332636	26.4999	ug/L	96
66)	Tetrachlorte	10.52	166	468340	30.6041	ug/L	99
67)	13Diclorpropa	10.48	76	698328	27.1348	ug/L	97
69)	2Hexanone	10.61	43	4875519	214.3545	ug/L	92
70)	Clorodibrmta	10.79	129	436305	27.5634	ug/L	99
71)	12Dibrometha	10.95	107	420828	27.9946	ug/L	100
72)	Chlorobenzen	11.63	112	1084536	26.5017	ug/L	97
73)	1Clhexane	11.62	91	605478	27.3604	ug/L	96
74)	1112Tetclota	11.74	131	399336	30.2854	ug/L	95
75)	Ethylbenzene	11.80	91	1842192	27.4186	ug/L	98
76)	m p-Xylene	11.97	106	1489654	55.9006	ug/L	99
77)	o-Xylene	12.51	106	759946	29.2704	ug/L	89
78)	Styrene	12.52	104	1159288	28.9280	ug/L	98
79)	Bromoform	12.75	173	329394	26.2563	ug/L	93
80)	Isopropylben	13.03	105	1801244	28.2036	ug/L	94
81)	cyclohexanone	13.11	55	606664	456.2112	ug/L	96
84)	Bromobenzene	13.44	156	466821	26.1711	ug/L	96
85)	1122Tetrclta	13.40	83	653332	26.2806	ug/L	93
86)	123Triclproa	13.47	75	828505	25.5389	ug/L	96
87)	14dichloro2butene	13.49	53	181453	31.0514	ug/L	98
88)	n-Propylbenz	13.62	91	2042373	27.7547	ug/L	96
89)	2chlorotolue	13.73	91	1173071	27.2420	ug/L	96
90)	4chlorotolue	13.89	91	1345498	27.1461	ug/L	96
91)	135Trimebenz	13.88	105	1423470	28.4320	ug/L	98
92)	tbutylbenzen	14.35	119	1320292	28.6997	ug/L	99
93)	124Trimetben	14.41	105	1402427	29.0974	ug/L	99
94)	sbutylbenzen	14.67	105	1867674	28.8076	ug/L	97
95)	13Diclorbenz	14.80	146	839674	27.4147	ug/L	98
96)	pIsopropylto	14.88	119	1542282	29.2218	ug/L	97
97)	14dichlorobe	14.93	146	832209	27.3840	ug/L	99
98)	12dichlorobe	15.47	146	790827	27.7112	ug/L	97
99)	nButylbenzen	15.48	91	1386723	29.0058	ug/L	95
100)	12dibromo3cl	16.56	157	184322	23.9004	ug/L	97
101)	135Trichlorobenzene	16.90	180	539831	28.3585	ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2016\WCAL6.D Vial: 11
Acq On : 20 Jan 2016 18:11 Operator: AGK-RLD
Sample : INITIAL CALIB. PT6 Inst : VMS3
Misc : 30.0/300 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 07:21:28 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 07:21:20 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102)	124Trichlobe	17.71	180	494046	27.7981	ug/L	99
103)	Hexachlorobu	17.96	225	251790	31.8325	ug/L	90
104)	Naphthalene	18.00	128	1522922	27.0144	ug/L	100
105)	123Trichlben	18.32	180	464251	28.2278	ug/L	98

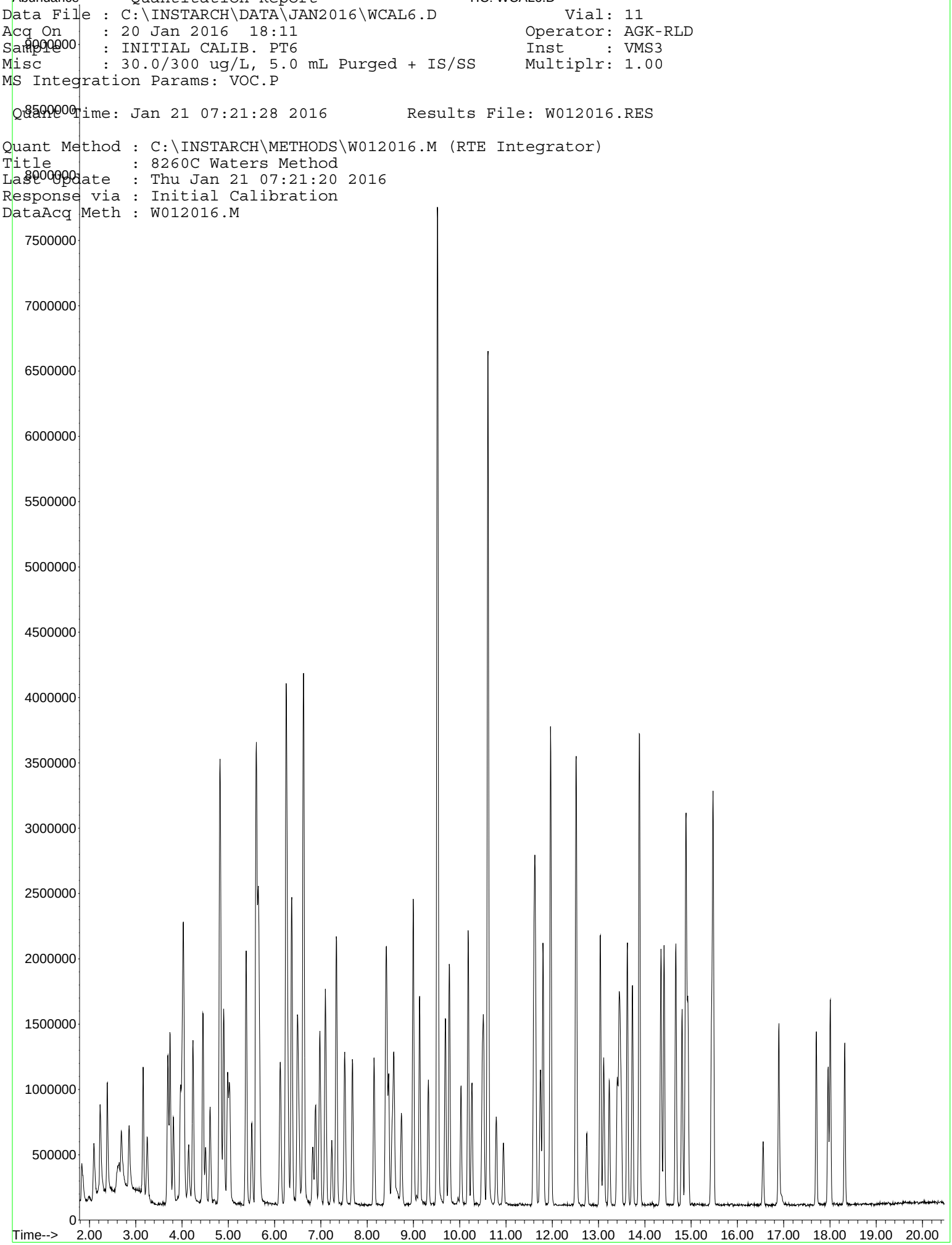
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: WCAL6.D

Data File : C:\INSTARCH\DATA\JAN2016\WCAL6.D Vial: 11
Acq On : 20 Jan 2016 18:11 Operator: AGK-RLD
Sample : INITIAL CALIB. PT6 Inst : VMS3
Misc : 30.0/300 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 07:21:28 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 07:21:20 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M



Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2016\WCAL7.D Vial: 12
Acq On : 20 Jan 2016 18:41 Operator: AGK-RLD
Sample : INITIAL CALIB. PT7 Inst : VMS3
Misc : 40.0/400 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 07:21:47 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 07:21:37 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.68	96	1187913	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.60	117	884210	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.90	152	489907	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.83	113	295640	19.832	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 99 %			
45) SURR12DCAd4	7.24	102	81663	18.903	ug/L	0.01
Spiked Amount 20.000	Range 89 - 112		Recovery = 95 %			
61) SURRd8Tolule	9.69	98	1211639	20.159	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101 %			
83) SURR4BrFBenz	13.23	95	382138	19.220	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 96 %			
Target Compounds						Qvalue
2) Dichlorodi	1.83	85	607666	37.9699	ug/L	92
3) Chloromethan	2.09	50	795916	30.6815	ug/L	96
4) VinylChlorid	2.23	62	1143866	35.8624	ug/L	99
5) Bromomethane	2.69	94	413480	29.8686	ug/L	95
6) Chloroethane	2.86	64	758199	25.5934	ug/L	96
7) Dichloroflmethane	3.16	67	1645211	34.6293	ug/L	97
8) Trichlorofma	3.25	101	875613	37.9296	ug/L	99
9) Ethylether	3.70	59	506237	34.7360	ug/L	94
10) dichlorotfluoroethan	3.69	67	585418	35.8934	ug/L	93
11) propyleneoxide	4.04	58	1263273	318.7266	ug/L #	87
12) Acrolein	3.81	56	981058	163.3833	ug/L	90
13) 11dichlorthe	3.97	96	507168	36.1300	ug/L	99
14) Trichlorotfluoroeth	4.01	101	960653	75.9239	ug/L	98
15) Acetone	4.04	43	3284780	291.1053	ug/L	94
16) Iodomethane	4.14	142	888284	98.4396	ug/L	99
17) Carbon Dislf	4.24	76	2549406	69.3522	ug/L	99
18) allylchloride	4.45	41	1358120	72.1678	ug/L	99
19) methylacetate	4.50	74	192353	28.4615	ug/L	90
20) Methylchlorid	4.61	84	539799	32.5865	ug/L	99
21) tbutylalcohol	4.83	59	6697030	1361.7013	ug/L	90
22) Acrylonitrile	4.90	53	1778944	165.0496	ug/L	99
23) t12dichlorte	4.98	96	548089	35.8146	ug/L	97
24) MtBE	5.03	73	1564748	35.8616	ug/L	97
25) Hexane	5.39	57	1442008	75.1451	ug/L	97
26) 11dichlorota	5.51	63	919555	36.6661	ug/L	96
27) Vinylacetate	5.61	43	7949532	277.9478	ug/L	86
28) chloroprene	5.64	53	1650846	74.9703	ug/L	97
29) Diisopether	5.67	45	1671801	36.4440	ug/L	98
30) ETBE	6.12	59	1527924	35.4785	ug/L	98
31) 22dichloropr	6.25	77	813158	34.8737	ug/L	99
32) c12dichlorte	6.24	96	613158	37.1630	ug/L	92
33) 2Butanone	6.26	72	1651409	362.2753	ug/L	100
34) propionitrile	6.29	54	1614932	350.0292	ug/L	96
35) Ethylacetate	6.37	88	232605	161.7179	ug/L	91
36) methacrylonitrile	6.50	67	808415	69.3196	ug/L	93
37) Bromochlorma	6.52	128	235899	34.0701	ug/L	94
38) Tetrahydofur	6.62	42	3608165	322.0575	ug/L	93

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2016\WCAL7.D Vial: 12
Acq On : 20 Jan 2016 18:41 Operator: AGK-RLD
Sample : INITIAL CALIB. PT7 Inst : VMS3
Misc : 40.0/400 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 07:21:47 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 07:21:37 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.63	83	912691	37.4596	ug/L		96
40)	111trichlota	6.89	97	828893	38.7181	ug/L		98
42)	Cyclohexane	6.98	56	1017655	39.2719	ug/L		98
43)	Carbtetraclo	7.11	119	695026	37.9093	ug/L		99
44)	11dicloprope	7.10	110	277765	32.4902	ug/L		95
46)	Benzene	7.34	78	2042902	34.5955	ug/L		96
47)	12dichlorota	7.33	62	676877	35.2545	ug/L		97
48)	TAME	7.52	73	1616346	35.0260	ug/L		95
49)	trichloroete	8.15	95	542347	32.0833	ug/L		93
50)	methylcyclohexane	8.42	83	979911	40.7348	ug/L		96
51)	12dicloropra	8.40	63	584159	35.3120	ug/L		95
52)	23Dicl1propene	8.46	75	842976	40.4292	ug/L		96
53)	Dibromometha	8.54	93	344741	34.7802	ug/L		95
54)	methylmethacrylate	8.57	69	592698	33.4215	ug/L		96
55)	14dioxane	8.59	88	571863	1809.9551	ug/L		96
56)	Bromodiclrma	8.74	83	707002	35.1193	ug/L		96
57)	2Nitropropane	8.99	43	2776288	348.1711	ug/L		98
58)	2CLEVE	9.13	63	1214956	228.3491	ug/L		99
59)	c13dicloproe	9.32	75	875245	36.6300	ug/L		97
60)	4Meth2Pentan	9.52	43	6870972	262.1583	ug/L		82
62)	Toluene	9.78	92	1351861	36.3515	ug/L		93
63)	t13Dicloprop	10.03	75	800951	37.8279	ug/L		95
64)	ethylmethacrylate	10.18	69	1754492	68.8013	ug/L		97
65)	112Triclotha	10.26	83	447551	36.4874	ug/L		98
66)	Tetrachlorte	10.51	166	602933	39.4030	ug/L		100
67)	13Diclorpropa	10.49	76	894193	35.4294	ug/L		99
69)	2Hexanone	10.61	43	6021695	277.3793	ug/L		87
70)	Clorodibrmta	10.79	129	585895	37.4415	ug/L		98
71)	12Dibrometha	10.95	107	542318	36.4051	ug/L		95
72)	Chlorobenzen	11.63	112	1420446	35.3223	ug/L		98
73)	1Clhexane	11.62	91	801630	36.6848	ug/L		98
74)	1112Tetclota	11.74	131	509838	38.5222	ug/L		99
75)	Ethylbenzene	11.80	91	2322157	34.9902	ug/L		97
76)	m p-Xylene	11.96	106	1903413	72.0957	ug/L		96
77)	o-Xylene	12.51	106	1004932	38.7809	ug/L	#	85
78)	Styrene	12.52	104	1530784	38.3449	ug/L		97
79)	Bromoform	12.75	173	446120	36.2384	ug/L		95
80)	Isopropylben	13.04	105	2268688	35.8042	ug/L		92
81)	cyclohexanone	13.11	55	884726	691.5131	ug/L		99
84)	Bromobenzene	13.44	156	625933	35.0498	ug/L		98
85)	1122Tetrclta	13.40	83	860209	34.5399	ug/L		96
86)	123Triclproa	13.47	75	1134770	35.0641	ug/L		97
87)	14dichloro2butene	13.49	53	246222	40.9034	ug/L		97
88)	n-Propylbenz	13.62	91	2589787	34.8390	ug/L		94
89)	2chlorotolue	13.73	91	1544339	35.6050	ug/L		96
90)	4chlorotolue	13.89	91	1756736	35.2062	ug/L		97
91)	135Trimebenz	13.88	105	1832022	36.0859	ug/L		96
92)	tbutylbenzen	14.35	119	1680524	35.9707	ug/L		98
93)	124Trimetben	14.41	105	1773512	36.1526	ug/L		96
94)	sbutylbenzen	14.67	105	2365958	35.9127	ug/L		96
95)	13Diclorbenz	14.80	146	1100590	35.6394	ug/L		99
96)	pIsopropylto	14.88	119	1971464	36.6743	ug/L		95
97)	14dichlorobe	14.93	146	1117844	36.4882	ug/L		99
98)	12dichlorobe	15.47	146	1042436	36.1684	ug/L		98
99)	nButylbenzen	15.48	91	1791271	36.8308	ug/L		93
100)	12dibromo3cl	16.56	157	253565	33.2689	ug/L		91
101)	135Trichlorobenzene	16.90	180	711019	36.8496	ug/L		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2016\WCAL7.D Vial: 12
Acq On : 20 Jan 2016 18:41 Operator: AGK-RLD
Sample : INITIAL CALIB. PT7 Inst : VMS3
Misc : 40.0/400 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 07:21:47 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 07:21:37 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.71	180	666895	37.1363	ug/L	97
103) Hexachlorobu	17.96	225	317058	38.7120	ug/L	93
104) Naphthalene	18.01	128	2002984	35.3189	ug/L	99
105) 123Trichlben	18.32	180	618393	37.1222	ug/L	99

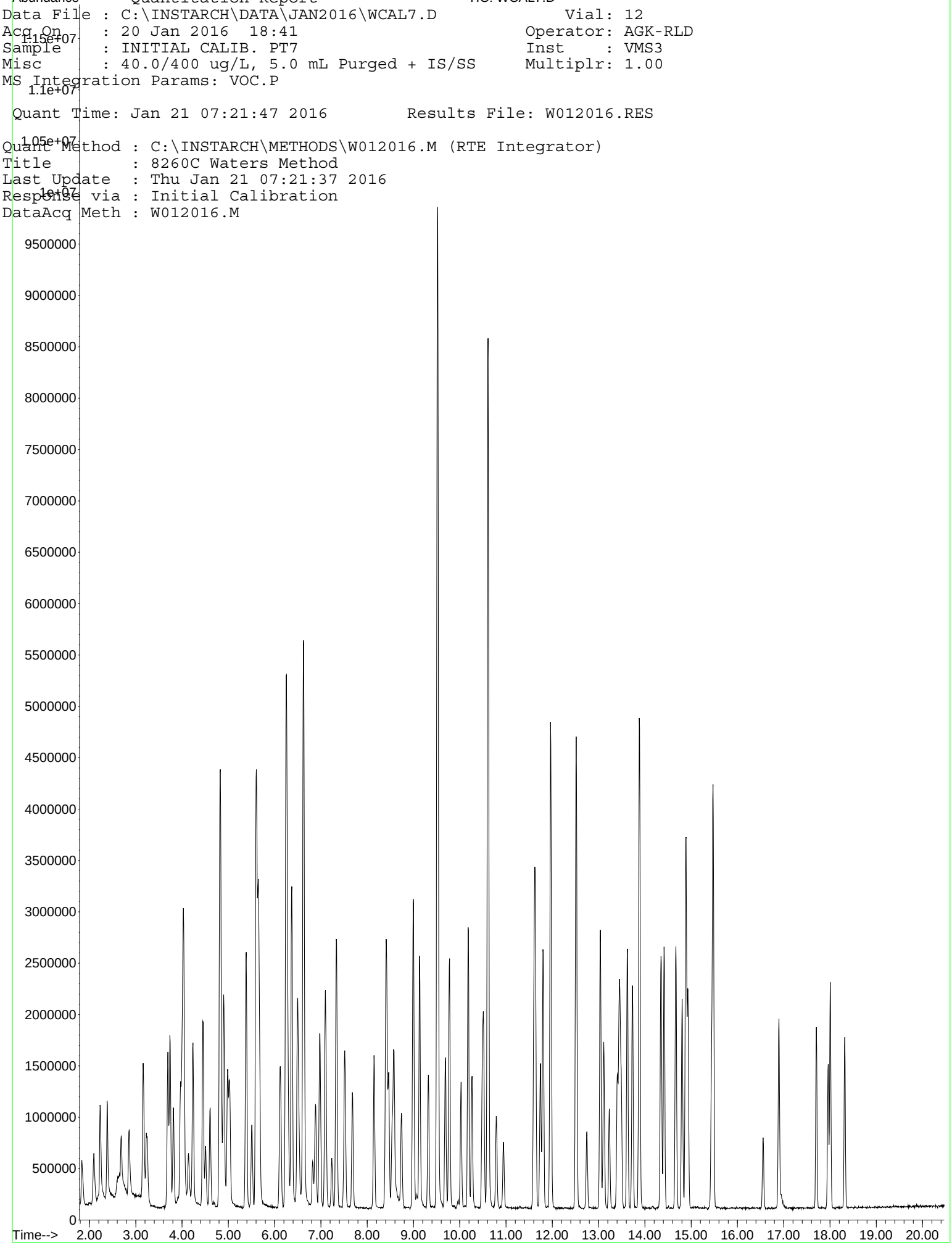
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: WCAL7.D

Data File : C:\INSTARCH\DATA\JAN2016\WCAL7.D Vial: 12
Acq On : 20 Jan 2016 18:41 Operator: AGK-RLD
Sample : INITIAL CALIB. PT7 Inst : VMS3
Misc : 40.0/400 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 07:21:47 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 07:21:37 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M



Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2016\WCAL8.D Vial: 13
Acq On : 20 Jan 2016 19:10 Operator: AGK-RLD
Sample : INITIAL CALIB. PT8 Inst : VMS3
Misc : 80.0/800 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 07:55:16 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 07:55:05 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.69	96	1213392	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.60	117	932720	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.90	152	512251	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.83	113	316092	20.683	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 103	%		
45) SURR12DCAd4	7.24	102	86682	19.824	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 99	%		
61) SURRd8Tolule	9.69	98	1258192	20.411	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 102	%		
83) SURR4BrFBenz	13.23	95	400989	19.470	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 97	%		
Target Compounds						Qvalue
2) Dichlorodi	1.83	85	1204152	74.8779	ug/L	91
3) Chloromethan	2.09	50	1667816	69.9732	ug/L	98
4) VinylChlorid	2.24	62	2185362	69.3744	ug/L	99
5) Bromomethane	2.69	94	1209380	100.5094	ug/L	96
6) Chloroethane	2.86	64	1483203	69.5337	ug/L	90
7) Dichloroflmethane	3.16	67	3087399	72.6847	ug/L	95
8) Trichlorofma	3.25	101	1524363	72.8384	ug/L	98
9) Ethylether	3.70	59	1011048	75.4766	ug/L	94
10) dichlorotfluoroethan	3.70	67	1199053	73.8471	ug/L	94
11) propyleneoxide	4.04	58	2080910	796.7850	ug/L #	81
12) Acrolein	3.82	56	2006569	394.4498	ug/L	92
13) 11dichlorthe	3.97	96	1042165	74.4346	ug/L	98
14) Trichlorotfluoroeth	4.01	101	1949484	152.9077	ug/L	97
15) Acetone	4.04	43	5166782	797.5263	ug/L	91
16) Iodomethane	4.15	142	2026604	160.2983	ug/L	99
17) Carbon Dislf	4.24	76	4574217	127.7570	ug/L	94
18) allylchloride	4.46	41	2563520	137.9182	ug/L	97
19) methylacetate	4.51	74	403581	80.2029	ug/L	96
20) Methylchlorid	4.61	84	1062520	69.1471	ug/L	99
21) tbutylalcohol	4.83	59	9986997	4088.0090	ug/L	75
22) Acrylonitrile	4.90	53	3224183	334.3860	ug/L	96
23) t12dichlorte	4.99	96	1108754	72.9167	ug/L	98
24) MtBE	5.03	73	2964608	68.8586	ug/L	95
25) Hexane	5.39	57	2828726	147.2349	ug/L	95
26) 11dichlorota	5.51	63	1831440	73.2292	ug/L	91
27) Vinylacetate	5.61	43	11709942	Below Cal		67
28) chloroprene	5.64	53	3310580	149.8653	ug/L	93
29) Diisopether	5.67	45	3262111	71.5748	ug/L	93
30) ETBE	6.12	59	2878490	67.9414	ug/L	94
31) 22dichloropr	6.25	77	1708591	73.8745	ug/L	97
32) c12dichlorte	6.24	96	1274803	76.8469	ug/L	94
33) 2Butanone	6.26	72	3089321	686.2113	ug/L	96
34) propionitrile	6.29	54	3078511	679.4321	ug/L	93
35) Ethylacetate	6.37	88	491994	410.7559	ug/L #	85
36) methacrylonitrile	6.50	67	1602737	156.4960	ug/L	87
37) Bromochlorma	6.52	128	498923	71.3213	ug/L	98
38) Tetrahydofur	6.62	42	6108727	800.4796	ug/L	83

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2016\WCAL8.D Vial: 13
Acq On : 20 Jan 2016 19:10 Operator: AGK-RLD
Sample : INITIAL CALIB. PT8 Inst : VMS3
Misc : 80.0/800 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 07:55:16 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 07:55:05 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.63	83	1866250	76.1896	ug/L		93
40)	111trichlota	6.88	97	1667843	77.0275	ug/L		98
42)	Cyclohexane	6.98	56	2003057	76.3657	ug/L		94
43)	Carbtetraclo	7.11	119	1475613	79.4642	ug/L		100
44)	11dicloprope	7.10	110	595298	81.2990	ug/L	#	91
46)	Benzene	7.34	78	3817129	66.1279	ug/L		90
47)	12dichlorota	7.33	62	1358051	79.8053	ug/L		95
48)	TAME	7.52	73	3042965	70.0859	ug/L		91
49)	trichloroete	8.15	95	1121582	77.9484	ug/L		97
50)	methylcyclohexane	8.42	83	2016099	79.8652	ug/L		97
51)	12dicloropra	8.40	63	1197922	76.0378	ug/L		96
52)	23Dicl1propene	8.46	75	1602810	75.7164	ug/L		97
53)	Dibromometha	8.54	93	712767	78.6652	ug/L		96
54)	methylmethacrylate	8.57	69	1202207	77.8277	ug/L		96
55)	14dioxane	8.59	88	1035346	4000.4703	ug/L		98
56)	Bromodiclrma	8.74	83	1397919	74.8072	ug/L		97
57)	2Nitropropane	9.00	43	4915196	633.1642	ug/L		95
58)	2CLEVE	9.13	63	2464769	438.4212	ug/L		95
59)	c13dicloproe	9.32	75	1720450	72.3272	ug/L		94
60)	4Meth2Pentan	9.52	43	9646045	Below	Cal	#	63
62)	Toluene	9.78	92	2626111	71.1526	ug/L		87
63)	t13Dicloprop	10.03	75	1581589	74.4323	ug/L		94
64)	ethylmethacrylate	10.19	69	3251699	138.0424	ug/L		94
65)	112Triclotha	10.26	83	882849	73.1713	ug/L		94
66)	Tetrachlorte	10.52	166	1231988	79.1156	ug/L		98
67)	13Diclorpropa	10.49	76	1763733	70.7044	ug/L		97
69)	2Hexanone	10.61	43	8640545	Below	Cal		74
70)	Clorodibrmta	10.79	129	1207036	74.5202	ug/L		99
71)	12Dibrometha	10.95	107	1076562	70.5693	ug/L		94
72)	Chlorobenzen	11.64	112	2744746	67.2960	ug/L		95
73)	1Clhexane	11.62	91	1640786	72.9424	ug/L		98
74)	1112Tetclota	11.74	131	1053905	76.3802	ug/L		97
75)	Ethylbenzene	11.80	91	4199860	62.9454	ug/L		89
76)	m p-Xylene	11.97	106	3660099	136.1446	ug/L	#	85
77)	o-Xylene	12.51	106	1971058	73.2912	ug/L	#	81
78)	Styrene	12.52	104	2974080	72.0519	ug/L		92
79)	Bromoform	12.75	173	937395	82.8557	ug/L		94
80)	Isopropylben	13.04	105	4206309	65.5383	ug/L		87
81)	cyclohexanone	13.11	55	1640545	1294.2268	ug/L		94
84)	Bromobenzene	13.44	156	1250317	73.3924	ug/L		95
85)	1122Tetrclta	13.40	83	1706904	70.9194	ug/L		97
86)	123Triclproa	13.47	75	2286328	74.2734	ug/L		96
87)	14dichloro2butene	13.49	53	543156	81.1467	ug/L		98
88)	n-Propylbenz	13.62	91	4676545	63.1419	ug/L		85
89)	2chlorotolue	13.73	91	2974451	68.0527	ug/L		92
90)	4chlorotolue	13.89	91	3430985	68.3031	ug/L		90
91)	135Trimebenz	13.88	105	3552678	69.1854	ug/L		92
92)	tbutylbenzen	14.35	119	3222571	68.3270	ug/L		94
93)	124Trimetben	14.41	105	3441755	69.3301	ug/L		91
94)	sbutylbenzen	14.67	105	4372523	66.0233	ug/L		89
95)	13Diclorbenz	14.80	146	2177941	69.7688	ug/L		98
96)	pIsopropylto	14.88	119	3744991	68.7796	ug/L		89
97)	14dichlorobe	14.93	146	2222110	71.3372	ug/L		97
98)	12dichlorobe	15.47	146	2086704	71.2944	ug/L		94
99)	nButylbenzen	15.48	91	3478005	70.3659	ug/L		88
100)	12dibromo3cl	16.56	157	529786	75.0647	ug/L		97
101)	135Trichlorobenzene	16.90	180	1460680	74.0073	ug/L		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2016\WCAL8.D Vial: 13
Acq On : 20 Jan 2016 19:10 Operator: AGK-RLD
Sample : INITIAL CALIB. PT8 Inst : VMS3
Misc : 80.0/800 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 07:55:16 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 07:55:05 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

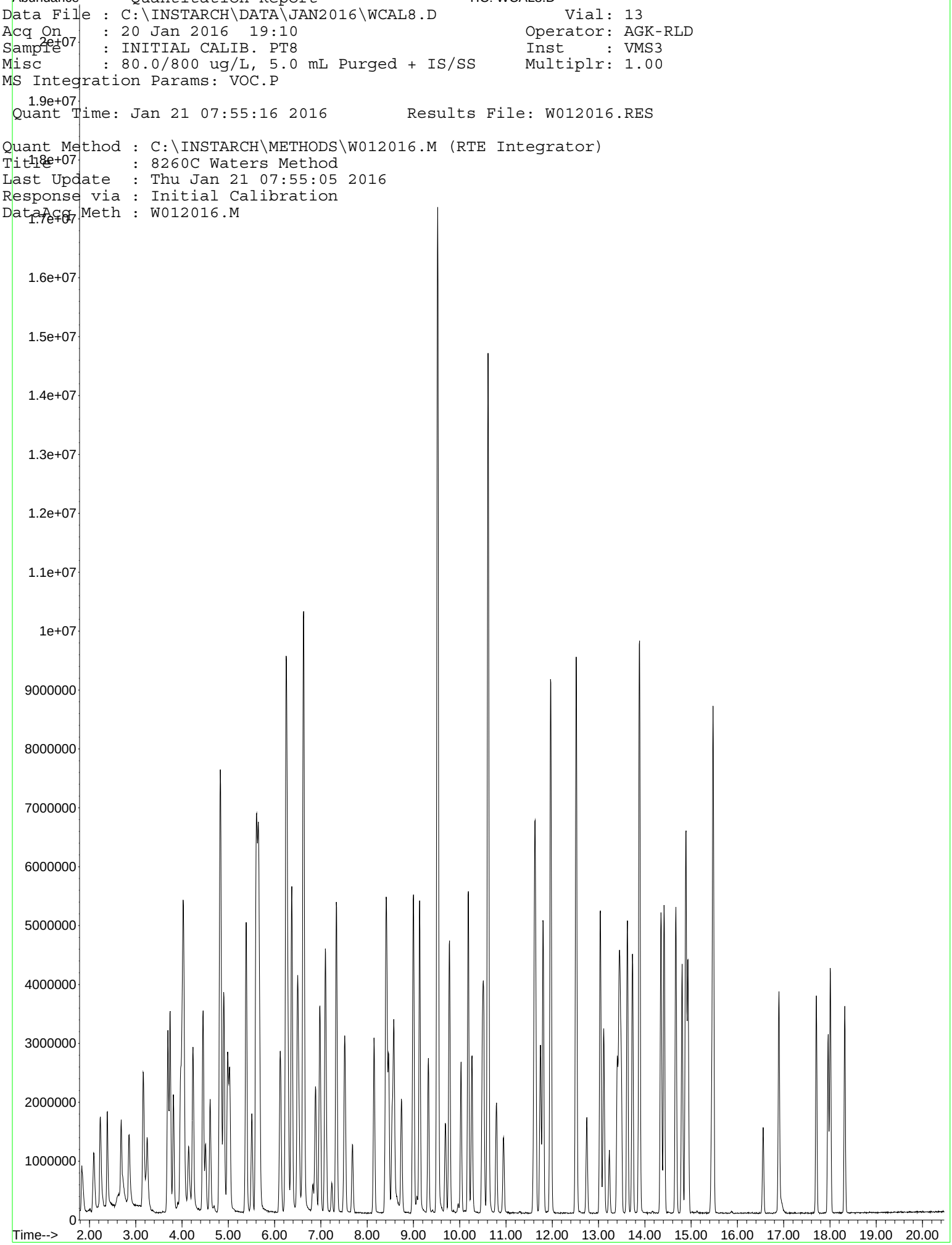
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102)	124Trichlobe	17.71	180	1332700	72.6495	ug/L	98
103)	Hexachlorobu	17.96	225	674006	82.9591	ug/L	95
104)	Naphthalene	18.01	128	3630724	64.0438	ug/L	94
105)	123Trichlben	18.32	180	1269312	74.3703	ug/L	99

(#) = qualifier out of range (m) = manual integration

Data File : C:\INSTARCH\DATA\JAN2016\WCAL8.D Vial: 13
Acq On : 20 Jan 2016 19:10 Operator: AGK-RLD
Sample : INITIAL CALIB. PT8 Inst : VMS3
Misc : 80.0/800 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 07:55:16 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 07:55:05 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M



Evaluate Continuing Calibration Report

Data File : C:\INSTARCH\Data\JAN2016\ICV1.D Vial: 15
Acq On : 20 Jan 2016 20:09 Operator: AGK-RLD
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Jan 21 07:54:23 2016

Quant Method : C:\INSTARCH\METHODS\W012016.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W012016.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	1.0000	1.0000	0.00	99	0.00
2	PT	Dichlorodi	0.2651	0.2587	2.41	89	0.00
3	PT	Chloromethan	0.3929	0.4036	-2.72	101	0.00
4	PT	VinylChlorid	0.5192	0.5399	-3.99	96	0.00
5	PT	Bromomethane	0.1983	0.2329	-17.45	116	0.00
6	PT	Chloroethane	0.3516	0.3907	-11.12	104	0.00
7	T	Dichloroflmethane	0.7001	0.7283	-4.03	116	0.00
8	PT	Trichlorofma	0.3450	0.3173	8.03	93	0.00
9	T	Ethylether	0.2208	0.2289	-3.67	104	0.00
10	T	dichlorotfluoroethan	0.2676	0.2528	5.53	85	0.00
11	T	propyleneoxide	0.0561	0.0597	-6.42	83	0.00
12	T	Acrolein	0.0838	0.0883	-5.37	90	0.01
13	PT	11dichlorthe	0.2308	0.2123	8.02	92	0.00
14	PT	Trichlorotfluoroeth	0.2101	0.2033	3.24	91	0.00
15	PT	Acetone	0.1661	0.1691	-1.81	82	0.00
16	T	Iodomethane	0.1634	0.1355	17.07	80	0.00
17	PT	Carbon Dislf	0.5901	0.5959	-0.98	94	0.00
18	T	allylchloride	0.3064	0.3083	-0.62	94	0.00
19	PT	methylacetate	0.0825	0.0890#	-7.88	96	0.01
20	PT	Methylchlorid	0.2533	0.2479	2.13	99	0.01
21	T	tbutylalcohol	0.0713	0.0764	-7.15	86	0.00
22	T	Acrylonitrile	0.1589	0.1680	-5.73	96	0.00
23	PT	t12dichlorte	0.2506	0.2373	5.31	96	0.00
24	PT	MtBE	0.7096	0.7257	-2.27	101	0.00
25	T	Hexane	0.3167	0.2895	8.59	87	0.00
26	PT	11dichlorota	0.4122	0.4043	1.92	91	0.00
27	T	Vinylacetate	0.4449	0.4998	-12.34	112	0.00
28	T	chloroprene	0.3641	0.3543	2.69	94	0.00
29	T	Diisopether	0.7512	0.7845	-4.43	102	0.00
30	T	ETBE	0.6983	0.7004	-0.30	102	0.00
31	T	22dichloropr	0.3812	0.3182	16.53	87	0.00
32	PT	c12dichlorte	0.2734	0.2562	6.29	90	0.00
33	PT	2Butanone	0.0742	0.0741#	0.13	89	0.00
34	T	propionitrile	0.0747	0.0747	0.00	89	0.00
35	T	Ethylacetate	0.0197	0.0204#	-3.55	103	0.00
36	T	methacrylonitrile	0.1688	0.1785	-5.75	101	0.00
37	T	Bromochlorma	0.1153	0.1106	4.08	92	0.00
38	T	Tetrahydofur	0.1734	0.1820	-4.96	94	0.00
39	PT	Chloroform	0.4037	0.3870	4.14	96	0.00
40	PT	111trichlota	0.3569	0.3414	4.34	95	0.00
41	S	SURRDibrflma	0.2519	0.2470	1.95	97	0.00
42	PT	Cyclohexane	0.4323	0.4189	3.10	92	0.00
43	PT	Carbtetraclo	0.3061	0.2915	4.77	97	0.00
44	T	11dicloprope	0.1207	0.1215	-0.66	100	0.00
45	S	SURR12DCAd4	0.0721	0.0702	2.64	96	0.00
46	PT	Benzene	0.9514	0.9334	1.89	94	0.00
47	PT	12dichlorota	0.2805	0.2971	-5.92	98	0.00
48	T	TAME	0.7156	0.7214	-0.81	96	0.00

49	PT	trichloroete	0.2372	0.2343	1.22	91	0.00
50	PT	methylcyclohexane	0.4161	0.4219	-1.39	93	0.00
51	PT	12dicloropra	0.2597	0.2523	2.85	98	0.00
52	T	23Dicl1propene	0.3489	0.3578	-2.55	100	0.00
53	T	Dibromometha	0.1493	0.1472	1.41	93	0.00
54	T	methylmethacrylate	0.2546	0.2549	-0.12	94	0.00
55	T	14dioxane	0.0051	0.0050#	1.96	86	0.00
56	PT	Bromodiclrma	0.3080	0.2996	2.73	99	0.00
57	T	2Nitropropane	0.1280	0.1307	-2.11	96	0.00
58	T	2CLEVE	0.0927	0.1086	-17.15	114	0.00
59	PT	c13dicloproe	0.3921	0.3749	4.39	97	0.00
60	PT	4Meth2Pentan	0.4135	0.4282	-3.56	94	0.00
61	S	SURRd8Tolule	1.0160	0.9997	1.60	97	0.00
62	PT	Toluene	0.6083	0.5931	2.50	97	0.00
63	PT	t13Dicloprop	0.3502	0.3315	5.34	96	0.00
64	T	ethylmethacrylate	0.3883	0.3883	0.00	96	0.00
65	PT	112Triclotha	0.1989	0.1884	5.28	92	0.00
66	PT	Tetrachlorte	0.2567	0.2456	4.32	95	0.00
67	T	13Diclorpropa	0.4112	0.3912	4.86	94	0.00
68	I	d5-CHLOROBENZENE**ISTD**	1.0000	1.0000	0.00	96	0.00
69	PT	2Hexanone	0.4646	0.4793	-3.16	91	0.00
70	PT	Clorodibrmta	0.3473	0.3072	11.55	90	0.00
71	PT	12Dibrometha	0.3271	0.3058	6.51	97	0.00
72	PT	Chlorobenzen	0.8746	0.8315	4.93	94	0.00
73	T	1Clhexane	0.4823	0.4511	6.47	91	0.00
74	T	1112Tetclota	0.2959	0.2819	4.73	94	0.01
75	PT	Ethylbenzene	1.4307	1.4367	-0.42	95	0.00
76	PT	m p-Xylene	0.5765	0.5632	2.31	91	0.00
77	PT	o-Xylene	0.5767	0.5320	7.75	93	0.00
78	PT	Styrene	0.8851	0.8894	-0.49	97	0.00
79	PT	Bromoform	0.2426	0.2286	5.77	87	0.00
80	PT	Isopropylben	1.3762	1.3943	-1.32	93	0.00
81	T	cyclohexanone	0.0272	0.0263#	3.31	84	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	1.0000	1.0000	0.00	95	0.00
83	S	SURR4BrFBenz	0.8041	0.7919	1.52	90	0.00
84	T	Bromobenzene	0.6651	0.6670	-0.29	91	0.00
85	PT	1122Tetrclta	0.9397	0.9359	0.40	96	0.00
86	T	123Triclproa	1.2019	1.1794	1.87	88	-0.01
87	T	14dichloro2butene	0.2613	0.2676	-2.41	107	0.00
88	T	n-Propylbenz	2.8917	2.9735	-2.83	92	0.00
89	T	2chlorotolue	1.7065	1.6219	4.96	90	0.00
90	T	4chlorotolue	1.9612	1.9799	-0.95	95	0.00
91	T	135Trimebenz	2.0049	2.0609	-2.79	94	0.00
92	T	tbutylbenzen	1.8414	1.7896	2.81	91	0.00
93	T	124Trimetben	1.9382	2.0091	-3.66	92	0.00
94	T	sbutylbenzen	2.5857	2.6564	-2.73	94	0.00
95	PT	13Diclorbenz	1.2188	1.1995	1.58	95	0.00
96	T	pIsopropylto	2.1259	2.1881	-2.93	93	0.00
97	PT	14dichlorobe	1.2162	1.1869	2.41	95	0.00
98	PT	12dichlorobe	1.1428	1.1189	2.09	90	0.00
99	T	nButylbenzen	1.9298	1.8907	2.03	90	0.00
100	PT	12dibromo3cl	0.2756	0.2491	9.62	83	0.00
101	T	135Trichlorobenzene	0.7706	0.8060	-4.59	99	0.00
102	PT	124Trichlobe	0.7162	0.6524	8.91	91	0.00
103	T	Hexachlorobu	0.3172	0.3117	1.73	88	0.00
104	T	Naphthalene	2.2134	2.2457	-1.46	94	0.00
105	T	123Trichlben	0.6664	0.6492	2.58	94	0.00

(#) = Out of Range SPCC's out = 2 CCC's out = 0

W012016.M Tue Feb 02 10:13:03 2016

Evaluate Continuing Calibration Report

Data File : C:\INSTARCH\Data\JAN2016\ICV1.D Vial: 15
Acq On : 20 Jan 2016 20:09 Operator: AGK-RLD
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Jan 21 07:54:23 2016

Quant Method : C:\INSTARCH\METHODS\W012016.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W012016.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	20.0000	20.0000	0.00	99	0.00
2	PT	Dichlorodi	10.0000	9.7608	2.39	89	0.00
3	PT	Chloromethan	10.0000	10.2723	-2.72	101	0.00
4	PT	VinylChlorid	10.0000	10.3978	-3.98	96	0.00
5	PT	Bromomethane	10.0000	11.7422	-17.42	116	0.00
6	PT	Chloroethane	10.0000	11.1127	-11.13	104	0.00
7	T	Dichloroflmethane	10.0000	10.4019	-4.02	116	0.00
8	PT	Trichlorofma	10.0000	9.1990	8.01	93	0.00
9	T	Ethylether	10.0000	10.3691	-3.69	104	0.00
10	T	dichlorotfluoroethan	10.0000	9.4459	5.54	85	0.00
11	T	propyleneoxide	100.0000	104.3848	-4.38	83	0.00
12	T	Acrolein	50.0000	52.6611	-5.32	90	0.01
13	PT	11dichlorthe	10.0000	9.1995	8.00	92	0.00
14	PT	Trichlorotfluoroeth	20.0000	19.3453	3.27	91	0.00
15	PT	Acetone	100.0000	106.9095	-6.91	82	0.00
16	T	Iodomethane	20.0000	15.6330	21.84#	80	0.00
17	PT	Carbon Dislf	20.0000	20.1942	-0.97	94	0.00
18	T	allylchloride	20.0000	20.1261	-0.63	94	0.00
19	PT	methylacetate	10.0000	10.1866	-1.87	96	0.01
20	PT	Methylchlorid	10.0000	9.7875	2.13	99	0.01
21	T	tbutylalcohol	500.0000	510.1013	-2.02	86	0.00
22	T	Acrylonitrile	50.0000	52.8561	-5.71	96	0.00
23	PT	t12dichlorte	10.0000	9.4696	5.30	96	0.00
24	PT	MtBE	10.0000	10.2259	-2.26	101	0.00
25	T	Hexane	20.0000	18.2817	8.59	87	0.00
26	PT	11dichlorota	10.0000	9.8066	1.93	91	0.00
27	T	Vinylacetate	100.0000	111.3281	-11.33	112	0.00
28	T	chloroprene	20.0000	19.4601	2.70	94	0.00
29	T	Diisopether	10.0000	10.4425	-4.43	102	0.00
30	T	ETBE	10.0000	10.0293	-0.29	102	0.00
31	T	22dichloropr	10.0000	8.3459	16.54	87	0.00
32	PT	c12dichlorte	10.0000	9.3681	6.32	90	0.00
33	PT	2Butanone	100.0000	99.8981	0.10	89	0.00
34	T	propionitrile	100.0000	99.9767	0.02	89	0.00
35	T	Ethylacetate	50.0000	51.7639	-3.53	103	0.00
36	T	methacrylonitrile	20.0000	21.1528	-5.76	101	0.00
37	T	Bromochlorma	10.0000	9.5889	4.11	92	0.00
38	T	Tetrahydofur	100.0000	103.3238	-3.32	94	0.00
39	PT	Chloroform	10.0000	9.5858	4.14	96	0.00
40	PT	111trichlota	10.0000	9.5669	4.33	95	0.00
41	S	SURRDibrflma	20.0000	19.6118	1.94	97	0.00
42	PT	Cyclohexane	10.0000	9.6894	3.11	92	0.00
43	PT	Carbtetraclo	10.0000	9.5249	4.75	97	0.00
44	T	11dicloprope	10.0000	10.0653	-0.65	100	0.00
45	S	SURR12DCAd4	20.0000	19.4779	2.61	96	0.00
46	PT	Benzene	10.0000	9.8103	1.90	94	0.00
47	PT	12dichlorota	10.0000	10.5906	-5.91	98	0.00
48	T	TAME	10.0000	10.0798	-0.80	96	0.00

49	PT	trichloroete	10.0000	9.8802	1.20	91	0.00
50	PT	methylcyclohexane	10.0000	10.1388	-1.39	93	0.00
51	PT	12dicloropra	10.0000	9.7173	2.83	98	0.00
52	T	23Dicl1propene	10.0000	10.2534	-2.53	100	0.00
53	T	Dibromometha	10.0000	9.8545	1.46	93	0.00
54	T	methylmethacrylate	10.0000	10.0112	-0.11	94	0.00
55	T	14dioxane	500.0000	479.7195	4.06	86	0.00
56	PT	Bromodiclrma	10.0000	9.7263	2.74	99	0.00
57	T	2Nitropropane	100.0000	102.1497	-2.15	96	0.00
58	T	2CLEVE	50.0000	58.6023	-17.20	114	0.00
59	PT	c13dicloproe	10.0000	9.5612	4.39	97	0.00
60	PT	4Meth2Pentan	100.0000	102.5747	-2.57	94	0.00
61	S	SURRd8Tolule	20.0000	19.6787	1.61	97	0.00
62	PT	Toluene	10.0000	9.7500	2.50	97	0.00
63	PT	t13Dicloprop	10.0000	9.4642	5.36	96	0.00
64	T	ethylmethacrylate	20.0000	20.0004	-0.00	96	0.00
65	PT	112Triclotha	10.0000	9.4757	5.24	92	0.00
66	PT	Tetrachlorte	10.0000	9.5689	4.31	95	0.00
67	T	13Diclorpropa	10.0000	9.5139	4.86	94	0.00
68	I	d5-CHLOROBENZENE**ISTD**	20.0000	20.0000	0.00	96	0.00
69	PT	2Hexanone	100.0000	100.3484	-0.35	91	0.00
70	PT	Clorodibrmta	10.0000	8.8460	11.54	90	0.00
71	PT	12Dibrometha	10.0000	9.3487	6.51	97	0.00
72	PT	Chlorobenzen	10.0000	9.5073	4.93	94	0.00
73	T	1Clhexane	10.0000	9.3518	6.48	91	0.00
74	T	1112Tetclota	10.0000	9.5289	4.71	94	0.01
75	PT	Ethylbenzene	10.0000	10.0417	-0.42	95	0.00
76	PT	m p-Xylene	20.0000	19.5413	2.29	91	0.00
77	PT	o-Xylene	10.0000	9.2258	7.74	93	0.00
78	PT	Styrene	10.0000	10.0482	-0.48	97	0.00
79	PT	Bromoform	10.0000	9.4223	5.78	87	0.00
80	PT	Isopropylben	10.0000	10.1314	-1.31	93	0.00
81	T	cyclohexanone	200.0000	193.3112	3.34	84	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	20.0000	20.0000	0.00	95	0.00
83	S	SURR4BrFBenz	20.0000	19.6975	1.51	90	0.00
84	T	Bromobenzene	10.0000	10.0276	-0.28	91	0.00
85	PT	1122Tetrclta	10.0000	9.9598	0.40	96	0.00
86	T	123Triclproa	10.0000	9.8131	1.87	88	-0.01
87	T	14dichloro2butene	10.0000	10.2401	-2.40	107	0.00
88	T	n-Propylbenz	10.0000	10.2830	-2.83	92	0.00
89	T	2chlorotolue	10.0000	9.5039	4.96	90	0.00
90	T	4chlorotolue	10.0000	10.0951	-0.95	95	0.00
91	T	135Trimebenz	10.0000	10.2793	-2.79	94	0.00
92	T	tbutylbenzen	10.0000	9.7186	2.81	91	0.00
93	T	124Trimetben	10.0000	10.3657	-3.66	92	0.00
94	T	sbutylbenzen	10.0000	10.2735	-2.74	94	0.00
95	PT	13Diclorbenz	10.0000	9.8414	1.59	95	0.00
96	T	pIsopropylto	10.0000	10.2928	-2.93	93	0.00
97	PT	14dichlorobe	10.0000	9.7592	2.41	95	0.00
98	PT	12dichlorobe	10.0000	9.7914	2.09	90	0.00
99	T	nButylbenzen	10.0000	9.7973	2.03	90	0.00
100	PT	12dibromo3cl	10.0000	9.0386	9.61	83	0.00
101	T	135Trichlorobenzene	10.0000	10.4591	-4.59	99	0.00
102	PT	124Trichlobe	10.0000	9.1083	8.92	91	0.00
103	T	Hexachlorobu	10.0000	9.8270	1.73	88	0.00
104	T	Naphthalene	10.0000	10.1457	-1.46	94	0.00
105	T	123Trichlben	10.0000	9.7425	2.58	94	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

W012016.M Tue Feb 02 10:09:31 2016

Quantitation Report

Data File : C:\INSTARCH\Data\JAN2016\ICV1.D Vial: 15
Acq On : 20 Jan 2016 20:09 Operator: AGK-RLD
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 07:54:23 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 07:53:57 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.69	96	1104941	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.60	117	822407	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.90	152	435130	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.82	113	272939	19.612	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 98 %			
45) SURR12DCAd4	7.24	102	77558	19.478	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 97 %			
61) SURRd8Tolule	9.69	98	1104631	19.679	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 98 %			
83) SURR4BrFBenz	13.23	95	344600	19.698	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 98 %			
Target Compounds						Qvalue
2) Dichlorodi	1.83	85	142939	9.7608	ug/L	88
3) Chloromethan	2.10	50	222958	10.2723	ug/L	98
4) VinylChlorid	2.24	62	298265	10.3978	ug/L	98
5) Bromomethane	2.69	94	128660	11.7422	ug/L	96
6) Chloroethane	2.86	64	215856	11.1127	ug/L	94
7) Dichloroflmethane	3.16	67	402345	10.4019	ug/L	99
8) Trichlorofma	3.25	101	175310	9.1990	ug/L	95
9) Ethylether	3.70	59	126485	10.3691	ug/L	95
10) dichlorotfluoroethan	3.70	67	139664	9.4459	ug/L	93
11) propyleneoxide	4.04	58	330054	104.3848	ug/L	98
12) Acrolein	3.82	56	243944	52.6611	ug/L	90
13) 11dichlorthe	3.97	96	117291	9.1995	ug/L	97
14) Trichlorotfluoroeth	4.01	101	224597	19.3453	ug/L	99
15) Acetone	4.04	43	934162	106.9095	ug/L	99
16) Iodomethane	4.14	142	149717	15.6330	ug/L	92
17) Carbon Dislf	4.24	76	658411	20.1942	ug/L	99
18) allylchloride	4.46	41	340653	20.1261	ug/L	98
19) methylacetate	4.52	74	49195	10.1866	ug/L	97
20) Methylchlorid	4.61	84	136953	9.7875	ug/L	98
21) tbutylalcohol	4.82	59	2110259	510.1013	ug/L	99
22) Acrylonitrile	4.90	53	464093	52.8561	ug/L	98
23) t12dichlorte	4.99	96	131123	9.4696	ug/L	95
24) MtBE	5.02	73	400913	10.2259	ug/L	95
25) Hexane	5.39	57	319842	18.2817	ug/L	97
26) 11dichlorota	5.51	63	223338	9.8066	ug/L	97
27) Vinylacetate	5.61	43	2761518	111.3281	ug/L	100
28) chloroprene	5.65	53	391459	19.4601	ug/L	100
29) Diisopether	5.67	45	433394	10.4425	ug/L	96
30) ETBE	6.13	59	386935	10.0293	ug/L	99
31) 22dichloropr	6.24	77	175773	8.3459	ug/L	98
32) c12dichlorte	6.24	96	141516	9.3681	ug/L	92
33) 2Butanone	6.26	72	409544	99.8981	ug/L	98
34) propionitrile	6.29	54	412507	99.9767	ug/L	97
35) Ethylacetate	6.37	88	56460	51.7639	ug/L #	91
36) methacrylonitrile	6.49	67	197272	21.1528	ug/L	91
37) Bromochlorma	6.52	128	61083	9.5889	ug/L	90
38) Tetrahydofur	6.62	42	1005386	103.3238	ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\JAN2016\ICV1.D Vial: 15
Acq On : 20 Jan 2016 20:09 Operator: AGK-RLD
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 07:54:23 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 07:53:57 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.63	83	213817	9.5858	ug/L	99
40)	111trichlota	6.89	97	188634	9.5669	ug/L	96
42)	Cyclohexane	6.98	56	231436	9.6894	ug/L	95
43)	Carbtetraclo	7.11	119	161065	9.5249	ug/L	99
44)	11dicloprope	7.10	110	67114	10.0653	ug/L	93
46)	Benzene	7.34	78	515672	9.8103	ug/L	98
47)	12dichlorota	7.33	62	164113	10.5906	ug/L	99
48)	TAME	7.52	73	398527	10.0798	ug/L	95
49)	trichloroete	8.15	95	129458	9.8802	ug/L	91
50)	methylcyclohexane	8.42	83	233065	10.1388	ug/L	98
51)	12dicloropra	8.40	63	139406	9.7173	ug/L	93
52)	23Dicl1propene	8.46	75	197650	10.2534	ug/L	96
53)	Dibromometha	8.54	93	81309	9.8545	ug/L	94
54)	methylmethacrylate	8.57	69	140822	10.0112	ug/L	98
55)	14dioxane	8.59	88	137064	479.7195	ug/L	94
56)	Bromodiclrma	8.74	83	165510	9.7263	ug/L	98
57)	2Nitropropane	8.99	43	722104	102.1497	ug/L	99
58)	2CLEVE	9.13	63	300011	58.6023	ug/L	98
59)	c13dicloproe	9.32	75	207105	9.5612	ug/L	94
60)	4Meth2Pentan	9.52	43	2365644	102.5747	ug/L	100
62)	Toluene	9.78	92	327691	9.7500	ug/L	96
63)	t13Dicloprop	10.02	75	183127	9.4642	ug/L	94
64)	ethylmethacrylate	10.19	69	429016	20.0004	ug/L	99
65)	112Triclotha	10.27	83	104111	9.4757	ug/L	99
66)	Tetrachlorte	10.52	166	135689	9.5689	ug/L	97
67)	13Diclorpropa	10.49	76	216115	9.5139	ug/L	98
69)	2Hexanone	10.61	43	1971011	100.3484	ug/L	98
70)	Clorodibrmta	10.79	129	126336	8.8460	ug/L	98
71)	12Dibrometha	10.95	107	125751	9.3487	ug/L	97
72)	Chlorobenzen	11.63	112	341906	9.5073	ug/L	98
73)	1Clhexane	11.62	91	185482	9.3518	ug/L	97
74)	1112Tetclota	11.75	131	115931	9.5289	ug/L	95
75)	Ethylbenzene	11.80	91	590764	10.0417	ug/L	100
76)	m p-Xylene	11.96	106	463213	19.5413	ug/L	94
77)	o-Xylene	12.51	106	218770	9.2258	ug/L	100
78)	Styrene	12.52	104	365704	10.0482	ug/L	97
79)	Bromoform	12.74	173	93992	9.4223	ug/L	93
80)	Isopropylben	13.04	105	573340	10.1314	ug/L	99
81)	cyclohexanone	13.11	55	216058	193.3112	ug/L	98
84)	Bromobenzene	13.45	156	145112	10.0276	ug/L	98
85)	1122Tetrclta	13.40	83	203625	9.9598	ug/L	95
86)	123Triclproa	13.46	75	256594	9.8131	ug/L	95
87)	14dichloro2butene	13.50	53	58223	10.2401	ug/L	96
88)	n-Propylbenz	13.62	91	646940	10.2830	ug/L	99
89)	2chlorotolue	13.73	91	352859	9.5039	ug/L	97
90)	4chlorotolue	13.89	91	430751	10.0951	ug/L	99
91)	135Trimebenz	13.89	105	448373	10.2793	ug/L	100
92)	tbutylbenzen	14.35	119	389359	9.7186	ug/L	99
93)	124Trimetben	14.41	105	437112	10.3657	ug/L	99
94)	sbutylbenzen	14.66	105	577949	10.2735	ug/L	97
95)	13Diclorbenz	14.80	146	260963	9.8414	ug/L	95
96)	pIsopropylto	14.88	119	476057	10.2928	ug/L	100
97)	14dichlorobe	14.93	146	258227	9.7592	ug/L	98
98)	12dichlorobe	15.47	146	243436	9.7914	ug/L	98
99)	nButylbenzen	15.48	91	411348	9.7973	ug/L	94
100)	12dibromo3cl	16.55	157	54188	9.0386	ug/L	83
101)	135Trichlorobenzene	16.90	180	175352	10.4591	ug/L	95

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\JAN2016\ICV1.D Vial: 15
Acq On : 20 Jan 2016 20:09 Operator: AGK-RLD
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 07:54:23 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 07:53:57 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.71	180	141929	9.1083	ug/L	97
103) Hexachlorobu	17.96	225	67820	9.8270	ug/L	98
104) Naphthalene	18.01	128	488578	10.1457	ug/L	99
105) 123Trichlben	18.32	180	141246	9.7425	ug/L	96

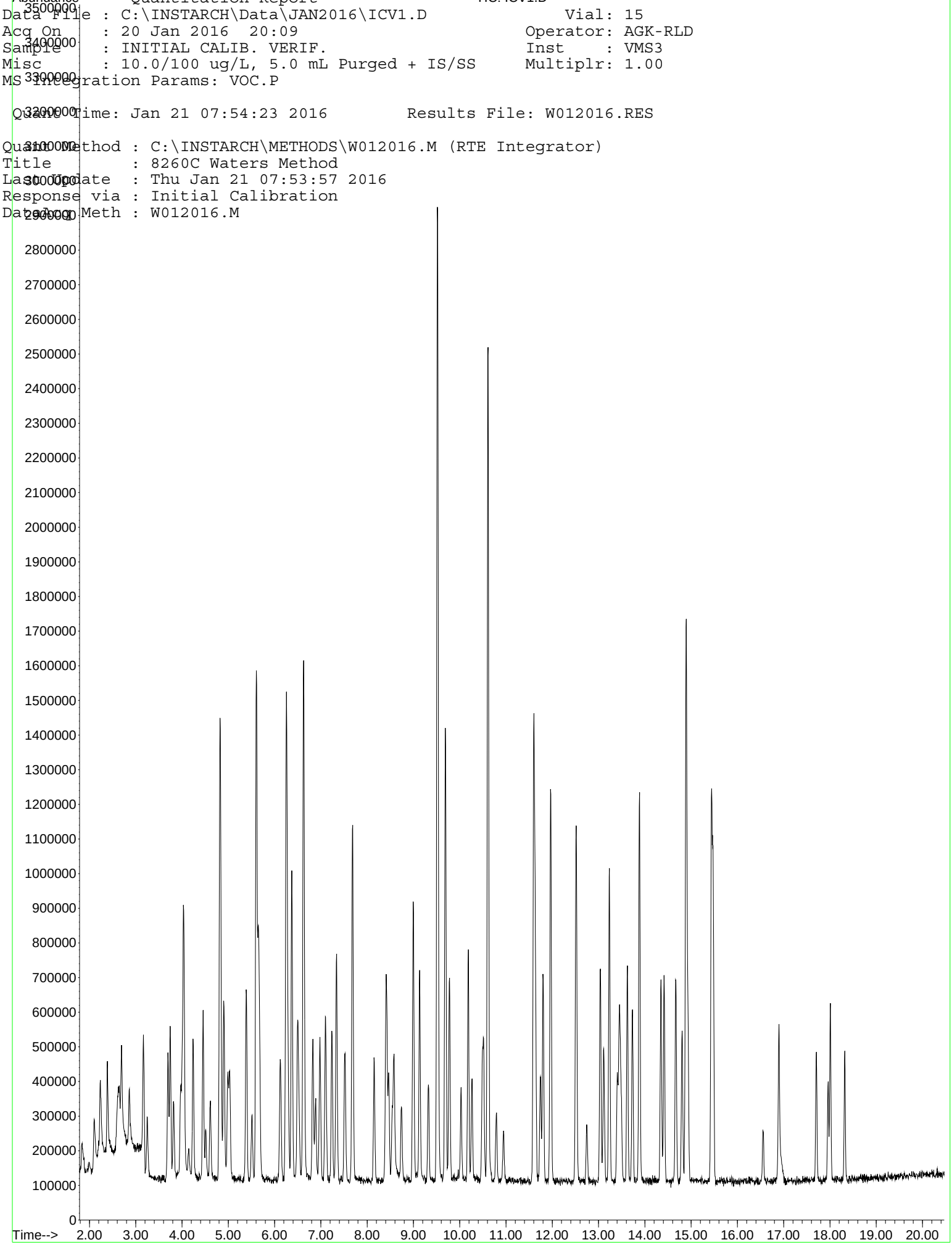
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: ICV1.D

Data File : C:\INSTARCH\Data\JAN2016\ICV1.D Vial: 15
Acq On : 20 Jan 2016 20:09 Operator: AGK-RLD
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 07:54:23 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 07:53:57 2016
Response via : Initial Calibration
Data Acq Meth : W012016.M



Evaluate Continuing Calibration Report

Data File : C:\INSTARCH\Data\JAN2016\ICV2.D Vial: 16
Acq On : 20 Jan 2016 20:39 Operator: AGK-RLD
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 30.0/300 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Jan 21 07:55:26 2016

Quant Method : C:\INSTARCH\METHODS\W012016.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W012016.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	20.0000	20.0000	0.00	95	0.00
2	PT	Dichlorodi	30.0000	30.2942	-0.98	99	0.00
3	PT	Chloromethan	30.0000	28.4757	5.08	96	0.00
4	PT	VinylChlorid	30.0000	29.8639	0.45	96	0.00
5	PT	Bromomethane	30.0000	38.6212	-28.74#	114	0.00
6	PT	Chloroethane	30.0000	28.7661	4.11	96	0.00
7	T	Dichloroflmethane	30.0000	31.1896	-3.97	116	0.00
8	PT	Trichlorofma	30.0000	28.3634	5.46	98	0.00
9	T	Ethylether	30.0000	29.7698	0.77	99	0.00
10	T	dichlorotfluoroethan	30.0000	29.4913	1.70	95	0.00
11	T	propyleneoxide	300.0000	287.1078	4.30	101	0.00
12	T	Acrolein	150.0000	151.9641	-1.31	103	0.00
13	PT	11dichlorthe	30.0000	29.1631	2.79	98	0.00
14	PT	Trichlorotfluoroeth	60.0000	60.4652	-0.78	95	0.00
15	PT	Acetone	300.0000	293.8119	2.06	105	0.00
16	T	Iodomethane	60.0000	58.8269	1.96	86	0.00
17	PT	Carbon Dislf	60.0000	57.9399	3.43	95	0.00
18	T	allylchloride	60.0000	59.6314	0.61	94	0.00
19	PT	methylacetate	30.0000	28.1594	6.14	88	0.00
20	PT	Methylchlorid	30.0000	27.3863	8.71	95	0.00
21	T	tbutylalcohol	1500.0000	1498.6805	0.09	101	0.00
22	T	Acrylonitrile	150.0000	142.2942	5.14	97	0.00
23	PT	t12dichlorte	30.0000	27.7222	7.59	91	0.00
24	PT	MtBE	30.0000	28.9341	3.55	98	0.00
25	T	Hexane	60.0000	58.4499	2.58	93	0.00
26	PT	11dichlorota	30.0000	29.0229	3.26	93	0.00
27	T	Vinylacetate	300.0000	318.7633	-6.25	99	0.00
28	T	chloroprene	60.0000	59.5813	0.70	95	0.00
29	T	Diisopether	30.0000	29.2113	2.63	95	0.00
30	T	ETBE	30.0000	28.1644	6.12	95	0.00
31	T	22dichloropr	30.0000	26.0379	13.21	89	0.00
32	PT	c12dichlorte	30.0000	28.4303	5.23	92	0.00
33	PT	2Butanone	300.0000	284.0743	5.31	106	0.00
34	T	propionitrile	300.0000	281.9955	6.00	101	0.00
35	T	Ethylacetate	150.0000	150.7885	-0.53	101	0.00
36	T	methacrylonitrile	60.0000	60.0523	-0.09	99	0.00
37	T	Bromochlorma	30.0000	27.1466	9.51	88	0.00
38	T	Tetrahydofur	300.0000	304.5879	-1.53	101	0.00
39	PT	Chloroform	30.0000	28.7503	4.17	96	0.00
40	PT	111trichlota	30.0000	29.1528	2.82	94	0.00
41	S	SURRDibrflma	20.0000	19.8291	0.85	93	0.00
42	PT	Cyclohexane	30.0000	31.2422	-4.14	99	0.00
43	PT	Carbtetraclo	30.0000	29.1988	2.67	94	0.00
44	T	11dicloprope	30.0000	30.0842	-0.28	94	0.00
45	S	SURR12DCAd4	20.0000	20.5397	-2.70	99	0.00
46	PT	Benzene	30.0000	27.9493	6.84	94	0.00
47	PT	12dichlorota	30.0000	30.8952	-2.98	94	0.00
48	T	TAME	30.0000	29.9168	0.28	97	0.00

49	PT	trichloroete	30.0000	29.0194	3.27	92	0.00
50	PT	methylcyclohexane	30.0000	31.7289	-5.76	97	0.00
51	PT	12dicloropra	30.0000	29.4185	1.94	98	0.00
52	T	23Dicl1propene	30.0000	30.6081	-2.03	97	0.00
53	T	Dibromometha	30.0000	29.4587	1.80	93	0.00
54	T	methylmethacrylate	30.0000	31.2392	-4.13	97	0.00
55	T	14dioxane	1500.0000	1584.9918	-5.67	112	0.00
56	PT	Bromodiclrma	30.0000	28.4066	5.31	92	0.00
57	T	2Nitropropane	300.0000	285.6836	4.77	101	0.00
58	T	2CLEVE	150.0000	179.6632	-19.78	122	0.00
59	PT	c13dicloproe	30.0000	27.6235	7.92	92	0.00
60	PT	4Meth2Pentan	300.0000	298.4327	0.52	98	0.00
61	S	SURRd8Tolule	20.0000	20.0547	-0.27	95	0.00
62	PT	Toluene	30.0000	28.1834	6.06	93	0.00
63	PT	t13Dicloprop	30.0000	28.1246	6.25	94	0.00
64	T	ethylmethacrylate	60.0000	59.2216	1.30	97	0.00
65	PT	112Triclotha	30.0000	27.9176	6.94	95	0.00
66	PT	Tetrachlorte	30.0000	30.3957	-1.32	94	0.00
67	T	13Diclorpropa	30.0000	28.3700	5.43	95	0.00
68	I	d5-CHLOROBENZENE**ISTD**	20.0000	20.0000	0.00	95	0.00
69	PT	2Hexanone	300.0000	300.1300	-0.04	98	0.00
70	PT	Clorodibrmta	30.0000	28.3258	5.58	94	0.00
71	PT	12Dibrometha	30.0000	27.7702	7.43	90	0.00
72	PT	Chlorobenzen	30.0000	27.8518	7.16	94	0.00
73	T	1Clhexane	30.0000	29.0565	3.15	97	0.00
74	T	1112Tetclota	30.0000	29.5309	1.56	92	0.00
75	PT	Ethylbenzene	30.0000	28.5912	4.70	93	0.00
76	PT	m p-Xylene	60.0000	58.1927	3.01	94	0.00
77	PT	o-Xylene	30.0000	29.4744	1.75	94	0.00
78	PT	Styrene	30.0000	29.7200	0.93	95	0.00
79	PT	Bromoform	30.0000	30.5400	-1.80	94	0.00
80	PT	Isopropylben	30.0000	29.2617	2.46	94	0.00
81	T	cyclohexanone	600.0000	570.1747	4.97	107	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	20.0000	20.0000	0.00	92	0.00
83	S	SURR4BrFBenz	20.0000	20.6691	-3.35	95	0.00
84	T	Bromobenzene	30.0000	29.8864	0.38	94	0.00
85	PT	1122Tetrclta	30.0000	29.6291	1.24	94	0.00
86	T	123Triclproa	30.0000	30.4069	-1.36	98	0.00
87	T	14dichloro2butene	30.0000	30.4326	-1.44	97	0.00
88	T	n-Propylbenz	30.0000	30.5853	-1.95	96	0.00
89	T	2chlorotolue	30.0000	29.1617	2.79	94	0.00
90	T	4chlorotolue	30.0000	29.6420	1.19	96	0.00
91	T	135Trimebenz	30.0000	29.9071	0.31	93	0.00
92	T	tbutylbenzen	30.0000	30.2338	-0.78	93	0.00
93	T	124Trimetben	30.0000	30.3992	-1.33	93	0.00
94	T	sbutylbenzen	30.0000	30.6432	-2.14	94	0.00
95	PT	13Diclorbenz	30.0000	28.7019	4.33	92	0.00
96	T	pIsopropylto	30.0000	30.8036	-2.68	94	0.00
97	PT	14dichlorobe	30.0000	29.5444	1.52	95	0.00
98	PT	12dichlorobe	30.0000	28.6291	4.57	91	0.00
99	T	nButylbenzen	30.0000	30.7240	-2.41	95	0.00
100	PT	12dibromo3cl	30.0000	29.0711	3.10	96	0.00
101	T	135Trichlorobenzene	30.0000	30.4843	-1.61	96	0.00
102	PT	124Trichlobe	30.0000	29.6548	1.15	95	0.00
103	T	Hexachlorobu	30.0000	32.2734	-7.58	90	0.00
104	T	Naphthalene	30.0000	29.6503	1.17	95	0.00
105	T	123Trichlben	30.0000	29.9016	0.33	95	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

W012016.M Tue Feb 02 10:13:31 2016

Quantitation Report

Data File : C:\INSTARCH\Data\JAN2016\ICV2.D Vial: 16
Acq On : 20 Jan 2016 20:39 Operator: AGK-RLD
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 30.0/300 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 07:55:26 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 07:55:05 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.68	96	1133734	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.60	117	836607	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.90	152	442198	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.83	113	283155	19.829	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 99 %			
45) SURR12DCAd4	7.24	102	83917	20.540	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 103 %			
61) SURRd8Tolule	9.69	98	1155075	20.055	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100 %			
83) SURR4BrFBenz	13.23	95	367470	20.669	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 103 %			
Target Compounds						Qvalue
2) Dichlorodi	1.83	85	455195	30.2942	ug/L	92
3) Chloromethan	2.10	50	634163	28.4757	ug/L	100
4) VinylChlorid	2.24	62	878984	29.8639	ug/L	96
5) Bromomethane	2.69	94	434202	38.6212	ug/L	92
6) Chloroethane	2.86	64	573320	28.7661	ug/L	98
7) Dichloroflmethane	3.16	67	1237853	31.1896	ug/L	99
8) Trichlorofma	3.25	101	554622	28.3634	ug/L	99
9) Ethylether	3.70	59	372602	29.7698	ug/L	92
10) dichlorotfluoroethan	3.69	67	447413	29.4913	ug/L	96
11) propyleneoxide	4.04	58	847821	287.1078	ug/L	92
12) Acrolein	3.82	56	722293	151.9641	ug/L	87
13) 11dichlorthe	3.97	96	381509	29.1631	ug/L	96
14) Trichlorotfluoroeth	4.01	101	720287	60.4652	ug/L	98
15) Acetone	4.04	43	2290426	293.8119	ug/L	96
16) Iodomethane	4.14	142	645611	58.8269	ug/L	96
17) Carbon Dislf	4.24	76	1938294	57.9399	ug/L	100
18) allylchloride	4.46	41	1035620	59.6314	ug/L	99
19) methylacetate	4.51	74	134180	28.1594	ug/L	90
20) Methylchlorid	4.61	84	393193	27.3863	ug/L	99
21) tbutylalcohol	4.82	59	5248261	1498.6805	ug/L	93
22) Acrylonitrile	4.90	53	1281943	142.2942	ug/L	99
23) t12dichlorte	4.98	96	393864	27.7222	ug/L	96
24) MtBE	5.03	73	1163937	28.9341	ug/L	99
25) Hexane	5.39	57	1049238	58.4499	ug/L	99
26) 11dichlorota	5.51	63	678203	29.0229	ug/L	95
27) Vinylacetate	5.61	43	6596802	318.7633	ug/L	90
28) chloroprene	5.64	53	1229767	59.5813	ug/L	97
29) Diisopether	5.67	45	1243938	29.2113	ug/L	100
30) ETBE	6.12	59	1114915	28.1644	ug/L	98
31) 22dichloropr	6.24	77	562677	26.0379	ug/L	99
32) c12dichlorte	6.24	96	440664	28.4303	ug/L	94
33) 2Butanone	6.26	72	1194943	284.0743	ug/L	96
34) propionitrile	6.29	54	1193842	281.9955	ug/L	98
35) Ethylacetate	6.38	88	168754	150.7885	ug/L	93
36) methacrylonitrile	6.49	67	574644	60.0523	ug/L	92
37) Bromochlorma	6.52	128	177435	27.1466	ug/L	96
38) Tetrahydofur	6.62	42	2714403	304.5879	ug/L	95

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\JAN2016\ICV2.D Vial: 16
Acq On : 20 Jan 2016 20:39 Operator: AGK-RLD
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 30.0/300 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 07:55:26 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 07:55:05 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.63	83	658002	28.7503	ug/L	98
40)	111trichlota	6.88	97	589793	29.1528	ug/L	99
42)	Cyclohexane	6.98	56	765679	31.2422	ug/L	97
43)	Carbtetraclo	7.11	119	506613	29.1988	ug/L	100
44)	11dicloprope	7.10	110	205825	30.0842	ug/L	96
46)	Benzene	7.34	78	1507418	27.9493	ug/L	96
47)	12dichlorota	7.33	62	491231	30.8952	ug/L	98
48)	TAME	7.52	73	1213646	29.9168	ug/L	94
49)	trichloroete	8.15	95	390141	29.0194	ug/L	95
50)	methylcyclohexane	8.42	83	748375	31.7289	ug/L	96
51)	12dicloropra	8.40	63	433041	29.4185	ug/L	99
52)	23Dicl1propene	8.46	75	605395	30.6081	ug/L	97
53)	Dibromometha	8.54	93	249395	29.4587	ug/L	96
54)	methylmethacrylate	8.57	69	450873	31.2392	ug/L	98
55)	14dioxane	8.59	88	427046	1584.9918	ug/L	99
56)	Bromodiclrma	8.74	83	495984	28.4066	ug/L	95
57)	2Nitropropane	8.99	43	2072144	285.6836	ug/L	98
58)	2CLEVE	9.13	63	943743	179.6632	ug/L	99
59)	c13dicloproe	9.32	75	613944	27.6235	ug/L	96
60)	4Meth2Pentan	9.52	43	5538076	298.4327	ug/L	88
62)	Toluene	9.77	92	971910	28.1834	ug/L	94
63)	t13Dicloprop	10.03	75	558379	28.1246	ug/L	94
64)	ethylmethacrylate	10.18	69	1303430	59.2216	ug/L	98
65)	112Triclotha	10.26	83	314727	27.9176	ug/L	96
66)	Tetrachlorte	10.51	166	442248	30.3957	ug/L	99
67)	13Diclorpropa	10.49	76	661235	28.3700	ug/L	100
69)	2Hexanone	10.61	43	4777577	300.1300	ug/L	91
70)	Clorodibrmta	10.79	129	411527	28.3258	ug/L	98
71)	12Dibrometha	10.95	107	379990	27.7702	ug/L	97
72)	Chlorobenzen	11.63	112	1018912	27.8518	ug/L	98
73)	1Clhexane	11.62	91	586253	29.0565	ug/L	98
74)	1112Tetclota	11.74	131	365483	29.5309	ug/L	96
75)	Ethylbenzene	11.80	91	1711092	28.5912	ug/L	96
76)	m p-Xylene	11.96	106	1403237	58.1927	ug/L	98
77)	o-Xylene	12.51	106	710989	29.4744	ug/L	89
78)	Styrene	12.52	104	1100337	29.7200	ug/L	99
79)	Bromoform	12.75	173	309913	30.5400	ug/L	94
80)	Isopropylben	13.04	105	1684521	29.2617	ug/L	94
81)	cyclohexanone	13.11	55	648270	570.1747	ug/L	99
84)	Bromobenzene	13.45	156	439517	29.8864	ug/L	94
85)	1122Tetrclta	13.40	83	615596	29.6291	ug/L	97
86)	123Triclproa	13.47	75	808000	30.4069	ug/L	95
87)	14dichloro2butene	13.50	53	175844	30.4326	ug/L	97
88)	n-Propylbenz	13.62	91	1955481	30.5853	ug/L	98
89)	2chlorotolue	13.73	91	1100293	29.1617	ug/L	96
90)	4chlorotolue	13.89	91	1285344	29.6420	ug/L	98
91)	135Trimebenz	13.88	105	1325713	29.9071	ug/L	97
92)	tbutylbenzen	14.35	119	1230940	30.2338	ug/L	98
93)	124Trimetben	14.41	105	1302729	30.3992	ug/L	98
94)	sbutylbenzen	14.67	105	1751875	30.6432	ug/L	99
95)	13Diclorbenz	14.80	146	773446	28.7019	ug/L	98
96)	pIsopropylto	14.88	119	1447858	30.8036	ug/L	98
97)	14dichlorobe	14.93	146	794435	29.5444	ug/L	97
98)	12dichlorobe	15.47	146	723347	28.6291	ug/L	96
99)	nButylbenzen	15.48	91	1310932	30.7240	ug/L	97
100)	12dibromo3cl	16.56	157	177117	29.0711	ug/L	94
101)	135Trichlorobenzene	16.90	180	519386	30.4843	ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\JAN2016\ICV2.D Vial: 16
Acq On : 20 Jan 2016 20:39 Operator: AGK-RLD
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 30.0/300 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 07:55:26 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 07:55:05 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102)	124Trichlobe	17.71	180	469601	29.6548	ug/L	98
103)	Hexachlorobu	17.96	225	226349	32.2734	ug/L	94
104)	Naphthalene	18.01	128	1451040	29.6503	ug/L	100
105)	123Trichlben	18.32	180	440552	29.9016	ug/L	99

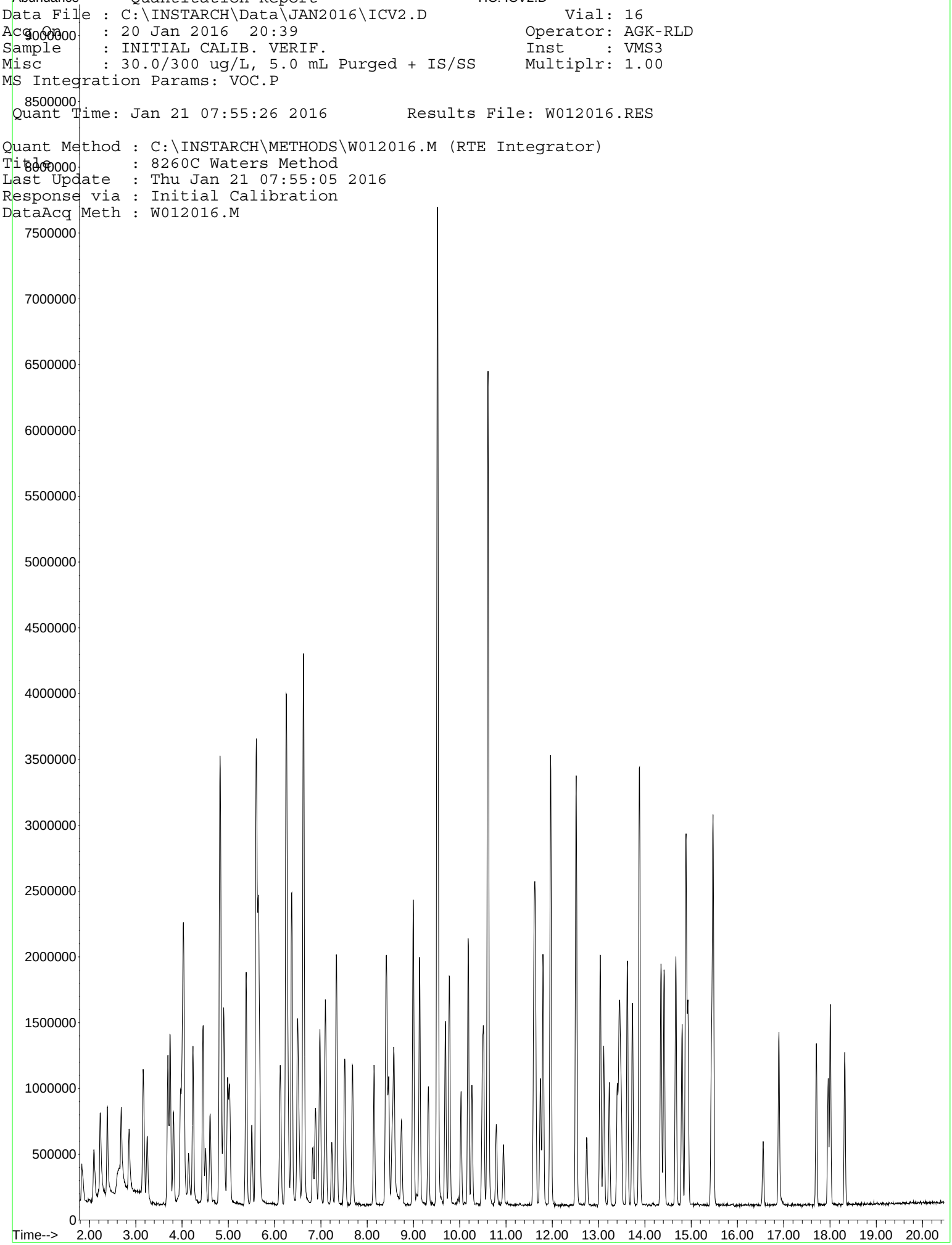
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: ICV2.D

Data File : C:\INSTARCH\Data\JAN2016\ICV2.D Vial: 16
Acq On : 20 Jan 2016 20:39 Operator: AGK-RLD
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 30.0/300 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 07:55:26 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 07:55:05 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M



Quantitation Report

Data File : C:\INSTARCH\Data\JAN2016\ICB1.D Vial: 18
Acq On : 20 Jan 2016 21:38 Operator: AGK-RLD
Sample : INITIAL CALIB. BLANK Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 07:55:55 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 07:55:05 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.68	96	1074294	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.60	117	773276	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.90	152	408787	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.83	113	258570	19.109	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 96 %			
45) SURR12DCAd4	7.24	102	78661	20.318	ug/L	0.01
Spiked Amount 20.000	Range 89 - 112		Recovery = 102 %			
61) SURRd8Tolule	9.69	98	1061321	19.446	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 97 %			
83) SURR4BrFBenz	13.23	95	328143	19.966	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 100 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	0.00	50	0	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	2.70	94	7179	0.6739	ug/L #	4
6) Chloroethane	2.87	64	13233	0.7007	ug/L #	44
7) Dichloroflmethane	3.17	67	10564	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	4.04	58	10944	Below Cal	#	88
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	4.04	43	33260	Below Cal		97
16) Iodomethane	0.00	142	0	N.D.		
17) Carbon Dislf	4.24	76	10800	N.D.		
18) allylchloride	4.40	41	9055	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	4.83	59	12278	Below Cal	#	56
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	5.61	43	5841	Below Cal	#	70
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	6.63	42	6304	Below Cal	#	37

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\JAN2016\ICB1.D Vial: 18
Acq On : 20 Jan 2016 21:38 Operator: AGK-RLD
Sample : INITIAL CALIB. BLANK Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 07:55:55 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 07:55:05 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	0.00	83	0	N.D.			
40)	111trichlota	0.00	97	0	N.D.			
42)	Cyclohexane	0.00	56	0	N.D.			
43)	Carbtetraclo	0.00	119	0	N.D.			
44)	11dicloprope	0.00	110	0	N.D.			
46)	Benzene	0.00	78	0	N.D.			
47)	12dichlorota	0.00	62	0	N.D.			
48)	TAME	0.00	73	0	N.D.			
49)	trichloroete	0.00	95	0	N.D.			
50)	methylcyclohexane	0.00	83	0	N.D.			
51)	12dicloropra	0.00	63	0	N.D.			
52)	23Dicl1propene	0.00	75	0	N.D.			
53)	Dibromometha	0.00	93	0	N.D.			
54)	methylmethacrylate	0.00	69	0	N.D.			
55)	14dioxane	0.00	88	0	N.D.			
56)	Bromodiclrma	0.00	83	0	N.D.			
57)	2Nitropropane	0.00	43	0	N.D.			
58)	2CLEVE	0.00	63	0	N.D.			
59)	c13dicloproe	0.00	75	0	N.D.			
60)	4Meth2Pentan	9.54	43	5612	Below	Cal	#	39
62)	Toluene	0.00	92	0	N.D.			
63)	t13Dicloprop	0.00	75	0	N.D.			
64)	ethylmethacrylate	0.00	69	0	N.D.			
65)	112Triclotha	0.00	83	0	N.D.			
66)	Tetrachlorte	0.00	166	0	N.D.			
67)	13Diclorpropa	0.00	76	0	N.D.			
69)	2Hexanone	10.61	43	11477	Below	Cal	#	84
70)	Clorodibrmta	0.00	129	0	N.D.			
71)	12Dibrometha	0.00	107	0	N.D.			
72)	Chlorobenzen	0.00	112	0	N.D.			
73)	1Clhexane	11.61	91	6050	0.3244	ug/L	#	1
74)	1112Tetclota	0.00	131	0	N.D.			
75)	Ethylbenzene	0.00	91	0	N.D.			
76)	m p-Xylene	0.00	106	0	N.D.			
77)	o-Xylene	0.00	106	0	N.D.			
78)	Styrene	0.00	104	0	N.D.			
79)	Bromoform	0.00	173	0	N.D.			
80)	Isopropylben	0.00	105	0	N.D.			
81)	cyclohexanone	0.00	55	0	N.D.			
84)	Bromobenzene	0.00	156	0	N.D.			
85)	1122Tetrclta	0.00	83	0	N.D.			
86)	123Triclproa	0.00	75	0	N.D.			
87)	14dichloro2butene	0.00	53	0	N.D.			
88)	n-Propylbenz	13.63	91	6637	N.D.			
89)	2chlorotolue	0.00	91	0	N.D.			
90)	4chlorotolue	0.00	91	0	N.D.			
91)	135Trimebenz	0.00	105	0	N.D.			
92)	tbutylbenzen	0.00	119	0	N.D.			
93)	124Trimetben	0.00	105	0	N.D.			
94)	sbutylbenzen	0.00	105	0	N.D.			
95)	13Diclorbenz	0.00	146	0	N.D.			
96)	pIsopropylto	0.00	119	0	N.D.			
97)	14dichlorobe	0.00	146	0	N.D.			
98)	12dichlorobe	0.00	146	0	N.D.			
99)	nButylbenzen	0.00	91	0	N.D.			
100)	12dibromo3cl	0.00	157	0	N.D.			
101)	135Trichlorobenzene	0.00	180	0	N.D.			

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\JAN2016\ICB1.D Vial: 18
Acq On : 20 Jan 2016 21:38 Operator: AGK-RLD
Sample : INITIAL CALIB. BLANK Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 07:55:55 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 07:55:05 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	18.00	128	11542	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

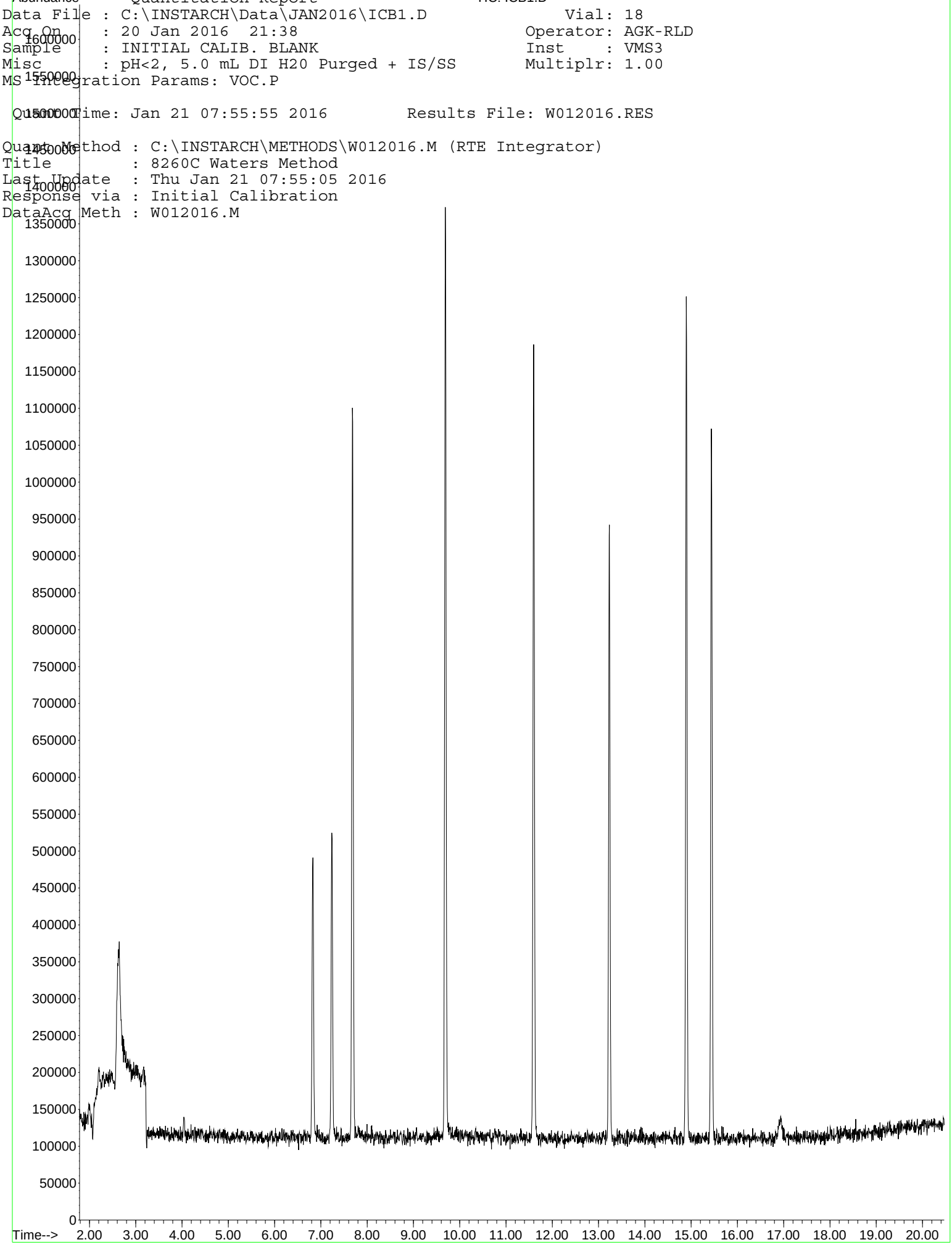
(#) = qualifier out of range (m) = manual integration

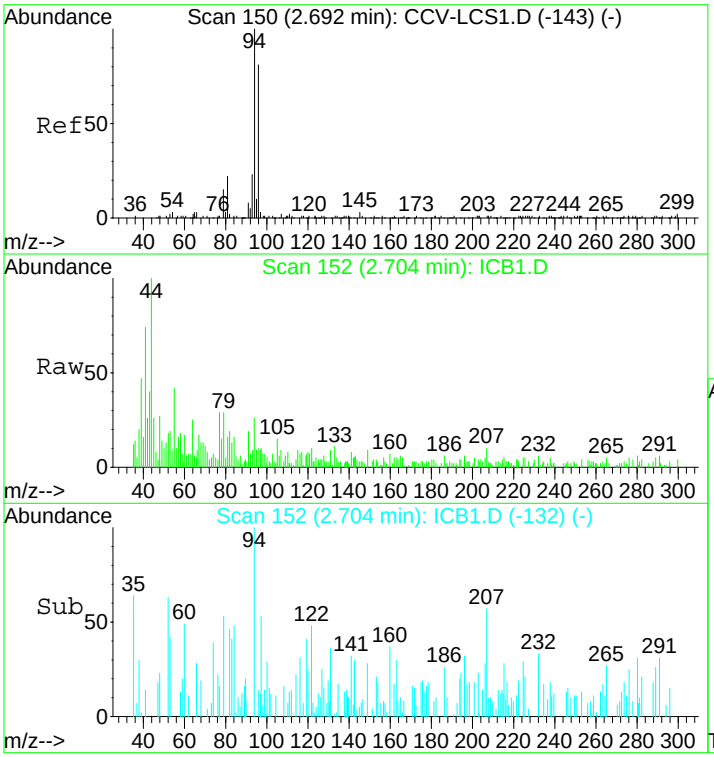
Abundance Quantitation Report TIC: ICB1.D

Data File : C:\INSTARCH\Data\JAN2016\ICB1.D Vial: 18
Acq On : 20 Jan 2016 21:38 Operator: AGK-RLD
Sample : INITIAL CALIB. BLANK Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 07:55:55 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 07:55:05 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

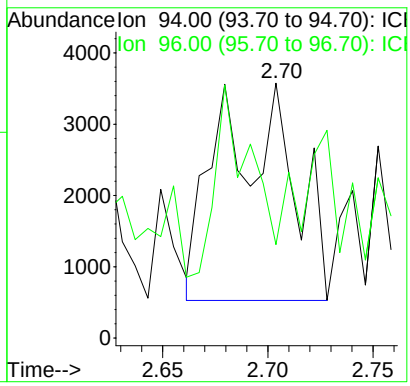


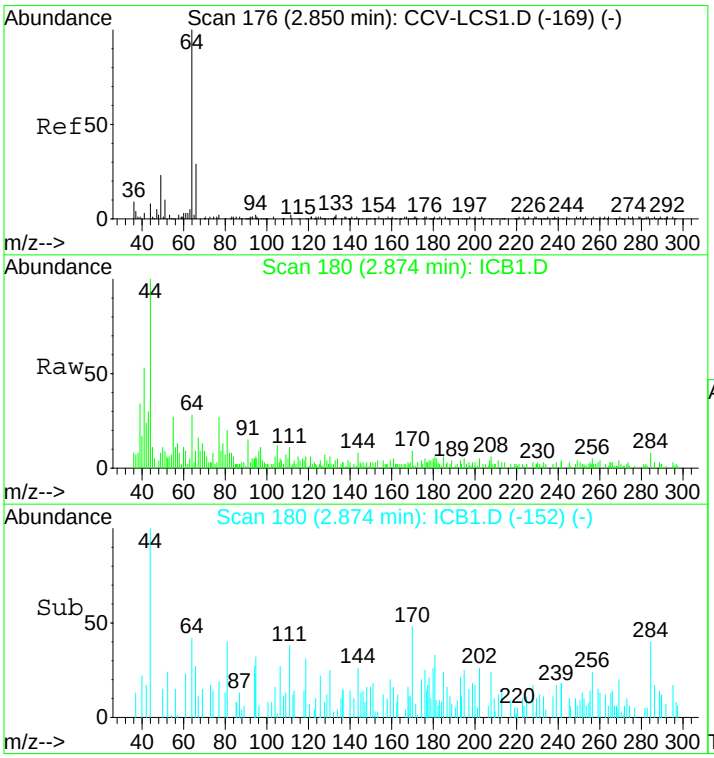


#5
Bromomethane
Concen: 0.67 ug/L
RT: 2.70 min Scan# 152
Delta R.T. 0.02 min
Lab File: ICB1.D
Acq: 20 Jan 2016 21:38

Tgt Ion: 94 Resp: 7179

Ion	Ratio	Lower	Upper
94	100		
96	0.0	71.0	111.0#

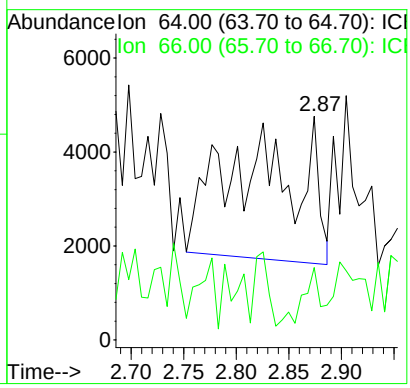




#6
Chloroethane
Concen: 0.70 ug/L
RT: 2.87 min Scan# 180
Delta R.T. 0.02 min
Lab File: ICB1.D
Acq: 20 Jan 2016 21:38

Tgt Ion: 64 Resp: 13233

Ion	Ratio	Lower	Upper
64	100		
66	0.0	10.9	50.9#



Injection Log Summary Report

Method : L:\INSTARCH\METHODS\W020116.M (RTE Integrator)
Title : 8260C Waters Method
Start (Tune) File ID : L:\INSTARCH\DATA\JAN2116\BFB1.D
Injection Date : 21 Jan 2016 Log Time Period (hrs) : ALL
Injection Time : 08:57 Total files within period : 35
Sample Directory : L:\INSTARCH\DATA\JAN2116\

Injection Log Summary Table

File ID	Multiplier I	S	T	Sample Name / Misc Info	Date	Time
ICV1R	1.00	1.00	1.00	122701,ICV1, 10.0/100 ug/L, 5.0 mL Pur	21 Jan 2016	11:10

8260 ISTD/SSTD 20ug/ml VOC0132
8260 BFB STD. 50ug/ml VOC0131
8260 ICV STD. 100ug/ml VOC0133
8260 CCV/CALIB. 100ug/ml VOC0134

BFB

Data File : C:\INSTARCH\Data\JAN2116\BFB1.D Vial: 1
Acq On : 21 Jan 2016 8:57 Operator: AGK-RLD
Sample : 122701,BFB, Inst : VMS3
Misc : 25 ng Inj. Multiplr: 1.00
Integration File: VOC.P

Method : C:\INSTARCH\METHODS\W012016.M
Title : 8260C Waters Method

Spectrum Information: Average of 4.638 to 4.657 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	24.0	23971	PASS
75	95	30	60	57.1	57066	PASS
95	95	100	100	100.0	100000	PASS
96	95	5	9	7.6	7614	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	99.2	99198	PASS
175	174	5	9	8.6	8571	PASS
176	174	95	101	98.1	97324	PASS
177	176	5	9	6.7	6551	PASS

W012016.M Wed Feb 03 09:03:02 2016

Evaluate Continuing Calibration Report

Data File : C:\INSTARCH\Data\JAN2116\ICV1R.D Vial: 6
Acq On : 21 Jan 2016 11:10 Operator: AGK-RLD
Sample : 122701,ICV1, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Jan 21 11:31:15 2016

Quant Method : C:\INSTARCH\METHODS\W012016.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W012016.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	1.0000	1.0000	0.00	95	0.00
2	PT	Dichlorodi	0.2651	0.2454	7.43	80	0.00
3	PT	Chloromethan	0.3929	0.4031	-2.60	96	-0.01
4	PT	VinylChlorid	0.5192	0.5360	-3.24	91	0.00
5	PT	Bromomethane	0.1983	0.2850	-43.72#	135	0.00
6	PT	Chloroethane	0.3516	0.3806	-8.25	97	0.00
7	T	Dichloroflmethane	0.7001	0.7270	-3.84	110	0.00
8	PT	Trichlorofma	0.3450	0.3216	6.78	90	0.00
9	T	Ethylether	0.2208	0.2196	0.54	95	0.00
10	T	dichlorotfluoroethan	0.2676	0.2627	1.83	84	0.00
11	T	propyleneoxide	0.0561	0.0515	8.20	68	0.00
12	T	Acrolein	0.0838	0.0665	20.64#	65	0.00
13	PT	11dichlorthe	0.2308	0.2082	9.79	86	0.00
14	PT	Trichlorotfluoroeth	0.2101	0.1958	6.81	84	0.01
15	PT	Acetone	0.1661	0.1509	9.15	70	0.00
16	T	Iodomethane	0.1634	0.1395	14.63	78	0.00
17	PT	Carbon Dislf	0.5901	0.5819	1.39	88	0.00
18	T	allylchloride	0.3064	0.3153	-2.90	92	0.00
19	PT	methylacetate	0.0825	0.1034	-25.33#	107	0.00
20	PT	Methylchlorid	0.2533	0.2446	3.43	93	0.00
21	T	tbutylalcohol	0.0713	0.0795	-11.50	86	0.00
22	T	Acrylonitrile	0.1589	0.1669	-5.03	91	0.00
23	PT	t12dichlorte	0.2506	0.2231	10.97	86	0.00
24	PT	MtBE	0.7096	0.7194	-1.38	96	0.00
25	T	Hexane	0.3167	0.2805	11.43	81	0.00
26	PT	11dichlorota	0.4122	0.3876	5.97	83	0.00
27	T	Vinylacetate	0.4449	0.4783	-7.51	102	0.00
28	T	chloroprene	0.3641	0.3481	4.39	88	0.00
29	T	Diisopether	0.7512	0.7480	0.43	93	0.00
30	T	ETBE	0.6983	0.6984	-0.01	97	0.00
31	T	22dichloropr	0.3812	0.3447	9.58	90	0.00
32	PT	c12dichlorte	0.2734	0.2493	8.81	83	0.00
33	PT	2Butanone	0.0742	0.0747#	-0.67	86	0.00
34	T	propionitrile	0.0747	0.0755	-1.07	86	0.00
35	T	Ethylacetate	0.0197	0.0187#	5.08	90	0.00
36	T	methacrylonitrile	0.1688	0.1829	-8.35	99	0.00
37	T	Bromochlorma	0.1153	0.1113	3.47	89	0.00
38	T	Tetrahydofur	0.1734	0.1852	-6.81	91	0.00
39	PT	Chloroform	0.4037	0.3606	10.68	86	0.00
40	PT	111trichlota	0.3569	0.3385	5.16	90	0.00
41	S	SURRDibrflma	0.2519	0.2425	3.73	91	0.00
42	PT	Cyclohexane	0.4323	0.4153	3.93	87	-0.01
43	PT	Carbtetraclo	0.3061	0.2765	9.67	87	0.00
44	T	11dicloprope	0.1207	0.1110	8.04	88	0.00
45	S	SURR12DCAd4	0.0721	0.0742	-2.91	96	0.00
46	PT	Benzene	0.9514	0.9226	3.03	89	0.00
47	PT	12dichlorota	0.2805	0.2946	-5.03	93	0.00
48	T	TAME	0.7156	0.7367	-2.95	93	0.00

49	PT	trichloroete	0.2372	0.2295	3.25	85	0.00
50	PT	methylcyclohexane	0.4161	0.3978	4.40	83	0.00
51	PT	12dicloropra	0.2597	0.2563	1.31	95	0.00
52	T	23Dicl1propene	0.3489	0.3571	-2.35	95	0.00
53	T	Dibromometha	0.1493	0.1403	6.03	85	0.00
54	T	methylmethacrylate	0.2546	0.2659	-4.44	93	0.00
55	T	14dioxane	0.0051	0.0052#	-1.96	86	0.00
56	PT	Bromodiclrma	0.3080	0.2916	5.32	92	0.00
57	T	2Nitropropane	0.1280	0.1327	-3.67	93	0.00
58	T	2CLEVE	0.0927	0.0759	18.12	76	0.00
59	PT	c13dicloproe	0.3921	0.3795	3.21	94	0.00
60	PT	4Meth2Pentan	0.4135	0.4329	-4.69	91	0.00
61	S	SURRd8Tolule	1.0160	1.0371	-2.08	96	0.00
62	PT	Toluene	0.6083	0.5761	5.29	90	0.00
63	PT	t13Dicloprop	0.3502	0.3223	7.97	89	0.00
64	T	ethylmethacrylate	0.3883	0.3948	-1.67	93	0.00
65	PT	112Triclotha	0.1989	0.1846	7.19	86	0.00
66	PT	Tetrachlorte	0.2567	0.2435	5.14	90	0.00
67	T	13Diclorpropa	0.4112	0.3898	5.20	90	0.00
68	I	d5-CHLOROBENZENE**ISTD**	1.0000	1.0000	0.00	90	0.00
69	PT	2Hexanone	0.4646	0.4958	-6.72	89	0.00
70	PT	Clorodibrmta	0.3473	0.3157	9.10	88	0.00
71	PT	12Dibrometha	0.3271	0.3058	6.51	92	0.00
72	PT	Chlorobenzen	0.8746	0.8339	4.65	89	0.00
73	T	1Clhexane	0.4823	0.4660	3.38	89	0.00
74	T	1112Tetclota	0.2959	0.2939	0.68	93	0.00
75	PT	Ethylbenzene	1.4307	1.4304	0.02	90	0.00
76	PT	m p-Xylene	0.5765	0.5577	3.26	85	0.00
77	PT	o-Xylene	0.5767	0.5582	3.21	92	-0.01
78	PT	Styrene	0.8851	0.8618	2.63	89	0.00
79	PT	Bromoform	0.2426	0.2300	5.19	83	0.00
80	PT	Isopropylben	1.3762	1.3738	0.17	87	0.00
81	T	cyclohexanone	0.0272	0.0250#	8.09	75	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	1.0000	1.0000	0.00	91	0.00
83	S	SURR4BrFBenz	0.8041	0.8156	-1.43	88	0.00
84	T	Bromobenzene	0.6651	0.6406	3.68	83	0.00
85	PT	1122Tetrclta	0.9397	0.9410	-0.14	92	0.00
86	T	123Triclproa	1.2019	1.1988	0.26	85	0.00
87	T	14dichloro2butene	0.2613	0.2422	7.31	93	0.00
88	T	n-Propylbenz	2.8917	2.9473	-1.92	87	0.00
89	T	2chlorotolue	1.7065	1.6699	2.14	88	0.00
90	T	4chlorotolue	1.9612	1.8886	3.70	86	0.00
91	T	135Trimebenz	2.0049	1.9931	0.59	87	0.00
92	T	tbutylbenzen	1.8414	1.7592	4.46	85	0.00
93	T	124Trimetben	1.9382	1.9750	-1.90	86	0.00
94	T	sbutylbenzen	2.5857	2.5460	1.54	86	0.00
95	PT	13Diclorbenz	1.2188	1.1498	5.66	87	0.00
96	T	pIsopropylto	2.1259	2.1136	0.58	86	0.00
97	PT	14dichlorobe	1.2162	1.1635	4.33	89	0.00
98	PT	12dichlorobe	1.1428	1.1226	1.77	86	0.00
99	T	nButylbenzen	1.9298	1.8590	3.67	85	0.00
100	PT	12dibromo3cl	0.2756	0.2468	10.45	78	0.00
101	T	135Trichlorobenzene	0.7706	0.7506	2.60	88	0.00
102	PT	124Trichlobe	0.7162	0.6365	11.13	85	0.00
103	T	Hexachlorobu	0.3172	0.2952	6.94	80	0.00
104	T	Naphthalene	2.2134	2.1762	1.68	86	0.00
105	T	123Trichlben	0.6664	0.5993	10.07	83	0.00

(#) = Out of Range SPCC's out = 1 CCC's out = 0

W012016.M Wed Feb 03 09:07:03 2016

Evaluate Continuing Calibration Report

Data File : C:\INSTARCH\Data\JAN2116\ICV1R.D Vial: 6
Acq On : 21 Jan 2016 11:10 Operator: AGK-RLD
Sample : 122701,ICV1, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Jan 21 11:31:15 2016

Quant Method : C:\INSTARCH\METHODS\W012016.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W012016.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	20.0000	20.0000	0.00	95	0.00
2	PT	Dichlorodi	10.0000	9.2585	7.42	80	0.00
3	PT	Chloromethan	10.0000	10.2598	-2.60	96	-0.01
4	PT	VinylChlorid	10.0000	10.3238	-3.24	91	0.00
5	PT	Bromomethane	10.0000	14.3702	-43.70#	135	0.00
6	PT	Chloroethane	10.0000	10.8238	-8.24	97	0.00
7	T	Dichloroflmethane	10.0000	10.3844	-3.84	110	0.00
8	PT	Trichlorofma	10.0000	9.3230	6.77	90	0.00
9	T	Ethylether	10.0000	9.9439	0.56	95	0.00
10	T	dichlorotfluoroethan	10.0000	9.8154	1.85	84	0.00
11	T	propyleneoxide	100.0000	88.6064	11.39	68	0.00
12	T	Acrolein	50.0000	39.6803	20.64#	65	0.00
13	PT	11dichlorthe	10.0000	9.0215	9.79	86	0.00
14	PT	Trichlorotfluoroeth	20.0000	18.6309	6.85	84	0.01
15	PT	Acetone	100.0000	93.5481	6.45	70	0.00
16	T	Iodomethane	20.0000	16.0448	19.78	78	0.00
17	PT	Carbon Dislf	20.0000	19.7205	1.40	88	0.00
18	T	allylchloride	20.0000	20.5833	-2.92	92	0.00
19	PT	methylacetate	10.0000	11.9342	-19.34	107	0.00
20	PT	Methylchlorid	10.0000	9.6592	3.41	93	0.00
21	T	tbutylalcohol	500.0000	535.1685	-7.03	86	0.00
22	T	Acrylonitrile	50.0000	52.5002	-5.00	91	0.00
23	PT	t12dichlorte	10.0000	8.9022	10.98	86	0.00
24	PT	MtBE	10.0000	10.1372	-1.37	96	0.00
25	T	Hexane	20.0000	17.7181	11.41	81	0.00
26	PT	11dichlorota	10.0000	9.4035	5.97	83	0.00
27	T	Vinylacetate	100.0000	105.9339	-5.93	102	0.00
28	T	chloroprene	20.0000	19.1195	4.40	88	0.00
29	T	Diisopether	10.0000	9.9569	0.43	93	0.00
30	T	ETBE	10.0000	10.0012	-0.01	97	0.00
31	T	22dichloropr	10.0000	9.0409	9.59	90	0.00
32	PT	c12dichlorte	10.0000	9.1187	8.81	83	0.00
33	PT	2Butanone	100.0000	100.6447	-0.64	86	0.00
34	T	propionitrile	100.0000	101.1117	-1.11	86	0.00
35	T	Ethylacetate	50.0000	47.2531	5.49	90	0.00
36	T	methacrylonitrile	20.0000	21.6753	-8.38	99	0.00
37	T	Bromochlorma	10.0000	9.6517	3.48	89	0.00
38	T	Tetrahydofur	100.0000	105.3385	-5.34	91	0.00
39	PT	Chloroform	10.0000	8.9315	10.69	86	0.00
40	PT	111trichlota	10.0000	9.4838	5.16	90	0.00
41	S	SURRDibrflma	20.0000	19.2571	3.71	91	0.00
42	PT	Cyclohexane	10.0000	9.6061	3.94	87	-0.01
43	PT	Carbtetraclo	10.0000	9.0348	9.65	87	0.00
44	T	11dicloprope	10.0000	9.2007	7.99	88	0.00
45	S	SURR12DCAd4	20.0000	20.6003	-3.00	96	0.00
46	PT	Benzene	10.0000	9.6970	3.03	89	0.00
47	PT	12dichlorota	10.0000	10.5034	-5.03	93	0.00
48	T	TAME	10.0000	10.2948	-2.95	93	0.00

49	PT	trichloroete	10.0000	9.6761	3.24	85	0.00
50	PT	methylcyclohexane	10.0000	9.5608	4.39	83	0.00
51	PT	12dicloropra	10.0000	9.8690	1.31	95	0.00
52	T	23Dicl1propene	10.0000	10.2331	-2.33	95	0.00
53	T	Dibromometha	10.0000	9.3953	6.05	85	0.00
54	T	methylmethacrylate	10.0000	10.4452	-4.45	93	0.00
55	T	14dioxane	500.0000	500.6553	-0.13	86	0.00
56	PT	Bromodiclrma	10.0000	9.4667	5.33	92	0.00
57	T	2Nitropropane	100.0000	103.6726	-3.67	93	0.00
58	T	2CLEVE	50.0000	40.9762	18.05	76	0.00
59	PT	c13dicloproe	10.0000	9.6792	3.21	94	0.00
60	PT	4Meth2Pentan	100.0000	103.8842	-3.88	91	0.00
61	S	SURRd8Tolule	20.0000	20.4149	-2.07	96	0.00
62	PT	Toluene	10.0000	9.4697	5.30	90	0.00
63	PT	t13Dicloprop	10.0000	9.2014	7.99	89	0.00
64	T	ethylmethacrylate	20.0000	20.3355	-1.68	93	0.00
65	PT	112Triclotha	10.0000	9.2809	7.19	86	0.00
66	PT	Tetrachlorte	10.0000	9.4888	5.11	90	0.00
67	T	13Diclorpropa	10.0000	9.4797	5.20	90	0.00
68	I	d5-CHLOROBENZENE**ISTD**	20.0000	20.0000	0.00	90	0.00
69	PT	2Hexanone	100.0000	104.3082	-4.31	89	0.00
70	PT	Clorodibrmta	10.0000	9.0892	9.11	88	0.00
71	PT	12Dibrometha	10.0000	9.3474	6.53	92	0.00
72	PT	Chlorobenzen	10.0000	9.5348	4.65	89	0.00
73	T	1Clhexane	10.0000	9.6610	3.39	89	0.00
74	T	1112Tetclota	10.0000	9.9325	0.68	93	0.00
75	PT	Ethylbenzene	10.0000	9.9977	0.02	90	0.00
76	PT	m p-Xylene	20.0000	19.3507	3.25	85	0.00
77	PT	o-Xylene	10.0000	9.6795	3.20	92	-0.01
78	PT	Styrene	10.0000	9.7371	2.63	89	0.00
79	PT	Bromoform	10.0000	9.4790	5.21	83	0.00
80	PT	Isopropylben	10.0000	9.9826	0.17	87	0.00
81	T	cyclohexanone	200.0000	184.2756	7.86	75	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	20.0000	20.0000	0.00	91	0.00
83	S	SURR4BrFBenz	20.0000	20.2863	-1.43	88	0.00
84	T	Bromobenzene	10.0000	9.6306	3.69	83	0.00
85	PT	1122Tetrclta	10.0000	10.0140	-0.14	92	0.00
86	T	123Triclproa	10.0000	9.9749	0.25	85	0.00
87	T	14dichloro2butene	10.0000	9.2682	7.32	93	0.00
88	T	n-Propylbenz	10.0000	10.1924	-1.92	87	0.00
89	T	2chlorotolue	10.0000	9.7856	2.14	88	0.00
90	T	4chlorotolue	10.0000	9.6297	3.70	86	0.00
91	T	135Trimebenz	10.0000	9.9414	0.59	87	0.00
92	T	tbutylbenzen	10.0000	9.5535	4.47	85	0.00
93	T	124Trimetben	10.0000	10.1895	-1.90	86	0.00
94	T	sbutylbenzen	10.0000	9.8462	1.54	86	0.00
95	PT	13Diclorbenz	10.0000	9.4336	5.66	87	0.00
96	T	pIsopropylto	10.0000	9.9423	0.58	86	0.00
97	PT	14dichlorobe	10.0000	9.5665	4.34	89	0.00
98	PT	12dichlorobe	10.0000	9.8234	1.77	86	0.00
99	T	nButylbenzen	10.0000	9.6332	3.67	85	0.00
100	PT	12dibromo3cl	10.0000	8.9559	10.44	78	0.00
101	T	135Trichlorobenzene	10.0000	9.7409	2.59	88	0.00
102	PT	124Trichlobe	10.0000	8.8873	11.13	85	0.00
103	T	Hexachlorobu	10.0000	9.3059	6.94	80	0.00
104	T	Naphthalene	10.0000	9.8319	1.68	86	0.00
105	T	123Trichlben	10.0000	8.9928	10.07	83	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

W012016.M Wed Feb 03 09:06:25 2016

Quantitation Report

Data File : C:\INSTARCH\Data\JAN2116\ICV1R.D Vial: 6
Acq On : 21 Jan 2016 11:10 Operator: AGK-RLD
Sample : 122701,ICV1, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 11:31:15 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 07:55:05 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.68	96	1054047	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.60	117	776714	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.90	152	413960	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.83	113	255658	19.257	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 96 %			
45) SURR12DCAd4	7.24	102	78249	20.600	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 103 %			
61) SURRd8Tolule	9.69	98	1093174	20.415	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 102 %			
83) SURR4BrFBenz	13.23	95	337634	20.286	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 101 %			
Target Compounds						Qvalue
2) Dichlorodi	1.83	85	129338	9.2585	ug/L	93
3) Chloromethan	2.09	50	212429	10.2598	ug/L	95
4) VinylChlorid	2.24	62	282502	10.3238	ug/L	90
5) Bromomethane	2.69	94	150203	14.3702	ug/L	100
6) Chloroethane	2.86	64	200560	10.8238	ug/L	97
7) Dichloroflmethane	3.17	67	383167	10.3844	ug/L	96
8) Trichlorofma	3.25	101	169490	9.3230	ug/L	96
9) Ethylether	3.70	59	115711	9.9439	ug/L	96
10) dichlorotfluoroethan	3.70	67	138443	9.8154	ug/L	96
11) propyleneoxide	4.04	58	271303	88.6064	ug/L	96
12) Acrolein	3.82	56	175346	39.6803	ug/L	83
13) 11dichlorthe	3.96	96	109723	9.0215	ug/L	97
14) Trichlorotfluoroeth	4.02	101	206340	18.6309	ug/L	95
15) Acetone	4.04	43	795083	93.5481	ug/L	99
16) Iodomethane	4.14	142	147079	16.0448	ug/L	92
17) Carbon Dislf	4.24	76	613349	19.7205	ug/L	99
18) allylchloride	4.45	41	332345	20.5833	ug/L	98
19) methylacetate	4.51	74	54492	11.9342	ug/L	96
20) Methylchlorid	4.61	84	128933	9.6592	ug/L	99
21) tbutylalcohol	4.82	59	2095416	535.1685	ug/L	99
22) Acrylonitrile	4.91	53	439735	52.5002	ug/L	99
23) t12dichlorte	4.99	96	117588	8.9022	ug/L	96
24) MtBE	5.03	73	379127	10.1372	ug/L	97
25) Hexane	5.39	57	295703	17.7181	ug/L	99
26) 11dichlorota	5.51	63	204295	9.4035	ug/L	92
27) Vinylacetate	5.61	43	2520769	105.9339	ug/L	100
28) chloroprene	5.64	53	366892	19.1195	ug/L	98
29) Diisopether	5.67	45	394204	9.9569	ug/L	98
30) ETBE	6.12	59	368081	10.0012	ug/L	97
31) 22dichloropr	6.25	77	181642	9.0409	ug/L	96
32) c12dichlorte	6.24	96	131404	9.1187	ug/L	91
33) 2Butanone	6.26	72	393600	100.6447	ug/L	98
34) propionitrile	6.29	54	397974	101.1117	ug/L	96
35) Ethylacetate	6.37	88	49166	47.2531	ug/L	94
36) methacrylonitrile	6.49	67	192834	21.6753	ug/L	87
37) Bromochlorma	6.52	128	58651	9.6517	ug/L	97
38) Tetrahydofur	6.63	42	975984	105.3385	ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\JAN2116\ICV1R.D Vial: 6
Acq On : 21 Jan 2016 11:10 Operator: AGK-RLD
Sample : 122701,ICV1, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 11:31:15 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 07:55:05 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.64	83	190046	8.9315	ug/L		95
40)	111trichlota	6.88	97	178381	9.4838	ug/L		98
42)	Cyclohexane	6.97	56	218878	9.6061	ug/L		98
43)	Carbtetraclo	7.11	119	145740	9.0348	ug/L		98
44)	11dicloprope	7.10	110	58523	9.2007	ug/L		98
46)	Benzene	7.34	78	486239	9.6970	ug/L		99
47)	12dichlorota	7.33	62	155265	10.5034	ug/L		99
48)	TAME	7.52	73	388278	10.2948	ug/L		98
49)	trichloroete	8.14	95	120944	9.6761	ug/L		95
50)	methylcyclohexane	8.42	83	209657	9.5608	ug/L		97
51)	12dicloropra	8.40	63	135062	9.8690	ug/L	#	92
52)	23Dicl1propene	8.46	75	188174	10.2331	ug/L		96
53)	Dibromometha	8.54	93	73949	9.3953	ug/L		93
54)	methylmethacrylate	8.57	69	140159	10.4452	ug/L		98
55)	14dioxane	8.59	88	136007	500.6553	ug/L		91
56)	Bromodiclrma	8.74	83	153673	9.4667	ug/L		97
57)	2Nitropropane	8.99	43	699113	103.6726	ug/L		98
58)	2CLEVE	9.13	63	200113	40.9762	ug/L		100
59)	c13dicloproe	9.32	75	200005	9.6792	ug/L		97
60)	4Meth2Pentan	9.52	43	2281376	103.8842	ug/L		100
62)	Toluene	9.77	92	303611	9.4697	ug/L		97
63)	t13Dicloprop	10.03	75	169842	9.2014	ug/L		98
64)	ethylmethacrylate	10.18	69	416113	20.3355	ug/L		96
65)	112Triclotha	10.26	83	97274	9.2809	ug/L		96
66)	Tetrachlorte	10.51	166	128356	9.4888	ug/L		97
67)	13Diclorpropa	10.48	76	205418	9.4797	ug/L		96
69)	2Hexanone	10.61	43	1925504	104.3082	ug/L		99
70)	Clorodibrmta	10.79	129	122598	9.0892	ug/L		97
71)	12Dibrometha	10.95	107	118747	9.3474	ug/L		97
72)	Chlorobenzen	11.63	112	323841	9.5348	ug/L		99
73)	1Clhexane	11.62	91	180968	9.6610	ug/L		98
74)	1112Tetclota	11.74	131	114127	9.9325	ug/L		93
75)	Ethylbenzene	11.80	91	555495	9.9977	ug/L		96
76)	m p-Xylene	11.96	106	433211	19.3507	ug/L		95
77)	o-Xylene	12.50	106	216776	9.6795	ug/L		93
78)	Styrene	12.52	104	334693	9.7371	ug/L		99
79)	Bromoform	12.74	173	89304	9.4790	ug/L		93
80)	Isopropylben	13.04	105	533529	9.9826	ug/L		100
81)	cyclohexanone	13.11	55	194516	184.2756	ug/L		96
84)	Bromobenzene	13.44	156	132586	9.6306	ug/L		89
85)	1122Tetrclta	13.40	83	194772	10.0140	ug/L		92
86)	123Triclproa	13.47	75	248136	9.9749	ug/L		97
87)	14dichloro2butene	13.50	53	50133	9.2682	ug/L		98
88)	n-Propylbenz	13.62	91	610040	10.1924	ug/L		98
89)	2chlorotolue	13.73	91	345642	9.7856	ug/L		98
90)	4chlorotolue	13.89	91	390901	9.6297	ug/L		98
91)	135Trimebenz	13.88	105	412538	9.9414	ug/L		98
92)	tbutylbenzen	14.35	119	364123	9.5535	ug/L		98
93)	124Trimetben	14.42	105	408778	10.1895	ug/L		98
94)	sbutylbenzen	14.67	105	526964	9.8462	ug/L		99
95)	13Diclorbenz	14.80	146	237979	9.4336	ug/L		96
96)	pIsopropylto	14.88	119	437474	9.9423	ug/L		99
97)	14dichlorobe	14.93	146	240811	9.5665	ug/L		98
98)	12dichlorobe	15.46	146	232351	9.8234	ug/L		97
99)	nButylbenzen	15.48	91	384782	9.6332	ug/L		99
100)	12dibromo3cl	16.56	157	51080	8.9559	ug/L		88
101)	135Trichlorobenzene	16.90	180	155366	9.7409	ug/L		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\JAN2116\ICV1R.D Vial: 6
Acq On : 21 Jan 2016 11:10 Operator: AGK-RLD
Sample : 122701,ICV1, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 11:31:15 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 07:55:05 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.71	180	131749	8.8873	ug/L	98
103) Hexachlorobu	17.96	225	61099	9.3059	ug/L	91
104) Naphthalene	18.00	128	450430	9.8319	ug/L	99
105) 123Trichlben	18.32	180	124033	8.9928	ug/L	95

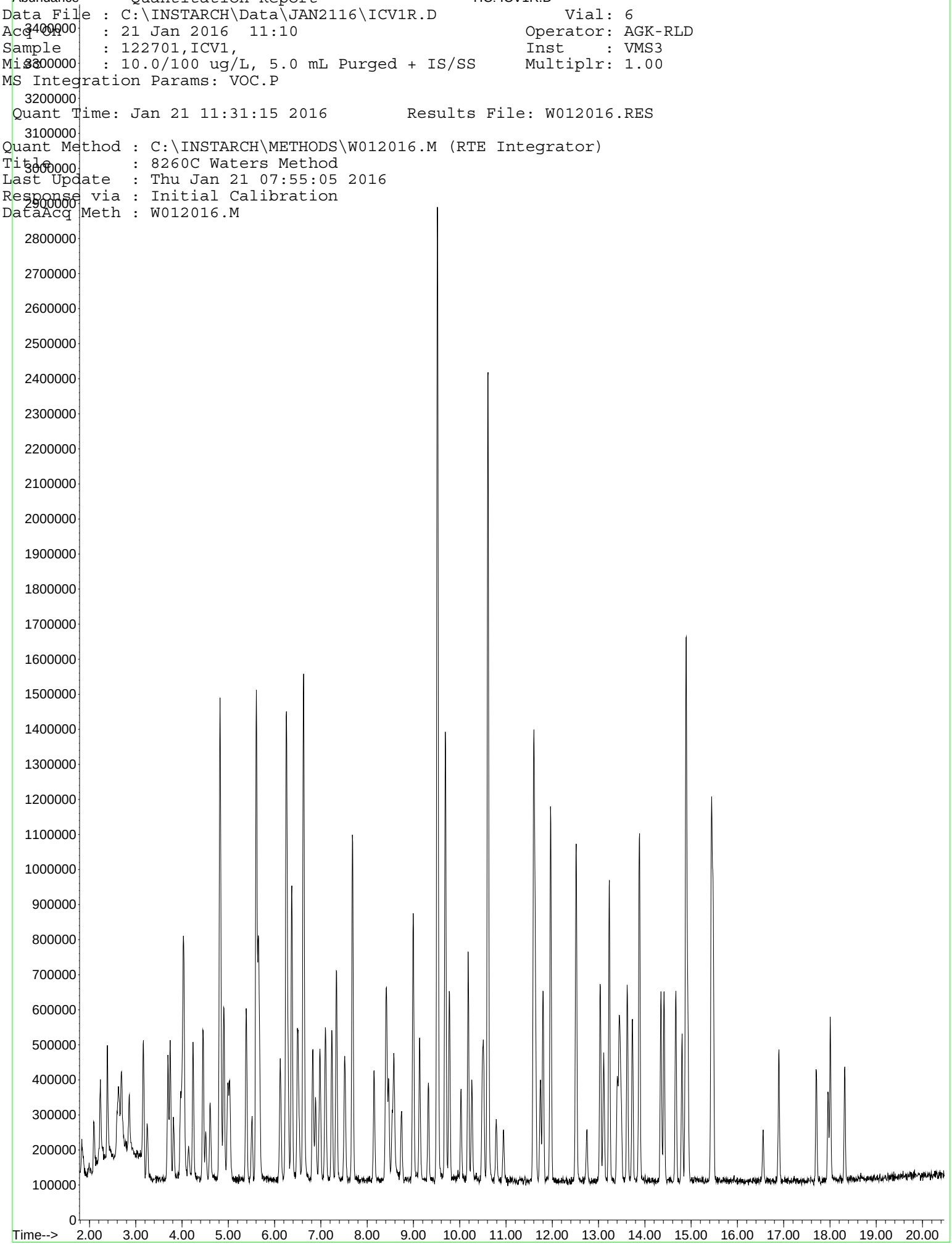
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: ICV1R.D

Data File : C:\INSTARCH\Data\JAN2116\ICV1R.D Vial: 6
Acq On : 21 Jan 2016 11:10 Operator: AGK-RLD
Sample : 122701,ICV1, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 11:31:15 2016 Results File: W012016.RES

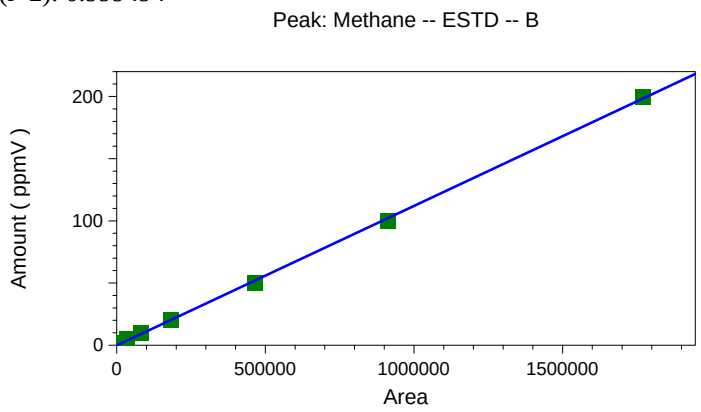
Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 07:55:05 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M



Calibration Report

Method: C:\Instarch\PVOC4\Methods\P4DG020315.met
Print Time: Feb 11, 2015 14:41:33
User: AGK
Instrument: PVOC4

Methane (B)
Average RF: 0.000126758 RF StDev: 2.66182e-005 RF %RSD: 20.9992
Scaling: None LSQ Weighting: None Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 0.000112132x - 0.0862934
Goodness of fit (r^2): 0.999494



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	2	5	10	20	50
Area	11158	34407	81596	181231	466265
RF	0.000179243	0.00014531926	0.000122555027	0.000110356395	0.0001072351
	592041585	6428343	207216	98082	55973534
Last Area					
Residual	0.835122	1.22816	0.936751	-0.235545	-2.19705
Rep StDev					
Rep %RSD					
Rep 1 Area	11158	34407	81596	181231	466265
Rep 1 User	BMS	BMS	BMS	BMS	BMS
Rep 1 Data File	C:\Instarch\P	C:\Instarch\PV	C:\Instarch\PVO	C:\Instarch\PVO	C:\Instarch\PV
	VOC4\Data\0	OC4\Data\0203	C4\Data\020315	C4\Data\020315	OC4\Data\020
	20315icdg\00	15icdg\002.dat	icdg\003.dat	icdg\004.dat	315icdg\005.d
	1.dat				at
Rep 1 Sample ID	MEE PT1 - 2	MEE PT2 - 5	MEE PT3 - 10	MEE PT4 - 20	MEE PT5 - 50
	ppmV	ppmV	ppmV	ppmV	ppmV
Rep 1 Calib. Time	Feb 03, 2015	Feb 03, 2015	Feb 03, 2015	Feb 03, 2015	Feb 03, 2015
	10:55:14	10:55:32	10:55:50	10:56:05	10:56:18

	Level 6	Level 7
Amount	100	200
Area	912807	1769205

RJ 02/11/2015

Calibration Report

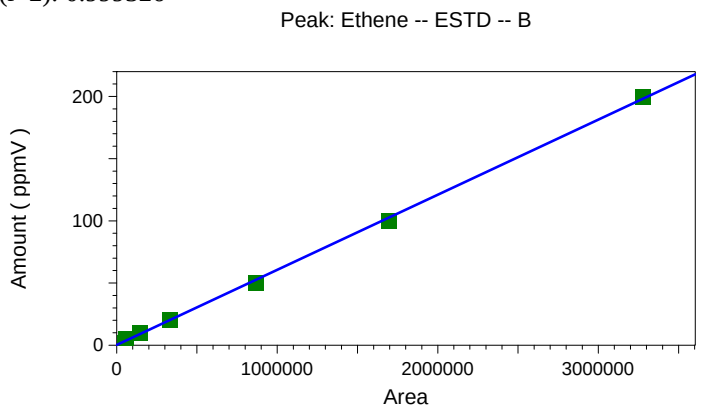
Method: C:\Instarch\PVOC4\Methods\P4DG020315.met
Print Time: Feb 11, 2015 14:41:33
User: AGK
Instrument: PVOC4

RF	0.000109552183539346	0.00011304512 4787687
Last Area Residual	-2.2688	1.70137
Rep StDev		
Rep %RSD		
Rep 1 Area	912807	1769205
Rep 1 User	BMS	BMS
Rep 1 Data File	C:\Instarch\PVOC4\Data\020315icdg\006.dat	C:\Instarch\PVOC4\Data\020315icdg\007.dat
Rep 1 Sample ID	MEE PT6 - 100 ppmV	MEE PT7 - 200 ppmV
Rep 1 Calib. Time	Feb 03, 2015 10:56:31	Feb 03, 2015 10:56:53

Calibration Report

Method: C:\Instarch\PVOC4\Methods\P4DG020315.met
Print Time: Feb 11, 2015 14:41:51
User: AGK
Instrument: PVOC4

Ethene (B)
Average RF: 7.34101e-005 RF StDev: 2.20333e-005 RF %RSD: 30.0140
Scaling: None LSQ Weighting: None Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 6.03920e-005x + 0.196712
Goodness of fit (r^2): 0.999326



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	2	5	10	20	50
Area	17089	56566	142389	330410	867023
RF	0.000117034	8.83923204751	7.023014418248	6.053085560364	5.7668597026
	349581602	971e-005	6e-005	4e-005	8378e-005
Last Area					
Residual	0.77125	1.38716	1.20414	-0.150822	-2.55794
Rep StDev					
Rep %RSD					
Rep 1 Area	17089	56566	142389	330410	867023
Rep 1 User	BMS	BMS	BMS	BMS	BMS
Rep 1 Data File	C:\Instarch\P	C:\Instarch\PV	C:\Instarch\PVO	C:\Instarch\PVO	C:\Instarch\PV
	VOC4\Data\0	OC4\Data\0203	C4\Data\020315	C4\Data\020315	OC4\Data\020
	20315icdg\00	15icdg\002.dat	icdg\003.dat	icdg\004.dat	315icdg\005.d
	1.dat				at
Rep 1 Sample ID	MEE PT1 - 2	MEE PT2 - 5	MEE PT3 - 10	MEE PT4 - 20	MEE PT5 - 50
	ppmV	ppmV	ppmV	ppmV	ppmV
Rep 1 Calib. Time	Feb 03, 2015	Feb 03, 2015	Feb 03, 2015	Feb 03, 2015	Feb 03, 2015
	10:55:14	10:55:32	10:55:50	10:56:05	10:56:18

	Level 6	Level 7
Amount	100	200
Area	1696051	3275808

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Calibration Report

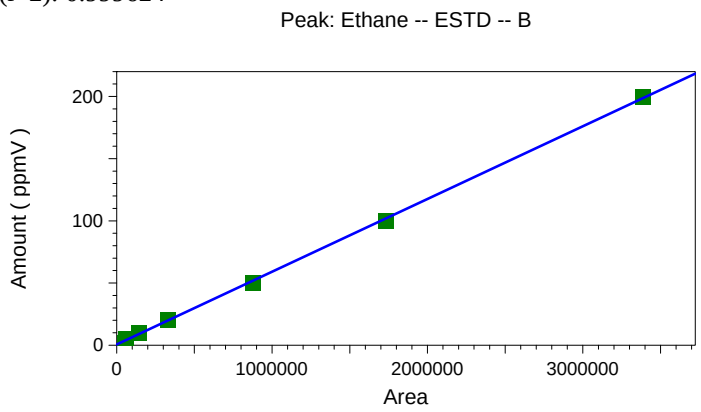
Method: C:\Instarch\PVOC4\Methods\P4DG020315.met
Print Time: Feb 11, 2015 14:41:51
User: AGK
Instrument: PVOC4

RF	5.89604911644756e-005	6.10536392853305e-005
Last Area Residual	-2.62457	1.97079
Rep StDev		
Rep %RSD		
Rep 1 Area	1696051	3275808
Rep 1 User	BMS	BMS
Rep 1 Data File	C:\Instarch\PVOC4\Data\020315icdg\006.dat	C:\Instarch\PVOC4\Data\020315icdg\007.dat
Rep 1 Sample ID	MEE PT6 - 100 ppmV	MEE PT7 - 200 ppmV
Rep 1 Calib. Time	Feb 03, 2015 10:56:31	Feb 03, 2015 10:56:53

Calibration Report

Method: C:\Instarch\PVOC4\Methods\P4DG020315.met
Print Time: Feb 11, 2015 14:41:59
User: AGK
Instrument: PVOC4

Ethane (B)
Average RF: 7.20208e-005 RF StDev: 2.08377e-005 RF %RSD: 28.9328
Scaling: None LSQ Weighting: None Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 5.84964e-005x + 0.597310
Goodness of fit (r^2): 0.999624



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	2	5	10	20	50
Area	17853	56692	142896	332327	878485
RF	0.000112025 990029687	8.81958653778 311e-005	6.998096517747 17e-005	6.018168851763 47e-005	5.6916168175 8937e-005
Last Area Residual	0.358353	1.08641	1.04378	-0.0372589	-1.98556
Rep StDev					
Rep %RSD					
Rep 1 Area	17853	56692	142896	332327	878485
Rep 1 User	BMS	BMS	BMS	BMS	BMS
Rep 1 Data File	C:\Instarch\PVOC4\Data\020315icdg\001.dat	C:\Instarch\PVOC4\Data\020315icdg\002.dat	C:\Instarch\PVOC4\Data\020315icdg\003.dat	C:\Instarch\PVOC4\Data\020315icdg\004.dat	C:\Instarch\PVOC4\Data\020315icdg\005.dat
Rep 1 Sample ID	MEE PT1 - 2 ppmV	MEE PT2 - 5 ppmV	MEE PT3 - 10 ppmV	MEE PT4 - 20 ppmV	MEE PT5 - 50 ppmV
Rep 1 Calib. Time	Feb 03, 2015 10:55:14	Feb 03, 2015 10:55:32	Feb 03, 2015 10:55:50	Feb 03, 2015 10:56:05	Feb 03, 2015 10:56:18

	Level 6	Level 7
Amount	100	200
Area	1731517	3384539

RJ 02/11/2015

Calibration Report

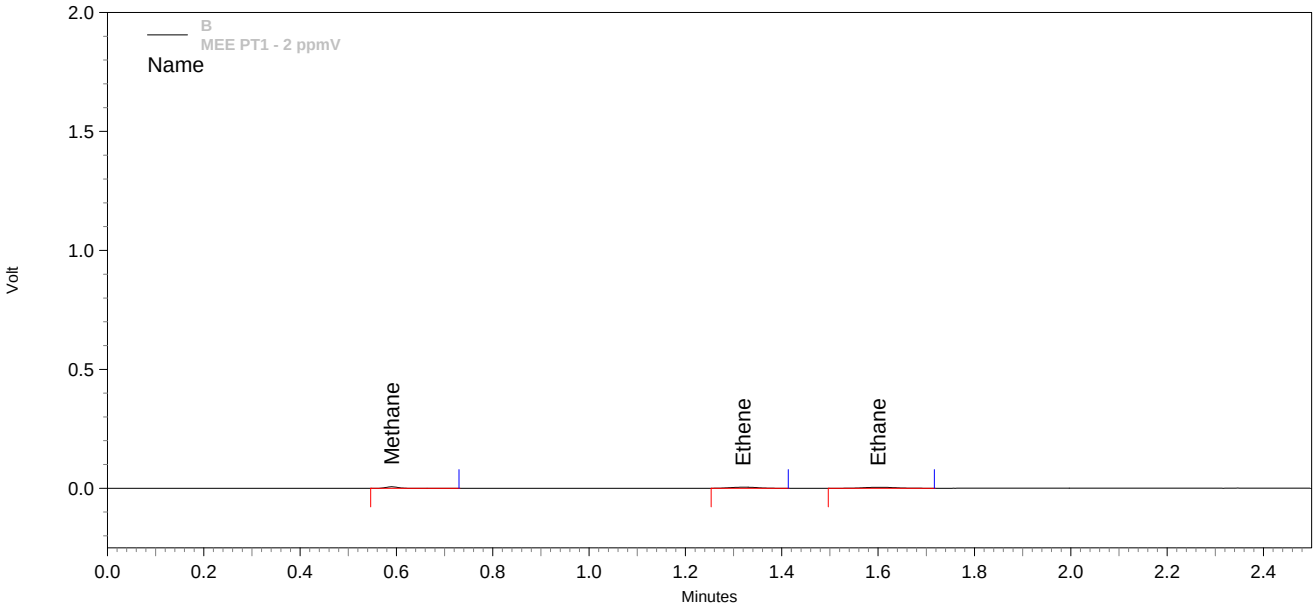
Method: C:\Instarch\PVOC4\Methods\P4DG020315.met
Print Time: Feb 11, 2015 14:41:59
User: AGK
Instrument: PVOC4

RF	5.77528259901578e-005	5.90922426953863e-005
Last Area Residual	-1.8849	1.41918
Rep StDev		
Rep %RSD		
Rep 1 Area	1731517	3384539
Rep 1 User	BMS	BMS
Rep 1 Data File	C:\Instarch\PVOC4\Data\020315icdg\006.dat	C:\Instarch\PVOC4\Data\020315icdg\007.dat
Rep 1 Sample ID	MEE PT6 - 100 ppmV	MEE PT7 - 200 ppmV
Rep 1 Calib. Time	Feb 03, 2015 10:56:31	Feb 03, 2015 10:56:53

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\020315icdg\001.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: MEE PT1 - 2 ppmV
Acquired: Feb 03, 2015 10:27:30
File Desc. 0.01 mL injection (Methane, Ethene, Ethane)



B Results

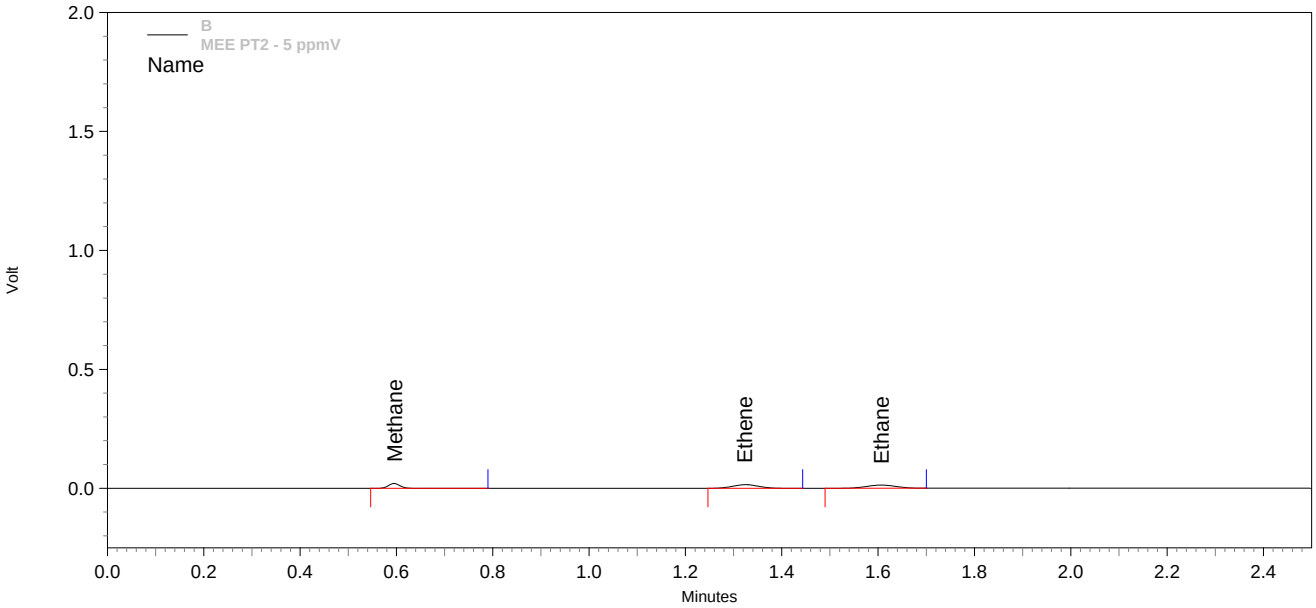
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.590	11158	**1.165**
2	Ethene	1.320	17089	**1.229**
3	Ethane	1.600	17853	**1.642**

Totals			46100	**4.035**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\020315icdg\002.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: MEE PT2 - 5 ppmV
Acquired: Feb 03, 2015 10:35:02
File Desc. 0.025 mL injection (Methane, Ethene, Ethane)



B Results

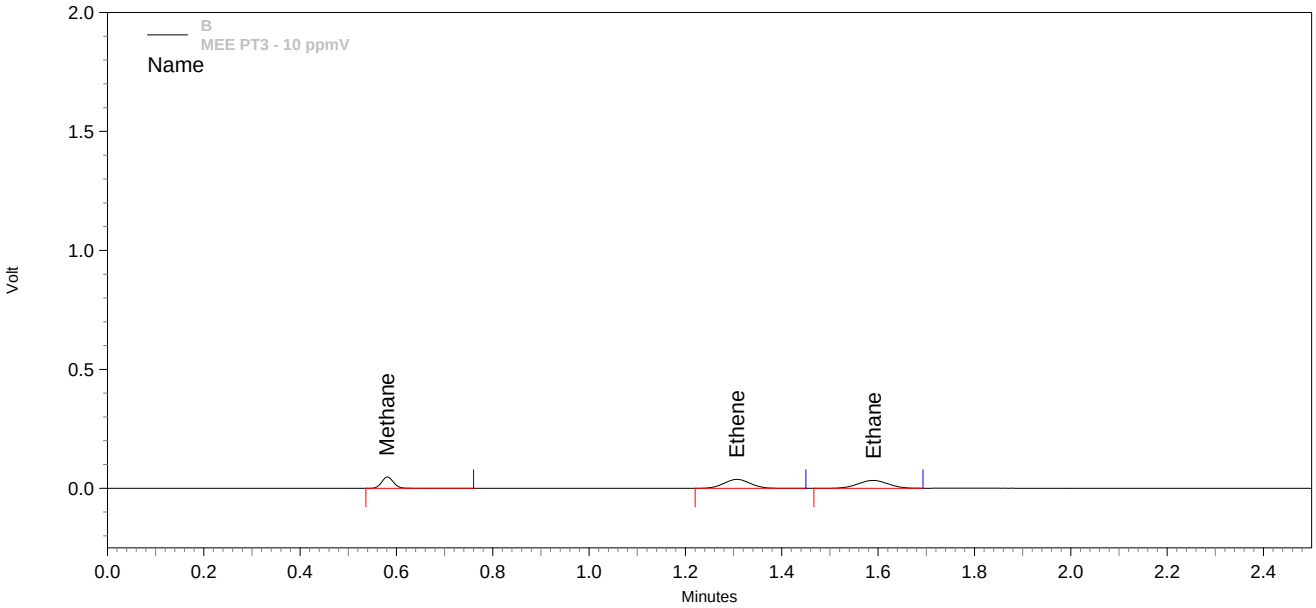
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.597	34407	**5.000 CAL**
2	Ethene	1.323	56566	**5.000 CAL**
3	Ethane	1.607	56692	**5.000 CAL**

Totals			147665	**15.000 CAL**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\020315icdg\003.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: MEE PT3 - 10 ppmV
Acquired: Feb 03, 2015 10:38:17
File Desc. 0.05 mL injection (Methane, Ethene, Ethane)



B Results

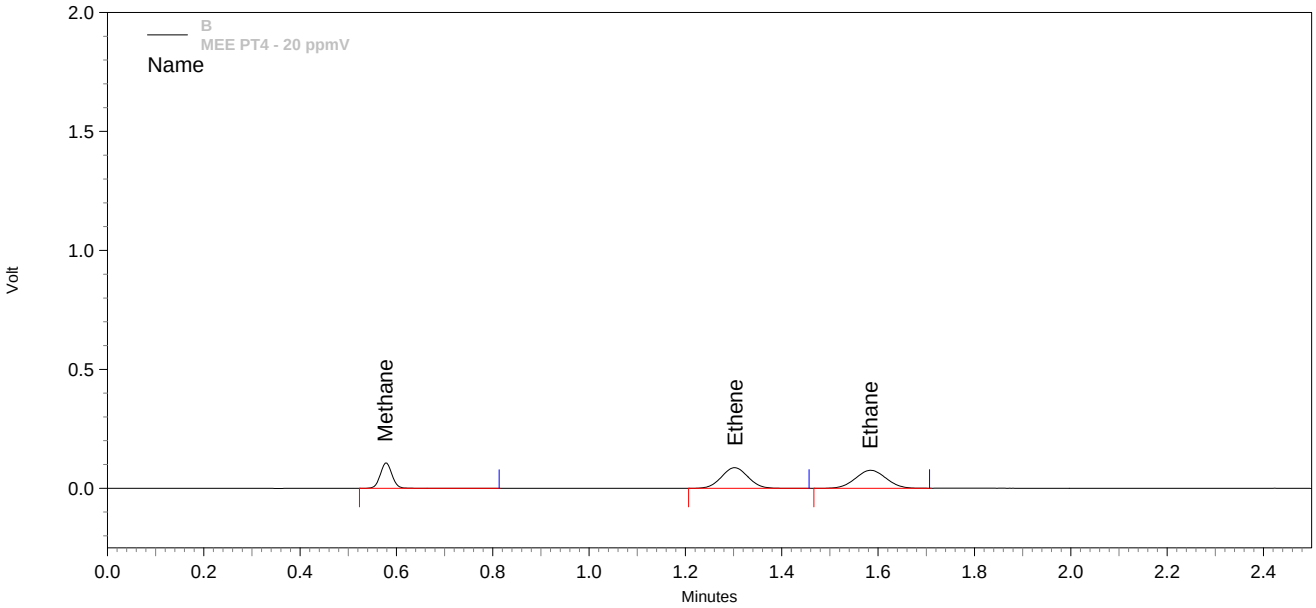
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.580	81596	**10.000 CAL**
2	Ethene	1.307	142389	**10.000 CAL**
3	Ethane	1.590	142896	**10.000 CAL**

Totals			366881	**30.000 CAL**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\020315icdg\004.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: MEE PT4 - 20 ppmV
Acquired: Feb 03, 2015 10:41:32
File Desc. 0.1 mL injection (Methane, Ethene, Ethane)



B Results

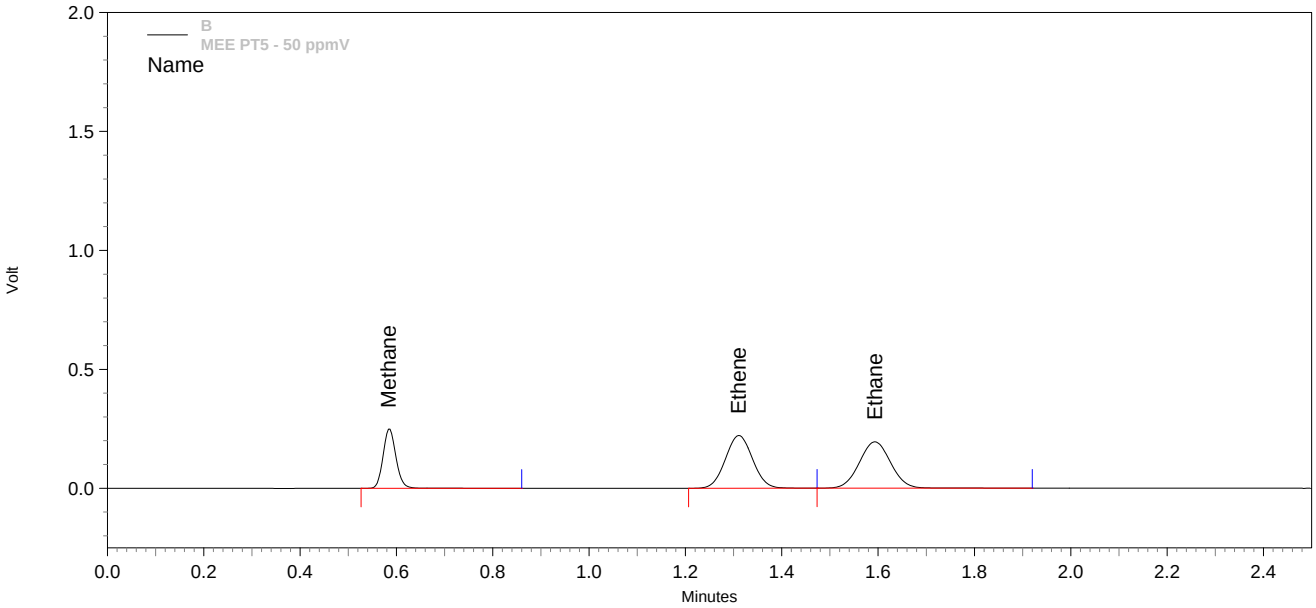
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.577	181231	**20.000 CAL**
2	Ethene	1.303	330410	**20.000 CAL**
3	Ethane	1.583	332327	**20.000 CAL**

Totals			843968	**60.000 CAL**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\020315icdg\005.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: MEE PT5 - 50 ppmV
Acquired: Feb 03, 2015 10:44:59
File Desc. 0.25 mL injection (Methane, Ethene, Ethane)



B Results

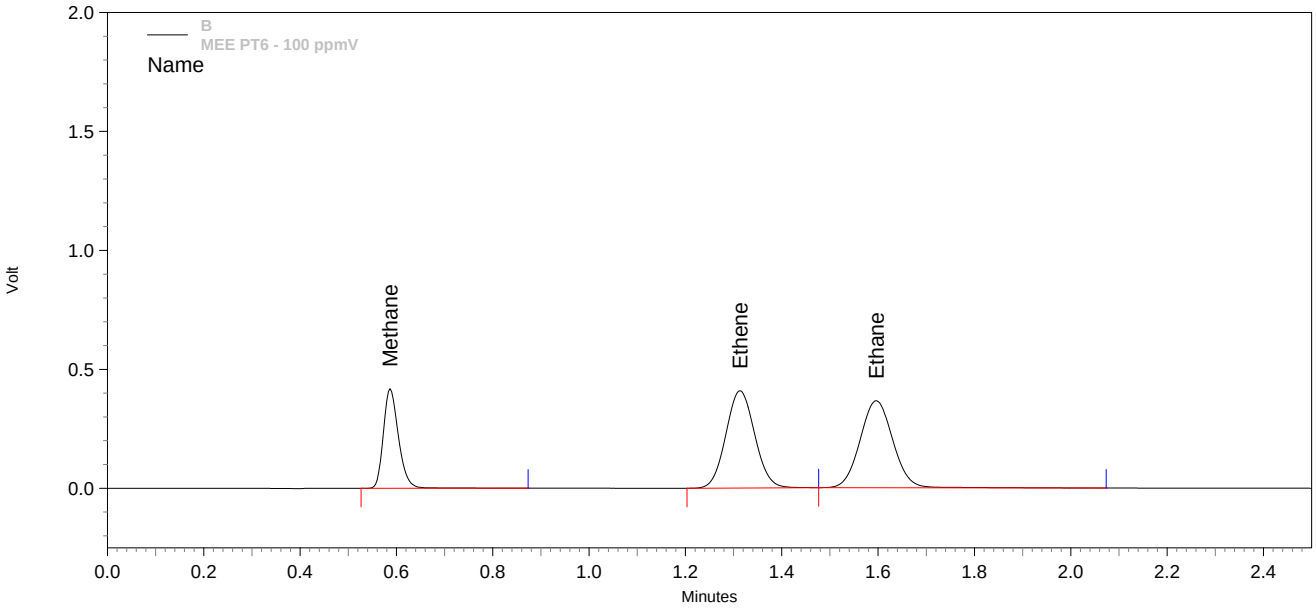
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.583	466265	**50.000 CAL**
2	Ethene	1.310	867023	**50.000 CAL**
3	Ethane	1.593	878485	**50.000 CAL**

Totals			2211773	**150.000 CAL**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\020315icdg\006.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: MEE PT6 - 100 ppmV
Acquired: Feb 03, 2015 10:48:29
File Desc. 0.5 mL injection (Methane, Ethene, Ethane)



B Results

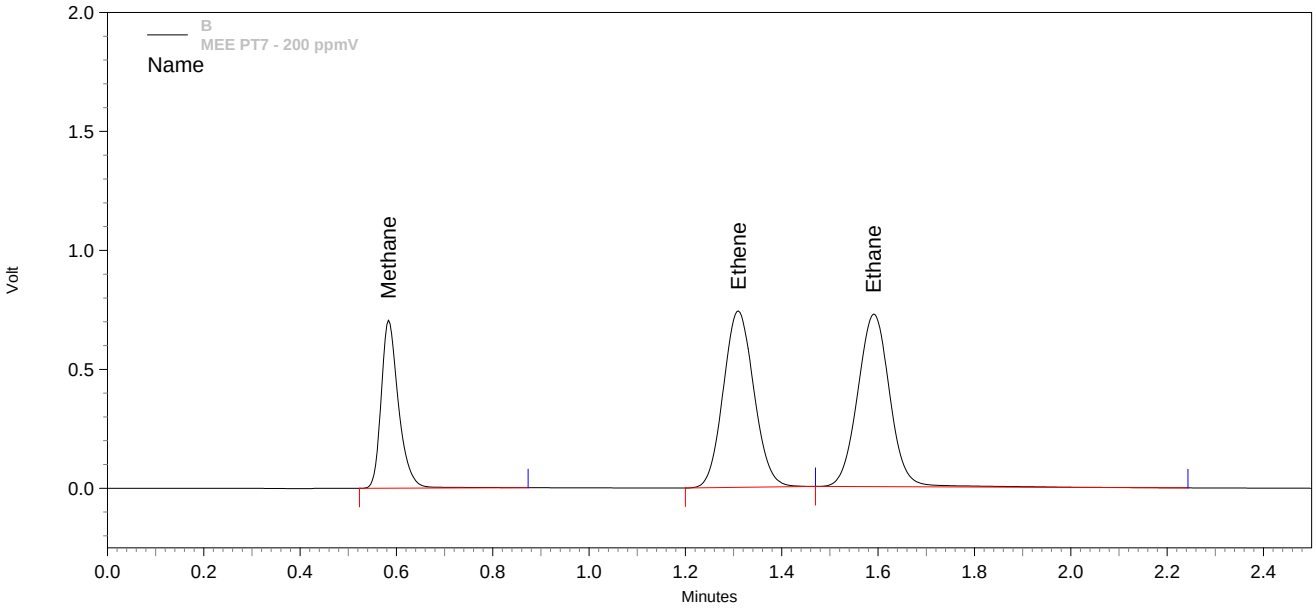
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.587	912807	**100.000 CAL**
2	Ethene	1.313	1696051	**100.000 CAL**
3	Ethane	1.597	1731517	**100.000 CAL**

Totals			4340375	**300.000 CAL**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\020315icdg\007.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: MEE PT7 - 200 ppmV
Acquired: Feb 03, 2015 10:52:17
File Desc. 1.0 mL injection (Methane, Ethene, Ethane)



B Results

Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.583	1769205	**200.000 CAL**
2	Ethene	1.310	3275808	**200.000 CAL**
3	Ethane	1.590	3384539	**200.000 CAL**

Totals			8429552	**600.000 CAL**

QC Check Standard Report

Sequence : C:\InStarch\PVOC4\Sequence\020315DGIC.seq
User : AGK
Printed : Feb 11, 2015 14:43:24

File	Sample ID	Acquired
C:\Instarch\PVOC4\Data\020315icdg\008.dat	ICV - 50 ppmV	Feb 11, 2015 14:43:24

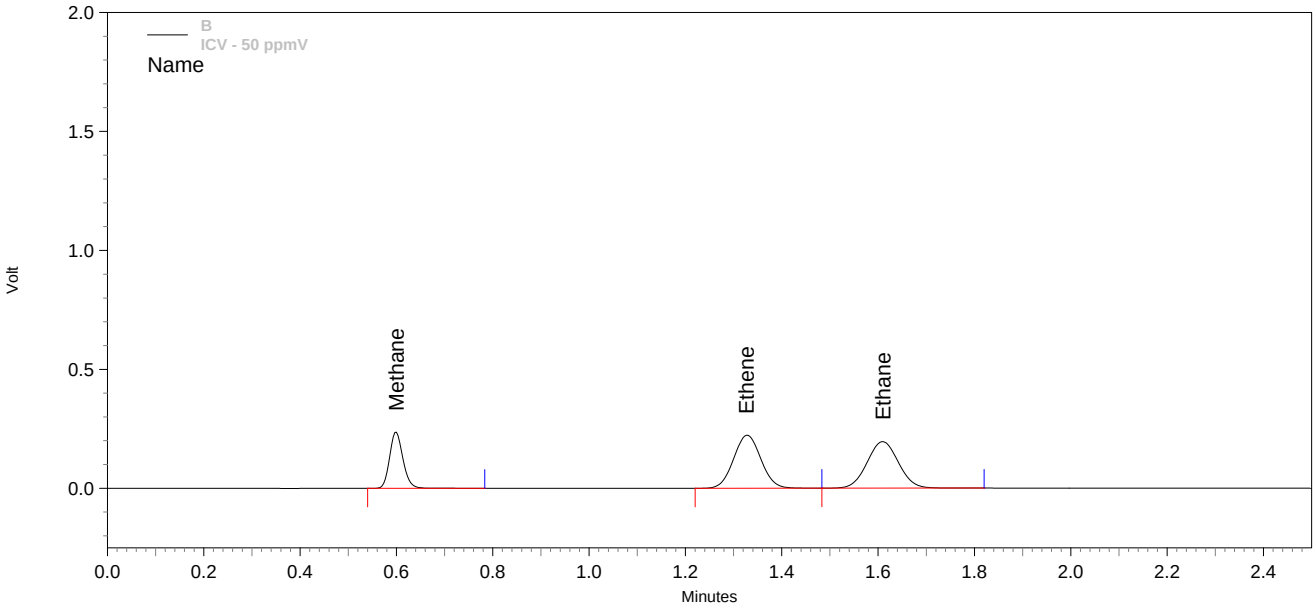
B

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
Methane	50.000	50.955	1.911	15.000	**Passed**
Ethene	50.000	53.018	6.036	15.000	**Passed**
Ethane	50.000	52.143	4.287	15.000	**Passed**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\020315icdg\008.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: ICV - 50 ppmV
Acquired: Feb 03, 2015 11:02:07
File Desc. INITIAL CALIB. VERIF. - 0.25 mL injection (Methane, Ethene, Ethane)



B Results

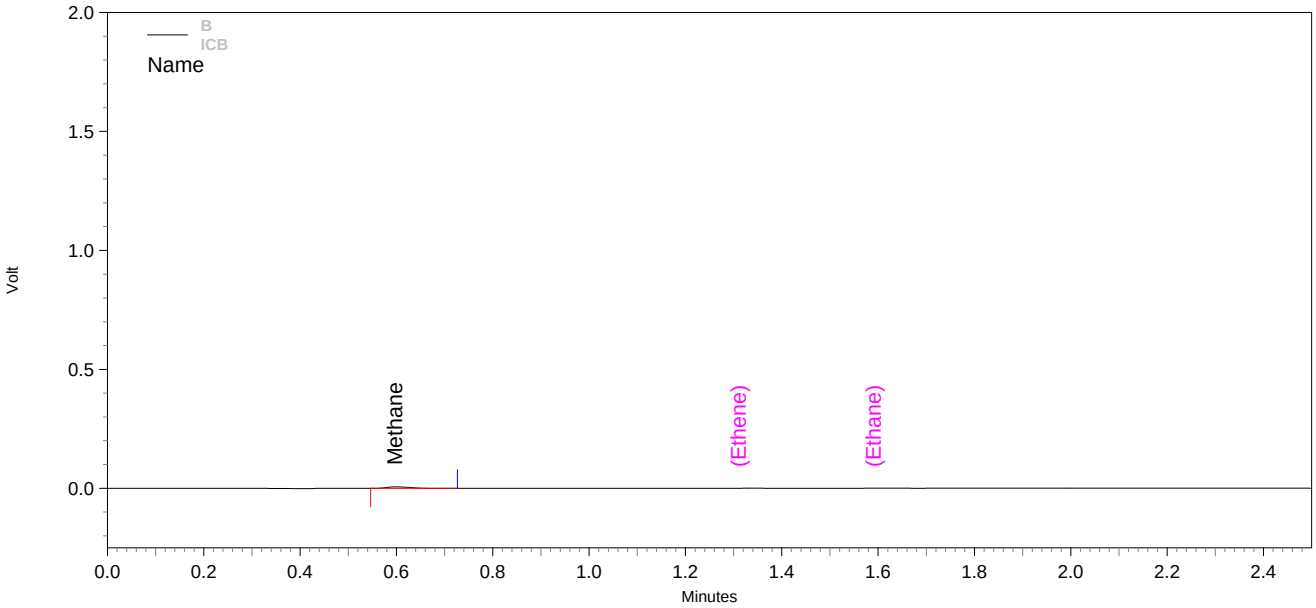
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.600	455191	**50.955**
2	Ethene	1.327	874641	**53.018**
3	Ethane	1.610	881181	**52.143**

Totals			2211013	**156.117**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\020315icdg\009.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: ICB
Acquired: Feb 03, 2015 11:19:15
File Desc. INITIAL CALIB. BLANK - 1.0 mL injection (Methane, Ethene, Ethane)



B Results

Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.597	20063	**2.163**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			20063	**2.163**

VOLATILE ORGANIC ANALYSIS
CONTINUING CALIBRATION
DOCUMENTS

BFB

Data File : C:\INSTARCH\Data\JAN2116\BFB2.D Vial: 13
Acq On : 21 Jan 2016 16:28 Operator: AGK-RLD
Sample : 122700,BFB, Inst : VMS3
Misc : 25 ng Inj. Multiplr: 1.00
Integration File: VOC.P

Method : C:\INSTARCH\METHODS\W012016.M
Title : 8260C Waters Method

Spectrum Information: Average of 4.638 to 4.651 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	26.3	26326	PASS
75	95	30	60	57.8	57764	PASS
95	95	100	100	100.0	100000	PASS
96	95	5	9	5.2	5237	PASS
173	174	0.00	2	1.9	1722	PASS
174	95	50	100	92.3	92350	PASS
175	174	5	9	8.7	8058	PASS
176	174	95	101	100.8	93098	PASS
177	176	5	9	7.8	7258	PASS

W012016.M Fri Jan 22 10:01:05 2016

Evaluate Continuing Calibration Report

Data File : C:\INSTARCH\Data\JAN2116\CCV-LCS2.D Vial: 14
Acq On : 21 Jan 2016 17:17 Operator: AGK-RLD
Sample : 122700,LCSW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Jan 21 17:37:58 2016

Quant Method : C:\INSTARCH\METHODS\W012016.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W012016.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	1.0000	1.0000	0.00	88	0.00
2	PT	Dichlorodi	0.2651	0.2841	-7.17	86	0.00
3	PT	Chloromethan	0.3929	0.4075	-3.72	90	-0.01
4	PT	VinylChlorid	0.5192	0.6115	-17.78	96	0.00
5	PT	Bromomethane	0.1983	0.2590	-30.61#	114	0.00
6	PT	Chloroethane	0.3516	0.3661	-4.12	86	0.00
7	T	Dichloroflmethane	0.7001	0.7034	-0.47	99	0.00
8	PT	Trichlorofma	0.3450	0.3343	3.10	87	0.00
9	T	Ethylether	0.2208	0.2271	-2.85	91	0.00
10	T	dichlorotfluoroethan	0.2676	0.2739	-2.35	81	0.00
11	T	propyleneoxide	0.0561	0.0560	0.18	69	0.00
12	T	Acrolein	0.0838	0.0783	6.56	71	0.00
13	PT	11dichlorthe	0.2308	0.2342	-1.47	90	0.00
14	PT	Trichlorotfluoroeth	0.2101	0.2149	-2.28	85	0.00
15	PT	Acetone	0.1661	0.1580	4.88	68	0.00
16	T	Iodomethane	0.1634	0.1791	-9.61	93	0.00
17	PT	Carbon Dislf	0.5901	0.6437	-9.08	90	0.00
18	T	allylchloride	0.3064	0.3386	-10.51	91	0.00
19	PT	methylacetate	0.0825	0.1031	-24.97#	98	0.00
20	PT	Methylchlorid	0.2533	0.2655	-4.82	93	0.00
21	T	tbutylalcohol	0.0713	0.0817	-14.59	81	0.00
22	T	Acrylonitrile	0.1589	0.1754	-10.38	88	0.00
23	PT	t12dichlorte	0.2506	0.2478	1.12	88	0.00
24	PT	MtBE	0.7096	0.7446	-4.93	92	0.00
25	T	Hexane	0.3167	0.3372	-6.47	90	0.00
26	PT	11dichlorota	0.4122	0.4189	-1.63	83	0.00
27	T	Vinylacetate	0.4449	0.4653	-4.59	92	0.00
28	T	chloroprene	0.3641	0.3648	-0.19	86	0.00
29	T	Diisopether	0.7512	0.7626	-1.52	88	0.00
30	T	ETBE	0.6983	0.7035	-0.74	90	0.00
31	T	22dichloropr	0.3812	0.3851	-1.02	93	0.00
32	PT	c12dichlorte	0.2734	0.2855	-4.43	88	0.00
33	PT	2Butanone	0.0742	0.0770#	-3.77	82	0.00
34	T	propionitrile	0.0747	0.0795	-6.43	84	0.00
35	T	Ethylacetate	0.0197	0.0220#	-11.68	98	0.00
36	T	methacrylonitrile	0.1688	0.1820	-7.82	91	0.00
37	T	Bromochlorma	0.1153	0.1090	5.46	80	0.00
38	T	Tetrahydofur	0.1734	0.1878	-8.30	85	0.00
39	PT	Chloroform	0.4037	0.4103	-1.63	90	0.00
40	PT	111trichlota	0.3569	0.3656	-2.44	90	0.00
41	S	SURRDibrflma	0.2519	0.2514	0.20	87	0.00
42	PT	Cyclohexane	0.4323	0.4492	-3.91	87	-0.01
43	PT	Carbtetraclo	0.3061	0.3064	-0.10	90	0.00
44	T	11dicloprope	0.1207	0.1231	-1.99	90	0.00
45	S	SURR12DCAd4	0.0721	0.0665	7.77	80	0.00
46	PT	Benzene	0.9514	1.0088	-6.03	90	0.01
47	PT	12dichlorota	0.2805	0.3180	-13.37	93	0.00
48	T	TAME	0.7156	0.7466	-4.33	87	0.00

49	PT	trichloroete	0.2372	0.2582	-8.85	88	0.00
50	PT	methylcyclohexane	0.4161	0.4258	-2.33	83	0.00
51	PT	12dicloropra	0.2597	0.2897	-11.55	99	0.00
52	T	23Dicl1propene	0.3489	0.3676	-5.36	90	0.00
53	T	Dibromometha	0.1493	0.1504	-0.74	84	0.00
54	T	methylmethacrylate	0.2546	0.2696	-5.89	88	0.00
55	T	14dioxane	0.0051	0.0052#	-1.96	80	0.00
56	PT	Bromodiclrma	0.3080	0.3179	-3.21	93	0.00
57	T	2Nitropropane	0.1280	0.1295	-1.17	84	0.00
58	T	2CLEVE	0.0927	0.0764	17.58	71	0.00
59	PT	c13dicloproe	0.3921	0.3949	-0.71	90	0.00
60	PT	4Meth2Pentan	0.4135	0.4403	-6.48	86	0.00
61	S	SURRd8Tolule	1.0160	1.0092	0.67	87	0.00
62	PT	Toluene	0.6083	0.6192	-1.79	89	0.00
63	PT	t13Dicloprop	0.3502	0.3472	0.86	89	0.00
64	T	ethylmethacrylate	0.3883	0.3985	-2.63	87	0.00
65	PT	112Triclotha	0.1989	0.1864	6.28	80	0.00
66	PT	Tetrachlorte	0.2567	0.2707	-5.45	93	0.00
67	T	13Diclorpropa	0.4112	0.4373	-6.35	93	0.00
68	I	d5-CHLOROBENZENE**ISTD**	1.0000	1.0000	0.00	86	0.00
69	PT	2Hexanone	0.4646	0.4902	-5.51	84	0.00
70	PT	Clorodibrmta	0.3473	0.3206	7.69	85	0.00
71	PT	12Dibrometha	0.3271	0.3183	2.69	91	0.00
72	PT	Chlorobenzen	0.8746	0.8617	1.47	87	0.00
73	T	1Clhexane	0.4823	0.4708	2.38	86	0.00
74	T	1112Tetclota	0.2959	0.2811	5.00	85	0.00
75	PT	Ethylbenzene	1.4307	1.4986	-4.75	90	0.00
76	PT	m p-Xylene	0.5765	0.5848	-1.44	85	0.00
77	PT	o-Xylene	0.5767	0.5695	1.25	89	0.00
78	PT	Styrene	0.8851	0.9098	-2.79	90	0.00
79	PT	Bromoform	0.2426	0.2267	6.55	78	0.00
80	PT	Isopropylben	1.3762	1.4541	-5.66	88	0.00
81	T	cyclohexanone	0.0272	0.0251#	7.72	72	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	1.0000	1.0000	0.00	84	0.00
83	S	SURR4BrFBenz	0.8041	0.7953	1.09	79	0.00
84	T	Bromobenzene	0.6651	0.7102	-6.78	85	0.00
85	PT	1122Tetrclta	0.9397	0.9895	-5.30	89	0.00
86	T	123Triclproa	1.2019	1.1908	0.92	78	0.00
87	T	14dichloro2butene	0.2613	0.2429	7.04	86	0.00
88	T	n-Propylbenz	2.8917	3.2546	-12.55	89	0.00
89	T	2chlorotolue	1.7065	1.8439	-8.05	90	0.00
90	T	4chlorotolue	1.9612	2.0370	-3.86	86	0.00
91	T	135Trimebenz	2.0049	2.1252	-6.00	86	0.00
92	T	tbutylbenzen	1.8414	1.9736	-7.18	88	0.00
93	T	124Trimetben	1.9382	2.0825	-7.45	84	0.00
94	T	sbutylbenzen	2.5857	2.8698	-10.99	89	0.00
95	PT	13Diclorbenz	1.2188	1.3004	-6.70	91	0.00
96	T	pIsopropylto	2.1259	2.2845	-7.46	86	0.00
97	PT	14dichlorobe	1.2162	1.2639	-3.92	89	0.00
98	PT	12dichlorobe	1.1428	1.1792	-3.19	84	0.00
99	T	nButylbenzen	1.9298	2.1255	-10.14	89	0.00
100	PT	12dibromo3cl	0.2756	0.2563	7.00	75	0.00
101	T	135Trichlorobenzene	0.7706	0.8398	-8.98	91	0.00
102	PT	124Trichlobe	0.7162	0.6841	4.48	84	0.00
103	T	Hexachlorobu	0.3172	0.3602	-13.56	90	0.00
104	T	Naphthalene	2.2134	2.1951	0.83	80	0.00
105	T	123Trichlben	0.6664	0.6853	-2.84	87	0.00

(#) = Out of Range SPCC's out = 1 CCC's out = 0

W012016.M Fri Jan 22 10:04:00 2016

Evaluate Continuing Calibration Report

Data File : C:\INSTARCH\Data\JAN2116\CCV-LCS2.D Vial: 14
Acq On : 21 Jan 2016 17:17 Operator: AGK-RLD
Sample : 122700,LCSW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Jan 21 17:37:58 2016

Quant Method : C:\INSTARCH\METHODS\W012016.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W012016.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	20.0000	20.0000	0.00	88	0.00
2	PT	Dichlorodi	10.0000	10.7197	-7.20	86	0.00
3	PT	Chloromethan	10.0000	10.3721	-3.72	90	-0.01
4	PT	VinylChlorid	10.0000	11.7764	-17.76	96	0.00
5	PT	Bromomethane	10.0000	13.0570	-30.57#	114	0.00
6	PT	Chloroethane	10.0000	10.4135	-4.14	86	0.00
7	T	Dichloroflmethane	10.0000	10.0467	-0.47	99	0.00
8	PT	Trichlorofma	10.0000	9.6906	3.09	87	0.00
9	T	Ethylether	10.0000	10.2852	-2.85	91	0.00
10	T	dichlorotfluoroethan	10.0000	10.2356	-2.36	81	0.00
11	T	propyleneoxide	100.0000	97.2290	2.77	69	0.00
12	T	Acrolein	50.0000	46.6812	6.64	71	0.00
13	PT	11dichlorthe	10.0000	10.1471	-1.47	90	0.00
14	PT	Trichlorotfluoroeth	20.0000	20.4522	-2.26	85	0.00
15	PT	Acetone	100.0000	98.7773	1.22	68	0.00
16	T	Iodomethane	20.0000	20.0667	-0.33	93	0.00
17	PT	Carbon Dislf	20.0000	21.8144	-9.07	90	0.00
18	T	allylchloride	20.0000	22.1018	-10.51	91	0.00
19	PT	methylacetate	10.0000	11.8931	-18.93	98	0.00
20	PT	Methylchlorid	10.0000	10.4809	-4.81	93	0.00
21	T	tbutylalcohol	500.0000	552.7431	-10.55	81	0.00
22	T	Acrylonitrile	50.0000	55.1694	-10.34	88	0.00
23	PT	t12dichlorte	10.0000	9.8881	1.12	88	0.00
24	PT	MtBE	10.0000	10.4922	-4.92	92	0.00
25	T	Hexane	20.0000	21.2988	-6.49	90	0.00
26	PT	11dichlorota	10.0000	10.1610	-1.61	83	0.00
27	T	Vinylacetate	100.0000	102.7161	-2.72	92	0.00
28	T	chloroprene	20.0000	20.0359	-0.18	86	0.00
29	T	Diisopether	10.0000	10.1513	-1.51	88	0.00
30	T	ETBE	10.0000	10.0741	-0.74	90	0.00
31	T	22dichloropr	10.0000	10.1027	-1.03	93	0.00
32	PT	c12dichlorte	10.0000	10.4402	-4.40	88	0.00
33	PT	2Butanone	100.0000	103.8266	-3.83	82	0.00
34	T	propionitrile	100.0000	106.3912	-6.39	84	0.00
35	T	Ethylacetate	50.0000	55.7278	-11.46	98	0.00
36	T	methacrylonitrile	20.0000	21.5616	-7.81	91	0.00
37	T	Bromochlorma	10.0000	9.4515	5.49	80	0.00
38	T	Tetrahydofur	100.0000	106.9868	-6.99	85	0.00
39	PT	Chloroform	10.0000	10.1617	-1.62	90	0.00
40	PT	111trichlota	10.0000	10.2427	-2.43	90	0.00
41	S	SURRDibrflma	20.0000	19.9576	0.21	87	0.00
42	PT	Cyclohexane	10.0000	10.3904	-3.90	87	-0.01
43	PT	Carbtetraclo	10.0000	10.0107	-0.11	90	0.00
44	T	11dicloprope	10.0000	10.1965	-1.97	90	0.00
45	S	SURR12DCAd4	20.0000	18.4435	7.78	80	0.00
46	PT	Benzene	10.0000	10.6028	-6.03	90	0.01
47	PT	12dichlorota	10.0000	11.3387	-13.39	93	0.00
48	T	TAME	10.0000	10.4332	-4.33	87	0.00

49	PT	trichloroete	10.0000	10.8885	-8.89	88	0.00
50	PT	methylcyclohexane	10.0000	10.2341	-2.34	83	0.00
51	PT	12dicloropra	10.0000	11.1548	-11.55	99	0.00
52	T	23Dicl1propene	10.0000	10.5358	-5.36	90	0.00
53	T	Dibromometha	10.0000	10.0705	-0.70	84	0.00
54	T	methylmethacrylate	10.0000	10.5899	-5.90	88	0.00
55	T	14dioxane	500.0000	505.2745	-1.05	80	0.00
56	PT	Bromodiclrma	10.0000	10.3226	-3.23	93	0.00
57	T	2Nitropropane	100.0000	101.2041	-1.20	84	0.00
58	T	2CLEVE	50.0000	41.2334	17.53	71	0.00
59	PT	c13dicloproe	10.0000	10.0725	-0.72	90	0.00
60	PT	4Meth2Pentan	100.0000	105.9570	-5.96	86	0.00
61	S	SURRd8Tolule	20.0000	19.8656	0.67	87	0.00
62	PT	Toluene	10.0000	10.1779	-1.78	89	0.00
63	PT	t13Dicloprop	10.0000	9.9144	0.86	89	0.00
64	T	ethylmethacrylate	20.0000	20.5280	-2.64	87	0.00
65	PT	112Triclotha	10.0000	9.3725	6.27	80	0.00
66	PT	Tetrachlorte	10.0000	10.5452	-5.45	93	0.00
67	T	13Diclorpropa	10.0000	10.6351	-6.35	93	0.00
68	I	d5-CHLOROBENZENE**ISTD**	20.0000	20.0000	0.00	86	0.00
69	PT	2Hexanone	100.0000	102.9587	-2.96	84	0.00
70	PT	Clorodibrmta	10.0000	9.2300	7.70	85	0.00
71	PT	12Dibrometha	10.0000	9.7306	2.69	91	0.00
72	PT	Chlorobenzen	10.0000	9.8527	1.47	87	0.00
73	T	1Clhexane	10.0000	9.7599	2.40	86	0.00
74	T	1112Tetclota	10.0000	9.5019	4.98	85	0.00
75	PT	Ethylbenzene	10.0000	10.4749	-4.75	90	0.00
76	PT	m p-Xylene	20.0000	20.2887	-1.44	85	0.00
77	PT	o-Xylene	10.0000	9.8756	1.24	89	0.00
78	PT	Styrene	10.0000	10.2797	-2.80	90	0.00
79	PT	Bromoform	10.0000	9.3463	6.54	78	0.00
80	PT	Isopropylben	10.0000	10.5663	-5.66	88	0.00
81	T	cyclohexanone	200.0000	184.8870	7.56	72	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	20.0000	20.0000	0.00	84	0.00
83	S	SURR4BrFBenz	20.0000	19.7806	1.10	79	0.00
84	T	Bromobenzene	10.0000	10.6776	-6.78	85	0.00
85	PT	1122Tetrclta	10.0000	10.5298	-5.30	89	0.00
86	T	123Triclproa	10.0000	9.9080	0.92	78	0.00
87	T	14dichloro2butene	10.0000	9.2954	7.05	86	0.00
88	T	n-Propylbenz	10.0000	11.2550	-12.55	89	0.00
89	T	2chlorotolue	10.0000	10.8050	-8.05	90	0.00
90	T	4chlorotolue	10.0000	10.3865	-3.86	86	0.00
91	T	135Trimebenz	10.0000	10.6001	-6.00	86	0.00
92	T	tbutylbenzen	10.0000	10.7179	-7.18	88	0.00
93	T	124Trimetben	10.0000	10.7444	-7.44	84	0.00
94	T	sbutylbenzen	10.0000	11.0986	-10.99	89	0.00
95	PT	13Diclorbenz	10.0000	10.6698	-6.70	91	0.00
96	T	pIsopropylto	10.0000	10.7460	-7.46	86	0.00
97	PT	14dichlorobe	10.0000	10.3925	-3.93	89	0.00
98	PT	12dichlorobe	10.0000	10.3187	-3.19	84	0.00
99	T	nButylbenzen	10.0000	11.0140	-10.14	89	0.00
100	PT	12dibromo3cl	10.0000	9.3022	6.98	75	0.00
101	T	135Trichlorobenzene	10.0000	10.8984	-8.98	91	0.00
102	PT	124Trichlobe	10.0000	9.5520	4.48	84	0.00
103	T	Hexachlorobu	10.0000	11.3545	-13.54	90	0.00
104	T	Naphthalene	10.0000	9.9175	0.82	80	0.00
105	T	123Trichlben	10.0000	10.2845	-2.84	87	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

W012016.M Fri Jan 22 10:03:43 2016

Quantitation Report

Data File : C:\INSTARCH\Data\JAN2116\CCV-LCS2.D Vial: 14
Acq On : 21 Jan 2016 17:17 Operator: AGK-RLD
Sample : 122700,LCSW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 17:37:58 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:28:14 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.69	96	975138	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.60	117	739660	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.90	152	382523	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.83	113	245123	19.958	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100	%		
45) SURR12DCAd4	7.24	102	64812	18.444	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 92	%		
61) SURRd8Tolule	9.69	98	984123	19.866	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 99	%		
83) SURR4BrFBenz	13.23	95	304215	19.781	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 99	%		
Target Compounds						Qvalue
2) Dichlorodi	1.83	85	138540	10.7197	ug/L	94
3) Chloromethan	2.09	50	198678	10.3721	ug/L	99
4) VinylChlorid	2.23	62	298127	11.7764	ug/L	87
5) Bromomethane	2.69	94	126260	13.0570	ug/L	99
6) Chloroethane	2.86	64	178512	10.4135	ug/L	94
7) Dichloroflmethane	3.16	67	342956	10.0467	ug/L	99
8) Trichlorofma	3.24	101	162983	9.6906	ug/L	96
9) Ethylether	3.70	59	110723	10.2852	ug/L	95
10) dichlorotfluoroethan	3.70	67	133562	10.2356	ug/L	95
11) propyleneoxide	4.04	58	273058	97.2290	ug/L	98
12) Acrolein	3.82	56	190840	46.6812	ug/L	95
13) 11dichlorthe	3.96	96	114174	10.1471	ug/L	93
14) Trichlorotfluoroeth	4.01	101	209554	20.4522	ug/L	99
15) Acetone	4.03	43	770449	98.7773	ug/L	99
16) Iodomethane	4.15	142	174638	20.0667	ug/L	96
17) Carbon Dislf	4.24	76	627684	21.8144	ug/L	99
18) allylchloride	4.45	41	330147	22.1018	ug/L	98
19) methylacetate	4.50	74	50248	11.8931	ug/L	96
20) Methylchlorid	4.61	84	129427	10.4809	ug/L	99
21) tbutylalcohol	4.81	59	1991687	552.7431	ug/L	99
22) Acrylonitrile	4.90	53	427499	55.1694	ug/L	94
23) t12dichlorte	4.99	96	120833	9.8881	ug/L	97
24) MtBE	5.02	73	363027	10.4922	ug/L	97
25) Hexane	5.39	57	328851	21.2988	ug/L	97
26) 11dichlorota	5.51	63	204226	10.1610	ug/L	94
27) Vinylacetate	5.61	43	2268887	102.7161	ug/L	100
28) chloroprene	5.65	53	355695	20.0359	ug/L	96
29) Diisopether	5.67	45	371813	10.1513	ug/L	97
30) ETBE	6.12	59	343007	10.0741	ug/L	97
31) 22dichloropr	6.25	77	187779	10.1027	ug/L	98
32) c12dichlorte	6.24	96	139185	10.4402	ug/L	94
33) 2Butanone	6.26	72	375646	103.8266	ug/L	96
34) propionitrile	6.29	54	387405	106.3912	ug/L	98
35) Ethylacetate	6.37	88	53643	55.7278	ug/L #	87
36) methacrylonitrile	6.49	67	177462	21.5616	ug/L	94
37) Bromochlorma	6.52	128	53135	9.4515	ug/L	88
38) Tetrahydofur	6.62	42	915697	106.9868	ug/L	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\JAN2116\CCV-LCS2.D Vial: 14
Acq On : 21 Jan 2016 17:17 Operator: AGK-RLD
Sample : 122700,LCSW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 17:37:58 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:28:14 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	6.63	83	200034	10.1617 ug/L	98
40)	111trichlota	6.88	97	178233	10.2427 ug/L	99
42)	Cyclohexane	6.97	56	219024	10.3904 ug/L	97
43)	Carbtetraclo	7.10	119	149393	10.0107 ug/L	99
44)	11dicloprope	7.10	110	60002	10.1965 ug/L	97
46)	Benzene	7.35	78	491856	10.6028 ug/L	99
47)	12dichlorota	7.33	62	155065	11.3387 ug/L	96
48)	TAME	7.52	73	364039	10.4332 ug/L	96
49)	trichloroete	8.15	95	125909	10.8885 ug/L	97
50)	methylcyclohexane	8.42	83	207619	10.2341 ug/L	97
51)	12dicloropra	8.40	63	141230	11.1548 ug/L	94
52)	23Dicl1propene	8.46	75	179235	10.5358 ug/L	98
53)	Dibromometha	8.54	93	73330	10.0705 ug/L	98
54)	methylmethacrylate	8.57	69	131463	10.5899 ug/L	94
55)	14dioxane	8.59	88	126897	505.2745 ug/L	98
56)	Bromodiclrma	8.74	83	155022	10.3226 ug/L	94
57)	2Nitropropane	8.99	43	631375	101.2041 ug/L	100
58)	2CLEVE	9.13	63	186294	41.2334 ug/L	98
59)	c13dicloproe	9.32	75	192550	10.0725 ug/L	96
60)	4Meth2Pentan	9.52	43	2146609	105.9570 ug/L	99
62)	Toluene	9.77	92	301889	10.1779 ug/L	100
63)	t13Dicloprop	10.03	75	169303	9.9144 ug/L	94
64)	ethylmethacrylate	10.19	69	388605	20.5280 ug/L	99
65)	112Triclotha	10.27	83	90880	9.3725 ug/L	92
66)	Tetrachlorte	10.52	166	131966	10.5452 ug/L	98
67)	13Diclorpropa	10.49	76	213203	10.6351 ug/L	97
69)	2Hexanone	10.61	43	1812930	102.9587 ug/L	100
70)	Clorodibrmta	10.79	129	118558	9.2300 ug/L	97
71)	12Dibrometha	10.95	107	117718	9.7306 ug/L	100
72)	Chlorobenzen	11.64	112	318677	9.8527 ug/L	98
73)	1Clhexane	11.62	91	174100	9.7599 ug/L	96
74)	1112Tetclota	11.74	131	103971	9.5019 ug/L	95
75)	Ethylbenzene	11.80	91	554245	10.4749 ug/L	96
76)	m p-Xylene	11.96	106	432542	20.2887 ug/L	93
77)	o-Xylene	12.51	106	210617	9.8756 ug/L	99
78)	Styrene	12.52	104	336488	10.2797 ug/L	98
79)	Bromoform	12.75	173	83853	9.3463 ug/L	98
80)	Isopropylben	13.03	105	537788	10.5663 ug/L	94
81)	cyclohexanone	13.11	55	185851	184.8870 ug/L	99
84)	Bromobenzene	13.45	156	135837	10.6776 ug/L	98
85)	1122Tetrclta	13.40	83	189252	10.5298 ug/L	95
86)	123Triclproa	13.47	75	227755	9.9080 ug/L	93
87)	14dichloro2butene	13.48	53	46462	9.2954 ug/L	93
88)	n-Propylbenz	13.62	91	622485	11.2550 ug/L	99
89)	2chlorotolue	13.73	91	352663	10.8050 ug/L	100
90)	4chlorotolue	13.89	91	389604	10.3865 ug/L	99
91)	135Trimebenz	13.89	105	406469	10.6001 ug/L	100
92)	tbutylbenzen	14.35	119	377482	10.7179 ug/L	97
93)	124Trimetben	14.41	105	398306	10.7444 ug/L	100
94)	sbutylbenzen	14.67	105	548882	11.0986 ug/L	97
95)	13Diclorbenz	14.80	146	248724	10.6698 ug/L	94
96)	pIsopropylto	14.88	119	436930	10.7460 ug/L	97
97)	14dichlorobe	14.93	146	241738	10.3925 ug/L	96
98)	12dichlorobe	15.47	146	225531	10.3187 ug/L	98
99)	nButylbenzen	15.48	91	406525	11.0140 ug/L	99
100)	12dibromo3cl	16.56	157	49026	9.3022 ug/L	97
101)	135Trichlorobenzene	16.90	180	160626	10.8984 ug/L	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

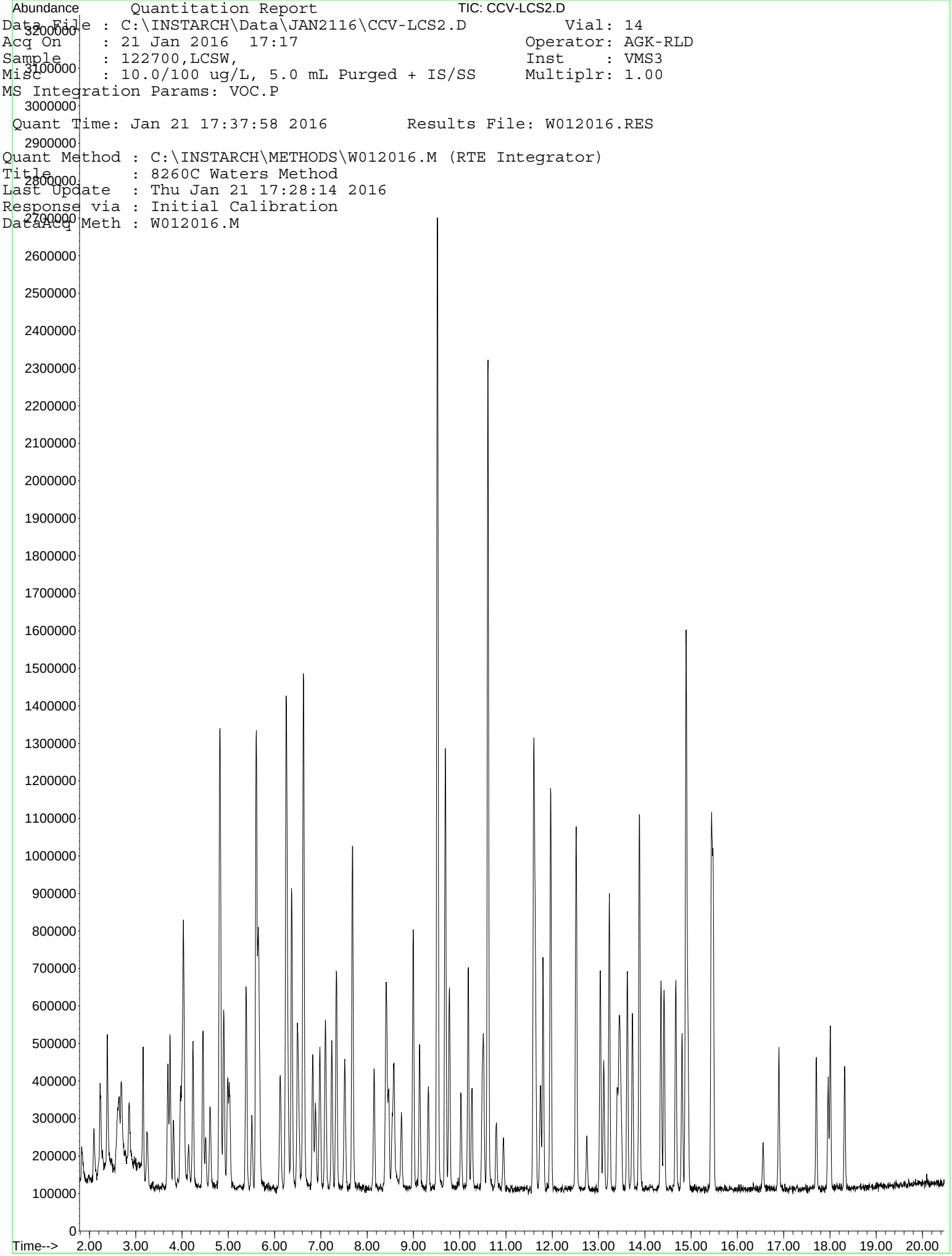
Data File : C:\INSTARCH\Data\JAN2116\CCV-LCS2.D Vial: 14
Acq On : 21 Jan 2016 17:17 Operator: AGK-RLD
Sample : 122700,LCSW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 17:37:58 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:28:14 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102)	124Trichlobe	17.71	180	130848	9.5520	ug/L	97
103)	Hexachlorobu	17.96	225	68888	11.3545	ug/L	94
104)	Naphthalene	18.01	128	419847	9.9175	ug/L	98
105)	123Trichlben	18.32	180	131077	10.2845	ug/L	99

(#) = qualifier out of range (m) = manual integration


Abundance
Quantitation Report
TIC: CCV-LCS2.D
Data File : C:\INSTARCH\Data\JAN2116\CCV-LCS2.D
Vial: 14
Acq On : 21 Jan 2016 17:17
Operator: AGK-RLD
Sample : 122700,LCSW,
Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS
Multiplr: 1.00
MS Integration Params: VOC.P
Quant Time: Jan 21 17:37:58 2016
Results File: W012016.RES
Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:28:14 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M
Time-->

Evaluate Continuing Calibration Report

Data File : C:\INSTARCH\Data\JAN2116\CCVF1.D Vial: 35
Acq On : 22 Jan 2016 3:40 Operator: AGK-RLD
Sample : 122701,CCVF, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Jan 22 04:00:54 2016

Quant Method : C:\INSTARCH\METHODS\W012016.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W012016.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 50% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	1.0000	1.0000	0.00	84	0.00
2	PT	Dichlorodi	0.2651	0.2784	-5.02	81	0.00
3	PT	Chloromethan	0.3929	0.4184	-6.49	88	0.00
4	PT	VinylChlorid	0.5192	0.6004	-15.64	91	0.00
5	PT	Bromomethane	0.1983	0.2621	-32.17	110	0.00
6	PT	Chloroethane	0.3516	0.4157	-18.23	94	0.00
7	T	Dichloroflmethane	0.7001	0.8576	-22.50	115	0.00
8	PT	Trichlorofma	0.3450	0.3328	3.54	83	0.00
9	T	Ethylether	0.2208	0.2175	1.49	84	0.00
10	T	dichlorotfluoroethan	0.2676	0.2652	0.90	75	0.00
11	T	propyleneoxide	0.0561	0.0542	3.39	64	0.00
12	T	Acrolein	0.0838	0.0832	0.72	72	0.00
13	PT	11dichlorthe	0.2308	0.2302	0.26	84	0.00
14	PT	Trichlorotfluoroeth	0.2101	0.2126	-1.19	81	0.00
15	PT	Acetone	0.1661	0.1491	10.23	61	0.00
16	T	Iodomethane	0.1634	0.1559	4.59	78	0.00
17	PT	Carbon Dislf	0.5901	0.5982	-1.37	80	0.00
18	T	allylchloride	0.3064	0.2959	3.43	76	0.00
19	PT	methylacetate	0.0825	0.1020	-23.64	93	0.00
20	PT	Methylchlorid	0.2533	0.2453	3.16	83	0.00
21	T	tbutylalcohol	0.0713	0.0806	-13.04	77	0.00
22	T	Acrylonitrile	0.1589	0.1608	-1.20	77	0.00
23	PT	t12dichlorte	0.2506	0.2426	3.19	82	0.00
24	PT	MtBE	0.7096	0.7010	1.21	83	0.00
25	T	Hexane	0.3167	0.2919	7.83	74	0.00
26	PT	11dichlorota	0.4122	0.3995	3.08	76	0.00
27	T	Vinylacetate	0.4449	0.4988	-12.12	94	0.00
28	T	chloroprene	0.3641	0.3540	2.77	80	0.00
29	T	Diisopether	0.7512	0.7144	4.90	78	0.01
30	T	ETBE	0.6983	0.6595	5.56	81	0.00
31	T	22dichloropr	0.3812	0.3071	19.44	71	0.00
32	PT	c12dichlorte	0.2734	0.2635	3.62	78	0.00
33	PT	2Butanone	0.0742	0.0759#	-2.29	77	0.00
34	T	propionitrile	0.0747	0.0785	-5.09	79	0.00
35	T	Ethylacetate	0.0197	0.0209#	-6.09	89	0.01
36	T	methacrylonitrile	0.1688	0.1781	-5.51	85	0.00
37	T	Bromochlorma	0.1153	0.1112	3.56	78	0.00
38	T	Tetrahydofur	0.1734	0.1850	-6.69	80	0.00
39	PT	Chloroform	0.4037	0.3841	4.86	81	0.00
40	PT	111trichlota	0.3569	0.3635	-1.85	85	0.00
41	S	SURRDibrflma	0.2519	0.2457	2.46	82	0.00
42	PT	Cyclohexane	0.4323	0.4402	-1.83	81	0.00
43	PT	Carbtetraclo	0.3061	0.3048	0.42	85	0.00
44	T	11dicloprope	0.1207	0.1169	3.15	82	0.00
45	S	SURR12DCAd4	0.0721	0.0699	3.05	80	0.00
46	PT	Benzene	0.9514	0.9490	0.25	81	0.00
47	PT	12dichlorota	0.2805	0.3022	-7.74	84	0.00
48	T	TAME	0.7156	0.7082	1.03	79	0.00

49	PT	trichloroete	0.2372	0.2354	0.76	77	0.00
50	PT	methylcyclohexane	0.4161	0.4198	-0.89	78	0.00
51	PT	12dicloropra	0.2597	0.2472	4.81	81	0.00
52	T	23Dicl1propene	0.3489	0.3282	5.93	77	0.00
53	T	Dibromometha	0.1493	0.1535	-2.81	82	0.00
54	T	methylmethacrylate	0.2546	0.2563	-0.67	80	0.00
55	T	14dioxane	0.0051	0.0054#	-5.88	79	0.00
56	PT	Bromodiclrma	0.3080	0.3075	0.16	86	0.00
57	T	2Nitropropane	0.1280	0.1333	-4.14	83	0.00
58	T	2CLEVE	0.0927	0.1106	-19.31	98	0.00
59	PT	c13dicloproe	0.3921	0.3610	7.93	79	0.00
60	PT	4Meth2Pentan	0.4135	0.4303	-4.06	80	0.00
61	S	SURRd8Tolule	1.0160	1.0072	0.87	83	0.00
62	PT	Toluene	0.6083	0.6094	-0.18	84	0.00
63	PT	t13Dicloprop	0.3502	0.3161	9.74	77	0.00
64	T	ethylmethacrylate	0.3883	0.3835	1.24	80	0.00
65	PT	112Triclotha	0.1989	0.2029	-2.01	84	0.00
66	PT	Tetrachlorte	0.2567	0.2542	0.97	83	0.00
67	T	13Diclorpropa	0.4112	0.3960	3.70	81	0.00
68	I	d5-CHLOROBENZENE**ISTD**	1.0000	1.0000	0.00	81	0.00
69	PT	2Hexanone	0.4646	0.4878	-4.99	78	0.00
70	PT	Clorodibrmta	0.3473	0.3126	9.99	78	0.00
71	PT	12Dibrometha	0.3271	0.3042	7.00	82	0.00
72	PT	Chlorobenzen	0.8746	0.8308	5.01	79	0.00
73	T	1Clhexane	0.4823	0.4465	7.42	76	0.00
74	T	1112Tetclota	0.2959	0.2706	8.55	77	0.00
75	PT	Ethylbenzene	1.4307	1.4631	-2.26	82	0.00
76	PT	m p-Xylene	0.5765	0.5736	0.50	78	0.00
77	PT	o-Xylene	0.5767	0.5618	2.58	83	0.00
78	PT	Styrene	0.8851	0.8565	3.23	79	0.00
79	PT	Bromoform	0.2426	0.2134	12.04	69	0.00
80	PT	Isopropylben	1.3762	1.4301	-3.92	81	0.00
81	T	cyclohexanone	0.0272	0.0268#	1.47	72	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	1.0000	1.0000	0.00	77	0.00
83	S	SURR4BrFBenz	0.8041	0.8133	-1.14	75	0.00
84	T	Bromobenzene	0.6651	0.6864	-3.20	76	0.00
85	PT	1122Tetrclta	0.9397	0.9902	-5.37	82	0.00
86	T	123Triclproa	1.2019	1.2576	-4.63	76	0.00
87	T	14dichloro2butene	0.2613	0.2356	9.84	77	0.00
88	T	n-Propylbenz	2.8917	3.2324	-11.78	81	0.00
89	T	2chlorotolue	1.7065	1.8208	-6.70	82	0.00
90	T	4chlorotolue	1.9612	2.0363	-3.83	79	0.00
91	T	135Trimebenz	2.0049	2.0952	-4.50	78	0.00
92	T	tbutylbenzen	1.8414	1.9674	-6.84	81	0.00
93	T	124Trimetben	1.9382	2.1021	-8.46	78	0.00
94	T	sbutylbenzen	2.5857	2.8268	-9.32	81	0.00
95	PT	13Diclorbenz	1.2188	1.2448	-2.13	80	0.00
96	T	pIsopropylto	2.1259	2.2975	-8.07	79	0.00
97	PT	14dichlorobe	1.2162	1.2170	-0.07	79	0.00
98	PT	12dichlorobe	1.1428	1.1653	-1.97	76	0.00
99	T	nButylbenzen	1.9298	2.0371	-5.56	79	0.00
100	PT	12dibromo3cl	0.2756	0.2513	8.82	68	0.00
101	T	135Trichlorobenzene	0.7706	0.7750	-0.57	77	0.00
102	PT	124Trichlobe	0.7162	0.7306	-2.01	83	0.00
103	T	Hexachlorobu	0.3172	0.3331	-5.01	77	0.00
104	T	Naphthalene	2.2134	2.3673	-6.95	80	0.00
105	T	123Trichlben	0.6664	0.6725	-0.92	79	0.00

(#) = Out of Range SPCC's out = 1 CCC's out = 0

W012016.M Fri Jan 22 10:05:34 2016

Evaluate Continuing Calibration Report

Data File : C:\INSTARCH\Data\JAN2116\CCVF1.D Vial: 35
Acq On : 22 Jan 2016 3:40 Operator: AGK-RLD
Sample : 122701,CCVF, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Jan 22 04:00:54 2016

Quant Method : C:\INSTARCH\METHODS\W012016.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W012016.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 50% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	20.0000	20.0000	0.00	84	0.00
2	PT	Dichlorodi	10.0000	10.5017	-5.02	81	0.00
3	PT	Chloromethan	10.0000	10.6489	-6.49	88	0.00
4	PT	VinylChlorid	10.0000	11.5641	-15.64	91	0.00
5	PT	Bromomethane	10.0000	13.2169	-32.17	110	0.00
6	PT	Chloroethane	10.0000	11.8227	-18.23	94	0.00
7	T	Dichloroflmethane	10.0000	12.2490	-22.49	115	0.00
8	PT	Trichlorofma	10.0000	9.6488	3.51	83	0.00
9	T	Ethylether	10.0000	9.8511	1.49	84	0.00
10	T	dichlorotfluoroethan	10.0000	9.9075	0.92	75	0.00
11	T	propyleneoxide	100.0000	93.8489	6.15	64	0.00
12	T	Acrolein	50.0000	49.5945	0.81	72	0.00
13	PT	11dichlorthe	10.0000	9.9739	0.26	84	0.00
14	PT	Trichlorotfluoroeth	20.0000	20.2350	-1.17	81	0.00
15	PT	Acetone	100.0000	92.2736	7.73	61	0.00
16	T	Iodomethane	20.0000	17.7101	11.45	78	0.00
17	PT	Carbon Dislf	20.0000	20.2712	-1.36	80	0.00
18	T	allylchloride	20.0000	19.3144	3.43	76	0.00
19	PT	methylacetate	10.0000	11.7661	-17.66	93	0.00
20	PT	Methylchlorid	10.0000	9.6860	3.14	83	0.00
21	T	tbutylalcohol	500.0000	543.5290	-8.71	77	0.00
22	T	Acrylonitrile	50.0000	50.5943	-1.19	77	0.00
23	PT	t12dichlorte	10.0000	9.6802	3.20	82	0.00
24	PT	MtBE	10.0000	9.8783	1.22	83	0.00
25	T	Hexane	20.0000	18.4350	7.83	74	0.00
26	PT	11dichlorota	10.0000	9.6910	3.09	76	0.00
27	T	Vinylacetate	100.0000	111.0643	-11.06	94	0.00
28	T	chloroprene	20.0000	19.4453	2.77	80	0.00
29	T	Diisopether	10.0000	9.5099	4.90	78	0.01
30	T	ETBE	10.0000	9.4436	5.56	81	0.00
31	T	22dichloropr	10.0000	8.0567	19.43	71	0.00
32	PT	c12dichlorte	10.0000	9.6380	3.62	78	0.00
33	PT	2Butanone	100.0000	102.2911	-2.29	77	0.00
34	T	propionitrile	100.0000	105.1298	-5.13	79	0.00
35	T	Ethylacetate	50.0000	53.0132	-6.03	89	0.01
36	T	methacrylonitrile	20.0000	21.0993	-5.50	85	0.00
37	T	Bromochlorma	10.0000	9.6439	3.56	78	0.00
38	T	Tetrahydofur	100.0000	105.2382	-5.24	80	0.00
39	PT	Chloroform	10.0000	9.5126	4.87	81	0.00
40	PT	111trichlota	10.0000	10.1841	-1.84	85	0.00
41	S	SURRDibrflma	20.0000	19.5092	2.45	82	0.00
42	PT	Cyclohexane	10.0000	10.1811	-1.81	81	0.00
43	PT	Carbtetraclo	10.0000	9.9588	0.41	85	0.00
44	T	11dicloprope	10.0000	9.6853	3.15	82	0.00
45	S	SURR12DCAd4	20.0000	19.3943	3.03	80	0.00
46	PT	Benzene	10.0000	9.9743	0.26	81	0.00
47	PT	12dichlorota	10.0000	10.7733	-7.73	84	0.00
48	T	TAME	10.0000	9.8954	1.05	79	0.00

49	PT	trichloroete	10.0000	9.9237	0.76	77	0.00
50	PT	methylcyclohexane	10.0000	10.0897	-0.90	78	0.00
51	PT	12dicloropra	10.0000	9.5198	4.80	81	0.00
52	T	23Dicl1propene	10.0000	9.4066	5.93	77	0.00
53	T	Dibromometha	10.0000	10.2812	-2.81	82	0.00
54	T	methylmethacrylate	10.0000	10.0664	-0.66	80	0.00
55	T	14dioxane	500.0000	521.5985	-4.32	79	0.00
56	PT	Bromodiclrma	10.0000	9.9832	0.17	86	0.00
57	T	2Nitropropane	100.0000	104.2022	-4.20	83	0.00
58	T	2CLEVE	50.0000	59.6891	-19.38	98	0.00
59	PT	c13dicloproe	10.0000	9.2062	7.94	79	0.00
60	PT	4Meth2Pentan	100.0000	103.1560	-3.16	80	0.00
61	S	SURRd8Tolule	20.0000	19.8268	0.87	83	0.00
62	PT	Toluene	10.0000	10.0168	-0.17	84	0.00
63	PT	t13Dicloprop	10.0000	9.0243	9.76	77	0.00
64	T	ethylmethacrylate	20.0000	19.7524	1.24	80	0.00
65	PT	112Triclotha	10.0000	10.2038	-2.04	84	0.00
66	PT	Tetrachlorte	10.0000	9.9035	0.97	83	0.00
67	T	13Diclorpropa	10.0000	9.6314	3.69	81	0.00
68	I	d5-CHLOROBENZENE**ISTD**	20.0000	20.0000	0.00	81	0.00
69	PT	2Hexanone	100.0000	102.3913	-2.39	78	0.00
70	PT	Clorodibrmta	10.0000	9.0002	10.00	78	0.00
71	PT	12Dibrometha	10.0000	9.2987	7.01	82	0.00
72	PT	Chlorobenzen	10.0000	9.4996	5.00	79	0.00
73	T	1Clhexane	10.0000	9.2574	7.43	76	0.00
74	T	1112Tetclota	10.0000	9.1472	8.53	77	0.00
75	PT	Ethylbenzene	10.0000	10.2263	-2.26	82	0.00
76	PT	m p-Xylene	20.0000	19.8993	0.50	78	0.00
77	PT	o-Xylene	10.0000	9.7420	2.58	83	0.00
78	PT	Styrene	10.0000	9.6765	3.23	79	0.00
79	PT	Bromoform	10.0000	8.7946	12.05	69	0.00
80	PT	Isopropylben	10.0000	10.3915	-3.92	81	0.00
81	T	cyclohexanone	200.0000	197.4425	1.28	72	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	20.0000	20.0000	0.00	77	0.00
83	S	SURR4BrFBenz	20.0000	20.2286	-1.14	75	0.00
84	T	Bromobenzene	10.0000	10.3188	-3.19	76	0.00
85	PT	1122Tetrclta	10.0000	10.5379	-5.38	82	0.00
86	T	123Triclproa	10.0000	10.4640	-4.64	76	0.00
87	T	14dichloro2butene	10.0000	9.0169	9.83	77	0.00
88	T	n-Propylbenz	10.0000	11.1781	-11.78	81	0.00
89	T	2chlorotolue	10.0000	10.6699	-6.70	82	0.00
90	T	4chlorotolue	10.0000	10.3829	-3.83	79	0.00
91	T	135Trimebenz	10.0000	10.4505	-4.50	78	0.00
92	T	tbutylbenzen	10.0000	10.6842	-6.84	81	0.00
93	T	124Trimetben	10.0000	10.8453	-8.45	78	0.00
94	T	sbutylbenzen	10.0000	10.9322	-9.32	81	0.00
95	PT	13Diclorbenz	10.0000	10.2137	-2.14	80	0.00
96	T	pIsopropylto	10.0000	10.8073	-8.07	79	0.00
97	PT	14dichlorobe	10.0000	10.0069	-0.07	79	0.00
98	PT	12dichlorobe	10.0000	10.1973	-1.97	76	0.00
99	T	nButylbenzen	10.0000	10.5557	-5.56	79	0.00
100	PT	12dibromo3cl	10.0000	9.1190	8.81	68	0.00
101	T	135Trichlorobenzene	10.0000	10.0570	-0.57	77	0.00
102	PT	124Trichlobe	10.0000	10.2009	-2.01	83	0.00
103	T	Hexachlorobu	10.0000	10.5006	-5.01	77	0.00
104	T	Naphthalene	10.0000	10.6954	-6.95	80	0.00
105	T	123Trichlben	10.0000	10.0917	-0.92	79	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

W012016.M Fri Jan 22 10:05:08 2016

Quantitation Report

Data File : C:\INSTARCH\Data\JAN2116\CCVF1.D Vial: 35
Acq On : 22 Jan 2016 3:40 Operator: AGK-RLD
Sample : 122701,CCVF, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 22 04:00:54 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.69	96	933329	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.60	117	694186	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.90	152	352673	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.83	113	229342	19.509	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 98 %			
45) SURR12DCAd4	7.24	102	65231	19.394	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 97 %			
61) SURRd8Tolule	9.69	98	940092	19.827	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 99 %			
83) SURR4BrFBenz	13.23	95	286829	20.229	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 101 %			
Target Compounds						Qvalue
2) Dichlorodi	1.83	85	129904	10.5017	ug/L	91
3) Chloromethan	2.11	50	195233	10.6489	ug/L	93
4) VinylChlorid	2.23	62	280200	11.5641	ug/L	95
5) Bromomethane	2.69	94	122326	13.2169	ug/L	96
6) Chloroethane	2.86	64	193980	11.8227	ug/L	99
7) Dichloroflmethane	3.16	67	400207	12.2490	ug/L	98
8) Trichlorofma	3.25	101	155323	9.6488	ug/L	97
9) Ethylether	3.70	59	101503	9.8511	ug/L	92
10) dichlorotfluoroethan	3.70	67	123738	9.9075	ug/L	96
11) propyleneoxide	4.04	58	253085	93.8489	ug/L	95
12) Acrolein	3.82	56	194057	49.5945	ug/L	95
13) 11dichlorthe	3.97	96	107414	9.9739	ug/L	97
14) Trichlorotfluoroeth	4.01	101	198439	20.2350	ug/L	99
15) Acetone	4.04	43	695865	92.2736	ug/L	97
16) Iodomethane	4.15	142	145500	17.7101	ug/L	99
17) Carbon Dislf	4.24	76	558272	20.2712	ug/L	100
18) allylchloride	4.46	41	276140	19.3144	ug/L	97
19) methylacetate	4.51	74	47607	11.7661	ug/L	93
20) Methylchlorid	4.60	84	114483	9.6860	ug/L	95
21) tbutylalcohol	4.82	59	1879655	543.5290	ug/L	99
22) Acrylonitrile	4.91	53	375238	50.5943	ug/L	97
23) t12dichlorte	4.99	96	113221	9.6802	ug/L	96
24) MtBE	5.03	73	327133	9.8783	ug/L	96
25) Hexane	5.39	57	272431	18.4350	ug/L	98
26) 11dichlorota	5.51	63	186427	9.6910	ug/L	92
27) Vinylacetate	5.61	43	2327723	111.0643	ug/L	100
28) chloroprene	5.64	53	330409	19.4453	ug/L	98
29) Diisopether	5.68	45	333386	9.5099	ug/L	100
30) ETBE	6.12	59	307752	9.4436	ug/L	100
31) 22dichloropr	6.25	77	143329	8.0567	ug/L	94
32) c12dichlorte	6.24	96	122981	9.6380	ug/L	95
33) 2Butanone	6.26	72	354223	102.2911	ug/L	95
34) propionitrile	6.29	54	366399	105.1298	ug/L	99
35) Ethylacetate	6.38	88	48842	53.0132	ug/L #	89
36) methacrylonitrile	6.49	67	166211	21.0993	ug/L	91
37) Bromochlorma	6.53	128	51892	9.6439	ug/L	94
38) Tetrahydofur	6.62	42	863461	105.2382	ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\JAN2116\CCVF1.D Vial: 35
Acq On : 22 Jan 2016 3:40 Operator: AGK-RLD
Sample : 122701,CCVF, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 22 04:00:54 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.63	83	179229	9.5126	ug/L		96
40)	111trichlota	6.88	97	169616	10.1841	ug/L		96
42)	Cyclohexane	6.99	56	205411	10.1811	ug/L		98
43)	Carbtetraclo	7.11	119	142246	9.9588	ug/L		98
44)	11dicloprope	7.10	110	54550	9.6853	ug/L		92
46)	Benzene	7.34	78	442860	9.9743	ug/L		97
47)	12dichlorota	7.33	62	141015	10.7733	ug/L		98
48)	TAME	7.52	73	330471	9.8954	ug/L		98
49)	trichloroete	8.15	95	109833	9.9237	ug/L		98
50)	methylcyclohexane	8.42	83	195914	10.0897	ug/L		97
51)	12dicloropra	8.40	63	115361	9.5198	ug/L	#	93
52)	23Dicl1propene	8.47	75	153164	9.4066	ug/L		92
53)	Dibromometha	8.54	93	71654	10.2812	ug/L		98
54)	methylmethacrylate	8.57	69	119606	10.0664	ug/L		98
55)	14dioxane	8.60	88	125079	521.5985	ug/L		96
56)	Bromodiclrma	8.74	83	143496	9.9832	ug/L		97
57)	2Nitropropane	8.99	43	622207	104.2022	ug/L		98
58)	2CLEVE	9.13	63	258115	59.6891	ug/L		98
59)	c13dicloproe	9.33	75	168443	9.2062	ug/L		96
60)	4Meth2Pentan	9.52	43	2007942	103.1560	ug/L		100
62)	Toluene	9.78	92	284372	10.0168	ug/L		95
63)	t13Dicloprop	10.03	75	147496	9.0243	ug/L		94
64)	ethylmethacrylate	10.19	69	357892	19.7524	ug/L		97
65)	112Triclotha	10.26	83	94698	10.2038	ug/L		96
66)	Tetrachlorte	10.52	166	118622	9.9035	ug/L		96
67)	13Diclorpropa	10.49	76	184804	9.6314	ug/L		99
69)	2Hexanone	10.61	43	1693282	102.3913	ug/L		99
70)	Clorodibrmta	10.79	129	108498	9.0002	ug/L		97
71)	12Dibrometha	10.95	107	105577	9.2987	ug/L		98
72)	Chlorobenzen	11.63	112	288366	9.4996	ug/L		97
73)	1Clhexane	11.62	91	154983	9.2574	ug/L		96
74)	1112Tetclota	11.74	131	93936	9.1472	ug/L		95
75)	Ethylbenzene	11.80	91	507824	10.2263	ug/L		97
76)	m p-Xylene	11.96	106	398157	19.8993	ug/L		91
77)	o-Xylene	12.51	106	194994	9.7420	ug/L		93
78)	Styrene	12.52	104	297269	9.6765	ug/L		98
79)	Bromoform	12.75	173	74053	8.7946	ug/L		96
80)	Isopropylben	13.04	105	496376	10.3915	ug/L		98
81)	cyclohexanone	13.11	55	186270	197.4425	ug/L		97
84)	Bromobenzene	13.44	156	121029	10.3188	ug/L		93
85)	1122Tetrclta	13.40	83	174617	10.5379	ug/L		98
86)	123Triclproa	13.47	75	221765	10.4640	ug/L		98
87)	14dichloro2butene	13.49	53	41553	9.0169	ug/L		92
88)	n-Propylbenz	13.62	91	569988	11.1781	ug/L		99
89)	2chlorotolue	13.73	91	321078	10.6699	ug/L		98
90)	4chlorotolue	13.89	91	359076	10.3829	ug/L		99
91)	135Trimebenz	13.88	105	369460	10.4505	ug/L		98
92)	tbutylbenzen	14.35	119	346929	10.6842	ug/L		98
93)	124Trimetben	14.41	105	370671	10.8453	ug/L		98
94)	sbutylbenzen	14.66	105	498460	10.9322	ug/L		100
95)	13Diclorbenz	14.80	146	219511	10.2137	ug/L		94
96)	pIsopropylto	14.88	119	405134	10.8073	ug/L		99
97)	14dichlorobe	14.93	146	214604	10.0069	ug/L		96
98)	12dichlorobe	15.47	146	205486	10.1973	ug/L		93
99)	nButylbenzen	15.48	91	359207	10.5557	ug/L		97
100)	12dibromo3cl	16.56	157	44310	9.1190	ug/L		100
101)	135Trichlorobenzene	16.90	180	136659	10.0570	ug/L		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\JAN2116\CCVF1.D Vial: 35
Acq On : 22 Jan 2016 3:40 Operator: AGK-RLD
Sample : 122701,CCVF, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 22 04:00:54 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.71	180	128833	10.2009	ug/L	98
103) Hexachlorobu	17.96	225	58736	10.5006	ug/L	94
104) Naphthalene	18.01	128	417447	10.6954	ug/L	98
105) 123Trichlben	18.32	180	118583	10.0917	ug/L	95

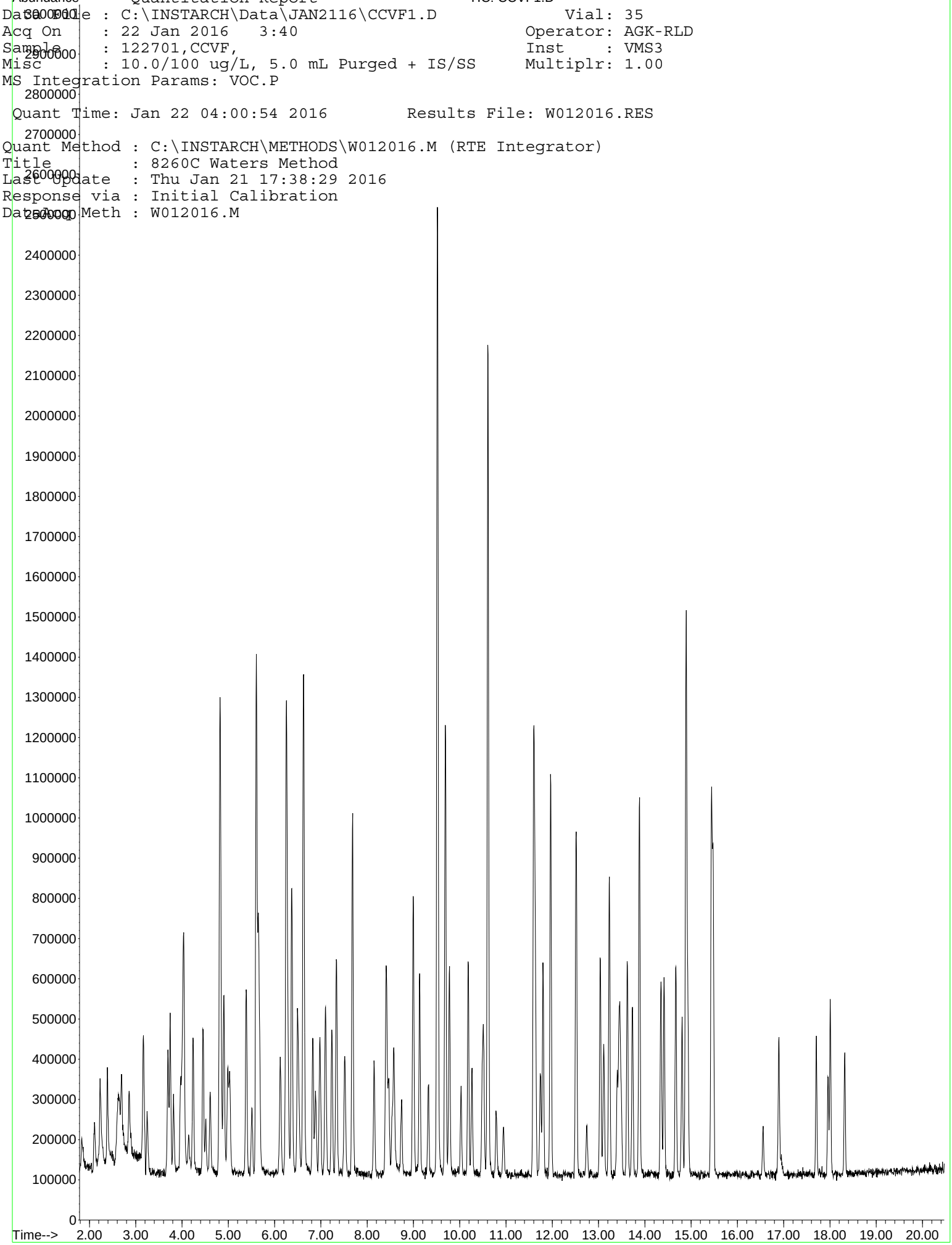
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: CCVF1.D

Data File : C:\INSTARCH\Data\JAN2116\CCVF1.D Vial: 35
Acq On : 22 Jan 2016 3:40 Operator: AGK-RLD
Sample : 122701,CCVF, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 22 04:00:54 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
Data Acq Meth : W012016.M



BFB

Data File : C:\INSTARCH\Data\JAN2216\BFB1.D Vial: 1
Acq On : 22 Jan 2016 9:07 Operator: AGK-RLD
Sample : 122833,BFB, Inst : VMS3
Misc : 25 ng Inj. Multiplr: 1.00
Integration File: VOC.P

Method : C:\INSTARCH\METHODS\W012016.M
Title : 8260C Waters Method

Spectrum Information: Average of 4.657 to 4.669 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	21.1	10133	PASS
75	95	30	60	51.0	24528	PASS
95	95	100	100	100.0	48136	PASS
96	95	5	9	5.1	2448	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	95.4	45925	PASS
175	174	5	9	6.6	3052	PASS
176	174	95	101	95.8	44002	PASS
177	176	5	9	6.5	2847	PASS

W012016.M Tue Jan 26 10:53:59 2016

Evaluate Continuing Calibration Report

Data File : C:\INSTARCH\Data\JAN2216\CCV-LCS1.D Vial: 2
Acq On : 22 Jan 2016 10:40 Operator: AGK-RLD
Sample : 122833,LCSW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Jan 22 11:01:02 2016

Quant Method : C:\INSTARCH\METHODS\W012016.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W012016.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	1.0000	1.0000	0.00	82	0.00
2	PT	Dichlorodi	0.2651	0.2597	2.04	74	0.00
3	PT	Chloromethan	0.3929	0.3929	0.00	81	0.00
4	PT	VinylChlorid	0.5192	0.5693	-9.65	84	0.00
5	PT	Bromomethane	0.1983	0.2205	-11.20	91	0.00
6	PT	Chloroethane	0.3516	0.4015	-14.19	89	0.00
7	T	Dichloroflmethane	0.7001	0.8608	-22.95#	114	0.00
8	PT	Trichlorofma	0.3450	0.3058	11.36	75	0.00
9	T	Ethylether	0.2208	0.2094	5.16	79	0.00
10	T	dichlorotfluoroethan	0.2676	0.2421	9.53	68	-0.01
11	T	propyleneoxide	0.0561	0.0604	-7.66	70	0.00
12	T	Acrolein	0.0838	0.0843	-0.60	72	0.00
13	PT	11dichlorthe	0.2308	0.2110	8.58	76	0.00
14	PT	Trichlorotfluoroeth	0.2101	0.1948	7.28	73	0.00
15	PT	Acetone	0.1661	0.1768	-6.44	71	0.00
16	T	Iodomethane	0.1634	0.1202	26.44#	59	-0.01
17	PT	Carbon Dislf	0.5901	0.5671	3.90	74	0.00
18	T	allylchloride	0.3064	0.2964	3.26	75	0.00
19	PT	methylacetate	0.0825	0.1109	-34.42#	99	0.00
20	PT	Methylchlorid	0.2533	0.2484	1.93	82	0.00
21	T	tbutylalcohol	0.0713	0.0820	-15.01	77	0.00
22	T	Acrylonitrile	0.1589	0.1691	-6.42	80	0.00
23	PT	t12dichlorte	0.2506	0.2295	8.42	77	0.00
24	PT	MtBE	0.7096	0.7247	-2.13	84	0.00
25	T	Hexane	0.3167	0.3141	0.82	79	0.00
26	PT	11dichlorota	0.4122	0.3965	3.81	74	0.00
27	T	Vinylacetate	0.4449	0.4965	-11.60	92	0.00
28	T	chloroprene	0.3641	0.3376	7.28	74	0.00
29	T	Diisopether	0.7512	0.7318	2.58	79	0.00
30	T	ETBE	0.6983	0.6467	7.39	78	0.00
31	T	22dichloropr	0.3812	0.3603	5.48	82	0.00
32	PT	c12dichlorte	0.2734	0.2508	8.27	73	0.00
33	PT	2Butanone	0.0742	0.0783#	-5.53	78	0.00
34	T	propionitrile	0.0747	0.0772	-3.35	76	0.00
35	T	Ethylacetate	0.0197	0.0204#	-3.55	85	0.00
36	T	methacrylonitrile	0.1688	0.1834	-8.65	86	0.00
37	T	Bromochlorma	0.1153	0.1081	6.24	75	0.01
38	T	Tetrahydofur	0.1734	0.1865	-7.55	79	0.00
39	PT	Chloroform	0.4037	0.3820	5.38	79	-0.01
40	PT	111trichlota	0.3569	0.3324	6.86	76	0.00
41	S	SURRDibrflma	0.2519	0.2501	0.71	82	0.00
42	PT	Cyclohexane	0.4323	0.3890	10.02	71	0.00
43	PT	Carbtetraclo	0.3061	0.2671	12.74	73	0.00
44	T	11dicloprope	0.1207	0.1107	8.29	76	0.00
45	S	SURR12DCAd4	0.0721	0.0736	-2.08	83	0.00
46	PT	Benzene	0.9514	0.9496	0.19	79	0.00
47	PT	12dichlorota	0.2805	0.3067	-9.34	84	0.00
48	T	TAME	0.7156	0.7039	1.63	77	0.00

49	PT	trichloroete	0.2372	0.2249	5.19	72	0.00
50	PT	methylcyclohexane	0.4161	0.3997	3.94	73	0.00
51	PT	12dicloropra	0.2597	0.2558	1.50	82	0.00
52	T	23Dicl1propene	0.3489	0.3258	6.62	75	0.00
53	T	Dibromometha	0.1493	0.1447	3.08	76	0.00
54	T	methylmethacrylate	0.2546	0.2750	-8.01	84	0.00
55	T	14dioxane	0.0051	0.0055#	-7.84	79	0.00
56	PT	Bromodiclrma	0.3080	0.2823	8.34	78	0.00
57	T	2Nitropropane	0.1280	0.1365	-6.64	83	0.00
58	T	2CLEVE	0.0927	0.0966	-4.21	84	0.00
59	PT	c13dicloproe	0.3921	0.3683	6.07	79	0.00
60	PT	4Meth2Pentan	0.4135	0.4453	-7.69	81	0.00
61	S	SURRd8Tolule	1.0160	1.0333	-1.70	83	0.00
62	PT	Toluene	0.6083	0.5808	4.52	79	0.00
63	PT	t13Dicloprop	0.3502	0.3423	2.26	82	0.00
64	T	ethylmethacrylate	0.3883	0.3904	-0.54	80	0.00
65	PT	112Triclotha	0.1989	0.1898	4.58	77	0.00
66	PT	Tetrachlorte	0.2567	0.2366	7.83	76	0.00
67	T	13Diclorpropa	0.4112	0.3879	5.67	78	0.00
68	I	d5-CHLOROBENZENE**ISTD**	1.0000	1.0000	0.00	79	0.00
69	PT	2Hexanone	0.4646	0.5108	-9.94	80	0.00
70	PT	Clorodibrmta	0.3473	0.3052	12.12	74	0.00
71	PT	12Dibrometha	0.3271	0.3066	6.27	80	0.00
72	PT	Chlorobenzen	0.8746	0.8140	6.93	76	0.00
73	T	1Clhexane	0.4823	0.4426	8.23	74	0.00
74	T	1112Tetclota	0.2959	0.2934	0.84	81	0.00
75	PT	Ethylbenzene	1.4307	1.4052	1.78	77	0.00
76	PT	m p-Xylene	0.5765	0.5541	3.89	74	0.00
77	PT	o-Xylene	0.5767	0.5259	8.81	76	-0.01
78	PT	Styrene	0.8851	0.8552	3.38	77	0.00
79	PT	Bromoform	0.2426	0.2222	8.41	70	0.00
80	PT	Isopropylben	1.3762	1.3563	1.45	75	0.00
81	T	cyclohexanone	0.0272	0.0290#	-6.62	76	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	1.0000	1.0000	0.00	80	0.00
83	S	SURR4BrFBenz	0.8041	0.8199	-1.96	78	0.00
84	T	Bromobenzene	0.6651	0.6607	0.66	75	0.00
85	PT	1122Tetrclta	0.9397	0.9341	0.60	80	0.00
86	T	123Triclproa	1.2019	1.1837	1.51	74	0.00
87	T	14dichloro2butene	0.2613	0.2150	17.72	72	0.01
88	T	n-Propylbenz	2.8917	2.9400	-1.67	76	0.00
89	T	2chlorotolue	1.7065	1.6010	6.18	74	0.00
90	T	4chlorotolue	1.9612	1.8894	3.66	76	0.00
91	T	135Trimebenz	2.0049	1.9319	3.64	74	0.00
92	T	tbutylbenzen	1.8414	1.7982	2.35	76	0.00
93	T	124Trimetben	1.9382	1.8638	3.84	71	0.00
94	T	sbutylbenzen	2.5857	2.5780	0.30	76	0.00
95	PT	13Diclorbenz	1.2188	1.1276	7.48	75	0.00
96	T	pIsopropylto	2.1259	2.1552	-1.38	77	0.00
97	PT	14dichlorobe	1.2162	1.1587	4.73	78	0.00
98	PT	12dichlorobe	1.1428	1.0705	6.33	72	0.00
99	T	nButylbenzen	1.9298	1.9416	-0.61	77	0.00
100	PT	12dibromo3cl	0.2756	0.2476	10.16	69	0.00
101	T	135Trichlorobenzene	0.7706	0.7367	4.40	76	0.00
102	PT	124Trichlobe	0.7162	0.7016	2.04	82	0.00
103	T	Hexachlorobu	0.3172	0.3145	0.85	74	0.00
104	T	Naphthalene	2.2134	2.2589	-2.06	79	0.00
105	T	123Trichlben	0.6664	0.6058	9.09	73	0.00

(#) = Out of Range SPCC's out = 1 CCC's out = 0

W012016.M Tue Jan 26 10:55:07 2016

Evaluate Continuing Calibration Report

Data File : C:\INSTARCH\Data\JAN2216\CCV-LCS1.D Vial: 2
Acq On : 22 Jan 2016 10:40 Operator: AGK-RLD
Sample : 122833,LCSW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Jan 22 11:01:02 2016

Quant Method : C:\INSTARCH\METHODS\W012016.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W012016.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	20.0000	20.0000	0.00	82	0.00
2	PT	Dichlorodi	10.0000	9.7975	2.03	74	0.00
3	PT	Chloromethan	10.0000	10.0015	-0.02	81	0.00
4	PT	VinylChlorid	10.0000	10.9643	-9.64	84	0.00
5	PT	Bromomethane	10.0000	11.1186	-11.19	91	0.00
6	PT	Chloroethane	10.0000	11.4192	-14.19	89	0.00
7	T	Dichloroflmethane	10.0000	12.2952	-22.95#	114	0.00
8	PT	Trichlorofma	10.0000	8.8637	11.36	75	0.00
9	T	Ethylether	10.0000	9.4861	5.14	79	0.00
10	T	dichlorotfluoroethan	10.0000	9.0457	9.54	68	-0.01
11	T	propyleneoxide	100.0000	105.5627	-5.56	70	0.00
12	T	Acrolein	50.0000	50.2593	-0.52	72	0.00
13	PT	11dichlorthe	10.0000	9.1438	8.56	76	0.00
14	PT	Trichlorotfluoroeth	20.0000	18.5426	7.29	73	0.00
15	PT	Acetone	100.0000	112.6361	-12.64	71	0.00
16	T	Iodomethane	20.0000	14.0671	29.66#	59	-0.01
17	PT	Carbon Dislf	20.0000	19.2200	3.90	74	0.00
18	T	allylchloride	20.0000	19.3493	3.25	75	0.00
19	PT	methylacetate	10.0000	12.8516	-28.52#	99	0.00
20	PT	Methylchlorid	10.0000	9.8086	1.91	82	0.00
21	T	tbutylalcohol	500.0000	555.5039	-11.10	77	0.00
22	T	Acrylonitrile	50.0000	53.2069	-6.41	80	0.00
23	PT	t12dichlorte	10.0000	9.1564	8.44	77	0.00
24	PT	MtBE	10.0000	10.2128	-2.13	84	0.00
25	T	Hexane	20.0000	19.8398	0.80	79	0.00
26	PT	11dichlorota	10.0000	9.6178	3.82	74	0.00
27	T	Vinylacetate	100.0000	110.4845	-10.48	92	0.00
28	T	chloroprene	20.0000	18.5433	7.28	74	0.00
29	T	Diisopether	10.0000	9.7415	2.58	79	0.00
30	T	ETBE	10.0000	9.2611	7.39	78	0.00
31	T	22dichloropr	10.0000	9.4516	5.48	82	0.00
32	PT	c12dichlorte	10.0000	9.1710	8.29	73	0.00
33	PT	2Butanone	100.0000	105.5519	-5.55	78	0.00
34	T	propionitrile	100.0000	103.3613	-3.36	76	0.00
35	T	Ethylacetate	50.0000	51.6191	-3.24	85	0.00
36	T	methacrylonitrile	20.0000	21.7235	-8.62	86	0.00
37	T	Bromochlorma	10.0000	9.3756	6.24	75	0.01
38	T	Tetrahydofur	100.0000	106.1500	-6.15	79	0.00
39	PT	Chloroform	10.0000	9.4608	5.39	79	-0.01
40	PT	111trichlota	10.0000	9.3151	6.85	76	0.00
41	S	SURRDibrflma	20.0000	19.8541	0.73	82	0.00
42	PT	Cyclohexane	10.0000	8.9972	10.03	71	0.00
43	PT	Carbtetraclo	10.0000	8.7266	12.73	73	0.00
44	T	11dicloprope	10.0000	9.1731	8.27	76	0.00
45	S	SURR12DCAd4	20.0000	20.4327	-2.16	83	0.00
46	PT	Benzene	10.0000	9.9802	0.20	79	0.00
47	PT	12dichlorota	10.0000	10.9349	-9.35	84	0.00
48	T	TAME	10.0000	9.8358	1.64	77	0.00

49	PT	trichloroete	10.0000	9.4833	5.17	72	0.00
50	PT	methylcyclohexane	10.0000	9.6070	3.93	73	0.00
51	PT	12dicloropra	10.0000	9.8509	1.49	82	0.00
52	T	23Dicl1propene	10.0000	9.3369	6.63	75	0.00
53	T	Dibromometha	10.0000	9.6860	3.14	76	0.00
54	T	methylmethacrylate	10.0000	10.8021	-8.02	84	0.00
55	T	14dioxane	500.0000	533.0409	-6.61	79	0.00
56	PT	Bromodiclrma	10.0000	9.1657	8.34	78	0.00
57	T	2Nitropropane	100.0000	106.6597	-6.66	83	0.00
58	T	2CLEVE	50.0000	52.1164	-4.23	84	0.00
59	PT	c13dicloproe	10.0000	9.3947	6.05	79	0.00
60	PT	4Meth2Pentan	100.0000	107.3677	-7.37	81	0.00
61	S	SURRd8Tolule	20.0000	20.3404	-1.70	83	0.00
62	PT	Toluene	10.0000	9.5479	4.52	79	0.00
63	PT	t13Dicloprop	10.0000	9.7735	2.26	82	0.00
64	T	ethylmethacrylate	20.0000	20.1087	-0.54	80	0.00
65	PT	112Triclotha	10.0000	9.5451	4.55	77	0.00
66	PT	Tetrachlorte	10.0000	9.2186	7.81	76	0.00
67	T	13Diclorpropa	10.0000	9.4347	5.65	78	0.00
68	I	d5-CHLOROBENZENE**ISTD**	20.0000	20.0000	0.00	79	0.00
69	PT	2Hexanone	100.0000	107.9474	-7.95	80	0.00
70	PT	Clorodibrmta	10.0000	8.7866	12.13	74	0.00
71	PT	12Dibrometha	10.0000	9.3732	6.27	80	0.00
72	PT	Chlorobenzen	10.0000	9.3079	6.92	76	0.00
73	T	1Clhexane	10.0000	9.1763	8.24	74	0.00
74	T	1112Tetclota	10.0000	9.9167	0.83	81	0.00
75	PT	Ethylbenzene	10.0000	9.8217	1.78	77	0.00
76	PT	m p-Xylene	20.0000	19.2234	3.88	74	0.00
77	PT	o-Xylene	10.0000	9.1201	8.80	76	-0.01
78	PT	Styrene	10.0000	9.6625	3.38	77	0.00
79	PT	Bromoform	10.0000	9.1611	8.39	70	0.00
80	PT	Isopropylben	10.0000	9.8551	1.45	75	0.00
81	T	cyclohexanone	200.0000	213.0525	-6.53	76	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	20.0000	20.0000	0.00	80	0.00
83	S	SURR4BrFBenz	20.0000	20.3920	-1.96	78	0.00
84	T	Bromobenzene	10.0000	9.9337	0.66	75	0.00
85	PT	1122Tetrclta	10.0000	9.9399	0.60	80	0.00
86	T	123Triclproa	10.0000	9.8486	1.51	74	0.00
87	T	14dichloro2butene	10.0000	8.2253	17.75	72	0.01
88	T	n-Propylbenz	10.0000	10.1668	-1.67	76	0.00
89	T	2chlorotolue	10.0000	9.3816	6.18	74	0.00
90	T	4chlorotolue	10.0000	9.6336	3.66	76	0.00
91	T	135Trimebenz	10.0000	9.6359	3.64	74	0.00
92	T	tbutylbenzen	10.0000	9.7654	2.35	76	0.00
93	T	124Trimetben	10.0000	9.6161	3.84	71	0.00
94	T	sbutylbenzen	10.0000	9.9701	0.30	76	0.00
95	PT	13Diclorbenz	10.0000	9.2513	7.49	75	0.00
96	T	pIsopropylto	10.0000	10.1380	-1.38	77	0.00
97	PT	14dichlorobe	10.0000	9.5273	4.73	78	0.00
98	PT	12dichlorobe	10.0000	9.3675	6.33	72	0.00
99	T	nButylbenzen	10.0000	10.0611	-0.61	77	0.00
100	PT	12dibromo3cl	10.0000	8.9840	10.16	69	0.00
101	T	135Trichlorobenzene	10.0000	9.5598	4.40	76	0.00
102	PT	124Trichlobe	10.0000	9.7957	2.04	82	0.00
103	T	Hexachlorobu	10.0000	9.9158	0.84	74	0.00
104	T	Naphthalene	10.0000	10.2057	-2.06	79	0.00
105	T	123Trichlben	10.0000	9.0908	9.09	73	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

W012016.M Tue Jan 26 10:55:23 2016

Quantitation Report

Data File : C:\INSTARCH\Data\JAN2216\CCV-LCS1.D Vial: 2
Acq On : 22 Jan 2016 10:40 Operator: AGK-RLD
Sample : 122833,LCSW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 22 11:01:02 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.68	96	915910	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.60	117	679626	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.90	152	363339	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.82	113	229041	19.854	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 99 %			
45) SURR12DCAd4	7.24	102	67441	20.433	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 102 %			
61) SURRd8Tolule	9.69	98	946444	20.340	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 102 %			
83) SURR4BrFBenz	13.23	95	297890	20.392	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 102 %			
Target Compounds						Qvalue
2) Dichlorodi	1.83	85	118931	9.7975	ug/L	100
3) Chloromethan	2.10	50	179942	10.0015	ug/L	95
4) VinylChlorid	2.23	62	260709	10.9643	ug/L	100
5) Bromomethane	2.69	94	100985	11.1186	ug/L	100
6) Chloroethane	2.85	64	183863	11.4192	ug/L	96
7) Dichloroflmethane	3.16	67	394218	12.2952	ug/L	97
8) Trichlorofma	3.25	101	140021	8.8637	ug/L	95
9) Ethylether	3.70	59	95918	9.4861	ug/L	98
10) dichlorotfluoroethan	3.68	67	110866	9.0457	ug/L	94
11) propyleneoxide	4.03	58	276399	105.5627	ug/L	96
12) Acrolein	3.82	56	192988	50.2593	ug/L	87
13) 11dichlorthe	3.96	96	96636	9.1438	ug/L	97
14) Trichlorotfluoroeth	4.01	101	178448	18.5426	ug/L	97
15) Acetone	4.04	43	809852	112.6361	ug/L	99
16) Iodomethane	4.13	142	110050	14.0671	ug/L	96
17) Carbon Dislf	4.23	76	519442	19.2200	ug/L	98
18) allylchloride	4.45	41	271477	19.3493	ug/L	97
19) methylacetate	4.50	74	50801	12.8516	ug/L	92
20) Methylchlorid	4.60	84	113768	9.8086	ug/L	99
21) tbutylalcohol	4.81	59	1878537	555.5039	ug/L	98
22) Acrylonitrile	4.90	53	387250	53.2069	ug/L	99
23) t12dichlorte	4.98	96	105096	9.1564	ug/L	98
24) MtBE	5.02	73	331900	10.2128	ug/L	97
25) Hexane	5.38	57	287719	19.8398	ug/L	99
26) 11dichlorota	5.51	63	181566	9.6178	ug/L	91
27) Vinylacetate	5.60	43	2273717	110.4845	ug/L	99
28) chloroprene	5.64	53	309202	18.5433	ug/L	96
29) Diisopether	5.67	45	335133	9.7415	ug/L	100
30) ETBE	6.12	59	296172	9.2611	ug/L	99
31) 22dichloropr	6.24	77	165006	9.4516	ug/L	98
32) c12dichlorte	6.24	96	114838	9.1710	ug/L	90
33) 2Butanone	6.26	72	358693	105.5519	ug/L	99
34) propionitrile	6.29	54	353512	103.3613	ug/L	97
35) Ethylacetate	6.37	88	46670	51.6191	ug/L #	89
36) methacrylonitrile	6.49	67	167935	21.7235	ug/L	88
37) Bromochlorma	6.54	128	49507	9.3756	ug/L	94
38) Tetrahydofur	6.62	42	853988	106.1500	ug/L	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\JAN2216\CCV-LCS1.D Vial: 2
Acq On : 22 Jan 2016 10:40 Operator: AGK-RLD
Sample : 122833,LCSW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 22 11:01:02 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.63	83	174925	9.4608	ug/L		97
40)	111trichlota	6.88	97	152247	9.3151	ug/L		98
42)	Cyclohexane	6.98	56	178137	8.9972	ug/L		94
43)	Carbtetraclo	7.11	119	122320	8.7266	ug/L		100
44)	11dicloprope	7.09	110	50701	9.1731	ug/L		98
46)	Benzene	7.34	78	434855	9.9802	ug/L		99
47)	12dichlorota	7.33	62	140459	10.9349	ug/L		97
48)	TAME	7.51	73	322350	9.8358	ug/L		97
49)	trichloroete	8.14	95	102999	9.4833	ug/L		94
50)	methylcyclohexane	8.42	83	183060	9.6070	ug/L		95
51)	12dicloropra	8.40	63	117146	9.8509	ug/L	#	88
52)	23Dicl1propene	8.46	75	149192	9.3369	ug/L		96
53)	Dibromometha	8.54	93	66246	9.6860	ug/L		90
54)	methylmethacrylate	8.57	69	125952	10.8021	ug/L		97
55)	14dioxane	8.59	88	125234	533.0409	ug/L		97
56)	Bromodiclrma	8.74	83	129287	9.1657	ug/L		94
57)	2Nitropropane	8.99	43	624995	106.6597	ug/L		98
58)	2CLEVE	9.13	63	221162	52.1164	ug/L		98
59)	c13dicloproe	9.32	75	168684	9.3947	ug/L		99
60)	4Meth2Pentan	9.52	43	2039166	107.3677	ug/L		99
62)	Toluene	9.78	92	266000	9.5479	ug/L		98
63)	t13Dicloprop	10.03	75	156759	9.7735	ug/L		90
64)	ethylmethacrylate	10.18	69	357547	20.1087	ug/L		98
65)	112Triclotha	10.27	83	86932	9.5451	ug/L		94
66)	Tetrachlorte	10.52	166	108358	9.2186	ug/L		98
67)	13Diclorpropa	10.48	76	177651	9.4347	ug/L		100
69)	2Hexanone	10.61	43	1735883	107.9474	ug/L		100
70)	Clorodibrmta	10.80	129	103702	8.7866	ug/L		98
71)	12Dibrometha	10.95	107	104191	9.3732	ug/L		97
72)	Chlorobenzen	11.64	112	276621	9.3079	ug/L		98
73)	1Clhexane	11.62	91	150404	9.1763	ug/L		98
74)	1112Tetclota	11.74	131	99703	9.9167	ug/L		93
75)	Ethylbenzene	11.80	91	477501	9.8217	ug/L		96
76)	m p-Xylene	11.96	106	376566	19.2234	ug/L		95
77)	o-Xylene	12.50	106	178718	9.1201	ug/L		96
78)	Styrene	12.52	104	290614	9.6625	ug/L		97
79)	Bromoform	12.75	173	75521	9.1611	ug/L		97
80)	Isopropylben	13.03	105	460879	9.8551	ug/L		97
81)	cyclohexanone	13.11	55	196781	213.0525	ug/L		98
84)	Bromobenzene	13.44	156	120035	9.9337	ug/L		98
85)	1122Tetrclta	13.40	83	169689	9.9399	ug/L		95
86)	123Triclproa	13.47	75	215034	9.8486	ug/L		91
87)	14dichloro2butene	13.50	53	39051	8.2253	ug/L		97
88)	n-Propylbenz	13.62	91	534100	10.1668	ug/L		100
89)	2chlorotolue	13.73	91	290850	9.3816	ug/L		99
90)	4chlorotolue	13.89	91	343238	9.6336	ug/L		100
91)	135Trimebenz	13.88	105	350964	9.6359	ug/L		100
92)	tbutylbenzen	14.35	119	326686	9.7654	ug/L		97
93)	124Trimetben	14.42	105	338601	9.6161	ug/L		98
94)	sbutylbenzen	14.67	105	468344	9.9701	ug/L		98
95)	13Diclorbenz	14.80	146	204842	9.2513	ug/L		98
96)	pIsopropylto	14.88	119	391538	10.1380	ug/L		98
97)	14dichlorobe	14.93	146	210498	9.5273	ug/L		95
98)	12dichlorobe	15.47	146	194472	9.3675	ug/L		94
99)	nButylbenzen	15.48	91	352731	10.0611	ug/L		97
100)	12dibromo3cl	16.56	157	44974	8.9840	ug/L		96
101)	135Trichlorobenzene	16.90	180	133831	9.5598	ug/L		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\JAN2216\CCV-LCS1.D Vial: 2
Acq On : 22 Jan 2016 10:40 Operator: AGK-RLD
Sample : 122833,LCSW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 22 11:01:02 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.71	180	127457	9.7957	ug/L	96
103) Hexachlorobu	17.96	225	57142	9.9158	ug/L	92
104) Naphthalene	18.01	128	410382	10.2057	ug/L	99
105) 123Trichlben	18.32	180	110052	9.0908	ug/L	93

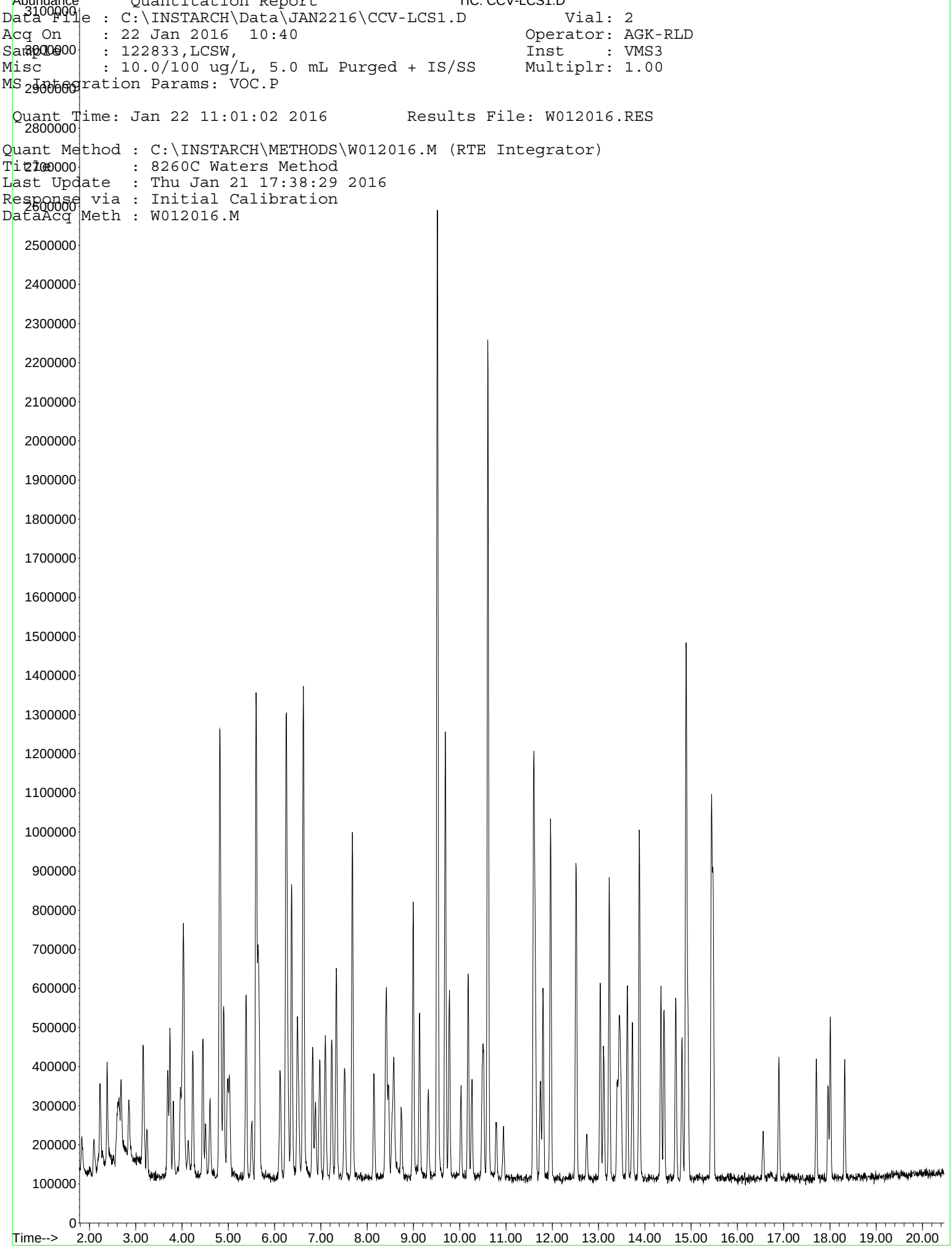
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: CCV-LCS1.D

Data File : C:\INSTARCH\Data\JAN2216\CCV-LCS1.D Vial: 2
Acq On : 22 Jan 2016 10:40 Operator: AGK-RLD
Sample : 122833,LCSW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 22 11:01:02 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M



Evaluate Continuing Calibration Report

Data File : C:\INSTARCH\Data\JAN2216\CCVF1.D Vial: 22
Acq On : 22 Jan 2016 20:27 Operator: AGK-RLD
Sample : 122833,CCVF, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Jan 22 20:48:35 2016

Quant Method : C:\INSTARCH\METHODS\W012016.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W012016.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 50% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	1.0000	1.0000	0.00	77	0.00
2	PT	Dichlorodi	0.2651	0.2537	4.30	67	0.00
3	PT	Chloromethan	0.3929	0.4162	-5.93	80	0.00
4	PT	VinylChlorid	0.5192	0.6016	-15.87	83	0.00
5	PT	Bromomethane	0.1983	0.4122	-107.87#	159	0.00
6	PT	Chloroethane	0.3516	0.4590	-30.55	95	0.00
7	T	Dichloroflmethane	0.7001	0.9500	-35.69	117	0.00
8	PT	Trichlorofma	0.3450	0.3508	-1.68	80	0.00
9	T	Ethylether	0.2208	0.2244	-1.63	79	0.00
10	T	dichlorotfluoroethan	0.2676	0.2677	-0.04	70	0.00
11	T	propyleneoxide	0.0561	0.0600	-6.95	65	0.00
12	T	Acrolein	0.0838	0.0951	-13.48	76	0.00
13	PT	11dichlorthe	0.2308	0.2188	5.20	74	0.00
14	PT	Trichlorotfluoroeth	0.2101	0.2017	4.00	70	0.00
15	PT	Acetone	0.1661	0.1674	-0.78	63	0.00
16	T	Iodomethane	0.1634	0.1718	-5.14	78	0.00
17	PT	Carbon Dislf	0.5901	0.5856	0.76	72	0.00
18	T	allylchloride	0.3064	0.3012	1.70	71	0.00
19	PT	methylacetate	0.0825	0.1059	-28.36	89	0.01
20	PT	Methylchlorid	0.2533	0.2760	-8.96	85	0.00
21	T	tbutylalcohol	0.0713	0.0934	-31.00	82	0.00
22	T	Acrylonitrile	0.1589	0.1753	-10.32	77	0.00
23	PT	t12dichlorte	0.2506	0.2418	3.51	75	0.00
24	PT	MtBE	0.7096	0.7084	0.17	77	0.00
25	T	Hexane	0.3167	0.2749	13.20	64	0.00
26	PT	11dichlorota	0.4122	0.4332	-5.09	75	0.00
27	T	Vinylacetate	0.4449	0.4708	-5.82	82	0.00
28	T	chloroprene	0.3641	0.3480	4.42	72	0.00
29	T	Diisopether	0.7512	0.7622	-1.46	77	0.00
30	T	ETBE	0.6983	0.6886	1.39	78	0.00
31	T	22dichloropr	0.3812	0.2877	24.53	61	0.00
32	PT	c12dichlorte	0.2734	0.2647	3.18	72	0.00
33	PT	2Butanone	0.0742	0.0848#	-14.29	79	0.00
34	T	propionitrile	0.0747	0.0859	-14.99	79	0.00
35	T	Ethylacetate	0.0197	0.0195#	1.02	76	0.00
36	T	methacrylonitrile	0.1688	0.1891	-12.03	83	0.00
37	T	Bromochlorma	0.1153	0.1149	0.35	74	0.00
38	T	Tetrahydofur	0.1734	0.1964	-13.26	78	0.00
39	PT	Chloroform	0.4037	0.3902	3.34	75	0.00
40	PT	111trichlota	0.3569	0.3562	0.20	77	0.00
41	S	SURRDibrflma	0.2519	0.2262	10.20	69	0.00
42	PT	Cyclohexane	0.4323	0.4188	3.12	71	0.00
43	PT	Carbtetraclo	0.3061	0.2815	8.04	72	0.00
44	T	11dicloprope	0.1207	0.1160	3.89	74	0.00
45	S	SURR12DCAd4	0.0721	0.0666	7.63	70	0.00
46	PT	Benzene	0.9514	0.9893	-3.98	77	0.00
47	PT	12dichlorota	0.2805	0.3072	-9.52	79	0.00
48	T	TAME	0.7156	0.7334	-2.49	75	0.00

49	PT	trichloroete	0.2372	0.2311	2.57	69	0.00
50	PT	methylcyclohexane	0.4161	0.4090	1.71	70	0.00
51	PT	12dicloropra	0.2597	0.2696	-3.81	81	0.00
52	T	23Dicl1propene	0.3489	0.3372	3.35	73	0.00
53	T	Dibromometha	0.1493	0.1567	-4.96	77	0.00
54	T	methylmethacrylate	0.2546	0.2689	-5.62	77	0.00
55	T	14dioxane	0.0051	0.0062#	-21.57	83	0.00
56	PT	Bromodiclrma	0.3080	0.2939	4.58	75	0.00
57	T	2Nitropropane	0.1280	0.1350	-5.47	77	0.00
58	T	2CLEVE	0.0927	0.1388	-49.73	113	0.00
59	PT	c13dicloproe	0.3921	0.3882	0.99	78	0.00
60	PT	4Meth2Pentan	0.4135	0.4536	-9.70	78	0.00
61	S	SURRd8Tolule	1.0160	1.0325	-1.62	78	0.00
62	PT	Toluene	0.6083	0.6346	-4.32	81	0.00
63	PT	t13Dicloprop	0.3502	0.3226	7.88	72	0.00
64	T	ethylmethacrylate	0.3883	0.4084	-5.18	78	0.00
65	PT	112Triclotha	0.1989	0.2006	-0.85	76	0.00
66	PT	Tetrachlorte	0.2567	0.2509	2.26	75	0.00
67	T	13Diclorpropa	0.4112	0.4065	1.14	76	0.00
68	I	d5-CHLOROBENZENE**ISTD**	1.0000	1.0000	0.00	75	0.00
69	PT	2Hexanone	0.4646	0.5223	-12.42	78	0.00
70	PT	Clorodibrmta	0.3473	0.2793	19.58	64	0.00
71	PT	12Dibrometha	0.3271	0.3033	7.28	75	0.00
72	PT	Chlorobenzen	0.8746	0.8882	-1.55	78	0.00
73	T	1Clhexane	0.4823	0.4682	2.92	74	0.00
74	T	1112Tetclota	0.2959	0.2746	7.20	72	0.01
75	PT	Ethylbenzene	1.4307	1.4800	-3.45	77	0.00
76	PT	m p-Xylene	0.5765	0.5655	1.91	72	0.00
77	PT	o-Xylene	0.5767	0.5668	1.72	77	0.00
78	PT	Styrene	0.8851	0.8728	1.39	75	0.00
79	PT	Bromoform	0.2426	0.1764	27.29	53	0.00
80	PT	Isopropylben	1.3762	1.4485	-5.25	76	0.00
81	T	cyclohexanone	0.0272	0.0342	-25.74	85	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	1.0000	1.0000	0.00	75	0.00
83	S	SURR4BrFBenz	0.8041	0.7879	2.01	70	0.00
84	T	Bromobenzene	0.6651	0.6189	6.95	66	0.00
85	PT	1122Tetrclta	0.9397	0.9684	-3.05	78	0.00
86	T	123Triclproa	1.2019	1.3142	-9.34	77	-0.01
87	T	14dichloro2butene	0.2613	0.2614	-0.04	82	0.00
88	T	n-Propylbenz	2.8917	3.1327	-8.33	76	0.00
89	T	2chlorotolue	1.7065	1.7018	0.28	74	0.00
90	T	4chlorotolue	1.9612	1.9412	1.02	73	0.00
91	T	135Trimebenz	2.0049	2.0511	-2.30	73	0.00
92	T	tbutylbenzen	1.8414	1.9263	-4.61	77	0.00
93	T	124Trimetben	1.9382	1.9905	-2.70	71	0.00
94	T	sbutylbenzen	2.5857	2.7263	-5.44	75	0.00
95	PT	13Diclorbenz	1.2188	1.1636	4.53	72	0.00
96	T	pIsopropylto	2.1259	2.2494	-5.81	75	0.00
97	PT	14dichlorobe	1.2162	1.2209	-0.39	77	0.00
98	PT	12dichlorobe	1.1428	1.1357	0.62	72	0.00
99	T	nButylbenzen	1.9298	1.9645	-1.80	73	0.00
100	PT	12dibromo3cl	0.2756	0.2472	10.30	65	0.00
101	T	135Trichlorobenzene	0.7706	0.7677	0.38	74	0.00
102	PT	124Trichlobe	0.7162	0.6814	4.86	75	0.00
103	T	Hexachlorobu	0.3172	0.3009	5.14	67	0.00
104	T	Naphthalene	2.2134	2.4865	-12.34	81	0.00
105	T	123Trichlben	0.6664	0.6839	-2.63	77	0.00

(#) = Out of Range SPCC's out = 1 CCC's out = 0

W012016.M Tue Jan 26 10:56:09 2016

Evaluate Continuing Calibration Report

Data File : C:\INSTARCH\Data\JAN2216\CCVF1.D Vial: 22
Acq On : 22 Jan 2016 20:27 Operator: AGK-RLD
Sample : 122833,CCVF, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Jan 22 20:48:35 2016

Quant Method : C:\INSTARCH\METHODS\W012016.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W012016.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 50% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	20.0000	20.0000	0.00	77	0.00
2	PT	Dichlorodi	10.0000	9.5707	4.29	67	0.00
3	PT	Chloromethan	10.0000	10.5939	-5.94	80	0.00
4	PT	VinylChlorid	10.0000	11.5872	-15.87	83	0.00
5	PT	Bromomethane	10.0000	20.7833	-107.83#	159	0.00
6	PT	Chloroethane	10.0000	13.0563	-30.56	95	0.00
7	T	Dichloroflmethane	10.0000	13.5696	-35.70	117	0.00
8	PT	Trichlorofma	10.0000	10.1708	-1.71	80	0.00
9	T	Ethylether	10.0000	10.1637	-1.64	79	0.00
10	T	dichlorotfluoroethan	10.0000	10.0011	-0.01	70	0.00
11	T	propyleneoxide	100.0000	104.8560	-4.86	65	0.00
12	T	Acrolein	50.0000	56.7287	-13.46	76	0.00
13	PT	11dichlorthe	10.0000	9.4824	5.18	74	0.00
14	PT	Trichlorotfluoroeth	20.0000	19.1946	4.03	70	0.00
15	PT	Acetone	100.0000	105.6462	-5.65	63	0.00
16	T	Iodomethane	20.0000	19.3314	3.34	78	0.00
17	PT	Carbon Dislf	20.0000	19.8453	0.77	72	0.00
18	T	allylchloride	20.0000	19.6642	1.68	71	0.00
19	PT	methylacetate	10.0000	12.2424	-22.42	89	0.01
20	PT	Methylchlorid	10.0000	10.8954	-8.95	85	0.00
21	T	tbutylalcohol	500.0000	648.0564	-29.61	82	0.00
22	T	Acrylonitrile	50.0000	55.1398	-10.28	77	0.00
23	PT	t12dichlorte	10.0000	9.6488	3.51	75	0.00
24	PT	MtBE	10.0000	9.9824	0.18	77	0.00
25	T	Hexane	20.0000	17.3617	13.19	64	0.00
26	PT	11dichlorota	10.0000	10.5077	-5.08	75	0.00
27	T	Vinylacetate	100.0000	104.0593	-4.06	82	0.00
28	T	chloroprene	20.0000	19.1141	4.43	72	0.00
29	T	Diisopether	10.0000	10.1456	-1.46	77	0.00
30	T	ETBE	10.0000	9.8609	1.39	78	0.00
31	T	22dichloropr	10.0000	7.5467	24.53	61	0.00
32	PT	c12dichlorte	10.0000	9.6799	3.20	72	0.00
33	PT	2Butanone	100.0000	114.2362	-14.24	79	0.00
34	T	propionitrile	100.0000	114.9725	-14.97	79	0.00
35	T	Ethylacetate	50.0000	49.2700	1.46	76	0.00
36	T	methacrylonitrile	20.0000	22.4048	-12.02	83	0.00
37	T	Bromochlorma	10.0000	9.9656	0.34	74	0.00
38	T	Tetrahydofur	100.0000	112.4038	-12.40	78	0.00
39	PT	Chloroform	10.0000	9.6642	3.36	75	0.00
40	PT	111trichlota	10.0000	9.9807	0.19	77	0.00
41	S	SURRDibrflma	20.0000	17.9619	10.19	69	0.00
42	PT	Cyclohexane	10.0000	9.6874	3.13	71	0.00
43	PT	Carbtetraclo	10.0000	9.1973	8.03	72	0.00
44	T	11dicloprope	10.0000	9.6109	3.89	74	0.00
45	S	SURR12DCAd4	20.0000	18.4775	7.61	70	0.00
46	PT	Benzene	10.0000	10.3981	-3.98	77	0.00
47	PT	12dichlorota	10.0000	10.9531	-9.53	79	0.00
48	T	TAME	10.0000	10.2483	-2.48	75	0.00

49	PT	trichloroete	10.0000	9.7434	2.57	69	0.00
50	PT	methylcyclohexane	10.0000	9.8292	1.71	70	0.00
51	PT	12dicloropra	10.0000	10.3841	-3.84	81	0.00
52	T	23Dicl1propene	10.0000	9.6639	3.36	73	0.00
53	T	Dibromometha	10.0000	10.4956	-4.96	77	0.00
54	T	methylmethacrylate	10.0000	10.5597	-5.60	77	0.00
55	T	14dioxane	500.0000	608.5577	-21.71	83	0.00
56	PT	Bromodiclrma	10.0000	9.5428	4.57	75	0.00
57	T	2Nitropropane	100.0000	105.4896	-5.49	77	0.00
58	T	2CLEVE	50.0000	74.9021	-49.80	113	0.00
59	PT	c13dicloproe	10.0000	9.9021	0.98	78	0.00
60	PT	4Meth2Pentan	100.0000	109.7333	-9.73	78	0.00
61	S	SURRd8Tolule	20.0000	20.3243	-1.62	78	0.00
62	PT	Toluene	10.0000	10.4321	-4.32	81	0.00
63	PT	t13Dicloprop	10.0000	9.2109	7.89	72	0.00
64	T	ethylmethacrylate	20.0000	21.0370	-5.18	78	0.00
65	PT	112Triclotha	10.0000	10.0855	-0.85	76	0.00
66	PT	Tetrachlorte	10.0000	9.7771	2.23	75	0.00
67	T	13Diclorpropa	10.0000	9.8868	1.13	76	0.00
68	I	d5-CHLOROBENZENE**ISTD**	20.0000	20.0000	0.00	75	0.00
69	PT	2Hexanone	100.0000	110.7391	-10.74	78	0.00
70	PT	Clorodibrmta	10.0000	8.0411	19.59	64	0.00
71	PT	12Dibrometha	10.0000	9.2704	7.30	75	0.00
72	PT	Chlorobenzen	10.0000	10.1555	-1.55	78	0.00
73	T	1Clhexane	10.0000	9.7075	2.93	74	0.00
74	T	1112Tetclota	10.0000	9.2797	7.20	72	0.01
75	PT	Ethylbenzene	10.0000	10.3445	-3.45	77	0.00
76	PT	m p-Xylene	20.0000	19.6181	1.91	72	0.00
77	PT	o-Xylene	10.0000	9.8285	1.71	77	0.00
78	PT	Styrene	10.0000	9.8608	1.39	75	0.00
79	PT	Bromoform	10.0000	7.2734	27.27	53	0.00
80	PT	Isopropylben	10.0000	10.5256	-5.26	76	0.00
81	T	cyclohexanone	200.0000	251.3852	-25.69	85	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	20.0000	20.0000	0.00	75	0.00
83	S	SURR4BrFBenz	20.0000	19.5979	2.01	70	0.00
84	T	Bromobenzene	10.0000	9.3043	6.96	66	0.00
85	PT	1122Tetrclta	10.0000	10.3057	-3.06	78	0.00
86	T	123Triclproa	10.0000	10.9345	-9.34	77	-0.01
87	T	14dichloro2butene	10.0000	10.0017	-0.02	82	0.00
88	T	n-Propylbenz	10.0000	10.8335	-8.34	76	0.00
89	T	2chlorotolue	10.0000	9.9723	0.28	74	0.00
90	T	4chlorotolue	10.0000	9.8982	1.02	73	0.00
91	T	135Trimebenz	10.0000	10.2304	-2.30	73	0.00
92	T	tbutylbenzen	10.0000	10.4609	-4.61	77	0.00
93	T	124Trimetben	10.0000	10.2699	-2.70	71	0.00
94	T	sbutylbenzen	10.0000	10.5437	-5.44	75	0.00
95	PT	13Diclorbenz	10.0000	9.5469	4.53	72	0.00
96	T	pIsopropylto	10.0000	10.5811	-5.81	75	0.00
97	PT	14dichlorobe	10.0000	10.0387	-0.39	77	0.00
98	PT	12dichlorobe	10.0000	9.9384	0.62	72	0.00
99	T	nButylbenzen	10.0000	10.1795	-1.80	73	0.00
100	PT	12dibromo3cl	10.0000	8.9707	10.29	65	0.00
101	T	135Trichlorobenzene	10.0000	9.9626	0.37	74	0.00
102	PT	124Trichlobe	10.0000	9.5137	4.86	75	0.00
103	T	Hexachlorobu	10.0000	9.4868	5.13	67	0.00
104	T	Naphthalene	10.0000	11.2336	-12.34	81	0.00
105	T	123Trichlben	10.0000	10.2624	-2.62	77	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

W012016.M Tue Jan 26 10:55:53 2016

Quantitation Report

Data File : C:\INSTARCH\Data\JAN2216\CCVF1.D Vial: 22
Acq On : 22 Jan 2016 20:27 Operator: AGK-RLD
Sample : 122833,CCVF, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 22 20:48:35 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.68	96	856116	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.60	117	643851	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.90	152	340323	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.82	113	193684	17.962	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 90 %			
45) SURR12DCAd4	7.24	102	57006	18.477	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 92 %			
61) SURRd8Tolule	9.69	98	883955	20.324	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 102 %			
83) SURR4BrFBenz	13.23	95	268155	19.598	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 98 %			
Target Compounds						Qvalue
2) Dichlorodi	1.83	85	108593	9.5707	ug/L	90
3) Chloromethan	2.10	50	178157	10.5939	ug/L	100
4) VinylChlorid	2.23	62	257534	11.5872	ug/L	96
5) Bromomethane	2.69	94	176442	20.7833	ug/L	97
6) Chloroethane	2.86	64	196498	13.0563	ug/L	98
7) Dichloroflmethane	3.16	67	406675	13.5696	ug/L	99
8) Trichlorofma	3.25	101	150181	10.1708	ug/L	93
9) Ethylether	3.70	59	96060	10.1637	ug/L	97
10) dichlorotfluoroethan	3.70	67	114573	10.0011	ug/L	98
11) propyleneoxide	4.04	58	256779	104.8560	ug/L	96
12) Acrolein	3.82	56	203609	56.7287	ug/L	91
13) 11dichlorthe	3.97	96	93672	9.4824	ug/L	98
14) Trichlorotfluoroeth	4.01	101	172664	19.1946	ug/L	96
15) Acetone	4.04	43	716454	105.6462	ug/L	98
16) Iodomethane	4.15	142	147120	19.3314	ug/L	94
17) Carbon Dislf	4.24	76	501327	19.8453	ug/L	97
18) allylchloride	4.45	41	257883	19.6642	ug/L	95
19) methylacetate	4.52	74	45343	12.2424	ug/L	97
20) Methylchlorid	4.61	84	118124	10.8954	ug/L	98
21) tbutylalcohol	4.82	59	1998107	648.0564	ug/L	97
22) Acrylonitrile	4.90	53	375118	55.1398	ug/L	99
23) t12dichlorte	4.99	96	103517	9.6488	ug/L	99
24) MtBE	5.03	73	303231	9.9824	ug/L	98
25) Hexane	5.39	57	235344	17.3617	ug/L	100
26) 11dichlorota	5.51	63	185416	10.5077	ug/L	98
27) Vinylacetate	5.61	43	2015146	104.0593	ug/L	99
28) chloroprene	5.65	53	297913	19.1141	ug/L	96
29) Diisopether	5.67	45	326249	10.1456	ug/L	98
30) ETBE	6.12	59	294768	9.8609	ug/L	99
31) 22dichloropr	6.24	77	123150	7.5467	ug/L	95
32) c12dichlorte	6.24	96	113297	9.6799	ug/L	91
33) 2Butanone	6.26	72	362861	114.2362	ug/L	94
34) propionitrile	6.29	54	367553	114.9725	ug/L	95
35) Ethylacetate	6.37	88	41638	49.2700	ug/L #	89
36) methacrylonitrile	6.50	67	161894	22.4048	ug/L	87
37) Bromochlorma	6.53	128	49187	9.9656	ug/L	98
38) Tetrahydofur	6.62	42	840704	112.4038	ug/L	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\JAN2216\CCVF1.D Vial: 22
Acq On : 22 Jan 2016 20:27 Operator: AGK-RLD
Sample : 122833,CCVF, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 22 20:48:35 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.64	83	167022	9.6642	ug/L		98
40)	111trichlota	6.88	97	152476	9.9807	ug/L		97
42)	Cyclohexane	6.98	56	179281	9.6874	ug/L		99
43)	Carbtetraclo	7.10	119	120501	9.1973	ug/L		100
44)	11dicloprope	7.09	110	49653	9.6109	ug/L		97
46)	Benzene	7.33	78	423485	10.3981	ug/L		97
47)	12dichlorota	7.33	62	131508	10.9531	ug/L		94
48)	TAME	7.52	73	313943	10.2483	ug/L		95
49)	trichloroete	8.14	95	98916	9.7434	ug/L		100
50)	methylcyclohexane	8.42	83	175066	9.8292	ug/L		94
51)	12dicloropra	8.40	63	115425	10.3841	ug/L		93
52)	23Dicl1propene	8.46	75	144337	9.6639	ug/L		96
53)	Dibromometha	8.54	93	67097	10.4956	ug/L		96
54)	methylmethacrylate	8.58	69	115087	10.5597	ug/L		99
55)	14dioxane	8.59	88	132365	608.5577	ug/L		97
56)	Bromodiclrma	8.74	83	125819	9.5428	ug/L		96
57)	2Nitropropane	8.99	43	577784	105.4896	ug/L		97
58)	2CLEVE	9.13	63	297105	74.9021	ug/L		99
59)	c13dicloproe	9.32	75	166188	9.9021	ug/L		99
60)	4Meth2Pentan	9.52	43	1941842	109.7333	ug/L		100
62)	Toluene	9.77	92	271660	10.4321	ug/L		98
63)	t13Dicloprop	10.03	75	138091	9.2109	ug/L		95
64)	ethylmethacrylate	10.18	69	349633	21.0370	ug/L		97
65)	112Triclotha	10.27	83	85857	10.0855	ug/L		99
66)	Tetrachlorte	10.52	166	107420	9.7771	ug/L		96
67)	13Diclorpropa	10.48	76	174009	9.8868	ug/L		98
69)	2Hexanone	10.61	43	1681368	110.7391	ug/L		100
70)	Clorodibrmta	10.78	129	89908	8.0411	ug/L		95
71)	12Dibrometha	10.95	107	97624	9.2704	ug/L		92
72)	Chlorobenzen	11.63	112	285922	10.1555	ug/L		99
73)	1Clhexane	11.62	91	150734	9.7075	ug/L		97
74)	1112Tetclota	11.75	131	88387	9.2797	ug/L		98
75)	Ethylbenzene	11.80	91	476447	10.3445	ug/L		99
76)	m p-Xylene	11.96	106	364069	19.6181	ug/L		91
77)	o-Xylene	12.51	106	182461	9.8285	ug/L		98
78)	Styrene	12.52	104	280965	9.8608	ug/L		98
79)	Bromoform	12.74	173	56803	7.2734	ug/L		89
80)	Isopropylben	13.04	105	466323	10.5256	ug/L		98
81)	cyclohexanone	13.11	55	219964	251.3852	ug/L		100
84)	Bromobenzene	13.44	156	105308	9.3043	ug/L	#	82
85)	1122Tetrclta	13.40	83	164789	10.3057	ug/L		97
86)	123Triclproa	13.46	75	223622	10.9345	ug/L		97
87)	14dichloro2butene	13.49	53	44477	10.0017	ug/L		95
88)	n-Propylbenz	13.62	91	533070	10.8335	ug/L		99
89)	2chlorotolue	13.73	91	289577	9.9723	ug/L		98
90)	4chlorotolue	13.89	91	330326	9.8982	ug/L		97
91)	135Trimebenz	13.88	105	349015	10.2304	ug/L		97
92)	tbutylbenzen	14.35	119	327783	10.4609	ug/L		96
93)	124Trimetben	14.41	105	338713	10.2699	ug/L		98
94)	sbutylbenzen	14.67	105	463913	10.5437	ug/L		99
95)	13Diclorbenz	14.80	146	197995	9.5469	ug/L		98
96)	pIsopropylto	14.88	119	382764	10.5811	ug/L		99
97)	14dichlorobe	14.93	146	207747	10.0387	ug/L		98
98)	12dichlorobe	15.47	146	193254	9.9384	ug/L		97
99)	nButylbenzen	15.48	91	334276	10.1795	ug/L		98
100)	12dibromo3cl	16.56	157	42063	8.9707	ug/L		93
101)	135Trichlorobenzene	16.90	180	130636	9.9626	ug/L		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\JAN2216\CCVF1.D Vial: 22
Acq On : 22 Jan 2016 20:27 Operator: AGK-RLD
Sample : 122833,CCVF, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 22 20:48:35 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.71	180	115947	9.5137	ug/L	98
103) Hexachlorobu	17.96	225	51207	9.4868	ug/L	95
104) Naphthalene	18.01	128	423101	11.2336	ug/L	98
105) 123Trichlben	18.32	180	116366	10.2624	ug/L	95

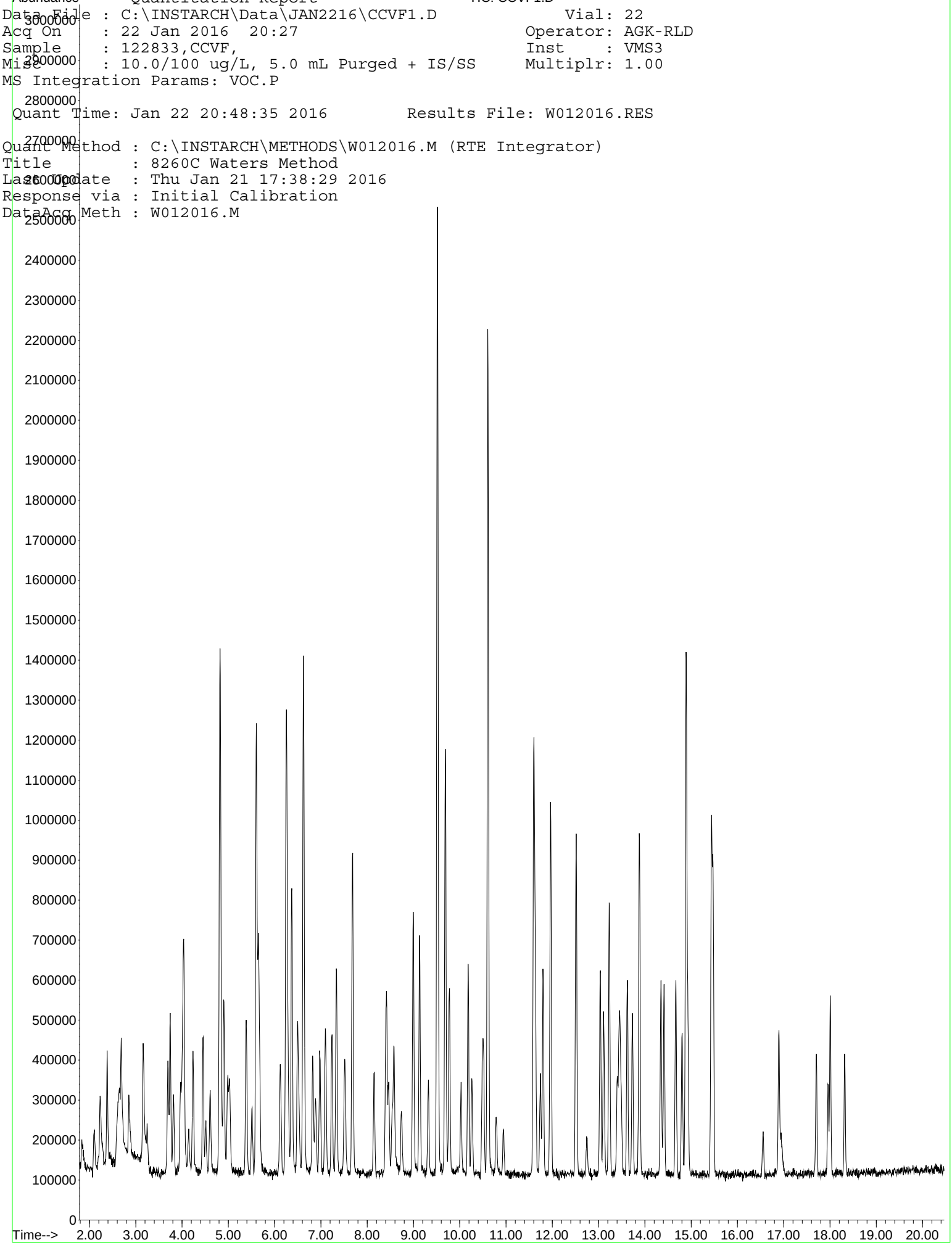
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: CCVF1.D

Data File : C:\INSTARCH\Data\JAN2216\CCVF1.D Vial: 22
Acq On : 22 Jan 2016 20:27 Operator: AGK-RLD
Sample : 122833,CCVF, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 22 20:48:35 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M



QC Check Standard Report

Sequence : C:\InStarch\PVOC4\Sequence\012016.seq
User : AGK
Printed : Jan 20, 2016 12:33:39

File	Sample ID	Acquired
C:\Instarch\PVOC4\Data\012016\001.dat	122794,CCV,	Jan 20, 2016 12:33:39

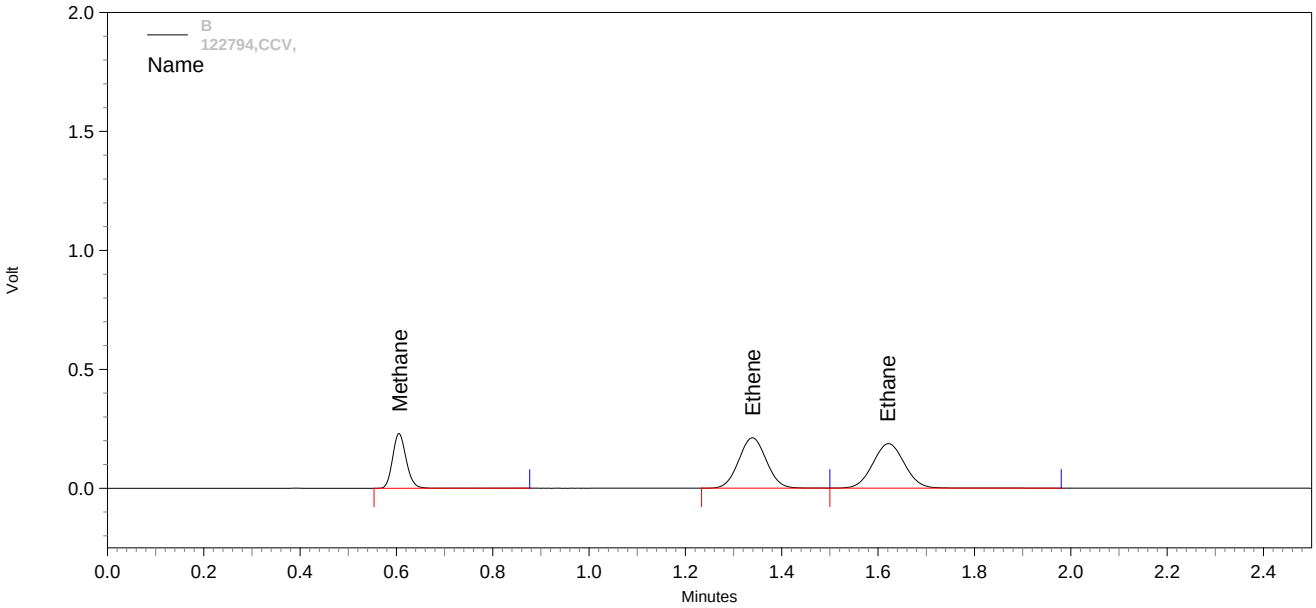
B

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
Methane	50.000	50.644	1.288	15.000	**Passed**
Ethene	50.000	51.002	2.005	15.000	**Passed**
Ethane	50.000	50.481	0.962	15.000	**Passed**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\012016\001.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 122794,CCV,
Acquired: Jan 20, 2016 10:54:08
File Desc. 250 uL of 200 ppmV Methane/Ethene/Ethane Gas Std



B Results

Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.607	452417	**50.644**
2	Ethene	1.340	841265	**51.002**
3	Ethane	1.620	852765	**50.481**

Totals			2146447	**152.128**

QC Check Standard Report

Sequence : C:\InStarch\PVOC4\Sequence\012016.seq
User : AGK
Printed : Jan 20, 2016 12:34:49

File	Sample ID	Acquired
C:\Instarch\PVOC4\Data\012016\014.dat	122794,CCV,	Jan 20, 2016 12:34:49

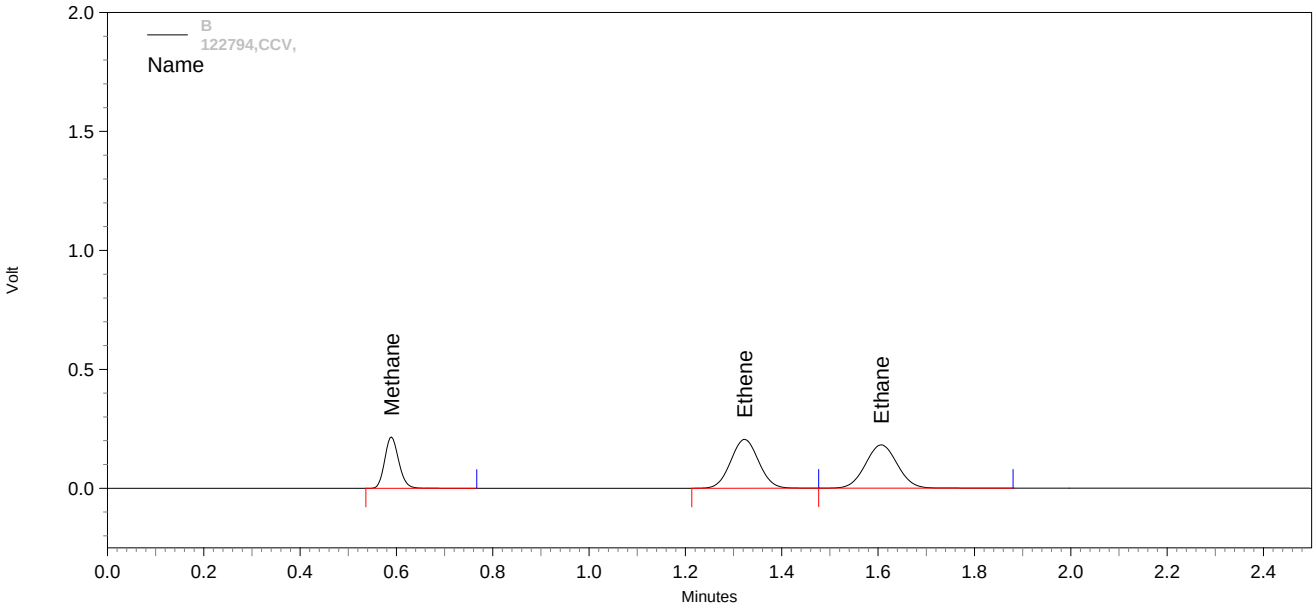
B

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
Methane	50.000	48.840	2.320	15.000	**Passed**
Ethene	50.000	49.947	0.105	15.000	**Passed**
Ethane	50.000	49.414	1.173	15.000	**Passed**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\012016\014.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 122794,CCV,
Acquired: Jan 20, 2016 11:50:13
File Desc. 250 uL of 200 ppmV Methane/Ethene/Ethane Gas Std



B Results

Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.590	436326	**48.840**
2	Ethene	1.323	823798	**49.947**
3	Ethane	1.607	834517	**49.414**

Totals			2094641	**148.201**

QC Check Standard Report

Sequence : C:\InStarch\PVOC4\Sequence\012016.seq
User : AGK
Printed : Jan 20, 2016 12:36:43

File	Sample ID	Acquired
C:\Instarch\PVOC4\Data\012016\024.dat	122794,CCV,	Jan 20, 2016 12:36:43

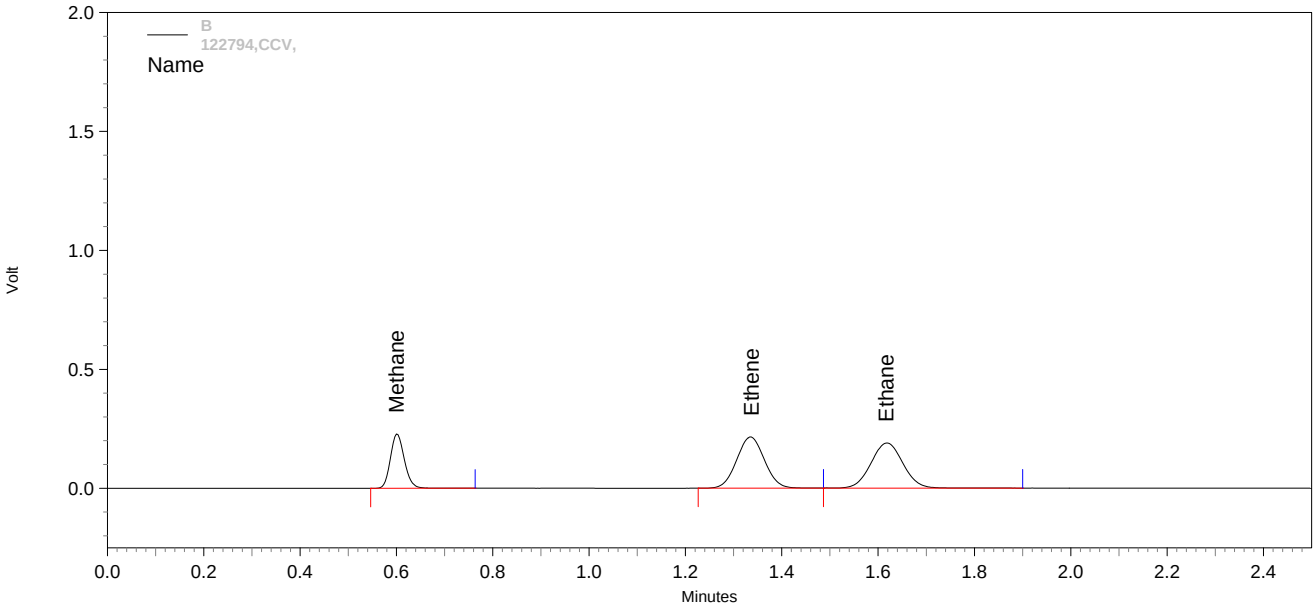
B

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
Methane	50.000	51.375	2.750	15.000	**Passed**
Ethene	50.000	52.039	4.078	15.000	**Passed**
Ethane	50.000	51.612	3.224	15.000	**Passed**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\012016\024.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 122794,CCV,
Acquired: Jan 20, 2016 12:28:46
File Desc. 250 uL of 200 ppmV Methane/Ethene/Ethane Gas Std



B Results

Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.600	458932	**51.375**
2	Ethene	1.337	858431	**52.039**
3	Ethane	1.617	872098	**51.612**

Totals			2189461	**155.026**

VOLATILE ORGANIC ANALYSIS
QUALITY CONTROL
DOCUMENTS

Quantitation Report

Data File : C:\INSTARCH\Data\JAN2116\CCV-LCS2.D Vial: 14
Acq On : 21 Jan 2016 17:17 Operator: AGK-RLD
Sample : 122700,LCSW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 17:37:58 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:28:14 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.69	96	975138	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.60	117	739660	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.90	152	382523	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.83	113	245123	19.958	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100	%		
45) SURR12DCAd4	7.24	102	64812	18.444	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 92	%		
61) SURRd8Tolule	9.69	98	984123	19.866	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 99	%		
83) SURR4BrFBenz	13.23	95	304215	19.781	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 99	%		
Target Compounds						Qvalue
2) Dichlorodi	1.83	85	138540	10.7197	ug/L	94
3) Chloromethan	2.09	50	198678	10.3721	ug/L	99
4) VinylChlorid	2.23	62	298127	11.7764	ug/L	87
5) Bromomethane	2.69	94	126260	13.0570	ug/L	99
6) Chloroethane	2.86	64	178512	10.4135	ug/L	94
7) Dichloroflmethane	3.16	67	342956	10.0467	ug/L	99
8) Trichlorofma	3.24	101	162983	9.6906	ug/L	96
9) Ethylether	3.70	59	110723	10.2852	ug/L	95
10) dichlorotfluoroethan	3.70	67	133562	10.2356	ug/L	95
11) propyleneoxide	4.04	58	273058	97.2290	ug/L	98
12) Acrolein	3.82	56	190840	46.6812	ug/L	95
13) 11dichlorthe	3.96	96	114174	10.1471	ug/L	93
14) Trichlorotfluoroeth	4.01	101	209554	20.4522	ug/L	99
15) Acetone	4.03	43	770449	98.7773	ug/L	99
16) Iodomethane	4.15	142	174638	20.0667	ug/L	96
17) Carbon Dislf	4.24	76	627684	21.8144	ug/L	99
18) allylchloride	4.45	41	330147	22.1018	ug/L	98
19) methylacetate	4.50	74	50248	11.8931	ug/L	96
20) Methylchlorid	4.61	84	129427	10.4809	ug/L	99
21) tbutylalcohol	4.81	59	1991687	552.7431	ug/L	99
22) Acrylonitrile	4.90	53	427499	55.1694	ug/L	94
23) t12dichlorte	4.99	96	120833	9.8881	ug/L	97
24) MtBE	5.02	73	363027	10.4922	ug/L	97
25) Hexane	5.39	57	328851	21.2988	ug/L	97
26) 11dichlorota	5.51	63	204226	10.1610	ug/L	94
27) Vinylacetate	5.61	43	2268887	102.7161	ug/L	100
28) chloroprene	5.65	53	355695	20.0359	ug/L	96
29) Diisopether	5.67	45	371813	10.1513	ug/L	97
30) ETBE	6.12	59	343007	10.0741	ug/L	97
31) 22dichloropr	6.25	77	187779	10.1027	ug/L	98
32) c12dichlorte	6.24	96	139185	10.4402	ug/L	94
33) 2Butanone	6.26	72	375646	103.8266	ug/L	96
34) propionitrile	6.29	54	387405	106.3912	ug/L	98
35) Ethylacetate	6.37	88	53643	55.7278	ug/L #	87
36) methacrylonitrile	6.49	67	177462	21.5616	ug/L	94
37) Bromochlorma	6.52	128	53135	9.4515	ug/L	88
38) Tetrahydofur	6.62	42	915697	106.9868	ug/L	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\JAN2116\CCV-LCS2.D Vial: 14
Acq On : 21 Jan 2016 17:17 Operator: AGK-RLD
Sample : 122700,LCSW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 17:37:58 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:28:14 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	6.63	83	200034	10.1617 ug/L	98
40)	111trichlota	6.88	97	178233	10.2427 ug/L	99
42)	Cyclohexane	6.97	56	219024	10.3904 ug/L	97
43)	Carbtetraclo	7.10	119	149393	10.0107 ug/L	99
44)	11dicloprope	7.10	110	60002	10.1965 ug/L	97
46)	Benzene	7.35	78	491856	10.6028 ug/L	99
47)	12dichlorota	7.33	62	155065	11.3387 ug/L	96
48)	TAME	7.52	73	364039	10.4332 ug/L	96
49)	trichloroete	8.15	95	125909	10.8885 ug/L	97
50)	methylcyclohexane	8.42	83	207619	10.2341 ug/L	97
51)	12dicloropra	8.40	63	141230	11.1548 ug/L	94
52)	23Dicl1propene	8.46	75	179235	10.5358 ug/L	98
53)	Dibromometha	8.54	93	73330	10.0705 ug/L	98
54)	methylmethacrylate	8.57	69	131463	10.5899 ug/L	94
55)	14dioxane	8.59	88	126897	505.2745 ug/L	98
56)	Bromodiclrma	8.74	83	155022	10.3226 ug/L	94
57)	2Nitropropane	8.99	43	631375	101.2041 ug/L	100
58)	2CLEVE	9.13	63	186294	41.2334 ug/L	98
59)	c13dicloproe	9.32	75	192550	10.0725 ug/L	96
60)	4Meth2Pentan	9.52	43	2146609	105.9570 ug/L	99
62)	Toluene	9.77	92	301889	10.1779 ug/L	100
63)	t13Dicloprop	10.03	75	169303	9.9144 ug/L	94
64)	ethylmethacrylate	10.19	69	388605	20.5280 ug/L	99
65)	112Triclotha	10.27	83	90880	9.3725 ug/L	92
66)	Tetrachlorte	10.52	166	131966	10.5452 ug/L	98
67)	13Diclorpropa	10.49	76	213203	10.6351 ug/L	97
69)	2Hexanone	10.61	43	1812930	102.9587 ug/L	100
70)	Clorodibrmta	10.79	129	118558	9.2300 ug/L	97
71)	12Dibrometha	10.95	107	117718	9.7306 ug/L	100
72)	Chlorobenzen	11.64	112	318677	9.8527 ug/L	98
73)	1Clhexane	11.62	91	174100	9.7599 ug/L	96
74)	1112Tetclota	11.74	131	103971	9.5019 ug/L	95
75)	Ethylbenzene	11.80	91	554245	10.4749 ug/L	96
76)	m p-Xylene	11.96	106	432542	20.2887 ug/L	93
77)	o-Xylene	12.51	106	210617	9.8756 ug/L	99
78)	Styrene	12.52	104	336488	10.2797 ug/L	98
79)	Bromoform	12.75	173	83853	9.3463 ug/L	98
80)	Isopropylben	13.03	105	537788	10.5663 ug/L	94
81)	cyclohexanone	13.11	55	185851	184.8870 ug/L	99
84)	Bromobenzene	13.45	156	135837	10.6776 ug/L	98
85)	1122Tetrclta	13.40	83	189252	10.5298 ug/L	95
86)	123Triclproa	13.47	75	227755	9.9080 ug/L	93
87)	14dichloro2butene	13.48	53	46462	9.2954 ug/L	93
88)	n-Propylbenz	13.62	91	622485	11.2550 ug/L	99
89)	2chlorotolue	13.73	91	352663	10.8050 ug/L	100
90)	4chlorotolue	13.89	91	389604	10.3865 ug/L	99
91)	135Trimebenz	13.89	105	406469	10.6001 ug/L	100
92)	tbutylbenzen	14.35	119	377482	10.7179 ug/L	97
93)	124Trimetben	14.41	105	398306	10.7444 ug/L	100
94)	sbutylbenzen	14.67	105	548882	11.0986 ug/L	97
95)	13Diclorbenz	14.80	146	248724	10.6698 ug/L	94
96)	pIsopropylto	14.88	119	436930	10.7460 ug/L	97
97)	14dichlorobe	14.93	146	241738	10.3925 ug/L	96
98)	12dichlorobe	15.47	146	225531	10.3187 ug/L	98
99)	nButylbenzen	15.48	91	406525	11.0140 ug/L	99
100)	12dibromo3cl	16.56	157	49026	9.3022 ug/L	97
101)	135Trichlorobenzene	16.90	180	160626	10.8984 ug/L	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\JAN2116\CCV-LCS2.D Vial: 14
Acq On : 21 Jan 2016 17:17 Operator: AGK-RLD
Sample : 122700,LCSW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 17:37:58 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:28:14 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

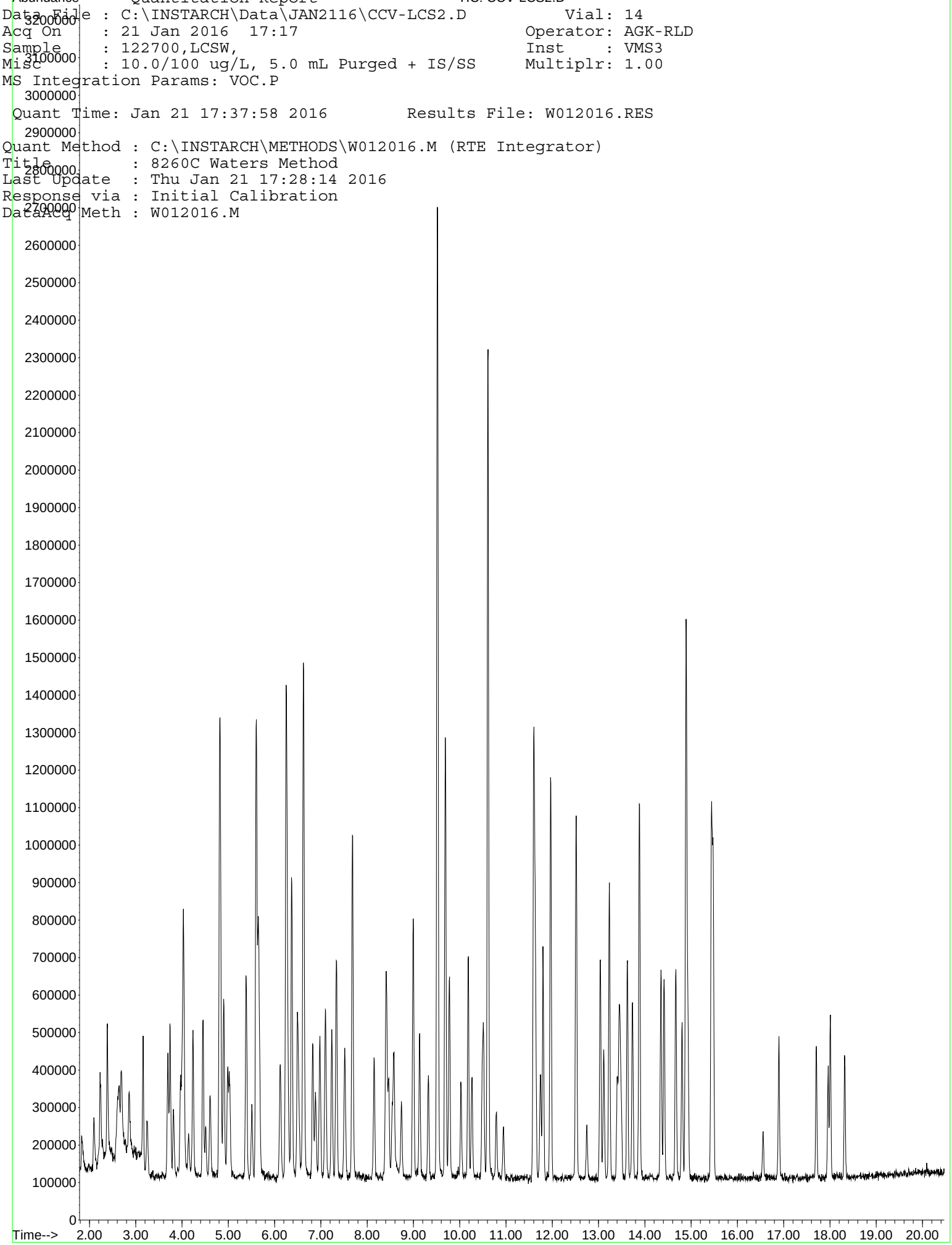
	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102)	124Trichlobe	17.71	180	130848	9.5520	ug/L	97
103)	Hexachlorobu	17.96	225	68888	11.3545	ug/L	94
104)	Naphthalene	18.01	128	419847	9.9175	ug/L	98
105)	123Trichlben	18.32	180	131077	10.2845	ug/L	99

(#) = qualifier out of range (m) = manual integration

Data File : C:\INSTARCH\Data\JAN2116\CCV-LCS2.D Vial: 14
Acq On : 21 Jan 2016 17:17 Operator: AGK-RLD
Sample : 122700,LCSW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 17:37:58 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:28:14 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M



Quantitation Report

Data File : C:\INSTARCH\Data\JAN2116\MB2-CCB1.D Vial: 16
Acq On : 21 Jan 2016 18:18 Operator: AGK-RLD
Sample : 122700,MBW, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 18:38:48 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.68	96	962194	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.60	117	702976	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.90	152	359405	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.83	113	228829	18.882	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 94 %			
45) SURR12DCAd4	7.24	102	67016	19.327	ug/L	0.01
Spiked Amount 20.000	Range 89 - 112		Recovery = 97 %			
61) SURRd8Tolule	9.69	98	966085	19.764	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 99 %			
83) SURR4BrFBenz	13.23	95	278491	19.273	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 96 %			

Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	0.00	50	0	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	0.00	94	0	N.D.		
6) Chloroethane	2.83	64	6491	N.D.		
7) Dichloroflmethane	3.17	67	5735	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	4.05	58	10709	Below Cal	#	84
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	4.04	43	33804	Below Cal		94
16) Iodomethane	0.00	142	0	N.D.		
17) Carbon Dislf	0.00	76	0	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	4.60	84	5743	0.4713 ug/L	#	1
21) tbutylalcohol	4.84	59	8980	Below Cal	#	56
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	6.63	42	6454	Below Cal	#	34

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\JAN2116\MB2-CCB1.D Vial: 16
Acq On : 21 Jan 2016 18:18 Operator: AGK-RLD
Sample : 122700,MBW, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 18:38:48 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	0.00	119	0	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	0.00	78	0	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	0.00	95	0	N.D.	
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	8.96	43	10785	1.7520 ug/L #	25
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	0.00	92	0	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	0.00	91	0	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	0.00	106	0	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	0.00	55	0	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	0.00	105	0	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	0.00	91	0	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\JAN2116\MB2-CCB1.D Vial: 16
Acq On : 21 Jan 2016 18:18 Operator: AGK-RLD
Sample : 122700,MBW, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 18:38:48 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	0.00	128	0	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

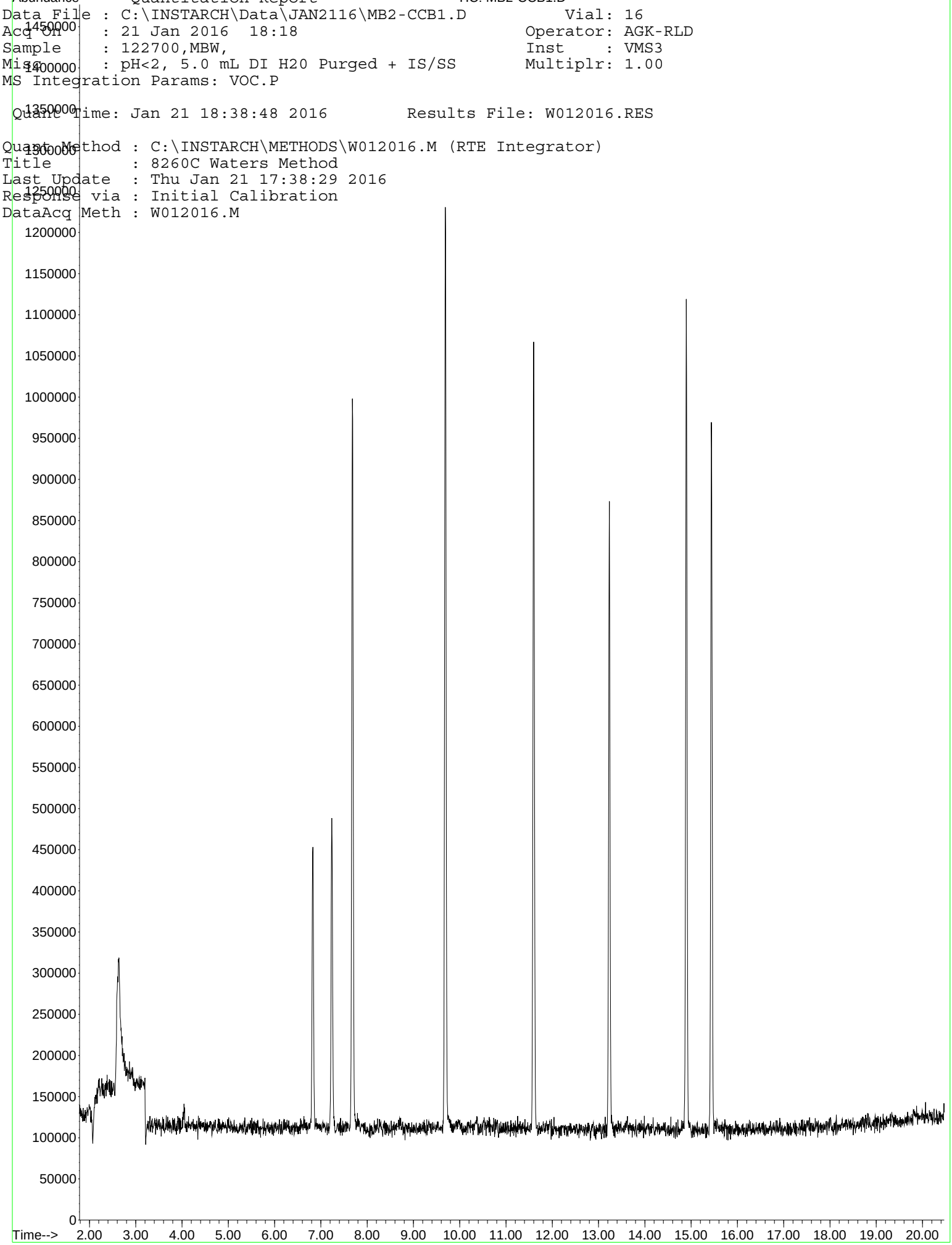
(#) = qualifier out of range (m) = manual integration

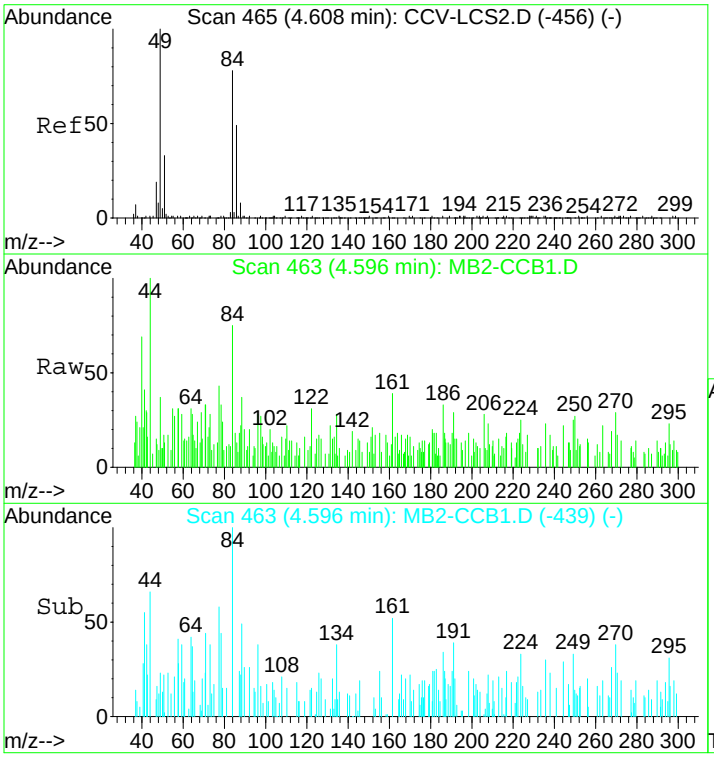
Abundance Quantitation Report TIC: MB2-CCB1.D

Data File : C:\INSTARCH\Data\JAN2116\MB2-CCB1.D Vial: 16
Acq On : 21 Jan 2016 18:18 Operator: AGK-RLD
Sample : 122700,MBW, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 21 18:38:48 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

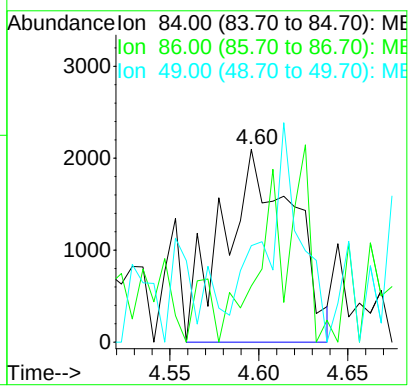




#20
Methylchlorid
Concen: 0.47 ug/L
RT: 4.60 min Scan# 463
Delta R.T. -0.01 min
Lab File: MB2-CCB1.D
Acq: 21 Jan 2016 18:18

Tgt Ion: 84 Resp: 5743

Ion	Ratio	Lower	Upper
84	100		
86	0.0	43.9	83.9#
49	0.0	103.8	143.8#



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Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2116\680616MS.D Vial: 31
Acq On : 22 Jan 2016 1:41 Operator: AGK-RLD
Sample : 122700,MSW680616, Inst : VMS3
Misc : pH<2, 10.0/100 ug/L, 5.0 mL Purged + IS/ Multiplr: 1.00
MS Integration Params: VOC.P

NOT USED

Quant Time: Jan 22 02:02:22 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.69	96	914641	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.60	117	678990	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.90	152	359226	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.83	113	221952	19.266	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 96 %			
45) SURR12DCAd4	7.24	102	66643	20.219	ug/L	0.01
Spiked Amount 20.000	Range 89 - 112		Recovery = 101 %			
61) SURRd8Tolule	9.69	98	937223	20.170	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101 %			
83) SURR4BrFBenz	13.23	95	297426	20.593	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 103 %			
Target Compounds						Qvalue
2) Dichlorodi	1.83	85	130438	10.7604	ug/L	90
3) Chloromethan	2.10	50	175686	9.7785	ug/L	98
4) VinylChlorid	2.23	62	283200	11.9267	ug/L	100
5) Bromomethane	2.69	94	95528	10.5323	ug/L	95
6) Chloroethane	2.86	64	182439	11.3465	ug/L	89
7) Dichloroflmethane	3.17	67	437655	13.6689	ug/L	95
8) Trichlorofma	3.25	101	386577	24.5052	ug/L	98
9) Ethylether	3.70	59	79607	7.8839	ug/L	89
10) dichlorotfluoroethan	3.69	67	126006	10.2952	ug/L	94
11) propyleneoxide	4.04	58	210274	78.1907	ug/L	99
12) Acrolein	3.81	56	134570	35.0943	ug/L	95
13) 11dichlorthe	3.96	96	106540	10.0949	ug/L	97
14) Trichlorotfluoroeth	4.01	101	203159	21.1396	ug/L	97
15) Acetone	4.04	43	603663	79.8639	ug/L	100
16) Iodomethane	4.14	142	120368	15.2356	ug/L	94
17) Carbon Dislf	4.24	76	575588	21.3270	ug/L	98
18) allylchloride	4.46	41	279396	19.9414	ug/L	97
19) methylacetate	4.51	74	40831	10.2156	ug/L	96
20) Methylchlorid	4.61	84	103594	8.9438	ug/L	95
21) tbutylalcohol	4.83	59	1610679	462.7668	ug/L	97
22) Acrylonitrile	4.90	53	358424	49.3146	ug/L	98
23) t12dichlorte	4.99	96	109095	9.5180	ug/L	95
24) MtBE	5.03	73	311624	9.6022	ug/L	99
25) Hexane	5.39	57	278522	19.2322	ug/L	99
26) 11dichlorota	5.51	63	197303	10.4659	ug/L	96
27) Vinylacetate	5.61	43	1995714	95.5933	ug/L	99
28) chloroprene	5.64	53	339934	20.4147	ug/L	96
29) Diisopether	5.67	45	343958	10.0119	ug/L	97
30) ETBE	6.12	59	303485	9.5029	ug/L	99
31) 22dichloropr	6.24	77	143444	8.2279	ug/L	97
32) c12dichlorte	6.24	96	115788	9.2597	ug/L	88
33) 2Butanone	6.26	72	321291	94.6769	ug/L	92
34) propionitrile	6.29	54	322215	94.3412	ug/L	95
35) Ethylacetate	6.38	88	41062	45.4794	ug/L	94
36) methacrylonitrile	6.50	67	153684	19.9077	ug/L	92
37) Bromochlorma	6.52	128	48339	9.1671	ug/L	96
38) Tetrahydofur	6.62	42	757984	93.1727	ug/L	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2116\680616MS.D Vial: 31
Acq On : 22 Jan 2016 1:41 Operator: AGK-RLD
Sample : 122700,MSW680616, Inst : VMS3
Misc : pH<2, 10.0/100 ug/L, 5.0 mL Purged + IS/ Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 22 02:02:22 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.64	83	179215	9.7062	ug/L		93
40)	111trichlota	6.89	97	169528	10.3868	ug/L		97
42)	Cyclohexane	6.98	56	211819	10.7132	ug/L		96
43)	Carbtetraclo	7.11	119	199071	14.2219	ug/L		94
44)	11dicloprope	7.09	110	54129	9.8069	ug/L		95
46)	Benzene	7.35	78	442309	10.1654	ug/L		99
47)	12dichlorota	7.33	62	133926	10.4407	ug/L		98
48)	TAME	7.52	73	316411	9.6680	ug/L		96
49)	trichloroete	8.15	95	120895	11.1464	ug/L		93
50)	methylcyclohexane	8.42	83	213988	11.2457	ug/L		97
51)	12dicloropra	8.40	63	107409	9.0447	ug/L	#	93
52)	23Dicl1propene	8.46	75	160021	10.0285	ug/L		94
53)	Dibromometha	8.54	93	63127	9.2427	ug/L		96
54)	methylmethacrylate	8.57	69	115920	9.9555	ug/L		99
55)	14dioxane	8.59	88	102560	429.8282	ug/L		98
56)	Bromodiclrma	8.74	83	129880	9.2205	ug/L		95
57)	2Nitropropane	9.00	43	552118	94.3535	ug/L		99
58)	2CLEVE	0.00	63	0	N.D.			
59)	c13dicloproe	9.32	75	162817	9.0805	ug/L		97
60)	4Meth2Pentan	9.52	43	1888452	98.3371	ug/L		99
62)	Toluene	9.77	92	276352	9.9332	ug/L		98
63)	t13Dicloprop	10.03	75	140381	8.7645	ug/L		97
64)	ethylmethacrylate	10.18	69	338454	19.0613	ug/L		99
65)	112Triclotha	10.27	83	85550	9.4064	ug/L		97
66)	Tetrachlorte	10.52	166	116170	9.8969	ug/L		97
67)	13Diclorpropa	10.49	76	184484	9.8112	ug/L		96
69)	2Hexanone	10.61	43	1556890	95.4113	ug/L		99
70)	Clorodibrmta	10.79	129	97695	8.2854	ug/L		93
71)	12Dibrometha	10.94	107	103594	9.3282	ug/L		95
72)	Chlorobenzen	11.64	112	283654	9.5535	ug/L		98
73)	1Clhexane	11.62	91	165649	10.1159	ug/L		97
74)	1112Tetclota	11.74	131	96304	9.5876	ug/L		96
75)	Ethylbenzene	11.80	91	493565	10.1616	ug/L		100
76)	m p-Xylene	11.96	106	388273	19.8396	ug/L		92
77)	o-Xylene	12.51	106	192230	9.8189	ug/L		94
78)	Styrene	12.53	104	287563	9.5700	ug/L		98
79)	Bromoform	12.75	173	72484	8.8010	ug/L		98
80)	Isopropylben	13.04	105	486166	10.4056	ug/L		97
81)	cyclohexanone	13.11	55	159187	172.5114	ug/L		96
84)	Bromobenzene	13.44	156	122533	10.2565	ug/L		98
85)	1122Tetrclta	13.41	83	159169	9.4304	ug/L		98
86)	123Triclproa	13.47	75	207657	9.6196	ug/L		96
87)	14dichloro2butene	13.50	53	42977	9.1558	ug/L		90
88)	n-Propylbenz	13.62	91	567132	10.9192	ug/L		99
89)	2chlorotolue	13.73	91	312857	10.2070	ug/L		99
90)	4chlorotolue	13.89	91	346397	9.8336	ug/L		99
91)	135Trimebenz	13.88	105	368246	10.2261	ug/L		100
92)	tbutylbenzen	14.35	119	356490	10.7784	ug/L		97
93)	124Trimetben	14.41	105	373013	10.7147	ug/L		99
94)	sbutylbenzen	14.67	105	496368	10.6877	ug/L		98
95)	13Diclorbenz	14.81	146	203371	9.2901	ug/L		97
96)	pIsopropylto	14.88	119	413194	10.8213	ug/L		98
97)	14dichlorobe	14.93	146	214672	9.8275	ug/L		97
98)	12dichlorobe	15.47	146	202768	9.8789	ug/L		96
99)	nButylbenzen	15.48	91	368004	10.6169	ug/L		98
100)	12dibromo3cl	16.56	157	39951	8.0719	ug/L		91
101)	135Trichlorobenzene	16.90	180	137828	9.9580	ug/L		96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2116\680616MS.D Vial: 31
Acq On : 22 Jan 2016 1:41 Operator: AGK-RLD
Sample : 122700,MSW680616, Inst : VMS3
Misc : pH<2, 10.0/100 ug/L, 5.0 mL Purged + IS/ Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 22 02:02:22 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

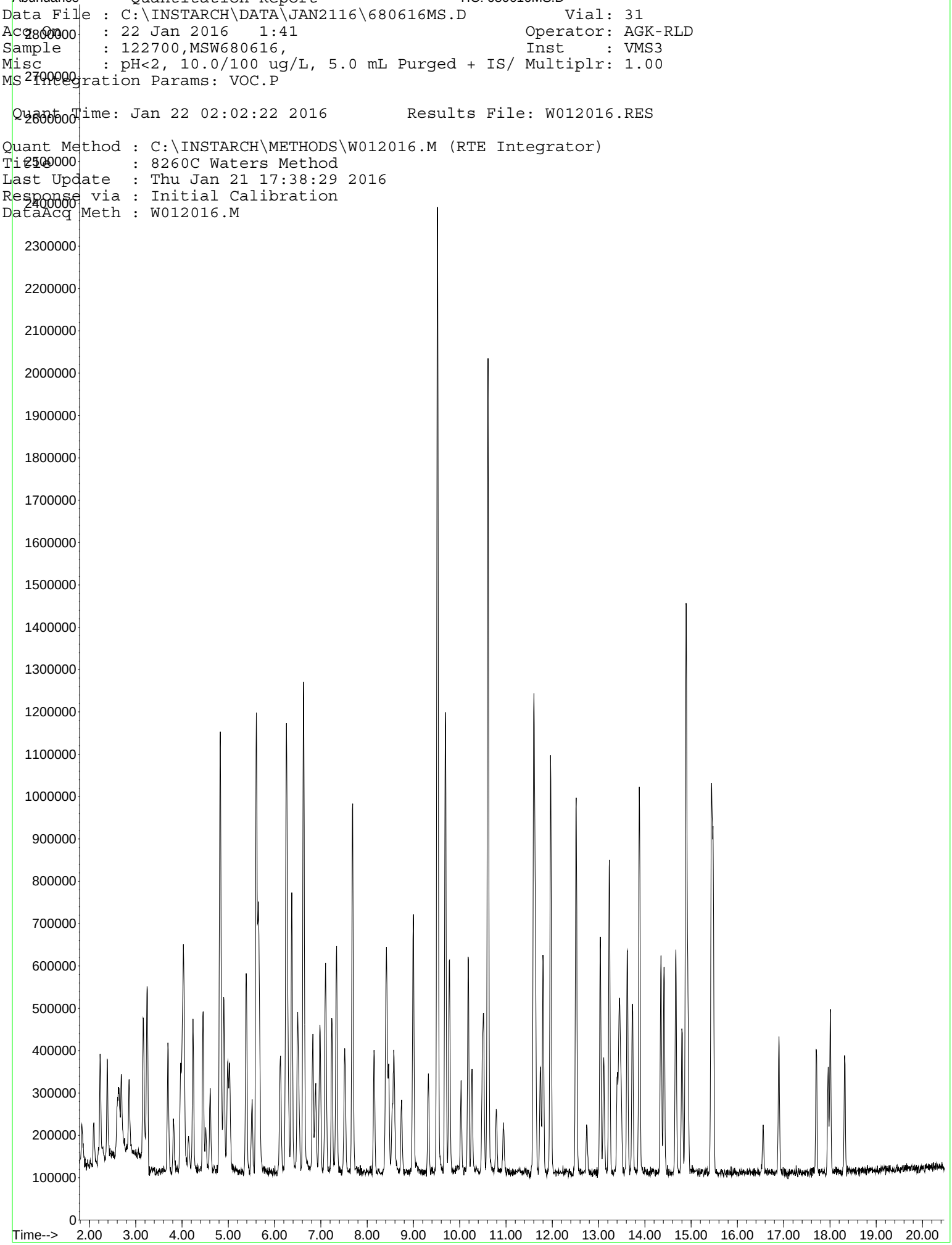
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.71	180	117261	9.1153	ug/L	97
103) Hexachlorobu	17.96	225	59225	10.3949	ug/L	93
104) Naphthalene	18.00	128	375132	9.4359	ug/L	99
105) 123Trichlben	18.32	180	110166	9.2044	ug/L	97

(#) = qualifier out of range (m) = manual integration

Data File : C:\INSTARCH\DATA\JAN2116\680616MS.D Vial: 31
Acq On : 22 Jan 2016 1:41 Operator: AGK-RLD
Sample : 122700,MSW680616, Inst : VMS3
Misc : pH<2, 10.0/100 ug/L, 5.0 mL Purged + IS/ Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 22 02:02:22 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M



Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2116\680616SD.D Vial: 32
Acq On : 22 Jan 2016 2:11 Operator: AGK-RLD
Sample : 122700,MSDW680616, Inst : VMS3
Misc : pH<2, 10.0/100 ug/L, 5.0 mL Purged + IS/ Multiplr: 1.00
MS Integration Params: VOC.P

NOT USED

Quant Time: Jan 22 02:32:11 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.69	96	897969	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.60	117	688701	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.90	152	351011	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.82	113	226673	20.041	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100	%		
45) SURR12DCAd4	7.24	102	65550	20.257	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 101	%		
61) SURRd8Tolule	9.69	98	922188	20.215	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101	%		
83) SURR4BrFBenz	13.23	95	288554	20.447	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 102	%		
Target Compounds						Qvalue
2) Dichlorodi	1.83	85	68738	5.7758	ug/L	95
3) Chloromethan	2.10	50	107538	6.0966	ug/L	97
4) VinylChlorid	2.24	62	155509	6.6707	ug/L	87
5) Bromomethane	2.69	94	79085	8.8813	ug/L	97
6) Chloroethane	2.86	64	106956	6.7755	ug/L	98
7) Dichloroflmethane	3.16	67	228960	7.2837	ug/L	98
8) Trichlorofma	3.25	101	94964	6.1316	ug/L	97
9) Ethylether	3.70	59	48512	4.8936	ug/L	96
10) dichlorotfluoroethan	3.70	67	69620	5.7939	ug/L	95
11) propyleneoxide	4.04	58	115077	40.2096	ug/L	91
12) Acrolein	3.82	56	78732	20.9136	ug/L	94
13) 11dichlorthe	3.97	96	52055	5.0239	ug/L #	87
14) Trichlorotfluoroeth	4.01	101	110895	11.7533	ug/L	97
15) Acetone	4.04	43	348796	41.2435	ug/L	97
16) Iodomethane	4.14	142	65493	9.2307	ug/L	96
17) Carbon Dislf	4.24	76	312765	11.8039	ug/L	97
18) allylchloride	4.46	41	168480	12.2482	ug/L	94
19) methylacetate	4.51	74	19603	4.6584	ug/L	76
20) Methylchlorid	4.61	84	60232	5.2967	ug/L	95
21) tbutylalcohol	4.82	59	961627	249.9912	ug/L	100
22) Acrylonitrile	4.91	53	193899	27.1734	ug/L	98
23) t12dichlorte	4.98	96	62303	5.5366	ug/L	97
24) MtBE	5.03	73	159650	5.0107	ug/L	97
25) Hexane	5.39	57	152804	10.7472	ug/L	98
26) 11dichlorota	5.51	63	103452	5.5895	ug/L	95
27) Vinylacetate	5.61	43	1073339	49.3158	ug/L	96
28) chloroprene	5.64	53	182733	11.1777	ug/L	99
29) Diisopether	5.67	45	167470	4.9652	ug/L	97
30) ETBE	6.13	59	150068	4.7863	ug/L	95
31) 22dichloropr	6.25	77	88333	5.1608	ug/L	97
32) c12dichlorte	6.24	96	59048	4.8098	ug/L	85
33) 2Butanone	6.26	72	170889	51.2919	ug/L	93
34) propionitrile	6.29	54	178545	53.2467	ug/L	97
35) Ethylacetate	6.38	88	21924	24.7334	ug/L	95
36) methacrylonitrile	6.50	67	86522	11.4158	ug/L #	80
37) Bromochlorma	6.53	128	26349	5.0897	ug/L #	87
38) Tetrahydofur	6.62	42	426091	49.7345	ug/L	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2116\680616SD.D Vial: 32
Acq On : 22 Jan 2016 2:11 Operator: AGK-RLD
Sample : 122700,MSDW680616, Inst : VMS3
Misc : pH<2, 10.0/100 ug/L, 5.0 mL Purged + IS/ Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 22 02:32:11 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.64	83	94923	5.2365	ug/L		94
40)	111trichlota	6.88	97	85575	5.3404	ug/L		99
42)	Cyclohexane	6.98	56	112548	5.7981	ug/L		95
43)	Carbtetraclo	7.11	119	130285	9.4805	ug/L		92
44)	11dicloprope	7.10	110	30501	5.6287	ug/L		94
46)	Benzene	7.34	78	239276	5.6013	ug/L		98
47)	12dichlorota	7.33	62	66032	5.2434	ug/L		93
48)	TAME	7.52	73	168475	5.2433	ug/L		96
49)	trichloroete	8.15	95	67659	6.3539	ug/L		98
50)	methylcyclohexane	8.42	83	106659	5.7093	ug/L		95
51)	12dicloropra	8.40	63	60775	5.2127	ug/L	#	93
52)	23Dicl1propene	8.46	75	78305	4.9985	ug/L		91
53)	Dibromometha	8.54	93	37058	5.5266	ug/L		93
54)	methylmethacrylate	8.58	69	58462	5.1141	ug/L		99
55)	14dioxane	8.59	88	64476	262.3121	ug/L		88
56)	Bromodiclrma	8.74	83	69522	5.0272	ug/L		99
57)	2Nitropropane	9.00	43	292229	50.8673	ug/L		99
58)	2CLEVE	0.00	63	0	N.D.			
59)	c13dicloproe	9.32	75	88735	5.0407	ug/L		96
60)	4Meth2Pentan	9.52	43	1039907	50.7073	ug/L		98
62)	Toluene	9.77	92	143831	5.2659	ug/L		99
63)	t13Dicloprop	10.03	75	68050	4.3275	ug/L		99
64)	ethylmethacrylate	10.19	69	186266	10.6850	ug/L		99
65)	112Triclotha	10.27	83	41661	4.6658	ug/L		95
66)	Tetrachlorte	10.51	166	61460	5.3332	ug/L		97
67)	13Diclorpropa	10.49	76	85800	4.6477	ug/L		85
69)	2Hexanone	10.61	43	878458	49.3749	ug/L		96
70)	Clorodibrmta	10.79	129	52344	4.3766	ug/L		97
71)	12Dibrometha	10.95	107	51066	4.5335	ug/L		96
72)	Chlorobenzen	11.63	112	155846	5.1749	ug/L		99
73)	1Clhexane	11.62	91	89338	5.3788	ug/L		94
74)	1112Tetclota	11.74	131	49256	4.8346	ug/L		94
75)	Ethylbenzene	11.80	91	263725	5.3530	ug/L		100
76)	m p-Xylene	11.96	106	205823	10.3686	ug/L		88
77)	o-Xylene	12.51	106	99822	5.0269	ug/L		97
78)	Styrene	12.52	104	149032	4.8898	ug/L		96
79)	Bromoform	12.75	173	37543	4.4942	ug/L		94
80)	Isopropylben	13.03	105	248300	5.2395	ug/L		98
81)	cyclohexanone	13.12	55	82152	87.7730	ug/L		85
84)	Bromobenzene	13.44	156	63607	5.4488	ug/L		98
85)	1122Tetrclta	13.40	83	84270	5.1096	ug/L		99
86)	123Triclproa	13.47	75	105831	5.0173	ug/L		98
87)	14dichloro2butene	13.50	53	20659	4.5042	ug/L		89
88)	n-Propylbenz	13.62	91	292837	5.7701	ug/L		97
89)	2chlorotolue	13.73	91	162130	5.4133	ug/L		99
90)	4chlorotolue	13.88	91	182884	5.3132	ug/L		96
91)	135Trimebenz	13.88	105	185746	5.2789	ug/L		98
92)	tbutylbenzen	14.35	119	171528	5.3075	ug/L		99
93)	124Trimetben	14.41	105	191649	5.6339	ug/L		96
94)	sbutylbenzen	14.66	105	262774	5.7904	ug/L		100
95)	13Diclorbenz	14.80	146	103677	4.8469	ug/L		99
96)	pIsopropylto	14.88	119	214264	5.7428	ug/L		96
97)	14dichlorobe	14.93	146	108240	5.0711	ug/L		96
98)	12dichlorobe	15.47	146	112505	5.6096	ug/L		98
99)	nButylbenzen	15.47	91	188378	5.5619	ug/L		98
100)	12dibromo3cl	16.55	157	20433	4.2250	ug/L		88
101)	135Trichlorobenzene	16.90	180	71261	5.2691	ug/L		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2116\680616SD.D Vial: 32
Acq On : 22 Jan 2016 2:11 Operator: AGK-RLD
Sample : 122700,MSDW680616, Inst : VMS3
Misc : pH<2, 10.0/100 ug/L, 5.0 mL Purged + IS/ Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 22 02:32:11 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

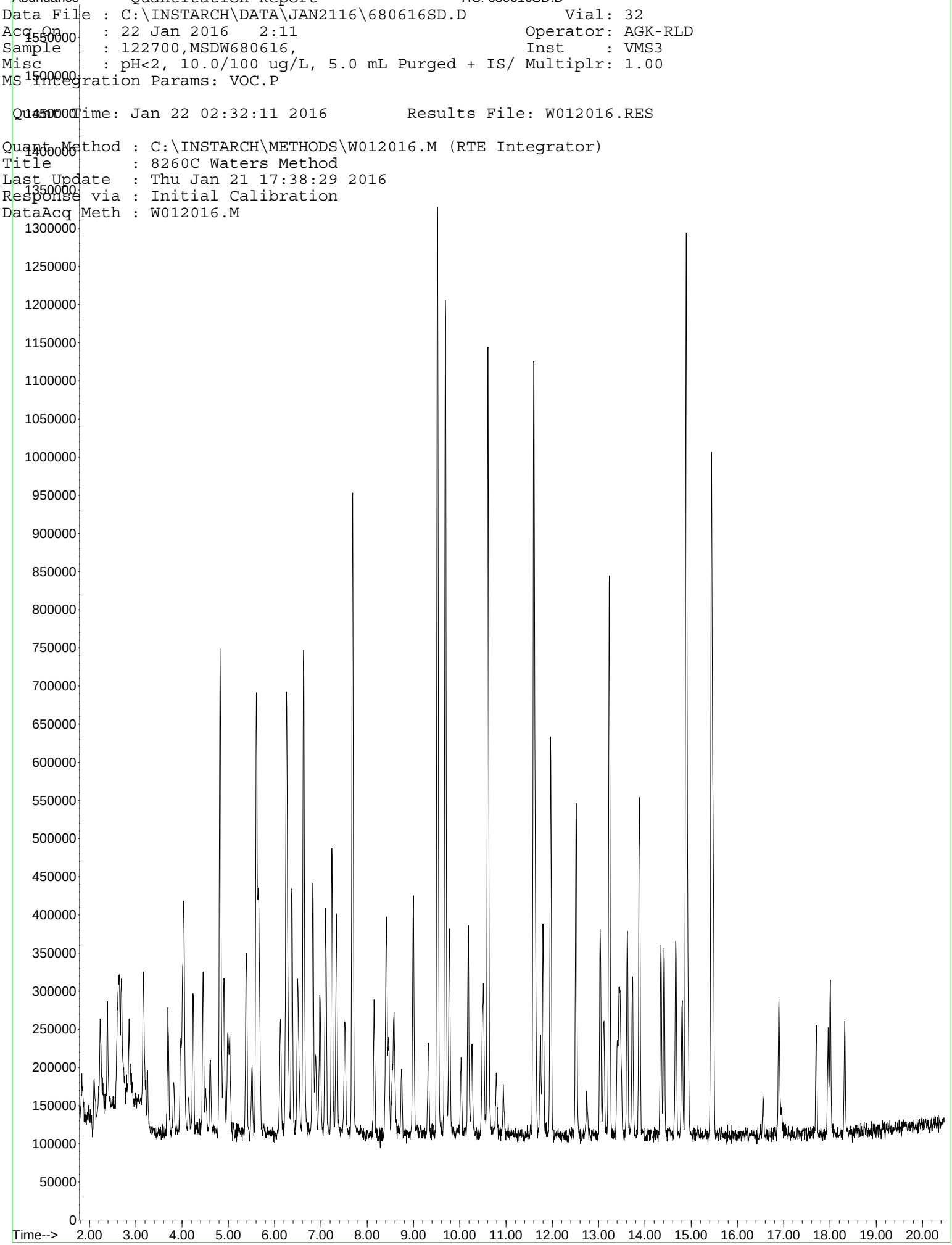
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.71	180	59899	4.7652	ug/L	95
103) Hexachlorobu	17.96	225	31817	5.7151	ug/L	90
104) Naphthalene	18.01	128	189345	4.8742	ug/L	99
105) 123Trichlben	18.33	180	56588	4.8386	ug/L	94

(#) = qualifier out of range (m) = manual integration

Data File : C:\INSTARCH\DATA\JAN2116\680616SD.D Vial: 32
Acq On : 22 Jan 2016 2:11 Operator: AGK-RLD
Sample : 122700,MSDW680616, Inst : VMS3
Misc : pH<2, 10.0/100 ug/L, 5.0 mL Purged + IS/ Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 22 02:32:11 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M



Quantitation Report

Data File : C:\INSTARCH\Data\JAN2216\CCV-LCS1.D Vial: 2
Acq On : 22 Jan 2016 10:40 Operator: AGK-RLD
Sample : 122833,LCSW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 22 11:01:02 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.68	96	915910	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.60	117	679626	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.90	152	363339	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.82	113	229041	19.854	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 99 %			
45) SURR12DCAd4	7.24	102	67441	20.433	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 102 %			
61) SURRd8Tolule	9.69	98	946444	20.340	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 102 %			
83) SURR4BrFBenz	13.23	95	297890	20.392	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 102 %			
Target Compounds						Qvalue
2) Dichlorodi	1.83	85	118931	9.7975	ug/L	100
3) Chloromethan	2.10	50	179942	10.0015	ug/L	95
4) VinylChlorid	2.23	62	260709	10.9643	ug/L	100
5) Bromomethane	2.69	94	100985	11.1186	ug/L	100
6) Chloroethane	2.85	64	183863	11.4192	ug/L	96
7) Dichloroflmethane	3.16	67	394218	12.2952	ug/L	97
8) Trichlorofma	3.25	101	140021	8.8637	ug/L	95
9) Ethylether	3.70	59	95918	9.4861	ug/L	98
10) dichlorotfluoroethan	3.68	67	110866	9.0457	ug/L	94
11) propyleneoxide	4.03	58	276399	105.5627	ug/L	96
12) Acrolein	3.82	56	192988	50.2593	ug/L	87
13) 11dichlorthe	3.96	96	96636	9.1438	ug/L	97
14) Trichlorotfluoroeth	4.01	101	178448	18.5426	ug/L	97
15) Acetone	4.04	43	809852	112.6361	ug/L	99
16) Iodomethane	4.13	142	110050	14.0671	ug/L	96
17) Carbon Dislf	4.23	76	519442	19.2200	ug/L	98
18) allylchloride	4.45	41	271477	19.3493	ug/L	97
19) methylacetate	4.50	74	50801	12.8516	ug/L	92
20) Methylchlorid	4.60	84	113768	9.8086	ug/L	99
21) tbutylalcohol	4.81	59	1878537	555.5039	ug/L	98
22) Acrylonitrile	4.90	53	387250	53.2069	ug/L	99
23) t12dichlorte	4.98	96	105096	9.1564	ug/L	98
24) MtBE	5.02	73	331900	10.2128	ug/L	97
25) Hexane	5.38	57	287719	19.8398	ug/L	99
26) 11dichlorota	5.51	63	181566	9.6178	ug/L	91
27) Vinylacetate	5.60	43	2273717	110.4845	ug/L	99
28) chloroprene	5.64	53	309202	18.5433	ug/L	96
29) Diisopether	5.67	45	335133	9.7415	ug/L	100
30) ETBE	6.12	59	296172	9.2611	ug/L	99
31) 22dichloropr	6.24	77	165006	9.4516	ug/L	98
32) c12dichlorte	6.24	96	114838	9.1710	ug/L	90
33) 2Butanone	6.26	72	358693	105.5519	ug/L	99
34) propionitrile	6.29	54	353512	103.3613	ug/L	97
35) Ethylacetate	6.37	88	46670	51.6191	ug/L #	89
36) methacrylonitrile	6.49	67	167935	21.7235	ug/L	88
37) Bromochlorma	6.54	128	49507	9.3756	ug/L	94
38) Tetrahydofur	6.62	42	853988	106.1500	ug/L	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\JAN2216\CCV-LCS1.D Vial: 2
Acq On : 22 Jan 2016 10:40 Operator: AGK-RLD
Sample : 122833,LCSW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 22 11:01:02 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.63	83	174925	9.4608	ug/L		97
40)	111trichlota	6.88	97	152247	9.3151	ug/L		98
42)	Cyclohexane	6.98	56	178137	8.9972	ug/L		94
43)	Carbtetraclo	7.11	119	122320	8.7266	ug/L		100
44)	11dicloprope	7.09	110	50701	9.1731	ug/L		98
46)	Benzene	7.34	78	434855	9.9802	ug/L		99
47)	12dichlorota	7.33	62	140459	10.9349	ug/L		97
48)	TAME	7.51	73	322350	9.8358	ug/L		97
49)	trichloroete	8.14	95	102999	9.4833	ug/L		94
50)	methylcyclohexane	8.42	83	183060	9.6070	ug/L		95
51)	12dicloropra	8.40	63	117146	9.8509	ug/L	#	88
52)	23Dicl1propene	8.46	75	149192	9.3369	ug/L		96
53)	Dibromometha	8.54	93	66246	9.6860	ug/L		90
54)	methylmethacrylate	8.57	69	125952	10.8021	ug/L		97
55)	14dioxane	8.59	88	125234	533.0409	ug/L		97
56)	Bromodiclrma	8.74	83	129287	9.1657	ug/L		94
57)	2Nitropropane	8.99	43	624995	106.6597	ug/L		98
58)	2CLEVE	9.13	63	221162	52.1164	ug/L		98
59)	c13dicloproe	9.32	75	168684	9.3947	ug/L		99
60)	4Meth2Pentan	9.52	43	2039166	107.3677	ug/L		99
62)	Toluene	9.78	92	266000	9.5479	ug/L		98
63)	t13Dicloprop	10.03	75	156759	9.7735	ug/L		90
64)	ethylmethacrylate	10.18	69	357547	20.1087	ug/L		98
65)	112Triclotha	10.27	83	86932	9.5451	ug/L		94
66)	Tetrachlorte	10.52	166	108358	9.2186	ug/L		98
67)	13Diclorpropa	10.48	76	177651	9.4347	ug/L		100
69)	2Hexanone	10.61	43	1735883	107.9474	ug/L		100
70)	Clorodibrmta	10.80	129	103702	8.7866	ug/L		98
71)	12Dibrometha	10.95	107	104191	9.3732	ug/L		97
72)	Chlorobenzen	11.64	112	276621	9.3079	ug/L		98
73)	1Clhexane	11.62	91	150404	9.1763	ug/L		98
74)	1112Tetclota	11.74	131	99703	9.9167	ug/L		93
75)	Ethylbenzene	11.80	91	477501	9.8217	ug/L		96
76)	m p-Xylene	11.96	106	376566	19.2234	ug/L		95
77)	o-Xylene	12.50	106	178718	9.1201	ug/L		96
78)	Styrene	12.52	104	290614	9.6625	ug/L		97
79)	Bromoform	12.75	173	75521	9.1611	ug/L		97
80)	Isopropylben	13.03	105	460879	9.8551	ug/L		97
81)	cyclohexanone	13.11	55	196781	213.0525	ug/L		98
84)	Bromobenzene	13.44	156	120035	9.9337	ug/L		98
85)	1122Tetrclta	13.40	83	169689	9.9399	ug/L		95
86)	123Triclproa	13.47	75	215034	9.8486	ug/L		91
87)	14dichloro2butene	13.50	53	39051	8.2253	ug/L		97
88)	n-Propylbenz	13.62	91	534100	10.1668	ug/L		100
89)	2chlorotolue	13.73	91	290850	9.3816	ug/L		99
90)	4chlorotolue	13.89	91	343238	9.6336	ug/L		100
91)	135Trimebenz	13.88	105	350964	9.6359	ug/L		100
92)	tbutylbenzen	14.35	119	326686	9.7654	ug/L		97
93)	124Trimetben	14.42	105	338601	9.6161	ug/L		98
94)	sbutylbenzen	14.67	105	468344	9.9701	ug/L		98
95)	13Diclorbenz	14.80	146	204842	9.2513	ug/L		98
96)	pIsopropylto	14.88	119	391538	10.1380	ug/L		98
97)	14dichlorobe	14.93	146	210498	9.5273	ug/L		95
98)	12dichlorobe	15.47	146	194472	9.3675	ug/L		94
99)	nButylbenzen	15.48	91	352731	10.0611	ug/L		97
100)	12dibromo3cl	16.56	157	44974	8.9840	ug/L		96
101)	135Trichlorobenzene	16.90	180	133831	9.5598	ug/L		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\JAN2216\CCV-LCS1.D Vial: 2
Acq On : 22 Jan 2016 10:40 Operator: AGK-RLD
Sample : 122833,LCSW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 22 11:01:02 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102)	124Trichlobe	17.71	180	127457	9.7957	ug/L	96
103)	Hexachlorobu	17.96	225	57142	9.9158	ug/L	92
104)	Naphthalene	18.01	128	410382	10.2057	ug/L	99
105)	123Trichlben	18.32	180	110052	9.0908	ug/L	93

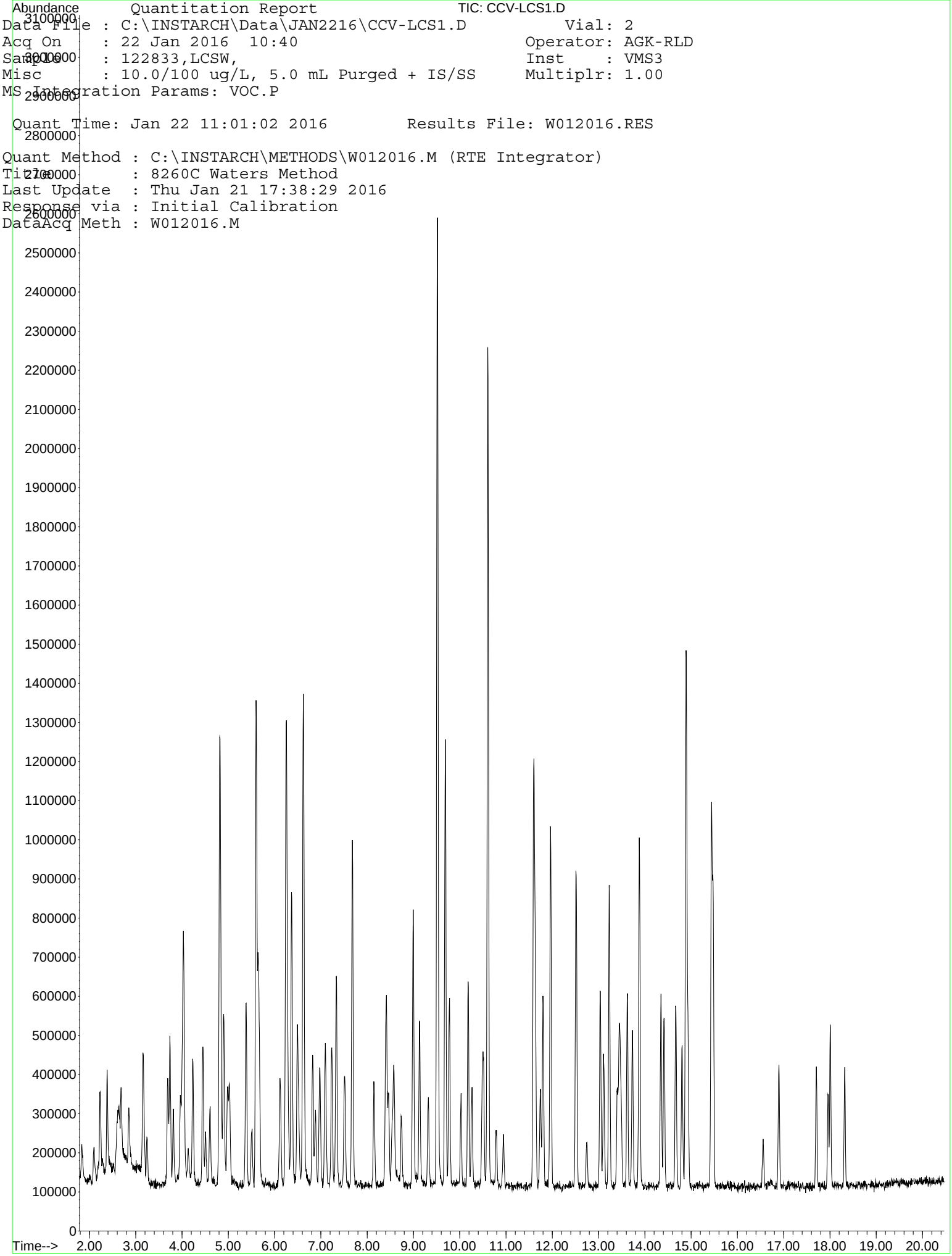
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: CCV-LCS1.D

Data File : C:\INSTARCH\Data\JAN2216\CCV-LCS1.D Vial: 2
Acq On : 22 Jan 2016 10:40 Operator: AGK-RLD
Sample : 122833,LCSW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 22 11:01:02 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M



Quantitation Report

Data File : C:\INSTARCH\Data\JAN2216\MB1.D Vial: 4
Acq On : 22 Jan 2016 11:38 Operator: AGK-RLD
Sample : 122833,MBW, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 22 11:59:19 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.68	96	909478	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.60	117	654544	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.90	152	347431	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.82	113	211298	18.446	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 92 %			
45) SURR12DCAd4	7.24	102	59629	18.194	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 91 %			
61) SURRd8Tolule	9.69	98	902390	19.531	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 98 %			
83) SURR4BrFBenz	13.23	95	264500	18.935	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 95 %			

Target Compounds					Qvalue
2) Dichlorodi	0.00	85	0	N.D.	
3) Chloromethan	0.00	50	0	N.D.	
4) VinylChlorid	0.00	62	0	N.D.	
5) Bromomethane	0.00	94	0	N.D.	
6) Chloroethane	0.00	64	0	N.D.	
7) Dichloroflmethane	0.00	67	0	N.D.	
8) Trichlorofma	0.00	101	0	N.D.	
9) Ethylether	0.00	59	0	N.D.	
10) dichlorotfluoroethan	0.00	67	0	N.D.	
11) propyleneoxide	0.00	58	0	N.D.	
12) Acrolein	0.00	56	0	N.D.	
13) 11dichlorthe	0.00	96	0	N.D.	
14) Trichlorotfluoroeth	0.00	101	0	N.D.	
15) Acetone	4.04	43	20474	Below Cal #	40
16) Iodomethane	0.00	142	0	N.D.	
17) Carbon Dislf	0.00	76	0	N.D.	
18) allylchloride	0.00	41	0	N.D.	
19) methylacetate	0.00	74	0	N.D.	
20) Methylchlorid	0.00	84	0	N.D.	
21) tbutylalcohol	4.83	59	6249	Below Cal #	56
22) Acrylonitrile	0.00	53	0	N.D.	
23) t12dichlorte	0.00	96	0	N.D.	
24) MtBE	0.00	73	0	N.D.	
25) Hexane	0.00	57	0	N.D.	
26) 11dichlorota	0.00	63	0	N.D.	
27) Vinylacetate	0.00	43	0	N.D.	
28) chloroprene	0.00	53	0	N.D.	
29) Diisopether	0.00	45	0	N.D.	
30) ETBE	0.00	59	0	N.D.	
31) 22dichloropr	0.00	77	0	N.D.	
32) c12dichlorte	0.00	96	0	N.D.	
33) 2Butanone	0.00	72	0	N.D.	
34) propionitrile	0.00	54	0	N.D.	
35) Ethylacetate	0.00	88	0	N.D.	
36) methacrylonitrile	0.00	67	0	N.D.	
37) Bromochlorma	0.00	128	0	N.D.	
38) Tetrahydofur	6.62	42	6286	Below Cal #	34

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\JAN2216\MB1.D Vial: 4
Acq On : 22 Jan 2016 11:38 Operator: AGK-RLD
Sample : 122833,MBW, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 22 11:59:19 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	0.00	119	0	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	0.00	78	0	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	0.00	95	0	N.D.	
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	0.00	92	0	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	0.00	91	0	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	0.00	106	0	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	13.12	55	7180	8.0716 ug/L #	38
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	0.00	105	0	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	0.00	91	0	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\JAN2216\MB1.D Vial: 4
Acq On : 22 Jan 2016 11:38 Operator: AGK-RLD
Sample : 122833,MBW, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 22 11:59:19 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

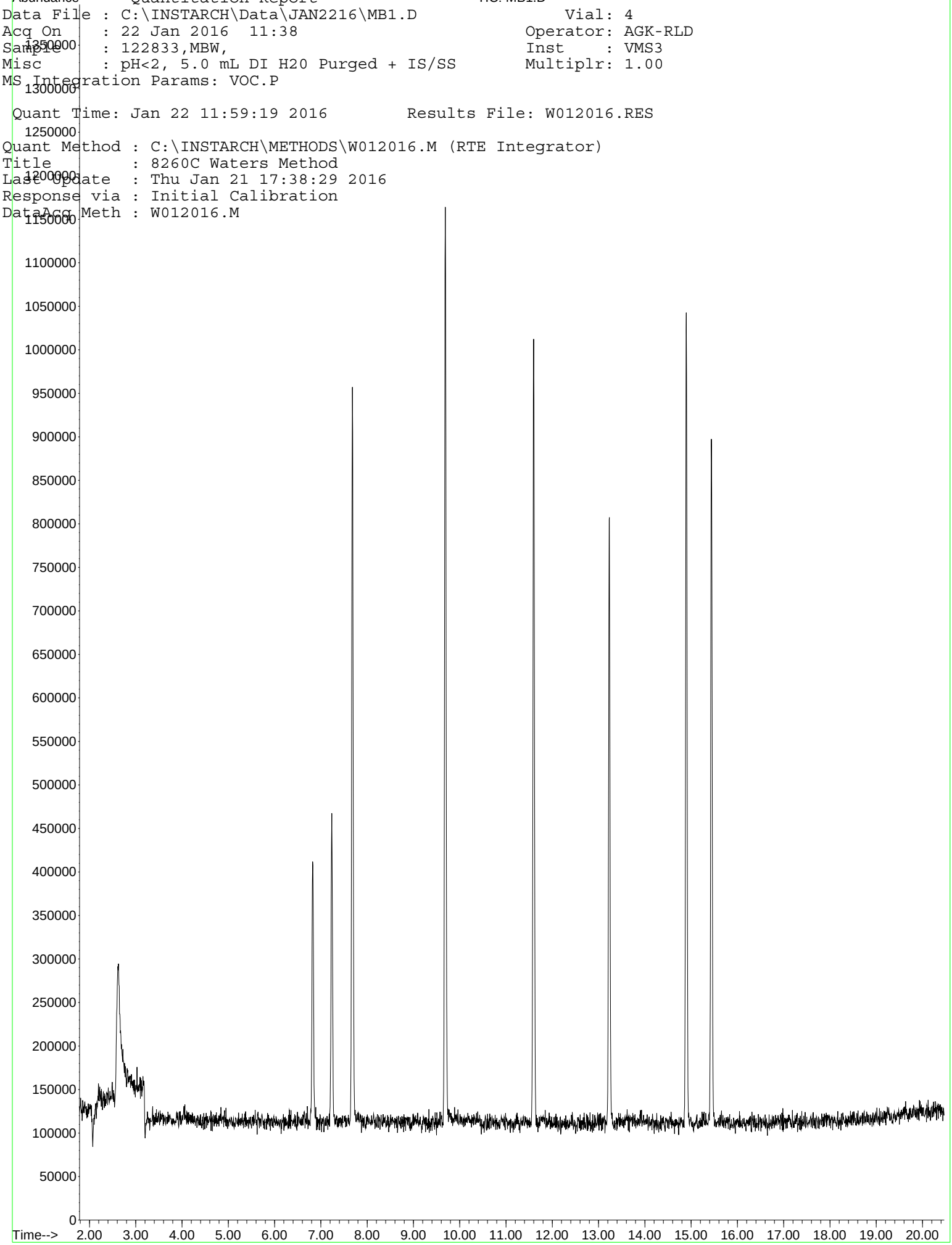
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	0.00	128	0	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Data File : C:\INSTARCH\Data\JAN2216\MB1.D Vial: 4
Acq On : 22 Jan 2016 11:38 Operator: AGK-RLD
Sample : 122833,MBW, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 22 11:59:19 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M



Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2216\681533MS.D Vial: 13
Acq On : 22 Jan 2016 16:01 Operator: AGK-RLD
Sample : 122833,MSW681533, Inst : VMS3
Misc : pH<2, 10.0/100 ug/L, 5.0 mL Purged + IS/ Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 22 16:22:33 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.68	96	899654	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.60	117	647508	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.90	152	341118	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.83	113	210830	18.606	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 93 %			
45) SURR12DCAd4	7.24	102	64581	19.920	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 100 %			
61) SURRd8Tolule	9.69	98	926829	20.279	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101 %			
83) SURR4BrFBenz	13.23	95	271975	19.831	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 99 %			
Target Compounds						Qvalue
2) Dichlorodi	1.83	85	131225	11.0056	ug/L	98
3) Chloromethan	2.10	50	199606	11.2949	ug/L	96
4) VinylChlorid	2.23	62	289315	12.3872	ug/L	95
5) Bromomethane	2.70	94	138658	15.5423	ug/L	99
6) Chloroethane	2.86	64	206619	13.0644	ug/L	94
7) Dichloroflmethane	3.17	67	487414	15.4765	ug/L	99
8) Trichlorofma	3.24	101	260019	16.7572	ug/L	99
9) Ethylether	3.70	59	77594	7.8126	ug/L	97
10) dichlorotfluoroethan	3.70	67	128256	10.6536	ug/L	94
11) propyleneoxide	4.06	58	157991	57.8181	ug/L	100
12) Acrolein	3.82	56	121449	32.2001	ug/L	93
13) 11dichlorthe	3.97	96	105434	10.1565	ug/L	94
14) Trichlorotfluoroeth	4.02	101	204353	21.6180	ug/L	98
15) Acetone	4.05	43	453868	57.6108	ug/L	100
16) Iodomethane	4.14	142	131921	16.7678	ug/L	91
17) Carbon Dislf	4.24	76	562422	21.1863	ug/L	99
18) allylchloride	4.46	41	272910	19.8030	ug/L	92
19) methylacetate	4.52	74	36313	9.1735	ug/L	84
20) Methylchlorid	4.60	84	96929	8.5078	ug/L	90
21) tbutylalcohol	4.85	59	1198782	329.4079	ug/L	97
22) Acrylonitrile	4.91	53	313539	43.8577	ug/L	97
23) t12dichlorte	4.98	96	106633	9.4582	ug/L	89
24) MtBE	5.03	73	285555	8.9455	ug/L	93
25) Hexane	5.38	57	304458	21.3734	ug/L	99
26) 11dichlorota	5.51	63	187223	10.0966	ug/L	95
27) Vinylacetate	5.61	43	2047733	100.2159	ug/L	98
28) chloroprene	5.64	53	336637	20.5534	ug/L	99
29) Diisopether	5.67	45	331657	9.8147	ug/L	98
30) ETBE	6.12	59	300483	9.5657	ug/L	95
31) 22dichloropr	6.25	77	162260	9.4622	ug/L	97
32) c12dichlorte	6.24	96	117045	9.5162	ug/L	93
33) 2Butanone	6.27	72	277222	83.0516	ug/L	89
34) propionitrile	6.31	54	273067	81.2831	ug/L	97
35) Ethylacetate	6.38	88	36233	40.7994	ug/L	97
36) methacrylonitrile	6.51	67	143116	18.8475	ug/L	87
37) Bromochlorma	6.52	128	50888	9.8113	ug/L	96
38) Tetrahydofur	6.63	42	710586	88.3375	ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2216\681533MS.D Vial: 13
Acq On : 22 Jan 2016 16:01 Operator: AGK-RLD
Sample : 122833,MSW681533, Inst : VMS3
Misc : pH<2, 10.0/100 ug/L, 5.0 mL Purged + IS/ Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 22 16:22:33 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.63	83	269096	14.8169	ug/L	95
40)	111trichlota	6.88	97	164170	10.2261	ug/L	99
42)	Cyclohexane	6.97	56	206475	10.6169	ug/L	95
43)	Carbtetraclo	7.11	119	1068229	77.5870	ug/L	99
44)	11dicloprope	7.09	110	53680	9.8876	ug/L	95
46)	Benzene	7.34	78	425307	9.9375	ug/L	97
47)	12dichlorota	7.33	62	124538	9.8706	ug/L	89
48)	TAME	7.52	73	302490	9.3966	ug/L	98
49)	trichloroete	8.15	95	184698	17.3127	ug/L	94
50)	methylcyclohexane	8.42	83	205073	10.9567	ug/L	96
51)	12dicloropra	8.40	63	118385	10.1350	ug/L	86
52)	23Dicl1propene	8.46	75	153832	9.8012	ug/L	95
53)	Dibromometha	8.54	93	66266	9.8640	ug/L	94
54)	methylmethacrylate	8.57	69	105253	9.1900	ug/L	97
55)	14dioxane	8.62	88	86854	364.8269	ug/L	90
56)	Bromodiclrma	8.74	83	121629	8.7786	ug/L	100
57)	2Nitropropane	9.00	43	540757	93.9514	ug/L	99
58)	2CLEVE	0.00	63	0	N.D.		
59)	c13dicloproe	9.32	75	163896	9.2929	ug/L	99
60)	4Meth2Pentan	9.52	43	1809884	95.4194	ug/L	98
62)	Toluene	9.78	92	276078	10.0887	ug/L	97
63)	t13Dicloprop	10.03	75	137316	8.7160	ug/L	94
64)	ethylmethacrylate	10.19	69	327913	18.7753	ug/L	98
65)	112Triclotha	10.27	83	86785	9.7012	ug/L	97
66)	Tetrachlorte	10.52	166	114564	9.9227	ug/L	94
67)	13Diclorpropa	10.49	76	171701	9.2835	ug/L	95
69)	2Hexanone	10.61	43	1520257	98.0195	ug/L	97
70)	Clorodibrmta	10.80	129	96087	8.5452	ug/L	96
71)	12Dibrometha	10.95	107	89918	8.4904	ug/L	94
72)	Chlorobenzen	11.63	112	287066	10.1385	ug/L	99
73)	1Clhexane	11.62	91	161587	10.3476	ug/L	98
74)	1112Tetclota	11.74	131	86208	8.9998	ug/L	96
75)	Ethylbenzene	11.80	91	484938	10.4694	ug/L	98
76)	m p-Xylene	11.96	106	388065	20.7930	ug/L	94
77)	o-Xylene	12.51	106	193181	10.3472	ug/L	91
78)	Styrene	12.52	104	287163	10.0214	ug/L	98
79)	Bromoform	12.75	173	64308	8.1879	ug/L	92
80)	Isopropylben	13.03	105	480098	10.7753	ug/L	96
81)	cyclohexanone	13.12	55	166352	189.0412	ug/L	95
84)	Bromobenzene	13.44	156	110061	9.7016	ug/L	91
85)	1122Tetrclta	13.40	83	145931	9.1050	ug/L	95
86)	123Triclproa	13.47	75	203188	9.9122	ug/L	98
87)	14dichloro2butene	13.50	53	37604	8.4364	ug/L	96
88)	n-Propylbenz	13.62	91	566881	11.4938	ug/L	99
89)	2chlorotolue	13.73	91	295901	10.1663	ug/L	95
90)	4chlorotolue	13.89	91	340730	10.1862	ug/L	99
91)	135Trimebenz	13.88	105	357312	10.4492	ug/L	99
92)	tbutylbenzen	14.35	119	347174	11.0539	ug/L	96
93)	124Trimetben	14.42	105	361511	10.9356	ug/L	98
94)	sbutylbenzen	14.67	105	494723	11.2177	ug/L	98
95)	13Diclorbenz	14.80	146	207185	9.9667	ug/L	98
96)	pIsopropylto	14.88	119	400120	11.0351	ug/L	99
97)	14dichlorobe	14.93	146	209021	10.0767	ug/L	98
98)	12dichlorobe	15.47	146	195916	10.0518	ug/L	98
99)	nButylbenzen	15.48	91	362076	11.0004	ug/L	97
100)	12dibromo3cl	16.56	157	43232	9.1985	ug/L	91
101)	135Trichlorobenzene	16.90	180	131273	9.9879	ug/L	95

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2216\681533MS.D Vial: 13
Acq On : 22 Jan 2016 16:01 Operator: AGK-RLD
Sample : 122833,MSW681533, Inst : VMS3
Misc : pH<2, 10.0/100 ug/L, 5.0 mL Purged + IS/ Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 22 16:22:33 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102)	124Trichlobe	17.71	180	119244	9.7615	ug/L	98
103)	Hexachlorobu	17.96	225	55809	10.3153	ug/L	91
104)	Naphthalene	18.01	128	395894	10.4868	ug/L	98
105)	123Trichlben	18.32	180	113631	9.9978	ug/L	98

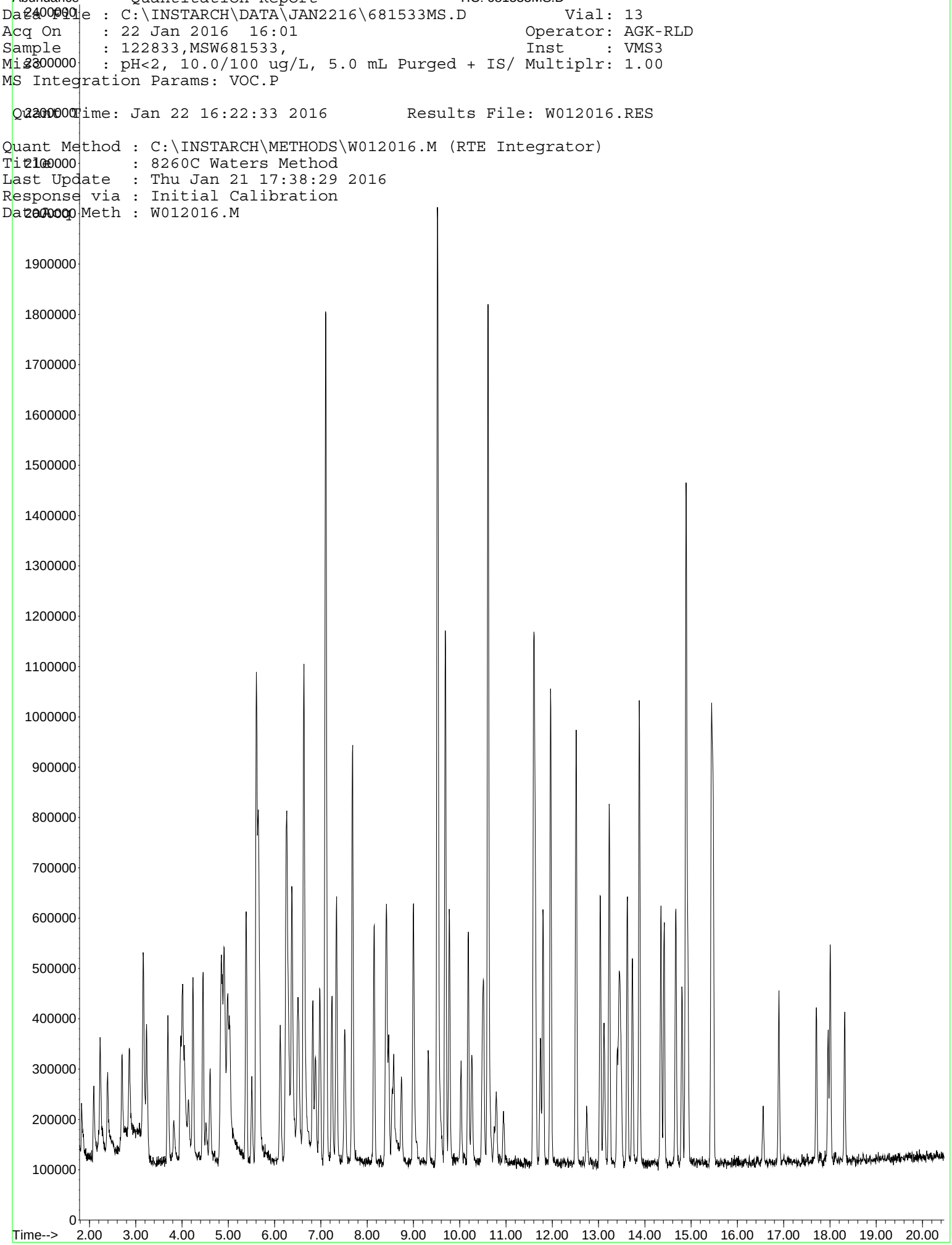
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: 681533MS.D

Data File : C:\INSTARCH\DATA\JAN2216\681533MS.D Vial: 13
Acq On : 22 Jan 2016 16:01 Operator: AGK-RLD
Sample : 122833,MSW681533, Inst : VMS3
Misc : pH<2, 10.0/100 ug/L, 5.0 mL Purged + IS/ Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 22 16:22:33 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
Data Acq Meth : W012016.M



Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2216\681533SD.D Vial: 14
Acq On : 22 Jan 2016 16:31 Operator: AGK-RLD
Sample : 122833,MSDW681533, Inst : VMS3
Misc : pH<2, 10.0/100 ug/L, 5.0 mL Purged + IS/ Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 22 16:52:10 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.68	96	909070	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.60	117	665381	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.90	152	364837	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.82	113	218456	19.079	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 95 %			
45) SURR12DCAd4	7.24	102	62165	18.976	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 95 %			
61) SURRd8Tolule	9.69	98	915716	19.828	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 99 %			
83) SURR4BrFBenz	13.23	95	291405	19.866	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 99 %			
Target Compounds						Qvalue
2) Dichlorodi	1.83	85	131139	10.8845	ug/L	95
3) Chloromethan	2.09	50	179858	10.0720	ug/L	98
4) VinylChlorid	2.23	62	297149	12.5908	ug/L	95
5) Bromomethane	2.69	94	112411	12.4697	ug/L	98
6) Chloroethane	2.86	64	196961	12.3248	ug/L	99
7) Dichloroflmethane	3.16	67	445507	13.9994	ug/L	98
8) Trichlorofma	3.24	101	268583	17.1299	ug/L	97
9) Ethylether	3.70	59	89283	8.8964	ug/L	88
10) dichlorotfluoroethan	3.69	67	134642	11.0683	ug/L	96
11) propyleneoxide	4.03	58	249079	94.9280	ug/L	94
12) Acrolein	3.81	56	188820	49.5438	ug/L	97
13) 11dichlorthe	3.96	96	107385	10.2373	ug/L	94
14) Trichlorotfluoroeth	4.01	101	204213	21.3795	ug/L	98
15) Acetone	4.04	43	678488	92.3874	ug/L	97
16) Iodomethane	4.14	142	164208	20.2232	ug/L	93
17) Carbon Dislf	4.23	76	583332	21.7464	ug/L	97
18) allylchloride	4.45	41	296369	21.2824	ug/L	97
19) methylacetate	4.51	74	46250	11.7341	ug/L	94
20) Methylchlorid	4.60	84	113787	9.8840	ug/L	93
21) tbutylalcohol	4.82	59	2144746	656.4561	ug/L	97
22) Acrylonitrile	4.91	53	417410	57.7823	ug/L	95
23) t12dichlorte	4.99	96	112050	9.8358	ug/L	94
24) MtBE	5.03	73	350320	10.8607	ug/L	97
25) Hexane	5.39	57	307760	21.3814	ug/L	99
26) 11dichlorota	5.50	63	202175	10.7900	ug/L	95
27) Vinylacetate	5.60	43	2486539	123.3409	ug/L	99
28) chloroprene	5.64	53	348878	21.0802	ug/L	96
29) Diisopether	5.67	45	373496	10.9383	ug/L	99
30) ETBE	6.12	59	346612	10.9199	ug/L	97
31) 22dichloropr	6.24	77	185761	10.7205	ug/L	99
32) c12dichlorte	6.24	96	130093	10.4674	ug/L	91
33) 2Butanone	6.26	72	390050	115.6429	ug/L	95
34) propionitrile	6.29	54	411250	121.1477	ug/L	98
35) Ethylacetate	6.37	88	50306	56.0593	ug/L	92
36) methacrylonitrile	6.49	67	186277	24.2775	ug/L	94
37) Bromochlorma	6.52	128	51979	9.9178	ug/L	96
38) Tetrahydofur	6.62	42	944489	119.6214	ug/L	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2216\681533SD.D Vial: 14
Acq On : 22 Jan 2016 16:31 Operator: AGK-RLD
Sample : 122833,MSDW681533, Inst : VMS3
Misc : pH<2, 10.0/100 ug/L, 5.0 mL Purged + IS/ Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 22 16:52:10 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.63	83	305416	16.6426	ug/L	99
40)	111trichlota	6.88	97	175760	10.8346	ug/L	96
42)	Cyclohexane	6.98	56	211597	10.7676	ug/L	94
43)	Carbtetraclo	7.11	119	1057194	75.9902	ug/L	99
44)	11dicloprope	7.08	110	58082	10.5876	ug/L	100
46)	Benzene	7.34	78	478491	11.0643	ug/L	98
47)	12dichlorota	7.32	62	142305	11.1619	ug/L	99
48)	TAME	7.52	73	376117	11.5627	ug/L	96
49)	trichloroete	8.15	95	196185	18.1989	ug/L	93
50)	methylcyclohexane	8.42	83	213782	11.3037	ug/L	96
51)	12dicloropra	8.40	63	130909	11.0911	ug/L	96
52)	23Dicl1propene	8.46	75	188890	11.9102	ug/L	98
53)	Dibromometha	8.54	93	73103	10.7690	ug/L	97
54)	methylmethacrylate	8.57	69	141122	12.1942	ug/L	98
55)	14dioxane	8.59	88	138781	600.3072	ug/L	94
56)	Bromodiclrma	8.74	83	151738	10.8383	ug/L	95
57)	2Nitropropane	8.99	43	714101	122.7832	ug/L	98
58)	2CLEVE	0.00	63	0	N.D.		
59)	c13dicloproe	9.32	75	194463	10.9119	ug/L	100
60)	4Meth2Pentan	9.52	43	2323925	126.3929	ug/L	99
62)	Toluene	9.77	92	296986	10.7403	ug/L	97
63)	t13Dicloprop	10.02	75	178658	11.2226	ug/L	91
64)	ethylmethacrylate	10.18	69	432755	24.5216	ug/L	97
65)	112Triclotha	10.26	83	99850	11.0460	ug/L	97
66)	Tetrachlorte	10.51	166	127545	10.9326	ug/L	97
67)	13Diclorpropa	10.48	76	217006	11.6115	ug/L	97
69)	2Hexanone	10.61	43	1960859	127.4439	ug/L	99
70)	Clorodibrmta	10.79	129	119443	10.3370	ug/L	93
71)	12Dibrometha	10.95	107	127811	11.7443	ug/L	94
72)	Chlorobenzen	11.63	112	337563	11.6017	ug/L	99
73)	1Clhexane	11.62	91	197056	12.2800	ug/L	99
74)	1112Tetclota	11.74	131	107484	10.9195	ug/L	97
75)	Ethylbenzene	11.80	91	585750	12.3062	ug/L	96
76)	m p-Xylene	11.96	106	454364	23.6915	ug/L	96
77)	o-Xylene	12.50	106	221650	11.5532	ug/L	96
78)	Styrene	12.52	104	351990	11.9538	ug/L	99
79)	Bromoform	12.75	173	81110	10.0497	ug/L	97
80)	Isopropylben	13.04	105	572407	12.5020	ug/L	100
81)	cyclohexanone	13.11	55	231615	256.1355	ug/L	99
84)	Bromobenzene	13.44	156	142707	11.7614	ug/L	98
85)	1122Tetrclta	13.40	83	203898	11.8947	ug/L	94
86)	123Triclproa	13.47	75	253543	11.5646	ug/L	94
87)	14dichloro2butene	13.49	53	51998	10.9073	ug/L	96
88)	n-Propylbenz	13.62	91	659307	12.4987	ug/L	99
89)	2chlorotolue	13.73	91	363097	11.6639	ug/L	98
90)	4chlorotolue	13.89	91	407316	11.3851	ug/L	97
91)	135Trimebenz	13.88	105	416808	11.3967	ug/L	98
92)	tbutylbenzen	14.35	119	399828	11.9027	ug/L	95
93)	124Trimetben	14.41	105	406656	11.5015	ug/L	96
94)	sbutylbenzen	14.66	105	575725	12.2057	ug/L	99
95)	13Diclorbenz	14.80	146	245851	11.0579	ug/L	99
96)	pIsopropylto	14.88	119	476662	12.2915	ug/L	100
97)	14dichlorobe	14.93	146	245682	11.0741	ug/L	99
98)	12dichlorobe	15.47	146	235596	11.3018	ug/L	96
99)	nButylbenzen	15.48	91	436156	12.3896	ug/L	98
100)	12dibromo3cl	16.56	157	49379	9.8234	ug/L	87
101)	135Trichlorobenzene	16.90	180	166875	11.8712	ug/L	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JAN2216\681533SD.D Vial: 14
Acq On : 22 Jan 2016 16:31 Operator: AGK-RLD
Sample : 122833,MSDW681533, Inst : VMS3
Misc : pH<2, 10.0/100 ug/L, 5.0 mL Purged + IS/ Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 22 16:52:10 2016 Results File: W012016.RES

Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
DataAcq Meth : W012016.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.71	180	151716	11.6122	ug/L	95
103) Hexachlorobu	17.96	225	77548	13.4015	ug/L	85
104) Naphthalene	18.01	128	485816	12.0321	ug/L	96
105) 123Trichlben	18.32	180	132825	10.9269	ug/L	97

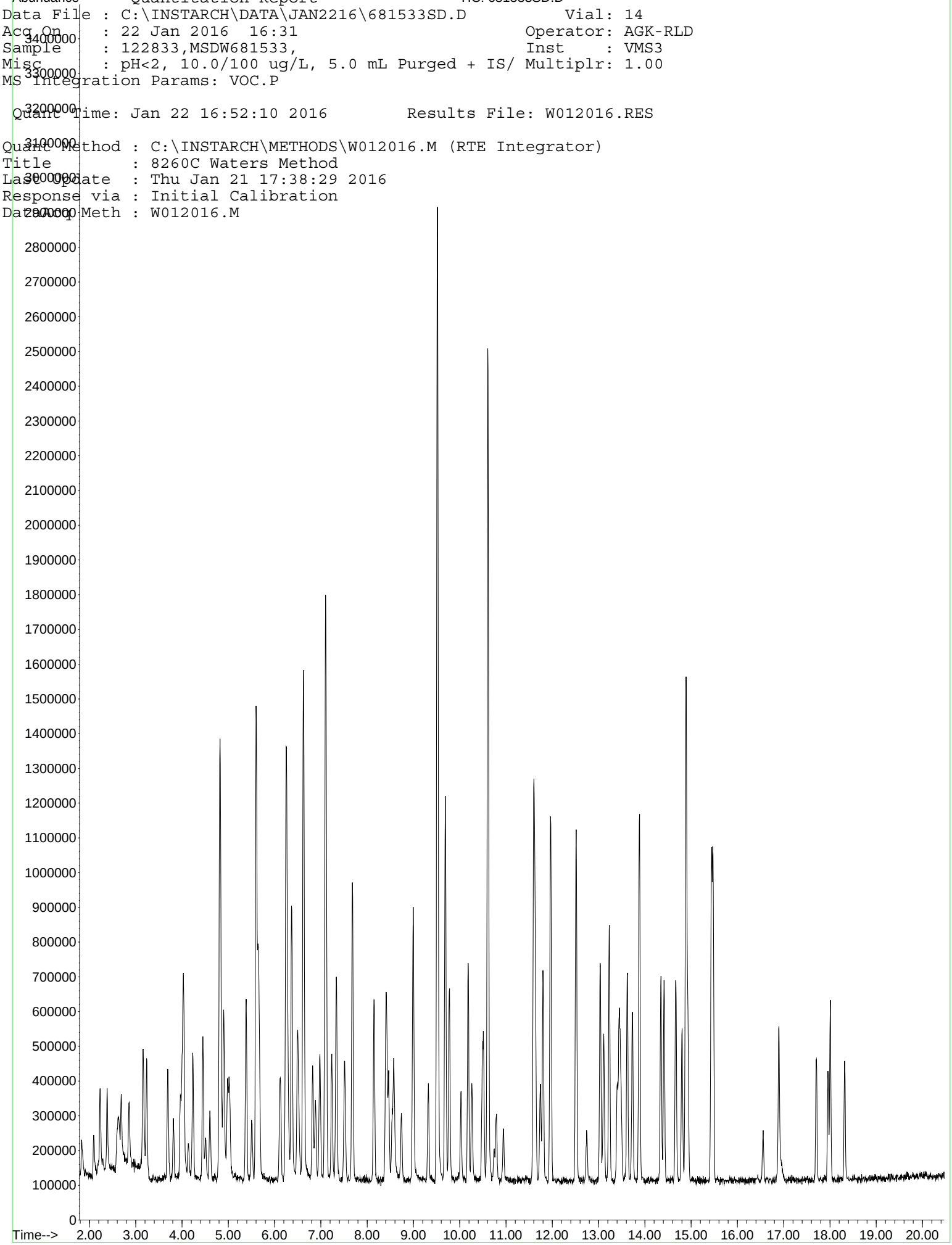
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: 681533SD.D

Data File : C:\INSTARCH\DATA\JAN2216\681533SD.D Vial: 14
Acq On : 22 Jan 2016 16:31 Operator: AGK-RLD
Sample : 122833,MSDW681533, Inst : VMS3
Misc : pH<2, 10.0/100 ug/L, 5.0 mL Purged + IS/ Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jan 22 16:52:10 2016 Results File: W012016.RES

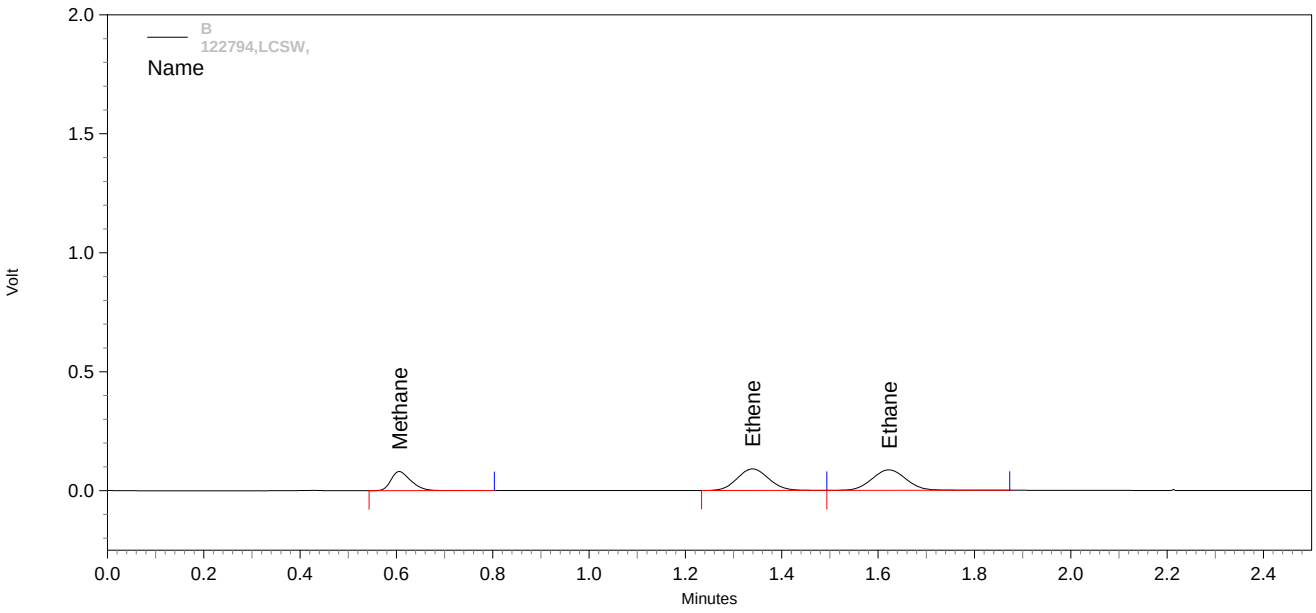
Quant Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Jan 21 17:38:29 2016
Response via : Initial Calibration
Data Meth : W012016.M



Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\012016\002.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 122794,LCSW,
Acquired: Jan 20, 2016 10:58:29
File Desc. Laboratory Control Sample - 25 ppmV
1.0 mL injection (Methane, Ethene, Ethane)



B Results

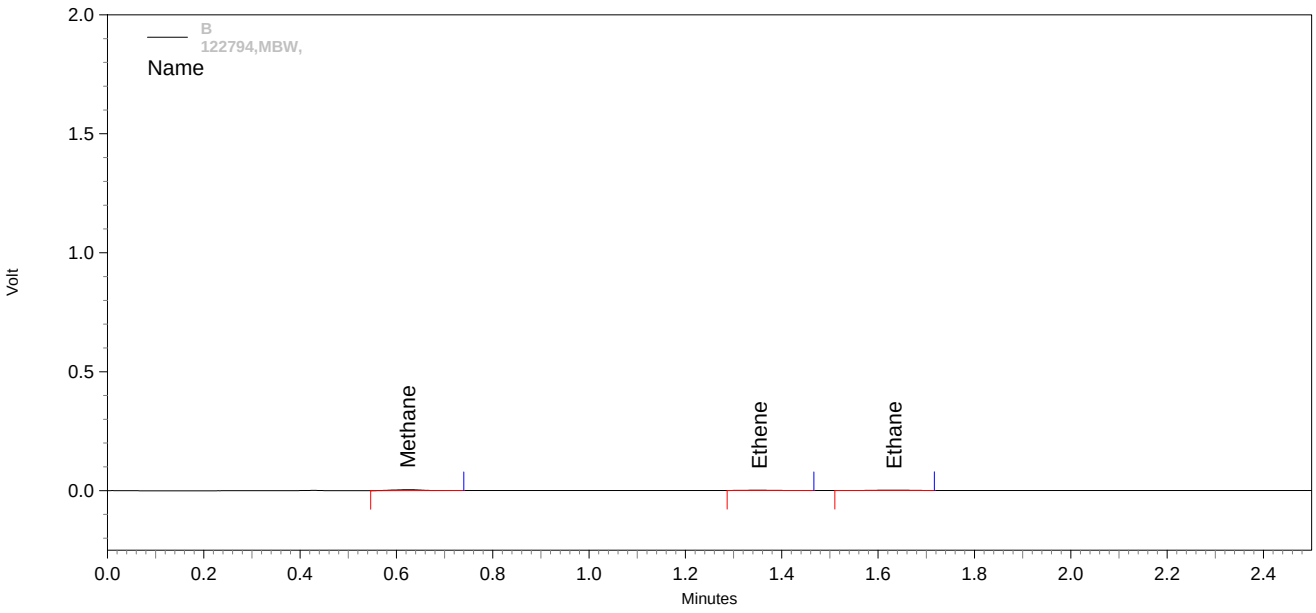
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.607	229783	**25.680**
2	Ethene	1.340	411549	**25.051**
3	Ethane	1.623	423545	**25.373**

Totals			1064877	**76.104**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\012016\003.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 122794,MBW,
Acquired: Jan 20, 2016 11:02:29
File Desc. Method Blank
1mL injection (Methane, Ethene, Ethane)



B Results

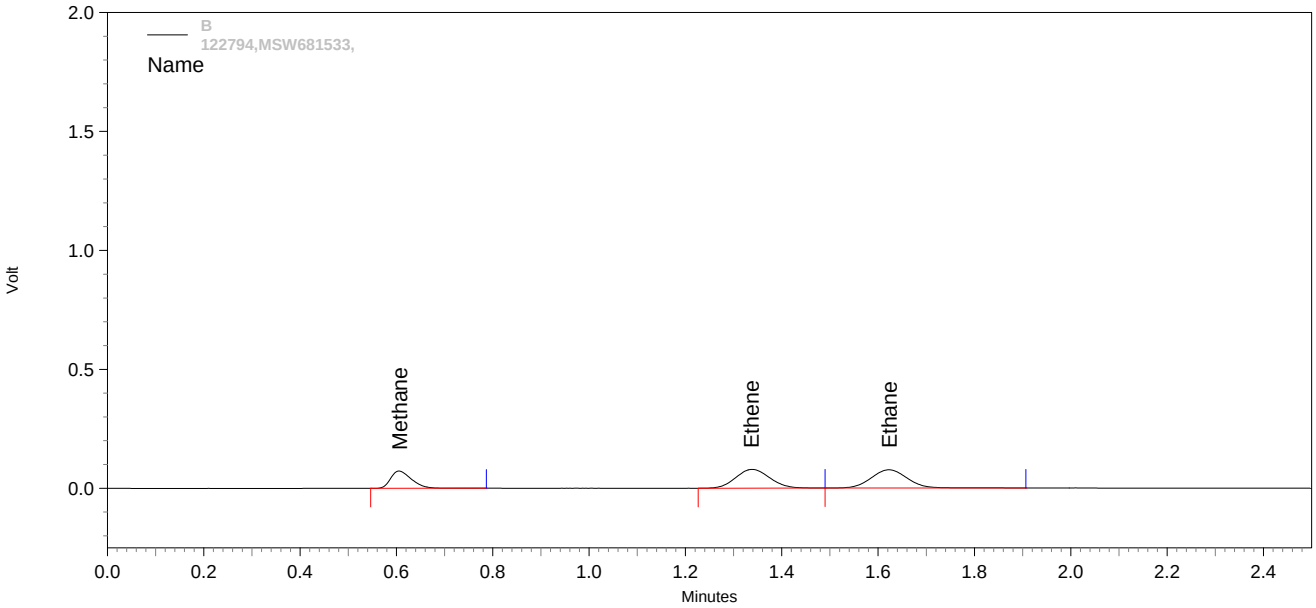
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.623	14761	**1.569**
2	Ethene	1.353	5159	**0.508**
3	Ethane	1.633	7173	**1.017**

Totals			27093	**3.094**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\012016\020.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 122794,MSW681533,
Acquired: Jan 20, 2016 12:13:37
File Desc. MATRIX SPIKE - 1.0 mL injection (Methane, Ethene, Ethane)



B Results

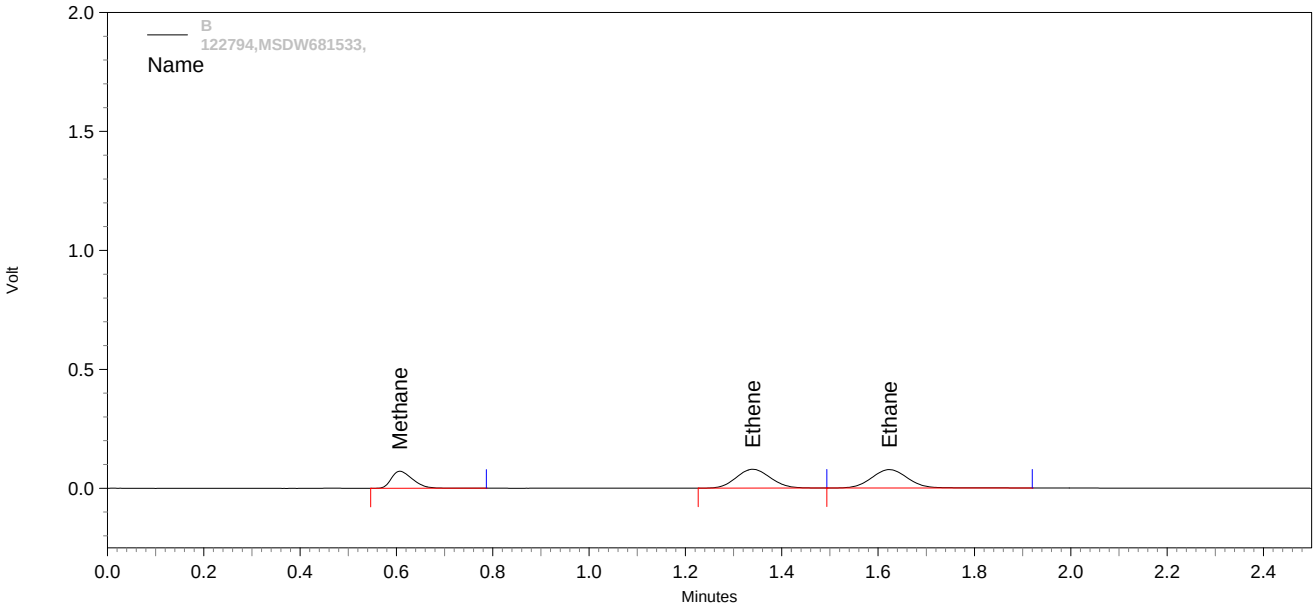
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.607	216677	**24.210**
2	Ethene	1.337	384521	**23.419**
3	Ethane	1.623	395517	**23.734**

Totals			996715	**71.363**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\012016\021.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 122794,MSDW681533,
Acquired: Jan 20, 2016 12:17:57
File Desc. MATRIX SPIKE DUPLICATE - 1.0 mL injection (Methane, Ethene, Ethane)



B Results

Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.607	217635	**24.318**
2	Ethene	1.340	389359	**23.711**
3	Ethane	1.623	400729	**24.039**

Totals			1007723	**72.067**

VOLATILE ORGANIC ANALYSIS
LOGBOOK
DOCUMENTS

VOC 8260 QSM WATER 5.0 Analytical Run
122700 on 1/22/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	683730							VOC 8260 QSM WATER 5.0				
					BFB				0			
	683457							VOC 8260 QSM WATER 5.0				
					CCV				0			
	683472							VOC 8260 QSM WATER 5.0				
					LCSW				0			
	683454							VOC 8260 QSM WATER 5.0				
					MBW				0			
116472	680627		1/13/2016	1600		BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	4	
116508	681423	011316T1	1/14/2016	1700		BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		M	4	
116472	680616	011416T1	1/13/2016	0915		BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	4	
116472	680618	13MW3	1/13/2016	0915		BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	4	
116472	680620	49TM01	1/13/2016	1105		BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	4	
116472	680622	13MW4	1/13/2016	1225		BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	4	
116472	680624	49MW04	1/13/2016	1335		BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	4	
116472	680626	13MW2	1/13/2016	1510		BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	4	
116472	680629	49MW05	1/13/2016	1620		BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	4	
116508	681414	13MW5	1/14/2016	0900		BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	4	
116508	681416	48MW07	1/14/2016	1050		BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	4	
116508	681418	48MW06	1/14/2016	1230		BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	4	
116508	681420	48MW1	1/14/2016	1415		BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	4	
116508	681422	49MW03	1/14/2016	1645		BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	4	
	683450	49MW01						VOC 8260 QSM WATER 5.0				
					CCVF				0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

Distribution: C:\LIMSREPS\ANALYTICALRUN.RPT

VOC 8260 QSM WATER 5.0 Analytical Run
122700 on 1/22/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

19 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

Injection Log Summary Report

Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Start (Tune) File ID : C:\INSTARCH\DATA\JAN2116\BFB1.D
Injection Date : 21 Jan 2016 Log Time Period (hrs) : ALL
Injection Time : 08:57 Total files within period : 35
Sample Directory : C:\INSTARCH\DATA\JAN2116\

Injection Log Summary Table

File ID	Multiplier I	S	T	Sample Name / Misc Info	Date	Time
BFB2	1.00	1.00	1.00	122700,BFB, 25 ng Inj.	21 Jan 2016	16:28
CCV-LCS2	1.00	1.00	1.00	122700,LCSW, 10.0/100 ug/L, 5.0 mL Pur	21 Jan 2016	17:17
IB4	1.00	1.00	1.00	INSTRUMENT BLANK 5.0 mL DI H20 Purged + IS	21 Jan 2016	17:48
MB2-CCB1	1.00	1.00	1.00	122700,MBW, pH<2, 5.0 mL DI H20 Purge	21 Jan 2016	18:18
680627	1.00	1.00	1.00	122700,680627, pH<2, 5.0 mL Purged + IS/	21 Jan 2016	18:47
681423	1.00	1.00	1.00	122700,681423, pH<2, 5.0 mL Purged + IS/	21 Jan 2016	19:17
680616	1.00	1.00	1.00	122700,680616, pH<2, 5.0 mL Purged + IS/	21 Jan 2016	19:47
680618	1.00	1.00	1.00	122700,680618, pH<2, 5.0 mL Purged + IS/	21 Jan 2016	20:16
680620	1.00	1.00	1.00	122700,680620, pH<2, 5.0 mL Purged + IS/	21 Jan 2016	20:46
680622	1.00	1.00	1.00	122700,680622, pH<2, 5.0 mL Purged + IS/	21 Jan 2016	21:15

Injection Log Summary Report

Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Start (Tune) File ID : C:\INSTARCH\DATA\JAN2116\BFB1.D
Injection Date : 21 Jan 2016 Log Time Period (hrs) : ALL
Injection Time : 08:57 Total files within period : 35
Sample Directory : C:\INSTARCH\DATA\JAN2116\

Injection Log Summary Table

File ID	Multiplier I	S	T	Sample Name / Misc Info	Date	Time
680624	1.00	1.00	1.00	122700,680624, pH<2, 5.0 mL Purged + IS/	21 Jan 2016	21:44
680626	1.00	1.00	1.00	122700,680626, pH<2, 5.0 mL Purged + IS/	21 Jan 2016	22:14
680629	1.00	1.00	1.00	122700,680629, pH<2, 5.0 mL Purged + IS/	21 Jan 2016	22:44
681414	1.00	1.00	1.00	122700,681414, pH<2, 5.0 mL Purged + IS/	21 Jan 2016	23:14
681416	1.00	1.00	1.00	122700,681416, pH<2, 5.0 mL Purged + IS/	21 Jan 2016	23:43
681418	1.00	1.00	1.00	122700,681418, pH<2, 5.0 mL Purged + IS/	22 Jan 2016	00:12
681420	1.00	1.00	1.00	122700,681420, pH<2, 5.0 mL Purged + IS/	22 Jan 2016	00:42
681422	1.00	1.00	1.00	122700,681422, pH<2, 5.0 mL Purged + IS/	22 Jan 2016	01:12
680616MS	1.00	1.00	1.00	122700,MSW680616, pH<2, 10.0/100 ug/L, 5.0	22 Jan 2016	01:41
680616SD	1.00	1.00	1.00	122700,MSDW680616, pH<2, 10.0/100 ug/L, 5.0	22 Jan 2016	02:11
CCVF1	1.00	1.00	1.00	122701,CCVF, 10.0/100 ug/L, 5.0 mL Pur	22 Jan 2016	03:40

8260 ISTD/SSTD 20ug/ml VOC0132
8260 BFB STD. 50ug/ml VOC0131
8260 ICV STD. 100ug/ml VOC0133
8260 CCV/CALIB. 100ug/ml VOC0134

FVO4-01 Data Review Checklist

FORM #: FVO4-01
Rev. #: 1.1
Effective Date: 4/01/15

INDEPENDENT DATA REVIEW CHECKLIST			Method: GCMS (EPA SW-846 8260C)				
Analysis Date	LIMs Run #(s):	Analyst/Data Interpreter	Independent Reviewer	Date of Review	Approved? Yes	Approved? No	Instrument
01/21/2016	122700 122701 122834	AGK	BMS	01/27/2016	Yes		VMS3

Instructions: Complete one checklist per analytical sequence. Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section and may require the initiation of a Nonconformance Report.

Requirement:	Acceptance criteria	Analyst Review Yes	Analyst Review No	Independent Review Yes	Independent Review No	Comments:
I. BFB Tune Check						
Was a BFB tune check analyzed with acceptable results?	Relative abundance criteria met?	Yes		Yes		If no, Do not proceed with analyses.
II. Initial Calibration Verification (ICV)						
Was initial calibration performed using a minimum of five standard concentration levels (minimum of 6 levels for quadratic curves)?	Lowest standard at or below RL?	Yes		Yes		If no, recalibrate with required # of levels
Were the Average Relative Response Factors (ARRF) acceptable?	ARRF≥ specified limits (see SOP)	Yes		Yes		If no, analyses stopped, recalibrate.
Was a second-source ICV analyzed?	Required before sample analyses.	Yes		Yes		If no, analyze prior to sample analyses.
Were all target compound %Deviation or %Drift acceptable?	%D < 20% or project/program specific	Yes		Yes		If no, reanalyzed ICV to address failures
Was Initial Calibration Blank (ICB) analyzed?	Required before sample analyses.	Yes		Yes		If no, analyzed ICB before sample analyses.
Were the ICB results for all target analytes less than the limit of detection (LOD).	<LOD or < project/program specific limits	Yes		Yes		If no, analyze another blank to address detects.
III. Continuing Calibration Verification (CCV)						
Was an acceptable BFB tune check run at the beginning of every twelve hour shift?	Relative abundance criteria met?	Yes		Yes		If no, reanalyze BFB until acceptable; re-tuning the instrument may be necessary.
Was a CCV analyzed after every 12 hour tune check?	Required before sample analyses.	Yes		Yes		If no, analyzed CCV after acceptable tune check.
Were all target compound %Deviation or %Drift acceptable?	%D < 20% or project/program specific		No		No	If no, reanalysis or recalibration may be required.
If necessary, were the results for outlying compounds qualified?		Yes		Yes		If yes, results qualified "Z"

IV. Blanks						
Was a Method Blank (MB) analyzed prior to analysis of samples?	1 per 20 samples or project/program specific.	Yes		Yes		If no, analyze a MB with each sample batch.
Were the MB results for all target analytes less than the limit of detection (LOD)?	*All target analytes <LOD or < project/program specific limits (<1/2 RL for DoD-QSM)	Yes		Yes		If no, reanalyze MB an all affected data if possible or see SOP for more detailed criteria
If analytes were detected in the MB with no associated positives in the samples, no further action is needed. If the analyte detects in the MB were greater than the acceptance criteria and there were detects in the samples, was the data qualified.?						If yes, affected results qualified "B"
V. Laboratory Control Spike (LCS)						
Was a LCS analyzed at the required frequency?	1 per 20 samples or project/program specific.	Yes		Yes		If no, analyze a LCS with each sample batch.
Were the LCS recoveries for all analytes within acceptance criteria?	Default 70-130%, or see internally generated limits, or project/program specified limits.		No		No	If no, Reanalyze LCS and all affected data if possible or data requires qualification.
If applicable, were associated sample detects (and non-detects for low recoveries) qualified?		Yes		Yes		If yes, affected results qualified "Q"
VI. Matrix Spike/Matrix Spike Duplicate (MS/MSD)						
Was a Martrix Spike (MS) and a Matrix Spike Duplicate (MSD) analyzed at the required frequency?	1 per 20 samples or project/program specific.	Yes		Yes		If no, analyze a MS/MSD pair with each sample batch.
Were the MS/MSD recoveries for all analytes within acceptance criteria?	Default 70-130%, or see internally generated limits, or project/program specified limits.		No		No	If no, qualify detects (with an "M" flag) in the parent sample, also qualify non-detects if MS/MSD recoveries were low.
Is the relative percent difference (RPD) for each analyte between the MS and MSD acceptable?	Default 20%, or see internally generated limits, or client specific		No		No	If no, affected results qualified "Y"
VII. Sample Analyses						
Are chromatogram characteristics, including peak shapes and areas, consistent with those of the CCV?		Yes		Yes		If no, instrument maintenance may be required to correct problems.
Were surrogate recoveries for all samples and QC within acceptance criteria?	Default 70-130%, or see internally generated program limits, or client specified limits.	Yes		Yes		If no, samples with high surrogate recoveries and no associated analyte detects were not reanalyzed. Low surrogate recoveries require reanalysis.
If possible, were the affected samples reanalyzed?						If no, see below **
**Were reported sample results with failing surrogate recoveries qualified?						If yes, affected results qualified "S"
Were all samples having analytes detected in amounts exceeding the calibration range diluted and reanalyzed? If not qualify (X).	Target upper middle range of calibration curve.	Yes		Yes		
Did all samples meet hold time and preservation criteria as defined by method/program?	H2O sample: pH < 2 = 14 days, pH >2 = 7 days. Soil samples: 14 days (other criteria may apply)		No		No	If no, see below: If analyzed past hold, qualify "H" If improperly preserved qualify "T"
Were all samples and QC injected within 12 hours of BFB tune check?		Yes		Yes		If no, affected samples reanalyzed
Were internal standard recoveries acceptable relevant to associated ICAL?	Response = -50 to +200%; Ret. time = +/- 30 sec.	Yes		Yes		If no, affected samples reanalyzed

VIII. Records and Reporting						
Is sequence file / injection log present in the data package?		Yes		Yes		If no, include sequence run with raw data.
Were all data, calculations, and values verified in LIMS upon completion of data capture?		Yes		Yes		If no, recapture the data and verify data prior to validation.
Were manual integrations addressed properly and were the audit trails turned on (where applicable)?	Manual integration must be initialed, dated, and reason given, along with before & after chromatograms. Audit trail must be on (if available).	Yes		Yes		IF No, address manual integration and/or turn on audit trail feature and document reason why it may have been turned off.
Are reported results whose amounts exceeded the acceptance criteria flagged with an appropriate qualifier and, if needed, were any non-matrix related nonconformities documented in the NCR spreadsheet?		Yes		Yes		If No, include proper qualification(s) in LIMS and enter nonconformities into the NCR spreadsheet before data review/validation.

Non-applicable Yes/No cells are left blank

Comments:

VOC 8260 QSM WATER 5.0 Analytical Run
122833 on 1/26/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	683580								VOC 8260 QSM WATER 5.0				
					BFB					0			
	683623								VOC 8260 QSM WATER 5.0				
					LCSW					0			
	683636								VOC 8260 QSM WATER 5.0				
					CCV					0			
	683723								VOC 8260 QSM WATER 5.0				
					MBW					0			
116524	681539	011516T1	1/15/2016	1700			BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		M	**4**	
116524	681528	49MW02	1/15/2016	0925			BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	**4**	
116524	681531	48MW3	1/15/2016	1110			BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	**4**	
116524	681533	48MW2	1/15/2016	1345	Designated MS/MSD		BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	**4**	
116524	681535	50MW02	1/15/2016	1640			BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	**4**	
116524	681537	011516R1	1/15/2016	1650			BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	**4**	
	683856	48MW2	1/15/2016	1345	MSW	681533			VOC 8260 QSM 5.0	0			
	683857	48MW2	1/15/2016	1345	MSDW	683856			VOC 8260 QSM 5.0	0			
	683864								VOC 8260 QSM WATER 5.0				
					CCVF					0			

13 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

Injection Log Summary Report

Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Start (Tune) File ID : C:\INSTARCH\DATA\JAN2216\BFB1.D
Injection Date : 22 Jan 2016 Log Time Period (hrs) : ALL
Injection Time : 09:07 Total files within period : 23
Sample Directory : C:\INSTARCH\DATA\JAN2216\

Injection Log Summary Table

File ID	Multiplier I	S	T	Sample Name Misc Info	Date	Time
CCV-LCS1	1.00	1.00	1.00	122833,LCSW, 10.0/100 ug/L, 5.0 mL Pur	22 Jan 2016	10:40
MB1	1.00	1.00	1.00	122833,MBW, pH<2, 5.0 mL DI H20 Purge	22 Jan 2016	11:38
681539	1.00	1.00	1.00	122833,681539, pH<2, 5.0 mL Purged + IS/	22 Jan 2016	12:37
681528	1.00	1.00	1.00	122833,681528, pH<2, 5.0 mL Purged + IS/	22 Jan 2016	13:06
681531	1.00	1.00	1.00	122833,681531, pH<2, 5.0 mL Purged + IS/	22 Jan 2016	13:35
681533	1.00	1.00	1.00	122833,681533, pH<2, 5.0 mL Purged + IS/	22 Jan 2016	14:04
681535	1.00	1.00	1.00	122833,681535, pH<2, 5.0 mL Purged + IS/	22 Jan 2016	14:34
681537	1.00	1.00	1.00	122833,681537, pH<2, 5.0 mL Purged + IS/	22 Jan 2016	15:03
681533MS	1.00	1.00	1.00	122833,MSW681533, pH<2, 10.0/100 ug/L, 5.0	22 Jan 2016	16:01
681533SD	1.00	1.00	1.00	122833,MSDW681533, pH<2, 10.0/100 ug/L, 5.0	22 Jan 2016	16:31
CCVF1	1.00	1.00	1.00	122833,CCVF, 10.0/100 ug/L, 5.0 mL Pur	22 Jan 2016	20:27

8260 ISTD/SSTD 20ug/ml VOC0132
8260 BFB STD. 50ug/ml VOC0131
8260 ICV STD. 100ug/ml VOC0133
8260 CCV/CALIB. 100ug/ml VOC0134

FVO4-01 Data Review Checklist

FORM #: FVO4-01
Rev. #: 1.1
Effective Date: 4/01/15

INDEPENDENT DATA REVIEW CHECKLIST			Method: GCMS (EPA SW-846 8260C)				
Analysis Date	LIMs Run #(s):	Analyst/Data Interpreter	Independent Reviewer	Date of Review	Approved? Yes	Approved? No	Instrument
01/22/2016	122833 122870	AGK	BMS	01/27/2016	Yes		VMS3

Instructions: Complete one checklist per analytical sequence. Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section and may require the initiation of a Nonconformance Report.

Requirement:	Acceptance criteria	Analyst Review Yes	Analyst Review No	Independent Review Yes	Independent Review No	Comments:
I. BFB Tune Check						
Was a BFB tune check analyzed with acceptable results?	Relative abundance criteria met?	Yes		Yes		If no, Do not proceed with analyses.
II. Initial Calibration Verification (ICV)						
Was initial calibration performed using a minimum of five standard concentration levels (minimum of 6 levels for quadratic curves)?	Lowest standard at or below RL?	Yes		Yes		If no, recalibrate with required # of levels
Were the Average Relative Response Factors (ARRF) acceptable?	ARRF≥ specified limits (see SOP)	Yes		Yes		If no, analyses stopped, recalibrate.
Was a second-source ICV analyzed?	Required before sample analyses.	Yes		Yes		If no, analyze prior to sample analyses.
Were all target compound %Deviation or %Drift acceptable?	%D < 20% or project/program specific	Yes		Yes		If no, reanalyzed ICV to address failures
Was Initial Calibration Blank (ICB) analyzed?	Required before sample analyses.	Yes		Yes		If no, analyzed ICB before sample analyses.
Were the ICB results for all target analytes less than the limit of detection (LOD).	<LOD or < project/program specific limits	Yes		Yes		If no, analyze another blank to address detects.
III. Continuing Calibration Verification (CCV)						
Was an acceptable BFB tune check run at the beginning of every twelve hour shift?	Relative abundance criteria met?	Yes		Yes		If no, reanalyze BFB until acceptable; re-tuning the instrument may be necessary.
Was a CCV analyzed after every 12 hour tune check?	Required before sample analyses.	Yes		Yes		If no, analyzed CCV after acceptable tune check.
Were all target compound %Deviation or %Drift acceptable?	%D < 20% or project/program specific		No		No	If no, reanalysis or recalibration may be required.
If necessary, were the results for outlying compounds qualified?		Yes		Yes		If yes, results qualified "Z"

IV. Blanks						
Was a Method Blank (MB) analyzed prior to analysis of samples?	1 per 20 samples or project/program specific.	Yes		Yes		If no, analyze a MB with each sample batch.
Were the MB results for all target analytes less than the limit of detection (LOD)?	*All target analytes <LOD or < project/program specific limits (<1/2 RL for DoD-QSM)	Yes		Yes		If no, reanalyze MB an all affected data if possible or see SOP for more detailed criteria
If analytes were detected in the MB with no associated positives in the samples, no further action is needed. If the analyte detects in the MB were greater than the acceptance criteria and there were detects in the samples, was the data qualified.?						If yes, affected results qualified "B"
V. Laboratory Control Spike (LCS)						
Was a LCS analyzed at the required frequency?	1 per 20 samples or project/program specific.	Yes		Yes		If no, analyze a LCS with each sample batch.
Were the LCS recoveries for all analytes within acceptance criteria?	Default 70-130%, or see internally generated limits, or project/program specified limits.	Yes		Yes		If no, Reanalyze LCS and all affected data if possible or data requires qualification.
If applicable, were associated sample detects (and non-detects for low recoveries) qualified?						If yes, affected results qualified "Q"
VI. Matrix Spike/Matrix Spike Duplicate (MS/MSD)						
Was a Martrix Spike (MS) and a Matrix Spike Duplicate (MSD) analyzed at the required frequency?	1 per 20 samples or project/program specific.	Yes		Yes		If no, analyze a MS/MSD pair with each sample batch.
Were the MS/MSD recoveries for all analytes within acceptance criteria?	Default 70-130%, or see internally generated limits, or project/program specified limits.		No		No	If no, qualify detects (with an "M" flag) in the parent sample, also qualify non-detects if MS/MSD recoveries were low.
Is the relative percent difference (RPD) for each analyte between the MS and MSD acceptable?	Default 20%, or see internally generated limits, or client specific		No		No	If no, affected results qualified "Y"
VII. Sample Analyses						
Are chromatogram characteristics, including peak shapes and areas, consistent with those of the CCV?		Yes		Yes		If no, instrument maintenance may be required to correct problems.
Were surrogate recoveries for all samples and QC within acceptance criteria?	Default 70-130%, or see internally generated program limits, or client specified limits.	Yes		Yes		If no, samples with high surrogate recoveries and no associated analyte detects were not reanalyzed. Low surrogate recoveries require reanalysis.
If possible, were the affected samples reanalyzed?						If no, see below **
**Were reported sample results with failing surrogate recoveries qualified?						If yes, affected results qualified "S"
Were all samples having analytes detected in amounts exceeding the calibration range diluted and reanalyzed? If not qualify (X).	Target upper middle range of calibration curve.	Yes		Yes		
Did all samples meet hold time and preservation criteria as defined by method/program?	H2O sample: pH < 2 = 14 days, pH >2 = 7 days. Soil samples: 14 days (other criteria may apply)	Yes		Yes		If no, see below: If analyzed past hold, qualify "H" If improperly preserved qualify "T"
Were all samples and QC injected within 12 hours of BFB tune check?		Yes		Yes		If no, affected samples reanalyzed
Were internal standard recoveries acceptable relevant to associated ICAL?	Response = -50 to +200%; Ret. time = +/- 30 sec.	Yes		Yes		If no, affected samples reanalyzed

VIII. Records and Reporting						
Is sequence file / injection log present in the data package?		Yes		Yes		If no, include sequence run with raw data.
Were all data, calculations, and values verified in LIMS upon completion of data capture?		Yes		Yes		If no, recapture the data and verify data prior to validation.
Were manual integrations addressed properly and were the audit trails turned on (where applicable)?	Manual integration must be initialed, dated, and reason given, along with before & after chromatograms. Audit trail must be on (if available).	Yes		Yes		IF No, address manual integration and/or turn on audit trail feature and document reason why it may have been turned off.
Are reported results whose amounts exceeded the acceptance criteria flagged with an appropriate qualifier and, if needed, were any non-matrix related nonconformities documented in the NCR spreadsheet?		Yes		Yes		If No, include proper qualification(s) in LIMS and enter nonconformities into the NCR spreadsheet before data review/validation.

Non-applicable Yes/No cells are left blank

Comments:

Injection Log Summary Report

Method : C:\INSTARCH\METHODS\W012016.M (RTE Integrator)
Title : 8260C Waters Method
Start (Tune) File ID : C:\INSTARCH\DATA\JAN2016\BFB1.D
Injection Date : 20 Jan 2016 Log Time Period (hrs) : ALL
Injection Time : 13:25 Total files within period : 17
Sample Directory : C:\INSTARCH\DATA\JAN2016\

Injection Log Summary Table

File ID	Multiplier I	S	T	Sample Name / Misc Info	Date	Time
WCAL1	1.00	1.00	1.00	INITIAL CALIB. PT1 0.50/5.00 ug/L, 5.0 mL Pu	20 Jan 2016	15:44
WCAL2	1.00	1.00	1.00	INITIAL CALIB. PT2 2.00/20.0 ug/L, 5.0 mL Pu	20 Jan 2016	16:14
WCAL3	1.00	1.00	1.00	INITIAL CALIB. PT3 5.00/50.0 ug/L, 5.0 mL Pu	20 Jan 2016	16:44
WCAL4	1.00	1.00	1.00	INITIAL CALIB. PT4 10.0/100 ug/L, 5.0 mL Pur	20 Jan 2016	17:13
WCAL5	1.00	1.00	1.00	INITIAL CALIB. PT5 20.0/200 ug/L, 5.0 mL Pur	20 Jan 2016	17:42
WCAL6	1.00	1.00	1.00	INITIAL CALIB. PT6 30.0/300 ug/L, 5.0 mL Pur	20 Jan 2016	18:11
WCAL7	1.00	1.00	1.00	INITIAL CALIB. PT7 40.0/400 ug/L, 5.0 mL Pur	20 Jan 2016	18:41
WCAL8	1.00	1.00	1.00	INITIAL CALIB. PT8 80.0/800 ug/L, 5.0 mL Pur	20 Jan 2016	19:10
ICV1	1.00	1.00	1.00	INITIAL CALIB. VERIF. 10.0/100 ug/L, 5.0 mL Pur	20 Jan 2016	20:09
ICV2	1.00	1.00	1.00	INITIAL CALIB. VERIF. 30.0/300 ug/L, 5.0 mL Pur	20 Jan 2016	20:39
ICB1	1.00	1.00	1.00	INITIAL CALIB. BLANK pH<2, 5.0 mL DI H20 Purge	20 Jan 2016	21:38

8260 ISTD/SSTD 20ug/ml VOC0132
8260 BFB STD. 50ug/ml VOC0131
8260 ICV STD. 100ug/ml VOC0133
8260 CCV/CALIB. 100ug/ml VOC0134

LPVO1-01
Volatiles Standards Prep Logbook
Logbook Created: 01/16/2015

NOTEBOOK VIEW: LTN_VOC_Logbook_01_Default, NOTEBOOK: VOC_Logbook_01, PAGE: 55
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Author: rdigmann on: 29.01.2016 11:23:52
Witness: AKURTH on: 03.02.2016 10:20:20
Project: Unassigned
Page Title: 012016

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0131	8260 BFB Std.	75uL of 2,000 ug/mL 4-Bromofluorobenzene Std. V726 into 2925uL of MeOH.	MeOH / Baker/118655	50 ug/mL	01/20/2016	02/20/2016	RLD

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0132	8260 ISTD/SSTD	200uL of 2,500 ug/mL 8260 Istd./Sstd. Mix V725 and 250uL of 2000 ug/mL 1,2-Dichlorobenzene-$_{d4}$ Std. V711 into 25mL of MeOH.	MeOH / Baker/118655	20 ug/mL	01/20/2016	02/20/2016	RLD

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0133	8260 ICV/Spiking Std.	150uL of 2,000 ug/mL VOC Mix V757, 300uL of 1,000/10,000 ug/mL VOC 8260 Additions Std. V761, and 300uL of 1,000/10,000 ug/mL 8260 Special Additions Std. V765 into 2250uL of MeOH.	MeOH / Baker/118655	100 ug/mL	01/20/2016	01/27/2016	RLD

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0134	8260 CCV/Calib. Std.	150uL of 2,000 ug/mL VOC Mix V758, 300uL of 1,000/10,000 ug/mL VOC 8260 Additions Std. V762, and 300uL of 1,000/10,000 ug/mL 8260 Special Additions Std. V764 into 2250uL of MeOH.	MeOH / Baker/118655	100 ug/mL	01/20/2016	01/27/2016	RLD

LSVO1-01
Volatiles Standards Logbook
Logbook Created: 12/08/2015
NOTEBOOK VIEW: LTN_LSVO1_01_VOC_Default, NOTEBOOK: LSVO1_01_VOC, PAGE: 2
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Author: bszymanski on: 30.12.2015 09:43:38
Page is not Witnessed
Project: Unassigned
Page Title: 122215

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0764	VOC 8260 Special Additions	SPEX CertiPrep	VO-CTWI-5	BW151216003
Concentration	**Neat (% purity) or Solvent**	**Expiration Date**	**Date Received**	**Analyst**
1,000 - 50,000 ug/mL	MeOH	06/13/2016	12/22/2015	RLD
# of Ampules/Units:	2	Comments:	Used for ICV mix.	

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0765	VOC 8260 Special Additions	SPEX CertiPrep	VO-CTWI-5	BW151216004
Concentration	**Neat (% purity) or Solvent**	**Expiration Date**	**Date Received**	**Analyst**
1,000 - 50,000 ug/mL	MeOH	06/13/2016	12/22/2015	RLD
# of Ampules/Units:	2	Comments:	Used for CCV mix.	

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LSVO1-01
Volatiles Standards Logbook
Logbook Created: 12/08/2015
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Project: Unassigned
Page Title: 120815

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0761	VOC 8260 Additions	SPEX CertiPrep	VO-CTWI-12	BW151117005
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
1,000 - 10,000 ug/mL	MeOH	02/15/2016	12/08/2015	RLD
# of Ampules/Units:	2 x 1 mL	Comments:	Used for ICV mix.	

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0762	VOC 8260 Additions	SPEX CertiPrep	VO-CTWI-12	BW151117006
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
1,000 - 10,000 ug/mL	MeOH	02/15/2016	12/08/2015	RLD
# of Ampules/Units:	2 x 1 mL	Comments:	Used for CCV mix.	

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0763	2-Methylpentane; 1,2,4-Trimethylbenzene	SPEX CertiPrep	VO-CTWI-1	C1141107008
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
1,000 ug/mL	MeOH	11/06/2017	12/08/2015	BMS
# of Ampules/Units:	1 x 1 mL	Comments:	8015 Retention Time Window Standard.	

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CT Laboratories, LLC

CTI VOLATILE STANDARDS LOGBOOK 1

CTI STANDARD NUMBER (EXAMPLE = CTIV001*)	COMPOUND or SOLUTION NAME	COMPOUND / SOLUTION SUPPLIER	STANDARD'S PART NUMBER	STANDARD'S LOT #	STANDARD CONCENTRATION and EXPIRATION DATE [1]	NEAT (N) or SOLUTION (S) (If neat list % purity, if solution list solvent)	DATE REC'D and ANALYST'S INITIALS	COMMENTS
V742	VOC 8260 Special Additions	SPEX	VO-CTWI-5	SM150526010	1000-50000 ug/mL, 11/22/15	MeOH	6/2/15, RD	2x1mL
V743	8260 VOC Mix.	Accu Standard	M-502-10X-PAK	21501040	2000 ug/mL, 1/12/18	MeOH	6/9/15, RD	5x1mL
V744	8260 VOC Mix	Ultra Sci.	DWM-588-1	CM-1859	2000 ug/mL, 5/31/18	MeOH	6/18/15, RD	2x1mL
V745	VOC 8260 Special Additions	SPEX	VO-CTWI-5	SM150526009	1000-50000 ug/mL, 11/22/15	MeOH	7/21/15, RD	2x1mL
V746	VOC 8260 Special Additions	SPEX	VO-CTWI-5	SM150526010	1000-50000 ug/mL, 11/22/15	MeOH	7/21/15, RD	2x1mL
V747	VOC 8260 Additions	SPEX	VO-CTWI-12	TS150721007	1000-10000 ug/mL, 10/19/15	MeOH	7/23/15, RD	2x1mL
V748	VOC 8260 Additions	SPEX	VO-CTWI-12	TS150721008	1000-10000 ug/mL, 10/19/15	MeOH	7/23/15, RD	2x1mL
V749	8260 VOC Mix	Ultra Sci.	DWM-588-1	CM-3808	2000 ug/mL, 8/31/18	MeOH	8/6/15, RD	2x1mL
V750	VOC 8260 Special Additions	SPEX	VO-CTWI-12	TS150901001	1000-50000 ug/mL, 11/30/15	MeOH	9/1/15, RD	2x1mL
V751	VOC 8260 Special Additions	SPEX	VO-CTWI-12	TS150904001	1000-50000 ug/mL, 12/3/15	MeOH	9/10/15, RD	2x1mL
V752	Fluorobenzene	Ultra Sci	STS-160-1	CL-3264	2000 ug/mL 9/30/18	MeOH	9/25/15 RD	4x1mL
V753	a,a,a-TFT	Ultra Sci	STS-220N-1	CM-5040	2000 ug/mL 10/31/19	MeOH	9/25/15 RD	4x1mL
V754	VOC 8360 Special Addition	SPEX	VO-CTWI-5	BW150925015	1,000-50,000 ug/mL 03/23/16	MeOH	10/02/15 Bms	2x1mL
V755	VOC 8260 Special Additions	SPEX	VO-CTWI-5	SM150925016	1,000-50,000 ug/mL 03/23/16	MeOH	10/02/15 Bms	2x1mL
V756	12-Dichlorobenzene-d4	Ultra Sci	STS-210-1	CG-1939Z	2000 ug/mL 9/30/18	MeOH	10/6/15 RD	4x1mL
V757	8260 VOC Mix	Ultra Sci	DWM-588-1	CM-3956	2000 ug/mL 8/31/18	MeOH	10/15/15 RD	4x1mL
V758	8260 VOC Mix.	Accustandard	M-502-10X-PAK	21508111	2000 ug/mL 8/25/18	MeOH	11/3/15 RD	5x1mL
V759	PVOC/GRO Mix	RESTEK	30095	A0112470	1,000/10,000 ug/mL 08/31/22	MeOH	11/10/15 Bms	2x1mL
V760	PVOC/GRO Mix	ULTRA	UST-100-1	CK-2547A	1,000/10,000 ug/mL 09/30/17	MeOH	11/10/15 Bms	4x1mL

* = If multiple vials of the same lot number and expiration date are received the standard will be given one CTI Standard # and each vial will have a alpha designation asigned to it. (Example = Three vials of DRO standard solution, CTI001A-C)

1 = If multiple analytes and all of the concentrations vary, mark VARIES.

RD 11/23/15

CTI VOLATILE STANDARDS LOGBOOK 1

CTI STANDARD NUMBER (EXAMPLE = CTIV001*)	COMPOUND or SOLUTION NAME	COMPOUND / SOLUTION SUPPLIER	STANDARD'S PART NUMBER	STANDARD'S LOT #	STANDARD CONCENTRATION [1] and EXPIRATION DATE	NEAT (N) or SOLUTION (S) (If neat list % purity, if solution list solvent)	DATE REC'D and ANALYST'S INITIALS	COMMENTS
V723	8260 Special Addition	SPEX	VO-CTWI-5	C114111900B	1000-5000 ug/mL 5/18/15	MeOH	RD 12/16/14	2 x 1mL
V724	8260 Special Addition	SPEX	VO-CTWI-5	C114111900G	1000-5000 ug/mL 5/18/15	MeOH	RD 12/16/14	2 x 1mL
V725	8260 ISTD/SSTD Mix	Ultra Sci.	STM-540	CK-2154	2500 ug/mL 7/31/16	MeOH	RD 12/18/14	4 x 1mL
V726	BFB Stn.	Ultra Sci.	STS-110N	CH-3248A	2000 ug/mL 11/30/17	MeOH	RD 12/18/14	2 x 1mL
V727	Acetylene Std.	AIRGAS	X03HE99C33A0037	54-124467791-1	200 PPMV 12/17/17	Helium	Bms 12/22/14	1 cylinder @ 28.7CF
V728	1,4-Dioxane Std.	SPEX	S-1715	C112121901Z	1000 ug/mL, 12/19/15	MeOH	RD 12/31/14	2 x 1mL
V729	VOC Mix	Ultra Sci	DWM-588-1	CL-5325	2000 ug/mL, 1/31/18	MeOH	RD 1/31/15	2 x 1mL
V730	Methane, Ethene, Ethane Std.	AIRGAS	X04HE99C353Q80	54-124292800-1	200 ppmV 02/03/16	He	Bms 02/03/15	Re-certified V619
V731	VOC 8260 Additions	SPEX	VO-CTWI-12	C115020 2012	1000-10000 ug/mL, 5/31/15	MeOH	RD 2/6/15	2 x 1mL
V732	VOC 8260 Additions	SPEX	VOCTWI-12	C115020 2013	1000-10000 ug/mL, 5/31/15	MeOH	RD 2/6/15	2 x 1mL
V733	8260 Special Additions	SPEX	VO-CTWI-5	C115030300 1	1000-5000 ug/mL, 8/30/15	MeOH	RD 3/11/15	2 x 1mL
V734	8260 Special Additions	SPEX	VO-CTWI-5	C115030 4006	1000-5000 ug/mL, 8/31/15	MeOH	RD 3/11/15	2 x 1mL
V735	VOC Mix	Accu Std.	M-502-10X	214111094	2000 ug/mL 11/12/17	MeOH	RD 3/31/15	2 x 1mL
V736	VOC Mixture	ULTRA SCI.	DWM-588-1	CM-0137	2000 ug/mL 02/28/18	MeOH	Bms 04/09/15	2 x 1mL
V737	Unleaded Gasoline	ULTRA SCI.	RGO-601-1	CH-0979A	5000 ug/mL 05/31/17	MeOH	Bms 04/09/15	2 x 1mL
V738	Unleaded Gasoline	RESTEK	30205	A0101022	50,000 ug/mL 03/28/21	MeOH	Bms 04/10/15	2 x 1mL
V739	VOC 8260 Additions	SPEX	VO-CTWI-12	TS150506001	1000-10000 ug/mL, 8/4/15	MeOH	RD 5/11/15	2 x 1mL
V740	VOC 8260 Additions	SPEX	VO-CTWI-12	TS150506002	1000-10000 ug/mL, 8/4/15	MeOH	RD 5/11/15	2 x 1mL
V741	VOC 8260 Special Additions	SPEX	VO-CTWI-5	SM150526009	1000-5000 ug/mL 11/22/15	MeOH	RD 6/2/15	2 x 1mL

* = If multiple vials of the same lot number and expiration date are received the standard will be given one CTI Standard # and each vial will have a alpha designation asigned to it. (Example = Three vials of DRO standard solution, CTI001A-C)

1 = If multiple analytes and all of the concentrations vary, mark VARIES.

RD 6/2/15

V METH, ETH, ETHENE QSM 5.0 Analytical Run # 122794 on 1/20/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	682729						V METH, ETH, ETHENE QSM 5.				
				CCV				0			
	682147						METH,ETH,ETHE QSM 5.0				
				LCSW				55942			
	682146						METH,ETH,ETHE QSM 5.0				
				MBW				55942			
116472	680616		1/13/2016 0915		BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		13MW3						55942			
116472	680618		1/13/2016 0915		BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		49TM01						55942			
116472	680620		1/13/2016 1105		BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		13MW4						55942			
116472	680622		1/13/2016 1225		BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		49MW04						55942			
116472	680624		1/13/2016 1335		BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		13MW2						55942			
116472	680626		1/13/2016 1510		BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		49MW05						55942			
116472	680629		1/13/2016 1620		BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		13MW5						55942			
116508	681414		1/14/2016 0900		BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		48MW07						55942			
116508	681416		1/14/2016 1050		BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		48MW06						55942			
116508	681418		1/14/2016 1230		BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		48MW1						55942			
	682730						V METH, ETH, ETHENE QSM 5.				
				CCV				0			
116508	681420		1/14/2016 1415		BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		49MW03						55942			
116508	681422		1/14/2016 1645		BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		49MW01						55942			
116524	681528		1/15/2016 0925		BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		49MW02						55942			
116524	681531		1/15/2016 1110		BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		48MW3						55942			
116524	681533		1/15/2016 1345		BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		48MW2		Designated MS/MSD				55942			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

V METH, ETH, ETHENE QSM 5.0 Analytical Run
122794 on 1/20/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	682538		1/15/2016	1345					METH,ETH,ETHE QSM 5.0				
		48MW2			MSW	681533				55942			
	682539		1/15/2016	1345					METH,ETH,ETHE QSM 5.0				
		48MW2			MSDW	682538				55942			
116524	681535		1/15/2016	1640			BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		50MW02								55942			
116524	681537		1/15/2016	1650			BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		011516R1								55942			
	682731								V METH, ETH, ETHENE QSM 5.				
					CCV					0			

24 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

PREP WORKSHEET
on 1/20/2016

Prep Batch **55,942** Date Prepped: 1/19/2016 Prepped By AGK

Folder #	Order	QC Type	Link	Test	Matrix	Volume	Weight	Initial Volume	SDG Level	Notes
	682146	MBW		METH,ETH,ETHE QSM	LIQUID					
	682147	LCSW		METH,ETH,ETHE QSM	LIQUID					
116472	680616			METH,ETH,ETHE QSM	GROUND WATER				4	
	680618			METH,ETH,ETHE QSM	GROUND WATER				4	
	680620			METH,ETH,ETHE QSM	GROUND WATER				4	
	680622			METH,ETH,ETHE QSM	GROUND WATER				4	
	680624			METH,ETH,ETHE QSM	GROUND WATER				4	
	680626			METH,ETH,ETHE QSM	GROUND WATER				4	
	680629			METH,ETH,ETHE QSM	GROUND WATER				4	
116508	681414			METH,ETH,ETHE QSM	GROUND WATER				4	
	681416			METH,ETH,ETHE QSM	GROUND WATER				4	
	681418			METH,ETH,ETHE QSM	GROUND WATER				4	
	681420			METH,ETH,ETHE QSM	GROUND WATER				4	
	681422			METH,ETH,ETHE QSM	GROUND WATER				4	
116524	681528			METH,ETH,ETHE QSM	GROUND WATER				4	
	681531			METH,ETH,ETHE QSM	GROUND WATER				4	
	681533	*		METH,ETH,ETHE QSM	GROUND WATER				4	

PREP WORKSHEET
on 1/20/2016

Folder #	Order	QC Type	Link	Test	Matrix	Volume	Weight	Initial Volume	SDG Level	Notes
116524	681535			METH,ETH,ETHE QSM	GROUND WATER				4	
	681537			METH,ETH,ETHE QSM	GROUND WATER				4	
	682538	MSW	681533	METH,ETH,ETHE QSM	GROUND WATER					
	682539	MSDW	682538	METH,ETH,ETHE QSM	GROUND WATER					

Notes:_____

Dissolved Gases (Injection)

(Sequence Log)

LIMS Run #(s): 122794 **Instrument:** PVOC4

Sequence Date: 01/20/16 **Analyst:** AGK

Calibration Date: 02/03/15 **Ambient Temp. (°C):** 20.4

Injection #	Sample #	Injection Vol. (ml)	Sample Vol. (ml)
1	CCV	0.25	43
2	LCS	1.0	43
3	MB	1.0	43
4	680616	1.0	43
5	680618	1.0	43
6	680620	1.0	43
7	680622	1.0	43
8	680624	1.0	43
9	680626	1.0	43
10	680629	1.0	43
11	681414	1.0	43
12	681416	1.0	43
13	681418	1.0	43
14	CCV	0.25	43
15	681420	1.0	43
16	681422	1.0	43
17	681528	1.0	43
18	681531	1.0	43
19	681533	1.0	43
20	681533 MSW	1.0	43
21	681533 MSDW	1.0	43
22	681535	1.0	43
23	681537	1.0	43
24	CCV	0.25	43
25			43

AGIC 01/29/16

Calibration Standard Ref. #: V681

Second Source Ref. #: V619

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Sequence Summary Report

Sequence Filename: C:\InStarch\PVOC4\Sequence\012016.seq
Instrument: PVOC4
Processing Date: Jan 20, 2016 12:28:46

'Run Number	Sample ID	Data Filename	Method Filename	Run Time
1	122794,CCV,	C:\Instarch\PVOC4\Data\012016\001.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jan 20, 2016 10:54:08
2	122794,LCSW,	C:\Instarch\PVOC4\Data\012016\002.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jan 20, 2016 10:58:29
3	122794,MBW,	C:\Instarch\PVOC4\Data\012016\003.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jan 20, 2016 11:02:29
4	122794,680616,	C:\Instarch\PVOC4\Data\012016\004.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jan 20, 2016 11:06:25
5	122794,680618,	C:\Instarch\PVOC4\Data\012016\005.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jan 20, 2016 11:09:58
6	122794,680620,	C:\Instarch\PVOC4\Data\012016\006.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jan 20, 2016 11:13:26
7	122794,680622,	C:\Instarch\PVOC4\Data\012016\007.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jan 20, 2016 11:24:25
8	122794,680624,	C:\Instarch\PVOC4\Data\012016\008.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jan 20, 2016 11:28:43
9	122794,680626,	C:\Instarch\PVOC4\Data\012016\009.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jan 20, 2016 11:32:19
10	122794,680629,	C:\Instarch\PVOC4\Data\012016\010.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jan 20, 2016 11:36:13
11	122794,681414,	C:\Instarch\PVOC4\Data\012016\011.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jan 20, 2016 11:39:54
12	122794,681416,	C:\Instarch\PVOC4\Data\012016\012.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jan 20, 2016 11:43:26
13	122794,681418,	C:\Instarch\PVOC4\Data\012016\013.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jan 20, 2016 11:46:54
14	121810,CCV,	C:\Instarch\PVOC4\Data\012016\014.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jan 20, 2016 11:50:13
15	122794,681420,	C:\Instarch\PVOC4\Data\012016\015.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jan 20, 2016 11:54:46
16	122794,681422,	C:\Instarch\PVOC4\Data\012016\016.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jan 20, 2016 11:58:20
17	122794,681528,	C:\Instarch\PVOC4\Data\012016\017.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jan 20, 2016 12:01:51
18	122794,681531,	C:\Instarch\PVOC4\Data\012016\018.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jan 20, 2016 12:05:31
19	122794,681533,	C:\Instarch\PVOC4\Data\012016\019.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jan 20, 2016 12:09:18
20	122794,MSW681533,	C:\Instarch\PVOC4\Data\012016\020.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jan 20, 2016 12:13:37
21	122794,MSDW6815...	C:\Instarch\PVOC4\Data\012016\021.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jan 20, 2016 12:17:57
22	122794,681535,	C:\Instarch\PVOC4\Data\012016\022.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jan 20, 2016 12:21:28
23	122794,681537,	C:\Instarch\PVOC4\Data\012016\023.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jan 20, 2016 12:25:21
24	121810,CCV,	C:\Instarch\PVOC4\Data\012016\024.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jan 20, 2016 12:28:46

FVO1-01 Data Review Checklist

	FVO1-01 Method: Dissolved Gases (EPA SW-846 8015 / RSK 175 Modified)					
LIMS Run #(s)	Analysis Date (s)	Analyst / Data Interpreter	Independent Reviewer	Date of Review	Approved? (Yes or No)	Instrument
122794	01/20/16	AGK	RLD	01/25/16	Yes	PVOC4

Instructions: Complete one checklist per *analytical sequence* . Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement:	Acceptance Criteria	Analyst Review		Independent Review		Comments: (indicate reference to an attachment if necessary)
1. INITIAL CALIBRATION (ICAL)		Yes	No	Yes	No	
a. Was the initial calibration performed using a minimum of five concentration levels?	Lowest standard at or below RL	Yes		Yes		If NO, recalibrate
b. For each analyte/component is the variation between calibration response factors for all concentration levels <20% RSD or is $r^2 \geq .99$ or $r \geq .995$ for the regression line?	RSD <20% or $r^2 \geq .99$ or $r \geq .995$ or program/project specific	Yes		Yes		If NO, recalibrate
c. Are the identification and date of the ICAL listed on the printout (or PDF) of the analytical run and in the method file?	ID# and date of ICAL listed	Yes		Yes		
d. Was an Initial Calibration Verification (ICV) analyzed after the ICAL?	Analyzed prior to sample analyses	Yes		Yes		If NO, analyze ICV prior to sample analyses.
e. Were the recoveries for each analyte in the ICV within required limits?	Recoveries 85 - 115% or within program/project specific limits	Yes		Yes		If NO, reanalyze ICV. If still No then necessary maintenance and recalibration should be performed.
f. Was an Initial Calibration Blank (ICB) analyzed?		Yes		Yes		If NO, reanalyze ICB before sample analyses.
g. Were the ICB results for all target analytes/components less than the reporting limit (RL)?	<RL or < program/project specific	Yes		Yes		
3. CONTINUING CALIBRATION VERIFICATION (CCV)						
a . Was a CCV analyzed at the beginning and end of a sequential analysis run, as well as after ever 10 samples?		Yes		Yes		If NO, then samples / QC in the affected window must be reanalyzed.
b. Were the recoveries for each analyte/component in the CCV within acceptance criteria?	Recoveries 85 - 115% or within program/project specific limits	Yes		Yes		If NO, then necessary maintenance and possible recalibration should be performed. Affected samples must be reanalyzed for compounds exceeding CCV criteria.
4. METHOD BLANKS (MB)						
a. Was a method blank (MB) analyzed?	1 / 20 or program/project specific	Yes		Yes		If NO, reanalyze sample batch with an associated MB.
b. Were the MB results for all analytes/components less than reporting limit?	All target analytes/components <RL or within program/project specific limits (DoD-QSM: <1/2 the RL)	Yes				If analytes/components were detected in the MB with no associated positives in the samples, no further action is needed. If analyte detects are greater than the RL with associated positives in the samples, flag associated positives with a "B" qualifier.
5. LABORATORY CONTROL SAMPLE (LCS)						
a. Was a LCS analyzed at the required frequency?	1 / 20 or program/project specific	Yes		Yes		If NO, reanalyze sample batch with an associated LCS.
b. Were LCS recoveries for all analytes within the acceptance criteria?	Default = 70-130%, or within In-house generated or program/project specific limits	Yes		Yes		If NO, reanalyze LCS to confirm no preparation error.
c. If LCS recoveries exceed acceptance criteria, was the LCS reanalyzed in an effort to eliminate the possibility of a preparation error?						If LCS recoveries exceed acceptance criteria again, investigate and correct problem and reanalyze affected samples, if possible. If LCS recoveries exceed criteria after sample reanalysis and if samples are not reanalyzed, See Below: *If LCS recovery is high with no associated positives in samples, no further action needed. *If LCS recovery is high with associated positives in samples, flag associated positives "Q". *If LCS recoveries are low, flag all affected analytes/components within the batch "Q".

6. MATRIX SPIKE (MS)/ MATRIX SPIKE DUPLICATES (MSD) and DUPLICATE						
a. Was a MS, MSD, and/or Duplicate (if valid) Vial analyzed with each batch of 20 samples (or program-specified frequency)?	1 / 20 or program/project specific frequency (QSM samples, duplicate only valid if sample result ≥ 5x the LOQ)	Yes		Yes		If NO, analyze a MS/MSD from the specific sample batch. When insufficient sample amount is provided for matrix spikes, preparing a sample in duplicate is possible.
b. Were MS/MSD recoveries for all analytes within acceptance criteria?	Default =70-130%, or within In-house generated or program/project specific limits	Yes		Yes		If NO, See Below: *If MS/MSD recoveries are below acceptable limits, and unspiked sample has detects or no detects for affected analytes, flag affected analytes "M". *If MS/MSD recoveries are above acceptable limits, and the unspiked sample has no detects for affected analytes, no action is required. *If MS/MSD recoveries are outside of acceptable limits, and unspiked sample has detects for affected analytes, flag affected analytes "M" in parent sample.
7. PRECISION						
a. Is the relative percent difference (RPD) for each analyte between duplicate QC samples (i.e. parent sample / Duplicate vial), or for each MS/MSD within the acceptance criteria?	Default = 20 % RPD, or within In-house generated or program/project specific limits	Yes		Yes		If NO, "Y" flag all affected compounds in the unspiked sample if the precision failure is between the MS and MSD or the parent sample if the precision failure is between a duplicate samples.
8. SAMPLES (INCLUDING BLANKS, STANDARDS, AND QC SAMPLES)						
a. Are chromatogram characteristics, including peak shapes and areas, consistent with those of the CCV?		Yes		Yes		If NO, document any discrepancies. Manual integrations should include before and after chromatography. Manual integrations should be signed and dated.
b. Were all samples having analytes detected in amounts exceeding the calibration range diluted and reanalyzed or reanalyzed using a smaller sample aliquot? Affected analyte detects should remain above the limit of quantitation (LOQ) after reanalysis.		Yes		Yes		If NO, dilute and reanalyze samples for compounds exceeding calibration range.
c. Was the correct ambient temperature recorded on sample spreadsheets?						If NO, sample must be reanalyzed. Temperature must be documented.
d. Were all samples adequately preserved and analyzed within holding time?	CO2 samples received unpreserved (analyze within 7 days or program/project specific) Methane, Ethene, Ethane samples received preserved to <2 (analyze within 14 days or program/project specific)	Yes		Yes		If NO, qualify samples analyzed past hold time with an "H" flag. Sample improperly preserved should be qualified with a "T" flag.
9. RECORDS AND REPORTING						
a. Is a sequence run file present in the raw data file?		Yes		Yes		If NO, include sequence run with raw data.
b. Is the data initialed and dated by analyst?	Analysis Run sheet is initialed & dated by the analyst processing the raw data.	Yes		Yes		If NO, if no obtain initials and date from analyst.
c. Do all values, units, etc. listed match the raw data and associated calculations and records?		Yes		Yes		If NO, data should be reprocessed to include correct units and results.
e. Has the data been electronically transferred to the LIMS and were the applicable qualifiers assigned?		Yes		Yes		If NO, recapture data. Manual entries into LIMS must be documented to ensure proper review.
f. Were manual integrations addressed properly and were the audit trails turned on (where applicable)?	Manual integration must be initialed, dated, and reason given, along with before & after chromatograms. Audit trail must be on (if available).	Yes		Yes		If NO, address manual integration and/or turn on audit trail feature and document reason why it may have been turned off.
g. Are reported results whose amounts exceeded the acceptance criteria flagged with an appropriate qualifier in LIMS and, if needed, were any non-matrix related nonconformities documented in the NCR spreadsheet?		Yes		Yes		If NO, include proper qualification(s) in LIMS and enter nonconformities into the NCR spreadsheet before data review/validation.

Sequence Summary Report

Sequence Filename: C:\InStarch\PVOC4\Sequence\020315DGIC.seq
Instrument: PVOC4
Processing Date: Feb 03, 2015 11:19:15

'Run Number	Sample ID	Data Filename	Method Filename	Run Time
1	MEE PT1 - 2 ppmV	C:\Instarch\PVOC4\Data\020315icdg\001....	C:\Instarch\PVOC4\Methods\P4DG020...	Feb 03, 2015 10:27:30
2	MEE PT2 - 5 ppmV	C:\Instarch\PVOC4\Data\020315icdg\002....	C:\Instarch\PVOC4\Methods\P4DG020...	Feb 03, 2015 10:35:02
3	MEE PT3 - 10 ppmV	C:\Instarch\PVOC4\Data\020315icdg\003....	C:\Instarch\PVOC4\Methods\P4DG020...	Feb 03, 2015 10:38:17
4	MEE PT4 - 20 ppmV	C:\Instarch\PVOC4\Data\020315icdg\004....	C:\Instarch\PVOC4\Methods\P4DG020...	Feb 03, 2015 10:41:32
5	MEE PT5 - 50 ppmV	C:\Instarch\PVOC4\Data\020315icdg\005....	C:\Instarch\PVOC4\Methods\P4DG020...	Feb 03, 2015 10:44:59
6	MEE PT6 - 100 ppmV	C:\Instarch\PVOC4\Data\020315icdg\006....	C:\Instarch\PVOC4\Methods\P4DG020...	Feb 03, 2015 10:48:29
7	MEE PT7 - 200 ppmV	C:\Instarch\PVOC4\Data\020315icdg\007....	C:\Instarch\PVOC4\Methods\P4DG020...	Feb 03, 2015 10:52:17
8	ICV - 50 ppmV	C:\Instarch\PVOC4\Data\020315icdg\008....	C:\Instarch\PVOC4\Methods\P4DG020...	Feb 03, 2015 11:02:07
9	ICB	C:\Instarch\PVOC4\Data\020315icdg\009....	C:\Instarch\PVOC4\Methods\P4DG020...	Feb 03, 2015 11:19:15

Dissolved Gases (Injection)

(Sequence Log)

LIMS Run #(s): _____ Instrument: PVOC4

Sequence Date: 02/03/15 Analyst: AGK / BMS

Calibration Date: 02/03/15 Ambient Temp. (°C): 21.0

Injection #	Sample #	Injection Vol. (ml)	Sample Vol. (ml)
1	MEE PT 1	0.01 mL	42
2	MEE PT 2	0.025 mL	42
3	MEE PT 3	0.05 mL	42
4	MEE PT 4	0.10 mL	42
5	MEE PT 5	0.25 mL	42
6	MEE PT 6	0.50 mL	42
7	MEE PT 7	1.0 mL	42
8	ICV	.25 mL	42
9	ICB	1 mL	42
10	Re-Cert Rep 1	.25 mL	42
11	Re Cert Rep 2	.25 mL	42
12	Re Cert Rep 3	.25 mL	42
13	Re Cert Rep 4	.25 mL	42
14	Re Cert Rep 5	.25 mL	42
15			42
16			42
17			42
18			42
19	AGK		42
20	02/03/15		42
21			42
22			42
23			42
24			42
25			42

Calibration Standard Ref. #: V681

Second Source Ref. #: V619 / V730

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CTI VOLATILE STANDARDS LOGBOOK 1

CTI STANDARD NUMBER (EXAMPLE = CTIV001*)	COMPOUND or SOLUTION NAME	COMPOUND / SOLUTION SUPPLIER	STANDARD'S PART NUMBER	STANDARD'S LOT #	STANDARD CONCENTRATION [1] and EXPIRATION DATE	NEAT (N) or SOLUTION (S) (If neat list % purity, if solution list solvent)	DATE REC'D and ANALYST'S INITIALS	COMMENTS
V723	8260 Special Addition	SPEX	VO-CTWI-5	CH41119008	1000-5000 ug/mL 5/18/15	MeOH	RD 12/16/14	2 x 1mL
V724	8260 Special Addition	SPEX	VO-CTWI-5	CH41119006	1000-5000 ug/mL 5/18/15	MeOH	RD 12/16/14	2 x 1mL
V725	8260 ISTD/SSTD Mix	Ultra Sci.	STM-540	CK-2154	2500 ug/mL 7/31/16	MeOH	RD 12/18/14	4 x 1mL
V726	BFB Stn.	Ultra Sci.	STS-110N	CH-32YBA	2000 ug/mL 11/30/17	MeOH	RD 12/18/14	2 x 1mL
V727	Acetylene Std.	AIRGAS	X02HE99C33A0087	54-1244467791-1	200 PPMV 12/17/17	Helium	Bms 12/22/14	1 cylinder @ 28.7 CF
V728	1,4-Dioxane Std.	SPEX	S-1715	C1121219012	1000 ug/mL, 12/15/15	MeOH	RD 12/31/14	2 x 1mL
V729	VOC Mix	Ultra Sci	DWM-588-1	CL-5325	2000 ug/mL, 1/31/18	MeOH	RD 1/31/15	2 x 1mL
V730	Methane, Ethene, Ethane Std.	AIRGAS	X04HE99C353080	54-1248928001	200 ppmV 02/03/16	He	Bms 02/03/15	Re-certified V619
V731	VOC 8260 Additions	SPEX	VO-CTWI-12	C1150202012	1000-10000 ug/mL 5/13/15	MeOH	RD 2/6/15	2 x 1mL
V732	VOC 8260 Additions	SPEX	VOCTWI-12	C1150202013	1000-10000 ug/mL 5/13/15	MeOH	RD 2/6/15	2 x 1mL

* = If multiple vials of the same lot number and expiration date are received the standard will be given one CTI Standard # and each vial will have a alpha designation asigned to it. (Example = Three vials of DRO standard solution, CTI001A-C)

1 = If multiple analytes and all of the concentrations vary, mark VARIES.

CTI VOLATILE STANDARDS LOGBOOK 1

CTI STANDARD NUMBER (EXAMPLE = CTIV001*)	COMPOUND or SOLUTION NAME	COMPOUND / SOLUTION SUPPLIER	STANDARD'S PART NUMBER	STANDARD'S LOT #	STANDARD CONCENTRATION [1] and EXPIRATION DATE	NEAT (N) or SOLUTION (S) (If neat list % purity, if solution list solvent)	DATE REC'D and ANALYST'S INITIALS	COMMENTS
V6666	8260 Addition	SPEX	VO-CTWI-12	C1130701014	1000-10,000 ug/mL 09/29/13	MeOH	07/08/13 BmS	2 x 1mL
V6667	VOC Mix	ULTRA	DWM-588	CK-1488	2000 ug/mL 06/30/16	MeOH	07/08/13 BmS	4 x 1mL
V6668	8260 Istd./Sstd. Mix	ULTRA	STM-540	CK-3154	2500 ug/mL 07/31/16	MeOH	07/08/13 BmS	4 x 1mL
V6669	Fluorobenzene	ULTRA	STS-160	CE-4128A	2000 ug/mL 01/31/15	MeOH	07/08/13 BmS	4 x 1mL
V6670	Unleaded Gasoline	ULTRA	RGO-601	CH-0979	5000 ug/mL 04/30/15	MeOH	07/08/13 BmS	4 x 1mL
V6671	8260 Special Addition	SPEX	VO-CTWI-5	C1130726021	1000-50000 ug/mL 01/22/14	MeOH	08/02/13 BmS	2 x 1mL
V6672	8260 Special Addition	SPEX	VO-CTWI-5	C1130726023	1000-50000 ug/mL 01/22/14	MeOH	08/02/13 BmS	2 x 1mL
V6673	Carbon Dioxide Std.	AIRGAS	X02HE99C33A1899	Cylinder#: FF7598 Lot: 136-400335836-1	10,000 ppmV 8/2016	1%CO2/He	08/26/13 BmS	1 cylinder @ 28.7 CF
V674	8260 VOC Mix.	AccuStd.	M-502-10X-PAK	213041330	2000 ug/mL 5/20/16	MeOH	9/16/13 RJ	5 x 1mL
V675	8260 Addition	SPEX	VO-CTWI-12	C1130919006	1000-10000 ug/mL 12/18/13	MeOH	10/1/13 RJ	2 x 1mL
V676	8260 Addition	SPEX	VO CTWI-12	C1130919007	1000-10000 ug/mL 12/18/13	MeOH	10/1/13 RJ	2 x 1mL
V677	8260 Special Addition	SPEX	VO-CTWI-5	C1130923019	1000-50000 ug/mL 3/22/14	MeOH	10/1/13 RJ	2 x 1mL
V678	8260 Special Addition	SPEX	VO-CTWI-5	C1130923020	1000-50000 ug/mL 3/22/14	MeOH	10/1/13 RJ	2 x 1mL
V679	124 TMB 2-methylpentane	SPEX	VO-CTWI-1	T1131004002	1000 ug/mL 10/03/16	MeOH	10/08/13 BmS	1mL
V680	α,α,α-Trifluorotoluene	ULTRA	STS-220N	CE-1903Z	3000 ug/mL 08/31/16	MeOH	10/08/13 BmS	4 x 1mL
V681	Methane, Ethene, Ethane Std.	AIRGAS	X04HE99C353080	54-124397530-1	200 ppmV 10/2016	Helium	10/21/13 BmS	1 cylinder @ 31.6 CF

* = If multiple vials of the same lot number and expiration date are received the standard will be given one CTI Standard # and each vial will have a alpha designation asigned to it. (Example = Three vials of DRO standard solution, CTI001A-C)

1 = If multiple analytes and all of the concentrations vary, mark VARIES.

CTI VOLATILE STANDARDS LOGBOOK 1

CTI STANDARD NUMBER (EXAMPLE = CTIV001*)	COMPOUND or SOLUTION NAME	COMPOUND / SOLUTION SUPPLIER	STANDARD'S PART NUMBER	STANDARD'S LOT #	STANDARD CONCENTRATION [1] and EXPIRATION DATE	NEAT (N) or SOLUTION (S) (If neat list % purity, if solution list solvent)	DATE REC'D and ANALYST'S INITIALS	COMMENTS
V609	Fluorobenzene	ULTRA	STS-160	CE-4128	2000 ug/mL 12/31/12	MeOH	09/19/11 BmS	4x1
V610	α,α,α-Trifluorotoluene	ULTRA	STS-220N	CE-1903A	2000 ug/mL 07/21/14	MeOH	09/19/11 BmS	4x1
V611	8260 SPEC Add.	SPEX	VO-CTWI-5	C1110914008	1000-10,000 2000 ug/mL 3/12/12	meoH	9/21/11 AP6	2x1
V612	8260 SPEC Add	SPEX	VO-CTWI-5	C1110914009	1000-10,000 2000 ug/mL 3/12/12	meoH	9/21/11 AP6	2x1
V613	PVOC/GRO Mix	RESTEK	30095	A072677	1000 ug/mL 3/17	MeOH	09/30/11 BmS	4x1
V614	Unleaded Gasoline	RESTEK	30205	A076842	50,000 ug/mL 10/17	MeOH	09/30/11 BmS	2x1
V615	8260 SPEC Add	SPEX	VO-CTWI-5	C1110914008	1000-10,000 2000 ug/mL 3/12/12	meoH	11/23/11 AP6	1x1
V616	8260 SPEC Add	SPEX	VO-CTWI-5	C1111123007	1000-10,000 2000 ug/mL 5/21/12	meoH	12/6/11 AP6	2x1
V617	8260 SPEC Add	SPEX	VO-CTWI-5	C1111129018	1000-10,000 2000 ug/mL 5/27/12	meoH	12/6/11 AP6	2x1
V618	Carbon Dioxide	Air Gas	X02He99C37A1894	Cylinder # XE0016953	10,000 ppmV 12/2014	1% CO2/He	RD 12/19/11	1 cylinder @ 28.7 CF
V619	Methane, Ethene, Ethane Std.	Airgas	X04HE99C353Q80	Cylinder # 4774237	200 ppmV 12/2014	Helium	BmS 12/27/11	1 cylinder @ 31.6 CF
V620	8260 IST0/SSTD mix	ULTRA	STM-540	CH-2681	2500 ug/mL 9/30/14	meoH	AP6 11/9/12	4x1
V621	Methane, Ethene, Ethane Std.	PRAXAIR	HE ET200EMIC-AQ	917830501	200 ppm 01/11/13	Helium	BmS 01/11/12	Re-Certified (V488)

me lot number and expiration date are received the standard will be given one CTI Standard # and each vial will have a alpha designation
ee vials of DRO standard solution, CTI001A-C)
the concentrations vary, mark VARIES.

NITROAROMATICS ANALYSIS
QUALITY CONTROL SUMMARY
DOCUMENTS

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EXPLOSIVES ANALYSIS

Sample Description

54MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	1.000 (g/L)	CTL Sample ID:	679981
% Solids:		Date Received:	01/13/2016
Conc. Extract Vol:	5.0 (mL)	Date/Time Prepared:	01/18/2016 / 13:20
Analytical Method:	EPA 8330B	Analytical Prep Batch #	55925
Analytical Run #:	122857	Dilution Factor:	1.00
Date & Time Analyzed:	01/26/2016 / 15:18	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	092915MDTNXic-primary	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
23374-70-1	DNX	0.20	U	0.090	0.20	0.40	0.40
05755-27-1	MNX	0.10	U	0.030	0.10	0.20	0.20
82030-42-0	TNX	0.20	U	0.10	0.20	0.40	0.40

CT LABORATORIES
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EXPLOSIVES ANALYSIS

Sample Description

54MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	1.000 (g/L)	CTL Sample ID:	679981
% Solids:		Date Received:	01/13/2016
Conc. Extract Vol:	5.0 (mL)	Date/Time Prepared:	01/18/2016 / 13:20
Analytical Method:	EPA 8330B	Analytical Prep Batch #	55926
Analytical Run #:	122858	Dilution Factor:	1.00
Date & Time Analyzed:	01/25/2016 / 19:38	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	012516expic-pri	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
99-35-4	1,3,5-Trinitrobenzene	0.30	U	0.12	0.30	0.40	0.40
99-65-0	1,3-Dinitrobenzene	0.30	U	0.10	0.30	0.50	0.50
118-96-7	2,4,6-Trinitrotoluene	0.30	U	0.11	0.30	1.0	1.0
121-14-2	2,4-Dinitrotoluene	0.30	U	0.15	0.30	1.0	1.0
606-20-2	2,6-Dinitrotoluene	0.30	U	0.12	0.30	0.50	0.50
35572-78-2	2-Amino-4,6-dinitrotoluene	0.30	U	0.12	0.30	0.50	0.50
88-72-2	2-Nitrotoluene	0.40	U	0.20	0.40	2.0	2.0
618-87-1	3,5-Dinitroaniline	0.30	U	0.12	0.30	0.50	0.50
99-08-1	3-Nitrotoluene	0.30	U	0.12	0.30	2.0	2.0
19406-51-0	4-Amino-2,6-dinitrotoluene	0.30	U	0.14	0.30	0.50	0.50
99-99-0	4-Nitrotoluene	0.30	U	0.11	0.30	2.0	2.0
2691-41-0	HMX	0.30	U	0.13	0.30	0.50	0.50
98-95-3	Nitrobenzene	0.30	U	0.11	0.30	0.50	0.50
55-63-0	Nitroglycerin	2.0	U	1.1	2.0	4.0	4.0
78-11-5	PETN	3.0	U	1.5	3.0	6.0	6.0
121-82-4	RDX	0.30	U	0.090	0.30	0.50	0.50
479-45-8	Tetryl	0.30	U	0.11	0.30	0.50	0.50

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EXPLOSIVES ANALYSIS

Sample Description

54MW10

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	1.000 (g/L)	CTL Sample ID:	679481
% Solids:		Date Received:	01/12/2016
Conc. Extract Vol:	5.0 (mL)	Date/Time Prepared:	01/18/2016 / 13:20
Analytical Method:	EPA 8330B	Analytical Prep Batch #	55925
Analytical Run #:	122857	Dilution Factor:	1.00
Date & Time Analyzed:	01/26/2016 / 14:31	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	092915MDTNXic-primary	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
23374-70-1	DNX	0.20	U	0.090	0.20	0.40	0.40
05755-27-1	MNX	0.10	U	0.030	0.10	0.20	0.20
82030-42-0	TNX	0.20	U	0.10	0.20	0.40	0.40

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EXPLOSIVES ANALYSIS

Sample Description

54MW10

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	1.000 (g/L)	CTL Sample ID:	679481
% Solids:		Date Received:	01/12/2016
Conc. Extract Vol:	5.0 (mL)	Date/Time Prepared:	01/18/2016 / 13:20
Analytical Method:	EPA 8330B	Analytical Prep Batch #	55926
Analytical Run #:	122858	Dilution Factor:	1.00
Date & Time Analyzed:	01/25/2016 / 18:43	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	012516expic-pri	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
99-35-4	1,3,5-Trinitrobenzene	2.8		0.12	0.30	0.40	0.40
99-65-0	1,3-Dinitrobenzene	0.30	U	0.10	0.30	0.50	0.50
118-96-7	2,4,6-Trinitrotoluene	4.1		0.11	0.30	1.0	1.0
121-14-2	2,4-Dinitrotoluene	0.30	U	0.15	0.30	1.0	1.0
606-20-2	2,6-Dinitrotoluene	0.30	U	0.12	0.30	0.50	0.50
35572-78-2	2-Amino-4,6-dinitrotoluene	1.2		0.12	0.30	0.50	0.50
88-72-2	2-Nitrotoluene	0.40	U	0.20	0.40	2.0	2.0
618-87-1	3,5-Dinitroaniline	0.33	J	0.12	0.30	0.50	0.50
99-08-1	3-Nitrotoluene	0.30	U	0.12	0.30	2.0	2.0
19406-51-0	4-Amino-2,6-dinitrotoluene	0.78		0.14	0.30	0.50	0.50
99-99-0	4-Nitrotoluene	0.30	U	0.11	0.30	2.0	2.0
2691-41-0	HMX	1.4		0.13	0.30	0.50	0.50
98-95-3	Nitrobenzene	0.30	U	0.11	0.30	0.50	0.50
55-63-0	Nitroglycerin	2.0	U	1.1	2.0	4.0	4.0
78-11-5	PETN	3.0	U	1.5	3.0	6.0	6.0
121-82-4	RDX	3.1	P	0.090	0.30	0.50	0.50
479-45-8	Tetryl	0.30	U	0.11	0.30	0.50	0.50

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EXPLOSIVES ANALYSIS

Sample Description

54MW12

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	1.000 (g/L)	CTL Sample ID:	679979
% Solids:		Date Received:	01/13/2016
Conc. Extract Vol:	5.0 (mL)	Date/Time Prepared:	01/18/2016 / 13:20
Analytical Method:	EPA 8330B	Analytical Prep Batch #	55926
Analytical Run #:	122858	Dilution Factor:	1.00
Date & Time Analyzed:	01/26/2016 / 10:34	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	012516expic-pri	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
99-65-0	1,3-Dinitrobenzene	0.30	U	0.10	0.30	0.50	0.50
121-14-2	2,4-Dinitrotoluene	0.30	U	0.15	0.30	1.0	1.0
606-20-2	2,6-Dinitrotoluene	0.30	U	0.12	0.30	0.50	0.50
35572-78-2	2-Amino-4,6-dinitrotoluene	13		0.12	0.30	0.50	0.50
88-72-2	2-Nitrotoluene	0.40	U	0.20	0.40	2.0	2.0
618-87-1	3,5-Dinitroaniline	0.76		0.12	0.30	0.50	0.50
99-08-1	3-Nitrotoluene	0.30	U	0.12	0.30	2.0	2.0
19406-51-0	4-Amino-2,6-dinitrotoluene	0.30	U M	0.14	0.30	0.50	0.50
99-99-0	4-Nitrotoluene	0.30	U	0.11	0.30	2.0	2.0
2691-41-0	HMX	10		0.13	0.30	0.50	0.50
98-95-3	Nitrobenzene	0.30	U	0.11	0.30	0.50	0.50
55-63-0	Nitroglycerin	2.0	U M	1.1	2.0	4.0	4.0
78-11-5	PETN	3.0	U	1.5	3.0	6.0	6.0
479-45-8	Tetryl	0.30	U	0.11	0.30	0.50	0.50

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EXPLOSIVES ANALYSIS

Sample Description

54MW12

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	1.000 (g/L)	CTL Sample ID:	679979
% Solids:		Date Received:	01/13/2016
Conc. Extract Vol:	5.0 (mL)	Date/Time Prepared:	01/18/2016 / 13:20
Analytical Method:	EPA 8330B	Analytical Prep Batch #	55926
Analytical Run #:	122858	Dilution Factor:	10.00
Date & Time Analyzed:	01/26/2016 / 10:52	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	012516expic-pri	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
99-35-4	1,3,5-Trinitrobenzene	88	M	1.2	3.0	4.0	4.0
118-96-7	2,4,6-Trinitrotoluene	110	M	1.1	3.0	10	10
121-82-4	RDX	30	M,P	0.90	3.0	5.0	5.0

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EXPLOSIVES ANALYSIS

Sample Description

54MW12

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	1.000 (g/L)	CTL Sample ID:	679979
% Solids:		Date Received:	01/13/2016
Conc. Extract Vol:	5.0 (mL)	Date/Time Prepared:	01/18/2016 / 13:20
Analytical Method:	EPA 8330B	Analytical Prep Batch #	55925
Analytical Run #:	122857	Dilution Factor:	1.00
Date & Time Analyzed:	01/26/2016 / 15:02	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	092915MDTNXic-primary	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers		DL	LOD	LOQ	RL
23374-70-1	DNX	0.72		P,M	0.090	0.20	0.40	0.40
05755-27-1	MNX	0.10	U	Y	0.030	0.10	0.20	0.20
82030-42-0	TNX	0.20	U	P,M	0.10	0.20	0.40	0.40

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EXPLOSIVES ANALYSIS

Sample Description

54MW13

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	1.000 (g/L)	CTL Sample ID:	679983
% Solids:		Date Received:	01/13/2016
Conc. Extract Vol:	5.0 (mL)	Date/Time Prepared:	01/18/2016 / 13:20
Analytical Method:	EPA 8330B	Analytical Prep Batch #	55925
Analytical Run #:	122857	Dilution Factor:	1.00
Date & Time Analyzed:	01/26/2016 / 15:34	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	092915MDTNXic-primary	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
23374-70-1	DNX	0.20	U	0.090	0.20	0.40	0.40
05755-27-1	MNX	0.10	U	0.030	0.10	0.20	0.20
82030-42-0	TNX	0.20	U	0.10	0.20	0.40	0.40

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EXPLOSIVES ANALYSIS

Sample Description

54MW13

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	1.000 (g/L)	CTL Sample ID:	679983
% Solids:		Date Received:	01/13/2016
Conc. Extract Vol:	5.0 (mL)	Date/Time Prepared:	01/18/2016 / 13:20
Analytical Method:	EPA 8330B	Analytical Prep Batch #	55926
Analytical Run #:	122858	Dilution Factor:	1.00
Date & Time Analyzed:	01/25/2016 / 19:56	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	012516expic-pri	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
99-35-4	1,3,5-Trinitrobenzene	1.2		0.12	0.30	0.40	0.40
99-65-0	1,3-Dinitrobenzene	0.30	U	0.10	0.30	0.50	0.50
118-96-7	2,4,6-Trinitrotoluene	1.4		0.11	0.30	1.0	1.0
121-14-2	2,4-Dinitrotoluene	0.30	U	0.15	0.30	1.0	1.0
606-20-2	2,6-Dinitrotoluene	0.30	U	0.12	0.30	0.50	0.50
35572-78-2	2-Amino-4,6-dinitrotoluene	0.44	J	0.12	0.30	0.50	0.50
88-72-2	2-Nitrotoluene	0.40	U	0.20	0.40	2.0	2.0
618-87-1	3,5-Dinitroaniline	0.38	J	0.12	0.30	0.50	0.50
99-08-1	3-Nitrotoluene	0.30	U	0.12	0.30	2.0	2.0
19406-51-0	4-Amino-2,6-dinitrotoluene	0.30	U	0.14	0.30	0.50	0.50
99-99-0	4-Nitrotoluene	0.30	U	0.11	0.30	2.0	2.0
2691-41-0	HMX	0.66		0.13	0.30	0.50	0.50
98-95-3	Nitrobenzene	0.30	U	0.11	0.30	0.50	0.50
55-63-0	Nitroglycerin	2.0	U	1.1	2.0	4.0	4.0
78-11-5	PETN	3.0	U	1.5	3.0	6.0	6.0
121-82-4	RDX	0.54		0.090	0.30	0.50	0.50
479-45-8	Tetryl	0.30	U	0.11	0.30	0.50	0.50

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EXPLOSIVES ANALYSIS

Sample Description

54TM10

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	1.000 (g/L)	CTL Sample ID:	679483
% Solids:		Date Received:	01/12/2016
Conc. Extract Vol:	5.0 (mL)	Date/Time Prepared:	01/18/2016 / 13:20
Analytical Method:	EPA 8330B	Analytical Prep Batch #	55925
Analytical Run #:	122857	Dilution Factor:	1.00
Date & Time Analyzed:	01/26/2016 / 14:46	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	092915MDTNXic-primary	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
23374-70-1	DNX	0.20	U	0.090	0.20	0.40	0.40
05755-27-1	MNX	0.10	U	0.030	0.10	0.20	0.20
82030-42-0	TNX	0.20	U	0.10	0.20	0.40	0.40

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EXPLOSIVES ANALYSIS

Sample Description

54TM10

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Sample wt/vol:	1.000 (g/L)	CTL Sample ID:	679483
% Solids:		Date Received:	01/12/2016
Conc. Extract Vol:	5.0 (mL)	Date/Time Prepared:	01/18/2016 / 13:20
Analytical Method:	EPA 8330B	Analytical Prep Batch #	55926
Analytical Run #:	122858	Dilution Factor:	1.00
Date & Time Analyzed:	01/25/2016 / 19:01	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	012516expic-pri	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
99-35-4	1,3,5-Trinitrobenzene	3.0		0.12	0.30	0.40	0.40
99-65-0	1,3-Dinitrobenzene	0.30	U	0.10	0.30	0.50	0.50
118-96-7	2,4,6-Trinitrotoluene	4.3		0.11	0.30	1.0	1.0
121-14-2	2,4-Dinitrotoluene	0.30	U	0.15	0.30	1.0	1.0
606-20-2	2,6-Dinitrotoluene	0.30	U	0.12	0.30	0.50	0.50
35572-78-2	2-Amino-4,6-dinitrotoluene	1.3		0.12	0.30	0.50	0.50
88-72-2	2-Nitrotoluene	0.40	U	0.20	0.40	2.0	2.0
618-87-1	3,5-Dinitroaniline	0.33	J	0.12	0.30	0.50	0.50
99-08-1	3-Nitrotoluene	0.30	U	0.12	0.30	2.0	2.0
19406-51-0	4-Amino-2,6-dinitrotoluene	0.76		0.14	0.30	0.50	0.50
99-99-0	4-Nitrotoluene	0.30	U	0.11	0.30	2.0	2.0
2691-41-0	HMX	1.5		0.13	0.30	0.50	0.50
98-95-3	Nitrobenzene	0.30	U	0.11	0.30	0.50	0.50
55-63-0	Nitroglycerin	2.0	U	1.1	2.0	4.0	4.0
78-11-5	PETN	3.0	U	1.5	3.0	6.0	6.0
121-82-4	RDX	3.2	P	0.090	0.30	0.50	0.50
479-45-8	Tetryl	0.30	U	0.11	0.30	0.50	0.50

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1B-2

EXPLOSIVES ANALYSIS (MB or CCB)

Sample Description

METHOD BLANK

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:		SDG No.:	116426
Sample wt/vol:	1.000 (g/L)	CTL Sample ID:	681775
% Solids:		Date Received:	01/13/2016
Conc. Extract Vol:	5.0 (mL)	Date/Time Prepared:	01/18/2016 / 13:20
Analytical Method:	EPA 8330B	Analytical Prep Batch #	55925
Analytical Run #:	122857	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	092915MDTNXic-primary	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
23374-70-1	DNX	01/26/2016	13:59	0.09	U	0.09	0.40	***0.20***
05755-27-1	MNX	01/26/2016	13:59	0.03	U	0.03	0.20	***0.10***
82030-42-0	TNX	01/26/2016	13:59	0.10	U	0.10	0.40	***0.20***

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1B-2

EXPLOSIVES ANALYSIS (MB or CCB)

Sample Description: **METHOD BLANK**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:		SDG No.:	116426
Sample wt/vol:	1.000 (g/L)	CTL Sample ID:	681779
% Solids:		Date Received:	01/13/2016
Conc. Extract Vol:	5.0 (mL)	Date/Time Prepared:	01/18/2016 / 13:20
Analytical Method:	EPA 8330B	Analytical Prep Batch #	55926
Analytical Run #:	122858	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	012516expic-pri	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
99-35-4	1,3,5-Trinitrobenzene	01/25/2016	18:06	0.23	U	0.23	0.80	***0.40***
99-65-0	1,3-Dinitrobenzene	01/25/2016	18:06	0.20	U	0.20	1.00	***0.50***
118-96-7	2,4,6-Trinitrotoluene	01/25/2016	18:06	0.22	U	0.22	2.00	***1.00***
121-14-2	2,4-Dinitrotoluene	01/25/2016	18:06	0.3	U	0.3	2.0	***1.00***
606-20-2	2,6-Dinitrotoluene	01/25/2016	18:06	0.24	U	0.24	1.00	***0.50***
35572-78-2	2-Amino-4,6-dinitrotoluene	01/25/2016	18:06	0.24	U	0.24	1.00	***0.50***
88-72-2	2-Nitrotoluene	01/25/2016	18:06	0.4	U	0.4	4.0	***2.0***
618-87-1	3,5-Dinitroaniline	01/25/2016	18:06	0.23	U	0.23	1.00	***0.50***
99-08-1	3-Nitrotoluene	01/25/2016	18:06	0.23	U	0.23	4.00	***2.00***
19406-51-0	4-Amino-2,6-dinitrotoluene	01/25/2016	18:06	0.28	U	0.28	1.00	***0.50***
99-99-0	4-Nitrotoluene	01/25/2016	18:06	0.22	U	0.22	4.00	***2.00***
2691-41-0	HMX	01/25/2016	18:06	0.25	U	0.25	1.00	***0.50***
98-95-3	Nitrobenzene	01/25/2016	18:06	0.22	U	0.22	1.00	***0.50***
55-63-0	Nitroglycerin	01/25/2016	18:06	2.2	U	2.2	8.0	***4.0***
78-11-5	PETN	01/25/2016	18:06	3	U	3	12	***6***
121-82-4	RDX	01/25/2016	18:06	0.18	U	0.18	1.00	***0.50***
479-45-8	Tetryl	01/25/2016	18:06	0.21	U	0.21	1.00	***0.50***

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2G-2

WATER EXPLOSIVES SYSTEM MONITORING COMPOUND RECOVERY

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Analytical Method:	EPA 8330B	SDG:	116426
Analytical Run #:	122857	ICAL Calibration #:	092915MDTNXic-primary

CTLab #	679481				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2-Dinitrobenzene	100	108	83	119	

CTLab #	679483				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2-Dinitrobenzene	100	116	83	119	

CTLab #	679979				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2-Dinitrobenzene	100	3602	83	119	*FAIL*

CTLab #	679981				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2-Dinitrobenzene	100	118	83	119	

CTLab #	679983				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2-Dinitrobenzene	100	115	83	119	

CTLab #	681775	Sample Type:	Method Blank		
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2-Dinitrobenzene		112	83	119	

CTLab #	681776	Sample Type:	Lab Control Spike		
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2-Dinitrobenzene	100	111	83	119	

CTLab #	681777	Sample Type:	Matrix Spike		
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2-Dinitrobenzene	100	3890	83	119	*FAIL*

CTLab #	681778	Sample Type:	Matrix Spike Duplicate		
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2-Dinitrobenzene	100	3800	83	119	*FAIL*

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2G-2

WATER EXPLOSIVES SYSTEM MONITORING COMPOUND RECOVERY

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Analytical Method:	EPA 8330B	SDG:	116426
Analytical Run #:	122858	ICAL Calibration #:	012516expic-pri

CTLab #	679481				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2-Dinitrobenzene	100	92	83	119	

CTLab #	679483				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2-Dinitrobenzene	100	97	83	119	

CTLab #	679979				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2-Dinitrobenzene	100	89	83	119	

CTLab #	679981				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2-Dinitrobenzene	100	96	83	119	

CTLab #	679983				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2-Dinitrobenzene	100	87	83	119	

CTLab #	681779	Sample Type:	Method Blank		
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2-Dinitrobenzene		93.9	83	119	

CTLab #	681780	Sample Type:	Lab Control Spike		
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2-Dinitrobenzene	100	102	83	119	

CTLab #	681783	Sample Type:	Matrix Spike		
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2-Dinitrobenzene	100	83.0	78	119	

CTLab #	681785	Sample Type:	Matrix Spike Duplicate		
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2-Dinitrobenzene	100	89.6	78	119	

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Sample Description

WATER EXPLOSIVES MATRIX SPIKE RECOVERY

54MW12

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: GROUND WATER SDG No.: 116426

Analytical Method: EPA 8330B Concentration Units: ug/L

Analytical Run #: 122857 Sample No.: 681777 Parent Sample No.: 679979

Analytical Prep Batch #: 55925 Analytical Preparation Date/Time: 01/18/2016 13:20

ICAL Calibration #: 092915MDTNXic-primary

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R	
DNX	01/26/2016	15:49	70-130	2.10	0.72	2.75	50	*FAIL*
MNX	01/26/2016	15:49	70-130	1.05	BDL	1.00	105	
TNX	01/26/2016	15:49	70-130	0.570	BDL	1.25	46	*FAIL*

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WATER EXPLOSIVES MATRIX SPIKE RECOVERY

Sample Description: **54MW12**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: GROUND WATER
SDG No.: 116426
Analytical Method: EPA 8330B
Concentration Units: ug/L

Analytical Run #: 122858 Sample No.: 681783 Parent Sample No.: 679979
Analytical Prep Batch #: 55926 Analytical Preparation Date/Time: 01/18/2016 13:20
ICAL Calibration #: 012516expic-pri

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R	
1,3-Dinitrobenzene	01/25/2016	20:14	73-119	5.10	BDL	5.00	102	
2,4-Dinitrotoluene	01/25/2016	20:14	78-120	5.26	BDL	5.00	105	
2,6-Dinitrotoluene	01/25/2016	20:14	77-127	5.33	BDL	5.00	107	
2-Amino-4,6-dinitrotoluene	01/25/2016	20:14	79-120	18.8	13	5.00	116	
2-Nitrotoluene	01/25/2016	20:14	70-127	4.17	BDL	5.00	83	
3,5-Dinitroaniline	01/25/2016	20:14	71-117	5.91	0.76	5.00	103	
3-Nitrotoluene	01/25/2016	20:14	73-125	4.72	BDL	5.00	94	
4-Amino-2,6-dinitrotoluene	01/25/2016	20:14	76-125	7.67	BDL	5.00	153	*FAIL*
4-Nitrotoluene	01/25/2016	20:14	71-127	4.49	BDL	5.00	90	
HMX	01/25/2016	20:14	65-135	14.6	10	5.00	92	
Nitrobenzene	01/25/2016	20:14	65-134	4.27	BDL	5.00	85	
Nitroglycerin	01/25/2016	20:14	74-127	19.9	BDL	10.0	199	*FAIL*
PETN	01/25/2016	20:14	73-127	10.7	BDL	10.0	107	
Tetryl	01/25/2016	20:14	64-128	4.64	BDL	5.00	93	

Analytical Run #: 122858 Sample No.: 681783 Parent Sample No.: 679979
Analytical Prep Batch #: 55926 Analytical Preparation Date/Time: 01/18/2016 13:20
ICAL Calibration #: 012516expic-pri

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R	
1,3,5-Trinitrobenzene	01/26/2016	11:09	80-116	108	88	5.00	400	*FAIL*
2,4,6-Trinitrotoluene	01/26/2016	11:09	71-123	135	110	5.00	500	*FAIL*
RDX	01/26/2016	11:09	68-130	39.9	30	5.00	198	*FAIL*

Spike Recovery: 5 out of 17 outside QC limits

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Sample Description

WATER EXPLOSIVES MATRIX SPIKE DUPLICATE RECOVERY

54MW12

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: GROUND WATER SDG No.: 116426

Analytical Method: EPA 8330B Concentration Units: ug/L

Analytical Run #: 122857 Sample No.: 681778 Parent Sample No.: 681777

Analytical Prep Batch #: 55925 Analytical Preparation Date/Time: 01/18/2016 13:20

ICAL Calibration #: 092915MDTNXic-primary

Analyte	Analysis Date/Time		Spike Result	Spike Amount	%R	%RPD	Control Limits (%R)	Control Limits (%RPD)	
DNX	01/26/2016	16:05	1.76	2.75	38	18	70-130	20	*FAIL*
MNX	01/26/2016	16:05	0.830	1.00	83	23	70-130	20	*FAIL*
TNX	01/26/2016	16:05	0.480	1.25	38	17	70-130	20	*FAIL*

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Sample Description

54MW12

WATER EXPLOSIVES MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: GROUND WATER SDG No.: 116426

Analytical Method: EPA 8330B Concentration Units: ug/L

Analytical Run #: 122858 Sample No.: 681785 Parent Sample No.: 681783

Analytical Prep Batch #: 55926 Analytical Preparation Date/Time: 01/18/2016 13:20

ICAL Calibration #: 012516expic-pri

Analyte	Analysis Date/Time		Spike Result	Spike Amount	%R	%RPD	Control Limits (%R)	Control Limits (%RPD)	
1,3-Dinitrobenzene	01/25/2016	20:33	5.30	5.00	106	4	73-119	20	
2,4-Dinitrotoluene	01/25/2016	20:33	5.50	5.00	110	4	78-120	20	
2,6-Dinitrotoluene	01/25/2016	20:33	6.20	5.00	124	15	77-127	20	
2-Amino-4,6-dinitrotoluene	01/25/2016	20:33	19.0	5.00	120	1	79-120	20	
2-Nitrotoluene	01/25/2016	20:33	4.35	5.00	87	4	70-127	20	
3,5-Dinitroaniline	01/25/2016	20:33	6.12	5.00	107	3	71-117	20	
3-Nitrotoluene	01/25/2016	20:33	4.80	5.00	96	2	73-125	20	
4-Amino-2,6-dinitrotoluene	01/25/2016	20:33	6.85	5.00	137	11	76-125	20	*FAIL*
4-Nitrotoluene	01/25/2016	20:33	4.63	5.00	93	3	71-127	20	
HMX	01/25/2016	20:33	14.6	5.00	92	0	65-135	20	
Nitrobenzene	01/25/2016	20:33	4.40	5.00	88	3	65-134	20	
Nitroglycerin	01/25/2016	20:33	20.1	10.0	201	1	74-127	20	*FAIL*
PETN	01/25/2016	20:33	10.8	10.0	108	0	73-127	20	
Tetryl	01/25/2016	20:33	4.84	5.00	97	4	64-128	20	

Analytical Run #: 122858 Sample No.: 681785 Parent Sample No.: 681783

Analytical Prep Batch #: 55926 Analytical Preparation Date/Time: 01/18/2016 13:20

ICAL Calibration #: 012516expic-pri

Analyte	Analysis Date/Time		Spike Result	Spike Amount	%R	%RPD	Control Limits (%R)	Control Limits (%RPD)	
1,3,5-Trinitrobenzene	01/26/2016	11:26	106	5.00	360	2	80-116	20	*FAIL*
2,4,6-Trinitrotoluene	01/26/2016	11:26	133	5.00	460	2	71-123	20	*FAIL*
RDX	01/26/2016	11:26	39.2	5.00	184	2	68-130	20	*FAIL*

RPD or Spike Recovery: 5 out of 17 outside QC limits

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3G

Sample Description

LCS

WATER EXPLOSIVES LAB CONTROL SAMPLE

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Sample No.: 681776
SDG No.: 116426
Analytical Method: EPA 8330B
Concentration Units: ug/L

Analytical Run #: 122857
Sample No.: 681776
Parent Sample No.: 0
Analytical Prep Batch #: 55925
Analytical Preparation Date/Time: 01/18/2016 13:20
ICAL Calibration #: 092915MDTNXic-primary

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
DNX	01/26/2016	14:15	70-130	2.78		2.75	101
MNX	01/26/2016	14:15	70-130	1.07		1.00	107
TNX	01/26/2016	14:15	70-130	0.950		1.25	76

Spike Recovery: 0 out of 3 outside limits

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Sample Description

WATER EXPLOSIVES LAB CONTROL SAMPLE

LCS

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Sample No.: 681780

SDG No.: 116426

Analytical Method: EPA 8330B

Concentration Units: ug/L

Analytical Run #: 122858 Sample No.: 681780 Parent Sample No.: 0

Analytical Prep Batch #: 55926 Analytical Preparation Date/Time: 01/18/2016 13:20

ICAL Calibration #: 012516expic-pri

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
1,3,5-Trinitrobenzene	01/25/2016	18:25	73-125	4.98		5.00	100
1,3-Dinitrobenzene	01/25/2016	18:25	78-120	5.06		5.00	101
2,4,6-Trinitrotoluene	01/25/2016	18:25	71-123	4.68		5.00	94
2,4-Dinitrotoluene	01/25/2016	18:25	78-120	4.92		5.00	98
2,6-Dinitrotoluene	01/25/2016	18:25	77-127	4.98		5.00	100
2-Amino-4,6-dinitrotoluene	01/25/2016	18:25	79-120	4.86		5.00	97
2-Nitrotoluene	01/25/2016	18:25	70-127	4.33		5.00	87
3,5-Dinitroaniline	01/25/2016	18:25	71-117	4.97		5.00	99
3-Nitrotoluene	01/25/2016	18:25	73-125	4.64		5.00	93
4-Amino-2,6-dinitrotoluene	01/25/2016	18:25	76-125	5.84		5.00	117
4-Nitrotoluene	01/25/2016	18:25	71-127	4.59		5.00	92
HMX	01/25/2016	18:25	65-135	5.44		5.00	109
Nitrobenzene	01/25/2016	18:25	65-134	4.49		5.00	90
Nitroglycerin	01/25/2016	18:25	74-127	10.1		10.0	101
PETN	01/25/2016	18:25	73-127	10.5		10.0	105
RDX	01/25/2016	18:25	68-130	5.25		5.00	105
Tetryl	01/25/2016	18:25	64-128	4.87		5.00	97

Spike Recovery: 0 out of 17 outside limits

CT LABORATORIES
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4B-1

EXPLOSIVES METHOD BLANK SUMMARY

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Sample ID:	681775	SDG No.:	116426
Matrix:	LIQUID	Date Extracted:	01/18/2016
Date Analyzed:	01/26/2016	Time Analyzed:	13:59
Analytical Method:	EPA 8330B	Extraction Method:	SW3535
Analytical Run #:	122857	Extraction Batch #:	55925
		ICAL Calibration #:	092915MDTNXic-primary

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES AND QC:

SEQUENCE	SAMPLE DESCRIPTION	SAMPLE ID	DATE/TIME ANALYZED	CALIBRATION # ID
1	MBW	681775	01/26/2016 13:59	092915MDTNXi
2	LCSW	681776	01/26/2016 14:15	092915MDTNXi
3	54MW10	679481	01/26/2016 14:31	092915MDTNXi
4	54TM10	679483	01/26/2016 14:46	092915MDTNXi
5	54MW12	679979	01/26/2016 15:02	092915MDTNXi
6	54MW1	679981	01/26/2016 15:18	092915MDTNXi
7	54MW13	679983	01/26/2016 15:34	092915MDTNXi
8	54MW12MSW	681777	01/26/2016 15:49	092915MDTNXi
9	54MW12MSDW	681778	01/26/2016 16:05	092915MDTNXi
10	54MW12	679979	01/26/2016 17:43	092915MDTNXi
11	54MW12MSW	681777	01/26/2016 17:59	092915MDTNXi
12	54MW12MSDW	681778	01/26/2016 18:15	092915MDTNXi

CT LABORATORIES
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4B-1

EXPLOSIVES METHOD BLANK SUMMARY

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Sample ID:	681779	SDG No.:	116426
Matrix:	LIQUID	Date Extracted:	01/18/2016
Date Analyzed:	01/25/2016	Time Analyzed:	18:06
Analytical Method:	EPA 8330B	Extraction Method:	SW3535
Analytical Run #:	122858	Extraction Batch #:	55926
		ICAL Calibration #:	012516expic-pri

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES AND QC:

SEQUENCE	SAMPLE DESCRIPTION	SAMPLE ID	DATE/TIME ANALYZED	CALIBRATION # ID
1	MBW	681779	01/25/2016 18:06	012516expic-pri
2	LCSW	681780	01/25/2016 18:25	012516expic-pri
3	54MW10	679481	01/25/2016 18:43	012516expic-pri
4	54TM10	679483	01/25/2016 19:01	012516expic-pri
5	54MW1	679981	01/25/2016 19:38	012516expic-pri
6	54MW13	679983	01/25/2016 19:56	012516expic-pri
7	54MW12MSW	681783	01/25/2016 20:14	012516expic-pri
8	54MW12MSDW	681785	01/25/2016 20:33	012516expic-pri
9	54MW12	679979	01/26/2016 10:34	012516expic-pri
10	54MW12	679979	01/26/2016 10:52	012516expic-pri
11	54MW12MSW	681783	01/26/2016 11:09	012516expic-pri
12	54MW12MSDW	681785	01/26/2016 11:26	012516expic-pri

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CHANNEL A/B (FRONT/BACK) DETECTOR/COLUMN RPD

EXPLOSIVES ANALYSIS

Sample Description

54MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Analytical Method:	EPA 8330B	CTL Sample ID:	679981
Analytical Run #:	122857	Date/Time Prepared:	01/18/2016 / 13:20
Date & Time Analyzed:	01/26/2016 / 15:18	Analytical Prep Batch #:	55925
Date & Time Analyzed #2:	/	Concentration Units:	ug/mL
ICAL Calibration #:	092915MDTNXic-primary		

Analyte	Column/Detector #1	Column/Detector #2	%RPD	Qualifiers
DNX	NA			
MNX	NA			
TNX	NA			

CT LABORATORIES
delivering more than data from your environmental analyses

CHANNEL A/B (FRONT/BACK) DETECTOR/COLUMN RPD

EXPLOSIVES ANALYSIS

Sample Description

54MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Analytical Method:	EPA 8330B	CTL Sample ID:	679981
Analytical Run #:	122858	Date/Time Prepared:	01/18/2016 / 13:20
Date & Time Analyzed:	01/25/2016 / 19:38	Analytical Prep Batch #:	55926
Date & Time Analyzed #2:	/	Concentration Units:	ug/mL
ICAL Calibration #:	012516expic-pri		

Analyte	Column/Detector #1	Column/Detector #2	%RPD	Qualifiers
1,3,5-Trinitrobenzene	NA			
1,3-Dinitrobenzene	NA			
2,4,6-Trinitrotoluene	NA			
2,4-Dinitrotoluene	NA			
2,6-Dinitrotoluene	NA			
2-Amino-4,6-dinitrotoluene	NA			
2-Nitrotoluene	NA			
3,5-Dinitroaniline	NA			
3-Nitrotoluene	NA			
4-Amino-2,6-dinitrotoluene	NA			
4-Nitrotoluene	NA			
HMX	NA			
Nitrobenzene	NA			
Nitroglycerin	NA			
PETN	NA			
RDX	NA			
Tetryl	NA			

CT LABORATORIES
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CHANNEL A/B (FRONT/BACK) DETECTOR/COLUMN RPD

EXPLOSIVES ANALYSIS

Sample Description

54MW10

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Analytical Method:	EPA 8330B	CTL Sample ID:	679481
Analytical Run #:	122857	Date/Time Prepared:	01/18/2016 / 13:20
Date & Time Analyzed:	01/26/2016 / 14:31	Analytical Prep Batch #:	55925
Date & Time Analyzed #2:	01/28/2016 / 17:55	Concentration Units:	ug/mL
ICAL Calibration #:	092915MDTNXic-primary		

Analyte	Column/Detector #1	Column/Detector #2	%RPD	Qualifiers
DNX	NA	NA	NA	
MNX	NA	NA	NA	
TNX	NA	NA	NA	

CT LABORATORIES
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CHANNEL A/B (FRONT/BACK) DETECTOR/COLUMN RPD

EXPLOSIVES ANALYSIS

Sample Description

54MW10

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Analytical Method:	EPA 8330B	CTL Sample ID:	679481
Analytical Run #:	122858	Date/Time Prepared:	01/18/2016 / 13:20
Date & Time Analyzed:	01/25/2016 / 18:43	Analytical Prep Batch #:	55926
Date & Time Analyzed #2:	01/27/2016 / 20:35	Concentration Units:	ug/mL
ICAL Calibration #:	012516expic-pri		

Analyte	Column/Detector #1	Column/Detector #2	%RPD	Qualifiers
1,3,5-Trinitrobenzene	0.283	0.282	0.35	
1,3-Dinitrobenzene	NA	NA	NA	
2,4,6-Trinitrotoluene	0.413	0.455	9.7	
2,4-Dinitrotoluene	NA	NA	NA	
2,6-Dinitrotoluene	NA	NA	NA	
2-Amino-4,6-dinitrotoluene	0.121	0.126	4.0	
2-Nitrotoluene	NA	NA	NA	
3,5-Dinitroaniline	0.033	0.035	5.9	
3-Nitrotoluene	NA	NA	NA	
4-Amino-2,6-dinitrotoluene	0.078	0.080	2.5	
4-Nitrotoluene	NA	NA	NA	
HMX	0.139	0.202	37	
Nitrobenzene	NA	NA	NA	
Nitroglycerin	NA	NA	NA	
PETN	NA	NA	NA	
RDX	0.305	0.184	49	P
Tetryl	NA	NA	NA	

CT LABORATORIES
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CHANNEL A/B (FRONT/BACK) DETECTOR/COLUMN RPD

EXPLOSIVES ANALYSIS

Sample Description

54MW12

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Analytical Method:	EPA 8330B	CTL Sample ID:	679979
Analytical Run #:	122858	Date/Time Prepared:	01/18/2016 / 13:20
Date & Time Analyzed:	01/26/2016 / 10:34	Analytical Prep Batch #:	55926
Date & Time Analyzed #2:	01/27/2016 / 21:49	Concentration Units:	ug/mL
ICAL Calibration #:	012516expic-pri		

Analyte	Column/Detector #1	Column/Detector #2	%RPD	Qualifiers
1,3-Dinitrobenzene	NA	NA	NA	
2,4-Dinitrotoluene	NA	NA	NA	
2,6-Dinitrotoluene	NA	NA	NA	
2-Amino-4,6-dinitrotoluene	1.339	1.437	7.1	
2-Nitrotoluene	NA	NA	NA	
3,5-Dinitroaniline	0.076	0.106	33	
3-Nitrotoluene	NA	NA	NA	
4-Amino-2,6-dinitrotoluene	NA	NA	NA	
4-Nitrotoluene	NA	NA	NA	
HMX	1.015	1.402	32	
Nitrobenzene	NA	NA	NA	
Nitroglycerin	NA	NA	NA	
PETN	NA	NA	NA	
Tetryl	NA	NA	NA	

CT LABORATORIES
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CHANNEL A/B (FRONT/BACK) DETECTOR/COLUMN RPD

EXPLOSIVES ANALYSIS

Sample Description

54MW12

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Analytical Method:	EPA 8330B	CTL Sample ID:	679979
Analytical Run #:	122858	Date/Time Prepared:	01/18/2016 / 13:20
Date & Time Analyzed:	01/26/2016 / 10:52	Analytical Prep Batch #:	55926
Date & Time Analyzed #2:	01/27/2016 / 22:17	Concentration Units:	ug/mL
ICAL Calibration #:	012516expic-pri		

Analyte	Column/Detector #1	Column/Detector #2	%RPD	Qualifiers
1,3,5-Trinitrobenzene	0.882	0.950	7.4	
2,4,6-Trinitrotoluene	1.115	1.428	25	
RDX	0.301	0.178	51	P

CT LABORATORIES
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CHANNEL A/B (FRONT/BACK) DETECTOR/COLUMN RPD

EXPLOSIVES ANALYSIS

Sample Description

54MW12

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Analytical Method:	EPA 8330B	CTL Sample ID:	679979
Analytical Run #:	122857	Date/Time Prepared:	01/18/2016 / 13:20
Date & Time Analyzed:	01/26/2016 / 15:02	Analytical Prep Batch #:	55925
Date & Time Analyzed #2:	01/28/2016 / 18:36	Concentration Units:	ug/mL
ICAL Calibration #:	092915MDTNXic-primary		

Analyte	Column/Detector #1	Column/Detector #2	%RPD	Qualifiers
DNX	0.072	0.012	150	P
MNX	NA	NA	NA	
TNX	NA	NA	NA	

CT LABORATORIES
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CHANNEL A/B (FRONT/BACK) DETECTOR/COLUMN RPD

EXPLOSIVES ANALYSIS

Sample Description

54MW13

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Analytical Method:	EPA 8330B	CTL Sample ID:	679983
Analytical Run #:	122857	Date/Time Prepared:	01/18/2016 / 13:20
Date & Time Analyzed:	01/26/2016 / 15:34	Analytical Prep Batch #:	55925
Date & Time Analyzed #2:	01/28/2016 / 19:17	Concentration Units:	ug/mL
ICAL Calibration #:	092915MDTNXic-primary		

Analyte	Column/Detector #1	Column/Detector #2	%RPD	Qualifiers
DNX	NA	NA	NA	
MNX	NA	NA	NA	
TNX	NA	NA	NA	

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CHANNEL A/B (FRONT/BACK) DETECTOR/COLUMN RPD

EXPLOSIVES ANALYSIS

Sample Description

54MW13

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Analytical Method:	EPA 8330B	CTL Sample ID:	679983
Analytical Run #:	122858	Date/Time Prepared:	01/18/2016 / 13:20
Date & Time Analyzed:	01/25/2016 / 19:56	Analytical Prep Batch #:	55926
Date & Time Analyzed #2:	01/27/2016 / 23:04	Concentration Units:	ug/mL
ICAL Calibration #:	012516expic-pri		

Analyte	Column/Detector #1	Column/Detector #2	%RPD	Qualifiers
1,3,5-Trinitrobenzene	0.119	0.118	0.84	
1,3-Dinitrobenzene	NA	NA	NA	
2,4,6-Trinitrotoluene	0.141	0.156	10	
2,4-Dinitrotoluene	NA	NA	NA	
2,6-Dinitrotoluene	NA	NA	NA	
2-Amino-4,6-dinitrotoluene	0.044	0.044	0.0	
2-Nitrotoluene	NA	NA	NA	
3,5-Dinitroaniline	0.038	0.044	15	
3-Nitrotoluene	NA	NA	NA	
4-Amino-2,6-dinitrotoluene	NA	NA	NA	
4-Nitrotoluene	NA	NA	NA	
HMX	0.066	0.096	37	
Nitrobenzene	NA	NA	NA	
Nitroglycerin	NA	NA	NA	
PETN	NA	NA	NA	
RDX	0.054	0.048	12	
Tetryl	NA	NA	NA	

CT LABORATORIES
delivering more than data from your environmental analyses

CHANNEL A/B (FRONT/BACK) DETECTOR/COLUMN RPD

EXPLOSIVES ANALYSIS

Sample Description

54TM10

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Analytical Method:	EPA 8330B	CTL Sample ID:	679483
Analytical Run #:	122857	Date/Time Prepared:	01/18/2016 / 13:20
Date & Time Analyzed:	01/26/2016 / 14:46	Analytical Prep Batch #:	55925
Date & Time Analyzed #2:	01/28/2016 / 18:16	Concentration Units:	ug/mL
ICAL Calibration #:	092915MDTNXic-primary		

Analyte	Column/Detector #1	Column/Detector #2	%RPD	Qualifiers
DNX	NA	NA	NA	
MNX	NA	NA	NA	
TNX	NA	NA	NA	

CT LABORATORIES
delivering more than data from your environmental analyses

CHANNEL A/B (FRONT/BACK) DETECTOR/COLUMN RPD

EXPLOSIVES ANALYSIS

Sample Description

54TM10

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	116426
Analytical Method:	EPA 8330B	CTL Sample ID:	679483
Analytical Run #:	122858	Date/Time Prepared:	01/18/2016 / 13:20
Date & Time Analyzed:	01/25/2016 / 19:01	Analytical Prep Batch #:	55926
Date & Time Analyzed #2:	01/27/2016 / 21:12	Concentration Units:	ug/mL
ICAL Calibration #:	012516expic-pri		

Analyte	Column/Detector #1	Column/Detector #2	%RPD	Qualifiers
1,3,5-Trinitrobenzene	0.296	0.301	1.7	
1,3-Dinitrobenzene	NA	NA	NA	
2,4,6-Trinitrotoluene	0.428	0.476	11	
2,4-Dinitrotoluene	NA	NA	NA	
2,6-Dinitrotoluene	NA	NA	NA	
2-Amino-4,6-dinitrotoluene	0.126	0.132	4.7	
2-Nitrotoluene	NA	NA	NA	
3,5-Dinitroaniline	0.033	0.036	8.7	
3-Nitrotoluene	NA	NA	NA	
4-Amino-2,6-dinitrotoluene	0.076	0.084	10	
4-Nitrotoluene	NA	NA	NA	
HMX	0.150	0.214	35	
Nitrobenzene	NA	NA	NA	
Nitroglycerin	NA	NA	NA	
PETN	NA	NA	NA	
RDX	0.324	0.193	51	P
Tetryl	NA	NA	NA	

NITROAROMATICS ANALYSIS
SAMPLE DATA
DOCUMENTS

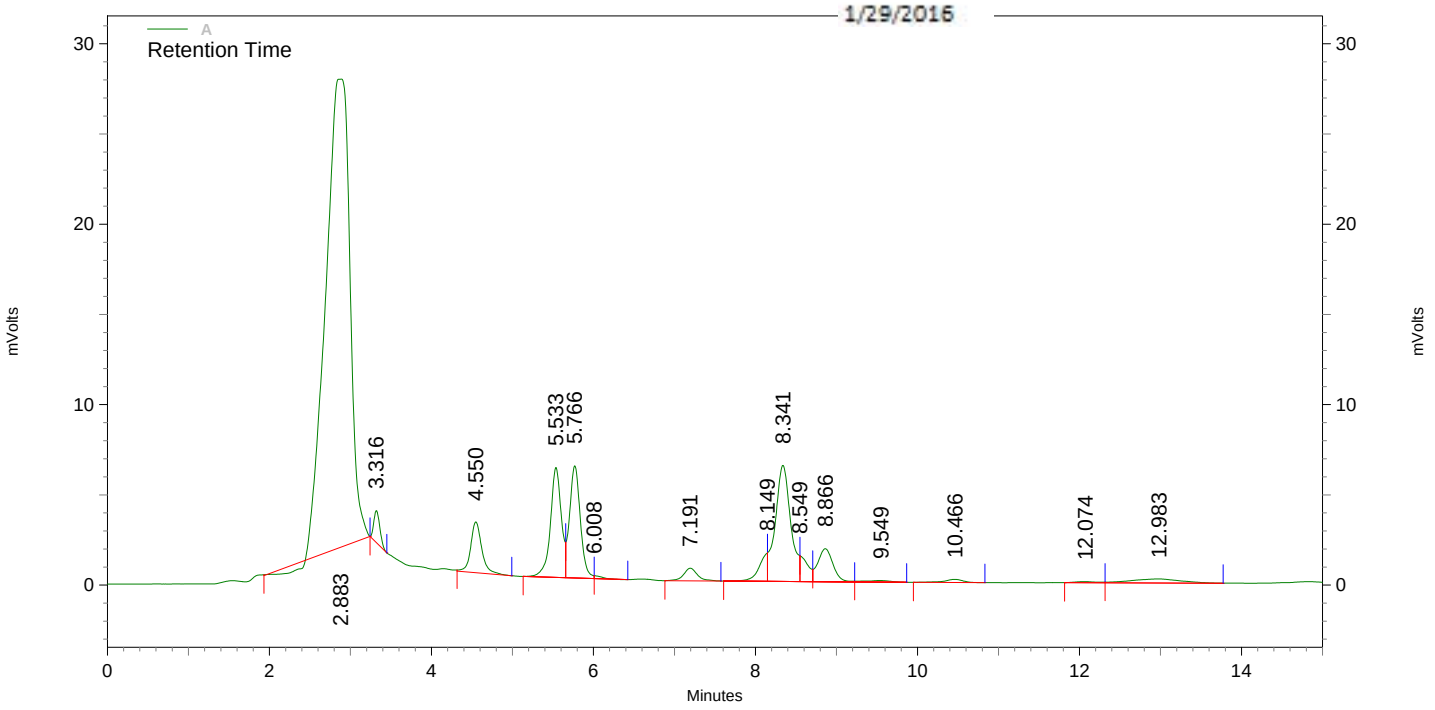
RED
2/1/2016

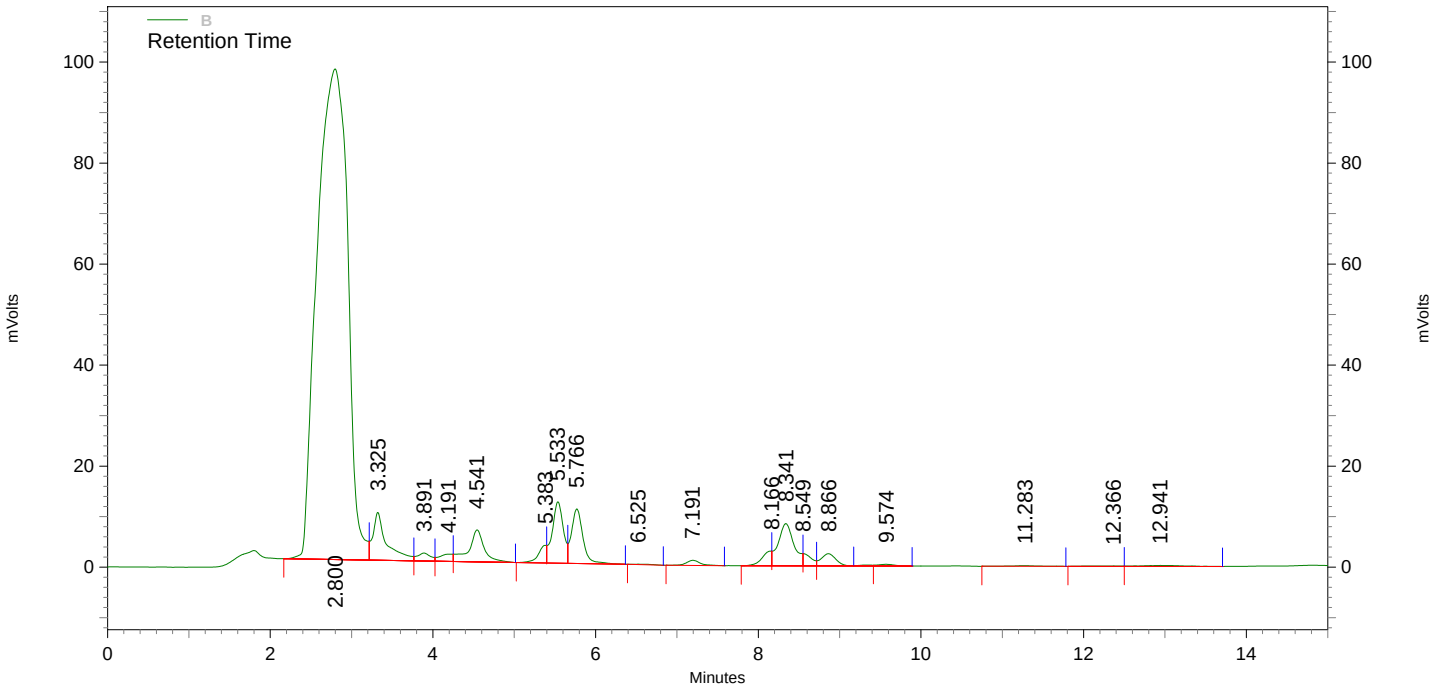
After Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\013.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\012516expic-primary\012516expic-primary.met
Sample ID: 122858,679481,
Acquired: Jan 25, 2016 18:43:19
Data Summary: REASON #3 APPLIES TO DATA. RED 1/26/2016

JJY
1/29/2016





A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX	3.316	9306	**0.139**
RDX	4.550	26866	**0.305**
12-DNB (SSTD)	5.533	57220	**91.658**
135-TNB	5.766	57240	**0.283**
13-DNB			**0.000 BDL**
TETRYL			**0.000 BDL**
35-DNA	7.191	8216	**0.033**
NB			**0.000 BDL**
246-TNT	8.341	84478	**0.413**
4-AM-26-DNT	8.549	9840	**0.078**
2-AM-46-DNT	8.866	23755	**0.121**
2-NT			**0.000 BDL**
4-NT			**0.000 BDL**
3-NT	12.074	1068	**0.006**

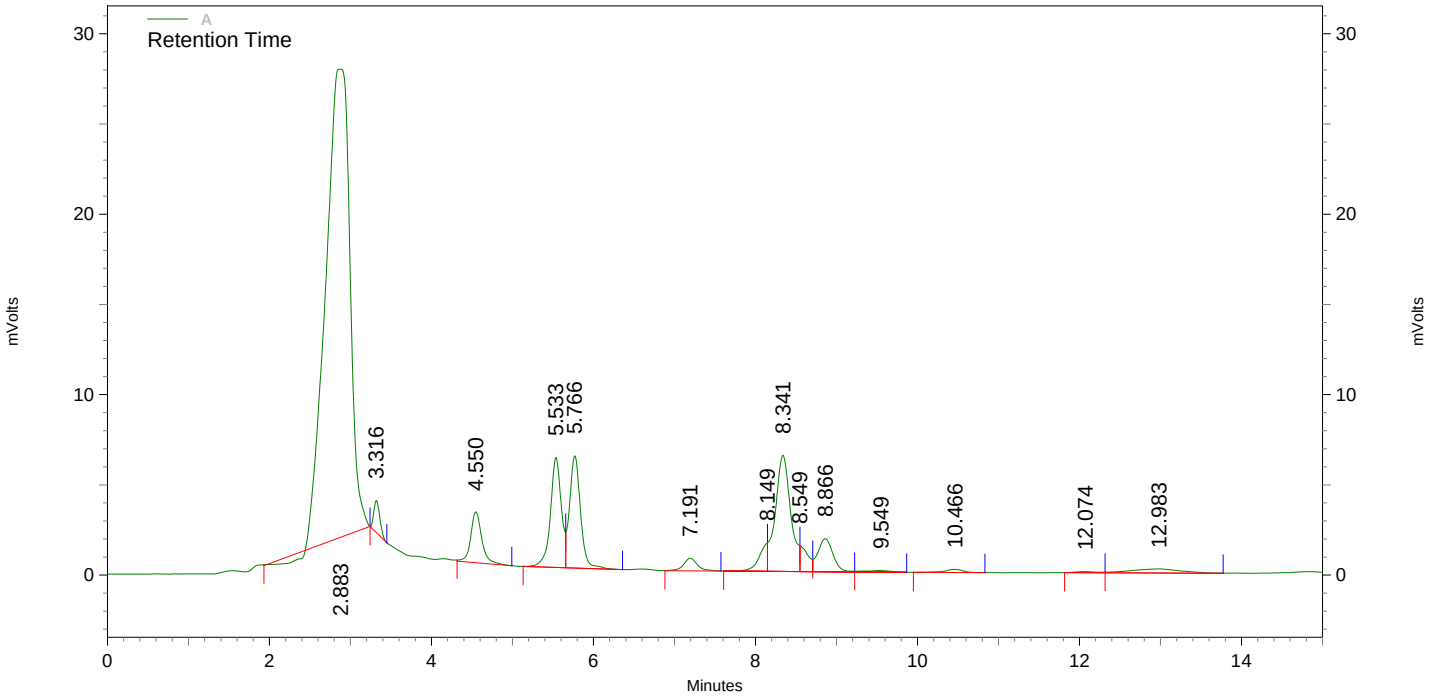
B Results

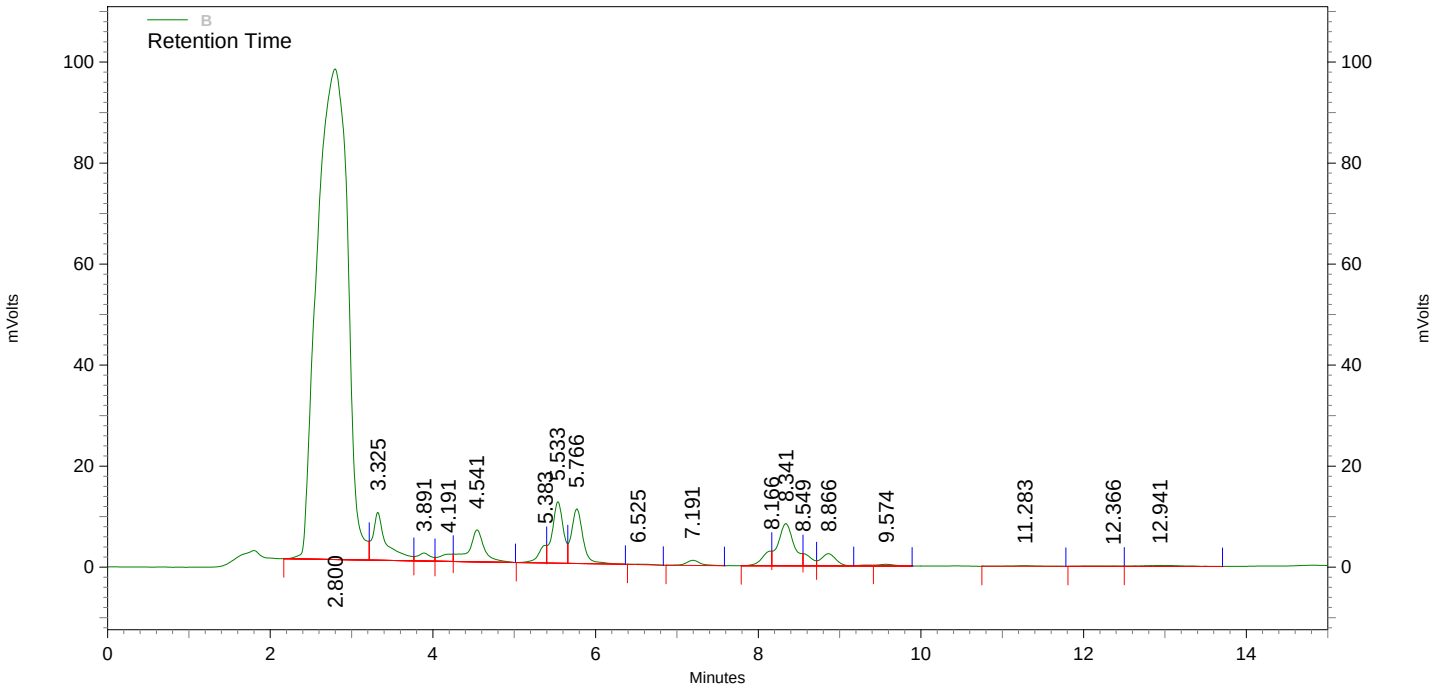
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG	8.166	23430	**0.282**
26-DNT			**0.000 BDL**
24-DNT	9.574	4662	**0.020**
PETN	12.941	7487	**0.091**

Before Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\013.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\012516expic-primary\012516expic-primary.met
Sample ID: 122858,679481,
Acquired: Jan 25, 2016 18:43:19
Data Summary: REASON #3 APPLIES TO DATA. RED 1/26/2016





A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX	3.316	9306	**0.139**
RDX	4.550	26866	**0.305**
12-DNB (SSTD)	5.533	57268	**91.737**
135-TNB	5.766	58499	**0.290**
13-DNB			**0.000 BDL**
TETRYL			**0.000 BDL**
35-DNA	7.191	8216	**0.033**
NB			**0.000 BDL**
246-TNT	8.341	84478	**0.413**
4-AM-26-DNT	8.549	9840	**0.078**
2-AM-46-DNT	8.866	23755	**0.121**
2-NT			**0.000 BDL**
4-NT			**0.000 BDL**
3-NT	12.074	1068	**0.006**

B Results

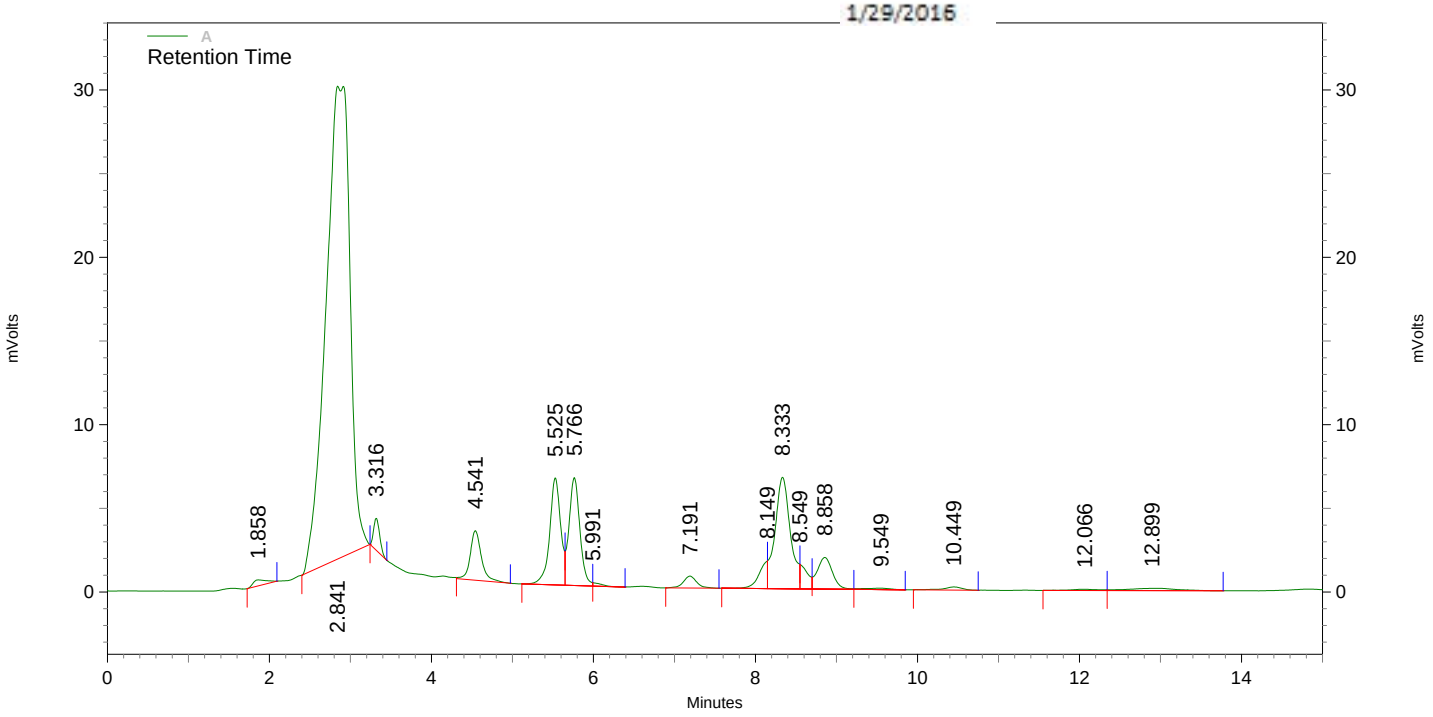
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG	8.166	23430	**0.282**
26-DNT			**0.000 BDL**
24-DNT	9.574	4662	**0.020**
PETN	12.941	7487	**0.091**

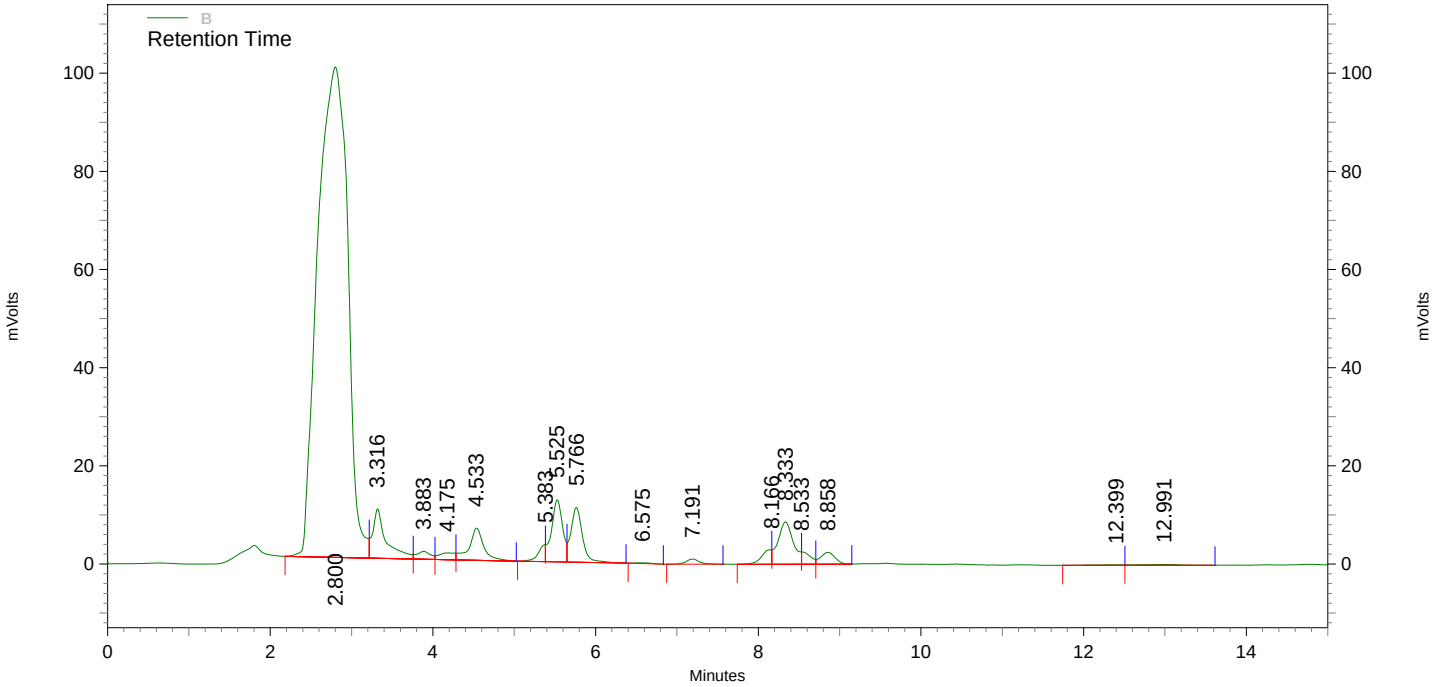
After Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\014.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\012516expic-primary\012516expic-primary.met
Sample ID: 122858,679483,
Acquired: Jan 25, 2016 19:01:36
Data Summary: REASON #3 APPLIES TO DATA. RED 1/26/2016

JJY
1/29/2016





A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX	3.316	10025	**0.150**
RDX	4.541	28464	**0.324**
12-DNB (SSTD)	5.525	60380	**96.818**
135-TNB	5.766	59800	**0.296**
13-DNB			**0.000 BDL**
TETRYL			**0.000 BDL**
35-DNA	7.191	8265	**0.033**
NB			**0.000 BDL**
246-TNT	8.333	87551	**0.428**
4-AM-26-DNT	8.549	9581	**0.076**
2-AM-46-DNT	8.858	24732	**0.126**
2-NT			**0.000 BDL**
4-NT			**0.000 BDL**
3-NT	12.066	1673	**0.011**

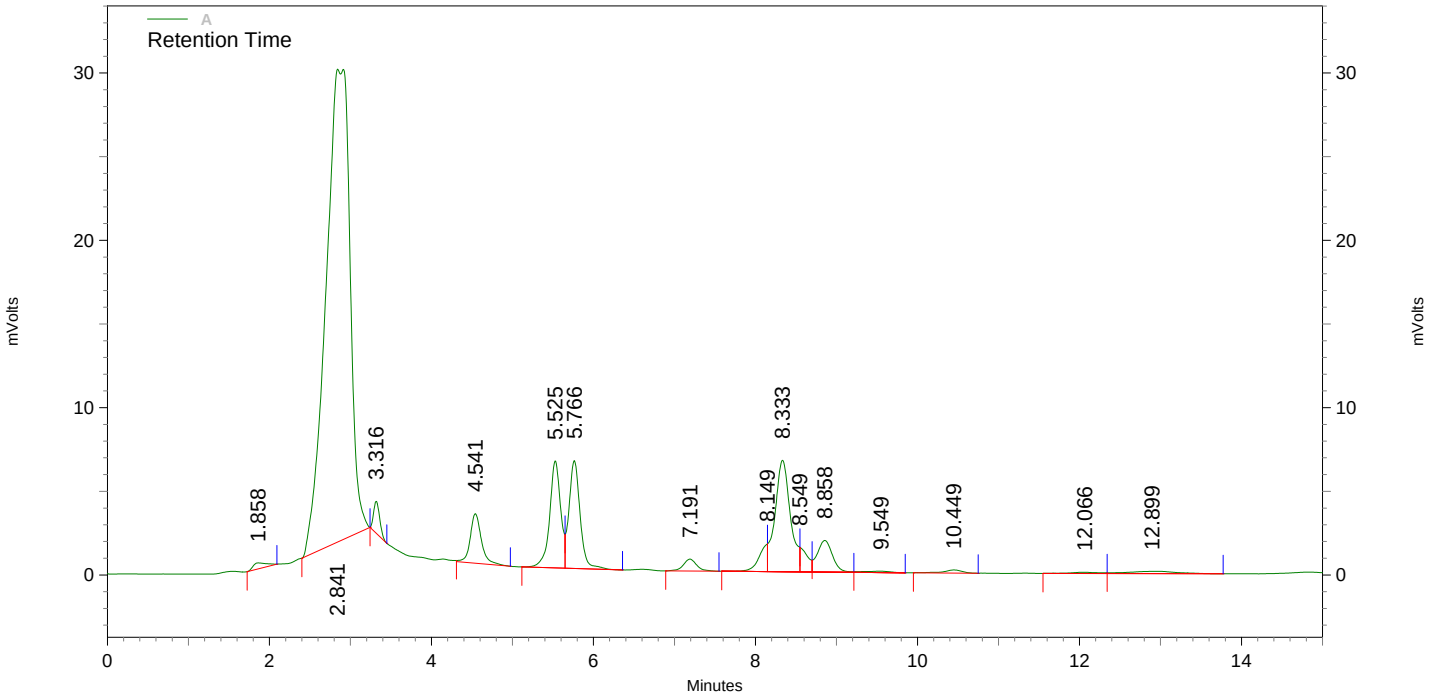
B Results

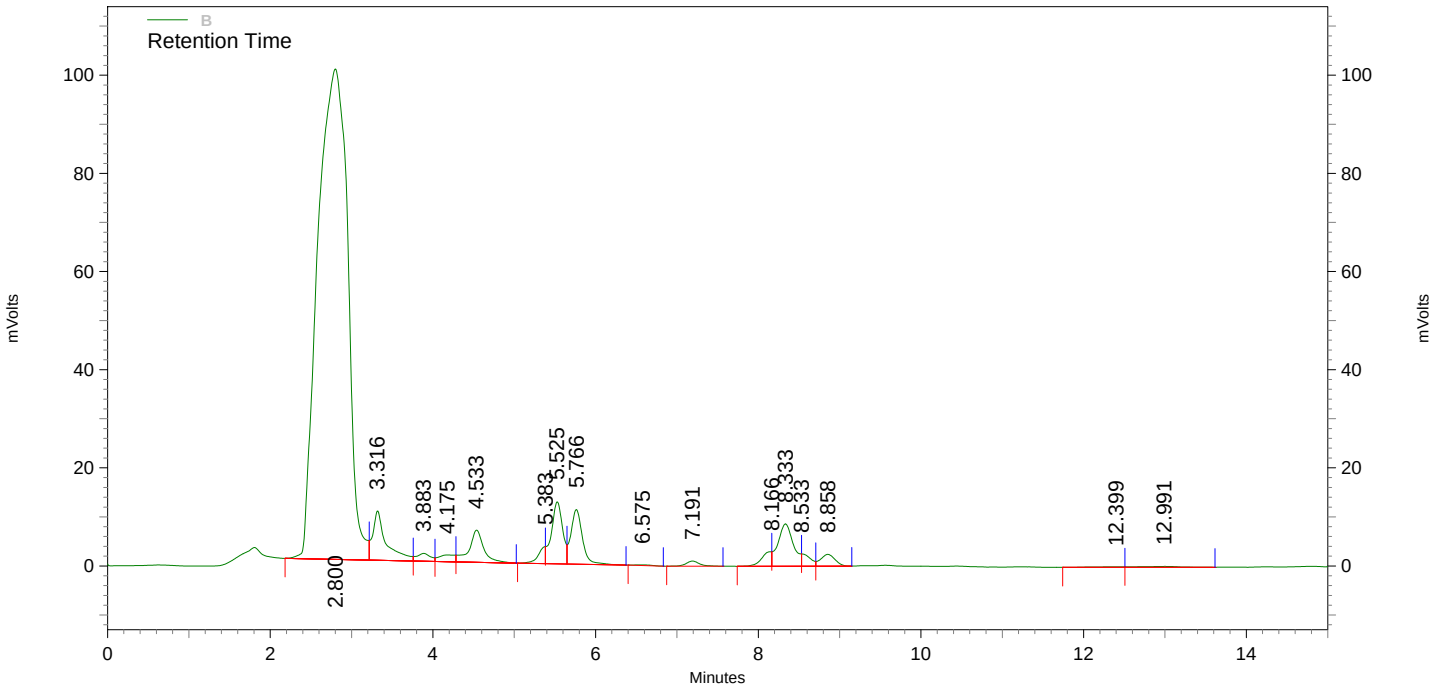
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG	8.166	25197	**0.304**
26-DNT			**0.000 BDL**
24-DNT			**0.000 BDL**
PETN	12.991	6304	**0.074**

Before Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\014.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\012516expic-primary\012516expic-primary.met
Sample ID: 122858,679483,
Acquired: Jan 25, 2016 19:01:36
Data Summary: REASON #3 APPLIES TO DATA. RED 1/26/2016





A Results

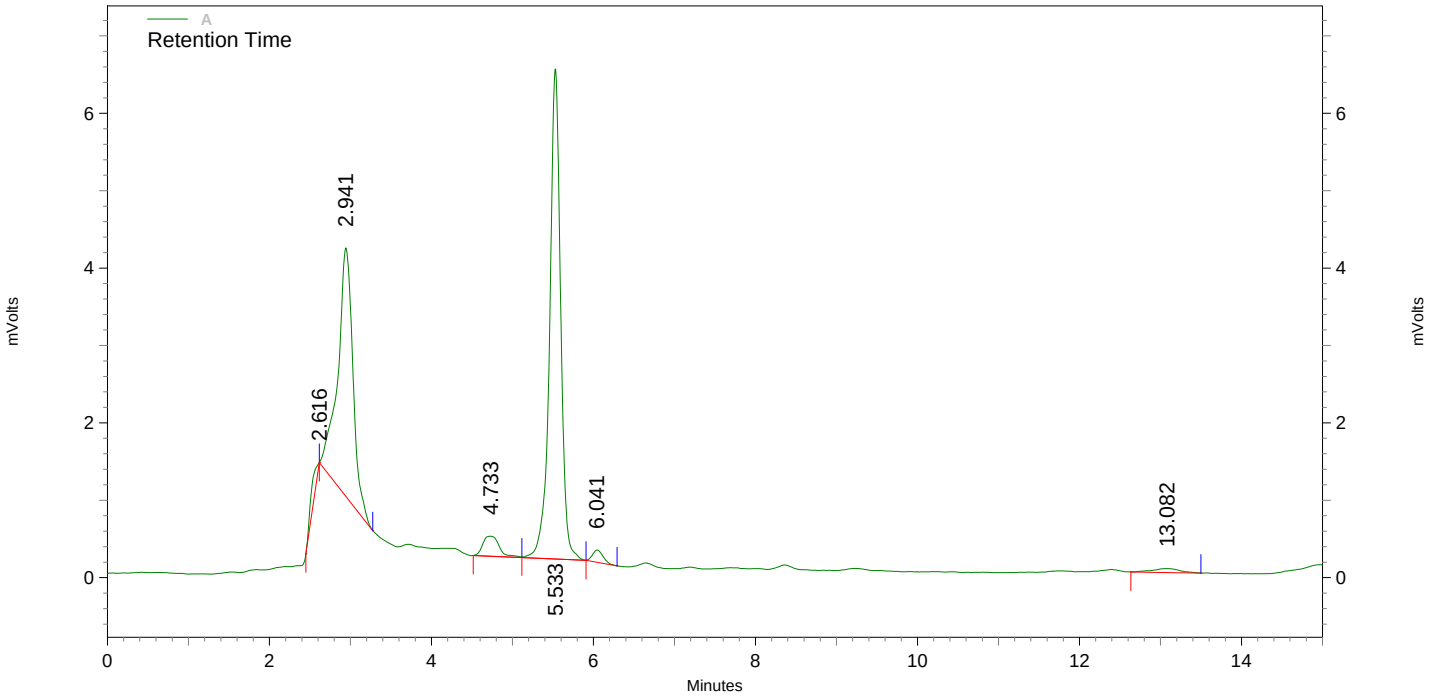
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX	3.316	10025	**0.150**
RDX	4.541	28464	**0.324**
12-DNB (SSTD)	5.525	60400	**96.851**
135-TNB	5.766	61324	**0.304**
13-DNB			**0.000 BDL**
TETRYL			**0.000 BDL**
35-DNA	7.191	8265	**0.033**
NB			**0.000 BDL**
246-TNT	8.333	87551	**0.428**
4-AM-26-DNT	8.549	9581	**0.076**
2-AM-46-DNT	8.858	24732	**0.126**
2-NT			**0.000 BDL**
4-NT			**0.000 BDL**
3-NT	12.066	1673	**0.011**

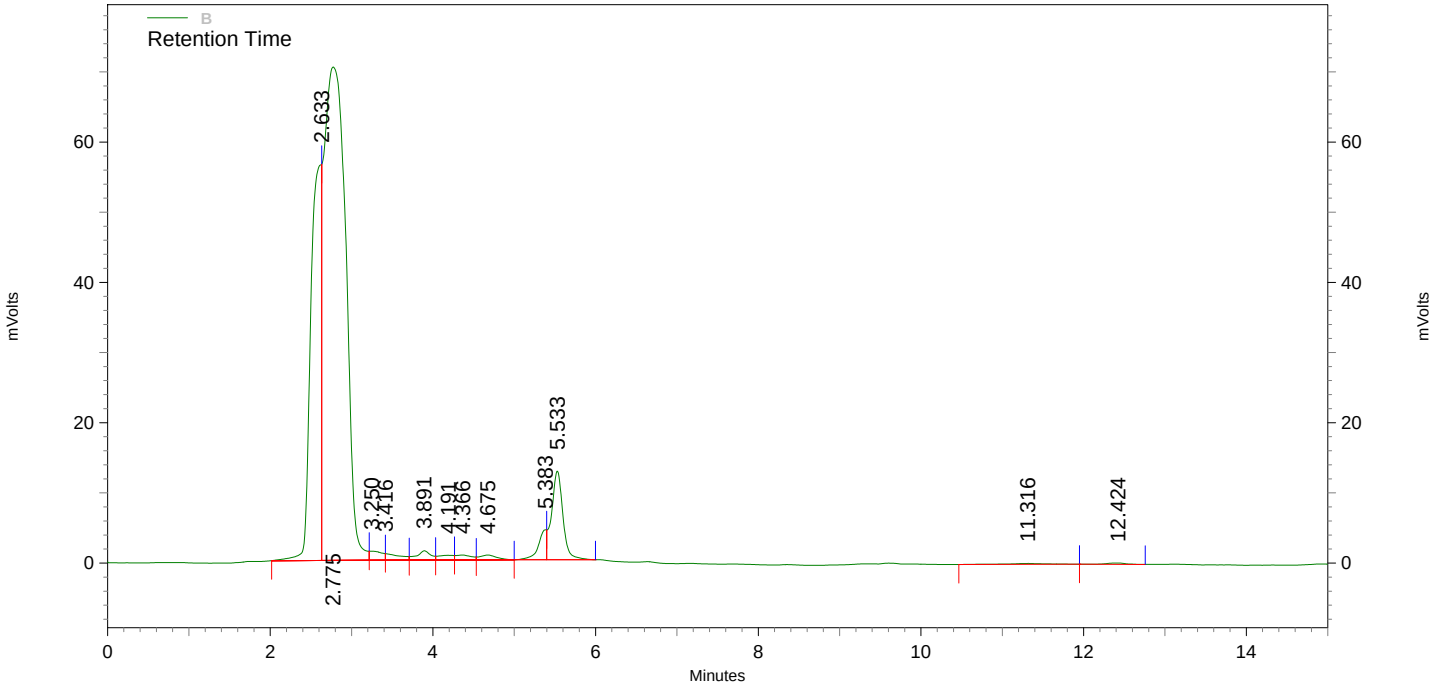
B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG	8.166	25197	**0.304**
26-DNT			**0.000 BDL**
24-DNT			**0.000 BDL**
PETN	12.991	6304	**0.074**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\016.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\012516expic-primary\012516expic-primary.met
Sample ID: 122858,679981,
Acquired: Jan 25, 2016 19:38:11
Data Summary: {Data Description}





A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX			**0.000 BDL**
RDX			**0.000 BDL**
12-DNB (SSTD)	5.533	59737	**95.768**
135-TNB			**0.000 BDL**
13-DNB			**0.000 BDL**
TETRYL			**0.000 BDL**
35-DNA			**0.000 BDL**
NB			**0.000 BDL**
246-TNT			**0.000 BDL**
4-AM-26-DNT			**0.000 BDL**
2-AM-46-DNT			**0.000 BDL**
2-NT			**0.000 BDL**
4-NT			**0.000 BDL**
3-NT			**0.000 BDL**

B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG			**0.000 BDL**
26-DNT			**0.000 BDL**
24-DNT			**0.000 BDL**
PETN			**0.000 BDL**

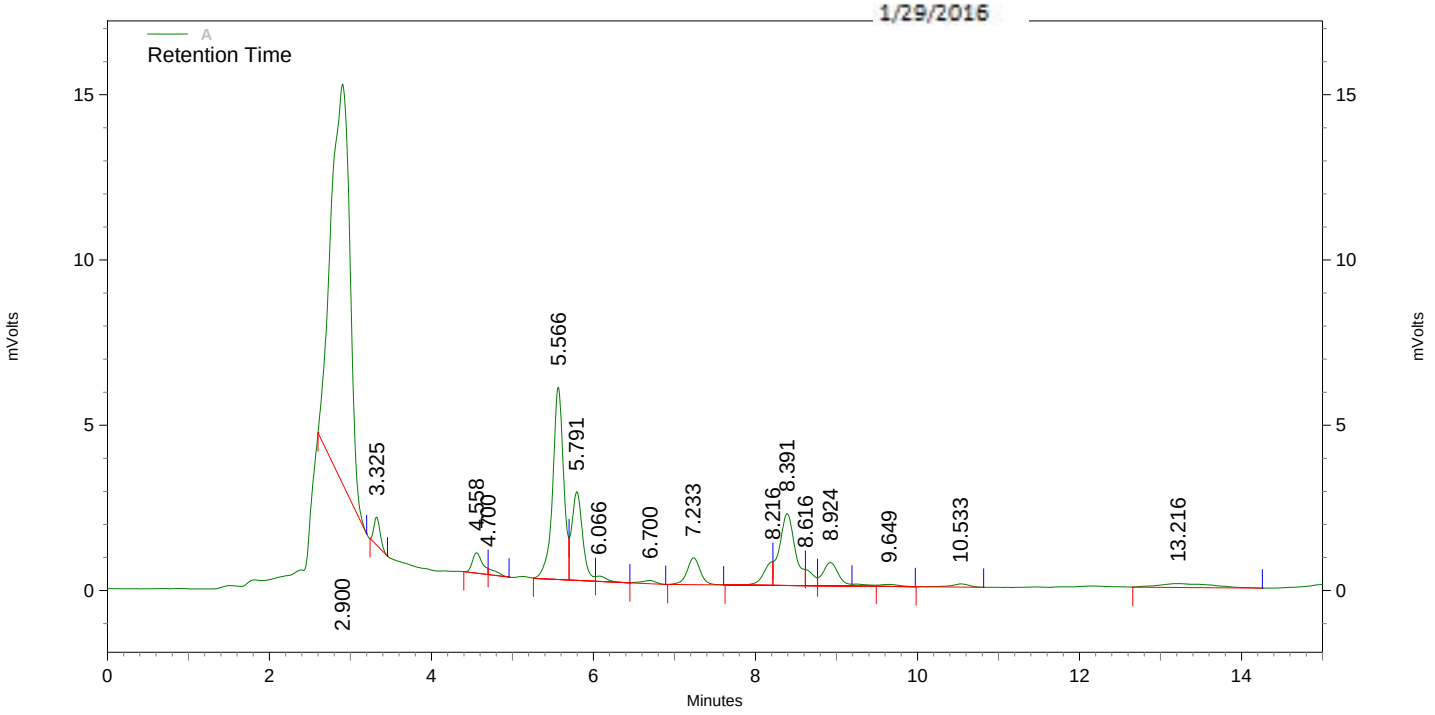
After Manual Integration

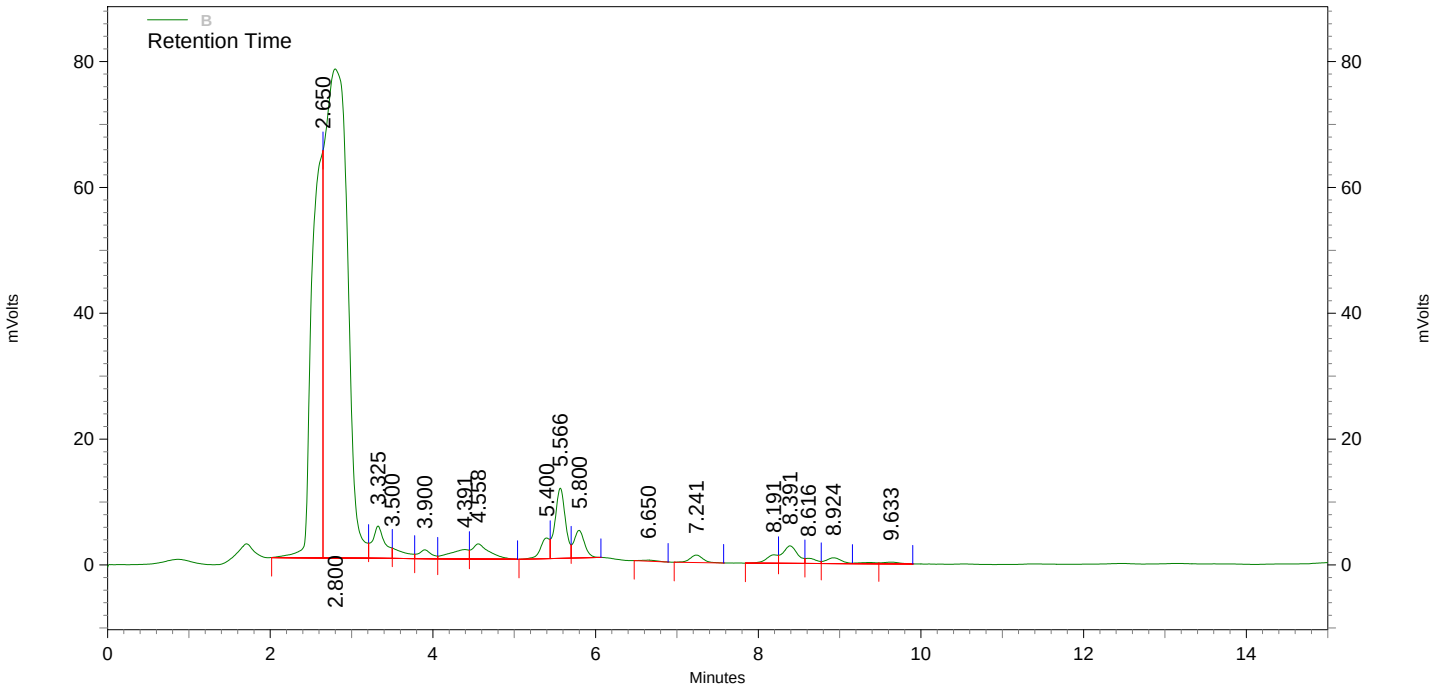
Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\017.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\012516expic-primary\012516expic-primary.met
Sample ID: 122858,679983,
Acquired: Jan 25, 2016 19:56:28
Data Summary: REASON #3, #4 APPLIES TO DATA. RED 1/26/2016

JJY

1/29/2016





A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX	3.325	4550	**0.066**
RDX	4.558	5272	**0.054**
12-DNB (SSTD)	5.566	54494	**87.207**
135-TNB	5.791	24702	**0.119**
13-DNB	6.700	1149	**0.000**
TETRYL			**0.000 BDL**
35-DNA	7.233	9188	**0.038**
NB			**0.000 BDL**
246-TNT	8.391	29283	**0.141**
4-AM-26-DNT	8.616	3317	**0.019**
2-AM-46-DNT	8.924	9273	**0.044**
2-NT	10.533	1544	**0.012**
4-NT			**0.000 BDL**
3-NT			**0.000 BDL**

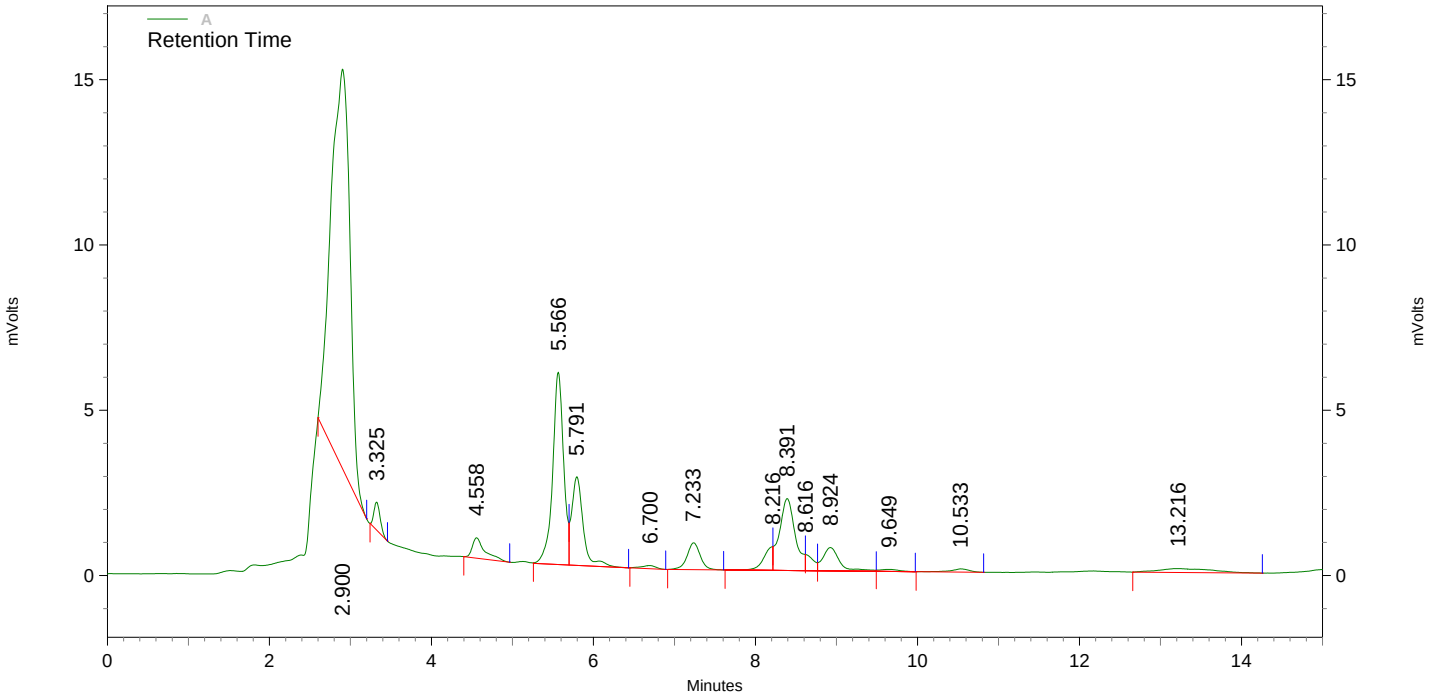
B Results

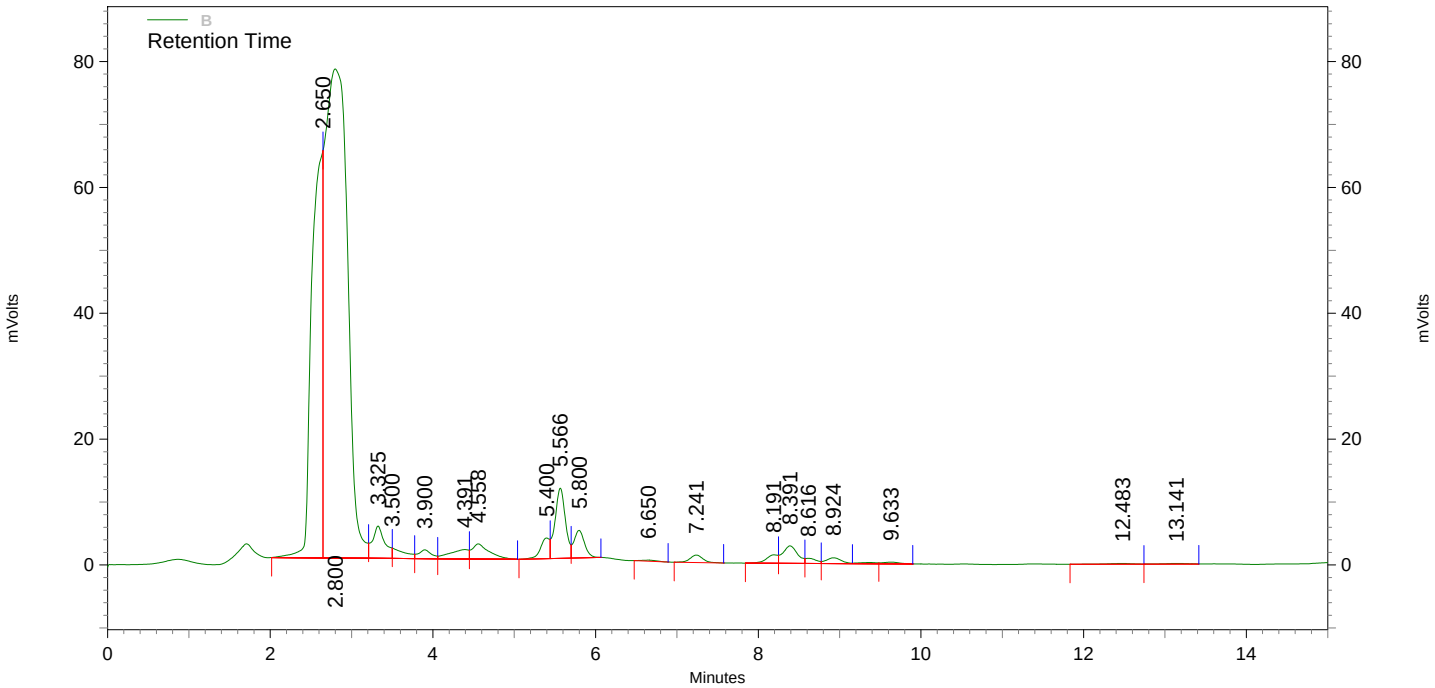
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG	8.191	13195	**0.155**
26-DNT			**0.000 BDL**
24-DNT	9.633	3797	**0.014**
PETN			**0.000 BDL**

Before Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\017.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\012516expic-primary\012516expic-primary.met
Sample ID: 122858,679983,
Acquired: Jan 25, 2016 19:56:28
Data Summary: REASON #3, #4 APPLIES TO DATA. RED 1/26/2016





A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX	3.325	4550	**0.066**
RDX	4.558	6613	**0.070**
12-DNB (SSTD)	5.566	54510	**87.233**
135-TNB	5.791	26177	**0.127**
13-DNB	6.700	1149	**0.000**
TETRYL			**0.000 BDL**
35-DNA	7.233	9188	**0.038**
NB			**0.000 BDL**
246-TNT	8.391	29283	**0.141**
4-AM-26-DNT	8.616	3317	**0.019**
2-AM-46-DNT	8.924	10144	**0.049**
2-NT	10.533	1544	**0.012**
4-NT			**0.000 BDL**
3-NT			**0.000 BDL**

B Results

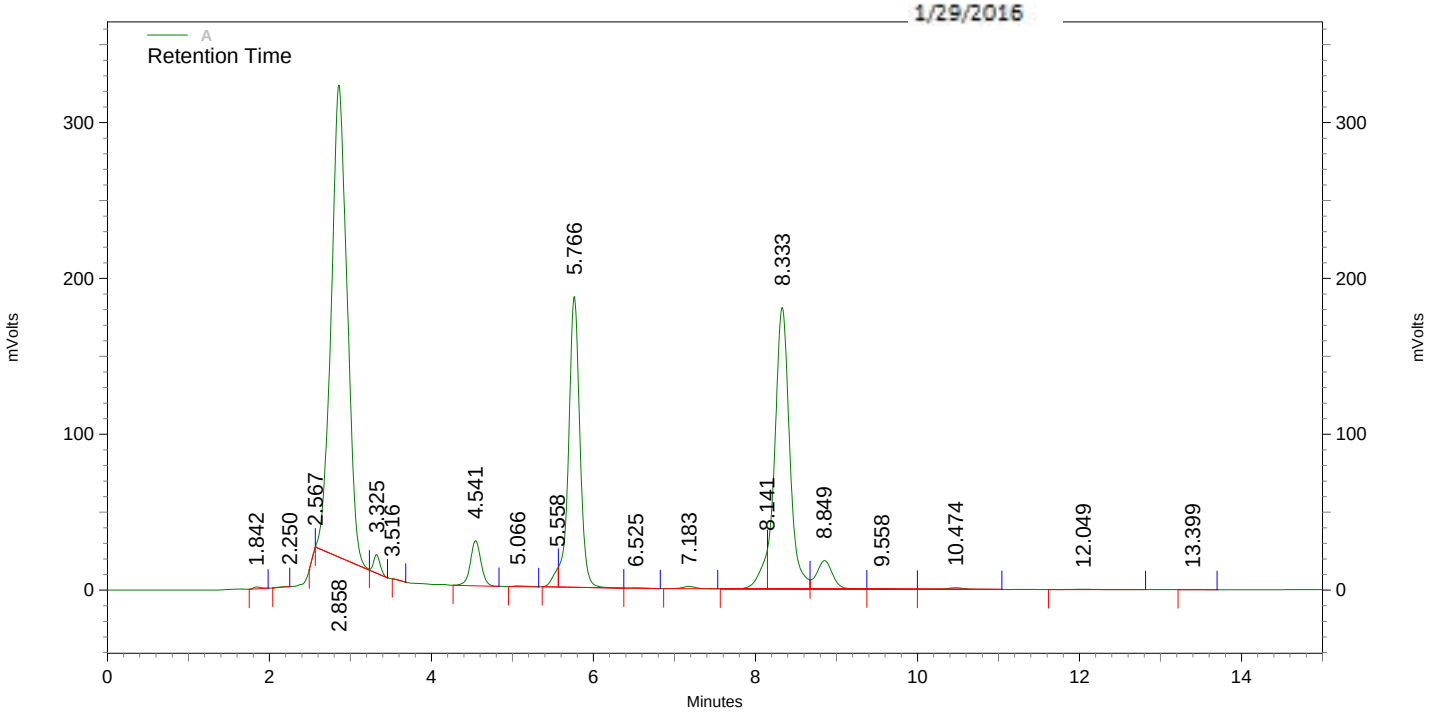
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG	8.191	13195	**0.155**
26-DNT			**0.000 BDL**
24-DNT	9.633	3797	**0.014**
PETN	13.141	2441	**0.020**

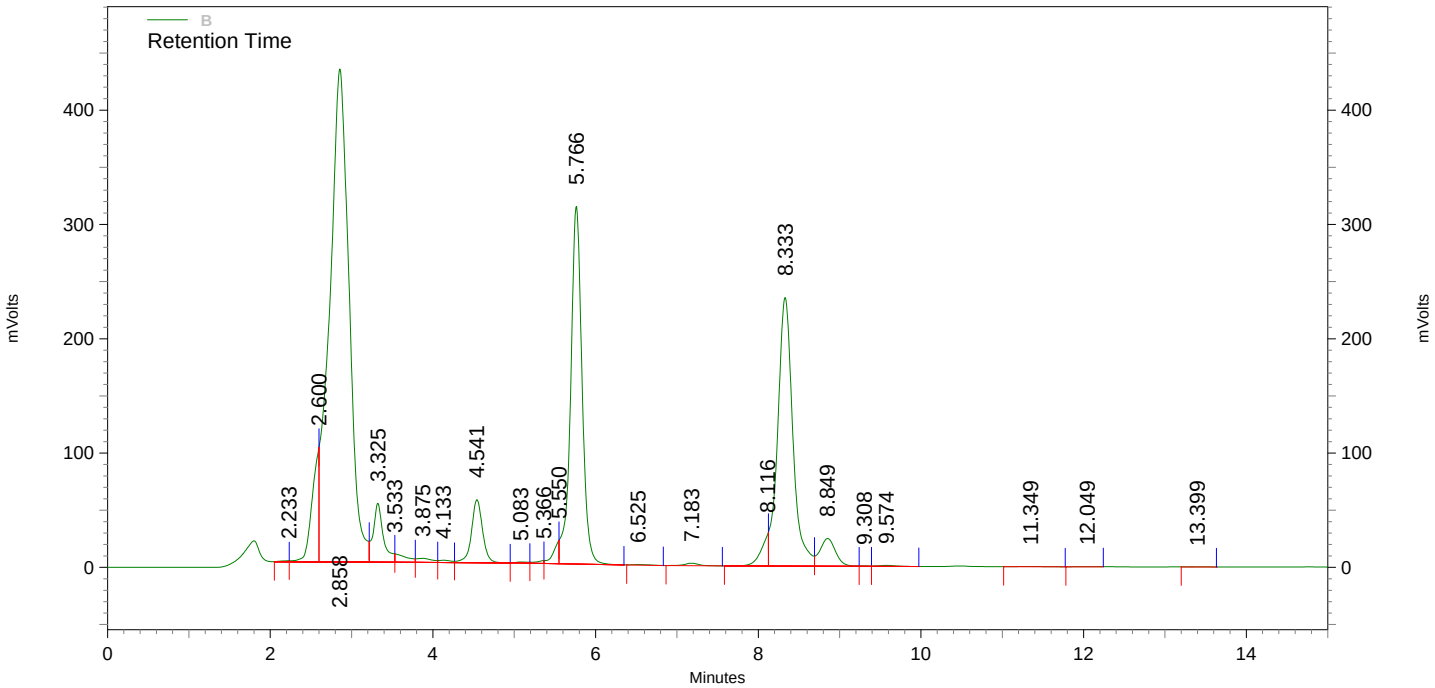
After Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\023.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\012516expic-primary\012516expic-primary.met
Sample ID: 122858,679979,
Acquired: Jan 26, 2016 10:34:53 JJY
Data Summary: REASON #3,#4 APPLIES TO DATA. RED 1/26/2016

1/29/2016





A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX	3.325	66311	**1.015**
RDX	4.541	263883	**3.064**
12-DNB (SSTD)	5.558	55635	**89.070**
135-TNB	5.766	1786040	**8.997**
13-DNB	6.525	3943	**0.009**
TETRYL			**0.000 BDL**
35-DNA	7.183	17178	**0.076**
NB			**0.000 BDL**
246-TNT	8.333	2245436	**11.069**
4-AM-26-DNT			**0.000 BDL**
2-AM-46-DNT	8.849	252550	**1.339**
2-NT			**0.000 BDL**
4-NT			**0.000 BDL**
3-NT	12.049	4204	**0.032**

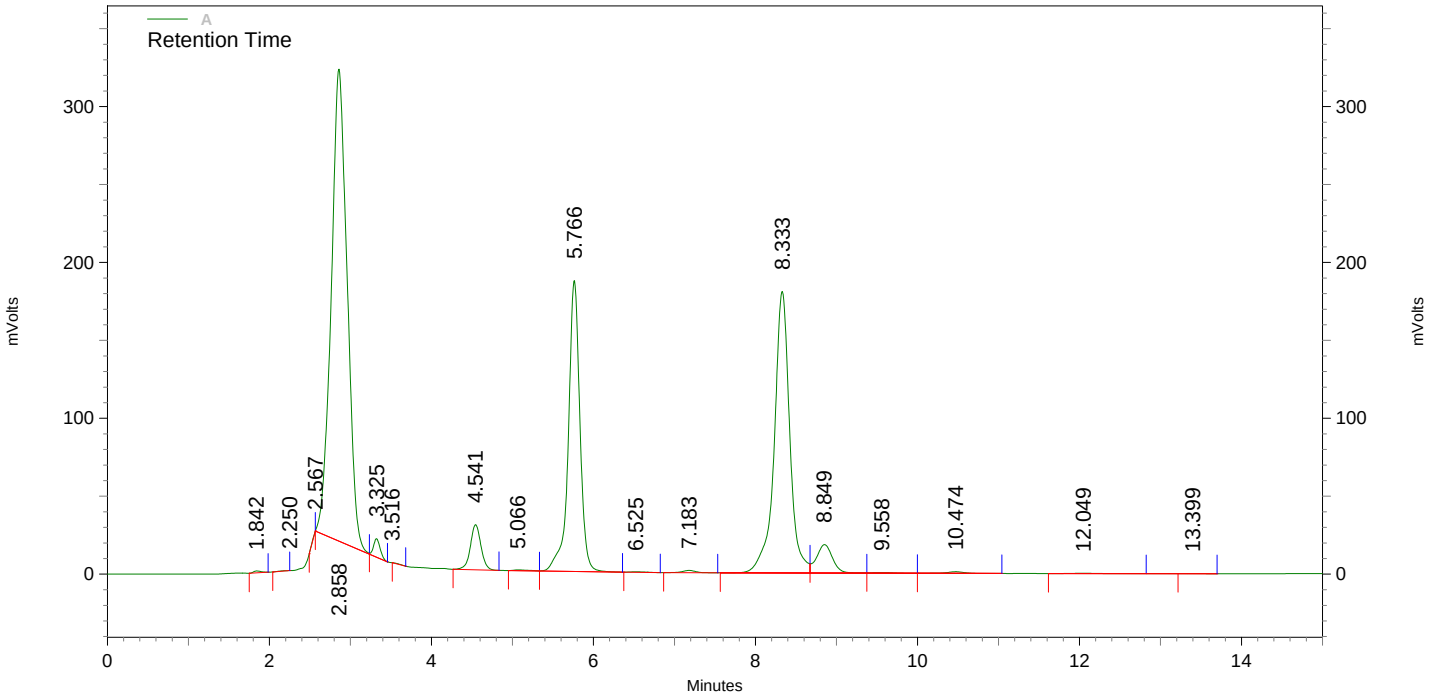
B Results

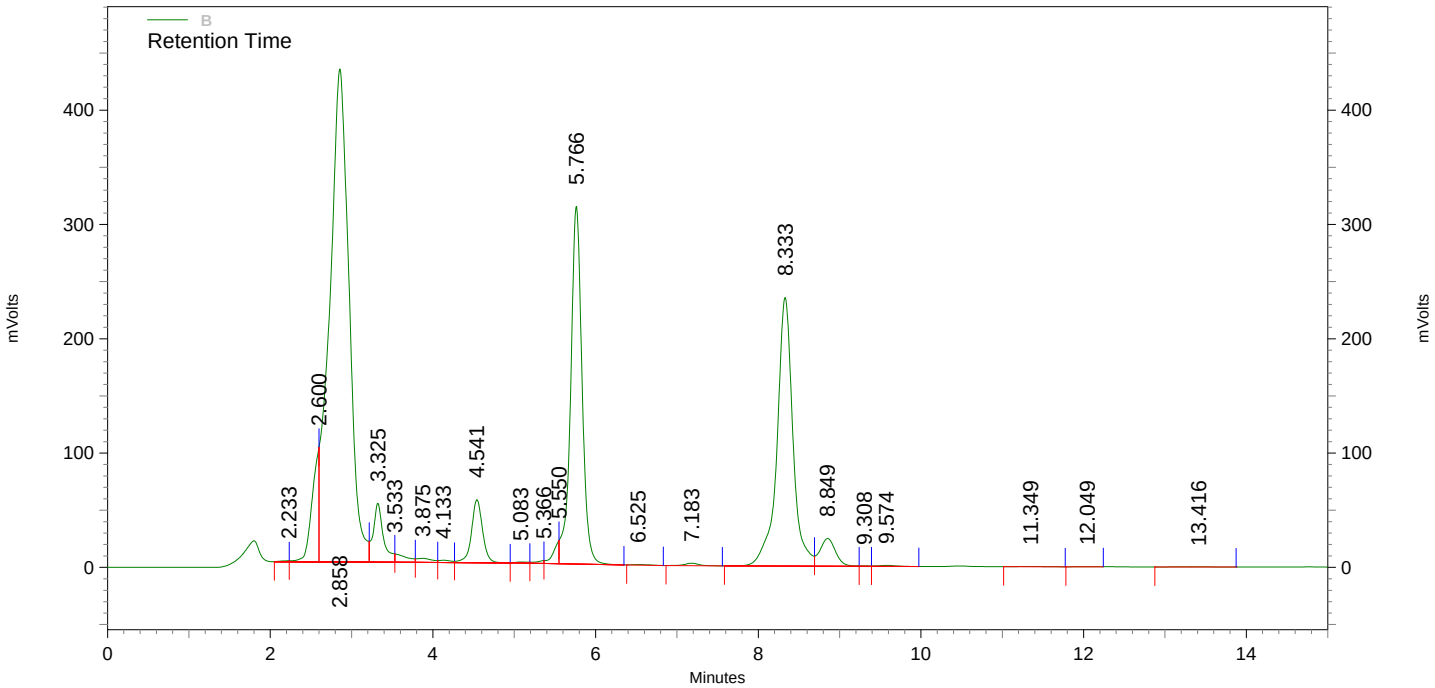
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG	8.116	172567	**2.135**
26-DNT	9.308	3212	**0.006**
24-DNT	9.574	12966	**0.070**
PETN	13.399	2460	**0.021**

Before Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\023.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\012516expic-primary\012516expic-primary.met
Sample ID: 122858,679979,
Acquired: Jan 26, 2016 10:34:53
Data Summary: REASON #3,#4 APPLIES TO DATA. RED 1/26/2016





A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX	3.325	66311	**1.015**
RDX	4.541	263883	**3.064**
12-DNB (SSTD)			**0.000 BDL**
135-TNB	5.766	1848296	**9.311**
13-DNB	6.525	3943	**0.009**
TETRYL			**0.000 BDL**
35-DNA	7.183	17178	**0.076**
NB			**0.000 BDL**
246-TNT	8.333	2394734	**11.805**
4-AM-26-DNT			**0.000 BDL**
2-AM-46-DNT	8.849	252550	**1.339**
2-NT			**0.000 BDL**
4-NT			**0.000 BDL**
3-NT	12.049	4780	**0.037**

B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG	8.333	3190810	**39.625**
26-DNT	9.308	3212	**0.006**
24-DNT	9.574	12966	**0.070**
PETN	13.416	3951	**0.041**

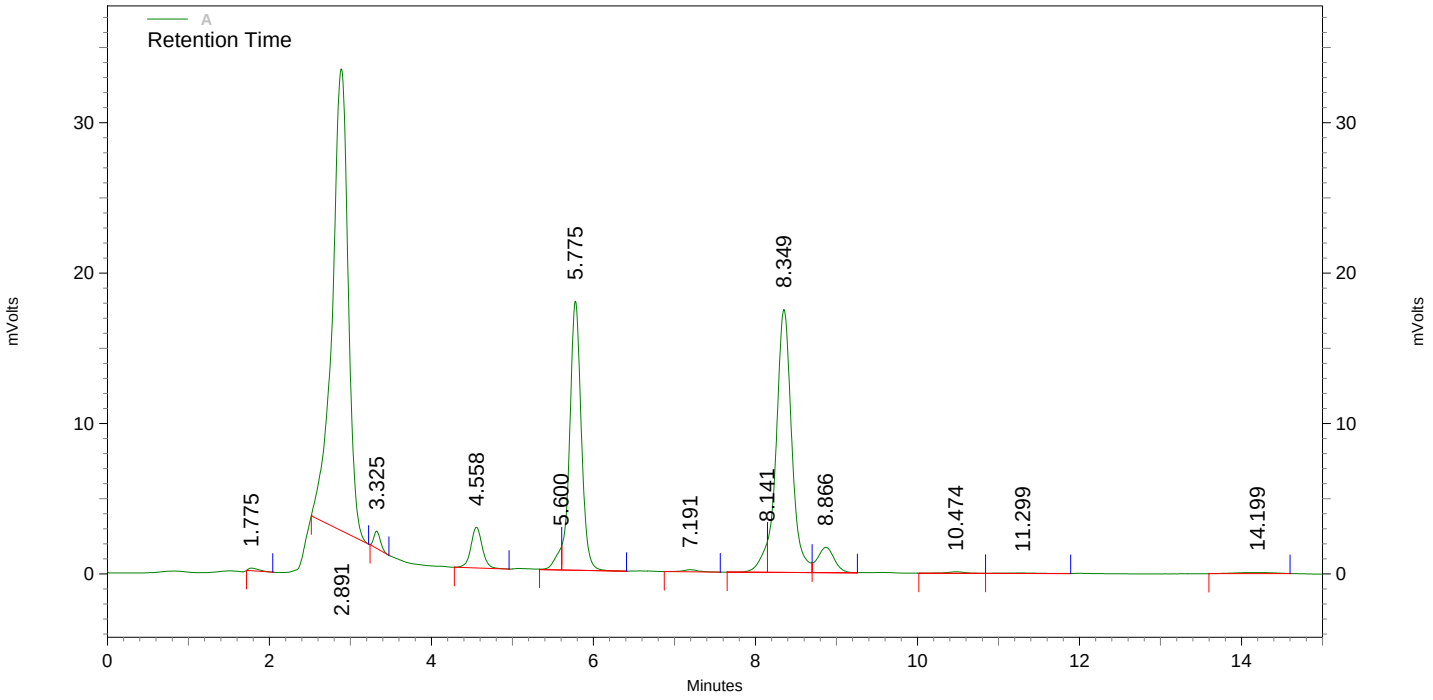
After Manual Integration

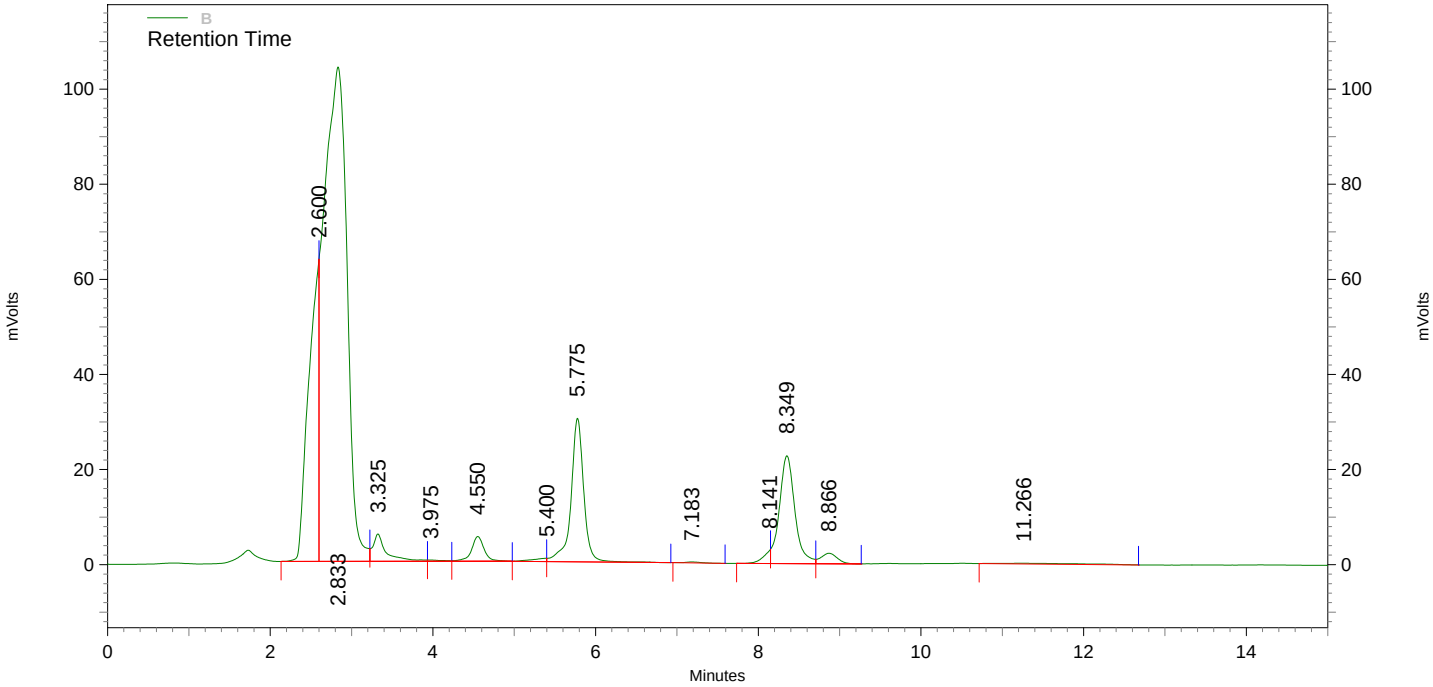
Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\024.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\012516expic-primary\012516expic-primary.met
Sample ID: 679979 1:10
Acquired: Jan 26, 2016 10:52:08
Data Summary: REASON #3 APPLIES TO DATA. RED 1/26/2016

JJY

1/29/2016





A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX	3.325	6401	**0.095**
RDX	4.558	26469	**0.301**
12-DNB (SSTD)	5.600	8198	**11.612**
135-TNB	5.775	176072	**0.882**
13-DNB			**0.000 BDL**
TETRYL			**0.000 BDL**
35-DNA	7.191	1833	**0.003**
NB			**0.000 BDL**
246-TNT	8.349	226728	**1.115**
4-AM-26-DNT			**0.000 BDL**
2-AM-46-DNT	8.866	24116	**0.123**
2-NT			**0.000 BDL**
4-NT	11.299	1265	**0.011**
3-NT			**0.000 BDL**

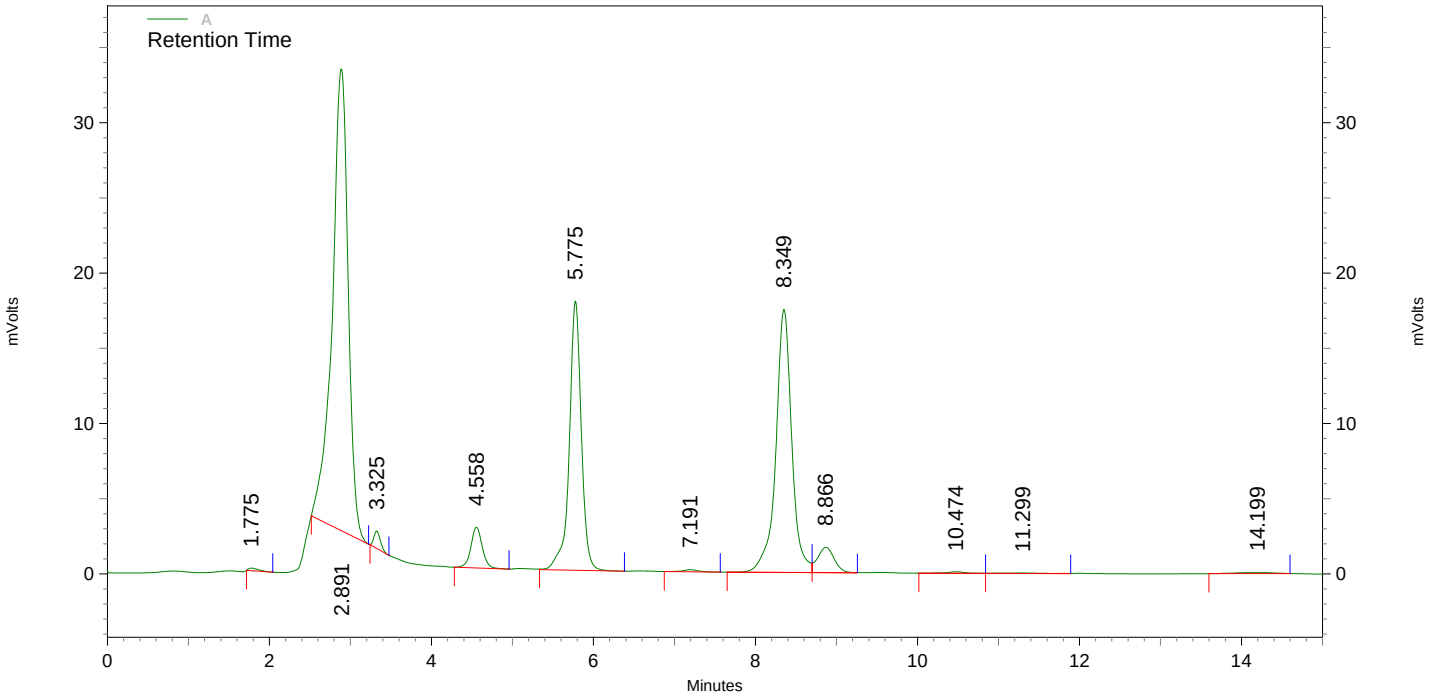
B Results

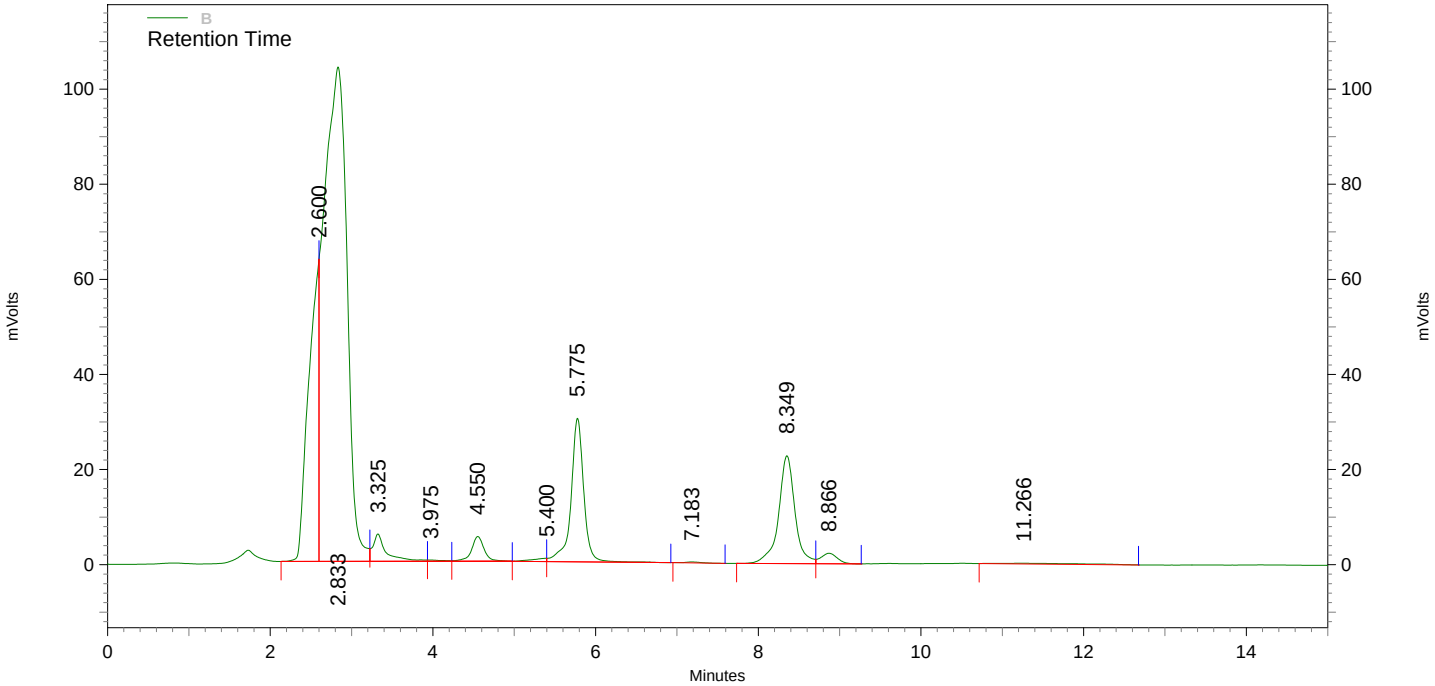
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG	8.141	17147	**0.204**
26-DNT			**0.000 BDL**
24-DNT			**0.000 BDL**
PETN			**0.000 BDL**

Before Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\024.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\012516expic-primary\012516expic-primary.met
Sample ID: 679979 1:10
Acquired: Jan 26, 2016 10:52:08
Data Summary: REASON #3 APPLIES TO DATA. RED 1/26/2016





A Results

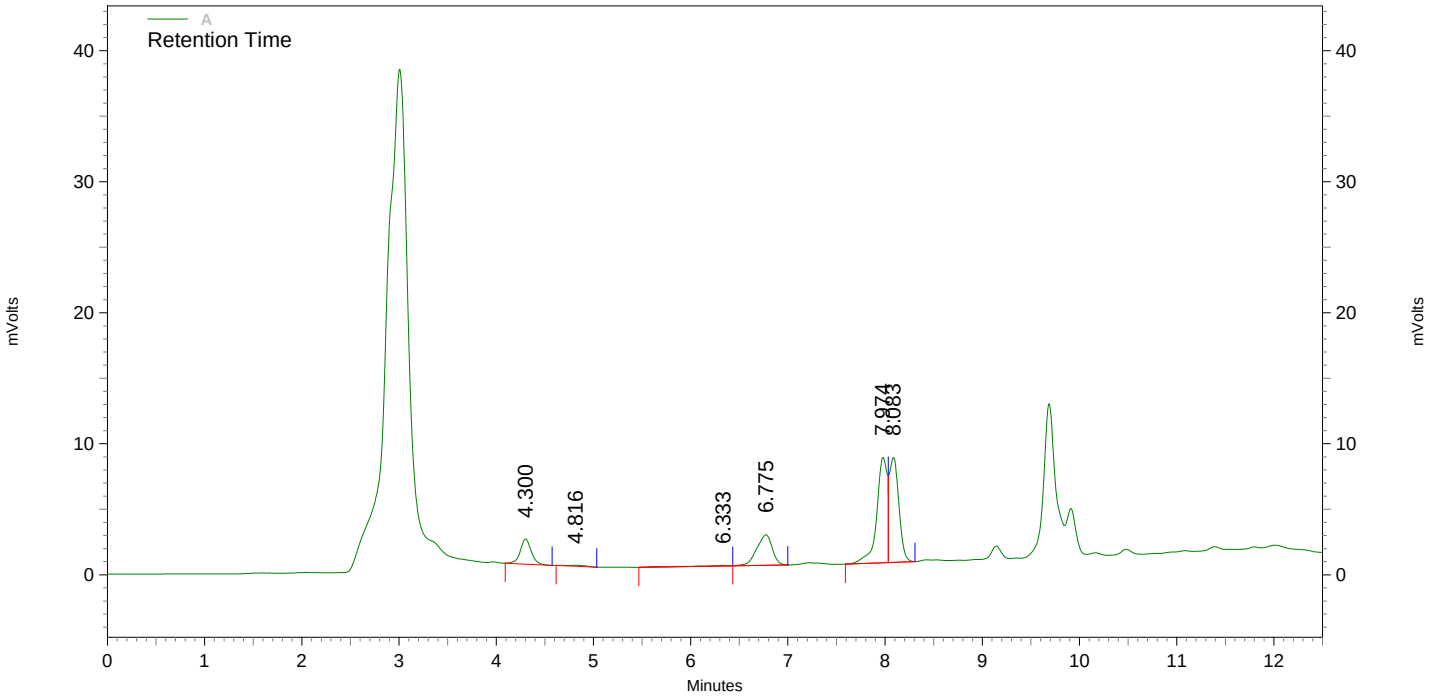
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX	3.325	6401	**0.095**
RDX	4.558	26469	**0.301**
12-DNB (SSTD)			**0.000 BDL**
135-TNB	5.775	184368	**0.924**
13-DNB			**0.000 BDL**
TETRYL			**0.000 BDL**
35-DNA	7.191	1833	**0.003**
NB			**0.000 BDL**
246-TNT	8.349	238228	**1.171**
4-AM-26-DNT			**0.000 BDL**
2-AM-46-DNT	8.866	24116	**0.123**
2-NT			**0.000 BDL**
4-NT	11.299	1265	**0.011**
3-NT			**0.000 BDL**

B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG			**0.000 BDL**
26-DNT			**0.000 BDL**
24-DNT			**0.000 BDL**
PETN			**0.000 BDL**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012616MDTNX-PRIMARY\005.dat
User ID: RED
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\092915MDTNXic-primary\012616MDTNX-primary.met
Sample ID: 122857,679481,
Acquired: Jan 26, 2016 14:31:12
Data Summary: {Data Description}



A Results

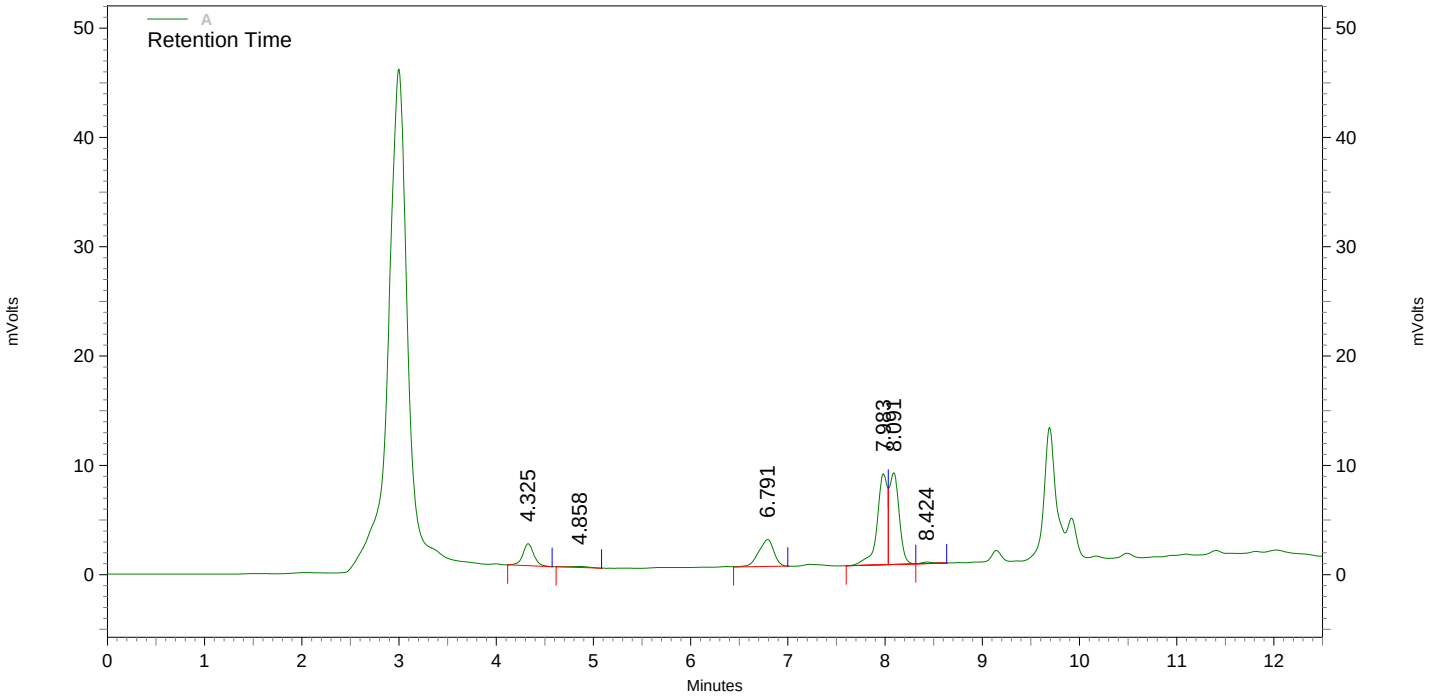
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX	4.300	15126	**0.099**
DNX			**0.000 BDL**
MNX	6.333	1110	**0.000**
12-DNB (SSTD)	8.083	54938	**108.340**

COMMENTS:

1. The results are reported using a UV/Vis detector set at 254 nm.

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012616MDTNX-PRIMARY\006.dat
User ID: RED
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\092915MDTNXic-primary\012616MDTNX-primary.met
Sample ID: 122857,679483,
Acquired: Jan 26, 2016 14:46:53
Data Summary: {Data Description}



A Results

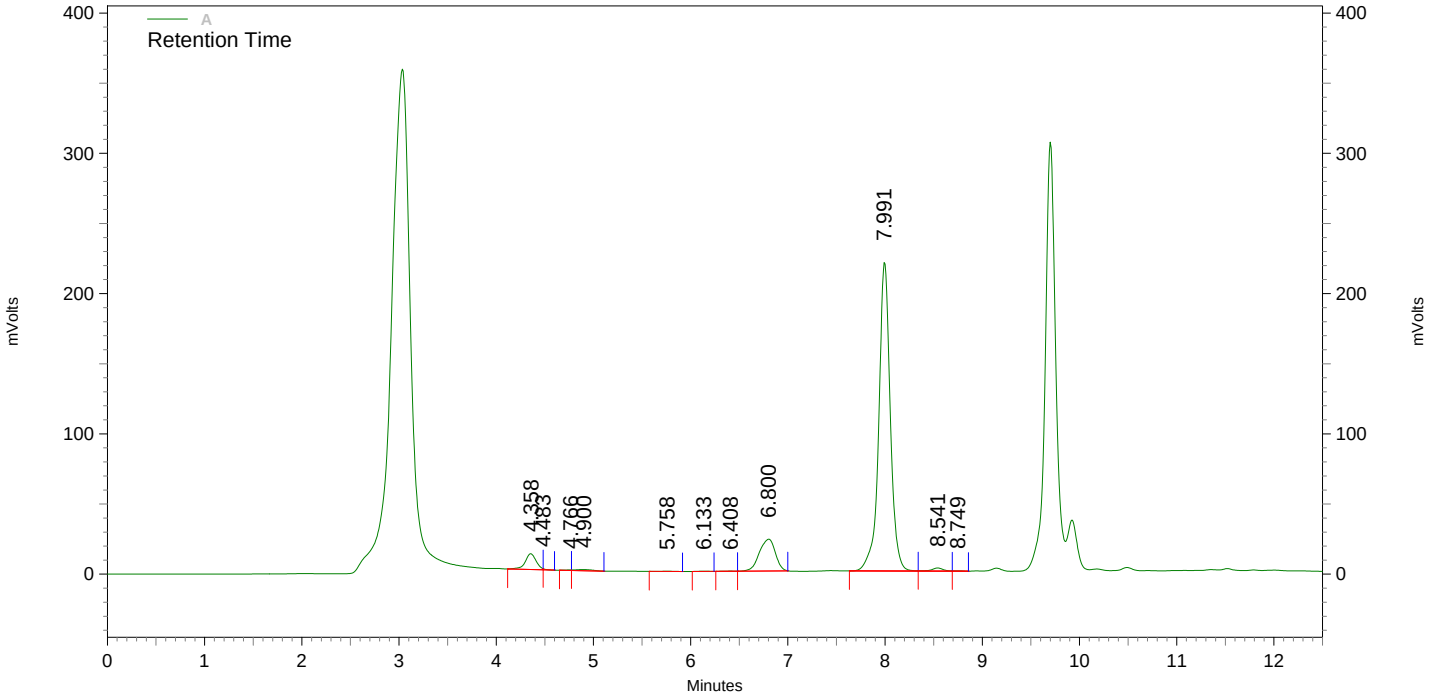
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX	4.325	15798	**0.104**
DNX	4.858	1243	**0.001**
MNX			**0.000 BDL**
12-DNB (SSTD)	8.091	58967	**116.406**

COMMENTS:

1. The results are reported using a UV/Vis detector set at 254 nm.

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012616MDTNX-PRIMARY\007.dat
User ID: RED
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\092915MDTNXic-primary\012616MDTNX-primary.met
Sample ID: 122857,679979,
Acquired: Jan 26, 2016 15:02:35
Data Summary: {Data Description}



A Results

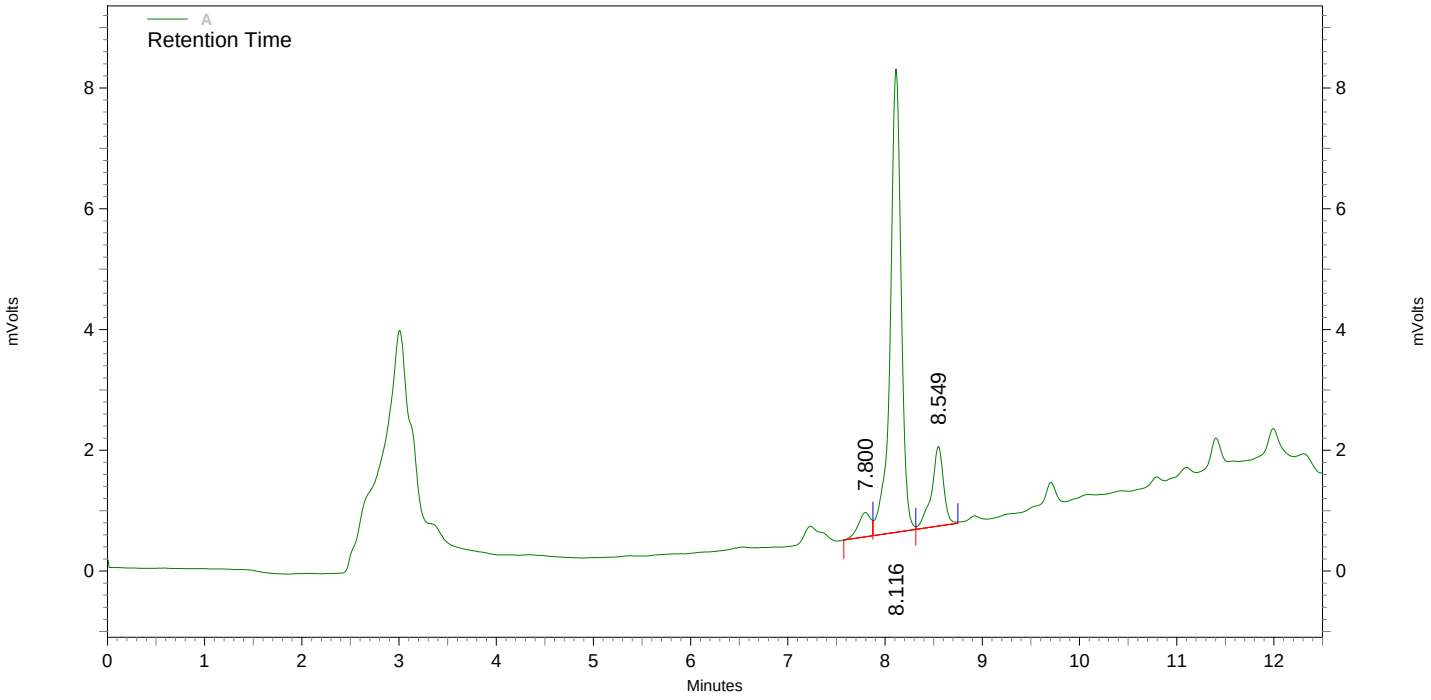
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX	4.483	1504	**0.005**
DNX	4.900	9737	**0.072**
MNX	6.133	1026	**0.000**
12-DNB (SSTD)	7.991	1808250	**3618.516**

COMMENTS:

1. The results are reported using a UV/Vis detector set at 254 nm.

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012616MDTNX-PRIMARY\008.dat
User ID: RED
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\092915MDTNXic-primary\012616MDTNX-primary.met
Sample ID: 122857,679981,
Acquired: Jan 26, 2016 15:18:17
Data Summary: {Data Description}



A Results

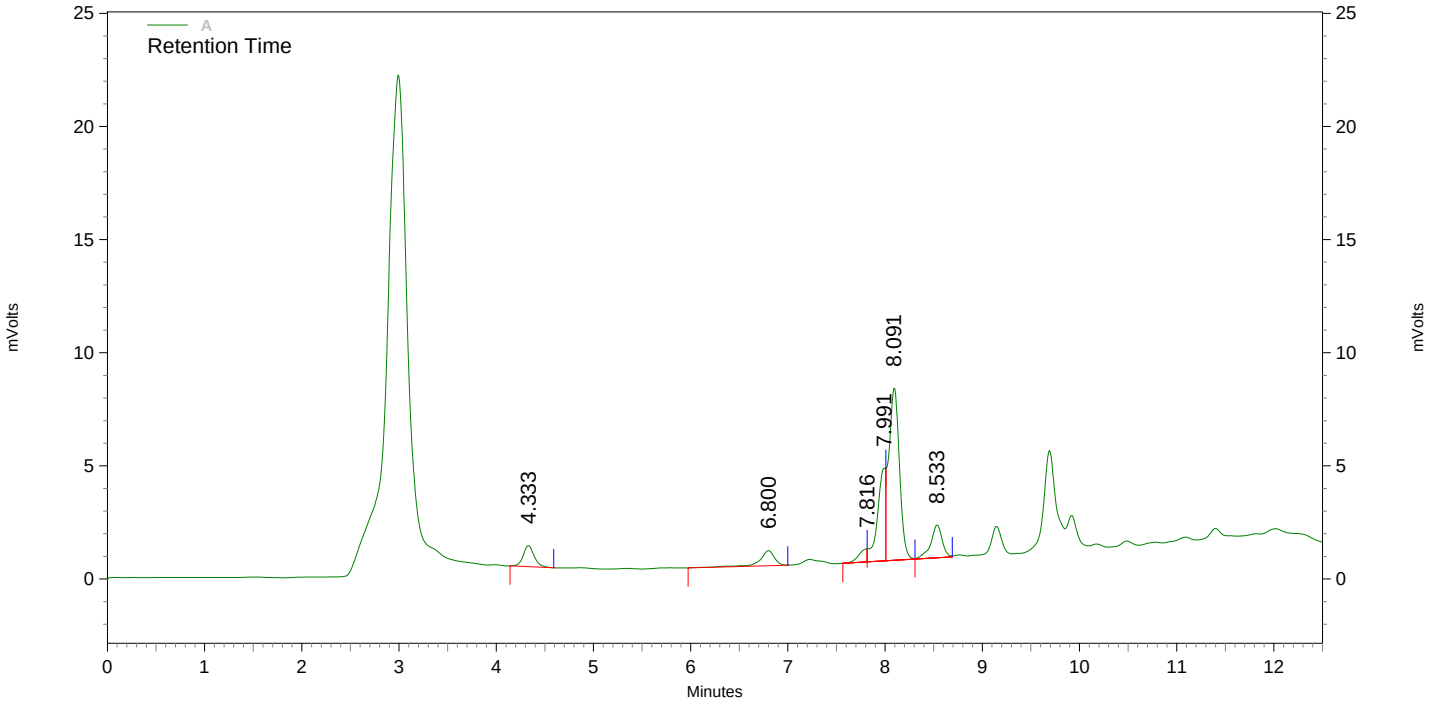
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX			**0.000 BDL**
DNX			**0.000 BDL**
MNX			**0.000 BDL**
12-DNB (SSTD)	8.116	59720	**117.914**

COMMENTS:

1. The results are reported using a UV/Vis detector set at 254 nm.

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012616MDTNX-PRIMARY\009.dat
User ID: RED
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\092915MDTNXic-primary\012616MDTNX-primary.met
Sample ID: 122857,679983,
Acquired: Jan 26, 2016 15:34:02
Data Summary: {Data Description}



A Results

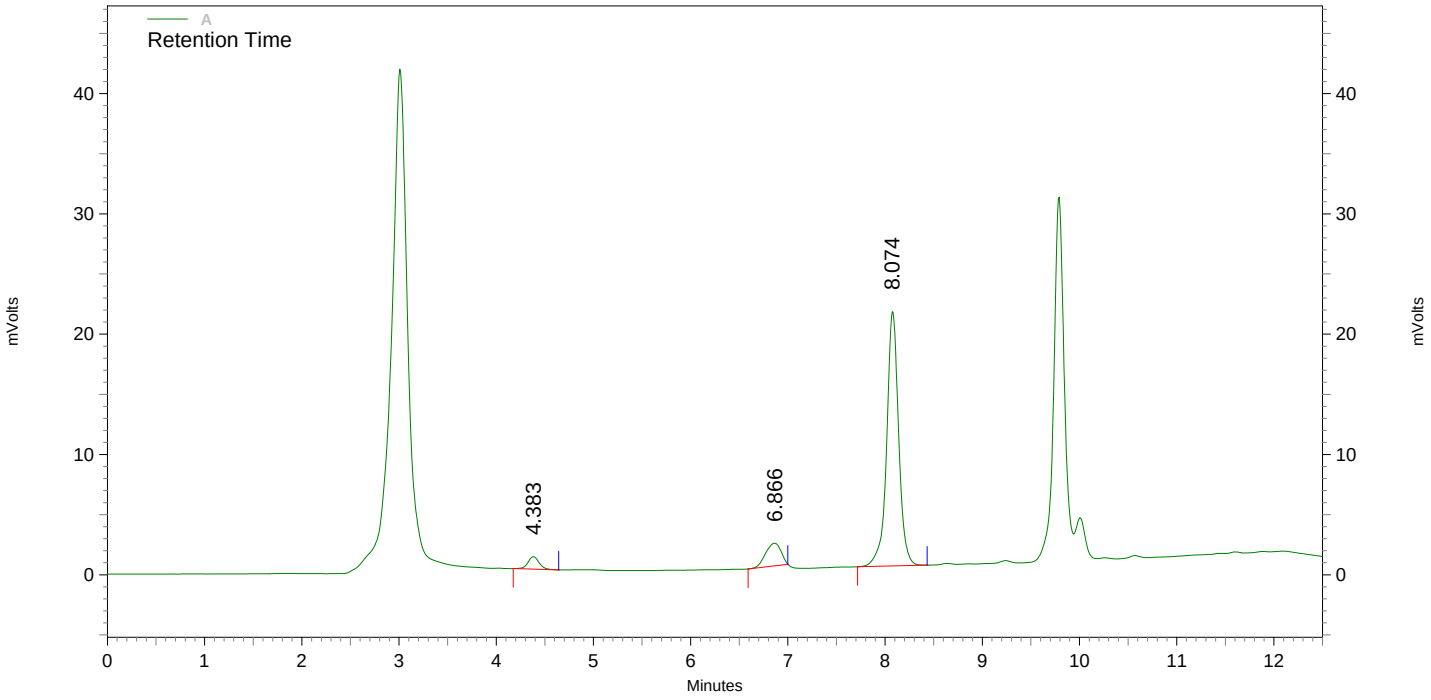
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX	4.333	7351	**0.046**
DNX			**0.000 BDL**
MNX			**0.000 BDL**
12-DNB (SSTD)	8.091	58118	**114.707**

COMMENTS:

1. The results are reported using a UV/Vis detector set at 254 nm.

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012616MDTNX-PRIMARY\013.dat
User ID: RED
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\092915MDTNXic-primary\012616MDTNX-primary.met
Sample ID: 679979 1:10
Acquired: Jan 26, 2016 17:43:40
Data Summary: {Data Description}



A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX	4.383	8212	**0.052**
DNX			**0.000 BDL**
MNX			**0.000 BDL**
12-DNB (SSTD)	8.074	180751	**360.221**

COMMENTS:

1. The results are reported using a UV/Vis detector set at 254 nm.

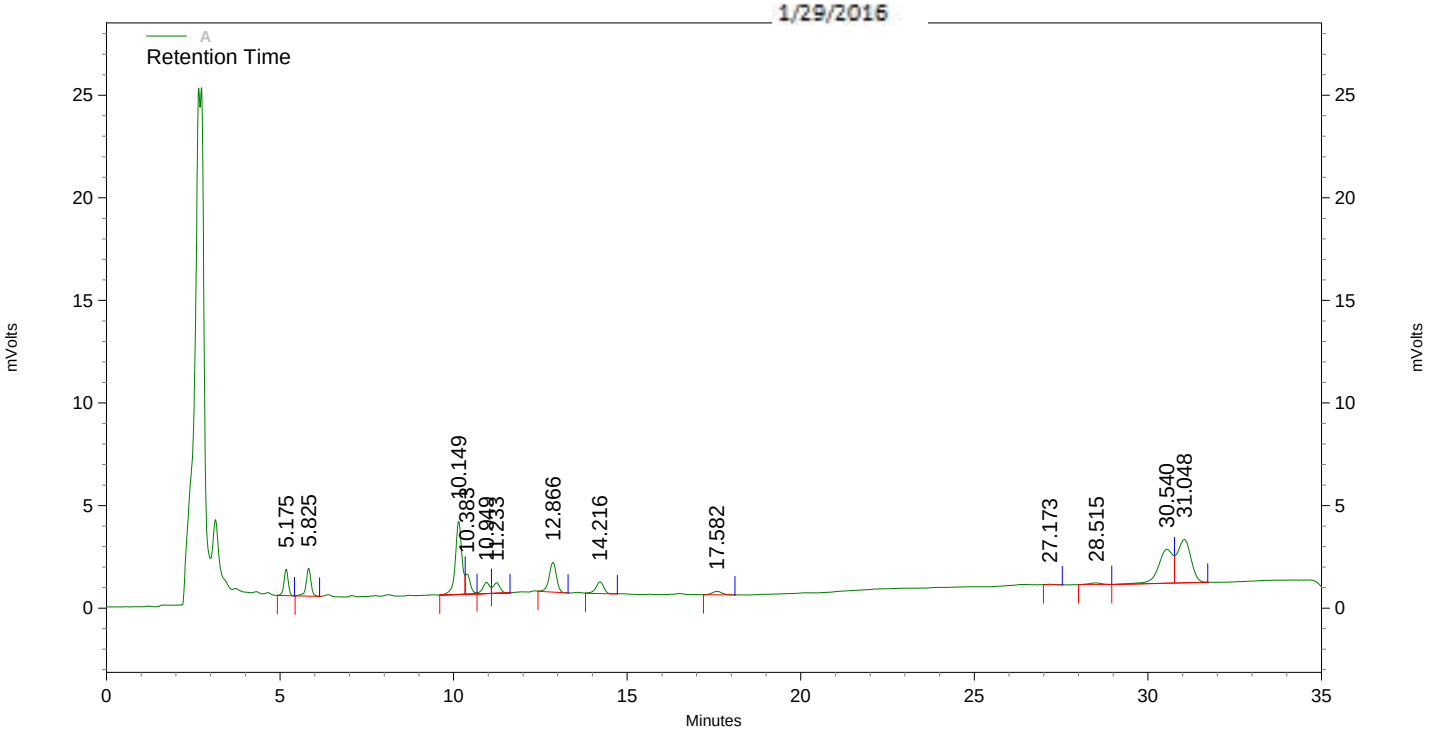
NITROAROMATICS ANALYSIS
CONFIRMATION
SAMPLE DATA
DOCUMENTS

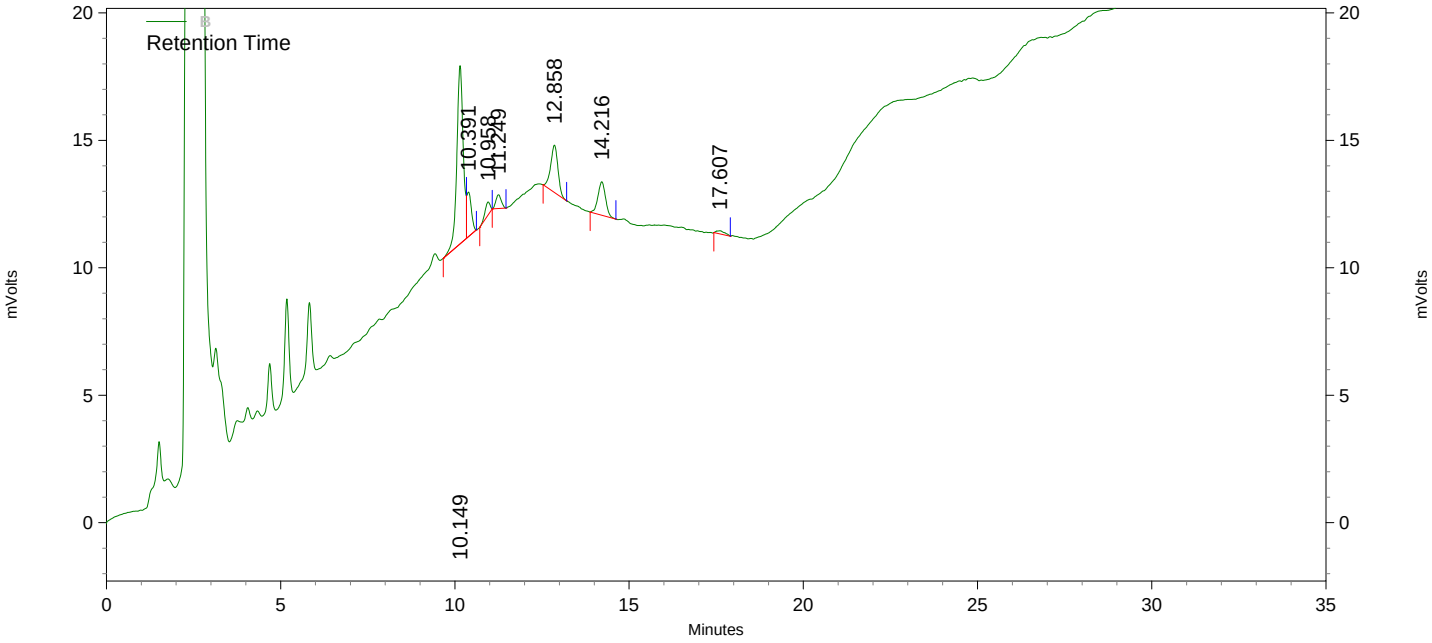
Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012716EXPic-confirm\012.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\012716expic-confirm\012716expic-confirm.met
Sample ID: 122858,679481,
Acquired: Jan 27, 2016 20:35:22

JJY
1/29/2016

Data Summary: Reason #4 applies to data. RED 1/28/2016





122858,679481,

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm	5.175	11164	**0.202**
RDX-confirm	5.825	13160	**0.184**
NB-confirm			**0.000 BDL**
12-DNB (SSTD)-confirm	10.149	46719	**89.208**
4-AM-26-DNT-conf.	10.383	9750	**0.080**
3,5-DNA-confirm	10.949	7666	**0.035**
2-NT-confirm			**0.000 BDL**
2-AM-46-DNT-conf.	12.866	21049	**0.126**
3-NT-confirm			**0.000 BDL**
4-NT-confirm			**0.000 BDL**
26-DNT-confirm			**0.000 BDL**
13-DNB-confirm	17.582	3233	**0.009**
TETRYL-confirm			**0.000 BDL**
24-DNT-confirm			**0.000 BDL**
135-TNB-confirm	30.540	47865	**0.282**
246-TNT-confirm	31.048	57760	**0.455**

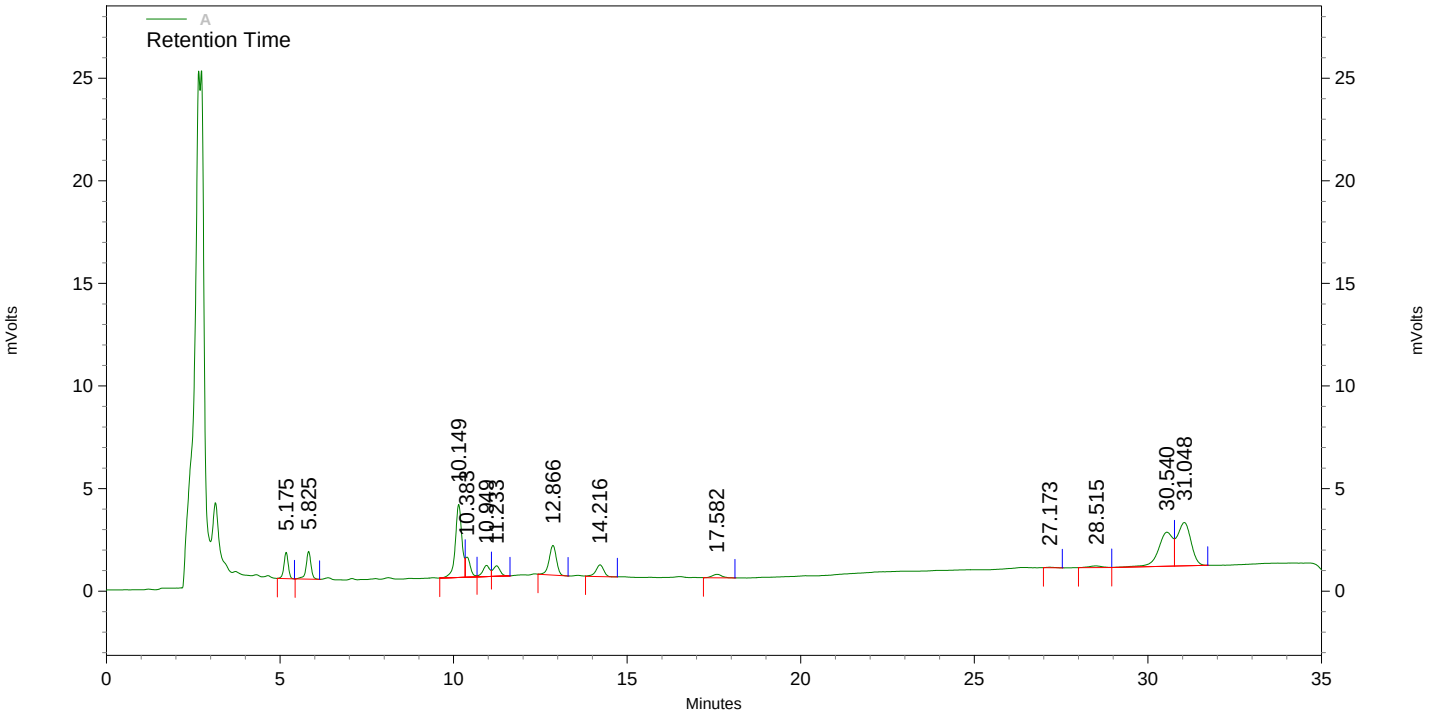
B Results

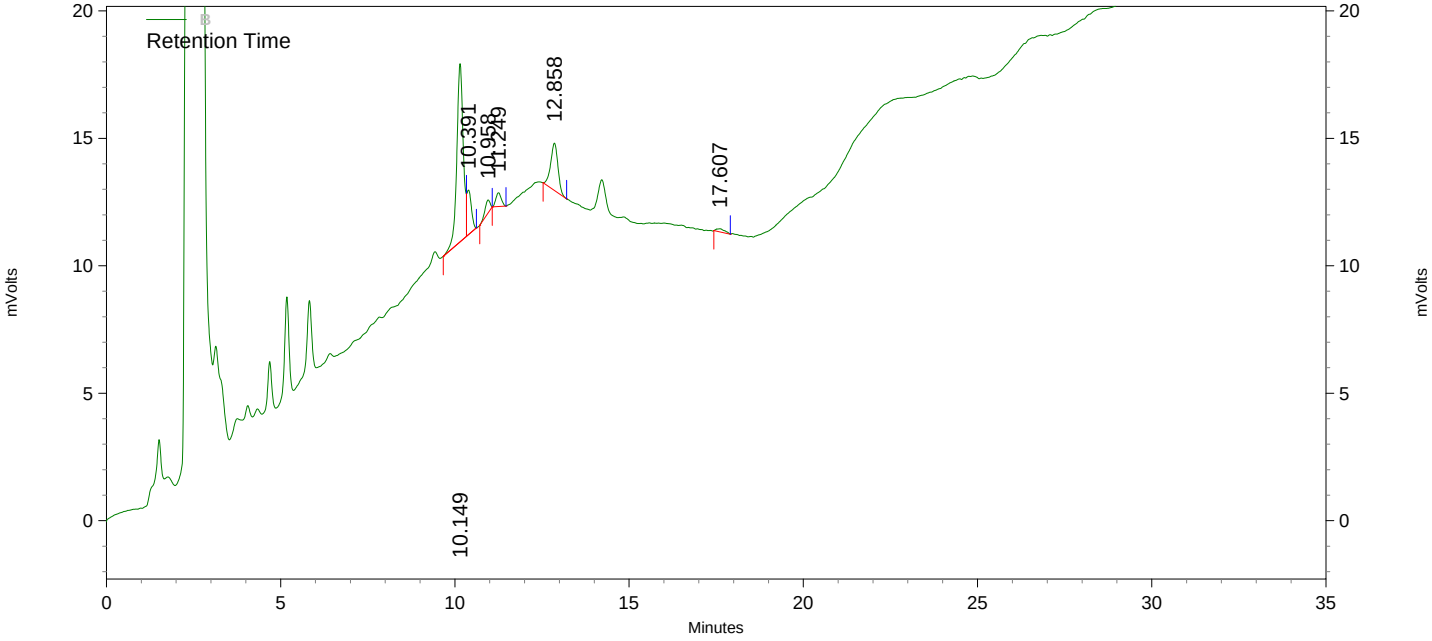
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm			**0.000 BDL**
PETN-confirm	14.216	20005	**0.396**

Before Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012716EXPic-confirm\012.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\012716expic-confirm\012716expic-confirm.met
Sample ID: 122858,679481,
Acquired: Jan 27, 2016 20:35:22
Data Summary: Reason #4 applies to data. RED 1/28/2016





122858,679481,

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm	5.175	11164	**0.202**
RDX-confirm	5.825	13160	**0.184**
NB-confirm			**0.000 BDL**
12-DNB (SSTD)-confirm	10.149	46719	**89.208**
4-AM-26-DNT-conf.	10.383	9750	**0.080**
3,5-DNA-confirm	10.949	7666	**0.035**
2-NT-confirm			**0.000 BDL**
2-AM-46-DNT-conf.	12.866	21049	**0.126**
3-NT-confirm			**0.000 BDL**
4-NT-confirm			**0.000 BDL**
26-DNT-confirm			**0.000 BDL**
13-DNB-confirm	17.582	3233	**0.009**
TETRYL-confirm			**0.000 BDL**
24-DNT-confirm			**0.000 BDL**
135-TNB-confirm	30.540	47865	**0.282**
246-TNT-confirm	31.048	57760	**0.455**

B Results

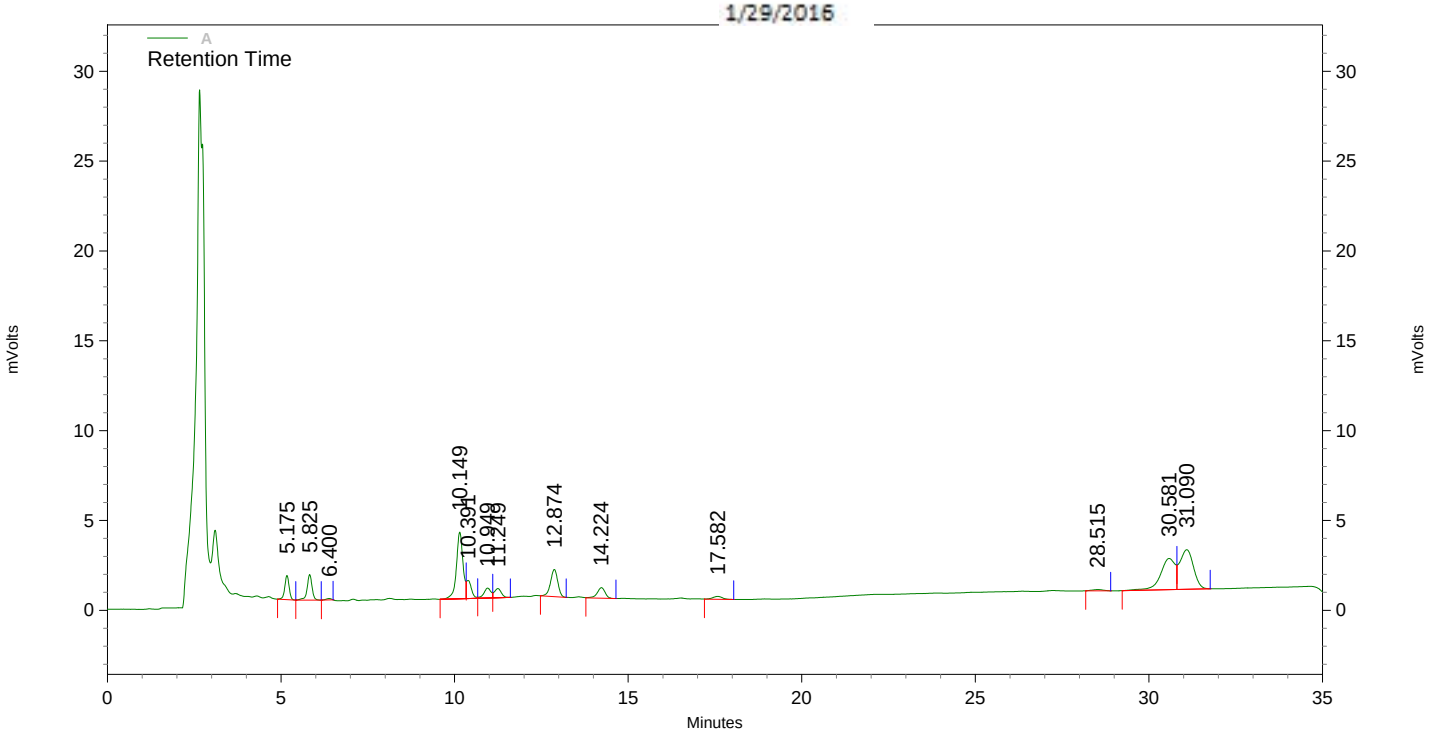
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm			**0.000 BDL**
PETN-confirm			**0.000 BDL**

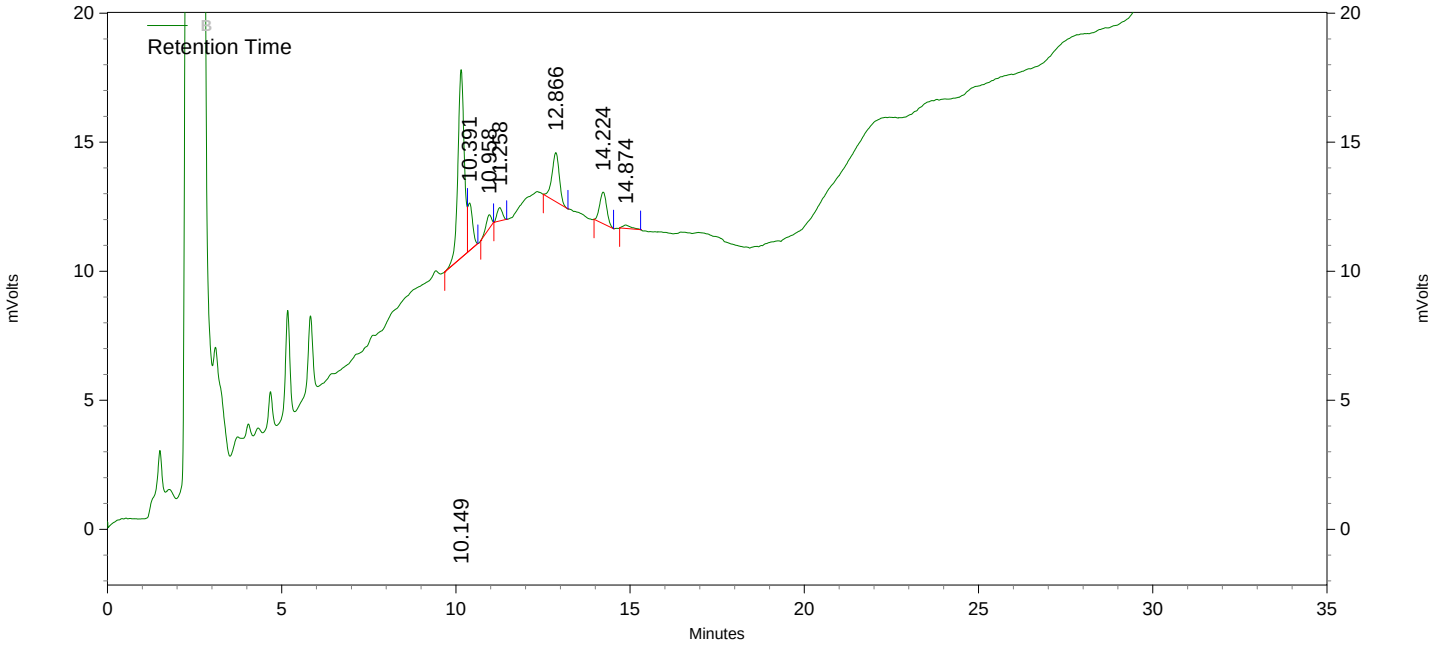
After Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012716EXPic-confirm\013.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\012716expic-confirm\012716expic-confirm.met
Sample ID: 122858,679483,
Acquired: Jan 27, 2016 21:12:40 JJY
Data Summary: Reason #4 applies to data. RED 1/28/2016

1/29/2016





122858,679483,

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm	5.175	11794	**0.214**
RDX-confirm	5.825	13950	**0.196**
NB-confirm			**0.000 BDL**
12-DNB (SSTD)-confirm	10.149	48708	**93.136**
4-AM-26-DNT-conf.	10.391	10143	**0.084**
3,5-DNA-confirm	10.949	7828	**0.036**
2-NT-confirm			**0.000 BDL**
2-AM-46-DNT-conf.	12.874	21860	**0.132**
3-NT-confirm			**0.000 BDL**
4-NT-confirm			**0.000 BDL**
26-DNT-confirm			**0.000 BDL**
13-DNB-confirm	17.582	3128	**0.008**
TETRYL-confirm			**0.000 BDL**
24-DNT-confirm			**0.000 BDL**
135-TNB-confirm	30.581	51010	**0.301**
246-TNT-confirm	31.090	60350	**0.476**

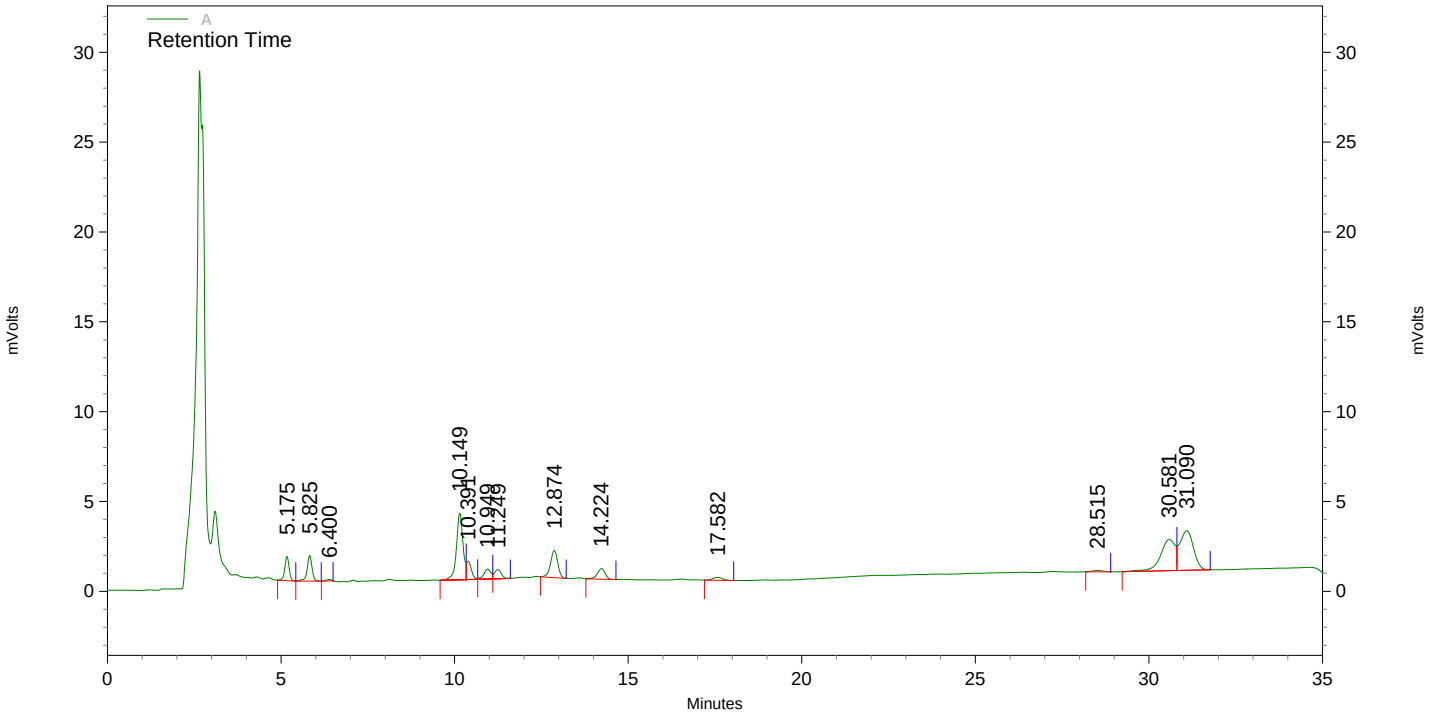
B Results

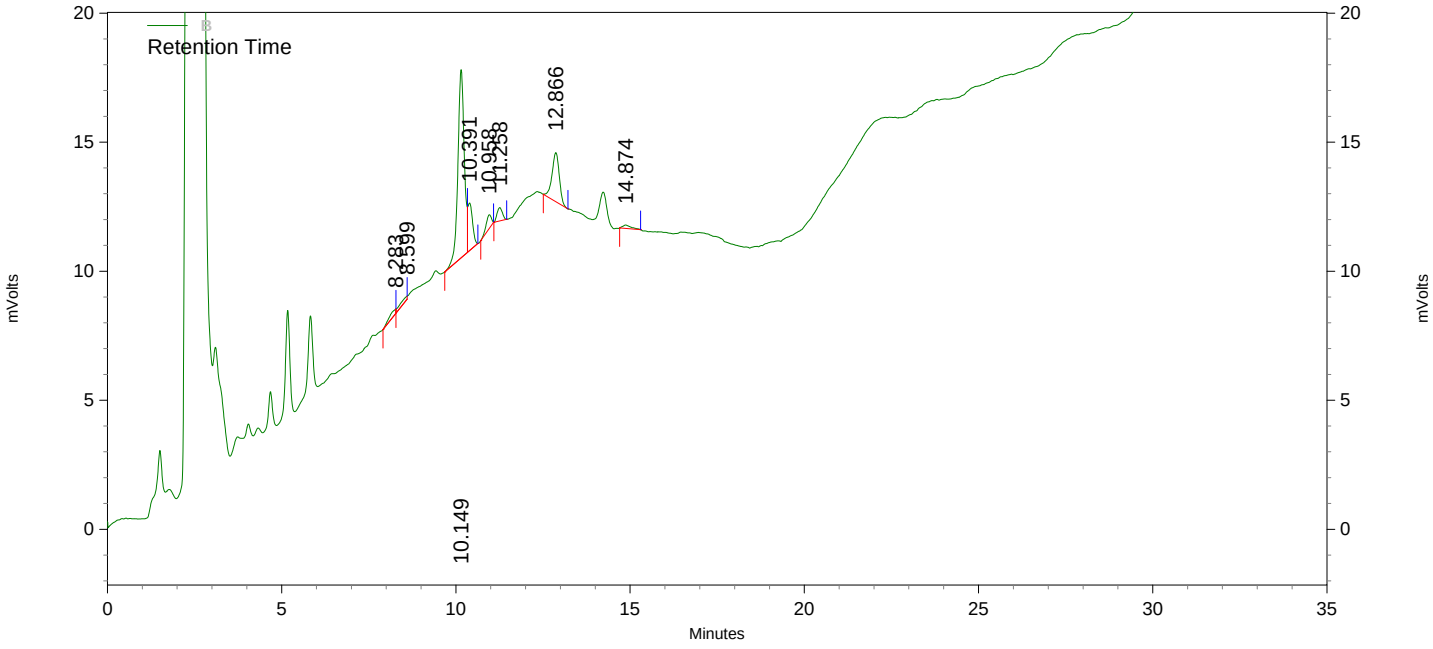
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm			**0.000 BDL**
PETN-confirm	14.224	17056	**0.341**

Explosives - 8330

Before Manual Integration

File: C:\Instarch\HPLC 2\Data\012716EXPic-confirm\013.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\012716expic-confirm\012716expic-confirm.met
Sample ID: 122858,679483,
Acquired: Jan 27, 2016 21:12:40
Data Summary: Reason #4 applies to data. RED 1/28/2016





122858,679483,

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm	5.175	11794	**0.214**
RDX-confirm	5.825	13950	**0.196**
NB-confirm			**0.000 BDL**
12-DNB (SSTD)-confirm	10.149	48708	**93.136**
4-AM-26-DNT-conf.	10.391	10143	**0.084**
3,5-DNA-confirm	10.949	7828	**0.036**
2-NT-confirm			**0.000 BDL**
2-AM-46-DNT-conf.	12.874	21860	**0.132**
3-NT-confirm			**0.000 BDL**
4-NT-confirm			**0.000 BDL**
26-DNT-confirm			**0.000 BDL**
13-DNB-confirm	17.582	3128	**0.008**
TETRYL-confirm			**0.000 BDL**
24-DNT-confirm			**0.000 BDL**
135-TNB-confirm	30.581	51010	**0.301**
246-TNT-confirm	31.090	60350	**0.476**

B Results

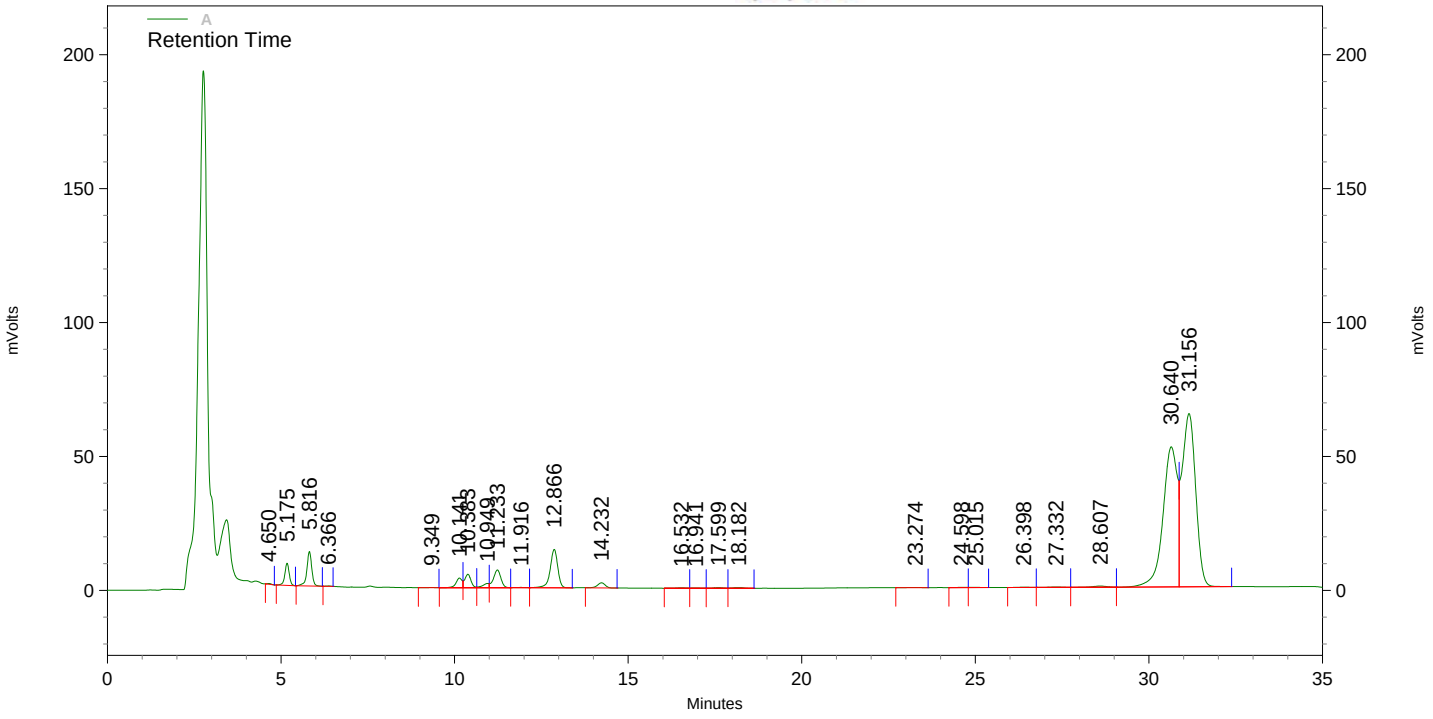
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm	8.283	3144	**0.043**
PETN-confirm			**0.000 BDL**

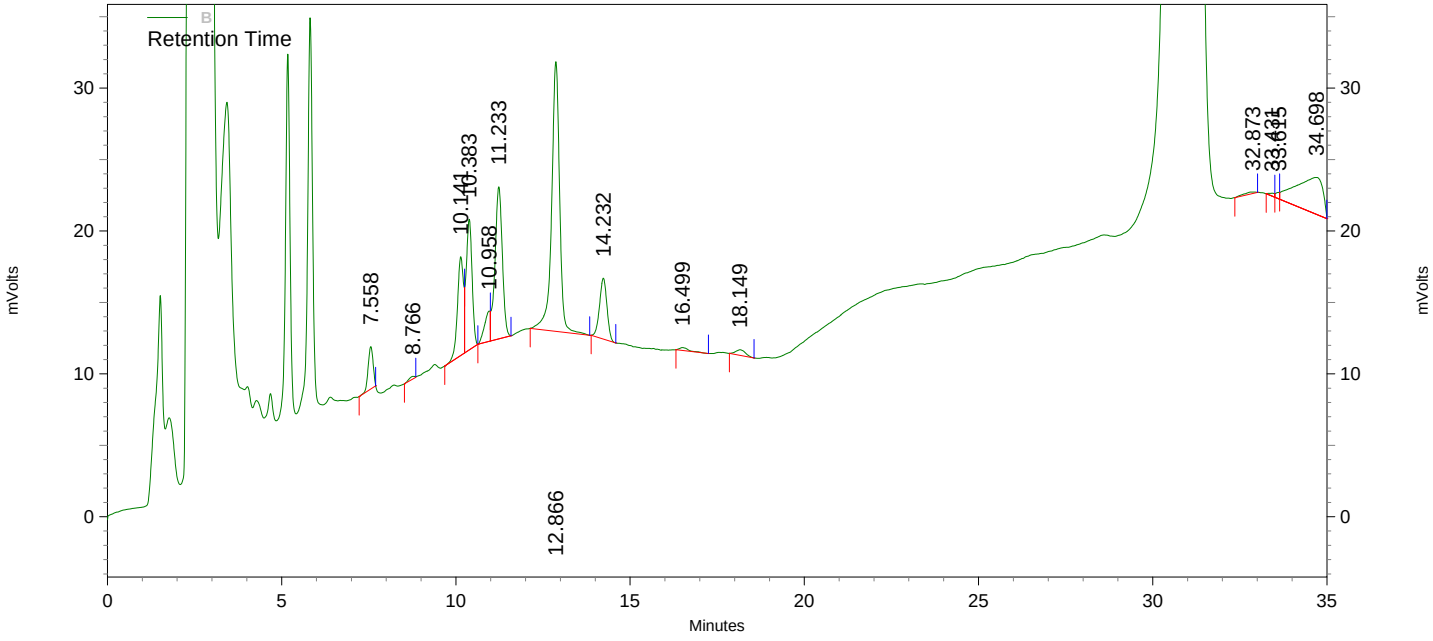
After Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012716EXPic-confirm\014.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\012716expic-confirm\012716expic-confirm.met
Sample ID: 122858,679979,
Acquired: Jan 27, 2016 21:49:57 JJY
Data Summary: Reason #4 applies to data. RED 1/28/2016

1/29/2016





122858,679979,

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm	5.175	73337	**1.402**
RDX-confirm	5.816	125332	**1.875**
NB-confirm	9.349	1544	**0.000**
12-DNB (SSTD)-confirm	10.141	43897	**83.635**
4-AM-26-DNT-conf.	10.383	62505	**0.588**
3,5-DNA-confirm	10.949	19355	**0.106**
2-NT-confirm	11.916	1874	**0.007**
2-AM-46-DNT-conf.	12.866	215680	**1.437**
3-NT-confirm			**0.000 BDL**
4-NT-confirm			**0.000 BDL**
26-DNT-confirm	16.532	3282	**0.029**
13-DNB-confirm	16.941	2004	**0.003**
TETRYL-confirm	23.274	1745	**0.015**
24-DNT-confirm	25.015	1345	**0.000**
135-TNB-confirm	30.640	1510200	**9.014**
246-TNT-confirm	31.156	1763176	**14.212**

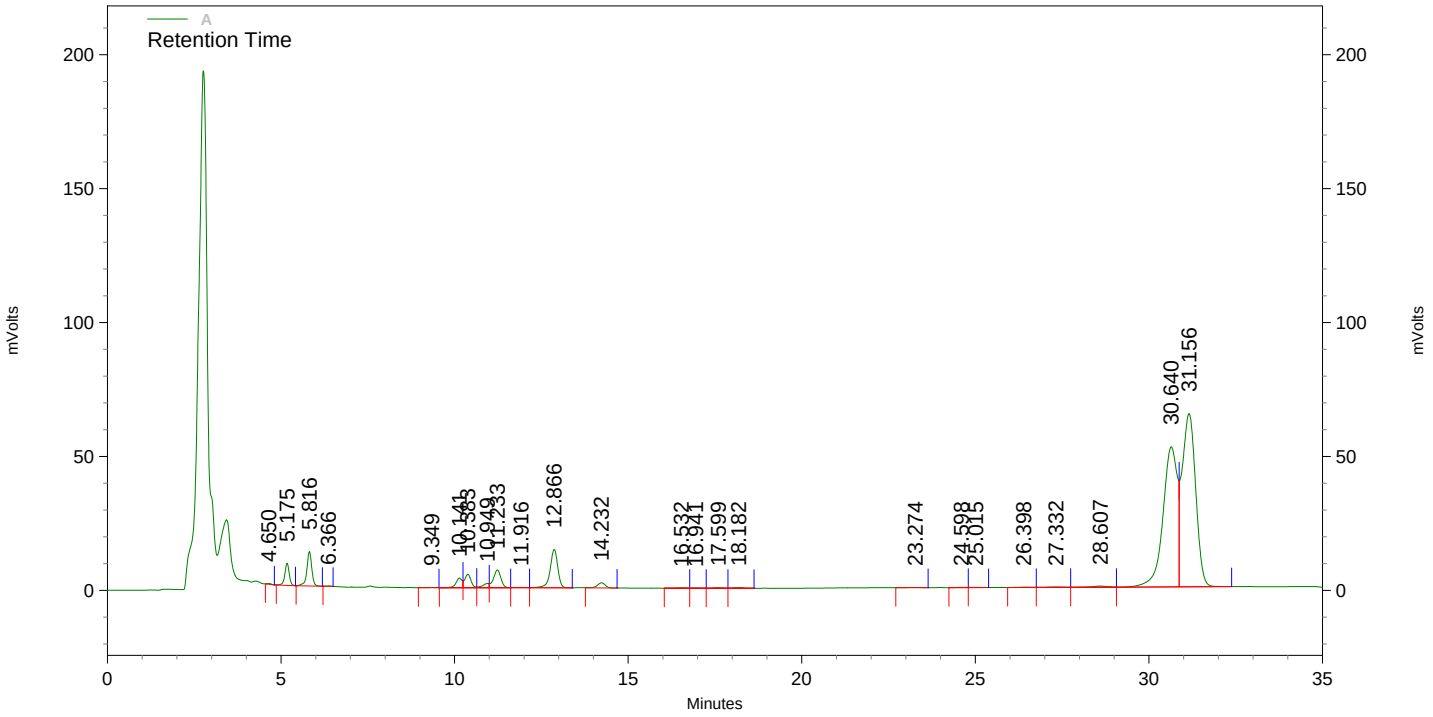
B Results

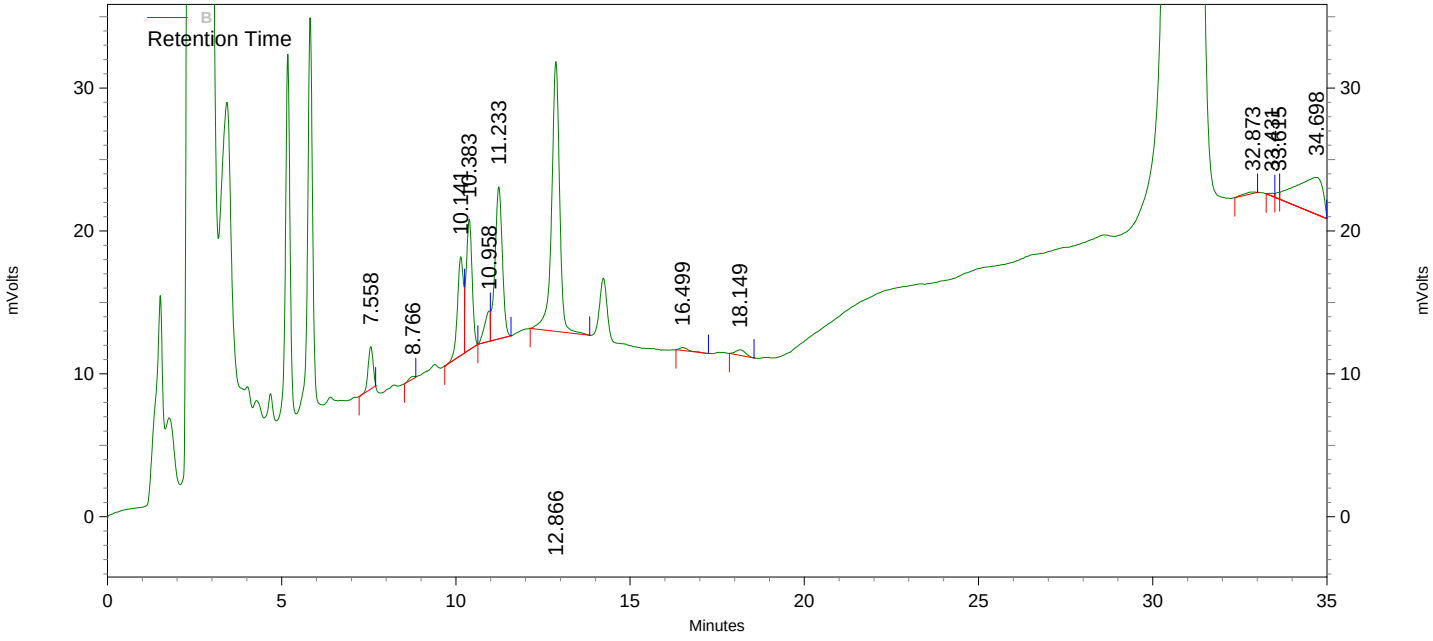
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm	8.766	2320	**0.032**
PETN-confirm	14.232	63215	**1.199**

Before Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012716EXPic-confirm\014.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\012716expic-confirm\012716expic-confirm.met
Sample ID: 122858,679979,
Acquired: Jan 27, 2016 21:49:57
Data Summary: Reason #4 applies to data. RED 1/28/2016





122858,679979,

A Results

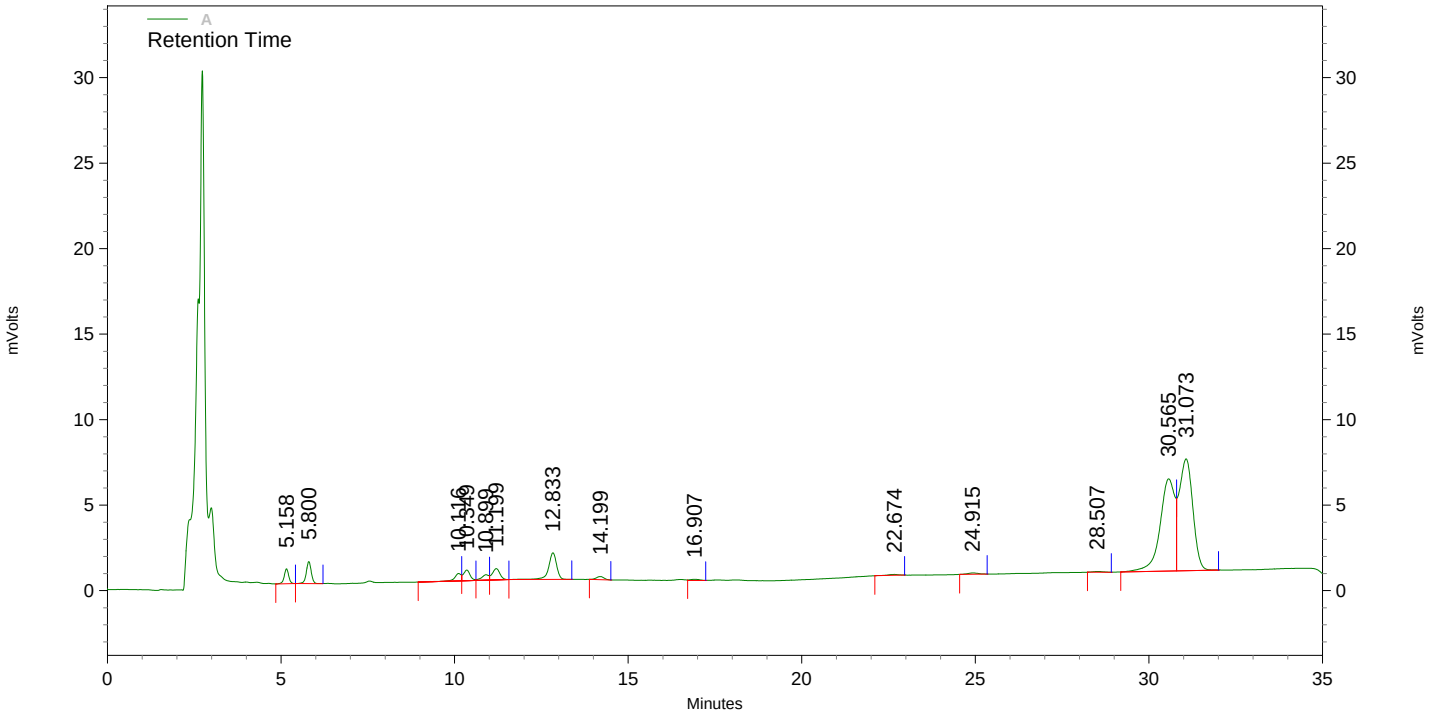
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm	5.175	73337	**1.402**
RDX-confirm	5.816	125332	**1.875**
NB-confirm	9.349	1544	**0.000**
12-DNB (SSTD)-confirm	10.141	43897	**83.635**
4-AM-26-DNT-conf.	10.383	62505	**0.588**
3,5-DNA-confirm	10.949	19355	**0.106**
2-NT-confirm	11.916	1874	**0.007**
2-AM-46-DNT-conf.	12.866	215680	**1.437**
3-NT-confirm			**0.000 BDL**
4-NT-confirm			**0.000 BDL**
26-DNT-confirm	16.532	3282	**0.029**
13-DNB-confirm	16.941	2004	**0.003**
TETRYL-confirm	23.274	1745	**0.015**
24-DNT-confirm	25.015	1345	**0.000**
135-TNB-confirm	30.640	1510200	**9.014**
246-TNT-confirm	31.156	1763176	**14.212**

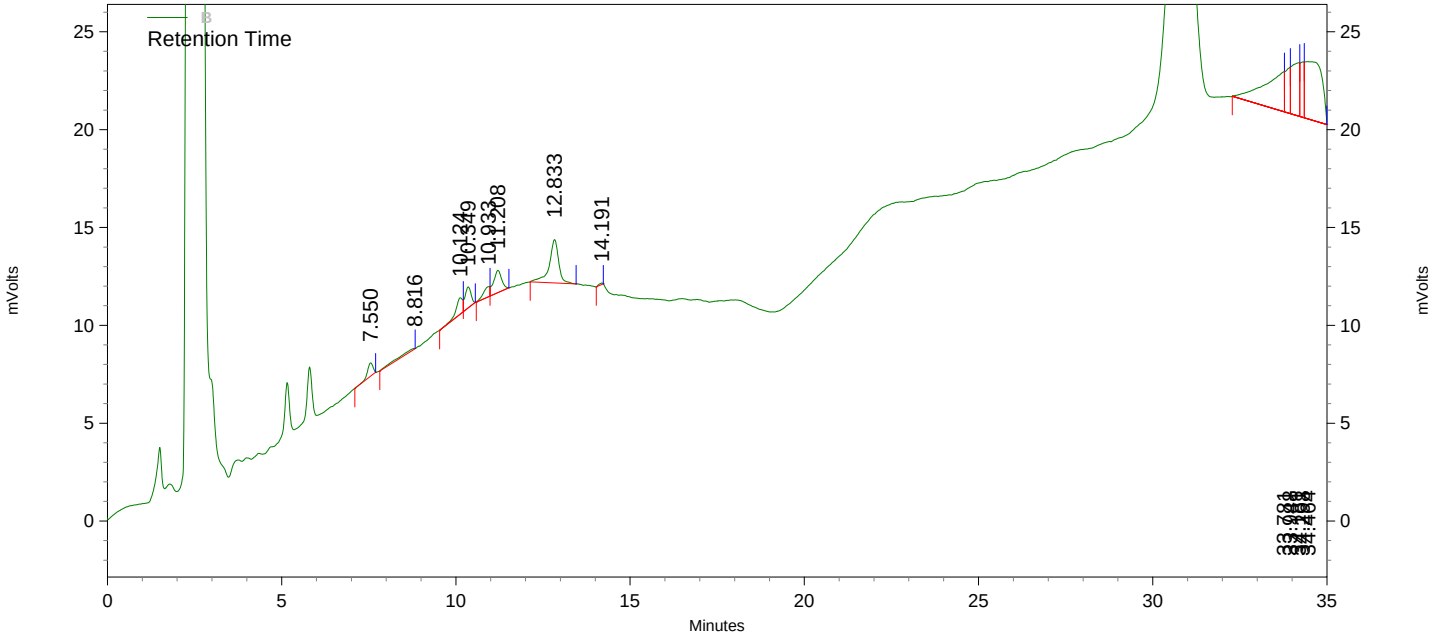
B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm	8.766	2320	**0.032**
PETN-confirm			**0.000 BDL**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012716EXPic-confirm\015.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\012716expic-confirm\012716expic-confirm.met
Sample ID: 679979 1:10
Acquired: Jan 27, 2016 22:27:15
Data Summary: {Data Description}





679979 1:10

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm	5.158	7915	**0.139**
RDX-confirm	5.800	12729	**0.178**
NB-confirm			**0.000 BDL**
12-DNB (SSTD)-confirm	10.116	5864	**8.518**
4-AM-26-DNT-conf.	10.349	8338	**0.067**
3,5-DNA-confirm	10.899	4596	**0.017**
2-NT-confirm			**0.000 BDL**
2-AM-46-DNT-conf.	12.833	25224	**0.154**
3-NT-confirm			**0.000 BDL**
4-NT-confirm			**0.000 BDL**
26-DNT-confirm	16.907	1258	**0.011**
13-DNB-confirm			**0.000 BDL**
TETRYL-confirm	22.674	1082	**0.010**
24-DNT-confirm	24.915	1727	**0.000**
135-TNB-confirm	30.565	159641	**0.950**
246-TNT-confirm	31.073	178390	**1.428**

B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm	8.816	4421	**0.061**
PETN-confirm	14.191	681	**0.037**

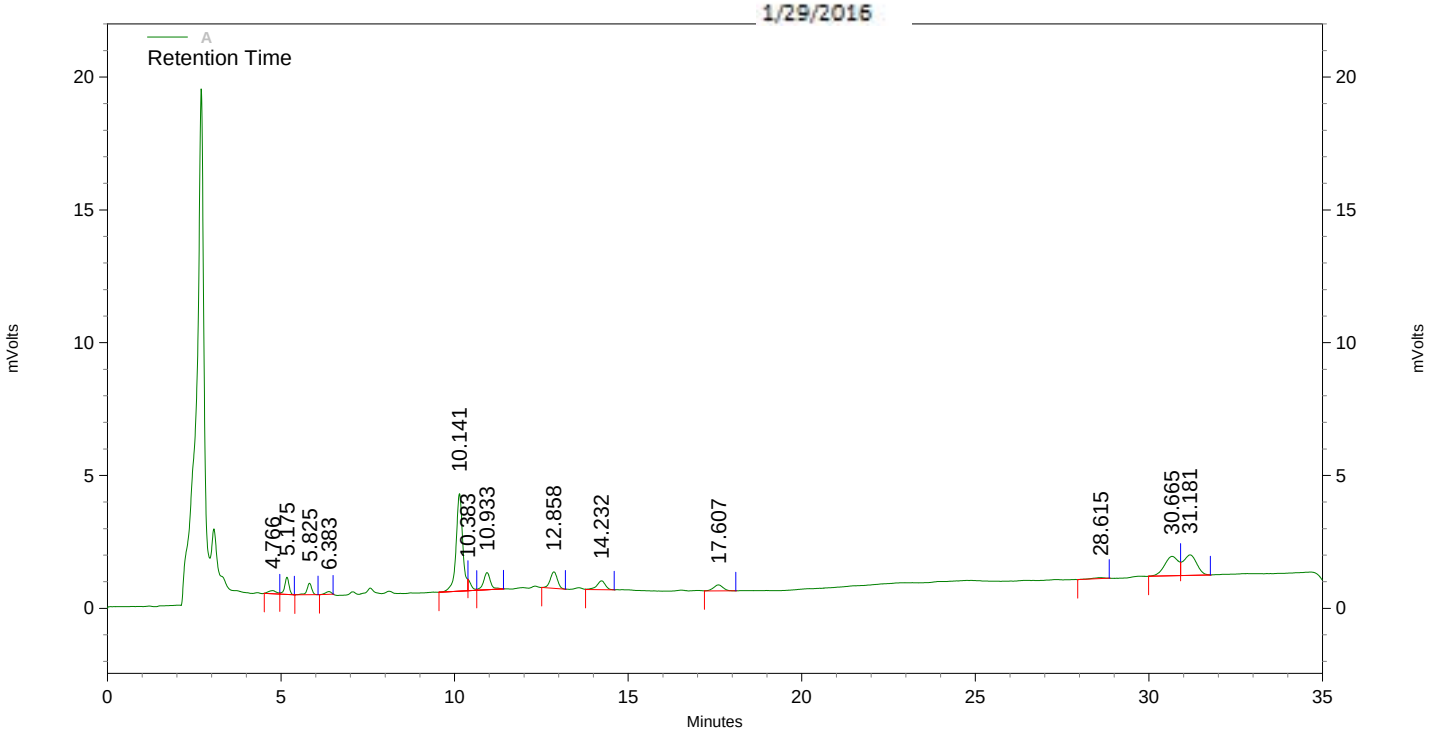
After Manual Integration

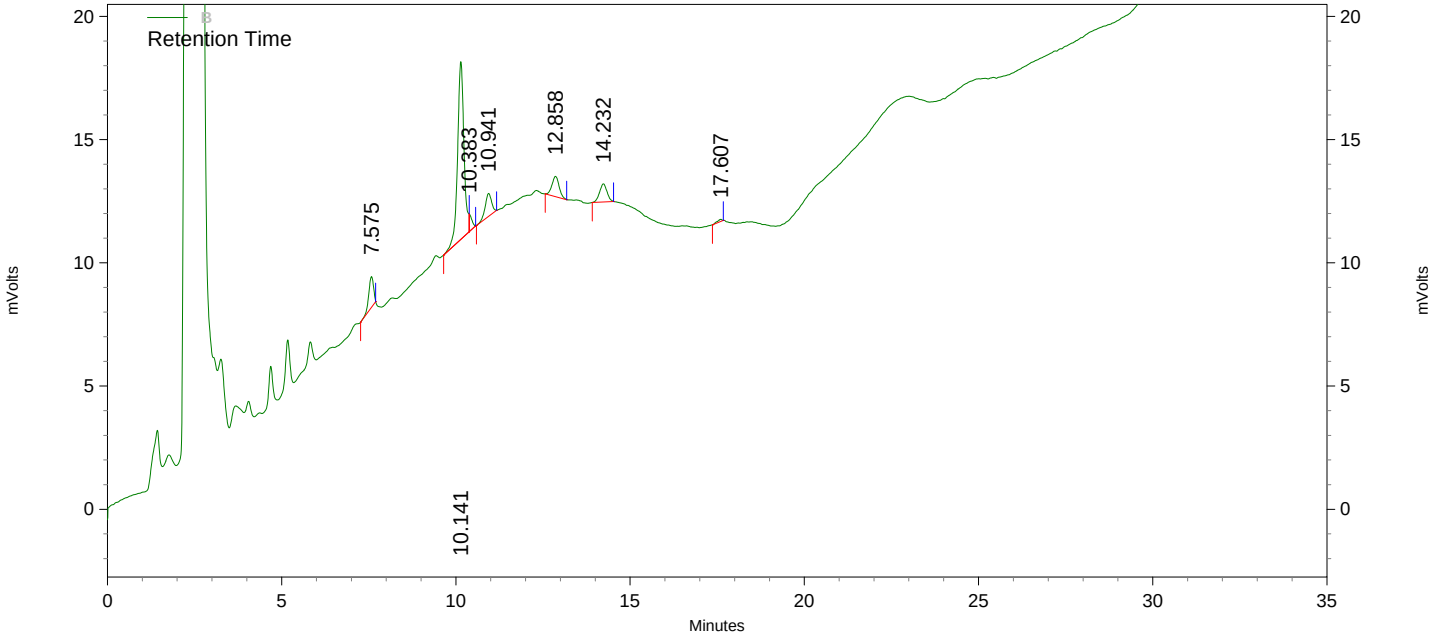
Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012716EXPic-confirm\016.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\012716expic-confirm\012716expic-confirm.met
Sample ID: 122858,679983,
Acquired: Jan 27, 2016 23:04:32

JJY
1/29/2016

Data Summary: Reason #4 applies to data. RED 1/28/2016





122858,679983,

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm	5.175	5683	**0.096**
RDX-confirm	5.825	4145	**0.048**
NB-confirm			**0.000 BDL**
12-DNB (SSTD)-confirm	10.141	48306	**92.342**
4-AM-26-DNT-conf.	10.383	2717	**0.013**
3,5-DNA-confirm	10.933	9057	**0.044**
2-NT-confirm			**0.000 BDL**
2-AM-46-DNT-conf.	12.858	8793	**0.044**
3-NT-confirm			**0.000 BDL**
4-NT-confirm			**0.000 BDL**
26-DNT-confirm			**0.000 BDL**
13-DNB-confirm	17.607	4336	**0.015**
TETRYL-confirm			**0.000 BDL**
24-DNT-confirm			**0.000 BDL**
135-TNB-confirm	30.665	20297	**0.118**
246-TNT-confirm	31.181	20694	**0.156**

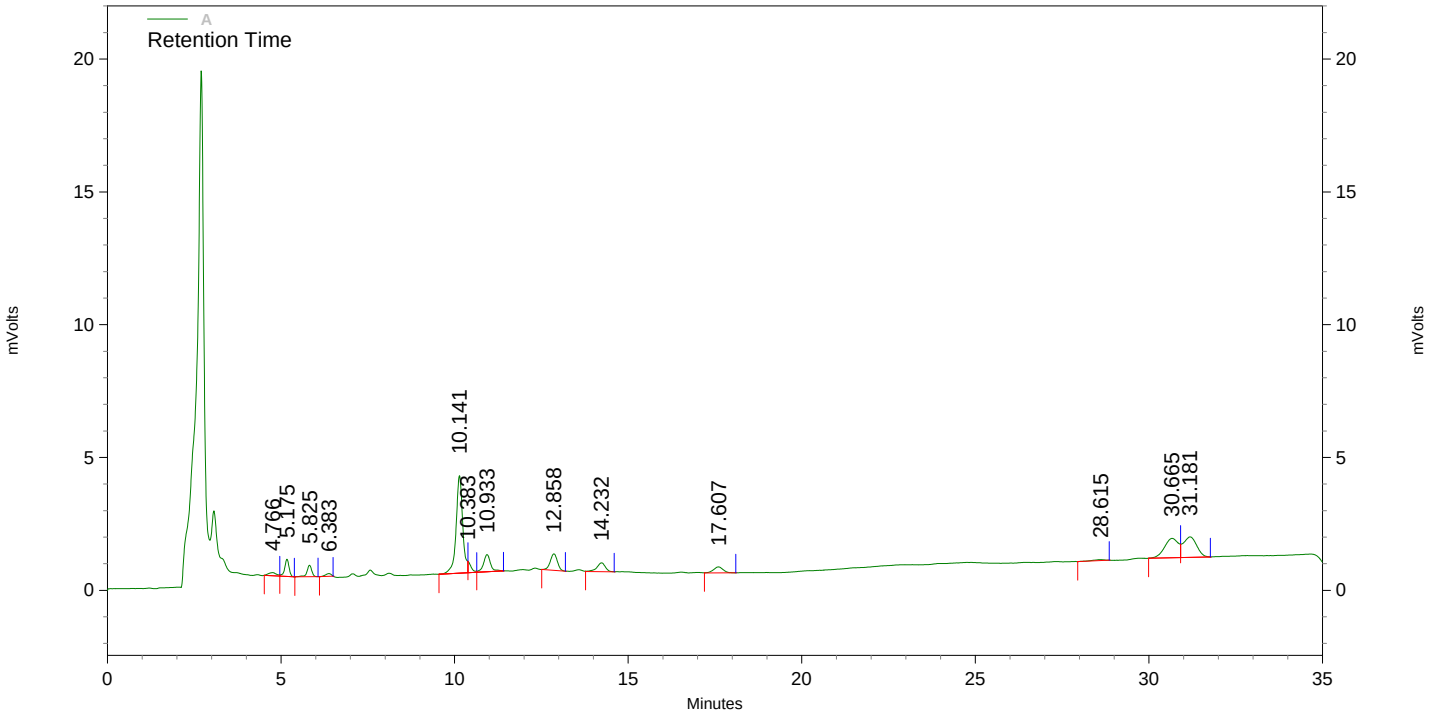
B Results

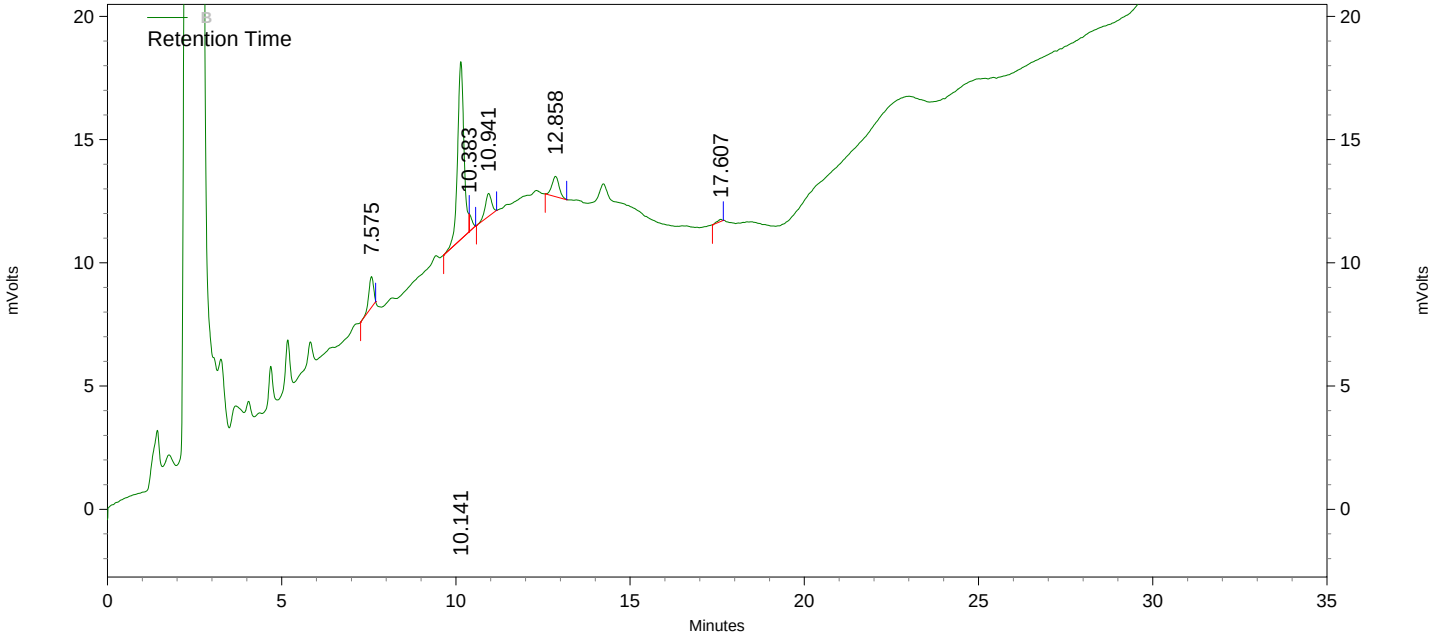
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm			**0.000 BDL**
PETN-confirm	14.232	10854	**0.226**

Before Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012716EXPic-confirm\016.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\012716expic-confirm\012716expic-confirm.met
Sample ID: 122858,679983,
Acquired: Jan 27, 2016 23:04:32
Data Summary: Reason #4 applies to data. RED 1/28/2016





122858,679983,

A Results

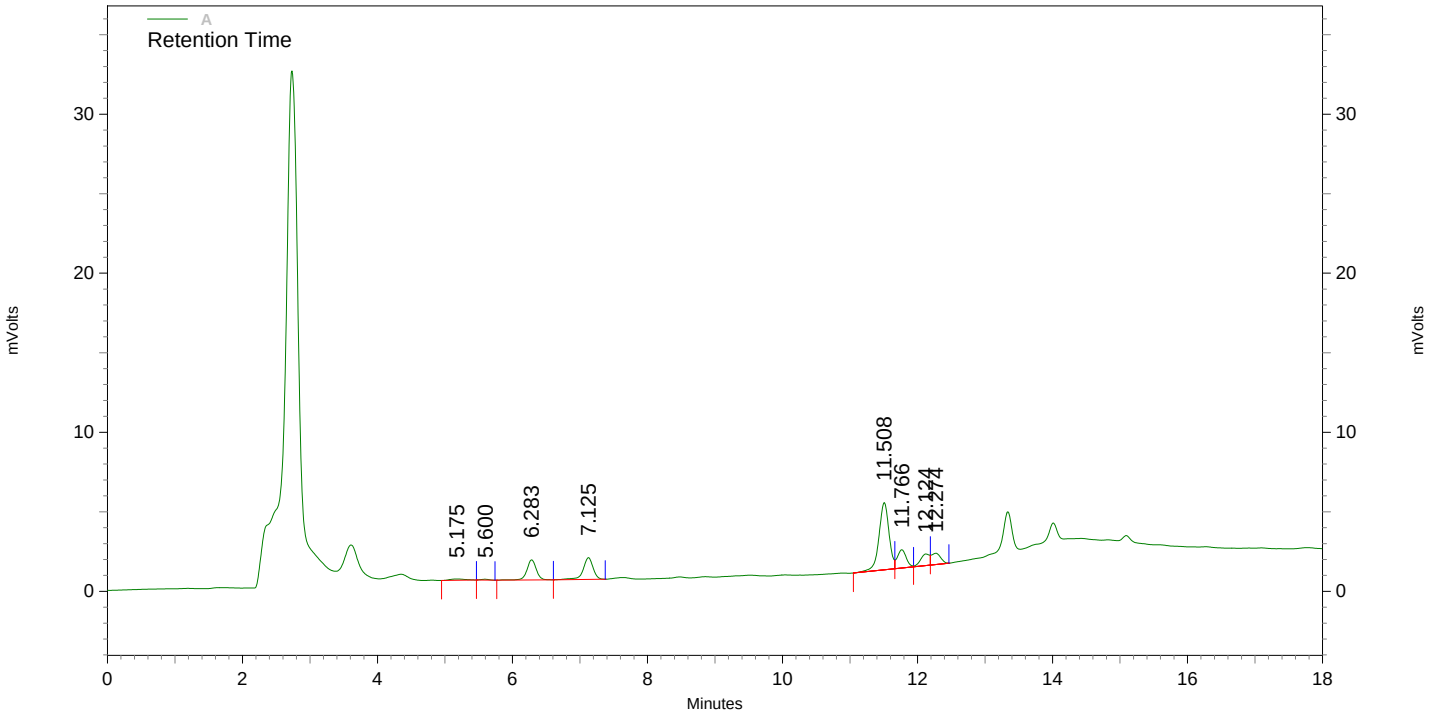
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm	5.175	5683	**0.096**
RDX-confirm	5.825	4145	**0.048**
NB-confirm			**0.000 BDL**
12-DNB (SSTD)-confirm	10.141	48306	**92.342**
4-AM-26-DNT-conf.	10.383	2717	**0.013**
3,5-DNA-confirm	10.933	9057	**0.044**
2-NT-confirm			**0.000 BDL**
2-AM-46-DNT-conf.	12.858	8793	**0.044**
3-NT-confirm			**0.000 BDL**
4-NT-confirm			**0.000 BDL**
26-DNT-confirm			**0.000 BDL**
13-DNB-confirm	17.607	4336	**0.015**
TETRYL-confirm			**0.000 BDL**
24-DNT-confirm			**0.000 BDL**
135-TNB-confirm	30.665	20297	**0.118**
246-TNT-confirm	31.181	20694	**0.156**

B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm			**0.000 BDL**
PETN-confirm			**0.000 BDL**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012816MDTNX-confirm\004.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\093015MDTNXic-confirm\012816MDTNX-confirm.met
Sample ID: 122857,679481,
Acquired: Jan 28, 2016 17:55:59
Data Summary: {Data Description}



122857,679481,

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX-confirm	5.175	1234	**0.001**
DNX-confirm	5.600	398	**0.000**
MNX-confirm	6.283	12200	**0.140**
12-DNB (SSTD)-confirm	11.508	43601	**105.180**

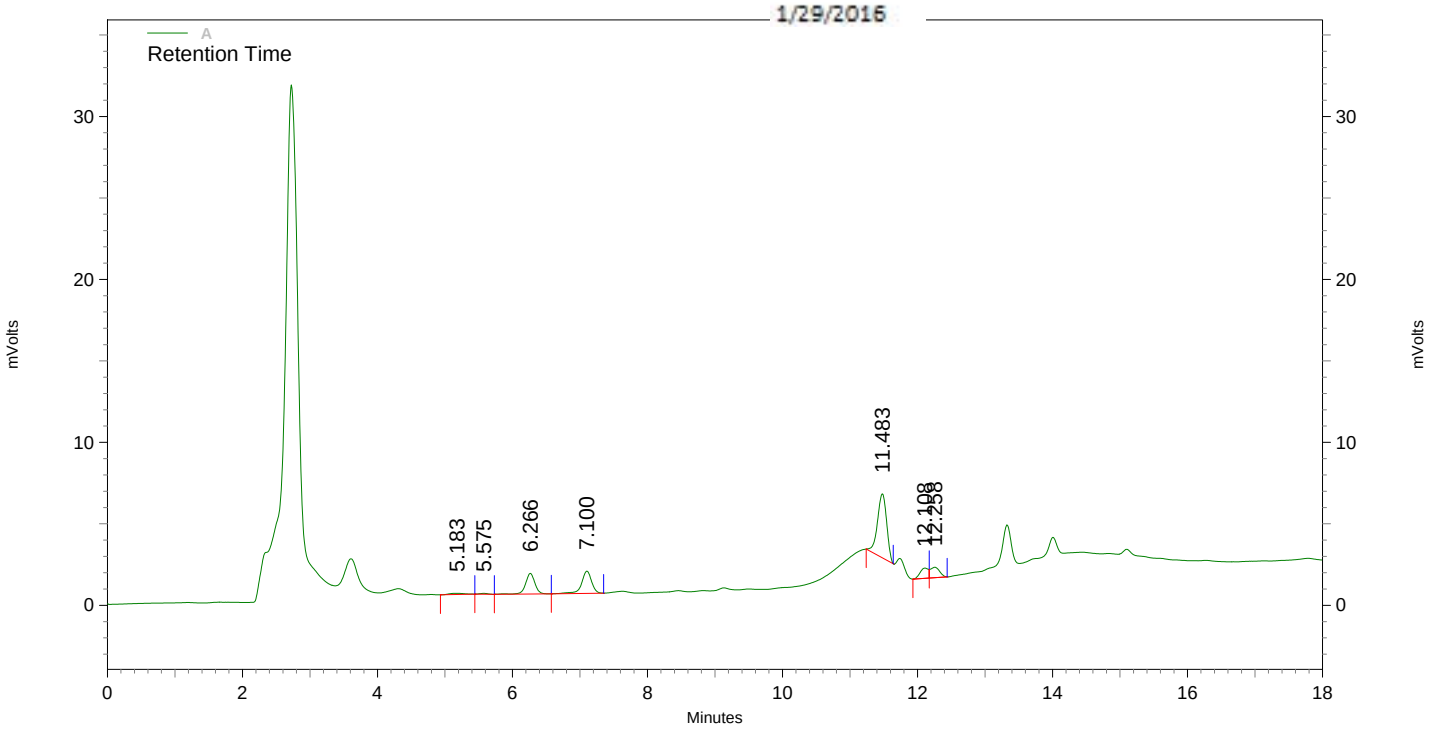
After Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012816MDTNX-confirm\005.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\093015MDTNXic-confirm\012816MDTNX-confirm.met
Sample ID: 122857,679483,
Acquired: Jan 28, 2016 18:16:18
Data Summary: Reason #4 applies to data. RED 1/29/2016

JJY

1/29/2016



122857,679483,

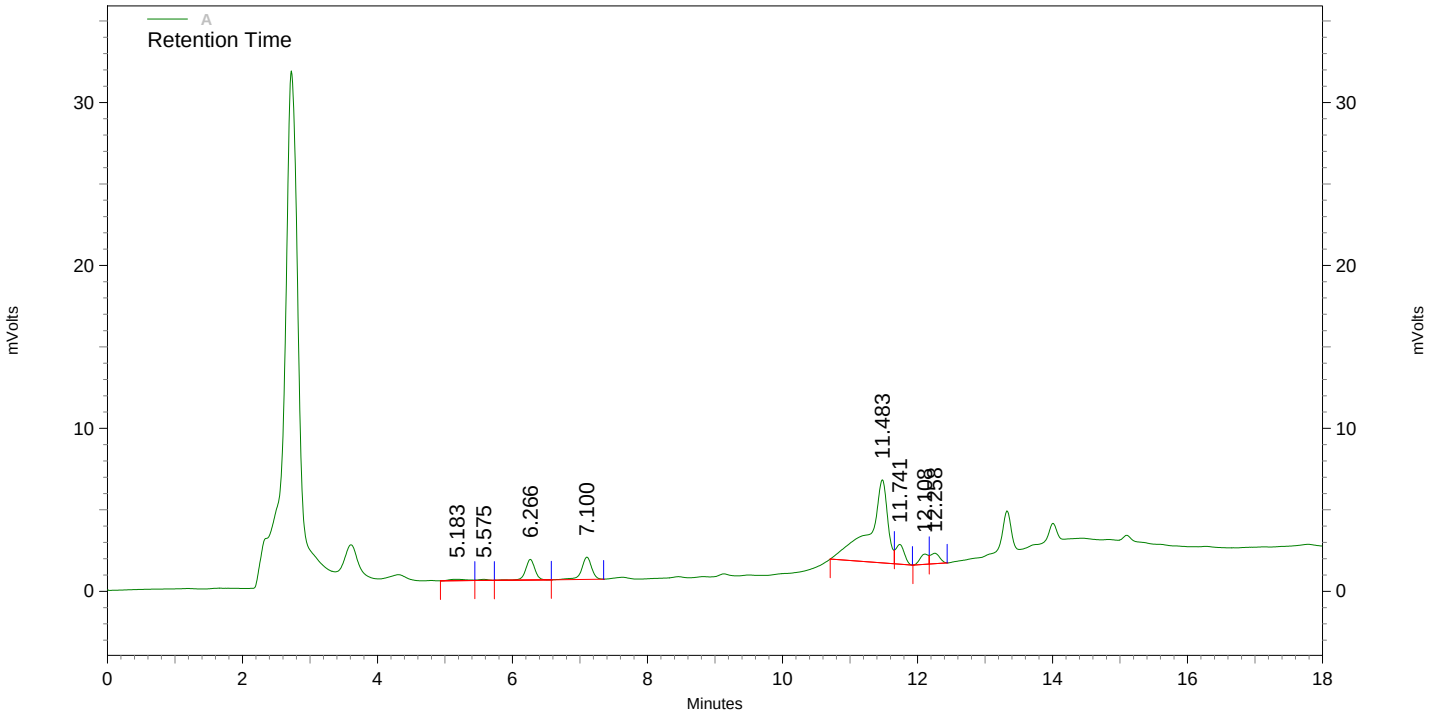
A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX-confirm	5.183	1156	**0.000**
DNX-confirm	5.575	395	**0.000**
MNX-confirm	6.266	12100	**0.138**
12-DNB (SSTD)-confirm	11.483	37165	**89.560**

Before Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012816MDTNX-confirm\005.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\093015MDTNXic-confirm\012816MDTNX-confirm.met
Sample ID: 122857,679483,
Acquired: Jan 28, 2016 18:16:18
Data Summary: Reason #4 applies to data. RED 1/29/2016



122857,679483,

A Results

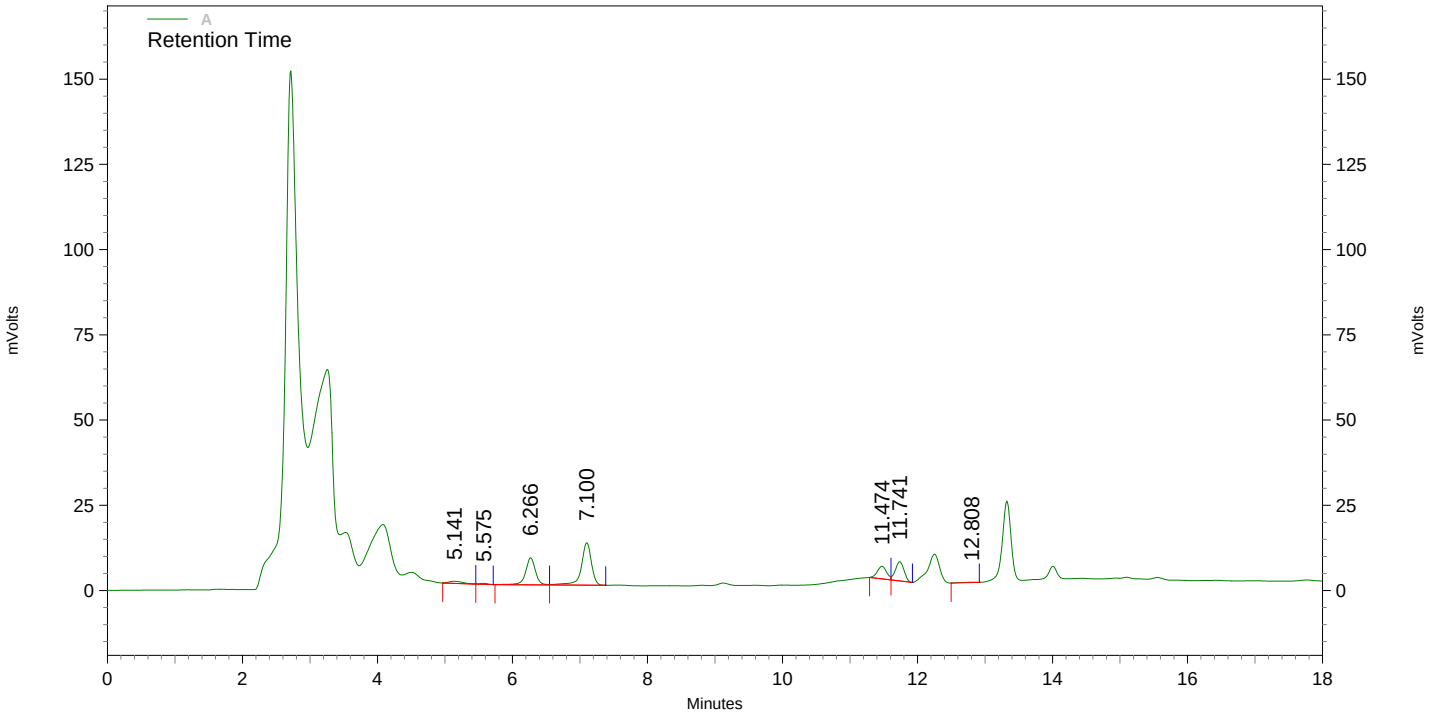
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX-confirm	5.183	1597	**0.004**
DNX-confirm	5.575	703	**0.000**
MNX-confirm	6.266	12259	**0.140**
12-DNB (SSTD)-confirm	11.483	97512	**236.019**

After Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012816MDTNX-confirm\006.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\093015MDTNXic-confirm\012816MDTNX-confirm.met
Sample ID: 122857,679979,
Acquired: Jan 28, 2016 18:36:36
Data Summary: Reason #4 applies to data. RED 1/29/2016

JJY
1/29/2016



122857,679979,

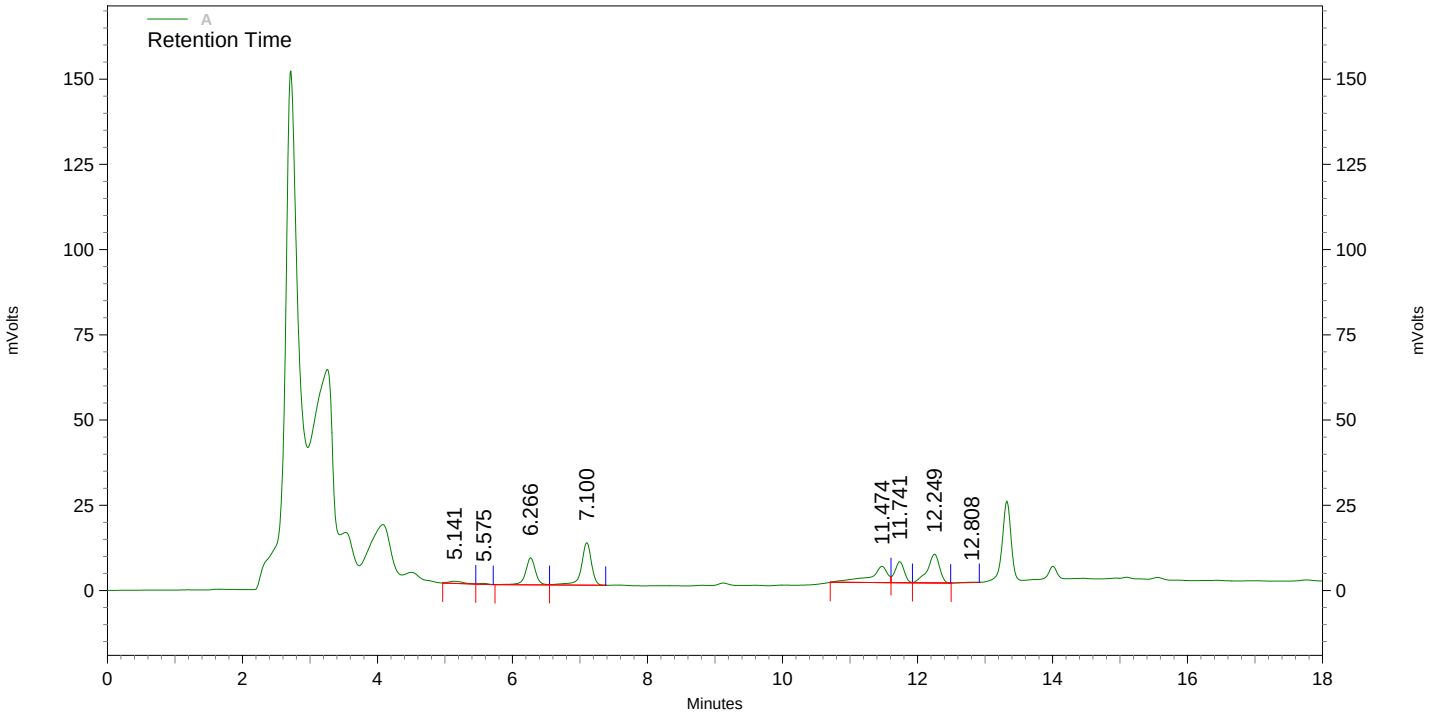
A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX-confirm	5.141	8232	**0.061**
DNX-confirm	5.575	1977	**0.012**
MNX-confirm	6.266	79859	**0.965**
12-DNB (SSTD)-confirm	11.474	35359	**85.177**

Before Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012816MDTNX-confirm\006.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\093015MDTNXic-confirm\012816MDTNX-confirm.met
Sample ID: 122857,679979,
Acquired: Jan 28, 2016 18:36:36
Data Summary: Reason #4 applies to data. RED 1/29/2016



122857,679979,

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX-confirm	5.141	8232	**0.061**
DNX-confirm	5.575	1977	**0.012**
MNX-confirm	6.266	79859	**0.965**
12-DNB (SSTD)-confirm	11.474	87011	**210.534**

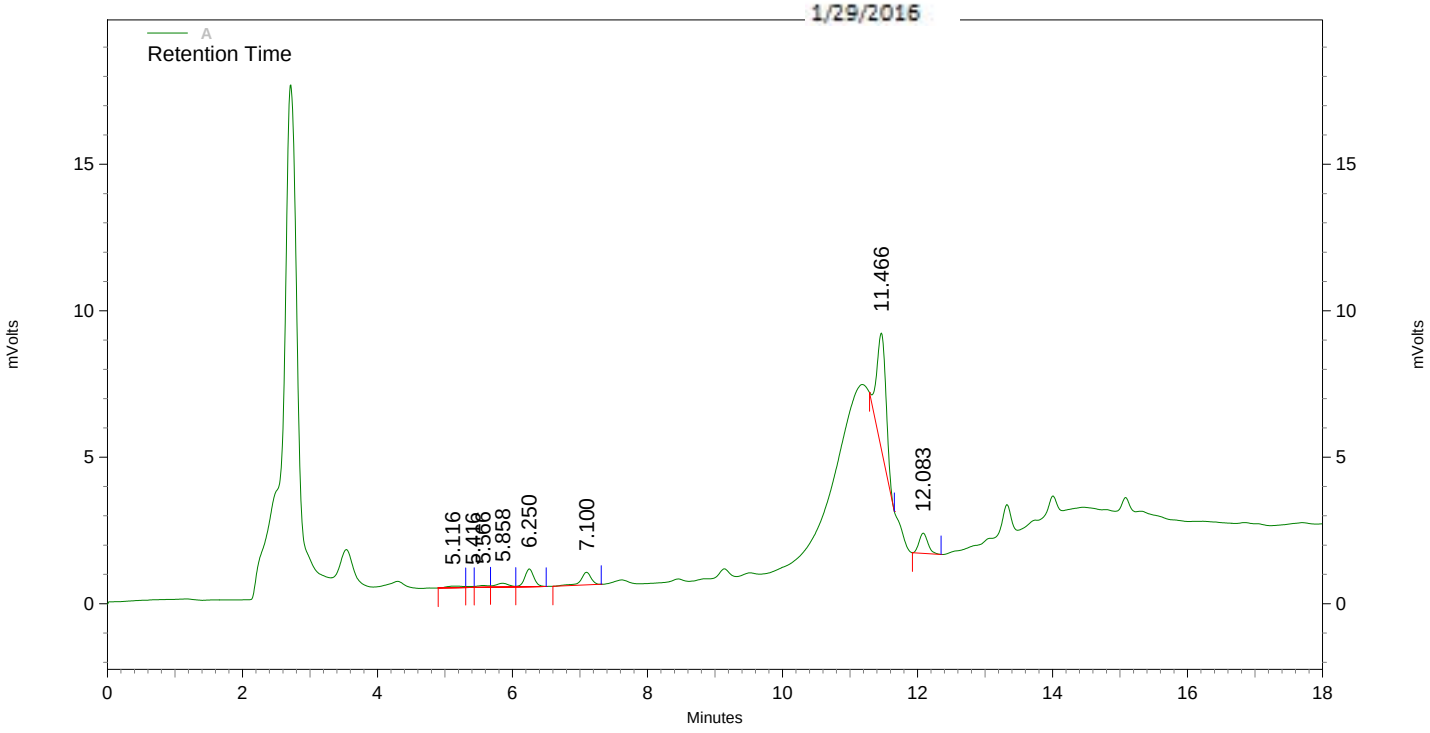
After Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012816MDTNX-confirm\008.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\093015MDTNXic-confirm\012816MDTNX-confirm.met
Sample ID: 122857,679983,
Acquired: Jan 28, 2016 19:17:11
Data Summary: Reason #3, #4 applies to data. RED 1/29/2016

JJY

1/29/2016



122857,679983,

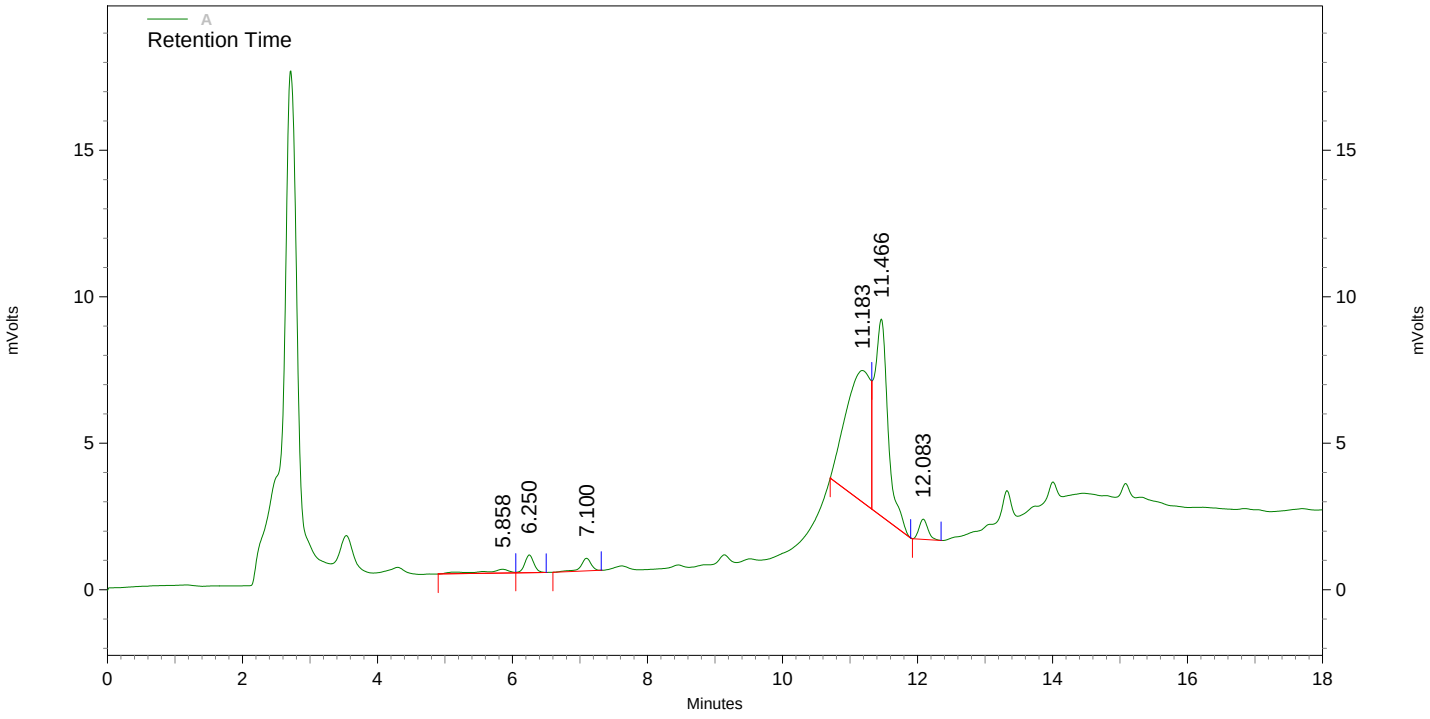
A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX-confirm	5.116	941	**0.000**
DNX-confirm	5.416	282	**0.000**
MNX-confirm	6.250	5646	**0.060**
12-DNB (SSTD)-confirm	11.466	37188	**89.616**

Before Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012816MDTNX-confirm\008.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\093015MDTNXic-confirm\012816MDTNX-confirm.met
Sample ID: 122857,679983,
Acquired: Jan 28, 2016 19:17:11
Data Summary: Reason #3, #4 applies to data. RED 1/29/2016



122857,679983,

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX-confirm			**0.000 BDL**
DNX-confirm	5.858	3698	**0.030**
MNX-confirm	6.250	5646	**0.060**
12-DNB (SSTD)-confirm	11.466	93860	**227.156**

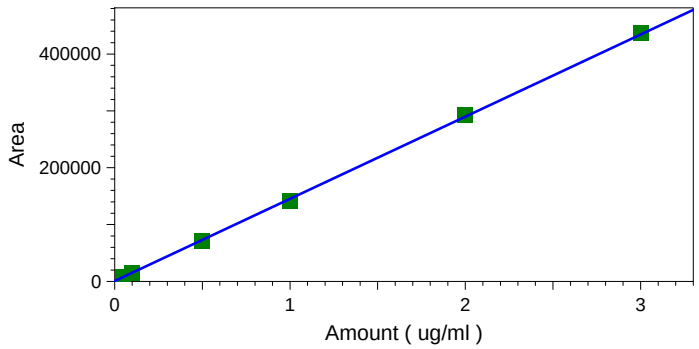
NITROAROMATICS ANALYSIS
INITIAL CALIBRATION
DOCUMENTS

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\092915MDTNXic-primary\093015MTDNX-primary.met
Print Time: Oct 01, 2015 13:43:59
User: red
Instrument: HPLC 2 (Offline)

TNX (A)
Average RF: 160245. RF StDev: 36331.9 RF %RSD: 22.6727
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 144479.x + 762.260
Goodness of fit (r^2): 0.999777

Peak: TNX -- ESTD -- A



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.01	0.05	0.1	0.5	1
Area	2420	7738	14932	70936	141588
RF	242000	154760	149320	141872	141588
Last Area Residual	-0.00147388	0.00171811	0.00192555	0.0142994	0.0252886
Rep StDev					
Rep %RSD					
Rep 1 Area	2420	7738	14932	70936	141588
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\092915MDTNXic-PRIMARY\002.dat	C:\Instarch\HPLC 2\Data\092915MDTNXic-PRIMARY\003.dat	C:\Instarch\HPLC 2\Data\092915MDTNXic-PRIMARY\004.dat	C:\Instarch\HPLC 2\Data\092915MDTNXic-PRIMARY\005.dat	C:\Instarch\HPLC 2\Data\092915MDTNXic-PRIMARY\006.dat
Rep 1 Sample ID	DNX MIX Pt. 1 EXP 5616	DNX MIX Pt. 2 EXP 5617	DNX MIX Pt. 3 EXP 5615	DNX MIX Pt. 4 EXP 5618	DNX MIX Pt. 5 EXP 5619
Rep 1 Calib. Time	Sep 29, 2015 16:26:34	Sep 29, 2015 16:26:52	Sep 29, 2015 16:27:04	Sep 29, 2015 16:27:17	Sep 29, 2015 16:51:13

Calibration Report

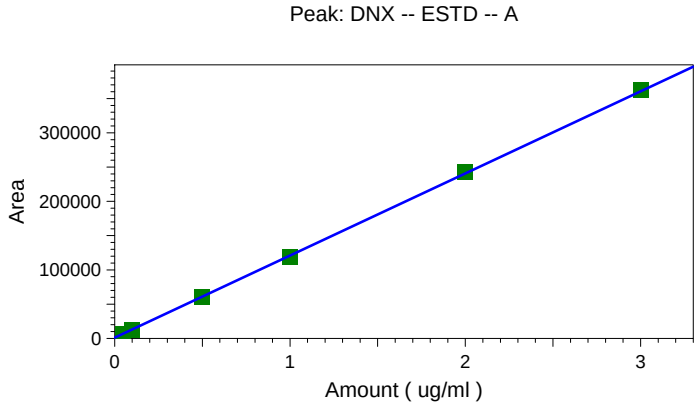
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\092915MDTNXic-primary\093015MTDNX-primary.met
Print Time: Oct 01, 2015 13:43:59
User: red
Instrument: HPLC 2 (Offline)

	Level 6	Level 7
Amount	2	3
Area	292643	437553
RF	146321.5	145851
Last Area Residual	-0.0202235	-0.0232037
Rep StDev		
Rep %RSD		
Rep 1 Area	292643	437553
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\092915MDTNXic-PRIMARY\007.dat	C:\Instarch\HPLC 2\Data\092915MDTNXic-PRIMARY\008.dat
Rep 1 Sample ID	DNX MIX Pt. 6 EXP 5620	DNX MIX Pt. 7 EXP 5621
Rep 1 Calib. Time	Sep 29, 2015 16:52:01	Sep 29, 2015 17:13:03

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\092915MDTNXic-primary\093015MTDNX-primary.met
Print Time: Oct 01, 2015 13:44:05
User: red
Instrument: HPLC 2 (Offline)

DNX (A)
Average RF: 142956. RF StDev: 48064.2 RF %RSD: 33.6218
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 119788.x + 1155.97
Goodness of fit (r^2): 0.999844



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.01	0.05	0.1	0.5	1
Area	2505	7022	12979	59694	118308
RF	250500	140440	129790	119388	118308
Last Area					
Residual	-0.00126178	0.00102996	0.00130046	0.01132	0.0220058
Rep StDev					
Rep %RSD					
Rep 1 Area	2505	7022	12979	59694	118308
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\092915MDTNXic-PRIMARY\002.dat	C:\Instarch\HPLC 2\Data\092915MDTNXic-PRIMARY\003.dat	C:\Instarch\HPLC 2\Data\092915MDTNXic-PRIMARY\004.dat	C:\Instarch\HPLC 2\Data\092915MDTNXic-PRIMARY\005.dat	C:\Instarch\HPLC 2\Data\092915MDTNXic-PRIMARY\006.dat
Rep 1 Sample ID	DNX MIX Pt. 1 EXP 5616	DNX MIX Pt. 2 EXP 5617	DNX MIX Pt. 3 EXP 5615	DNX MIX Pt. 4 EXP 5618	DNX MIX Pt. 5 EXP 5619
Rep 1 Calib. Time	Sep 29, 2015 16:26:34	Sep 29, 2015 16:26:52	Sep 29, 2015 16:27:04	Sep 29, 2015 16:27:17	Sep 29, 2015 16:51:13

Calibration Report

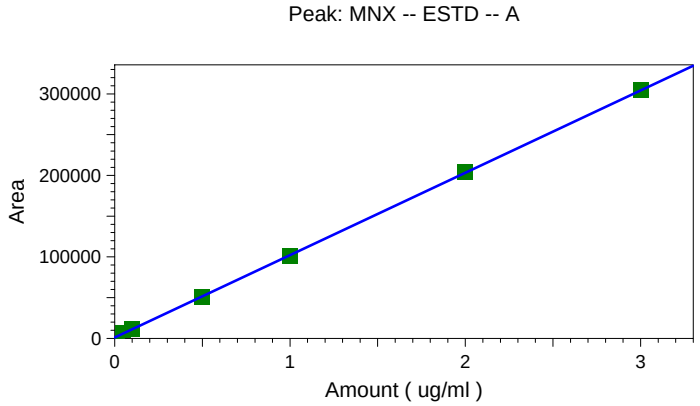
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\092915MDTNXic-primary\093015MTDNX-primary.met
Print Time: Oct 01, 2015 13:44:05
User: red
Instrument: HPLC 2 (Offline)

	Level 6	Level 7
Amount	2	3
Area	242571	362934
RF	121285.5	120978
Last Area		
Residual	-0.0153513	-0.0201509
Rep StDev		
Rep %RSD		
Rep 1 Area	242571	362934
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\092915MDTNXic-PRIMARY\007.dat	C:\Instarch\HPLC 2\Data\092915MDTNXic-PRIMARY\008.dat
Rep 1 Sample ID	DNX MIX Pt. 6 EXP 5620	DNX MIX Pt. 7 EXP 5621
Rep 1 Calib. Time	Sep 29, 2015 16:52:01	Sep 29, 2015 17:13:03

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\092915MDTNXic-primary\093015MTDNX-primary.met
Print Time: Oct 01, 2015 13:44:09
User: red
Instrument: HPLC 2 (Offline)

MNX (A)
Average RF: 122602. RF StDev: 42781.5 RF %RSD: 34.8946
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 101077.x + 1099.95
Goodness of fit (r^2): 0.999948



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.01	0.05	0.1	0.5	1
Area	2181	6062	11209	51005	100851
RF	218100	121240	112090	102010	100851
Last Area Residual	-0.000695332	0.000908084	-1.36428e-005	0.00626554	0.0131153
Rep StDev					
Rep %RSD					
Rep 1 Area	2181	6062	11209	51005	100851
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\092915MDTNXic-PRIMARY\002.dat	C:\Instarch\HPLC 2\Data\092915MDTNXic-PRIMARY\003.dat	C:\Instarch\HPLC 2\Data\092915MDTNXic-PRIMARY\004.dat	C:\Instarch\HPLC 2\Data\092915MDTNXic-PRIMARY\005.dat	C:\Instarch\HPLC 2\Data\092915MDTNXic-PRIMARY\006.dat
Rep 1 Sample ID	DNX MIX Pt. 1 EXP 5616	DNX MIX Pt. 2 EXP 5617	DNX MIX Pt. 3 EXP 5615	DNX MIX Pt. 4 EXP 5618	DNX MIX Pt. 5 EXP 5619
Rep 1 Calib. Time	Sep 29, 2015 16:26:34	Sep 29, 2015 16:26:52	Sep 29, 2015 16:27:04	Sep 29, 2015 16:27:17	Sep 29, 2015 16:51:13

Calibration Report

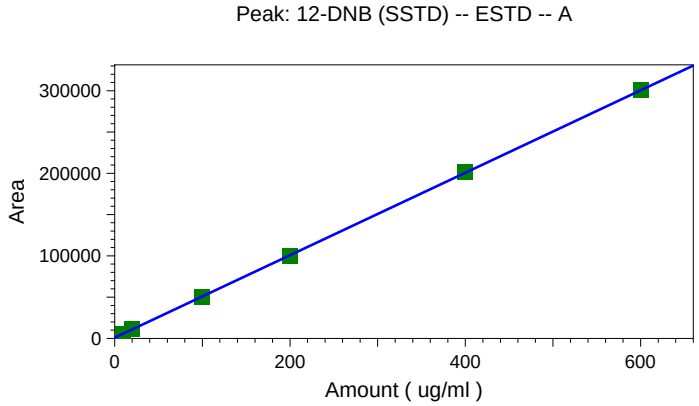
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\092915MDTNXic-primary\093015MTDNX-primary.met
Print Time: Oct 01, 2015 13:44:09
User: red
Instrument: HPLC 2 (Offline)

	Level 6	Level 7
Amount	2	3
Area	204334	305266
RF	102167	101755.333333333
Last Area		
Residual	-0.0106914	-0.00925982
Rep StDev		
Rep %RSD		
Rep 1 Area	204334	305266
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\092915MDTNXic-PRIMARY\007.dat	C:\Instarch\HPLC 2\Data\092915MDTNXic-PRIMARY\008.dat
Rep 1 Sample ID	DNX MIX Pt. 6 EXP 5620	DNX MIX Pt. 7 EXP 5621
Rep 1 Calib. Time	Sep 29, 2015 16:52:01	Sep 29, 2015 17:13:03

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\092915MDTNXic-primary\093015MTDNX-primary.met
Print Time: Oct 01, 2015 13:44:17
User: red
Instrument: HPLC 2 (Offline)

12-DNB (SSTD) (A)
Average RF: 580.064 RF StDev: 161.968 RF %RSD: 27.9225
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 499.494x + 822.719
Goodness of fit (r^2): 0.999956



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	2	10	20	100	200
Area	1884	5725	10806	50136	99571
RF	942	572.5	540.3	501.36	497.855
Last Area Residual	-0.124711	0.185508	0.0132145	1.27354	2.3034
Rep StDev					
Rep %RSD					
Rep 1 Area	1884	5725	10806	50136	99571
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\092915MDTNXic-PRIMARY\002.dat	C:\Instarch\HPLC 2\Data\092915MDTNXic-PRIMARY\003.dat	C:\Instarch\HPLC 2\Data\092915MDTNXic-PRIMARY\004.dat	C:\Instarch\HPLC 2\Data\092915MDTNXic-PRIMARY\005.dat	C:\Instarch\HPLC 2\Data\092915MDTNXic-PRIMARY\006.dat
Rep 1 Sample ID	DNX MIX Pt. 1 EXP 5616	DNX MIX Pt. 2 EXP 5617	DNX MIX Pt. 3 EXP 5615	DNX MIX Pt. 4 EXP 5618	DNX MIX Pt. 5 EXP 5619
Rep 1 Calib. Time	Sep 29, 2015 16:26:34	Sep 29, 2015 16:26:52	Sep 29, 2015 16:27:04	Sep 29, 2015 16:27:17	Sep 29, 2015 16:51:13

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\092915MDTNXic-primary\093015MTDNX-primary.met
Print Time: Oct 01, 2015 13:44:17
User: red
Instrument: HPLC 2 (Offline)

	Level 6	Level 7
Amount	400	600
Area	201727	301269
RF	504.3175	502.115
Last Area		
Residual	-2.21555	-1.5012
Rep StDev		
Rep %RSD		
Rep 1 Area	201727	301269
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\092915MDTNXic-PRIMARY\007.dat	C:\Instarch\HPLC 2\Data\092915MDTNXic-PRIMARY\008.dat
Rep 1 Sample ID	DNX MIX Pt. 6 EXP 5620	DNX MIX Pt. 7 EXP 5621
Rep 1 Calib. Time	Sep 29, 2015 16:52:01	Sep 29, 2015 17:13:03

QC Check Standard Report

Sequence : C:\Instarch\HPLC 2\Sequences\MDTNX\092915MDTNXic-primary.seq
User : red
Printed : Oct 01, 2015 13:40:31

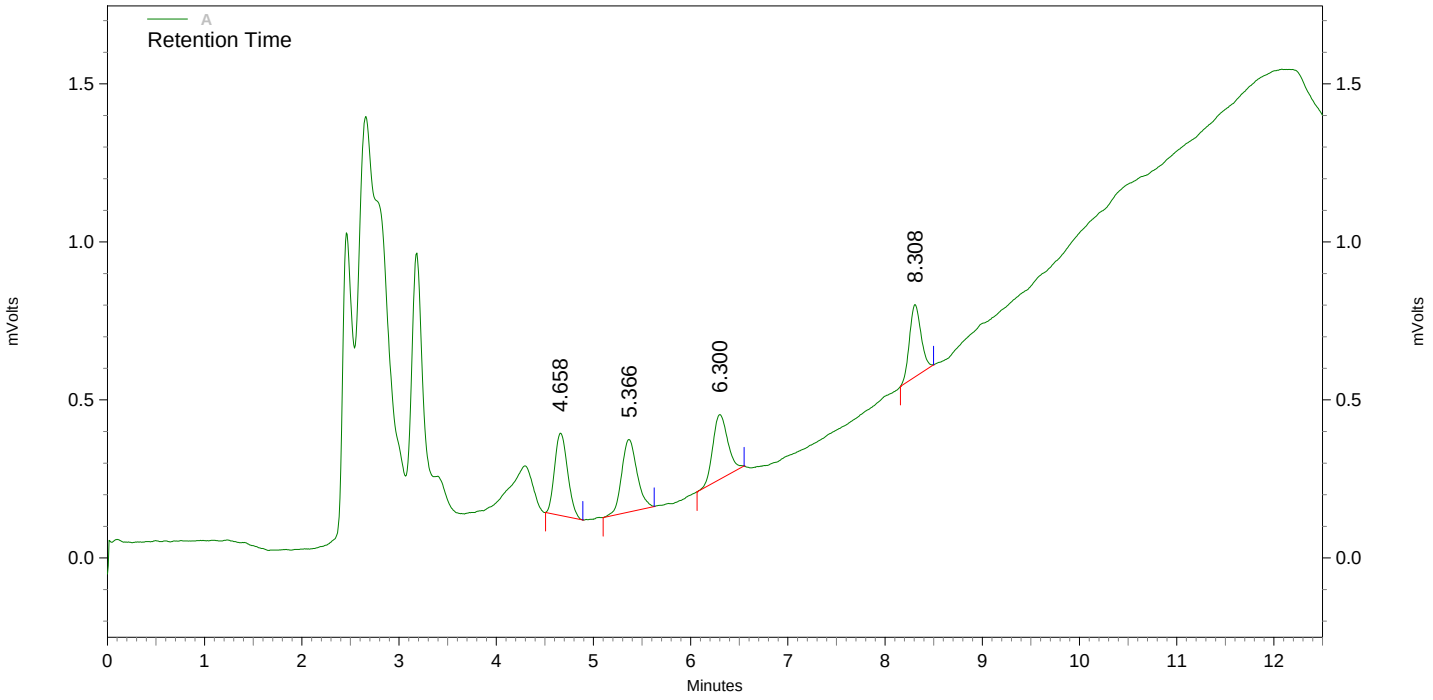
File	Sample ID	Acquired
C:\Instarch\HPLC 2\Data\092915MDTNXic-PRIMARY\002.dat	DNX MIX Pt. 1 EXP 5616	Oct 01, 2015 13:40:31

A

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
TNX	0.010	0.011	14.739	20.000	**Passed**
DNX	0.010	0.011	12.618	20.000	**Passed**
MNX	0.010	0.011	6.953	20.000	**Passed**
12-DNB (SSTD)	2.000	2.125	6.236	20.000	**Passed**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\092915MDTNXic-PRIMARY\002.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\092915MDTNXic-primary\092915MTDNXic-primary.met
Sample ID: DNX MIX Pt. 1 EXP 5616
Acquired: Sep 29, 2015 15:20:50
Data Summary: {Data Description}



A Results

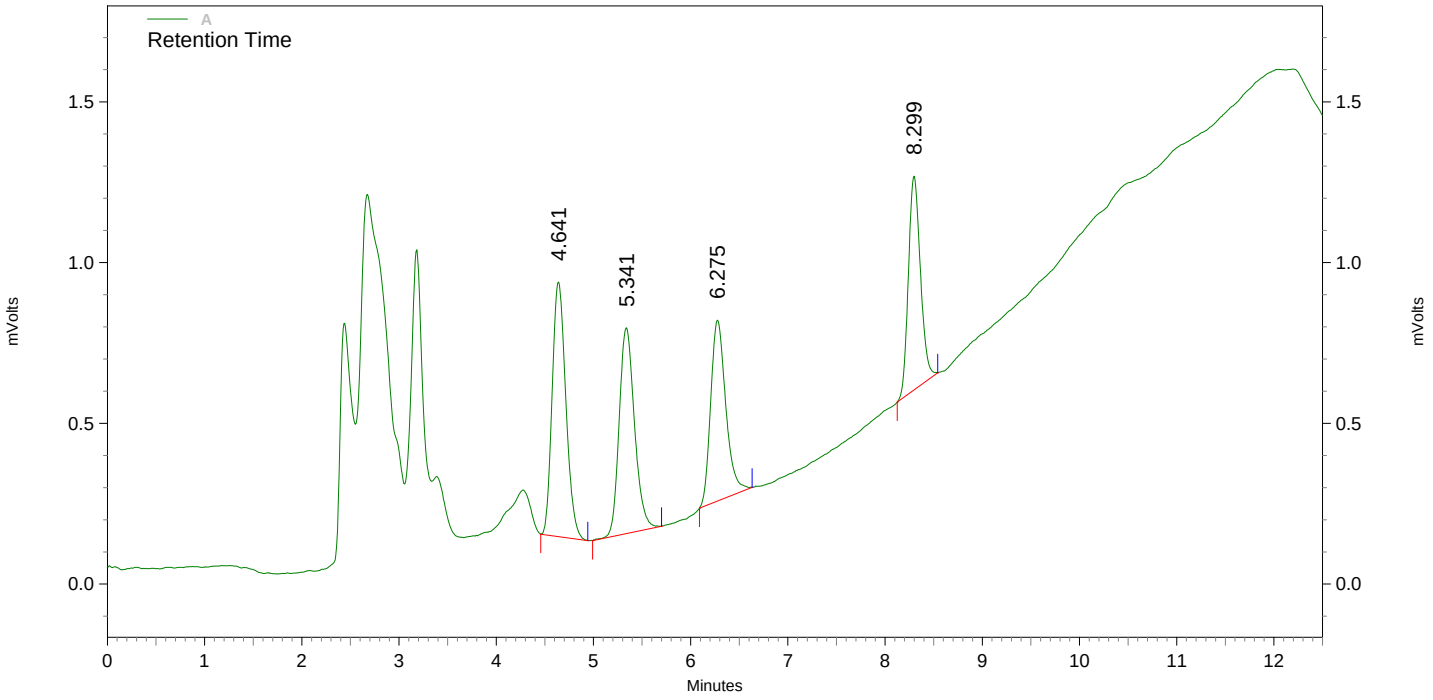
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX	4.658	2420	**0.011**
DNX	5.366	2505	**0.011**
MNX	6.300	2181	**0.011**
12-DNB (SSTD)	8.308	1884	**2.125**

COMMENTS:

1. The results are reported using a UV/Vis detector set at 254 nm.

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\092915MDTNXic-PRIMARY\003.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\092915MDTNXic-primary\092915MTDNXic-primary.met
Sample ID: DNX MIX Pt. 2 EXP 5617
Acquired: Sep 29, 2015 15:36:32
Data Summary: {Data Description}



A Results

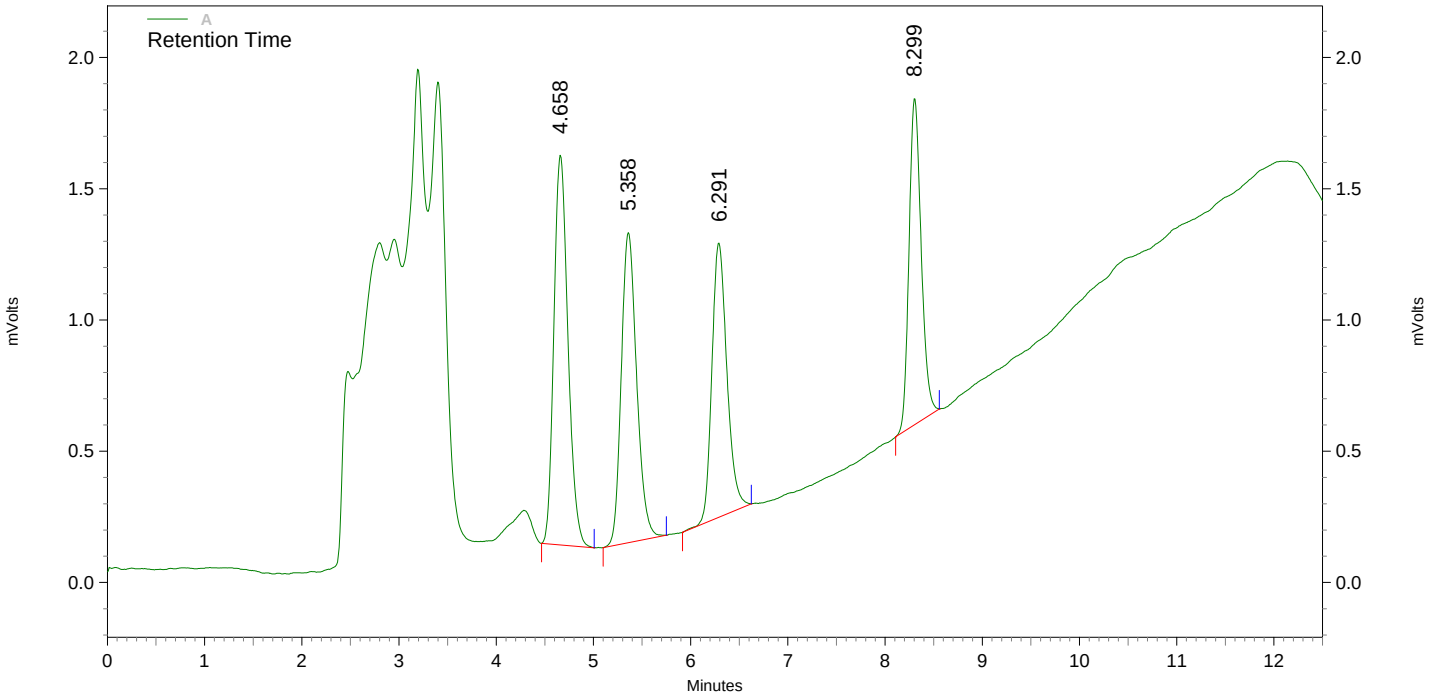
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX	4.641	7738	**0.050 CAL**
DNX	5.341	7022	**0.050 CAL**
MNX	6.275	6062	**0.050 CAL**
12-DNB (SSTD)	8.299	5725	**10.000 CAL**

COMMENTS:

1. The results are reported using a UV/Vis detector set at 254 nm.

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\092915MDTNXic-PRIMARY\004.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\092915MDTNXic-primary\092915MTDNXic-primary.met
Sample ID: DNX MIX Pt. 3 EXP 5615
Acquired: Sep 29, 2015 15:52:14
Data Summary: {Data Description}



A Results

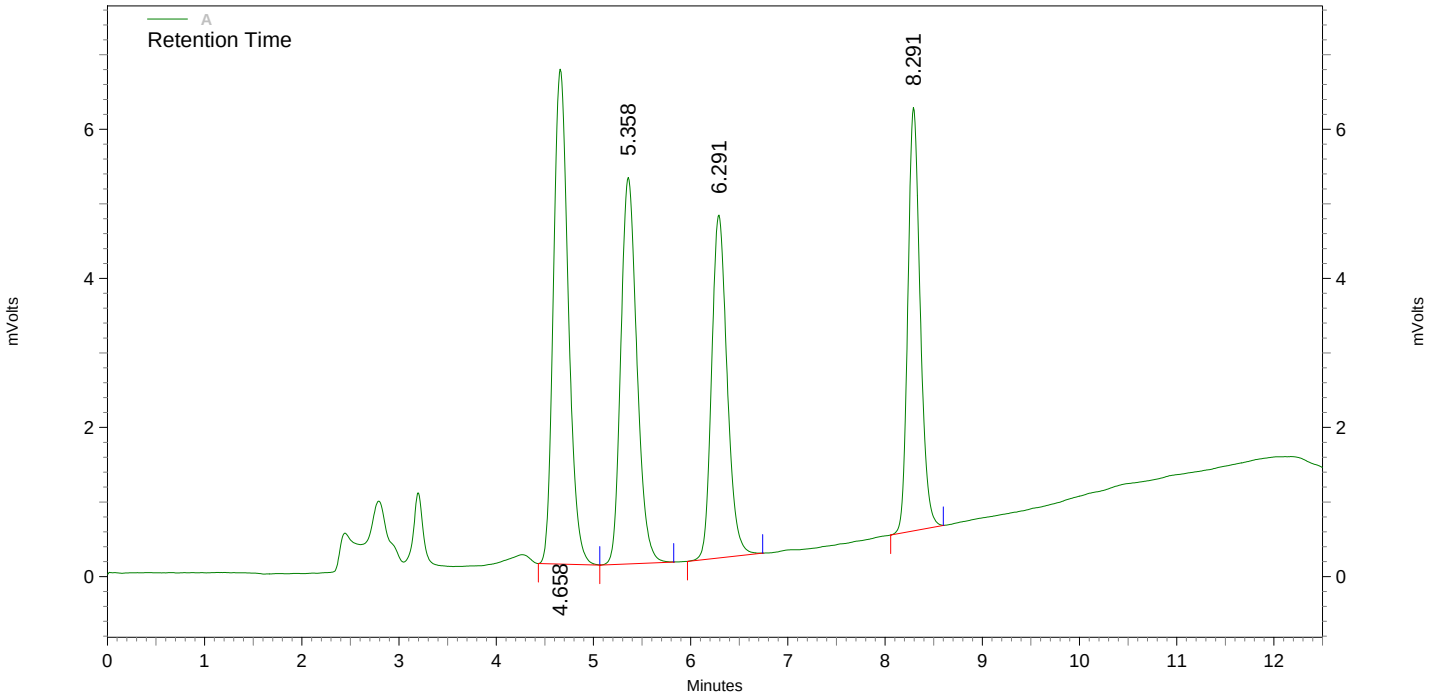
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX	4.658	14932	**0.100 CAL**
DNX	5.358	12979	**0.100 CAL**
MNX	6.291	11209	**0.100 CAL**
12-DNB (SSTD)	8.299	10806	**20.000 CAL**

COMMENTS:

1. The results are reported using a UV/Vis detector set at 254 nm.

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\092915MDTNXic-PRIMARY\005.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\092915MDTNXic-primary\092915MTDNXic-primary.met
Sample ID: DNX MIX Pt. 4 EXP 5618
Acquired: Sep 29, 2015 16:07:56
Data Summary: {Data Description}



A Results

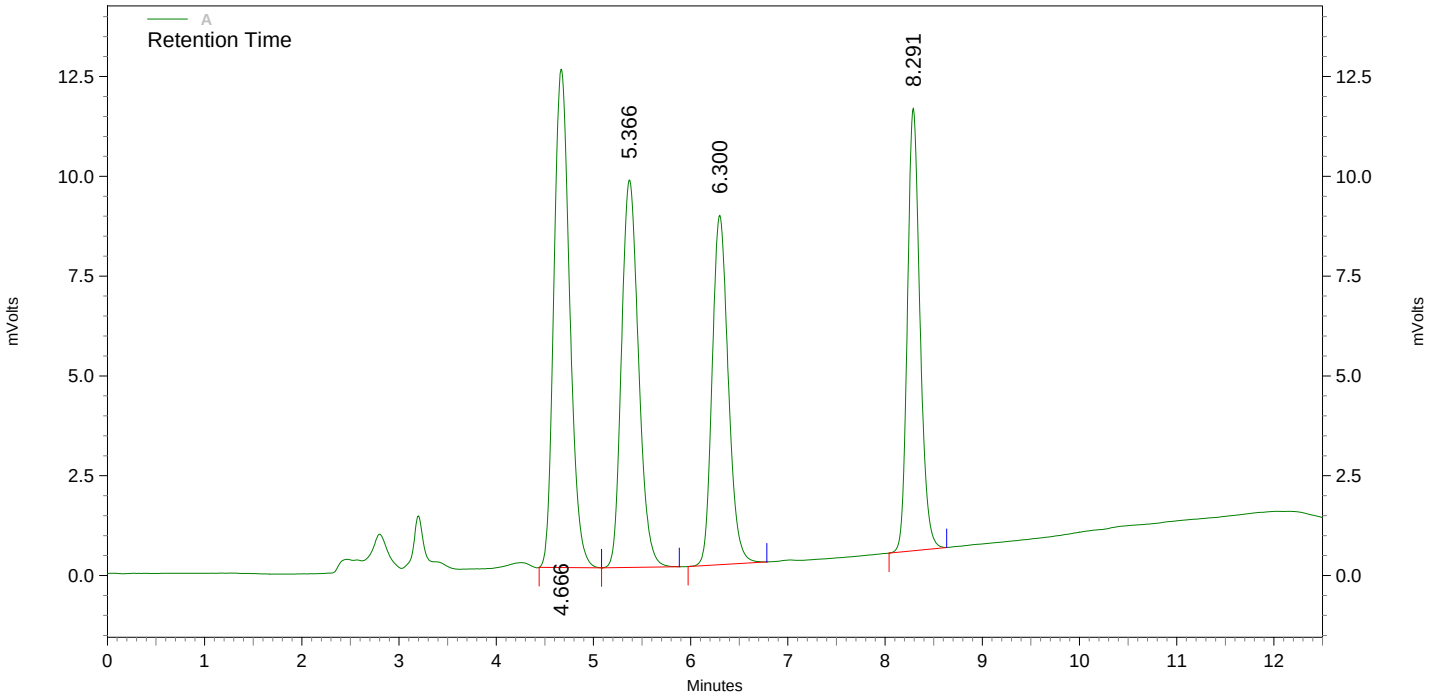
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX	4.658	70936	**0.500 CAL**
DNX	5.358	59694	**0.500 CAL**
MNX	6.291	51005	**0.500 CAL**
12-DNB (SSTD)	8.291	50136	**100.000 CAL**

COMMENTS:

1. The results are reported using a UV/Vis detector set at 254 nm.

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\092915MDTNXic-PRIMARY\006.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\092915MDTNXic-primary\092915MTDNXic-primary.met
Sample ID: DNX MIX Pt. 5 EXP 5619
Acquired: Sep 29, 2015 16:23:39
Data Summary: {Data Description}



A Results

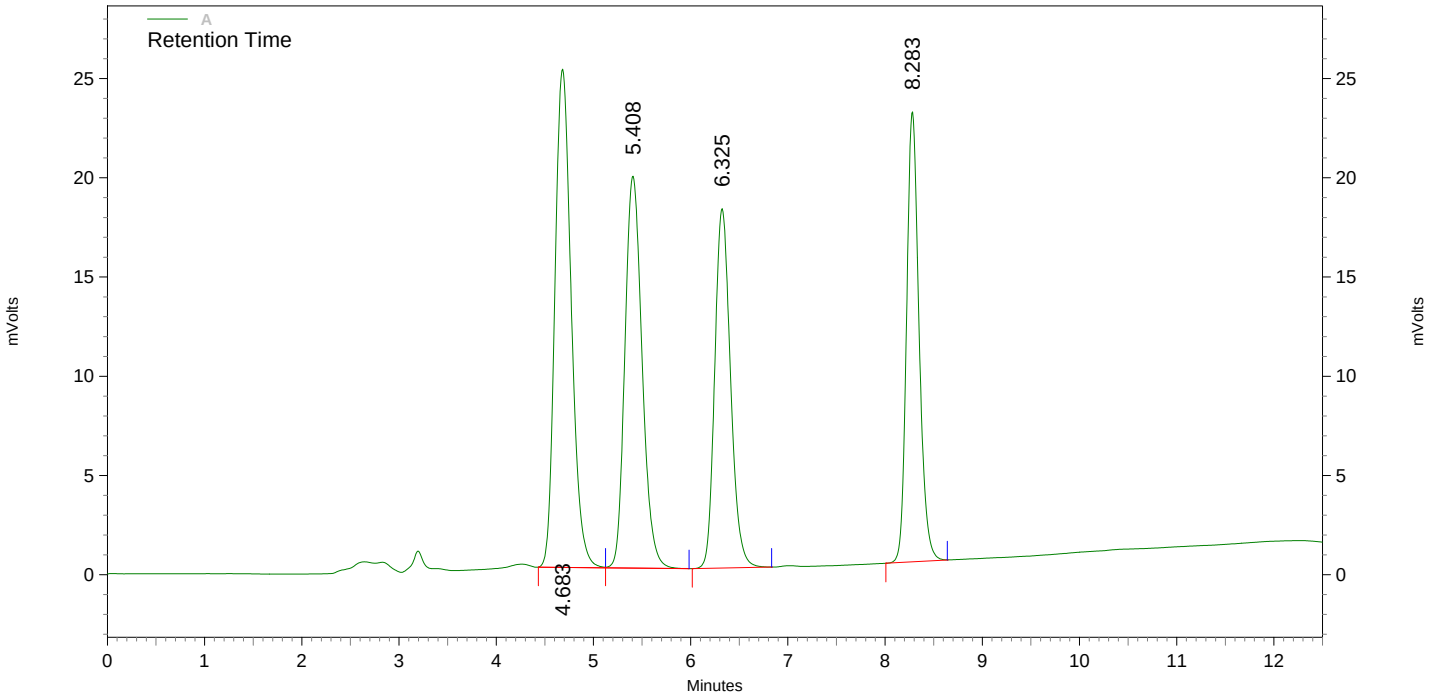
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX	4.666	141588	**1.000 CAL**
DNX	5.366	118308	**1.000 CAL**
MNX	6.300	100851	**1.000 CAL**
12-DNB (SSTD)	8.291	99571	**200.000 CAL**

COMMENTS:

1. The results are reported using a UV/Vis detector set at 254 nm.

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\092915MDTNXic-PRIMARY\007.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\092915MDTNXic-primary\092915MTDNXic-primary.met
Sample ID: DNX MIX Pt. 6 EXP 5620
Acquired: Sep 29, 2015 16:39:19
Data Summary: {Data Description}



A Results

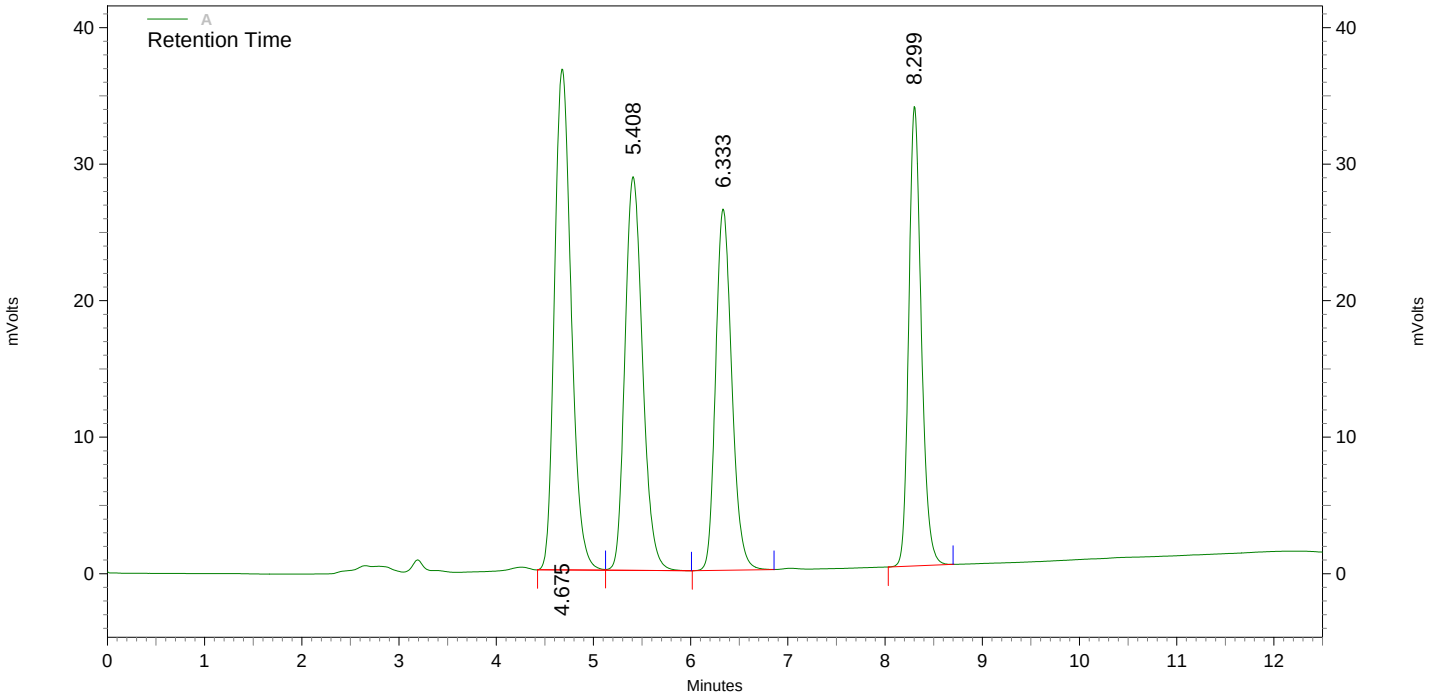
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX	4.683	292643	**2.000 CAL**
DNX	5.408	242571	**2.000 CAL**
MNX	6.325	204334	**2.000 CAL**
12-DNB (SSTD)	8.283	201727	**400.000 CAL**

COMMENTS:

1. The results are reported using a UV/Vis detector set at 254 nm.

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\092915MDTNXic-PRIMARY\008.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\092915MDTNXic-primary\092915MTDNXic-primary.met
Sample ID: DNX MIX Pt. 7 EXP 5621
Acquired: Sep 29, 2015 16:55:02
Data Summary: {Data Description}



A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX	4.675	437553	**3.000 CAL**
DNX	5.408	362934	**3.000 CAL**
MNX	6.333	305266	**3.000 CAL**
12-DNB (SSTD)	8.299	301269	**600.000 CAL**

COMMENTS:

1. The results are reported using a UV/Vis detector set at 254 nm.

QC Check Standard Report

Sequence : C:\Instarch\HPLC 2\Sequences\MDTNX\092915MDTNXic-primary.seq
User : red
Printed : Oct 01, 2015 13:41:07

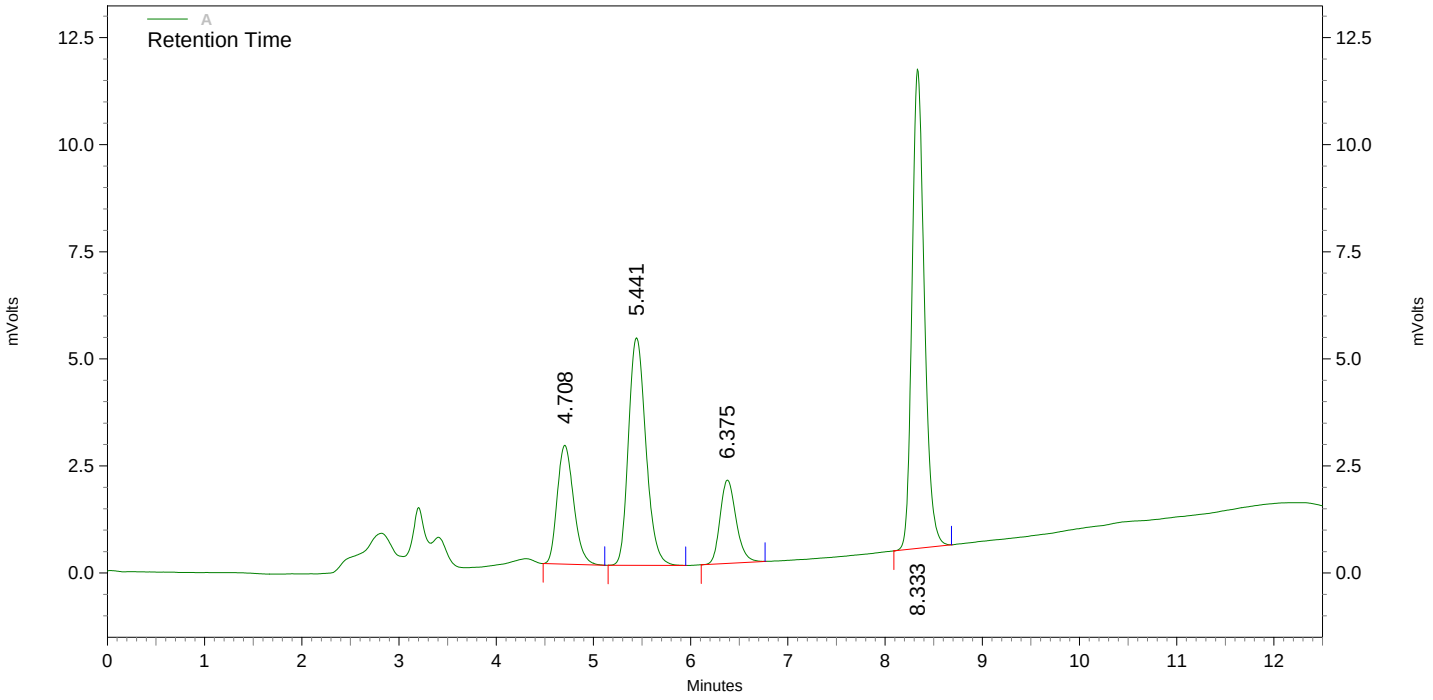
File	Sample ID	Acquired
C:\Instarch\HPLC 2\Data\092915MDTNXic-PRIMARY\009.dat	DNX MIX ICV EXP 5622	Oct 01, 2015 13:41:06

A

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
TNX	0.250	0.220	12.046	20.000	**Passed**
DNX	0.550	0.542	1.476	20.000	**Passed**
MNX	0.200	0.210	4.866	20.000	**Passed**
12-DNB (SSTD)	200.000	196.247	1.876	20.000	**Passed**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\092915MDTNXic-PRIMARY\009.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\092915MDTNXic-primary\092915MTDNXic-primary.met
Sample ID: DNX MIX ICV EXP 5622
Acquired: Sep 29, 2015 17:10:47
Data Summary: {Data Description}



A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX	4.708	32531	**0.220**
DNX	5.441	66067	**0.542**
MNX	6.375	22299	**0.210**
12-DNB (SSTD)	8.333	98847	**196.247**

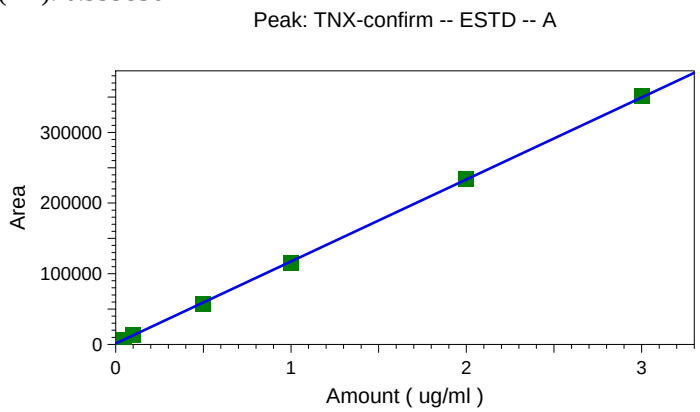
COMMENTS:

1. The results are reported using a UV/Vis detector set at 254 nm.

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\093015MDTNXic-confirm\093015MDTNXic-confirm.met
Print Time: Oct 01, 2015 13:38:55
User: red
Instrument: HPLC 2 (Offline)

TNX-confirm (A)
Average RF: 139023. RF StDev: 47737.5 RF %RSD: 34.3378
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 116073.x + 1142.22
Goodness of fit (r^2): 0.999856



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.01	0.05	0.1	0.5	1
Area	2459	6779	12699	57409	115235
RF	245900	135580	126990	114818	115235
Last Area Residual	-0.00134443	0.00143755	0.000435078	0.0152458	0.0170585
Rep StDev					
Rep %RSD					
Rep 1 Area	2459	6779	12699	57409	115235
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\093015MDTNXic-confirm\002.dat	C:\Instarch\HPLC 2\Data\093015MDTNXic-confirm\003.dat	C:\Instarch\HPLC 2\Data\093015MDTNXic-confirm\004.dat	C:\Instarch\HPLC 2\Data\093015MDTNXic-confirm\005.dat	C:\Instarch\HPLC 2\Data\093015MDTNXic-confirm\006.dat
Rep 1 Sample ID	DNX MIX Pt. 1 EXP 5616	DNX MIX Pt. 2 EXP 5617	DNX MIX Pt. 3 EXP 5615	DNX MIX Pt. 4 EXP 5618	DNX MIX Pt. 5 EXP 5619
Rep 1 Calib. Time	Sep 30, 2015 16:15:19	Sep 30, 2015 16:15:33	Sep 30, 2015 16:44:07	Sep 30, 2015 17:00:08	Sep 30, 2015 17:20:05

Calibration Report

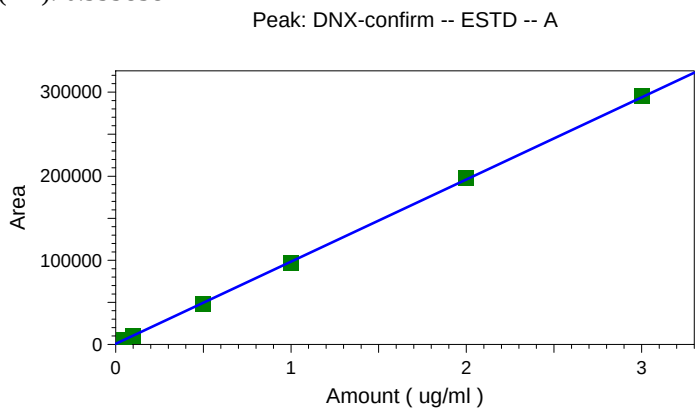
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\093015MDTNXic-confirm\093015MDTNXic-confirm.met
Print Time: Oct 01, 2015 13:38:55
User: red
Instrument: HPLC 2 (Offline)

	Level 6	Level 7
Amount	2	3
Area	234654	351935
RF	117327	117311.666666667
Last Area Residual	-0.0117699	-0.0221788
Rep StDev		
Rep %RSD		
Rep 1 Area	234654	351935
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\093015MDTNXic-confirm\007.dat	C:\Instarch\HPLC 2\Data\093015MDTNXic-confirm\008.dat
Rep 1 Sample ID	DNX MIX Pt. 6 EXP 5620	DNX MIX Pt. 7 EXP 5621
Rep 1 Calib. Time	Oct 01, 2015 12:58:53	Oct 01, 2015 12:59:07

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\093015MDTNXic-confirm\093015MDTNXic-confirm.met
Print Time: Oct 01, 2015 13:38:59
User: red
Instrument: HPLC 2 (Offline)

DNX-confirm (A)
Average RF: 113224. RF StDev: 33698.4 RF %RSD: 29.7625
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 97661.6x + 762.666
Goodness of fit (r^2): 0.999838



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.01	0.05	0.1	0.5	1
Area	1889	5461	10436	48011	96634
RF	188900	109220	104360	96022	96634
Last Area Residual	-0.00153303	0.00189169	0.000950471	0.0162035	0.0183312
Rep StDev					
Rep %RSD					
Rep 1 Area	1889	5461	10436	48011	96634
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\093015MDTNXic-confirm\002.dat	C:\Instarch\HPLC 2\Data\093015MDTNXic-confirm\003.dat	C:\Instarch\HPLC 2\Data\093015MDTNXic-confirm\004.dat	C:\Instarch\HPLC 2\Data\093015MDTNXic-confirm\005.dat	C:\Instarch\HPLC 2\Data\093015MDTNXic-confirm\006.dat
Rep 1 Sample ID	DNX MIX Pt. 1 EXP 5616	DNX MIX Pt. 2 EXP 5617	DNX MIX Pt. 3 EXP 5615	DNX MIX Pt. 4 EXP 5618	DNX MIX Pt. 5 EXP 5619
Rep 1 Calib. Time	Sep 30, 2015 16:15:19	Sep 30, 2015 16:15:33	Sep 30, 2015 16:44:07	Sep 30, 2015 17:00:08	Sep 30, 2015 17:20:05

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\093015MDTNXic-confirm\093015MDTNXic-confirm.met
Print Time: Oct 01, 2015 13:38:59
User: red
Instrument: HPLC 2 (Offline)

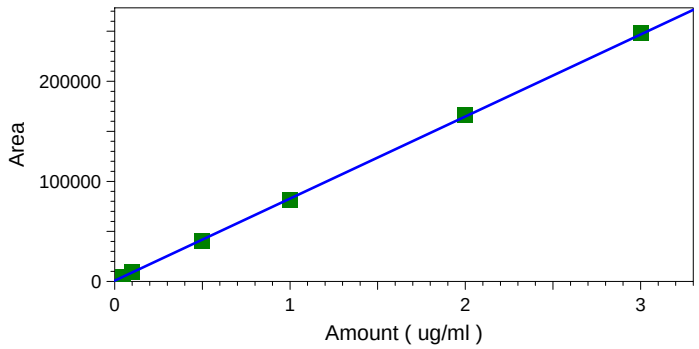
	Level 6	Level 7
Amount	2	3
Area	197680	295785
RF	98840	98595
Last Area Residual	-0.0163233	-0.0208636
Rep StDev		
Rep %RSD		
Rep 1 Area	197680	295785
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\093015MDTNXic-confirm\007.dat	C:\Instarch\HPLC 2\Data\093015MDTNXic-confirm\008.dat
Rep 1 Sample ID	DNX MIX Pt. 6 EXP 5620	DNX MIX Pt. 7 EXP 5621
Rep 1 Calib. Time	Oct 01, 2015 12:58:53	Oct 01, 2015 12:59:07

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\093015MDTNXic-confirm\093015MDTNXic-confirm.met
Print Time: Oct 01, 2015 13:39:04
User: red
Instrument: HPLC 2 (Offline)

MNX-confirm (A)
Average RF: 96928.2 RF StDev: 30926.2 RF %RSD: 31.9063
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 82013.9x + 745.605
Goodness of fit (r^2): 0.999848

Peak: MNX-confirm -- ESTD -- A



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.01	0.05	0.1	0.5	1
Area	1661	4740	8965	40429	81309
RF	166100	94800	89650	80858	81309
Last Area Residual	-0.00116145	0.00129614	-0.000219492	0.0161384	0.0176865
Rep StDev					
Rep %RSD					
Rep 1 Area	1661	4740	8965	40429	81309
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\093015MDTNXic-confirm\002.dat	C:\Instarch\HPLC 2\Data\093015MDTNXic-confirm\003.dat	C:\Instarch\HPLC 2\Data\093015MDTNXic-confirm\004.dat	C:\Instarch\HPLC 2\Data\093015MDTNXic-confirm\005.dat	C:\Instarch\HPLC 2\Data\093015MDTNXic-confirm\006.dat
Rep 1 Sample ID	DNX MIX Pt. 1 EXP 5616	DNX MIX Pt. 2 EXP 5617	DNX MIX Pt. 3 EXP 5615	DNX MIX Pt. 4 EXP 5618	DNX MIX Pt. 5 EXP 5619
Rep 1 Calib. Time	Sep 30, 2015 16:15:19	Sep 30, 2015 16:15:33	Sep 30, 2015 16:44:07	Sep 30, 2015 17:00:08	Sep 30, 2015 17:20:05

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\093015MDTNXic-confirm\093015MDTNXic-confirm.met
Print Time: Oct 01, 2015 13:39:04
User: red
Instrument: HPLC 2 (Offline)

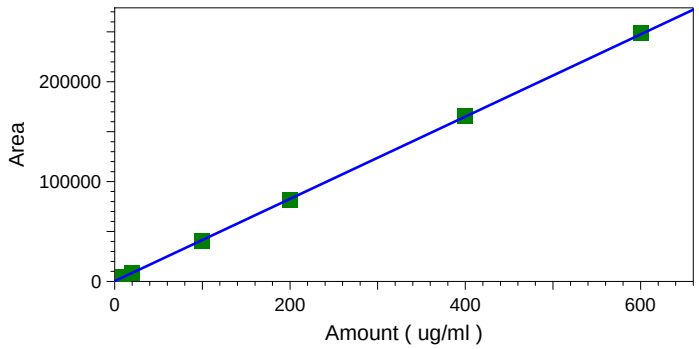
	Level 6	Level 7
Amount	2	3
Area	165833	248592
RF	82916.5	82864
Last Area Residual	-0.0129189	-0.0220035
Rep StDev		
Rep %RSD		
Rep 1 Area	165833	248592
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\093015MDTNXic-confirm\007.dat	C:\Instarch\HPLC 2\Data\093015MDTNXic-confirm\008.dat
Rep 1 Sample ID	DNX MIX Pt. 6 EXP 5620	DNX MIX Pt. 7 EXP 5621
Rep 1 Calib. Time	Oct 01, 2015 12:58:53	Oct 01, 2015 12:59:07

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\093015MDTNXic-confirm\093015MDTNXic-confirm.met
Print Time: Oct 01, 2015 13:39:09
User: red
Instrument: HPLC 2 (Offline)

12-DNB (SSTD)-confirm (A)
Average RF: 439.403 RF StDev: 68.9089 RF %RSD: 15.6824
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 412.040x + 262.620
Goodness of fit (r^2): 0.999866

Peak: 12-DNB (SSTD)-confirm -- ESTD -- A



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	2	10	20	100	200
Area	1190	4204	8397	40349	81282
RF	595	420.4	419.85	403.49	406.41
Last Area Residual	-0.250704	0.434474	0.258279	2.71242	3.37015
Rep StDev					
Rep %RSD					
Rep 1 Area	1190	4204	8397	40349	81282
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\093015MDTNXic-confirm\002.dat	C:\Instarch\HPLC 2\Data\093015MDTNXic-confirm\003.dat	C:\Instarch\HPLC 2\Data\093015MDTNXic-confirm\004.dat	C:\Instarch\HPLC 2\Data\093015MDTNXic-confirm\005.dat	C:\Instarch\HPLC 2\Data\093015MDTNXic-confirm\006.dat
Rep 1 Sample ID	DNX MIX Pt. 1 EXP 5616	DNX MIX Pt. 2 EXP 5617	DNX MIX Pt. 3 EXP 5615	DNX MIX Pt. 4 EXP 5618	DNX MIX Pt. 5 EXP 5619
Rep 1 Calib. Time	Sep 30, 2015 16:15:19	Sep 30, 2015 16:15:33	Sep 30, 2015 16:44:07	Sep 30, 2015 17:00:08	Sep 30, 2015 17:20:05

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\093015MDTNXic-confirm\093015MDTNXic-confirm.met
Print Time: Oct 01, 2015 13:39:09
User: red
Instrument: HPLC 2 (Offline)

	Level 6	Level 7
Amount	400	600
Area	166115	249230
RF	415.2875	415.383333333333
Last Area Residual	-2.51517	-4.23098
Rep StDev		
Rep %RSD		
Rep 1 Area	166115	249230
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\093015MDTNXic-confirm\007.dat	C:\Instarch\HPLC 2\Data\093015MDTNXic-confirm\008.dat
Rep 1 Sample ID	DNX MIX Pt. 6 EXP 5620	DNX MIX Pt. 7 EXP 5621
Rep 1 Calib. Time	Oct 01, 2015 12:58:53	Oct 01, 2015 12:59:07

QC Check Standard Report

Sequence : C:\Instarch\HPLC 2\Sequences\MDTNX\093015MDTNXic-confirm.seq
User : red
Printed : Oct 01, 2015 13:35:39

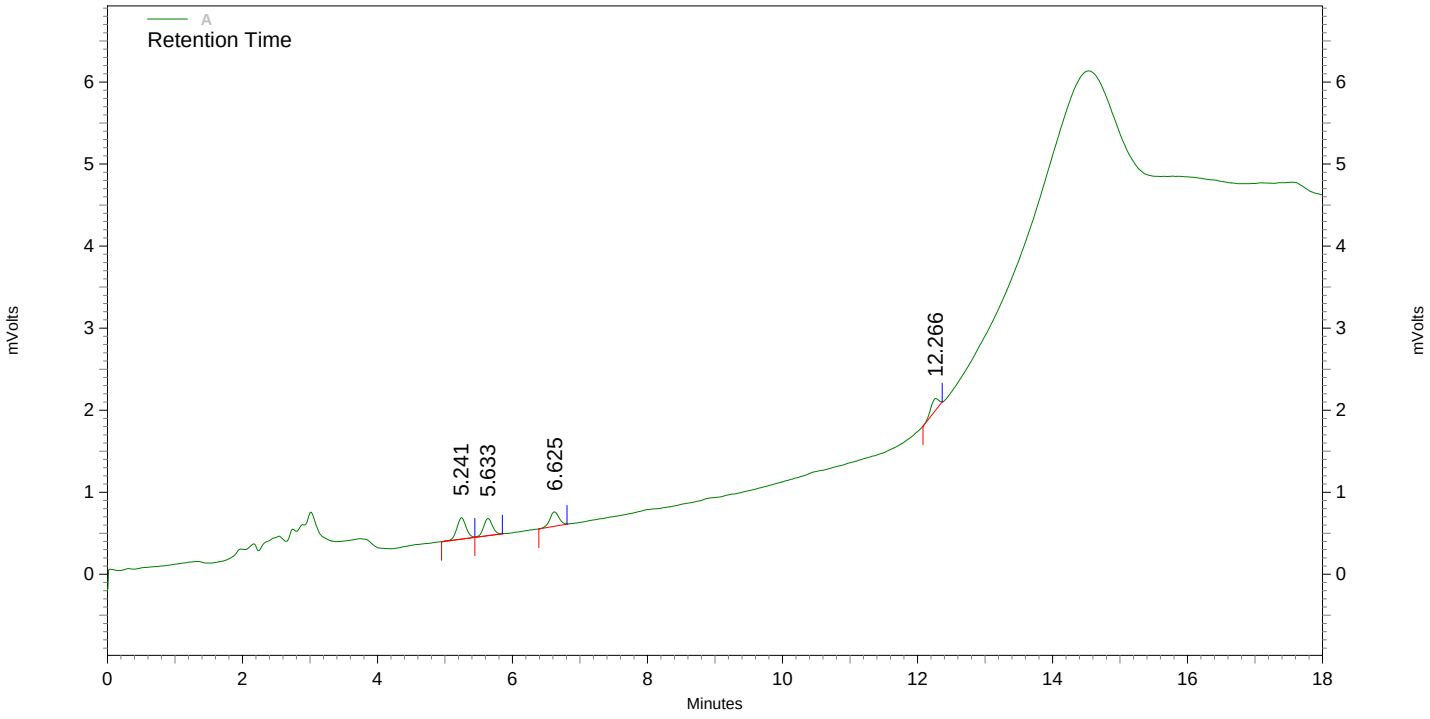
File	Sample ID	Acquired
C:\Instarch\HPLC 2\Data\093015MDTNXic-confirm\002.dat	DNX MIX Pt. 1 EXP 5616	Oct 01, 2015 13:35:39

A

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
TNX-confirm	0.010	0.011	13.444	20.000	**Passed**
DNX-confirm	0.010	0.012	15.330	20.000	**Passed**
MNX-confirm	0.010	0.011	11.615	20.000	**Passed**
12-DNB (SSTD)-confirm	2.000	2.251	12.535	20.000	**Passed**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\093015MDTNXic-confirm\002.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\093015MDTNXic-confirm\093015MDTNXic-confirm.met
Sample ID: DNX MIX Pt. 1 EXP 5616
Acquired: Sep 30, 2015 15:36:48
Data Summary: {Data Description}



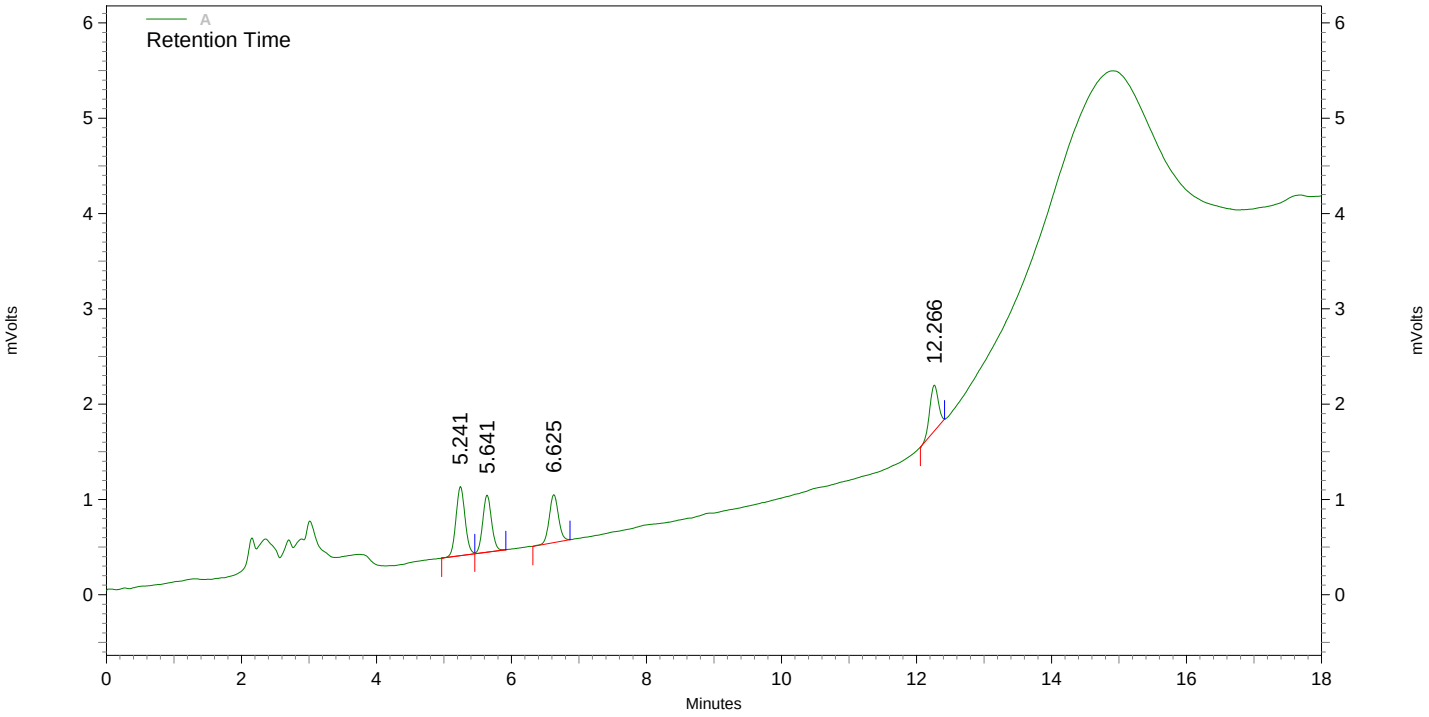
DNX MIX Pt. 1 EXP 5616

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX-confirm	5.241	2459	**0.011**
DNX-confirm	5.633	1889	**0.012**
MNX-confirm	6.625	1661	**0.011**
12-DNB (SSTD)-confirm	12.266	1190	**2.251**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\093015MDTNXic-confirm\003.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\093015MDTNXic-confirm\093015MDTNXic-confirm.met
Sample ID: DNX MIX Pt. 2 EXP 5617
Acquired: Sep 30, 2015 15:57:06
Data Summary: {Data Description}



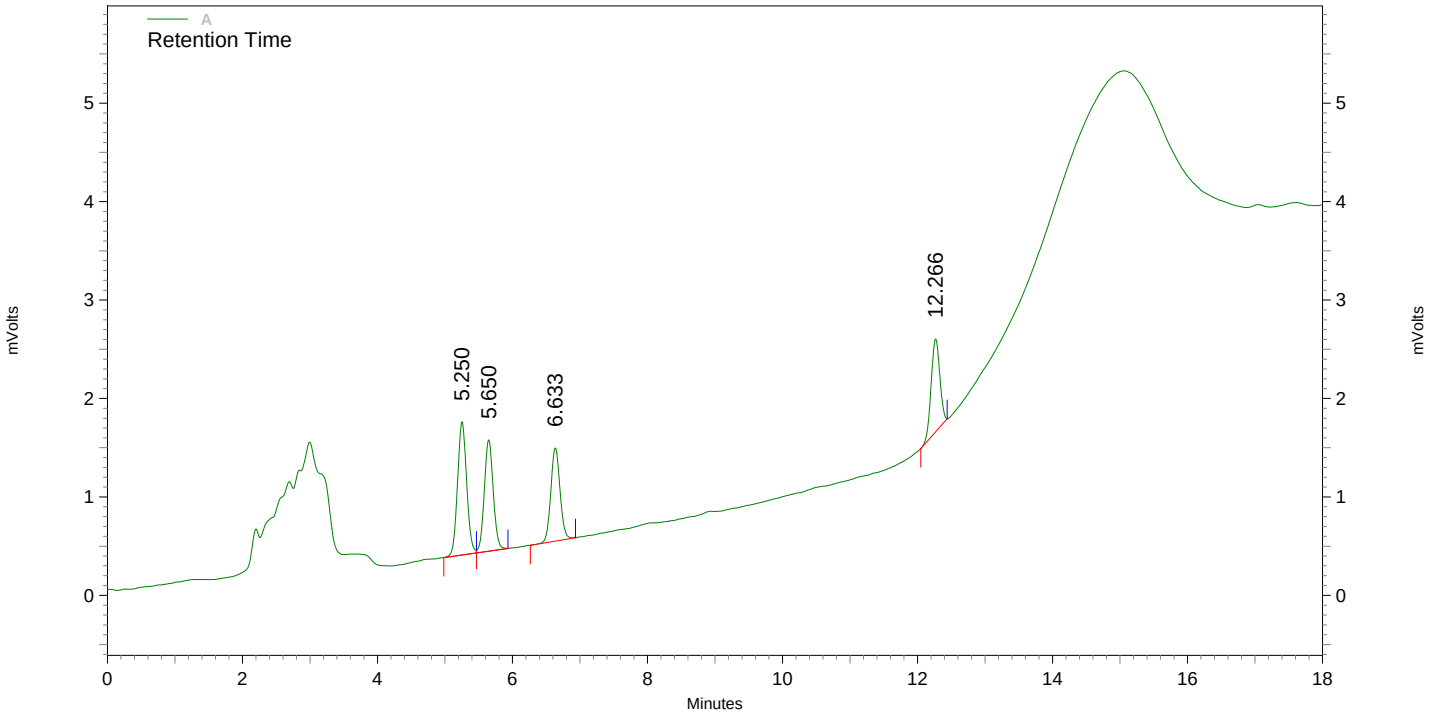
DNX MIX Pt. 2 EXP 5617

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX-confirm	5.241	6779	**0.050 CAL**
DNX-confirm	5.641	5461	**0.050 CAL**
MNX-confirm	6.625	4740	**0.050 CAL**
12-DNB (SSTD)-confirm	12.266	4204	**10.000 CAL**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\093015MDTNXic-confirm\004.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\093015MDTNXic-confirm\093015MDTNXic-confirm.met
Sample ID: DNX MIX Pt. 3 EXP 5615
Acquired: Sep 30, 2015 16:17:25
Data Summary: {Data Description}



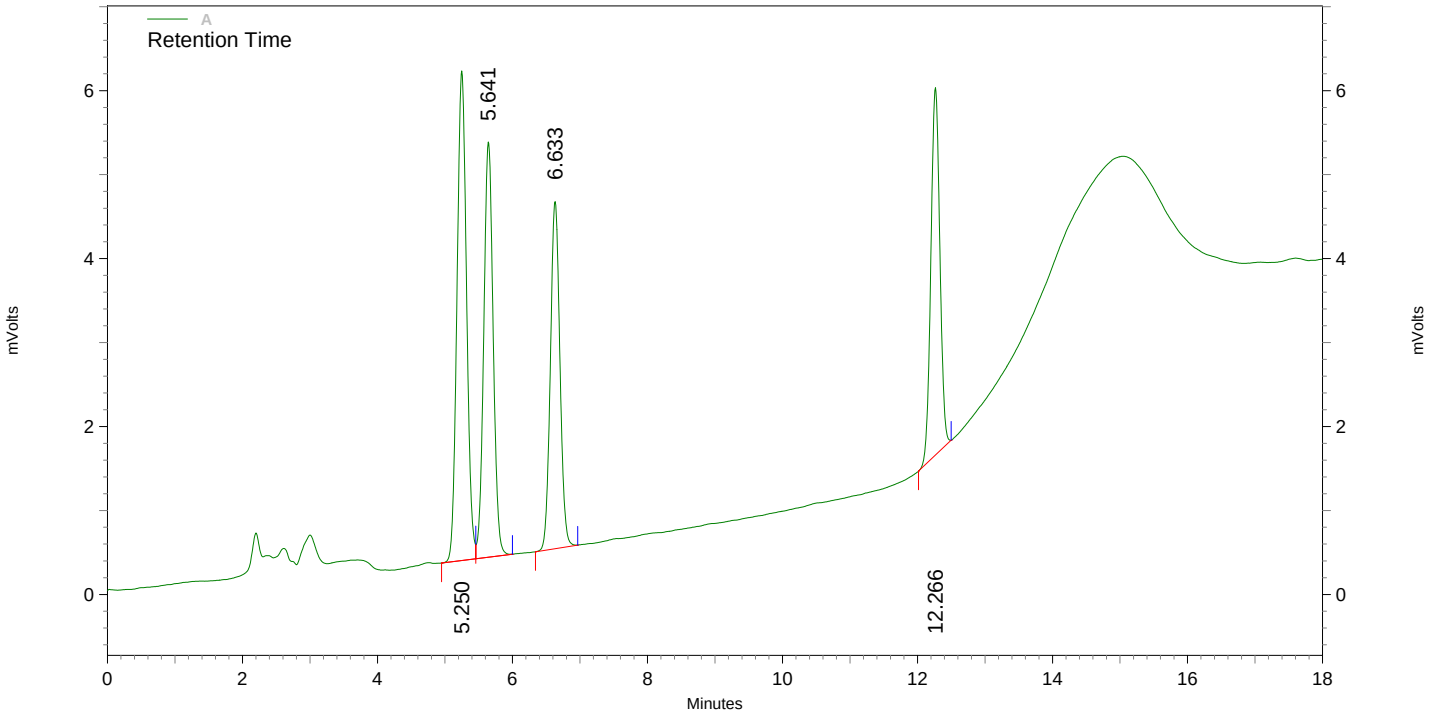
DNX MIX Pt. 3 EXP 5615

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX-confirm	5.250	12699	**0.100 CAL**
DNX-confirm	5.650	10436	**0.100 CAL**
MNX-confirm	6.633	8965	**0.100 CAL**
12-DNB (SSTD)-confirm	12.266	8397	**20.000 CAL**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\093015MDTNXic-confirm\005.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\093015MDTNXic-confirm\093015MDTNXic-confirm.met
Sample ID: DNX MIX Pt. 4 EXP 5618
Acquired: Sep 30, 2015 16:37:42
Data Summary: {Data Description}



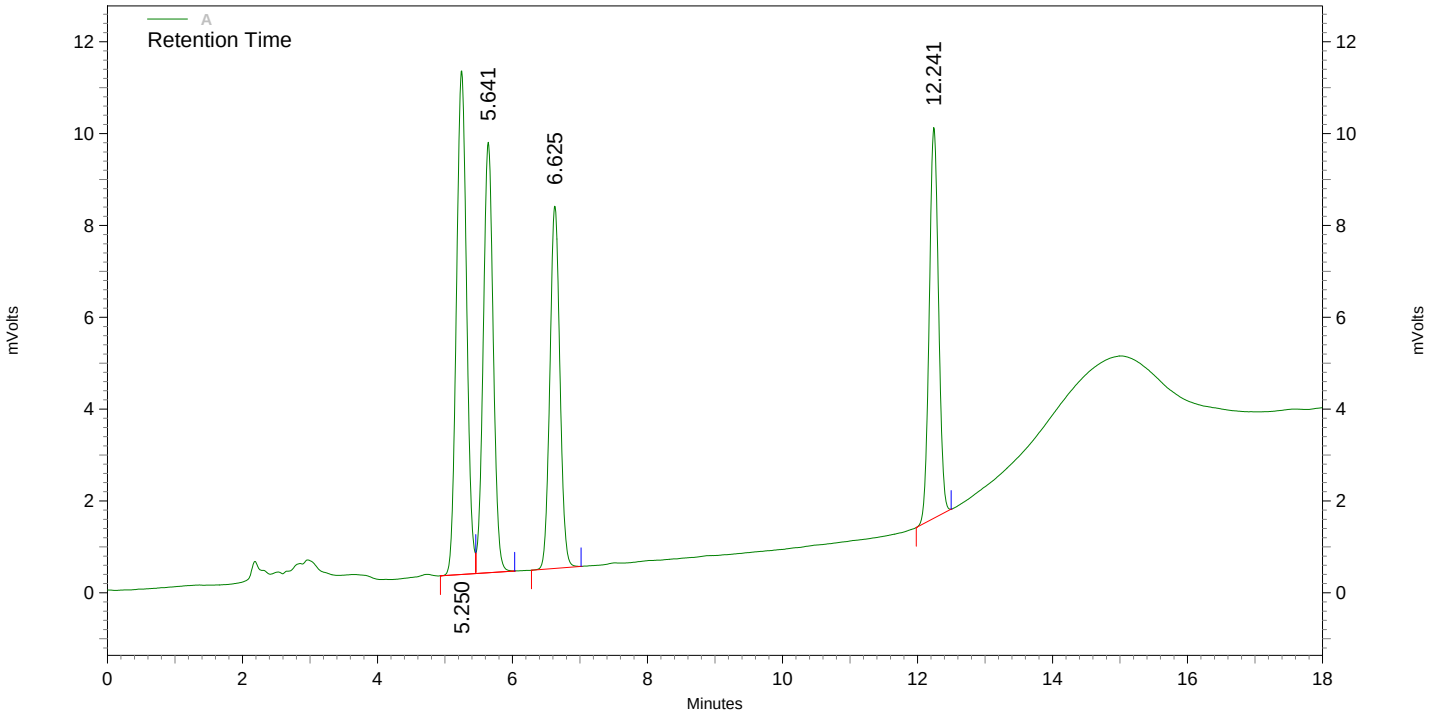
DNX MIX Pt. 4 EXP 5618

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX-confirm	5.250	57409	**0.500 CAL**
DNX-confirm	5.641	48011	**0.500 CAL**
MNX-confirm	6.633	40429	**0.500 CAL**
12-DNB (SSTD)-confirm	12.266	40349	**100.000 CAL**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\093015MDTNXic-confirm\006.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\093015MDTNXic-confirm\093015MDTNXic-confirm.met
Sample ID: DNX MIX Pt. 5 EXP 5619
Acquired: Sep 30, 2015 16:58:00
Data Summary: {Data Description}



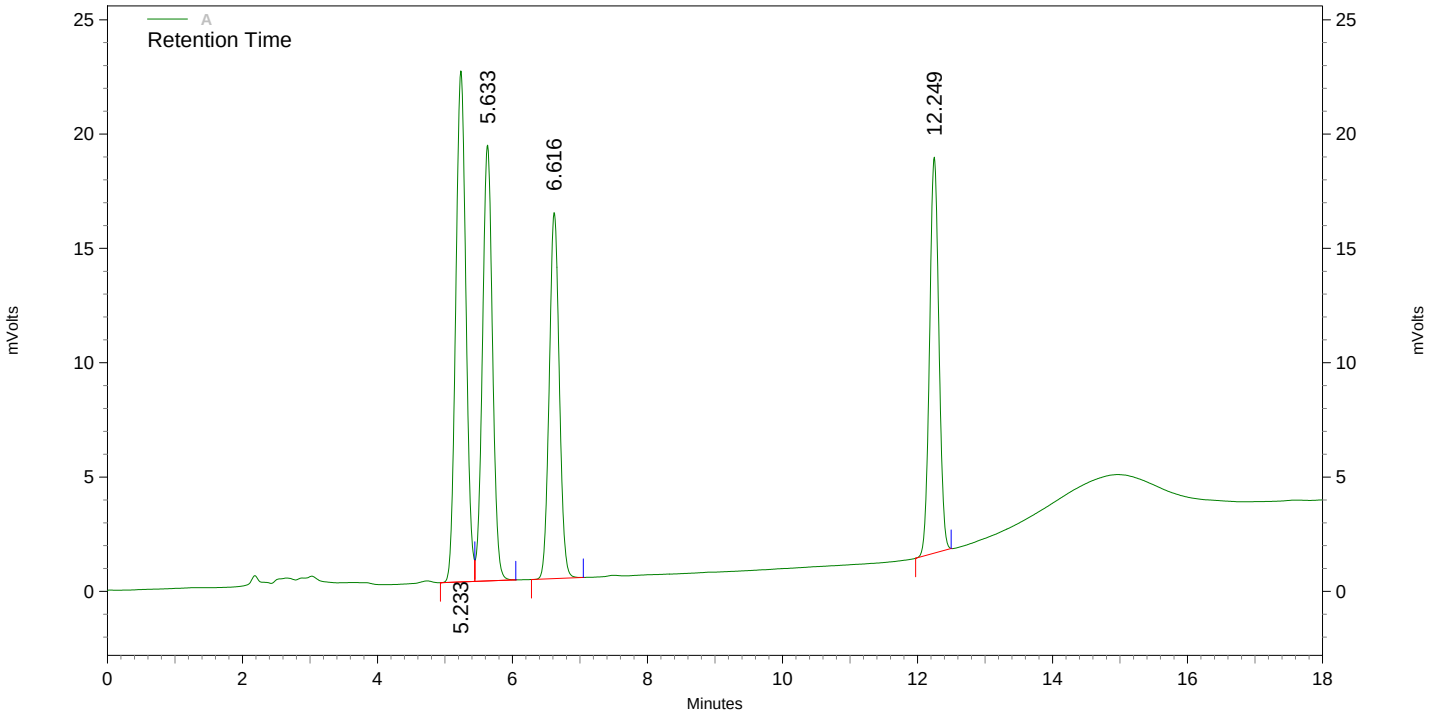
DNX MIX Pt. 5 EXP 5619

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX-confirm	5.250	115235	**1.000 CAL**
DNX-confirm	5.641	96634	**1.000 CAL**
MNX-confirm	6.625	81309	**1.000 CAL**
12-DNB (SSTD)-confirm	12.241	81282	**200.000 CAL**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\093015MDTNXic-confirm\007.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\093015MDTNXic-confirm\093015MDTNXic-confirm.met
Sample ID: DNX MIX Pt. 6 EXP 5620
Acquired: Sep 30, 2015 17:18:18
Data Summary: {Data Description}



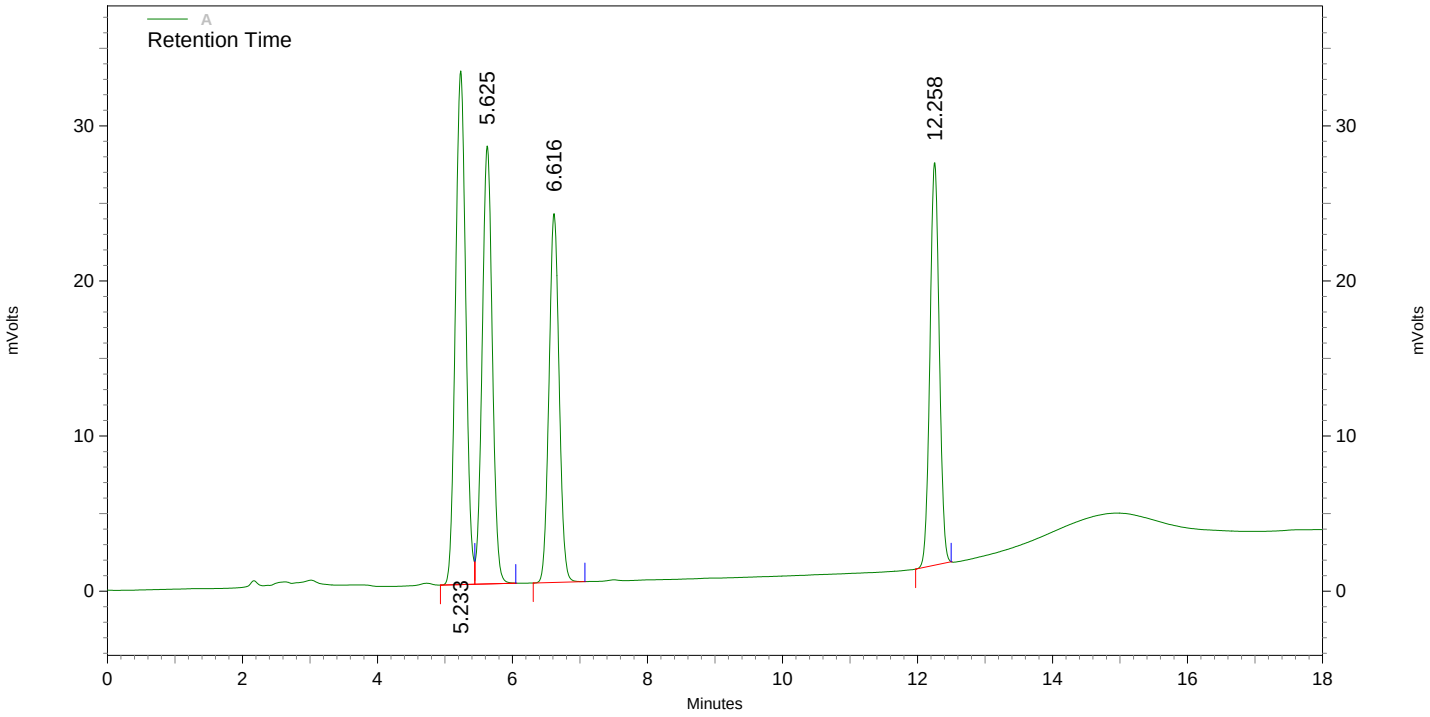
DNX MIX Pt. 6 EXP 5620

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX-confirm	5.233	234654	**2.000 CAL**
DNX-confirm	5.633	197680	**2.000 CAL**
MNX-confirm	6.616	165833	**2.000 CAL**
12-DNB (SSTD)-confirm	12.249	166115	**400.000 CAL**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\093015MDTNXic-confirm\008.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\093015MDTNXic-confirm\093015MDTNXic-confirm.met
Sample ID: DNX MIX Pt. 7 EXP 5621
Acquired: Sep 30, 2015 17:38:37
Data Summary: {Data Description}



DNX MIX Pt. 7 EXP 5621

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX-confirm	5.233	351935	**3.000 CAL**
DNX-confirm	5.625	295785	**3.000 CAL**
MNX-confirm	6.616	248592	**3.000 CAL**
12-DNB (SSTD)-confirm	12.258	249230	**600.000 CAL**

QC Check Standard Report

Sequence : C:\Instarch\HPLC 2\Sequences\MDTNX\093015MDTNXic-confirm.seq
User : red
Printed : Oct 01, 2015 13:36:42

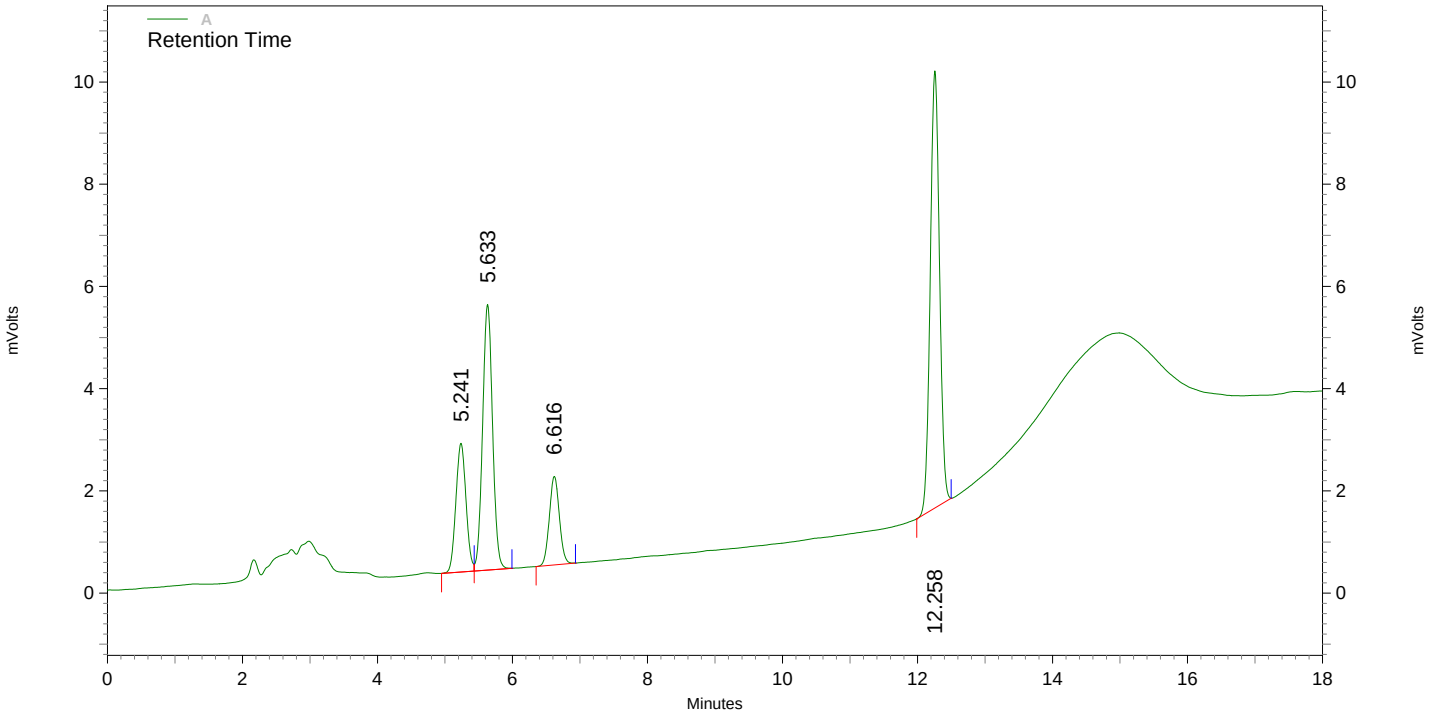
File	Sample ID	Acquired
C:\Instarch\HPLC 2\Data\093015MDTNXic-confirm\009.dat	DNX MIX ICV EXP 5622	Oct 01, 2015 13:36:42

A

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
TNX-confirm	0.250	0.217	13.362	20.000	**Passed**
DNX-confirm	0.550	0.538	2.175	20.000	**Passed**
MNX-confirm	0.200	0.209	4.485	20.000	**Passed**
12-DNB (SSTD)-confirm	200.000	196.450	1.775	20.000	**Passed**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\093015MDTNXic-confirm\009.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\093015MDTNXic-confirm\093015MDTNXic-confirm.met
Sample ID: DNX MIX ICV EXP 5622
Acquired: Sep 30, 2015 17:58:57
Data Summary: {Data Description}



DNX MIX ICV EXP 5622

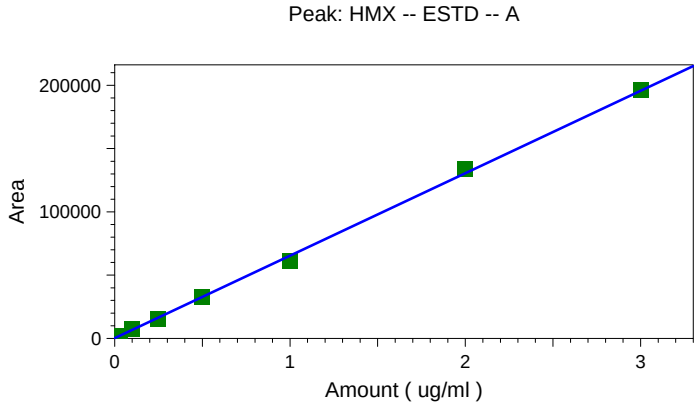
A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX-confirm	5.241	26283	**0.217**
DNX-confirm	5.633	53308	**0.538**
MNX-confirm	6.616	17884	**0.209**
12-DNB (SSTD)-confirm	12.258	81208	**196.450**

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\012516expic-primary\012516expic-primary.met
Print Time: Jan 28, 2016 16:46:35
User: red
Instrument: HPLC 2 (Offline)

HMX (A)
Average RF: 67009.0 RF StDev: 4888.20 RF %RSD: 7.29485
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 65126.3x + 235.147
Goodness of fit (r^2): 0.999059



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.03	0.1	0.25	0.5	1
Area	2243	7218	15580	32837	61490
RF	74766.66666 66667	72180	62320	65674	61490
Last Area Residual	-0.000830171	-0.00722026	0.014383	-0.000594654	0.0594445
Rep StDev					
Rep %RSD					
Rep 1 Area	2243	7218	15580	32837	61490
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\002.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\003.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\004.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\005.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\006.dat
Rep 1 Sample ID	8330 Pt. 1 EXP 5668	8330 Pt. 2 EXP 5669	8330 Pt. 3 EXP 5670	8330 Pt. 4 EXP 5671	8330 Pt. 5 EXP 5672
Rep 1 Calib. Time	Jan 26, 2016 09:36:36	Jan 26, 2016 09:36:46	Jan 26, 2016 09:36:55	Jan 26, 2016 09:37:04	Jan 26, 2016 09:37:15

Calibration Report

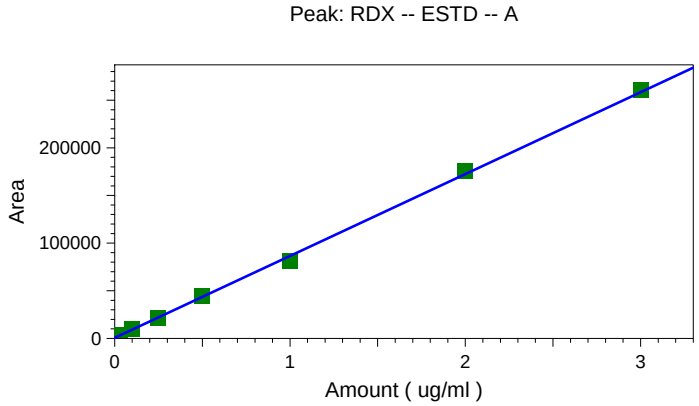
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\012516expic-primary\012516expic-primary.met
Print Time: Jan 28, 2016 16:46:35
User: red
Instrument: HPLC 2 (Offline)

	Level 6	Level 7
Amount	2	3
Area	134218	196569
RF	67109	65523
Last Area		
Residual	-0.0572787	-0.0146653
Rep StDev		
Rep %RSD		
Rep 1 Area	134218	196569
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\007.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\008.dat
Rep 1 Sample ID	8330 Pt. 6 EXP 5673	8330 Pt. 7 EXP 5674
Rep 1 Calib. Time	Jan 26, 2016 09:37:28	Jan 26, 2016 09:37:42

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\012516expic-primary\012516expic-primary.met
Print Time: Jan 28, 2016 16:46:40
User: red
Instrument: HPLC 2 (Offline)

RDX (A)
Average RF: 90808.4 RF StDev: 9146.26 RF %RSD: 10.0720
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 85903.5x + 639.621
Goodness of fit (r^2): 0.999174



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.03	0.1	0.25	0.5	1
Area	3165	10181	21128	43978	81149
RF	105500	101810	84512	87956	81149
Last Area Residual	0.000602138	-0.0110709	0.0114954	-0.00450072	0.0627928
Rep StDev					
Rep %RSD					
Rep 1 Area	3165	10181	21128	43978	81149
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\002.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\003.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\004.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\005.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\006.dat
Rep 1 Sample ID	8330 Pt. 1 EXP 5668	8330 Pt. 2 EXP 5669	8330 Pt. 3 EXP 5670	8330 Pt. 4 EXP 5671	8330 Pt. 5 EXP 5672
Rep 1 Calib. Time	Jan 26, 2016 09:36:36	Jan 26, 2016 09:36:46	Jan 26, 2016 09:36:55	Jan 26, 2016 09:37:04	Jan 26, 2016 09:37:15

Level 6	Level 7

Calibration Report

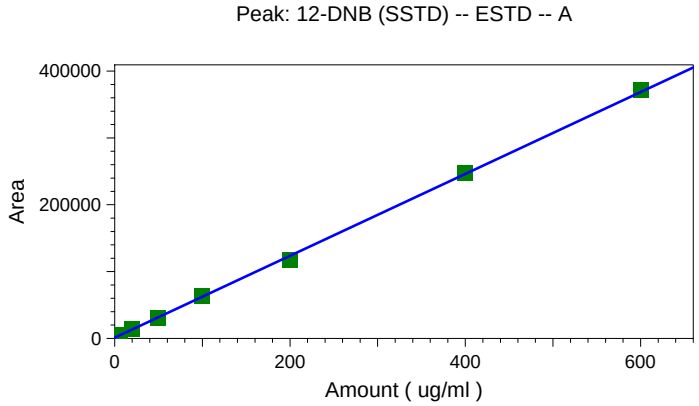
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\012516expic-primary\012516expic-primary.met
Print Time: Jan 28, 2016 16:46:40
User: red
Instrument: HPLC 2 (Offline)

Amount	2	3
Area	175454	261015
RF	87727	87005
Last Area		
Residual	-0.0350087	-0.0310216
Rep StDev		
Rep %RSD		
Rep 1 Area	175454	261015
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\007.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\008.dat
Rep 1 Sample ID	8330 Pt. 6 EXP 5673	8330 Pt. 7 EXP 5674
Rep 1 Calib. Time	Jan 26, 2016 09:37:28	Jan 26, 2016 09:37:42

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\012516expic-primary\012516expic-primary.met
Print Time: Jan 28, 2016 16:46:47
User: red
Instrument: HPLC 2 (Offline)

12-DNB (SSTD) (A)
Average RF: 653.413 RF StDev: 71.5820 RF %RSD: 10.9551
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 612.416x + 1086.92
Goodness of fit (r^2): 0.999475



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	6	20	50	100	200
Area	4679	14535	30143	63619	117487
RF	779.8333333 33333	726.75	602.86	636.19	587.435
Last Area Residual	0.134578	-1.95905	2.55502	-2.10714	9.93309
Rep StDev					
Rep %RSD					
Rep 1 Area	4679	14535	30143	63619	117487
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\002.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\003.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\004.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\005.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\006.dat
Rep 1 Sample ID	8330 Pt. 1 EXP 5668	8330 Pt. 2 EXP 5669	8330 Pt. 3 EXP 5670	8330 Pt. 4 EXP 5671	8330 Pt. 5 EXP 5672
Rep 1 Calib. Time	Jan 26, 2016 09:36:36	Jan 26, 2016 09:36:46	Jan 26, 2016 09:36:55	Jan 26, 2016 09:37:04	Jan 26, 2016 09:37:15

Calibration Report

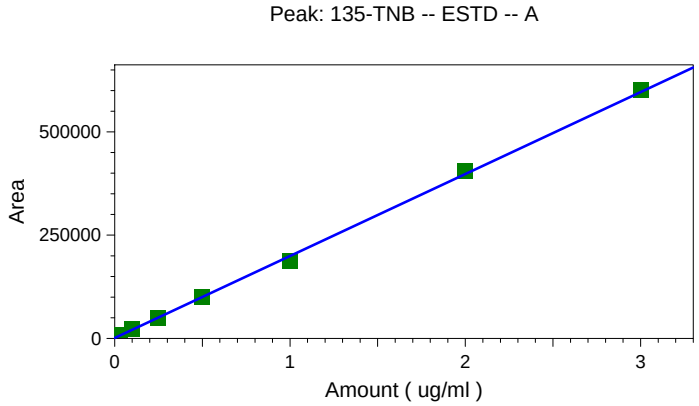
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\012516expic-primary\012516expic-primary.met
Print Time: Jan 28, 2016 16:46:47
User: red
Instrument: HPLC 2 (Offline)

	Level 6	Level 7
Amount	400	600
Area	248173	372235
RF	620.4325	620.3916666667
Last Area Residual	-3.46097	-6.03885
Rep StDev		
Rep %RSD		
Rep 1 Area	248173	372235
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\007.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\008.dat
Rep 1 Sample ID	8330 Pt. 6 EXP 5673	8330 Pt. 7 EXP 5674
Rep 1 Calib. Time	Jan 26, 2016 09:37:28	Jan 26, 2016 09:37:42

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\012516expic-primary\012516expic-primary.met
Print Time: Jan 28, 2016 16:46:49
User: red
Instrument: HPLC 2 (Offline)

135-TNB (A)
Average RF: 206168. RF StDev: 16600.0 RF %RSD: 8.05171
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 198406.x + 1000.11
Goodness of fit (r^2): 0.999067



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.03	0.1	0.25	0.5	1
Area	6998	22431	48726	100169	186399
RF	233266.6666 66667	224310	194904	200338	186399
Last Area Residual	-0.000230437	-0.00801554	0.00945292	0.000170922	0.0655562
Rep StDev					
Rep %RSD					
Rep 1 Area	6998	22431	48726	100169	186399
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\002.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\003.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\004.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\005.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\006.dat
Rep 1 Sample ID	8330 Pt. 1 EXP 5668	8330 Pt. 2 EXP 5669	8330 Pt. 3 EXP 5670	8330 Pt. 4 EXP 5671	8330 Pt. 5 EXP 5672
Rep 1 Calib. Time	Jan 26, 2016 09:36:36	Jan 26, 2016 09:36:46	Jan 26, 2016 09:36:55	Jan 26, 2016 09:37:04	Jan 26, 2016 09:37:15

Calibration Report

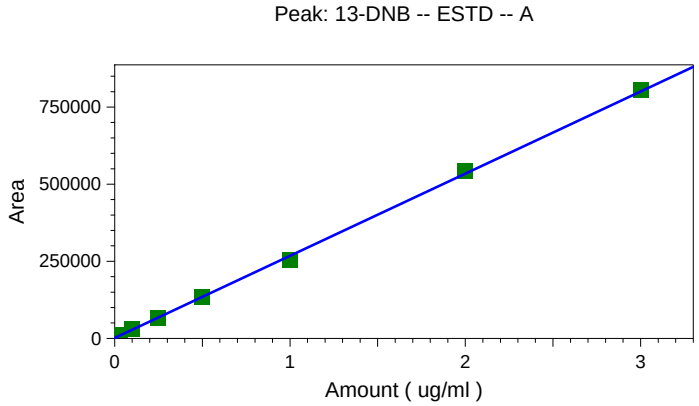
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\012516expic-primary\012516expic-primary.met
Print Time: Jan 28, 2016 16:46:49
User: red
Instrument: HPLC 2 (Offline)

	Level 6	Level 7
Amount	2	3
Area	406446	602198
RF	203223	200732.666666667
Last Area Residual	-0.0435204	-0.0301458
Rep StDev		
Rep %RSD		
Rep 1 Area	406446	602198
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\007.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\008.dat
Rep 1 Sample ID	8330 Pt. 6 EXP 5673	8330 Pt. 7 EXP 5674
Rep 1 Calib. Time	Jan 26, 2016 09:37:28	Jan 26, 2016 09:37:42

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\012516expic-primary\012516expic-primary.met
Print Time: Jan 28, 2016 16:46:54
User: red
Instrument: HPLC 2 (Offline)

13-DNB (A)
Average RF: 277773. RF StDev: 22460.1 RF %RSD: 8.08577
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 266363.x + 1492.11
Goodness of fit (r^2): 0.999334



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.03	0.1	0.25	0.5	1
Area	9443	30288	65412	135603	253033
RF	314766.6666 66667	302880	261648	271206	253033
Last Area Residual	0.000150197	-0.00810765	0.0100272	-0.00348904	0.0556465
Rep StDev					
Rep %RSD					
Rep 1 Area	9443	30288	65412	135603	253033
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\002.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\003.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\004.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\005.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\006.dat
Rep 1 Sample ID	8330 Pt. 1 EXP 5668	8330 Pt. 2 EXP 5669	8330 Pt. 3 EXP 5670	8330 Pt. 4 EXP 5671	8330 Pt. 5 EXP 5672
Rep 1 Calib. Time	Jan 26, 2016 09:36:36	Jan 26, 2016 09:36:46	Jan 26, 2016 09:36:55	Jan 26, 2016 09:37:04	Jan 26, 2016 09:37:15

Calibration Report

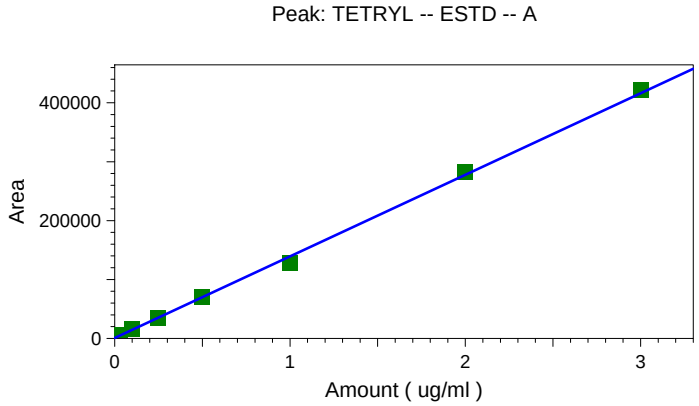
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\012516expic-primary\012516expic-primary.met
Print Time: Jan 28, 2016 16:46:54
User: red
Instrument: HPLC 2 (Offline)

	Level 6	Level 7
Amount	2	3
Area	544076	806528
RF	272038	268842.666666667
Last Area Residual	-0.0370087	-0.0223255
Rep StDev		
Rep %RSD		
Rep 1 Area	544076	806528
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\007.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\008.dat
Rep 1 Sample ID	8330 Pt. 6 EXP 5673	8330 Pt. 7 EXP 5674
Rep 1 Calib. Time	Jan 26, 2016 09:37:28	Jan 26, 2016 09:37:42

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\012516expic-primary\012516expic-primary.met
Print Time: Jan 28, 2016 16:46:57
User: red
Instrument: HPLC 2 (Offline)

TETRYL (A)
Average RF: 144090. RF StDev: 12037.3 RF %RSD: 8.35398
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 138460.x + 722.402
Goodness of fit (r^2): 0.998833



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.03	0.1	0.25	0.5	1
Area	4899	15759	34309	69682	128894
RF	163300	157590	137236	139364	128894
Last Area Residual	-0.000164669	-0.00859892	0.00742729	0.00195263	0.0743054
Rep StDev					
Rep %RSD					
Rep 1 Area	4899	15759	34309	69682	128894
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\002.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\003.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\004.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\005.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\006.dat
Rep 1 Sample ID	8330 Pt. 1 EXP 5668	8330 Pt. 2 EXP 5669	8330 Pt. 3 EXP 5670	8330 Pt. 4 EXP 5671	8330 Pt. 5 EXP 5672
Rep 1 Calib. Time	Jan 26, 2016 09:36:36	Jan 26, 2016 09:36:46	Jan 26, 2016 09:36:55	Jan 26, 2016 09:37:04	Jan 26, 2016 09:37:15

	Level 6	Level 7

Calibration Report

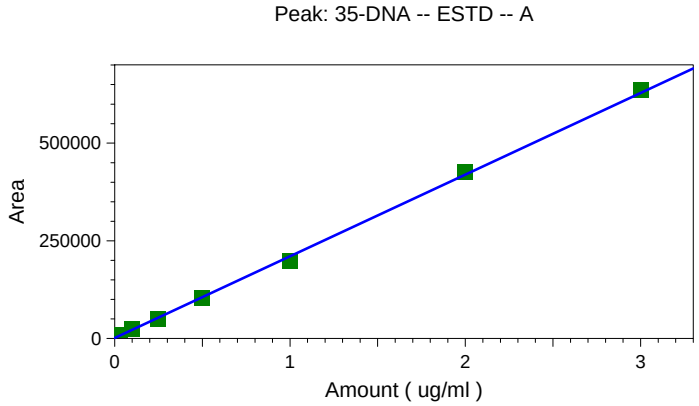
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\012516expic-primary\012516expic-primary.met
Print Time: Jan 28, 2016 16:46:57
User: red
Instrument: HPLC 2 (Offline)

Amount	2	3
Area	282976	422276
RF	141488	140758.666666667
Last Area		
Residual	-0.0385221	-0.0445894
Rep StDev		
Rep %RSD		
Rep 1 Area	282976	422276
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\007.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\008.dat
Rep 1 Sample ID	8330 Pt. 6 EXP 5673	8330 Pt. 7 EXP 5674
Rep 1 Calib. Time	Jan 26, 2016 09:37:28	Jan 26, 2016 09:37:42

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\012516expic-primary\012516expic-primary.met
Print Time: Jan 28, 2016 16:47:03
User: red
Instrument: HPLC 2 (Offline)

35-DNA (A)
Average RF: 219080. RF StDev: 21819.8 RF %RSD: 9.95972
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 209090.x + 1268.55
Goodness of fit (r^2): 0.999234



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.03	0.1	0.25	0.5	1
Area	7676	24361	50554	103585	199211
RF	255866.6666 66667	243610	202216	207170	199211
Last Area Residual	-0.000644442	-0.0104425	0.0142862	0.010659	0.0533158
Rep StDev					
Rep %RSD					
Rep 1 Area	7676	24361	50554	103585	199211
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\002.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\003.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\004.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\005.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\006.dat
Rep 1 Sample ID	8330 Pt. 1 EXP 5668	8330 Pt. 2 EXP 5669	8330 Pt. 3 EXP 5670	8330 Pt. 4 EXP 5671	8330 Pt. 5 EXP 5672
Rep 1 Calib. Time	Jan 26, 2016 09:36:36	Jan 26, 2016 09:36:46	Jan 26, 2016 09:36:55	Jan 26, 2016 09:37:04	Jan 26, 2016 09:37:15

Calibration Report

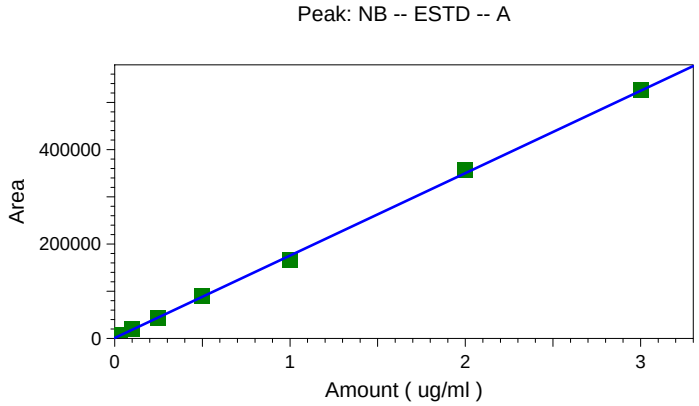
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\012516expic-primary\012516expic-primary.met
Print Time: Jan 28, 2016 16:47:03
User: red
Instrument: HPLC 2 (Offline)

	Level 6	Level 7
Amount	2	3
Area	426331	636972
RF	213165.5	212324
Last Area		
Residual	-0.0329135	-0.04033
Rep StDev		
Rep %RSD		
Rep 1 Area	426331	636972
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\007.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\008.dat
Rep 1 Sample ID	8330 Pt. 6 EXP 5673	8330 Pt. 7 EXP 5674
Rep 1 Calib. Time	Jan 26, 2016 09:37:28	Jan 26, 2016 09:37:42

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\012516expic-primary\012516expic-primary.met
Print Time: Jan 28, 2016 16:47:06
User: red
Instrument: HPLC 2 (Offline)

NB (A)
Average RF: 181943. RF StDev: 14195.1 RF %RSD: 7.80197
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 174563.x + 972.652
Goodness of fit (r^2): 0.999364



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.03	0.1	0.25	0.5	1
Area	6220	19382	42783	90652	166028
RF	207333.3333 33333	193820	171132	181304	166028
Last Area Residual	-5.98711e-005	-0.00545949	0.0104859	-0.0137357	0.0544666
Rep StDev					
Rep %RSD					
Rep 1 Area	6220	19382	42783	90652	166028
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\002.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\003.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\004.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\005.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\006.dat
Rep 1 Sample ID	8330 Pt. 1 EXP 5668	8330 Pt. 2 EXP 5669	8330 Pt. 3 EXP 5670	8330 Pt. 4 EXP 5671	8330 Pt. 5 EXP 5672
Rep 1 Calib. Time	Jan 26, 2016 09:36:36	Jan 26, 2016 09:36:46	Jan 26, 2016 09:36:55	Jan 26, 2016 09:37:04	Jan 26, 2016 09:37:15

Calibration Report

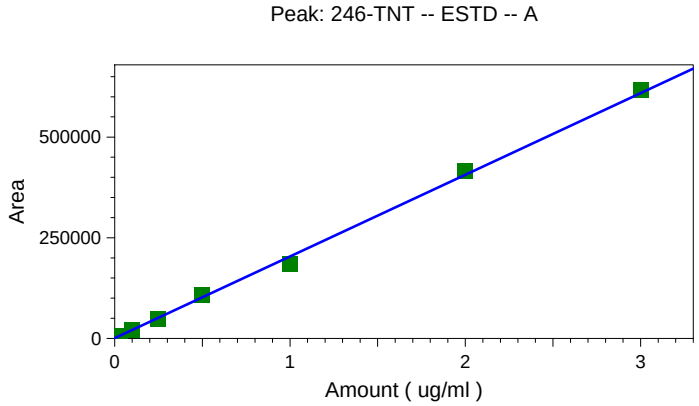
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\012516expic-primary\012516expic-primary.met
Print Time: Jan 28, 2016 16:47:06
User: red
Instrument: HPLC 2 (Offline)

	Level 6	Level 7
Amount	2	3
Area	356691	526912
RF	178345.5	175637.333333333
Last Area Residual	-0.0377624	-0.0128876
Rep StDev		
Rep %RSD		
Rep 1 Area	356691	526912
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\007.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\008.dat
Rep 1 Sample ID	8330 Pt. 6 EXP 5673	8330 Pt. 7 EXP 5674
Rep 1 Calib. Time	Jan 26, 2016 09:37:28	Jan 26, 2016 09:37:42

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\012516expic-primary\012516expic-primary.met
Print Time: Jan 28, 2016 16:47:10
User: red
Instrument: HPLC 2 (Offline)

246-TNT (A)
Average RF: 208514. RF StDev: 17693.4 RF %RSD: 8.48547
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 202804.x + 659.034
Goodness of fit (r^2): 0.998213



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.03	0.1	0.25	0.5	1
Area	7089	21770	47383	108887	184673
RF	236300	217700	189532	217774	184673
Last Area Residual	-0.00170537	-0.00409555	0.0196099	-0.0336587	0.09265
Rep StDev					
Rep %RSD					
Rep 1 Area	7089	21770	47383	108887	184673
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\002.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\003.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\004.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\005.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\006.dat
Rep 1 Sample ID	8330 Pt. 1 EXP 5668	8330 Pt. 2 EXP 5669	8330 Pt. 3 EXP 5670	8330 Pt. 4 EXP 5671	8330 Pt. 5 EXP 5672
Rep 1 Calib. Time	Jan 26, 2016 09:36:36	Jan 26, 2016 09:36:46	Jan 26, 2016 09:36:55	Jan 26, 2016 09:37:04	Jan 26, 2016 09:37:15

	Level 6	Level 7

Calibration Report

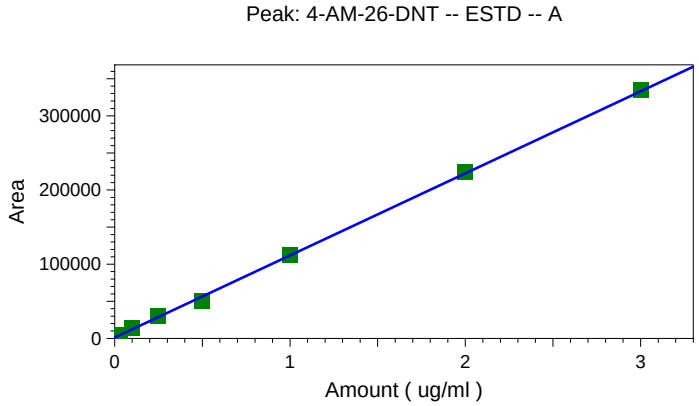
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\012516expic-primary\012516expic-primary.met
Print Time: Jan 28, 2016 16:47:10
User: red
Instrument: HPLC 2 (Offline)

Amount	2	3
Area	415422	617724
RF	207711	205908
Last Area		
Residual	-0.0451446	-0.0426707
Rep StDev		
Rep %RSD		
Rep 1 Area	415422	617724
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\007.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\008.dat
Rep 1 Sample ID	8330 Pt. 6 EXP 5673	8330 Pt. 7 EXP 5674
Rep 1 Calib. Time	Jan 26, 2016 09:37:28	Jan 26, 2016 09:37:42

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\012516expic-primary\012516expic-primary.met
Print Time: Jan 28, 2016 16:47:14
User: red
Instrument: HPLC 2 (Offline)

4-AM-26-DNT (A)
Average RF: 119942. RF StDev: 15661.1 RF %RSD: 13.0572
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 110583.x + 1212.00
Goodness of fit (r^2): 0.999525



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.03	0.1	0.25	0.5	1
Area	4225	14246	29707	50821	112144
RF	140833.3333 33333	142460	118828	101642	112144
Last Area Residual	0.00275357	-0.0178659	-0.00767893	0.0513882	-0.00315276
Rep StDev					
Rep %RSD					
Rep 1 Area	4225	14246	29707	50821	112144
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\002.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\003.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\004.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\005.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\006.dat
Rep 1 Sample ID	8330 Pt. 1 EXP 5668	8330 Pt. 2 EXP 5669	8330 Pt. 3 EXP 5670	8330 Pt. 4 EXP 5671	8330 Pt. 5 EXP 5672
Rep 1 Calib. Time	Jan 26, 2016 09:36:36	Jan 26, 2016 09:36:46	Jan 26, 2016 09:36:55	Jan 26, 2016 09:37:04	Jan 26, 2016 09:37:15

Calibration Report

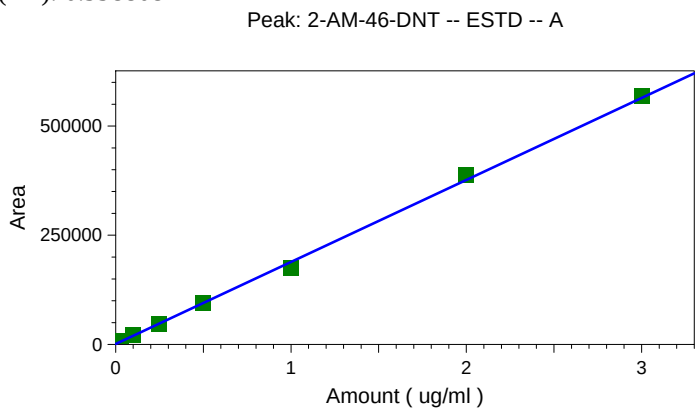
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\012516expic-primary\012516expic-primary.met
Print Time: Jan 28, 2016 16:47:14
User: red
Instrument: HPLC 2 (Offline)

	Level 6	Level 7
Amount	2	3
Area	223854	335283
RF	111927	111761
Last Area		
Residual	-0.0133409	-0.020988
Rep StDev		
Rep %RSD		
Rep 1 Area	223854	335283
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\007.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\008.dat
Rep 1 Sample ID	8330 Pt. 6 EXP 5673	8330 Pt. 7 EXP 5674
Rep 1 Calib. Time	Jan 26, 2016 09:37:28	Jan 26, 2016 09:37:42

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\012516expic-primary\012516expic-primary.met
Print Time: Jan 28, 2016 16:47:17
User: red
Instrument: HPLC 2 (Offline)

2-AM-46-DNT (A)
Average RF: 195628. RF StDev: 17118.1 RF %RSD: 8.75033
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 187850.x + 991.596
Goodness of fit (r^2): 0.998808



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.03	0.1	0.25	0.5	1
Area	6721	21360	45986	94410	175414
RF	224033.3333 33333	213600	183944	188820	175414
Last Area Residual	-0.00049992	-0.0084292	0.0104767	0.00269631	0.0714795
Rep StDev					
Rep %RSD					
Rep 1 Area	6721	21360	45986	94410	175414
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\002.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\003.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\004.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\005.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\006.dat
Rep 1 Sample ID	8330 Pt. 1 EXP 5668	8330 Pt. 2 EXP 5669	8330 Pt. 3 EXP 5670	8330 Pt. 4 EXP 5671	8330 Pt. 5 EXP 5672
Rep 1 Calib. Time	Jan 26, 2016 09:36:36	Jan 26, 2016 09:36:46	Jan 26, 2016 09:36:55	Jan 26, 2016 09:37:04	Jan 26, 2016 09:37:15

Calibration Report

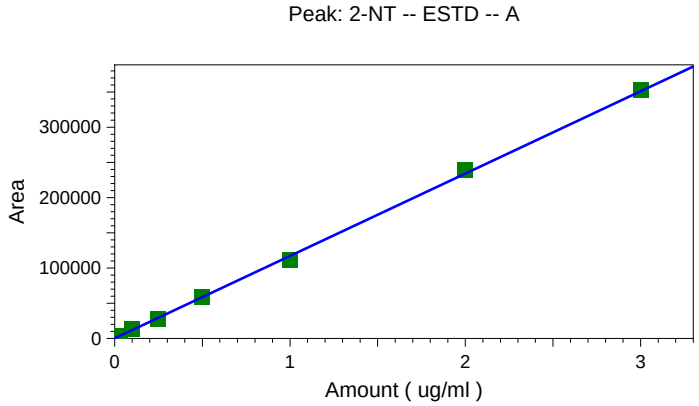
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\012516expic-primary\012516expic-primary.met
Print Time: Jan 28, 2016 16:47:17
User: red
Instrument: HPLC 2 (Offline)

	Level 6	Level 7
Amount	2	3
Area	387431	569602
RF	193715.5	189867.333333333
Last Area		
Residual	-0.0571722	-0.0269416
Rep StDev		
Rep %RSD		
Rep 1 Area	387431	569602
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\007.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\008.dat
Rep 1 Sample ID	8330 Pt. 6 EXP 5673	8330 Pt. 7 EXP 5674
Rep 1 Calib. Time	Jan 26, 2016 09:37:28	Jan 26, 2016 09:37:42

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\012516expic-primary\012516expic-primary.met
Print Time: Jan 28, 2016 16:47:22
User: red
Instrument: HPLC 2 (Offline)

2-NT (A)
Average RF: 118222. RF StDev: 5559.86 RF %RSD: 4.70288
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 116946.x + 148.201
Goodness of fit (r^2): 0.999353



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.03	0.1	0.25	0.5	1
Area	3625	12798	28280	58916	110746
RF	120833.3333 33333	127980	113120	117832	110746
Last Area Residual	0.000270153	-0.00816748	0.00944711	-0.00251901	0.0542866
Rep StDev					
Rep %RSD					
Rep 1 Area	3625	12798	28280	58916	110746
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\002.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\003.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\004.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\005.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\006.dat
Rep 1 Sample ID	8330 Pt. 1 EXP 5668	8330 Pt. 2 EXP 5669	8330 Pt. 3 EXP 5670	8330 Pt. 4 EXP 5671	8330 Pt. 5 EXP 5672
Rep 1 Calib. Time	Jan 26, 2016 09:36:36	Jan 26, 2016 09:36:46	Jan 26, 2016 09:36:55	Jan 26, 2016 09:37:04	Jan 26, 2016 09:37:15

Calibration Report

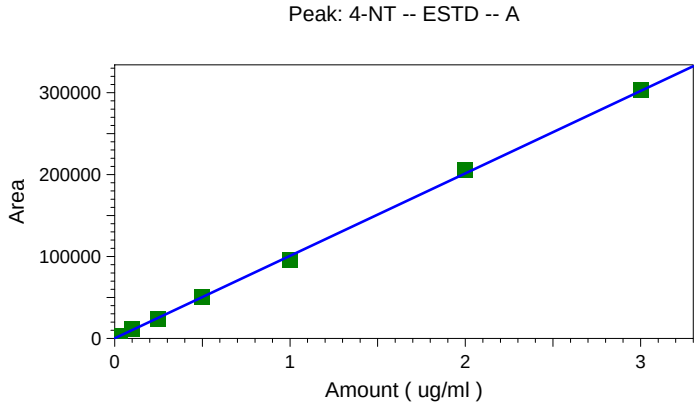
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\012516expic-primary\012516expic-primary.met
Print Time: Jan 28, 2016 16:47:22
User: red
Instrument: HPLC 2 (Offline)

	Level 6	Level 7
Amount	2	3
Area	238582	353263
RF	119291	117754.333333333
Last Area Residual	-0.0388294	-0.019458
Rep StDev		
Rep %RSD		
Rep 1 Area	238582	353263
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\007.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\008.dat
Rep 1 Sample ID	8330 Pt. 6 EXP 5673	8330 Pt. 7 EXP 5674
Rep 1 Calib. Time	Jan 26, 2016 09:37:28	Jan 26, 2016 09:37:42

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\012516expic-primary\012516expic-primary.met
Print Time: Jan 28, 2016 16:47:29
User: red
Instrument: HPLC 2 (Offline)

4-NT (A)
Average RF: 102048. RF StDev: 5052.11 RF %RSD: 4.95074
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 100625.x + 172.037
Goodness of fit (r^2): 0.999348



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.03	0.1	0.25	0.5	1
Area	3194	11005	24269	50559	95515
RF	106466.6666 66667	110050	97076	101118	95515
Last Area Residual	-3.18949e-00 5	-0.00765665	0.0105274	-0.000739417	0.0524934
Rep StDev					
Rep %RSD					
Rep 1 Area	3194	11005	24269	50559	95515
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\002.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\003.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\004.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\005.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\006.dat
Rep 1 Sample ID	8330 Pt. 1 EXP 5668	8330 Pt. 2 EXP 5669	8330 Pt. 3 EXP 5670	8330 Pt. 4 EXP 5671	8330 Pt. 5 EXP 5672
Rep 1 Calib. Time	Jan 26, 2016 09:36:36	Jan 26, 2016 09:36:46	Jan 26, 2016 09:36:55	Jan 26, 2016 09:37:04	Jan 26, 2016 09:37:15

Calibration Report

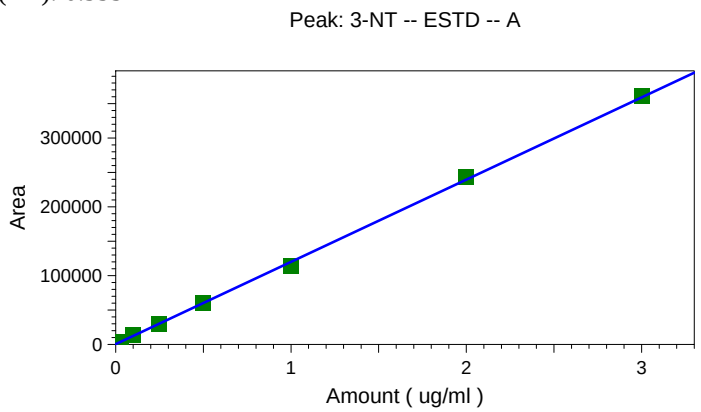
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\012516expic-primary\012516expic-primary.met
Print Time: Jan 28, 2016 16:47:29
User: red
Instrument: HPLC 2 (Offline)

	Level 6	Level 7
Amount	2	3
Area	205732	303723
RF	102866	101241
Last Area		
Residual	-0.0428295	-0.016652
Rep StDev		
Rep %RSD		
Rep 1 Area	205732	303723
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\007.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\008.dat
Rep 1 Sample ID	8330 Pt. 6 EXP 5673	8330 Pt. 7 EXP 5674
Rep 1 Calib. Time	Jan 26, 2016 09:37:28	Jan 26, 2016 09:37:42

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\012516expic-primary\012516expic-primary.met
Print Time: Jan 28, 2016 16:47:32
User: red
Instrument: HPLC 2 (Offline)

3-NT (A)
Average RF: 122255. RF StDev: 6577.16 RF %RSD: 5.37986
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 119619.x + 337.728
Goodness of fit (r^2): 0.999424



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.03	0.1	0.25	0.5	1
Area	3926	13121	29244	60209	113832
RF	130866.6666 66667	131210	116976	120418	113832
Last Area Residual	2.44727e-006	-0.00686672	0.00834681	-0.000517109	0.0512006
Rep StDev					
Rep %RSD					
Rep 1 Area	3926	13121	29244	60209	113832
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\002.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\003.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\004.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\005.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\006.dat
Rep 1 Sample ID	8330 Pt. 1 EXP 5668	8330 Pt. 2 EXP 5669	8330 Pt. 3 EXP 5670	8330 Pt. 4 EXP 5671	8330 Pt. 5 EXP 5672
Rep 1 Calib. Time	Jan 26, 2016 09:36:36	Jan 26, 2016 09:36:46	Jan 26, 2016 09:36:55	Jan 26, 2016 09:37:04	Jan 26, 2016 09:37:15

Calibration Report

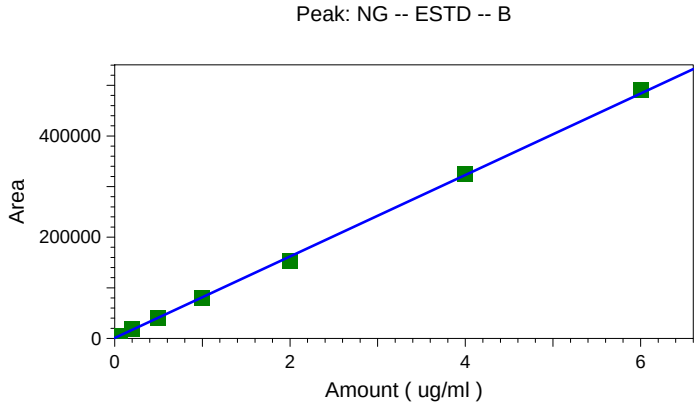
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\012516expic-primary\012516expic-primary.met
Print Time: Jan 28, 2016 16:47:32
User: red
Instrument: HPLC 2 (Offline)

	Level 6	Level 7
Amount	2	3
Area	243869	361648
RF	121934.5	120549.333333333
Last Area		
Residual	-0.0358941	-0.0205133
Rep StDev		
Rep %RSD		
Rep 1 Area	243869	361648
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\007.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\008.dat
Rep 1 Sample ID	8330 Pt. 6 EXP 5673	8330 Pt. 7 EXP 5674
Rep 1 Calib. Time	Jan 26, 2016 09:37:28	Jan 26, 2016 09:37:42

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\012516expic-primary\012516expic-primary.met
Print Time: Jan 28, 2016 16:46:09
User: red
Instrument: HPLC 2 (Offline)

NG (B)
Average RF: 83239.4 RF StDev: 5782.91 RF %RSD: 6.94733
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 80507.7x + 703.257
Goodness of fit (r^2): 0.999268



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.06	0.2	0.5	1	2
Area	5404	18483	39994	80738	152771
RF	90066.66666 66667	92415	79988	80738	76385.5
Last Area Residual	0.00161123	-0.0208454	0.0119627	0.00587423	0.11114
Rep StDev					
Rep %RSD					
Rep 1 Area	5404	18483	39994	80738	152771
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\002.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\003.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\004.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\005.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\006.dat
Rep 1 Sample ID	8330 Pt. 1 EXP 5668	8330 Pt. 2 EXP 5669	8330 Pt. 3 EXP 5670	8330 Pt. 4 EXP 5671	8330 Pt. 5 EXP 5672
Rep 1 Calib. Time	Jan 26, 2016 09:36:36	Jan 26, 2016 09:36:46	Jan 26, 2016 09:36:55	Jan 26, 2016 09:37:04	Jan 26, 2016 09:37:15

Calibration Report

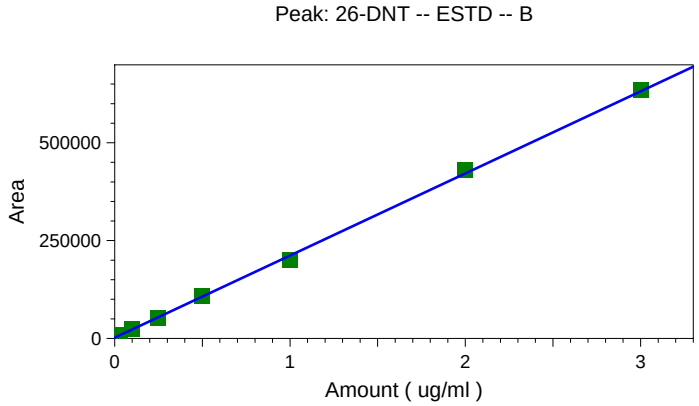
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\012516expic-primary\012516expic-primary.met
Print Time: Jan 28, 2016 16:46:09
User: red
Instrument: HPLC 2 (Offline)

	Level 6	Level 7
Amount	4	6
Area	324676	491481
RF	81169	81913.5
Last Area		
Residual	-0.024123	-0.0960376
Rep StDev		
Rep %RSD		
Rep 1 Area	324676	491481
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\007.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\008.dat
Rep 1 Sample ID	8330 Pt. 6 EXP 5673	8330 Pt. 7 EXP 5674
Rep 1 Calib. Time	Jan 26, 2016 09:37:28	Jan 26, 2016 09:37:42

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\012516expic-primary\012516expic-primary.met
Print Time: Jan 28, 2016 16:46:17
User: red
Instrument: HPLC 2 (Offline)

26-DNT (B)
Average RF: 224280. RF StDev: 26555.9 RF %RSD: 11.8405
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 209835.x + 1917.40
Goodness of fit (r^2): 0.999383



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.03	0.1	0.25	0.5	1
Area	8351	23904	52591	107542	200518
RF	278366.6666 66667	239040	210364	215084	200518
Last Area Residual	-0.000660201	-0.00478018	0.00850794	-0.00336867	0.0535413
Rep StDev					
Rep %RSD					
Rep 1 Area	8351	23904	52591	107542	200518
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\002.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\003.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\004.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\005.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\006.dat
Rep 1 Sample ID	8330 Pt. 1 EXP 5668	8330 Pt. 2 EXP 5669	8330 Pt. 3 EXP 5670	8330 Pt. 4 EXP 5671	8330 Pt. 5 EXP 5672
Rep 1 Calib. Time	Jan 26, 2016 09:36:36	Jan 26, 2016 09:36:46	Jan 26, 2016 09:36:55	Jan 26, 2016 09:37:04	Jan 26, 2016 09:37:15

Calibration Report

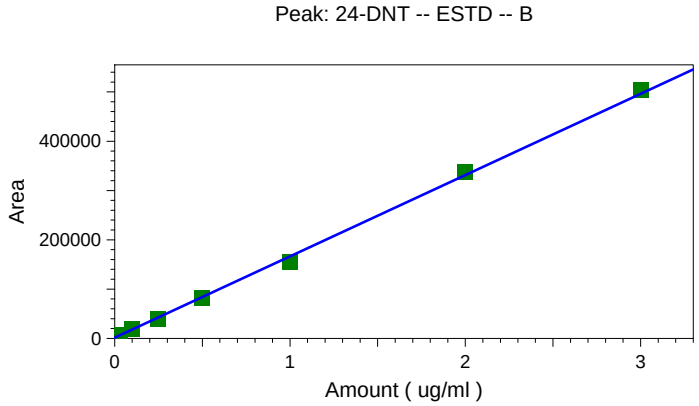
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\012516expic-primary\012516expic-primary.met
Print Time: Jan 28, 2016 16:46:17
User: red
Instrument: HPLC 2 (Offline)

	Level 6	Level 7
Amount	2	3
Area	429325	635767
RF	214662.5	211922.333333333
Last Area		
Residual	-0.0368702	-0.0206982
Rep StDev		
Rep %RSD		
Rep 1 Area	429325	635767
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\007.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\008.dat
Rep 1 Sample ID	8330 Pt. 6 EXP 5673	8330 Pt. 7 EXP 5674
Rep 1 Calib. Time	Jan 26, 2016 09:37:28	Jan 26, 2016 09:37:42

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\012516expic-primary\012516expic-primary.met
Print Time: Jan 28, 2016 16:46:22
User: red
Instrument: HPLC 2 (Offline)

24-DNT (B)
Average RF: 176648. RF StDev: 27669.8 RF %RSD: 15.6638
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 164873.x + 1441.21
Goodness of fit (r^2): 0.998911



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.03	0.1	0.25	0.5	1
Area	7075	18422	39514	82827	155845
RF	235833.3333 33333	184220	158056	165654	155845
Last Area Residual	-0.00417053	-0.00299333	0.0190776	0.00637191	0.0634968
Rep StDev					
Rep %RSD					
Rep 1 Area	7075	18422	39514	82827	155845
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\002.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\003.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\004.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\005.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\006.dat
Rep 1 Sample ID	8330 Pt. 1 EXP 5668	8330 Pt. 2 EXP 5669	8330 Pt. 3 EXP 5670	8330 Pt. 4 EXP 5671	8330 Pt. 5 EXP 5672
Rep 1 Calib. Time	Jan 26, 2016 09:36:36	Jan 26, 2016 09:36:46	Jan 26, 2016 09:36:55	Jan 26, 2016 09:37:04	Jan 26, 2016 09:37:15

Calibration Report

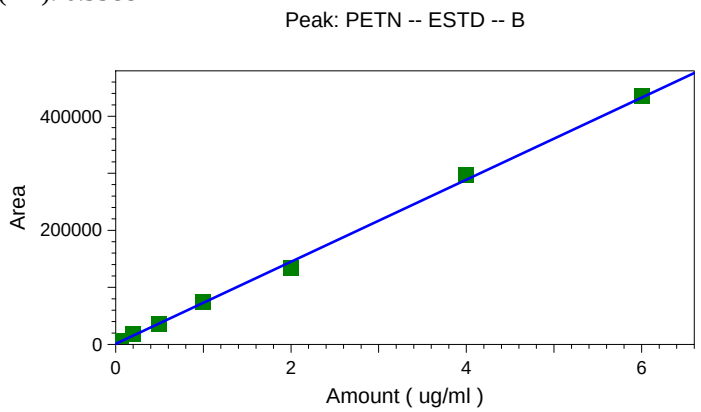
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\012516expic-primary\012516expic-primary.met
Print Time: Jan 28, 2016 16:46:22
User: red
Instrument: HPLC 2 (Offline)

	Level 6	Level 7
Amount	2	3
Area	337472	504565
RF	168736	168188.333333333
Last Area Residual	-0.0381229	-0.0515897
Rep StDev		
Rep %RSD		
Rep 1 Area	337472	504565
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\007.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\008.dat
Rep 1 Sample ID	8330 Pt. 6 EXP 5673	8330 Pt. 7 EXP 5674
Rep 1 Calib. Time	Jan 26, 2016 09:37:28	Jan 26, 2016 09:37:42

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\012516expic-primary\012516expic-primary.met
Print Time: Jan 28, 2016 16:46:25
User: red
Instrument: HPLC 2 (Offline)

PETN (B)
Average RF: 75778.9 RF StDev: 7678.95 RF %RSD: 10.1334
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 71936.3x + 967.165
Goodness of fit (r^2): 0.998841



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.06	0.2	0.5	1	2
Area	5054	17690	35119	73629	134381
RF	84233.33333 33333	88450	70238	73629	67190.5
Last Area Residual	0.00318814	-0.0324673	0.025249	-0.0100858	0.145389
Rep StDev					
Rep %RSD					
Rep 1 Area	5054	17690	35119	73629	134381
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\002.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\003.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\004.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\005.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\006.dat
Rep 1 Sample ID	8330 Pt. 1 EXP 5668	8330 Pt. 2 EXP 5669	8330 Pt. 3 EXP 5670	8330 Pt. 4 EXP 5671	8330 Pt. 5 EXP 5672
Rep 1 Calib. Time	Jan 26, 2016 09:36:36	Jan 26, 2016 09:36:46	Jan 26, 2016 09:36:55	Jan 26, 2016 09:37:04	Jan 26, 2016 09:37:15

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\012516expic-primary\012516expic-primary.met
Print Time: Jan 28, 2016 16:46:25
User: red
Instrument: HPLC 2 (Offline)

	Level 6	Level 7
Amount	4	6
Area	296159	436030
RF	74039.75	72671.6666666667
Last Area		
Residual	-0.103517	-0.0478898
Rep StDev		
Rep %RSD		
Rep 1 Area	296159	436030
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\007.dat	C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\008.dat
Rep 1 Sample ID	8330 Pt. 6 EXP 5673	8330 Pt. 7 EXP 5674
Rep 1 Calib. Time	Jan 26, 2016 09:37:28	Jan 26, 2016 09:37:42

QC Check Standard Report

Sequence : C:\Instarch\HPLC 2\Sequences\8330A_B\012516expic-primary.seq
User : red
Printed : Jan 28, 2016 16:43:27

File	Sample ID	Acquired
C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\002.dat	8330 Pt. 1 EXP 5668	Jan 28, 2016 16:43:27

A

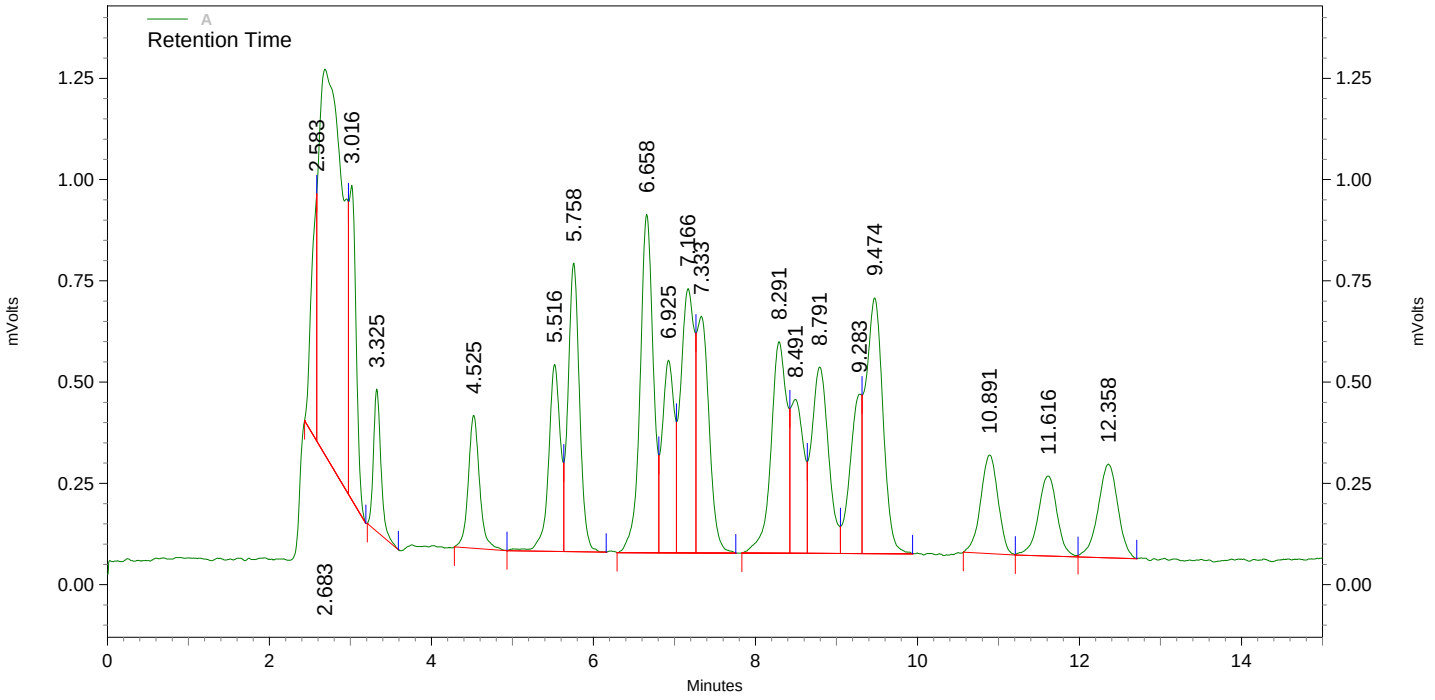
Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
HMX	0.030	0.031	2.767	20.000	Passed
RDX	0.030	0.029	2.007	20.000	Passed
12-DNB (SSTD)	6.000	5.865	2.243	20.000	Passed
135-TNB	0.030	0.030	0.768	20.000	Passed
13-DNB	0.030	0.030	0.501	20.000	Passed
TETRYL	0.030	0.030	0.549	20.000	Passed
35-DNA	0.030	0.031	2.148	20.000	Passed
NB	0.030	0.030	0.200	20.000	Passed
246-TNT	0.030	0.032	5.685	20.000	Passed
4-AM-26-DNT	0.030	0.027	9.179	20.000	Passed
2-AM-46-DNT	0.030	0.030	1.666	20.000	Passed
2-NT	0.030	0.030	0.901	20.000	Passed
4-NT	0.030	0.030	0.106	20.000	Passed
3-NT	0.030	0.030	0.008	20.000	Passed

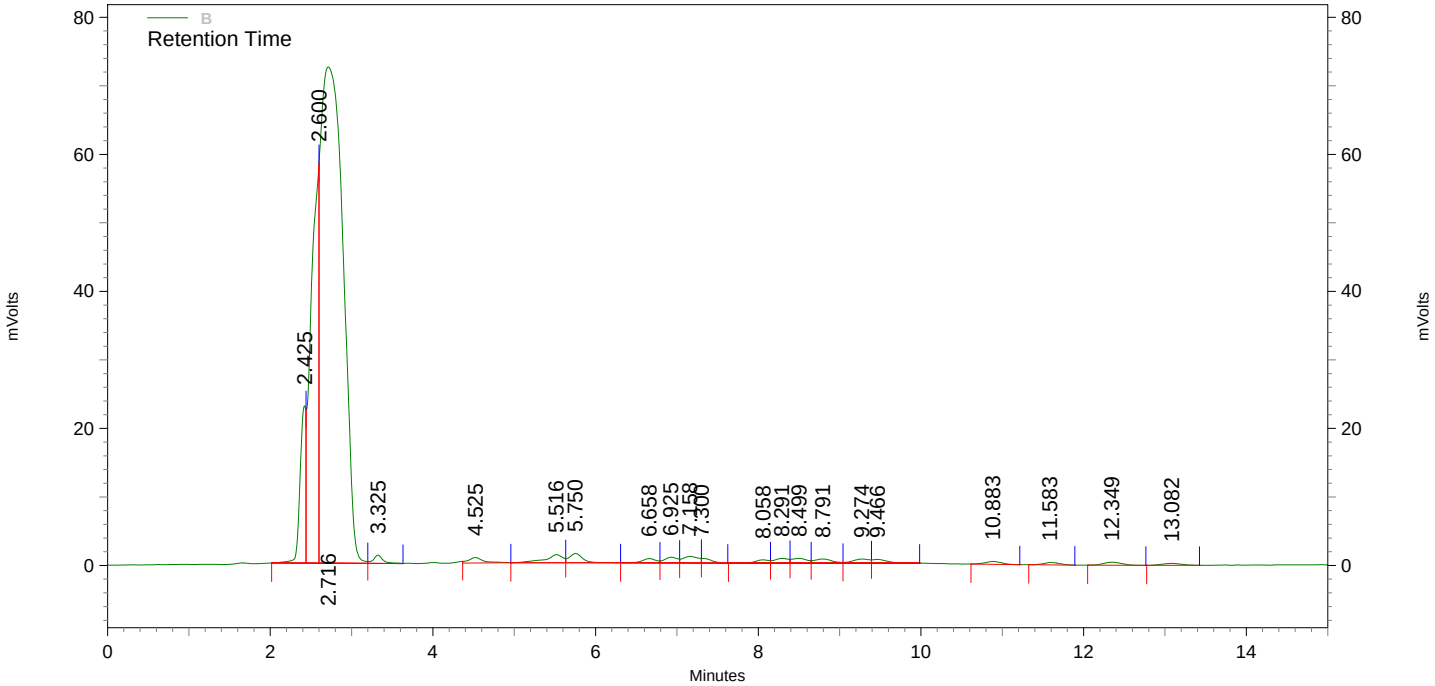
B

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
NG	0.060	0.058	2.685	20.000	Passed
26-DNT	0.030	0.031	2.201	20.000	Passed
24-DNT	0.030	0.034	13.902	20.000	Passed
PETN	0.060	0.057	5.314	20.000	Passed

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\002.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\012516expic-primary\012516expic-primary.met
Sample ID: 8330 Pt. 1 EXP 5668
Acquired: Jan 25, 2016 15:21:58
Data Summary: {Data Description}





A Results

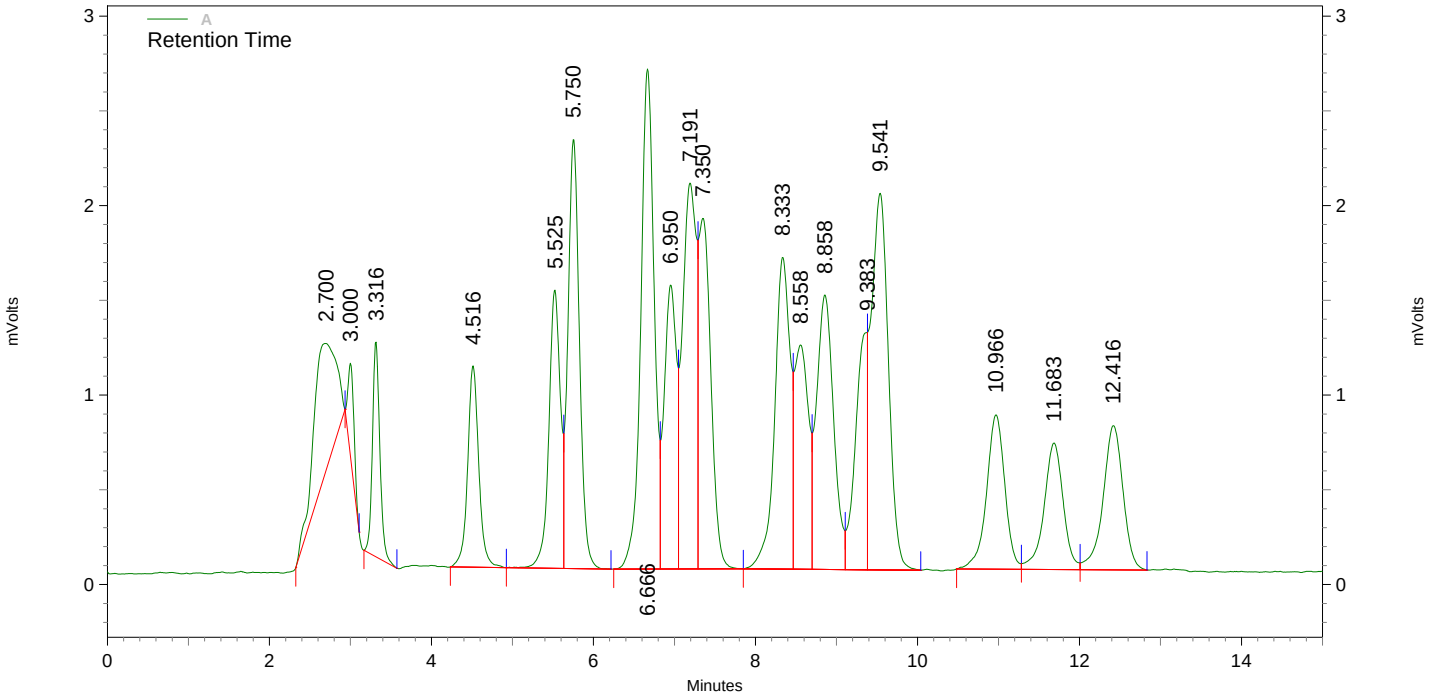
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX	3.325	2243	**0.031**
RDX	4.525	3165	**0.029**
12-DNB (SSTD)	5.516	4679	**5.865**
135-TNB	5.758	6998	**0.030**
13-DNB	6.658	9443	**0.030**
TETRYL	6.925	4899	**0.030**
35-DNA	7.166	7676	**0.031**
NB	7.333	6220	**0.030**
246-TNT	8.291	7089	**0.032**
4-AM-26-DNT	8.491	4225	**0.027**
2-AM-46-DNT	8.791	6721	**0.030**
2-NT	10.891	3625	**0.030**
4-NT	11.616	3194	**0.030**
3-NT	12.358	3926	**0.030**

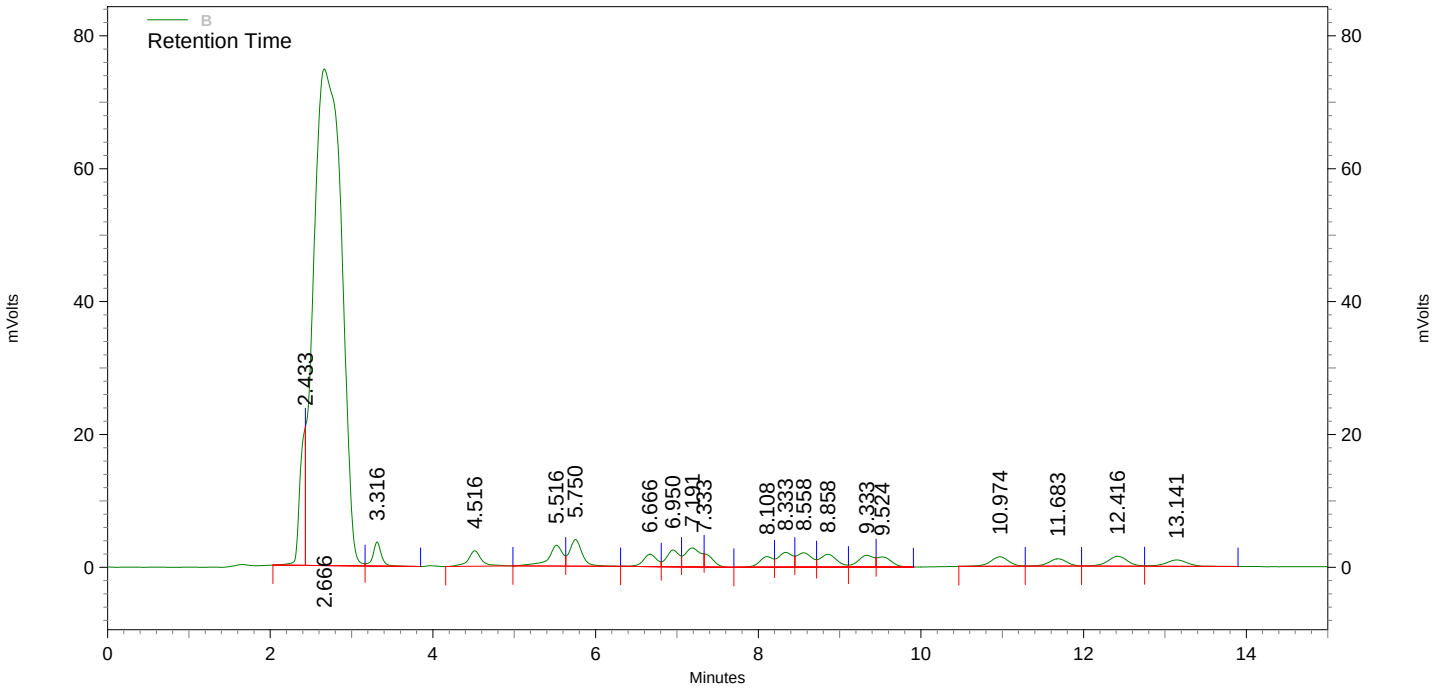
B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG	8.058	5404	**0.058**
26-DNT	9.274	8351	**0.031**
24-DNT	9.466	7075	**0.034**
PETN	13.082	5054	**0.057**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\003.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\012516expic-primary\012516expic-primary.met
Sample ID: 8330 Pt. 2 EXP 5669
Acquired: Jan 25, 2016 15:40:16
Data Summary: {Data Description}





A Results

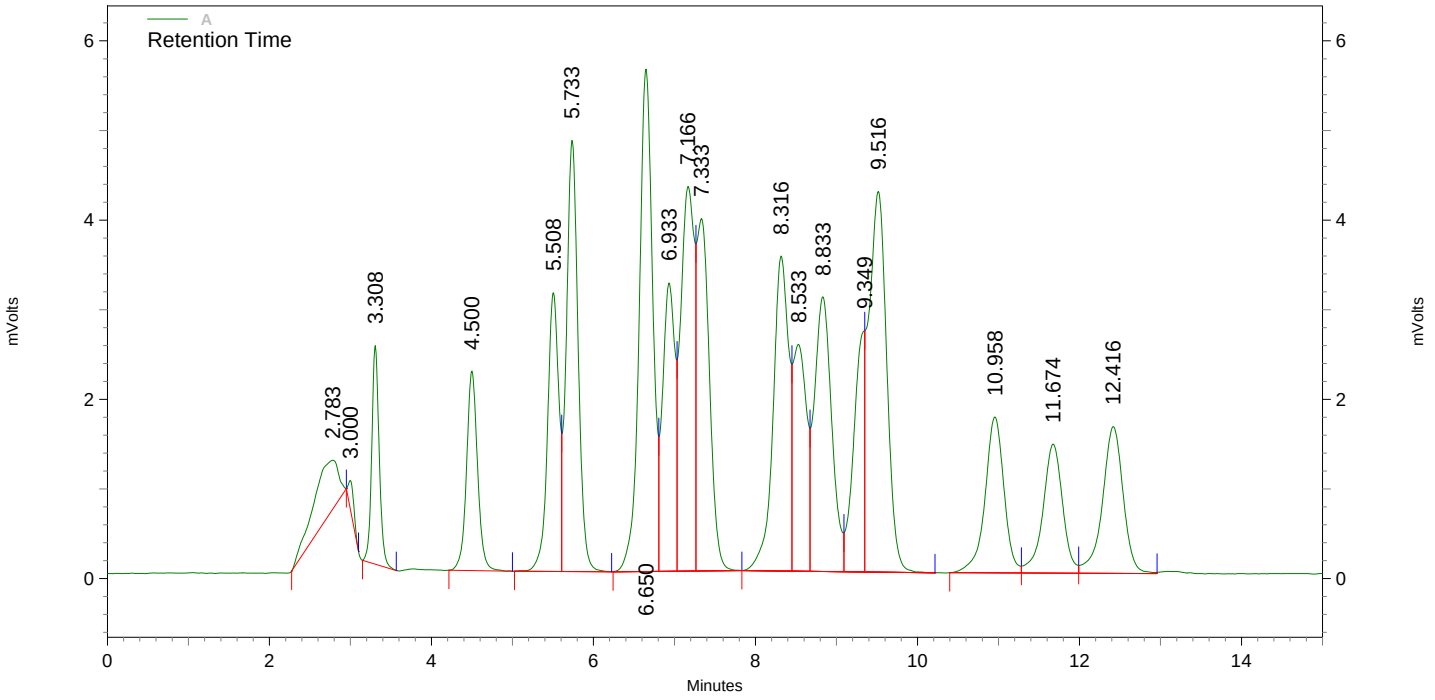
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX	3.316	7218	**0.100 CAL**
RDX	4.516	10181	**0.100 CAL**
12-DNB (SSTD)	5.525	14535	**20.000 CAL**
135-TNB	5.750	22431	**0.100 CAL**
13-DNB	6.666	30288	**0.100 CAL**
TETRYL	6.950	15759	**0.100 CAL**
35-DNA	7.191	24361	**0.100 CAL**
NB	7.350	19382	**0.100 CAL**
246-TNT	8.333	21770	**0.100 CAL**
4-AM-26-DNT	8.558	14246	**0.100 CAL**
2-AM-46-DNT	8.858	21360	**0.100 CAL**
2-NT	10.966	12798	**0.100 CAL**
4-NT	11.683	11005	**0.100 CAL**
3-NT	12.416	13121	**0.100 CAL**

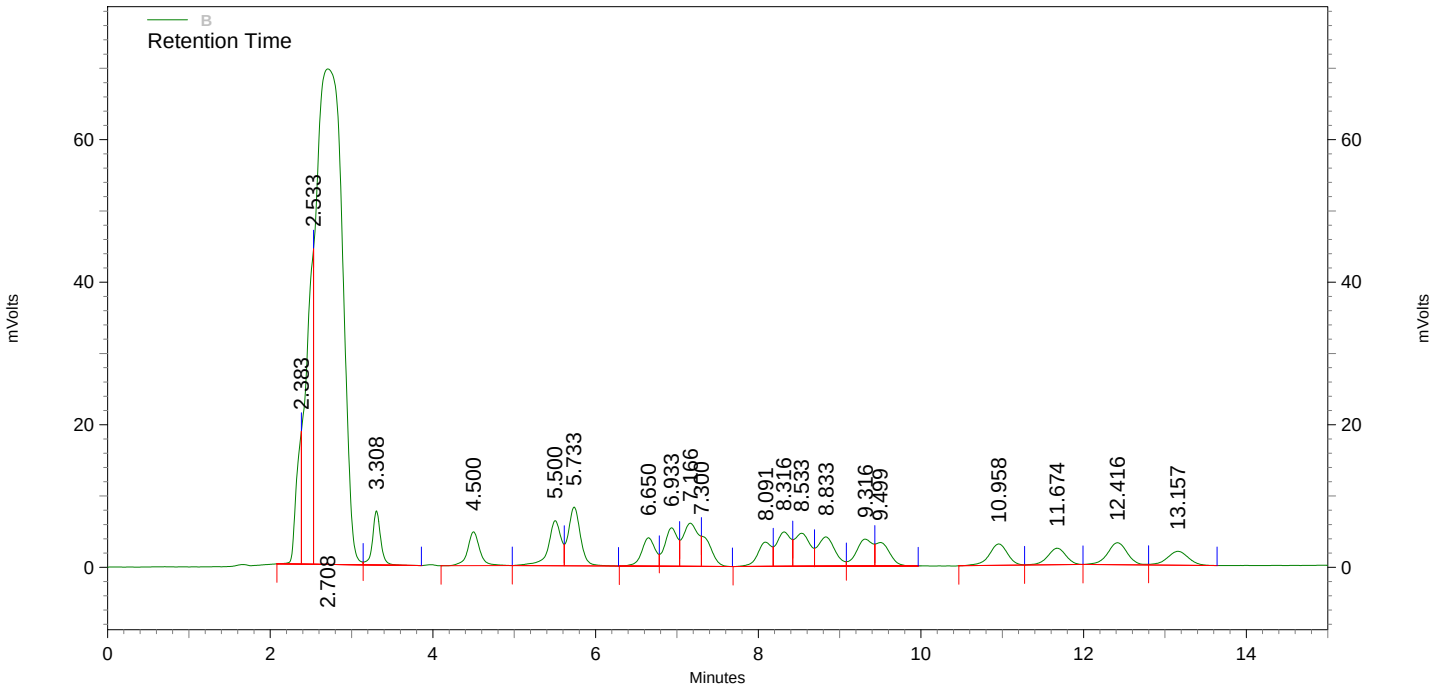
B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG	8.108	18483	**0.200 CAL**
26-DNT	9.333	23904	**0.100 CAL**
24-DNT	9.524	18422	**0.100 CAL**
PETN	13.141	17690	**0.200 CAL**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\004.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\012516expic-primary\012516expic-primary.met
Sample ID: 8330 Pt. 3 EXP 5670
Acquired: Jan 25, 2016 15:58:34
Data Summary: {Data Description}





A Results

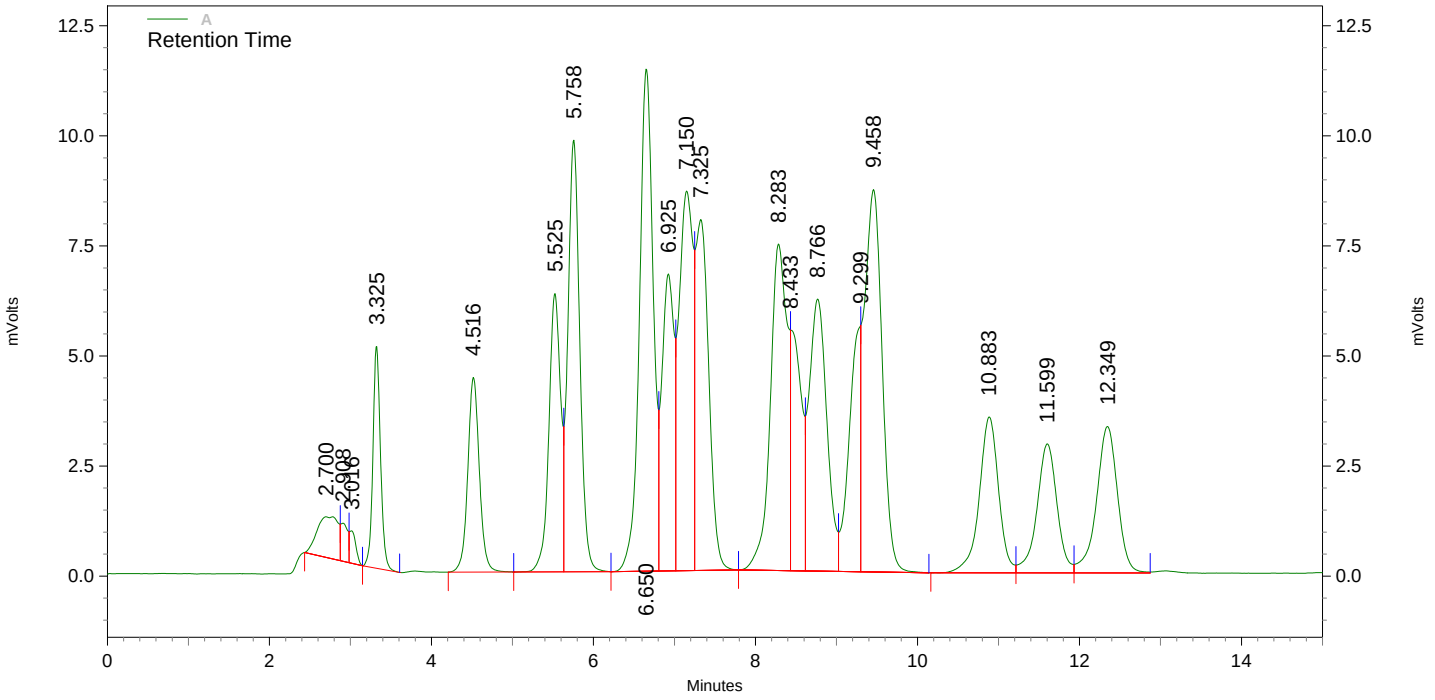
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX	3.308	15580	**0.250 CAL**
RDX	4.500	21128	**0.250 CAL**
12-DNB (SSTD)	5.508	30143	**50.000 CAL**
135-TNB	5.733	48726	**0.250 CAL**
13-DNB	6.650	65412	**0.250 CAL**
TETRYL	6.933	34309	**0.250 CAL**
35-DNA	7.166	50554	**0.250 CAL**
NB	7.333	42783	**0.250 CAL**
246-TNT	8.316	47383	**0.250 CAL**
4-AM-26-DNT	8.533	29707	**0.250 CAL**
2-AM-46-DNT	8.833	45986	**0.250 CAL**
2-NT	10.958	28280	**0.250 CAL**
4-NT	11.674	24269	**0.250 CAL**
3-NT	12.416	29244	**0.250 CAL**

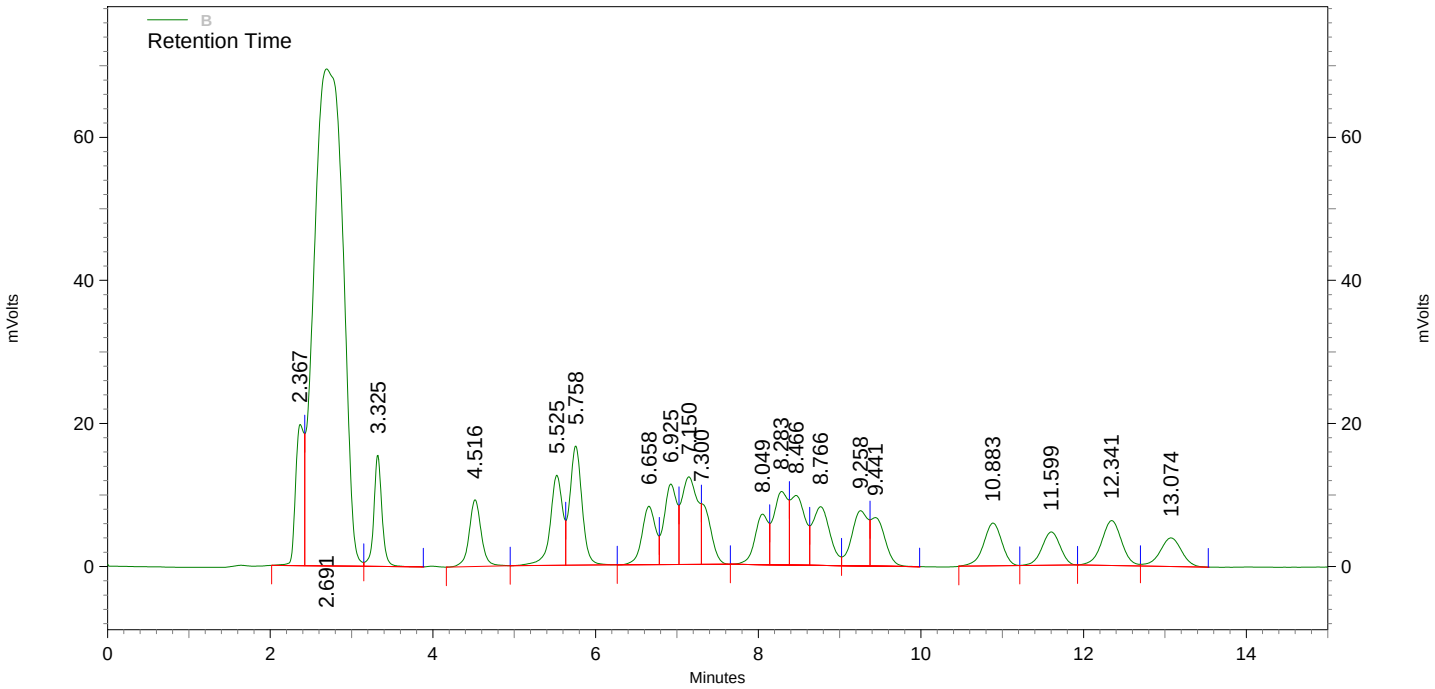
B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG	8.091	39994	**0.500 CAL**
26-DNT	9.316	52591	**0.250 CAL**
24-DNT	9.499	39514	**0.250 CAL**
PETN	13.157	35119	**0.500 CAL**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\005.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\012516expic-primary\012516expic-primary.met
Sample ID: 8330 Pt. 4 EXP 5671
Acquired: Jan 25, 2016 16:16:52
Data Summary: {Data Description}





A Results

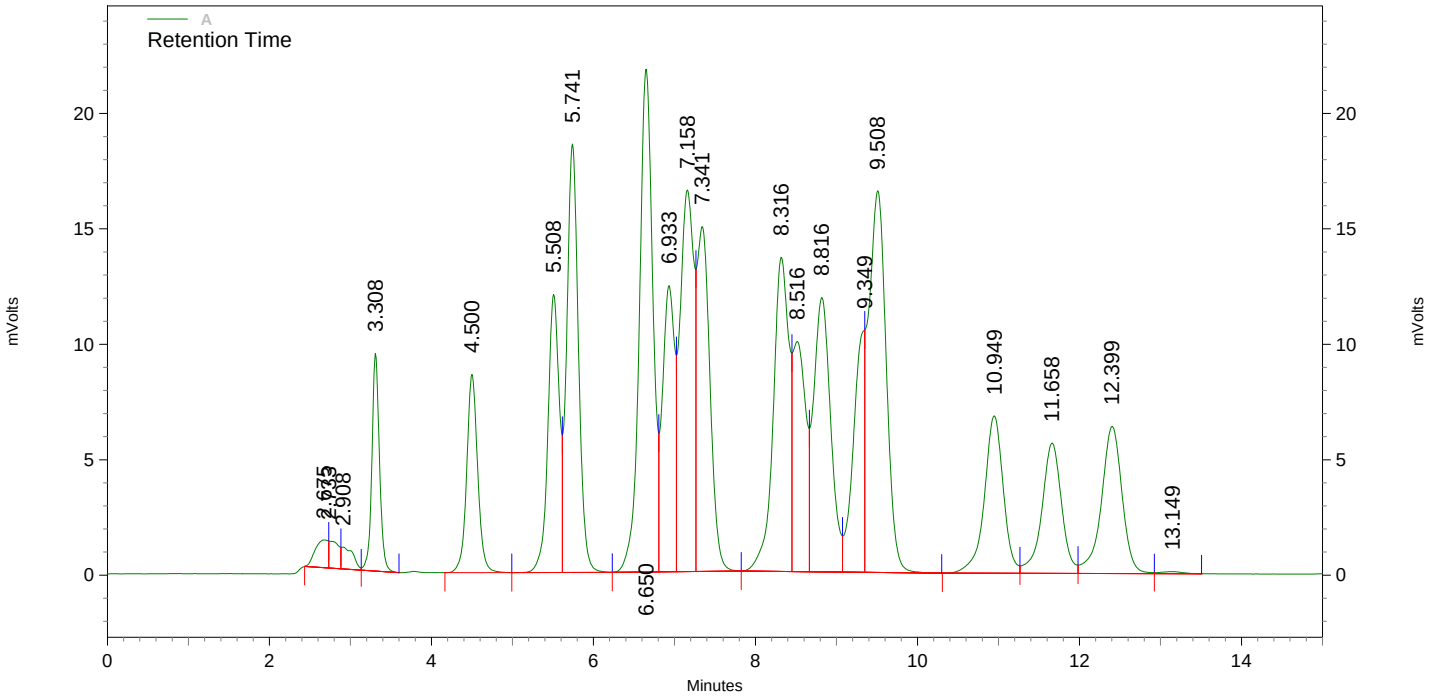
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX	3.325	32837	**0.500 CAL**
RDX	4.516	43978	**0.500 CAL**
12-DNB (SSTD)	5.525	63619	**100.000 CAL**
135-TNB	5.758	100169	**0.500 CAL**
13-DNB	6.650	135603	**0.500 CAL**
TETRYL	6.925	69682	**0.500 CAL**
35-DNA	7.150	103585	**0.500 CAL**
NB	7.325	90652	**0.500 CAL**
246-TNT	8.283	108887	**0.500 CAL**
4-AM-26-DNT	8.433	50821	**0.500 CAL**
2-AM-46-DNT	8.766	94410	**0.500 CAL**
2-NT	10.883	58916	**0.500 CAL**
4-NT	11.599	50559	**0.500 CAL**
3-NT	12.349	60209	**0.500 CAL**

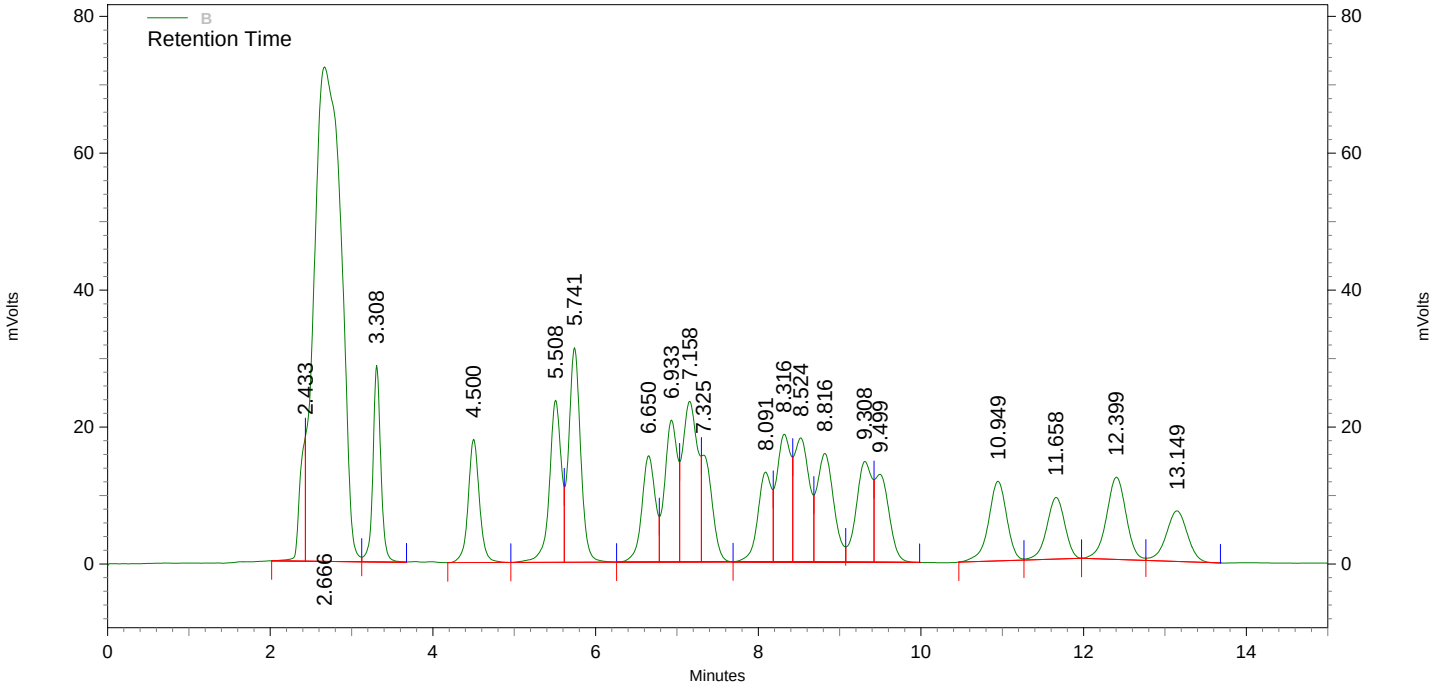
B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG	8.049	80738	**1.000 CAL**
26-DNT	9.258	107542	**0.500 CAL**
24-DNT	9.441	82827	**0.500 CAL**
PETN	13.074	73629	**1.000 CAL**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\006.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\012516expic-primary\012516expic-primary.met
Sample ID: 8330 Pt. 5 EXP 5672
Acquired: Jan 25, 2016 16:35:11
Data Summary: {Data Description}





A Results

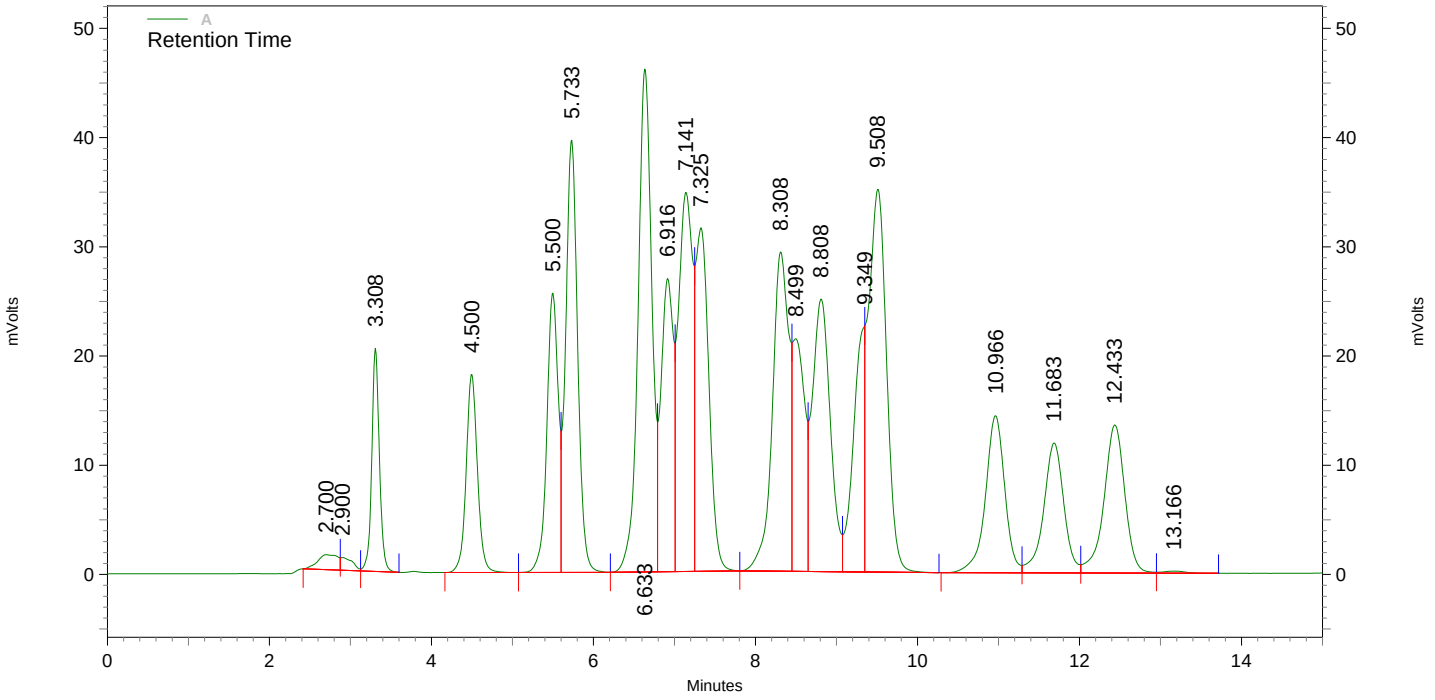
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX	3.308	61490	**1.000 CAL**
RDX	4.500	81149	**1.000 CAL**
12-DNB (SSTD)	5.508	117487	**200.000 CAL**
135-TNB	5.741	186399	**1.000 CAL**
13-DNB	6.650	253033	**1.000 CAL**
TETRYL	6.933	128894	**1.000 CAL**
35-DNA	7.158	199211	**1.000 CAL**
NB	7.341	166028	**1.000 CAL**
246-TNT	8.316	184673	**1.000 CAL**
4-AM-26-DNT	8.516	112144	**1.000 CAL**
2-AM-46-DNT	8.816	175414	**1.000 CAL**
2-NT	10.949	110746	**1.000 CAL**
4-NT	11.658	95515	**1.000 CAL**
3-NT	12.399	113832	**1.000 CAL**

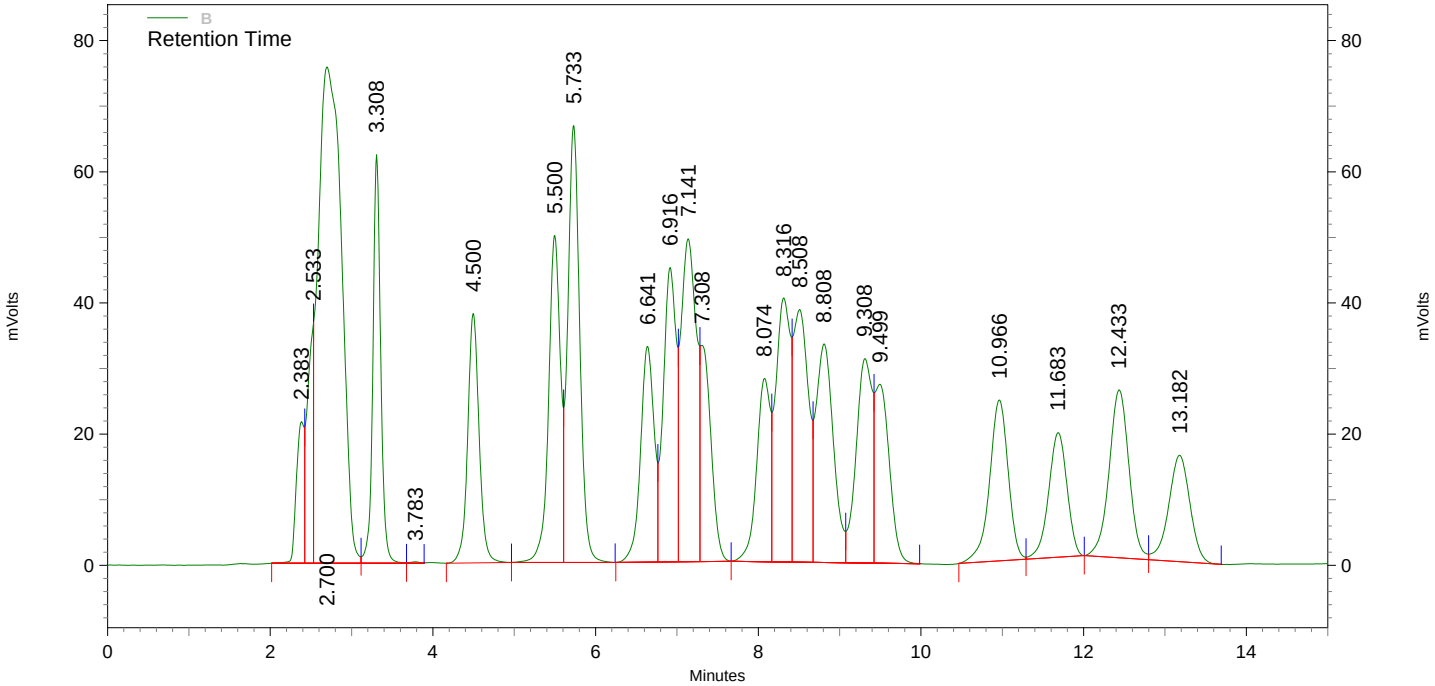
B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG	8.091	152771	**2.000 CAL**
26-DNT	9.308	200518	**1.000 CAL**
24-DNT	9.499	155845	**1.000 CAL**
PETN	13.149	134381	**2.000 CAL**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\007.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\012516expic-primary\012516expic-primary.met
Sample ID: 8330 Pt. 6 EXP 5673
Acquired: Jan 25, 2016 16:53:28
Data Summary: {Data Description}





A Results

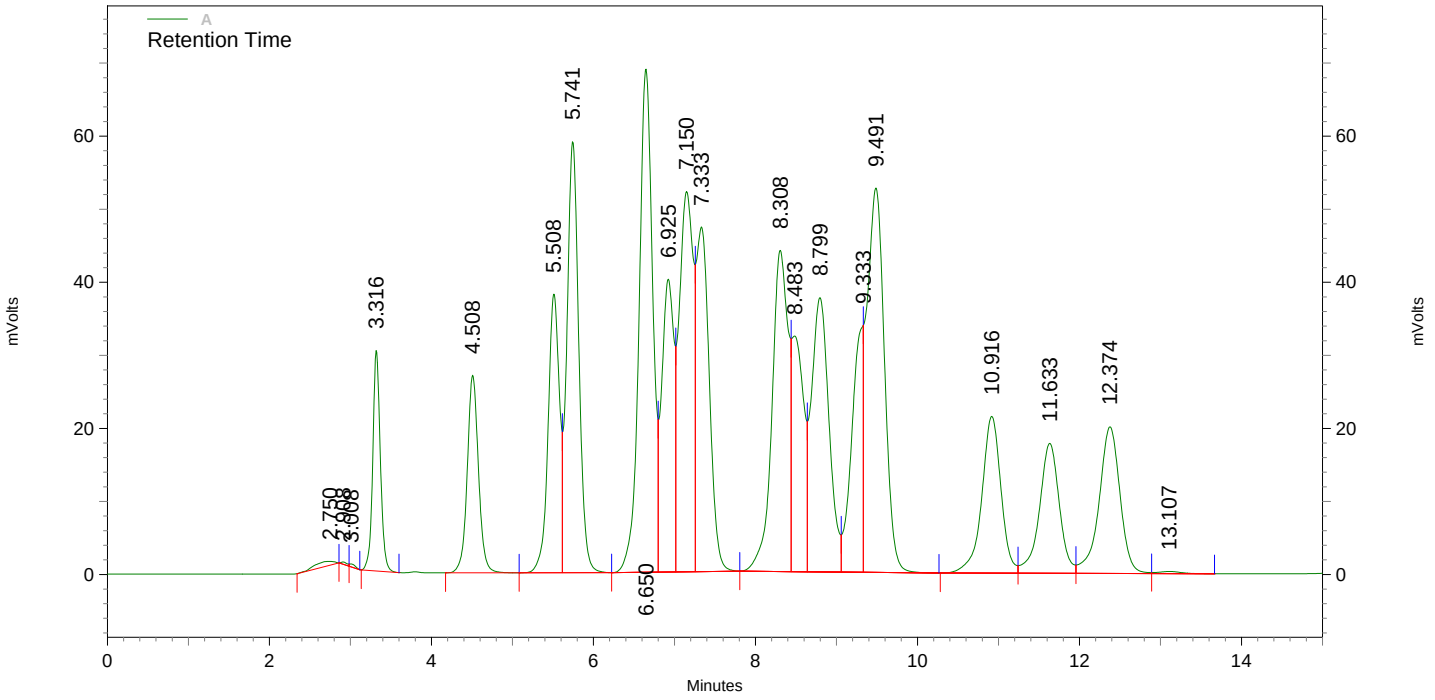
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX	3.308	134218	**2.000 CAL**
RDX	4.500	175454	**2.000 CAL**
12-DNB (SSTD)	5.500	248173	**400.000 CAL**
135-TNB	5.733	406446	**2.000 CAL**
13-DNB	6.633	544076	**2.000 CAL**
TETRYL	6.916	282976	**2.000 CAL**
35-DNA	7.141	426331	**2.000 CAL**
NB	7.325	356691	**2.000 CAL**
246-TNT	8.308	415422	**2.000 CAL**
4-AM-26-DNT	8.499	223854	**2.000 CAL**
2-AM-46-DNT	8.808	387431	**2.000 CAL**
2-NT	10.966	238582	**2.000 CAL**
4-NT	11.683	205732	**2.000 CAL**
3-NT	12.433	243869	**2.000 CAL**

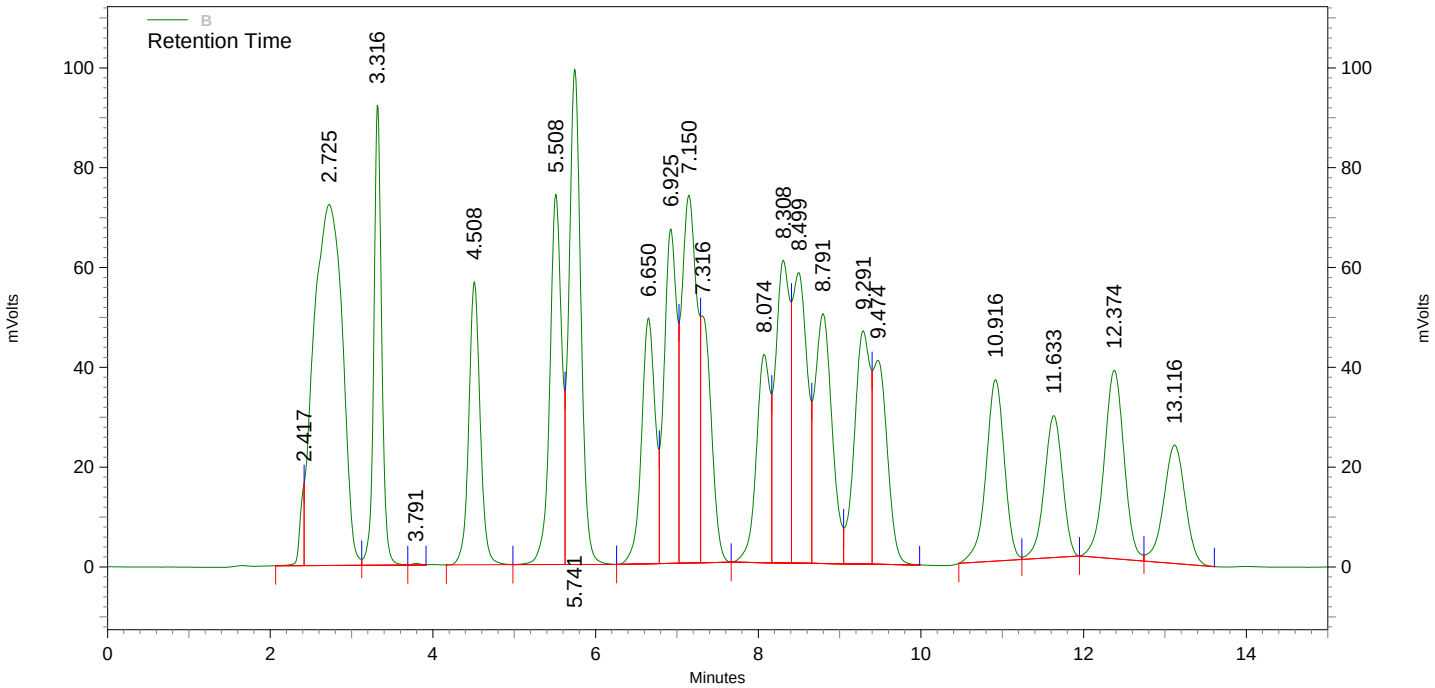
B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG	8.074	324676	**4.000 CAL**
26-DNT	9.308	429325	**2.000 CAL**
24-DNT	9.499	337472	**2.000 CAL**
PETN	13.182	296159	**4.000 CAL**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\008.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\012516expic-primary\012516expic-primary.met
Sample ID: 8330 Pt. 7 EXP 5674
Acquired: Jan 25, 2016 17:11:46
Data Summary: {Data Description}





A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX	3.316	196569	**3.000 CAL**
RDX	4.508	261015	**3.000 CAL**
12-DNB (SSTD)	5.508	372235	**600.000 CAL**
135-TNB	5.741	602198	**3.000 CAL**
13-DNB	6.650	806528	**3.000 CAL**
TETRYL	6.925	422276	**3.000 CAL**
35-DNA	7.150	636972	**3.000 CAL**
NB	7.333	526912	**3.000 CAL**
246-TNT	8.308	617724	**3.000 CAL**
4-AM-26-DNT	8.483	335283	**3.000 CAL**
2-AM-46-DNT	8.799	569602	**3.000 CAL**
2-NT	10.916	353263	**3.000 CAL**
4-NT	11.633	303723	**3.000 CAL**
3-NT	12.374	361648	**3.000 CAL**

B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG	8.074	491481	**6.000 CAL**
26-DNT	9.291	635767	**3.000 CAL**
24-DNT	9.474	504565	**3.000 CAL**
PETN	13.116	436030	**6.000 CAL**

QC Check Standard Report

Sequence : C:\Instarch\HPLC 2\Sequences\8330A_B\012516expic-primary.seq
User : red
Printed : Jan 28, 2016 16:44:03

File	Sample ID	Acquired
C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\009.dat	8330 ICV EXP 5675	Jan 28, 2016 16:44:03

A

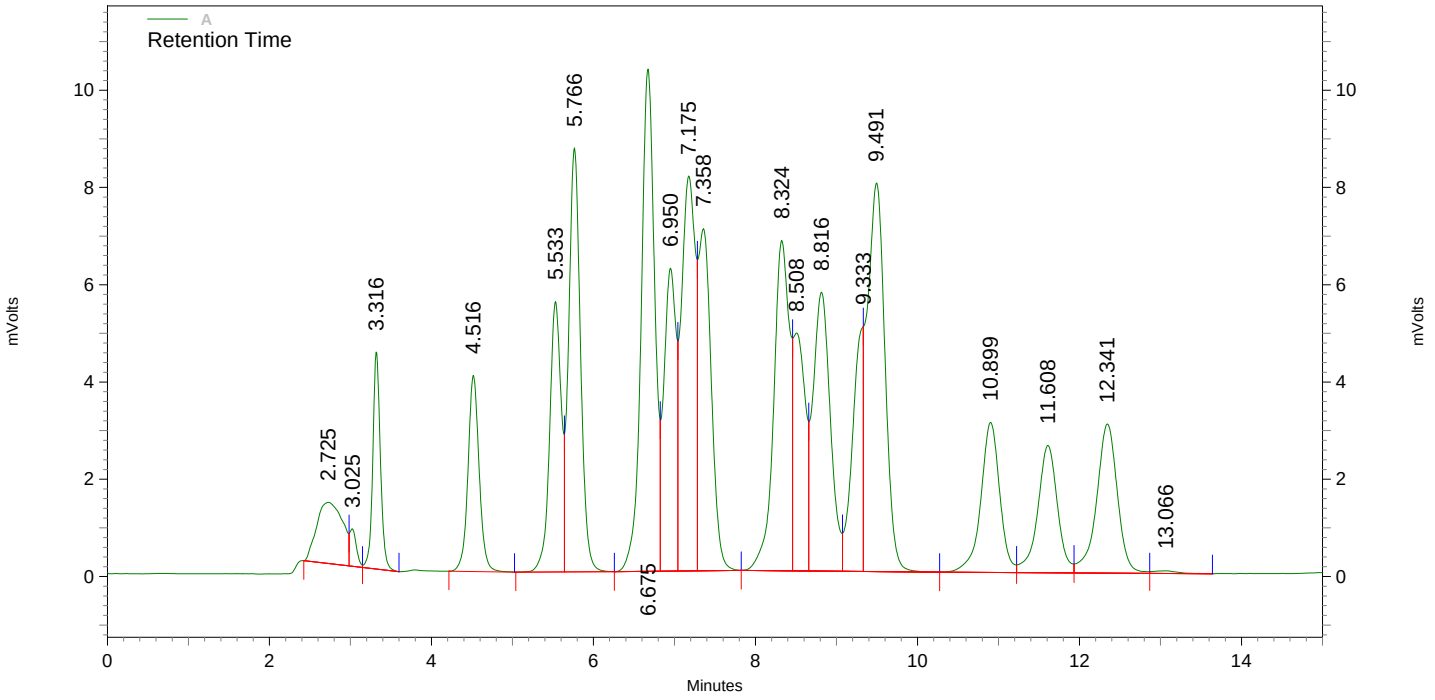
Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
HMX	0.500	0.446	10.847	20.000	Passed
RDX	0.500	0.444	11.220	20.000	Passed
12-DNB (SSTD)	100.000	88.791	11.209	20.000	Passed
135-TNB	0.500	0.441	11.720	20.000	Passed
13-DNB	0.500	0.446	10.878	20.000	Passed
TETRYL	0.500	0.463	7.307	20.000	Passed
35-DNA	0.500	0.464	7.144	20.000	Passed
NB	0.500	0.445	10.933	20.000	Passed
246-TNT	0.500	0.456	8.762	20.000	Passed
4-AM-26-DNT	0.500	0.451	9.827	20.000	Passed
2-AM-46-DNT	0.500	0.453	9.371	20.000	Passed
2-NT	0.500	0.426	14.705	20.000	Passed
4-NT	0.500	0.439	12.229	20.000	Passed
3-NT	0.500	0.456	8.766	20.000	Passed

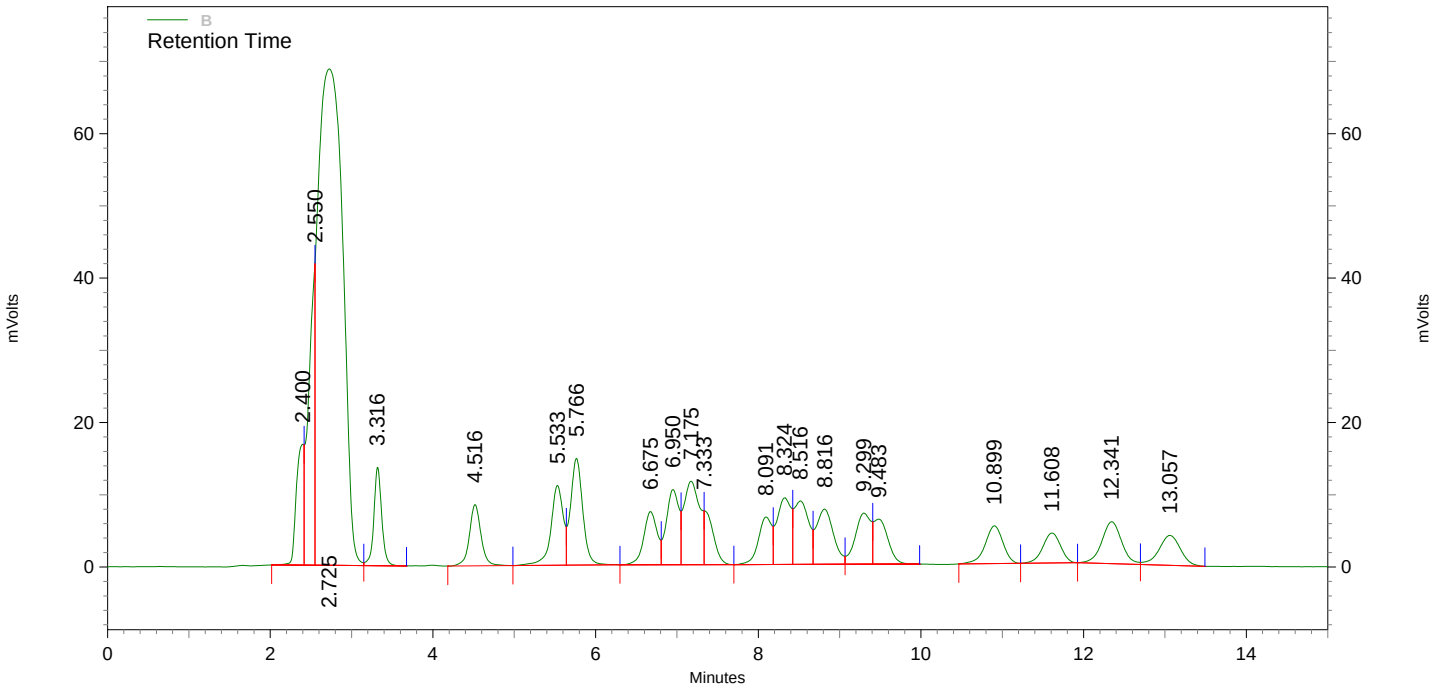
B

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
NG	1.000	0.913	8.665	20.000	Passed
26-DNT	0.500	0.442	11.545	20.000	Passed
24-DNT	0.500	0.457	8.583	20.000	Passed
PETN	1.000	1.046	4.559	20.000	Passed

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\009.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\012516expic-primary\012516expic-primary.met
Sample ID: 8330 ICV EXP 5675
Acquired: Jan 25, 2016 17:30:07
Data Summary: {Data Description}





A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX	3.316	29266	**0.446**
RDX	4.516	38772	**0.444**
12-DNB (SSTD)	5.533	55464	**88.791**
135-TNB	5.766	88576	**0.441**
13-DNB	6.675	120186	**0.446**
TETRYL	6.950	64894	**0.463**
35-DNA	7.175	98345	**0.464**
NB	7.358	78712	**0.445**
246-TNT	8.324	93176	**0.456**
4-AM-26-DNT	8.508	51070	**0.451**
2-AM-46-DNT	8.816	86115	**0.453**
2-NT	10.899	50023	**0.426**
4-NT	11.608	44332	**0.439**
3-NT	12.341	54904	**0.456**

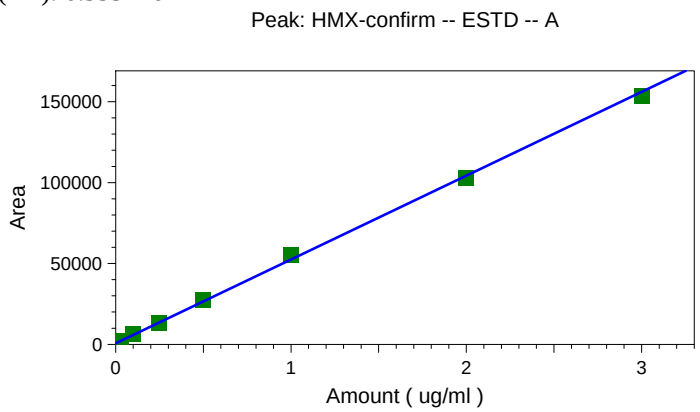
B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG	8.091	74235	**0.913**
26-DNT	9.299	94722	**0.442**
24-DNT	9.483	76802	**0.457**
PETN	13.057	76183	**1.046**

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\012716expic-confirm\012716expic-confirm.met
Print Time: Jan 28, 2016 17:22:01
User: red
Instrument: HPLC 2 (Offline)

HMX-confirm (A)
Average RF: 56862.6 RF StDev: 6179.71 RF %RSD: 10.8678
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 51816.8x + 704.745
Goodness of fit (r^2): 0.999116



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.03	0.1	0.25	0.5	1
Area	2031	6300	13424	27702	55453
RF	67700	63000	53696	55404	55453
Last Area Residual	0.0044049	-0.00798158	0.00453395	-0.021014	-0.0565743
Rep StDev					
Rep %RSD					
Rep 1 Area	2031	6300	13424	27702	55453
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\002.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\003.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\004.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\005.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\006.dat
Rep 1 Sample ID	8330 Pt. 1 EXP 5677	8330 Pt. 2 EXP 5678	8330 Pt. 3 EXP 5679	8330 Pt. 4 EXP 5680	8330 Pt. 5 EXP 5681
Rep 1 Calib. Time	Jan 27, 2016 15:19:55	Jan 27, 2016 17:32:19	Jan 27, 2016 17:32:31	Jan 28, 2016 10:25:14	Jan 27, 2016 17:32:56

	Level 6	Level 7
Amount	2	3

Calibration Report

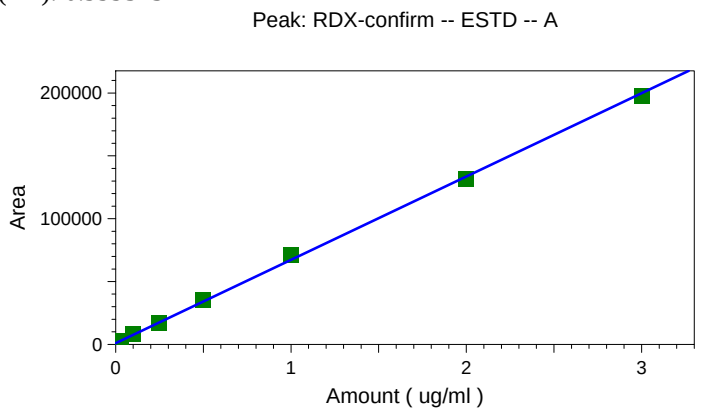
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\012716expic-confirm\012716expic-confirm.met
Print Time: Jan 28, 2016 17:22:01
User: red
Instrument: HPLC 2 (Offline)

Area	103053	153777
RF	51526.5	51259
Last Area		
Residual	0.024804	0.0458929
Rep StDev		
Rep %RSD		
Rep 1 Area	103053	153777
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\007.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\008.dat
Rep 1 Sample ID	8330 Pt. 6 EXP 5682	8330 Pt. 7 EXP 5683
Rep 1 Calib. Time	Jan 28, 2016 10:22:55	Jan 28, 2016 10:23:30

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\012716expic-confirm\012716expic-confirm.met
Print Time: Jan 28, 2016 17:22:05
User: red
Instrument: HPLC 2 (Offline)

RDX-confirm (A)
Average RF: 73127.4 RF StDev: 9322.06 RF %RSD: 12.7477
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 66331.7x + 942.246
Goodness of fit (r^2): 0.999325



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.03	0.1	0.25	0.5	1
Area	2720	8105	16846	35021	70878
RF	90666.66666 66667	81050	67384	70042	70878
Last Area Residual	0.00319904	-0.00798383	0.0102391	-0.0137625	-0.0543334
Rep StDev					
Rep %RSD					
Rep 1 Area	2720	8105	16846	35021	70878
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\002.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\003.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\004.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\005.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\006.dat
Rep 1 Sample ID	8330 Pt. 1 EXP 5677	8330 Pt. 2 EXP 5678	8330 Pt. 3 EXP 5679	8330 Pt. 4 EXP 5680	8330 Pt. 5 EXP 5681
Rep 1 Calib. Time	Jan 27, 2016 15:19:55	Jan 27, 2016 17:32:19	Jan 27, 2016 17:32:31	Jan 28, 2016 10:25:14	Jan 27, 2016 17:32:56

Level 6	Level 7

Calibration Report

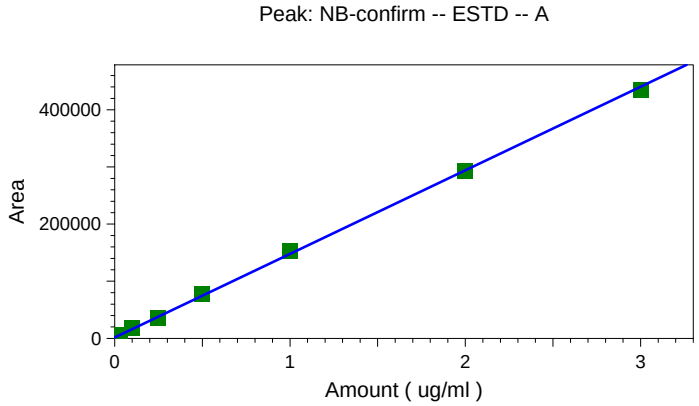
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\012716expic-confirm\012716expic-confirm.met
Print Time: Jan 28, 2016 17:22:05
User: red
Instrument: HPLC 2 (Offline)

Amount	2	3
Area	131790	197929
RF	65895	65976.3333333333
Last Area		
Residual	0.0273731	0.0302786
Rep StDev		
Rep %RSD		
Rep 1 Area	131790	197929
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\007.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\008.dat
Rep 1 Sample ID	8330 Pt. 6 EXP 5682	8330 Pt. 7 EXP 5683
Rep 1 Calib. Time	Jan 28, 2016 10:22:55	Jan 28, 2016 10:23:30

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\012716expic-confirm\012716expic-confirm.met
Print Time: Jan 28, 2016 17:22:08
User: red
Instrument: HPLC 2 (Offline)

NB-confirm (A)
Average RF: 158057. RF StDev: 15934.4 RF %RSD: 10.0815
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 146275.x + 1618.89
Goodness of fit (r^2): 0.999526



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.03	0.1	0.25	0.5	1
Area	5544	17612	36551	77084	153786
RF	184800	176120	146204	154168	153786
Last Area Residual	0.00316614	-0.00933619	0.0111882	-0.0159138	-0.0402835
Rep StDev					
Rep %RSD					
Rep 1 Area	5544	17612	36551	77084	153786
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\002.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\003.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\004.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\005.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\006.dat
Rep 1 Sample ID	8330 Pt. 1 EXP 5677	8330 Pt. 2 EXP 5678	8330 Pt. 3 EXP 5679	8330 Pt. 4 EXP 5680	8330 Pt. 5 EXP 5681
Rep 1 Calib. Time	Jan 27, 2016 15:19:55	Jan 27, 2016 17:32:19	Jan 27, 2016 17:32:31	Jan 28, 2016 10:25:14	Jan 27, 2016 17:32:56

	Level 6	Level 7
Amount	2	3

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\012716expic-confirm\012716expic-confirm.met
Print Time: Jan 28, 2016 17:22:08
User: red
Instrument: HPLC 2 (Offline)

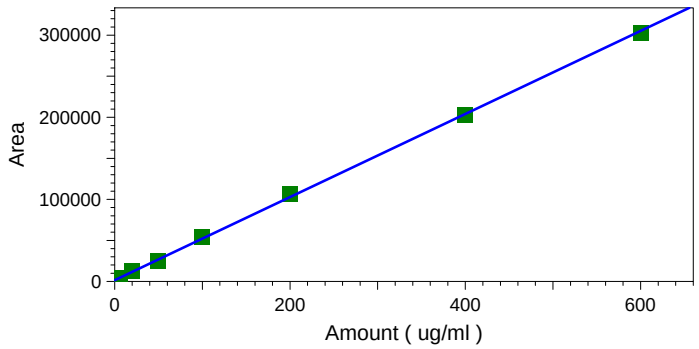
Area	292483	435228
RF	146241.5	145076
Last Area		
Residual	0.0115209	0.0356512
Rep StDev		
Rep %RSD		
Rep 1 Area	292483	435228
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\007.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\008.dat
Rep 1 Sample ID	8330 Pt. 6 EXP 5682	8330 Pt. 7 EXP 5683
Rep 1 Calib. Time	Jan 28, 2016 10:22:55	Jan 28, 2016 10:23:30

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\012716expic-confirm\012716expic-confirm.met
Print Time: Jan 28, 2016 17:22:12
User: red
Instrument: HPLC 2 (Offline)

12-DNB (SSTD)-confirm (A)
Average RF: 562.819 RF StDev: 86.9560 RF %RSD: 15.4501
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 506.318x + 1551.37
Goodness of fit (r^2): 0.999630

Peak: 12-DNB (SSTD)-confirm -- ESTD -- A



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	6	20	50	100	200
Area	4455	12148	25393	53737	106730
RF	742.5	607.4	507.86	537.37	533.65
Last Area Residual	0.265199	-0.92882	2.91171	-3.06895	-7.7325
Rep StDev					
Rep %RSD					
Rep 1 Area	4455	12148	25393	53737	106730
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\002.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\003.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\004.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\005.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\006.dat
Rep 1 Sample ID	8330 Pt. 1 EXP 5677	8330 Pt. 2 EXP 5678	8330 Pt. 3 EXP 5679	8330 Pt. 4 EXP 5680	8330 Pt. 5 EXP 5681
Rep 1 Calib. Time	Jan 27, 2016 15:19:55	Jan 27, 2016 17:32:19	Jan 27, 2016 17:32:31	Jan 28, 2016 10:25:14	Jan 27, 2016 17:32:56

	Level 6	Level 7
Amount	400	600

Calibration Report

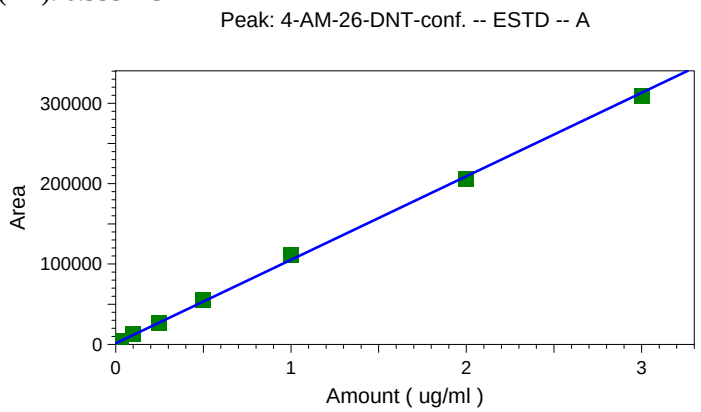
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\012716expic-confirm\012716expic-confirm.met
Print Time: Jan 28, 2016 17:22:12
User: red
Instrument: HPLC 2 (Offline)

Area	202309	303109
RF	505.7725	505.1816666666667
Last Area		
Residual	3.49471	4.41021
Rep StDev		
Rep %RSD		
Rep 1 Area	202309	303109
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\007.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\008.dat
Rep 1 Sample ID	8330 Pt. 6 EXP 5682	8330 Pt. 7 EXP 5683
Rep 1 Calib. Time	Jan 28, 2016 10:22:55	Jan 28, 2016 10:23:30

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\012716expic-confirm\012716expic-confirm.met
Print Time: Jan 28, 2016 17:22:15
User: red
Instrument: HPLC 2 (Offline)

4-AM-26-DNT-conf. (A)
Average RF: 114051. RF StDev: 13233.7 RF %RSD: 11.6033
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 103915.x + 1410.19
Goodness of fit (r^2): 0.999143



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.03	0.1	0.25	0.5	1
Area	4153	12559	26535	55295	111506
RF	138433.3333 33333	125590	106140	110590	111506
Last Area Residual	0.00360518	-0.00728806	0.00821708	-0.0185483	-0.0594821
Rep StDev					
Rep %RSD					
Rep 1 Area	4153	12559	26535	55295	111506
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\002.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\003.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\004.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\005.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\006.dat
Rep 1 Sample ID	8330 Pt. 1 EXP 5677	8330 Pt. 2 EXP 5678	8330 Pt. 3 EXP 5679	8330 Pt. 4 EXP 5680	8330 Pt. 5 EXP 5681
Rep 1 Calib. Time	Jan 27, 2016 15:19:55	Jan 27, 2016 17:32:19	Jan 27, 2016 17:32:31	Jan 28, 2016 10:25:14	Jan 27, 2016 17:32:56

Level 6	Level 7

Calibration Report

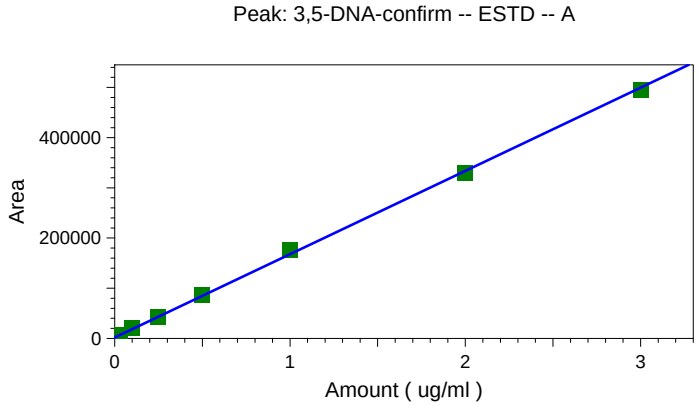
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\012716expic-confirm\012716expic-confirm.met
Print Time: Jan 28, 2016 17:22:15
User: red
Instrument: HPLC 2 (Offline)

Amount	2	3
Area	205848	309524
RF	102924	103174.666666667
Last Area		
Residual	0.0326391	0.0349366
Rep StDev		
Rep %RSD		
Rep 1 Area	205848	309524
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\007.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\008.dat
Rep 1 Sample ID	8330 Pt. 6 EXP 5682	8330 Pt. 7 EXP 5683
Rep 1 Calib. Time	Jan 28, 2016 10:22:55	Jan 28, 2016 10:23:30

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\012716expic-confirm\012716expic-confirm.met
Print Time: Jan 28, 2016 17:22:18
User: red
Instrument: HPLC 2 (Offline)

3,5-DNA-confirm (A)
Average RF: 179141. RF StDev: 17275.9 RF %RSD: 9.64374
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 165987.x + 1813.31
Goodness of fit (r^2): 0.999411



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.03	0.1	0.25	0.5	1
Area	6243	19846	41912	87103	176008
RF	208100	198460	167648	174206	176008
Last Area Residual	0.00331307	-0.00863902	0.00842303	-0.0138329	-0.0494464
Rep StDev					
Rep %RSD					
Rep 1 Area	6243	19846	41912	87103	176008
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\002.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\003.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\004.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\005.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\006.dat
Rep 1 Sample ID	8330 Pt. 1 EXP 5677	8330 Pt. 2 EXP 5678	8330 Pt. 3 EXP 5679	8330 Pt. 4 EXP 5680	8330 Pt. 5 EXP 5681
Rep 1 Calib. Time	Jan 27, 2016 15:19:55	Jan 27, 2016 17:32:19	Jan 27, 2016 17:32:31	Jan 28, 2016 10:25:14	Jan 27, 2016 17:32:56

	Level 6	Level 7
Amount	2	3

Calibration Report

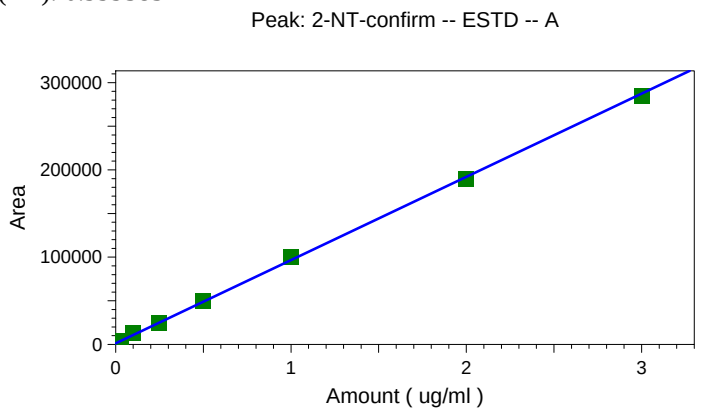
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\012716expic-confirm\012716expic-confirm.met
Print Time: Jan 28, 2016 17:22:18
User: red
Instrument: HPLC 2 (Offline)

Area	328742	495586
RF	164371	165195.333333333
Last Area Residual	0.0303984	0.0252366
Rep StDev		
Rep %RSD		
Rep 1 Area	328742	495586
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\007.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\008.dat
Rep 1 Sample ID	8330 Pt. 6 EXP 5682	8330 Pt. 7 EXP 5683
Rep 1 Calib. Time	Jan 28, 2016 10:22:55	Jan 28, 2016 10:23:30

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\012716expic-confirm\012716expic-confirm.met
Print Time: Jan 28, 2016 17:22:23
User: red
Instrument: HPLC 2 (Offline)

2-NT-confirm (A)
Average RF: 104159. RF StDev: 11985.0 RF %RSD: 11.5065
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 95415.2x + 1170.75
Goodness of fit (r^2): 0.999583



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.03	0.1	0.25	0.5	1
Area	3508	12525	24300	49807	100170
RF	116933.3333 33333	125250	97200	99614	100170
Last Area Residual	0.00550443	-0.0189983	0.00759367	-0.0097327	-0.0375626
Rep StDev					
Rep %RSD					
Rep 1 Area	3508	12525	24300	49807	100170
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\002.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\003.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\004.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\005.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\006.dat
Rep 1 Sample ID	8330 Pt. 1 EXP 5677	8330 Pt. 2 EXP 5678	8330 Pt. 3 EXP 5679	8330 Pt. 4 EXP 5680	8330 Pt. 5 EXP 5681
Rep 1 Calib. Time	Jan 27, 2016 15:19:55	Jan 27, 2016 17:32:19	Jan 27, 2016 17:32:31	Jan 28, 2016 10:25:14	Jan 27, 2016 17:32:56

Level 6	Level 7

Calibration Report

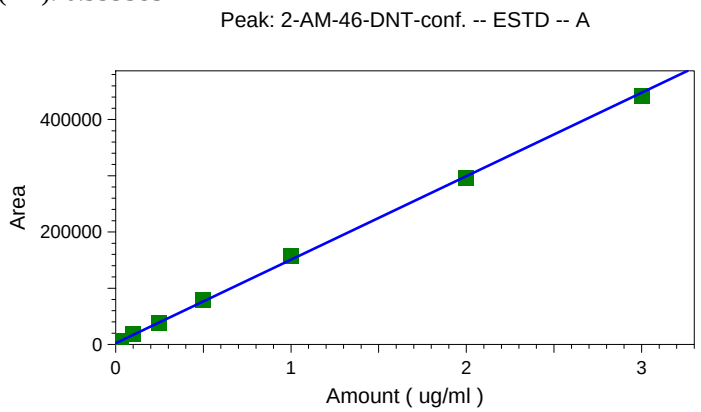
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\012716expic-confirm\012716expic-confirm.met
Print Time: Jan 28, 2016 17:22:23
User: red
Instrument: HPLC 2 (Offline)

Amount	2	3
Area	189869	285025
RF	94934.5	95008.3333333333
Last Area		
Residual	0.0223461	0.0250627
Rep StDev		
Rep %RSD		
Rep 1 Area	189869	285025
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\007.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\008.dat
Rep 1 Sample ID	8330 Pt. 6 EXP 5682	8330 Pt. 7 EXP 5683
Rep 1 Calib. Time	Jan 28, 2016 10:22:55	Jan 28, 2016 10:23:30

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\012716expic-confirm\012716expic-confirm.met
Print Time: Jan 28, 2016 17:22:28
User: red
Instrument: HPLC 2 (Offline)

2-AM-46-DNT-conf. (A)
Average RF: 165357. RF StDev: 22264.9 RF %RSD: 13.4648
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 148465.x + 2332.90
Goodness of fit (r^2): 0.999385



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.03	0.1	0.25	0.5	1
Area	6047	19284	38090	78594	157975
RF	201566.6666 66667	192840	152360	157188	157975
Last Area Residual	0.00498328	-0.014176	0.00915401	-0.0136653	-0.0483451
Rep StDev					
Rep %RSD					
Rep 1 Area	6047	19284	38090	78594	157975
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\002.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\003.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\004.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\005.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\006.dat
Rep 1 Sample ID	8330 Pt. 1 EXP 5677	8330 Pt. 2 EXP 5678	8330 Pt. 3 EXP 5679	8330 Pt. 4 EXP 5680	8330 Pt. 5 EXP 5681
Rep 1 Calib. Time	Jan 27, 2016 15:19:55	Jan 27, 2016 17:32:19	Jan 27, 2016 17:32:31	Jan 28, 2016 10:25:14	Jan 27, 2016 17:32:56

Level 6	Level 7

Calibration Report

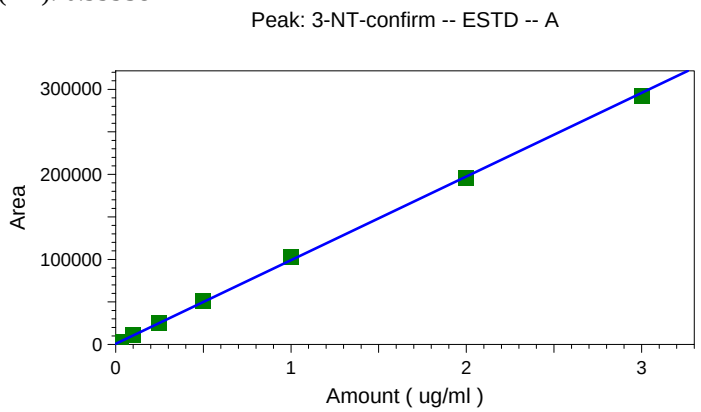
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\012716expic-confirm\012716expic-confirm.met
Print Time: Jan 28, 2016 17:22:28
User: red
Instrument: HPLC 2 (Offline)

Amount	2	3
Area	296178	442441
RF	148089	147480.333333333
Last Area		
Residual	0.0207729	0.0356018
Rep StDev		
Rep %RSD		
Rep 1 Area	296178	442441
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\007.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\008.dat
Rep 1 Sample ID	8330 Pt. 6 EXP 5682	8330 Pt. 7 EXP 5683
Rep 1 Calib. Time	Jan 28, 2016 10:22:55	Jan 28, 2016 10:23:30

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\012716expic-confirm\012716expic-confirm.met
Print Time: Jan 28, 2016 17:22:32
User: red
Instrument: HPLC 2 (Offline)

3-NT-confirm (A)
Average RF: 103568. RF StDev: 6652.47 RF %RSD: 6.42329
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 98371.3x + 706.490
Goodness of fit (r^2): 0.999587



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.03	0.1	0.25	0.5	1
Area	3342	11417	24717	51038	102891
RF	111400	114170	98868	102076	102891
Last Area Residual	0.00320854	-0.00887843	0.00591951	-0.0116484	-0.0387636
Rep StDev					
Rep %RSD					
Rep 1 Area	3342	11417	24717	51038	102891
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\002.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\003.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\004.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\005.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\006.dat
Rep 1 Sample ID	8330 Pt. 1 EXP 5677	8330 Pt. 2 EXP 5678	8330 Pt. 3 EXP 5679	8330 Pt. 4 EXP 5680	8330 Pt. 5 EXP 5681
Rep 1 Calib. Time	Jan 27, 2016 15:19:55	Jan 27, 2016 17:32:19	Jan 27, 2016 17:32:31	Jan 28, 2016 10:25:14	Jan 27, 2016 17:32:56

	Level 6	Level 7
Amount	2	3

Calibration Report

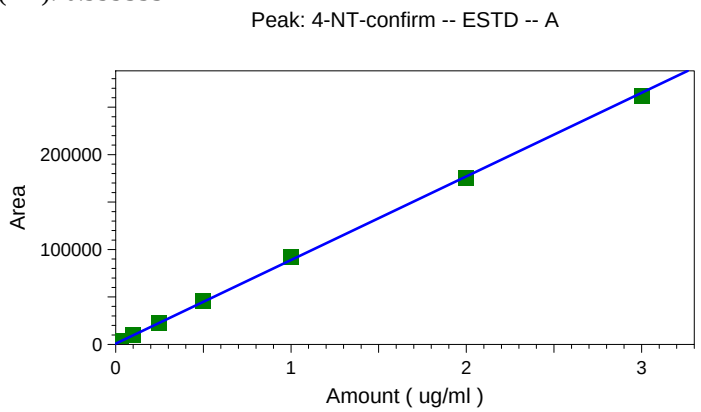
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\012716expic-confirm\012716expic-confirm.met
Print Time: Jan 28, 2016 17:22:32
User: red
Instrument: HPLC 2 (Offline)

Area	196113	292545
RF	98056.5	97515
Last Area		
Residual	0.0135817	0.0332956
Rep StDev		
Rep %RSD		
Rep 1 Area	196113	292545
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\007.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\008.dat
Rep 1 Sample ID	8330 Pt. 6 EXP 5682	8330 Pt. 7 EXP 5683
Rep 1 Calib. Time	Jan 28, 2016 10:22:55	Jan 28, 2016 10:23:30

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\012716expic-confirm\012716expic-confirm.met
Print Time: Jan 28, 2016 17:22:37
User: red
Instrument: HPLC 2 (Offline)

4-NT-confirm (A)
Average RF: 93549.5 RF StDev: 6794.34 RF %RSD: 7.26283
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 88144.1x + 741.333
Goodness of fit (r^2): 0.999535



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.03	0.1	0.25	0.5	1
Area	3097	10298	22298	45808	92604
RF	103233.3333 33333	102980	89192	91616	92604
Last Area Residual	0.00327483	-0.00842091	0.00543843	-0.0112838	-0.042187
Rep StDev					
Rep %RSD					
Rep 1 Area	3097	10298	22298	45808	92604
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\002.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\003.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\004.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\005.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\006.dat
Rep 1 Sample ID	8330 Pt. 1 EXP 5677	8330 Pt. 2 EXP 5678	8330 Pt. 3 EXP 5679	8330 Pt. 4 EXP 5680	8330 Pt. 5 EXP 5681
Rep 1 Calib. Time	Jan 27, 2016 15:19:55	Jan 27, 2016 17:32:19	Jan 27, 2016 17:32:31	Jan 28, 2016 10:25:14	Jan 27, 2016 17:32:56

	Level 6	Level 7

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\012716expic-confirm\012716expic-confirm.met
Print Time: Jan 28, 2016 17:22:37
User: red
Instrument: HPLC 2 (Offline)

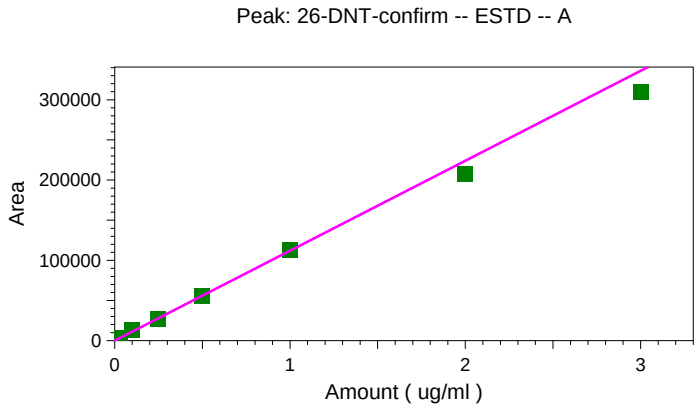
Amount	2	3
Area	175681	262142
RF	87840.5	87380.6666666667
Last Area		
Residual	0.0152999	0.0343951
Rep StDev		
Rep %RSD		
Rep 1 Area	175681	262142
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\007.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\008.dat
Rep 1 Sample ID	8330 Pt. 6 EXP 5682	8330 Pt. 7 EXP 5683
Rep 1 Calib. Time	Jan 28, 2016 10:22:55	Jan 28, 2016 10:23:30

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\012716expic-confirm\012716expic-confirm.met
Print Time: Jan 28, 2016 17:22:40
User: red
Instrument: HPLC 2 (Offline)

26-DNT-confirm (A)
Average RF: 112047. RF StDev: 8598.70 RF %RSD: 7.67420
Scaling: None LSQ Weighting: None Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Average RF

Average Slope: 112047.



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.03	0.1	0.25	0.5	1
Area	3571	12685	26690	56149	112465
RF	119033.3333 33333	126850	106760	112298	112465
Last Area Residual	-0.00187059	-0.0132115	0.0117961	-0.0011206	-0.00373164
Rep StDev					
Rep %RSD					
Rep 1 Area	3571	12685	26690	56149	112465
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\002.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\003.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\004.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\005.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\006.dat
Rep 1 Sample ID	8330 Pt. 1 EXP 5677	8330 Pt. 2 EXP 5678	8330 Pt. 3 EXP 5679	8330 Pt. 4 EXP 5680	8330 Pt. 5 EXP 5681
Rep 1 Calib. Time	Jan 27, 2016 15:19:55	Jan 27, 2016 17:32:19	Jan 27, 2016 17:32:31	Jan 28, 2016 10:25:14	Jan 27, 2016 17:32:56

Calibration Report

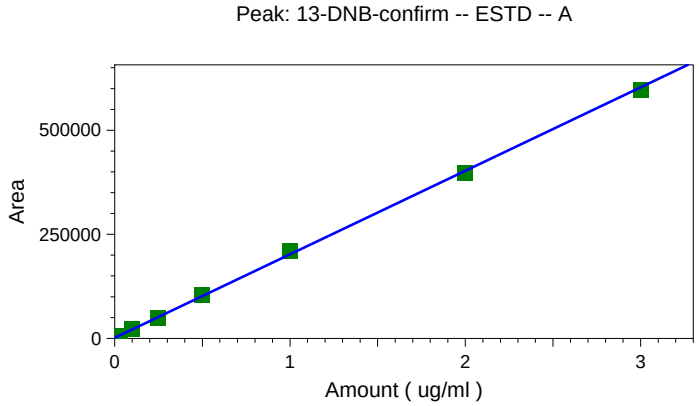
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\012716expic-confirm\012716expic-confirm.met
Print Time: Jan 28, 2016 17:22:40
User: red
Instrument: HPLC 2 (Offline)

	Level 6	Level 7
Amount	2	3
Area	207259	309877
RF	103629.5	103292.333333333
Last Area		
Residual	0.150247	0.234399
Rep StDev		
Rep %RSD		
Rep 1 Area	207259	309877
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\007.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\008.dat
Rep 1 Sample ID	8330 Pt. 6 EXP 5682	8330 Pt. 7 EXP 5683
Rep 1 Calib. Time	Jan 28, 2016 10:22:55	Jan 28, 2016 10:23:30

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\012716expic-confirm\012716expic-confirm.met
Print Time: Jan 28, 2016 17:22:45
User: red
Instrument: HPLC 2 (Offline)

13-DNB-confirm (A)
Average RF: 211196. RF StDev: 14147.8 RF %RSD: 6.69889
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 200600.x + 1424.16
Goodness of fit (r^2): 0.999563



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.03	0.1	0.25	0.5	1
Area	6733	23589	50033	104861	209865
RF	224433.3333 33333	235890	200132	209722	209865
Last Area Residual	0.00353515	-0.0104929	0.00768234	-0.0156382	-0.0390887
Rep StDev					
Rep %RSD					
Rep 1 Area	6733	23589	50033	104861	209865
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\002.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\003.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\004.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\005.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\006.dat
Rep 1 Sample ID	8330 Pt. 1 EXP 5677	8330 Pt. 2 EXP 5678	8330 Pt. 3 EXP 5679	8330 Pt. 4 EXP 5680	8330 Pt. 5 EXP 5681
Rep 1 Calib. Time	Jan 27, 2016 15:19:55	Jan 27, 2016 17:32:19	Jan 27, 2016 17:32:31	Jan 28, 2016 10:25:14	Jan 27, 2016 17:32:56

	Level 6	Level 7

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\012716expic-confirm\012716expic-confirm.met
Print Time: Jan 28, 2016 17:22:45
User: red
Instrument: HPLC 2 (Offline)

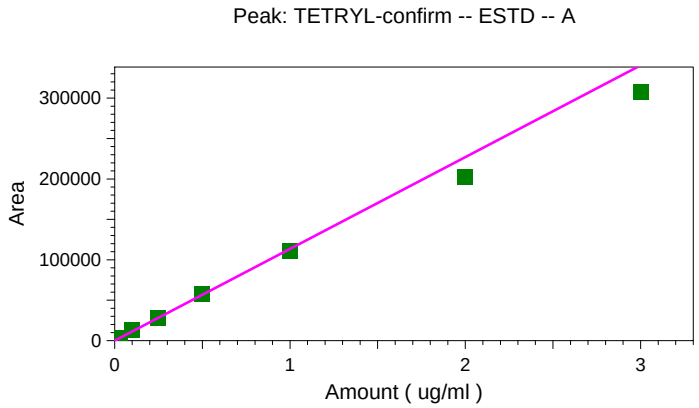
Amount	2	3
Area	398334	597478
RF	199167	199159.333333333
Last Area		
Residual	0.0213833	0.0286398
Rep StDev		
Rep %RSD		
Rep 1 Area	398334	597478
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\007.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\008.dat
Rep 1 Sample ID	8330 Pt. 6 EXP 5682	8330 Pt. 7 EXP 5683
Rep 1 Calib. Time	Jan 28, 2016 10:22:55	Jan 28, 2016 10:23:30

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\012716expic-confirm\012716expic-confirm.met
Print Time: Jan 28, 2016 17:22:48
User: red
Instrument: HPLC 2 (Offline)

TETRYL-confirm (A)
Average RF: 113519. RF StDev: 10793.4 RF %RSD: 9.50799
Scaling: None LSQ Weighting: None Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Average RF

Average Slope: 113519.



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.03	0.1	0.25	0.5	1
Area	3671	13205	27876	56951	110800
RF	122366.6666 66667	132050	111504	113902	110800
Last Area Residual	-0.00233808	-0.0163237	0.00443846	-0.00168515	0.0239554
Rep StDev					
Rep %RSD					
Rep 1 Area	3671	13205	27876	56951	110800
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\002.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\003.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\004.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\005.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\006.dat
Rep 1 Sample ID	8330 Pt. 1 EXP 5677	8330 Pt. 2 EXP 5678	8330 Pt. 3 EXP 5679	8330 Pt. 4 EXP 5680	8330 Pt. 5 EXP 5681
Rep 1 Calib. Time	Jan 27, 2016 15:19:55	Jan 27, 2016 17:32:19	Jan 27, 2016 17:32:31	Jan 28, 2016 10:25:14	Jan 27, 2016 17:32:56

Calibration Report

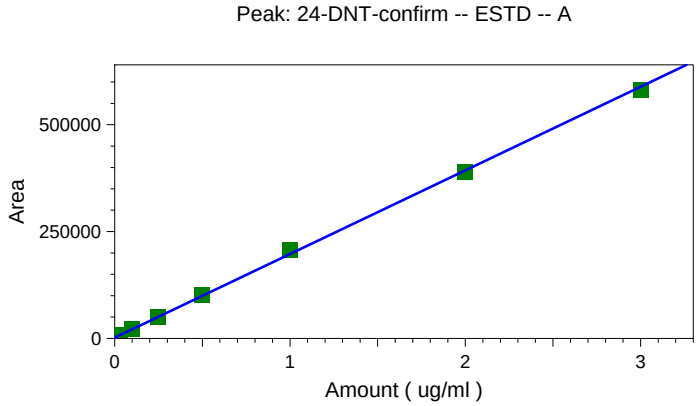
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\012716expic-confirm\012716expic-confirm.met
Print Time: Jan 28, 2016 17:22:48
User: red
Instrument: HPLC 2 (Offline)

	Level 6	Level 7
Amount	2	3
Area	202885	307712
RF	101442.5	102570.666666667
Last Area		
Residual	0.212773	0.289344
Rep StDev		
Rep %RSD		
Rep 1 Area	202885	307712
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\007.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\008.dat
Rep 1 Sample ID	8330 Pt. 6 EXP 5682	8330 Pt. 7 EXP 5683
Rep 1 Calib. Time	Jan 28, 2016 10:22:55	Jan 28, 2016 10:23:30

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\012716expic-confirm\012716expic-confirm.met
Print Time: Jan 28, 2016 17:22:52
User: red
Instrument: HPLC 2 (Offline)

24-DNT-confirm (A)
Average RF: 207966. RF StDev: 15674.3 RF %RSD: 7.53692
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 195765.x + 1671.70
Goodness of fit (r^2): 0.999486



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.03	0.1	0.25	0.5	1
Area	6936	22842	49026	102537	205952
RF	231200	228420	196104	205074	205952
Last Area					
Residual	0.003109	-0.00814165	0.00810585	-0.0152378	-0.0434999
Rep StDev					
Rep %RSD					
Rep 1 Area	6936	22842	49026	102537	205952
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\002.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\003.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\004.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\005.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\006.dat
Rep 1 Sample ID	8330 Pt. 1 EXP 5677	8330 Pt. 2 EXP 5678	8330 Pt. 3 EXP 5679	8330 Pt. 4 EXP 5680	8330 Pt. 5 EXP 5681
Rep 1 Calib. Time	Jan 27, 2016 15:19:55	Jan 27, 2016 17:32:19	Jan 27, 2016 17:32:31	Jan 28, 2016 10:25:14	Jan 27, 2016 17:32:56

	Level 6	Level 7
Amount	2	3

Calibration Report

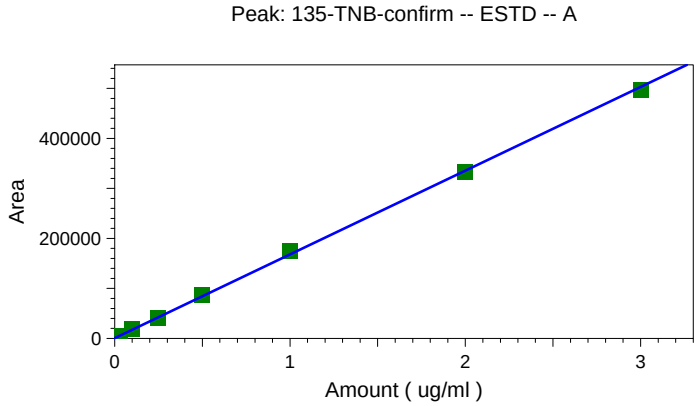
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\012716expic-confirm\012716expic-confirm.met
Print Time: Jan 28, 2016 17:22:52
User: red
Instrument: HPLC 2 (Offline)

Area	390021	582012
RF	195010.5	194004
Last Area		
Residual	0.0162432	0.0355193
Rep StDev		
Rep %RSD		
Rep 1 Area	390021	582012
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\007.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\008.dat
Rep 1 Sample ID	8330 Pt. 6 EXP 5682	8330 Pt. 7 EXP 5683
Rep 1 Calib. Time	Jan 28, 2016 10:22:55	Jan 28, 2016 10:23:30

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\012716expic-confirm\012716expic-confirm.met
Print Time: Jan 28, 2016 17:22:55
User: red
Instrument: HPLC 2 (Offline)

135-TNB-confirm (A)
Average RF: 172066. RF StDev: 6939.00 RF %RSD: 4.03277
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 167466.x + 608.389
Goodness of fit (r^2): 0.999473



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.03	0.1	0.25	0.5	1
Area	5227	18390	41194	87018	175597
RF	174233.3333 33333	183900	164776	174036	175597
Last Area Residual	0.00242063	-0.00618034	0.00764884	-0.0159826	-0.0449194
Rep StDev					
Rep %RSD					
Rep 1 Area	5227	18390	41194	87018	175597
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\002.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\003.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\004.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\005.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\006.dat
Rep 1 Sample ID	8330 Pt. 1 EXP 5677	8330 Pt. 2 EXP 5678	8330 Pt. 3 EXP 5679	8330 Pt. 4 EXP 5680	8330 Pt. 5 EXP 5681
Rep 1 Calib. Time	Jan 27, 2016 15:19:55	Jan 27, 2016 17:32:19	Jan 27, 2016 17:32:31	Jan 28, 2016 10:25:14	Jan 27, 2016 17:32:56

	Level 6	Level 7

Calibration Report

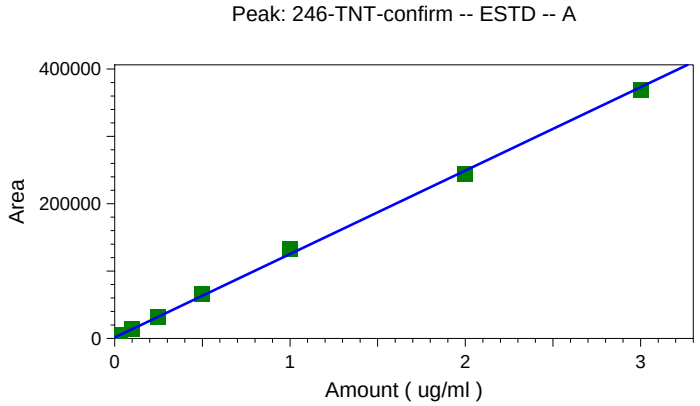
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\012716expic-confirm\012716expic-confirm.met
Print Time: Jan 28, 2016 17:22:55
User: red
Instrument: HPLC 2 (Offline)

Amount	2	3
Area	332237	497393
RF	166118.5	165797.666666667
Last Area		
Residual	0.0197272	0.0335218
Rep StDev		
Rep %RSD		
Rep 1 Area	332237	497393
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\007.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\008.dat
Rep 1 Sample ID	8330 Pt. 6 EXP 5682	8330 Pt. 7 EXP 5683
Rep 1 Calib. Time	Jan 28, 2016 10:22:55	Jan 28, 2016 10:23:30

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\012716expic-confirm\012716expic-confirm.met
Print Time: Jan 28, 2016 17:22:59
User: red
Instrument: HPLC 2 (Offline)

246-TNT-confirm (A)
Average RF: 134040. RF StDev: 14149.5 RF %RSD: 10.5562
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 123964.x + 1393.30
Goodness of fit (r^2): 0.999072



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.03	0.1	0.25	0.5	1
Area	4887	13948	31299	66082	133078
RF	162900	139480	125196	132164	133078
Last Area Residual	0.00181678	-0.00127709	0.00875472	-0.0218351	-0.0622828
Rep StDev					
Rep %RSD					
Rep 1 Area	4887	13948	31299	66082	133078
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\002.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\003.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\004.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\005.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\006.dat
Rep 1 Sample ID	8330 Pt. 1 EXP 5677	8330 Pt. 2 EXP 5678	8330 Pt. 3 EXP 5679	8330 Pt. 4 EXP 5680	8330 Pt. 5 EXP 5681
Rep 1 Calib. Time	Jan 27, 2016 15:19:55	Jan 27, 2016 17:32:19	Jan 27, 2016 17:32:31	Jan 28, 2016 10:25:14	Jan 27, 2016 17:32:56

	Level 6	Level 7
Amount	2	3

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\012716expic-confirm\012716expic-confirm.met
Print Time: Jan 28, 2016 17:22:59
User: red
Instrument: HPLC 2 (Offline)

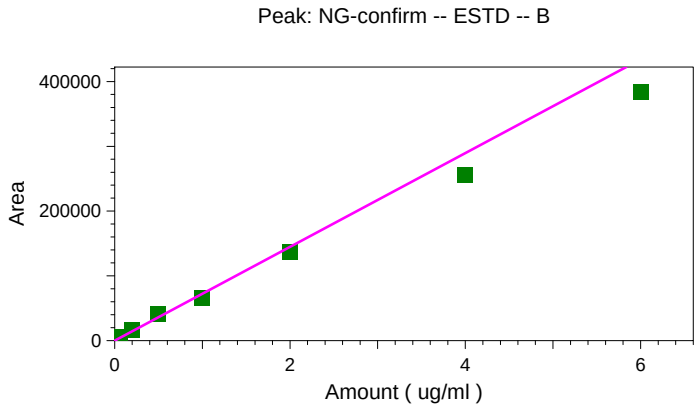
Area	244642	369427
RF	122321	123142.333333333
Last Area Residual	0.0377454	0.0311215
Rep StDev		
Rep %RSD		
Rep 1 Area	244642	369427
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\007.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\008.dat
Rep 1 Sample ID	8330 Pt. 6 EXP 5682	8330 Pt. 7 EXP 5683
Rep 1 Calib. Time	Jan 28, 2016 10:22:55	Jan 28, 2016 10:23:30

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\012716expic-confirm\012716expic-confirm.met
Print Time: Jan 28, 2016 17:23:07
User: red
Instrument: HPLC 2 (Offline)

NG-confirm (B)
Average RF: 72378.9 RF StDev: 8670.56 RF %RSD: 11.9794
Scaling: None LSQ Weighting: None Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Average RF

Average Slope: 72378.9



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.06	0.2	0.5	1	2
Area	4880	16192	41101	65740	136962
RF	81333.33333 33333	80960	82202	65740	68481
Last Area Residual	-0.00742298	-0.0237117	-0.067859	0.091724	0.107708
Rep StDev					
Rep %RSD					
Rep 1 Area	4880	16192	41101	65740	136962
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\002.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\003.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\004.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\005.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\006.dat
Rep 1 Sample ID	8330 Pt. 1 EXP 5677	8330 Pt. 2 EXP 5678	8330 Pt. 3 EXP 5679	8330 Pt. 4 EXP 5680	8330 Pt. 5 EXP 5681
Rep 1 Calib. Time	Jan 27, 2016 15:19:55	Jan 27, 2016 17:32:19	Jan 27, 2016 17:32:31	Jan 28, 2016 10:25:14	Jan 27, 2016 17:32:56

Calibration Report

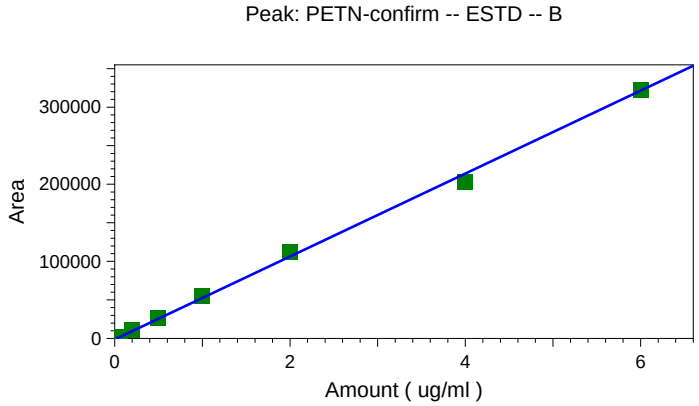
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\012716expic-confirm\012716expic-confirm.met
Print Time: Jan 28, 2016 17:23:07
User: red
Instrument: HPLC 2 (Offline)

	Level 6	Level 7
Amount	4	6
Area	255710	384050
RF	63927.5	64008.3333333333
Last Area Residual	0.467063	0.693894
Rep StDev		
Rep %RSD		
Rep 1 Area	255710	384050
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\007.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\008.dat
Rep 1 Sample ID	8330 Pt. 6 EXP 5682	8330 Pt. 7 EXP 5683
Rep 1 Calib. Time	Jan 28, 2016 10:22:55	Jan 28, 2016 10:23:30

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\012716expic-confirm\012716expic-confirm.met
Print Time: Jan 28, 2016 17:23:10
User: red
Instrument: HPLC 2 (Offline)

PETN-confirm (B)
Average RF: 50305.4 RF StDev: 11177.2 RF %RSD: 22.2188
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 53796.4x - 1291.48
Goodness of fit (r^2): 0.998128



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.06	0.2	0.5	1	2
Area	1528	11552	26507	55392	111846
RF	25466.66666 66667	57760	53014	55392	55923
Last Area					
Residual	0.00758974	-0.0387425	-0.0167353	-0.0536675	-0.103069
Rep StDev					
Rep %RSD					
Rep 1 Area	1528	11552	26507	55392	111846
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\002.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\003.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\004.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\005.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\006.dat
Rep 1 Sample ID	8330 Pt. 1 EXP 5677	8330 Pt. 2 EXP 5678	8330 Pt. 3 EXP 5679	8330 Pt. 4 EXP 5680	8330 Pt. 5 EXP 5681
Rep 1 Calib. Time	Jan 27, 2016 15:19:55	Jan 27, 2016 17:32:19	Jan 27, 2016 17:32:31	Jan 28, 2016 10:25:14	Jan 27, 2016 17:32:56

	Level 6	Level 7

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\012716expic-confirm\012716expic-confirm.met
Print Time: Jan 28, 2016 17:23:10
User: red
Instrument: HPLC 2 (Offline)

Amount	4	6
Area	203234	322643
RF	50808.5	53773.8333333333
Last Area		
Residual	0.198154	-0.0214936
Rep StDev		
Rep %RSD		
Rep 1 Area	203234	322643
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\007.dat	C:\Instarch\HPLC 2\Data\012716EXPic-confirm\008.dat
Rep 1 Sample ID	8330 Pt. 6 EXP 5682	8330 Pt. 7 EXP 5683
Rep 1 Calib. Time	Jan 28, 2016 10:22:55	Jan 28, 2016 10:23:30

QC Check Standard Report

Sequence : C:\Instarch\HPLC 2\Sequences\8330A_B\012716expic-confirm.seq
User : red
Printed : Jan 28, 2016 17:19:25

File	Sample ID	Acquired
C:\Instarch\HPLC 2\Data\012716EXPic-confirm\002.dat	8330 Pt. 1 EXP 5677	Jan 28, 2016 17:19:25

A

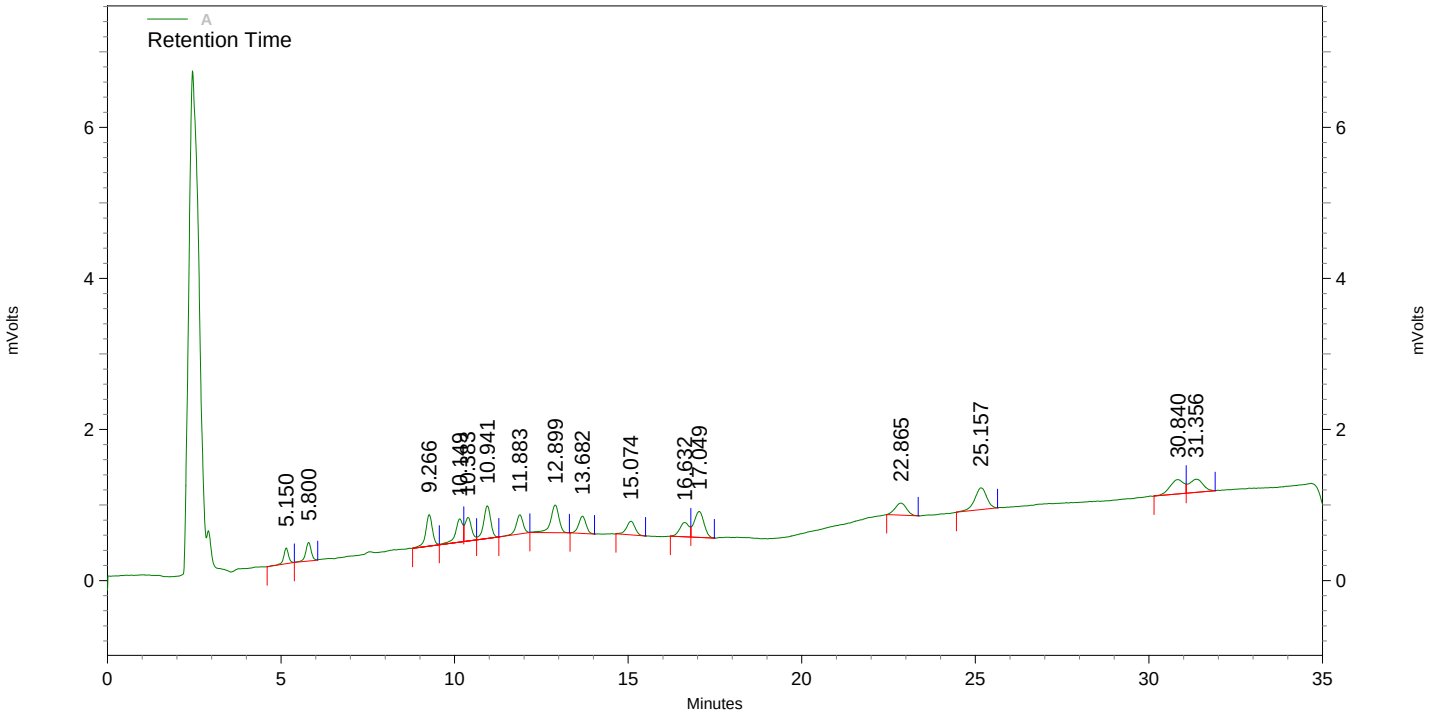
Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
HMX-confirm	0.030	0.026	14.683	20.000	Passed
RDX-confirm	0.030	0.027	10.663	20.000	Passed
NB-confirm	0.030	0.027	10.554	20.000	Passed
12-DNB (SSTD)-confirm	6.000	5.735	4.420	20.000	Passed
4-AM-26-DNT-conf.	0.030	0.026	12.017	20.000	Passed
3,5-DNA-confirm	0.030	0.027	11.044	20.000	Passed
2-NT-confirm	0.030	0.024	18.348	20.000	Passed
2-AM-46-DNT-conf.	0.030	0.025	16.611	20.000	Passed
3-NT-confirm	0.030	0.027	10.695	20.000	Passed
4-NT-confirm	0.030	0.027	10.916	20.000	Passed
26-DNT-confirm	0.030	0.032	6.235	20.000	Passed
13-DNB-confirm	0.030	0.026	11.784	20.000	Passed
TETRYL-confirm	0.030	0.032	7.794	20.000	Passed
24-DNT-confirm	0.030	0.027	10.363	20.000	Passed
135-TNB-confirm	0.030	0.028	8.069	20.000	Passed
246-TNT-confirm	0.030	0.028	6.056	20.000	Passed

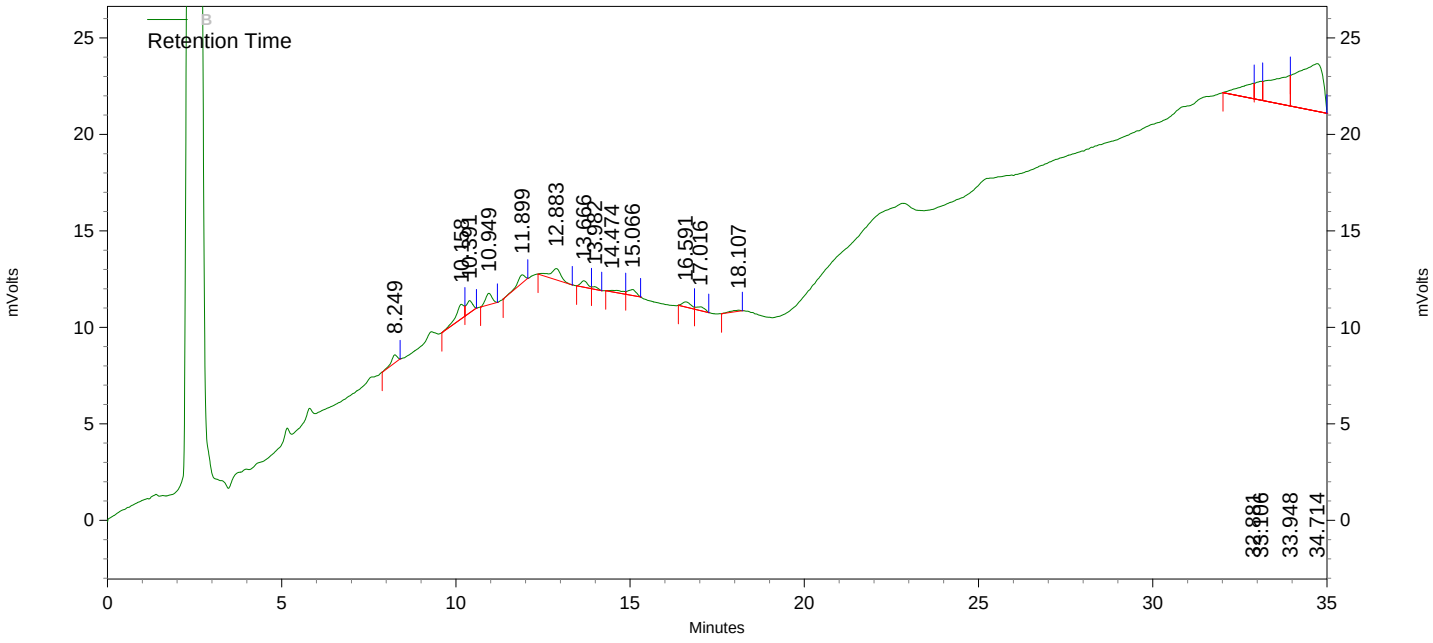
B

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
NG-confirm	0.060	0.067	12.372	20.000	Passed
PETN-confirm	0.060	0.052	12.650	20.000	Passed

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012716EXPic-confirm\002.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\012716expic-confirm\012716expic-confirm.met
Sample ID: 8330 Pt. 1 EXP 5677
Acquired: Jan 27, 2016 14:22:26
Data Summary: {Data Description}





8330 Pt. 1 EXP 5677

A Results

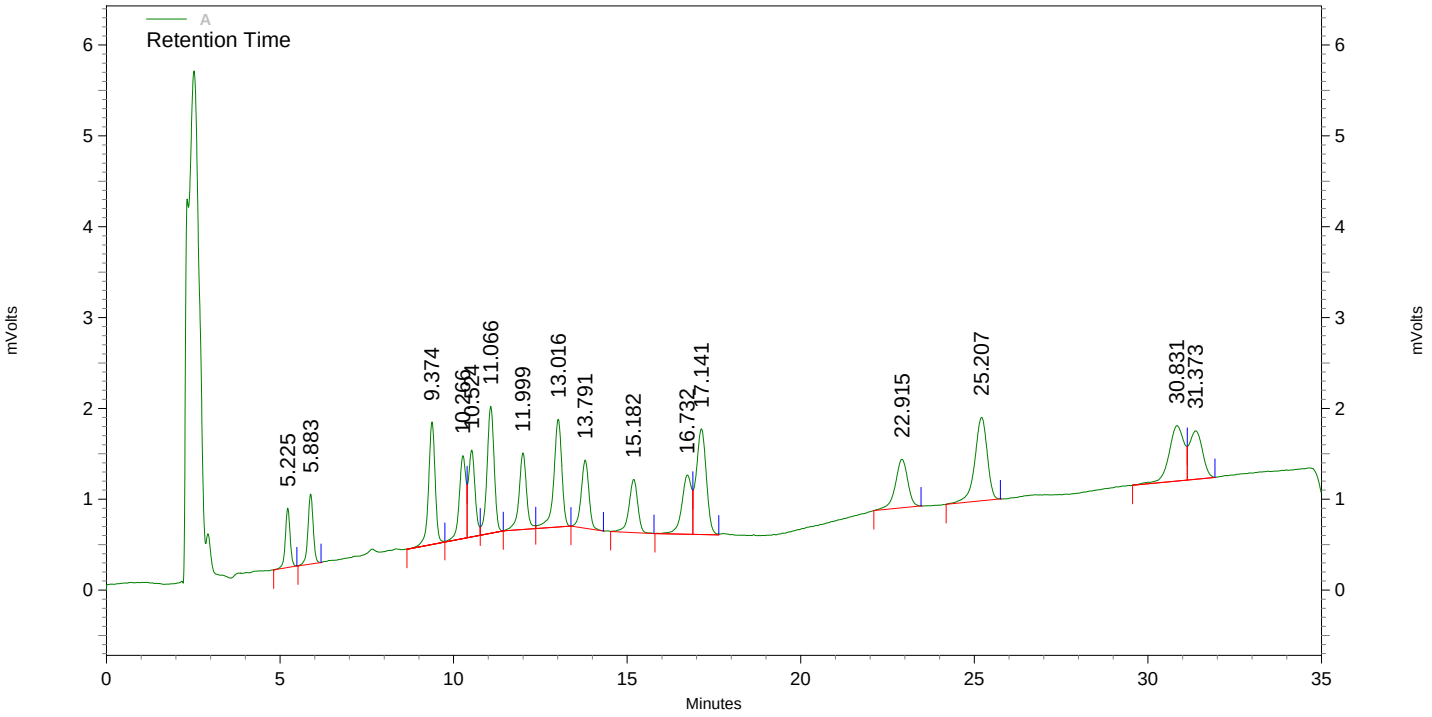
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm	5.150	2031	**0.026**
RDX-confirm	5.800	2720	**0.027**
NB-confirm	9.266	5544	**0.027**
12-DNB (SSTD)-confirm	10.149	4455	**5.735**
4-AM-26-DNT-conf.	10.383	4153	**0.026**
3,5-DNA-confirm	10.941	6243	**0.027**
2-NT-confirm	11.883	3508	**0.024**
2-AM-46-DNT-conf.	12.899	6047	**0.025**
3-NT-confirm	13.682	3342	**0.027**
4-NT-confirm	15.074	3097	**0.027**
26-DNT-confirm	16.632	3571	**0.032**
13-DNB-confirm	17.049	6733	**0.026**
TETRYL-confirm	22.865	3671	**0.032**
24-DNT-confirm	25.157	6936	**0.027**
135-TNB-confirm	30.840	5227	**0.028**
246-TNT-confirm	31.356	4887	**0.028**

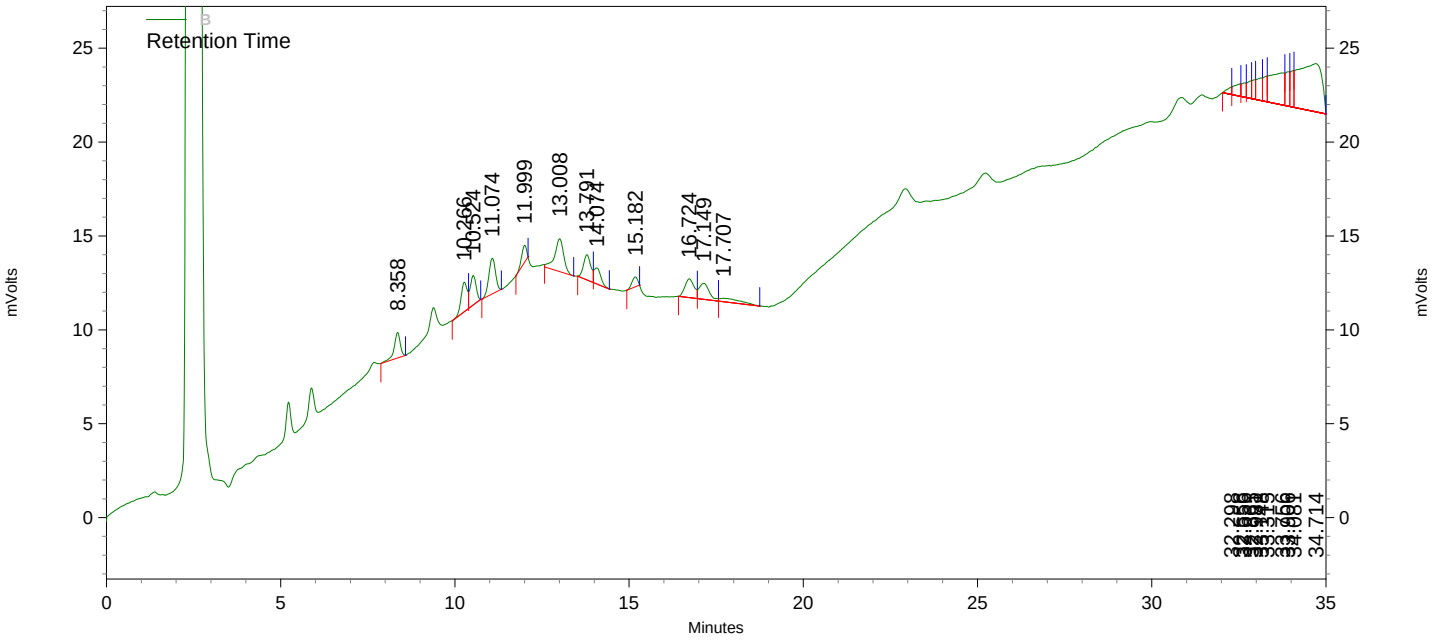
B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm	8.249	4880	**0.067**
PETN-confirm	13.982	1528	**0.052**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012716EXPic-confirm\003.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\012716expic-confirm\012716expic-confirm.met
Sample ID: 8330 Pt. 2 EXP 5678
Acquired: Jan 27, 2016 14:59:44
Data Summary: {Data Description}





8330 Pt. 2 EXP 5678

A Results

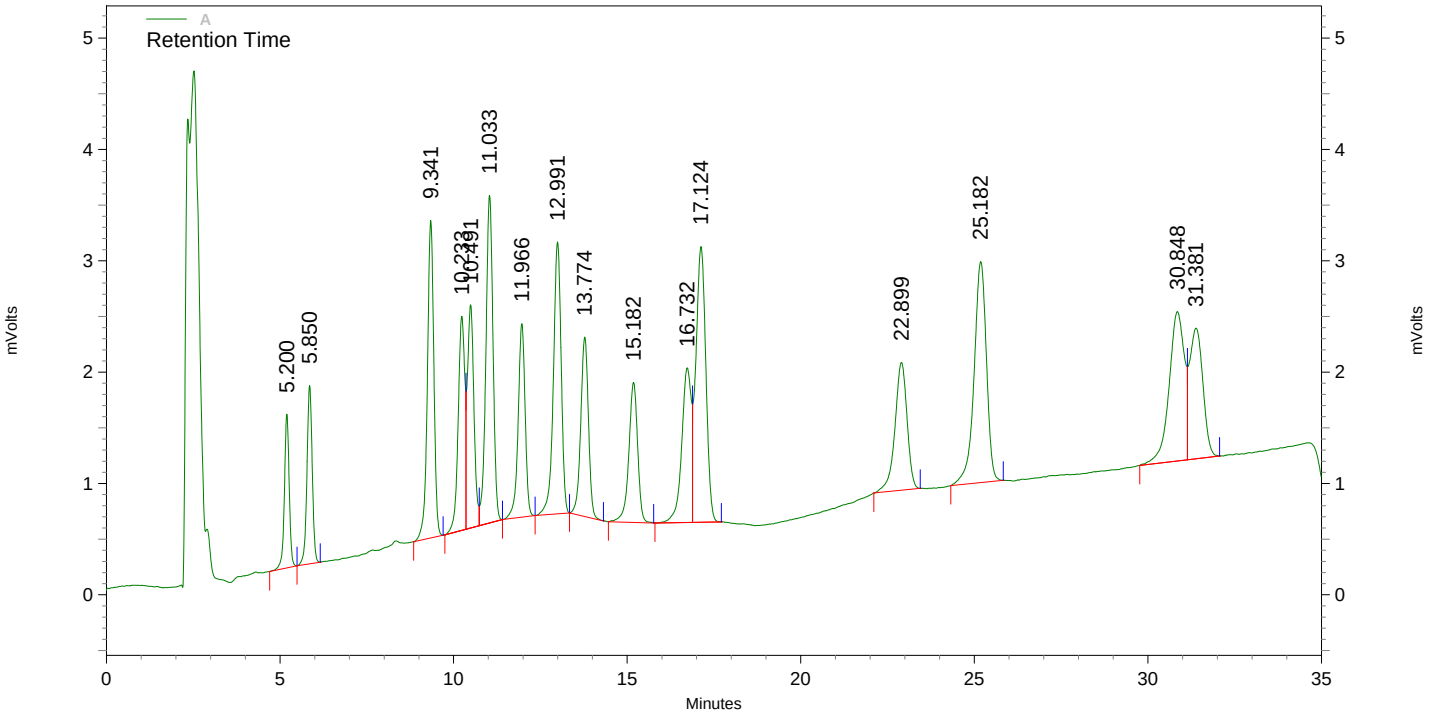
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm	5.225	6300	**0.100 CAL**
RDX-confirm	5.883	8105	**0.100 CAL**
NB-confirm	9.374	17612	**0.100 CAL**
12-DNB (SSTD)-confirm	10.266	12148	**20.000 CAL**
4-AM-26-DNT-conf.	10.524	12559	**0.100 CAL**
3,5-DNA-confirm	11.066	19846	**0.100 CAL**
2-NT-confirm	11.999	12525	**0.100 CAL**
2-AM-46-DNT-conf.	13.016	19284	**0.100 CAL**
3-NT-confirm	13.791	11417	**0.100 CAL**
4-NT-confirm	15.182	10298	**0.100 CAL**
26-DNT-confirm	16.732	12685	**0.100 CAL**
13-DNB-confirm	17.141	23589	**0.100 CAL**
TETRYL-confirm	22.915	13205	**0.100 CAL**
24-DNT-confirm	25.207	22842	**0.100 CAL**
135-TNB-confirm	30.831	18390	**0.100 CAL**
246-TNT-confirm	31.373	13948	**0.100 CAL**

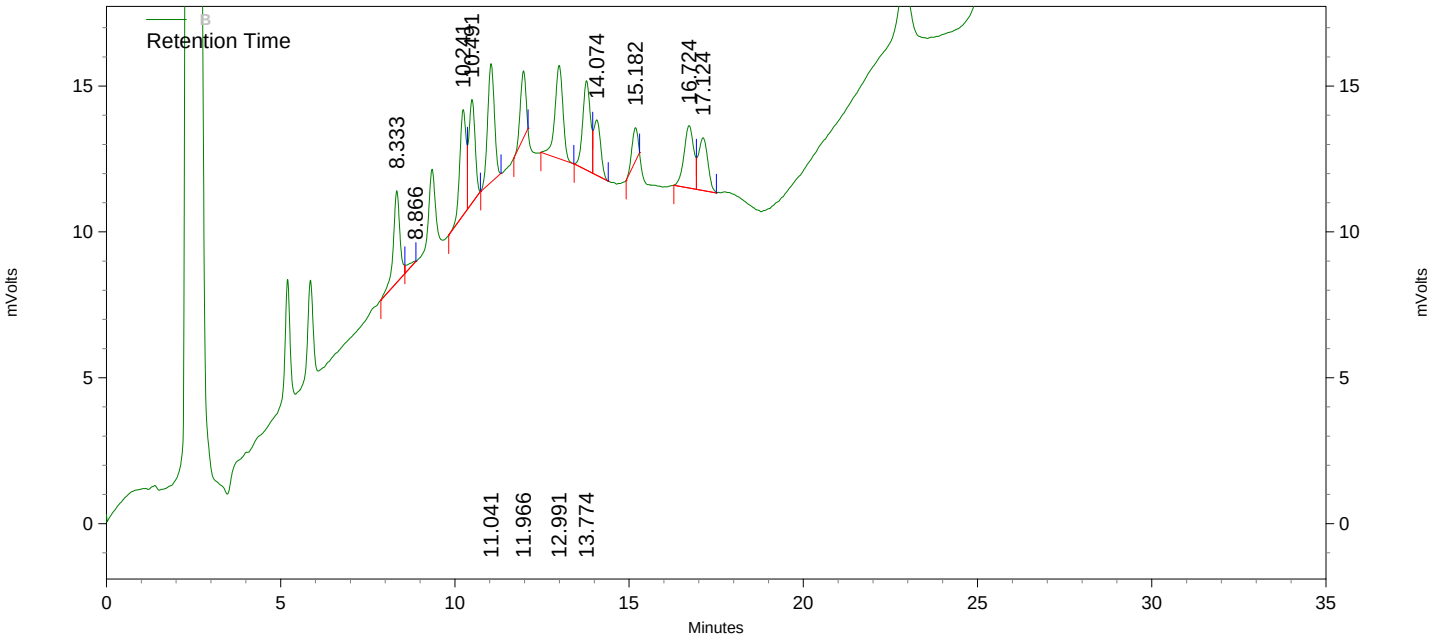
B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm	8.358	16192	**0.200 CAL**
PETN-confirm	14.074	11552	**0.200 CAL**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012716EXPic-confirm\004.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\012716expic-confirm\012716expic-confirm.met
Sample ID: 8330 Pt. 3 EXP 5679
Acquired: Jan 27, 2016 15:37:01
Data Summary: {Data Description}





8330 Pt. 3 EXP 5679

A Results

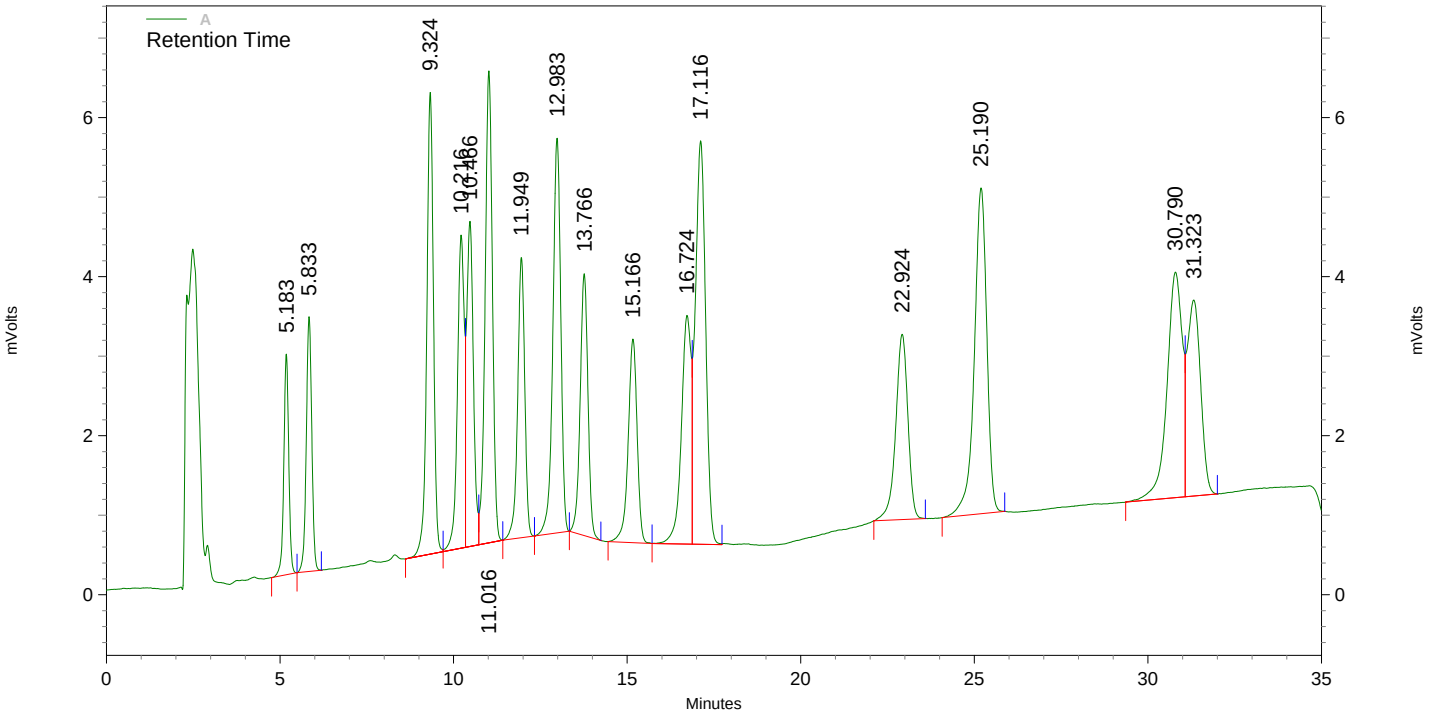
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm	5.200	13424	**0.250 CAL**
RDX-confirm	5.850	16846	**0.250 CAL**
NB-confirm	9.341	36551	**0.250 CAL**
12-DNB (SSTD)-confirm	10.233	25393	**50.000 CAL**
4-AM-26-DNT-conf.	10.491	26535	**0.250 CAL**
3,5-DNA-confirm	11.033	41912	**0.250 CAL**
2-NT-confirm	11.966	24300	**0.250 CAL**
2-AM-46-DNT-conf.	12.991	38090	**0.250 CAL**
3-NT-confirm	13.774	24717	**0.250 CAL**
4-NT-confirm	15.182	22298	**0.250 CAL**
26-DNT-confirm	16.732	26690	**0.250 CAL**
13-DNB-confirm	17.124	50033	**0.250 CAL**
TETRYL-confirm	22.899	27876	**0.250 CAL**
24-DNT-confirm	25.182	49026	**0.250 CAL**
135-TNB-confirm	30.848	41194	**0.250 CAL**
246-TNT-confirm	31.381	31299	**0.250 CAL**

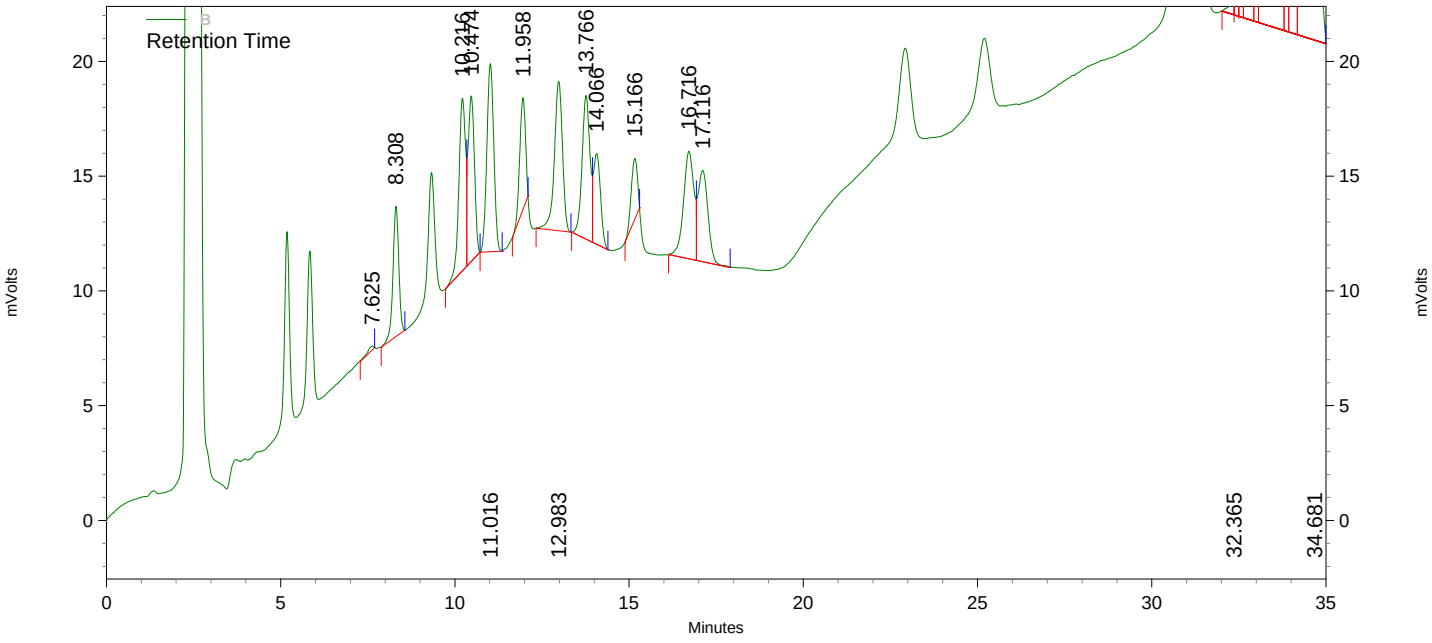
B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm	8.333	41101	**0.500 CAL**
PETN-confirm	14.074	26507	**0.500 CAL**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012716EXPic-confirm\005.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\012716expic-confirm\012716expic-confirm.met
Sample ID: 8330 Pt. 4 EXP 5680
Acquired: Jan 27, 2016 16:14:17
Data Summary: {Data Description}





8330 Pt. 4 EXP 5680

A Results

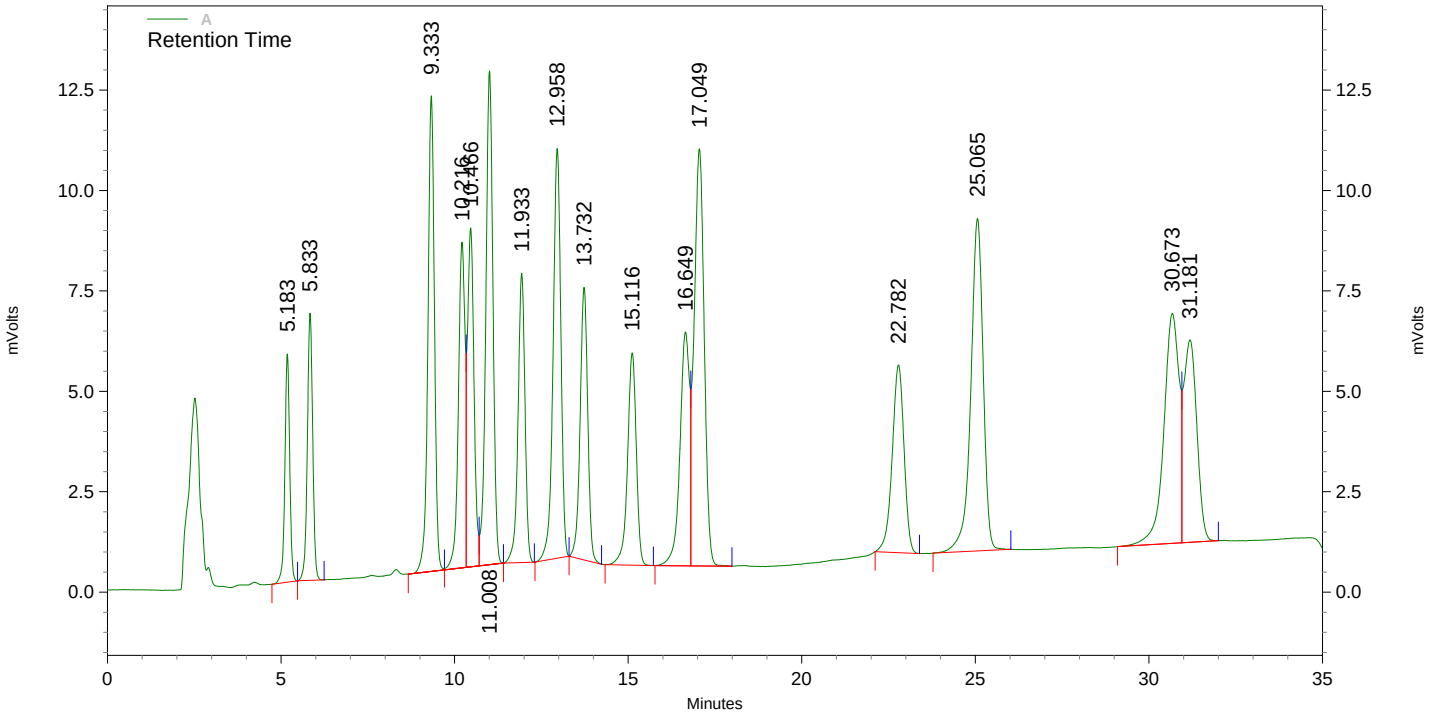
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm	5.183	27702	**0.500 CAL**
RDX-confirm	5.833	35021	**0.500 CAL**
NB-confirm	9.324	77084	**0.500 CAL**
12-DNB (SSTD)-confirm	10.216	53737	**100.000 CAL**
4-AM-26-DNT-conf.	10.466	55295	**0.500 CAL**
3,5-DNA-confirm	11.016	87103	**0.500 CAL**
2-NT-confirm	11.949	49807	**0.500 CAL**
2-AM-46-DNT-conf.	12.983	78594	**0.500 CAL**
3-NT-confirm	13.766	51038	**0.500 CAL**
4-NT-confirm	15.166	45808	**0.500 CAL**
26-DNT-confirm	16.724	56149	**0.500 CAL**
13-DNB-confirm	17.116	104861	**0.500 CAL**
TETRYL-confirm	22.924	56951	**0.500 CAL**
24-DNT-confirm	25.190	102537	**0.500 CAL**
135-TNB-confirm	30.790	87018	**0.500 CAL**
246-TNT-confirm	31.323	66082	**0.500 CAL**

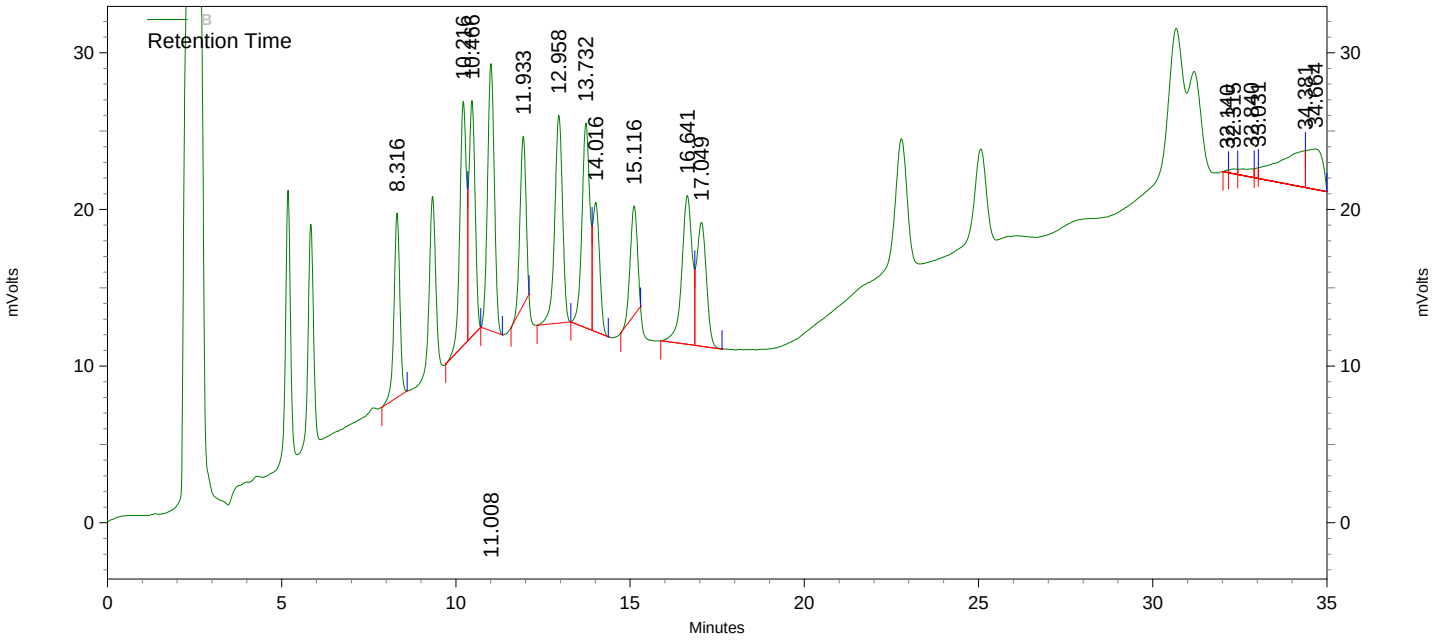
B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm	8.308	65740	**1.000 CAL**
PETN-confirm	14.066	55392	**1.000 CAL**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012716EXPic-confirm\006.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\012716expic-confirm\012716expic-confirm.met
Sample ID: 8330 Pt. 5 EXP 5681
Acquired: Jan 27, 2016 16:51:35
Data Summary: {Data Description}





8330 Pt. 5 EXP 5681

A Results

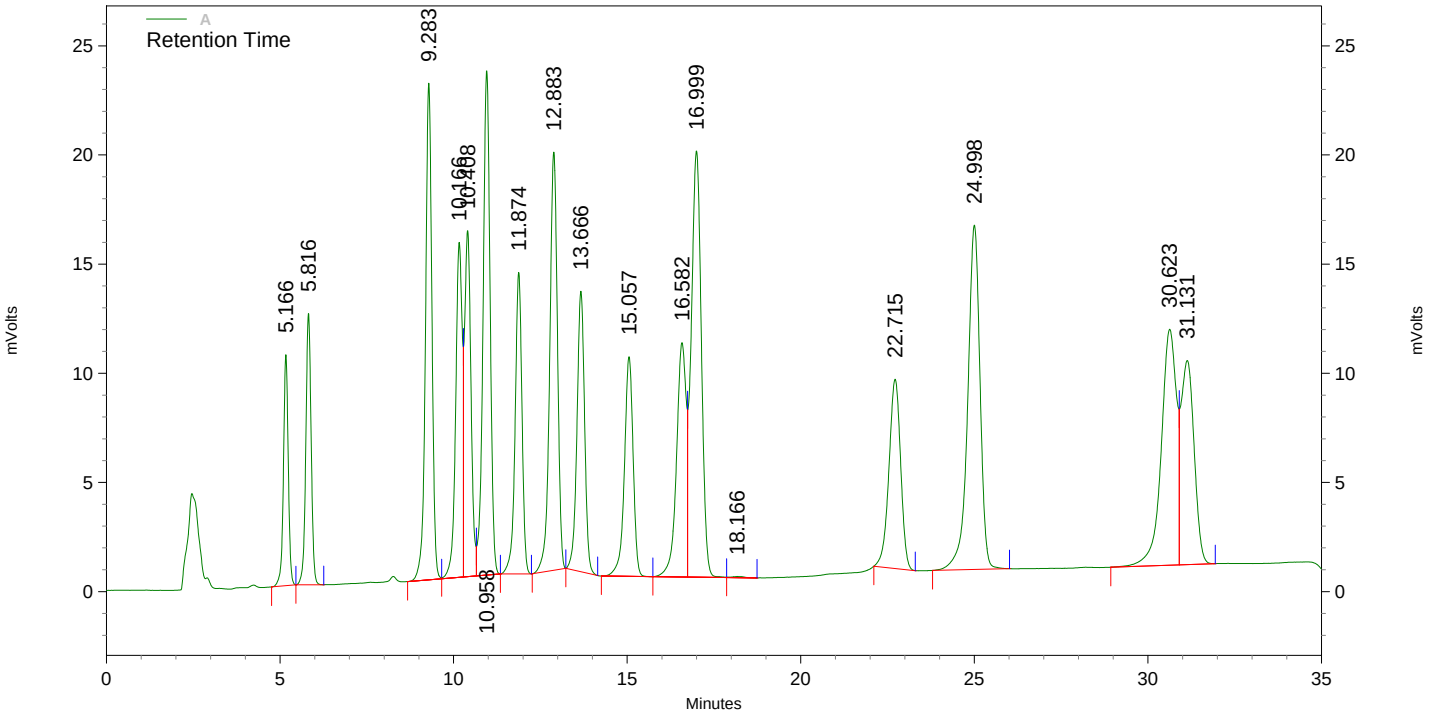
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm	5.183	55453	**1.000 CAL**
RDX-confirm	5.833	70878	**1.000 CAL**
NB-confirm	9.333	153786	**1.000 CAL**
12-DNB (SSTD)-confirm	10.216	106730	**200.000 CAL**
4-AM-26-DNT-conf.	10.466	111506	**1.000 CAL**
3,5-DNA-confirm	11.008	176008	**1.000 CAL**
2-NT-confirm	11.933	100170	**1.000 CAL**
2-AM-46-DNT-conf.	12.958	157975	**1.000 CAL**
3-NT-confirm	13.732	102891	**1.000 CAL**
4-NT-confirm	15.116	92604	**1.000 CAL**
26-DNT-confirm	16.649	112465	**1.000 CAL**
13-DNB-confirm	17.049	209865	**1.000 CAL**
TETRYL-confirm	22.782	110800	**1.000 CAL**
24-DNT-confirm	25.065	205952	**1.000 CAL**
135-TNB-confirm	30.673	175597	**1.000 CAL**
246-TNT-confirm	31.181	133078	**1.000 CAL**

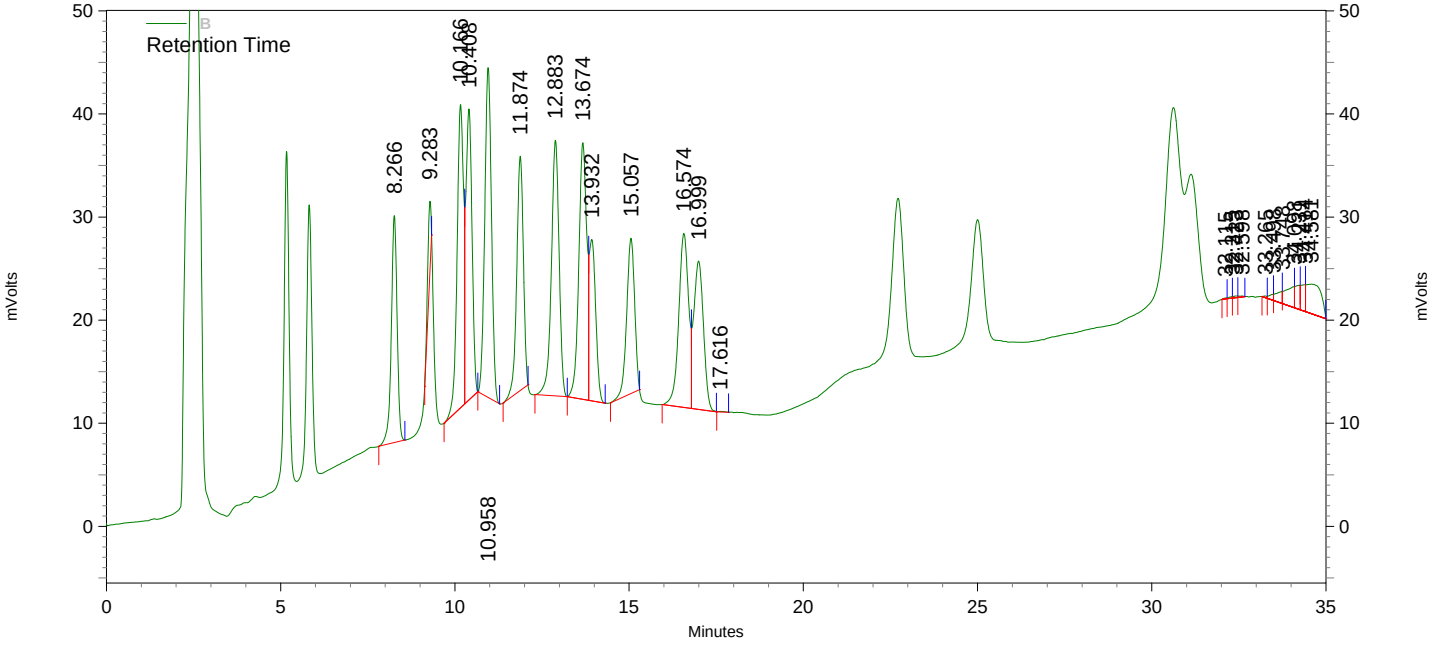
B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm	8.316	136962	**2.000 CAL**
PETN-confirm	14.016	111846	**2.000 CAL**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012716EXPic-confirm\007.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\012716expic-confirm\012716expic-confirm.met
Sample ID: 8330 Pt. 6 EXP 5682
Acquired: Jan 27, 2016 17:28:51
Data Summary: {Data Description}





8330 Pt. 6 EXP 5682

A Results

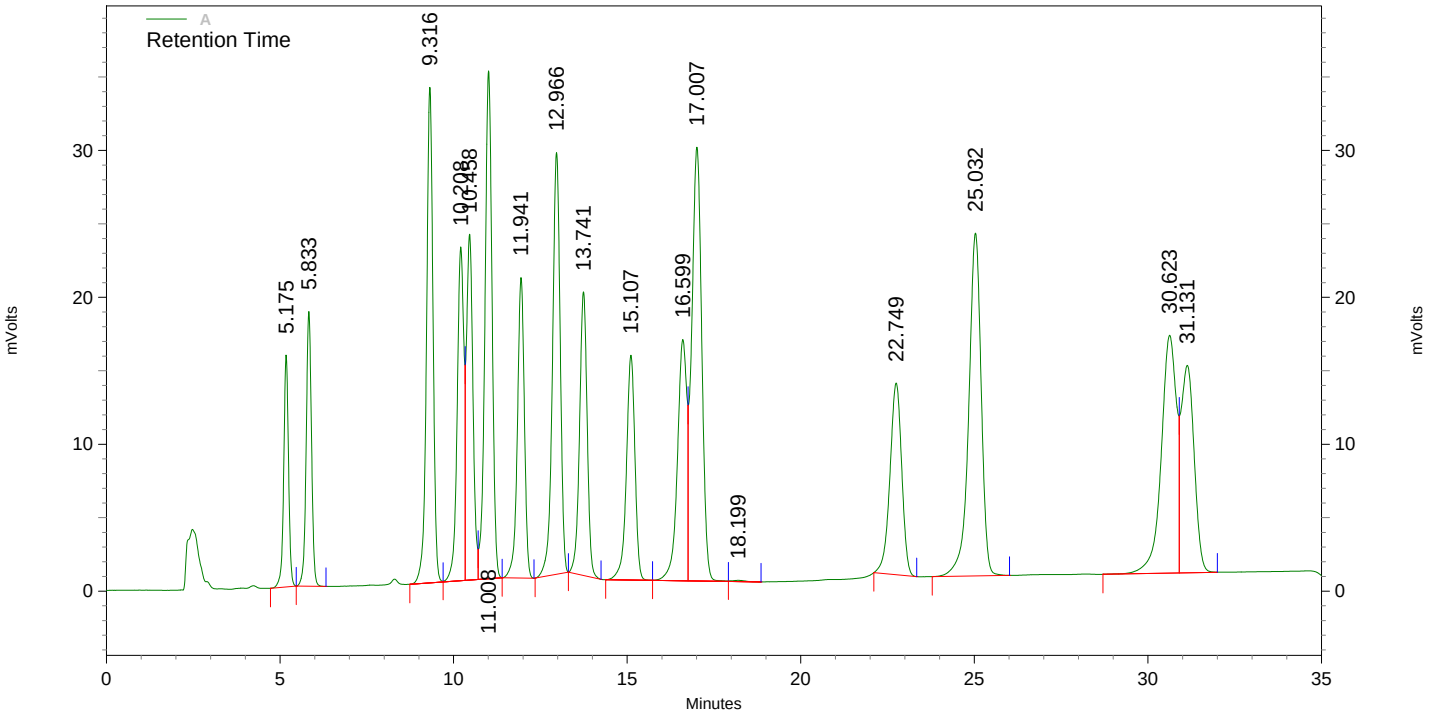
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm	5.166	103053	**2.000 CAL**
RDX-confirm	5.816	131790	**2.000 CAL**
NB-confirm	9.283	292483	**2.000 CAL**
12-DNB (SSTD)-confirm	10.166	202309	**400.000 CAL**
4-AM-26-DNT-conf.	10.408	205848	**2.000 CAL**
3,5-DNA-confirm	10.958	328742	**2.000 CAL**
2-NT-confirm	11.874	189869	**2.000 CAL**
2-AM-46-DNT-conf.	12.883	296178	**2.000 CAL**
3-NT-confirm	13.666	196113	**2.000 CAL**
4-NT-confirm	15.057	175681	**2.000 CAL**
26-DNT-confirm	16.582	207259	**2.000 CAL**
13-DNB-confirm	16.999	398334	**2.000 CAL**
TETRYL-confirm	22.715	202885	**2.000 CAL**
24-DNT-confirm	24.998	390021	**2.000 CAL**
135-TNB-confirm	30.623	332237	**2.000 CAL**
246-TNT-confirm	31.131	244642	**2.000 CAL**

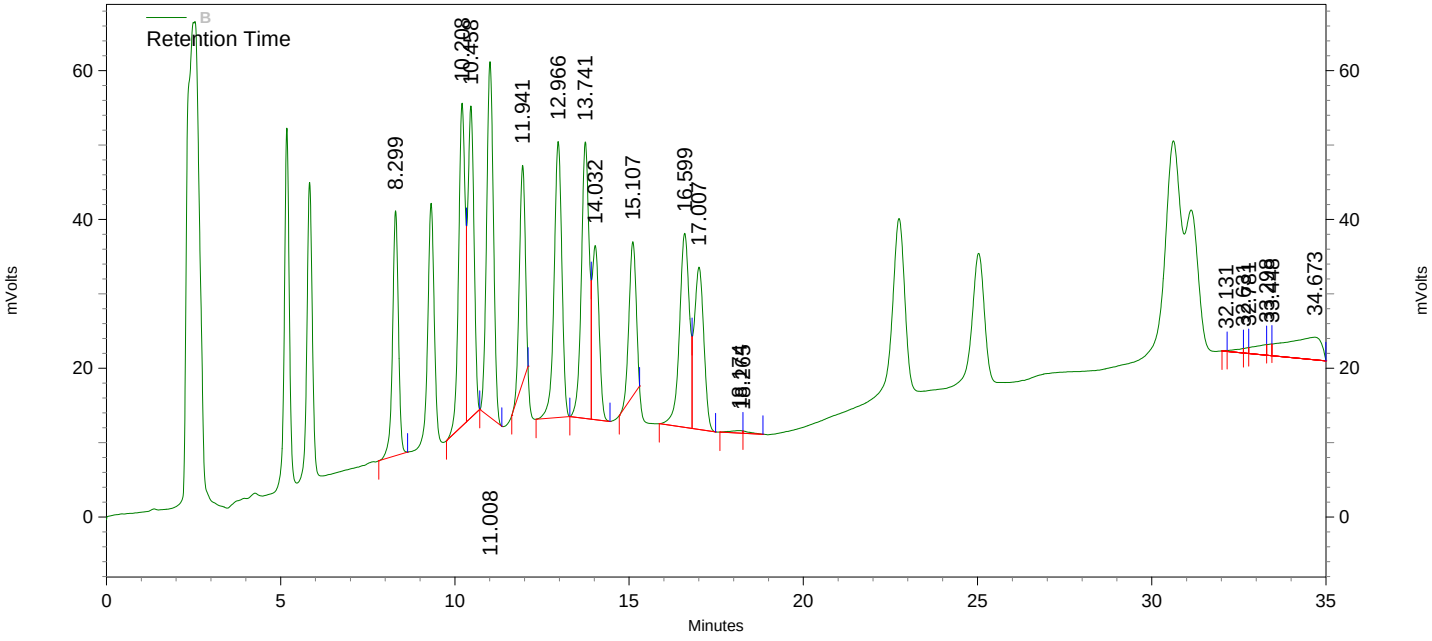
B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm	8.266	255710	**4.000 CAL**
PETN-confirm	13.932	203234	**4.000 CAL**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012716EXPic-confirm\008.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\012716expic-confirm\012716expic-confirm.met
Sample ID: 8330 Pt. 7 EXP 5683
Acquired: Jan 27, 2016 18:06:08
Data Summary: {Data Description}





8330 Pt. 7 EXP 5683

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm	5.175	153777	**3.000 CAL**
RDX-confirm	5.833	197929	**3.000 CAL**
NB-confirm	9.316	435228	**3.000 CAL**
12-DNB (SSTD)-confirm	10.208	303109	**600.000 CAL**
4-AM-26-DNT-conf.	10.458	309524	**3.000 CAL**
3,5-DNA-confirm	11.008	495586	**3.000 CAL**
2-NT-confirm	11.941	285025	**3.000 CAL**
2-AM-46-DNT-conf.	12.966	442441	**3.000 CAL**
3-NT-confirm	13.741	292545	**3.000 CAL**
4-NT-confirm	15.107	262142	**3.000 CAL**
26-DNT-confirm	16.599	309877	**3.000 CAL**
13-DNB-confirm	17.007	597478	**3.000 CAL**
TETRYL-confirm	22.749	307712	**3.000 CAL**
24-DNT-confirm	25.032	582012	**3.000 CAL**
135-TNB-confirm	30.623	497393	**3.000 CAL**
246-TNT-confirm	31.131	369427	**3.000 CAL**

B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm	8.299	384050	**6.000 CAL**
PETN-confirm	14.032	322643	**6.000 CAL**

QC Check Standard Report

Sequence : C:\Instarch\HPLC 2\Sequences\8330A_B\012716expic-confirm.seq
User : red
Printed : Jan 28, 2016 17:20:02

File	Sample ID	Acquired
C:\Instarch\HPLC 2\Data\012716EXPic-confirm\009.dat	8330 ICV EXP 5684	Jan 28, 2016 17:20:02

A

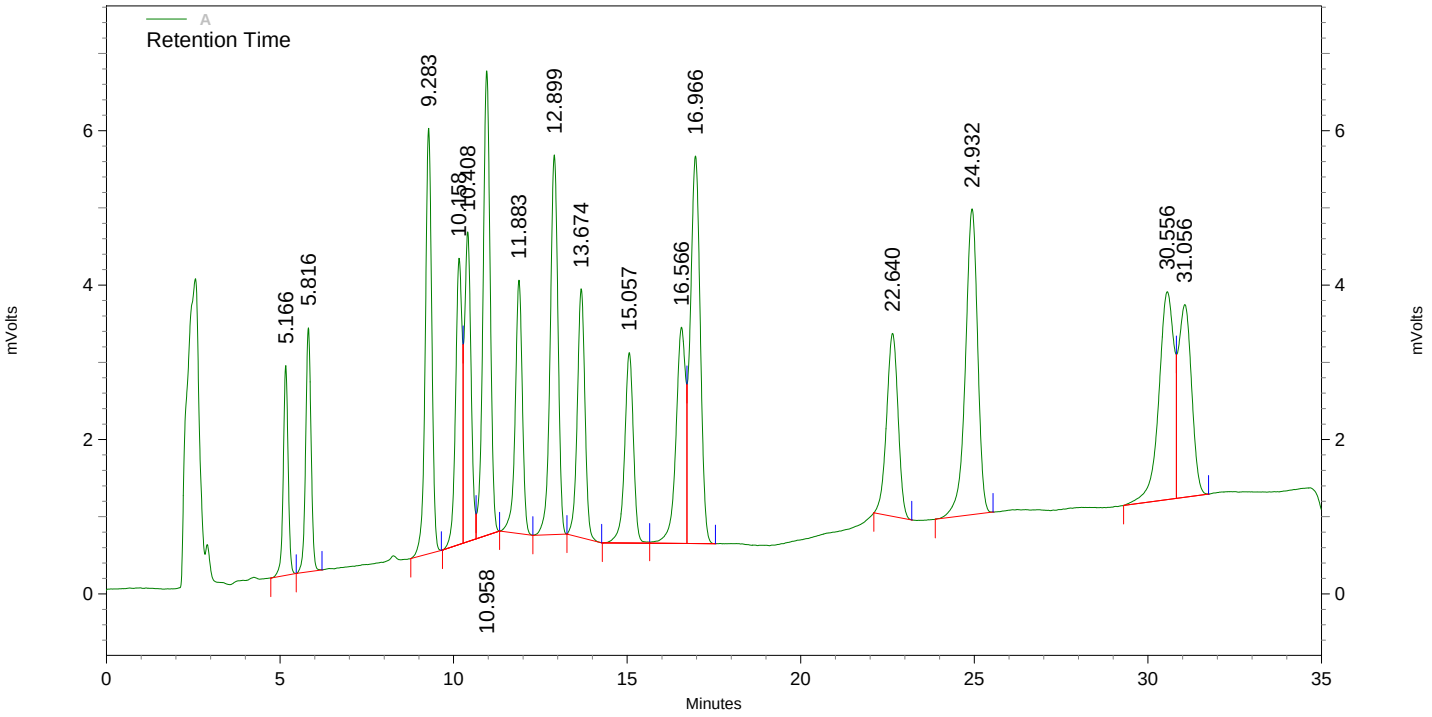
Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
HMX-confirm	0.500	0.503	0.640	20.000	Passed
RDX-confirm	0.500	0.498	0.471	20.000	Passed
NB-confirm	0.500	0.476	4.832	20.000	Passed
12-DNB (SSTD)-confirm	100.000	91.525	8.475	20.000	Passed
4-AM-26-DNT-conf.	0.500	0.500	0.095	20.000	Passed
3,5-DNA-confirm	0.500	0.511	2.242	20.000	Passed
2-NT-confirm	0.500	0.478	4.424	20.000	Passed
2-AM-46-DNT-conf.	0.500	0.498	0.361	20.000	Passed
3-NT-confirm	0.500	0.494	1.206	20.000	Passed
4-NT-confirm	0.500	0.485	2.930	20.000	Passed
26-DNT-confirm	0.500	0.485	2.957	20.000	Passed
13-DNB-confirm	0.500	0.492	1.571	20.000	Passed
TETRYL-confirm	0.500	0.479	4.131	20.000	Passed
24-DNT-confirm	0.500	0.488	2.485	20.000	Passed
135-TNB-confirm	0.500	0.487	2.642	20.000	Passed
246-TNT-confirm	0.500	0.522	4.352	20.000	Passed

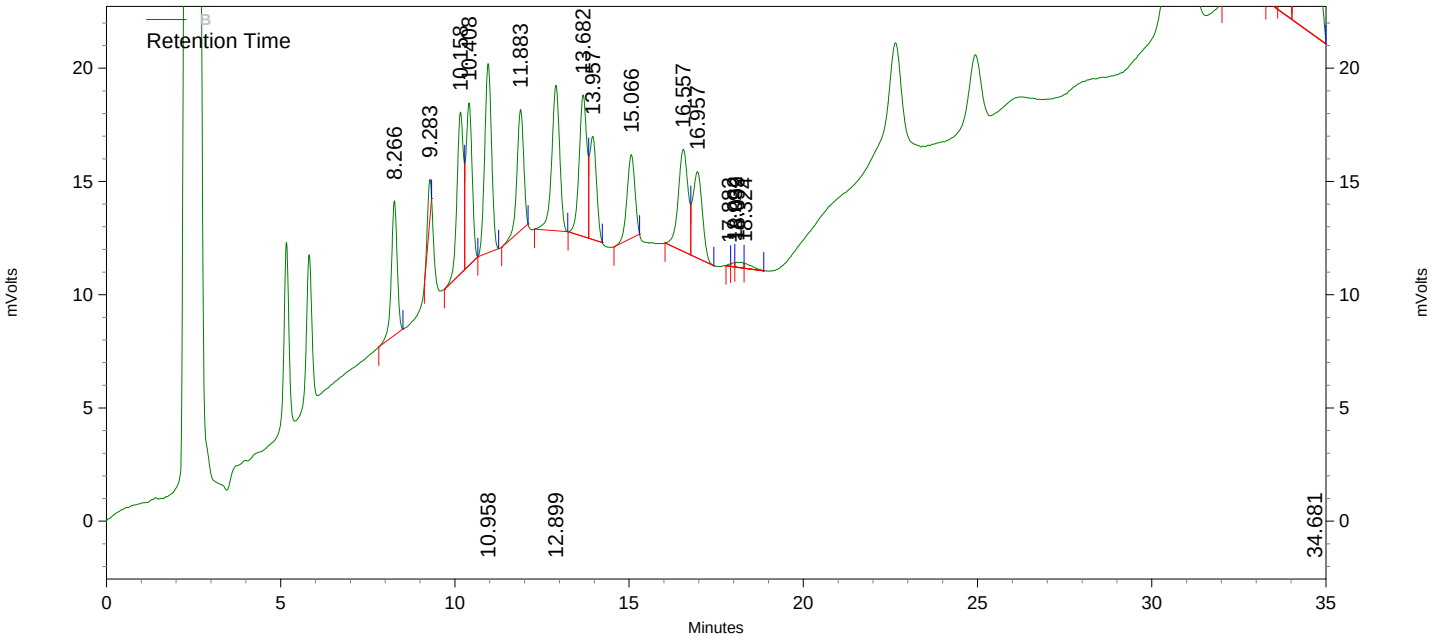
B

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
NG-confirm	1.000	0.954	4.594	20.000	Passed
PETN-confirm	1.000	1.190	18.970	20.000	Passed

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012716EXPic-confirm\009.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\012716expic-confirm\012716expic-confirm.met
Sample ID: 8330 ICV EXP 5684
Acquired: Jan 27, 2016 18:43:25
Data Summary: {Data Description}





8330 ICV EXP 5684

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm	5.166	26779	**0.503**
RDX-confirm	5.816	33952	**0.498**
NB-confirm	9.283	71222	**0.476**
12-DNB (SSTD)-confirm	10.158	47892	**91.525**
4-AM-26-DNT-conf.	10.408	53318	**0.500**
3,5-DNA-confirm	10.958	86668	**0.511**
2-NT-confirm	11.883	46768	**0.478**
2-AM-46-DNT-conf.	12.899	76297	**0.498**
3-NT-confirm	13.674	49299	**0.494**
4-NT-confirm	15.057	43522	**0.485**
26-DNT-confirm	16.566	54367	**0.485**
13-DNB-confirm	16.966	100148	**0.492**
TETRYL-confirm	22.640	54415	**0.479**
24-DNT-confirm	24.932	97122	**0.488**
135-TNB-confirm	30.556	82129	**0.487**
246-TNT-confirm	31.056	66073	**0.522**

B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm	8.266	69054	**0.954**
PETN-confirm	13.957	62710	**1.190**

NITROAROMATICS ANALYSIS
CONTINUING CALIBRATION
DOCUMENTS

QC Check Standard Report

RED
2/1/2016

Sequence : C:\Instarch\HPLC 2\Sequences\8330A_B\012516expic-primary.seq
User : red
Printed : Jan 28, 2016 16:44:14

File	Sample ID	Acquired
C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\010.dat	8330 CCV EXP 5671	Jan 28, 2016 16:44:14

A

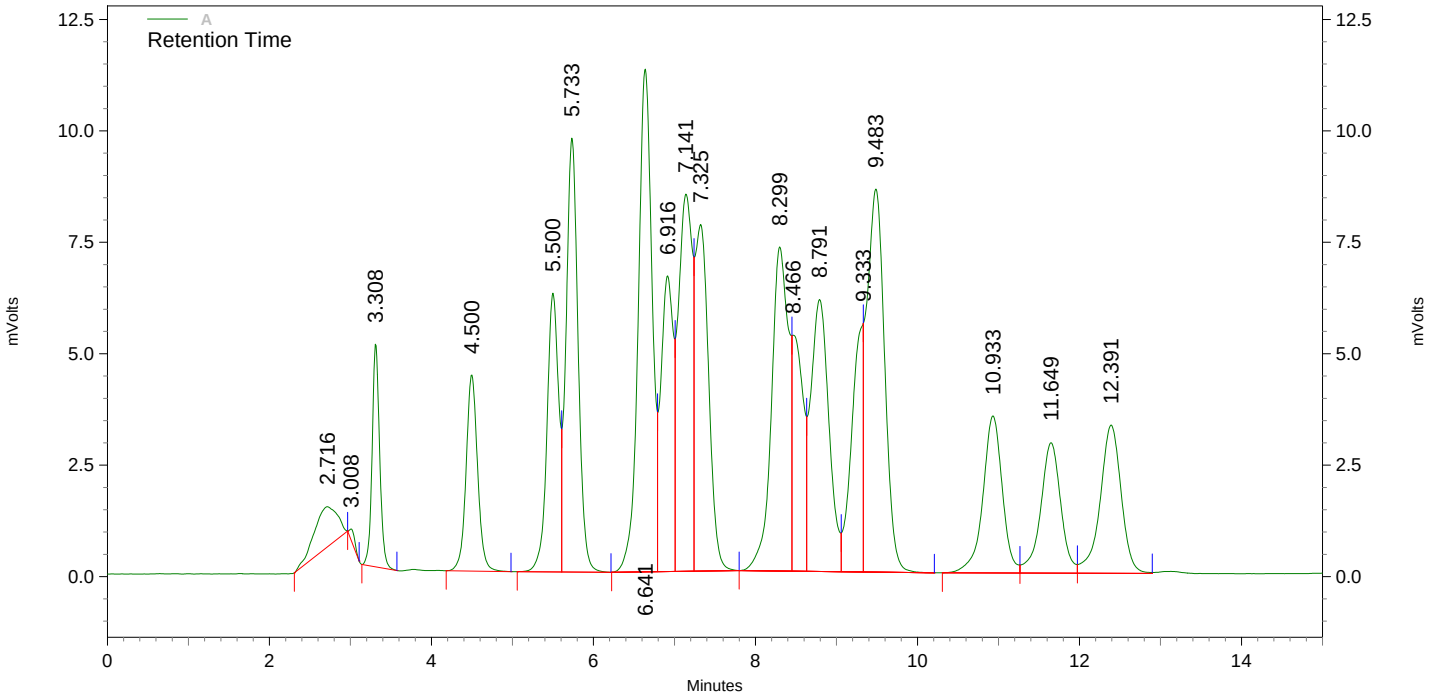
Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
HMX	0.500	0.492	1.579	20.000	Passed
RDX	0.500	0.500	0.008	20.000	Passed
12-DNB (SSTD)	100.000	100.543	0.543	20.000	Passed
135-TNB	0.500	0.500	0.074	20.000	Passed
13-DNB	0.500	0.498	0.375	20.000	Passed
TETRYL	0.500	0.505	1.039	20.000	Passed
35-DNA	0.500	0.480	3.940	20.000	Passed
NB	0.500	0.517	3.365	20.000	Passed
246-TNT	0.500	0.527	5.326	20.000	Passed
4-AM-26-DNT	0.500	0.444	11.238	20.000	Passed
2-AM-46-DNT	0.500	0.503	0.628	20.000	Passed
2-NT	0.500	0.501	0.181	20.000	Passed
4-NT	0.500	0.500	0.043	20.000	Passed
3-NT	0.500	0.501	0.165	20.000	Passed

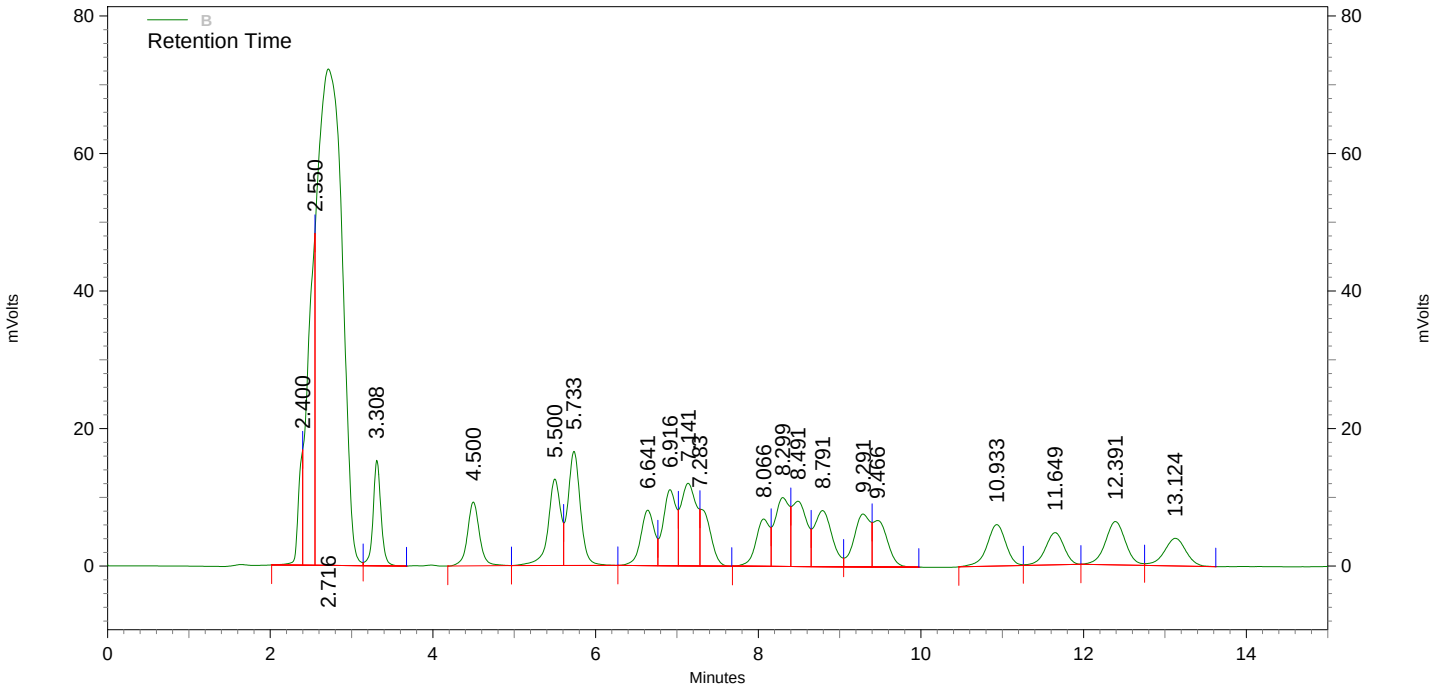
B

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
NG	1.000	0.992	0.756	20.000	Passed
26-DNT	0.500	0.498	0.329	20.000	Passed
24-DNT	0.500	0.505	1.095	20.000	Passed
PETN	1.000	1.021	2.119	20.000	Passed

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\010.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\012516expic-primary\012516expic-primary.met
Sample ID: 8330 CCV EXP 5671
Acquired: Jan 25, 2016 17:48:26
Data Summary: {Data Description}





A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX	3.308	32284	**0.492**
RDX	4.500	43588	**0.500**
12-DNB (SSTD)	5.500	62661	**100.543**
135-TNB	5.733	100276	**0.500**
13-DNB	6.641	134174	**0.498**
TETRYL	6.916	70672	**0.505**
35-DNA	7.141	101695	**0.480**
NB	7.325	91191	**0.517**
246-TNT	8.299	107462	**0.527**
4-AM-26-DNT	8.466	50290	**0.444**
2-AM-46-DNT	8.791	95506	**0.503**
2-NT	10.933	58727	**0.501**
4-NT	11.649	50463	**0.500**
3-NT	12.391	60246	**0.501**

B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG	8.066	80602	**0.992**
26-DNT	9.291	106490	**0.498**
24-DNT	9.466	84780	**0.505**
PETN	13.124	74428	**1.021**

QC Check Standard Report

Sequence : C:\Instarch\HPLC 2\Sequences\8330A_B\012516expic-primary.seq
User : red
Printed : Jan 28, 2016 16:45:04

File	Sample ID	Acquired
C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\020.dat	8330 CCV EXP 5671	Jan 28, 2016 16:45:03

A

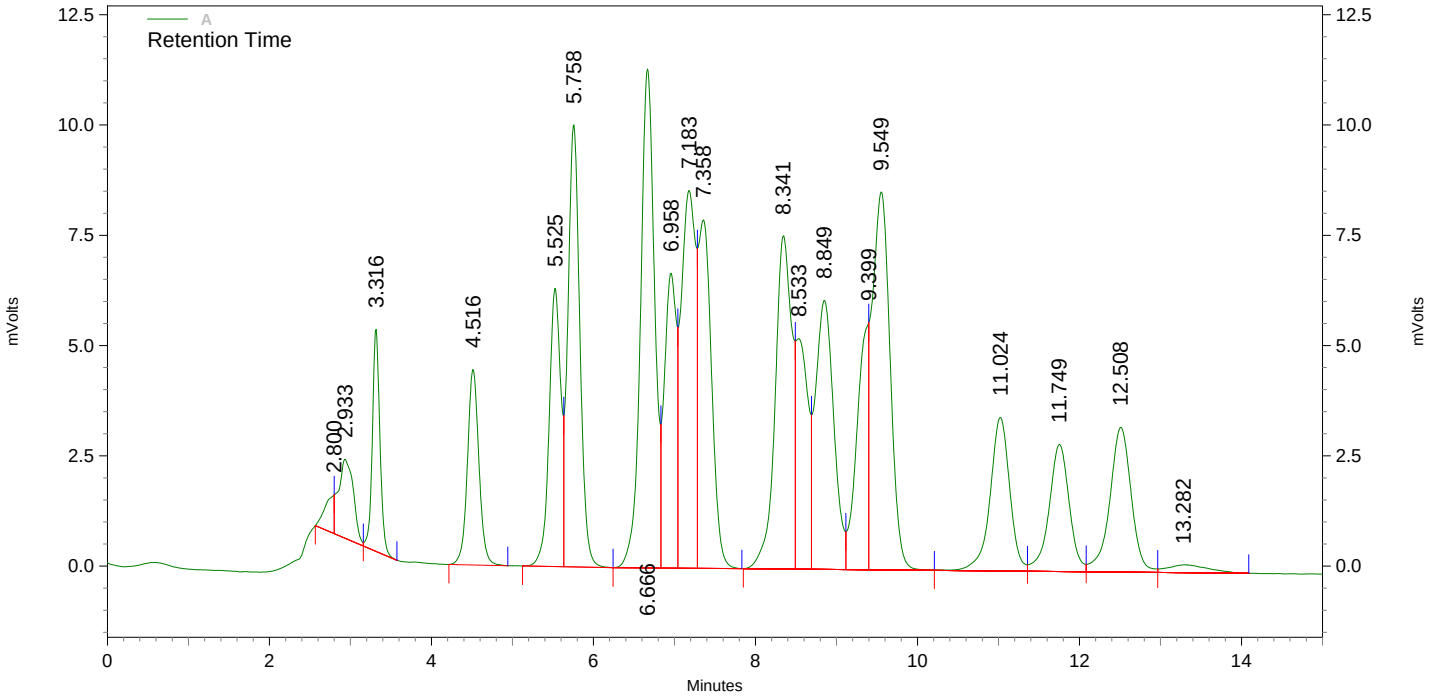
Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
HMX	0.500	0.496	0.726	20.000	Passed
RDX	0.500	0.503	0.660	20.000	Passed
12-DNB (SSTD)	100.000	101.439	1.439	20.000	Passed
135-TNB	0.500	0.515	2.943	20.000	Passed
13-DNB	0.500	0.508	1.612	20.000	Passed
TETRYL	0.500	0.488	2.349	20.000	Passed
35-DNA	0.500	0.506	1.192	20.000	Passed
NB	0.500	0.512	2.383	20.000	Passed
246-TNT	0.500	0.535	6.901	20.000	Passed
4-AM-26-DNT	0.500	0.488	2.466	20.000	Passed
2-AM-46-DNT	0.500	0.507	1.480	20.000	Passed
2-NT	0.500	0.501	0.153	20.000	Passed
4-NT	0.500	0.494	1.180	20.000	Passed
3-NT	0.500	0.504	0.787	20.000	Passed

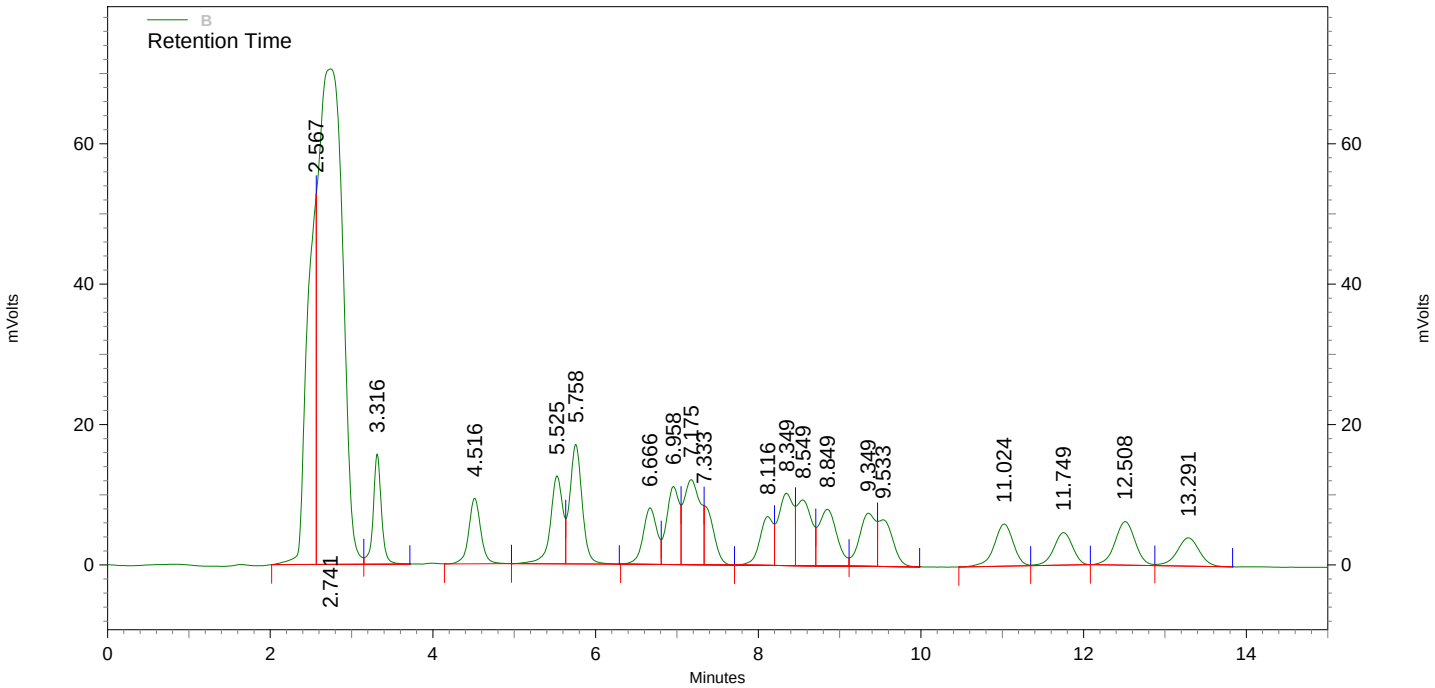
B

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
NG	1.000	0.981	1.868	20.000	Passed
26-DNT	0.500	0.493	1.356	20.000	Passed
24-DNT	0.500	0.497	0.653	20.000	Passed
PETN	1.000	1.060	5.969	20.000	Passed

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\020.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\012516expic-primary\012516expic-primary.met
Sample ID: 8330 CCV EXP 5671
Acquired: Jan 25, 2016 20:51:26
Data Summary: {Data Description}





A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX	3.316	32562	**0.496**
RDX	4.516	43875	**0.503**
12-DNB (SSTD)	5.525	63210	**101.439**
135-TNB	5.758	103122	**0.515**
13-DNB	6.666	136820	**0.508**
TETRYL	6.958	68326	**0.488**
35-DNA	7.183	107060	**0.506**
NB	7.358	90334	**0.512**
246-TNT	8.341	109059	**0.535**
4-AM-26-DNT	8.533	55140	**0.488**
2-AM-46-DNT	8.849	96307	**0.507**
2-NT	11.024	58711	**0.501**
4-NT	11.749	49891	**0.494**
3-NT	12.508	60618	**0.504**

B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG	8.116	79707	**0.981**
26-DNT	9.349	105412	**0.493**
24-DNT	9.533	83339	**0.497**
PETN	13.291	77197	**1.060**

QC Check Standard Report

Sequence : C:\Instarch\HPLC 2\Sequences\8330A_B\012516expic-primary.seq
User : red
Printed : Jan 28, 2016 16:45:17

File	Sample ID	Acquired
C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\022.dat	8330 CCV EXP 5671	Jan 28, 2016 16:45:17

A

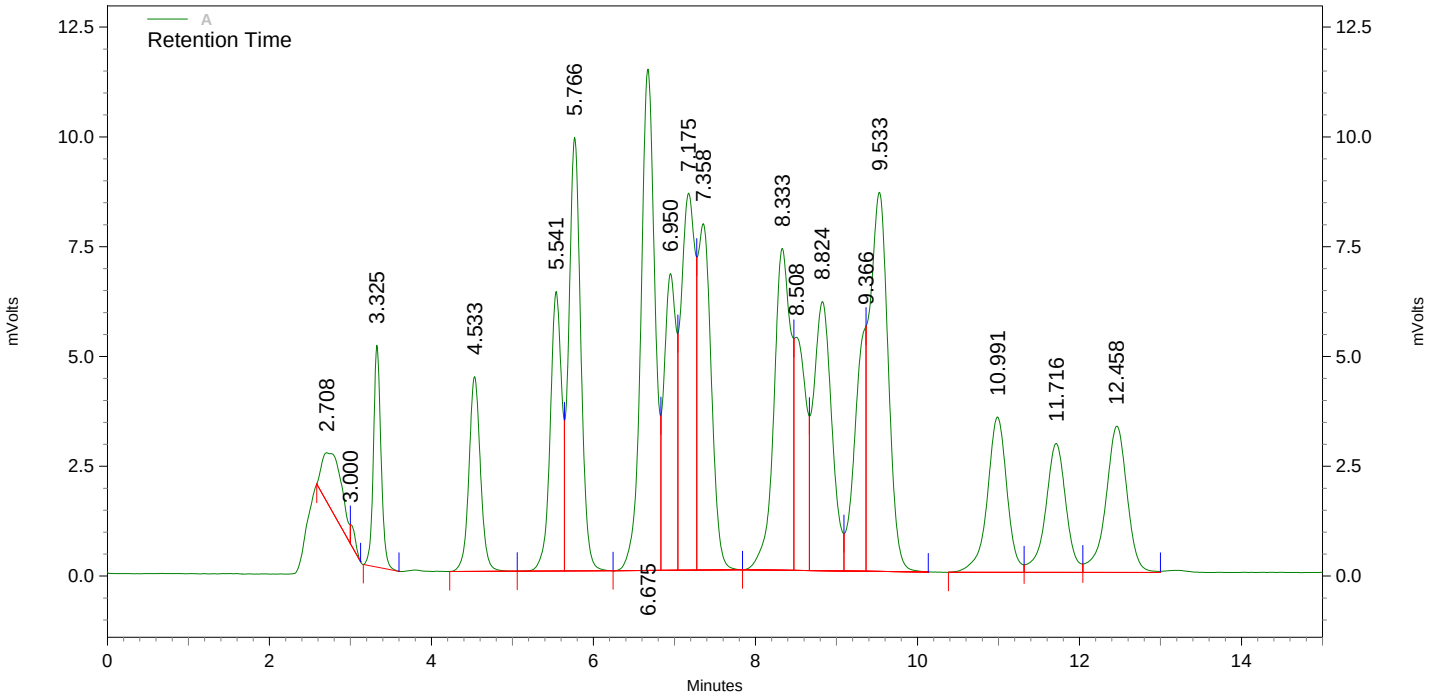
Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
HMX	0.500	0.500	0.024	20.000	Passed
RDX	0.500	0.505	1.033	20.000	Passed
12-DNB (SSTD)	100.000	100.259	0.259	20.000	Passed
135-TNB	0.500	0.509	1.811	20.000	Passed
13-DNB	0.500	0.510	1.904	20.000	Passed
TETRYL	0.500	0.499	0.248	20.000	Passed
35-DNA	0.500	0.489	2.241	20.000	Passed
NB	0.500	0.521	4.264	20.000	Passed
246-TNT	0.500	0.521	4.299	20.000	Passed
4-AM-26-DNT	0.500	0.471	5.760	20.000	Passed
2-AM-46-DNT	0.500	0.509	1.847	20.000	Passed
2-NT	0.500	0.506	1.102	20.000	Passed
4-NT	0.500	0.505	1.058	20.000	Passed
3-NT	0.500	0.506	1.227	20.000	Passed

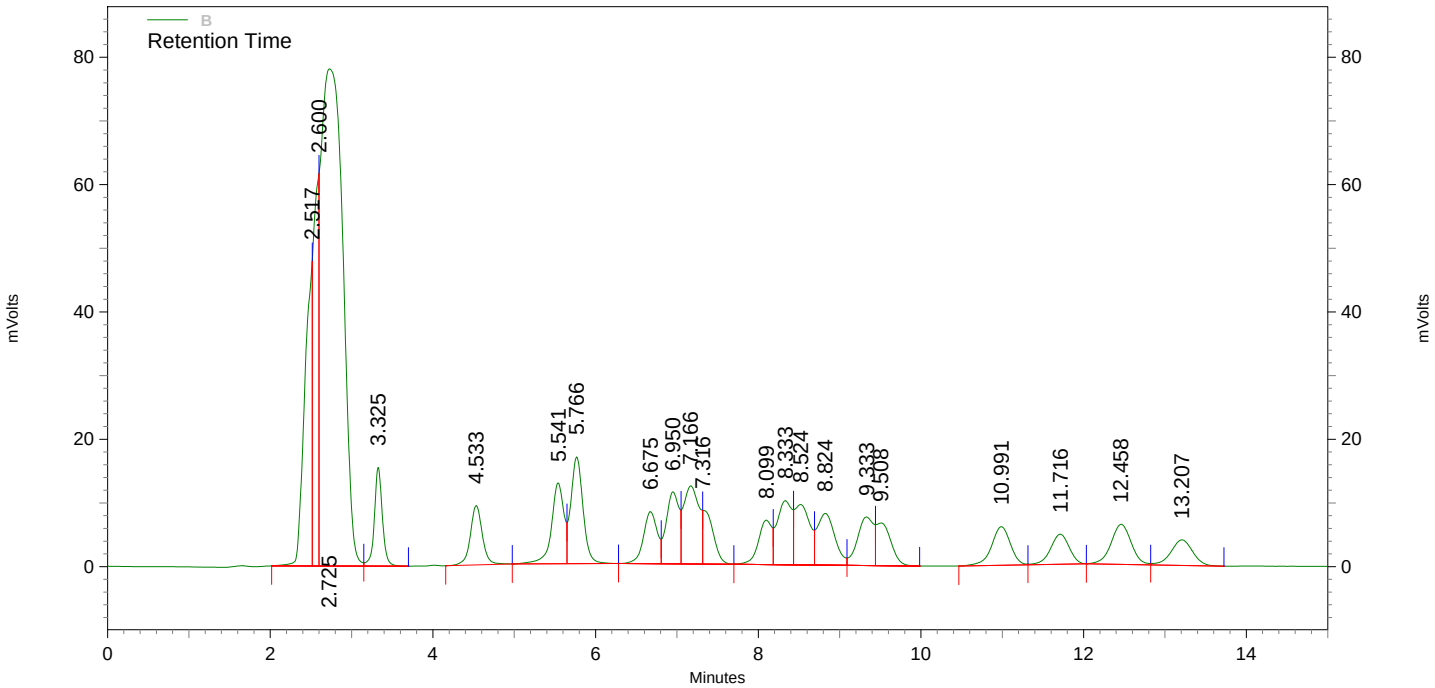
B

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
NG	1.000	0.976	2.393	20.000	Passed
26-DNT	0.500	0.493	1.435	20.000	Passed
24-DNT	0.500	0.501	0.297	20.000	Passed
PETN	1.000	1.024	2.440	20.000	Passed

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\022.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\012516expic-primary\012516expic-primary.met
Sample ID: 8330 CCV EXP 5671
Acquired: Jan 26, 2016 10:16:36
Data Summary: {Data Description}





A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX	3.325	32806	**0.500**
RDX	4.533	44035	**0.505**
12-DNB (SSTD)	5.541	62487	**100.259**
135-TNB	5.766	101999	**0.509**
13-DNB	6.675	137209	**0.510**
TETRYL	6.950	69781	**0.499**
35-DNA	7.175	103471	**0.489**
NB	7.358	91976	**0.521**
246-TNT	8.333	106420	**0.521**
4-AM-26-DNT	8.508	53319	**0.471**
2-AM-46-DNT	8.824	96651	**0.509**
2-NT	10.991	59266	**0.506**
4-NT	11.716	51017	**0.505**
3-NT	12.458	60881	**0.506**

B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG	8.099	79284	**0.976**
26-DNT	9.333	105330	**0.493**
24-DNT	9.508	84122	**0.501**
PETN	13.207	74659	**1.024**

QC Check Standard Report

Sequence : C:\Instarch\HPLC 2\Sequences\8330A_B\012516expic-primary.seq
User : red
Printed : Jan 28, 2016 16:45:45

File	Sample ID	Acquired
C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\027.dat	8330 CCV EXP 5671	Jan 28, 2016 16:45:45

A

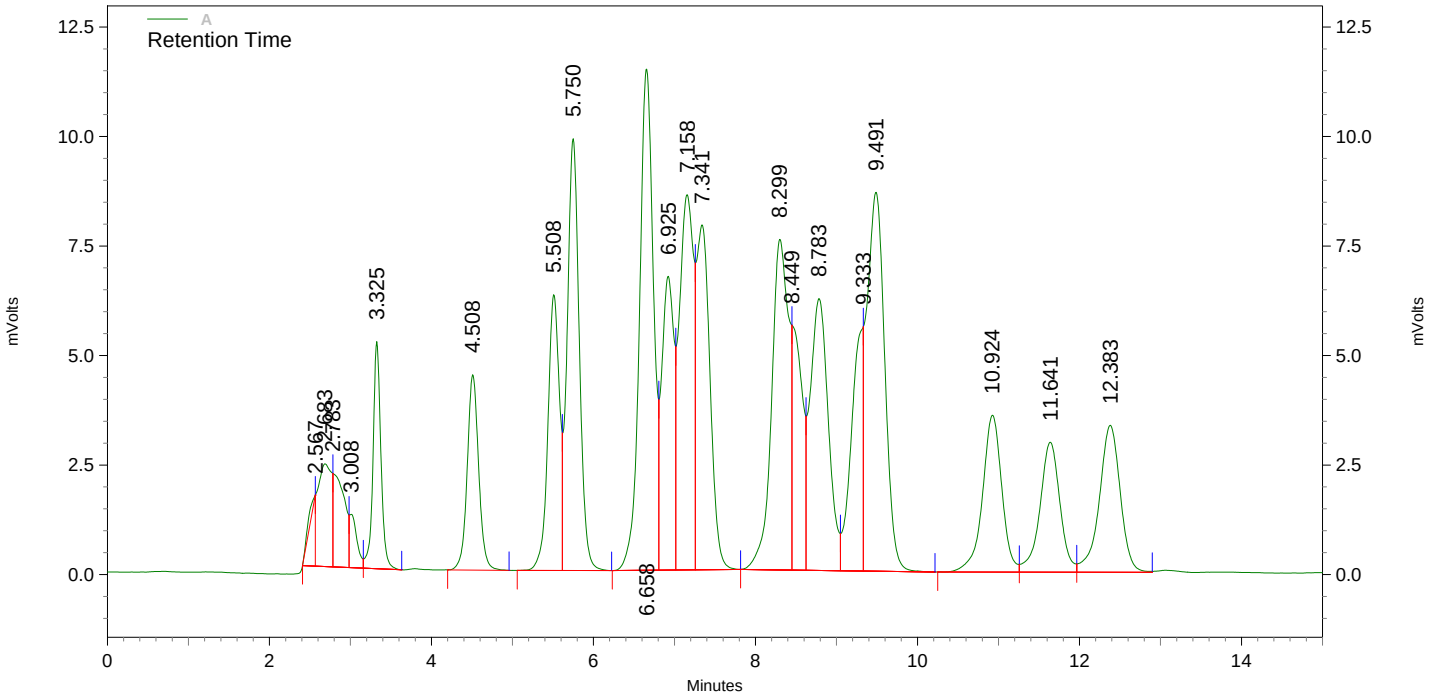
Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
HMX	0.500	0.538	7.538	20.000	Passed
RDX	0.500	0.503	0.670	20.000	Passed
12-DNB (SSTD)	100.000	99.931	0.069	20.000	Passed
135-TNB	0.500	0.513	2.554	20.000	Passed
13-DNB	0.500	0.509	1.889	20.000	Passed
TETRYL	0.500	0.500	0.070	20.000	Passed
35-DNA	0.500	0.496	0.748	20.000	Passed
NB	0.500	0.521	4.237	20.000	Passed
246-TNT	0.500	0.547	9.461	20.000	Passed
4-AM-26-DNT	0.500	0.435	12.953	20.000	Passed
2-AM-46-DNT	0.500	0.512	2.322	20.000	Passed
2-NT	0.500	0.507	1.393	20.000	Passed
4-NT	0.500	0.504	0.887	20.000	Passed
3-NT	0.500	0.504	0.766	20.000	Passed

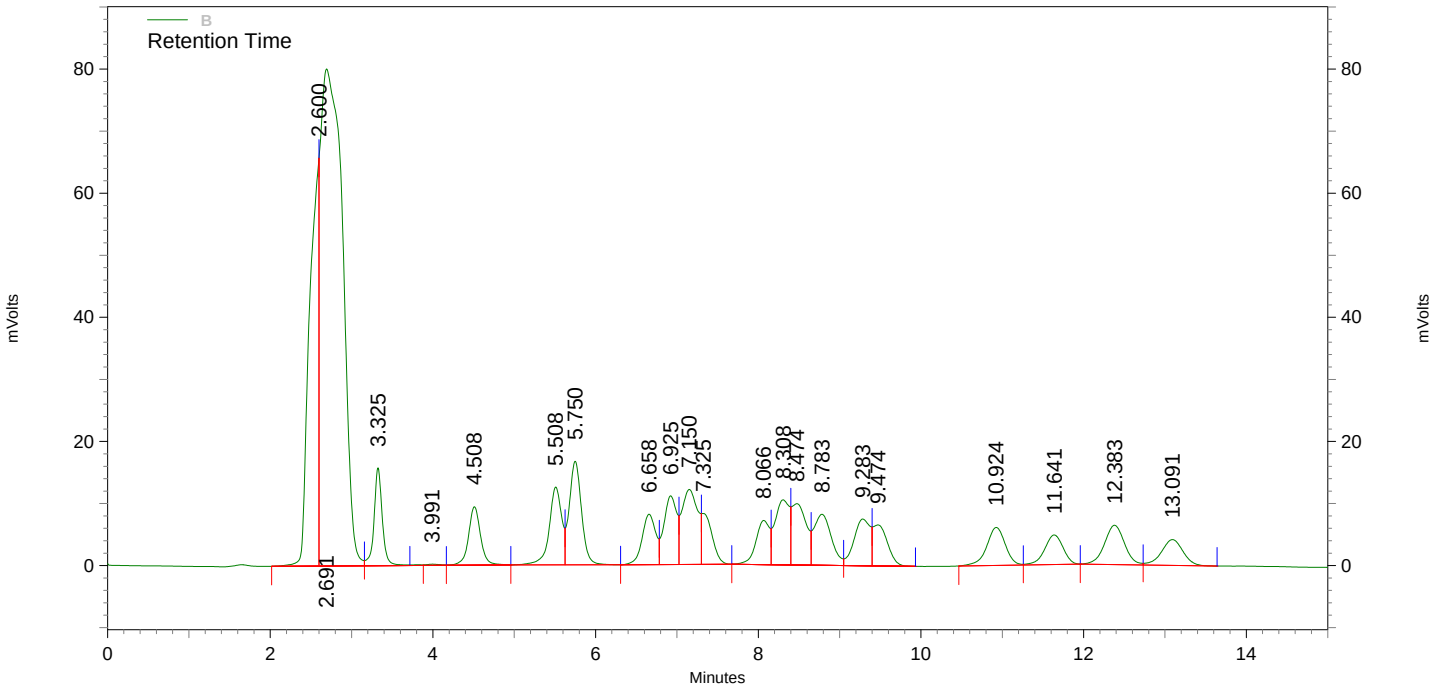
B

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
NG	1.000	1.020	1.956	20.000	Passed
26-DNT	0.500	0.488	2.465	20.000	Passed
24-DNT	0.500	0.492	1.660	20.000	Passed
PETN	1.000	1.050	4.991	20.000	Passed

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\027.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\012516expic-primary\012516expic-primary.met
Sample ID: 8330 CCV EXP 5671
Acquired: Jan 26, 2016 11:43:58
Data Summary: {Data Description}





A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX	3.325	35253	**0.538**
RDX	4.508	43879	**0.503**
12-DNB (SSTD)	5.508	62286	**99.931**
135-TNB	5.750	102737	**0.513**
13-DNB	6.658	137189	**0.509**
TETRYL	6.925	69904	**0.500**
35-DNA	7.158	105032	**0.496**
NB	7.341	91952	**0.521**
246-TNT	8.299	111655	**0.547**
4-AM-26-DNT	8.449	49342	**0.435**
2-AM-46-DNT	8.783	97097	**0.512**
2-NT	10.924	59436	**0.507**
4-NT	11.641	50931	**0.504**
3-NT	12.383	60605	**0.504**

B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG	8.066	82786	**1.020**
26-DNT	9.283	104249	**0.488**
24-DNT	9.474	82509	**0.492**
PETN	13.091	76494	**1.050**

QC Check Standard Report

Sequence : C:\Instarch\HPLC 2\Sequences\MDTNX\012616MDTNX-primary.seq
User : RED
Printed : Jan 29, 2016 11:23:16

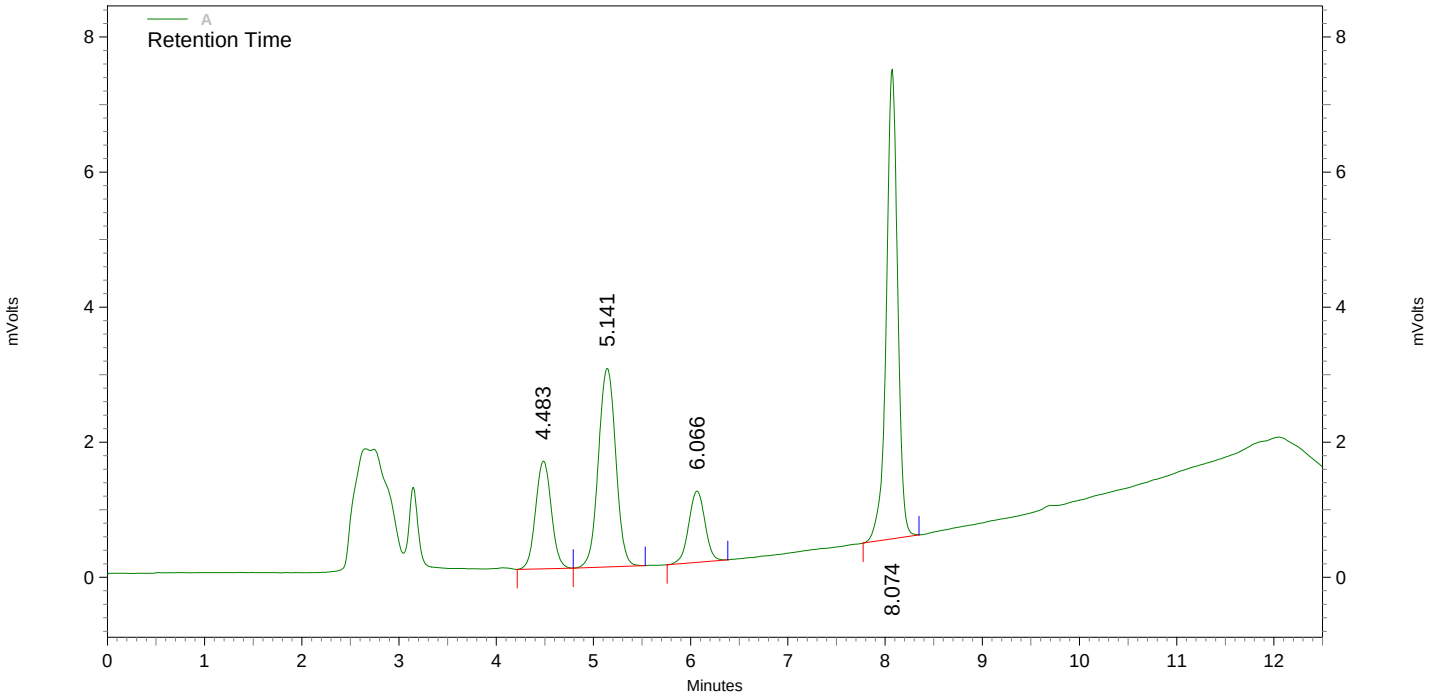
File	Sample ID	Acquired
C:\Instarch\HPLC 2\Data\012616MDTNX-PRIMARY\002.dat	MDTNX CCV EXP 5676	Jan 29, 2016 11:23:16

A

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
TNX	0.125	0.119	4.846	20.000	**Passed**
DNX	0.275	0.295	7.159	20.000	**Passed**
MNX	0.100	0.110	9.907	20.000	**Passed**
12-DNB (SSTD)	100.000	110.745	10.745	20.000	**Passed**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012616MDTNX-PRIMARY\002.dat
User ID: RED
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\092915MDTNXic-primary\012616MDTNX-primary.met
Sample ID: MDTNX CCV EXP 5676
Acquired: Jan 26, 2016 13:44:05
Data Summary: {Data Description}



A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX	4.483	17947	**0.119**
DNX	5.141	36456	**0.295**
MNX	6.066	12209	**0.110**
12-DNB (SSTD)	8.074	56139	**110.745**

COMMENTS:

1. The results are reported using a UV/Vis detector set at 254 nm.

QC Check Standard Report

Sequence : C:\Instarch\HPLC 2\Sequences\MDTNX\012616MDTNX-primary.seq
User : RED
Printed : Jan 29, 2016 11:24:02

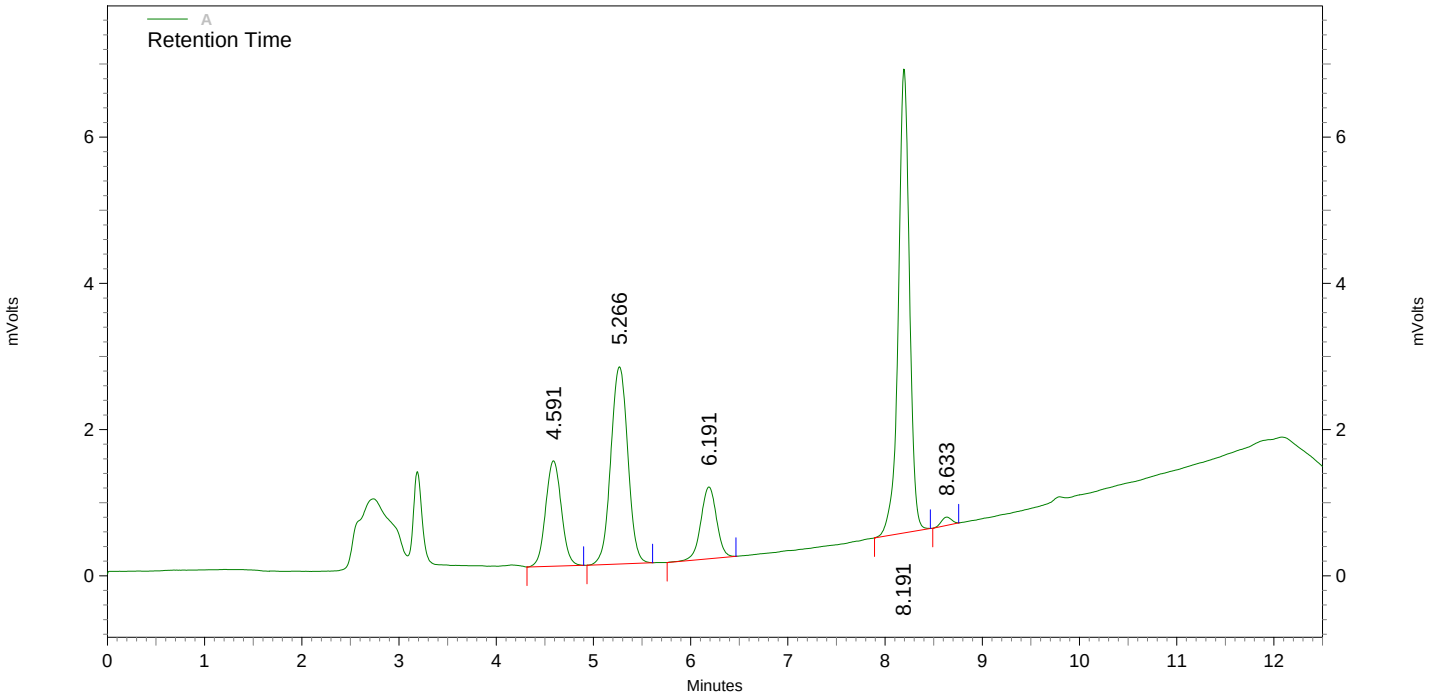
File	Sample ID	Acquired
C:\Instarch\HPLC 2\Data\012616MDTNX-PRIMARY\012.dat	MDTNX CCV EXP 5676	Jan 29, 2016 11:24:02

A

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
TNX	0.125	0.106	14.868	20.000	**Passed**
DNX	0.275	0.264	4.125	20.000	**Passed**
MNX	0.100	0.098	2.450	20.000	**Passed**
12-DNB (SSTD)	100.000	99.541	0.459	20.000	**Passed**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012616MDTNX-PRIMARY\012.dat
User ID: RED
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\092915MDTNXic-primary\012616MDTNX-primary.met
Sample ID: MDTNX CCV EXP 5676
Acquired: Jan 26, 2016 17:27:59
Data Summary: {Data Description}



A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX	4.591	16137	**0.106**
DNX	5.266	32739	**0.264**
MNX	6.191	10960	**0.098**
12-DNB (SSTD)	8.191	50543	**99.541**

COMMENTS:

1. The results are reported using a UV/Vis detector set at 254 nm.

QC Check Standard Report

Sequence : C:\Instarch\HPLC 2\Sequences\MDTNX\012616MDTNX-primary.seq
User : RED
Printed : Jan 29, 2016 11:24:22

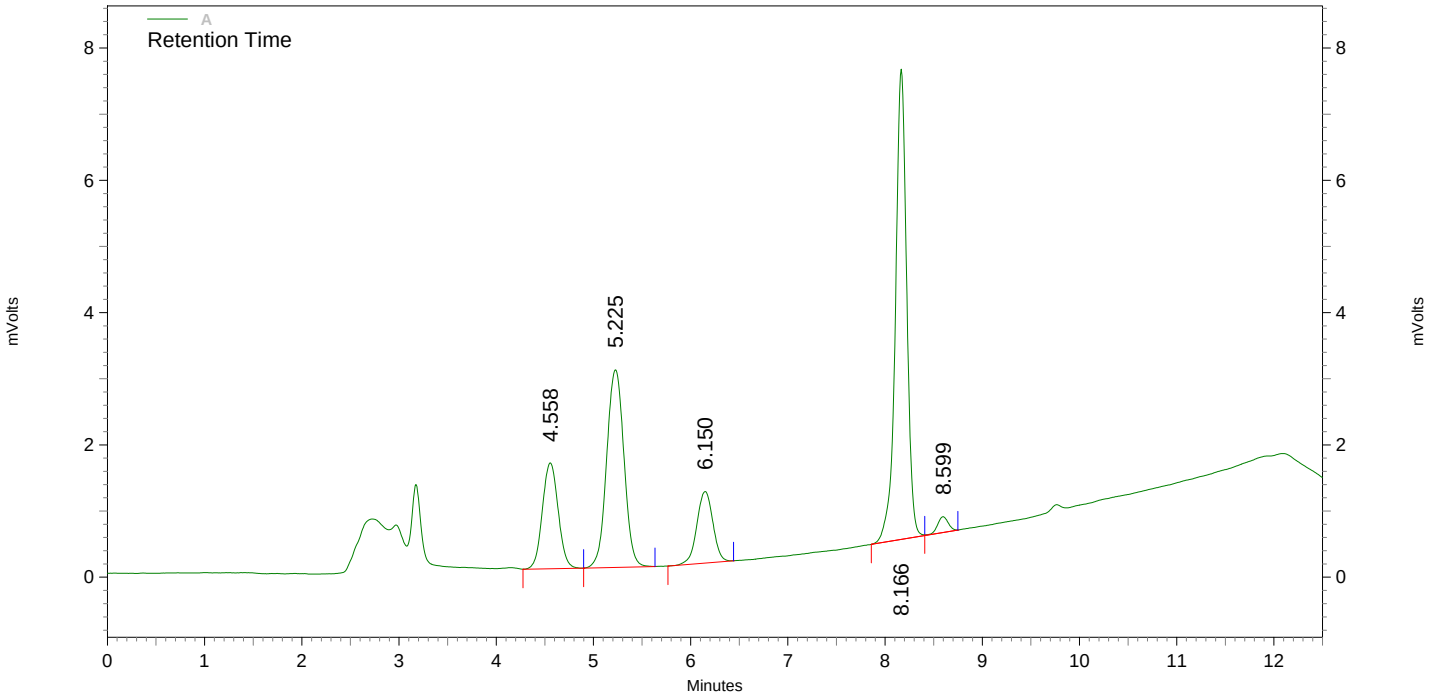
File	Sample ID	Acquired
C:\Instarch\HPLC 2\Data\012616MDTNX-PRIMARY\016.dat	MDTNX CCV EXP 5676	Jan 29, 2016 11:24:21

A

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
TNX	0.125	0.120	4.176	20.000	**Passed**
DNX	0.275	0.299	8.719	20.000	**Passed**
MNX	0.100	0.112	12.252	20.000	**Passed**
12-DNB (SSTD)	100.000	112.625	12.625	20.000	**Passed**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012616MDTNX-PRIMARY\016.dat
User ID: RED
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\092915MDTNXic-primary\012616MDTNX-primary.met
Sample ID: MDTNX CCV EXP 5676
Acquired: Jan 26, 2016 18:30:44
Data Summary: {Data Description}



A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX	4.558	18068	**0.120**
DNX	5.225	36970	**0.299**
MNX	6.150	12446	**0.112**
12-DNB (SSTD)	8.166	57078	**112.625**

COMMENTS:

1. The results are reported using a UV/Vis detector set at 254 nm.

QC Check Standard Report

Sequence : C:\Instarch\HPLC 2\Sequences\8330A_B\012716expic-confirm.seq
User : red
Printed : Jan 28, 2016 17:20:13

File	Sample ID	Acquired
C:\Instarch\HPLC 2\Data\012716EXPic-confirm\010.dat	8330 CCV EXP 5680	Jan 28, 2016 17:20:13

A

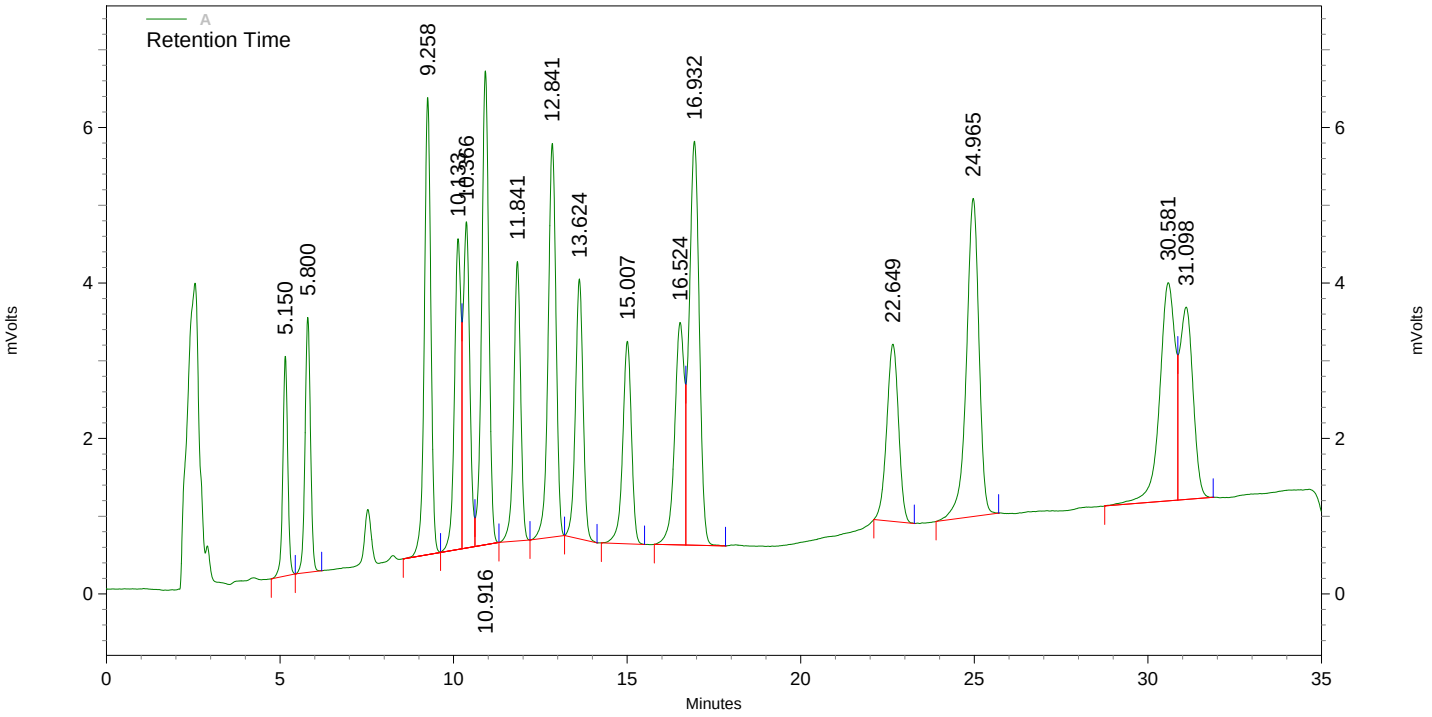
Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
HMX-confirm	0.500	0.529	5.781	20.000	Passed
RDX-confirm	0.500	0.523	4.628	20.000	Passed
NB-confirm	0.500	0.514	2.767	20.000	Passed
12-DNB (SSTD)-confirm	100.000	100.284	0.284	20.000	Passed
4-AM-26-DNT-conf.	0.500	0.529	5.750	20.000	Passed
3,5-DNA-confirm	0.500	0.520	4.058	20.000	Passed
2-NT-confirm	0.500	0.511	2.261	20.000	Passed
2-AM-46-DNT-conf.	0.500	0.520	3.971	20.000	Passed
3-NT-confirm	0.500	0.514	2.838	20.000	Passed
4-NT-confirm	0.500	0.511	2.282	20.000	Passed
26-DNT-confirm	0.500	0.497	0.676	20.000	Passed
13-DNB-confirm	0.500	0.514	2.742	20.000	Passed
TETRYL-confirm	0.500	0.474	5.121	20.000	Passed
24-DNT-confirm	0.500	0.518	3.518	20.000	Passed
135-TNB-confirm	0.500	0.520	3.985	20.000	Passed
246-TNT-confirm	0.500	0.520	3.960	20.000	Passed

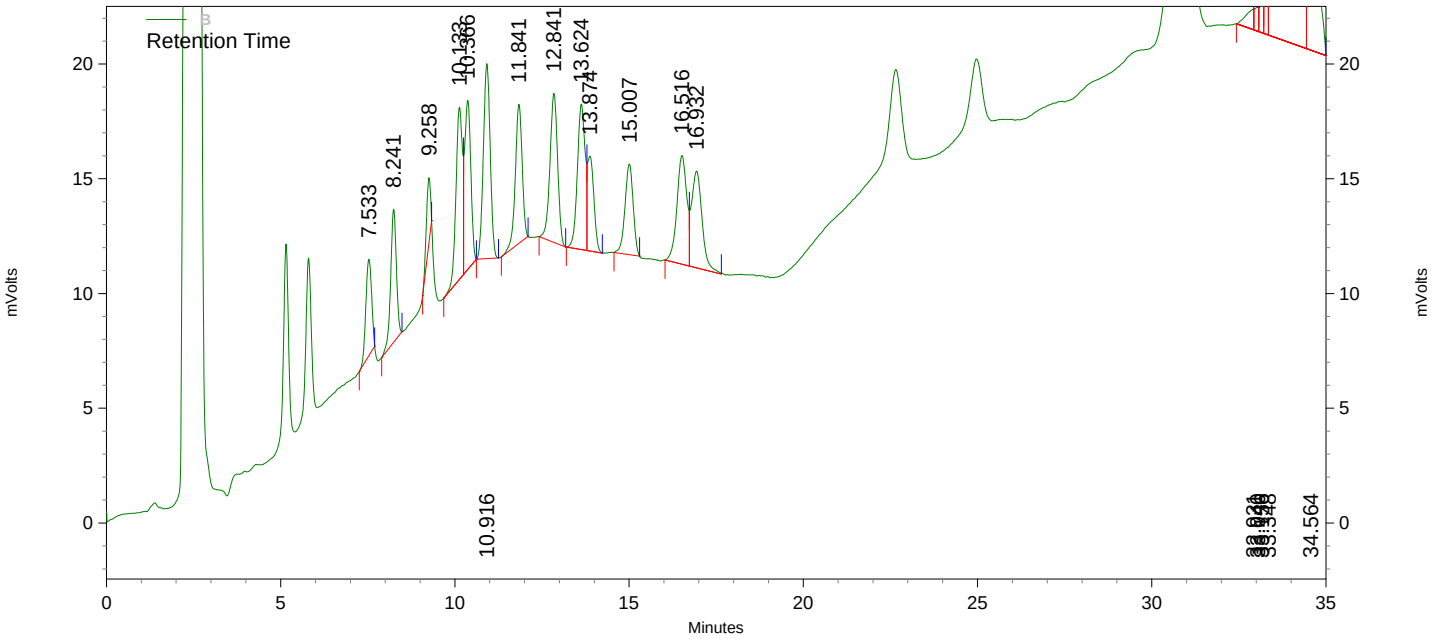
B

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
NG-confirm	1.000	0.912	8.783	20.000	Passed
PETN-confirm	1.000	1.011	1.062	20.000	Passed

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012716EXPic-confirm\010.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\012716expic-confirm\012716expic-confirm.met
Sample ID: 8330 CCV EXP 5680
Acquired: Jan 27, 2016 19:20:45
Data Summary: {Data Description}





8330 CCV EXP 5680

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm	5.150	28111	**0.529**
RDX-confirm	5.800	35643	**0.523**
NB-confirm	9.258	76780	**0.514**
12-DNB (SSTD)-confirm	10.133	52327	**100.284**
4-AM-26-DNT-conf.	10.366	56355	**0.529**
3,5-DNA-confirm	10.916	88175	**0.520**
2-NT-confirm	11.841	49957	**0.511**
2-AM-46-DNT-conf.	12.841	79513	**0.520**
3-NT-confirm	13.624	51288	**0.514**
4-NT-confirm	15.007	45819	**0.511**
26-DNT-confirm	16.524	55645	**0.497**
13-DNB-confirm	16.932	104474	**0.514**
TETRYL-confirm	22.649	53853	**0.474**
24-DNT-confirm	24.965	102997	**0.518**
135-TNB-confirm	30.581	87678	**0.520**
246-TNT-confirm	31.098	65830	**0.520**

B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm	8.241	66022	**0.912**
PETN-confirm	13.874	53076	**1.011**

QC Check Standard Report

Sequence : C:\Instarch\HPLC 2\Sequences\8330A_B\012716expic-confirm.seq
User : red
Printed : Jan 28, 2016 17:21:05

File	Sample ID	Acquired
C:\Instarch\HPLC 2\Data\012716EXPic-confirm\021.dat	8330 CCV EXP 5680	Jan 28, 2016 17:21:05

A

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
HMX-confirm	0.500	0.526	5.148	20.000	Passed
RDX-confirm	0.500	0.522	4.317	20.000	Passed
NB-confirm	0.500	0.524	4.799	20.000	Passed
12-DNB (SSTD)-confirm	100.000	103.138	3.138	20.000	Passed
4-AM-26-DNT-conf.	0.500	0.516	3.121	20.000	Passed
3,5-DNA-confirm	0.500	0.520	3.935	20.000	Passed
2-NT-confirm	0.500	0.520	3.988	20.000	Passed
2-AM-46-DNT-conf.	0.500	0.537	7.374	20.000	Passed
3-NT-confirm	0.500	0.554	10.773	20.000	Passed
4-NT-confirm	0.500	0.521	4.142	20.000	Passed
26-DNT-confirm	0.500	0.489	2.227	20.000	Passed
13-DNB-confirm	0.500	0.519	3.796	20.000	Passed
TETRYL-confirm	0.500	0.527	5.443	20.000	Passed
24-DNT-confirm	0.500	0.518	3.607	20.000	Passed
135-TNB-confirm	0.500	0.514	2.793	20.000	Passed
246-TNT-confirm	0.500	0.529	5.890	20.000	Passed

B

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
NG-confirm	1.000	0.974	2.550	20.000	Passed
PETN-confirm	1.000	1.133	13.280	20.000	Passed

After Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012716EXPic-confirm\021.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\012716expic-confirm\012716expic-confirm.met
Sample ID: 8330 CCV EXP 5680
Acquired: Jan 28, 2016 02:11:00
Data Summary: Reason #1,#4 applies to data. RED 1/28/2016

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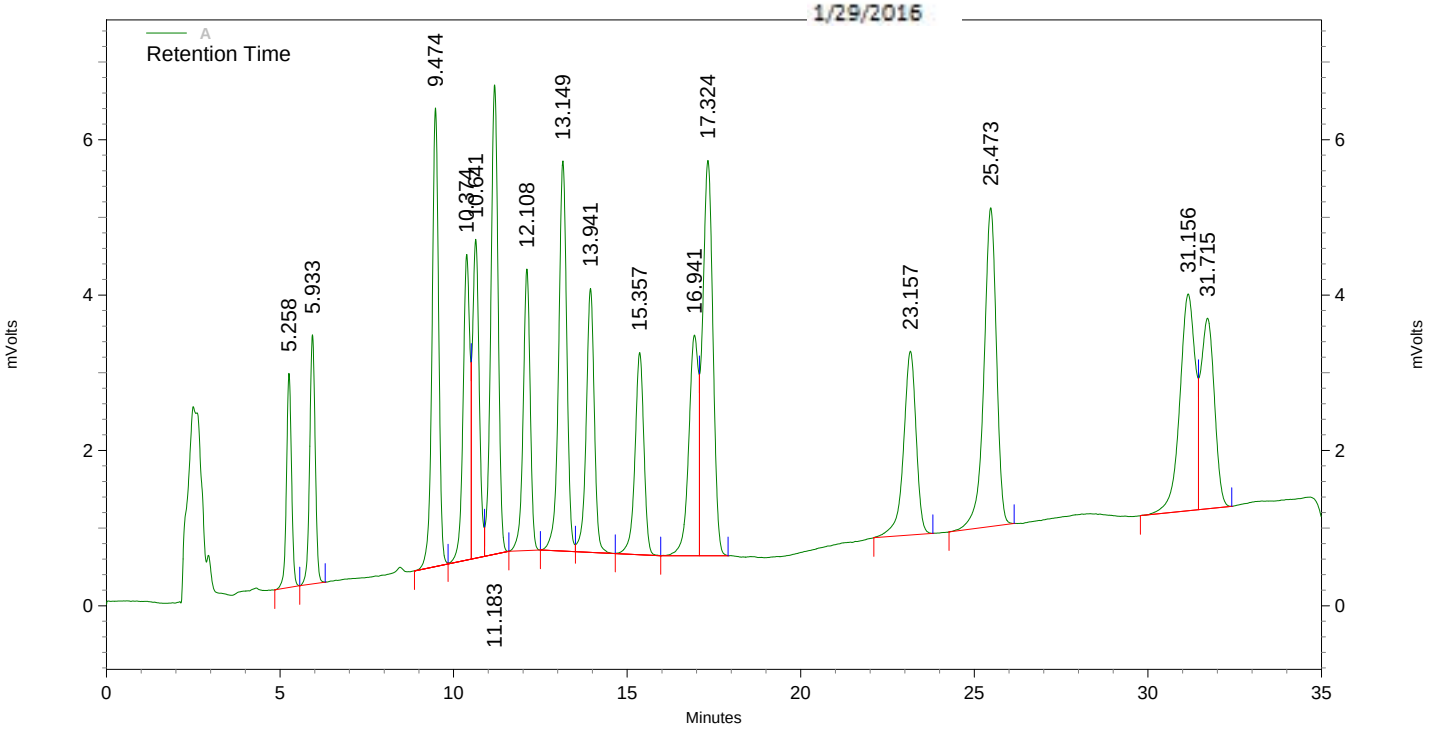
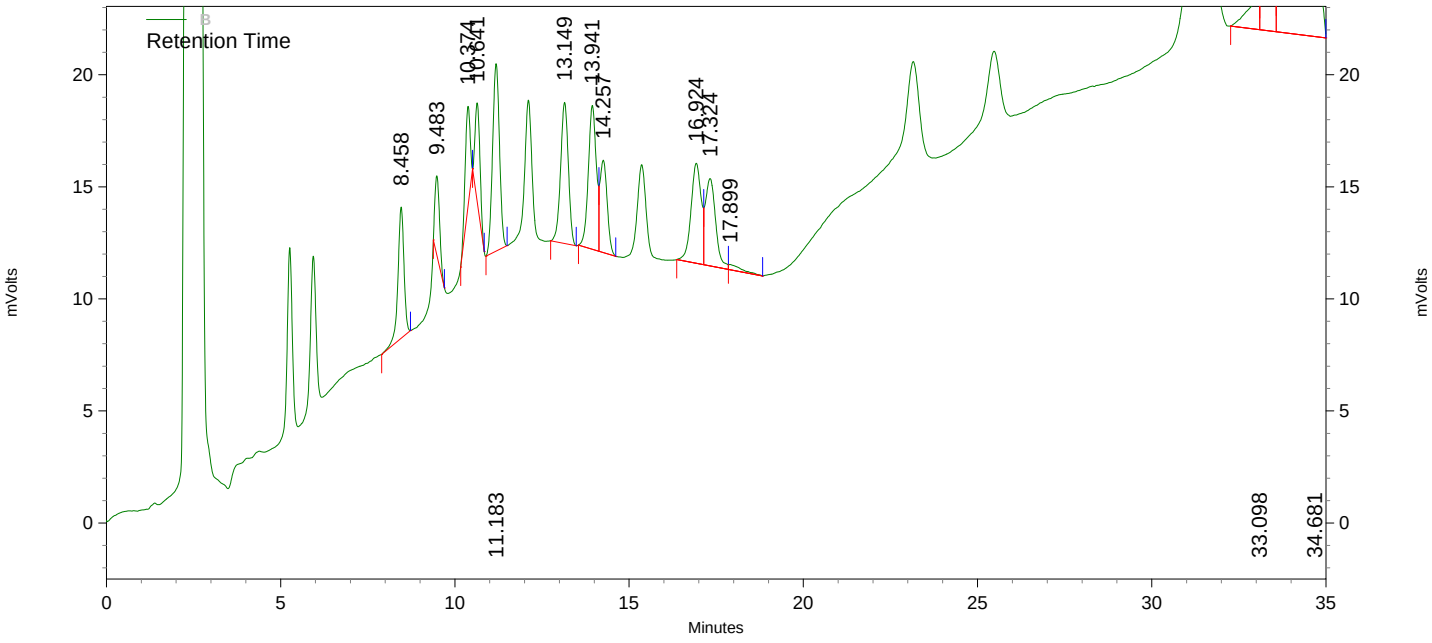
1/29/2016





8330 CCV EXP 5680

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm	5.258	27947	**0.526**
RDX-confirm	5.933	35540	**0.522**
NB-confirm	9.474	78266	**0.524**
12-DNB (SSTD)-confirm	10.374	53772	**103.138**
4-AM-26-DNT-conf.	10.641	54989	**0.516**
3,5-DNA-confirm	11.183	88073	**0.520**
2-NT-confirm	12.108	50781	**0.520**
2-AM-46-DNT-conf.	13.149	82039	**0.537**
3-NT-confirm	13.941	55191	**0.554**
4-NT-confirm	15.357	46639	**0.521**
26-DNT-confirm	16.941	54776	**0.489**
13-DNB-confirm	17.324	105531	**0.519**
TETRYL-confirm	23.157	59849	**0.527**
24-DNT-confirm	25.473	103085	**0.518**
135-TNB-confirm	31.156	86680	**0.514**
246-TNT-confirm	31.715	67026	**0.529**

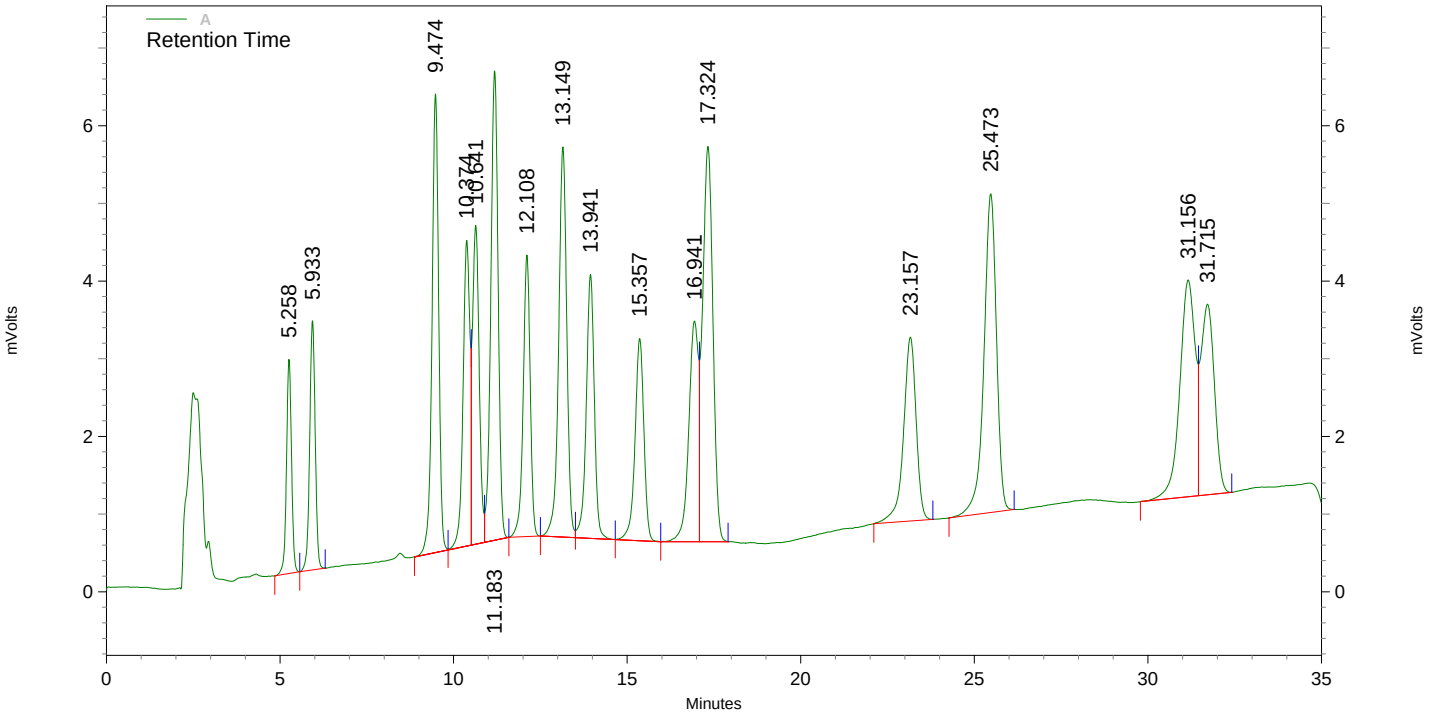
B Results

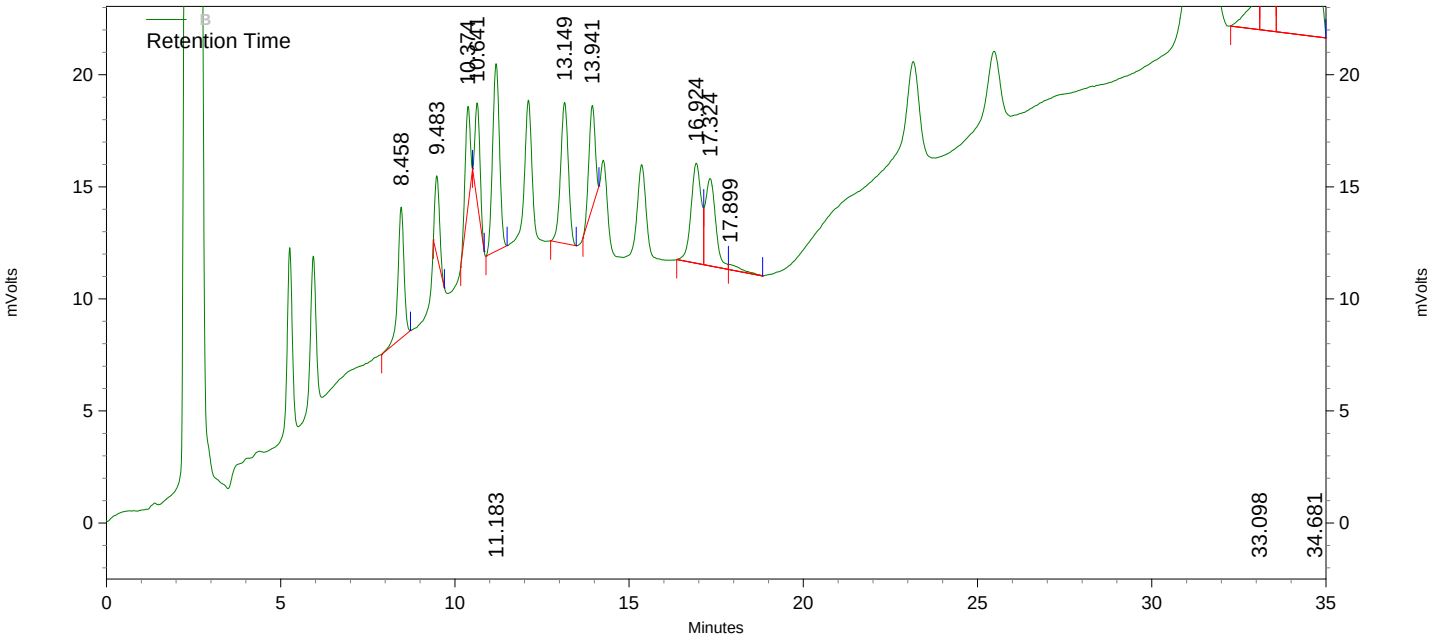
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm	8.458	70533	**0.974**
PETN-confirm	14.257	59649	**1.133**

Explosives - 8330

Before Manual Integration

File: C:\Instarch\HPLC 2\Data\012716EXPic-confirm\021.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\012716expic-confirm\012716expic-confirm.met
Sample ID: 8330 CCV EXP 5680
Acquired: Jan 28, 2016 02:11:00
Data Summary: Reason #1,#4 applies to data. RED 1/28/2016





8330 CCV EXP 5680

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm	5.258	27947	**0.526**
RDX-confirm	5.933	35540	**0.522**
NB-confirm	9.474	78266	**0.524**
12-DNB (SSTD)-confirm	10.374	53772	**103.138**
4-AM-26-DNT-conf.	10.641	54989	**0.516**
3,5-DNA-confirm	11.183	88073	**0.520**
2-NT-confirm	12.108	50781	**0.520**
2-AM-46-DNT-conf.	13.149	82039	**0.537**
3-NT-confirm	13.941	55191	**0.554**
4-NT-confirm	15.357	46639	**0.521**
26-DNT-confirm	16.941	54776	**0.489**
13-DNB-confirm	17.324	105531	**0.519**
TETRYL-confirm	23.157	59849	**0.527**
24-DNT-confirm	25.473	103085	**0.518**
135-TNB-confirm	31.156	86680	**0.514**
246-TNT-confirm	31.715	67026	**0.529**

B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm	8.458	70533	**0.974**
PETN-confirm	13.941	56205	**1.069**

QC Check Standard Report

Sequence : C:\Instarch\HPLC 2\Sequences\8330A_B\012716expic-confirm.seq
User : red
Printed : Jan 28, 2016 17:21:18

File	Sample ID	Acquired
C:\Instarch\HPLC 2\Data\012716EXPic-confirm\023.dat	8330 CCV EXP 5680	Jan 28, 2016 17:21:17

A

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
HMX-confirm	0.500	0.524	4.743	20.000	Passed
RDX-confirm	0.500	0.521	4.188	20.000	Passed
NB-confirm	0.500	0.515	2.918	20.000	Passed
12-DNB (SSTD)-confirm	100.000	102.455	2.455	20.000	Passed
4-AM-26-DNT-conf.	0.500	0.523	4.555	20.000	Passed
3,5-DNA-confirm	0.500	0.522	4.388	20.000	Passed
2-NT-confirm	0.500	0.516	3.166	20.000	Passed
2-AM-46-DNT-conf.	0.500	0.522	4.344	20.000	Passed
3-NT-confirm	0.500	0.519	3.785	20.000	Passed
4-NT-confirm	0.500	0.518	3.605	20.000	Passed
26-DNT-confirm	0.500	0.487	2.553	20.000	Passed
13-DNB-confirm	0.500	0.522	4.490	20.000	Passed
TETRYL-confirm	0.500	0.499	0.220	20.000	Passed
24-DNT-confirm	0.500	0.516	3.116	20.000	Passed
135-TNB-confirm	0.500	0.515	3.045	20.000	Passed
246-TNT-confirm	0.500	0.529	5.853	20.000	Passed

B

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
NG-confirm	1.000	0.992	0.779	20.000	Passed
PETN-confirm	1.000	1.090	9.031	20.000	Passed

After Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012716EXPic-confirm\023.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\012716expic-confirm\012716expic-confirm.met
Sample ID: 8330 CCV EXP 5680
Acquired: Jan 28, 2016 11:34:07
Data Summary: Reason #4 applies to data. RED 1/28/2016

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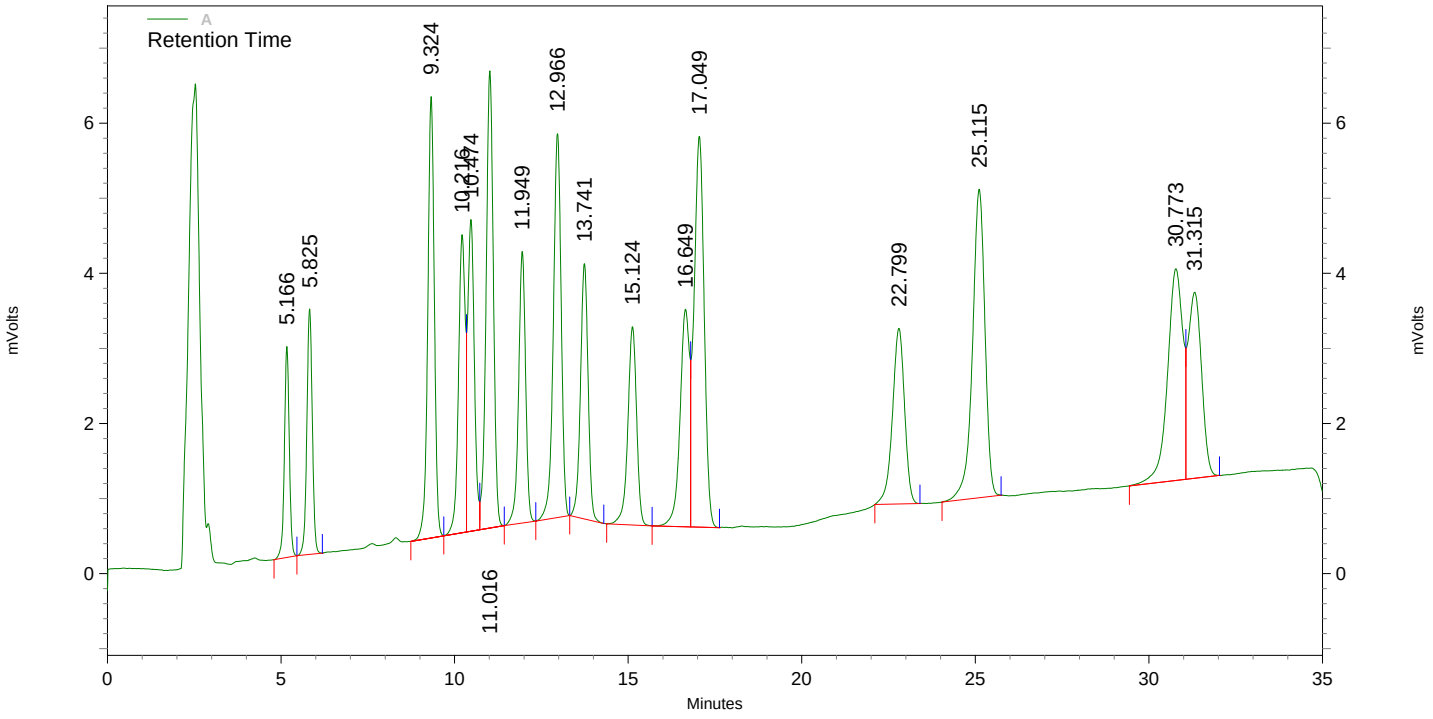
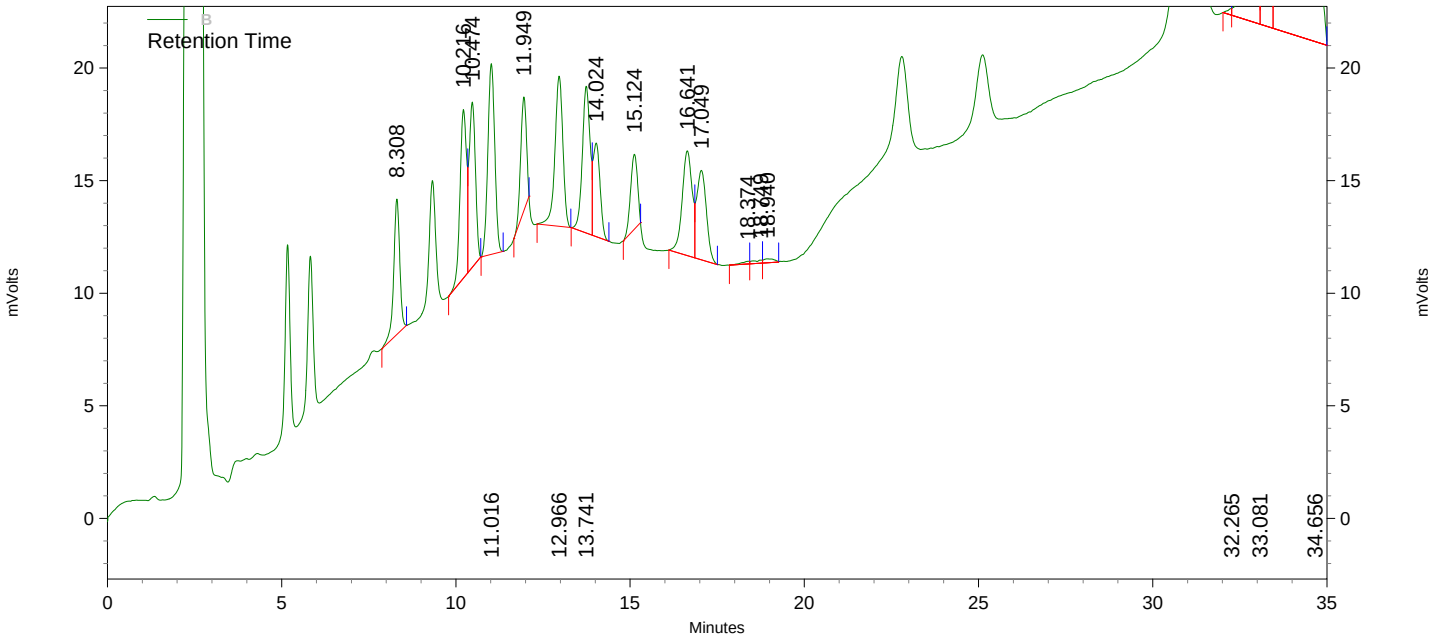
1/29/2016





8330 CCV EXP 5680

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm	5.166	27842	**0.524**
RDX-confirm	5.825	35497	**0.521**
NB-confirm	9.324	76890	**0.515**
12-DNB (SSTD)-confirm	10.216	53426	**102.455**
4-AM-26-DNT-conf.	10.474	55734	**0.523**
3,5-DNA-confirm	11.016	88449	**0.522**
2-NT-confirm	11.949	50389	**0.516**
2-AM-46-DNT-conf.	12.966	79790	**0.522**
3-NT-confirm	13.741	51754	**0.519**
4-NT-confirm	15.124	46402	**0.518**
26-DNT-confirm	16.649	54593	**0.487**
13-DNB-confirm	17.049	106227	**0.522**
TETRYL-confirm	22.799	56635	**0.499**
24-DNT-confirm	25.115	102604	**0.516**
135-TNB-confirm	30.773	86891	**0.515**
246-TNT-confirm	31.315	67003	**0.529**

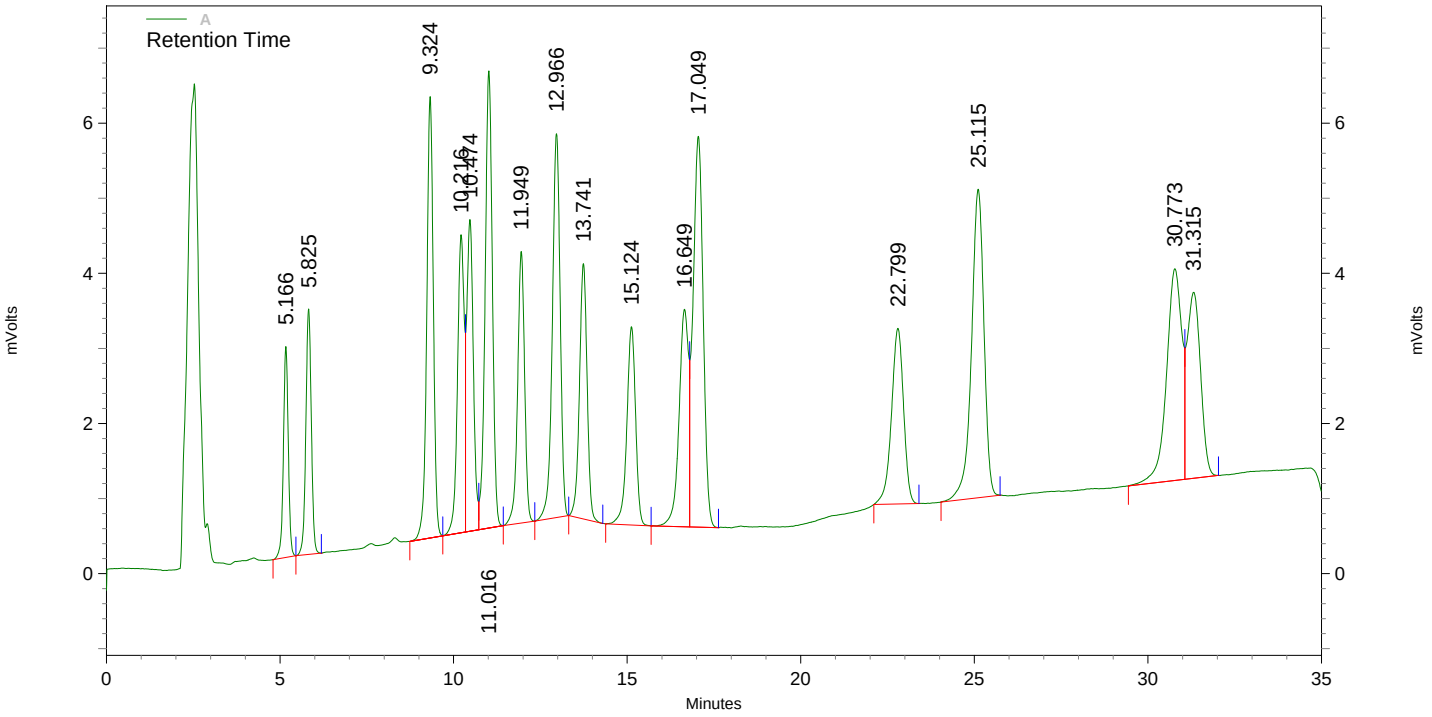
B Results

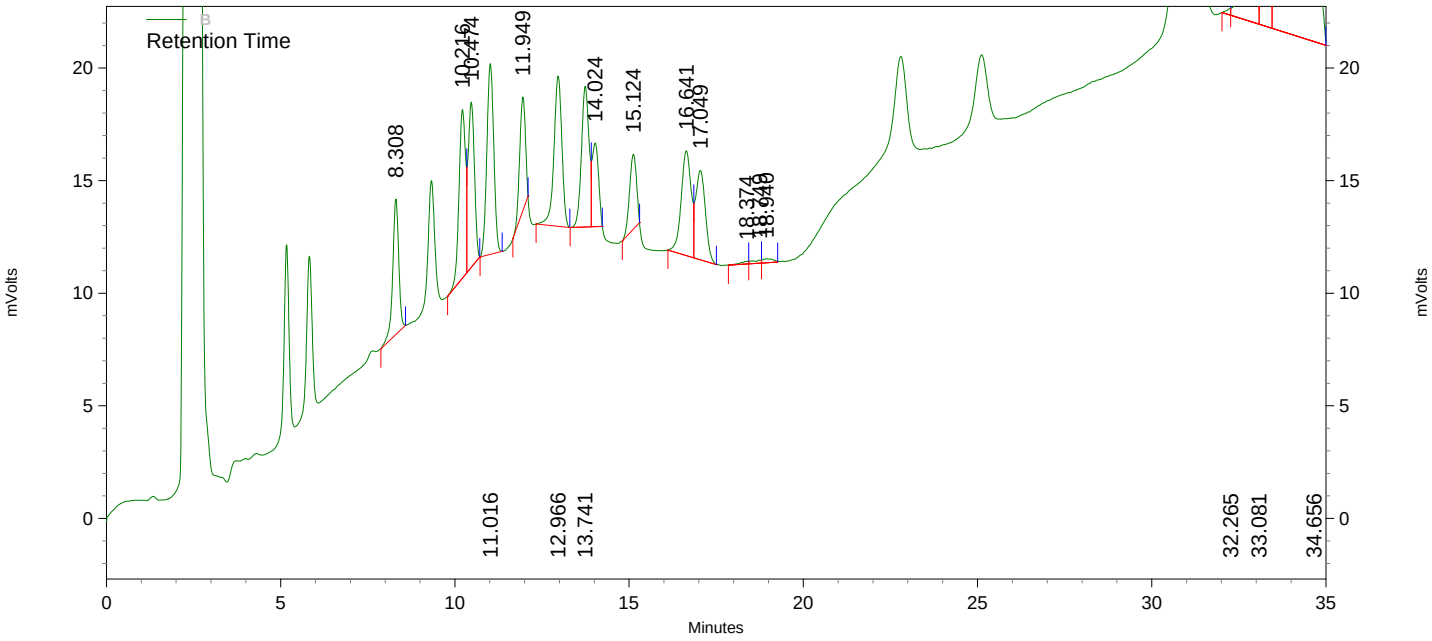
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm	8.308	71815	**0.992**
PETN-confirm	14.024	57363	**1.090**

Before Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012716EXPic-confirm\023.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\012716expic-confirm\012716expic-confirm.met
Sample ID: 8330 CCV EXP 5680
Acquired: Jan 28, 2016 11:34:07
Data Summary: Reason #4 applies to data. RED 1/28/2016





8330 CCV EXP 5680

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm	5.166	27842	**0.524**
RDX-confirm	5.825	35497	**0.521**
NB-confirm	9.324	76890	**0.515**
12-DNB (SSTD)-confirm	10.216	53426	**102.455**
4-AM-26-DNT-conf.	10.474	55734	**0.523**
3,5-DNA-confirm	11.016	88449	**0.522**
2-NT-confirm	11.949	50389	**0.516**
2-AM-46-DNT-conf.	12.966	79790	**0.522**
3-NT-confirm	13.741	51754	**0.519**
4-NT-confirm	15.124	46402	**0.518**
26-DNT-confirm	16.649	54593	**0.487**
13-DNB-confirm	17.049	106227	**0.522**
TETRYL-confirm	22.799	56635	**0.499**
24-DNT-confirm	25.115	102604	**0.516**
135-TNB-confirm	30.773	86891	**0.515**
246-TNT-confirm	31.315	67003	**0.529**

B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm	8.308	71815	**0.992**
PETN-confirm	14.024	47025	**0.898**

QC Check Standard Report

Sequence : C:\Instarch\HPLC 2\Sequences\8330A_B\012716expic-confirm.seq
User : red
Printed : Jan 28, 2016 17:21:39

File	Sample ID	Acquired
C:\Instarch\HPLC 2\Data\012716EXPic-confirm\027.dat	8330 CCV EXP 5680	Jan 28, 2016 17:21:39

A

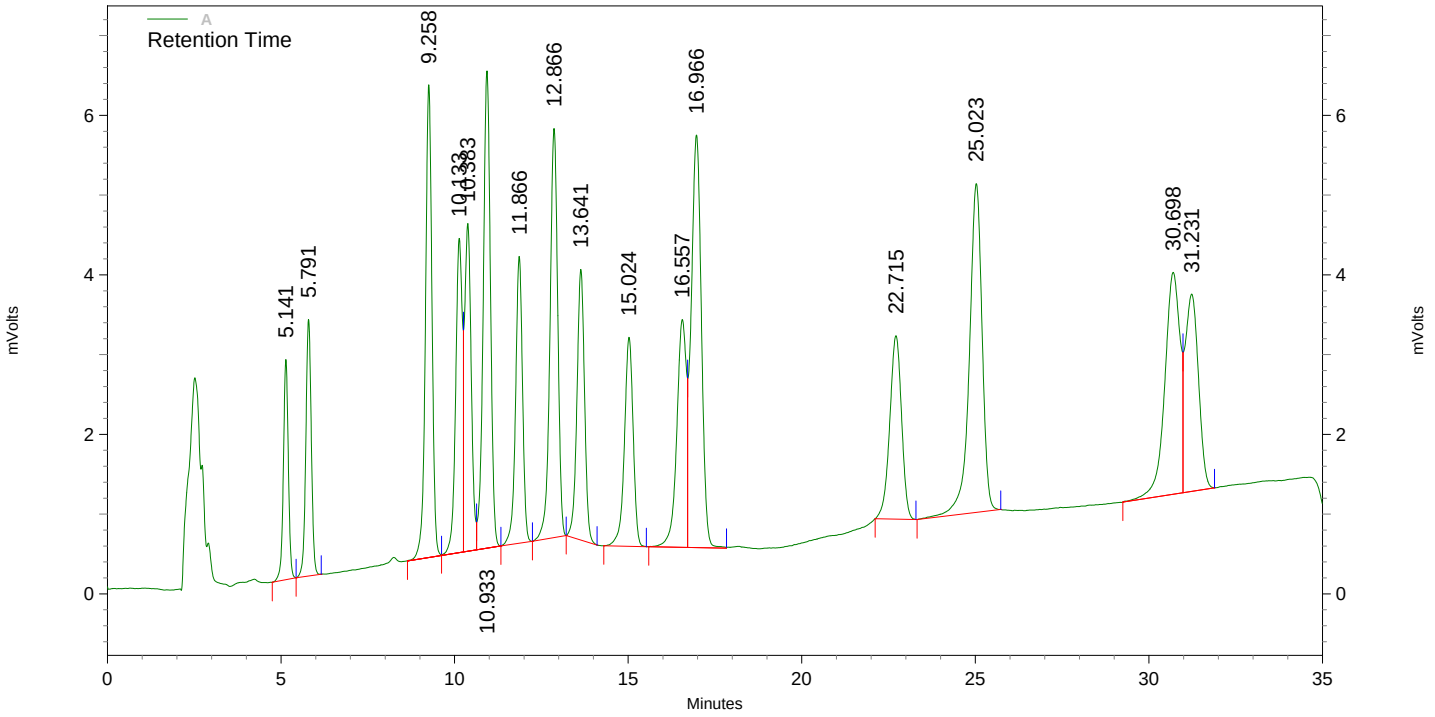
Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
HMX-confirm	0.500	0.521	4.241	20.000	Passed
RDX-confirm	0.500	0.514	2.867	20.000	Passed
NB-confirm	0.500	0.517	3.452	20.000	Passed
12-DNB (SSTD)-confirm	100.000	101.785	1.785	20.000	Passed
4-AM-26-DNT-conf.	0.500	0.509	1.837	20.000	Passed
3,5-DNA-confirm	0.500	0.515	3.079	20.000	Passed
2-NT-confirm	0.500	0.512	2.445	20.000	Passed
2-AM-46-DNT-conf.	0.500	0.520	4.040	20.000	Passed
3-NT-confirm	0.500	0.518	3.631	20.000	Passed
4-NT-confirm	0.500	0.513	2.586	20.000	Passed
26-DNT-confirm	0.500	0.491	1.713	20.000	Passed
13-DNB-confirm	0.500	0.522	4.343	20.000	Passed
TETRYL-confirm	0.500	0.479	4.120	20.000	Passed
24-DNT-confirm	0.500	0.531	6.196	20.000	Passed
135-TNB-confirm	0.500	0.504	0.862	20.000	Passed
246-TNT-confirm	0.500	0.522	4.430	20.000	Passed

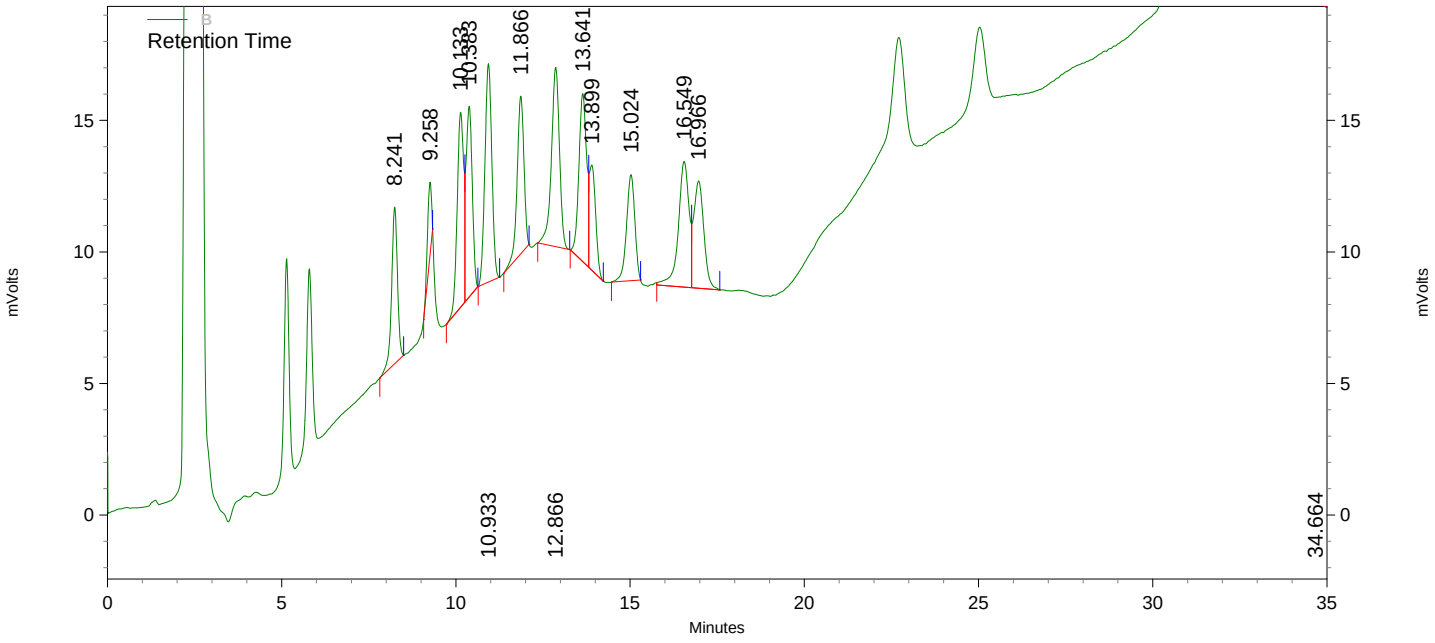
B

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
NG-confirm	1.000	0.963	3.747	20.000	Passed
PETN-confirm	1.000	0.960	3.991	20.000	Passed

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012716EXPic-confirm\027.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\012716expic-confirm\012716expic-confirm.met
Sample ID: 8330 CCV EXP 5680
Acquired: Jan 28, 2016 14:06:58
Data Summary: {Data Description}





8330 CCV EXP 5680

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm	5.141	27712	**0.521**
RDX-confirm	5.791	35059	**0.514**
NB-confirm	9.258	77281	**0.517**
12-DNB (SSTD)-confirm	10.133	53087	**101.785**
4-AM-26-DNT-conf.	10.383	54322	**0.509**
3,5-DNA-confirm	10.933	87362	**0.515**
2-NT-confirm	11.866	50045	**0.512**
2-AM-46-DNT-conf.	12.866	79564	**0.520**
3-NT-confirm	13.641	51678	**0.518**
4-NT-confirm	15.024	45953	**0.513**
26-DNT-confirm	16.557	55064	**0.491**
13-DNB-confirm	16.966	106080	**0.522**
TETRYL-confirm	22.715	54421	**0.479**
24-DNT-confirm	25.023	105619	**0.531**
135-TNB-confirm	30.698	85063	**0.504**
246-TNT-confirm	31.231	66121	**0.522**

B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm	8.241	69667	**0.963**
PETN-confirm	13.899	50358	**0.960**

QC Check Standard Report

Sequence : C:\Instarch\HPLC 2\Sequences\MDTNX\012816MDTNX-confirm.seq
User : red
Printed : Jan 29, 2016 11:25:47

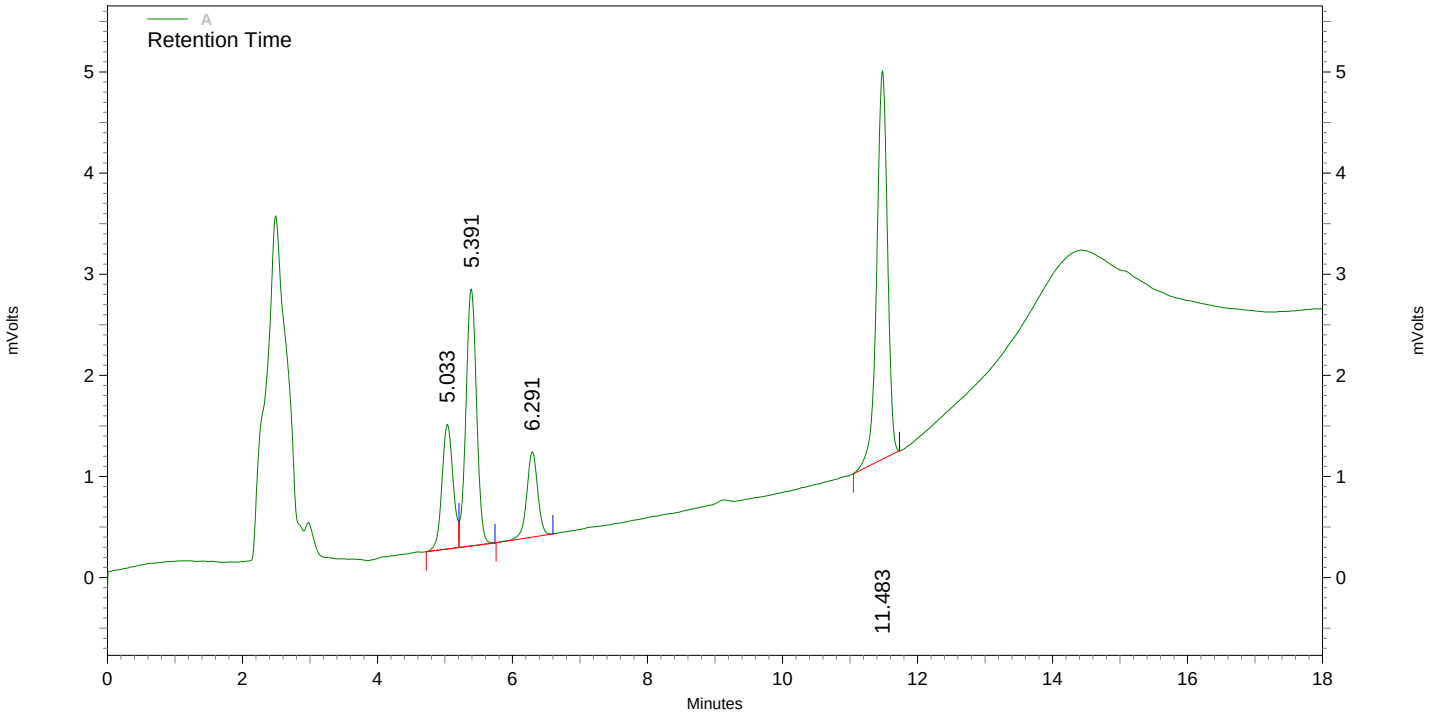
File	Sample ID	Acquired
C:\Instarch\HPLC 2\Data\012816MDTNX-confirm\002.dat	MDTNX CCV EXP 5685	Jan 29, 2016 11:25:47

A

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
TNX-confirm	0.125	0.111	10.851	20.000	**Passed**
DNX-confirm	0.275	0.277	0.888	20.000	**Passed**
MNX-confirm	0.100	0.107	6.523	20.000	**Passed**
12-DNB (SSTD)-confirm	100.000	102.357	2.357	20.000	**Passed**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012816MDTNX-confirm\002.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\093015MDTNXic-confirm\012816MDTNX-confirm.met
Sample ID: MDTNX CCV EXP 5685
Acquired: Jan 28, 2016 17:15:23
Data Summary: {Data Description}



MDTNX CCV EXP 5685

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX-confirm	5.033	14077	**0.111**
DNX-confirm	5.391	27858	**0.277**
MNX-confirm	6.291	9482	**0.107**
12-DNB (SSTD)-confirm	11.483	42438	**102.357**

QC Check Standard Report

Sequence : C:\Instarch\HPLC 2\Sequences\MDTNX\012816MDTNX-confirm.seq
User : red
Printed : Jan 29, 2016 11:26:34

File	Sample ID	Acquired
C:\Instarch\HPLC 2\Data\012816MDTNX-confirm\013.dat	MDTNX CCV EXP 5685	Jan 29, 2016 11:26:34

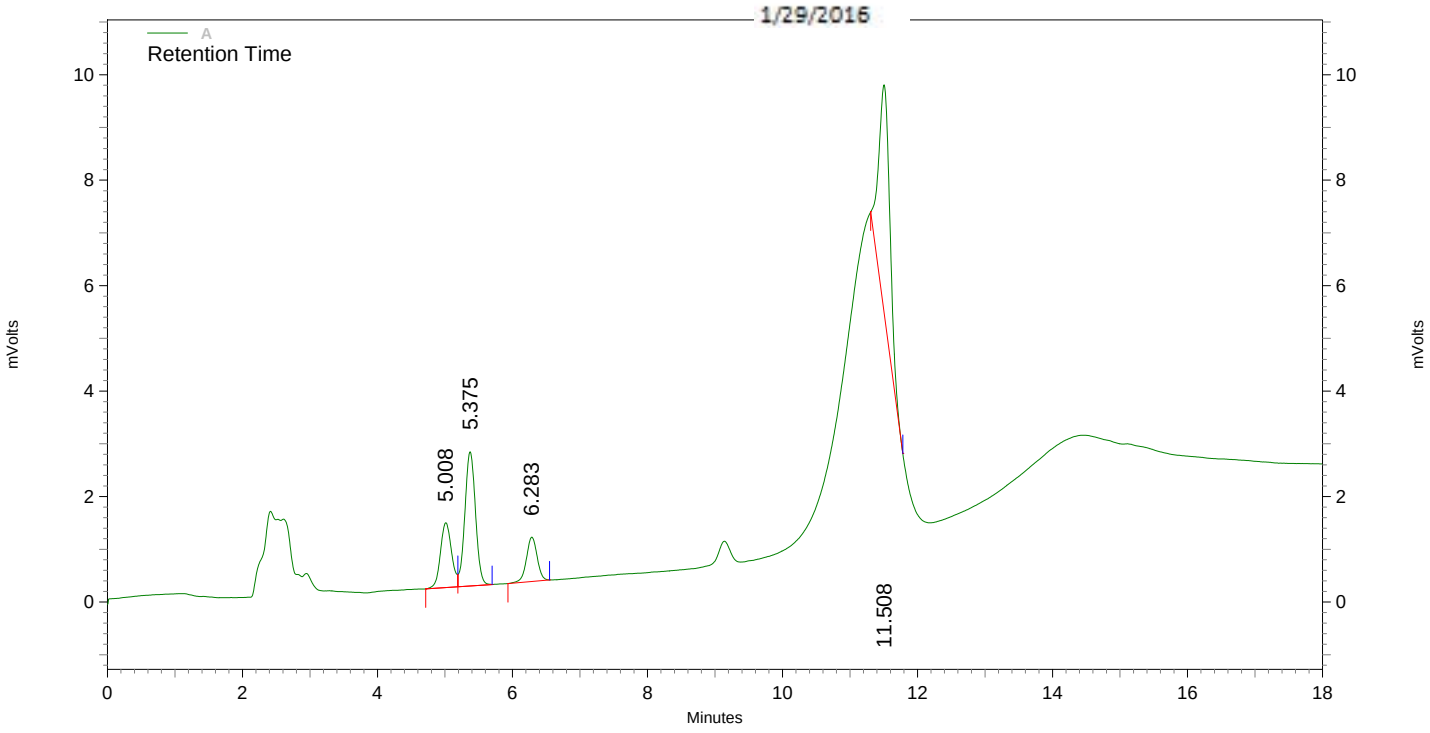
A

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
TNX-confirm	0.125	0.111	11.326	20.000	**Passed**
DNX-confirm	0.275	0.278	0.992	20.000	**Passed**
MNX-confirm	0.100	0.104	4.353	20.000	**Passed**
12-DNB (SSTD)-confirm	100.000	118.387	18.387	20.000	**Passed**

After Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012816MDTNX-confirm\013.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\093015MDTNXic-confirm\012816MDTNX-confirm.met
Sample ID: MDTNX CCV EXP 5685
Acquired: Jan 28, 2016 20:58:45
JJY
Data Summary: Reason #4 applies to data. RED 1/29/2016



MDTNX CCV EXP 5685

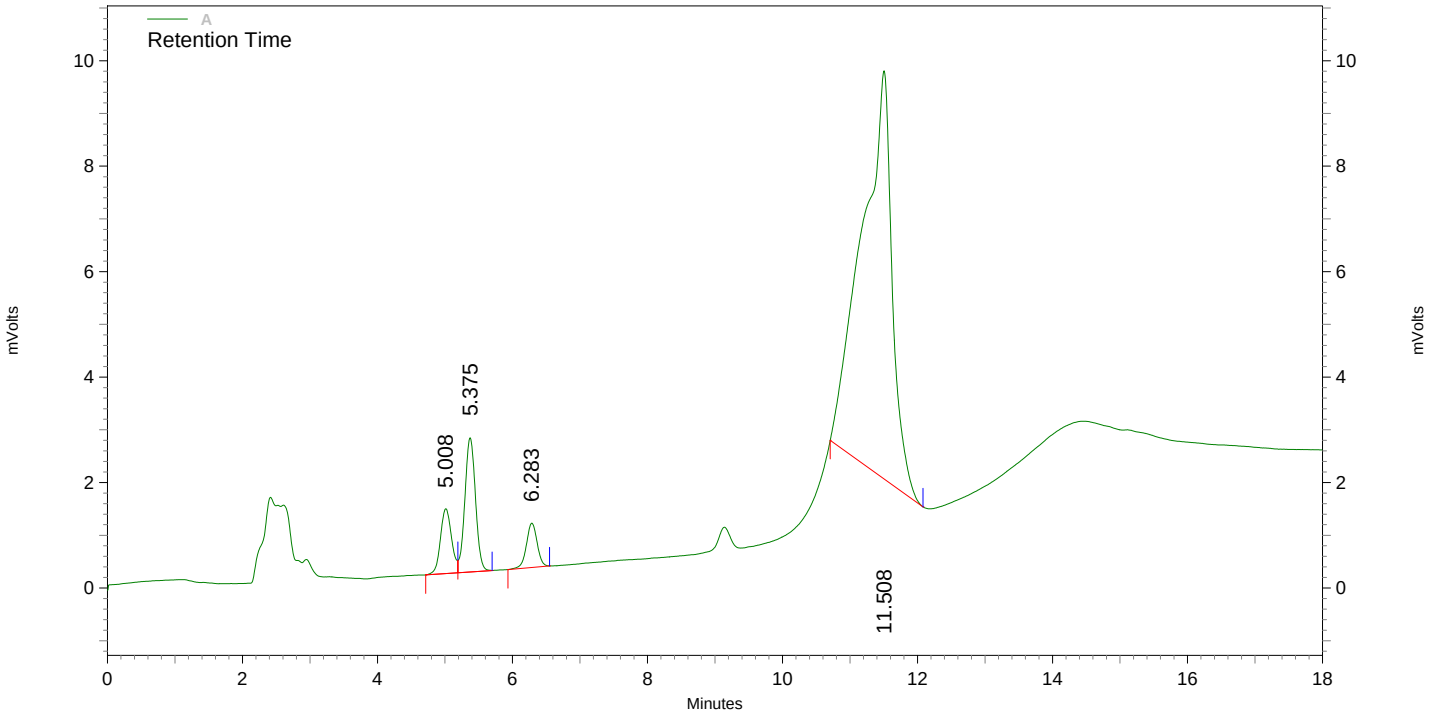
A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX-confirm	5.008	14008	**0.111**
DNX-confirm	5.375	27886	**0.278**
MNX-confirm	6.283	9304	**0.104**
12-DNB (SSTD)-confirm	11.508	49043	**118.387**

Before Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012816MDTNX-confirm\013.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\093015MDTNXic-confirm\012816MDTNX-confirm.met
Sample ID: MDTNX CCV EXP 5685
Acquired: Jan 28, 2016 20:58:45
Data Summary: Reason #4 applies to data. RED 1/29/2016



MDTNX CCV EXP 5685

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX-confirm	5.008	14008	**0.111**
DNX-confirm	5.375	27886	**0.278**
MNX-confirm	6.283	9304	**0.104**
12-DNB (SSTD)-confirm	11.508	241219	**584.789**

NITROAROMATICS ANALYSIS
QUALITY CONTROL
DOCUMENTS

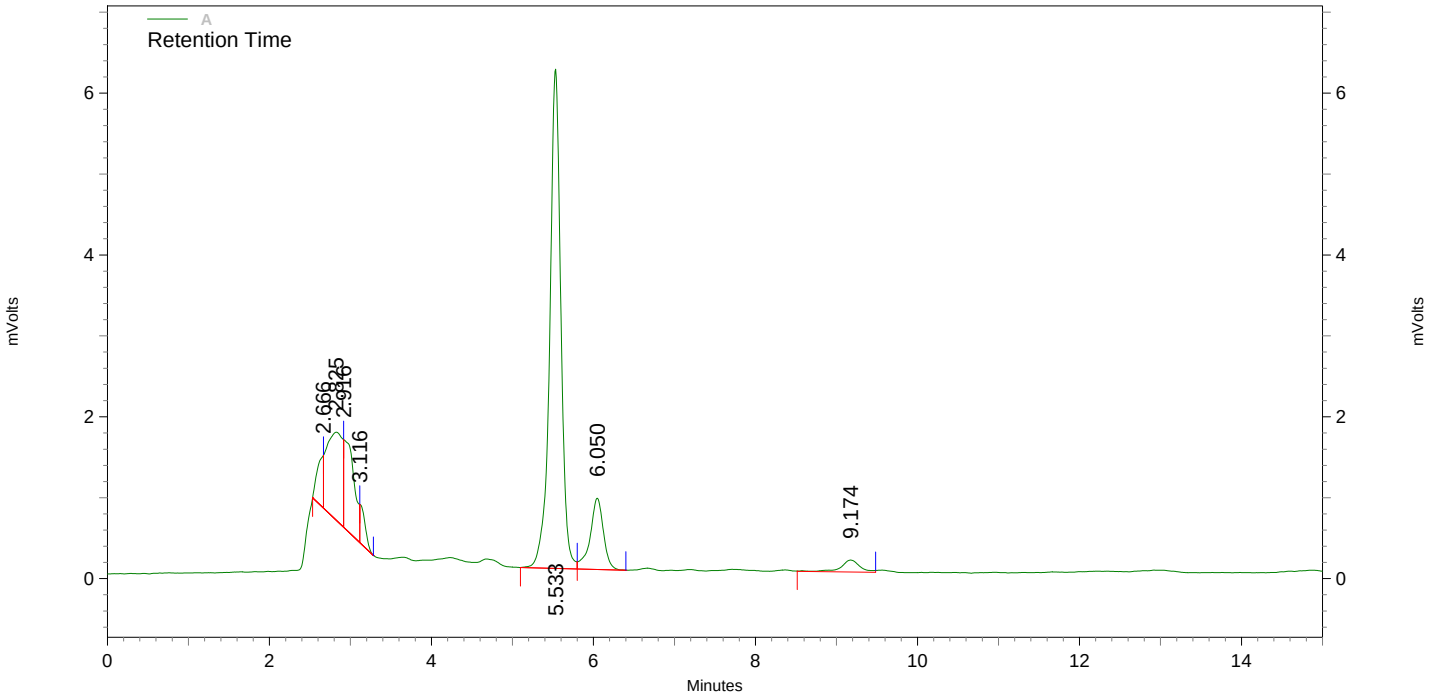
After Manual Integration

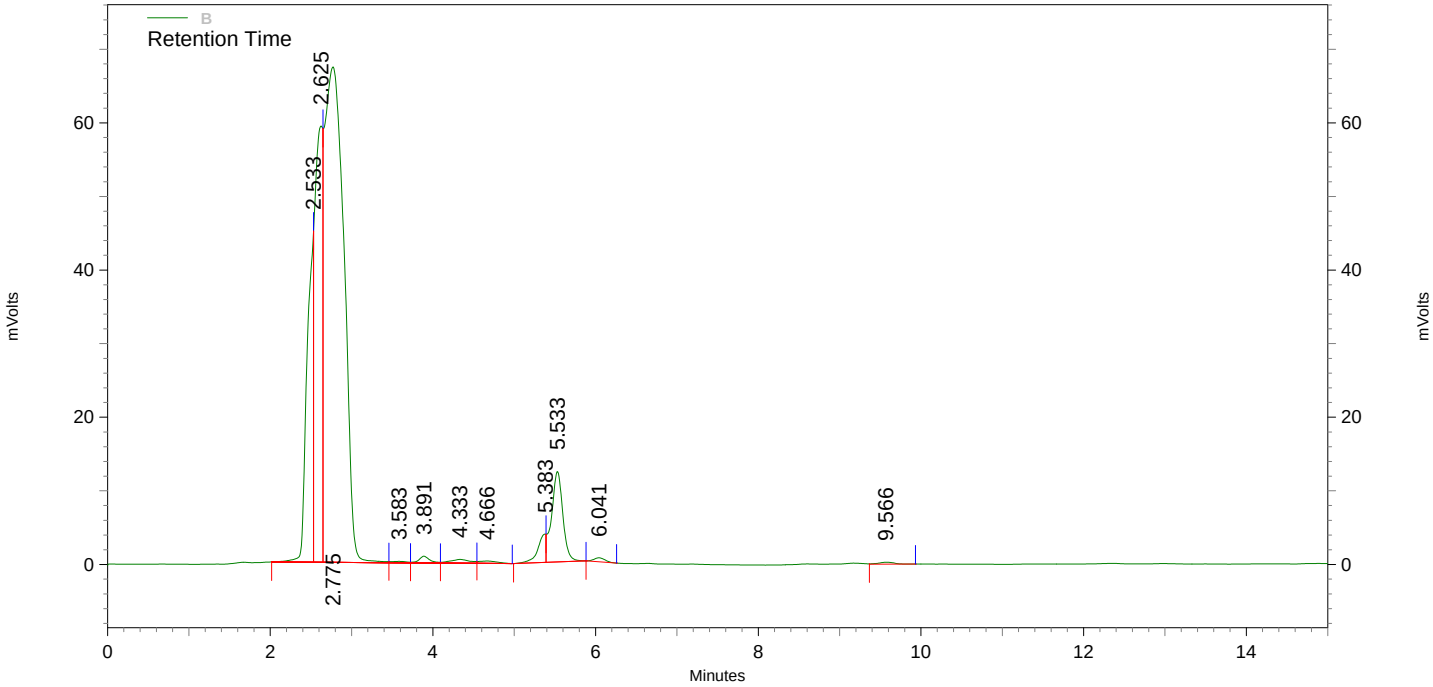
RED
2/1/2016

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\011.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\012516expic-primary\012516expic-primary.met
Sample ID: 122858,MBW,
Acquired: Jan 25, 2016 18:06:44
Data Summary: REASON #3, #4 APPLIES TO DATA. RED 1/26/2016

JJY
1/29/2016





A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX			**0.000 BDL**
RDX			**0.000 BDL**
12-DNB (SSTD)	5.533	58591	**93.897**
135-TNB			**0.000 BDL**
13-DNB			**0.000 BDL**
TETRYL			**0.000 BDL**
35-DNA			**0.000 BDL**
NB			**0.000 BDL**
246-TNT			**0.000 BDL**
4-AM-26-DNT			**0.000 BDL**
2-AM-46-DNT			**0.000 BDL**
2-NT			**0.000 BDL**
4-NT			**0.000 BDL**
3-NT			**0.000 BDL**

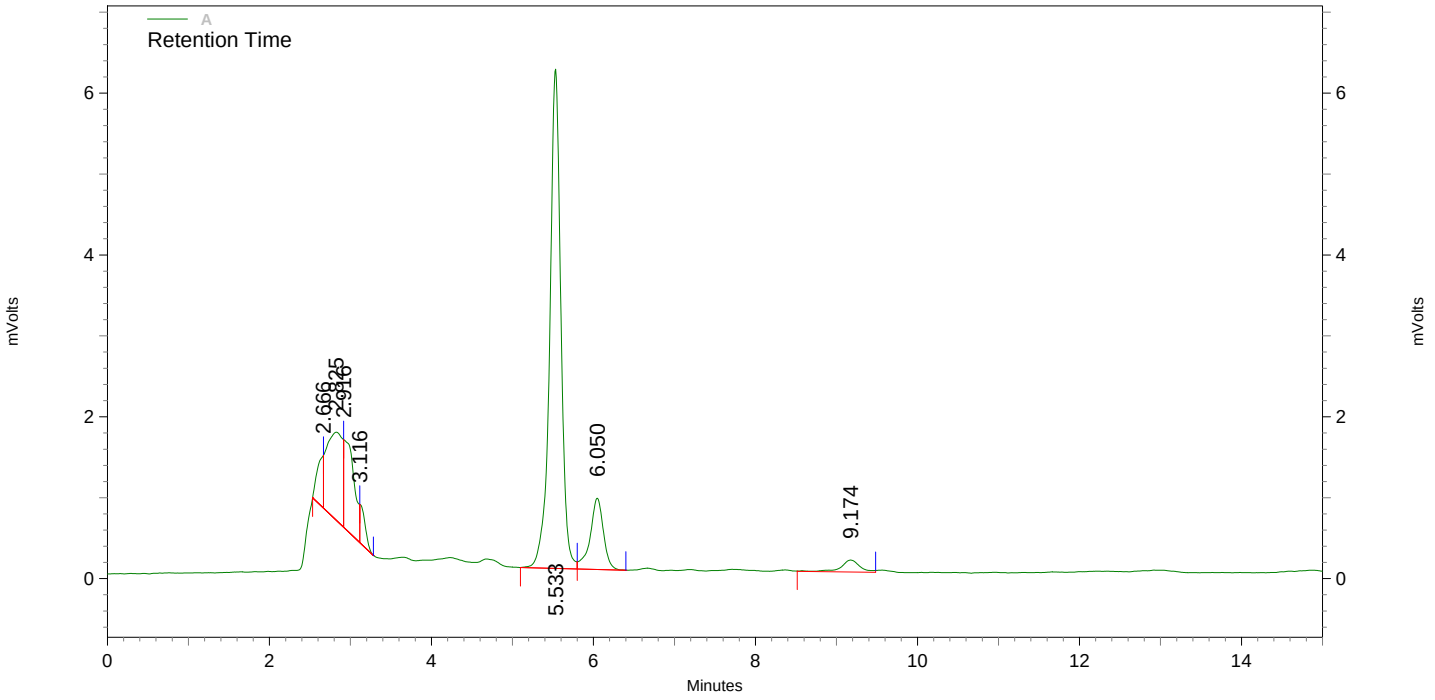
B Results

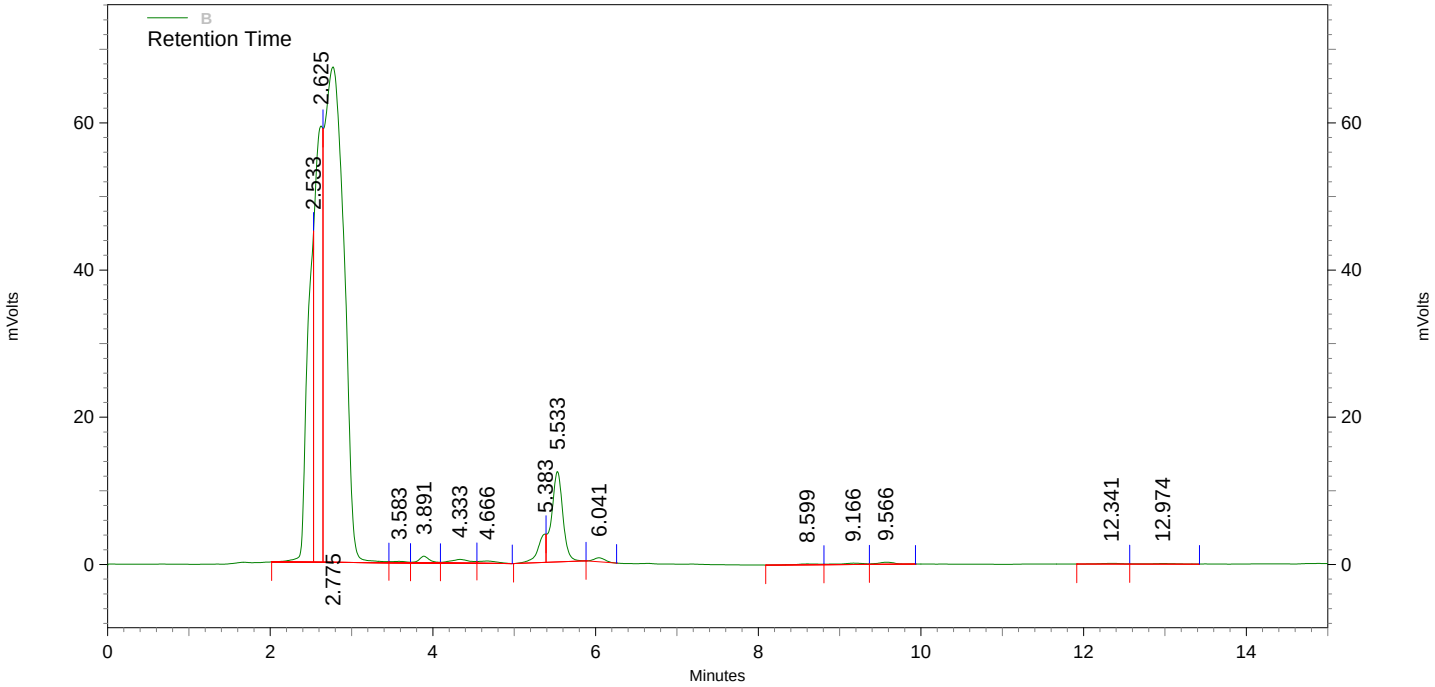
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG			**0.000 BDL**
26-DNT			**0.000 BDL**
24-DNT	9.566	3594	**0.013**
PETN			**0.000 BDL**

Before Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\011.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\012516expic-primary\012516expic-primary.met
Sample ID: 122858,MBW,
Acquired: Jan 25, 2016 18:06:44
Data Summary: REASON #3, #4 APPLIES TO DATA. RED 1/26/2016





A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX			**0.000 BDL**
RDX			**0.000 BDL**
12-DNB (SSTD)	5.533	58591	**93.897**
135-TNB			**0.000 BDL**
13-DNB			**0.000 BDL**
TETRYL			**0.000 BDL**
35-DNA			**0.000 BDL**
NB			**0.000 BDL**
246-TNT			**0.000 BDL**
4-AM-26-DNT			**0.000 BDL**
2-AM-46-DNT			**0.000 BDL**
2-NT			**0.000 BDL**
4-NT			**0.000 BDL**
3-NT			**0.000 BDL**

B Results

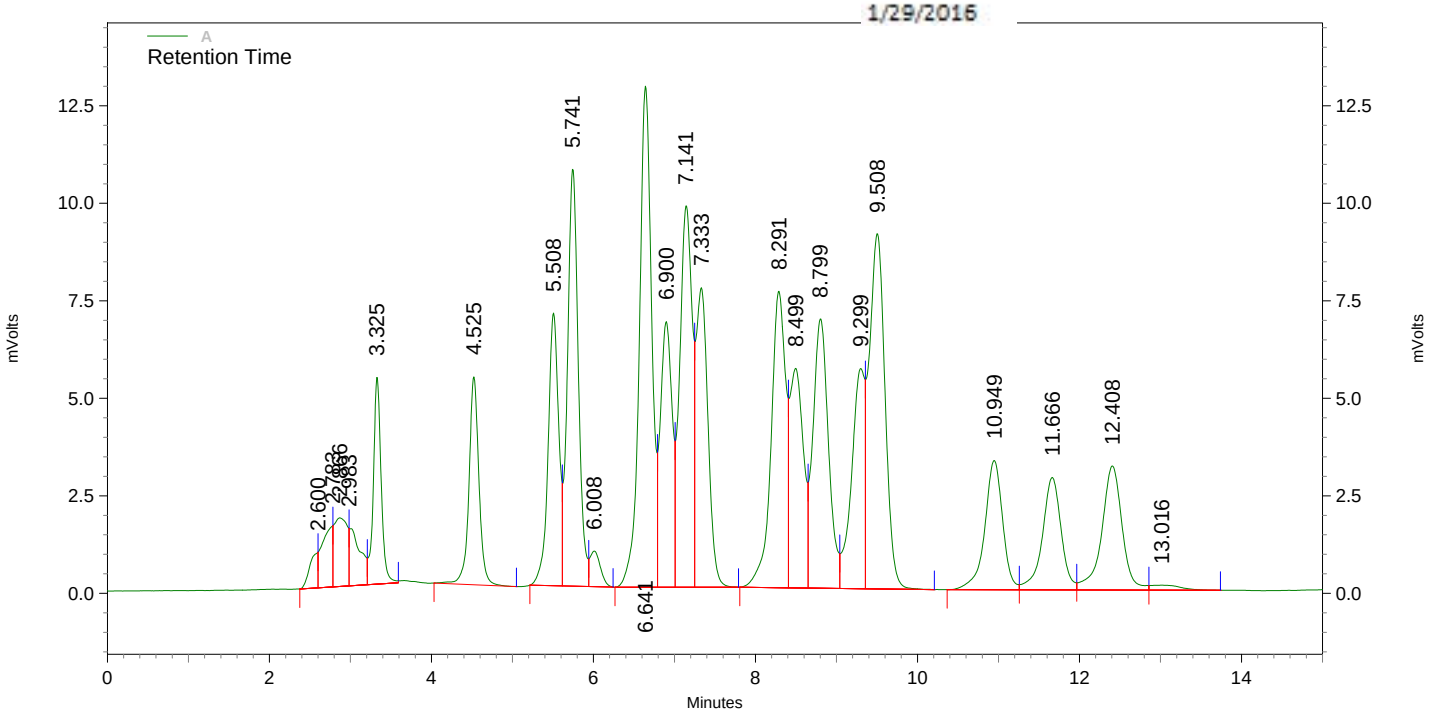
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG			**0.000 BDL**
26-DNT	9.166	3717	**0.009**
24-DNT	9.566	4060	**0.016**
PETN	12.974	2476	**0.021**

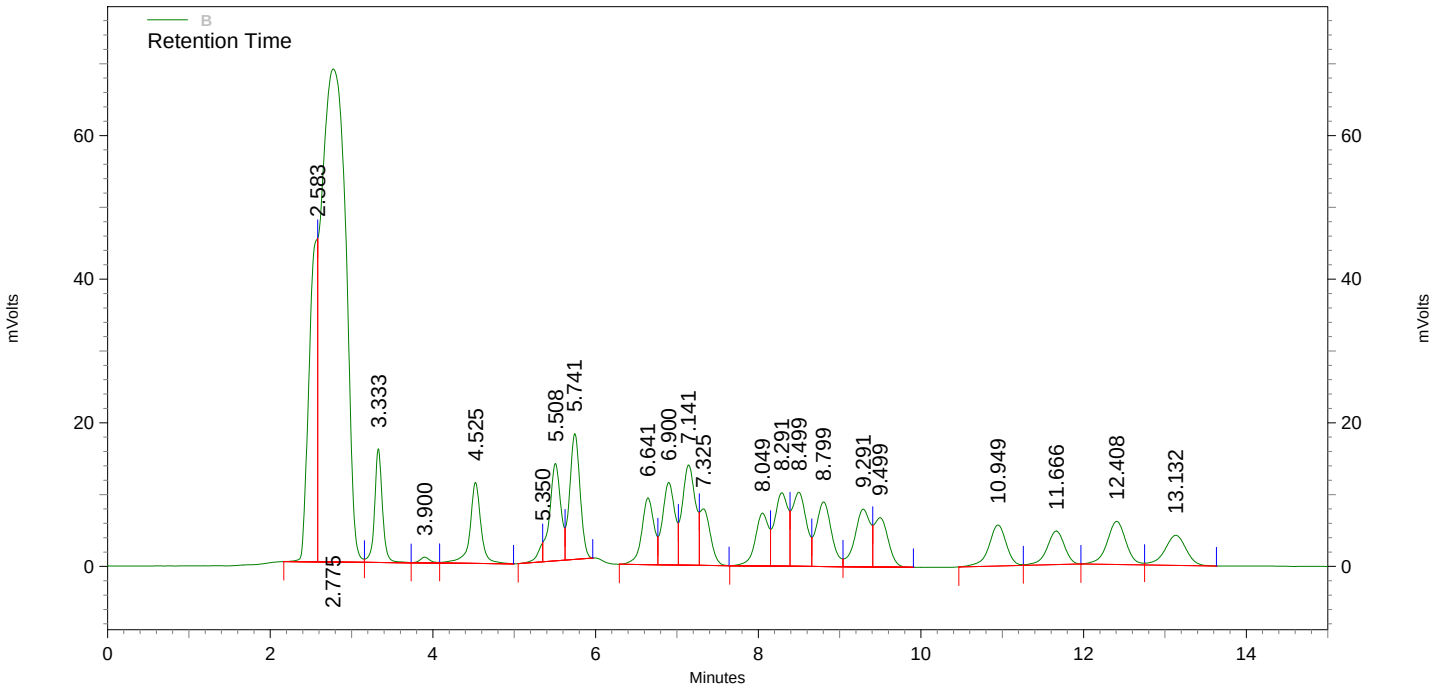
After Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\012.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\012516expic-primary\012516expic-primary.met
Sample ID: 122858,LCSW,
Acquired: Jan 25, 2016 18:25:02
Data Summary: REASON #4 APPLIES TO DATA. RED 1/26/2016

JJY
1/29/2016





A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX	3.325	35648	**0.544**
RDX	4.525	45745	**0.525**
12-DNB (SSTD)	5.508	63674	**102.197**
135-TNB	5.741	99810	**0.498**
13-DNB	6.641	136218	**0.506**
TETRYL	6.900	68197	**0.487**
35-DNA	7.141	105117	**0.497**
NB	7.333	79427	**0.449**
246-TNT	8.291	95527	**0.468**
4-AM-26-DNT	8.499	65801	**0.584**
2-AM-46-DNT	8.799	92378	**0.486**
2-NT	10.949	50832	**0.433**
4-NT	11.666	46387	**0.459**
3-NT	12.408	55863	**0.464**

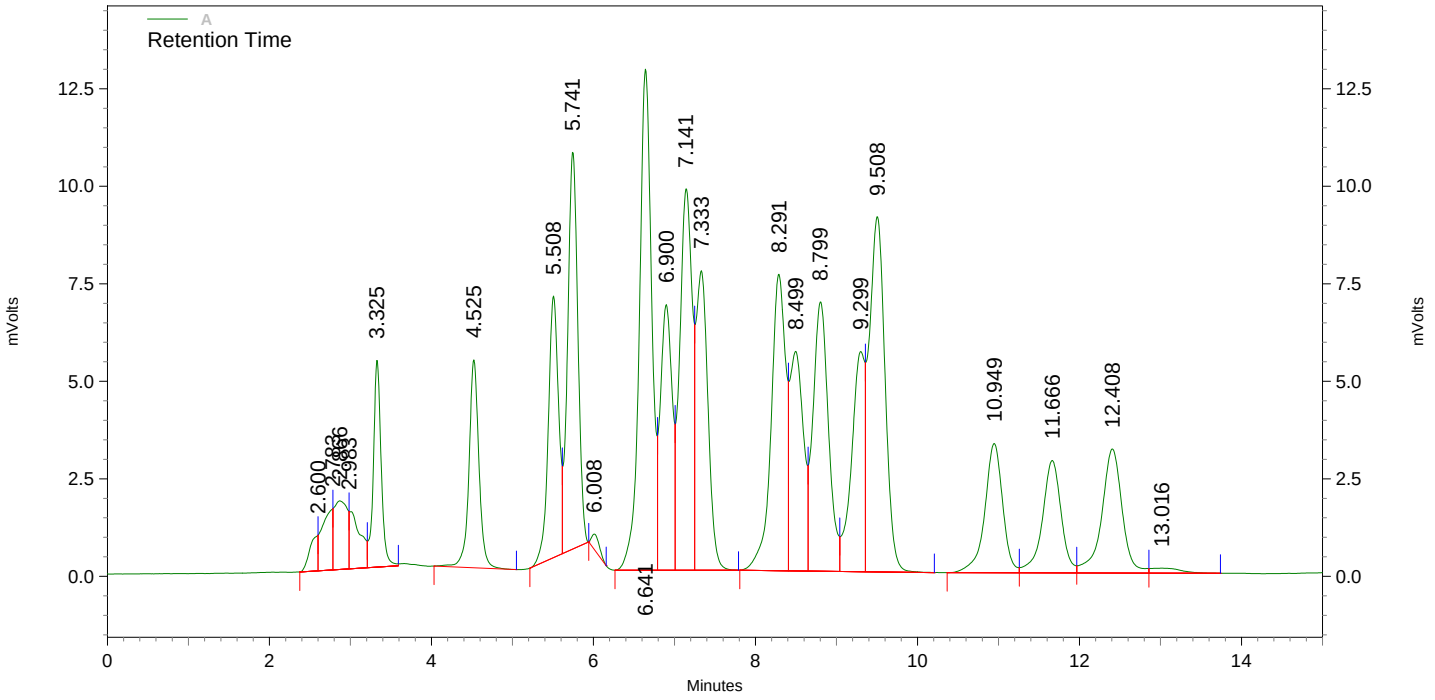
B Results

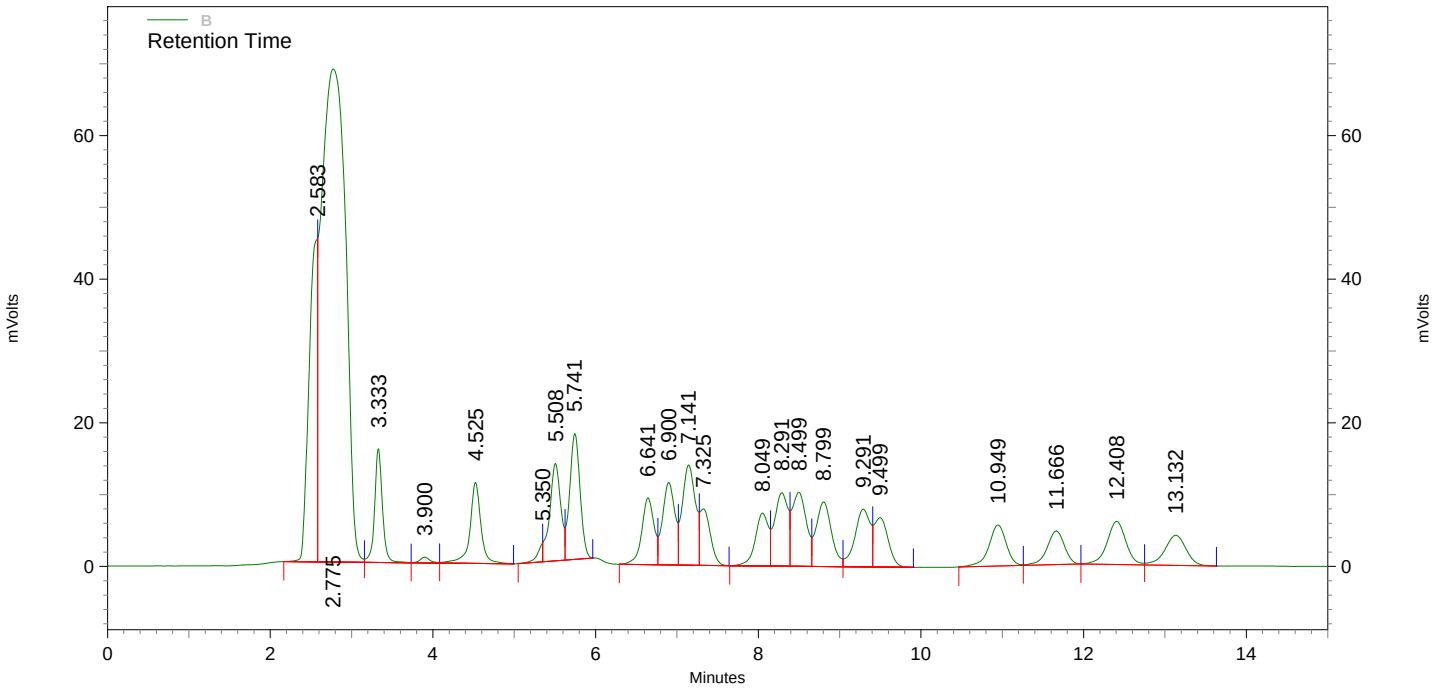
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG	8.049	82184	**1.012**
26-DNT	9.291	106442	**0.498**
24-DNT	9.499	82509	**0.492**
PETN	13.132	76150	**1.045**

Before Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\012.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\012516expic-primary\012516expic-primary.met
Sample ID: 122858,LCSW,
Acquired: Jan 25, 2016 18:25:02
Data Summary: REASON #4 APPLIES TO DATA. RED 1/26/2016





A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX	3.325	35648	**0.544**
RDX	4.525	45745	**0.525**
12-DNB (SSTD)	5.508	58987	**94.544**
135-TNB	5.741	89100	**0.444**
13-DNB	6.641	136218	**0.506**
TETRYL	6.900	68197	**0.487**
35-DNA	7.141	105117	**0.497**
NB	7.333	79427	**0.449**
246-TNT	8.291	95527	**0.468**
4-AM-26-DNT	8.499	65801	**0.584**
2-AM-46-DNT	8.799	92378	**0.486**
2-NT	10.949	50832	**0.433**
4-NT	11.666	46387	**0.459**
3-NT	12.408	55863	**0.464**

B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG	8.049	82184	**1.012**
26-DNT	9.291	106442	**0.498**
24-DNT	9.499	82509	**0.492**
PETN	13.132	76150	**1.045**

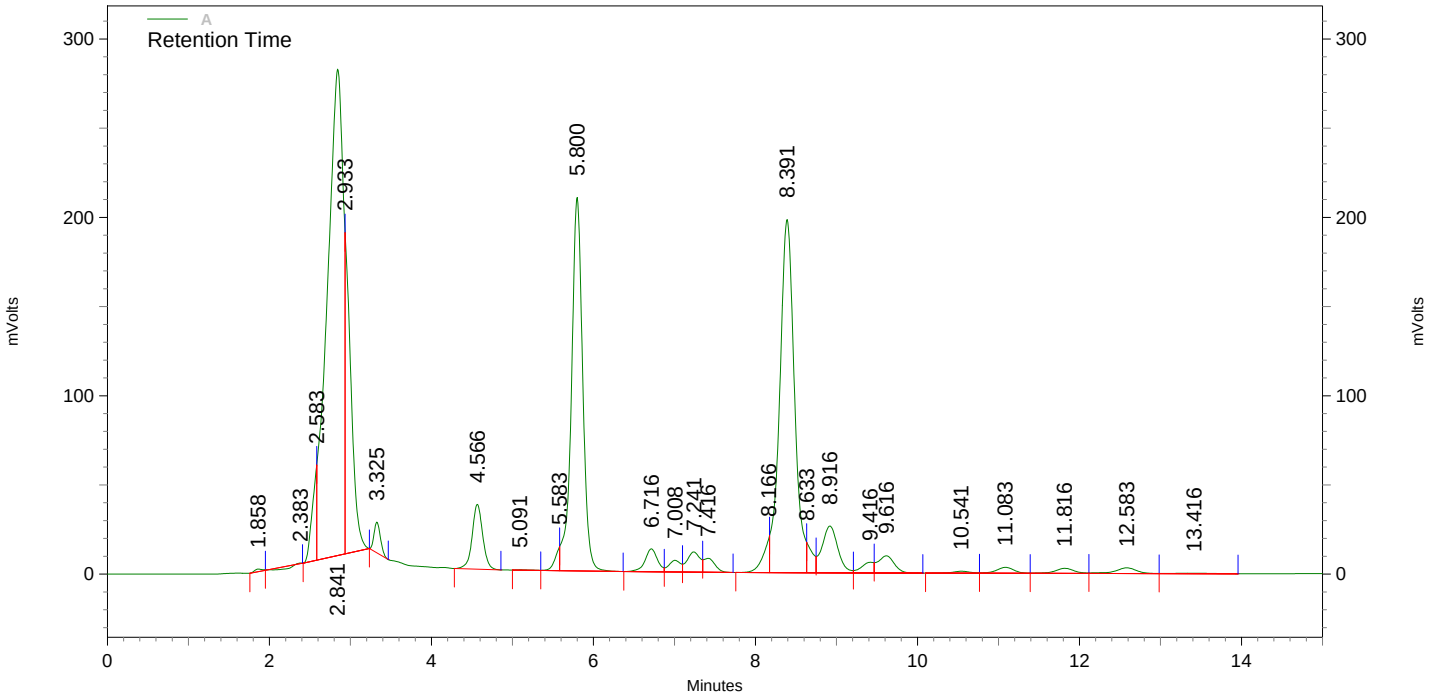
After Manual Integration

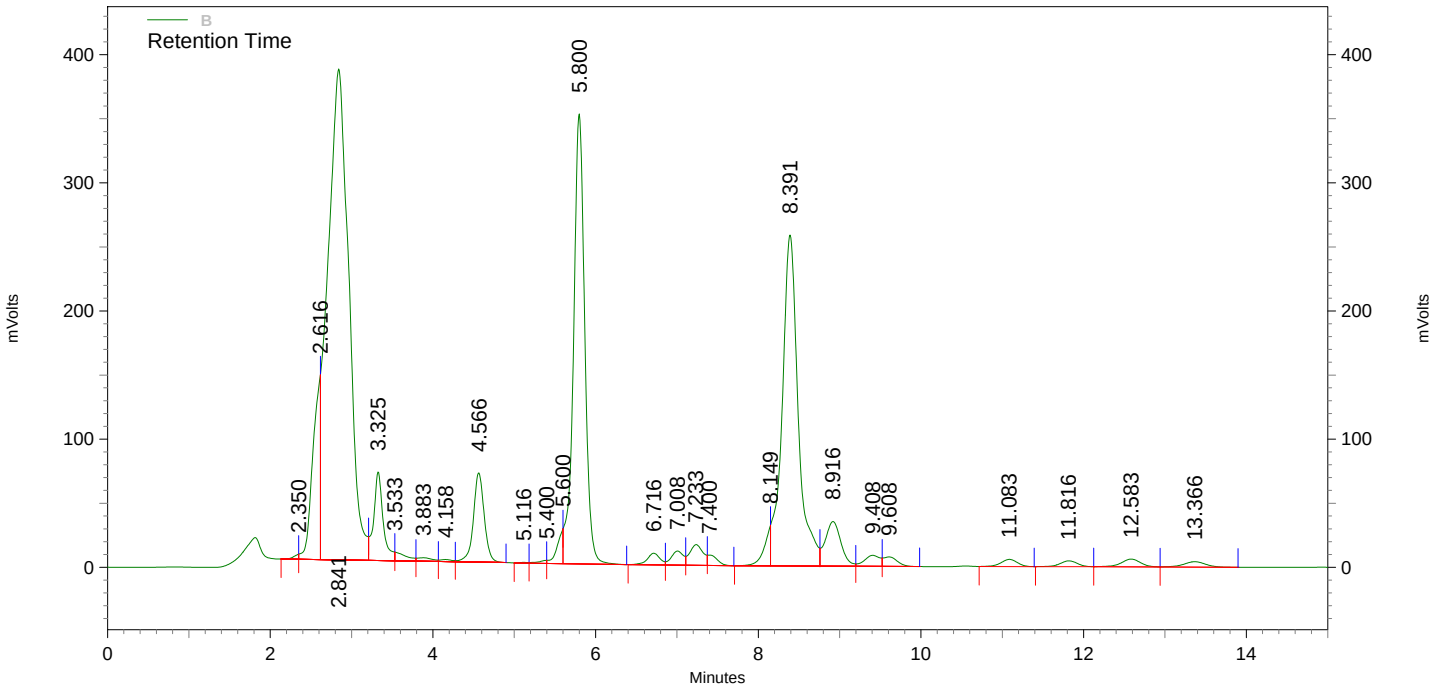
Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\018.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\012516expic-primary\012516expic-primary.met
Sample ID: 122858,MSW679979,
Acquired: Jan 25, 2016 20:14:46
Data Summary: REASON #3,#4 APPLIES TO DATA. RED 1/26/2016

JJY

1/29/2016





A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX	3.325	95286	**1.459**
RDX	4.566	329094	**3.824**
12-DNB (SSTD)	5.583	51888	**82.952**
135-TNB	5.800	2018852	**10.170**
13-DNB	6.716	137455	**0.510**
TETRYL	7.008	65029	**0.464**
35-DNA	7.241	124783	**0.591**
NB	7.416	75483	**0.427**
246-TNT	8.391	2482698	**12.239**
4-AM-26-DNT	8.633	86078	**0.767**
2-AM-46-DNT	8.916	354318	**1.881**
2-NT	11.083	48956	**0.417**
4-NT	11.816	45377	**0.449**
3-NT	12.583	56742	**0.472**

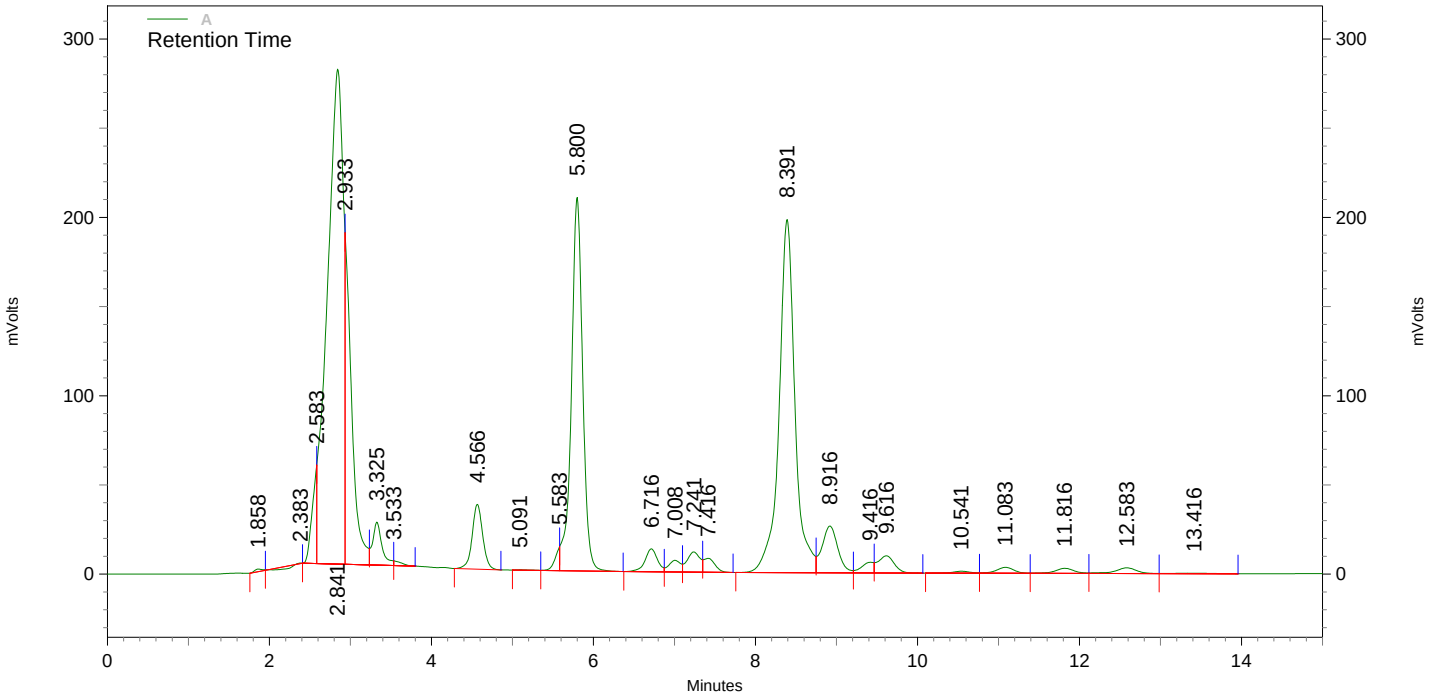
B Results

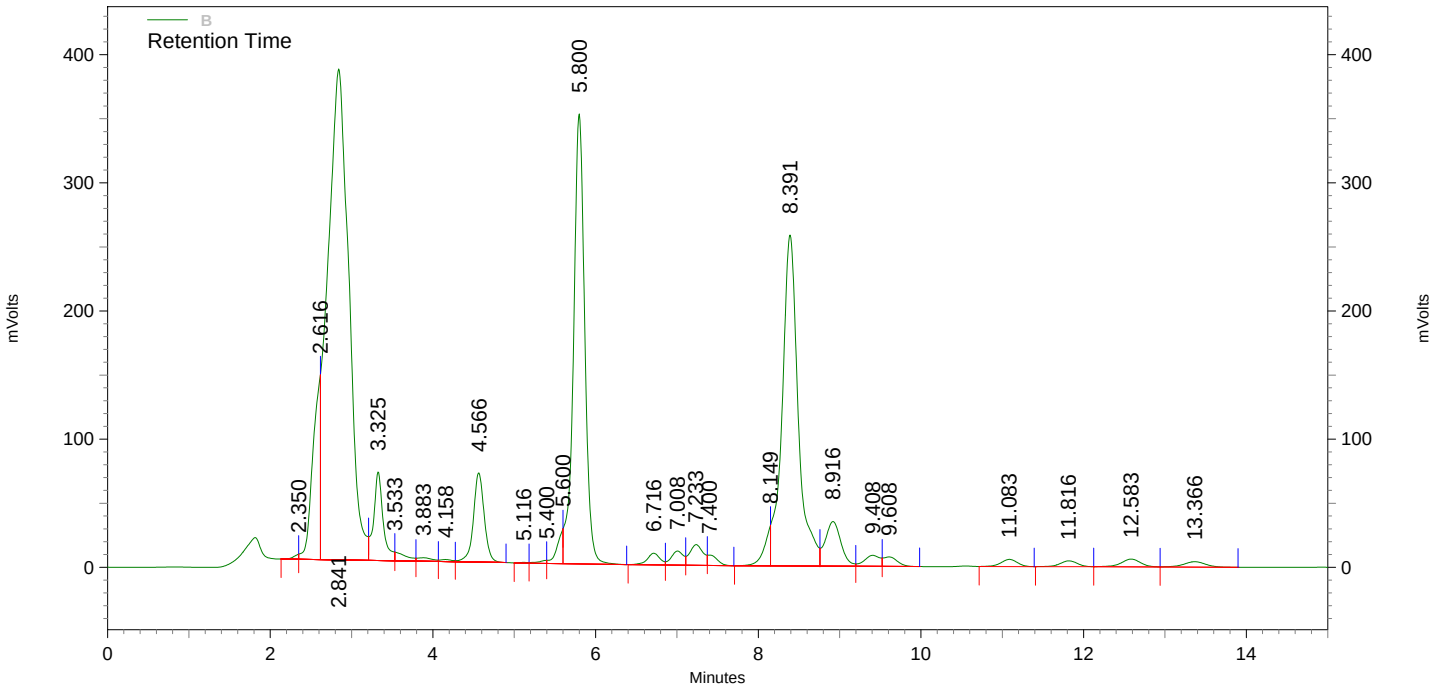
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG	8.149	160552	**1.986**
26-DNT	9.408	113770	**0.533**
24-DNT	9.608	88200	**0.526**
PETN	13.366	78111	**1.072**

Before Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\018.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\012516expic-primary\012516expic-primary.met
Sample ID: 122858,MSW679979,
Acquired: Jan 25, 2016 20:14:46
Data Summary: REASON #3,#4 APPLIES TO DATA. RED 1/26/2016





A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX	3.325	194387	**2.981**
RDX	4.566	329094	**3.824**
12-DNB (SSTD)	5.583	51888	**82.952**
135-TNB	5.800	2018852	**10.170**
13-DNB	6.716	137455	**0.510**
TETRYL	7.008	65029	**0.464**
35-DNA	7.241	124783	**0.591**
NB	7.416	75483	**0.427**
246-TNT	8.391	2676758	**13.196**
4-AM-26-DNT			**0.000 BDL**
2-AM-46-DNT	8.916	354318	**1.881**
2-NT	11.083	48956	**0.417**
4-NT	11.816	45377	**0.449**
3-NT	12.583	56742	**0.472**

B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG	8.149	160552	**1.986**
26-DNT	9.408	113770	**0.533**
24-DNT	9.608	88200	**0.526**
PETN	13.366	78111	**1.072**

After Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\019.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\012516expic-primary\012516expic-primary.met
Sample ID: 122858,MSDW679979,
Acquired: Jan 25, 2016 20:33:06
Data Summary: REASON #3,#4 APPLIES TO DATA. RED 1/26/2016

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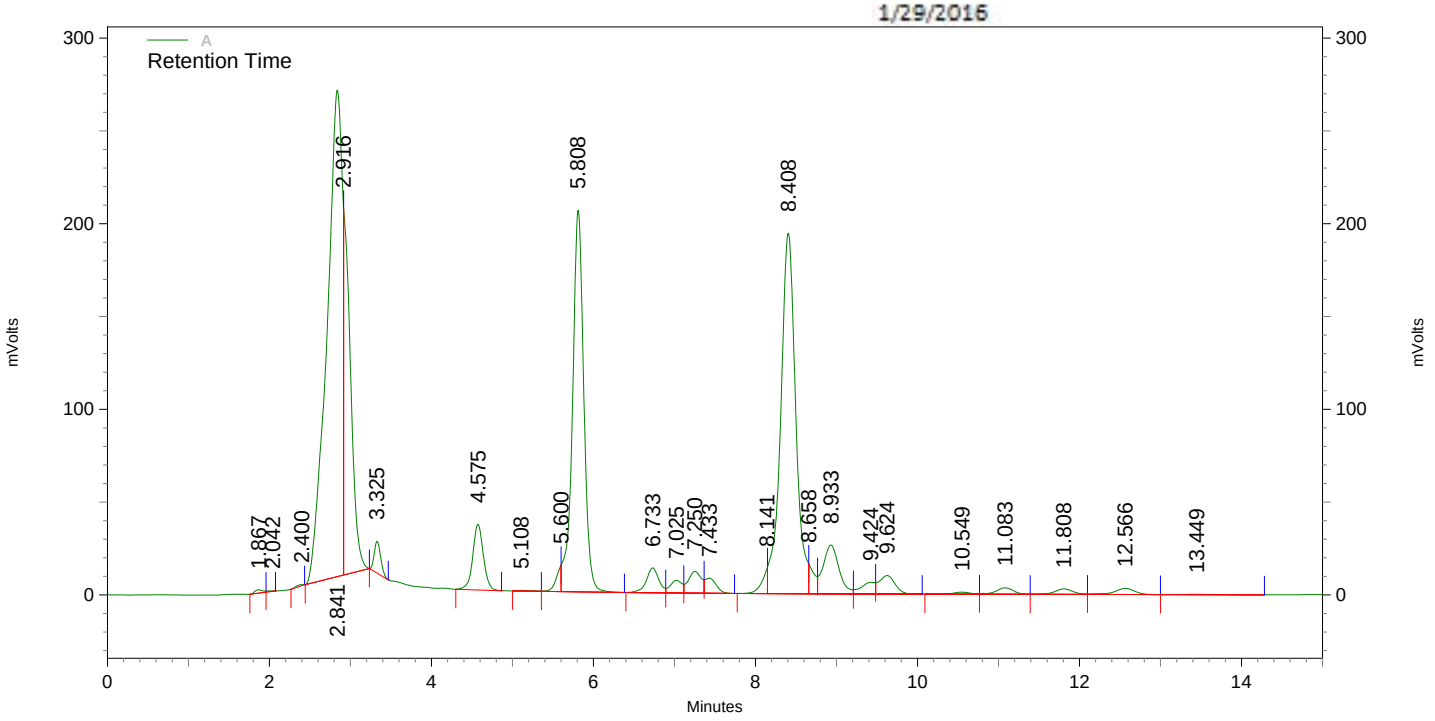
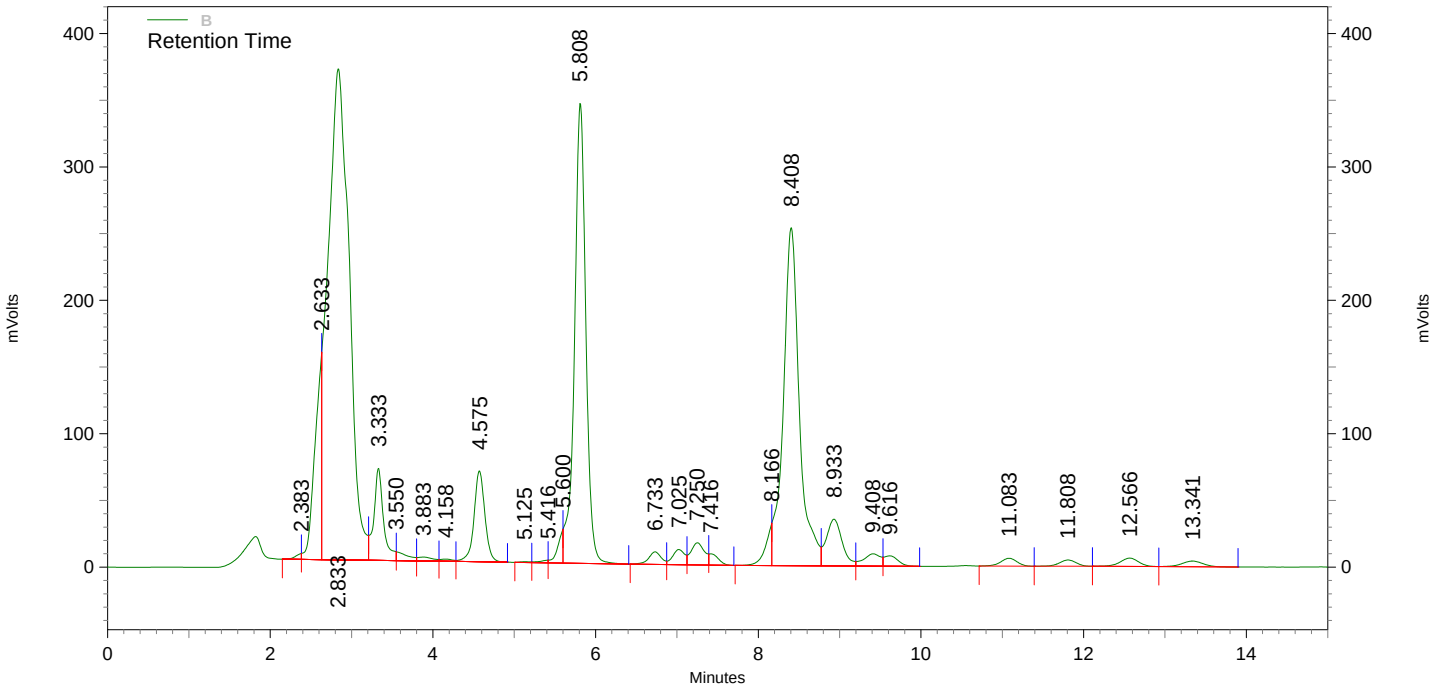
1/29/2016





A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX	3.325	95557	**1.464**
RDX	4.575	321553	**3.736**
12-DNB (SSTD)	5.600	55976	**89.627**
135-TNB	5.808	1989339	**10.022**
13-DNB	6.733	142535	**0.530**
TETRYL	7.025	67772	**0.484**
35-DNA	7.250	129322	**0.612**
NB	7.433	77742	**0.440**
246-TNT	8.408	2489085	**12.270**
4-AM-26-DNT	8.658	76969	**0.685**
2-AM-46-DNT	8.933	357178	**1.896**
2-NT	11.083	51033	**0.435**
4-NT	11.808	46806	**0.463**
3-NT	12.566	57769	**0.480**

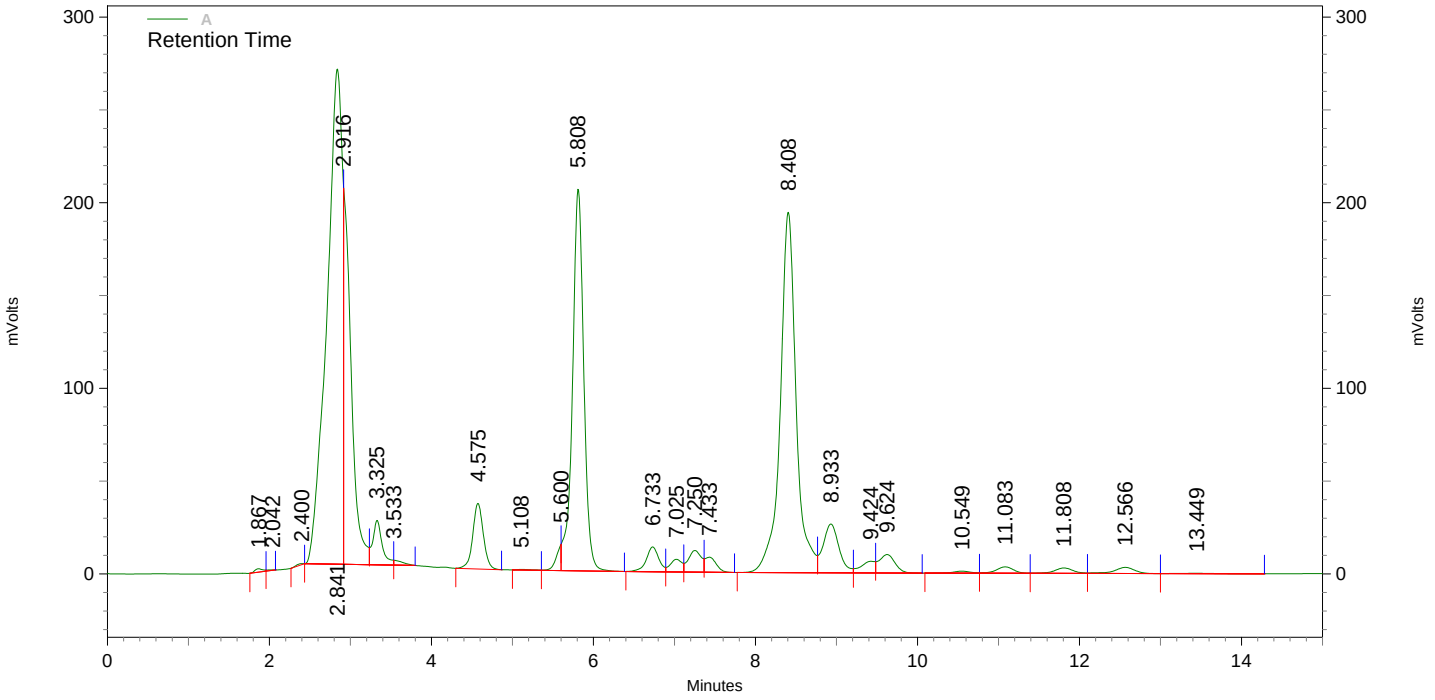
B Results

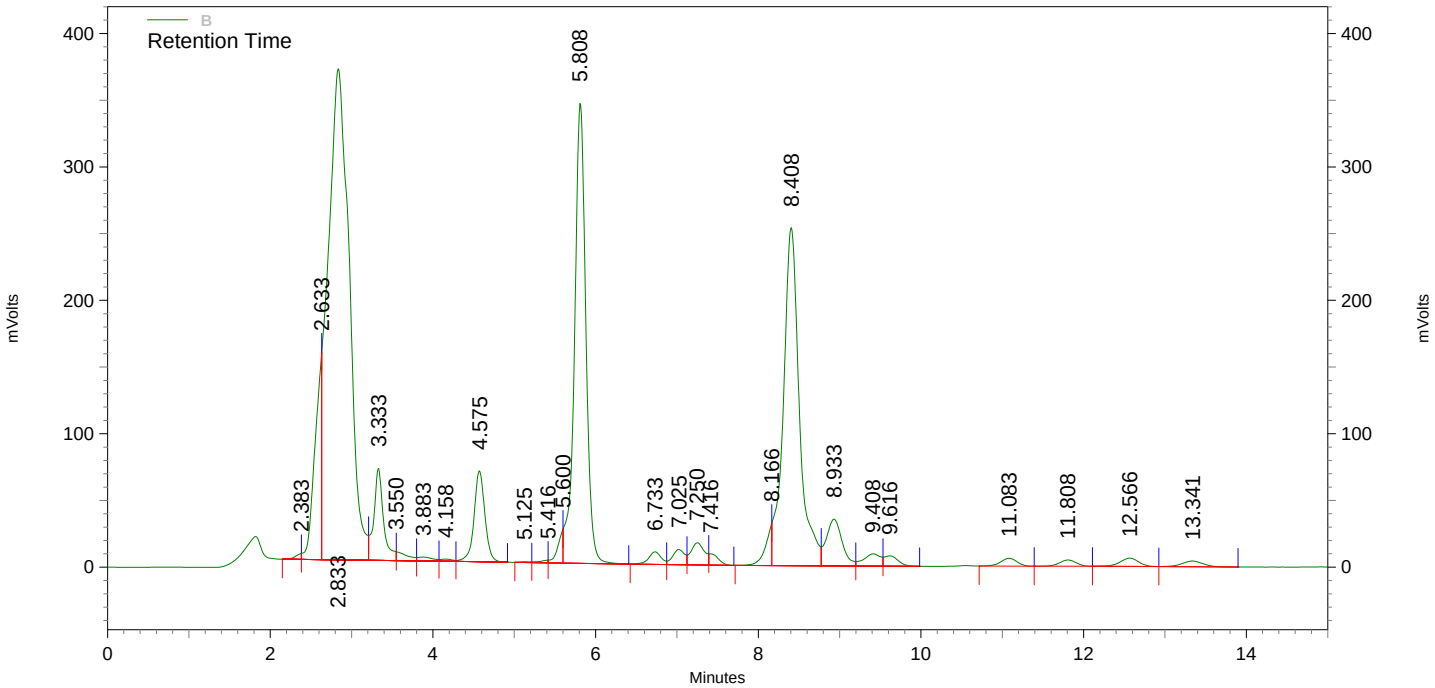
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG	8.166	162327	**2.008**
26-DNT	9.408	132117	**0.620**
24-DNT	9.616	92103	**0.550**
PETN	13.341	78326	**1.075**

Before Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\019.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\012516expic-primary\012516expic-primary.met
Sample ID: 122858,MSDW679979,
Acquired: Jan 25, 2016 20:33:06
Data Summary: REASON #3,#4 APPLIES TO DATA. RED 1/26/2016





A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX	3.325	195754	**3.002**
RDX	4.575	321553	**3.736**
12-DNB (SSTD)	5.600	55976	**89.627**
135-TNB	5.808	1989339	**10.022**
13-DNB	6.733	142535	**0.530**
TETRYL	7.025	67772	**0.484**
35-DNA	7.250	129322	**0.612**
NB	7.433	77742	**0.440**
246-TNT	8.408	2630339	**12.967**
4-AM-26-DNT			**0.000 BDL**
2-AM-46-DNT	8.933	357178	**1.896**
2-NT	11.083	51033	**0.435**
4-NT	11.808	46806	**0.463**
3-NT	12.566	57769	**0.480**

B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG	8.166	162327	**2.008**
26-DNT	9.408	132117	**0.620**
24-DNT	9.616	92103	**0.550**
PETN	13.341	78326	**1.075**

After Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\025.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\012516expic-primary\012516expic-primary.met
Sample ID: MSW679979 1:10
Acquired: Jan 26, 2016 11:09:25
Data Summary: REASON #3 APPLIES TO DATA. RED 1/26/2016

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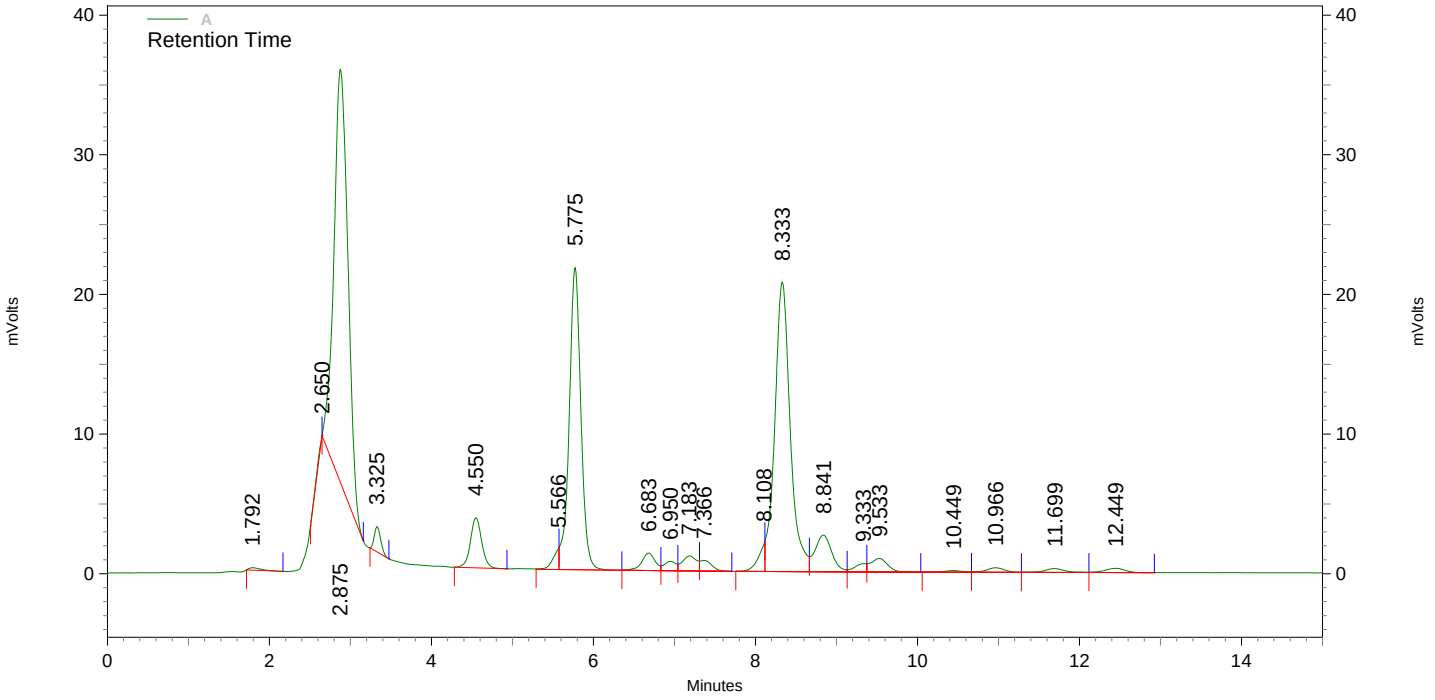
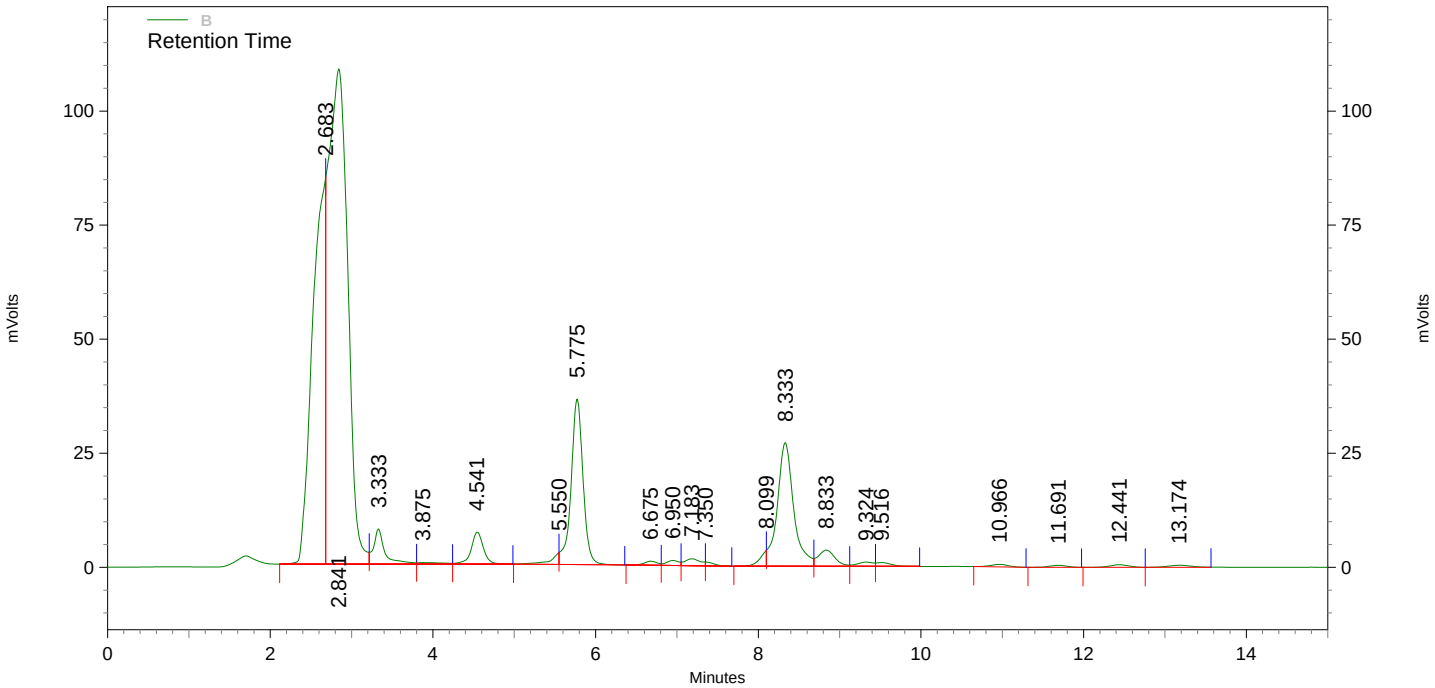




A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX	3.325	10101	**0.151**
RDX	4.550	34939	**0.399**
12-DNB (SSTD)	5.566	7628	**10.681**
135-TNB	5.775	216091	**1.084**
13-DNB	6.683	14209	**0.048**
TETRYL	6.950	6749	**0.044**
35-DNA	7.183	13157	**0.057**
NB	7.366	7680	**0.038**
246-TNT	8.333	274233	**1.349**
4-AM-26-DNT			**0.000 BDL**
2-AM-46-DNT	8.841	37857	**0.196**
2-NT	10.966	4951	**0.041**
4-NT	11.699	4865	**0.047**
3-NT	12.449	5349	**0.042**

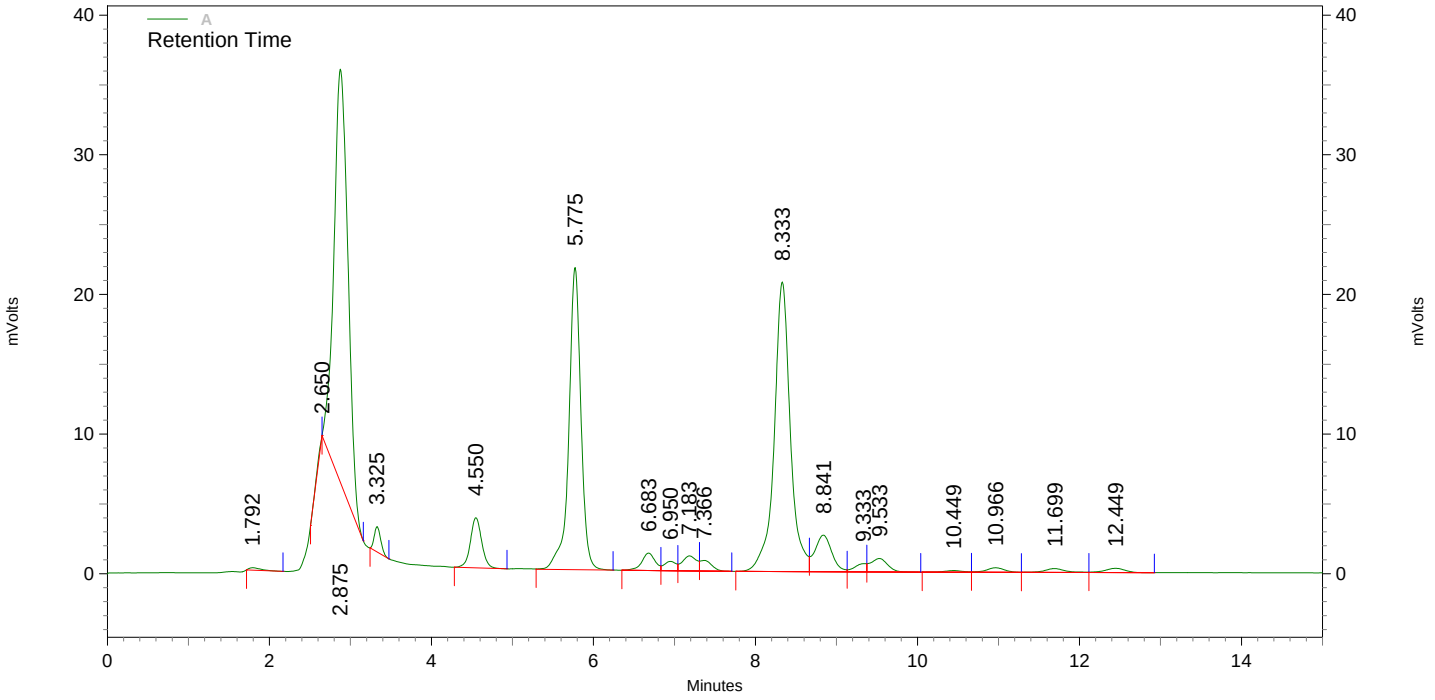
B Results

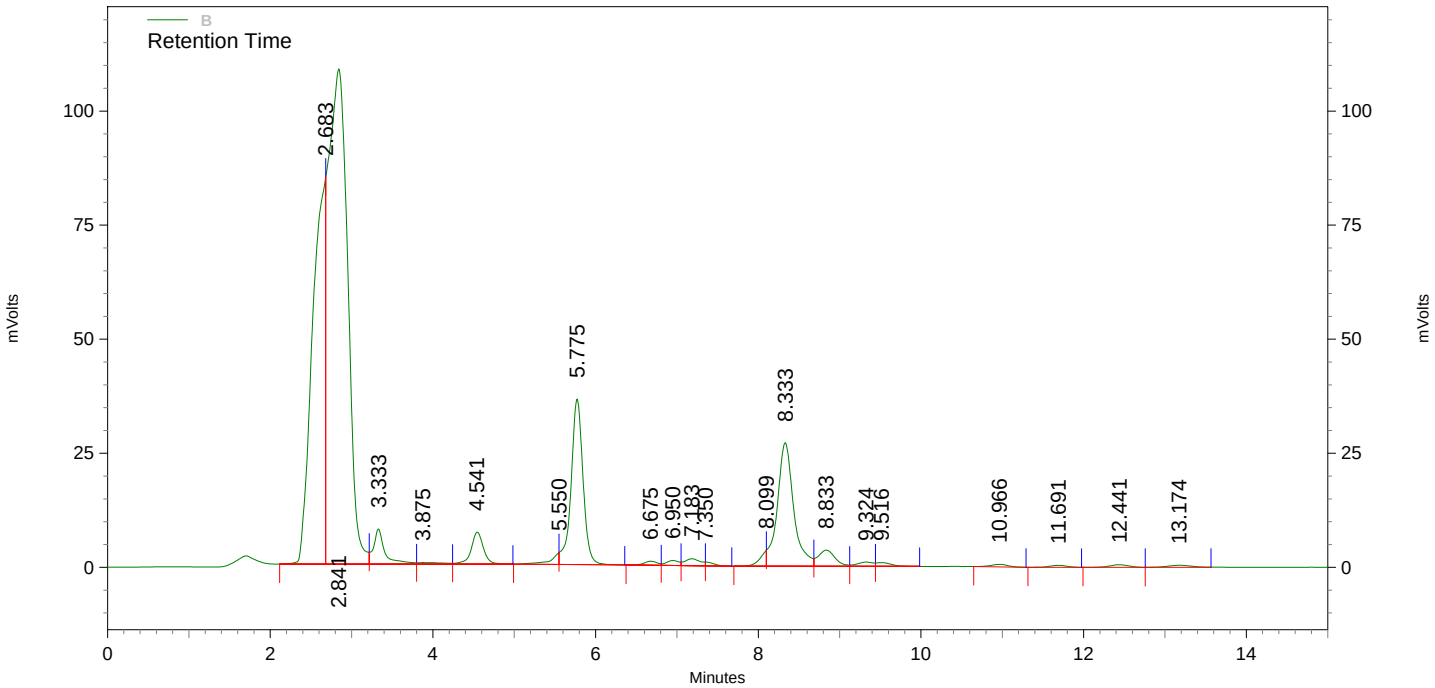
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG	8.099	18691	**0.223**
26-DNT	9.324	12861	**0.052**
24-DNT	9.516	10485	**0.055**
PETN	13.174	9700	**0.121**

Before Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\025.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\012516expic-primary\012516expic-primary.met
Sample ID: MSW679979 1:10
Acquired: Jan 26, 2016 11:09:25
Data Summary: REASON #3 APPLIES TO DATA. RED 1/26/2016





A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX	3.325	10101	**0.151**
RDX	4.550	34939	**0.399**
12-DNB (SSTD)			**0.000 BDL**
135-TNB	5.775	223812	**1.123**
13-DNB	6.683	14209	**0.048**
TETRYL	6.950	6749	**0.044**
35-DNA	7.183	13157	**0.057**
NB	7.366	7680	**0.038**
246-TNT	8.333	285617	**1.405**
4-AM-26-DNT			**0.000 BDL**
2-AM-46-DNT	8.841	37857	**0.196**
2-NT	10.966	4951	**0.041**
4-NT	11.699	4865	**0.047**
3-NT	12.449	5349	**0.042**

B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG	8.099	18691	**0.223**
26-DNT	9.324	12861	**0.052**
24-DNT	9.516	10485	**0.055**
PETN	13.174	9700	**0.121**

After Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\026.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\012516expic-primary\012516expic-primary.met
Sample ID: MSDW679979 1:10
Acquired: Jan 26, 2016 11:26:42
Data Summary: REASON #3 APPLIES TO DATA. RED 1/26/2016

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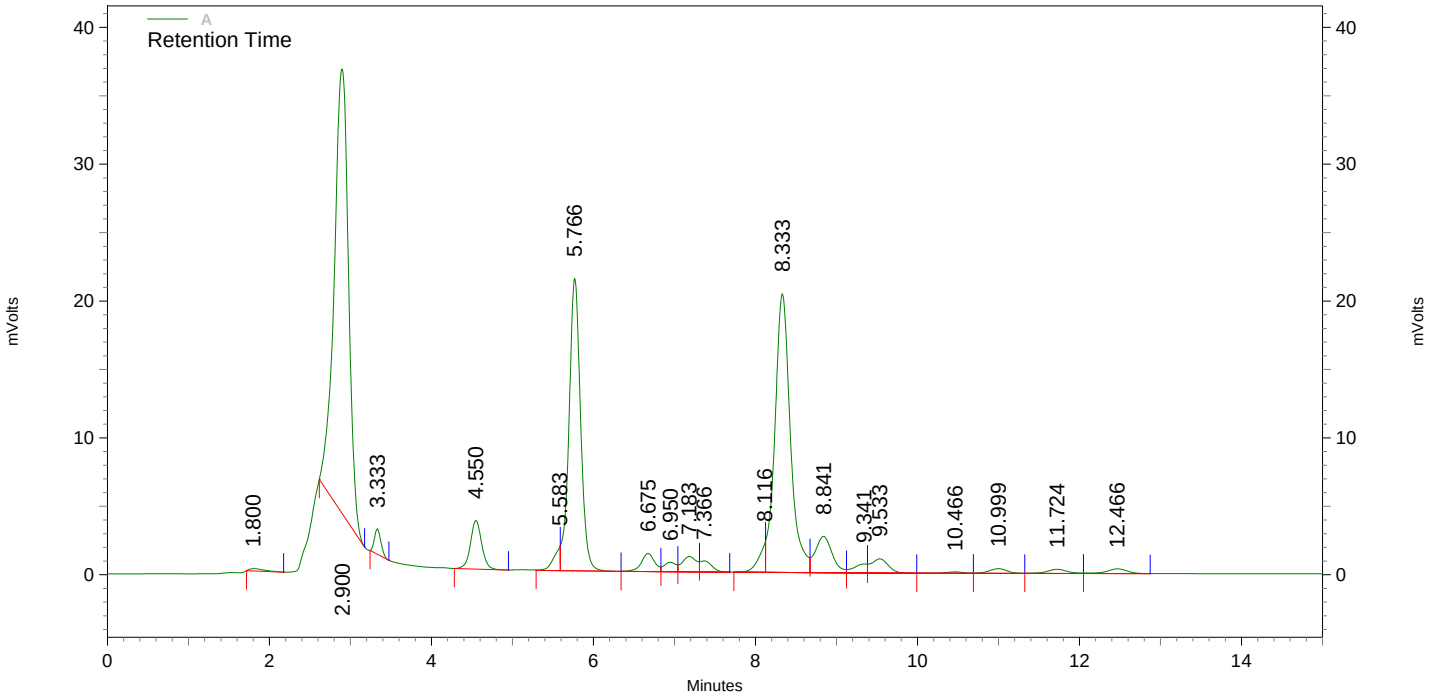
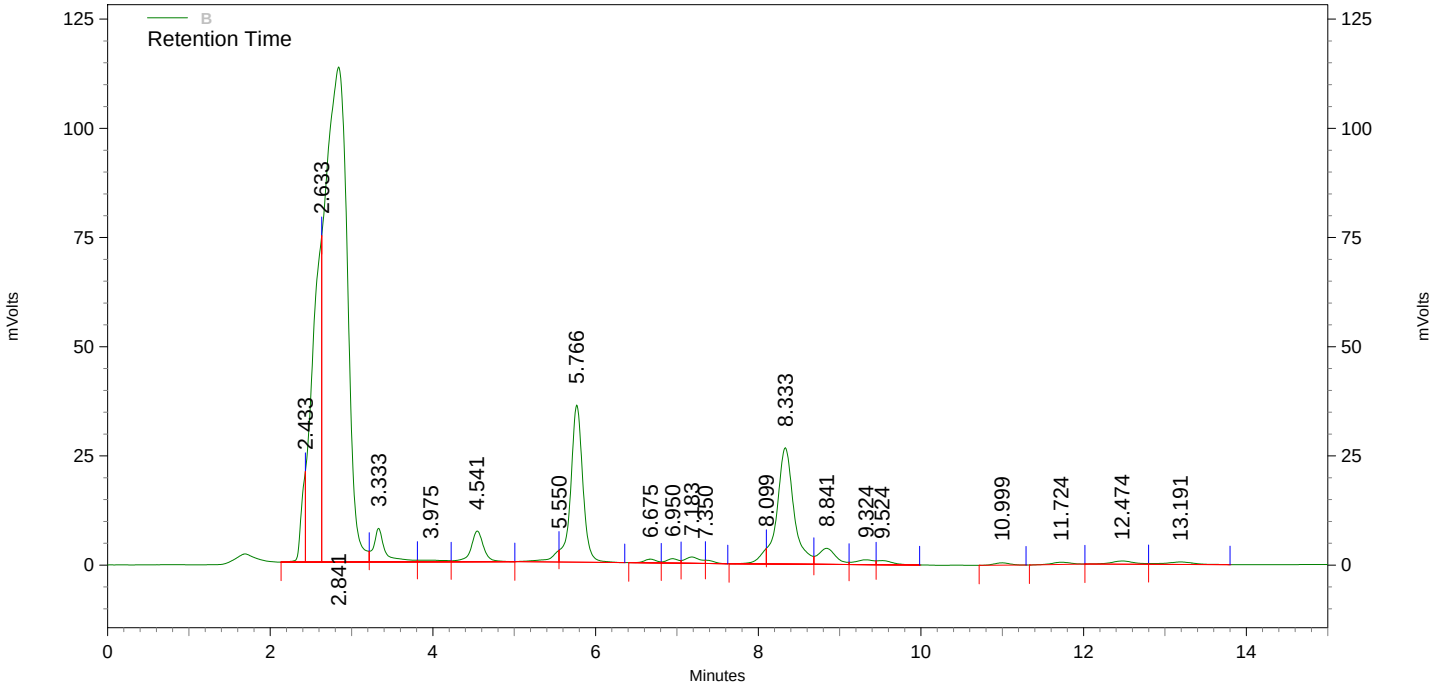




A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX	3.333	10333	**0.155**
RDX	4.550	34310	**0.392**
12-DNB (SSTD)	5.583	9846	**14.302**
135-TNB	5.766	210958	**1.058**
13-DNB	6.675	15028	**0.051**
TETRYL	6.950	6982	**0.045**
35-DNA	7.183	13749	**0.060**
NB	7.366	8072	**0.041**
246-TNT	8.333	269975	**1.328**
4-AM-26-DNT			**0.000 BDL**
2-AM-46-DNT	8.841	38429	**0.199**
2-NT	10.999	5258	**0.044**
4-NT	11.724	5226	**0.050**
3-NT	12.466	6125	**0.048**

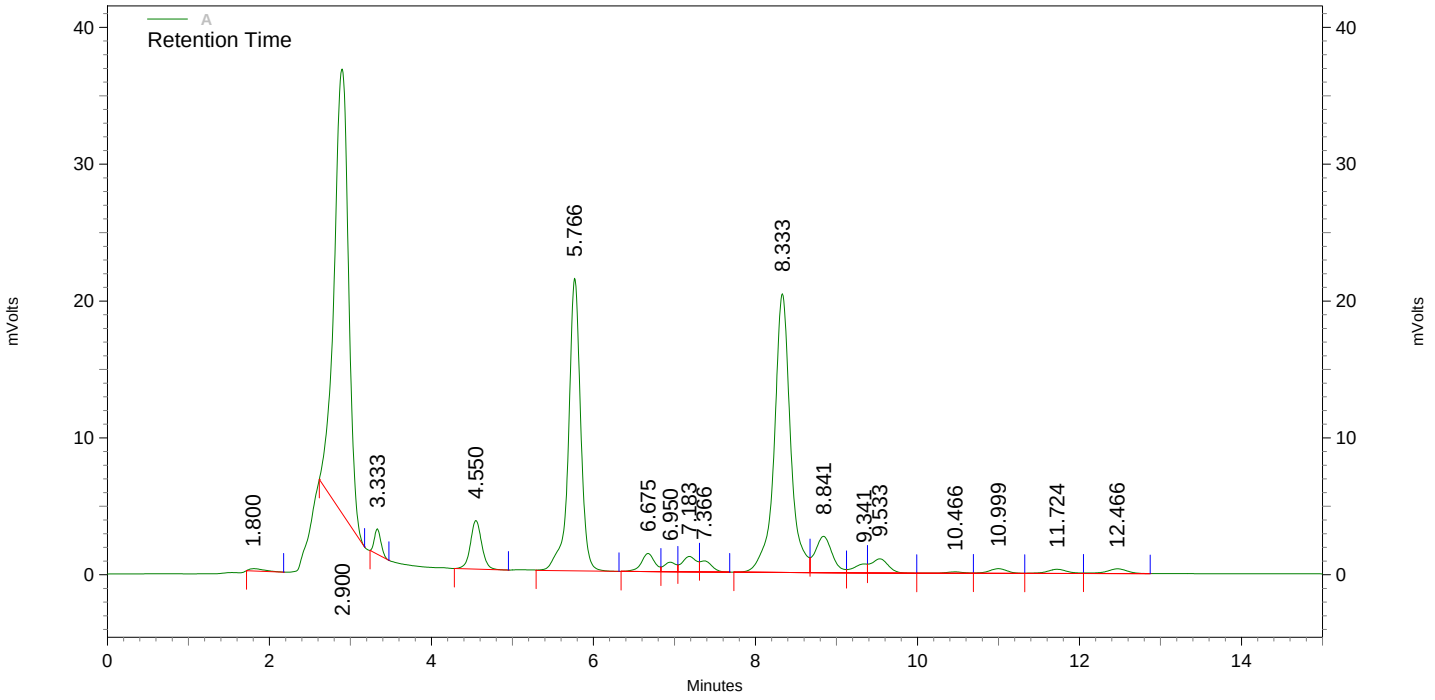
B Results

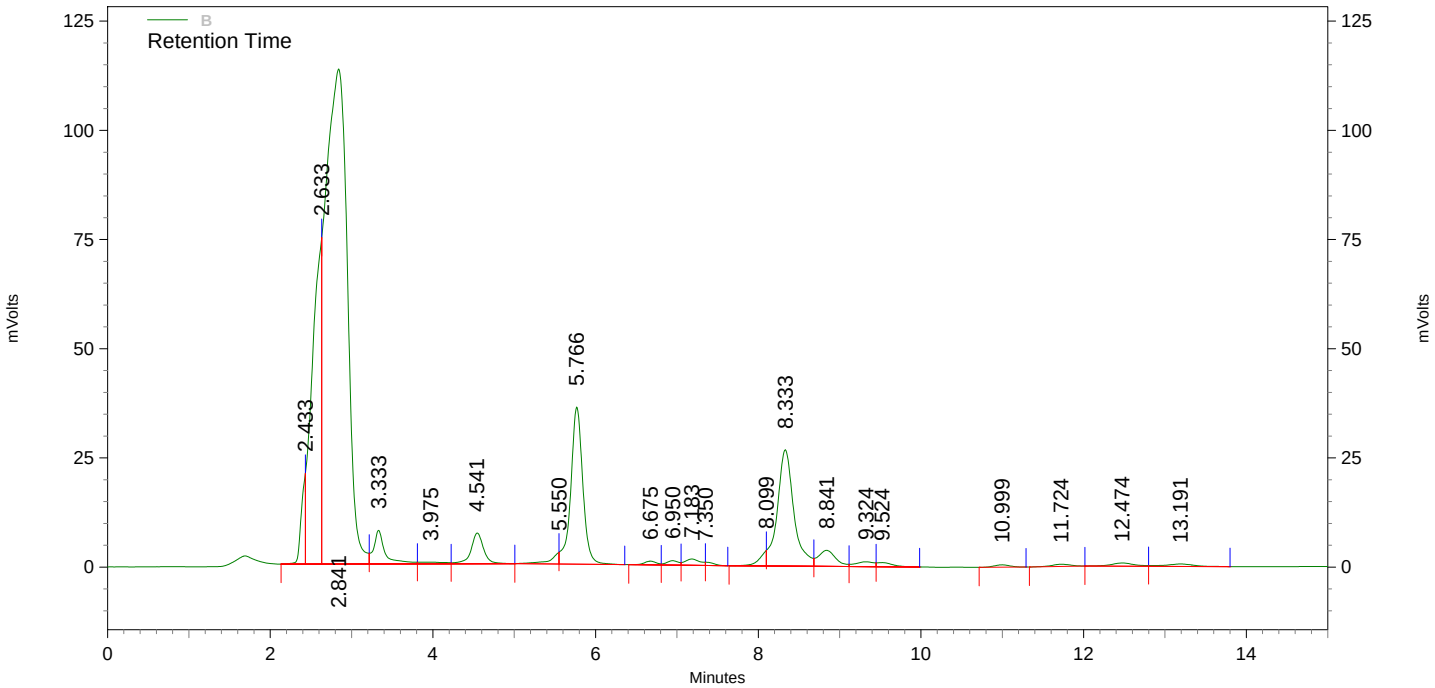
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG	8.099	20199	**0.242**
26-DNT	9.324	16984	**0.072**
24-DNT	9.524	12322	**0.066**
PETN	13.191	13366	**0.172**

Before Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012516EXPic-PRIMARY\026.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\012516expic-primary\012516expic-primary.met
Sample ID: MSDW679979 1:10
Acquired: Jan 26, 2016 11:26:42
Data Summary: REASON #3 APPLIES TO DATA. RED 1/26/2016





A Results

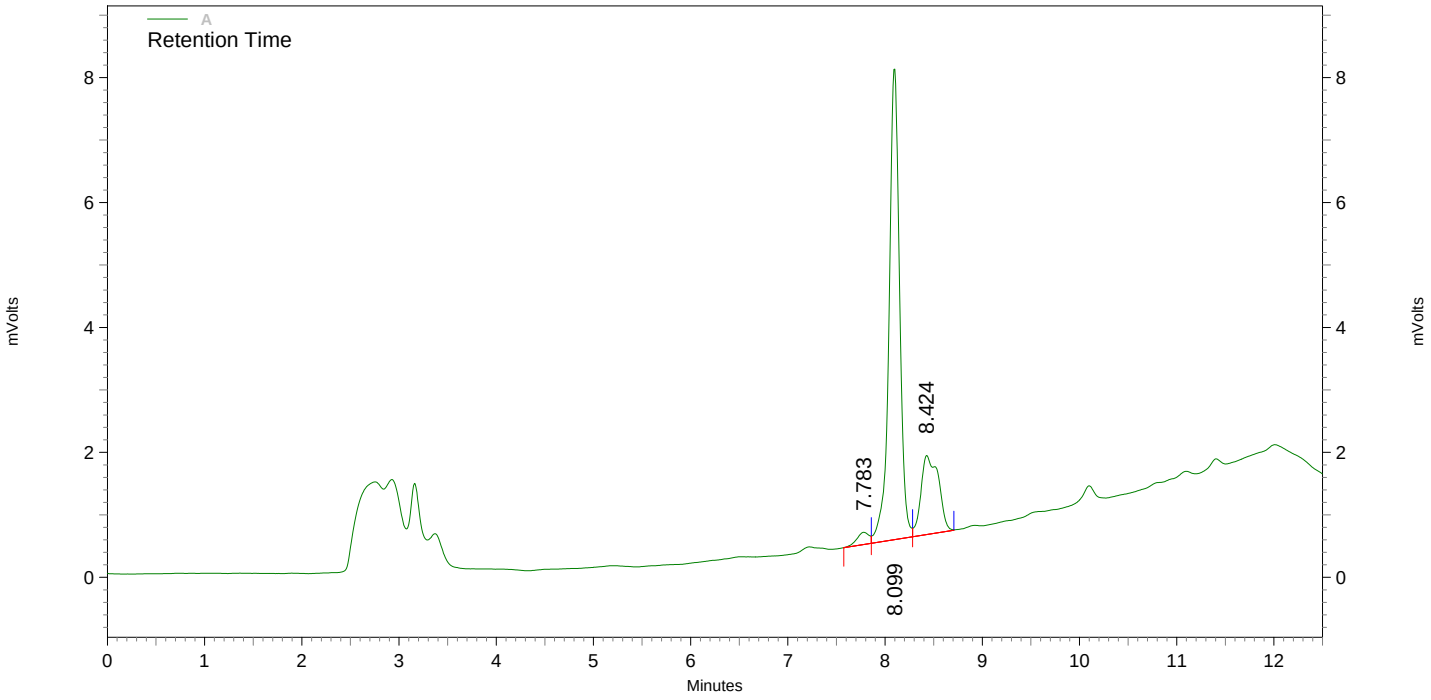
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX	3.333	10333	**0.155**
RDX	4.550	34310	**0.392**
12-DNB (SSTD)			**0.000 BDL**
135-TNB	5.766	220874	**1.108**
13-DNB	6.675	15028	**0.051**
TETRYL	6.950	6982	**0.045**
35-DNA	7.183	13749	**0.060**
NB	7.366	8072	**0.041**
246-TNT	8.333	282307	**1.389**
4-AM-26-DNT			**0.000 BDL**
2-AM-46-DNT	8.841	38429	**0.199**
2-NT	10.999	5258	**0.044**
4-NT	11.724	5226	**0.050**
3-NT	12.466	6125	**0.048**

B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG	8.099	20199	**0.242**
26-DNT	9.324	16984	**0.072**
24-DNT	9.524	12322	**0.066**
PETN	13.191	13366	**0.172**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012616MDTNX-PRIMARY\003.dat
User ID: RED
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\092915MDTNXic-primary\012616MDTNX-primary.met
Sample ID: 122857,MBW,
Acquired: Jan 26, 2016 13:59:47
Data Summary: {Data Description}



A Results

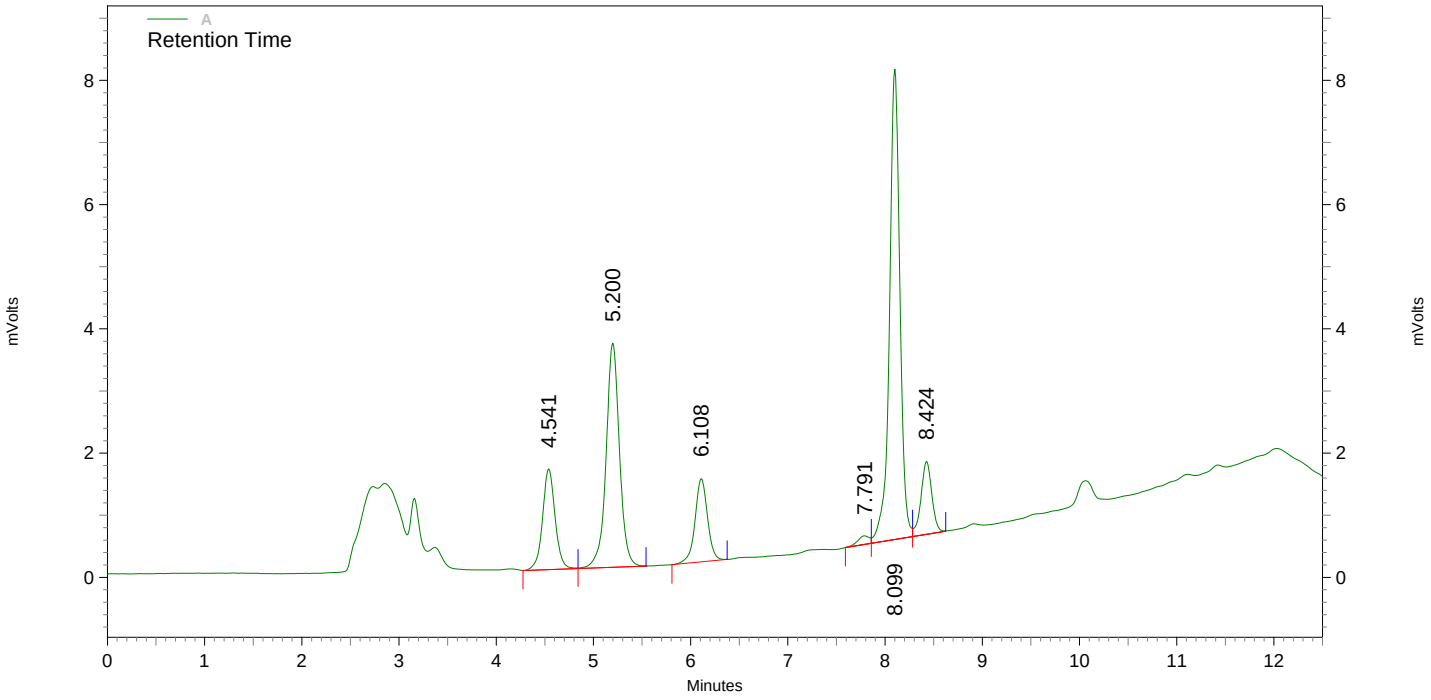
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX			**0.000 BDL**
DNX			**0.000 BDL**
MNX			**0.000 BDL**
12-DNB (SSTD)	8.099	56776	**112.020**

COMMENTS:

1. The results are reported using a UV/Vis detector set at 254 nm.

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012616MDTNX-PRIMARY\004.dat
User ID: RED
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\092915MDTNXic-primary\012616MDTNX-primary.met
Sample ID: 122857,LCSW,
Acquired: Jan 26, 2016 14:15:29
Data Summary: {Data Description}



A Results

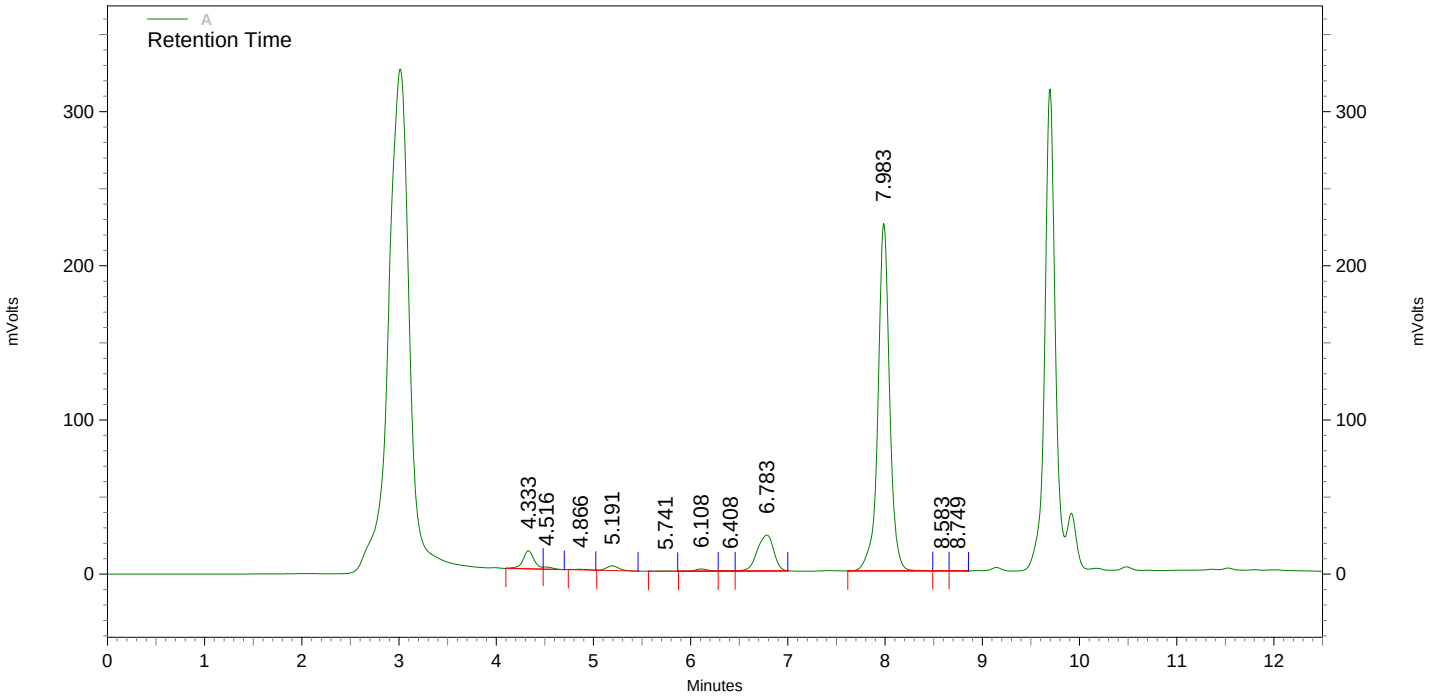
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX	4.541	14499	**0.095**
DNX	5.200	34514	**0.278**
MNX	6.108	11960	**0.107**
12-DNB (SSTD)	8.099	56175	**110.817**

COMMENTS:

1. The results are reported using a UV/Vis detector set at 254 nm.

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012616MDTNX-PRIMARY\010.dat
User ID: RED
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\092915MDTNXic-primary\012616MDTNX-primary.met
Sample ID: 122857,MSW679979,
Acquired: Jan 26, 2016 15:49:45
Data Summary: {Data Description}



A Results

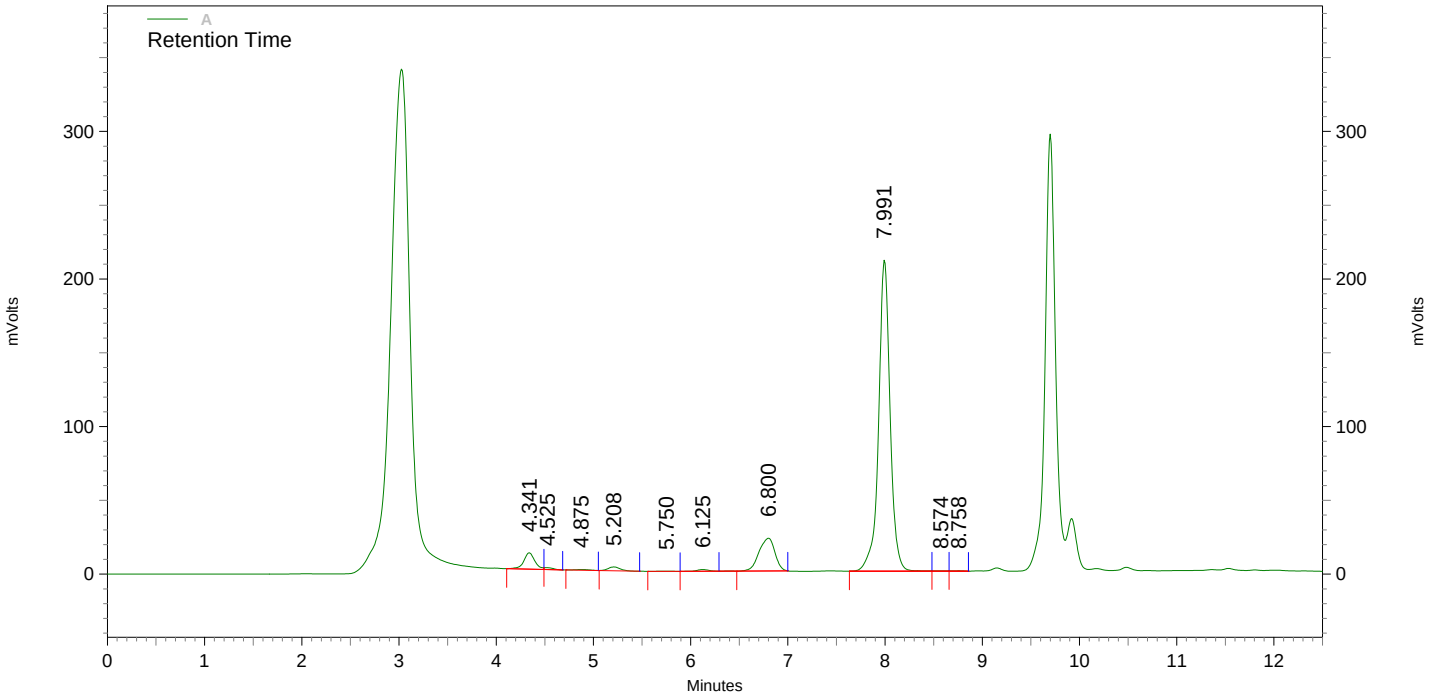
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX	4.516	8971	**0.057**
DNX	5.191	26298	**0.210**
MNX	6.108	11749	**0.105**
12-DNB (SSTD)	7.983	1875544	**3753.240**

COMMENTS:

1. The results are reported using a UV/Vis detector set at 254 nm.

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012616MDTNX-PRIMARY\011.dat
User ID: RED
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\092915MDTNXic-primary\012616MDTNX-primary.met
Sample ID: 122857,MSDW679979,
Acquired: Jan 26, 2016 16:05:28
Data Summary: {Data Description}



A Results

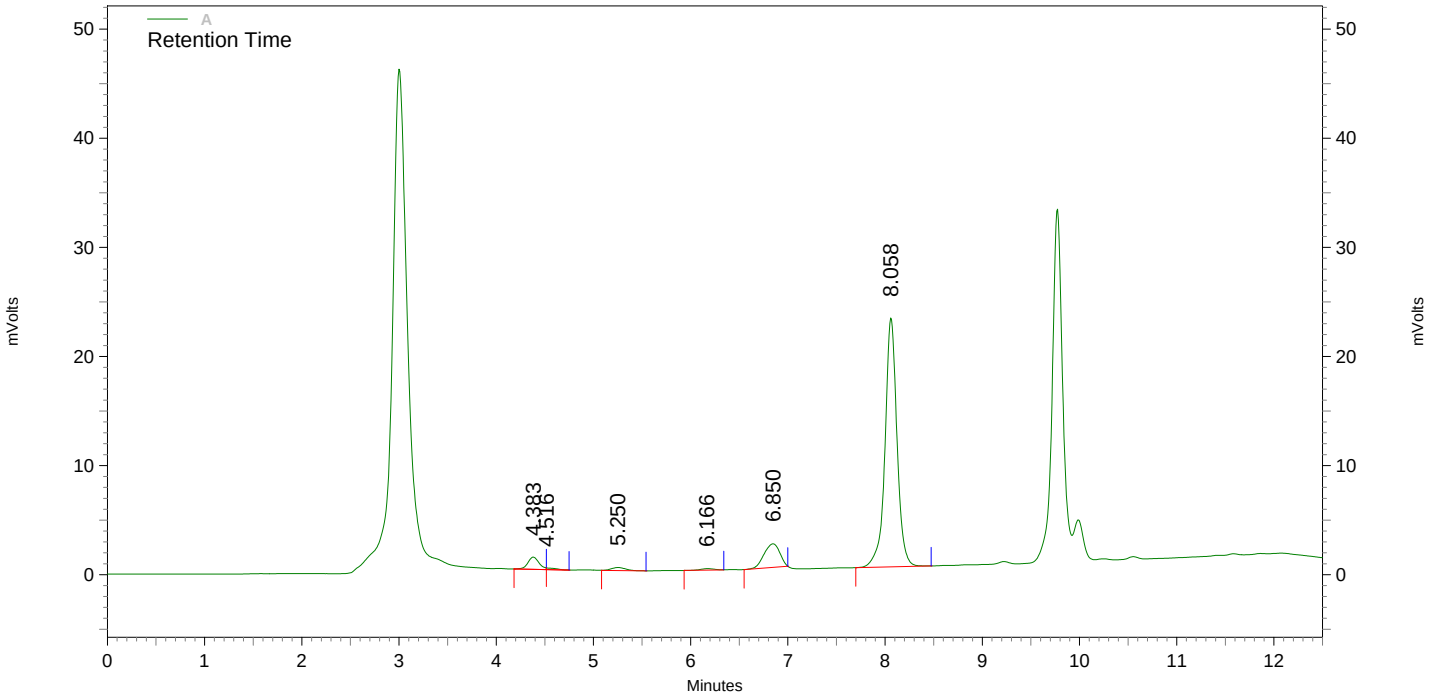
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX	4.525	7754	**0.048**
DNX	5.208	22263	**0.176**
MNX	6.125	9526	**0.083**
12-DNB (SSTD)	7.991	1728125	**3458.104**

COMMENTS:

1. The results are reported using a UV/Vis detector set at 254 nm.

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012616MDTNX-PRIMARY\014.dat
User ID: RED
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\092915MDTNXic-primary\012616MDTNX-primary.met
Sample ID: MSW679979 1:10
Acquired: Jan 26, 2016 17:59:21
Data Summary: {Data Description}



A Results

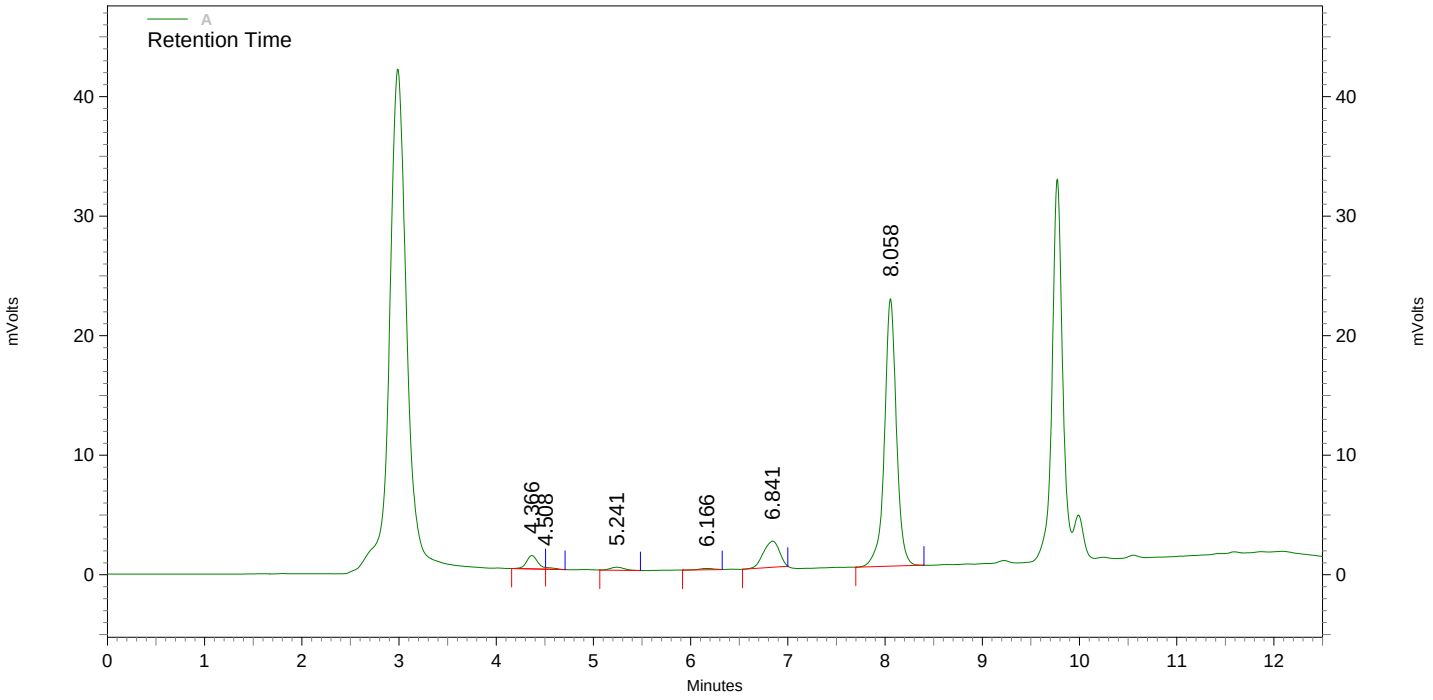
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX	4.516	1026	**0.002**
DNX	5.250	2716	**0.013**
MNX	6.166	1361	**0.003**
12-DNB (SSTD)	8.058	195284	**389.316**

COMMENTS:

1. The results are reported using a UV/Vis detector set at 254 nm.

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012616MDTNX-PRIMARY\015.dat
User ID: RED
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\092915MDTNXic-primary\012616MDTNX-primary.met
Sample ID: MSDW679979 1:10
Acquired: Jan 26, 2016 18:15:03
Data Summary: {Data Description}



A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX	4.508	852	**0.001**
DNX	5.241	2479	**0.011**
MNX	6.166	1226	**0.001**
12-DNB (SSTD)	8.058	190438	**379.615**

COMMENTS:

1. The results are reported using a UV/Vis detector set at 254 nm.

After Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012716EXPic-confirm\011.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\012716expic-confirm\012716expic-confirm.met
Sample ID: 122858,MBW,
Acquired: Jan 27, 2016 19:58:04
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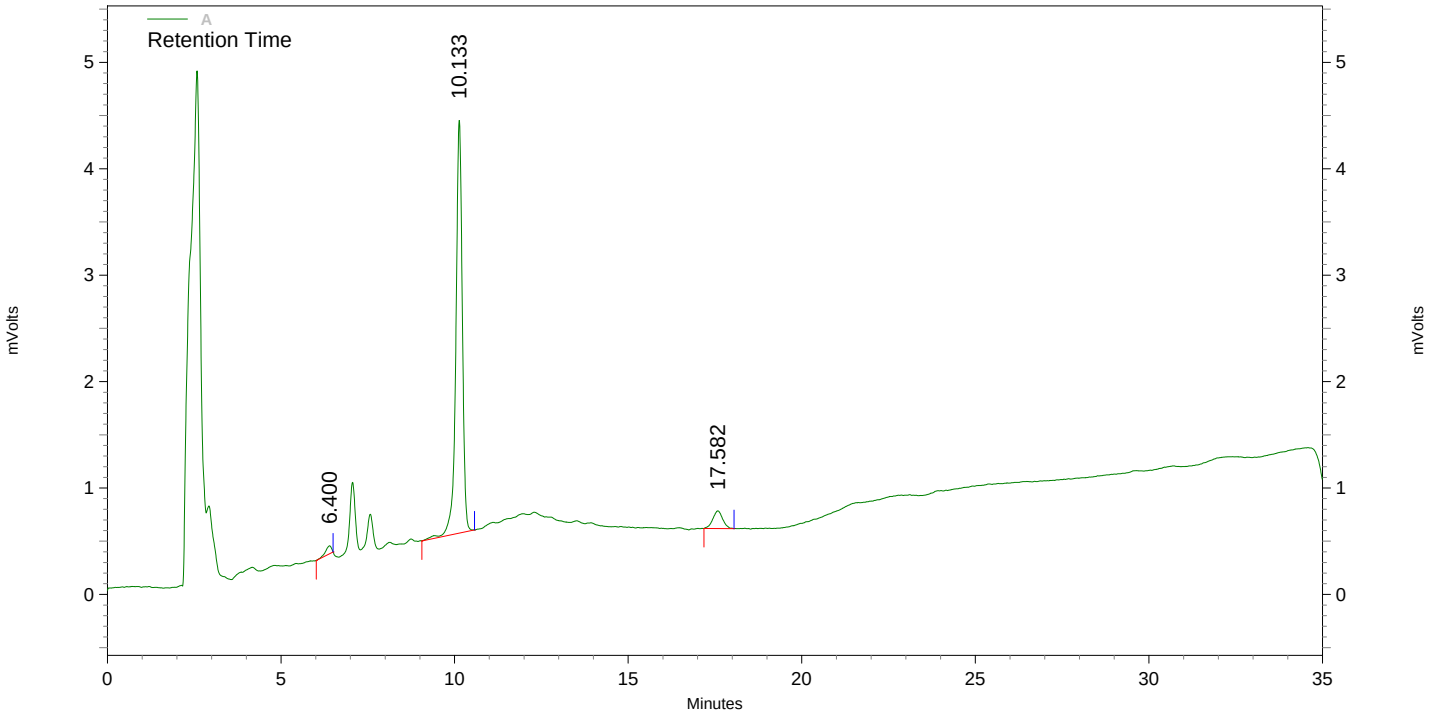
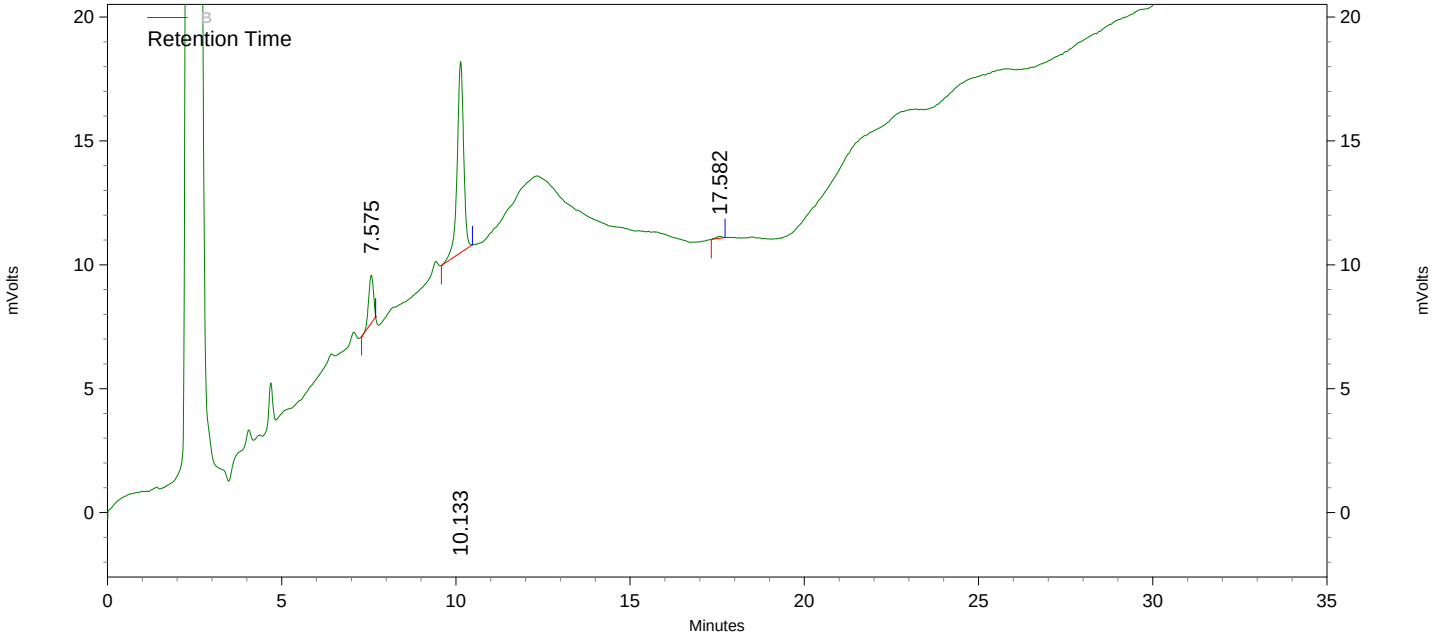
1/29/2016
Data Summary: Reason #4 applies to data. RED 1/28/2016





122858,MBW,

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm			**0.000 BDL**
RDX-confirm			**0.000 BDL**
NB-confirm			**0.000 BDL**
12-DNB (SSTD)-confirm	10.133	49953	**95.595**
4-AM-26-DNT-conf.			**0.000 BDL**
3,5-DNA-confirm			**0.000 BDL**
2-NT-confirm			**0.000 BDL**
2-AM-46-DNT-conf.			**0.000 BDL**
3-NT-confirm			**0.000 BDL**
4-NT-confirm			**0.000 BDL**
26-DNT-confirm			**0.000 BDL**
13-DNB-confirm	17.582	3302	**0.009**
TETRYL-confirm			**0.000 BDL**
24-DNT-confirm			**0.000 BDL**
135-TNB-confirm			**0.000 BDL**
246-TNT-confirm			**0.000 BDL**

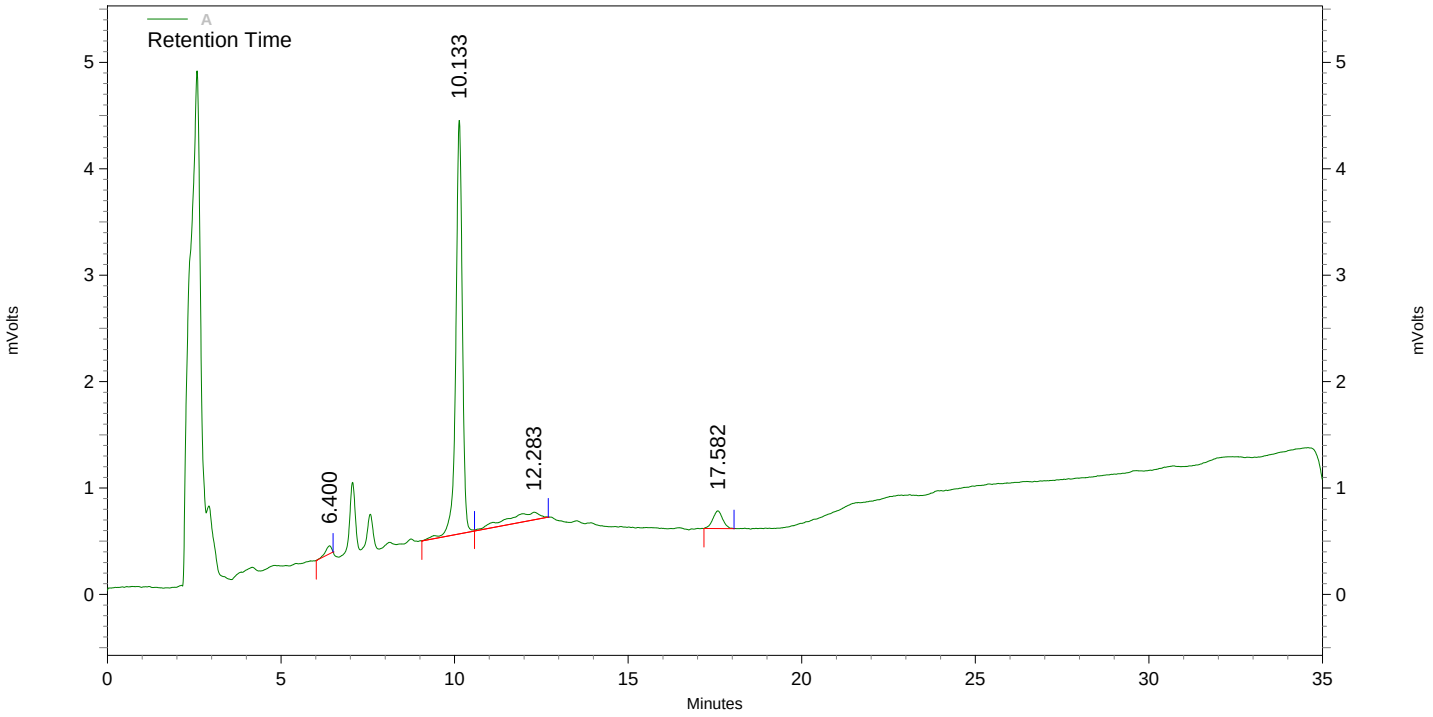
B Results

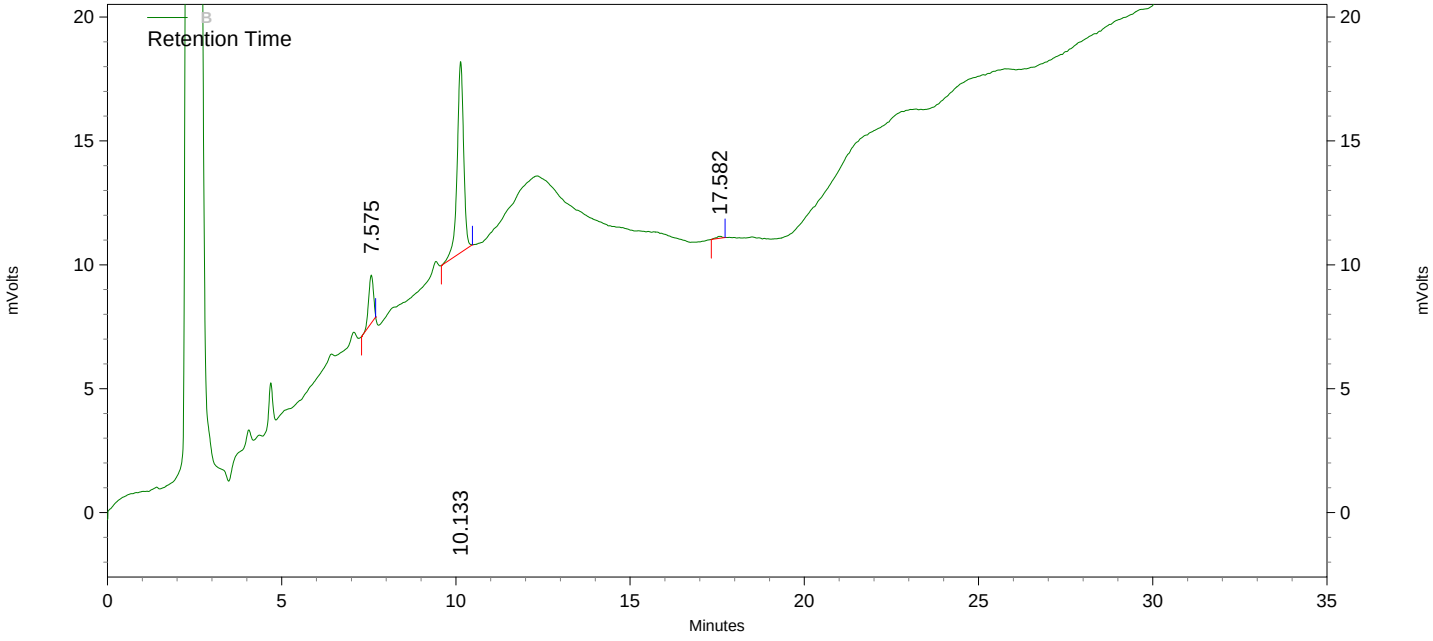
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm			**0.000 BDL**
PETN-confirm			**0.000 BDL**

Before Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012716EXPic-confirm\011.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\012716expic-confirm\012716expic-confirm.met
Sample ID: 122858,MBW,
Acquired: Jan 27, 2016 19:58:04
Data Summary: Reason #4 applies to data. RED 1/28/2016





122858,MBW,

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm			**0.000 BDL**
RDX-confirm			**0.000 BDL**
NB-confirm			**0.000 BDL**
12-DNB (SSTD)-confirm	10.133	50349	**96.378**
4-AM-26-DNT-conf.			**0.000 BDL**
3,5-DNA-confirm			**0.000 BDL**
2-NT-confirm	12.283	5566	**0.046**
2-AM-46-DNT-conf.			**0.000 BDL**
3-NT-confirm			**0.000 BDL**
4-NT-confirm			**0.000 BDL**
26-DNT-confirm			**0.000 BDL**
13-DNB-confirm	17.582	3302	**0.009**
TETRYL-confirm			**0.000 BDL**
24-DNT-confirm			**0.000 BDL**
135-TNB-confirm			**0.000 BDL**
246-TNT-confirm			**0.000 BDL**

B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm			**0.000 BDL**
PETN-confirm			**0.000 BDL**

After Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012716EXPic-confirm\017.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\012716expic-confirm\012716expic-confirm.met
Sample ID: MSW679979
Acquired: Jan 27, 2016 23:41:48
Data Summary: Reason #4 applies to data. RED 1/28/2016

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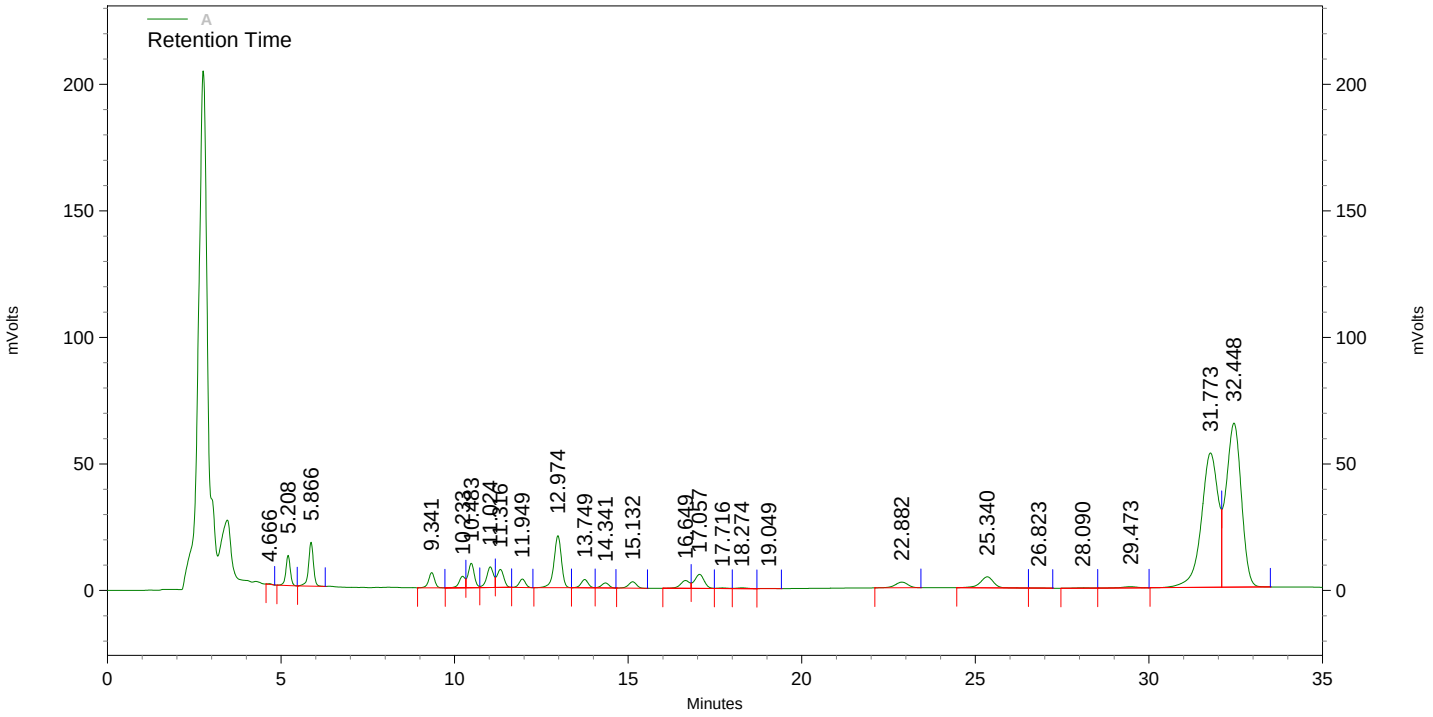
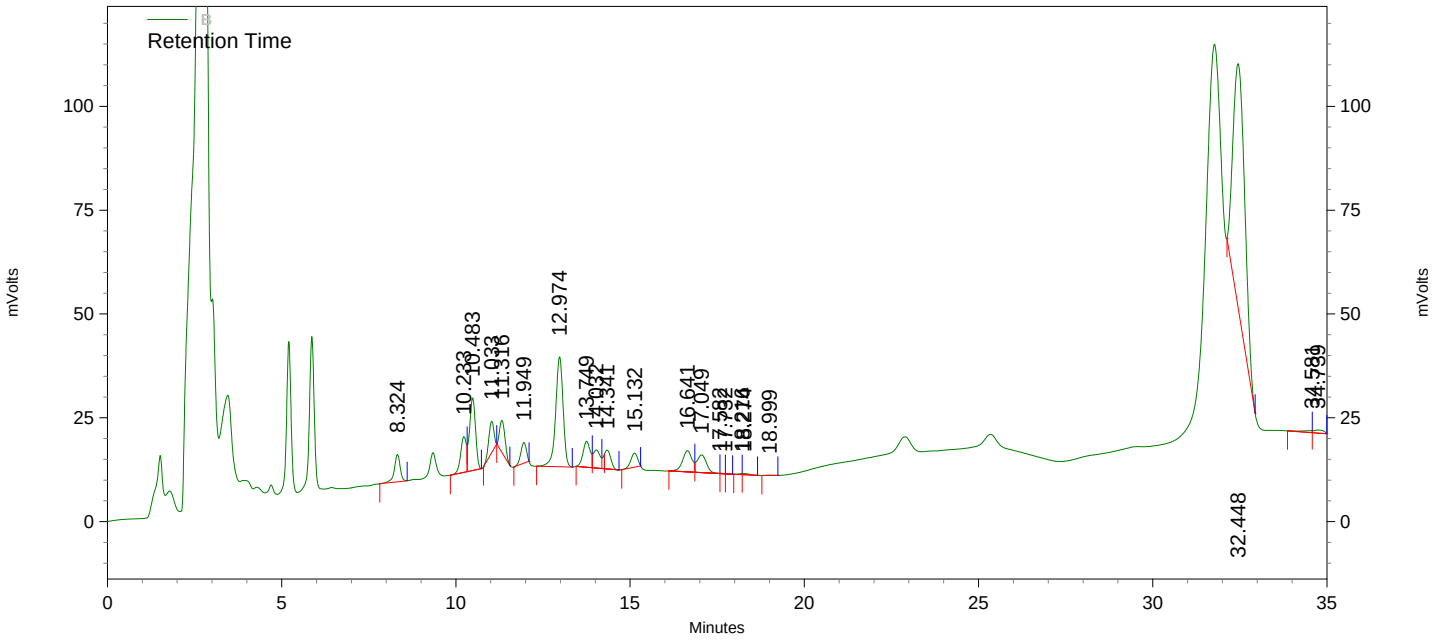
1/29/2016





MSW679979

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm	5.208	106436	**2.040**
RDX-confirm	5.866	168211	**2.522**
NB-confirm	9.341	71354	**0.477**
12-DNB (SSTD)-confirm	10.233	53943	**103.476**
4-AM-26-DNT-conf.	10.483	119445	**1.136**
3,5-DNA-confirm	11.024	111947	**0.664**
2-NT-confirm	11.949	42445	**0.433**
2-AM-46-DNT-conf.	12.974	305129	**2.040**
3-NT-confirm	13.749	46059	**0.461**
4-NT-confirm	15.132	41065	**0.457**
26-DNT-confirm	16.649	58426	**0.521**
13-DNB-confirm	17.057	106863	**0.526**
TETRYL-confirm	22.882	56621	**0.499**
24-DNT-confirm	25.340	115956	**0.584**
135-TNB-confirm			**0.000 BDL**
246-TNT-confirm	31.773	1799308	**14.504**

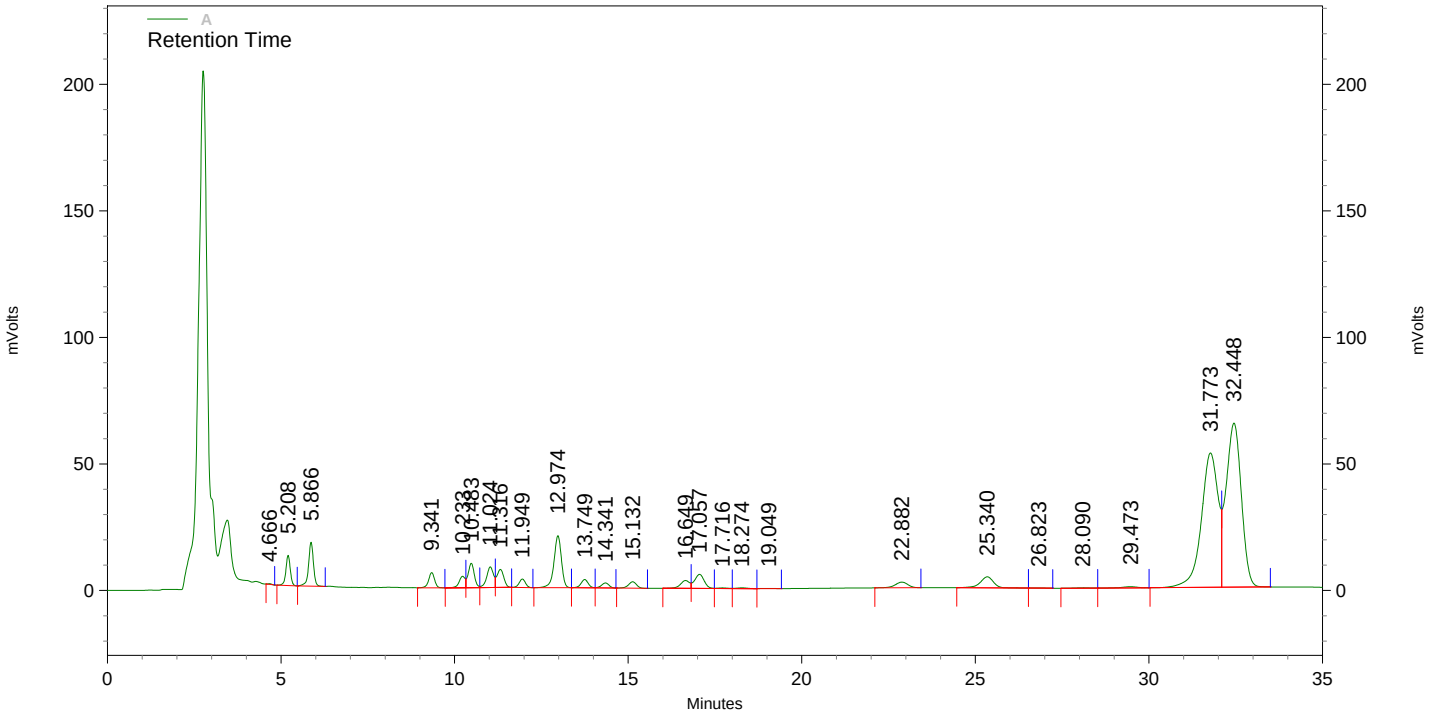
B Results

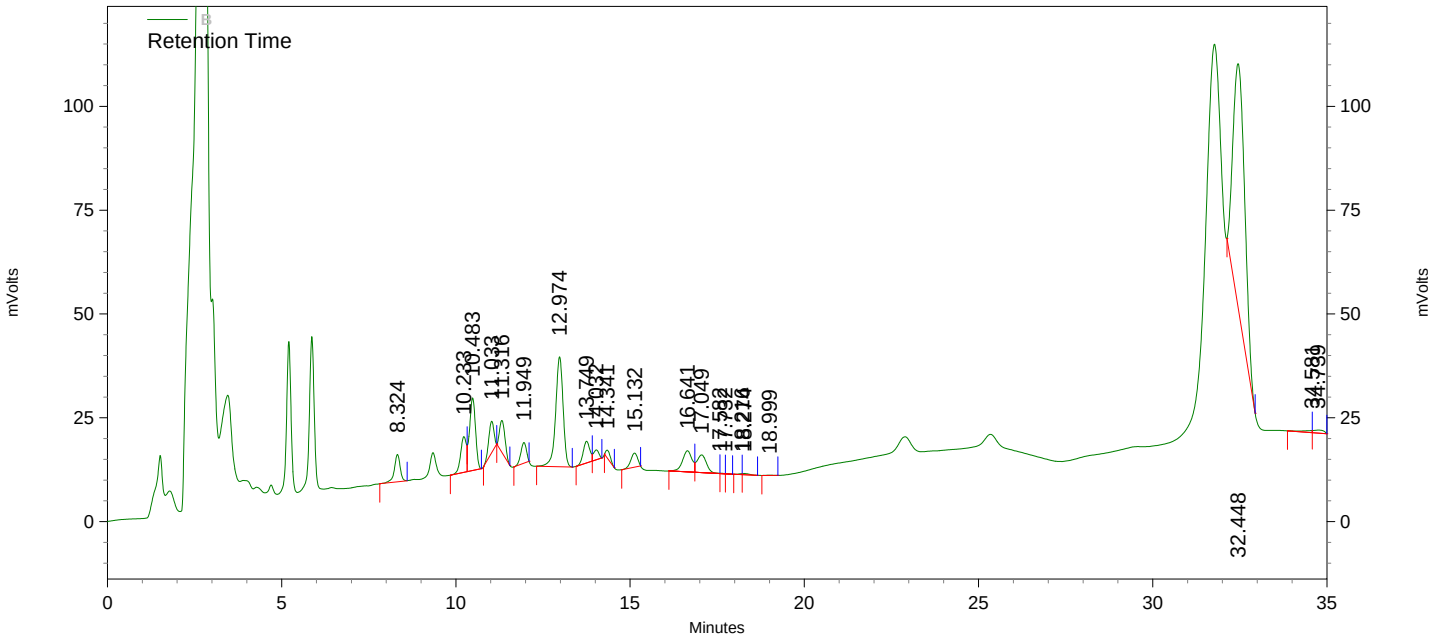
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm	8.324	75811	**1.047**
PETN-confirm	14.032	59583	**1.132**

Before Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012716EXPic-confirm\017.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\012716expic-confirm\012716expic-confirm.met
Sample ID: MSW679979
Acquired: Jan 27, 2016 23:41:48
Data Summary: Reason #4 applies to data. RED 1/28/2016





MSW679979

A Results

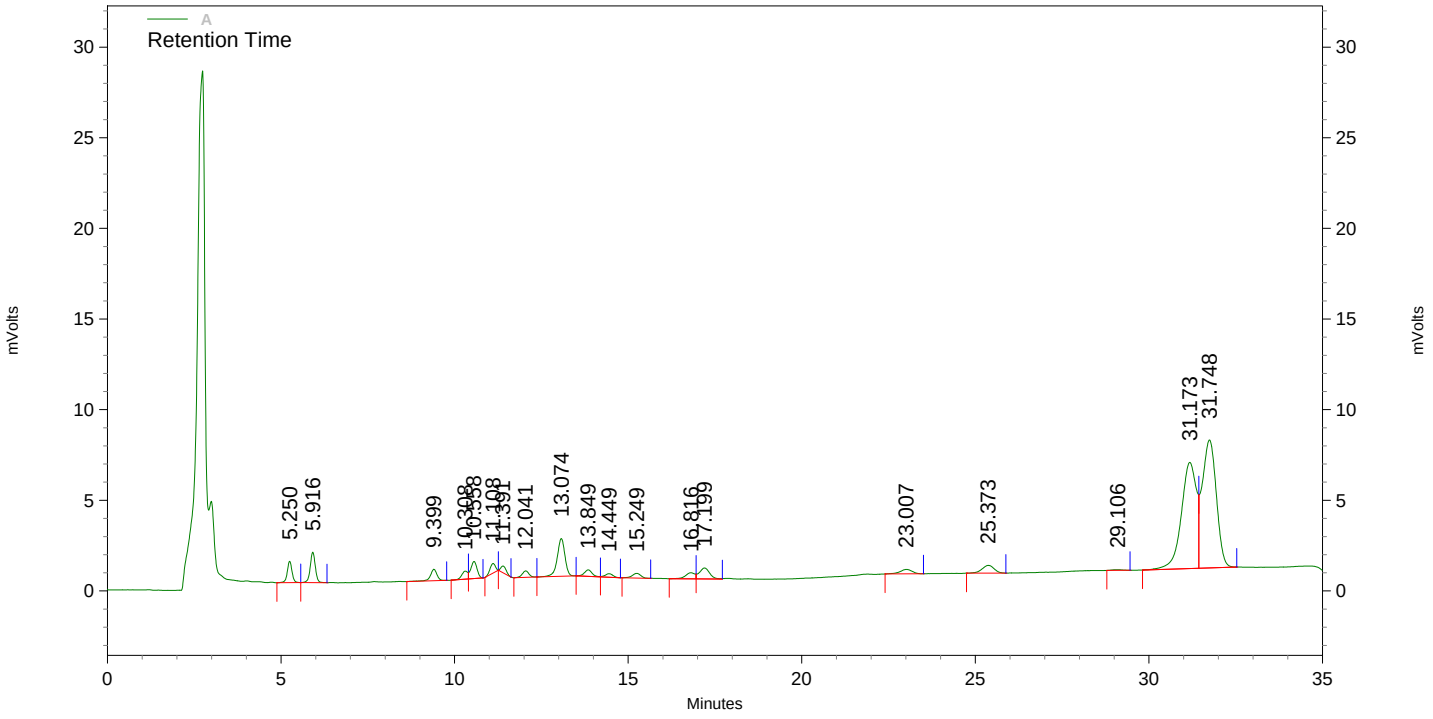
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm	5.208	106436	**2.040**
RDX-confirm	5.866	168211	**2.522**
NB-confirm	9.341	71354	**0.477**
12-DNB (SSTD)-confirm	10.233	53943	**103.476**
4-AM-26-DNT-conf.	10.483	119445	**1.136**
3,5-DNA-confirm	11.024	111947	**0.664**
2-NT-confirm	11.949	42445	**0.433**
2-AM-46-DNT-conf.	12.974	305129	**2.040**
3-NT-confirm	13.749	46059	**0.461**
4-NT-confirm	15.132	41065	**0.457**
26-DNT-confirm	16.649	58426	**0.521**
13-DNB-confirm	17.057	106863	**0.526**
TETRYL-confirm	22.882	56621	**0.499**
24-DNT-confirm	25.340	115956	**0.584**
135-TNB-confirm			**0.000 BDL**
246-TNT-confirm	31.773	1799308	**14.504**

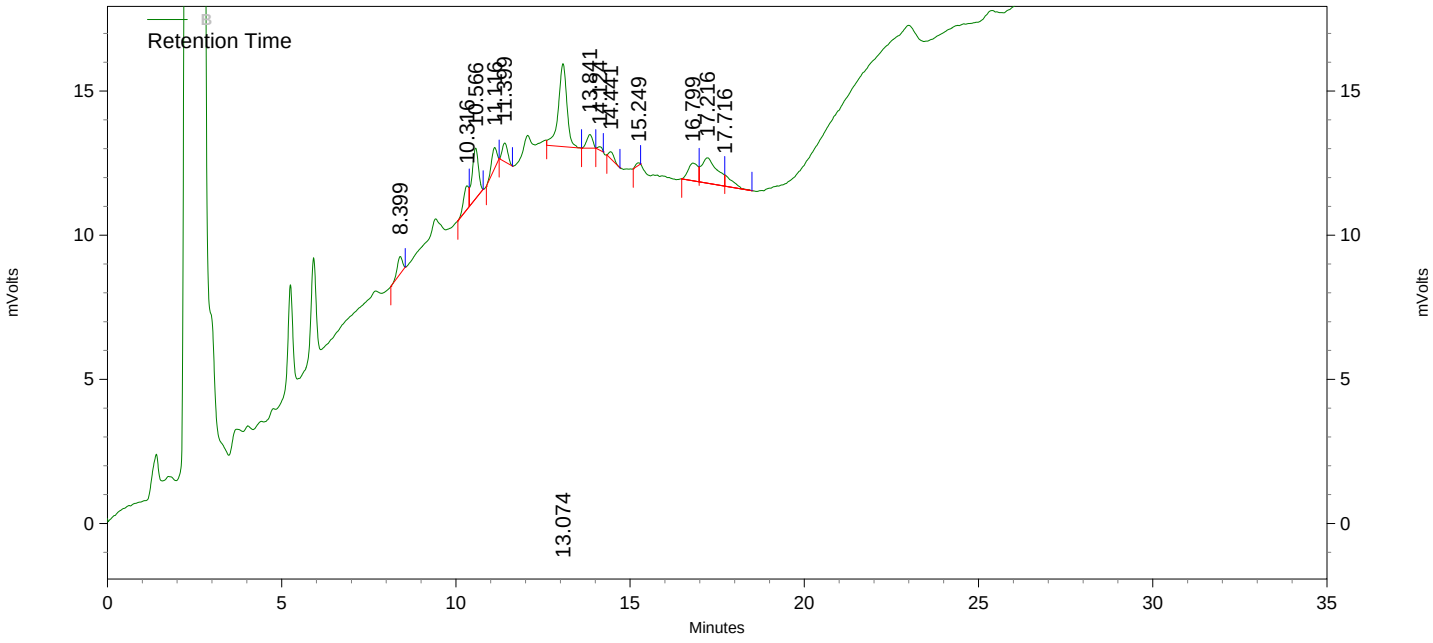
B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm	8.324	75811	**1.047**
PETN-confirm	14.032	25504	**0.498**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012716EXPic-confirm\020.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\012716expic-confirm\012716expic-confirm.met
Sample ID: MSDW679979 1:10
Acquired: Jan 28, 2016 01:33:42
Data Summary: {Data Description}





MSDW679979 1:10

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm	5.250	11307	**0.205**
RDX-confirm	5.916	17128	**0.244**
NB-confirm	9.399	8272	**0.045**
12-DNB (SSTD)-confirm	10.308	5297	**7.398**
4-AM-26-DNT-conf.	10.558	11853	**0.100**
3,5-DNA-confirm	11.108	5579	**0.023**
2-NT-confirm	12.041	4723	**0.037**
2-AM-46-DNT-conf.	13.074	32214	**0.201**
3-NT-confirm	13.849	5453	**0.048**
4-NT-confirm	15.249	4422	**0.042**
26-DNT-confirm	16.816	6261	**0.056**
13-DNB-confirm	17.199	12337	**0.054**
TETRYL-confirm	23.007	6017	**0.053**
24-DNT-confirm	25.373	10302	**0.044**
135-TNB-confirm	31.173	177854	**1.058**
246-TNT-confirm	31.748	200063	**1.603**

B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm	8.399	6244	**0.086**
PETN-confirm	14.124	1021	**0.043**

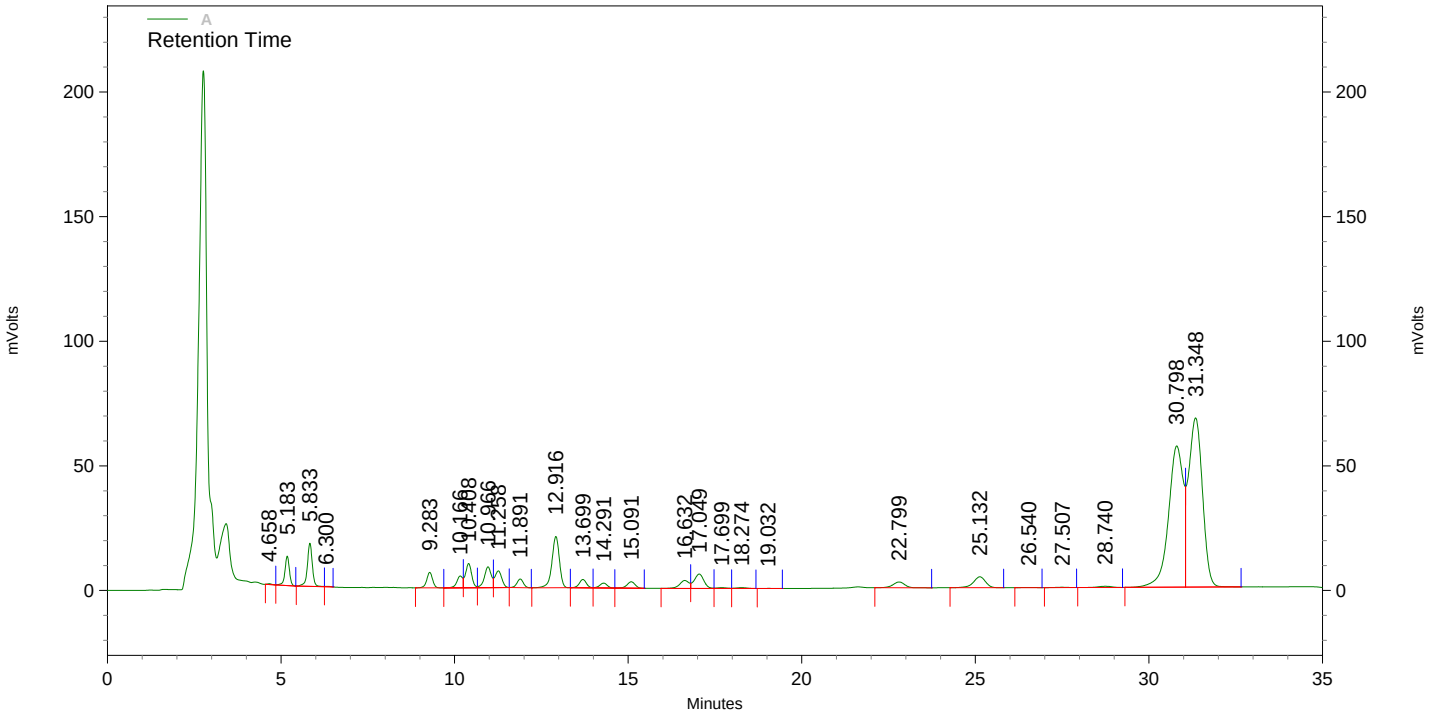
After Manual Integration

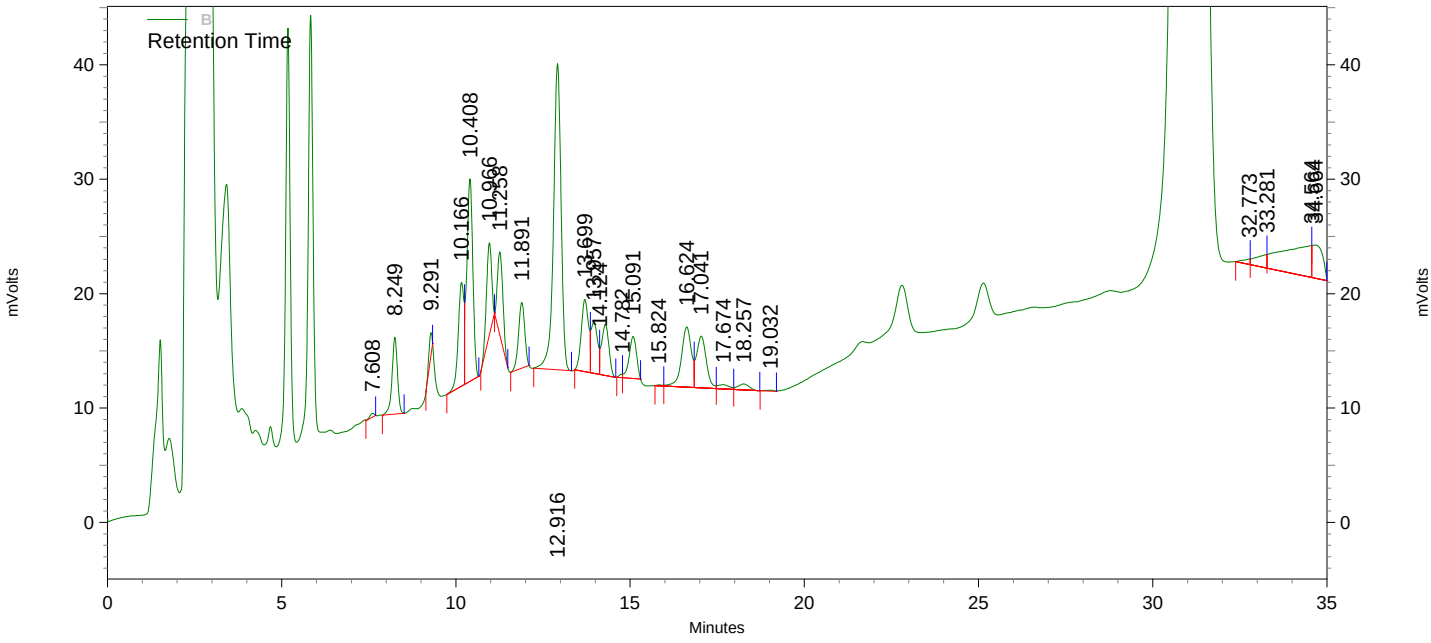
Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012716EXPic-confirm\025.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\012716expic-confirm\012716expic-confirm.met
Sample ID: MSDW679979
Acquired: Jan 28, 2016 12:48:43
Data Summary: Reason #4 applies to data. RED 1/28/2016

JJY

1/29/2016





MSDW679979

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm	5.183	105860	**2.029**
RDX-confirm	5.833	170441	**2.555**
NB-confirm	9.283	73575	**0.492**
12-DNB (SSTD)-confirm	10.166	54946	**105.457**
4-AM-26-DNT-conf.	10.408	121566	**1.156**
3,5-DNA-confirm	10.966	115157	**0.683**
2-NT-confirm	11.891	44202	**0.451**
2-AM-46-DNT-conf.	12.916	307614	**2.056**
3-NT-confirm	13.699	47759	**0.478**
4-NT-confirm	15.091	42641	**0.475**
26-DNT-confirm	16.632	60509	**0.540**
13-DNB-confirm	17.049	111995	**0.551**
TETRYL-confirm	22.799	56006	**0.493**
24-DNT-confirm	25.132	106724	**0.537**
135-TNB-confirm	30.798	1685748	**10.063**
246-TNT-confirm	31.348	1884978	**15.195**

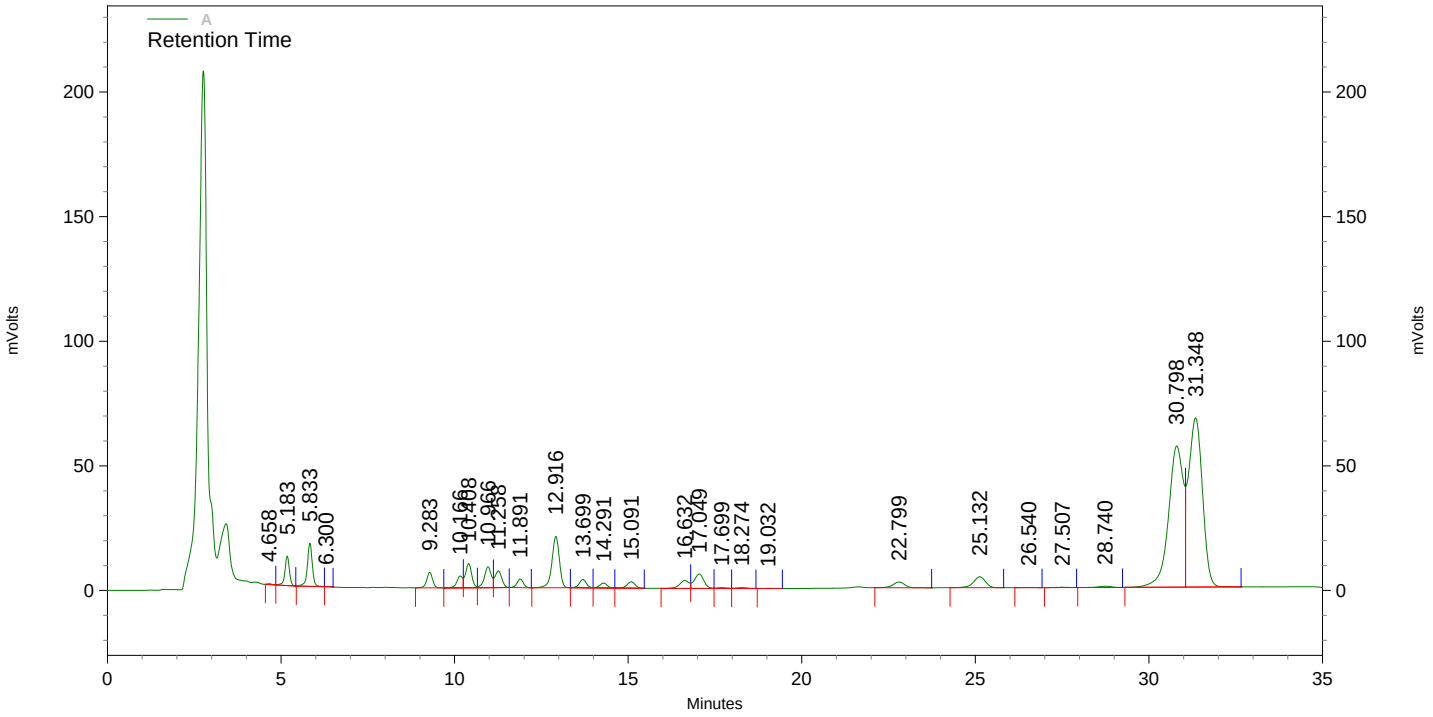
B Results

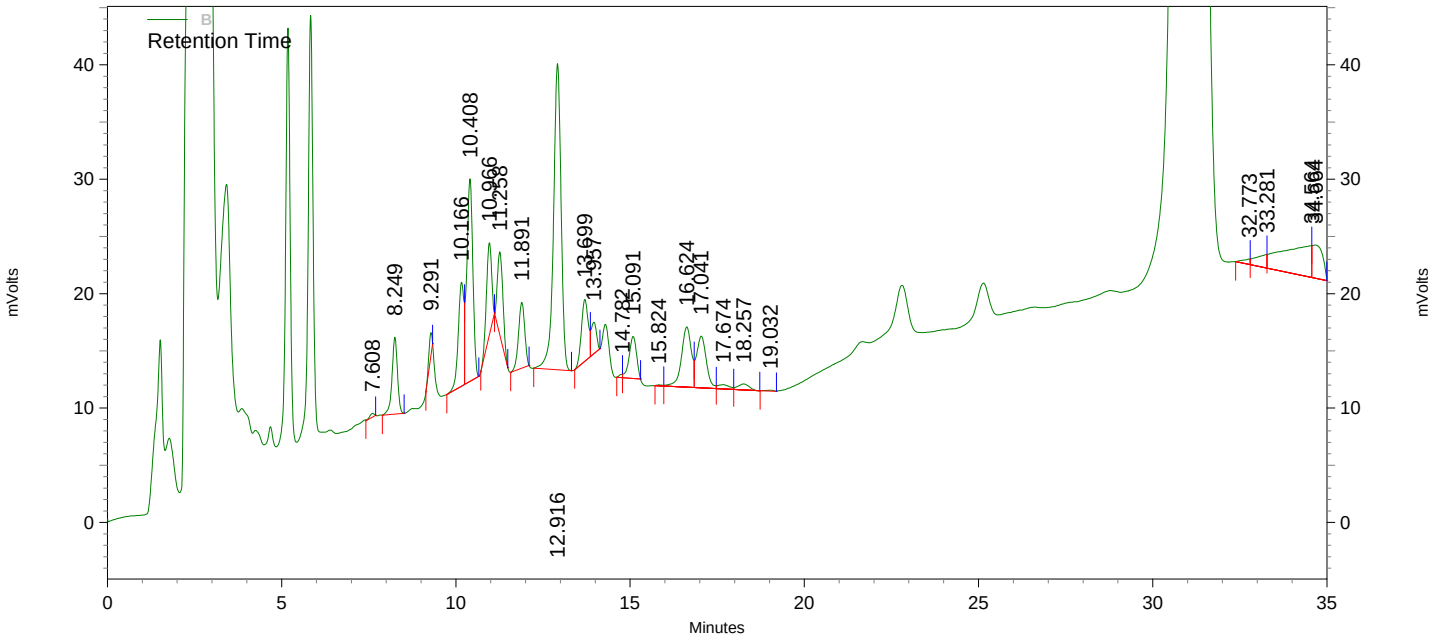
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm	8.249	73178	**1.011**
PETN-confirm	13.957	58650	**1.114**

Before Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012716EXPic-confirm\025.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\012716expic-confirm\012716expic-confirm.met
Sample ID: MSDW679979
Acquired: Jan 28, 2016 12:48:43
Data Summary: Reason #4 applies to data. RED 1/28/2016





MSDW679979

A Results

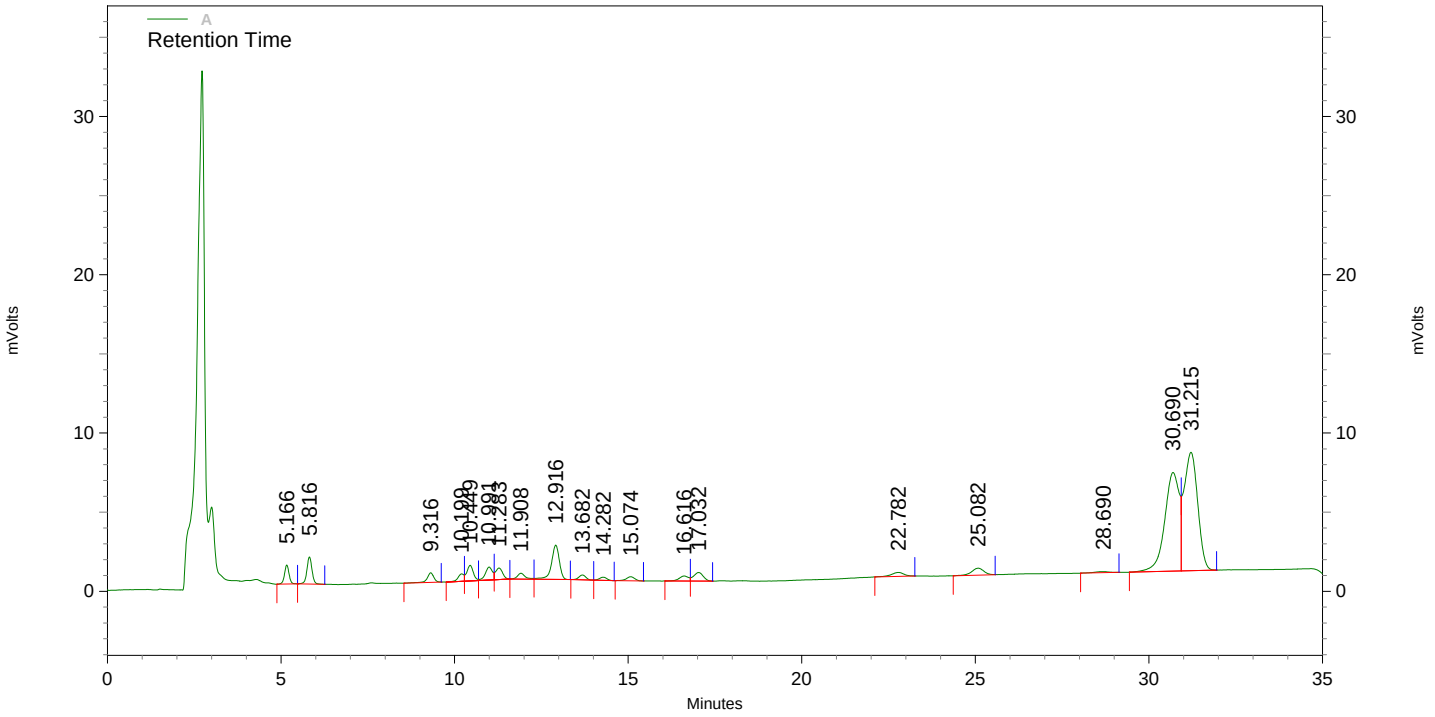
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm	5.183	105860	**2.029**
RDX-confirm	5.833	170441	**2.555**
NB-confirm	9.283	73575	**0.492**
12-DNB (SSTD)-confirm	10.166	54946	**105.457**
4-AM-26-DNT-conf.	10.408	121566	**1.156**
3,5-DNA-confirm	10.966	115157	**0.683**
2-NT-confirm	11.891	44202	**0.451**
2-AM-46-DNT-conf.	12.916	307614	**2.056**
3-NT-confirm	13.699	47759	**0.478**
4-NT-confirm	15.091	42641	**0.475**
26-DNT-confirm	16.632	60509	**0.540**
13-DNB-confirm	17.049	111995	**0.551**
TETRYL-confirm	22.799	56006	**0.493**
24-DNT-confirm	25.132	106724	**0.537**
135-TNB-confirm	30.798	1685748	**10.063**
246-TNT-confirm	31.348	1884978	**15.195**

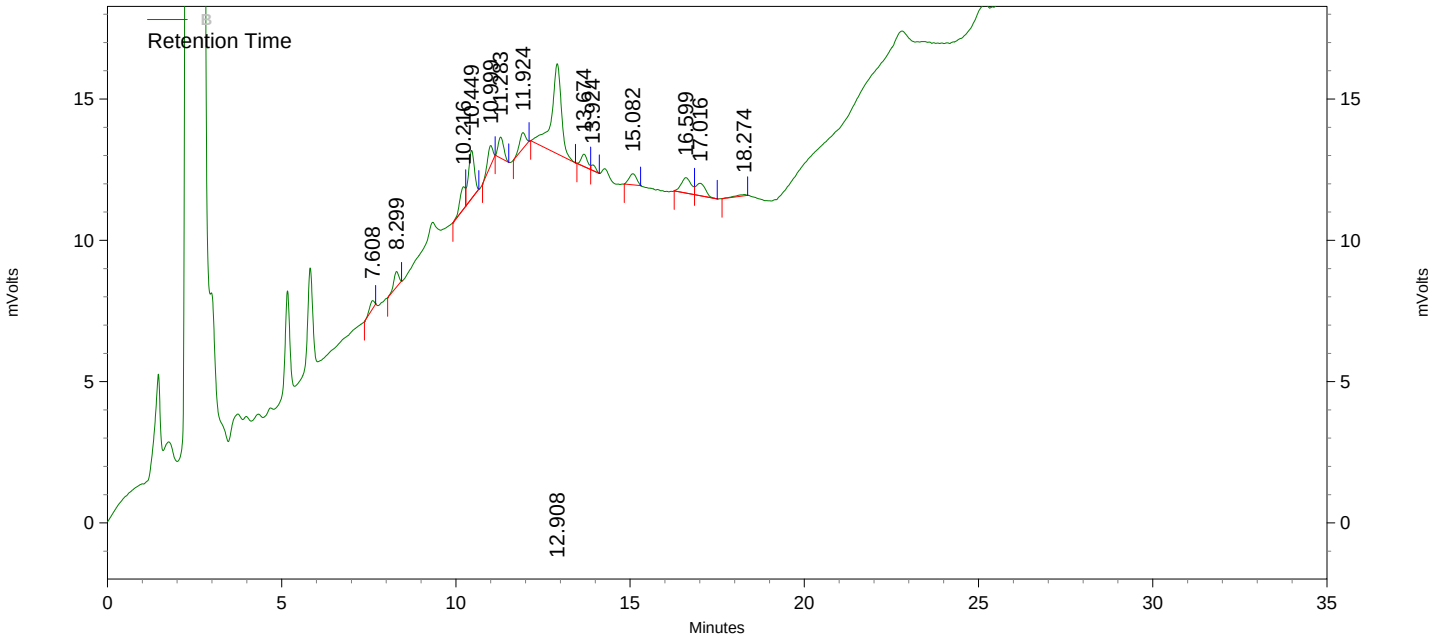
B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm	8.249	73178	**1.011**
PETN-confirm	13.957	29612	**0.574**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012716EXPic-confirm\026.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\012716expic-confirm\012716expic-confirm.met
Sample ID: MSW679979 1:10
Acquired: Jan 28, 2016 13:26:01
Data Summary: {Data Description}





MSW679979 1:10

A Results

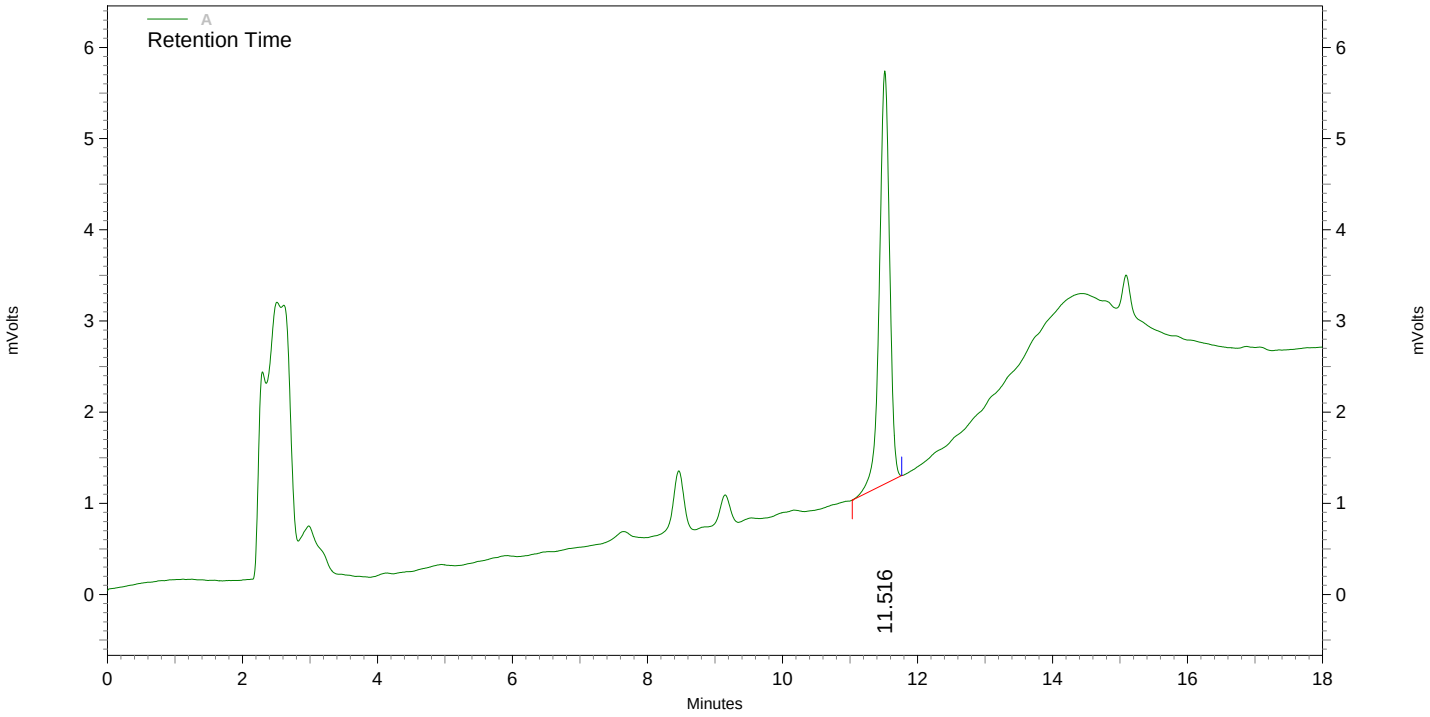
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm	5.166	11050	**0.200**
RDX-confirm	5.816	17350	**0.247**
NB-confirm	9.316	7698	**0.042**
12-DNB (SSTD)-confirm	10.199	5346	**7.495**
4-AM-26-DNT-conf.	10.449	12875	**0.110**
3,5-DNA-confirm	10.991	11674	**0.059**
2-NT-confirm	11.908	5717	**0.048**
2-AM-46-DNT-conf.	12.916	34187	**0.215**
3-NT-confirm	13.682	4364	**0.037**
4-NT-confirm	15.074	4264	**0.040**
26-DNT-confirm	16.616	6124	**0.055**
13-DNB-confirm	17.032	10506	**0.045**
TETRYL-confirm	22.782	6260	**0.055**
24-DNT-confirm	25.082	10716	**0.046**
135-TNB-confirm	30.690	182343	**1.085**
246-TNT-confirm	31.215	205655	**1.648**

B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm	8.299	5407	**0.075**
PETN-confirm	13.924	1844	**0.058**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012816MDTNX-confirm\003.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\093015MDTNXic-confirm\012816MDTNX-confirm.met
Sample ID: 122857,MBW,
Acquired: Jan 28, 2016 17:35:42
Data Summary: {Data Description}



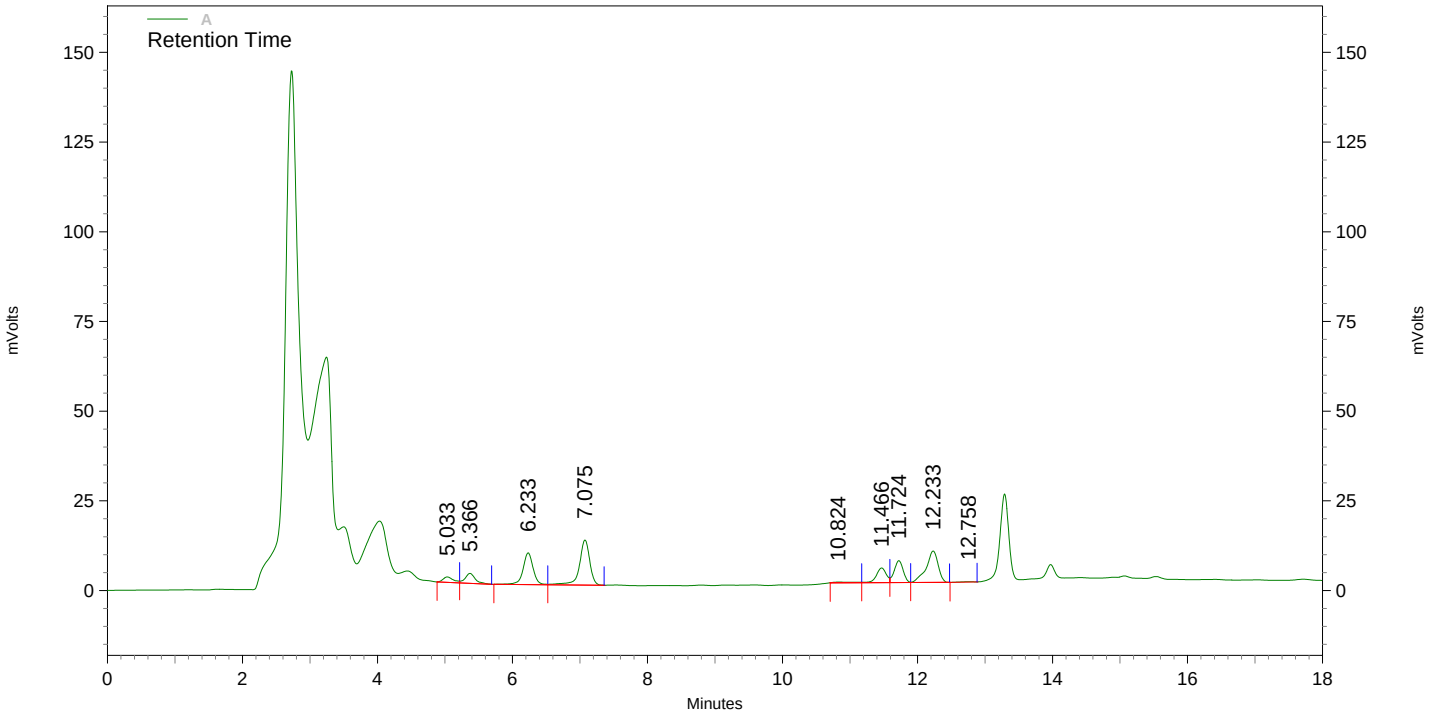
122857,MBW,

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX-confirm			**0.000 BDL**
DNX-confirm			**0.000 BDL**
MNX-confirm			**0.000 BDL**
12-DNB (SSTD)-confirm	11.516	47521	**114.694**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012816MDTNX-confirm\009.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\093015MDTNXic-confirm\012816MDTNX-confirm.met
Sample ID: 122857,MSW679979,
Acquired: Jan 28, 2016 19:37:33
Data Summary: {Data Description}



122857,MSW679979,

A Results

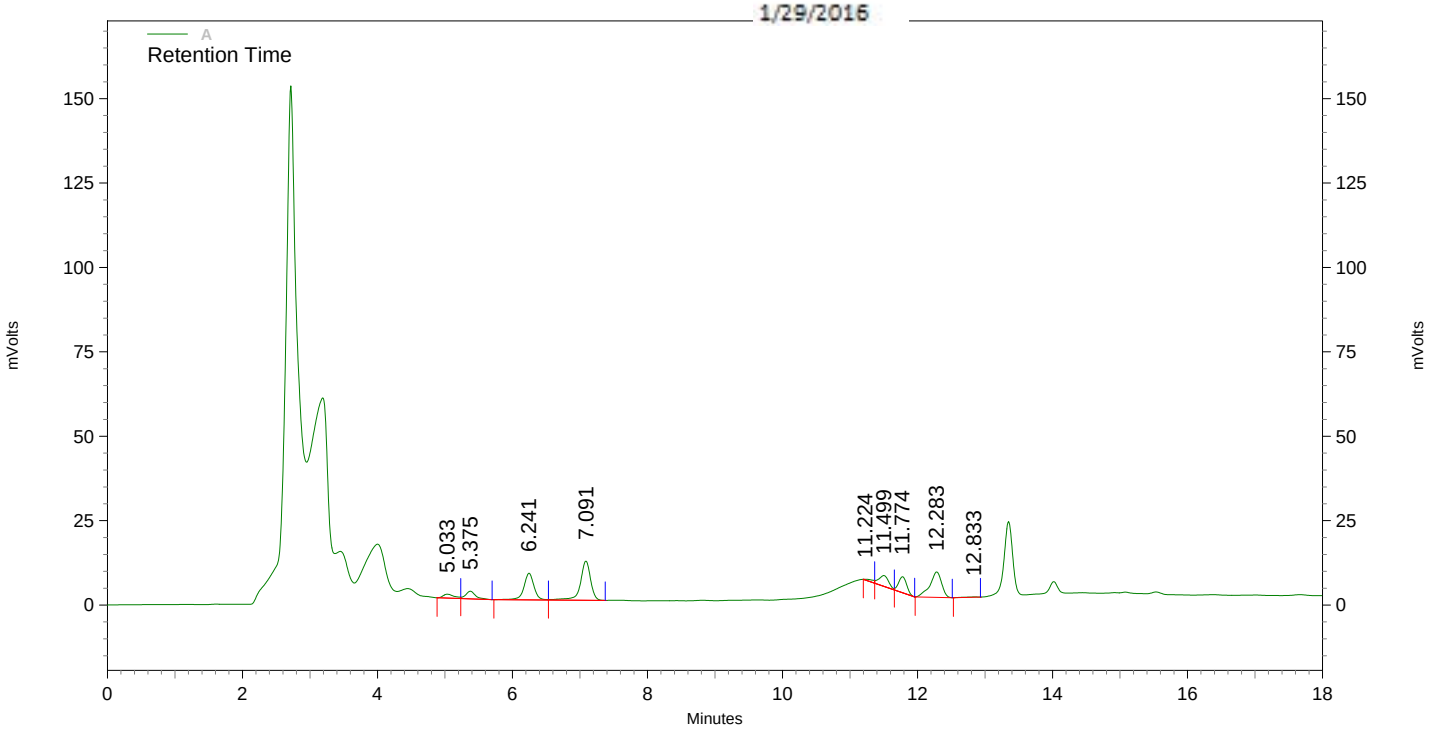
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX-confirm	5.033	15708	**0.125**
DNX-confirm	5.366	28273	**0.282**
MNX-confirm	6.233	91163	**1.102**
12-DNB (SSTD)-confirm	11.466	41230	**99.426**

After Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012816MDTNX-confirm\011.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\093015MDTNXic-confirm\012816MDTNX-confirm.met
Sample ID: 122857,MSDW679979,
Acquired: Jan 28, 2016 20:18:10 JJY
Data Summary: Reason #4 applies to data. RED 1/29/2016

1/29/2016



122857,MSDW679979,

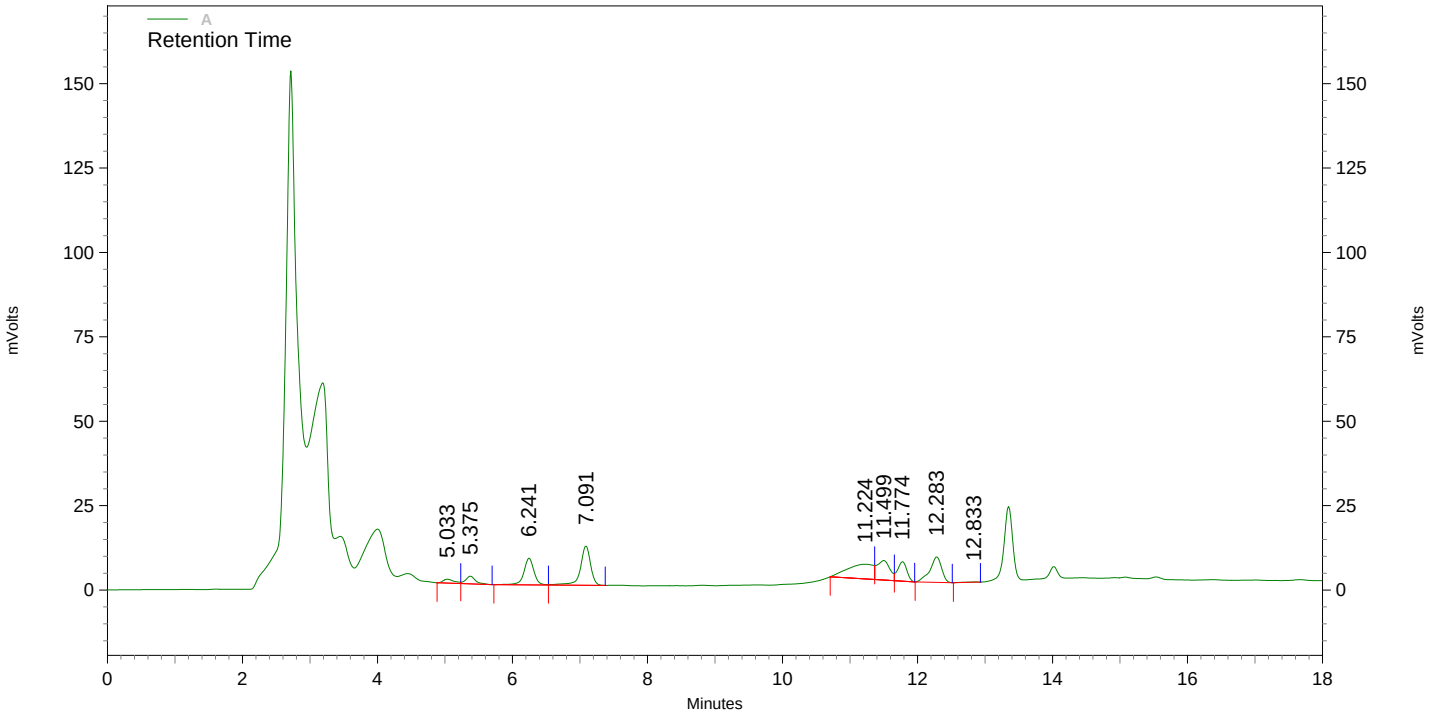
A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX-confirm	5.033	13342	**0.105**
DNX-confirm	5.375	22787	**0.226**
MNX-confirm	6.241	81687	**0.987**
12-DNB (SSTD)-confirm	11.499	31649	**76.173**

Before Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\012816MDTNX-confirm\011.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\MNX DNX TNX tests\093015MDTNXic-confirm\012816MDTNX-confirm.met
Sample ID: 122857,MSDW679979,
Acquired: Jan 28, 2016 20:18:10
Data Summary: Reason #4 applies to data. RED 1/29/2016



122857,MSDW679979,

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
TNX-confirm	5.033	13342	**0.105**
DNX-confirm	5.375	22787	**0.226**
MNX-confirm	6.241	81687	**0.987**
12-DNB (SSTD)-confirm	11.499	75812	**183.354**

NITROAROMATICS ANALYSIS
LOGBOOK
DOCUMENTS

8330B Breakdown Pdts QSM 5 Analytical Run
122857 on 1/29/2016

RED
2/1/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	681775								8330B Breakdown Pdts QSM 5				
					MBW					55925			
	681776								8330B Breakdown Pdts QSM 5				
					LCSW					55925			
116426	679481		1/11/2016	1415			BERING SEA ENVIRONMENTAL	RADFORD AAP	8330B Breakdown Pdts QSM 5		GW	**4**	
		54MW10								55925			
116426	679483		1/11/2016	1415			BERING SEA ENVIRONMENTAL	RADFORD AAP	8330B Breakdown Pdts QSM 5		GW	**4**	
		54TM10								55925			
116448	679979		1/12/2016	1200			BERING SEA ENVIRONMENTAL	RADFORD AAP	8330B Breakdown Pdts QSM 5		GW	**4**	
		54MW12			Designated MS/MSD					55925			
116448	679981		1/12/2016	0900			BERING SEA ENVIRONMENTAL	RADFORD AAP	8330B Breakdown Pdts QSM 5		GW	**4**	
		54MW1								55925			
116448	679983		1/12/2016	1505			BERING SEA ENVIRONMENTAL	RADFORD AAP	8330B Breakdown Pdts QSM 5		GW	**4**	
		54MW13								55925			
	681777		1/12/2016	1200					8330B Breakdown Pdts QSM 5				
		54MW12			MSW	679979				55925			
	681778		1/12/2016	1200					8330B Breakdown Pdts QSM 5				
		54MW12			MSDW	681777				55925			
116448	679979		1/12/2016	1200			BERING SEA ENVIRONMENTAL	RADFORD AAP	8330B Breakdown Pdts QSM 5		GW	**4**	
RERUN		54MW12			Designated MS/MSD					55925			
	681777		1/12/2016	1200					8330B Breakdown Pdts QSM 5				
RERUN		54MW12			MSW	679979				55925			
	681778		1/12/2016	1200					8330B Breakdown Pdts QSM 5				
RERUN		54MW12			MSDW	681777				55925			

12 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

PREP WORKSHEET
on 1/21/2016

Prep Batch **55,925** Date Prepped: 1/18/2016 Prepped By RED

Folder #	Order	QC Type	Link	Test	Matrix	Volume	Weight	Initial Volume	SDG Level	Notes
	681775	MBW		8330B Breakdown Pdts	LIQUID	5.0		1.000		
	681776	LCSW		8330B Breakdown Pdts	LIQUID	5.0		1.000		
116426	679481			8330B Breakdown Pdts	GROUND WATER	5.0		1.000	4	
	679483			8330B Breakdown Pdts	GROUND WATER	5.0		1.000	4	
116448	679979	*		8330B Breakdown Pdts	GROUND WATER	5.0		1.000	4	
	679981			8330B Breakdown Pdts	GROUND WATER	5.0		1.000	4	
	679983			8330B Breakdown Pdts	GROUND WATER	5.0		1.000	4	
	681777	MSW	679979	8330B Breakdown Pdts	GROUND WATER	5.0		1.000		
	681778	MSDW	681777	8330B Breakdown Pdts	GROUND WATER	5.0		1.000		

Notes:_____

FSV9-02 & FSV10-02

Explosives or Nitroguanidine Prep Bench Sheet

(SOP Reference #'s 8330A & 8330B)

8330A,8330B, or 8330M >>

Prep Batch #:	55925
Prep Method:	3535/8330B
Analyst:	RED
Date:	01/18/2016
Start Time:	13:20
End Date:	01/21/2016
End Time:	14:00

Matrix: water
Balance Used: na

GPC By: na
GPC Date: na

Reagent:	Lot #
Methylene Chloride	na
Acetonitrile	EMD55149
Methanol	na
0.1% Formic Acid	EXP 5628

Concentrated By: na
Concentration Date: na

Diluted By: RED
Dilution Date: 01/21/2016

8330A = Explosives (liquids/solids)
8330B = Explosives (liquids/solids)
8330M = Nitroguanidine (liquids/solids)

Sample ID #	Comments		(Solids) Sample Weight (g)	(Liquids) Sample Volume (L)	Extract Volume (ml)	Diluted (Yes/No)	Dilution Volume (ml)
681775	(MB)			1.000	5.0	YES	10.0
681776	(LCS)			1.000	5.0	YES	10.0
679481				1.000	5.0	YES	10.0
679483				1.000	5.0	YES	10.0
679979				1.000	5.0	YES	10.0
679981				1.000	5.0	YES	10.0
679983				1.000	5.0	YES	10.0
	(Dup)						
	(Trip)						
681777	(MS)	Parent Sample		1.000	5.0	Yes	10.0
681778	(MSD)	679979		1.000	5.0	Yes	10.0

MB=Method Blank, LCS=Laboratory Control Sample, Dup=Duplicate, Trip=Triplicate, MS=Matrix Spike & MSD=Matrix Spike Duplicate

MS/MSD/ LCS Spike Amount (ml): 0.5
Spike Concentration (ug/mL): 10
Spike Reference #: EXP 5606

Surrogate Spike Amount (ml): 0.5
Surrogate Spike Conc. (ug/mL): 10
Surrogate Spike Reference #: EXP 5587

Relinquished to: RED
Date: 01/21/2016

Reviewed By: RED
Date: 01/21/2016

Table 5

8330B Analysis Data Review Checklist

Analytical Run #: 122857	**Independent Reviewer: JJY**
Sequence Date: 1/26/2016; 1/28/2016	**Date of Review: 1/29/2016**
Analyst/Data Interpreter: RED	**Approval: yes**

Instructions: Complete one checklist per *analytical run* . Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirements:	Acceptance Criteria	Analyst Review		Independent Review		Comments (indicate reference to an attachment if necessary)
		Yes	No	Yes	No	
1. INITIAL CALIBRATION (ICAL)						
a. Was the Explosive initial calibration performed using a minimum of five varying standard concentration levels?	Lowest standard at or near MRL	X		X		
b. Is the variation between calibration response factors for all concentration levels <15% RSD, is r^2 >.990, or r > 0.995 for the regression line?		X		X		
c. Was each ICAL uniquely identified (i.e. Standard Number)?	RSD<15%, r^2>0.990, or r>0.995	X		X		
d. Was an initial calibration blank (ICB) analyzed?		X		X		
2. INITIAL CALIBRATION VERIFICATION (ICV)						
a. Was there a second source ICV for all target analytes analyzed after the initial calibration and prior to analysis of any samples?	Second source	X		X		
b. Were the recoveries for the ICV between 85-115% (80-120% for QSM).	% Recovery	X		X		
c. Was the ICV uniquely identified (i.e. Standard Number)?		X		X		
3. CONTINUING CALIBRATION VERIFICATION (CCV)						
a. Were CCVs analyzed at the beginning of the sequence, after every 12 hours or every 20 samples (which ever comes first)(every 10 samples for QSM) and at the end of the analytical run?		X		X		
b. Were the recoveries for the CCVs within program limits?	%Recovery	X		X		
c. Was each CCV uniquely identified (i.e. Standard Number)?		X		X		

Additional Comments:

The standards for MNX, DNX, and TNX are not commercially available at this time. The primary source standard that was used in the last calibration, for making CCV's, and for spiking the LCS, MS, MSD was expired when samples arrived. The second sournce standard used to make the ICV during calibration was still good until March. This standard was used to prepare the CCVs and to spike the LCS, MS, and MSD for this round of samples. The second source standard has different concentration levels for the analytes than the primary source standard did. Because of this, CCV spike levels had to be adjusted in the data software and LCS, MS, and MSD spike levels had to be adjusted in LIMS.

Analytical Run #: 122857

Table 5

8330B Analysis Data Review Checklist

Requirements:	Acceptance Criteria	Analyst		Independent		Comments (indicate reference to an attachment if necessary)
		Yes	No	Yes	No	
4. BLANKS						
a. Was a method blank (MB) analyzed prior to the analysis of samples?		X		X		
b. Was the MB result less than ½ the reporting limit (RL) or 5% of the sample amount (QSM: less than 1/2 the RL and <10% of the sample amount)?		X		X		
c. Was a MB prepped and analyzed at a frequency of one per Prep Batch?	Batch ≤20 samples	X		X		
5. LABORATORY CONTROL SAMPLE (LCS)						
a. Was a LCS analyzed at a frequency of one per Prep Batch?	Batch ≤20 samples	X		X		
b. Were the LCS recoveries in each LCS within the acceptance criteria?	Per Program	X		X		
6. MATRIX SPIKES						
a. Was a matrix spiked (MS) sample analyzed at a frequency one per Prep Batch?	Batch ≤20 samples	X		X		
b. Were MS recoveries in each MS within the acceptance criteria?	Per Program		X		X	see below
7. MATRIX SPIKE DUPLICATE						
a. Was a duplicate matrix spike sample analyzed at a frequency one per Prep Batch?	Batch <20 samples	X		X		
b. Were MSD within the acceptance criteria?	Per Program		X		X	see below
c. Is the relative percent difference (RPD) between a matrix spike (MS) and its duplicate (MSD) within the acceptance criteria?	Per Program QSM: 30% RPD	X		X		

Additional Comments:

The MS and MSD were performed on sample 679979. This sample needed a 1:10 dilution for 1,3,5-trinitrobenzene (135-TNB), RDX, and 2,4,6-trinitrotoluene (246-TNT). Because these peaks were so large, they interfered with quantitation of neighboring peaks in some cases. This caused extremely high surrogate recovery in these samples in the primary analysis, as well as delayed carryover interferences in the confirmation analysis. The primary analysis samples were re-analyzed at a 1:10 dilution to bring the surrogate within range of the curve. Surrogates on the confirmation analysis for these samples had less interference problems and more normal-range recoveries. Surrogate values were reported from the primary analysis at the 1:10 dilution and qualified with an "S". TNX and DNX had low recoveries in both the MS and MSD. They were qualified with an "M" in the parent sample. The RPD failed for MNX and it was qualified with a "Y" in the parent sample.

Analytical Run #: 122857

Table 5

8330B Analysis Data Review Checklist

Requirements:	Acceptance Criteria	Analyst		Independent		Comments (indicate reference to an attachment if necessary)
		Yes	No	Yes	No	
8. SAMPLES (INCLUDING BLANKS, STANDARDS, AND QC SAMPLES)						
a. Are chromatogram characteristics, including peak shapes and areas, consistent with those of the CCV?			X		X	Delayed carryover from sample matrix, especially prominent after 679979. Tried to lessen with rinses.
b. Are surrogate recoveries for all samples, blanks, standards, and QC samples within acceptance criteria?			X		X	See explanation above for 6799979, the MS, and MSD.
c. Were all samples having analytes detected in amounts exceeding the calibration range diluted and reanalyzed?		X		X		
d. Were all samples extracted within holding times and analyzed within 40 days of extracting?	Analysis within 40 days of extraction	X		X		
e. Was there a acetonitrile:H2O injection preformed prior to sample analysis?		X		X		
f. If any analytes were detected in the soil grinding blanks, were the associated samples B-flagged?	< 1/2 RL	NA		NA		
g. Was the batch soil triplicate RSD within acceptance criteria?	<20%	NA		NA		
9. RECORDS AND REPORTING						
a. Are Run, Prep Batch and Extraction sheets, Summary sheets, Sequence file, initial and rerun raw and process data present in the PDF file?		X		X		
b. Are all chromatograms dated and initialed?		X		X		
c. Are reported results whose amounts exceeded the acceptance criteria flagged with an appropriate qualifier and, if needed, a NCR completed?		X		X		
d. Do all values, dilution factors and qualifiers listed on the raw reports match the LIMS data?		X		X		
e. Is the ICAL method referenced on the Raw Data?		X		X		

Additional Comments:

S 8330B EXPLOSIVES QSM Analytical Run
122858 on 1/29/2016

Date Analyzed: _____ Date Reviewed: RED 2/1/2016

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	681779								8330B EXPLOSIVES QSM 5				
					MBW					55926			
	681780								8330B EXPLOSIVES QSM 5				
					LCSW					55926			
116426	679481		1/11/2016	1415			BERING SEA ENVIRONMENTAL	RADFORD AAP	8330B EXPLOSIVES QSM 5		GW	**4**	
		54MW10								55926			
116426	679483		1/11/2016	1415			BERING SEA ENVIRONMENTAL	RADFORD AAP	8330B EXPLOSIVES QSM 5		GW	**4**	
		54TM10								55926			
116448	679981		1/12/2016	0900			BERING SEA ENVIRONMENTAL	RADFORD AAP	8330B EXPLOSIVES QSM 5		GW	**4**	
		54MW1								55926			
116448	679983		1/12/2016	1505			BERING SEA ENVIRONMENTAL	RADFORD AAP	8330B EXPLOSIVES QSM 5		GW	**4**	
		54MW13								55926			
	681783		1/12/2016	1200					8330B EXPLOSIVES QSM 5				
		54MW12			MSW	679979				55926			
	681785		1/12/2016	1200					8330B EXPLOSIVES QSM 5				
		54MW12			MSDW	681783				55926			
116448	679979		1/12/2016	1200			BERING SEA ENVIRONMENTAL	RADFORD AAP	8330B EXPLOSIVES QSM 5		GW	**4**	
		54MW12			Designated MS/MSD					55926			
116448	679979		1/12/2016	1200			BERING SEA ENVIRONMENTAL	RADFORD AAP	8330B EXPLOSIVES QSM 5		GW	**4**	
RERUN		54MW12			Designated MS/MSD					55926			
	681783		1/12/2016	1200					8330B EXPLOSIVES QSM 5				
RERUN		54MW12			MSW	679979				55926			
	681785		1/12/2016	1200					8330B EXPLOSIVES QSM 5				
RERUN		54MW12			MSDW	681783				55926			

12 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

PREP WORKSHEET
on 1/21/2016

Prep Batch **55,926** Date Prepped: 1/18/2016 Prepped By RED

Folder #	Order	QC Type	Link	Test	Matrix	Volume	Weight	Initial Volume	SDG Level	Notes
	681779	MBW		8330B EXPLOSIVES	LIQUID	5.0		1.000		
	681780	LCSW		8330B EXPLOSIVES	LIQUID	5.0		1.000		
116426	679481			8330B EXPLOSIVES	GROUND WATER	5.0		1.000	4	
	679483			8330B EXPLOSIVES	GROUND WATER	5.0		1.000	4	
116448	679979	*		8330B EXPLOSIVES	GROUND WATER	5.0		1.000	4	
	679981			8330B EXPLOSIVES	GROUND WATER	5.0		1.000	4	
	679983			8330B EXPLOSIVES	GROUND WATER	5.0		1.000	4	
	681783	MSW	679979	8330B EXPLOSIVES	GROUND WATER	5.0		1.000		
	681785	MSDW	681783	8330B EXPLOSIVES	GROUND WATER	5.0		1.000		

Notes:_____

FSV9-02 & FSV10-02

Explosives or Nitroguanidine Prep Bench Sheet

(SOP Reference #'s 8330A & 8330B)

8330A,8330B, or 8330M >>

Prep Batch #:	55926
Prep Method:	3535/8330B
Analyst:	RED
Date:	01/18/2016
Start Time:	13:20
End Date:	01/21/2016
End Time:	14:00

Matrix: water
Balance Used: na

GPC By: na
GPC Date: na

Reagent:	Lot #
Methylene Chloride	na
Acetonitrile	EMD55149
Methanol	na
0.1% Formic Acid	EXP 5628

Concentrated By: na
Concentration Date: na

Diluted By: RED
Dilution Date: 01/21/2016

8330A = Explosives (liquids/solids)
8330B = Explosives (liquids/solids)
8330M = Nitroguanidine (liquids/solids)

Sample ID #	Comments		(Solids) Sample Weight (g)	(Liquids) Sample Volume (L)	Extract Volume (ml)	Diluted (Yes/No)	Dilution Volume (ml)
681779	(MB)			1.000	5.0	YES	10.0
681780	(LCS)			1.000	5.0	YES	10.0
679481				1.000	5.0	YES	10.0
679483				1.000	5.0	YES	10.0
679979				1.000	5.0	YES	10.0
679981				1.000	5.0	YES	10.0
679983				1.000	5.0	YES	10.0
	(Dup)						
	(Trip)						
681783	(MS)	Parent Sample		1.000	5.0	Yes	10.0
681785	(MSD)	679979		1.000	5.0	Yes	10.0

MB=Method Blank, LCS=Laboratory Control Sample, Dup=Duplicate, Trip=Triplicate, MS=Matrix Spike & MSD=Matrix Spike Duplicate

MS/MSD/ LCS Spike Amount (ml): 0.5
Spike Concentration (ug/mL): 10/20
Spike Reference #: EXP 5586

Surrogate Spike Amount (ml): 0.5
Surrogate Spike Conc. (ug/mL): 10
Surrogate Spike Reference #: EXP 5587

Relinquished to: RED
Date: 01/21/2016

Reviewed By: RED
Date: 01/21/2016

Table 5

8330B Analysis Data Review Checklist

Analytical Run #: 122858	**Independent Reviewer: JJY**
Sequence Date: 1/25/2016; 1/27/2016	**Date of Review: 1/29/2016**
Analyst/Data Interpreter: RED	**Approval: yes**

Instructions: Complete one checklist per *analytical run* . Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirements:	Acceptance Criteria	Analyst Review		Independent Review		Comments (indicate reference to an attachment if necessary)
		Yes	No	Yes	No	
1. INITIAL CALIBRATION (ICAL)						
a. Was the Explosive initial calibration performed using a minimum of five varying standard concentration levels?	Lowest standard at or near MRL	X		X		
b. Is the variation between calibration response factors for all concentration levels <15% RSD, is r^2 >.990, or r > 0.995 for the regression line?		X		X		
c. Was each ICAL uniquely identified (i.e. Standard Number)?	RSD<15%, r^2>0.990, or r>0.995	X		X		
d. Was an initial calibration blank (ICB) analyzed?		X		X		
2. INITIAL CALIBRATION VERIFICATION (ICV)						
a. Was there a second source ICV for all target analytes analyzed after the initial calibration and prior to analysis of any samples?	Second source	X		X		
b. Were the recoveries for the ICV between 85-115% (80-120% for QSM).	% Recovery	X		X		
c. Was the ICV uniquely identified (i.e. Standard Number)?		X		X		
3. CONTINUING CALIBRATION VERIFICATION (CCV)						
a. Were CCVs analyzed at the beginning of the sequence, after every 12 hours or every 20 samples (which ever comes first)(every 10 samples for QSM) and at the end of the analytical run?		X		X		
b. Were the recoveries for the CCVs within program limits?	%Recovery	X		X		
c. Was each CCV uniquely identified (i.e. Standard Number)?		X		X		

Additional Comments:

Analytical Run #: 122858

Table 5

8330B Analysis Data Review Checklist

Requirements:	Acceptance Criteria	Analyst		Independent		Comments (indicate reference to an attachment if necessary)
		Yes	No	Yes	No	
4. BLANKS						
a. Was a method blank (MB) analyzed prior to the analysis of samples?		X		X		
b. Was the MB result less than ½ the reporting limit (RL) or 5% of the sample amount (QSM: less than 1/2 the RL and <10% of the sample amount)?		X		X		
c. Was a MB prepped and analyzed at a frequency of one per Prep Batch?	Batch ≤20 samples	X		X		
5. LABORATORY CONTROL SAMPLE (LCS)						
a. Was a LCS analyzed at a frequency of one per Prep Batch?	Batch ≤20 samples	X		X		
b. Were the LCS recoveries in each LCS within the acceptance criteria?	Per Program	X		X		
6. MATRIX SPIKES						
a. Was a matrix spiked (MS) sample analyzed at a frequency one per Prep Batch?	Batch ≤20 samples	X		X		
b. Were MS recoveries in each MS within the acceptance criteria?	Per Program		X		X	see below
7. MATRIX SPIKE DUPLICATE						
a. Was a duplicate matrix spike sample analyzed at a frequency one per Prep Batch?	Batch <20 samples	X		X		
b. Were MSD within the acceptance criteria?	Per Program		X		X	see below
c. Is the relative percent difference (RPD) between a matrix spike (MS) and its duplicate (MSD) within the acceptance criteria?	Per Program QSM: 30% RPD	X		X		

Additional Comments:

The MS and MSD were performed on sample 679979. This sample needed a 1:10 dilution for 1,3,5-trinitrobenzene (135-TNB), RDX, and 2,4,6-trinitrotoluene (246-TNT). Because these peaks were so large, they interfered with quantitation of neighboring peaks in some cases. This caused 4-amino-2,6-dinitrotoluene (4-AM-26-DNT) and nitroglycerin (NG) to have high recoveries in both the MS and MSD. These were qualified with an "M" in the parent sample.

In the 1:10 dilution, the MS and MSD both had high recoveries of all 3 analytes. These were also qualified with an "M" in the parent sample.

Sample 679979 had a positive detect for 4-AM-26-DNT that was evident on the confirmation analysis, but it was masked by the large 246-TNT peak on the primary analysis. Because of this, 4-AM-26-DNT was reported as a non-detect in this sample.

Analytical Run #: 122858

Table 5

8330B Analysis Data Review Checklist

Requirements:	Acceptance Criteria	Analyst		Independent		Comments (indicate reference to an attachment if necessary)
		Yes	No	Yes	No	
8. SAMPLES (INCLUDING BLANKS, STANDARDS, AND QC SAMPLES)						
a. Are chromatogram characteristics, including peak shapes and areas, consistent with those of the CCV?		X		X		
b. Are surrogate recoveries for all samples, blanks, standards, and QC samples within acceptance criteria?		X		X		
c. Were all samples having analytes detected in amounts exceeding the calibration range diluted and reanalyzed?		X		X		
d. Were all samples extracted within holding times and analyzed within 40 days of extracting?	Analysis within 40 days of extraction	X		X		
e. Was there a acetonitrile:H2O injection preformed prior to sample analysis?		X		X		
f. If any analytes were detected in the soil grinding blanks, were the associated samples B-flagged?	< 1/2 RL	NA		NA		
g. Was the batch soil triplicate RSD within acceptance criteria?	<20%	NA		NA		
9. RECORDS AND REPORTING						
a. Are Run, Prep Batch and Extraction sheets, Summary sheets, Sequence file, initial and rerun raw and process data present in the PDF file?		X		X		
b. Are all chromatograms dated and initialed?		X		X		
c. Are reported results whose amounts exceeded the acceptance criteria flagged with an appropriate qualifier and, if needed, a NCR completed?		X		X		
d. Do all values, dilution factors and qualifiers listed on the raw reports match the LIMS data?		X		X		
e. Is the ICAL method referenced on the Raw Data?		X		X		

Additional Comments:

Summary Report

Instrument I... **HPLC 2 (Offline)**
Data Path: **C:\Instarch\HPLC 2\Sequences\MDTNX\092915MDTNXic-primary.seq**
User ID: **red**
Printed Date: **Sep 29, 2015 15:17:40**

Run Number	Sample ID	Data Filename	Method Filename	Analysis Date	Data Description
1	1:1 ACN:0.1%FORMIC A...	001.dat	092915MTDNXic-pr...	Sep 29, 2015 15:05:09	
2	DNX MIX Pt. 1 EXP 5616	002.dat	092915MTDNXic-pr...	Sep 29, 2015 15:20:50	
3	DNX MIX Pt. 2 EXP 5617	003.dat	092915MTDNXic-pr...	Sep 29, 2015 15:36:32	
4	DNX MIX Pt. 3 EXP 5615	004.dat	092915MTDNXic-pr...	Sep 29, 2015 15:52:14	
5	DNX MIX Pt. 4 EXP 5618	005.dat	092915MTDNXic-pr...	Sep 29, 2015 16:07:56	
6	DNX MIX Pt. 5 EXP 5619	006.dat	092915MTDNXic-pr...	Sep 29, 2015 16:23:39	
7	DNX MIX Pt. 6 EXP 5620	007.dat	092915MTDNXic-pr...	Sep 29, 2015 16:39:19	
8	DNX MIX Pt. 7 EXP 5621	008.dat	092915MTDNXic-pr...	Sep 29, 2015 16:55:02	
9	DNX MIX ICV EXP 5622	009.dat	092915MTDNXic-pr...	Sep 29, 2015 17:10:47	
10	DNX MIX CCV EXP 5618	010.dat	092915MTDNXic-pr...	Sep 29, 2015 17:26:28	
11	MBW	011.dat	092915MTDNXic-pr...	Sep 29, 2015 17:42:11	
12	MDTNX RED W IDC 1	012.dat	092915MTDNXic-pr...	Sep 29, 2015 17:57:53	
13	MDTNX RED W IDC 2	013.dat	092915MTDNXic-pr...	Sep 29, 2015 18:13:33	
14	MDTNX RED W IDC 3	014.dat	092915MTDNXic-pr...	Sep 29, 2015 18:29:15	
15	MDTNX RED W IDC 4	015.dat	092915MTDNXic-pr...	Sep 29, 2015 18:44:58	
16	MDTNX RED W Blind	016.dat	092915MTDNXic-pr...	Sep 29, 2015 19:00:40	
17	DNX MIX CCV EXP 5618	017.dat	092915MTDNXic-pr...	Sep 29, 2015 19:16:20	
18	MDTNX W lod check 0.1 ...	018.dat	092915MTDNXic-pr...	Sep 29, 2015 19:32:02	
19	MDTNX W lod/loq check 0...	019.dat	092915MTDNXic-pr...	Sep 29, 2015 19:47:47	
20	MDTNX W loq check 0.4 u...	020.dat	092915MTDNXic-pr...	Sep 29, 2015 20:03:30	
21	DNX MIX CCV EXP 5618	021.dat	092915MTDNXic-pr...	Sep 29, 2015 20:19:11	
22	1:1 ACN:0.1%FORMIC A...	022.dat	092915MTDNXic-pr...	Sep 30, 2015 09:22:22	
23	DNX MIX CCV EXP 5618	023.dat	093015MTDNX-pri...	Sep 30, 2015 09:38:04	
24	MDTNX W lod check 0.1 ...	024.dat	093015MTDNX-pri...	Sep 30, 2015 09:53:45	
25	MDTNX W lod/loq check 0...	025.dat	093015MTDNX-pri...	Sep 30, 2015 10:09:30	
26	MDTNX W loq check 0.4 u...	026.dat	093015MTDNX-pri...	Sep 30, 2015 10:27:35	
27	DNX MIX CCV EXP 5618	027.dat	093015MTDNX-pri...	Sep 30, 2015 10:43:16	

Summary Report

Instrument I... **HPLC 2 (Offline)**
Data Path: **C:\Instarch\HPLC 2\Sequences\MDTNX\093015MDTNXic-confirm.seq**
User ID: **red**
Printed Date: **Sep 30, 2015 15:34:31**

Run Number	Sample ID	Data Filename	Method Filename	Analysis Date	Data Description
1	1:1 ACN:0.1%FORMIC A...	001.dat	093015MDTNXic-co...	Sep 30, 2015 15:16:30	
2	DNX MIX Pt. 1 EXP 5616	002.dat	093015MDTNXic-co...	Sep 30, 2015 15:36:48	
3	DNX MIX Pt. 2 EXP 5617	003.dat	093015MDTNXic-co...	Sep 30, 2015 15:57:06	
4	DNX MIX Pt. 3 EXP 5615	004.dat	093015MDTNXic-co...	Sep 30, 2015 16:17:25	
5	DNX MIX Pt. 4 EXP 5618	005.dat	093015MDTNXic-co...	Sep 30, 2015 16:37:42	
6	DNX MIX Pt. 5 EXP 5619	006.dat	093015MDTNXic-co...	Sep 30, 2015 16:58:00	
7	DNX MIX Pt. 6 EXP 5620	007.dat	093015MDTNXic-co...	Sep 30, 2015 17:18:18	
8	DNX MIX Pt. 7 EXP 5621	008.dat	093015MDTNXic-co...	Sep 30, 2015 17:38:37	
9	DNX MIX ICV EXP 5622	009.dat	093015MDTNXic-co...	Sep 30, 2015 17:58:57	
10	DNX MIX CCV EXP 5618	010.dat	093015MDTNXic-co...	Sep 30, 2015 18:19:15	
11	MDTNX W lod check 0.1 ...	011.dat	093015MDTNXic-co...	Sep 30, 2015 18:39:32	
12	MDTNX W lod/loq check 0...	012.dat	093015MDTNXic-co...	Sep 30, 2015 18:59:53	
13	MDTNX W loq check 0.4 u...	013.dat	093015MDTNXic-co...	Sep 30, 2015 19:20:12	
14	DNX MIX CCV EXP 5618	014.dat	093015MDTNXic-co...	Sep 30, 2015 19:40:30	

Summary Report

Instrument I... **HPLC 2 (Offline)**
Data Path: **C:\Instarch\HPLC 2\Sequences\8330A_B\012516expic-primary.seq**
User ID: **red**
Printed Date: **Jan 25, 2016 15:20:07**

Run Number	Sample ID	Data Filename	Method Filename	Analysis Date	Data Description
1	1:1 ACN:EXP 5628	001.dat	012516expic-primary...	Jan 25, 2016 15:03:40	
2	8330 Pt. 1 EXP 5668	002.dat	012516expic-primary...	Jan 25, 2016 15:21:58	
3	8330 Pt. 2 EXP 5669	003.dat	012516expic-primary...	Jan 25, 2016 15:40:16	
4	8330 Pt. 3 EXP 5670	004.dat	012516expic-primary...	Jan 25, 2016 15:58:34	
5	8330 Pt. 4 EXP 5671	005.dat	012516expic-primary...	Jan 25, 2016 16:16:52	
6	8330 Pt. 5 EXP 5672	006.dat	012516expic-primary...	Jan 25, 2016 16:35:11	
7	8330 Pt. 6 EXP 5673	007.dat	012516expic-primary...	Jan 25, 2016 16:53:28	
8	8330 Pt. 7 EXP 5674	008.dat	012516expic-primary...	Jan 25, 2016 17:11:46	
9	8330 ICV EXP 5675	009.dat	012516expic-primary...	Jan 25, 2016 17:30:07	
10	8330 CCV EXP 5671	010.dat	012516expic-primary...	Jan 25, 2016 17:48:26	
11	122858,MBW,	011.dat	012516expic-primary...	Jan 25, 2016 18:06:44	REASON #3, #4 APPLI...
12	122858,LCSW,	012.dat	012516expic-primary...	Jan 25, 2016 18:25:02	REASON #4 APPLIES ...
13	122858,679481,	013.dat	012516expic-primary...	Jan 25, 2016 18:43:19	REASON #3 APPLIES ...
14	122858,679483,	014.dat	012516expic-primary...	Jan 25, 2016 19:01:36	REASON #3 APPLIES ...
15	MISINJECTION	015.dat	012516expic-primary...	Jan 25, 2016 19:19:53	REASON #3, #4 APPLI...
16	122858,679981,	016.dat	012516expic-primary...	Jan 25, 2016 19:38:11	
17	122858,679983,	017.dat	012516expic-primary...	Jan 25, 2016 19:56:28	REASON #3, #4 APPLI...
18	122858,MSW679979,	018.dat	012516expic-primary...	Jan 25, 2016 20:14:46	REASON #3,#4 APPLI...
19	122858,MSDW679979,	019.dat	012516expic-primary...	Jan 25, 2016 20:33:06	REASON #3,#4 APPLI...
20	8330 CCV EXP 5671	020.dat	012516expic-primary...	Jan 25, 2016 20:51:26	
21	1:1 ACN:EXP 5628	021.dat	012516expic-primary...	Jan 26, 2016 09:58:18	
22	8330 CCV EXP 5671	022.dat	012516expic-primary...	Jan 26, 2016 10:16:36	
23	122858,679979,	023.dat	012516expic-primary...	Jan 26, 2016 10:34:53	REASON #3,#4 APPLI...
24	679979 1:10	024.dat	012516expic-primary...	Jan 26, 2016 10:52:08	REASON #3 APPLIES ...
25	MSW679979 1:10	025.dat	012516expic-primary...	Jan 26, 2016 11:09:25	REASON #3 APPLIES ...
26	MSDW679979 1:10	026.dat	012516expic-primary...	Jan 26, 2016 11:26:42	REASON #3 APPLIES ...
27	8330 CCV EXP 5671	027.dat	012516expic-primary...	Jan 26, 2016 11:43:58	

Summary Report

Instrument I... **HPLC 2**
Data Path: **C:\Instarch\HPLC 2\Sequences\MDTNX\012616MDTNX-primary.seq**
User ID: **RED**
Printed Date: **Jan 26, 2016 13:54:30**

Run Number	Sample ID	Data Filename	Method Filename	Analysis Date	Data Description
1	1:1 ACN:EXP 5628	001.dat	012616MDTNX-pri...	Jan 26, 2016 13:28:23	
2	MDTNX CCV EXP 5676	002.dat	012616MDTNX-pri...	Jan 26, 2016 13:44:05	
3	122857,MBW,	003.dat	012616MDTNX-pri...	Jan 26, 2016 13:59:47	
4	122857,LCSW,	004.dat	012616MDTNX-pri...	Jan 26, 2016 14:15:29	
5	122857,679481,	005.dat	012616MDTNX-pri...	Jan 26, 2016 14:31:12	
6	122857,679483,	006.dat	012616MDTNX-pri...	Jan 26, 2016 14:46:53	
7	122857,679979,	007.dat	012616MDTNX-pri...	Jan 26, 2016 15:02:35	
8	122857,679981,	008.dat	012616MDTNX-pri...	Jan 26, 2016 15:18:17	
9	122857,679983,	009.dat	012616MDTNX-pri...	Jan 26, 2016 15:34:02	
10	122857,MSW679979,	010.dat	012616MDTNX-pri...	Jan 26, 2016 15:49:45	
11	122857,MSDW679979,	011.dat	012616MDTNX-pri...	Jan 26, 2016 16:05:28	
12	MDTNX CCV EXP 5676	012.dat	012616MDTNX-pri...	Jan 26, 2016 17:27:59	
13	679979 1:10	013.dat	012616MDTNX-pri...	Jan 26, 2016 17:43:40	
14	MSW679979 1:10	014.dat	012616MDTNX-pri...	Jan 26, 2016 17:59:21	
15	MSDW679979 1:10	015.dat	012616MDTNX-pri...	Jan 26, 2016 18:15:03	
16	MDTNX CCV EXP 5676	016.dat	012616MDTNX-pri...	Jan 26, 2016 18:30:44	

Summary Report

Instrument I... **HPLC 2 (Offline)**
Data Path: **C:\Instarch\HPLC 2\Sequences\8330A_B\012716expic-confirm.seq**
User ID: **red**
Printed Date: **Jan 27, 2016 14:20:09**

Run Number	Sample ID	Data Filename	Method Filename	Analysis Date	Data Description
1	1:1 ACN:EXP 5628	001.dat	012716expic-confirm...	Jan 27, 2016 13:45:08	
2	8330 Pt. 1 EXP 5677	002.dat	012716expic-confirm...	Jan 27, 2016 14:22:26	
3	8330 Pt. 2 EXP 5678	003.dat	012716expic-confirm...	Jan 27, 2016 14:59:44	
4	8330 Pt. 3 EXP 5679	004.dat	012716expic-confirm...	Jan 27, 2016 15:37:01	
5	8330 Pt. 4 EXP 5680	005.dat	012716expic-confirm...	Jan 27, 2016 16:14:17	
6	8330 Pt. 5 EXP 5681	006.dat	012716expic-confirm...	Jan 27, 2016 16:51:35	
7	8330 Pt. 6 EXP 5682	007.dat	012716expic-confirm...	Jan 27, 2016 17:28:51	
8	8330 Pt. 7 EXP 5683	008.dat	012716expic-confirm...	Jan 27, 2016 18:06:08	
9	8330 ICV EXP 5684	009.dat	012716expic-confirm...	Jan 27, 2016 18:43:25	
10	8330 CCV EXP 5680	010.dat	012716expic-confirm...	Jan 27, 2016 19:20:45	
11	122858,MBW,	011.dat	012716expic-confirm...	Jan 27, 2016 19:58:04	Reason #4 applies to dat...
12	122858,679481,	012.dat	012716expic-confirm...	Jan 27, 2016 20:35:22	Reason #4 applies to dat...
13	122858,679483,	013.dat	012716expic-confirm...	Jan 27, 2016 21:12:40	Reason #4 applies to dat...
14	122858,679979,	014.dat	012716expic-confirm...	Jan 27, 2016 21:49:57	Reason #4 applies to dat...
15	679979 1:10	015.dat	012716expic-confirm...	Jan 27, 2016 22:27:15	
16	122858,679983,	016.dat	012716expic-confirm...	Jan 27, 2016 23:04:32	Reason #4 applies to dat...
17	MSW679979	017.dat	012716expic-confirm...	Jan 27, 2016 23:41:48	Reason #4 applies to dat...
18	MSW679979 1:10	018.dat	012716expic-confirm...	Jan 28, 2016 00:19:05	
19	MSDW679979	019.dat	012716expic-confirm...	Jan 28, 2016 00:56:22	
20	MSDW679979 1:10	020.dat	012716expic-confirm...	Jan 28, 2016 01:33:42	
21	8330 CCV EXP 5680	021.dat	012716expic-confirm...	Jan 28, 2016 02:11:00	Reason #1,#4 applies to ...
22	1:1 ACN:EXP 5628	022.dat	012716expic-confirm...	Jan 28, 2016 10:56:50	
23	8330 CCV EXP 5680	023.dat	012716expic-confirm...	Jan 28, 2016 11:34:07	Reason #4 applies to dat...
24	MISINJECT	024.dat	012716expic-confirm...	Jan 28, 2016 12:11:25	
25	MSDW679979	025.dat	012716expic-confirm...	Jan 28, 2016 12:48:43	Reason #4 applies to dat...
26	MSW679979 1:10	026.dat	012716expic-confirm...	Jan 28, 2016 13:26:01	
27	8330 CCV EXP 5680	027.dat	012716expic-confirm...	Jan 28, 2016 14:06:58	

Summary Report

Instrument I... **HPLC 2 (Offline)**
Data Path: **C:\Instarch\HPLC 2\Sequences\MDTNX\012816MDTNX-confirm.seq**
User ID: **red**
Printed Date: **Jan 28, 2016 17:24:07**

Run Number	Sample ID	Data Filename	Method Filename	Analysis Date	Data Description
1	1:1 ACN:EXP 5628	001.dat	012816MDTNX-con...	Jan 28, 2016 16:34:49	
2	MDTNX CCV EXP 5685	002.dat	012816MDTNX-con...	Jan 28, 2016 17:15:23	
3	122857,MBW,	003.dat	012816MDTNX-con...	Jan 28, 2016 17:35:42	
4	122857,679481,	004.dat	012816MDTNX-con...	Jan 28, 2016 17:55:59	
5	122857,679483,	005.dat	012816MDTNX-con...	Jan 28, 2016 18:16:18	Reason #4 applies to dat...
6	122857,679979,	006.dat	012816MDTNX-con...	Jan 28, 2016 18:36:36	Reason #4 applies to dat...
7	rinse	007.dat	012816MDTNX-con...	Jan 28, 2016 18:56:53	
8	122857,679983,	008.dat	012816MDTNX-con...	Jan 28, 2016 19:17:11	Reason #3, #4 applies to ...
9	122857,MSW679979,	009.dat	012816MDTNX-con...	Jan 28, 2016 19:37:33	
10	rinse	010.dat	012816MDTNX-con...	Jan 28, 2016 19:57:51	
11	122857,MSDW679979,	011.dat	012816MDTNX-con...	Jan 28, 2016 20:18:10	Reason #4 applies to dat...
12	rinse	012.dat	012816MDTNX-con...	Jan 28, 2016 20:38:27	
13	MDTNX CCV EXP 5685	013.dat	012816MDTNX-con...	Jan 28, 2016 20:58:45	Reason #4 applies to dat...

EXP Logbook 01

01/19/2015

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Author: rduranceau on: 19.08.2015 14:55:57
Page is not Witnessed
Project: Unassigned
Page Title: 081915

Standard ID #	Standard Description	Solvent / Lot #	Prep Date	Expiration Date	Analyst
EXP 5586	8330 Spike Std.	ACN / Lot # Macron/61650	8/19/2015	2/19/2016	RED

Stock Standards Used	Prep	Final Concentration
(1) 8330 Calibration Mix (1000 ug/mL) S3244 (2) 3,5-Dinitroaniline Standard (1,000 ug/mL) S3218/3302 (3) 1,2-Dintrobenzene Standard (1,000 ug/mL) S3298C (4) Trinitroglycerin Standard (1,000 ug/mL) S3243B/3333 (5) PETN Standard (1,000 ug/mL) S3331A	0.50 mL each of (1), (2), and (3) and 1.00 mL each of (4) and (5) were added to ACN in a 50 mL volumetric flask and brought to volume.	10.0 ug/mL (20.0 ug/mL NG/PETN)

Standard Number	Standard Description	Solvent Manufacturer Lot	Analyst	Prep Date	Expiration Date
EXP 5587	8330 Surrogate	ACN/Macron Lot 61650	RED	08/19/2015	02/19/2016

STD Parent ID	Parent Concentration	Units	Standard Volume (ml)	Final Volume (ml)	Final Concentration (ug/ml)
S3334A	1000	ug/mL	1.00	100	10.0

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EXP Logbook 01

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NOTEBOOK VIEW: LTN_EXP_Logbook01_Default, NOTEBOOK: EXP_Logbook01, PAGE: 47
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Author: rduranceau on: 29.09.2015 10:00:47
Page is not Witnessed
Project: Unassigned
Page Title: 092415

Standard Number	Standard Description	Solvent Manufacturer Lot	Analyst	Prep Date	Expiration Date
EXP 5605	MNX DNX TNX Spike	ACN/Macron/Lot 61650	RED	09/29/2015	01/09/2016

STD Parent ID	Parent Concentration	Units	Standard Volume (ml)	Final Volume (ml)	Final Concentration (ug/ml)
S3166	1000	ug/mL	0.179	10.0	10
S3165	1000	ug/mL	0.064	10.0	10
S3164	1000	ug/mL	0.054	10.0	10
S3334A	1000	ug/mL	0.100	10.0	10

Standard Number	Standard Description	Solvent Manufacturer Lot	Analyst	Prep Date	Expiration Date
EXP 5606	MNX DNX TNX 2nd Source Intermediate	ACN/Macron/Lot 61650	RED	09/29/2015	03/03/2016

STD Parent ID	Parent Concentration	Units	Standard Volume (ml)	Final Volume (ml)	Final Concentration (ug/ml)
S3167	1000	ug/mL	0.100	10.0	varied
S3334A	1000	ug/mL	0.100	10.0	10

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EXP Logbook 01

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Project: Unassigned
Page Title: 092915b

	Initial Calibration	Solvent Manufacturer Lot	Analyst	Prep Date	Expiration Date
	MNX DNX TNX ICAL	50% ACN-Macron Lot 61650 50% EXP 5499	RED	09/29/2015	09/30/2015

Standard Number	Standard Description	Parent ID	Parent Concentration	Units	Standard Volume (ml)	Final Volume (ml)	Final Concentration (ug/ml)
EXP 5615	ICAL 3	EXP 5605	10	ug/mL	0.010	1.00	0.10
EXP 5616	ICAL 1	EXP 5615	0.1	ug/mL	0.100	1.00	0.01
EXP 5617	ICAL 2	EXP 5605	10	ug/mL	0.005	1.00	0.05
EXP 5618	ICAL 4 (CCV)	EXP 5605	10	ug/mL	0.500	10.00	0.50
EXP 5619	ICAL 5	EXP 5605	10	ug/mL	0.100	1.00	1.00
EXP 5620	ICAL 6	EXP 5605	10	ug/mL	0.200	1.00	2.00
EXP 5621	ICAL 7	EXP 5605	10	ug/mL	0.300	1.00	3.00
EXP 5622	ICV	EXP 5606	varied	ug/mL	0.100	1.00	varied

EXP Logbook 01

01/19/2015

NOTEBOOK VIEW: LTN_EXP_Logbook01_Default, NOTEBOOK: EXP_Logbook01, PAGE: 55
Page is Locked
Author: rduranceau on: 02.11.2015 13:16:43
Page is not Witnessed
Project: Unassigned
Page Title: 110215

Standard ID:	EXP 5628	Standard Description:	0.1% formic acid in H2O; 4 mL formic acid added to 4 L Millipore water
Analyst:	RED	Solvent: Manufacturer Lot	Millipore H2O and 99%formic acid sigma lot 04817JE
Prep Date:	11/2/2015	Expiration Date:	5/2/2016

Standard ID #	Standard Description	Solvent / Lot #	Prep Date	Expiration Date	Analyst
EXP 5629	8330 CCV Std.	1:1 ACN: 0.1% formic acid in H_2O EXP 5628 / Lot # Macron 61650	11/2/2015	11/3/2015	RED

Standards Used	Prep	Final Concentration
(1) 10 ug/mL (20 ug/mL NG/PETN) 8330 Spike Std. EXP 5586	0.500 mL of (1) into 10 mL of 1:1 ACN: 0.1% formic acid in H_2O.	0.50 ug/mL (1.00 ug/mL NG/PETN)

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EXP Logbook 01

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NOTEBOOK VIEW: LTN_EXP_Logbook01_Default, NOTEBOOK: EXP_Logbook01, PAGE: 58
Page is Locked
Author: rduranceau on: 30.11.2015 16:05:19
Page is not Witnessed
Project: Unassigned
Page Title: 111315

Standard Number	Standard Description	Solvent Manufacturer Lot	Analyst	Prep Date	Expiration Date
EXP 5632	8330 Intermediate 2nd Source	ACN, Macron lot 61650	RED	11/13/2015	5/13/2016

STD Parent ID	Parent Concentration	Units	Standard Volume (ml)	Final Volume (ml)	Final Concentration (ug/ml)
8330 Mix S3335	1000	ug/mL	0.100	10.0	10.0
3,5-dinitroaniline S3336	1000	ug/mL	0.100	10.0	10.0
Surrogate S3298C	1000	ug/mL	0.100	10.0	10.0
Nitroglycerin S3419	1000	ug/mL	0.200	10.0	20.0
PETN S3420	1000	ug/mL	0.200	10.0	20.0

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01/19/2015

NOTEBOOK VIEW: LTN_EXP_Logbook01_Default, NOTEBOOK: EXP_Logbook01, PAGE: 65
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Author: rduranceau on: 25.01.2016 13:44:58
Page is not Witnessed
Project: Unassigned
Page Title: 012516

Calibration:	Explosives Initial Calibration	Solvent / Lot #	Prep Date	Expiration Date	Analyst
		1:1 ACN: 0.1% formic acid in H_2O EXP 5628 / Lot 61650	01/25/2016	01/26/2016	RED

Standard ID #	Standard Description	Prep	Final Concentration
EXP 5668	8330 Calibration Pt. 1	Added 0.003 mL of 10 ug/mL (20 ug/mL NG/PETN) 8330 Custom Mix Std. EXP 5586 into 1.0 mL of 1:1 ACN: 0.1% formic acid in H_2O.	0.03 ug/mL (0.06 ug/mL NG/PETN)
EXP 5669	8330 Calibration Pt. 2	Added 0.010 mL of 10 ug/mL (20 ug/mL NG/PETN) 8330 Custom Mix Std. EXP 5586 into 1.0 mL of 1:1 ACN: 0.1% formic acid in H_2O.	0.10 ug/mL (0.20 ug/mL NG/PETN)
EXP 5670	8330 Calibration Pt. 3	Added 0.025 mL of 10 ug/mL (20 ug/mL NG/PETN) 8330 Custom Mix Std. EXP 5586 into 1.0 mL of 1:1 ACN: 0.1% formic acid in H_2O.	0.25 ug/mL (0.50 ug/mL NG/PETN)
EXP 5671	8330 Calibration Pt. 4 (CCV)	Added 0.500 mL of 10 ug/mL (20 ug/mL NG/PETN) 8330 Custom Mix Std. EXP 5586 into 10.0 mL of 1:1 ACN: 0.1% formic acid in H_2O.	0.50 ug/mL (1.00 ug/mL NG/PETN)
EXP 5672	8330 Calibration Pt. 5	Added 0.100 mL of 10 ug/mL (20 ug/mL NG/PETN) 8330 Custom Mix Std. EXP 5586 into 1.0 mL of 1:1 ACN: 0.1% formic acid in H_2O.	1.00 ug/mL (2.00 ug/mL NG/PETN)
EXP 5673	8330 Calibration Pt. 6	Added 0.200 mL of 10 ug/mL (20 ug/mL NG/PETN) 8330 Custom Mix Std. EXP 5586 into 1.0 mL of 1:1 ACN: 0.1% formic acid in H_2O.	2.00 ug/mL (4.00 ug/mL NG/PETN)
EXP 5674	8330 Calibration Pt. 7	Added 0.300 mL of 10 ug/mL (20 ug/mL NG/PETN) 8330 Custom Mix Std. EXP 5586 into 1.0 mL of 1:1 ACN: 0.1% formic acid in H_2O.	3.00 ug/mL (6.00 ug/mL NG/PETN)

EXP 5675	8330 ICV (Second Source)	Added 0.050 mL of 10 ug/mL (20 ug/mL NG/PETN) 8330 Custom Mix Std. EXP 5632 into 1.0 mL of 1:1 ACN: 0.1% formic acid in H_2O.	0.50 ug/mL (1.00 ug/mL NG/PETN)

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EXP Logbook 01

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NOTEBOOK VIEW: LTN_EXP_Logbook01_Default, NOTEBOOK: EXP_Logbook01, PAGE: 66
Page is Locked
Author: rduranceau on: 26.01.2016 13:10:28
Page is not Witnessed
Project: Unassigned
Page Title: 012616

Standard Number	Standard Description	Solvent Manufacturer Lot	Analyst	Prep Date	Expiration Date
EXP 5676	MDTNX CCV	1:1 ACN:EXP 5628; Macron lot 61650	RED	01/26/2016	01/27/2016

STD Parent ID	Parent Concentration	Units	Standard Volume (ml)	Final Volume (ml)	Final Concentration (ug/ml)
EXP 5606	varied	ug/mL	0.500	10.0	varied

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EXP Logbook 01

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Project: Unassigned
Page Title: 012716

Calibration:	Explosives Initial Calibration	Solvent / Lot #	Prep Date	Expiration Date	Analyst
		1:1 ACN: 0.1% formic acid in H_2O EXP 5628 / Lot Macron 61650	01/27/2016	01/28/2016	RED

Standard ID #	Standard Description	Prep	Final Concentration
EXP 5677	8330 Calibration Pt. 1	Added 0.003 mL of 10 ug/mL (20 ug/mL NG/PETN) 8330 Custom Mix Std. EXP 5586 into 1.0 mL of 1:1 ACN: 0.1% formic acid in H_2O.	0.03 ug/mL (0.06 ug/mL NG/PETN)
EXP 5678	8330 Calibration Pt. 2	Added 0.010 mL of 10 ug/mL (20 ug/mL NG/PETN) 8330 Custom Mix Std. EXP 5586 into 1.0 mL of 1:1 ACN: 0.1% formic acid in H_2O.	0.10 ug/mL (0.20 ug/mL NG/PETN)
EXP 5679	8330 Calibration Pt. 3	Added 0.025 mL of 10 ug/mL (20 ug/mL NG/PETN) 8330 Custom Mix Std. EXP 5586 into 1.0 mL of 1:1 ACN: 0.1% formic acid in H_2O.	0.25 ug/mL (0.50 ug/mL NG/PETN)
EXP 5680	8330 Calibration Pt. 4 (CCV)	Added 0.500 mL of 10 ug/mL (20 ug/mL NG/PETN) 8330 Custom Mix Std. EXP 5586 into 10.0 mL of 1:1 ACN: 0.1% formic acid in H_2O.	0.50 ug/mL (1.00 ug/mL NG/PETN)
EXP 5681	8330 Calibration Pt. 5	Added 0.100 mL of 10 ug/mL (20 ug/mL NG/PETN) 8330 Custom Mix Std. EXP 5586 into 1.0 mL of 1:1 ACN: 0.1% formic acid in H_2O.	1.00 ug/mL (2.00 ug/mL NG/PETN)
EXP 5682	8330 Calibration Pt. 6	Added 0.200 mL of 10 ug/mL (20 ug/mL NG/PETN) 8330 Custom Mix Std. EXP 5586 into 1.0 mL of 1:1 ACN: 0.1% formic acid in H_2O.	2.00 ug/mL (4.00 ug/mL NG/PETN)
EXP 5683	8330 Calibration Pt. 7	Added 0.300 mL of 10 ug/mL (20 ug/mL NG/PETN) 8330 Custom Mix Std. EXP 5586 into 1.0 mL of 1:1 ACN: 0.1% formic acid in H_2O.	3.00 ug/mL (6.00 ug/mL NG/PETN)
	8330 ICV	Added 0.050 mL of 10 ug/mL (20 ug/mL NG/PETN) 8330 Custom Mix	0.50 ug/mL

EXP 5684	(Second Source)	Std. EXP 5632 into 1.0 mL of 1:1 ACN: 0.1% formic acid in H_2O.	(1.00 ug/mL NG/PETN)

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EXP Logbook 01

01/19/2015

NOTEBOOK VIEW: LTN_EXP_Logbook01_Default, NOTEBOOK: EXP_Logbook01, PAGE: 68
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Author: rduranceau on: 28.01.2016 16:20:14
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Standard Number	Standard Description	Solvent Manufacturer Lot	Analyst	Prep Date	Expiration Date
EXP 5685	MDTNX CCV	1:1 ACN:EXP 5628 ACN Macron lot 61650	RED	01/28/2016	01/29/2016

STD Parent ID	Parent Concentration	Units	Standard Volume (ml)	Final Volume (ml)	Final Concentration (ug/ml)
EXP 5606	varied	ug/mL	0.5	10.0	varied

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CT Laboratories LLC

METALS
CLP FORMS
DOCUMENTS

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INORGANIC ANALYSIS DATA SHEET

Sample Description

011516R1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	116426
% Solids:		Lab Sample ID:	681537
Analytical Method:	EPA 7470A	Date Received:	01/16/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	122800	Analysis Date/Time	01/21/2016 10:13
Analytical Prep Batch #:	55940	Prep. Date/Time:	01/20/2016 08:25
ICAL Calibration #:	1/1/016	Concentration Units:	ug/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7439-97-6	Total Mercury	0.060	U	0.030	0.060	0.12	0.12

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INORGANIC ANALYSIS DATA SHEET

Sample Description

011516R1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	116426
% Solids:		Lab Sample ID:	681537
Analytical Method:	EPA 6010C	Date Received:	01/16/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	122821	Analysis Date/Time	01/21/2016 15:19
Analytical Prep Batch #:	55959	Prep. Date/Time:	01/20/2016 12:30
ICAL Calibration #:		Concentration Units:	ug/L

CAS #	Analyte	Concentration	Qualifiers		DL	LOD	LOQ	RL
7440-36-0	Total Antimony	6.0	U		2.0	6.0	12	12
7440-38-2	Total Arsenic	12	U		4.0	12	24	24
7440-39-3	Total Barium	0.90	U		0.29	0.90	1.8	1.8
7440-43-9	Total Cadmium	1.0	U		0.30	1.0	2.0	2.0
7440-47-3	Total Chromium	0.89	J		0.60	2.0	4.0	4.0
7439-89-6	Total Iron	26.1	J		16	50	100	100
7439-92-1	Total Lead	2.0	U		1.4	2.0	4.0	4.0
7439-96-5	Total Manganese	2.0	U		0.70	2.0	4.0	4.0
7440-02-0	Total Nickel	3.0	U		1.0	3.0	6.0	6.0
7782-49-2	Total Selenium	7.5	J	B	2.2	6.5	13	13
7440-22-4	Total Silver	1.4	J	B	0.70	2.0	4.0	4.0
7440-66-6	Total Zinc	5.0	U		1.6	5.0	10	10

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	116426
% Solids:		Lab Sample ID:	681538
Analytical Method:	EPA 7470A	Date Received:	01/16/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	122800	Analysis Date/Time	01/21/2016 10:25
Analytical Prep Batch #:	55940	Prep. Date/Time:	01/20/2016 08:25
ICAL Calibration #:	1/1/016	Concentration Units:	ug/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7439-97-6	Total Mercury	0.060	U	0.030	0.060	0.12	0.12

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	116426
% Solids:		Lab Sample ID:	681538
Analytical Method:	EPA 6010C	Date Received:	01/16/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	122763	Analysis Date/Time	01/20/2016 13:12
Analytical Prep Batch #:	55928	Prep. Date/Time:	01/19/2016 07:00
ICAL Calibration #:		Concentration Units:	ug/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7440-09-7	Total Potassium	1510		90	250	500	500
7440-23-5	Total Sodium	5370		100	300	600	600

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	116426
% Solids:		Lab Sample ID:	681538
Analytical Method:	EPA 6010C	Date Received:	01/16/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	122762	Analysis Date/Time	01/21/2016 16:08
Analytical Prep Batch #:	55928	Prep. Date/Time:	01/19/2016 07:00
ICAL Calibration #:		Concentration Units:	ug/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7440-39-3	Total Barium	456		0.29	0.90	1.8	1.8
7440-41-7	Total Beryllium	0.30	U	0.10	0.30	0.60	0.60
7439-89-6	Total Iron	334		16	50	100	100
7440-62-2	Total Vanadium	1.2	J	0.80	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	116426
% Solids:		Lab Sample ID:	681538
Analytical Method:	EPA 6010C	Date Received:	01/16/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	122762	Analysis Date/Time	01/19/2016 16:45
Analytical Prep Batch #:	55928	Prep. Date/Time:	01/19/2016 07:00
ICAL Calibration #:		Concentration Units:	ug/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7429-90-5	Total Aluminum	898		6.0	18	36	36
7440-36-0	Total Antimony	6.0	U	2.0	6.0	12	12
7440-38-2	Total Arsenic	12	U	4.0	12	24	24
7440-43-9	Total Cadmium	1.0	U	0.30	1.0	2.0	2.0
7440-70-2	Total Calcium	59500		17	50	100	100
7440-47-3	Total Chromium	4.5		0.60	2.0	4.0	4.0
7440-48-4	Total Cobalt	2.0	U	0.70	2.0	4.0	4.0
7440-50-8	Total Copper	1.4	J	1.2	3.5	7.0	7.0
7439-92-1	Total Lead	2.0	U	1.4	2.0	4.0	4.0
7439-95-4	Total Magnesium	30900		6.0	20	40	40
7439-96-5	Total Manganese	10		0.70	2.0	4.0	4.0
7440-02-0	Total Nickel	2.3	J	1.0	3.0	6.0	6.0
7782-49-2	Total Selenium	6.5	U	2.2	6.5	13	13
7440-22-4	Total Silver	1.1	J B	0.70	2.0	4.0	4.0
7440-28-0	Total Thallium	7.5	U	2.5	7.5	15	15
7440-66-6	Total Zinc	10.8		1.6	5.0	10	10

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	116426
% Solids:		Lab Sample ID:	679984
Analytical Method:	EPA 6010C	Date Received:	01/13/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	122717	Analysis Date/Time	01/18/2016 08:46
Analytical Prep Batch #:	55898	Prep. Date/Time:	01/15/2016 09:00
ICAL Calibration #:		Concentration Units:	ug/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7440-09-7	Total Potassium	2100		90	250	500	500
7440-23-5	Total Sodium	24900		100	300	600	600

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	116426
% Solids:		Lab Sample ID:	679984
Analytical Method:	EPA 7470A	Date Received:	01/13/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	122800	Analysis Date/Time	01/21/2016 10:11
Analytical Prep Batch #:	55940	Prep. Date/Time:	01/20/2016 08:25
ICAL Calibration #:	1/1/016	Concentration Units:	ug/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7439-97-6	Total Mercury	0.060	U	0.030	0.060	0.12	0.12

CT LABORATORIES
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INORGANIC ANALYSIS DATA SHEET

Sample Description

54ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	116426
% Solids:		Lab Sample ID:	679984
Analytical Method:	EPA 6010C	Date Received:	01/13/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	122716	Analysis Date/Time	01/18/2016 15:19
Analytical Prep Batch #:	55898	Prep. Date/Time:	01/15/2016 09:00
ICAL Calibration #:		Concentration Units:	ug/L

CAS #	Analyte	Concentration	Qualifiers		DL	LOD	LOQ	RL
7429-90-5	Total Aluminum	216		M	6.0	18	36	36
7440-36-0	Total Antimony	6.0	U		2.0	6.0	12	12
7440-38-2	Total Arsenic	12	U		4.0	12	24	24
7440-39-3	Total Barium	66.8			0.29	0.90	1.8	1.8
7440-41-7	Total Beryllium	0.30	U		0.10	0.30	0.60	0.60
7440-43-9	Total Cadmium	1.0	U	M	0.30	1.0	2.0	2.0
7440-70-2	Total Calcium	47100			17	50	100	100
7440-47-3	Total Chromium	6.8		M	0.60	2.0	4.0	4.0
7440-48-4	Total Cobalt	2.0	U	M	0.70	2.0	4.0	4.0
7440-50-8	Total Copper	3.5	U		1.2	3.5	7.0	7.0
7439-89-6	Total Iron	424		M,Y,B	16	50	100	100
7439-92-1	Total Lead	2.0	U	M	1.4	2.0	4.0	4.0
7439-96-5	Total Manganese	8.6		M	0.70	2.0	4.0	4.0
7440-02-0	Total Nickel	3.0	U	M	1.0	3.0	6.0	6.0
7440-22-4	Total Silver	1.0	J	M,B	0.70	2.0	4.0	4.0
7440-28-0	Total Thallium	7.5	U	M	2.5	7.5	15	15
7440-62-2	Total Vanadium	1.3	J	M	0.80	2.5	5.0	5.0
7440-66-6	Total Zinc	5.0	U	M	1.6	5.0	10	10

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	116426
% Solids:		Lab Sample ID:	679984
Analytical Method:	EPA 6010C	Date Received:	01/13/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	122716	Analysis Date/Time	01/19/2016 17:32
Analytical Prep Batch #:	55898	Prep. Date/Time:	01/15/2016 09:00
ICAL Calibration #:		Concentration Units:	ug/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7439-95-4	Total Magnesium	19900	M	6.0	20	40	40
7782-49-2	Total Selenium	15.2	B	2.2	6.5	13	13

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Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122800 Lab Sample ID: 683002

ICAL Calibration #: 1/1/016 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Mercury	1/21/16	08:52	3.00	2.76	92	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122717

Lab Sample ID: 681935

ICAL Calibration #:

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	1/18/16	08:23	100000	101000	101	90	110
Sodium	1/18/16	08:23	100000	103000	103	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

LLQC

2A-1

LOWER LIMIT OF QUANTITATION CHECK (LLQC)

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122717

Lab Sample ID: 681936

ICAL Calibration #:

Concentration Units:

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	1/18/16	08:26	3000	3080	103	80	120
Sodium	1/18/16	08:26	3000	3260	109	80	120

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

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Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122716 Lab Sample ID: 682499

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	1/18/16	14:29	12000	11700	98	90	110
Antimony	1/18/16	14:29	500.0	509.0	102	90	110
Arsenic	1/18/16	14:29	2000	1970	98	90	110
Barium	1/18/16	14:29	2000	1900	95	90	110
Beryllium	1/18/16	14:29	50.00	48.50	97	90	110
Cadmium	1/18/16	14:29	50.00	48.90	98	90	110
Calcium	1/18/16	14:29	10000	10300	103	90	110
Chromium	1/18/16	14:29	200.0	194.0	97	90	110
Cobalt	1/18/16	14:29	500.0	504.0	101	90	110
Copper	1/18/16	14:29	250.0	254.0	102	90	110
Iron	1/18/16	14:29	5000	5060	101	90	110
Lead	1/18/16	14:29	500.0	489.0	98	90	110
Magnesium	1/18/16	14:29	10000	10500	105	90	110
Manganese	1/18/16	14:29	500.0	473.0	95	90	110
Nickel	1/18/16	14:29	500.0	513.0	103	90	110
Selenium	1/18/16	14:29	2000	1880	94	90	110
Silver	1/18/16	14:29	50.00	48.70	97	90	110
Thallium	1/18/16	14:29	2000	2140	107	90	110
Vanadium	1/18/16	14:29	500.0	480.0	96	90	110
Zinc	1/18/16	14:29	500.0	506.0	101	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

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Sample No.

LLQC

2A-1

LOWER LIMIT OF QUANTITATION CHECK (LLQC)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122716 Lab Sample ID: 682500

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	1/18/16	14:33	1200	1180	98	80	120
Antimony	1/18/16	14:33	60.00	58.90	98	80	120
Arsenic	1/18/16	14:33	60.00	64.60	108	80	120
Barium	1/18/16	14:33	30.00	28.90	96	80	120
Beryllium	1/18/16	14:33	12.00	12.30	102	80	120
Cadmium	1/18/16	14:33	15.00	14.60	97	80	120
Calcium	1/18/16	14:33	1500	1570	105	80	120
Chromium	1/18/16	14:33	30.00	30.90	103	80	120
Cobalt	1/18/16	14:33	30.00	28.80	96	80	120
Copper	1/18/16	14:33	30.00	29.90	100	80	120
Iron	1/18/16	14:33	900.0	942.0	105	80	120
Lead	1/18/16	14:33	30.00	28.30	94	80	120
Magnesium	1/18/16	14:33	1500	1600	107	80	120
Manganese	1/18/16	14:33	30.00	30.10	100	80	120
Nickel	1/18/16	14:33	30.00	29.30	98	80	120
Selenium	1/18/16	14:33	90.00	76.80	85	80	120
Thallium	1/18/16	14:33	60.00	61.40	102	80	120
Vanadium	1/18/16	14:33	30.00	28.70	96	80	120
Zinc	1/18/16	14:33	30.00	27.20	91	80	120

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

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Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122716 Lab Sample ID: 682504

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Silver	1/18/16 14:59	10.00	9.74	97	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122763 Lab Sample ID: 682850

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	1/20/16	12:37	100000	101000	101	90	110
Sodium	1/20/16	12:37	100000	105000	105	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

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Sample No.

LLQC

2A-1

LOWER LIMIT OF QUANTITATION CHECK (LLQC)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122763 Lab Sample ID: 682851

ICAL Calibration #: Concentration Units:

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	1/20/16	12:40	3000	3080	103	80	120
Sodium	1/20/16	12:40	3000	3230	108	80	120

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122762 Lab Sample ID: 683252

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	1/19/16	12:25	12000	12700	106	90	110
Antimony	1/19/16	12:25	500.0	514.0	103	90	110
Arsenic	1/19/16	12:25	2000	1990	100	90	110
Barium	1/19/16	12:25	2000	1920	96	90	110
Beryllium	1/19/16	12:25	50.00	48.10	96	90	110
Cadmium	1/19/16	12:25	50.00	48.30	97	90	110
Calcium	1/19/16	12:25	10000	10100	101	90	110
Chromium	1/19/16	12:25	200.0	195.0	98	90	110
Cobalt	1/19/16	12:25	500.0	488.0	98	90	110
Copper	1/19/16	12:25	250.0	255.0	102	90	110
Iron	1/19/16	12:25	5000	5120	102	90	110
Lead	1/19/16	12:25	500.0	494.0	99	90	110
Magnesium	1/19/16	12:25	10000	9670	97	90	110
Manganese	1/19/16	12:25	500.0	483.0	97	90	110
Nickel	1/19/16	12:25	500.0	479.0	96	90	110
Selenium	1/19/16	12:25	2000	1990	100	90	110
Silver	1/19/16	12:25	50.00	47.50	95	90	110
Thallium	1/19/16	12:25	2000	2100	105	90	110
Vanadium	1/19/16	12:25	500.0	488.0	98	90	110
Zinc	1/19/16	12:25	500.0	491.0	98	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

LLQC

2A-1

LOWER LIMIT OF QUANTITATION CHECK (LLQC)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122762 Lab Sample ID: 683253

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	1/19/16	12:30	1200	1430	119	80	120
Antimony	1/19/16	12:30	60.00	57.50	96	80	120
Arsenic	1/19/16	12:30	60.00	60.10	100	80	120
Barium	1/19/16	12:30	30.00	27.20	91	80	120
Beryllium	1/19/16	12:30	12.00	12.20	102	80	120
Cadmium	1/19/16	12:30	15.00	14.70	98	80	120
Calcium	1/19/16	12:30	1500	1450	97	80	120
Chromium	1/19/16	12:30	30.00	31.00	103	80	120
Cobalt	1/19/16	12:30	30.00	29.00	97	80	120
Copper	1/19/16	12:30	30.00	30.80	103	80	120
Iron	1/19/16	12:30	900.0	959.0	107	80	120
Lead	1/19/16	12:30	30.00	29.90	100	80	120
Magnesium	1/19/16	12:30	1500	1510	101	80	120
Manganese	1/19/16	12:30	30.00	30.50	102	80	120
Nickel	1/19/16	12:30	30.00	29.20	97	80	120
Selenium	1/19/16	12:30	90.00	80.80	90	80	120
Thallium	1/19/16	12:30	60.00	63.00	105	80	120
Vanadium	1/19/16	12:30	30.00	29.40	98	80	120
Zinc	1/19/16	12:30	30.00	30.70	102	80	120

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122762 Lab Sample ID: 683257

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Silver	1/19/16 12:59	10.00	10.40	104	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122716 Lab Sample ID: 683308

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	1/19/16	12:25	12000	12700	106	90	110
Antimony	1/19/16	12:25	500.0	514.0	103	90	110
Arsenic	1/19/16	12:25	2000	1990	100	90	110
Barium	1/19/16	12:25	2000	1920	96	90	110
Beryllium	1/19/16	12:25	50.00	48.10	96	90	110
Cadmium	1/19/16	12:25	50.00	48.30	97	90	110
Calcium	1/19/16	12:25	10000	10100	101	90	110
Chromium	1/19/16	12:25	200.0	195.0	98	90	110
Cobalt	1/19/16	12:25	500.0	488.0	98	90	110
Copper	1/19/16	12:25	250.0	255.0	102	90	110
Iron	1/19/16	12:25	5000	5120	102	90	110
Lead	1/19/16	12:25	500.0	494.0	99	90	110
Magnesium	1/19/16	12:25	10000	9670	97	90	110
Manganese	1/19/16	12:25	500.0	515.0	103	90	110
Nickel	1/19/16	12:25	500.0	479.0	96	90	110
Selenium	1/19/16	12:25	2000	1990	100	90	110
Silver	1/19/16	12:25	50.00	47.50	95	90	110
Thallium	1/19/16	12:25	2000	2100	105	90	110
Vanadium	1/19/16	12:25	500.0	488.0	98	90	110
Zinc	1/19/16	12:25	500.0	491.0	98	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

LLQC

2A-1

LOWER LIMIT OF QUANTITATION CHECK (LLQC)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122716 Lab Sample ID: 683309

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	1/19/16	12:30	1200	1430	119	80	120
Antimony	1/19/16	12:30	60.00	57.50	96	80	120
Arsenic	1/19/16	12:30	60.00	60.10	100	80	120
Barium	1/19/16	12:30	30.00	29.90	100	80	120
Beryllium	1/19/16	12:30	12.00	12.20	102	80	120
Cadmium	1/19/16	12:30	15.00	14.70	98	80	120
Calcium	1/19/16	12:30	1500	1450	97	80	120
Chromium	1/19/16	12:30	30.00	31.00	103	80	120
Cobalt	1/19/16	12:30	30.00	29.00	97	80	120
Copper	1/19/16	12:30	30.00	30.80	103	80	120
Iron	1/19/16	12:30	900.0	959.0	107	80	120
Lead	1/19/16	12:30	30.00	29.90	100	80	120
Magnesium	1/19/16	12:30	1500	1510	101	80	120
Manganese	1/19/16	12:30	30.00	30.50	102	80	120
Nickel	1/19/16	12:30	30.00	29.20	97	80	120
Selenium	1/19/16	12:30	90.00	80.80	90	80	120
Thallium	1/19/16	12:30	60.00	63.00	105	80	120
Vanadium	1/19/16	12:30	30.00	29.40	98	80	120
Zinc	1/19/16	12:30	30.00	30.70	102	80	120

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122716 Lab Sample ID: 683313

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Silver	1/19/16 12:59	10.00	10.40	104	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122821 Lab Sample ID: 684038

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Antimony	1/21/16	14:30	500.0	527.0	105	90	110
Arsenic	1/21/16	14:30	2000	2050	102	90	110
Barium	1/21/16	14:30	2000	2160	108	90	110
Cadmium	1/21/16	14:30	50.00	54.20	108	90	110
Chromium	1/21/16	14:30	200.0	203.0	102	90	110
Iron	1/21/16	14:30	5000	5390	108	90	110
Lead	1/21/16	14:30	500.0	513.0	103	90	110
Manganese	1/21/16	14:30	500.0	544.0	109	90	110
Nickel	1/21/16	14:30	500.0	513.0	103	90	110
Selenium	1/21/16	14:30	2000	2050	102	90	110
Silver	1/21/16	14:30	50.00	54.10	108	90	110
Zinc	1/21/16	14:30	500.0	545.0	109	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

LLQC

2A-1

LOWER LIMIT OF QUANTITATION CHECK (LLQC)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122821 Lab Sample ID: 684039

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Antimony	1/21/16	14:35	60.00	60.90	102	80	120
Arsenic	1/21/16	14:35	60.00	66.50	111	80	120
Barium	1/21/16	14:35	30.00	30.70	102	80	120
Cadmium	1/21/16	14:35	15.00	16.20	108	80	120
Chromium	1/21/16	14:35	30.00	31.40	105	80	120
Iron	1/21/16	14:35	900.0	881.0	98	80	120
Lead	1/21/16	14:35	30.00	32.90	110	80	120
Manganese	1/21/16	14:35	30.00	33.60	112	80	120
Nickel	1/21/16	14:35	30.00	29.90	100	80	120
Selenium	1/21/16	14:35	90.00	81.40	90	80	120
Zinc	1/21/16	14:35	30.00	31.80	106	80	120

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122821 Lab Sample ID: 684043

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Silver	1/21/16 15:04	10.00	10.80	108	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122762 Lab Sample ID: 684049

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	1/21/16	14:30	12000	12800	107	90	110
Antimony	1/21/16	14:30	500.0	527.0	105	90	110
Arsenic	1/21/16	14:30	2000	2050	102	90	110
Barium	1/21/16	14:30	2000	2160	108	90	110
Beryllium	1/21/16	14:30	50.00	53.30	107	90	110
Cadmium	1/21/16	14:30	50.00	54.20	108	90	110
Calcium	1/21/16	14:30	10000	10200	102	90	110
Chromium	1/21/16	14:30	200.0	203.0	102	90	110
Cobalt	1/21/16	14:30	500.0	523.0	105	90	110
Copper	1/21/16	14:30	250.0	262.0	105	90	110
Iron	1/21/16	14:30	5000	5390	108	90	110
Lead	1/21/16	14:30	500.0	513.0	103	90	110
Magnesium	1/21/16	14:30	10000	10400	104	90	110
Manganese	1/21/16	14:30	500.0	544.0	109	90	110
Nickel	1/21/16	14:30	500.0	513.0	103	90	110
Selenium	1/21/16	14:30	2000	2050	102	90	110
Silver	1/21/16	14:30	50.00	54.10	108	90	110
Thallium	1/21/16	14:30	2000	2170	108	90	110
Vanadium	1/21/16	14:30	500.0	515.0	103	90	110
Zinc	1/21/16	14:30	500.0	545.0	109	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

LLQC

2A-1

LOWER LIMIT OF QUANTITATION CHECK (LLQC)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122762 Lab Sample ID: 684050

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	1/21/16	14:35	1200	1310	109	80	120
Antimony	1/21/16	14:35	60.00	60.90	102	80	120
Arsenic	1/21/16	14:35	60.00	66.50	111	80	120
Barium	1/21/16	14:35	30.00	30.70	102	80	120
Beryllium	1/21/16	14:35	12.00	13.20	110	80	120
Cadmium	1/21/16	14:35	15.00	16.20	108	80	120
Calcium	1/21/16	14:35	1500	1580	105	80	120
Chromium	1/21/16	14:35	30.00	31.40	105	80	120
Cobalt	1/21/16	14:35	30.00	29.60	99	80	120
Copper	1/21/16	14:35	30.00	31.20	104	80	120
Iron	1/21/16	14:35	900.0	881.0	98	80	120
Lead	1/21/16	14:35	30.00	32.90	110	80	120
Magnesium	1/21/16	14:35	1500	1630	109	80	120
Manganese	1/21/16	14:35	30.00	33.60	112	80	120
Nickel	1/21/16	14:35	30.00	29.90	100	80	120
Selenium	1/21/16	14:35	90.00	81.40	90	80	120
Thallium	1/21/16	14:35	60.00	64.90	108	80	120
Vanadium	1/21/16	14:35	30.00	29.60	99	80	120
Zinc	1/21/16	14:35	30.00	31.80	106	80	120

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122762 Lab Sample ID: 684054

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Silver	1/21/16 15:04	10.00	10.80	108	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122717

Lab Sample ID: 681943

ICAL Calibration #:

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	1/18/16	09:08	100000	99700	100	90	110
Sodium	1/18/16	09:08	100000	99000	99	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV High Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122716 Lab Sample ID: 682506

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)	
Aluminum	1/18/16	15:40	5000	4210	84	90	110	FAIL
Antimony	1/18/16	15:40	5000	4270	85	90	110	FAIL
Arsenic	1/18/16	15:40	5000	4270	85	90	110	FAIL
Barium	1/18/16	15:40	5000	4690	94	90	110	
Beryllium	1/18/16	15:40	500.0	462.0	92	90	110	
Cadmium	1/18/16	15:40	500.0	502.0	100	90	110	
Calcium	1/18/16	15:40	5000	4700	94	90	110	
Chromium	1/18/16	15:40	5000	4410	88	90	110	FAIL
Cobalt	1/18/16	15:40	5000	4260	85	90	110	FAIL
Copper	1/18/16	15:40	5000	4630	93	90	110	
Iron	1/18/16	15:40	5000	4610	92	90	110	
Lead	1/18/16	15:40	5000	4440	89	90	110	FAIL
Magnesium	1/18/16	15:40	5000	4450	89	90	110	FAIL
Manganese	1/18/16	15:40	5000	4640	93	90	110	
Nickel	1/18/16	15:40	5000	4390	88	90	110	FAIL
Selenium	1/18/16	15:40	5000	4610	92	90	110	
Thallium	1/18/16	15:40	5000	4390	88	90	110	FAIL
Vanadium	1/18/16	15:40	5000	4630	93	90	110	
Zinc	1/18/16	15:40	5000	4220	84	90	110	FAIL

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

CCV Low Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122716 Lab Sample ID: 682507

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	1/18/16	15:44	500.0	461.0	92	90	110
Antimony	1/18/16	15:44	500.0	452.0	90	90	110
Arsenic	1/18/16	15:44	500.0	464.0	93	90	110
Barium	1/18/16	15:44	500.0	489.0	98	90	110
Beryllium	1/18/16	15:44	50.00	47.50	95	90	110
Cadmium	1/18/16	15:44	50.00	45.60	91	90	110
Calcium	1/18/16	15:44	500.0	489.0	98	90	110
Chromium	1/18/16	15:44	500.0	456.0	91	90	110
Cobalt	1/18/16	15:44	500.0	456.0	91	90	110
Copper	1/18/16	15:44	500.0	460.0	92	90	110
Iron	1/18/16	15:44	500.0	495.0	99	90	110
Lead	1/18/16	15:44	500.0	457.0	91	90	110
Magnesium	1/18/16	15:44	500.0	494.0	99	90	110
Manganese	1/18/16	15:44	500.0	453.0	91	90	110
Nickel	1/18/16	15:44	500.0	473.0	95	90	110
Selenium	1/18/16	15:44	500.0	470.0	94	90	110
Silver	1/18/16	15:44	50.00	45.00	90	90	110
Thallium	1/18/16	15:44	500.0	483.0	97	90	110
Vanadium	1/18/16	15:44	500.0	449.0	90	90	110
Zinc	1/18/16	15:44	500.0	467.0	93	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV High Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122716 Lab Sample ID: 682510

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)	
Aluminum	1/18/16	16:31	5000	4430	89	90	110	FAIL
Antimony	1/18/16	16:31	5000	4330	87	90	110	FAIL
Arsenic	1/18/16	16:31	5000	4350	87	90	110	FAIL
Barium	1/18/16	16:31	5000	4730	95	90	110	
Beryllium	1/18/16	16:31	500.0	470.0	94	90	110	
Cadmium	1/18/16	16:31	500.0	442.0	88	90	110	FAIL
Calcium	1/18/16	16:31	5000	4670	93	90	110	
Chromium	1/18/16	16:31	5000	4490	90	90	110	
Cobalt	1/18/16	16:31	5000	4240	85	90	110	FAIL
Copper	1/18/16	16:31	5000	4370	87	90	110	FAIL
Iron	1/18/16	16:31	5000	4690	94	90	110	
Lead	1/18/16	16:31	5000	4510	90	90	110	
Magnesium	1/18/16	16:31	5000	4590	92	90	110	
Manganese	1/18/16	16:31	5000	4150	83	90	110	FAIL
Nickel	1/18/16	16:31	5000	4470	89	90	110	FAIL
Selenium	1/18/16	16:31	5000	4720	94	90	110	
Thallium	1/18/16	16:31	5000	4450	89	90	110	FAIL
Vanadium	1/18/16	16:31	5000	4460	89	90	110	FAIL
Zinc	1/18/16	16:31	5000	4500	90	90	110	

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV Low Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122716 Lab Sample ID: 682511

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	1/18/16	16:35	500.0	472.0	94	90	110
Antimony	1/18/16	16:35	500.0	467.0	93	90	110
Arsenic	1/18/16	16:35	500.0	473.0	95	90	110
Barium	1/18/16	16:35	500.0	490.0	98	90	110
Beryllium	1/18/16	16:35	50.00	48.40	97	90	110
Cadmium	1/18/16	16:35	50.00	46.80	94	90	110
Calcium	1/18/16	16:35	500.0	489.0	98	90	110
Chromium	1/18/16	16:35	500.0	470.0	94	90	110
Cobalt	1/18/16	16:35	500.0	474.0	95	90	110
Copper	1/18/16	16:35	500.0	473.0	95	90	110
Iron	1/18/16	16:35	500.0	547.0	109	90	110
Lead	1/18/16	16:35	500.0	474.0	95	90	110
Magnesium	1/18/16	16:35	500.0	504.0	101	90	110
Manganese	1/18/16	16:35	500.0	498.0	100	90	110
Nickel	1/18/16	16:35	500.0	479.0	96	90	110
Selenium	1/18/16	16:35	500.0	507.0	101	90	110
Silver	1/18/16	16:35	50.00	48.20	96	90	110
Thallium	1/18/16	16:35	500.0	494.0	99	90	110
Vanadium	1/18/16	16:35	500.0	464.0	93	90	110
Zinc	1/18/16	16:35	500.0	475.0	95	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122763

Lab Sample ID: 682857

ICAL Calibration #:

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	1/20/16	13:21	100000	98800	99	90	110
Sodium	1/20/16	13:21	100000	99100	99	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122763 Lab Sample ID: 682860

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	1/20/16	13:36	100000	98700	99	90	110
Sodium	1/20/16	13:36	100000	98000	98	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122800 Lab Sample ID: 683009

ICAL Calibration #: 1/1/016 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Mercury	1/21/16 10:03	3.00	2.95	98	80	120

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122800 Lab Sample ID: 683013

ICAL Calibration #: 1/1/016 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Mercury	1/21/16 10:27	3.00	3.03	101	80	120

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV High Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122762 Lab Sample ID: 683258

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	1/19/16	15:49	5000	5330	107	90	110
Antimony	1/19/16	15:49	5000	4550	91	90	110
Arsenic	1/19/16	15:49	5000	4540	91	90	110
Beryllium	1/19/16	15:49	500.0	451.0	90	90	110
Cadmium	1/19/16	15:49	500.0	456.0	91	90	110
Calcium	1/19/16	15:49	5000	4630	93	90	110
Chromium	1/19/16	15:49	5000	4550	91	90	110
Cobalt	1/19/16	15:49	5000	4590	92	90	110
Copper	1/19/16	15:49	5000	4570	91	90	110
Iron	1/19/16	15:49	5000	4760	95	90	110
Lead	1/19/16	15:49	5000	4550	91	90	110
Magnesium	1/19/16	15:49	5000	4600	92	90	110
Manganese	1/19/16	15:49	5000	4610	92	90	110
Nickel	1/19/16	15:49	5000	4540	91	90	110
Selenium	1/19/16	15:49	5000	4610	92	90	110
Thallium	1/19/16	15:49	5000	4630	93	90	110
Vanadium	1/19/16	15:49	5000	4570	91	90	110
Zinc	1/19/16	15:49	5000	4620	92	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV Low Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122762 Lab Sample ID: 683259

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)	
Aluminum	1/19/16	15:53	500.0	472.0	94	90	110	
Antimony	1/19/16	15:53	500.0	479.0	96	90	110	
Arsenic	1/19/16	15:53	500.0	470.0	94	90	110	
Barium	1/19/16	15:53	500.0	438.0	88	90	110	FAIL
Beryllium	1/19/16	15:53	50.00	45.50	91	90	110	
Cadmium	1/19/16	15:53	50.00	46.90	94	90	110	
Calcium	1/19/16	15:53	500.0	445.0	89	90	110	FAIL
Chromium	1/19/16	15:53	500.0	457.0	91	90	110	
Cobalt	1/19/16	15:53	500.0	476.0	95	90	110	
Copper	1/19/16	15:53	500.0	478.0	96	90	110	
Iron	1/19/16	15:53	500.0	462.0	92	90	110	
Lead	1/19/16	15:53	500.0	471.0	94	90	110	
Magnesium	1/19/16	15:53	500.0	470.0	94	90	110	
Manganese	1/19/16	15:53	500.0	457.0	91	90	110	
Nickel	1/19/16	15:53	500.0	465.0	93	90	110	
Selenium	1/19/16	15:53	500.0	495.0	99	90	110	
Silver	1/19/16	15:53	50.00	46.90	94	90	110	
Thallium	1/19/16	15:53	500.0	501.0	100	90	110	
Vanadium	1/19/16	15:53	500.0	459.0	92	90	110	
Zinc	1/19/16	15:53	500.0	469.0	94	90	110	

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV High Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122762 Lab Sample ID: 683261

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)	
Aluminum	1/19/16	16:50	5000	5040	101	90	110	
Antimony	1/19/16	16:50	5000	4570	91	90	110	
Arsenic	1/19/16	16:50	5000	4520	90	90	110	
Barium	1/19/16	16:50	5000	4130	83	90	110	FAIL
Beryllium	1/19/16	16:50	500.0	445.0	89	90	110	FAIL
Cadmium	1/19/16	16:50	500.0	456.0	91	90	110	
Calcium	1/19/16	16:50	5000	4720	94	90	110	
Chromium	1/19/16	16:50	5000	4510	90	90	110	
Cobalt	1/19/16	16:50	5000	4430	89	90	110	FAIL
Copper	1/19/16	16:50	5000	4490	90	90	110	
Iron	1/19/16	16:50	5000	4650	93	90	110	
Lead	1/19/16	16:50	5000	4600	92	90	110	
Magnesium	1/19/16	16:50	5000	4720	94	90	110	
Manganese	1/19/16	16:50	5000	4420	88	90	110	FAIL
Nickel	1/19/16	16:50	5000	4450	89	90	110	FAIL
Selenium	1/19/16	16:50	5000	4610	92	90	110	
Thallium	1/19/16	16:50	5000	4650	93	90	110	
Vanadium	1/19/16	16:50	5000	4310	86	90	110	FAIL
Zinc	1/19/16	16:50	5000	4420	88	90	110	FAIL

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV Low Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122762 Lab Sample ID: 683262

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)	
Aluminum	1/19/16	16:54	500.0	466.0	93	90	110	
Antimony	1/19/16	16:54	500.0	470.0	94	90	110	
Arsenic	1/19/16	16:54	500.0	466.0	93	90	110	
Barium	1/19/16	16:54	500.0	435.0	87	90	110	FAIL
Beryllium	1/19/16	16:54	50.00	44.70	89	90	110	FAIL
Cadmium	1/19/16	16:54	50.00	46.40	93	90	110	
Calcium	1/19/16	16:54	500.0	439.0	88	90	110	FAIL
Chromium	1/19/16	16:54	500.0	449.0	90	90	110	
Cobalt	1/19/16	16:54	500.0	469.0	94	90	110	
Copper	1/19/16	16:54	500.0	471.0	94	90	110	
Iron	1/19/16	16:54	500.0	461.0	92	90	110	
Lead	1/19/16	16:54	500.0	467.0	93	90	110	
Magnesium	1/19/16	16:54	500.0	461.0	92	90	110	
Manganese	1/19/16	16:54	500.0	448.0	90	90	110	
Nickel	1/19/16	16:54	500.0	457.0	91	90	110	
Selenium	1/19/16	16:54	500.0	495.0	99	90	110	
Silver	1/19/16	16:54	50.00	45.40	91	90	110	
Thallium	1/19/16	16:54	500.0	497.0	99	90	110	
Vanadium	1/19/16	16:54	500.0	447.0	89	90	110	FAIL
Zinc	1/19/16	16:54	500.0	464.0	93	90	110	

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV High Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122762 Lab Sample ID: 683266

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)	
Aluminum	1/19/16	17:51	5000	5230	105	90	110	
Antimony	1/19/16	17:51	5000	4560	91	90	110	
Arsenic	1/19/16	17:51	5000	4540	91	90	110	
Barium	1/19/16	17:51	5000	4180	84	90	110	FAIL
Beryllium	1/19/16	17:51	500.0	482.0	96	90	110	
Cadmium	1/19/16	17:51	500.0	456.0	91	90	110	
Calcium	1/19/16	17:51	5000	4780	96	90	110	
Chromium	1/19/16	17:51	5000	4540	91	90	110	
Cobalt	1/19/16	17:51	5000	4620	92	90	110	
Copper	1/19/16	17:51	5000	4640	93	90	110	
Iron	1/19/16	17:51	5000	4850	97	90	110	
Lead	1/19/16	17:51	5000	4560	91	90	110	
Magnesium	1/19/16	17:51	5000	4680	94	90	110	
Manganese	1/19/16	17:51	5000	4560	91	90	110	
Nickel	1/19/16	17:51	5000	4610	92	90	110	
Selenium	1/19/16	17:51	5000	4620	92	90	110	
Thallium	1/19/16	17:51	5000	4640	93	90	110	
Vanadium	1/19/16	17:51	5000	4350	87	90	110	FAIL
Zinc	1/19/16	17:51	5000	4550	91	90	110	

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV Low Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122762 Lab Sample ID: 683267

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)	
Aluminum	1/19/16	17:55	500.0	480.0	96	90	110	
Antimony	1/19/16	17:55	500.0	485.0	97	90	110	
Arsenic	1/19/16	17:55	500.0	478.0	96	90	110	
Barium	1/19/16	17:55	500.0	447.0	89	90	110	FAIL
Beryllium	1/19/16	17:55	50.00	47.60	95	90	110	
Cadmium	1/19/16	17:55	50.00	47.70	95	90	110	
Calcium	1/19/16	17:55	500.0	465.0	93	90	110	
Chromium	1/19/16	17:55	500.0	467.0	93	90	110	
Cobalt	1/19/16	17:55	500.0	484.0	97	90	110	
Copper	1/19/16	17:55	500.0	486.0	97	90	110	
Iron	1/19/16	17:55	500.0	546.0	109	90	110	
Lead	1/19/16	17:55	500.0	479.0	96	90	110	
Magnesium	1/19/16	17:55	500.0	478.0	96	90	110	
Manganese	1/19/16	17:55	500.0	465.0	93	90	110	
Nickel	1/19/16	17:55	500.0	470.0	94	90	110	
Selenium	1/19/16	17:55	500.0	504.0	101	90	110	
Silver	1/19/16	17:55	50.00	46.90	94	90	110	
Thallium	1/19/16	17:55	500.0	511.0	102	90	110	
Vanadium	1/19/16	17:55	500.0	480.0	96	90	110	
Zinc	1/19/16	17:55	500.0	476.0	95	90	110	

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV High Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122716 Lab Sample ID: 683314

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	1/19/16	16:50	5000	5040	101	90	110
Antimony	1/19/16	16:50	5000	4570	91	90	110
Arsenic	1/19/16	16:50	5000	4520	90	90	110
Beryllium	1/19/16	16:50	500.0	448.0	90	90	110
Cadmium	1/19/16	16:50	500.0	456.0	91	90	110
Calcium	1/19/16	16:50	5000	4720	94	90	110
Chromium	1/19/16	16:50	5000	4510	90	90	110
Copper	1/19/16	16:50	5000	4490	90	90	110
Iron	1/19/16	16:50	5000	4650	93	90	110
Lead	1/19/16	16:50	5000	4600	92	90	110
Magnesium	1/19/16	16:50	5000	4480	90	90	110
Selenium	1/19/16	16:50	5000	4610	92	90	110
Thallium	1/19/16	16:50	5000	4650	93	90	110
Vanadium	1/19/16	16:50	5000	4490	90	90	110
Zinc	1/19/16	16:50	5000	4490	90	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV Low Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122716 Lab Sample ID: 683315

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	1/19/16	16:54	500.0	466.0	93	90	110
Antimony	1/19/16	16:54	500.0	470.0	94	90	110
Arsenic	1/19/16	16:54	500.0	466.0	93	90	110
Cadmium	1/19/16	16:54	50.00	46.40	93	90	110
Chromium	1/19/16	16:54	500.0	449.0	90	90	110
Cobalt	1/19/16	16:54	500.0	453.0	91	90	110
Copper	1/19/16	16:54	500.0	471.0	94	90	110
Iron	1/19/16	16:54	500.0	461.0	92	90	110
Lead	1/19/16	16:54	500.0	467.0	93	90	110
Magnesium	1/19/16	16:54	500.0	461.0	92	90	110
Manganese	1/19/16	16:54	500.0	480.0	96	90	110
Nickel	1/19/16	16:54	500.0	457.0	91	90	110
Selenium	1/19/16	16:54	500.0	509.0	102	90	110
Silver	1/19/16	16:54	50.00	45.40	91	90	110
Thallium	1/19/16	16:54	500.0	498.0	100	90	110
Zinc	1/19/16	16:54	500.0	464.0	93	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV High Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122716 Lab Sample ID: 683317

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	1/19/16	17:51	5000	5230	105	90	110
Antimony	1/19/16	17:51	5000	4560	91	90	110
Arsenic	1/19/16	17:51	5000	4540	91	90	110
Beryllium	1/19/16	17:51	500.0	482.0	96	90	110
Cadmium	1/19/16	17:51	500.0	456.0	91	90	110
Calcium	1/19/16	17:51	5000	4780	96	90	110
Chromium	1/19/16	17:51	5000	4540	91	90	110
Cobalt	1/19/16	17:51	5000	4620	92	90	110
Copper	1/19/16	17:51	5000	4640	93	90	110
Iron	1/19/16	17:51	5000	4850	97	90	110
Lead	1/19/16	17:51	5000	4560	91	90	110
Magnesium	1/19/16	17:51	5000	4680	94	90	110
Manganese	1/19/16	17:51	5000	4560	91	90	110
Nickel	1/19/16	17:51	5000	4530	91	90	110
Selenium	1/19/16	17:51	5000	4620	92	90	110
Thallium	1/19/16	17:51	5000	4640	93	90	110
Vanadium	1/19/16	17:51	5000	4730	95	90	110
Zinc	1/19/16	17:51	5000	4610	92	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV Low Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122716 Lab Sample ID: 683318

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	1/19/16	17:55	500.0	480.0	96	90	110
Antimony	1/19/16	17:55	500.0	485.0	97	90	110
Arsenic	1/19/16	17:55	500.0	478.0	96	90	110
Barium	1/19/16	17:55	500.0	477.0	95	90	110
Beryllium	1/19/16	17:55	50.00	47.60	95	90	110
Cadmium	1/19/16	17:55	50.00	47.70	95	90	110
Calcium	1/19/16	17:55	500.0	465.0	93	90	110
Chromium	1/19/16	17:55	500.0	467.0	93	90	110
Cobalt	1/19/16	17:55	500.0	472.0	94	90	110
Copper	1/19/16	17:55	500.0	486.0	97	90	110
Iron	1/19/16	17:55	500.0	546.0	109	90	110
Lead	1/19/16	17:55	500.0	479.0	96	90	110
Magnesium	1/19/16	17:55	500.0	478.0	96	90	110
Manganese	1/19/16	17:55	500.0	504.0	101	90	110
Nickel	1/19/16	17:55	500.0	470.0	94	90	110
Selenium	1/19/16	17:55	500.0	518.0	104	90	110
Silver	1/19/16	17:55	50.00	46.90	94	90	110
Thallium	1/19/16	17:55	500.0	511.0	102	90	110
Vanadium	1/19/16	17:55	500.0	480.0	96	90	110
Zinc	1/19/16	17:55	500.0	476.0	95	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV High Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122716 Lab Sample ID: 683320

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	1/19/16	18:48	5000	5170	103	90	110
Antimony	1/19/16	18:48	5000	4660	93	90	110
Arsenic	1/19/16	18:48	5000	4630	93	90	110
Beryllium	1/19/16	18:48	500.0	494.0	99	90	110
Cadmium	1/19/16	18:48	500.0	465.0	93	90	110
Calcium	1/19/16	18:48	5000	4800	96	90	110
Chromium	1/19/16	18:48	5000	4650	93	90	110
Cobalt	1/19/16	18:48	5000	4630	93	90	110
Copper	1/19/16	18:48	5000	4670	93	90	110
Iron	1/19/16	18:48	5000	4790	96	90	110
Lead	1/19/16	18:48	5000	4640	93	90	110
Magnesium	1/19/16	18:48	5000	4690	94	90	110
Manganese	1/19/16	18:48	5000	4680	94	90	110
Nickel	1/19/16	18:48	5000	4600	92	90	110
Selenium	1/19/16	18:48	5000	4690	94	90	110
Thallium	1/19/16	18:48	5000	4730	95	90	110
Vanadium	1/19/16	18:48	5000	4660	93	90	110
Zinc	1/19/16	18:48	5000	4690	94	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV Low Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122716 Lab Sample ID: 683321

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	1/19/16	18:52	500.0	470.0	94	90	110
Antimony	1/19/16	18:52	500.0	472.0	94	90	110
Arsenic	1/19/16	18:52	500.0	471.0	94	90	110
Barium	1/19/16	18:52	500.0	455.0	91	90	110
Beryllium	1/19/16	18:52	50.00	47.00	94	90	110
Cadmium	1/19/16	18:52	50.00	46.80	94	90	110
Calcium	1/19/16	18:52	500.0	468.0	94	90	110
Chromium	1/19/16	18:52	500.0	467.0	93	90	110
Cobalt	1/19/16	18:52	500.0	470.0	94	90	110
Copper	1/19/16	18:52	500.0	476.0	95	90	110
Iron	1/19/16	18:52	500.0	523.0	105	90	110
Lead	1/19/16	18:52	500.0	470.0	94	90	110
Magnesium	1/19/16	18:52	500.0	477.0	95	90	110
Manganese	1/19/16	18:52	500.0	480.0	96	90	110
Nickel	1/19/16	18:52	500.0	461.0	92	90	110
Selenium	1/19/16	18:52	500.0	502.0	100	90	110
Silver	1/19/16	18:52	50.00	46.20	92	90	110
Thallium	1/19/16	18:52	500.0	499.0	100	90	110
Vanadium	1/19/16	18:52	500.0	471.0	94	90	110
Zinc	1/19/16	18:52	500.0	467.0	93	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV High Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122821 Lab Sample ID: 684046

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Antimony	1/21/16	15:53	5000	4860	97	90	110
Arsenic	1/21/16	15:53	5000	4800	96	90	110
Barium	1/21/16	15:53	5000	4810	96	90	110
Cadmium	1/21/16	15:53	500.0	535.0	107	90	110
Chromium	1/21/16	15:53	5000	4850	97	90	110
Iron	1/21/16	15:53	5000	5340	107	90	110
Lead	1/21/16	15:53	5000	4820	96	90	110
Manganese	1/21/16	15:53	5000	5060	101	90	110
Nickel	1/21/16	15:53	5000	4880	98	90	110
Selenium	1/21/16	15:53	5000	4870	97	90	110
Silver	1/21/16	15:53	500.0	474.0	95	90	110
Zinc	1/21/16	15:53	5000	4940	99	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV Low Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122821 Lab Sample ID: 684047

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Antimony	1/21/16	15:58	500.0	499.0	100	90	110
Arsenic	1/21/16	15:58	500.0	500.0	100	90	110
Barium	1/21/16	15:58	500.0	494.0	99	90	110
Cadmium	1/21/16	15:58	50.00	53.70	107	90	110
Chromium	1/21/16	15:58	500.0	494.0	99	90	110
Iron	1/21/16	15:58	500.0	522.0	104	90	110
Lead	1/21/16	15:58	500.0	499.0	100	90	110
Manganese	1/21/16	15:58	500.0	526.0	105	90	110
Nickel	1/21/16	15:58	500.0	499.0	100	90	110
Selenium	1/21/16	15:58	500.0	521.0	104	90	110
Silver	1/21/16	15:58	50.00	49.80	100	90	110
Zinc	1/21/16	15:58	500.0	529.0	106	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV High Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122762 Lab Sample ID: 684055

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	1/21/16	15:53	5000	5370	107	90	110
Antimony	1/21/16	15:53	5000	4860	97	90	110
Arsenic	1/21/16	15:53	5000	4800	96	90	110
Barium	1/21/16	15:53	5000	4810	96	90	110
Beryllium	1/21/16	15:53	500.0	531.0	106	90	110
Cadmium	1/21/16	15:53	500.0	535.0	107	90	110
Calcium	1/21/16	15:53	5000	4870	97	90	110
Chromium	1/21/16	15:53	5000	4850	97	90	110
Cobalt	1/21/16	15:53	5000	4890	98	90	110
Copper	1/21/16	15:53	5000	4680	94	90	110
Iron	1/21/16	15:53	5000	5340	107	90	110
Lead	1/21/16	15:53	5000	4820	96	90	110
Magnesium	1/21/16	15:53	5000	5020	100	90	110
Manganese	1/21/16	15:53	5000	5060	101	90	110
Nickel	1/21/16	15:53	5000	4880	98	90	110
Selenium	1/21/16	15:53	5000	4870	97	90	110
Silver	1/21/16	15:53	500.0	474.0	95	90	110
Thallium	1/21/16	15:53	5000	4940	99	90	110
Vanadium	1/21/16	15:53	5000	4960	99	90	110
Zinc	1/21/16	15:53	5000	4940	99	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV Low Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122762 Lab Sample ID: 684056

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	1/21/16	15:58	500.0	544.0	109	90	110
Antimony	1/21/16	15:58	500.0	499.0	100	90	110
Arsenic	1/21/16	15:58	500.0	500.0	100	90	110
Barium	1/21/16	15:58	500.0	494.0	99	90	110
Beryllium	1/21/16	15:58	50.00	52.10	104	90	110
Cadmium	1/21/16	15:58	50.00	53.70	107	90	110
Calcium	1/21/16	15:58	500.0	522.0	104	90	110
Chromium	1/21/16	15:58	500.0	494.0	99	90	110
Cobalt	1/21/16	15:58	500.0	507.0	101	90	110
Copper	1/21/16	15:58	500.0	514.0	103	90	110
Iron	1/21/16	15:58	500.0	522.0	104	90	110
Lead	1/21/16	15:58	500.0	499.0	100	90	110
Magnesium	1/21/16	15:58	500.0	548.0	110	90	110
Manganese	1/21/16	15:58	500.0	526.0	105	90	110
Nickel	1/21/16	15:58	500.0	499.0	100	90	110
Selenium	1/21/16	15:58	500.0	521.0	104	90	110
Silver	1/21/16	15:58	50.00	49.80	100	90	110
Thallium	1/21/16	15:58	500.0	530.0	106	90	110
Vanadium	1/21/16	15:58	500.0	479.0	96	90	110
Zinc	1/21/16	15:58	500.0	529.0	106	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV High Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122762 Lab Sample ID: 684058

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	1/21/16	16:38	5000	5430	109	90	110
Antimony	1/21/16	16:38	5000	4910	98	90	110
Arsenic	1/21/16	16:38	5000	4870	97	90	110
Barium	1/21/16	16:38	5000	4860	97	90	110
Beryllium	1/21/16	16:38	500.0	504.0	101	90	110
Cadmium	1/21/16	16:38	500.0	542.0	108	90	110
Calcium	1/21/16	16:38	5000	5140	103	90	110
Chromium	1/21/16	16:38	5000	4950	99	90	110
Cobalt	1/21/16	16:38	5000	4920	98	90	110
Copper	1/21/16	16:38	5000	4790	96	90	110
Iron	1/21/16	16:38	5000	5300	106	90	110
Lead	1/21/16	16:38	5000	4900	98	90	110
Magnesium	1/21/16	16:38	5000	5070	101	90	110
Manganese	1/21/16	16:38	5000	5080	102	90	110
Nickel	1/21/16	16:38	5000	4930	99	90	110
Selenium	1/21/16	16:38	5000	4930	99	90	110
Silver	1/21/16	16:38	500.0	474.0	95	90	110
Thallium	1/21/16	16:38	5000	5010	100	90	110
Vanadium	1/21/16	16:38	5000	4890	98	90	110
Zinc	1/21/16	16:38	5000	4980	100	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV Low Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122762 Lab Sample ID: 684059

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	1/21/16	16:43	500.0	550.0	110	90	110
Antimony	1/21/16	16:43	500.0	503.0	101	90	110
Arsenic	1/21/16	16:43	500.0	504.0	101	90	110
Barium	1/21/16	16:43	500.0	498.0	100	90	110
Beryllium	1/21/16	16:43	50.00	51.80	104	90	110
Cadmium	1/21/16	16:43	50.00	54.50	109	90	110
Calcium	1/21/16	16:43	500.0	518.0	104	90	110
Chromium	1/21/16	16:43	500.0	495.0	99	90	110
Cobalt	1/21/16	16:43	500.0	512.0	102	90	110
Copper	1/21/16	16:43	500.0	514.0	103	90	110
Iron	1/21/16	16:43	500.0	510.0	102	90	110
Lead	1/21/16	16:43	500.0	507.0	101	90	110
Magnesium	1/21/16	16:43	500.0	550.0	110	90	110
Manganese	1/21/16	16:43	500.0	528.0	106	90	110
Nickel	1/21/16	16:43	500.0	503.0	101	90	110
Selenium	1/21/16	16:43	500.0	526.0	105	90	110
Silver	1/21/16	16:43	50.00	50.70	101	90	110
Thallium	1/21/16	16:43	500.0	533.0	107	90	110
Vanadium	1/21/16	16:43	500.0	487.0	97	90	110
Zinc	1/21/16	16:43	500.0	527.0	105	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

MRL

2B

MRL STANDARD CHECK

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122717 Lab Sample ID: 681938

ICAL Calibration #: Concentration Units:

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	1/18/16	08:31	1000	1160	116	70	130
Sodium	1/18/16	08:31	1000	1120	112	70	130

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

MRL

2B

MRL STANDARD CHECK

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122763 Lab Sample ID: 682853

ICAL Calibration #: Concentration Units:

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	1/20/16	12:45	1000	1040	104	70	130
Sodium	1/20/16	12:45	1000	1100	110	70	130

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122800 Lab Sample ID: 683003

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: 1/1/016 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Mercury	01/21/2016 08:54	0	U	0.03	0.06

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122717 Lab Sample ID: 681937

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Potassium	01/18/2016 08:28	121.0		90	250
Sodium	01/18/2016 08:28	10.00	U	100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122716 Lab Sample ID: 682501

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Aluminum	01/18/2016 14:42	0.793	U	6	18
Antimony	01/18/2016 14:42	-2.15	U	2.0	6.0
Arsenic	01/18/2016 14:42	3.38	U	4	12
Barium	01/18/2016 14:42	-6.30	U	0.29	0.90
Beryllium	01/18/2016 14:42	0.0480	U	0.10	0.30
Cadmium	01/18/2016 14:42	0.0210	U	0.3	1.0
Calcium	01/18/2016 14:42	-6.51	U	17	50
Chromium	01/18/2016 14:42	1.45		0.6	2.0
Cobalt	01/18/2016 14:42	0.968		0.7	2.0
Copper	01/18/2016 14:42	0.253	U	1.2	3.5
Iron	01/18/2016 14:42	3.99	U	16	50
Lead	01/18/2016 14:42	0.0960	U	1.4	2.0
Magnesium	01/18/2016 14:42	1.87	U	6	20
Manganese	01/18/2016 14:42	0.527	U	0.7	2.0
Nickel	01/18/2016 14:42	1.09		1.0	3.0
Selenium	01/18/2016 14:42	1.89	U	2.2	6.5
Silver	01/18/2016 14:42	1.61		0.7	2.0
Thallium	01/18/2016 14:42	1.56	U	2.5	7.5
Vanadium	01/18/2016 14:42	1.02		0.8	2.5
Zinc	01/18/2016 14:42	-3.32	U	1.6	4.0

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122763 Lab Sample ID: 682852

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Potassium	01/20/2016 12:42	-9.00	U	90	250
Sodium	01/20/2016 12:42	13.00	U	100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122762 Lab Sample ID: 683254

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Aluminum	01/19/2016 12:39	3.47	U	6	18
Antimony	01/19/2016 12:39	-1.24	U	2.0	6.0
Arsenic	01/19/2016 12:39	-0.638	U	4	12
Barium	01/19/2016 12:39	-5.00	U	0.29	0.90
Beryllium	01/19/2016 12:39	0.0520	U	0.10	0.30
Cadmium	01/19/2016 12:39	-0.0260	U	0.3	1.0
Calcium	01/19/2016 12:39	1.71	U	17	50
Chromium	01/19/2016 12:39	0.611		0.6	2.0
Cobalt	01/19/2016 12:39	-0.174	U	0.7	2.0
Copper	01/19/2016 12:39	0.00700	U	1.2	3.5
Iron	01/19/2016 12:39	24.70		16	50
Lead	01/19/2016 12:39	-1.13	U	1.4	2.0
Magnesium	01/19/2016 12:39	2.20	U	6	20
Manganese	01/19/2016 12:39	0.148	U	0.7	2.0
Nickel	01/19/2016 12:39	0.564	U	1.0	3.0
Selenium	01/19/2016 12:39	0.702	U	2.2	6.5
Silver	01/19/2016 12:39	1.62		0.7	2.0
Thallium	01/19/2016 12:39	0.362	U	2.5	7.5
Vanadium	01/19/2016 12:39	0.156	U	0.8	2.5
Zinc	01/19/2016 12:39	-0.342	U	1.6	4.0

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122716 Lab Sample ID: 683310

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Aluminum	01/19/2016 12:39	3.47	U	6	18
Antimony	01/19/2016 12:39	-1.24	U	2.0	6.0
Arsenic	01/19/2016 12:39	-0.638	U	4	12
Barium	01/19/2016 12:39	-5.00	U	0.29	0.90
Beryllium	01/19/2016 12:39	0.0520	U	0.10	0.30
Cadmium	01/19/2016 12:39	-0.0260	U	0.3	1.0
Calcium	01/19/2016 12:39	1.71	U	17	50
Chromium	01/19/2016 12:39	0.611		0.6	2.0
Cobalt	01/19/2016 12:39	-0.174	U	0.7	2.0
Copper	01/19/2016 12:39	0.00700	U	1.2	3.5
Iron	01/19/2016 12:39	24.70		16	50
Lead	01/19/2016 12:39	-1.13	U	1.4	2.0
Magnesium	01/19/2016 12:39	2.20	U	6	20
Manganese	01/19/2016 12:39	0.148	U	0.7	2.0
Nickel	01/19/2016 12:39	0.564	U	1.0	3.0
Selenium	01/19/2016 12:39	0.702	U	2.2	6.5
Silver	01/19/2016 12:39	1.62		0.7	2.0
Thallium	01/19/2016 12:39	0.362	U	2.5	7.5
Vanadium	01/19/2016 12:39	0.156	U	0.8	2.5
Zinc	01/19/2016 12:39	-0.342	U	1.6	4.0

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122821 Lab Sample ID: 684040

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Antimony	01/21/2016 14:44	-0.864	U	2.0	6.0
Arsenic	01/21/2016 14:44	1.21	U	4	12
Barium	01/21/2016 14:44	-0.189	U	0.29	0.90
Cadmium	01/21/2016 14:44	-0.107	U	0.3	1.0
Chromium	01/21/2016 14:44	0.191	U	0.6	2.0
Iron	01/21/2016 14:44	8.86	U	16	50
Lead	01/21/2016 14:44	-0.190	U	1.4	2.0
Manganese	01/21/2016 14:44	0.0670	U	0.7	2.0
Nickel	01/21/2016 14:44	-0.226	U	1.0	3.0
Selenium	01/21/2016 14:44	1.13	U	2.2	6.5
Silver	01/21/2016 14:44	1.38		0.7	2.0
Zinc	01/21/2016 14:44	-2.58	U	1.6	4.0

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122762 Lab Sample ID: 684051

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Aluminum	01/21/2016 14:44	1.84	U	6	18
Antimony	01/21/2016 14:44	-0.864	U	2.0	6.0
Arsenic	01/21/2016 14:44	1.21	U	4	12
Barium	01/21/2016 14:44	-0.189	U	0.29	0.90
Beryllium	01/21/2016 14:44	-0.0450	U	0.10	0.30
Cadmium	01/21/2016 14:44	-0.107	U	0.3	1.0
Calcium	01/21/2016 14:44	-5.13	U	17	50
Chromium	01/21/2016 14:44	0.191	U	0.6	2.0
Cobalt	01/21/2016 14:44	-0.0360	U	0.7	2.0
Copper	01/21/2016 14:44	-0.491	U	1.2	3.5
Iron	01/21/2016 14:44	8.86	U	16	50
Lead	01/21/2016 14:44	-0.190	U	1.4	2.0
Magnesium	01/21/2016 14:44	4.52	U	6	20
Manganese	01/21/2016 14:44	0.0670	U	0.7	2.0
Nickel	01/21/2016 14:44	-0.226	U	1.0	3.0
Selenium	01/21/2016 14:44	1.13	U	2.2	6.5
Silver	01/21/2016 14:44	1.38		0.7	2.0
Thallium	01/21/2016 14:44	-0.436	U	2.5	7.5
Vanadium	01/21/2016 14:44	0.361	U	0.8	2.5
Zinc	01/21/2016 14:44	-2.58	U	1.6	4.0

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

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Sample No

CCB

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CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122800 Lab Sample ID: 683010

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: 1/1/016 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Mercury	01/21/2016 10:05	0	U	0.03	0.06

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122800 Lab Sample ID: 683014

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: 1/1/016 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Mercury	01/21/2016 10:29	0	U	0.03	0.06

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
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Sample No

CCB

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CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122717 Lab Sample ID: 681944

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Potassium	01/18/2016 09:10	117.0		90	250
Sodium	01/18/2016 09:10	16.00	U	100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

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CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122716 Lab Sample ID: 682508

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit	
Aluminum	01/18/2016 15:47	-1.01	U	6	18	
Antimony	01/18/2016 15:47	-0.698	U	2.0	6.0	
Arsenic	01/18/2016 15:47	3.08	U	4	12	
Barium	01/18/2016 15:47	-18.3	U	0.29	0.90	
Beryllium	01/18/2016 15:47	-0.0830	U	0.10	0.30	
Cadmium	01/18/2016 15:47	-0.0420	U	0.3	1.0	
Calcium	01/18/2016 15:47	-3.69	U	17	50	
Chromium	01/18/2016 15:47	-0.234	U	0.6	2.0	
Cobalt	01/18/2016 15:47	-0.0580	U	0.7	2.0	
Copper	01/18/2016 15:47	0.0940	U	1.2	3.5	
Iron	01/18/2016 15:47	-1.46	U	16	50	
Lead	01/18/2016 15:47	-0.284	U	1.4	2.0	
Magnesium	01/18/2016 15:47	0.118	U	6	20	
Manganese	01/18/2016 15:47	-0.0500	U	0.7	2.0	
Nickel	01/18/2016 15:47	-0.325	U	1.0	3.0	
Selenium	01/18/2016 15:47	10.20		2.2	6.5	FAIL
Silver	01/18/2016 15:47	1.45		0.7	2.0	
Thallium	01/18/2016 15:47	-0.0710	U	2.5	7.5	
Vanadium	01/18/2016 15:47	0.582	U	0.8	2.5	
Zinc	01/18/2016 15:47	-3.91	U	1.6	5.0	

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122716 Lab Sample ID: 682512

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit	
Aluminum	01/18/2016 16:39	-1.12	U	6	18	
Antimony	01/18/2016 16:39	1.84	U	2.0	6.0	
Arsenic	01/18/2016 16:39	4.40		4	12	
Barium	01/18/2016 16:39	-6.98	U	0.29	0.90	
Beryllium	01/18/2016 16:39	-0.0910	U	0.10	0.30	
Cadmium	01/18/2016 16:39	-0.0300	U	0.3	1.0	
Calcium	01/18/2016 16:39	-4.12	U	17	50	
Chromium	01/18/2016 16:39	0.617		0.6	2.0	
Cobalt	01/18/2016 16:39	0.323	U	0.7	2.0	
Copper	01/18/2016 16:39	-0.181	U	1.2	3.5	
Iron	01/18/2016 16:39	-1.69	U	16	50	
Lead	01/18/2016 16:39	0.214	U	1.4	2.0	
Magnesium	01/18/2016 16:39	0.320	U	6	20	
Manganese	01/18/2016 16:39	-0.139	U	0.7	2.0	
Nickel	01/18/2016 16:39	-0.0220	U	1.0	3.0	
Selenium	01/18/2016 16:39	10.80		2.2	6.5	FAIL
Silver	01/18/2016 16:39	1.21		0.7	2.0	
Thallium	01/18/2016 16:39	-0.326	U	2.5	7.5	
Vanadium	01/18/2016 16:39	0.732	U	0.8	2.5	
Zinc	01/18/2016 16:39	-3.74	U	1.6	5.0	

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

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CCB

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122763 Lab Sample ID: 682858

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Potassium	01/20/2016 13:23	15.00	U	90	250
Sodium	01/20/2016 13:23	25.00	U	100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122763 Lab Sample ID: 682861

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Potassium	01/20/2016 13:39	11.00	U	90	250
Sodium	01/20/2016 13:39	31.00	U	100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

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CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122762 Lab Sample ID: 683260

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit	
Aluminum	01/19/2016 15:58	0.227	U	6	18	
Antimony	01/19/2016 15:58	-2.23	U	2.0	6.0	
Arsenic	01/19/2016 15:58	1.15	U	4	12	
Barium	01/19/2016 15:58	-13.1	U	0.29	0.90	
Beryllium	01/19/2016 15:58	0.132		0.10	0.30	
Cadmium	01/19/2016 15:58	-0.131	U	0.3	1.0	
Calcium	01/19/2016 15:58	-0.797	U	17	50	
Chromium	01/19/2016 15:58	0.426	U	0.6	2.0	
Cobalt	01/19/2016 15:58	-0.170	U	0.7	2.0	
Copper	01/19/2016 15:58	-0.331	U	1.2	3.5	
Iron	01/19/2016 15:58	169.0		16	50	FAIL
Lead	01/19/2016 15:58	-0.833	U	1.4	2.0	
Magnesium	01/19/2016 15:58	-0.804	U	6	20	
Manganese	01/19/2016 15:58	-0.00300	U	0.7	2.0	
Nickel	01/19/2016 15:58	-0.293	U	1.0	3.0	
Selenium	01/19/2016 15:58	8.72		2.2	10	
Silver	01/19/2016 15:58	0.662	U	0.7	2.0	
Thallium	01/19/2016 15:58	-0.966	U	2.5	7.5	
Vanadium	01/19/2016 15:58	0.260	U	0.8	2.5	
Zinc	01/19/2016 15:58	-0.474	U	1.6	5.0	

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

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CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122762 Lab Sample ID: 683263

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit	
Aluminum	01/19/2016 16:59	0.298	U	6	18	
Antimony	01/19/2016 16:59	3.11		2.0	6.0	
Arsenic	01/19/2016 16:59	1.47	U	4	12	
Barium	01/19/2016 16:59	8.51		0.29	0.90	FAIL
Beryllium	01/19/2016 16:59	0.161		0.10	0.30	
Cadmium	01/19/2016 16:59	0.0290	U	0.3	1.0	
Calcium	01/19/2016 16:59	-0.111	U	17	50	
Chromium	01/19/2016 16:59	0.151	U	0.6	2.0	
Cobalt	01/19/2016 16:59	0.0560	U	0.7	2.0	
Copper	01/19/2016 16:59	-0.348	U	1.2	3.5	
Iron	01/19/2016 16:59	-4.67	U	16	50	
Lead	01/19/2016 16:59	0.154	U	1.4	2.0	
Magnesium	01/19/2016 16:59	-0.767	U	6	20	
Manganese	01/19/2016 16:59	-0.0590	U	0.7	2.0	
Nickel	01/19/2016 16:59	0.242	U	1.0	3.0	
Selenium	01/19/2016 16:59	9.81		2.2	10	
Silver	01/19/2016 16:59	0.715		0.7	2.0	
Thallium	01/19/2016 16:59	-0.866	U	2.5	7.5	
Vanadium	01/19/2016 16:59	-0.0580	U	0.8	2.5	
Zinc	01/19/2016 16:59	-0.497	U	1.6	5.0	

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

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CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122762 Lab Sample ID: 683268

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit	
Aluminum	01/19/2016 18:00	0.189	U	6	18	
Antimony	01/19/2016 18:00	0.450	U	2.0	6.0	
Arsenic	01/19/2016 18:00	1.70	U	4	12	
Barium	01/19/2016 18:00	-7.47	U	0.29	0.90	
Beryllium	01/19/2016 18:00	0.155		0.10	0.30	
Cadmium	01/19/2016 18:00	0.0140	U	0.3	1.0	
Calcium	01/19/2016 18:00	-1.24	U	17	50	
Chromium	01/19/2016 18:00	0.297	U	0.6	2.0	
Cobalt	01/19/2016 18:00	-0.213	U	0.7	2.0	
Copper	01/19/2016 18:00	-0.138	U	1.2	3.5	
Iron	01/19/2016 18:00	73.50		16	50	FAIL
Lead	01/19/2016 18:00	-1.17	U	1.4	2.0	
Magnesium	01/19/2016 18:00	-0.893	U	6	20	
Manganese	01/19/2016 18:00	-0.0530	U	0.7	2.0	
Nickel	01/19/2016 18:00	0.0690	U	1.0	3.0	
Selenium	01/19/2016 18:00	9.80		2.2	10	
Silver	01/19/2016 18:00	1.16		0.7	2.0	
Thallium	01/19/2016 18:00	0.516	U	2.5	7.5	
Vanadium	01/19/2016 18:00	0.420	U	0.8	2.5	
Zinc	01/19/2016 18:00	-0.581	U	1.6	5.0	

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122716 Lab Sample ID: 683316

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Aluminum	01/19/2016 16:59	0.298	U	6	18
Antimony	01/19/2016 16:59	3.11		2.0	6.0
Arsenic	01/19/2016 16:59	1.47	U	4	12
Beryllium	01/19/2016 16:59	0.161		0.10	0.30
Cadmium	01/19/2016 16:59	0.0290	U	0.3	1.0
Calcium	01/19/2016 16:59	-0.111	U	17	50
Chromium	01/19/2016 16:59	0.151	U	0.6	2.0
Cobalt	01/19/2016 16:59	0.0560	U	0.7	2.0
Copper	01/19/2016 16:59	-0.348	U	1.2	3.5
Iron	01/19/2016 16:59	-4.67	U	16	50
Lead	01/19/2016 16:59	0.154	U	1.4	2.0
Magnesium	01/19/2016 16:59	-0.767	U	6	20
Manganese	01/19/2016 16:59	-0.0590	U	0.7	2.0
Nickel	01/19/2016 16:59	0.242	U	1.0	3.0
Selenium	01/19/2016 16:59	9.81		2.2	10
Silver	01/19/2016 16:59	0.715		0.7	2.0
Thallium	01/19/2016 16:59	-0.866	U	2.5	7.5
Vanadium	01/19/2016 16:59	-0.0580	U	0.8	2.5
Zinc	01/19/2016 16:59	-0.497	U	1.6	5.0

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122716 Lab Sample ID: 683319

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Aluminum	01/19/2016 18:00	0.189	U	6	18
Antimony	01/19/2016 18:00	0.450	U	2.0	6.0
Arsenic	01/19/2016 18:00	1.70	U	4	12
Barium	01/19/2016 18:00	-7.47	U	0.29	0.90
Beryllium	01/19/2016 18:00	0.155		0.10	0.30
Cadmium	01/19/2016 18:00	0.0140	U	0.3	1.0
Calcium	01/19/2016 18:00	-1.24	U	17	50
Chromium	01/19/2016 18:00	0.297	U	0.6	2.0
Cobalt	01/19/2016 18:00	-0.213	U	0.7	2.0
Copper	01/19/2016 18:00	-0.138	U	1.2	3.5
Lead	01/19/2016 18:00	-1.17	U	1.4	2.0
Magnesium	01/19/2016 18:00	-0.893	U	6	20
Manganese	01/19/2016 18:00	-0.0530	U	0.7	2.0
Nickel	01/19/2016 18:00	0.0690	U	1.0	3.0
Selenium	01/19/2016 18:00	9.80		2.2	10
Silver	01/19/2016 18:00	1.16		0.7	2.0
Thallium	01/19/2016 18:00	0.516	U	2.5	7.5
Vanadium	01/19/2016 18:00	0.420	U	0.8	2.5
Zinc	01/19/2016 18:00	-0.581	U	1.6	5.0

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122716 Lab Sample ID: 683322

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Aluminum	01/19/2016 18:57	-0.228	U	6	18
Antimony	01/19/2016 18:57	-0.0930	U	2.0	6.0
Arsenic	01/19/2016 18:57	2.98	U	4	12
Barium	01/19/2016 18:57	-14.0	U	0.29	0.90
Beryllium	01/19/2016 18:57	0.129		0.10	0.30
Cadmium	01/19/2016 18:57	0.0570	U	0.3	1.0
Calcium	01/19/2016 18:57	-1.80	U	17	50
Chromium	01/19/2016 18:57	0.555	U	0.6	2.0
Cobalt	01/19/2016 18:57	-0.0530	U	0.7	2.0
Copper	01/19/2016 18:57	-0.230	U	1.2	3.5
Lead	01/19/2016 18:57	-1.87	U	1.4	2.0
Magnesium	01/19/2016 18:57	-0.848	U	6	20
Manganese	01/19/2016 18:57	-0.0400	U	0.7	2.0
Nickel	01/19/2016 18:57	0.442	U	1.0	3.0
Selenium	01/19/2016 18:57	9.62		2.2	10
Silver	01/19/2016 18:57	0.772		0.7	2.0
Thallium	01/19/2016 18:57	-0.292	U	2.5	7.5
Vanadium	01/19/2016 18:57	0.201	U	0.8	2.5
Zinc	01/19/2016 18:57	-0.471	U	1.6	5.0

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

3-2

CCB

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122821 Lab Sample ID: 684048

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Antimony	01/21/2016 16:03	-1.23	U	2.0	6.0
Arsenic	01/21/2016 16:03	4.71		4	12
Barium	01/21/2016 16:03	-0.121	U	0.29	0.90
Cadmium	01/21/2016 16:03	-0.119	U	0.3	1.0
Chromium	01/21/2016 16:03	0.278	U	0.6	2.0
Iron	01/21/2016 16:03	5.44	U	16	50
Lead	01/21/2016 16:03	1.13	U	1.4	2.0
Manganese	01/21/2016 16:03	-0.197	U	0.7	2.0
Nickel	01/21/2016 16:03	0.0280	U	1.0	3.0
Selenium	01/21/2016 16:03	3.35		2.2	6.5
Silver	01/21/2016 16:03	0.783		0.7	2.0
Zinc	01/21/2016 16:03	-2.94	U	1.6	5.0

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122762 Lab Sample ID: 684057

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Aluminum	01/21/2016 16:03	-1.07	U	6	18
Antimony	01/21/2016 16:03	-1.67	U	2.0	6.0
Arsenic	01/21/2016 16:03	3.83	U	4	12
Barium	01/21/2016 16:03	-0.110	U	0.29	0.90
Beryllium	01/21/2016 16:03	-0.00200	U	0.10	0.30
Cadmium	01/21/2016 16:03	-0.144	U	0.3	1.0
Calcium	01/21/2016 16:03	-8.63	U	17	50
Chromium	01/21/2016 16:03	0.391	U	0.6	2.0
Cobalt	01/21/2016 16:03	-0.202	U	0.7	2.0
Copper	01/21/2016 16:03	-0.939	U	1.2	3.5
Iron	01/21/2016 16:03	0.765	U	16	50
Lead	01/21/2016 16:03	1.48		1.4	2.0
Magnesium	01/21/2016 16:03	2.32	U	6	20
Manganese	01/21/2016 16:03	-0.181	U	0.7	2.0
Nickel	01/21/2016 16:03	-0.215	U	1.0	3.0
Silver	01/21/2016 16:03	0.625	U	0.7	2.0
Thallium	01/21/2016 16:03	1.32	U	2.5	7.5
Vanadium	01/21/2016 16:03	0.412	U	0.8	2.5
Zinc	01/21/2016 16:03	-2.94	U	1.6	5.0

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122762 Lab Sample ID: 684060

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Aluminum	01/21/2016 16:47	-1.00	U	6	18
Antimony	01/21/2016 16:47	0.954	U	2.0	6.0
Arsenic	01/21/2016 16:47	4.76		4	12
Barium	01/21/2016 16:47	-0.172	U	0.29	0.90
Beryllium	01/21/2016 16:47	-0.0480	U	0.10	0.30
Cadmium	01/21/2016 16:47	-0.0560	U	0.3	1.0
Calcium	01/21/2016 16:47	-8.69	U	17	50
Chromium	01/21/2016 16:47	0.170	U	0.6	2.0
Cobalt	01/21/2016 16:47	-0.0800	U	0.7	2.0
Copper	01/21/2016 16:47	-0.483	U	1.2	3.5
Iron	01/21/2016 16:47	-28.9	U	16	50
Lead	01/21/2016 16:47	-0.0930	U	1.4	2.0
Magnesium	01/21/2016 16:47	2.01	U	6	20
Manganese	01/21/2016 16:47	-0.150	U	0.7	2.0
Nickel	01/21/2016 16:47	-0.166	U	1.0	3.0
Silver	01/21/2016 16:47	1.29		0.7	2.0
Thallium	01/21/2016 16:47	-0.376	U	2.5	7.5
Vanadium	01/21/2016 16:47	0.287	U	0.8	2.5
Zinc	01/21/2016 16:47	-2.94	U	1.6	5.0

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122800 Lab Sample ID: 682073

Analytical Prep Batch # 55940 Preparation Date/Time: 01/20/2016 08:25

ICAL Calibration #: 1/1/016 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Mercury	01/21/2016 10:09	0	U	0.03	0.06

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122716 Lab Sample ID: 681276

Analytical Prep Batch # 55898 Preparation Date/Time: 01/15/2016 09:00

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: ReRun Re-Analysis #1

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit	
Total Selenium	01/19/2016 17:27	5.61		2.2	6.5	FAIL

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122716 Lab Sample ID: 681276

Analytical Prep Batch # 55898 Preparation Date/Time: 01/15/2016 09:00

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit	
Total Aluminum	01/18/2016 15:15	1.87	U	6	18	
Total Antimony	01/18/2016 15:15	0.976	U	2.0	6.0	
Total Arsenic	01/18/2016 15:15	4.59		4	12	FAIL
Total Barium	01/18/2016 15:15	4.83		0.29	0.90	FAIL
Total Beryllium	01/18/2016 15:15	-0.107	U	0.10	0.30	
Total Cadmium	01/18/2016 15:15	-0.0410	U	0.3	1.0	
Total Calcium	01/18/2016 15:15	18.60		17	50	FAIL
Total Chromium	01/18/2016 15:15	0.122	U	0.6	2.0	
Total Cobalt	01/18/2016 15:15	0.0760	U	0.7	2.0	
Total Copper	01/18/2016 15:15	0.213	U	1.2	3.5	
Total Iron	01/18/2016 15:15	44.20		16	50	FAIL
Total Lead	01/18/2016 15:15	0.736	U	1.4	2.0	
Total Magnesium	01/18/2016 15:15	5.68	U	6	20	
Total Manganese	01/18/2016 15:15	-0.0150	U	0.7	2.0	
Total Nickel	01/18/2016 15:15	-0.302	U	1.0	3.0	
Total Silver	01/18/2016 15:15	0.898		0.7	2.0	FAIL
Total Thallium	01/18/2016 15:15	-0.986	U	2.5	7.5	
Total Vanadium	01/18/2016 15:15	0.465	U	0.8	2.5	
Total Zinc	01/18/2016 15:15	-4.02	U	1.6	5.0	

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122717 Lab Sample ID: 681276

Analytical Prep Batch # 55898 Preparation Date/Time: 01/15/2016 09:00

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Potassium	01/18/2016 08:43	5.00	U	90	250
Total Sodium	01/18/2016 08:43	-3.00	U	100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122717 Lab Sample ID: 681276

Analytical Prep Batch # 55898 Preparation Date/Time: 01/15/2016 09:00

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Potassium	01/18/2016 08:43	5.00	U	90	250
Total Sodium	01/18/2016 08:43	-3.00	U	100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122762 Lab Sample ID: 681930

Analytical Prep Batch # 55928 Preparation Date/Time: 01/19/2016 07:00

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit	
Total Aluminum	01/19/2016 16:40	14.40		6	18	FAIL
Total Antimony	01/19/2016 16:40	-0.863	U	2.0	6.0	
Total Arsenic	01/19/2016 16:40	2.18	U	4	12	
Total Barium	01/19/2016 16:40	-5.81	U	0.29	0.90	
Total Beryllium	01/19/2016 16:40	0.0930	U	0.10	0.30	
Total Cadmium	01/19/2016 16:40	-0.0140	U	0.3	1.0	
Total Calcium	01/19/2016 16:40	20.60		17	50	FAIL
Total Chromium	01/19/2016 16:40	0.206	U	0.6	2.0	
Total Cobalt	01/19/2016 16:40	-0.138	U	0.7	2.0	
Total Copper	01/19/2016 16:40	0.419	U	1.2	3.5	
Total Iron	01/19/2016 16:40	19.90		16	50	FAIL
Total Lead	01/19/2016 16:40	0.130	U	1.4	2.0	
Total Magnesium	01/19/2016 16:40	4.52	U	6	20	
Total Manganese	01/19/2016 16:40	0.0810	U	0.7	2.0	
Total Nickel	01/19/2016 16:40	0.0860	U	1.0	3.0	
Total Selenium	01/19/2016 16:40	10.90		2.2	6.5	FAIL
Total Silver	01/19/2016 16:40	1.07		0.7	2.0	FAIL
Total Thallium	01/19/2016 16:40	-0.297	U	2.5	7.5	
Total Vanadium	01/19/2016 16:40	-0.0370	U	0.8	2.5	
Total Zinc	01/19/2016 16:40	-0.436	U	1.6	5.0	

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122763 Lab Sample ID: 681930

Analytical Prep Batch # 55928 Preparation Date/Time: 01/19/2016 07:00

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Potassium	01/20/2016 13:10	4.00	U	90	250
Total Sodium	01/20/2016 13:10	4.00	U	100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122763 Lab Sample ID: 681930

Analytical Prep Batch # 55928 Preparation Date/Time: 01/19/2016 07:00

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Potassium	01/20/2016 13:10	4.00	U	90	250
Total Sodium	01/20/2016 13:10	4.00	U	100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122821 Lab Sample ID: 682724

Analytical Prep Batch # 55959 Preparation Date/Time: 01/20/2016 12:30

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit	
Total Antimony	01/21/2016 15:14	0.0220	U	2.0	6.0	
Total Arsenic	01/21/2016 15:14	1.33	U	4	12	
Total Barium	01/21/2016 15:14	-0.150	U	0.29	0.90	
Total Cadmium	01/21/2016 15:14	-0.110	U	0.3	1.0	
Total Chromium	01/21/2016 15:14	-0.453	U	0.6	2.0	
Total Iron	01/21/2016 15:14	-6.77	U	16	50	
Total Lead	01/21/2016 15:14	0.145	U	1.4	2.0	
Total Manganese	01/21/2016 15:14	3.84		0.7	2.0	FAIL
Total Nickel	01/21/2016 15:14	0.0140	U	1.0	3.0	
Total Selenium	01/21/2016 15:14	2.90		2.2	6.5	FAIL
Total Silver	01/21/2016 15:14	0.756		0.7	2.0	FAIL
Total Zinc	01/21/2016 15:14	-1.61	U	1.6	5.0	

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

4-1

ICP INTERFERENCE CHECK SAMPLE (SOL. A)

ICSA

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
ICP ID Number: TJA 6000
SDG No.: 116426
ICS Source: SPEX

Analytical Run #: 122717
Lab Sample ID: 681939
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	01/18/2016 08:34	500000	498000	100	80	120
Calcium	01/18/2016 08:34	500000	491000	98	80	120
Iron	01/18/2016 08:34	500000	502000	100	80	120
Magnesium	01/18/2016 08:34	500000	493000	99	80	120
Potassium	01/18/2016 08:34	0	-89.0		-170	170
Sodium	01/18/2016 08:34	0	0		-140	140

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

4-1

ICP INTERFERENCE CHECK SAMPLE (SOL. A)

ICSA

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
ICP ID Number: TJA 6000
SDG No.: 116426
ICS Source: SPEX

Analytical Run #: 122716
Lab Sample ID: 682502
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	01/18/2016 14:50	500000	498000	100	80	120
Antimony	01/18/2016 14:50	0	0.244		-5	5
Arsenic	01/18/2016 14:50	0	0		-6	6
Barium	01/18/2016 14:50	0	-0.0380		-0.7	0.7
Beryllium	01/18/2016 14:50	0	-0.151		-0.29	0.29
Cadmium	01/18/2016 14:50	0	-0.0560		-0.26	0.26
Calcium	01/18/2016 14:50	500000	487000	97	80	120
Chromium	01/18/2016 14:50	0	-0.162		-1.9	1.9
Cobalt	01/18/2016 14:50	0	-0.0220		-1.2	1.2
Copper	01/18/2016 14:50	0	0.0890		-4	4
Iron	01/18/2016 14:50	500000	497000	99	80	120
Lead	01/18/2016 14:50	0	-0.00100		-1.5	1.5
Magnesium	01/18/2016 14:50	500000	416000	83	80	120
Manganese	01/18/2016 14:50	0	0.243		-1.6	1.6
Nickel	01/18/2016 14:50	0	0.0490		-2.3	2.3
Selenium	01/18/2016 14:50	0	0.00100		-12	12
Silver	01/18/2016 14:50	0	0.0270		-2.0	2.0
Thallium	01/18/2016 14:50	0	0.0660		-5	5
Vanadium	01/18/2016 14:50	0	0		-1.7	1.7
Zinc	01/18/2016 14:50	0	0		-2.4	2.4

CT LABORATORIES
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Sample No:

4-1

ICP INTERFERENCE CHECK SAMPLE (SOL. A)

ICSA

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
ICP ID Number: TJA 6000
SDG No.: 116426
ICS Source: SPEX

Analytical Run #: 122763
Lab Sample ID: 682854
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	01/20/2016 12:48	500000	500000	100	80	120
Calcium	01/20/2016 12:48	500000	504000	101	80	120
Iron	01/20/2016 12:48	500000	504000	101	80	120
Magnesium	01/20/2016 12:48	500000	509000	102	80	120
Potassium	01/20/2016 12:48	0	0		-170	170
Sodium	01/20/2016 12:48	0	0		-140	140

CT LABORATORIES
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Sample No:

4-1

ICP INTERFERENCE CHECK SAMPLE (SOL. A)

ICSA

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
ICP ID Number: TJA 6000
SDG No.: 116426
ICS Source: SPEX

Analytical Run #: 122762
Lab Sample ID: 683255
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	01/19/2016 12:49	500000	521000	104	80	120
Antimony	01/19/2016 12:49	0	-0.00200		-5	5
Arsenic	01/19/2016 12:49	0	-0.780		-6	6
Barium	01/19/2016 12:49	0	0		-0.7	0.7
Beryllium	01/19/2016 12:49	0	0.0240		-0.29	0.29
Cadmium	01/19/2016 12:49	0	0		-0.26	0.26
Calcium	01/19/2016 12:49	500000	539000	108	80	120
Chromium	01/19/2016 12:49	0	-0.264		-1.9	1.9
Cobalt	01/19/2016 12:49	0	0.136		-1.2	1.2
Copper	01/19/2016 12:49	0	-0.00400		-4	4
Iron	01/19/2016 12:49	500000	546000	109	80	120
Lead	01/19/2016 12:49	0	-0.183		-1.5	1.5
Magnesium	01/19/2016 12:49	500000	462000	92	80	120
Manganese	01/19/2016 12:49	0	0.161		-1.6	1.6
Nickel	01/19/2016 12:49	0	0		-2.3	2.3
Selenium	01/19/2016 12:49	0	-0.00100		-12	12
Silver	01/19/2016 12:49	0	-0.236		-2.0	2.0
Thallium	01/19/2016 12:49	0	-0.556		-5	5
Vanadium	01/19/2016 12:49	0	0		-1.7	1.7
Zinc	01/19/2016 12:49	0	0.00200		-2.4	2.4

CT LABORATORIES
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Sample No:

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ICP INTERFERENCE CHECK SAMPLE (SOL. A)

ICSA

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
ICP ID Number: TJA 6000
SDG No.: 116426
ICS Source: SPEX

Analytical Run #: 122716
Lab Sample ID: 683311
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	01/19/2016 12:49	500000	521000	104	80	120
Antimony	01/19/2016 12:49	0	-0.00200		-5	5
Arsenic	01/19/2016 12:49	0	-0.780		-6	6
Barium	01/19/2016 12:49	0	0		-0.7	0.7
Beryllium	01/19/2016 12:49	0	0.0240		-0.29	0.29
Cadmium	01/19/2016 12:49	0	0		-0.26	0.26
Calcium	01/19/2016 12:49	500000	539000	108	80	120
Chromium	01/19/2016 12:49	0	-0.264		-1.9	1.9
Cobalt	01/19/2016 12:49	0	0.136		-1.2	1.2
Copper	01/19/2016 12:49	0	-0.00400		-4	4
Iron	01/19/2016 12:49	500000	546000	109	80	120
Lead	01/19/2016 12:49	0	-0.183		-1.5	1.5
Magnesium	01/19/2016 12:49	500000	462000	92	80	120
Manganese	01/19/2016 12:49	0	0.161		-1.6	1.6
Nickel	01/19/2016 12:49	0	0		-2.3	2.3
Selenium	01/19/2016 12:49	0	-0.00100		-12	12
Silver	01/19/2016 12:49	0	-0.236		-2.0	2.0
Thallium	01/19/2016 12:49	0	-0.556		-5	5
Vanadium	01/19/2016 12:49	0	0		-1.7	1.7
Zinc	01/19/2016 12:49	0	0.00200		-2.4	2.4

CT LABORATORIES
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Sample No:

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ICP INTERFERENCE CHECK SAMPLE (SOL. A)

ICSA

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
ICP ID Number: TJA 6000
SDG No.: 116426
ICS Source: SPEX

Analytical Run #: 122821
Lab Sample ID: 684041
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	01/21/2016 14:54	500000	484000	97	80	120
Antimony	01/21/2016 14:54	0	-0.0140		-5	5
Arsenic	01/21/2016 14:54	0	0.00200		-6	6
Barium	01/21/2016 14:54	0	0		-0.7	0.7
Cadmium	01/21/2016 14:54	0	-0.00100		-0.26	0.26
Calcium	01/21/2016 14:54	500000	519000	104	80	120
Chromium	01/21/2016 14:54	0	0		-1.9	1.9
Iron	01/21/2016 14:54	500000	519000	104	80	120
Lead	01/21/2016 14:54	0	-0.0960		-1.5	1.5
Magnesium	01/21/2016 14:54	500000	469000	94	80	120
Manganese	01/21/2016 14:54	0	0.220		-1.6	1.6
Nickel	01/21/2016 14:54	0	-0.00100		-2.3	2.3
Selenium	01/21/2016 14:54	0	-0.0350		-12	12
Silver	01/21/2016 14:54	0	-0.0130		-2.0	2.0
Zinc	01/21/2016 14:54	0	0.0150		-2.4	2.4

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Sample No:

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ICP INTERFERENCE CHECK SAMPLE (SOL. A)

ICSA

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
ICP ID Number: TJA 6000
SDG No.: 116426
ICS Source: SPEX

Analytical Run #: 122762
Lab Sample ID: 684052
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	01/21/2016 14:54	500000	484000	97	80	120
Antimony	01/21/2016 14:54	0	-0.0140		-5	5
Arsenic	01/21/2016 14:54	0	0.00200		-6	6
Barium	01/21/2016 14:54	0	0		-0.7	0.7
Beryllium	01/21/2016 14:54	0	0.0940		-0.29	0.29
Cadmium	01/21/2016 14:54	0	-0.00100		-0.26	0.26
Calcium	01/21/2016 14:54	500000	519000	104	80	120
Chromium	01/21/2016 14:54	0	0		-1.9	1.9
Cobalt	01/21/2016 14:54	0	0.907		-1.2	1.2
Copper	01/21/2016 14:54	0	-0.00600		-4	4
Iron	01/21/2016 14:54	500000	519000	104	80	120
Lead	01/21/2016 14:54	0	-0.0960		-1.5	1.5
Magnesium	01/21/2016 14:54	500000	469000	94	80	120
Manganese	01/21/2016 14:54	0	0.220		-1.6	1.6
Nickel	01/21/2016 14:54	0	-0.00100		-2.3	2.3
Selenium	01/21/2016 14:54	0	-0.0350		-12	12
Silver	01/21/2016 14:54	0	-0.0130		-2.0	2.0
Thallium	01/21/2016 14:54	0	-0.00300		-5	5
Vanadium	01/21/2016 14:54	0	0		-1.7	1.7
Zinc	01/21/2016 14:54	0	0.0150		-2.4	2.4

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Sample No:

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ICP INTERFERENCE CHECK SAMPLE (SOL. AB)

ICSAB

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
ICP ID Number: TJA 6000
SDG No.: 116426
ICS Source: SPEX, Ultra

Analytical Run #: 122717
Lab Sample ID: 681940
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	01/18/2016 08:37	500000	478000	96	80	120
Calcium	01/18/2016 08:37	500000	471000	94	80	120
Iron	01/18/2016 08:37	500000	480000	96	80	120
Magnesium	01/18/2016 08:37	500000	468000	94	80	120
Potassium	01/18/2016 08:37	100000	106000	106	80	120
Sodium	01/18/2016 08:37	100000	107000	107	80	120

CT LABORATORIES
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Sample No:

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ICP INTERFERENCE CHECK SAMPLE (SOL. AB)

ICSAB

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
ICP ID Number: TJA 6000
SDG No.: 116426
ICS Source: SPEX, Ultra

Analytical Run #: 122716
Lab Sample ID: 682503
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	01/18/2016 14:54	500000	561000	112	80	120
Antimony	01/18/2016 14:54	500.0	577.0	115	80	120
Arsenic	01/18/2016 14:54	500.0	556.0	111	80	120
Barium	01/18/2016 14:54	500.0	597.0	119	80	120
Beryllium	01/18/2016 14:54	500.0	582.0	116	80	120
Cadmium	01/18/2016 14:54	500.0	572.0	114	80	120
Calcium	01/18/2016 14:54	500000	543000	109	80	120
Chromium	01/18/2016 14:54	500.0	522.0	104	80	120
Cobalt	01/18/2016 14:54	500.0	511.0	102	80	120
Copper	01/18/2016 14:54	500.0	453.0	91	80	120
Iron	01/18/2016 14:54	500000	545000	109	80	120
Lead	01/18/2016 14:54	500.0	528.0	106	80	120
Magnesium	01/18/2016 14:54	500000	459000	92	80	120
Manganese	01/18/2016 14:54	500.0	455.0	91	80	120
Nickel	01/18/2016 14:54	500.0	511.0	102	80	120
Selenium	01/18/2016 14:54	500.0	570.0	114	80	120
Silver	01/18/2016 14:54	500.0	556.0	111	80	120
Thallium	01/18/2016 14:54	500.0	531.0	106	80	120
Vanadium	01/18/2016 14:54	500.0	531.0	106	80	120
Zinc	01/18/2016 14:54	500.0	555.0	111	80	120

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Sample No:

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ICP INTERFERENCE CHECK SAMPLE (SOL. AB)

ICSAB

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
ICP ID Number: TJA 6000
SDG No.: 116426
ICS Source: SPEX, Ultra

Analytical Run #: 122763
Lab Sample ID: 682855
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	01/20/2016 12:51	500000	478000	96	80	120
Calcium	01/20/2016 12:51	500000	477000	95	80	120
Iron	01/20/2016 12:51	500000	483000	97	80	120
Magnesium	01/20/2016 12:51	500000	484000	97	80	120
Potassium	01/20/2016 12:51	100000	106000	106	80	120
Sodium	01/20/2016 12:51	100000	109000	109	80	120

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Sample No:

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ICP INTERFERENCE CHECK SAMPLE (SOL. AB)

ICSAB

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
ICP ID Number: TJA 6000
SDG No.: 116426
ICS Source: SPEX, Ultra

Analytical Run #: 122762
Lab Sample ID: 683256
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	01/19/2016 12:54	500000	428000	86	80	120
Antimony	01/19/2016 12:54	500.0	425.0	85	80	120
Arsenic	01/19/2016 12:54	500.0	449.0	90	80	120
Barium	01/19/2016 12:54	500.0	400.0	80	80	120
Beryllium	01/19/2016 12:54	500.0	462.0	92	80	120
Cadmium	01/19/2016 12:54	500.0	449.0	90	80	120
Calcium	01/19/2016 12:54	500000	441000	88	80	120
Chromium	01/19/2016 12:54	500.0	426.0	85	80	120
Cobalt	01/19/2016 12:54	500.0	424.0	85	80	120
Copper	01/19/2016 12:54	500.0	548.0	110	80	120
Iron	01/19/2016 12:54	500000	417000	83	80	120
Lead	01/19/2016 12:54	500.0	566.0	113	80	120
Magnesium	01/19/2016 12:54	500000	404000	81	80	120
Manganese	01/19/2016 12:54	500.0	498.0	100	80	120
Nickel	01/19/2016 12:54	500.0	408.0	82	80	120
Selenium	01/19/2016 12:54	500.0	413.0	83	80	120
Silver	01/19/2016 12:54	500.0	455.0	91	80	120
Thallium	01/19/2016 12:54	500.0	464.0	93	80	120
Vanadium	01/19/2016 12:54	500.0	424.0	85	80	120
Zinc	01/19/2016 12:54	500.0	459.0	92	80	120

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Sample No:

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ICP INTERFERENCE CHECK SAMPLE (SOL. AB)

ICSAB

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
ICP ID Number: TJA 6000
SDG No.: 116426
ICS Source: SPEX, Ultra

Analytical Run #: 122716
Lab Sample ID: 683312
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	01/19/2016 12:54	500000	428000	86	80	120
Antimony	01/19/2016 12:54	500.0	425.0	85	80	120
Arsenic	01/19/2016 12:54	500.0	449.0	90	80	120
Barium	01/19/2016 12:54	500.0	400.0	80	80	120
Beryllium	01/19/2016 12:54	500.0	462.0	92	80	120
Cadmium	01/19/2016 12:54	500.0	449.0	90	80	120
Calcium	01/19/2016 12:54	500000	441000	88	80	120
Chromium	01/19/2016 12:54	500.0	426.0	85	80	120
Cobalt	01/19/2016 12:54	500.0	424.0	85	80	120
Copper	01/19/2016 12:54	500.0	548.0	110	80	120
Iron	01/19/2016 12:54	500000	417000	83	80	120
Lead	01/19/2016 12:54	500.0	566.0	113	80	120
Magnesium	01/19/2016 12:54	500000	404000	81	80	120
Manganese	01/19/2016 12:54	500.0	498.0	100	80	120
Nickel	01/19/2016 12:54	500.0	408.0	82	80	120
Selenium	01/19/2016 12:54	500.0	413.0	83	80	120
Silver	01/19/2016 12:54	500.0	455.0	91	80	120
Thallium	01/19/2016 12:54	500.0	464.0	93	80	120
Vanadium	01/19/2016 12:54	500.0	424.0	85	80	120
Zinc	01/19/2016 12:54	500.0	459.0	92	80	120

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Sample No:

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ICP INTERFERENCE CHECK SAMPLE (SOL. AB)

ICSAB

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
ICP ID Number: TJA 6000
SDG No.: 116426
ICS Source: SPEX, Ultra

Analytical Run #: 122821
Lab Sample ID: 684042
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	01/21/2016 14:59	500000	411000	82	80	120
Antimony	01/21/2016 14:59	500.0	473.0	95	80	120
Arsenic	01/21/2016 14:59	500.0	481.0	96	80	120
Barium	01/21/2016 14:59	500.0	400.0	80	80	120
Cadmium	01/21/2016 14:59	500.0	529.0	106	80	120
Calcium	01/21/2016 14:59	500000	443000	89	80	120
Chromium	01/21/2016 14:59	500.0	454.0	91	80	120
Iron	01/21/2016 14:59	500000	426000	85	80	120
Lead	01/21/2016 14:59	500.0	417.0	83	80	120
Magnesium	01/21/2016 14:59	500000	417000	83	80	120
Manganese	01/21/2016 14:59	500.0	474.0	95	80	120
Nickel	01/21/2016 14:59	500.0	432.0	86	80	120
Selenium	01/21/2016 14:59	500.0	400.0	80	80	120
Silver	01/21/2016 14:59	500.0	492.0	98	80	120
Zinc	01/21/2016 14:59	500.0	445.0	89	80	120

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Sample No:

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ICP INTERFERENCE CHECK SAMPLE (SOL. AB)

ICSAB

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
ICP ID Number: TJA 6000
SDG No.: 116426
ICS Source: SPEX, Ultra

Analytical Run #: 122762
Lab Sample ID: 684053
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	01/21/2016 14:59	500000	411000	82	80	120
Antimony	01/21/2016 14:59	500.0	473.0	95	80	120
Arsenic	01/21/2016 14:59	500.0	481.0	96	80	120
Barium	01/21/2016 14:59	500.0	538.0	108	80	120
Beryllium	01/21/2016 14:59	500.0	480.0	96	80	120
Cadmium	01/21/2016 14:59	500.0	529.0	106	80	120
Calcium	01/21/2016 14:59	500000	443000	89	80	120
Chromium	01/21/2016 14:59	500.0	454.0	91	80	120
Cobalt	01/21/2016 14:59	500.0	444.0	89	80	120
Copper	01/21/2016 14:59	500.0	587.0	117	80	120
Iron	01/21/2016 14:59	500000	526000	105	80	120
Lead	01/21/2016 14:59	500.0	417.0	83	80	120
Magnesium	01/21/2016 14:59	500000	417000	83	80	120
Manganese	01/21/2016 14:59	500.0	474.0	95	80	120
Nickel	01/21/2016 14:59	500.0	432.0	86	80	120
Selenium	01/21/2016 14:59	500.0	400.0	80	80	120
Silver	01/21/2016 14:59	500.0	492.0	98	80	120
Thallium	01/21/2016 14:59	500.0	525.0	105	80	120
Vanadium	01/21/2016 14:59	500.0	463.0	93	80	120
Zinc	01/21/2016 14:59	500.0	445.0	89	80	120

CT LABORATORIES
delivering more than data from your environmental analyses

5A

SPIKE SAMPLE RECOVERY

Sample Description: **011516R1**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	116426
% Solids for Sample:		Concentration Units:	ug/L
Sample No	682076	Parent Sample No.:	681537
Analytical Prep Batch #	55940	Analytical Preparation Date/Time:	01/20/2016 08:25
Analytical Run #:	122800	ICAL Calibration #:	1/1/016

Analysis Type: *Initial Analysis* Analysis Date: ----- 01/21/2016 Analysis Time: -------- 10:19

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Mercury	82-119	2.3		BDL	U	2.0	115		CV

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5A

SPIKE SAMPLE RECOVERY

Sample Description: **54ADW01**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 116426
% Solids for Sample:
Concentration Units: ug/L
Sample No: 681279
Parent Sample No.: 679984
Analytical Prep Batch #: 55898
Analytical Preparation Date/Time: 01/15/2016 09:00
Analytical Run #: 122716
ICAL Calibration #:

Analysis Type: *Initial Analysis* Analysis Date: ----- 01/18/2016 Analysis Time: -------- 15:32

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Total Aluminum	86-115	834		216		800	77		P	*FAIL*
Total Antimony	88-113	164		BDL	U	200	82		P	*FAIL*
Total Arsenic	87-113	647		BDL	U	800	81		P	*FAIL*
Total Barium	88-113	718		66.8		800	81		P	*FAIL*
Total Beryllium	89-112	16.1		BDL	U	20.0	80		P	*FAIL*
Total Cadmium	88-113	15.7		BDL	U	20.0	78		P	*FAIL*
Total Calcium	87-113	202000		47100		200000	77		P	*FAIL*
Total Chromium	90-113	66.9		6.8		80.0	75		P	*FAIL*
Total Cobalt	89-114	159		BDL	U	200	80		P	*FAIL*
Total Copper	86-114	82.4		BDL	U	100	82		P	*FAIL*
Total Iron	87-115	720		424		400	74		P	*FAIL*
Total Lead	86-113	151		BDL	U	200	76		P	*FAIL*
Total Magnesium	85-113	90400		19900		100000	70		P	*FAIL*
Total Manganese	90-114	158		8.6		200	75		P	*FAIL*
Total Nickel	88-113	153		BDL	U	200	76		P	*FAIL*
Total Selenium	83-114	628		15.2		800	77		P	*FAIL*
Total Silver	84-115	16.3		1.0	J	20.0	76		P	*FAIL*
Total Thallium	85-114	606		BDL	U	800	76		P	*FAIL*
Total Vanadium	90-111	158		1.3	J	200	78		P	*FAIL*
Total Zinc	87-115	160		BDL	U	200	80		P	*FAIL*

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5A

SPIKE SAMPLE RECOVERY

Sample Description

54ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	116426
% Solids for Sample:		Concentration Units:	ug/L
Sample No	681279	Parent Sample No.:	679984
Analytical Prep Batch #	55898	Analytical Preparation Date/Time:	01/15/2016 09:00
Analytical Run #:	122717	ICAL Calibration #:	

Analysis Type	*Initial Analysis*	Analysis Date: -----	01/18/2016	Analysis Time: --------	08:54

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Potassium	86-114	97600		2100		100000	96		P
Total Sodium	87-115	121000		24900		100000	96		P

BDL = analyte concentration was below detection limit

CT LABORATORIES
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5A

SPIKE SAMPLE RECOVERY

Sample Description: **49ADW01**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 116426
% Solids for Sample:
Concentration Units: ug/L
Sample No: 681933
Parent Sample No.: 681538
Analytical Prep Batch #: 55928
Analytical Preparation Date/Time: 01/19/2016 07:00
Analytical Run #: 122762
ICAL Calibration #:

Analysis Type: *Initial Analysis* Analysis Date: ----- 01/19/2016 Analysis Time: -------- 17:13

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Total Aluminum	86-115	1270		898		800	46		P	*FAIL*
Total Antimony	88-113	178		BDL	U	200	89		P	
Total Arsenic	87-113	749		BDL	U	800	94		P	
Total Barium	88-113	1150		456		800	87		P	*FAIL*
Total Beryllium	89-112	16.8		BDL	U	20.0	84		P	*FAIL*
Total Cadmium	88-113	17.2		BDL	U	20.0	86		P	*FAIL*
Total Calcium	87-113	236000		59500		200000	88		P	
Total Chromium	90-113	74.5		4.5		80.0	88		P	*FAIL*
Total Cobalt	89-114	179		BDL	U	200	90		P	
Total Copper	86-114	92.6		1.4	J	100	91		P	
Total Iron	87-115	1320		334		400	246		P	*FAIL*
Total Lead	86-113	170		BDL	U	200	85		P	*FAIL*
Total Magnesium	85-113	107000		30900		100000	76		P	*FAIL*
Total Manganese	90-114	183		10		200	86		P	*FAIL*
Total Nickel	88-113	169		2.3	J	200	83		P	*FAIL*
Total Selenium	83-114	708		BDL	U	800	88		P	
Total Silver	84-115	16.9		1.1	J	20.0	79		P	*FAIL*
Total Thallium	85-114	679		BDL	U	800	85		P	
Total Vanadium	90-111	168		1.2	J	200	83		P	*FAIL*
Total Zinc	87-115	188		10.8		200	89		P	

BDL = analyte concentration was below detection limit

CT LABORATORIES
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5A

SPIKE SAMPLE RECOVERY

Sample Description

49ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	116426
% Solids for Sample:		Concentration Units:	ug/L
Sample No	681933	Parent Sample No.:	681538
Analytical Prep Batch #	55928	Analytical Preparation Date/Time:	01/19/2016 07:00
Analytical Run #:	122763	ICAL Calibration #:	

Analysis Type *Initial Analysis* Analysis Date: ----- 01/20/2016 Analysis Time: -------- 13:26

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Potassium	86-114	94500		1510		100000	93		P
Total Sodium	87-115	103000		5370		100000	98		P

BDL = analyte concentration was below detection limit

CT LABORATORIES
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5A

SPIKE SAMPLE RECOVERY

Sample Description

011516R1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	116426
% Solids for Sample:		Concentration Units:	ug/L
Sample No	682727	Parent Sample No.:	681537
Analytical Prep Batch #	55959	Analytical Preparation Date/Time:	01/20/2016 12:30
Analytical Run #:	122821	ICAL Calibration #:	

Analysis Type *Initial Analysis* Analysis Date: ----- 01/21/2016 Analysis Time: -------- 15:33

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Antimony	88-113	191		BDL	U	200	96		P
Total Arsenic	87-113	740		BDL	U	800	92		P
Total Barium	88-113	815		BDL	U	800	102		P
Total Cadmium	88-113	19.7		BDL	U	20.0	98		P
Total Chromium	90-113	73.7		0.89	J	80.0	91		P
Total Iron	87-115	379		26.1	J	400	88		P
Total Lead	86-113	190		BDL	U	200	95		P
Total Manganese	90-114	201		BDL	U	200	100		P
Total Nickel	88-113	189		BDL	U	200	94		P
Total Selenium	83-114	723		7.5	J	800	89		P
Total Silver	84-115	19.0		1.4	J	20.0	88		P
Total Zinc	87-115	201		BDL	U	200	100		P

BDL = analyte concentration was below detection limit

CT LABORATORIES
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5B

POST DIGESTION SPIKE SAMPLE RECOVERY

Sample Description: **011516R1**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 116426
% Solids for Sample:
Concentration Units: ug/L
Sample No: 683012
Parent Sample No.: 681537
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
Analytical Run #: 122800
ICAL Calibration #: 1/1/016

Analysis Type: *Initial Analysis* Analysis Date: ----- 01/21/2016 Analysis Time: -------- 10:23

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Mercury	80-120	2.3		BDL	U	2	115		CV

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5B

POST DIGESTION SPIKE SAMPLE RECOVERY

Sample Description

54ADW01

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 116426
% Solids for Sample:
Concentration Units: ug/L
Sample No 681942
Parent Sample No.: 679984
Analytical Prep Batch # 0
Analytical Preparation Date/Time:
Analytical Run #: 122717
ICAL Calibration #:

Analysis Type *Initial Analysis* Analysis Date: ----- 01/18/2016 Analysis Time: -------- 08:59

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Potassium	80-120.	101000		2100		100000	99		P
Sodium	80-120.	124000		24900		100000	99		P

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5B

POST DIGESTION SPIKE SAMPLE RECOVERY

Sample Description: **54ADW01**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 116426
% Solids for Sample:
Concentration Units: ug/L
Sample No: 682509
Parent Sample No.: 679984
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
Analytical Run #: 122716
ICAL Calibration #:

Analysis Type: *Initial Analysis* Analysis Date: ----- 01/18/2016 Analysis Time: -------- 15:52

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Aluminum	80-120	2060		216		4000	46		P	*FAIL*
Antimony	80-120	826		BDL	U	1000	83		P	
Arsenic	80-120	3370		BDL	U	4000	84		P	
Barium	80-120	3530		66.8		4000	87		P	
Beryllium	80-120	82.9		BDL	U	100	83		P	
Cadmium	80-120	78.4		BDL	U	100	78		P	*FAIL*
Calcium	80-120	378000		47100		400000	83		P	
Chromium	80-120	304		6.8		400	74		P	*FAIL*
Cobalt	80-120	790		BDL	U	1000	79		P	*FAIL*
Copper	80-120	405		BDL	U	500	81		P	
Iron	80-120	1920		424		2000	75		P	*FAIL*
Lead	80-120	758		BDL	U	1000	76		P	*FAIL*
Magnesium	80-120	155000		19900		200000	68		P	*FAIL*
Manganese	80-120	743		8.6		1000	73		P	*FAIL*
Nickel	80-120	727		BDL	U	1000	73		P	*FAIL*
Selenium	80-120	3270		15.2		4000	81		P	
Silver	80-120	79.6		1.0	J	100	79		P	*FAIL*
Thallium	80-120	2960		BDL	U	4000	74		P	*FAIL*
Vanadium	80-120	780		1.3	J	1000	78		P	*FAIL*

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5B

POST DIGESTION SPIKE SAMPLE RECOVERY

Sample Description

49ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	116426
% Solids for Sample:		Concentration Units:	ug/L
Sample No	682859	Parent Sample No.:	681538
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	122763	ICAL Calibration #:	

Analysis Type *Initial Analysis* Analysis Date: ----- 01/20/2016 Analysis Time: -------- 13:31

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Potassium	80-120.	95700		1510		100000	94		P
Sodium	80-120.	103000		5370		100000	98		P

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5B

POST DIGESTION SPIKE SAMPLE RECOVERY

Sample Description: **49ADW01**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 116426
% Solids for Sample:
Concentration Units: ug/L
Sample No: 683265
Parent Sample No.: 681538
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
Analytical Run #: 122762
ICAL Calibration #:

Analysis Type: *Initial Analysis* Analysis Date: ----- 01/19/2016 Analysis Time: -------- 17:22

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Aluminum	80-120	4100		898		4000	80		P
Antimony	80-120	958		BDL	U	1000	96		P
Arsenic	80-120	3900		BDL	U	4000	98		P
Barium	80-120	3890		456		4000	86		P
Beryllium	80-120	87.5		BDL	U	100	88		P
Cadmium	80-120	106		BDL	U	100	106		P
Calcium	80-120	429000		59500		400000	92		P
Chromium	80-120	367		4.5		400	91		P
Cobalt	80-120	875		BDL	U	1000	88		P
Copper	80-120	428		1.4	J	500	85		P
Iron	80-120	2740		334		2000	120		P
Lead	80-120	856		BDL	U	1000	86		P
Magnesium	80-120	193000		30900		200000	81		P
Manganese	80-120	910		10		1000	90		P
Nickel	80-120	859		2.3	J	1000	86		P
Selenium	80-120	3740		BDL	U	4000	94		P
Silver	80-120	88.2		1.1	J	100	87		P
Thallium	80-120	3370		BDL	U	4000	84		P
Vanadium	80-120	887		1.2	J	1000	89		P

BDL = analyte concentration was below detection limit

CT LABORATORIES
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5B

POST DIGESTION SPIKE SAMPLE RECOVERY

Sample Description: **011516R1**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	116426
% Solids for Sample:		Concentration Units:	ug/L
Sample No	684045	Parent Sample No.:	681537
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	122821	ICAL Calibration #:	

Analysis Type: *Initial Analysis* Analysis Date: ----- 01/21/2016 Analysis Time: -------- 15:43

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Antimony	80-120	1070		BDL	U	1000	107		P
Arsenic	80-120	4240		BDL	U	4000	106		P
Barium	80-120	3590		BDL	U	4000	90		P
Cadmium	80-120	106		BDL	U	100	106		P
Chromium	80-120	404		0.89	J	400	101		P
Iron	80-120	2100		26.1	J	2000	104		P
Lead	80-120	967		BDL	U	1000	97		P
Manganese	80-120	1080		BDL	U	1000	108		P
Nickel	80-120	995		BDL	U	1000	100		P
Selenium	80-120	4130		7.5	J	4000	103		P
Silver	80-120	102		1.4	J	100	101		P

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description: **011516R1**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	116426
% Solids for Sample:		Concentration Units:	ug/L
Sample No	682077	Parent Sample No.:	682076
Analytical Prep Batch #	55940	Analytical Preparation Date/Time:	01/20/2016 08:25
Analytical Run #:	122800	ICAL Calibration #:	1/1/016

Analysis Type: *Initial Analysis* Analysis Date: ----- 01/21/2016 Analysis Time: -------- 10:21

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Mercury	82-119	2.2		BDL	U	2.0	110		CV

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description: **54ADW01**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	116426
% Solids for Sample:		Concentration Units:	ug/L
Sample No	681280	Parent Sample No.:	681279
Analytical Prep Batch #	55898	Analytical Preparation Date/Time:	01/15/2016 09:00
Analytical Run #:	122716	ICAL Calibration #:	

Analysis Type: *Initial Analysis* Analysis Date: ----- 01/18/2016 Analysis Time: -------- 15:36

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Total Aluminum	86-115	872		216		800	82		P	*FAIL*
Total Antimony	88-113	164		BDL	U	200	82		P	*FAIL*
Total Arsenic	87-113	651		BDL	U	800	81		P	*FAIL*
Total Barium	88-113	735		66.8		800	84		P	*FAIL*
Total Beryllium	89-112	16.7		BDL	U	20.0	84		P	*FAIL*
Total Cadmium	88-113	16.1		BDL	U	20.0	80		P	*FAIL*
Total Calcium	87-113	208000		47100		200000	80		P	*FAIL*
Total Chromium	90-113	66.8		6.8		80.0	75		P	*FAIL*
Total Cobalt	89-114	162		BDL	U	200	81		P	*FAIL*
Total Copper	86-114	83.6		BDL	U	100	84		P	*FAIL*
Total Iron	87-115	567		424		400	36		P	*FAIL*
Total Lead	86-113	154		BDL	U	200	77		P	*FAIL*
Total Magnesium	85-113	89900		19900		100000	70		P	*FAIL*
Total Manganese	90-114	157		8.6		200	74		P	*FAIL*
Total Nickel	88-113	154		BDL	U	200	77		P	*FAIL*
Total Selenium	83-114	656		15.2		800	80		P	*FAIL*
Total Silver	84-115	15.5		1.0	J	20.0	72		P	*FAIL*
Total Thallium	85-114	615		BDL	U	800	77		P	*FAIL*
Total Vanadium	90-111	158		1.3	J	200	78		P	*FAIL*
Total Zinc	87-115	160		BDL	U	200	80		P	*FAIL*

BDL = analyte concentration was below detection limit

CT LABORATORIES
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5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description

54ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	116426
% Solids for Sample:		Concentration Units:	ug/L
Sample No	681280	Parent Sample No.:	681279
Analytical Prep Batch #	55898	Analytical Preparation Date/Time:	01/15/2016 09:00
Analytical Run #:	122717	ICAL Calibration #:	

Analysis Type *Initial Analysis* Analysis Date: ----- 01/18/2016 Analysis Time: -------- 08:57

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Potassium	86-114	97600		2100		100000	96		P
Total Sodium	87-115	119000		24900		100000	94		P

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description: **49ADW01**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	116426
% Solids for Sample:		Concentration Units:	ug/L
Sample No	681934	Parent Sample No.:	681933
Analytical Prep Batch #	55928	Analytical Preparation Date/Time:	01/19/2016 07:00
Analytical Run #:	122762	ICAL Calibration #:	

Analysis Type: *Initial Analysis* Analysis Date: ----- 01/19/2016 Analysis Time: -------- 17:18

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Total Aluminum	86-115	1290		898		800	49		P	*FAIL*
Total Antimony	88-113	181		BDL	U	200	90		P	
Total Arsenic	87-113	751		BDL	U	800	94		P	
Total Barium	88-113	1120		456		800	83		P	*FAIL*
Total Beryllium	89-112	16.6		BDL	U	20.0	83		P	*FAIL*
Total Cadmium	88-113	17.2		BDL	U	20.0	86		P	*FAIL*
Total Calcium	87-113	229000		59500		200000	85		P	*FAIL*
Total Chromium	90-113	74.4		4.5		80.0	87		P	*FAIL*
Total Cobalt	89-114	180		BDL	U	200	90		P	
Total Copper	86-114	92.1		1.4	J	100	91		P	
Total Iron	87-115	1320		334		400	246		P	*FAIL*
Total Lead	86-113	171		BDL	U	200	86		P	
Total Magnesium	85-113	107000		30900		100000	76		P	*FAIL*
Total Manganese	90-114	183		10		200	86		P	*FAIL*
Total Nickel	88-113	168		2.3	J	200	83		P	*FAIL*
Total Selenium	83-114	719		BDL	U	800	90		P	
Total Silver	84-115	16.7		1.1	J	20.0	78		P	*FAIL*
Total Thallium	85-114	678		BDL	U	800	85		P	
Total Vanadium	90-111	167		1.2	J	200	83		P	*FAIL*
Total Zinc	87-115	189		10.8		200	89		P	

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description

49ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	116426
% Solids for Sample:		Concentration Units:	ug/L
Sample No	681934	Parent Sample No.:	681933
Analytical Prep Batch #	55928	Analytical Preparation Date/Time:	01/19/2016 07:00
Analytical Run #:	122763	ICAL Calibration #:	

Analysis Type	*Initial Analysis*	Analysis Date: -----	01/20/2016	Analysis Time: --------	13:29

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Potassium	86-114	94600		1510		100000	93		P
Total Sodium	87-115	102000		5370		100000	97		P

BDL = analyte concentration was below detection limit

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5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description: **011516R1**

Lab Name: CT Laboratories | Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID | SDG No.: 116426

% Solids for Sample: | Concentration Units: ug/L

Sample No: 682728 | Parent Sample No.: 682727

Analytical Prep Batch #: 55959 | Analytical Preparation Date/Time: 01/20/2016 12:30

Analytical Run #: 122821 | ICAL Calibration #:

Analysis Type: *Initial Analysis* | Analysis Date: ----- 01/21/2016 | Analysis Time: -------- 15:38

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Total Antimony	88-113	191		BDL	U	200	96		P	
Total Arsenic	87-113	735		BDL	U	800	92		P	
Total Barium	88-113	814		BDL	U	800	102		P	
Total Cadmium	88-113	19.5		BDL	U	20.0	98		P	
Total Chromium	90-113	73.5		0.89	J	80.0	91		P	
Total Iron	87-115	327		26.1	J	400	75		P	*FAIL*
Total Lead	86-113	188		BDL	U	200	94		P	
Total Manganese	90-114	201		BDL	U	200	100		P	
Total Nickel	88-113	189		BDL	U	200	94		P	
Total Selenium	83-114	716		7.5	J	800	89		P	
Total Silver	84-115	19.7		1.4	J	20.0	92		P	
Total Zinc	87-115	200		BDL	U	200	100		P	

BDL = analyte concentration was below detection limit

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DUPLICATES

Sample Description

011516R1

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 116426
% Solid for Sample:
Concentration Units: ug/L
Analytical Prep Batch # 1
Analytical Preparation Date/Time 55940
Analytical Run #: 122800
ICAL Calibration #: 1/1/016
Sample #: 682075
Parent Sample #: 681537

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Total Mercury	01/21/2016	10:17	20	0.030	U	0.030	U	0		CV

CT LABORATORIES
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6

DUPLICATES

Sample Description

54ADW01

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 116426
% Solid for Sample:
Concentration Units: ug/L
Analytical Prep Batch # 1
Analytical Preparation Date/Time 55898
Analytical Run #: 122716
ICAL Calibration #:
Sample #: 681278
Parent Sample #: 679984

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M	
Total Aluminum	01/18/2016	15:28	20	216		209		3		P	
Total Antimony	01/18/2016	15:28	20	2.0	U	2.0	U	0		P	
Total Arsenic	01/18/2016	15:28	20	4.0	U	4.0	U	0		P	
Total Barium	01/18/2016	15:28	20	66.8		68.2		2		P	
Total Beryllium	01/18/2016	15:28	20	0.10	U	0.10	U	0		P	
Total Cadmium	01/18/2016	15:28	20	0.30	U	0.30	U	0		P	
Total Calcium	01/18/2016	15:28	20	47100		47100		0		P	
Total Chromium	01/18/2016	15:28	20	6.8		6.8		0		P	
Total Cobalt	01/18/2016	15:28	20	0.70	U	0.70	U	0		P	
Total Copper	01/18/2016	15:28	20	1.2	U	1.2	U	0		P	
Total Iron	01/18/2016	15:28	20	424		415		2		P	
Total Lead	01/18/2016	15:28	20	1.4	U	1.4	U	0		P	
Total Magnesium	01/18/2016	15:28	20	19900		19200		4		P	
Total Manganese	01/18/2016	15:28	20	8.6		8.8		2		P	
Total Nickel	01/18/2016	15:28	20	1.0	U	1.4	J	200		P	*FAIL*
Total Selenium	01/18/2016	15:28	20	15.2		2.2	U	200		P	*FAIL*
Total Silver	01/18/2016	15:28	20	1.0	J	0.70	U	200		P	*FAIL*
Total Thallium	01/18/2016	15:28	20	2.5	U	2.5	U	0		P	
Total Vanadium	01/18/2016	15:28	20	1.3	J	0.99	J	27		P	*FAIL*
Total Zinc	01/18/2016	15:28	20	1.6	U	1.6	U	0		P	

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6

DUPLICATES

Sample Description

54ADW01

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 116426
% Solid for Sample:
Concentration Units: ug/L
Analytical Prep Batch # 1
Analytical Preparation Date/Time 55898
Analytical Run #: 122717
ICAL Calibration #:
Sample #: 681278
Parent Sample #: 679984

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Total Potassium	01/18/2016	08:51	20	2100		1980		6		P
Total Sodium	01/18/2016	08:51	20	24900		24800		0		P

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DUPLICATES

Sample Description

49ADW01

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID

SDG No.: 116426

% Solid for Sample:

Concentration Units: ug/L

Analytical Prep Batch # 1

Analytical Preparation Date/Time 55928

Analytical Run #: 122762

ICAL Calibration #:

Sample #: 681932

Parent Sample #: 681538

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M	
Total Aluminum	01/19/2016	17:08	20	898		1530		52		P	*FAIL*
Total Antimony	01/19/2016	17:08	20	2.0	U	2.0	U	0		P	
Total Arsenic	01/19/2016	17:08	20	4.0	U	4.0	U	0		P	
Total Barium	01/19/2016	17:08	20	456		461		1		P	
Total Beryllium	01/19/2016	17:08	20	0.10	U	0.13	J	200		P	*FAIL*
Total Cadmium	01/19/2016	17:08	20	0.30	U	0.30	U	0		P	
Total Calcium	01/19/2016	17:08	20	59500		61600		3		P	
Total Chromium	01/19/2016	17:08	20	4.5		4.2		7		P	
Total Cobalt	01/19/2016	17:08	20	0.70	U	0.70	U	0		P	
Total Copper	01/19/2016	17:08	20	1.4	J	2.1	J	40		P	*FAIL*
Total Iron	01/19/2016	17:08	20	334		1060		104		P	*FAIL*
Total Lead	01/19/2016	17:08	20	1.4	U	2.1	J	200		P	*FAIL*
Total Magnesium	01/19/2016	17:08	20	30900		30000		3		P	
Total Manganese	01/19/2016	17:08	20	10		10.3		3		P	
Total Nickel	01/19/2016	17:08	20	2.3	J	2.6	J	12		P	
Total Selenium	01/19/2016	17:08	20	2.2	U	2.7	J	200		P	*FAIL*
Total Silver	01/19/2016	17:08	20	1.1	J	1.1	J	0		P	
Total Thallium	01/19/2016	17:08	20	2.5	U	2.5	U	0		P	
Total Vanadium	01/19/2016	17:08	20	1.2	J	2.3	J	63		P	*FAIL*
Total Zinc	01/19/2016	17:08	20	10.8		10.9		1		P	

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DUPLICATES

Sample Description

49ADW01

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID

SDG No.: 116426

% Solid for Sample:

Concentration Units: ug/L

Analytical Prep Batch # 1

Analytical Preparation Date/Time 55928

Analytical Run #: 122763

ICAL Calibration #:

Sample #: 681932

Parent Sample #: 681538

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Total Potassium	01/20/2016	13:18	20	1510		1490		1		P
Total Sodium	01/20/2016	13:18	20	5370		5330		1		P

CT LABORATORIES
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DUPLICATES

Sample Description

011516R1

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 116426
% Solid for Sample:
Concentration Units: ug/L
Analytical Prep Batch #: 1
Analytical Preparation Date/Time: 55959
Analytical Run #: 122821
ICAL Calibration #:
Sample #: 682726
Parent Sample #: 681537

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M	
Total Antimony	01/21/2016	15:28	20	2.0	U	2.0	U	0		P	
Total Arsenic	01/21/2016	15:28	20	4.0	U	4.0	U	0		P	
Total Barium	01/21/2016	15:28	20	0.29	U	0.29	U	0		P	
Total Cadmium	01/21/2016	15:28	20	0.30	U	0.30	U	0		P	
Total Chromium	01/21/2016	15:28	20	0.89	J	0.77	J	14		P	
Total Iron	01/21/2016	15:28	20	26.1	J	16	U	200		P	*FAIL*
Total Lead	01/21/2016	15:28	20	1.4	U	1.4	U	0		P	
Total Manganese	01/21/2016	15:28	20	0.70	U	0.70	U	0		P	
Total Nickel	01/21/2016	15:28	20	1.0	U	1.0	U	0		P	
Total Selenium	01/21/2016	15:28	20	7.5	J	5.6	J	29		P	*FAIL*
Total Silver	01/21/2016	15:28	20	1.4	J	1.3	J	7		P	
Total Zinc	01/21/2016	15:28	20	1.6	U	1.6	U	0		P	

CT LABORATORIES
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6A

MATRIX SPIKE DUPLICATES

Sample Description: **011516R1**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 116426
% Solid for Sample:
Concentration Units: ug/L
Analytical Prep Batch #: 55940
Analytical Preparation Date/Time: 01/20/2016 08:25
Analytical Run #: 122800
ICAL Calibration #: 1/1/016
Sample #: 682077
Parent Sample #: 682076

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim	RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Total Mercury	01/21/2016 10:21	20	2.3		2.2		6		CV

CT LABORATORIES
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6A

MATRIX SPIKE DUPLICATES

Sample Description: **54ADW01**

Lab Name: CT Laboratories | Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID | SDG No.: 116426

% Solid for Sample: | Concentration Units: ug/L

Analytical Prep Batch #: 55898 | Analytical Preparation Date/Time: 01/15/2016 09:00

Analytical Run #: 122716 | ICAL Calibration #:

Sample #: 681280 | Parent Sample #: 681279

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M	
Total Aluminum	01/18/2016	15:36	20	834		872		4		P	
Total Antimony	01/18/2016	15:36	20	164		164		0		P	
Total Arsenic	01/18/2016	15:36	20	647		651		1		P	
Total Barium	01/18/2016	15:36	20	718		735		2		P	
Total Beryllium	01/18/2016	15:36	20	16.1		16.7		4		P	
Total Cadmium	01/18/2016	15:36	20	15.7		16.1		3		P	
Total Calcium	01/18/2016	15:36	20	202000		208000		3		P	
Total Chromium	01/18/2016	15:36	20	66.9		66.8		0		P	
Total Cobalt	01/18/2016	15:36	20	159		162		2		P	
Total Copper	01/18/2016	15:36	20	82.4		83.6		1		P	
Total Iron	01/18/2016	15:36	20	720		567		24		P	*FAIL*
Total Lead	01/18/2016	15:36	20	151		154		2		P	
Total Magnesium	01/18/2016	15:36	20	90400		89900		1		P	
Total Manganese	01/18/2016	15:36	20	158		157		1		P	
Total Nickel	01/18/2016	15:36	20	153		154		1		P	
Total Selenium	01/18/2016	15:36	20	628		656		4		P	
Total Silver	01/18/2016	15:36	20	16.3		15.5		5		P	
Total Thallium	01/18/2016	15:36	20	606		615		1		P	
Total Vanadium	01/18/2016	15:36	20	158		158		0		P	
Total Zinc	01/18/2016	15:36	20	160		160		0		P	

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6A

MATRIX SPIKE DUPLICATES

Sample Description: **54ADW01**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 116426
% Solid for Sample:
Concentration Units: ug/L
Analytical Prep Batch #: 55898
Analytical Preparation Date/Time: 01/15/2016 09:00
Analytical Run #: 122717
ICAL Calibration #:
Sample #: 681280
Parent Sample #: 681279

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Total Potassium	01/18/2016	08:57	20	97600		97600		0		P
Total Sodium	01/18/2016	08:57	20	121000		119000		2		P

CT LABORATORIES
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6A

MATRIX SPIKE DUPLICATES

Sample Description: **49ADW01**

Lab Name: CT Laboratories | Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID | SDG No.: 116426

% Solid for Sample: | Concentration Units: ug/L

Analytical Prep Batch #: 55928 | Analytical Preparation Date/Time: 01/19/2016 07:00

Analytical Run #: 122762 | ICAL Calibration #:

Sample #: 681934 | Parent Sample #: 681933

Analysis Type: *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Total Aluminum	01/19/2016	17:18	20	1270		1290		2		P
Total Antimony	01/19/2016	17:18	20	178		181		2		P
Total Arsenic	01/19/2016	17:18	20	749		751		0		P
Total Barium	01/19/2016	17:18	20	1150		1120		3		P
Total Beryllium	01/19/2016	17:18	20	16.8		16.6		1		P
Total Cadmium	01/19/2016	17:18	20	17.2		17.2		0		P
Total Calcium	01/19/2016	17:18	20	236000		229000		3		P
Total Chromium	01/19/2016	17:18	20	74.5		74.4		0		P
Total Cobalt	01/19/2016	17:18	20	179		180		1		P
Total Copper	01/19/2016	17:18	20	92.6		92.1		1		P
Total Iron	01/19/2016	17:18	20	1320		1320		0		P
Total Lead	01/19/2016	17:18	20	170		171		1		P
Total Magnesium	01/19/2016	17:18	20	107000		107000		0		P
Total Manganese	01/19/2016	17:18	20	183		183		0		P
Total Nickel	01/19/2016	17:18	20	169		168		1		P
Total Selenium	01/19/2016	17:18	20	708		719		2		P
Total Silver	01/19/2016	17:18	20	16.9		16.7		1		P
Total Thallium	01/19/2016	17:18	20	679		678		0		P
Total Vanadium	01/19/2016	17:18	20	168		167		1		P
Total Zinc	01/19/2016	17:18	20	188		189		1		P

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6A

MATRIX SPIKE DUPLICATES

Sample Description: **49ADW01**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 116426
% Solid for Sample:
Concentration Units: ug/L
Analytical Prep Batch #: 55928
Analytical Preparation Date/Time: 01/19/2016 07:00
Analytical Run #: 122763
ICAL Calibration #:
Sample #: 681934
Parent Sample #: 681933

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Total Potassium	01/20/2016	13:29	20	94500		94600		0		P
Total Sodium	01/20/2016	13:29	20	103000		102000		1		P

CT LABORATORIES
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6A

MATRIX SPIKE DUPLICATES

Sample Description: **011516R1**

Lab Name: CT Laboratories | Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID | SDG No.: 116426

% Solid for Sample: | Concentration Units: ug/L

Analytical Prep Batch #: 55959 | Analytical Preparation Date/Time: 01/20/2016 12:30

Analytical Run #: 122821 | ICAL Calibration #:

Sample #: 682728 | Parent Sample #: 682727

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Total Antimony	01/21/2016	15:38	20	191		191		0		P
Total Arsenic	01/21/2016	15:38	20	740		735		1		P
Total Barium	01/21/2016	15:38	20	815		814		0		P
Total Cadmium	01/21/2016	15:38	20	19.7		19.5		1		P
Total Chromium	01/21/2016	15:38	20	73.7		73.5		0		P
Total Iron	01/21/2016	15:38	20	379		327		15		P
Total Lead	01/21/2016	15:38	20	190		188		1		P
Total Manganese	01/21/2016	15:38	20	201		201		0		P
Total Nickel	01/21/2016	15:38	20	189		189		0		P
Total Selenium	01/21/2016	15:38	20	723		716		1		P
Total Silver	01/21/2016	15:38	20	19.0		19.7		4		P
Total Zinc	01/21/2016	15:38	20	201		200		0		P

CT LABORATORIES
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7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 116426

Concentration Units: ug/L

Analytical Run #: 122800 Sample No.:#: 682074

Analytical Prep Batch #: 55940 Preparation Date/Time: 01/20/2016 08:25

ICAL Calibration #: 1/1/016

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Total Mercury	01/21/2016 10:07	82-119	3.41		3.00	114		CV

CT LABORATORIES
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7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 116426

Concentration Units: ug/L

Analytical Run #: 122716 Sample No.:#: 681277

Analytical Prep Batch #: 55898 Preparation Date/Time: 01/15/2016 09:00

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Total Iron	01/18/2016 15:11	87-115	402.0		400.0	100		P

CT LABORATORIES
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7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 116426

Concentration Units: ug/L

Analytical Run #: 122716 Sample No.:#: 681277

Analytical Prep Batch #: 55898 Preparation Date/Time: 01/15/2016 09:00

ICAL Calibration #:

ReRun Re-Analysis #1

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Total Aluminum	01/19/2016 18:38	86-115	763.0		800.0	95		P
Total Antimony	01/19/2016 18:38	88-113	181.0		200.0	90		P
Total Arsenic	01/19/2016 18:38	87-113	750.0		800.0	94		P
Total Barium	01/19/2016 18:38	88-113	850.0		800.0	106		P
Total Beryllium	01/19/2016 18:38	89-112	21.40		20.00	107		P
Total Cadmium	01/19/2016 18:38	88-113	19.10		20.00	96		P
Total Calcium	01/19/2016 18:38	87-113	206000		200000	103		P
Total Chromium	01/19/2016 18:38	90-113	89.60		80.00	112		P
Total Cobalt	01/19/2016 18:38	89-114	180.0		200.0	90		P
Total Copper	01/19/2016 18:38	86-114	90.90		100.0	91		P
Total Lead	01/19/2016 18:38	86-113	190.0		200.0	95		P
Total Magnesium	01/19/2016 18:38	85-113	104000		100000	104		P
Total Manganese	01/19/2016 18:38	90-114	179.0		200.0	90		P
Total Nickel	01/19/2016 18:38	88-113	194.0		200.0	97		P
Total Selenium	01/19/2016 18:38	83-114	720.0		800.0	90		P
Total Silver	01/19/2016 18:38	84-115	16.90		20.00	84		P
Total Thallium	01/19/2016 18:38	85-114	686.0		800.0	86		P
Total Vanadium	01/19/2016 18:38	90-111	193.0		200.0	96		P
Total Zinc	01/19/2016 18:38	87-115	183.0		200.0	92		P

CT LABORATORIES
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7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 116426

Concentration Units: ug/L

Analytical Run #: 122717 Sample No.:#: 681277

Analytical Prep Batch #: 55898 Preparation Date/Time: 01/15/2016 09:00

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Total Potassium	01/18/2016 08:40	86-114	94500		100000	94		P
Total Sodium	01/18/2016 08:40	87-115	95300		100000	95		P

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7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 116426

Concentration Units: ug/L

Analytical Run #: 122762 Sample No.:#: 681931

Analytical Prep Batch #: 55928 Preparation Date/Time: 01/19/2016 07:00

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Total Antimony	01/19/2016 16:35	88-113	183.0		200.0	92		P
Total Arsenic	01/19/2016 16:35	87-113	752.0		800.0	94		P
Total Chromium	01/19/2016 16:35	90-113	71.60		80.00	90		P
Total Cobalt	01/19/2016 16:35	89-114	180.0		200.0	90		P
Total Copper	01/19/2016 16:35	86-114	91.10		100.0	91		P
Total Manganese	01/19/2016 16:35	90-114	179.0		200.0	90		P
Total Selenium	01/19/2016 16:35	83-114	716.0		800.0	90		P
Total Silver	01/19/2016 16:35	84-115	17.70		20.00	88		P
Total Thallium	01/19/2016 16:35	85-114	692.0		800.0	86		P
Total Zinc	01/19/2016 16:35	87-115	181.0		200.0	90		P

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7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 116426

Concentration Units: ug/L

Analytical Run #: 122762 Sample No.:#: 681931

Analytical Prep Batch #: 55928 Preparation Date/Time: 01/19/2016 07:00

ICAL Calibration #:

ReRun Re-Analysis #1

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Total Aluminum	01/21/2016 15:48	86-115	768.0		800.0	96		P
Total Barium	01/21/2016 15:48	88-113	800.0		800.0	100		P
Total Beryllium	01/21/2016 15:48	89-112	18.40		20.00	92		P
Total Cadmium	01/21/2016 15:48	88-113	19.50		20.00	98		P
Total Calcium	01/21/2016 15:48	87-113	174000		200000	87		P
Total Iron	01/21/2016 15:48	87-115	403.0		400.0	101		P
Total Lead	01/21/2016 15:48	86-113	177.0		200.0	88		P
Total Magnesium	01/21/2016 15:48	85-113	105000		100000	105		P
Total Nickel	01/21/2016 15:48	88-113	182.0		200.0	91		P
Total Vanadium	01/21/2016 15:48	90-111	189.0		200.0	94		P

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7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 116426

Concentration Units: ug/L

Analytical Run #: 122763 Sample No.:#: 681931

Analytical Prep Batch #: 55928 Preparation Date/Time: 01/19/2016 07:00

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Total Potassium	01/20/2016 13:07	86-114	93200		100000	93		P
Total Sodium	01/20/2016 13:07	87-115	95600		100000	96		P

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7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 116426

Concentration Units: ug/L

Analytical Run #: 122821 Sample No.:#: 682725

Analytical Prep Batch #: 55959 Preparation Date/Time: 01/20/2016 12:30

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Total Antimony	01/21/2016 15:09	88-113	195.0		200.0	98		P
Total Arsenic	01/21/2016 15:09	87-113	757.0		800.0	95		P
Total Barium	01/21/2016 15:09	88-113	756.0		800.0	94		P
Total Cadmium	01/21/2016 15:09	88-113	20.20		20.00	101		P
Total Chromium	01/21/2016 15:09	90-113	74.60		80.00	93		P
Total Iron	01/21/2016 15:09	87-115	414.0		400.0	104		P
Total Lead	01/21/2016 15:09	86-113	196.0		200.0	98		P
Total Manganese	01/21/2016 15:09	90-114	213.0		200.0	106		P
Total Nickel	01/21/2016 15:09	88-113	196.0		200.0	98		P
Total Selenium	01/21/2016 15:09	83-114	752.0		800.0	94		P
Total Silver	01/21/2016 15:09	84-115	20.30		20.00	102		P
Total Zinc	01/21/2016 15:09	87-115	207.0		200.0	104		P

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CVAA SERIAL DILUTION

Sample Description

011516R1

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID SDG No.: 116426

Concentration Units: ug/L

Sample No.: 683011 Parent Sample No.: 681537

LIMS Run #: 122800 ICAL Calibration #:.: 1/1/016

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Initial Sample Result (I)	C (I)	Serial Dilution Result (S)	C (S)	% Diff.	Q	M	
Mercury	01/21/2016 10:15	BDL	U	0.15	U	0		CV	*INVALID*

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9

ICP SERIAL DILUTION

Sample Description

54ADW01

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID SDG No.: 116426

Concentration Units: ug/L

Sample No.: 681941 Parent Sample No.: 679984

LIMS Run #: 122717 ICAL Calibration #:.:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Initial Sample Result (I)	C (I)	Serial Dilution Result (S)	C (S)	% Diff.	Q	M	
Potassium	01/18/2016 08:48	2.10	U	450	U	100		P	*INVALID*
Sodium	01/18/2016 08:48	24.9	U	500	U	100		P	*INVALID*

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ICP SERIAL DILUTION

Sample Description

54ADW01

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID SDG No.: 116426

Concentration Units: ug/L

Sample No.: 682505 Parent Sample No.: 679984

LIMS Run #: 122716 ICAL Calibration #:.:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Initial Sample Result (I)	C (I)	Serial Dilution Result (S)	C (S)	% Diff.	Q	M	
Aluminum	01/18/2016 15:23	216.		366.5		70		P	*INVALID*
Antimony	01/18/2016 15:23	BDL	U	10	U	0		P	*INVALID*
Arsenic	01/18/2016 15:23	BDL	U	20	U	0		P	*INVALID*
Barium	01/18/2016 15:23	66.8		123		84		P	*INVALID*
Beryllium	01/18/2016 15:23	BDL	U	0.5	U	0		P	*INVALID*
Cadmium	01/18/2016 15:23	BDL	U	1.5	U	0		P	*INVALID*
Calcium	01/18/2016 15:23	47100.		70000		49		P	*FAIL*
Chromium	01/18/2016 15:23	6.76	J	11.1	J	64		P	*INVALID*
Cobalt	01/18/2016 15:23	BDL	U	3.5	U	0		P	*INVALID*
Copper	01/18/2016 15:23	BDL	U	6	U	0		P	*INVALID*
Iron	01/18/2016 15:23	424.	J	1180		178		P	*INVALID*
Lead	01/18/2016 15:23	BDL	U	7	U	0		P	*INVALID*
Magnesium	01/18/2016 15:23	19900		26850		35		P	*FAIL*
Manganese	01/18/2016 15:23	8.63	J	11.5	J	33		P	*INVALID*
Nickel	01/18/2016 15:23	BDL	U	5	U	0		P	*INVALID*
Selenium	01/18/2016 15:23	15.2	J	11	U	100		P	*INVALID*
Silver	01/18/2016 15:23	1.01	U	3.5	U	100		P	*INVALID*
Thallium	01/18/2016 15:23	BDL	U	12.5	U	0		P	*INVALID*
Vanadium	01/18/2016 15:23	1.28	U	4	U	100		P	*INVALID*
Zinc	01/18/2016 15:23	BDL	U	8	U	0		P	*INVALID*

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ICP SERIAL DILUTION

Sample Description

49ADW01

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID SDG No.: 116426

Concentration Units: ug/L

Sample No.: 682856 Parent Sample No.: 681538

LIMS Run #: 122763 ICAL Calibration #:.:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time		Initial Sample Result (I)	C (I)	Serial Dilution Result (S)	C (S)	% Diff.	Q	M	
Potassium	01/20/2016	13:15	1.51	U	450	U	100		P	*INVALID*
Sodium	01/20/2016	13:15	5.37	U	500	U	100		P	*INVALID*

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ICP SERIAL DILUTION

Sample Description

49ADW01

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID SDG No.: 116426

Concentration Units: ug/L

Sample No.: 683264 Parent Sample No.: 681538

LIMS Run #: 122762 ICAL Calibration #:.:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Initial Sample Result (I)	C (I)	Serial Dilution Result (S)	C (S)	% Diff.	Q	M	
Aluminum	01/19/2016 17:03	898		735		18		P	*INVALID*
Antimony	01/19/2016 17:03	BDL	U	10	U	0		P	*INVALID*
Arsenic	01/19/2016 17:03	BDL	U	20	U	0		P	*INVALID*
Barium	01/19/2016 17:03	456		535		17		P	*FAIL*
Beryllium	01/19/2016 17:03	BDL	U	0.555	J	0		P	*INVALID*
Cadmium	01/19/2016 17:03	BDL	U	1.5	U	0		P	*INVALID*
Calcium	01/19/2016 17:03	59500.		76500		29		P	*FAIL*
Chromium	01/19/2016 17:03	4.53	J	5.5	J	21		P	*INVALID*
Cobalt	01/19/2016 17:03	BDL	U	3.5	U	0		P	*INVALID*
Copper	01/19/2016 17:03	1.44	U	6	U	100		P	*INVALID*
Iron	01/19/2016 17:03	334	J	1730		418		P	*INVALID*
Lead	01/19/2016 17:03	BDL	U	7	U	0		P	*INVALID*
Magnesium	01/19/2016 17:03	30900.		30500		1		P	
Manganese	01/19/2016 17:03	9.98	J	9.65	J	3		P	*INVALID*
Nickel	01/19/2016 17:03	2.28	U	5	U	100		P	*INVALID*
Selenium	01/19/2016 17:03	BDL	U	11.5	J	0		P	*INVALID*
Silver	01/19/2016 17:03	1.09	U	5.6	J	414		P	*INVALID*
Thallium	01/19/2016 17:03	BDL	U	12.5	U	0		P	*INVALID*
Vanadium	01/19/2016 17:03	1.17	U	4	U	100		P	*INVALID*
Zinc	01/19/2016 17:03	10.8	J	8	U	100		P	*INVALID*

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ICP SERIAL DILUTION

Sample Description

011516R1

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID SDG No.: 116426

Concentration Units: ug/L

Sample No.: 684044 Parent Sample No.: 681537

LIMS Run #: 122821 ICAL Calibration #:.:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Initial Sample Result (I)	C (I)	Serial Dilution Result (S)	C (S)	% Diff.	Q	M	
Antimony	01/21/2016 15:23	BDL	U	10	U	0		P	*INVALID*
Arsenic	01/21/2016 15:23	BDL	U	20	U	0		P	*INVALID*
Barium	01/21/2016 15:23	BDL	U	1.45	U	0		P	*INVALID*
Cadmium	01/21/2016 15:23	BDL	U	1.5	U	0		P	*INVALID*
Chromium	01/21/2016 15:23	.889	U	3	U	100		P	*INVALID*
Iron	01/21/2016 15:23	26.1	U	80	U	100		P	*INVALID*
Lead	01/21/2016 15:23	BDL	U	7	U	0		P	*INVALID*
Manganese	01/21/2016 15:23	BDL	U	3.5	U	0		P	*INVALID*
Nickel	01/21/2016 15:23	BDL	U	5	U	0		P	*INVALID*
Selenium	01/21/2016 15:23	7.46	U	11	U	100		P	*INVALID*
Silver	01/21/2016 15:23	1.41	U	6.15	J	336		P	*INVALID*
Zinc	01/21/2016 15:23	BDL	U	8	U	0		P	*INVALID*

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METHOD DETECTION LIMITS (ANNUALLY)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Matrix: LIQUID

Analyte	Wavelength (nm)	Background	CRDL (ug/L)	MDL (ug/L)	M
Total Mercury	253.7			0.03	CV

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METHOD DETECTION LIMITS (ANNUALLY)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

ICP ID Number: TJA SDG No.: 116426

Matrix: LIQUID

Analyte	Wavelength (nm)	Background	CRDL (ug/L)	MDL (ug/L)	M
Total Aluminum	167.0			6	P
Total Antimony	217.5			2.0	P
Total Arsenic	193.7			4	P
Total Barium	455.4			0.29	P
Total Beryllium	313.041			0.10	P
Total Cadmium	226.502			0.3	P
Total Calcium	393.3			17	P
Total Chromium	267.716			0.6	P
Total Cobalt	228.616			0.7	P
Total Copper	327.3			1.2	P
Total Iron	259.9			16	P
Total Lead	220.35			1.4	P
Total Magnesium	279.5			6	P
Total Manganese	257.61			0.7	P
Total Nickel	231.604			1.0	P
Total Potassium	766.491			90	P
Total Selenium	196.02			2.2	P
Total Silver	328.068			0.7	P
Total Sodium	589.5			100	P
Total Thallium	190.864			2.5	P
Total Vanadium	292.402			0.8	P
Total Zinc	213.856			1.6	P

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ICP INTERELEMENT CORRECTION FACTORS (ANNUAL)
ICP ID NUMBER: TA ICAP6000 / ICAP6500

Element, Wavelength and Order	Use?	# IECs	IEC	k1
Ag 328.068 {103}	☒	1	Fe	0.000006
Al 308.215 {109}	☒	None		
Al 309.271 {109}	☒	None		
Al 396.152 { 85}	☒	None		
Al 167.079 {502}	☒	1	Fe	0.000627
As 193.759 {474}	☒	3	Fe	-0.000324
			Mo	0.000000
			Co	0.000000
As 189.042 {479}	☒	1	Fe	0.000027
Ba 455.403 { 74}	☒	1	Fe	-0.000000
Ba 493.409 { 68}	☒	1	Fe	0.000106
Be 313.042 {108}	☒	1	Fe	0.000000
Be 234.861 {144}	☒	1	Fe	0.000101
Ca 315.887 {107}	☒	None		
Ca 317.933 {106}	☒	None		
Ca 393.366 { 86}	☒	None		
Ca 396.847 { 85}	☒	None		
Cd 226.502 {449}	☒	2	Fe	0.000381
			Ag	-0.049000
Cd 228.802 {447}	☒	1	Fe	0.000100
Co 228.616 {447}	☒	6	Ti	-0.002110
			Mo	-0.001300
			Cr	-0.000235
			Ba	0.000315
			Ni	0.000000
			Fe	0.000017
Co 238.892 {141}	☒	1	Fe	0.000242
Cr 267.716 {126}	☒	1	Fe	0.000010
Cr 283.563 {119}	☒	1	Fe	0.000949
Cu 224.700 {450}	☒	2	Fe	0.000062
			Ag	-0.050000
Cu 324.754 {104}	☒	1	Fe	0.000200
Cu 327.396 {103}	☒	1	Fe	-0.000016
Fe 234.349 {144}	☒	None		
Fe 239.562 {141}	☒	None		
Fe 259.940 {130}	☒	None		
Mg 202.582 {466}	☒	None		
Mg 279.079 {121}	☒	None		
Mg 280.270 {120}	☒	None		
Mn 257.610 {131}	☒	1	Al	-0.000055
Mn 259.373 {130}	☒	1	Mg	0.001246
Mo 203.844 {465}	☒	1	Fe	-0.000027
Mo 202.030 {467}	☒	1	Fe	-0.000020
Mo 204.598 {465}	☒	1	Fe	-0.000100

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ICP INTERELEMENT CORRECTION FACTORS (ANNUAL)

ICP ID NUMBER: TA ICAP6000 / ICAP6500

Element, Wavelength and Order	Use?	# IECs	IEC	k1
Ni 221.647 {452}	☒	1	Ca	0.000022
Ni 231.604 {445}	☒	4	Fe	0.000117
			Co	-0.050000
			Ag	-0.050000
			Mo	-0.000200
Pb 216.999 {455}	☒	2	Al	0.000478
			Na	0.000000
Pb 220.353 {153}	☒	1	Fe	0.000024
Pb 220.353 {453}	☒	9	Fe	0.000071
			Si	0.000940
			Tl	0.000640
			Cu	0.000370
			Ni	0.000109
			Al	0.000000
			Co	-0.000149
			Mn	0.000074
			Ti	0.000004
Sb 206.833 {463}	☒	1	Fe	0.000032
Sb 217.581 {455}	☒	1	Fe	-0.000048
Se 196.090 {172}	☒	1	Fe	-0.000205
Se 196.090 {472}	☒	1	Fe	0.000022
Se 206.279 {463}	☒	1	Fe	0.001119
Tl 276.787 {122}	☒	1	Mg	0.006492
Tl 190.856 {477}	☒	10	Ti	0.000050
			Al	-0.000002
			V	0.000586
			Mn	0.000398
			Mo	-0.000120
			Be	-0.000013
			Fe	-0.000033
			Sr	-0.000027
			Co	0.000016
			Cr	0.000251
V 290.882 {116}	☒	1	Fe	0.000170
V 292.402 {115}	☒	1	Fe	0.000041
Zn 206.200 {463}	☒	1	Fe	0.000173
Zn 213.856 {458}	☒	1	Fe	0.000380
Y 360.073 { 94}*	☒	None		
Na 330.298 {102}	☒	1	Fe	0.000991
Si 251.611 {134}	☒	1	Fe	-0.000042
Ti 334.941 {101}	☒	1	Fe	0.000050
Ti 337.280 {100}	☒	1	Fe	0.000006
Sr 407.771 { 83}	☒	1	Fe	0.000039
Sr 421.552 { 80}	☒	1	Fe	0.000039

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ICP INTERELEMENT CORRECTION FACTORS (ANNUAL)
ICP ID NUMBER: TA ICAP6000 / ICAP6500

Element, Wavelength and Order	Use?	# IECs	IEC	k1
Sn 189.989 {477}	☒	1	Fe	0.000011
Sn 283.999 {119}	☒	1	Fe	-0.003092
B 249.678 {135}	☒	1	Fe	-0.000918
B 249.773 {135}	☒	1	Fe	0.000199
Li 670.784 { 50}	☒	1	Fe	0.000029
K 766.490 { 44}	☒	1	Fe	0.006630

Element, Wavelength and Order	Use?	# IECs	IEC	k1
K 766.490 { 44}	☒	1	Fe	0.000178
Na 330.237 {102}	☒	1	Fe	-0.004289
Na 589.592 { 57}	☒	1	Fe	0.000173
Y 350.073 { 94}	☒	None		
Y 320.332 {105}*	☒	None		
Al 308.215 {109}	☒	1	Fe	0.000000
Al 396.152 { 85}	☒	None		
Mg 285.213 {118}	☒	None		
Ca 317.933 {106}	☒	None		
Fe 234.349 {144}	☒	None		

ICP LINEAR RANGES (QUARTERLY)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

ICP ID Number: TA SDG No.: 116426

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	M
Aluminum	15.00	1000000	P
Antimony	15.00	10000	P
Arsenic	15.00	10000	P
Barium	15.00	10000	P
Beryllium	15.00	1000	P
Boron	15.00	1000	P
Cadmium	15.00	1000	P
Calcium	15.00	1000000	P
Chromium	15.00	100000	P
Cobalt	15.00	10000	P
Copper	15.00	100000	P
Iron	15.00	1000000	P
Lead	15.00	100000	P
Lithium	15.00	10000	P
Magnesium	15.00	1000000	P
Manganese	15.00	100000	P
Molybdenum	15.00	10000	P
Nickel	15.00	10000	P
Potassium	15.00	200000	P
Selenium	15.00	10000	P
Silicon	15.00	1000	P
Silver	15.00	100	P
Sodium	15.00	200000	P
Strontium	15.00	10000	P
Thallium	15.00	10000	P
Tin	15.00	10000	P
Titanium	15.00	1000	P
Tungsten	15.00	10000	P
Vanadium	15.00	10000	P
Zinc	15.00	100000	P

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PREPARATION LOG

Lab Name: CT Laboratories

Project: BERING SEA ENVIRONMENTAL-RADFORD AAP

Method: EPA 3010A

SDG No.: 116426

Preparation Batch #: 55898

Preparation Date/Time: 01/15/2016 / 09:00

Lab Sample #	QC Type	Sample Description	Matrix	**Weight (g for solid/soil) or Volume (mL for liquid/aqueous)**
679984	Normal Sample	54ADW01	GROUND WATER	50.0
681276	Method Blank		LIQUID	50.0
681277	Lab Control Spike		LIQUID	50.0
681278	Lab Duplicate	54ADW01	GROUND WATER	50.0
681279	Matrix Spike	54ADW01	GROUND WATER	50.0
681280	Matrix Spike Duplicate	54ADW01	GROUND WATER	50.0

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PREPARATION LOG

Lab Name: CT Laboratories

Project: BERING SEA ENVIRONMENTAL-RADFORD AAP

Method: EPA 3010A

SDG No.: 116426

Preparation Batch #: 55928

Preparation Date/Time: 01/19/2016 / 07:00

Lab Sample #	QC Type	Sample Description	Matrix	**Weight (g for solid/soil) or Volume (mL for liquid/aqueous)**
681538	Normal Sample	49ADW01	GROUND WATER	50.0
681930	Method Blank		LIQUID	50.0
681931	Lab Control Spike		LIQUID	50.0
681932	Lab Duplicate	49ADW01	GROUND WATER	50.0
681933	Matrix Spike	49ADW01	GROUND WATER	50.0
681934	Matrix Spike Duplicate	49ADW01	GROUND WATER	50.0

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PREPARATION LOG

Lab Name: CT Laboratories

Project: BERING SEA ENVIRONMENTAL-RADFORD AAP

Method: EPA 7470A

SDG No.: 116426

Preparation Batch #: 55940

Preparation Date/Time: 01/20/2016 / 08:25

Lab Sample #	QC Type	Sample Description	Matrix	**Weight (g for solid/soil) or Volume (mL for liquid/aqueous)**
679984	Normal Sample	54ADW01	GROUND WATER	25.0
681537	Normal Sample	011516R1	GROUND WATER	25.0
681538	Normal Sample	49ADW01	GROUND WATER	25.0
682073	Method Blank		LIQUID	25.0
682074	Lab Control Spike		LIQUID	25.0
682075	Lab Duplicate	011516R1	GROUND WATER	25.0
682076	Matrix Spike	011516R1	GROUND WATER	25.0
682077	Matrix Spike Duplicate	011516R1	GROUND WATER	25.0

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PREPARATION LOG

Lab Name: CT Laboratories

Project: BERING SEA ENVIRONMENTAL-RADFORD AAP

Method: EPA 3010A

SDG No.: 116426

Preparation Batch #: 55959

Preparation Date/Time: 01/20/2016 / 12:30

Lab Sample #	QC Type	Sample Description	Matrix	**Weight (g for solid/soil) or Volume (mL for liquid/aqueous)**
681537	Normal Sample	011516R1	GROUND WATER	50.0
682724	Method Blank		LIQUID	50.0
682725	Lab Control Spike		LIQUID	50.0
682726	Lab Duplicate	011516R1	GROUND WATER	50.0
682727	Matrix Spike	011516R1	GROUND WATER	50.0
682728	Matrix Spike Duplicate	011516R1	GROUND WATER	50.0

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ANALYSIS RUN LOG

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Lab Code: CTL

SDG No.: 116426

Instrument ID Number: CETAC

Method Number: CV

Start & End Date: 01/21/2016 to 01/21/2016

Analytical Run #: 122800

Sample Number	Analysis or QC Type	DF	Analysis Date/ Time	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Mo	Li	Ni	K	Se	Si	Ag	Na	Sr	Tl	Sn	W	V	Zn
683002	ICV	1.00	1/21 08:52																X													
683003	ICB	1.00	1/21 08:54																X													
683009	CCV	1.00	1/21 10:03																X													
683010	CCB	1.00	1/21 10:05																X													
682074	LCSW	1.00	1/21 10:07																X													
682073	MBW	1.00	1/21 10:09																X													
679984	Initial	1.00	1/21 10:11																X													
681537	Initial	1.00	1/21 10:13																X													
683011	L	5	1/21 10:15																X													
682075	DUP	1.00	1/21 10:17																X													
682076	MSW	1.00	1/21 10:19																X													
682077	MSDW	1.00	1/21 10:21																X													
683012	PDSW	1.00	1/21 10:23																X													
681538	Initial	1.00	1/21 10:25																X													
683013	CCV	1.00	1/21 10:27																X													
683014	CCB	1.00	1/21 10:29																X													

CT LABORATORIES
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ANALYSIS RUN LOG

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Lab Code: CTL

SDG No.: 116426

Instrument ID Number: TJA

Method Number: P

Start & End Date: 01/18/2016 to 01/19/2016

Analytical Run #: 122716

Sample Number	Analysis or QC Type	DF	Analysis Date/ Time	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Mo	Li	Ni	K	Se	Si	Ag	Na	Sr	Tl	Sn	W	V	Zn
682499	ICV	1.00	1/18 14:29	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
682500	ICVLL	1.00	1/18 14:33	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X					X			X	X
682501	ICB	1.00	1/18 14:42	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
682502	ICSA	1.00	1/18 14:50	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
682503	ICSAB	1.00	1/18 14:54	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
682504	ICV	1.00	1/18 14:59																							X							
681277	LCSW	1.00	1/18 15:11												X																		
681276	MBW	1.00	1/18 15:15	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X				X			X			X	X
679984	Initial	1.00	1/18 15:19	X	X	X	X	X		X	X	X	X	X	X	X		X				X				X			X			X	X
682505	L	5	1/18 15:23	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
681278	DUP	1.00	1/18 15:28	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
681279	MSW	1.00	1/18 15:32	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
681280	MSDW	1.00	1/18 15:36	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
682506	CCV1	1.00	1/18 15:40	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X					X			X	X
682507	CCV2	1.00	1/18 15:44	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
682508	CCB	1.00	1/18 15:47	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
682509	PDSW	1.00	1/18 15:52	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
682510	CCV1	1.00	1/18 16:31	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X					X			X	X
682511	CCV2	1.00	1/18 16:35	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
682512	CCB	1.00	1/18 16:39	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
683308	ICV	1.00	1/19 12:25	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
683309	ICVLL	1.00	1/19 12:30	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X					X			X	X
683310	ICB	1.00	1/19 12:39	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
683311	ICSA	1.00	1/19 12:49	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
683312	ICSAB	1.00	1/19 12:54	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
683313	ICV	1.00	1/19 12:59																							X							
683314	CCV1	1.00	1/19 16:50	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X					X			X	X
683315	CCV2	1.00	1/19 16:54	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X

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ANALYSIS RUN LOG

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Lab Code: CTL

SDG No.: 116426

Instrument ID Number: TJA

Method Number: P

Start & End Date: 01/18/2016 to 01/19/2016

Analytical Run #: 122716

Sample Number	Analysis or QC Type	DF	Analysis Date/ Time	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Mo	Li	Ni	K	Se	Si	Ag	Na	Sr	Tl	Sn	W	V	Zn
683316	CCB	1.00	1/19 16:59	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
681276	MBW	1.00	1/19 17:27																					X									
679984	Re-Analysis	1.00	1/19 17:32														X							X									
683317	CCV1	1.00	1/19 17:51	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X					X			X	X
683318	CCV2	1.00	1/19 17:55	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
683319	CCB	1.00	1/19 18:00	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
681277	LCSW	1.00	1/19 18:38	X	X	X	X	X		X	X	X	X	X		X	X	X				X		X		X			X			X	X
683320	CCV1	1.00	1/19 18:48	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X					X			X	X
683321	CCV2	1.00	1/19 18:52	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
683322	CCB	1.00	1/19 18:57	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X

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ANALYSIS RUN LOG

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Lab Code: CTL
SDG No.: 116426

Instrument ID Number: TJA
Method Number: P

Start & End Date: 01/18/2016 to 01/18/2016
Analytical Run #: 122717

Sample Number	Analysis or QC Type	DF	Analysis Date/ Time	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Mo	Li	Ni	K	Se	Si	Ag	Na	Sr	Tl	Sn	W	V	Zn
681935	ICV	1.00	1/18 08:23																				X				X					
681936	ICVLL	1.00	1/18 08:26																				X				X					
681937	ICB	1.00	1/18 08:28																				X				X					
681938	MRL	1.00	1/18 08:31																				X				X					
681939	ICSA	1.00	1/18 08:34	X							X				X		X						X				X					
681940	ICSAB	1.00	1/18 08:37	X							X				X		X						X				X					
681277	LCSW	1.00	1/18 08:40																				X				X					
681276	MBW	1.00	1/18 08:43																				X				X					
679984	Initial	1.00	1/18 08:46																				X				X					
681941	L	5	1/18 08:48																				X				X					
681278	DUP	1.00	1/18 08:51																				X				X					
681279	MSW	1.00	1/18 08:54																				X				X					
681280	MSDW	1.00	1/18 08:57																				X				X					
681942	PDSW	1.00	1/18 08:59																				X				X					
681943	CCV	1.00	1/18 09:08																				X				X					
681944	CCB	1.00	1/18 09:10																				X				X					

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ANALYSIS RUN LOG

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Lab Code: CTL
SDG No.: 116426

Instrument ID Number: TJA
Method Number: P

Start & End Date: 01/19/2016 to 01/21/2016
Analytical Run #: 122762

Sample Number	Analysis or QC Type	DF	Analysis Date/ Time	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Mo	Li	Ni	K	Se	Si	Ag	Na	Sr	Tl	Sn	W	V	Zn
683252	ICV	1.00	1/19 12:25	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
683253	ICVLL	1.00	1/19 12:30	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X					X			X	X
683254	ICB	1.00	1/19 12:39	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
683255	ICSA	1.00	1/19 12:49	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
683256	ICSAB	1.00	1/19 12:54	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
683257	ICV	1.00	1/19 12:59																							X							
683258	CCV1	1.00	1/19 15:49	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X					X			X	X
683259	CCV2	1.00	1/19 15:53	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
683260	CCB	1.00	1/19 15:58	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
681931	LCSW	1.00	1/19 16:35		X	X						X	X	X				X						X		X			X				X
681930	MBW	1.00	1/19 16:40	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
681538	Initial	1.00	1/19 16:45	X	X	X				X	X	X	X	X		X	X	X				X		X		X			X				X
683261	CCV1	1.00	1/19 16:50	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X					X			X	X
683262	CCV2	1.00	1/19 16:54	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
683263	CCB	1.00	1/19 16:59	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
683264	L	5	1/19 17:03	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
681932	DUP	1.00	1/19 17:08	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
681933	MSW	1.00	1/19 17:13	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
681934	MSDW	1.00	1/19 17:18	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
683265	PDSW	1.00	1/19 17:22	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
683266	CCV1	1.00	1/19 17:51	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X					X			X	X
683267	CCV2	1.00	1/19 17:55	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
683268	CCB	1.00	1/19 18:00	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
684049	ICV	1.00	1/21 14:30	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
684050	ICVLL	1.00	1/21 14:35	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X					X			X	X
684051	ICB	1.00	1/21 14:44	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
684052	ICSA	1.00	1/21 14:54	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
684053	ICSAB	1.00	1/21 14:59	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X

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ANALYSIS RUN LOG

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Lab Code: CTL

SDG No.: 116426

Instrument ID Number: TJA

Method Number: P

Start & End Date: 01/19/2016 to 01/21/2016

Analytical Run #: 122762

Sample Number	Analysis or QC Type	DF	Analysis Date/ Time	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Mo	Li	Ni	K	Se	Si	Ag	Na	Sr	Tl	Sn	W	V	Zn
684054	ICV	1.00	1/21 15:04																							X							
681931	LCSW	1.00	1/21 15:48	X			X	X		X	X				X	X	X					X										X	
684055	CCV1	1.00	1/21 15:53	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
684056	CCV2	1.00	1/21 15:58	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
684057	CCB	1.00	1/21 16:03	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
681538	Re-Analysis	1.00	1/21 16:08				X	X							X																	X	
684058	CCV1	1.00	1/21 16:38	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
684059	CCV2	1.00	1/21 16:43	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
684060	CCB	1.00	1/21 16:47	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X

CT LABORATORIES
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ANALYSIS RUN LOG

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Lab Code: CTL

SDG No.: 116426

Instrument ID Number: TJA

Method Number: P

Start & End Date: 01/20/2016 to 01/20/2016

Analytical Run #: 122763

Sample Number	Analysis or QC Type	DF	Analysis Date/ Time	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Mo	Li	Ni	K	Se	Si	Ag	Na	Sr	Tl	Sn	W	V	Zn
682850	ICV	1.00	1/20 12:37																				X				X					
682851	ICVLL	1.00	1/20 12:40																				X				X					
682852	ICB	1.00	1/20 12:42																				X				X					
682853	MRL	1.00	1/20 12:45																				X				X					
682854	ICSA	1.00	1/20 12:48	X							X				X		X						X				X					
682855	ICSAB	1.00	1/20 12:51	X							X				X		X						X				X					
681931	LCSW	1.00	1/20 13:07																				X				X					
681930	MBW	1.00	1/20 13:10																				X				X					
681538	Initial	1.00	1/20 13:12																				X				X					
682856	L	5	1/20 13:15																				X				X					
681932	DUP	1.00	1/20 13:18																				X				X					
682857	CCV	1.00	1/20 13:21																				X				X					
682858	CCB	1.00	1/20 13:23																				X				X					
681933	MSW	1.00	1/20 13:26																				X				X					
681934	MSDW	1.00	1/20 13:29																				X				X					
682859	PDSW	1.00	1/20 13:31																				X				X					
682860	CCV	1.00	1/20 13:36																				X				X					
682861	CCB	1.00	1/20 13:39																				X				X					

CT LABORATORIES
delivering more than data from your environmental analyses

14

ANALYSIS RUN LOG

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Lab Code: CTL

SDG No.: 116426

Instrument ID Number: TJA

Method Number: P

Start & End Date: 01/21/2016 to 01/21/2016

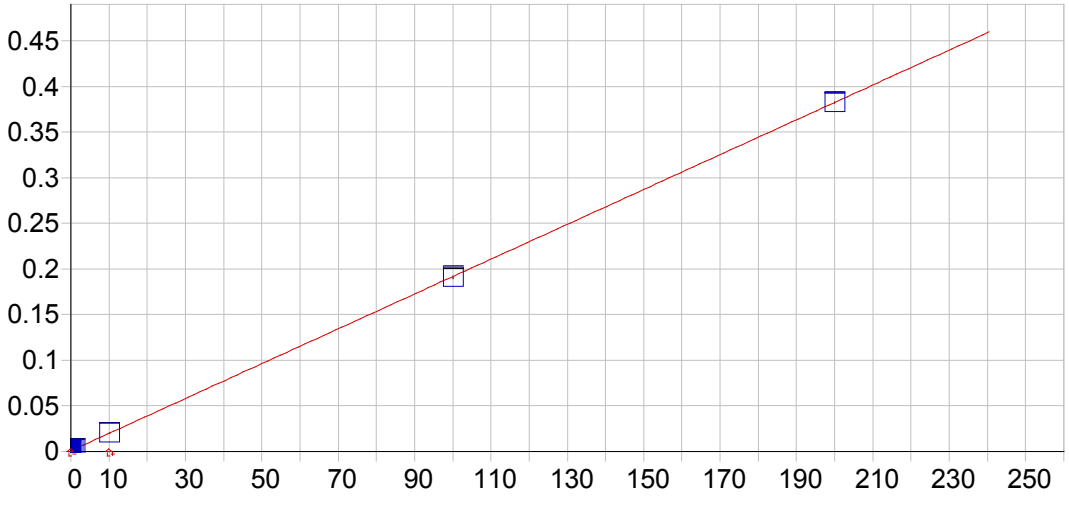
Analytical Run #: 122821

Sample Number	Analysis or QC Type	DF	Analysis Date/ Time	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Mo	Li	Ni	K	Se	Si	Ag	Na	Sr	Tl	Sn	W	V	Zn
684038	ICV	1.00	1/21 14:30		X	X	X			X		X			X	X		X				X		X		X							X
684039	ICVLL	1.00	1/21 14:35		X	X	X			X		X			X	X		X				X		X									X
684040	ICB	1.00	1/21 14:44		X	X	X			X		X			X	X		X				X		X		X							X
684041	ICSA	1.00	1/21 14:54	X	X	X	X			X	X	X			X	X	X	X				X		X		X							X
684042	ICSAB	1.00	1/21 14:59	X	X	X	X			X	X	X			X	X	X	X				X		X		X							X
684043	ICV	1.00	1/21 15:04																							X							
682725	LCSW	1.00	1/21 15:09		X	X	X			X		X			X	X		X				X		X		X							X
682724	MBW	1.00	1/21 15:14		X	X	X			X		X			X	X		X				X		X		X							X
681537	Initial	1.00	1/21 15:19		X	X	X			X		X			X	X		X				X		X		X							X
684044	L	5	1/21 15:23		X	X	X			X		X			X	X		X				X		X		X							X
682726	DUP	1.00	1/21 15:28		X	X	X			X		X			X	X		X				X		X		X							X
682727	MSW	1.00	1/21 15:33		X	X	X			X		X			X	X		X				X		X		X							X
682728	MSDW	1.00	1/21 15:38		X	X	X			X		X			X	X		X				X		X		X							X
684045	PDSW	1.00	1/21 15:43		X	X	X			X		X			X	X		X				X		X		X							X
684046	CCV1	1.00	1/21 15:53		X	X	X			X		X			X	X		X				X		X		X							X
684047	CCV2	1.00	1/21 15:58		X	X	X			X		X			X	X		X				X		X		X							X
684048	CCB	1.00	1/21 16:03		X	X	X			X		X			X	X		X				X		X		X							X

METALS
RAW DATA
DOCUMENTS

	Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)	Correlation	Std Error of Est	Predicted MDL	Predicted MQL
	K 766.490 { 44}	01/19/2016 07:47:15	01/18/2016 08:20:18	Linear	1/Conc	0.000823	0.001909	0.000000	1.000000	0.999958	0.000008	0.072663	0.242212
	Na 330.237 {102}	01/19/2016 07:47:15	01/18/2016 08:20:18	Linear	None	0.000011	0.000040	0.000000	1.000000	0.999989	0.000021	1.997147	6.657155
	Na 589.592 { 57}	01/19/2016 07:47:15	01/18/2016 08:20:18	Linear	1/Conc	0.000257	0.015902	0.000000	1.000000	0.999979	0.000051	0.015322	0.051072
	Y 360.073 { 94}	01/19/2016 07:47:15	01/18/2016 08:01:04	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000
	Y 320.332 {105}*	01/19/2016 07:47:15	01/18/2016 08:01:04	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000
	Al 308.215 {109}	01/19/2016 07:47:15	01/18/2016 08:23:25	Linear	1/Conc	0.002100	0.000008	0.000000	1.000000	1.000000	0.000000	-1.000000	-1.000000
	Al 396.152 { 85}	01/19/2016 07:47:15	01/18/2016 08:23:25	Linear	1/Conc	0.000075	0.007831	0.000000	1.000000	1.000000	0.000000	0.014223	0.047411
	Mg 285.213 {118}	01/19/2016 07:47:15	01/18/2016 08:23:25	Linear	None	0.000138	0.025183	0.000000	1.000000	1.000000	0.000000	0.002068	0.006893
	Ca 317.933 {106}	01/19/2016 07:47:15	01/18/2016 08:23:25	Linear	None	0.028588	0.007563	0.000000	1.000000	1.000000	0.000000	0.007358	0.024528
	Fe 234.349 {144}	01/19/2016 07:47:15	01/18/2016 08:23:25	Linear	None	0.000025	0.000452	0.000000	1.000000	1.000000	0.000000	0.039544	0.131814

	Element, Wavelength and Order	Status	Reslope		QC Norm	
			Slope	Y-int	Slope factor	Offset
	K 766.490 { 44}	OK.	1.000000	0.000000	1	0
	Na 330.237 {102}	OK.	1.000000	0.000000	1	0
	Na 589.592 { 57}	OK.	1.000000	0.000000	1	0
	Y 360.073 { 94}	Warnin	1.000000	0.000000	1	0
	Y 320.332 {105}*	Warnin	1.000000	0.000000	1	0
	Al 308.215 {109}	OK.	1.000000	0.000000	1	0
	Al 396.152 { 85}	OK.	1.000000	0.000000	1	0
	Mg 285.213 {118}	OK.	1.000000	0.000000	1	0
	Ca 317.933 {106}	OK.	1.000000	0.000000	1	0
	Fe 234.349 {144}	OK.	1.000000	0.000000	1	0

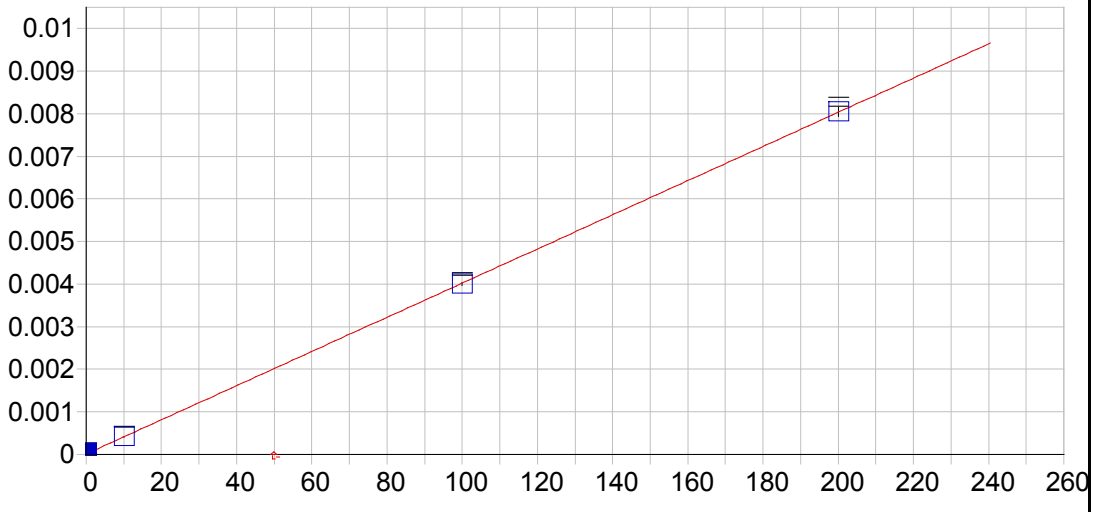


K 766.490 { 44}

Date of Fit:	01/19/2016 07:47:15	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000823	Re-Slope:	1.000000
A1 (Gain):	0.001909	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999958	Status:	OK.
Std Error of Est:	0.000008		
Predicted MDL:	0.072663		
Predicted MQL:	0.242212		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00013	.000	.000	.00082	.000	1
CalibStd-1.0	1.0000	1.0945	.094	9.45	.00291	.000	1
CalibStd-10.0	10.000	10.253	.253	2.53	.02039	.000	1
CalibStd-0.5	.50000	.56832	.068	13.7	.00191	.000	1
CalibStd-200	200.00	199.95	-.055	-.027	.38246	.001	1
CalibStd-100	100.00	99.640	-.360	-.360	.19101	.001	1

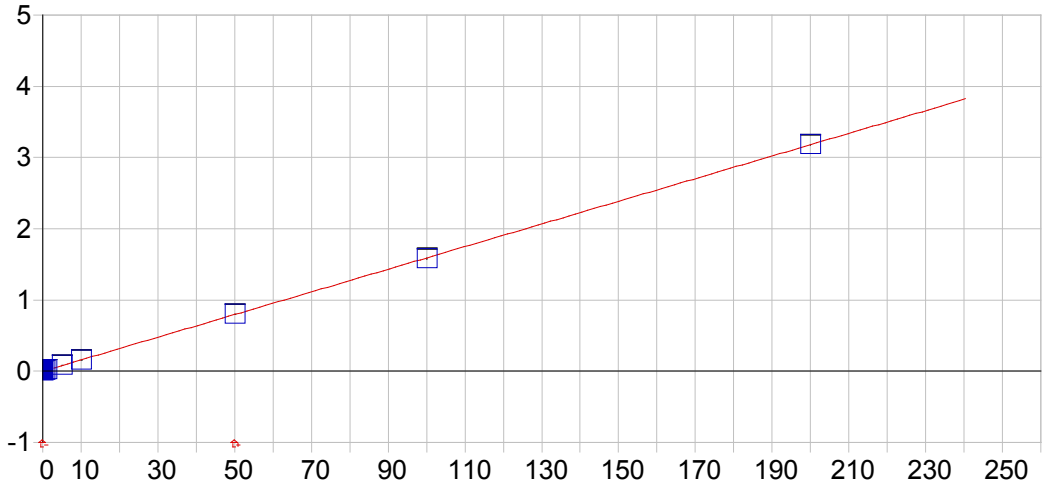


Na 330.237 {102}

Date of Fit:	01/19/2016 07:47:15	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000011	Re-Slope:	1.000000
A1 (Gain):	0.000040	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999989	Status:	OK.
Std Error of Est:	0.000021		
Predicted MDL:	1.997147		
Predicted MQL:	6.657155		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.31551	.316	.000	.00002	.000	1
CalibStd-200	200.00	200.30	.303	.152	.00805	.000	1
CalibStd-10.0	10.000	9.9862	-.014	-.138	.00041	.000	1
CalibStd-100	100.00	99.395	-.605	-.605	.00400	.000	1

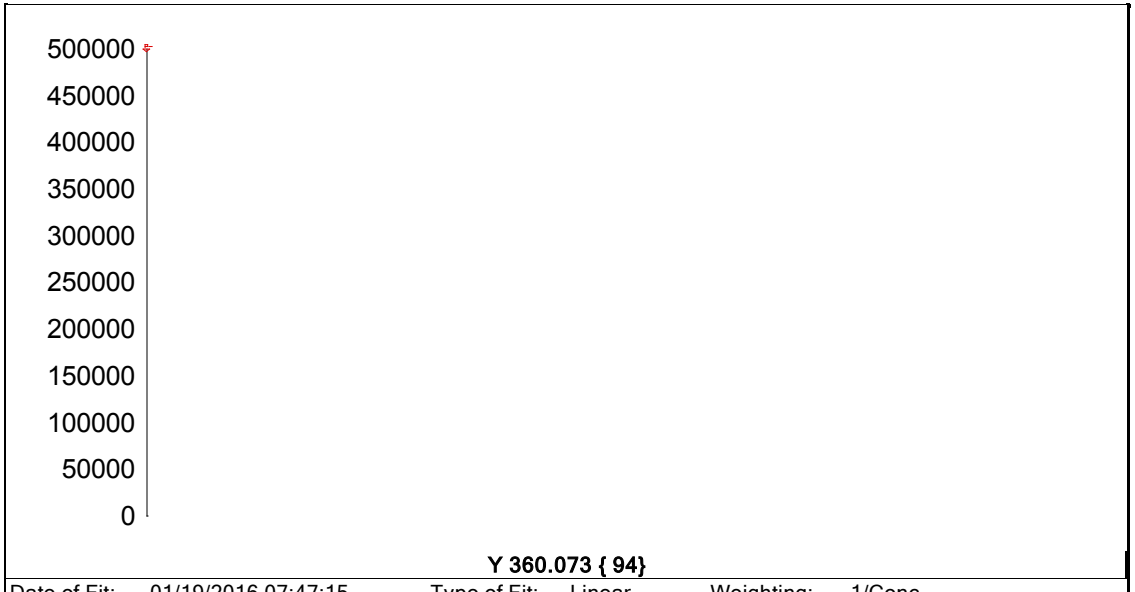


Na 589.592 { 57}

Date of Fit:	01/19/2016 07:47:15	Type of Fit:	Linear	Weighting:	1/Conc

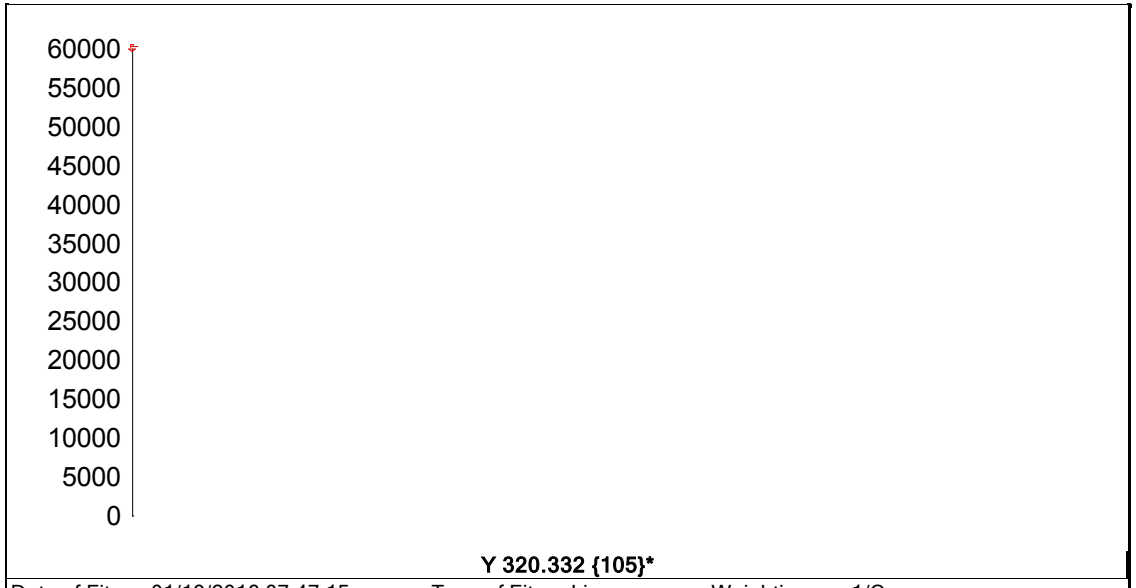
A0 (Offset):	0.000257	Re-Slope:	1.000000
A1 (Gain):	0.015902	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999979	Status:	OK.
Std Error of Est:	0.000051		
Predicted MDL:	0.015322		
Predicted MQL:	0.051072		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00007	.000	.000	.00026	.000	1
CalibStd-0.5	.50000	.53066	.031	6.13	.00870	.000	1
CalibStd-1.0	1.0000	1.0333	.033	3.33	.01669	.000	1
CalibStd-5.0	5.0000	5.1717	.172	3.43	.08250	.000	1
CalibStd-10.0	10.000	10.001	.001	.008	.15929	.000	1
CalibStd-50	50.000	50.431	.431	.862	.80219	.001	1
CalibStd-100	100.00	99.450	-.550	-.550	1.5817	.011	1
CalibStd-200	200.00	199.88	-.117	-.059	3.1787	.005	1



Date of Fit:	01/19/2016 07:47:15	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.000000		Re-Slope:	1.000000	
A1 (Gain):	0.000000		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.000000		Status:	Warning	Zero Gain
Std Error of Est:	0.000000				
Predicted MDL:	n/a				
Predicted MQL:	n/a				

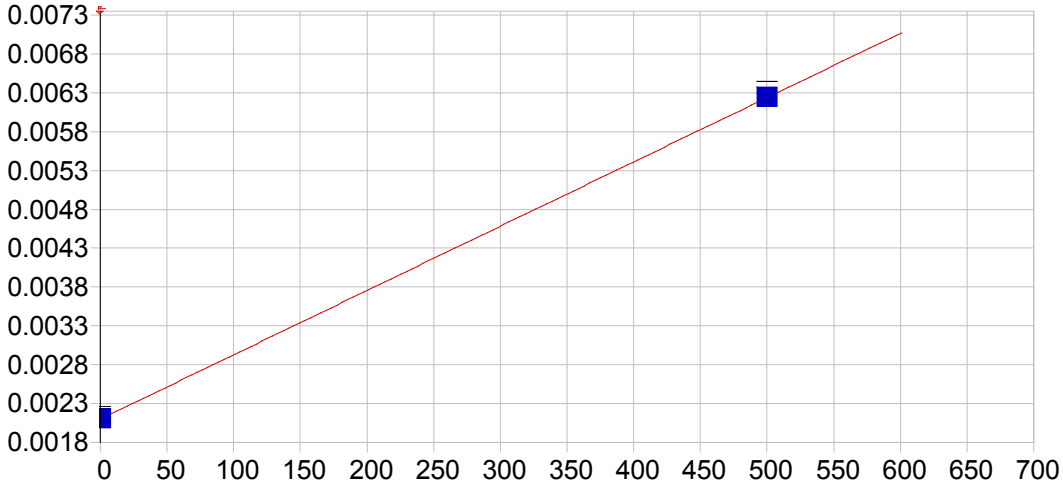
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	437330.	3830.	1



Y 320.332 {105}*

Date of Fit:	01/19/2016 07:47:15	Type of Fit:	Linear	Weighting:	1/Conc	
A0 (Offset):	0.000000		Re-Slope:	1.000000		
A1 (Gain):	0.000000		Y-int:	0.000000		
A2 (Curvature):	0.000000					
n (Exponent):	1.000000					
Correlation:	0.000000		Status:	Warning	Zero Gain	
Std Error of Est:	0.000000					
Predicted MDL:	n/a					
Predicted MQL:	n/a					

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	47576.	187.	1

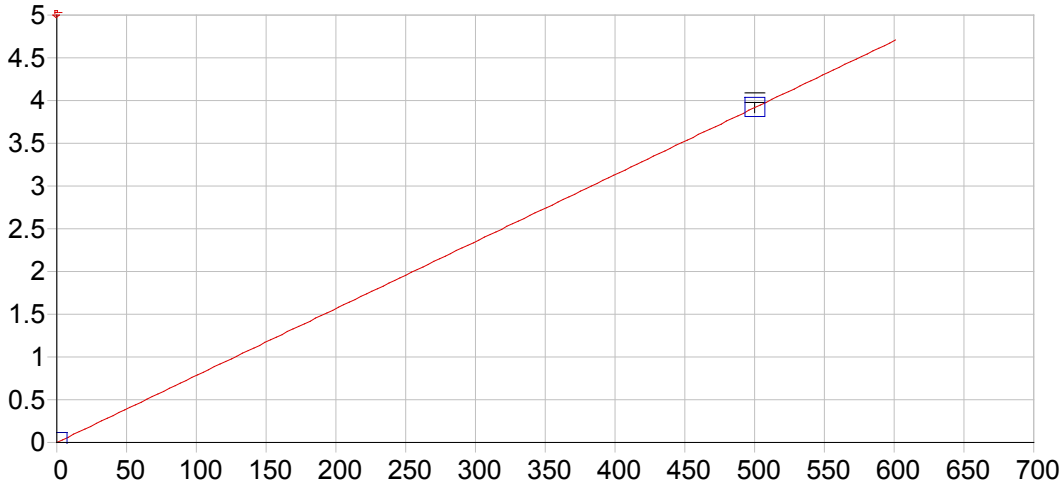


Al 308.215 {109}

Date of Fit:	01/19/2016 07:47:15	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.002100	Re-Slope:	1.000000
A1 (Gain):	0.000008	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00210	.000	1
CalibStd-500	500.00	500.00	.000	.000	.00624	.000	1

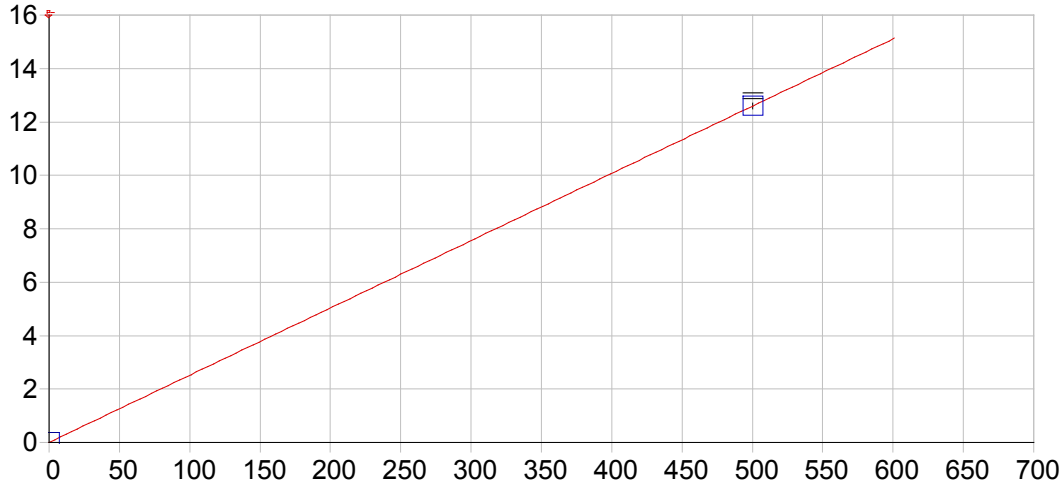


Al 396.152 { 85}

Date of Fit:	01/19/2016 07:47:15	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000075	Re-Slope:	1.000000
A1 (Gain):	0.007831	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.014223		
Predicted MQL:	0.047411		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00008	.000	1
CalibStd-500	500.00	500.00	.000	.000	3.9157	.056	1

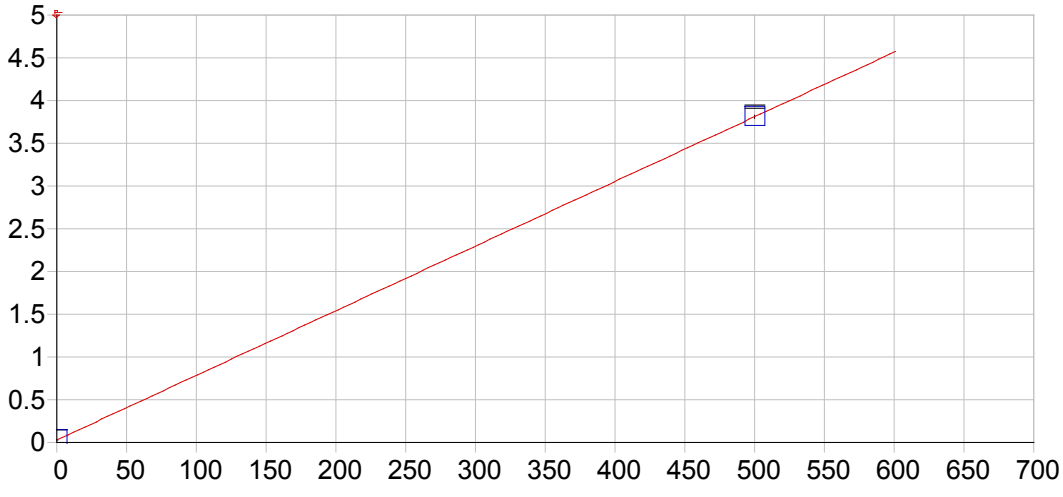


Mg 285.213 {118}

Date of Fit:	01/19/2016 07:47:15	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000138	Re-Slope:	1.000000
A1 (Gain):	0.025183	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.002068		
Predicted MQL:	0.006893		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00014	.000	1
CalibStd-500	500.00	500.00	.000	.000	12.592	.107	1

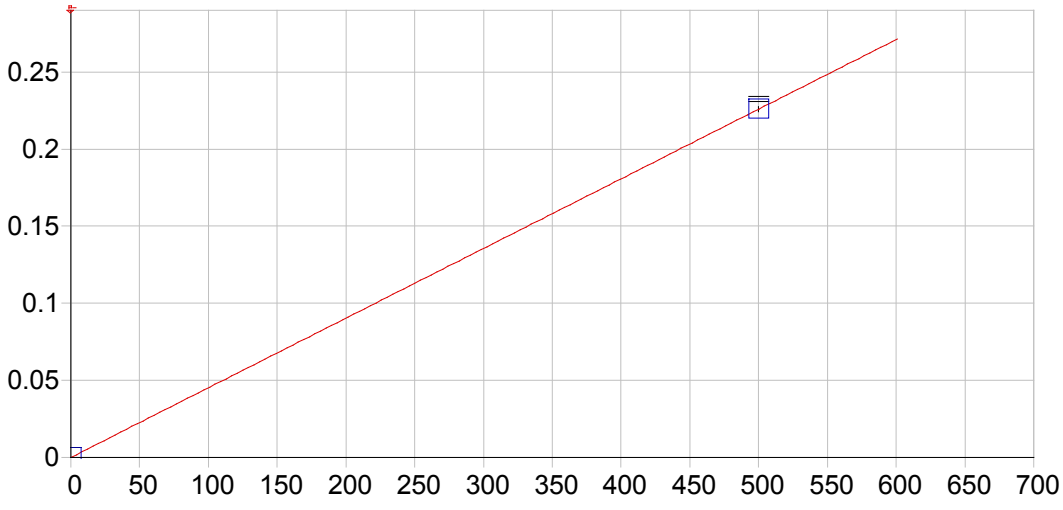


Ca 317.933 {106}

Date of Fit:	01/19/2016 07:47:15	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.028588	Re-Slope:	1.000000
A1 (Gain):	0.007563	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.007358		
Predicted MQL:	0.024528		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.02859	.000	1
CalibStd-500	500.00	500.00	.000	.000	3.8099	.016	1



Fe 234.349 {144}

Date of Fit:	01/19/2016 07:47:15	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000025	Re-Slope:	1.000000
A1 (Gain):	0.000452	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.039544		
Predicted MQL:	0.131814		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00003	.000	1
CalibStd-500	500.00	500.00	.000	.000	.22589	.002	1

Sample Name: Blank Acquired: 01/18/2016 07:58:12 Type: Cal
Method: Sodium and Potassium 1(v673) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.001**	**.000**	**.000**	**.000**	**.000**	**.029**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000
%RSD	14.6	71.6	166.	59.3	8.08	.140	42.5

Int. Std.	Y_3203
Units	Cts/S
Avg	**47576.**
Stddev	187.
%RSD	.39336

Sample Name: CalibStd-0.5 Acquired: 01/18/2016 08:01:07 Type: Cal
Method: Sodium and Potassium 1(v673) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895
Units	Cts/S	Cts/S
Avg	**.002**	**.009**
Stddev	.000	.000
%RSD	3.75	1.23

Int. Std.	Y_3203
Units	Cts/S
Avg	**47248.**
Stddev	171.
%RSD	.36263

Sample Name: CalibStd-1.0 Acquired: 01/18/2016 08:03:52 Type: Cal
Method: Sodium and Potassium 1(v673) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895
Units	Cts/S	Cts/S
Avg	**.003**	**.017**
Stddev	.000	.000
%RSD	6.20	.891

Int. Std.	Y_3203
Units	Cts/S
Avg	**46786.**
Stddev	99.
%RSD	.21243

Sample Name: CalibStd-5.0 Acquired: 01/18/2016 08:06:36 Type: Cal
Method: Sodium and Potassium 1(v673) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Na5895
Units	Cts/S
Avg	**.082**
Stddev	.000
%RSD	.446

Int. Std.	Y_3203
Units	Cts/S
Avg	**46489.**
Stddev	215.
%RSD	.46271

Sample Name: CalibStd-10.0 Acquired: 01/18/2016 08:09:21 Type: Cal
Method: Sodium and Potassium 1(v673) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Na5895
Units	Cts/S	Cts/S	Cts/S
Avg	**.020**	**.000**	**.159**
Stddev	.000	.000	.000
%RSD	1.04	1.91	.099

Int. Std.	Y_3203
Units	Cts/S
Avg	**46614.**
Stddev	291.
%RSD	.62462

Sample Name: CalibStd-50 Acquired: 01/18/2016 08:12:06 Type: Cal
Method: Sodium and Potassium 1(v673) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Na5895
Units	Cts/S
Avg	**.802**
Stddev	.001
%RSD	.160

Int. Std.	Y_3203
Units	Cts/S
Avg	**46679.**
Stddev	120.
%RSD	.25757

Sample Name: CalibStd-100 Acquired: 01/18/2016 08:14:53 Type: Cal
Method: Sodium and Potassium 1(v673) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Na5895
Units	Cts/S	Cts/S	Cts/S
Avg	**.191**	**.004**	**1.58**
Stddev	.001	.000	.01
%RSD	.674	.717	.671

Int. Std.	Y_3203
Units	Cts/S
Avg	**46553.**
Stddev	66.
%RSD	.14175

Sample Name: CalibStd-200 Acquired: 01/18/2016 08:17:38 Type: Cal
Method: Sodium and Potassium 1(v673) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Na5895
Units	Cts/S	Cts/S	Cts/S
Avg	**.382**	**.008**	**3.18**
Stddev	.001	.000	.01
%RSD	.169	1.35	.149

Int. Std.	Y_3203
Units	Cts/S
Avg	**45975.**
Stddev	99.
%RSD	.21533

Sample Name: CalibStd-500 Acquired: 01/18/2016 08:20:21 Type: Cal
Method: Sodium and Potassium 1(v673) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Mg2852	Ca3179	Fe2343
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3.92**	**12.6**	**3.81**	**.226**
Stddev	.06	.1	.02	.002
%RSD	1.42	.847	.421	.741

Int. Std.	Y_3203
Units	Cts/S
Avg	**44296.**
Stddev	232.
%RSD	.52464

Sample Name: icv Acquired: 01/18/2016 08:23:28 Type: QC
Method: Sodium and Potassium 1(v673) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**101.**	**103.**	**.124**	**.132**	**.126**	**.296**
Stddev	.	2.	.013	.002	.006	.073
%RSD	.205	1.68	10.3	1.67	4.99	24.6
#1	101.	101.	.137	.134	.133	.374
#2	101.	104.	.125	.131	.121	.230
#3	101.	105.	.111	.130	.124	.283
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**46880.**
Stddev	147.
%RSD	.31302
#1	46791.
#2	47049.
#3	46799.

Sample Name: ICVLL Acquired: 01/18/2016 08:26:12 Type: QC
Method: Sodium and Potassium 1(v673) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**3.08**	**3.26**	**.014**	**.034**	**.067**	**.047**
Stddev	.07	.02	.001	.001	.018	.016
%RSD	2.35	.516	9.86	4.13	27.3	33.2
#1	3.16	3.28	.016	.034	.087	.062
#2	3.04	3.26	.013	.036	.064	.031
#3	3.03	3.25	.015	.033	.051	.049
Check ?	Chk Pass	Chk Pass	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**47347.**
Stddev	412.
%RSD	.87095
#1	46932.
#2	47757.
#3	47352.

Sample Name: icb Acquired: 01/18/2016 08:28:57 Type: QC
Method: Sodium and Potassium 1(v673) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.121**	**.010**	**-.023**	**.003**	**.030**	**.024**
Stddev	.004	.003	.003	.001	.019	.017
%RSD	3.56	32.4	13.7	32.7	64.1	71.4
#1	.126	.013	-.019	.004	.045	.036
#2	.120	.006	-.023	.003	.008	.004
#3	.117	.011	-.025	.002	.036	.031
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**46995.**
Stddev	62.
%RSD	.13159
#1	46940.
#2	47062.
#3	46983.

Sample Name: mrl Acquired: 01/18/2016 08:31:42 Type: QC
Method: Sodium and Potassium 1(v673) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**1.16**	**1.12**	**-.020**	**.006**	**.039**	**-.006**
Stddev	.04	.01	.008	.001	.008	.032
%RSD	3.03	1.04	39.6	20.3	20.4	586.
#1	1.15	1.13	-.026	.005	.030	.027
#2	1.19	1.13	-.022	.007	.046	-.006
#3	1.12	1.11	-.011	.006	.042	-.038
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**47020.**
Stddev	145.
%RSD	.30816
#1	47163.
#2	46873.
#3	47023.

Sample Name: icsa Acquired: 01/18/2016 08:34:26 Type: QC
Method: Sodium and Potassium 1(v673) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**-.089**	**.000**	**498.**	**493.**	**491.**	**502.**
Stddev	.045	.01	4.	3.	3.	6.
%RSD	50.9	64e15	.724	.673	.515	1.29
#1	-.134	.006	496.	495.	492.	503.
#2	-.044	-.007	502.	496.	493.	508.
#3	-.089	.001	495.	490.	488.	495.
Check ?	Chk Pass	Chk Pass	None	None	None	None
High Limit						
Low Limit						

Int. Std.	Y_3203
Units	Cts/S
Avg	**44433.**
Stddev	94.
%RSD	.21129
#1	44410.
#2	44352.
#3	44536.

Sample Name: icsab Acquired: 01/18/2016 08:37:34 Type: QC
Method: Sodium and Potassium 1(v673) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**106.**	**107.**	**478.**	**468.**	**471.**	**480.**
Stddev	1.	1.	2.	1.	4.	2.
%RSD	.617	1.24	.469	.280	.818	.388
#1	106.	108.	476.	468.	467.	478.
#2	107.	108.	481.	470.	475.	482.
#3	105.	106.	478.	467.	472.	480.
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**44743.**
Stddev	98.
%RSD	.21840
#1	44824.
#2	44634.
#3	44772.

Sample Name: lcsw55898 Acquired: 01/18/2016 08:40:42 Type: Unk
Method: Sodium and Potassium 1(v673) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**94.5**	**95.3**	**.781**	**95.2**	**175.**	**.497**
Stddev	.2	.6	.019	.2	1.	.038
%RSD	.175	.657	2.40	.174	.455	7.74
#1	94.5	94.7	.796	95.3	176.	.530
#2	94.6	96.0	.760	95.2	174.	.506
#3	94.3	95.2	.787	95.0	174.	.455

Int. Std.	Y_3203
Units	Cts/S
Avg	**45613.**
Stddev	286.
%RSD	.62668
#1	45283.
#2	45785.
#3	45771.

Sample Name: mbw55898 Acquired: 01/18/2016 08:43:26 Type: Unk
Method: Sodium and Potassium 1(v673) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.005**	**-.003**	**-.015**	**.003**	**.000**	**.054**
Stddev	.033	.012	.004	.001	.01	.009
%RSD	642.	373.	27.8	40.7	3050.	17.4
#1	.020	-.013	-.019	.004	-.006	.050
#2	.029	-.006	-.011	.003	-.005	.047
#3	-.033	.010	-.014	.002	.010	.065

Int. Std.	Y_3203
Units	Cts/S
Avg	**47071.**
Stddev	158.
%RSD	.33625
#1	47192.
#2	47130.
#3	46892.

Sample Name: 679984 Acquired: 01/18/2016 08:46:11 Type: Unk
Method: Sodium and Potassium 1(v673) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**2.10**	**24.9**	**.371**	**21.6**	**49.2**	**.402**
Stddev	.06	.1	.015	.1	.3	.033
%RSD	2.76	.321	3.97	.657	.539	8.33
#1	2.09	24.9	.359	21.6	49.4	.435
#2	2.06	25.0	.367	21.8	49.3	.368
#3	2.17	24.9	.388	21.5	48.9	.402

Int. Std.	Y_3203
Units	Cts/S
Avg	**46941.**
Stddev	92.
%RSD	.19519
#1	46847.
#2	46947.
#3	47030.

Sample Name: I679984 Acquired: 01/18/2016 08:48:54 Type: Unk
Method: Sodium and Potassium 1(v673) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.370**	**4.97**	**.052**	**4.31**	**9.92**	**.064**
Stddev	.031	.03	.008	.01	.07	.024
%RSD	8.33	.612	15.8	.268	.753	37.0
#1	.382	5.01	.060	4.32	9.94	.055
#2	.335	4.97	.043	4.31	9.98	.047
#3	.393	4.95	.054	4.30	9.83	.091

Int. Std.	Y_3203
Units	Cts/S
Avg	**47619.**
Stddev	99.
%RSD	.20792
#1	47561.
#2	47564.
#3	47734.

Sample Name: dup679984 Acquired: 01/18/2016 08:51:38 Type: Unk
Method: Sodium and Potassium 1(v673) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**1.98**	**24.8**	**.340**	**21.2**	**48.3**	**.384**
Stddev	.02	.0	.011	.1	.0	.034
%RSD	1.08	.057	3.10	.365	.042	8.93
#1	1.97	24.8	.329	21.2	48.3	.351
#2	1.98	24.8	.350	21.3	48.3	.420
#3	2.01	24.8	.342	21.2	48.3	.382

Int. Std.	Y_3203
Units	Cts/S
Avg	**46918.**
Stddev	80.
%RSD	.17155
#1	46968.
#2	46825.
#3	46961.

Sample Name: msw679984 Acquired: 01/18/2016 08:54:22 Type: Unk
Method: Sodium and Potassium 1(v673) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**97.6**	**121.**	**1.13**	**117.**	**222.**	**.766**
Stddev	.3	2.	.02	.	1.	.020
%RSD	.267	1.53	2.12	.297	.516	2.55
#1	97.6	120.	1.12	118.	223.	.752
#2	97.9	123.	1.15	117.	221.	.758
#3	97.3	119.	1.11	117.	223.	.789

Int. Std.	Y_3203
Units	Cts/S
Avg	**45452.**
Stddev	207.
%RSD	.45523
#1	45317.
#2	45690.
#3	45349.

Sample Name: msdw679984 Acquired: 01/18/2016 08:57:06 Type: Unk
Method: Sodium and Potassium 1(v673) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**97.6**	**119.**	**1.12**	**117.**	**221.**	**.729**
Stddev	.1	.	.02	.	1.	.038
%RSD	.084	.110	1.94	.100	.470	5.28
#1	97.5	119.	1.14	117.	222.	.724
#2	97.7	119.	1.10	117.	221.	.693
#3	97.5	119.	1.13	117.	221.	.769

Int. Std.	Y_3203
Units	Cts/S
Avg	**45653.**
Stddev	201.
%RSD	.44082
#1	45490.
#2	45878.
#3	45590.

Sample Name: pdsw679984 Acquired: 01/18/2016 08:59:51 Type: Unk
Method: Sodium and Potassium 1(v673) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**101.**	**124.**	**.331**	**20.7**	**47.8**	**.384**
Stddev	1.	1.	.013	.1	.4	.026
%RSD	.495	.574	3.95	.406	.767	6.90
#1	101.	124.	.328	20.6	47.5	.389
#2	101.	125.	.346	20.6	47.7	.408
#3	102.	123.	.321	20.8	48.2	.355

Int. Std.	Y_3203
Units	Cts/S
Avg	**46730.**
Stddev	150.
%RSD	.32021
#1	46745.
#2	46871.
#3	46573.

Sample Name: ccv Acquired: 01/18/2016 09:08:07 Type: QC
Method: Sodium and Potassium 1(v673) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**99.7**	**99.0**	**-.024**	**-.003**	**-.005**	**-.013**
Stddev	.1	1.8	.010	.001	.003	.009
%RSD	.095	1.77	43.0	33.9	51.8	69.0
#1	99.8	101.	-.012	-.002	-.005	-.023
#2	99.8	97.4	-.027	-.003	-.007	-.006
#3	99.6	98.6	-.032	-.004	-.002	-.010
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**46872.**
Stddev	169.
%RSD	.36039
#1	46827.
#2	46730.
#3	47059.

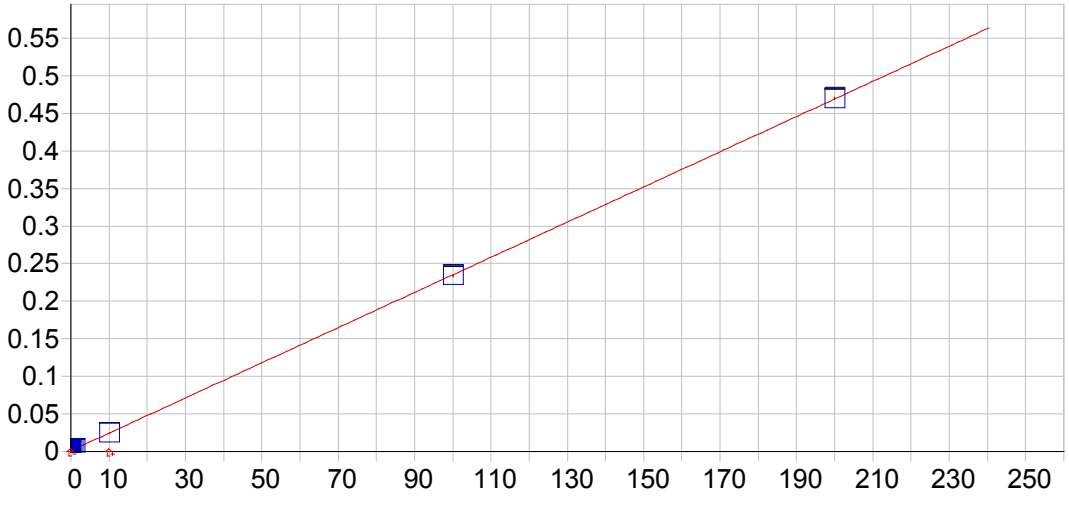
Sample Name: ccb Acquired: 01/18/2016 09:10:51 Type: QC
Method: Sodium and Potassium 1(v673) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.117**	**.016**	**-.027**	**-.006**	**-.011**	**-.009**
Stddev	.002	.011	.009	.000	.021	.026
%RSD	1.67	71.3	32.7	6.33	197.	304.
#1	.115	.022	-.033	-.006	-.012	-.029
#2	.119	.022	-.031	-.005	.011	-.018
#3	.117	.003	-.017	-.006	-.031	.021
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**47257.**
Stddev	124.
%RSD	.26261
#1	47303.
#2	47117.
#3	47352.

	Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)	Correlation	Std Error of Est	Predicted MDL	Predicted MQL
	K 766.490 { 44}	01/21/2016 07:39:03	01/20/2016 12:34:28	Linear	1/Conc	0.001030	0.002340	0.000000	1.000000	0.999987	0.000006	0.066901	0.223004
	Na 330.237 {102}	01/21/2016 07:39:03	01/20/2016 12:34:28	Linear	None	0.000026	0.000048	0.000000	1.000000	0.999997	0.000014	1.946464	6.488212
	Na 589.592 { 57}	01/21/2016 07:39:03	01/20/2016 12:34:28	Linear	1/Conc	0.000071	0.020468	0.000000	1.000000	0.999965	0.000084	0.013858	0.046194
	Y 360.073 { 94}	01/21/2016 07:39:03	01/20/2016 12:15:43	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000
	Y 320.332 {105}*	01/21/2016 07:39:03	01/20/2016 12:15:43	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000
	Al 308.215 {109}	01/21/2016 07:39:03	01/20/2016 12:37:26	Linear	1/Conc	0.002372	0.000010	0.000000	1.000000	1.000000	0.000000	-1.000000	-1.000000
	Al 396.152 { 85}	01/21/2016 07:39:03	01/20/2016 12:37:26	Linear	1/Conc	0.000069	0.009606	0.000000	1.000000	1.000000	0.000000	0.013572	0.045241
	Mg 285.213 {118}	01/21/2016 07:39:03	01/20/2016 12:37:26	Linear	None	0.000173	0.029552	0.000000	1.000000	1.000000	0.000000	0.002054	0.006847
	Ca 317.933 {106}	01/21/2016 07:39:03	01/20/2016 12:37:26	Linear	None	0.029086	0.008892	0.000000	1.000000	1.000000	0.000000	0.006934	0.023113
	Fe 234.349 {144}	01/21/2016 07:39:03	01/20/2016 12:37:26	Linear	None	0.000041	0.000559	0.000000	1.000000	1.000000	0.000000	0.037617	0.125391

	Element, Wavelength and Order	Status	Reslope		QC Norm	
			Slope	Y-int	Slope factor	Offset
	K 766.490 { 44}	OK.	1.000000	0.000000	1	0
	Na 330.237 {102}	OK.	1.000000	0.000000	1	0
	Na 589.592 { 57}	OK.	1.000000	0.000000	1	0
	Y 360.073 { 94}	Warnin	1.000000	0.000000	1	0
	Y 320.332 {105}*	Warnin	1.000000	0.000000	1	0
	Al 308.215 {109}	OK.	1.000000	0.000000	1	0
	Al 396.152 { 85}	OK.	1.000000	0.000000	1	0
	Mg 285.213 {118}	OK.	1.000000	0.000000	1	0
	Ca 317.933 {106}	OK.	1.000000	0.000000	1	0
	Fe 234.349 {144}	OK.	1.000000	0.000000	1	0

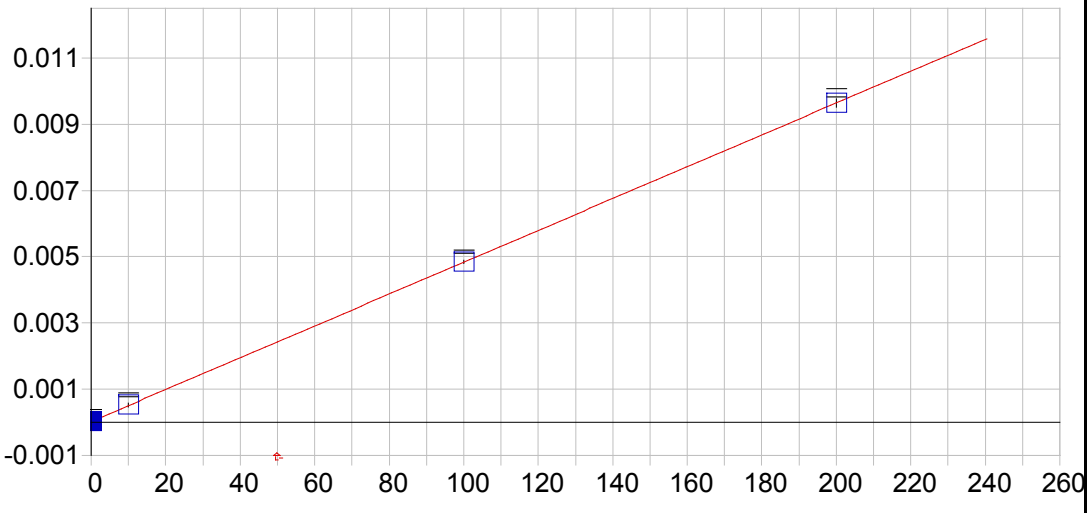


K 766.490 { 44}

Date of Fit:	01/21/2016 07:39:03	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.001030	Re-Slope:	1.000000
A1 (Gain):	0.002340	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999987	Status:	OK.
Std Error of Est:	0.000006		
Predicted MDL:	0.066901		
Predicted MQL:	0.223004		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00005	.000	.000	.00103	.000	1
CalibStd-1.0	1.0000	.99401	-.006	-.599	.00336	.000	1
CalibStd-10.0	10.000	10.110	.110	1.10	.02469	.000	1
CalibStd-0.5	.50000	.54832	.048	9.66	.00231	.000	1
CalibStd-200	200.00	200.27	.265	.133	.46972	.001	1
CalibStd-100	100.00	99.583	-.417	-.417	.23409	.001	1

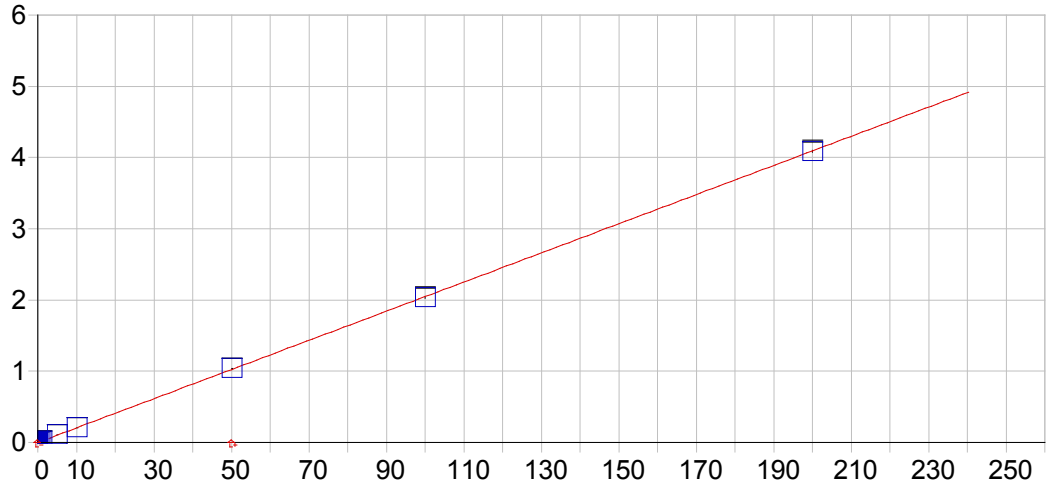


Na 330.237 {102}

Date of Fit:	01/21/2016 07:39:03	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000026	Re-Slope:	1.000000
A1 (Gain):	0.000048	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999997	Status:	OK.
Std Error of Est:	0.000014		
Predicted MDL:	1.946464		
Predicted MQL:	6.488212		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.28736	-.287	.000	.00001	.000	1
CalibStd-200	200.00	199.91	-.088	-.044	.00964	.000	1
CalibStd-10.0	10.000	10.221	.221	2.21	.00052	.000	1
CalibStd-100	100.00	100.15	.154	.154	.00484	.000	1

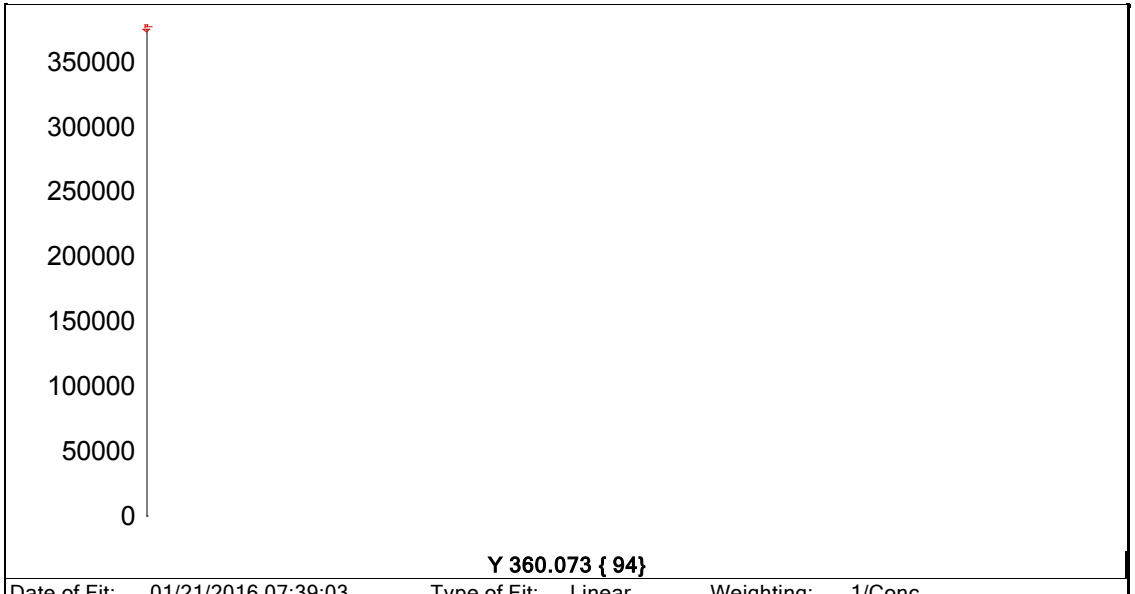


Na 589.592 { 57}

Date of Fit:	01/21/2016 07:39:03	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000071	Re-Slope:	1.000000
A1 (Gain):	0.020468	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999965	Status:	OK.
Std Error of Est:	0.000084		
Predicted MDL:	0.013858		
Predicted MQL:	0.046194		

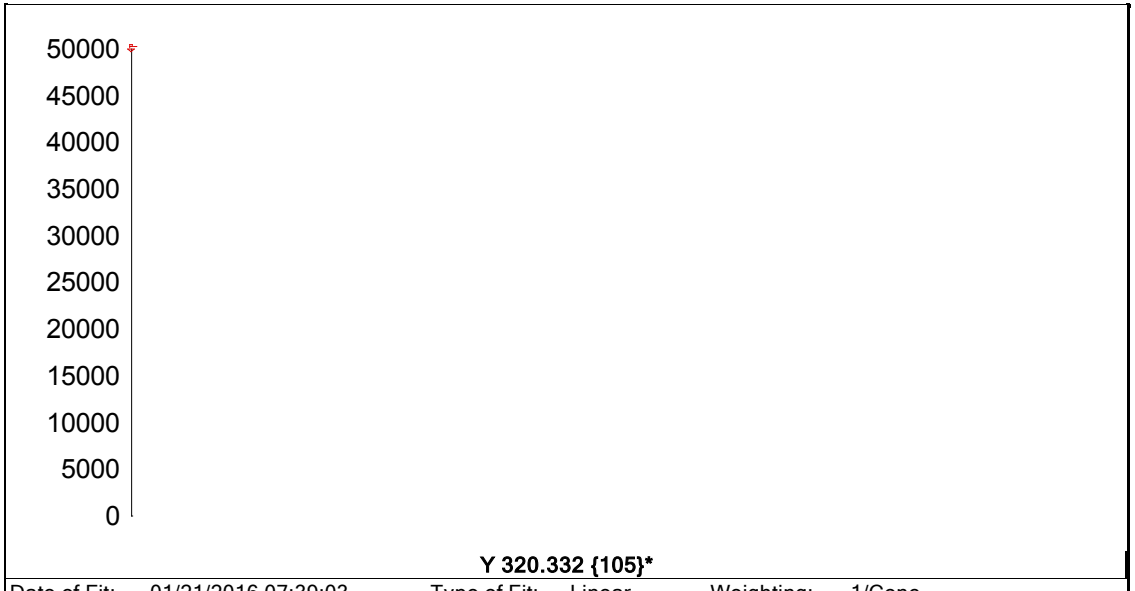
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00008	.000	.000	.00007	.000	1
CalibStd-0.5	.50000	.54126	.041	8.25	.01115	.000	1
CalibStd-1.0	1.0000	1.0262	.026	2.62	.02108	.000	1
CalibStd-5.0	5.0000	5.2233	.223	4.47	.10698	.001	1
CalibStd-10.0	10.000	10.057	.057	.574	.20592	.000	1
CalibStd-50	50.000	50.581	.581	1.16	1.0354	.001	1
CalibStd-100	100.00	99.394	-.606	-.606	2.0344	.007	1
CalibStd-200	200.00	199.68	-.323	-.162	4.0870	.013	1



Y 360.073 { 94}

Date of Fit:	01/21/2016 07:39:03	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.000000		Re-Slope:	1.000000	
A1 (Gain):	0.000000		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.000000		Status:	Warning	Zero Gain
Std Error of Est:	0.000000				
Predicted MDL:	n/a				
Predicted MQL:	n/a				

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	354880.	1490.	1

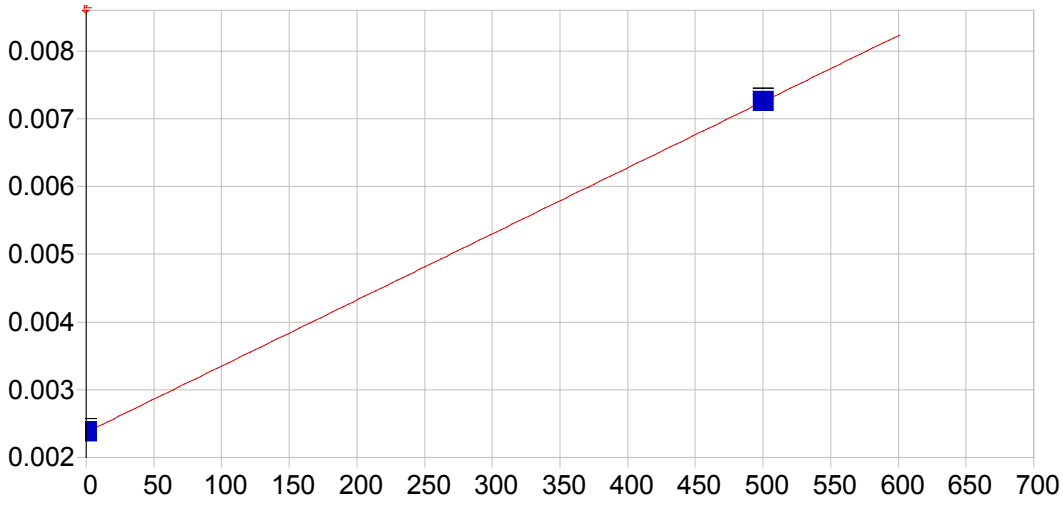


Y 320.332 {105}*

Date of Fit:	01/21/2016 07:39:03	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.000000	Status:	Warning Zero Gain
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	39201.	17.8	1

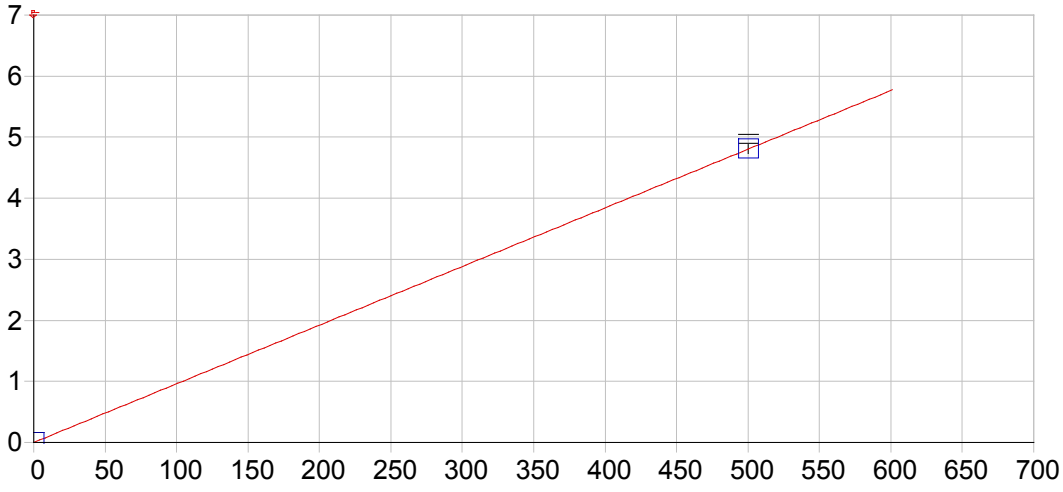


Al 308.215 {109}

Date of Fit:	01/21/2016 07:39:03	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.002372	Re-Slope:	1.000000
A1 (Gain):	0.000010	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00237	.000	1
CalibStd-500	500.00	500.00	.000	.000	.00725	.000	1

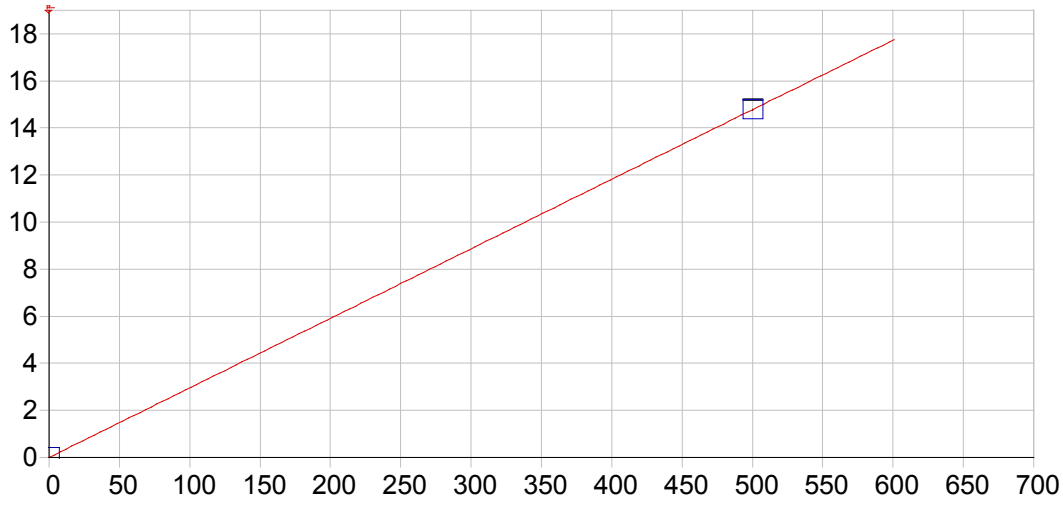


Al 396.152 { 85}

Date of Fit:	01/21/2016 07:39:03	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000069	Re-Slope:	1.000000
A1 (Gain):	0.009606	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.013572		
Predicted MQL:	0.045241		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00007	.000	1
CalibStd-500	500.00	500.00	.000	.000	4.8030	.074	1

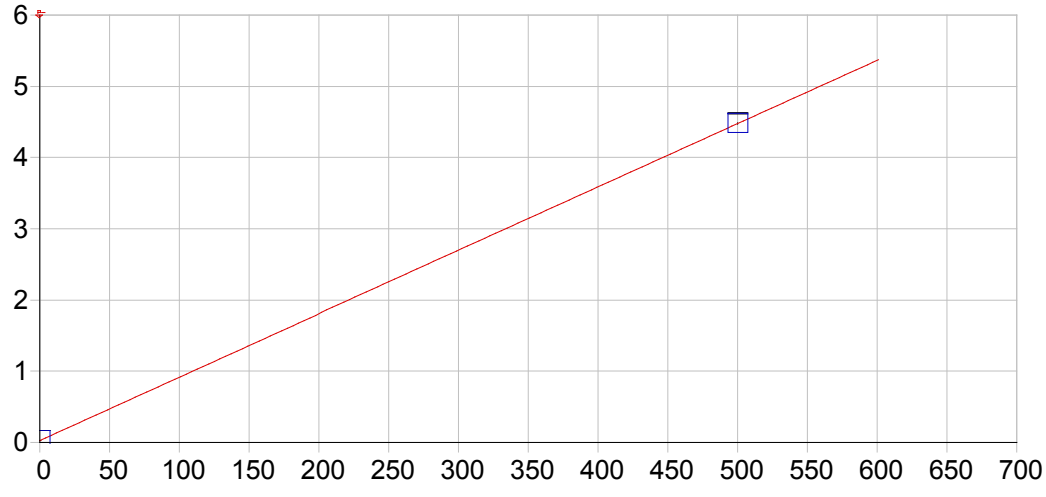


Mg 285.213 {118}

Date of Fit:	01/21/2016 07:39:03	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000173	Re-Slope:	1.000000
A1 (Gain):	0.029552	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.002054		
Predicted MQL:	0.006847		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00017	.000	1
CalibStd-500	500.00	500.00	.000	.000	14.776	.023	1

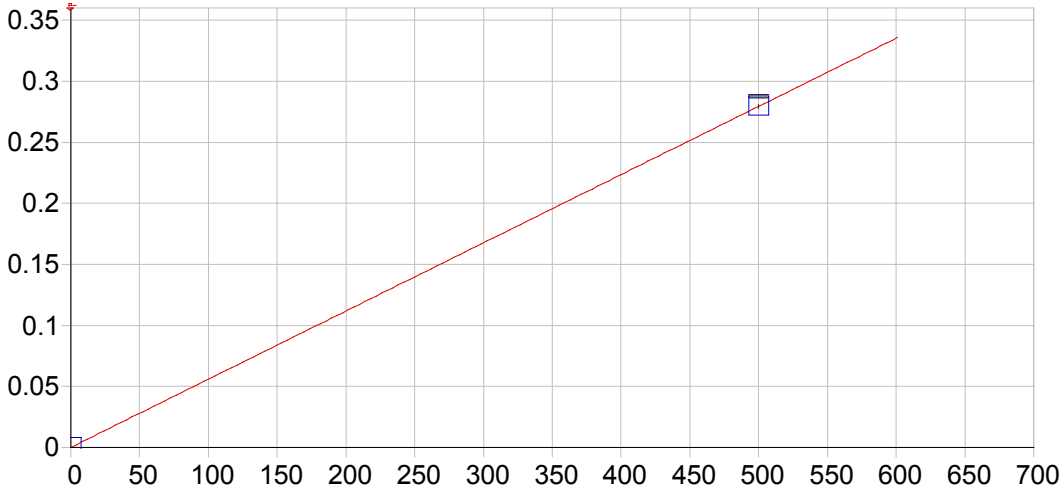


Ca 317.933 {106}

Date of Fit:	01/21/2016 07:39:03	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.029086	Re-Slope:	1.000000
A1 (Gain):	0.008892	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.006934		
Predicted MQL:	0.023113		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.02909	.000	1
CalibStd-500	500.00	500.00	.000	.000	4.4753	.008	1



Fe 234.349 {144}

Date of Fit:	01/21/2016 07:39:03	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000041	Re-Slope:	1.000000
A1 (Gain):	0.000559	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.037617		
Predicted MQL:	0.125391		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00004	.000	1
CalibStd-500	500.00	500.00	.000	.000	.27938	.001	1

Sample Name: Blank Acquired: 01/20/2016 12:12:53 Type: Cal
Method: Sodium and Potassium 1(v675) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.001**	**.000**	**.000**	**.000**	**.000**	**.029**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000
%RSD	7.38	488.	19.8	47.8	13.7	.219	26.5

Int. Std.	Y_3203
Units	Cts/S
Avg	**39201.**
Stddev	18.
%RSD	.04531

Sample Name: CalibStd-0.5 Acquired: 01/20/2016 12:15:46 Type: Cal
Method: Sodium and Potassium 1(v675) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895
Units	Cts/S	Cts/S
Avg	**.002**	**.011**
Stddev	.000	.000
%RSD	1.29	2.70

Int. Std.	Y_3203
Units	Cts/S
Avg	**39481.**
Stddev	116.
%RSD	.29340

Sample Name: CalibStd-1.0 Acquired: 01/20/2016 12:18:25 Type: Cal
Method: Sodium and Potassium 1(v675) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895
Units	Cts/S	Cts/S
Avg	**.003**	**.021**
Stddev	.000	.000
%RSD	2.43	.987

Int. Std.	Y_3203
Units	Cts/S
Avg	**39369.**
Stddev	96.
%RSD	.24408

Sample Name: CalibStd-5.0 Acquired: 01/20/2016 12:21:03 Type: Cal
Method: Sodium and Potassium 1(v675) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Na5895
Units	Cts/S
Avg	**.107**
Stddev	.001
%RSD	.638

Int. Std.	Y_3203
Units	Cts/S
Avg	**39352.**
Stddev	19.
%RSD	.04907

Sample Name: CalibStd-10.0 Acquired: 01/20/2016 12:23:43 Type: Cal
Method: Sodium and Potassium 1(v675) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Na5895
Units	Cts/S	Cts/S	Cts/S
Avg	**.025**	**.001**	**.206**
Stddev	.000	.000	.000
%RSD	.596	12.3	.235

Int. Std.	Y_3203
Units	Cts/S
Avg	**39417.**
Stddev	86.
%RSD	.21783

Sample Name: CalibStd-50 Acquired: 01/20/2016 12:26:28 Type: Cal
Method: Sodium and Potassium 1(v675) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Na5895
Units	Cts/S
Avg	**1.04**
Stddev	.00
%RSD	.064

Int. Std.	Y_3203
Units	Cts/S
Avg	**39504.**
Stddev	63.
%RSD	.15969

Sample Name: CalibStd-100 Acquired: 01/20/2016 12:29:08 Type: Cal
Method: Sodium and Potassium 1(v675) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Na5895
Units	Cts/S	Cts/S	Cts/S
Avg	**.234**	**.005**	**2.03**
Stddev	.001	.000	.01
%RSD	.495	.978	.335

Int. Std.	Y_3203
Units	Cts/S
Avg	**39339.**
Stddev	72.
%RSD	.18334

Sample Name: CalibStd-200 Acquired: 01/20/2016 12:31:50 Type: Cal
Method: Sodium and Potassium 1(v675) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Na5895
Units	Cts/S	Cts/S	Cts/S
Avg	**.470**	**.010**	**4.09**
Stddev	.001	.000	.01
%RSD	.305	1.31	.314

Int. Std.	Y_3203
Units	Cts/S
Avg	**39093.**
Stddev	162.
%RSD	.41506

Sample Name: CalibStd-500 Acquired: 01/20/2016 12:34:31 Type: Cal
Method: Sodium and Potassium 1(v675) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Mg2852	Ca3179	Fe2343
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**4.80**	**14.8**	**4.48**	**.279**
Stddev	.07	.0	.01	.001
%RSD	1.53	.158	.185	.426

Int. Std.	Y_3203
Units	Cts/S
Avg	**37222.**
Stddev	118.
%RSD	.31711

Sample Name: icv Acquired: 01/20/2016 12:37:29 Type: QC
Method: Sodium and Potassium 1(v675) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**101.**	**105.**	**.111**	**.135**	**.104**	**.275**
Stddev	.	2.	.005	.005	.012	.104
%RSD	.067	2.36	4.64	3.35	11.7	37.6
#1	101.	103.	.115	.140	.090	.394
#2	101.	108.	.113	.133	.108	.233
#3	101.	104.	.105	.132	.113	.200
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**39127.**
Stddev	100.
%RSD	.25682
#1	39148.
#2	39017.
#3	39215.

Sample Name: ICVLL Acquired: 01/20/2016 12:40:11 Type: QC
Method: Sodium and Potassium 1(v675) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**3.08**	**3.23**	**.019**	**.035**	**.027**	**.028**
Stddev	.02	.01	.006	.002	.018	.022
%RSD	.548	.250	33.7	6.20	65.6	79.4
#1	3.07	3.23	.013	.038	.018	.023
#2	3.07	3.24	.018	.036	.016	.009
#3	3.10	3.22	.026	.033	.047	.053
Check ?	Chk Pass	Chk Pass	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**39639.**
Stddev	61.
%RSD	.15299
#1	39571.
#2	39687.
#3	39659.

Sample Name: icb Acquired: 01/20/2016 12:42:50 Type: QC
Method: Sodium and Potassium 1(v675) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**-.009**	**.013**	**-.022**	**.002**	**.003**	**.019**
Stddev	.087	.001	.005	.003	.015	.021
%RSD	938.	8.04	23.5	110.	515.	108.
#1	.011	.014	-.018	.002	.015	.025
#2	.065	.012	-.028	.005	.006	-.004
#3	-.104	.014	-.020	.000	-.013	.036
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**39280.**
Stddev	83.
%RSD	.21162
#1	39187.
#2	39305.
#3	39347.

Sample Name: mrl Acquired: 01/20/2016 12:45:26 Type: QC
Method: Sodium and Potassium 1(v675) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**1.04**	**1.10**	**-.009**	**.004**	**.002**	**-.046**
Stddev	.01	.01	.012	.001	.006	.026
%RSD	.580	.559	138.	20.7	246.	56.2
#1	1.03	1.10	-.002	.005	-.003	-.060
#2	1.04	1.09	-.002	.003	.009	-.016
#3	1.05	1.10	-.023	.005	.001	-.061
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**39597.**
Stddev	66.
%RSD	.16718
#1	39521.
#2	39637.
#3	39633.

Sample Name: icsa Acquired: 01/20/2016 12:48:07 Type: QC
Method: Sodium and Potassium 1(v675) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.000**	**.000**	**500.**	**509.**	**504.**	**504.**
Stddev	.06	.01	2.	3.	2.	3.
%RSD	65e15	232e15	.302	.661	.391	.662
#1	.023	.003	501.	512.	505.	500.
#2	-.068	-.013	498.	506.	506.	506.
#3	.045	.010	500.	509.	502.	506.
Check ?	Chk Pass	Chk Pass	None	None	None	None
High Limit						
Low Limit						

Int. Std.	Y_3203
Units	Cts/S
Avg	**36939.**
Stddev	65.
%RSD	.17718
#1	36864.
#2	36979.
#3	36976.

Sample Name: icsab Acquired: 01/20/2016 12:51:07 Type: QC
Method: Sodium and Potassium 1(v675) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**106.**	**109.**	**478.**	**484.**	**477.**	**483.**
Stddev	.	2.	1.	1.	2.	2.
%RSD	.304	1.60	.294	.207	.397	.515
#1	107.	110.	478.	485.	476.	482.
#2	106.	110.	478.	484.	476.	481.
#3	106.	107.	480.	483.	479.	486.
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**37190.**
Stddev	66.
%RSD	.17631
#1	37195.
#2	37253.
#3	37122.

Sample Name: lcsw55928 Acquired: 01/20/2016 13:07:35 Type: Unk
Method: Sodium and Potassium 1(v675) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**93.2**	**95.6**	**.769**	**97.0**	**174.**	**.357**
Stddev	.2	1.7	.010	.2	.	.043
%RSD	.193	1.76	1.35	.188	.271	12.1
#1	93.2	95.3	.769	97.2	175.	.309
#2	93.0	94.1	.779	96.9	174.	.370
#3	93.3	97.5	.759	96.9	175.	.393

Int. Std.	Y_3203
Units	Cts/S
Avg	**38524.**
Stddev	83.
%RSD	.21479
#1	38457.
#2	38616.
#3	38498.

Sample Name: mbw55928 Acquired: 01/20/2016 13:10:11 Type: Unk
Method: Sodium and Potassium 1(v675) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.004**	**.004**	**-.010**	**-.001**	**-.029**	**-.038**
Stddev	.010	.010	.012	.001	.005	.039
%RSD	225.	250.	126.	48.7	18.2	101.
#1	.000	.015	-.004	-.001	-.030	-.060
#2	-.002	.000	-.023	-.002	-.023	-.061
#3	.016	-.004	-.002	-.002	-.033	.006

Int. Std.	Y_3203
Units	Cts/S
Avg	**39858.**
Stddev	104.
%RSD	.26185
#1	39820.
#2	39778.
#3	39976.

Sample Name: 681538 Acquired: 01/20/2016 13:12:56 Type: Unk
Method: Sodium and Potassium 1(v675) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**1.51**	**5.37**	**.682**	**32.0**	**60.0**	**.856**
Stddev	.04	.03	.004	.1	.3	.008
%RSD	2.45	.511	.537	.176	.453	.931
#1	1.54	5.35	.684	31.9	60.3	.850
#2	1.51	5.37	.678	32.0	60.0	.855
#3	1.47	5.40	.685	31.9	59.7	.865

Int. Std.	Y_3203
Units	Cts/S
Avg	**39384.**
Stddev	28.
%RSD	.07200
#1	39352.
#2	39405.
#3	39396.

Sample Name: I681538 Acquired: 01/20/2016 13:15:37 Type: Unk
Method: Sodium and Potassium 1(v675) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.257**	**1.12**	**.131**	**6.84**	**12.8**	**.132**
Stddev	.028	.03	.006	.06	.2	.046
%RSD	10.9	2.21	4.56	.919	1.31	34.7
#1	.236	1.13	.125	6.91	13.0	.159
#2	.245	1.14	.137	6.82	12.7	.079
#3	.289	1.09	.132	6.79	12.7	.159

Int. Std.	Y_3203
Units	Cts/S
Avg	**39868.**
Stddev	59.
%RSD	.14840
#1	39824.
#2	39935.
#3	39845.

Sample Name: dup681538 Acquired: 01/20/2016 13:18:23 Type: Unk
Method: Sodium and Potassium 1(v675) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**1.49**	**5.33**	**.711**	**32.5**	**60.3**	**.862**
Stddev	.03	.02	.006	.1	.3	.037
%RSD	2.20	.366	.819	.302	.420	4.32
#1	1.51	5.33	.705	32.5	60.1	.826
#2	1.51	5.34	.715	32.6	60.6	.859
#3	1.45	5.30	.715	32.4	60.2	.900

Int. Std.	Y_3203
Units	Cts/S
Avg	**39163.**
Stddev	154.
%RSD	.39345
#1	39249.
#2	38985.
#3	39255.

Sample Name: ccv Acquired: 01/20/2016 13:21:05 Type: QC
Method: Sodium and Potassium 1(v675) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**98.8**	**99.1**	**-.031**	**.001**	**-.015**	**-.032**
Stddev	.1	2.2	.001	.002	.011	.005
%RSD	.138	2.26	2.47	262.	74.4	14.0
#1	98.9	97.8	-.031	.003	-.025	-.034
#2	98.7	97.8	-.030	.000	-.019	-.036
#3	99.0	102.	-.030	-.001	-.003	-.027
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**39289.**
Stddev	166.
%RSD	.42186
#1	39348.
#2	39417.
#3	39102.

Sample Name: ccb Acquired: 01/20/2016 13:23:48 Type: QC
Method: Sodium and Potassium 1(v675) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.015**	**.025**	**-.027**	**-.005**	**-.029**	**-.044**
Stddev	.029	.008	.006	.001	.016	.028
%RSD	196.	30.5	23.2	19.3	54.8	63.7
#1	.044	.023	-.020	-.006	-.017	-.065
#2	-.014	.034	-.030	-.004	-.023	-.054
#3	.015	.019	-.031	-.005	-.047	-.012
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**39577.**
Stddev	132.
%RSD	.33238
#1	39597.
#2	39698.
#3	39437.

Sample Name: msw681538 Acquired: 01/20/2016 13:26:27 Type: Unk
Method: Sodium and Potassium 1(v675) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**94.5**	**103.**	**1.57**	**130.**	**234.**	**1.14**
Stddev	.2	2.	.01	.	1.	.02
%RSD	.258	1.88	.394	.150	.299	1.70
#1	94.7	104.	1.58	130.	234.	1.14
#2	94.5	104.	1.57	131.	235.	1.15
#3	94.2	101.	1.58	130.	234.	1.11

Int. Std.	Y_3203
Units	Cts/S
Avg	**37933.**
Stddev	119.
%RSD	.31441
#1	37971.
#2	37799.
#3	38028.

Sample Name: msdw681538 Acquired: 01/20/2016 13:29:02 Type: Unk
Method: Sodium and Potassium 1(v675) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**94.6**	**102.**	**1.72**	**131.**	**234.**	**1.17**
Stddev	.3	1.	.01	.	.	.06
%RSD	.362	.621	.502	.066	.061	4.76
#1	94.9	103.	1.73	131.	234.	1.10
#2	94.6	102.	1.72	131.	234.	1.20
#3	94.2	102.	1.71	131.	234.	1.19

Int. Std.	Y_3203
Units	Cts/S
Avg	**38023.**
Stddev	69.
%RSD	.18115
#1	37946.
#2	38078.
#3	38045.

Sample Name: pdsw681538 Acquired: 01/20/2016 13:31:37 Type: Unk
Method: Sodium and Potassium 1(v675) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**95.7**	**103.**	**.675**	**31.4**	**58.6**	**.773**
Stddev	.2	1.	.006	.0	.2	.055
%RSD	.163	1.18	.962	.150	.297	7.18
#1	95.5	103.	.669	31.4	58.5	.718
#2	95.8	104.	.682	31.5	58.8	.828
#3	95.8	102.	.673	31.4	58.5	.772

Int. Std.	Y_3203
Units	Cts/S
Avg	**38882.**
Stddev	131.
%RSD	.33813
#1	39000.
#2	38740.
#3	38904.

Sample Name: ccv Acquired: 01/20/2016 13:36:50 Type: QC
Method: Sodium and Potassium 1(v675) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**98.7**	**98.0**	**-.023**	**.002**	**-.019**	**-.059**
Stddev	.3	3.0	.003	.000	.013	.028
%RSD	.305	3.05	13.8	16.5	66.0	47.2
#1	98.6	100.	-.020	.002	-.017	-.034
#2	99.0	99.0	-.026	.002	-.008	-.055
#3	98.4	94.7	-.023	.002	-.033	-.089
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**39514.**
Stddev	85.
%RSD	.21556
#1	39475.
#2	39456.
#3	39612.

Sample Name: ccb Acquired: 01/20/2016 13:39:35 Type: QC
Method: Sodium and Potassium 1(v675) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.011**	**.031**	**-.022**	**-.004**	**-.039**	**-.044**
Stddev	.048	.006	.008	.001	.014	.017
%RSD	439.	17.5	37.2	27.7	34.9	39.5
#1	.031	.038	-.017	-.004	-.027	-.064
#2	-.044	.028	-.032	-.005	-.036	-.032
#3	.046	.029	-.018	-.003	-.054	-.036
Check ?	None	None	None	None	None	None
Value						
Range						

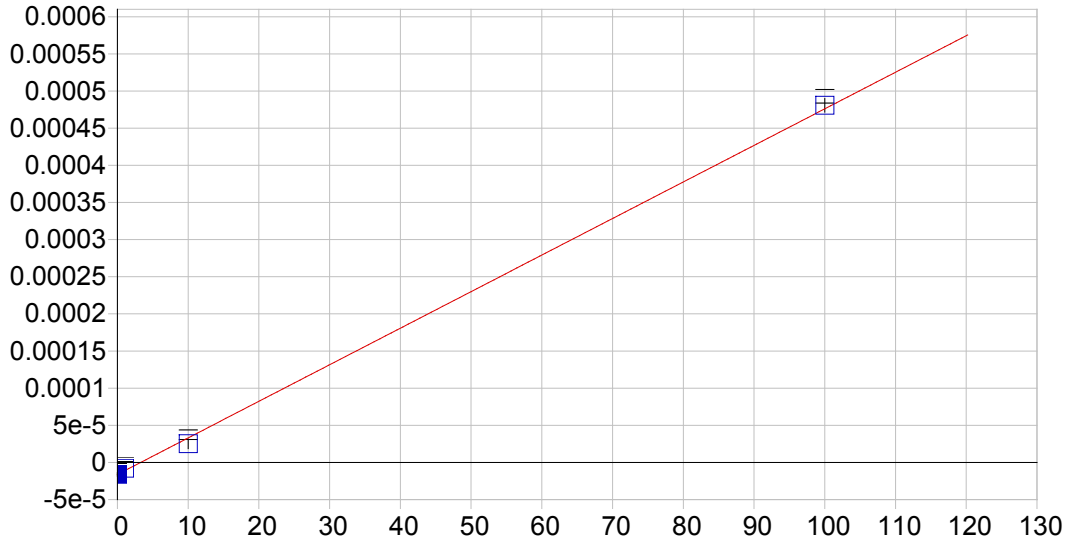
Int. Std.	Y_3203
Units	Cts/S
Avg	**39795.**
Stddev	164.
%RSD	.41112
#1	39644.
#2	39969.
#3	39773.

Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)	Correlation	Std Error of Est	Predicted MDL	Predicted MQL	Status	Resl Slope
Ag 328.068 {103}	01/19/2016 11:52:26	01/18/2016 13:59:03	Linear	1/Conc	-0.000016	0.000005	0.000000	1.000000	0.996855	0.000000	0.937179	3.123929	OK.	1.000000
Al 309.271 {109}	01/19/2016 11:52:26	01/18/2016 14:16:30	Curvilin	None	0.002175	0.000001	0.000000	1.000000	1.000000	0.000008	990.172196	3300.57398	OK.	1.000000
Al 396.152 { 85}	01/19/2016 11:52:26	01/18/2016 14:25:31	Full Fit	1/Conc	0.000380	0.000004	0.000000	0.990000	0.999954	0.000069	384.932694	1283.10898	OK.	1.000000
Al 167.079 {502}	01/19/2016 11:52:26	01/18/2016 14:03:01	Linear	1/Conc	0.000241	0.000076	0.000000	1.000000	0.999812	0.000004	0.211856	0.706187	OK.	1.000000
As 193.759 {474}	01/19/2016 11:52:26	01/18/2016 14:07:15	Linear	1/Conc	-0.084915	0.742377	0.000000	1.000000	0.999987	0.049469	2.360535	7.868451	OK.	1.000000
As 189.042 {479}	01/19/2016 11:52:26	01/18/2016 14:07:15	Linear	1/Conc	-0.000031	0.000005	0.000000	1.000000	0.999838	0.000001	5.518160	18.393868	OK.	1.000000
Ba 455.403 { 74}	01/19/2016 11:52:26	01/18/2016 14:07:15	Linear	None	0.031859	0.000202	0.000000	1.000000	0.999903	0.000986	12.363362	41.211207	OK.	1.000000
Ba 493.409 { 68}	01/19/2016 11:52:26	01/18/2016 14:07:15	Curvilin	1/Conc	0.002890	0.000372	0.000000	1.000000	0.999981	0.000183	16.173866	53.912888	Warnin	1.000000
Be 313.042 {108}	01/19/2016 11:52:26	01/18/2016 14:03:01	Linear	1/Conc	-0.019718	0.109341	0.000000	1.000000	0.999928	0.000799	0.026676	0.088921	OK.	1.000000
Be 234.861 {144}	01/19/2016 11:52:26	01/18/2016 14:03:01	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.999700	0.000000	77.560941	258.536469	OK.	1.000000
Ca 315.887 {107}	01/19/2016 11:52:26	01/18/2016 14:25:31	Curvilin	1/Conc	0.000157	0.000001	0.000000	1.000000	0.999952	0.000018	372.386450	1241.28816	OK.	1.000000
Ca 317.933 {106}	01/19/2016 11:52:26	01/18/2016 14:25:31	Linear	1/Conc	0.005328	0.000003	0.000000	1.000000	0.999252	0.000183	172.341419	574.471398	OK.	1.000000
Ca 393.366 { 86}	01/19/2016 11:52:26	01/18/2016 14:03:01	Linear	1/Var	0.000330	0.000012	0.000000	1.000000	0.999017	0.000169	98.965563	329.885210	OK.	1.000000
Ca 396.847 { 85}	01/19/2016 11:52:26	01/18/2016 14:07:15	Linear	1/Conc	0.001431	0.000181	0.000000	1.000000	0.999988	0.000042	5.270896	17.569655	OK.	1.000000
Cd 226.502 {149}	01/19/2016 11:52:26	01/18/2016 14:03:01	Curvilin	1/Conc	0.000002	0.000008	-0.000000	1.000000	0.999941	0.000000	0.304509	1.015031	OK.	1.000000
Cd 226.502 {449}	01/19/2016 11:52:26	01/18/2016 14:03:01	Linear	1/Conc	-0.000057	0.000647	0.000000	1.000000	0.999919	0.000007	0.130179	0.433929	OK.	1.000000
Cd 228.802 {447}	01/19/2016 11:52:26	01/18/2016 14:03:01	Linear	None	0.000342	0.000601	0.000000	1.000000	0.999995	0.000836	0.186685	0.622283	OK.	1.000000
Co 228.616 {447}	01/19/2016 11:52:26	01/18/2016 14:07:15	Linear	1/Conc	-0.000280	0.000390	0.000000	1.000000	0.999986	0.000008	0.254465	0.848216	OK.	1.000000
Co 238.892 {141}	01/19/2016 11:52:26	01/18/2016 14:07:16	Linear	None	-0.000028	0.000005	0.000000	1.000000	0.999998	0.000068	0.677062	2.256873	OK.	1.000000
Cr 205.560 {464}	01/19/2016 11:52:26	01/18/2016 14:12:08	Full Fit	1/Conc	-1.942976	6.574562	-0.000006	1.000000	0.999999	0.137517	0.253318	0.844394	OK.	1.000000
Cr 267.716 {126}	01/19/2016 11:52:26	01/18/2016 14:07:16	Linear	1/Conc	-3.036085	12.654990	0.000000	1.000000	0.999985	0.604935	0.578383	1.927943	OK.	1.000000
Cu 224.700 {450}	01/19/2016 11:52:26	01/18/2016 14:07:16	Linear	1/Conc	-0.000055	0.000121	0.000000	1.000000	0.999960	0.000004	0.759209	2.530696	OK.	1.000000
Cu 324.754 {104}	01/19/2016 11:52:26	01/18/2016 14:12:08	Curvilin	1/Conc	0.000538	0.000003	0.000000	1.000000	0.999836	0.000009	242.496629	808.322096	Warnin	1.000000
Cu 327.396 {103}	01/19/2016 11:52:26	01/18/2016 14:12:08	Curvilin	1/Conc	-0.000463	0.000002	-0.000000	1.000000	0.984093	0.000023	363.394281	1211.31427	OK.	1.000000
Fe 234.349 {144}	01/19/2016 11:52:26	01/18/2016 14:25:31	Full Fit	1/Conc	47.337751	3.295612	-0.000002	0.960000	0.999953	30.738883	0.773049	2.576831	OK.	1.000000
Fe 239.562 {140}	01/19/2016 11:52:26	01/18/2016 14:25:31	Full Fit	None	-0.000550	0.000002	0.000000	0.950000	0.999999	0.000672	194.779159	649.263864	OK.	1.000000
Fe 239.562 {141}	01/19/2016 11:52:26	01/18/2016 14:16:30	Linear	None	0.000246	0.000000	0.000000	1.000000	0.999970	0.000175	873.528671	2911.76223	OK.	1.000000
Fe 259.940 {129}	01/19/2016 11:52:26	01/18/2016 14:25:31	Full Fit	1/Conc	-0.000275	0.000004	0.000000	0.970000	0.999984	0.000028	145.632421	485.441402	OK.	1.000000
Fe 259.940 {130}	01/19/2016 11:52:26	01/18/2016 14:07:16	Curvilin	1/Conc	0.017547	0.005283	-0.000000	1.000000	0.999966	0.001003	0.574560	1.915200	OK.	1.000000
Mg 202.582 {466}	01/19/2016 11:52:26	01/18/2016 14:25:31	Full Fit	None	-0.000139	0.000001	0.000000	0.920000	0.999999	0.000236	1.246230	4.154100	OK.	1.000000
Mg 279.079 {121}	01/19/2016 11:52:26	01/18/2016 14:25:31	Linear	1/Conc	-0.000022	0.000000	0.000000	1.000000	0.999458	0.000015	1155.17792	3850.59309	OK.	1.000000
Mg 280.270 {120}	01/19/2016 11:52:26	01/18/2016 14:07:16	Curvilin	None	575.929403	58.684944	-0.000712	1.000000	1.000000	139.302254	0.068884	0.229614	OK.	1.000000
Mn 257.610 {131}	01/19/2016 11:52:26	01/18/2016 14:07:16	Linear	1/Var	3.920405	48.228612	0.000000	1.000000	0.998657	7.760451	0.079074	0.263579	OK.	1.000000
Mn 259.373 {130}	01/19/2016 11:52:26	01/18/2016 14:12:08	Curvilin	1/Conc	-0.000076	0.000011	0.000000	1.000000	0.999998	0.000013	46.716923	155.723076	OK.	1.000000
Mo 202.030 {466}	01/19/2016 11:52:26	01/18/2016 14:07:16	Linear	1/Conc	-0.000120	0.000130	0.000000	1.000000	0.999889	0.000017	0.463708	1.545694	OK.	1.000000
Mo 204.598 {464}	01/19/2016 11:52:26	01/18/2016 14:07:16	Linear	1/Conc	0.000123	0.000079	0.000000	1.000000	0.999894	0.000010	0.798296	2.660988	OK.	1.000000
Mo 204.598 {465}	01/19/2016 11:52:26	01/18/2016 14:07:16	Linear	None	-0.000741	0.000047	0.000000	1.000000	0.999990	0.001077	1.125102	3.750340	OK.	1.000000
Ni 221.647 {452}	01/19/2016 11:52:26	01/18/2016 14:07:16	Linear	1/Conc	-8.401903	11.962292	0.000000	1.000000	0.999948	5.740169	0.321337	1.071124	OK.	1.000000
Ni 231.604 {445}	01/19/2016 11:52:26	01/18/2016 14:07:16	Linear	1/Conc	-10.737187	7.408180	0.000000	1.000000	0.999936	0.322234	0.478698	1.595660	OK.	1.000000
Pb 216.999 {455}	01/19/2016 11:52:26	01/18/2016 14:12:08	Curvilin	1/Conc	14.576022	0.417453	0.000000	1.000000	0.999954	0.126033	6.673260	22.244200	Warnin	1.000000
Pb 220.353 {153}	01/19/2016 11:52:26	01/18/2016 14:12:08	Linear	1/Var	-0.000067	0.000043	0.000000	1.000000	0.999962	0.000013	2.526114	8.420380	OK.	1.000000
Pb 220.353 {453}	01/19/2016 11:52:26	01/18/2016 14:07:16	Linear	1/Conc	0.000086	0.000074	0.000000	1.000000	0.999988	0.000003	1.563773	5.212577	OK.	1.000000
Sb 206.833 {463}	01/19/2016 11:52:26	01/18/2016 14:07:16	Linear	1/Conc	0.000110	0.000023	0.000000	1.000000	0.999997	0.000001	3.183466	10.611553	OK.	1.000000
Sb 217.581 {455}	01/19/2016 11:52:26	01/18/2016 14:07:16	Linear	1/Var	-0.000023	0.000021	0.000000	1.000000	0.999989	0.000032	3.670295	12.234315	OK.	1.000000
Se 196.090 {471}	01/19/2016 11:52:26	01/18/2016 14:07:17	Linear	1/Conc	0.000079	0.000004	0.000000	1.000000	0.999831	0.000001	13.710765	45.702549	OK.	1.000000
Se 196.090 {472}	01/19/2016 11:52:26	01/18/2016 14:07:17	Linear	1/Conc	-0.000019	0.000013	0.000000	1.000000	0.999889	0.000002	4.042118	13.473728	OK.	1.000000

Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)	Correlation	Std Error of Est	Predicted MDL	Predicted MQL	Status	Resl Slope
Se 206.279 {463}	01/19/2016 11:52:26	01/18/2016 14:07:17	Linear	1/Conc	0.000141	0.000003	0.000000	1.000000	0.999843	0.000003	22.940824	76.469414	OK.	1.000000
Tl 190.856 {476}	01/19/2016 11:52:26	01/18/2016 14:07:17	Linear	1/Conc	0.000257	0.000052	0.000000	1.000000	0.999751	0.000016	1.360187	4.533957	OK.	1.000000
Tl 190.856 {477}	01/19/2016 11:52:26	01/18/2016 14:07:17	Linear	1/Conc	-0.000109	0.000015	0.000000	1.000000	0.999759	0.000004	3.092318	10.307727	OK.	1.000000
V 290.882 {116}	01/19/2016 11:52:26	01/18/2016 14:07:17	Linear	None	0.061282	0.005475	0.000000	1.000000	0.999998	0.066883	0.867671	2.892238	OK.	1.000000
V 292.402 {115}	01/19/2016 11:52:26	01/18/2016 14:07:17	Linear	1/Conc	-38.613728	26.990777	0.000000	1.000000	0.999958	3.101051	0.430736	1.435785	OK.	1.000000
Zn 206.200 {463}	01/19/2016 11:52:26	01/18/2016 14:12:08	Curvilin	None	-0.000244	0.000013	-0.000000	1.000000	1.000000	0.000392	0.112591	0.375302	OK.	1.000000
Zn 213.856 {458}	01/19/2016 11:52:26	01/18/2016 14:07:17	Linear	None	33.889932	6.960395	0.000000	1.000000	0.999998	60.231864	0.242291	0.807637	OK.	1.000000
Y 224.306 {451}*	01/19/2016 11:52:26	01/18/2016 13:26:30	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000
Y 324.228 {104}*	01/19/2016 11:52:26	01/18/2016 13:26:30	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000
Y 371.030 { 91}*	01/19/2016 11:52:26	01/18/2016 13:26:30	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000
Na 588.995 { 57}	01/19/2016 11:52:26	01/18/2016 14:07:17	Linear	1/Conc	0.000118	0.000000	0.000000	1.000000	1.000000	0.000000	550.400473	1834.66824	OK.	1.000000
Si 251.611 {134}	01/19/2016 11:52:26	01/18/2016 14:07:17	Linear	1/Conc	0.000706	0.000000	0.000000	1.000000	0.019967	0.000045	95666.1992	318887.330	OK.	1.000000
Ti 334.941 {101}	01/19/2016 11:52:26	01/18/2016 14:07:17	Linear	1/Conc	0.000061	0.000010	0.000000	1.000000	0.965422	0.000024	70.057384	233.524614	OK.	1.000000
Sr 407.771 { 83}	01/19/2016 11:52:26	01/18/2016 14:07:17	Linear	1/Conc	-0.000806	0.000222	0.000000	1.000000	0.999065	0.000038	5.619502	18.731672	OK.	1.000000
Sn 189.989 {478}	01/19/2016 11:52:26	01/18/2016 14:07:17	Curvilin	1/Var	0.000020	0.000022	-0.000000	1.000000	0.999927	0.000044	1.419644	4.732146	OK.	1.000000
B 249.678 {135}	01/19/2016 11:52:26	01/18/2016 14:07:17	Linear	1/Conc	-0.000003	0.000004	0.000000	1.000000	0.999809	0.000001	1.120367	3.734558	OK.	1.000000
B 249.773 {135}	01/19/2016 11:52:26	01/18/2016 14:07:17	Linear	1/Conc	-0.000001	0.000006	0.000000	1.000000	0.999840	0.000001	0.656209	2.187364	OK.	1.000000
Li 670.784 { 50}	01/19/2016 11:52:26	01/18/2016 14:07:17	Full Fit	1/Conc	-0.011893	0.000508	-0.000000	1.050000	0.999993	0.000053	12.922169	43.073898	OK.	1.000000
K 766.490 { 44}	01/19/2016 11:52:26	01/18/2016 14:07:17	Linear	1/Conc	0.006360	0.000002	0.000000	1.000000	1.000000	0.000000	2682.85008	8942.83363	OK.	1.000000
P 213.618 {457}	01/19/2016 11:52:26	01/18/2016 14:07:17	Linear	1/Conc	0.000002	-0.000000	0.000000	1.000000	1.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000
S 182.034 {485}	01/19/2016 11:52:26	01/18/2016 14:25:31	Linear	1/Conc	-0.001247	0.000014	0.000000	1.000000	0.964176	0.068302	2.926012	9.753372	OK.	1.000000
W 239.709 {140}	01/19/2016 11:52:26	01/18/2016 14:03:03	Linear	1/Conc	0.000000	-0.000000	0.000000	1.000000	1.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000

Element, Wavelength and Order	ope	QC Norm	
	Y-int	Slope factor	Offset
Ag 328.068 {103}	0.000000	1	0
Al 309.271 {109}	0.000000	1	0
Al 396.152 { 85}	0.000000	1	0
Al 167.079 {502}	0.000000	1	0
As 193.759 {474}	0.000000	1	0
As 189.042 {479}	0.000000	1	0
Ba 455.403 { 74}	0.000000	1	0
Ba 493.409 { 68}	0.000000	1	0
Be 313.042 {108}	0.000000	1	0
Be 234.861 {144}	0.000000	1	0
Ca 315.887 {107}	0.000000	1	0
Ca 317.933 {106}	0.000000	1	0
Ca 393.366 { 86}	0.000000	1	0
Ca 396.847 { 85}	0.000000	1	0
Cd 226.502 {149}	0.000000	1	0
Cd 226.502 {449}	0.000000	1	0
Cd 228.802 {447}	0.000000	1	0
Co 228.616 {447}	0.000000	1	0
Co 238.892 {141}	0.000000	1	0
Cr 205.560 {464}	0.000000	1	0
Cr 267.716 {126}	0.000000	1	0
Cu 224.700 {450}	0.000000	1	0
Cu 324.754 {104}	0.000000	1	0
Cu 327.396 {103}	0.000000	1	0
Fe 234.349 {144}	0.000000	1	0
Fe 239.562 {140}	0.000000	1	0
Fe 239.562 {141}	0.000000	1	0
Fe 259.940 {129}	0.000000	1	0
Fe 259.940 {130}	0.000000	1	0
Mg 202.582 {466}	0.000000	1	0
Mg 279.079 {121}	0.000000	1	0
Mg 280.270 {120}	0.000000	1	0
Mn 257.610 {131}	0.000000	1	0
Mn 259.373 {130}	0.000000	1	0
Mo 202.030 {466}	0.000000	1	0
Mo 204.598 {464}	0.000000	1	0
Mo 204.598 {465}	0.000000	1	0
Ni 221.647 {452}	0.000000	1	0
Ni 231.604 {445}	0.000000	1	0
Pb 216.999 {455}	0.000000	1	0
Pb 220.353 {153}	0.000000	1	0
Pb 220.353 {453}	0.000000	1	0
Sb 206.833 {463}	0.000000	1	0
Sb 217.581 {455}	0.000000	1	0
Se 196.090 {471}	0.000000	1	0
Se 196.090 {472}	0.000000	1	0

Element, Wavelength and Order	ope	QC Norm	
	Y-int	Slope factor	Offset
Se 206.279 {463}	0.000000	1	0
Tl 190.856 {476}	0.000000	1	0
Tl 190.856 {477}	0.000000	1	0
V 290.882 {116}	0.000000	1	0
V 292.402 {115}	0.000000	1	0
Zn 206.200 {463}	0.000000	1	0
Zn 213.856 {458}	0.000000	1	0
Y 224.306 {451}*	0.000000	1	0
Y 324.228 {104}*	0.000000	1	0
Y 371.030 { 91}*	0.000000	1	0
Na 588.995 { 57}	0.000000	1	0
Si 251.611 {134}	0.000000	1	0
Ti 334.941 {101}	0.000000	1	0
Sr 407.771 { 83}	0.000000	1	0
Sn 189.989 {478}	0.000000	1	0
B 249.678 {135}	0.000000	1	0
B 249.773 {135}	0.000000	1	0
Li 670.784 { 50}	0.000000	1	0
K 766.490 { 44}	0.000000	1	0
P 213.618 {457}	0.000000	1	0
S 182.034 {485}	0.000000	1	0
W 239.709 {140}	0.000000	1	0

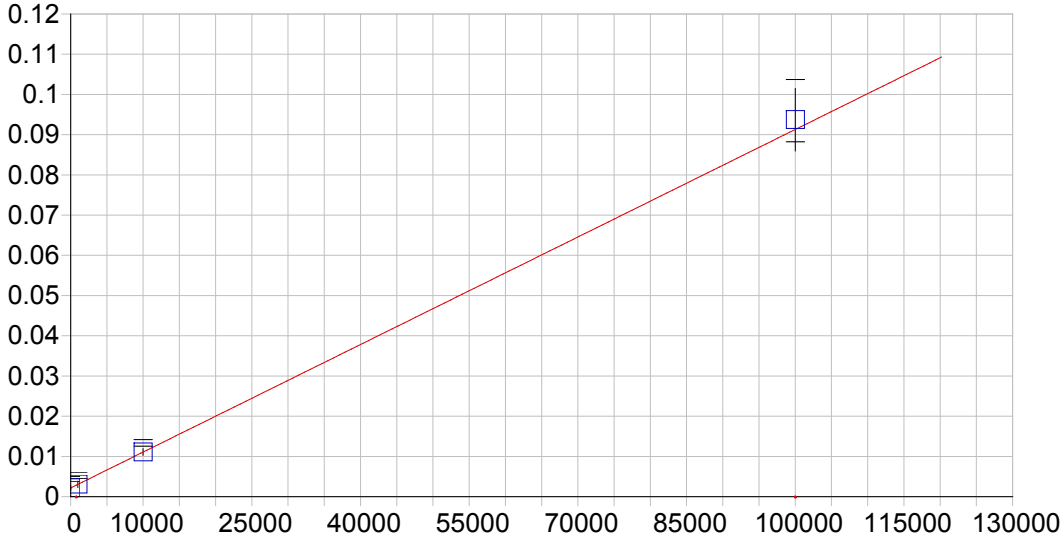


Ag 328.068 {103}

Date of Fit:	01/20/2016 07:43:33	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000016	Re-Slope:	1.000000
A1 (Gain):	0.000005	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.996855	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.937179		
Predicted MQL:	3.123929		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00051	-.001	.000	-.00002	.000	1
CalStd5=10	10.000	8.3911	-1.61	-16.1	.00003	.000	1
CalStd8=100	100.00	100.95	.951	.951	.00048	.000	1
CalStd3=1	1.0000	1.6583	.658	65.8	-.00001	.000	1

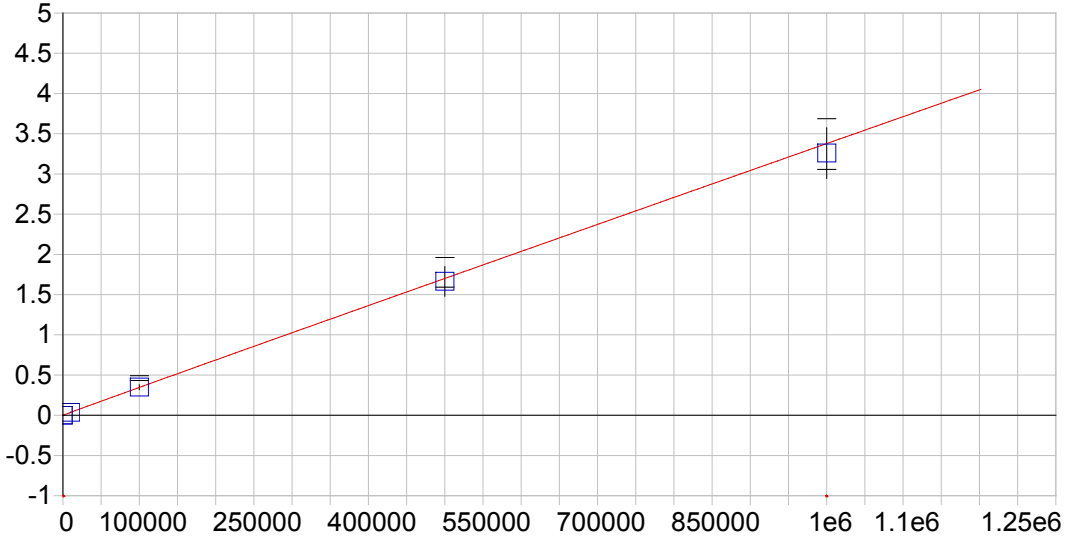


Al 309.271 {109}

Date of Fit:	01/20/2016 07:43:33	Type of Fit:	Curvilinear	Weighting:	None

A0 (Offset):	0.002175	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000008		
Predicted MDL:	990.172196		
Predicted MQL:	3300.573987		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-6.0147	-6.01	.000	.00217	.001	1
CalStd10=10	10000.	10027.	26.5	.265	.01111	.001	1
CalStd9=100	1000.0	1007.0	7.02	.702	.00307	.001	1
CalStd12-100	100000.	102730.	2730.	2.73	.09372	.008	1

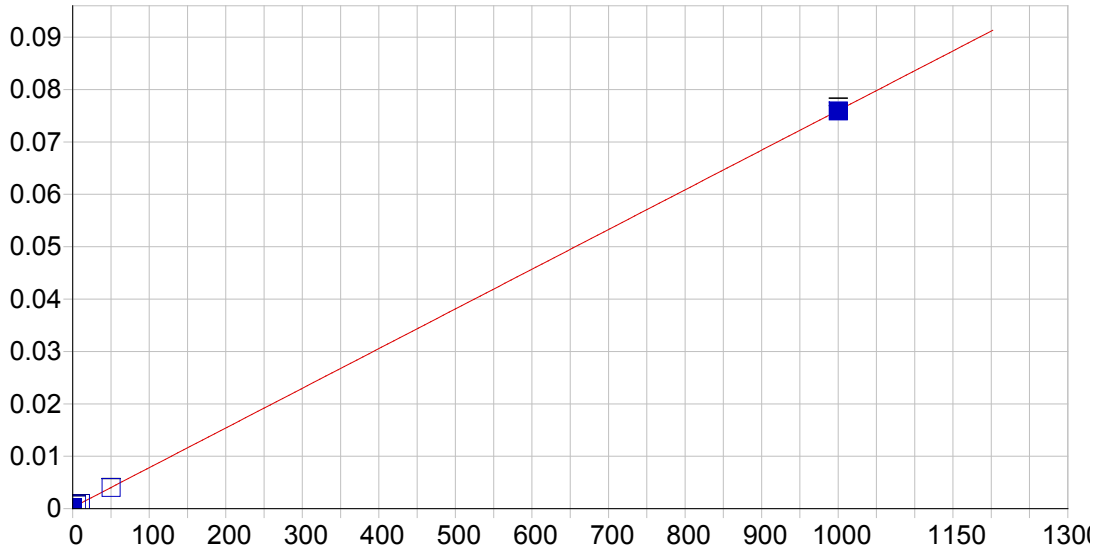


Al 396.152 { 85}

Date of Fit:	01/20/2016 07:43:33	Type of Fit:	Full Fit	Weighting:	1/Conc

A0 (Offset):	0.000380	Re-Slope:	1.000000
A1 (Gain):	0.000004	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	0.990000		
Correlation:	0.999954	Status:	OK.
Std Error of Est:	0.000069		
Predicted MDL:	384.932694		
Predicted MQL:	1283.108981		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.28184	.282	.000	.00038	.002	1
CalStd14-100	1000000.	964520.	-35500.	-3.55	3.2590	.315	1
CalStd13=50	500000.	489090.	-10900.	-2.18	1.6640	.185	1
CalStd10=10	10000.	9998.5	-1.53	-.015	.03574	.003	1
CalStd12-100	100000.	100970.	974.	.974	.34930	.029	1
CalStd9=100	1000.0	681.18	-319.	-31.9	.00285	.000	1

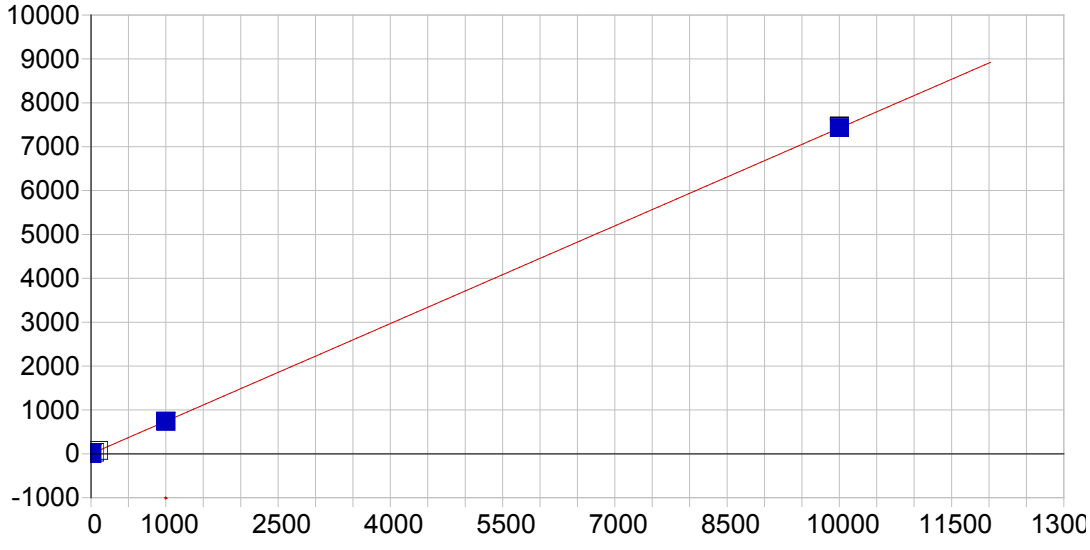


Al 167.079 {502}

Date of Fit:	01/20/2016 07:43:33	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000241	Re-Slope:	1.000000
A1 (Gain):	0.000076	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999812	Status:	OK.
Std Error of Est:	0.000004		
Predicted MDL:	0.211856		
Predicted MQL:	0.706187		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00152	-.002	.000	.00024	.000	1
CalStd9=100	1000.0	998.37	-1.63	-.163	.07594	.001	1
CalStd5=10	10.000	10.284	.284	2.84	.00102	.000	1
CalStd4=5	5.0000	6.3952	1.40	27.9	.00073	.000	1
CalStd7=50	50.000	49.954	-.046	-.093	.00403	.000	1

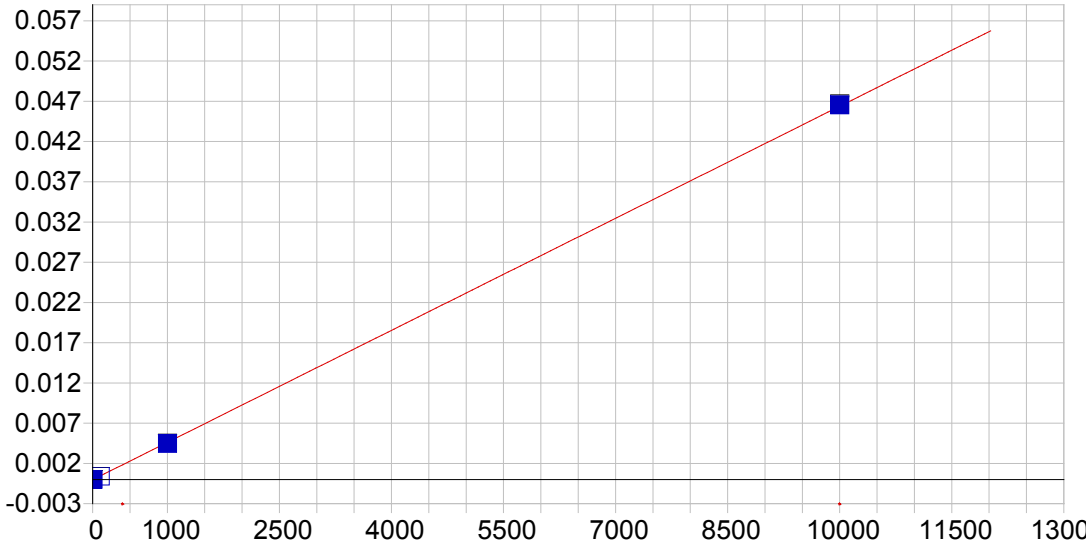


As 193.759 {474}

Date of Fit:	01/20/2016 07:43:33	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.084915	Re-Slope:	1.000000
A1 (Gain):	0.742377	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999987	Status:	OK.
Std Error of Est:	0.049469		
Predicted MDL:	2.360535		
Predicted MQL:	7.868451		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00103	.001	.000	-.08415	1.34	1
CalStd9=100	1000.0	990.42	-9.58	-.958	735.15	5.27	1
CalStd7=50	50.000	47.123	-2.88	-5.75	34.898	1.06	1
CalStd5=10	10.000	9.7436	-.256	-2.56	7.1485	2.04	1
CalStd8=100	100.00	98.851	-1.15	-1.15	73.300	2.66	1
CalStd10=10	10000.	10014.	13.9	.139	7433.7	31.4	1

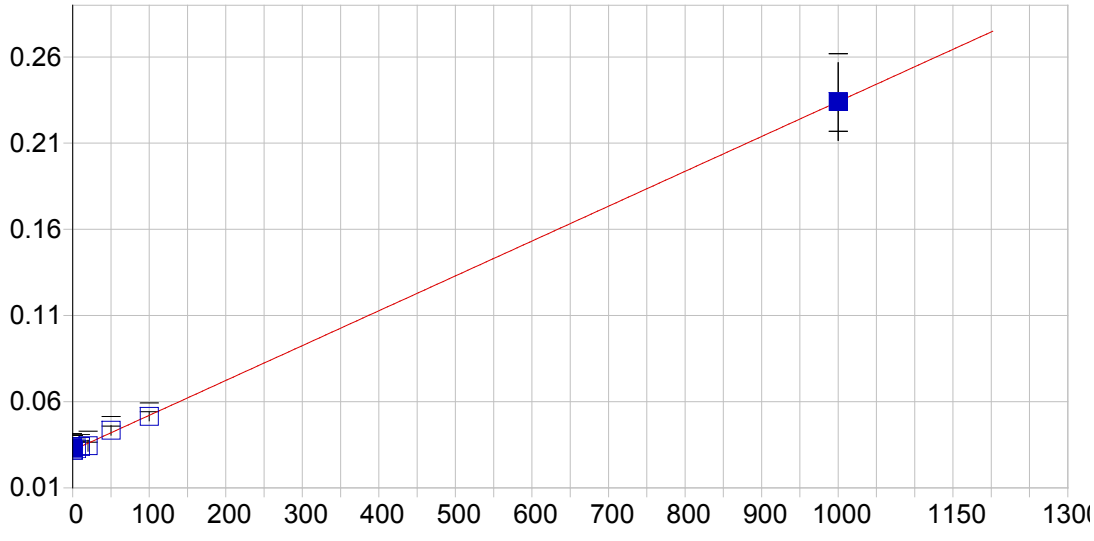


As 189.042 {479}

Date of Fit:	01/20/2016 07:43:33	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000031	Re-Slope:	1.000000
A1 (Gain):	0.000005	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999838	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	5.518160		
Predicted MQL:	18.393868		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00276	-.003	.000	-.00003	.000	1
CalStd9=100	1000.0	968.42	-31.6	-3.16	.00446	.000	1
CalStd10=10	10000.	10035.	34.8	.348	.04655	.000	1
CalStd8=100	100.00	93.591	-6.41	-6.41	.00040	.000	1
CalStd4=5	5.0000	8.2212	3.22	64.4	.00001	.000	1

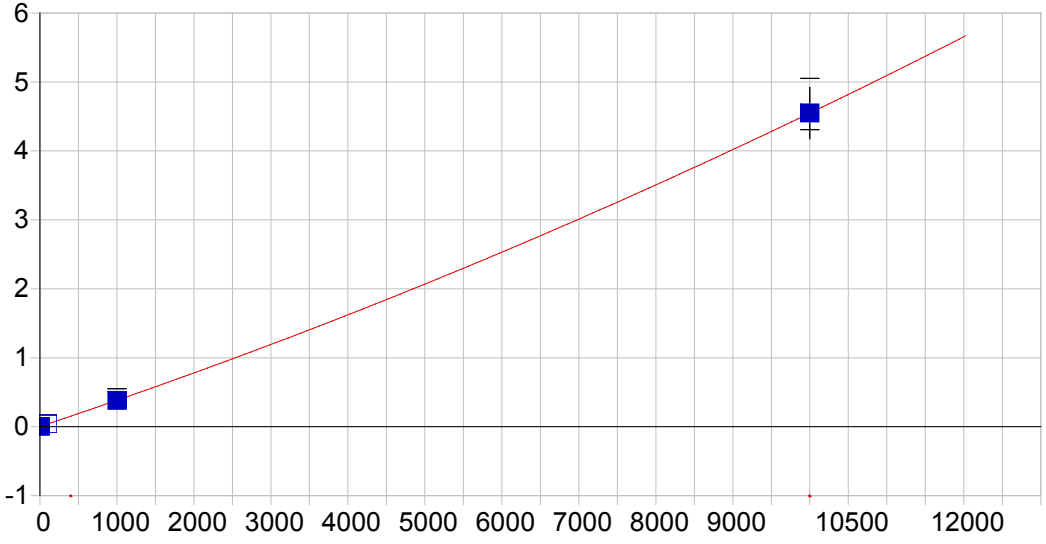


Ba 455.403 { 74}

Date of Fit:	01/20/2016 07:43:33	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.031859	Re-Slope:	1.000000
A1 (Gain):	0.000202	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999903	Status:	OK.
Std Error of Est:	0.000986		
Predicted MDL:	12.363362		
Predicted MQL:	41.211207		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	6.9236	6.92	.000	.03326	.003	1
CalStd7=50	50.000	57.014	7.01	14.0	.04339	.003	1
CalStd5=10	10.000	10.160	.160	1.60	.03391	.002	1
CalStd6=20	20.000	12.637	-7.36	-36.8	.03441	.003	1
CalStd8=100	100.00	96.869	-3.13	-3.13	.05145	.003	1
CalStd4=5	5.0000	3.6709	-1.33	-26.6	.03260	.001	1
CalStd9=100	1000.0	1000.1	.117	.012	.23411	.022	1
CalStd3=1	1.0000	-.65612	-1.66	-166.	.03173	.003	1
CalStd2=0.5	.50000	-.23539	-.735	-147.	.03181	.003	1

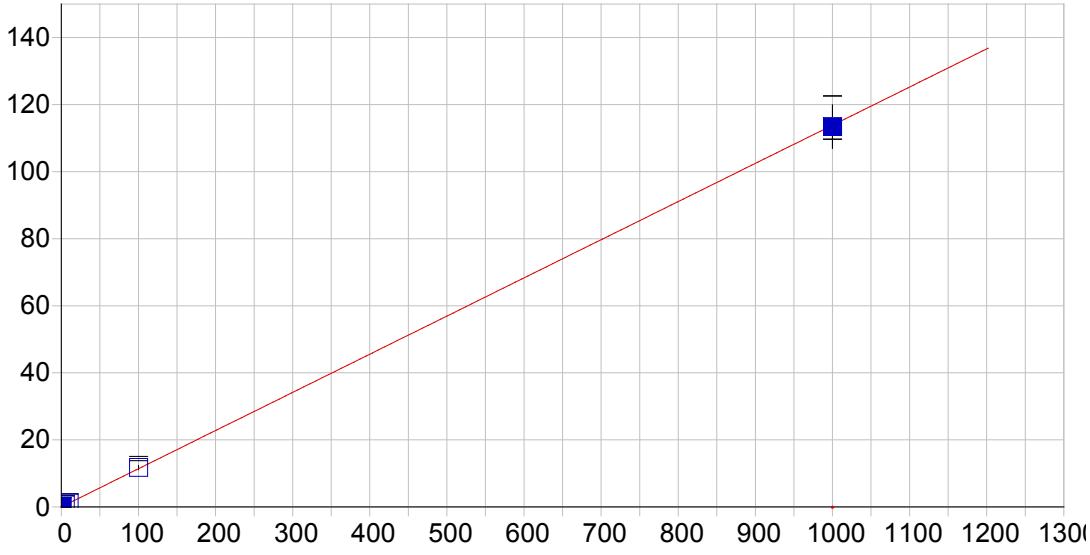


Ba 493.409 { 68}

Date of Fit:	01/20/2016 07:43:33	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	0.002890	Re-Slope:	1.000000
A1 (Gain):	0.000372	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999981	Status:	Warning Positive Curvature
Std Error of Est:	0.000182		
Predicted MDL:	16.168397		
Predicted MQL:	53.894658		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00651	-.007	.000	.00289	.005	1
CalStd9=100	1000.0	992.31	-7.69	-.769	.38001	.039	1
CalStd8=100	100.00	107.27	7.27	7.27	.04287	.008	1
CalStd10=10	10000.	10001.	.505	.005	4.5489	.372	1

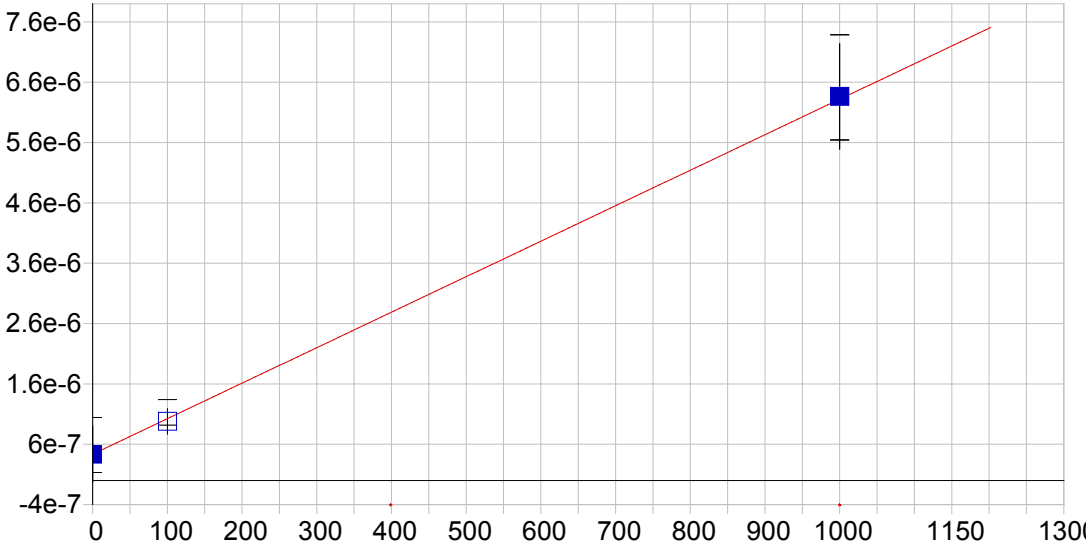


Be 313.042 {108}

Date of Fit: 01/20/2016 07:43:33 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	0.005818	Re-Slope:	1.000000
A1 (Gain):	0.113847	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999928	Status:	OK.
Std Error of Est:	0.000830		
Predicted MDL:	0.025894		
Predicted MQL:	0.086313		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00010	.000	.000	.00581	.002	1
CalStd5=10	10.000	10.369	.369	3.69	1.1863	.065	1
CalStd8=100	100.00	102.94	2.94	2.94	11.725	.641	1
CalStd2=0.5	.50000	.48443	-.016	-3.11	.06097	.003	1
CalStd4=5	5.0000	5.3554	.355	7.11	.61552	.033	1
CalStd1=0.25	.25000	.31797	.068	27.2	.04202	.005	1
CalStd9=100	1000.0	996.25	-3.75	-.375	113.43	6.46	1
CalStd3=1	1.0000	1.0364	.036	3.64	.12381	.008	1

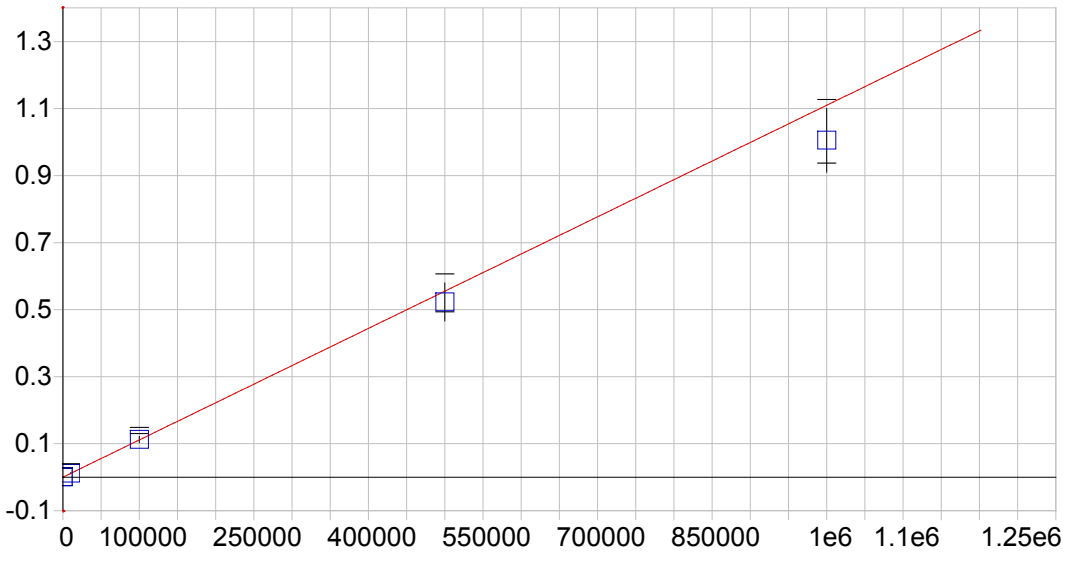


Be 234.861 {144}

Date of Fit:	01/20/2016 07:43:33	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999700	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	77.560941		
Predicted MQL:	258.536469		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00697	.007	.000	.00000	.000	1
CalStd9=100	1000.0	1007.7	7.74	.774	.00001	.000	1
CalStd8=100	100.00	92.255	-7.74	-7.74	.00000	.000	1

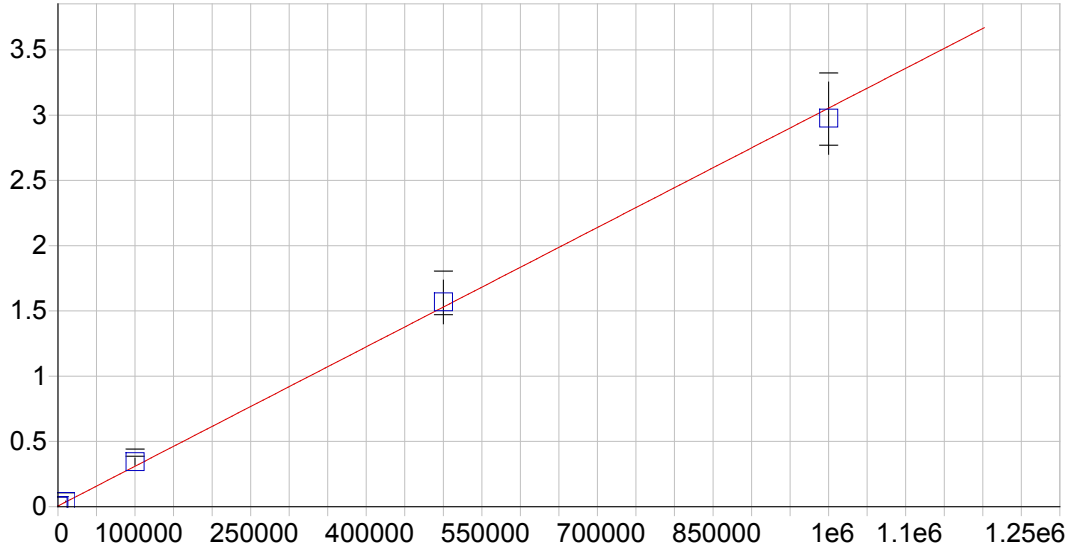


Ca 315.887 {107}

Date of Fit: 01/20/2016 07:43:33 Type of Fit: Curvilinear Weighting: 1/Conc

A0 (Offset):	0.000157	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999952	Status:	OK.
Std Error of Est:	0.000018		
Predicted MDL:	372.386450		
Predicted MQL:	1241.288166		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.16592	-.166	.000	.00016	.000	1
CalStd10=10	10000.	10521.	521.	5.21	.01183	.001	1
CalStd13=50	500000.	471000.	-29000.	-5.80	.52284	.057	1
CalStd14-100	1000000.	905910.	-94100.	-9.41	1.0055	.095	1
CalStd9=100	1000.0	1100.0	100.	10.0	.00138	.000	1
CalStd12-100	100000.	101070.	1070.	1.07	.11232	.009	1

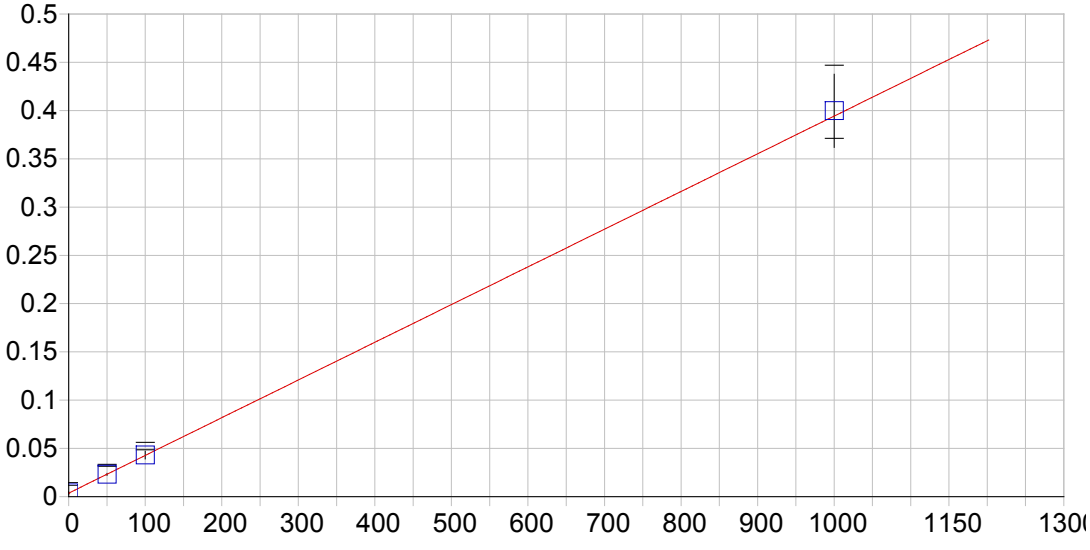


Ca 317.933 {106}

Date of Fit: 01/20/2016 07:43:33 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	0.005328	Re-Slope:	1.000000
A1 (Gain):	0.000003	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999252	Status:	OK.
Std Error of Est:	0.000183		
Predicted MDL:	172.341419		
Predicted MQL:	574.471398		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.22119	-.221	.000	.00533	.001	1
CalStd10=10	10000.	11207.	1210.	12.1	.03949	.003	1
CalStd13=50	500000.	512840.	12800.	2.57	1.5688	.167	1
CalStd14-100	1000000.	974590.	-25400.	-2.54	2.9765	.277	1
CalStd9=100	1000.0	986.52	-13.5	-1.35	.00834	.001	1
CalStd12-100	100000.	111370.	11400.	11.4	.34485	.027	1

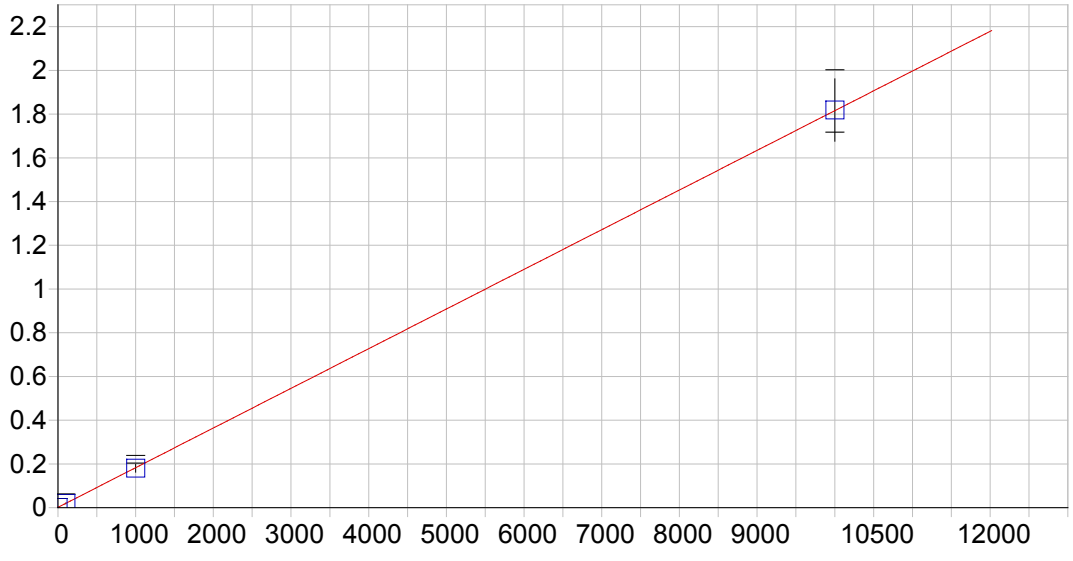


Ca 393.366 { 86}

Date of Fit:	01/20/2016 07:43:33	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.003682	Re-Slope:	1.000000
A1 (Gain):	0.000391	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999914	Status:	OK.
Std Error of Est:	0.000242		
Predicted MDL:	3.110283		
Predicted MQL:	10.367611		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.36895	.369	.000	.00383	.001	1
CalStd7=50	50.000	49.721	-.279	-.558	.02310	.001	1
CalStd9=100	1000.0	1013.9	13.9	1.39	.39972	.038	1
CalStd8=100	100.00	100.67	.673	.673	.04301	.004	1

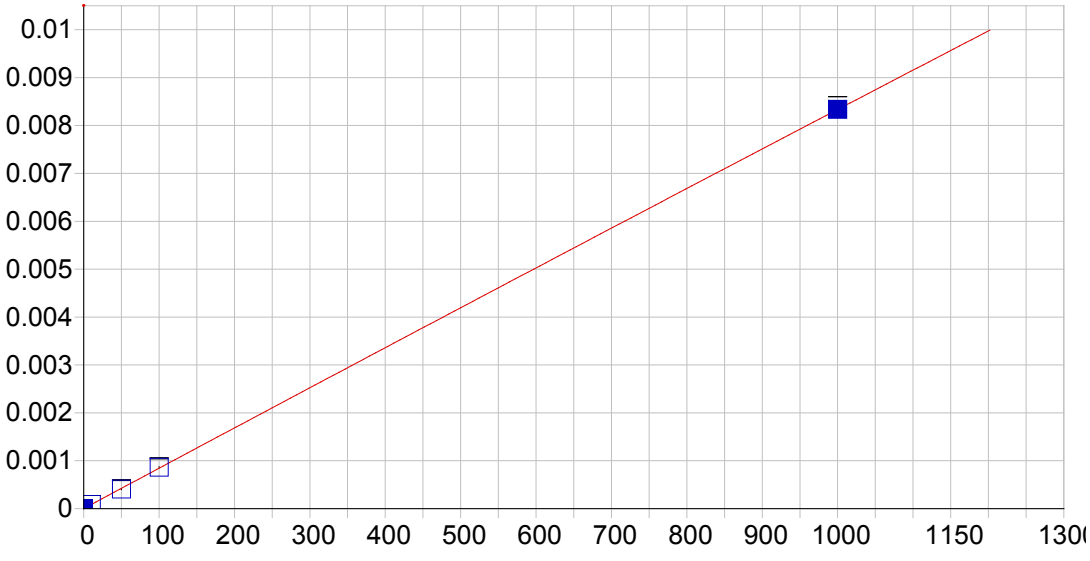


Ca 396.847 { 85}

Date of Fit:	01/20/2016 07:43:33	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.001431	Re-Slope:	1.000000
A1 (Gain):	0.000181	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999988	Status:	OK.
Std Error of Est:	0.000042		
Predicted MDL:	5.270896		
Predicted MQL:	17.569655		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00222	.002	.000	.00143	.001	1
CalStd10=10	10000.	10016.	16.2	.162	1.8186	.143	1
CalStd8=100	100.00	99.155	-.845	-.845	.01942	.002	1
CalStd9=100	1000.0	984.62	-15.4	-1.54	.18006	.017	1

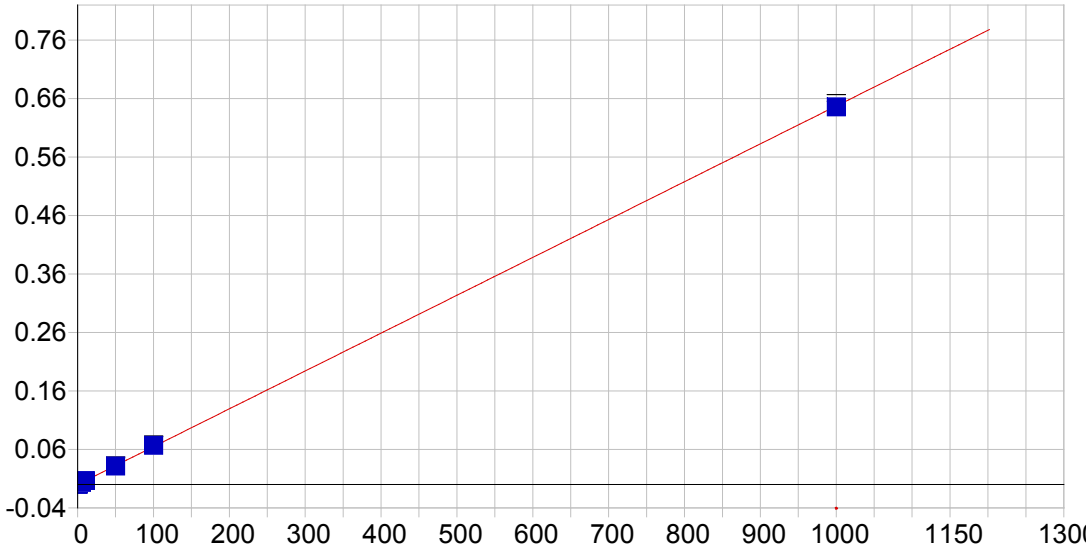


Cd 226.502 {149}

Date of Fit:	01/20/2016 07:43:33	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000008	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999941	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.304509		
Predicted MQL:	1.015031		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00007	.000	.000	.00000	.000	1
CalStd7=50	50.000	47.887	-2.11	-4.23	.00041	.000	1
CalStd8=100	100.00	102.07	2.07	2.07	.00086	.000	1
CalStd5=10	10.000	10.146	.146	1.46	.00009	.000	1
CalStd9=100	1000.0	999.89	-.105	-.011	.00834	.000	1

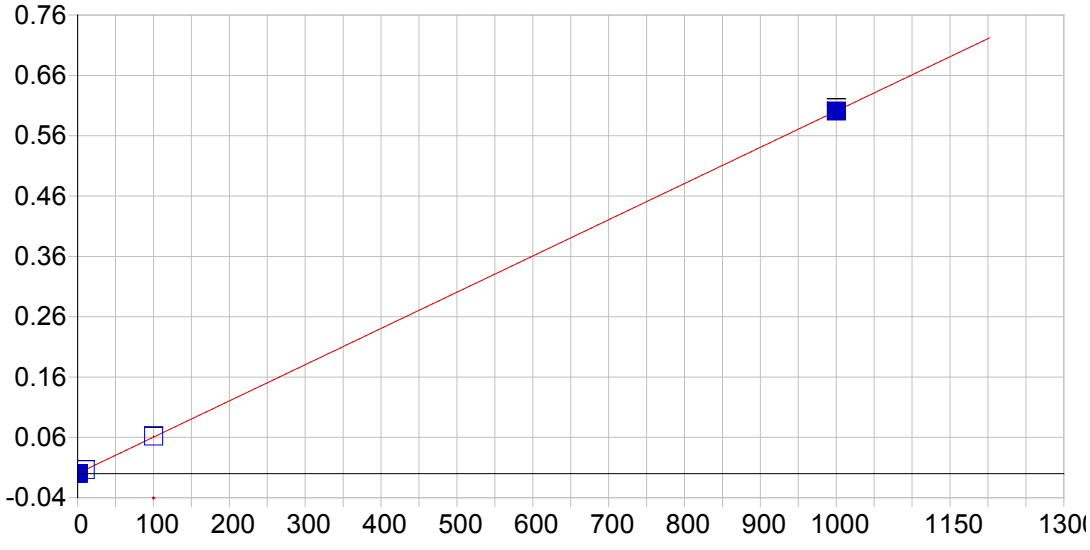


Cd 226.502 {449}

Date of Fit:	01/20/2016 07:43:33	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000057	Re-Slope:	1.000000
A1 (Gain):	0.000647	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999919	Status:	OK.
Std Error of Est:	0.000007		
Predicted MDL:	0.130179		
Predicted MQL:	0.433929		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00011	.000	.000	-.00006	.000	1
CalStd7=50	50.000	48.728	-1.27	-2.54	.03149	.000	1
CalStd3=1	1.0000	1.0879	.088	8.79	.00065	.000	1
CalStd2=0.5	.50000	.51033	.010	2.07	.00027	.000	1
CalStd4=5	5.0000	5.2997	.300	5.99	.00337	.000	1
CalStd8=100	100.00	103.15	3.15	3.15	.06672	.001	1
CalStd5=10	10.000	10.483	.483	4.83	.00673	.000	1
CalStd9=100	1000.0	997.24	-2.76	-.276	.64559	.006	1

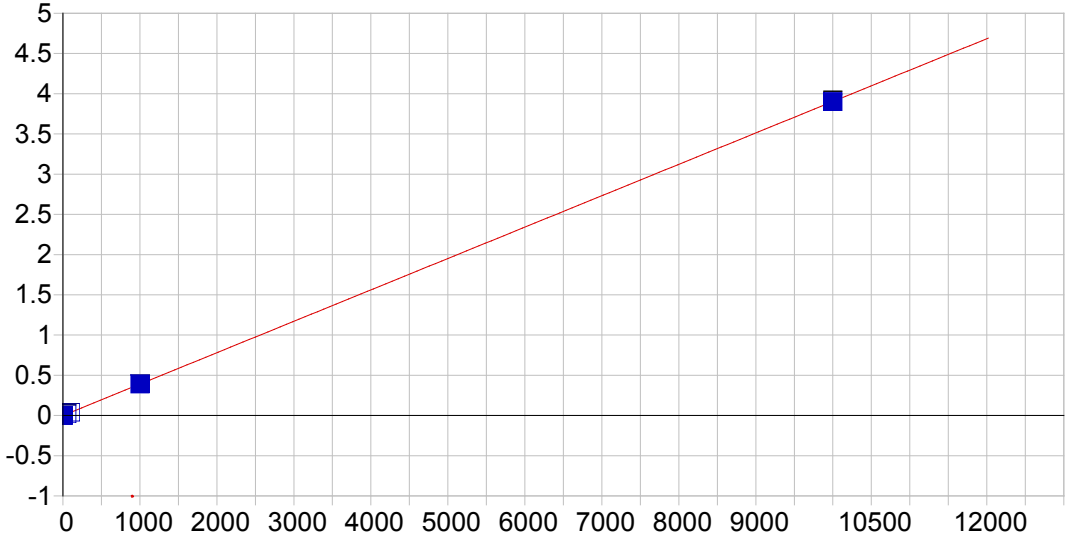


Cd 228.802 {447}

Date of Fit:	01/20/2016 07:43:33	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000342	Re-Slope:	1.000000
A1 (Gain):	0.000601	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999995	Status:	OK.
Std Error of Est:	0.000836		
Predicted MDL:	0.186685		
Predicted MQL:	0.622283		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.77000	-.770	.000	-.00012	.000	1
CalStd9=100	1000.0	999.75	-.247	-.025	.60074	.006	1
CalStd8=100	100.00	102.50	2.50	2.50	.06190	.000	1
CalStd2=0.5	.50000	-.06548	-.565	-113.	.00030	.000	1
CalStd3=1	1.0000	.28126	-.719	-71.9	.00051	.000	1
CalStd5=10	10.000	9.8050	-.195	-1.95	.00623	.000	1

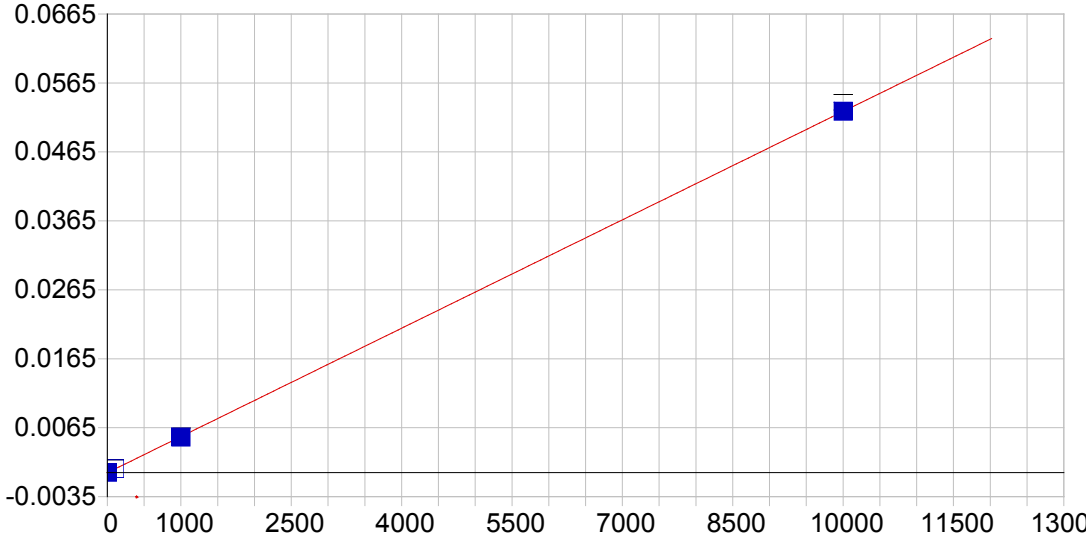


Co 228.616 {447}

Date of Fit:	01/20/2016 07:43:33	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000280	Re-Slope:	1.000000
A1 (Gain):	0.000390	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999986	Status:	OK.
Std Error of Est:	0.000008		
Predicted MDL:	0.254465		
Predicted MQL:	0.848216		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00043	.000	.000	-.00028	.000	1
CalStd7=50	50.000	49.601	-.399	-.798	.01908	.000	1
CalStd5=10	10.000	10.926	.926	9.26	.00398	.000	1
CalStd4=5	5.0000	5.5508	.551	11.0	.00189	.000	1
CalStd8=100	100.00	103.25	3.25	3.25	.04002	.000	1
CalStd9=100	1000.0	1001.7	1.68	.168	.39070	.004	1
CalStd3=1	1.0000	1.2002	.200	20.0	.00019	.000	1
CalStd10=10	10000.	9993.8	-6.20	-.062	3.9005	.018	1

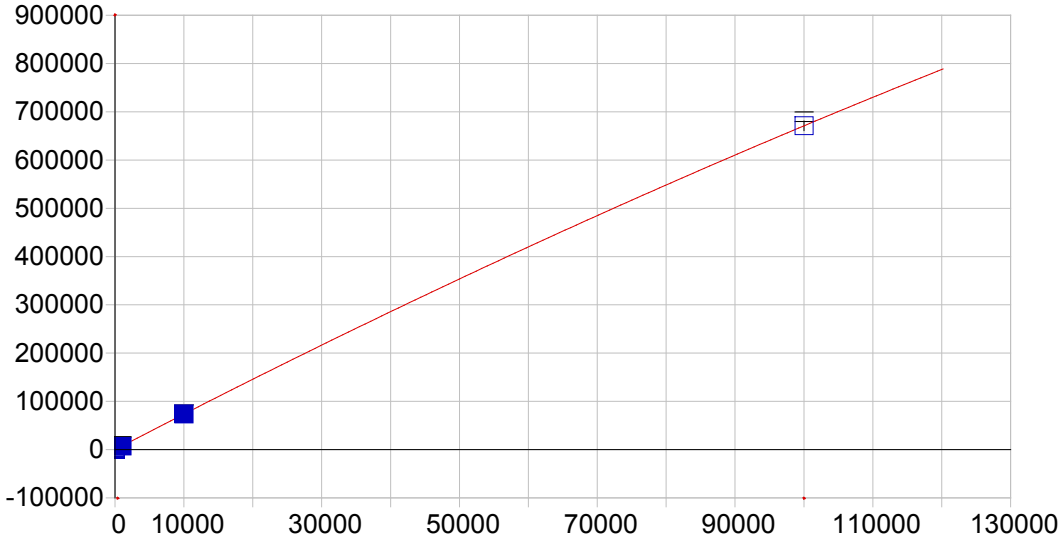


Co 238.892 {141}

Date of Fit:	01/20/2016 07:43:33	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	-0.000028	Re-Slope:	1.000000
A1 (Gain):	0.000005	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999998	Status:	OK.
Std Error of Est:	0.000068		
Predicted MDL:	0.677062		
Predicted MQL:	2.256873		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	6.4386	6.44	.000	.00001	.000	1
CalStd9=100	1000.0	984.52	-15.5	-1.55	.00513	.000	1
CalStd10=10	10000.	10001.	1.47	.015	.05239	.001	1
CalStd8=100	100.00	107.57	7.57	7.57	.00054	.000	1

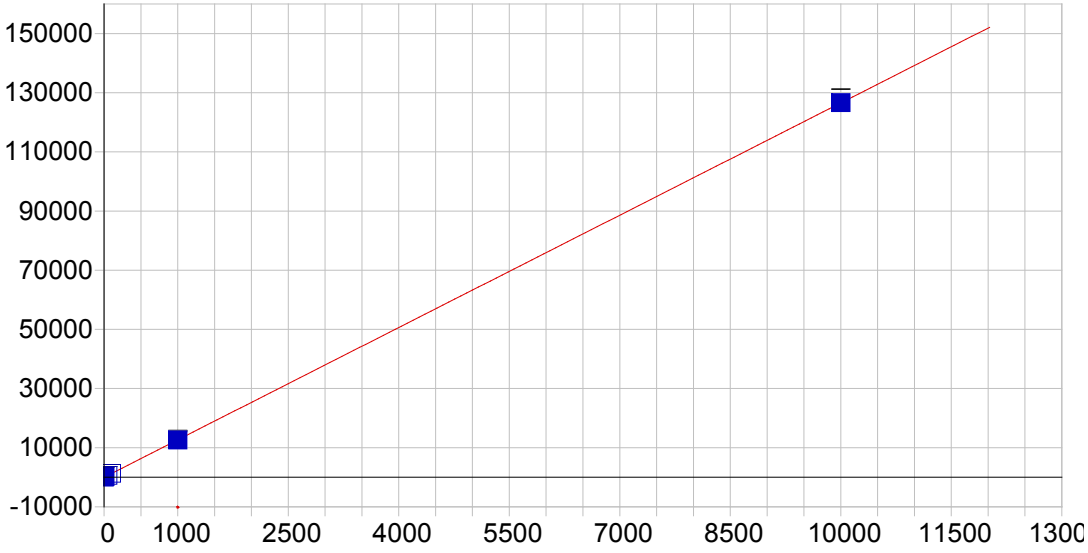


Cr 205.560 {464}

Date of Fit:	01/20/2016 07:43:33	Type of Fit:	Full Fit	Weighting:	1/Conc

A0 (Offset):	-6.490183	Re-Slope:	1.000000
A1 (Gain):	7.436432	Y-int:	0.000000
A2 (Curvature):	-0.000007		
n (Exponent):	1.000000		
Correlation:	0.999999	Status:	OK.
Std Error of Est:	0.149348		
Predicted MDL:	0.255055		
Predicted MQL:	0.850183		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	-6.4933	1.48	1
CalStd5=10	10.000	10.792	.792	7.92	73.766	2.50	1
CalStd7=50	50.000	49.279	-.721	-1.44	359.95	2.12	1
CalStd9=100	1000.0	997.16	-2.84	-.284	7401.6	63.5	1
CalStd8=100	100.00	101.26	1.26	1.26	746.45	5.00	1
CalStd4=5	5.0000	5.6119	.612	12.2	35.242	.680	1
CalStd3=1	1.0000	1.2284	.228	22.8	2.6449	1.15	1
CalStd11-100	100000.	100000.	-.054	.000	670860.	9870.	1
CalStd10=10	10000.	10001.	.720	.007	73635.	559.	1

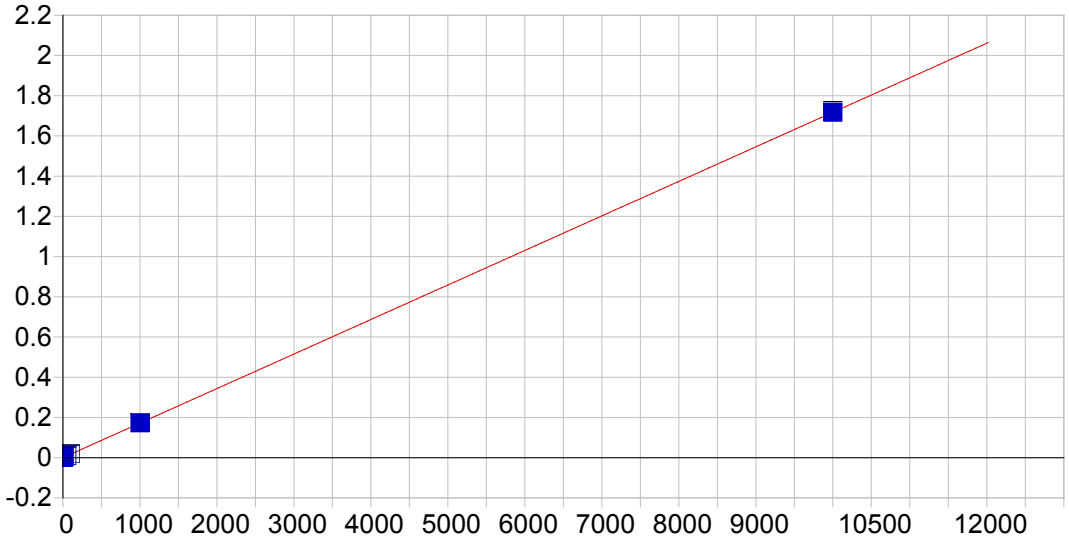


Cr 267.716 {126}

Date of Fit:	01/20/2016 07:43:33	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-3.036085	Re-Slope:	1.000000
A1 (Gain):	12.654990	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999985	Status:	OK.
Std Error of Est:	0.604935		
Predicted MDL:	0.578383		
Predicted MQL:	1.927943		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00119	-.001	.000	-3.0511	5.82	1
CalStd5=10	10.000	11.087	1.09	10.9	137.27	6.13	1
CalStd7=50	50.000	49.660	-.340	-.681	625.41	14.3	1
CalStd9=100	1000.0	993.18	-6.82	-.682	12566.	213.	1
CalStd8=100	100.00	103.13	3.13	3.13	1302.0	6.89	1
CalStd4=5	5.0000	5.5535	.554	11.1	67.243	6.29	1
CalStd10=10	10000.	10002.	2.40	.024	126580.	1610.	1

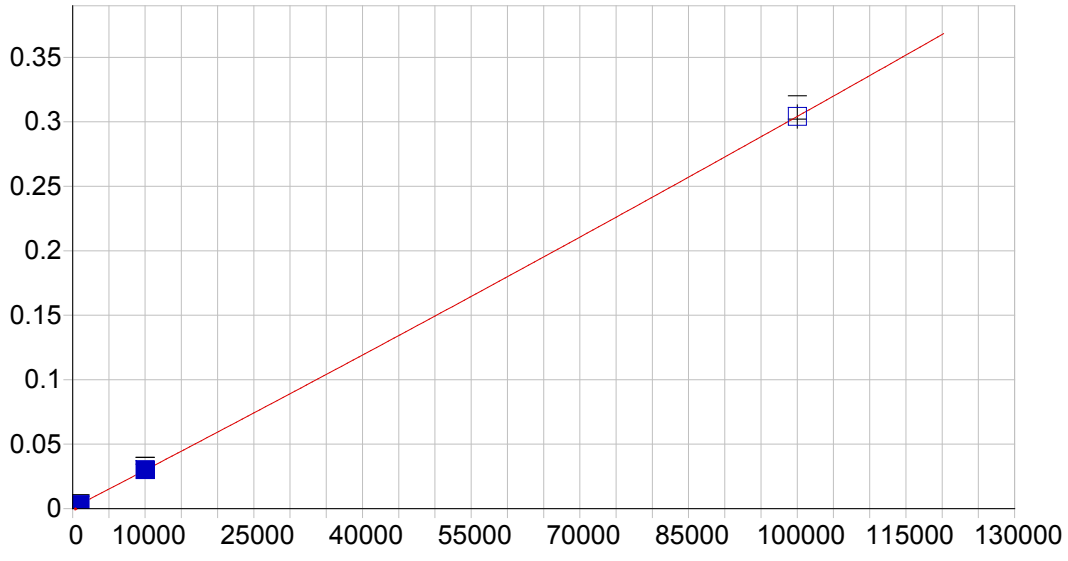


Cu 224.700 {450}

Date of Fit:	01/20/2016 07:43:33	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000016	Re-Slope:	1.000000
A1 (Gain):	0.000172	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999986	Status:	OK.
Std Error of Est:	0.000003		
Predicted MDL:	0.533786		
Predicted MQL:	1.779288		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00009	.000	.000	.00002	.000	1
CalStd9=100	1000.0	1002.1	2.06	.206	.17219	.002	1
CalStd7=50	50.000	49.272	-.728	-1.46	.00848	.000	1
CalStd8=100	100.00	102.62	2.62	2.62	.01764	.000	1
CalStd5=10	10.000	10.124	.124	1.24	.00176	.000	1
CalStd10=10	10000.	9993.7	-6.29	-.063	1.7171	.008	1
CalStd4=5	5.0000	5.2373	.237	4.75	.00092	.000	1
CalStd6=20	20.000	22.061	2.06	10.3	.00381	.000	1
CalStd3=1	1.0000	.91521	-.085	-8.48	.00017	.000	1

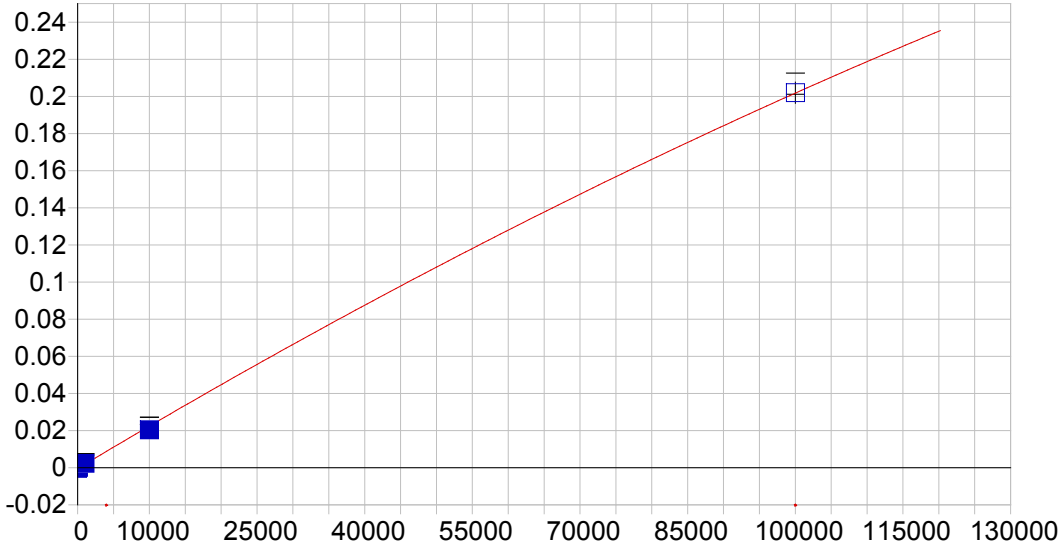


Cu 324.754 {104}

Date of Fit:	01/20/2016 07:43:33	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	0.000538	Re-Slope:	1.000000
A1 (Gain):	0.000003	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999836	Status:	Warning Positive Curvature
Std Error of Est:	0.000009		
Predicted MDL:	242.496629		
Predicted MQL:	808.322096		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.03343	-.033	.000	.00054	.000	1
CalStd9=100	1000.0	868.00	-132.	-13.2	.00307	.001	1
CalStd8=100	100.00	145.70	45.7	45.7	.00096	.000	1
CalStd10=10	10000.	10094.	93.8	.938	.03009	.003	1
CalStd11-100	100000.	99992.	-7.56	-.008	.30413	.009	1

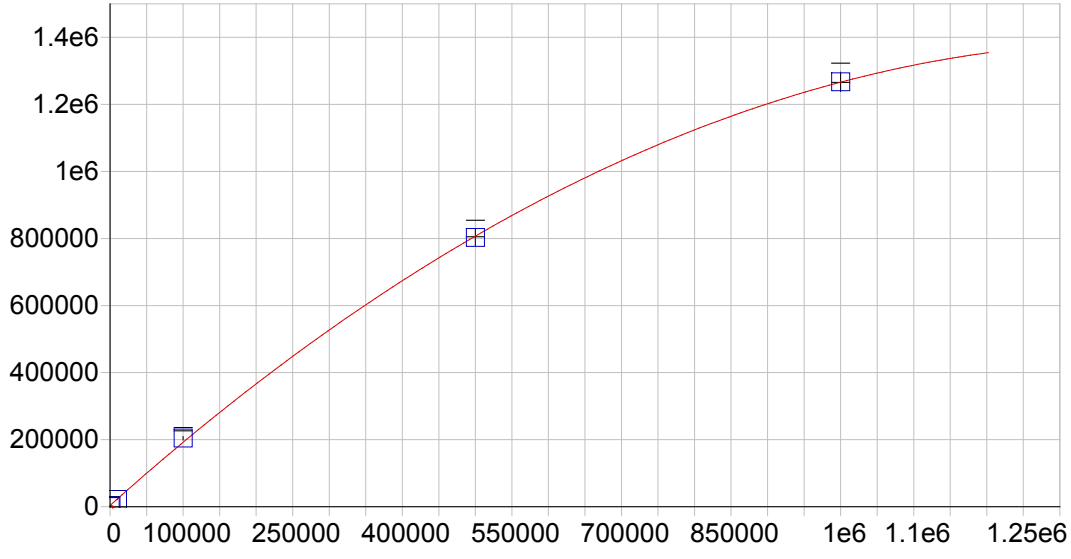


Cu 327.396 {103}

Date of Fit: 01/20/2016 07:43:33 Type of Fit: Curvilinear Weighting: 1/Conc

A0 (Offset):	-0.000463	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.984093	Status:	OK.
Std Error of Est:	0.000023		
Predicted MDL:	363.394281		
Predicted MQL:	1211.314270		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.28543	-.285	.000	-.00046	.001	1
CalStd6=20	20.000	158.70	139.	693.	-.00009	.000	1
CalStd7=50	50.000	304.39	254.	509.	.00024	.001	1
CalStd8=100	100.00	314.42	214.	214.	.00027	.001	1
CalStd9=100	1000.0	1198.3	198.	19.8	.00231	.000	1
CalStd10=10	10000.	9085.9	-914.	-9.14	.02035	.002	1
CalStd11-100	100000.	100120.	117.	.117	.20196	.006	1

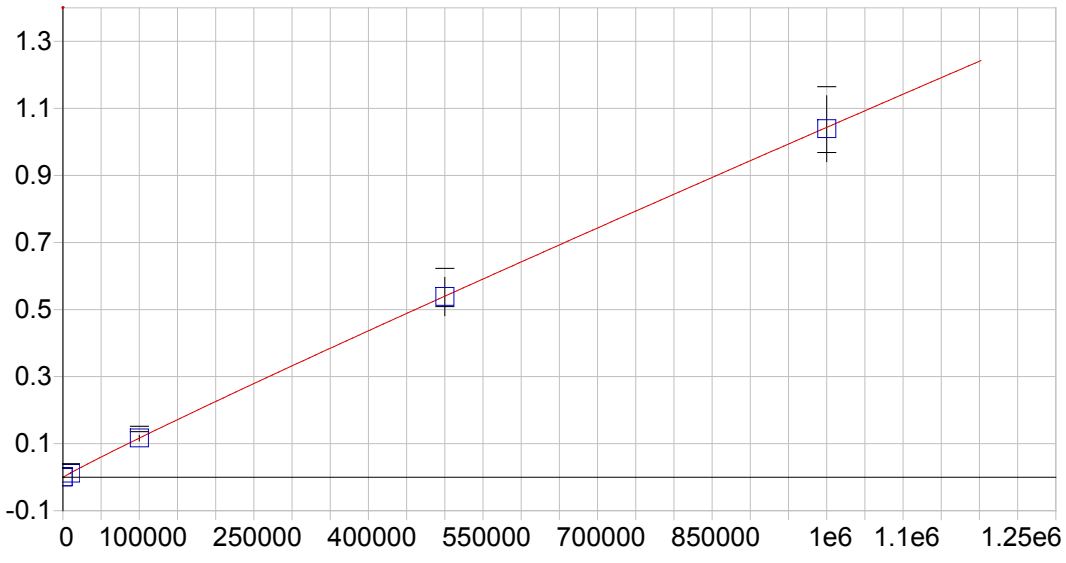


Fe 234.349 {144}

Date of Fit: 01/20/2016 07:43:33 Type of Fit: Curvilinear Weighting: None

A0 (Offset):	3954.701212	Re-Slope:	1.000000
A1 (Gain):	1.950027	Y-int:	0.000000
A2 (Curvature):	-0.000001		
n (Exponent):	1.000000		
Correlation:	0.999930	Status:	OK.
Std Error of Est:	8116.618857		
Predicted MDL:	1.306480		
Predicted MQL:	4.354932		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-2002.2	-2000.	.000	47.618	.571	1
CalStd10=10	10000.	9325.9	-674.	-6.74	22081.	291.	1
CalStd13=50	500000.	496590.	-3410.	-.682	802740.	24500.	1
CalStd14-100	1000000.	1001700.	1670.	.167	1267300.	28900.	1
CalStd9=100	1000.0	-846.73	-1850.	-185.	2303.1	30.1	1
CalStd12-100	100000.	106730.	6730.	6.73	204250.	5090.	1

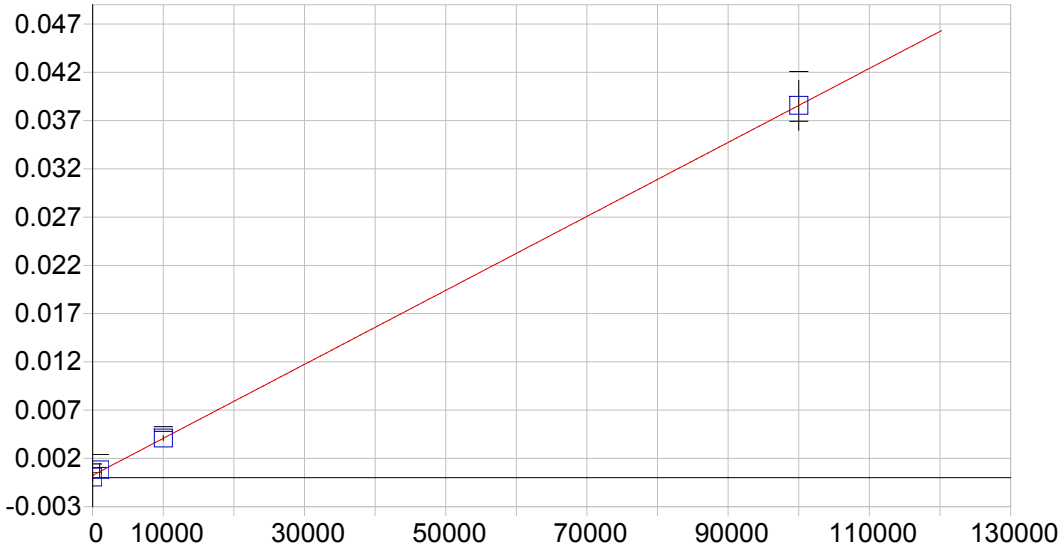


Fe 239.562 {140}

Date of Fit: 01/20/2016 07:43:33 Type of Fit: Full Fit Weighting: None

A0 (Offset):	-0.000550	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	0.950000		
Correlation:	0.999999	Status:	OK.
Std Error of Est:	0.000672		
Predicted MDL:	194.779159		
Predicted MQL:	649.263864		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	349.03	349.	.000	-.00001	.000	1
CalStd10=10	10000.	9413.7	-586.	-5.86	.01186	.001	1
CalStd13=50	500000.	498900.	-1100.	-.220	.53872	.057	1
CalStd14-100	1000000.	996030.	-3970.	-.397	1.0395	.098	1
CalStd9=100	1000.0	987.25	-12.7	-1.27	.00091	.000	1
CalStd12-100	100000.	100190.	189.	.189	.11680	.008	1

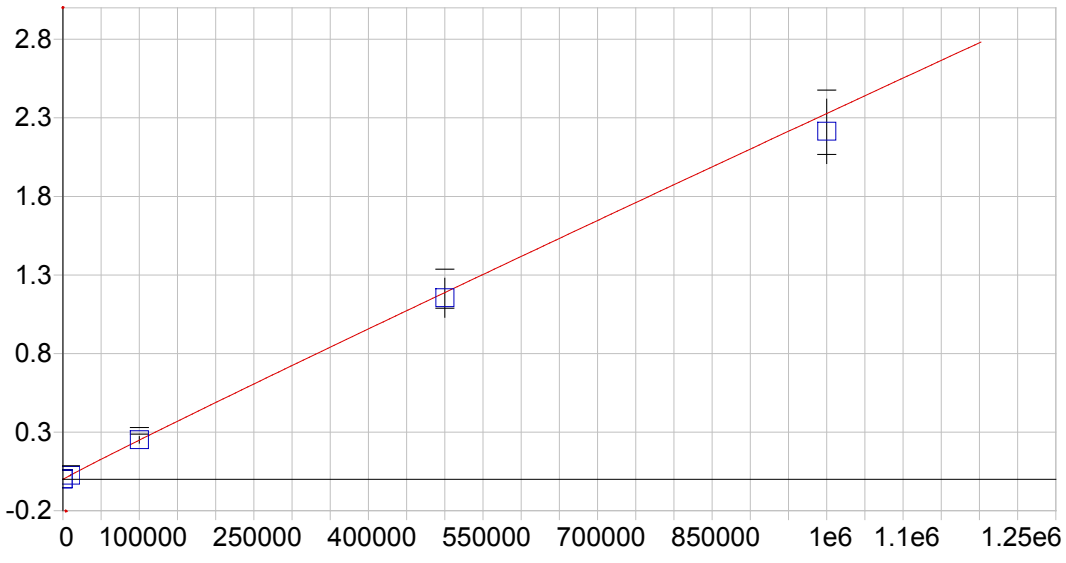


Fe 239.562 {141}

Date of Fit:	01/20/2016 07:43:33	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000246	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999970	Status:	OK.
Std Error of Est:	0.000175		
Predicted MDL:	873.528671		
Predicted MQL:	2911.762235		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-483.57	-484.	.000	.00006	.000	1
CalStd9=100	1000.0	1422.0	422.	42.2	.00079	.001	1
CalStd10=10	10000.	10073.	73.1	.731	.00411	.000	1
CalStd12-100	100000.	99988.	-11.5	-.012	.03857	.003	1

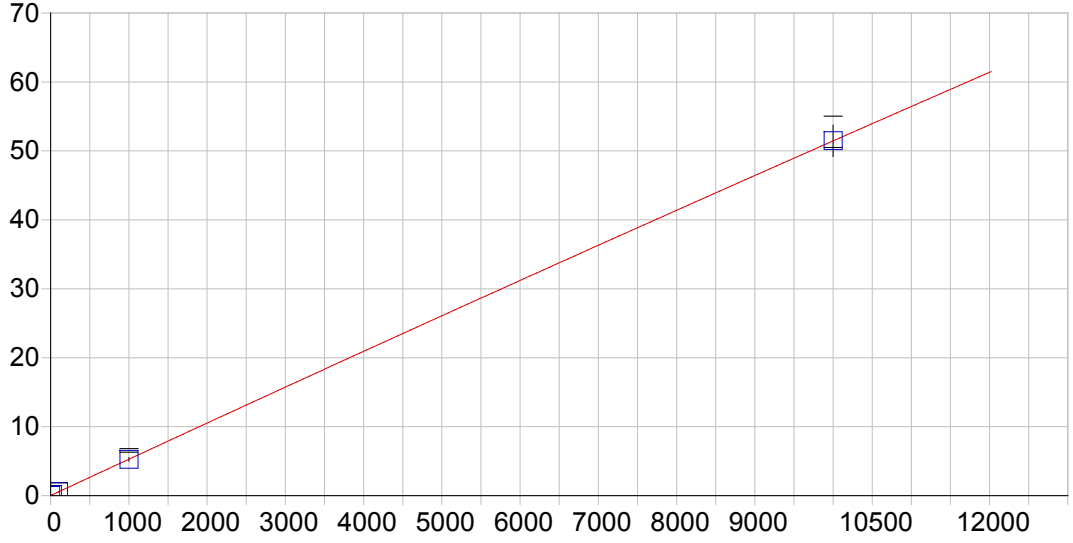


Fe 259.940 {129}

Date of Fit: 01/20/2016 07:43:33 Type of Fit: Full Fit Weighting: 1/Conc

A0 (Offset):	-0.000275	Re-Slope:	1.000000
A1 (Gain):	0.000004	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	0.970000		
Correlation:	0.999984	Status:	OK.
Std Error of Est:	0.000028		
Predicted MDL:	145.632421		
Predicted MQL:	485.441402		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.06382	.064	.000	-.00028	.001	1
CalStd10=10	10000.	9579.4	-421.	-4.21	.02536	.002	1
CalStd13=50	500000.	485700.	-14300.	-2.86	1.1551	.125	1
CalStd14-100	1000000.	949860.	-50100.	-5.01	2.2142	.205	1
CalStd9=100	1000.0	941.37	-58.6	-5.86	.00243	.001	1
CalStd12-100	100000.	100750.	745.	.745	.25096	.021	1

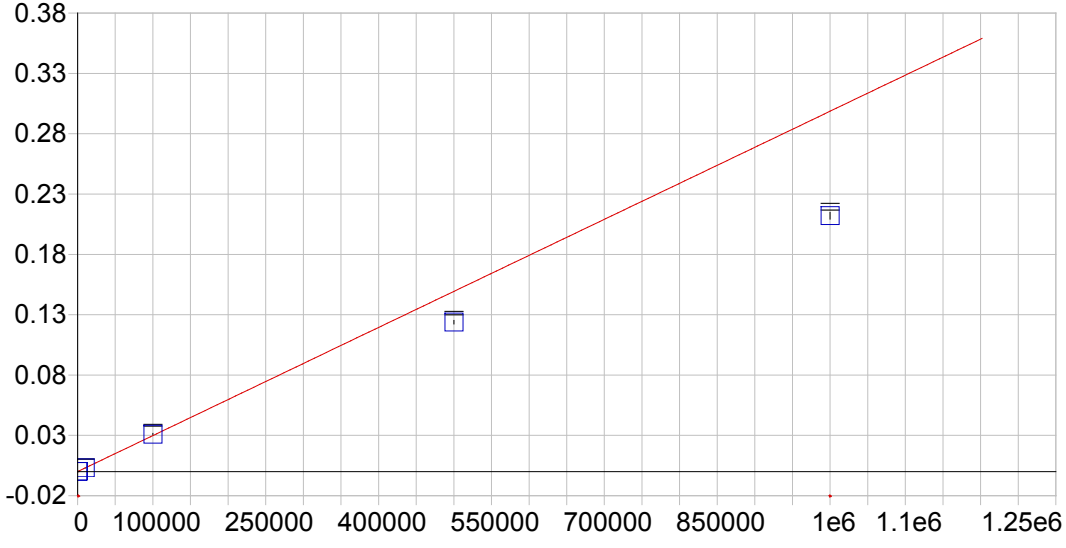


Fe 259.940 {130}

Date of Fit:	01/20/2016 07:43:33	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	0.017547	Re-Slope:	1.000000
A1 (Gain):	0.005283	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999966	Status:	OK.
Std Error of Est:	0.001003		
Predicted MDL:	0.574560		
Predicted MQL:	1.915200		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00377	-.004	.000	.01753	.001	1
CalStd9=100	1000.0	991.88	-8.12	-.812	5.2438	.260	1
CalStd8=100	100.00	104.23	4.23	4.23	.56805	.028	1
CalStd6=20	20.000	23.087	3.09	15.4	.13951	.011	1
CalStd10=10	10000.	10001.	.802	.008	51.455	2.27	1

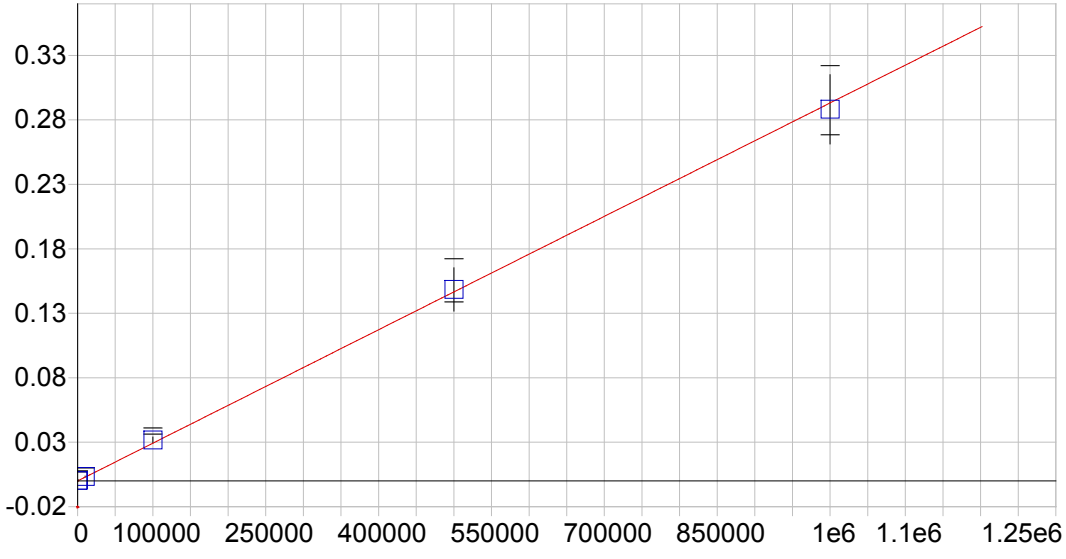


Mg 202.582 {466}

Date of Fit:	01/20/2016 07:43:33	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	-0.000020	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999616	Status:	OK.
Std Error of Est:	0.000011		
Predicted MDL:	4.486260		
Predicted MQL:	14.954199		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.20444	-.204	.000	-.00002	.000	1
CalStd13=50	500000.	414550.	-85500.	-17.1	.12379	.001	1
CalStd10=10	10000.	9826.8	-173.	-1.73	.00291	.000	1
CalStd14-100	1000000.	709850.	-290000.	-29.0	.21199	.003	1
CalStd12-100	100000.	103470.	3470.	3.47	.03088	.001	1
CalStd9=100	1000.0	1172.4	172.	17.2	.00033	.000	1

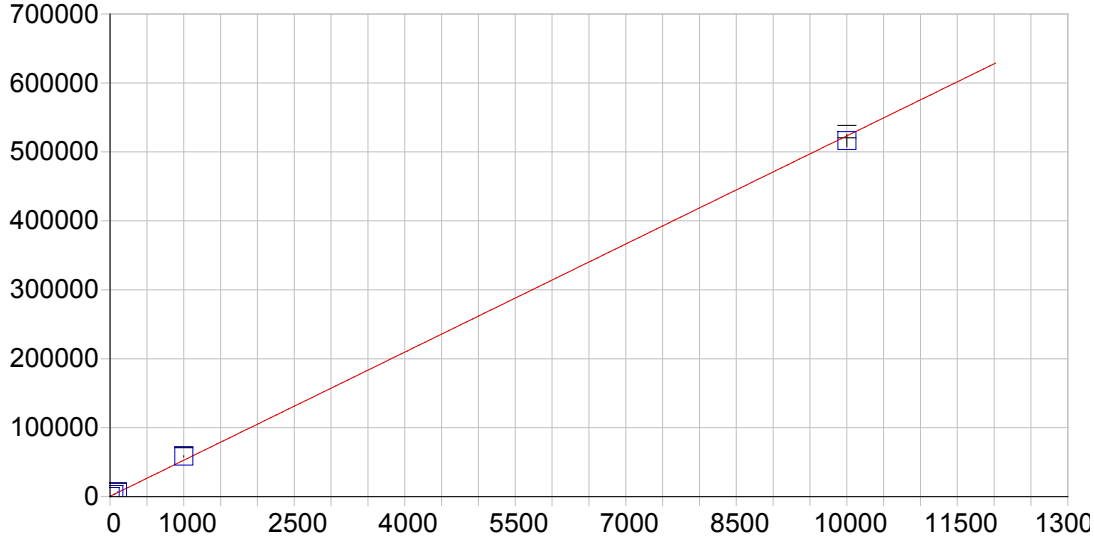


Mg 279.079 {121}

Date of Fit:	01/20/2016 07:43:33	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000022	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999458	Status:	OK.
Std Error of Est:	0.000015		
Predicted MDL:	1155.177929		
Predicted MQL:	3850.593095		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.95327	-.953	.000	-.00002	.000	1
CalStd13=50	500000.	506580.	6580.	1.32	.14848	.017	1
CalStd10=10	10000.	11367.	1370.	13.7	.00331	.000	1
CalStd14-100	1000000.	983280.	-16700.	-1.67	.28823	.027	1
CalStd12-100	100000.	108040.	8040.	8.04	.03165	.002	1
CalStd9=100	1000.0	1739.7	740.	74.0	.00049	.000	1

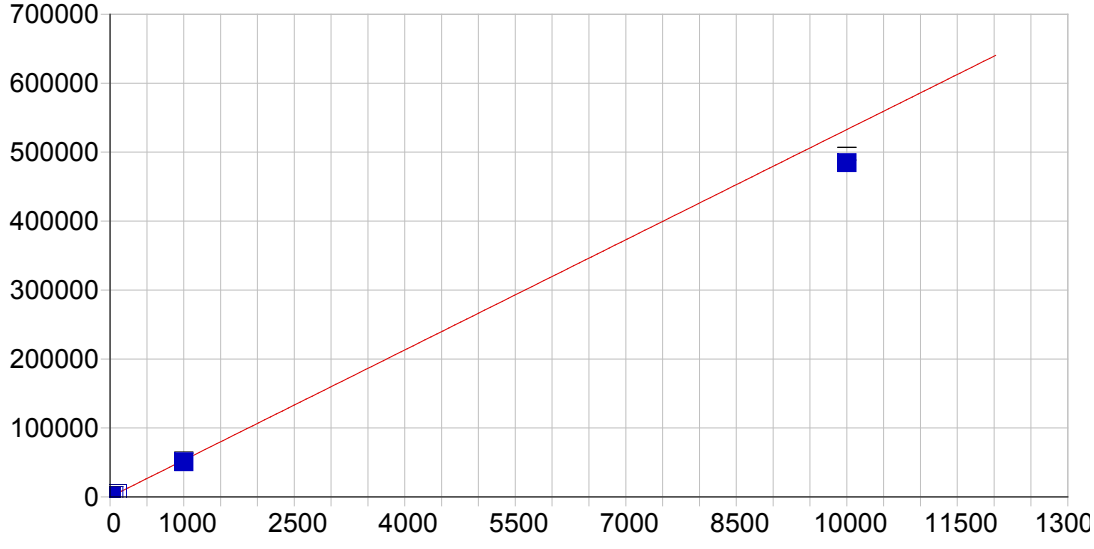


Mg 280.270 {120}

Date of Fit:	01/20/2016 07:43:33	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	489.361842	Re-Slope:	1.000000
A1 (Gain):	52.273681	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999206	Status:	OK.
Std Error of Est:	63.467828		
Predicted MDL:	0.077333		
Predicted MQL:	0.257776		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.01988	-.020	.000	488.32	2.12	1
CalStd9=100	1000.0	1110.4	110.	11.0	58534.	724.	1
CalStd10=10	10000.	9866.1	-134.	-1.34	516230.	9060.	1
CalStd8=100	100.00	116.93	16.9	16.9	6601.7	40.8	1
CalStd7=50	50.000	56.562	6.56	13.1	3446.1	64.5	1

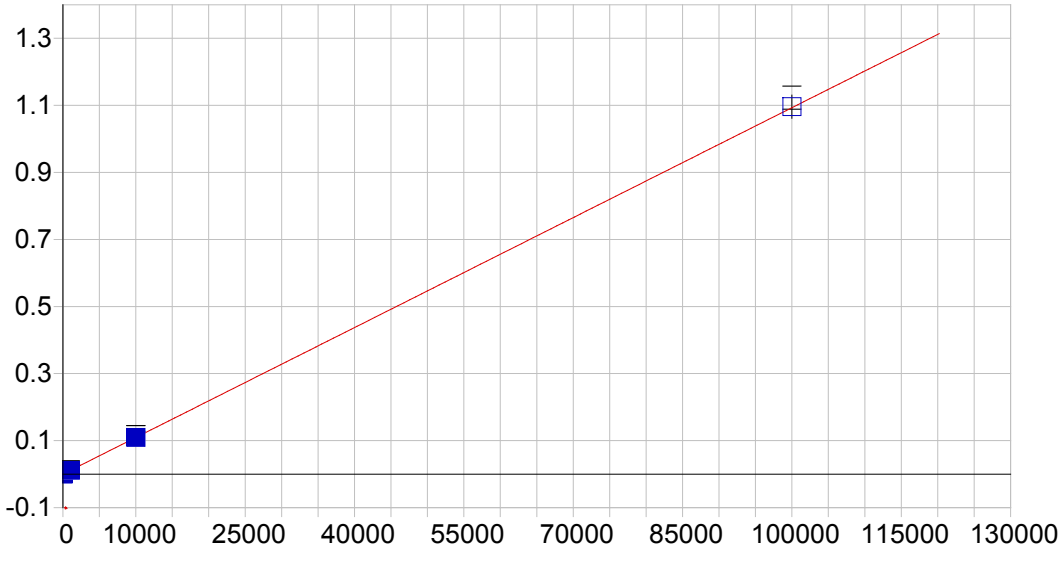


Mn 257.610 {131}

Date of Fit:	01/20/2016 07:43:33	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	10.057518	Re-Slope:	1.000000
A1 (Gain):	53.274358	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998975	Status:	OK.
Std Error of Est:	16.255102		
Predicted MDL:	0.078522		
Predicted MQL:	0.261741		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.08024	-.080	.000	5.7827	1.84	1
CalStd5=10	10.000	10.096	.096	.956	547.89	7.92	1
CalStd7=50	50.000	47.999	-2.00	-4.00	2567.2	56.3	1
CalStd6=20	20.000	21.414	1.41	7.07	1150.9	16.9	1
CalStd8=100	100.00	99.769	-.231	-.231	5325.2	39.5	1
CalStd4=5	5.0000	5.2625	.263	5.25	290.42	3.80	1
CalStd9=100	1000.0	955.05	-44.9	-4.49	50892.	919.	1
CalStd10=10	10000.	9097.0	-903.	-9.03	484670.	9260.	1

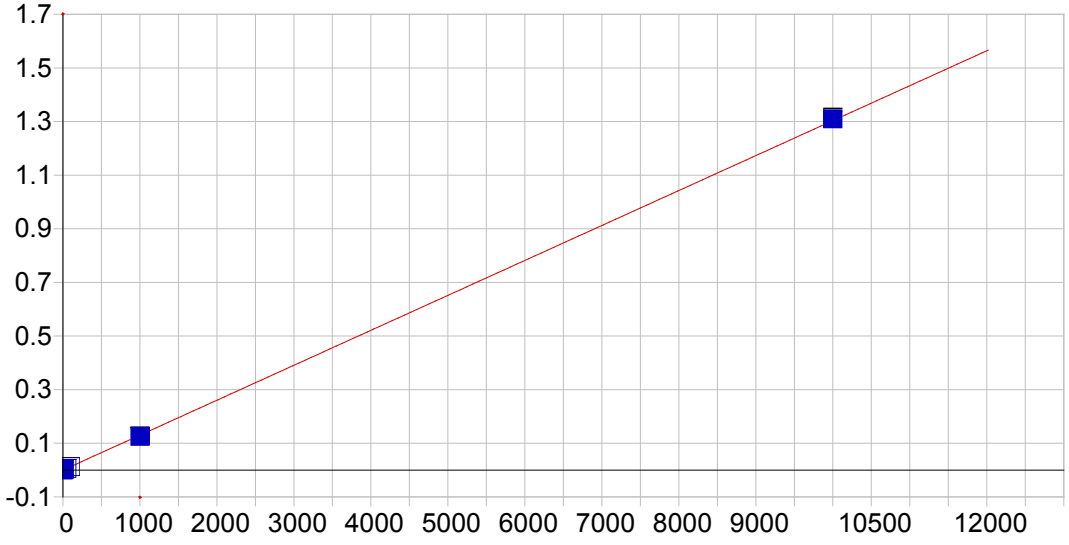


Mn 259.373 {130}

Date of Fit:	01/20/2016 07:43:33	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	-0.000076	Re-Slope:	1.000000
A1 (Gain):	0.000011	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999998	Status:	OK.
Std Error of Est:	0.000013		
Predicted MDL:	46.716923		
Predicted MQL:	155.723076		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.01624	-.016	.000	-.00008	.001	1
CalStd10=10	10000.	9982.5	-17.5	-.175	.10925	.009	1
CalStd11-100	100000.	100260.	261.	.261	1.0959	.034	1
CalStd9=100	1000.0	1018.3	18.3	1.83	.01108	.001	1

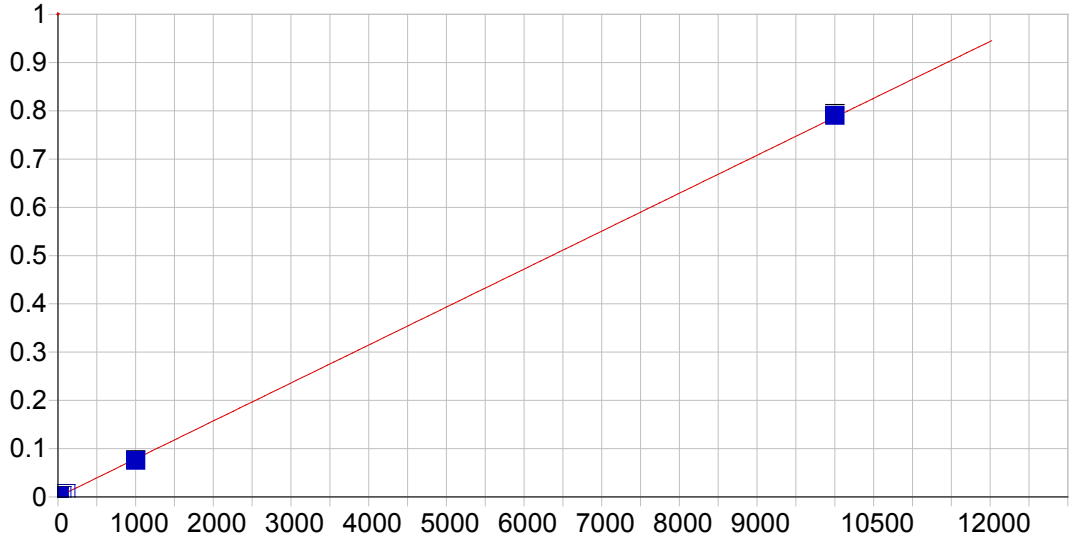


Mo 202.030 {466}

Date of Fit:	01/20/2016 07:43:33	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000120	Re-Slope:	1.000000
A1 (Gain):	0.000130	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999889	Status:	OK.
Std Error of Est:	0.000017		
Predicted MDL:	0.463708		
Predicted MQL:	1.545694		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00014	.000	.000	-.00012	.000	1
CalStd7=50	50.000	45.501	-4.50	-9.00	.00581	.000	1
CalStd6=20	20.000	20.929	.929	4.64	.00261	.000	1
CalStd5=10	10.000	10.414	.414	4.14	.00124	.000	1
CalStd8=100	100.00	95.796	-4.20	-4.20	.01237	.000	1
CalStd4=5	5.0000	5.5378	.538	10.8	.00060	.000	1
CalStd9=100	1000.0	960.28	-39.7	-3.97	.12504	.001	1
CalStd10=10	10000.	10047.	46.5	.465	1.3093	.006	1

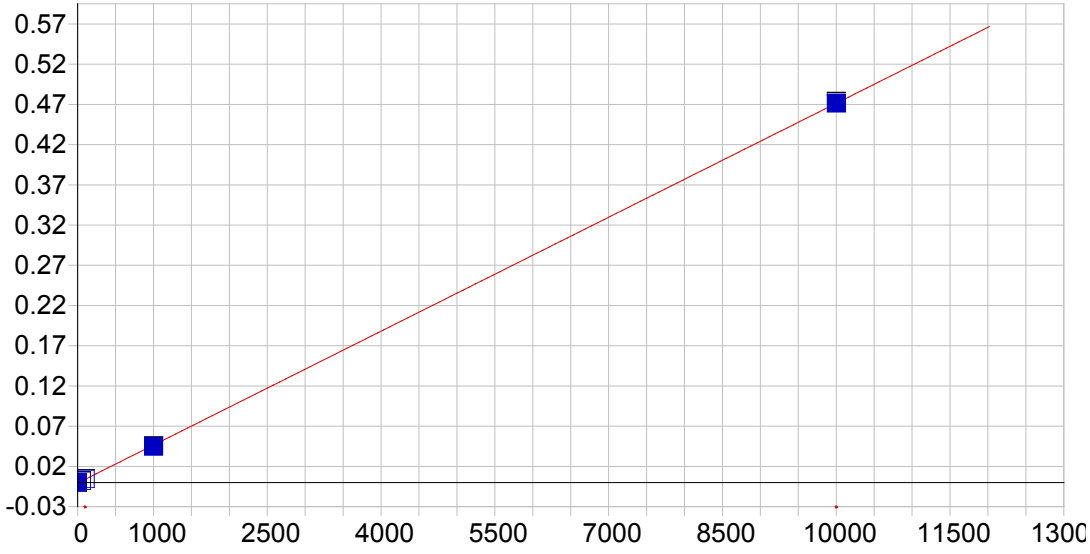


Mo 204.598 {464}

Date of Fit:	01/20/2016 07:43:33	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000123	Re-Slope:	1.000000
A1 (Gain):	0.000079	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999894	Status:	OK.
Std Error of Est:	0.000010		
Predicted MDL:	0.798296		
Predicted MQL:	2.660988		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00120	.001	.000	.00012	.000	1
CalStd7=50	50.000	45.211	-4.79	-9.58	.00368	.000	1
CalStd6=20	20.000	20.317	.317	1.59	.00172	.000	1
CalStd5=10	10.000	9.0357	-.964	-9.64	.00083	.000	1
CalStd8=100	100.00	96.874	-3.13	-3.13	.00774	.000	1
CalStd4=5	5.0000	5.0048	.005	.095	.00052	.000	1
CalStd9=100	1000.0	961.45	-38.6	-3.86	.07574	.001	1
CalStd10=10	10000.	10047.	47.1	.471	.79027	.004	1

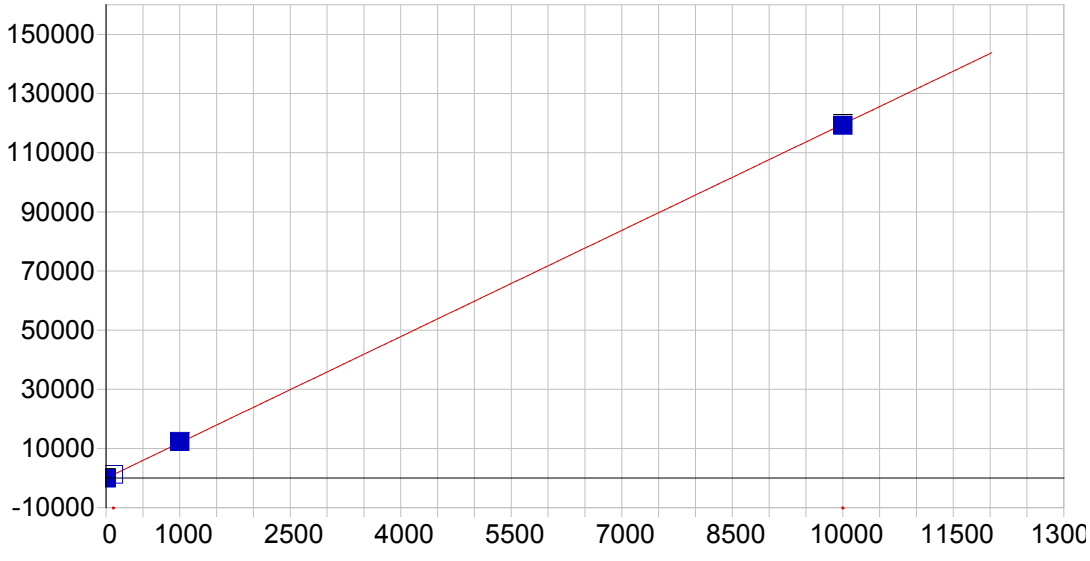


Mo 204.598 {465}

Date of Fit:	01/20/2016 07:43:33	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	-0.000741	Re-Slope:	1.000000
A1 (Gain):	0.000047	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999990	Status:	OK.
Std Error of Est:	0.001077		
Predicted MDL:	1.125102		
Predicted MQL:	3.750340		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	13.495	13.5	.000	-.00010	.000	1
CalStd9=100	1000.0	965.24	-34.8	-3.48	.04484	.001	1
CalStd10=10	10000.	10003.	3.34	.033	.47162	.002	1
CalStd7=50	50.000	58.515	8.52	17.0	.00202	.000	1
CalStd8=100	100.00	109.41	9.41	9.41	.00442	.000	1

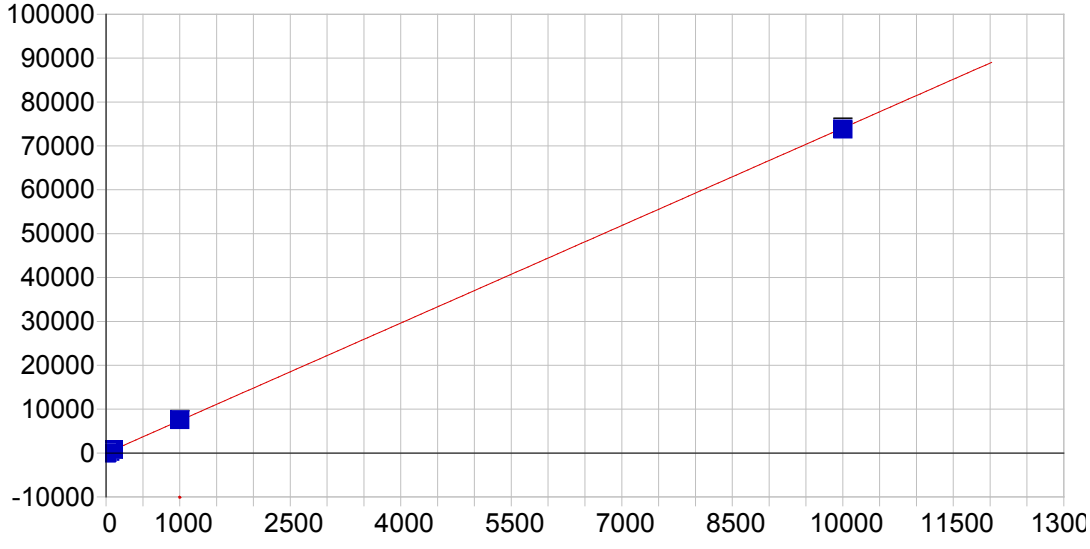


Ni 221.647 {452}

Date of Fit:	01/20/2016 07:43:33	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-8.401903	Re-Slope:	1.000000
A1 (Gain):	11.962292	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999948	Status:	OK.
Std Error of Est:	5.740169		
Predicted MDL:	0.321337		
Predicted MQL:	1.071124		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00802	-.008	.000	-8.4979	2.83	1
CalStd10=10	10000.	9967.4	-32.6	-.326	119220.	589.	1
CalStd8=100	100.00	105.65	5.65	5.65	1255.4	4.24	1
CalStd9=100	1000.0	1026.9	26.9	2.69	12276.	104.	1

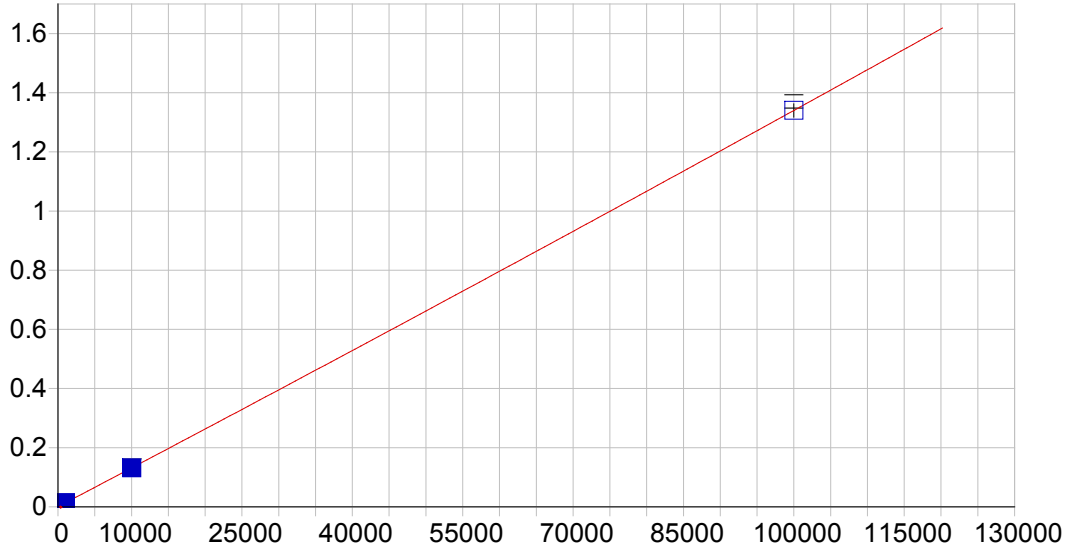


Ni 231.604 {445}

Date of Fit:	01/20/2016 07:43:33	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-10.737187	Re-Slope:	1.000000
A1 (Gain):	7.408180	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999936	Status:	OK.
Std Error of Est:	0.322234		
Predicted MDL:	0.478698		
Predicted MQL:	1.595660		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00075	-.001	.000	-10.743	4.08	1
CalStd7=50	50.000	50.859	.859	1.72	366.04	4.85	1
CalStd5=10	10.000	10.967	.967	9.67	70.512	1.78	1
CalStd8=100	100.00	105.59	5.59	5.59	771.50	7.37	1
CalStd4=5	5.0000	5.6818	.682	13.6	31.355	1.44	1
CalStd9=100	1000.0	1024.9	24.9	2.49	7581.3	60.4	1
CalStd3=1	1.0000	1.4193	.419	41.9	-.22260	3.73	1
CalStd10=10	10000.	9966.6	-33.4	-.334	73819.	421.	1

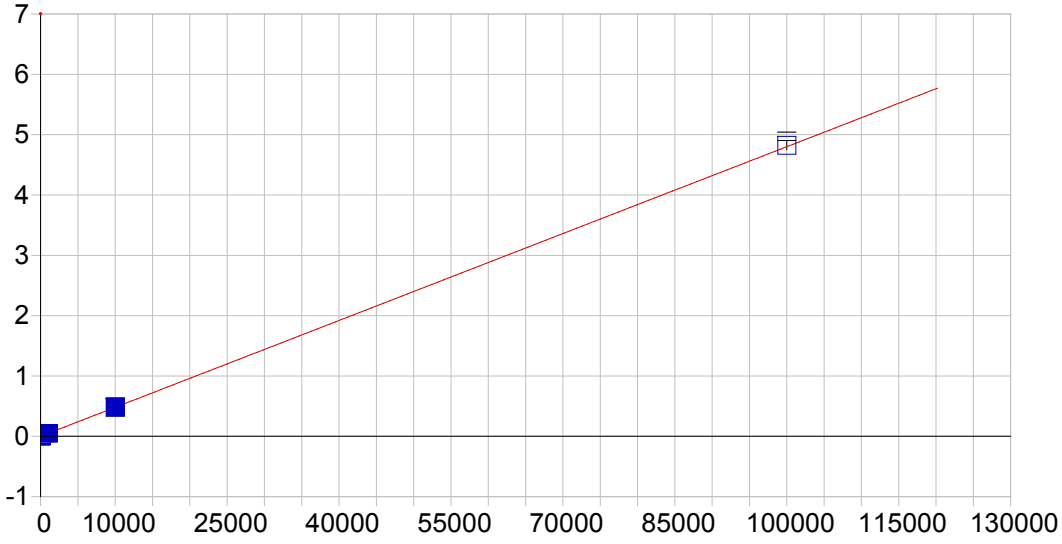


Pb 216.999 {455}

Date of Fit:	01/20/2016 07:43:33	Type of Fit:	Curvilinear	Weighting:	None

A0 (Offset):	0.000425	Re-Slope:	1.000000
A1 (Gain):	0.000013	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	Warning Positive Curvature
Std Error of Est:	0.000365		
Predicted MDL:	7.581876		
Predicted MQL:	25.272921		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-16.241	-16.2	.000	.00021	.000	1
CalStd9=100	1000.0	1050.1	50.1	5.01	.01416	.000	1
CalStd10=10	10000.	9994.6	-5.42	-.054	.13142	.000	1
CalStd11-100	100000.	100000.	.047	.000	1.3400	.022	1
CalStd8=100	100.00	94.989	-5.01	-5.01	.00167	.000	1
CalStd4=5	5.0000	-7.9222	-12.9	-258.	.00032	.000	1
CalStd5=10	10.000	-.60200	-10.6	-106.	.00042	.000	1

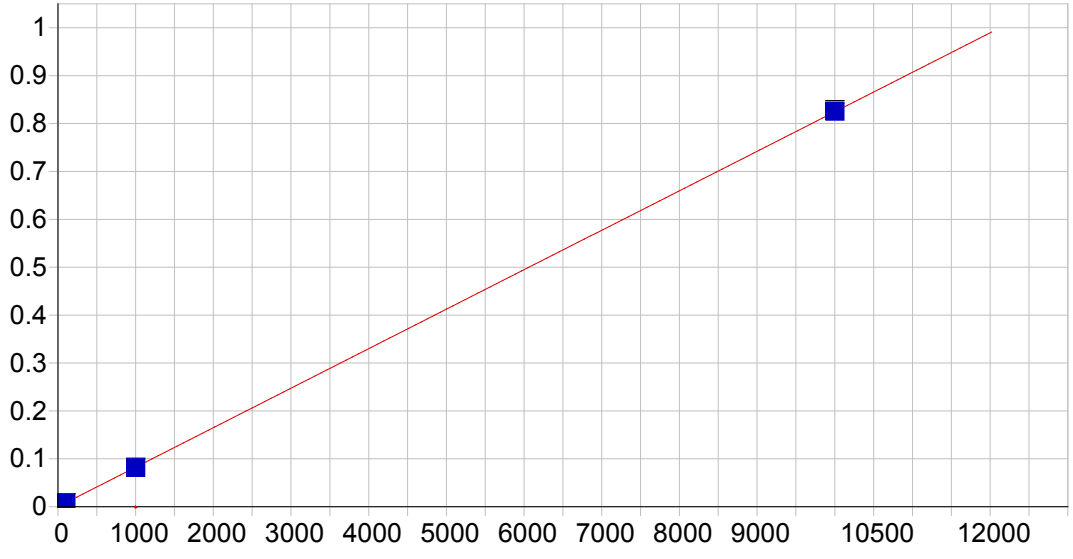


Pb 220.353 {153}

Date of Fit: 01/20/2016 07:43:33 Type of Fit: Linear Weighting: 1/Var

A0 (Offset):	-0.000006	Re-Slope:	1.000000
A1 (Gain):	0.000048	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999947	Status:	OK.
Std Error of Est:	0.000103		
Predicted MDL:	2.276207		
Predicted MQL:	7.587356		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-1.7913	-1.79	.000	-.00009	.000	1
CalStd9=100	1000.0	989.72	-10.3	-1.03	.04750	.001	1
CalStd10=10	10000.	9949.7	-50.3	-.503	.47761	.008	1
CalStd8=100	100.00	100.97	.973	.973	.00484	.000	1
CalStd11-100	100000.	100440.	437.	.437	4.8216	.070	1

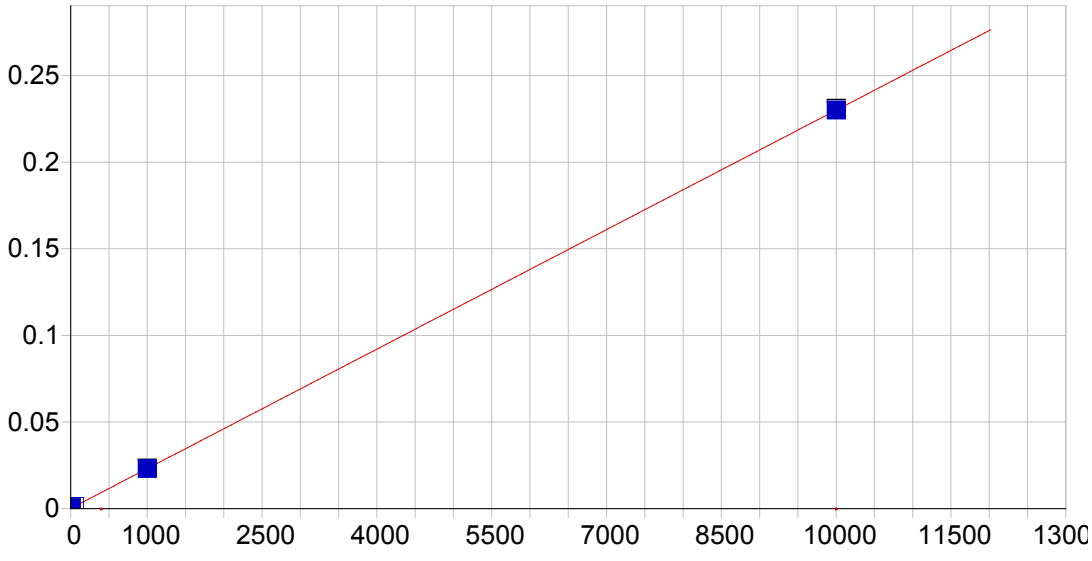


Pb 220.353 {453}

Date of Fit:	01/20/2016 07:43:33	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000118	Re-Slope:	1.000000
A1 (Gain):	0.000082	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999985	Status:	OK.
Std Error of Est:	0.000004		
Predicted MDL:	1.530162		
Predicted MQL:	5.100539		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00086	-.001	.000	.00012	.000	1
CalStd5=10	10.000	11.179	1.18	11.8	.00104	.000	1
CalStd8=100	100.00	99.377	-.623	-.623	.00831	.000	1
CalStd4=5	5.0000	5.3569	.357	7.14	.00056	.000	1
CalStd9=100	1000.0	987.31	-12.7	-1.27	.08151	.001	1
CalStd10=10	10000.	10012.	11.8	.118	.82547	.003	1

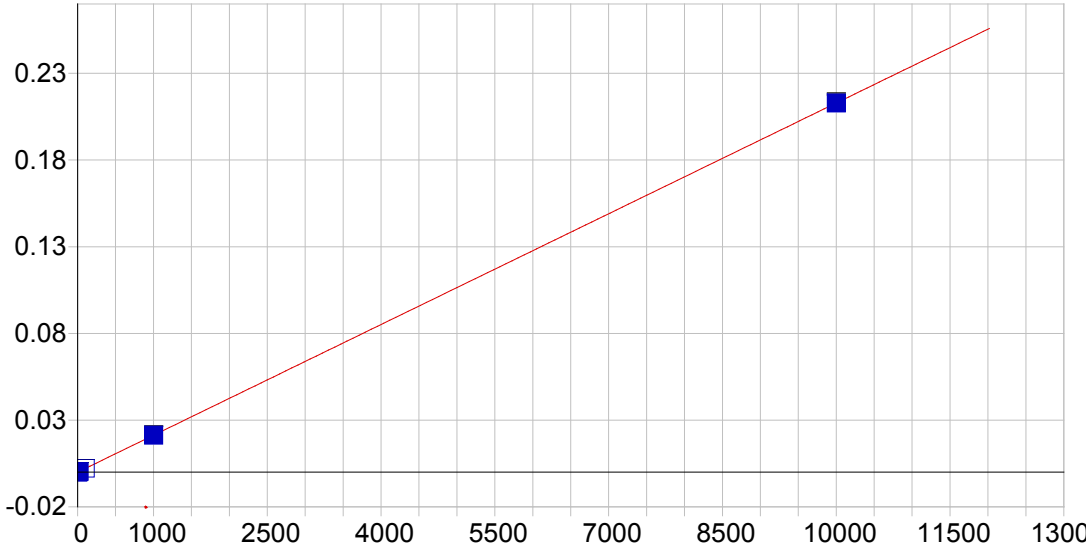


Sb 206.833 {463}

Date of Fit:	01/20/2016 07:43:33	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000110	Re-Slope:	1.000000
A1 (Gain):	0.000023	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999997	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	3.183466		
Predicted MQL:	10.611553		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00017	.000	.000	.00011	.000	1
CalStd9=100	1000.0	998.92	-1.08	-.108	.02309	.000	1
CalStd5=10	10.000	10.467	.467	4.67	.00035	.000	1
CalStd7=50	50.000	48.566	-1.43	-2.87	.00123	.000	1
CalStd10=10	10000.	10002.	2.05	.021	.23017	.001	1

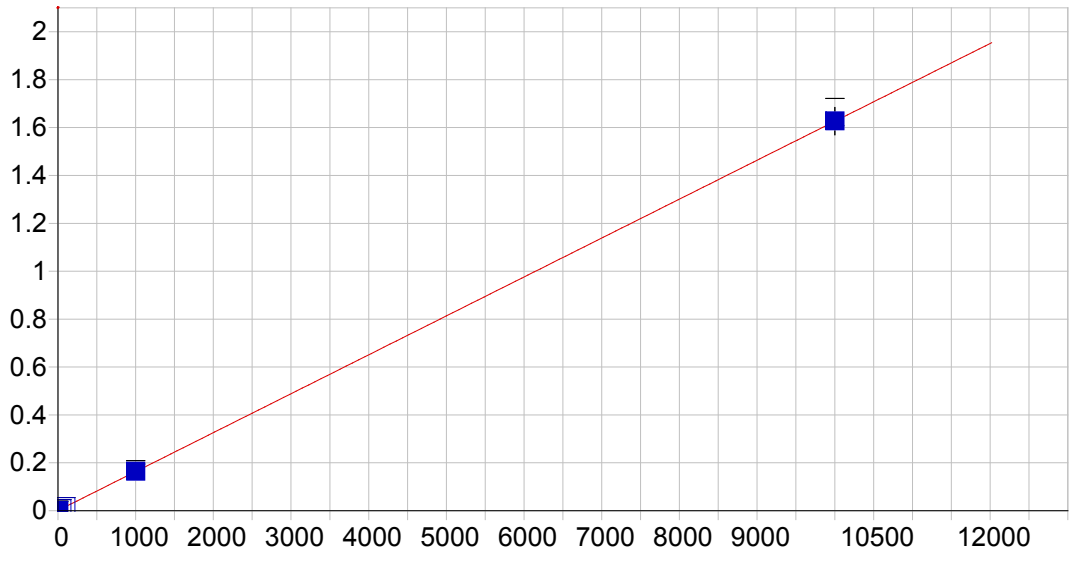


Sb 217.581 {455}

Date of Fit: 01/20/2016 07:43:33 Type of Fit: Linear Weighting: 1/Var

A0 (Offset):	-0.000023	Re-Slope:	1.000000
A1 (Gain):	0.000021	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999989	Status:	OK.
Std Error of Est:	0.000032		
Predicted MDL:	3.670295		
Predicted MQL:	12.234315		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.70808	.708	.000	-.00001	.000	1
CalStd9=100	1000.0	999.92	-.077	-.008	.02126	.000	1
CalStd6=20	20.000	20.308	.308	1.54	.00041	.000	1
CalStd5=10	10.000	11.490	1.49	14.9	.00022	.000	1
CalStd8=100	100.00	104.94	4.94	4.94	.00221	.000	1
CalStd4=5	5.0000	3.7884	-1.21	-24.2	.00006	.000	1
CalStd10=10	10000.	9998.7	-1.28	-.013	.21279	.001	1

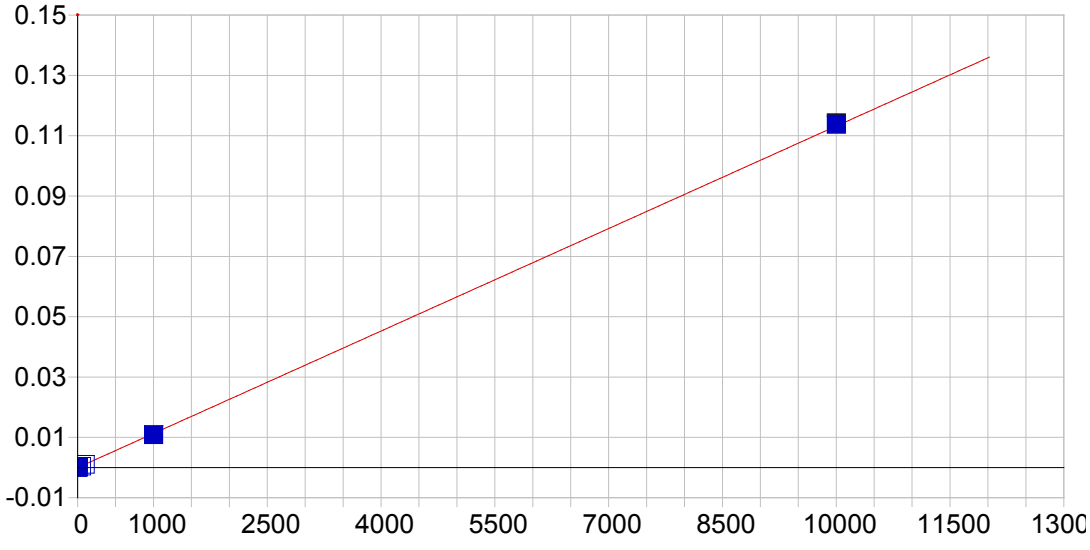


Se 196.090 {471}

Date of Fit:	01/20/2016 07:43:33	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000791	Re-Slope:	1.000000
A1 (Gain):	0.000163	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999887	Status:	OK.
Std Error of Est:	0.000010		
Predicted MDL:	4.019033		
Predicted MQL:	13.396778		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00056	.001	.000	.00079	.000	1
CalStd7=50	50.000	45.658	-4.34	-8.68	.00821	.001	1
CalStd9=100	1000.0	1004.4	4.38	.438	.16399	.007	1
CalStd5=10	10.000	5.4441	-4.56	-45.6	.00168	.001	1
CalStd8=100	100.00	97.845	-2.15	-2.15	.01669	.000	1
CalStd10=10	10000.	10007.	6.68	.067	1.6268	.057	1

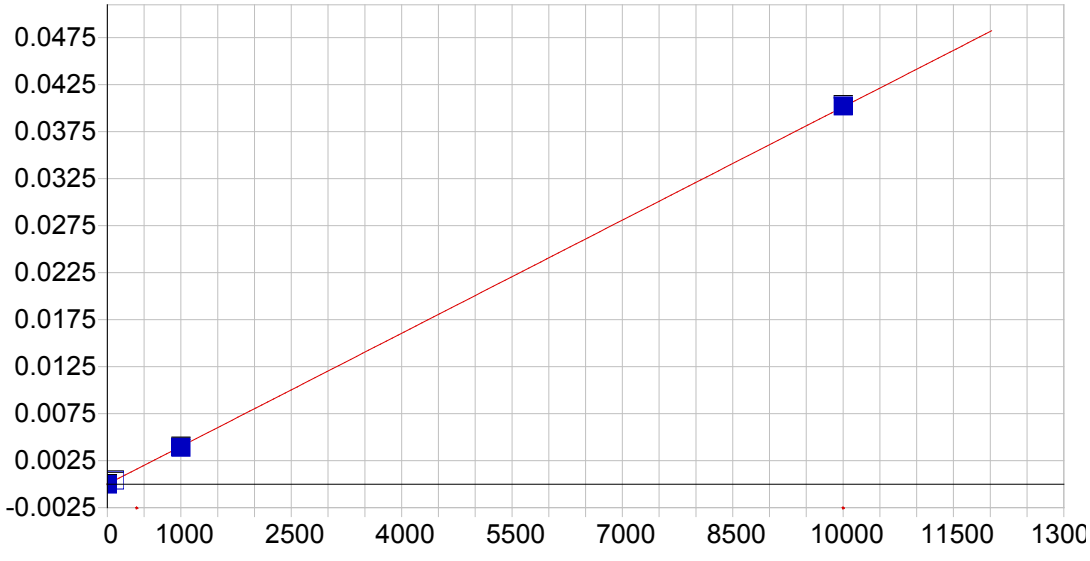


Se 196.090 {472}

Date of Fit:	01/20/2016 07:43:33	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000036	Re-Slope:	1.000000
A1 (Gain):	0.000011	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999866	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	4.335006		
Predicted MQL:	14.450020		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00287	.003	.000	-.00004	.000	1
CalStd7=50	50.000	42.462	-7.54	-15.1	.00045	.000	1
CalStd9=100	1000.0	963.69	-36.3	-3.63	.01087	.000	1
CalStd5=10	10.000	9.4630	-.537	-5.37	.00007	.000	1
CalStd8=100	100.00	94.896	-5.10	-5.10	.00104	.000	1
CalStd10=10	10000.	10049.	49.5	.495	.11372	.000	1

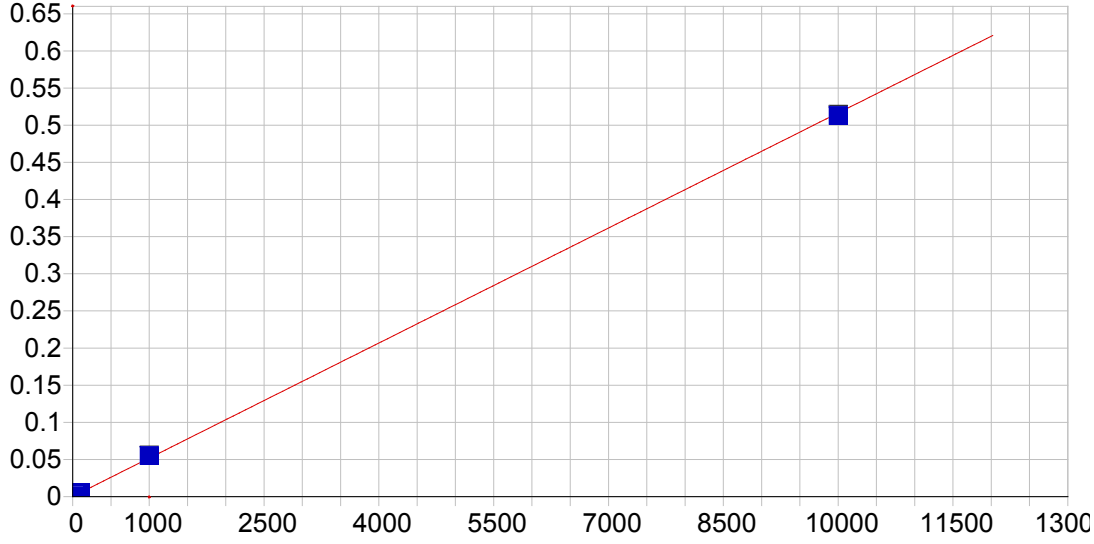


Se 206.279 {463}

Date of Fit:	01/20/2016 07:43:33	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000004	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999960	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	20.518201		
Predicted MQL:	68.394005		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00193	-.002	.000	.00000	.000	1
CalStd9=100	1000.0	974.26	-25.7	-2.57	.00391	.000	1
CalStd10=10	10000.	10021.	21.5	.215	.04025	.000	1
CalStd8=100	100.00	104.29	4.29	4.29	.00042	.000	1

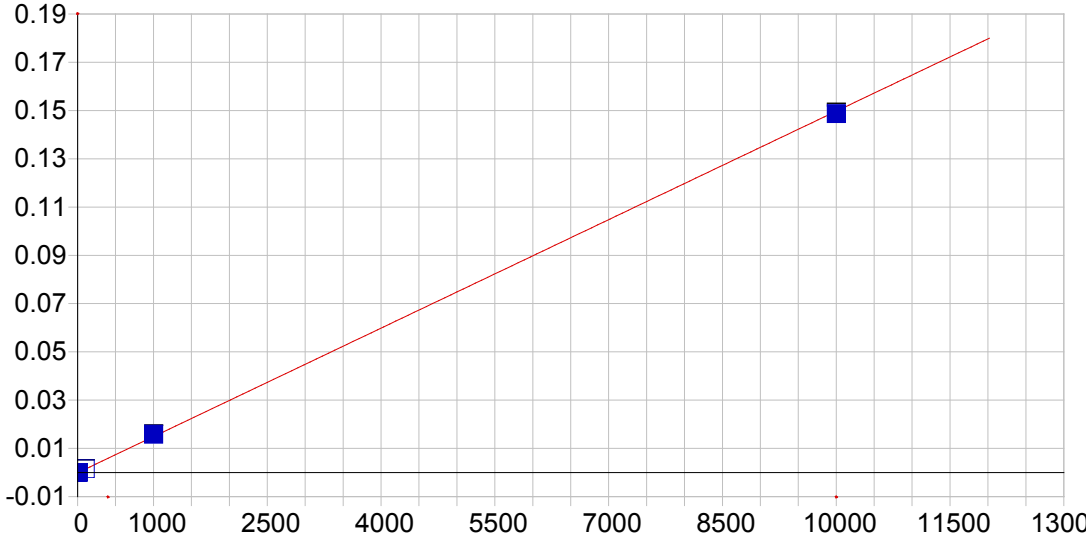


Tl 190.856 {476}

Date of Fit:	01/20/2016 07:43:33	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000257	Re-Slope:	1.000000
A1 (Gain):	0.000052	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999751	Status:	OK.
Std Error of Est:	0.000016		
Predicted MDL:	1.360187		
Predicted MQL:	4.533957		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00250	-.003	.000	.00026	.000	1
CalStd9=100	1000.0	1061.9	61.9	6.19	.05513	.000	1
CalStd8=100	100.00	110.38	10.4	10.4	.00596	.000	1
CalStd5=10	10.000	10.919	.919	9.19	.00082	.000	1
CalStd10=10	10000.	9926.8	-73.2	-.732	.51322	.001	1

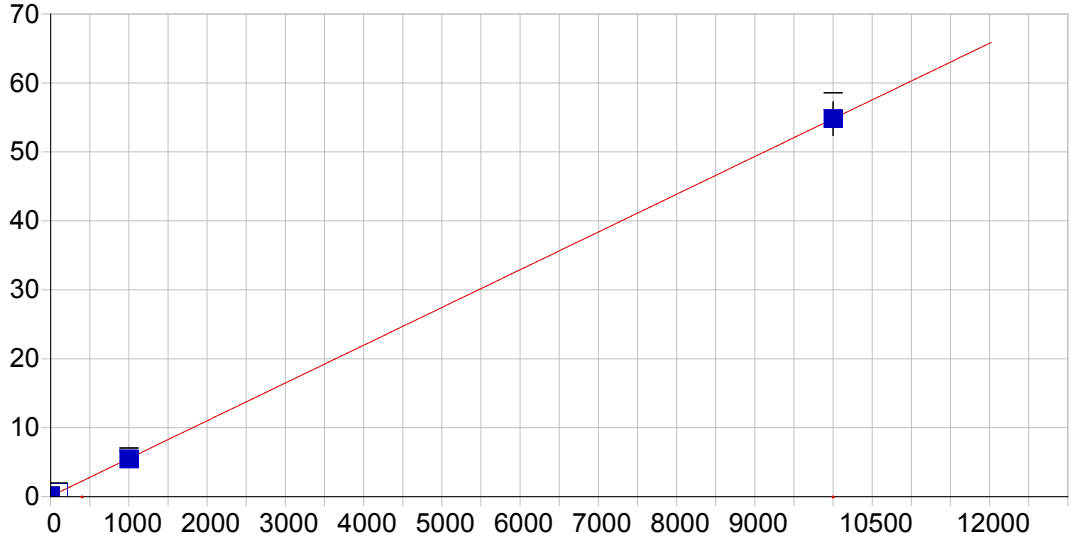


Tl 190.856 {477}

Date of Fit:	01/20/2016 07:43:33	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000109	Re-Slope:	1.000000
A1 (Gain):	0.000015	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999759	Status:	OK.
Std Error of Est:	0.000004		
Predicted MDL:	3.092318		
Predicted MQL:	10.307727		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00041	.000	.000	-.00011	.000	1
CalStd9=100	1000.0	1063.6	63.6	6.36	.01583	.000	1
CalStd8=100	100.00	107.40	7.40	7.40	.00150	.000	1
CalStd5=10	10.000	8.2792	-1.72	-17.2	.00001	.000	1
CalStd10=10	10000.	9930.7	-69.3	-.693	.14869	.001	1

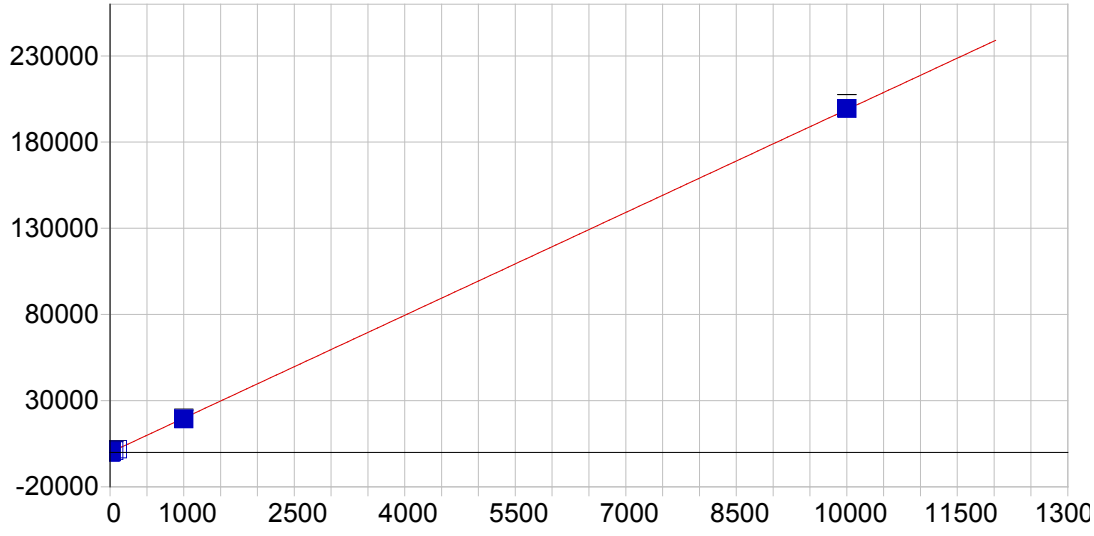


V 290.882 {116}

Date of Fit:	01/20/2016 07:43:33	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.061282	Re-Slope:	1.000000
A1 (Gain):	0.005475	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999998	Status:	OK.
Std Error of Est:	0.066883		
Predicted MDL:	0.867671		
Predicted MQL:	2.892238		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	6.4799	6.48	.000	.09676	.002	1
CalStd9=100	1000.0	985.49	-14.5	-1.45	5.4577	.286	1
CalStd10=10	10000.	10001.	1.38	.014	54.827	2.43	1
CalStd8=100	100.00	106.64	6.64	6.64	.64514	.040	1

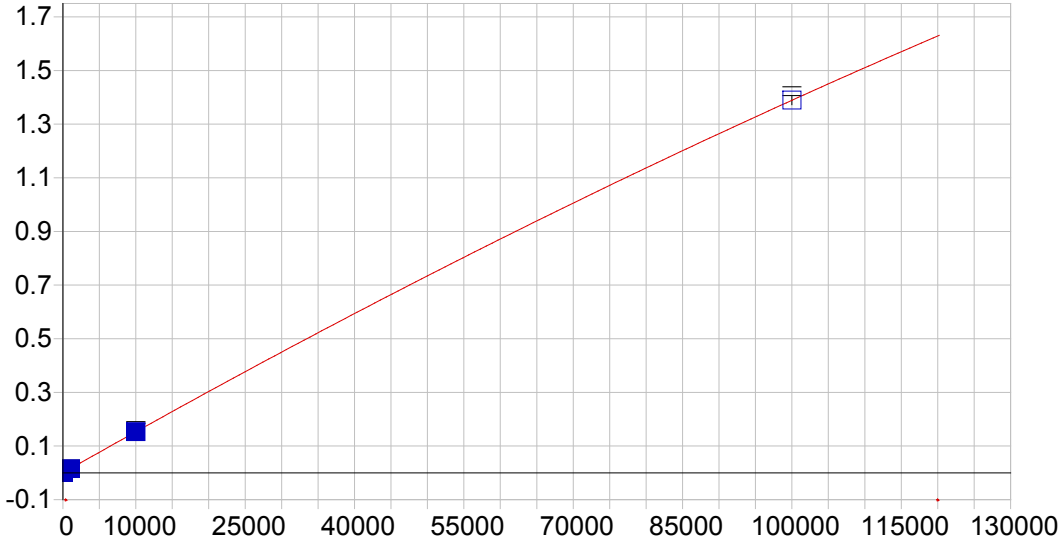


V 292.402 {115}

Date of Fit: 01/20/2016 07:43:33 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	-37.057514	Re-Slope:	1.000000
A1 (Gain):	19.889801	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999953	Status:	OK.
Std Error of Est:	2.415424		
Predicted MDL:	0.533340		
Predicted MQL:	1.777800		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00046	.000	.000	-37.067	3.86	1
CalStd7=50	50.000	47.413	-2.59	-5.17	905.98	19.3	1
CalStd9=100	1000.0	974.54	-25.5	-2.55	19347.	359.	1
CalStd6=20	20.000	21.547	1.55	7.73	391.50	15.0	1
CalStd5=10	10.000	10.625	.625	6.25	174.27	7.63	1
CalStd8=100	100.00	98.064	-1.94	-1.94	1913.4	16.6	1
CalStd10=10	10000.	10028.	27.8	.278	199420.	2930.	1

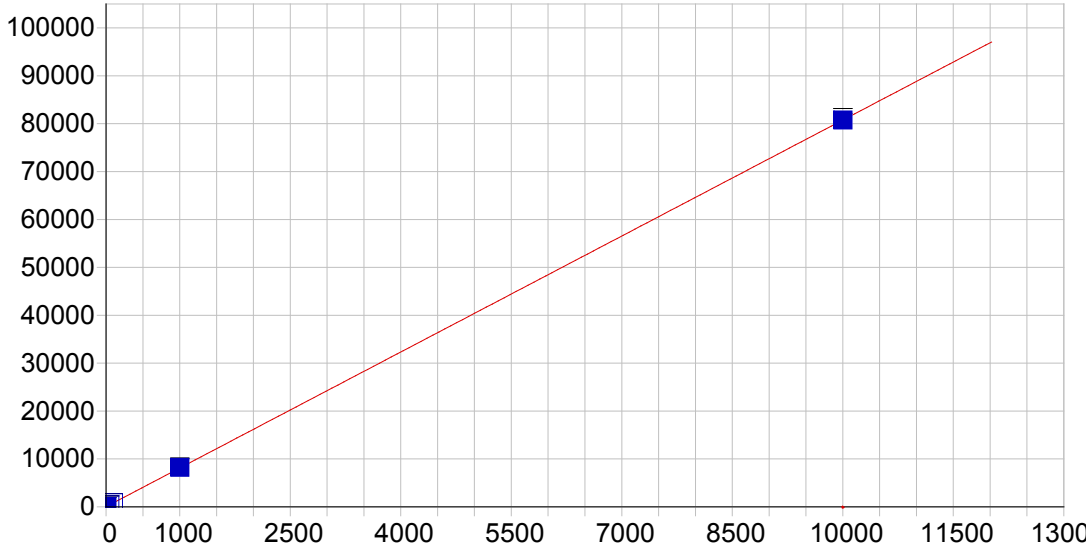


Zn 206.200 {463}

Date of Fit:	01/20/2016 07:43:33	Type of Fit:	Curvilinear	Weighting:	None

A0 (Offset):	-0.000321	Re-Slope:	1.000000
A1 (Gain):	0.000015	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000513		
Predicted MDL:	0.100959		
Predicted MQL:	0.336530		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
CalStd10=10	10000.	10003.	2.77	.028	.15311	.003	1
Blank	.00000	21.958	22.0	.000	.00002	.000	1
CalStd9=100	1000.0	975.31	-24.7	-2.47	.01478	.000	1
CalStd11-100	100000.	100000.	-.031	.000	1.3892	.016	1



Zn 213.856 {458}

Date of Fit:	01/20/2016 07:43:33	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	34.131075	Re-Slope:	1.000000
A1 (Gain):	8.072861	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999999	Status:	OK.
Std Error of Est:	56.755510		
Predicted MDL:	0.209834		
Predicted MQL:	0.699448		

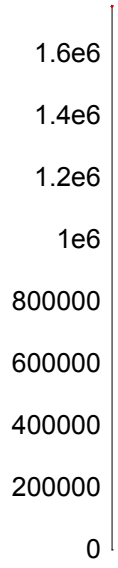
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-2.3967	-2.40	.000	14.783	2.04	1
CalStd8=100	100.00	99.009	-.991	-.991	833.41	7.30	1
CalStd7=50	50.000	45.799	-4.20	-8.40	403.86	4.14	1
CalStd5=10	10.000	6.8686	-3.13	-31.3	89.580	2.69	1
CalStd9=100	1000.0	1014.4	14.4	1.44	8223.6	65.3	1
CalStd4=5	5.0000	2.7675	-2.23	-44.7	56.473	.999	1
CalStd10=10	10000.	9998.6	-1.40	-.014	80759.	519.	1

Y 224.306 {451}*

Date of Fit:	01/20/2016 07:43:33	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.000000	Status:	Warning Zero Gain
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	30535.	74.0	1

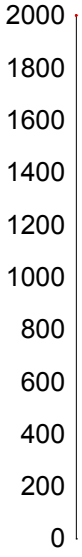


Y 324.228 {104}*

Date of Fit:	01/20/2016 07:43:33	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.000000	Status:	Warning Zero Gain
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	1609600.	24600.	1

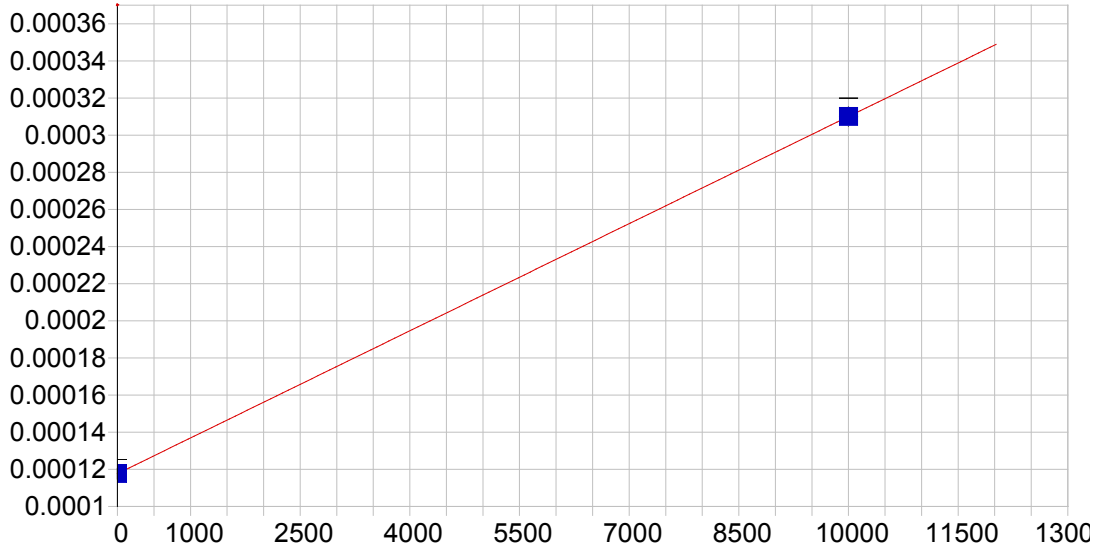


Y 371.030 { 91}*

Date of Fit:	01/20/2016 07:43:33	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.000000	Status:	Warning Zero Gain
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	1794.3	19.5	1

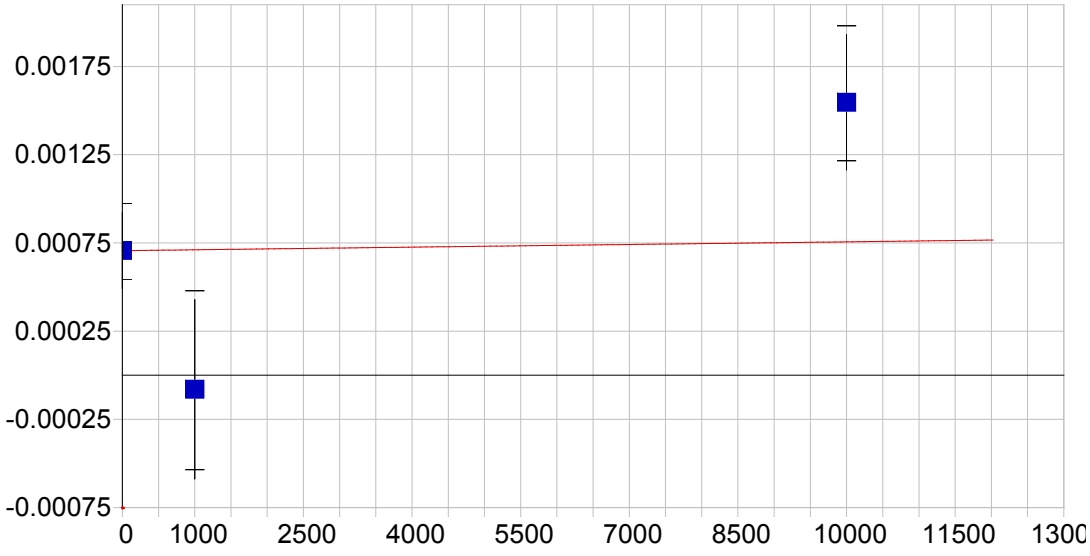


Na 588.995 { 57}

Date of Fit:	01/20/2016 07:43:33	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000118	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	550.400473		
Predicted MQL:	1834.668242		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00012	.000	1
CalStd10=10	10000.	10000.	.000	.000	.00031	.000	1

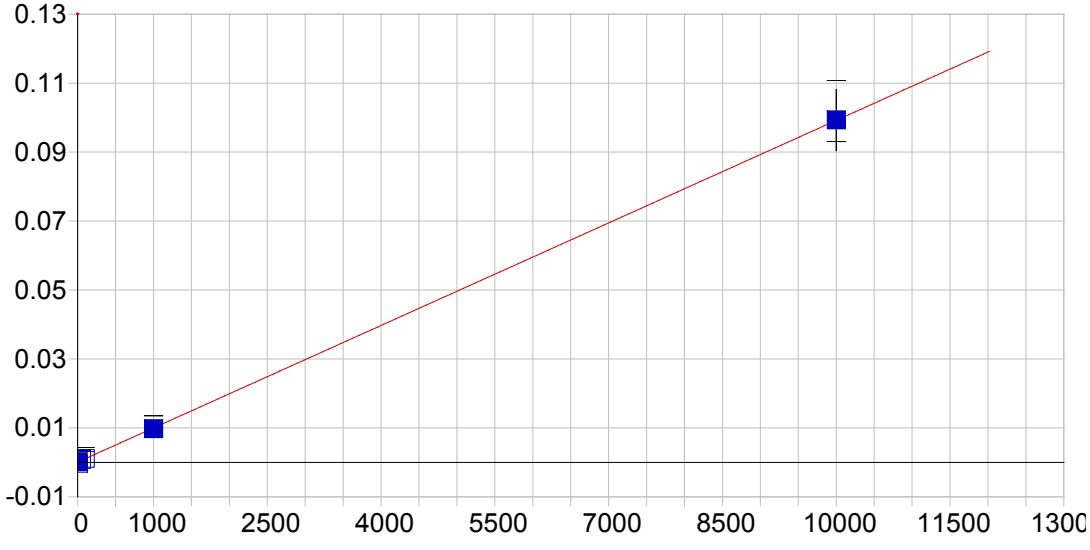


Si 251.611 {134}

Date of Fit:	01/20/2016 07:43:33	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000706	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.019967	Status:	OK.
Std Error of Est:	0.000045		
Predicted MDL:	95666.19927		
Predicted MQL:	318887.3309		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	142.39	142.	.000	.00071	.000	1
CalStd10=10	10000.	168210.	158000.	1580.	.00155	.000	1
CalStd9=100	1000.0	-157210.	-158000.	-15800.	-.00008	.001	1

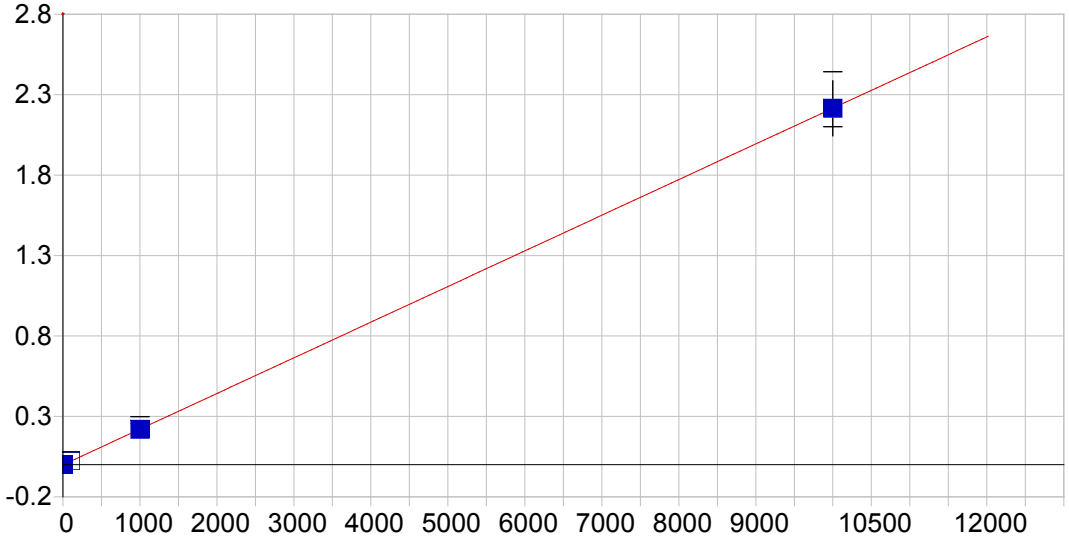


Ti 334.941 {101}

Date of Fit: 01/20/2016 07:43:33 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	0.000061	Re-Slope:	1.000000
A1 (Gain):	0.000010	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.965422	Status:	OK.
Std Error of Est:	0.000024		
Predicted MDL:	70.057384		
Predicted MQL:	233.524614		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.01445	-.014	.000	.00006	.001	1
CalStd5=10	10.000	-54.488	-64.5	-645.	-.00048	.001	1
CalStd8=100	100.00	108.01	8.01	8.01	.00113	.001	1
CalStd9=100	1000.0	977.52	-22.5	-2.25	.00975	.001	1
CalStd10=10	10000.	10009.	9.18	.092	.09930	.009	1
CalStd7=50	50.000	75.973	26.0	51.9	.00081	.000	1
CalStd4=5	5.0000	48.804	43.8	876.	.00054	.000	1

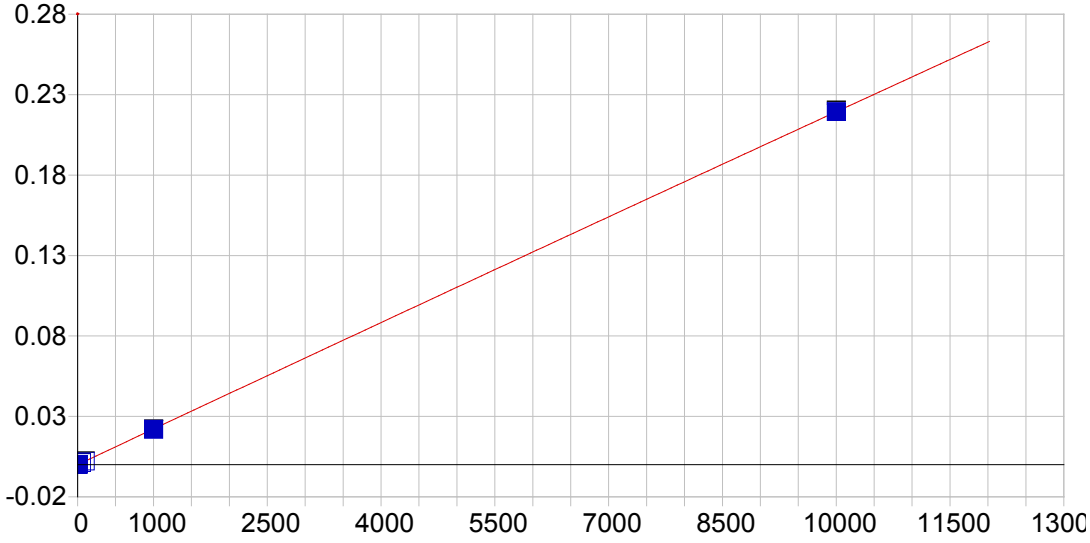


Sr 407.771 { 83}

Date of Fit: 01/20/2016 07:43:33 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	-0.000806	Re-Slope:	1.000000
A1 (Gain):	0.000222	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999065	Status:	OK.
Std Error of Est:	0.000038		
Predicted MDL:	5.619502		
Predicted MQL:	18.731672		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00424	-.004	.000	-.00081	.001	1
CalStd3=1	1.0000	5.4198	4.42	442.	.00040	.001	1
CalStd4=5	5.0000	3.3457	-1.65	-33.1	-.00006	.001	1
CalStd5=10	10.000	10.851	.851	8.51	.00160	.000	1
CalStd8=100	100.00	107.60	7.60	7.60	.02304	.002	1
CalStd9=100	1000.0	991.66	-8.34	-.834	.21898	.022	1
CalStd10=10	10000.	9997.1	-2.88	-.029	2.2149	.171	1

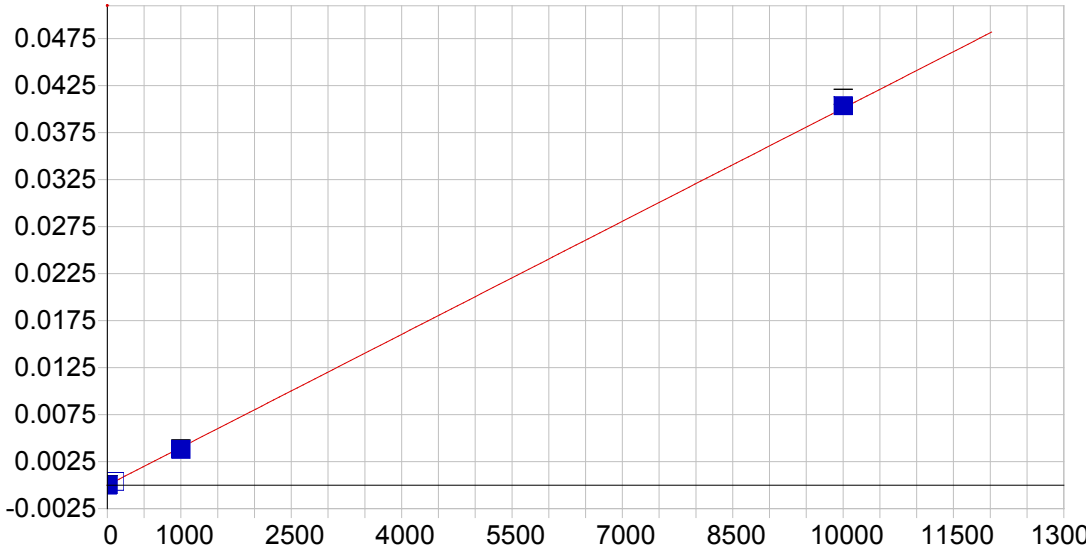


Sn 189.989 {478}

Date of Fit: 01/20/2016 07:43:33 Type of Fit: Curvilinear Weighting: 1/Var

A0 (Offset):	0.000020	Re-Slope:	1.000000
A1 (Gain):	0.000022	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999927	Status:	OK.
Std Error of Est:	0.000044		
Predicted MDL:	1.419644		
Predicted MQL:	4.732146		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.93810	-.938	.000	.00000	.000	1
CalStd10=10	10000.	10002.	1.63	.016	.21939	.001	1
CalStd9=100	1000.0	987.92	-12.1	-1.21	.02190	.000	1
CalStd8=100	100.00	99.707	-.293	-.293	.00223	.000	1
CalStd5=10	10.000	11.269	1.27	12.7	.00027	.000	1
CalStd7=50	50.000	52.840	2.84	5.68	.00119	.000	1
CalStd4=5	5.0000	4.1038	-.896	-17.9	.00011	.000	1

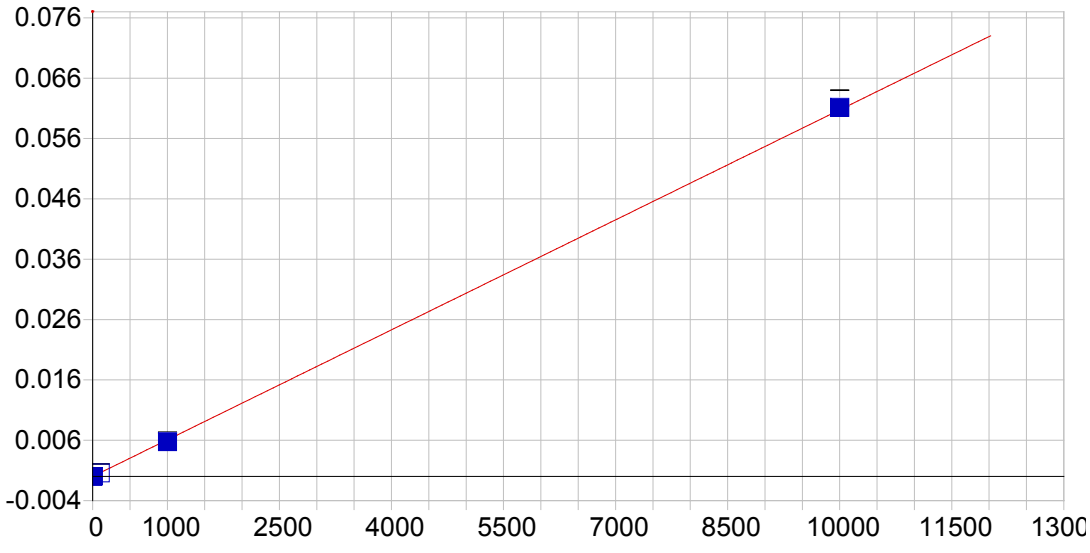


B 249.678 {135}

Date of Fit:	01/20/2016 07:43:33	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000003	Re-Slope:	1.000000
A1 (Gain):	0.000004	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999809	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	1.120367		
Predicted MQL:	3.734558		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00292	.003	.000	.00000	.000	1
CalStd8=100	100.00	93.776	-6.22	-6.22	.00037	.000	1
CalStd5=10	10.000	8.2003	-1.80	-18.0	.00003	.000	1
CalStd9=100	1000.0	944.19	-55.8	-5.58	.00378	.000	1
CalStd10=10	10000.	10064.	63.8	.638	.04035	.001	1

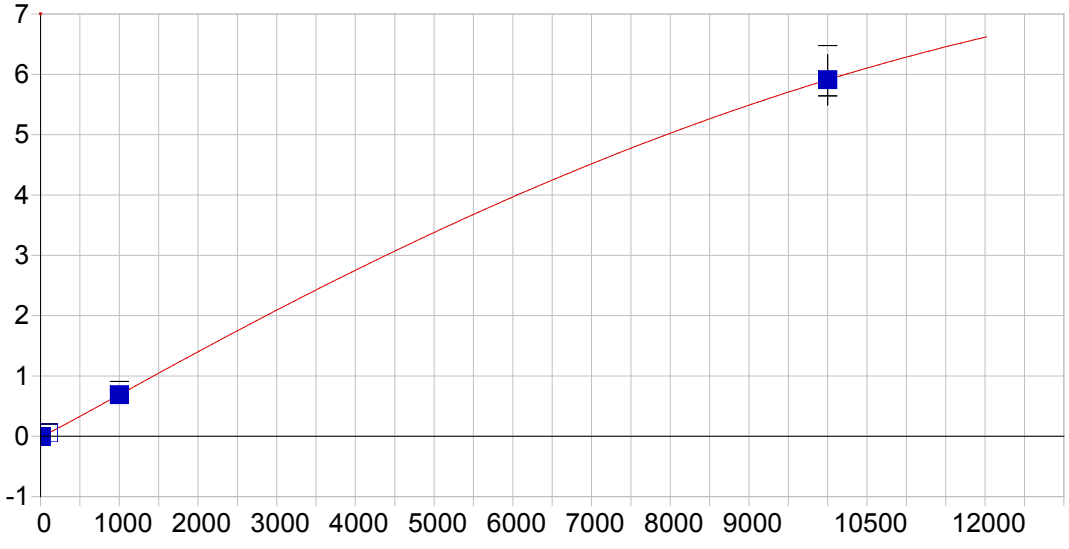


B 249.773 {135}

Date of Fit:	01/20/2016 07:43:33	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000006	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999840	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.656209		
Predicted MQL:	2.187364		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00111	.001	.000	.00000	.000	1
CalStd8=100	100.00	93.746	-6.25	-6.25	.00057	.000	1
CalStd5=10	10.000	9.9868	-.013	-.132	.00006	.000	1
CalStd9=100	1000.0	946.86	-53.1	-5.31	.00576	.000	1
CalStd10=10	10000.	10059.	59.4	.594	.06123	.001	1

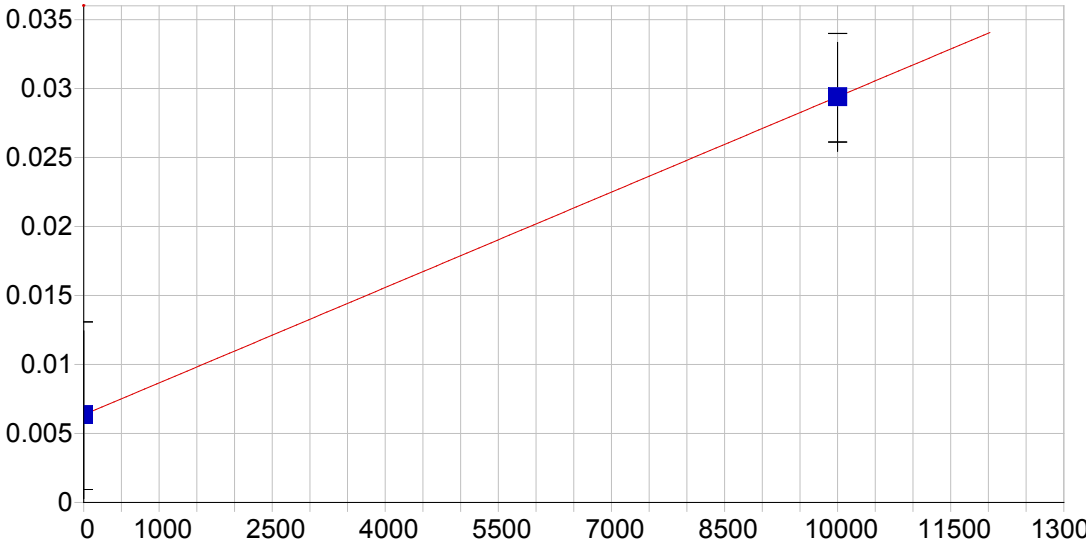


Li 670.784 { 50}

Date of Fit:	01/20/2016 07:43:33	Type of Fit:	Full Fit	Weighting:	1/Conc

A0 (Offset):	-0.011893	Re-Slope:	1.000000
A1 (Gain):	0.000508	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.050000		
Correlation:	0.999993	Status:	OK.
Std Error of Est:	0.000053		
Predicted MDL:	12.922169		
Predicted MQL:	43.073898		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00150	.002	.000	-.01189	.003	1
CalStd5=10	10.000	8.8916	-1.11	-11.1	-.00686	.004	1
CalStd8=100	100.00	101.72	1.72	1.72	.05304	.010	1
CalStd9=100	1000.0	999.25	-.749	-.075	.68786	.070	1
CalStd10=10	10000.	10000.	.090	.001	5.9096	.417	1

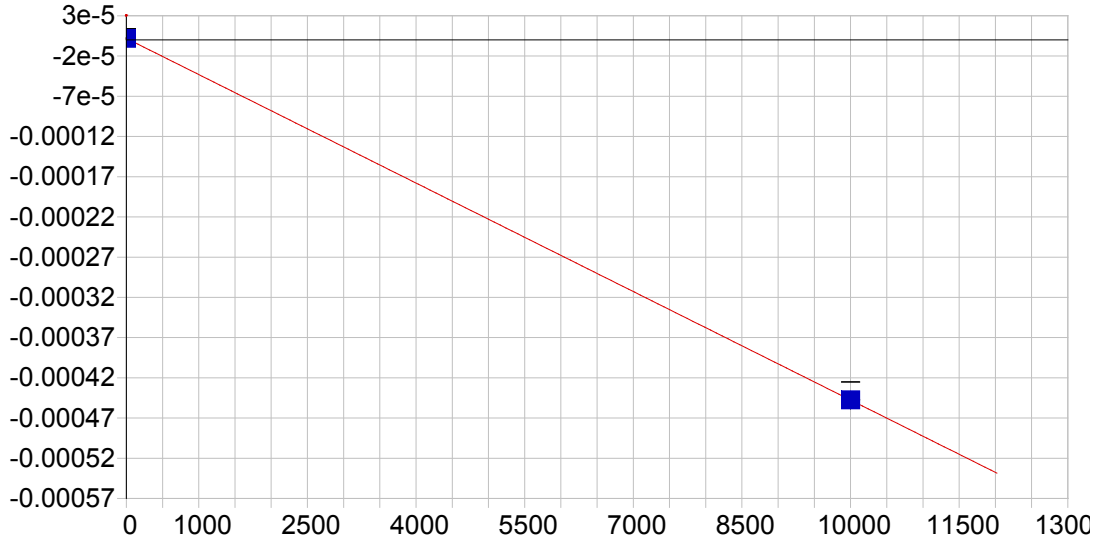


K 766.490 { 44}

Date of Fit:	01/20/2016 07:43:33	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.006360	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	2682.850089		
Predicted MQL:	8942.833630		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00636	.006	1
CalStd10=10	10000.	10000.	.000	.000	.02939	.004	1

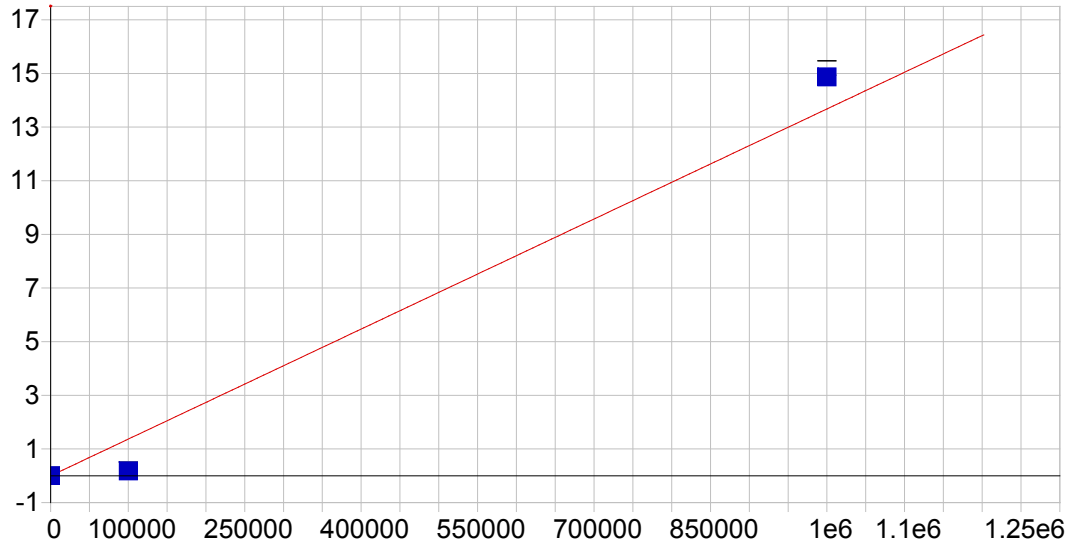


P 213.618 {457}

Date of Fit:	01/20/2016 07:43:33	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000002	Re-Slope:	1.000000
A1 (Gain):	-0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	Warning Negative Gain
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00000	.000	1
CalStd10=10	10000.	10000.	.000	.000	-.00045	.000	1

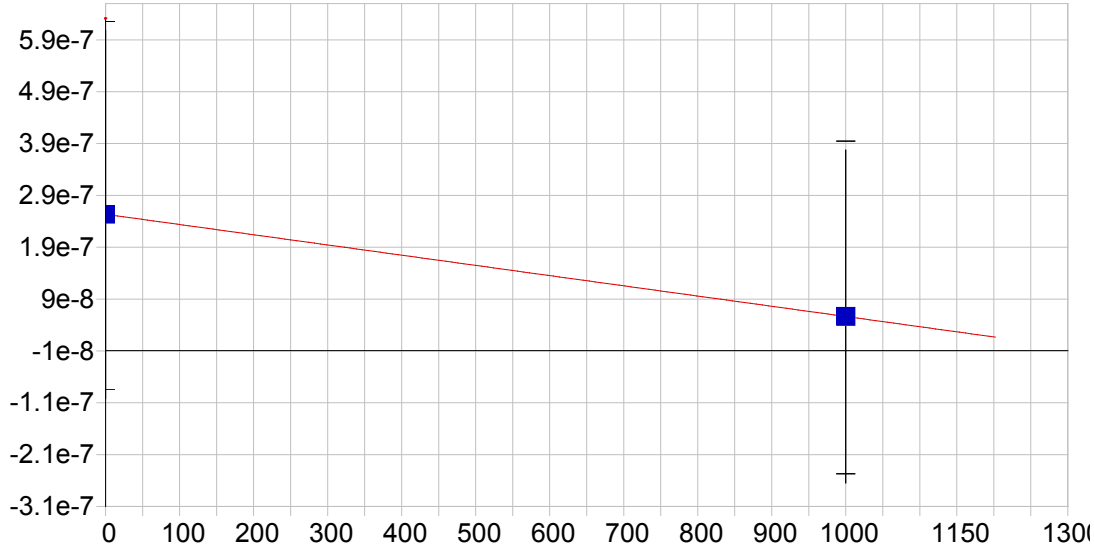


S 182.034 {485}

Date of Fit:	01/20/2016 07:43:33	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.001247	Re-Slope:	1.000000
A1 (Gain):	0.000014	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.964176	Status:	OK.
Std Error of Est:	0.068302		
Predicted MDL:	2.926012		
Predicted MQL:	9.753372		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	78.248	78.2	.000	-.00018	.000	1
CalStd12-100	100000.	13058.	-86900.	-86.9	.17720	.001	1
CalStd14-100	1000000.	1086900.	86900.	8.69	14.865	.268	1



W 239.709 {140}

Date of Fit:	01/20/2016 07:43:33	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	-0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	Warning Negative Gain
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00000	.000	1
CalStd9=100	1000.0	1000.0	.000	.000	.00000	.000	1

Sample Name: Blank Acquired: 01/18/2016 13:22:21 Type: Cal
Method: DOD Calibration Updated 060614(v1216) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	Al1670	As1937	As1890	Ba4554	Ba4934	Be3130	Be2348	Ca3158	Ca3933	Cd2265
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**-.084**	**.000**	**.033**	**.003**	**.006**	**.000**	**.000**	**.004**	**.000**
Stddev	.00	.002	.000	1.34	.00	.003	.005	.002	.000	.000	.001	.00
%RSD	15.0	404.	3.97	1600.	36.5	9.69	185.	30.4	105.	124.	33.1	116.

Elem	Cd2288	Co2286	Co2388	Cr2055	Cr2677	Cu2247	Cu3247	Fe2343	Fe2599	Mg2025	Mg2802	Mn2576
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**-6.49**	**-3.05**	**.000**	**.001**	**47.6**	**.000**	**.000**	**488.**	**5.78**
Stddev	.00	.00	.000	1.48	5.82	.000	.000	.6	.00	.00	2.	1.84
%RSD	101.	56.3	61.7	22.8	191.	429.	61.3	1.20	205.	6.63	.434	31.7

Elem	Mn2593	Mo2020	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Se1960	Se2062
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**-8.50**	**-10.7**	**.000**	**.000**	**.000**	**.000**	**.001**	**.000**	**.000**
Stddev	.00	.00	.00	2.83	4.1	.000	.000	.000	.00	.000	.00	.00
%RSD	929.	55.9	48.2	33.3	37.9	50.1	35.2	22.9	312.	60.9	47.8	2590.

Elem	Tl1908	Tl1908	V_2908	V_2924	Zn2062	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.097**	**-37.1**	**.000**	**14.8**
Stddev	.000	.00	.002	3.9	.000	2.0
%RSD	26.9	12.0	2.01	10.4	2.95	13.8

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**30535.**	**1609600.**	**1794.3**
Stddev	74.	24623.	19.5
%RSD	.24240	1.5298	1.0891

Sample Name: CalStd1=0.25 Acquired: 01/18/2016 13:26:30 Type: Cal
Method: DOD Calibration Updated 060614(v1216) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Be3130
Units	Cts/S
Avg	.042
Stddev	.005
%RSD	11.5

Int. Std.	Y_3710
Units	Cts/S
Avg	1860.4
Stddev	91.1
%RSD	4.8942

Sample Name: CalStd2=0.5 Acquired: 01/18/2016 13:30:37 Type: Cal
Method: DOD Calibration Updated 060614(v1216) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ba4554	Be3130	Cd2265	Cd2288
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.032**	**.061**	**.000**	**.000**
Stddev	.003	.003	.000	.000
%RSD	10.5	5.13	29.2	22.2

Int. Std.	Y_2243	Y_3710
Units	Cts/S	Cts/S
Avg	**30708.**	**1849.9**
Stddev	206.	88.9
%RSD	.66959	4.8031

Sample Name: CalStd3=1 Acquired: 01/18/2016 13:34:44 Type: Cal
Method: DOD Calibration Updated 060614(v1216) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Ba4554	Be3130	Cd2265	Cd2288	Co2286	Cr2055	Cu2247	Ni2316
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.032**	**.124**	**.001**	**.001**	**.000**	**2.64**	**.000**	**-.223**
Stddev	.00	.003	.008	.000	.000	.000	1.15	.000	3.73
%RSD	36.9	10.9	6.14	6.38	17.8	43.3	43.4	52.3	1680.

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**30872.**	**1614300.**	**1850.5**
Stddev	287.	24441.	69.9
%RSD	.93081	1.5140	3.7780

Sample Name: CalStd4=5 Acquired: 01/18/2016 13:38:49 Type: Cal
Method: DOD Calibration Updated 060614(v1216) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al1670	As1890	Ba4554	Be3130	Cd2265	Co2286	Cr2055	Cr2677	Cu2247	Mn2576	Mo2020	Ni2316
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.001**	**.000**	**.033**	**.616**	**.003**	**.002**	**35.2**	**67.2**	**.001**	**290.**	**.001**	**31.4**
Stddev	.000	.000	.001	.033	.000	.000	.7	6.3	.000	4.	.000	1.4
%RSD	1.48	244.	3.65	5.31	1.89	3.68	1.93	9.36	10.8	1.31	5.37	4.59

Elem	Pb2169	Pb2203	Sb2175	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.001**	**.000**	**56.5**
Stddev	.000	.000	.000	1.0
%RSD	39.8	25.6	40.5	1.77

Int. Std.	Y_2243	Y_3710
Units	Cts/S	Cts/S
Avg	**30564.**	**1850.2**
Stddev	206.	88.5
%RSD	.67285	4.7838

Sample Name: CalStd5=10 Acquired: 01/18/2016 13:42:56 Type: Cal
Method: DOD Calibration Updated 060614(v1216) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba4554	Be3130	Cd2265	Cd2288	Co2286	Cr2055	Cr2677	Cu2247	Mn2576
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.001**	**7.15**	**.034**	**1.19**	**.007**	**.006**	**.004**	**73.8**	**137.**	**.002**	**548.**
Stddev	.000	.000	2.04	.002	.07	.000	.000	.000	2.5	6.	.000	8.
%RSD	25.6	1.40	28.5	5.55	5.49	1.92	2.24	2.44	3.39	4.47	4.36	1.45

Elem	Mo2020	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Se1960	Tl1908	Tl1908	V_2924	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.001**	**70.5**	**.000**	**.001**	**.000**	**.000**	**.002**	**.000**	**.001**	**.000**	**174.**	**89.6**
Stddev	.000	1.8	.000	.000	.000	.000	.001	.000	.000	.000	8.	2.7
%RSD	2.55	2.53	39.8	9.39	8.65	20.1	43.6	30.7	5.31	186.	4.38	3.01

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**30721.**	**1634100.**	**1864.0**
Stddev	238.	10606.	95.1
%RSD	.77547	.64903	5.1016

Sample Name: CalStd6=20 Acquired: 01/18/2016 13:47:00 Type: Cal
Method: DOD Calibration Updated 060614(v1216) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ba4554	Cu2247	Mn2576	Mo2020	Sb2175	V_2924
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.034**	**.004**	**1150.**	**.003**	**.000**	**392.**
Stddev	.003	.000	17.	.000	.000	15.
%RSD	9.28	1.04	1.47	1.64	23.3	3.84

Int. Std.	Y_2243	Y_3710
Units	Cts/S	Cts/S
Avg	**30821.**	**1869.7**
Stddev	123.	138.8
%RSD	.40002	7.4261

Sample Name: CalStd7=50 Acquired: 01/18/2016 13:51:02 Type: Cal
Method: DOD Calibration Updated 060614(v1216) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al1670	As1937	Ba4554	Ca3933	Cd2265	Co2286	Cr2055	Cr2677	Cu2247	Mg2802	Mn2576	Mo2020
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.004**	**34.9**	**.043**	**.023**	**.031**	**.019**	**360.**	**625.**	**.008**	**3450.**	**2570.**	**.006**
Stddev	.000	1.1	.003	.001	.000	.000	2.	14.	.000	65.	56.	.000
%RSD	.719	3.03	6.37	4.29	.926	1.37	.589	2.29	1.29	1.87	2.19	1.66

Elem	Mo2045	Ni2316	Sb2068	Se1960	Se1960	V_2924	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.002**	**366.**	**.001**	**.008**	**.000**	**906.**	**404.**
Stddev	.000	5.	.000	.001	.000	19.	4.
%RSD	2.41	1.32	5.16	6.72	6.81	2.14	1.03

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**30661.**	**1609700.**	**1826.8**
Stddev	173.	22092.	60.9
%RSD	.56537	1.3724	3.3325

Sample Name: CalStd8=100 Acquired: 01/18/2016 13:55:05 Type: Cal
Method: DOD Calibration Updated 060614(v1216) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	As1937	As1890	Ba4554	Ba4934	Be3130	Be2348	Ca3933	Cd2265	Cd2288	Co2286	Co2388
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**73.3**	**.000**	**.051**	**.043**	**11.7**	**.000**	**.043**	**.067**	**.062**	**.040**	**.001**
Stddev	.000	2.7	.000	.003	.008	.6	.000	.004	.001	.000	.000	.000
%RSD	1.89	3.62	.987	4.87	19.7	5.47	21.6	8.97	.780	.683	.923	1.26

Elem	Cr2055	Cr2677	Cu2247	Cu3247	Mg2802	Mn2576	Mo2020	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**746.**	**1300.**	**.018**	**.001**	**6600.**	**5330.**	**.012**	**.004**	**1260.**	**771.**	**.002**	**.008**
Stddev	5.	7.	.000	.000	41.	40.	.000	.000	4.	7.	.000	.000
%RSD	.669	.529	.885	19.1	.618	.742	.724	1.80	.338	.955	3.85	2.59

Elem	Sb2175	Se1960	Se1960	Se2062	Tl1908	Tl1908	V_2908	V_2924	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.002**	**.017**	**.001**	**.000**	**.006**	**.002**	**.645**	**1910.**	**833.**
Stddev	.000	.000	.000	.000	.000	.000	.040	17.	7.
%RSD	4.85	.921	.912	27.6	1.29	3.53	6.15	.866	.876

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**30466.**	**1603000.**	**1853.4**
Stddev	89.	30795.	96.0
%RSD	.29232	1.9211	5.1805

Sample Name: CalStd9=1000 Acquired: 01/18/2016 13:59:05 Type: Cal
Method: DOD Calibration Updated 060614(v1216) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Al1670	As1937	As1890	Ba4554	Ba4934	Be3130	Be2348	Ca3158	Ca3933	Cd2265
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.003**	**.076**	**735.**	**.004**	**.234**	**.380**	**113.**	**.000**	**.001**	**.400**	**.646**
Stddev	.000	.001	5.	.000	.022	.039	6.	.000	.000	.038	.006
%RSD	11.4	.957	.717	.452	9.60	10.3	5.69	13.7	26.4	9.48	.890

Elem	Cd2288	Co2286	Co2388	Cr2055	Cr2677	Cu2247	Cu3247	Fe2343	Fe2599	Mg2025	Mg2802
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.601**	**.391**	**.005**	**7400.**	**12600.**	**.172**	**.003**	**2300.**	**.002**	**.000**	**58500.**
Stddev	.006	.004	.000	64.	213.	.002	.001	30.	.001	.000	724.
%RSD	.942	1.03	.848	.858	1.69	1.12	18.7	1.31	21.6	.568	1.24

Elem	Mn2576	Mn2593	Mo2020	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**50900.**	**.011**	**.125**	**.045**	**12300.**	**7580.**	**.014**	**.082**	**.023**	**.021**	**.164**
Stddev	919.	.001	.001	.001	104.	60.	.000	.001	.000	.000	.007
%RSD	1.81	8.28	1.02	1.25	.850	.797	.813	.810	.934	1.11	4.13

Elem	Se1960	Se2062	Tl1908	Tl1908	V_2908	V_2924	Zn2062	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.011**	**.004**	**.055**	**.016**	**5.46**	**19300.**	**.015**	**8220.**
Stddev	.000	.000	.000	.000	.29	359.	.000	65.
%RSD	.614	3.03	.821	1.04	5.24	1.86	.399	.794

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**30513.**	**1584000.**	**1851.4**
Stddev	188.	18059.	74.4
%RSD	.61757	1.1401	4.0193

Sample Name: CalStd10=10000 Acquired: 01/18/2016 14:03:03 Type: Cal
Method: DOD Calibration Updated 060614(v1216) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	As1937	As1890	Ba4934	Ca3158	Co2286	Co2388	Cr2055	Cr2677	Cu2247
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.036**	**7430.**	**.047**	**4.55**	**.012**	**3.90**	**.052**	**73600.**	**127000.**	**1.72**
Stddev	.003	31.	.000	.37	.001	.02	.001	559.	1610.	.01
%RSD	7.46	.422	.207	8.18	9.64	.462	2.15	.760	1.27	.478

Elem	Cu3247	Fe2343	Fe2599	Mg2025	Mg2802	Mn2576	Mn2593	Mo2020	Mo2045	Ni2216
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.030**	**22100.**	**.025**	**.003**	**516000.**	**485000.**	**.109**	**1.31**	**.472**	**119000.**
Stddev	.003	291.	.002	.000	9060.	9260.	.009	.01	.002	589.
%RSD	8.80	1.32	9.81	2.09	1.75	1.91	7.89	.473	.444	.494

Elem	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Se1960	Se2062	Tl1908	Tl1908
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**73800.**	**.131**	**.825**	**.230**	**.213**	**1.63**	**.114**	**.040**	**.513**	**.149**
Stddev	421.	.000	.003	.001	.001	.06	.000	.000	.001	.001
%RSD	.570	.324	.378	.374	.270	3.50	.389	.300	.258	.376

Elem	V_2908	V_2924	Zn2062	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**54.8**	**199000.**	**.153**	**80800.**
Stddev	2.4	2930.	.003	519.
%RSD	4.43	1.47	2.10	.642

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**29732.**	**1511900.**	**1867.6**
Stddev	112.	31298.	63.5
%RSD	.37797	2.0701	3.4017

Sample Name: CalStd11-100k Acquired: 01/18/2016 14:07:17 Type: Cal
Method: DOD Calibration Updated 060614(v1216) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Cr2055	Cu3247	Mn2593	Pb2169	Zn2062
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**671000.**	**.304**	**1.10**	**1.34**	**1.39**
Stddev	9870.	.009	.03	.02	.02
%RSD	1.47	2.96	3.13	1.67	1.19

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**29205.**	**1592800.**	**1803.3**
Stddev	168.	29131.	34.7
%RSD	.57479	1.8289	1.9266

Sample Name: CalStd12-100000 Acquired: 01/18/2016 14:12:08 Type: Cal
Method: DOD Calibration Updated 060614(v1216) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Ca3158	Fe2343	Fe2599	Mg2025
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.349**	**.112**	**204000.**	**.251**	**.031**
Stddev	.029	.009	5090.	.021	.001
%RSD	8.34	8.16	2.49	8.27	2.41

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**29166.**	**1515500.**	**1833.0**
Stddev	87.	35883.	85.0
%RSD	.29811	2.3678	4.6384

Sample Name: CalStd13=500000 Acquired: 01/18/2016 14:16:30 Type: Cal
Method: DOD Calibration Updated 060614(v1216) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Ca3158	Fe2343	Fe2599	Mg2025
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**1.66**	**.523**	**803000.**	**1.16**	**.124**
Stddev	.19	.057	24500.	.13	.001
%RSD	11.1	10.8	3.05	10.8	1.14

Int. Std.	Y_3242	Y_3710
Units	Cts/S	Cts/S
Avg	**1413500.**	**1803.9**
Stddev	14299.	120.7
%RSD	1.0116	6.6914

Sample Name: CalStd14-1000k Acquired: 01/18/2016 14:20:54 Type: Cal
Method: DOD Calibration Updated 060614(v1216) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Ca3158	Fe2343	Fe2599	Mg2025
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3.26**	**1.01**	**1270000.**	**2.21**	**.212**
Stddev	.32	.10	28900.	.20	.003
%RSD	9.66	9.44	2.28	9.27	1.32

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**25590.**	**1330900.**	**1707.2**
Stddev	83.	22254.	57.1
%RSD	.32493	1.6721	3.3434

Sample Name: icv Acquired: 01/18/2016 14:29:38 Type: QC
Method: DOD Calibration Updated 060614(v1216) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1890	Ba4934	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2247	Mg2025	Mg2802
Avg	**48.7**	**11700.**	**1970.**	**1900.**	**48.5**	**10300.**	**48.9**	**504.**	**194.**	**254.**	**11700.**	**10500.**
Stddev	1.2	1410.	17.	180.	3.1	1390.	.4	4.	4.	2.	201.	177.
%RSD	2.39	12.0	.855	9.50	6.34	13.5	.736	.887	1.85	.856	1.72	1.69
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se2062	Tl1908	V_2924	Zn2138
Avg	**473.**	**502.**	**513.**	**489.**	**509.**	**1880.**	**2140.**	**480.**	**506.**
Stddev	8.	4.	6.	2.	5.	34.	14.	8.	7.
%RSD	1.78	.799	1.15	.502	.926	1.83	.640	1.66	1.31
Check ?	None	None	None	None	None	None	None	None	None
Value									
Range									

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**30533.**	**1600900.**	**1858.9**
Stddev	156.	16870.	98.0
%RSD	.51129	1.0538	5.2737

Sample Name: ICVLL Acquired: 01/18/2016 14:33:50 Type: QC
Method: DOD Calibration Updated 060614(v1216) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al1670	As1937	Ba4554	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2025	Mg2802
Avg	**1180.**	**64.6**	**28.9**	**12.3**	**1570.**	**14.6**	**28.8**	**30.9**	**29.9**	**942.**	**1760.**	**1600.**
Stddev	5.	1.8	6.2	.2	10.	.1	.2	.7	.4	84.	9.	22.
%RSD	.417	2.79	21.4	1.52	.621	.964	.856	2.23	1.24	8.88	.508	1.36
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**30.1**	**31.9**	**29.3**	**28.3**	**58.9**	**76.8**	**61.4**	**28.7**	**27.2**
Stddev	.6	.6	.1	1.2	2.9	1.4	1.3	.3	.1
%RSD	1.93	1.96	.332	4.05	4.94	1.76	2.11	.962	.215
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**30448.**	**1610800.**	**1798.7**
Stddev	109.	13563.	8.2
%RSD	.35837	.84198	.45506

Sample Name: icb Acquired: 01/18/2016 14:42:10 Type: QC
Method: DOD Calibration Updated 060614(v1216) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba4554	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2802
Avg	**1.61**	**.793**	**3.38**	**-6.30**	**.048**	**-6.51**	**.021**	**.968**	**1.45**	**.253**	**3.99**	**1.87**
Stddev	.46	.138	.56	11.3	.036	3.55	.200	.248	.47	.348	.60	.09
%RSD	28.4	17.4	16.4	180.	75.5	54.6	936.	25.7	32.1	138.	15.0	4.74
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**.527**	**1.79**	**1.09**	**.096**	**-2.15**	**1.89**	**1.56**	**1.02**	**-3.32**
Stddev	.040	.33	.39	1.20	4.35	4.47	.39	.31	.12
%RSD	7.61	18.3	35.6	1250.	203.	237.	24.9	30.5	3.55
Check ?	None	None	None	None	None	None	None	None	None
Value									
Range									

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**31194.**	**1644100.**	**1861.8**
Stddev	164.	36985.	83.1
%RSD	.52676	2.2496	4.4610

Sample Name: icsa Acquired: 01/18/2016 14:50:20 Type: QC
Method: DOD Calibration Updated 060614(v1216) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba4554	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2247	Fe2343
Avg	**.027**	**498000.**	**.000**	**-.038**	**-.151**	**487000.**	**-.056**	**-.022**	**-.162**	**.089**	**497000.**
Stddev	.804	61200.	2.32	7.12	.030	55100.	.454	.261	.431	5.12	4570.
%RSD	3010.	12.3	2630000.	18700.	20.0	11.3	810.	1200.	267.	5760.	.919
Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None
High Limit											
Low Limit											

Elem	Mg2025	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**416000.**	**.243**	**-.073**	**.049**	**-.001**	**.244**	**.001**	**.066**	**.000**	**.000**
Stddev	2620.	2.33	.180	.779	5.06	5.13	3.13	1.58	.979	.71
%RSD	.631	959.	245.	1600.	549000.	2100.	565000.	2410.	312000.	289000.
Check ?	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit										
Low Limit										

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**27121.**	**1409000.**	**1775.8**
Stddev	153.	2357.	89.4
%RSD	.56386	.16730	5.0344

Sample Name: icsab Acquired: 01/18/2016 14:54:38 Type: QC
Method: DOD Calibration Updated 060614(v1216) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	As1890	Ba4934	Be3130	Ca3158	Cd2265	Cd2288	Co2286	Co2388
Avg	**556.**	**561000.**	**556.**	**489.**	**597.**	**582.**	**543000.**	**558.**	**572.**	**568.**	**511.**
Stddev	13.	62300.	7.	6.	75.	43.	58100.	8.	9.	9.	13.
%RSD	2.27	11.1	1.26	1.31	12.5	7.35	10.7	1.48	1.57	1.58	2.48
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Elem	Cr2055	Cr2677	Cu2247	Cu3247	Fe2343	Mg2025	Mn2576	Mn2593	Mo2020	Mo2045	Ni2216
Avg	**526.**	**522.**	**575.**	**453.**	**545000.**	**459000.**	**498.**	**455.**	**592.**	**555.**	**531.**
Stddev	4.	9.	9.	128.	15600.	9590.	8.	92.	9.	8.	5.
%RSD	.715	1.63	1.58	28.1	2.86	2.09	1.55	20.3	1.50	1.49	.924
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Elem	Ni2316	Pb2169	Pb2203	Sb2175	Se1960	Se1960	Tl1908	Tl1908	V_2908	V_2924	Zn2062
Avg	**511.**	**541.**	**528.**	**577.**	**540.**	**570.**	**517.**	**531.**	**478.**	**531.**	**421.**
Stddev	4.	19.	15.	9.	31.	13.	8.	10.	39.	10.	7.
%RSD	.777	3.51	2.78	1.63	5.78	2.22	1.47	1.83	8.15	1.93	1.65
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Sample Name: icsab Acquired: 01/18/2016 14:54:38 Type: QC
Method: DOD Calibration Updated 060614(v1216) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Zn2138
Avg	**555.**
Stddev	3.
%RSD	.531

Check ?	Chk Pass
Value	
Range	

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**26881.**	**1412700.**	**1770.1**
Stddev	258.	19413.	110.0
%RSD	.95879	1.3742	6.2129

Sample Name: ICV LL Ag Acquired: 01/18/2016 14:59:08 Type: Unk
Method: DOD Calibration Updated 060614(v1216) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba4554	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2802
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**9.74**	**28.9**	**3.11**	**-7.57**	**-.037**	**68.8**	**-.093**	**-.113**	**.208**	**-.789**	**315.**	**34.8**
Stddev	.40	1.1	1.86	12.1	.021	25.1	.073	.042	.091	.442	167.	5.8
%RSD	4.07	3.90	59.7	159.	56.4	36.5	77.9	37.1	43.9	56.0	53.2	16.7

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-.195**	**3.57**	**-.183**	**.599**	**-1.36**	**10.7**	**-.436**	**.760**	**-3.84**
Stddev	.053	.24	.346	1.31	3.65	1.8	.608	.526	.13
%RSD	27.1	6.69	190.	218.	268.	16.5	140.	69.2	3.26

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**31431.**	**1643000.**	**1855.6**
Stddev	316.	15517.	107.1
%RSD	1.0051	.94441	5.7740

Sample Name: lcsw55898 Acquired: 01/18/2016 15:11:41 Type: Unk
Method: DOD Calibration Updated 060614(v1216) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba4554	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2247	Fe2599
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**15.9**	**625.**	**647.**	**657.**	**16.4**	**161000.**	**16.0**	**163.**	**61.2**	**83.1**	**402.**
Stddev	.5	5.	6.	82.	1.1	17500.	.1	1.	.5	.5	188.
%RSD	3.15	.851	.970	12.5	6.80	10.9	.866	.833	.897	.627	46.8

Elem	Mg2025	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	Tl1908	V_2924	Zn2138
Units	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**74200.**	**150.**	**.500**	**154.**	**155.**	**165.**	**638.**	**623.**	**624.**	**157.**	**157.**
Stddev	509.	1.	.345	1.	2.	5.	42.	3.	5.	2.	1.
%RSD	.687	.920	69.0	.731	1.03	3.12	6.62	.461	.855	1.11	.789

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**28461.**	**1485100.**	**1785.6**
Stddev	147.	3613.	114.6
%RSD	.51526	.24327	6.4188

Sample Name: mbw55898 Acquired: 01/18/2016 15:15:34 Type: Unk
Method: DOD Calibration Updated 060614(v1216) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba4554	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2802
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**.898**	**1.87**	**4.59**	**4.83**	**-.107**	**18.6**	**-.041**	**.076**	**.122**	**.213**	**44.2**	**5.68**
Stddev	.284	.86	.11	1.50	.026	8.8	.125	.175	.477	.351	263.	.86
%RSD	31.6	46.0	2.41	31.0	24.5	47.3	306.	229.	391.	165.	595.	15.1

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-.015**	**.702**	**-.302**	**.736**	**.976**	**17.5**	**10.6**	**-.986**	**.465**	**-4.02**
Stddev	.020	.134	.287	2.82	.307	2.3	1.8	.967	.616	.10
%RSD	138.	19.1	95.1	383.	31.4	13.3	17.1	98.0	132.	2.43

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**31213.**	**1649800.**	**1790.0**
Stddev	89.	23506.	24.2
%RSD	.28424	1.4248	1.3520

Sample Name: 679984 Acquired: 01/18/2016 15:19:41 Type: Unk
Method: DOD Calibration Updated 060614(v1216) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba4554	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2025
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L
Avg	**1.01**	**216.**	**1.35**	**66.8**	**-.056**	**47100.**	**-.056**	**.114**	**6.76**	**.505**	**424.**	**19000.**
Stddev	1.30	4.	1.02	9.3	.019	4330.	.127	.215	.61	.807	121.	290.
%RSD	128.	1.63	75.8	13.9	33.4	9.20	227.	188.	9.03	160.	28.5	1.53

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**8.63**	**1.96**	**.985**	**-.769**	**.379**	**5.21**	**-.709**	**1.28**	**.460**
Stddev	.17	.63	.821	1.39	3.55	2.44	.387	.55	.248
%RSD	2.03	32.0	83.3	181.	936.	46.8	54.6	43.1	53.9

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**30597.**	**1591500.**	**1837.1**
Stddev	290.	39336.	109.6
%RSD	.94873	2.4716	5.9675

Sample Name: I679984 Acquired: 01/18/2016 15:23:55 Type: Unk
Method: DOD Calibration Updated 060614(v1216) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba4554	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2025
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L
Avg	**.484**	**73.3**	**.485**	**24.6**	**-.111**	**14000.**	**.020**	**.076**	**2.22**	**.107**	**236.**	**5440.**
Stddev	1.05	5.9	1.94	12.0	.014	988.	.106	.304	.39	.360	159.	209.
%RSD	217.	8.01	399.	48.9	12.2	7.08	520.	401.	17.8	337.	67.3	3.85

Elem	Mg2802	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**5370.**	**2.30**	**.554**	**.251**	**-.657**	**-1.84**	**-1.42**	**-.439**	**.479**	**-3.01**
Stddev	2.	.06	.074	.328	.608	2.87	4.15	.608	.184	.16
%RSD	.045	2.56	13.3	131.	92.5	156.	293.	138.	38.5	5.14

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**30834.**	**1616000.**	**1843.4**
Stddev	105.	3438.	111.8
%RSD	.33928	.21276	6.0654

Sample Name: dup679984 Acquired: 01/18/2016 15:28:10 Type: Unk
Method: DOD Calibration Updated 060614(v1216) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba4554	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2025
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L
Avg	**.362**	**209.**	**1.36**	**68.2**	**-.101**	**47100.**	**-.044**	**.080**	**6.84**	**.241**	**415.**	**19200.**
Stddev	.878	2.	1.43	17.2	.041	3450.	.057	.162	.40	.357	85.	363.
%RSD	243.	.929	105.	25.2	41.1	7.33	130.	203.	5.85	148.	20.4	1.89

Elem	Mg2802	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**16600.**	**8.80**	**2.07**	**1.42**	**-.253**	**-1.25**	**-.817**	**-.630**	**.987**	**.207**
Stddev	518.	.09	.38	.20	.603	1.74	1.41	1.30	.304	.146
%RSD	3.12	1.03	18.3	14.0	238.	139.	173.	207.	30.8	70.6

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**30748.**	**1563300.**	**1851.5**
Stddev	198.	18403.	78.1
%RSD	.64513	1.1772	4.2160

Sample Name: msw679984 Acquired: 01/18/2016 15:32:23 Type: Unk
Method: DOD Calibration Updated 060614(v1216) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba4554	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2247	Fe2599
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**16.3**	**834.**	**647.**	**718.**	**16.1**	**202000.**	**15.7**	**159.**	**66.9**	**82.4**	**720.**
Stddev	.9	6.	6.	100.	1.0	23800.	.2	2.	1.3	1.0	245.
%RSD	5.73	.736	.905	13.9	6.36	11.8	1.25	.964	1.98	1.24	34.0

Elem	Mg2025	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**90400.**	**158.**	**1.90**	**153.**	**151.**	**164.**	**628.**	**606.**	**158.**	**160.**
Stddev	1710.	2.	.28	1.	2.	5.	9.	4.	2.	2.
%RSD	1.90	1.47	14.7	.816	1.08	3.11	1.45	.715	1.19	1.05

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**28680.**	**1475400.**	**1836.9**
Stddev	214.	35456.	96.1
%RSD	.74546	2.4031	5.2328

Sample Name: msdw679984 Acquired: 01/18/2016 15:36:15 Type: Unk
Method: DOD Calibration Updated 060614(v1216) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba4554	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2247	Fe2599
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**15.5**	**872.**	**651.**	**735.**	**16.7**	**208000.**	**16.1**	**162.**	**66.8**	**83.6**	**567.**
Stddev	1.7	4.	3.	77.	1.0	18500.	.2	2.	1.1	.6	181.
%RSD	11.0	.449	.398	10.5	6.18	8.89	1.07	1.02	1.62	.732	31.8

Elem	Mg2025	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**89900.**	**157.**	**1.40**	**154.**	**154.**	**164.**	**656.**	**615.**	**158.**	**160.**
Stddev	1300.	4.	.42	1.	1.	3.	4.	4.	3.	1.
%RSD	1.45	2.38	29.8	.420	.356	1.80	.557	.665	1.67	.465

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**28331.**	**1493500.**	**1784.9**
Stddev	131.	16137.	88.4
%RSD	.46081	1.0805	4.9522

Sample Name: ccv1 Acquired: 01/18/2016 15:40:06 Type: QC
Method: DOD Calibration Updated 060614(v1216) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Ba4934	Be3130	Ca3158	Cd2265	Cd2288	Co2388	Cr2055	Cu2247
Avg	**414.**	F **4210.**	F **4270.**	**4690.**	F **4230.**	**462.**	**4700.**	**436.**	**502.**	F **4260.**	**4410.**	**4310.**
Stddev	6.	438.	20.	82.	48.	12.	151.	1.	1.	57.	15.	13.
%RSD	1.34	10.4	.477	1.75	1.13	2.51	3.21	.244	.227	1.33	.342	.297
Check ?	None	Chk Fail	Chk Fail	None	Chk Fail	None	Chk Pass	None	Chk Pass	Chk Fail	None	None
Value		5000.	5000.		5000.					5000.		
Range		-10.4%	-10.4%		-10.4%					-10.4%		

Elem	Cu3247	Fe2599	Mg2025	Mg2802	Mn2576	Mn2593	Mo2045	Ni2216	Pb2169	Sb2068	Se1960	Se1960
Avg	**4630.**	**4610.**	F **4470.**	**4450.**	**4100.**	**4640.**	F **4270.**	F **4390.**	F **4440.**	F **4270.**	**4610.**	**4330.**
Stddev	229.	114.	79.	76.	64.	105.	14.	16.	4.	13.	51.	9.
%RSD	4.95	2.48	1.76	1.71	1.56	2.27	.338	.374	.099	.305	1.10	.205
Check ?	Chk Pass	None	Chk Fail	None	None	Chk Pass	Chk Fail	Chk Fail	Chk Fail	Chk Fail	None	None
Value			5000.				5000.	5000.	5000.	5000.		
Range			-10.4%				-10.4%	-10.4%	-10.4%	-10.4%		

Elem	Se2062	Tl1908	V_2908	V_2924	Zn2062	Zn2138
Avg	F **4420.**	**4390.**	**4630.**	**4390.**	F **4220.**	**4410.**
Stddev	20.	7.	114.	67.	75.	16.
%RSD	.455	.154	2.46	1.53	1.77	.352
Check ?	Chk Fail	None	Chk Pass	None	Chk Fail	None
Value	5000.				5000.	
Range	-10.4%				-10.4%	

Sample Name: ccv2 Acquired: 01/18/2016 15:44:09 Type: QC
Method: DOD Calibration Updated 060614(v1216) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba4554	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2802
Avg	**45.0**	**461.**	**464.**	**489.**	**47.5**	**489.**	**45.6**	**456.**	**456.**	**460.**	**495.**	**494.**
Stddev	1.0	2.	3.	16.	.5	5.	.2	2.	7.	3.	173.	7.
%RSD	2.23	.450	.646	3.23	1.10	1.05	.538	.377	1.54	.589	35.0	1.41
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**453.**	**451.**	**473.**	**457.**	**452.**	**470.**	**483.**	**449.**	**467.**
Stddev	6.	1.	2.	3.	3.	5.	1.	7.	2.
%RSD	1.37	.312	.334	.625	.644	1.11	.219	1.60	.409
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**31042.**	**1638400.**	**1776.5**
Stddev	45.	21729.	26.5
%RSD	.14361	1.3263	1.4897

Sample Name: ccb Acquired: 01/18/2016 15:47:59 Type: QC
Method: DOD Calibration Updated 060614(v1216) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba4554	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2802
Avg	**1.45**	**-1.01**	**3.08**	**-18.3**	**-.083**	**-3.69**	**-.042**	**-.058**	**-.234**	**.094**	**-1.46**	**.118**
Stddev	.98	.02	1.31	21.9	.023	.23	.038	.279	.122	.386	.28	.125
%RSD	67.2	1.78	42.6	119.	27.6	6.19	89.1	477.	52.1	411.	19.4	106.
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Se1960	Tl1908	V_2924	Zn2138
Avg	**-.050**	**8.42**	**-.325**	**-.284**	**-.698**	**15.0**	**10.2**	**-.071**	**.582**	**-3.91**
Stddev	.067	.13	.008	.529	3.40	1.4	2.3	.810	.236	.08
%RSD	134.	1.48	2.38	186.	488.	9.56	22.3	1150.	40.6	2.13
Check ?	None	None	None	None	None	None	None	None	None	None
Value										
Range										

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**30773.**	**1612700.**	**1902.5**
Stddev	481.	8859.	154.6
%RSD	1.5618	.54933	8.1269

Sample Name: pdsw679984 Acquired: 01/18/2016 15:52:04 Type: Unk
Method: DOD Calibration Updated 060614(v1216) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2247	Fe2599
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**79.6**	**2060.**	**3370.**	**3530.**	**82.9**	**378000.**	**78.4**	**790.**	**304.**	**405.**	**1920.**
Stddev	2.4	449.	8.	299.	4.0	30600.	.4	3.	2.	1.	110.
%RSD	2.98	21.8	.240	8.47	4.82	8.09	.475	.330	.790	.244	5.73

Elem	Mg2025	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**155000.**	**743.**	**4.05**	**727.**	**758.**	**826.**	**3270.**	**2960.**	**780.**	**775.**
Stddev	2360.	8.	.82	3.	1.	3.	14.	9.	7.	3.
%RSD	1.52	1.09	20.3	.430	.132	.360	.412	.320	.888	.338

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**27840.**	**1468000.**	**1791.9**
Stddev	119.	17012.	75.2
%RSD	.42845	1.1589	4.1958

Sample Name: ccv1 Acquired: 01/18/2016 16:31:48 Type: QC
Method: DOD Calibration Updated 060614(v1216) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Ba4934	Be3130	Be2348	Ca3158	Cd2265	Cd2288	Co2388	Cr2055
Avg	**418.**	F **4430.**	F **4350.**	**4730.**	F **4270.**	**470.**	**484.**	**4670.**	**442.**	**510.**	F **4340.**	**4490.**
Stddev	1.	190.	141.	239.	203.	18.	71.	345.	14.	17.	33.	75.
%RSD	.125	4.29	3.24	5.05	4.75	3.72	14.6	7.39	3.29	3.28	.767	1.67
Check ?	None	Chk Fail	Chk Fail	None	Chk Fail	None	Chk Pass	Chk Pass	None	Chk Pass	Chk Fail	None
Value		5000.	5000.		5000.						5000.	
Range		-10.4%	-10.4%		-10.4%						-10.4%	

Elem	Cu2247	Cu3247	Fe2599	Mg2025	Mg2802	Mn2576	Mn2593	Mo2045	Ni2216	Pb2169	Sb2068	Se1960
Avg	**4370.**	**4830.**	**4690.**	**4560.**	**4590.**	**4150.**	**4830.**	F **4330.**	F **4470.**	**4510.**	F **4330.**	**4720.**
Stddev	146.	359.	176.	77.	99.	67.	325.	147.	76.	145.	129.	210.
%RSD	3.35	7.43	3.74	1.68	2.15	1.61	6.74	3.40	1.69	3.22	2.97	4.44
Check ?	None	Chk Pass	None	Chk Pass	None	None	Chk Pass	Chk Fail	Chk Fail	Chk Pass	Chk Fail	None
Value								5000.	5000.		5000.	
Range								-10.4%	-10.4%		-10.4%	

Elem	Se1960	Se2062	Tl1908	V_2908	V_2924	Zn2062	Zn2138
Avg	**4410.**	F **4470.**	**4450.**	**4700.**	**4460.**	F **4300.**	**4500.**
Stddev	136.	137.	132.	175.	32.	90.	73.
%RSD	3.09	3.07	2.97	3.71	.712	2.10	1.62
Check ?	None	Chk Fail	None	Chk Pass	None	Chk Fail	None
Value		5000.				5000.	
Range		-10.4%				-10.4%	

Sample Name: ccv2 Acquired: 01/18/2016 16:35:51 Type: QC
Method: DOD Calibration Updated 060614(v1216) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	As1890	Ba4554	Ba4934	Be3130	Ca3933	Cd2265	Co2286	Co2388	Cr2055
Avg	**48.2**	**472.**	**473.**	**465.**	**490.**	**490.**	**48.4**	**489.**	**46.8**	**468.**	**474.**	**485.**
Stddev	.5	3.	2.	4.	20.	14.	.6	16.	.2	3.	3.	1.
%RSD	1.04	.623	.420	.887	4.09	2.96	1.27	3.23	.519	.635	.654	.206
Check ?	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass
Value												
Range												

Elem	Cr2677	Cu2247	Fe2599	Mg2802	Mn2576	Mn2593	Mo2020	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203
Avg	**470.**	**473.**	**547.**	**504.**	**469.**	**498.**	**463.**	**477.**	**482.**	**479.**	**508.**	**474.**
Stddev	6.	3.	212.	7.	6.	48.	1.	3.	1.	1.	9.	2.
%RSD	1.25	.687	38.7	1.40	1.26	9.65	.304	.596	.233	.242	1.71	.367
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	None	Chk Pass	None	Chk Pass
Value												
Range												

Elem	Sb2068	Sb2175	Se1960	Se1960	Se2062	Tl1908	Tl1908	V_2908	V_2924	Zn2062	Zn2138
Avg	**452.**	**467.**	**508.**	**482.**	**507.**	**494.**	**491.**	**492.**	**464.**	**473.**	**475.**
Stddev	4.	4.	4.	5.	8.	3.	4.	6.	6.	5.	1.
%RSD	.848	.801	.807	1.07	1.61	.523	.785	1.26	1.40	1.07	.161
Check ?	None	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	None	Chk Pass	None	Chk Pass
Value											
Range											

Sample Name: ccv2 Acquired: 01/18/2016 16:35:51 Type: QC
Method: DOD Calibration Updated 060614(v1216) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**30677.**	**1586300.**	**1793.1**
Stddev	163.	16116.	21.6
%RSD	.52982	1.0160	1.2062

Sample Name: ccb Acquired: 01/18/2016 16:39:42 Type: QC
Method: DOD Calibration Updated 060614(v1216) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba4554	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2802
Avg	**1.21**	**-1.12**	**4.40**	**-6.98**	**-.091**	**-4.12**	**-.030**	**.323**	**.617**	**-.181**	**-1.69**	**.320**
Stddev	.40	.05	1.62	11.7	.028	2.50	.063	.186	.623	.673	.06	.069
%RSD	33.3	4.21	36.9	167.	30.8	60.6	213.	57.4	101.	373.	3.57	21.5
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**-.139**	**7.87**	**-.022**	**.214**	**1.84**	**9.12**	**-.326**	**.732**	**-3.74**
Stddev	.026	.58	.182	1.87	1.69	.86	.937	.355	.20
%RSD	19.0	7.42	830.	875.	92.0	9.46	288.	48.4	5.43
Check ?	None	None	None	None	None	None	None	None	None
Value									
Range									

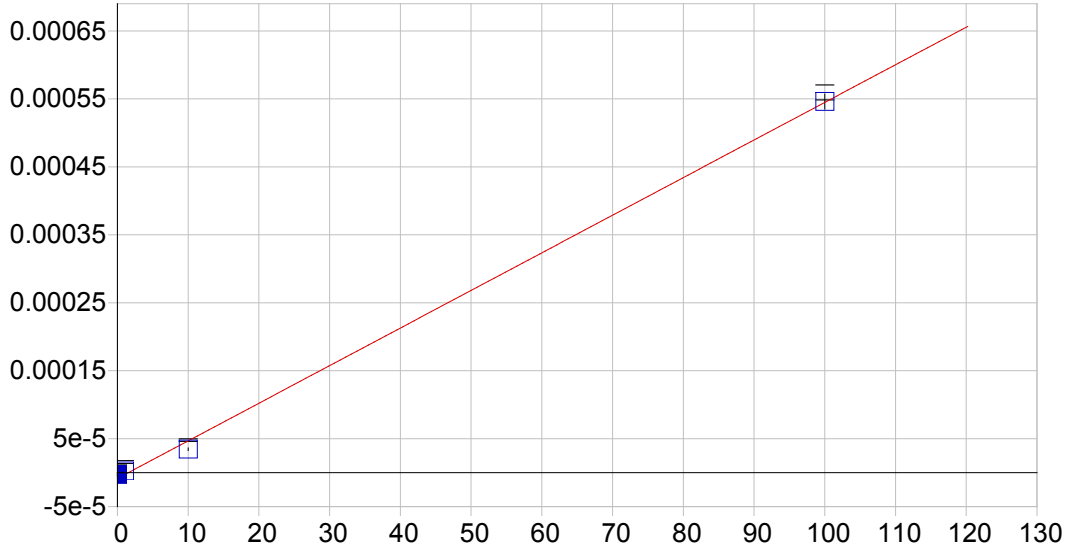
Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**30896.**	**1623600.**	**1841.7**
Stddev	315.	28687.	95.1
%RSD	1.0199	1.7669	5.1640

Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)	Correlation	Std Error of Est	Predicted MDL	Predicted MQL	Status	Resl Slope
Se 206.279 {463}	01/21/2016 12:14:47	01/19/2016 12:00:27	Linear	1/Conc	-0.000016	0.000004	0.000000	1.000000	0.999996	0.000000	15.984822	53.282740	OK.	1.000000
Tl 190.856 {476}	01/21/2016 12:14:47	01/19/2016 12:00:27	Linear	1/Conc	0.000130	0.000049	0.000000	1.000000	0.999738	0.000015	1.114614	3.715381	OK.	1.000000
Tl 190.856 {477}	01/21/2016 12:14:47	01/19/2016 12:00:27	Linear	1/Conc	-0.000057	0.000017	0.000000	1.000000	0.999748	0.000005	2.183579	7.278597	OK.	1.000000
V 290.882 {116}	01/21/2016 12:14:47	01/19/2016 12:00:27	Linear	None	0.000000	0.000000	0.000000	1.000000	0.999953	0.000000	126.090573	420.301911	OK.	1.000000
V 292.402 {115}	01/21/2016 12:14:47	01/19/2016 12:00:27	Linear	1/Conc	-0.009619	0.016370	0.000000	1.000000	0.999991	0.000884	0.441841	1.472804	OK.	1.000000
Zn 206.200 {463}	01/21/2016 12:14:47	01/19/2016 12:05:51	Full Fit	1/Conc	-0.000004	0.000012	-0.000000	1.010000	1.000000	0.000000	0.095353	0.317844	OK.	1.000000
Zn 213.856 {458}	01/21/2016 12:14:47	01/19/2016 12:00:27	Curvilin	None	0.000003	0.000005	0.000000	1.000000	1.000000	0.000004	0.152681	0.508936	Warnin	1.000000
Y 224.306 {451}*	01/21/2016 12:14:47	01/19/2016 11:11:54	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000
Y 324.228 {104}*	01/21/2016 12:14:47	01/19/2016 11:11:55	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000
Y 371.030 { 91}*	01/21/2016 12:14:47	01/19/2016 11:11:55	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000
Na 588.995 { 57}	01/21/2016 12:14:47	01/19/2016 12:00:27	Linear	1/Conc	-0.000224	0.000000	0.000000	1.000000	1.000000	0.000000	779.043308	2596.81102	OK.	1.000000
Si 251.611 {134}	01/21/2016 12:14:47	01/19/2016 12:00:27	Linear	1/Conc	0.000194	0.000000	0.000000	1.000000	0.906180	0.000014	2683.55386	8945.17954	OK.	1.000000
Ti 334.941 {101}	01/21/2016 12:14:47	01/19/2016 12:00:27	Linear	1/Conc	0.000276	0.000020	0.000000	1.000000	0.997972	0.000011	33.533054	111.776845	OK.	1.000000
Sr 407.771 { 83}	01/21/2016 12:14:47	01/19/2016 12:00:27	Linear	1/Conc	-0.000882	0.000442	0.000000	1.000000	0.999974	0.000012	2.748448	9.161493	OK.	1.000000
Sn 189.989 {478}	01/21/2016 12:14:47	01/19/2016 12:00:27	Curvilin	1/Var	0.000025	0.000019	-0.000000	1.000000	0.999860	0.000036	1.364865	4.549550	OK.	1.000000
B 249.678 {135}	01/21/2016 12:14:47	01/19/2016 12:00:27	Linear	1/Conc	0.000008	0.000004	0.000000	1.000000	0.999896	0.000001	0.775388	2.584628	OK.	1.000000
B 249.773 {135}	01/21/2016 12:14:47	01/19/2016 12:00:27	Linear	1/Conc	0.000018	0.000007	0.000000	1.000000	0.999907	0.000001	0.449392	1.497974	OK.	1.000000
Li 670.784 { 50}	01/21/2016 12:14:47	01/19/2016 12:00:27	Full Fit	1/Conc	-0.013532	0.000927	0.000000	1.010000	0.999887	0.000365	6.794117	22.647057	Warnin	1.000000
K 766.490 { 44}	01/21/2016 12:14:47	01/19/2016 12:00:27	Linear	1/Conc	-0.001693	0.000002	0.000000	1.000000	1.000000	0.000000	3162.35332	10541.1777	OK.	1.000000
P 213.618 {457}	01/21/2016 12:14:47	01/19/2016 12:00:27	Linear	1/Conc	-0.000000	-0.000000	0.000000	1.000000	1.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000
S 182.034 {485}	01/21/2016 12:14:47	01/19/2016 12:20:41	Linear	1/Conc	-0.001111	0.000013	0.000000	1.000000	0.959544	0.066913	2.517694	8.392315	OK.	1.000000
W 239.709 {140}	01/21/2016 12:14:47	01/19/2016 11:55:43	Linear	1/Conc	-0.000000	0.000000	0.000000	1.000000	1.000000	0.000000	6930.44910	23101.4970	OK.	1.000000

Element, Wavelength and Order	ope	QC Norm	
	Y-int	Slope factor	Offset
Ag 328.068 {103}	0.000000	1	0
Al 309.271 {109}	0.000000	1	0
Al 396.152 { 85}	0.000000	1	0
Al 167.079 {502}	0.000000	1	0
As 193.759 {474}	0.000000	1	0
As 189.042 {479}	0.000000	1	0
Ba 455.403 { 74}	0.000000	1	0
Ba 493.409 { 68}	0.000000	1	0
Be 313.042 {108}	0.000000	1	0
Be 234.861 {144}	0.000000	1	0
Ca 315.887 {107}	0.000000	1	0
Ca 317.933 {106}	0.000000	1	0
Ca 393.366 { 86}	0.000000	1	0
Ca 396.847 { 85}	0.000000	1	0
Cd 226.502 {149}	0.000000	1	0
Cd 226.502 {449}	0.000000	1	0
Cd 228.802 {447}	0.000000	1	0
Co 228.616 {447}	0.000000	1	0
Co 238.892 {141}	0.000000	1	0
Cr 205.560 {464}	0.000000	1	0
Cr 267.716 {126}	0.000000	1	0
Cu 224.700 {450}	0.000000	1	0
Cu 324.754 {104}	0.000000	1	0
Cu 327.396 {103}	0.000000	1	0
Fe 234.349 {144}	0.000000	1	0
Fe 239.562 {140}	0.000000	1	0
Fe 239.562 {141}	0.000000	1	0
Fe 259.940 {129}	0.000000	1	0
Fe 259.940 {130}	0.000000	1	0
Mg 202.582 {466}	0.000000	1	0
Mg 279.079 {121}	0.000000	1	0
Mg 280.270 {120}	0.000000	1	0
Mn 257.610 {131}	0.000000	1	0
Mn 259.373 {130}	0.000000	1	0
Mo 202.030 {466}	0.000000	1	0
Mo 204.598 {464}	0.000000	1	0
Mo 204.598 {465}	0.000000	1	0
Ni 221.647 {452}	0.000000	1	0
Ni 231.604 {445}	0.000000	1	0
Pb 216.999 {455}	0.000000	1	0
Pb 220.353 {153}	0.000000	1	0
Pb 220.353 {453}	0.000000	1	0
Sb 206.833 {463}	0.000000	1	0
Sb 217.581 {455}	0.000000	1	0
Se 196.090 {471}	0.000000	1	0
Se 196.090 {472}	0.000000	1	0

Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)	Correlation	Std Error of Est	Predicted MDL	Predicted MQL	Status	Resl Slope
Ag 328.068 {103}	01/21/2016 12:14:47	01/19/2016 11:51:04	Linear	None	-0.000009	0.000006	0.000000	1.000000	0.999495	0.000010	0.630959	2.103198	OK.	1.000000
Al 309.271 {109}	01/21/2016 12:14:47	01/19/2016 12:10:40	Curvilin	None	0.002597	0.000002	0.000000	1.000000	0.999998	0.000295	438.407166	1461.35722	OK.	1.000000
Al 396.152 { 85}	01/21/2016 12:14:47	01/19/2016 12:20:41	Full Fit	1/Conc	-0.001629	0.000005	0.000000	1.030000	0.999908	0.000206	289.310125	964.367082	OK.	1.000000
Al 167.079 {502}	01/21/2016 12:14:47	01/19/2016 11:55:41	Linear	1/Conc	0.000078	0.000066	0.000000	1.000000	0.999559	0.000006	0.212798	0.709326	OK.	1.000000
As 193.759 {474}	01/21/2016 12:14:47	01/19/2016 12:00:26	Linear	1/Conc	0.000110	0.000024	0.000000	1.000000	0.999956	0.000003	1.810576	6.035254	OK.	1.000000
As 189.042 {479}	01/21/2016 12:14:47	01/19/2016 12:00:26	Linear	1/Conc	0.000002	0.000006	0.000000	1.000000	0.999982	0.000000	4.037668	13.458892	OK.	1.000000
Ba 455.403 { 74}	01/21/2016 12:14:47	01/19/2016 11:55:41	Linear	1/Var	0.032089	0.000253	0.000000	1.000000	0.999335	0.000991	6.168719	20.562395	OK.	1.000000
Ba 493.409 { 68}	01/21/2016 12:14:47	01/19/2016 12:00:26	Curvilin	None	0.025655	0.000279	0.000000	1.000000	1.000000	0.001160	12.846525	42.821751	Warnin	1.000000
Be 313.042 {108}	01/21/2016 12:14:47	01/19/2016 11:55:41	Linear	1/Conc	-0.024955	0.192414	0.000000	1.000000	0.999936	0.001331	0.021627	0.072088	OK.	1.000000
Be 234.861 {144}	01/21/2016 12:14:47	01/19/2016 11:55:41	Linear	1/Var	-0.000000	0.000000	0.000000	1.000000	0.999595	0.000000	27.071647	90.238822	OK.	1.000000
Ca 315.887 {107}	01/21/2016 12:14:47	01/19/2016 12:20:41	Curvilin	1/Var	0.000070	0.000002	0.000000	1.000000	0.999815	0.000330	181.879581	606.265269	OK.	1.000000
Ca 317.933 {106}	01/21/2016 12:14:47	01/19/2016 12:20:41	Linear	1/Conc	0.007306	0.000008	0.000000	1.000000	0.999171	0.000503	63.535491	211.784969	OK.	1.000000
Ca 393.366 { 86}	01/21/2016 12:14:47	01/19/2016 11:55:41	Linear	1/Conc	0.002824	0.000937	0.000000	1.000000	0.999979	0.000064	1.283391	4.277971	OK.	1.000000
Ca 396.847 { 85}	01/21/2016 12:14:47	01/19/2016 12:00:26	Linear	1/Conc	0.001076	0.000360	0.000000	1.000000	0.999990	0.000076	2.634810	8.782701	OK.	1.000000
Cd 226.502 {149}	01/21/2016 12:14:47	01/19/2016 11:55:42	Curvilin	1/Conc	0.000001	0.000007	-0.000000	1.000000	0.999973	0.000000	0.254860	0.849533	OK.	1.000000
Cd 226.502 {449}	01/21/2016 12:14:47	01/19/2016 11:55:42	Linear	1/Conc	-0.000025	0.000613	0.000000	1.000000	0.999917	0.000007	0.105721	0.352404	OK.	1.000000
Cd 228.802 {447}	01/21/2016 12:14:47	01/19/2016 11:55:42	Linear	1/Conc	-0.000066	0.000843	0.000000	1.000000	0.999902	0.000011	0.111718	0.372393	OK.	1.000000
Co 228.616 {447}	01/21/2016 12:14:47	01/19/2016 12:00:26	Linear	1/Conc	-0.000128	0.000384	0.000000	1.000000	0.999976	0.000010	0.198276	0.660921	OK.	1.000000
Co 238.892 {141}	01/21/2016 12:14:47	01/19/2016 12:00:26	Linear	None	-0.000015	0.000005	0.000000	1.000000	0.999999	0.000033	0.515496	1.718319	OK.	1.000000
Cr 205.560 {464}	01/21/2016 12:14:47	01/19/2016 12:05:51	Full Fit	1/Conc	-0.000114	0.000272	-0.000000	1.000000	0.999999	0.000004	0.172787	0.575955	OK.	1.000000
Cr 267.716 {126}	01/21/2016 12:14:47	01/19/2016 12:00:26	Linear	1/Conc	-0.000084	0.000451	0.000000	1.000000	0.999991	0.000017	0.447658	1.492193	OK.	1.000000
Cu 224.700 {450}	01/21/2016 12:14:47	01/19/2016 12:00:26	Linear	1/Conc	-0.000044	0.000164	0.000000	1.000000	0.999939	0.000007	0.431388	1.437959	OK.	1.000000
Cu 324.754 {104}	01/21/2016 12:14:47	01/19/2016 12:05:51	Curvilin	1/Conc	0.002941	0.000007	0.000000	1.000000	0.999968	0.000010	91.360224	304.534080	OK.	1.000000
Cu 327.396 {103}	01/21/2016 12:14:47	01/19/2016 12:05:51	Curvilin	1/Conc	0.000443	0.000006	-0.000000	1.000000	0.998618	0.000020	131.220543	437.401811	OK.	1.000000
Fe 234.349 {144}	01/21/2016 12:14:47	01/19/2016 12:20:41	Full Fit	1/Conc	0.028078	0.002423	-0.000000	0.980000	0.999996	0.008016	0.647239	2.157464	OK.	1.000000
Fe 239.562 {140}	01/21/2016 12:14:47	01/19/2016 12:20:41	Full Fit	1/Var	0.000083	0.000003	0.000000	1.000000	0.999847	0.000418	142.410594	474.701979	OK.	1.000000
Fe 239.562 {141}	01/21/2016 12:14:47	01/19/2016 12:10:40	Linear	1/Var	0.000137	0.000001	0.000000	1.000000	0.999694	0.000202	312.264345	1040.88114	OK.	1.000000
Fe 259.940 {129}	01/21/2016 12:14:47	01/19/2016 12:20:41	Curvilin	1/Var	0.000126	0.000008	0.000000	1.000000	0.999971	0.000282	78.259281	260.864271	OK.	1.000000
Fe 259.940 {130}	01/21/2016 12:14:47	01/19/2016 12:00:26	Linear	1/Var	0.000067	0.000005	0.000000	1.000000	0.999498	0.000166	90.914685	303.048950	OK.	1.000000
Mg 202.582 {466}	01/21/2016 12:14:47	01/19/2016 12:20:41	Full Fit	None	0.000101	0.000001	0.000000	0.970000	0.999999	0.000212	1.700574	5.668578	OK.	1.000000
Mg 279.079 {121}	01/21/2016 12:14:47	01/19/2016 12:20:41	Linear	1/Conc	0.000194	0.000001	0.000000	1.000000	0.999444	0.000030	541.293935	1804.31311	OK.	1.000000
Mg 280.270 {120}	01/21/2016 12:14:47	01/19/2016 12:00:27	Curvilin	None	0.000351	0.000086	-0.000000	1.000000	1.000000	0.000091	0.021854	0.072846	OK.	1.000000
Mn 257.610 {131}	01/21/2016 12:14:47	01/19/2016 12:00:27	Linear	1/Var	0.000003	0.000035	0.000000	1.000000	0.999482	0.000007	0.054861	0.182871	OK.	1.000000
Mn 259.373 {130}	01/21/2016 12:14:47	01/19/2016 12:05:51	Full Fit	None	-0.000000	0.000000	0.000000	1.030000	1.000000	0.000000	21.917312	73.057705	OK.	1.000000
Mo 202.030 {466}	01/21/2016 12:14:47	01/19/2016 12:00:27	Linear	1/Conc	0.000188	0.000167	0.000000	1.000000	0.999814	0.000009	0.303955	1.013182	OK.	1.000000
Mo 204.598 {464}	01/21/2016 12:14:47	01/19/2016 12:00:27	Linear	1/Conc	0.000163	0.000075	0.000000	1.000000	0.999920	0.000008	0.643238	2.144127	OK.	1.000000
Mo 204.598 {465}	01/21/2016 12:14:47	01/19/2016 12:00:27	Linear	None	-0.000355	0.000050	0.000000	1.000000	0.999998	0.000482	0.830742	2.769141	OK.	1.000000
Ni 221.647 {452}	01/21/2016 12:14:47	01/19/2016 12:00:27	Linear	1/Conc	-0.000005	0.000005	0.000000	1.000000	0.999998	0.000000	0.322025	1.073416	OK.	1.000000
Ni 231.604 {445}	01/21/2016 12:14:47	01/19/2016 12:00:27	Linear	1/Conc	-0.000004	0.000004	0.000000	1.000000	0.999975	0.000000	0.366846	1.222819	OK.	1.000000
Pb 216.999 {455}	01/21/2016 12:14:47	01/19/2016 12:05:51	Curvilin	1/Conc	0.000333	0.000015	-0.000000	1.000000	0.999969	0.000004	4.724083	15.746944	OK.	1.000000
Pb 220.353 {153}	01/21/2016 12:14:47	01/19/2016 12:05:51	Linear	1/Conc	0.000006	0.000040	0.000000	1.000000	0.999994	0.000019	2.072758	6.909195	OK.	1.000000
Pb 220.353 {453}	01/21/2016 12:14:47	01/19/2016 12:00:27	Linear	1/Conc	0.000073	0.000066	0.000000	1.000000	0.999990	0.000003	1.328490	4.428302	OK.	1.000000
Sb 206.833 {463}	01/21/2016 12:14:47	01/19/2016 12:00:27	Linear	1/Conc	0.000096	0.000034	0.000000	1.000000	0.999969	0.000004	1.675794	5.585981	OK.	1.000000
Sb 217.581 {455}	01/21/2016 12:14:47	01/19/2016 12:00:27	Linear	1/Var	0.000016	0.000023	0.000000	1.000000	0.999852	0.000055	2.649440	8.831468	OK.	1.000000
Se 196.090 {471}	01/21/2016 12:14:47	01/19/2016 12:00:27	Linear	None	0.000048	0.000004	0.000000	1.000000	0.999997	0.000037	10.764762	35.882539	OK.	1.000000
Se 196.090 {472}	01/21/2016 12:14:47	01/19/2016 12:00:27	Linear	1/Conc	0.000115	0.000025	0.000000	1.000000	0.999978	0.000002	2.159433	7.198110	OK.	1.000000

Element, Wavelength and Order	ope	QC Norm	
	Y-int	Slope factor	Offset
Se 206.279 {463}	0.000000	1	0
Tl 190.856 {476}	0.000000	1	0
Tl 190.856 {477}	0.000000	1	0
V 290.882 {116}	0.000000	1	0
V 292.402 {115}	0.000000	1	0
Zn 206.200 {463}	0.000000	1	0
Zn 213.856 {458}	0.000000	1	0
Y 224.306 {451}*	0.000000	1	0
Y 324.228 {104}*	0.000000	1	0
Y 371.030 { 91}*	0.000000	1	0
Na 588.995 { 57}	0.000000	1	0
Si 251.611 {134}	0.000000	1	0
Ti 334.941 {101}	0.000000	1	0
Sr 407.771 { 83}	0.000000	1	0
Sn 189.989 {478}	0.000000	1	0
B 249.678 {135}	0.000000	1	0
B 249.773 {135}	0.000000	1	0
Li 670.784 { 50}	0.000000	1	0
K 766.490 { 44}	0.000000	1	0
P 213.618 {457}	0.000000	1	0
S 182.034 {485}	0.000000	1	0
W 239.709 {140}	0.000000	1	0

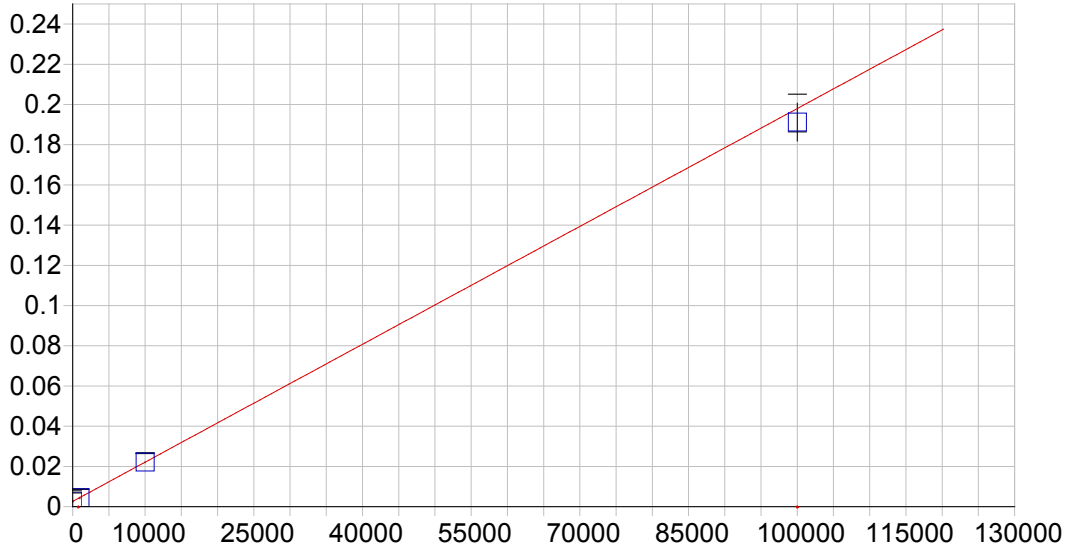


Ag 328.068 {103}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	-0.000009	Re-Slope:	1.000000
A1 (Gain):	0.000006	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999495	Status:	OK.
Std Error of Est:	0.000010		
Predicted MDL:	0.630959		
Predicted MQL:	2.103198		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	1.0314	1.03	.000	.00000	.000	1
CalStd5=10	10.000	7.7622	-2.24	-22.4	.00003	.000	1
CalStd8=100	100.00	100.21	.214	.214	.00055	.000	1
CalStd3=1	1.0000	1.9926	.993	99.3	.00000	.000	1

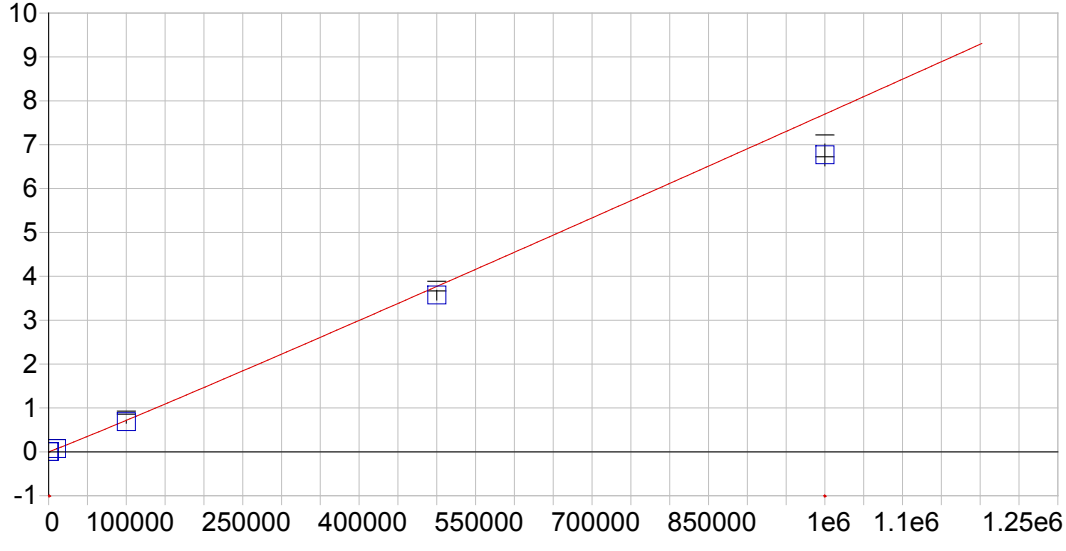


Al 309.271 {109}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Curvilinear	Weighting:	None

A0 (Offset):	0.002597	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999998	Status:	OK.
Std Error of Est:	0.000295		
Predicted MDL:	438.407166		
Predicted MQL:	1461.357221		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	100.18	100.	.000	.00279	.000	1
CalStd10=10	10000.	9977.8	-22.2	-.222	.02209	.000	1
CalStd9=100	1000.0	887.22	-113.	-11.3	.00433	.000	1
CalStd12-100	100000.	96545.	-3450.	-3.45	.19124	.009	1

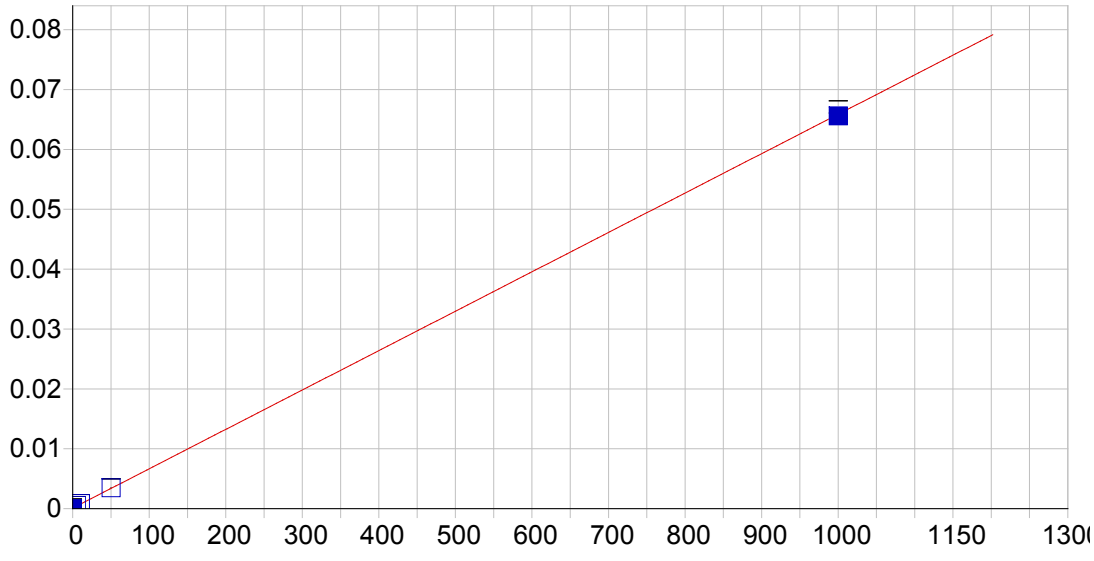


Al 396.152 { 85}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Full Fit	Weighting:	1/Conc

A0 (Offset):	-0.001629	Re-Slope:	1.000000
A1 (Gain):	0.000005	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.030000		
Correlation:	0.999908	Status:	OK.
Std Error of Est:	0.000206		
Predicted MDL:	289.310125		
Predicted MQL:	964.367082		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	-.00163	.000	1
CalStd14-100	1000000.	882250.	-118000.	-11.8	6.7664	.249	1
CalStd13=50	500000.	474430.	-25600.	-5.11	3.5708	.110	1
CalStd10=10	10000.	11048.	1050.	10.5	.07269	.001	1
CalStd12-100	100000.	95865.	-4140.	-4.14	.68640	.034	1
CalStd9=100	1000.0	1247.5	248.	24.8	.00623	.000	1

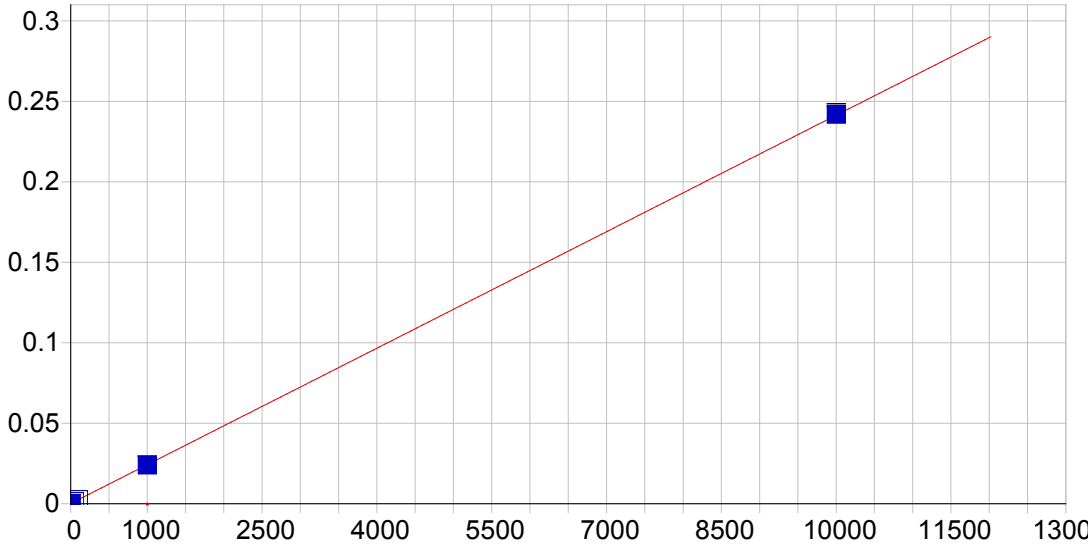


Al 167.079 {502}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000078	Re-Slope:	1.000000
A1 (Gain):	0.000066	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999559	Status:	OK.
Std Error of Est:	0.000006		
Predicted MDL:	0.212798		
Predicted MQL:	0.709326		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00265	-.003	.000	.00008	.000	1
CalStd9=100	1000.0	995.37	-4.63	-.463	.06561	.001	1
CalStd5=10	10.000	11.303	1.30	13.0	.00082	.000	1
CalStd4=5	5.0000	6.8808	1.88	37.6	.00053	.000	1
CalStd7=50	50.000	51.447	1.45	2.89	.00346	.000	1

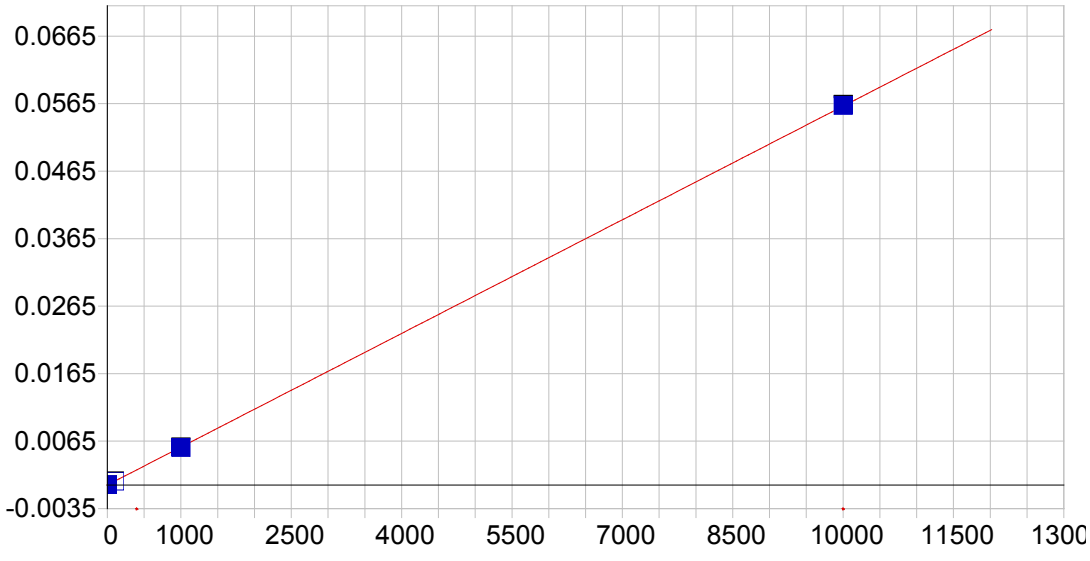


As 193.759 {474}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000110	Re-Slope:	1.000000
A1 (Gain):	0.000024	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999956	Status:	OK.
Std Error of Est:	0.000003		
Predicted MDL:	1.810576		
Predicted MQL:	6.035254		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00323	.003	.000	.00011	.000	1
CalStd9=100	1000.0	987.92	-12.1	-1.21	.02394	.000	1
CalStd7=50	50.000	46.231	-3.77	-7.54	.00123	.000	1
CalStd5=10	10.000	7.8809	-2.12	-21.2	.00030	.000	1
CalStd8=100	100.00	97.475	-2.53	-2.53	.00246	.000	1
CalStd10=10	10000.	10020.	20.5	.205	.24181	.001	1

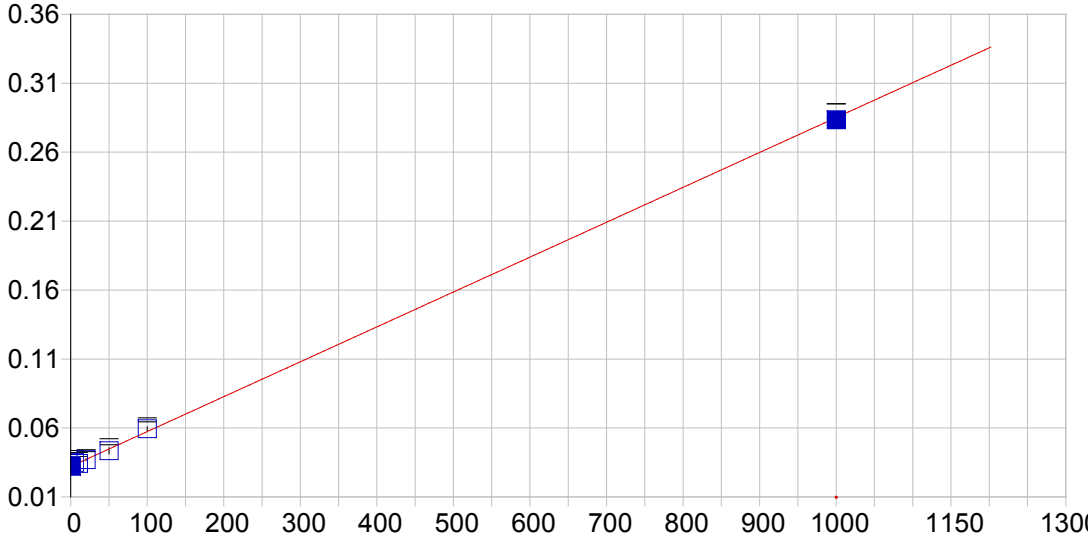


As 189.042 {479}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000006	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999982	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	4.037668		
Predicted MQL:	13.458892		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00098	.001	.000	.00000	.000	1
CalStd9=100	1000.0	985.31	-14.7	-1.47	.00553	.000	1
CalStd10=10	10000.	10016.	15.8	.158	.05620	.000	1
CalStd8=100	100.00	99.751	-.249	-.249	.00056	.000	1
CalStd4=5	5.0000	4.0962	-.904	-18.1	.00003	.000	1

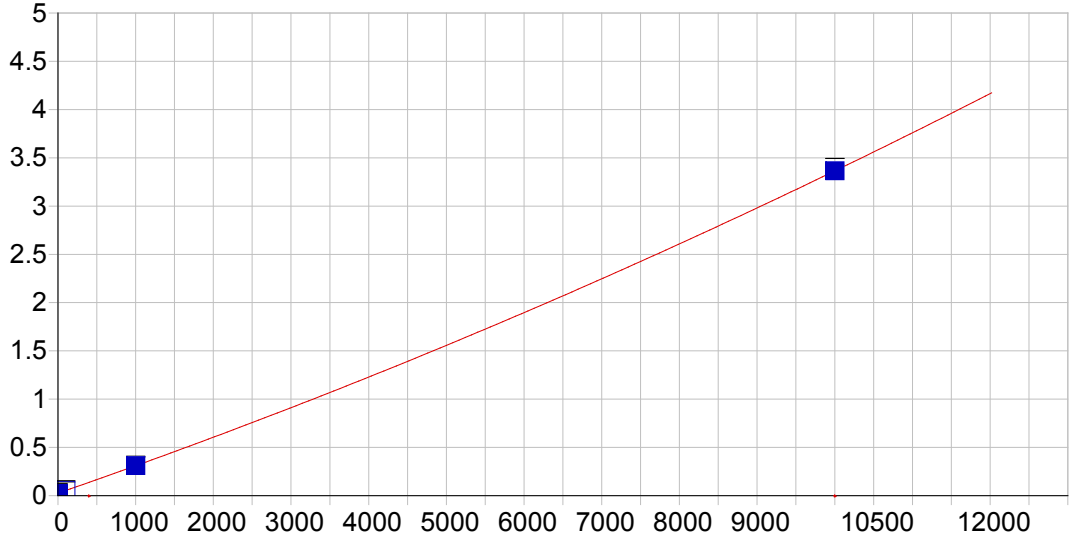


Ba 455.403 { 74}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.032089	Re-Slope:	1.000000
A1 (Gain):	0.000253	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999335	Status:	OK.
Std Error of Est:	0.000991		
Predicted MDL:	6.168719		
Predicted MQL:	20.562395		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	1.6989	1.70	.000	.03252	.002	1
CalStd7=50	50.000	44.686	-5.31	-10.6	.04339	.002	1
CalStd5=10	10.000	8.3678	-1.63	-16.3	.03421	.001	1
CalStd6=20	20.000	19.064	-.936	-4.68	.03691	.001	1
CalStd8=100	100.00	107.61	7.61	7.61	.05931	.001	1
CalStd4=5	5.0000	11.427	6.43	129.	.03498	.002	1
CalStd9=100	1000.0	993.10	-6.90	-.690	.28334	.005	1
CalStd3=1	1.0000	-1.2599	-2.26	-226.	.03177	.001	1



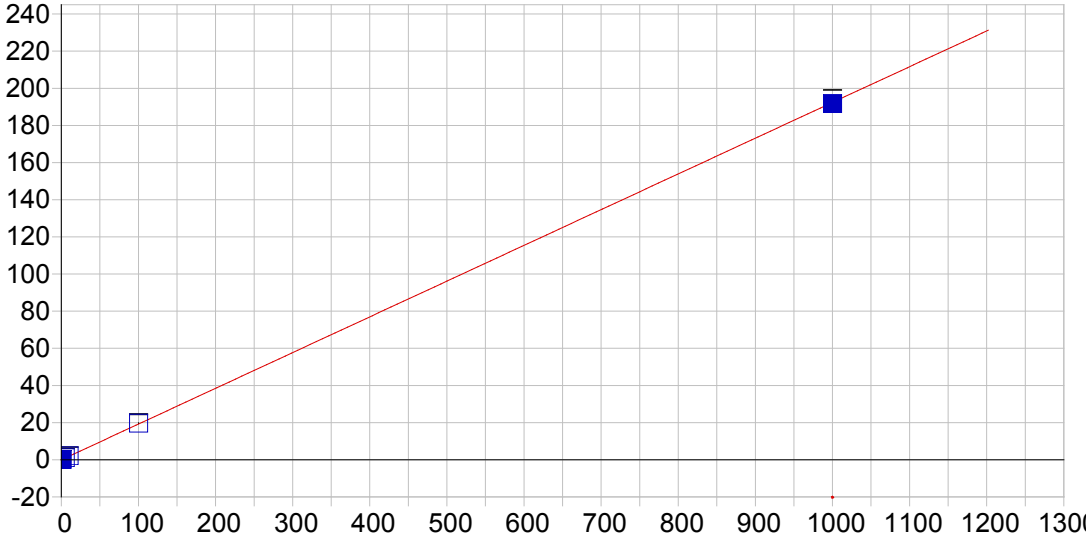
Ba 493.409 { 68}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Curvilinear	Weighting:	None

A0 (Offset):	0.025655	Re-Slope:	1.000000
A1 (Gain):	0.000279	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	Warning
Std Error of Est:	0.001160		
Predicted MDL:	12.846525		
Predicted MQL:	42.821751		

Positive Curvature

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-2.7605	-2.76	.000	.02489	.003	1
CalStd9=100	1000.0	999.67	-.328	-.033	.30975	.004	1
CalStd8=100	100.00	103.09	3.09	3.09	.05443	.007	1
CalStd10=10	10000.	10000.	.002	.000	3.3650	.035	1

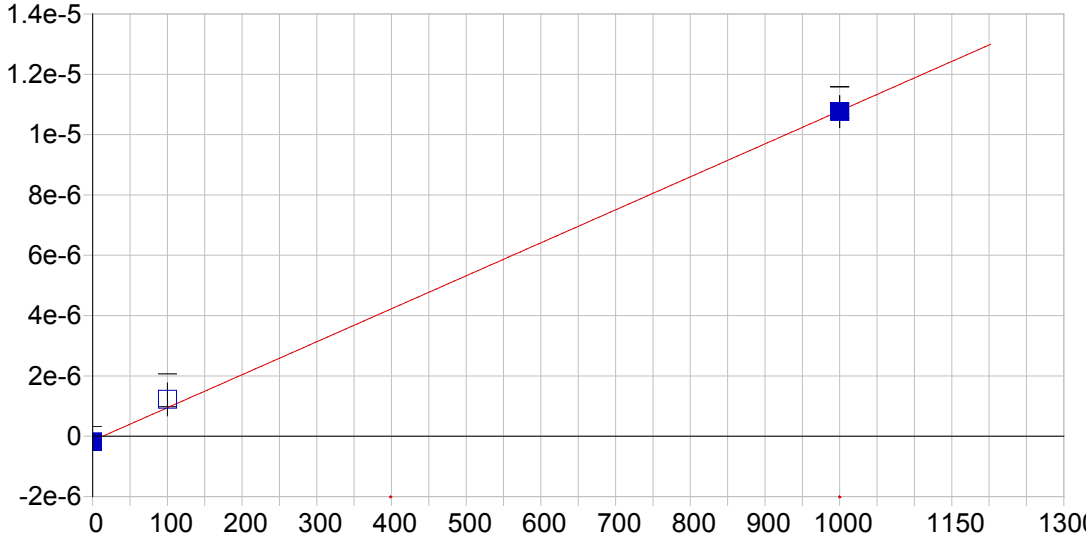


Be 313.042 {108}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.024955	Re-Slope:	1.000000
A1 (Gain):	0.192414	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999936	Status:	OK.
Std Error of Est:	0.001331		
Predicted MDL:	0.021627		
Predicted MQL:	0.072088		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00009	.000	.000	-.02497	.004	1
CalStd5=10	10.000	10.610	.610	6.10	2.0166	.025	1
CalStd8=100	100.00	102.06	2.06	2.06	19.612	.253	1
CalStd2=0.5	.50000	.55802	.058	11.6	.08242	.005	1
CalStd4=5	5.0000	5.4275	.428	8.55	1.0194	.003	1
CalStd1=0.25	.25000	.24280	-.007	-2.88	.02176	.005	1
CalStd9=100	1000.0	996.75	-3.25	-.325	191.76	2.44	1
CalStd3=1	1.0000	1.1010	.101	10.1	.18690	.008	1

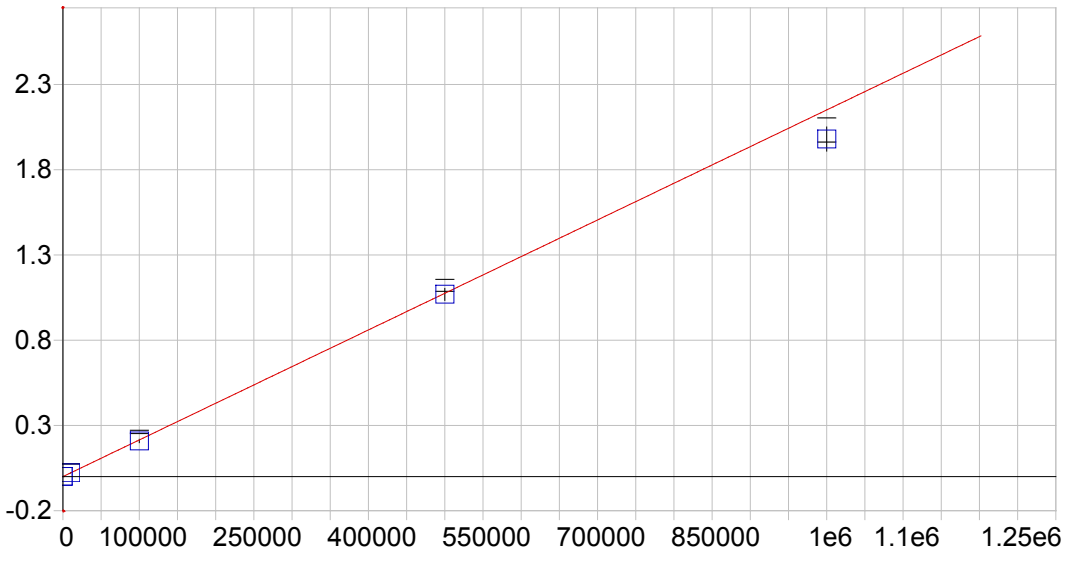


Be 234.861 {144}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999595	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	27.071647		
Predicted MQL:	90.238822		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-3.9816	-3.98	.000	.00000	.000	1
CalStd9=100	1000.0	997.65	-2.35	-.235	.00001	.000	1
CalStd8=100	100.00	125.26	25.3	25.3	.00000	.000	1

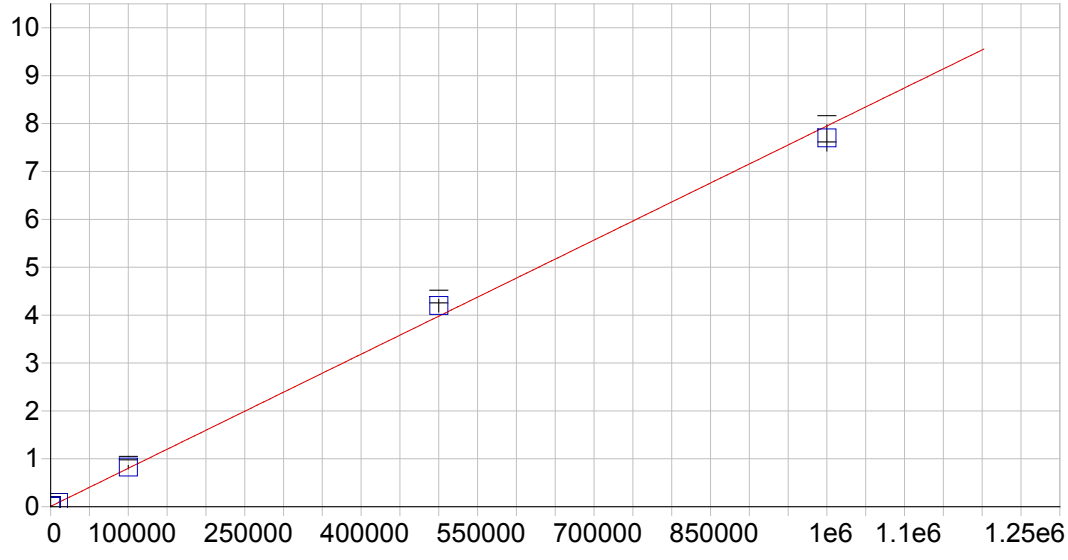


Ca 315.887 {107}

Date of Fit: 01/21/2016 12:14:47 Type of Fit: Curvilinear Weighting: 1/Var

A0 (Offset):	0.000070	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999815	Status:	OK.
Std Error of Est:	0.000330		
Predicted MDL:	181.879581		
Predicted MQL:	606.265269		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	3.5976	3.60	.000	.00008	.000	1
CalStd10=10	10000.	9964.1	-35.9	-.359	.02150	.001	1
CalStd13=50	500000.	496990.	-3010.	-.603	1.0690	.035	1
CalStd14-100	1000000.	920450.	-79500.	-7.95	1.9799	.071	1
CalStd9=100	1000.0	1006.7	6.72	.672	.00224	.001	1
CalStd12-100	100000.	97091.	-2910.	-2.91	.20890	.010	1

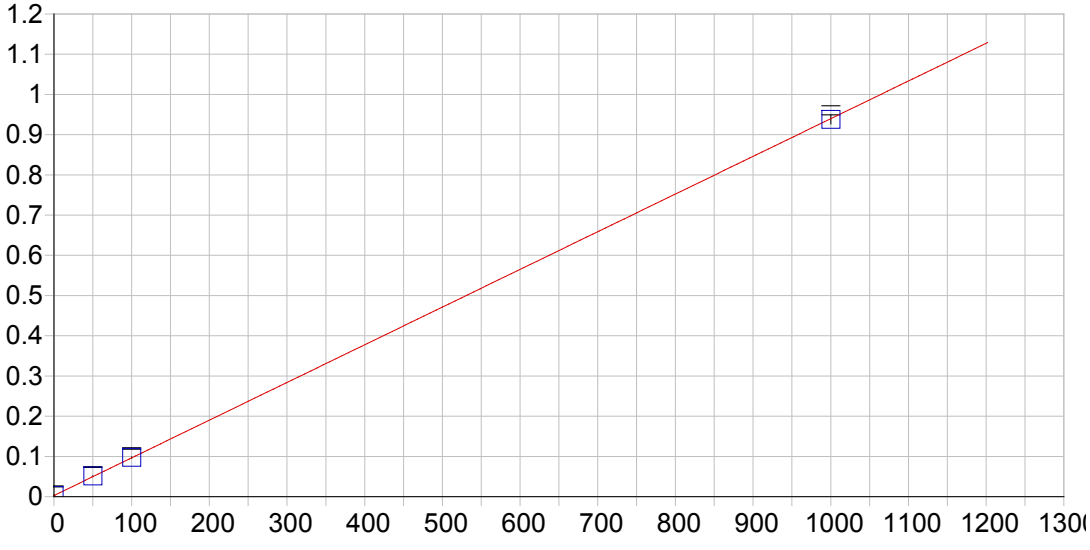


Ca 317.933 {106}

Date of Fit: 01/21/2016 12:14:47 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	0.007306	Re-Slope:	1.000000
A1 (Gain):	0.000008	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999171	Status:	OK.
Std Error of Est:	0.000503		
Predicted MDL:	63.535491		
Predicted MQL:	211.784969		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.18825	-.188	.000	.00730	.000	1
CalStd10=10	10000.	10669.	669.	6.69	.09205	.001	1
CalStd13=50	500000.	527670.	27700.	5.53	4.1986	.133	1
CalStd14-100	1000000.	968470.	-31500.	-3.15	7.6999	.274	1
CalStd9=100	1000.0	1066.2	66.2	6.62	.01578	.001	1
CalStd12-100	100000.	103130.	3130.	3.13	.82645	.037	1

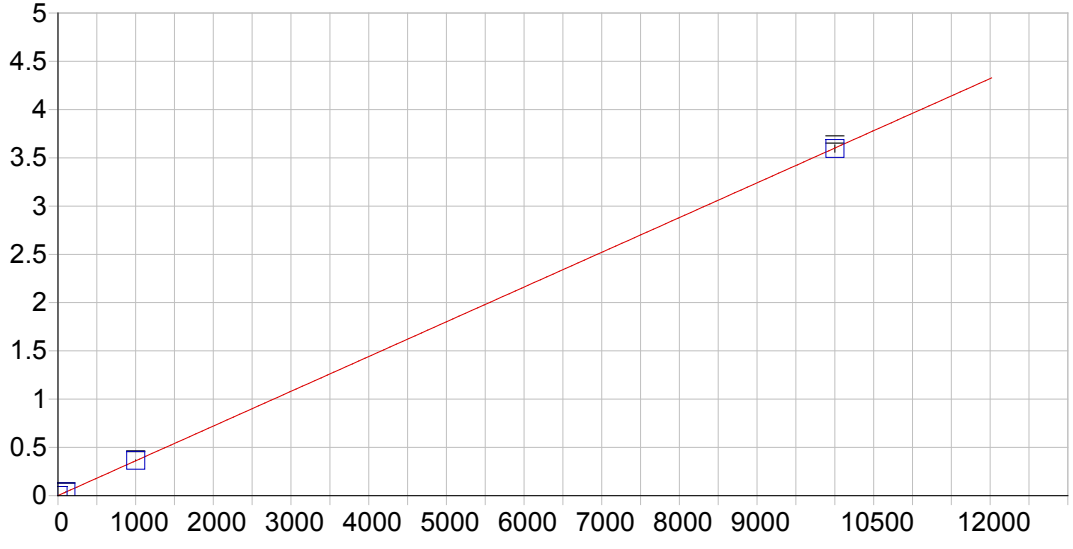


Ca 393.366 { 86}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.002824	Re-Slope:	1.000000
A1 (Gain):	0.000937	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999979	Status:	OK.
Std Error of Est:	0.000064		
Predicted MDL:	1.283391		
Predicted MQL:	4.277971		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00164	-.002	.000	.00282	.001	1
CalStd7=50	50.000	51.348	1.35	2.70	.05094	.001	1
CalStd9=100	1000.0	997.86	-2.14	-.214	.93781	.011	1
CalStd8=100	100.00	100.79	.788	.788	.09726	.002	1

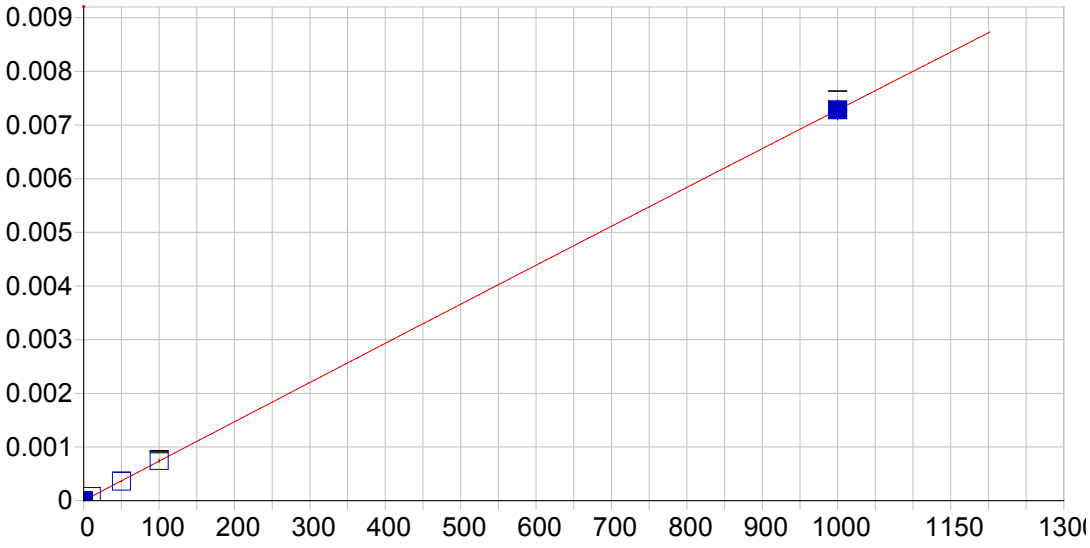


Ca 396.847 { 85}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.001076	Re-Slope:	1.000000
A1 (Gain):	0.000360	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999990	Status:	OK.
Std Error of Est:	0.000076		
Predicted MDL:	2.634810		
Predicted MQL:	8.782701		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00372	-.004	.000	.00108	.001	1
CalStd10=10	10000.	9985.9	-14.1	-.141	3.5958	.038	1
CalStd8=100	100.00	102.72	2.72	2.72	.03805	.001	1
CalStd9=100	1000.0	1011.4	11.4	1.14	.36517	.004	1

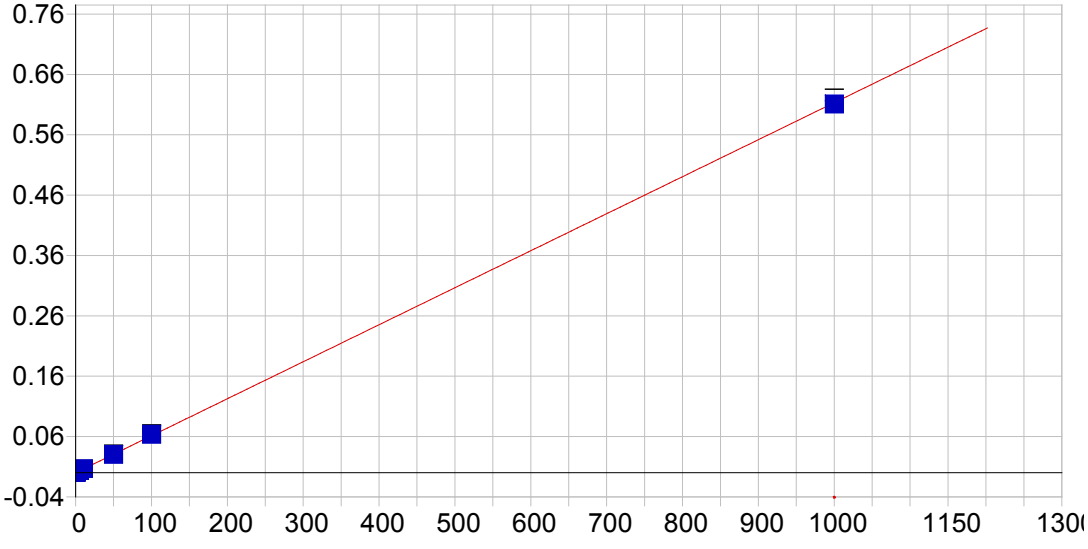


Cd 226.502 {149}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000007	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999973	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.254860		
Predicted MQL:	0.849533		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00018	.000	.000	.00000	.000	1
CalStd7=50	50.000	48.623	-1.38	-2.75	.00036	.000	1
CalStd8=100	100.00	101.07	1.07	1.07	.00074	.000	1
CalStd5=10	10.000	10.347	.347	3.47	.00008	.000	1
CalStd9=100	1000.0	999.96	-.043	-.004	.00728	.000	1

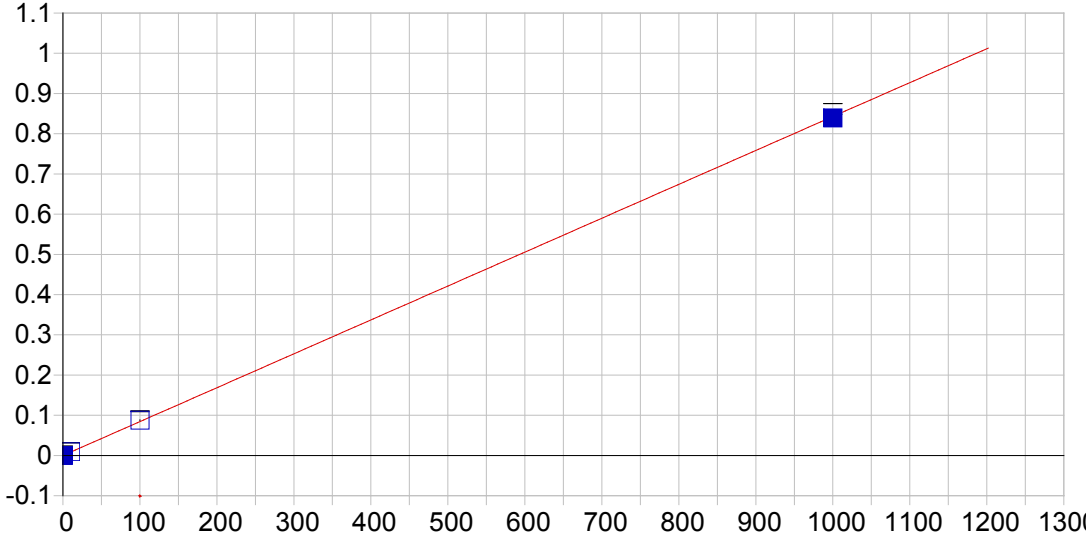


Cd 226.502 {449}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000025	Re-Slope:	1.000000
A1 (Gain):	0.000613	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999917	Status:	OK.
Std Error of Est:	0.000007		
Predicted MDL:	0.105721		
Predicted MQL:	0.352404		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00010	.000	.000	-.00003	.000	1
CalStd7=50	50.000	49.445	-.555	-1.11	.03030	.000	1
CalStd3=1	1.0000	1.0875	.088	8.75	.00064	.000	1
CalStd2=0.5	.50000	.50448	.004	.897	.00028	.000	1
CalStd4=5	5.0000	5.1980	.198	3.96	.00316	.000	1
CalStd8=100	100.00	103.72	3.72	3.72	.06358	.001	1
CalStd5=10	10.000	10.442	.442	4.42	.00638	.000	1
CalStd9=100	1000.0	996.10	-3.90	-.390	.61086	.010	1

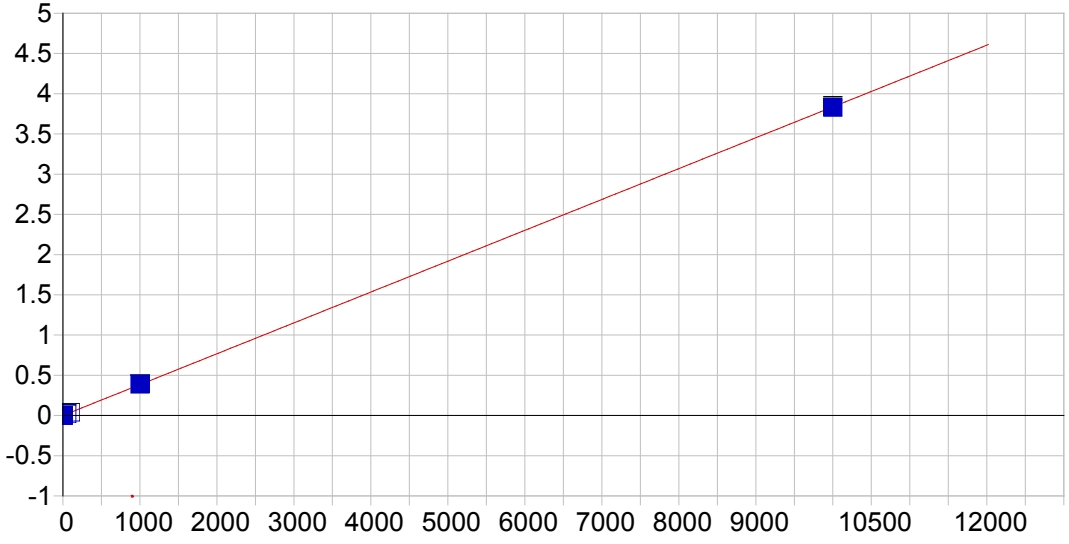


Cd 228.802 {447}

Date of Fit: 01/21/2016 12:14:47 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	-0.000066	Re-Slope:	1.000000
A1 (Gain):	0.000843	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999902	Status:	OK.
Std Error of Est:	0.000011		
Predicted MDL:	0.111718		
Predicted MQL:	0.372393		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00003	.000	.000	-.00007	.000	1
CalStd9=100	1000.0	995.63	-4.37	-.437	.83907	.013	1
CalStd8=100	100.00	103.94	3.94	3.94	.08754	.001	1
CalStd2=0.5	.50000	.40437	-.096	-19.1	.00027	.000	1
CalStd3=1	1.0000	1.0415	.041	4.15	.00081	.000	1
CalStd5=10	10.000	10.480	.480	4.80	.00877	.000	1

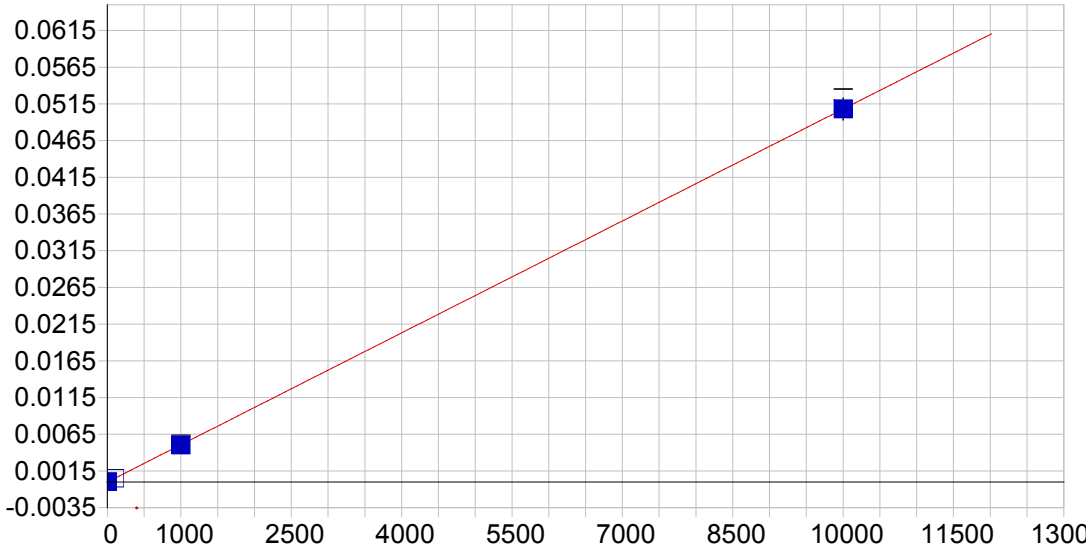


Co 228.616 {447}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000128	Re-Slope:	1.000000
A1 (Gain):	0.000384	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999976	Status:	OK.
Std Error of Est:	0.000010		
Predicted MDL:	0.198276		
Predicted MQL:	0.660921		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	-.00013	.000	1
CalStd7=50	50.000	50.173	.173	.346	.01912	.000	1
CalStd5=10	10.000	10.525	.525	5.25	.00391	.000	1
CalStd4=5	5.0000	5.3690	.369	7.38	.00193	.000	1
CalStd8=100	100.00	104.39	4.39	4.39	.03992	.001	1
CalStd9=100	1000.0	1014.9	14.9	1.49	.38921	.007	1
CalStd3=1	1.0000	.81336	-.187	-18.7	.00018	.000	1
CalStd10=10	10000.	9979.8	-20.2	-.202	3.8284	.020	1

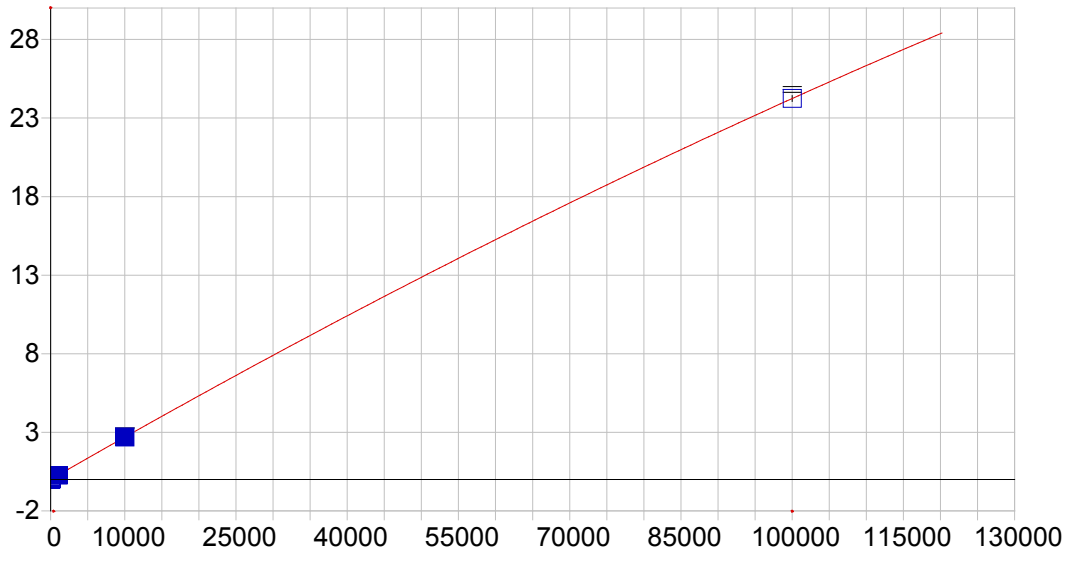


Co 238.892 {141}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	-0.000015	Re-Slope:	1.000000
A1 (Gain):	0.000005	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999999	Status:	OK.
Std Error of Est:	0.000033		
Predicted MDL:	0.515496		
Predicted MQL:	1.718319		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	3.6454	3.65	.000	.00000	.000	1
CalStd9=100	1000.0	992.33	-7.67	-.767	.00503	.000	1
CalStd10=10	10000.	10001.	.734	.007	.05081	.001	1
CalStd8=100	100.00	103.29	3.29	3.29	.00051	.000	1

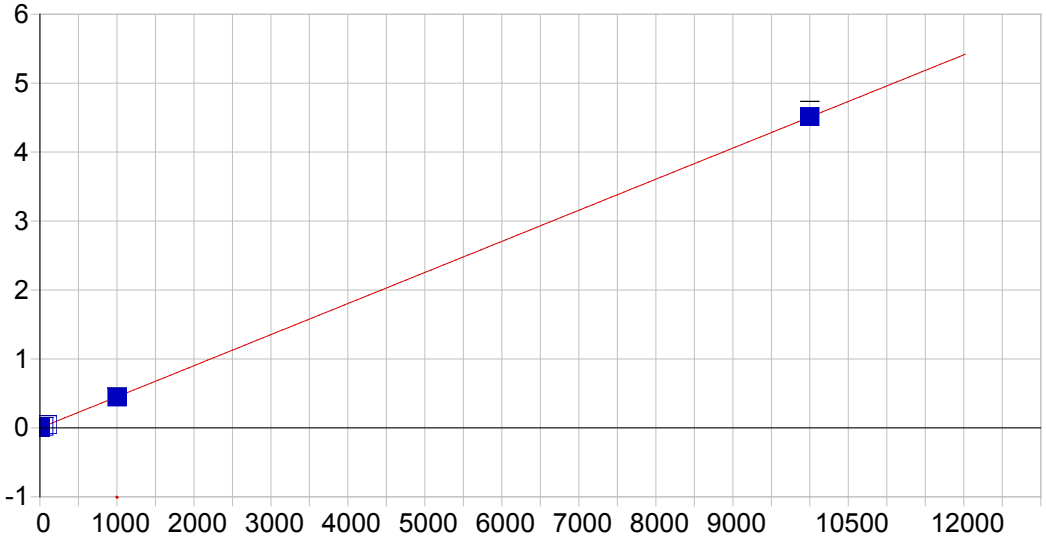


Cr 205.560 {464}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Full Fit	Weighting:	1/Conc

A0 (Offset):	-0.000114	Re-Slope:	1.000000
A1 (Gain):	0.000272	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999999	Status:	OK.
Std Error of Est:	0.000004		
Predicted MDL:	0.172787		
Predicted MQL:	0.575955		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	-.00011	.000	1
CalStd5=10	10.000	10.605	.605	6.05	.00277	.000	1
CalStd7=50	50.000	49.570	-.430	-.860	.01338	.000	1
CalStd9=100	1000.0	998.72	-1.28	-.128	.27150	.004	1
CalStd8=100	100.00	102.10	2.10	2.10	.02768	.000	1
CalStd4=5	5.0000	5.3395	.340	6.79	.00134	.000	1
CalStd3=1	1.0000	1.1789	.179	17.9	.00021	.000	1
CalStd11-100	100000.	100000.	.231	.000	24.240	.186	1
CalStd10=10	10000.	9998.3	-1.74	-.017	2.6921	.012	1

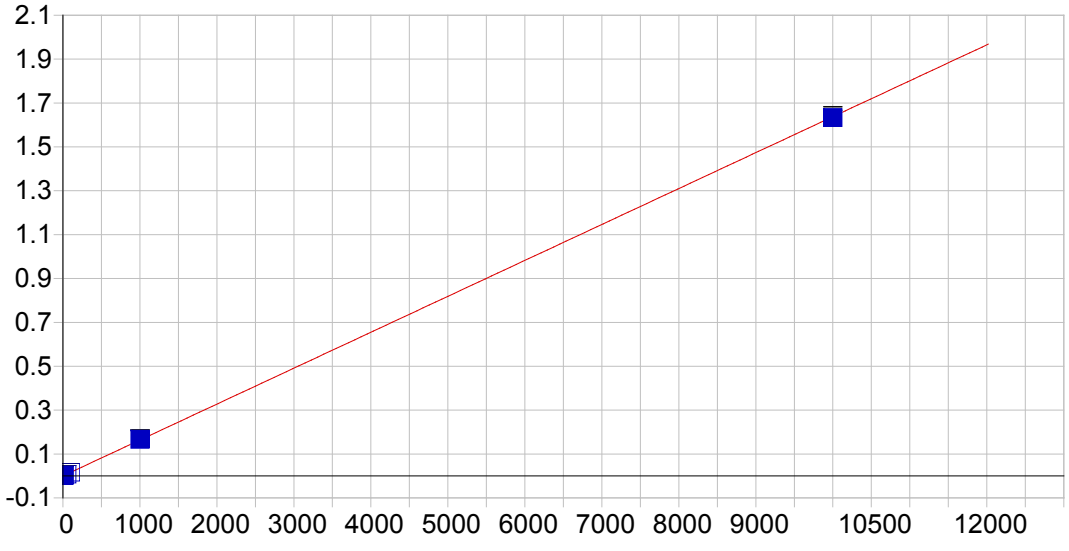


Cr 267.716 {126}

Date of Fit: 01/21/2016 12:14:47 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	-0.000084	Re-Slope:	1.000000
A1 (Gain):	0.000451	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999991	Status:	OK.
Std Error of Est:	0.000017		
Predicted MDL:	0.447658		
Predicted MQL:	1.492193		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00034	.000	.000	-.00008	.000	1
CalStd5=10	10.000	10.340	.340	3.40	.00458	.000	1
CalStd7=50	50.000	48.797	-1.20	-2.41	.02192	.000	1
CalStd9=100	1000.0	988.78	-11.2	-1.12	.44577	.009	1
CalStd8=100	100.00	100.90	.899	.899	.04541	.001	1
CalStd4=5	5.0000	5.2992	.299	5.98	.00231	.000	1
CalStd10=10	10000.	10011.	10.9	.109	4.5139	.090	1

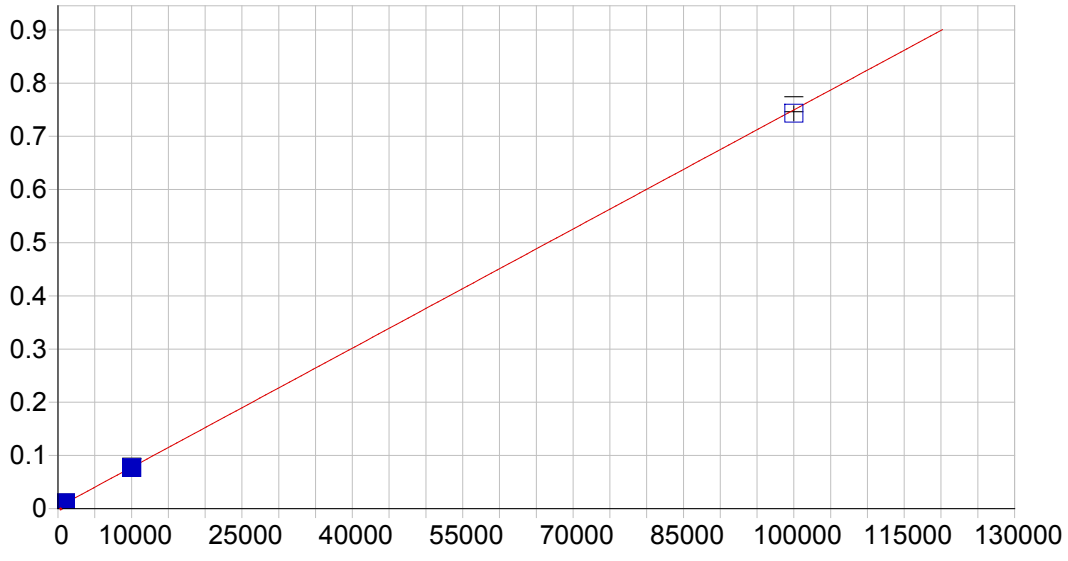


Cu 224.700 {450}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000044	Re-Slope:	1.000000
A1 (Gain):	0.000164	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999939	Status:	OK.
Std Error of Est:	0.000007		
Predicted MDL:	0.431388		
Predicted MQL:	1.437959		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00102	-.001	.000	-.00004	.000	1
CalStd9=100	1000.0	1019.2	19.2	1.92	.16691	.003	1
CalStd7=50	50.000	50.609	.609	1.22	.00824	.000	1
CalStd8=100	100.00	104.62	4.62	4.62	.01709	.000	1
CalStd5=10	10.000	10.926	.926	9.26	.00175	.000	1
CalStd10=10	10000.	9972.3	-27.7	-.277	1.6336	.008	1
CalStd4=5	5.0000	5.3922	.392	7.84	.00084	.000	1
CalStd6=20	20.000	21.263	1.26	6.31	.00344	.000	1
CalStd3=1	1.0000	1.7149	.715	71.5	.00024	.000	1

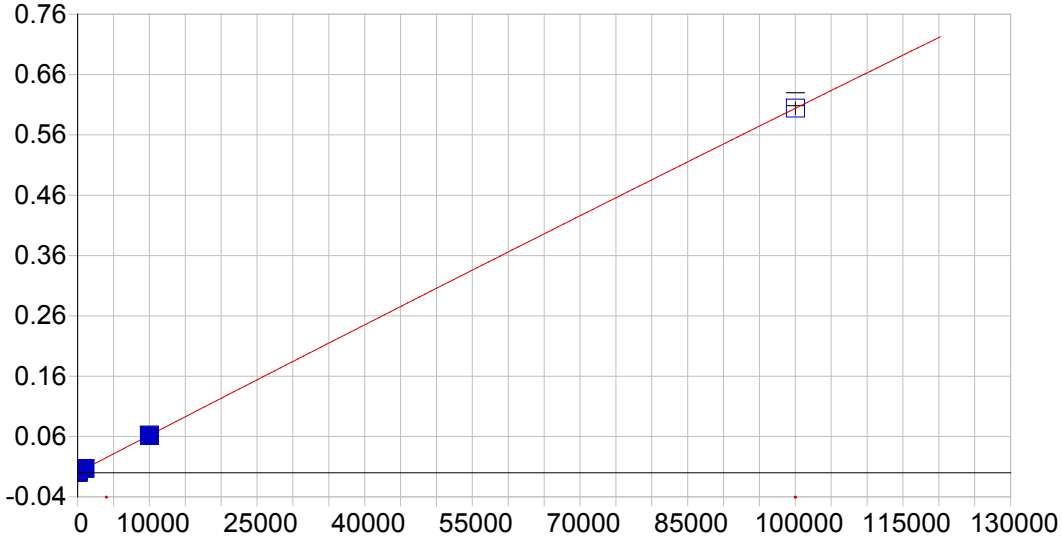


Cu 324.754 {104}

Date of Fit: 01/21/2016 12:14:47 Type of Fit: Curvilinear Weighting: 1/Conc

A0 (Offset):	0.002941	Re-Slope:	1.000000
A1 (Gain):	0.000007	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999968	Status:	OK.
Std Error of Est:	0.000010		
Predicted MDL:	91.360224		
Predicted MQL:	304.534080		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.02607	-.026	.000	.00294	.001	1
CalStd9=100	1000.0	1034.0	34.0	3.40	.01066	.001	1
CalStd8=100	100.00	123.29	23.3	23.3	.00386	.000	1
CalStd10=10	10000.	9927.9	-72.1	-.721	.07705	.001	1
CalStd11-100	100000.	99139.	-861.	-.861	.74333	.014	1

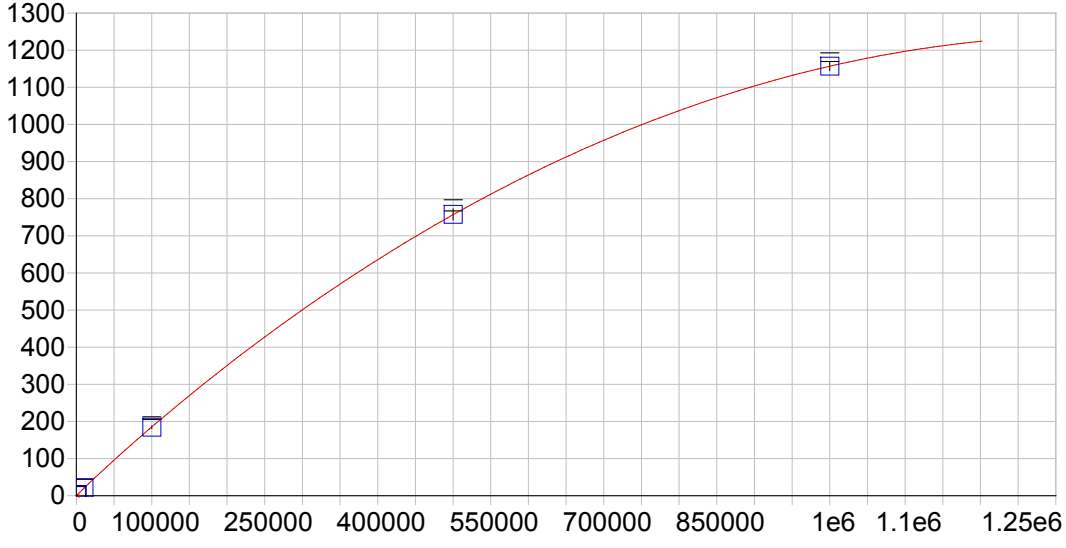


Cu 327.396 {103}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	0.000443	Re-Slope:	1.000000
A1 (Gain):	0.000006	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.998618	Status:	OK.
Std Error of Est:	0.000020		
Predicted MDL:	131.220543		
Predicted MQL:	437.401811		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.08520	-.085	.000	.00044	.001	1
CalStd6=20	20.000	93.758	73.8	369.	.00102	.000	1
CalStd7=50	50.000	82.480	32.5	65.0	.00095	.000	1
CalStd8=100	100.00	92.602	-7.40	-7.40	.00101	.001	1
CalStd9=100	1000.0	1008.5	8.45	.845	.00667	.001	1
CalStd10=10	10000.	9880.4	-120.	-1.20	.06131	.001	1
CalStd11-100	100000.	100010.	12.4	.012	.60406	.011	1

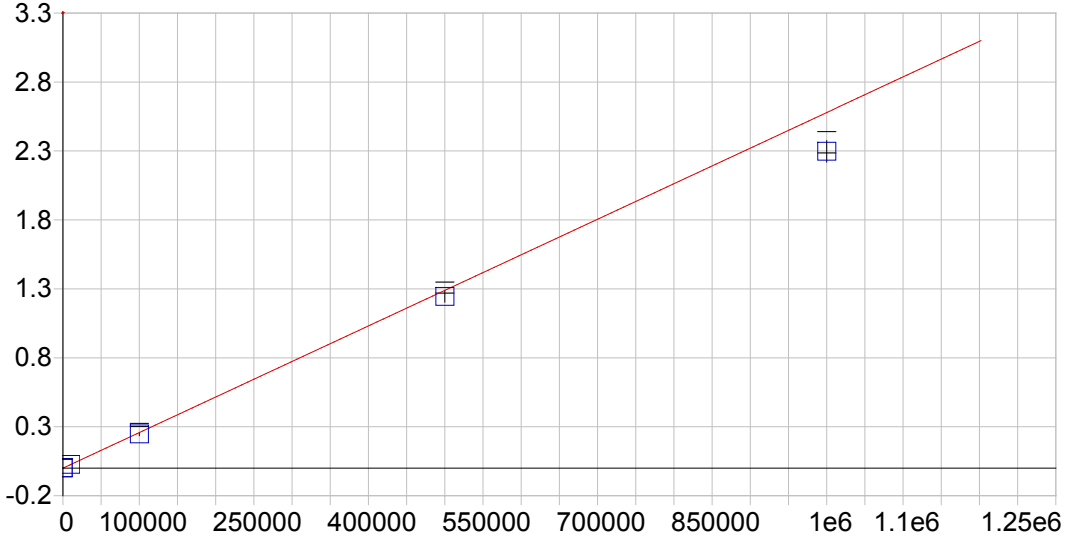


Fe 234.349 {144}

Date of Fit: 01/21/2016 12:14:47 Type of Fit: Full Fit Weighting: 1/Conc

A0 (Offset):	0.028078	Re-Slope:	1.000000
A1 (Gain):	0.002423	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	0.980000		
Correlation:	0.999996	Status:	OK.
Std Error of Est:	0.008016		
Predicted MDL:	0.647239		
Predicted MQL:	2.157464		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.02801	.001	1
CalStd10=10	10000.	10182.	182.	1.82	20.458	.218	1
CalStd13=50	500000.	500540.	543.	.109	757.45	15.1	1
CalStd14-100	1000000.	999490.	-506.	-.051	1156.7	11.7	1
CalStd9=100	1000.0	1019.4	19.4	1.94	2.1777	.014	1
CalStd12-100	100000.	99545.	-455.	-.455	184.24	3.74	1

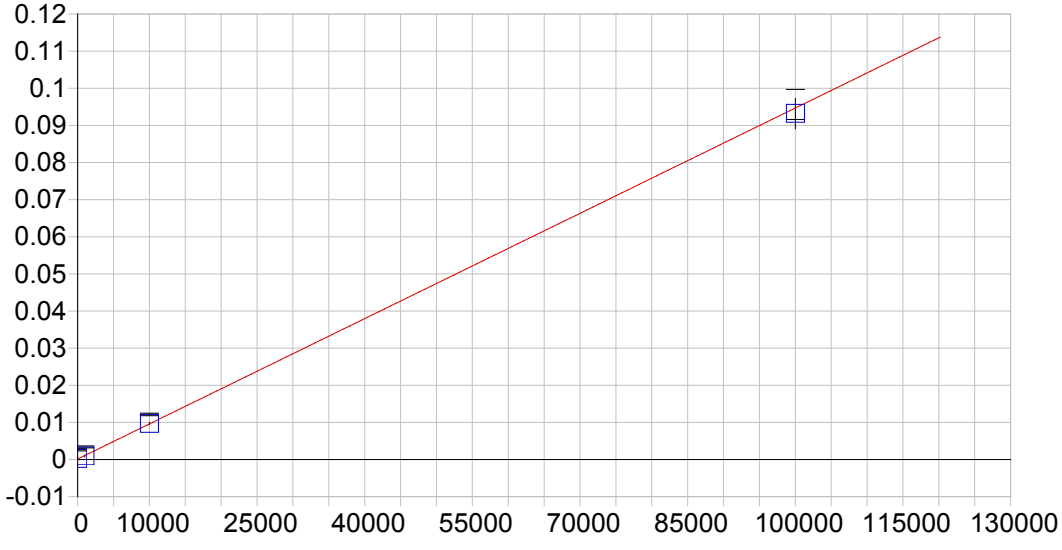


Fe 239.562 {140}

Date of Fit: 01/21/2016 12:14:47 Type of Fit: Full Fit Weighting: 1/Var

A0 (Offset):	0.000083	Re-Slope:	1.000000
A1 (Gain):	0.000003	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999847	Status:	OK.
Std Error of Est:	0.000418		
Predicted MDL:	142.410594		
Predicted MQL:	474.701979		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	66.023	66.0	.000	.00025	.001	1
CalStd10=10	10000.	10043.	43.1	.431	.02598	.001	1
CalStd13=50	500000.	482360.	-17600.	-3.53	1.2440	.040	1
CalStd14-100	1000000.	890680.	-109000.	-10.9	2.2970	.077	1
CalStd9=100	1000.0	969.34	-30.7	-3.07	.00258	.000	1
CalStd12-100	100000.	95784.	-4220.	-4.22	.24709	.012	1

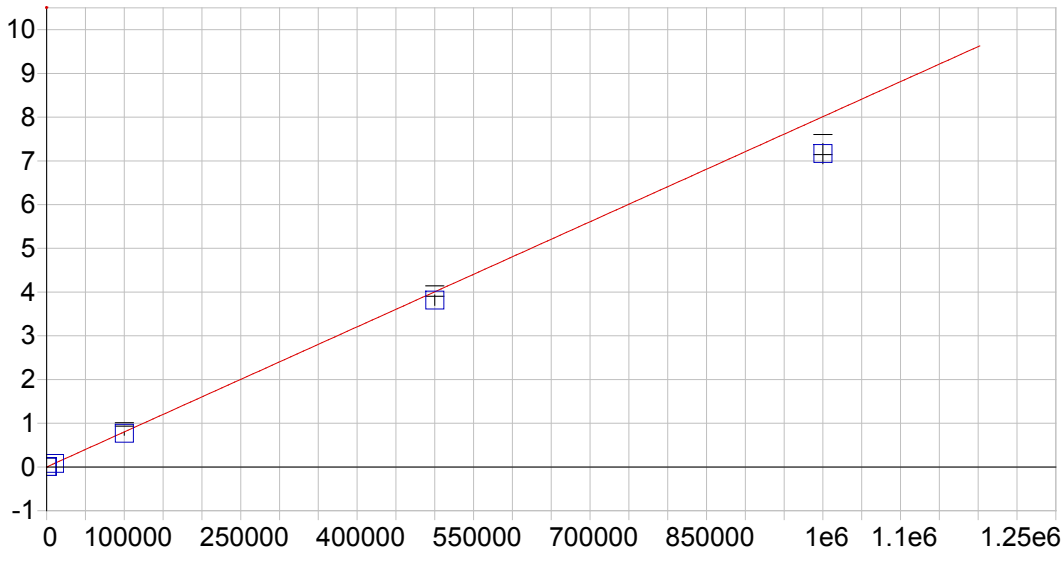


Fe 239.562 {141}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000137	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999694	Status:	OK.
Std Error of Est:	0.000202		
Predicted MDL:	312.264345		
Predicted MQL:	1040.881149		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	108.80	109.	.000	.00024	.000	1
CalStd9=100	1000.0	852.29	-148.	-14.8	.00094	.000	1
CalStd10=10	10000.	10132.	132.	1.32	.00972	.000	1
CalStd12-100	100000.	98435.	-1570.	-1.57	.09321	.004	1

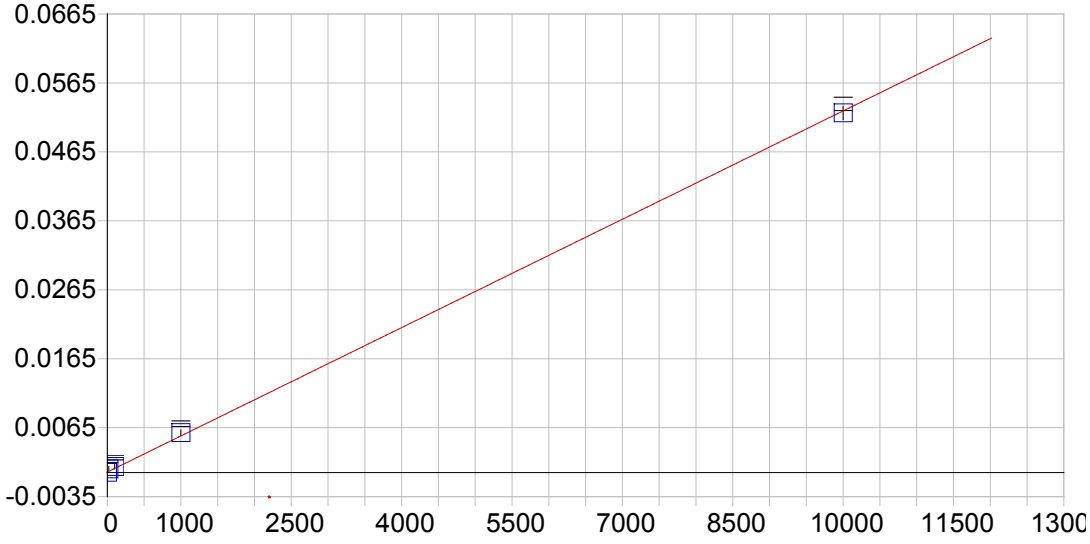


Fe 259.940 {129}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Curvilinear	Weighting:	1/Var

A0 (Offset):	0.000126	Re-Slope:	1.000000
A1 (Gain):	0.000008	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999971	Status:	OK.
Std Error of Est:	0.000282		
Predicted MDL:	78.259281		
Predicted MQL:	260.864271		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-8.9514	-8.95	.000	.00005	.000	1
CalStd10=10	10000.	9994.7	-5.32	-.053	.08020	.001	1
CalStd13=50	500000.	476090.	-23900.	-4.78	3.8143	.118	1
CalStd14-100	1000000.	894450.	-106000.	-10.6	7.1660	.228	1
CalStd9=100	1000.0	1017.0	17.0	1.70	.00827	.000	1
CalStd12-100	100000.	95646.	-4350.	-4.35	.76639	.038	1

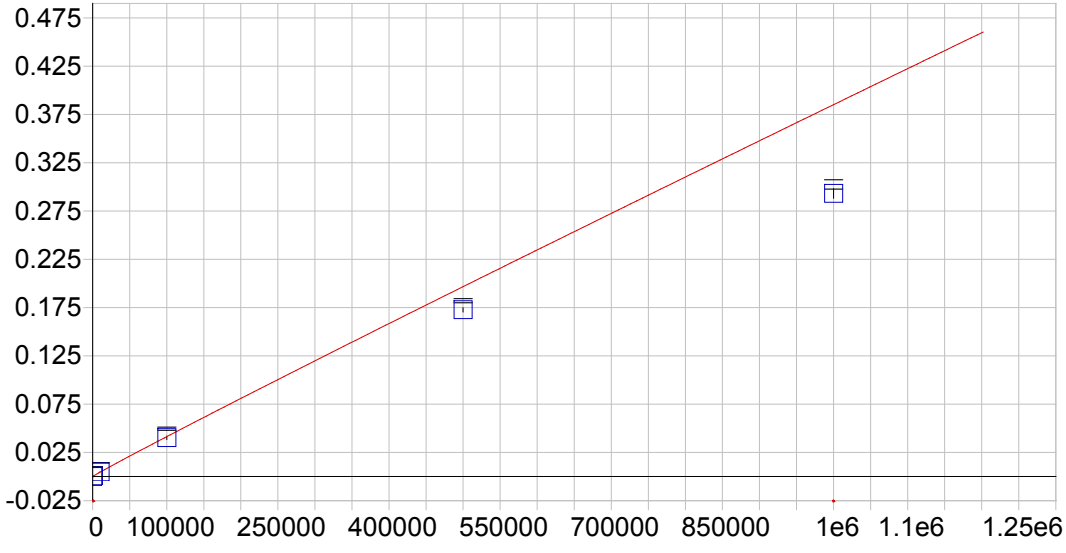


Fe 259.940 {130}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000067	Re-Slope:	1.000000
A1 (Gain):	0.000005	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999498	Status:	OK.
Std Error of Est:	0.000166		
Predicted MDL:	90.914685		
Predicted MQL:	303.048950		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-8.5097	-8.51	.000	.00002	.000	1
CalStd9=100	1000.0	1087.9	87.9	8.79	.00577	.000	1
CalStd8=100	100.00	148.71	48.7	48.7	.00085	.000	1
CalStd6=20	20.000	81.274	61.3	306.	.00049	.000	1
CalStd10=10	10000.	9944.3	-55.7	-.557	.05215	.001	1

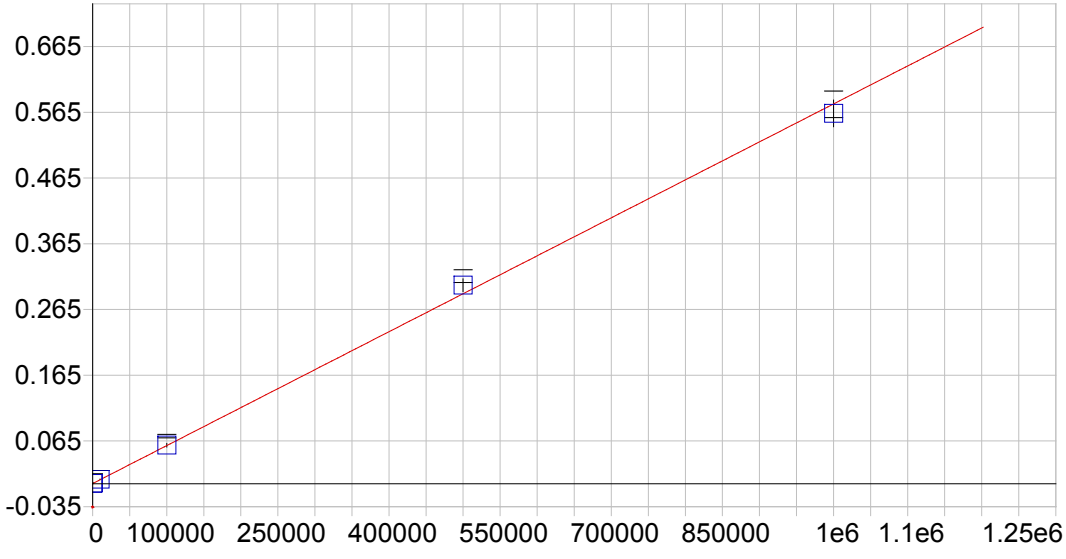


Mg 202.582 {466}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Full Fit	Weighting:	None

A0 (Offset):	0.000101	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	0.970000		
Correlation:	0.999999	Status:	OK.
Std Error of Est:	0.000212		
Predicted MDL:	1.700574		
Predicted MQL:	5.668578		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	-.00002	.000	1
CalStd13=50	500000.	437340.	-62700.	-12.5	.17273	.002	1
CalStd10=10	10000.	10554.	554.	5.54	.00476	.000	1
CalStd14-100	1000000.	754690.	-245000.	-24.5	.29316	.005	1
CalStd12-100	100000.	97101.	-2900.	-2.90	.04020	.002	1
CalStd9=100	1000.0	888.28	-112.	-11.2	.00052	.000	1

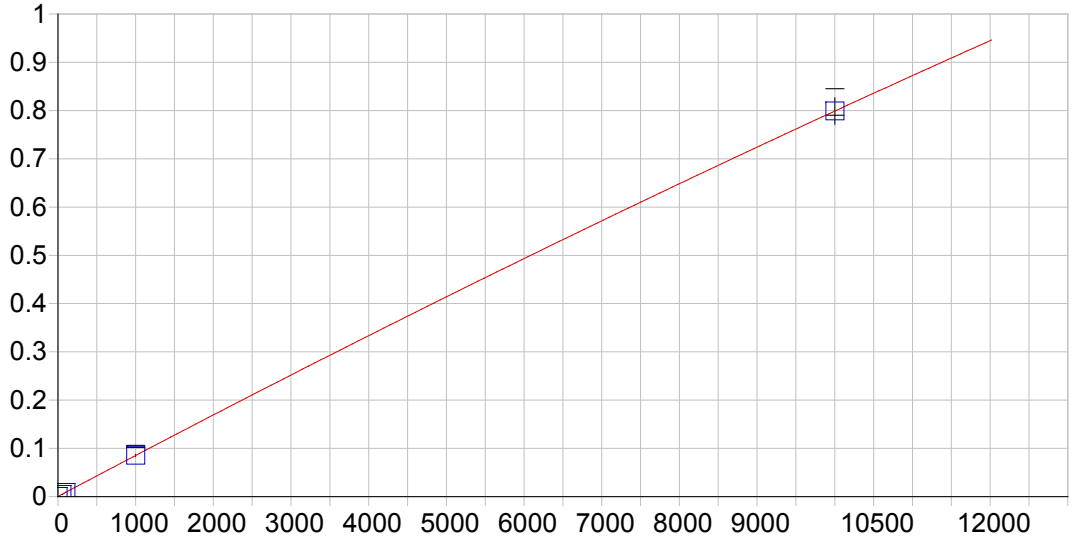


Mg 279.079 {121}

Date of Fit: 01/21/2016 12:14:47 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	0.000194	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999444	Status:	OK.
Std Error of Est:	0.000030		
Predicted MDL:	541.293935		
Predicted MQL:	1804.313116		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.32844	-.328	.000	.00019	.000	1
CalStd13=50	500000.	522440.	22400.	4.49	.30192	.010	1
CalStd10=10	10000.	11082.	1080.	10.8	.00659	.000	1
CalStd14-100	1000000.	975120.	-24900.	-2.49	.56335	.020	1
CalStd12-100	100000.	101180.	1180.	1.18	.05863	.003	1
CalStd9=100	1000.0	1188.5	188.	18.8	.00088	.000	1

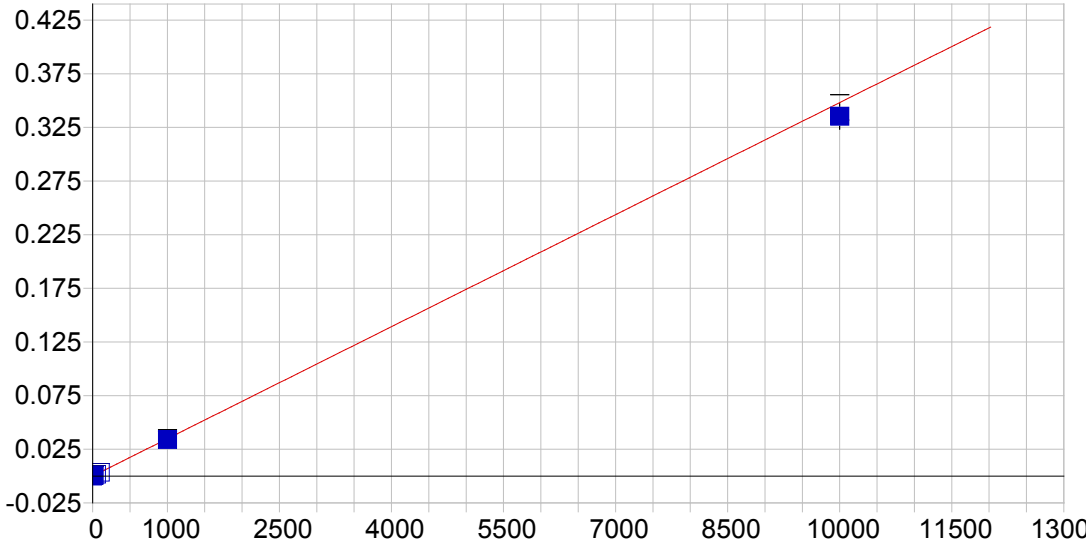


Mg 280.270 {120}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Curvilinear	Weighting:	None

A0 (Offset):	0.000351	Re-Slope:	1.000000
A1 (Gain):	0.000086	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000091		
Predicted MDL:	0.021854		
Predicted MQL:	0.072846		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-1.0311	-1.03	.000	.00026	.000	1
CalStd9=100	1000.0	999.87	-.125	-.013	.08536	.002	1
CalStd10=10	10000.	10000.	.001	.000	.79886	.027	1
CalStd8=100	100.00	101.09	1.09	1.09	.00900	.000	1
CalStd7=50	50.000	50.061	.061	.122	.00464	.000	1

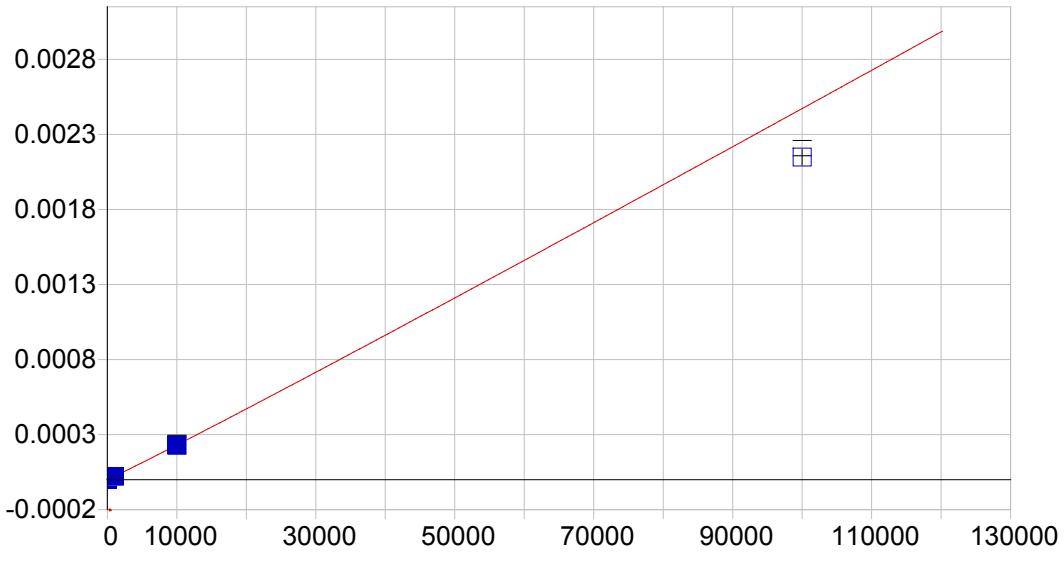


Mn 257.610 {131}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000003	Re-Slope:	1.000000
A1 (Gain):	0.000035	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999482	Status:	OK.
Std Error of Est:	0.000007		
Predicted MDL:	0.054861		
Predicted MQL:	0.182871		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.04751	-.048	.000	.00000	.000	1
CalStd5=10	10.000	10.289	.289	2.89	.00036	.000	1
CalStd7=50	50.000	48.590	-1.41	-2.82	.00169	.000	1
CalStd6=20	20.000	20.512	.512	2.56	.00072	.000	1
CalStd8=100	100.00	98.826	-1.17	-1.17	.00344	.000	1
CalStd4=5	5.0000	5.3306	.331	6.61	.00019	.000	1
CalStd9=100	1000.0	977.23	-22.8	-2.28	.03402	.001	1
CalStd10=10	10000.	9629.8	-370.	-3.70	.33525	.012	1

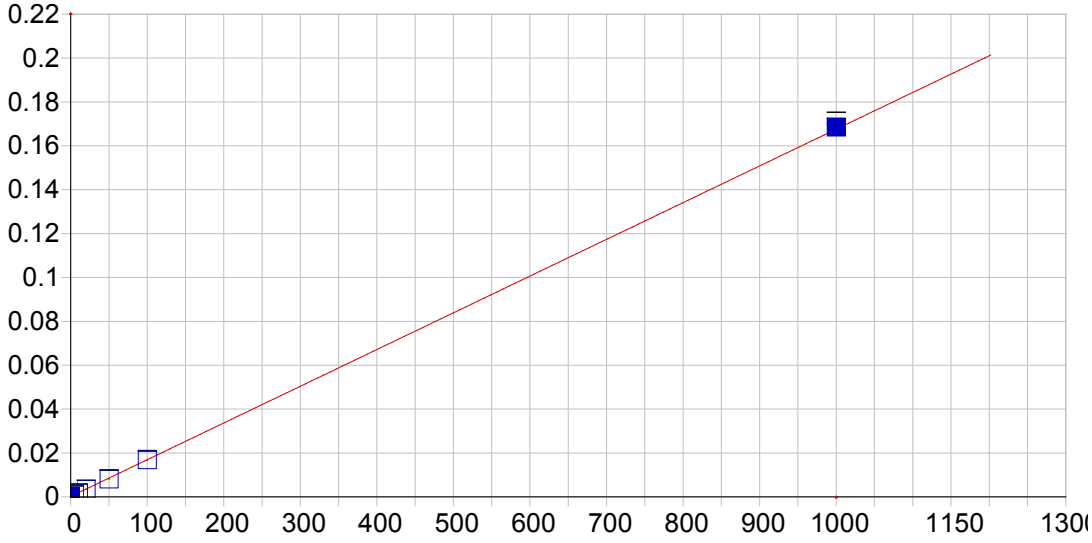


Mn 259.373 {130}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Full Fit	Weighting:	None

A0 (Offset):	-0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.030000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	21.917312		
Predicted MQL:	73.057705		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00000	.000	1
CalStd10=10	10000.	9881.0	-119.	-1.19	.00023	.000	1
CalStd11-100	100000.	87251.	-12700.	-12.7	.00215	.000	1
CalStd9=100	1000.0	1001.5	1.49	.149	.00002	.000	1

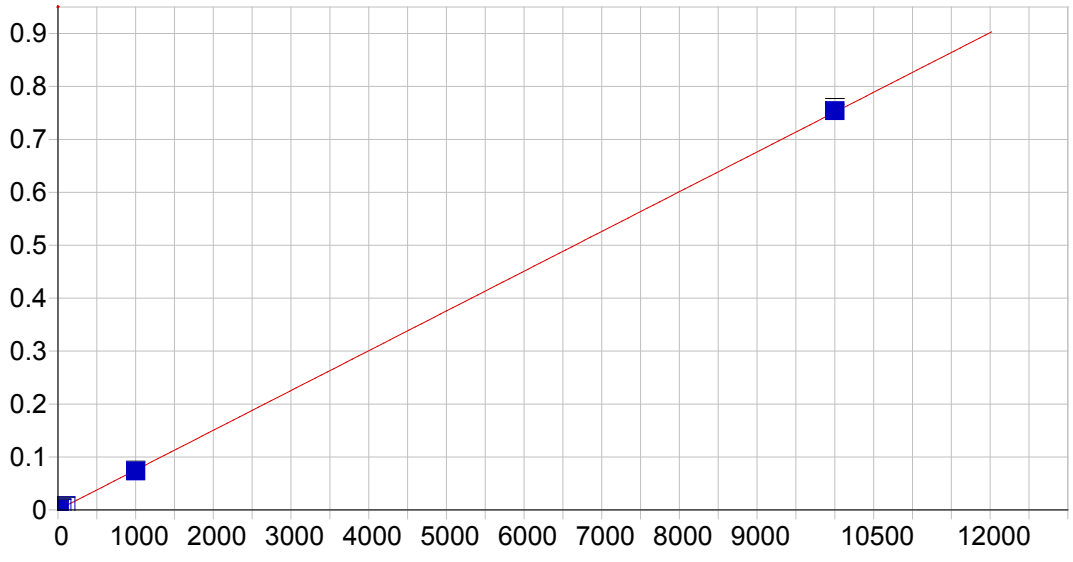


Mo 202.030 {466}

Date of Fit: 01/21/2016 12:14:47 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	0.000188	Re-Slope:	1.000000
A1 (Gain):	0.000167	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999814	Status:	OK.
Std Error of Est:	0.000009		
Predicted MDL:	0.303955		
Predicted MQL:	1.013182		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00173	.002	.000	.00019	.000	1
CalStd7=50	50.000	47.180	-2.82	-5.64	.00809	.000	1
CalStd6=20	20.000	19.517	-.483	-2.42	.00346	.000	1
CalStd5=10	10.000	9.1165	-.883	-8.83	.00171	.000	1
CalStd8=100	100.00	99.463	-.537	-.537	.01684	.000	1
CalStd4=5	5.0000	4.1135	-.887	-17.7	.00088	.000	1
CalStd9=100	1000.0	1005.6	5.61	.561	.16853	.003	1

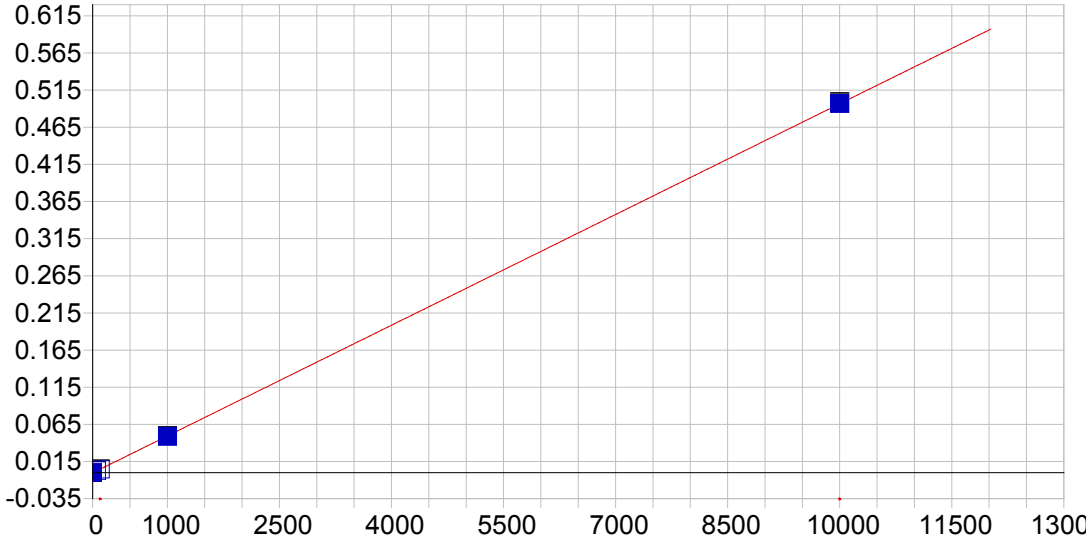


Mo 204.598 {464}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000163	Re-Slope:	1.000000
A1 (Gain):	0.000075	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999920	Status:	OK.
Std Error of Est:	0.000008		
Predicted MDL:	0.643238		
Predicted MQL:	2.144127		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00272	.003	.000	.00016	.000	1
CalStd7=50	50.000	45.277	-4.72	-9.45	.00356	.000	1
CalStd6=20	20.000	18.439	-1.56	-7.81	.00155	.000	1
CalStd5=10	10.000	8.6434	-1.36	-13.6	.00081	.000	1
CalStd8=100	100.00	96.738	-3.26	-3.26	.00743	.000	1
CalStd4=5	5.0000	4.0884	-.912	-18.2	.00047	.000	1
CalStd9=100	1000.0	975.07	-24.9	-2.49	.07341	.001	1
CalStd10=10	10000.	10037.	36.7	.367	.75417	.006	1

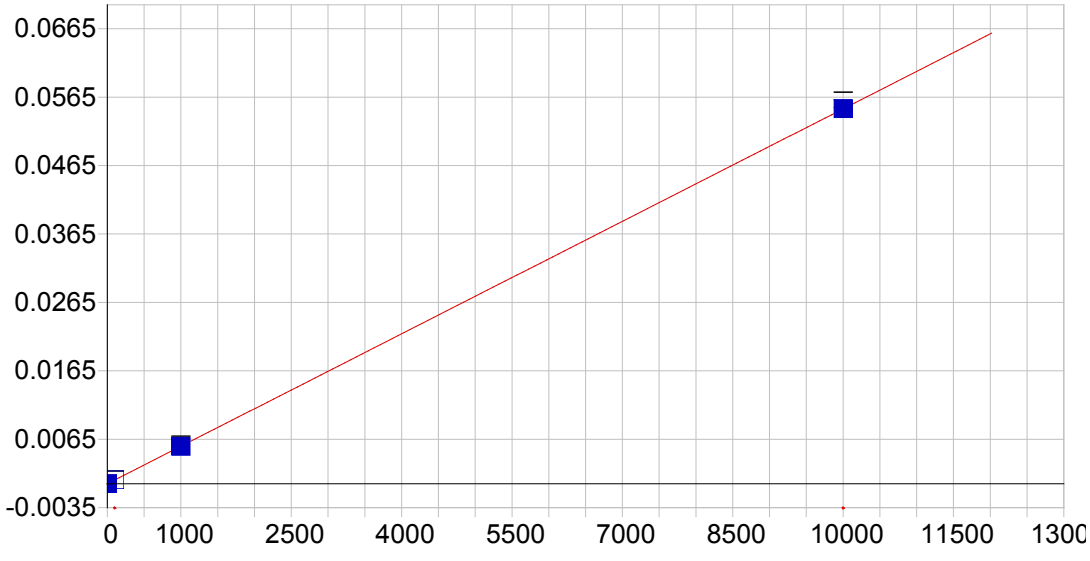


Mo 204.598 {465}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	-0.000355	Re-Slope:	1.000000
A1 (Gain):	0.000050	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999998	Status:	OK.
Std Error of Est:	0.000482		
Predicted MDL:	0.830742		
Predicted MQL:	2.769141		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	6.5206	6.52	.000	-.00003	.000	1
CalStd9=100	1000.0	985.33	-14.7	-1.47	.04862	.001	1
CalStd10=10	10000.	10001.	1.42	.014	.49673	.002	1
CalStd7=50	50.000	53.319	3.32	6.64	.00229	.000	1
CalStd8=100	100.00	103.41	3.41	3.41	.00478	.000	1

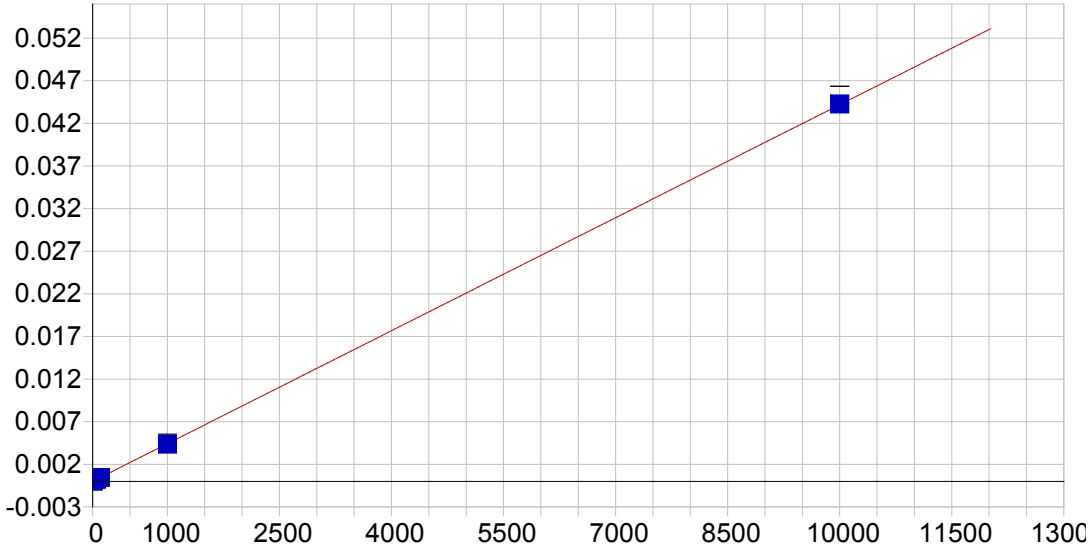


Ni 221.647 {452}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000005	Re-Slope:	1.000000
A1 (Gain):	0.000005	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999998	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.322025		
Predicted MQL:	1.073416		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00082	-.001	.000	-.00001	.000	1
CalStd10=10	10000.	10004.	3.64	.036	.05480	.001	1
CalStd8=100	100.00	101.27	1.27	1.27	.00055	.000	1
CalStd9=100	1000.0	995.08	-4.92	-.492	.00545	.000	1

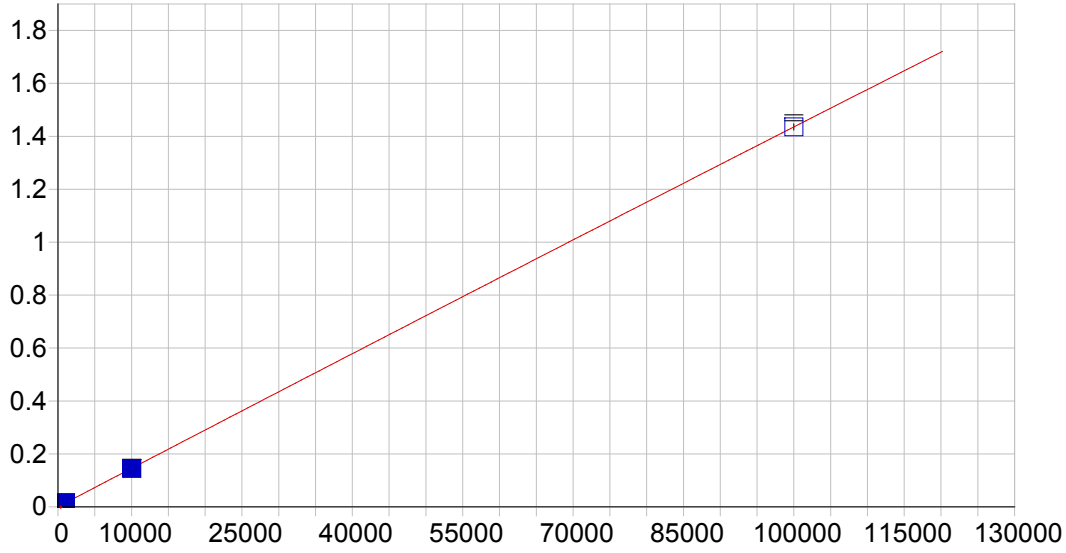


Ni 231.604 {445}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000004	Re-Slope:	1.000000
A1 (Gain):	0.000004	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999975	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.366846		
Predicted MQL:	1.222819		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00040	.000	.000	.00000	.000	1
CalStd7=50	50.000	48.371	-1.63	-3.26	.00021	.000	1
CalStd5=10	10.000	10.392	.392	3.92	.00004	.000	1
CalStd8=100	100.00	99.994	-.006	-.006	.00044	.000	1
CalStd4=5	5.0000	5.4462	.446	8.92	.00002	.000	1
CalStd9=100	1000.0	982.59	-17.4	-1.74	.00434	.000	1
CalStd3=1	1.0000	1.3231	.323	32.3	.00000	.000	1
CalStd10=10	10000.	10018.	17.9	.179	.04426	.001	1

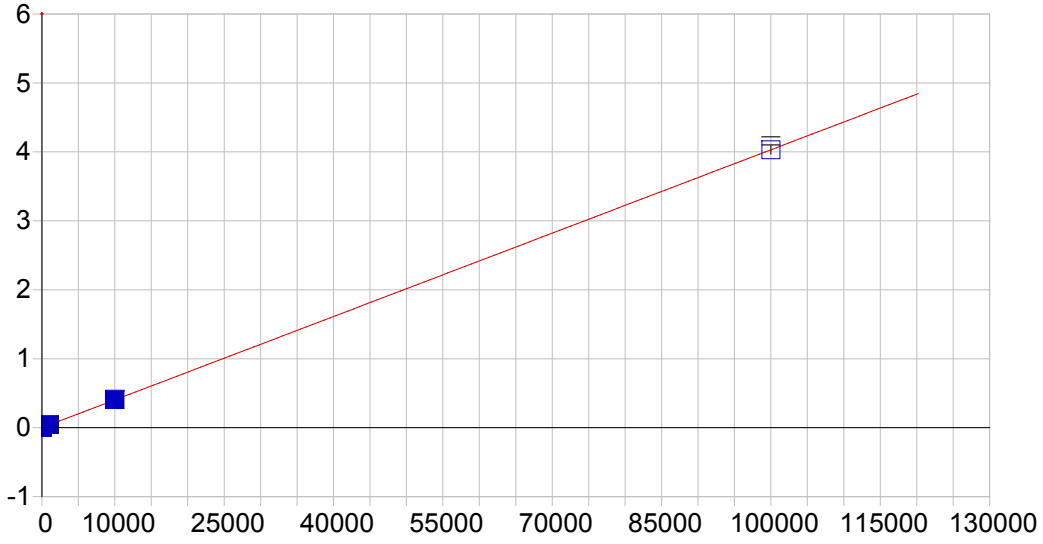


Pb 216.999 {455}

Date of Fit: 01/21/2016 12:14:47 Type of Fit: Curvilinear Weighting: 1/Conc

A0 (Offset):	0.000333	Re-Slope:	1.000000
A1 (Gain):	0.000015	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999969	Status:	OK.
Std Error of Est:	0.000004		
Predicted MDL:	4.724083		
Predicted MQL:	15.746944		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00280	.003	.000	.00033	.000	1
CalStd9=100	1000.0	1063.7	63.7	6.37	.01577	.000	1
CalStd10=10	10000.	9927.0	-73.0	-.730	.14427	.001	1
CalStd11-100	100000.	100010.	6.80	.007	1.4355	.011	1
CalStd8=100	100.00	106.68	6.68	6.68	.00188	.000	1
CalStd4=5	5.0000	2.3954	-2.60	-52.1	.00037	.000	1
CalStd5=10	10.000	8.3668	-1.63	-16.3	.00045	.000	1

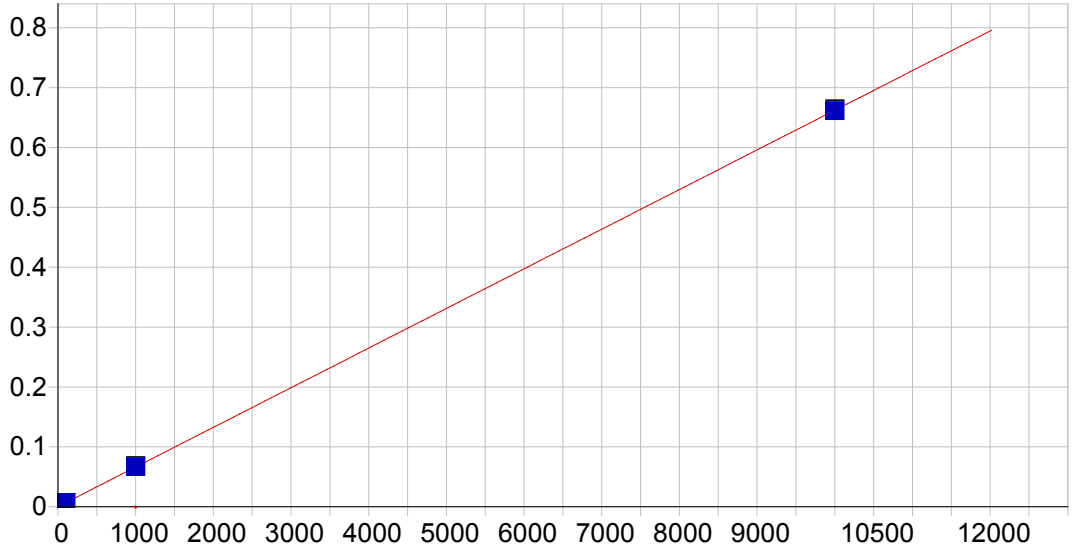


Pb 220.353 {153}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000006	Re-Slope:	1.000000
A1 (Gain):	0.000040	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999994	Status:	OK.
Std Error of Est:	0.000019		
Predicted MDL:	2.072758		
Predicted MQL:	6.909195		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00723	-.007	.000	.00001	.000	1
CalStd9=100	1000.0	1030.2	30.2	3.02	.04151	.001	1
CalStd10=10	10000.	10043.	42.8	.428	.40464	.006	1
CalStd8=100	100.00	103.85	3.85	3.85	.00419	.000	1
CalStd11-100	100000.	99923.	-76.9	-.077	4.0276	.058	1

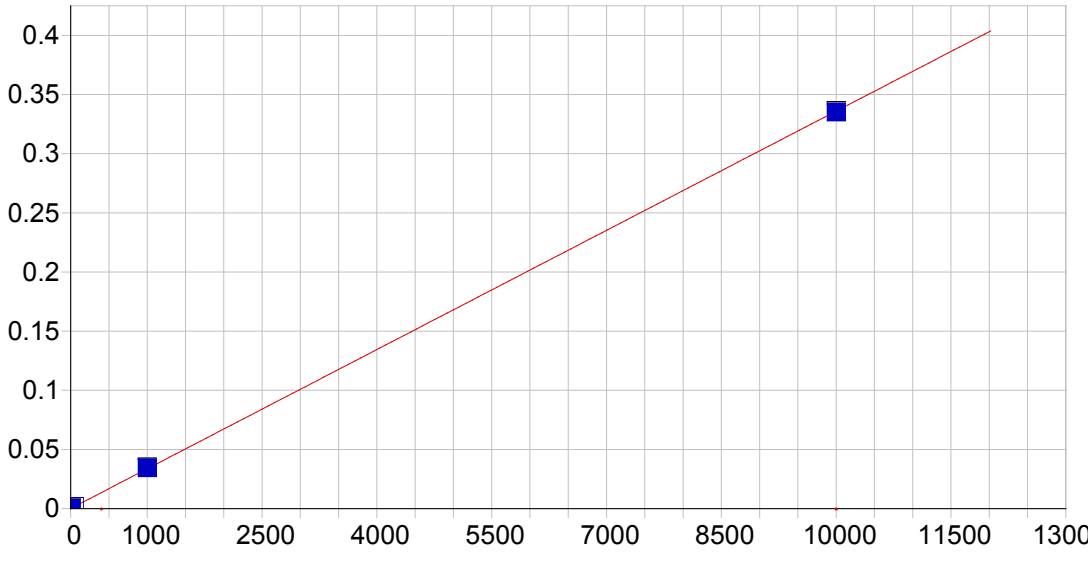


Pb 220.353 {453}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000073	Re-Slope:	1.000000
A1 (Gain):	0.000066	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999990	Status:	OK.
Std Error of Est:	0.000003		
Predicted MDL:	1.328490		
Predicted MQL:	4.428302		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00062	-.001	.000	.00007	.000	1
CalStd5=10	10.000	10.637	.637	6.37	.00078	.000	1
CalStd8=100	100.00	103.24	3.24	3.24	.00691	.000	1
CalStd4=5	5.0000	5.1034	.103	2.07	.00041	.000	1
CalStd9=100	1000.0	1007.7	7.71	.771	.06679	.001	1
CalStd10=10	10000.	9988.3	-11.7	-.117	.66139	.003	1

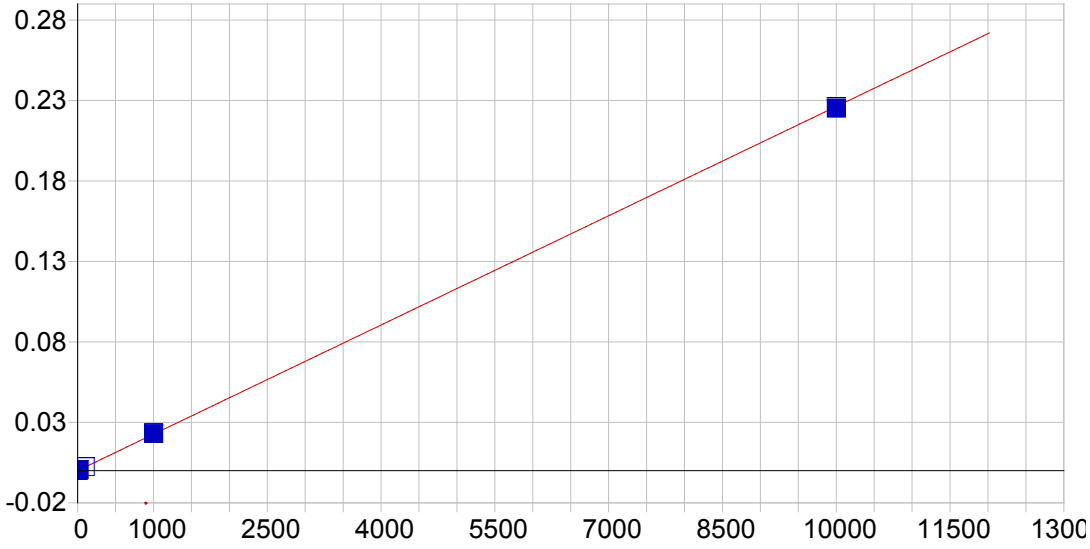


Sb 206.833 {463}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000096	Re-Slope:	1.000000
A1 (Gain):	0.000034	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999969	Status:	OK.
Std Error of Est:	0.000004		
Predicted MDL:	1.675794		
Predicted MQL:	5.585981		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00113	-.001	.000	.00010	.000	1
CalStd9=100	1000.0	1023.3	23.3	2.33	.03447	.001	1
CalStd5=10	10.000	10.737	.737	7.37	.00046	.000	1
CalStd7=50	50.000	50.932	.932	1.86	.00181	.000	1
CalStd10=10	10000.	9975.0	-25.0	-.250	.33512	.001	1

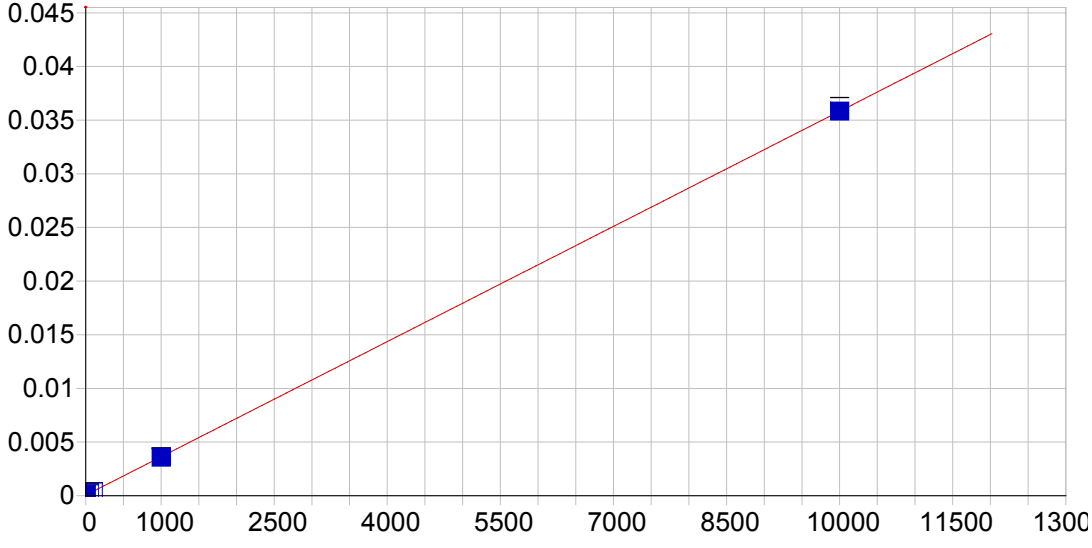


Sb 217.581 {455}

Date of Fit: 01/21/2016 12:14:47 Type of Fit: Linear Weighting: 1/Var

A0 (Offset):	0.000016	Re-Slope:	1.000000
A1 (Gain):	0.000023	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999852	Status:	OK.
Std Error of Est:	0.000055		
Predicted MDL:	2.649440		
Predicted MQL:	8.831468		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.78312	-.783	.000	.00000	.000	1
CalStd9=100	1000.0	1016.0	16.0	1.60	.02300	.000	1
CalStd6=20	20.000	21.938	1.94	9.69	.00051	.000	1
CalStd5=10	10.000	9.2521	-.748	-7.48	.00023	.000	1
CalStd8=100	100.00	105.13	5.13	5.13	.00239	.000	1
CalStd4=5	5.0000	3.5074	-1.49	-29.9	.00010	.000	1
CalStd10=10	10000.	9950.3	-49.7	-.497	.22512	.001	1

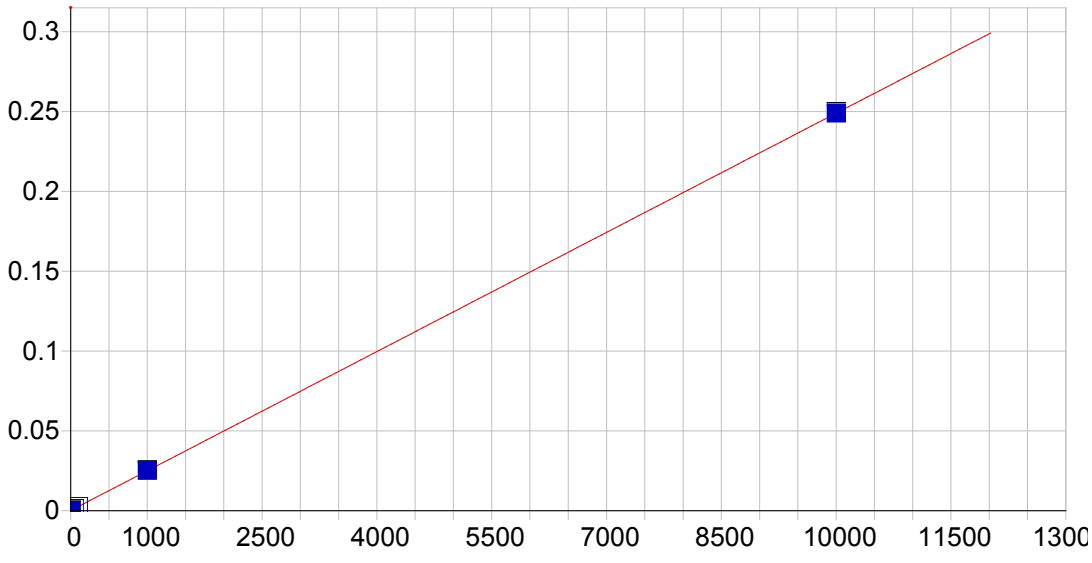


Se 196.090 {471}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000048	Re-Slope:	1.000000
A1 (Gain):	0.000004	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999997	Status:	OK.
Std Error of Est:	0.000037		
Predicted MDL:	10.764762		
Predicted MQL:	35.882539		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	8.6220	8.62	.000	.00008	.000	1
CalStd7=50	50.000	53.129	3.13	6.26	.00024	.000	1
CalStd9=100	1000.0	984.56	-15.4	-1.54	.00357	.000	1
CalStd5=10	10.000	18.196	8.20	82.0	.00011	.000	1
CalStd8=100	100.00	93.916	-6.08	-6.08	.00038	.000	1
CalStd10=10	10000.	10002.	1.58	.016	.03582	.000	1

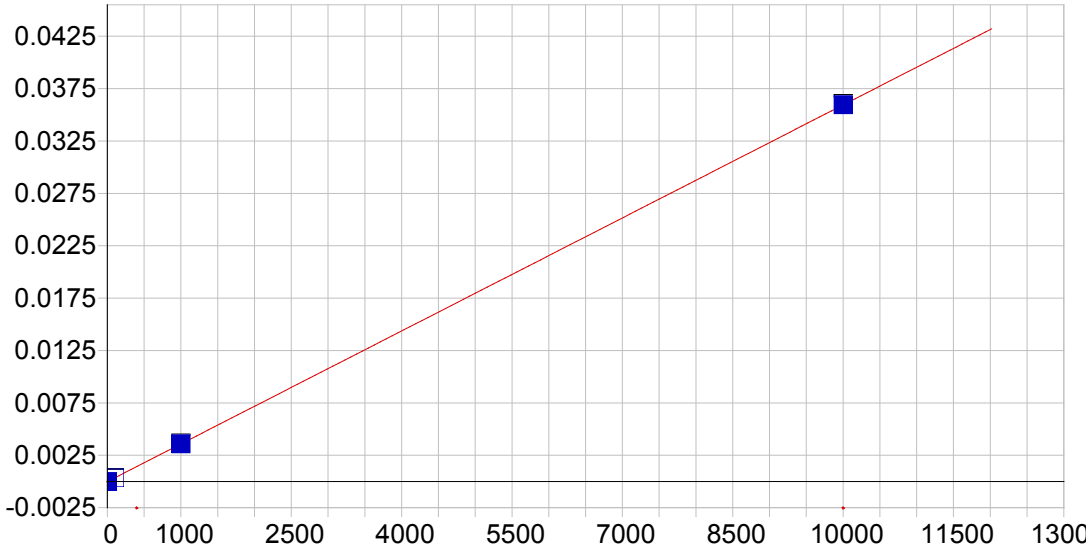


Se 196.090 {472}

Date of Fit: 01/21/2016 12:14:47 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	0.000115	Re-Slope:	1.000000
A1 (Gain):	0.000025	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999978	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	2.159433		
Predicted MQL:	7.198110		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00226	.002	.000	.00012	.000	1
CalStd7=50	50.000	46.681	-3.32	-6.64	.00128	.000	1
CalStd9=100	1000.0	1005.3	5.27	.527	.02513	.000	1
CalStd5=10	10.000	8.4465	-1.55	-15.5	.00033	.000	1
CalStd8=100	100.00	99.046	-.954	-.954	.00258	.000	1
CalStd10=10	10000.	10001.	.556	.006	.24897	.001	1

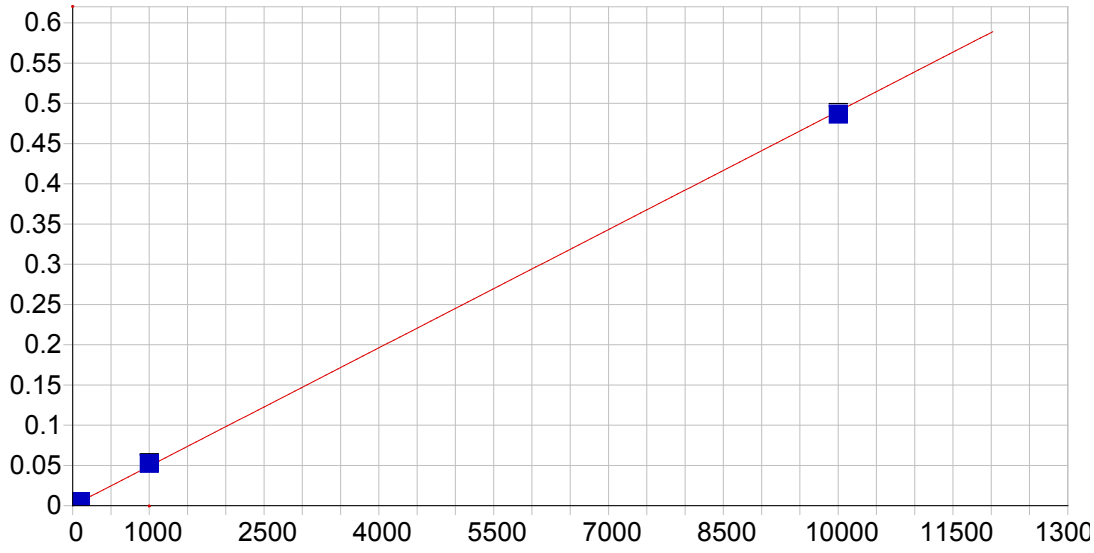


Se 206.279 {463}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000016	Re-Slope:	1.000000
A1 (Gain):	0.000004	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999996	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	15.984822		
Predicted MQL:	53.282740		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00289	.003	.000	-.00002	.000	1
CalStd9=100	1000.0	999.08	-.916	-.092	.00358	.000	1
CalStd10=10	10000.	10004.	3.75	.038	.03597	.000	1
CalStd8=100	100.00	97.161	-2.84	-2.84	.00033	.000	1

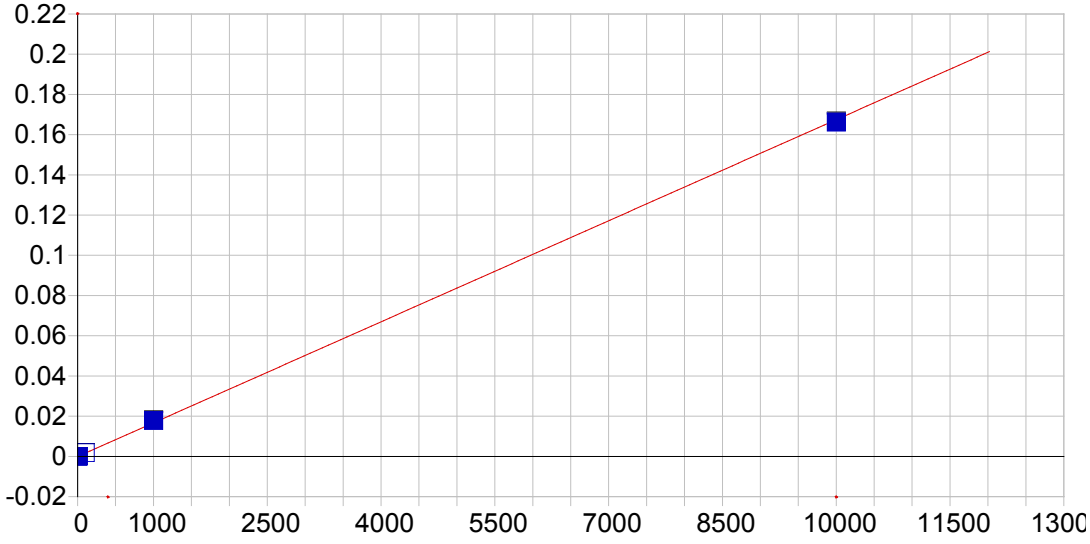


Tl 190.856 {476}

Date of Fit: 01/21/2016 12:14:47 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	0.000130	Re-Slope:	1.000000
A1 (Gain):	0.000049	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999738	Status:	OK.
Std Error of Est:	0.000015		
Predicted MDL:	1.114614		
Predicted MQL:	3.715381		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00234	-.002	.000	.00013	.000	1
CalStd9=100	1000.0	1065.0	65.0	6.50	.05235	.001	1
CalStd8=100	100.00	109.90	9.90	9.90	.00552	.000	1
CalStd5=10	10.000	10.771	.771	7.71	.00066	.000	1
CalStd10=10	10000.	9924.3	-75.7	-.757	.48680	.002	1

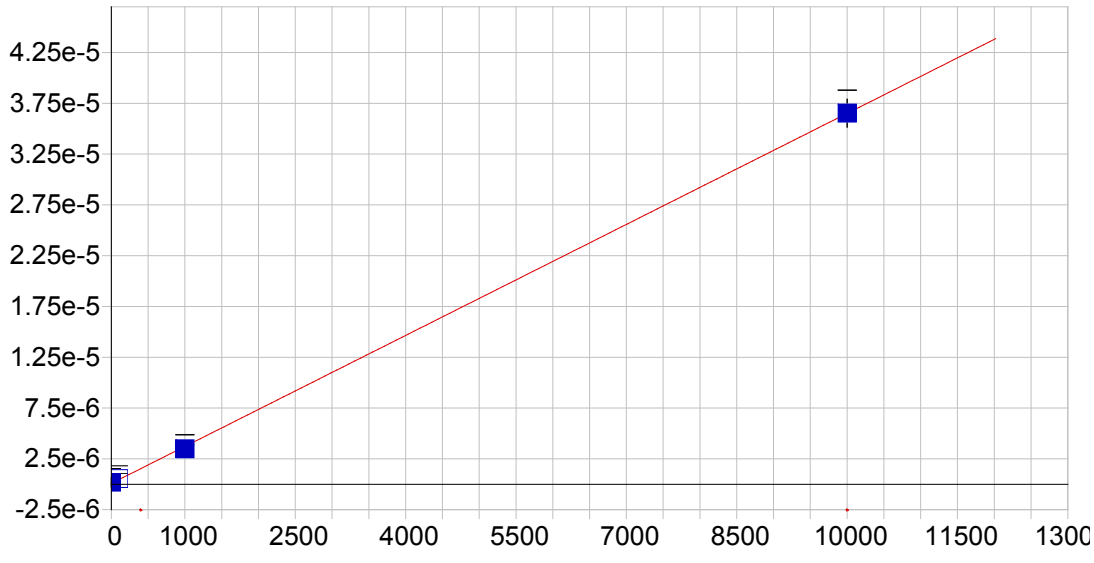


Tl 190.856 {477}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000057	Re-Slope:	1.000000
A1 (Gain):	0.000017	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999748	Status:	OK.
Std Error of Est:	0.000005		
Predicted MDL:	2.183579		
Predicted MQL:	7.278597		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00095	-.001	.000	-.00006	.000	1
CalStd9=100	1000.0	1064.2	64.2	6.42	.01776	.000	1
CalStd8=100	100.00	109.61	9.61	9.61	.00178	.000	1
CalStd5=10	10.000	9.4173	-.583	-5.83	.00010	.000	1
CalStd10=10	10000.	9926.8	-73.2	-.732	.16619	.000	1

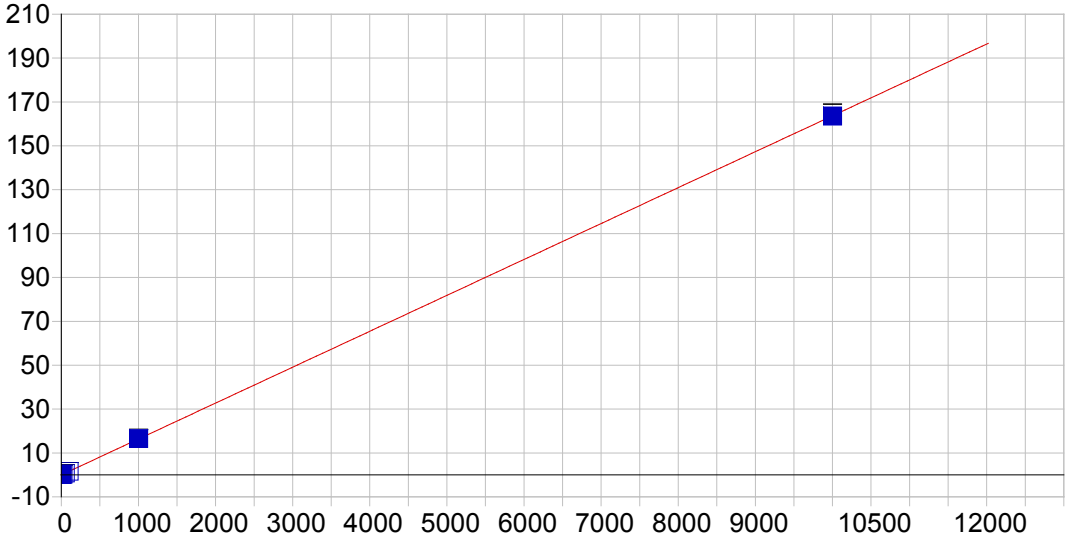


V 290.882 {116}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999953	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	126.090573		
Predicted MQL:	420.301911		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	32.803	32.8	.000	.00000	.000	1
CalStd9=100	1000.0	931.88	-68.1	-6.81	.00000	.000	1
CalStd10=10	10000.	10007.	6.52	.065	.00004	.000	1
CalStd8=100	100.00	128.79	28.8	28.8	.00000	.000	1

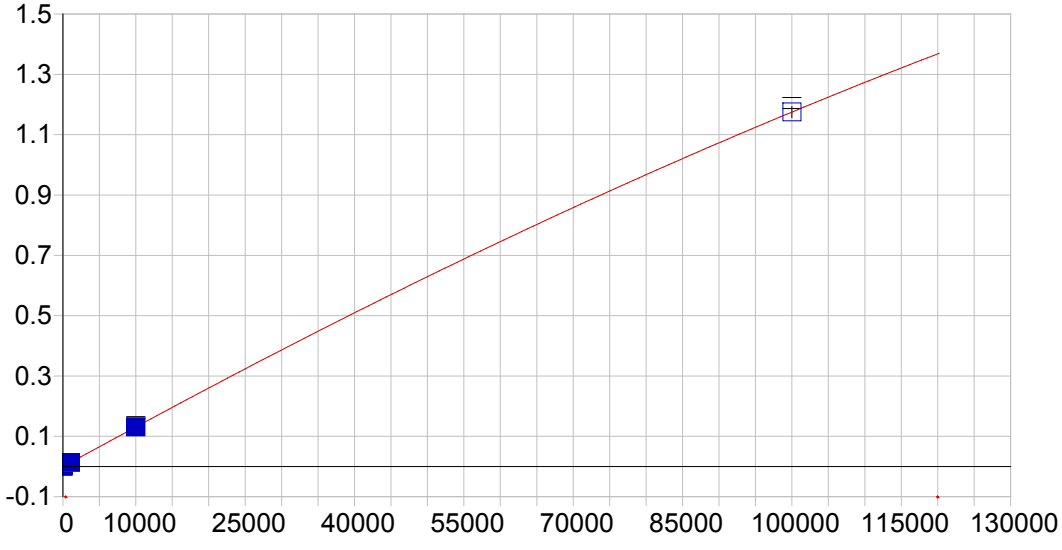


V 292.402 {115}

Date of Fit: 01/21/2016 12:14:47 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	-0.009619	Re-Slope:	1.000000
A1 (Gain):	0.016370	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999991	Status:	OK.
Std Error of Est:	0.000884		
Predicted MDL:	0.441841		
Predicted MQL:	1.472804		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00100	-.001	.000	-.00964	.003	1
CalStd7=50	50.000	49.378	-.622	-1.24	.79868	.016	1
CalStd9=100	1000.0	1010.9	10.9	1.09	16.539	.120	1
CalStd6=20	20.000	20.640	.640	3.20	.32826	.007	1
CalStd5=10	10.000	10.693	.693	6.93	.16542	.004	1
CalStd8=100	100.00	100.17	.167	.167	1.6301	.020	1
CalStd10=10	10000.	9988.2	-11.8	-.118	163.50	1.37	1

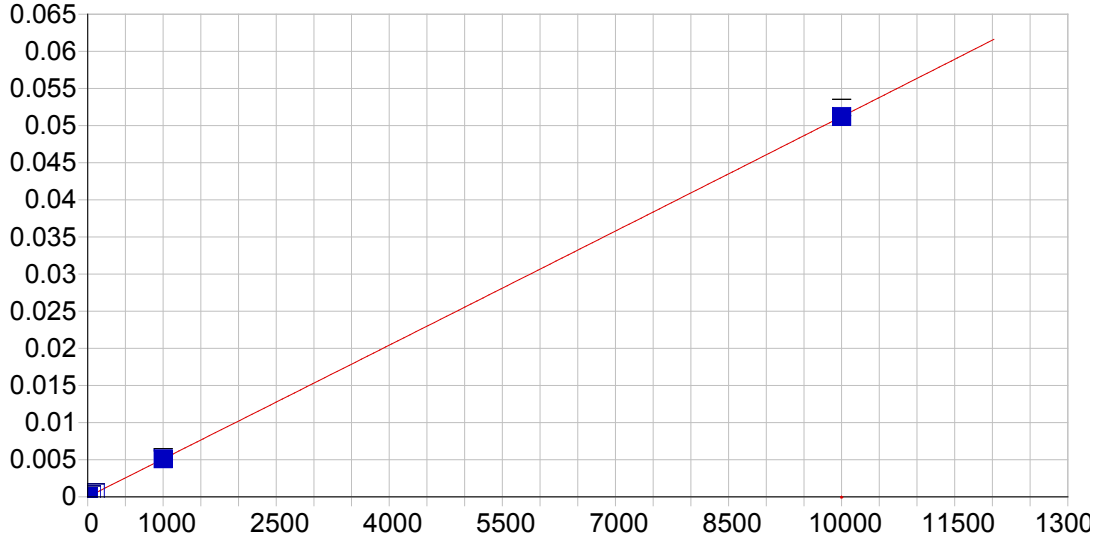


Zn 206.200 {463}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Full Fit	Weighting:	1/Conc

A0 (Offset):	-0.000004	Re-Slope:	1.000000
A1 (Gain):	0.000012	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.010000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.095353		
Predicted MQL:	0.317844		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
CalStd10=10	10000.	10007.	7.09	.071	.13104	.003	1
Blank	.00000	.00670	.007	.000	.00000	.000	1
CalStd9=100	1000.0	993.40	-6.60	-.660	.01286	.000	1
CalStd11-100	100000.	99999.	-.804	-.001	1.1750	.018	1

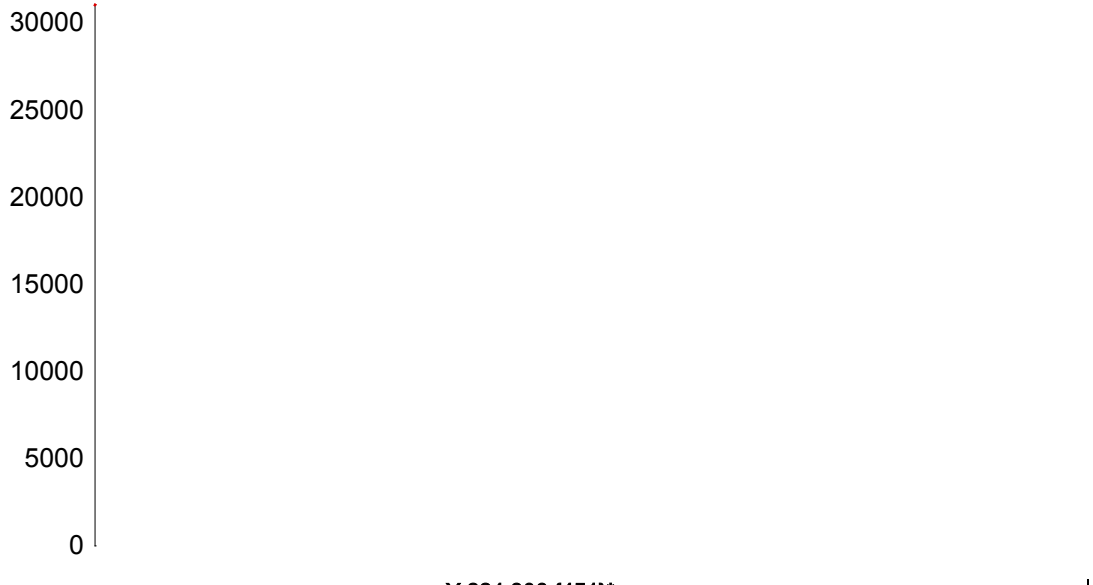


Zn 213.856 {458}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Curvilinear	Weighting:	None

A0 (Offset):	0.000003		Re-Slope:	1.000000	
A1 (Gain):	0.000005		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	1.000000	Status:	Warning	Positive Curvature	
Std Error of Est:	0.000004				
Predicted MDL:	0.152681				
Predicted MQL:	0.508936				

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.56633	-.566	.000	.00000	.000	1
CalStd8=100	100.00	100.68	.676	.676	.00052	.000	1
CalStd7=50	50.000	49.164	-.836	-1.67	.00025	.000	1
CalStd5=10	10.000	10.117	.117	1.17	.00005	.000	1
CalStd9=100	1000.0	999.97	-.033	-.003	.00510	.000	1
CalStd4=5	5.0000	5.6421	.642	12.8	.00003	.000	1
CalStd10=10	10000.	10000.	.000	.000	.05121	.001	1

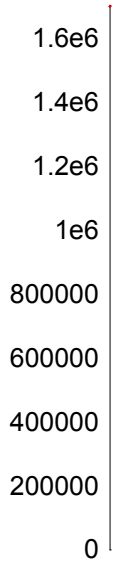


Y 224.306 {451}*

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.000000	Status:	Warning Zero Gain
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	28901.	267.	1

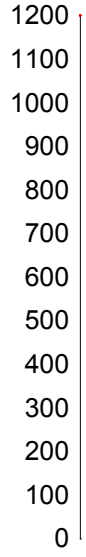


Y 324.228 {104}*

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.000000	Status:	Warning Zero Gain
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	1578800.	31800.	1

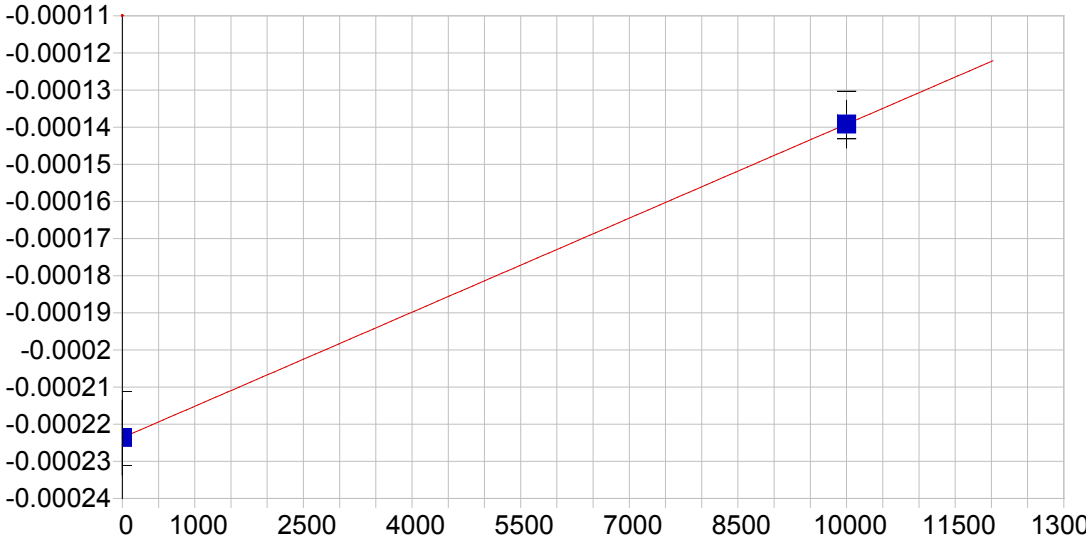


Y 371.030 { 91}*

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.000000	Status:	Warning Zero Gain
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	1103.2	18.3	1

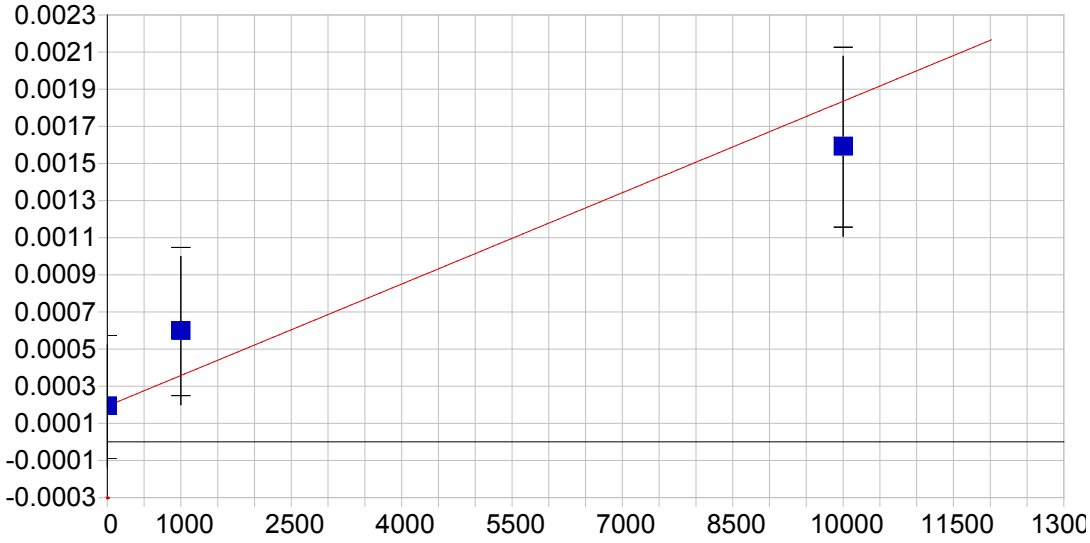


Na 588.995 { 57}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000224	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	779.043308		
Predicted MQL:	2596.811028		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	-.00022	.000	1
CalStd10=10	10000.	10000.0	.000	.000	-.00014	.000	1

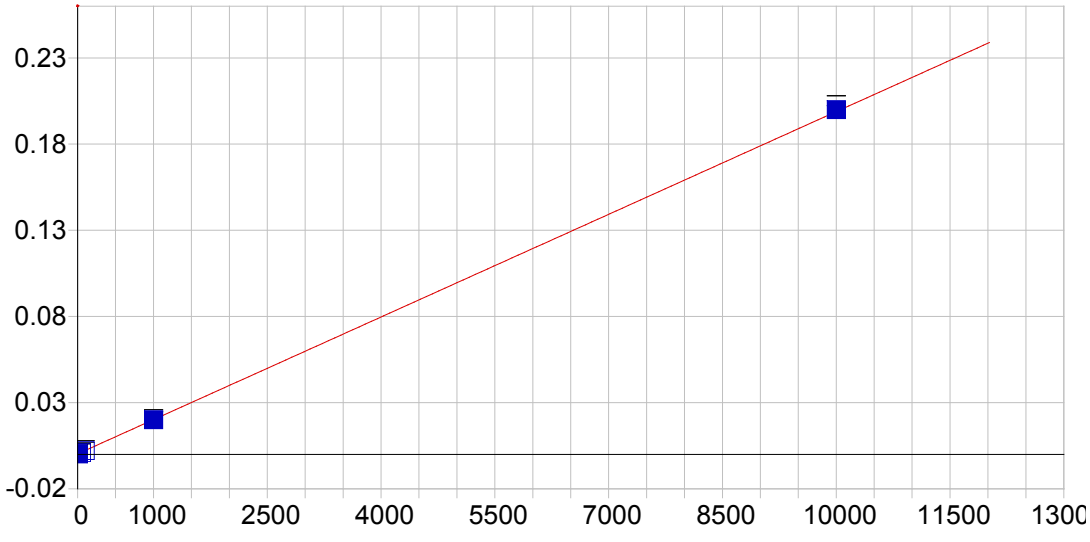


Si 251.611 {134}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000194	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.906180	Status:	OK.
Std Error of Est:	0.000014		
Predicted MDL:	2683.553862		
Predicted MQL:	8945.179542		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-1.3271	-1.33	.000	.00019	.000	1
CalStd10=10	10000.	8525.5	-1470.	-14.7	.00159	.000	1
CalStd9=100	1000.0	2474.5	1470.	147.	.00060	.000	1

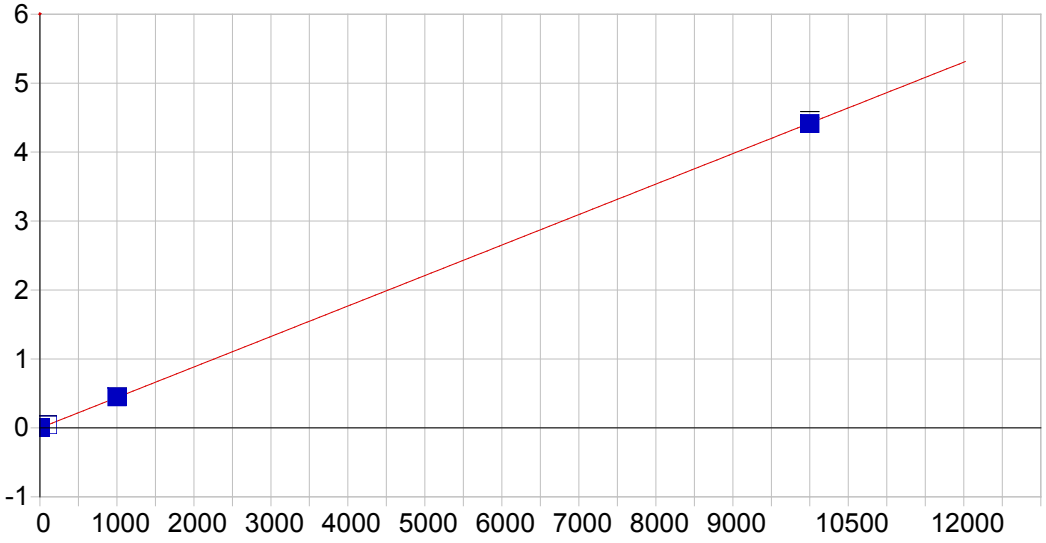


Ti 334.941 {101}

Date of Fit: 01/21/2016 12:14:47 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	0.000276	Re-Slope:	1.000000
A1 (Gain):	0.000020	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.997972	Status:	OK.
Std Error of Est:	0.000011		
Predicted MDL:	33.533054		
Predicted MQL:	111.776845		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.01640	.016	.000	.00028	.001	1
CalStd5=10	10.000	-7.8822	-17.9	-179.	.00012	.000	1
CalStd8=100	100.00	92.425	-7.58	-7.58	.00211	.001	1
CalStd9=100	1000.0	995.99	-4.01	-.401	.02005	.001	1
CalStd10=10	10000.	10054.	53.5	.535	.19992	.003	1
CalStd7=50	50.000	31.125	-18.9	-37.8	.00089	.000	1
CalStd4=5	5.0000	-.19739	-5.20	-104.	.00027	.000	1

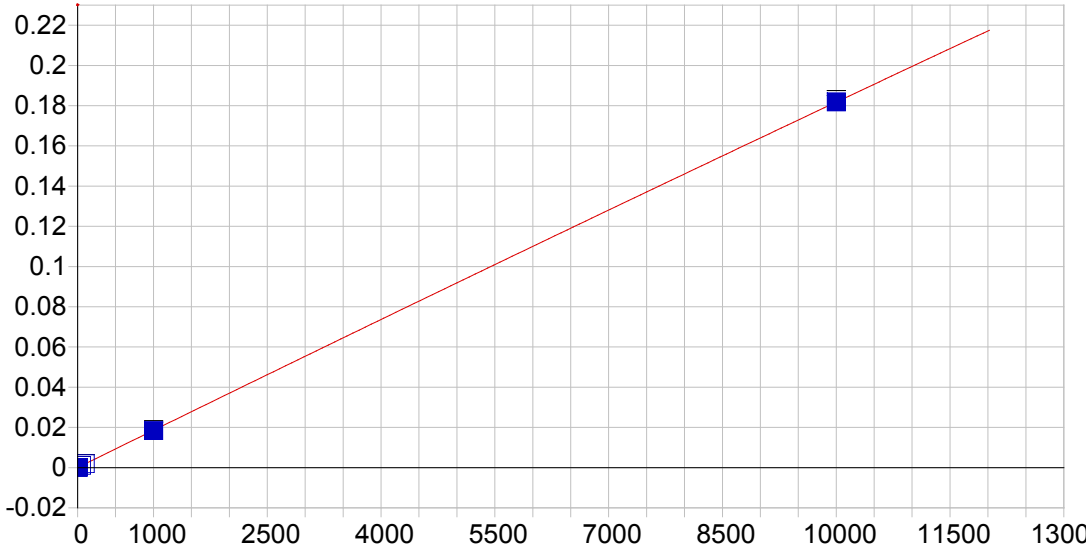


Sr 407.771 { 83}

Date of Fit: 01/21/2016 12:14:47 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	-0.000882	Re-Slope:	1.000000
A1 (Gain):	0.000442	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999974	Status:	OK.
Std Error of Est:	0.000012		
Predicted MDL:	2.748448		
Predicted MQL:	9.161493		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00043	.000	.000	-.00088	.000	1
CalStd3=1	1.0000	1.3182	.318	31.8	-.00030	.001	1
CalStd4=5	5.0000	5.4778	.478	9.56	.00154	.001	1
CalStd5=10	10.000	10.030	.030	.303	.00355	.001	1
CalStd8=100	100.00	99.993	-.007	-.007	.04333	.001	1
CalStd9=100	1000.0	1019.5	19.5	1.95	.44985	.004	1
CalStd10=10	10000.	9979.7	-20.3	-.203	4.4114	.046	1

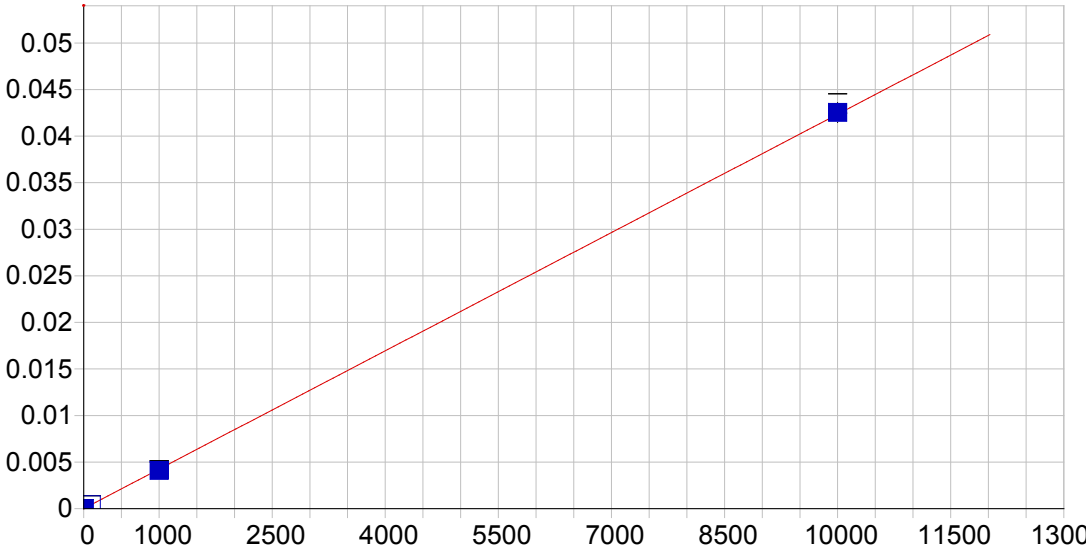


Sn 189.989 {478}

Date of Fit: 01/21/2016 12:14:47 Type of Fit: Curvilinear Weighting: 1/Var

A0 (Offset):	0.000025	Re-Slope:	1.000000
A1 (Gain):	0.000019	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999860	Status:	OK.
Std Error of Est:	0.000036		
Predicted MDL:	1.364865		
Predicted MQL:	4.549550		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.68334	-.683	.000	.00001	.000	1
CalStd10=10	10000.	10001.	1.29	.013	.18180	.001	1
CalStd9=100	1000.0	989.46	-10.5	-1.05	.01836	.000	1
CalStd8=100	100.00	98.996	-1.00	-1.00	.00186	.000	1
CalStd5=10	10.000	10.332	.332	3.32	.00022	.000	1
CalStd7=50	50.000	54.709	4.71	9.42	.00104	.000	1
CalStd4=5	5.0000	4.6109	-.389	-7.78	.00011	.000	1

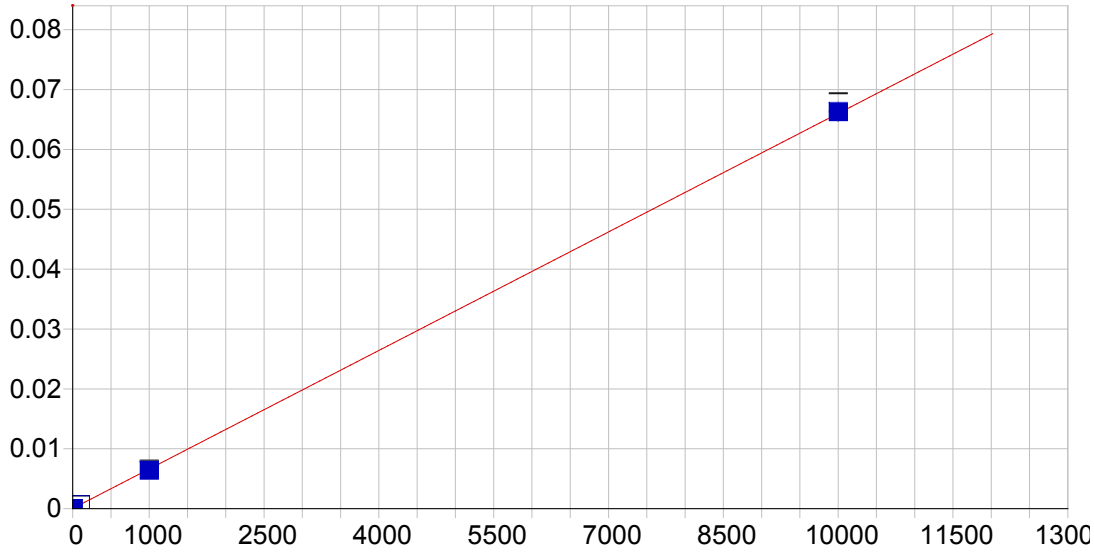


B 249.678 {135}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000008	Re-Slope:	1.000000
A1 (Gain):	0.000004	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999896	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.775388		
Predicted MQL:	2.584628		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00306	.003	.000	.00001	.000	1
CalStd8=100	100.00	93.878	-6.12	-6.12	.00041	.000	1
CalStd5=10	10.000	7.8721	-2.13	-21.3	.00004	.000	1
CalStd9=100	1000.0	964.04	-36.0	-3.60	.00409	.000	1
CalStd10=10	10000.	10044.	44.2	.442	.04253	.001	1

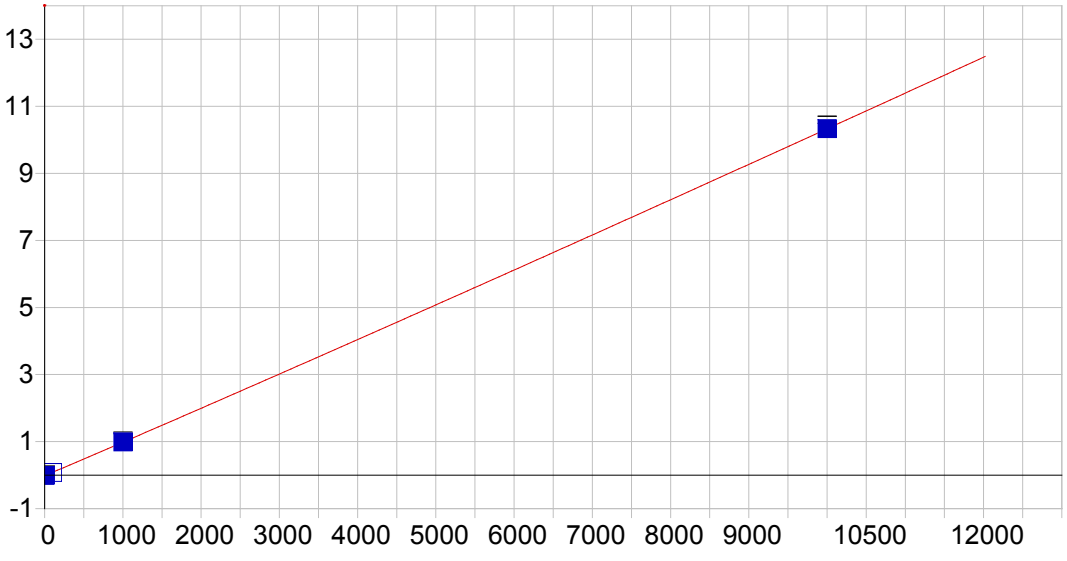


B 249.773 {135}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000018	Re-Slope:	1.000000
A1 (Gain):	0.000007	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999907	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.449392		
Predicted MQL:	1.497974		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00283	.003	.000	.00002	.000	1
CalStd8=100	100.00	93.622	-6.38	-6.38	.00064	.000	1
CalStd5=10	10.000	8.1013	-1.90	-19.0	.00007	.000	1
CalStd9=100	1000.0	966.49	-33.5	-3.35	.00641	.000	1
CalStd10=10	10000.	10042.	41.8	.418	.06641	.002	1

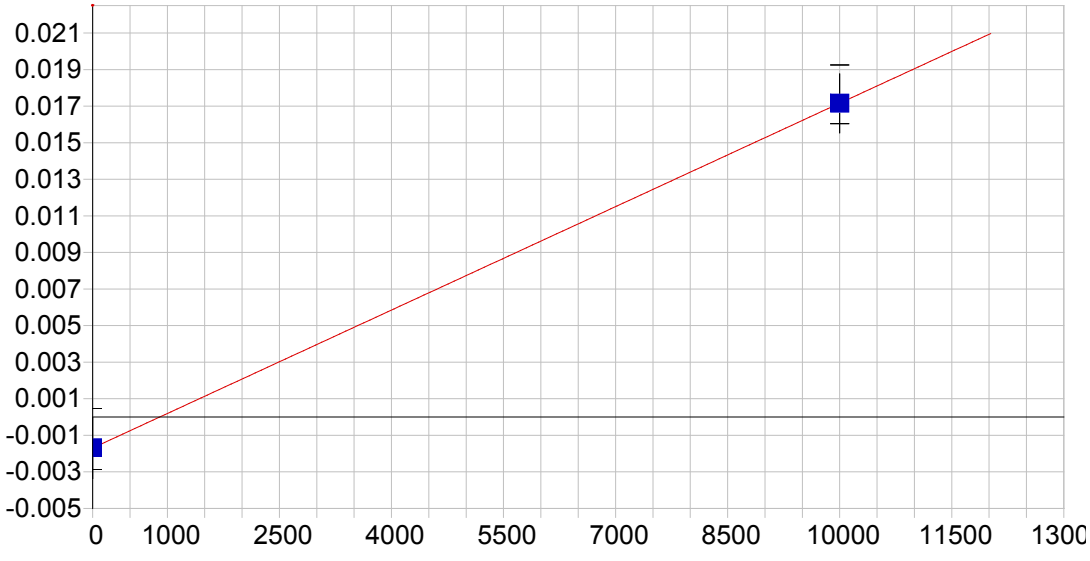


Li 670.784 { 50}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Full Fit	Weighting:	1/Conc

A0 (Offset):	-0.013532	Re-Slope:	1.000000
A1 (Gain):	0.000927	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.010000		
Correlation:	0.999887	Status:	Warning Positive Curvature
Std Error of Est:	0.000365		
Predicted MDL:	6.794117		
Predicted MQL:	22.647057		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	-.01354	.007	1
CalStd5=10	10.000	14.555	4.55	45.5	.00032	.003	1
CalStd8=100	100.00	91.223	-8.78	-8.78	.07493	.007	1
CalStd9=100	1000.0	1004.6	4.57	.457	.98589	.024	1
CalStd10=10	10000.	9999.7	-.343	-.003	10.330	.108	1

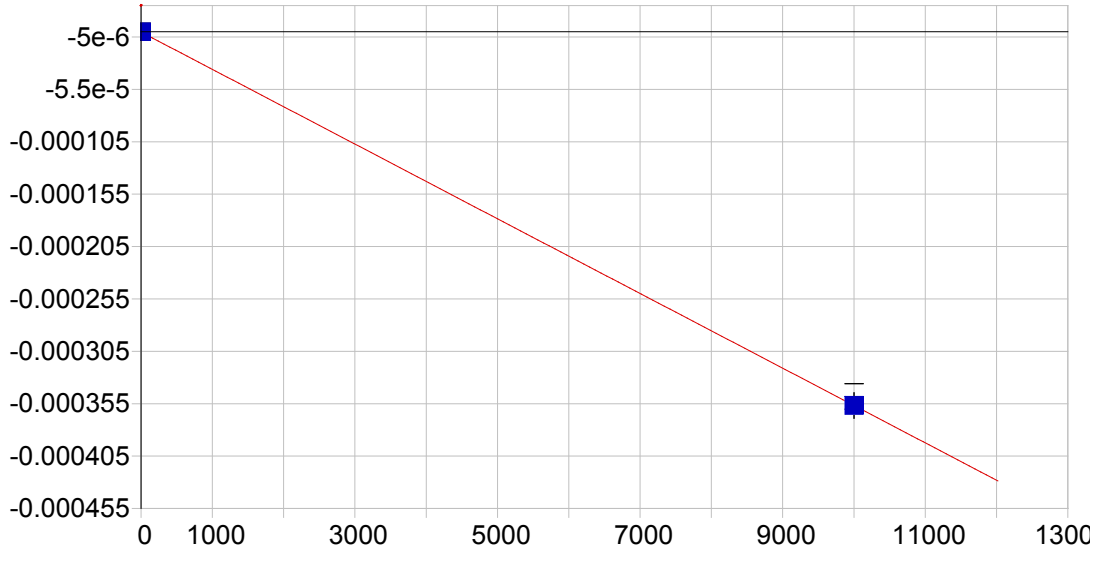


K 766.490 { 44}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.001693	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	3162.353325		
Predicted MQL:	10541.17775		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	-.00169	.002	1
CalStd10=10	10000.	10000.0	.000	.000	.01715	.002	1

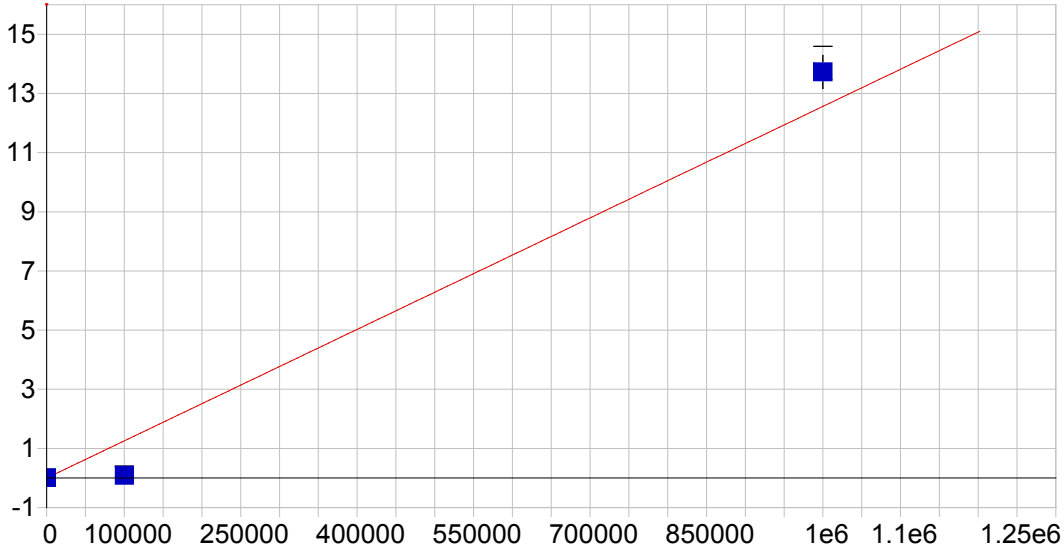


P 213.618 {457}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000000	Re-Slope:	1.000000
A1 (Gain):	-0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	Warning Negative Gain
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00000	.000	1
CalStd10=10	10000.	10000.	.000	.000	-.00036	.000	1

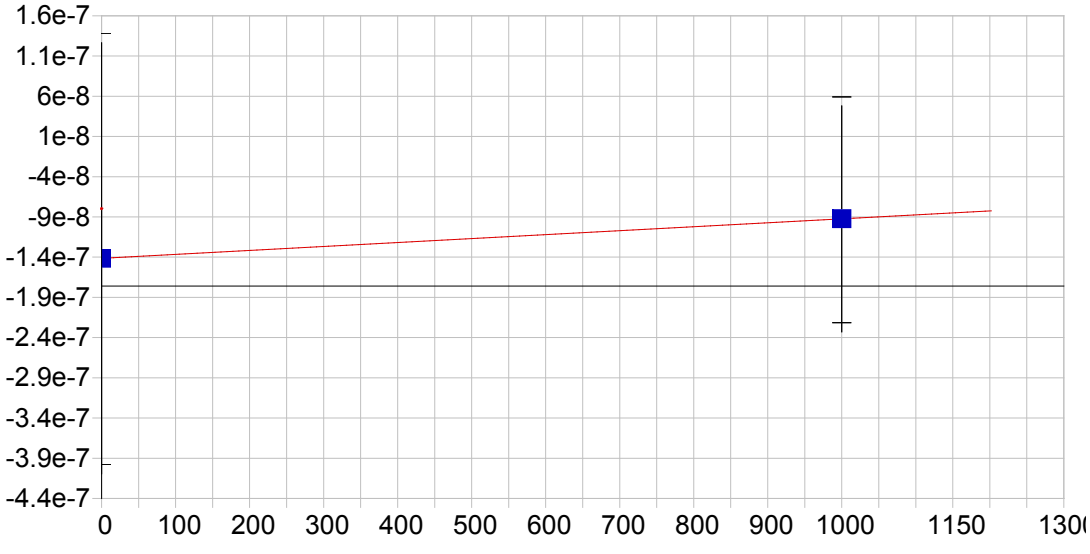


S 182.034 {485}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.001111	Re-Slope:	1.000000
A1 (Gain):	0.000013	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.959544	Status:	OK.
Std Error of Est:	0.066913		
Predicted MDL:	2.517694		
Predicted MQL:	8.392315		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	83.455	83.5	.000	-.00006	.000	1
CalStd12-100	100000.	7271.8	-92700.	-92.7	.09010	.002	1
CalStd14-100	1000000.	1092700.	92700.	9.27	13.726	.559	1



W 239.709 {140}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	6930.449103		
Predicted MQL:	23101.49700		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00000	.000	1
CalStd9=100	1000.0	1000.0	.000	.000	.00000	.000	1

Sample Name: Blank Acquired: 01/19/2016 11:07:11 Type: Cal
Method: DOD Calibration Updated 060614(v1225) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	Al1670	As1937	As1890	Ba4554	Ba4934	Be3130	Be2348	Ca3158	Ca3933	Cd2265
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**-.002**	**.000**	**.000**	**.000**	**.033**	**.025**	**-.025**	**.000**	**.000**	**.003**	**.000**
Stddev	.00	.000	.000	.000	.000	.002	.003	.004	.00	.000	.001	.00
%RSD	81.7	24.3	25.0	34.2	998.	5.54	12.8	16.8	119.	334.	46.3	259.

Elem	Cd2288	Co2286	Co2388	Cr2055	Cr2677	Cu2247	Cu3247	Fe2343	Fe2599	Mg2025	Mg2802	Mn2576
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.003**	**.028**	**.000**	**.000**	**.000**	**.000**
Stddev	.00	.00	.000	.00	.00	.00	.001	.001	.000	.00	.000	.000
%RSD	92.3	47.3	25.6	20.6	276.	97.4	19.4	4.20	357.	3.52	3.44	131.

Elem	Mn2593	Mo2020	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Se2062	Tl1908
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	.00	.000	.00	.00	.00	.000	.000	.000	.00	.000	.00	.000
%RSD	1110.	31.7	128.	20.0	19.0	6.31	44.5	64.0	797.	44.6	226.	29.3

Elem	Tl1908	V_2908	V_2924	Zn2062	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**-.010**	**.000**	**.000**
Stddev	.00	.000	.003	.00	.000
%RSD	38.4	237.	35.5	32.8	61.0

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**28901.**	**1578800.**	**1103.2**
Stddev	267.	31776.	18.3
%RSD	.92292	2.0127	1.6569

Sample Name: CalStd1=0.25 Acquired: 01/19/2016 11:12:01 Type: Cal
Method: DOD Calibration Updated 060614(v1225) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Be3130
Units	Cts/S
Avg	**.022**
Stddev	.005
%RSD	23.8

Int. Std.	Y_3710
Units	Cts/S
Avg	**1074.1**
Stddev	11.0
%RSD	1.0195

Sample Name: CalStd2=0.5 Acquired: 01/19/2016 11:17:15 Type: Cal
Method: DOD Calibration Updated 060614(v1225) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Be3130	Cd2265	Cd2288
Units	Cts/S	Cts/S	Cts/S
Avg	**.082**	**.000**	**.000**
Stddev	.005	.000	.000
%RSD	5.55	26.3	21.9

Int. Std.	Y_2243	Y_3710
Units	Cts/S	Cts/S
Avg	**28631.**	**1104.6**
Stddev	192.	2.6
%RSD	.67042	.23321

Sample Name: CalStd3=1 Acquired: 01/19/2016 11:22:08 Type: Cal
Method: DOD Calibration Updated 060614(v1225) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Ba4554	Be3130	Cd2265	Cd2288	Co2286	Cr2055	Cu2247	Ni2316
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.032**	**.187**	**.001**	**.001**	**.000**	**.000**	**.000**	**.000**
Stddev	.000	.001	.008	.000	.000	.000	.000	.000	.000
%RSD	96.5	3.85	4.03	7.90	16.0	49.3	31.6	36.2	70.1

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**28413.**	**1587300.**	**1087.5**
Stddev	465.	51819.	27.7
%RSD	1.6354	3.2645	2.5435

Sample Name: CalStd4=5 Acquired: 01/19/2016 11:27:00 Type: Cal
Method: DOD Calibration Updated 060614(v1225) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al1670	As1890	Ba4554	Be3130	Cd2265	Co2286	Cr2055	Cr2677	Cu2247	Mn2576	Mo2020	Ni2316
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.001**	**.000**	**.035**	**1.02**	**.003**	**.002**	**.001**	**.002**	**.001**	**.000**	**.001**	**.000**
Stddev	.000	.000	.002	.00	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	2.08	54.3	5.77	.292	3.88	3.66	2.45	9.96	7.52	3.99	7.18	5.88

Elem	Pb2169	Pb2203	Sb2175	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**
Stddev	.000	.000	.000	.000
%RSD	16.3	12.6	27.3	3.03

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**28883.**	**1555600.**	**1079.6**
Stddev	557.	60559.	9.0
%RSD	1.9294	3.8929	.83345

Sample Name: CalStd5=10 Acquired: 01/19/2016 11:32:08 Type: Cal
Method: DOD Calibration Updated 060614(v1225) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba4554	Be3130	Cd2265	Cd2288	Co2286	Cr2055	Cr2677	Cu2247	Mn2576
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.001**	**.000**	**.034**	**2.02**	**.006**	**.009**	**.004**	**.003**	**.005**	**.002**	**.000**
Stddev	.000	.000	.000	.001	.03	.000	.000	.000	.000	.000	.000	.000
%RSD	5.43	1.16	11.1	4.01	1.25	1.50	.576	.834	1.33	2.64	3.14	1.30

Elem	Mo2020	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Tl1908	Tl1908	V_2924	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.002**	**.000**	**.000**	**.001**	**.000**	**.000**	**.000**	**.001**	**.000**	**.165**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.004	.000
%RSD	.706	3.40	7.18	13.6	6.52	13.6	20.1	6.61	32.6	2.58	2.03

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**28760.**	**1579500.**	**1093.8**
Stddev	109.	12623.	7.6
%RSD	.37792	.79916	.69619

Sample Name: CalStd6=20 Acquired: 01/19/2016 11:36:59 Type: Cal
Method: DOD Calibration Updated 060614(v1225) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ba4554	Cu2247	Fe2599	Mn2576	Mo2020	Sb2175	V_2924
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.037**	**.003**	**.000**	**.001**	**.003**	**.001**	**.328**
Stddev	.001	.000	.000	.000	.000	.000	.007
%RSD	1.89	3.51	74.5	3.39	1.66	5.83	2.14

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**28863.**	**1604900.**	**1114.7**
Stddev	111.	63143.	13.4
%RSD	.38460	3.9344	1.2057

Sample Name: CalStd7=50 Acquired: 01/19/2016 11:41:48 Type: Cal
Method: DOD Calibration Updated 060614(v1225) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al1670	As1937	Ba4554	Ca3933	Cd2265	Co2286	Cr2055	Cr2677	Cu2247	Mg2802	Mn2576	Mo2020
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.003**	**.001**	**.043**	**.051**	**.030**	**.019**	**.013**	**.022**	**.008**	**.005**	**.002**	**.008**
Stddev	.000	.000	.002	.001	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	1.16	2.34	5.15	1.77	1.41	1.04	1.34	1.97	1.32	1.54	1.49	1.37

Elem	Mo2045	Ni2316	Sb2068	Se1960	V_2924	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.002**	**.000**	**.002**	**.001**	**.799**	**.000**
Stddev	.000	.000	.000	.000	.016	.000
%RSD	2.96	1.10	4.08	1.20	1.99	.838

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**28702.**	**1576700.**	**1107.8**
Stddev	314.	12071.	7.9
%RSD	1.0926	.76557	.71531

Sample Name: CalStd8=100 Acquired: 01/19/2016 11:46:32 Type: Cal
Method: DOD Calibration Updated 060614(v1225) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	As1937	As1890	Ba4554	Ba4934	Be3130	Be2348	Ca3933	Cd2265	Cd2288	Co2286	Co2388
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.001**	**.002**	**.001**	**.059**	**.054**	**19.6**	**.000**	**.097**	**.064**	**.088**	**.040**	**.001**
Stddev	.000	.000	.000	.001	.007	.3	.000	.002	.001	.001	.001	.000
%RSD	2.02	1.04	4.98	2.48	12.5	1.29	44.4	1.90	1.44	1.38	1.33	3.08

Elem	Cr2055	Cr2677	Cu2247	Cu3247	Fe2599	Mg2802	Mn2576	Mo2020	Mo2045	Ni2216	Ni2316	Pb2169
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.028**	**.045**	**.017**	**.004**	**.001**	**.009**	**.003**	**.017**	**.005**	**.001**	**.000**	**.002**
Stddev	.000	.001	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	1.52	1.84	1.12	6.72	40.1	3.08	3.12	1.19	1.11	2.08	2.04	.780

Elem	Pb2203	Sb2175	Se1960	Se2062	Tl1908	Tl1908	V_2908	V_2924	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.007**	**.002**	**.003**	**.000**	**.006**	**.002**	**.000**	**1.63**	**.001**
Stddev	.000	.000	.000	.000	.000	.000	.000	.02	.000
%RSD	1.61	1.45	.916	8.30	1.62	1.17	66.9	1.26	2.20

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**28588.**	**1593200.**	**1103.6**
Stddev	255.	29271.	11.4
%RSD	.89150	1.8372	1.0348

Sample Name: CalStd9=1000 Acquired: 01/19/2016 11:51:12 Type: Cal
Method: DOD Calibration Updated 060614(v1225) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Al1670	As1937	As1890	Ba4554	Ba4934	Be3130	Be2348	Ca3158	Ca3933	Cd2265	Cd2288
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.006**	**.066**	**.024**	**.006**	**.283**	**.310**	**192.**	**.000**	**.002**	**.938**	**.611**	**.839**
Stddev	.000	.001	.000	.000	.005	.004	2.	.000	.001	.011	.010	.013
%RSD	2.27	1.55	1.35	1.25	1.82	1.22	1.27	4.86	24.1	1.20	1.58	1.57

Elem	Co2286	Co2388	Cr2055	Cr2677	Cu2247	Cu3247	Fe2343	Fe2599	Mg2025	Mg2802	Mn2576	Mn2593
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.389**	**.005**	**.271**	**.446**	**.167**	**.011**	**2.18**	**.006**	**.001**	**.085**	**.034**	**.000**
Stddev	.007	.000	.004	.009	.003	.001	.01	.000	.000	.002	.001	.000
%RSD	1.71	2.39	1.63	2.00	1.69	8.46	.647	7.03	2.93	2.67	2.57	4.34

Elem	Mo2020	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Se2062	Tl1908	Tl1908
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.169**	**.049**	**.005**	**.004**	**.016**	**.067**	**.034**	**.023**	**.025**	**.004**	**.052**	**.018**
Stddev	.003	.001	.000	.000	.000	.001	.001	.000	.000	.000	.001	.000
%RSD	1.57	1.65	3.28	2.95	1.66	1.63	1.54	1.67	1.23	1.72	1.39	1.42

Elem	V_2908	V_2924	Zn2062	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**16.5**	**.013**	**.005**
Stddev	.000	.1	.000	.000
%RSD	14.3	.727	3.03	2.99

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**28883.**	**1587300.**	**1104.0**
Stddev	264.	41419.	6.2
%RSD	.91324	2.6094	.56545

Sample Name: CalStd10=10000 Acquired: 01/19/2016 11:55:50 Type: Cal
Method: DOD Calibration Updated 060614(v1225) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	As1937	As1890	Ba4934	Ca3158	Co2286	Co2388	Cr2055	Cr2677	Cu2247	Cu3247	Fe2343
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.073**	**.242**	**.056**	**3.36**	**.022**	**3.83**	**.051**	**2.69**	**4.51**	**1.63**	**.077**	**20.5**
Stddev	.001	.001	.000	.04	.001	.02	.001	.01	.09	.01	.001	.2
%RSD	1.32	.438	.298	1.04	3.23	.527	2.92	.429	2.00	.479	.836	1.06

Elem	Fe2599	Mg2025	Mg2802	Mn2576	Mn2593	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.052**	**.005**	**.799**	**.335**	**.000**	**.497**	**.055**	**.044**	**.144**	**.661**	**.335**	**.225**
Stddev	.001	.000	.027	.012	.000	.002	.001	.001	.001	.003	.001	.001
%RSD	1.87	2.18	3.42	3.53	2.95	.431	2.03	2.32	.485	.408	.397	.419

Elem	Se1960	Se2062	Tl1908	Tl1908	V_2908	V_2924	Zn2062	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.249**	**.036**	**.487**	**.166**	**.000**	**163.**	**.131**	**.051**
Stddev	.001	.000	.002	.000	.000	1.	.003	.001
%RSD	.401	.294	.369	.267	3.76	.840	2.10	2.15

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**28150.**	**1494700.**	**1104.5**
Stddev	63.	28874.	5.8
%RSD	.22527	1.9317	.52669

Sample Name: CalStd11-100k Acquired: 01/19/2016 12:00:35 Type: Cal
Method: DOD Calibration Updated 060614(v1225) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Cr2055	Cu3247	Mn2593	Pb2169	Zn2062
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**24.2**	**.743**	**.002**	**1.44**	**1.17**
Stddev	.2	.014	.000	.01	.02
%RSD	.766	1.89	2.39	.763	1.54

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**28181.**	**1559900.**	**1133.3**
Stddev	160.	22975.	13.2
%RSD	.56806	1.4729	1.1625

Sample Name: CalStd12-100000 Acquired: 01/19/2016 12:05:59 Type: Cal
Method: DOD Calibration Updated 060614(v1225) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Ca3158	Fe2343	Mg2025
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.686**	**.209**	**184.**	**.040**
Stddev	.034	.010	4.	.002
%RSD	4.89	4.61	2.03	3.96

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**28223.**	**1581200.**	**1134.7**
Stddev	427.	65126.	18.6
%RSD	1.5140	4.1189	1.6435

Sample Name: CalStd13=500000 Acquired: 01/19/2016 12:10:48 Type: Cal
Method: DOD Calibration Updated 060614(v1225) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Ca3158	Fe2343	Mg2025
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3.57**	**1.07**	**757.**	**.173**
Stddev	.11	.04	15.	.002
%RSD	3.09	3.30	1.99	1.25

Int. Std.	Y_3242	Y_3710
Units	Cts/S	Cts/S
Avg	**1374500.**	**1050.5**
Stddev	17458.	30.0
%RSD	1.2701	2.8552

Sample Name: CalStd14-1000k Acquired: 01/19/2016 12:15:41 Type: Cal
Method: DOD Calibration Updated 060614(v1225) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Ca3158	Fe2343	Mg2025
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**6.77**	**1.98**	**1160.**	**.293**
Stddev	.25	.07	12.	.005
%RSD	3.68	3.56	1.01	1.65

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**24344.**	**1321400.**	**1050.8**
Stddev	1116.	10487.	6.2
%RSD	4.5834	.79360	.59195

Sample Name: icv Acquired: 01/19/2016 12:25:39 Type: QC
Method: DOD Calibration Updated 060614(v1225) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1890	Ba4934	Be3130	Ca3158	Cd2265	Co2286	Co2388	Cr2677	Cu2247	Fe2343
Avg	**47.5**	**12700.**	**1990.**	**1920.**	**48.1**	**10100.**	**48.3**	**503.**	**488.**	**195.**	**255.**	**5120.**
Stddev	1.2	551.	31.	47.	1.2	301.	.7	7.	12.	3.	4.	124.
%RSD	2.57	4.34	1.56	2.46	2.43	2.97	1.37	1.35	2.39	1.51	1.41	2.43
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Mg2025	Mg2802	Mn2576	Mn2593	Mo2020	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175
Avg	**10400.**	**9670.**	**483.**	**515.**	**517.**	**510.**	**473.**	**479.**	**477.**	**494.**	**509.**	**514.**
Stddev	208.	456.	13.	18.	7.	7.	8.	9.	6.	7.	7.	5.
%RSD	2.00	4.72	2.71	3.50	1.35	1.45	1.73	1.90	1.35	1.33	1.36	.880
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Se1960	Se2062	Tl1908	V_2908	V_2924	Zn2062	Zn2138
Avg	**2000.**	**1990.**	**2100.**	**449.**	**488.**	**494.**	**491.**
Stddev	29.	40.	26.	106.	12.	9.	9.
%RSD	1.44	2.00	1.22	23.6	2.48	1.76	1.82
Check ?	None	None	None	None	None	None	None
Value							
Range							

Sample Name: icv Acquired: 01/19/2016 12:25:39 Type: QC
Method: DOD Calibration Updated 060614(v1225) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**29001.**	**1604000.**	**1128.5**
Stddev	282.	35063.	16.0
%RSD	.97226	2.1859	1.4217

Sample Name: ICVLL Acquired: 01/19/2016 12:30:06 Type: QC
Method: DOD Calibration Updated 060614(v1225) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	Al1670	As1937	Ba4554	Be3130	Ca3158	Ca3933	Cd2265	Co2286	Cr2677	Cu2247
Avg	F **34.0**	**1430.**	**1180.**	**60.1**	**29.9**	**12.2**	**1380.**	**1450.**	**14.7**	**29.0**	**31.0**	**30.8**
Stddev	.1	133.	1.	.6	.1	.1	197.	5.	.1	.2	.2	.3
%RSD	.335	9.30	.060	1.00	.311	.718	14.3	.362	.454	.538	.521	1.11
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value	60.0											
Range	-30.0%											

Elem	Fe2599	Mg2025	Mg2802	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**959.**	**1310.**	**1510.**	**30.5**	**31.5**	**29.2**	**29.9**	**57.5**	**80.8**	**63.0**	**29.4**	**30.7**
Stddev	113.	2.	12.	.0	.1	.1	1.1	.4	4.1	.6	.2	.1
%RSD	11.8	.148	.804	.000	.442	.361	3.71	.692	5.07	.918	.763	.340
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**29168.**	**1604100.**	**1117.7**
Stddev	174.	1165.	5.7
%RSD	.59493	.07265	.51300

Sample Name: icb Acquired: 01/19/2016 12:39:47 Type: QC
Method: DOD Calibration Updated 060614(v1225) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba4554	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2802
Avg	**1.62**	**3.47**	**-.638**	**-5.00**	**.052**	**1.71**	**-.026**	**-.174**	**.611**	**.007**	**24.7**	**2.20**
Stddev	.45	.17	1.96	12.8	.032	1.00	.108	.224	.388	.343	34.1	.06
%RSD	27.8	4.91	306.	255.	61.7	58.8	417.	129.	63.5	4850.	138.	2.76
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**.148**	**-.038**	**.564**	**-1.13**	**-1.24**	**.702**	**.362**	**.156**	**-.342**
Stddev	.054	.233	.098	.62	1.14	1.10	.744	.494	.148
%RSD	36.2	611.	17.4	54.9	92.4	156.	205.	317.	43.4
Check ?	None	None	None	None	None	None	None	None	None
Value									
Range									

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**29400.**	**1620600.**	**1112.9**
Stddev	434.	5958.	8.7
%RSD	1.4778	.36764	.78604

Sample Name: icsa Acquired: 01/19/2016 12:49:25 Type: QC
Method: DOD Calibration Updated 060614(v1225) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba4554	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2247	Fe2343
Avg	**-.236**	**521000.**	**-.780**	**.000**	**.024**	**539000.**	**.000**	**.136**	**-.264**	**-.004**	**546000.**
Stddev	.687	11500.	2.59	1.79	.021	12300.	1.06	.040	.655	4.69	4350.
%RSD	291.	2.21	332.	1780000.	87.0	2.27	514000.	29.7	248.	123000.	.797
Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None
High Limit											
Low Limit											

Elem	Mg2025	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**462000.**	**.161**	**.424**	**.000**	**-.183**	**-.002**	**-.001**	**-.556**	**.000**	**.002**
Stddev	5490.	.477	.798	.46	1.10	3.03	3.75	.615	.69	.661
%RSD	1.19	296.	188.	332000.	599.	160000.	395000.	111.	1640000.	36900.
Check ?	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit										
Low Limit										

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**25264.**	**1384500.**	**1051.0**
Stddev	403.	7655.	9.2
%RSD	1.5949	.55293	.87201

Sample Name: icsab Acquired: 01/19/2016 12:54:39 Type: QC
Method: DOD Calibration Updated 060614(v1225) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	As1890	Ba4554	Ba4934	Be3130	Be2348	Ca3158	Cd2265	Cd2288
Avg	**455.**	**428000.**	**449.**	**571.**	**460.**	**400.**	**462.**	**501.**	**441000.**	**435.**	**449.**
Stddev	21.	14600.	5.	7.	19.	9.	6.	44.	17600.	4.	3.
%RSD	4.54	3.41	1.07	1.17	4.06	2.36	1.24	8.74	3.98	.839	.770
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Elem	Co2286	Co2388	Cr2055	Cr2677	Cu2247	Cu3247	Fe2343	Mg2025	Mn2576	Mn2593	Mo2020
Avg	**416.**	**424.**	**437.**	**426.**	**426.**	**548.**	**417000.**	**404000.**	**431.**	**498.**	**441.**
Stddev	3.	26.	3.	5.	5.	168.	3280.	17900.	24.	43.	3.
%RSD	.787	6.11	.623	1.28	1.08	30.6	.787	4.43	5.48	8.62	.682
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Elem	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Se2062	Tl1908
Avg	**408.**	**434.**	**408.**	**559.**	**566.**	**454.**	**425.**	**403.**	**413.**	**464.**
Stddev	4.	19.	15.	6.	5.	6.	5.	4.	17.	6.
%RSD	.876	4.37	3.65	1.11	.881	1.25	1.12	.963	3.99	1.19
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value										
Range										

Sample Name: icsab Acquired: 01/19/2016 12:54:39 Type: QC
Method: DOD Calibration Updated 060614(v1225) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	V_2908	V_2924	Zn2062	Zn2138
Avg	**532.**	**424.**	**480.**	**459.**
Stddev	78.	7.	19.	22.
%RSD	14.6	1.55	4.01	4.76
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value				
Range				

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**25812.**	**1378000.**	**1062.4**
Stddev	236.	53462.	4.4
%RSD	.91615	3.8797	.41865

Sample Name: ICV LL ag Acquired: 01/19/2016 12:59:32 Type: Unk
Method: DOD Calibration Updated 060614(v1225) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba4554	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2802
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**10.4**	**23.8**	**-.724**	**2.61**	**-.015**	**28.8**	**.043**	**-.236**	**.168**	**.022**	**280.**	**17.2**
Stddev	.9	.9	1.37	1.11	.022	1.2	.071	.120	.415	.315	38.	1.7
%RSD	8.57	3.72	189.	42.3	144.	4.30	167.	50.9	247.	1460.	13.7	9.79

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**.000**	**1.46**	**.271**	**-.364**	**1.16**	**8.76**	**.151**	**-.065**	**-.228**
Stddev	.04	.25	.308	.286	2.07	1.38	1.25	.262	.062
%RSD	9930.	17.3	114.	78.7	177.	15.8	828.	405.	27.4

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**29294.**	**1604800.**	**1098.8**
Stddev	146.	30389.	15.9
%RSD	.49794	1.8936	1.4433

Sample Name: ccv1 Acquired: 01/19/2016 16:50:04 Type: QC
Method: DOD Calibration Updated 060614(v1225) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1890	Ba4934	Be3130	Be2348	Ca3158	Cd2265	Cd2288	Co2388	Cr2055	Cu2247
Avg	**424.**	**5040.**	**4520.**	F **4130.**	**445.**	**448.**	**4720.**	**451.**	**456.**	F **4430.**	**4510.**	**4520.**
Stddev	4.	16.	115.	53.	9.	27.	252.	12.	13.	31.	134.	134.
%RSD	.940	.309	2.55	1.29	2.02	6.01	5.33	2.76	2.84	.709	2.97	2.95
Check ?	None	Chk Pass	Chk Pass	Chk Fail	None	Chk Pass	Chk Pass	None	Chk Pass	Chk Fail	None	None
Value				5000.						5000.		
Range				-10.4%						-10.4%		

Elem	Cu3247	Fe2343	Mg2025			Mn2593	Mo2045	Ni2216	Ni2316	Pb2169	Sb2068	Se1960
Avg	**4490.**	**4650.**	**4720.**			F **4420.**	F **4480.**	F **4450.**	**4450.**	**4600.**	**4570.**	**4580.**
Stddev	7.	107.	66.			57.	128.	64.	51.	114.	121.	133.
%RSD	.145	2.30	1.40			1.30	2.86	1.44	1.14	2.49	2.65	2.90
Check ?	Chk Pass	Chk Pass	Chk Pass			Chk Fail	Chk Fail	Chk Fail	None	Chk Pass	Chk Pass	None
Value						5000.	5000.	5000.				
Range						-10.4%	-10.4%	-10.4%				

Elem	Se2062	Tl1908	V_2908	V_2924	Zn2062	Zn2138
Avg	**4610.**	**4650.**	F **4310.**	**4490.**	F **4420.**	**4490.**
Stddev	112.	118.	226.	99.	61.	58.
%RSD	2.43	2.54	5.24	2.20	1.38	1.28
Check ?	Chk Pass	None	Chk Fail	None	Chk Fail	None
Value			5000.		5000.	
Range			-10.4%		-10.4%	

Sample Name: ccv1 Acquired: 01/19/2016 16:50:04 Type: QC
Method: DOD Calibration Updated 060614(v1225) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**28987.**	**1584700.**	**1125.8**
Stddev	497.	40212.	12.7
%RSD	1.7134	2.5374	1.1269

Sample Name: ccv2 Acquired: 01/19/2016 16:54:36 Type: QC
Method: DOD Calibration Updated 060614(v1225) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	As1890	Ba4554	Ba4934	Be3130	Ca3933	Cd2265	Co2286	Co2388	Cr2055
Avg	**45.4**	**466.**	**466.**	**466.**	F **435.**	**441.**	F **44.7**	F **439.**	**46.4**	**469.**	**453.**	**462.**
Stddev	.2	3.	2.	9.	11.	32.	1.2	7.	.3	2.	1.	3.
%RSD	.544	.648	.465	1.88	2.46	7.25	2.74	1.60	.552	.348	.246	.577
Check ?	Chk Pass	Chk Pass	Chk Pass	None	Chk Fail	None	Chk Fail	Chk Fail	Chk Pass	Chk Pass	None	Chk Pass
Value					500.		50.0	500.				
Range					-10.4%		-10.4%	-10.4%				

Elem	Cr2677	Cu2247	Fe2599	Mg2802	Mn2576	Mn2593	Mo2020	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203
Avg	**449.**	**471.**	**461.**	**461.**	F **448.**	**480.**	**476.**	**469.**	**460.**	**457.**	**496.**	**467.**
Stddev	9.	1.	63.	1.	1.	25.	.	.	6.	6.	10.	1.
%RSD	1.91	.278	13.7	.203	.218	5.10	.048	.091	1.31	1.37	1.99	.129
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	None	None	Chk Pass	None	Chk Pass
Value					500.							
Range					-10.4%							

Elem	Sb2068	Sb2175	Se1960	Se2062	Tl1908	Tl1908	V_2908	V_2924	Zn2062	Zn2138
Avg	**473.**	**470.**	**495.**	**509.**	**497.**	**498.**	**483.**	F **447.**	**459.**	**464.**
Stddev	1.	1.	2.	17.	1.	4.	50.	11.	6.	7.
%RSD	.230	.266	.397	3.26	.190	.713	10.3	2.35	1.25	1.52
Check ?	None	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	None	Chk Fail	None	Chk Pass
Value								500.		
Range								-10.4%		

Sample Name: ccv2 Acquired: 01/19/2016 16:54:36 Type: QC
Method: DOD Calibration Updated 060614(v1225) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**29115.**	**1598000.**	**1121.4**
Stddev	83.	23143.	14.7
%RSD	.28447	1.4482	1.3086

Sample Name: ccb Acquired: 01/19/2016 16:59:05 Type: QC
Method: DOD Calibration Updated 060614(v1225) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba4554	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2802
Avg	**.715**	**.298**	**1.47**	**8.51**	**.161**	**-.111**	**.029**	**.056**	**.151**	**-.348**	**-4.67**	**-.767**
Stddev	1.44	.036	.72	10.7	.019	.194	.119	.023	.429	.046	130.	.157
%RSD	202.	12.1	48.8	126.	11.5	175.	416.	40.2	284.	13.2	2780.	20.5
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**-.059**	**5.36**	**.242**	**.154**	**3.11**	**9.81**	**-.866**	**-.058**	**-.497**
Stddev	.034	.70	.020	.789	1.57	.80	.317	.070	.236
%RSD	57.7	13.1	8.40	511.	50.6	8.18	36.6	121.	47.4
Check ?	None	None	None	None	None	None	None	None	None
Value									
Range									

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**28976.**	**1573100.**	**1120.5**
Stddev	260.	56623.	29.2
%RSD	.89880	3.5995	2.6025

Sample Name: mbw55898 Acquired: 01/19/2016 17:27:11 Type: Unk
Method: DOD Calibration Updated 060614(v1225) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba4554	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2802
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**1.10**	**.072**	**.011**	**-10.2**	**.178**	**12.7**	**.079**	**-.158**	**.270**	**-.274**	**-19.2**	**3.50**
Stddev	.31	.241	1.77	3.2	.021	3.4	.017	.193	.482	.143	29.4	.40
%RSD	27.9	333.	15900.	30.9	11.8	26.7	21.6	122.	179.	52.2	154.	11.4

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-.172**	**-1.01**	**-.103**	**-.907**	**-1.21**	**5.61**	**1.17**	**-.345**	**-.375**
Stddev	.026	.30	.234	1.26	2.01	1.90	.76	.302	.117
%RSD	15.2	30.2	227.	139.	166.	33.9	64.7	87.4	31.3

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**29608.**	**1629700.**	**1145.9**
Stddev	136.	7658.	17.2
%RSD	.45946	.46992	1.4988

Sample Name: 679984 Acquired: 01/19/2016 17:32:05 Type: Unk
Method: DOD Calibration Updated 060614(v1225) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba4554	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2025
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L
Avg	**.876**	**314.**	**6.96**	**64.8**	**.073**	**49400.**	**-.040**	**-.083**	**7.44**	**.773**	**424.**	**19900.**
Stddev	.567	13.	2.53	3.9	.017	1050.	.057	.151	.32	.206	28.	208.
%RSD	64.7	3.96	36.4	5.97	23.7	2.13	141.	183.	4.35	26.7	6.71	1.05

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**9.82**	**1.02**	**1.83**	**-.315**	**-.567**	**15.2**	**.446**	**1.15**	**4.52**
Stddev	.23	.20	.41	1.31	1.59	2.2	.762	.38	.08
%RSD	2.35	19.5	22.3	417.	281.	14.3	171.	32.7	1.83

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**28473.**	**1579700.**	**1137.1**
Stddev	107.	13270.	13.1
%RSD	.37462	.84002	1.1502

Sample Name: dup679984 Acquired: 01/19/2016 17:36:55 Type: Unk
Method: DOD Calibration Updated 060614(v1225) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba4554	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2025
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L
Avg	**.700**	**269.**	**.785**	**73.0**	**.073**	**49700.**	**-.027**	**-.187**	**7.04**	**.954**	**423.**	**19800.**
Stddev	.466	9.	1.70	4.0	.030	607.	.067	.206	.36	.212	89.	255.
%RSD	66.5	3.49	217.	5.50	41.8	1.22	245.	110.	5.13	22.2	21.1	1.29

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**10.1**	**.808**	**1.63**	**-.646**	**-3.85**	**3.20**	**-.429**	**.873**	**4.30**
Stddev	.2	.225	.30	.470	2.13	1.58	.757	.444	.05
%RSD	1.51	27.9	18.4	72.8	55.2	49.3	176.	50.9	1.21

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**28680.**	**1558600.**	**1138.0**
Stddev	123.	12168.	20.9
%RSD	.43009	.78072	1.8405

Sample Name: ccv1 Acquired: 01/19/2016 17:51:28 Type: QC
Method: DOD Calibration Updated 060614(v1225) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1890	Ba4934	Be2348	Ca3158	Cd2265	Cd2288	Co2388	Cr2055	Cu2247	Cu3247
Avg	**440.**	**5230.**	**4540.**	F **4180.**	**482.**	**4780.**	**450.**	**456.**	**4620.**	**4540.**	**4520.**	**4640.**
Stddev	1.	131.	28.	68.	19.	130.	5.	5.	64.	58.	56.	139.
%RSD	.132	2.51	.625	1.64	3.95	2.73	1.13	1.15	1.39	1.29	1.23	3.00
Check ?	None	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	None	None	Chk Pass
Value				5000.								
Range				-10.4%								

Elem	Fe2343	Mg2025	Mg2802	Mn2576	Mn2593	Mo2045	Ni2216	Ni2316	Pb2169	Sb2068	Se1960	Se2062
Avg	**4850.**	**4830.**	**4680.**	**4490.**	**4560.**	**4480.**	**4610.**	**4530.**	**4560.**	**4560.**	**4590.**	**4620.**
Stddev	96.	26.	118.	28.	51.	56.	18.	17.	35.	49.	42.	82.
%RSD	1.98	.532	2.52	.615	1.13	1.24	.382	.379	.760	1.07	.910	1.78
Check ?	Chk Pass	Chk Pass	None	None	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	None	Chk Pass
Value												
Range												

Elem	Tl1908	V_2908	V_2924	Zn2062	Zn2138
Avg	**4640.**	F **4350.**	**4730.**	**4550.**	**4610.**
Stddev	47.	188.	110.	10.	17.
%RSD	1.02	4.33	2.34	.224	.376
Check ?	None	Chk Fail	None	Chk Pass	None
Value		5000.			
Range		-10.4%			

Sample Name: ccv1 Acquired: 01/19/2016 17:51:28 Type: QC
Method: DOD Calibration Updated 060614(v1225) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**28970.**	**1543300.**	**1103.3**
Stddev	238.	11504.	5.3
%RSD	.82120	.74539	.47931

Sample Name: ccv2 Acquired: 01/19/2016 17:55:59 Type: QC
Method: DOD Calibration Updated 060614(v1225) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	As1890	Ba4554	Ba4934	Be3130	Ca3933	Cd2265	Co2286	Co2388	Cr2055
Avg	**46.9**	**480.**	**478.**	**478.**	F **447.**	**477.**	**47.6**	**465.**	**47.7**	**484.**	**472.**	**476.**
Stddev	.4	3.	3.	5.	12.	16.	1.2	13.	.1	1.	3.	1.
%RSD	.766	.614	.639	1.06	2.67	3.38	2.43	2.74	.133	.297	.563	.271
Check ?	Chk Pass	Chk Pass	Chk Pass	None	Chk Fail	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass
Value					500.							
Range					-10.4%							

Elem	Cr2677	Cu2247	Cu3247	Fe2599	Mg2802	Mn2576	Mn2593	Mo2020	Mo2045	Ni2216	Ni2316	Pb2169
Avg	**467.**	**486.**	**430.**	**546.**	**478.**	**465.**	**504.**	**491.**	**481.**	**474.**	**470.**	**511.**
Stddev	9.	2.	42.	107.	4.	4.	17.	2.	3.	7.	7.	8.
%RSD	2.00	.424	9.83	19.5	.817	.783	3.30	.434	.638	1.52	1.39	1.51
Check ?	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	None	Chk Pass	None
Value												
Range												

Elem	Pb2203	Sb2068	Sb2175	Se1960	Se2062	Tl1908	Tl1908	V_2924	Zn2062	Zn2138
Avg	**479.**	**487.**	**485.**	**504.**	**518.**	**511.**	**508.**	**480.**	**471.**	**476.**
Stddev	2.	2.	3.	1.	19.	2.	5.	9.	7.	7.
%RSD	.480	.368	.544	.217	3.64	.357	.943	1.93	1.58	1.53
Check ?	Chk Pass	None	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass
Value										
Range										

Sample Name: ccv2 Acquired: 01/19/2016 17:55:59 Type: QC
Method: DOD Calibration Updated 060614(v1225) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**28813.**	**1586800.**	**1091.7**
Stddev	69.	29367.	7.7
%RSD	.23914	1.8507	.70741

Sample Name: ccb Acquired: 01/19/2016 18:00:28 Type: QC
Method: DOD Calibration Updated 060614(v1225) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba4554	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2802
Avg	**1.16**	**.189**	**1.70**	**-7.47**	**.155**	**-1.24**	**.014**	**-.213**	**.297**	**-.138**	**73.5**	**-.893**
Stddev	.52	.094	1.39	3.65	.014	1.20	.100	.170	.287	.517	56.6	.057
%RSD	44.7	49.4	81.7	48.8	8.91	96.2	688.	79.6	96.6	376.	77.0	6.40
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**-.053**	**6.38**	**.069**	**-1.17**	**.450**	**9.80**	**.516**	**.420**	**-.581**
Stddev	.030	1.02	.194	1.13	2.98	2.07	.486	.328	.082
%RSD	57.1	16.0	282.	96.4	662.	21.1	94.2	78.1	14.1
Check ?	None	None	None	None	None	None	None	None	None
Value									
Range									

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**29028.**	**1602300.**	**1131.5**
Stddev	343.	17838.	8.7
%RSD	1.1822	1.1133	.76628

Sample Name: lcsw55898 Acquired: 01/19/2016 18:38:53 Type: Unk
Method: DOD Calibration Updated 060614(v1225) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	Al1670	As1937	As1890	Ba4554	Ba4934	Be3130	Ca3158	Cd2265	Co2286
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**16.9**	**1300.**	**763.**	**750.**	**748.**	**850.**	**677.**	**21.4**	**206000.**	**19.1**	**180.**
Stddev	.3	226.	12.	12.	18.	6.	18.	.5	2370.	.4	3.
%RSD	1.94	17.4	1.55	1.61	2.45	.721	2.58	2.13	1.15	2.27	1.71

Elem	Cr2677	Cu2247	Fe2599	Mg2025	Mn2576	Mo2020	Ni2216	Ni2316	Pb2203	Sb2175	Se1960
Units	ug/L	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**89.6**	**90.9**	**393.**	**104000.**	**179.**	**-1.24**	**177.**	**194.**	**190.**	**181.**	**720.**
Stddev	1.5	1.7	53.	765.	5.	.40	1.	1.	5.	4.	15.
%RSD	1.71	1.88	13.4	.737	2.54	31.9	.792	.704	2.58	2.45	2.10

Elem	Se2062	Tl1908	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**727.**	**686.**	**679.**	**193.**	**183.**
Stddev	12.	13.	13.	3.	1.
%RSD	1.58	1.94	1.87	1.56	.770

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**26621.**	**1465700.**	**1115.0**
Stddev	445.	12833.	7.7
%RSD	1.6716	.87555	.68868

Sample Name: ccv1 Acquired: 01/19/2016 18:48:09 Type: QC
Method: DOD Calibration Updated 060614(v1225) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1890	Ba4934	Be2348	Ca3158	Cd2265	Cd2288	Co2388	Cr2055	Cu2247	Cu3247
Avg	**442.**	**5170.**	**4630.**	F **4210.**	**494.**	**4800.**	**458.**	**465.**	**4630.**	**4650.**	**4610.**	**4670.**
Stddev	5.	91.	19.	146.	9.	276.	3.	3.	85.	31.	32.	141.
%RSD	1.21	1.77	.419	3.47	1.90	5.74	.665	.582	1.85	.669	.689	3.01
Check ?	None	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	None	None	Chk Pass
Value				5000.								
Range				-10.4%								

Elem	Fe2343	Mg2025	Mg2802	Mn2576	Mn2593	Mo2045	Ni2216	Ni2316	Pb2169	Sb2068	Se1960	Se2062
Avg	**4790.**	**4910.**	**4690.**	**4490.**	**4680.**	**4570.**	**4700.**	**4600.**	**4640.**	**4660.**	**4680.**	**4690.**
Stddev	162.	57.	47.	96.	58.	28.	51.	56.	26.	30.	31.	32.
%RSD	3.39	1.17	1.00	2.13	1.24	.621	1.08	1.21	.565	.638	.663	.672
Check ?	Chk Pass	Chk Pass	None	None	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	None	Chk Pass
Value												
Range												

Elem	Tl1908	V_2908	V_2924	Zn2062	Zn2138
Avg	**4730.**	**4590.**	**4660.**	**4630.**	**4690.**
Stddev	23.	63.	165.	53.	56.
%RSD	.478	1.37	3.54	1.15	1.20
Check ?	None	Chk Pass	None	Chk Pass	None
Value					
Range					

Sample Name: ccv1 Acquired: 01/19/2016 18:48:09 Type: QC
Method: DOD Calibration Updated 060614(v1225) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**28486.**	**1522600.**	**1105.3**
Stddev	160.	18336.	27.1
%RSD	.56299	1.2043	2.4546

Sample Name: ccv2 Acquired: 01/19/2016 18:52:43 Type: QC
Method: DOD Calibration Updated 060614(v1225) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	As1890	Ba4554	Ba4934	Be3130	Ca3933	Cd2265	Co2286	Co2388	Cr2055
Avg	**46.2**	**470.**	**471.**	**468.**	**453.**	**455.**	**47.0**	**468.**	**46.8**	**475.**	**470.**	**468.**
Stddev	1.4	11.	7.	14.	5.	5.	.2	8.	1.1	11.	6.	10.
%RSD	2.99	2.27	1.40	3.02	1.08	1.08	.437	1.66	2.38	2.37	1.36	2.11
Check ?	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass
Value												
Range												

Elem	Cr2677	Cu2247	Cu3247	Fe2599	Mg2802	Mn2576	Mn2593	Mo2020	Mo2045	Ni2216	Ni2316	Pb2169
Avg	**467.**	**476.**	**410.**	**523.**	**477.**	**465.**	**480.**	**481.**	**473.**	**463.**	**461.**	**502.**
Stddev	8.	12.	131.	17.	7.	8.	5.	11.	10.	10.	11.	6.
%RSD	1.81	2.48	31.9	3.20	1.50	1.64	.942	2.35	2.03	2.21	2.29	1.16
Check ?	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	None	Chk Pass	None
Value												
Range												

Elem	Pb2203	Sb2068	Sb2175	Se1960	Se2062	Tl1908	Tl1908	V_2908	V_2924	Zn2062	Zn2138
Avg	**470.**	**476.**	**472.**	**490.**	**502.**	**499.**	**497.**	**552.**	**471.**	**461.**	**467.**
Stddev	10.	11.	12.	14.	8.	11.	12.	164.	1.	10.	11.
%RSD	2.03	2.31	2.57	2.94	1.65	2.17	2.47	29.7	.124	2.17	2.29
Check ?	Chk Pass	None	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	None	Chk Pass	None	Chk Pass
Value											
Range											

Sample Name: ccv2 Acquired: 01/19/2016 18:52:43 Type: QC
Method: DOD Calibration Updated 060614(v1225) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**29080.**	**1603500.**	**1108.8**
Stddev	427.	22989.	3.2
%RSD	1.4669	1.4337	.28461

Sample Name: ccb Acquired: 01/19/2016 18:57:10 Type: QC
Method: DOD Calibration Updated 060614(v1225) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba4554	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2802
Avg	**.772**	**-.228**	**2.98**	**-14.0**	**.129**	**-1.80**	**.057**	**-.053**	**.555**	**-.230**	**67.8**	**-.848**
Stddev	.769	.021	1.88	1.3	.012	1.75	.081	.156	.253	.238	71.4	.018
%RSD	99.5	9.11	63.0	9.55	9.28	97.7	142.	293.	45.7	104.	105.	2.15
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**-.040**	**6.12**	**.442**	**-1.87**	**-.093**	**9.62**	**-.292**	**.201**	**-.471**
Stddev	.043	.57	.372	.60	1.78	.85	.608	.038	.235
%RSD	108.	9.26	84.3	32.3	1920.	8.88	208.	19.0	49.9
Check ?	None	None	None	None	None	None	None	None	None
Value									
Range									

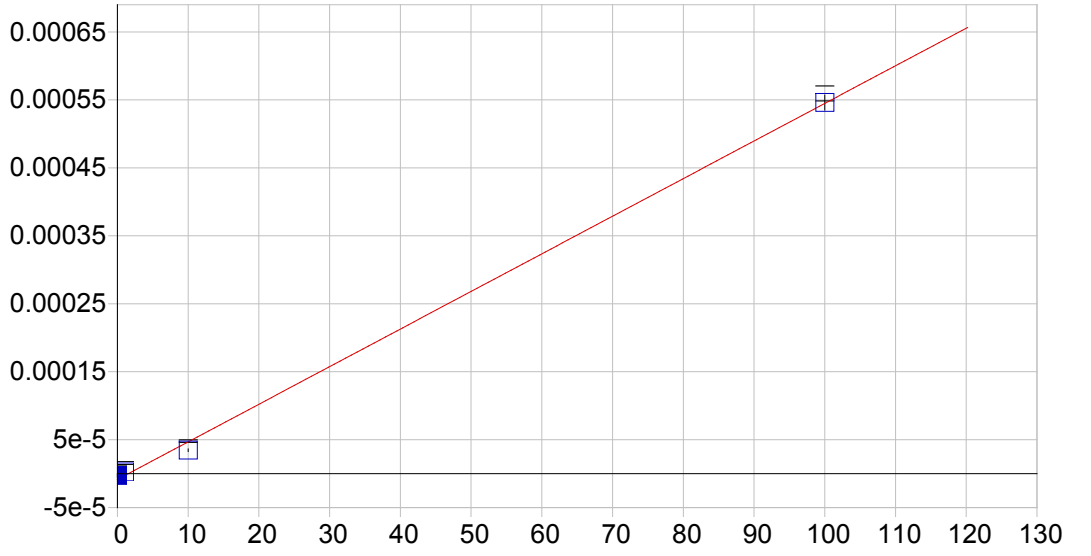
Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**28661.**	**1555500.**	**1120.5**
Stddev	185.	1319.	12.3
%RSD	.64415	.08480	1.0941

Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)	Correlation	Std Error of Est	Predicted MDL	Predicted MQL	Status	Resl Slope
Ag 328.068 {103}	01/21/2016 12:14:47	01/19/2016 11:51:04	Linear	None	-0.000009	0.000006	0.000000	1.000000	0.999495	0.000010	0.630959	2.103198	OK.	1.000000
Al 309.271 {109}	01/21/2016 12:14:47	01/19/2016 12:10:40	Curvilin	None	0.002597	0.000002	0.000000	1.000000	0.999998	0.000295	438.407166	1461.35722	OK.	1.000000
Al 396.152 { 85}	01/21/2016 12:14:47	01/19/2016 12:20:41	Full Fit	1/Conc	-0.001629	0.000005	0.000000	1.030000	0.999908	0.000206	289.310125	964.367082	OK.	1.000000
Al 167.079 {502}	01/21/2016 12:14:47	01/19/2016 11:55:41	Linear	1/Conc	0.000078	0.000066	0.000000	1.000000	0.999559	0.000006	0.212798	0.709326	OK.	1.000000
As 193.759 {474}	01/21/2016 12:14:47	01/19/2016 12:00:26	Linear	1/Conc	0.000110	0.000024	0.000000	1.000000	0.999956	0.000003	1.810576	6.035254	OK.	1.000000
As 189.042 {479}	01/21/2016 12:14:47	01/19/2016 12:00:26	Linear	1/Conc	0.000002	0.000006	0.000000	1.000000	0.999982	0.000000	4.037668	13.458892	OK.	1.000000
Ba 455.403 { 74}	01/21/2016 12:14:47	01/19/2016 11:55:41	Linear	1/Var	0.032089	0.000253	0.000000	1.000000	0.999335	0.000991	6.168719	20.562395	OK.	1.000000
Ba 493.409 { 68}	01/21/2016 12:14:47	01/19/2016 12:00:26	Curvilin	None	0.025655	0.000279	0.000000	1.000000	1.000000	0.001160	12.846525	42.821751	Warnin	1.000000
Be 313.042 {108}	01/21/2016 12:14:47	01/19/2016 11:55:41	Linear	1/Conc	-0.024955	0.192414	0.000000	1.000000	0.999936	0.001331	0.021627	0.072088	OK.	1.000000
Be 234.861 {144}	01/21/2016 12:14:47	01/19/2016 11:55:41	Linear	1/Var	-0.000000	0.000000	0.000000	1.000000	0.999595	0.000000	27.071647	90.238822	OK.	1.000000
Ca 315.887 {107}	01/21/2016 12:14:47	01/19/2016 12:20:41	Curvilin	1/Var	0.000070	0.000002	0.000000	1.000000	0.999815	0.000330	181.879581	606.265269	OK.	1.000000
Ca 317.933 {106}	01/21/2016 12:14:47	01/19/2016 12:20:41	Linear	1/Conc	0.007306	0.000008	0.000000	1.000000	0.999171	0.000503	63.535491	211.784969	OK.	1.000000
Ca 393.366 { 86}	01/21/2016 12:14:47	01/19/2016 11:55:41	Linear	1/Conc	0.002824	0.000937	0.000000	1.000000	0.999979	0.000064	1.283391	4.277971	OK.	1.000000
Ca 396.847 { 85}	01/21/2016 12:14:47	01/19/2016 12:00:26	Linear	1/Conc	0.001076	0.000360	0.000000	1.000000	0.999990	0.000076	2.634810	8.782701	OK.	1.000000
Cd 226.502 {149}	01/21/2016 12:14:47	01/19/2016 11:55:42	Curvilin	1/Conc	0.000001	0.000007	-0.000000	1.000000	0.999973	0.000000	0.254860	0.849533	OK.	1.000000
Cd 226.502 {449}	01/21/2016 12:14:47	01/19/2016 11:55:42	Linear	1/Conc	-0.000025	0.000613	0.000000	1.000000	0.999917	0.000007	0.105721	0.352404	OK.	1.000000
Cd 228.802 {447}	01/21/2016 12:14:47	01/19/2016 11:55:42	Linear	1/Conc	-0.000066	0.000843	0.000000	1.000000	0.999902	0.000011	0.111718	0.372393	OK.	1.000000
Co 228.616 {447}	01/21/2016 12:14:47	01/19/2016 12:00:26	Linear	1/Conc	-0.000128	0.000384	0.000000	1.000000	0.999976	0.000010	0.198276	0.660921	OK.	1.000000
Co 238.892 {141}	01/21/2016 12:14:47	01/19/2016 12:00:26	Linear	None	-0.000015	0.000005	0.000000	1.000000	0.999999	0.000033	0.515496	1.718319	OK.	1.000000
Cr 205.560 {464}	01/21/2016 12:14:47	01/19/2016 12:05:51	Full Fit	1/Conc	-0.000114	0.000272	-0.000000	1.000000	0.999999	0.000004	0.172787	0.575955	OK.	1.000000
Cr 267.716 {126}	01/21/2016 12:14:47	01/19/2016 12:00:26	Linear	1/Conc	-0.000084	0.000451	0.000000	1.000000	0.999991	0.000017	0.447658	1.492193	OK.	1.000000
Cu 224.700 {450}	01/21/2016 12:14:47	01/19/2016 12:00:26	Linear	1/Conc	-0.000044	0.000164	0.000000	1.000000	0.999939	0.000007	0.431388	1.437959	OK.	1.000000
Cu 324.754 {104}	01/21/2016 12:14:47	01/19/2016 12:05:51	Curvilin	1/Conc	0.002941	0.000007	0.000000	1.000000	0.999968	0.000010	91.360224	304.534080	OK.	1.000000
Cu 327.396 {103}	01/21/2016 12:14:47	01/19/2016 12:05:51	Curvilin	1/Conc	0.000443	0.000006	-0.000000	1.000000	0.998618	0.000020	131.220543	437.401811	OK.	1.000000
Fe 234.349 {144}	01/21/2016 12:14:47	01/19/2016 12:20:41	Full Fit	1/Conc	0.028078	0.002423	-0.000000	0.980000	0.999996	0.008016	0.647239	2.157464	OK.	1.000000
Fe 239.562 {140}	01/21/2016 12:14:47	01/19/2016 12:20:41	Full Fit	1/Var	0.000083	0.000003	0.000000	1.000000	0.999847	0.000418	142.410594	474.701979	OK.	1.000000
Fe 239.562 {141}	01/21/2016 12:14:47	01/19/2016 12:10:40	Linear	1/Var	0.000137	0.000001	0.000000	1.000000	0.999694	0.000202	312.264345	1040.88114	OK.	1.000000
Fe 259.940 {129}	01/21/2016 12:14:47	01/19/2016 12:20:41	Curvilin	1/Var	0.000126	0.000008	0.000000	1.000000	0.999971	0.000282	78.259281	260.864271	OK.	1.000000
Fe 259.940 {130}	01/21/2016 12:14:47	01/19/2016 12:00:26	Linear	1/Var	0.000067	0.000005	0.000000	1.000000	0.999498	0.000166	90.914685	303.048950	OK.	1.000000
Mg 202.582 {466}	01/21/2016 12:14:47	01/19/2016 12:20:41	Full Fit	None	0.000101	0.000001	0.000000	0.970000	0.999999	0.000212	1.700574	5.668578	OK.	1.000000
Mg 279.079 {121}	01/21/2016 12:14:47	01/19/2016 12:20:41	Linear	1/Conc	0.000194	0.000001	0.000000	1.000000	0.999444	0.000030	541.293935	1804.31311	OK.	1.000000
Mg 280.270 {120}	01/21/2016 12:14:47	01/19/2016 12:00:27	Curvilin	None	0.000351	0.000086	-0.000000	1.000000	1.000000	0.000091	0.021854	0.072846	OK.	1.000000
Mn 257.610 {131}	01/21/2016 12:14:47	01/19/2016 12:00:27	Linear	1/Var	0.000003	0.000035	0.000000	1.000000	0.999482	0.000007	0.054861	0.182871	OK.	1.000000
Mn 259.373 {130}	01/21/2016 12:14:47	01/19/2016 12:05:51	Full Fit	None	-0.000000	0.000000	0.000000	1.030000	1.000000	0.000000	21.917312	73.057705	OK.	1.000000
Mo 202.030 {466}	01/21/2016 12:14:47	01/19/2016 12:00:27	Linear	1/Conc	0.000188	0.000167	0.000000	1.000000	0.999814	0.000009	0.303955	1.013182	OK.	1.000000
Mo 204.598 {464}	01/21/2016 12:14:47	01/19/2016 12:00:27	Linear	1/Conc	0.000163	0.000075	0.000000	1.000000	0.999920	0.000008	0.643238	2.144127	OK.	1.000000
Mo 204.598 {465}	01/21/2016 12:14:47	01/19/2016 12:00:27	Linear	None	-0.000355	0.000050	0.000000	1.000000	0.999998	0.000482	0.830742	2.769141	OK.	1.000000
Ni 221.647 {452}	01/21/2016 12:14:47	01/19/2016 12:00:27	Linear	1/Conc	-0.000005	0.000005	0.000000	1.000000	0.999998	0.000000	0.322025	1.073416	OK.	1.000000
Ni 231.604 {445}	01/21/2016 12:14:47	01/19/2016 12:00:27	Linear	1/Conc	-0.000004	0.000004	0.000000	1.000000	0.999975	0.000000	0.366846	1.222819	OK.	1.000000
Pb 216.999 {455}	01/21/2016 12:14:47	01/19/2016 12:05:51	Curvilin	1/Conc	0.000333	0.000015	-0.000000	1.000000	0.999969	0.000004	4.724083	15.746944	OK.	1.000000
Pb 220.353 {153}	01/21/2016 12:14:47	01/19/2016 12:05:51	Linear	1/Conc	0.000006	0.000040	0.000000	1.000000	0.999994	0.000019	2.072758	6.909195	OK.	1.000000
Pb 220.353 {453}	01/21/2016 12:14:47	01/19/2016 12:00:27	Linear	1/Conc	0.000073	0.000066	0.000000	1.000000	0.999990	0.000003	1.328490	4.428302	OK.	1.000000
Sb 206.833 {463}	01/21/2016 12:14:47	01/19/2016 12:00:27	Linear	1/Conc	0.000096	0.000034	0.000000	1.000000	0.999969	0.000004	1.675794	5.585981	OK.	1.000000
Sb 217.581 {455}	01/21/2016 12:14:47	01/19/2016 12:00:27	Linear	1/Var	0.000016	0.000023	0.000000	1.000000	0.999852	0.000055	2.649440	8.831468	OK.	1.000000
Se 196.090 {471}	01/21/2016 12:14:47	01/19/2016 12:00:27	Linear	None	0.000048	0.000004	0.000000	1.000000	0.999997	0.000037	10.764762	35.882539	OK.	1.000000
Se 196.090 {472}	01/21/2016 12:14:47	01/19/2016 12:00:27	Linear	1/Conc	0.000115	0.000025	0.000000	1.000000	0.999978	0.000002	2.159433	7.198110	OK.	1.000000

Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)	Correlation	Std Error of Est	Predicted MDL	Predicted MQL	Status	Resl Slope
Se 206.279 {463}	01/21/2016 12:14:47	01/19/2016 12:00:27	Linear	1/Conc	-0.000016	0.000004	0.000000	1.000000	0.999996	0.000000	15.984822	53.282740	OK.	1.000000
Tl 190.856 {476}	01/21/2016 12:14:47	01/19/2016 12:00:27	Linear	1/Conc	0.000130	0.000049	0.000000	1.000000	0.999738	0.000015	1.114614	3.715381	OK.	1.000000
Tl 190.856 {477}	01/21/2016 12:14:47	01/19/2016 12:00:27	Linear	1/Conc	-0.000057	0.000017	0.000000	1.000000	0.999748	0.000005	2.183579	7.278597	OK.	1.000000
V 290.882 {116}	01/21/2016 12:14:47	01/19/2016 12:00:27	Linear	None	0.000000	0.000000	0.000000	1.000000	0.999953	0.000000	126.090573	420.301911	OK.	1.000000
V 292.402 {115}	01/21/2016 12:14:47	01/19/2016 12:00:27	Linear	1/Conc	-0.009619	0.016370	0.000000	1.000000	0.999991	0.000884	0.441841	1.472804	OK.	1.000000
Zn 206.200 {463}	01/21/2016 12:14:47	01/19/2016 12:05:51	Full Fit	1/Conc	-0.000004	0.000012	-0.000000	1.010000	1.000000	0.000000	0.095353	0.317844	OK.	1.000000
Zn 213.856 {458}	01/21/2016 12:14:47	01/19/2016 12:00:27	Curvilin	None	0.000003	0.000005	0.000000	1.000000	1.000000	0.000004	0.152681	0.508936	Warnin	1.000000
Y 224.306 {451}*	01/21/2016 12:14:47	01/19/2016 11:11:54	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000
Y 324.228 {104}*	01/21/2016 12:14:47	01/19/2016 11:11:55	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000
Y 371.030 { 91}*	01/21/2016 12:14:47	01/19/2016 11:11:55	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000
Na 588.995 { 57}	01/21/2016 12:14:47	01/19/2016 12:00:27	Linear	1/Conc	-0.000224	0.000000	0.000000	1.000000	1.000000	0.000000	779.043308	2596.81102	OK.	1.000000
Si 251.611 {134}	01/21/2016 12:14:47	01/19/2016 12:00:27	Linear	1/Conc	0.000194	0.000000	0.000000	1.000000	0.906180	0.000014	2683.55386	8945.17954	OK.	1.000000
Ti 334.941 {101}	01/21/2016 12:14:47	01/19/2016 12:00:27	Linear	1/Conc	0.000276	0.000020	0.000000	1.000000	0.997972	0.000011	33.533054	111.776845	OK.	1.000000
Sr 407.771 { 83}	01/21/2016 12:14:47	01/19/2016 12:00:27	Linear	1/Conc	-0.000882	0.000442	0.000000	1.000000	0.999974	0.000012	2.748448	9.161493	OK.	1.000000
Sn 189.989 {478}	01/21/2016 12:14:47	01/19/2016 12:00:27	Curvilin	1/Var	0.000025	0.000019	-0.000000	1.000000	0.999860	0.000036	1.364865	4.549550	OK.	1.000000
B 249.678 {135}	01/21/2016 12:14:47	01/19/2016 12:00:27	Linear	1/Conc	0.000008	0.000004	0.000000	1.000000	0.999896	0.000001	0.775388	2.584628	OK.	1.000000
B 249.773 {135}	01/21/2016 12:14:47	01/19/2016 12:00:27	Linear	1/Conc	0.000018	0.000007	0.000000	1.000000	0.999907	0.000001	0.449392	1.497974	OK.	1.000000
Li 670.784 { 50}	01/21/2016 12:14:47	01/19/2016 12:00:27	Full Fit	1/Conc	-0.013532	0.000927	0.000000	1.010000	0.999887	0.000365	6.794117	22.647057	Warnin	1.000000
K 766.490 { 44}	01/21/2016 12:14:47	01/19/2016 12:00:27	Linear	1/Conc	-0.001693	0.000002	0.000000	1.000000	1.000000	0.000000	3162.35332	10541.1777	OK.	1.000000
P 213.618 {457}	01/21/2016 12:14:47	01/19/2016 12:00:27	Linear	1/Conc	-0.000000	-0.000000	0.000000	1.000000	1.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000
S 182.034 {485}	01/21/2016 12:14:47	01/19/2016 12:20:41	Linear	1/Conc	-0.001111	0.000013	0.000000	1.000000	0.959544	0.066913	2.517694	8.392315	OK.	1.000000
W 239.709 {140}	01/21/2016 12:14:47	01/19/2016 11:55:43	Linear	1/Conc	-0.000000	0.000000	0.000000	1.000000	1.000000	0.000000	6930.44910	23101.4970	OK.	1.000000

Element, Wavelength and Order	ope	QC Norm	
	Y-int	Slope factor	Offset
Ag 328.068 {103}	0.000000	1	0
Al 309.271 {109}	0.000000	1	0
Al 396.152 { 85}	0.000000	1	0
Al 167.079 {502}	0.000000	1	0
As 193.759 {474}	0.000000	1	0
As 189.042 {479}	0.000000	1	0
Ba 455.403 { 74}	0.000000	1	0
Ba 493.409 { 68}	0.000000	1	0
Be 313.042 {108}	0.000000	1	0
Be 234.861 {144}	0.000000	1	0
Ca 315.887 {107}	0.000000	1	0
Ca 317.933 {106}	0.000000	1	0
Ca 393.366 { 86}	0.000000	1	0
Ca 396.847 { 85}	0.000000	1	0
Cd 226.502 {149}	0.000000	1	0
Cd 226.502 {449}	0.000000	1	0
Cd 228.802 {447}	0.000000	1	0
Co 228.616 {447}	0.000000	1	0
Co 238.892 {141}	0.000000	1	0
Cr 205.560 {464}	0.000000	1	0
Cr 267.716 {126}	0.000000	1	0
Cu 224.700 {450}	0.000000	1	0
Cu 324.754 {104}	0.000000	1	0
Cu 327.396 {103}	0.000000	1	0
Fe 234.349 {144}	0.000000	1	0
Fe 239.562 {140}	0.000000	1	0
Fe 239.562 {141}	0.000000	1	0
Fe 259.940 {129}	0.000000	1	0
Fe 259.940 {130}	0.000000	1	0
Mg 202.582 {466}	0.000000	1	0
Mg 279.079 {121}	0.000000	1	0
Mg 280.270 {120}	0.000000	1	0
Mn 257.610 {131}	0.000000	1	0
Mn 259.373 {130}	0.000000	1	0
Mo 202.030 {466}	0.000000	1	0
Mo 204.598 {464}	0.000000	1	0
Mo 204.598 {465}	0.000000	1	0
Ni 221.647 {452}	0.000000	1	0
Ni 231.604 {445}	0.000000	1	0
Pb 216.999 {455}	0.000000	1	0
Pb 220.353 {153}	0.000000	1	0
Pb 220.353 {453}	0.000000	1	0
Sb 206.833 {463}	0.000000	1	0
Sb 217.581 {455}	0.000000	1	0
Se 196.090 {471}	0.000000	1	0
Se 196.090 {472}	0.000000	1	0

Element, Wavelength and Order	ope	QC Norm	
	Y-int	Slope factor	Offset
Se 206.279 {463}	0.000000	1	0
Tl 190.856 {476}	0.000000	1	0
Tl 190.856 {477}	0.000000	1	0
V 290.882 {116}	0.000000	1	0
V 292.402 {115}	0.000000	1	0
Zn 206.200 {463}	0.000000	1	0
Zn 213.856 {458}	0.000000	1	0
Y 224.306 {451}*	0.000000	1	0
Y 324.228 {104}*	0.000000	1	0
Y 371.030 { 91}*	0.000000	1	0
Na 588.995 { 57}	0.000000	1	0
Si 251.611 {134}	0.000000	1	0
Ti 334.941 {101}	0.000000	1	0
Sr 407.771 { 83}	0.000000	1	0
Sn 189.989 {478}	0.000000	1	0
B 249.678 {135}	0.000000	1	0
B 249.773 {135}	0.000000	1	0
Li 670.784 { 50}	0.000000	1	0
K 766.490 { 44}	0.000000	1	0
P 213.618 {457}	0.000000	1	0
S 182.034 {485}	0.000000	1	0
W 239.709 {140}	0.000000	1	0

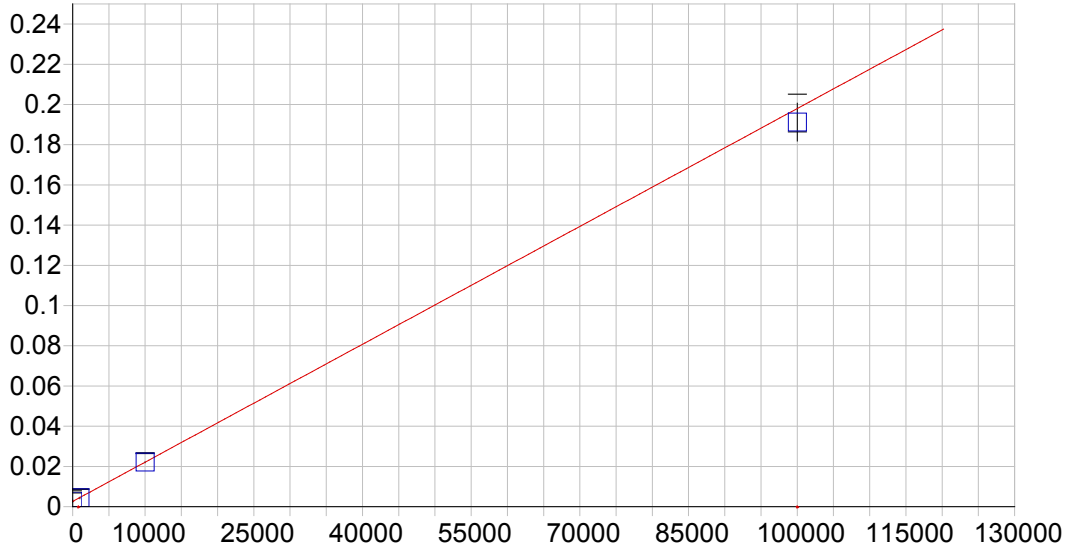


Ag 328.068 {103}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	-0.000009	Re-Slope:	1.000000
A1 (Gain):	0.000006	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999495	Status:	OK.
Std Error of Est:	0.000010		
Predicted MDL:	0.630959		
Predicted MQL:	2.103198		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	1.0314	1.03	.000	.00000	.000	1
CalStd5=10	10.000	7.7622	-2.24	-22.4	.00003	.000	1
CalStd8=100	100.00	100.21	.214	.214	.00055	.000	1
CalStd3=1	1.0000	1.9926	.993	99.3	.00000	.000	1

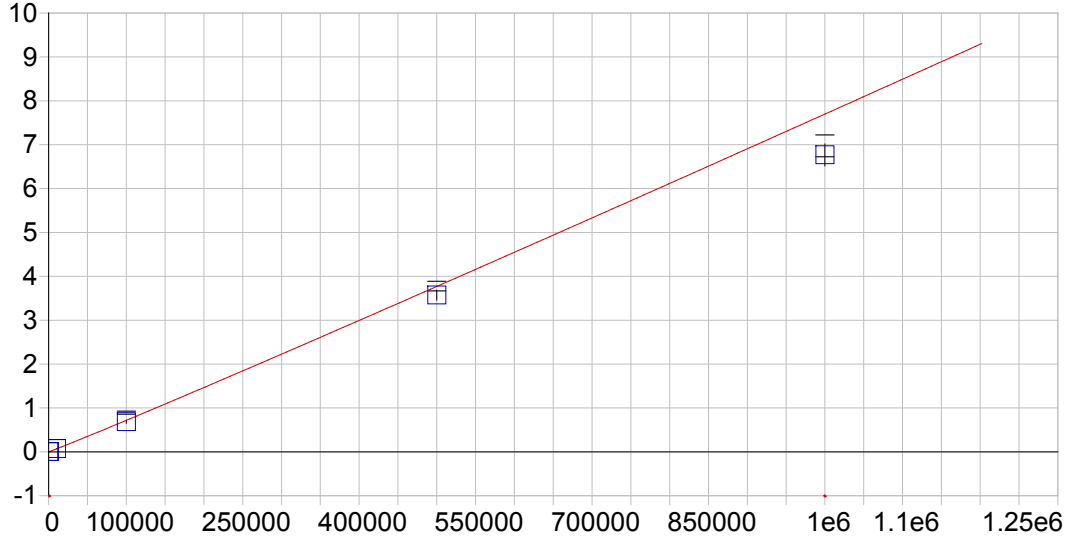


Al 309.271 {109}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Curvilinear	Weighting:	None

A0 (Offset):	0.002597	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999998	Status:	OK.
Std Error of Est:	0.000295		
Predicted MDL:	438.407166		
Predicted MQL:	1461.357221		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	100.18	100.	.000	.00279	.000	1
CalStd10=10	10000.	9977.8	-22.2	-.222	.02209	.000	1
CalStd9=100	1000.0	887.22	-113.	-11.3	.00433	.000	1
CalStd12-100	100000.	96545.	-3450.	-3.45	.19124	.009	1

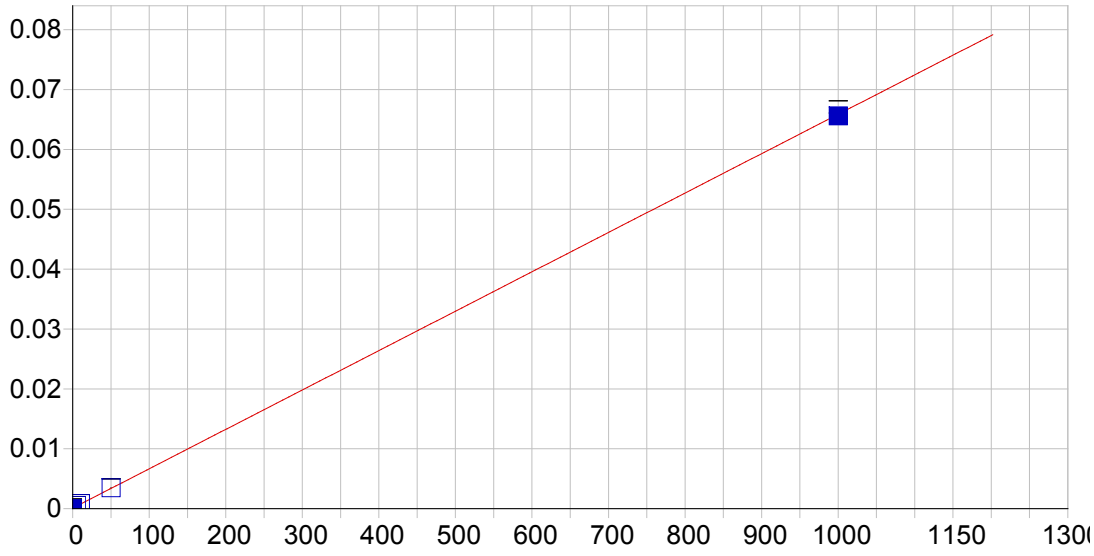


Al 396.152 { 85}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Full Fit	Weighting:	1/Conc

A0 (Offset):	-0.001629	Re-Slope:	1.000000
A1 (Gain):	0.000005	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.030000		
Correlation:	0.999908	Status:	OK.
Std Error of Est:	0.000206		
Predicted MDL:	289.310125		
Predicted MQL:	964.367082		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	-.00163	.000	1
CalStd14-100	1000000.	882250.	-118000.	-11.8	6.7664	.249	1
CalStd13=50	500000.	474430.	-25600.	-5.11	3.5708	.110	1
CalStd10=10	10000.	11048.	1050.	10.5	.07269	.001	1
CalStd12-100	100000.	95865.	-4140.	-4.14	.68640	.034	1
CalStd9=100	1000.0	1247.5	248.	24.8	.00623	.000	1

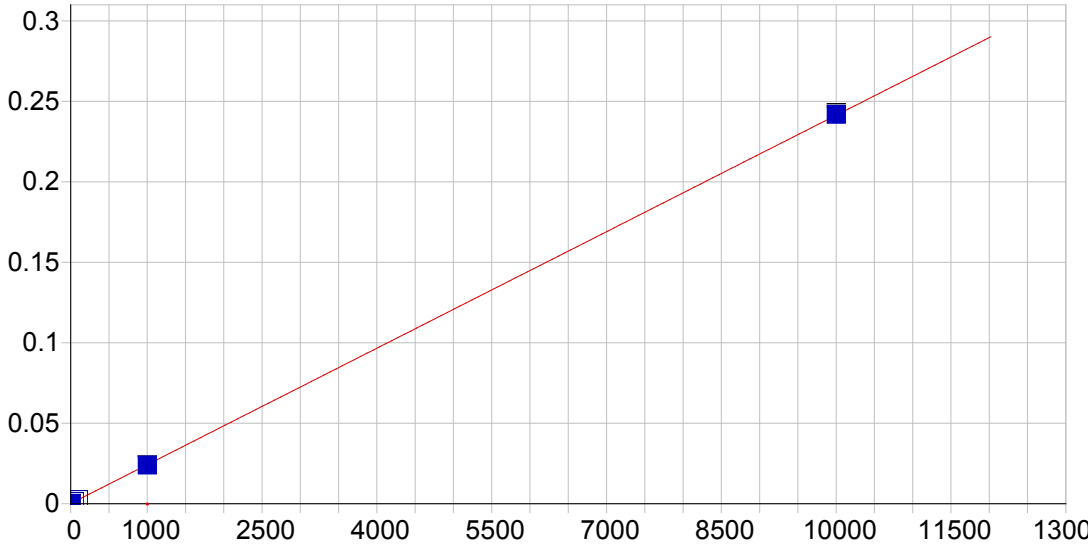


Al 167.079 {502}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000078	Re-Slope:	1.000000
A1 (Gain):	0.000066	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999559	Status:	OK.
Std Error of Est:	0.000006		
Predicted MDL:	0.212798		
Predicted MQL:	0.709326		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00265	-.003	.000	.00008	.000	1
CalStd9=100	1000.0	995.37	-4.63	-.463	.06561	.001	1
CalStd5=10	10.000	11.303	1.30	13.0	.00082	.000	1
CalStd4=5	5.0000	6.8808	1.88	37.6	.00053	.000	1
CalStd7=50	50.000	51.447	1.45	2.89	.00346	.000	1

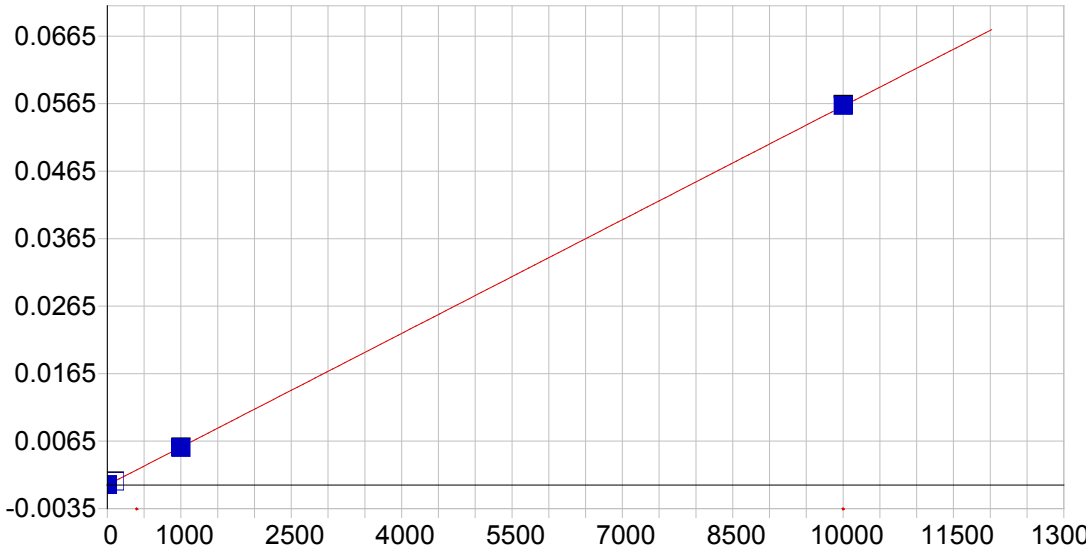


As 193.759 {474}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000110	Re-Slope:	1.000000
A1 (Gain):	0.000024	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999956	Status:	OK.
Std Error of Est:	0.000003		
Predicted MDL:	1.810576		
Predicted MQL:	6.035254		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00323	.003	.000	.00011	.000	1
CalStd9=100	1000.0	987.92	-12.1	-1.21	.02394	.000	1
CalStd7=50	50.000	46.231	-3.77	-7.54	.00123	.000	1
CalStd5=10	10.000	7.8809	-2.12	-21.2	.00030	.000	1
CalStd8=100	100.00	97.475	-2.53	-2.53	.00246	.000	1
CalStd10=10	10000.	10020.	20.5	.205	.24181	.001	1

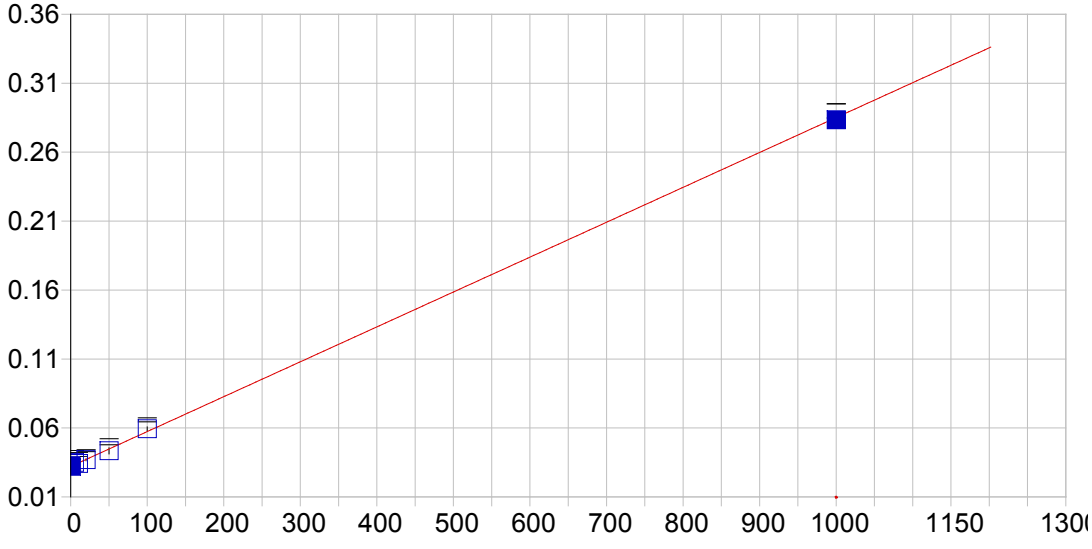


As 189.042 {479}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000006	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999982	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	4.037668		
Predicted MQL:	13.458892		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00098	.001	.000	.00000	.000	1
CalStd9=100	1000.0	985.31	-14.7	-1.47	.00553	.000	1
CalStd10=10	10000.	10016.	15.8	.158	.05620	.000	1
CalStd8=100	100.00	99.751	-.249	-.249	.00056	.000	1
CalStd4=5	5.0000	4.0962	-.904	-18.1	.00003	.000	1

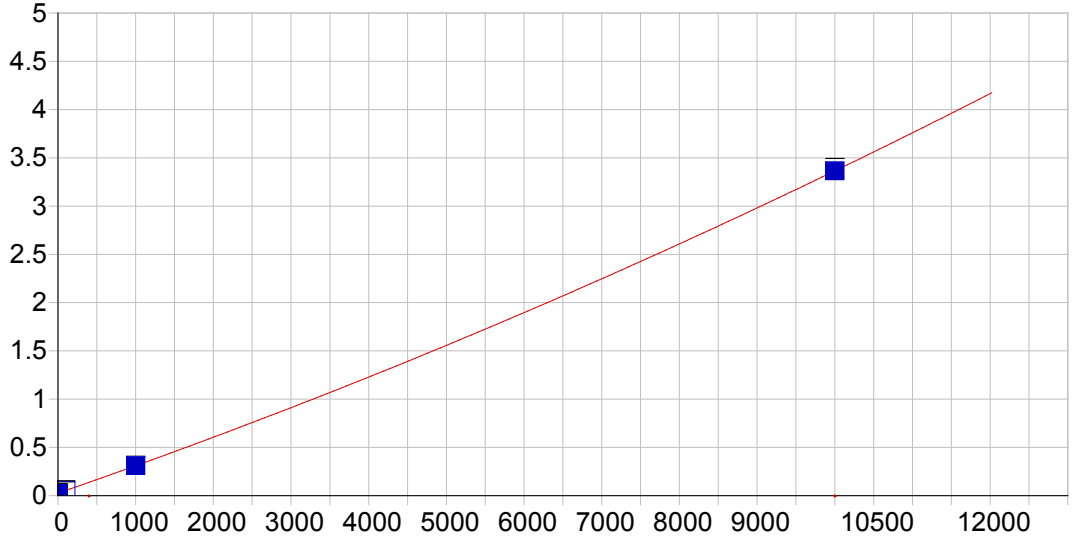


Ba 455.403 { 74}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.032089	Re-Slope:	1.000000
A1 (Gain):	0.000253	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999335	Status:	OK.
Std Error of Est:	0.000991		
Predicted MDL:	6.168719		
Predicted MQL:	20.562395		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	1.6989	1.70	.000	.03252	.002	1
CalStd7=50	50.000	44.686	-5.31	-10.6	.04339	.002	1
CalStd5=10	10.000	8.3678	-1.63	-16.3	.03421	.001	1
CalStd6=20	20.000	19.064	-.936	-4.68	.03691	.001	1
CalStd8=100	100.00	107.61	7.61	7.61	.05931	.001	1
CalStd4=5	5.0000	11.427	6.43	129.	.03498	.002	1
CalStd9=100	1000.0	993.10	-6.90	-.690	.28334	.005	1
CalStd3=1	1.0000	-1.2599	-2.26	-226.	.03177	.001	1

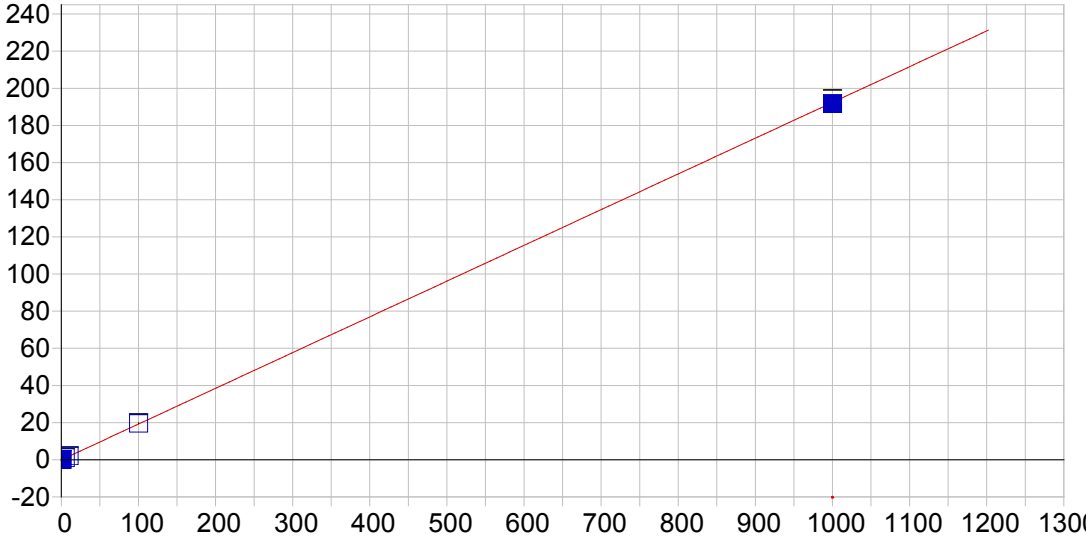


Ba 493.409 { 68}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Curvilinear	Weighting:	None

A0 (Offset):	0.025655	Re-Slope:	1.000000
A1 (Gain):	0.000279	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	Warning Positive Curvature
Std Error of Est:	0.001160		
Predicted MDL:	12.846525		
Predicted MQL:	42.821751		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-2.7605	-2.76	.000	.02489	.003	1
CalStd9=100	1000.0	999.67	-.328	-.033	.30975	.004	1
CalStd8=100	100.00	103.09	3.09	3.09	.05443	.007	1
CalStd10=10	10000.	10000.	.002	.000	3.3650	.035	1

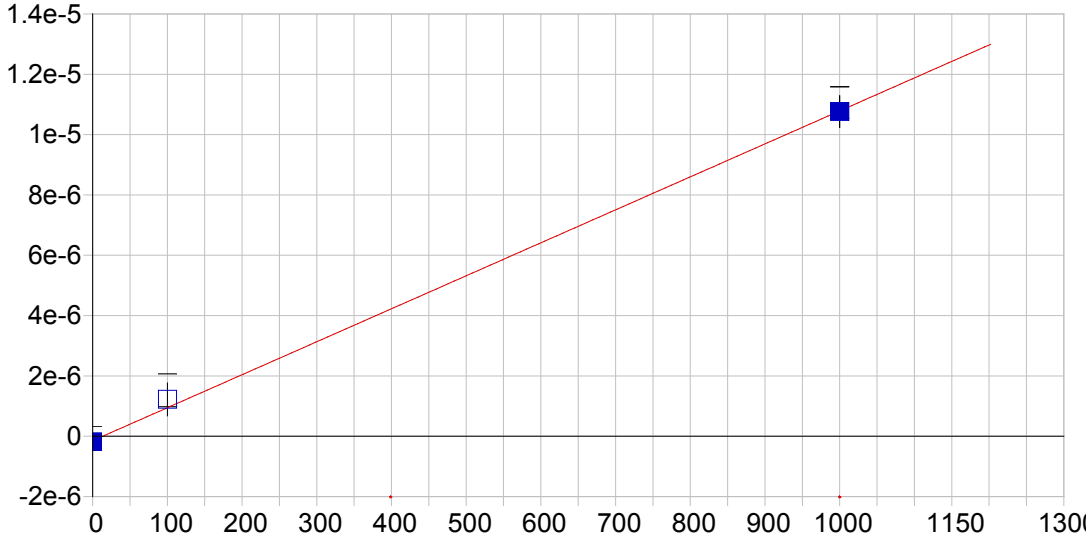


Be 313.042 {108}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.024955	Re-Slope:	1.000000
A1 (Gain):	0.192414	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999936	Status:	OK.
Std Error of Est:	0.001331		
Predicted MDL:	0.021627		
Predicted MQL:	0.072088		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00009	.000	.000	-.02497	.004	1
CalStd5=10	10.000	10.610	.610	6.10	2.0166	.025	1
CalStd8=100	100.00	102.06	2.06	2.06	19.612	.253	1
CalStd2=0.5	.50000	.55802	.058	11.6	.08242	.005	1
CalStd4=5	5.0000	5.4275	.428	8.55	1.0194	.003	1
CalStd1=0.25	.25000	.24280	-.007	-2.88	.02176	.005	1
CalStd9=100	1000.0	996.75	-3.25	-.325	191.76	2.44	1
CalStd3=1	1.0000	1.1010	.101	10.1	.18690	.008	1

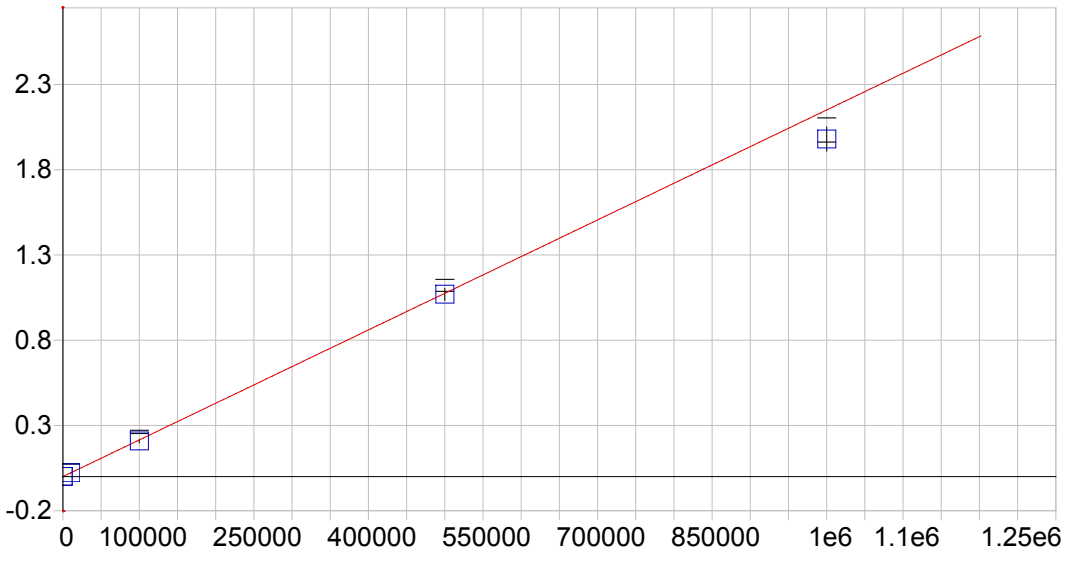


Be 234.861 {144}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999595	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	27.071647		
Predicted MQL:	90.238822		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-3.9816	-3.98	.000	.00000	.000	1
CalStd9=100	1000.0	997.65	-2.35	-.235	.00001	.000	1
CalStd8=100	100.00	125.26	25.3	25.3	.00000	.000	1

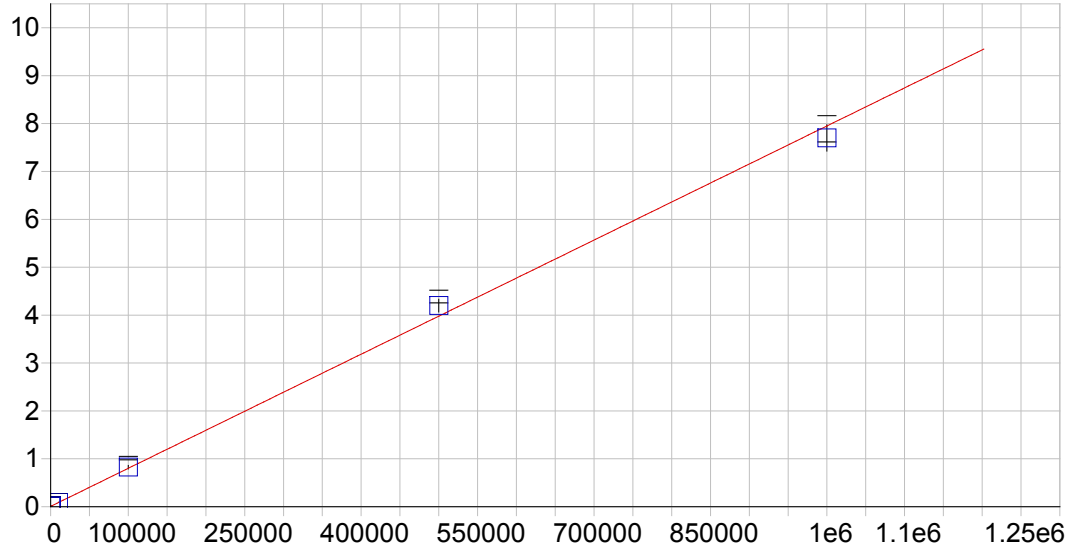


Ca 315.887 {107}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Curvilinear	Weighting:	1/Var

A0 (Offset):	0.000070	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999815	Status:	OK.
Std Error of Est:	0.000330		
Predicted MDL:	181.879581		
Predicted MQL:	606.265269		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	3.5976	3.60	.000	.00008	.000	1
CalStd10=10	10000.	9964.1	-35.9	-.359	.02150	.001	1
CalStd13=50	500000.	496990.	-3010.	-.603	1.0690	.035	1
CalStd14-100	1000000.	920450.	-79500.	-7.95	1.9799	.071	1
CalStd9=100	1000.0	1006.7	6.72	.672	.00224	.001	1
CalStd12-100	100000.	97091.	-2910.	-2.91	.20890	.010	1

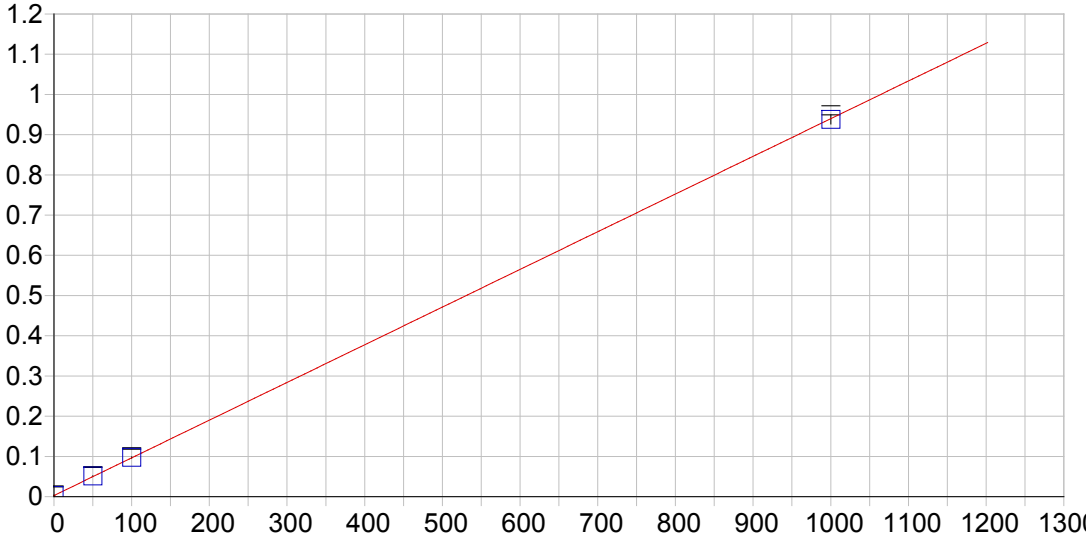


Ca 317.933 {106}

Date of Fit: 01/21/2016 12:14:47 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	0.007306	Re-Slope:	1.000000
A1 (Gain):	0.000008	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999171	Status:	OK.
Std Error of Est:	0.000503		
Predicted MDL:	63.535491		
Predicted MQL:	211.784969		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.18825	-.188	.000	.00730	.000	1
CalStd10=10	10000.	10669.	669.	6.69	.09205	.001	1
CalStd13=50	500000.	527670.	27700.	5.53	4.1986	.133	1
CalStd14-100	1000000.	968470.	-31500.	-3.15	7.6999	.274	1
CalStd9=100	1000.0	1066.2	66.2	6.62	.01578	.001	1
CalStd12-100	100000.	103130.	3130.	3.13	.82645	.037	1

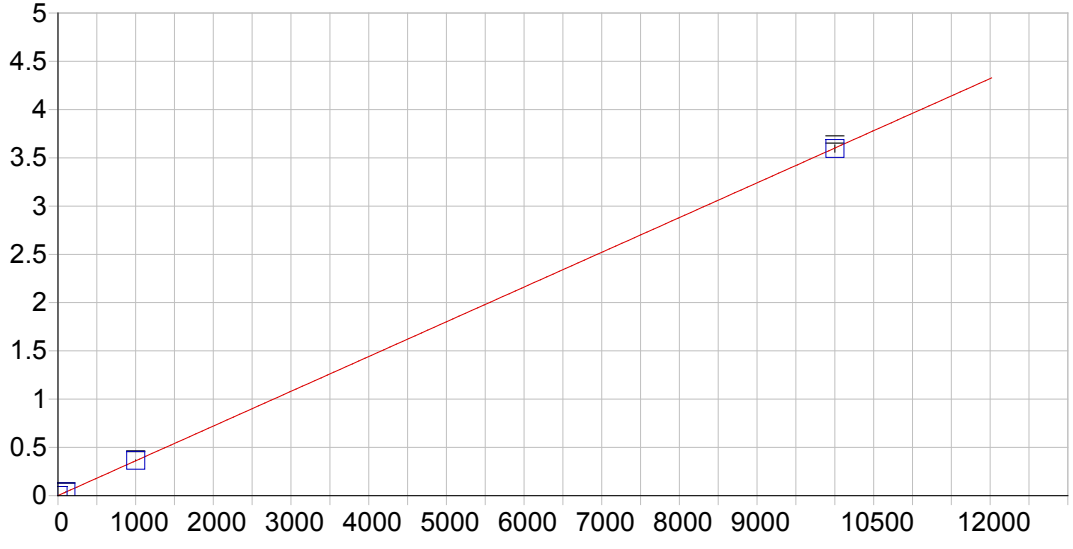


Ca 393.366 { 86}

Date of Fit: 01/21/2016 12:14:47 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	0.002824	Re-Slope:	1.000000
A1 (Gain):	0.000937	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999979	Status:	OK.
Std Error of Est:	0.000064		
Predicted MDL:	1.283391		
Predicted MQL:	4.277971		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00164	-.002	.000	.00282	.001	1
CalStd7=50	50.000	51.348	1.35	2.70	.05094	.001	1
CalStd9=100	1000.0	997.86	-2.14	-.214	.93781	.011	1
CalStd8=100	100.00	100.79	.788	.788	.09726	.002	1

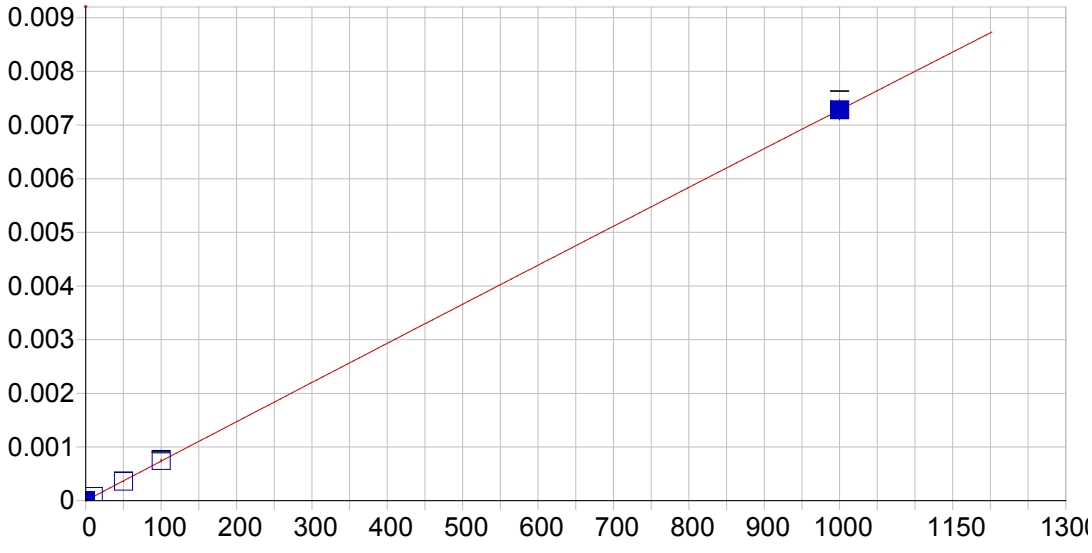


Ca 396.847 { 85}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.001076	Re-Slope:	1.000000
A1 (Gain):	0.000360	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999990	Status:	OK.
Std Error of Est:	0.000076		
Predicted MDL:	2.634810		
Predicted MQL:	8.782701		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00372	-.004	.000	.00108	.001	1
CalStd10=10	10000.	9985.9	-14.1	-.141	3.5958	.038	1
CalStd8=100	100.00	102.72	2.72	2.72	.03805	.001	1
CalStd9=100	1000.0	1011.4	11.4	1.14	.36517	.004	1

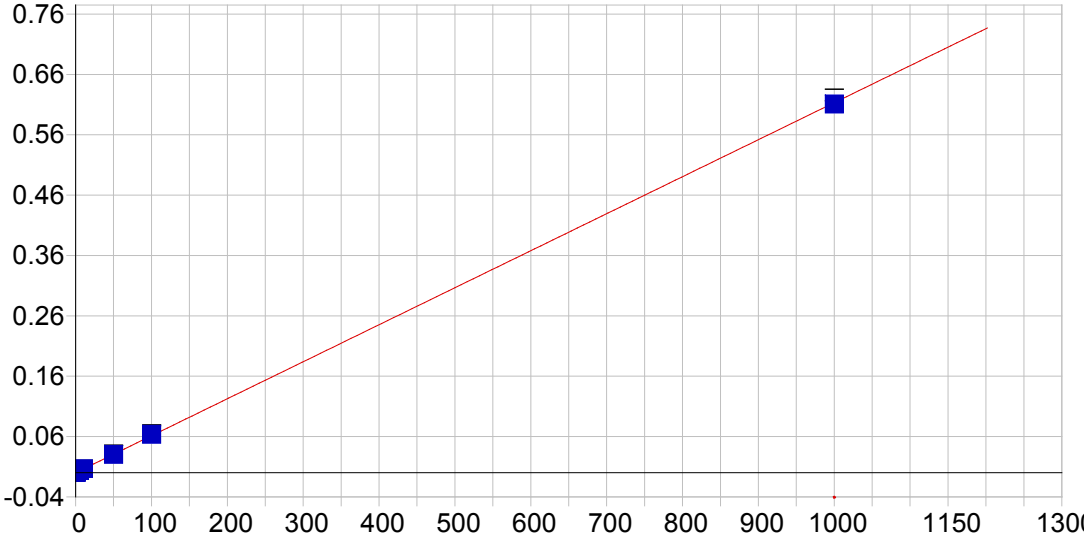


Cd 226.502 {149}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000007	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999973	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.254860		
Predicted MQL:	0.849533		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00018	.000	.000	.00000	.000	1
CalStd7=50	50.000	48.623	-1.38	-2.75	.00036	.000	1
CalStd8=100	100.00	101.07	1.07	1.07	.00074	.000	1
CalStd5=10	10.000	10.347	.347	3.47	.00008	.000	1
CalStd9=100	1000.0	999.96	-.043	-.004	.00728	.000	1

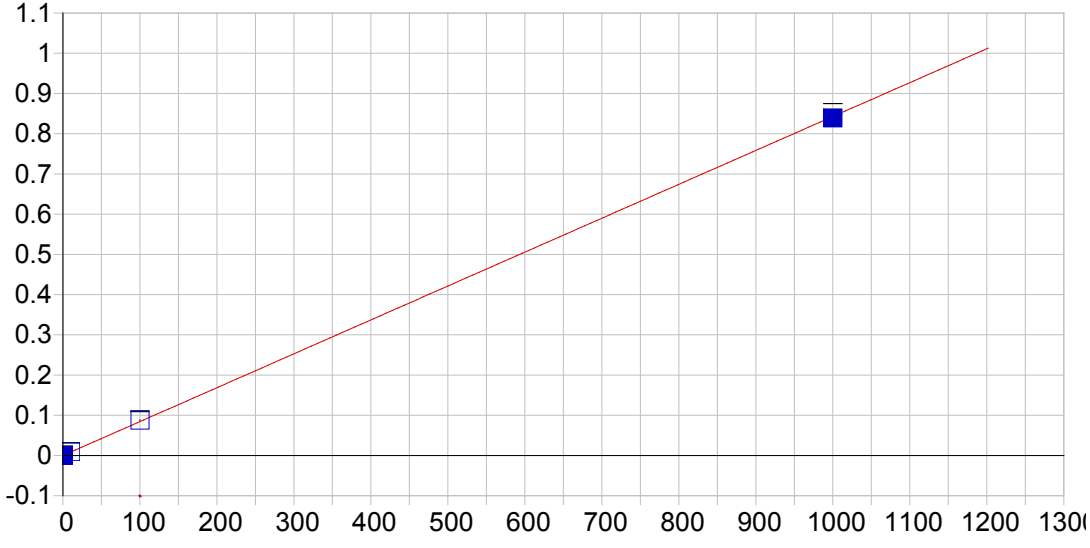


Cd 226.502 {449}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000025	Re-Slope:	1.000000
A1 (Gain):	0.000613	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999917	Status:	OK.
Std Error of Est:	0.000007		
Predicted MDL:	0.105721		
Predicted MQL:	0.352404		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00010	.000	.000	-.00003	.000	1
CalStd7=50	50.000	49.445	-.555	-1.11	.03030	.000	1
CalStd3=1	1.0000	1.0875	.088	8.75	.00064	.000	1
CalStd2=0.5	.50000	.50448	.004	.897	.00028	.000	1
CalStd4=5	5.0000	5.1980	.198	3.96	.00316	.000	1
CalStd8=100	100.00	103.72	3.72	3.72	.06358	.001	1
CalStd5=10	10.000	10.442	.442	4.42	.00638	.000	1
CalStd9=100	1000.0	996.10	-3.90	-.390	.61086	.010	1

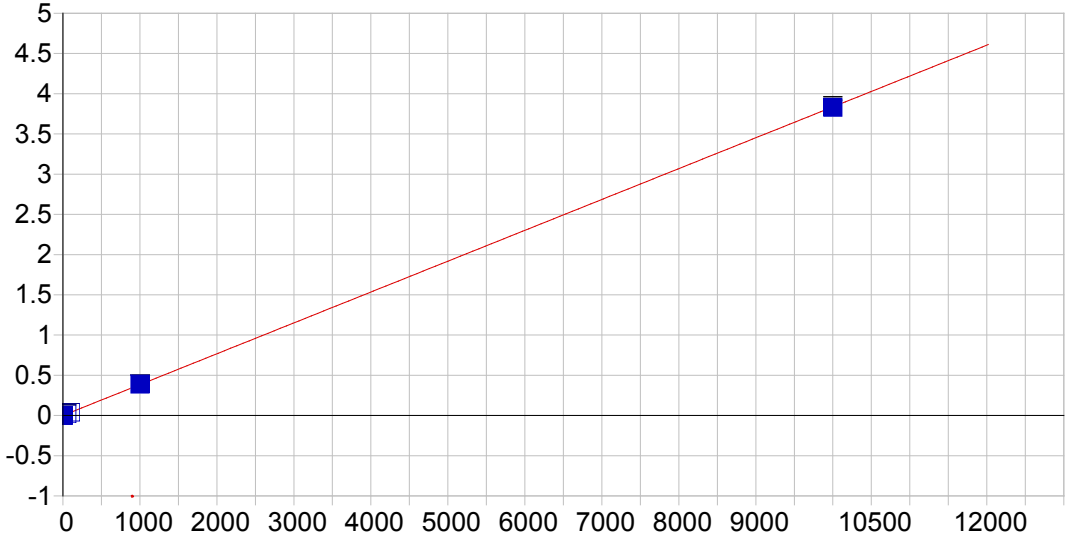


Cd 228.802 {447}

Date of Fit: 01/21/2016 12:14:47 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	-0.000066	Re-Slope:	1.000000
A1 (Gain):	0.000843	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999902	Status:	OK.
Std Error of Est:	0.000011		
Predicted MDL:	0.111718		
Predicted MQL:	0.372393		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00003	.000	.000	-.00007	.000	1
CalStd9=100	1000.0	995.63	-4.37	-.437	.83907	.013	1
CalStd8=100	100.00	103.94	3.94	3.94	.08754	.001	1
CalStd2=0.5	.50000	.40437	-.096	-19.1	.00027	.000	1
CalStd3=1	1.0000	1.0415	.041	4.15	.00081	.000	1
CalStd5=10	10.000	10.480	.480	4.80	.00877	.000	1

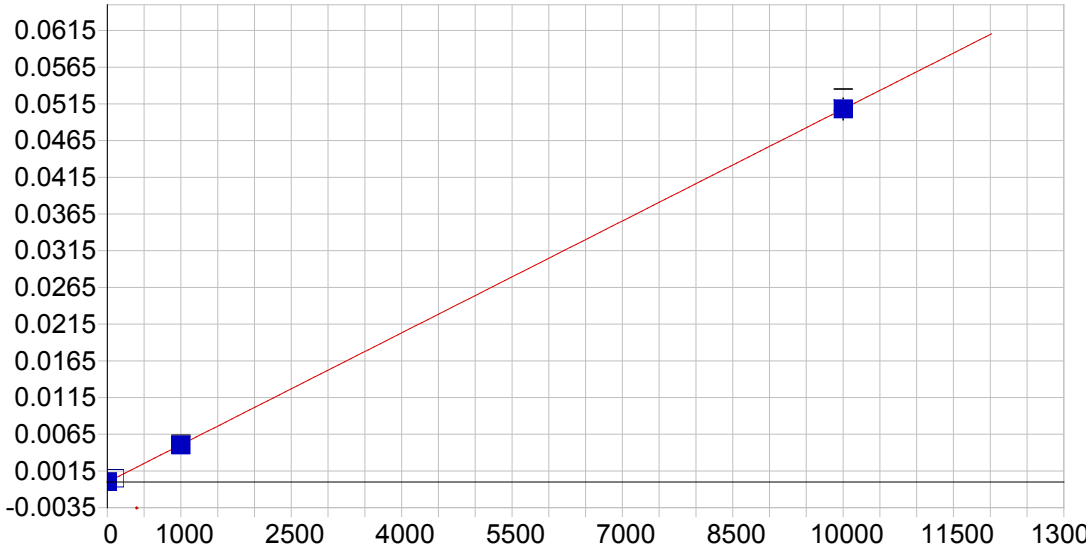


Co 228.616 {447}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000128	Re-Slope:	1.000000
A1 (Gain):	0.000384	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999976	Status:	OK.
Std Error of Est:	0.000010		
Predicted MDL:	0.198276		
Predicted MQL:	0.660921		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	-.00013	.000	1
CalStd7=50	50.000	50.173	.173	.346	.01912	.000	1
CalStd5=10	10.000	10.525	.525	5.25	.00391	.000	1
CalStd4=5	5.0000	5.3690	.369	7.38	.00193	.000	1
CalStd8=100	100.00	104.39	4.39	4.39	.03992	.001	1
CalStd9=100	1000.0	1014.9	14.9	1.49	.38921	.007	1
CalStd3=1	1.0000	.81336	-.187	-18.7	.00018	.000	1
CalStd10=10	10000.	9979.8	-20.2	-.202	3.8284	.020	1

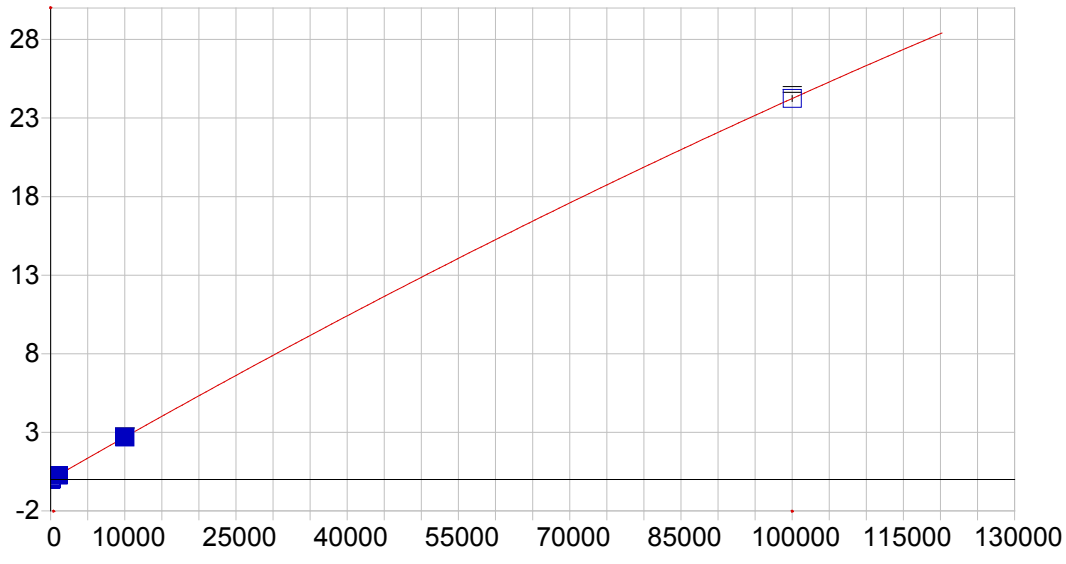


Co 238.892 {141}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	-0.000015	Re-Slope:	1.000000
A1 (Gain):	0.000005	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999999	Status:	OK.
Std Error of Est:	0.000033		
Predicted MDL:	0.515496		
Predicted MQL:	1.718319		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	3.6454	3.65	.000	.00000	.000	1
CalStd9=100	1000.0	992.33	-7.67	-.767	.00503	.000	1
CalStd10=10	10000.	10001.	.734	.007	.05081	.001	1
CalStd8=100	100.00	103.29	3.29	3.29	.00051	.000	1

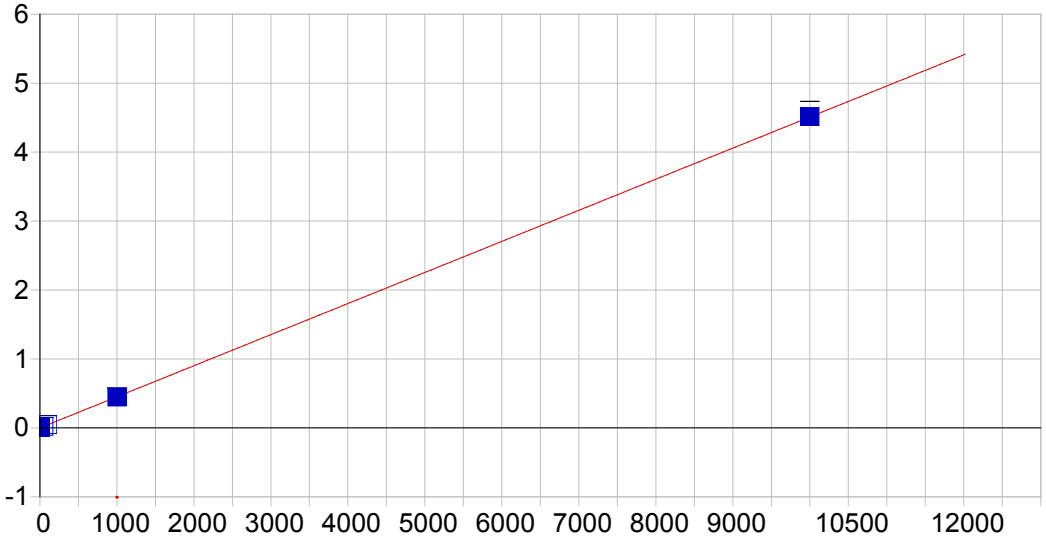


Cr 205.560 {464}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Full Fit	Weighting:	1/Conc

A0 (Offset):	-0.000114	Re-Slope:	1.000000
A1 (Gain):	0.000272	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999999	Status:	OK.
Std Error of Est:	0.000004		
Predicted MDL:	0.172787		
Predicted MQL:	0.575955		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	-.00011	.000	1
CalStd5=10	10.000	10.605	.605	6.05	.00277	.000	1
CalStd7=50	50.000	49.570	-.430	-.860	.01338	.000	1
CalStd9=100	1000.0	998.72	-1.28	-.128	.27150	.004	1
CalStd8=100	100.00	102.10	2.10	2.10	.02768	.000	1
CalStd4=5	5.0000	5.3395	.340	6.79	.00134	.000	1
CalStd3=1	1.0000	1.1789	.179	17.9	.00021	.000	1
CalStd11-100	100000.	100000.	.231	.000	24.240	.186	1
CalStd10=10	10000.	9998.3	-1.74	-.017	2.6921	.012	1

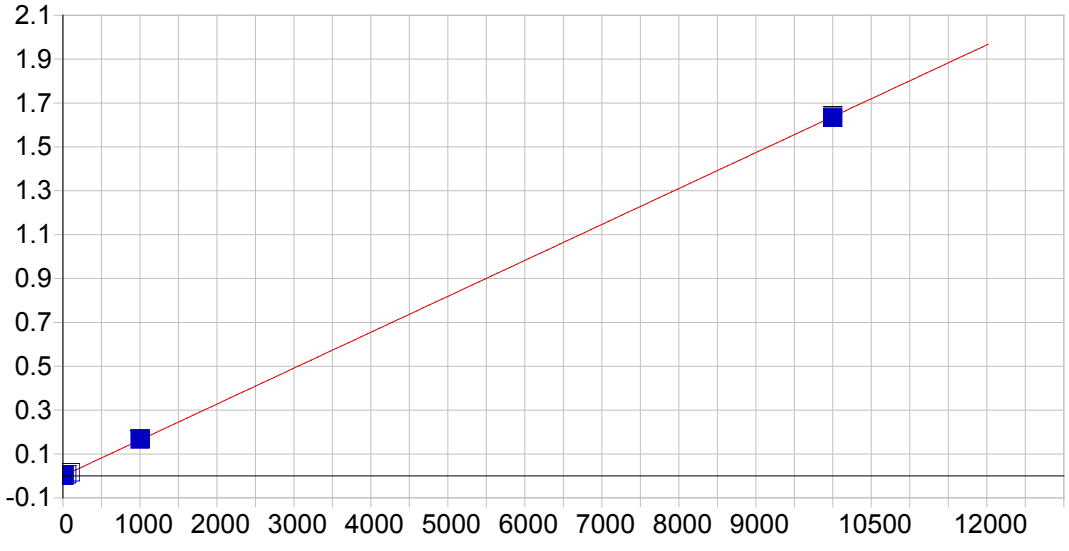


Cr 267.716 {126}

Date of Fit: 01/21/2016 12:14:47 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	-0.000084	Re-Slope:	1.000000
A1 (Gain):	0.000451	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999991	Status:	OK.
Std Error of Est:	0.000017		
Predicted MDL:	0.447658		
Predicted MQL:	1.492193		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00034	.000	.000	-.00008	.000	1
CalStd5=10	10.000	10.340	.340	3.40	.00458	.000	1
CalStd7=50	50.000	48.797	-1.20	-2.41	.02192	.000	1
CalStd9=100	1000.0	988.78	-11.2	-1.12	.44577	.009	1
CalStd8=100	100.00	100.90	.899	.899	.04541	.001	1
CalStd4=5	5.0000	5.2992	.299	5.98	.00231	.000	1
CalStd10=10	10000.	10011.	10.9	.109	4.5139	.090	1

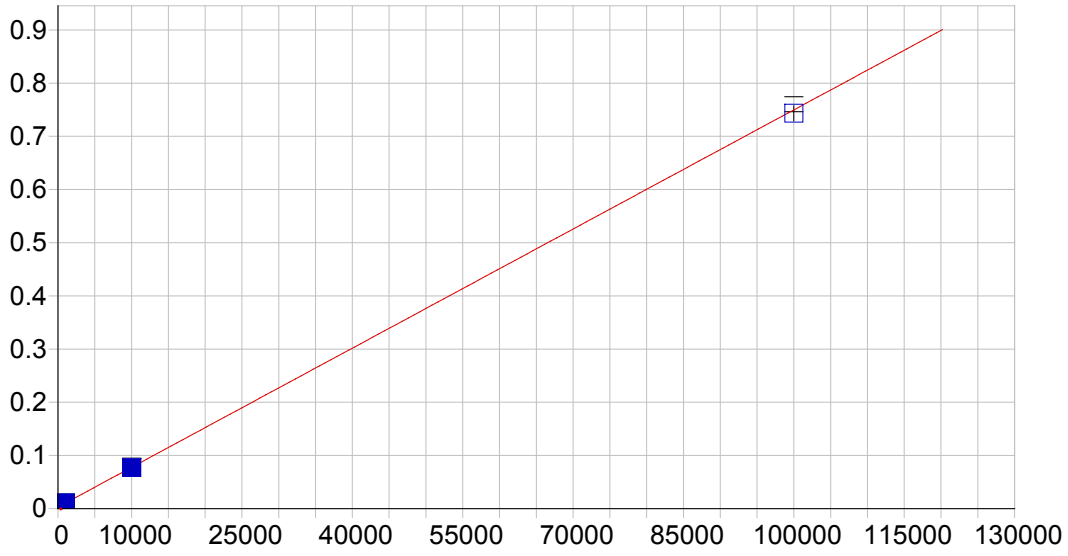


Cu 224.700 {450}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000044	Re-Slope:	1.000000
A1 (Gain):	0.000164	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999939	Status:	OK.
Std Error of Est:	0.000007		
Predicted MDL:	0.431388		
Predicted MQL:	1.437959		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00102	-.001	.000	-.00004	.000	1
CalStd9=100	1000.0	1019.2	19.2	1.92	.16691	.003	1
CalStd7=50	50.000	50.609	.609	1.22	.00824	.000	1
CalStd8=100	100.00	104.62	4.62	4.62	.01709	.000	1
CalStd5=10	10.000	10.926	.926	9.26	.00175	.000	1
CalStd10=10	10000.	9972.3	-27.7	-.277	1.6336	.008	1
CalStd4=5	5.0000	5.3922	.392	7.84	.00084	.000	1
CalStd6=20	20.000	21.263	1.26	6.31	.00344	.000	1
CalStd3=1	1.0000	1.7149	.715	71.5	.00024	.000	1

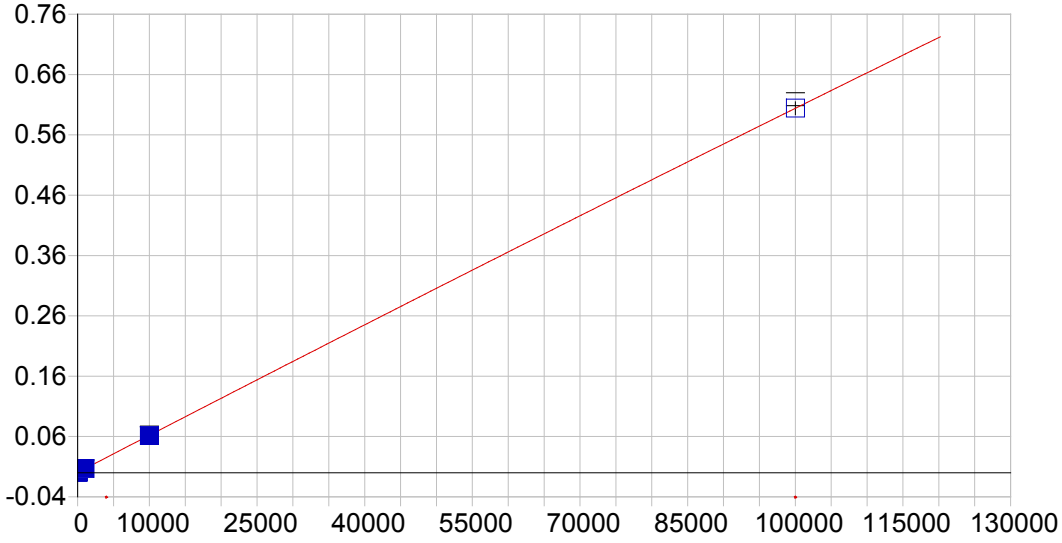


Cu 324.754 {104}

Date of Fit: 01/21/2016 12:14:47 Type of Fit: Curvilinear Weighting: 1/Conc

A0 (Offset):	0.002941	Re-Slope:	1.000000
A1 (Gain):	0.000007	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999968	Status:	OK.
Std Error of Est:	0.000010		
Predicted MDL:	91.360224		
Predicted MQL:	304.534080		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.02607	-.026	.000	.00294	.001	1
CalStd9=100	1000.0	1034.0	34.0	3.40	.01066	.001	1
CalStd8=100	100.00	123.29	23.3	23.3	.00386	.000	1
CalStd10=10	10000.	9927.9	-72.1	-.721	.07705	.001	1
CalStd11-100	100000.	99139.	-861.	-.861	.74333	.014	1

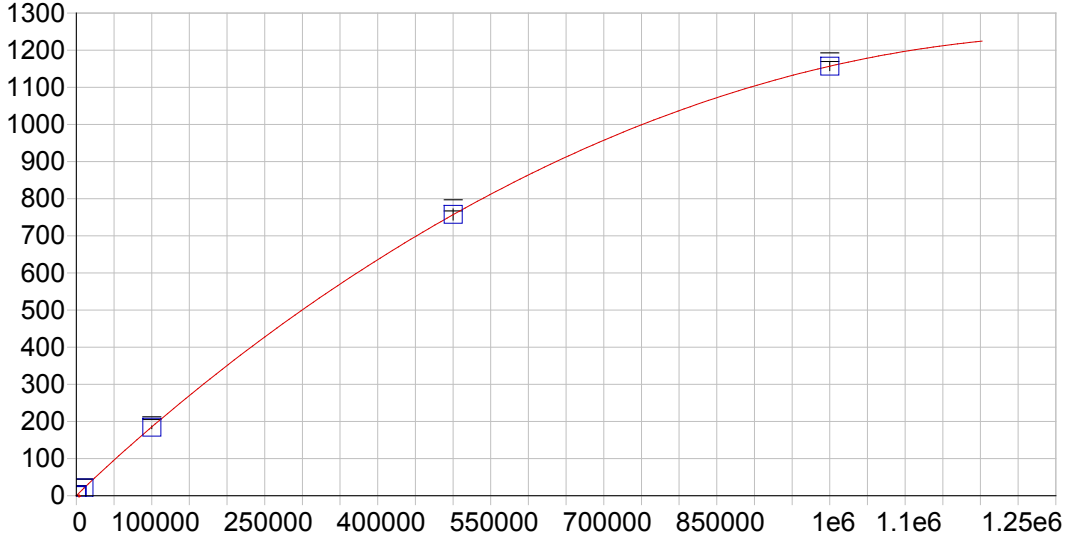


Cu 327.396 {103}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	0.000443	Re-Slope:	1.000000
A1 (Gain):	0.000006	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.998618	Status:	OK.
Std Error of Est:	0.000020		
Predicted MDL:	131.220543		
Predicted MQL:	437.401811		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.08520	-.085	.000	.00044	.001	1
CalStd6=20	20.000	93.758	73.8	369.	.00102	.000	1
CalStd7=50	50.000	82.480	32.5	65.0	.00095	.000	1
CalStd8=100	100.00	92.602	-7.40	-7.40	.00101	.001	1
CalStd9=100	1000.0	1008.5	8.45	.845	.00667	.001	1
CalStd10=10	10000.	9880.4	-120.	-1.20	.06131	.001	1
CalStd11-100	100000.	100010.	12.4	.012	.60406	.011	1

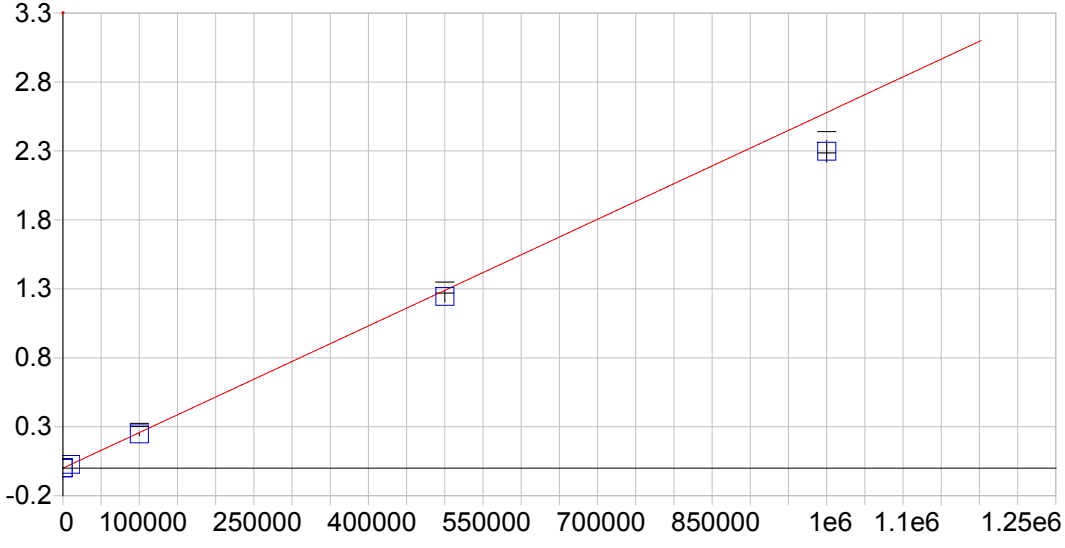


Fe 234.349 {144}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Full Fit	Weighting:	1/Conc

A0 (Offset):	0.028078	Re-Slope:	1.000000
A1 (Gain):	0.002423	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	0.980000		
Correlation:	0.999996	Status:	OK.
Std Error of Est:	0.008016		
Predicted MDL:	0.647239		
Predicted MQL:	2.157464		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.02801	.001	1
CalStd10=10	10000.	10182.	182.	1.82	20.458	.218	1
CalStd13=50	500000.	500540.	543.	.109	757.45	15.1	1
CalStd14-100	1000000.	999490.	-506.	-.051	1156.7	11.7	1
CalStd9=100	1000.0	1019.4	19.4	1.94	2.1777	.014	1
CalStd12-100	100000.	99545.	-455.	-.455	184.24	3.74	1

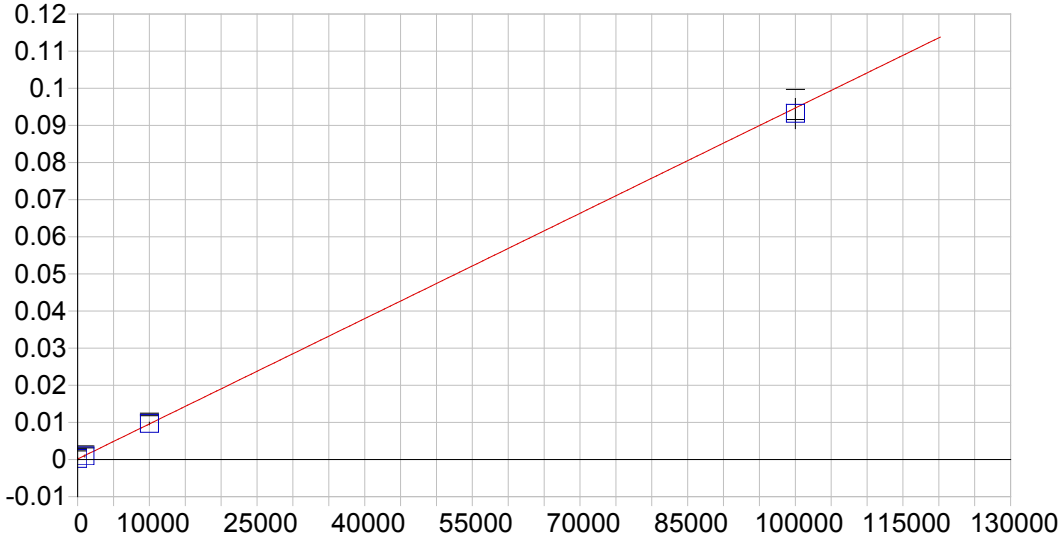


Fe 239.562 {140}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Full Fit	Weighting:	1/Var

A0 (Offset):	0.000083	Re-Slope:	1.000000
A1 (Gain):	0.000003	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999847	Status:	OK.
Std Error of Est:	0.000418		
Predicted MDL:	142.410594		
Predicted MQL:	474.701979		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	66.023	66.0	.000	.00025	.001	1
CalStd10=10	10000.	10043.	43.1	.431	.02598	.001	1
CalStd13=50	500000.	482360.	-17600.	-3.53	1.2440	.040	1
CalStd14-100	1000000.	890680.	-109000.	-10.9	2.2970	.077	1
CalStd9=100	1000.0	969.34	-30.7	-3.07	.00258	.000	1
CalStd12-100	100000.	95784.	-4220.	-4.22	.24709	.012	1

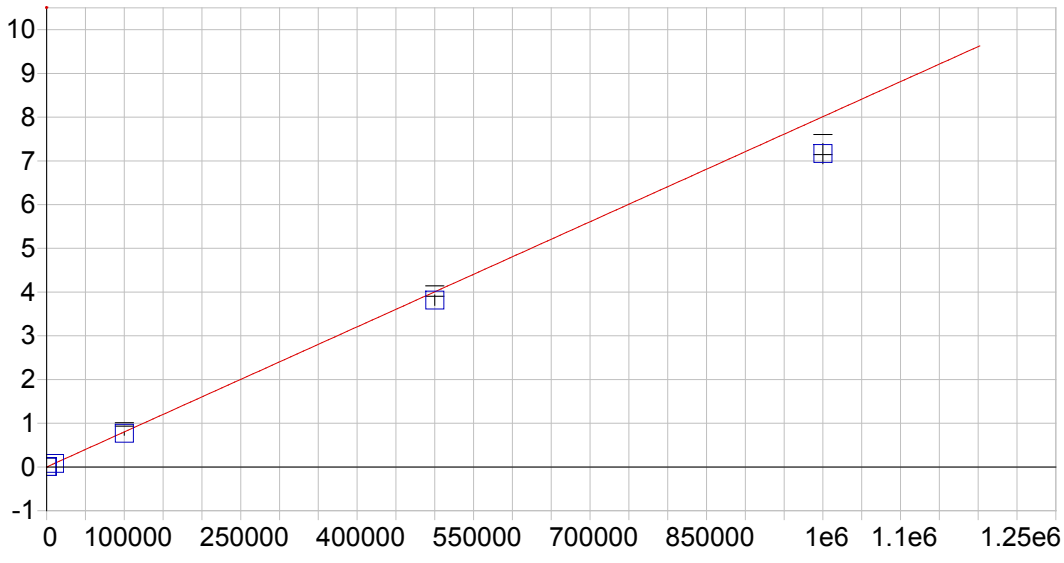


Fe 239.562 {141}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000137	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999694	Status:	OK.
Std Error of Est:	0.000202		
Predicted MDL:	312.264345		
Predicted MQL:	1040.881149		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	108.80	109.	.000	.00024	.000	1
CalStd9=100	1000.0	852.29	-148.	-14.8	.00094	.000	1
CalStd10=10	10000.	10132.	132.	1.32	.00972	.000	1
CalStd12-100	100000.	98435.	-1570.	-1.57	.09321	.004	1

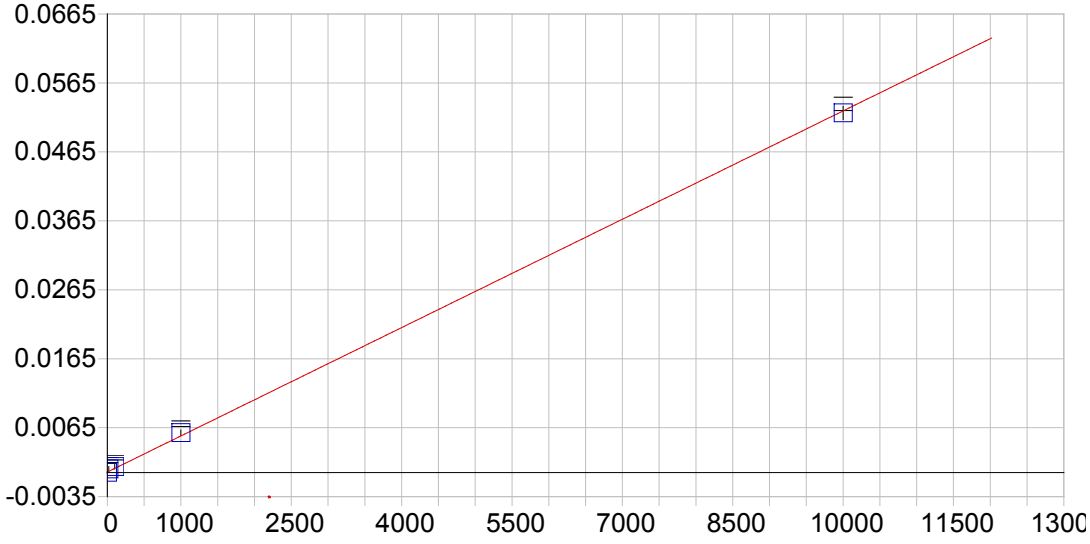


Fe 259.940 {129}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Curvilinear	Weighting:	1/Var

A0 (Offset):	0.000126	Re-Slope:	1.000000
A1 (Gain):	0.000008	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999971	Status:	OK.
Std Error of Est:	0.000282		
Predicted MDL:	78.259281		
Predicted MQL:	260.864271		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-8.9514	-8.95	.000	.00005	.000	1
CalStd10=10	10000.	9994.7	-5.32	-.053	.08020	.001	1
CalStd13=50	500000.	476090.	-23900.	-4.78	3.8143	.118	1
CalStd14-100	1000000.	894450.	-106000.	-10.6	7.1660	.228	1
CalStd9=100	1000.0	1017.0	17.0	1.70	.00827	.000	1
CalStd12-100	100000.	95646.	-4350.	-4.35	.76639	.038	1

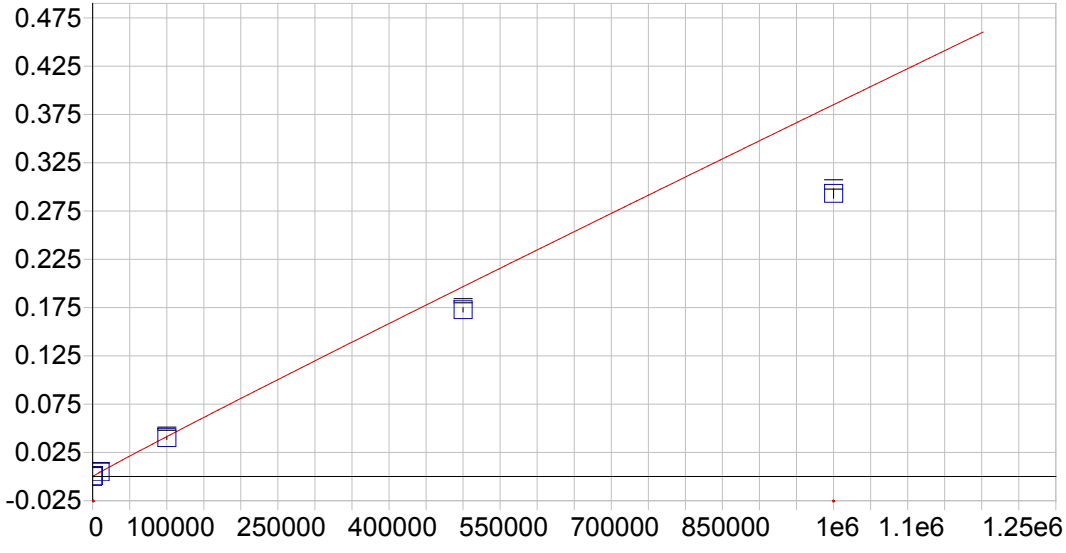


Fe 259.940 {130}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000067	Re-Slope:	1.000000
A1 (Gain):	0.000005	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999498	Status:	OK.
Std Error of Est:	0.000166		
Predicted MDL:	90.914685		
Predicted MQL:	303.048950		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-8.5097	-8.51	.000	.00002	.000	1
CalStd9=100	1000.0	1087.9	87.9	8.79	.00577	.000	1
CalStd8=100	100.00	148.71	48.7	48.7	.00085	.000	1
CalStd6=20	20.000	81.274	61.3	306.	.00049	.000	1
CalStd10=10	10000.	9944.3	-55.7	-.557	.05215	.001	1

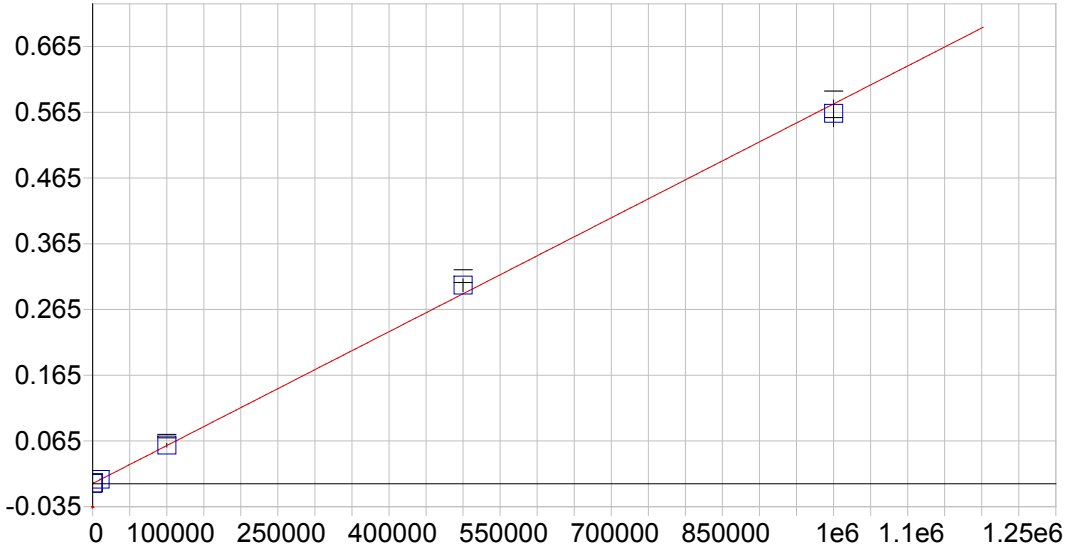


Mg 202.582 {466}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Full Fit	Weighting:	None

A0 (Offset):	0.000101	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	0.970000		
Correlation:	0.999999	Status:	OK.
Std Error of Est:	0.000212		
Predicted MDL:	1.700574		
Predicted MQL:	5.668578		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	-.00002	.000	1
CalStd13=50	500000.	437340.	-62700.	-12.5	.17273	.002	1
CalStd10=10	10000.	10554.	554.	5.54	.00476	.000	1
CalStd14-100	1000000.	754690.	-245000.	-24.5	.29316	.005	1
CalStd12-100	100000.	97101.	-2900.	-2.90	.04020	.002	1
CalStd9=100	1000.0	888.28	-112.	-11.2	.00052	.000	1

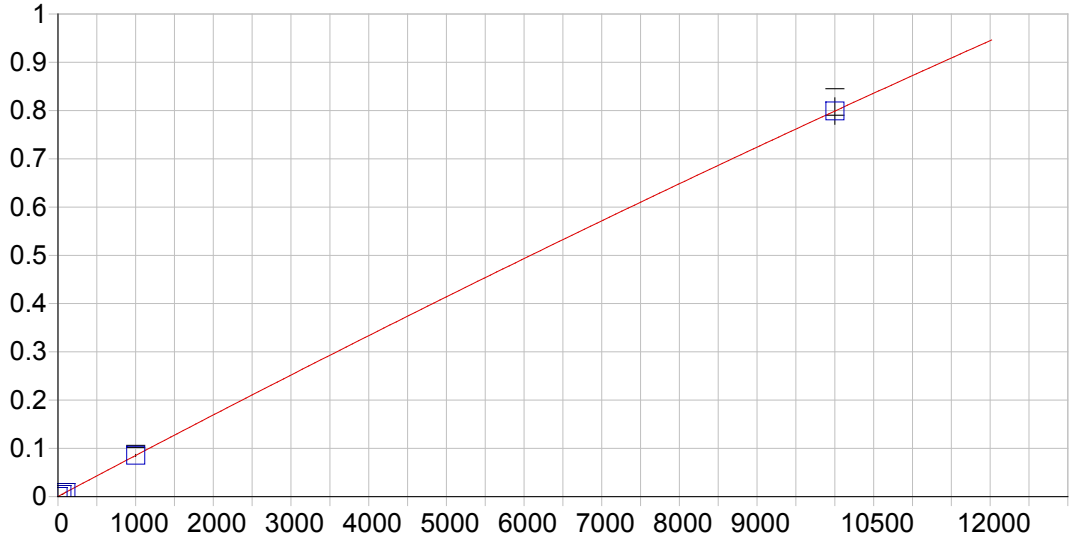


Mg 279.079 {121}

Date of Fit: 01/21/2016 12:14:47 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	0.000194	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999444	Status:	OK.
Std Error of Est:	0.000030		
Predicted MDL:	541.293935		
Predicted MQL:	1804.313116		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.32844	-.328	.000	.00019	.000	1
CalStd13=50	500000.	522440.	22400.	4.49	.30192	.010	1
CalStd10=10	10000.	11082.	1080.	10.8	.00659	.000	1
CalStd14-100	1000000.	975120.	-24900.	-2.49	.56335	.020	1
CalStd12-100	100000.	101180.	1180.	1.18	.05863	.003	1
CalStd9=100	1000.0	1188.5	188.	18.8	.00088	.000	1

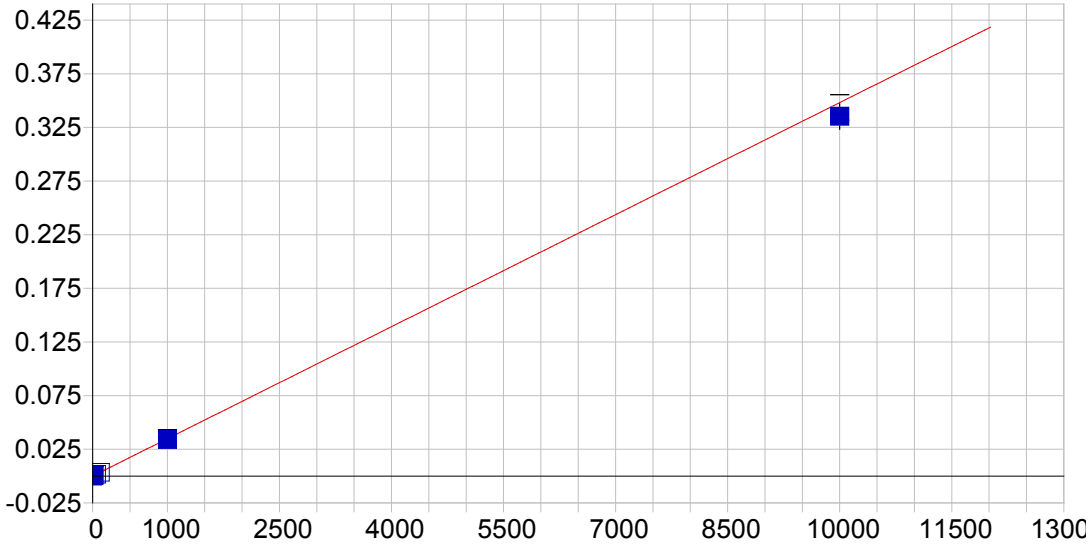


Mg 280.270 {120}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Curvilinear	Weighting:	None

A0 (Offset):	0.000351	Re-Slope:	1.000000
A1 (Gain):	0.000086	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000091		
Predicted MDL:	0.021854		
Predicted MQL:	0.072846		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-1.0311	-1.03	.000	.00026	.000	1
CalStd9=100	1000.0	999.87	-.125	-.013	.08536	.002	1
CalStd10=10	10000.	10000.	.001	.000	.79886	.027	1
CalStd8=100	100.00	101.09	1.09	1.09	.00900	.000	1
CalStd7=50	50.000	50.061	.061	.122	.00464	.000	1

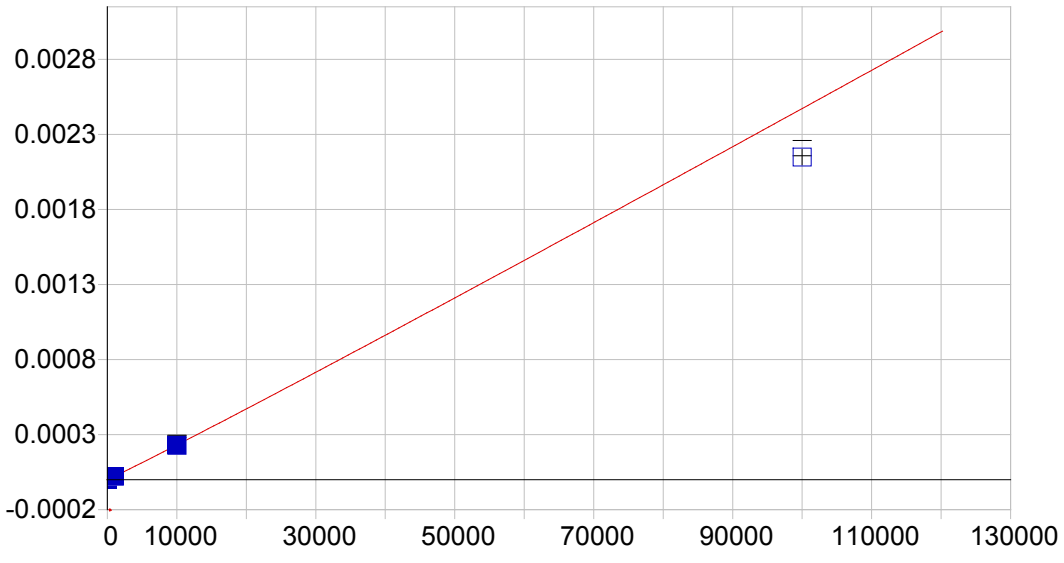


Mn 257.610 {131}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000003	Re-Slope:	1.000000
A1 (Gain):	0.000035	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999482	Status:	OK.
Std Error of Est:	0.000007		
Predicted MDL:	0.054861		
Predicted MQL:	0.182871		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.04751	-.048	.000	.00000	.000	1
CalStd5=10	10.000	10.289	.289	2.89	.00036	.000	1
CalStd7=50	50.000	48.590	-1.41	-2.82	.00169	.000	1
CalStd6=20	20.000	20.512	.512	2.56	.00072	.000	1
CalStd8=100	100.00	98.826	-1.17	-1.17	.00344	.000	1
CalStd4=5	5.0000	5.3306	.331	6.61	.00019	.000	1
CalStd9=100	1000.0	977.23	-22.8	-2.28	.03402	.001	1
CalStd10=10	10000.	9629.8	-370.	-3.70	.33525	.012	1

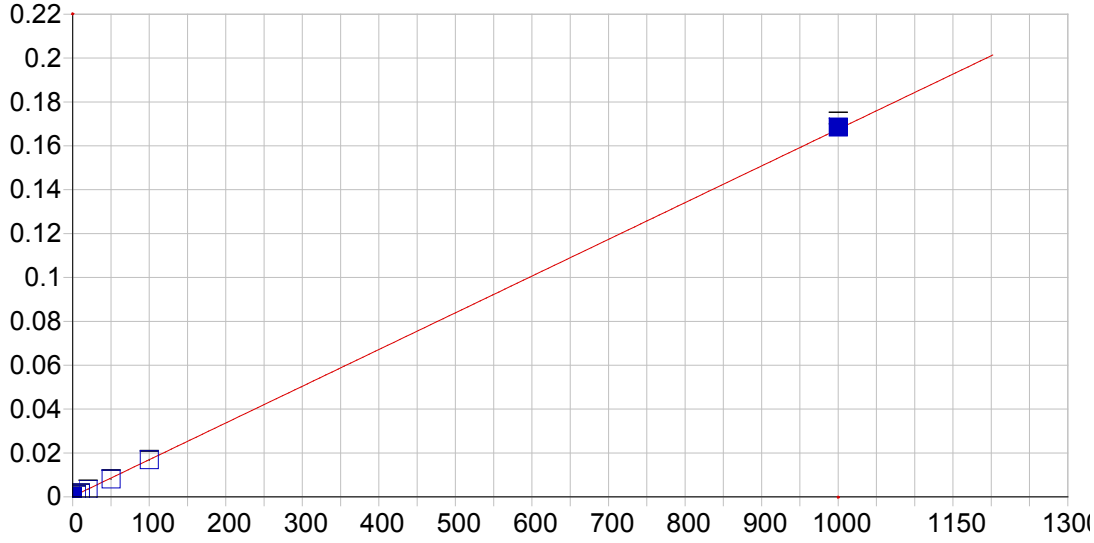


Mn 259.373 {130}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Full Fit	Weighting:	None

A0 (Offset):	-0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.030000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	21.917312		
Predicted MQL:	73.057705		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00000	.000	1
CalStd10=10	10000.	9881.0	-119.	-1.19	.00023	.000	1
CalStd11-100	100000.	87251.	-12700.	-12.7	.00215	.000	1
CalStd9=100	1000.0	1001.5	1.49	.149	.00002	.000	1

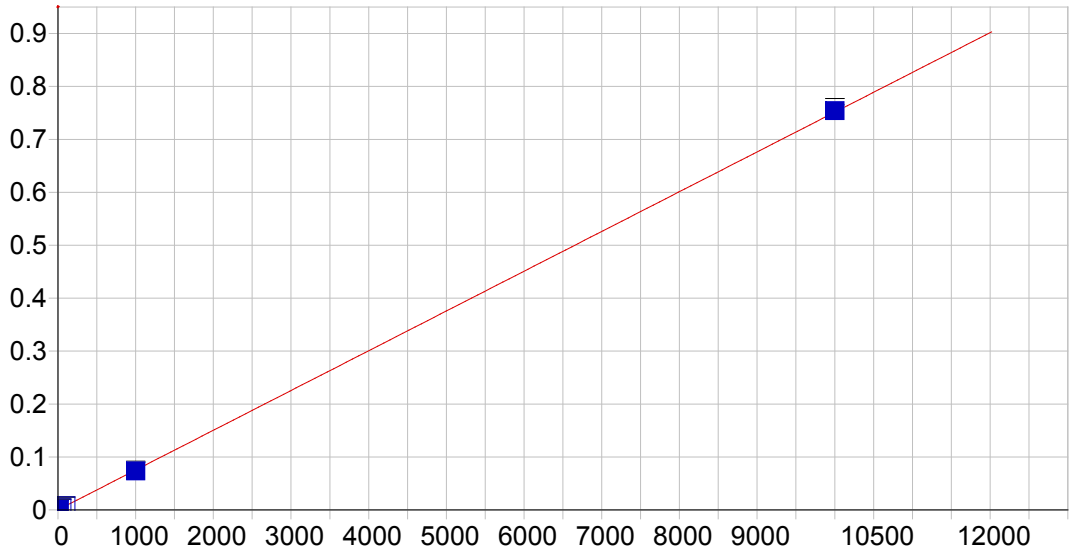


Mo 202.030 {466}

Date of Fit: 01/21/2016 12:14:47 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	0.000188	Re-Slope:	1.000000
A1 (Gain):	0.000167	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999814	Status:	OK.
Std Error of Est:	0.000009		
Predicted MDL:	0.303955		
Predicted MQL:	1.013182		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00173	.002	.000	.00019	.000	1
CalStd7=50	50.000	47.180	-2.82	-5.64	.00809	.000	1
CalStd6=20	20.000	19.517	-.483	-2.42	.00346	.000	1
CalStd5=10	10.000	9.1165	-.883	-8.83	.00171	.000	1
CalStd8=100	100.00	99.463	-.537	-.537	.01684	.000	1
CalStd4=5	5.0000	4.1135	-.887	-17.7	.00088	.000	1
CalStd9=100	1000.0	1005.6	5.61	.561	.16853	.003	1

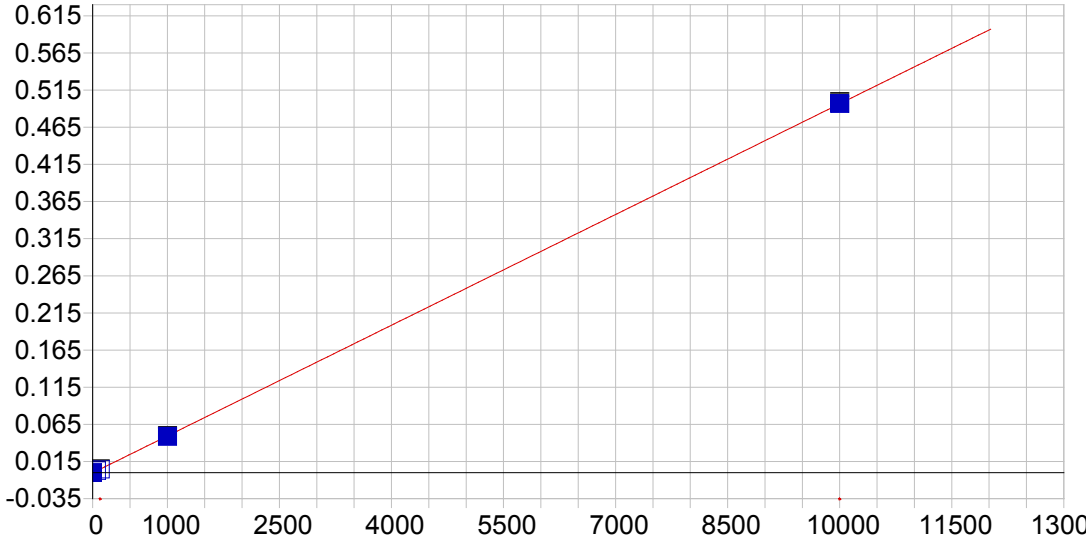


Mo 204.598 {464}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000163	Re-Slope:	1.000000
A1 (Gain):	0.000075	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999920	Status:	OK.
Std Error of Est:	0.000008		
Predicted MDL:	0.643238		
Predicted MQL:	2.144127		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00272	.003	.000	.00016	.000	1
CalStd7=50	50.000	45.277	-4.72	-9.45	.00356	.000	1
CalStd6=20	20.000	18.439	-1.56	-7.81	.00155	.000	1
CalStd5=10	10.000	8.6434	-1.36	-13.6	.00081	.000	1
CalStd8=100	100.00	96.738	-3.26	-3.26	.00743	.000	1
CalStd4=5	5.0000	4.0884	-.912	-18.2	.00047	.000	1
CalStd9=100	1000.0	975.07	-24.9	-2.49	.07341	.001	1
CalStd10=10	10000.	10037.	36.7	.367	.75417	.006	1

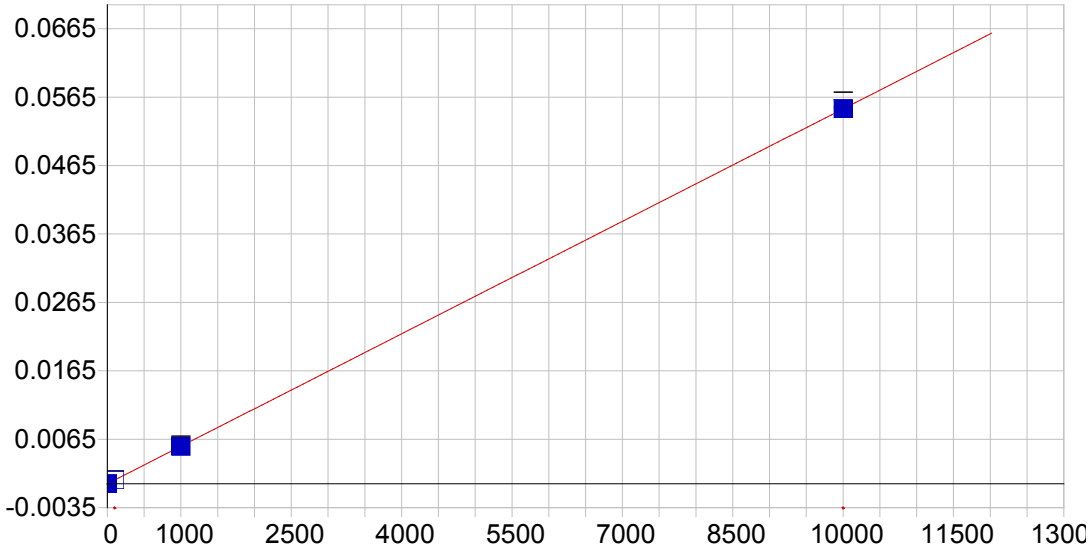


Mo 204.598 {465}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	-0.000355	Re-Slope:	1.000000
A1 (Gain):	0.000050	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999998	Status:	OK.
Std Error of Est:	0.000482		
Predicted MDL:	0.830742		
Predicted MQL:	2.769141		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	6.5206	6.52	.000	-.00003	.000	1
CalStd9=100	1000.0	985.33	-14.7	-1.47	.04862	.001	1
CalStd10=10	10000.	10001.	1.42	.014	.49673	.002	1
CalStd7=50	50.000	53.319	3.32	6.64	.00229	.000	1
CalStd8=100	100.00	103.41	3.41	3.41	.00478	.000	1

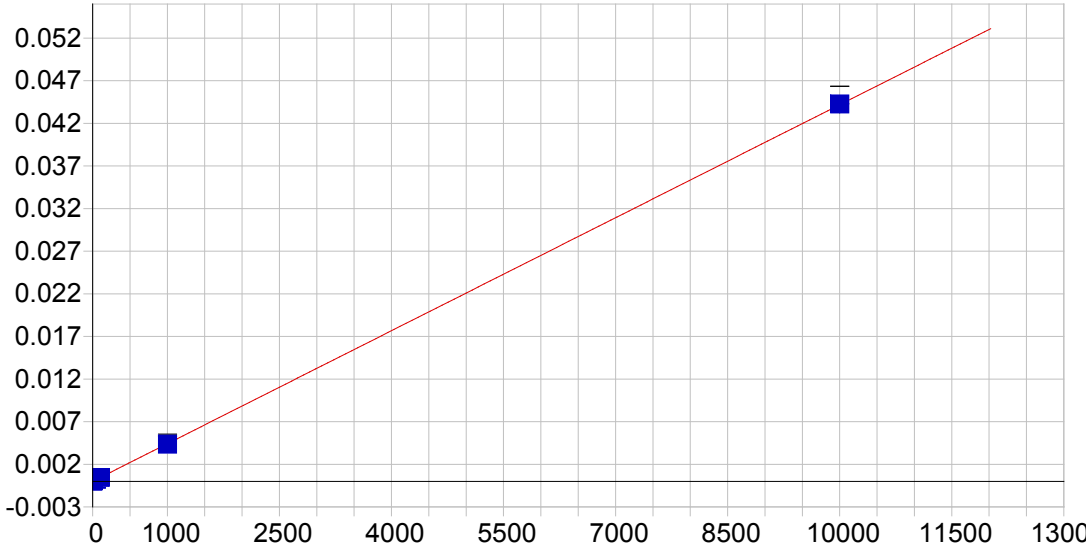


Ni 221.647 {452}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000005	Re-Slope:	1.000000
A1 (Gain):	0.000005	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999998	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.322025		
Predicted MQL:	1.073416		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00082	-.001	.000	-.00001	.000	1
CalStd10=10	10000.	10004.	3.64	.036	.05480	.001	1
CalStd8=100	100.00	101.27	1.27	1.27	.00055	.000	1
CalStd9=100	1000.0	995.08	-4.92	-.492	.00545	.000	1

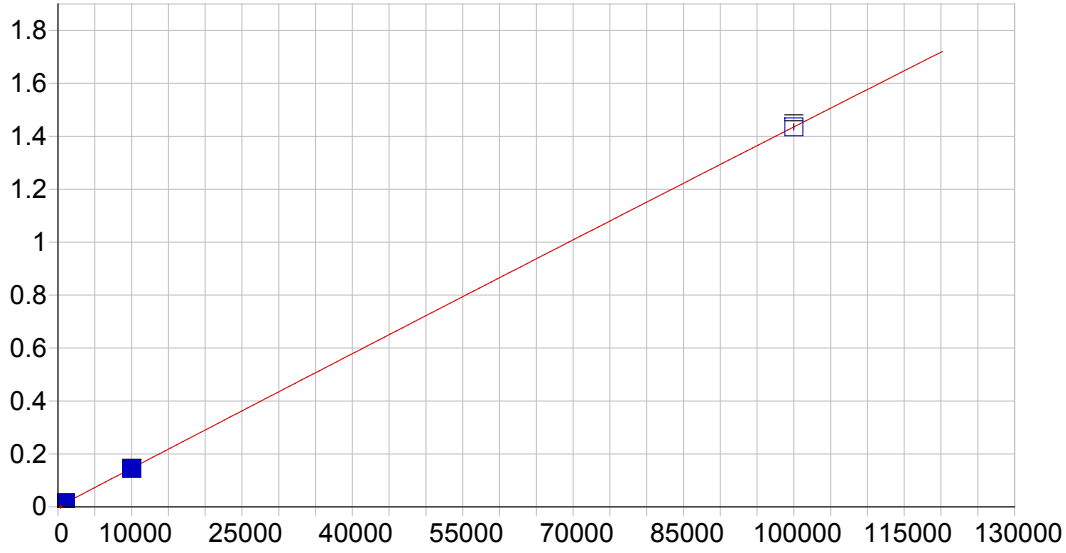


Ni 231.604 {445}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000004	Re-Slope:	1.000000
A1 (Gain):	0.000004	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999975	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.366846		
Predicted MQL:	1.222819		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00040	.000	.000	.00000	.000	1
CalStd7=50	50.000	48.371	-1.63	-3.26	.00021	.000	1
CalStd5=10	10.000	10.392	.392	3.92	.00004	.000	1
CalStd8=100	100.00	99.994	-.006	-.006	.00044	.000	1
CalStd4=5	5.0000	5.4462	.446	8.92	.00002	.000	1
CalStd9=100	1000.0	982.59	-17.4	-1.74	.00434	.000	1
CalStd3=1	1.0000	1.3231	.323	32.3	.00000	.000	1
CalStd10=10	10000.	10018.	17.9	.179	.04426	.001	1

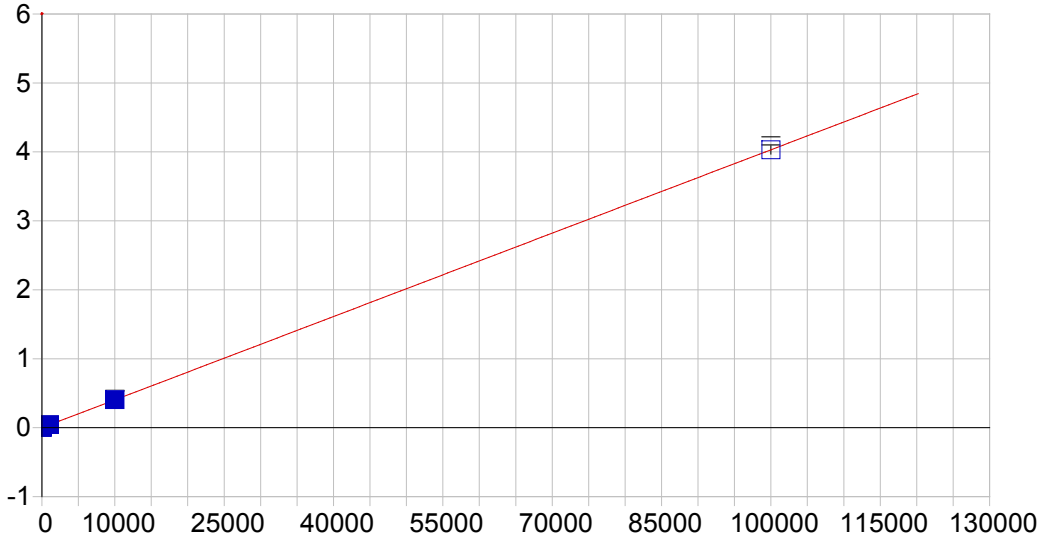


Pb 216.999 {455}

Date of Fit: 01/21/2016 12:14:47 Type of Fit: Curvilinear Weighting: 1/Conc

A0 (Offset):	0.000333	Re-Slope:	1.000000
A1 (Gain):	0.000015	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999969	Status:	OK.
Std Error of Est:	0.000004		
Predicted MDL:	4.724083		
Predicted MQL:	15.746944		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00280	.003	.000	.00033	.000	1
CalStd9=100	1000.0	1063.7	63.7	6.37	.01577	.000	1
CalStd10=10	10000.	9927.0	-73.0	-.730	.14427	.001	1
CalStd11-100	100000.	100010.	6.80	.007	1.4355	.011	1
CalStd8=100	100.00	106.68	6.68	6.68	.00188	.000	1
CalStd4=5	5.0000	2.3954	-2.60	-52.1	.00037	.000	1
CalStd5=10	10.000	8.3668	-1.63	-16.3	.00045	.000	1

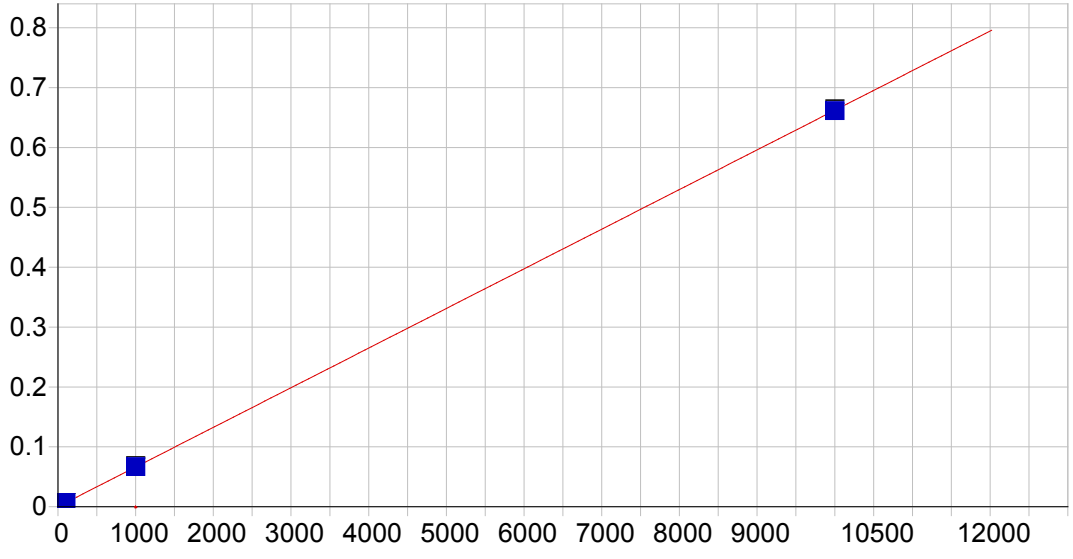


Pb 220.353 {153}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000006	Re-Slope:	1.000000
A1 (Gain):	0.000040	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999994	Status:	OK.
Std Error of Est:	0.000019		
Predicted MDL:	2.072758		
Predicted MQL:	6.909195		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00723	-.007	.000	.00001	.000	1
CalStd9=100	1000.0	1030.2	30.2	3.02	.04151	.001	1
CalStd10=10	10000.	10043.	42.8	.428	.40464	.006	1
CalStd8=100	100.00	103.85	3.85	3.85	.00419	.000	1
CalStd11-100	100000.	99923.	-76.9	-.077	4.0276	.058	1

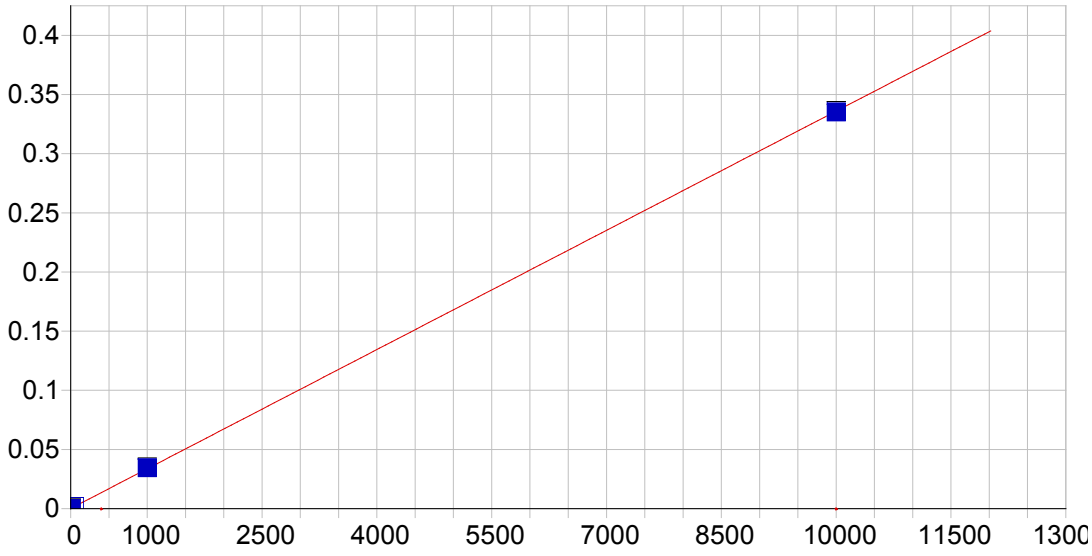


Pb 220.353 {453}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000073	Re-Slope:	1.000000
A1 (Gain):	0.000066	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999990	Status:	OK.
Std Error of Est:	0.000003		
Predicted MDL:	1.328490		
Predicted MQL:	4.428302		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00062	-.001	.000	.00007	.000	1
CalStd5=10	10.000	10.637	.637	6.37	.00078	.000	1
CalStd8=100	100.00	103.24	3.24	3.24	.00691	.000	1
CalStd4=5	5.0000	5.1034	.103	2.07	.00041	.000	1
CalStd9=100	1000.0	1007.7	7.71	.771	.06679	.001	1
CalStd10=10	10000.	9988.3	-11.7	-.117	.66139	.003	1

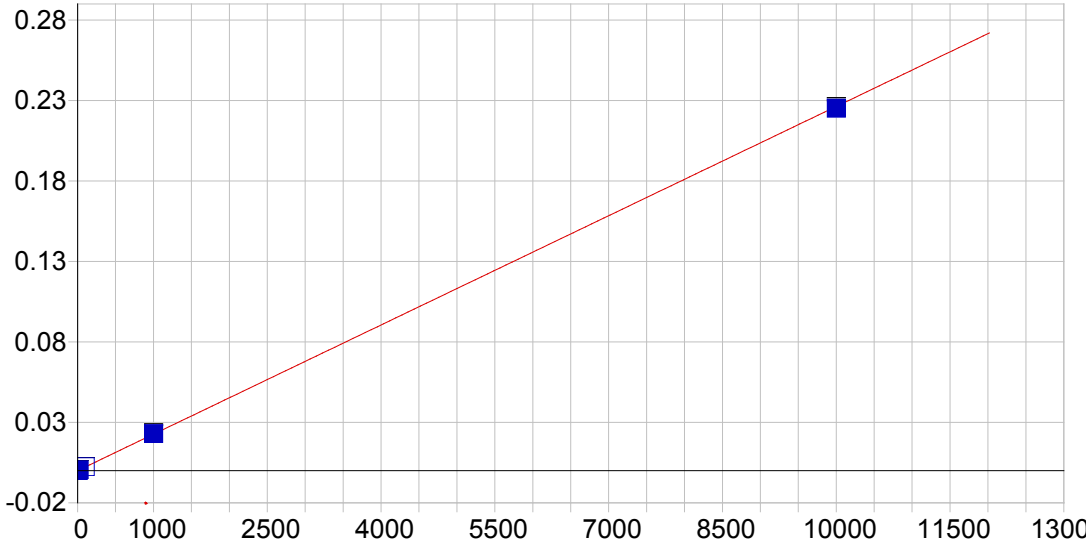


Sb 206.833 {463}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000096	Re-Slope:	1.000000
A1 (Gain):	0.000034	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999969	Status:	OK.
Std Error of Est:	0.000004		
Predicted MDL:	1.675794		
Predicted MQL:	5.585981		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00113	-.001	.000	.00010	.000	1
CalStd9=100	1000.0	1023.3	23.3	2.33	.03447	.001	1
CalStd5=10	10.000	10.737	.737	7.37	.00046	.000	1
CalStd7=50	50.000	50.932	.932	1.86	.00181	.000	1
CalStd10=10	10000.	9975.0	-25.0	-.250	.33512	.001	1

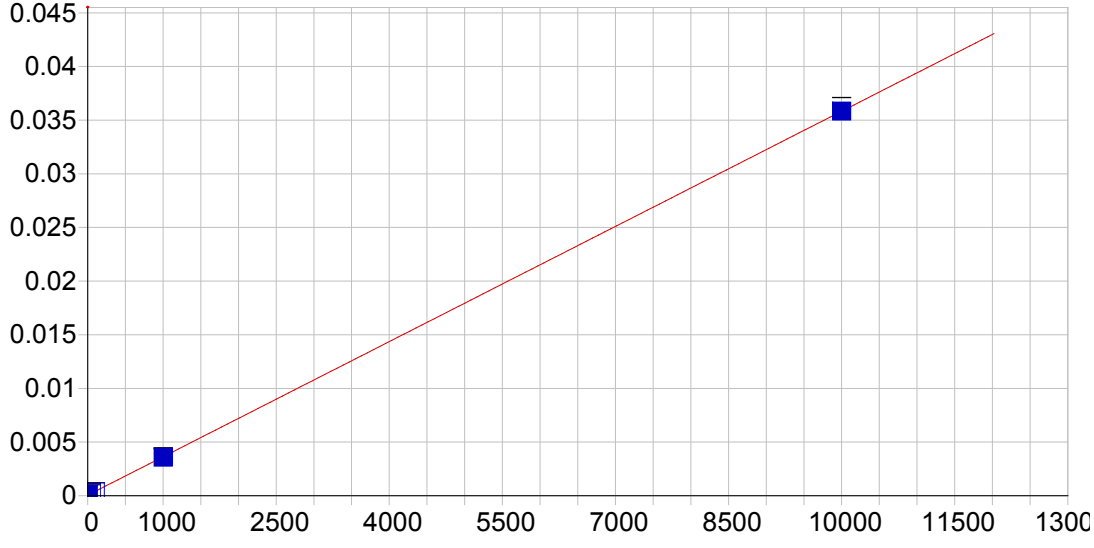


Sb 217.581 {455}

Date of Fit: 01/21/2016 12:14:47 Type of Fit: Linear Weighting: 1/Var

A0 (Offset):	0.000016	Re-Slope:	1.000000
A1 (Gain):	0.000023	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999852	Status:	OK.
Std Error of Est:	0.000055		
Predicted MDL:	2.649440		
Predicted MQL:	8.831468		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.78312	-.783	.000	.00000	.000	1
CalStd9=100	1000.0	1016.0	16.0	1.60	.02300	.000	1
CalStd6=20	20.000	21.938	1.94	9.69	.00051	.000	1
CalStd5=10	10.000	9.2521	-.748	-7.48	.00023	.000	1
CalStd8=100	100.00	105.13	5.13	5.13	.00239	.000	1
CalStd4=5	5.0000	3.5074	-1.49	-29.9	.00010	.000	1
CalStd10=10	10000.	9950.3	-49.7	-.497	.22512	.001	1

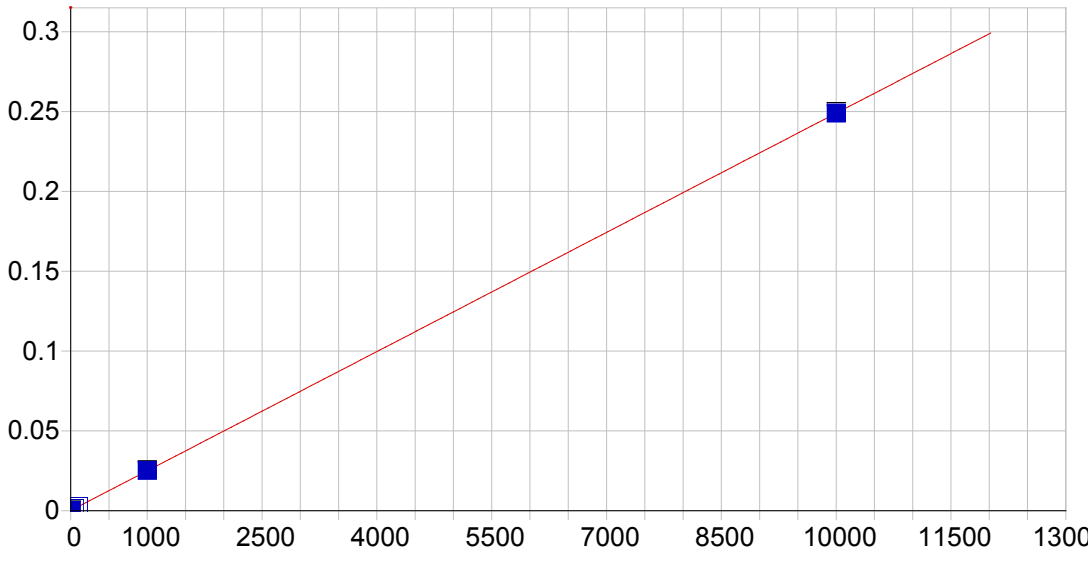


Se 196.090 {471}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000048	Re-Slope:	1.000000
A1 (Gain):	0.000004	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999997	Status:	OK.
Std Error of Est:	0.000037		
Predicted MDL:	10.764762		
Predicted MQL:	35.882539		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	8.6220	8.62	.000	.00008	.000	1
CalStd7=50	50.000	53.129	3.13	6.26	.00024	.000	1
CalStd9=100	1000.0	984.56	-15.4	-1.54	.00357	.000	1
CalStd5=10	10.000	18.196	8.20	82.0	.00011	.000	1
CalStd8=100	100.00	93.916	-6.08	-6.08	.00038	.000	1
CalStd10=10	10000.	10002.	1.58	.016	.03582	.000	1

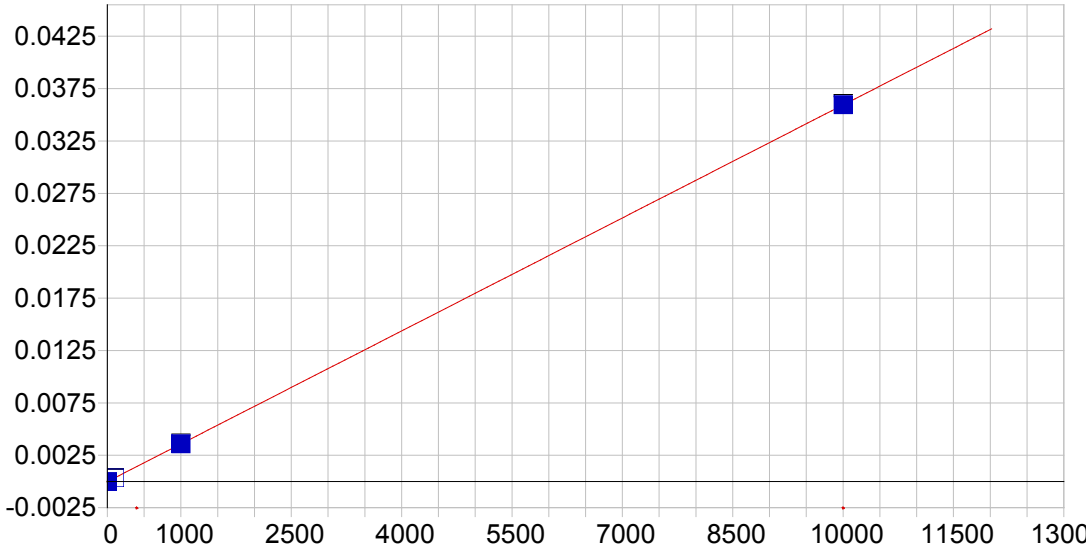


Se 196.090 {472}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000115	Re-Slope:	1.000000
A1 (Gain):	0.000025	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999978	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	2.159433		
Predicted MQL:	7.198110		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00226	.002	.000	.00012	.000	1
CalStd7=50	50.000	46.681	-3.32	-6.64	.00128	.000	1
CalStd9=100	1000.0	1005.3	5.27	.527	.02513	.000	1
CalStd5=10	10.000	8.4465	-1.55	-15.5	.00033	.000	1
CalStd8=100	100.00	99.046	-.954	-.954	.00258	.000	1
CalStd10=10	10000.	10001.	.556	.006	.24897	.001	1

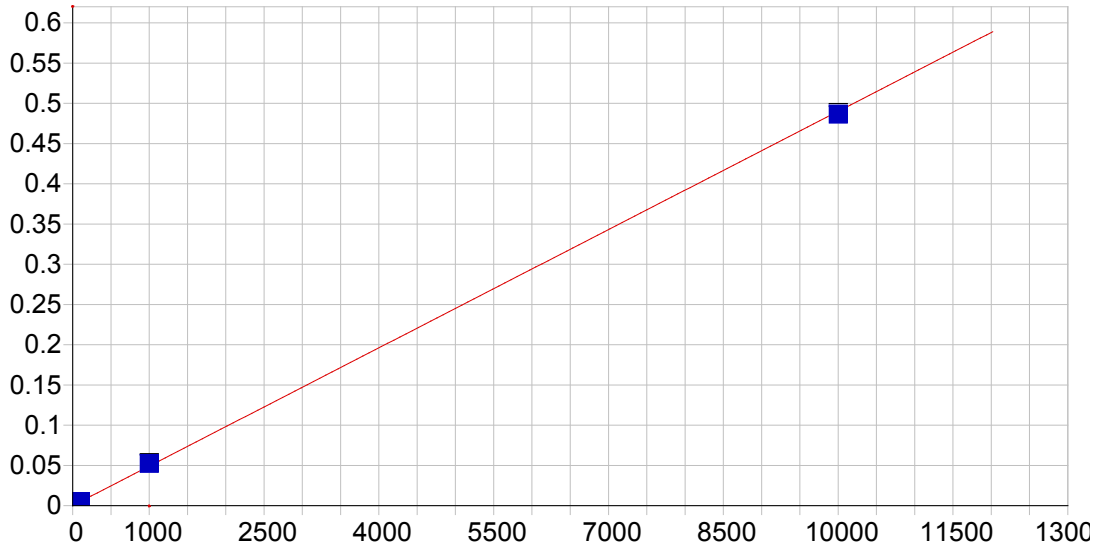


Se 206.279 {463}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000016	Re-Slope:	1.000000
A1 (Gain):	0.000004	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999996	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	15.984822		
Predicted MQL:	53.282740		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00289	.003	.000	-.00002	.000	1
CalStd9=100	1000.0	999.08	-.916	-.092	.00358	.000	1
CalStd10=10	10000.	10004.	3.75	.038	.03597	.000	1
CalStd8=100	100.00	97.161	-2.84	-2.84	.00033	.000	1

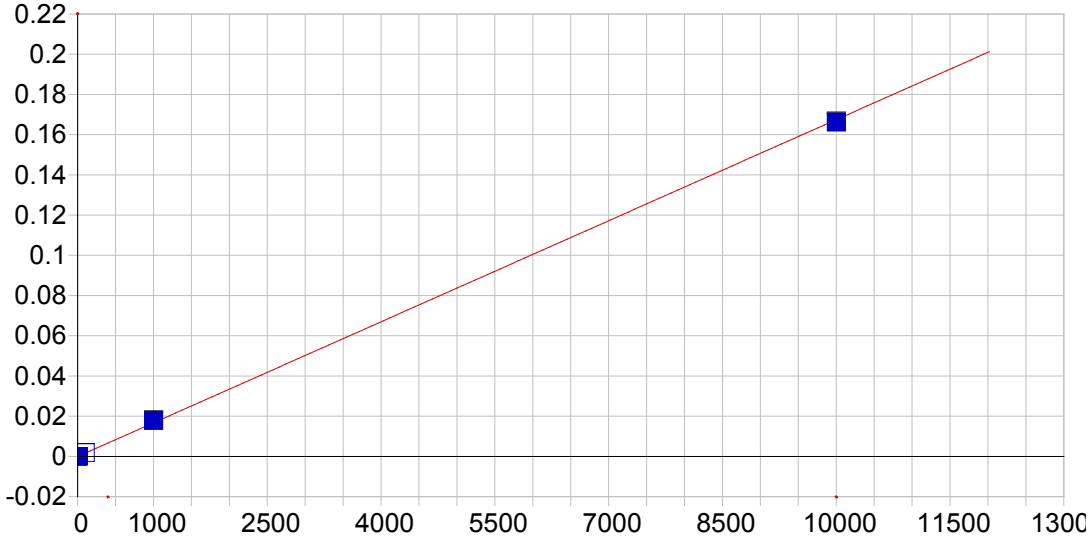


Tl 190.856 {476}

Date of Fit: 01/21/2016 12:14:47 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	0.000130	Re-Slope:	1.000000
A1 (Gain):	0.000049	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999738	Status:	OK.
Std Error of Est:	0.000015		
Predicted MDL:	1.114614		
Predicted MQL:	3.715381		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00234	-.002	.000	.00013	.000	1
CalStd9=100	1000.0	1065.0	65.0	6.50	.05235	.001	1
CalStd8=100	100.00	109.90	9.90	9.90	.00552	.000	1
CalStd5=10	10.000	10.771	.771	7.71	.00066	.000	1
CalStd10=10	10000.	9924.3	-75.7	-.757	.48680	.002	1

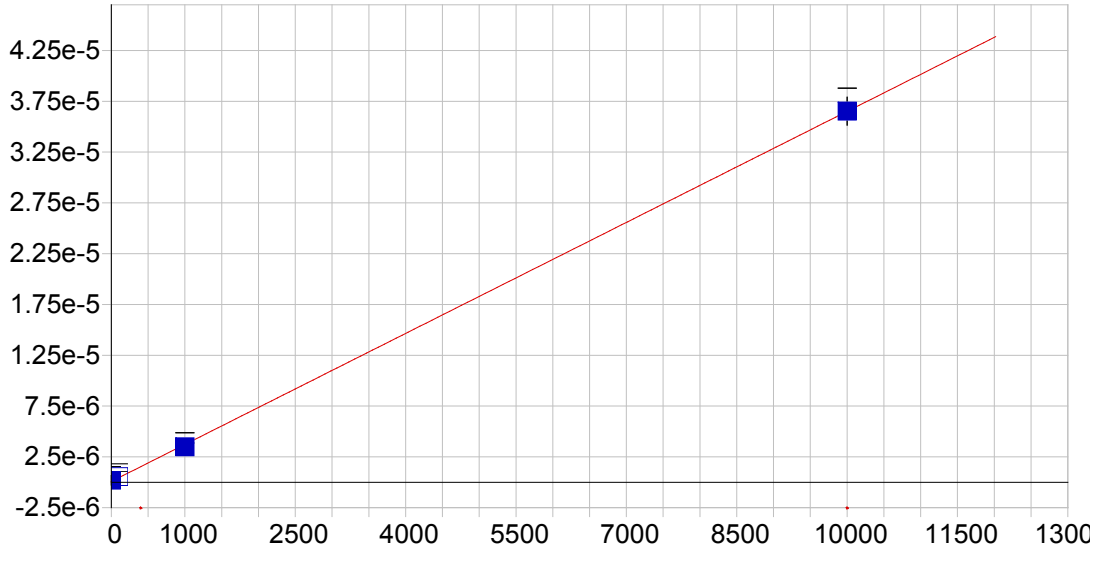


Tl 190.856 {477}

Date of Fit: 01/21/2016 12:14:47 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	-0.000057	Re-Slope:	1.000000
A1 (Gain):	0.000017	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999748	Status:	OK.
Std Error of Est:	0.000005		
Predicted MDL:	2.183579		
Predicted MQL:	7.278597		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00095	-.001	.000	-.00006	.000	1
CalStd9=100	1000.0	1064.2	64.2	6.42	.01776	.000	1
CalStd8=100	100.00	109.61	9.61	9.61	.00178	.000	1
CalStd5=10	10.000	9.4173	-.583	-5.83	.00010	.000	1
CalStd10=10	10000.	9926.8	-73.2	-.732	.16619	.000	1

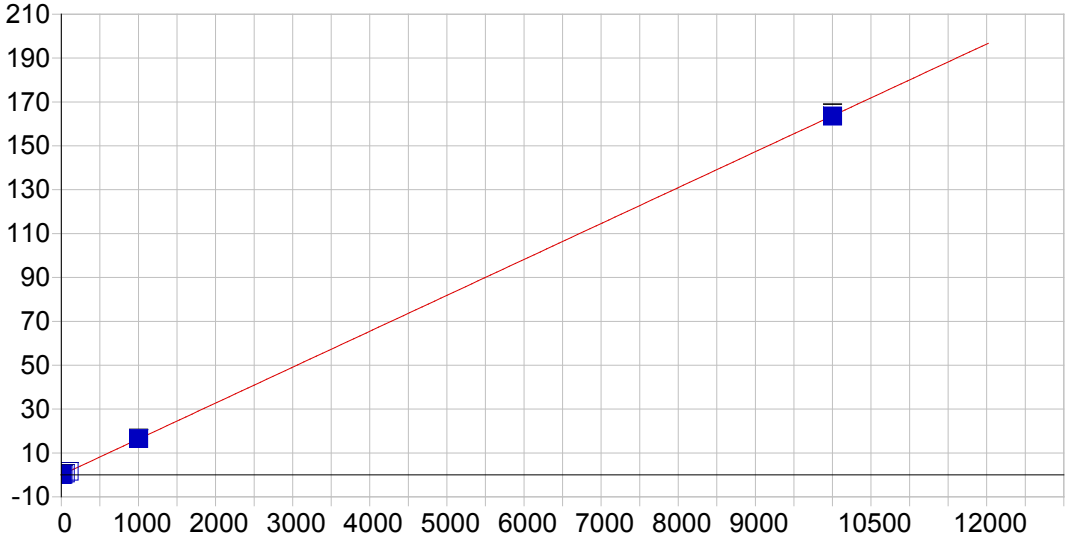


V 290.882 {116}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999953	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	126.090573		
Predicted MQL:	420.301911		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	32.803	32.8	.000	.00000	.000	1
CalStd9=100	1000.0	931.88	-68.1	-6.81	.00000	.000	1
CalStd10=10	10000.	10007.	6.52	.065	.00004	.000	1
CalStd8=100	100.00	128.79	28.8	28.8	.00000	.000	1

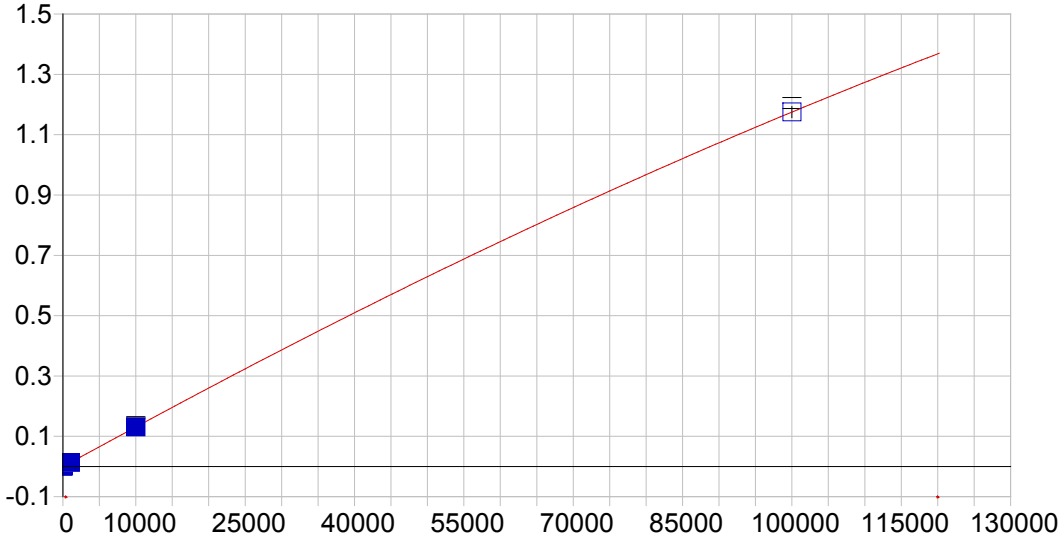


V 292.402 {115}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.009619	Re-Slope:	1.000000
A1 (Gain):	0.016370	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999991	Status:	OK.
Std Error of Est:	0.000884		
Predicted MDL:	0.441841		
Predicted MQL:	1.472804		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00100	-.001	.000	-.00964	.003	1
CalStd7=50	50.000	49.378	-.622	-1.24	.79868	.016	1
CalStd9=100	1000.0	1010.9	10.9	1.09	16.539	.120	1
CalStd6=20	20.000	20.640	.640	3.20	.32826	.007	1
CalStd5=10	10.000	10.693	.693	6.93	.16542	.004	1
CalStd8=100	100.00	100.17	.167	.167	1.6301	.020	1
CalStd10=10	10000.	9988.2	-11.8	-.118	163.50	1.37	1

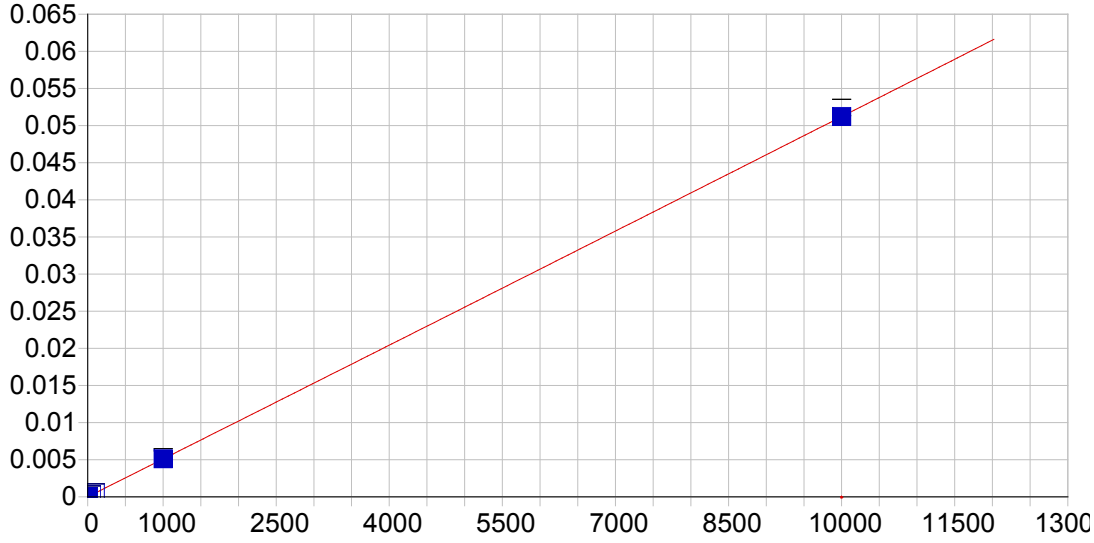


Zn 206.200 {463}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Full Fit	Weighting:	1/Conc

A0 (Offset):	-0.000004	Re-Slope:	1.000000
A1 (Gain):	0.000012	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.010000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.095353		
Predicted MQL:	0.317844		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
CalStd10=10	10000.	10007.	7.09	.071	.13104	.003	1
Blank	.00000	.00670	.007	.000	.00000	.000	1
CalStd9=100	1000.0	993.40	-6.60	-.660	.01286	.000	1
CalStd11-100	100000.	99999.	-.804	-.001	1.1750	.018	1



Zn 213.856 {458}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Curvilinear	Weighting:	None

A0 (Offset):	0.000003		Re-Slope:	1.000000	
A1 (Gain):	0.000005		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	1.000000	Status:	Warning	Positive Curvature	
Std Error of Est:	0.000004				
Predicted MDL:	0.152681				
Predicted MQL:	0.508936				

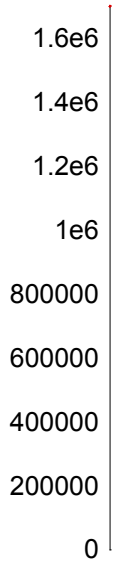
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.56633	-.566	.000	.00000	.000	1
CalStd8=100	100.00	100.68	.676	.676	.00052	.000	1
CalStd7=50	50.000	49.164	-.836	-1.67	.00025	.000	1
CalStd5=10	10.000	10.117	.117	1.17	.00005	.000	1
CalStd9=100	1000.0	999.97	-.033	-.003	.00510	.000	1
CalStd4=5	5.0000	5.6421	.642	12.8	.00003	.000	1
CalStd10=10	10000.	10000.	.000	.000	.05121	.001	1

Y 224.306 {451}*

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.000000	Status:	Warning Zero Gain
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	28901.	267.	1

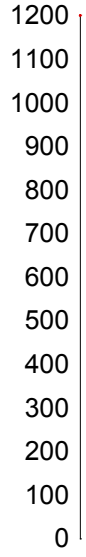


Y 324.228 {104}*

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.000000	Status:	Warning Zero Gain
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	1578800.	31800.	1

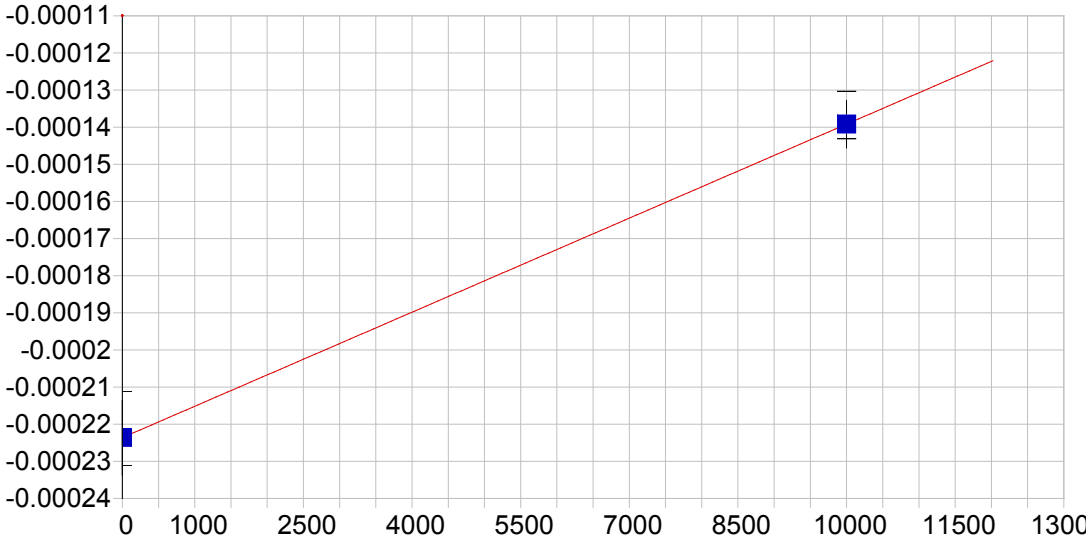


Y 371.030 { 91}*

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.000000	Status:	Warning Zero Gain
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	1103.2	18.3	1

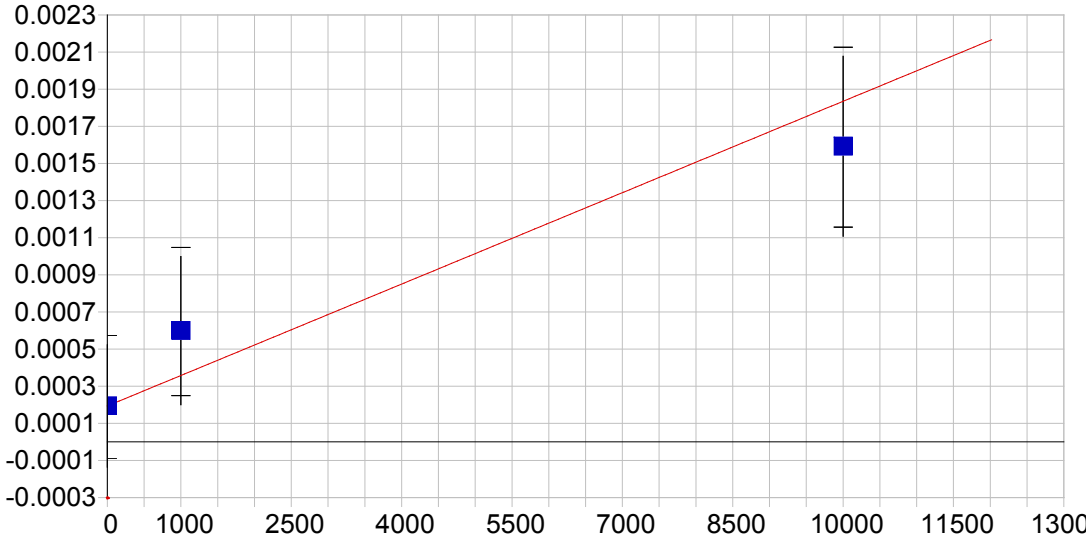


Na 588.995 { 57}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000224	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	779.043308		
Predicted MQL:	2596.811028		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	-.00022	.000	1
CalStd10=10	10000.	10000.0	.000	.000	-.00014	.000	1

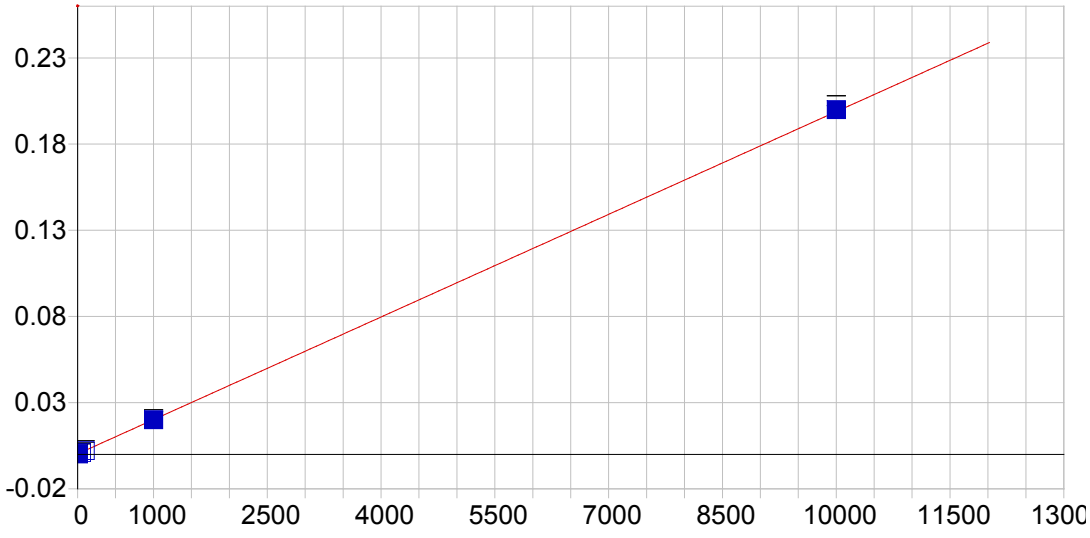


Si 251.611 {134}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000194	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.906180	Status:	OK.
Std Error of Est:	0.000014		
Predicted MDL:	2683.553862		
Predicted MQL:	8945.179542		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-1.3271	-1.33	.000	.00019	.000	1
CalStd10=10	10000.	8525.5	-1470.	-14.7	.00159	.000	1
CalStd9=100	1000.0	2474.5	1470.	147.	.00060	.000	1

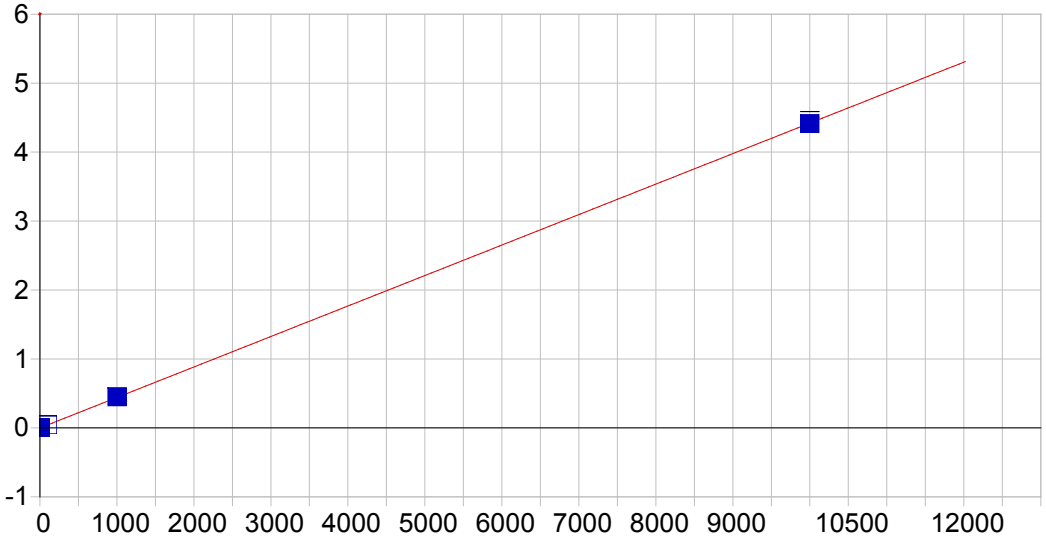


Ti 334.941 {101}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000276	Re-Slope:	1.000000
A1 (Gain):	0.000020	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.997972	Status:	OK.
Std Error of Est:	0.000011		
Predicted MDL:	33.533054		
Predicted MQL:	111.776845		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.01640	.016	.000	.00028	.001	1
CalStd5=10	10.000	-7.8822	-17.9	-179.	.00012	.000	1
CalStd8=100	100.00	92.425	-7.58	-7.58	.00211	.001	1
CalStd9=100	1000.0	995.99	-4.01	-.401	.02005	.001	1
CalStd10=10	10000.	10054.	53.5	.535	.19992	.003	1
CalStd7=50	50.000	31.125	-18.9	-37.8	.00089	.000	1
CalStd4=5	5.0000	-.19739	-5.20	-104.	.00027	.000	1

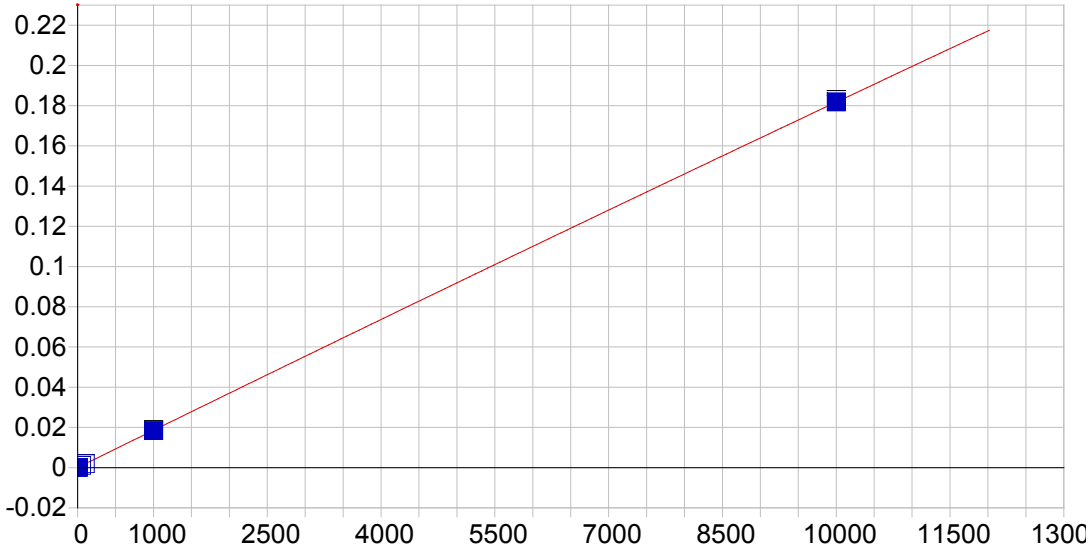


Sr 407.771 { 83}

Date of Fit: 01/21/2016 12:14:47 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	-0.000882	Re-Slope:	1.000000
A1 (Gain):	0.000442	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999974	Status:	OK.
Std Error of Est:	0.000012		
Predicted MDL:	2.748448		
Predicted MQL:	9.161493		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00043	.000	.000	-.00088	.000	1
CalStd3=1	1.0000	1.3182	.318	31.8	-.00030	.001	1
CalStd4=5	5.0000	5.4778	.478	9.56	.00154	.001	1
CalStd5=10	10.000	10.030	.030	.303	.00355	.001	1
CalStd8=100	100.00	99.993	-.007	-.007	.04333	.001	1
CalStd9=100	1000.0	1019.5	19.5	1.95	.44985	.004	1
CalStd10=10	10000.	9979.7	-20.3	-.203	4.4114	.046	1

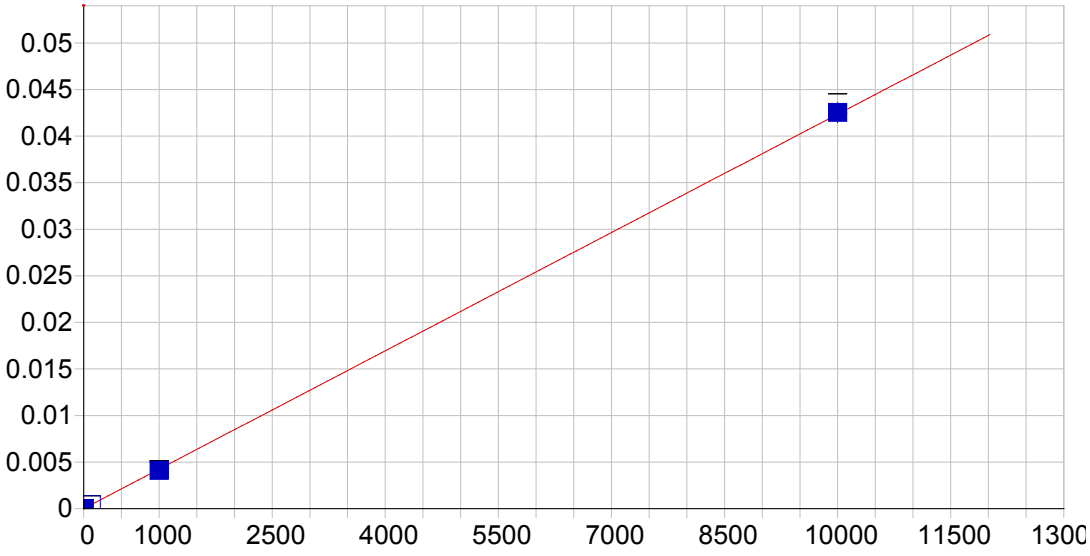


Sn 189.989 {478}

Date of Fit: 01/21/2016 12:14:47 Type of Fit: Curvilinear Weighting: 1/Var

A0 (Offset):	0.000025	Re-Slope:	1.000000
A1 (Gain):	0.000019	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999860	Status:	OK.
Std Error of Est:	0.000036		
Predicted MDL:	1.364865		
Predicted MQL:	4.549550		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.68334	-.683	.000	.00001	.000	1
CalStd10=10	10000.	10001.	1.29	.013	.18180	.001	1
CalStd9=100	1000.0	989.46	-10.5	-1.05	.01836	.000	1
CalStd8=100	100.00	98.996	-1.00	-1.00	.00186	.000	1
CalStd5=10	10.000	10.332	.332	3.32	.00022	.000	1
CalStd7=50	50.000	54.709	4.71	9.42	.00104	.000	1
CalStd4=5	5.0000	4.6109	-.389	-7.78	.00011	.000	1

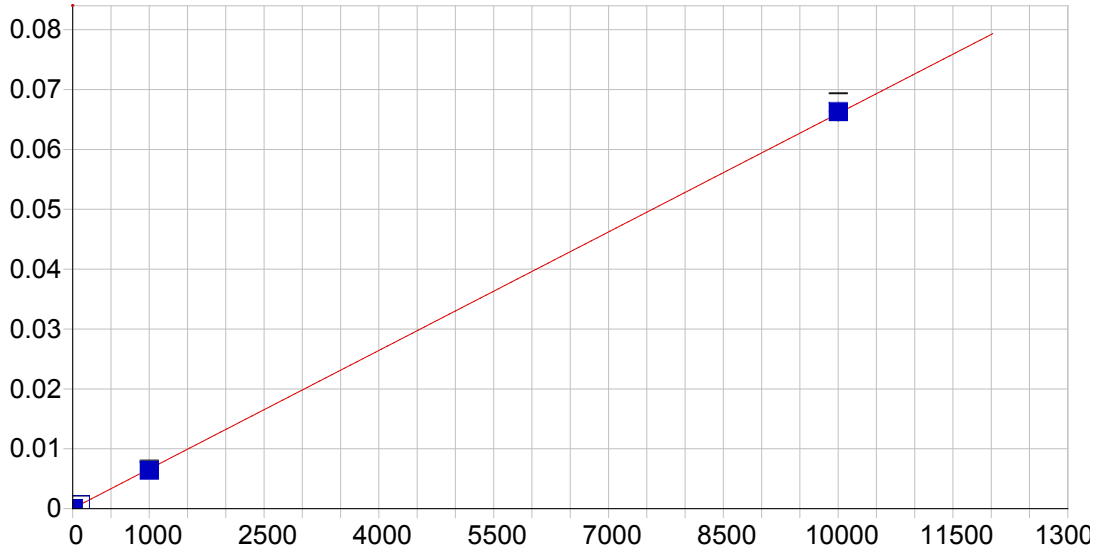


B 249.678 {135}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000008	Re-Slope:	1.000000
A1 (Gain):	0.000004	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999896	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.775388		
Predicted MQL:	2.584628		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00306	.003	.000	.00001	.000	1
CalStd8=100	100.00	93.878	-6.12	-6.12	.00041	.000	1
CalStd5=10	10.000	7.8721	-2.13	-21.3	.00004	.000	1
CalStd9=100	1000.0	964.04	-36.0	-3.60	.00409	.000	1
CalStd10=10	10000.	10044.	44.2	.442	.04253	.001	1

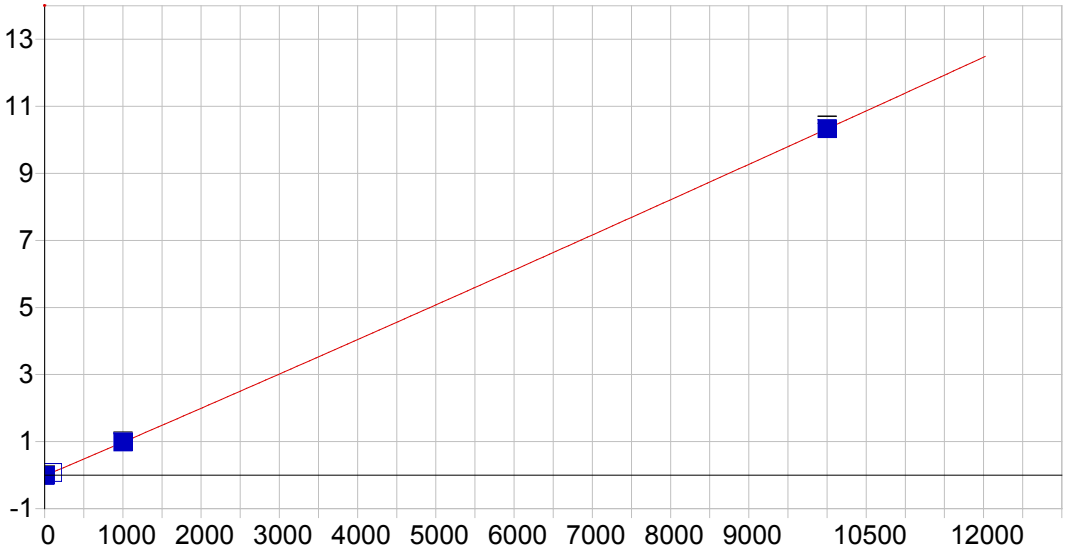


B 249.773 {135}

Date of Fit: 01/21/2016 12:14:47 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	0.000018	Re-Slope:	1.000000
A1 (Gain):	0.000007	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999907	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.449392		
Predicted MQL:	1.497974		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00283	.003	.000	.00002	.000	1
CalStd8=100	100.00	93.622	-6.38	-6.38	.00064	.000	1
CalStd5=10	10.000	8.1013	-1.90	-19.0	.00007	.000	1
CalStd9=100	1000.0	966.49	-33.5	-3.35	.00641	.000	1
CalStd10=10	10000.	10042.	41.8	.418	.06641	.002	1

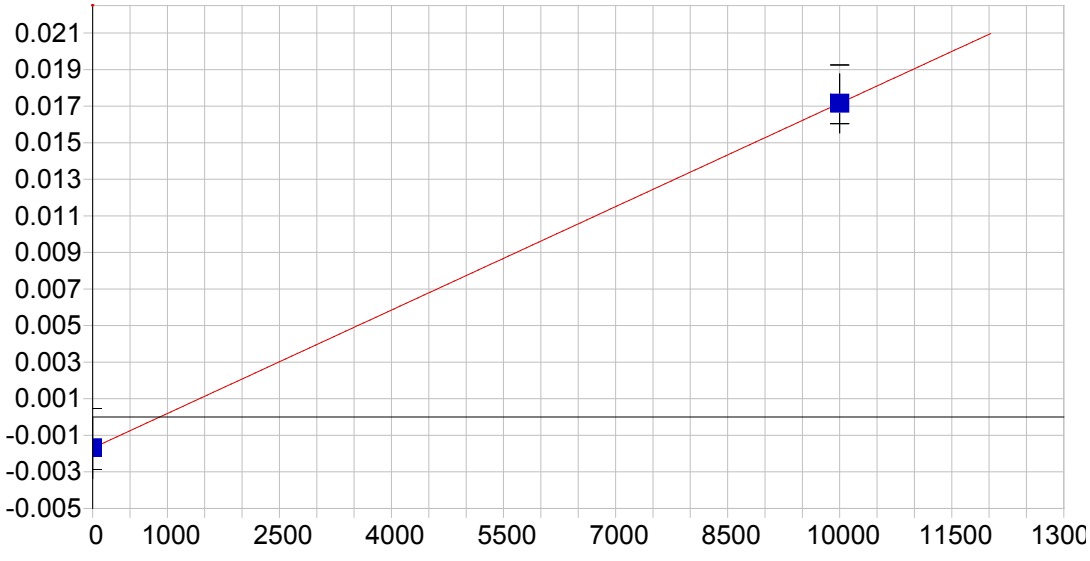


Li 670.784 { 50}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Full Fit	Weighting:	1/Conc

A0 (Offset):	-0.013532	Re-Slope:	1.000000
A1 (Gain):	0.000927	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.010000		
Correlation:	0.999887	Status:	Warning Positive Curvature
Std Error of Est:	0.000365		
Predicted MDL:	6.794117		
Predicted MQL:	22.647057		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	-.01354	.007	1
CalStd5=10	10.000	14.555	4.55	45.5	.00032	.003	1
CalStd8=100	100.00	91.223	-8.78	-8.78	.07493	.007	1
CalStd9=100	1000.0	1004.6	4.57	.457	.98589	.024	1
CalStd10=10	10000.	9999.7	-.343	-.003	10.330	.108	1

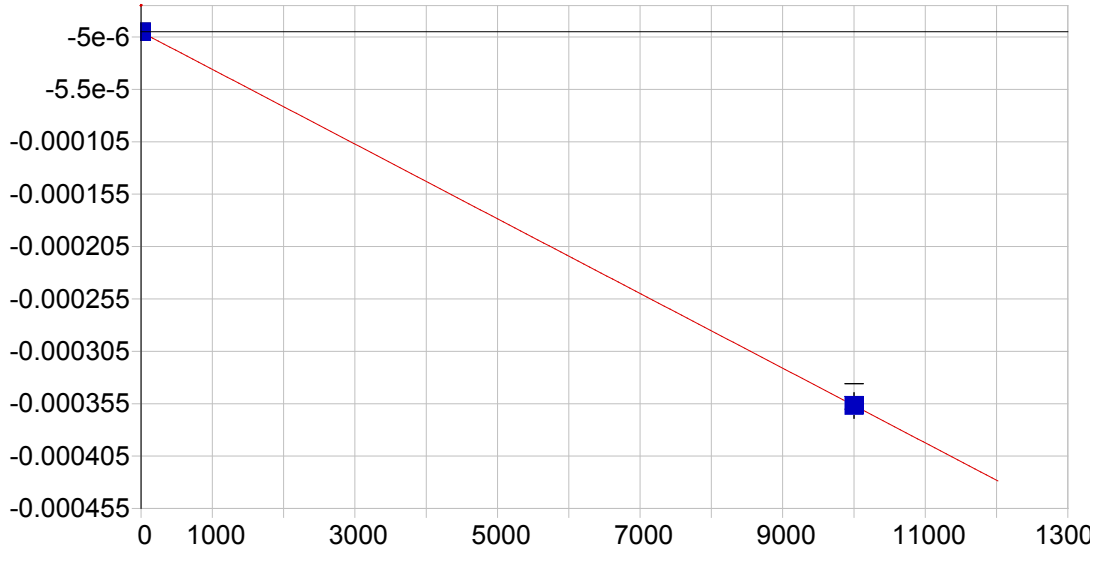


K 766.490 { 44}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.001693	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	3162.353325		
Predicted MQL:	10541.17775		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	-.00169	.002	1
CalStd10=10	10000.	10000.0	.000	.000	.01715	.002	1

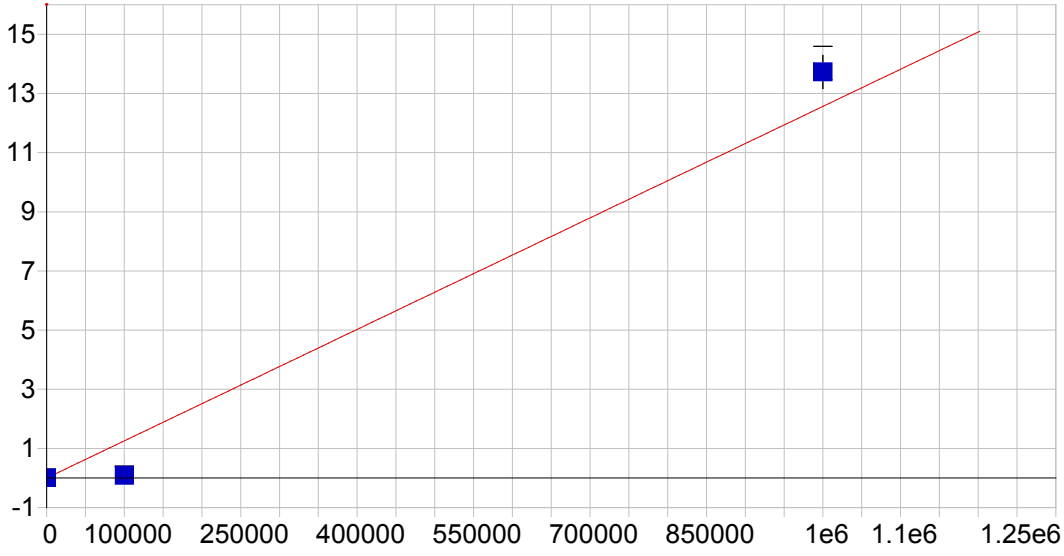


P 213.618 {457}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000000	Re-Slope:	1.000000
A1 (Gain):	-0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	Warning Negative Gain
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00000	.000	1
CalStd10=10	10000.	10000.	.000	.000	-.00036	.000	1

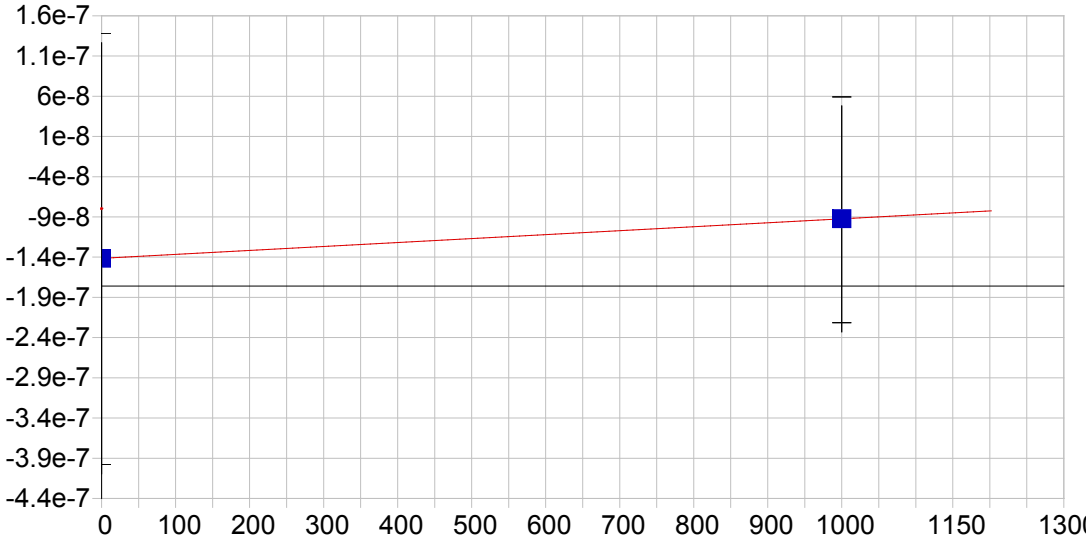


S 182.034 {485}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.001111	Re-Slope:	1.000000
A1 (Gain):	0.000013	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.959544	Status:	OK.
Std Error of Est:	0.066913		
Predicted MDL:	2.517694		
Predicted MQL:	8.392315		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	83.455	83.5	.000	-.00006	.000	1
CalStd12-100	100000.	7271.8	-92700.	-92.7	.09010	.002	1
CalStd14-100	1000000.	1092700.	92700.	9.27	13.726	.559	1



W 239.709 {140}

Date of Fit:	01/21/2016 12:14:47	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	6930.449103		
Predicted MQL:	23101.49700		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00000	.000	1
CalStd9=100	1000.0	1000.0	.000	.000	.00000	.000	1

Sample Name: Blank Acquired: 01/19/2016 11:07:11 Type: Cal
Method: DOD Calibration Updated 060614(v1225) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	Al1670	As1937	As1890	Ba4554	Ba4934	Be3130	Be2348	Ca3158	Ca3933	Cd2265
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**-.002**	**.000**	**.000**	**.000**	**.033**	**.025**	**-.025**	**.000**	**.000**	**.003**	**.000**
Stddev	.00	.000	.000	.000	.000	.002	.003	.004	.00	.000	.001	.00
%RSD	81.7	24.3	25.0	34.2	998.	5.54	12.8	16.8	119.	334.	46.3	259.

Elem	Cd2288	Co2286	Co2388	Cr2055	Cr2677	Cu2247	Cu3247	Fe2343	Fe2599	Mg2025	Mg2802	Mn2576
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.003**	**.028**	**.000**	**.000**	**.000**	**.000**
Stddev	.00	.00	.000	.00	.00	.00	.001	.001	.000	.00	.000	.000
%RSD	92.3	47.3	25.6	20.6	276.	97.4	19.4	4.20	357.	3.52	3.44	131.

Elem	Mn2593	Mo2020	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Se2062	Tl1908
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	.00	.000	.00	.00	.00	.000	.000	.000	.00	.000	.00	.000
%RSD	1110.	31.7	128.	20.0	19.0	6.31	44.5	64.0	797.	44.6	226.	29.3

Elem	Tl1908	V_2908	V_2924	Zn2062	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**-.010**	**.000**	**.000**
Stddev	.00	.000	.003	.00	.000
%RSD	38.4	237.	35.5	32.8	61.0

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**28901.**	**1578800.**	**1103.2**
Stddev	267.	31776.	18.3
%RSD	.92292	2.0127	1.6569

Sample Name: CalStd1=0.25 Acquired: 01/19/2016 11:12:01 Type: Cal
Method: DOD Calibration Updated 060614(v1225) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Be3130
Units	Cts/S
Avg	**.022**
Stddev	.005
%RSD	23.8

Int. Std.	Y_3710
Units	Cts/S
Avg	**1074.1**
Stddev	11.0
%RSD	1.0195

Sample Name: CalStd2=0.5 Acquired: 01/19/2016 11:17:15 Type: Cal
Method: DOD Calibration Updated 060614(v1225) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Be3130	Cd2265	Cd2288
Units	Cts/S	Cts/S	Cts/S
Avg	**.082**	**.000**	**.000**
Stddev	.005	.000	.000
%RSD	5.55	26.3	21.9

Int. Std.	Y_2243	Y_3710
Units	Cts/S	Cts/S
Avg	**28631.**	**1104.6**
Stddev	192.	2.6
%RSD	.67042	.23321

Sample Name: CalStd3=1 Acquired: 01/19/2016 11:22:08 Type: Cal
Method: DOD Calibration Updated 060614(v1225) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Ba4554	Be3130	Cd2265	Cd2288	Co2286	Cr2055	Cu2247	Ni2316
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.032**	**.187**	**.001**	**.001**	**.000**	**.000**	**.000**	**.000**
Stddev	.000	.001	.008	.000	.000	.000	.000	.000	.000
%RSD	96.5	3.85	4.03	7.90	16.0	49.3	31.6	36.2	70.1

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**28413.**	**1587300.**	**1087.5**
Stddev	465.	51819.	27.7
%RSD	1.6354	3.2645	2.5435

Sample Name: CalStd4=5 Acquired: 01/19/2016 11:27:00 Type: Cal
Method: DOD Calibration Updated 060614(v1225) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al1670	As1890	Ba4554	Be3130	Cd2265	Co2286	Cr2055	Cr2677	Cu2247	Mn2576	Mo2020	Ni2316
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.001**	**.000**	**.035**	**1.02**	**.003**	**.002**	**.001**	**.002**	**.001**	**.000**	**.001**	**.000**
Stddev	.000	.000	.002	.00	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	2.08	54.3	5.77	.292	3.88	3.66	2.45	9.96	7.52	3.99	7.18	5.88

Elem	Pb2169	Pb2203	Sb2175	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**
Stddev	.000	.000	.000	.000
%RSD	16.3	12.6	27.3	3.03

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**28883.**	**1555600.**	**1079.6**
Stddev	557.	60559.	9.0
%RSD	1.9294	3.8929	.83345

Sample Name: CalStd5=10 Acquired: 01/19/2016 11:32:08 Type: Cal
Method: DOD Calibration Updated 060614(v1225) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba4554	Be3130	Cd2265	Cd2288	Co2286	Cr2055	Cr2677	Cu2247	Mn2576
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.001**	**.000**	**.034**	**2.02**	**.006**	**.009**	**.004**	**.003**	**.005**	**.002**	**.000**
Stddev	.000	.000	.000	.001	.03	.000	.000	.000	.000	.000	.000	.000
%RSD	5.43	1.16	11.1	4.01	1.25	1.50	.576	.834	1.33	2.64	3.14	1.30

Elem	Mo2020	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Tl1908	Tl1908	V_2924	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.002**	**.000**	**.000**	**.001**	**.000**	**.000**	**.000**	**.001**	**.000**	**.165**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.004	.000
%RSD	.706	3.40	7.18	13.6	6.52	13.6	20.1	6.61	32.6	2.58	2.03

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**28760.**	**1579500.**	**1093.8**
Stddev	109.	12623.	7.6
%RSD	.37792	.79916	.69619

Sample Name: CalStd6=20 Acquired: 01/19/2016 11:36:59 Type: Cal
Method: DOD Calibration Updated 060614(v1225) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ba4554	Cu2247	Fe2599	Mn2576	Mo2020	Sb2175	V_2924
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.037**	**.003**	**.000**	**.001**	**.003**	**.001**	**.328**
Stddev	.001	.000	.000	.000	.000	.000	.007
%RSD	1.89	3.51	74.5	3.39	1.66	5.83	2.14

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**28863.**	**1604900.**	**1114.7**
Stddev	111.	63143.	13.4
%RSD	.38460	3.9344	1.2057

Sample Name: CalStd7=50 Acquired: 01/19/2016 11:41:48 Type: Cal
Method: DOD Calibration Updated 060614(v1225) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al1670	As1937	Ba4554	Ca3933	Cd2265	Co2286	Cr2055	Cr2677	Cu2247	Mg2802	Mn2576	Mo2020
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.003**	**.001**	**.043**	**.051**	**.030**	**.019**	**.013**	**.022**	**.008**	**.005**	**.002**	**.008**
Stddev	.000	.000	.002	.001	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	1.16	2.34	5.15	1.77	1.41	1.04	1.34	1.97	1.32	1.54	1.49	1.37

Elem	Mo2045	Ni2316	Sb2068	Se1960	V_2924	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.002**	**.000**	**.002**	**.001**	**.799**	**.000**
Stddev	.000	.000	.000	.000	.016	.000
%RSD	2.96	1.10	4.08	1.20	1.99	.838

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**28702.**	**1576700.**	**1107.8**
Stddev	314.	12071.	7.9
%RSD	1.0926	.76557	.71531

Sample Name: CalStd8=100 Acquired: 01/19/2016 11:46:32 Type: Cal
Method: DOD Calibration Updated 060614(v1225) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	As1937	As1890	Ba4554	Ba4934	Be3130	Be2348	Ca3933	Cd2265	Cd2288	Co2286	Co2388
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.001**	**.002**	**.001**	**.059**	**.054**	**19.6**	**.000**	**.097**	**.064**	**.088**	**.040**	**.001**
Stddev	.000	.000	.000	.001	.007	.3	.000	.002	.001	.001	.001	.000
%RSD	2.02	1.04	4.98	2.48	12.5	1.29	44.4	1.90	1.44	1.38	1.33	3.08

Elem	Cr2055	Cr2677	Cu2247	Cu3247	Fe2599	Mg2802	Mn2576	Mo2020	Mo2045	Ni2216	Ni2316	Pb2169
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.028**	**.045**	**.017**	**.004**	**.001**	**.009**	**.003**	**.017**	**.005**	**.001**	**.000**	**.002**
Stddev	.000	.001	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	1.52	1.84	1.12	6.72	40.1	3.08	3.12	1.19	1.11	2.08	2.04	.780

Elem	Pb2203	Sb2175	Se1960	Se2062	Tl1908	Tl1908	V_2908	V_2924	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.007**	**.002**	**.003**	**.000**	**.006**	**.002**	**.000**	**1.63**	**.001**
Stddev	.000	.000	.000	.000	.000	.000	.000	.02	.000
%RSD	1.61	1.45	.916	8.30	1.62	1.17	66.9	1.26	2.20

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**28588.**	**1593200.**	**1103.6**
Stddev	255.	29271.	11.4
%RSD	.89150	1.8372	1.0348

Sample Name: CalStd9=1000 Acquired: 01/19/2016 11:51:12 Type: Cal
Method: DOD Calibration Updated 060614(v1225) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Al1670	As1937	As1890	Ba4554	Ba4934	Be3130	Be2348	Ca3158	Ca3933	Cd2265	Cd2288
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.006**	**.066**	**.024**	**.006**	**.283**	**.310**	**192.**	**.000**	**.002**	**.938**	**.611**	**.839**
Stddev	.000	.001	.000	.000	.005	.004	2.	.000	.001	.011	.010	.013
%RSD	2.27	1.55	1.35	1.25	1.82	1.22	1.27	4.86	24.1	1.20	1.58	1.57

Elem	Co2286	Co2388	Cr2055	Cr2677	Cu2247	Cu3247	Fe2343	Fe2599	Mg2025	Mg2802	Mn2576	Mn2593
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.389**	**.005**	**.271**	**.446**	**.167**	**.011**	**2.18**	**.006**	**.001**	**.085**	**.034**	**.000**
Stddev	.007	.000	.004	.009	.003	.001	.01	.000	.000	.002	.001	.000
%RSD	1.71	2.39	1.63	2.00	1.69	8.46	.647	7.03	2.93	2.67	2.57	4.34

Elem	Mo2020	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Se2062	Tl1908	Tl1908
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.169**	**.049**	**.005**	**.004**	**.016**	**.067**	**.034**	**.023**	**.025**	**.004**	**.052**	**.018**
Stddev	.003	.001	.000	.000	.000	.001	.001	.000	.000	.000	.001	.000
%RSD	1.57	1.65	3.28	2.95	1.66	1.63	1.54	1.67	1.23	1.72	1.39	1.42

Elem	V_2908	V_2924	Zn2062	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**16.5**	**.013**	**.005**
Stddev	.000	.1	.000	.000
%RSD	14.3	.727	3.03	2.99

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**28883.**	**1587300.**	**1104.0**
Stddev	264.	41419.	6.2
%RSD	.91324	2.6094	.56545

Sample Name: CalStd10=10000 Acquired: 01/19/2016 11:55:50 Type: Cal
Method: DOD Calibration Updated 060614(v1225) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	As1937	As1890	Ba4934	Ca3158	Co2286	Co2388	Cr2055	Cr2677	Cu2247	Cu3247	Fe2343
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.073**	**.242**	**.056**	**3.36**	**.022**	**3.83**	**.051**	**2.69**	**4.51**	**1.63**	**.077**	**20.5**
Stddev	.001	.001	.000	.04	.001	.02	.001	.01	.09	.01	.001	.2
%RSD	1.32	.438	.298	1.04	3.23	.527	2.92	.429	2.00	.479	.836	1.06

Elem	Fe2599	Mg2025	Mg2802	Mn2576	Mn2593	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.052**	**.005**	**.799**	**.335**	**.000**	**.497**	**.055**	**.044**	**.144**	**.661**	**.335**	**.225**
Stddev	.001	.000	.027	.012	.000	.002	.001	.001	.001	.003	.001	.001
%RSD	1.87	2.18	3.42	3.53	2.95	.431	2.03	2.32	.485	.408	.397	.419

Elem	Se1960	Se2062	Tl1908	Tl1908	V_2908	V_2924	Zn2062	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.249**	**.036**	**.487**	**.166**	**.000**	**163.**	**.131**	**.051**
Stddev	.001	.000	.002	.000	.000	1.	.003	.001
%RSD	.401	.294	.369	.267	3.76	.840	2.10	2.15

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**28150.**	**1494700.**	**1104.5**
Stddev	63.	28874.	5.8
%RSD	.22527	1.9317	.52669

Sample Name: CalStd11-100k Acquired: 01/19/2016 12:00:35 Type: Cal
Method: DOD Calibration Updated 060614(v1225) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Cr2055	Cu3247	Mn2593	Pb2169	Zn2062
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**24.2**	**.743**	**.002**	**1.44**	**1.17**
Stddev	.2	.014	.000	.01	.02
%RSD	.766	1.89	2.39	.763	1.54

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**28181.**	**1559900.**	**1133.3**
Stddev	160.	22975.	13.2
%RSD	.56806	1.4729	1.1625

Sample Name: CalStd12-100000 Acquired: 01/19/2016 12:05:59 Type: Cal
Method: DOD Calibration Updated 060614(v1225) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Ca3158	Fe2343	Mg2025
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.686**	**.209**	**184.**	**.040**
Stddev	.034	.010	4.	.002
%RSD	4.89	4.61	2.03	3.96

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**28223.**	**1581200.**	**1134.7**
Stddev	427.	65126.	18.6
%RSD	1.5140	4.1189	1.6435

Sample Name: CalStd13=500000 Acquired: 01/19/2016 12:10:48 Type: Cal
Method: DOD Calibration Updated 060614(v1225) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Ca3158	Fe2343	Mg2025
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3.57**	**1.07**	**757.**	**.173**
Stddev	.11	.04	15.	.002
%RSD	3.09	3.30	1.99	1.25

Int. Std.	Y_3242	Y_3710
Units	Cts/S	Cts/S
Avg	**1374500.**	**1050.5**
Stddev	17458.	30.0
%RSD	1.2701	2.8552

Sample Name: CalStd14-1000k Acquired: 01/19/2016 12:15:41 Type: Cal
Method: DOD Calibration Updated 060614(v1225) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Ca3158	Fe2343	Mg2025
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**6.77**	**1.98**	**1160.**	**.293**
Stddev	.25	.07	12.	.005
%RSD	3.68	3.56	1.01	1.65

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**24344.**	**1321400.**	**1050.8**
Stddev	1116.	10487.	6.2
%RSD	4.5834	.79360	.59195

Sample Name: icv Acquired: 01/19/2016 12:25:39 Type: QC
Method: DOD Calibration Updated 060614(v1225) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1890	Ba4934	Be3130	Ca3158	Cd2265	Co2286	Co2388	Cr2677	Cu2247	Fe2343
Avg	**47.5**	**12700.**	**1990.**	**1920.**	**48.1**	**10100.**	**48.3**	**503.**	**488.**	**195.**	**255.**	**5120.**
Stddev	1.2	551.	31.	47.	1.2	301.	.7	7.	12.	3.	4.	124.
%RSD	2.57	4.34	1.56	2.46	2.43	2.97	1.37	1.35	2.39	1.51	1.41	2.43
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Mg2025	Mg2802	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se2062	Tl1908	V_2924	Zn2138
Avg	**10400.**	**9670.**	**483.**	**517.**	**479.**	**494.**	**514.**	**1990.**	**2100.**	**488.**	**491.**
Stddev	208.	456.	13.	7.	9.	7.	5.	40.	26.	12.	9.
%RSD	2.00	4.72	2.71	1.35	1.90	1.33	.880	2.00	1.22	2.48	1.82
Check ?	None	None	None	None	None	None	None	None	None	None	None
Value											
Range											

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**29001.**	**1604000.**	**1128.5**
Stddev	282.	35063.	16.0
%RSD	.97226	2.1859	1.4217

Sample Name: ICVLL Acquired: 01/19/2016 12:30:06 Type: QC
Method: DOD Calibration Updated 060614(v1225) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	Al1670	As1937	Ba4554	Be3130	Ca3158	Ca3933	Cd2265	Co2286	Cr2677	Cu2247
Avg	F **34.0**	**1430.**	**1180.**	**60.1**	**27.2**	**12.2**	**1380.**	**1450.**	**14.7**	**29.0**	**31.0**	**30.8**
Stddev	.1	133.	1.	.6	1.7	.1	197.	5.	.1	.2	.2	.3
%RSD	.335	9.30	.060	1.00	6.15	.718	14.3	.362	.454	.538	.521	1.11
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value	60.0											
Range	-30.0%											

Elem	Fe2599	Mg2025	Mg2802	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**959.**	**1310.**	**1510.**	**30.5**	**31.5**	**29.2**	**29.9**	**57.5**	**80.8**	**63.0**	**29.4**	**30.7**
Stddev	113.	2.	12.	.0	.1	.1	1.1	.4	4.1	.6	.2	.1
%RSD	11.8	.148	.804	.000	.442	.361	3.71	.692	5.07	.918	.763	.340
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**29168.**	**1604100.**	**1117.7**
Stddev	174.	1165.	5.7
%RSD	.59493	.07265	.51300

Sample Name: icb Acquired: 01/19/2016 12:39:47 Type: QC
Method: DOD Calibration Updated 060614(v1225) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba4554	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2802
Avg	**1.62**	**3.47**	**-.638**	**-5.00**	**.052**	**1.71**	**-.026**	**-.174**	**.611**	**.007**	**24.7**	**2.20**
Stddev	.45	.17	1.96	12.8	.032	1.00	.108	.224	.388	.343	34.1	.06
%RSD	27.8	4.91	306.	255.	61.7	58.8	417.	129.	63.5	4850.	138.	2.76
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**.148**	**-.038**	**.564**	**-1.13**	**-1.24**	**.702**	**.362**	**.156**	**-.342**
Stddev	.054	.233	.098	.62	1.14	1.10	.744	.494	.148
%RSD	36.2	611.	17.4	54.9	92.4	156.	205.	317.	43.4
Check ?	None	None	None	None	None	None	None	None	None
Value									
Range									

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**29400.**	**1620600.**	**1112.9**
Stddev	434.	5958.	8.7
%RSD	1.4778	.36764	.78604

Sample Name: icsa Acquired: 01/19/2016 12:49:25 Type: QC
Method: DOD Calibration Updated 060614(v1225) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba4554	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2247	Fe2343
Avg	**-.236**	**521000.**	**-.780**	**.000**	**.024**	**539000.**	**.000**	**.136**	**-.264**	**-.004**	**546000.**
Stddev	.687	11500.	2.59	1.79	.021	12300.	1.06	.040	.655	4.69	4350.
%RSD	291.	2.21	332.	1780000.	87.0	2.27	514000.	29.7	248.	123000.	.797
Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None
High Limit											
Low Limit											

Elem	Mg2025	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**462000.**	**.161**	**.424**	**.000**	**-.183**	**-.002**	**-.001**	**-.556**	**.000**	**.002**
Stddev	5490.	.477	.798	.46	1.10	3.03	3.75	.615	.69	.661
%RSD	1.19	296.	188.	332000.	599.	160000.	395000.	111.	1640000.	36900.
Check ?	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit										
Low Limit										

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**25264.**	**1384500.**	**1051.0**
Stddev	403.	7655.	9.2
%RSD	1.5949	.55293	.87201

Sample Name: icsab Acquired: 01/19/2016 12:54:39 Type: QC
Method: DOD Calibration Updated 060614(v1225) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	As1890	Ba4554	Ba4934	Be3130	Be2348	Ca3158	Cd2265	Cd2288
Avg	**455.**	**428000.**	**449.**	**571.**	**460.**	**400.**	**462.**	**501.**	**441000.**	**435.**	**449.**
Stddev	21.	14600.	5.	7.	19.	9.	6.	44.	17600.	4.	3.
%RSD	4.54	3.41	1.07	1.17	4.06	2.36	1.24	8.74	3.98	.839	.770
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Elem	Co2286	Co2388	Cr2055	Cr2677	Cu2247	Cu3247	Fe2343	Mg2025	Mn2576	Mn2593	Mo2020
Avg	**416.**	**424.**	**437.**	**426.**	**426.**	**548.**	**417000.**	**404000.**	**431.**	**498.**	**441.**
Stddev	3.	26.	3.	5.	5.	168.	3280.	17900.	24.	43.	3.
%RSD	.787	6.11	.623	1.28	1.08	30.6	.787	4.43	5.48	8.62	.682
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Elem	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Se2062	Tl1908	V_2908
Avg	**408.**	**434.**	**408.**	**559.**	**566.**	**454.**	**425.**	**403.**	**413.**	**464.**	**532.**
Stddev	4.	19.	15.	6.	5.	6.	5.	4.	17.	6.	78.
%RSD	.876	4.37	3.65	1.11	.881	1.25	1.12	.963	3.99	1.19	14.6
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Sample Name: icsab Acquired: 01/19/2016 12:54:39 Type: QC
Method: DOD Calibration Updated 060614(v1225) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	V_2924	Zn2062	Zn2138
Avg	**424.**	**480.**	**459.**
Stddev	7.	19.	22.
%RSD	1.55	4.01	4.76
Check ?	Chk Pass	Chk Pass	Chk Pass
Value			
Range			

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**25812.**	**1378000.**	**1062.4**
Stddev	236.	53462.	4.4
%RSD	.91615	3.8797	.41865

Sample Name: ICV LL ag Acquired: 01/19/2016 12:59:32 Type: Unk
Method: DOD Calibration Updated 060614(v1225) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba4554	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2802
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**10.4**	**23.8**	**-.724**	**2.61**	**-.015**	**28.8**	**.043**	**-.236**	**.168**	**.022**	**280.**	**17.2**
Stddev	.9	.9	1.37	1.11	.022	1.2	.071	.120	.415	.315	38.	1.7
%RSD	8.57	3.72	189.	42.3	144.	4.30	167.	50.9	247.	1460.	13.7	9.79

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**.000**	**1.46**	**.271**	**-.364**	**1.16**	**8.76**	**.151**	**-.065**	**-.228**
Stddev	.04	.25	.308	.286	2.07	1.38	1.25	.262	.062
%RSD	9930.	17.3	114.	78.7	177.	15.8	828.	405.	27.4

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**29294.**	**1604800.**	**1098.8**
Stddev	146.	30389.	15.9
%RSD	.49794	1.8936	1.4433

Sample Name: ccv1 Acquired: 01/19/2016 15:49:07 Type: QC
Method: DOD Calibration Updated 060614(v1225) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1890	Ba4934	Be3130	Be2348	Ca3158	Cd2265	Cd2288	Co2388	Cr2055	Cu2247
Avg	**438.**	**5330.**	**4540.**	F **4120.**	**451.**	**470.**	**4630.**	**449.**	**456.**	**4590.**	**4550.**	**4520.**
Stddev	11.	40.	17.	47.	3.	15.	52.	1.	2.	105.	14.	17.
%RSD	2.60	.741	.363	1.15	.771	3.26	1.11	.280	.384	2.29	.319	.380
Check ?	None	Chk Pass	Chk Pass	Chk Fail	None	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	None	None
Value				5000.								
Range				-10.4%								

Elem	Cu3247	Fe2343	Mg2025	Mg2802	Mn2576	Mn2593	Mo2045	Ni2216	Ni2316	Pb2169	Sb2068	Se1960
Avg	**4570.**	**4760.**	**4840.**	**4600.**	**4510.**	**4610.**	F **4480.**	**4640.**	**4540.**	**4550.**	**4550.**	**4580.**
Stddev	22.	41.	156.	101.	104.	63.	20.	152.	143.	20.	25.	25.
%RSD	.479	.851	3.23	2.19	2.30	1.36	.438	3.27	3.14	.430	.554	.541
Check ?	Chk Pass	Chk Pass	Chk Pass	None	None	Chk Pass	Chk Fail	Chk Pass	None	Chk Pass	Chk Pass	None
Value							5000.					
Range							-10.4%					

Elem	Se2062	Tl1908	V_2908	V_2924	Zn2062	Zn2138
Avg	**4610.**	**4630.**	F **4290.**	**4570.**	**4570.**	**4620.**
Stddev	25.	22.	254.	40.	154.	146.
%RSD	.544	.483	5.92	.879	3.36	3.17
Check ?	Chk Pass	None	Chk Fail	None	Chk Pass	None
Value			5000.			
Range			-10.4%			

Sample Name: ccv1 Acquired: 01/19/2016 15:49:07 Type: QC
Method: DOD Calibration Updated 060614(v1225) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**29025.**	**1540500.**	**1129.9**
Stddev	66.	47403.	1.3
%RSD	.22773	3.0772	.11680

Sample Name: ccv2 Acquired: 01/19/2016 15:53:40 Type: QC
Method: DOD Calibration Updated 060614(v1225) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba4554	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2802
Avg	**46.9**	**472.**	**470.**	F **438.**	**45.5**	F **445.**	**46.9**	**476.**	**457.**	**478.**	**462.**	**470.**
Stddev	.6	3.	4.	15.	1.5	14.	.5	3.	6.	4.	13.	9.
%RSD	1.17	.547	.905	3.33	3.31	3.03	.990	.680	1.37	.918	2.89	2.01
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value				500.		500.						
Range				-10.4%		-10.4%						

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**457.**	**481.**	**465.**	**471.**	**479.**	**495.**	**501.**	**459.**	**469.**
Stddev	9.	5.	2.	4.	7.	4.	4.	14.	4.
%RSD	1.90	1.01	.368	.772	1.53	.773	.793	3.04	.874
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**29047.**	**1594100.**	**1132.0**
Stddev	174.	13578.	22.5
%RSD	.59748	.85175	1.9898

Sample Name: ccb Acquired: 01/19/2016 15:58:09 Type: QC
Method: DOD Calibration Updated 060614(v1225) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba4554	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2802
Avg	**.662**	**.227**	**1.15**	**-13.1**	**.132**	**-.797**	**-.131**	**-.170**	**.426**	**-.331**	**169.**	**-.804**
Stddev	.015	.006	1.49	1.1	.005	.160	.011	.037	.694	.015	116.	.026
%RSD	2.27	2.82	129.	8.33	3.62	20.0	8.69	21.9	163.	4.59	68.3	3.27
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**-.003**	**4.52**	**-.293**	**-.833**	**-2.23**	**8.72**	**-.966**	**.260**	**-.474**
Stddev	.026	.11	.024	.062	2.40	.13	.555	.129	.095
%RSD	742.	2.45	8.31	7.48	108.	1.44	57.4	49.7	20.2
Check ?	None	None	None	None	None	None	None	None	None
Value									
Range									

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**29262.**	**1598900.**	**1149.3**
Stddev	428.	12613.	10.8
%RSD	1.4622	.78885	.93835

Sample Name: lcsw55928 Acquired: 01/19/2016 16:35:54 Type: Unk
Method: DOD Calibration Updated 060614(v1225) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	Al1670	As1937	As1890	Ba4554	Ba4934	Be3130	Ca3158	Cd2265	Co2286
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**17.7**	**1380.**	**695.**	**752.**	**743.**	**671.**	**680.**	**16.4**	**170000.**	**17.3**	**180.**
Stddev	.6	72.	9.	12.	8.	14.	26.	.3	3690.	.2	2.
%RSD	3.40	5.18	1.36	1.57	1.03	2.10	3.83	1.70	2.17	1.24	1.31

Elem	Cr2677	Cu2247	Fe2599	Mg2025	Mn2576	Mo2020	Ni2216	Ni2316	Pb2203	Sb2175	Se1960
Units	ug/L	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**71.6**	**91.1**	**570.**	**81200.**	**179.**	**-.750**	**174.**	**172.**	**168.**	**183.**	**700.**
Stddev	1.4	.6	82.	2170.	5.	.163	4.	4.	3.	2.	9.
%RSD	1.96	.670	14.4	2.67	2.99	21.8	2.51	2.57	2.03	1.12	1.27

Elem	Se2062	Tl1908	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**716.**	**692.**	**683.**	**165.**	**181.**
Stddev	26.	9.	10.	2.	4.
%RSD	3.60	1.30	1.51	1.19	2.39

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**26995.**	**1499700.**	**1154.1**
Stddev	304.	39706.	12.2
%RSD	1.1244	2.6476	1.0579

Sample Name: mbw55928 Acquired: 01/19/2016 16:40:26 Type: Unk
Method: DOD Calibration Updated 060614(v1225) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba4554	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2802
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**1.07**	**14.4**	**2.18**	**-5.81**	**.093**	**20.6**	**-.014**	**-.138**	**.206**	**.419**	**19.9**	**4.52**
Stddev	.29	.4	1.38	4.21	.022	3.3	.018	.125	.454	.154	125.	1.00
%RSD	27.5	2.84	63.3	72.4	24.1	15.8	130.	90.1	220.	36.8	627.	22.2

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**.081**	**-.981**	**.086**	**.130**	**-.863**	**10.9**	**-.297**	**-.037**	**-.436**
Stddev	.020	.128	.355	.397	2.43	1.2	.602	.129	.131
%RSD	24.6	13.1	415.	305.	282.	10.8	203.	344.	30.1

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**29486.**	**1622800.**	**1140.9**
Stddev	156.	26281.	4.1
%RSD	.52876	1.6195	.36374

Sample Name: 681538 Acquired: 01/19/2016 16:45:19 Type: Unk
Method: DOD Calibration Updated 060614(v1225) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	Al1670	As1937	Ba4554	Ba4934	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2247
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**1.09**	**1400.**	**898.**	**-.332**	**421.**	**437.**	**.028**	**59500.**	**.043**	**.211**	**4.53**	**1.44**
Stddev	.09	142.	33.	.988	18.	22.	.028	2480.	.071	.123	.25	.59
%RSD	8.27	10.1	3.68	298.	4.22	5.03	99.1	4.17	167.	58.0	5.40	41.0

Elem	Fe2599	Mg2025	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**1050.**	**30900.**	**9.98**	**-.810**	**2.28**	**.891**	**-3.12**	**1.13**	**-.642**	**2.14**	**10.8**
Stddev	85.	427.	.18	.409	.45	.808	3.23	2.05	.706	.49	.1
%RSD	8.09	1.38	1.83	50.5	19.8	90.7	104.	182.	110.	22.8	1.12

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**28538.**	**1536000.**	**1142.9**
Stddev	347.	31362.	23.6
%RSD	1.2176	2.0418	2.0635

Sample Name: ccv1 Acquired: 01/19/2016 16:50:04 Type: QC
Method: DOD Calibration Updated 060614(v1225) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1890	Ba4934	Be3130	Be2348	Ca3158	Cd2265	Cd2288	Co2388	Cr2055	Cu2247
Avg	**424.**	**5040.**	**4520.**	F **4130.**	**445.**	**448.**	**4720.**	**451.**	**456.**	F **4430.**	**4510.**	**4520.**
Stddev	4.	16.	115.	53.	9.	27.	252.	12.	13.	31.	134.	134.
%RSD	.940	.309	2.55	1.29	2.02	6.01	5.33	2.76	2.84	.709	2.97	2.95
Check ?	None	Chk Pass	Chk Pass	Chk Fail	None	Chk Pass	Chk Pass	None	Chk Pass	Chk Fail	None	None
Value				5000.						5000.		
Range				-10.4%						-10.4%		

Elem	Cu3247	Fe2343	Mg2025	Mn2593	Mo2045	Ni2216	Pb2169	Sb2068	Se1960	Se2062	Tl1908	V_2908
Avg	**4490.**	**4650.**	**4720.**	F **4420.**	F **4480.**	F **4450.**	**4600.**	**4570.**	**4580.**	**4610.**	**4650.**	F **4310.**
Stddev	7.	107.	66.	57.	128.	64.	114.	121.	133.	112.	118.	226.
%RSD	.145	2.30	1.40	1.30	2.86	1.44	2.49	2.65	2.90	2.43	2.54	5.24
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Fail	Chk Fail	Chk Pass	Chk Pass	None	Chk Pass	None	Chk Fail
Value				5000.	5000.	5000.						5000.
Range				-10.4%	-10.4%	-10.4%						-10.4%

Elem	Zn2062
Avg	F **4420.**
Stddev	61.
%RSD	1.38
Check ?	Chk Fail
Value	5000.
Range	-10.4%

Sample Name: ccv1 Acquired: 01/19/2016 16:50:04 Type: QC
Method: DOD Calibration Updated 060614(v1225) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**28987.**	**1584700.**	**1125.8**
Stddev	497.	40212.	12.7
%RSD	1.7134	2.5374	1.1269

Sample Name: ccv2 Acquired: 01/19/2016 16:54:36 Type: QC
Method: DOD Calibration Updated 060614(v1225) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba4554	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2802
Avg	**45.4**	**466.**	**466.**	F **435.**	F **44.7**	F **439.**	**46.4**	**469.**	**449.**	**471.**	**461.**	**461.**
Stddev	.2	3.	2.	11.	1.2	7.	.3	2.	9.	1.	63.	1.
%RSD	.544	.648	.465	2.46	2.74	1.60	.552	.348	1.91	.278	13.7	.203
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Fail	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value				500.	50.0	500.						
Range				-10.4%	-10.4%	-10.4%						

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	F **448.**	**476.**	**457.**	**467.**	**470.**	**495.**	**497.**	F **447.**	**464.**
Stddev	1.	.	6.	1.	1.	2.	1.	11.	7.
%RSD	.218	.048	1.37	.129	.266	.397	.190	2.35	1.52
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass
Value	500.							500.	
Range	-10.4%							-10.4%	

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**29115.**	**1598000.**	**1121.4**
Stddev	83.	23143.	14.7
%RSD	.28447	1.4482	1.3086

Sample Name: ccb Acquired: 01/19/2016 16:59:05 Type: QC
Method: DOD Calibration Updated 060614(v1225) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba4554	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2802
Avg	**.715**	**.298**	**1.47**	**8.51**	**.161**	**-.111**	**.029**	**.056**	**.151**	**-.348**	**-4.67**	**-.767**
Stddev	1.44	.036	.72	10.7	.019	.194	.119	.023	.429	.046	130.	.157
%RSD	202.	12.1	48.8	126.	11.5	175.	416.	40.2	284.	13.2	2780.	20.5
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**-.059**	**5.36**	**.242**	**.154**	**3.11**	**9.81**	**-.866**	**-.058**	**-.497**
Stddev	.034	.70	.020	.789	1.57	.80	.317	.070	.236
%RSD	57.7	13.1	8.40	511.	50.6	8.18	36.6	121.	47.4
Check ?	None	None	None	None	None	None	None	None	None
Value									
Range									

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**28976.**	**1573100.**	**1120.5**
Stddev	260.	56623.	29.2
%RSD	.89880	3.5995	2.6025

Sample Name: I681538 Acquired: 01/19/2016 17:03:58 Type: Unk
Method: DOD Calibration Updated 060614(v1225) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba4554	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2025
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L
Avg	**1.12**	**147.**	**-1.17**	**107.**	**.111**	**15300.**	**.049**	**-.017**	**1.10**	**.319**	**346.**	**5200.**
Stddev	.40	9.	1.34	7.	.028	641.	.074	.193	.25	.252	89.	345.
%RSD	35.4	6.47	115.	6.59	25.0	4.19	150.	1130.	22.5	79.2	25.6	6.62

Elem	Mg2802	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**6100.**	**1.93**	**.422**	**.337**	**-1.23**	**-1.70**	**2.30**	**.284**	**.379**	**1.54**
Stddev	288.	.09	.453	.371	.58	1.71	2.14	.463	.248	.24
%RSD	4.73	4.66	107.	110.	47.3	100.	93.0	163.	65.3	15.5

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**29148.**	**1574000.**	**1135.2**
Stddev	170.	56347.	6.8
%RSD	.58310	3.5797	.59702

Sample Name: dup681538 Acquired: 01/19/2016 17:08:55 Type: Unk
Method: DOD Calibration Updated 060614(v1225) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	Al1670	As1937	Ba4554	Ba4934	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2247
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**1.07**	**1530.**	**1010.**	**1.23**	**444.**	**461.**	**.127**	**61600.**	**.051**	**.113**	**4.20**	**2.09**
Stddev	.28	153.	43.	1.38	36.	40.	.021	3600.	.080	.107	.26	.45
%RSD	25.9	9.97	4.21	112.	8.03	8.65	16.2	5.84	157.	95.0	6.23	21.5

Elem	Fe2599	Mg2025	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**1060.**	**30000.**	**10.3**	**1.46**	**2.56**	**2.05**	**-2.15**	**2.73**	**-.969**	**2.26**	**10.9**
Stddev	78.	529.	.2	.51	.29	1.50	2.14	.84	.747	.46	.2
%RSD	7.40	1.76	1.70	34.7	11.5	73.0	99.3	30.8	77.1	20.4	1.63

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**28564.**	**1563400.**	**1135.8**
Stddev	1151.	32611.	37.2
%RSD	4.0311	2.0859	3.2761

Sample Name: msw681538 Acquired: 01/19/2016 17:13:39 Type: Unk
Method: DOD Calibration Updated 060614(v1225) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	Al1670	As1937	As1890	Ba4934	Be3130	Ca3158	Cd2265	Co2286	Cr2677
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**16.9**	**1270.**	**1630.**	**749.**	**741.**	**1150.**	**16.8**	**236000.**	**17.2**	**179.**	**74.5**
Stddev	.2	307.	15.	4.	9.	24.	.3	3760.	.1	1.	1.0
%RSD	1.01	24.2	.919	.583	1.18	2.07	1.79	1.59	.839	.680	1.39

Elem	Cu2247	Fe2599	Mg2025	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Se2062	Tl1908
Units	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**92.6**	**1320.**	**107000.**	**183.**	**.111**	**169.**	**170.**	**178.**	**700.**	**708.**	**679.**
Stddev	1.0	175.	4420.	6.	.459	6.	1.	2.	4.	23.	3.
%RSD	1.04	13.3	4.14	3.24	411.	3.77	.617	1.08	.597	3.27	.475

Elem	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L
Avg	**673.**	**168.**	**188.**
Stddev	5.	3.	8.
%RSD	.772	1.86	4.08

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**26279.**	**1489600.**	**1112.9**
Stddev	175.	61277.	12.1
%RSD	.66655	4.1136	1.0909

Sample Name: msdw681538 Acquired: 01/19/2016 17:18:06 Type: Unk
Method: DOD Calibration Updated 060614(v1225) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	Al1670	As1937	As1890	Ba4934	Be3130	Ca3158	Cd2265	Co2286	Cr2677
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**16.7**	**1290.**	**1580.**	**751.**	**749.**	**1120.**	**16.6**	**229000.**	**17.2**	**180.**	**74.4**
Stddev	.9	187.	57.	25.	26.	81.	.8	14500.	.6	6.	2.1
%RSD	5.22	14.5	3.61	3.36	3.45	7.22	5.04	6.33	3.19	3.42	2.81

Elem	Cu2247	Fe2599	Mg2025	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Se2062	Tl1908
Units	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**92.1**	**1320.**	**107000.**	**183.**	**-.107**	**168.**	**171.**	**181.**	**714.**	**719.**	**678.**
Stddev	3.3	96.	3070.	6.	.204	5.	5.	6.	22.	32.	22.
%RSD	3.58	7.23	2.87	3.06	190.	2.81	2.87	3.43	3.12	4.48	3.31

Elem	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L
Avg	**675.**	**167.**	**189.**
Stddev	22.	8.	5.
%RSD	3.18	5.07	2.71

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**26404.**	**1491000.**	**1147.3**
Stddev	634.	31724.	46.4
%RSD	2.4007	2.1277	4.0411

Sample Name: pdsw681538 Acquired: 01/19/2016 17:22:33 Type: Unk
Method: DOD Calibration Updated 060614(v1225) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1890	Ba4934	Be3130	Ca3158	Cd2265	Cd2288	Co2388	Cr2677	Cu2247
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**88.2**	**4100.**	**3900.**	**3890.**	**87.5**	**429000.**	**88.1**	**106.**	**875.**	**367.**	**463.**
Stddev	5.4	2560.	54.	167.	2.1	18900.	1.1	1.	56.	5.	6.
%RSD	6.10	62.4	1.39	4.28	2.38	4.40	1.21	1.35	6.40	1.23	1.35

Elem	Cu3247	Fe2599	Mg2025	Mn2576	Mn2593	Mo2020	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068
Units	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**428.**	**2740.**	**193000.**	**910.**	**756.**	**-.351**	**602.**	**859.**	**849.**	**856.**	**958.**
Stddev	45.	158.	12800.	56.	73.	.398	39.	57.	13.	10.	10.
%RSD	10.5	5.78	6.61	6.18	9.62	113.	6.42	6.63	1.48	1.19	1.07

Elem	Se1960	Se2062	Tl1908	V_2908	V_2924	Zn2062	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**3730.**	**3740.**	**3370.**	**887.**	**887.**	**907.**	**946.**
Stddev	43.	53.	42.	235.	22.	55.	62.
%RSD	1.14	1.40	1.25	26.5	2.49	6.11	6.51

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**25647.**	**1425800.**	**1095.3**
Stddev	234.	82629.	20.4
%RSD	.91115	5.7954	1.8617

Sample Name: ccv1 Acquired: 01/19/2016 17:51:28 Type: QC
Method: DOD Calibration Updated 060614(v1225) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1890	Ba4934	Be2348	Ca3158	Cd2265	Cd2288	Co2388	Cr2055	Cu2247	Cu3247
Avg	**440.**	**5230.**	**4540.**	F **4180.**	**482.**	**4780.**	**450.**	**456.**	**4620.**	**4540.**	**4520.**	**4640.**
Stddev	1.	131.	28.	68.	19.	130.	5.	5.	64.	58.	56.	139.
%RSD	.132	2.51	.625	1.64	3.95	2.73	1.13	1.15	1.39	1.29	1.23	3.00
Check ?	None	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	None	None	Chk Pass
Value				5000.								
Range				-10.4%								

Elem	Fe2343	Mg2025	Mg2802	Mn2593	Mo2045	Ni2216	Pb2169	Sb2068	Se1960	Se2062	Tl1908	V_2908
Avg	**4850.**	**4830.**	**4680.**	**4560.**	**4480.**	**4610.**	**4560.**	**4560.**	**4590.**	**4620.**	**4640.**	F **4350.**
Stddev	96.	26.	118.	51.	56.	18.	35.	49.	42.	82.	47.	188.
%RSD	1.98	.532	2.52	1.13	1.24	.382	.760	1.07	.910	1.78	1.02	4.33
Check ?	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	None	Chk Fail
Value												5000.
Range												-10.4%

Elem	Zn2062
Avg	**4550.**
Stddev	10.
%RSD	.224
Check ?	Chk Pass
Value	
Range	

Sample Name: ccv1 Acquired: 01/19/2016 17:51:28 Type: QC
Method: DOD Calibration Updated 060614(v1225) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**28970.**	**1543300.**	**1103.3**
Stddev	238.	11504.	5.3
%RSD	.82120	.74539	.47931

Sample Name: ccv2 Acquired: 01/19/2016 17:55:59 Type: QC
Method: DOD Calibration Updated 060614(v1225) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba4554	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2802
Avg	**46.9**	**480.**	**478.**	F **447.**	**47.6**	**465.**	**47.7**	**484.**	**467.**	**486.**	**546.**	**478.**
Stddev	.4	3.	3.	12.	1.2	13.	.1	1.	9.	2.	107.	4.
%RSD	.766	.614	.639	2.67	2.43	2.74	.133	.297	2.00	.424	19.5	.817
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value				500.								
Range				-10.4%								

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**465.**	**491.**	**470.**	**479.**	**485.**	**504.**	**511.**	**480.**	**476.**
Stddev	4.	2.	7.	2.	3.	1.	2.	9.	7.
%RSD	.783	.434	1.39	.480	.544	.217	.357	1.93	1.53
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**28813.**	**1586800.**	**1091.7**
Stddev	69.	29367.	7.7
%RSD	.23914	1.8507	.70741

Sample Name: ccb Acquired: 01/19/2016 18:00:28 Type: QC
Method: DOD Calibration Updated 060614(v1225) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba4554	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2802
Avg	**1.16**	**.189**	**1.70**	**-7.47**	**.155**	**-1.24**	**.014**	**-.213**	**.297**	**-.138**	**73.5**	**-.893**
Stddev	.52	.094	1.39	3.65	.014	1.20	.100	.170	.287	.517	56.6	.057
%RSD	44.7	49.4	81.7	48.8	8.91	96.2	688.	79.6	96.6	376.	77.0	6.40
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**-.053**	**6.38**	**.069**	**-1.17**	**.450**	**9.80**	**.516**	**.420**	**-.581**
Stddev	.030	1.02	.194	1.13	2.98	2.07	.486	.328	.082
%RSD	57.1	16.0	282.	96.4	662.	21.1	94.2	78.1	14.1
Check ?	None	None	None	None	None	None	None	None	None
Value									
Range									

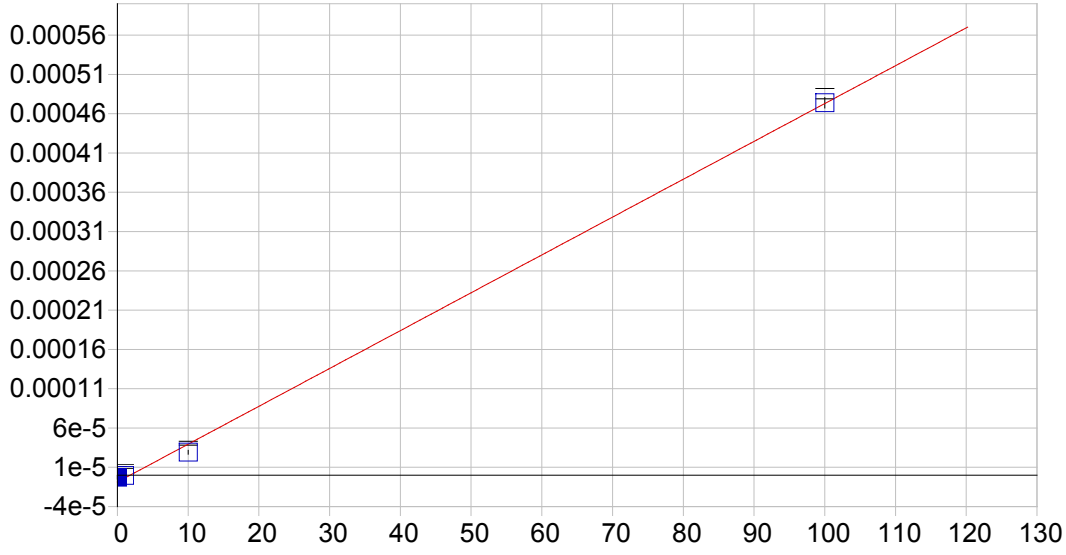
Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**29028.**	**1602300.**	**1131.5**
Stddev	343.	17838.	8.7
%RSD	1.1822	1.1133	.76628

Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)	Correlation	Std Error of Est	Predicted MDL	Predicted MQL	Status	Resl Slope
Ag 328.068 {103}	01/25/2016 13:15:08	01/21/2016 13:55:07	Linear	None	-0.000009	0.000005	0.000000	1.000000	0.999528	0.000009	0.647942	2.159805	OK.	1.000000
Al 309.271 {109}	01/25/2016 13:15:08	01/21/2016 14:15:29	Curvilin	None	0.002694	0.000001	0.000000	1.000000	0.999995	0.000224	250.114079	833.713597	OK.	1.000000
Al 396.152 { 85}	01/25/2016 13:15:08	01/21/2016 14:25:24	Full Fit	1/Conc	-0.000426	0.000002	0.000000	1.050000	0.999960	0.000082	170.373420	567.911399	OK.	1.000000
Al 167.079 {502}	01/25/2016 13:15:08	01/21/2016 14:00:11	Linear	1/Conc	0.000162	0.000057	0.000000	1.000000	0.999939	0.000002	0.224400	0.748000	OK.	1.000000
As 193.759 {474}	01/25/2016 13:15:08	01/21/2016 14:05:06	Linear	1/Conc	-0.000016	0.000023	0.000000	1.000000	0.999502	0.000009	1.752883	5.842945	OK.	1.000000
As 189.042 {479}	01/25/2016 13:15:08	01/21/2016 14:05:06	Linear	1/Conc	-0.000020	0.000004	0.000000	1.000000	0.999369	0.000001	4.542233	15.140776	OK.	1.000000
Ba 455.403 { 74}	01/25/2016 13:15:08	01/21/2016 14:00:12	Linear	1/Var	752.942734	324.975424	0.000000	1.000000	0.999367	62.755594	0.038932	0.129774	OK.	1.000000
Ba 493.409 { 68}	01/25/2016 13:15:08	01/21/2016 14:00:12	Linear	None	3199.60797	353.440196	0.000000	1.000000	0.999966	2276.32666	0.084411	0.281371	OK.	1.000000
Be 313.042 {108}	01/25/2016 13:15:08	01/21/2016 14:00:12	Linear	1/Conc	-224.74823	288.815929	0.000000	1.000000	0.999652	4.643356	0.016169	0.053897	OK.	1.000000
Be 234.861 {144}	01/25/2016 13:15:08	01/21/2016 14:00:12	Linear	1/Var	0.000000	0.000003	0.000000	1.000000	0.999965	0.000014	17.664930	58.883101	OK.	1.000000
Ca 315.887 {107}	01/25/2016 13:15:08	01/21/2016 14:25:24	Curvilin	1/Var	-0.000039	0.000001	0.000000	1.000000	0.999772	0.000253	90.536810	301.789368	OK.	1.000000
Ca 317.933 {106}	01/25/2016 13:15:08	01/21/2016 14:25:24	Linear	1/Conc	0.002583	0.000004	0.000000	1.000000	0.998906	0.000266	34.631226	115.437421	OK.	1.000000
Ca 393.366 { 86}	01/25/2016 13:15:08	01/21/2016 14:00:12	Linear	1/Conc	0.004050	0.000362	0.000000	1.000000	0.999845	0.000068	0.903493	3.011644	OK.	1.000000
Ca 396.847 { 85}	01/25/2016 13:15:08	01/21/2016 14:05:06	Linear	1/Conc	0.001981	0.000190	0.000000	1.000000	0.999491	0.000286	1.396525	4.655084	OK.	1.000000
Cd 226.502 {149}	01/25/2016 13:15:08	01/21/2016 14:00:12	Curvilin	1/Conc	0.000000	0.000007	-0.000000	1.000000	0.999915	0.000000	0.242976	0.809921	OK.	1.000000
Cd 226.502 {449}	01/25/2016 13:15:08	01/21/2016 14:00:12	Linear	1/Conc	0.000016	0.000538	0.000000	1.000000	0.999664	0.000012	0.109612	0.365373	OK.	1.000000
Cd 228.802 {447}	01/25/2016 13:15:08	01/21/2016 14:00:12	Linear	1/Conc	-0.000065	0.000694	0.000000	1.000000	0.999664	0.000016	0.123244	0.410814	OK.	1.000000
Co 228.616 {447}	01/25/2016 13:15:08	01/21/2016 14:05:06	Linear	1/Conc	-0.000131	0.000362	0.000000	1.000000	0.999765	0.000030	0.191704	0.639015	OK.	1.000000
Co 238.892 {141}	01/25/2016 13:15:08	01/21/2016 14:05:06	Linear	None	-0.000150	0.000005	0.000000	1.000000	0.999952	0.000278	0.488115	1.627051	OK.	1.000000
Cr 205.560 {464}	01/25/2016 13:15:08	01/21/2016 14:10:21	Full Fit	1/Conc	-0.000082	0.000230	-0.000000	1.030000	0.999987	0.000020	0.187098	0.623659	OK.	1.000000
Cr 267.716 {126}	01/25/2016 13:15:08	01/21/2016 14:05:06	Linear	1/Conc	0.000000	0.000008	0.000000	1.000000	0.999277	0.000003	0.397406	1.324687	OK.	1.000000
Cu 224.700 {450}	01/25/2016 13:15:08	01/21/2016 14:05:06	Linear	1/Conc	0.000047	0.000100	0.000000	1.000000	0.999833	0.000007	0.642327	2.141091	OK.	1.000000
Cu 324.754 {104}	01/25/2016 13:15:08	01/21/2016 14:10:21	Curvilin	1/Conc	0.001162	0.000004	0.000000	1.000000	0.999882	0.000009	47.728233	159.094111	OK.	1.000000
Cu 327.396 {103}	01/25/2016 13:15:08	01/21/2016 14:10:21	Curvilin	1/Conc	0.000041	0.000003	0.000000	1.000000	0.999642	0.000005	71.574611	238.582037	OK.	1.000000
Fe 234.349 {144}	01/25/2016 13:15:08	01/21/2016 14:25:24	Full Fit	None	-0.086336	0.000417	-0.000000	0.950000	0.999999	0.114136	0.475675	1.585585	OK.	1.000000
Fe 239.562 {140}	01/25/2016 13:15:08	01/21/2016 14:25:24	Full Fit	1/Var	0.000044	0.000000	0.000000	1.010000	0.999957	0.000214	119.777453	399.258177	OK.	1.000000
Fe 239.562 {141}	01/25/2016 13:15:08	01/21/2016 14:15:29	Linear	1/Var	-0.000001	0.000000	0.000000	1.000000	0.999949	0.000018	204.892882	682.976272	OK.	1.000000
Fe 259.940 {129}	01/25/2016 13:15:08	01/21/2016 14:25:24	Curvilin	1/Var	0.000053	0.000002	0.000000	1.000000	0.999910	0.000208	46.823007	156.076691	OK.	1.000000
Fe 259.940 {130}	01/25/2016 13:15:08	01/21/2016 14:05:06	Linear	1/Conc	0.000057	0.000001	0.000000	1.000000	0.993036	0.000001	69.852028	232.840095	OK.	1.000000
Mg 202.582 {466}	01/25/2016 13:15:08	01/21/2016 14:25:24	Full Fit	None	-0.000009	0.000001	0.000000	0.970000	1.000000	0.000113	1.749596	5.831987	OK.	1.000000
Mg 279.079 {121}	01/25/2016 13:15:08	01/21/2016 14:25:24	Linear	1/Conc	0.000135	0.000000	0.000000	1.000000	0.999494	0.000010	269.691286	898.970954	OK.	1.000000
Mg 280.270 {120}	01/25/2016 13:15:08	01/21/2016 14:05:06	Linear	None	0.000124	0.000076	0.000000	1.000000	0.999997	0.000987	0.022054	0.073515	OK.	1.000000
Mn 257.610 {131}	01/25/2016 13:15:08	01/21/2016 14:05:06	Linear	1/Var	0.000007	0.000032	0.000000	1.000000	0.999853	0.000018	0.054316	0.181053	OK.	1.000000
Mn 259.373 {130}	01/25/2016 13:15:08	01/21/2016 14:10:21	Linear	1/Conc	-0.000074	0.000007	0.000000	1.000000	0.999894	0.000050	12.413004	41.376680	OK.	1.000000
Mo 202.030 {466}	01/25/2016 13:15:08	01/21/2016 14:00:12	Linear	1/Conc	-0.000001	0.000002	0.000000	1.000000	0.999835	0.000000	0.386896	1.289653	OK.	1.000000
Mo 204.598 {464}	01/25/2016 13:15:08	01/21/2016 14:05:06	Linear	1/Conc	0.000000	0.000002	0.000000	1.000000	0.998999	0.000001	0.442954	1.476512	OK.	1.000000
Mo 204.598 {465}	01/25/2016 13:15:08	01/21/2016 14:05:06	Linear	None	-0.000034	0.000001	0.000000	1.000000	0.999900	0.000061	0.789115	2.630383	OK.	1.000000
Ni 221.647 {452}	01/25/2016 13:15:08	01/21/2016 14:05:06	Linear	1/Conc	-0.000006	0.000007	0.000000	1.000000	0.999594	0.000009	0.239613	0.798711	OK.	1.000000
Ni 231.604 {445}	01/25/2016 13:15:08	01/21/2016 14:05:06	Linear	1/Conc	-0.000002	0.000004	0.000000	1.000000	0.999598	0.000000	0.353327	1.177757	OK.	1.000000
Pb 216.999 {455}	01/25/2016 13:15:08	01/21/2016 14:10:21	Curvilin	1/Conc	0.000316	0.000013	0.000000	1.000000	0.999965	0.000003	4.947001	16.490004	Warnin	1.000000
Pb 220.353 {153}	01/25/2016 13:15:08	01/21/2016 14:10:21	Linear	1/Var	-0.000012	0.000038	0.000000	1.000000	0.999340	0.000451	2.009372	6.697908	OK.	1.000000
Pb 220.353 {453}	01/25/2016 13:15:08	01/21/2016 14:05:07	Linear	1/Conc	0.000095	0.000059	0.000000	1.000000	0.999680	0.000014	1.348372	4.494572	OK.	1.000000
Sb 206.833 {463}	01/25/2016 13:15:08	01/21/2016 14:05:07	Linear	1/Conc	0.000092	0.000030	0.000000	1.000000	0.999670	0.000011	1.688185	5.627284	OK.	1.000000
Sb 217.581 {455}	01/25/2016 13:15:08	01/21/2016 14:05:07	Linear	1/Var	-0.000017	0.000020	0.000000	1.000000	0.999940	0.000085	2.662758	8.875860	OK.	1.000000
Se 196.090 {471}	01/25/2016 13:15:08	01/21/2016 14:05:07	Linear	None	-0.000229	0.000008	0.000000	1.000000	0.999932	0.000425	4.316858	14.389525	OK.	1.000000
Se 196.090 {472}	01/25/2016 13:15:08	01/21/2016 14:05:07	Linear	1/Conc	0.000010	0.000011	0.000000	1.000000	0.999476	0.000005	3.365969	11.219898	OK.	1.000000

Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)	Correlation	Std Error of Est	Predicted MDL	Predicted MQL	Status	Resl Slope
Se 206.279 {463}	01/25/2016 13:15:08	01/21/2016 14:05:07	Linear	1/Conc	-0.000017	0.000003	0.000000	1.000000	0.999554	0.000005	15.753051	52.510169	OK.	1.000000
Tl 190.856 {476}	01/25/2016 13:15:08	01/21/2016 14:05:07	Linear	1/Conc	0.000114	0.000045	0.000000	1.000000	0.999953	0.000006	1.100910	3.669699	OK.	1.000000
Tl 190.856 {477}	01/25/2016 13:15:08	01/21/2016 14:05:07	Linear	1/Conc	-0.000090	0.000015	0.000000	1.000000	0.999938	0.000002	2.161376	7.204587	OK.	1.000000
V 290.882 {116}	01/25/2016 13:15:08	01/21/2016 14:05:07	Linear	None	0.000032	0.000002	0.000000	1.000000	0.999891	0.000136	76.593346	255.311155	OK.	1.000000
V 292.402 {115}	01/25/2016 13:15:08	01/21/2016 14:05:07	Linear	1/Conc	-0.000006	0.000011	0.000000	1.000000	0.998980	0.000006	0.440233	1.467442	OK.	1.000000
Zn 206.200 {463}	01/25/2016 13:15:08	01/21/2016 14:10:21	Full Fit	1/Conc	21.171174	12.325961	-0.000011	1.030000	1.000000	0.000000	0.134333	0.447775	OK.	1.000000
Zn 213.856 {458}	01/25/2016 13:15:08	01/21/2016 14:05:07	Curvilin	None	27.225440	9.123716	0.000033	1.000000	1.000000	30.665827	0.147328	0.491092	Warnin	1.000000
Y 224.306 {451}*	01/25/2016 13:15:08	01/21/2016 13:16:54	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000
Y 324.228 {104}*	01/25/2016 13:15:08	01/21/2016 13:16:54	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000
Y 371.030 { 91}*	01/25/2016 13:15:08	01/21/2016 13:16:54	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000
Na 588.995 { 57}	01/25/2016 13:15:08	01/21/2016 14:05:07	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000
Si 251.611 {134}	01/25/2016 13:15:08	01/21/2016 14:05:07	Linear	1/Conc	0.000038	0.000000	0.000000	1.000000	0.935437	0.000002	2846.57976	9488.59921	OK.	1.000000
Ti 334.941 {101}	01/25/2016 13:15:08	01/21/2016 14:05:07	Linear	1/Conc	0.000180	0.000010	0.000000	1.000000	0.997270	0.000006	17.554371	58.514570	OK.	1.000000
Sr 407.771 { 83}	01/25/2016 13:15:08	01/21/2016 14:05:07	Linear	1/Conc	-0.000301	0.000222	0.000000	1.000000	0.999575	0.000025	1.480080	4.933600	OK.	1.000000
Sn 189.989 {478}	01/25/2016 13:15:08	01/21/2016 14:05:07	Curvilin	1/Var	0.000025	0.000024	0.000000	1.000000	0.999979	0.000047	0.975500	3.251667	Warnin	1.000000
B 249.678 {135}	01/25/2016 13:15:08	01/21/2016 14:05:07	Linear	1/Conc	-0.000003	0.000004	0.000000	1.000000	0.999392	0.000002	0.756414	2.521379	OK.	1.000000
B 249.773 {135}	01/25/2016 13:15:08	01/21/2016 14:05:07	Linear	1/Conc	0.000002	0.000006	0.000000	1.000000	0.999345	0.000003	0.444174	1.480581	OK.	1.000000
Li 670.784 { 50}	01/25/2016 13:15:08	01/21/2016 14:05:07	Full Fit	1/Conc	-0.004624	0.000431	0.000000	0.950000	0.999967	0.000073	2.892129	9.640430	Warnin	1.000000
K 766.490 { 44}	01/25/2016 13:15:08	01/21/2016 14:05:07	Linear	1/Conc	0.000781	0.000000	0.000000	1.000000	1.000000	0.000000	2200.15506	7333.85020	OK.	1.000000
P 213.618 {457}	01/25/2016 13:15:08	01/21/2016 14:05:07	Linear	1/Conc	-0.000001	-0.000000	0.000000	1.000000	1.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000
S 182.034 {485}	01/25/2016 13:15:08	01/21/2016 14:25:24	Linear	1/Conc	-0.001118	0.000012	0.000000	1.000000	0.956030	0.068909	2.330338	7.767793	OK.	1.000000
W 239.709 {140}	01/25/2016 13:15:08	01/21/2016 14:00:13	Linear	1/Conc	-0.000000	0.000000	0.000000	1.000000	1.000000	0.000000	4216.30500	14054.3500	OK.	1.000000

Element, Wavelength and Order	ope	QC Norm	
	Y-int	Slope factor	Offset
Ag 328.068 {103}	0.000000	1	0
Al 309.271 {109}	0.000000	1	0
Al 396.152 { 85}	0.000000	1	0
Al 167.079 {502}	0.000000	1	0
As 193.759 {474}	0.000000	1	0
As 189.042 {479}	0.000000	1	0
Ba 455.403 { 74}	0.000000	1	0
Ba 493.409 { 68}	0.000000	1	0
Be 313.042 {108}	0.000000	1	0
Be 234.861 {144}	0.000000	1	0
Ca 315.887 {107}	0.000000	1	0
Ca 317.933 {106}	0.000000	1	0
Ca 393.366 { 86}	0.000000	1	0
Ca 396.847 { 85}	0.000000	1	0
Cd 226.502 {149}	0.000000	1	0
Cd 226.502 {449}	0.000000	1	0
Cd 228.802 {447}	0.000000	1	0
Co 228.616 {447}	0.000000	1	0
Co 238.892 {141}	0.000000	1	0
Cr 205.560 {464}	0.000000	1	0
Cr 267.716 {126}	0.000000	1	0
Cu 224.700 {450}	0.000000	1	0
Cu 324.754 {104}	0.000000	1	0
Cu 327.396 {103}	0.000000	1	0
Fe 234.349 {144}	0.000000	1	0
Fe 239.562 {140}	0.000000	1	0
Fe 239.562 {141}	0.000000	1	0
Fe 259.940 {129}	0.000000	1	0
Fe 259.940 {130}	0.000000	1	0
Mg 202.582 {466}	0.000000	1	0
Mg 279.079 {121}	0.000000	1	0
Mg 280.270 {120}	0.000000	1	0
Mn 257.610 {131}	0.000000	1	0
Mn 259.373 {130}	0.000000	1	0
Mo 202.030 {466}	0.000000	1	0
Mo 204.598 {464}	0.000000	1	0
Mo 204.598 {465}	0.000000	1	0
Ni 221.647 {452}	0.000000	1	0
Ni 231.604 {445}	0.000000	1	0
Pb 216.999 {455}	0.000000	1	0
Pb 220.353 {153}	0.000000	1	0
Pb 220.353 {453}	0.000000	1	0
Sb 206.833 {463}	0.000000	1	0
Sb 217.581 {455}	0.000000	1	0
Se 196.090 {471}	0.000000	1	0
Se 196.090 {472}	0.000000	1	0

Element, Wavelength and Order	ope	QC Norm	
	Y-int	Slope factor	Offset
Se 206.279 {463}	0.000000	1	0
Tl 190.856 {476}	0.000000	1	0
Tl 190.856 {477}	0.000000	1	0
V 290.882 {116}	0.000000	1	0
V 292.402 {115}	0.000000	1	0
Zn 206.200 {463}	0.000000	1	0
Zn 213.856 {458}	0.000000	1	0
Y 224.306 {451}*	0.000000	1	0
Y 324.228 {104}*	0.000000	1	0
Y 371.030 { 91}*	0.000000	1	0
Na 588.995 { 57}	0.000000	1	0
Si 251.611 {134}	0.000000	1	0
Ti 334.941 {101}	0.000000	1	0
Sr 407.771 { 83}	0.000000	1	0
Sn 189.989 {478}	0.000000	1	0
B 249.678 {135}	0.000000	1	0
B 249.773 {135}	0.000000	1	0
Li 670.784 { 50}	0.000000	1	0
K 766.490 { 44}	0.000000	1	0
P 213.618 {457}	0.000000	1	0
S 182.034 {485}	0.000000	1	0
W 239.709 {140}	0.000000	1	0

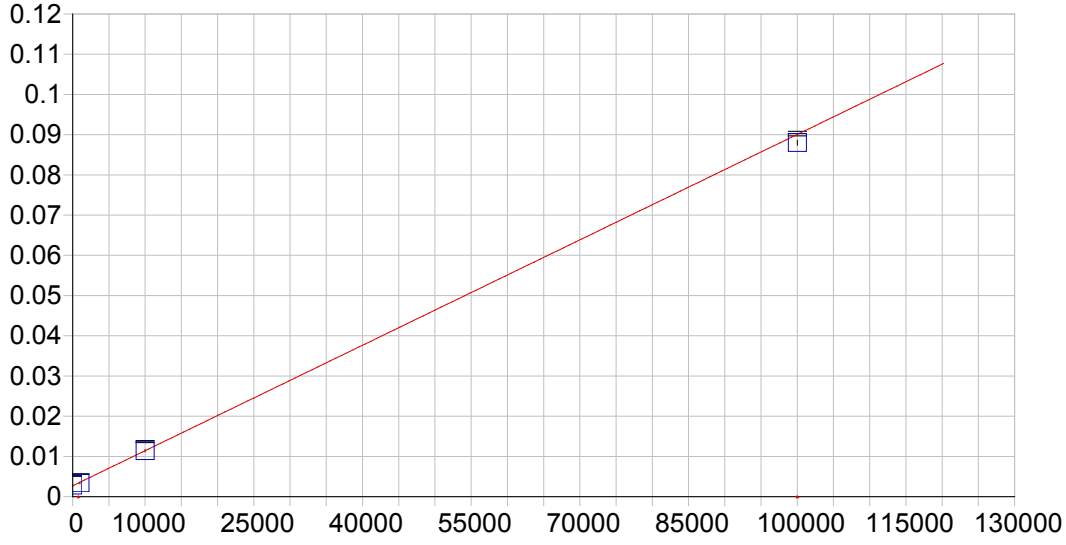


Ag 328.068 {103}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	-0.000009	Re-Slope:	1.000000
A1 (Gain):	0.000005	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999528	Status:	OK.
Std Error of Est:	0.000009		
Predicted MDL:	0.647942		
Predicted MQL:	2.159805		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	1.2361	1.24	.000	.00000	.000	1
CalStd5=10	10.000	7.8606	-2.14	-21.4	.00003	.000	1
CalStd8=100	100.00	100.21	.207	.207	.00047	.000	1
CalStd3=1	1.0000	1.6964	.696	69.6	.00000	.000	1

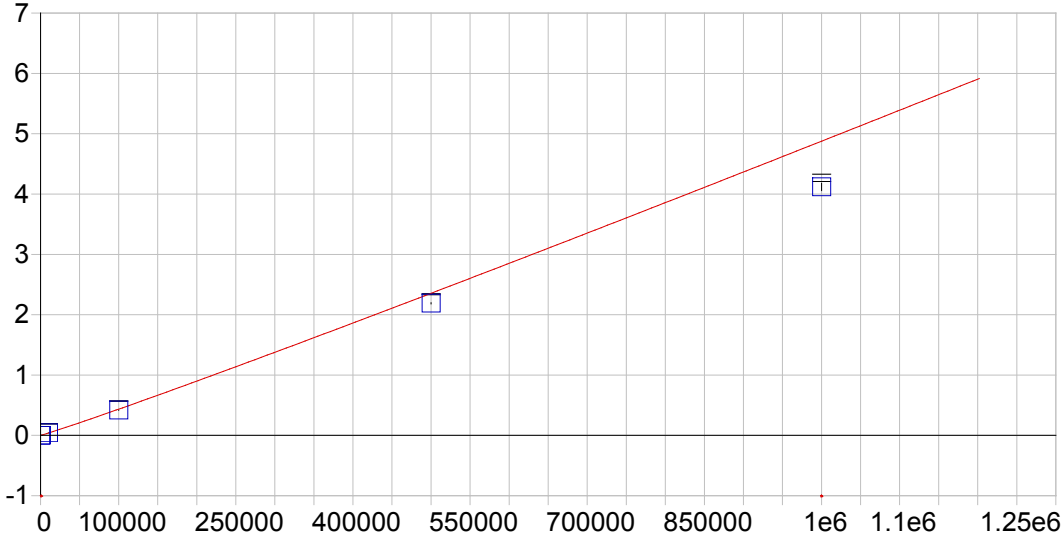


Al 309.271 {109}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Curvilinear	Weighting:	None

A0 (Offset):	0.002694	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999995	Status:	OK.
Std Error of Est:	0.000224		
Predicted MDL:	250.114079		
Predicted MQL:	833.713597		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	170.04	170.	.000	.00284	.000	1
CalStd10=10	10000.	9997.5	-2.47	-.025	.01143	.000	1
CalStd9=100	1000.0	808.92	-191.	-19.1	.00340	.000	1
CalStd12-100	100000.	97653.	-2350.	-2.35	.08801	.001	1

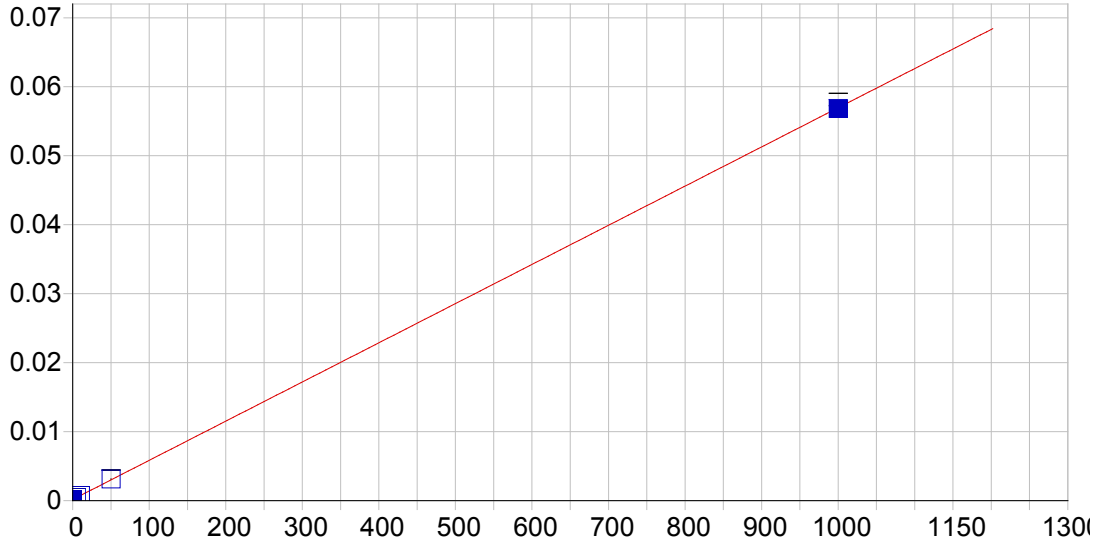


Al 396.152 { 85}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Full Fit	Weighting:	1/Conc

A0 (Offset):	-0.000426	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.050000		
Correlation:	0.999960	Status:	OK.
Std Error of Est:	0.000082		
Predicted MDL:	170.373420		
Predicted MQL:	567.911399		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	-.00043	.000	1
CalStd14-100	1000000.	851670.	-148000.	-14.8	4.1196	.061	1
CalStd13=50	500000.	466630.	-33400.	-6.67	2.1900	.009	1
CalStd10=10	10000.	10717.	717.	7.17	.04123	.000	1
CalStd12-100	100000.	96532.	-3470.	-3.47	.41839	.003	1
CalStd9=100	1000.0	1114.5	115.	11.5	.00344	.000	1

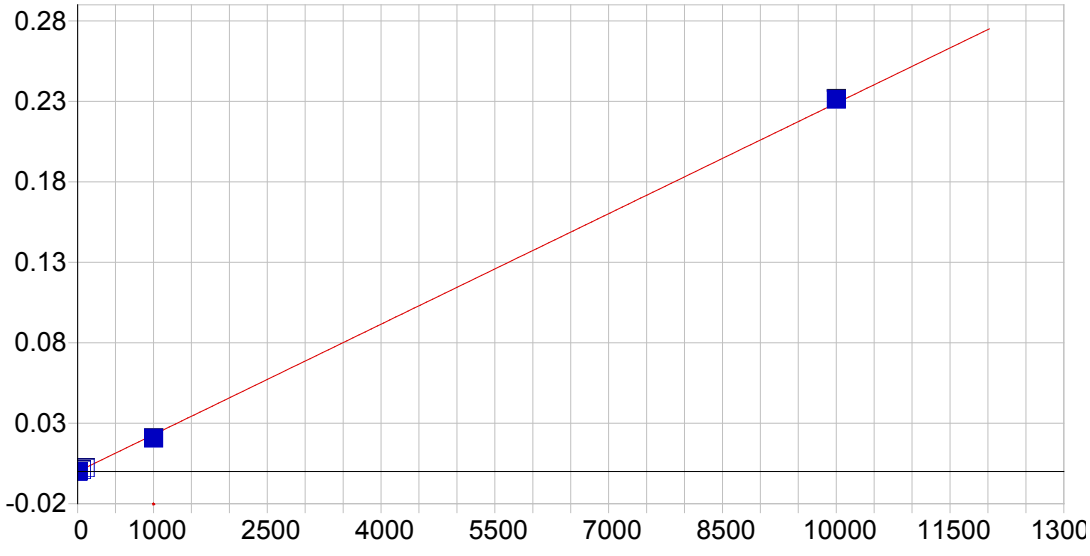


Al 167.079 {502}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000162	Re-Slope:	1.000000
A1 (Gain):	0.000057	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999939	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	0.224400		
Predicted MQL:	0.748000		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00064	-.001	.000	.00016	.000	1
CalStd9=100	1000.0	997.57	-2.43	-.243	.05685	.001	1
CalStd5=10	10.000	9.9574	-.043	-.426	.00073	.000	1
CalStd4=5	5.0000	5.4715	.472	9.43	.00047	.000	1
CalStd7=50	50.000	52.005	2.01	4.01	.00312	.000	1

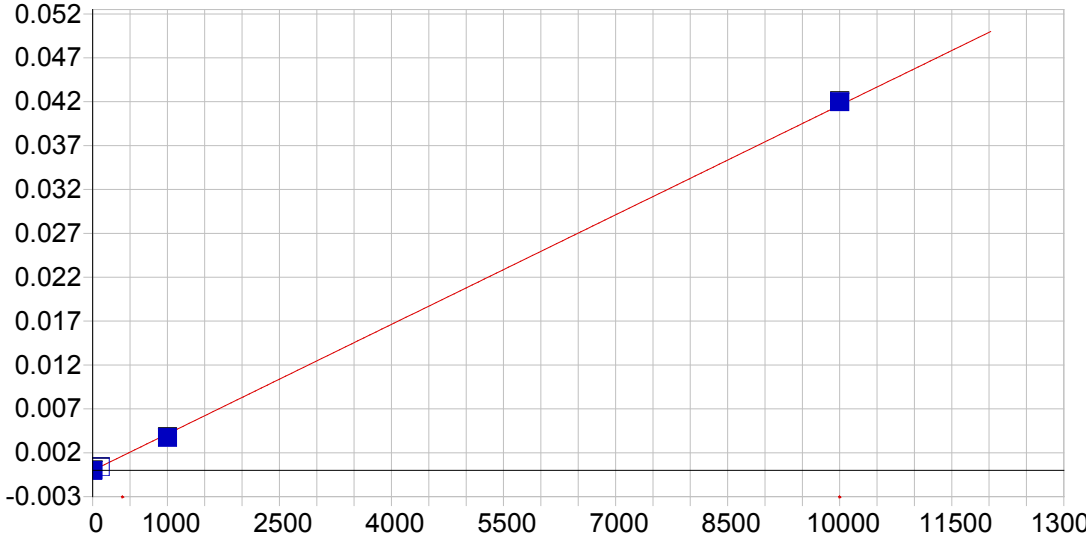


As 193.759 {474}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000016	Re-Slope:	1.000000
A1 (Gain):	0.000023	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999502	Status:	OK.
Std Error of Est:	0.000009		
Predicted MDL:	1.752883		
Predicted MQL:	5.842945		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00296	.003	.000	-.00002	.000	1
CalStd9=100	1000.0	903.33	-96.7	-9.67	.02065	.000	1
CalStd7=50	50.000	45.171	-4.83	-9.66	.00102	.000	1
CalStd5=10	10.000	9.1940	-.806	-8.06	.00019	.000	1
CalStd8=100	100.00	96.683	-3.32	-3.32	.00220	.000	1
CalStd10=10	10000.	10106.	106.	1.06	.23114	.000	1

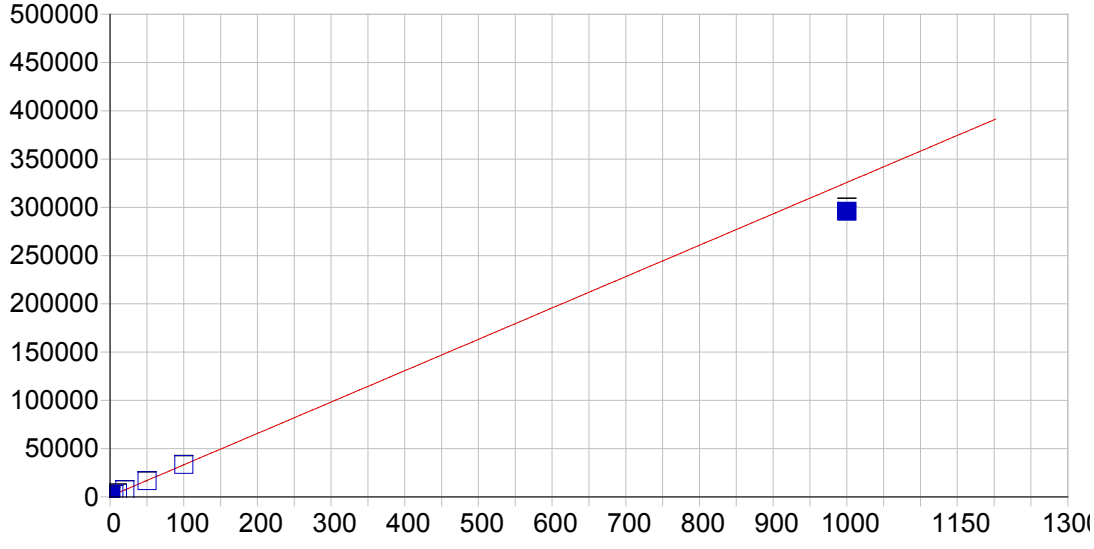


As 189.042 {479}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000020	Re-Slope:	1.000000
A1 (Gain):	0.000004	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999369	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	4.542233		
Predicted MQL:	15.140776		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00346	-.003	.000	-.00002	.000	1
CalStd9=100	1000.0	902.10	-97.9	-9.79	.00373	.000	1
CalStd10=10	10000.	10098.	97.6	.976	.04198	.000	1
CalStd8=100	100.00	96.244	-3.76	-3.76	.00038	.000	1
CalStd4=5	5.0000	9.0841	4.08	81.7	.00002	.000	1

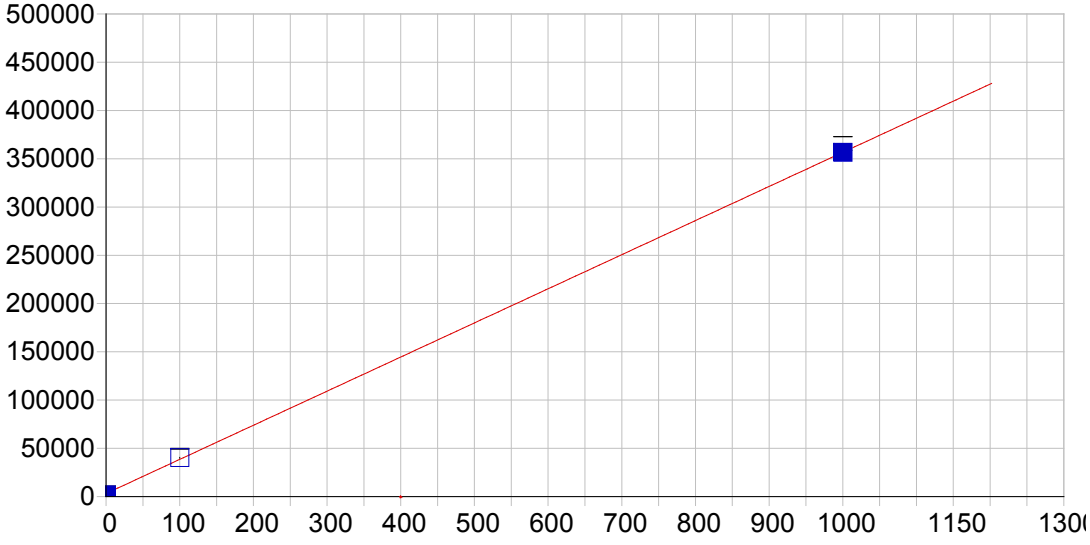


Ba 455.403 { 74}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	752.942734	Re-Slope:	1.000000
A1 (Gain):	324.975424	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999367	Status:	OK.
Std Error of Est:	62.755594		
Predicted MDL:	0.038932		
Predicted MQL:	0.129774		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00007	.000	.000	752.97	9.21	1
CalStd7=50	50.000	48.779	-1.22	-2.44	16605.	80.4	1
CalStd5=10	10.000	10.057	.057	.571	4021.2	34.2	1
CalStd6=20	20.000	20.604	.604	3.02	7448.8	36.9	1
CalStd8=100	100.00	100.59	.593	.593	33443.	305.	1
CalStd4=5	5.0000	5.0597	.060	1.19	2397.2	7.10	1
CalStd9=100	1000.0	907.84	-92.2	-9.22	295780.	4300.	1
CalStd3=1	1.0000	.86327	-.137	-13.7	1033.5	9.58	1

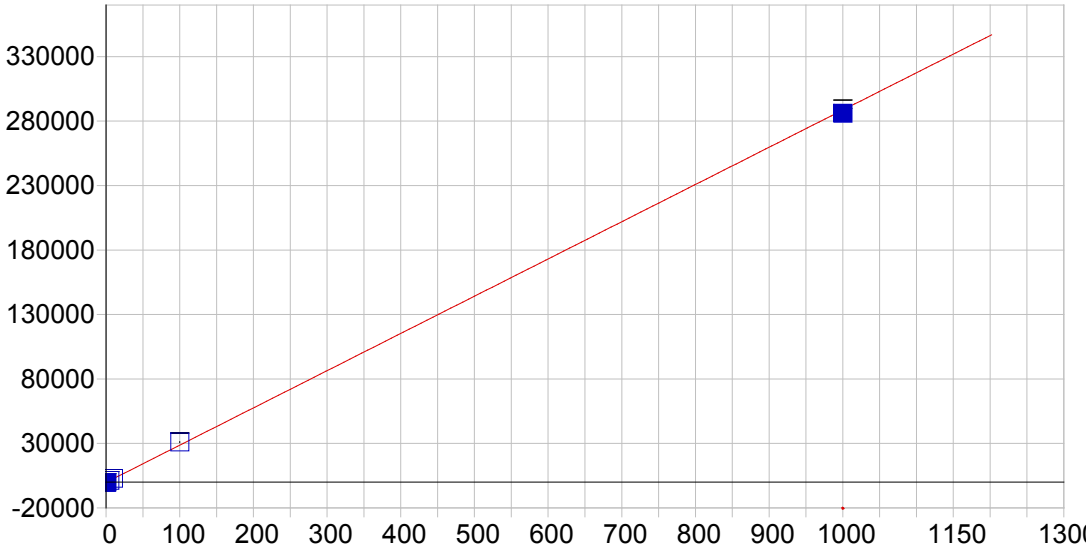


Ba 493.409 { 68}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	3199.607978	Re-Slope:	1.000000
A1 (Gain):	353.440196	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999966	Status:	OK.
Std Error of Est:	2276.326660		
Predicted MDL:	0.084411		
Predicted MQL:	0.281371		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-4.2965	-4.30	.000	1681.0	30.6	1
CalStd9=100	1000.0	999.52	-.478	-.048	356400.	7060.	1
CalStd8=100	100.00	104.77	4.77	4.77	40231.	448.	1

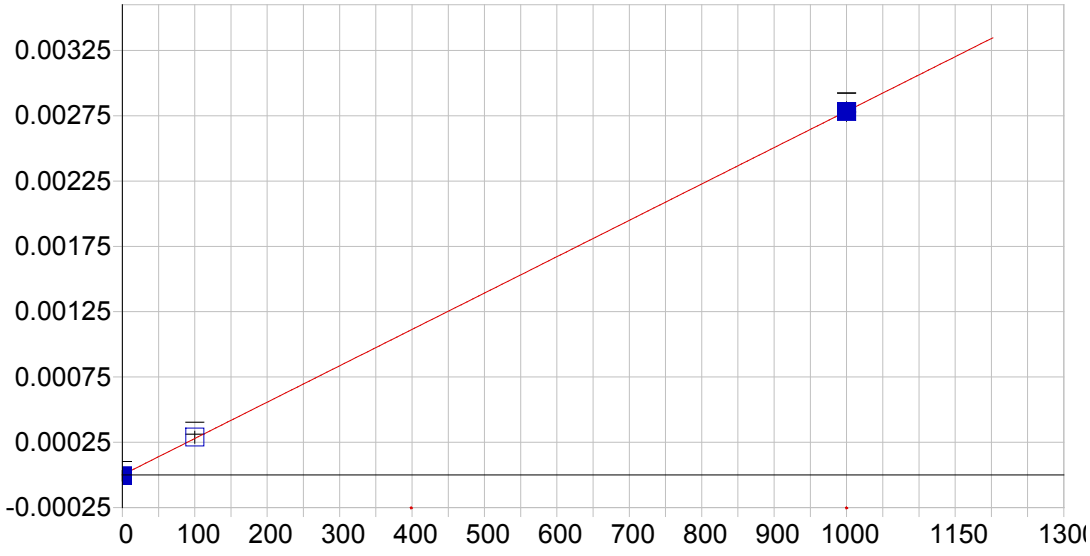


Be 313.042 {108}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-224.748232	Re-Slope:	1.000000
A1 (Gain):	288.815929	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999652	Status:	OK.
Std Error of Est:	4.643356		
Predicted MDL:	0.016169		
Predicted MQL:	0.053897		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00003	.000	.000	-224.76	2.76	1
CalStd5=10	10.000	10.493	.493	4.93	2805.7	48.7	1
CalStd8=100	100.00	108.11	8.11	8.11	30999.	353.	1
CalStd2=0.5	.50000	.47782	-.022	-4.44	-86.747	5.39	1
CalStd4=5	5.0000	5.2588	.259	5.18	1294.1	11.6	1
CalStd1=0.25	.25000	.23856	-.011	-4.57	-155.85	2.95	1
CalStd9=100	1000.0	991.14	-8.86	-.886	286030.	3240.	1
CalStd3=1	1.0000	1.0352	.035	3.52	74.242	1.25	1

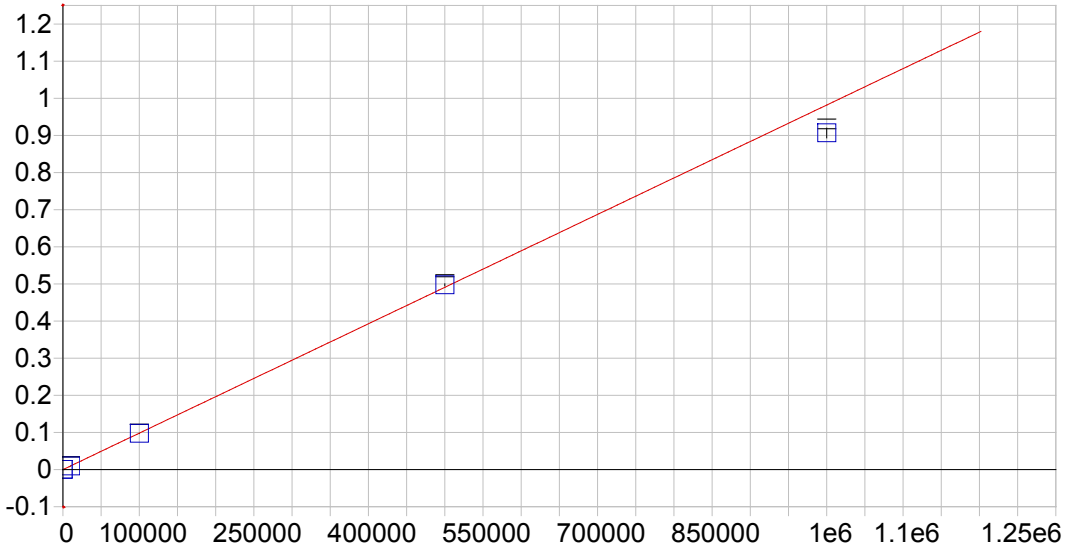


Be 234.861 {144}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000003	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999965	Status:	OK.
Std Error of Est:	0.000014		
Predicted MDL:	17.664930		
Predicted MQL:	58.883101		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-2.4939	-2.49	.000	-.00001	.000	1
CalStd9=100	1000.0	999.08	-.924	-.092	.00278	.000	1
CalStd8=100	100.00	103.71	3.71	3.71	.00029	.000	1

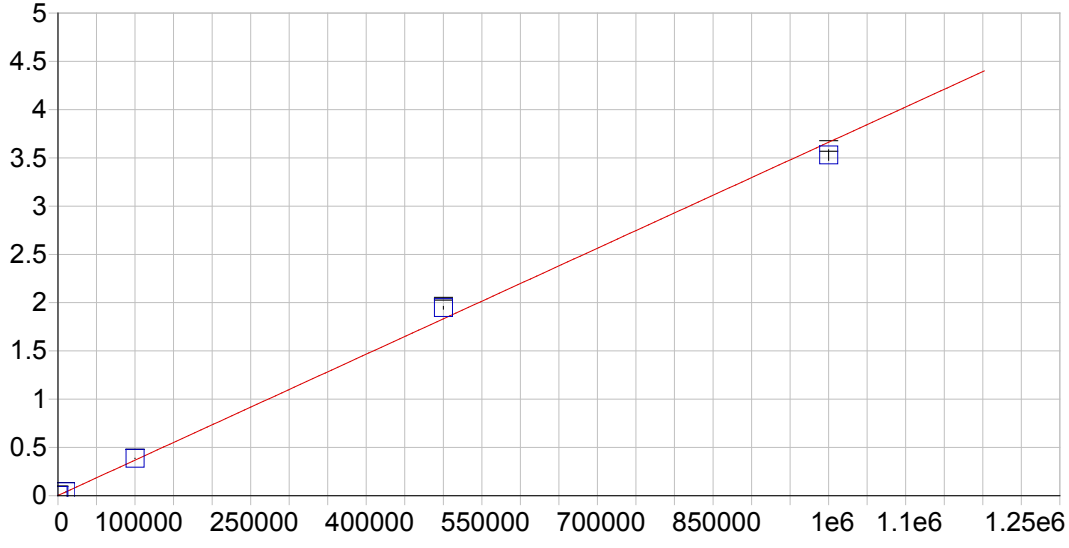


Ca 315.887 {107}

Date of Fit: 01/25/2016 13:15:08 Type of Fit: Curvilinear Weighting: 1/Var

A0 (Offset):	-0.000039	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999772	Status:	OK.
Std Error of Est:	0.000253		
Predicted MDL:	90.536810		
Predicted MQL:	301.789368		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	126.82	127.	.000	.00009	.000	1
CalStd10=10	10000.	9723.5	-277.	-2.77	.00951	.000	1
CalStd13=50	500000.	506790.	6790.	1.36	.49751	.003	1
CalStd14-100	1000000.	923420.	-76600.	-7.66	.90654	.013	1
CalStd9=100	1000.0	983.90	-16.1	-1.61	.00093	.000	1
CalStd12-100	100000.	99436.	-564.	-.564	.09758	.000	1

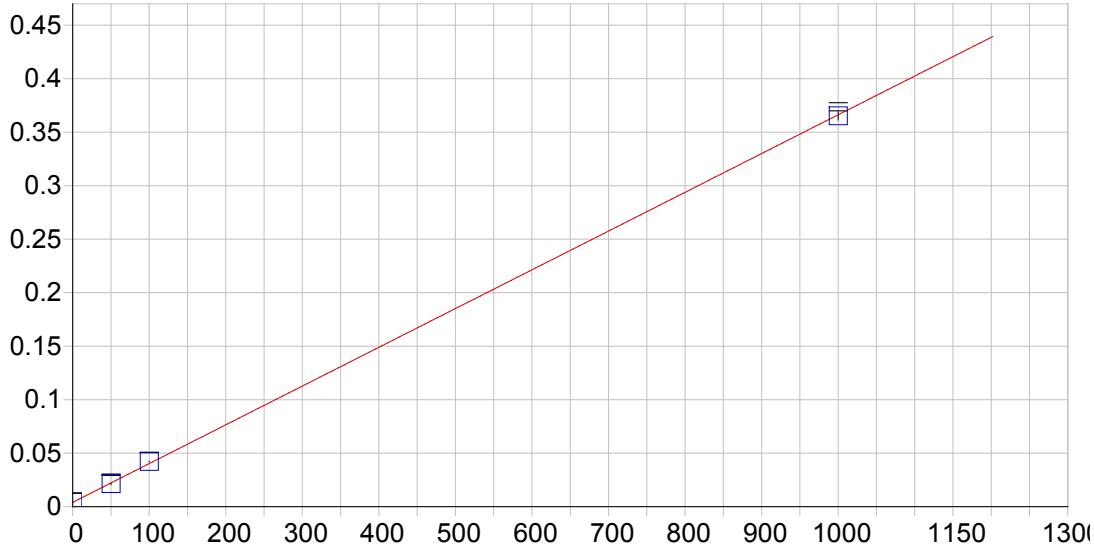


Ca 317.933 {106}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.002583	Re-Slope:	1.000000
A1 (Gain):	0.000004	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998906	Status:	OK.
Std Error of Est:	0.000266		
Predicted MDL:	34.631226		
Predicted MQL:	115.437421		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.04628	.046	.000	.00258	.000	1
CalStd10=10	10000.	10099.	99.3	.993	.03953	.000	1
CalStd13=50	500000.	531440.	31400.	6.29	1.9470	.014	1
CalStd14-100	1000000.	963820.	-36200.	-3.62	3.5290	.054	1
CalStd9=100	1000.0	869.39	-131.	-13.1	.00576	.000	1
CalStd12-100	100000.	104770.	4770.	4.77	.38592	.001	1

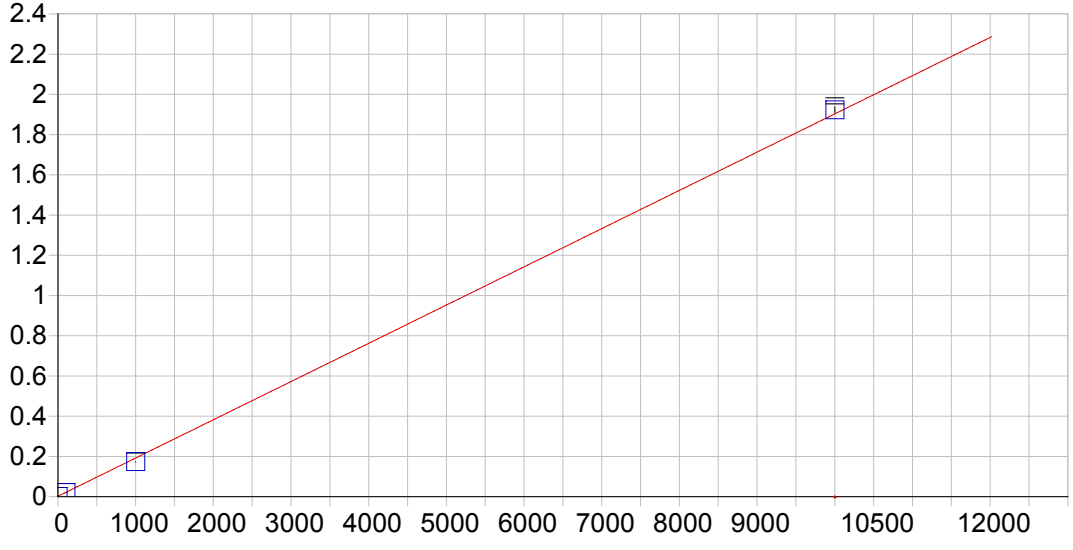


Ca 393.366 { 86}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.004050	Re-Slope:	1.000000
A1 (Gain):	0.000362	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999845	Status:	OK.
Std Error of Est:	0.000068		
Predicted MDL:	0.903493		
Predicted MQL:	3.011644		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00022	.000	.000	.00405	.000	1
CalStd7=50	50.000	47.842	-2.16	-4.32	.02138	.001	1
CalStd9=100	1000.0	997.12	-2.88	-.288	.36521	.004	1
CalStd8=100	100.00	105.04	5.04	5.04	.04210	.000	1

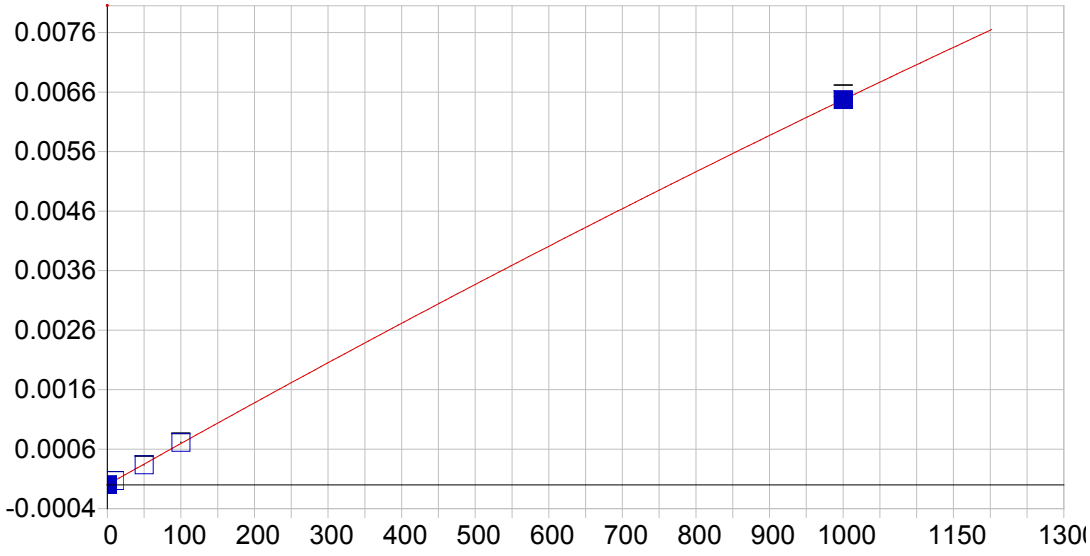


Ca 396.847 { 85}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.001981	Re-Slope:	1.000000
A1 (Gain):	0.000190	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999491	Status:	OK.
Std Error of Est:	0.000286		
Predicted MDL:	1.396525		
Predicted MQL:	4.655084		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.01523	.015	.000	.00198	.000	1
CalStd10=10	10000.	10105.	105.	1.05	1.9230	.015	1
CalStd8=100	100.00	93.611	-6.39	-6.39	.01978	.000	1
CalStd9=100	1000.0	901.10	-98.9	-9.89	.17328	.001	1

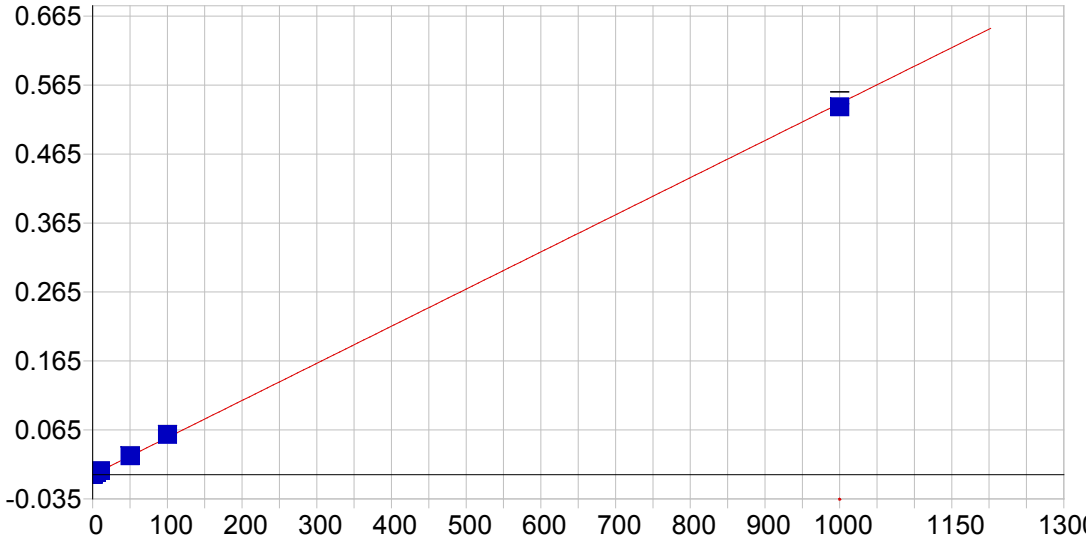


Cd 226.502 {149}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000007	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999915	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.242976		
Predicted MQL:	0.809921		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00034	.000	.000	.00000	.000	1
CalStd7=50	50.000	47.702	-2.30	-4.60	.00033	.000	1
CalStd8=100	100.00	102.60	2.60	2.60	.00071	.000	1
CalStd5=10	10.000	9.8581	-.142	-1.42	.00007	.000	1
CalStd9=100	1000.0	999.83	-.166	-.017	.00647	.000	1

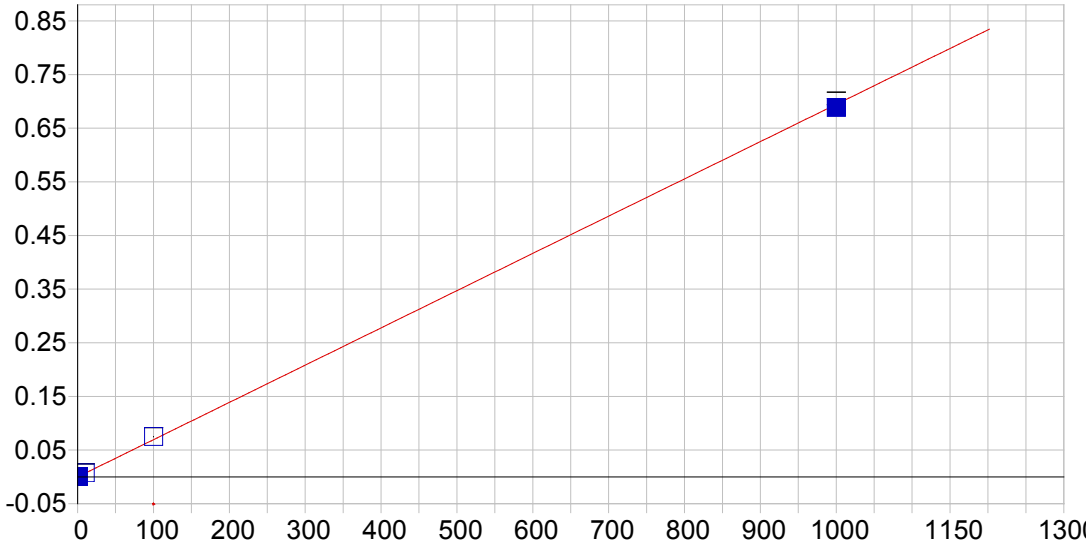


Cd 226.502 {449}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000016	Re-Slope:	1.000000
A1 (Gain):	0.000538	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999664	Status:	OK.
Std Error of Est:	0.000012		
Predicted MDL:	0.109612		
Predicted MQL:	0.365373		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00003	.000	.000	.00002	.000	1
CalStd7=50	50.000	50.841	.841	1.68	.02739	.000	1
CalStd3=1	1.0000	1.0137	.014	1.37	.00056	.000	1
CalStd2=0.5	.50000	.44425	-.056	-11.2	.00025	.000	1
CalStd4=5	5.0000	5.1943	.194	3.89	.00281	.000	1
CalStd8=100	100.00	108.10	8.10	8.10	.05822	.000	1
CalStd5=10	10.000	10.339	.339	3.39	.00558	.000	1
CalStd9=100	1000.0	990.57	-9.43	-.943	.53341	.009	1

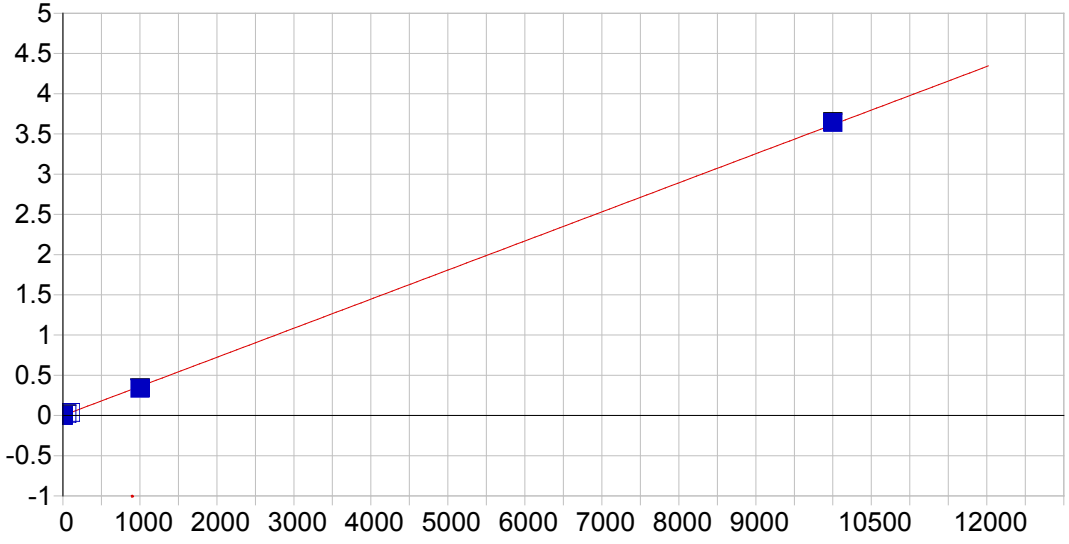


Cd 228.802 {447}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000065	Re-Slope:	1.000000
A1 (Gain):	0.000694	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999664	Status:	OK.
Std Error of Est:	0.000016		
Predicted MDL:	0.123244		
Predicted MQL:	0.410814		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00008	.000	.000	-.00007	.000	1
CalStd9=100	1000.0	991.43	-8.57	-.857	.68847	.012	1
CalStd8=100	100.00	108.02	8.02	8.02	.07495	.000	1
CalStd2=0.5	.50000	.52139	.021	4.28	.00030	.000	1
CalStd3=1	1.0000	.98768	-.012	-1.23	.00062	.000	1
CalStd5=10	10.000	10.538	.538	5.38	.00725	.000	1

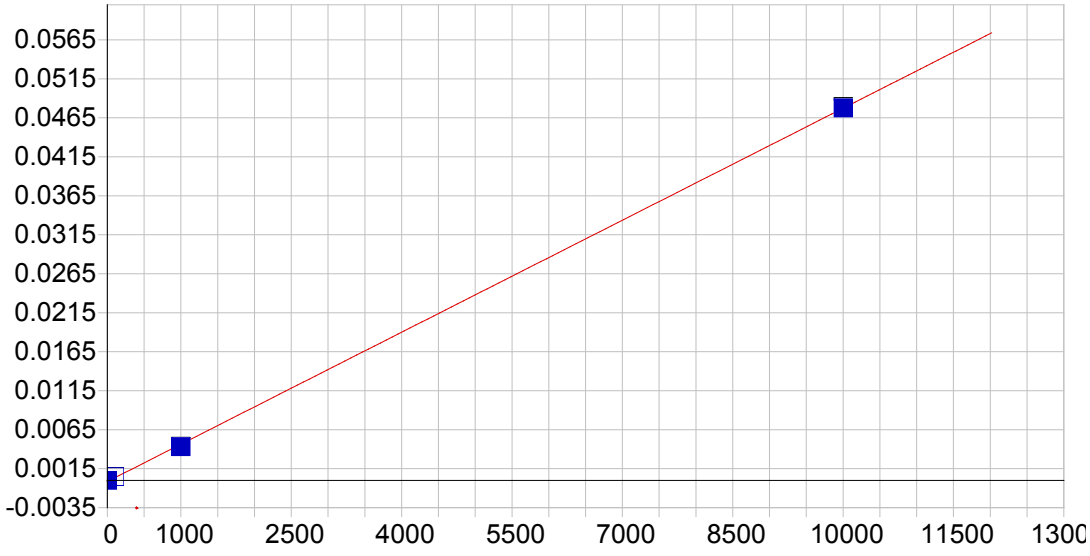


Co 228.616 {447}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000131	Re-Slope:	1.000000
A1 (Gain):	0.000362	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999765	Status:	OK.
Std Error of Est:	0.000030		
Predicted MDL:	0.191704		
Predicted MQL:	0.639015		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00018	.000	.000	-.00013	.000	1
CalStd7=50	50.000	48.021	-1.98	-3.96	.01723	.000	1
CalStd5=10	10.000	9.9501	-.050	-.499	.00347	.000	1
CalStd4=5	5.0000	5.1075	.107	2.15	.00172	.000	1
CalStd8=100	100.00	100.64	.639	.639	.03625	.000	1
CalStd9=100	1000.0	931.67	-68.3	-6.83	.33671	.006	1
CalStd3=1	1.0000	.89911	-.101	-10.1	.00019	.000	1
CalStd10=10	10000.	10070.	69.7	.697	3.6406	.008	1

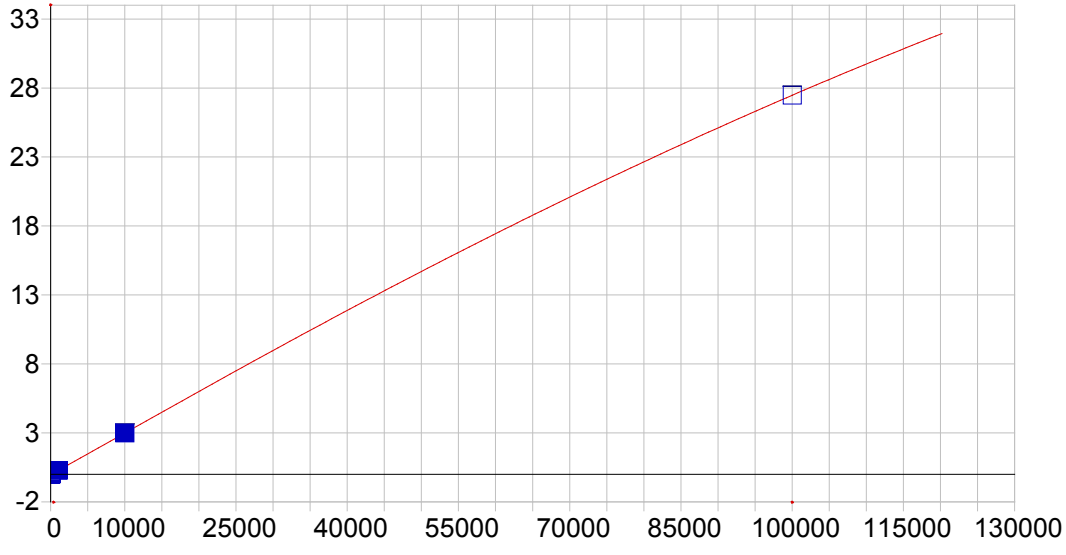


Co 238.892 {141}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	-0.000150	Re-Slope:	1.000000
A1 (Gain):	0.000005	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999952	Status:	OK.
Std Error of Est:	0.000278		
Predicted MDL:	0.488115		
Predicted MQL:	1.627051		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	32.242	32.2	.000	.00000	.000	1
CalStd9=100	1000.0	930.98	-69.0	-6.90	.00431	.000	1
CalStd10=10	10000.	10007.	6.60	.066	.04777	.000	1
CalStd8=100	100.00	130.18	30.2	30.2	.00047	.000	1

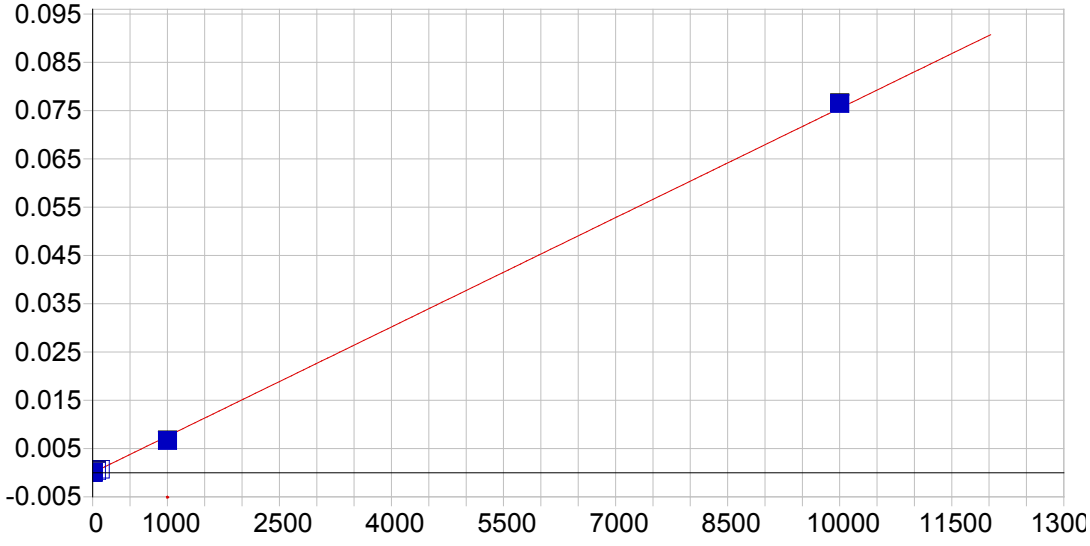


Cr 205.560 {464}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Full Fit	Weighting:	1/Conc

A0 (Offset):	-0.000082	Re-Slope:	1.000000
A1 (Gain):	0.000230	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.030000		
Correlation:	0.999987	Status:	OK.
Std Error of Est:	0.000020		
Predicted MDL:	0.187098		
Predicted MQL:	0.623659		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	-.00008	.000	1
CalStd5=10	10.000	11.677	1.68	16.8	.00281	.000	1
CalStd7=50	50.000	53.867	3.87	7.73	.01387	.000	1
CalStd9=100	1000.0	970.15	-29.9	-2.99	.27360	.004	1
CalStd8=100	100.00	111.01	11.0	11.0	.02930	.000	1
CalStd4=5	5.0000	5.8705	.870	17.4	.00134	.000	1
CalStd3=1	1.0000	1.2751	.275	27.5	.00021	.000	1
CalStd11-100	100000.	99999.	-1.37	-.001	27.473	.005	1
CalStd10=10	10000.	10014.	14.4	.144	2.9903	.006	1

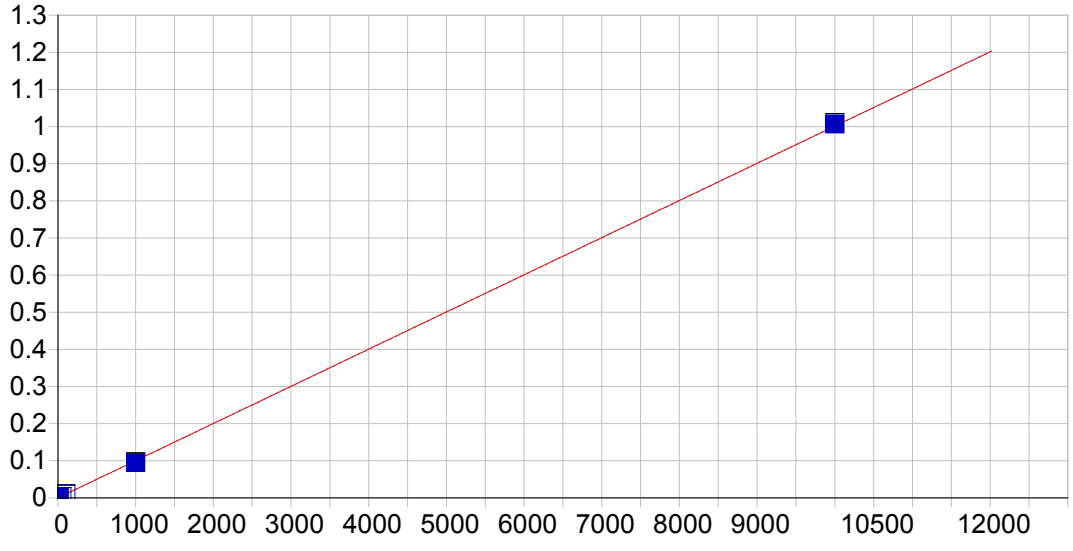


Cr 267.716 {126}

Date of Fit: 01/25/2016 13:15:08 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000008	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999277	Status:	OK.
Std Error of Est:	0.000003		
Predicted MDL:	0.397406		
Predicted MQL:	1.324687		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00170	.002	.000	.00000	.000	1
CalStd5=10	10.000	9.5136	-.486	-4.86	.00007	.000	1
CalStd7=50	50.000	45.905	-4.09	-8.19	.00035	.000	1
CalStd9=100	1000.0	881.64	-118.	-11.8	.00666	.000	1
CalStd8=100	100.00	96.069	-3.93	-3.93	.00073	.000	1
CalStd4=5	5.0000	4.6753	-.325	-6.49	.00004	.000	1
CalStd10=10	10000.	10127.	127.	1.27	.07645	.000	1

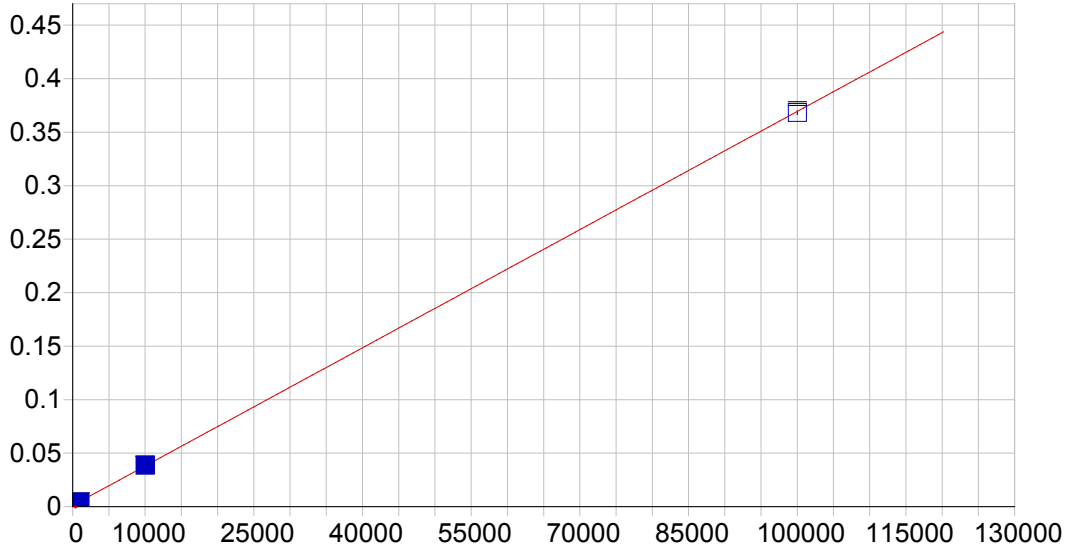


Cu 224.700 {450}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000047	Re-Slope:	1.000000
A1 (Gain):	0.000100	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999833	Status:	OK.
Std Error of Est:	0.000007		
Predicted MDL:	0.642327		
Predicted MQL:	2.141091		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00035	.000	.000	.00005	.000	1
CalStd9=100	1000.0	945.51	-54.5	-5.45	.09471	.002	1
CalStd7=50	50.000	47.451	-2.55	-5.10	.00480	.000	1
CalStd8=100	100.00	102.28	2.28	2.28	.01029	.000	1
CalStd5=10	10.000	9.1184	-.882	-8.82	.00096	.000	1
CalStd10=10	10000.	10057.	57.3	.573	1.0070	.004	1
CalStd4=5	5.0000	4.1504	-.850	-17.0	.00046	.000	1
CalStd6=20	20.000	19.207	-.793	-3.97	.00197	.000	1
CalStd3=1	1.0000	1.0210	.021	2.10	.00015	.000	1

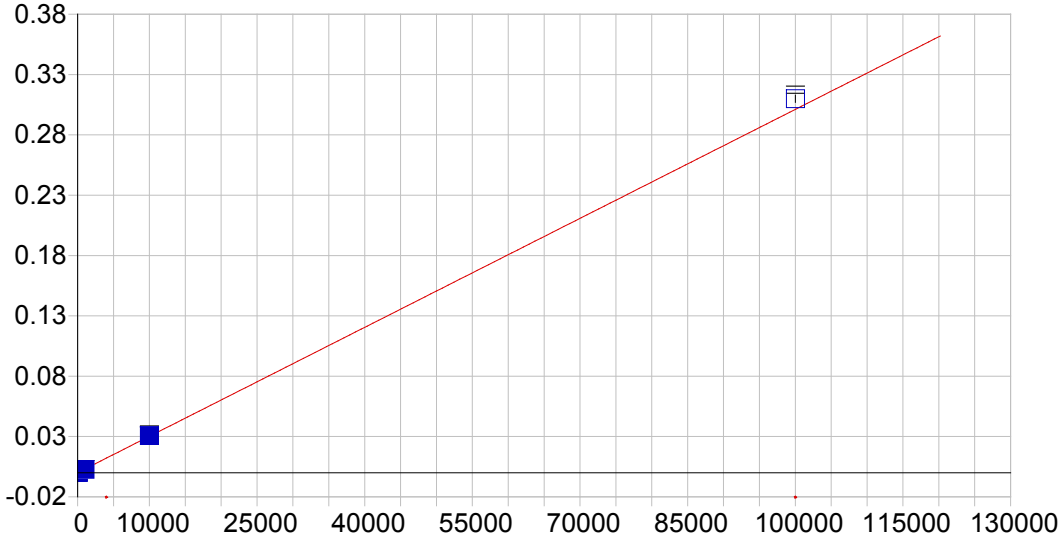


Cu 324.754 {104}

Date of Fit: 01/25/2016 13:15:08 Type of Fit: Curvilinear Weighting: 1/Conc

A0 (Offset):	0.001162	Re-Slope:	1.000000
A1 (Gain):	0.000004	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999882	Status:	OK.
Std Error of Est:	0.000009		
Predicted MDL:	47.728233		
Predicted MQL:	159.094111		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.03398	.034	.000	.00116	.000	1
CalStd9=100	1000.0	865.18	-135.	-13.5	.00435	.000	1
CalStd8=100	100.00	77.790	-22.2	-22.2	.00145	.000	1
CalStd10=10	10000.	10170.	170.	1.70	.03860	.000	1
CalStd11-100	100000.	99693.	-307.	-.307	.36826	.002	1

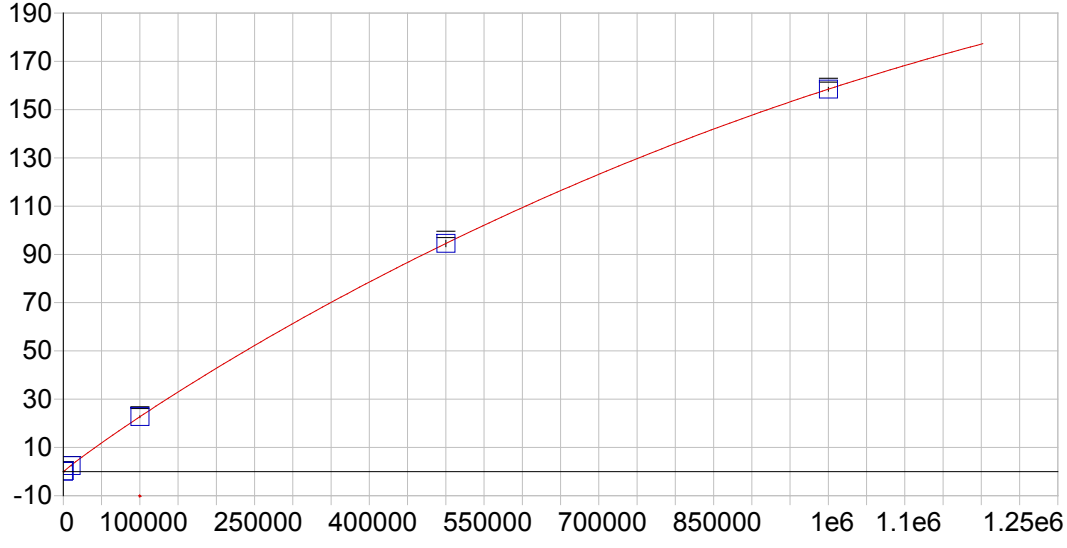


Cu 327.396 {103}

Date of Fit: 01/25/2016 13:15:08 Type of Fit: Curvilinear Weighting: 1/Conc

A0 (Offset):	0.000041	Re-Slope:	1.000000
A1 (Gain):	0.000003	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999642	Status:	OK.
Std Error of Est:	0.000005		
Predicted MDL:	71.574611		
Predicted MQL:	238.582037		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.01111	-.011	.000	.00004	.000	1
CalStd6=20	20.000	49.219	29.2	146.	.00019	.000	1
CalStd7=50	50.000	33.646	-16.4	-32.7	.00014	.000	1
CalStd8=100	100.00	50.256	-49.7	-49.7	.00019	.000	1
CalStd9=100	1000.0	905.05	-94.9	-9.49	.00277	.000	1
CalStd10=10	10000.	10175.	175.	1.75	.03068	.000	1
CalStd11-100	100000.	102930.	2930.	2.93	.30994	.003	1

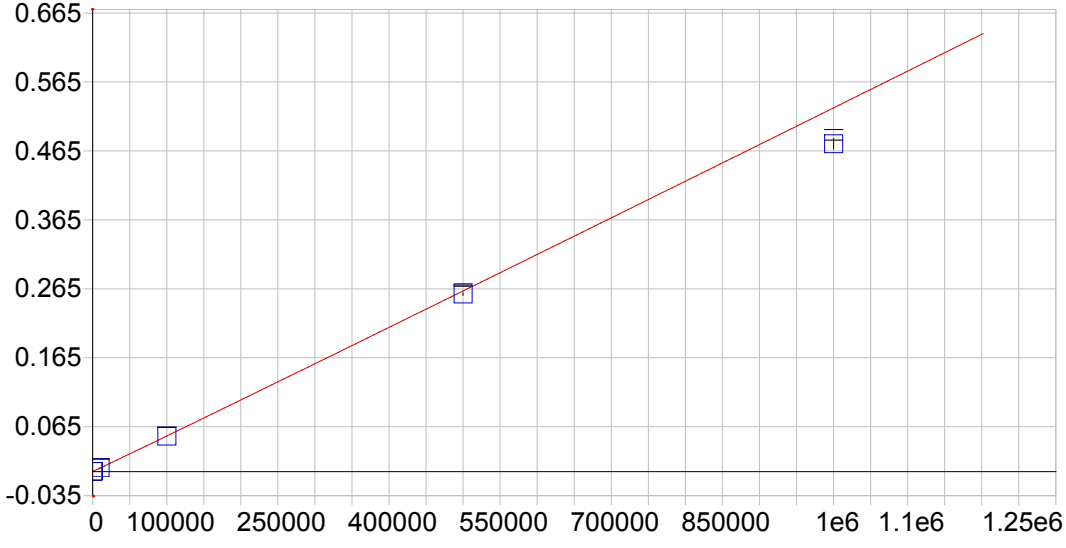


Fe 234.349 {144}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Full Fit	Weighting:	None

A0 (Offset):	-0.086336	Re-Slope:	1.000000
A1 (Gain):	0.000417	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	0.950000		
Correlation:	0.999999	Status:	OK.
Std Error of Est:	0.114136		
Predicted MDL:	0.475675		
Predicted MQL:	1.585585		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	296.83	297.	.000	.00667	.000	1
CalStd10=10	10000.	9479.9	-520.	-5.20	2.4048	.012	1
CalStd13=50	500000.	500010.	11.3	.002	94.525	1.32	1
CalStd14-100	1000000.	999990.	-5.74	-.001	158.45	.779	1
CalStd9=100	1000.0	1084.8	84.8	8.48	.23215	.001	1
CalStd12-100	100000.	100050.	54.2	.054	22.718	.339	1

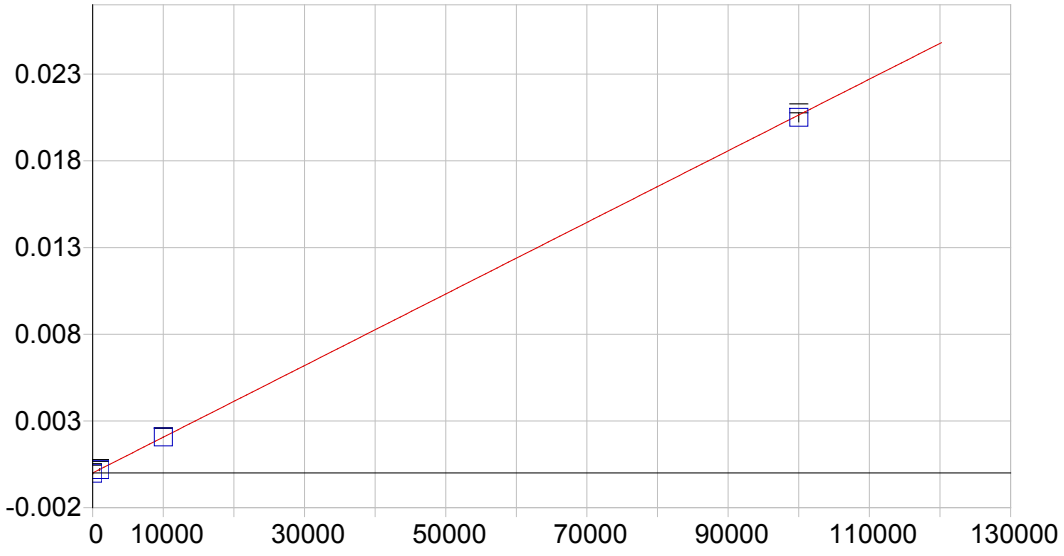


Fe 239.562 {140}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Full Fit	Weighting:	1/Var

A0 (Offset):	0.000044	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.010000		
Correlation:	0.999957	Status:	OK.
Std Error of Est:	0.000214		
Predicted MDL:	119.777453		
Predicted MQL:	399.258177		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00000	.000	1
CalStd10=10	10000.	10136.	136.	1.36	.00515	.000	1
CalStd13=50	500000.	491380.	-8620.	-1.72	.25736	.002	1
CalStd14-100	1000000.	901970.	-98000.	-9.80	.47524	.008	1
CalStd9=100	1000.0	937.23	-62.8	-6.28	.00050	.000	1
CalStd12-100	100000.	99156.	-844.	-.844	.05114	.000	1

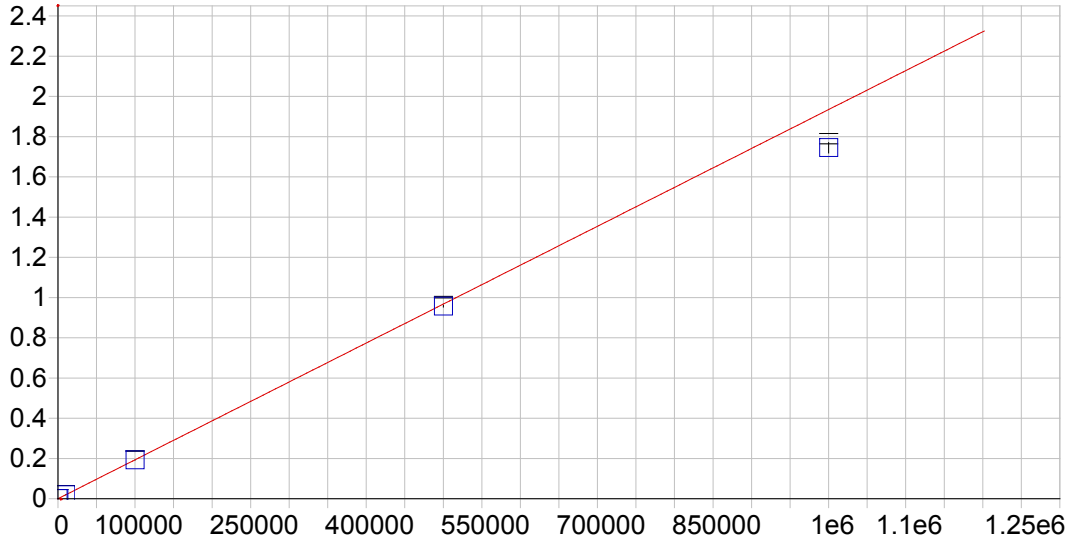


Fe 239.562 {141}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999949	Status:	OK.
Std Error of Est:	0.000018		
Predicted MDL:	204.892882		
Predicted MQL:	682.976272		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-125.27	-125.	.000	-.00003	.000	1
CalStd9=100	1000.0	929.23	-70.8	-7.08	.00019	.000	1
CalStd10=10	10000.	10024.	23.9	.239	.00207	.000	1
CalStd12-100	100000.	99329.	-671.	-.671	.02051	.000	1

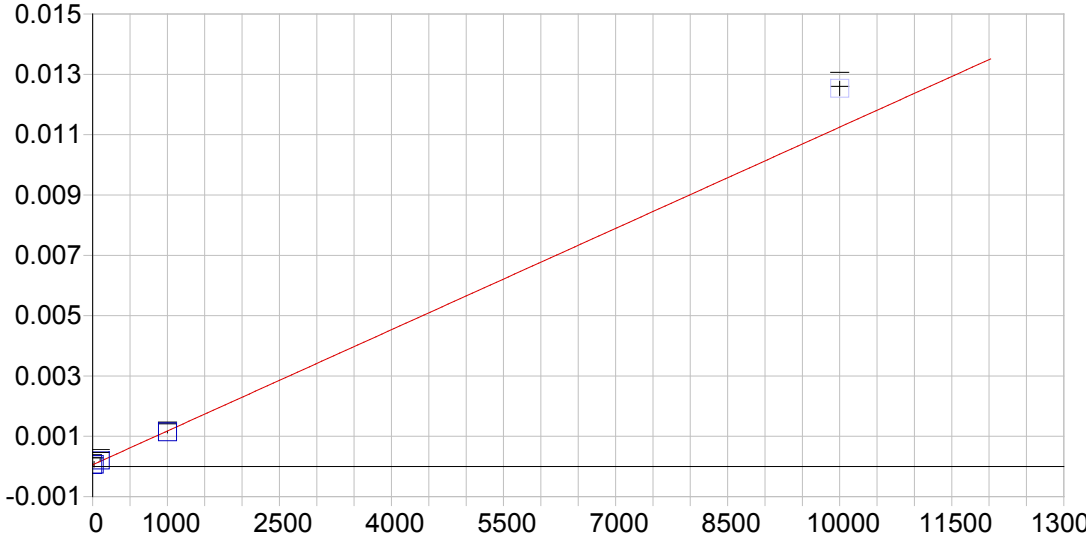


Fe 259.940 {129}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Curvilinear	Weighting:	1/Var

A0 (Offset):	0.000053	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999910	Status:	OK.
Std Error of Est:	0.000208		
Predicted MDL:	46.823007		
Predicted MQL:	156.076691		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	17.381	17.4	.000	.00009	.000	1
CalStd10=10	10000.	9944.0	-56.0	-.560	.01929	.000	1
CalStd13=50	500000.	494590.	-5410.	-1.08	.95684	.004	1
CalStd14-100	1000000.	901850.	-98200.	-9.82	1.7447	.026	1
CalStd9=100	1000.0	852.72	-147.	-14.7	.00170	.000	1
CalStd12-100	100000.	99421.	-579.	-.579	.19238	.000	1

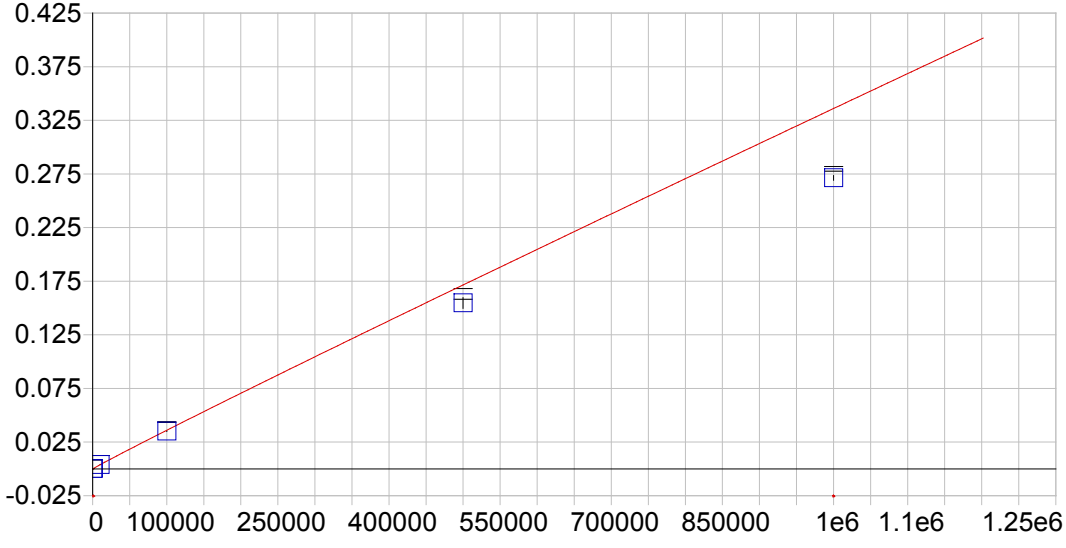


Fe 259.940 {130}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000057	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.993036	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	69.852028		
Predicted MQL:	232.840095		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00045	.000	.000	.00006	.000	1
CalStd9=100	1000.0	970.14	-29.9	-2.99	.00114	.000	1
CalStd8=100	100.00	136.02	36.0	36.0	.00021	.000	1
CalStd6=20	20.000	13.840	-6.16	-30.8	.00007	.000	1
CalStd10=10	10000.	11147.	1150.	11.5	.01253	.000	0

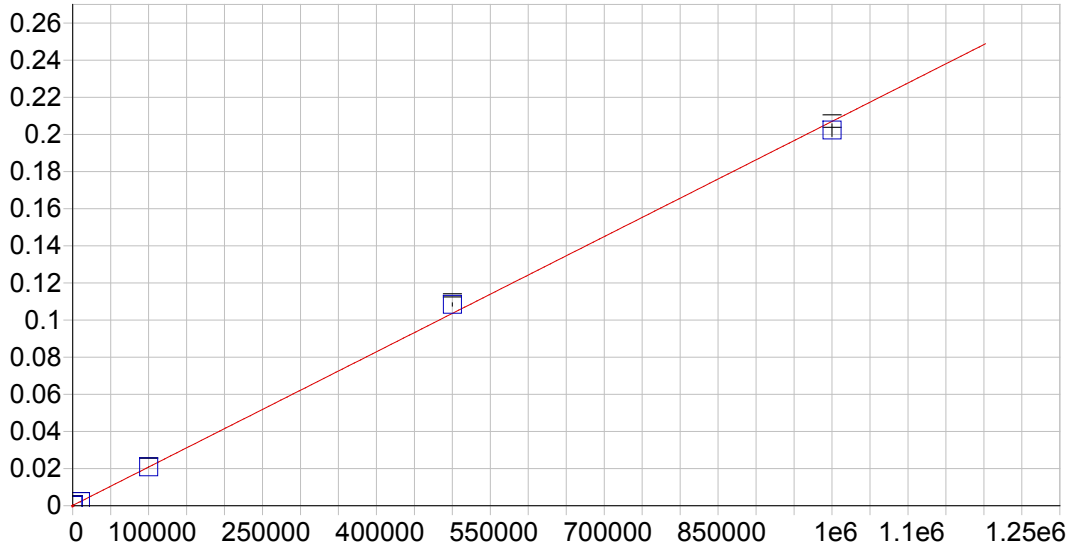


Mg 202.582 {466}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Full Fit	Weighting:	None

A0 (Offset):	-0.000009	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	0.970000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000113		
Predicted MDL:	1.749596		
Predicted MQL:	5.831987		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	-.00001	.000	1
CalStd13=50	500000.	449540.	-50500.	-10.1	.15471	.005	1
CalStd10=10	10000.	10267.	267.	2.67	.00395	.000	1
CalStd14-100	1000000.	802180.	-198000.	-19.8	.27132	.002	1
CalStd12-100	100000.	97563.	-2440.	-2.44	.03514	.000	1
CalStd9=100	1000.0	940.55	-59.5	-5.95	.00038	.000	1

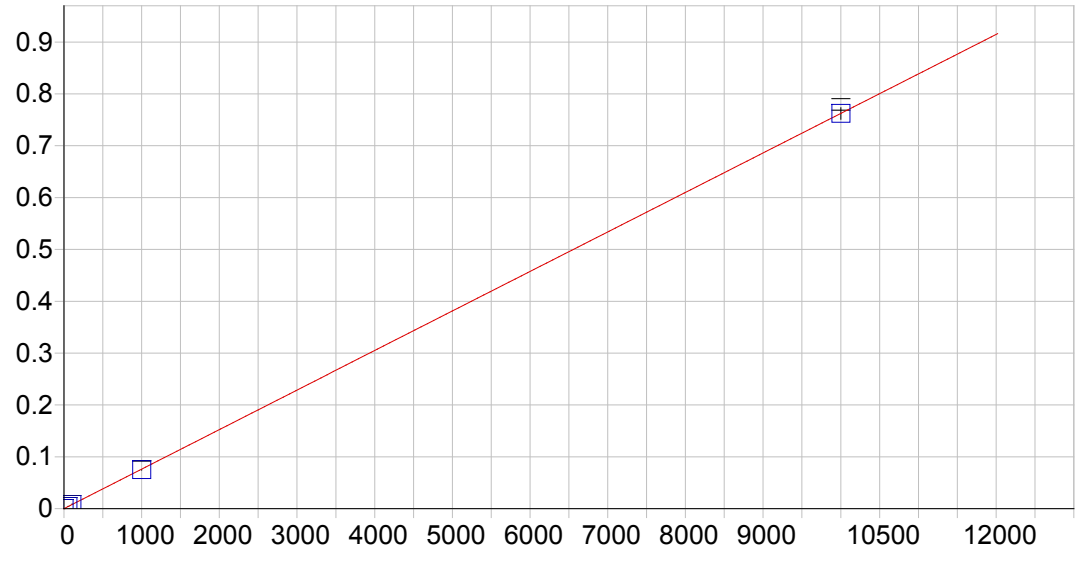


Mg 279.079 {121}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000135	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999494	Status:	OK.
Std Error of Est:	0.000010		
Predicted MDL:	269.691286		
Predicted MQL:	898.970954		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.03535	-.035	.000	.00013	.000	1
CalStd13=50	500000.	523290.	23300.	4.66	.10839	.001	1
CalStd10=10	10000.	9545.6	-454.	-4.54	.00211	.000	1
CalStd14-100	1000000.	977130.	-22900.	-2.29	.20227	.003	1
CalStd12-100	100000.	99980.	-20.4	-.020	.02082	.000	1
CalStd9=100	1000.0	1057.3	57.3	5.73	.00035	.000	1

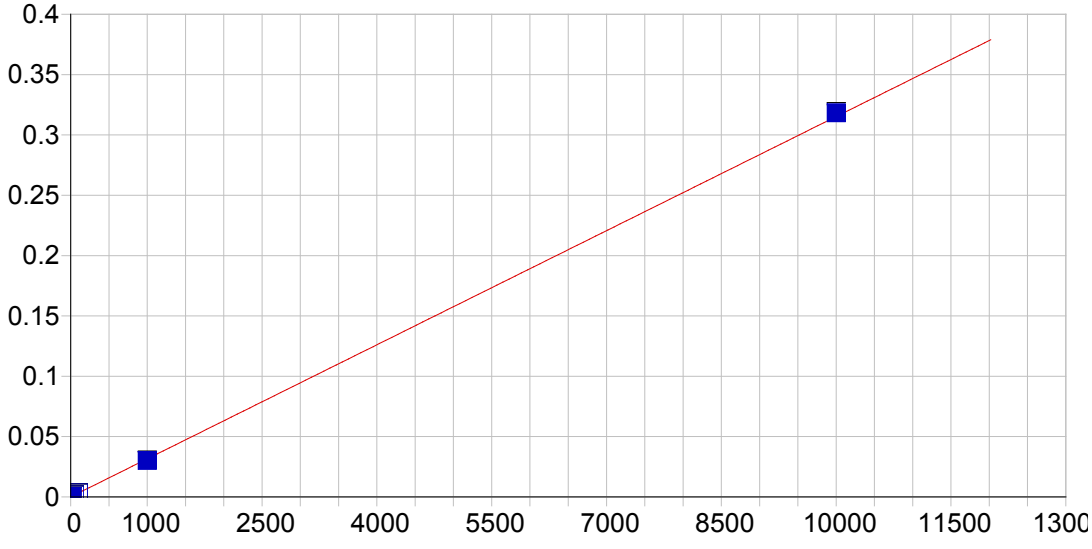


Mg 280.270 {120}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000124	Re-Slope:	1.000000
A1 (Gain):	0.000076	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999997	Status:	OK.
Std Error of Est:	0.000987		
Predicted MDL:	0.022054		
Predicted MQL:	0.073515		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	2.3280	2.33	.000	.00030	.000	1
CalStd9=100	1000.0	980.99	-19.0	-1.90	.07489	.000	1
CalStd10=10	10000.	10002.	1.77	.018	.76237	.011	1
CalStd8=100	100.00	110.79	10.8	10.8	.00857	.000	1
CalStd7=50	50.000	54.121	4.12	8.24	.00425	.000	1

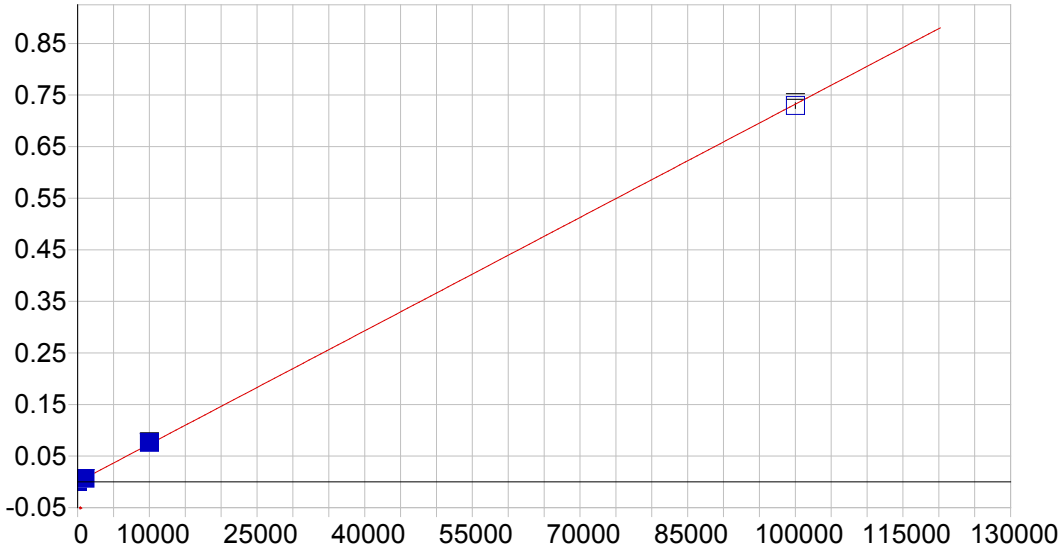


Mn 257.610 {131}

Date of Fit: 01/25/2016 13:15:08 Type of Fit: Linear Weighting: 1/Var

A0 (Offset):	0.000007	Re-Slope:	1.000000
A1 (Gain):	0.000032	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999853	Status:	OK.
Std Error of Est:	0.000018		
Predicted MDL:	0.054316		
Predicted MQL:	0.181053		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.19705	.197	.000	.00001	.000	1
CalStd5=10	10.000	10.080	.080	.798	.00032	.000	1
CalStd7=50	50.000	49.376	-.624	-1.25	.00156	.000	1
CalStd6=20	20.000	20.676	.676	3.38	.00066	.000	1
CalStd8=100	100.00	104.37	4.37	4.37	.00330	.000	1
CalStd4=5	5.0000	5.0156	.016	.312	.00016	.000	1
CalStd9=100	1000.0	953.08	-46.9	-4.69	.03005	.000	1
CalStd10=10	10000.	10098.	98.0	.980	.31831	.001	1

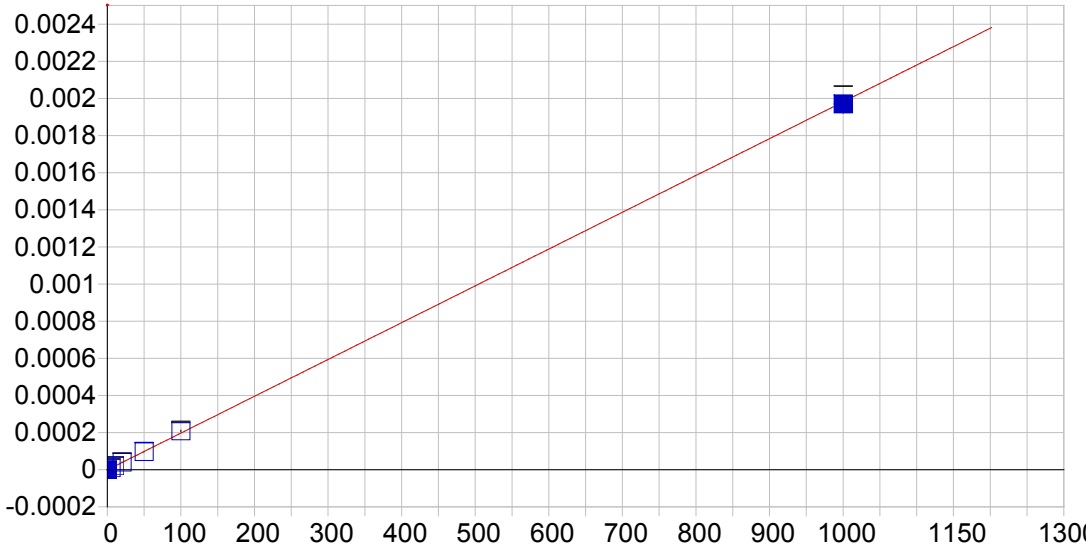


Mn 259.373 {130}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000074	Re-Slope:	1.000000
A1 (Gain):	0.000007	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999894	Status:	OK.
Std Error of Est:	0.000050		
Predicted MDL:	12.413004		
Predicted MQL:	41.376680		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.01516	.015	.000	-.00007	.000	1
CalStd10=10	10000.	10436.	436.	4.36	.07649	.001	1
CalStd11-100	100000.	99618.	-382.	-.382	.72955	.006	1
CalStd9=100	1000.0	945.05	-54.9	-5.49	.00686	.000	1

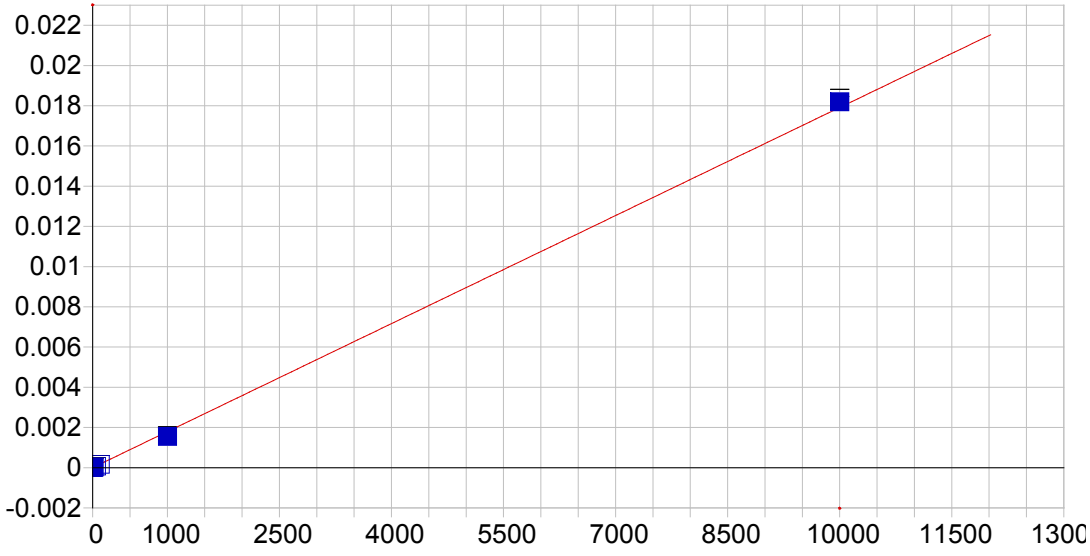


Mo 202.030 {466}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999835	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.386896		
Predicted MQL:	1.289653		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00055	-.001	.000	.00000	.000	1
CalStd7=50	50.000	49.421	-.579	-1.16	.00010	.000	1
CalStd6=20	20.000	20.521	.521	2.60	.00004	.000	1
CalStd5=10	10.000	10.261	.261	2.61	.00002	.000	1
CalStd8=100	100.00	105.71	5.71	5.71	.00021	.000	1
CalStd4=5	5.0000	5.0898	.090	1.80	.00001	.000	1
CalStd9=100	1000.0	994.00	-6.00	-.600	.00197	.000	1

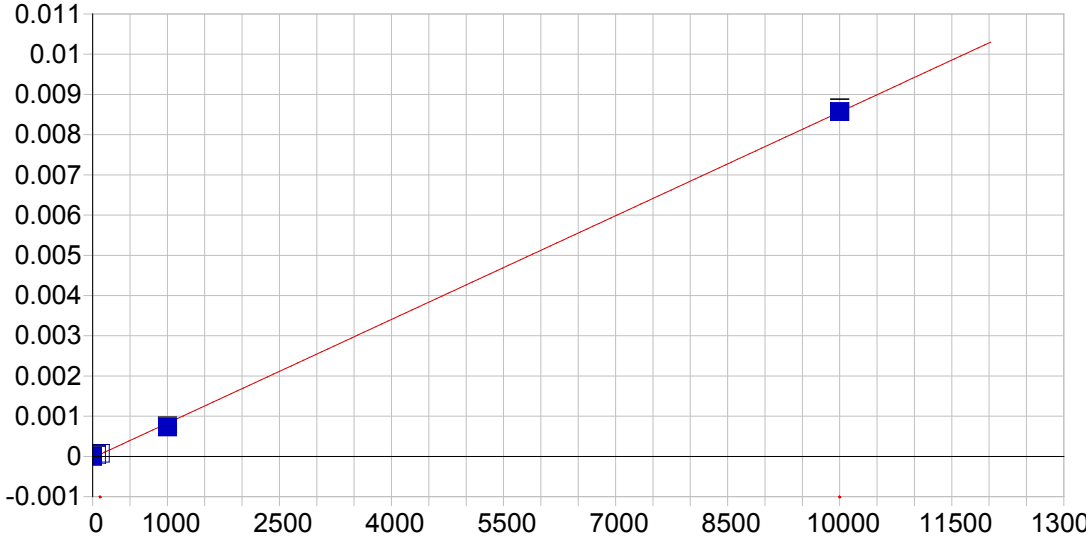


Mo 204.598 {464}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998999	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.442954		
Predicted MQL:	1.476512		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00297	.003	.000	.00000	.000	1
CalStd7=50	50.000	43.239	-6.76	-13.5	.00008	.000	1
CalStd6=20	20.000	17.842	-2.16	-10.8	.00003	.000	1
CalStd5=10	10.000	8.7697	-1.23	-12.3	.00002	.000	1
CalStd8=100	100.00	91.687	-8.31	-8.31	.00016	.000	1
CalStd4=5	5.0000	4.8684	-.132	-2.63	.00001	.000	1
CalStd9=100	1000.0	865.52	-134.	-13.4	.00155	.000	1
CalStd10=10	10000.	10153.	153.	1.53	.01819	.000	1

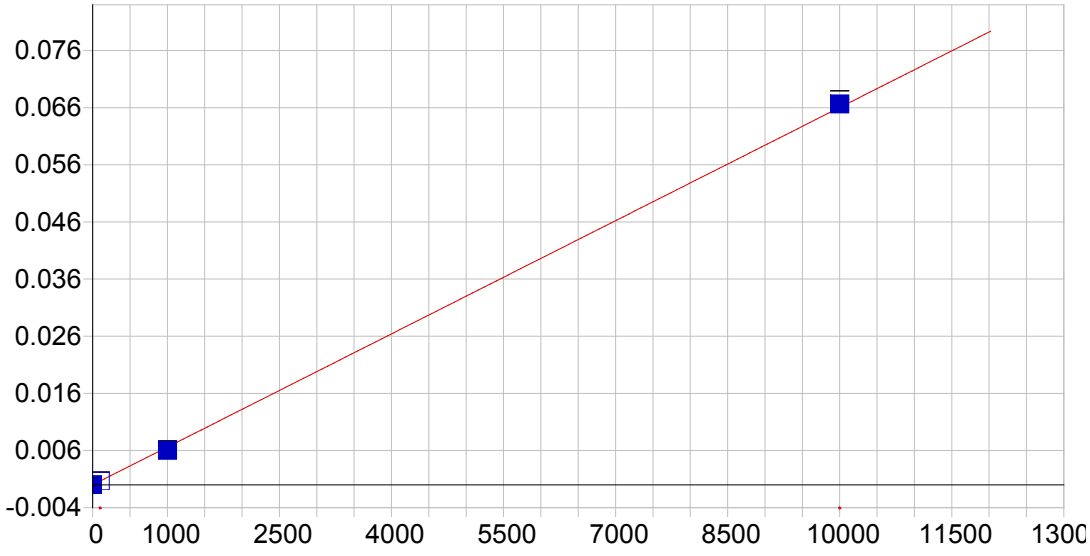


Mo 204.598 {465}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	-0.000034	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999900	Status:	OK.
Std Error of Est:	0.000061		
Predicted MDL:	0.789115		
Predicted MQL:	2.630383		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	38.895	38.9	.000	.00000	.000	1
CalStd9=100	1000.0	891.14	-109.	-10.9	.00073	.000	1
CalStd10=10	10000.	10010.	10.4	.104	.00857	.000	1
CalStd7=50	50.000	81.100	31.1	62.2	.00004	.000	1
CalStd8=100	100.00	128.42	28.4	28.4	.00008	.000	1

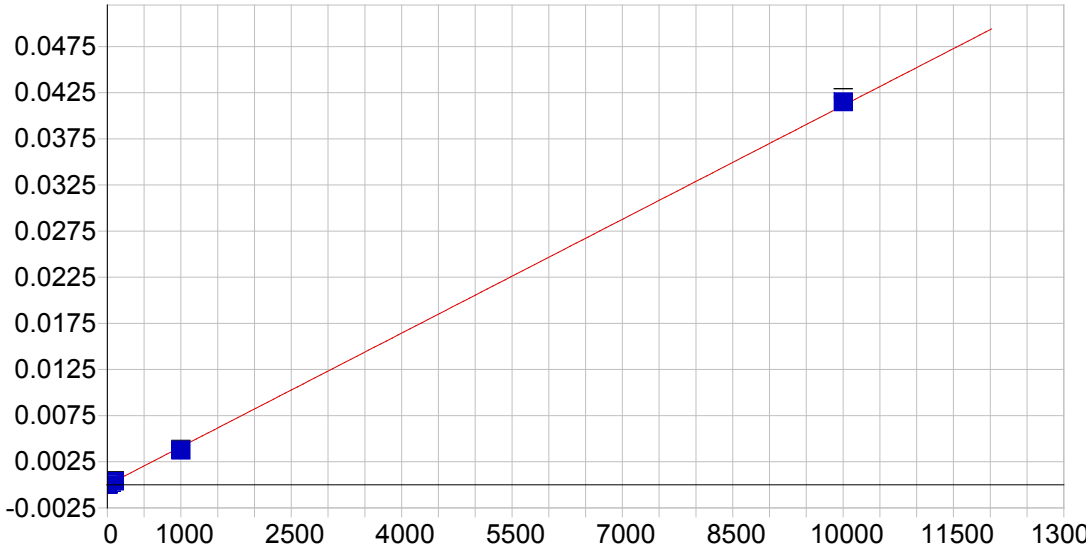


Ni 221.647 {452}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000006	Re-Slope:	1.000000
A1 (Gain):	0.000007	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999594	Status:	OK.
Std Error of Est:	0.000009		
Predicted MDL:	0.239613		
Predicted MQL:	0.798711		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00930	.009	.000	-.00001	.000	1
CalStd10=10	10000.	10092.	91.6	.916	.06663	.001	1
CalStd8=100	100.00	98.825	-1.18	-1.18	.00065	.000	1
CalStd9=100	1000.0	909.60	-90.4	-9.04	.00600	.000	1

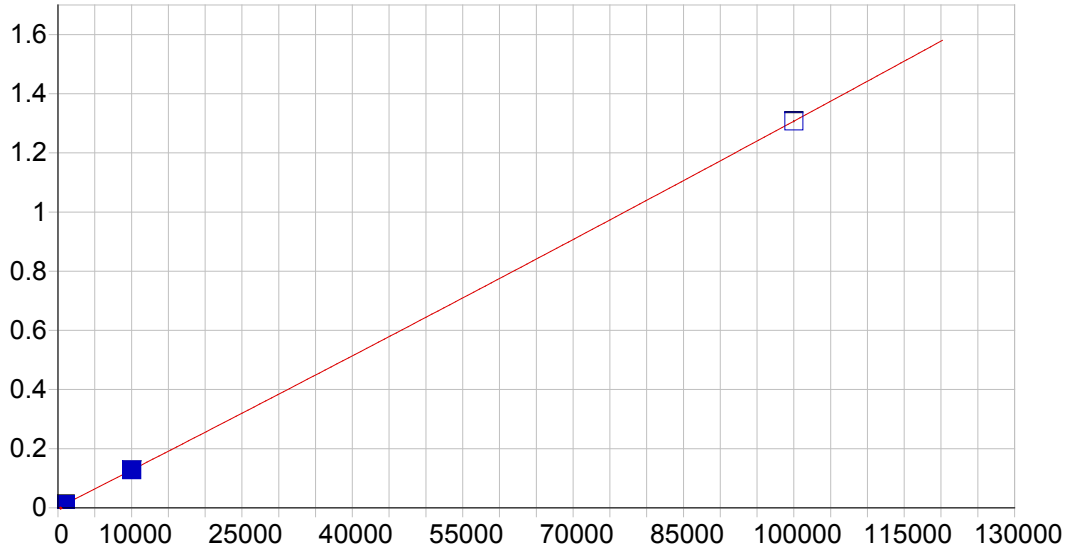


Ni 231.604 {445}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000004	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999598	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.353327		
Predicted MQL:	1.177757		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00022	.000	.000	.00000	.000	1
CalStd7=50	50.000	47.241	-2.76	-5.52	.00019	.000	1
CalStd5=10	10.000	9.5959	-.404	-4.04	.00004	.000	1
CalStd8=100	100.00	99.277	-.723	-.723	.00041	.000	1
CalStd4=5	5.0000	4.9529	-.047	-.943	.00002	.000	1
CalStd9=100	1000.0	910.87	-89.1	-8.91	.00374	.000	1
CalStd3=1	1.0000	.97291	-.027	-2.71	.00000	.000	1
CalStd10=10	10000.	10093.	93.1	.931	.04149	.000	1

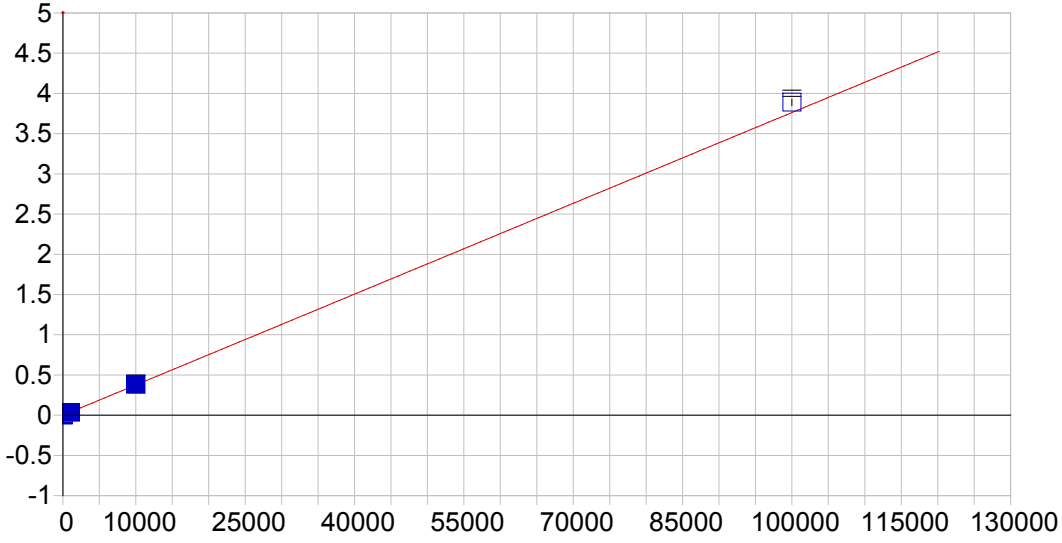


Pb 216.999 {455}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	0.000316	Re-Slope:	1.000000
A1 (Gain):	0.000013	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999965	Status:	Warning Positive Curvature
Std Error of Est:	0.000003		
Predicted MDL:	4.947001		
Predicted MQL:	16.490004		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00691	.007	.000	.00032	.000	1
CalStd9=100	1000.0	958.61	-41.4	-4.14	.01247	.000	1
CalStd10=10	10000.	10055.	55.0	.550	.12812	.000	1
CalStd11-100	100000.	99995.	-4.82	-.005	1.3072	.002	1
CalStd8=100	100.00	99.613	-.387	-.387	.00158	.000	1
CalStd4=5	5.0000	-.05857	-5.06	-101.	.00032	.000	1
CalStd5=10	10.000	6.6920	-3.31	-33.1	.00040	.000	1

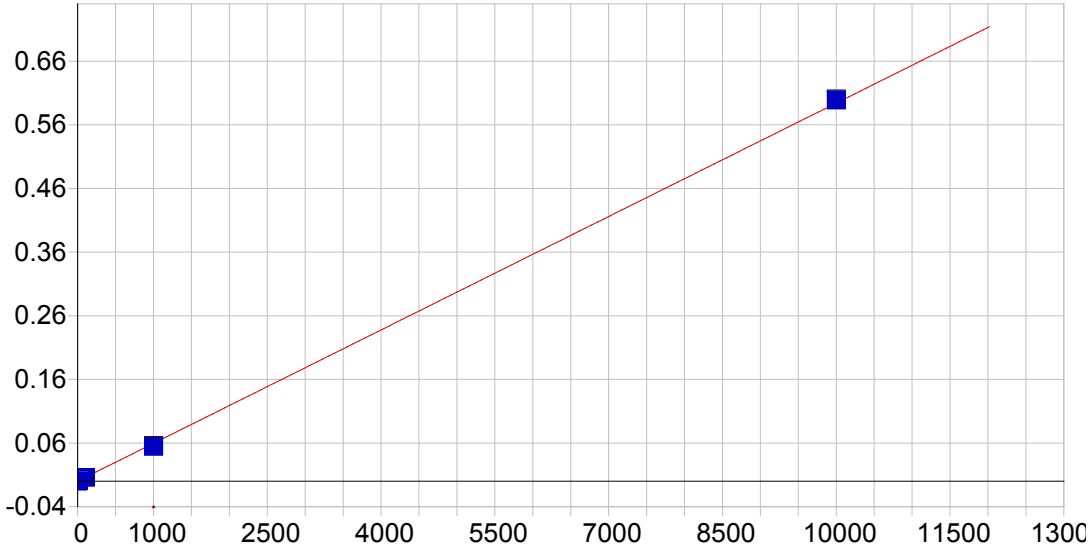


Pb 220.353 {153}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-0.000012	Re-Slope:	1.000000
A1 (Gain):	0.000038	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999340	Status:	OK.
Std Error of Est:	0.000451		
Predicted MDL:	2.009372		
Predicted MQL:	6.697908		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.46621	.466	.000	.00001	.000	1
CalStd9=100	1000.0	945.43	-54.6	-5.46	.03555	.000	1
CalStd10=10	10000.	10187.	187.	1.87	.38312	.002	1
CalStd8=100	100.00	101.43	1.43	1.43	.00380	.000	1
CalStd11-100	100000.	103390.	3390.	3.39	3.8900	.038	1

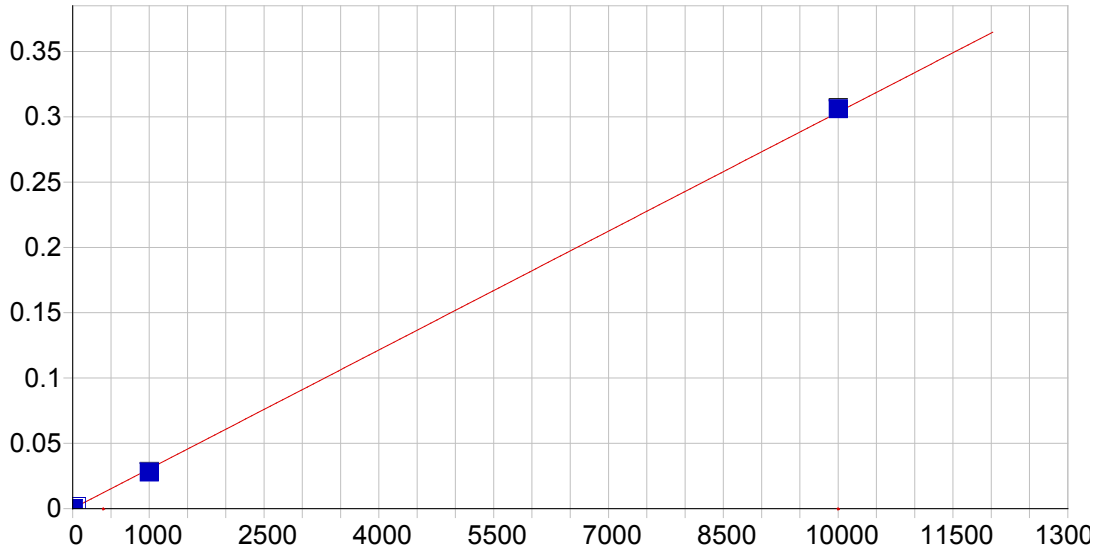


Pb 220.353 {453}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000095	Re-Slope:	1.000000
A1 (Gain):	0.000059	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999680	Status:	OK.
Std Error of Est:	0.000014		
Predicted MDL:	1.348372		
Predicted MQL:	4.494572		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00084	.001	.000	.00010	.000	1
CalStd5=10	10.000	10.236	.236	2.36	.00070	.000	1
CalStd8=100	100.00	99.436	-.564	-.564	.00600	.000	1
CalStd4=5	5.0000	4.4288	-.571	-11.4	.00036	.000	1
CalStd9=100	1000.0	920.01	-80.0	-8.00	.05474	.001	1
CalStd10=10	10000.	10081.	80.9	.809	.59887	.001	1

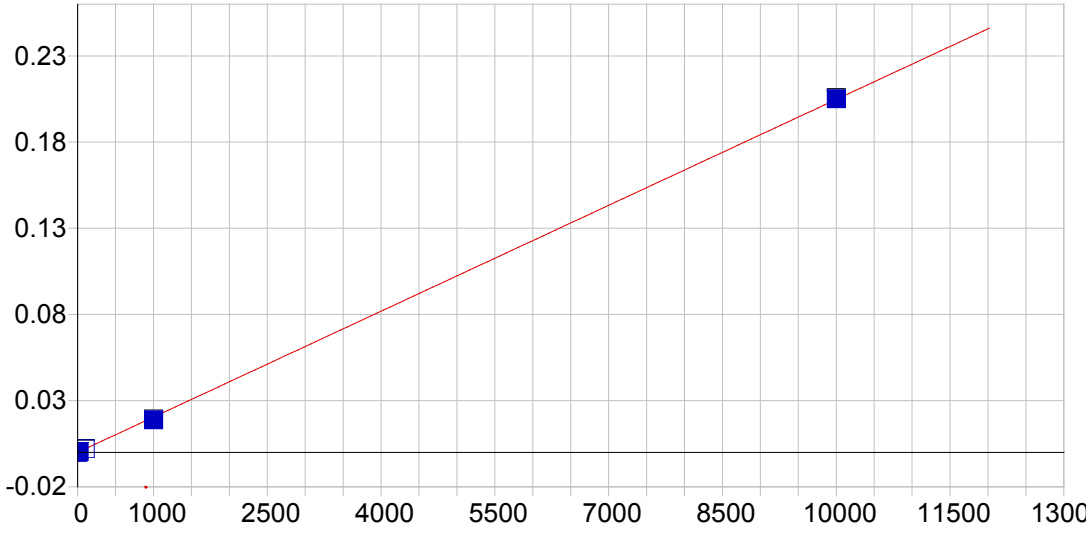


Sb 206.833 {463}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000092	Re-Slope:	1.000000
A1 (Gain):	0.000030	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999670	Status:	OK.
Std Error of Est:	0.000011		
Predicted MDL:	1.688185		
Predicted MQL:	5.627284		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00154	.002	.000	.00009	.000	1
CalStd9=100	1000.0	919.47	-80.5	-8.05	.02799	.000	1
CalStd5=10	10.000	9.6626	-.337	-3.37	.00039	.000	1
CalStd7=50	50.000	47.581	-2.42	-4.84	.00154	.000	1
CalStd10=10	10000.	10083.	83.3	.833	.30602	.001	1

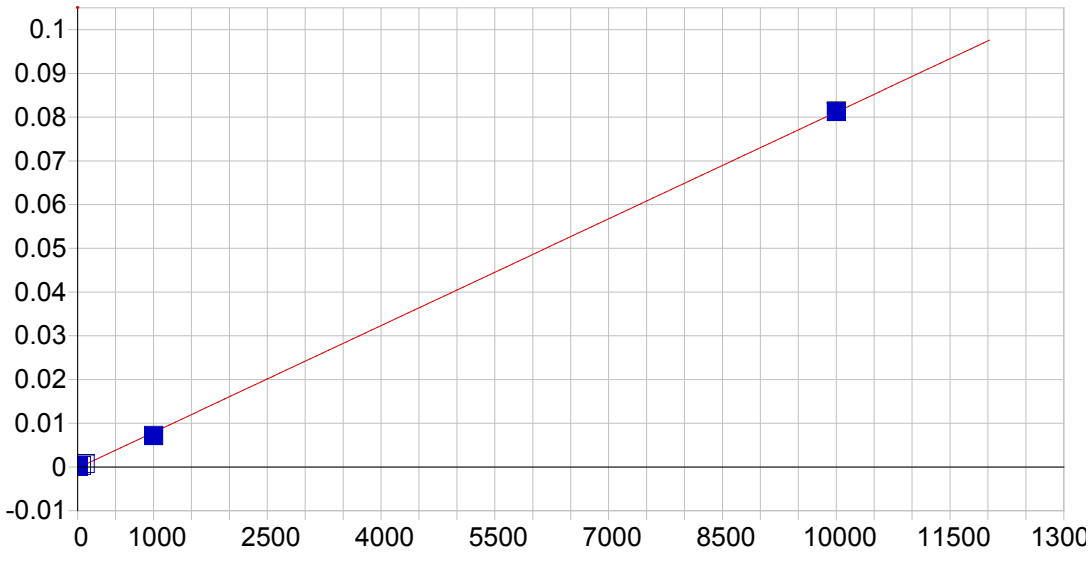


Sb 217.581 {455}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-0.000017	Re-Slope:	1.000000
A1 (Gain):	0.000020	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999940	Status:	OK.
Std Error of Est:	0.000085		
Predicted MDL:	2.662758		
Predicted MQL:	8.875860		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.50340	.503	.000	-.00001	.000	1
CalStd9=100	1000.0	921.35	-78.7	-7.87	.01885	.000	1
CalStd6=20	20.000	21.126	1.13	5.63	.00042	.000	1
CalStd5=10	10.000	10.619	.619	6.19	.00020	.000	1
CalStd8=100	100.00	98.183	-1.82	-1.82	.00199	.000	1
CalStd4=5	5.0000	5.0208	.021	.415	.00009	.000	1
CalStd10=10	10000.	10017.	16.6	.166	.20505	.000	1

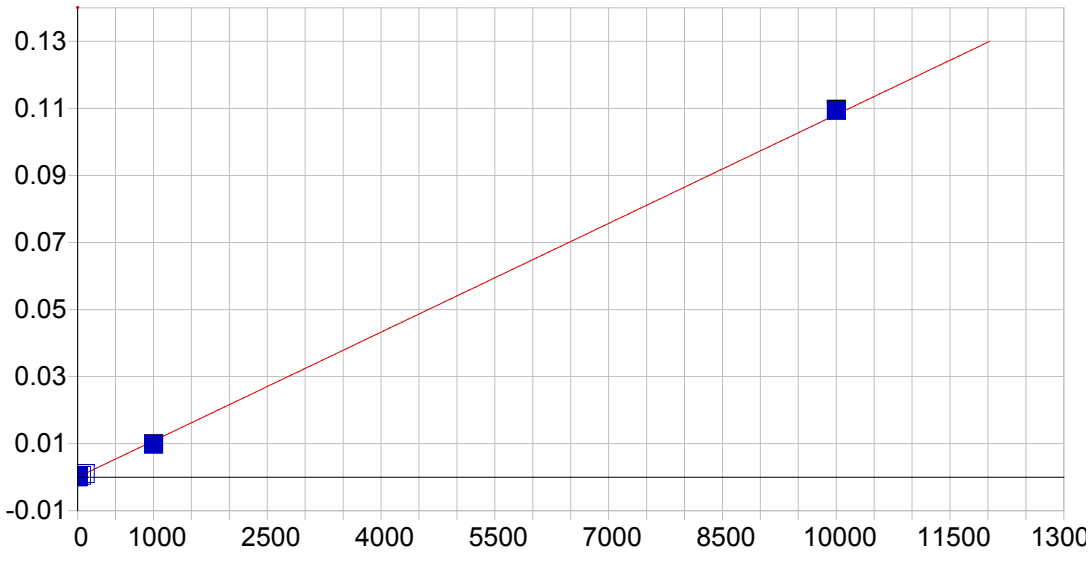


Se 196.090 {471}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	-0.000229	Re-Slope:	1.000000
A1 (Gain):	0.000008	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999932	Status:	OK.
Std Error of Est:	0.000425		
Predicted MDL:	4.316858		
Predicted MQL:	14.389525		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	25.641	25.6	.000	-.00002	.000	1
CalStd7=50	50.000	67.981	18.0	36.0	.00032	.000	1
CalStd9=100	1000.0	905.32	-94.7	-9.47	.00713	.000	1
CalStd5=10	10.000	33.852	23.9	239.	.00005	.000	1
CalStd8=100	100.00	118.03	18.0	18.0	.00073	.000	1
CalStd10=10	10000.	10009.	9.17	.092	.08119	.000	1

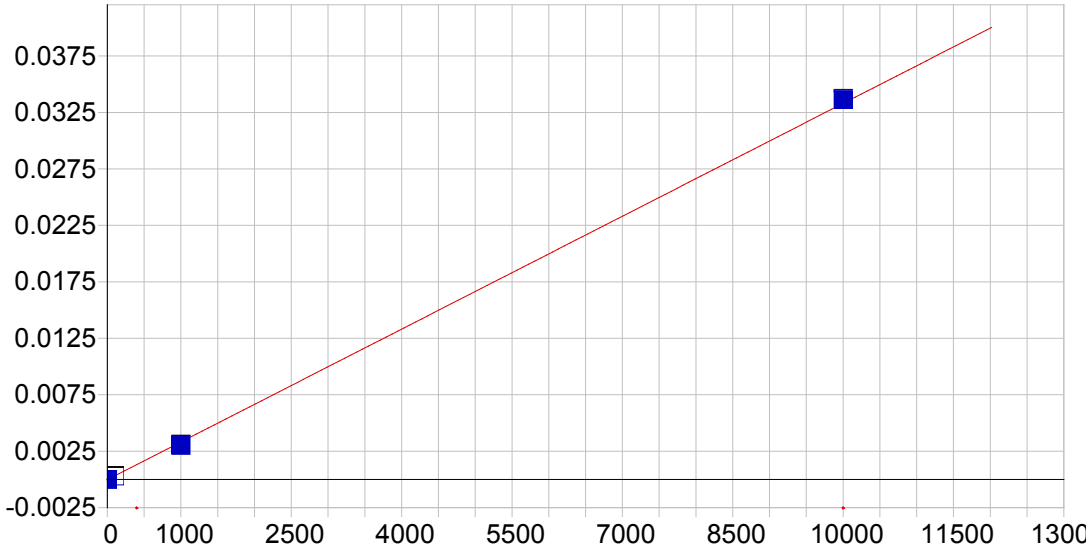


Se 196.090 {472}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000010	Re-Slope:	1.000000
A1 (Gain):	0.000011	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999476	Status:	OK.
Std Error of Est:	0.000005		
Predicted MDL:	3.365969		
Predicted MQL:	11.219898		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00384	.004	.000	.00001	.000	1
CalStd7=50	50.000	45.569	-4.43	-8.86	.00050	.000	1
CalStd9=100	1000.0	903.60	-96.4	-9.64	.00978	.000	1
CalStd5=10	10.000	8.6935	-1.31	-13.1	.00010	.000	1
CalStd8=100	100.00	92.105	-7.90	-7.90	.00101	.000	1
CalStd10=10	10000.	10110.	110.	1.10	.10929	.000	1

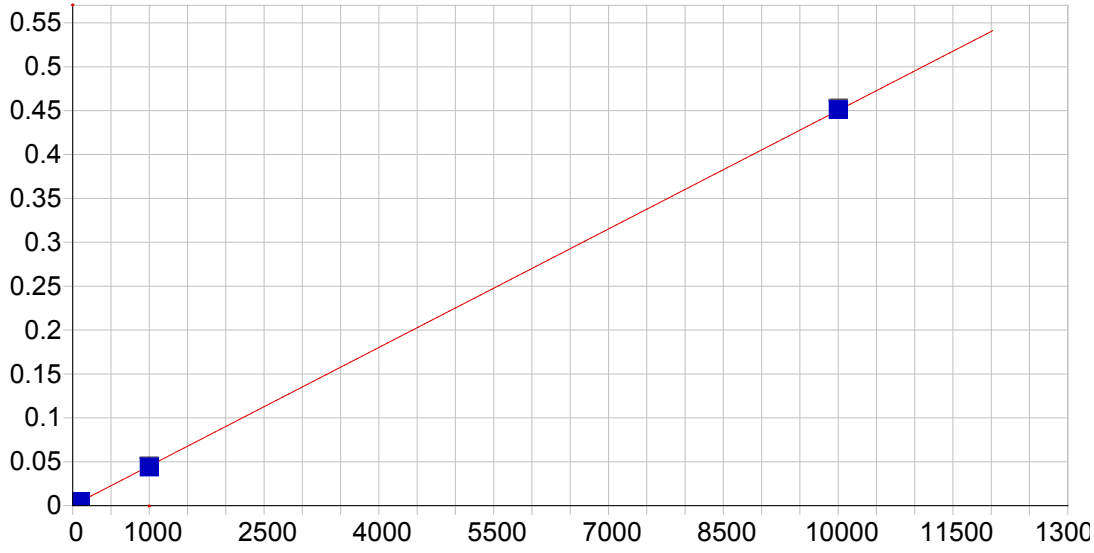


Se 206.279 {463}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000017	Re-Slope:	1.000000
A1 (Gain):	0.000003	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999554	Status:	OK.
Std Error of Est:	0.000005		
Predicted MDL:	15.753051		
Predicted MQL:	52.510169		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.01428	.014	.000	-.00002	.000	1
CalStd9=100	1000.0	907.32	-92.7	-9.27	.00301	.000	1
CalStd10=10	10000.	10099.	98.7	.987	.03364	.000	1
CalStd8=100	100.00	94.001	-6.00	-6.00	.00030	.000	1

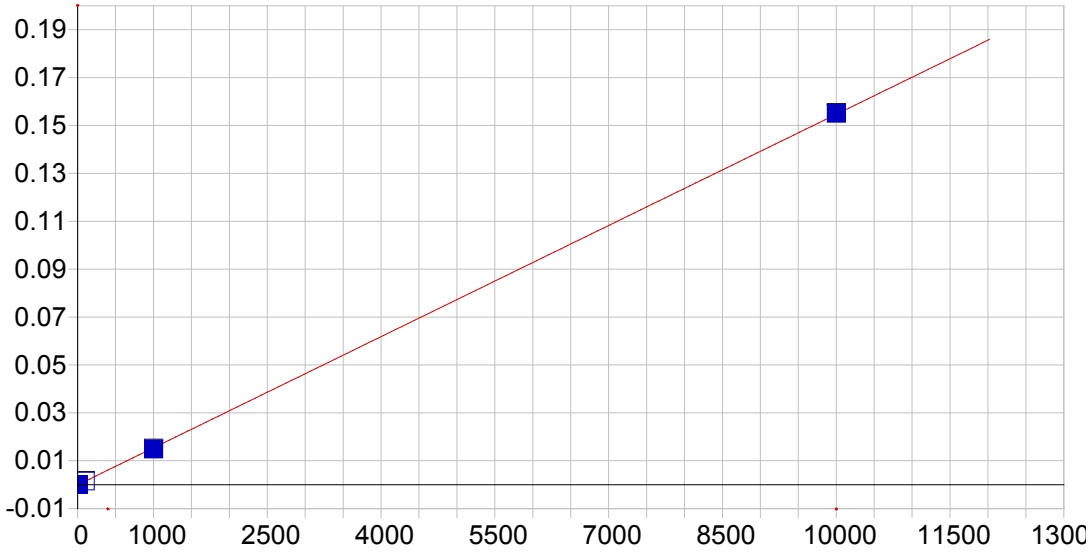


Tl 190.856 {476}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000114	Re-Slope:	1.000000
A1 (Gain):	0.000045	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999953	Status:	OK.
Std Error of Est:	0.000006		
Predicted MDL:	1.100910		
Predicted MQL:	3.669699		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00077	-.001	.000	.00011	.000	1
CalStd9=100	1000.0	974.20	-25.8	-2.58	.04401	.001	1
CalStd8=100	100.00	105.72	5.72	5.72	.00488	.000	1
CalStd5=10	10.000	10.440	.440	4.40	.00058	.000	1
CalStd10=10	10000.	10020.	19.6	.196	.45156	.001	1

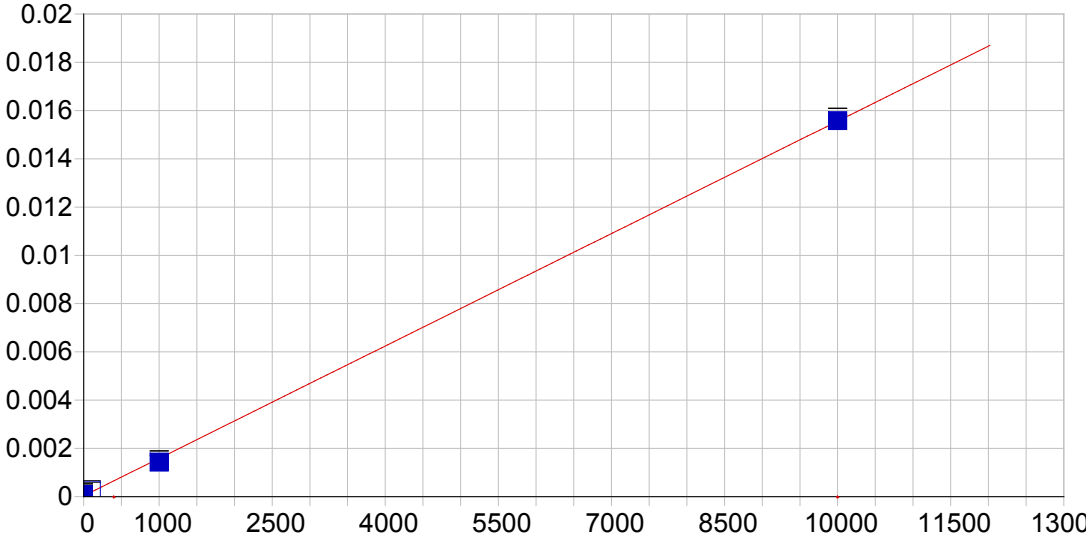


Tl 190.856 {477}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000090	Re-Slope:	1.000000
A1 (Gain):	0.000015	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999938	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	2.161376		
Predicted MQL:	7.204587		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00093	-.001	.000	-.00009	.000	1
CalStd9=100	1000.0	968.61	-31.4	-3.14	.01490	.000	1
CalStd8=100	100.00	105.36	5.36	5.36	.00154	.000	1
CalStd5=10	10.000	10.687	.687	6.87	.00008	.000	1
CalStd10=10	10000.	10025.	25.3	.253	.15504	.000	1

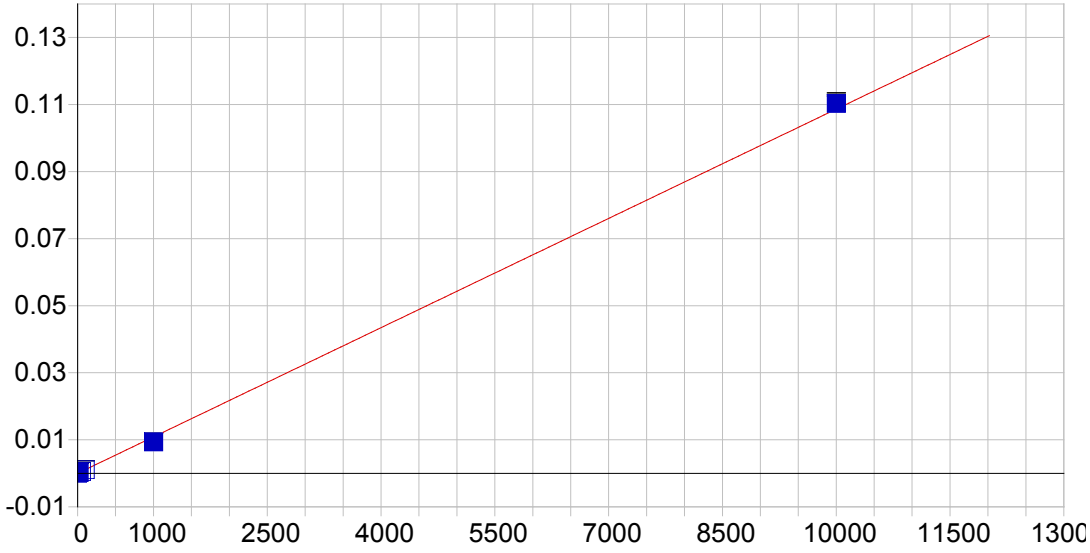


V 290.882 {116}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000032	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999891	Status:	OK.
Std Error of Est:	0.000136		
Predicted MDL:	76.593346		
Predicted MQL:	255.311155		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	45.162	45.2	.000	.00010	.000	1
CalStd9=100	1000.0	896.13	-104.	-10.4	.00142	.000	1
CalStd10=10	10000.	10010.	9.90	.099	.01558	.000	1
CalStd8=100	100.00	148.81	48.8	48.8	.00026	.000	1

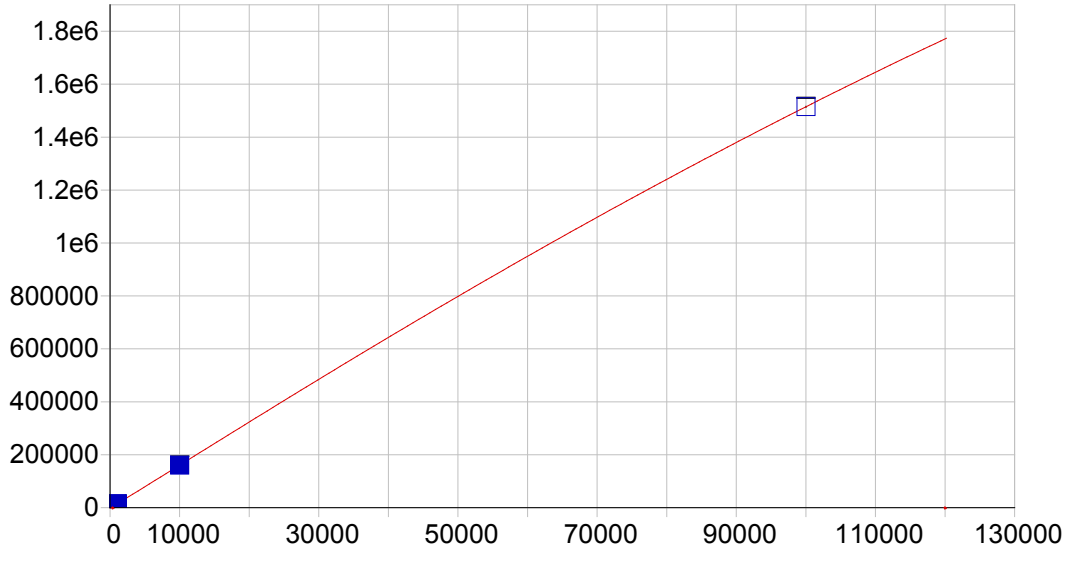


V 292.402 {115}

Date of Fit: 01/25/2016 13:15:08 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	-0.000006	Re-Slope:	1.000000
A1 (Gain):	0.000011	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998980	Status:	OK.
Std Error of Est:	0.000006		
Predicted MDL:	0.440233		
Predicted MQL:	1.467442		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00433	.004	.000	-.00001	.000	1
CalStd7=50	50.000	44.831	-5.17	-10.3	.00048	.000	1
CalStd9=100	1000.0	860.82	-139.	-13.9	.00935	.000	1
CalStd6=20	20.000	18.983	-1.02	-5.08	.00020	.000	1
CalStd5=10	10.000	9.1260	-.874	-8.74	.00009	.000	1
CalStd8=100	100.00	93.228	-6.77	-6.77	.00101	.000	1
CalStd10=10	10000.	10153.	153.	1.53	.11029	.000	1

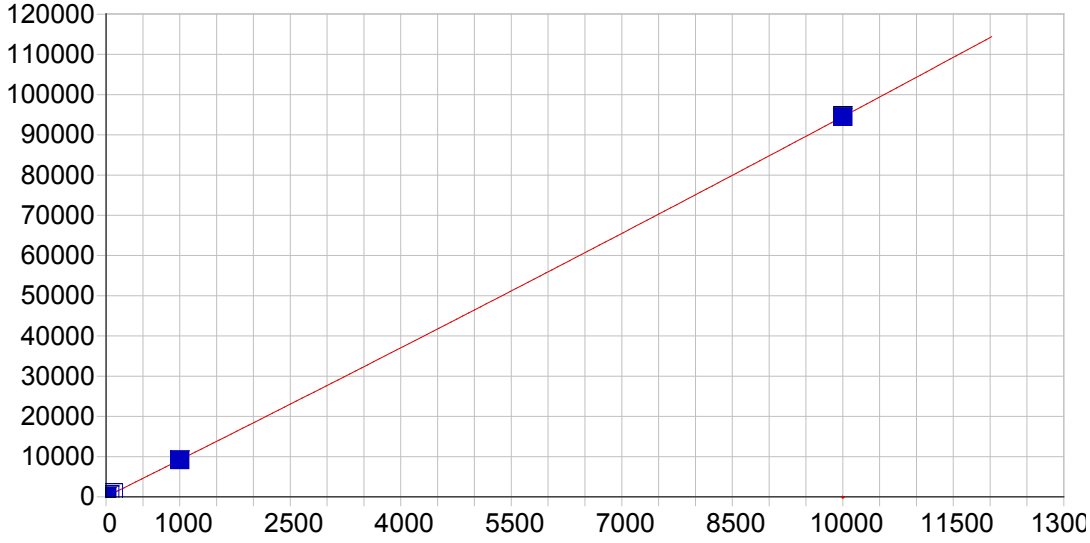


Zn 206.200 {463}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Full Fit	Weighting:	1/Conc

A0 (Offset):	21.171174	Re-Slope:	1.000000
A1 (Gain):	12.325961	Y-int:	0.000000
A2 (Curvature):	-0.000011		
n (Exponent):	1.030000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.134333		
Predicted MQL:	0.447775		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
CalStd10=10	10000.	9990.9	-9.07	-.091	160380.	264.	1
Blank	.00000	.00000	.000	.000	21.041	1.20	1
CalStd9=100	1000.0	1009.3	9.32	.932	15312.	126.	1
CalStd11-100	100000.	100000.	.890	.001	1514600.	2130.	1

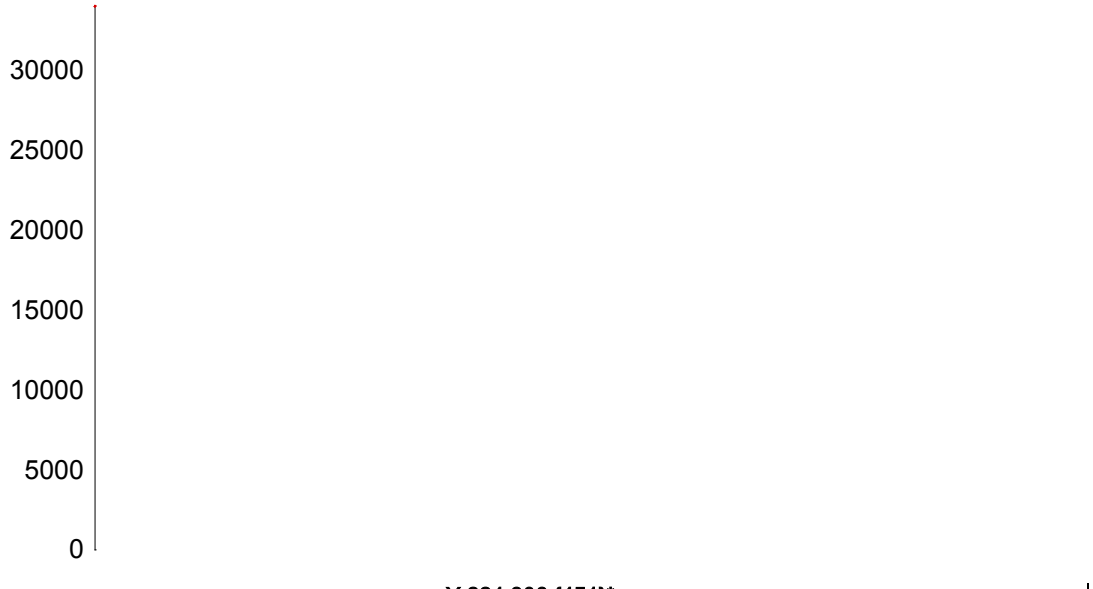


Zn 213.856 {458}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Curvilinear	Weighting:	None

A0 (Offset):	27.225440		Re-Slope:	1.000000	
A1 (Gain):	9.123716		Y-int:	0.000000	
A2 (Curvature):	0.000033				
n (Exponent):	1.000000				
Correlation:	1.000000	Status:	Warning	Positive Curvature	
Std Error of Est:	30.665827				
Predicted MDL:	0.147328				
Predicted MQL:	0.491092				

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-1.3345	-1.33	.000	15.050	1.28	1
CalStd8=100	100.00	106.07	6.07	6.07	995.35	3.17	1
CalStd7=50	50.000	49.132	-.868	-1.74	475.57	5.44	1
CalStd5=10	10.000	8.3464	-1.65	-16.5	103.38	.829	1
CalStd9=100	1000.0	999.41	-.589	-.059	9179.1	71.6	1
CalStd4=5	5.0000	3.3690	-1.63	-32.6	57.964	1.78	1
CalStd10=10	10000.	10000.	.005	.000	94534.	241.	1

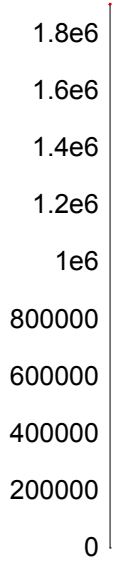


Y 224.306 {451}*

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.000000	Status:	Warning Zero Gain
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	31555.	433.	1

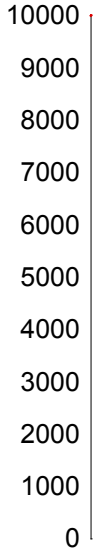


Y 324.228 {104}*

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.000000	Status:	Warning Zero Gain
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	1750200.	34000.	1

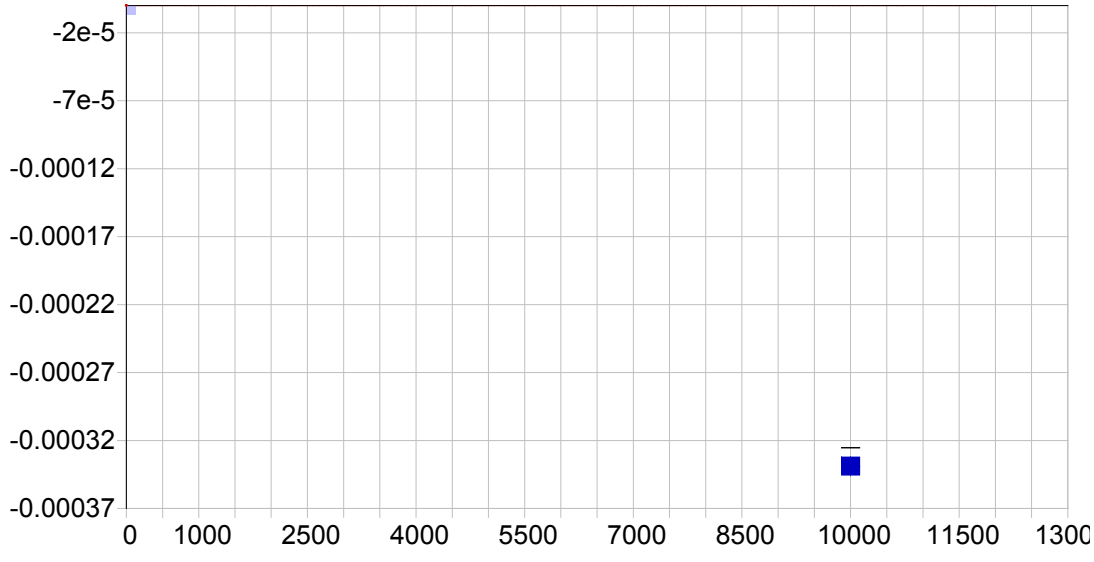


Y 371.030 { 91}*

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.000000	Status:	Warning Zero Gain
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	8872.4	123.	1

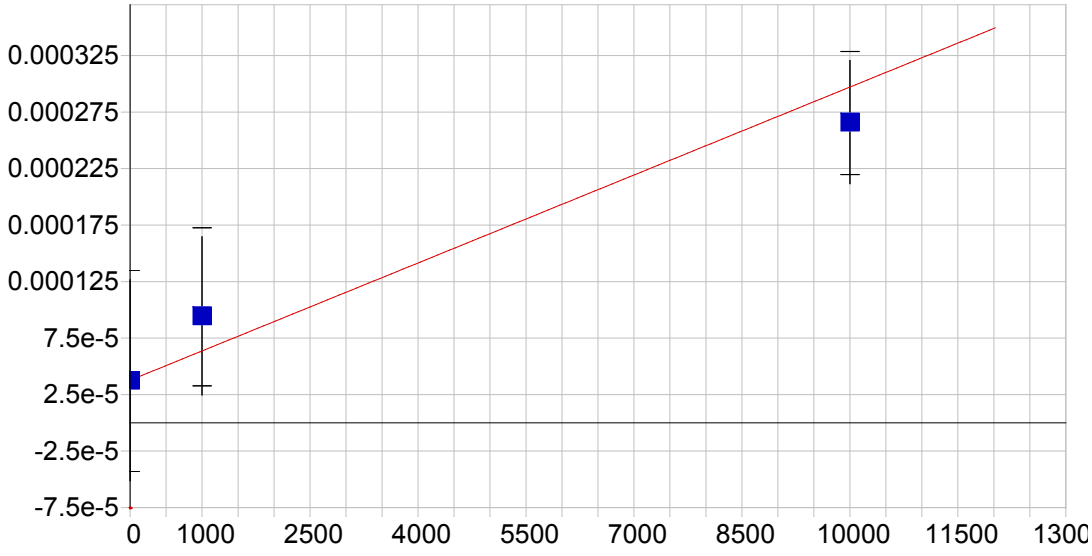


Na 588.995 { 57}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.000000	Status:	Warning Zero Gain
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-----	-----	-----	.00000	-----	0
CalStd10=10	10000.	.00000	-10000.	-100.	-.00034	.000	1

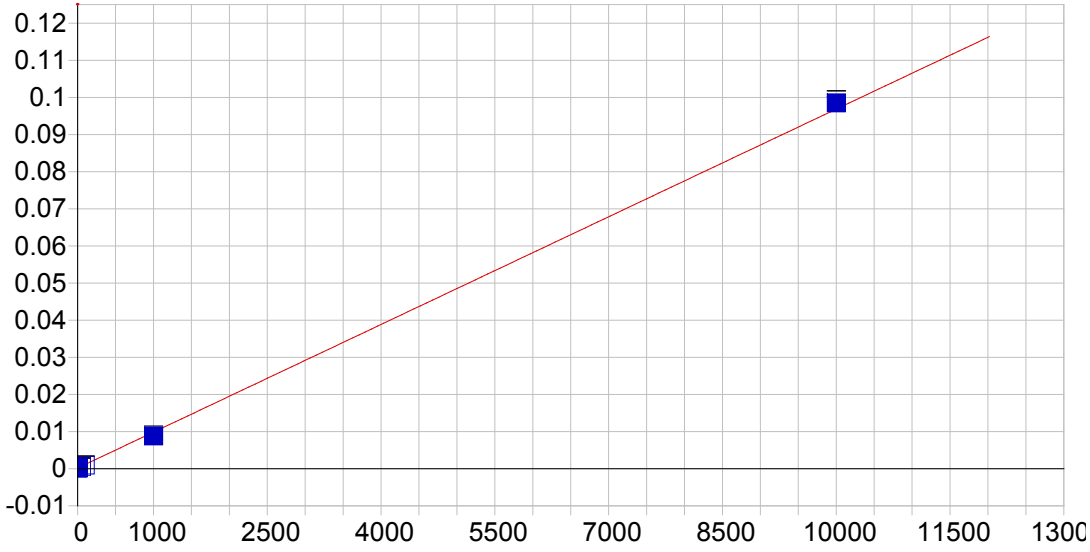


Si 251.611 {134}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000038	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.935437	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	2846.579764		
Predicted MQL:	9488.599214		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-1.0746	-1.07	.000	.00004	.000	1
CalStd10=10	10000.	8806.0	-1190.	-11.9	.00027	.000	1
CalStd9=100	1000.0	2194.0	1190.	119.	.00009	.000	1

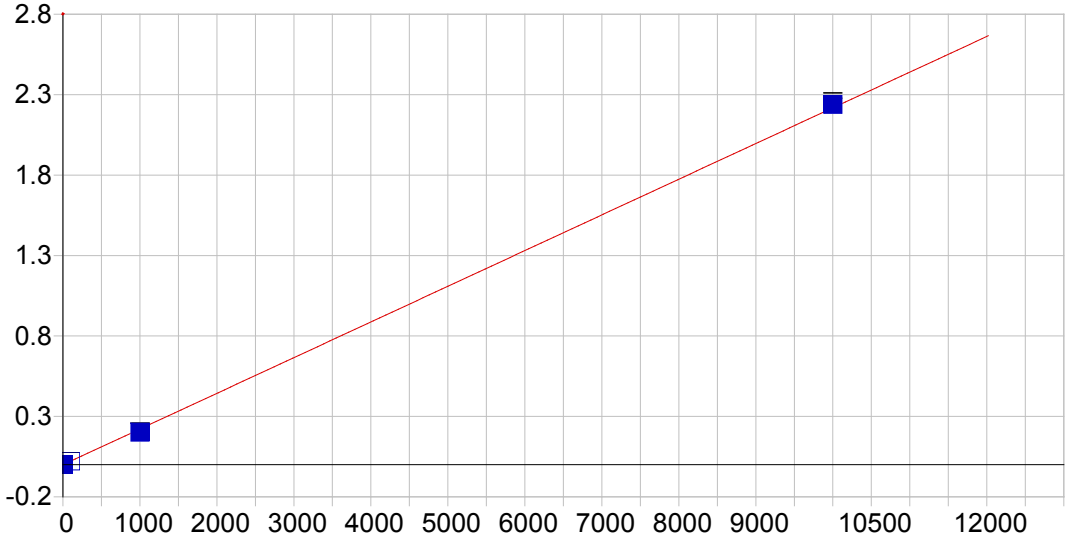


Ti 334.941 {101}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000180	Re-Slope:	1.000000
A1 (Gain):	0.000010	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.997270	Status:	OK.
Std Error of Est:	0.000006		
Predicted MDL:	17.554371		
Predicted MQL:	58.514570		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.01920	.019	.000	.00018	.000	1
CalStd5=10	10.000	2.2006	-7.80	-78.0	.00020	.000	1
CalStd8=100	100.00	78.539	-21.5	-21.5	.00094	.000	1
CalStd9=100	1000.0	889.08	-111.	-11.1	.00878	.000	1
CalStd10=10	10000.	10171.	171.	1.71	.09851	.001	1
CalStd7=50	50.000	31.274	-18.7	-37.5	.00048	.000	1
CalStd4=5	5.0000	-6.8819	-11.9	-238.	.00011	.000	1

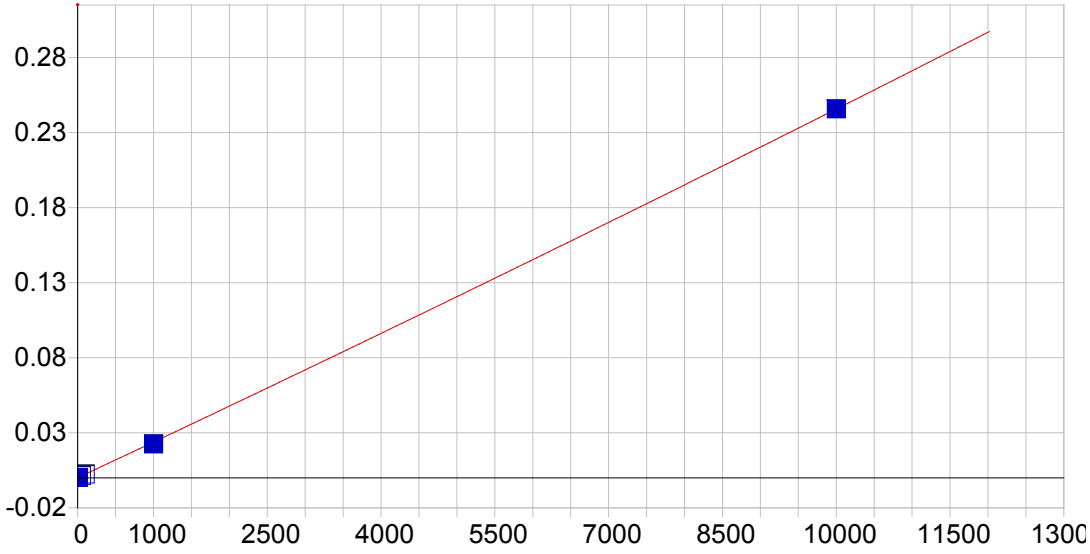


Sr 407.771 { 83}

Date of Fit: 01/25/2016 13:15:08 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	-0.000301	Re-Slope:	1.000000
A1 (Gain):	0.000222	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999575	Status:	OK.
Std Error of Est:	0.000025		
Predicted MDL:	1.480080		
Predicted MQL:	4.933600		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00037	.000	.000	-.00030	.000	1
CalStd3=1	1.0000	1.2439	.244	24.4	-.00003	.000	1
CalStd4=5	5.0000	6.3143	1.31	26.3	.00110	.000	1
CalStd5=10	10.000	9.5720	-.428	-4.28	.00182	.000	1
CalStd8=100	100.00	99.146	-.854	-.854	.02169	.000	1
CalStd9=100	1000.0	909.44	-90.6	-9.06	.20144	.002	1
CalStd10=10	10000.	10090.	90.3	.903	2.2381	.016	1

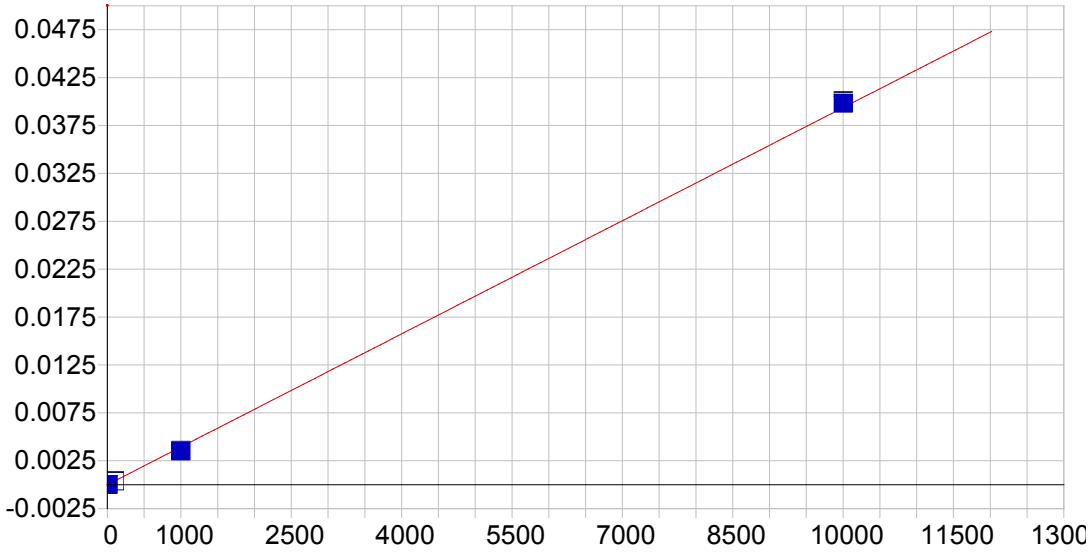


Sn 189.989 {478}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Curvilinear	Weighting:	1/Var

A0 (Offset):	0.000025	Re-Slope:	1.000000
A1 (Gain):	0.000024	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999979	Status:	Warning Positive Curvature
Std Error of Est:	0.000047		
Predicted MDL:	0.975500		
Predicted MQL:	3.251667		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.77044	-.770	.000	.00001	.000	1
CalStd10=10	10000.	10000.	.373	.004	.24565	.000	1
CalStd9=100	1000.0	944.06	-55.9	-5.59	.02248	.000	1
CalStd8=100	100.00	101.71	1.71	1.71	.00244	.000	1
CalStd5=10	10.000	10.305	.305	3.05	.00027	.000	1
CalStd7=50	50.000	55.310	5.31	10.6	.00134	.000	1
CalStd4=5	5.0000	4.8240	-.176	-3.52	.00014	.000	1

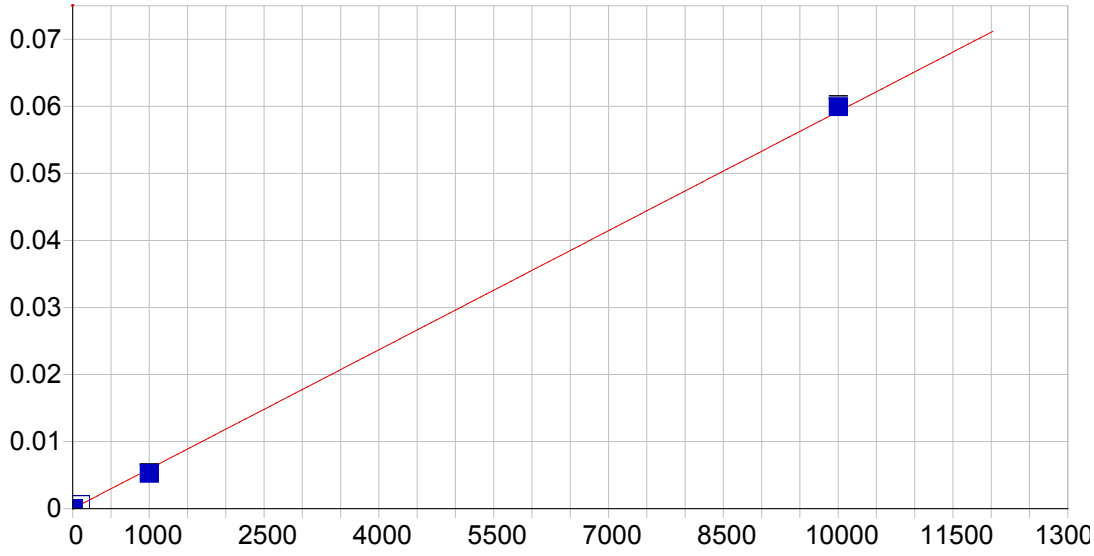


B 249.678 {135}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000003	Re-Slope:	1.000000
A1 (Gain):	0.000004	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999392	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	0.756414		
Predicted MQL:	2.521379		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00148	.001	.000	.00000	.000	1
CalStd8=100	100.00	95.692	-4.31	-4.31	.00037	.000	1
CalStd5=10	10.000	9.9366	-.063	-.634	.00004	.000	1
CalStd9=100	1000.0	890.35	-110.	-11.0	.00350	.000	1
CalStd10=10	10000.	10114.	114.	1.14	.03981	.000	1

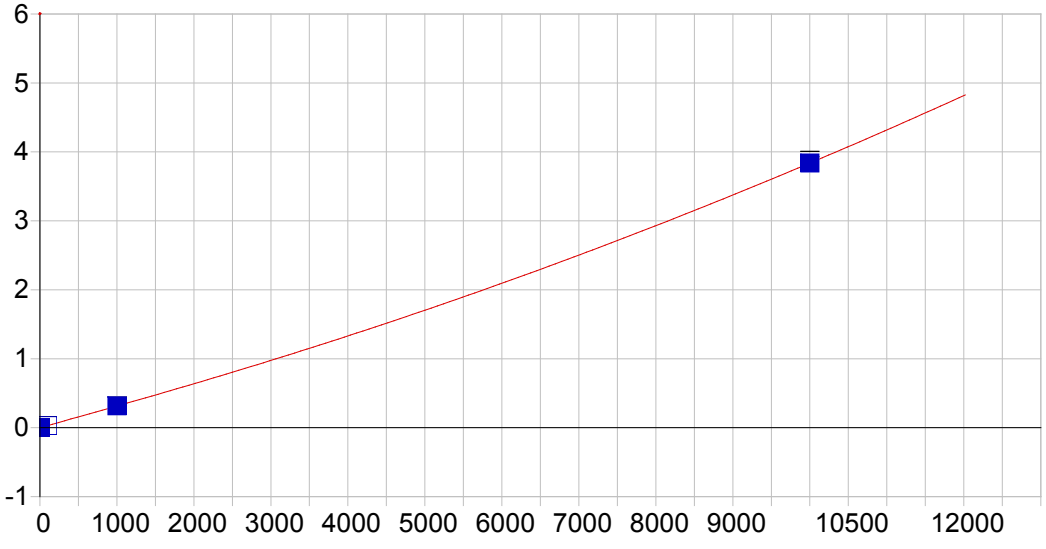


B 249.773 {135}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000006	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999345	Status:	OK.
Std Error of Est:	0.000003		
Predicted MDL:	0.444174		
Predicted MQL:	1.480581		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00169	.002	.000	.00000	.000	1
CalStd8=100	100.00	95.524	-4.48	-4.48	.00057	.000	1
CalStd5=10	10.000	9.7820	-.218	-2.18	.00006	.000	1
CalStd9=100	1000.0	885.93	-114.	-11.4	.00526	.000	1
CalStd10=10	10000.	10119.	119.	1.19	.06004	.000	1

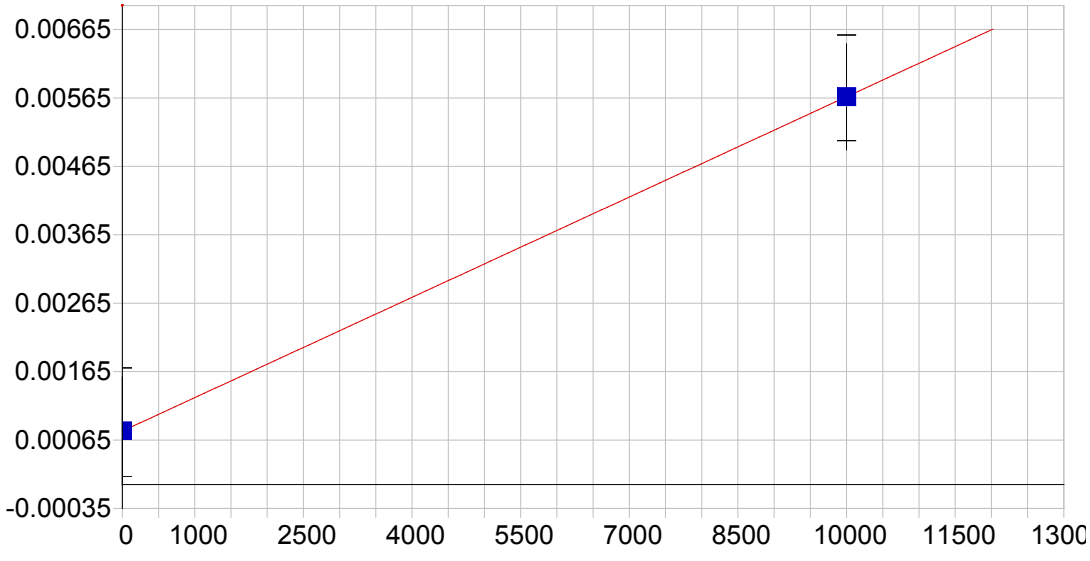


Li 670.784 { 50}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Full Fit	Weighting:	1/Conc

A0 (Offset):	-0.004624	Re-Slope:	1.000000
A1 (Gain):	0.000431	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	0.950000		
Correlation:	0.999967	Status:	Warning Positive Curvature
Std Error of Est:	0.000073		
Predicted MDL:	2.892129		
Predicted MQL:	9.640430		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	-.00462	.001	1
CalStd5=10	10.000	12.355	2.36	23.6	.00007	.001	1
CalStd8=100	100.00	94.556	-5.44	-5.44	.02798	.002	1
CalStd9=100	1000.0	1003.2	3.23	.323	.31555	.003	1
CalStd10=10	10000.	9999.8	-.216	-.002	3.8377	.038	1

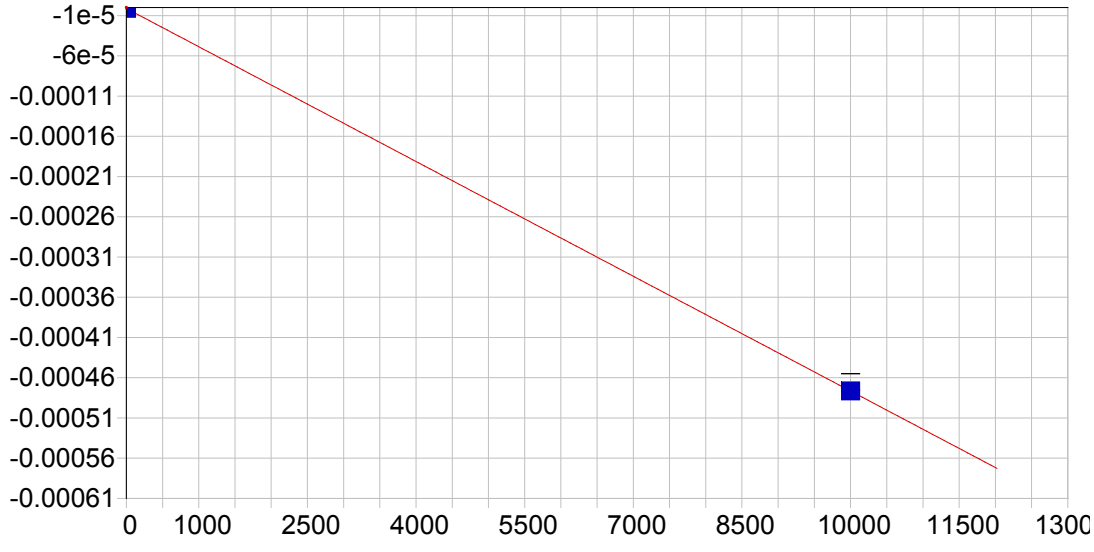


K 766.490 { 44}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000781	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	2200.155061		
Predicted MQL:	7333.850202		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00078	.001	1
CalStd10=10	10000.	10000.	.000	.000	.00566	.001	1

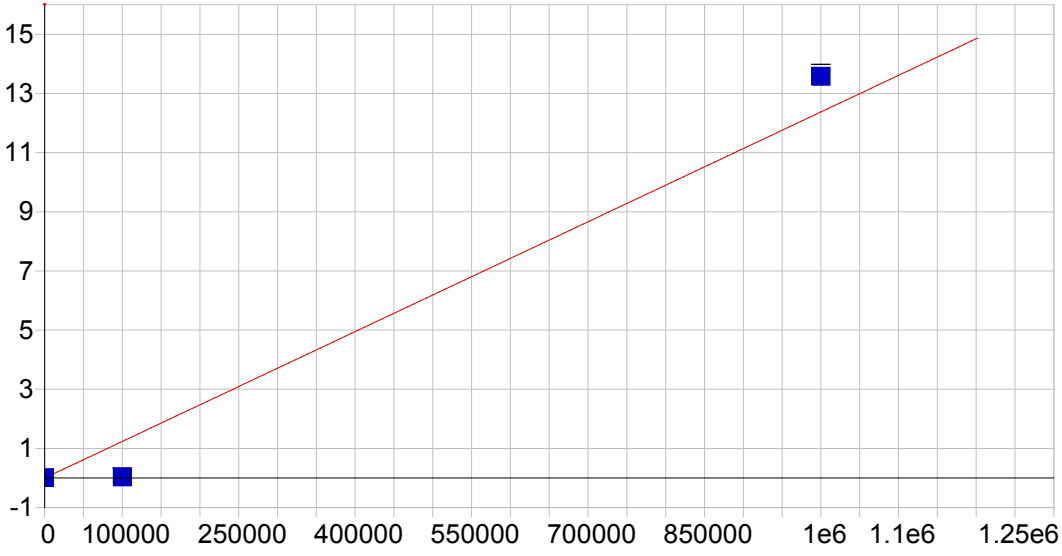


P 213.618 {457}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000001	Re-Slope:	1.000000
A1 (Gain):	-0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	Warning Negative Gain
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00000	.000	1
CalStd10=10	10000.	10000.	.000	.000	-.00048	.000	1

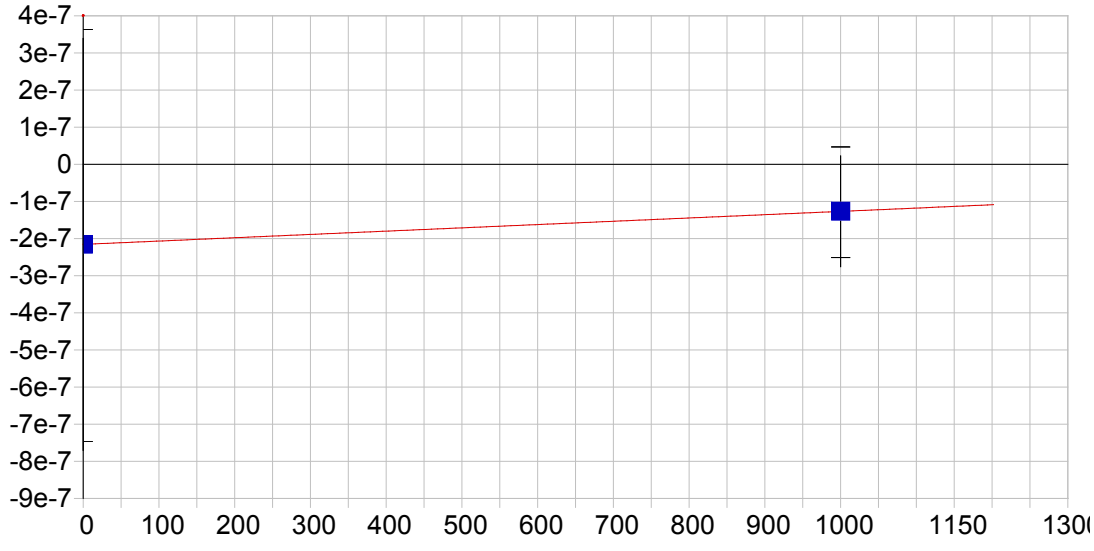


S 182.034 {485}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.001118	Re-Slope:	1.000000
A1 (Gain):	0.000012	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.956030	Status:	OK.
Std Error of Est:	0.068909		
Predicted MDL:	2.330338		
Predicted MQL:	7.767793		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	87.246	87.2	.000	-.00004	.000	1
CalStd12-100	100000.	3060.5	-96900.	-96.9	.03661	.000	1
CalStd14-100	1000000.	1096900.	96900.	9.69	13.574	.102	1



W 239.709 {140}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	4216.305002		
Predicted MQL:	14054.35000		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00000	.000	1
CalStd9=100	1000.0	1000.0	.000	.000	.00000	.000	1

Sample Name: Blank Acquired: 01/21/2016 13:12:08 Type: Cal
Method: DOD Calibration Updated 060614(v1231) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	Al1670	As1937	As1890	Ba4554	Ba4934	Be3130	Be2348	Ca3158	Ca3968	Cd2265
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.000**	**753.**	**1680.**	**-225.**	**.000**	**.000**	**.002**	**.000**
Stddev	.00	.00	.000	.00	.00	9.	31.	3.	.00	.000	.000	.000
%RSD	74.9	97.8	5.10	71.1	18.2	1.22	1.82	1.23	594.	73.3	17.8	359.

Elem	Cd2288	Co2286	Co2388	Cr2055	Cr2677	Cu2247	Cu3247	Fe2343	Fe2395	Fe2599	Mg2025	Mg2802
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.001**	**.007**	**.000**	**.000**	**.000**	**.000**
Stddev	.00	.00	.000	.00	.000	.000	.000	.000	.000	.000	.00	.000
%RSD	96.1	23.6	51.2	45.1	566.	22.3	8.82	3.53	3850.	28.7	7.95	9.53

Elem	Mn2576	Mn2593	Mo2045	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Se2062
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	.000	.00	.000	.00	.00	.00	.000	.000	.000	.00	.000	.00
%RSD	27.1	59.9	145.	72.2	22.2	64.8	14.8	109.	47.6	369.	237.	174.

Elem	Tl1908	Tl1908	V_2908	V_2924	Zn2062	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**21.0**	**15.1**
Stddev	.000	.00	.000	.00	1.2	1.3
%RSD	13.1	46.0	49.3	96.9	5.71	8.49

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**31555.**	**1750200.**	**8872.4**
Stddev	433.	33976.	122.8
%RSD	1.3736	1.9413	1.3846

Sample Name: CalStd1=0.25 Acquired: 01/21/2016 13:17:01 Type: Cal
Method: DOD Calibration Updated 060614(v1231) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Be3130
Units	Cts/S
Avg	**-156.**
Stddev	3.
%RSD	1.89

Sample Name: CalStd2=0.5 Acquired: 01/21/2016 13:21:51 Type: Cal
Method: DOD Calibration Updated 060614(v1231) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Be3130	Cd2265	Cd2288
Units	Cts/S	Cts/S	Cts/S
Avg	**-86.7**	**.000**	**.000**
Stddev	5.4	.000	.000
%RSD	6.21	5.83	31.6

Int. Std.	Y_2243
Units	Cts/S
Avg	**31308.**
Stddev	435.
%RSD	1.3879

Sample Name: CalStd3=1 Acquired: 01/21/2016 13:26:41 Type: Cal
Method: DOD Calibration Updated 060614(v1231) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Ba4554	Be3130	Cd2265	Cd2288	Co2286	Cr2055	Cu2247	Ni2316
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**1030.**	**74.2**	**.001**	**.001**	**.000**	**.000**	**.000**	**.000**
Stddev	.00	10.	1.3	.000	.000	.000	.000	.000	.000
%RSD	532.	.927	1.68	7.37	10.8	23.1	18.0	26.8	59.5

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**31713.**	**1750900.**	**8952.4**
Stddev	110.	49800.	183.4
%RSD	.34655	2.8442	2.0484

Sample Name: CalStd4=5 Acquired: 01/21/2016 13:31:27 Type: Cal
Method: DOD Calibration Updated 060614(v1231) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al1670	As1890	Ba4554	Be3130	Cd2265	Co2286	Cr2055	Cr2677	Cu2247	Mn2576	Mo2045	Ni2316
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**2400.**	**1290.**	**.003**	**.002**	**.001**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	.000	.000	7.	12.	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	4.62	89.9	.296	.899	2.13	3.09	3.25	4.76	10.6	1.98	8.82	6.08

Elem	Pb2169	Pb2203	Sb2175	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**58.0**
Stddev	.000	.000	.000	1.8
%RSD	11.9	18.1	37.9	3.07

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**31970.**	**1773700.**	**8908.3**
Stddev	78.	28456.	89.5
%RSD	.24332	1.6043	1.0052

Sample Name: CalStd5=10 Acquired: 01/21/2016 13:36:17 Type: Cal
Method: DOD Calibration Updated 060614(v1231) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba4554	Be3130	Cd2265	Cd2288	Co2286	Cr2055	Cr2677	Cu2247	Mn2576
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.001**	**.000**	**4020.**	**2810.**	**.006**	**.007**	**.003**	**.003**	**.000**	**.001**	**.000**
Stddev	.000	.000	.000	34.	49.	.000	.000	.000	.000	.000	.000	.000
%RSD	8.17	1.79	8.15	.850	1.73	1.28	.757	1.16	1.47	3.80	6.12	1.67

Elem	Mo2045	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Tl1908	Tl1908	V_2924	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.001**	**.000**	**.000**	**.000**	**.001**	**.000**	**.000**	**103.**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	1.
%RSD	4.66	3.47	14.1	7.75	5.75	34.7	37.5	3.04	21.2	4.07	.802

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**32001.**	**1794800.**	**8888.0**
Stddev	251.	35330.	132.4
%RSD	.78309	1.9685	1.4892

Sample Name: CalStd6=20 Acquired: 01/21/2016 13:41:07 Type: Cal
Method: DOD Calibration Updated 060614(v1231) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ba4554	Cu2247	Mn2576	Mo2045	Sb2175	V_2924
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**7450.**	**.002**	**.001**	**.000**	**.000**	**.000**
Stddev	37.	.000	.000	.000	.000	.000
%RSD	.496	6.13	2.12	.760	8.39	3.64

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**32061.**	**1792700.**	**8900.8**
Stddev	150.	33858.	60.5
%RSD	.46878	1.8886	.67979

Sample Name: CalStd7=50 Acquired: 01/21/2016 13:45:54 Type: Cal
Method: DOD Calibration Updated 060614(v1231) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al1670	As1937	Ba4554	Cd2265	Co2286	Cr2055	Cr2677	Cu2247	Mg2802	Mn2576	Mo2045
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.003**	**.001**	**16600.**	**.027**	**.017**	**.014**	**.000**	**.005**	**.004**	**.002**	**.000**
Stddev	.000	.000	80.	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	1.38	2.37	.484	1.79	1.75	2.08	.380	2.22	.263	.309	1.57

Elem	Mo2045	Ni2316	Sb2068	Se1960	V_2924	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.002**	**.001**	**.000**	**476.**
Stddev	.000	.000	.000	.000	.000	5.
%RSD	1.31	.180	1.03	4.69	1.48	1.14

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**31762.**	**1775800.**	**8895.8**
Stddev	338.	8115.	173.4
%RSD	1.0647	.45700	1.9498

Sample Name: CalStd8=100 Acquired: 01/21/2016 13:50:37 Type: Cal
Method: DOD Calibration Updated 060614(v1231) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	As1937	As1890	Ba4554	Ba4934	Be3130	Be2348	Ca3968	Cd2265	Cd2288	Co2286
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.002**	**.000**	**33400.**	**40200.**	**31000.**	**.000**	**.020**	**.058**	**.075**	**.036**
Stddev	.000	.000	.000	305.	448.	353.	.000	.000	.000	.000	.000
%RSD	1.41	1.66	3.45	.913	1.11	1.14	15.9	1.50	.277	.269	.473

Elem	Co2388	Cr2055	Cr2677	Cu2247	Cu3247	Mg2802	Mn2576	Mo2045	Mo2045	Ni2216	Ni2316
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.029**	**.001**	**.010**	**.001**	**.009**	**.003**	**.000**	**.000**	**.001**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	1.29	.370	1.39	1.01	9.57	1.18	1.14	2.29	2.75	1.63	1.47

Elem	Pb2169	Pb2203	Sb2175	Se1960	Se2062	Tl1908	Tl1908	V_2908	V_2924	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.002**	**.006**	**.002**	**.001**	**.000**	**.005**	**.002**	**.000**	**.001**	**995.**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	3.
%RSD	4.28	2.31	1.85	2.34	15.2	.955	1.98	15.1	1.07	.318

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**31757.**	**1762900.**	**8881.9**
Stddev	68.	24983.	42.6
%RSD	.21388	1.4172	.47975

Sample Name: CalStd9=1000 Acquired: 01/21/2016 13:55:15 Type: Cal
Method: DOD Calibration Updated 060614(v1231) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Al1670	As1937	As1890	Ba4554	Ba4934	Be3130	Be2348	Ca3158	Ca3968
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.003**	**.057**	**.021**	**.004**	**296000.**	**356000.**	**286000.**	**.003**	**.001**	**.173**
Stddev	.000	.001	.000	.000	4300.	7060.	3240.	.000	.000	.001
%RSD	5.90	1.58	1.93	1.62	1.46	1.98	1.13	2.60	3.31	.302

Elem	Cd2265	Cd2288	Co2286	Co2388	Cr2055	Cr2677	Cu2247	Cu3247	Fe2343	Fe2395
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.533**	**.688**	**.337**	**.004**	**.274**	**.007**	**.095**	**.004**	**.232**	**.001**
Stddev	.009	.012	.006	.000	.004	.000	.002	.000	.001	.000
%RSD	1.61	1.70	1.74	1.14	1.63	.944	1.89	1.75	.416	11.3

Elem	Fe2599	Mg2025	Mg2802	Mn2576	Mn2593	Mo2045	Mo2045	Ni2216	Ni2316	Pb2169
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.002**	**.000**	**.075**	**.030**	**.007**	**.002**	**.001**	**.006**	**.004**	**.012**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	4.36	2.38	.486	1.20	1.63	2.30	2.57	2.30	2.37	1.47

Elem	Pb2203	Sb2068	Sb2175	Se1960	Se2062	Tl1908	Tl1908	V_2908	V_2924	Zn2062
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.055**	**.028**	**.019**	**.010**	**.003**	**.044**	**.015**	**.001**	**.009**	**15300.**
Stddev	.001	.000	.000	.000	.000	.001	.000	.000	.000	126.
%RSD	1.53	1.50	1.90	1.63	3.02	1.71	1.52	6.59	.785	.824

Elem	Zn2138
Units	Cts/S
Avg	**9180.**
Stddev	72.
%RSD	.780

Sample Name: CalStd9=1000 Acquired: 01/21/2016 13:55:15 Type: Cal
Method: DOD Calibration Updated 060614(v1231) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**31549.**	**1766800.**	**8974.3**
Stddev	273.	33988.	72.7
%RSD	.86655	1.9237	.81016

Sample Name: CalStd10=10000 Acquired: 01/21/2016 14:00:20 Type: Cal
Method: DOD Calibration Updated 060614(v1231) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	As1937	As1890	Ca3158	Ca3968	Co2286	Co2388	Cr2055	Cr2677	Cu2247
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.041**	**.231**	**.042**	**.010**	**1.92**	**3.64**	**.048**	**2.99**	**.076**	**1.01**
Stddev	.000	.000	.000	.000	.01	.01	.000	.01	.000	.00
%RSD	1.02	.208	.217	1.47	.782	.220	.275	.195	.163	.386

Elem	Cu3247	Fe2343	Fe2395	Fe2599	Mg2025	Mg2802	Mn2576	Mn2593	Mo2045	Mo2045
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.039**	**2.40**	**.005**	**.019**	**.004**	**.762**	**.318**	**.076**	**.018**	**.009**
Stddev	.000	.01	.000	.000	.000	.011	.001	.001	.000	.000
%RSD	.324	.502	1.03	1.18	1.05	1.45	.275	.896	.982	1.01

Elem	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Se2062	Tl1908	Tl1908
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.067**	**.041**	**.128**	**.599**	**.306**	**.205**	**.109**	**.034**	**.452**	**.155**
Stddev	.001	.000	.000	.001	.001	.000	.000	.000	.001	.000
%RSD	1.10	1.11	.227	.180	.224	.233	.354	.287	.247	.146

Elem	V_2908	V_2924	Zn2062	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.016**	**.110**	**160000.**	**94500.**
Stddev	.000	.000	264.	241.
%RSD	.897	.433	.165	.255

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**30531.**	**1660100.**	**8810.0**
Stddev	41.	14522.	93.0
%RSD	.13582	.87479	1.0561

Sample Name: CalStd11-100k Acquired: 01/21/2016 14:05:14 Type: Cal
Method: DOD Calibration Updated 060614(v1231) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Cr2055	Cu3247	Mn2593	Pb2169	Zn2062
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**27.5**	**.368**	**.730**	**1.31**	**1510000.**
Stddev	.0	.002	.006	.00	2130.
%RSD	.018	.471	.756	.154	.140

Int. Std.	Y_2243	Y_3710
Units	Cts/S	Cts/S
Avg	**30164.**	**8689.2**
Stddev	5.	55.2
%RSD	.01496	.63514

Sample Name: CalStd12-100000 Acquired: 01/21/2016 14:10:29 Type: Cal
Method: DOD Calibration Updated 060614(v1231) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Ca3158	Fe2343	Fe2395	Fe2599	Mg2025
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.418**	**.098**	**22.7**	**.051**	**.192**	**.035**
Stddev	.003	.000	.3	.000	.000	.000
%RSD	.639	.419	1.49	.249	.251	.844

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**30102.**	**1654800.**	**8500.3**
Stddev	149.	13625.	87.6
%RSD	.49501	.82338	1.0310

Sample Name: CalStd13=500000 Acquired: 01/21/2016 14:15:37 Type: Cal
Method: DOD Calibration Updated 060614(v1231) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Ca3158	Fe2343	Fe2395	Fe2599	Mg2025
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**2.19**	**.498**	**94.5**	**.257**	**.957**	**.155**
Stddev	.01	.003	1.3	.002	.004	.005
%RSD	.406	.550	1.39	.617	.452	3.21

Int. Std.	Y_3242	Y_3710
Units	Cts/S	Cts/S
Avg	**1517200.**	**7941.2**
Stddev	13572.	51.0
%RSD	.89449	.64171

Sample Name: CalStd14-1000k Acquired: 01/21/2016 14:20:26 Type: Cal
Method: DOD Calibration Updated 060614(v1231) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Ca3158	Fe2343	Fe2395	Fe2599	Mg2025
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**4.12**	**.907**	**158.**	**.475**	**1.74**	**.271**
Stddev	.06	.013	1.	.008	.03	.002
%RSD	1.48	1.45	.492	1.60	1.49	.775

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**25878.**	**1430300.**	**7104.1**
Stddev	117.	11408.	55.3
%RSD	.45054	.79762	.77799

Sample Name: icv Acquired: 01/21/2016 14:30:22 Type: QC
Method: DOD Calibration Updated 060614(v1231) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1890	Ba4934	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2247	Fe2395	Mg2025
Avg	**54.1**	**12800.**	**2050.**	**2160.**	**53.3**	**10200.**	**54.2**	**523.**	**203.**	**262.**	**5390.**	**10400.**
Stddev	.3	128.	7.	16.	.4	25.	.1	.	2.	1.	128.	73.
%RSD	.629	1.00	.340	.718	.836	.244	.140	.061	1.17	.208	2.38	.700
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**544.**	**520.**	**513.**	**513.**	**527.**	**2050.**	**2170.**	**515.**	**545.**
Stddev	8.	2.	5.	1.	5.	7.	8.	8.	1.
%RSD	1.39	.417	.884	.243	.935	.324	.355	1.46	.183
Check ?	None	None	None	None	None	None	None	None	None
Value									
Range									

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**30974.**	**1703300.**	**7074.6**
Stddev	63.	9144.	66.5
%RSD	.20444	.53686	.94005

Sample Name: ICVLL Acquired: 01/21/2016 14:35:10 Type: QC
Method: DOD Calibration Updated 060614(v1231) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba4554	Be3130	Ca3968	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2802
Avg	F **36.9**	**1310.**	**66.5**	**30.7**	**13.2**	**1580.**	**16.2**	**29.6**	**31.4**	**31.2**	**881.**	**1630.**
Stddev	.3	61.	3.3	.1	.1	5.	.8	1.2	.6	1.3	16.	26.
%RSD	.722	4.67	5.02	.485	.652	.301	5.16	4.16	1.84	4.30	1.78	1.56
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value	60.0											
Range	-30.0%											

Elem	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**33.6**	**31.8**	**29.9**	**32.9**	**60.9**	**81.4**	**64.9**	**29.6**	**31.8**
Stddev	.2	.2	.6	1.6	3.3	4.6	3.0	.3	.6
%RSD	.685	.673	1.95	4.88	5.34	5.69	4.56	1.17	1.91
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**31381.**	**1731300.**	**7130.3**
Stddev	972.	14727.	94.4
%RSD	3.0963	.85063	1.3232

Sample Name: icb Acquired: 01/21/2016 14:44:49 Type: QC
Method: DOD Calibration Updated 060614(v1231) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba4554	Be3130	Ca3968	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2802
Avg	**1.38**	**1.84**	**1.21**	**-.189**	**-.045**	**-5.13**	**-.107**	**-.036**	**.191**	**-.491**	**8.86**	**4.52**
Stddev	1.11	.30	1.14	.058	.008	.92	.042	.076	.356	.356	19.7	.02
%RSD	80.4	16.1	93.8	30.6	18.2	17.8	38.7	211.	186.	72.4	222.	.431
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**.067**	**.834**	**-.226**	**-.190**	**-.864**	**1.13**	**-.436**	**.361**	**-2.58**
Stddev	.048	.346	.365	1.55	2.86	2.80	.963	.447	.05
%RSD	72.0	41.5	161.	818.	331.	248.	221.	124.	2.00
Check ?	None	None	None	None	None	None	None	None	None
Value									
Range									

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**31120.**	**1731400.**	**7130.0**
Stddev	83.	10097.	60.5
%RSD	.26692	.58317	.84884

Sample Name: icsa Acquired: 01/21/2016 14:54:22 Type: QC
Method: DOD Calibration Updated 060614(v1231) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba4554	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2247	Fe2395
Avg	**-.013**	**484000.**	**.002**	**.000**	**.094**	**519000.**	**-.001**	**.907**	**.000**	**-.006**	**519000.**
Stddev	.187	3340.	4.09	.022	.016	4010.	.505	.414	.46	1.14	3910.
%RSD	1450.	.691	186000.	23e6	17.1	.772	38900.	45.6	6260000.	19900.	.753
Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None
High Limit											
Low Limit											

Elem	Mg2025	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**469000.**	**.220**	**.000**	**-.001**	**-.096**	**-.014**	**-.035**	**-.003**	**.000**	**.015**
Stddev	6340.	.332	1.01	1.33	3.04	6.72	8.41	1.89	1.22	.355
%RSD	1.35	151.	322000.	143000.	3160.	47900.	23900.	65800.	404000.	2450.
Check ?	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit										
Low Limit										

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**27259.**	**1526600.**	**6750.9**
Stddev	30.	16996.	9.1
%RSD	.11059	1.1133	.13496

Sample Name: icsab Acquired: 01/21/2016 14:59:14 Type: QC
Method: DOD Calibration Updated 060614(v1231) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	As1890	Ba4554	Ba4934	Be3130	Be2348	Ca3158	Cd2265	Cd2288
Avg	**492.**	**411000.**	**481.**	**591.**	F **400.**	**538.**	**480.**	**576.**	**443000.**	**492.**	**529.**
Stddev	6.	1860.	4.	14.	3.	10.	3.	22.	3370.	8.	8.
%RSD	1.17	.453	.901	2.37	.823	1.93	.553	3.76	.761	1.66	1.54
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value					500.						
Range					-20.0%						

Elem	Co2286	Co2388	Cr2055	Cr2677	Cu2247	Cu3247	Fe2395	Mg2025	Mn2576	Mo2045	Mo2045
Avg	**443.**	**444.**	**491.**	**454.**	**442.**	**587.**	**426000.**	**417000.**	**474.**	**455.**	**440.**
Stddev	7.	5.	8.	3.	7.	25.	3720.	3890.	3.	4.	6.
%RSD	1.55	1.02	1.73	.651	1.57	4.29	.874	.933	.667	.815	1.44
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Elem	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Se2062	Tl1908	Tl1908	V_2924
Avg	**448.**	**432.**	**563.**	**417.**	**490.**	**473.**	**449.**	**400.**	**411.**	**525.**	**463.**
Stddev	4.	5.	3.	7.	8.	11.	1.	1.	5.	8.	4.
%RSD	.900	1.14	.493	1.75	1.70	2.41	.222	.291	1.30	1.47	.943
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Sample Name: icsab Acquired: 01/21/2016 14:59:14 Type: QC
Method: DOD Calibration Updated 060614(v1231) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Zn2062	Zn2138
Avg	**489.**	**445.**
Stddev	2.	3.
%RSD	.377	.766
Check ?	Chk Pass	Chk Pass
Value		
Range		

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**27580.**	**1520200.**	**6398.4**
Stddev	313.	15199.	22.5
%RSD	1.1363	.99980	.35118

Sample Name: ICV LL Ag Acquired: 01/21/2016 15:04:23 Type: Unk
Method: DOD Calibration Updated 060614(v1231) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba4554	Be3130	Ca3968	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2802
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**10.8**	**30.7**	**2.15**	**-.167**	**.003**	**24.4**	**-.052**	**-.011**	**-.002**	**-.354**	**159.**	**25.3**
Stddev	.3	2.2	1.36	.025	.006	.6	.071	.079	.444	.636	14.	.4
%RSD	2.94	7.29	63.4	15.0	194.	2.25	136.	739.	25300.	179.	8.74	1.61

Elem	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-.071**	**2.86**	**-.075**	**1.03**	**.669**	**7.74**	**.947**	**-.172**	**.448**
Stddev	.048	.09	.192	.83	.866	3.67	.354	.280	.144
%RSD	67.8	3.17	255.	80.9	129.	47.4	37.4	163.	32.1

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**31227.**	**1710500.**	**6450.6**
Stddev	38.	1295.	68.3
%RSD	.12226	.07572	1.0582

Sample Name: lcsw55928 Acquired: 01/21/2016 15:48:31 Type: Unk
Method: DOD Calibration Updated 060614(v1231) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	Al1670	As1937	As1890	Ba4554	Ba4934	Be3130	Ca3158	Cd2265	Co2286
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**18.8**	**1000.**	**768.**	**786.**	**791.**	**800.**	**685.**	**18.4**	**174000.**	**19.5**	**188.**
Stddev	.6	70.	5.	6.	8.	1.	5.	.1	1240.	.3	1.
%RSD	3.12	7.02	.715	.756	.974	.094	.763	.488	.714	1.29	.599

Elem	Cr2677	Cu2247	Fe2599	Mg2025	Mn2576	Mo2045	Ni2216	Ni2316	Pb2203	Sb2175	Se1960
Units	ug/L	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**73.3**	**93.7**	**403.**	**105000.**	**198.**	**.547**	**188.**	**182.**	**177.**	**193.**	**777.**
Stddev	.4	.3	60.	181.	1.	.268	.	1.	1.	6.	6.
%RSD	.593	.350	14.9	.173	.350	49.0	.132	.606	.815	3.24	.792

Elem	Se2062	Tl1908	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**785.**	**717.**	**716.**	**189.**	**186.**
Stddev	13.	5.	7.	2.	2.
%RSD	1.59	.730	.930	.814	.876

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**28590.**	**1582200.**	**6162.3**
Stddev	6.	14913.	26.9
%RSD	.02018	.94258	.43600

Sample Name: ccv1 Acquired: 01/21/2016 15:53:51 Type: QC
Method: DOD Calibration Updated 060614(v1231) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1890	Ba4934	Be2348	Ca3158	Cd2288	Co2388	Cr2055	Cu3247	Fe2395	Mg2025
Avg	**474.**	**5370.**	**4800.**	**4810.**	**531.**	**4870.**	**535.**	**4890.**	**4850.**	**4680.**	**5340.**	**5020.**
Stddev	9.	210.	20.	44.	29.	104.	2.	69.	28.	36.	194.	54.
%RSD	1.83	3.91	.416	.918	5.40	2.14	.423	1.41	.575	.775	3.63	1.08
Check ?	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	None	Chk Pass
Value												
Range												

Elem	Mn2593	Mo2045	Ni2216	Pb2169	Sb2068	Se2062	Tl1908	V_2908	Zn2062
Avg	**5060.**	**4770.**	**4880.**	**4820.**	**4860.**	**4870.**	**4940.**	**4960.**	**4940.**
Stddev	35.	48.	50.	22.	22.	34.	15.	206.	18.
%RSD	.688	1.01	1.03	.446	.445	.703	.309	4.14	.361
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass
Value									
Range									

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**30672.**	**1674100.**	**6159.5**
Stddev	105.	22881.	77.3
%RSD	.34219	1.3668	1.2550

Sample Name: ccv2 Acquired: 01/21/2016 15:58:47 Type: QC
Method: DOD Calibration Updated 060614(v1231) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba4554	Be3130	Ca3968	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2802
Avg	**49.8**	**544.**	**500.**	**494.**	**52.1**	**522.**	**53.7**	**507.**	**494.**	**514.**	**522.**	**548.**
Stddev	.6	5.	4.	8.	.4	7.	.6	5.	10.	4.	51.	12.
%RSD	1.10	.912	.820	1.60	.756	1.30	1.20	.948	2.02	.760	9.76	2.18
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**526.**	**518.**	**499.**	**499.**	**499.**	**521.**	**530.**	**479.**	**529.**
Stddev	11.	7.	8.	5.	6.	6.	5.	8.	2.
%RSD	2.16	1.26	1.52	1.03	1.14	1.22	.897	1.59	.322
Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**31029.**	**1725800.**	**6178.2**
Stddev	212.	28714.	75.9
%RSD	.68185	1.6638	1.2281

Sample Name: ccb Acquired: 01/21/2016 16:03:31 Type: QC
Method: DOD Calibration Updated 060614(v1231) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba4554	Be3130	Ca3968	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2802
Avg	**.625**	**-1.07**	**3.83**	**-.110**	**-.002**	**-8.63**	**-.144**	**-.202**	**.391**	**-.939**	**.765**	**2.32**
Stddev	.435	.37	1.37	.029	.012	1.83	.023	.131	.094	.239	58.6	.07
%RSD	69.6	34.9	35.7	26.2	530.	21.2	16.1	64.9	24.0	25.5	7660.	2.98
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**-.181**	**6.28**	**-.215**	**1.48**	**-1.67**	**12.8**	**1.32**	**.412**	**-2.86**
Stddev	.039	.10	.350	1.16	.20	2.2	.96	.983	.01
%RSD	21.6	1.65	163.	78.3	11.9	17.0	72.8	239.	.310
Check ?	None	None	None	None	None	None	None	None	None
Value									
Range									

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**30452.**	**1696000.**	**6204.1**
Stddev	59.	30598.	33.9
%RSD	.19466	1.8041	.54590

Sample Name: 681538 Acquired: 01/21/2016 16:08:24 Type: Unk
Method: DOD Calibration Updated 060614(v1231) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba4554	Ba4934	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2247	Fe2599
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**.660**	**324.**	**1.15**	**456.**	**493.**	**-.018**	**62300.**	**-.069**	**-.105**	**2.05**	**-.098**	**334.**
Stddev	.016	57.	.56	13.	1.	.001	139.	.045	.063	.28	.498	13.
%RSD	2.40	17.6	48.9	2.86	.288	7.05	.223	65.1	60.0	13.6	508.	3.95

Elem	Mg2025	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**29500.**	**9.19**	**1.46**	**.702**	**2.10**	**.973**	**4.42**	**.748**	**1.17**	**4.77**
Stddev	344.	.35	.92	.190	.91	.042	2.24	.873	.89	.41
%RSD	1.16	3.76	63.1	27.1	43.1	4.31	50.6	117.	76.2	8.57

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**30632.**	**1668900.**	**6257.2**
Stddev	256.	20617.	3.7
%RSD	.83675	1.2353	.05986

Sample Name: ccv1 Acquired: 01/21/2016 16:38:15 Type: QC
Method: DOD Calibration Updated 060614(v1231) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Ba4934	Be3130	Be2348	Ca3158	Ca3968	Cd2265	Cd2288	Co2388
Avg	**474.**	**5430.**	**4870.**	**4430.**	**4860.**	**504.**	**546.**	**4990.**	**5140.**	**530.**	**542.**	**4920.**
Stddev	9.	71.	12.	25.	83.	4.	16.	140.	17.	1.	2.	104.
%RSD	1.83	1.31	.255	.567	1.70	.814	2.98	2.80	.331	.242	.282	2.12
Check ?	None	Chk Pass	Chk Pass	None	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass
Value												
Range												

Elem	Cr2055	Cu2247	Cu3247	Fe2395	Mg2025	Mg2802	Mn2576	Mn2593	Mo2045	Mo2045	Ni2216	Ni2316
Avg	**4950.**	**4990.**	**4790.**	**5300.**	**5070.**	**5070.**	**5050.**	**5080.**	**4810.**	**4790.**	**4920.**	**4930.**
Stddev	10.	11.	27.	278.	71.	44.	189.	14.	66.	66.	69.	71.
%RSD	.197	.229	.569	5.25	1.41	.866	3.73	.285	1.38	1.37	1.40	1.44
Check ?	None	None	Chk Pass	None	Chk Pass	None	None	Chk Pass	None	Chk Pass	Chk Pass	None
Value												
Range												

Elem	Pb2169	Sb2068	Se1960	Se2062	Tl1908	V_2908	V_2924	Zn2062	Zn2138
Avg	**4900.**	**4910.**	**4970.**	**4930.**	**5010.**	**4980.**	**4890.**	**4930.**	**4980.**
Stddev	13.	8.	18.	27.	10.	96.	106.	4.	9.
%RSD	.268	.164	.352	.542	.207	1.92	2.17	.083	.188
Check ?	Chk Pass	Chk Pass	None	Chk Pass	None	Chk Pass	None	Chk Pass	None
Value									
Range									

Sample Name: ccv1 Acquired: 01/21/2016 16:38:15 Type: QC
Method: DOD Calibration Updated 060614(v1231) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**30111.**	**1660200.**	**6131.6**
Stddev	109.	22129.	58.1
%RSD	.36153	1.3329	.94790

Sample Name: ccv2 Acquired: 01/21/2016 16:43:11 Type: QC
Method: DOD Calibration Updated 060614(v1231) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba4554	Be3130	Ca3968	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2802
Avg	**50.7**	**550.**	**504.**	**498.**	**51.8**	**518.**	**54.5**	**512.**	**495.**	**514.**	**510.**	**550.**
Stddev	.6	2.	2.	7.	.2	3.	.1	1.	6.	1.	68.	5.
%RSD	1.20	.425	.421	1.35	.436	.633	.260	.233	1.14	.169	13.3	.928
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**528.**	**526.**	**503.**	**507.**	**503.**	**526.**	**533.**	**487.**	**527.**
Stddev	5.	3.	2.	1.	3.	3.	3.	5.	1.
%RSD	.935	.567	.414	.241	.612	.512	.568	.939	.185
Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**30750.**	**1705900.**	**6178.5**
Stddev	46.	9735.	86.8
%RSD	.15002	.57068	1.4053

Sample Name: ccb Acquired: 01/21/2016 16:47:55 Type: QC
Method: DOD Calibration Updated 060614(v1231) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba4554	Be3130	Ca3968	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2802
Avg	**1.29**	**-1.00**	**4.76**	**-.172**	**-.048**	**-8.69**	**-.056**	**-.080**	**.170**	**-.483**	**-28.9**	**2.01**
Stddev	.53	.06	2.27	.017	.021	.74	.126	.094	.360	.303	41.7	.03
%RSD	40.9	6.14	47.8	10.1	43.8	8.51	226.	118.	212.	62.7	144.	1.23
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**-.150**	**6.33**	**-.166**	**-.093**	**.954**	**11.6**	**-.376**	**.287**	**-2.94**
Stddev	.065	.98	.304	1.01	2.21	1.2	.388	.080	.06
%RSD	43.6	15.5	183.	1080.	232.	10.3	103.	28.0	2.04
Check ?	None	None	None	None	None	None	None	None	None
Value									
Range									

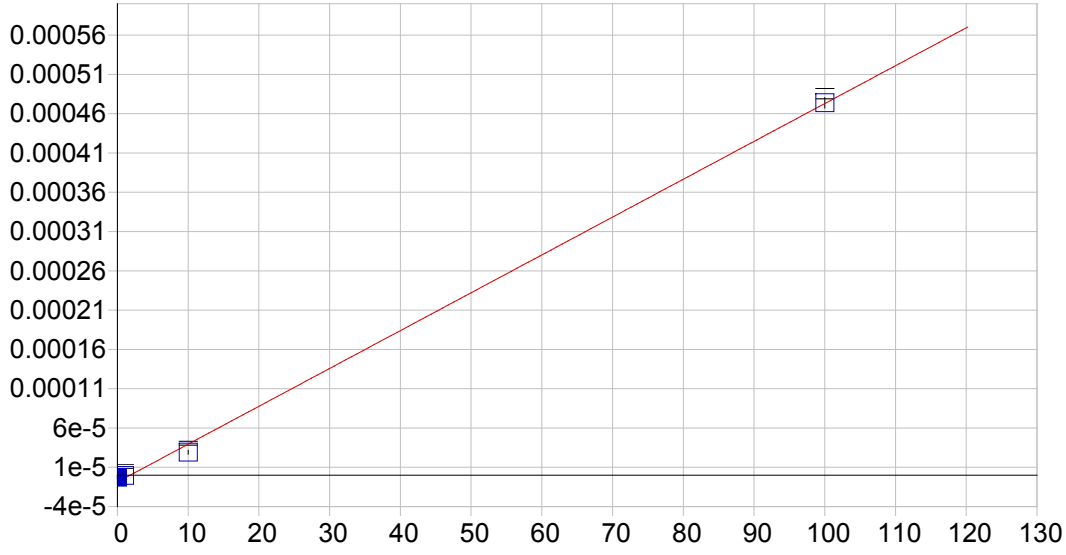
Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**30842.**	**1697500.**	**6179.1**
Stddev	222.	13620.	45.8
%RSD	.71939	.80235	.74200

Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)	Correlation	Std Error of Est	Predicted MDL	Predicted MQL	Status	Resl Slope
Ag 328.068 {103}	01/25/2016 13:15:08	01/21/2016 13:55:07	Linear	None	-0.000009	0.000005	0.000000	1.000000	0.999528	0.000009	0.647942	2.159805	OK.	1.000000
Al 309.271 {109}	01/25/2016 13:15:08	01/21/2016 14:15:29	Curvilin	None	0.002694	0.000001	0.000000	1.000000	0.999995	0.000224	250.114079	833.713597	OK.	1.000000
Al 396.152 { 85}	01/25/2016 13:15:08	01/21/2016 14:25:24	Full Fit	1/Conc	-0.000426	0.000002	0.000000	1.050000	0.999960	0.000082	170.373420	567.911399	OK.	1.000000
Al 167.079 {502}	01/25/2016 13:15:08	01/21/2016 14:00:11	Linear	1/Conc	0.000162	0.000057	0.000000	1.000000	0.999939	0.000002	0.224400	0.748000	OK.	1.000000
As 193.759 {474}	01/25/2016 13:15:08	01/21/2016 14:05:06	Linear	1/Conc	-0.000016	0.000023	0.000000	1.000000	0.999502	0.000009	1.752883	5.842945	OK.	1.000000
As 189.042 {479}	01/25/2016 13:15:08	01/21/2016 14:05:06	Linear	1/Conc	-0.000020	0.000004	0.000000	1.000000	0.999369	0.000001	4.542233	15.140776	OK.	1.000000
Ba 455.403 { 74}	01/25/2016 13:15:08	01/21/2016 14:00:12	Linear	1/Var	752.942734	324.975424	0.000000	1.000000	0.999367	62.755594	0.038932	0.129774	OK.	1.000000
Ba 493.409 { 68}	01/25/2016 13:15:08	01/21/2016 14:00:12	Linear	None	3199.60797	353.440196	0.000000	1.000000	0.999966	2276.32666	0.084411	0.281371	OK.	1.000000
Be 313.042 {108}	01/25/2016 13:15:08	01/21/2016 14:00:12	Linear	1/Conc	-224.74823	288.815929	0.000000	1.000000	0.999652	4.643356	0.016169	0.053897	OK.	1.000000
Be 234.861 {144}	01/25/2016 13:15:08	01/21/2016 14:00:12	Linear	1/Var	0.000000	0.000003	0.000000	1.000000	0.999965	0.000014	17.664930	58.883101	OK.	1.000000
Ca 315.887 {107}	01/25/2016 13:15:08	01/21/2016 14:25:24	Curvilin	1/Var	-0.000039	0.000001	0.000000	1.000000	0.999772	0.000253	90.536810	301.789368	OK.	1.000000
Ca 317.933 {106}	01/25/2016 13:15:08	01/21/2016 14:25:24	Linear	1/Conc	0.002583	0.000004	0.000000	1.000000	0.998906	0.000266	34.631226	115.437421	OK.	1.000000
Ca 393.366 { 86}	01/25/2016 13:15:08	01/21/2016 14:00:12	Linear	1/Conc	0.004050	0.000362	0.000000	1.000000	0.999845	0.000068	0.903493	3.011644	OK.	1.000000
Ca 396.847 { 85}	01/25/2016 13:15:08	01/21/2016 14:05:06	Linear	1/Conc	0.001981	0.000190	0.000000	1.000000	0.999491	0.000286	1.396525	4.655084	OK.	1.000000
Cd 226.502 {149}	01/25/2016 13:15:08	01/21/2016 14:00:12	Curvilin	1/Conc	0.000000	0.000007	-0.000000	1.000000	0.999915	0.000000	0.242976	0.809921	OK.	1.000000
Cd 226.502 {449}	01/25/2016 13:15:08	01/21/2016 14:00:12	Linear	1/Conc	0.000016	0.000538	0.000000	1.000000	0.999664	0.000012	0.109612	0.365373	OK.	1.000000
Cd 228.802 {447}	01/25/2016 13:15:08	01/21/2016 14:00:12	Linear	1/Conc	-0.000065	0.000694	0.000000	1.000000	0.999664	0.000016	0.123244	0.410814	OK.	1.000000
Co 228.616 {447}	01/25/2016 13:15:08	01/21/2016 14:05:06	Linear	1/Conc	-0.000131	0.000362	0.000000	1.000000	0.999765	0.000030	0.191704	0.639015	OK.	1.000000
Co 238.892 {141}	01/25/2016 13:15:08	01/21/2016 14:05:06	Linear	None	-0.000150	0.000005	0.000000	1.000000	0.999952	0.000278	0.488115	1.627051	OK.	1.000000
Cr 205.560 {464}	01/25/2016 13:15:08	01/21/2016 14:10:21	Full Fit	1/Conc	-0.000082	0.000230	-0.000000	1.030000	0.999987	0.000020	0.187098	0.623659	OK.	1.000000
Cr 267.716 {126}	01/25/2016 13:15:08	01/21/2016 14:05:06	Linear	1/Conc	0.000000	0.000008	0.000000	1.000000	0.999277	0.000003	0.397406	1.324687	OK.	1.000000
Cu 224.700 {450}	01/25/2016 13:15:08	01/21/2016 14:05:06	Linear	1/Conc	0.000047	0.000100	0.000000	1.000000	0.999833	0.000007	0.642327	2.141091	OK.	1.000000
Cu 324.754 {104}	01/25/2016 13:15:08	01/21/2016 14:10:21	Curvilin	1/Conc	0.001162	0.000004	0.000000	1.000000	0.999882	0.000009	47.728233	159.094111	OK.	1.000000
Cu 327.396 {103}	01/25/2016 13:15:08	01/21/2016 14:10:21	Curvilin	1/Conc	0.000041	0.000003	0.000000	1.000000	0.999642	0.000005	71.574611	238.582037	OK.	1.000000
Fe 234.349 {144}	01/25/2016 13:15:08	01/21/2016 14:25:24	Full Fit	None	-0.086336	0.000417	-0.000000	0.950000	0.999999	0.114136	0.475675	1.585585	OK.	1.000000
Fe 239.562 {140}	01/25/2016 13:15:08	01/21/2016 14:25:24	Full Fit	1/Var	0.000044	0.000000	0.000000	1.010000	0.999957	0.000214	119.777453	399.258177	OK.	1.000000
Fe 239.562 {141}	01/25/2016 13:15:08	01/21/2016 14:15:29	Linear	1/Var	-0.000001	0.000000	0.000000	1.000000	0.999949	0.000018	204.892882	682.976272	OK.	1.000000
Fe 259.940 {129}	01/25/2016 13:15:08	01/21/2016 14:25:24	Curvilin	1/Var	0.000053	0.000002	0.000000	1.000000	0.999910	0.000208	46.823007	156.076691	OK.	1.000000
Fe 259.940 {130}	01/25/2016 13:15:08	01/21/2016 14:05:06	Linear	1/Conc	0.000057	0.000001	0.000000	1.000000	0.993036	0.000001	69.852028	232.840095	OK.	1.000000
Mg 202.582 {466}	01/25/2016 13:15:08	01/21/2016 14:25:24	Full Fit	None	-0.000009	0.000001	0.000000	0.970000	1.000000	0.000113	1.749596	5.831987	OK.	1.000000
Mg 279.079 {121}	01/25/2016 13:15:08	01/21/2016 14:25:24	Linear	1/Conc	0.000135	0.000000	0.000000	1.000000	0.999494	0.000010	269.691286	898.970954	OK.	1.000000
Mg 280.270 {120}	01/25/2016 13:15:08	01/21/2016 14:05:06	Linear	None	0.000124	0.000076	0.000000	1.000000	0.999997	0.000987	0.022054	0.073515	OK.	1.000000
Mn 257.610 {131}	01/25/2016 13:15:08	01/21/2016 14:05:06	Linear	1/Var	0.000007	0.000032	0.000000	1.000000	0.999853	0.000018	0.054316	0.181053	OK.	1.000000
Mn 259.373 {130}	01/25/2016 13:15:08	01/21/2016 14:10:21	Linear	1/Conc	-0.000074	0.000007	0.000000	1.000000	0.999894	0.000050	12.413004	41.376680	OK.	1.000000
Mo 202.030 {466}	01/25/2016 13:15:08	01/21/2016 14:00:12	Linear	1/Conc	-0.000001	0.000002	0.000000	1.000000	0.999835	0.000000	0.386896	1.289653	OK.	1.000000
Mo 204.598 {464}	01/25/2016 13:15:08	01/21/2016 14:05:06	Linear	1/Conc	0.000000	0.000002	0.000000	1.000000	0.998999	0.000001	0.442954	1.476512	OK.	1.000000
Mo 204.598 {465}	01/25/2016 13:15:08	01/21/2016 14:05:06	Linear	None	-0.000034	0.000001	0.000000	1.000000	0.999900	0.000061	0.789115	2.630383	OK.	1.000000
Ni 221.647 {452}	01/25/2016 13:15:08	01/21/2016 14:05:06	Linear	1/Conc	-0.000006	0.000007	0.000000	1.000000	0.999594	0.000009	0.239613	0.798711	OK.	1.000000
Ni 231.604 {445}	01/25/2016 13:15:08	01/21/2016 14:05:06	Linear	1/Conc	-0.000002	0.000004	0.000000	1.000000	0.999598	0.000000	0.353327	1.177757	OK.	1.000000
Pb 216.999 {455}	01/25/2016 13:15:08	01/21/2016 14:10:21	Curvilin	1/Conc	0.000316	0.000013	0.000000	1.000000	0.999965	0.000003	4.947001	16.490004	Warnin	1.000000
Pb 220.353 {153}	01/25/2016 13:15:08	01/21/2016 14:10:21	Linear	1/Var	-0.000012	0.000038	0.000000	1.000000	0.999340	0.000451	2.009372	6.697908	OK.	1.000000
Pb 220.353 {453}	01/25/2016 13:15:08	01/21/2016 14:05:07	Linear	1/Conc	0.000095	0.000059	0.000000	1.000000	0.999680	0.000014	1.348372	4.494572	OK.	1.000000
Sb 206.833 {463}	01/25/2016 13:15:08	01/21/2016 14:05:07	Linear	1/Conc	0.000092	0.000030	0.000000	1.000000	0.999670	0.000011	1.688185	5.627284	OK.	1.000000
Sb 217.581 {455}	01/25/2016 13:15:08	01/21/2016 14:05:07	Linear	1/Var	-0.000017	0.000020	0.000000	1.000000	0.999940	0.000085	2.662758	8.875860	OK.	1.000000
Se 196.090 {471}	01/25/2016 13:15:08	01/21/2016 14:05:07	Linear	None	-0.000229	0.000008	0.000000	1.000000	0.999932	0.000425	4.316858	14.389525	OK.	1.000000
Se 196.090 {472}	01/25/2016 13:15:08	01/21/2016 14:05:07	Linear	1/Conc	0.000010	0.000011	0.000000	1.000000	0.999476	0.000005	3.365969	11.219898	OK.	1.000000

Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)	Correlation	Std Error of Est	Predicted MDL	Predicted MQL	Status	Resl Slope
Se 206.279 {463}	01/25/2016 13:15:08	01/21/2016 14:05:07	Linear	1/Conc	-0.000017	0.000003	0.000000	1.000000	0.999554	0.000005	15.753051	52.510169	OK.	1.000000
Tl 190.856 {476}	01/25/2016 13:15:08	01/21/2016 14:05:07	Linear	1/Conc	0.000114	0.000045	0.000000	1.000000	0.999953	0.000006	1.100910	3.669699	OK.	1.000000
Tl 190.856 {477}	01/25/2016 13:15:08	01/21/2016 14:05:07	Linear	1/Conc	-0.000090	0.000015	0.000000	1.000000	0.999938	0.000002	2.161376	7.204587	OK.	1.000000
V 290.882 {116}	01/25/2016 13:15:08	01/21/2016 14:05:07	Linear	None	0.000032	0.000002	0.000000	1.000000	0.999891	0.000136	76.593346	255.311155	OK.	1.000000
V 292.402 {115}	01/25/2016 13:15:08	01/21/2016 14:05:07	Linear	1/Conc	-0.000006	0.000011	0.000000	1.000000	0.998980	0.000006	0.440233	1.467442	OK.	1.000000
Zn 206.200 {463}	01/25/2016 13:15:08	01/21/2016 14:10:21	Full Fit	1/Conc	21.171174	12.325961	-0.000011	1.030000	1.000000	0.000000	0.134333	0.447775	OK.	1.000000
Zn 213.856 {458}	01/25/2016 13:15:08	01/21/2016 14:05:07	Curvilin	None	27.225440	9.123716	0.000033	1.000000	1.000000	30.665827	0.147328	0.491092	Warnin	1.000000
Y 224.306 {451}*	01/25/2016 13:15:08	01/21/2016 13:16:54	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000
Y 324.228 {104}*	01/25/2016 13:15:08	01/21/2016 13:16:54	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000
Y 371.030 { 91}*	01/25/2016 13:15:08	01/21/2016 13:16:54	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000
Na 588.995 { 57}	01/25/2016 13:15:08	01/21/2016 14:05:07	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000
Si 251.611 {134}	01/25/2016 13:15:08	01/21/2016 14:05:07	Linear	1/Conc	0.000038	0.000000	0.000000	1.000000	0.935437	0.000002	2846.57976	9488.59921	OK.	1.000000
Ti 334.941 {101}	01/25/2016 13:15:08	01/21/2016 14:05:07	Linear	1/Conc	0.000180	0.000010	0.000000	1.000000	0.997270	0.000006	17.554371	58.514570	OK.	1.000000
Sr 407.771 { 83}	01/25/2016 13:15:08	01/21/2016 14:05:07	Linear	1/Conc	-0.000301	0.000222	0.000000	1.000000	0.999575	0.000025	1.480080	4.933600	OK.	1.000000
Sn 189.989 {478}	01/25/2016 13:15:08	01/21/2016 14:05:07	Curvilin	1/Var	0.000025	0.000024	0.000000	1.000000	0.999979	0.000047	0.975500	3.251667	Warnin	1.000000
B 249.678 {135}	01/25/2016 13:15:08	01/21/2016 14:05:07	Linear	1/Conc	-0.000003	0.000004	0.000000	1.000000	0.999392	0.000002	0.756414	2.521379	OK.	1.000000
B 249.773 {135}	01/25/2016 13:15:08	01/21/2016 14:05:07	Linear	1/Conc	0.000002	0.000006	0.000000	1.000000	0.999345	0.000003	0.444174	1.480581	OK.	1.000000
Li 670.784 { 50}	01/25/2016 13:15:08	01/21/2016 14:05:07	Full Fit	1/Conc	-0.004624	0.000431	0.000000	0.950000	0.999967	0.000073	2.892129	9.640430	Warnin	1.000000
K 766.490 { 44}	01/25/2016 13:15:08	01/21/2016 14:05:07	Linear	1/Conc	0.000781	0.000000	0.000000	1.000000	1.000000	0.000000	2200.15506	7333.85020	OK.	1.000000
P 213.618 {457}	01/25/2016 13:15:08	01/21/2016 14:05:07	Linear	1/Conc	-0.000001	-0.000000	0.000000	1.000000	1.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000
S 182.034 {485}	01/25/2016 13:15:08	01/21/2016 14:25:24	Linear	1/Conc	-0.001118	0.000012	0.000000	1.000000	0.956030	0.068909	2.330338	7.767793	OK.	1.000000
W 239.709 {140}	01/25/2016 13:15:08	01/21/2016 14:00:13	Linear	1/Conc	-0.000000	0.000000	0.000000	1.000000	1.000000	0.000000	4216.30500	14054.3500	OK.	1.000000

Element, Wavelength and Order	ope	QC Norm	
	Y-int	Slope factor	Offset
Ag 328.068 {103}	0.000000	1	0
Al 309.271 {109}	0.000000	1	0
Al 396.152 { 85}	0.000000	1	0
Al 167.079 {502}	0.000000	1	0
As 193.759 {474}	0.000000	1	0
As 189.042 {479}	0.000000	1	0
Ba 455.403 { 74}	0.000000	1	0
Ba 493.409 { 68}	0.000000	1	0
Be 313.042 {108}	0.000000	1	0
Be 234.861 {144}	0.000000	1	0
Ca 315.887 {107}	0.000000	1	0
Ca 317.933 {106}	0.000000	1	0
Ca 393.366 { 86}	0.000000	1	0
Ca 396.847 { 85}	0.000000	1	0
Cd 226.502 {149}	0.000000	1	0
Cd 226.502 {449}	0.000000	1	0
Cd 228.802 {447}	0.000000	1	0
Co 228.616 {447}	0.000000	1	0
Co 238.892 {141}	0.000000	1	0
Cr 205.560 {464}	0.000000	1	0
Cr 267.716 {126}	0.000000	1	0
Cu 224.700 {450}	0.000000	1	0
Cu 324.754 {104}	0.000000	1	0
Cu 327.396 {103}	0.000000	1	0
Fe 234.349 {144}	0.000000	1	0
Fe 239.562 {140}	0.000000	1	0
Fe 239.562 {141}	0.000000	1	0
Fe 259.940 {129}	0.000000	1	0
Fe 259.940 {130}	0.000000	1	0
Mg 202.582 {466}	0.000000	1	0
Mg 279.079 {121}	0.000000	1	0
Mg 280.270 {120}	0.000000	1	0
Mn 257.610 {131}	0.000000	1	0
Mn 259.373 {130}	0.000000	1	0
Mo 202.030 {466}	0.000000	1	0
Mo 204.598 {464}	0.000000	1	0
Mo 204.598 {465}	0.000000	1	0
Ni 221.647 {452}	0.000000	1	0
Ni 231.604 {445}	0.000000	1	0
Pb 216.999 {455}	0.000000	1	0
Pb 220.353 {153}	0.000000	1	0
Pb 220.353 {453}	0.000000	1	0
Sb 206.833 {463}	0.000000	1	0
Sb 217.581 {455}	0.000000	1	0
Se 196.090 {471}	0.000000	1	0
Se 196.090 {472}	0.000000	1	0

Element, Wavelength and Order	ope	QC Norm	
	Y-int	Slope factor	Offset
Se 206.279 {463}	0.000000	1	0
Tl 190.856 {476}	0.000000	1	0
Tl 190.856 {477}	0.000000	1	0
V 290.882 {116}	0.000000	1	0
V 292.402 {115}	0.000000	1	0
Zn 206.200 {463}	0.000000	1	0
Zn 213.856 {458}	0.000000	1	0
Y 224.306 {451}*	0.000000	1	0
Y 324.228 {104}*	0.000000	1	0
Y 371.030 { 91}*	0.000000	1	0
Na 588.995 { 57}	0.000000	1	0
Si 251.611 {134}	0.000000	1	0
Ti 334.941 {101}	0.000000	1	0
Sr 407.771 { 83}	0.000000	1	0
Sn 189.989 {478}	0.000000	1	0
B 249.678 {135}	0.000000	1	0
B 249.773 {135}	0.000000	1	0
Li 670.784 { 50}	0.000000	1	0
K 766.490 { 44}	0.000000	1	0
P 213.618 {457}	0.000000	1	0
S 182.034 {485}	0.000000	1	0
W 239.709 {140}	0.000000	1	0

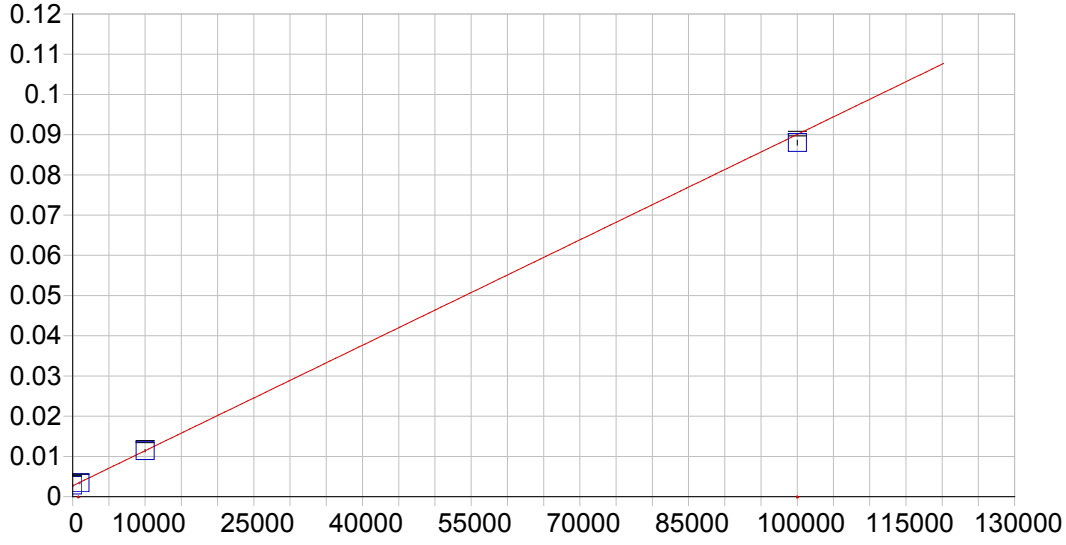


Ag 328.068 {103}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	-0.000009	Re-Slope:	1.000000
A1 (Gain):	0.000005	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999528	Status:	OK.
Std Error of Est:	0.000009		
Predicted MDL:	0.647942		
Predicted MQL:	2.159805		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	1.2361	1.24	.000	.00000	.000	1
CalStd5=10	10.000	7.8606	-2.14	-21.4	.00003	.000	1
CalStd8=100	100.00	100.21	.207	.207	.00047	.000	1
CalStd3=1	1.0000	1.6964	.696	69.6	.00000	.000	1

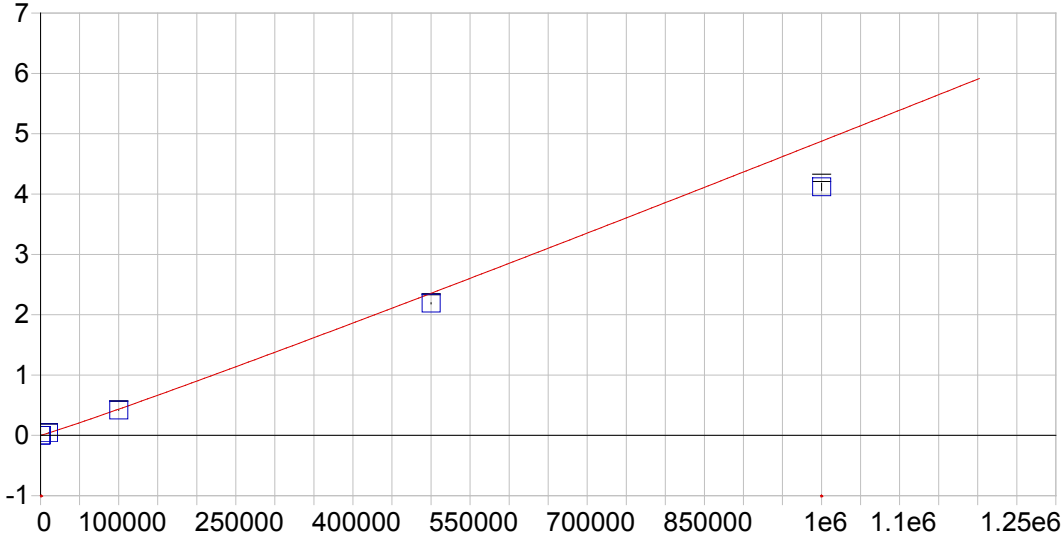


Al 309.271 {109}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Curvilinear	Weighting:	None

A0 (Offset):	0.002694	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999995	Status:	OK.
Std Error of Est:	0.000224		
Predicted MDL:	250.114079		
Predicted MQL:	833.713597		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	170.04	170.	.000	.00284	.000	1
CalStd10=10	10000.	9997.5	-2.47	-.025	.01143	.000	1
CalStd9=100	1000.0	808.92	-191.	-19.1	.00340	.000	1
CalStd12-100	100000.	97653.	-2350.	-2.35	.08801	.001	1

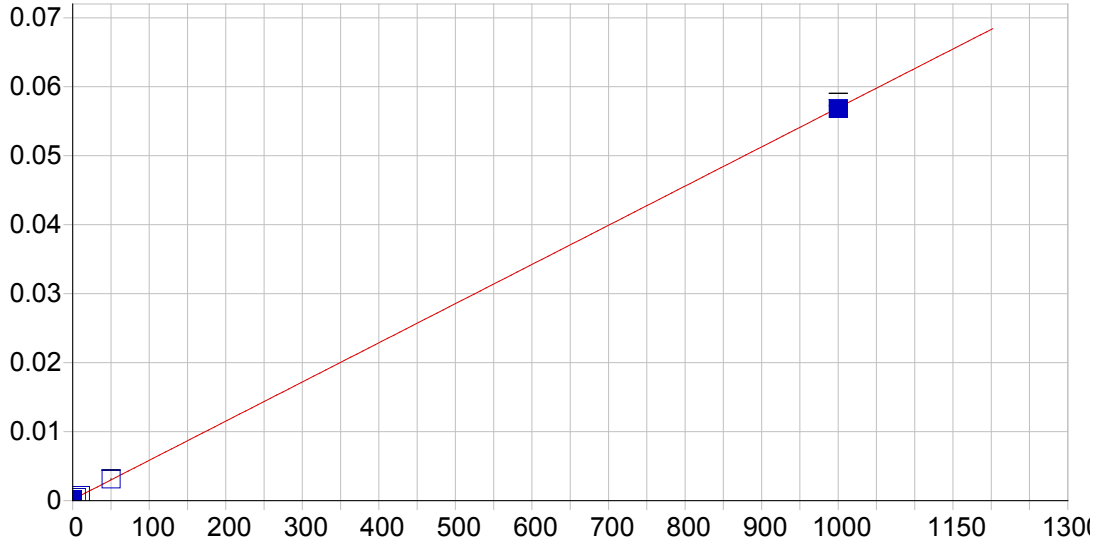


Al 396.152 { 85}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Full Fit	Weighting:	1/Conc

A0 (Offset):	-0.000426	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.050000		
Correlation:	0.999960	Status:	OK.
Std Error of Est:	0.000082		
Predicted MDL:	170.373420		
Predicted MQL:	567.911399		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	-.00043	.000	1
CalStd14-100	1000000.	851670.	-148000.	-14.8	4.1196	.061	1
CalStd13=50	500000.	466630.	-33400.	-6.67	2.1900	.009	1
CalStd10=10	10000.	10717.	717.	7.17	.04123	.000	1
CalStd12-100	100000.	96532.	-3470.	-3.47	.41839	.003	1
CalStd9=100	1000.0	1114.5	115.	11.5	.00344	.000	1

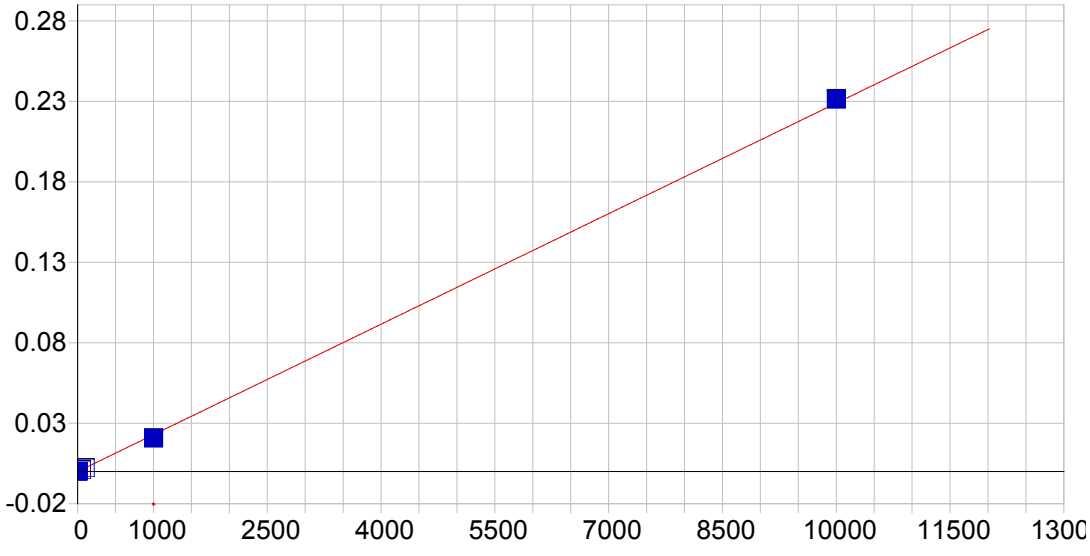


Al 167.079 {502}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000162	Re-Slope:	1.000000
A1 (Gain):	0.000057	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999939	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	0.224400		
Predicted MQL:	0.748000		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00064	-.001	.000	.00016	.000	1
CalStd9=100	1000.0	997.57	-2.43	-.243	.05685	.001	1
CalStd5=10	10.000	9.9574	-.043	-.426	.00073	.000	1
CalStd4=5	5.0000	5.4715	.472	9.43	.00047	.000	1
CalStd7=50	50.000	52.005	2.01	4.01	.00312	.000	1

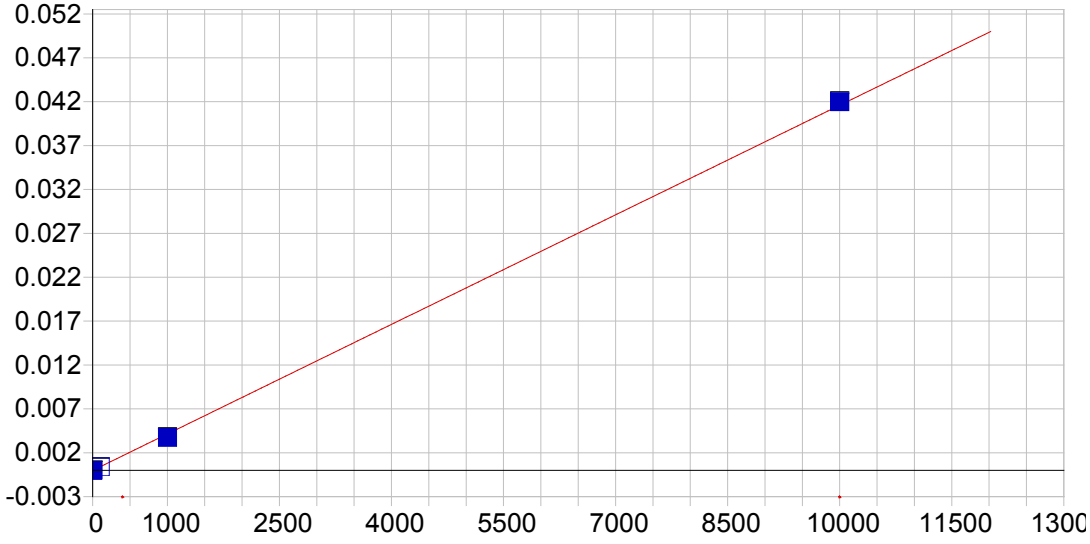


As 193.759 {474}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000016	Re-Slope:	1.000000
A1 (Gain):	0.000023	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999502	Status:	OK.
Std Error of Est:	0.000009		
Predicted MDL:	1.752883		
Predicted MQL:	5.842945		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00296	.003	.000	-.00002	.000	1
CalStd9=100	1000.0	903.33	-96.7	-9.67	.02065	.000	1
CalStd7=50	50.000	45.171	-4.83	-9.66	.00102	.000	1
CalStd5=10	10.000	9.1940	-.806	-8.06	.00019	.000	1
CalStd8=100	100.00	96.683	-3.32	-3.32	.00220	.000	1
CalStd10=10	10000.	10106.	106.	1.06	.23114	.000	1

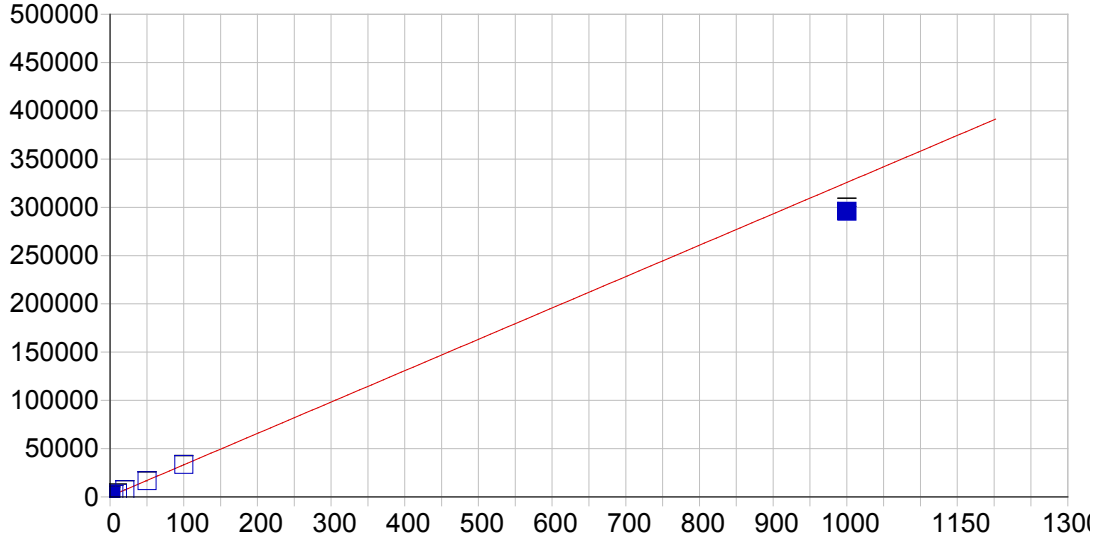


As 189.042 {479}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000020	Re-Slope:	1.000000
A1 (Gain):	0.000004	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999369	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	4.542233		
Predicted MQL:	15.140776		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00346	-.003	.000	-.00002	.000	1
CalStd9=100	1000.0	902.10	-97.9	-9.79	.00373	.000	1
CalStd10=10	10000.	10098.	97.6	.976	.04198	.000	1
CalStd8=100	100.00	96.244	-3.76	-3.76	.00038	.000	1
CalStd4=5	5.0000	9.0841	4.08	81.7	.00002	.000	1

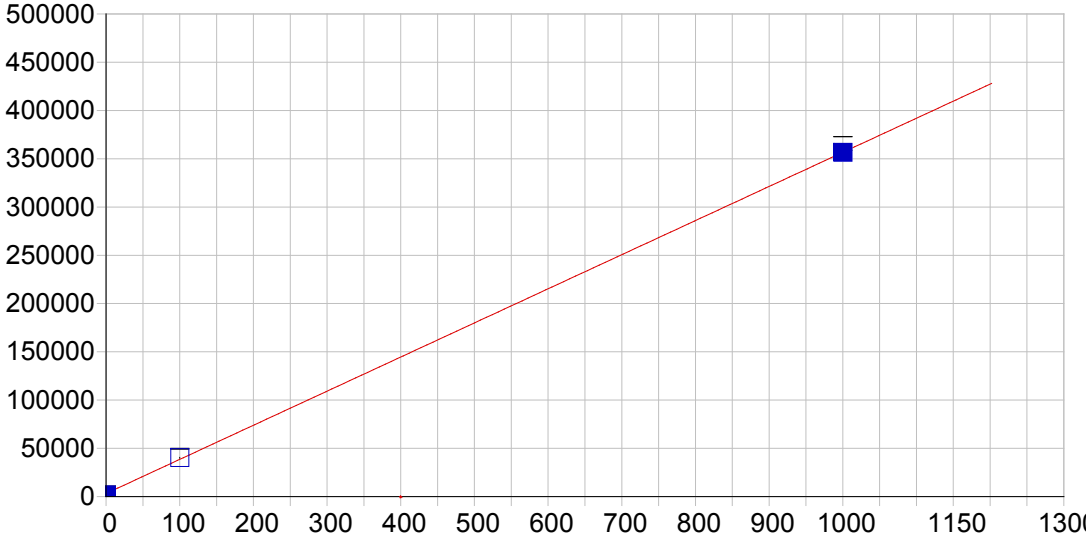


Ba 455.403 { 74}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	752.942734	Re-Slope:	1.000000
A1 (Gain):	324.975424	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999367	Status:	OK.
Std Error of Est:	62.755594		
Predicted MDL:	0.038932		
Predicted MQL:	0.129774		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00007	.000	.000	752.97	9.21	1
CalStd7=50	50.000	48.779	-1.22	-2.44	16605.	80.4	1
CalStd5=10	10.000	10.057	.057	.571	4021.2	34.2	1
CalStd6=20	20.000	20.604	.604	3.02	7448.8	36.9	1
CalStd8=100	100.00	100.59	.593	.593	33443.	305.	1
CalStd4=5	5.0000	5.0597	.060	1.19	2397.2	7.10	1
CalStd9=100	1000.0	907.84	-92.2	-9.22	295780.	4300.	1
CalStd3=1	1.0000	.86327	-.137	-13.7	1033.5	9.58	1

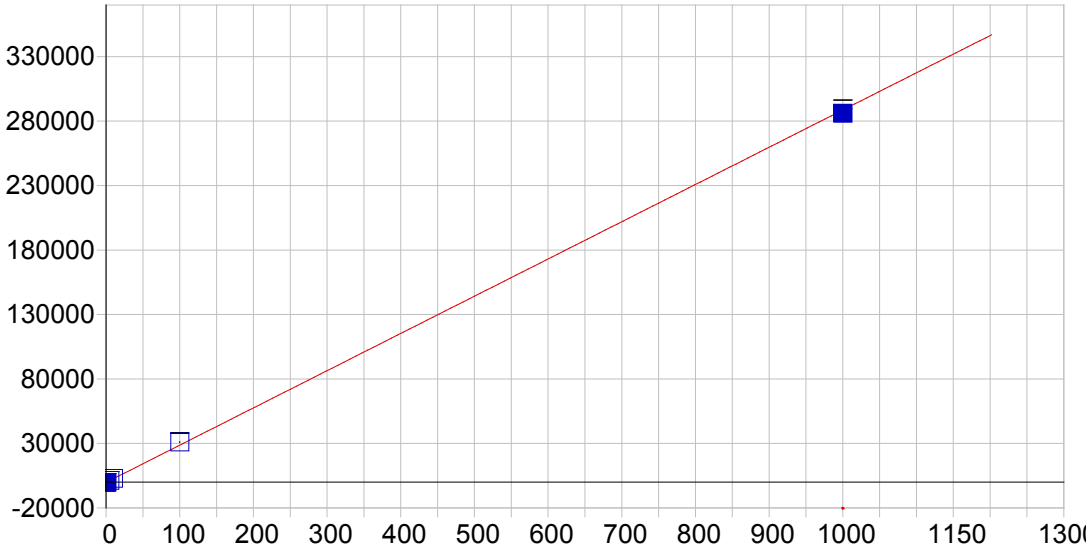


Ba 493.409 { 68}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	3199.607978	Re-Slope:	1.000000
A1 (Gain):	353.440196	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999966	Status:	OK.
Std Error of Est:	2276.326660		
Predicted MDL:	0.084411		
Predicted MQL:	0.281371		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-4.2965	-4.30	.000	1681.0	30.6	1
CalStd9=100	1000.0	999.52	-.478	-.048	356400.	7060.	1
CalStd8=100	100.00	104.77	4.77	4.77	40231.	448.	1

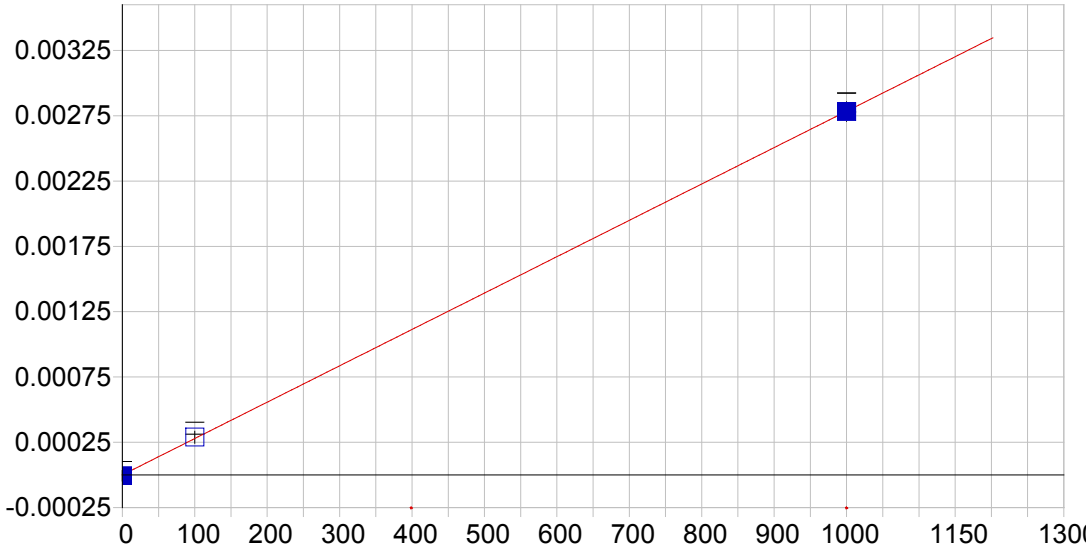


Be 313.042 {108}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-224.748232	Re-Slope:	1.000000
A1 (Gain):	288.815929	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999652	Status:	OK.
Std Error of Est:	4.643356		
Predicted MDL:	0.016169		
Predicted MQL:	0.053897		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00003	.000	.000	-224.76	2.76	1
CalStd5=10	10.000	10.493	.493	4.93	2805.7	48.7	1
CalStd8=100	100.00	108.11	8.11	8.11	30999.	353.	1
CalStd2=0.5	.50000	.47782	-.022	-4.44	-86.747	5.39	1
CalStd4=5	5.0000	5.2588	.259	5.18	1294.1	11.6	1
CalStd1=0.25	.25000	.23856	-.011	-4.57	-155.85	2.95	1
CalStd9=100	1000.0	991.14	-8.86	-.886	286030.	3240.	1
CalStd3=1	1.0000	1.0352	.035	3.52	74.242	1.25	1

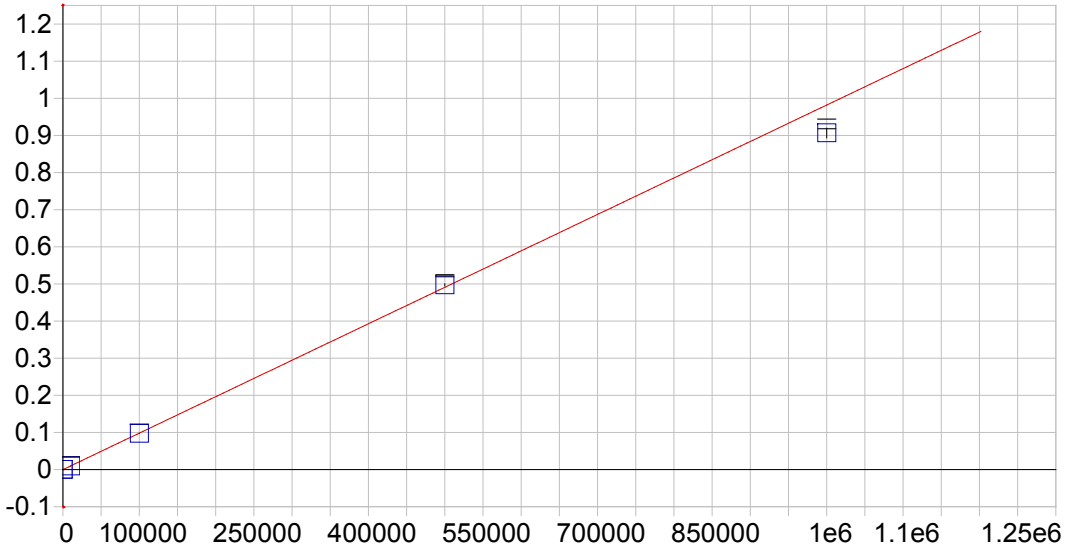


Be 234.861 {144}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000003	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999965	Status:	OK.
Std Error of Est:	0.000014		
Predicted MDL:	17.664930		
Predicted MQL:	58.883101		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-2.4939	-2.49	.000	-.00001	.000	1
CalStd9=100	1000.0	999.08	-.924	-.092	.00278	.000	1
CalStd8=100	100.00	103.71	3.71	3.71	.00029	.000	1

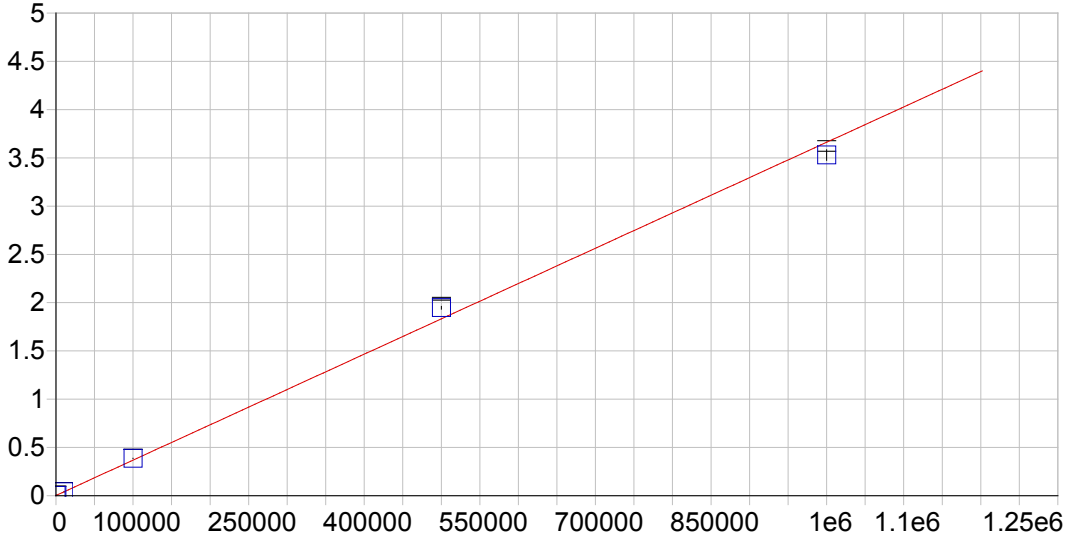


Ca 315.887 {107}

Date of Fit: 01/25/2016 13:15:08 Type of Fit: Curvilinear Weighting: 1/Var

A0 (Offset):	-0.000039	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999772	Status:	OK.
Std Error of Est:	0.000253		
Predicted MDL:	90.536810		
Predicted MQL:	301.789368		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	126.82	127.	.000	.00009	.000	1
CalStd10=10	10000.	9723.5	-277.	-2.77	.00951	.000	1
CalStd13=50	500000.	506790.	6790.	1.36	.49751	.003	1
CalStd14-100	1000000.	923420.	-76600.	-7.66	.90654	.013	1
CalStd9=100	1000.0	983.90	-16.1	-1.61	.00093	.000	1
CalStd12-100	100000.	99436.	-564.	-.564	.09758	.000	1

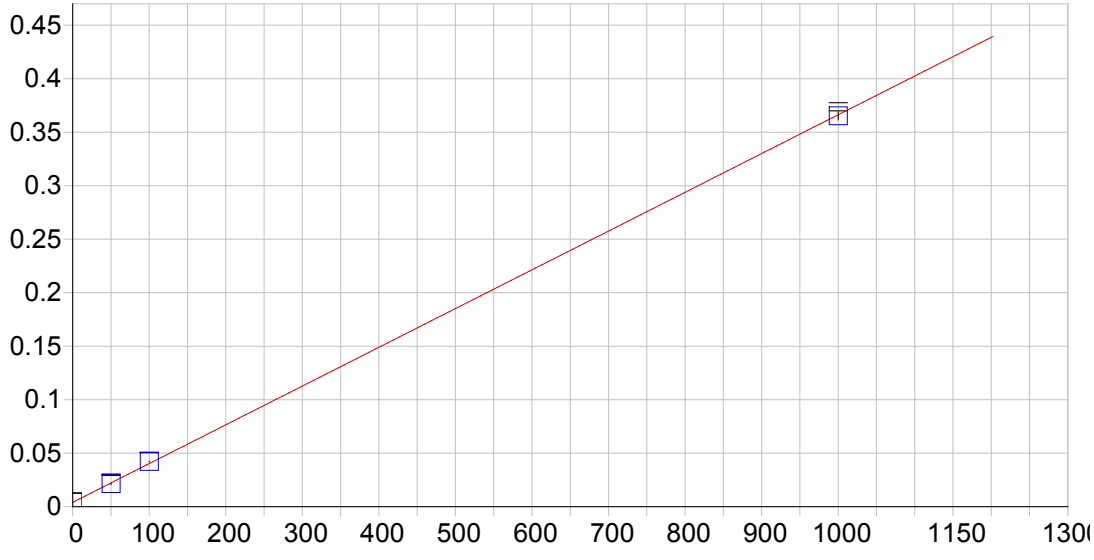


Ca 317.933 {106}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.002583	Re-Slope:	1.000000
A1 (Gain):	0.000004	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998906	Status:	OK.
Std Error of Est:	0.000266		
Predicted MDL:	34.631226		
Predicted MQL:	115.437421		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.04628	.046	.000	.00258	.000	1
CalStd10=10	10000.	10099.	99.3	.993	.03953	.000	1
CalStd13=50	500000.	531440.	31400.	6.29	1.9470	.014	1
CalStd14-100	1000000.	963820.	-36200.	-3.62	3.5290	.054	1
CalStd9=100	1000.0	869.39	-131.	-13.1	.00576	.000	1
CalStd12-100	100000.	104770.	4770.	4.77	.38592	.001	1

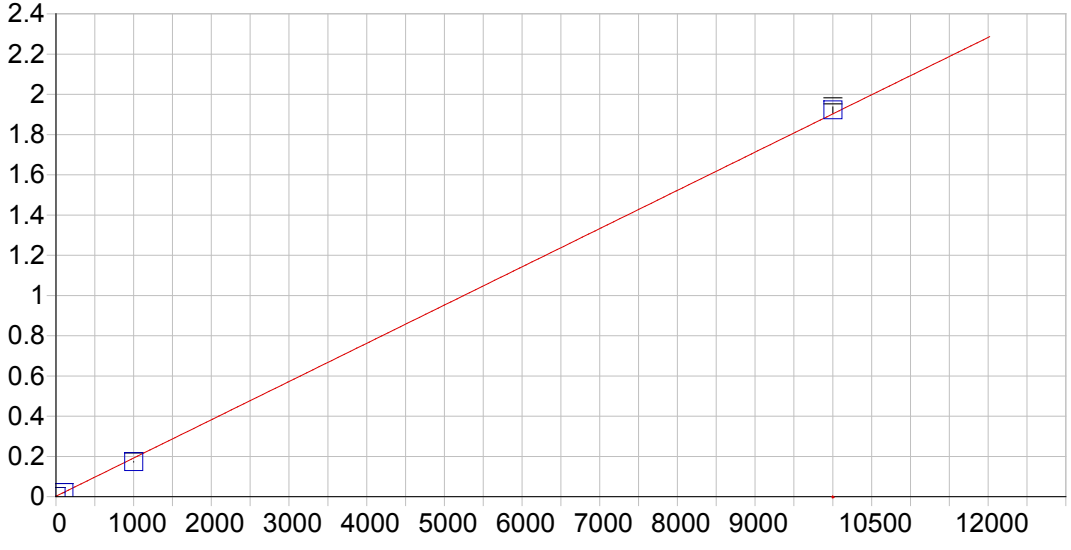


Ca 393.366 { 86}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.004050	Re-Slope:	1.000000
A1 (Gain):	0.000362	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999845	Status:	OK.
Std Error of Est:	0.000068		
Predicted MDL:	0.903493		
Predicted MQL:	3.011644		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00022	.000	.000	.00405	.000	1
CalStd7=50	50.000	47.842	-2.16	-4.32	.02138	.001	1
CalStd9=100	1000.0	997.12	-2.88	-.288	.36521	.004	1
CalStd8=100	100.00	105.04	5.04	5.04	.04210	.000	1

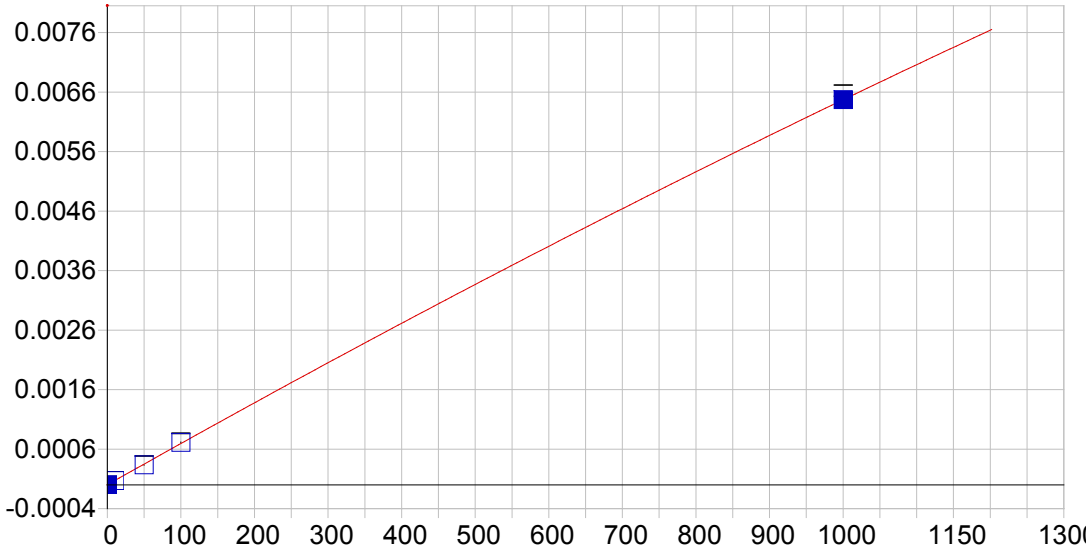


Ca 396.847 { 85}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.001981	Re-Slope:	1.000000
A1 (Gain):	0.000190	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999491	Status:	OK.
Std Error of Est:	0.000286		
Predicted MDL:	1.396525		
Predicted MQL:	4.655084		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.01523	.015	.000	.00198	.000	1
CalStd10=10	10000.	10105.	105.	1.05	1.9230	.015	1
CalStd8=100	100.00	93.611	-6.39	-6.39	.01978	.000	1
CalStd9=100	1000.0	901.10	-98.9	-9.89	.17328	.001	1

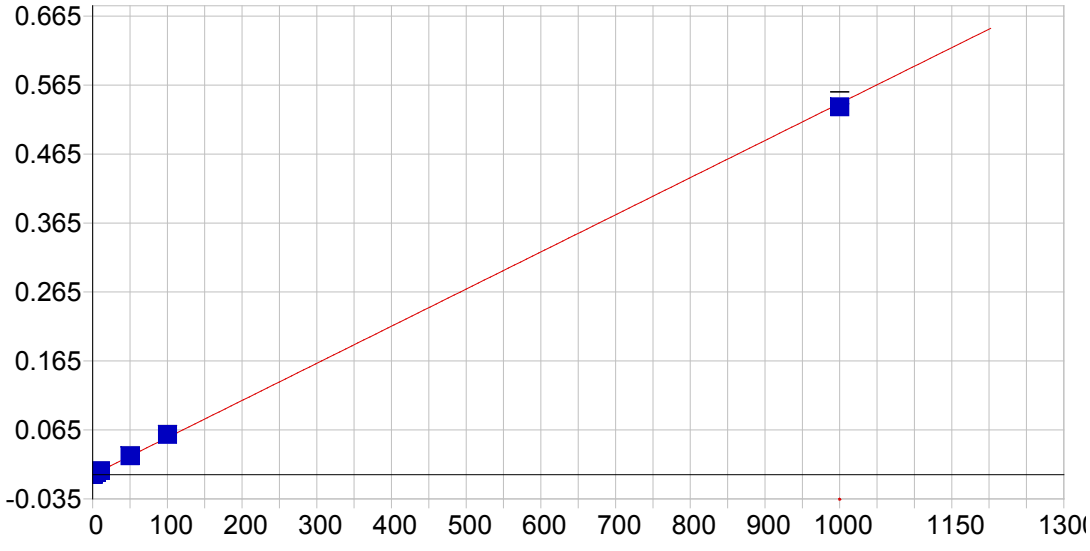


Cd 226.502 {149}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000007	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999915	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.242976		
Predicted MQL:	0.809921		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00034	.000	.000	.00000	.000	1
CalStd7=50	50.000	47.702	-2.30	-4.60	.00033	.000	1
CalStd8=100	100.00	102.60	2.60	2.60	.00071	.000	1
CalStd5=10	10.000	9.8581	-.142	-1.42	.00007	.000	1
CalStd9=100	1000.0	999.83	-.166	-.017	.00647	.000	1

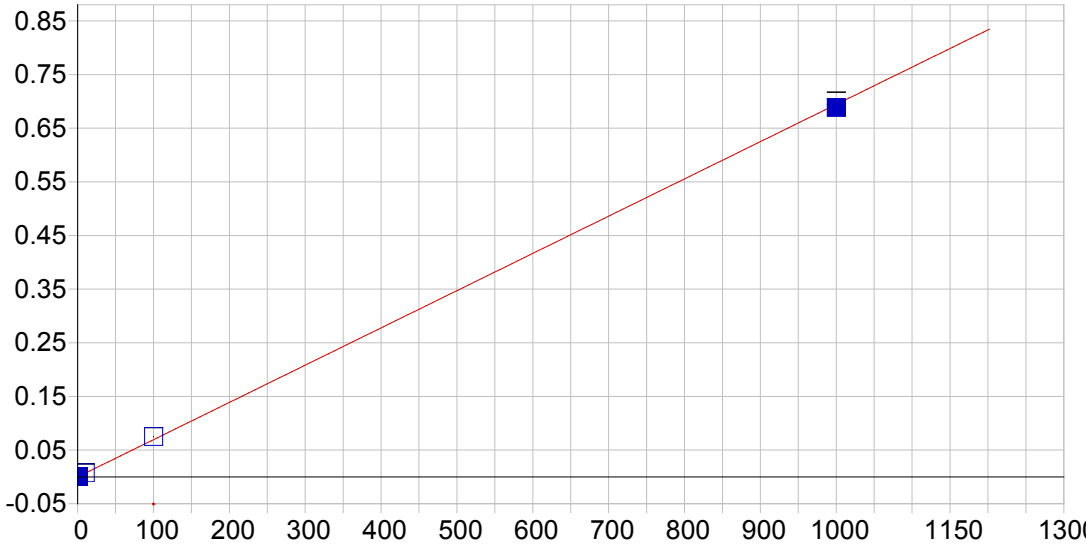


Cd 226.502 {449}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000016	Re-Slope:	1.000000
A1 (Gain):	0.000538	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999664	Status:	OK.
Std Error of Est:	0.000012		
Predicted MDL:	0.109612		
Predicted MQL:	0.365373		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00003	.000	.000	.00002	.000	1
CalStd7=50	50.000	50.841	.841	1.68	.02739	.000	1
CalStd3=1	1.0000	1.0137	.014	1.37	.00056	.000	1
CalStd2=0.5	.50000	.44425	-.056	-11.2	.00025	.000	1
CalStd4=5	5.0000	5.1943	.194	3.89	.00281	.000	1
CalStd8=100	100.00	108.10	8.10	8.10	.05822	.000	1
CalStd5=10	10.000	10.339	.339	3.39	.00558	.000	1
CalStd9=100	1000.0	990.57	-9.43	-.943	.53341	.009	1

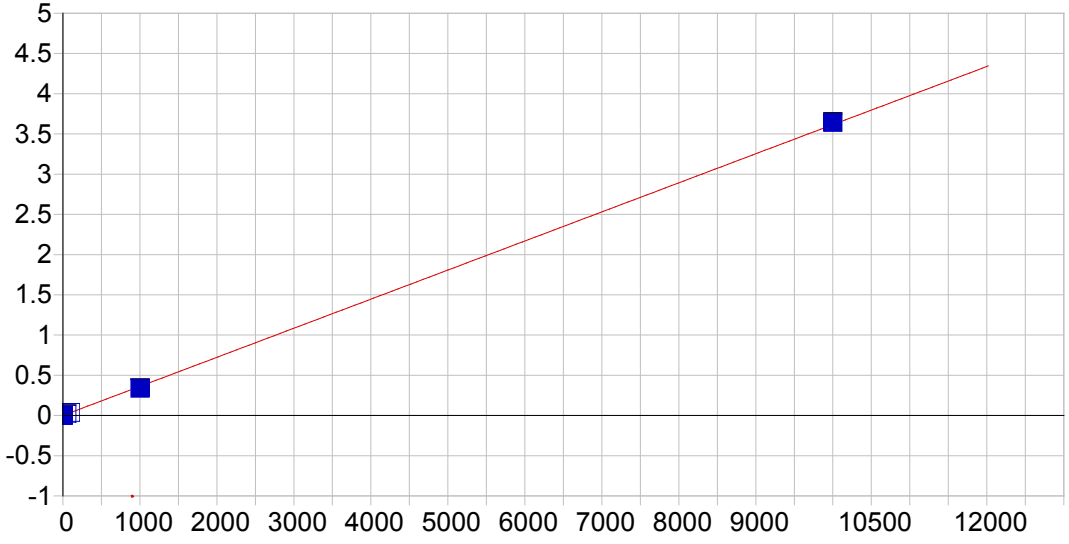


Cd 228.802 {447}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000065	Re-Slope:	1.000000
A1 (Gain):	0.000694	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999664	Status:	OK.
Std Error of Est:	0.000016		
Predicted MDL:	0.123244		
Predicted MQL:	0.410814		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00008	.000	.000	-.00007	.000	1
CalStd9=100	1000.0	991.43	-8.57	-.857	.68847	.012	1
CalStd8=100	100.00	108.02	8.02	8.02	.07495	.000	1
CalStd2=0.5	.50000	.52139	.021	4.28	.00030	.000	1
CalStd3=1	1.0000	.98768	-.012	-1.23	.00062	.000	1
CalStd5=10	10.000	10.538	.538	5.38	.00725	.000	1

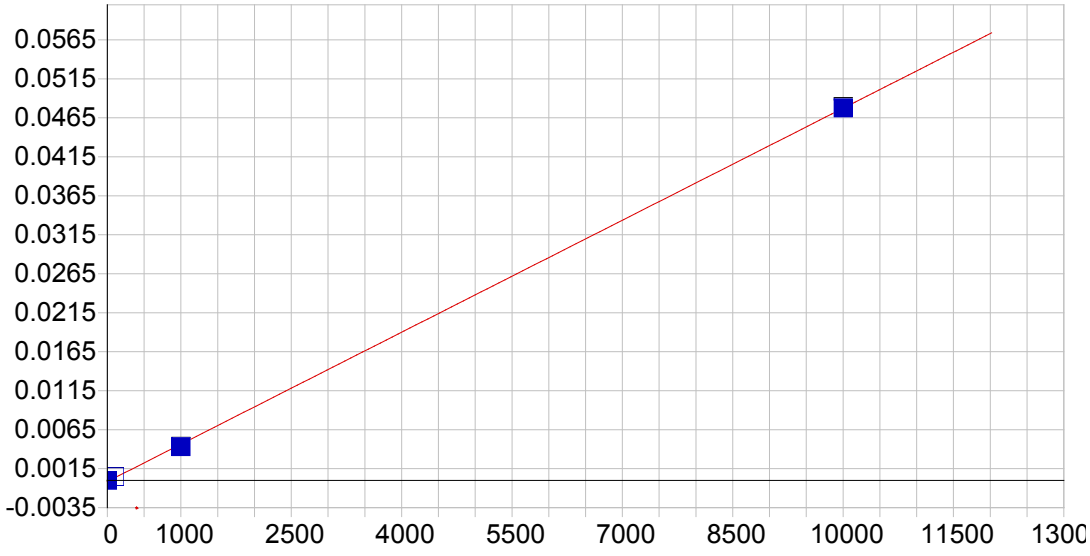


Co 228.616 {447}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000131	Re-Slope:	1.000000
A1 (Gain):	0.000362	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999765	Status:	OK.
Std Error of Est:	0.000030		
Predicted MDL:	0.191704		
Predicted MQL:	0.639015		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00018	.000	.000	-.00013	.000	1
CalStd7=50	50.000	48.021	-1.98	-3.96	.01723	.000	1
CalStd5=10	10.000	9.9501	-.050	-.499	.00347	.000	1
CalStd4=5	5.0000	5.1075	.107	2.15	.00172	.000	1
CalStd8=100	100.00	100.64	.639	.639	.03625	.000	1
CalStd9=100	1000.0	931.67	-68.3	-6.83	.33671	.006	1
CalStd3=1	1.0000	.89911	-.101	-10.1	.00019	.000	1
CalStd10=10	10000.	10070.	69.7	.697	3.6406	.008	1

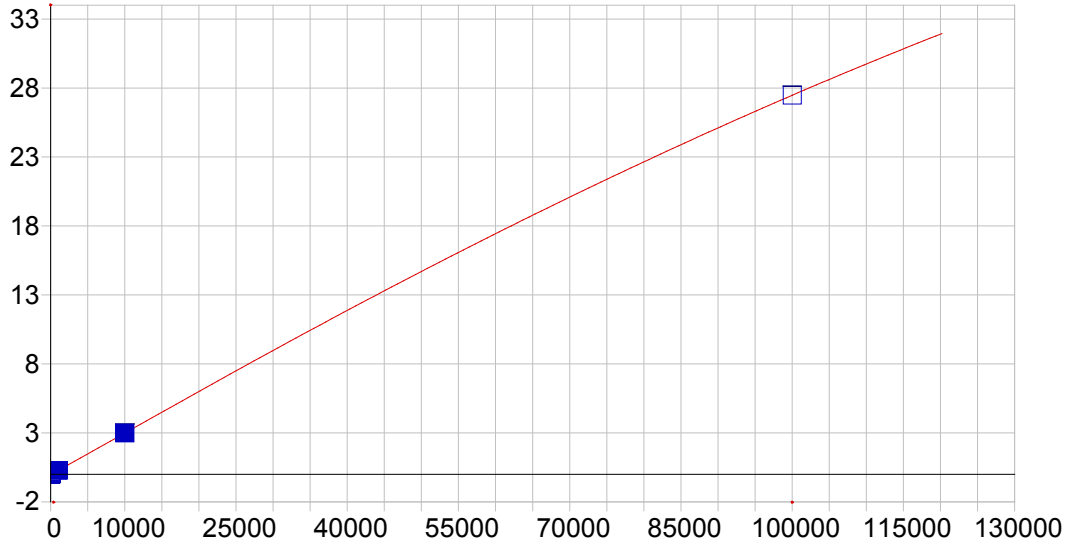


Co 238.892 {141}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	-0.000150	Re-Slope:	1.000000
A1 (Gain):	0.000005	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999952	Status:	OK.
Std Error of Est:	0.000278		
Predicted MDL:	0.488115		
Predicted MQL:	1.627051		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	32.242	32.2	.000	.00000	.000	1
CalStd9=100	1000.0	930.98	-69.0	-6.90	.00431	.000	1
CalStd10=10	10000.	10007.	6.60	.066	.04777	.000	1
CalStd8=100	100.00	130.18	30.2	30.2	.00047	.000	1

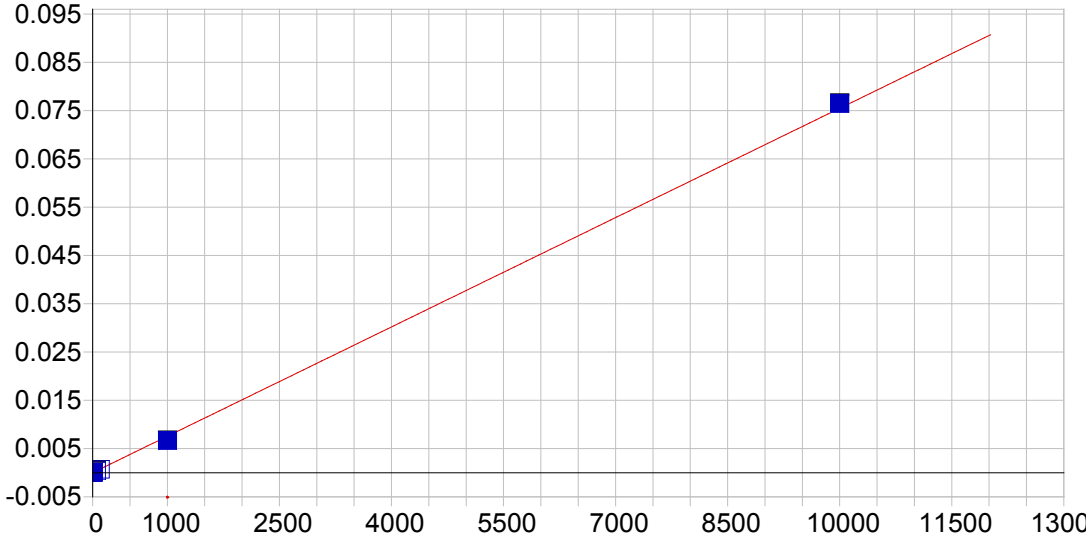


Cr 205.560 {464}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Full Fit	Weighting:	1/Conc

A0 (Offset):	-0.000082	Re-Slope:	1.000000
A1 (Gain):	0.000230	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.030000		
Correlation:	0.999987	Status:	OK.
Std Error of Est:	0.000020		
Predicted MDL:	0.187098		
Predicted MQL:	0.623659		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	-.00008	.000	1
CalStd5=10	10.000	11.677	1.68	16.8	.00281	.000	1
CalStd7=50	50.000	53.867	3.87	7.73	.01387	.000	1
CalStd9=100	1000.0	970.15	-29.9	-2.99	.27360	.004	1
CalStd8=100	100.00	111.01	11.0	11.0	.02930	.000	1
CalStd4=5	5.0000	5.8705	.870	17.4	.00134	.000	1
CalStd3=1	1.0000	1.2751	.275	27.5	.00021	.000	1
CalStd11-100	100000.	99999.	-1.37	-.001	27.473	.005	1
CalStd10=10	10000.	10014.	14.4	.144	2.9903	.006	1

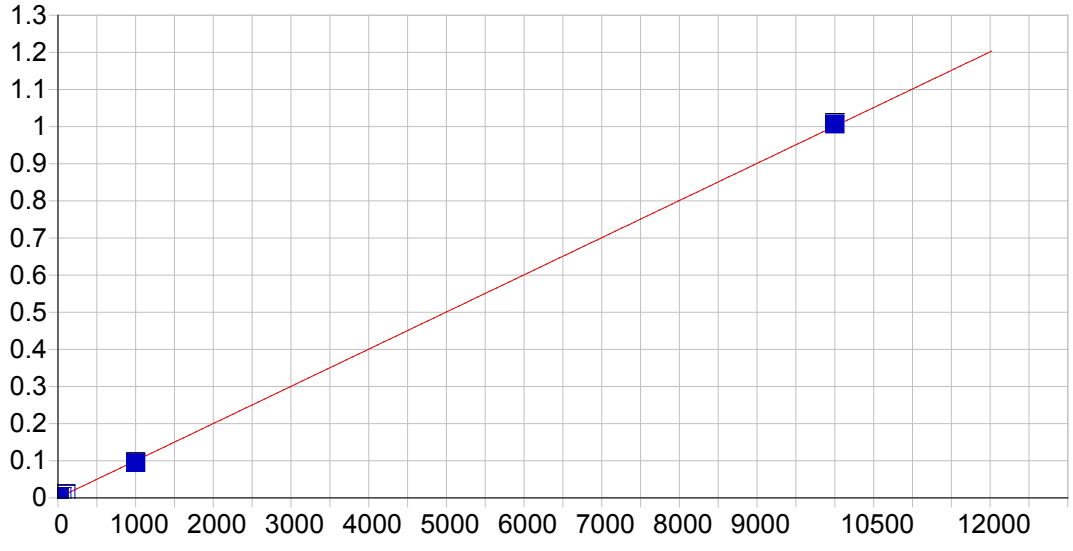


Cr 267.716 {126}

Date of Fit: 01/25/2016 13:15:08 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000008	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999277	Status:	OK.
Std Error of Est:	0.000003		
Predicted MDL:	0.397406		
Predicted MQL:	1.324687		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00170	.002	.000	.00000	.000	1
CalStd5=10	10.000	9.5136	-.486	-4.86	.00007	.000	1
CalStd7=50	50.000	45.905	-4.09	-8.19	.00035	.000	1
CalStd9=100	1000.0	881.64	-118.	-11.8	.00666	.000	1
CalStd8=100	100.00	96.069	-3.93	-3.93	.00073	.000	1
CalStd4=5	5.0000	4.6753	-.325	-6.49	.00004	.000	1
CalStd10=10	10000.	10127.	127.	1.27	.07645	.000	1

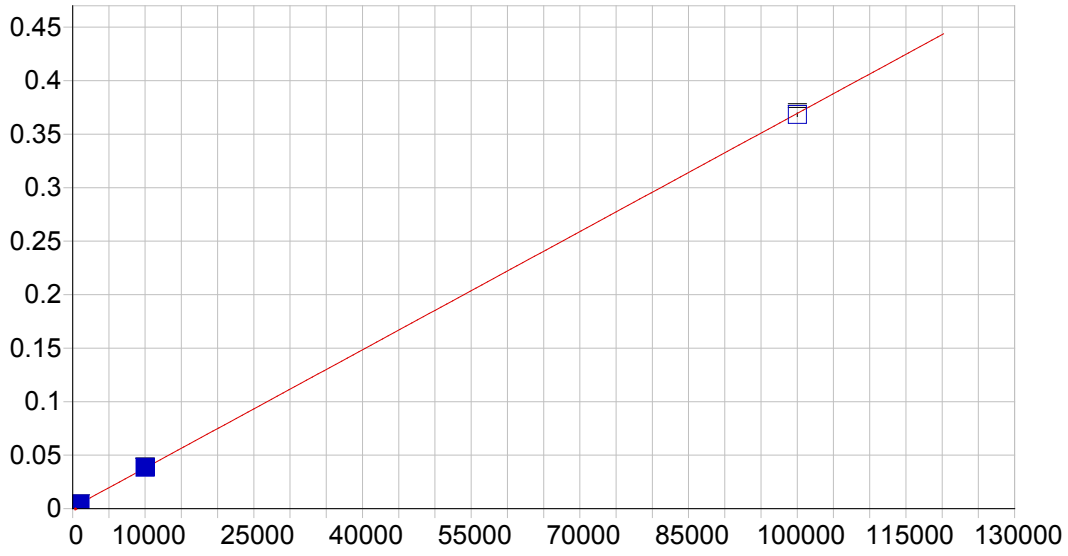


Cu 224.700 {450}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000047	Re-Slope:	1.000000
A1 (Gain):	0.000100	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999833	Status:	OK.
Std Error of Est:	0.000007		
Predicted MDL:	0.642327		
Predicted MQL:	2.141091		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00035	.000	.000	.00005	.000	1
CalStd9=100	1000.0	945.51	-54.5	-5.45	.09471	.002	1
CalStd7=50	50.000	47.451	-2.55	-5.10	.00480	.000	1
CalStd8=100	100.00	102.28	2.28	2.28	.01029	.000	1
CalStd5=10	10.000	9.1184	-.882	-8.82	.00096	.000	1
CalStd10=10	10000.	10057.	57.3	.573	1.0070	.004	1
CalStd4=5	5.0000	4.1504	-.850	-17.0	.00046	.000	1
CalStd6=20	20.000	19.207	-.793	-3.97	.00197	.000	1
CalStd3=1	1.0000	1.0210	.021	2.10	.00015	.000	1

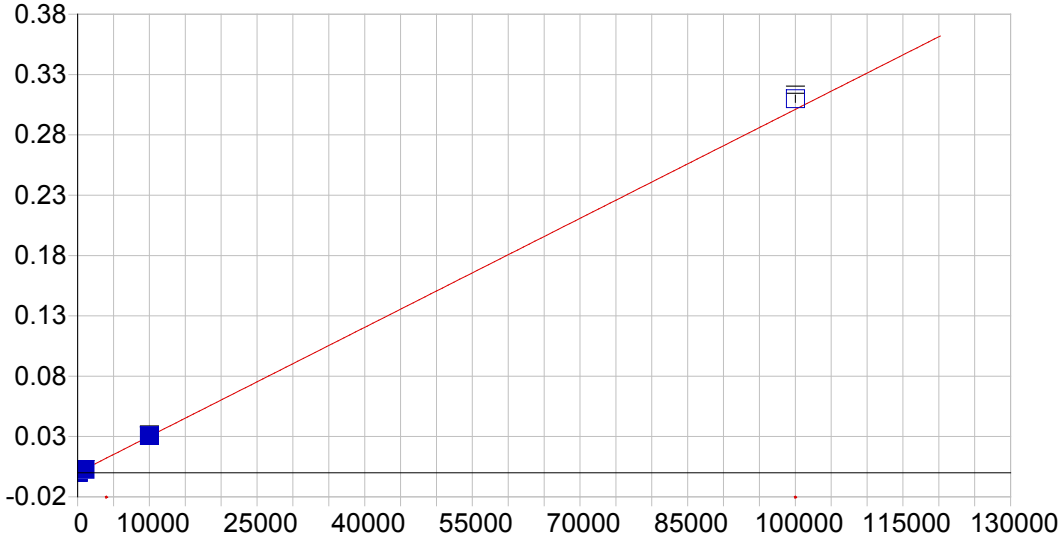


Cu 324.754 {104}

Date of Fit: 01/25/2016 13:15:08 Type of Fit: Curvilinear Weighting: 1/Conc

A0 (Offset):	0.001162	Re-Slope:	1.000000
A1 (Gain):	0.000004	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999882	Status:	OK.
Std Error of Est:	0.000009		
Predicted MDL:	47.728233		
Predicted MQL:	159.094111		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.03398	.034	.000	.00116	.000	1
CalStd9=100	1000.0	865.18	-135.	-13.5	.00435	.000	1
CalStd8=100	100.00	77.790	-22.2	-22.2	.00145	.000	1
CalStd10=10	10000.	10170.	170.	1.70	.03860	.000	1
CalStd11-100	100000.	99693.	-307.	-.307	.36826	.002	1

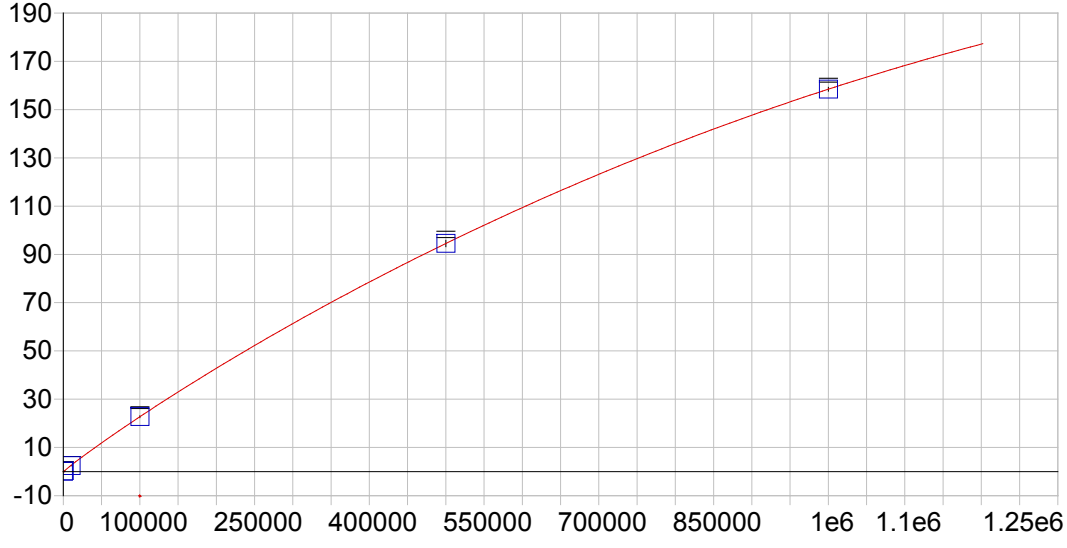


Cu 327.396 {103}

Date of Fit: 01/25/2016 13:15:08 Type of Fit: Curvilinear Weighting: 1/Conc

A0 (Offset):	0.000041	Re-Slope:	1.000000
A1 (Gain):	0.000003	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999642	Status:	OK.
Std Error of Est:	0.000005		
Predicted MDL:	71.574611		
Predicted MQL:	238.582037		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.01111	-.011	.000	.00004	.000	1
CalStd6=20	20.000	49.219	29.2	146.	.00019	.000	1
CalStd7=50	50.000	33.646	-16.4	-32.7	.00014	.000	1
CalStd8=100	100.00	50.256	-49.7	-49.7	.00019	.000	1
CalStd9=100	1000.0	905.05	-94.9	-9.49	.00277	.000	1
CalStd10=10	10000.	10175.	175.	1.75	.03068	.000	1
CalStd11-100	100000.	102930.	2930.	2.93	.30994	.003	1

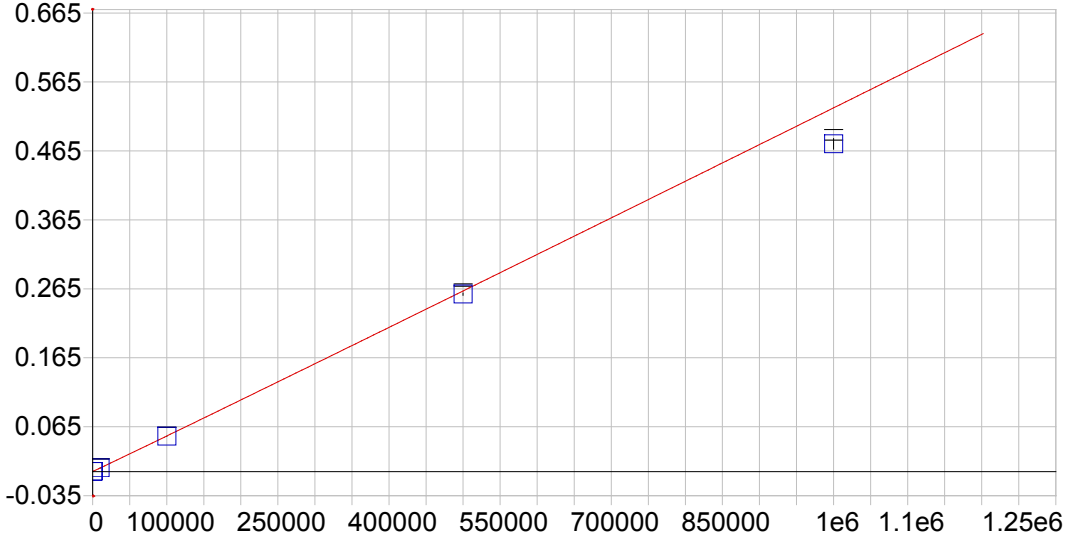


Fe 234.349 {144}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Full Fit	Weighting:	None

A0 (Offset):	-0.086336	Re-Slope:	1.000000
A1 (Gain):	0.000417	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	0.950000		
Correlation:	0.999999	Status:	OK.
Std Error of Est:	0.114136		
Predicted MDL:	0.475675		
Predicted MQL:	1.585585		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	296.83	297.	.000	.00667	.000	1
CalStd10=10	10000.	9479.9	-520.	-5.20	2.4048	.012	1
CalStd13=50	500000.	500010.	11.3	.002	94.525	1.32	1
CalStd14-100	1000000.	999990.	-5.74	-.001	158.45	.779	1
CalStd9=100	1000.0	1084.8	84.8	8.48	.23215	.001	1
CalStd12-100	100000.	100050.	54.2	.054	22.718	.339	1

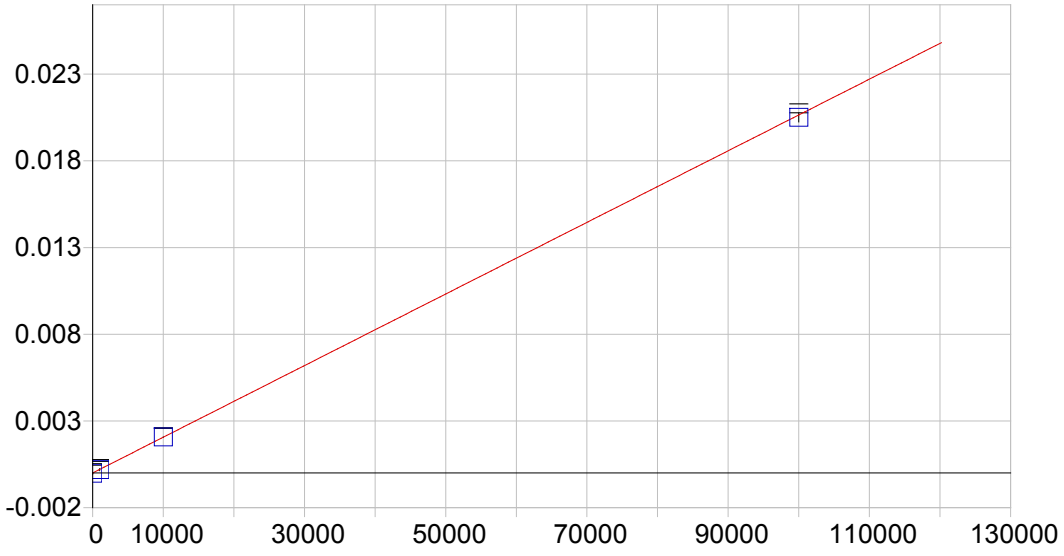


Fe 239.562 {140}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Full Fit	Weighting:	1/Var

A0 (Offset):	0.000044	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.010000		
Correlation:	0.999957	Status:	OK.
Std Error of Est:	0.000214		
Predicted MDL:	119.777453		
Predicted MQL:	399.258177		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00000	.000	1
CalStd10=10	10000.	10136.	136.	1.36	.00515	.000	1
CalStd13=50	500000.	491380.	-8620.	-1.72	.25736	.002	1
CalStd14-100	1000000.	901970.	-98000.	-9.80	.47524	.008	1
CalStd9=100	1000.0	937.23	-62.8	-6.28	.00050	.000	1
CalStd12-100	100000.	99156.	-844.	-.844	.05114	.000	1

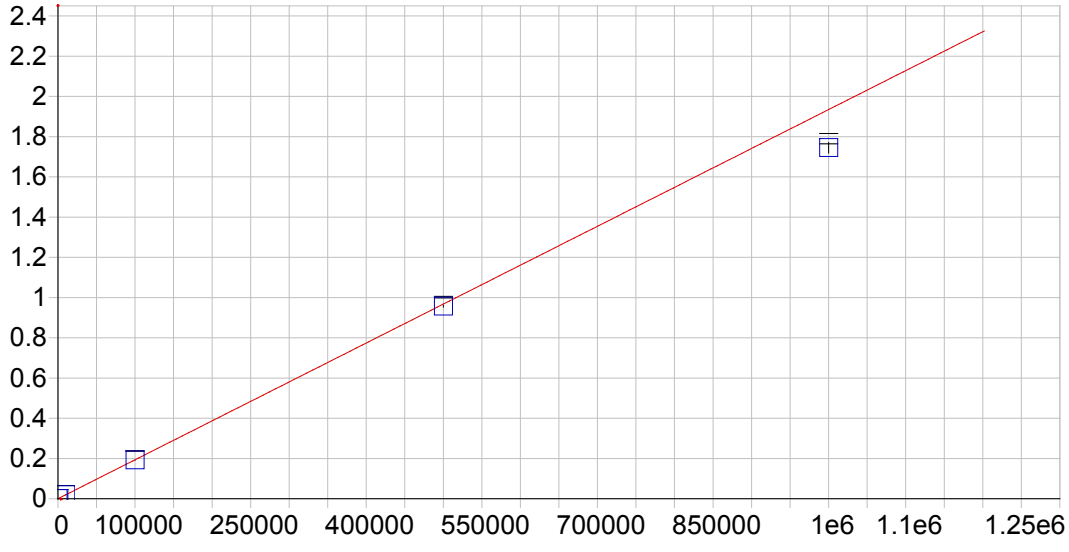


Fe 239.562 {141}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999949	Status:	OK.
Std Error of Est:	0.000018		
Predicted MDL:	204.892882		
Predicted MQL:	682.976272		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-125.27	-125.	.000	-.00003	.000	1
CalStd9=100	1000.0	929.23	-70.8	-7.08	.00019	.000	1
CalStd10=10	10000.	10024.	23.9	.239	.00207	.000	1
CalStd12-100	100000.	99329.	-671.	-.671	.02051	.000	1

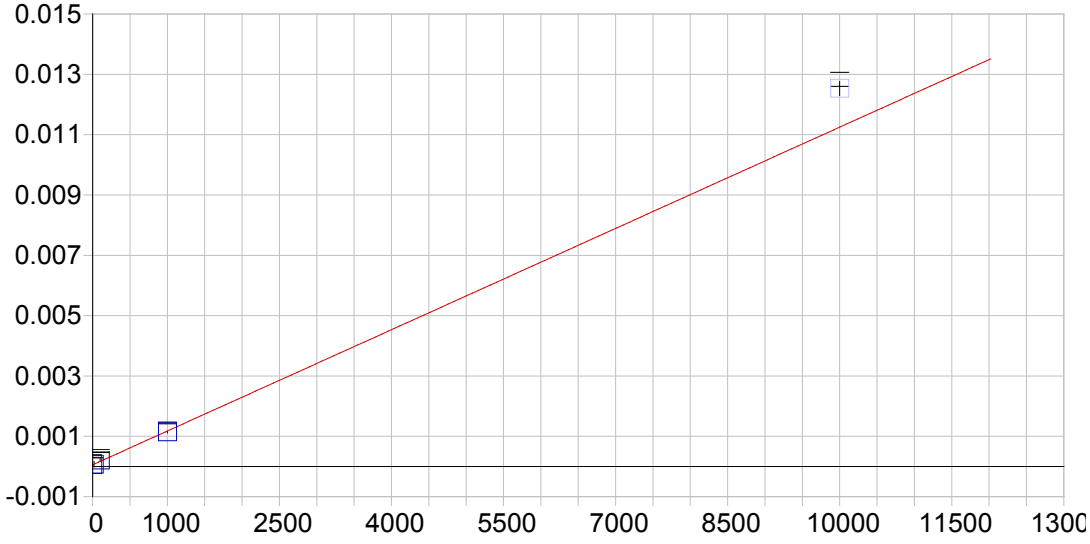


Fe 259.940 {129}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Curvilinear	Weighting:	1/Var

A0 (Offset):	0.000053	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999910	Status:	OK.
Std Error of Est:	0.000208		
Predicted MDL:	46.823007		
Predicted MQL:	156.076691		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	17.381	17.4	.000	.00009	.000	1
CalStd10=10	10000.	9944.0	-56.0	-.560	.01929	.000	1
CalStd13=50	500000.	494590.	-5410.	-1.08	.95684	.004	1
CalStd14-100	1000000.	901850.	-98200.	-9.82	1.7447	.026	1
CalStd9=100	1000.0	852.72	-147.	-14.7	.00170	.000	1
CalStd12-100	100000.	99421.	-579.	-.579	.19238	.000	1

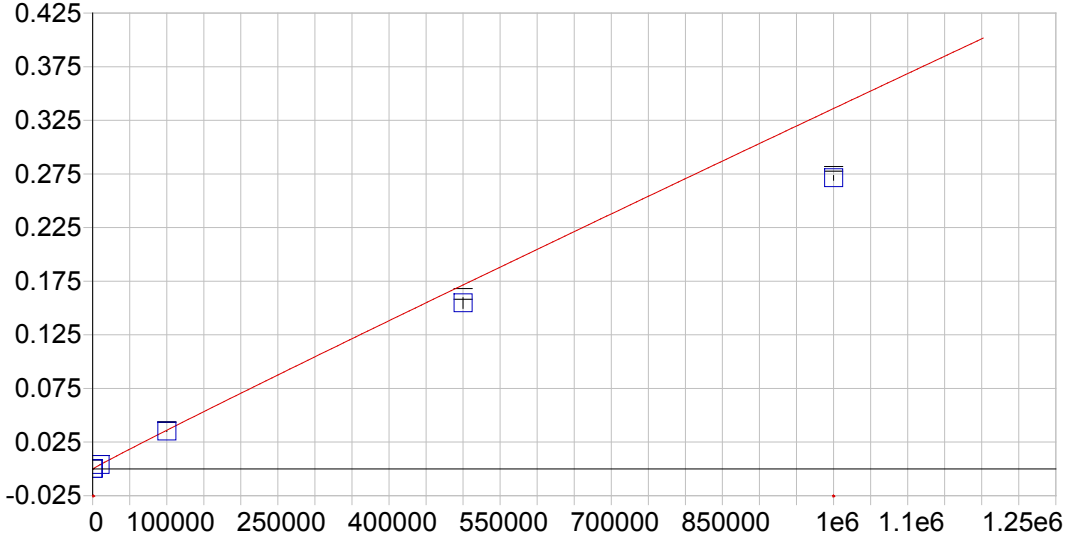


Fe 259.940 {130}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000057	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.993036	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	69.852028		
Predicted MQL:	232.840095		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00045	.000	.000	.00006	.000	1
CalStd9=100	1000.0	970.14	-29.9	-2.99	.00114	.000	1
CalStd8=100	100.00	136.02	36.0	36.0	.00021	.000	1
CalStd6=20	20.000	13.840	-6.16	-30.8	.00007	.000	1
CalStd10=10	10000.	11147.	1150.	11.5	.01253	.000	0

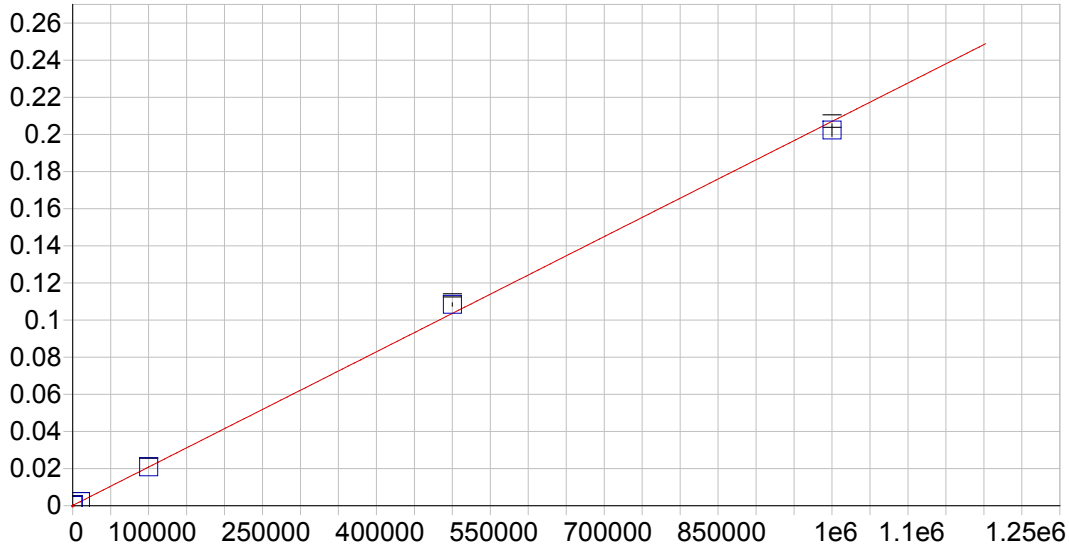


Mg 202.582 {466}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Full Fit	Weighting:	None

A0 (Offset):	-0.000009	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	0.970000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000113		
Predicted MDL:	1.749596		
Predicted MQL:	5.831987		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	-.00001	.000	1
CalStd13=50	500000.	449540.	-50500.	-10.1	.15471	.005	1
CalStd10=10	10000.	10267.	267.	2.67	.00395	.000	1
CalStd14-100	1000000.	802180.	-198000.	-19.8	.27132	.002	1
CalStd12-100	100000.	97563.	-2440.	-2.44	.03514	.000	1
CalStd9=100	1000.0	940.55	-59.5	-5.95	.00038	.000	1

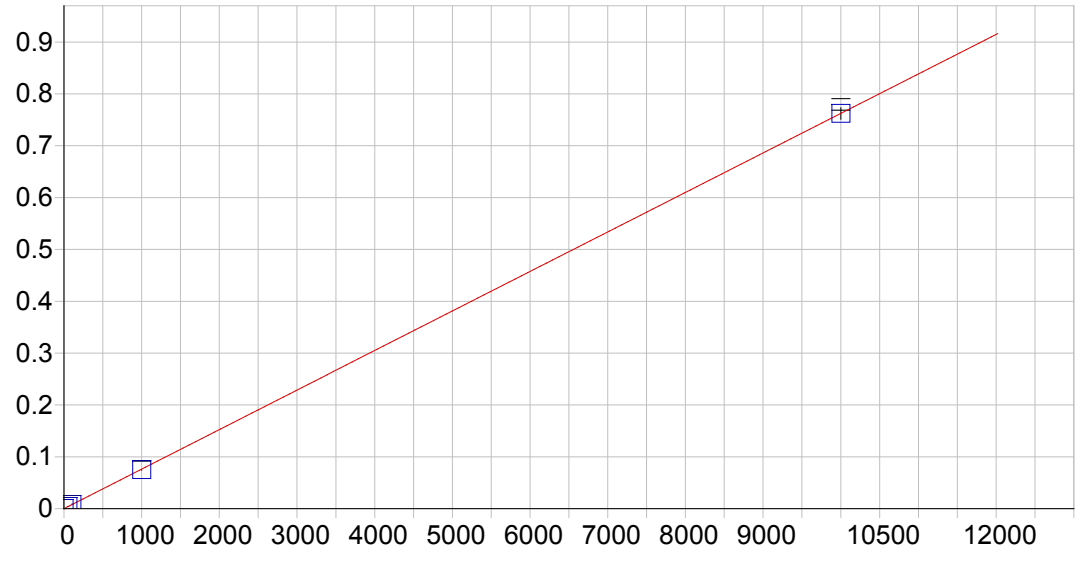


Mg 279.079 {121}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000135	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999494	Status:	OK.
Std Error of Est:	0.000010		
Predicted MDL:	269.691286		
Predicted MQL:	898.970954		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.03535	-.035	.000	.00013	.000	1
CalStd13=50	500000.	523290.	23300.	4.66	.10839	.001	1
CalStd10=10	10000.	9545.6	-454.	-4.54	.00211	.000	1
CalStd14-100	1000000.	977130.	-22900.	-2.29	.20227	.003	1
CalStd12-100	100000.	99980.	-20.4	-.020	.02082	.000	1
CalStd9=100	1000.0	1057.3	57.3	5.73	.00035	.000	1

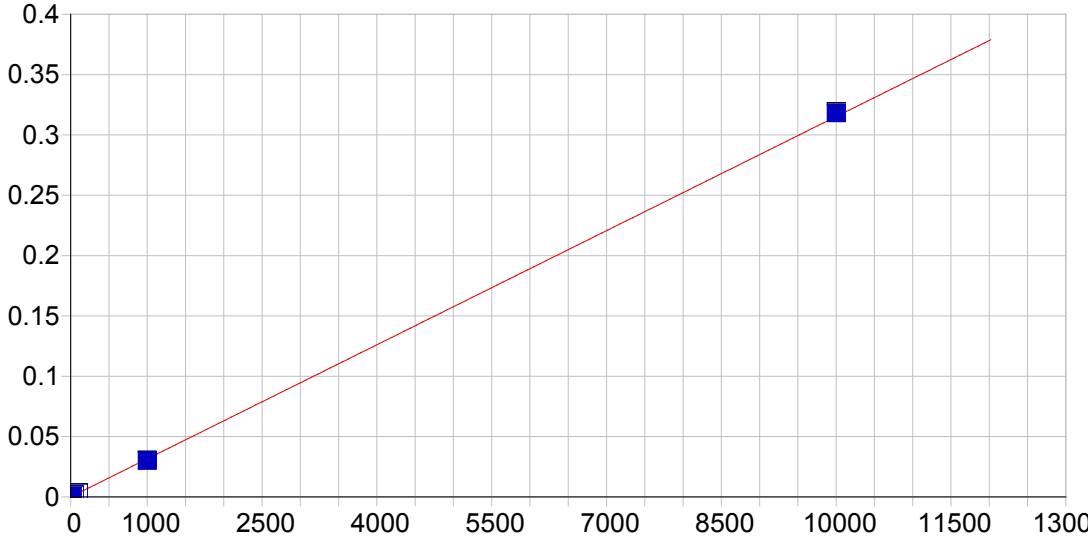


Mg 280.270 {120}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000124	Re-Slope:	1.000000
A1 (Gain):	0.000076	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999997	Status:	OK.
Std Error of Est:	0.000987		
Predicted MDL:	0.022054		
Predicted MQL:	0.073515		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	2.3280	2.33	.000	.00030	.000	1
CalStd9=100	1000.0	980.99	-19.0	-1.90	.07489	.000	1
CalStd10=10	10000.	10002.	1.77	.018	.76237	.011	1
CalStd8=100	100.00	110.79	10.8	10.8	.00857	.000	1
CalStd7=50	50.000	54.121	4.12	8.24	.00425	.000	1

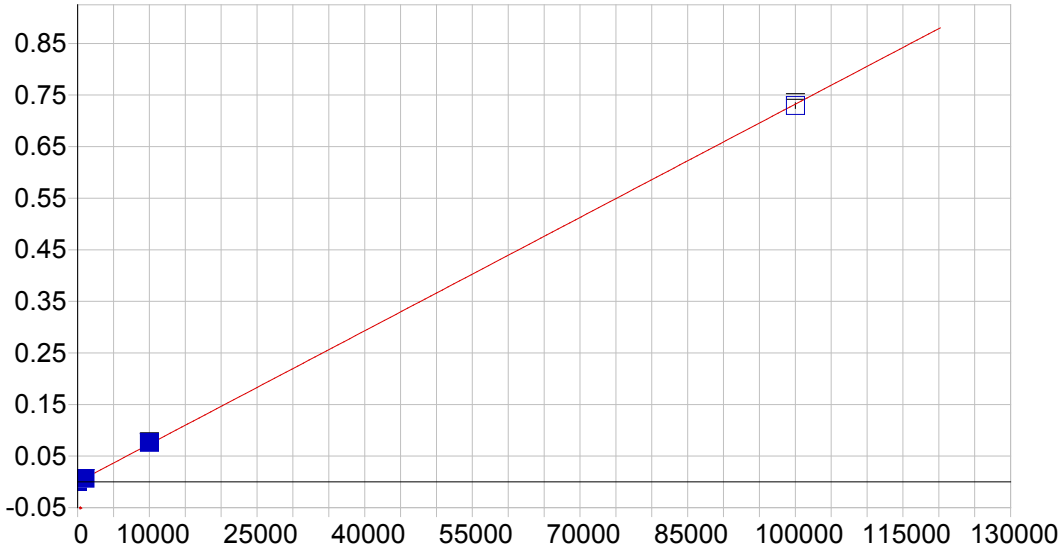


Mn 257.610 {131}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000007	Re-Slope:	1.000000
A1 (Gain):	0.000032	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999853	Status:	OK.
Std Error of Est:	0.000018		
Predicted MDL:	0.054316		
Predicted MQL:	0.181053		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.19705	.197	.000	.00001	.000	1
CalStd5=10	10.000	10.080	.080	.798	.00032	.000	1
CalStd7=50	50.000	49.376	-.624	-1.25	.00156	.000	1
CalStd6=20	20.000	20.676	.676	3.38	.00066	.000	1
CalStd8=100	100.00	104.37	4.37	4.37	.00330	.000	1
CalStd4=5	5.0000	5.0156	.016	.312	.00016	.000	1
CalStd9=100	1000.0	953.08	-46.9	-4.69	.03005	.000	1
CalStd10=10	10000.	10098.	98.0	.980	.31831	.001	1

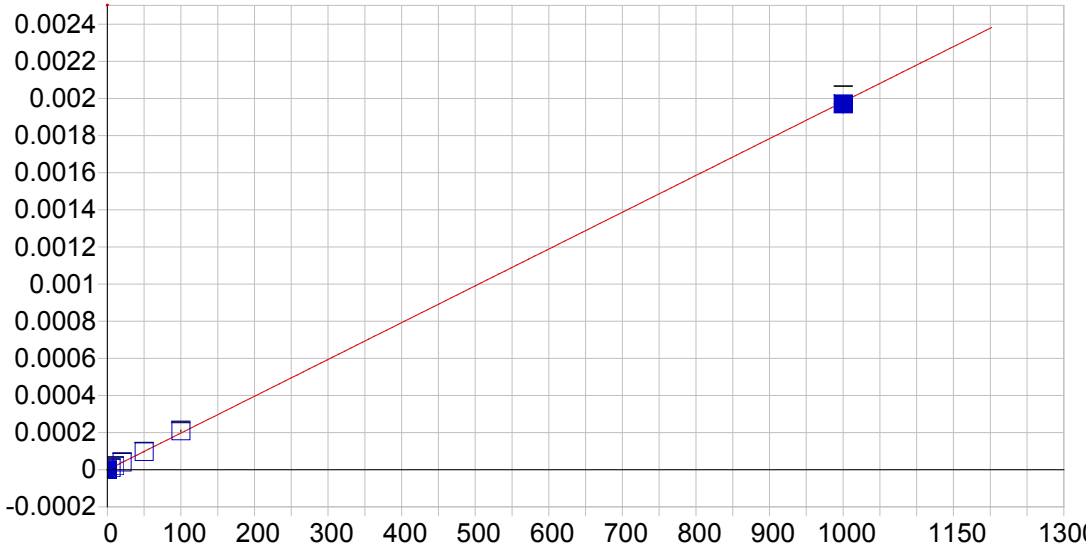


Mn 259.373 {130}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000074	Re-Slope:	1.000000
A1 (Gain):	0.000007	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999894	Status:	OK.
Std Error of Est:	0.000050		
Predicted MDL:	12.413004		
Predicted MQL:	41.376680		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.01516	.015	.000	-.00007	.000	1
CalStd10=10	10000.	10436.	436.	4.36	.07649	.001	1
CalStd11-100	100000.	99618.	-382.	-.382	.72955	.006	1
CalStd9=100	1000.0	945.05	-54.9	-5.49	.00686	.000	1

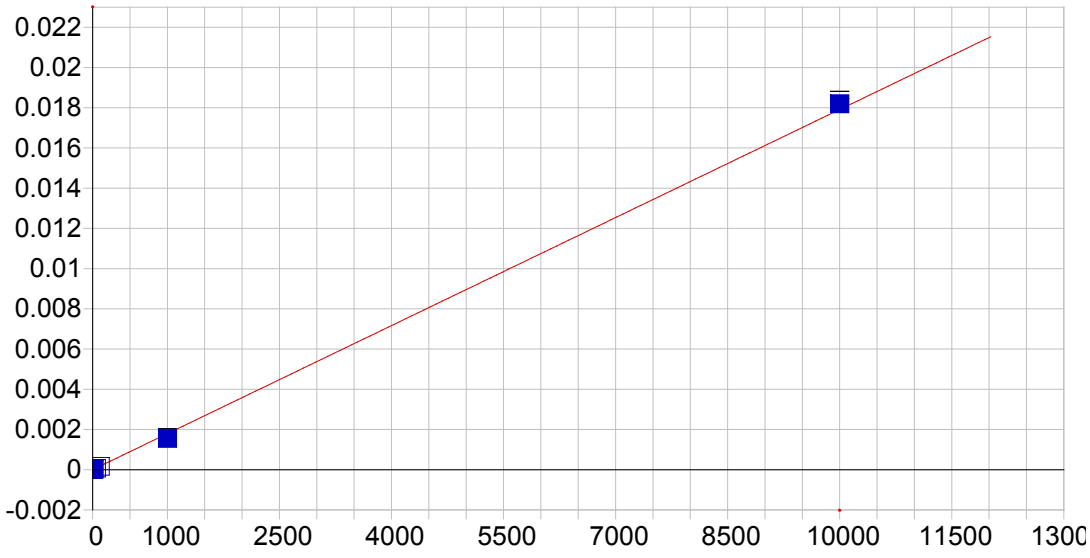


Mo 202.030 {466}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999835	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.386896		
Predicted MQL:	1.289653		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00055	-.001	.000	.00000	.000	1
CalStd7=50	50.000	49.421	-.579	-1.16	.00010	.000	1
CalStd6=20	20.000	20.521	.521	2.60	.00004	.000	1
CalStd5=10	10.000	10.261	.261	2.61	.00002	.000	1
CalStd8=100	100.00	105.71	5.71	5.71	.00021	.000	1
CalStd4=5	5.0000	5.0898	.090	1.80	.00001	.000	1
CalStd9=100	1000.0	994.00	-6.00	-.600	.00197	.000	1

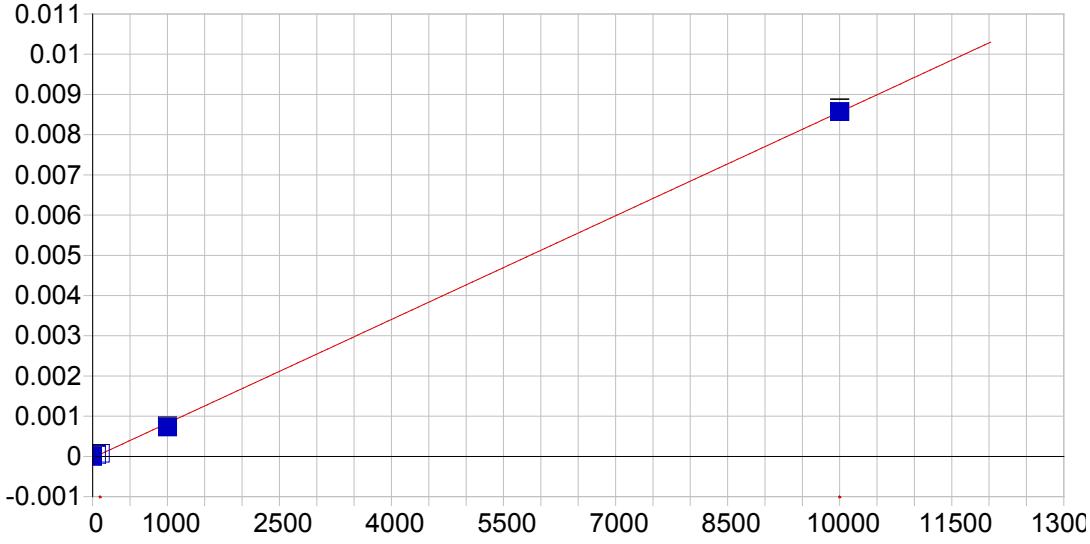


Mo 204.598 {464}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998999	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.442954		
Predicted MQL:	1.476512		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00297	.003	.000	.00000	.000	1
CalStd7=50	50.000	43.239	-6.76	-13.5	.00008	.000	1
CalStd6=20	20.000	17.842	-2.16	-10.8	.00003	.000	1
CalStd5=10	10.000	8.7697	-1.23	-12.3	.00002	.000	1
CalStd8=100	100.00	91.687	-8.31	-8.31	.00016	.000	1
CalStd4=5	5.0000	4.8684	-.132	-2.63	.00001	.000	1
CalStd9=100	1000.0	865.52	-134.	-13.4	.00155	.000	1
CalStd10=10	10000.	10153.	153.	1.53	.01819	.000	1

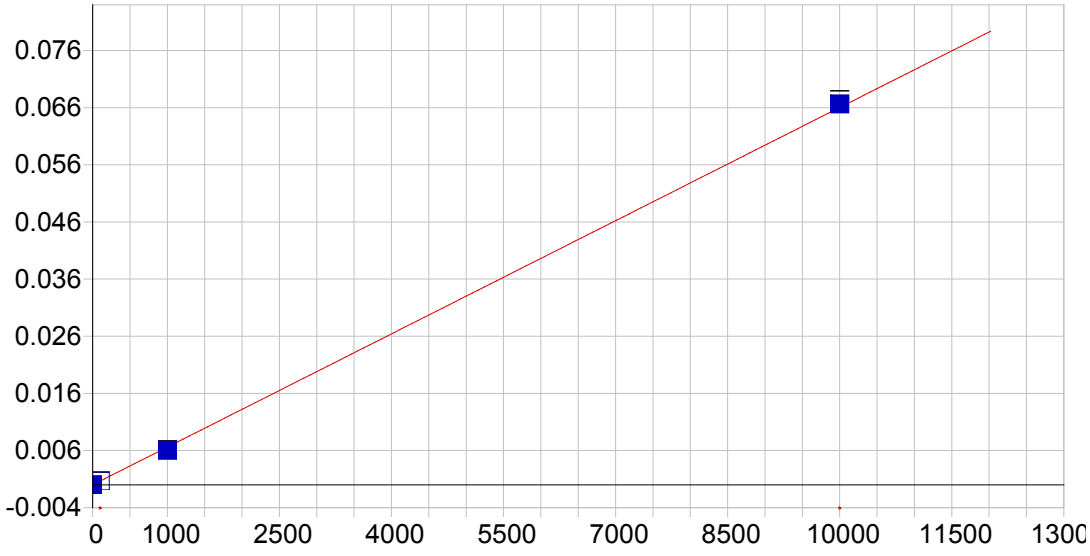


Mo 204.598 {465}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	-0.000034	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999900	Status:	OK.
Std Error of Est:	0.000061		
Predicted MDL:	0.789115		
Predicted MQL:	2.630383		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	38.895	38.9	.000	.00000	.000	1
CalStd9=100	1000.0	891.14	-109.	-10.9	.00073	.000	1
CalStd10=10	10000.	10010.	10.4	.104	.00857	.000	1
CalStd7=50	50.000	81.100	31.1	62.2	.00004	.000	1
CalStd8=100	100.00	128.42	28.4	28.4	.00008	.000	1

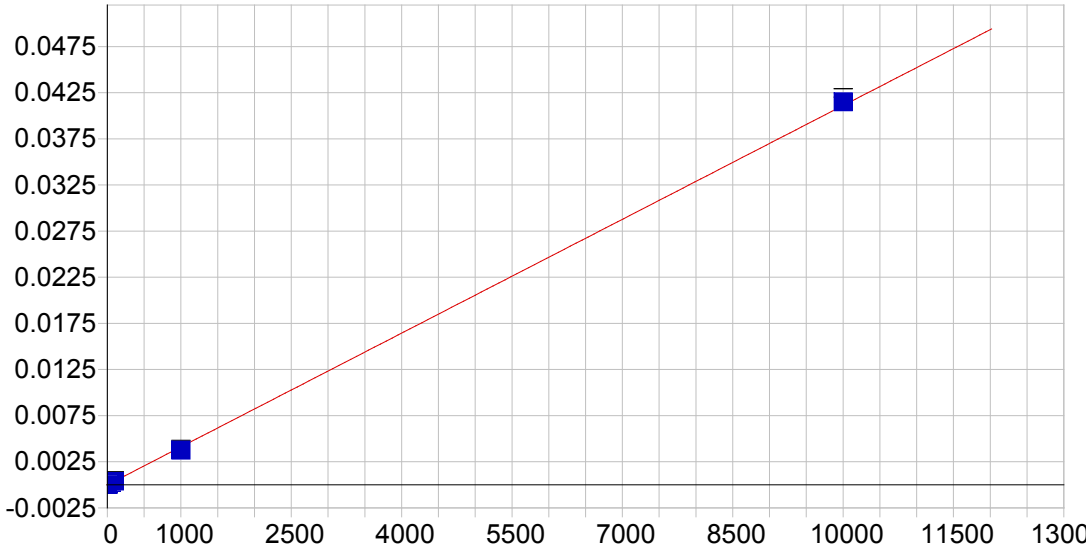


Ni 221.647 {452}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000006	Re-Slope:	1.000000
A1 (Gain):	0.000007	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999594	Status:	OK.
Std Error of Est:	0.000009		
Predicted MDL:	0.239613		
Predicted MQL:	0.798711		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00930	.009	.000	-.00001	.000	1
CalStd10=10	10000.	10092.	91.6	.916	.06663	.001	1
CalStd8=100	100.00	98.825	-1.18	-1.18	.00065	.000	1
CalStd9=100	1000.0	909.60	-90.4	-9.04	.00600	.000	1

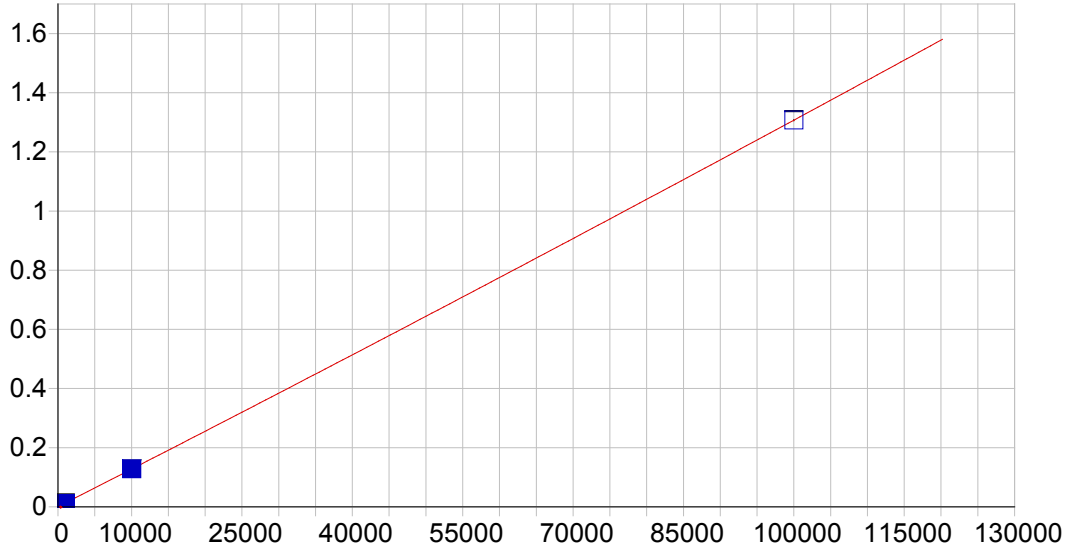


Ni 231.604 {445}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000004	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999598	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.353327		
Predicted MQL:	1.177757		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00022	.000	.000	.00000	.000	1
CalStd7=50	50.000	47.241	-2.76	-5.52	.00019	.000	1
CalStd5=10	10.000	9.5959	-.404	-4.04	.00004	.000	1
CalStd8=100	100.00	99.277	-.723	-.723	.00041	.000	1
CalStd4=5	5.0000	4.9529	-.047	-.943	.00002	.000	1
CalStd9=100	1000.0	910.87	-89.1	-8.91	.00374	.000	1
CalStd3=1	1.0000	.97291	-.027	-2.71	.00000	.000	1
CalStd10=10	10000.	10093.	93.1	.931	.04149	.000	1

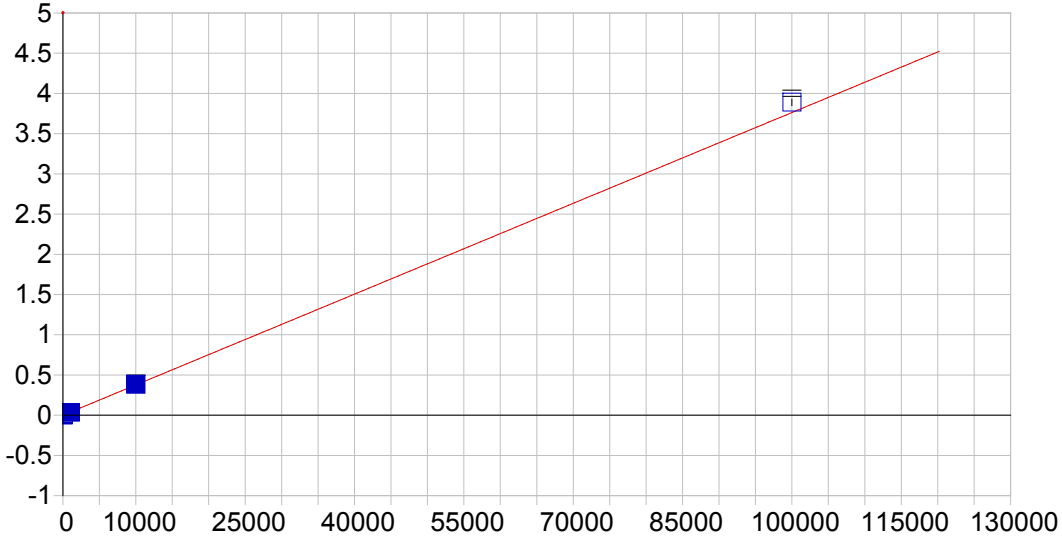


Pb 216.999 {455}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	0.000316	Re-Slope:	1.000000
A1 (Gain):	0.000013	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999965	Status:	Warning Positive Curvature
Std Error of Est:	0.000003		
Predicted MDL:	4.947001		
Predicted MQL:	16.490004		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00691	.007	.000	.00032	.000	1
CalStd9=100	1000.0	958.61	-41.4	-4.14	.01247	.000	1
CalStd10=10	10000.	10055.	55.0	.550	.12812	.000	1
CalStd11-100	100000.	99995.	-4.82	-.005	1.3072	.002	1
CalStd8=100	100.00	99.613	-.387	-.387	.00158	.000	1
CalStd4=5	5.0000	-.05857	-5.06	-101.	.00032	.000	1
CalStd5=10	10.000	6.6920	-3.31	-33.1	.00040	.000	1

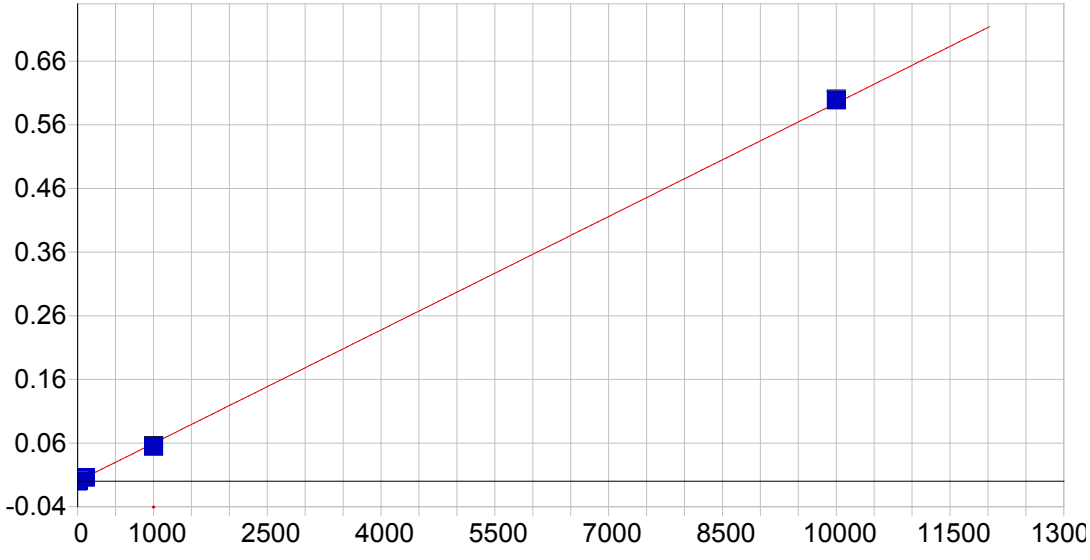


Pb 220.353 {153}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-0.000012	Re-Slope:	1.000000
A1 (Gain):	0.000038	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999340	Status:	OK.
Std Error of Est:	0.000451		
Predicted MDL:	2.009372		
Predicted MQL:	6.697908		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.46621	.466	.000	.00001	.000	1
CalStd9=100	1000.0	945.43	-54.6	-5.46	.03555	.000	1
CalStd10=10	10000.	10187.	187.	1.87	.38312	.002	1
CalStd8=100	100.00	101.43	1.43	1.43	.00380	.000	1
CalStd11-100	100000.	103390.	3390.	3.39	3.8900	.038	1

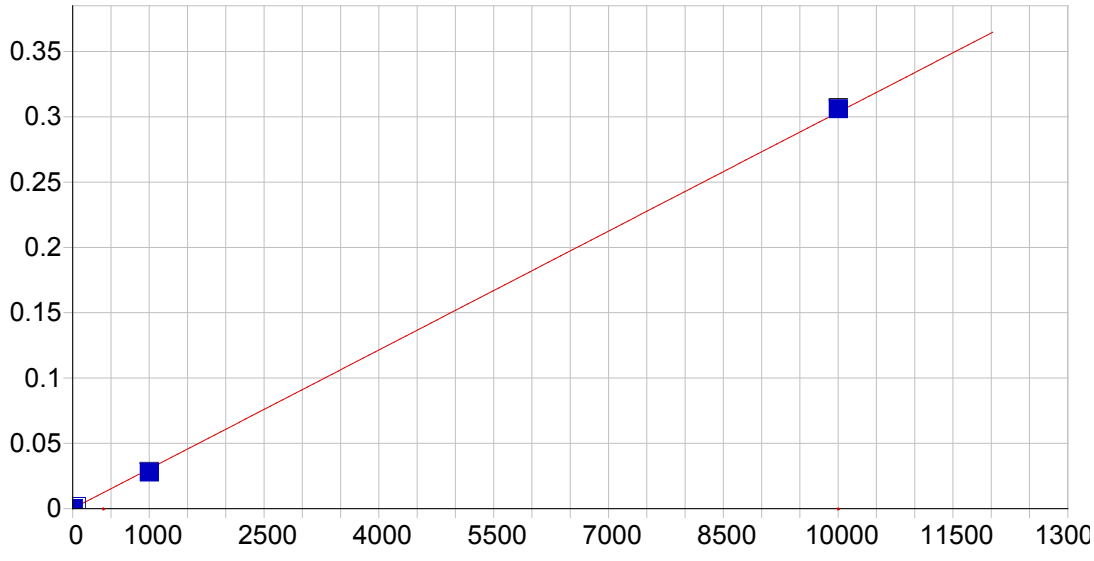


Pb 220.353 {453}

Date of Fit: 01/25/2016 13:15:08 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	0.000095	Re-Slope:	1.000000
A1 (Gain):	0.000059	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999680	Status:	OK.
Std Error of Est:	0.000014		
Predicted MDL:	1.348372		
Predicted MQL:	4.494572		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00084	.001	.000	.00010	.000	1
CalStd5=10	10.000	10.236	.236	2.36	.00070	.000	1
CalStd8=100	100.00	99.436	-.564	-.564	.00600	.000	1
CalStd4=5	5.0000	4.4288	-.571	-11.4	.00036	.000	1
CalStd9=100	1000.0	920.01	-80.0	-8.00	.05474	.001	1
CalStd10=10	10000.	10081.	80.9	.809	.59887	.001	1

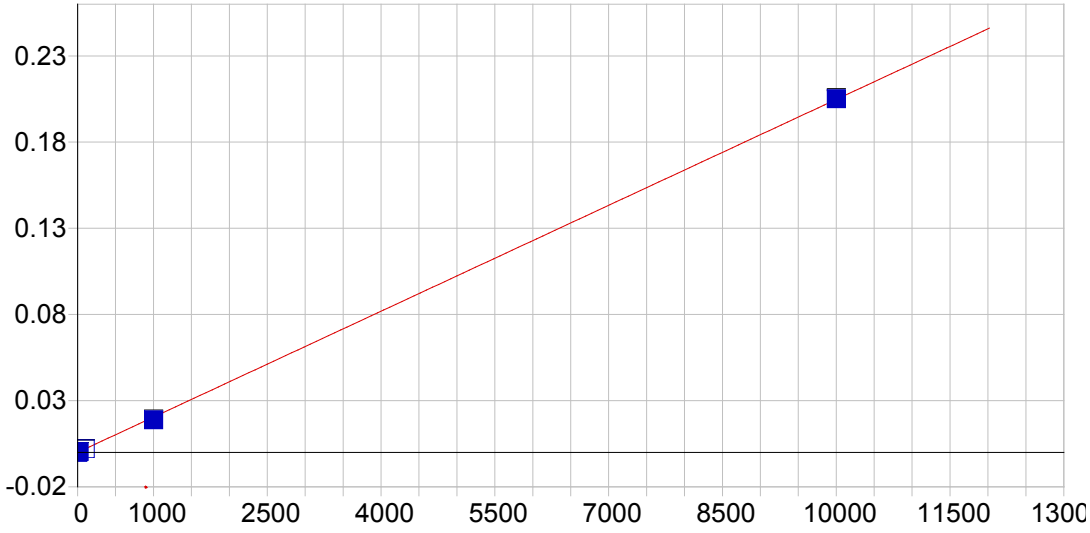


Sb 206.833 {463}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000092	Re-Slope:	1.000000
A1 (Gain):	0.000030	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999670	Status:	OK.
Std Error of Est:	0.000011		
Predicted MDL:	1.688185		
Predicted MQL:	5.627284		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00154	.002	.000	.00009	.000	1
CalStd9=100	1000.0	919.47	-80.5	-8.05	.02799	.000	1
CalStd5=10	10.000	9.6626	-.337	-3.37	.00039	.000	1
CalStd7=50	50.000	47.581	-2.42	-4.84	.00154	.000	1
CalStd10=10	10000.	10083.	83.3	.833	.30602	.001	1

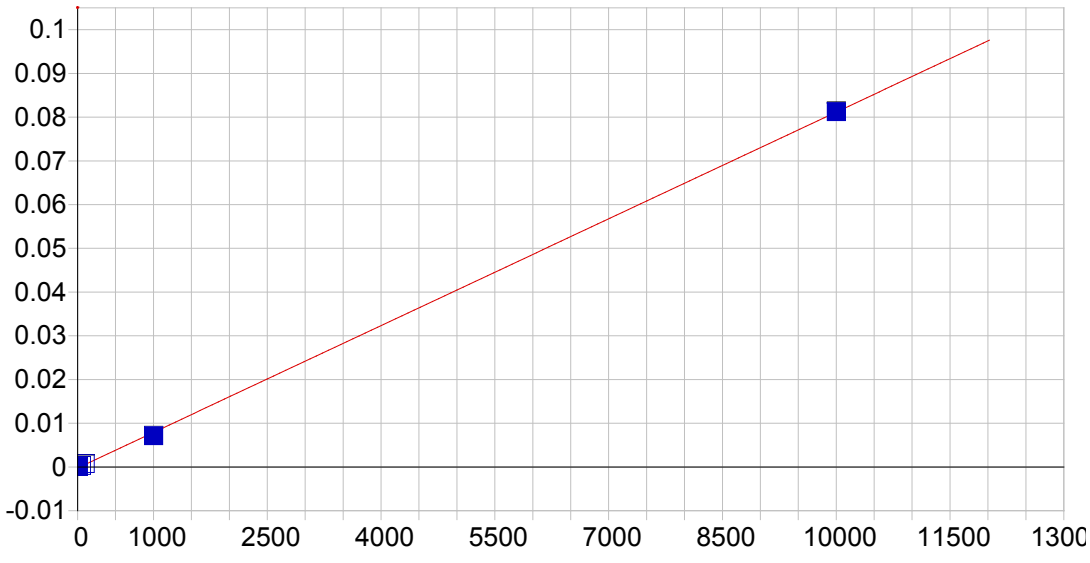


Sb 217.581 {455}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-0.000017	Re-Slope:	1.000000
A1 (Gain):	0.000020	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999940	Status:	OK.
Std Error of Est:	0.000085		
Predicted MDL:	2.662758		
Predicted MQL:	8.875860		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.50340	.503	.000	-.00001	.000	1
CalStd9=100	1000.0	921.35	-78.7	-7.87	.01885	.000	1
CalStd6=20	20.000	21.126	1.13	5.63	.00042	.000	1
CalStd5=10	10.000	10.619	.619	6.19	.00020	.000	1
CalStd8=100	100.00	98.183	-1.82	-1.82	.00199	.000	1
CalStd4=5	5.0000	5.0208	.021	.415	.00009	.000	1
CalStd10=10	10000.	10017.	16.6	.166	.20505	.000	1

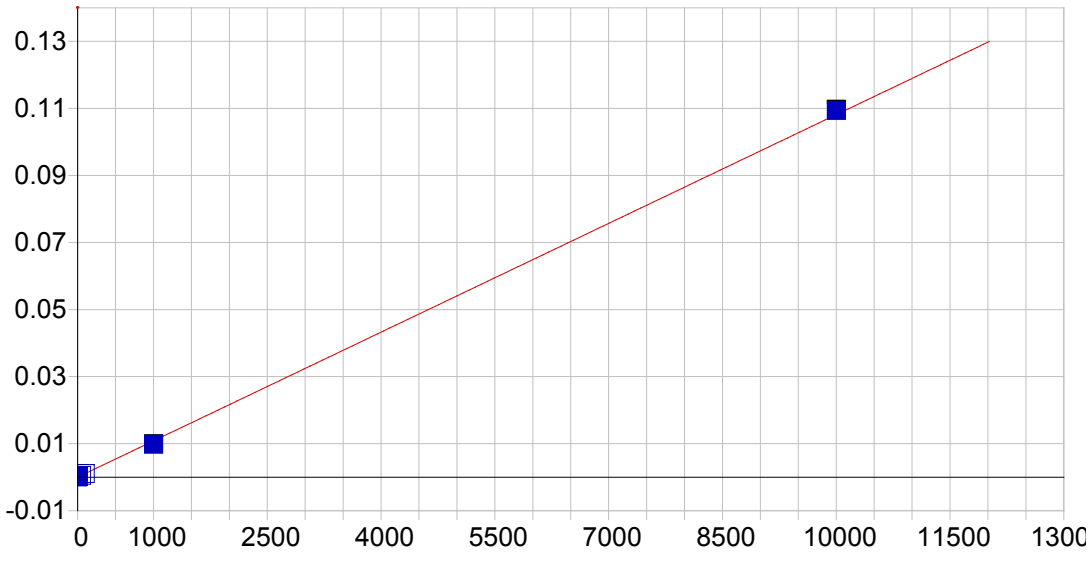


Se 196.090 {471}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	-0.000229	Re-Slope:	1.000000
A1 (Gain):	0.000008	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999932	Status:	OK.
Std Error of Est:	0.000425		
Predicted MDL:	4.316858		
Predicted MQL:	14.389525		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	25.641	25.6	.000	-.00002	.000	1
CalStd7=50	50.000	67.981	18.0	36.0	.00032	.000	1
CalStd9=100	1000.0	905.32	-94.7	-9.47	.00713	.000	1
CalStd5=10	10.000	33.852	23.9	239.	.00005	.000	1
CalStd8=100	100.00	118.03	18.0	18.0	.00073	.000	1
CalStd10=10	10000.	10009.	9.17	.092	.08119	.000	1

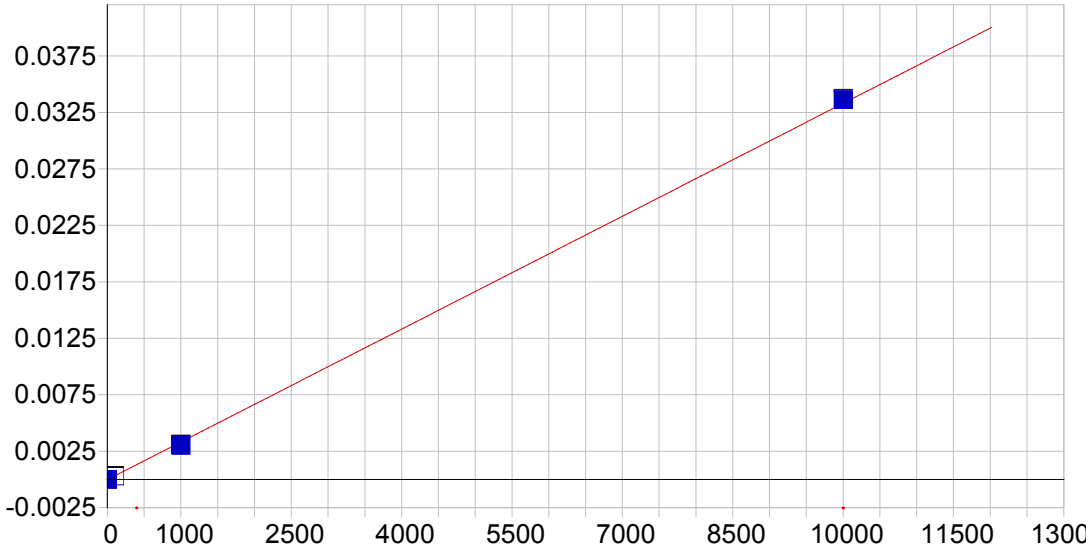


Se 196.090 {472}

Date of Fit: 01/25/2016 13:15:08 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	0.000010	Re-Slope:	1.000000
A1 (Gain):	0.000011	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999476	Status:	OK.
Std Error of Est:	0.000005		
Predicted MDL:	3.365969		
Predicted MQL:	11.219898		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00384	.004	.000	.00001	.000	1
CalStd7=50	50.000	45.569	-4.43	-8.86	.00050	.000	1
CalStd9=100	1000.0	903.60	-96.4	-9.64	.00978	.000	1
CalStd5=10	10.000	8.6935	-1.31	-13.1	.00010	.000	1
CalStd8=100	100.00	92.105	-7.90	-7.90	.00101	.000	1
CalStd10=10	10000.	10110.	110.	1.10	.10929	.000	1

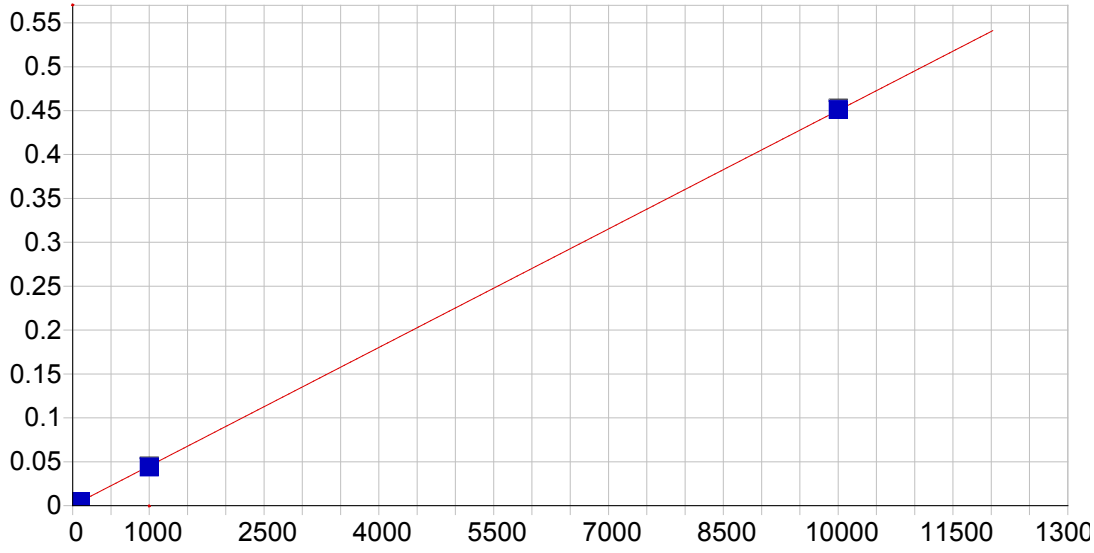


Se 206.279 {463}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000017	Re-Slope:	1.000000
A1 (Gain):	0.000003	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999554	Status:	OK.
Std Error of Est:	0.000005		
Predicted MDL:	15.753051		
Predicted MQL:	52.510169		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.01428	.014	.000	-.00002	.000	1
CalStd9=100	1000.0	907.32	-92.7	-9.27	.00301	.000	1
CalStd10=10	10000.	10099.	98.7	.987	.03364	.000	1
CalStd8=100	100.00	94.001	-6.00	-6.00	.00030	.000	1

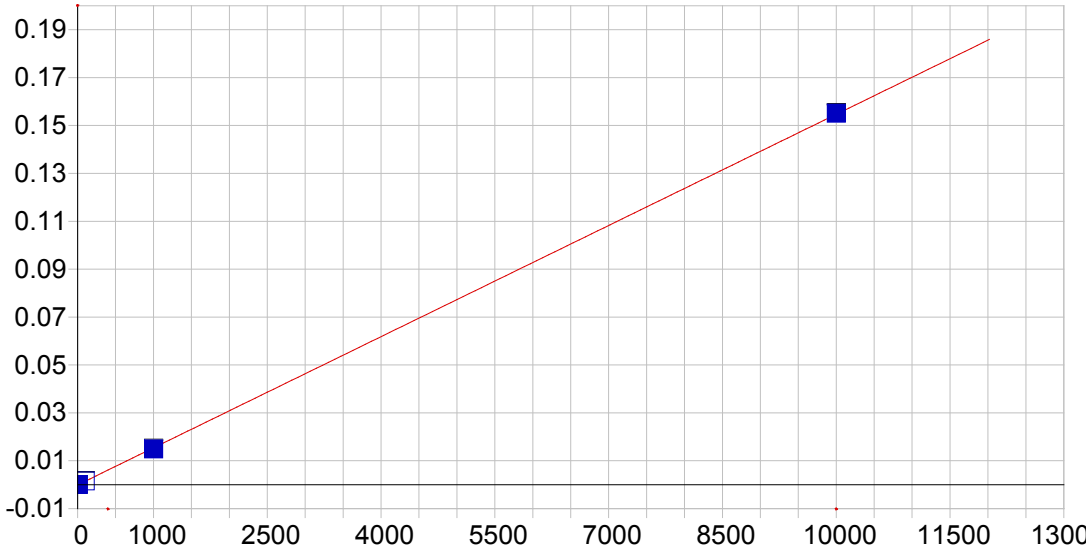


Tl 190.856 {476}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000114	Re-Slope:	1.000000
A1 (Gain):	0.000045	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999953	Status:	OK.
Std Error of Est:	0.000006		
Predicted MDL:	1.100910		
Predicted MQL:	3.669699		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00077	-.001	.000	.00011	.000	1
CalStd9=100	1000.0	974.20	-25.8	-2.58	.04401	.001	1
CalStd8=100	100.00	105.72	5.72	5.72	.00488	.000	1
CalStd5=10	10.000	10.440	.440	4.40	.00058	.000	1
CalStd10=10	10000.	10020.	19.6	.196	.45156	.001	1

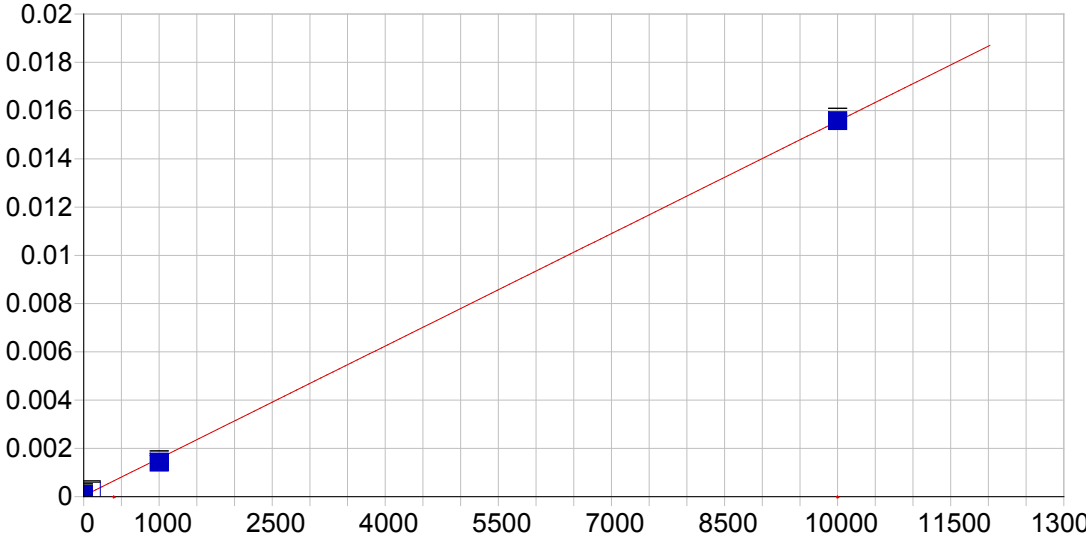


Tl 190.856 {477}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000090	Re-Slope:	1.000000
A1 (Gain):	0.000015	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999938	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	2.161376		
Predicted MQL:	7.204587		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00093	-.001	.000	-.00009	.000	1
CalStd9=100	1000.0	968.61	-31.4	-3.14	.01490	.000	1
CalStd8=100	100.00	105.36	5.36	5.36	.00154	.000	1
CalStd5=10	10.000	10.687	.687	6.87	.00008	.000	1
CalStd10=10	10000.	10025.	25.3	.253	.15504	.000	1

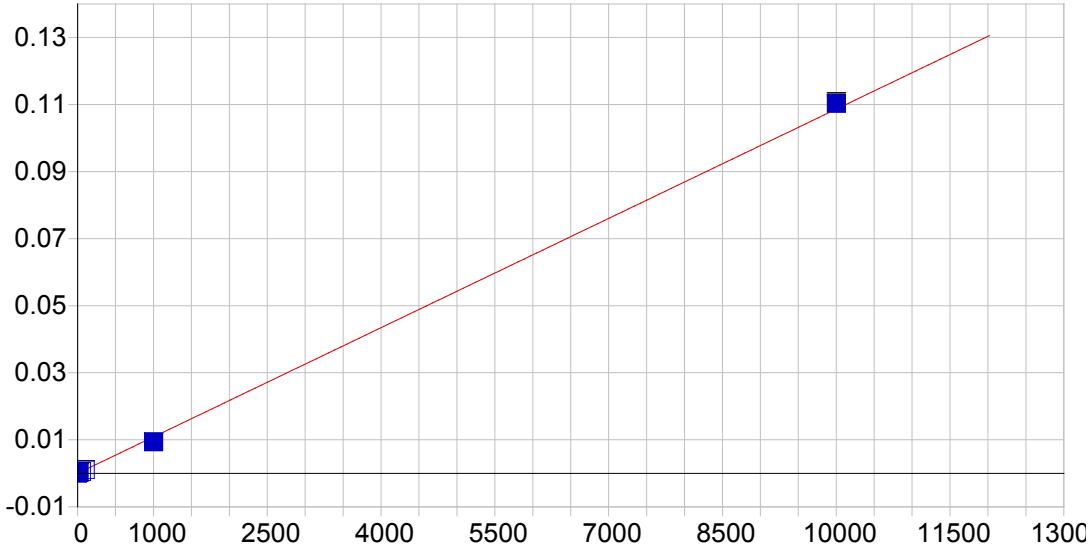


V 290.882 {116}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000032	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999891	Status:	OK.
Std Error of Est:	0.000136		
Predicted MDL:	76.593346		
Predicted MQL:	255.311155		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	45.162	45.2	.000	.00010	.000	1
CalStd9=100	1000.0	896.13	-104.	-10.4	.00142	.000	1
CalStd10=10	10000.	10010.	9.90	.099	.01558	.000	1
CalStd8=100	100.00	148.81	48.8	48.8	.00026	.000	1

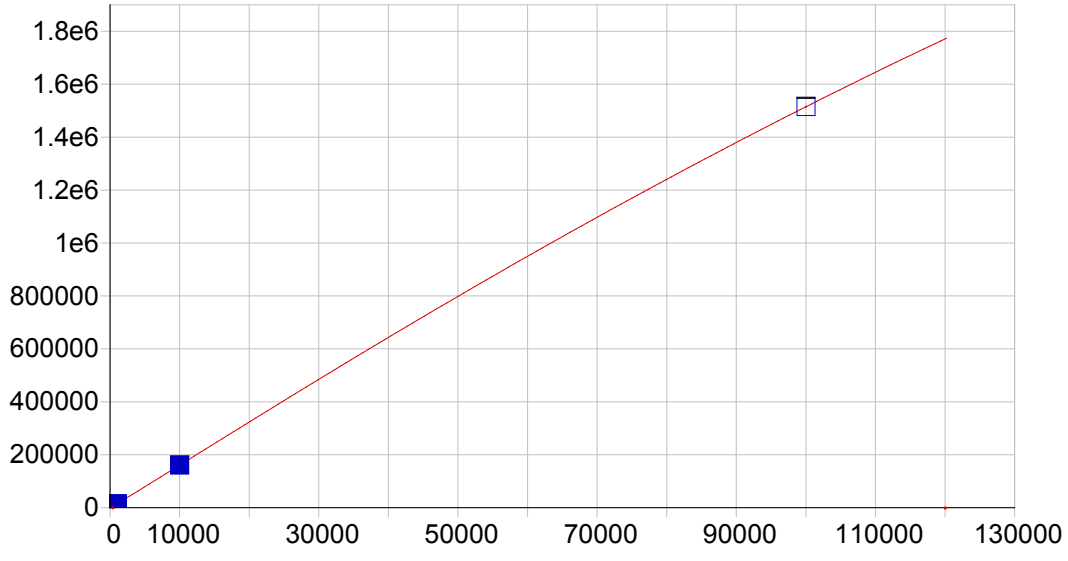


V 292.402 {115}

Date of Fit: 01/25/2016 13:15:08 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	-0.000006	Re-Slope:	1.000000
A1 (Gain):	0.000011	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998980	Status:	OK.
Std Error of Est:	0.000006		
Predicted MDL:	0.440233		
Predicted MQL:	1.467442		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00433	.004	.000	-.00001	.000	1
CalStd7=50	50.000	44.831	-5.17	-10.3	.00048	.000	1
CalStd9=100	1000.0	860.82	-139.	-13.9	.00935	.000	1
CalStd6=20	20.000	18.983	-1.02	-5.08	.00020	.000	1
CalStd5=10	10.000	9.1260	-.874	-8.74	.00009	.000	1
CalStd8=100	100.00	93.228	-6.77	-6.77	.00101	.000	1
CalStd10=10	10000.	10153.	153.	1.53	.11029	.000	1

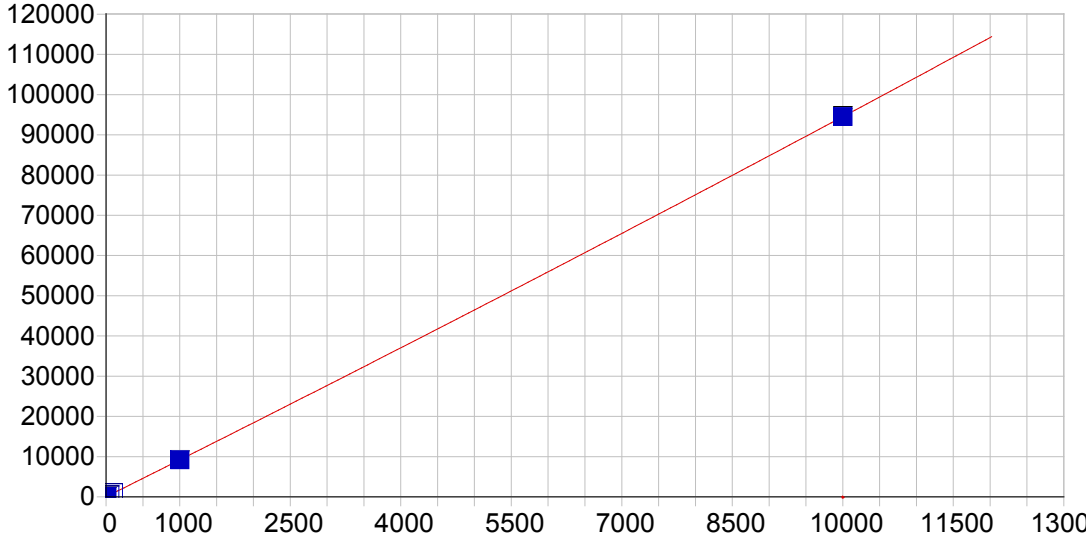


Zn 206.200 {463}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Full Fit	Weighting:	1/Conc

A0 (Offset):	21.171174	Re-Slope:	1.000000
A1 (Gain):	12.325961	Y-int:	0.000000
A2 (Curvature):	-0.000011		
n (Exponent):	1.030000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.134333		
Predicted MQL:	0.447775		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
CalStd10=10	10000.	9990.9	-9.07	-.091	160380.	264.	1
Blank	.00000	.00000	.000	.000	21.041	1.20	1
CalStd9=100	1000.0	1009.3	9.32	.932	15312.	126.	1
CalStd11-100	100000.	100000.	.890	.001	1514600.	2130.	1



Zn 213.856 {458}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Curvilinear	Weighting:	None

A0 (Offset):	27.225440	Re-Slope:	1.000000
A1 (Gain):	9.123716	Y-int:	0.000000
A2 (Curvature):	0.000033		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	Warning Positive Curvature
Std Error of Est:	30.665827		
Predicted MDL:	0.147328		
Predicted MQL:	0.491092		

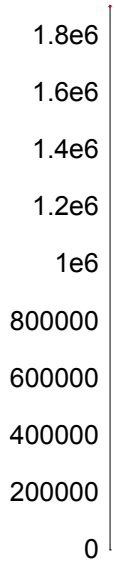
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-1.3345	-1.33	.000	15.050	1.28	1
CalStd8=100	100.00	106.07	6.07	6.07	995.35	3.17	1
CalStd7=50	50.000	49.132	-.868	-1.74	475.57	5.44	1
CalStd5=10	10.000	8.3464	-1.65	-16.5	103.38	.829	1
CalStd9=100	1000.0	999.41	-.589	-.059	9179.1	71.6	1
CalStd4=5	5.0000	3.3690	-1.63	-32.6	57.964	1.78	1
CalStd10=10	10000.	10000.	.005	.000	94534.	241.	1

Y 224.306 {451}*

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.000000	Status:	Warning Zero Gain
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	31555.	433.	1

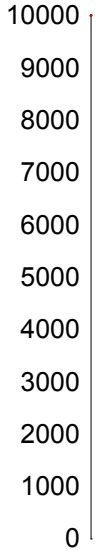


Y 324.228 {104}*

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.000000	Status:	Warning Zero Gain
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	1750200.	34000.	1

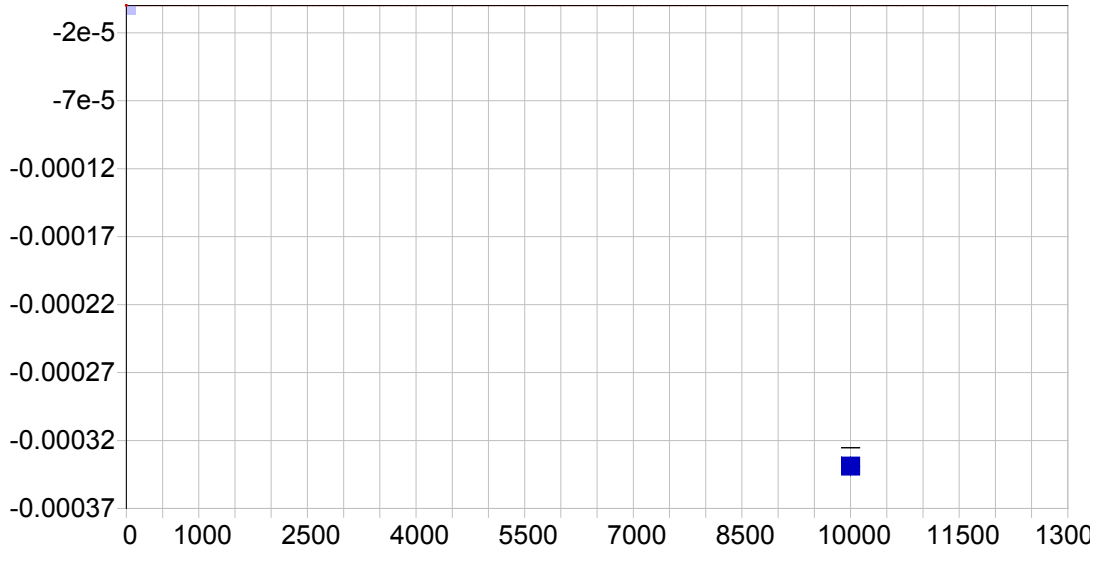


Y 371.030 { 91}*

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.000000	Status:	Warning Zero Gain
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	8872.4	123.	1

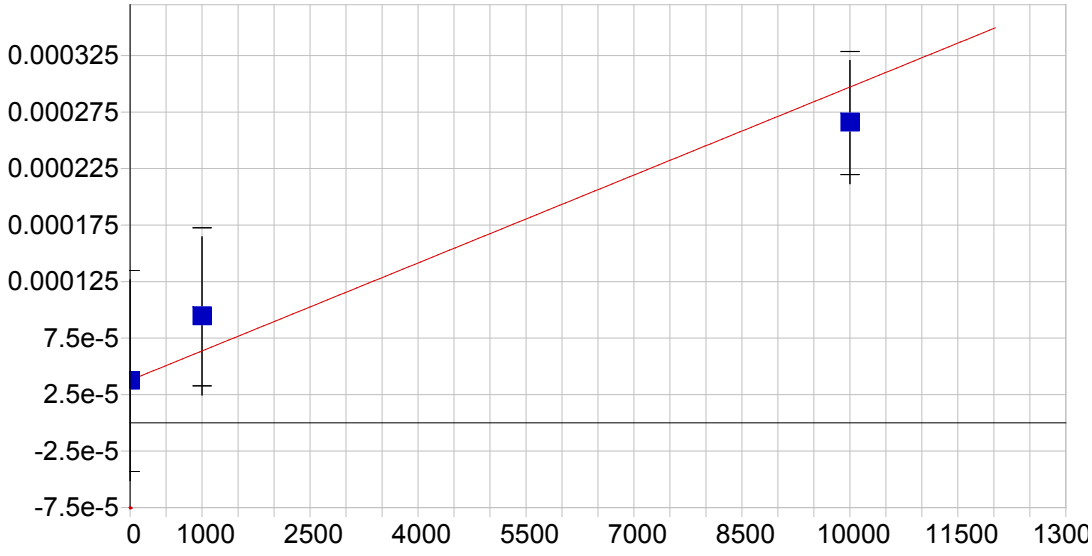


Na 588.995 { 57}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.000000	Status:	Warning Zero Gain
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-----	-----	-----	.00000	-----	0
CalStd10=10	10000.	.00000	-10000.	-100.	-.00034	.000	1

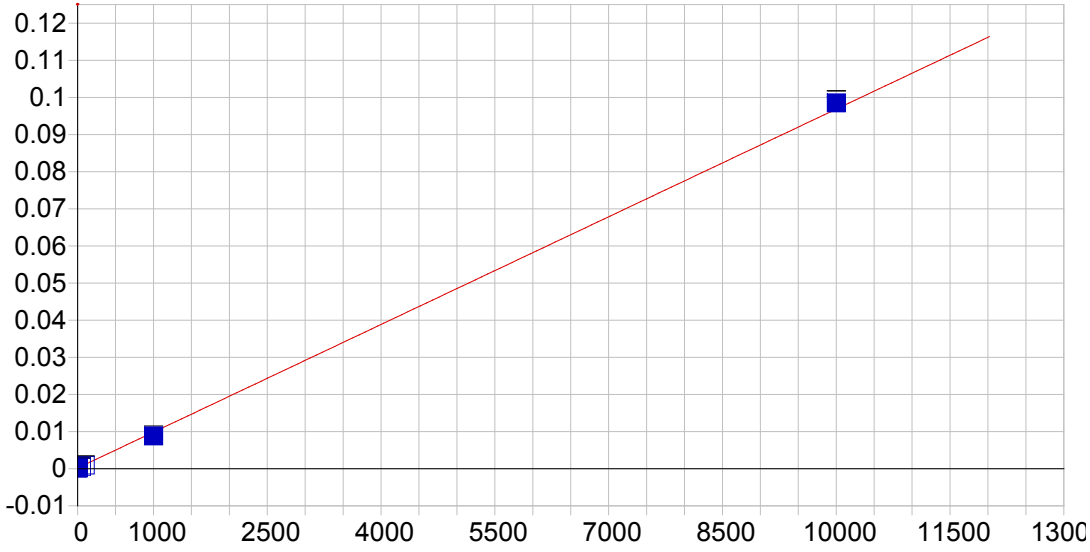


Si 251.611 {134}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000038	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.935437	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	2846.579764		
Predicted MQL:	9488.599214		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-1.0746	-1.07	.000	.00004	.000	1
CalStd10=10	10000.	8806.0	-1190.	-11.9	.00027	.000	1
CalStd9=100	1000.0	2194.0	1190.	119.	.00009	.000	1

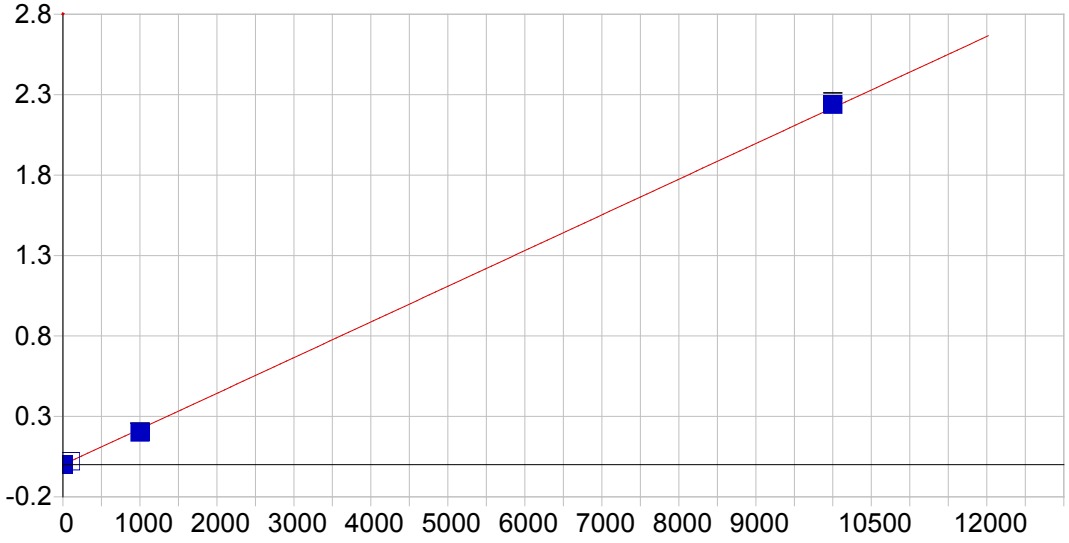


Ti 334.941 {101}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000180	Re-Slope:	1.000000
A1 (Gain):	0.000010	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.997270	Status:	OK.
Std Error of Est:	0.000006		
Predicted MDL:	17.554371		
Predicted MQL:	58.514570		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.01920	.019	.000	.00018	.000	1
CalStd5=10	10.000	2.2006	-7.80	-78.0	.00020	.000	1
CalStd8=100	100.00	78.539	-21.5	-21.5	.00094	.000	1
CalStd9=100	1000.0	889.08	-111.	-11.1	.00878	.000	1
CalStd10=10	10000.	10171.	171.	1.71	.09851	.001	1
CalStd7=50	50.000	31.274	-18.7	-37.5	.00048	.000	1
CalStd4=5	5.0000	-6.8819	-11.9	-238.	.00011	.000	1

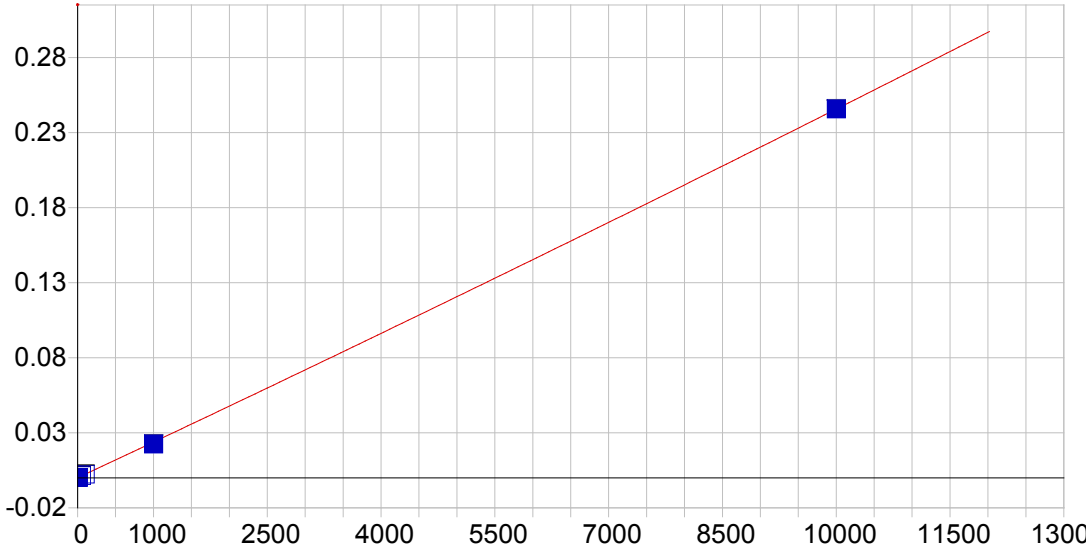


Sr 407.771 { 83}

Date of Fit: 01/25/2016 13:15:08 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	-0.000301	Re-Slope:	1.000000
A1 (Gain):	0.000222	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999575	Status:	OK.
Std Error of Est:	0.000025		
Predicted MDL:	1.480080		
Predicted MQL:	4.933600		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00037	.000	.000	-.00030	.000	1
CalStd3=1	1.0000	1.2439	.244	24.4	-.00003	.000	1
CalStd4=5	5.0000	6.3143	1.31	26.3	.00110	.000	1
CalStd5=10	10.000	9.5720	-.428	-4.28	.00182	.000	1
CalStd8=100	100.00	99.146	-.854	-.854	.02169	.000	1
CalStd9=100	1000.0	909.44	-90.6	-9.06	.20144	.002	1
CalStd10=10	10000.	10090.	90.3	.903	2.2381	.016	1

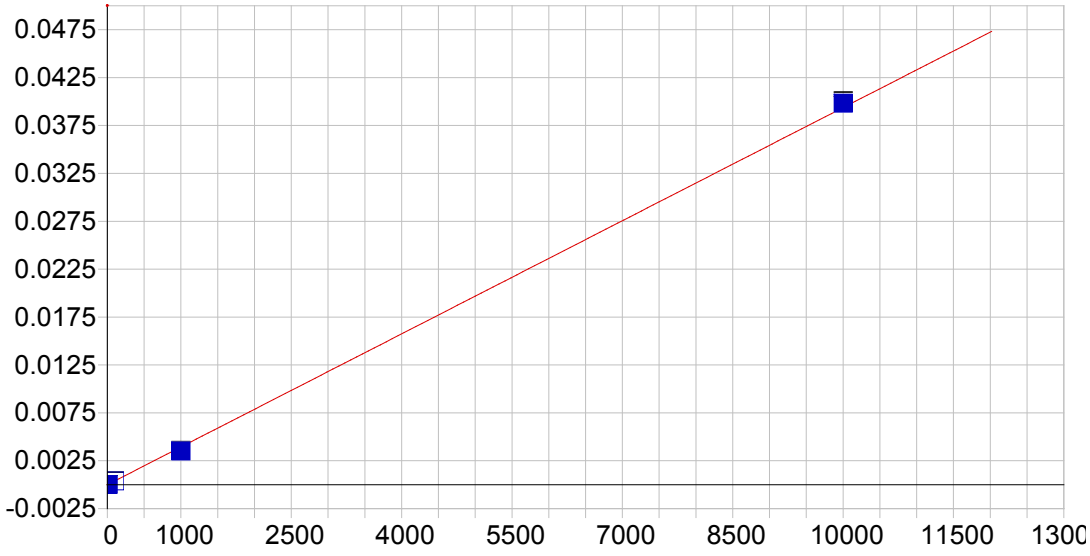


Sn 189.989 {478}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Curvilinear	Weighting:	1/Var

A0 (Offset):	0.000025	Re-Slope:	1.000000
A1 (Gain):	0.000024	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999979	Status:	Warning Positive Curvature
Std Error of Est:	0.000047		
Predicted MDL:	0.975500		
Predicted MQL:	3.251667		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.77044	-.770	.000	.00001	.000	1
CalStd10=10	10000.	10000.	.373	.004	.24565	.000	1
CalStd9=100	1000.0	944.06	-55.9	-5.59	.02248	.000	1
CalStd8=100	100.00	101.71	1.71	1.71	.00244	.000	1
CalStd5=10	10.000	10.305	.305	3.05	.00027	.000	1
CalStd7=50	50.000	55.310	5.31	10.6	.00134	.000	1
CalStd4=5	5.0000	4.8240	-.176	-3.52	.00014	.000	1

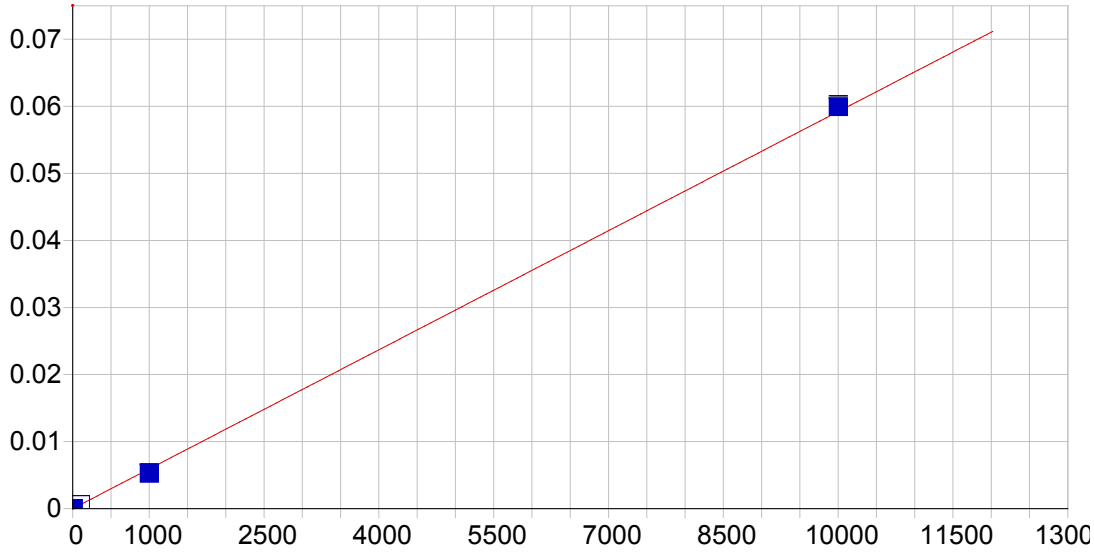


B 249.678 {135}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000003	Re-Slope:	1.000000
A1 (Gain):	0.000004	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999392	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	0.756414		
Predicted MQL:	2.521379		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00148	.001	.000	.00000	.000	1
CalStd8=100	100.00	95.692	-4.31	-4.31	.00037	.000	1
CalStd5=10	10.000	9.9366	-.063	-.634	.00004	.000	1
CalStd9=100	1000.0	890.35	-110.	-11.0	.00350	.000	1
CalStd10=10	10000.	10114.	114.	1.14	.03981	.000	1

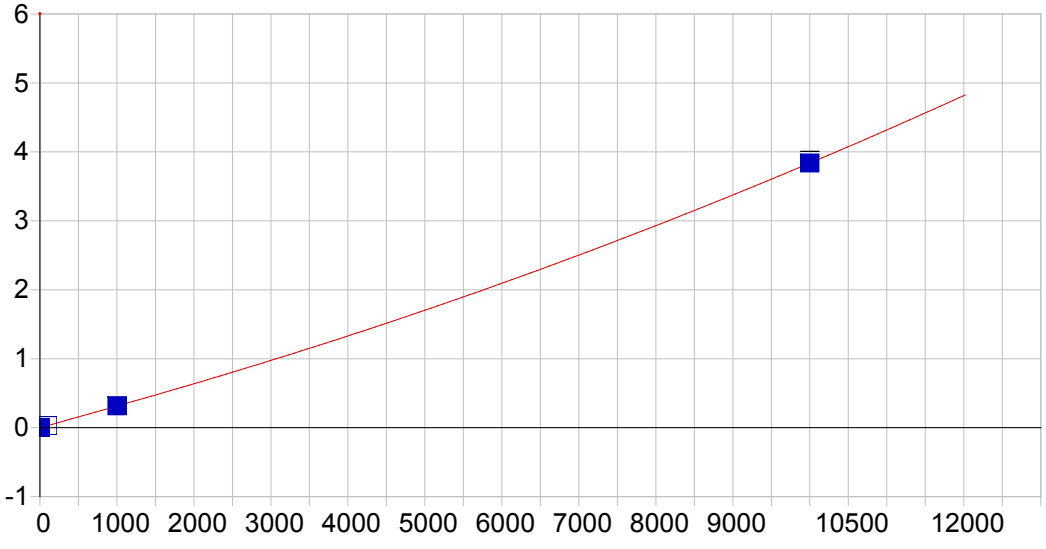


B 249.773 {135}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000006	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999345	Status:	OK.
Std Error of Est:	0.000003		
Predicted MDL:	0.444174		
Predicted MQL:	1.480581		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00169	.002	.000	.00000	.000	1
CalStd8=100	100.00	95.524	-4.48	-4.48	.00057	.000	1
CalStd5=10	10.000	9.7820	-.218	-2.18	.00006	.000	1
CalStd9=100	1000.0	885.93	-114.	-11.4	.00526	.000	1
CalStd10=10	10000.	10119.	119.	1.19	.06004	.000	1

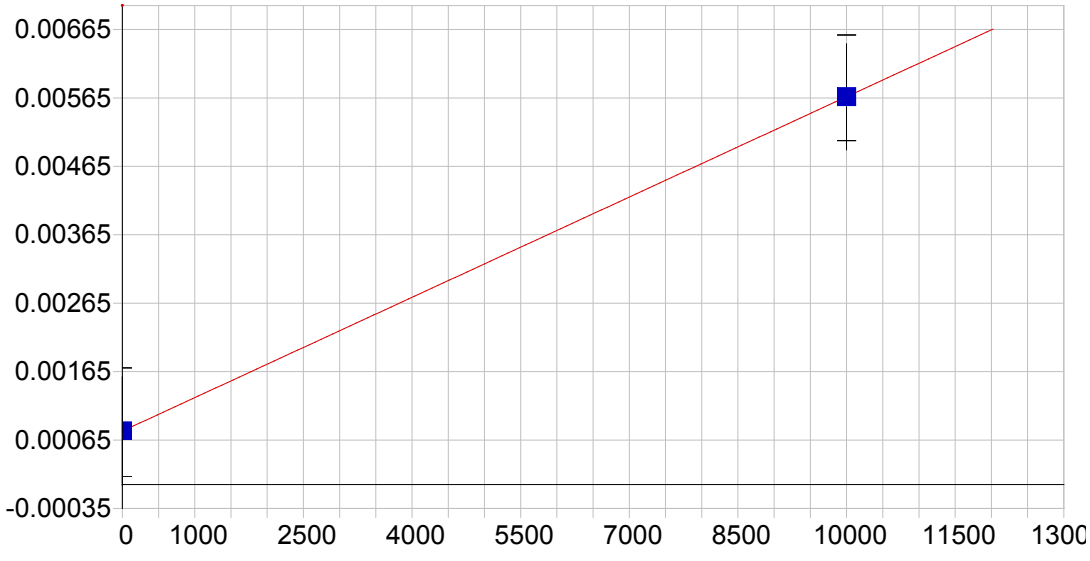


Li 670.784 { 50}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Full Fit	Weighting:	1/Conc

A0 (Offset):	-0.004624	Re-Slope:	1.000000
A1 (Gain):	0.000431	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	0.950000		
Correlation:	0.999967	Status:	Warning Positive Curvature
Std Error of Est:	0.000073		
Predicted MDL:	2.892129		
Predicted MQL:	9.640430		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	-.00462	.001	1
CalStd5=10	10.000	12.355	2.36	23.6	.00007	.001	1
CalStd8=100	100.00	94.556	-5.44	-5.44	.02798	.002	1
CalStd9=100	1000.0	1003.2	3.23	.323	.31555	.003	1
CalStd10=10	10000.	9999.8	-.216	-.002	3.8377	.038	1

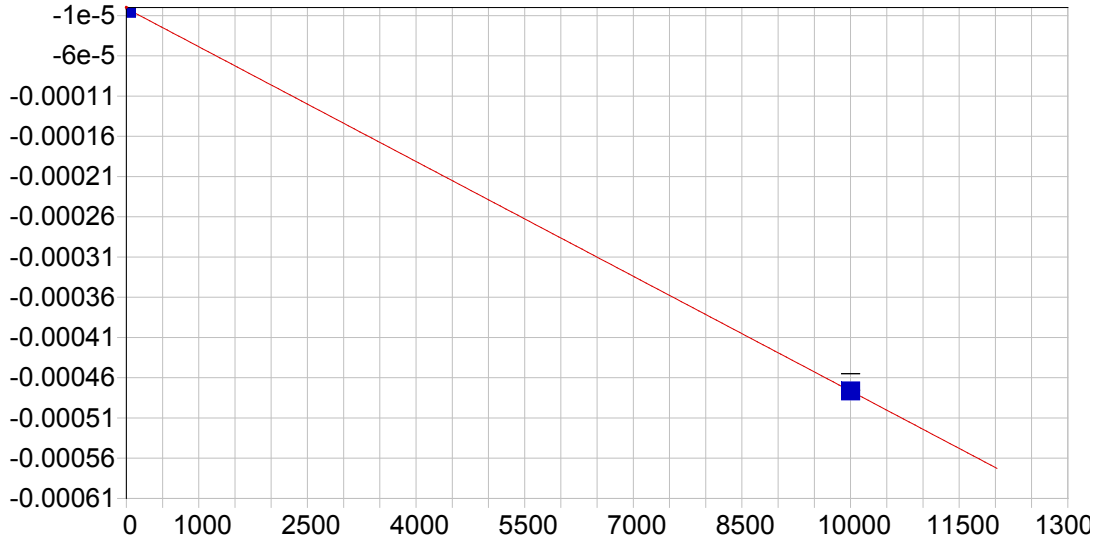


K 766.490 { 44}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000781	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	2200.155061		
Predicted MQL:	7333.850202		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00078	.001	1
CalStd10=10	10000.	10000.	.000	.000	.00566	.001	1

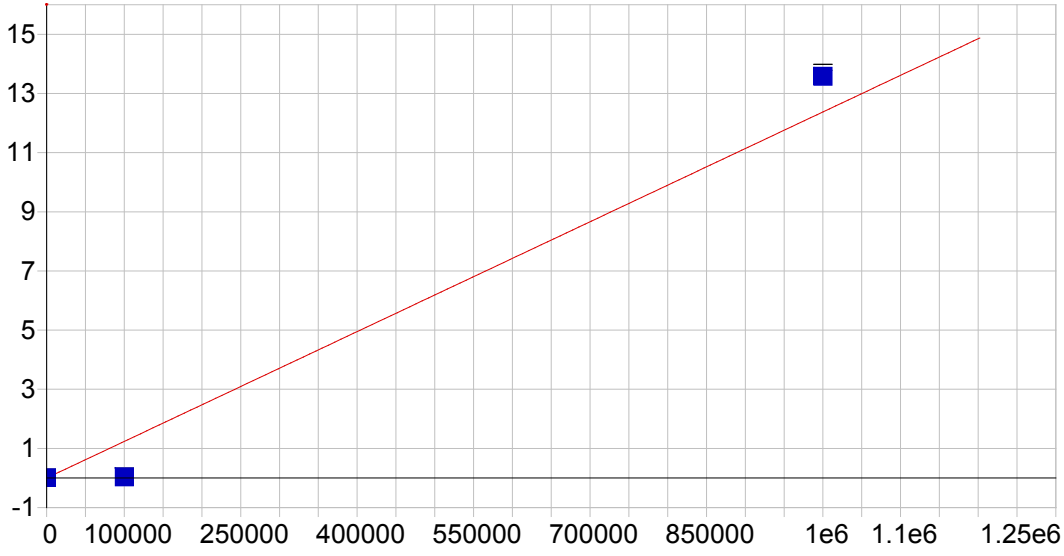


P 213.618 {457}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000001	Re-Slope:	1.000000
A1 (Gain):	-0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	Warning Negative Gain
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00000	.000	1
CalStd10=10	10000.	10000.	.000	.000	-.00048	.000	1

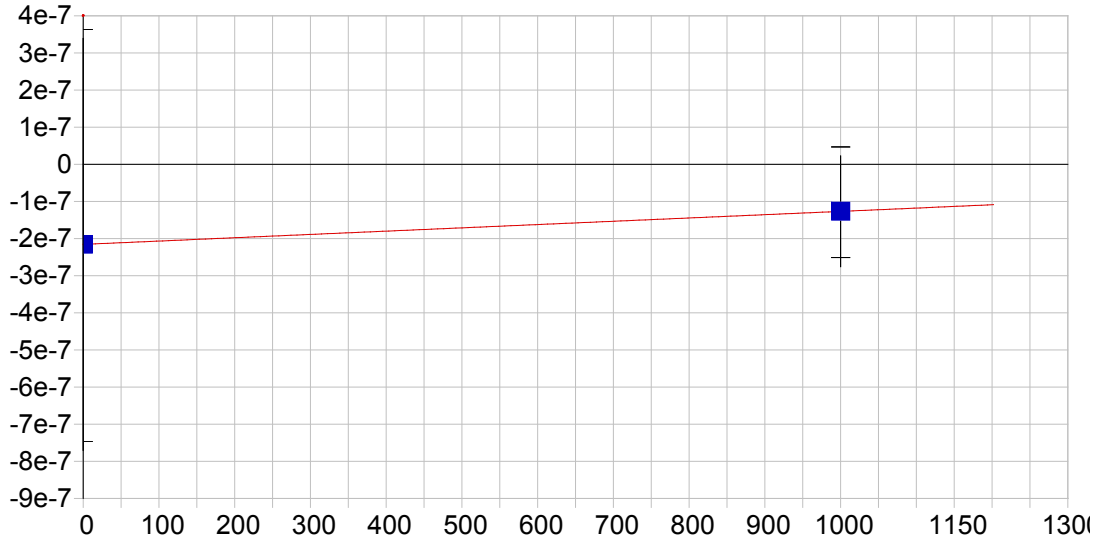


S 182.034 {485}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.001118	Re-Slope:	1.000000
A1 (Gain):	0.000012	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.956030	Status:	OK.
Std Error of Est:	0.068909		
Predicted MDL:	2.330338		
Predicted MQL:	7.767793		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	87.246	87.2	.000	-.00004	.000	1
CalStd12-100	100000.	3060.5	-96900.	-96.9	.03661	.000	1
CalStd14-100	1000000.	1096900.	96900.	9.69	13.574	.102	1



W 239.709 {140}

Date of Fit:	01/25/2016 13:15:08	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	4216.305002		
Predicted MQL:	14054.35000		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00000	.000	1
CalStd9=100	1000.0	1000.0	.000	.000	.00000	.000	1

Sample Name: Blank Acquired: 01/21/2016 13:12:08 Type: Cal
Method: DOD Calibration Updated 060614(v1231) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	Al1670	As1937	As1890	Ba4554	Ba4934	Be3130	Be2348	Ca3158	Ca3968	Cd2265
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.000**	**753.**	**1680.**	**-225.**	**.000**	**.000**	**.002**	**.000**
Stddev	.00	.00	.000	.00	.00	9.	31.	3.	.00	.000	.000	.000
%RSD	74.9	97.8	5.10	71.1	18.2	1.22	1.82	1.23	594.	73.3	17.8	359.

Elem	Cd2288	Co2286	Co2388	Cr2055	Cr2677	Cu2247	Cu3247	Fe2343	Fe2395	Fe2599	Mg2025	Mg2802
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.001**	**.007**	**.000**	**.000**	**.000**	**.000**
Stddev	.00	.00	.000	.00	.000	.000	.000	.000	.000	.000	.00	.000
%RSD	96.1	23.6	51.2	45.1	566.	22.3	8.82	3.53	3850.	28.7	7.95	9.53

Elem	Mn2576	Mn2593	Mo2045	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Se2062
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	.000	.00	.000	.00	.00	.00	.000	.000	.000	.00	.000	.00
%RSD	27.1	59.9	145.	72.2	22.2	64.8	14.8	109.	47.6	369.	237.	174.

Elem	Tl1908	Tl1908	V_2908	V_2924	Zn2062	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**21.0**	**15.1**
Stddev	.000	.00	.000	.00	1.2	1.3
%RSD	13.1	46.0	49.3	96.9	5.71	8.49

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**31555.**	**1750200.**	**8872.4**
Stddev	433.	33976.	122.8
%RSD	1.3736	1.9413	1.3846

Sample Name: CalStd1=0.25 Acquired: 01/21/2016 13:17:01 Type: Cal
Method: DOD Calibration Updated 060614(v1231) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Be3130
Units	Cts/S
Avg	**-156.**
Stddev	3.
%RSD	1.89

Sample Name: CalStd2=0.5 Acquired: 01/21/2016 13:21:51 Type: Cal
Method: DOD Calibration Updated 060614(v1231) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Be3130	Cd2265	Cd2288
Units	Cts/S	Cts/S	Cts/S
Avg	**-86.7**	**.000**	**.000**
Stddev	5.4	.000	.000
%RSD	6.21	5.83	31.6

Int. Std.	Y_2243
Units	Cts/S
Avg	**31308.**
Stddev	435.
%RSD	1.3879

Sample Name: CalStd3=1 Acquired: 01/21/2016 13:26:41 Type: Cal
Method: DOD Calibration Updated 060614(v1231) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Ba4554	Be3130	Cd2265	Cd2288	Co2286	Cr2055	Cu2247	Ni2316
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**1030.**	**74.2**	**.001**	**.001**	**.000**	**.000**	**.000**	**.000**
Stddev	.00	10.	1.3	.000	.000	.000	.000	.000	.000
%RSD	532.	.927	1.68	7.37	10.8	23.1	18.0	26.8	59.5

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**31713.**	**1750900.**	**8952.4**
Stddev	110.	49800.	183.4
%RSD	.34655	2.8442	2.0484

Sample Name: CalStd4=5 Acquired: 01/21/2016 13:31:27 Type: Cal
Method: DOD Calibration Updated 060614(v1231) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al1670	As1890	Ba4554	Be3130	Cd2265	Co2286	Cr2055	Cr2677	Cu2247	Mn2576	Mo2045	Ni2316
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**2400.**	**1290.**	**.003**	**.002**	**.001**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	.000	.000	7.	12.	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	4.62	89.9	.296	.899	2.13	3.09	3.25	4.76	10.6	1.98	8.82	6.08

Elem	Pb2169	Pb2203	Sb2175	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**58.0**
Stddev	.000	.000	.000	1.8
%RSD	11.9	18.1	37.9	3.07

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**31970.**	**1773700.**	**8908.3**
Stddev	78.	28456.	89.5
%RSD	.24332	1.6043	1.0052

Sample Name: CalStd5=10 Acquired: 01/21/2016 13:36:17 Type: Cal
Method: DOD Calibration Updated 060614(v1231) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba4554	Be3130	Cd2265	Cd2288	Co2286	Cr2055	Cr2677	Cu2247	Mn2576
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.001**	**.000**	**4020.**	**2810.**	**.006**	**.007**	**.003**	**.003**	**.000**	**.001**	**.000**
Stddev	.000	.000	.000	34.	49.	.000	.000	.000	.000	.000	.000	.000
%RSD	8.17	1.79	8.15	.850	1.73	1.28	.757	1.16	1.47	3.80	6.12	1.67

Elem	Mo2045	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Tl1908	Tl1908	V_2924	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.001**	**.000**	**.000**	**.000**	**.001**	**.000**	**.000**	**103.**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	1.
%RSD	4.66	3.47	14.1	7.75	5.75	34.7	37.5	3.04	21.2	4.07	.802

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**32001.**	**1794800.**	**8888.0**
Stddev	251.	35330.	132.4
%RSD	.78309	1.9685	1.4892

Sample Name: CalStd6=20 Acquired: 01/21/2016 13:41:07 Type: Cal
Method: DOD Calibration Updated 060614(v1231) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ba4554	Cu2247	Mn2576	Mo2045	Sb2175	V_2924
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**7450.**	**.002**	**.001**	**.000**	**.000**	**.000**
Stddev	37.	.000	.000	.000	.000	.000
%RSD	.496	6.13	2.12	.760	8.39	3.64

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**32061.**	**1792700.**	**8900.8**
Stddev	150.	33858.	60.5
%RSD	.46878	1.8886	.67979

Sample Name: CalStd7=50 Acquired: 01/21/2016 13:45:54 Type: Cal
Method: DOD Calibration Updated 060614(v1231) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al1670	As1937	Ba4554	Cd2265	Co2286	Cr2055	Cr2677	Cu2247	Mg2802	Mn2576	Mo2045
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.003**	**.001**	**16600.**	**.027**	**.017**	**.014**	**.000**	**.005**	**.004**	**.002**	**.000**
Stddev	.000	.000	80.	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	1.38	2.37	.484	1.79	1.75	2.08	.380	2.22	.263	.309	1.57

Elem	Mo2045	Ni2316	Sb2068	Se1960	V_2924	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.002**	**.001**	**.000**	**476.**
Stddev	.000	.000	.000	.000	.000	5.
%RSD	1.31	.180	1.03	4.69	1.48	1.14

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**31762.**	**1775800.**	**8895.8**
Stddev	338.	8115.	173.4
%RSD	1.0647	.45700	1.9498

Sample Name: CalStd8=100 Acquired: 01/21/2016 13:50:37 Type: Cal
Method: DOD Calibration Updated 060614(v1231) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	As1937	As1890	Ba4554	Ba4934	Be3130	Be2348	Ca3968	Cd2265	Cd2288	Co2286
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.002**	**.000**	**33400.**	**40200.**	**31000.**	**.000**	**.020**	**.058**	**.075**	**.036**
Stddev	.000	.000	.000	305.	448.	353.	.000	.000	.000	.000	.000
%RSD	1.41	1.66	3.45	.913	1.11	1.14	15.9	1.50	.277	.269	.473

Elem	Co2388	Cr2055	Cr2677	Cu2247	Cu3247	Mg2802	Mn2576	Mo2045	Mo2045	Ni2216	Ni2316
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.029**	**.001**	**.010**	**.001**	**.009**	**.003**	**.000**	**.000**	**.001**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	1.29	.370	1.39	1.01	9.57	1.18	1.14	2.29	2.75	1.63	1.47

Elem	Pb2169	Pb2203	Sb2175	Se1960	Se2062	Tl1908	Tl1908	V_2908	V_2924	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.002**	**.006**	**.002**	**.001**	**.000**	**.005**	**.002**	**.000**	**.001**	**995.**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	3.
%RSD	4.28	2.31	1.85	2.34	15.2	.955	1.98	15.1	1.07	.318

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**31757.**	**1762900.**	**8881.9**
Stddev	68.	24983.	42.6
%RSD	.21388	1.4172	.47975

Sample Name: CalStd9=1000 Acquired: 01/21/2016 13:55:15 Type: Cal
Method: DOD Calibration Updated 060614(v1231) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Al1670	As1937	As1890	Ba4554	Ba4934	Be3130	Be2348	Ca3158	Ca3968
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.003**	**.057**	**.021**	**.004**	**296000.**	**356000.**	**286000.**	**.003**	**.001**	**.173**
Stddev	.000	.001	.000	.000	4300.	7060.	3240.	.000	.000	.001
%RSD	5.90	1.58	1.93	1.62	1.46	1.98	1.13	2.60	3.31	.302

Elem	Cd2265	Cd2288	Co2286	Co2388	Cr2055	Cr2677	Cu2247	Cu3247	Fe2343	Fe2395
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.533**	**.688**	**.337**	**.004**	**.274**	**.007**	**.095**	**.004**	**.232**	**.001**
Stddev	.009	.012	.006	.000	.004	.000	.002	.000	.001	.000
%RSD	1.61	1.70	1.74	1.14	1.63	.944	1.89	1.75	.416	11.3

Elem	Fe2599	Mg2025	Mg2802	Mn2576	Mn2593	Mo2045	Mo2045	Ni2216	Ni2316	Pb2169
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.002**	**.000**	**.075**	**.030**	**.007**	**.002**	**.001**	**.006**	**.004**	**.012**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	4.36	2.38	.486	1.20	1.63	2.30	2.57	2.30	2.37	1.47

Elem	Pb2203	Sb2068	Sb2175	Se1960	Se2062	Tl1908	Tl1908	V_2908	V_2924	Zn2062
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.055**	**.028**	**.019**	**.010**	**.003**	**.044**	**.015**	**.001**	**.009**	**15300.**
Stddev	.001	.000	.000	.000	.000	.001	.000	.000	.000	126.
%RSD	1.53	1.50	1.90	1.63	3.02	1.71	1.52	6.59	.785	.824

Elem	Zn2138
Units	Cts/S
Avg	**9180.**
Stddev	72.
%RSD	.780

Sample Name: CalStd9=1000 Acquired: 01/21/2016 13:55:15 Type: Cal
Method: DOD Calibration Updated 060614(v1231) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**31549.**	**1766800.**	**8974.3**
Stddev	273.	33988.	72.7
%RSD	.86655	1.9237	.81016

Sample Name: CalStd10=10000 Acquired: 01/21/2016 14:00:20 Type: Cal
Method: DOD Calibration Updated 060614(v1231) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	As1937	As1890	Ca3158	Ca3968	Co2286	Co2388	Cr2055	Cr2677	Cu2247
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.041**	**.231**	**.042**	**.010**	**1.92**	**3.64**	**.048**	**2.99**	**.076**	**1.01**
Stddev	.000	.000	.000	.000	.01	.01	.000	.01	.000	.00
%RSD	1.02	.208	.217	1.47	.782	.220	.275	.195	.163	.386

Elem	Cu3247	Fe2343	Fe2395	Fe2599	Mg2025	Mg2802	Mn2576	Mn2593	Mo2045	Mo2045
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.039**	**2.40**	**.005**	**.019**	**.004**	**.762**	**.318**	**.076**	**.018**	**.009**
Stddev	.000	.01	.000	.000	.000	.011	.001	.001	.000	.000
%RSD	.324	.502	1.03	1.18	1.05	1.45	.275	.896	.982	1.01

Elem	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Se2062	Tl1908	Tl1908
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.067**	**.041**	**.128**	**.599**	**.306**	**.205**	**.109**	**.034**	**.452**	**.155**
Stddev	.001	.000	.000	.001	.001	.000	.000	.000	.001	.000
%RSD	1.10	1.11	.227	.180	.224	.233	.354	.287	.247	.146

Elem	V_2908	V_2924	Zn2062	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.016**	**.110**	**160000.**	**94500.**
Stddev	.000	.000	264.	241.
%RSD	.897	.433	.165	.255

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**30531.**	**1660100.**	**8810.0**
Stddev	41.	14522.	93.0
%RSD	.13582	.87479	1.0561

Sample Name: CalStd11-100k Acquired: 01/21/2016 14:05:14 Type: Cal
Method: DOD Calibration Updated 060614(v1231) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Cr2055	Cu3247	Mn2593	Pb2169	Zn2062
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**27.5**	**.368**	**.730**	**1.31**	**1510000.**
Stddev	.0	.002	.006	.00	2130.
%RSD	.018	.471	.756	.154	.140

Int. Std.	Y_2243	Y_3710
Units	Cts/S	Cts/S
Avg	**30164.**	**8689.2**
Stddev	5.	55.2
%RSD	.01496	.63514

Sample Name: CalStd12-100000 Acquired: 01/21/2016 14:10:29 Type: Cal
Method: DOD Calibration Updated 060614(v1231) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Ca3158	Fe2343	Fe2395	Fe2599	Mg2025
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.418**	**.098**	**22.7**	**.051**	**.192**	**.035**
Stddev	.003	.000	.3	.000	.000	.000
%RSD	.639	.419	1.49	.249	.251	.844

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**30102.**	**1654800.**	**8500.3**
Stddev	149.	13625.	87.6
%RSD	.49501	.82338	1.0310

Sample Name: CalStd13=500000 Acquired: 01/21/2016 14:15:37 Type: Cal
Method: DOD Calibration Updated 060614(v1231) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Ca3158	Fe2343	Fe2395	Fe2599	Mg2025
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**2.19**	**.498**	**94.5**	**.257**	**.957**	**.155**
Stddev	.01	.003	1.3	.002	.004	.005
%RSD	.406	.550	1.39	.617	.452	3.21

Int. Std.	Y_3242	Y_3710
Units	Cts/S	Cts/S
Avg	**1517200.**	**7941.2**
Stddev	13572.	51.0
%RSD	.89449	.64171

Sample Name: CalStd14-1000k Acquired: 01/21/2016 14:20:26 Type: Cal
Method: DOD Calibration Updated 060614(v1231) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Ca3158	Fe2343	Fe2395	Fe2599	Mg2025
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**4.12**	**.907**	**158.**	**.475**	**1.74**	**.271**
Stddev	.06	.013	1.	.008	.03	.002
%RSD	1.48	1.45	.492	1.60	1.49	.775

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**25878.**	**1430300.**	**7104.1**
Stddev	117.	11408.	55.3
%RSD	.45054	.79762	.77799

Sample Name: icv Acquired: 01/21/2016 14:30:22 Type: QC
Method: DOD Calibration Updated 060614(v1231) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1890	Ba4934	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2247	Fe2395	Mg2025
Avg	**54.1**	**12800.**	**2050.**	**2160.**	**53.3**	**10200.**	**54.2**	**523.**	**203.**	**262.**	**5390.**	**10400.**
Stddev	.3	128.	7.	16.	.4	25.	.1	.	2.	1.	128.	73.
%RSD	.629	1.00	.340	.718	.836	.244	.140	.061	1.17	.208	2.38	.700
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**544.**	**520.**	**513.**	**513.**	**527.**	**2050.**	**2170.**	**515.**	**545.**
Stddev	8.	2.	5.	1.	5.	7.	8.	8.	1.
%RSD	1.39	.417	.884	.243	.935	.324	.355	1.46	.183
Check ?	None	None	None	None	None	None	None	None	None
Value									
Range									

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**30974.**	**1703300.**	**7074.6**
Stddev	63.	9144.	66.5
%RSD	.20444	.53686	.94005

Sample Name: ICVLL Acquired: 01/21/2016 14:35:10 Type: QC
Method: DOD Calibration Updated 060614(v1231) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba4554	Be3130	Ca3968	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2802
Avg	F **36.9**	**1310.**	**66.5**	**30.7**	**13.2**	**1580.**	**16.2**	**29.6**	**31.4**	**31.2**	**881.**	**1630.**
Stddev	.3	61.	3.3	.1	.1	5.	.8	1.2	.6	1.3	16.	26.
%RSD	.722	4.67	5.02	.485	.652	.301	5.16	4.16	1.84	4.30	1.78	1.56
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value	60.0											
Range	-30.0%											

Elem	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**33.6**	**31.8**	**29.9**	**32.9**	**60.9**	**81.4**	**64.9**	**29.6**	**31.8**
Stddev	.2	.2	.6	1.6	3.3	4.6	3.0	.3	.6
%RSD	.685	.673	1.95	4.88	5.34	5.69	4.56	1.17	1.91
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**31381.**	**1731300.**	**7130.3**
Stddev	972.	14727.	94.4
%RSD	3.0963	.85063	1.3232

Sample Name: icb Acquired: 01/21/2016 14:44:49 Type: QC
Method: DOD Calibration Updated 060614(v1231) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba4554	Be3130	Ca3968	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2802
Avg	**1.38**	**1.84**	**1.21**	**-.189**	**-.045**	**-5.13**	**-.107**	**-.036**	**.191**	**-.491**	**8.86**	**4.52**
Stddev	1.11	.30	1.14	.058	.008	.92	.042	.076	.356	.356	19.7	.02
%RSD	80.4	16.1	93.8	30.6	18.2	17.8	38.7	211.	186.	72.4	222.	.431
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**.067**	**.834**	**-.226**	**-.190**	**-.864**	**1.13**	**-.436**	**.361**	**-2.58**
Stddev	.048	.346	.365	1.55	2.86	2.80	.963	.447	.05
%RSD	72.0	41.5	161.	818.	331.	248.	221.	124.	2.00
Check ?	None	None	None	None	None	None	None	None	None
Value									
Range									

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**31120.**	**1731400.**	**7130.0**
Stddev	83.	10097.	60.5
%RSD	.26692	.58317	.84884

Sample Name: icsa Acquired: 01/21/2016 14:54:22 Type: QC
Method: DOD Calibration Updated 060614(v1231) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba4554	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2247	Fe2395
Avg	**-.013**	**484000.**	**.002**	**.000**	**.094**	**519000.**	**-.001**	**.907**	**.000**	**-.006**	**519000.**
Stddev	.187	3340.	4.09	.022	.016	4010.	.505	.414	.46	1.14	3910.
%RSD	1450.	.691	186000.	23e6	17.1	.772	38900.	45.6	6260000.	19900.	.753
Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None
High Limit											
Low Limit											

Elem	Mg2025	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**469000.**	**.220**	**.000**	**-.001**	**-.096**	**-.014**	**-.035**	**-.003**	**.000**	**.015**
Stddev	6340.	.332	1.01	1.33	3.04	6.72	8.41	1.89	1.22	.355
%RSD	1.35	151.	322000.	143000.	3160.	47900.	23900.	65800.	404000.	2450.
Check ?	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit										
Low Limit										

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**27259.**	**1526600.**	**6750.9**
Stddev	30.	16996.	9.1
%RSD	.11059	1.1133	.13496

Sample Name: icsab Acquired: 01/21/2016 14:59:14 Type: QC
Method: DOD Calibration Updated 060614(v1231) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	As1890	Ba4554	Ba4934	Be3130	Be2348	Ca3158	Cd2265	Cd2288
Avg	**492.**	**411000.**	**481.**	**591.**	F **400.**	**538.**	**480.**	**576.**	**443000.**	**492.**	**529.**
Stddev	6.	1860.	4.	14.	3.	10.	3.	22.	3370.	8.	8.
%RSD	1.17	.453	.901	2.37	.823	1.93	.553	3.76	.761	1.66	1.54
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value					500.						
Range					-20.0%						

Elem	Co2286	Co2388	Cr2055	Cr2677	Cu2247	Cu3247	Fe2395	Mg2025	Mn2576	Mo2045	Mo2045
Avg	**443.**	**444.**	**491.**	**454.**	**442.**	**587.**	**426000.**	**417000.**	**474.**	**455.**	**440.**
Stddev	7.	5.	8.	3.	7.	25.	3720.	3890.	3.	4.	6.
%RSD	1.55	1.02	1.73	.651	1.57	4.29	.874	.933	.667	.815	1.44
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Elem	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Se2062	Tl1908	Tl1908	V_2924
Avg	**448.**	**432.**	**563.**	**417.**	**490.**	**473.**	**449.**	**400.**	**411.**	**525.**	**463.**
Stddev	4.	5.	3.	7.	8.	11.	1.	1.	5.	8.	4.
%RSD	.900	1.14	.493	1.75	1.70	2.41	.222	.291	1.30	1.47	.943
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Sample Name: icsab Acquired: 01/21/2016 14:59:14 Type: QC
Method: DOD Calibration Updated 060614(v1231) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Zn2062	Zn2138
Avg	**489.**	**445.**
Stddev	2.	3.
%RSD	.377	.766
Check ?	Chk Pass	Chk Pass
Value		
Range		

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**27580.**	**1520200.**	**6398.4**
Stddev	313.	15199.	22.5
%RSD	1.1363	.99980	.35118

Sample Name: ICV LL Ag Acquired: 01/21/2016 15:04:23 Type: Unk
Method: DOD Calibration Updated 060614(v1231) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba4554	Be3130	Ca3968	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2802
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**10.8**	**30.7**	**2.15**	**-.167**	**.003**	**24.4**	**-.052**	**-.011**	**-.002**	**-.354**	**159.**	**25.3**
Stddev	.3	2.2	1.36	.025	.006	.6	.071	.079	.444	.636	14.	.4
%RSD	2.94	7.29	63.4	15.0	194.	2.25	136.	739.	25300.	179.	8.74	1.61

Elem	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-.071**	**2.86**	**-.075**	**1.03**	**.669**	**7.74**	**.947**	**-.172**	**.448**
Stddev	.048	.09	.192	.83	.866	3.67	.354	.280	.144
%RSD	67.8	3.17	255.	80.9	129.	47.4	37.4	163.	32.1

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**31227.**	**1710500.**	**6450.6**
Stddev	38.	1295.	68.3
%RSD	.12226	.07572	1.0582

Sample Name: lcsw55959 Acquired: 01/21/2016 15:09:14 Type: Unk
Method: DOD Calibration Updated 060614(v1231) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba4554	Be3130	Ca3968	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2802
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**20.3**	**843.**	**757.**	**756.**	**19.9**	**4.27**	**20.2**	**199.**	**74.6**	**101.**	**414.**	**8.61**
Stddev	.2	2.	2.	1.	.1	1.28	.2	1.	1.0	.	25.	.20
%RSD	.827	.226	.247	.135	.566	29.9	.993	.338	1.31	.073	6.02	2.38

Elem	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**213.**	**.835**	**193.**	**196.**	**195.**	**752.**	**835.**	**186.**	**207.**
Stddev	3.	.604	2.	.	1.	2.	3.	3.	.
%RSD	1.44	72.3	1.16	.247	.676	.276	.414	1.38	.142

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**30939.**	**1732700.**	**6453.2**
Stddev	162.	12556.	16.0
%RSD	.52264	.72466	.24716

Sample Name: mbw55959 Acquired: 01/21/2016 15:14:08 Type: Unk
Method: DOD Calibration Updated 060614(v1231) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba4554	Be3130	Ca3968	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2802
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**.756**	**.278**	**1.33**	**-.150**	**-.025**	**-.846**	**-.110**	**-.168**	**-.453**	**-.003**	**-6.77**	**5.74**
Stddev	.484	1.70	2.40	.024	.000	.579	.003	.066	.355	1.35	63.3	.01
%RSD	64.0	613.	181.	16.2	1.32	68.4	3.07	39.2	78.3	46700.	935.	.151

Elem	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**3.84**	**.165**	**.014**	**.145**	**.022**	**2.90**	**-.358**	**.162**	**-1.61**
Stddev	.05	.394	.394	.598	.412	4.46	1.52	.568	2.53
%RSD	1.23	238.	2860.	413.	1890.	154.	423.	351.	157.

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**32023.**	**1726700.**	**6517.9**
Stddev	1720.	4564.	221.4
%RSD	5.3715	.26428	3.3969

Sample Name: 681537 Acquired: 01/21/2016 15:19:01 Type: Unk
Method: DOD Calibration Updated 060614(v1231) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba4554	Be3130	Ca3968	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2802
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**1.41**	**16.7**	**.199**	**-.011**	**-.042**	**202.**	**-.156**	**-.264**	**.889**	**-.443**	**26.1**	**53.8**
Stddev	.41	31.3	.741	.010	.010	2.	.081	.257	.178	.337	33.1	.5
%RSD	28.9	187.	372.	86.1	24.5	1.14	52.0	97.2	20.0	76.2	127.	1.00

Elem	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**.127**	**.274**	**.057**	**.960**	**-.445**	**7.46**	**-.733**	**.087**	**-2.13**
Stddev	.017	.352	.335	1.77	.611	.63	.545	.211	2.32
%RSD	13.3	128.	587.	184.	137.	8.38	74.3	243.	109.

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**31959.**	**1747900.**	**6558.5**
Stddev	777.	1241.	61.9
%RSD	2.4308	.07100	.94428

Sample Name: I681537 Acquired: 01/21/2016 15:23:49 Type: Unk
Method: DOD Calibration Updated 060614(v1231) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba4554	Be3130	Ca3968	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2802
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**1.23**	**9.01**	**.672**	**-.228**	**-.021**	**38.7**	**-.106**	**-.064**	**.189**	**-.042**	**-12.8**	**14.7**
Stddev	.52	.12	2.27	.019	.009	.9	.068	.096	.695	.049	29.2	.3
%RSD	42.4	1.30	337.	8.30	45.0	2.30	64.5	149.	368.	117.	228.	1.99

Elem	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-.247**	**-.041**	**-.108**	**.844**	**-.425**	**.436**	**.899**	**.333**	**-.854**
Stddev	.026	.356	.320	1.14	1.48	3.43	.062	.050	.123
%RSD	10.6	863.	295.	135.	349.	787.	6.86	14.9	14.5

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**30860.**	**1701100.**	**6446.1**
Stddev	191.	21872.	66.0
%RSD	.61969	1.2858	1.0247

Sample Name: dup681537 Acquired: 01/21/2016 15:28:43 Type: Unk
Method: DOD Calibration Updated 060614(v1231) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba4554	Be3130	Ca3968	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2802
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**1.28**	**52.4**	**1.12**	**-.051**	**-.011**	**199.**	**-.142**	**-.107**	**.768**	**-.354**	**-55.2**	**54.2**
Stddev	.56	.6	1.67	.024	.012	2.	.067	.088	.221	.478	57.5	.6
%RSD	43.7	1.11	149.	46.8	104.	.798	46.8	82.8	28.7	135.	104.	1.11

Elem	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**.192**	**.162**	**.557**	**.506**	**.244**	**5.61**	**-.301**	**.028**	**1.11**
Stddev	.059	.224	.282	1.38	2.09	2.67	.205	.226	.11
%RSD	30.8	139.	50.6	273.	857.	47.6	67.9	793.	9.43

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**30866.**	**1718500.**	**6483.3**
Stddev	181.	22484.	9.7
%RSD	.58576	1.3083	.14891

Sample Name: msw681537 Acquired: 01/21/2016 15:33:33 Type: Unk
Method: DOD Calibration Updated 060614(v1231) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	As1890	Ba4554	Ba4934	Be3130	Ca3968	Cd2265	Co2286	Cr2677	Cu2247
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**19.0**	**871.**	**740.**	**741.**	**759.**	**815.**	**19.5**	**197.**	**19.7**	**195.**	**73.7**	**98.8**
Stddev	.3	2.	1.	3.	14.	5.	.2	4.	.1	1.	.8	1.2
%RSD	1.76	.204	.106	.472	1.89	.620	.831	2.14	.403	.326	1.04	1.20

Elem	Fe2599	Mg2802	Mn2576	Mo2045	Ni2216	Ni2316	Pb2203	Sb2175	Se1960	Se2062	Tl1908	Tl1908
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**379.**	**52.5**	**201.**	**.322**	**189.**	**189.**	**190.**	**191.**	**728.**	**723.**	**814.**	**811.**
Stddev	51.	.6	2.	.544	1.	1.	2.	3.	3.	6.	1.	1.
%RSD	13.5	1.18	.982	169.	.557	.359	.813	1.35	.364	.783	.167	.158

Elem	V_2924	Zn2138
Units	ug/L	ug/L
Avg	**181.**	**201.**
Stddev	2.	.
%RSD	1.12	.155

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**30851.**	**1729900.**	**6442.5**
Stddev	36.	6645.	61.3
%RSD	.11700	.38409	.95076

Sample Name: msdw681537 Acquired: 01/21/2016 15:38:25 Type: Unk
Method: DOD Calibration Updated 060614(v1231) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	As1890	Ba4554	Ba4934	Be3130	Ca3968	Cd2265	Co2286	Cr2677	Cu2247
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**19.7**	**861.**	**735.**	**735.**	**744.**	**814.**	**19.2**	**192.**	**19.5**	**193.**	**73.5**	**97.8**
Stddev	.6	4.	4.	3.	9.	10.	.2	2.	.2	1.	.5	.6
%RSD	3.09	.510	.519	.463	1.20	1.18	.824	1.16	.854	.363	.726	.594

Elem	Fe2599	Mg2802	Mn2576	Mo2045	Ni2216	Ni2316	Pb2203	Sb2175	Se1960	Se2062	Tl1908	Tl1908
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**327.**	**52.2**	**201.**	**.287**	**188.**	**189.**	**188.**	**191.**	**736.**	**716.**	**810.**	**801.**
Stddev	74.	.6	2.	.329	1.	1.	2.	2.	4.	7.	4.	3.
%RSD	22.7	1.13	1.18	115.	.662	.720	.862	1.28	.586	1.05	.543	.343

Elem	V_2924	Zn2138
Units	ug/L	ug/L
Avg	**180.**	**200.**
Stddev	3.	.
%RSD	1.39	.172

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**30904.**	**1720700.**	**6488.7**
Stddev	131.	13152.	49.6
%RSD	.42336	.76432	.76436

Sample Name: pdsw681537 Acquired: 01/21/2016 15:43:17 Type: Unk
Method: DOD Calibration Updated 060614(v1231) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Ba4934	Be3130	Ca3158	Cd2265	Cd2288	Co2388	Cr2055
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**102.**	**4880.**	**4240.**	**3390.**	**3590.**	**102.**	**462000.**	**106.**	**128.**	**1020.**	**439.**
Stddev	2.	.	9.	13.	92.	.	20800.	.	.	10.	1.
%RSD	2.19	.008	.200	.369	2.56	.335	4.50	.280	.007	.969	.169

Elem	Cr2677	Cu2247	Cu3247	Fe2395	Fe2599	Mg2025	Mn2576	Mn2593	Mo2045	Ni2216	Ni2316
Units	ug/L	ug/L	ug/L	ug/L	ug/L	mg/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**404.**	**518.**	**636.**	**2140.**	**2100.**	**102000.**	**1080.**	**785.**	**.558**	**1010.**	**995.**
Stddev	4.	3.	25.	183.	32.	2680.	11.	54.	.452	11.	10.
%RSD	1.02	.597	3.92	8.58	1.52	2.62	1.01	6.82	81.0	1.10	1.01

Elem	Pb2169	Pb2203	Sb2068	Se1960	Se2062	Tl1908	V_2908	V_2924	Zn2062	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**974.**	**967.**	**1070.**	**4170.**	**4130.**	**3910.**	**1050.**	**1050.**	**1010.**	**1020.**
Stddev	1.	2.	4.	17.	17.	1.	61.	9.	3.	2.
%RSD	.060	.251	.343	.413	.421	.032	5.75	.894	.256	.240

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**28504.**	**1574800.**	**6269.9**
Stddev	173.	20378.	31.8
%RSD	.60630	1.2940	.50746

Sample Name: ccv1 Acquired: 01/21/2016 15:53:51 Type: QC
Method: DOD Calibration Updated 060614(v1231) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1890	Ba4934	Be2348	Ca3158	Cd2288	Co2388	Cr2055	Cu3247	Fe2395	Mg2025
Avg	**474.**	**5370.**	**4800.**	**4810.**	**531.**	**4870.**	**535.**	**4890.**	**4850.**	**4680.**	**5340.**	**5020.**
Stddev	9.	210.	20.	44.	29.	104.	2.	69.	28.	36.	194.	54.
%RSD	1.83	3.91	.416	.918	5.40	2.14	.423	1.41	.575	.775	3.63	1.08
Check ?	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	None	Chk Pass
Value												
Range												

Elem	Mn2593	Mo2045	Ni2216	Pb2169	Sb2068	Se2062	Tl1908	V_2908	Zn2062
Avg	**5060.**	**4770.**	**4880.**	**4820.**	**4860.**	**4870.**	**4940.**	**4960.**	**4940.**
Stddev	35.	48.	50.	22.	22.	34.	15.	206.	18.
%RSD	.688	1.01	1.03	.446	.445	.703	.309	4.14	.361
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass
Value									
Range									

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**30672.**	**1674100.**	**6159.5**
Stddev	105.	22881.	77.3
%RSD	.34219	1.3668	1.2550

Sample Name: ccv2 Acquired: 01/21/2016 15:58:47 Type: QC
Method: DOD Calibration Updated 060614(v1231) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba4554	Be3130	Ca3968	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2802
Avg	**49.8**	**544.**	**500.**	**494.**	**52.1**	**522.**	**53.7**	**507.**	**494.**	**514.**	**522.**	**548.**
Stddev	.6	5.	4.	8.	.4	7.	.6	5.	10.	4.	51.	12.
%RSD	1.10	.912	.820	1.60	.756	1.30	1.20	.948	2.02	.760	9.76	2.18
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**526.**	**518.**	**499.**	**499.**	**499.**	**521.**	**530.**	**479.**	**529.**
Stddev	11.	7.	8.	5.	6.	6.	5.	8.	2.
%RSD	2.16	1.26	1.52	1.03	1.14	1.22	.897	1.59	.322
Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**31029.**	**1725800.**	**6178.2**
Stddev	212.	28714.	75.9
%RSD	.68185	1.6638	1.2281

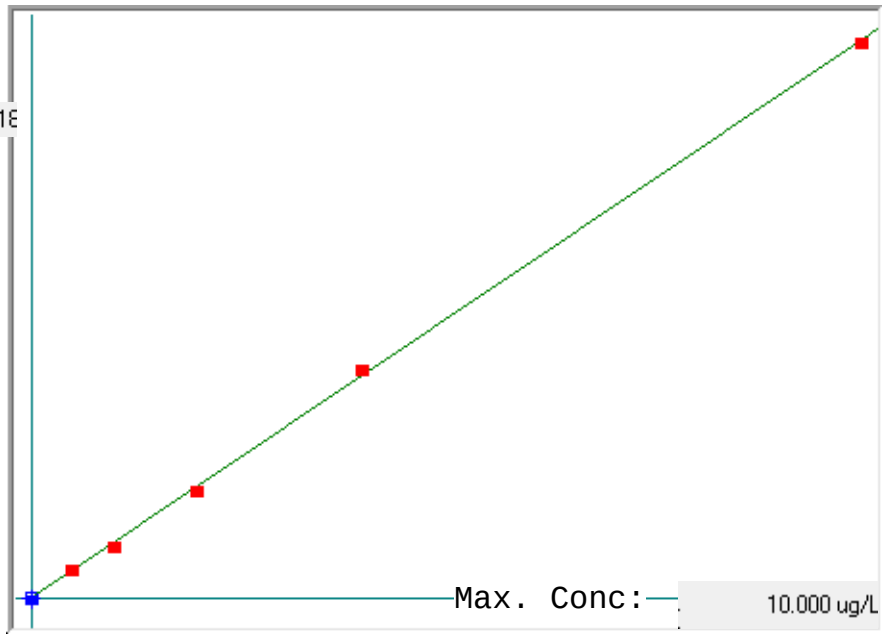
Sample Name: ccb Acquired: 01/21/2016 16:03:31 Type: QC
Method: DOD Calibration Updated 060614(v1231) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba4554	Be3130	Ca3968	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2802
Avg	**.783**	**-1.15**	**4.71**	**-.121**	**-.010**	**-8.16**	**-.119**	**-.175**	**.278**	**-.388**	**5.44**	**2.30**
Stddev	.411	.30	1.80	.028	.016	1.53	.045	.104	.206	.970	42.2	.06
%RSD	52.5	26.4	38.3	23.0	159.	18.8	37.9	59.1	74.2	250.	775.	2.46
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**-.197**	**6.49**	**.028**	**1.13**	**-1.23**	**3.35**	**.947**	**.027**	**-2.94**
Stddev	.040	.37	.490	1.01	.78	1.08	.935	.964	.15
%RSD	20.2	5.76	1730.	89.6	63.2	32.4	98.7	3550.	5.05
Check ?	None	None	None	None	None	None	None	None	None
Value									
Range									

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**30492.**	**1702600.**	**6218.4**
Stddev	81.	24507.	34.5
%RSD	.26483	1.4393	.55403

CVAA water



Std ID	Conc.	Calc.	Dev.	Mean	SD or %RSD	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
Calibration Blank	0.000	0.006	0.006	45	1.886	44	48	44		
0.5	0.500	0.527	0.027	2546	2.3 %	2469	2558	2612		
1.0	1.000	0.944	-0.056	4554	2.1 %	4429	4570	4663		
2.0	2.000	1.934	-0.066	9312	3.5 %	8901	9328	9707		
4.0	4.000	4.122	0.122	19825	2.6 %	19195	19817	20465		
10.0	10.000	9.966	-0.034	47917	1.9 %	46751	47974	49028		

Method: CVAA water Operator: Admin Date of Analysis: 21 Jan 2016 06:22:09

Sample ID	Date	Element	Units	Extended ID	LT Mean Conc
Calibration Blank	21 Jan 2016 08:40:59	Hg	ug/L		45.3333
0.5	21 Jan 2016 08:42:55	Hg	ug/L		2546.3333
1.0	21 Jan 2016 08:44:53	Hg	ug/L		4554.0000
2.0	21 Jan 2016 08:46:51	Hg	ug/L		9312.0000
4.0	21 Jan 2016 08:48:50	Hg	ug/L		19825.6667
10.0	21 Jan 2016 08:50:50	Hg	ug/L		47917.6667
ICV	21 Jan 2016 08:52:49	Hg	ug/L		2.7589
ICB	21 Jan 2016 08:54:55	Hg	ug/L		-0.2008
682166 LCSW55944	21 Jan 2016 08:56:54	Hg	ug/L		3.3813
682165 MBW55944	21 Jan 2016 08:58:51	Hg	ug/L		-0.0879
682158	21 Jan 2016 09:00:48	Hg	ug/L		0.0090
L682158	21 Jan 2016 09:02:45	Hg	ug/L		-0.0015
DUP682158	21 Jan 2016 09:04:42	Hg	ug/L		0.0102
MSW682158	21 Jan 2016 09:06:39	Hg	ug/L		2.5464
MSDW682158	21 Jan 2016 09:08:35	Hg	ug/L		2.4218
PDSW682158	21 Jan 2016 09:10:33	Hg	ug/L		2.3326
681743 LCSW55924	21 Jan 2016 09:12:33	Hg	ug/L		2.9779
681742 MBW55924	21 Jan 2016 09:14:33	Hg	ug/L		-0.1814
CCV	21 Jan 2016 09:16:33	Hg	ug/L		3.0695
CCB	21 Jan 2016 09:18:29	Hg	ug/L		-0.1888
681442	21 Jan 2016 09:20:28	Hg	ug/L		-0.0015
L681442	21 Jan 2016 09:22:25	Hg	ug/L		-0.0024
DUP681442	21 Jan 2016 09:24:24	Hg	ug/L		0.0008
MSW681442	21 Jan 2016 09:26:21	Hg	ug/L		2.3697
MSDW681442	21 Jan 2016 09:28:18	Hg	ug/L		2.1493
PDSW681442	21 Jan 2016 09:30:17	Hg	ug/L		2.3605
682486 MBW55949	21 Jan 2016 09:34:14	Hg	ug/L		-0.1997
681405	21 Jan 2016 09:36:13	Hg	ug/L		0.0170
MSW681405	21 Jan 2016 09:38:10	Hg	ug/L		2.4046
CCV	21 Jan 2016 09:40:08	Hg	ug/L		2.9343
CCB	21 Jan 2016 09:42:05	Hg	ug/L		-0.1925
PDSW681405	21 Jan 2016 09:44:04	Hg	ug/L		2.3670
681733 LCSW55922	21 Jan 2016 09:46:01	Hg	ug/L		3.1625
681732 MBW55922	21 Jan 2016 09:48:01	Hg	ug/L		-0.1818
680582	21 Jan 2016 09:50:01	Hg	ug/L		-0.0024
682585	21 Jan 2016 09:52:00	Hg	ug/L		0.0263
L680585	21 Jan 2016 09:53:57	Hg	ug/L		0.0037
DUP680585	21 Jan 2016 09:55:54	Hg	ug/L		0.0293
MSW680585	21 Jan 2016 09:57:51	Hg	ug/L		2.4726
MSDW680585	21 Jan 2016 09:59:48	Hg	ug/L		2.4180
PDSW680585	21 Jan 2016 10:01:48	Hg	ug/L		2.1683
CCV	21 Jan 2016 10:03:47	Hg	ug/L		2.9520
CCB	21 Jan 2016 10:05:45	Hg	ug/L		-0.1777
682074 LCSW55940	21 Jan 2016 10:07:44	Hg	ug/L		3.4067
682073 MBW55940	21 Jan 2016 10:09:41	Hg	ug/L		-0.1923
679984	21 Jan 2016 10:11:40	Hg	ug/L		-0.0046
681537	21 Jan 2016 10:13:37	Hg	ug/L		-0.0027
L681537	21 Jan 2016 10:15:35	Hg	ug/L		-0.0040
DUP681537	21 Jan 2016 10:17:33	Hg	ug/L		-0.0033
MSW681537	21 Jan 2016 10:19:31	Hg	ug/L		2.3033
MSDW681537	21 Jan 2016 10:21:28	Hg	ug/L		2.1622
PDSW681537	21 Jan 2016 10:23:27	Hg	ug/L		2.2789
681538	21 Jan 2016 10:25:26	Hg	ug/L		-0.1327
CCV	21 Jan 2016 10:27:25	Hg	ug/L		3.0314
CCB	21 Jan 2016 10:29:21	Hg	ug/L		-0.1723
681738 LCSW55923	21 Jan 2016 10:31:20	Hg	ug/L		3.3135
681737 MBW55923	21 Jan 2016 10:33:17	Hg	ug/L		-0.1832
681424	21 Jan 2016 10:35:16	Hg	ug/L		3.5248
681425	21 Jan 2016 10:37:13	Hg	ug/L		-0.1791
L681425	21 Jan 2016 10:39:13	Hg	ug/L		-0.0074
DUP681425	21 Jan 2016 10:41:10	Hg	ug/L		-0.0028
MSW681425	21 Jan 2016 10:43:08	Hg	ug/L		2.2975
MSDW681425	21 Jan 2016 10:45:05	Hg	ug/L		1.0176
PDSW681425	21 Jan 2016 10:47:06	Hg	ug/L		2.2341
682070 LCSW55939	21 Jan 2016 10:49:04	Hg	ug/L		3.3184

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Method: CVAA water Operator: Admin Date of Analysis: 21 Jan 2016 06:22:09

Sample ID	Date	Element	Units	Extended ID	LT Mean Conc
CCV	21 Jan 2016 10:51:04	Hg	ug/L		2.8028
CCB	21 Jan 2016 10:53:02	Hg	ug/L		-0.1782
682069 MBW55939	21 Jan 2016 10:55:01	Hg	ug/L		-0.0075
680496	21 Jan 2016 10:56:58	Hg	ug/L		0.0555
MSW680496	21 Jan 2016 10:58:55	Hg	ug/L		2.4111
MSDW680496	21 Jan 2016 11:00:51	Hg	ug/L		2.2638
PDSW680496	21 Jan 2016 11:02:50	Hg	ug/L		2.1742
680500	21 Jan 2016 11:04:50	Hg	ug/L		0.1113
CCV	21 Jan 2016 11:08:46	Hg	ug/L		2.8801
CCB	21 Jan 2016 11:10:45	Hg	ug/L		-0.1941
682487 LCSW55949	21 Jan 2016 11:16:33	Hg	ug/L		3.1591
CCV	21 Jan 2016 11:18:30	Hg	ug/L		2.8924
CCB	21 Jan 2016 11:20:28	Hg	ug/L		-0.1524

METALS
LOGBOOK
DOCUMENTS

MICP WATER QSM Analytical Run
122716 on 01/27/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	682499								MICP WATER QSM				
					ICV					0			
	682500								MICP WATER QSM				
					ICVLL					0			
	682501								MICP WATER QSM				
					ICB					0			
	682502								MICP WATER QSM				
					ICSA					0			
	682503								MICP WATER QSM				
					ICSAB					0			
	682504								MICP WATER QSM				
					ICV					0			
	681277								ICP TOTAL QSM 5.0				
					LCSW					55898			
	681276								ICP TOTAL QSM 5.0				
					MBW					55898			
116448	679984		01/12/2016	1510			BERING SEA ENVIRONMENTAL	RADFORD AAP	ICP TOTAL QSM 5.0		GW	**4**	
		54ADW01								55898			
	682505								ICP TOTAL QSM 5.0				
					L	679984				0			
	681278		01/12/2016	1510					ICP TOTAL QSM 5.0				
		54ADW01			DUP	679984				55898			
	681279		01/12/2016	1510					ICP TOTAL QSM 5.0				
		54ADW01			MSW	679984				55898			
	681280		01/12/2016	1510					ICP TOTAL QSM 5.0				
		54ADW01			MSDW	681279				55898			
	682506								MICP WATER QSM				
					CCV1					0			
	682507								MICP WATER QSM				
					CCV2					0			
	682508								MICP WATER QSM				
					CCB					0			
	682509								ICP TOTAL QSM 5.0				
					PDSW	679984				0			
	682510								MICP WATER QSM				
					CCV1					0			
	682511								MICP WATER QSM				
					CCV2					0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

MICP WATER QSM Analytical Run
122716 on 01/27/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	682512							MICP WATER QSM				
					CCB				0			
	683308							MICP WATER QSM				
					ICV				0			
	683309							MICP WATER QSM				
					ICVLL				0			
	683310							MICP WATER QSM				
					ICB				0			
	683311							MICP WATER QSM				
					ICSA				0			
	683312							MICP WATER QSM				
					ICSAB				0			
	683313							MICP WATER QSM				
					ICV				0			
	683314							MICP WATER QSM				
					CCV1				0			
	683315							MICP WATER QSM				
					CCV2				0			
	683316							MICP WATER QSM				
					CCB				0			
	681276							ICP TOTAL QSM 5.0				
RERUN					MBW				55898			
116448	679984		01/12/2016	1510		BERING SEA ENVIRONMENTAL	RADFORD AAP	ICP TOTAL QSM 5.0		GW	**4**	
RERUN		54ADW01							55898			
RERUN		54ADW01							55898			
	683317							MICP WATER QSM				
					CCV1				0			
	683318							MICP WATER QSM				
					CCV2				0			
	683319							MICP WATER QSM				
					CCB				0			
	681277							ICP TOTAL QSM 5.0				
RERUN					LCSW				55898			
	683320							MICP WATER QSM				
					CCV1				0			
	683321							MICP WATER QSM				
					CCV2				0			
	683322							MICP WATER QSM				
					CCB				0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

MICP WATER QSM Analytical Run
122716 on 01/27/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

39 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

MICP WATER QSM K&Na Analytical Run
122717 on 01/27/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	681935								MICP WATER QSM K&Na				
					ICV					0			
	681936								MICP WATER QSM K&Na				
					ICVLL					0			
	681937								MICP WATER QSM K&Na				
					ICB					0			
	681938								MICP WATER QSM K&Na				
					MRL					0			
	681939								MICP WATER QSM K&Na				
					ICSA					0			
	681940								MICP WATER QSM K&Na				
					ICSAB					0			
	681277								ICP K TOTAL QSM 5.0				
					LCSW					55898			
	681277								ICP NA TOTAL QSM 5.0				
					LCSW					55898			
	681276								ICP K TOTAL QSM 5.0				
					MBW					55898			
	681276								ICP NA TOTAL QSM 5.0				
					MBW					55898			
116448	679984		01/12/2016	1510			BERING SEA ENVIRONMENTAL	RADFORD AAP	ICP K TOTAL QSM 5.0		GW	**4**	
		54ADW01								55898			
116448	679984		01/12/2016	1510			BERING SEA ENVIRONMENTAL	RADFORD AAP	ICP NA TOTAL QSM 5.0		GW	**4**	
		54ADW01								55898			
	681941								ICP K TOTAL QSM 5.0				
					L	679984				0			
	681941								ICP NA TOTAL QSM 5.0				
					L	679984				0			
	681278		01/12/2016	1510					ICP K TOTAL QSM 5.0				
		54ADW01			DUP	679984				55898			
	681278		01/12/2016	1510					ICP NA TOTAL QSM 5.0				
		54ADW01			DUP	679984				55898			
	681279		01/12/2016	1510					ICP K TOTAL QSM 5.0				
		54ADW01			MSW	679984				55898			
	681279		01/12/2016	1510					ICP NA TOTAL QSM 5.0				
		54ADW01			MSW	679984				55898			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

MICP WATER QSM K&Na Analytical Run
122717 on 01/27/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME	QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	681280		01/12/2016 1510					ICP K TOTAL QSM 5.0				
		54ADW01		MSDW	681279				55898			
	681280		01/12/2016 1510					ICP NA TOTAL QSM 5.0				
		54ADW01		MSDW	681279				55898			
	681942							ICP K TOTAL QSM 5.0				
				PDSW	679984				0			
	681942							ICP NA TOTAL QSM 5.0				
				PDSW	679984				0			
	681943							MICP WATER QSM K&Na				
				CCV					0			
	681944							MICP WATER QSM K&Na				
				CCB					0			

24 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

MICP WATER QSM Analytical Run
122762 on 01/27/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	683252								MICP WATER QSM				
					ICV					0			
	683253								MICP WATER QSM				
					ICVLL					0			
	683254								MICP WATER QSM				
					ICB					0			
	683255								MICP WATER QSM				
					ICSA					0			
	683256								MICP WATER QSM				
					ICSAB					0			
	683257								MICP WATER QSM				
					ICV					0			
	683258								MICP WATER QSM				
					CCV1					0			
	683259								MICP WATER QSM				
					CCV2					0			
	683260								MICP WATER QSM				
					CCB					0			
	681931								ICP TOTAL QSM 5.0				
					LCSW					55928			
	681930								ICP TOTAL QSM 5.0				
					MBW					55928			
116524	681538		01/15/2016	1605			BERING SEA ENVIRONMENTAL	RADFORD AAP	ICP TOTAL QSM 5.0		GW	**4**	
		49ADW01								55928			
	683261								MICP WATER QSM				
					CCV1					0			
	683262								MICP WATER QSM				
					CCV2					0			
	683263								MICP WATER QSM				
					CCB					0			
	683264								ICP TOTAL QSM 5.0				
					L	681538				0			
	681932		01/15/2016	1605					ICP TOTAL QSM 5.0				
		49ADW01			DUP	681538				55928			
	681933		01/15/2016	1605					ICP TOTAL QSM 5.0				
		49ADW01			MSW	681538				55928			
	681934		01/15/2016	1605					ICP TOTAL QSM 5.0				
		49ADW01			MSDW	681933				55928			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

MICP WATER QSM Analytical Run
122762 on 01/27/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	683265								ICP TOTAL QSM 5.0				
					PDSW	681538				0			
	683266								MICP WATER QSM				
					CCV1					0			
	683267								MICP WATER QSM				
					CCV2					0			
	683268								MICP WATER QSM				
					CCB					0			
	684049								MICP WATER QSM				
					ICV					0			
	684050								MICP WATER QSM				
					ICVLL					0			
	684051								MICP WATER QSM				
					ICB					0			
	684052								MICP WATER QSM				
					ICSA					0			
	684053								MICP WATER QSM				
					ICSAB					0			
	684054								MICP WATER QSM				
					ICV					0			
	681931								ICP TOTAL QSM 5.0				
RERUN					LCSW					55928			
	684055								MICP WATER QSM				
					CCV1					0			
	684056								MICP WATER QSM				
					CCV2					0			
	684057								MICP WATER QSM				
					CCB					0			
116524	681538		01/15/2016	1605			BERING SEA ENVIRONMENTAL	RADFORD AAP	ICP TOTAL QSM 5.0		GW	**4**	
RERUN		49ADW01								55928			
RERUN		49ADW01								55928			
RERUN		49ADW01								55928			
RERUN		49ADW01								55928			
	684058								MICP WATER QSM				
					CCV1					0			
	684059								MICP WATER QSM				
					CCV2					0			
	684060								MICP WATER QSM				
					CCB					0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

MICP WATER QSM Analytical Run
122762 on 01/27/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

40 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

MICP WATER QSM K&Na Analytical Run
122763 on 01/27/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	682850								MICP WATER QSM K&Na				
					ICV					0			
	682851								MICP WATER QSM K&Na				
					ICVLL					0			
	682852								MICP WATER QSM K&Na				
					ICB					0			
	682853								MICP WATER QSM K&Na				
					MRL					0			
	682854								MICP WATER QSM K&Na				
					ICSA					0			
	682855								MICP WATER QSM K&Na				
					ICSAB					0			
	681931								ICP K TOTAL QSM 5.0				
					LCSW					55928			
	681931								ICP NA TOTAL QSM 5.0				
					LCSW					55928			
	681930								ICP K TOTAL QSM 5.0				
					MBW					55928			
	681930								ICP NA TOTAL QSM 5.0				
					MBW					55928			
116524	681538		01/15/2016	1605			BERING SEA ENVIRONMENTAL	RADFORD AAP	ICP K TOTAL QSM 5.0		GW	**4**	
		49ADW01								55928			
116524	681538		01/15/2016	1605			BERING SEA ENVIRONMENTAL	RADFORD AAP	ICP NA TOTAL QSM 5.0		GW	**4**	
		49ADW01								55928			
	682856								ICP K TOTAL QSM 5.0				
					L	681538				0			
	682856								ICP NA TOTAL QSM 5.0				
					L	681538				0			
	681932		01/15/2016	1605					ICP K TOTAL QSM 5.0				
		49ADW01			DUP	681538				55928			
	681932		01/15/2016	1605					ICP NA TOTAL QSM 5.0				
		49ADW01			DUP	681538				55928			
	682857								MICP WATER QSM K&Na				
					CCV					0			
	682858								MICP WATER QSM K&Na				
					CCB					0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

MICP WATER QSM K&Na Analytical Run
122763 on 01/27/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME	QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	681933		01/15/2016 1605					ICP K TOTAL QSM 5.0				
		49ADW01		MSW	681538				55928			
	681933		01/15/2016 1605					ICP NA TOTAL QSM 5.0				
		49ADW01		MSW	681538				55928			
	681934		01/15/2016 1605					ICP K TOTAL QSM 5.0				
		49ADW01		MSDW	681933				55928			
	681934		01/15/2016 1605					ICP NA TOTAL QSM 5.0				
		49ADW01		MSDW	681933				55928			
	682859							ICP K TOTAL QSM 5.0				
				PDSW	681538				0			
	682859							ICP NA TOTAL QSM 5.0				
				PDSW	681538				0			
	682860							MICP WATER QSM K&Na				
				CCV					0			
	682861							MICP WATER QSM K&Na				
				CCB					0			

26 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

MICP WATER QSM Analytical Run
122821 on 01/27/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	684038								MICP WATER QSM				
					ICV					0			
	684039								MICP WATER QSM				
					ICVLL					0			
	684040								MICP WATER QSM				
					ICB					0			
	684041								MICP WATER QSM				
					ICSA					0			
	684042								MICP WATER QSM				
					ICSAB					0			
	684043								MICP WATER QSM				
					ICV					0			
	682725								ICP TOTAL QSM 5.0				
					LCSW					55959			
	682724								ICP TOTAL QSM 5.0				
					MBW					55959			
116524	681537		01/15/2016	1650			BERING SEA ENVIRONMENTAL	RADFORD AAP	ICP TOTAL QSM 5.0		GW	**4**	
		011516R1								55959			
	684044								ICP TOTAL QSM 5.0				
					L	681537				0			
	682726		01/15/2016	1650					ICP TOTAL QSM 5.0				
		011516R1			DUP	681537				55959			
	682727		01/15/2016	1650					ICP TOTAL QSM 5.0				
		011516R1			MSW	681537				55959			
	682728		01/15/2016	1650					ICP TOTAL QSM 5.0				
		011516R1			MSDW	682727				55959			
	684045								ICP TOTAL QSM 5.0				
					PDSW	681537				0			
	684046								MICP WATER QSM				
					CCV1					0			
	684047								MICP WATER QSM				
					CCV2					0			
	684048								MICP WATER QSM				
					CCB					0			

17 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

MERCURY QSM Analytical Run
122800 on 01/27/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	683002								MERCURY QSM				
					ICV					0			
	683003								MERCURY QSM				
					ICB					0			
	683009								MERCURY QSM				
					CCV					0			
	683010								MERCURY QSM				
					CCB					0			
	682074								MERCURY TOTAL QSM 5.0				
					LCSW					55940			
	682073								MERCURY TOTAL QSM 5.0				
					MBW					55940			
116448	679984		01/12/2016	1510			BERING SEA ENVIRONMENTAL	RADFORD AAP	MERCURY TOTAL QSM 5.0		GW	**4**	
		54ADW01								55940			
116524	681537		01/15/2016	1650			BERING SEA ENVIRONMENTAL	RADFORD AAP	MERCURY TOTAL QSM 5.0		GW	**4**	
		011516R1								55940			
	683011								MERCURY TOTAL QSM 5.0				
					L	681537				0			
	682075		01/15/2016	1650					MERCURY TOTAL QSM 5.0				
		011516R1			DUP	681537				55940			
	682076		01/15/2016	1650					MERCURY TOTAL QSM 5.0				
		011516R1			MSW	681537				55940			
	682077		01/15/2016	1650					MERCURY TOTAL QSM 5.0				
		011516R1			MSDW	682076				55940			
	683012								MERCURY TOTAL QSM 5.0				
					PDSW	681537				0			
116524	681538		01/15/2016	1605			BERING SEA ENVIRONMENTAL	RADFORD AAP	MERCURY TOTAL QSM 5.0		GW	**4**	
		49ADW01								55940			
	683013								MERCURY QSM				
					CCV					0			
	683014								MERCURY QSM				
					CCB					0			

16 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

PREP WORKSHEET
on 01/27/2016

Prep Batch **55,898** Date Prepped: 01/15/2016 Prepped By LJF

Folder #	Order	QC Type	Link	Test	Matrix	Volume	Weight	Initial Volume	SDG Level	Notes
	681276	MBW		ICP K TOTAL QSM 5.0	LIQUID	50		50.0		
	681276	MBW		ICP NA TOTAL QSM 5.0	LIQUID	50		50.0		
	681276	MBW		ICP TOTAL QSM 5.0	LIQUID	50		50.0		
	681276	MBW		ICP TOTAL QSM 5.0	LIQUID	50		50.0		
	681277	LCSW		ICP TOTAL QSM 5.0	LIQUID	50		50.0		
	681277	LCSW		ICP K TOTAL QSM 5.0	LIQUID	50		50.0		
	681277	LCSW		ICP NA TOTAL QSM 5.0	LIQUID	50		50.0		
	681277	LCSW		ICP TOTAL QSM 5.0	LIQUID	50		50.0		
116448	679984			ICP TOTAL QSM 5.0	GROUND WATER	50		50.0	4	
	679984			ICP TOTAL QSM 5.0	GROUND WATER	50		50.0	4	
	679984			ICP K TOTAL QSM 5.0	GROUND WATER	50		50.0	4	
	679984			ICP NA TOTAL QSM 5.0	GROUND WATER	50		50.0	4	
	679984			ICP TOTAL QSM 5.0	GROUND WATER	50		50.0	4	
	681278	DUP	679984	ICP K TOTAL QSM 5.0	GROUND WATER	50		50.0		
	681278	DUP	679984	ICP NA TOTAL QSM 5.0	GROUND WATER	50		50.0		
	681278	DUP	679984	ICP TOTAL QSM 5.0	GROUND WATER	50		50.0		
	681279	MSW	679984	ICP K TOTAL QSM 5.0	GROUND WATER	50		50.0		

PREP WORKSHEET
on 01/27/2016

Folder #	Order	QC Type	Link	Test	Matrix	Volume	Weight	Initial Volume	SDG Level	Notes
	681279	MSW	679984	ICP NA TOTAL QSM 5.0	GROUND WATER	50		50.0		
	681279	MSW	679984	ICP TOTAL QSM 5.0	GROUND WATER	50		50.0		
	681280	MSDW	681279	ICP K TOTAL QSM 5.0	GROUND WATER	50		50.0		
	681280	MSDW	681279	ICP NA TOTAL QSM 5.0	GROUND WATER	50		50.0		
	681280	MSDW	681279	ICP TOTAL QSM 5.0	GROUND WATER	50		50.0		

Notes:_____

PREP WORKSHEET
on 01/27/2016

Prep Batch **55,928** Date Prepped: 01/19/2016 Prepped By LJF

Folder #	Order	QC Type	Link	Test	Matrix	Volume	Weight	Initial Volume	SDG Level	Notes
	681930	MBW		ICP K TOTAL QSM 5.0	LIQUID	50		50.0		
	681930	MBW		ICP NA TOTAL QSM 5.0	LIQUID	50		50.0		
	681930	MBW		ICP TOTAL QSM 5.0	LIQUID	50		50.0		
	681931	LCSW		ICP K TOTAL QSM 5.0	LIQUID	50		50.0		
	681931	LCSW		ICP NA TOTAL QSM 5.0	LIQUID	50		50.0		
	681931	LCSW		ICP TOTAL QSM 5.0	LIQUID	50		50.0		
	681931	LCSW		ICP TOTAL QSM 5.0	LIQUID	50		50.0		
116524	681538			ICP TOTAL QSM 5.0	GROUND WATER	50		50.0	4	
	681538			ICP TOTAL QSM 5.0	GROUND WATER	50		50.0	4	
	681538			ICP TOTAL QSM 5.0	GROUND WATER	50		50.0	4	
	681538			ICP K TOTAL QSM 5.0	GROUND WATER	50		50.0	4	
	681538			ICP NA TOTAL QSM 5.0	GROUND WATER	50		50.0	4	
	681538			ICP TOTAL QSM 5.0	GROUND WATER	50		50.0	4	
	681538			ICP TOTAL QSM 5.0	GROUND WATER	50		50.0	4	
	681932	DUP	681538	ICP K TOTAL QSM 5.0	GROUND WATER	50		50.0		
	681932	DUP	681538	ICP NA TOTAL QSM 5.0	GROUND WATER	50		50.0		
	681932	DUP	681538	ICP TOTAL QSM 5.0	GROUND WATER	50		50.0		

PREP WORKSHEET
on 01/27/2016

Folder #	Order	QC Type	Link	Test	Matrix	Volume	Weight	Initial Volume	SDG Level	Notes
	681933	MSW	681538	ICP K TOTAL QSM 5.0	GROUND WATER	50		50.0		
	681933	MSW	681538	ICP NA TOTAL QSM 5.0	GROUND WATER	50		50.0		
	681933	MSW	681538	ICP TOTAL QSM 5.0	GROUND WATER	50		50.0		
	681934	MSDW	681933	ICP K TOTAL QSM 5.0	GROUND WATER	50		50.0		
	681934	MSDW	681933	ICP NA TOTAL QSM 5.0	GROUND WATER	50		50.0		
	681934	MSDW	681933	ICP TOTAL QSM 5.0	GROUND WATER	50		50.0		

Notes:_____

PREP WORKSHEET
on 01/27/2016

Prep Batch **55,959** Date Prepped: 01/20/2016 Prepped By LJF

Folder #	Order	QC Type	Link	Test	Matrix	Volume	Weight	Initial Volume	SDG Level	Notes
	682724	MBW		ICP TOTAL QSM 5.0	LIQUID	50		50.0		
	682725	LCSW		ICP TOTAL QSM 5.0	LIQUID	50		50.0		
116524	681537			ICP TOTAL QSM 5.0	GROUND WATER	50		50.0	4	
	682726	DUP	681537	ICP TOTAL QSM 5.0	GROUND WATER	50		50.0		
	682727	MSW	681537	ICP TOTAL QSM 5.0	GROUND WATER	50		50.0		
	682728	MSDW	682727	ICP TOTAL QSM 5.0	GROUND WATER	50		50.0		

Notes:_____

PREP WORKSHEET
on 01/27/2016

Prep Batch **55,940** Date Prepped: 01/20/2016 Prepped By LJF

Folder #	Order	QC Type	Link	Test	Matrix	Volume	Weight	Initial Volume	SDG Level	Notes
	682073	MBW		MERCURY TOTAL QSM	LIQUID	25		25.0		
	682074	LCSW		MERCURY TOTAL QSM	LIQUID	25		25.0		
116448	679984			MERCURY TOTAL QSM	GROUND WATER	25		25.0	4	
116524	681537			MERCURY TOTAL QSM	GROUND WATER	25		25.0	4	
	681538			MERCURY TOTAL QSM	GROUND WATER	25		25.0	4	
	682075	DUP	681537	MERCURY TOTAL QSM	GROUND WATER	25		25.0		
	682076	MSW	681537	MERCURY TOTAL QSM	GROUND WATER	25		25.0		
	682077	MSDW	682076	MERCURY TOTAL QSM	GROUND WATER	25		25.0		

Notes:_____

Metals Digestion Bench Sheet

(Prep Methods 3010, 3020, 3005, & 3050)

Program: QSM

*Matrix: GW

3010= ICP Liquids
3020= GFAA Liquids
3005= Sb Liquids
3050= ICP/GFAA Solids
7060/7740= GFAA, As & Se Liquids

Prep Batch #:	55898
Prep Method:	3010
Analyst:	LJF
Date:	01/15/2016
Start Time:	09:00

Prep Analyst: LJF

Balance ID:

End Date: 01/15/2016

End Time: 13:00

Digestion Tube Lot #: J224813-1123

Block Used: A

Cell Position for Temp. Check: F-4

Initial-DigestionTemp (ºC): 93.2

Final-Digestion Temp (ºC): 93.2

Reagent:	Ref. #
Nitric Acid:	AB.609
Hydrochloric Acid:	AB.611
Hydrogen Peroxide:	

	Sample ID			(Solids) Sample Weight (g)	(Liquids) Sample Volume (ml)	Final Volume (ml)
	681276	(MB)			50.0	50
	681277	(LCS)			50.0	50
	679984				50.0	50
		Comments:				50
						50
						50
						50
						50
						50
						50
						50
						50
						50
						50
						50
						50
						50
						50
						50
						50
						50
						50
						50
						50
						50
						50
	681278	(DUP) if applicable			50.0	50
	681279	(MS)	Parent Sample		50.0	50
	681280	(MSD)	679984		50.0	50
Leave >>		(DUP) if applicable				50
blank		(MS)	Parent Sample			50
if N/A		(MSD)				50

MB=Method Blank, LCS=Laboratory Control Sample, DUP=Duplicate, MS=Matrix Spike & MSD=Matrix Spike Duplicate

*Matrix: Soil, Sludge, Waste, GW=Groundwater, WW=Wastewater, Tissue, TLCP, SPLP, ASTM or other.

MS/MSD Spike Amount (ml)	Spike Ref. #
0.5	M12609
0.5	M12575
0.2	M12732

LCS Spike Amount (ml)	Spike Ref. #
0.5	M12609
0.5	M12575
0.2	M12732

Reviewed By/Date:

Metals Digestion Bench Sheet

(Prep Methods 3010, 3020, 3005, & 3050)

Program: QSM

*Matrix: GW

3010= ICP Liquids
3020= GFAA Liquids
3005= Sb Liquids
3050= ICP/GFAA Solids
7060/7740= GFAA, As & Se Liquids

Prep Batch #:	55928
Prep Method:	3010
Analyst:	LJF
Date:	01/19/2016
Start Time:	07:00

Prep Analyst: LJF

Balance ID:

End Date: 01/19/2016

End Time: 12:00

Digestion Tube Lot #: J224813-1123

Block Used: B

Cell Position for Temp. Check: F-6

Initial-DigestionTemp (ºC): 93.2

Final-Digestion Temp (ºC): 93.2

Reagent:	Ref. #
Nitric Acid:	AB.609
Hydrochloric Acid:	AB.611
Hydrogen Peroxide:	

Sample ID			(Solids) Sample Weight (g)	(Liquids) Sample Volume (ml)	Final Volume (ml)
681930	(MB)			50.0	50
681931	(LCS)			50.0	50
681538				50.0	50
	Comments:				50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
681932	(DUP) if applicable			50.0	50
681933	(MS)	Parent Sample		50.0	50
681934	(MSD)	681538		50.0	50
Leave >>	(DUP) if applicable				50
blank	(MS)	Parent Sample			50
if N/A	(MSD)				50

MB=Method Blank, LCS=Laboratory Control Sample, DUP=Duplicate, MS=Matrix Spike & MSD=Matrix Spike Duplicate

*Matrix: Soil, Sludge, Waste, GW=Groundwater, WW=Wastewater, Tissue, TLCP, SPLP, ASTM or other.

MS/MSD Spike Amount (ml)	Spike Ref. #
0.2	M12732
0.5	M12609
0.5	M12575

LCS Spike Amount (ml)	Spike Ref. #
0.2	M12732
0.5	M12609
0.5	M12575

Reviewed By/Date:

Metals Digestion Bench Sheet

(Prep Methods 3010, 3020, 3005, & 3050)

Program: QSM

*Matrix: GW

3010= ICP Liquids
3020= GFAA Liquids
3005= Sb Liquids
3050= ICP/GFAA Solids
7060/7740= GFAA, As & Se Liquids

Prep Batch #:	55959
Prep Method:	3010
Analyst:	LJF
Date:	01/20/2016
Start Time:	12:30

Prep Analyst: LJF

Balance ID:

End Date: 01/20/2016

End Time: 17:30

Digestion Tube Lot #: J224813-1123

Block Used: A

Cell Position for Temp. Check: F-4

Initial-DigestionTemp (ºC): 93.2

Final-Digestion Temp (ºC): 93.2

Reagent:	Ref. #
Nitric Acid:	AB.609
Hydrochloric Acid:	AB.611
Hydrogen Peroxide:	

Sample ID			(Solids) Sample Weight (g)	(Liquids) Sample Volume (ml)	Final Volume (ml)
682724	(MB)			50.0	50
682725	(LCS)			50.0	50
681537				50.0	50
	Comments:				50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
682726	(DUP) if applicable			50.0	50
682727	(MS)	Parent Sample		50.0	50
682728	(MSD)	681537		50.0	50
Leave >>	(DUP) if applicable				50
blank	(MS)	Parent Sample			50
if N/A	(MSD)				50

MB=Method Blank, LCS=Laboratory Control Sample, DUP=Duplicate, MS=Matrix Spike & MSD=Matrix Spike Duplicate

*Matrix: Soil, Sludge, Waste, GW=Groundwater, WW=Wastewater, Tissue, TLCP, SPLP, ASTM or other.

MS/MSD Spike Amount (ml)	Spike Ref. #
0.2	M12732

LCS Spike Amount (ml)	Spike Ref. #
0.2	M12732

Reviewed By/Date:

FMT12-03

Mercury Digestion Bench Sheet

(Prep Methods 7470A & 7471A)

CCV ID: M12756
ICV/LCSW ID: M12755

*Matrix: GW
Balance ID:

7470A= Hg Liquids
7471A= Hg Solids

Prep Batch #:	55940
Prep Method:	7470A
Analyst:	LJF
Date:	01/20/2016
Start Time:	08:25

End Date: 01/20/2016
End Time: 10:25
Digestion Tube Lot #: 29315242
Block Used: A
Cell Position for Temp. Check: F-4
Initial-DigestionTemp (ºC): 93.2
Final-Digestion Temp (ºC): 93.2
Additional KMnO4 added (ml):
Aqua Regia added (ml)
Calibration Stds: M12753

Reagent:	Ref. #
HNO3:	AB.609
H2SO4:	AB.612
NaCl/Hydrox.SO4:	M12751
KMnO4:	M12748
K2S2O8:	M12646
Aqua-Regia:	M12758

Sample ID			(Solids) Sample Weight (g)	(Liquids) Sample Volume (ml)	Final Volume (ml)
682073	(MB)			25.0	25
682074	(LCS)			25.0	25
679984				25.0	25
681537	**Comments:**			25.0	25
681538				25.0	25
					25
					25
					25
					25
					25
					25
					25
					25
					25
					25
					25
					25
					25
					25
					25
					25
					25
					25
682075	(DUP) if applicable			25.0	25
682076	(MS)	Parent Sample		25.0	25
682077	(MSD)	681537		25.0	25
Leave >>	(DUP) if applicable				25
blank	(MS)	Parent Sample			25
	(MSD)				25
	(DUP) if applicable				25
	(MS)	Parent Sample			25
if N/A	(MSD)				25

MB=Method Blank, LCS=Laboratory Control Sample, DUP=Duplicate, MS=Matrix Spike & MSD=Matrix Spike Duplicate
*Matrix: Soil, Sludge, Waste, GW=Groundwater, WW=Wastewater, Tissue, TLCP, SPLP, ASTM or other.

A: Spike Amount (ml)	Spike Conc. (ug/L)	Spike Ref. #
0.5	100ug/L	M12754

B: Spike Amount (ml)	Spike Conc. (ug/L)	Spike Ref. #

Reviewed By/Date:

iCAP 6000 / 6500 Data Review Checklist	Analysis Date: 1-18-16	Data File: 00 Onesheet	Date of review: 01/26/16
Cal Std ID: M12703 LIMS #: 122716	Analyst: A	Reviewer: MDS	Approved? (Yes) No

Is Audit Trail turned on or Manual Manipulations addressed? (Yes) / No (If no, any manual manipulations must be initialed, dated, and reason(s) stated for change)

QC Parameters : 6010 / 200.7 / QSM / Other	YES	NO	YES	NO	Comments:
1) Calibration linearity: (r > 0.995) / r > 0.998	✓	✓	✓		
2) ICV: (90-110%) / 95-105%	✓	✓	✓		
2) ICVLL: 70-130% / (80-120%)	✓	✓	✓		
3) ICB: < 3X IDL / (<LOD) <LOQ	✓	✓	✓		
4) ICSA: < ABS LOD	✓	✓	✓		
5) ICSAB: 80-120%	✓	✓	✓		
6) MRL: 70-130% / 80-120%					
7) MDL Check: >LOD					
8) CCV1/CCB1 (CCV: 90-110%)	✓	–	✓	✓	CCV Ba, Al, As, Co, Cr, Mg, Ni, Pb, Sb, Tl, Zn samples associated reanalyzed. CCB Se >LOD RL samples. CCB Fe >LOD samples reported >10x
9) CCV2/CCB2 (CCB: < 3X IDL / <LOD / <LOQ)					
10) CCV3/CCB3					
11) CCV4/CCB4					
12) CCV5/CCB5					

Preparation Batch Parameters	YES	NO	YES	NO	
Prep Batch ID#: 55898 Dig. Meth.	✓		✓		LCS features RR
LCS - generated limits or project specific limits	✓		✓		
MB - <LOD or ≤ ½ RL	✓	✓	✓	✓	Fe, As, Ca, Ag >LOD<½ RL Ba>LOD & RL Se>LOD<½ RL "B"
Spiked samples in batch:					
a) 679984 matrix = Gw	✓	✓	✓	✓	2 fail + MS values.
b) _____ matrix = _____					Dup MS values.
c) _____ matrix = _____					MS, MSD fail
PDS: ±15% / 20% / 25% Sample#: a	✓	✓	✓	✓	PDS fail Ag, Al, Cd, Co, Cr, Fe, Mg, Mn Ni, Pb, Tl, V, Zn "M"
Prep Batch ID#: _____ Dig. Meth. _____					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a) _____ matrix = _____					
b) _____ matrix = _____					
c) _____ matrix = _____					
PDS: ±15% / 20% / 25% Sample#: _____					
Prep Batch ID#: _____ Dig. Meth. _____					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a) _____ matrix = _____					
b) _____ matrix = _____					
c) _____ matrix = _____					
PDS: ±15% / 20% / 25% Sample#: _____					
Prep Batch ID#: _____ Dig. Meth. _____					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a) _____ matrix = _____					
b) _____ matrix = _____					
c) _____ matrix = _____					
PDS: ±15% / 20% / 25% Sample#: _____					

iCAP 6000 / 6500 Data Review Checklist	Analysis Date: 01/18/16	Data File: NaK011816v673	Date of review: 1-19-16
Cal Std ID: M12704 LIMS #: 122717	Analyst: MJS	Reviewer:	Approved? Yes No
Is Audit Trail turned on or Manual Manipulations addressed? (Yes) / No (If no, any manual manipulations must be initialed, dated, and reason(s) stated for change)			

QC Parameters : 6010 / 200.7 / QSM / Other	YES	NO	YES	NO	Comments:
1) Calibration linearity: r ≥ 0.995 / r > 0.998	✓		✓		
2) ICV: 90-110% / 95-105%	✓		✓		
2) ICVLL: 70-130% / 80-120%	✓		✓		
3) ICB: < 3X IDL / <LOD / <LOQ	✓		✓		
4) ICSA: < ABS LOD	✓		✓		
5) ICSAB: 80-120%	✓		✓		
6) MRL: 70-130% / 80-120%					
7) MDL Check: >LOD					
8) CCV1/CCB1 (CCV: 90-110%)	✓		✓		
9) CCV2/CCB2 (CCB: < 3X IDL / <LOD / <LOQ)					
10) CCV3/CCB3					
11) CCV4/CCB4					
12) CCV5/CCB5					
Preparation Batch Parameters	**YES**	**NO**	**YES**	**NO**	
Prep Batch ID#: 55898 Dig. Meth. 3010	✓		✓		
LCS - generated limits or project specific limits	✓		✓		
MB - <LOD or ≤ ½ RL	✓		✓		
Spiked samples in batch:					
a) 679984 matrix = low	✓	✓	✓	✓	Linvalid Dup invalid K
b) matrix =					
c) matrix =					
PDS: ±15% / 20% / 25% Sample#: 2	✓		✓		
Prep Batch ID#: Dig. Meth.					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a) matrix =					
b) matrix =					
c) matrix =					
PDS: ±15% / 20% / 25% Sample#:					
Prep Batch ID#: Dig. Meth.					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a) matrix =					
b) matrix =					
c) matrix =					
PDS: ±15% / 20% / 25% Sample#:					
Prep Batch ID#: Dig. Meth.					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a) matrix =					
b) matrix =					
c) matrix =					
PDS: ±15% / 20% / 25% Sample#:					

iCAP 6000 / 6500 Data Review Checklist	Analysis Date: 1-19-16	Data File: PODResults	Date of review: 01/26/16
Cal Std ID: 111270 LIMS # : 122762	Analyst: [illegible]	Reviewer: MDS	Approved? (Yes) No
Is Audit Trail turned on or Manual Manipulations addressed? (Yes) No (If no, any manual manipulations must be initialed, dated, and reason(s) stated for change)			

QC Parameters : 6010 / 200.7 / QSM / Other	YES	NO	YES	NO	Comments:
1) Calibration linearity: r > 0.995 / r > 0.998	✓		✓		
2) ICV: 90-110% / 95-105%	✓		✓		
2) ICVLL: 70-130% / 80-120%	✓		✓		
3) ICB: < 3X IDL / <LOD / <LOQ	✓		✓		
4) ICSA: < ABS LOD	✓		✓		
5) ICSAB: 80-120%	✓		✓		
6) MRL: 70-130% / 80-120%					
7) MDL Check: >LOD					
8) CCV1/CCB1 (CCV: 90-110%)	✓	✓	✓	✓	CCV1 fail Ba, Be, Co, Mn, Ni, V, Zn Sample Results Not Reported from failing CCV1. CCV2 Ba, Be, Co, V – no results reported Associated with CCV2.
9) CCV2/CCB2 (CCB: < 3X IDL / <LOD / <LOQ)					
10) CCV3/CCB3					
11) CCV4/CCB4					
12) CCV5/CCB5					

Preparation Batch Parameters	YES	NO	YES	NO	
Prep Batch ID#:_____ Dig. Meth._____	✓		✓		
LCS - generated limits or project specific limits	✓		✓		
MB - <LOD or ≤ ½ RL	✓	✓	✓	✓	Fe, Al, Ca, Ag >LOD <½RL B- Se >LOD & ½RL Sample <LOD
Spiked samples in batch:					
a) 681538 matrix = Brn	✓	✓	✓	✓	↳ fail invalids Dup invalids MS, MSD for Ines.
b)_____ matrix = _____					
c)_____ matrix = _____					
PDS: ±15% / 20% / 25% Sample#:_____					
Prep Batch ID#:_____ Dig. Meth._____					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a)_____ matrix = _____					
b)_____ matrix = _____					
c)_____ matrix = _____					
PDS: ±15% / 20% / 25% Sample#:_____					
Prep Batch ID#:_____ Dig. Meth._____					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a)_____ matrix = _____					
b)_____ matrix = _____					
c)_____ matrix = _____					
PDS: ±15% / 20% / 25% Sample#:_____					
Prep Batch ID#:_____ Dig. Meth._____					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a)_____ matrix = _____					
b)_____ matrix = _____					
c)_____ matrix = _____					
PDS: ±15% / 20% / 25% Sample#:_____					

iCAP 6000 / 6500 Data Review Checklist	Analysis Date: 01/20/16		Data File: NaK012016 v675 Date of review: 1-21-16		
Cal Std ID: M12704 LIMS #: 122763	Analyst: MJS		Reviewer:	Approved? Yes / No	
Is Audit Trail turned on or Manual Manipulations addressed? (Yes) / No (If no, any manual manipulations must be initialed, dated, and reason(s) stated for change)					
QC Parameters : 6010 / 200.7 / QSM / Other	**YES**	**NO**	**YES**	**NO**	**Comments:**
1) Calibration linearity: (> 0.995 / r > 0.998	✓		✓		
2) ICV: 90-110% / 95-105%	✓		✓		
2) ICVLL: 70-130% / 80-120%	✓		✓		
3) ICB: < 3X IDL / <LOD / <LOQ	✓		✓		
4) ICSA: < ABS LOD	✓		✓		
5) ICSAB: 80-120%	✓		✓		
6) MRL: 70-130% / 80-120%					
7) MDL Check: >LOD					
8) CCV1/CCB1 (CCV: 90-110%)	✓		✓		
9) CCV2/CCB2 (CCB: < 3X IDL / <LOD / <LOQ)					
10) CCV3/CCB3					
11) CCV4/CCB4					
12) CCV5/CCB5					
Preparation Batch Parameters	**YES**	**NO**	**YES**	**NO**	
Prep Batch ID#: 55928 Dig. Meth. 3010	✓		✓		
LCS - generated limits or project specific limits	✓		✓		
MB - <LOD or ≤ ½ RL	✓		✓		
Spiked samples in batch:			✓		
a) 681538 matrix = low	✓	✓	✓	✓	Linvalid, Dup invalid K
b)_____ matrix = _____					
c)_____ matrix = _____					
PDS: ±15% / 20% / 25% Sample#: a	✓		✓		
Prep Batch ID#:_____ Dig. Meth._____					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a)_____ matrix = _____					
b)_____ matrix = _____					
c)_____ matrix = _____					
PDS: ±15% / 20% / 25% Sample#:_____					
Prep Batch ID#:_____ Dig. Meth._____					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a)_____ matrix = _____					
b)_____ matrix = _____					
c)_____ matrix = _____					
PDS: ±15% / 20% / 25% Sample#:_____					
Prep Batch ID#:_____ Dig. Meth._____					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a)_____ matrix = _____					
b)_____ matrix = _____					
c)_____ matrix = _____					
PDS: ±15% / 20% / 25% Sample#:_____					

iCAP 6000 / 6500 Data Review Checklist	Analysis Date: 1-21-16		Data File: DOD Results	Date of review: 01/27/16	
Cal Std ID: M12205 LIMS #: 122821	Analyst: [illegible]		Reviewer: MDS	Approved? Yes / No	
Is Audit Trail turned on or Manual Manipulations addressed? Yes / No (If no, any manual manipulations must be initialed, dated, and reason(s) stated for change)					
QC Parameters : 6010 / 200.7 / QSM / Other	**YES**	**NO**	**YES**	**NO**	**Comments:**
1) Calibration linearity: r > 0.995 / r > 0.998	✓		✓		
2) ICV: 90-110% / 95-105%	✓		✓		
2) ICVLL: 70-130% / 80-120%	✓		✓		
3) ICB: < 3X IDL / <LOD / <LOQ	✓		✓		
4) ICSA: < ABS LOD	✓		✓		
5) ICSAB: 80-120%	✓		✓		
6) MRL: 70-130% / 80-120%					
7) MDL Check: >LOD					
8) CCV1/CCB1 (CCV: 90-110%)	✓		✓		
9) CCV2/CCB2 (CCB: < 3X IDL / <LOD / <LOQ)					
10) CCV3/CCB3					
11) CCV4/CCB4					
12) CCV5/CCB5					
Preparation Batch Parameters	**YES**	**NO**	**YES**	**NO**	
Prep Batch ID#: 55959 Dig. Meth. 3070	✓		✓		
LCS - generated limits or project specific limits	✓		✓		
MB - <LOD or ≤ ½ RL	✓	✓	✓	✓	Mn > LOD & Results < LOD Se, Ag > LOD ≤ ½ RL
Spiked samples in batch:					
a) 681537 matrix = GW	✓	✓	✓	✓	Invalid Dup invalid. MS, MSD & LCS
b) _____ matrix = _____					
c) _____ matrix = _____					
PDS: ±15% / 20% / 25% Sample#: 2	✓	✓	✓		PDS GO. OK
Prep Batch ID#: _____ Dig. Meth. _____					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a) _____ matrix = _____					
b) _____ matrix = _____					
c) _____ matrix = _____					
PDS: ±15% / 20% / 25% Sample#: _____					
Prep Batch ID#: _____ Dig. Meth. _____					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a) _____ matrix = _____					
b) _____ matrix = _____					
c) _____ matrix = _____					
PDS: ±15% / 20% / 25% Sample#: _____					
Prep Batch ID#: _____ Dig. Meth. _____					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a) _____ matrix = _____					
b) _____ matrix = _____					
c) _____ matrix = _____					
PDS: ±15% / 20% / 25% Sample#: _____					

GFAA / FLAA / CVAA / CVAF Data Review checklist		Method:	200.9	7000 series AA	245.1	7470a / 7471a	245.7
Instrumentation:	THERMO M SERIES AA			Hydra II Hg ANALYZER			
Analysis Date: 01/21/16	Data File: 012116wa		Date Review: 1-22-16	Analyte: Hg			
Cal Std ID: M12753	LIMS # : 127800	Analyst: SF	Reviewer: JJ	Approved?	Yes	No	

Is Audit Trail turned on or Manual Manipulations addressed? (Yes) / No (If no, any manual manipulations must be initialed, dated, and reason(s) stated for change)

Calibration Parameters -	YES	NO	YES	NO	Comments:
1) Calibration linearity - r > 0.995	✓		✓		
2) ICV: 90-110% 95-105%	✓		—		
2) ICVLL: 70-130% 80-120%					
3) ICB: <IDL / <LOD / <LOQ / <½ RL	✓		—		
6) MRL: 70-130%					
7) CCV1/CCB1- (CCV: 90-110% / 80-120%)	✓		—		
8) CCV2/CCB2 (CCB: <IDL / <LOD / <LOQ / <½ RL)					
9) CCV3/CCB3					
10) CCV4/CCB4					
11) CCV5/CCB5					

Preparation Batch Parameters	YES	NO	YES	NO	Comments:
Prep Batch ID#: 55940 Dig. Meth. 7470A	✓		—		
LCS - generated limits or project specific limits	✓		—		
MB - <LOD / <2.2X LOD / ≤ ½RL	✓		—		
Spiked samples in batch:					
a) 681537 matrix = GW	✓		—		LCPOS N/A
b) _____ matrix = _____					
c) _____ matrix = _____					
d) _____ matrix = _____					
e) _____ matrix = _____					
PDS: ±15% / 20% / 25% Sample# 681537	✓		—		
MSA Performed? Yes No					
Prep Batch ID#: _____ Dig. Meth. _____					
LCS - generated limits or project specific limits					
MB - <LOD / <2.2X LOD / ≤ ½RL					
Spiked samples in batch:					
a) _____ matrix = _____					
b) _____ matrix = _____					
c) _____ matrix = _____					
d) _____ matrix = _____					
e) _____ matrix = _____					
PDS: ±15% / 20% / 25% Sample# _____					
MSA Performed? Yes No					
Prep Batch ID#: _____ Dig. Meth. _____					
LCS - generated limits or project specific limits					
MB - <LOD / <2.2X LOD / ≤ ½RL					
Spiked samples in batch:					
a) _____ matrix = _____					
b) _____ matrix = _____					
c) _____ matrix = _____					
d) _____ matrix = _____					
e) _____ matrix = _____					
PDS: ±15% / 20% / 25% Sample# _____					
MSA Performed? Yes No					

CT Laboratories Instrument Run Log

Instrument ID: ICP 6000 (See Journal for Wavelength Check)

Date	Time Start/End	Analyst	Method	LIMS# or Sample #	Sequence I.D.	Cal. STD ID	Comments	Pressure (kPa)
01/19/16	0854 / 1148	MDS	NaK	122723, 122741, 122747	NaK011916	M12704	V674	320
01/20/16	1002 / 1205	MDS	B+Si	122705, 122500	BSi012016	M12744B	V140	320
01/20/16	1212 / 1339	MDS	NaK	122783, 122763	NaK012016	M12704	V675	320
01/21/16	1321 / 1425	MDS	B+Si	122705, 122500	BSi012116	M12744B		320
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Checked by: _____ Verified by: _____

CT Laboratories Instrument Run Log

Instrument ID: ICP 6500

Date	Time Start/End	Analyst	Analytes	LIMS run or Samples Analyzed	Sequence ID	Cal Std ID	Neb Pressure	Comments
1-7-16	1000 / 0133	JA	DODCal u	122103 122318 122403 122471 122463 122340 122369	D0107l6	M12705	180	V1173, V1174, V1175, V1192
1-8-16	~~0727~~ 0721 / 1953	JA	DODCal u	122307 122469 122345 122126 122308 122300 122344 122491	D0108l6	M12705	180	V1189 V1193 V1188, V1193
1-11-16	0721 / 2003	JA	DOD Cal u	122261 122296 122305 122306	D0111l6	M12705	180	V1190.
1-13-16	0735 / 0814	JA	DOD Cal u	122587 122590 122531 122532 122471 122588 122589 122328 122401 122403 122558 122556 122529 122518 122508 122595 122508 122303 122555	D0113l6	M12705	190	V1194 V1195, V1196, V1197
↓	↓	↓	↓		↓	↓	↓	V1198, V1199
1-15-16	0848 / 1631	JA	DOD Cal u	122654 122653 122654 122656 122658	D0115l6	M12705	190	V1206, V1208, V1211
1-18-16	1322 / 2148	JA	DODCal u	122589 122656 122728 122742 122715 122508 122587 122744 122761	D0118l6	M12705	220	V1212, V1213, V1214 V1216
1-19-16	0751 / 1857	JA	DODCal u	122762 122754 122752 122653	D0119l6	M12705	220	V1218, V1219, V1222
1-20-16	1145 / 1517	JA	DOD Cal u	122793 122792 122782	D0120l6	M12705	220	V1224, V1225
1-21-16	1312 / 1700	JA	DOD Cal u	122821 122752 122762	D0121l6	M12705	210	V1230, V1231
1-22-16	1113 / 1546	JA	DODCal u	122851 122882	D0122l6	M12705	210	V1233

CT Laboratories

Mercury Analyzer Instrument Run Log

Instrument ID: Cetac M-6000A

Analysis Date	Start Time	End Time	Analyst	LIMS Run # (s)	Method File ID #	Cal. Std. ID #	Lamp Current (mA)	Analysis Tube Lot #	Comments
12/15/15	09:00	12:33	CSF	121865,121862,121861 121867,121868,121869,121866	121515wa	M12718	22.84	~~245454~~ 124545	Sncl2: M12724
12/16/15	07:23	09:56	CSF	121959,121958,121957	121615wa	M12718	22.84	245454	Sncl2: M12724
12/17/15	06:57	09:31	CSF	121974,121973	121615so	M12718	22.84	245454	Sncl2: M12724
12/18/15	07:28	11:18	CSF	122035,122036 122030,122031,122033	121715wa	M12718	22.85	245454	Sncl2: M12724
12/21/15	08:52	11:41	CSF	122037,122034,122032	121815wa	M12718	22.85	245454	Sncl2: M12724
12/22/15	08:11	11:23	CSF	122171,122172,~~122175~~ 122173,122174	122215wa	M12737	22.86	245454	Sncl2: M12724
12/23/15	06:45	07:21	CSF	122173	122315wa	M12737	22.86	245454	Sncl2: M12724
12/23/15	07:43	12:23	CSF	122197 122192,122191,122196,122193	122315so	M12737	22.86	245454	Sncl2: M12724
12/31/15	07:14	08:42	CSF	122347,122348	123115wa	M12737	22.86	245454	Sncl2: M12724
12/31/15	08:55	09:50	CSF	122346	123115so	M12737	22.86	245454	Sncl2: M12724
01/05/16	07:31	08:03	CSF	122363	010516wa	M12737	22.86	245454	Sncl2: M12724
01/07/16	09:13	11:22	CSF	122464,122465,122468	010716so 010716CSF	M12737	22.86	245454	Sncl2: M12724
01/08/16	07:28	08:29	CSF	122439,122438	010816wa	M12737	22.86	245454	Sncl2: M12724
01/14/16	07:40	11:37	CSF	122613 122620,122607,122612,122619	011416so	M12737	22.86	245454	Sncl2: M12724
01/15/16	07:31	09:16	CSF	122633,122624,122631,122632	011516wa	M12737	22.86	245454	Sncl2: M12724
01/21/16	08:40	11:20	CSF	122803,122801,122800 122802,122799,122798,122804	012116wa	M12753	22.86	245454	Sncl2: M12759
01/22/16	09:23	11:15	CSF	122816,122815 012216CSF	012216wa	M12753	22.86	245454	Sncl2: M12759

Reviewed By/Date:_____

Type	Date/Time	Message	User name	Application	Sequence Name
	01/15/2016 09:22:04	Running 678629 (27)	MDS	Analyst	S_Sodium and Potas
	01/15/2016 09:24:48	Running msw678629 (28)	MDS	Analyst	S_Sodium and Potas
	01/15/2016 09:27:33	Running msdw678629 (29)	MDS	Analyst	S_Sodium and Potas
	01/15/2016 09:30:18	Running pdsw678629 (30)	MDS	Analyst	S_Sodium and Potas
	01/15/2016 09:33:03	Running ccv (14)	MDS	Analyst	S_Sodium and Potas
	01/15/2016 09:35:48	Running ccb (15)	MDS	Analyst	S_Sodium and Potas
	01/15/2016 09:38:33	Running 678629 (31)	MDS	Analyst	S_Sodium and Potas
	01/15/2016 09:41:17	Running msw678629 (32)	MDS	Analyst	S_Sodium and Potas
	01/15/2016 09:44:02	Running msdw678629 (33)	MDS	Analyst	S_Sodium and Potas
	01/15/2016 09:46:48	Running pdsw678629 (34)	MDS	Analyst	S_Sodium and Potas
	01/15/2016 09:49:33	Running ccv (14)	MDS	Analyst	S_Sodium and Potas
	01/15/2016 09:52:18	Running ccb (15)	MDS	Analyst	S_Sodium and Potas
	01/15/2016 09:55:00	Autosampler Run Completed	MDS	Analyst	S_Sodium and Potas
	01/15/2016 09:56:36	Plasma off	MDS	iTEVA Control Center	
	01/15/2016 09:56:36	Plasma extinguished successfully	MDS	Analyst	
	01/18/2016 07:43:46	Plasma On	MDS	iTEVA Control Center	
	01/18/2016 07:43:52	Plasma ignition successful	MDS	Analyst	
	01/18/2016 07:44:31	D33534 - Debug:Wavelength check : x = -0.317, y =-0.471	MDS	Analyst	
	01/18/2016 07:57:51	Autosampler Run Started	MDS	Analyst	
	01/18/2016 07:57:51	Sequence Started	MDS	Analyst	S_Sodium and Potas
	01/18/2016 07:58:12	Running Blank (1)	MDS	Analyst	S_Sodium and Potas
	01/18/2016 08:01:07	Running CalibStd-0.5 (2)	MDS	Analyst	S_Sodium and Potas
	01/18/2016 08:03:52	Running CalibStd-1.0 (3)	MDS	Analyst	S_Sodium and Potas
	01/18/2016 08:06:36	Running CalibStd-5.0 (4)	MDS	Analyst	S_Sodium and Potas
	01/18/2016 08:09:21	Running CalibStd-10.0 (5)	MDS	Analyst	S_Sodium and Potas
	01/18/2016 08:12:06	Running CalibStd-50 (6)	MDS	Analyst	S_Sodium and Potas
	01/18/2016 08:14:53	Running CalibStd-100 (7)	MDS	Analyst	S_Sodium and Potas
	01/18/2016 08:17:38	Running CalibStd-200 (8)	MDS	Analyst	S_Sodium and Potas
	01/18/2016 08:20:21	Running CalibStd-500 (9)	MDS	Analyst	S_Sodium and Potas
	01/18/2016 08:23:28	Running icv (10)	MDS	Analyst	S_Sodium and Potas
	01/18/2016 08:26:12	Running ICVLL (17)	MDS	Analyst	S_Sodium and Potas
	01/18/2016 08:28:57	Running icb (11)	MDS	Analyst	S_Sodium and Potas
	01/18/2016 08:31:42	Running mrl (16)	MDS	Analyst	S_Sodium and Potas
	01/18/2016 08:34:26	Running icsa (12)	MDS	Analyst	S_Sodium and Potas
	01/18/2016 08:37:34	Running icsab (13)	MDS	Analyst	S_Sodium and Potas
	01/18/2016 08:40:42	Running lcsw55898 (1)	MDS	Analyst	S_Sodium and Potas
	01/18/2016 08:43:26	Running mbw55898 (2)	MDS	Analyst	S_Sodium and Potas
	01/18/2016 08:46:11	Running 679984 (3)	MDS	Analyst	S_Sodium and Potas
	01/18/2016 08:48:54	Running l679984 (4)	MDS	Analyst	S_Sodium and Potas
	01/18/2016 08:51:38	Running dup679984 (5)	MDS	Analyst	S_Sodium and Potas
	01/18/2016 08:54:22	Running msw679984 (6)	MDS	Analyst	S_Sodium and Potas
	01/18/2016 08:57:06	Running msdw679984 (7)	MDS	Analyst	S_Sodium and Potas
	01/18/2016 08:59:51	Running pdsw679984 (8)	MDS	Analyst	S_Sodium and Potas
	01/18/2016 09:02:35	Running lcsw55899 (9)	MDS	Analyst	S_Sodium and Potas
	01/18/2016 09:05:20	Running mbw55899 (10)	MDS	Analyst	S_Sodium and Potas
	01/18/2016 09:08:07	Running ccv (14)	MDS	Analyst	S_Sodium and Potas
	01/18/2016 09:10:51	Running ccb (15)	MDS	Analyst	S_Sodium and Potas
	01/18/2016 09:13:37	Running 680582 (11)	MDS	Analyst	S_Sodium and Potas
	01/18/2016 09:16:31	Running l680582 (12)	MDS	Analyst	S_Sodium and Potas
	01/18/2016 09:19:16	Running dup680582 (13)	MDS	Analyst	S_Sodium and Potas
	01/18/2016 09:22:08	Running msw680582 (14)	MDS	Analyst	S_Sodium and Potas
	01/18/2016 09:25:00	Running msdw680582 (15)	MDS	Analyst	S_Sodium and Potas

Type	Date/Time	Message	User name	Application	Sequence Name
	01/20/2016 12:01:02	Running lqcks (4)	MDS	Analyst	S_Boron and Si2(v1
	01/20/2016 12:03:24	Running ccv (12)	MDS	Analyst	S_Boron and Si2(v1
	01/20/2016 12:05:45	Running ccb (13)	MDS	Analyst	S_Boron and Si2(v1
	01/20/2016 12:08:04	Autosampler Run Completed	MDS	Analyst	S_Boron and Si2(v1
	01/20/2016 12:12:32	Autosampler Run Started	MDS	Analyst	
	01/20/2016 12:12:32	Sequence Started	MDS	Analyst	S_Sodium and Potas
	01/20/2016 12:12:53	Running Blank (1)	MDS	Analyst	S_Sodium and Potas
	01/20/2016 12:15:46	Running CalibStd-0.5 (2)	MDS	Analyst	S_Sodium and Potas
	01/20/2016 12:18:25	Running CalibStd-1.0 (3)	MDS	Analyst	S_Sodium and Potas
	01/20/2016 12:21:03	Running CalibStd-5.0 (4)	MDS	Analyst	S_Sodium and Potas
	01/20/2016 12:23:43	Running CalibStd-10.0 (5)	MDS	Analyst	S_Sodium and Potas
	01/20/2016 12:26:28	Running CalibStd-50 (6)	MDS	Analyst	S_Sodium and Potas
	01/20/2016 12:29:08	Running CalibStd-100 (7)	MDS	Analyst	S_Sodium and Potas
	01/20/2016 12:31:50	Running CalibStd-200 (8)	MDS	Analyst	S_Sodium and Potas
	01/20/2016 12:34:31	Running CalibStd-500 (9)	MDS	Analyst	S_Sodium and Potas
	01/20/2016 12:37:29	Running icv (10)	MDS	Analyst	S_Sodium and Potas
	01/20/2016 12:40:11	Running ICVLL (17)	MDS	Analyst	S_Sodium and Potas
	01/20/2016 12:42:50	Running icb (11)	MDS	Analyst	S_Sodium and Potas
	01/20/2016 12:45:26	Running mrl (16)	MDS	Analyst	S_Sodium and Potas
	01/20/2016 12:48:07	Running icsa (12)	MDS	Analyst	S_Sodium and Potas
	01/20/2016 12:51:07	Running icsab (13)	MDS	Analyst	S_Sodium and Potas
	01/20/2016 12:54:06	Running lcsw55943 (1)	MDS	Analyst	S_Sodium and Potas
	01/20/2016 12:56:42	Running mbw55943 (2)	MDS	Analyst	S_Sodium and Potas
	01/20/2016 12:59:21	Running 682158 (3)	MDS	Analyst	S_Sodium and Potas
	01/20/2016 13:01:55	Running dup682158 (4)	MDS	Analyst	S_Sodium and Potas
	01/20/2016 13:04:35	Running msw682158 (5)	MDS	Analyst	S_Sodium and Potas
	01/20/2016 13:07:35	Running lcsw55928 (6)	MDS	Analyst	S_Sodium and Potas
	01/20/2016 13:10:11	Running mbw55928 (7)	MDS	Analyst	S_Sodium and Potas
	01/20/2016 13:12:56	Running 681538 (8)	MDS	Analyst	S_Sodium and Potas
	01/20/2016 13:15:37	Running l681538 (9)	MDS	Analyst	S_Sodium and Potas
	01/20/2016 13:18:23	Running dup681538 (10)	MDS	Analyst	S_Sodium and Potas
	01/20/2016 13:21:05	Running ccv (14)	MDS	Analyst	S_Sodium and Potas
	01/20/2016 13:23:48	Running ccb (15)	MDS	Analyst	S_Sodium and Potas
	01/20/2016 13:26:27	Running msw681538 (11)	MDS	Analyst	S_Sodium and Potas
	01/20/2016 13:29:02	Running msdw681538 (12)	MDS	Analyst	S_Sodium and Potas
	01/20/2016 13:31:37	Running pdsw681538 (13)	MDS	Analyst	S_Sodium and Potas
	01/20/2016 13:34:15	Running msw682158 (14)	MDS	Analyst	S_Sodium and Potas
	01/20/2016 13:36:50	Running ccv (14)	MDS	Analyst	S_Sodium and Potas
	01/20/2016 13:39:35	Running ccb (15)	MDS	Analyst	S_Sodium and Potas
	01/20/2016 13:42:16	Autosampler Run Completed	MDS	Analyst	S_Sodium and Potas
	01/20/2016 13:43:28	iTEVA loaded	MDS	iTEVA Control Center	
	01/20/2016 13:43:46	Connected to instrument 20070314	MDS	iTEVA Control Center	
	01/20/2016 13:44:23	Plasma On	MDS	iTEVA Control Center	
	01/20/2016 13:44:34	Plasma extinguished successfully	MDS	Analyst	
	01/20/2016 13:44:35	Plasma off	MDS	iTEVA Control Center	
	01/21/2016 08:37:10	Plasma On	MDS	iTEVA Control Center	
	01/21/2016 08:37:16	Plasma ignition successful	MDS	Analyst	
	01/21/2016 08:37:55	D33534 - Debug:Wavelength check : x = -0.393, y =-0.465	MDS	Analyst	
	01/21/2016 08:42:19	Autosampler Run Started	MDS	Analyst	
	01/21/2016 08:42:19	Sequence Started	MDS	Analyst	S_Boron and Si2(v1
	01/21/2016 08:42:40	Running Blank (1)	MDS	Analyst	S_Boron and Si2(v1
	01/21/2016 08:45:01	Running CalibStd-50 (2)	MDS	Analyst	S_Boron and Si2(v1

Type	Date/Time	Message	User name	Application	Sequence Name
	01/15/2016 15:21:54	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	01/15/2016 15:26:08	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	01/15/2016 15:30:27	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	01/15/2016 15:35:20	Running 680507 (51)	NAH	Analyst	S_DOD Calibration
	01/15/2016 15:40:13	Running 680508 (52)	NAH	Analyst	S_DOD Calibration
	01/15/2016 15:45:09	Running 680509 (53)	NAH	Analyst	S_DOD Calibration
	01/15/2016 15:50:04	Running 680510 (54)	NAH	Analyst	S_DOD Calibration
	01/15/2016 15:55:01	Running 680511 (55)	NAH	Analyst	S_DOD Calibration
	01/15/2016 16:00:00	Running 679971 (56)	NAH	Analyst	S_DOD Calibration
	01/15/2016 16:04:49	Running 679972 (57)	NAH	Analyst	S_DOD Calibration
	01/15/2016 16:09:40	Running msw679972 (58)	NAH	Analyst	S_DOD Calibration
	01/15/2016 16:13:49	Running msdw679972 (59)	NAH	Analyst	S_DOD Calibration
	01/15/2016 16:17:55	Running MRL (24)	NAH	Analyst	S_DOD Calibration
	01/15/2016 16:22:43	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	01/15/2016 16:26:57	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	01/15/2016 16:31:14	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	01/15/2016 16:36:06	Plasma extinguished successfully	NAH	Analyst	
	01/15/2016 16:36:06	Plasma off	NAH	iTEVA Control Center	
	01/15/2016 16:36:08	Autosampler Run Completed	NAH	Analyst	S_DOD Calibration
	01/18/2016 07:10:55	Plasma On	NAH	iTEVA Control Center	
	01/18/2016 07:11:00	Plasma ignition successful	NAH	Analyst	
	01/18/2016 07:11:38	D33534 - Debug:Wavelength check : x = 2.222, y =0.470	NAH	Analyst	
	01/18/2016 12:53:22	Sequence Started	NAH	Analyst	S_DOD Calibration
	01/18/2016 12:53:22	Autosampler Run Started	NAH	Analyst	
	01/18/2016 12:53:46	Running Blank (1)	NAH	Analyst	S_DOD Calibration
	01/18/2016 12:58:51	Running CalStd1=0.25 (2)	NAH	Analyst	S_DOD Calibration
	01/18/2016 12:59:16	Autosampler Run Completed	NAH	Analyst	S_DOD Calibration
	01/18/2016 13:09:16	Sequence Started	NAH	Analyst	S_DOD Calibration
	01/18/2016 13:09:16	Autosampler Run Started	NAH	Analyst	
	01/18/2016 13:09:40	Running Blank (1)	NAH	Analyst	S_DOD Calibration
	01/18/2016 13:12:43	Autosampler Run Completed	NAH	Analyst	S_DOD Calibration
	01/18/2016 13:21:56	Sequence Started	NAH	Analyst	S_DOD Calibration
	01/18/2016 13:21:56	Autosampler Run Started	NAH	Analyst	
	01/18/2016 13:22:21	Running Blank (1)	NAH	Analyst	S_DOD Calibration
	01/18/2016 13:22:54	Closing will close the method and all associated samples.	NAH	Analyst	
	01/18/2016 13:26:30	Running CalStd1=0.25 (2)	NAH	Analyst	S_DOD Calibration
	01/18/2016 13:30:37	Running CalStd2=0.5 (3)	NAH	Analyst	S_DOD Calibration
	01/18/2016 13:34:44	Running CalStd3=1 (4)	NAH	Analyst	S_DOD Calibration
	01/18/2016 13:36:20	The current method calibration will be reset to default values and the el	NAH	Analyst	
	01/18/2016 13:36:27	The current method calibration will be reset to default values and the el	NAH	Analyst	
	01/18/2016 13:36:29	The current method calibration will be reset to default values and the el	NAH	Analyst	
	01/18/2016 13:36:33	The current method calibration will be reset to default values.	NAH	Analyst	
	01/18/2016 13:38:14	Closing will close the method and all associated samples.	NAH	Analyst	
	01/18/2016 13:38:49	Running CalStd4=5 (5)	NAH	Analyst	S_DOD Calibration
	01/18/2016 13:42:56	Running CalStd5=10 (6)	NAH	Analyst	S_DOD Calibration
	01/18/2016 13:47:00	Running CalStd6=20 (7)	NAH	Analyst	S_DOD Calibration
	01/18/2016 13:51:02	Running CalStd7=50 (8)	NAH	Analyst	S_DOD Calibration
	01/18/2016 13:55:05	Running CalStd8=100 (9)	NAH	Analyst	S_DOD Calibration
	01/18/2016 13:59:05	Running CalStd9=1000 (10)	NAH	Analyst	S_DOD Calibration
	01/18/2016 14:03:03	Running CalStd10=10000 (11)	NAH	Analyst	S_DOD Calibration
	01/18/2016 14:07:17	Running CalStd11-100k (12)	NAH	Analyst	S_DOD Calibration
	01/18/2016 14:12:08	Running CalStd12-100000 (13)	NAH	Analyst	S_DOD Calibration
	01/18/2016 14:16:30	Running CalStd13=500000 (14)	NAH	Analyst	S_DOD Calibration

Type	Date/Time	Message	User name	Application	Sequence Name
	01/18/2016 14:20:54	Running CalStd14-1000k (15)	NAH	Analyst	S_DOD Calibration
	01/18/2016 14:25:32	Running blkrinse (22)	NAH	Analyst	S_DOD Calibration
	01/18/2016 14:27:51	Closing will close the method and all associated samples.	NAH	Analyst	
	01/18/2016 14:29:38	Running icv (16)	NAH	Analyst	S_DOD Calibration
	01/18/2016 14:33:50	Running ICVLL (25)	NAH	Analyst	S_DOD Calibration
	01/18/2016 14:38:03	Running icb (17)	NAH	Analyst	S_DOD Calibration
	01/18/2016 14:42:09	Running icb (17)	NAH	Analyst	S_DOD Calibration
	01/18/2016 14:46:16	Running MRL (24)	NAH	Analyst	S_DOD Calibration
	01/18/2016 14:50:20	Running icsa (20)	NAH	Analyst	S_DOD Calibration
	01/18/2016 14:54:38	Running icsab (21)	NAH	Analyst	S_DOD Calibration
	01/18/2016 14:59:08	Running ICV LL Ag (1)	NAH	Analyst	S_DOD Calibration
	01/18/2016 15:03:14	Running mbw55855 (2)	NAH	Analyst	S_DOD Calibration
	01/18/2016 15:07:20	Running 678271 (3)	NAH	Analyst	S_DOD Calibration
	01/18/2016 15:11:41	Running lcsw55898 (4)	NAH	Analyst	S_DOD Calibration
	01/18/2016 15:15:34	Running mbw55898 (5)	NAH	Analyst	S_DOD Calibration
	01/18/2016 15:19:41	Running 679984 (6)	NAH	Analyst	S_DOD Calibration
	01/18/2016 15:23:55	Running l679984 (7)	NAH	Analyst	S_DOD Calibration
	01/18/2016 15:28:10	Running dup679984 (8)	NAH	Analyst	S_DOD Calibration
	01/18/2016 15:32:23	Running msw679984 (9)	NAH	Analyst	S_DOD Calibration
	01/18/2016 15:36:15	Running msdw679984 (10)	NAH	Analyst	S_DOD Calibration
	01/18/2016 15:40:06	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	01/18/2016 15:44:09	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	01/18/2016 15:47:59	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	01/18/2016 15:52:04	Running pdsw679984 (11)	NAH	Analyst	S_DOD Calibration
	01/18/2016 15:55:50	Running lcsw55899 (12)	NAH	Analyst	S_DOD Calibration
	01/18/2016 15:59:44	Running mbw55899 (13)	NAH	Analyst	S_DOD Calibration
	01/18/2016 16:03:50	Running 680582 (14)	NAH	Analyst	S_DOD Calibration
	01/18/2016 16:07:55	Running l680582 (15)	NAH	Analyst	S_DOD Calibration
	01/18/2016 16:12:08	Running dup680582 (16)	NAH	Analyst	S_DOD Calibration
	01/18/2016 16:16:13	Running msw680582 (17)	NAH	Analyst	S_DOD Calibration
	01/18/2016 16:20:05	Running msdw680582 (18)	NAH	Analyst	S_DOD Calibration
	01/18/2016 16:23:57	Running pdsw680582 (19)	NAH	Analyst	S_DOD Calibration
	01/18/2016 16:27:44	Running 680585 (20)	NAH	Analyst	S_DOD Calibration
	01/18/2016 16:31:48	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	01/18/2016 16:35:51	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	01/18/2016 16:39:42	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	01/18/2016 16:43:48	Running 681472 (21)	NAH	Analyst	S_DOD Calibration
	01/18/2016 16:48:02	Running 681473 (22)	NAH	Analyst	S_DOD Calibration
	01/18/2016 16:52:16	Running 681474 (23)	NAH	Analyst	S_DOD Calibration
	01/18/2016 16:56:18	Running 681479 (24)	NAH	Analyst	S_DOD Calibration
	01/18/2016 17:00:34	Running 681480 (25)	NAH	Analyst	S_DOD Calibration
	01/18/2016 17:04:49	Running 681481 (26)	NAH	Analyst	S_DOD Calibration
	01/18/2016 17:09:02	Running 681482 (27)	NAH	Analyst	S_DOD Calibration
	01/18/2016 17:13:07	Running 681354 (28)	NAH	Analyst	S_DOD Calibration
	01/18/2016 17:17:13	Running 681375 (29)	NAH	Analyst	S_DOD Calibration
	01/18/2016 17:21:22	Running 681376 (30)	NAH	Analyst	S_DOD Calibration
	01/18/2016 17:25:35	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	01/18/2016 17:29:38	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	01/18/2016 17:33:29	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	01/18/2016 17:37:35	Running msw681376 (31)	NAH	Analyst	S_DOD Calibration
	01/18/2016 17:41:21	Running msdw681376 (32)	NAH	Analyst	S_DOD Calibration
	01/18/2016 17:45:07	Running 681562mbs1 (33)	NAH	Analyst	S_DOD Calibration
	01/18/2016 17:49:13	Running 677300lod1 (34)	NAH	Analyst	S_DOD Calibration

Type	Date/Time	Message	User name	Application	Sequence Name
	01/19/2016 10:38:39	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	01/19/2016 10:41:28	The standard CalStd10=10000 will be permanently removed from the st	NAH	Analyst	
	01/19/2016 10:42:03	The standard CalStd4=5 will be permanently removed from the standar	NAH	Analyst	
	01/19/2016 10:43:29	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	01/19/2016 10:48:07	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	01/19/2016 10:53:01	Running msdw681424 (11)	NAH	Analyst	S_DOD Calibration
	01/19/2016 10:55:08	iTEVA loaded	NAH	iTEVA Control Center	
	01/19/2016 10:55:26	Connected to instrument 20082101	NAH	iTEVA Control Center	
	01/19/2016 10:56:07	Plasma On	NAH	iTEVA Control Center	
	01/19/2016 11:06:46	Autosampler Run Started	NAH	Analyst	
	01/19/2016 11:06:46	Sequence Started	NAH	Analyst	S_DOD Calibration
	01/19/2016 11:07:11	Running Blank (1)	NAH	Analyst	S_DOD Calibration
	01/19/2016 11:12:01	Running CalStd1=0.25 (2)	NAH	Analyst	S_DOD Calibration
	01/19/2016 11:17:15	Running CalStd2=0.5 (3)	NAH	Analyst	S_DOD Calibration
	01/19/2016 11:22:08	Running CalStd3=1 (4)	NAH	Analyst	S_DOD Calibration
	01/19/2016 11:23:11	The standard CalStd4=5 will be permanently removed from the standar	NAH	Analyst	
	01/19/2016 11:27:00	Running CalStd4=5 (5)	NAH	Analyst	S_DOD Calibration
	01/19/2016 11:32:08	Running CalStd5=10 (6)	NAH	Analyst	S_DOD Calibration
	01/19/2016 11:36:59	Running CalStd6=20 (7)	NAH	Analyst	S_DOD Calibration
	01/19/2016 11:41:48	Running CalStd7=50 (8)	NAH	Analyst	S_DOD Calibration
	01/19/2016 11:46:32	Running CalStd8=100 (9)	NAH	Analyst	S_DOD Calibration
	01/19/2016 11:51:12	Running CalStd9=1000 (10)	NAH	Analyst	S_DOD Calibration
	01/19/2016 11:55:50	Running CalStd10=10000 (11)	NAH	Analyst	S_DOD Calibration
	01/19/2016 12:00:35	Running CalStd11-100k (12)	NAH	Analyst	S_DOD Calibration
	01/19/2016 12:05:59	Running CalStd12-100000 (13)	NAH	Analyst	S_DOD Calibration
	01/19/2016 12:10:48	Running CalStd13=500000 (14)	NAH	Analyst	S_DOD Calibration
	01/19/2016 12:15:41	Running CalStd14-1000k (15)	NAH	Analyst	S_DOD Calibration
	01/19/2016 12:20:48	Running blkrinse (22)	NAH	Analyst	S_DOD Calibration
	01/19/2016 12:25:39	Running icv (16)	NAH	Analyst	S_DOD Calibration
	01/19/2016 12:30:06	Running ICVLL (25)	NAH	Analyst	S_DOD Calibration
	01/19/2016 12:34:54	Running icb (17)	NAH	Analyst	S_DOD Calibration
	01/19/2016 12:39:47	Running icb (17)	NAH	Analyst	S_DOD Calibration
	01/19/2016 12:44:41	Running MRL (24)	NAH	Analyst	S_DOD Calibration
	01/19/2016 12:49:25	Running icsa (20)	NAH	Analyst	S_DOD Calibration
	01/19/2016 12:54:39	Running icsab (21)	NAH	Analyst	S_DOD Calibration
	01/19/2016 12:59:32	Running ICV LL ag (1)	NAH	Analyst	S_DOD Calibration
	01/19/2016 13:04:24	Running msdw681424 (11)	NAH	Analyst	S_DOD Calibration
	01/19/2016 13:09:04	Running pdsw681424 (12)	NAH	Analyst	S_DOD Calibration
	01/19/2016 13:12:14	Emphasis 100 is Invalid. Must be between 0 and 50	NAH	Analyst	
	01/19/2016 13:12:16	Emphasis 100 is Invalid. Must be between 0 and 50	NAH	Analyst	
	01/19/2016 13:12:16	Emphasis 100 is Invalid. Must be between 0 and 50	NAH	Analyst	
	01/19/2016 13:13:05	Emphasis 100 is Invalid. Must be between 0 and 50	NAH	Analyst	
	01/19/2016 13:13:07	Emphasis 100 is Invalid. Must be between 0 and 50	NAH	Analyst	
	01/19/2016 13:13:08	Emphasis 100 is Invalid. Must be between 0 and 50	NAH	Analyst	
	01/19/2016 13:13:08	Emphasis 100 is Invalid. Must be between 0 and 50	NAH	Analyst	
	01/19/2016 13:13:09	Emphasis 100 is Invalid. Must be between 0 and 50	NAH	Analyst	
	01/19/2016 13:13:27	Running 681425 (13)	NAH	Analyst	S_DOD Calibration
	01/19/2016 13:18:25	Running lcsw55917 (14)	NAH	Analyst	S_DOD Calibration
	01/19/2016 13:22:57	Running mbw55917 (15)	NAH	Analyst	S_DOD Calibration
	01/19/2016 13:27:49	Running 681256 (16)	NAH	Analyst	S_DOD Calibration
	01/19/2016 13:32:33	Running l681256 (17)	NAH	Analyst	S_DOD Calibration
	01/19/2016 13:37:24	Running dup681256 (18)	NAH	Analyst	S_DOD Calibration
	01/19/2016 13:42:06	Running msw681256 (19)	NAH	Analyst	S_DOD Calibration

Type	Date/Time	Message	User name	Application	Sequence Name
	01/19/2016 13:46:33	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	01/19/2016 13:51:27	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	01/19/2016 13:55:57	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	01/19/2016 14:00:51	Running msdw681256 (20)	NAH	Analyst	S_DOD Calibration
	01/19/2016 14:05:22	Running pdsw681256 (21)	NAH	Analyst	S_DOD Calibration
	01/19/2016 14:10:04	Running 681264 (22)	NAH	Analyst	S_DOD Calibration
	01/19/2016 14:14:44	Running 681265 (23)	NAH	Analyst	S_DOD Calibration
	01/19/2016 14:20:05	Running 681266 (24)	NAH	Analyst	S_DOD Calibration
	01/19/2016 14:24:43	Running 681267 (25)	NAH	Analyst	S_DOD Calibration
	01/19/2016 14:29:24	Running 681268 (26)	NAH	Analyst	S_DOD Calibration
	01/19/2016 14:34:05	Running 681269 (27)	NAH	Analyst	S_DOD Calibration
	01/19/2016 14:38:46	Running lcss55885 (28)	NAH	Analyst	S_DOD Calibration
	01/19/2016 14:43:07	Running mbs55885 (29)	NAH	Analyst	S_DOD Calibration
	01/19/2016 14:48:01	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	01/19/2016 14:52:34	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	01/19/2016 14:57:02	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	01/19/2016 15:01:57	Running 679470 (30)	NAH	Analyst	S_DOD Calibration
	01/19/2016 15:06:36	Running l679470 (31)	NAH	Analyst	S_DOD Calibration
	01/19/2016 15:11:30	Running dup679470 (32)	NAH	Analyst	S_DOD Calibration
	01/19/2016 15:16:11	Running mss679470 (33)	NAH	Analyst	S_DOD Calibration
	01/19/2016 15:20:48	Running msds679470 (34)	NAH	Analyst	S_DOD Calibration
	01/19/2016 15:25:24	Running pdss679470 (35)	NAH	Analyst	S_DOD Calibration
	01/19/2016 15:30:06	Running 679471 (36)	NAH	Analyst	S_DOD Calibration
	01/19/2016 15:35:03	Running 679472 (37)	NAH	Analyst	S_DOD Calibration
	01/19/2016 15:39:42	Running 679473 (38)	NAH	Analyst	S_DOD Calibration
	01/19/2016 15:44:20	Running 679474 (39)	NAH	Analyst	S_DOD Calibration
	01/19/2016 15:49:07	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	01/19/2016 15:53:40	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	01/19/2016 15:58:09	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	01/19/2016 16:03:03	Running 679475 (40)	NAH	Analyst	S_DOD Calibration
	01/19/2016 16:07:39	Running 679476 (41)	NAH	Analyst	S_DOD Calibration
	01/19/2016 16:12:15	Running 679477 (42)	NAH	Analyst	S_DOD Calibration
	01/19/2016 16:16:52	Running 679478 (43)	NAH	Analyst	S_DOD Calibration
	01/19/2016 16:21:27	Running 679479 (44)	NAH	Analyst	S_DOD Calibration
	01/19/2016 16:26:06	Running mbs55886 (45)	NAH	Analyst	S_DOD Calibration
	01/19/2016 16:31:00	Running 679975 (46)	NAH	Analyst	S_DOD Calibration
	01/19/2016 16:35:54	Running lcsw55928 (2)	NAH	Analyst	S_DOD Calibration
	01/19/2016 16:40:26	Running mbw55928 (3)	NAH	Analyst	S_DOD Calibration
	01/19/2016 16:45:19	Running 681538 (4)	NAH	Analyst	S_DOD Calibration
	01/19/2016 16:50:04	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	01/19/2016 16:54:36	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	01/19/2016 16:59:05	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	01/19/2016 17:03:58	Running l681538 (5)	NAH	Analyst	S_DOD Calibration
	01/19/2016 17:08:55	Running dup681538 (6)	NAH	Analyst	S_DOD Calibration
	01/19/2016 17:13:39	Running msw681538 (7)	NAH	Analyst	S_DOD Calibration
	01/19/2016 17:18:06	Running msdw681538 (8)	NAH	Analyst	S_DOD Calibration
	01/19/2016 17:22:33	Running pdsw681538 (9)	NAH	Analyst	S_DOD Calibration
	01/19/2016 17:27:11	Running mbw55898 (10)	NAH	Analyst	S_DOD Calibration
	01/19/2016 17:32:05	Running 679984 (47)	NAH	Analyst	S_DOD Calibration
	01/19/2016 17:36:55	Running dup679984 (48)	NAH	Analyst	S_DOD Calibration
	01/19/2016 17:41:46	Running mbw55899 (49)	NAH	Analyst	S_DOD Calibration
	01/19/2016 17:46:40	Running 680582 (50)	NAH	Analyst	S_DOD Calibration
	01/19/2016 17:51:28	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration

Type	Date/Time	Message	User name	Application	Sequence Name
	01/19/2016 17:55:59	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	01/19/2016 18:00:28	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	01/19/2016 18:05:22	Running dup680582 (51)	NAH	Analyst	S_DOD Calibration
	01/19/2016 18:10:10	Running 680585 (52)	NAH	Analyst	S_DOD Calibration
	01/19/2016 18:14:56	Running mbw55905 (53)	NAH	Analyst	S_DOD Calibration
	01/19/2016 18:19:50	Running 681442 (54)	NAH	Analyst	S_DOD Calibration
	01/19/2016 18:24:49	Running dup681442 (55)	NAH	Analyst	S_DOD Calibration
	01/19/2016 18:29:49	Running lcsw55905 (56)	NAH	Analyst	S_DOD Calibration
	01/19/2016 18:34:21	Running lcsw55899 (57)	NAH	Analyst	S_DOD Calibration
	01/19/2016 18:38:53	Running lcsw55898 (58)	NAH	Analyst	S_DOD Calibration
	01/19/2016 18:43:25	Running MRL (24)	NAH	Analyst	S_DOD Calibration
	01/19/2016 18:48:09	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	01/19/2016 18:52:43	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	01/19/2016 18:57:10	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	01/19/2016 19:02:03	Plasma extinguished successfully	NAH	Analyst	
	01/19/2016 19:02:03	Plasma off	NAH	iTEVA Control Center	
	01/19/2016 19:02:05	Autosampler Run Completed	NAH	Analyst	S_DOD Calibration
	01/20/2016 06:46:44	Plasma On	NAH	iTEVA Control Center	
	01/20/2016 06:46:50	Plasma ignition successful	NAH	Analyst	
	01/20/2016 06:47:30	D33534 - Debug:Wavelength check : x = 2.211, y =0.485	NAH	Analyst	
	01/20/2016 10:59:33	Autosampler Run Started	NAH	Analyst	
	01/20/2016 10:59:33	Sequence Started	NAH	Analyst	S_DOD Calibration
	01/20/2016 10:59:57	Running Blank (1)	NAH	Analyst	S_DOD Calibration
	01/20/2016 11:04:51	Running CalStd1=0.25 (2)	NAH	Analyst	S_DOD Calibration
	01/20/2016 11:09:45	Running CalStd2=0.5 (3)	NAH	Analyst	S_DOD Calibration
	01/20/2016 11:14:36	Running CalStd3=1 (4)	NAH	Analyst	S_DOD Calibration
	01/20/2016 11:19:26	Running CalStd4=5 (5)	NAH	Analyst	S_DOD Calibration
	01/20/2016 11:22:17	Closing will close the method and all associated samples.	NAH	Analyst	
	01/20/2016 11:24:17	Running CalStd5=10 (6)	NAH	Analyst	S_DOD Calibration
	01/20/2016 11:25:12	Closing will close the method and all associated samples.	NAH	Analyst	
	01/20/2016 11:25:15	Closing will close the method and all associated samples.	NAH	Analyst	
	01/20/2016 11:29:09	Running CalStd6=20 (7)	NAH	Analyst	S_DOD Calibration
	01/20/2016 11:30:25	Closing will close the method and all associated samples.	NAH	Analyst	
	01/20/2016 11:33:56	Running CalStd7=50 (8)	NAH	Analyst	S_DOD Calibration
	01/20/2016 11:35:08	Autosampler Run Completed	NAH	Analyst	S_DOD Calibration
	01/20/2016 11:35:45	Autosampler Run Started	NAH	Analyst	
	01/20/2016 11:35:45	Sequence Started	NAH	Analyst	S_DOD Calibration
	01/20/2016 11:36:11	Running Blank (1)	NAH	Analyst	S_DOD Calibration
	01/20/2016 11:39:40	Closing will close the method and all associated samples.	NAH	Analyst	
	01/20/2016 11:39:55	Closing will close the method and all associated samples.	NAH	Analyst	
	01/20/2016 11:40:28	Autosampler Run Completed	NAH	Analyst	S_DOD Calibration
	01/20/2016 11:43:06	iTEVA loaded	NAH	iTEVA Control Center	
	01/20/2016 11:43:24	Connected to instrument 20082101	NAH	iTEVA Control Center	
	01/20/2016 11:44:06	Plasma On	NAH	iTEVA Control Center	
	01/20/2016 11:45:13	Sequence Started	NAH	Analyst	S_DOD Calibration
	01/20/2016 11:45:13	Autosampler Run Started	NAH	Analyst	
	01/20/2016 11:45:37	Running Blank (1)	NAH	Analyst	S_DOD Calibration
	01/20/2016 11:50:37	Running CalStd1=0.25 (2)	NAH	Analyst	S_DOD Calibration
	01/20/2016 11:55:33	Running CalStd2=0.5 (3)	NAH	Analyst	S_DOD Calibration
	01/20/2016 12:00:27	Running CalStd3=1 (4)	NAH	Analyst	S_DOD Calibration
	01/20/2016 12:05:19	Running CalStd4=5 (5)	NAH	Analyst	S_DOD Calibration
	01/20/2016 12:10:12	Running CalStd5=10 (6)	NAH	Analyst	S_DOD Calibration
	01/20/2016 12:12:31	Closing will close the method and all associated samples.	NAH	Analyst	

Type	Date/Time	Message	User name	Application	Sequence Name
	01/21/2016 10:00:02	Plasma off	NAH	iTEVA Control Center	
	01/21/2016 10:00:03	Plasma extinguished successfully	NAH	Analyst	
	01/21/2016 10:46:20	E2208 - : Plasma ignition failed; RF seems OK. Check your sample intr	NAH	Analyst	
	01/21/2016 10:47:58	E2208 - : Plasma ignition failed; RF seems OK. Check your sample intr	NAH	Analyst	
	01/21/2016 10:51:14	E2208 - : Plasma ignition failed; RF seems OK. Check your sample intr	NAH	Analyst	
	01/21/2016 10:54:14	E2208 - : Plasma ignition failed; RF seems OK. Check your sample intr	NAH	Analyst	
	01/21/2016 10:56:37	E2208 - : Plasma ignition failed; RF seems OK. Check your sample intr	NAH	Analyst	
	01/21/2016 10:57:35	E2208 - : Plasma ignition failed; RF seems OK. Check your sample intr	NAH	Analyst	
	01/21/2016 10:58:28	E2208 - : Plasma ignition failed; RF seems OK. Check your sample intr	NAH	Analyst	
	01/21/2016 11:01:15	Plasma On	NAH	iTEVA Control Center	
	01/21/2016 11:01:21	Plasma ignition successful	NAH	Analyst	
	01/21/2016 11:02:00	D33534 - Debug:Wavelength check : x = 2.001, y =0.429	NAH	Analyst	
	01/21/2016 13:11:44	Sequence Started	NAH	Analyst	S_DOD Calibration
	01/21/2016 13:11:44	Autosampler Run Started	NAH	Analyst	
	01/21/2016 13:12:08	Running Blank (1)	NAH	Analyst	S_DOD Calibration
	01/21/2016 13:16:54	E33539 - : Error Updating Method with standard: Standard saturated.	NAH	Analyst	
	01/21/2016 13:17:01	Running CalStd1=0.25 (2)	NAH	Analyst	S_DOD Calibration
	01/21/2016 13:21:51	Running CalStd2=0.5 (3)	NAH	Analyst	S_DOD Calibration
	01/21/2016 13:26:41	Running CalStd3=1 (4)	NAH	Analyst	S_DOD Calibration
	01/21/2016 13:29:15	Closing will close the method and all associated samples.	NAH	Analyst	
	01/21/2016 13:31:27	Running CalStd4=5 (5)	NAH	Analyst	S_DOD Calibration
	01/21/2016 13:36:17	Running CalStd5=10 (6)	NAH	Analyst	S_DOD Calibration
	01/21/2016 13:41:07	Running CalStd6=20 (7)	NAH	Analyst	S_DOD Calibration
	01/21/2016 13:45:54	Running CalStd7=50 (8)	NAH	Analyst	S_DOD Calibration
	01/21/2016 13:50:37	Running CalStd8=100 (9)	NAH	Analyst	S_DOD Calibration
	01/21/2016 13:55:15	Running CalStd9=1000 (10)	NAH	Analyst	S_DOD Calibration
	01/21/2016 14:00:20	Running CalStd10=10000 (11)	NAH	Analyst	S_DOD Calibration
	01/21/2016 14:05:07	E33539 - : Error Updating Method with standard: Standard saturated.	NAH	Analyst	
	01/21/2016 14:05:14	Running CalStd11-100k (12)	NAH	Analyst	S_DOD Calibration
	01/21/2016 14:10:29	Running CalStd12-100000 (13)	NAH	Analyst	S_DOD Calibration
	01/21/2016 14:15:37	Running CalStd13=500000 (14)	NAH	Analyst	S_DOD Calibration
	01/21/2016 14:20:26	Running CalStd14-1000k (15)	NAH	Analyst	S_DOD Calibration
	01/21/2016 14:25:31	Running blkrinse (22)	NAH	Analyst	S_DOD Calibration
	01/21/2016 14:30:22	Running icv (16)	NAH	Analyst	S_DOD Calibration
	01/21/2016 14:35:10	Running ICVLL (25)	NAH	Analyst	S_DOD Calibration
	01/21/2016 14:39:56	Running icb (17)	NAH	Analyst	S_DOD Calibration
	01/21/2016 14:44:49	Running icb (17)	NAH	Analyst	S_DOD Calibration
	01/21/2016 14:45:06	Closing will close the method and all associated samples.	NAH	Analyst	
	01/21/2016 14:49:41	Running MRL (24)	NAH	Analyst	S_DOD Calibration
	01/21/2016 14:54:22	Running icsa (20)	NAH	Analyst	S_DOD Calibration
	01/21/2016 14:59:14	Running icsab (21)	NAH	Analyst	S_DOD Calibration
	01/21/2016 15:04:23	Running ICV LL Ag (1)	NAH	Analyst	S_DOD Calibration
	01/21/2016 15:09:14	Running lcsw55959 (2)	NAH	Analyst	S_DOD Calibration
	01/21/2016 15:14:08	Running mbw55959 (3)	NAH	Analyst	S_DOD Calibration
	01/21/2016 15:19:01	Running 681537 (4)	NAH	Analyst	S_DOD Calibration
	01/21/2016 15:23:49	Running l681537 (5)	NAH	Analyst	S_DOD Calibration
	01/21/2016 15:28:43	Running dup681537 (6)	NAH	Analyst	S_DOD Calibration
	01/21/2016 15:33:33	Running msw681537 (7)	NAH	Analyst	S_DOD Calibration
	01/21/2016 15:38:25	Running msdw681537 (8)	NAH	Analyst	S_DOD Calibration
	01/21/2016 15:43:17	Running pdsw681537 (9)	NAH	Analyst	S_DOD Calibration
	01/21/2016 15:48:31	Running lcsw55928 (10)	NAH	Analyst	S_DOD Calibration
	01/21/2016 15:53:51	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	01/21/2016 15:58:47	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration

Type	Date/Time	Message	User name	Application	Sequence Name
	01/21/2016 16:03:31	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	01/21/2016 16:08:24	Running 681538 (11)	NAH	Analyst	S_DOD Calibration
	01/21/2016 16:13:31	Running lcsw55918 (12)	NAH	Analyst	S_DOD Calibration
	01/21/2016 16:18:53	Running mbw55918 (13)	NAH	Analyst	S_DOD Calibration
	01/21/2016 16:23:46	Running 681424 (14)	NAH	Analyst	S_DOD Calibration
	01/21/2016 16:28:40	Running 681425 (15)	NAH	Analyst	S_DOD Calibration
	01/21/2016 16:33:36	Running MRL (24)	NAH	Analyst	S_DOD Calibration
	01/21/2016 16:38:15	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	01/21/2016 16:43:11	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	01/21/2016 16:47:55	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	01/21/2016 16:52:45	Plasma extinguished successfully	NAH	Analyst	
	01/21/2016 16:52:46	Plasma off	NAH	iTEVA Control Center	
	01/21/2016 16:52:48	Autosampler Run Completed	NAH	Analyst	S_DOD Calibration
	01/22/2016 07:04:38		NAH	iTEVA Control Center	
	01/22/2016 08:11:36	Connected to instrument 20082101	NAH	iTEVA Control Center	
	01/22/2016 09:24:56	Plasma On	NAH	iTEVA Control Center	
	01/22/2016 09:25:01	Plasma ignition successful	NAH	Analyst	
	01/22/2016 09:25:41	D33534 - Debug:Wavelength check : x = 2.033, y =0.751	NAH	Analyst	
	01/22/2016 10:59:08	E9000 - : Plasma went out unexpectedly; please refer to error message	NAH	iTEVA Control Center	
	01/22/2016 10:59:55	Plasma ignition successful	NAH	Analyst	
	01/22/2016 11:00:32	D33534 - Debug:Wavelength check : x = 1.891, y =0.612	NAH	Analyst	
	01/22/2016 11:02:03	Sequence Started	NAH	Analyst	S_DOD Calibration
	01/22/2016 11:02:03	Autosampler Run Started	NAH	Analyst	
	01/22/2016 11:02:28	Running Blank (1)	NAH	Analyst	S_DOD Calibration
	01/22/2016 11:04:05	Plasma On	NAH	iTEVA Control Center	
	01/22/2016 11:07:13	E33539 - : Error Updating Method with standard: Standard saturated.	NAH	Analyst	
	01/22/2016 11:07:20	Running CalStd1=0.25 (2)	NAH	Analyst	S_DOD Calibration
	01/22/2016 11:11:52	Autosampler Run Completed	NAH	Analyst	S_DOD Calibration
	01/22/2016 11:13:34	Autosampler Run Started	NAH	Analyst	
	01/22/2016 11:13:34	Sequence Started	NAH	Analyst	S_DOD Calibration
	01/22/2016 11:13:58	Running Blank (1)	NAH	Analyst	S_DOD Calibration
	01/22/2016 11:18:20	Running CalStd1=0.25 (2)	NAH	Analyst	S_DOD Calibration
	01/22/2016 11:22:41	Running CalStd2=0.5 (3)	NAH	Analyst	S_DOD Calibration
	01/22/2016 11:27:02	Running CalStd3=1 (4)	NAH	Analyst	S_DOD Calibration
	01/22/2016 11:31:20	Running CalStd4=5 (5)	NAH	Analyst	S_DOD Calibration
	01/22/2016 11:35:43	Running CalStd5=10 (6)	NAH	Analyst	S_DOD Calibration
	01/22/2016 11:40:04	Running CalStd6=20 (7)	NAH	Analyst	S_DOD Calibration
	01/22/2016 11:44:19	Running CalStd7=50 (8)	NAH	Analyst	S_DOD Calibration
	01/22/2016 11:48:30	Running CalStd8=100 (9)	NAH	Analyst	S_DOD Calibration
	01/22/2016 11:52:38	Running CalStd9=1000 (10)	NAH	Analyst	S_DOD Calibration
	01/22/2016 11:57:13	Running CalStd10=10000 (11)	NAH	Analyst	S_DOD Calibration
	01/22/2016 12:01:33	E33539 - : Error Updating Method with standard: Standard saturated.	NAH	Analyst	
	01/22/2016 12:01:40	Running CalStd11-100k (12)	NAH	Analyst	S_DOD Calibration
	01/22/2016 12:06:41	Running CalStd12-100000 (13)	NAH	Analyst	S_DOD Calibration
	01/22/2016 12:10:57	Running CalStd13=500000 (14)	NAH	Analyst	S_DOD Calibration
	01/22/2016 12:15:25	Running CalStd14-1000k (15)	NAH	Analyst	S_DOD Calibration
	01/22/2016 12:19:58	Running blkrinse (22)	NAH	Analyst	S_DOD Calibration
	01/22/2016 12:24:18	Running icv (16)	NAH	Analyst	S_DOD Calibration
	01/22/2016 12:28:41	Running ICVLL (25)	NAH	Analyst	S_DOD Calibration
	01/22/2016 12:32:55	Running icb (17)	NAH	Analyst	S_DOD Calibration
	01/22/2016 12:37:16	Running icb (17)	NAH	Analyst	S_DOD Calibration
	01/22/2016 12:41:39	Running MRL (24)	NAH	Analyst	S_DOD Calibration
	01/22/2016 12:45:53	Running icsa (20)	NAH	Analyst	S_DOD Calibration

		Instrument:	CETAC
Standard Log #:	M12757	Standard:	Hg MRL
Analyst:	LJF	Concentration:	0.2 ug/L Hg
Prep Date:	01/19/16	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12758	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	01/19/16	Expiration Date:	09/01/17
Prep:	Carefully mixed **3** parts HCl AB.611 with **1** part HNO_3 AB.609 in a hood.		

		Instrument:	CETAC
Standard Log #:	M12759	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	01/19/16	Expiration Date:	08/12/16
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.611 and dissolved **100 g** Stannous chloride M12731 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M12755	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	01/19/16	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12756	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	01/19/16	Expiration Date:	02/26/16
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

Standard Log #:	M12752	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	01/19/16	Expiration Date:	01/19/17
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12645. Dilute to 20 L and mix.		

		Instrument:	CETAC
Standard Log #:	M12753	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	01/19/16	Expiration Date:	02/26/16
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M12754	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	01/19/16	Expiration Date:	06/30/16
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M12532 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard Log #:	M12751	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	011116	Expiration Date:	071116
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M12403 and **60 g** hydroxylamine sulfate M12548 and brought up to volume.		

		Instrument:	GFAA
Standard Log #:	M12750	Standard:	LODW/LOQW Spiking Sol'n
Analyst:	MDS	Concentrations:	150 ug/L (Sb) 100 ug/L (As) 200 ug/L (Se) 45 ug/L (Pb) 40 ug/L (Tl)
Prep Date:	01/05/2016	Expiration Date:	06/02/2016
Prep:	Into a 100 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. **1.5 mL** of Sb (1000 mg/L) M12602 **1.0 mL** of As (1000 mg/L) M12315 **2.0 mL** of Se (1000 mg/L) M12600 **0.045 mL** of Pb (10,000 mg/L) M12313 **0.4 mL** of Tl (1000 mg/L) M12668 From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (*3 ug/L* Sb, *2 ug/L* As, *4 ug/L* Se, *0.9 ug/L* Pb, *0.8 ug/L* Tl) and **2 mL** spiking solution for LOQ (*6 ug/L* Sb, *4 ug/L* As, *8 ug/L* Se, *1.8 ug/L* Pb, *1.6 ug/L* Tl)		

Standard Log #:	M12748	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	010516	Expiration Date:	070516
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

		Instrument:	GFAA
Standard Log #:	M12749	Standard:	LODS/LOQS Spiking Sol'n
Analyst:	MDS	Concentrations:	60 ug/L (Sb) 160 ug/L (As,Se) 40 ug/L (Pb) 50 ug/L (Tl)
Prep Date:	01/05/2016	Expiration Date:	06/02/2016
Prep:	Into a 200 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. **1.2 mL** of Sb (1000 mg/L) M12602 **3.2 mL** of As (1000 mg/L) M12315 **3.2 mL** of Se (1000 mg/L) M12600 **0.08 mL** of Pb (10,000 mg/L) M12313 **1.0 mL** of Tl (1000 mg/L) M12668 From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (1.2 *ug/L* Sb, *3.2 ug/L* As, *3.2 ug/L* Se, *0.8 ug/L* Pb, *1 ug/L* Tl) and **2 mL** spiking solution for LOQ (2.4 *ug/L* Sb, *6.4 ug/L* As, *6.4 ug/L* Se, *1.6 ug/L* Pb, *2 ug/L* Tl)		

Standard Log #:	M12747	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	123015	Expiration Date:	123016
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12645. Dilute to 20 L and mix.		

		Instrument:	ICP 6000
Standard Log #:	M12744b	Standard:	B&Si ICAL
Analyst:	MDS	Concentrations:	50, 200, 1000, 2000 and 10,000 ug/L (B, Si)
Prep Date:	12/21/2015	Expiration Date:	10/15/2016
Prep:	Into five, 1 L volumetric flasks, pipetted the following from stock standards B (1000 mg/L) M12471 and Si (1000 mg/L) M12601 and brought up to volume using milli-Q H_2O. *50 ug/L std.* - **0.05 mL** of each *200 ug/L std.* - **0.2 mL** of each *1000 ug/L std.* -**1.0 mL** of each, also used for Continuing Calibration Verification *2000 ug/L std.* - **2.0 mL** of each *10,000 ug/L std.* -**10 mL** of each		

		Instrument:	ICP 6000
Standard Log #:	M12745b	Standard:	B & Si ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (B,Si)
Prep Date:	12/22/2015	Expiration Date:	06/30/2016
Prep:	Into a 100 mL volumetric flask, pipetted **10 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M12529, **0.05 mL** of B (1000 µg/mL) M12471, **0.05 mL** of Si (1000 µg/mL) M12601 and **3 mL** of Fe (10,000 mg/L) M12714 and brought up to volume using Milli-Q H_2O.		

Standard Log #:	M12746b	Instrument:	GFAA
Analyst:	MDS	Reagent:	Pd/Mg Matrix Modifier
Prep Date:	12/22/2015	Expiration Date:	05/18/2017
Prep:	Into a 50 mL volumetric flask, partially filled with milli-Q H_2O, pipetted **15 mL** Pd Modifier M12584 and **10 mL** Mg (10,000 mg/L) M12715 and brought up to volume.		

Standard ID#:	M12744	Vendor:	CPI
Analyst:	NAH	Chemical:	potassium 10,000 mg/L
Date Received:	12/21/2015	Lot #:	15L015
Expiration Date (if any):	06/08/2017	Catalog #:	4400-10M411

Standard ID#:	M12745	Vendor:	CPI
Analyst:	NAH	Chemical:	iron 10,000 mg/L
Date Received:	12/21/2015	Lot #:	15H243
Expiration Date (if any):	06/08/2017	Catalog #:	4400-10M261

Standard ID#:	M12746	Vendor:	CPI
Analyst:	NAH	Chemical:	Y 10,000 mg/L
Date Received:	12/21/2015	Lot #:	15E153
Expiration Date (if any):	06/08/2017	Catalog #:	4400-10M671

		Instrument:	CETAC
Standard Log #:	M12740	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	12/21/15	Expiration Date:	02/26/16
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M12741	Standard:	Hg MRL
Analyst:	LJF	Concentration:	0.2 ug/L Hg
Prep Date:	12/21/15	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12742	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	12/21/15	Expiration Date:	09/01/17
Prep:	Carefully mixed **3** parts HCl AB.611 with **1** part HNO_3 AB.609 in a hood.		

		Instrument:	CETAC
Standard Log #:	M12743	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	12/21/15	Expiration Date:	08/12/16
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.611 and dissolved **100 g** Stannous chloride M12731 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M12737	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	12/21/15	Expiration Date:	02/26/16
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M12738	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	12/21/15	Expiration Date:	06/30/16
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M12532 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M12739	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	12/21/15	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

Standard Log #:	M12734	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	121715	Expiration Date:	121716
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12645. Dilute to 20 L and mix.		

Standard Log #:	M12735	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	121715	Expiration Date:	061716
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M12403 and **60 g** hydroxylamine sulfate M12548 and brought up to volume.		

Standard Log #:	M12736	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	121715	Expiration Date:	121716
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12645. Dilute to 20 L and mix.		

Standard Log #:	M12730	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	12/14/15	Expiration Date:	06/14/16
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

Standard ID#:	M12731	Vendor:	MACRON
Analyst:	LJF	Chemical:	STANNOUS CHLORIDE
Date Received:	12/10/15	Lot #:	0000119473
Expiration Date (if any):	08/12/16	Catalog #:	8176-04

Standard ID#:	M12732	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	12-14-2015	Lot #:	34-008CR
Expiration Date (if any):	12-30-2016	Catalog #:	XSPIKE-1-250

Standard ID#:	M12733	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Interference A
Date Received:	12-14-2015	Lot #:	12-165YPX
Expiration Date (if any):	12-30-2016	Catalog #:	INT-A1

		Instrument:	ICP 6000
Standard Log #:	M12729	Standard:	Na,K MRL
Analyst:	MDS	Concentrations:	1 mg/L (Na,K)
Prep Date:	12/07/2015	Expiration Date:	06/03/2015
Prep:	Into a 500 mL volumetric flask, pipetted **0.5 mL** of Na (1000 µg/mL) M12377 and **0.5 mL** K (1000 µg/mL) M12378 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

Standard Log #:	M12725	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	120415	Expiration Date:	060416
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M12403 and **60 g** hydroxylamine sulfate M12548 and brought up to volume.		

Standard Log #:	M12726	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	120415	Expiration Date:	060416
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

		Instrument:	ICP
Standard Log #:	M12727	Standard:	As Pb ICV1
Analyst:	MDS	Concentrations:	5000 ug/L (As,Pb)
Prep Date:	12/04/2015	Expiration Date:	03/26/2016
Prep:	Into a 1 L volumetric flask, pipetted **0.5 mL** of As (10,000 mg/L) M12213 and **0.5 mL** Pb (10,000 mg/L) M12313 and brought to volume with Milli-Q H_2O. (2% HNO_3, 2% HCl)		

Standard Log #:	M12728	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	120415	Expiration Date:	120416
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12645. Dilute to 20 L and mix.		

		Instrument:	CETAC
Standard Log #:	M12721	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	120215	Expiration Date:	022616
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M12722	Standard:	Hg MRL
Analyst:	LJF	Concentration:	0.2 ug/L Hg
Prep Date:	120215	Expiration Date:	063016
Prep:	Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12723	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	120215	Expiration Date:	040117
Prep:	Carefully mixed **3** parts HCl AB.607 with **1** part HNO_3 AB.609 in a hood.		

		Instrument:	CETAC
Standard Log #:	M12724	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	120215	Expiration Date:	120915
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.607 and dissolved **100 g** Stannous chloride M12549 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M12718	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	120215	Expiration Date:	022616
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M12719	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	120215	Expiration Date:	063016
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M12532 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M12720	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	120215	Expiration Date:	063016
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	ICP 6500
Standard Log #:	M12717	Standard:	ICV Std.
Analyst:	NAH	Concentrations:	**12,000 mg/L** Al **10,000 mg/L** Ca, Mg **5000 mg/L** Fe **2000 mg/L** As, Ba, Se, Tl **500 mg/L** B, Co, Li, Mn, Mo, Ni, Pb, Sb, Sn, Sr, Ti, V, Zn **250 mg/L** Cu **200 mg/L** Cr **50 mg/L** Ag, Be, Cd
Prep Date:	12-01-2015	Expiration Date:	06-16
Prep:	Into a 1 L volumetric flask, pipetted the following and brought up to volume with milli-Q H_2O. **10 mL** Custom Assurance Standard #18 ((200 mg/L Al, As, Ba, Se, Tl) (100 mg/L Fe) (50 mg/L Co, Mn, Ni, Pb, Sb, V, Zn) (25 mg/L Cu) (20 mg/L Cr) (5 mg/L Ag, Be, Cd)) M12653, **2 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M12529, **0.5 mL** Mo (1000 mg/L) M12677, **0.5 mL** B (1000 mg/L) M12471, **0.5 mL** Sr (1000 mg/L) M12670, **0.5 mL** Li (1000 mg/L) M12672, **0.5 mL** Sn (1000 mg/L) M12669 and **0.5 mL** Ti (1000 mg/L) M12671.		

Standard ID#:	M12713	Vendor:	CPI
Analyst:	NAH	Chemical:	Al 10,000 mg/L
Date Received:	12/01/2015	Lot #:	15l132
Expiration Date (if any):	05/18/2017	Catalog #:	p/n 4400-10m11

Standard ID#:	M12714	Vendor:	CPI
Analyst:	NAH	Chemical:	Fe 10,000 mg/L
Date Received:	12/01/2015	Lot #:	15H243
Expiration Date (if any):	05/18/2017	Catalog #:	p/n 4400-10m261

Standard ID#:	M12715	Vendor:	CPI
Analyst:	NAH	Chemical:	Mg 10,000 mg/L
Date Received:	12-01-2015	Lot #:	15G077
Expiration Date (if any):	5-18-2015	Catalog #:	p/n 4400-10m311

Standard ID#:	M12716	Vendor:	CPI
Analyst:	NAH	Chemical:	Ca 10,000 mg/L
Date Received:	12-01-2015	Lot #:	15k045
Expiration Date (if any):	5-18-2015	Catalog #:	p/n 4400-10m91

		Instrument:	ICP 6500
Standard Log #:	M12710	Standard:	ICVLL
Analyst:	NAH	Concentrations:	12 ug/L: Be. 15 ug/L: Cd. 30 ug/L: Ag, Ba, Co, Cr, Cu, Mn, Mo. Ni, Pb, V, Zn, Sr, and Ti. 60 ug/L: Sb, As, Se, Tl, Li, Sn and B. 150 ug/L: W. 300 ug/L: Si. 900 ug/L: Fe. 1200 ug/L Al. 1500 ug/L: S, Ca and Mg. 3000 ug/L: K and Na.
Prep Date:	12/01/2015	Expiration Date:	06/2016
Prep:	Into a 500 mL volumetric flask, pipetted 30 **mL** of MRL Base STD M12709 and brought to volume with Milli-Q H_2O. (5% HNO_3 & 5% HCL)		

		Instrument:	ICP 6500
Standard Log #:	M12711	Standard:	ICSA
Analyst:	NAH	Concentrations:	**500,000 ug/L** Al, Ca, Fe, Mg
Prep Date:	12/01/2015	Expiration Date:	06/2016
Prep:	Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M12529 and **15 mL** Fe (10000 mg/L) M12603 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M12712	Standard:	ICSAB
Analyst:	NAH	Concentrations:	**500,000 ug/L** Al, Ca, Fe, Mg **500 ug/L** Ag, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Tl, V, Zn
Prep Date:	12/01/2015	Expiration Date:	06/2016
Prep:	Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M12529, **15 mL** Fe (10,000 mg/L) M12603, **2.5 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M12530 and **2.5 mL** Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12558 and brought up to volume with milli-Q H_2O.		

MRL BASE STD M12709

Analyst NAH

Prep Date 12-01-2015

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	(ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L	Expiration Date
Ag	20	M12599	1000	1	-
Al	400	M12605	10000	2	-
Ba	10	M12473	1000	0.5	-
Be	4	M12667	1000	0.2	-
Cd	5	M12674	1000	0.25	-
Co	10	M12678	1000	0.5	-
Cr	10	M12470	10000	0.05	-
Cu	10	M12472	10000	0.05	-
Mg	500	M12606	10000	2.5	-
Mn	10	M12533	10000	0.05	-
Mo	10	M12677	1000	0.5	---
Ni	10	M12681	1000	0.5	--
Pb	10	M12313	10000	0.05	--
Sb	20	M12602	1000	1	--
V	10	M12676	1000	0.5	--
Zn	10	M12680	10000	0.05	--
K	1000	M12608	10000	5	--
Na	1000	M12607	10000	5	--
As	20	M12315	1000	1	--
Ca	500	M12604	10000	2.5	--
Fe	300	M12603	10000	1.5	--
Se	20	M12600	1000	1	--
Tl	20	M12668	1000	1	--
Si	100	M12601	1000	5	--
B	20	M12471	1000	1	--
Li	20	M12672	1000	1	--
W	50	M12673	1000	2.5	--
Ti	10	M12671	1000	0.5	--
Sr	10	M12670	1000	0.5	--
Sn	50	M12669	1000	2.5	--
S	300	M12371	10000	1.5	-

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expiration Date: 10/2016

		Instrument:	ICP 6500
Standard Log #:	M12706	Standard:	CCV1
Analyst:	NAH	Concentrations:	**5000 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn **500 µg/L** Ag, Be, Cd
Prep Date:	12/01/2015	Expiration Date:	06/2016
Prep:	Into a 1 L volumetric flask, pipetted **50 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12558 and **5.0 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M12530 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M12707	Standard:	CCV2
Analyst:	NAH	Concentrations:	**500 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn **50 µg/L** Ag, Be, Cd
Prep Date:	12/01/2015	Expiration Date:	06/2016
Prep:	Into a 1 L volumetric flask, pipetted **5 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12558 and **0.5 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M12830 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M12708	Standard:	DOD MRL
Analyst:	NAH	Concentrations:	4 ug/L: Be. 5 ug/L: Cd. 10 ug/L: Ag, Ba, Co, Cr, Cu, Mn, Mo. Ni, Pb, V, Zn, Sr, and Ti. 20 ug/L: Sb, As, Se, Tl, Li, Sn and B. 50 ug/L: W. 100 ug/L: Si. 300 ug/L: Fe. 400 ug/L Al. 500 ug/L: S, Ca and Mg. 1000 ug/L: K and Na.
Prep Date:	12/01/2015	Expiration Date:	06/2016
Prep:	Into a 500 mL volumetric flask, pipetted **10 mL** of MRL Base STD M12709 and brought to volume with Milli-Q H_2O. (5% HNO_3 & 5% HCL)		

		Instrument:	ICP 6000
Standard Log #:	M12704	Standard:	Na & K ICAL
Analyst:	MDS	Concentrations:	0.5, 1, 5, 10, 50, 100, and 200 mg/L (Na,K)
Prep Date:	12/01/2015	Expiration Date:	07/03/2016
Prep:	Into seven, 200 mL volumetric flasks, pipetted the following from Na (1000 µg/mL) M12377 and K (1000 µg/mL) M12378 and brought up to volume using milli-Q H_2O. (2% HNO_3) *0.5 mg/L std.* - **0.1 mL** of each *1.0 mg/L std.* - **0.2 mL** of each *5.0 mg/L std.* - **1.0 mL** of each *10 mg/L std.* - **2.0 mL** of each *50 mg/L std.* - **10 mL** of each *100 mg/L std.* -**20 mL** of each, also used for Continuing Calibration Verification *200 mg/L std.* - **40 mL** of each		

		Instrument:	ICP 6500
Standard Log #:	M12705	Standard:	ICAL
Analyst:	NAH	Concentrations:	0.25, 0.5, 1, 5, 10, 20, 50, 100, 1000, 10,000, 100k, 100,000, 500,000 and 1000k (ug/L)
Prep Date:	12/01/2015	Expiration Date:	06/2016
Prep:	Using 1 L volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (5% HNO_3, 5% HCl) *1000 ug/L Std.* - **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12558, **10 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M12530 and **1 mL** of Si (1000 mg/L) M12601. *0.25 ug/L Std.* - **0.25 mL** of the 1000 ug/L Std. *0.5 ug/L Std.* - **0.5 mL** of the 1000 ug/L Std. *1 ug/L Std.* - **1 mL** of the 1000 ug/L Std. *5 ug/L Std.* - **5 mL** of the 1000 ug/L Std. *10 ug/L Std.* - **10 mL** of the 1000 ug/L Std. *20 ug/L Std.* - **20 mL** of the 1000 ug/L Std. *50 ug/L Std.* - **50 mL** of the 1000 ug/L Std. *100 ug/L Std.* - **1 mL** of Custom Assurance Std. (CAS) #23 and **1 mL** of CAS #3 *10,000 ug/L Std.* - **100 mL** CAS #23, **100 mL** CAS #3 and **1 mL** of K (10,000 mg/L) M12609. *100k ug/L Std.* - **10 mL** of Cu (10,000 mg/L) M12472, **10 mL** of Mn (10,000 mg/L) M12533, **10 mL** of Cr (10,000 mg/L) M12470, **10 mL** Pb (10,000 mg/L) M12313, **10 mL** of Zn (10,000 mg/L) M12680 and **10 mL** of Na (10,000 mg/L) M12679. *100,000 ug/L Std.* - **10 mL** of Mg (10,000 mg/L) M12606, **10 mL** of Fe (10,000 mg/L) M12603, **10 mL** of Ca (10,000 mg/L) M12490 and **10 mL** Al (10,000 mg/L) M12605. *500,000 ug/L Std.* - **50 mL** of Mg (10,000 mg/L), **50 mL** of Fe (10,000 mg/L), **50 mL** of Ca (10,000 mg/L) and **50 mL** of Al (10,000 mg/L) *1000k ug/L Std.* - **100 mL** of Mg (10,000 mg/L), **100 mL** of Fe (10,000 mg/L), **100 mL** of Ca (10,000 mg/L) and **100 mL** of Al (10,000 mg/L)		

		Instrument:	ICP 6000
Standard Log #:	M12701	Standard:	W ICAL and CCV
Analyst:	MDS	Concentrations:	100, 1000, and 10,000 µg/L (W)
Prep Date:	11/23/15	Expiration Date:	04/15/17
Prep:	Into four, 1 L volumetric flasks, pipetted the following from W (1000 µg/mL) M12673 and brought up to volume using milli-Q H_2O. (0.5% HNO_3, 0.5% HCl) *100 µg/L std.* - **0.1 mL** *1000 µg/L std.* - **1.0 mL** - also used for Continuing Calibration Verification *10,000 µg/L std.* - **10 mL**		

		Instrument:	ICP 6000
Standard Log #:	M12702	Standard:	W ICV
Analyst:	MDS	Concentrations:	1000 µg/L (W)
Prep Date:	11/23/15	Expiration Date:	02/06/16
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of W (1000 µg/mL) M12163 and brought up to volume using milli-Q H_2O. (0.5% HNO_3, 0.5% HCl)		

Standard ID#:	M12703	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custum Assurance Standard
Date Received:	11/19/2015	Lot #:	33-195CR
Expiration Date (if any):	11/30/2016	Catalog #:	XCTWI-5-500

Standard Log #:	M12700	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	11/20/15	Expiration Date:	11/20/16
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12645. Dilute to 20 L and mix.		

Standard Log #:	M12699	Standard:	GFAA Instrument Check
Analyst:	MDS	Final Concentration:	10 µg/L As 6 µg/L Pb 22 µg/L Tl 24 µg/L Sb, Se 0.8 µg/L Ag
Prep Date:	11/12/15	Expiration Date:	06/02/16

Into six, 100 mL volumetric flasks, add the following and bring up to volume with milli-Q H_2O.

Element	Volume Pipetted (mL)	Standard Conc. (µg/mL)	Standard ID	New Conc. (µg/L)
As	1	1000	M12315	10,000
Pb	0.1	10,000	M12313	10,000
Tl	1	1000	M12668	10,000
Se	1	1000	M12600	10,000
Sb	1	1000	M12602	10,000
Ag	0.1	1000	M12599	1000

Into a 1 L volumetric flask, add the following and bring up to volume with Milli-Q H_20. (1% HNO_3)

Element	Volume Pipetted (mL)	Standard Conc. (µg/L)	New Conc. (µg/L)
As	1	10,000	10
Pb	0.6	10,000	6
Tl	2.2	10,000	22
Se	2.4	10,000	24
Sb	2.4	10,000	24
Ag	0.8	1000	0.8

		Instrument:	ICP 6000
Standard Log #:	M12695	Standard:	NaK ICV
Analyst:	MDS	Concentrations:	100 mg/L (Na, K)
Prep Date:	11/11/15	Expiration Date:	02/12/17
Prep:	Into a 250 mL volumetric flask, pipetted **2.5 mL** of K (10,000 mg/L) M12609 and Na (10,000 mg/L) M12679 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M12696	Standard:	Na,K ICVLL
Analyst:	MDS	Concentrations:	3 mg/L (Na,K)
Prep Date:	11/11/15	Expiration Date:	02/12/17
Prep:	Into a 500 mL volumetric flask, pipetted **0.15 mL** of Na (10,000 µg/mL) M12679 and **0.15 mL** K (10,000 µg/mL) M12609 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M12697	Standard:	NaK ICSAB
Analyst:	MDS	Concentrations:	500 mg/L (Al, Ca, Fe, Mg) 100 mg/L (Na, K)
Prep Date:	11/11/15	Expiration Date:	06/30/16
Prep:	Into a 250 mL volumetric flask, pipetted **25 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M12529, **2.5 mL** of K (10,000 mg/L) M12609, **2.5 mL** of Na (10,000 mg/L) M12679 and **7.5 mL** of Fe (10,000 mg/L) M12603 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

Standard Log #:	M12698	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	11/11/15	Expiration Date:	05/11/16
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M12403 and **60 g** hydroxylamine sulfate M12548 and brought up to volume.		

		Instrument:	GFAA
Standard Log #:	M12693	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	11/02/2015	Expiration Date:	06/01/2016
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M12505 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M12694	Standard:	List 2 ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	11/02/2015	Expiration Date:	02/06/2016
Prep:	Into a 200 mL volumetric flask, pipetted **20 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M12529, **6 mL** of Fe (10,000 mg/L) M12603, **0.1 mL** of Li (1000 µg/mL) M12672, **0.1 mL** of Sn (1000 µg/mL) M12669, **0.1 mL** of Sr (1000 µg/mL) M12670, **0.1 mL** of Ti (1000 µg/mL) M12671, and **0.1 mL** of W (1000 µg/mL) M12163 and brought up to volume using Milli-Q H_2O. (0.5% HNO_3, 0.5% HCl)		

Standard ID#:	M12690	Vendor:	MACRON
Analyst:	LJF	Chemical:	STANNOUS CHLORIDE
Date Received:	11/02/15	Lot #:	0000119473
Expiration Date (if any):	08/12/16	Catalog #:	8176-04

		Instrument:	GFAA
Standard Log #:	M12691	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	11/02/2015	Expiration Date:	06/01/2016
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M12504 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M12692	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	11/02/2015	Expiration Date:	06/01/2016
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M12504 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	CETAC
Standard Log #:	M12688	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	10/27/15	Expiration Date:	08/12/16
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.607 and dissolved **100 g** Stannous chloride M12649 and brought up to volume.		

Standard Log #:	M12689	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	10/27/15	Expiration Date:	04/27/16
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M12270 and **60 g** hydroxylamine sulfate M12548 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M12685	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	10/27/15	Expiration Date:	02/26/16
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M12686	Standard:	Hg MRL
Analyst:	LJF	Concentration:	0.2 ug/L Hg
Prep Date:	10/27/15	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12687	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	10/27/15	Expiration Date:	06/30/15
Prep:	Carefully mixed **3** parts HCl AB.607 with **1** part HNO_3 AB.606 in a hood.		

		Instrument:	CETAC
Standard Log #:	M12682	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	10/27/15	Expiration Date:	02/26/16
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M12683	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	10/27/15	Expiration Date:	02/26/16
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M12684	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	10/27/15	Expiration Date:	02/26/16
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

Standard ID#:	M12677	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Mo 1000 ug/L
Date Received:	10/21/15	Lot #:	15G130
Expiration Date (if any):	04/15/17	Catalog #:	S4400-1000343

Standard ID#:	M12678	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Co 1000 ug/L
Date Received:	10/21/15	Lot #:	15I020
Expiration Date (if any):	04/15/17	Catalog #:	S4400-1000131

Standard ID#:	M12679	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Na 10,000 ug/L
Date Received:	10/21/15	Lot #:	15I102
Expiration Date (if any):	04/15/17	Catalog #:	4400-10M521

Standard ID#:	M12680	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Zn 10,000 ug/L
Date Received:	10/21/15	Lot #:	15H234
Expiration Date (if any):	04/15/17	Catalog #:	S4400-10M681

Standard ID#:	M12681	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Ni 1000 ug/L
Date Received:	10/21/15	Lot #:	15G129
Expiration Date (if any):	04/15/17	Catalog #:	S4400-1000361

Standard ID#:	M12672	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Li 1000ug/L
Date Received:	10/21/15	Lot #:	15I044
Expiration Date (if any):	04/15/17	Catalog #:	S4400-1000291

Standard ID#:	M12673	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	W 1000ug/L
Date Received:	10/21/15	Lot #:	15F057
Expiration Date (if any):	04/15/17	Catalog #:	S4400-100633

Standard ID#:	M12674	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Cd 1000ug/L
Date Received:	10/21/15	Lot #:	15G138
Expiration Date (if any):	04/15/17	Catalog #:	S4400-100081

Standard ID#:	M12675	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Si 1000 ug/L
Date Received:	10/21/15	Lot #:	15H045
Expiration Date (if any):	04/15/17	Catalog #:	S4400-1000504F

Standard ID#:	M12676	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	V 1000 ug/L
Date Received:	10/21/15	Lot #:	15H133
Expiration Date (if any):	04/15/17	Catalog #:	S4400-1000651

Standard ID#:	M12667	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Be 1000ug/L
Date Received:	10/21/15	Lot #:	15I030
Expiration Date (if any):	04/15/17	Catalog #:	S4400-100051

Standard ID#:	M12668	Vendor:	CPI INERNATIONAL
Analyst:	LJF	Chemical:	Tl 1000ug/L
Date Received:	10/21/15	Lot #:	15F051
Expiration Date (if any):	04/15/17	Catalog #:	S4400-1000581

Standard ID#:	M12669	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Sn 1000ug/L
Date Received:	10/21/15	Lot #:	15H126
Expiration Date (if any):	04/15/17	Catalog #:	S4400-1000613

Standard ID#:	M12670	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Sr 1000ug/L
Date Received:	10/21/15	Lot #:	15F052
Expiration Date (if any):	04/15/17	Catalog #:	S4400-1000531

Standard ID#:	M12671	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Tl 100ug/L
Date Received:	10/21/15	Lot #:	15G013
Expiration Date (if any):	04/15/17	Catalog #:	S4400-1000623

		Instrument:	ICP 6000
Standard Log #:	M12666	Standard:	B&Si ICV
Analyst:	MDS	Concentrations:	1000 ug/L (B, Si)
Prep Date:	10/21/2015	Expiration Date:	03/2016
Prep:	Into a 1 L volumetric flask, pipetted **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, **B**, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12558 and **1.0 mL** Si (1000 mg/L) M11919 and brought up to volume using milli-Q H_2O.		

		Instrument:	CETAC
Standard Log #:	M12662	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	10/16/15	Expiration Date:	02/26/16
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M12663	Standard:	Hg MRL
Analyst:	LJF	Concentration:	0.2 ug/L Hg
Prep Date:	10/16/15	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12664	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	10/16/15	Expiration Date:	07/01/17
Prep:	Carefully mixed **3** parts HCl AB.607 with **1** part HNO_3 AB.606 in a hood.		

		Instrument:	CETAC
Standard Log #:	M12665	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	10/16/15	Expiration Date:	08/12/16
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.607 and dissolved **100 g** Stannous chloride M12649 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M12659	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	10/16/15	Expiration Date:	02/26/16
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M12660	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	10/16/15	Expiration Date:	06/30/16
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M12532 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M12661	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	10/16/15	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	GFAA
Standard Log #:	M12657	Standard:	LODS/LOQS Spiking Sol'n
Analyst:	MDS	Concentrations:	60 ug/L (Sb) 160 ug/L (As,Se) 40 ug/L (Pb) 50 ug/L (Tl)
Prep Date:	10/12/2015	Expiration Date:	11/08/2015
Prep:	Into a 200 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. **1.2 mL** of Sb (1000 mg/L) M12602 **3.2 mL** of As (1000 mg/L) M12315 **3.2 mL** of Se (1000 mg/L) M12600 **0.08 mL** of Pb (10,000 mg/L) M12313 **1.0 mL** of Tl (1000 mg/L) M11997 From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (1.2 *ug/L* Sb, *3.2 ug/L* As, *3.2 ug/L* Se, *0.8 ug/L* Pb, *1 ug/L* Tl) and **2 mL** spiking solution for LOQ (2.4 *ug/L* Sb, *6.4 ug/L* As, *6.4 ug/L* Se, *1.6 ug/L* Pb, *2 ug/L* Tl)		

		Instrument:	GFAA
Standard Log #:	M12658	Standard:	LODW/LOQW Spiking Sol'n
Analyst:	MDS	Concentrations:	150 ug/L (Sb) 100 ug/L (As) 200 ug/L (Se) 45 ug/L (Pb) 40 ug/L (Tl)
Prep Date:	10/12/2015	Expiration Date:	11/08/2015
Prep:	Into a 100 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. **1.5 mL** of Sb (1000 mg/L) M12602 **1.0 mL** of As (1000 mg/L) M12315 **2.0 mL** of Se (1000 mg/L) M12600 **0.045 mL** of Pb (10,000 mg/L) M12313 **0.4 mL** of Tl (1000 mg/L) M11997 From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (*3 ug/L* Sb, *2 ug/L* As, *4 ug/L* Se, *0.9 ug/L* Pb, *0.8 ug/L* Tl) and **2 mL** spiking solution for LOQ (*6 ug/L* Sb, *4 ug/L* As, *8 ug/L* Se, *1.8 ug/L* Pb, *1.6 ug/L* Tl)		

		Instrument:	GFAA
Standard Log #:	M12655	Standard:	LODW/LOQW Ag Spiking Sol'n
Analyst:	MDS	Concentrations:	10 ug/L (Ag)
Prep Date:	10/12/2015	Expiration Date:	02/10/2017
Prep:	Into a 100 mL volumetric flask, pipetted **0.1 mL** of Ag (1000mg/L) M12599 and brought to volume with Milli-Q H_2O to make a 1000 ug/L Ag std. Into a 1 L volumetric flask, pipetted **10 mL** of Ag (*1000 ug/L*) std. and brought to volume with Milli-Q H_2O. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (*0.2 ug/L*) and **2 mL** spiking solution for LOQ (*0.4 ug/L*)		

		Instrument:	GFAA
Standard Log #:	M12656	Standard:	LODS/LOQS Ag Spiking Sol'n
Analyst:	MDS	Concentration:	6 ug/L (Ag)
Prep Date:	10/12/2015	Expiration Date:	02/10/2017
Prep:	Into a 200 mL volumetric flask, pipetted **0.12 mL** of Ag (1000 mg/L) M12599 and brought up to volume with Milli-Q H_2O. From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **2 mL** spiking solution into 50 mL H_2O for LOD *(0.24 ug/L)* and **4 mL** spiking solution for LOQ *(0.48 ug/L)*		

Standard ID#:	M12652	Vendor:	SIGMA-ALDRICH
Analyst:	LJF	Chemical:	POTASSIUM PERSULFATE
Date Received:	10/09/2015	Lot #:	MKBV6966V
Expiration Date (if any):	10/09/2016	Catalog #:	216224

Standard ID#:	M12653	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	10/09/2015	Lot #:	33-28CR
Expiration Date (if any):	10/30/2016	Catalog #:	XSPIKE-1-250

Standard ID#:	M12654	Vendor:	AMCO Clear
Analyst:	NAH	Chemical:	turbidity standard 2.0 ntu
Date Received:	10/09/2015	Lot #:	C580865
Expiration Date (if any):	10/30/2016	Catalog #:	8008

Standard Log #:	M12651	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	10/08/15	Expiration Date:	10/08/16
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12645. Dilute to 20 L and mix.		

Standard Log #:	M12650	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	10/07/15	Expiration Date:	10/07/16
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12645. Dilute to 20 L and mix.		

Standard Log #:	M12648	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	10/02/15	Expiration Date:	10/02/16
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12645. Dilute to 20 L and mix.		

Standard ID#:	M12649	Vendor:	MACRON
Analyst:	LJF	Chemical:	STANNOUS CHLORIDE
Date Received:	10/02/15	Lot #:	119473
Expiration Date (if any):	08/12/16	Catalog #:	8176-04

Standard Log #:	M12646	Reagent:	Potassium Persulfate Solution
Analyst:	LJF		
Prep Date:	10/01/15	Expiration Date:	04/01/16
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M11748 and brought up to volume.		

Standard Log #:	M12647	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	10/01/15	Expiration Date:	04/01/16
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

Standard Log #:	M12645	Reagent:	10N NaOH
Analyst:	LJF		
Prep Date:	09/29/15	Expiration Date:	09/29/16
Prep:	Into a 1 L volumetric flask, added **400 g** NaOH M12543 and brought up to volume.		

Standard Log #:	M12644	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	09/28/15	Expiration Date:	09/28/16
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12543. Dilute to 20 L and mix.		

Standard Log #:	M12641	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	MDS	pH:	4.93 ± 0.05
Prep Date:	09/24/2015	Expiration Date:	06/18/2016
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12543. Dilute to 20 L and mix.		

Standard Log #:	M12642	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	MDS	pH:	4.93 ± 0.05
Prep Date:	09/24/2015	Expiration Date:	06/18/2016
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12543. Dilute to 20 L and mix.		

Standard Log #:	M12643	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	09/24/15	Expiration Date:	03/24/16
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M12270 and **60 g** hydroxylamine sulfate M12548 and brought up to volume.		

Standard Log #:	M12638	Standard:	GFAA Instrument Check
Analyst:	MDS	Final Concentration:	10 µg/L As 6 µg/L Pb 22 µg/L Tl 24 µg/L Sb, Se 0.8 µg/L Ag
Prep Date:	09/22/2015	Expiration Date:	11/08/2015

Into six, 100 mL volumetric flasks, add the following and bring up to volume with milli-Q H_2O.

Element	Volume Pipetted (mL)	Standard Conc. (µg/mL)	Standard ID	New Conc. (µg/L)
As	1	1000	M12315	10,000
Pb	0.1	10,000	M12313	10,000
Tl	1	1000	M11997	10,000
Se	1	1000	M12600	10,000
Sb	1	1000	M12602	10,000
Ag	0.1	1000	M12599	1000

Into a 1 L volumetric flask, add the following and bring up to volume with Milli-Q H_20. (1% HNO_3)

Element	Volume Pipetted (mL)	Standard Conc. (µg/L)	New Conc. (µg/L)
As	1	10,000	10
Pb	0.6	10,000	6
Tl	2.2	10,000	22
Se	2.4	10,000	24
Sb	2.4	10,000	24
Ag	0.8	1000	0.8

		Instrument:	GFAA
Standard Log #:	M12639	Standard:	As Spiking Solution
Analyst:	MDS	Concentration:	10 ug/mL (As)
Prep Date:	09/22/2015	Expiration Date:	06/02/2016
Prep:	Into a 100 mL volumetric flask, pipetted **1.0 mL** of As (1000 mg/L) M12315 and brought to volume with Milli-Q DI H_2O. (3% HNO_3) *Pipette **0.075 mL** of spiking solution into 50 mL DI or sample for a final spike concentration of 15 ug/L		

		Instrument:	GFAA
Standard Log #:	M12640	Standard:	As/Se Spiking Solution
Analyst:	MDS	Concentration:	10 ug/mL (As,Se)
Prep Date:	09/22/2015	Expiration Date:	06/02/2016
Prep:	Into a 100 mL volumetric flask, pipetted **1.0 mL** of As (1000 mg/L) M12315 and **1.0 mL** of Se (1000 mg/L) M12600 and brought to volume with Milli-Q DI H_2O. (3% HNO_3) *Pipette **0.075 mL** of spiking solution into 50 mL DI or sample for a final spike concentration of 15 ug/L		

		Instrument:	CETAC
Standard Log #:	M12636	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	09/18/15	Expiration Date:	12/09/15
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.604 and dissolved **100 g** Stannous chloride M12549 and brought up to volume.		

Standard Log #:	M12637	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	09/18/15	Expiration Date:	03/18/16
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M12633	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	09/18/15	Expiration Date:	02/26/15
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M12634	Standard:	Hg MRL
Analyst:	LJF	Concentration:	0.2 ug/L Hg
Prep Date:	09/18/15	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12635	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	09/18/15	Expiration Date:	04/01/17
Prep:	Carefully mixed **3** parts HCl AB.604 with **1** part HNO_3 AB.603 in a hood.		

		Instrument:	CETAC
Standard Log #:	M12630	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	09/18/15	Expiration Date:	02/26/15
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M12631	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	09/18/15	Expiration Date:	06/30/16
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M12532 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M12632	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	09/18/15	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

Standard Log #:	M12628	Reagent:	10N NaOH
Analyst:	LJF		
Prep Date:	09/16/15	Expiration Date:	09/16/16
Prep:	Into a 1 L volumetric flask, added **400 g** NaOH M11852 and brought up to volume.		

Standard ID#:	M12629	Vendor:	GR ACS
Analyst:	LJF	Chemical:	SODIUM CHLORIDE
Date Received:	09/16/15	Lot #:	x131a
Expiration Date (if any):		Catalog #:	C710L50

		Instrument:	Hach 2100 turbidity meter
Standard Log #:	M12627	Standard:	Turbity ICAL
Analyst:	NAH	Concentrations:	20, 100, 200 ntu
Prep Date:	9/11/2015	Expiration Date:	08/2016
Prep:	Using the hach vials , pipet the following: *20 ntu Std.* = **1 ml** M12186 and 9 mls DI H20. *100 ntu Std.* = **5 mls** M12186 and 5 mls DI H20. *200 ntu Std.* = ***10 mls*** M12186 *and* 0 mls DI H20.		

Standard Log #:	M12626	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	09/10/15	Expiration Date:	09/10/16
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.577 and **128.6 mL** 10N NaOH M12543. Dilute to 20 L and mix.		

Standard Log #:	M12625	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	09/09/15	Expiration Date:	09/09/16
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.577 and **128.6 mL** 10N NaOH M12543. Dilute to 20 L and mix.		

		Instrument:	CETAC
Standard Log #:	M12622	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	09/03/15	Expiration Date:	12/09/15
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.604 and dissolved **100 g** Stannous chloride M12549 and brought up to volume.		

Standard Log #:	M12623	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	09/03/15	Expiration Date:	03/03/16
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M12270 and **60 g** hydroxylamine sulfate M11798 and brought up to volume.		

Standard Log #:	M12624	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	09/03/15	Expiration Date:	03/03/16
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M12619	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	09/03/15	Expiration Date:	02/26/15
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M12620	Standard:	Hg MRL
Analyst:	LJF	Concentration:	0.2 ug/L Hg
Prep Date:	09/03/15	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12621	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	09/03/15	Expiration Date:	04/01/17
Prep:	Carefully mixed **3** parts HCl AB.604 with **1** part HNO_3 AB.603 in a hood.		

		Instrument:	CETAC
Standard Log #:	M12616	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	09/03/15	Expiration Date:	02/26/15
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M12617	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	09/03/15	Expiration Date:	06/30/16
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M12532 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M12618	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	09/03/15	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

Standard ID#:	M12615	Vendor:	SPEX Certiprep
Analyst:	NAH	Chemical:	Custum Assurance Standard
Date Received:	09/01/2015	Lot #:	32-105CR
Expiration Date (if any):	09/20/2015	Catalog #:	XSPIKE-1-250

		Instrument:	ICP 6000
Standard Log #:	M12614	Standard:	NaK ICSAB
Analyst:	MDS	Concentrations:	500 mg/L (Al, Ca, Fe, Mg) 100 mg/L (Na, K)
Prep Date:	08/31/15	Expiration Date:	11/08/15
Prep:	Into a 250 mL volumetric flask, pipetted **25 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M12529, **2.5 mL** of K (10,000 mg/L) M12474, **2.5 mL** of Na (10,000 mg/L) M12010 and **7.5 mL** of Fe (10,000 mg/L) M12489 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

Standard Log #:	M12613	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	08/27/15	Expiration Date:	08/27/16
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12543. Dilute to 20 L and mix.		

Standard ID#:	M12612	Vendor:	CPI
Analyst:	NAH	Chemical:	Yttrium 10000 ug/mL
Date Received:	08/27/15	Lot #:	15E153
Expiration Date (if any):	02/20/17	Catalog #:	4400-10M671

Standard Log #:	M12611	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	08/24/15	Expiration Date:	08/24/16
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12543. Dilute to 20 L and mix.		

Standard ID#:	M12607	Vendor:	CPI
Analyst:	NAH	Chemical:	SODIUM 1000ug/mL
Date Received:	08/19/2015	Lot #:	15F159
Expiration Date (if any):	02/12/2017	Catalog #:	4400-1000521

Standard ID#:	M12608	Vendor:	CPI
Analyst:	NAH	Chemical:	POTASSIUM 1000ug/mL
Date Received:	08/19/2015	Lot #:	15E009
Expiration Date (if any):	02/12/2017	Catalog #:	4400-1000411

Standard ID#:	M12609	Vendor:	CPI
Analyst:	NAH	Chemical:	POTASSIUM 10000ug/mL
Date Received:	08/19/2015	Lot #:	15E086
Expiration Date (if any):	02/12/2017	Catalog #:	4400-10M411

Standard ID#:	M12610	Vendor:	ALFA AESAR
Analyst:	LJF	Chemical:	HYDROXYLAMINE SULFATE
Date Received:	08/20/15	Lot #:	Z16A019
Expiration Date (if any):		Catalog #:	88944

Standard ID#:	M12602	Vendor:	CPI
Analyst:	NAH	Chemical:	ANTIMONY 1000 ug/ml
Date Received:	08-14-2015	Lot #:	15D168
Expiration Date (if any):	02-10-2017	Catalog #:	S4400-100023

Standard ID#:	M12603	Vendor:	CPI
Analyst:	NAH	Chemical:	IRON 10000 ug/ml
Date Received:	08-14-2015	Lot #:	15C057
Expiration Date (if any):	02-10-2017	Catalog #:	4400-10M261

Standard ID#:	M12604	Vendor:	CPI
Analyst:	NAH	Chemical:	CALCIUM 10000 ug/ml
Date Received:	08-14-2015	Lot #:	15G076
Expiration Date (if any):	02-10-2017	Catalog #:	4400-10M91

Standard ID#:	M12605	Vendor:	CPI
Analyst:	NAH	Chemical:	ALUMINUM 10000 ug/ml
Date Received:	08-14-2015	Lot #:	15E015
Expiration Date (if any):	02-10-2017	Catalog #:	4400-10M11

Standard ID#:	M12606	Vendor:	CPI
Analyst:	NAH	Chemical:	MAGNESIUM 10000 ug/ml
Date Received:	08-14-2015	Lot #:	15G077
Expiration Date (if any):	02-10-2015	Catalog #:	4400-10M311

Standard ID#:	M12599	Vendor:	CPI
Analyst:	NAH	Chemical:	SILVER 1000 ug/ml
Date Received:	8-14-2015	Lot #:	15H040
Expiration Date (if any):	02-10-2017	Catalog #:	S4400-1000511

Standard ID#:	M12600	Vendor:	CPI
Analyst:	NAH	Chemical:	SELENIUM 1000 ug/ml
Date Received:	08-14-2015	Lot #:	15E095
Expiration Date (if any):	2-10-2017	Catalog #:	S4400-1000491

Standard ID#:	M12601	Vendor:	CPI
Analyst:	NAH	Chemical:	SILICON 1000 ug/ml
Date Received:	08-14-2015	Lot #:	15F050
Expiration Date (if any):	02-10-2017	Catalog #:	S4400-1000504F

		Instrument:	CETAC
Standard Log #:	M12596	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	08/13/15	Expiration Date:	02/26/16
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M12597	Standard:	Hg MRL
Analyst:	LJF	Concentration:	0.2 ug/L Hg
Prep Date:	08/13/15	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12598	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	08/13/15	Expiration Date:	04/01/17
Prep:	Carefully mixed **3** parts HCl AB.604 with **1** part HNO_3 AB.603 in a hood.		

		Instrument:	CETAC
Standard Log #:	M12599a	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	08/13/15	Expiration Date:	12/09/15
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.604 and dissolved **100 g** Stannous chloride M12549 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M12593	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	08/13/15	Expiration Date:	02/26/15
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M12594	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	08/13/15	Expiration Date:	06/30/16
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M12532 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M12595	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	08/13/15	Expiration Date:	06/30/15
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

Standard Log #:	M12588	Instrument:	GFAA
Analyst:	MDS	Reagent:	Pd/Mg Matrix Modifier
Prep Date:	08/10/15	Expiration Date:	10/23/16
Prep:	Into a 50 mL volumetric flask, partially filled with milli-Q H_2O, pipetted **15 mL** Pd Modifier M12584 and **10 mL** Mg (10,000 mg/L) M12488 and brought up to volume.		

		Instrument:	ICP 6500
Standard Log #:	M12586	Standard:	ICSA
Analyst:	NAH	Concentrations:	**500,000 ug/L** Al, Ca, Fe, Mg
Prep Date:	08/05/15	Expiration Date:	07/16
Prep:	Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M12529 and **15 mL** Fe (10000 mg/L) M12489 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M12587	Standard:	ICSAB
Analyst:	NAH	Concentrations:	**500,000 ug/L** Al, Ca, Fe, Mg **500 ug/L** Ag, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Tl, V, Zn
Prep Date:	08/05/15	Expiration Date:	07/16
Prep:	Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M12529 , **15 mL** Fe (10,000 mg/L) M12489 , **2.5 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M12530 and **2.5 mL** Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12558 and brought up to volume with milli-Q H_2O.		

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Standard ID#:	M12584	Vendor:	Environmental Express
Analyst:	MDS	Chemical:	GFAA Pd Matrix Modifier
Date Received:	08/05/15	Lot #:	1421912
Expiration Date (if any):	07/31/17	Catalog #:	HP1900-100

		Instrument:	ICP 6500
Standard Log #:	M12585	Standard:	ICV Std.
Analyst:	NAH	Concentrations:	**12,000 mg/L** Al **10,000 mg/L** Ca, Mg **5000 mg/L** Fe **2000 mg/L** As, Ba, Se, Tl **500 mg/L** B, Co, Li, Mn, Mo, Ni, Pb, Sb, Sn, Sr, Ti, V, Zn **250 mg/L** Cu **200 mg/L** Cr **50 mg/L** Ag, Be, Cd
Prep Date:	08/05/15	Expiration Date:	11/15
Prep:	Into a 1 L volumetric flask, pipetted the following and brought up to volume with milli-Q H_2O. **10 mL** Custom Assurance Standard #18 ((200 mg/L Al, As, Ba, Se, Tl) (100 mg/L Fe) (50 mg/L Co, Mn, Ni, Pb, Sb, V, Zn) (25 mg/L Cu) (20 mg/L Cr) (5 mg/L Ag, Be, Cd)) M12574, **2 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M12529, **0.5 mL** Mo (1000 mg/L) M12008, **0.5 mL** B (1000 mg/L) M12471, **0.5 mL** Sr (1000 mg/L) M11999, **0.5 mL** Li (1000 mg/L) M11998, **0.5 mL** Sn (1000 mg/L) M11996 and **0.5 mL** Ti (1000 mg/L) M12003.		

		Instrument:	ICP 6500
Standard Log #:	M12582	Standard:	CCV1
Analyst:	NAH	Concentrations:	**5000 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn **500 µg/L** Ag, Be, Cd
Prep Date:	08/03/15	Expiration Date:	7/30/16
Prep:	Into a 1 L volumetric flask, pipetted **50 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12558 and **5.0 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M12530 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M12583	Standard:	CCV2
Analyst:	NAH	Concentrations:	**500 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn **50 µg/L** Ag, Be, Cd
Prep Date:	08/03/2015	Expiration Date:	7/30/16
Prep:	Into a 1 L volumetric flask, pipetted **5 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12558 and **0.5 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M12530 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M12581	Standard:	ICAL
Analyst:	NAH	Concentrations:	0.25, 0.5, 1, 5, 10, 20, 50, 100, 1000, 10,000, 100k, 100,000, 500,000 and 1000k (ug/L)
Prep Date:	08/03/15	Expiration Date:	11/2015

Prep:

Using 1 L volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O.
(5% HNO_3, 5% HCl)
1000 ug/L Std. - **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12558, **10 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M12530 and **1 mL** of Si (1000 mg/L) M11919.
0.25 ug/L Std. - **0.25 mL** of the 1000 ug/L Std.
0.5 ug/L Std. - **0.5 mL** of the 1000 ug/L Std.
1 ug/L Std. - **1 mL** of the 1000 ug/L Std.
5 ug/L Std. - **5 mL** of the 1000 ug/L Std.
10 ug/L Std. - **10 mL** of the 1000 ug/L Std.
20 ug/L Std. - **20 mL** of the 1000 ug/L Std.
50 ug/L Std. - **50 mL** of the 1000 ug/L Std.
100 ug/L Std. - **1 mL** of Custom Assurance Std. (CAS) #23 and **1 mL** of CAS #3
10,000 ug/L Std. - **100 mL** CAS #23, **100 mL** CAS #3 and **1 mL** of K (10,000 mg/L) M12474.
100k ug/L Std. - **10 mL** of Cu (10,000 mg/L) M12472, **10 mL** of Mn (10,000 mg/L) M12533, **10 mL** of Cr (10,000 mg/L) M12470, **10 mL** Pb (10,000 mg/L) M12313, **10 mL** of Zn (10,000 mg/L) M12005 and **10 mL** of Na (10,000 mg/L) M12010.
100,000 ug/L Std. - **10 mL** of Mg (10,000 mg/L) M12488, **10 mL** of Fe (10,000 mg/L) M12489, **10 mL** of Ca (10,000 mg/L) M12490 and **10 mL** Al (10,000 mg/L) M12400.
500,000 ug/L Std. - **50 mL** of Mg (10,000 mg/L), **50 mL** of Fe (10,000 mg/L), **50 mL** of Ca (10,000 mg/L) and **50 mL** of Al (10,000 mg/L)
1000k ug/L Std. - **100 mL** of Mg (10,000 mg/L), **100 mL** of Fe (10,000 mg/L), **100 mL** of Ca (10,000 mg/L) and **100 mL** of Al (10,000 mg/L)

Standard Log #:	M12579	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	07/24/15	Expiration Date:	01/24/16
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M11285 and brought up to volume.		

		Instrument:	GFAA
Standard Log #:	M12576	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	07/23/2015	Expiration Date:	06/01/2016
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M12504 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M12577	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	07/23/2015	Expiration Date:	06/01/2016
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M12504 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M12578	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	07/23/2015	Expiration Date:	06/01/2016
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M12505 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

Standard ID#:	M12574	Vendor:	SpexCertiprep
Analyst:	NAH	Chemical:	Custum Assurance Std
Date Received:	07/21/2015	Lot #:	31-138CR
Expiration Date (if any):	07/30/2016	Catalog #:	XSPIKE-1-500

Standard ID#:	M12575	Vendor:	SpexCertiprep
Analyst:	NAH	Chemical:	Custum Assurance Std
Date Received:	07/21/2015	Lot #:	07-30-2016
Expiration Date (if any):	07/30/2015	Catalog #:	XCTWI-1-500

		Instrument:	ICP 6000
Standard Log #:	M12559	Standard:	B&Si ICAL
Analyst:	MDS	Concentrations:	50, 200, 1000, 2000 and 10,000 ug/L (B, Si)
Prep Date:	07/15/2015	Expiration Date:	11/08/2015
Prep:	Into five, 1 L volumetric flasks, pipetted the following from stock standards B (1000 mg/L) M12471 and Si (1000 mg/L) M12007 and brought up to volume using milli-Q H_2O. *50 ug/L std.* - **0.05 mL** of each *200 ug/L std.* - **0.2 mL** of each *1000 ug/L std.* -**1.0 mL** of each, also used for Continuing Calibration Verification *2000 ug/L std.* - **2.0 mL** of each *10,000 ug/L std.* -**10 mL** of each		

		Instrument:	ICP 6000
Standard Log #:	M12560	Standard:	B&Si CCV
Analyst:	MDS	Concentrations:	1000 ug/L (B, Si)
Prep Date:	07/15/2015	Expiration Date:	11/08/2015
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** B (1000 mg/L) M12471 and **1.0 mL** Si (1000 mg/L) M12007 and brought up to volume using milli-Q H_2O.		

		Instrument:	ICP 6000
Standard Log #:	M12561	Standard:	B & Si ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (B,Si)
Prep Date:	07/15/2015	Expiration Date:	11/08/2015
Prep:	Into a 100 mL volumetric flask, pipetted **10 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M12529, **0.05 mL** of B (1000 µg/mL) M12471, **0.05 mL** of Si (1000 µg/mL) M12007 and **3 mL** of Fe (10,000 mg/L) M12489 and brought up to volume using Milli-Q H_2O.		

Standard ID#:	M12558	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Custum Assurance Standard
Date Received:	07/13/2015	Lot #:	9-105WL
Expiration Date (if any):	07/30/2016	Catalog #:	XCTWI-5-500

Standard ID#:	M12548	Vendor:	Alfa Aesar
Analyst:	LJF	Chemical:	Hydroxylamine Sulfate
Date Received:	07/08/15	Lot #:	Z16A019
Expiration Date (if any):	N/A	Catalog #:	88944

Standard ID#:	M12549	Vendor:	MACRON
Analyst:	LJF	Chemical:	Stannous Chloride
Date Received:	07/08/15	Lot #:	0000111217
Expiration Date (if any):	12/09/15	Catalog #:	8176-04

Standard Log #:	M12543	Reagent:	10N NaOH
Analyst:	LJF		
Prep Date:	06/18/15	Expiration Date:	06/18/16
Prep:	Into a 1 L volumetric flask, added **400 g** NaOH M11852 and brought up to volume.		

Standard Log #:	M12544	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	06/18/15	Expiration Date:	06/18/16
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12543. Dilute to 20 L and mix.		

Standard ID#:	M12529	Vendor:	SPEX Certiprep
Analyst:	NAH	Chemical:	Interference-A
Date Received:	06/04/2015	Lot #:	12-101YPX
Expiration Date (if any):	06/30/2016	Catelog #:	INT-A1

Standard ID#:	M12530	Vendor:	SPEX Certiprep
Analyst:	NAH	Chemical:	Custom Assurance STD (3) Ag,Be,Cd
Date Received:	06/04/2015	Lot #:	30-152CR
Expiration Date (if any):	06/30/2016	Catelog #:	XCTWI-4-500

Standard ID#:	M12531	Vendor:	SPEX Certiprep
Analyst:	NAH	Chemical:	Custom Assurance STD (23)
Date Received:	06/04/2015	Lot #:	30-153CR
Expiration Date (if any):	06/30/2016	Catelog #:	XCTWI-5-500

Standard ID#:	M12532	Vendor:	SPEX Certiprep
Analyst:	NAH	Chemical:	Mercury 1000 mg/L
Date Received:	06/04/2015	Lot #:	CL7-180HGY
Expiration Date (if any):	06/30/2016	Catelog #:	CLHG4-2Y

Standard ID#:	M12533	Vendor:	CPI
Analyst:	NAH	Chemical:	Mn 10000 mg/L
Date Received:	06/04/2015	Lot #:	15E180
Expiration Date (if any):	11/29/2016	Catelog #:	P/N S4400-10M321

Standard ID#:	M12518	Vendor:	Alfa Aesar Specpure
Analyst:	MDS	Chemical:	GFAA Nickel Nitrate Modifier
Date Received:	05/29/2015	Lot #:	785159H
Expiration Date (if any):	11/30/2016	Catelog #:	39043

		Instrument:	GFAA
Standard Log #:	M12519	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	05/29/2015	Expiration Date:	06/01/2016
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M12504 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M12520	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	05/29/2015	Expiration Date:	06/01/2016
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M12504 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M12521	Standard:	ICV/Spike Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	05/29/2015	Expiration Date:	06/01/2016
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M12505 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	CETAC
Standard Log #:	M12507	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	05/27/15	Expiration Date:	02/26/16
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	ICP 6000
Standard Log #:	M12508	Standard:	NaK ICSAB
Analyst:	MDS	Concentrations:	500 mg/L (Al, Ca, Fe, Mg) 100 mg/L (Na, K)
Prep Date:	05/27/2015	Expiration Date:	08/30/2015
Prep:	Into a 250 mL volumetric flask, pipetted **25 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M12164, **2.5 mL** of K (10,000 mg/L) M12474, **2.5 mL** of Na (10,000 mg/L) M12010 and **7.5 mL** of Fe (10,000 mg/L) M12401 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

Standard ID#:	M12504	Vendor:	Inorganic Ventures
Analyst:	MDS	Chemical:	GFAA ICAL/CCV Standard
Date Received:	05/26/2015	Lot #:	J2-MEB581070
Expiration Date (if any):	06/01/2016	Catelog #:	CTI-SPK-1

Standard ID#:	M12505	Vendor:	Inorganic Ventures
Analyst:	MDS	Chemical:	GFAA ICV/Spiking Standard
Date Received:	05/26/2015	Lot #:	J2-MEB581069
Expiration Date (if any):	06/01/2016	Catelog #:	CTI-GFCAL-1

Standard ID#:	M12502	Vendor:	SpexCertiprep
Analyst:	NAH	Chemical:	Custum assurance standard
Date Received:	05-19-2015	Lot #:	30-096CR
Expiration Date (if any):	05-30-2016	Catelog #:	XSPIKE-1-250

Standard Log #:	M12501	Reagent:	Potassium Persulfate Solution
Analyst:	LJF		
Prep Date:	05/14/15	Expiration Date:	11/14/15
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M10987 and brought up to volume.		

#M12488 5-5-15 - Mg 10,000mg/L CPI Lot 15C248 ex 10/2016.

#M12489 5-5-15 - Fe 10,000mg/L CPI Lot 15C290 ex 10/16.

#M12490 5-5-15 Ca 10,000mg/L CPI Lot 15A007 ex 10/16.

#M12491 05/06/15C3F TCLP Extraction Fluid #1: Fill a 20L carboy w/19L D.I. H2O. Add 114mL Glacial Acetic Acid (AB 579) and 128.6mL of 6N NaOH (#M12797). Dilute to 20L w/D.I. H2O and mix. pH = 4.93 ± 0.05

Exp: 05/06/16

#M12492 05/06/15C3F SPLP Extraction Fluid #2 west: Fill a 20L carboy with D.I. H2O and adjust pH to 5.00 ± 0.05 with (#M12457) 60/40 HNO_3, H_2SO_4 mix w/v mix.

Exp: 05/06/16

#M12493 05/11/15C3F	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M12494 05/11/15C3F	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M12495 05/11/15C3F	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M12494) into 100ml = 3.0ug/L Hg
#M12496 05/11/15C3F	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M12497 05/11/15C3F	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M12494) into 100ml = 0.2ug/L Hg
#M12498 05/11/15 C3F	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M12499 05/11/15C3F	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M12799 in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12468
4/22/15
MDS

		Instrument:	ICP 6000
Standard Log #:	M12468	Standard:	Na,K ICVLL
Analyst:	MDS	Concentrations:	3 mg/L (Na,K)
Prep Date:	04/22/2015	Expiration Date:	11/8/2015
Prep:	Into a 500 mL volumetric flask, pipetted **0.15 mL** of Na (10,000 µg/mL) M12010 and **0.15 mL** K (10,000 µg/mL) M12294 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

#M12469
4/22/15
MDS

		Instrument:	ICP 6000
Standard Log #:	M12469	Standard:	Na,K MRL
Analyst:	MDS	Concentrations:	1 mg/L (Na,K)
Prep Date:	04/22/2015	Expiration Date:	04/29/2016
Prep:	Into a 500 mL volumetric flask, pipetted **0.5 mL** of Na (1000 µg/mL) M12296 and **0.5 mL** K (1000 µg/mL) M12295 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

M12470 Cr 10,000 mg/L CPI lot # 13D123. ex oct/2016
4-24-15

M12471 Boron 1000 mg/L CPI lot # 15D007. ex oct/2016
4-24-15

M12472 Cu 10,000 mg/L CPI lot # 15B087. ex oct/2016

M12473 Ba 1000 mg/L CPI lot # 15C142. ex oct/2016

M12474 K 10,000 mg/L CPI lot # 15D114. ex oct/2016

#M12475
04/24/15
MDS

Standard Log #:	M12475	Instrument:	GFAA
Analyst:	MDS	Reagent:	Pd/Mg Matrix Modifier
Prep Date:	04/24/2015	Expiration Date:	08/07/2015
Prep:	Into a 50 mL volumetric flask, partially filled with milli-Q H_2O, pipetted **15 mL** Pd Modifier M12158 and **10 mL** Mg (10,000 mg/L) M12314 and brought up to volume.		

#M12459 04/20/15 CSF	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M12460 04/20/15 CSF	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M12461 04/20/15 CSF	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M12460) into 100ml = 3.0ug/L Hg
#M12462 04/20/15 CSF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M12463 04/20/15 CSF	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M12460) into 100ml = 0.2ug/L Hg
#M12464 04/20/15 CSF	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M12465 04/20/15 CSF	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M12299) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12466 04/22/15 CSF NaCl Hydroxylamine Sulfate Reagent: Dissolve 60g NaCl (#M11799) and 60g hydroxylamine sulfate (#M12096) in 500ml of Milli-Q H2O.
Exp: 10/22/15

#M12467
04/22/15
MDS

		Instrument:	ICP 6000
Standard Log #:	M12467	Standard:	Na & K ICAL
Analyst:	MDS	Concentrations:	0.5, 1, 5, 10, 50, 100, and 200 mg/L (Na,K)
Prep Date:	04/22/2015	Expiration Date:	04/29/2016
Prep:	Into seven, 200 mL volumetric flasks, pipetted the following from Na (1000 µg/mL) M12296 and K (1000 µg/mL) M12295 and brought up to volume using milli-Q H_2O. (2% HNO_3) *0.5 mg/L std.* - **0.1 mL** of each *1.0 mg/L std.* - **0.2 mL** of each *5.0 mg/L std.* - **1.0 mL** of each *10 mg/L std.* - **2.0 mL** of each *50 mg/L std.* - **10 mL** of each *100 mg/L std.* -**20 mL** of each, also used for Continuing Calibration Verification *200 mg/L std.* - **40 mL** of each		

#M12453 04/07/15 13F
LOQ Check
3050 QSM DOD

3050 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
K	2640	M12294	10000	13.2
Na	960	M12010	10000	4.8

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expires: 8-Nov

#M12454 04/07/15 13F
LOQ Check
3050 QSM DOD

3050 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
B	52	M11763	1000	2.6
Si	192	M12007	1000	9.6

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expires: 13-May

M12455 4/8/15 JA Environmental Express 4, 10,000mg/L lot# 1418108. exp pmd. 10/16

#M12456 04/14/15 13F potassium permanganate Soln: 50g potassium permanganate (#M11285) dissolve into 1,000mL of D.I. H_2O.
Exp: 10/14/15

#M12457 04/15/15 13F SPLP Ext. Fluid Acid mixture: In to a 200 mL vol. flask, add 12g H_2SO_4 (AB.598) and 8g conc. HNO_3 (AB.596). Bring up to volume with D.I. H_2O.
Exp: 04/15/16

#M12458 04/16/15 13F SPLP Extraction Fluid West #2: Fill a 2 L carboy with D.I. H_2O and adjust pH to 5.00 ± 0.05 with #M12457) 60/40 HNO_3, H_2SO_4 mix w/v mix.
Exp: 04/16/16

#M12449 04/07/15 13F
LOQ Check
3010 QSM DOD

3010 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
B	16	M11763	1000	0.8
Si	200	M12007	1000	10

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expires: 13-May

#M12450 04/07/15 13F
LOQ Check
3050 QSM DOD

3050 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
Li	14.4	M11998	1000	0.72
Sn	20	M11996	1000	1
Sr	3.2	M11999	1000	0.16
Ti	9.6	M12003	1000	0.48
W	24	M12001	1000	1.2

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expires: 8-Nov

#M12451 04/07/15 13F
LOQ Check
3050 QSM DOD

3050 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
Ag	4	M11908	1000	0.2
Al	9.6	M12312	10000	0.048
As	32	M12315	1000	1.6
Ba	2	M11768	1000	0.1
Be	1.6	M12006	1000	0.08
Ca	56	M12310	10000	0.28
Cd	1.6	M12002	1000	0.08
Co	9.6	M1200	1000	0.48
Cr	5.6	M11767	10000	0.028
Cu	16	M11764	10000	0.08
Fe	72	M1231	10000	0.36
Mg	32	M12314	10000	0.16
Mn	6	M11829	10000	0.03
Mo	9.6	M12008	1000	0.48
Ni	4.8	M12004	1000	0.24
Pb	10	M12313	10000	0.05
Sb	32	M11909	1000	1.6
Se	16	M11911	1000	0.8
Tl	19	M11997	1000	0.95
V	3.2	M12009	1000	0.16
Zn	12	M12005	10000	0.06

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expires: 13-May

#M12452 04/07/15 13F
LOQ Check
3050 QSM DOD

3050 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
S	240	M11679	10000	1.2

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working

#M12445 04/06/15 L3F
LOQ Check
3010 GSM DoD

3010 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
Li	10	M11998	1000	0.5
Sn	10	M11996	1000	0.5
Sr	2	M11999	1000	0.1
Ti	8	M12003	1000	0.4
W	36	M12163	1000	1.8

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expires: 8-Nov

#M12446 04/06/15 L3F
LOQ Check
3010 GSM DoD

3010 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
K	500	M12294	10000	2.5
Na	600	M12010	10000	3

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expires: 8-Nov

List 2 MRL/ICVLL Base SPIKE PREPARATION 50x

#M12395
02/23/15 MDS

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	MRL (ug/L)	ICVLL (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) pipet into 1	Expired Date
Li	20	60	M11998	1000	1	11/08/2015
W	100	300	M12163	1000	5	02/06/2016
Ti	10	30	M12003	1000	0.5	11/08/2015
Sr	10	30	M11999	1000	0.5	11/08/2015
Sn	20	60	M11996	1000	1	11/08/2015

0.5% HNO_3
0.5% HCl

Pipette 10 mL into a 500 mL volumetric flask to create a [redacted] working MRL std. or 1 mL into a 50 mL digestion tube for a digested MRL working standard. Pipette 30 mL into 500mL for ICVLL Working

#M12396
02/23/15 MDS

List 2 MRL

Into a 500 mL volumetric flask, pipetted 10 mL of #M12395 and brought to volume with milli-Q H20.
Exp. 11/08/2015 0.5% HNO3, 0.5% HCl

#M12397
02/23/15 MDS

List 2 ICVLL

Into a 500 mL volumetric flask, pipetted 30 mL of #M12395 and brought to volume with milli-Q H20.
Exp. 11/08/2015 0.5% HNO3, 0.5% HCl

#M12398 02/23/15 I3F NaCl Hydroxylaminosulfate Reagent: Dissolve 60g NaCl (#M11799) and 60g hydroxylemine sulfate (#M11798) in 500mL of milli-Q H_2O.
Exp: 08/23/15

#M12399 02/24/15 I3F Potassium permanganate Soln: 50g potassium permanganate (#M11785) dissolve into 1,000mL of D.I. H_2O.
Exp: 08/24/15

#M12400 2-25-15 Al 10,000 mg/L CPI Lot# 14K153 ex 7/2016

#M12401 2-25-15 Fe 10,000mg/L CPI Lot# HJ165 7/2016

#M12402 02/26/15 I3F Stannous Chloride (Amacrun) lot# 0000096553
02/26/15 I5F

#M12403 02/26/15 I5F Sodium Chloride (Fisher) lot# 145475
02/26/15 I3F

#M12404 03/04/15 I5F TCLP Extraction Fluid #1: Fill a 20L carboy w/19L D.I. H_2O. Add 114mL Glacial Acetic Acid (AB579) and 128.6mL of 10N NaOH (#M11797). Dilute to 20L w/D.I. H_2O and mix.
pH = 4.93 ± 0.05

#M12405 03/04/15 I3F TCLP Extraction Fluid #1: Fill a 20L Carboy w/19L D.I. H_2O and Add 114mL Glacial Acetic Acid (AB579) and 128.6mL of 10N NaOH (#M11797). Dilute to 20L w/D.I. H_2O and mix.
03/04/15 I3F
pH = 4.93 ± 0.05

#M12383 02/19/15 CF TCLP Extraction Fluid #1: Fill a 20L carboy w/ 19L D.I. H2O. Add 11.4mL Glacial Acetic Acid (AB: 578) and 128.6mL of 10N NaOH (#M7492). Dilute to 20L w/ D.I. H2O and mix. pH=4.93 ± 0.05

#M12384 02/19/15 CF	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M12385 02/19/15 CF	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M12386 02/19/15 CF	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M12385) into 100ml = 3.0ug/L Hg
#M12387 02/19/15 CF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M12388 02/19/15 CF	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M12385) into 100ml = 0.2ug/L Hg
#M12389 02/19/15 CF	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M12390 02/19/15 CF	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M12299) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

ICAP Working Standards List 2

.5% HNO3 .5%HCL

#M12391 02/23/15 MDS

Standard name — Pipetted the following respectively:

1	0.01mL of #M12316 and 0.001mL #M12001 into 1L = 1 ug/L
10	0.10mL of #M12316 and 0.01mL #M12001 into 1L = 10 ug/L
100	1mL of #M12316 and 0.1mL #M12001 into 1L = 100 ug/L
1000	2 mL of #M12316 and 0.2 mL #M12001 into 200 mL = 1000 ug/L
10000	20mL of #M12316 and 2mL #M12001 into 200mL = 10000 ug/L

Brought up to mark with milli-Q H20 Exp. 11/08/2015

#M12392 02/23/15 MDS — Continuing Calibration Standard (CCV)

Into a 200mL volumetric flask pipetted 2mL of #M12316 and 0.2mL #M12001 = 1000 ug/L
Brought up to mark with milli-Q H20 Exp. 11/08/2015 0.5% HNO3, 0.5% HCl

#M12393 02/23/15 MDS — Initial Calibration Standard (ICV) List 2

Into a 1 liter volumetric flask pipetted 1mL of #M12003, M11999, M11996, M11998, M12163
Brought up to mark with milli-Q H20 Exp. 11/08/2015 0.5% HNO3, 0.5% HCl

#M12394 02/23/15 MDS — ICASB List 2

Into a 200 mL volumetric flask, pipetted 20 mL Interferents A #M12164, 6 mL Fe (10,000 µg/mL) #M12311, and 0.1 mL of 1000mg/L Ti, Sr, Sn, Li, and W #M12003, M11999, M11996, M11998, and M12001 respectively.
Brought up to mark with milli-Q H20 Exp. 08/30/2015 0.5% HNO3, 0.5% HCl

M12378 2-10-15 K 1000mg/L CLI Lot# 14L175 exp 7/16.

Standard Log #:	M12379	Standard:	GFAA Instrument Check
Analyst:	MDS	Final Concentration:	10 µg/L As 6 µg/L Pb 22 µg/L Tl 24 µg/L Sb, Se 0.8 µg/L Ag
Prep Date:	02/17/2015	Expiration Date:	09/18/2015

#M12379
MDS
02/17/15

Into six, 100 mL volumetric flasks, add the following and bring up to volume with milli-Q H_2O.

Element	Volume Pipetted (mL)	Standard Conc. (µg/mL)	Standard ID	New Conc. (µg/L)
As	1	1000	M12315	10,000
Pb	0.1	10,000	M12313	10,000
Tl	1	1000	M11997	10,000
Se	1	1000	M11911	10,000
Sb	1	1000	M11909	10,000
Ag	0.1	1000	M11908	1000

Into a 1 L volumetric flask, add the following and bring up to volume with Milli-Q H20. (1% HNO3)

Element	Volume Pipetted (mL)	Standard Conc. (µg/L)	Final Conc. (µg/L)
As	1	10,000	10
Pb	0.6	10,000	6
Tl	2.2	10,000	22
Se	2.4	10,000	24
Sb	2.4	10,000	24
Ag	0.8	1000	0.8

#M12380 - Custom Assurance Std - Spex Certiprep
2.17.15

#M12381 02/17/15 SF TCLP Extraction Fluid #1: Fill a 20L carboy w/19L D.I. H20. Add 114mL Glacial Acetic Acid (AB579) and 128.6mL of 10N NaOH (#M12292). Dilute to 20L w/D.I. H20 and mix. pH = 4.93 ± 0.05
Exp: 02/17/16

#M12382 02/17/15 SF TCLP Extraction Fluid #1: Fill a 20L carboy w/19L D.I. H20. Add 114mL Glacial Acetic Acid (AB579) and 128.6mL of 10N NaOH (#M12292). Dilute to 20L w/D.I. H20 and mix. pH = 4.93 ± 0.05
Exp: 02/17/16

#M12364 02/04/15 LSF	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M12365 02/04/15 LSF	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M12366 02/04/15 LSF	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M 12365) into 100ml = 3.0ug/L Hg
#M12367 02/04/15 LSF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M12368 02/04/15 LSF	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M12365) into 100ml = 0.2ug/L Hg
#M12369 02/04/15 LSF	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M12370 02/04/15 LSF	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M 11995 in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12371 2-5-15 ZA Sulfur 10,000mg/L SPC Science lot# S140717006 ex 4/16.

#M12372 02/05/15 LSF TCLP Extraction Fluid#1: Fill a 2oL carboy w/ 19L D.I. H2O. Add 114ml Glacial Acetic Acid (AB: 579) and 128.6 mL of 10N NaOH (#M12291). Dilute to 20L w/ D.I. H2O and mix. pH = 4.93 ± 0.05
Exp: 02/05/16

#M12373 02/05/15 LSF TCLP Extraction Fluid#1: Fill a 2oL carboy w/ 19L D.I. H2O. Add 114ml Glacial Acetic Acid (AB: 579) and 128.6mL of 10N NaOH (#M12291). Dilute to 20L w/ D.I. H2O and mix. pH = 4.93 ± 0.05
Exp: 02/05/16

#M12374 2/5/15 Custom Assurance Std 100ug/ml 23 Lot# 8-91WL ex 1/16

#M12375 02/10/15 LSF 10N NaOH: Into a 1L flask, add 400g NaOH (#M11852) and bring up to volume with D.I. H2O.
Exp: 08/10/15

#M12376 02/10/15 LSF Potassium permanganate soln: 50g potassium permanganate (#M11285) dissolve into 1,000 mL of D.I. H2O.
Exp: 08/10/15

#M12377 ZA 2.10.15 Na 1000mg/L CPI Lot# 142083. ex 7/16.

#M12352 01/20/15 13F Potassium permanganate soln: 50g potassium permanganate (#M11285) dissolve into 1,000mL of D.I. H2O
Exp: 07/20/15

#M12353 01-22-15 MOS · S ICAL - Into 4, 100 mL vol. Flasks, pipetted the following and brought up to volume with milli-Q H2O. exp. 01-30-16
0.01 mL S (10,000ug/mL) # M12350 = 1000ug/L S
0.1 mL S (10,000ug/mL) # M12350 = 10,000 ug/L S
Used as CCV → 1.0 mL S (10,000ug/mL) # M12350 = 100,000 ug/L S
10 mL S (10,000ug/mL) # M12350 = 1000K ug/L S

#M12354 01-22-15 MOS S ICV - Into a 100mL vol. flask, pipetted 1.0mL S(10,000ug/mL) #M11828 and brought to volume with milli-Q H2O. exp. 01-30-15

#M12355 01/27/15 13F	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M12356 01/27/15 13F	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M12357 01/27/15 13F	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M12356) into 100ml = 3.0ug/L Hg
#M12358 01/27/15 13F	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M12359 01/27/15 13F	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M12356) into 100ml = 0.2ug/L Hg
#M12360 01/27/15 13F	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M12361 01/27/15 13F	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11995) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12362 01/27/15 13F NaCl Hydroxylamine Sulfate Reagent: Dissolve 60g NaCl (#M11799) and 60g hydroxylamine sulfate (#M11798) in 500mL of Milli-Q H2O.
Exp: 07/27/15

#M12363 01/30/15 13F TCLP Extraction Fluid #1: Fill a 20L carboy w/ 19L D.I. H2O. Add 114mL Glacial Acetic Acid (AB: 579) and 128.6mL of 10N NaOH (#M12792). Dilute to 20L w/ D.I. H2O and mix. pH = 4.93 ± 0.05
Exp: 01/30/16

#M12340 1-9-15
5% HCl
5% HNO3

3050 MDL Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	MDL (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
K	500	#M12294	10000	2.5
Na	500	#M12010	10000	2.5

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

EXPIRES 11/15

#M12341 01-14-15 MMS GFAA LOD/LOQ Check Water Working Std. (Ag Only) - Into a 100mL vol. Flask, pipetted 0.1mL Ag (1000ug/mL) #M11908 and brought up to volume using milli-Q H2O. exp. 09-18-15

#M12342 01-14-15 MMS GFAA LOD/LOQ Water Spiking Solution (Ag Only) - Into a 1L vol. Flask, pipetted 10mL #M12341 and brought up to volume using milli-Q H2O. (1% HNO3) exp. 09-18-15

#M12343 01/19/15SF Hg Working Stds: (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg
1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg
2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg
4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg
5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg
10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg

#M12344 01/19/15SF Hg Alt Source Working Std: (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg
1.0ml of 10mg/L into 100ml = 100ug/L Hg

#M12345 01/19/15SF Hg ICV / LCSW (0.2% HNO3, HCl)
3.0ml of 100ug/L Hg (#M12344) into 100ml = 3.0ug/L Hg

#M12346 01/19/15SF Hg CCV (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg

#M12347 01/19/15SF Hg MRL: (0.2% HNO3, HCl)
0.2ml of 100ug/L Hg (#M12344) into 100ml = 0.2ug/L Hg

#M12348 01/19/15SF Hg Aqua Regia Reagent:
"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)

#M12349 01/19/15SF Stannous Chloride Reagent:
Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11995) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12350 1-19-15Z Spex Certiprep S 10,000 mg/L Lot # AH15-85SY exp 1/16

#M12351 01/19/15SF TCLP Extraction Fluid #1: Fill a 20L carboy w/ 19L D.I. H2O. Add 114mL Glacial Acetic Acid (AB.579) and 128.6mL of 10N NaOH (#M12292). Dilute to 20L w/ D.I. H2O and mix. pH = 4.93 ± 0.05

Exp: ~~09~~ 01/19/16
01/19/15SF

#M12310 12-9-14 10,000 mg/L Ca CPI Lot# 14K204 ex 6/16

#M12311 12-9-14 10,000 mg/L Fe CPI Lot# 14J165 ex 6/16

#M12312 12-9-14 10,000 mg/L Al CPI Lot # 14H211 ex 6/16

#M12313 12-9-14 10,000 mg/L Pb CPI Lot #140135 ex 6/16

#M12314 12-9-14 10,000 mg/L Mg CPI Lot # 14K161 ex 6/16

#M12315 12-9-14 1000 mg/L As CPI Lot # 131194 ex 6/16

#M12316 12-9-14 Custom Assurance Std CPI Ex Centriprep lot 27-185CR ex 12/15

#M12317 12-09-14 mas GFAA Se Spike (10ng/mL) - Into a 100mL vol. Flask, pipetted 1.0mL Se (1000mg/mL) #M11911 + brought to volume with DI H_2O. (3% HNO_3) Exp. 09/18/15

#M12318 12/09/14 lsf TCLP Extraction Fluid #1: Fill a 7L carboy w/ 1gL D.I. H_2O. Add 11.4mL Glacial Acetic Acid (AB5379) and 128.6mL of 10N NaOH (#M12292) Dilute to 7L with D.I. H_2O and mix. pH = 4.93 ± 0.05 Exp: 12/09/15

#M12319 12/12/14 lsf potassium permanganate Soln: 50g potassium permanganate (#M11285) dissolve into 1,000mL of D.I. H_2O. Exp: 06/12/15

#M12320 12-15-14 Custom Assurance Std Spex Centriprep Lot 27-232CR XCTWT-1-500

#M12321 12-15-14 Custom Assurance Std Spex Centriprep Lot 27-231CR XSpike-1-250

#M12322 12/15/14 lsf TCLP Extraction Fluid #1: Fill a 7L Carboy w/ 1gL D.I. H_2O. Add 11.4mL Glacial Acetic Acid (AB5379) and 128.6mL of 10N NaOH (#M12292) Dilute to 7L with D.I. H_2O and mix. pH = 4.93 ± 0.05 Exp: 12/15/15

#M12323 12-22-14 mas GFAA Pd/Mg Matrix Modifier - Into a 50mL vol. Flask, pipetted 15mL of Pd Modifier #M12158 + 10mL of Mg (10,000mg/mL) #M12113 + brought up to volume using milli-Q H_2O. (2% HNO_3) exp. 8/7/15

#M12295 11-21-14 K 1000ug/ml CPI Lot 141165 Exp 4/16

#M12296 11-21-14 Na 1000mg/L CPI Lot 141167 Exp 4/16

#M12297 11/24/14 SF Potassium permanganate Soln: 50g potassium permanganate (#M11285) dissolved Exp: 05/24/15 into 1000mL of D.I. H_2O.

#M12298 11/24/14 SF Stannous Chloride (Macron) Lot# 0000082282

#M12299 11-25-14 JT ICV 1 As + Pb. Into 1 Liter Vol flask pipet 5mL #M11912, 0.5mL #M11682. Bring up to mark w/ DI H_2O.

~~#M12300~~ 12300 11/25/14 SF
#M12299 11/25/14 SF Stannous Chloride (Macron) Lot# 0000090643

#M12301 12/02/14 SF TCLP Extraction Fluid #1: Fill a 20L carboy w/ 19L D.I. H_2O. Add 114mL Glacial Acetic Acid (AB: 579) and 128.6mL of 10N NaOH (#M12292). Dilute to 20L with D.I. H_2O and mix. pH = 4.93 ± 0.05. Exp: 12/02/15

#M12302 12/05/14 SF Hg Working Stds: (0.2% HNO3, HCl)
- 1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
- 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
- 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg
- 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg
- 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg
- 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg
- 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg
- 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg

#M12303 12/05/14 SF Hg Alt Source Working Std: (0.2% HNO3, HCl)
- 1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg
- 1.0ml of 10mg/L into 100ml = 100ug/L Hg

#M12304 12/05/14 SF Hg ICV / LCSW (0.2% HNO3, HCl)
- 3.0ml of 100ug/L Hg (#M12303) into 100ml = 3.0ug/L Hg

#M12305 12/05/14 SF Hg CCV (0.2% HNO3, HCl)
- 1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
- 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
- 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg

#M12306 12/05/14 SF Hg MRL: (0.2% HNO3, HCl)
- 0.2ml of 100ug/L Hg (#M12303) into 100ml = 0.2ug/L Hg

#M12307 12/05/14 SF Hg Aqua Regia Reagent: "Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)

#M12308 12/05/14 SF Stannous Chloride Reagent: Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11995) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

~~#M12309~~ 12/09/14 SF
#M12309 12/09/14 SF NaCl Hydroxylamine Sulfate Reagent: Dissolve 60g NaCl (#M11799) and 60g hydroxylamine sulfate (#M11798) in 500mL of milli-Q H_2O. Exp: 06/09/15

#M12282
11-13-14 MMS

ICASB List 2

Into a 200 mL volumetric flask, pipetted 20 mL Interferents A #M12082 and 0.1 mL of 1000mg/L Ti, Sr, Sn, Li, and W #M12003, M11999, M11996, M11998, and M12001 respectively. Brought up to mark with milli-Q H20 Exp. 06/30/2015

#M12283 Yttrium 10,000 ug/mL Environmental Express Lot#1418108
11-14-14

#M12284 11/14/14 ISF	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M12285 11/14/14 ISF	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M12286 11/14/14 ISF	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M 12285) into 100ml = 3.0ug/L Hg
#M12287 11/14/14 ISF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M12288 11/14/14 ISF	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M 12285) into 100ml = 0.2ug/L Hg
#M12289 11/14/14 ISF	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M12290 11/14/14 ISF	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11995) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12291 11/15/14 ISF NaCl Hydroxylamine Sulfate Reagent: Dissolve 60g NaCl (#M11799) and 60g hydroxylamine sulfate (#M11782) in 500ml of milli-Q H2O.
Exp: 05/15/15

#M12292 11/20/14 ISF 10N NaOH: Into a 1L flask, add 400g NaOH (#M11145) and bring up to volume with D.I. H2O.
Exp: 05/20/15

#M12293 11/20/14 ISF TCLP Extraction Fluid #1: Fill a 20L carboy w/19L D.I. H2O. Add 114ml Glacial Acetic Acid (AB: 579) and 128.6ml of 10N NaOH (#M12292). Dilute to 20L with D.I. H2O and mix. pH = 4.93 ± 0.05
Exp: 11/20/15

#M12294 11-21-14 K 10,000 ug/mL CPI Lot 146213 ex 4/29/16

11/04/14 15F

#M12271 TCLP Extraction Fluid #1: Fill a 7L carboy w/ 192 D.I. H2O. Add 11.4mL Glacial Acetic Acid (AB: 579) and 128.6mL 1N NaOH (#M11955). Dilute to 7L with D.I. H2O and mix. pH = 4.93 ± 0.05
Exp: 10/21/04/14
11/04/14 15F

#M12272 11/05/14 15F	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M12273 11/05/14 15F	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M12274 11/05/14 15F	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M12273) into 100ml = 3.0ug/L Hg
#M12275 11/05/14 15F	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M12276 11/05/14 15F	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M12273) into 100ml = 0.2ug/L Hg
#M12277 11/05/14 15F	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M12276 11/05/14 15F	Stannous Chloride Reagent:	Into a 1000mL volumetric flask, dissolve 100g Stannous Chloride (#M11995) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12277 11/07/14 15F Potassium permanganate (Fisher) Lot# 138790A

#M12278 11/13/14 15F potassium permanganate soln: 50g potassium permanganate (#M11285) dissolve into 1000mL of D.I. H2O.
Exp: 05/13/15

ICAP Working Standards List 2

#M12279
11-13-14 MDS

.5% HNO3 .5%HCL

Standard name	Pipetted the following respectively:
1	0.01mL of #M12165 and 0.001mL #M12001 into 1L = 1 ug/L
10	0.10mL of #M12165 and 0.01mL #M12001 into 1L = 10 ug/L
100	1mL of #M12165 and 0.1mL #M12001 into 1L = 100 ug/L
1000	2mL of #M12165 and 0.2mL #M12001 into 200mL = 1000 ug/L
10000	20mL of #M12165 and 2mL #M12001 into 200mL = 10000 ug/L

Brought up to mark with milli-Q H20 Exp. 08/30/2015

#M12280
11-13-14 MDS

Continuing Calibration Standard (CCV)
Into a 200mL volumetric flask pipetted 2mL of #M12165 and 0.2mL #M12001 = 1000 ug/L
Brought up to mark with milli-Q H20 Exp. 08/30/2015

#M12281
11-13-14 MDS

Initial Calibration Standard (ICV) List 2
Into a 1 liter volumetric flask pipetted 1mL of #M12003, M11999, M11996, M11998 and M12163
Brought up to mark with milli-Q H20 Exp. 11/08/2015

#M122258 10/22/14 SF potassium permanganate soln: 50g potassium permanganate (#M11285) dissolve into 1,000ml of D.I. H2O.
Exp: 04/22/15

#M122259 10/27/14 SF Stannous Chloride (Macron) lot#0000087461

M122260 10/28/14 ICV/LCS boron and silicon

Into a one liter volmetric flask pipet 10ml of #M12165 and 1.0 ml #M11919

Bring up to mark with DI H2O

#M122261 10/28/14 SF	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M122262 10/28/14 SF	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M122263 10/28/14 SF	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M122262) into 100ml = 3.0ug/L Hg
#M122264 10/28/14 SF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M122265 10/28/14 SF	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M122262) into 100ml = 0.2ug/L Hg
#M122266 10/28/14 SF	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M122267 10/28/14 SF	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11795) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M122268 10/29/14 SF potassium permanganate soln: 50g potassium permanganate (#M11285) dissolve into 1,000ml of D.I. H2O.
Exp: 04/29/15

#M122269 10/29/14 SF NaCl Hydroxylamine sulfate Reagent: Dissolve 60g NaCl (#M11799) and 60g hydroxylamine sulfate (#M11798) in 500ml of milli-Q H2O.
Exp: 04/29/14

#M122270 11/04/14 SF Sodium Chloride (Fisher) lot#142463

#M12210 10/02/14/SF TCLP Extraction Fluid #1: Fill 10/02/14/SF into a 20L carboy w/ 19L D.I. H_2O. Add 114mL Glacial Acetic Acid (#M10/09/14/SF AB: 599) and 128.6mL 10 N NaOH (#M11955). Dilute to 20L with D.I. H_2O and mix pH = 4.93 ± 0.05
Exp: 10/02/15

#M12211 10/6/14 JH Custom Assurance Std Spex CertiPrep Lot # 26-201CR. exp 9/15

#M12212 10/6/14 JH Potassium 10,000 CPI Lot# 146213 exp 3/16

#M12213 10/6/14 JH Arsenic 10,000 CPI Lot# 132089 exp 3/16

#M12214 10/06/14/SF	Hg Working Stds: (0.2% HNO_3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M12215 10/06/14/SF	Hg Alt Source Working Std: (0.2% HNO_3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M12216 10/06/14/SF	Hg ICV / LCSW (0.2% HNO_3, HCl)	3.0ml of 100ug/L Hg (#M 12215) into 100ml = 3.0ug/L Hg
#M12217 10/06/14/SF	Hg CCV (0.2% HNO_3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M12218 10/06/14/SF	Hg MRL: (0.2% HNO_3, HCl)	0.2ml of 100ug/L Hg (#M 12215) into 100ml = 0.2ug/L Hg
#M12219 10/06/14/SF	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO_3 (AB: 554)
#M12220 10/06/14/SF	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M 11975) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12221 10/06/14/SF Potassium Permanganate Soln: 50g Potassium permanganate (#M11285) dissolve into 1000mL of D.I. H_2O.
Exp: 04/06/15

#M12222 10/06/14 MOS GFAA LOD/LOQ check Water Working Std (Ag Only) - Into a 100mL vol. Flask, pipetted 0.1mL Ag (1000ug/mL) #M11908 and brought up to volume using milli-Q H_2O. (1% HNO_3) exp. 09/18/15

#M12223 10/06/14 MOS GFAA LOD/LOQ Water Spiking Soln (Ag Only) - Into a 1L vol. Flask, pipetted 10mL #M12222 and brought up to volume using milli-Q H_2O. (1% HNO_3) exp. 09/18/15

~~#M12149 08/28/14 I3F~~ 08/28/14 I3F ~~Stannous chloride lot #~~ 08/28/14 I3F

#M12179 9-4-15 Hg 1000 ug/mL CPI lot # 14F110.

#M12180 09/04/14 I3F	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M12181 09/04/14 I3F	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M12182 09/04/14 I3F	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M12181) into 100ml = 3.0ug/L Hg
#M12183 09/04/14 I3F	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M12184 09/04/14 I3F	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M12181) into 100ml = 0.2ug/L Hg
#M12185 09/04/14 I3F	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M12186 09/04/14 I3F	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11995) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12185 09/05/14 I3F TCLP Extraction Fluid #1: Fill a 20l carboy w/19L DI H_2O. Add 114ml Glacial Acetic Acid (AB: 579) and 128.6ml 10N NaOH (#M11955). Dilute to 20L with DI H_2O and mix. pH = 4.93 ± 0.05

Exp: 09/05/15

#M12186 9-9-14 StablCal Standard 200 ntu turbidity Hach lot #A4216 exp 8/16

#M12187 9-9-14 Turbidity Working Stds → into 3 Hach Vials →

~~pipet 1, 5~~ #9-9-14

~~1mls → 9mls DH~~ #9-9-14

1 ml #M12186 → 9mls DI H_2O = 20 ntu

5 mls M12186 → 5 mls DI H_2O = 100 ntu

10 Ø #9-9-14 mls → M12186 → 0 ml DI H_2O = 200 ntu

#M12157 TMOS
08-06-14

ICAP Working Standards Boron & Silicon

Standard name	Into a 1L volumetric flask, pipetted the following respectively:
50	0.05mL of #M11763 and 0.05mL #M12007 = 50 ug/L
200	0.2mL of #M11763 and 0.2mL #M12007 = 100 ug/L
1000	1.0mL of #M11763 and 1.0mL #M12007 = 1000 ug/L
2000	2.0mL of #M11763 and 2.0mL #M12007 = 1000 ug/L
10000	10.0mL of #M11763 and 10.0mL #M12007 = 10000 ug/L

Expires: 05/13/2015

Continuing Calibration Standard (CCV)

Into a 1L volumetric flask, pipetted 1.0mL of #M11763 and 1.0mL #M12007 = 1000 ug/L
Brought up to volume with DI H20. Expires 05/13/2015

#M12158 TMOS 08/11/14: 1% Pd GFAA matrix modifier. Environmental Express Lot# 1421912
Expires: 08/07/15

#M12159 TMOS 08/11/14: 1% Nickel Nitrate GFAA matrix Modifier. Alfa Aesar Lot# 41-55398TD

#M12160 08/12/14 CSF Triscolyt (Mettler Toledo) lot# 17134C

#M12161 08/12/14 CSF TCLP Extraction Fluid #1: ~~In to~~ a 7oz Carboy w/ 1912 D.I. H2O. Add 114mL Glacial Acetic Acid (AB-579) and 128.6mL 10N NaOH (#M11955). Dilute to 7oL with D.I. H2O and mix pH = 4.93 ± 0.05
Exp: 08/12/15

#M12162 8-13-14 Potassium 1000 mg/L CPI Lot#14F193 ex 2/16.
JB

#M12163 8-13-14 Tungsten Std. CPI Lot# 14F230 ex 2/16
JB

#M12164 8-13-14 Interference A Spex Certiprep Lot# 11-384PX ex 8/15
JB

#M12165 8-13-14 JB Custom Assurance Std Spex Certiprep Lot# 7-93WL
ex 8/15

#M12134 MOS
07-21-14

Working Standards for Sodium and Potassium - Into seven, 200 mL volumetric flasks, pipetted the following from #M11719 and #M11722 and brought up to volume using milli-Q H_2O. (2% HNO_3)

0.5 mg/L std - 0.1 mL of each
1.0 mg/L std - 0.2 mL of each
5.0 mg/L std - 1.0 mL of each
10.0 mg/L std - 2.0 mL of each
50.0 mg/L std -10 mL of each
100 mg/L std - 20 mL of each, used for Continuing Calibration Standard (CCV)
200 mg/L std - 40 mL of each
Expires: 04/24/15

#M12135 MOS
07-21-14

Initial Calibration Standard (ICV) - Into a 250 mL volumetric flask, pipetted 2.5 mL of #M12010 and #M12011 and brought up to volume using milli-Q H_2O. (2% HNO_3)
Expires: 11/08/2015

#M12136 MOS
07-21-14

ICAP 6000 ICSAB Standard for Sodium and Potassium – Into a 250 mL volumetric flask, pipetted 25 mL of #M11776 and 2.5 mL of each #M12010 & #M12011 and brought to volume using milli-Q H_2O. (2% HNO_3) 7.5mL of #M11915
Expires: 12/30/14

#M12137 MOS
07-22-14

TCLP Extraction Fluid #1 – Into a 20L carboy, added 114mL Glacial Acetic acid #AB586 + 128.6mL 10N NaOH #M12086 + brought to volume w/ D.I H_2O. Mix. pH = 4.93 ± 0.05

#M12138 07/30/14 SF	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M12139 07/30/14 SF	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M12140 07/30/14 SF	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M12139) into 100ml = 3.0ug/L Hg
#M12141 07/30/14 SF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg

#M12105 07/08/14/SF	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M12106 07/08/14/SF	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M12107 07/08/14/SF	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M12106) into 100ml = 3.0ug/L Hg
#M12108 07/08/14/SF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M12109 07/08/14/SF	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M12106) into 100ml = 0.2ug/L Hg
#M12110 07/08/14/SF	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M12111 07/08/14/SF	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M1995) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12112 7-10-14 Ca 10,000 mg/L CPI Lot # 14D176 exp 1/16
D

#M12113 7-10-14 Mg 10,000 mg/L CPI Lot # 14F190 exp 1/16

#M12114 07/11/14/SF	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M12115 07/11/14/SF	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M12116 07/11/14/SF	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M12115) into 100ml = 3.0ug/L Hg
#M12117 07/11/14/SF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M12118 07/11/14/SF	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M12115) into 100ml = 0.2ug/L Hg
#M12119 07/11/14/SF	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M12120 07/11/14/SF	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M1995) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12079 06/18/14 CSF NaCl Hydroxylamine sulfate Reagent: Dissolve 60g NaCl (#M11799) and 60g hydroxylamine sulfate (#M11998) in 500mL of milli-Q H2O
Exp: 12/18/14

ICAP Working Standards W Only

.5% HNO3 .5%HCL

#M12080 06/19/14 MDS

Standard name	Pipetted the following respectively:
100	0.1mL #M12001 into 1L = 100 ug/L
1000 M12080	1mL #M12001 into 1L = 1000 ug/L
10000	10mL #M12001 into 1L = 10000 ug/L

Bring up to mark with milli-Q H20 Exp. 11/08/15

Continuing Calibration Standard (CCV) M12080
Into a 1L volumetric flask pipetted 1mL #M12001 = 1000 ug/L
Bring up to mark with milli-Q H20 Exp. 11/08/15

#M12081 06/19/14 MDS

Initial Calibration Standard (ICV) W Only M12081
Into a 1 liter volumetric flask pipetted 1mL of #M11365
Bring up to mark with milli-Q H20 Exp. ~~04/23/15~~ 06/20/14
MDS 06/19/14

#M12082 6-23-14 ZA Spex Certiprep INT-A Lot # 11-38YPX ex 6/15,

#M12083 ZB 6-23-14 Spex Certprep Cust. Assurance std T Hardness + Na ex 6/15.

#M12084 ZA 6-23-14 TCLP Extraction fluid into 20 liter carboy, Add 114ml Glacial acetic Acid (AB-558) + 128.6 mls 10N NaOH #M11955 Dilute up to 20L with DI H20 & mix pH=4.93±.05

#M12085 ZA 6-23-14 TCLP Extraction fluid into 20 Liter carboy add 114ml Glacial acetic Acid (AB-558), + 128.6 mls 10N NaOH #M11955 Dilute up to 20L with DI H2O & Mix ph=4.93±.05

#M12086 ZA 6-23-14 10N NaOH into 1 Liter Vol dissolve 400g Sodium Hydroxide #M11145. Bring up to mark w/DI H2O ex 6-23-15.

#M12087 CSF 06/25/14 Potassium permanganate Soln: 50g potassium permanganate (#M11785) dissolve into 1,000mL of D.I. H2O.
Exp: 12/25/14

#M12002 05/13/14 LSF Cadmium 1,000mg/L CPI Lot#14A402 Exp: 11/08/15

#M12003 05/13/14 LSF Titanium 1,000mg/L CPI Lot#13H001 Exp: 11/08/15

#M12004 05/13/14 LSF Nickel 1,000mg/L CPI Lot#14D214 Exp: 11/08/15

#M12005 05/13/14 LSF Zinc ~~1,000~~ 10,000 05/13/14 LSF mg/L CPI Lot#14A199 Exp: 11/08/15

#M12006 05/13/14 LSF Beryllium 1,000mg/L CPI Lot#14D241 Exp: 11/08/15

#M12007 05/13/14 LSF Silicon 1,000mg/L CPI Lot#132019 Exp: 11/08/15

#M12008 05/13/14 LSF Molybdenum 1,000mg/L CPI Lot#148183 Exp: 11/08/15

#M12009 05/13/14 LSF Vanadium 1,000mg/L CPI Lot#14A107 Exp: 11/08/15

#M12010 05/13/14 LSF Sodium 10,000mg/L CPI Lot#148243 Exp: 11/08/15

#M12011 05/13/14 LSF Potassium 10,000mg/L CPI Lot#14C131 Exp: 11/08/15

#M12012 05/14/14 LSF Potassium permanganate soln: 50g potassium permanganate (#M11785) dissolve into 1,000mL of D.I. H_2O.
Exp: 11/14/14

#M12013 05/14/14 LSF	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M12014 05/14/14 LSF	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M12015 05/14/14 LSF	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M12014) into 100ml = 3.0ug/L Hg
#M12016 05/14/14 LSF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M12017 05/14/14 LSF	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M12014) into 100ml = 0.2ug/L Hg
#M12018 05/14/14 LSF	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M12019 05/14/14 LSF	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11779) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M 11986 05/08/14 SF NaCl Hydroxylamine Sulfate Reagent: Dissolve into 1 Liter NaCl (#M11799) and 1 Liter Hydroxylamine Sulfate (#M11998) in 500ml Milli-Q H2O.

Exp: 11/08/14

#M11987 05/09/14 SF	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M11988 05/09/14 SF	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M11989 05/09/14 SF	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M 11988) into 100ml = 3.0ug/L Hg
#M11990 05/09/14 SF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M11991 05/09/14 SF	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M 11988) into 100ml = 0.2ug/L Hg
#M11992 05/09/14 SF	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M11993 05/09/14 SF	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11749 in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M11994 05/12/14 SF TCLP Extraction Fluid #1: Fill a 20L carboy w/ 19.2 D.I. H2O. Add 114ml Glacial Acetic Acid (AB.579) and 128.6mL 10 N NaOH (#M11955), Dilute to 20L with D.I. H2O and mix. pH = 4.93 ± 0.05 05/12/14 SF

Exp: 05/12/15

#M11995 05/13/14 SF Stannous Chloride (Macron) lot #0000076357 Exp: 02/14/15

#M11996 05/13/14 SF Tin 1,000 mg/L CPI lot # 13H238 Exp: 11/08/15

#M11997 05/13/14 SF Thallium 1,000mg/L CPI lot # 13I105 Exp: 11/08/15

#M11998 05/13/14 SF Lithium 1,000 mg/L CPI lot # 14E049 Exp: 11/08/15

#M11999 05/13/14 SF Strontium 1,000mg/L CPI lot # 14C002 Exp: 11/08/15

#M12000 05/13/14 SF Cobalt 1,000mg/L CPI lot # 14D005 Exp: 11/08/15

#M12001 05/13/14 SF Tungsten 1,000mg/L CPI lot # 13H199 Exp: 11/08/15

#M11917 4-1-14 $ ICV(###) ent 100 ml vol flask pipet M11679 from 10mls = 100,000 =100,000ug/L $ exp 5/15

#M11918 04/02/14/SF Potassium permanganate soln: 50g potassium permanganate (#M11285) dissolve into 1,000ml of D.I. H2O. EXP: 10/02/14 04/02/14/SF

M11919 4-2-14 Si 1000 mg/L Std Fisher Lot # 141902 exp 3/16

M11920 4-2-14 AMCO Clear turbidity std 20 nta exp Lot# C4674160 ex 3/15.

#M11921 04/03/14/SF Potassium persulfate: 50g potassium persulfate (#M10987) dissolve into 1000 ml of D.I. H2O. EXP: 10/03/14 04/03/14/SF

#M11922 04/04/14/SF	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M11923 04/04/14/SF	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M11924 04/04/14/SF	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M11923) into 100ml = 3.0ug/L Hg
#M11925 04/04/14/SF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M11926 04/04/14/SF	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M 11923) into 100ml = 0.2ug/L Hg
#M11927 04/04/14/SF	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M11928 04/04/14/SF	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11790) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M11929 04/10/14/SF NaCl Hydroxylamine Sulfate Reagent: Dissolve into 600g NaCl (#M11799) and 60g hydroxylamine Sulfate (#M11798) in 500mL Milli-Q Exp: 10/10/14

#M11930 04/11/14/SF 04/11/14/SF	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M11931 04/11/14/SF	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg

INORGANIC
CLP FORMS
DOCUMENTS

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INORGANIC ANALYSIS DATA SHEET

Sample Description

011516R1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	116426
% Solids:		Lab Sample ID:	681536
Analytical Method:	EPA 9056A	Date Received:	01/16/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	122704	Analysis Date/Time	01/16/2016 14:11
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	2.7	J	1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.79		0.080	0.15	0.40	0.40
14808-79-8	Sulfate	20		1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

011516R1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	116426
% Solids:		Lab Sample ID:	681537
Analytical Method:	EPA 9060A	Date Received:	01/16/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	122770	Analysis Date/Time	01/21/2016 17:50
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL W34137	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	116426
% Solids:		Lab Sample ID:	680623
Analytical Method:	EPA 9056A	Date Received:	01/14/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	122661	Analysis Date/Time	01/14/2016 14:33
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	6.9		1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.23	J	0.080	0.15	0.40	0.40

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INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	116426
% Solids:		Lab Sample ID:	680624
Analytical Method:	EPA 9060A	Date Received:	01/14/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	122770	Analysis Date/Time	01/19/2016 17:59
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL W34137	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	2.5	J	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	116426
% Solids:		Lab Sample ID:	680623
Analytical Method:	EPA 9056A	Date Received:	01/14/2016
Dilution Factor:	5.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	122661	Analysis Date/Time	01/14/2016 23:47
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
14808-79-8	Sulfate	67		6.5	13	25	25

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INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	116426
% Solids:		Lab Sample ID:	680615
Analytical Method:	EPA 9056A	Date Received:	01/14/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	122661	Analysis Date/Time	01/14/2016 13:14
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	4.3		1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	1.8		0.080	0.15	0.40	0.40

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INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	116426
% Solids:		Lab Sample ID:	680616
Analytical Method:	EPA 9060A	Date Received:	01/14/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	122770	Analysis Date/Time	01/19/2016 17:13
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL W34137	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.9	J	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	116426
% Solids:		Lab Sample ID:	680615
Analytical Method:	EPA 9056A	Date Received:	01/14/2016
Dilution Factor:	5.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	122661	Analysis Date/Time	01/14/2016 22:28
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
14808-79-8	Sulfate	100		6.5	13	25	25

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INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW4

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	116426
% Solids:		Lab Sample ID:	680619
Analytical Method:	EPA 9056A	Date Received:	01/14/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	122661	Analysis Date/Time	01/14/2016 13:54
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	3.9	J	1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.46		0.080	0.15	0.40	0.40
14808-79-8	Sulfate	37		1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW4

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	116426
% Solids:		Lab Sample ID:	680620
Analytical Method:	EPA 9060A	Date Received:	01/14/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	122770	Analysis Date/Time	01/19/2016 17:36
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL W34137	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	2.0	J	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW5

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	116426
% Solids:		Lab Sample ID:	680628
Analytical Method:	EPA 9056A	Date Received:	01/14/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	122661	Analysis Date/Time	01/14/2016 15:13
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	3.9	J	1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.51		0.080	0.15	0.40	0.40
14808-79-8	Sulfate	69		1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW5

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	116426
% Solids:		Lab Sample ID:	680629
Analytical Method:	EPA 9060A	Date Received:	01/14/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	122770	Analysis Date/Time	01/19/2016 18:21
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL W34137	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.4	J	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	116426
% Solids:		Lab Sample ID:	681415
Analytical Method:	EPA 9056A	Date Received:	01/15/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	122684	Analysis Date/Time	01/15/2016 14:55
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	11		1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	6.7		0.080	0.15	0.40	0.40

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INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	116426
% Solids:		Lab Sample ID:	681416
Analytical Method:	EPA 9060A	Date Received:	01/15/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	122770	Analysis Date/Time	01/19/2016 18:43
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL W34137	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	2.7	J	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	116426
% Solids:		Lab Sample ID:	681415
Analytical Method:	EPA 9056A	Date Received:	01/15/2016
Dilution Factor:	10.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	122684	Analysis Date/Time	01/15/2016 23:20
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
14808-79-8	Sulfate	210		13	25	50	50

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INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW07

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	116426
% Solids:		Lab Sample ID:	681413
Analytical Method:	EPA 9056A	Date Received:	01/15/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	122684	Analysis Date/Time	01/15/2016 14:36
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	1.2	J	1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.99		0.080	0.15	0.40	0.40
14808-79-8	Sulfate	1.4	J	1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW07

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	116426
% Solids:		Lab Sample ID:	681414
Analytical Method:	EPA 9060A	Date Received:	01/15/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	122770	Analysis Date/Time	01/19/2016 18:32
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL W34137	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	J	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	116426
% Solids:		Lab Sample ID:	681417
Analytical Method:	EPA 9056A	Date Received:	01/15/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	122684	Analysis Date/Time	01/15/2016 15:13
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	3.5	J	1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	1.4		0.080	0.15	0.40	0.40
14808-79-8	Sulfate	56		1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	116426
% Solids:		Lab Sample ID:	681418
Analytical Method:	EPA 9060A	Date Received:	01/15/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	122770	Analysis Date/Time	01/19/2016 18:55
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL W34137	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.8	J	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	116426
% Solids:		Lab Sample ID:	681532
Analytical Method:	EPA 9056A	Date Received:	01/16/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	122704	Analysis Date/Time	01/16/2016 12:37
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	3.1	J	1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.93		0.080	0.15	0.40	0.40
14808-79-8	Sulfate	14		1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	116426
% Solids:		Lab Sample ID:	681533
Analytical Method:	EPA 9060A	Date Received:	01/16/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	122770	Analysis Date/Time	01/21/2016 16:42
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL W34137	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers		DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.6	J	Y	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	116426
% Solids:		Lab Sample ID:	681529
Analytical Method:	EPA 9056A	Date Received:	01/16/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	122704	Analysis Date/Time	01/16/2016 12:18
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	3.0	J	1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	6.8		0.080	0.15	0.40	0.40
14808-79-8	Sulfate	27		1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	116426
% Solids:		Lab Sample ID:	681531
Analytical Method:	EPA 9060A	Date Received:	01/16/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	122770	Analysis Date/Time	01/21/2016 16:28
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL W34137	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	0.64	J	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	116426
% Solids:		Lab Sample ID:	681538
Analytical Method:	EPA 9040C	Date Received:	01/16/2016
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	122842	Analysis Date/Time	01/21/2016 10:00
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	S.U.

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
PH	pH	7.43					

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	116426
% Solids:		Lab Sample ID:	681538
Analytical Method:	EPA 410.4	Date Received:	01/16/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	122773	Analysis Date/Time	01/19/2016 14:10
Analytical Prep Batch #:	55935	Prep. Date/Time:	01/19/2016 10:00
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
COD	COD	35	U	15	35	75	75

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	116426
% Solids:		Lab Sample ID:	681421
Analytical Method:	EPA 9056A	Date Received:	01/15/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	122684	Analysis Date/Time	01/15/2016 15:51
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	5.9		1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.39	J	0.080	0.15	0.40	0.40
14808-79-8	Sulfate	2.5	U	1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	116426
% Solids:		Lab Sample ID:	681422
Analytical Method:	EPA 9060A	Date Received:	01/15/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	122770	Analysis Date/Time	01/21/2016 16:05
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL W34137	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	0.88	J	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	116426
% Solids:		Lab Sample ID:	681527
Analytical Method:	EPA 9056A	Date Received:	01/16/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	122704	Analysis Date/Time	01/16/2016 11:59
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	1.9	J	1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.098	J	0.080	0.15	0.40	0.40
14808-79-8	Sulfate	20		1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	116426
% Solids:		Lab Sample ID:	681528
Analytical Method:	EPA 9060A	Date Received:	01/16/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	122770	Analysis Date/Time	01/21/2016 16:17
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL W34137	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	0.64	J	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW03

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	116426
% Solids:		Lab Sample ID:	681419
Analytical Method:	EPA 9056A	Date Received:	01/15/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	122684	Analysis Date/Time	01/15/2016 15:32
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	7.0		1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	1.3		0.080	0.15	0.40	0.40
14808-79-8	Sulfate	3.0	J	1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW03

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	116426
% Solids:		Lab Sample ID:	681420
Analytical Method:	EPA 9060A	Date Received:	01/15/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	122770	Analysis Date/Time	01/21/2016 15:53
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL W34137	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	0.68	J	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW04

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	116426
% Solids:		Lab Sample ID:	680621
Analytical Method:	EPA 9056A	Date Received:	01/14/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	122661	Analysis Date/Time	01/14/2016 14:14
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	5.2		1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.52		0.080	0.15	0.40	0.40
14808-79-8	Sulfate	48		1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW04

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	116426
% Solids:		Lab Sample ID:	680622
Analytical Method:	EPA 9060A	Date Received:	01/14/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	122770	Analysis Date/Time	01/19/2016 17:47
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL W34137	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.9	J	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW05

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	116426
% Solids:		Lab Sample ID:	680625
Analytical Method:	EPA 9056A	Date Received:	01/14/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	122661	Analysis Date/Time	01/14/2016 14:53
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	15		1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.21	J	0.080	0.15	0.40	0.40
14808-79-8	Sulfate	62		1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW05

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	116426
% Solids:		Lab Sample ID:	680626
Analytical Method:	EPA 9060A	Date Received:	01/14/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	122770	Analysis Date/Time	01/19/2016 18:10
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL W34137	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	2.0	J	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49TM01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	116426
% Solids:		Lab Sample ID:	680617
Analytical Method:	EPA 9056A	Date Received:	01/14/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	122661	Analysis Date/Time	01/14/2016 13:34
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	4.3		1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	1.8		0.080	0.15	0.40	0.40

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49TM01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	116426
% Solids:		Lab Sample ID:	680618
Analytical Method:	EPA 9060A	Date Received:	01/14/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	122770	Analysis Date/Time	01/19/2016 17:24
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL W34137	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	2.2	J	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49TM01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	116426
% Solids:		Lab Sample ID:	680617
Analytical Method:	EPA 9056A	Date Received:	01/14/2016
Dilution Factor:	5.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	122661	Analysis Date/Time	01/14/2016 23:07
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
14808-79-8	Sulfate	99		6.5	13	25	25

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INORGANIC ANALYSIS DATA SHEET

Sample Description

50MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	116426
% Solids:		Lab Sample ID:	681534
Analytical Method:	EPA 9056A	Date Received:	01/16/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	122704	Analysis Date/Time	01/16/2016 13:52
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	8.2		1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	2.4		0.080	0.15	0.40	0.40
14808-79-8	Sulfate	68		1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

50MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	116426
% Solids:		Lab Sample ID:	681535
Analytical Method:	EPA 9060A	Date Received:	01/16/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	122770	Analysis Date/Time	01/21/2016 17:37
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL W34137	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	116426
% Solids:		Lab Sample ID:	679984
Analytical Method:	EPA 9040C	Date Received:	01/13/2016
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	122651	Analysis Date/Time	01/14/2016 10:00
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	S.U.

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
PH	pH	7.27					

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	116426
% Solids:		Lab Sample ID:	679984
Analytical Method:	EPA 410.4	Date Received:	01/13/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	122773	Analysis Date/Time	01/19/2016 14:10
Analytical Prep Batch #:	55935	Prep. Date/Time:	01/19/2016 10:00
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
COD	COD	26	J	15	35	75	75

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	116426
% Solids:		Lab Sample ID:	679980
Analytical Method:	EPA 9056A	Date Received:	01/13/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	122614	Analysis Date/Time	01/13/2016 12:41
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	2.6	J	1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.15	U	0.080	0.15	0.40	0.40
14808-79-8	Sulfate	26		1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	116426
% Solids:		Lab Sample ID:	679981
Analytical Method:	EPA 9060A	Date Received:	01/13/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	122618	Analysis Date/Time	01/13/2016 13:51
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL W34137	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TIC	Total Inorganic Carbon	61		0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	116426
% Solids:		Lab Sample ID:	679981
Analytical Method:	EPA 9060A	Date Received:	01/13/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	122608	Analysis Date/Time	01/13/2016 18:26
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL W34137	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW10

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	116426
% Solids:		Lab Sample ID:	679481
Analytical Method:	EPA 9060A	Date Received:	01/12/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	122608	Analysis Date/Time	01/13/2016 11:36
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL W34137	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	0.97	J	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW10

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	116426
% Solids:		Lab Sample ID:	679480
Analytical Method:	EPA 9056A	Date Received:	01/12/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	122594	Analysis Date/Time	01/12/2016 14:56
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	4.6		1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.45		0.080	0.15	0.40	0.40

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW10

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	116426
% Solids:		Lab Sample ID:	679481
Analytical Method:	EPA 9060A	Date Received:	01/12/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	122618	Analysis Date/Time	01/13/2016 15:13
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL W34137	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TIC	Total Inorganic Carbon	77		0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW10

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	116426
% Solids:		Lab Sample ID:	679480
Analytical Method:	EPA 9056A	Date Received:	01/12/2016
Dilution Factor:	5.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	122594	Analysis Date/Time	01/12/2016 20:33
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
14808-79-8	Sulfate	76		6.5	13	25	25

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW12

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	116426
% Solids:		Lab Sample ID:	679978
Analytical Method:	EPA 9056A	Date Received:	01/13/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	122614	Analysis Date/Time	01/13/2016 11:18
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	6.0		1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	2.5		0.080	0.15	0.40	0.40
14808-79-8	Sulfate	45		1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW12

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	116426
% Solids:		Lab Sample ID:	679979
Analytical Method:	EPA 9060A	Date Received:	01/13/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	122618	Analysis Date/Time	01/13/2016 13:34
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL W34137	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TIC	Total Inorganic Carbon	91	M	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW12

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	116426
% Solids:		Lab Sample ID:	679979
Analytical Method:	EPA 9060A	Date Received:	01/13/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	122608	Analysis Date/Time	01/13/2016 17:27
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL W34137	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.8	J	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW13

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	116426
% Solids:		Lab Sample ID:	679982
Analytical Method:	EPA 9056A	Date Received:	01/13/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	122614	Analysis Date/Time	01/13/2016 13:00
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	2.5	J	1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.46		0.080	0.15	0.40	0.40
14808-79-8	Sulfate	20		1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW13

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	116426
% Solids:		Lab Sample ID:	679983
Analytical Method:	EPA 9060A	Date Received:	01/13/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	122618	Analysis Date/Time	01/13/2016 14:06
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL W34137	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TIC	Total Inorganic Carbon	46		0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW13

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	116426
% Solids:		Lab Sample ID:	679983
Analytical Method:	EPA 9060A	Date Received:	01/13/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	122608	Analysis Date/Time	01/13/2016 18:37
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL W34137	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.8	J	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54TM10

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	116426
% Solids:		Lab Sample ID:	679483
Analytical Method:	EPA 9060A	Date Received:	01/12/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	122608	Analysis Date/Time	01/13/2016 11:36
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL W34137	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.1	J	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54TM10

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	116426
% Solids:		Lab Sample ID:	679483
Analytical Method:	EPA 9060A	Date Received:	01/12/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	122618	Analysis Date/Time	01/13/2016 13:17
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL W34137	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TIC	Total Inorganic Carbon	81		0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54TM10

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	116426
% Solids:		Lab Sample ID:	679482
Analytical Method:	EPA 9056A	Date Received:	01/12/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	122594	Analysis Date/Time	01/12/2016 15:15
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	4.6	M	1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.46		0.080	0.15	0.40	0.40

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54TM10

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	116426
% Solids:		Lab Sample ID:	679482
Analytical Method:	EPA 9056A	Date Received:	01/12/2016
Dilution Factor:	5.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	122594	Analysis Date/Time	01/12/2016 21:48
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
14808-79-8	Sulfate	73		6.5	13	25	25

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122594 Lab Sample ID: 680086

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	12/2/15	09:21	15.00	13.85	92	90	110
Nitrate Nitrogen	12/2/15	09:21	3.500	3.421	98	90	110
Sulfate	12/2/15	09:21	25.00	23.68	95	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122773

Lab Sample ID: 682574

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
COD	8/18/15	14:10	400.0	437.0	109	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122608 Lab Sample ID: 686999

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Dissolved Organic Carbo	4/21/14	16:23	50			90	110
Total Organic Carbon	4/21/14	16:23	50			90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122594 Lab Sample ID: 679906

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	1/12/16	09:18	15.00	14.18	95	90	110
Nitrate Nitrogen	1/12/16	09:18	3.500	3.564	102	90	110
Sulfate	1/12/16	09:18	25.00	24.84	99	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122594 Lab Sample ID: 679913

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	1/12/16	17:26	15.00	14.40	96	90	110
Nitrate Nitrogen	1/12/16	17:26	3.500	3.629	104	90	110
Sulfate	1/12/16	17:26	25.00	25.01	100	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122594 Lab Sample ID: 679916

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	1/12/16	21:11	15.00	14.45	96	90	110
Nitrate Nitrogen	1/12/16	21:11	3.500	3.556	102	90	110
Sulfate	1/12/16	21:11	25.00	25.04	100	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122594 Lab Sample ID: 679918

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	1/12/16	22:07	15.00	14.49	97	90	110
Nitrate Nitrogen	1/12/16	22:07	3.500	3.562	102	90	110
Sulfate	1/12/16	22:07	25.00	25.23	101	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122614 Lab Sample ID: 680311

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	1/13/16	09:15	15.00	14.18	95	90	110
Nitrate Nitrogen	1/13/16	09:15	3.500	3.564	102	90	110
Sulfate	1/13/16	09:15	25.00	24.33	97	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122614 Lab Sample ID: 680318

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	1/13/16	14:39	15.00	14.27	95	90	110
Nitrate Nitrogen	1/13/16	14:39	3.500	3.556	102	90	110
Sulfate	1/13/16	14:39	25.00	24.34	97	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122608 Lab Sample ID: 680400

ICAL Calibration #: ICAL W34137 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	1/13/16 09:28	50.00	52.03	104	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122608 Lab Sample ID: 680406

ICAL Calibration #: ICAL W34137 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	1/13/16	12:12	50.00	52.74	105	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122608 Lab Sample ID: 680412

ICAL Calibration #: ICAL W34137 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)	
Total Organic Carbon	1/13/16	15:29	50.00	55.29	111	90	110	FAIL

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122608 Lab Sample ID: 680415

ICAL Calibration #: ICAL W34137 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	1/13/16	16:34	50.00	51.86	104	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122608 Lab Sample ID: 680416

ICAL Calibration #: ICAL W34137 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	1/13/16 16:49	50.00	51.95	104	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122608 Lab Sample ID: 680421

ICAL Calibration #: ICAL W34137 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	1/13/16 19:24	50.00	52.13	104	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122618 Lab Sample ID: 680425

ICAL Calibration #: ICAL W34137 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Inorganic Carbon	1/13/16 09:28	50.00	52.03	104	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122618 Lab Sample ID: 680430

ICAL Calibration #: ICAL W34137 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Inorganic Carbon	1/13/16	12:12	50.00	52.74	105	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122618 Lab Sample ID: 680436

ICAL Calibration #: ICAL W34137 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)	
Total Inorganic Carbon	1/13/16	15:29	50.00	55.29	111	90	110	FAIL

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122618 Lab Sample ID: 680439

ICAL Calibration #: ICAL W34137 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Inorganic Carbon	1/13/16	16:34	50.00	51.86	104	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122618 Lab Sample ID: 680440

ICAL Calibration #: ICAL W34137 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Inorganic Carbon	1/13/16	16:49	50.00	51.95	104	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122661 Lab Sample ID: 681211

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	1/14/16	07:40	15.00	14.33	96	90	110
Nitrate Nitrogen	1/14/16	07:40	3.500	3.557	102	90	110
Sulfate	1/14/16	07:40	25.00	23.93	96	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122661 Lab Sample ID: 681214

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	1/14/16	12:35	15.00	14.67	98	90	110
Nitrate Nitrogen	1/14/16	12:35	3.500	3.702	106	90	110
Sulfate	1/14/16	12:35	25.00	25.71	103	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122661 Lab Sample ID: 681219

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	1/14/16	16:32	15.00	14.63	98	90	110
Nitrate Nitrogen	1/14/16	16:32	3.500	3.742	107	90	110
Sulfate	1/14/16	16:32	25.00	25.73	103	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122661 Lab Sample ID: 681222

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Sulfate	1/14/16 20:49	25.00	25.79	103	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122661 Lab Sample ID: 681225

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Sulfate	1/15/16 00:46	25.00	25.89	104	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122684 Lab Sample ID: 681798

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	1/15/16	09:23	15.00	14.00	93	90	110
Nitrate Nitrogen	1/15/16	09:23	3.500	3.631	104	90	110
Sulfate	1/15/16	09:23	25.00	25.43	102	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122684 Lab Sample ID: 681801

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	1/15/16	13:40	15.00	14.08	94	90	110
Nitrate Nitrogen	1/15/16	13:40	3.500	3.675	105	90	110
Sulfate	1/15/16	13:40	25.00	25.24	101	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122684

Lab Sample ID: 681803

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	1/15/16	17:25	15.00	13.98	93	90	110
Nitrate Nitrogen	1/15/16	17:25	3.500	3.642	104	90	110
Sulfate	1/15/16	17:25	25.00	25.13	101	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122684 Lab Sample ID: 681809

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	1/15/16	21:28	15.00	14.15	94	90	110
Nitrate Nitrogen	1/15/16	21:28	3.500	3.641	104	90	110
Sulfate	1/15/16	21:28	25.00	25.26	101	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122684 Lab Sample ID: 681811

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	1/16/16	00:35	15.00	14.14	94	90	110
Nitrate Nitrogen	1/16/16	00:35	3.500	3.628	104	90	110
Sulfate	1/16/16	00:35	25.00	25.27	101	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122704 Lab Sample ID: 681821

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	1/16/16	11:03	15.00	13.99	93	90	110
Nitrate Nitrogen	1/16/16	11:03	3.500	3.663	105	90	110
Sulfate	1/16/16	11:03	25.00	25.00	100	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122704 Lab Sample ID: 681827

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	1/16/16	14:29	15.00	14.12	94	90	110
Nitrate Nitrogen	1/16/16	14:29	3.500	3.664	105	90	110
Sulfate	1/16/16	14:29	25.00	25.16	101	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122704 Lab Sample ID: 681832

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	1/16/16	17:36	15.00	14.20	95	90	110
Nitrate Nitrogen	1/16/16	17:36	3.500	3.691	105	90	110
Sulfate	1/16/16	17:36	25.00	25.26	101	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122770 Lab Sample ID: 682451

ICAL Calibration #: ICAL W34137 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	1/19/16	16:25	50.00	50.38	101	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122770 Lab Sample ID: 682454

ICAL Calibration #: ICAL W34137 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	1/19/16 19:10	50.00	53.20	106	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122773 Lab Sample ID: 682552

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
COD	1/19/16 14:10	400.0	417.0	104	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122773

Lab Sample ID: 682554

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
COD	1/19/16	14:10	400.0	415.0	104	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122770 Lab Sample ID: 683425

ICAL Calibration #: ICAL W34137 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	1/21/16	15:23	50.00	50.95	102	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122770 Lab Sample ID: 683430

ICAL Calibration #: ICAL W34137 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	1/21/16 18:04	50.00	51.15	102	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122773 Lab Sample ID: 682575

Analytical Prep Batch #: Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
COD	08/18/2015 14:10	0			35

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122608 Lab Sample ID: 687000

Analytical Prep Batch #: Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Dissolved Organic Carbon	04/21/2014 16:37			0.5	1.5
Total Organic Carbon	04/21/2014 16:37			0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122594 Lab Sample ID: 680087

Analytical Prep Batch #: Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	12/02/2015 09:43	0.3827	U	1.1	2.0
Nitrate Nitrogen	12/02/2015 09:43	0	U	0.08	0.20
Sulfate	12/02/2015 09:43	0.5463	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122608 Lab Sample ID: 680407

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: ICAL W34137 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	01/13/2016 12:28	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122608 Lab Sample ID: 680413

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: ICAL W34137 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	01/13/2016 15:44	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122608 Lab Sample ID: 680417

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: ICAL W34137 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	01/13/2016 17:04	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122608 Lab Sample ID: 680422

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: ICAL W34137 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	01/13/2016 19:40	0.07000	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122618 Lab Sample ID: 680431

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: ICAL W34137 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Inorganic Carbon	01/13/2016 12:28	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122618 Lab Sample ID: 680437

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: ICAL W34137 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Inorganic Carbon	01/13/2016 15:44	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122618 Lab Sample ID: 680441

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: ICAL W34137 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Inorganic Carbon	01/13/2016 17:04	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122770 Lab Sample ID: 682455

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: ICAL W34137 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	01/19/2016 19:25	0.4200	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122773 Lab Sample ID: 682553

Analytical Prep Batch #: Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
COD	01/19/2016 14:10	0			35

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122773 Lab Sample ID: 682555

Analytical Prep Batch #: Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
COD	01/19/2016 14:10	0			35

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122770 Lab Sample ID: 683426

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: ICAL W34137 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	01/21/2016 15:40	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122770

Lab Sample ID: 683434

Analytical Prep Batch # 0

Preparation Date/Time:

ICAL Calibration #: ICAL W34137

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	01/21/2016 18:36	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122594 Lab Sample ID: 679907

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	01/12/2016 09:37	0.4811	U	1.1	2.0
Nitrate Nitrogen	01/12/2016 09:37	0	U	0.08	0.20
Sulfate	01/12/2016 09:37	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122594 Lab Sample ID: 679914

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	01/12/2016 17:45	0.3879	U	1.1	2.0
Nitrate Nitrogen	01/12/2016 17:45	0	U	0.08	0.20
Sulfate	01/12/2016 17:45	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122594 Lab Sample ID: 679917

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	01/12/2016 21:29	0.3904	U	1.1	2.0
Nitrate Nitrogen	01/12/2016 21:29	0	U	0.08	0.20
Sulfate	01/12/2016 21:29	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122594 Lab Sample ID: 679919

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	01/12/2016 22:25	0.3889	U	1.1	2.0
Nitrate Nitrogen	01/12/2016 22:25	0	U	0.08	0.20
Sulfate	01/12/2016 22:25	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122614 Lab Sample ID: 680312

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	01/13/2016 09:33	0.4198	U	1.1	2.0
Nitrate Nitrogen	01/13/2016 09:33	0	U	0.08	0.20
Sulfate	01/13/2016 09:33	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122614 Lab Sample ID: 680319

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	01/13/2016 14:58	0	U	1.1	2.0
Nitrate Nitrogen	01/13/2016 14:58	0	U	0.08	0.20
Sulfate	01/13/2016 14:58	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122661 Lab Sample ID: 681215

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	01/14/2016 12:55	0	U	1.1	2.0
Nitrate Nitrogen	01/14/2016 12:55	0	U	0.08	0.20
Sulfate	01/14/2016 12:55	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122661 Lab Sample ID: 681221

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	01/14/2016 17:12	0	U	1.1	2.0
Nitrate Nitrogen	01/14/2016 17:12	0	U	0.08	0.20
Sulfate	01/14/2016 17:12	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122661 Lab Sample ID: 681223

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	01/14/2016 21:09	0	U	1.1	2.0
Nitrate Nitrogen	01/14/2016 21:09	0	U	0.08	0.20
Sulfate	01/14/2016 21:09	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122661 Lab Sample ID: 681226

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Sulfate	01/15/2016 01:06	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122684 Lab Sample ID: 681802

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	01/15/2016 13:59	0	U	1.1	2.0
Nitrate Nitrogen	01/15/2016 13:59	0	U	0.08	0.20
Sulfate	01/15/2016 13:59	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122684 Lab Sample ID: 681810

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	01/15/2016 21:47	0.3886	U	1.1	2.0
Nitrate Nitrogen	01/15/2016 21:47	0	U	0.08	0.20
Sulfate	01/15/2016 21:47	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122684 Lab Sample ID: 681812

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	01/16/2016 00:54	0.3910	U	1.1	2.0
Nitrate Nitrogen	01/16/2016 00:54	0	U	0.08	0.20
Sulfate	01/16/2016 00:54	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122704 Lab Sample ID: 681828

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	01/16/2016 14:48	0	U	1.1	2.0
Nitrate Nitrogen	01/16/2016 14:48	0	U	0.08	0.20
Sulfate	01/16/2016 14:48	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122704 Lab Sample ID: 681833

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	01/16/2016 17:55	0.4008	U	1.1	2.0
Nitrate Nitrogen	01/16/2016 17:55	0	U	0.08	0.20
Sulfate	01/16/2016 17:55	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122684 Lab Sample ID: 681904

Analytical Prep Batch #: Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	01/15/2016 18:02	0	U	1.1	2.0
Nitrate Nitrogen	01/15/2016 18:02	0	U	0.08	0.20
Sulfate	01/15/2016 18:02	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122608 Lab Sample ID: 680402

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: ICAL W34137 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	01/13/2016 09:58	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122618 Lab Sample ID: 680427

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: ICAL W34137 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Inorganic Carbon	01/13/2016 09:58	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122773 Lab Sample ID: 682048

Analytical Prep Batch # 55935 Preparation Date/Time: 01/19/2016 10:00

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total COD	01/19/2016 14:10	0	U	15	35

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122770 Lab Sample ID: 682453

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: ICAL W34137 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	01/19/2016 16:55	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122594 Lab Sample ID: 679909

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	01/12/2016 14:38	0	U	1.1	2.0
Nitrate Nitrogen	01/12/2016 14:38	0	U	0.08	0.20
Sulfate	01/12/2016 14:38	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122614 Lab Sample ID: 680317

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	01/13/2016 13:38	0	U	1.1	2.0
Nitrate Nitrogen	01/13/2016 13:38	0	U	0.08	0.20
Sulfate	01/13/2016 13:38	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122661 Lab Sample ID: 681213

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	01/14/2016 08:22	0.3939	U	1.1	2.0
Nitrate Nitrogen	01/14/2016 08:22	0	U	0.08	0.20
Sulfate	01/14/2016 08:22	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122684 Lab Sample ID: 681800

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	01/15/2016 10:14	0.3936	U	1.1	2.0
Nitrate Nitrogen	01/15/2016 10:14	0	U	0.08	0.20
Sulfate	01/15/2016 10:14	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 116426

Analytical Run #: 122704 Lab Sample ID: 681823

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	01/16/2016 11:41	0.3936	U	1.1	2.0
Nitrate Nitrogen	01/16/2016 11:41	0	U	0.08	0.20
Sulfate	01/16/2016 11:41	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

5A

SPIKE SAMPLE RECOVERY

Sample Description

54MW12

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	116426
% Solids for Sample:		Concentration Units:	mg/L
Sample No	680419	Parent Sample No.:	679979
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	122608	ICAL Calibration #:	ICAL W34137

Analysis Type	*Initial Analysis*	Analysis Date: -----	01/13/2016	Analysis Time: --------	17:57

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Organic Carbon	85-111	52.9		1.8	J	50.0	102		TOC

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5A

SPIKE SAMPLE RECOVERY

Sample Description

54ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	116426
% Solids for Sample:		Concentration Units:	mg/L
Sample No	682051	Parent Sample No.:	679984
Analytical Prep Batch #	55935	Analytical Preparation Date/Time:	01/19/2016 10:00
Analytical Run #:	122773	ICAL Calibration #:	

Analysis Type *Initial Analysis* Analysis Date: ----- 01/19/2016 Analysis Time: -------- 14:10

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
COD	90-110	181		26	J	148	105		SP

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5A

SPIKE SAMPLE RECOVERY

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	116426
% Solids for Sample:		Concentration Units:	mg/L
Sample No	683428	Parent Sample No.:	681533
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	122770	ICAL Calibration #:	ICAL W34137

Analysis Type	*Initial Analysis*	Analysis Date: -----	01/21/2016	Analysis Time: --------	17:08

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Organic Carbon	85-111	51.1		1.6	J	50.0	99		TOC

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5A

SPIKE SAMPLE RECOVERY

Sample Description

54MW10

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	116426
% Solids for Sample:		Concentration Units:	mg/L
Sample No	679911	Parent Sample No.:	679480
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	122594	ICAL Calibration #:	

Analysis Type	*Initial Analysis*	Analysis Date: -----	01/12/2016	Analysis Time: --------	15:52

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Chloride	87-111	44.4		4.6	U	40.0	100		IC
Nitrate Nitrogen	88-111	10.5		0.45	J	10.0	100		IC
Sulfate	87-112	114		76		40.0	95		IC

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5A

SPIKE SAMPLE RECOVERY

Sample Description

54MW12

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	116426
% Solids for Sample:		Concentration Units:	mg/L
Sample No	680314	Parent Sample No.:	679978
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	122614	ICAL Calibration #:	

Analysis Type	*Initial Analysis*	Analysis Date: -----	01/13/2016	Analysis Time: --------	12:04

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Chloride	87-111	13.8		6.0		8.00	98		IC
Nitrate Nitrogen	88-111	4.42		2.5		2.00	96		IC
Sulfate	87-112	52.4		45		8.00	92		IC

BDL = analyte concentration was below detection limit

CT LABORATORIES
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5A

SPIKE SAMPLE RECOVERY

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	116426
% Solids for Sample:		Concentration Units:	mg/L
Sample No	681217	Parent Sample No.:	680615
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	122661	ICAL Calibration #:	

Analysis Type	*Initial Analysis*	Analysis Date: -----	01/14/2016	Analysis Time: --------	15:52

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Chloride	87-111	45.4		4.3	U	40.0	103		IC
Nitrate Nitrogen	88-111	12.5		1.8	J	10.0	107		IC
Sulfate	87-112	141		100		40.0	102		IC

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5A

SPIKE SAMPLE RECOVERY

Sample Description

48MW07

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	116426
% Solids for Sample:		Concentration Units:	mg/L
Sample No	681807	Parent Sample No.:	681413
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	122684	ICAL Calibration #:	

Analysis Type *Initial Analysis* Analysis Date: ----- 01/15/2016 Analysis Time: -------- 18:39

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Chloride	87-111	8.57		1.2	J	8.00	92		IC
Nitrate Nitrogen	88-111	3.00		0.99		2.00	100		IC
Sulfate	87-112	9.05		1.4	J	8.00	96		IC

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5A

SPIKE SAMPLE RECOVERY

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	116426
% Solids for Sample:		Concentration Units:	mg/L
Sample No	681825	Parent Sample No.:	681532
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	122704	ICAL Calibration #:	

Analysis Type	*Initial Analysis*	Analysis Date: -----	01/16/2016	Analysis Time: --------	13:14

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Nitrate Nitrogen	88-111	2.94		0.93		2.00	100		IC
Sulfate	87-112	21.2		14		8.00	90		IC

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5A

SPIKE SAMPLE RECOVERY

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	116426
% Solids for Sample:		Concentration Units:	mg/L
Sample No	681825	Parent Sample No.:	681532
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	122704	ICAL Calibration #:	

ReRun *Re-Analysis #1* Analysis Date: ----- 01/16/2016 Analysis Time: -------- 16:22

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Chloride	87-111	39.5		3.1	U	40.0	91		IC

BDL = analyte concentration was below detection limit

CT LABORATORIES
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5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description

54MW12

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	116426
% Solids for Sample:		Concentration Units:	mg/L
Sample No	680458	Parent Sample No.:	680419
Analytical Prep Batch #		Analytical Preparation Date/Time:	
Analytical Run #:	122608	ICAL Calibration #:	

Analysis Type	*Initial Analysis*	Analysis Date: -----	01/13/2016	Analysis Time: --------	18:11

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Organic Carbon	85-111	52.2		1.8	J	50.0	101		TOC

BDL = analyte concentration was below detection limit

CT LABORATORIES
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5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description: **54ADW01**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	116426
% Solids for Sample:		Concentration Units:	mg/L
Sample No	682052	Parent Sample No.:	682051
Analytical Prep Batch #	55935	Analytical Preparation Date/Time:	01/19/2016 10:00
Analytical Run #:	122773	ICAL Calibration #:	

Analysis Type *Initial Analysis* Analysis Date: ----- 01/19/2016 Analysis Time: -------- 14:10

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
COD	90-110	182		26	J	148	105		SP

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description: **48MW2**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	116426
% Solids for Sample:		Concentration Units:	mg/L
Sample No	683429	Parent Sample No.:	683428
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	122770	ICAL Calibration #:	ICAL W34137

Analysis Type *Initial Analysis* Analysis Date: ----- 01/21/2016 Analysis Time: -------- 17:22

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Organic Carbon	85-111	44.9		1.6	J	50.0	87		TOC

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description

54MW10

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	116426
% Solids for Sample:		Concentration Units:	mg/L
Sample No	679912	Parent Sample No.:	679911
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	122594	ICAL Calibration #:	

Analysis Type	*Initial Analysis*	Analysis Date: -----	01/12/2016	Analysis Time: --------	16:11

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Chloride	87-111	45.0		BDL	U	40.0	112		IC	*FAIL*
Nitrate Nitrogen	88-111	10.7		0.45	J	10.0	102		IC	
Sulfate	87-112	114		76		40.0	95		IC	

BDL = analyte concentration was below detection limit

CT LABORATORIES
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5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description

54MW12

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	116426
% Solids for Sample:		Concentration Units:	mg/L
Sample No	680315	Parent Sample No.:	680314
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	122614	ICAL Calibration #:	

Analysis Type *Initial Analysis* Analysis Date: ----- 01/13/2016 Analysis Time: -------- 12:23

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Chloride	87-111	13.9		6.0		8.00	99		IC
Nitrate Nitrogen	88-111	4.44		2.5		2.00	97		IC
Sulfate	87-112	52.5		45		8.00	94		IC

BDL = analyte concentration was below detection limit

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5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	116426
% Solids for Sample:		Concentration Units:	mg/L
Sample No	681252	Parent Sample No.:	681217
Analytical Prep Batch #		Analytical Preparation Date/Time:	
Analytical Run #:	122661	ICAL Calibration #:	

Analysis Type	*Initial Analysis*	Analysis Date: -----	01/14/2016	Analysis Time: --------	16:12

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Chloride	87-111	45.5		4.3	U	40.0	103		IC
Nitrate Nitrogen	88-111	12.5		1.8	J	10.0	107		IC
Sulfate	87-112	140		100		40.0	100		IC

BDL = analyte concentration was below detection limit

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5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description

48MW07

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	116426
% Solids for Sample:		Concentration Units:	mg/L
Sample No	681808	Parent Sample No.:	681807
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	122684	ICAL Calibration #:	

Analysis Type	*Initial Analysis*	Analysis Date: -----	01/15/2016	Analysis Time: --------	18:58

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Chloride	87-111	8.57		1.2	J	8.00	92		IC
Nitrate Nitrogen	88-111	2.99		0.99		2.00	100		IC
Sulfate	87-112	9.00		1.4	J	8.00	95		IC

BDL = analyte concentration was below detection limit

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5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	116426
% Solids for Sample:		Concentration Units:	mg/L
Sample No	681826	Parent Sample No.:	681825
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	122704	ICAL Calibration #:	

Analysis Type	*Initial Analysis*	Analysis Date: -----	01/16/2016	Analysis Time: --------	13:33

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Nitrate Nitrogen	88-111	2.97		0.93		2.00	102		IC
Sulfate	87-112	21.3		14		8.00	91		IC

BDL = analyte concentration was below detection limit

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5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	116426
% Solids for Sample:		Concentration Units:	mg/L
Sample No	681826	Parent Sample No.:	681825
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	122704	ICAL Calibration #:	

ReRun *Re-Analysis #1* Analysis Date: ----- 01/16/2016 Analysis Time: -------- 16:40

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Chloride	87-111	40.3		BDL	U	40.0	101		IC

BDL = analyte concentration was below detection limit

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6

DUPLICATES

Sample Description

54MW12

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 116426
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch # 1
Analytical Preparation Date/Time 0
Analytical Run #: 122608
ICAL Calibration #: ICAL W34137
Sample #: 680418
Parent Sample #: 679979

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M	
Total Organic Carbon	01/13/2016	17:39	20	1.8	J	0.50	U	200		TOC	*FAIL*

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6

DUPLICATES

Sample Description

54MW12

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID

SDG No.: 116426

% Solid for Sample:

Concentration Units: mg/L

Analytical Prep Batch # 1

Analytical Preparation Date/Time 0

Analytical Run #: 122618

ICAL Calibration #: ICAL W34137

Sample #: 680433

Parent Sample #: 679979

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Total Inorganic Carbon	01/13/2016	14:21	20	91		89.6		2		TOC

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6

DUPLICATES

Sample Description

54ADW01

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID

SDG No.: 116426

% Solid for Sample:

Concentration Units: S.U.

Analytical Prep Batch # 1

Analytical Preparation Date/Time

Analytical Run #: 122651

ICAL Calibration #:

Sample #: 680645

Parent Sample #: 679984

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
pH	01/14/2016	10:00	1	7.27		7.25		0		ELEC

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6

DUPLICATES

Sample Description

54ADW01

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID

SDG No.: 116426

% Solid for Sample:

Concentration Units: mg/L

Analytical Prep Batch # 1

Analytical Preparation Date/Time 55935

Analytical Run #: 122773

ICAL Calibration #:

Sample #: 682050

Parent Sample #: 679984

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
COD	01/19/2016	14:10	20	26	J	24.0	J	8		SP

CT LABORATORIES
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6

DUPLICATES

Sample Description

49ADW01

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID

SDG No.: 116426

% Solid for Sample:

Concentration Units: S.U.

Analytical Prep Batch # 1

Analytical Preparation Date/Time

Analytical Run #: 122842

ICAL Calibration #:

Sample #: 683005

Parent Sample #: 681538

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
pH	01/21/2016	10:00	1	7.43		7.43		0		ELEC

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6

DUPLICATES

Sample Description

48MW2

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID

SDG No.: 116426

% Solid for Sample:

Concentration Units: mg/L

Analytical Prep Batch # 1

Analytical Preparation Date/Time 0

Analytical Run #: 122770

ICAL Calibration #: ICAL W34137

Sample #: 683427

Parent Sample #: 681533

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M	
Total Organic Carbon	01/21/2016	16:54	20	1.6	J	1.16	J	32		TOC	*FAIL*

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6

DUPLICATES

Sample Description

54MW10

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 116426
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch # 1
Analytical Preparation Date/Time 0
Analytical Run #: 122594
ICAL Calibration #:
Sample #: 679910
Parent Sample #: 679480

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Chloride	01/12/2016	15:34	10	4.6		4.54		1		IC
Nitrate Nitrogen	01/12/2016	15:34	10	0.45		0.441		2		IC

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6

DUPLICATES

Sample Description

54MW10

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID

SDG No.: 116426

% Solid for Sample:

Concentration Units: mg/L

Analytical Prep Batch # 2

Analytical Preparation Date/Time 0

Analytical Run #: 122594

ICAL Calibration #:

Sample #: 679910

Parent Sample #: 679480

ReRun *Re-Analysis #1*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Sulfate	01/12/2016	20:52	10	76		76.5		1		IC

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6

DUPLICATES

Sample Description

54MW12

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 116426
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch # 1
Analytical Preparation Date/Time 0
Analytical Run #: 122614
ICAL Calibration #:
Sample #: 680313
Parent Sample #: 679978

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Chloride	01/13/2016	11:36	10	6.0		5.96		1		IC
Nitrate Nitrogen	01/13/2016	11:36	10	2.5		2.54		2		IC
Sulfate	01/13/2016	11:36	10	45		44.8		0		IC

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6

DUPLICATES

Sample Description

13MW3

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID

SDG No.: 116426

% Solid for Sample:

Concentration Units: mg/L

Analytical Prep Batch # 1

Analytical Preparation Date/Time 0

Analytical Run #: 122661

ICAL Calibration #:

Sample #: 681216

Parent Sample #: 680615

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Chloride	01/14/2016	15:33	10	4.3		4.23		2		IC
Nitrate Nitrogen	01/14/2016	15:33	10	1.8		1.80		0		IC

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6

DUPLICATES

Sample Description

13MW3

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID

SDG No.: 116426

% Solid for Sample:

Concentration Units: mg/L

Analytical Prep Batch # 2

Analytical Preparation Date/Time 0

Analytical Run #: 122661

ICAL Calibration #:

Sample #: 681216

Parent Sample #: 680615

ReRun *Re-Analysis #1*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Sulfate	01/14/2016	22:47	10	100		101		1		IC

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6

DUPLICATES

Sample Description

48MW07

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 116426
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch # 1
Analytical Preparation Date/Time 0
Analytical Run #: 122684
ICAL Calibration #:
Sample #: 681806
Parent Sample #: 681413

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Chloride	01/15/2016	18:21	10	1.2	J	1.21	J	1		IC
Nitrate Nitrogen	01/15/2016	18:21	10	0.99		0.986		0		IC
Sulfate	01/15/2016	18:21	10	1.4	J	1.38	J	1		IC

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6

DUPLICATES

Sample Description

48MW2

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID

SDG No.: 116426

% Solid for Sample:

Concentration Units: mg/L

Analytical Prep Batch # 1

Analytical Preparation Date/Time 0

Analytical Run #: 122704

ICAL Calibration #:

Sample #: 681824

Parent Sample #: 681532

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Chloride	01/16/2016	12:56	10	3.1	J	3.12	J	1		IC
Nitrate Nitrogen	01/16/2016	12:56	10	0.93		0.945		2		IC
Sulfate	01/16/2016	12:56	10	14		14.0		0		IC

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6A

MATRIX SPIKE DUPLICATES

Sample Description: **54MW12**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 116426
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch #:
Analytical Preparation Date/Time:
Analytical Run #: 122608
ICAL Calibration #:
Sample #: 680458
Parent Sample #: 680419

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim	RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Total Organic Carbon	01/13/2016 18:11	20	52.9		52.2		1		TOC

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6A

MATRIX SPIKE DUPLICATES

Sample Description: **54ADW01**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 116426
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch #: 55935
Analytical Preparation Date/Time: 01/19/2016 10:00
Analytical Run #: 122773
ICAL Calibration #:
Sample #: 682052
Parent Sample #: 682051

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
COD	01/19/2016	14:10	20	181		182		1		SP

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6A

MATRIX SPIKE DUPLICATES

Sample Description: **48MW2**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 116426
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
Analytical Run #: 122770
ICAL Calibration #: ICAL W34137
Sample #: 683429
Parent Sample #: 683428

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Total Organic Carbon	01/21/2016	17:22	20	51.1		44.9		13		TOC

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6A

MATRIX SPIKE DUPLICATES

Sample Description: **54MW10**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 116426
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
Analytical Run #: 122594
ICAL Calibration #:
Sample #: 679912
Parent Sample #: 679911

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Chloride	01/12/2016	16:11	15	44.4		45.0		1		IC
Nitrate Nitrogen	01/12/2016	16:11	15	10.5		10.7		1		IC
Sulfate	01/12/2016	16:11	15	114		114		0		IC

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6A

MATRIX SPIKE DUPLICATES

Sample Description: **54MW12**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 116426
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
Analytical Run #: 122614
ICAL Calibration #:
Sample #: 680315
Parent Sample #: 680314

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Chloride	01/13/2016	12:23	15	13.8		13.9		1		IC
Nitrate Nitrogen	01/13/2016	12:23	15	4.42		4.44		0		IC
Sulfate	01/13/2016	12:23	15	52.4		52.5		0		IC

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6A

MATRIX SPIKE DUPLICATES

Sample Description: **13MW3**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 116426
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch #:
Analytical Preparation Date/Time:
Analytical Run #: 122661
ICAL Calibration #:
Sample #: 681252
Parent Sample #: 681217

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Chloride	01/14/2016	16:12	15	45.4		45.5		0		IC
Nitrate Nitrogen	01/14/2016	16:12	15	12.5		12.5		0		IC
Sulfate	01/14/2016	16:12	15	141		140		0		IC

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6A

MATRIX SPIKE DUPLICATES

Sample Description: **48MW07**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 116426
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
Analytical Run #: 122684
ICAL Calibration #:
Sample #: 681808
Parent Sample #: 681807

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Chloride	01/15/2016	18:58	15	8.57		8.57		0		IC
Nitrate Nitrogen	01/15/2016	18:58	15	3.00		2.99		0		IC
Sulfate	01/15/2016	18:58	15	9.05		9.00		1		IC

CT LABORATORIES
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6A

MATRIX SPIKE DUPLICATES

Sample Description: **48MW2**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 116426
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
Analytical Run #: 122704
ICAL Calibration #:
Sample #: 681826
Parent Sample #: 681825

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Nitrate Nitrogen	01/16/2016	13:33	15	2.94		2.97		1		IC
Sulfate	01/16/2016	13:33	15	21.2		21.3		0		IC

CT LABORATORIES
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6A

MATRIX SPIKE DUPLICATES

Sample Description: **48MW2**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 116426
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
Analytical Run #: 122704
ICAL Calibration #:
Sample #: 681826
Parent Sample #: 681825

ReRun *Re-Analysis #1*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Chloride	01/16/2016	16:40	15	39.5		40.3		2		IC

CT LABORATORIES
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7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 116426

Concentration Units: mg/L

Analytical Run #: 122608 Sample No.:#: 680401

Analytical Prep Batch #: 0 Preparation Date/Time:

ICAL Calibration #: ICAL W34137

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Total Organic Carbon	01/13/2016 09:43	85-111	49.67		50.00	99		TOC

CT LABORATORIES
delivering more than data from your environmental analyses

7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 116426

Concentration Units: mg/L

Analytical Run #: 122618 Sample No.:#: 680426

Analytical Prep Batch #: 0 Preparation Date/Time:

ICAL Calibration #: ICAL W34137

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Total Inorganic Carbon	01/13/2016 09:43	85-111	49.67		50.00	99		TOC

CT LABORATORIES
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7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 116426

Concentration Units: mg/L

Analytical Run #: 122773 Sample No.:#: 682049

Analytical Prep Batch #: 55935 Preparation Date/Time: 01/19/2016 10:00

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
COD	01/19/2016 14:10	90-110	421.0		400.0	105		SP

CT LABORATORIES
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7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 116426

Concentration Units: mg/L

Analytical Run #: 122770 Sample No.:#: 682452

Analytical Prep Batch #: 0 Preparation Date/Time:

ICAL Calibration #: ICAL W34137

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Total Organic Carbon	01/19/2016 16:40	85-111	53.99		50.00	108		TOC

CT LABORATORIES
delivering more than data from your environmental analyses

7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 116426

Concentration Units: mg/L

Analytical Run #: 122594 Sample No.:#: 679908

Analytical Prep Batch #: 0 Preparation Date/Time:

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Chloride	01/12/2016 14:19	87-111	14.17		15.00	94		IC
Nitrate Nitrogen	01/12/2016 14:19	88-111	3.509		3.500	100		IC
Sulfate	01/12/2016 14:19	87-112	24.50		25.00	98		IC

CT LABORATORIES
delivering more than data from your environmental analyses

7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 116426

Concentration Units: mg/L

Analytical Run #: 122614 Sample No.:#: 680316

Analytical Prep Batch #: 0 Preparation Date/Time:

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Chloride	01/13/2016 13:19	87-111	14.09		15.00	94		IC
Nitrate Nitrogen	01/13/2016 13:19	88-111	3.483		3.500	100		IC
Sulfate	01/13/2016 13:19	87-112	23.89		25.00	96		IC

CT LABORATORIES
delivering more than data from your environmental analyses

7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 116426

Concentration Units: mg/L

Analytical Run #: 122661 Sample No.:#: 681212

Analytical Prep Batch #: 0 Preparation Date/Time:

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Chloride	01/14/2016 08:03	87-111	14.32		15.00	95		IC
Nitrate Nitrogen	01/14/2016 08:03	88-111	3.529		3.500	101		IC
Sulfate	01/14/2016 08:03	87-112	23.42		25.00	94		IC

CT LABORATORIES
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7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 116426

Concentration Units: mg/L

Analytical Run #: 122684 Sample No.:#: 681799

Analytical Prep Batch #: 0 Preparation Date/Time:

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Chloride	01/15/2016	09:54	87-111	13.83		15.00	92		IC
Nitrate Nitrogen	01/15/2016	09:54	88-111	3.548		3.500	101		IC
Sulfate	01/15/2016	09:54	87-112	24.94		25.00	100		IC

CT LABORATORIES
delivering more than data from your environmental analyses

7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 116426

Concentration Units: mg/L

Analytical Run #: 122704 Sample No.:#: 681822

Analytical Prep Batch #: 0 Preparation Date/Time:

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Chloride	01/16/2016 11:22	87-111	13.90		15.00	93		IC
Nitrate Nitrogen	01/16/2016 11:22	88-111	3.601		3.500	103		IC
Sulfate	01/16/2016 11:22	87-112	24.68		25.00	99		IC

INORGANICS
RAW DATA
DOCUMENTS

Schedule File: C:\INSTARCH\Sequences\System 2\120115 - IC0475.sch

Line	Sample	Sample Type	Level	Method	Data File	Volume
1	AB	Sample		c:\instarch\methods\system 2\ic0475.met	ab	1
2	IB	Sample		c:\instarch\methods\system 2\ic0475.met	ib	1
3	IB	Sample		c:\instarch\methods\system 2\ic0475.met	ib	1
4	CCV	Sample		c:\instarch\methods\system 2\ic0475.met	ccv	1
5	STD 1	Calibration St	1	c:\instarch\methods\system 2\ic0475.met	std 1	1
6	STD 2	Calibration St	2	c:\instarch\methods\system 2\ic0475.met	std 2	1
7	STD 3	Calibration St	3	c:\instarch\methods\system 2\ic0475.met	std 3	1
8	STD 4	Calibration St	4	c:\instarch\methods\system 2\ic0475.met	std 4	1
9	STD 5	Calibration St	5	c:\instarch\methods\system 2\ic0475.met	std 5	1
10	STD 6	Calibration St	6	c:\instarch\methods\system 2\ic0475.met	std 6	1
11	STD 7	Calibration St	7	c:\instarch\methods\system 2\ic0475.met	std 7	1
12	STD 8	Calibration St	8	c:\instarch\methods\system 2\ic0475.met	std 8	1
13	STD 9	Calibration St	9	c:\instarch\methods\system 2\ic0475.met	std 9	1
14	ICV	Sample		c:\instarch\methods\system 2\ic0475.met	icv	1
15	ICB	Sample		c:\instarch\methods\system 2\ic0475.met	icb	1

Schedu

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Calibration Concentrations

Instrument:	DX-120 (2)	Cal. File:		IC0475	ICV	IC0469 IC0470		Analyst/Date: JJF 12/01/2015		
Analyte	Cal Level 1 (mg/L)	Cal Level 2 (mg/L)	Cal Level 3 (mg/L)	Cal Level 4 (mg/L)	Cal Level 5 (mg/L)	Cal Level 6 (mg/L)	Cal Level 7 (mg/L)	Cal Level 8 (mg/L)	Cal Level 9 (mg/L)	ICV (mg/L)
Fluoride	0.0	0.1	0.30	0.5	1.0	2.0	5.0	7.0	10.0	3.5
Chloride	0.0	0.5	0.75	1.0	5.0	10.0	20.0	30.0	40.0	15.0
Bromide	0.0	0.1	0.30	0.5	1.0	2.0	5.0	7.0	10.0	3.5
Nitrite	0.0	0.1	0.30	0.5	1.0	2.0	5.0	7.0	10.0	3.5
Nitrate	0.0	0.1	0.30	0.5	1.0	2.0	5.0	7.0	10.0	3.5
O-Phoshorous	0.0	0.1	0.30	0.5	1.0	2.0	5.0	7.0	10.0	3.5
Sulfate	0.0	0.5	0.75	1.0	5.0	10.0	30.0	50.0	70.0	25.0

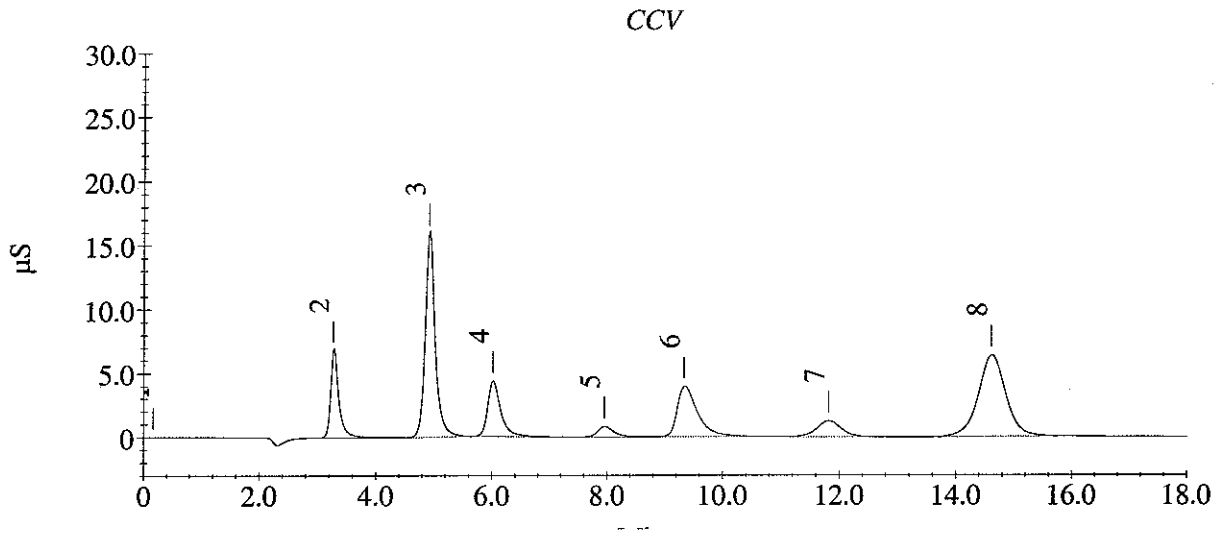
Sample Analysis Report

Sample Name : CCV
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\120115 - IC0475\CCV_004.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 12/1/15 15:38:41
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.27	0.0000	679602	68080	
3	Chloride	4.92	0.0000	1901412	158708	
4	Nitrite	6.02	0.0000	684875	43482	
5	Bromide	7.95	0.0000	165515	8209	
6	Nitrate	9.33	0.0000	976846	39537	
7	O.Phos	11.82	0.0000	364970	12503	
8	Sulfate	14.60	0.0000	2107226	63756	



Calibration Update Report

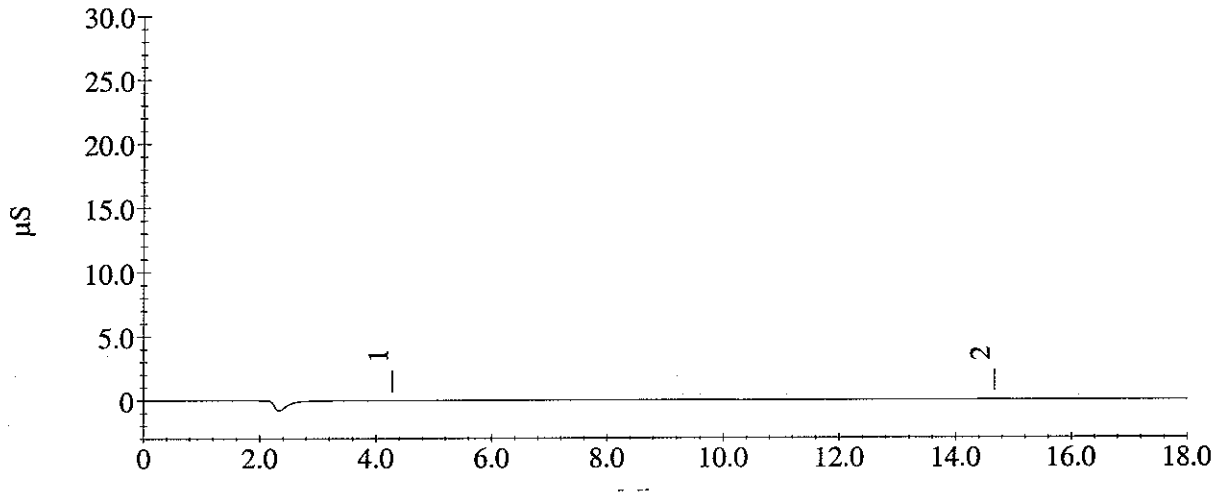
Sample Name : STD 1
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\120115 - IC0475\STD 1_005.DXD

Method File Name : C:\INSTARCH\METHODS\SYSTEM 2\IC0475.met
Schedule File Name : c:\instarch\sequences\system 2\120115 - ic0475.sch
Date Time Collected : 12/1/15 16:08:10
Calibration Date : 12/2/15 08:02:50
System Operator : JJF

Peak Information : All Components

Peak #	Component Name	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
2	Sulfate	14.67	0	7544	7544

STD 1



Calibration Update Report

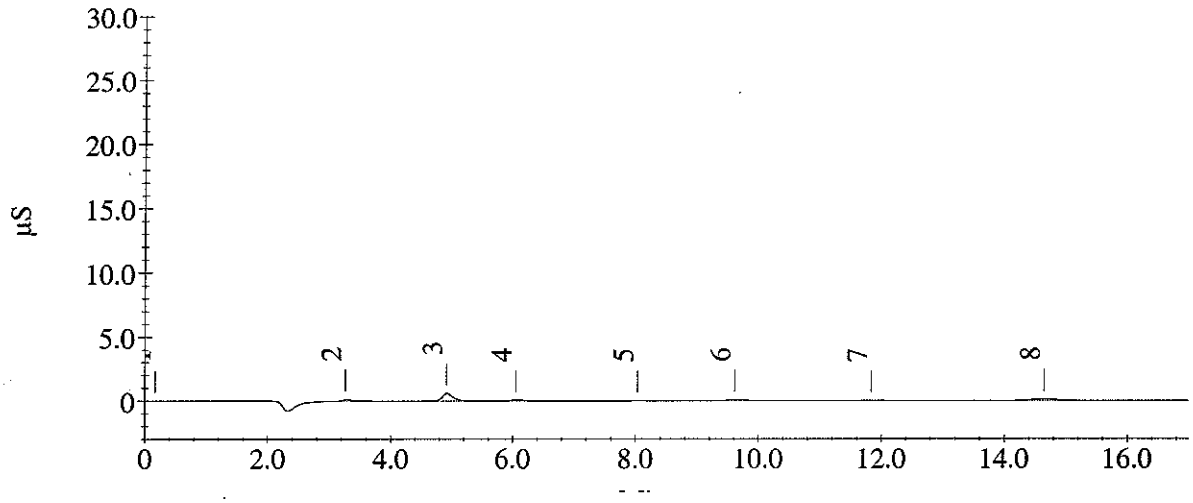
Sample Name : STD 2
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\120115 - IC0475\STD 2_006.DXD

Method File Name : C:\INSTARCH\METHODS\SYSTEM 2\IC0475.met
Schedule File Name : c:\instarch\sequences\system 2\120115 - ic0475.sch
Date Time Collected : 12/1/15 16:28:24
Calibration Date : 12/2/15 08:02:50
System Operator : JJF

Peak Information : All Components

Peak #	Component Name	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
2	Fluoride	3.27	10729	10729	10729
3	Chloride	4.92	78780	78780	78780
4	Nitrite	6.05	14254	14254	14254
5	Bromide	8.03	3716	3716	3716
6	Nitrate	9.62	21406	21406	21406
7	O.Phos	11.83	7931	7931	7931
8	Sulfate	14.65	0	40979	40979

STD 2



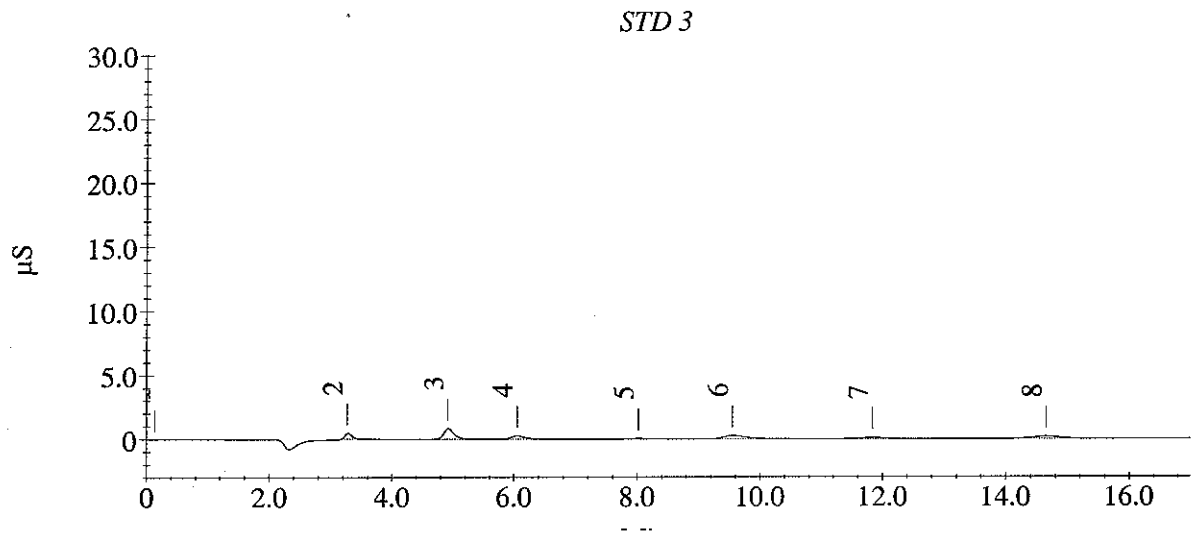
Calibration Update Report

Sample Name : STD 3
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\120115 - IC0475\STD 3_007.DXD

Method File Name : C:\INSTARCH\METHODS\SYSTEM 2\IC0475.met
Schedule File Name : c:\instarch\sequences\system 2\120115 - ic0475.sch
Date Time Collected : 12/1/15 16:47:38
Calibration Date : 12/2/15 08:02:51
System Operator : JJF

Peak Information : All Components

Peak #	Component Name	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
2	Fluoride	3.27	35508	35508	35508
3	Chloride	4.92	108577	108577	108577
4	Nitrite	6.05	45728	45728	45728
5	Bromide	8.02	11878	11878	11878
6	Nitrate	9.55	73214	73214	73214
7	O.Phos	11.83	27537	27537	27537
8	Sulfate	14.65	0	63375	63375



Calibration Update Report

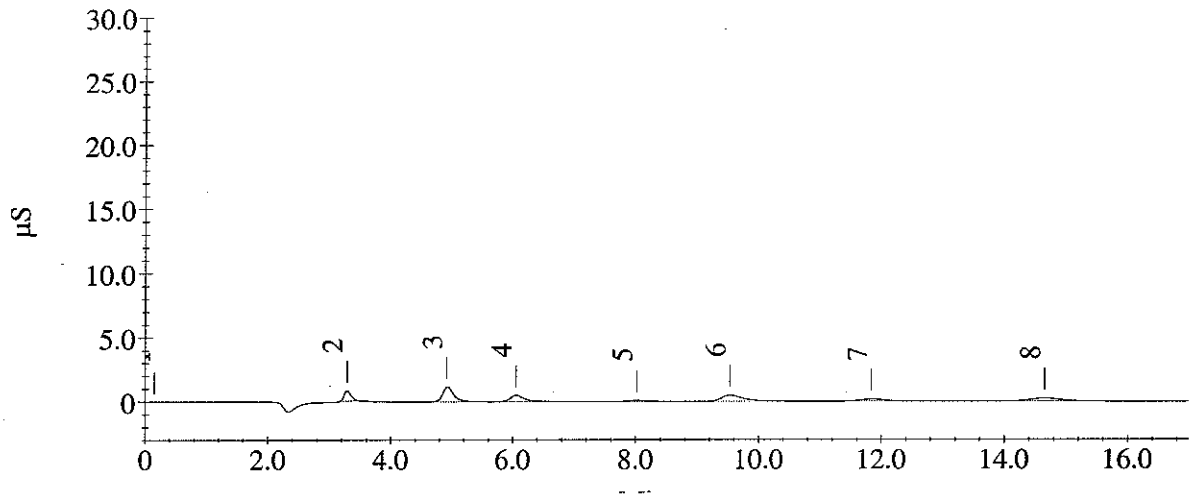
Sample Name : STD 4
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\120115 - IC0475\STD 4_008.DXD

Method File Name : C:\INSTARCH\METHODS\SYSTEM 2\IC0475.met
Schedule File Name : c:\instarch\sequences\system 2\120115 - ic0475.sch
Date Time Collected : 12/1/15 17:06:52
Calibration Date : 12/2/15 08:02:51
System Operator : JJF

Peak Information : All Components

Peak #	Component Name	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
2	Fluoride	3.28	63225	63225	63225
3	Chloride	4.92	150093	150093	150093
4	Nitrite	6.05	82679	82679	82679
5	Bromide	8.02	20567	20567	20567
6	Nitrate	9.53	127668	127668	127668
7	O.Phos	11.83	46620	46620	46620
8	Sulfate	14.65	0	83152	83152

STD 4



Calibration Update Report

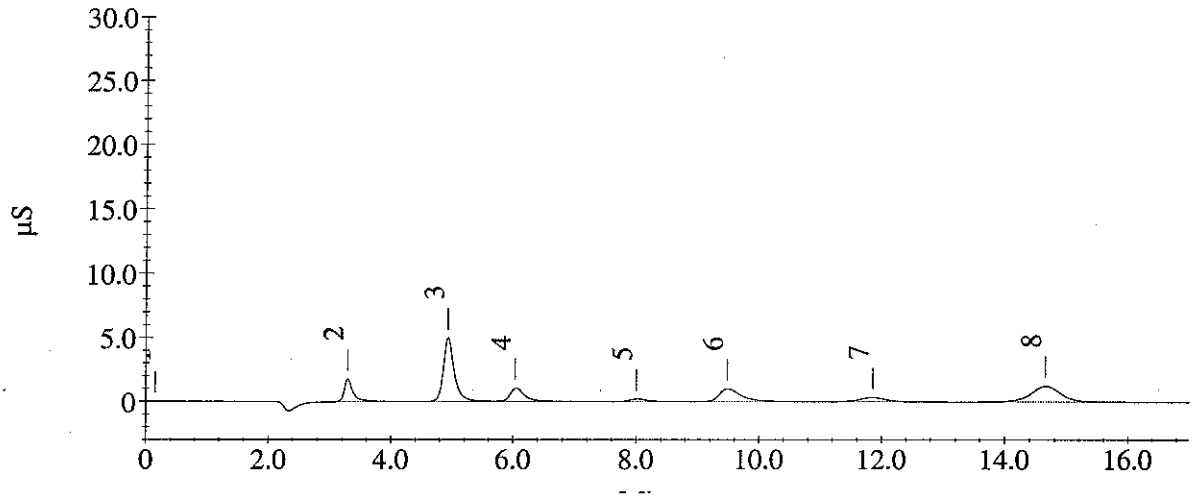
Sample Name : STD 5
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\120115 - IC0475\STD 5_009.DXD

Method File Name : C:\INSTARCH\METHODS\SYSTEM 2\IC0475.met
Schedule File Name : c:\instarch\sequences\system 2\120115 - ic0475.sch
Date Time Collected : 12/1/15 17:26:05
Calibration Date : 12/2/15 08:02:51
System Operator : JJF

Peak Information : All Components

Peak #	Component Name	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
2	Fluoride	3.28	178103	178103	178103
3	Chloride	4.93	618147	618147	618147
4	Nitrite	6.03	167095	167095	167095
5	Bromide	8.00	44550	44550	44550
6	Nitrate	9.48	259792	259792	259792
7	O.Phos	11.85	98888	98888	98888
8	Sulfate	14.65	0	424795	424795

STD 5



Calibration Update Report

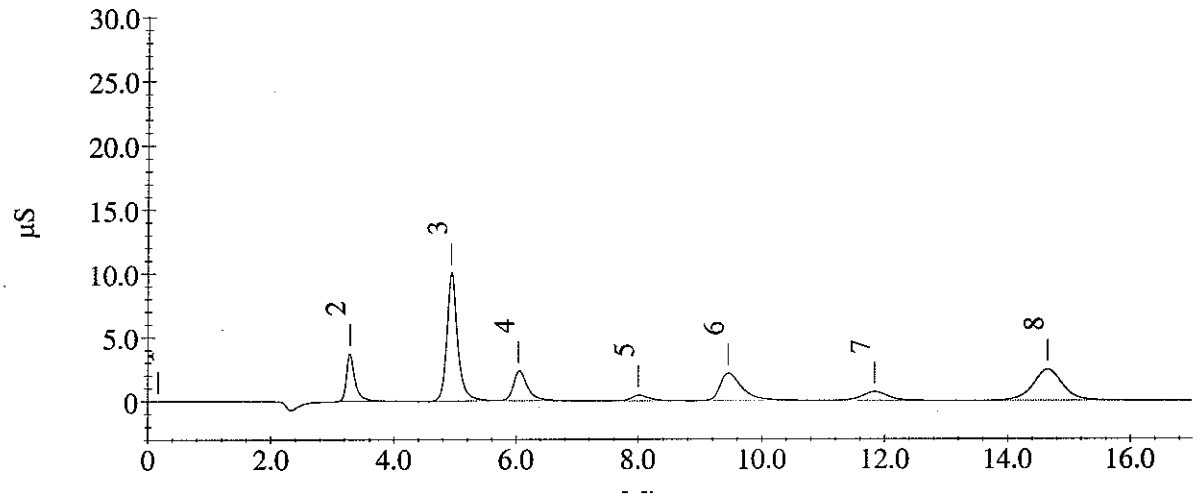
Sample Name : STD 6
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\120115 - IC0475\STD 6_010.DXD

Method File Name : C:\INSTARCH\METHODS\SYSTEM 2\IC0475.met
Schedule File Name : c:\instarch\sequences\system 2\120115 - ic0475.sch
Date Time Collected : 12/1/15 17:45:19
Calibration Date : 12/2/15 08:02:51
System Operator : JJF

Peak Information : All Components

Peak #	Component Name	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
2	Fluoride	3.28	360861	360861	360861
3	Chloride	4.93	1220938	1220938	1220938
4	Nitrite	6.03	374659	374659	374659
5	Bromide	8.00	88290	88290	88290
6	Nitrate	9.45	541781	541781	541781
7	O.Phos	11.83	204298	204298	204298
8	Sulfate	14.65	0	838420	838420

STD 6



Calibration Update Report

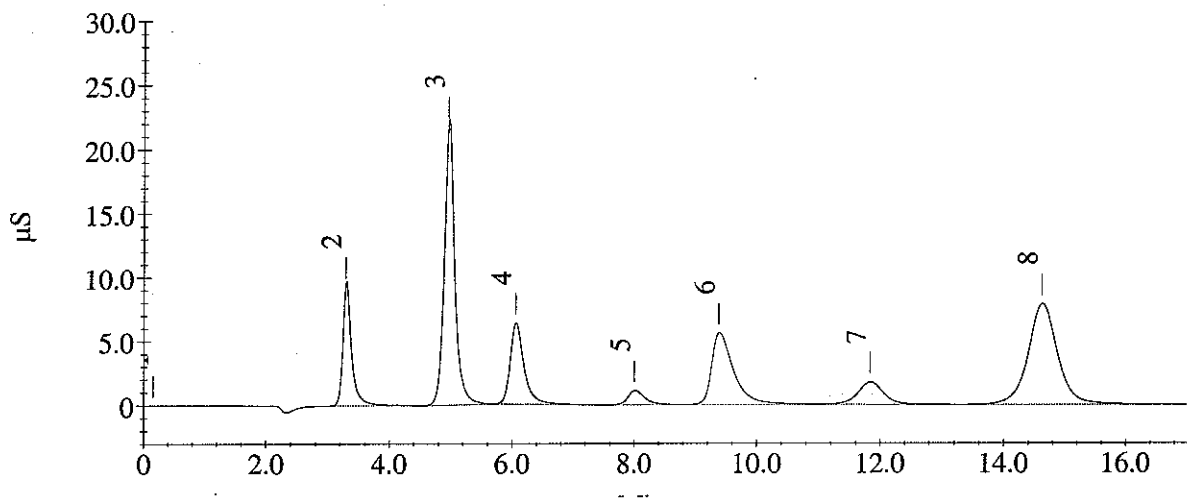
Sample Name : STD 7
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\120115 - IC0475\STD 7_011.DXD

Method File Name : C:\INSTARCH\METHODS\SYSTEM 2\IC0475.met
Schedule File Name : c:\instarch\sequences\system 2\120115 - ic0475.sch
Date Time Collected : 12/1/15 18:04:32
Calibration Date : 12/2/15 08:02:51
System Operator : JJF

Peak Information : All Components

Peak #	Component Name	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
2	Fluoride	3.28	962422	962422	962422
3	Chloride	4.95	2638642	2638642	2638642
4	Nitrite	6.05	1005891	1005891	1005891
5	Bromide	8.00	221114	221114	221114
6	Nitrate	9.38	1387577	1387577	1387577
7	O.Phos	11.83	508748	508748	508748
8	Sulfate	14.62	0	2665232	2665232

STD 7



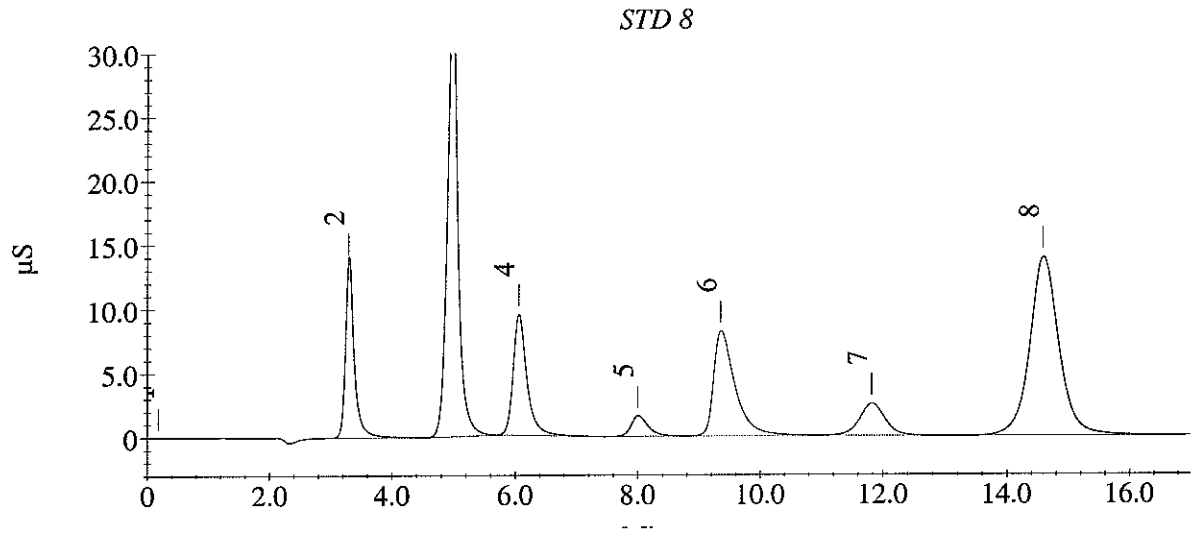
Calibration Update Report

Sample Name : STD 8
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\120115 - IC0475\STD 8_012.DXD

Method File Name : C:\INSTARCH\METHODS\SYSTEM 2\IC0475.met
Schedule File Name : c:\instarch\sequences\system 2\120115 - ic0475.sch
Date Time Collected : 12/1/15 18:23:46
Calibration Date : 12/2/15 08:02:51
System Operator : JJF

Peak Information : All Components

Peak #	Component Name	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
2	Fluoride	3.28	1397091	1397091	1397091
3	Chloride	4.97	4175156	4175156	4175156
4	Nitrite	6.05	1486012	1486012	1486012
5	Bromide	8.00	314972	314972	314972
6	Nitrate	9.35	2019825	2019825	2019825
7	O.Phos	11.82	725792	725792	725792
8	Sulfate	14.58	0	4611423	4611423



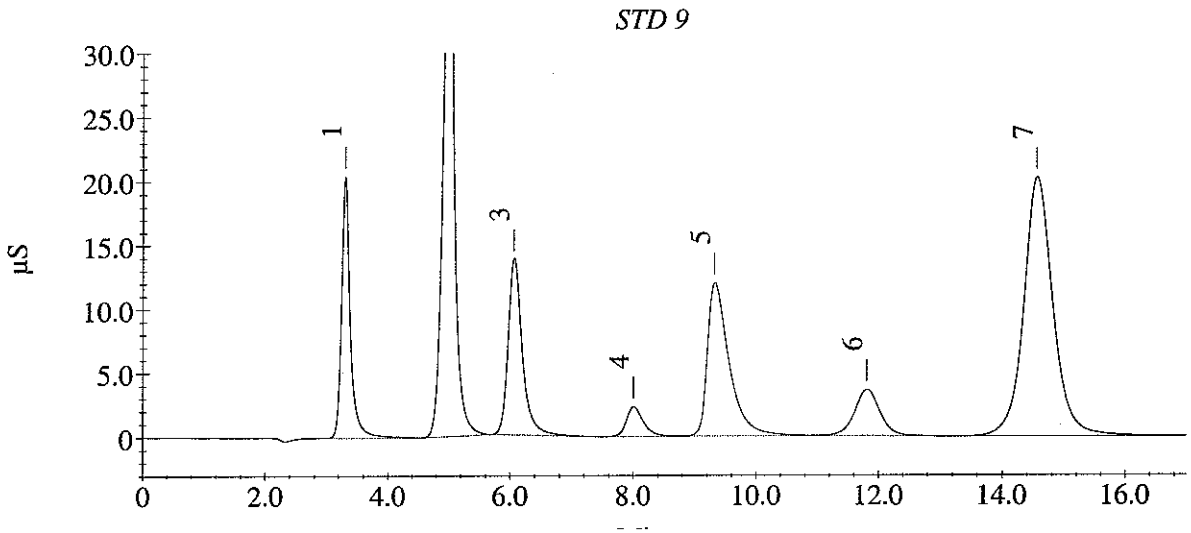
Calibration Update Report

Sample Name : STD 9
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\120115 - IC0475\STD 9_013.DXD

Method File Name : C:\INSTARCH\METHODS\SYSTEM 2\IC0475.met
Schedule File Name : c:\instarch\sequences\system 2\120115 - ic0475.sch
Date Time Collected : 12/1/15 18:43:00
Calibration Date : 12/2/15 08:02:51
System Operator : JJF

Peak Information : All Components

Peak #	Component Name	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
1	Fluoride	3.30	2017192	2017192	2017192
2	Chloride	4.98	5725399	5725399	5725399
3	Nitrite	6.05	2175809	2175809	2175809
4	Bromide	8.00	446806	446806	446806
5	Nitrate	9.32	2937312	2937312	2937312
6	O.Phos	11.80	1041186	1041186	1041186
7	Sulfate	14.55	0	6658756	6658756



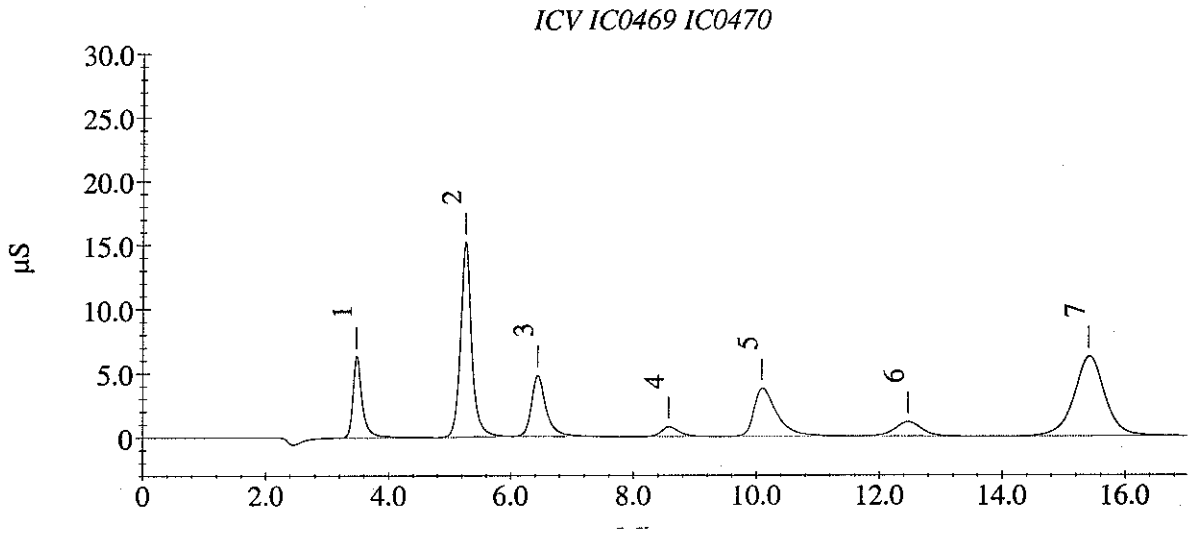
Sample Analysis Report

Sample Name : ICV IC0469 IC0470
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\120215-2\ICV IC0469 IC0470_001.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 12/2/15 09:21:28
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.47	3.4534	675091	62636	
2	Chloride	5.25	13.8511	1909113	151304	
3	Nitrite	6.43	3.8343	802652	47413	
4	Bromide	8.57	3.6565	162902	7715	
5	Nitrate	10.08	3.4209	977790	37317	
6	O.Phos	12.47	3.3594	345839	11312	
7	Sulfate	15.40	23.6800	2191109	62188	



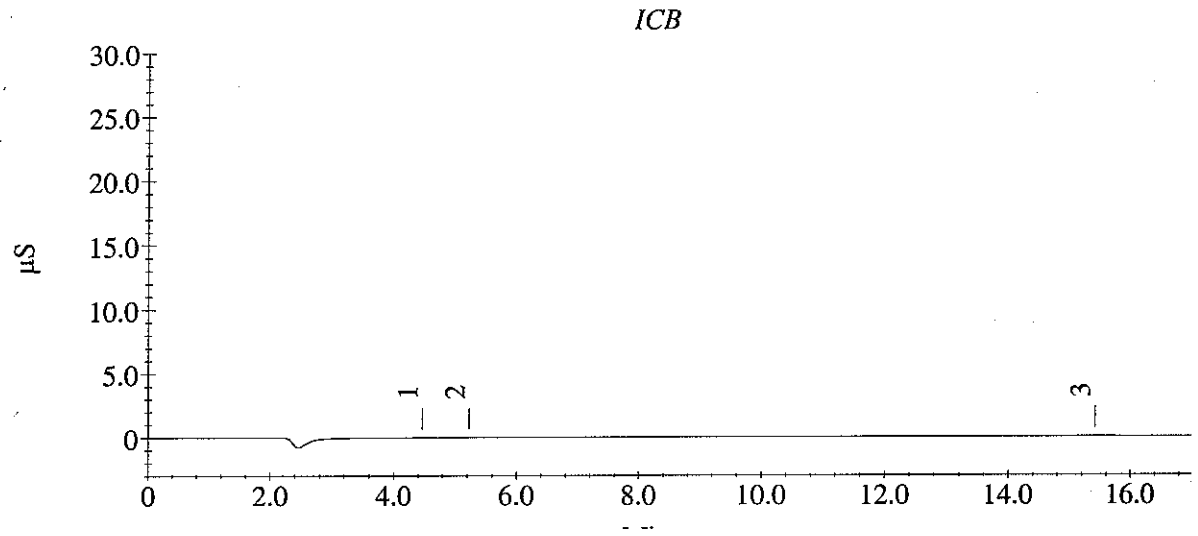
Sample Analysis Report

Sample Name : ICB
Data File Name : c:\instarch\data\system 2\120215-2\ICB_002.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 12/2/15 09:43:10
System Operator : JJF

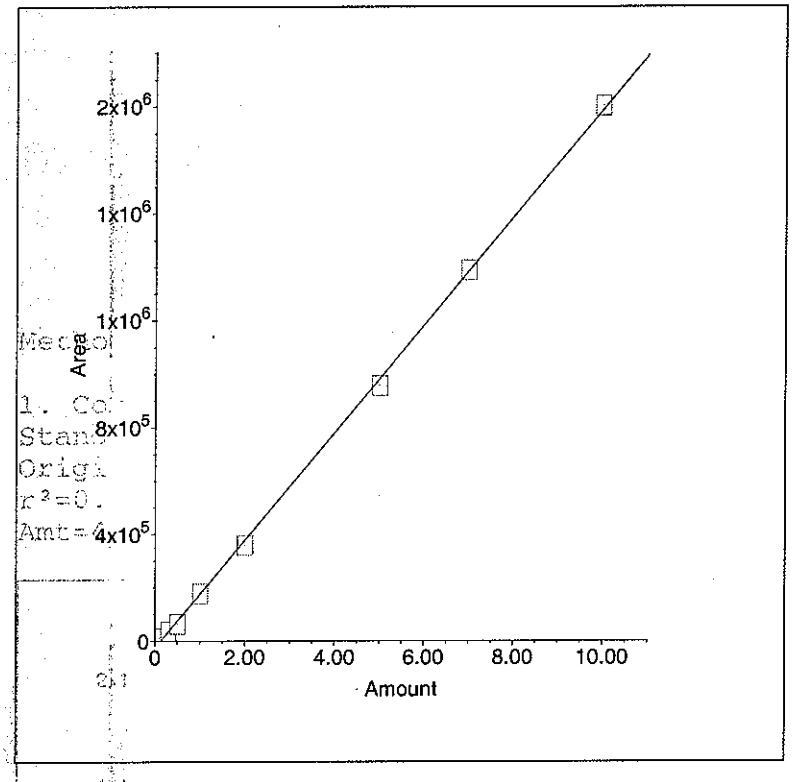
Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Chloride	5.23	0.3827	1145	93	
3	Sulfate	15.42	0.5463	9236	289	

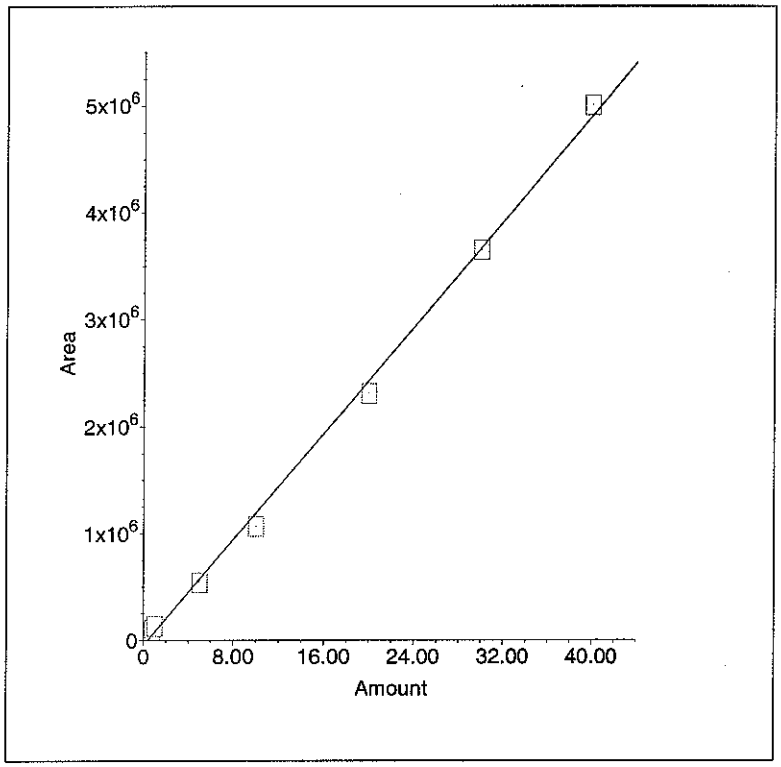


Method:C:\INSTARCH\METHODS\SYSTEM 2\IC0475.MET Updated:12/2/15 16:11:30 Total:7

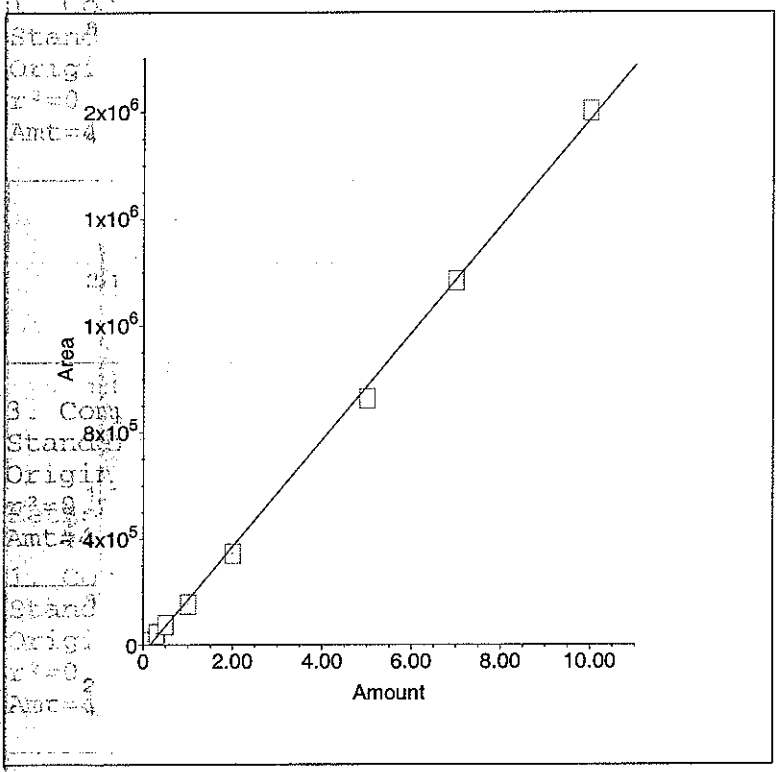
1. Component:Fluoride
Standard:External Fit Type:Linear
Origin:Include Calibration:Area
r^2=0.999457
Amt=4.931e-006*Resp+0.1247



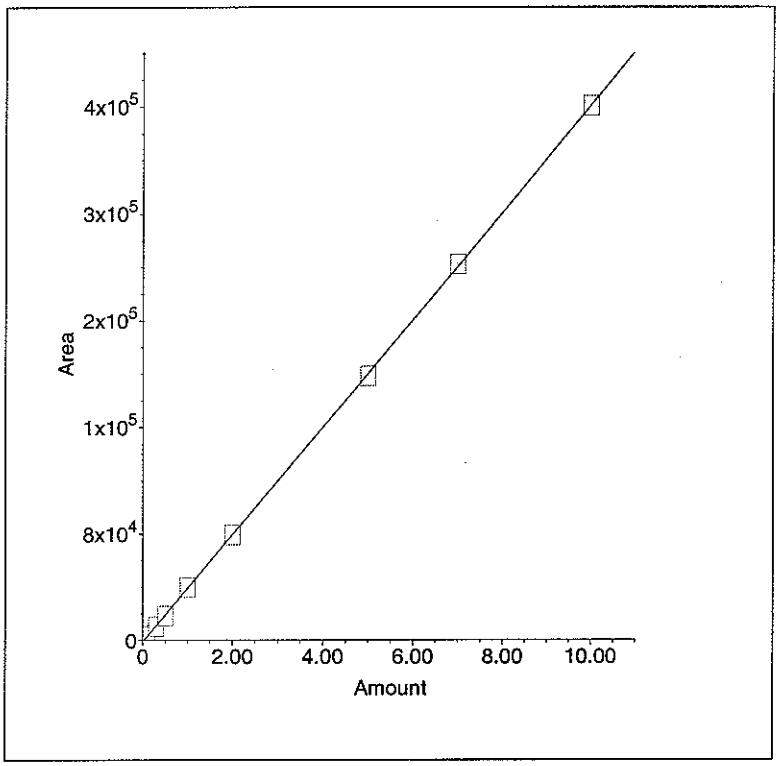
2. Component:Chloride
Standard:External Fit Type:Linear
Origin:Include Calibration:Area
r^2=0.998058
Amt=7.059e-006*Resp+0.3746



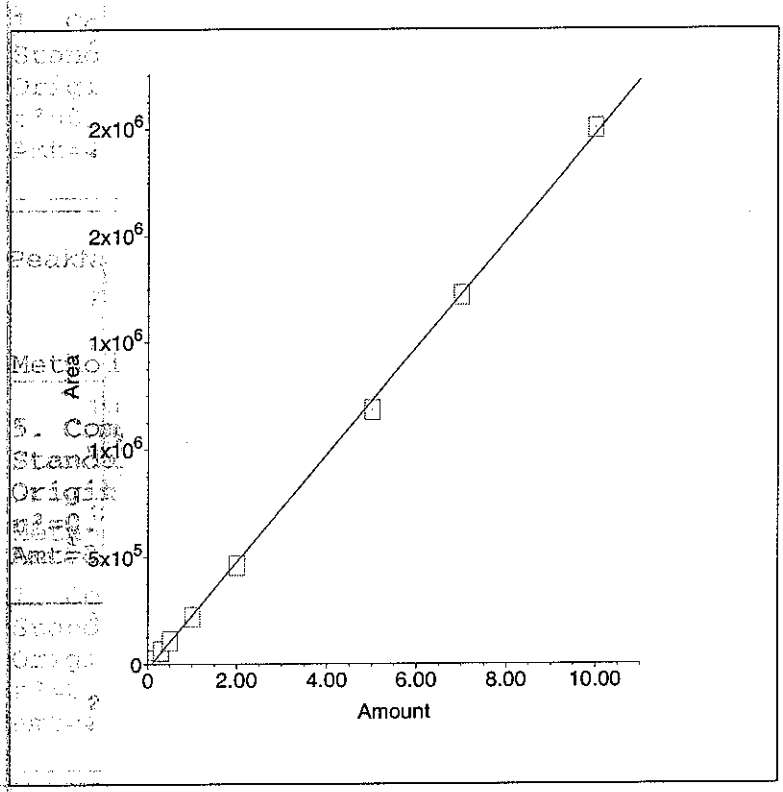
3. Component:Nitrite
Standard:External Fit Type:Linear
Origin:Include Calibration:Area
r^2=0.998687
Amt=4.599e-006*Resp+0.1428



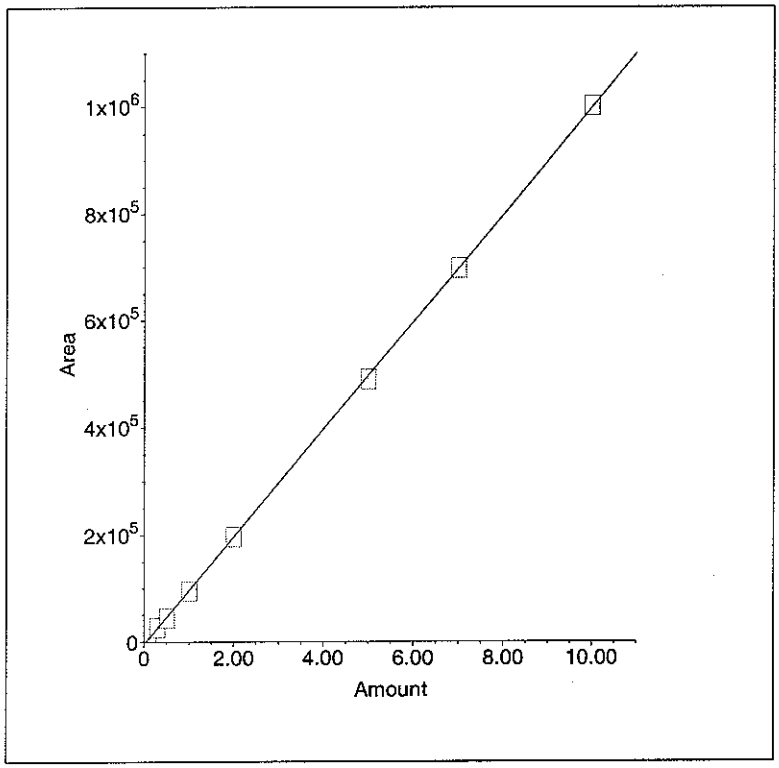
4. Component:Bromide
Standard:External Fit Type:Linear
Origin:Include Calibration:Area
r^2=0.999944
Amt=2.231e-005*Resp+0.02298



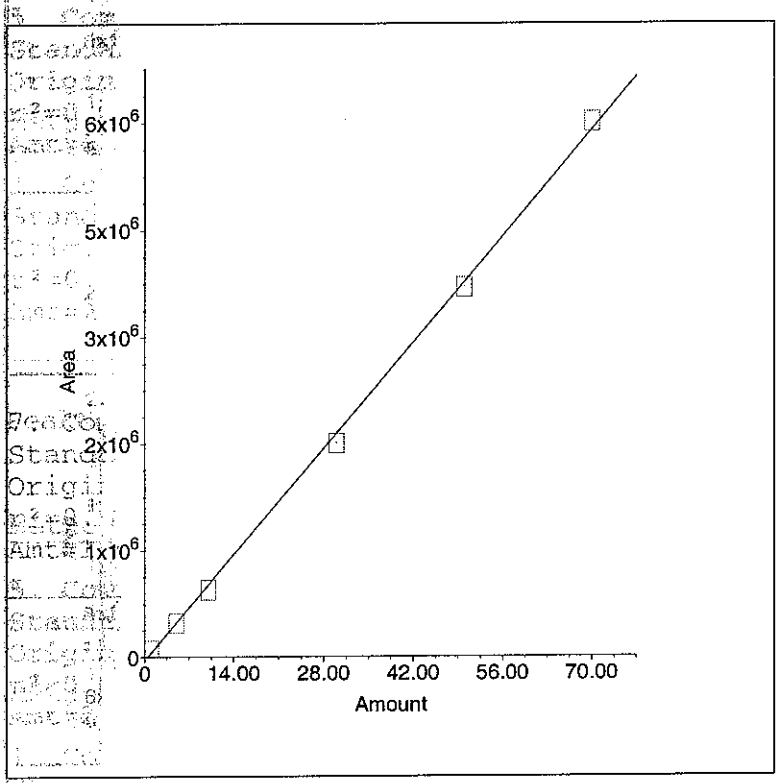
5. Component:Nitrate
Standard:External Fit Type:Linear
Origin:Include Calibration:Area
r^2=0.999408
Amt=3.415e-006*Resp+0.08194



6. Component:O.Phos
Standard:External Fit Type:Linear
Origin:Include Calibration:Area
r^2=0.999912
Amt=9.599e-006*Resp+0.03961



7. Component:Sulfate
Standard:External Fit Type:Linear
Origin:Ignore Calibration:Area
r^2=0.999188
Amt=1.06e-005*Resp+0.4484



RJ 12/10/2015

Schedule File: C:\INSTARCH\Sequences\System 2\011216-2.sch

Line	Sample	Sample Type	Level	Method	Data File	Volume	Dilution
4	CCV IC0488 IC0489	Sample		ic0475.met	ccv ic0488 ic0489_004.dxd	1	1
5	CCB	Sample		ic0475.met	ccb_005.dxd	1	1
6	LCSW	Sample		ic0475.met	lcsw _006.dxd	1	1
7	MBW	Sample		ic0475.met	mbw_007.dxd	1	1
8	679480	Sample		ic0475.met	679480_008.dxd	1	1
9	679482	Sample		ic0475.met	679482_009.dxd	1	1
10	DUP679480	Sample		ic0475.met	dup679480	1	1
11	MSW679480X5	Sample		ic0475.met	msw679480x5	1	1
12	MSDW679480X5	Sample		ic0475.met	msdw679480x5	1	1
16	CCV IC0488 IC0489	Sample		ic0475.met	ccv ic0488 ic0489	1	1
17	CCB	Sample		ic0475.met	ccb	1	1
26	679480X5	Sample		ic0475.met	679480x5	1	1
27	DUP679480X5	Sample		ic0475.met	dup679480x5	1	1
28	CCV IC0488 IC0489	Sample		ic0475.met	ccv ic0488 ic0489	1	1
29	CCB	Sample		ic0475.met	ccb	1	1
30	679482X5	Sample		ic0475.met	679482x5	1	1
31	CCV IC0488 IC0489	Sample		ic0475.met	ccv ic0488 ic0489	1	1
32	CCB	Sample		ic0475.met	ccb	1	1

Sample Analysis Report

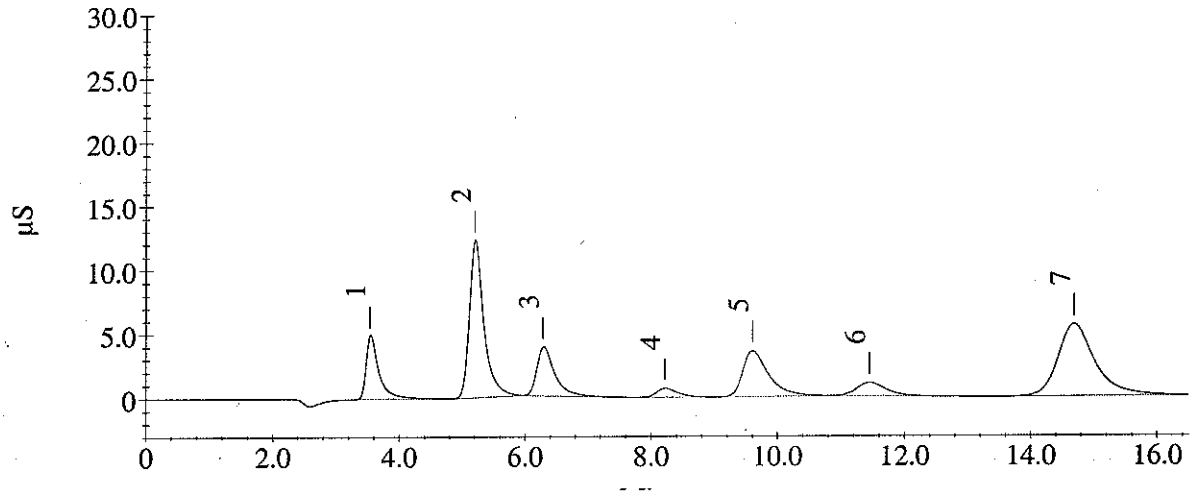
Sample Name : CCV IC0488 IC0489
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\011216-2\CCV IC0488 IC0489_004.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/12/16 09:18:46
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.53	3.6018	705180	48818	
2	Chloride	5.20	14.1817	1955950	122388	
3	Nitrite	6.28	3.6463	761779	38011	
4	Bromide	8.22	3.6745	163709	7004	
5	Nitrate	9.60	3.5636	1019571	35624	
6	O.Phos	11.45	3.2721	336750	10413	
7	Sulfate	14.68	24.8370	2300228	56167	

CCV IC0488 IC0489



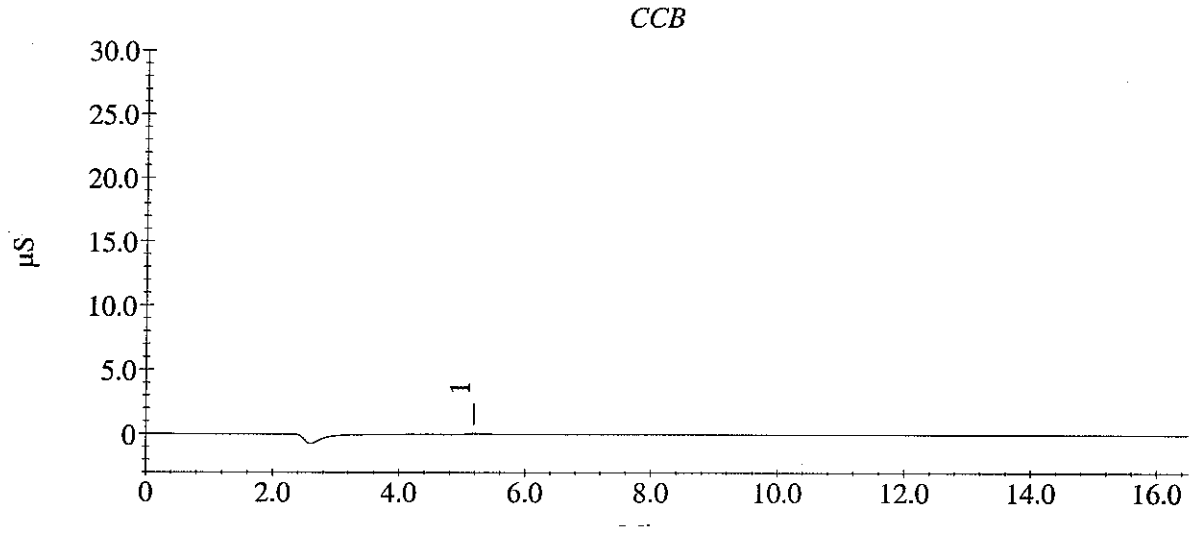
Sample Analysis Report

Sample Name : CCB
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\011216-2\CCB_005.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/12/16 09:37:28
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Chloride	5.18	0.4811	15079	932	



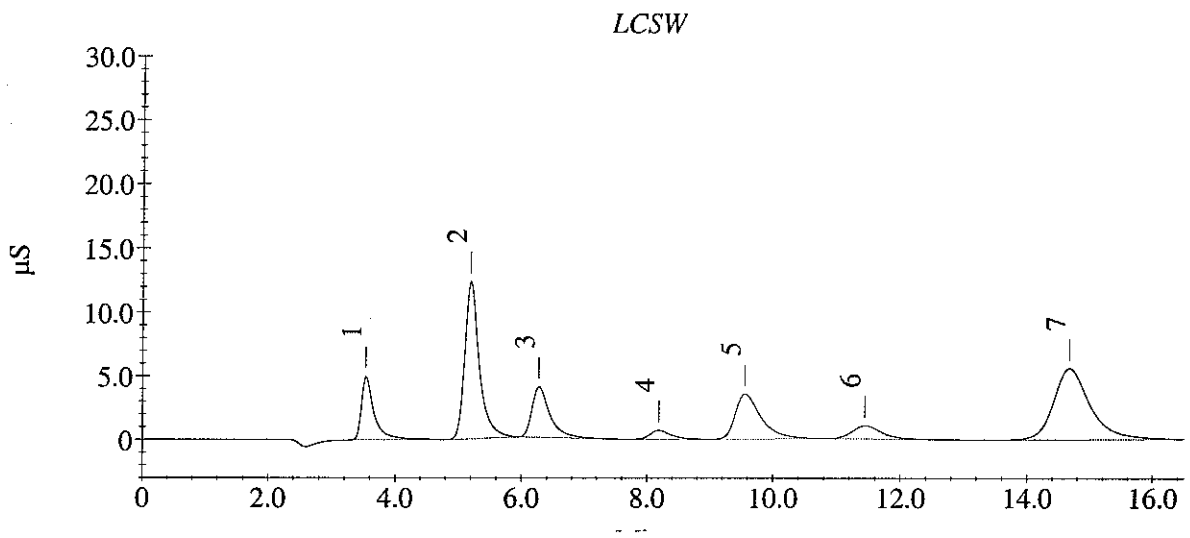
Sample Analysis Report

Sample Name : LCSW
Data File Name : c:\instarch\data\system 2\011216-2\LCSW _006.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/12/16 14:19:14
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.53	3.5597	696649	49549	
2	Chloride	5.18	14.1734	1954779	123084	
3	Nitrite	6.27	3.7534	785079	39575	
4	Bromide	8.18	3.6695	163482	7041	
5	Nitrate	9.55	3.5094	1003689	35253	
6	O.Phos	11.43	3.2378	333169	10318	
7	Sulfate	14.67	24.5044	2268859	55792	



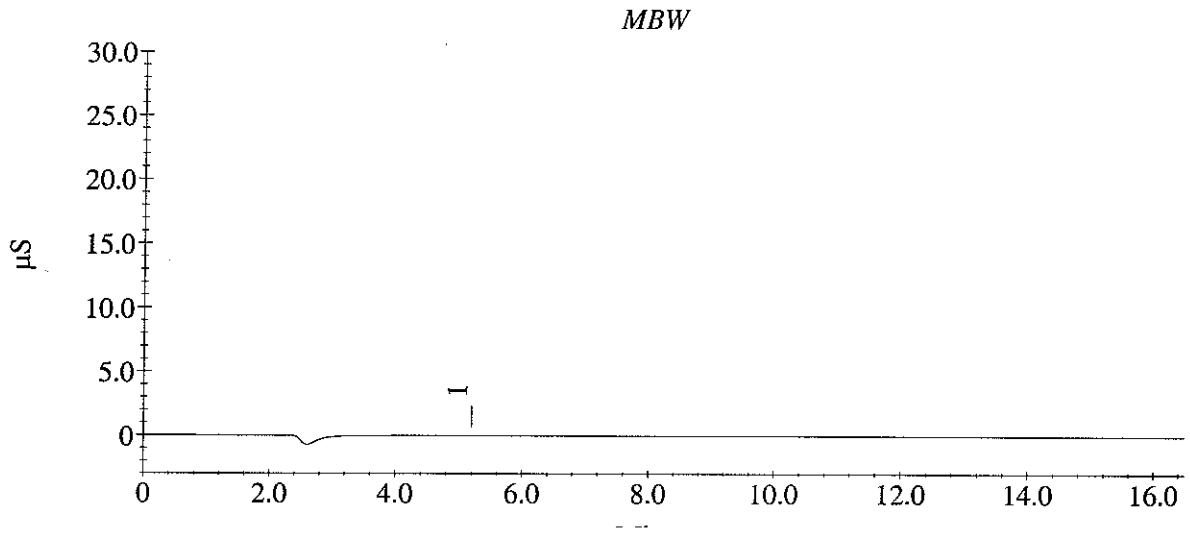
Sample Analysis Report

Sample Name : MBW
Data File Name : c:\instarch\data\system 2\011216-2\MBW_007.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/12/16 14:38:01
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded



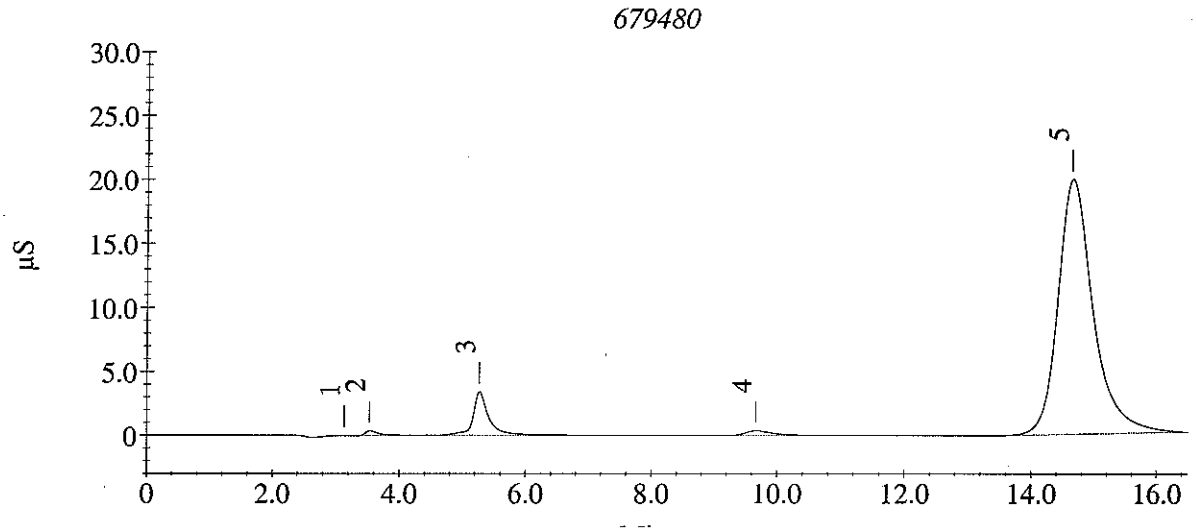
Sample Analysis Report

Sample Name : 679480
Data File Name : c:\instarch\data\system 2\011216-2\679480_008.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/12/16 14:56:44
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.53	0.4013	56114	3792	
3	Chloride	5.27	4.5720	594612	34139	
4	Nitrate	9.67	0.4492	107559	3624	
5	Sulfate	14.63	83.0064	7786519	198616	+



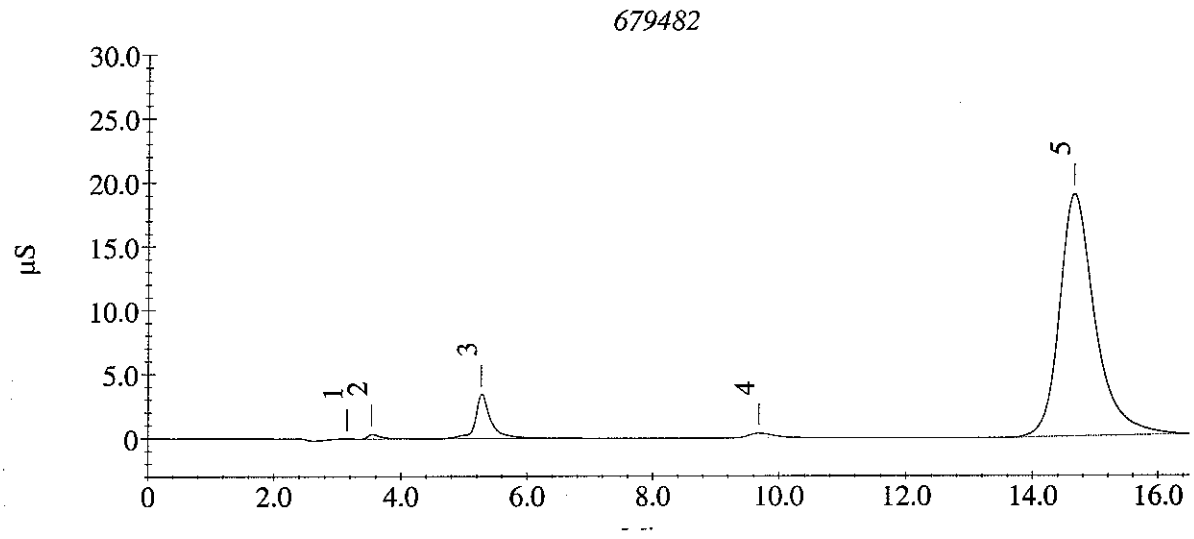
Sample Analysis Report

Sample Name : 679482
Data File Name : c:\instarch\data\system 2\011216-2\679482_009.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/12/16 15:15:27
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.53	0.4027	56388	3651	
3	Chloride	5.27	4.5983	598338	34147	
4	Nitrate	9.68	0.4614	111123	3660	
5	Sulfate	14.65	79.1825	7425863	189493	+



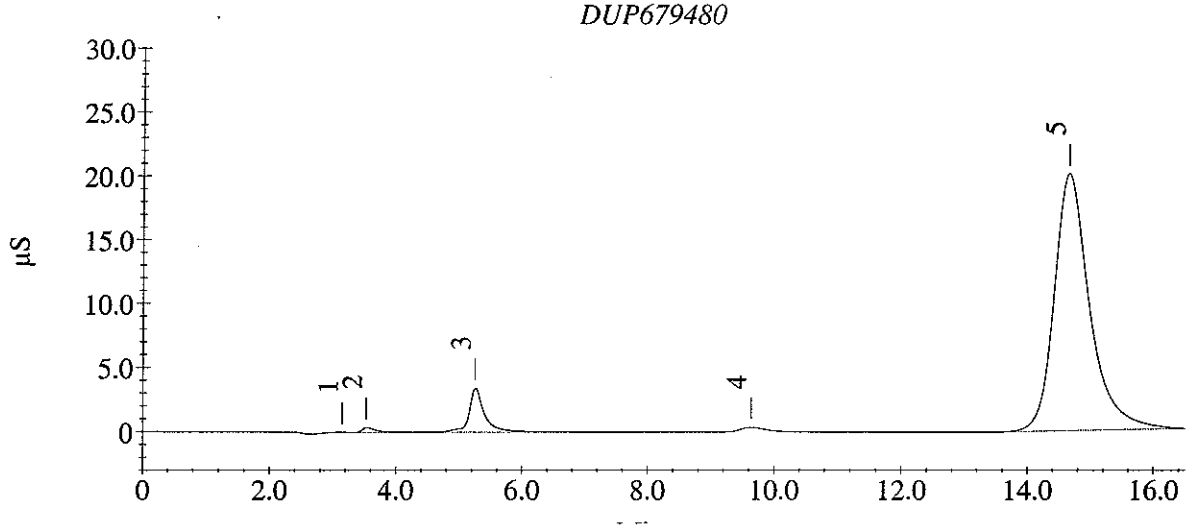
Sample Analysis Report

Sample Name : DUP679480
Data File Name : c:\instarch\data\system 2\011216-2\DUP679480_010.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/12/16 15:34:10
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.53	0.4186	59610	3828	
3	Chloride	5.25	4.5428	590484	34021	
4	Nitrate	9.63	0.4407	105066	3585	
5	Sulfate	14.65	83.7838	7859841	200928	+



Sample Analysis Report

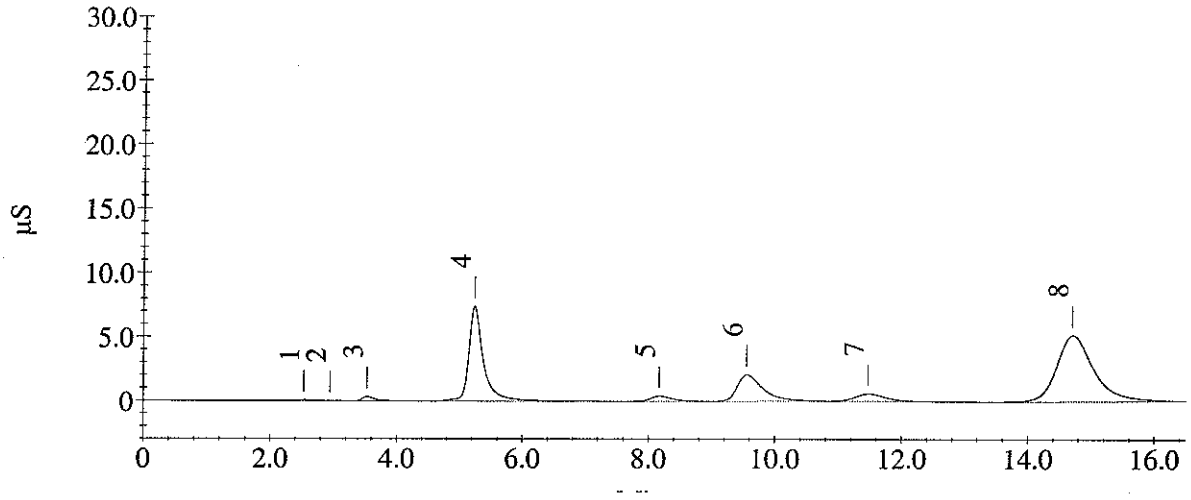
Sample Name : MSW679480X5
Data File Name : c:\instarch\data\system 2\011216-2\MSW679480X5_011.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/12/16 15:52:54
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
3	Fluoride	3.53	0.3740	50564	3409	
4	Chloride	5.23	8.8742	1204072	74065	
5	Bromide	8.17	2.1709	96297	4051	
6	Nitrate	9.55	2.1017	591463	20663	
7	O.Phos	11.47	1.8793	191653	5762	
8	Sulfate	14.70	22.7672	2105014	51821	

MSW679480X5



Sample Analysis Report

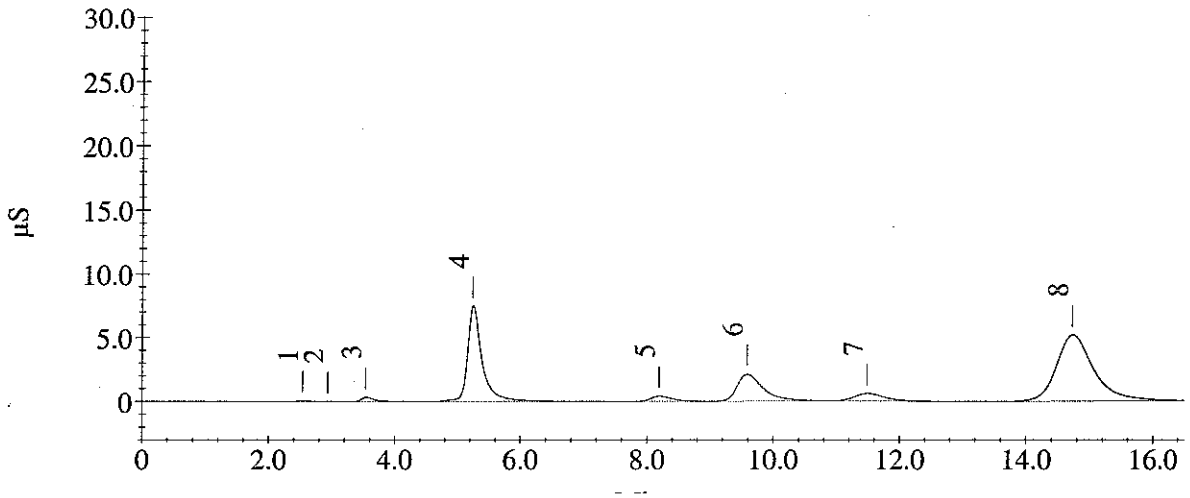
Sample Name : MSDW679480X5
Data File Name : c:\instarch\data\system 2\011216-2\MSDW679480X5_012.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/12/16 16:11:37
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
3	Fluoride	3.53	0.3758	50941	3437	
4	Chloride	5.23	8.9978	1221586	74570	
5	Bromide	8.18	2.2034	97756	4109	
6	Nitrate	9.58	2.1329	600600	21002	
7	O.Phos	11.48	1.9216	196052	5905	
8	Sulfate	14.72	22.8251	2110473	51906	

MSDW679480X5



Sample Analysis Report

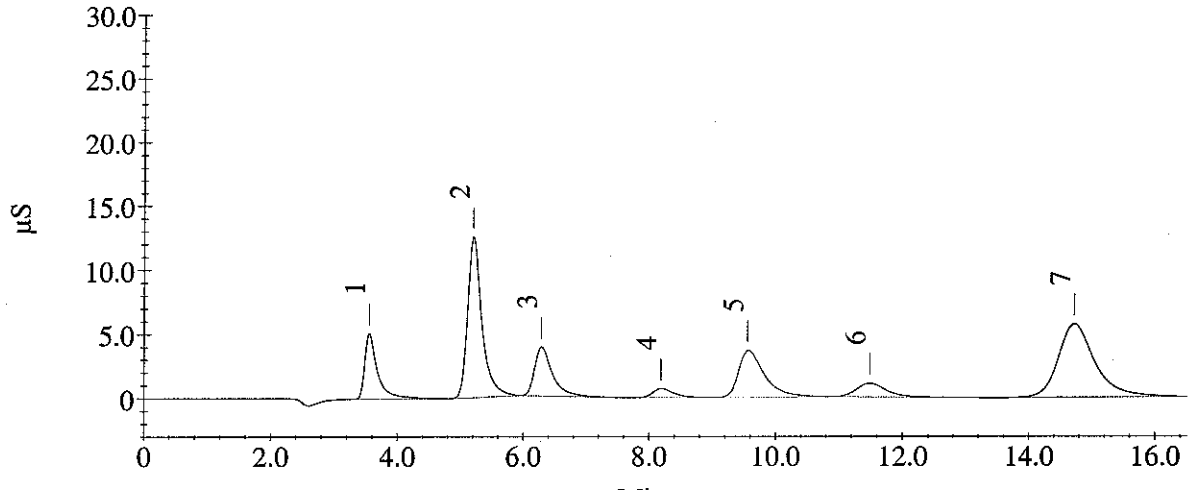
Sample Name : CCV IC0488 IC0489
Data File Name : c:\instarch\data\system 2\011216-2\CCV IC0488 IC0489_016.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/12/16 17:26:29
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.55	3.6593	716836	50711	
2	Chloride	5.20	14.4005	1986954	125013	
3	Nitrite	6.28	3.6261	757386	38189	
4	Bromide	8.18	3.7381	166558	7151	
5	Nitrate	9.55	3.6294	1038821	36278	
6	O.Phos	11.48	3.3607	345971	10590	
7	Sulfate	14.72	25.0076	2316322	57098	

CCV IC0488 IC0489



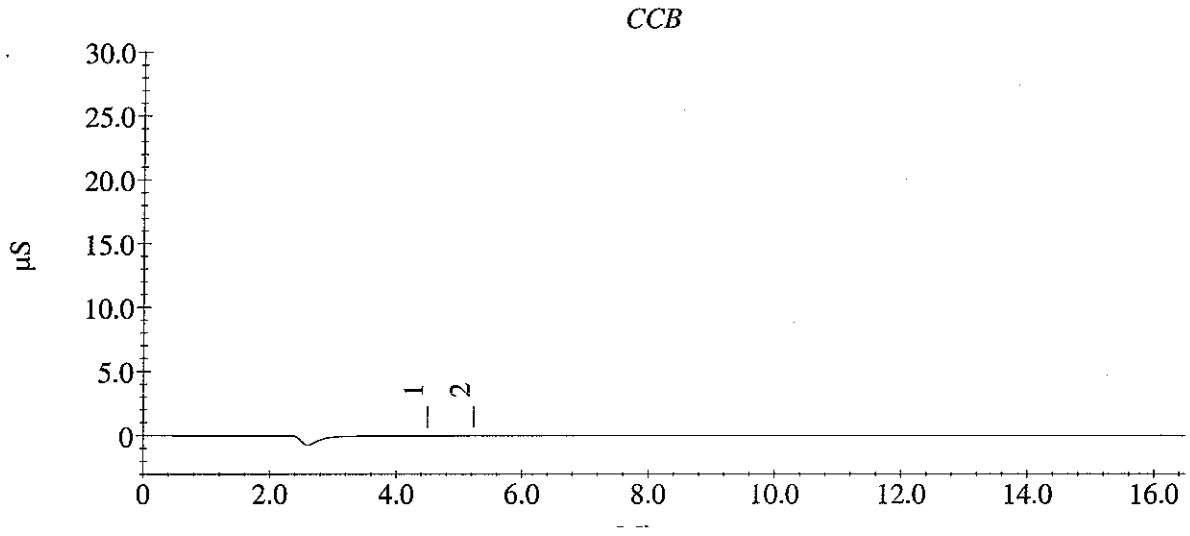
Sample Analysis Report

Sample Name : CCB
Data File Name : c:\instarch\data\system 2\011216-2\CCB_017.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/12/16 17:45:13
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Chloride	5.23	0.3879	1877	90	



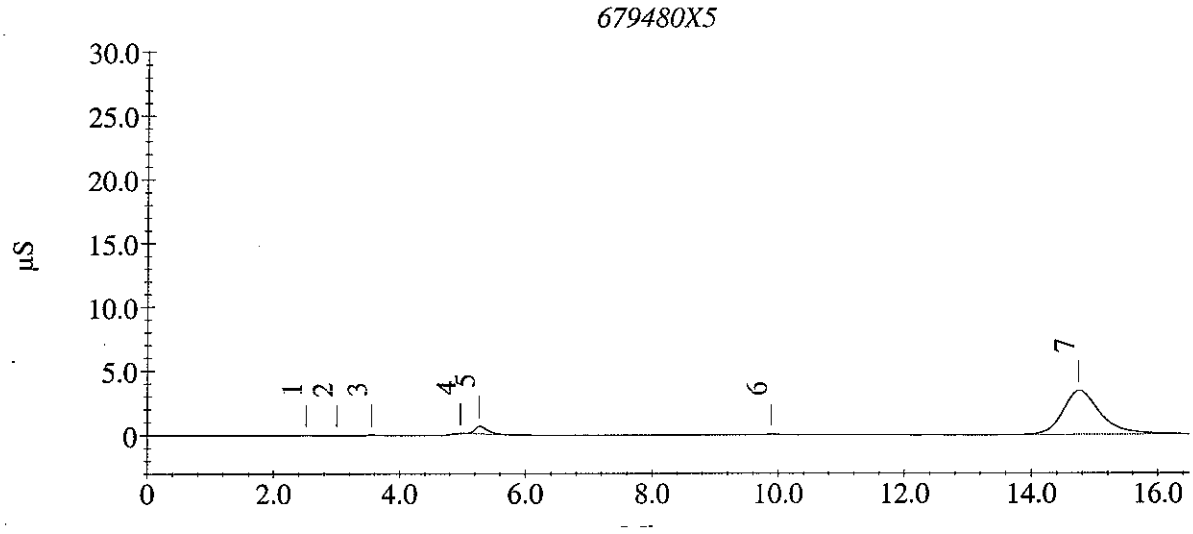
Sample Analysis Report

Sample Name : 679480X5
Data File Name : c:\instarch\data\system 2\011216-2\679480X5_026.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/12/16 20:33:40
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
3	Fluoride	3.55	0.1757	10345	742	
5	Chloride	5.27	0.9410	80242	5799	
6	Nitrate	9.88	0.1515	20360	719	
7	Sulfate	14.73	15.2776	1398627	33941	



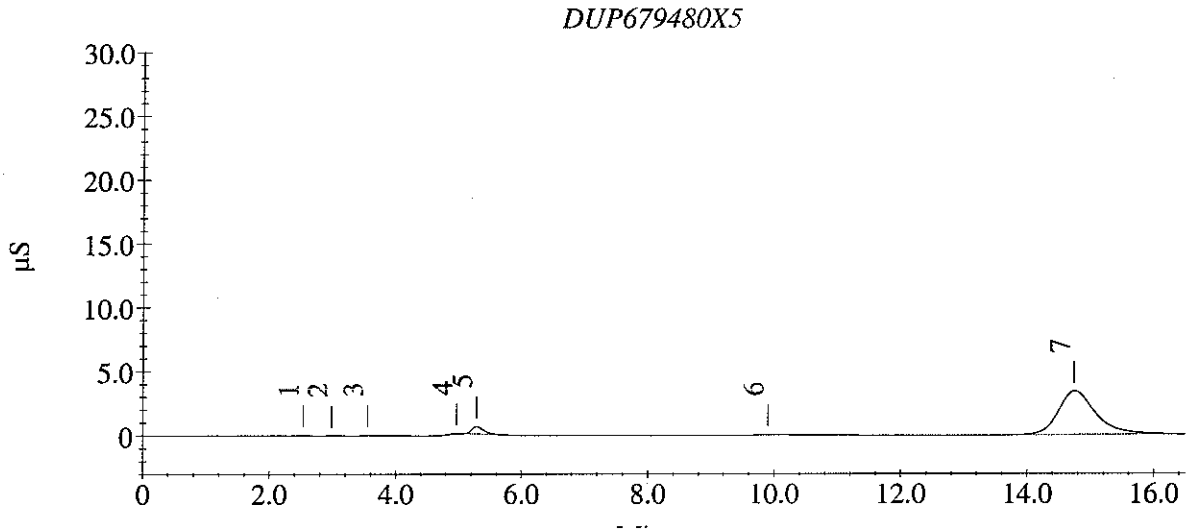
Sample Analysis Report

Sample Name : DUP679480X5
Data File Name : c:\instarch\data\system 2\011216-2\DUP679480X5_027.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/12/16 20:52:23
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
3	Fluoride	3.55	0.1705	9305	724	
5	Chloride	5.28	0.9333	79145	5798	
6	Nitrate	9.90	0.1512	20278	698	
7	Sulfate	14.73	15.2909	1399877	33974	



Sample Analysis Report

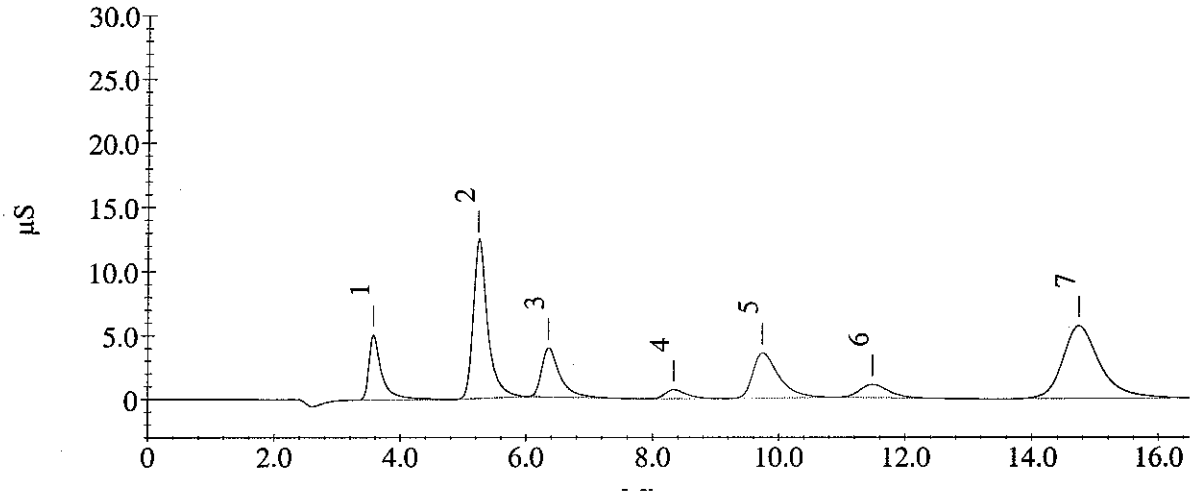
Sample Name : CCV IC0488 IC0489
Data File Name : c:\instarch\data\system 2\011216-2\CCV IC0488 IC0489_028.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/12/16 21:11:06
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.57	3.6747	719978	50564	
2	Chloride	5.23	14.4475	1993603	123226	
3	Nitrite	6.35	3.6850	770200	38354	
4	Bromide	8.33	3.7664	167826	7065	
5	Nitrate	9.73	3.5563	1017435	35568	
6	O.Phos	11.48	3.2369	333078	10386	
7	Sulfate	14.73	25.0371	2319098	56891	

CCV IC0488 IC0489



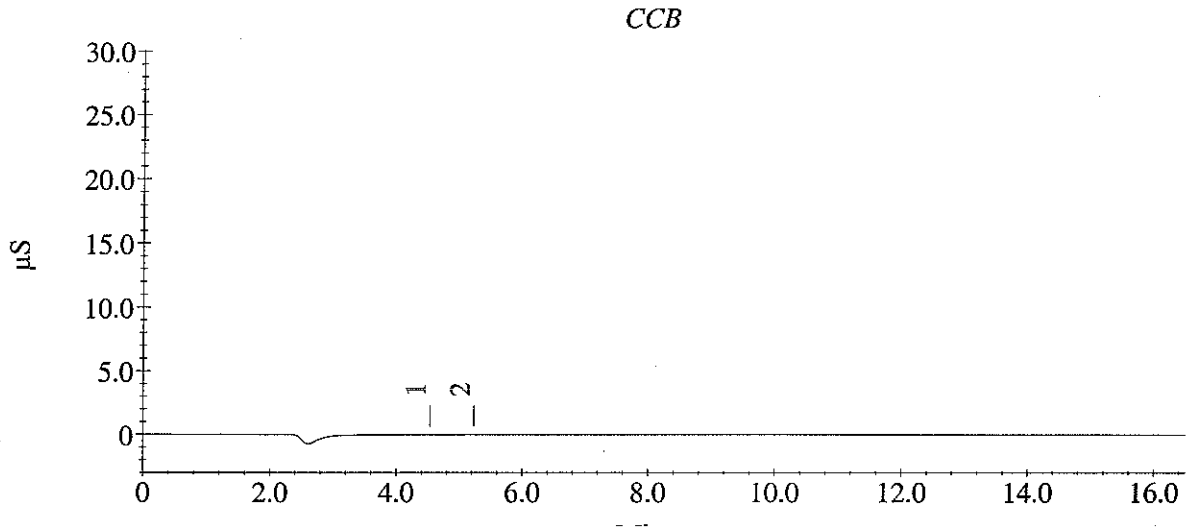
Sample Analysis Report

Sample Name : CCB
Data File Name : c:\instarch\data\system 2\011216-2\CCB_029.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/12/16 21:29:49
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Chloride	5.23	0.3904	2237	96	



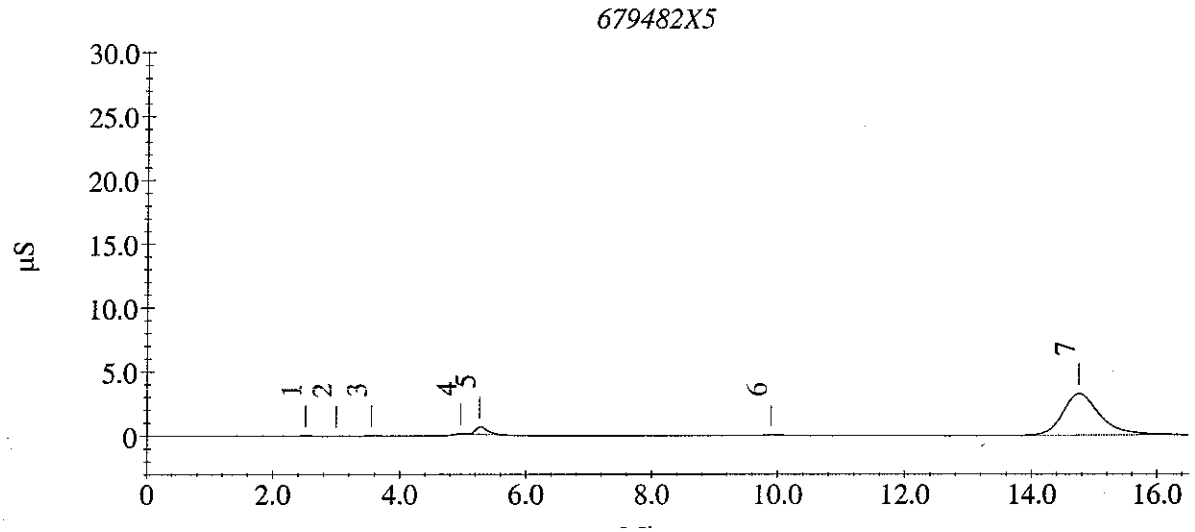
Sample Analysis Report

Sample Name : 679482X5
Data File Name : c:\instarch\data\system 2\011216-2\679482X5_030.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/12/16 21:48:31
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
3	Fluoride	3.55	0.1736	9916	716	
5	Chloride	5.27	0.9098	75820	5744	
6	Nitrate	9.90	0.1499	19898	696	
7	Sulfate	14.75	14.6347	1337994	32418	



Sample Analysis Report

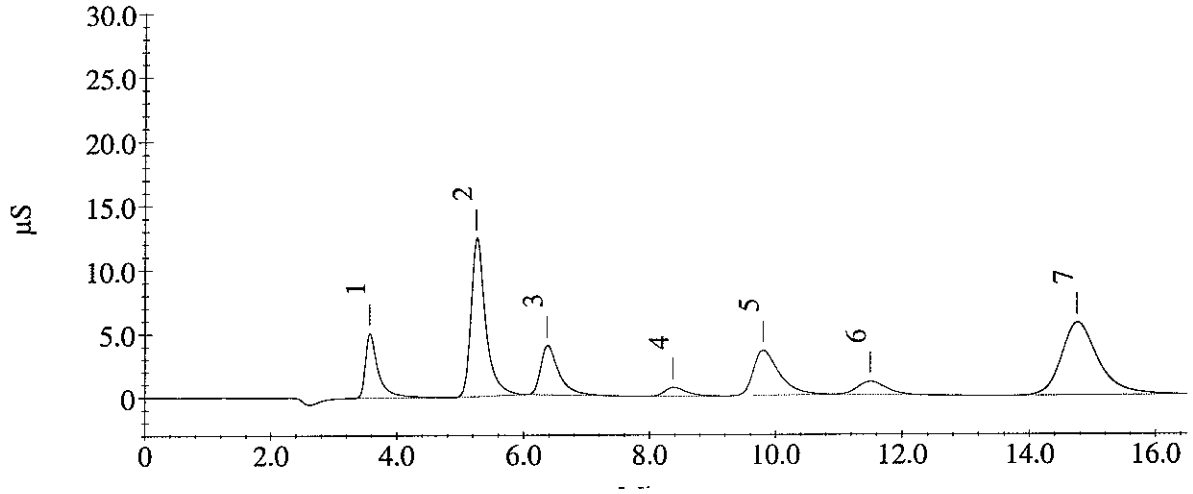
Sample Name : CCV IC0488 IC0489
Data File Name : c:\instarch\data\system 2\011216-2\CCV IC0488 IC0489_031.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/12/16 22:07:15
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.57	3.6867	722405	50447	
2	Chloride	5.25	14.4949	2000315	123503	
3	Nitrite	6.37	3.7416	782498	38721	
4	Bromide	8.37	3.7848	168652	7036	
5	Nitrate	9.80	3.5620	1019106	35497	
6	O.Phos	11.50	3.1422	323209	10313	
7	Sulfate	14.75	25.2301	2337303	57341	

CCV IC0488 IC0489



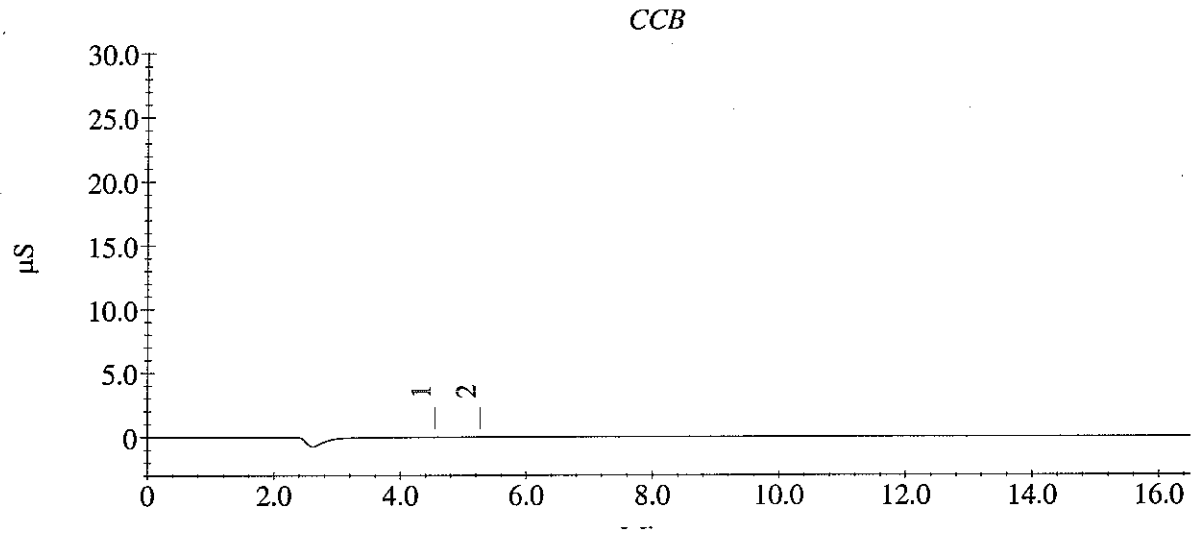
Sample Analysis Report

Sample Name : CCB
Data File Name : c:\instarch\data\system 2\011216-2\CCB_032.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/12/16 22:25:58
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Chloride	5.27	0.3889	2029	87	



Schedule File: C:\INSTARCH\Sequences\System 2\011316-2.sch

Line	Sample	Sample Type	Level	Method	Data File	Volume	Dilution
5	CCV IC0488 IC0489	Sample		ic0475.met	ccv ic0488 ic0489_005.dxd	1	1
6	CCB	Sample		ic0475.met	ccb_006.dxd	1	1
7	679978	Sample		ic0475.met	679978_007.dxd	1	1
8	DUP679978	Sample		ic0475.met	dup679978_008.dxd	1	1
9	MSW679978	Sample		ic0475.met	msw679978_009.dxd	1	1
10	MSDW679978	Sample		ic0475.met	msdw679978_010.dxd	1	1
11	679980	Sample		ic0475.met	679980_011.dxd	1	1
12	679982	Sample		ic0475.met	679982_012.dxd	1	1
13	LCSW IC0495 IC0496	Sample		ic0475.met	lcsw ic0495 ic0496	1	1
14	MBW	Sample		ic0475.met	mbw	1	1
15	CCV IC0488 IC0489	Sample		ic0475.met	ccv ic0488 ic0489_005.dxd	1	1
16	CCB	Sample		ic0475.met	ccb_006.dxd	1	1

Schedule

Line

1
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6
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11
12
13
14
15
16

Schedule

Line

1
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Schedule

Line

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8

Sample Analysis Report

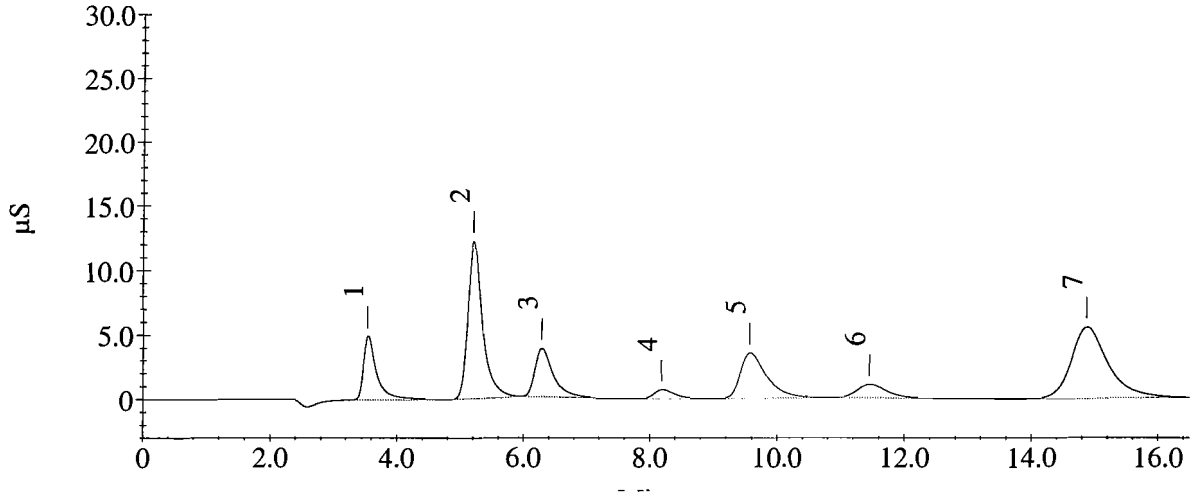
Sample Name : CCV IC0488 IC0489
Data File Name : c:\instarch\data\system 2\011316-2\CCV IC0488 IC0489_005.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/13/16 09:15:14
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.53	3.6319	711292	48827	
2	Chloride	5.20	14.1837	1956230	121693	
3	Nitrite	6.28	3.6391	760213	37960	
4	Bromide	8.18	3.6455	162408	6945	
5	Nitrate	9.57	3.5644	1019793	35441	
6	O.Phos	11.45	3.2570	335173	10414	
7	Sulfate	14.87	24.3274	2252166	55407	

CCV IC0488 IC0489



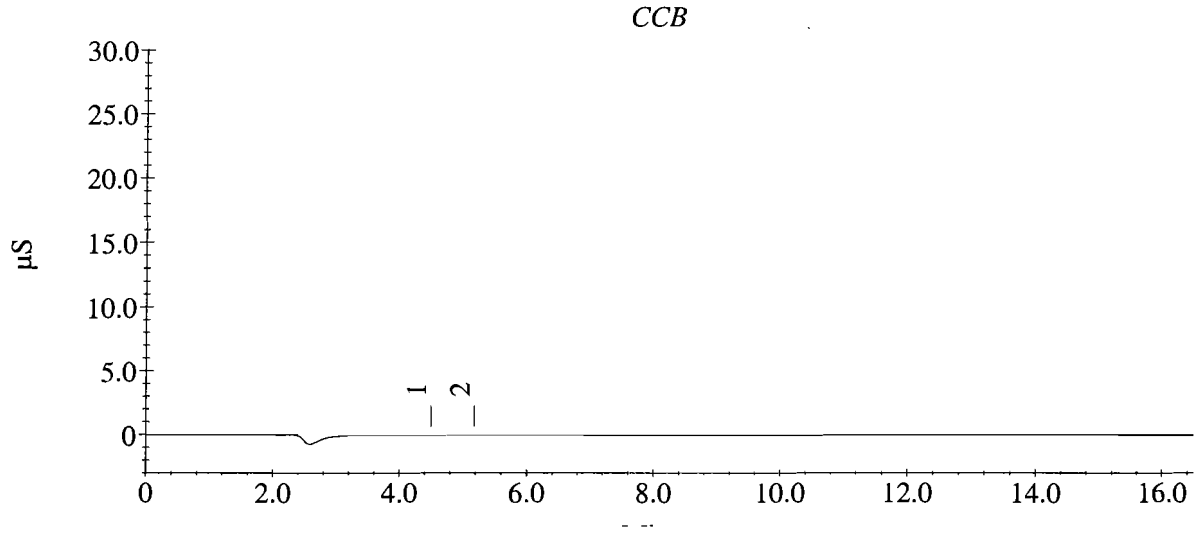
Sample Analysis Report

Sample Name : CCB
Data File Name : c:\instarch\data\system 2\011316-2\CCB_006.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/13/16 09:33:58
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Chloride	5.18	0.4198	6407	333	



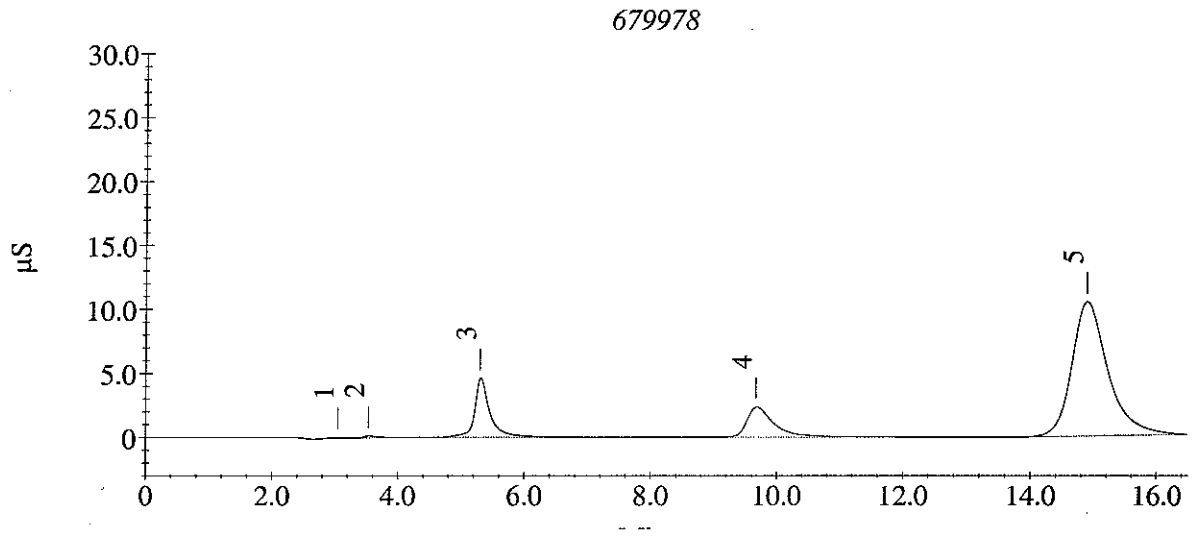
Sample Analysis Report

Sample Name : 679978
Data File Name : c:\instarch\data\system 2\011316-2\679978_007.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/13/16 11:18:05
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.53	0.2422	23843	1601	
3	Chloride	5.30	5.9828	794475	45910	
4	Nitrate	9.67	2.5120	711623	23361	
5	Sulfate	14.88	44.8142	4184396	104723	



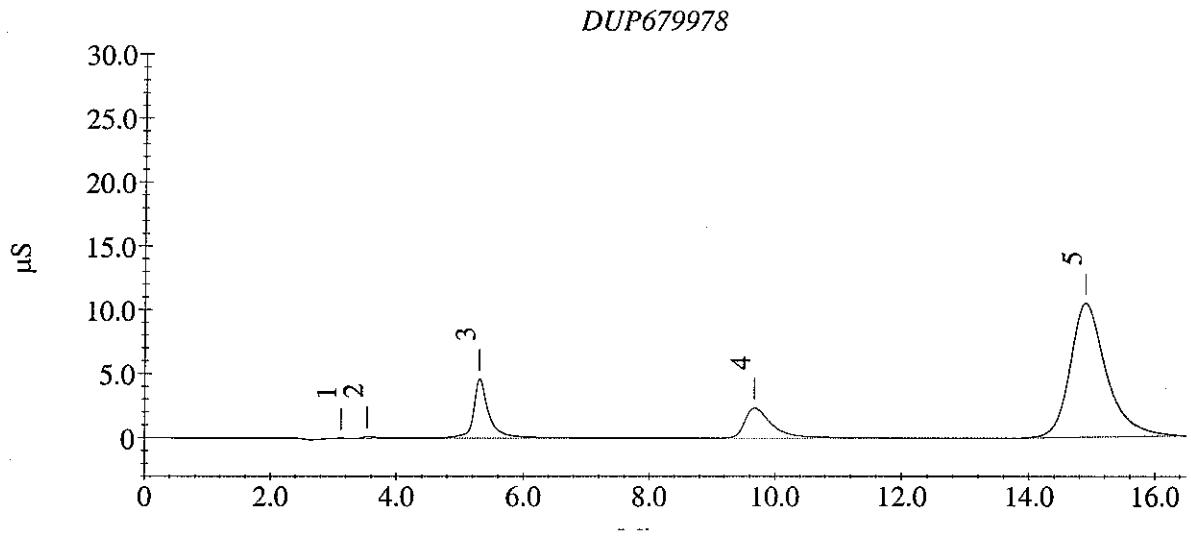
Sample Analysis Report

Sample Name : DUP679978
Data File Name : c:\instarch\data\system 2\011316-2\DUP679978_008.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/13/16 11:36:51
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.53	0.2365	22683	1565	
3	Chloride	5.30	5.9609	791366	45944	
4	Nitrate	9.67	2.5413	720203	23471	
5	Sulfate	14.88	44.7730	4180506	104702	



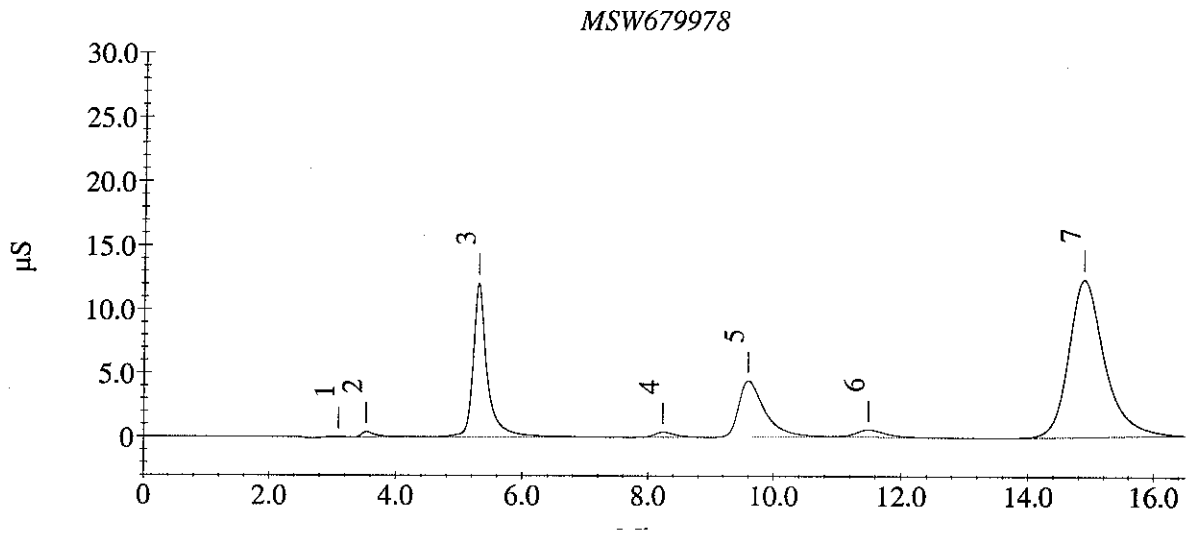
Sample Analysis Report

Sample Name : MSW679978
Data File Name : c:\instarch\data\system 2\011316-2\MSW679978_009.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/13/16 12:04:25
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.53	0.4183	59557	4137	
3	Chloride	5.30	13.8108	1903415	120553	
4	Bromide	8.23	2.1042	93306	4053	
5	Nitrate	9.58	4.4248	1271772	44088	
6	O.Phos	11.48	1.7217	175232	5495	
7	Sulfate	14.87	52.3876	4898685	123292	



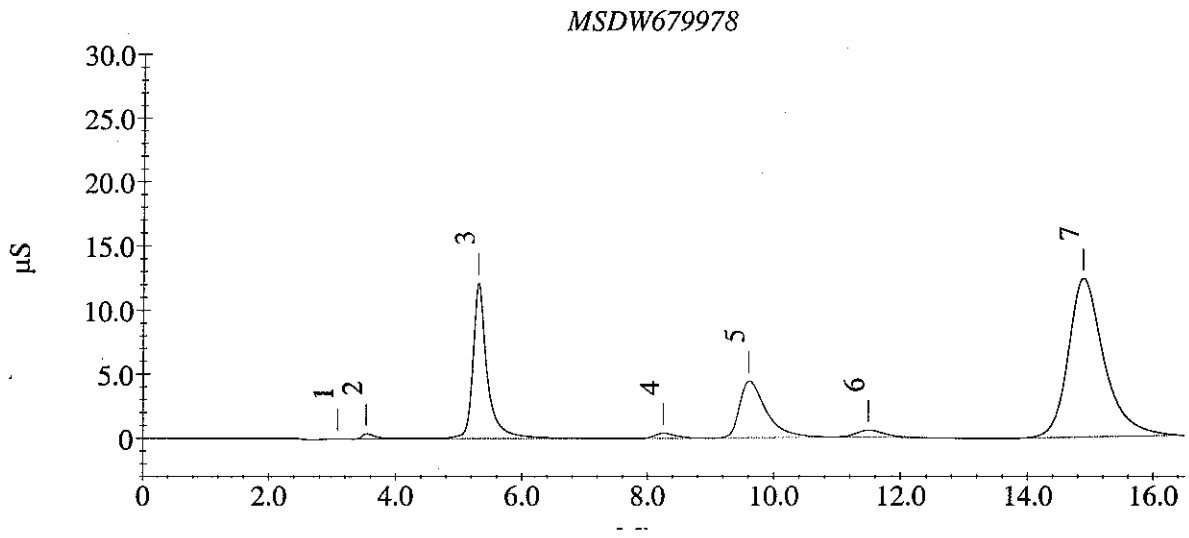
Sample Analysis Report

Sample Name : MSDW679978
Data File Name : c:\instarch\data\system 2\011316-2\MSDW679978_010.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/13/16 12:23:09
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.53	0.4120	58272	4100	
3	Chloride	5.30	13.8951	1915350	120884	
4	Bromide	8.25	2.1607	95841	4127	
5	Nitrate	9.60	4.4417	1276716	44175	
6	O.Phos	11.48	1.7044	173431	5563	
7	Sulfate	14.87	52.4598	4905492	123330	



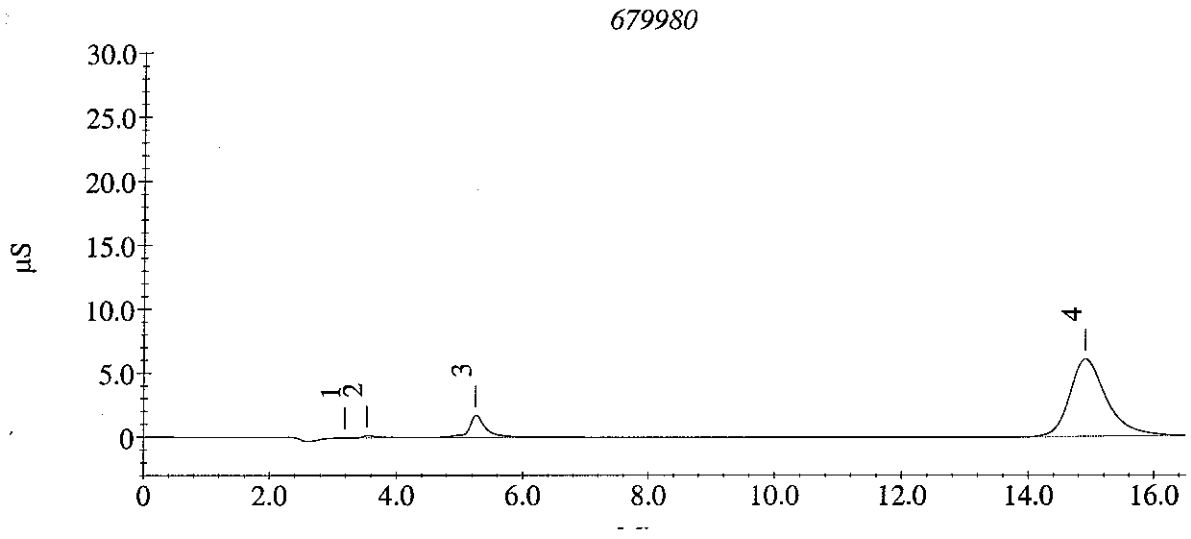
Sample Analysis Report

Sample Name : 679980
Data File Name : c:\instarch\data\system 2\011316-2\679980_011.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/13/16 12:41:53
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.53	0.2514	25713	1709	
3	Chloride	5.25	2.6281	319238	17145	
4	Sulfate	14.90	26.4369	2451124	60490	



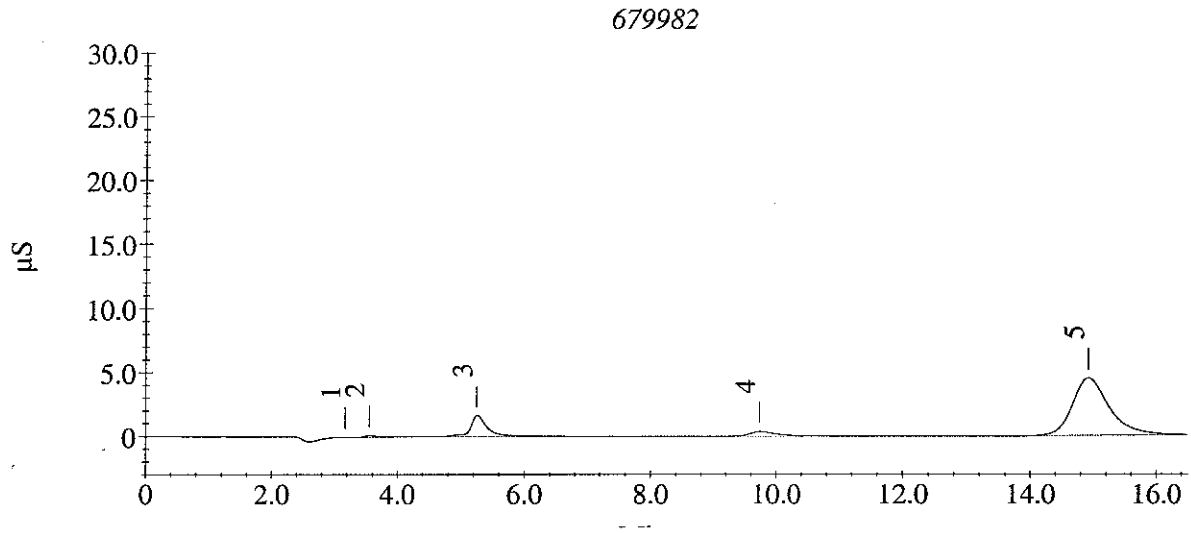
Sample Analysis Report

Sample Name : 679982
Data File Name : c:\instarch\data\system 2\011316-2\679982_012.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/13/16 13:00:36
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.55	0.2291	21181	1448	
3	Chloride	5.25	2.5471	307762	16517	
4	Nitrate	9.73	0.4568	109770	3608	
5	Sulfate	14.92	19.8553	1830377	44935	



Sample Analysis Report

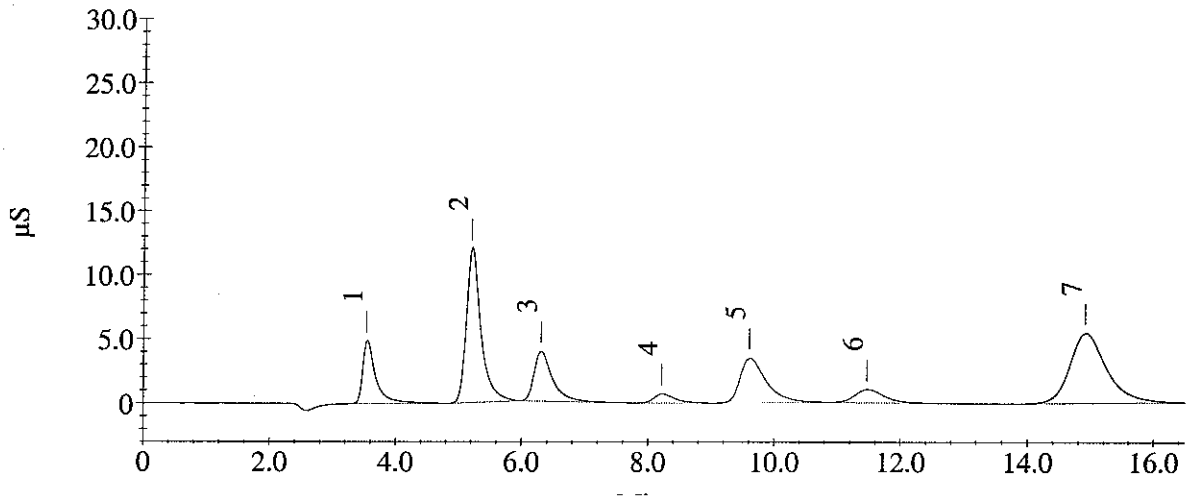
Sample Name : LCSW IC0495 IC0496
Data File Name : c:\instarch\data\system 2\011316-2\LCSW IC0495 IC0496_013.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/13/16 13:19:19
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.53	3.5842	701607	48268	
2	Chloride	5.20	14.0928	1943356	119990	
3	Nitrite	6.30	3.7111	775880	38653	
4	Bromide	8.22	3.6287	161654	6956	
5	Nitrate	9.60	3.4830	995951	34532	
6	O.Phos	11.47	3.1755	326680	10162	
7	Sulfate	14.90	23.8895	2210859	54351	

LCSW IC0495 IC0496



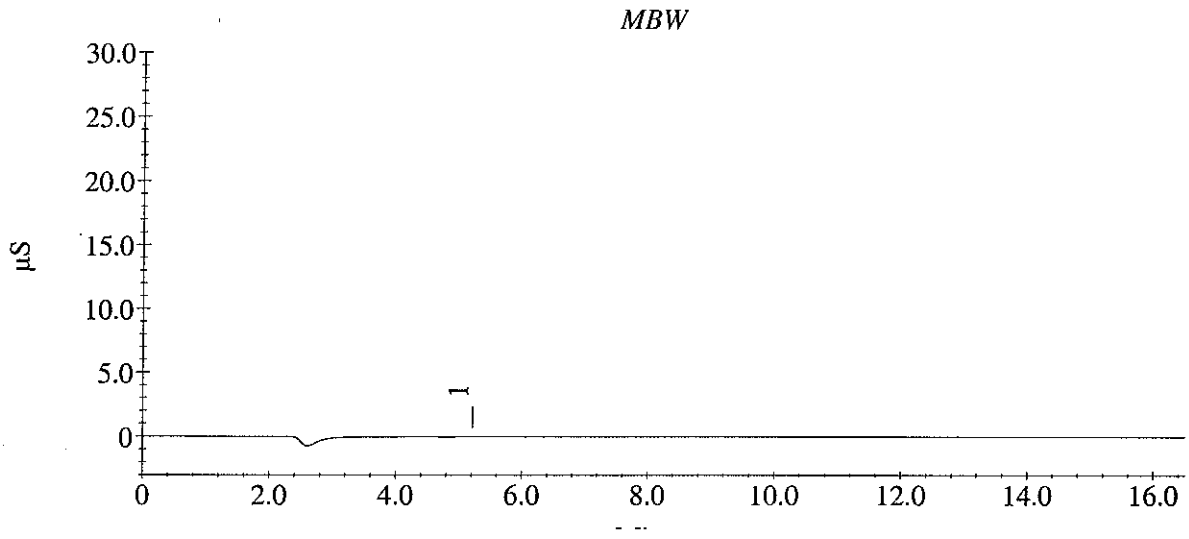
Sample Analysis Report

Sample Name : MBW
Data File Name : c:\instarch\data\system 2\011316-2\MBW_014.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/13/16 13:38:02
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded



Sample Analysis Report

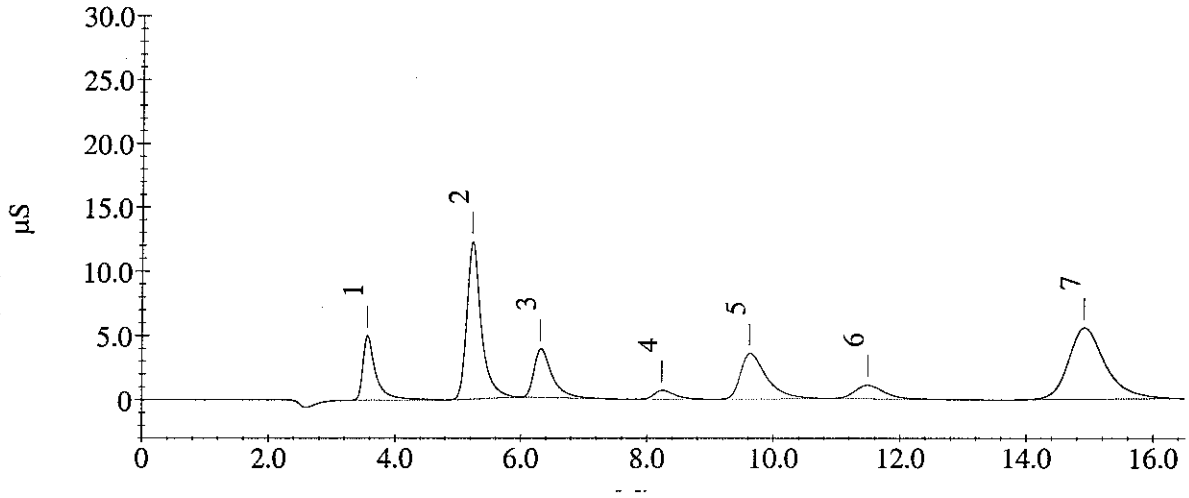
Sample Name : CCV IC0488 IC0489
Data File Name : c:\instarch\data\system 2\011316-2\CCV IC0488 IC0489_015.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/13/16 14:39:39
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.55	3.6556	716086	49762	
2	Chloride	5.22	14.2672	1968063	122098	
3	Nitrite	6.30	3.6441	761304	37735	
4	Bromide	8.23	3.6616	163128	7017	
5	Nitrate	9.62	3.5559	1017320	35305	
6	O.Phos	11.48	3.2892	338524	10507	
7	Sulfate	14.90	24.3427	2253605	55517	

CCV IC0488 IC0489



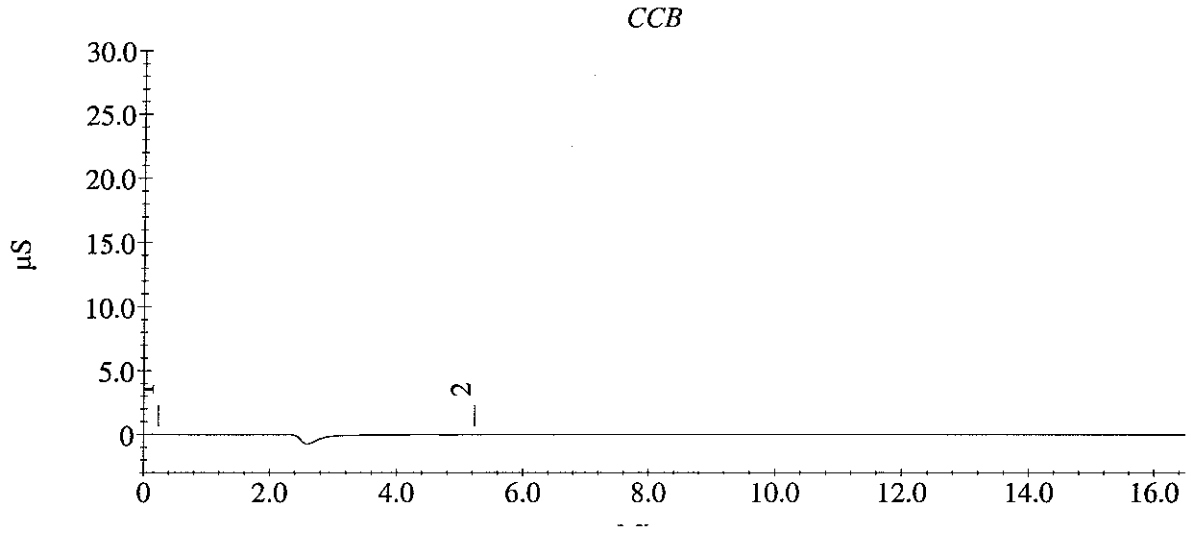
Sample Analysis Report

Sample Name : CCB
Data File Name : c:\instarch\data\system 2\011316-2\CCB_016.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/13/16 14:58:28
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded



Schedule File: C:\INSTARCH\Sequences\System 2\011416-2.sch

Line	Sample	Sample Type	Level	Method	Data File	Volume	Dilution
1	CCV IC0488 IC0489	Sample		ic0475.met	ccv ic0488 ic0489_001.dxd	1	1
2	LCSW IC0495 IC0496	Sample		ic0475.met	lcsw ic0495 ic0496_002.dxd	1	1
3	MBW	Sample		ic0475.met	mbw_003.dxd	1	1
14	CCV IC0488 IC0489	Sample		ic0475.met	ccv ic0488 ic0489_014.dxd	1	1
15	CCB	Sample		ic0475.met	ccb_015.dxd	1	1
16	680615	Sample		ic0475.met	680615_016.dxd	1	1
17	680617	Sample		ic0475.met	680617_017.dxd	1	1
18	680619	Sample		ic0475.met	680619_018.dxd	1	1
19	680621	Sample		ic0475.met	680621	1	1
20	680623	Sample		ic0475.met	680623	1	1
21	680625	Sample		ic0475.met	680625	1	1
22	680628	Sample		ic0475.met	680628	1	1
23	DUP680615	Sample		ic0475.met	dup680615	1	1
24	MSW680615X5	Sample		ic0475.met	msw680615	1	1
25	MSDW680615X5	Sample		ic0475.met	msdw680615	1	1
26	CCV IC0488 IC0489	Sample		ic0475.met	ccv ic0488 ic0489_001.dxd	1	1
27	LCSW IC0495 IC0496	Sample		ic0475.met	lcsw ic0495 ic0496_002.dxd	1	1
28	CCB / MBW	Sample		ic0475.met	ccb	1	1
39	CCV IC0488 IC0489	Sample		ic0475.met	ccv ic0488 ic0489_001.dxd	1	1
40	CCB	Sample		ic0475.met	ccb	1	1
44	680615X5	Sample		ic0475.met	680615x5	1	1
45	DUP680615X5	Sample		ic0475.met	dup680615	1	1
46	680617X5	Sample		ic0475.met	680617x5	1	1
48	680623X5	Sample		ic0475.met	680623x5	1	1
51	CCV IC0488 IC0489	Sample		ic0475.met	ccv ic0488 ic0489_001.dxd	1	1
52	CCB	Sample		ic0475.met	ccb	1	1

Sample Analysis Report

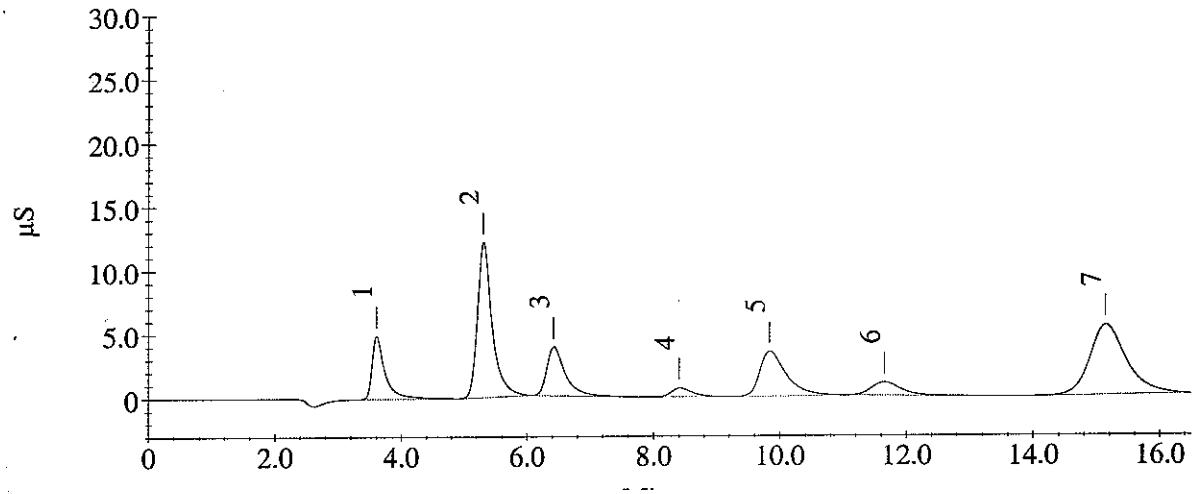
Sample Name : CCV IC0488 IC0489
Data File Name : c:\instarch\data\system 2\011416-2\CCV IC0488 IC0489_001.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/14/16 07:40:57
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.60	3.6557	716110	48984	
2	Chloride	5.30	14.3281	1976687	121392	
3	Nitrite	6.42	3.7110	775859	38151	
4	Bromide	8.40	3.6981	164764	6929	
5	Nitrate	9.83	3.5573	1017712	35076	
6	O.Phos	11.65	3.2536	334818	10325	
7	Sulfate	15.13	23.9269	2214387	54874	

CCV IC0488 IC0489



Sample Analysis Report

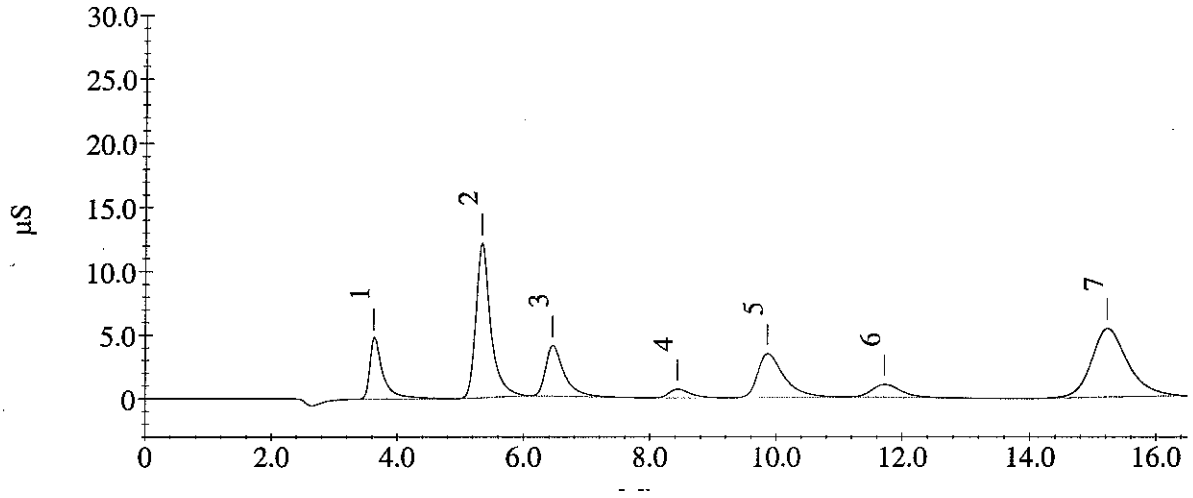
Sample Name : LCSW IC0495 IC0496
Data File Name : c:\instarch\data\system 2\011416-2\LCSW IC0495 IC0496_002.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/14/16 08:03:35
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.62	3.6264	710173	47508	
2	Chloride	5.33	14.3157	1974930	121057	
3	Nitrite	6.45	3.8842	813519	39952	
4	Bromide	8.43	3.6908	164438	6950	
5	Nitrate	9.85	3.5285	1009290	34572	
6	O.Phos	11.72	3.2064	329902	10188	
7	Sulfate	15.22	23.4167	2166275	54012	

LCSW IC0495 IC0496



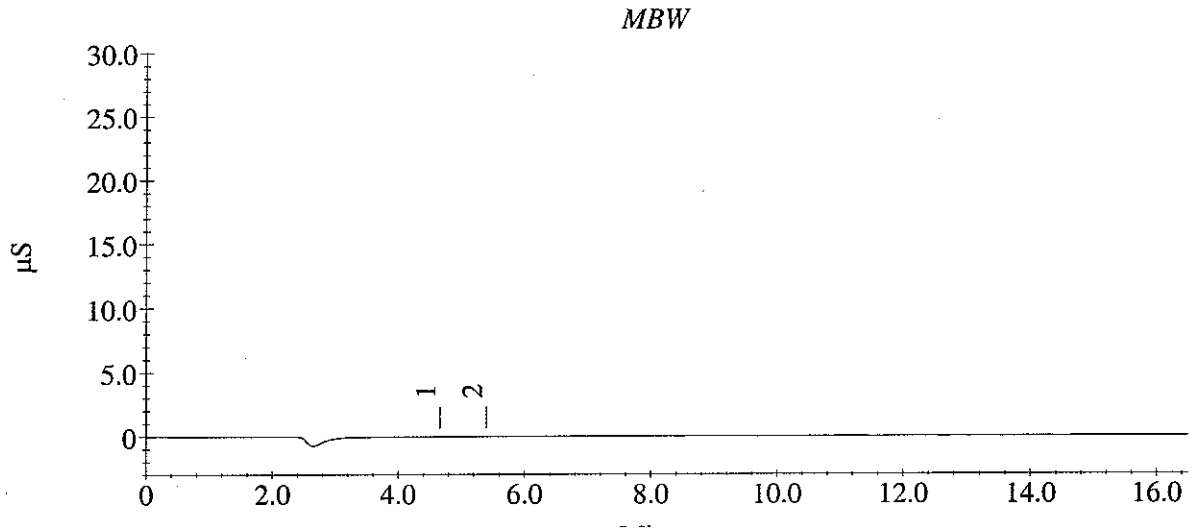
Sample Analysis Report

Sample Name : MBW
Data File Name : c:\instarch\data\system 2\011416-2\MBW_003.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/14/16 08:22:20
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Chloride	5.40	0.3939	2734	104	



Sample Analysis Report

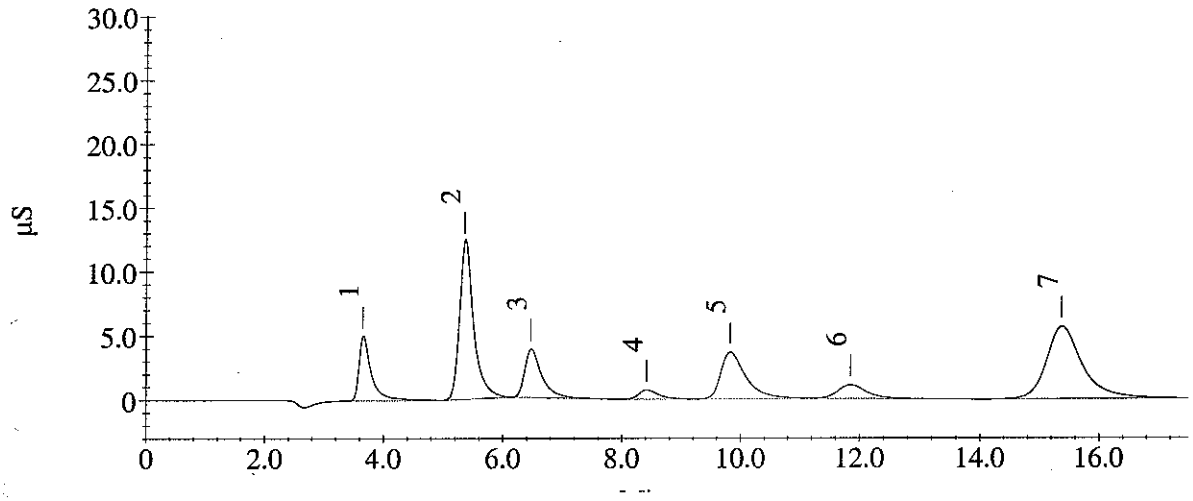
Sample Name : CCV IC0488 IC0489
Data File Name : c:\instarch\data\system 2\011416-2\CCV IC0488 IC0489_014.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/14/16 12:35:22
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.65	3.7053	726183	49401	
2	Chloride	5.35	14.6713	2025308	122777	
3	Nitrite	6.47	3.6594	764629	37786	
4	Bromide	8.42	3.7476	166986	7160	
5	Nitrate	9.82	3.7022	1060143	36419	
6	O.Phos	11.85	3.4254	352716	10635	
7	Sulfate	15.37	25.7059	2382178	56471	

CCV IC0488 IC0489



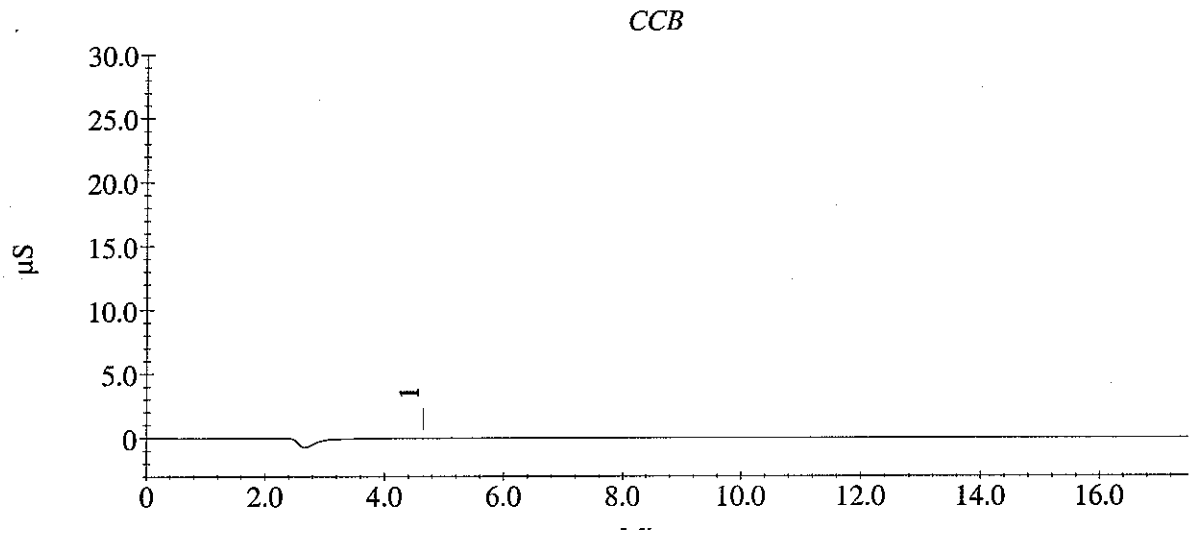
Sample Analysis Report

Sample Name : CCB
Data File Name : c:\instarch\data\system 2\011416-2\CCB_015.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/14/16 12:55:07
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded



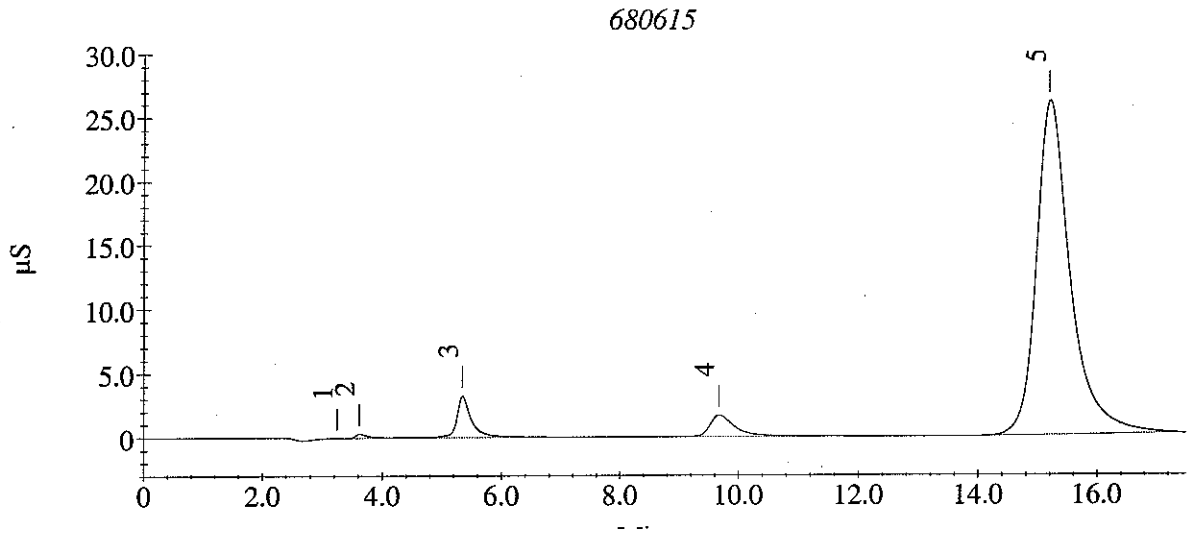
Sample Analysis Report

Sample Name : 680615
Data File Name : c:\instarch\data\system 2\011416-2\680615_016.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/14/16 13:14:53
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.62	0.3732	50405	3278	
3	Chloride	5.35	4.3128	557895	32301	
4	Nitrate	9.67	1.7859	498975	16802	
5	Sulfate	15.18	111.5002	10473931	260528	+



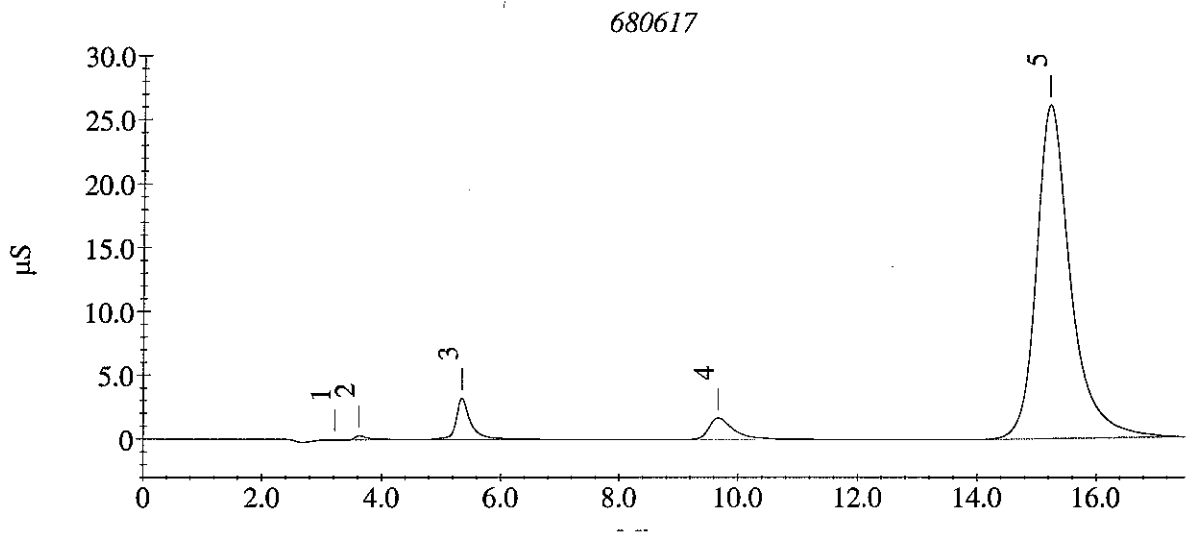
Sample Analysis Report

Sample Name : 680617
Data File Name : c:\instarch\data\system 2\011416-2\680617_017.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/14/16 13:34:36
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.62	0.3794	51659	3285	
3	Chloride	5.35	4.3050	556793	32352	
4	Nitrate	9.67	1.7827	498047	16828	
5	Sulfate	15.20	111.5891	10482315	260762	+



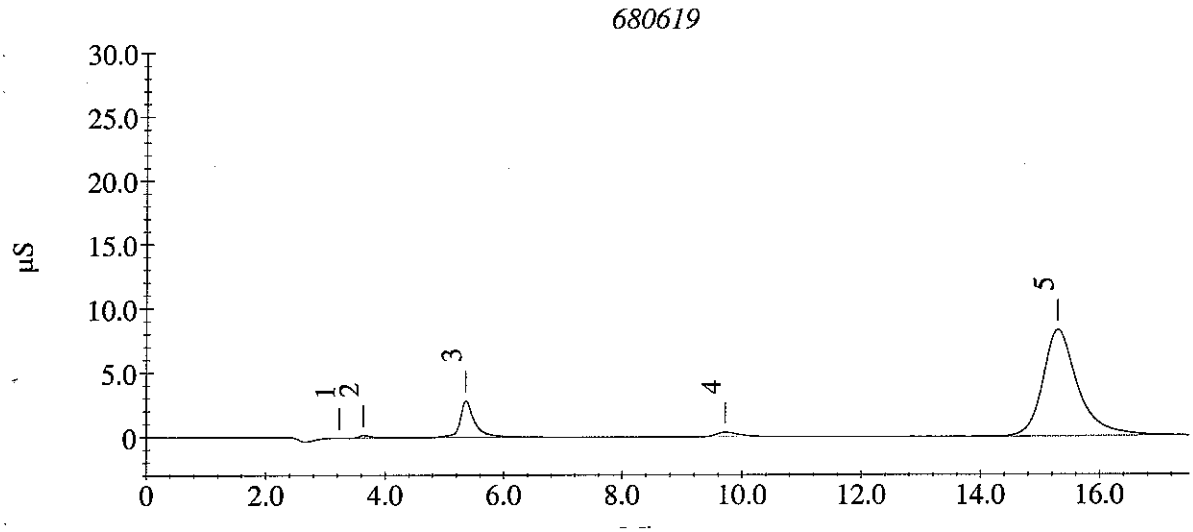
Sample Analysis Report

Sample Name : 680619
Data File Name : c:\instarch\data\system 2\011416-2\680619_018.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/14/16 13:54:22
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.63	0.2863	32781	2016	
3	Chloride	5.35	3.8615	493958	28435	
4	Nitrate	9.72	0.4588	110352	3694	
5	Sulfate	15.28	36.6026	3409905	82832	



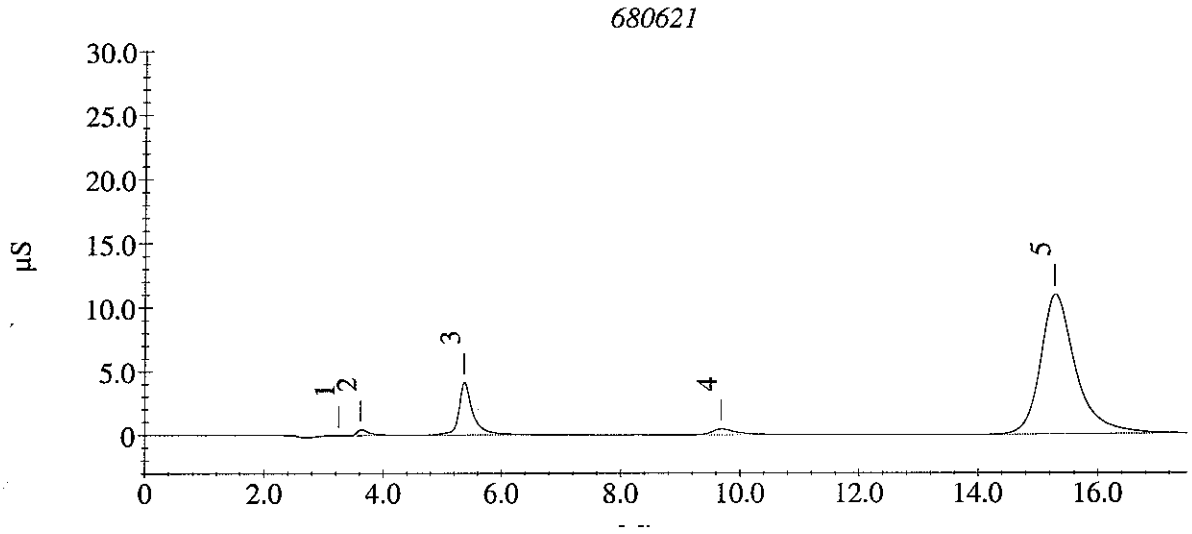
Sample Analysis Report

Sample Name : 680621
Data File Name : c:\instarch\data\system 2\011416-2\680621_019.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/14/16 14:14:07
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.62	0.4865	73376	4650	
3	Chloride	5.37	5.2481	690390	41264	
4	Nitrate	9.68	0.5235	129291	4538	
5	Sulfate	15.27	47.7247	4458901	109311	



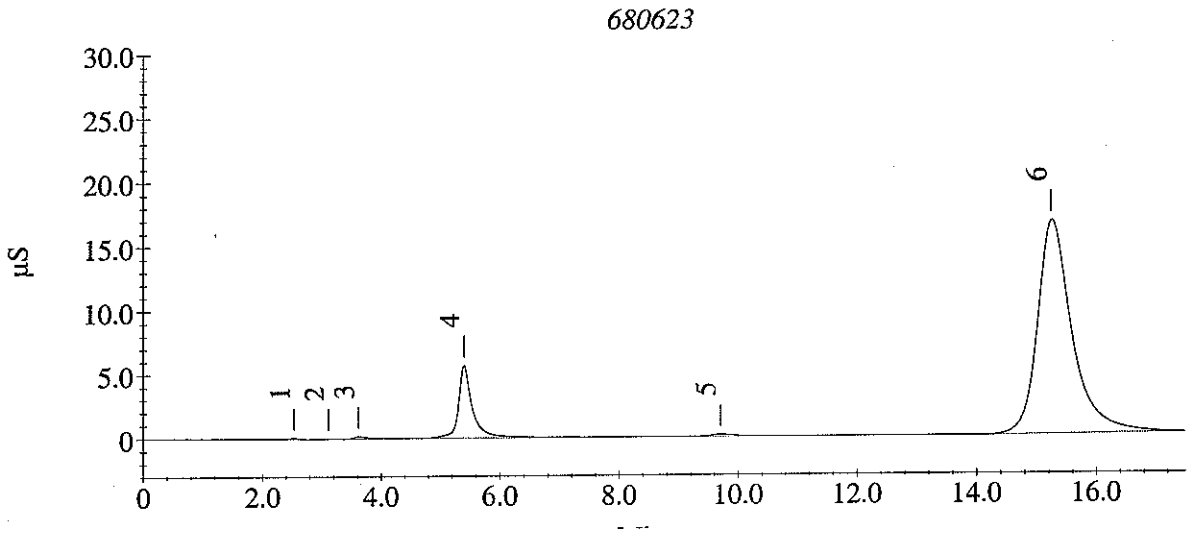
Sample Analysis Report

Sample Name : 680623
Data File Name : c:\instarch\data\system 2\011416-2\680623_020.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/14/16 14:33:53
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
3	Fluoride	3.62	0.2792	31336	1697	
4	Chloride	5.40	6.9210	927383	56831	
5	Nitrate	9.70	0.2311	43693	1454	
6	Sulfate	15.23	71.8245	6731887	166820	+



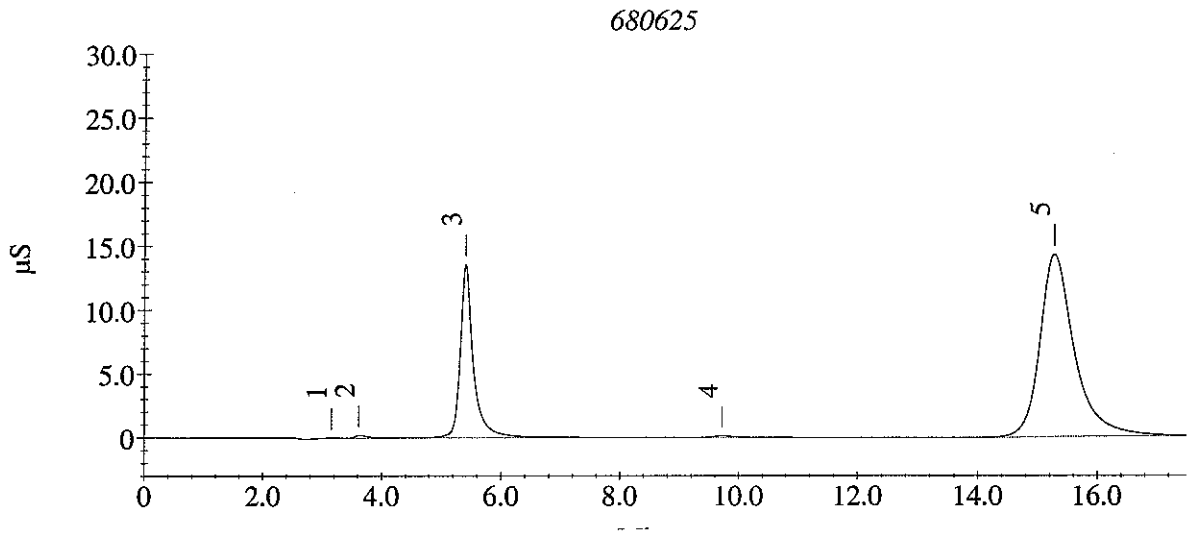
Sample Analysis Report

Sample Name : 680625
Data File Name : c:\instarch\data\system 2\011416-2\680625_021.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/14/16 14:53:39
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.62	0.3054	36652	2148	
3	Chloride	5.40	15.0524	2079300	135913	
4	Nitrate	9.72	0.2078	36869	1316	
5	Sulfate	15.27	61.7934	5785799	143032	



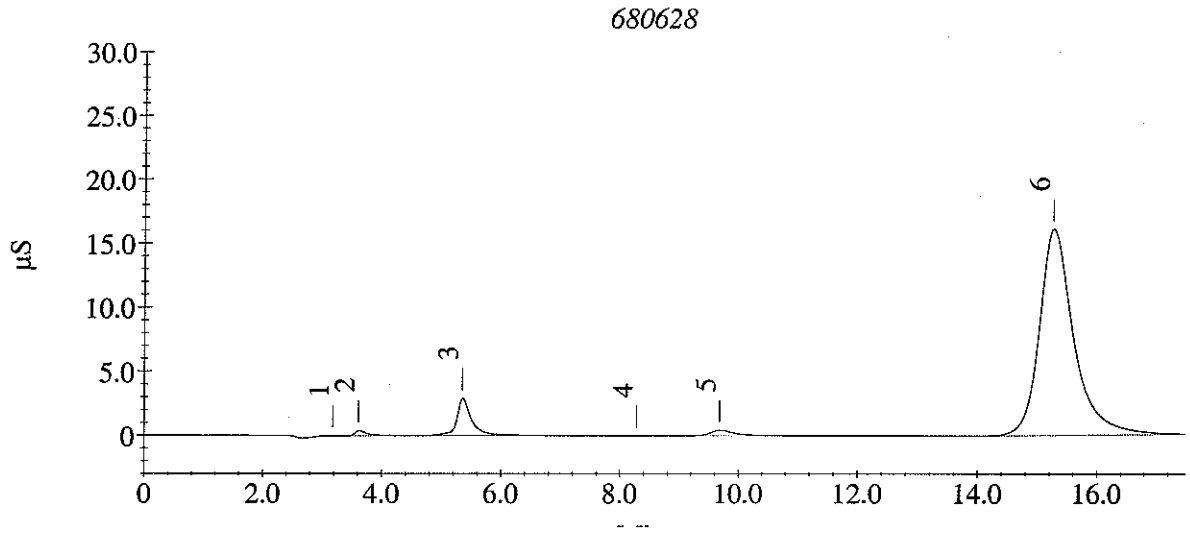
Sample Analysis Report

Sample Name : 680628
Data File Name : c:\instarch\data\system 2\011416-2\680628_022.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/14/16 15:13:25
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.62	0.4284	61610	4195	
3	Chloride	5.35	3.9480	506220	29089	
4	Bromide	8.28	0.0699	2105	106	
5	Nitrate	9.68	0.5112	125700	4304	
6	Sulfate	15.25	69.1267	6477442	160639	



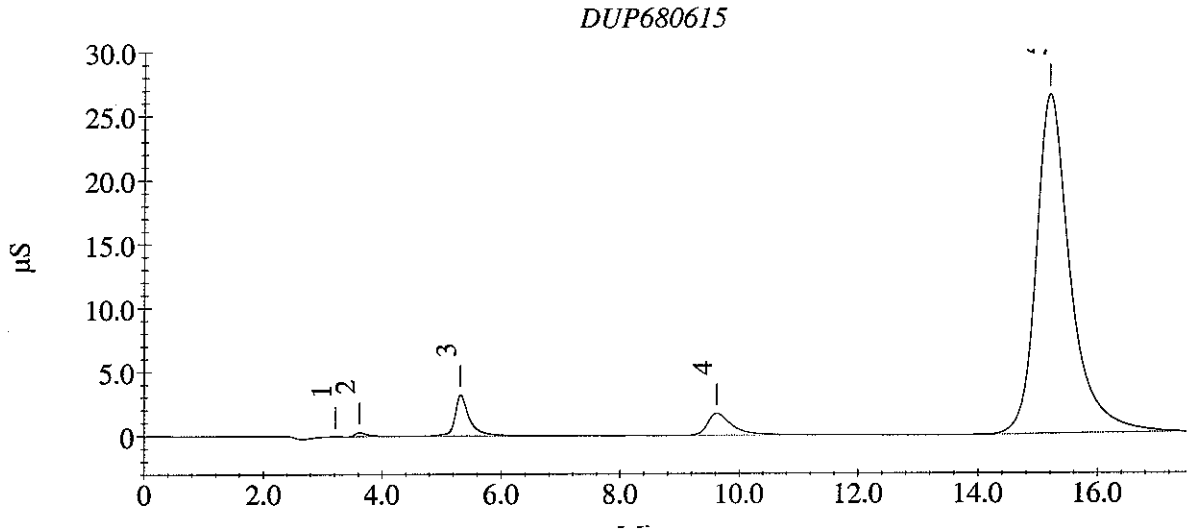
Sample Analysis Report

Sample Name : DUP680615
Data File Name : c:\instarch\data\system 2\011416-2\DUP680615_023.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/14/16 15:33:11
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.62	0.3791	51602	3347	
3	Chloride	5.32	4.2295	546102	32012	
4	Nitrate	9.62	1.7964	502053	17051	
5	Sulfate	15.18	112.8018	10596695	264941	+



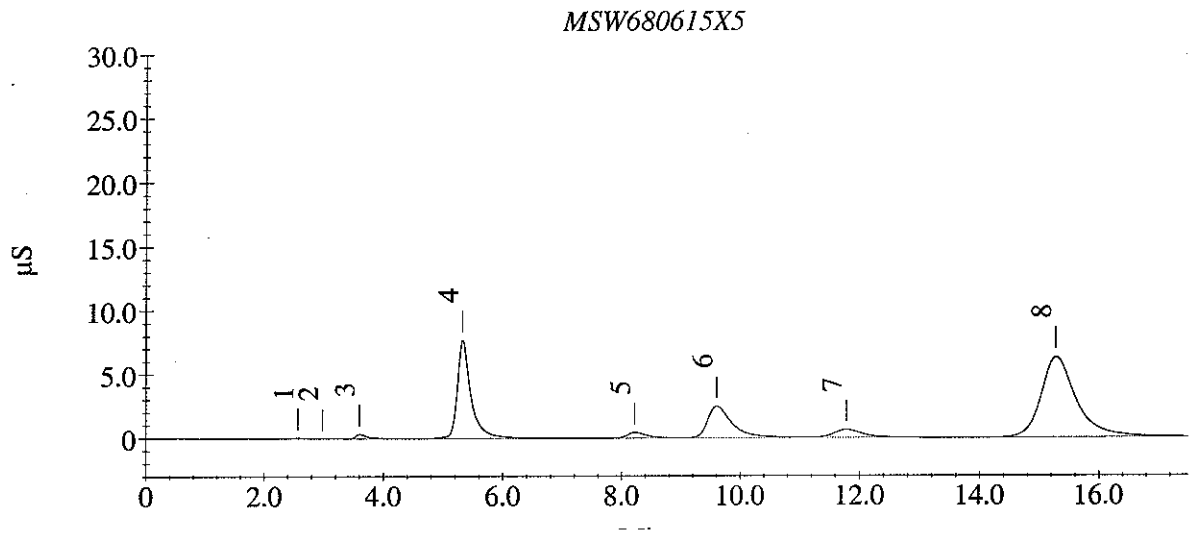
Sample Analysis Report

Sample Name : MSW680615X5
Data File Name : c:\instarch\data\system 2\011416-2\MSW680615_024.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/14/16 15:52:56
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
3	Fluoride	3.60	0.3691	49568	3344	
4	Chloride	5.32	9.0815	1233441	76946	
5	Bromide	8.22	2.2155	98297	4296	
6	Nitrate	9.60	2.4945	706497	24768	
7	O.Phos	11.78	1.9851	202670	6122	
8	Sulfate	15.27	28.1447	2612194	63117	



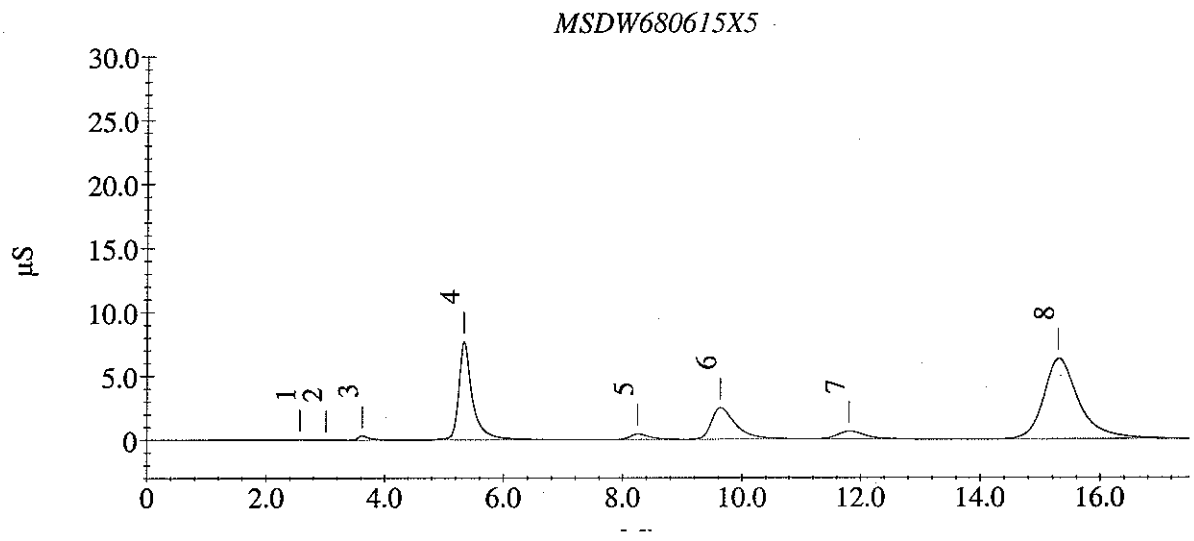
Sample Analysis Report

Sample Name : MSDW680615X5
Data File Name : c:\instarch\data\system 2\011416-2\MSDW680615_025.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/14/16 16:12:42
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
3	Fluoride	3.62	0.3625	48233	3328	
4	Chloride	5.33	9.0954	1235411	76721	
5	Bromide	8.25	2.2300	98949	4288	
6	Nitrate	9.63	2.4959	706897	24750	
7	O.Phos	11.80	2.0078	205036	6139	
8	Sulfate	15.28	28.0713	2605273	63004	



Sample Analysis Report

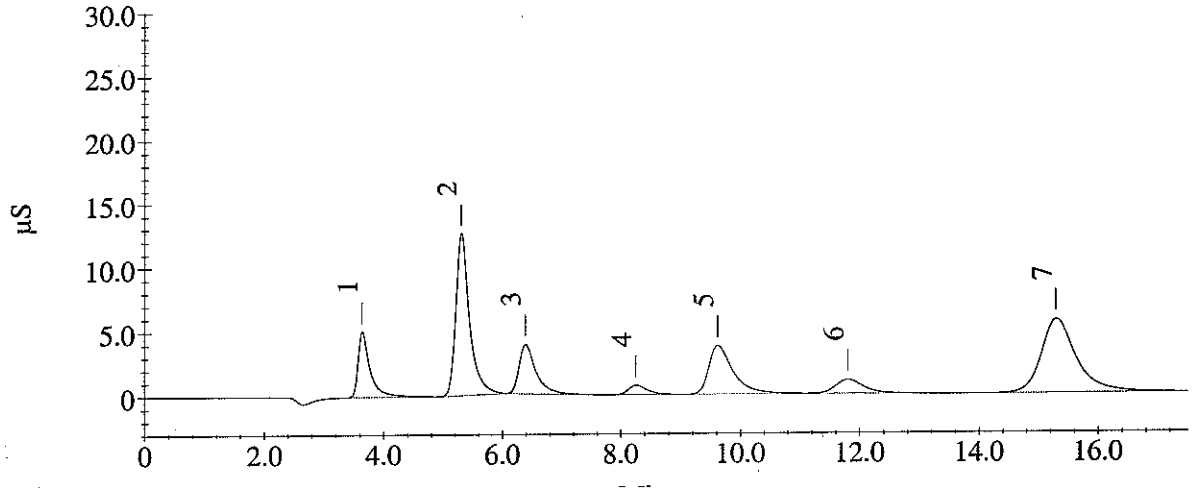
Sample Name : CCV IC0488 IC0489
Data File Name : c:\instarch\data\system 2\011416-2\CCV IC0488 IC0489_026.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/14/16 16:32:28
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.63	3.7145	728037	50505	
2	Chloride	5.30	14.6251	2018770	125771	
3	Nitrite	6.38	3.6356	759445	38287	
4	Bromide	8.25	3.7145	165499	7349	
5	Nitrate	9.62	3.7418	1071759	37793	
6	O.Phos	11.80	3.5459	365271	10981	
7	Sulfate	15.28	25.7271	2384174	57387	

CCV IC0488 IC0489



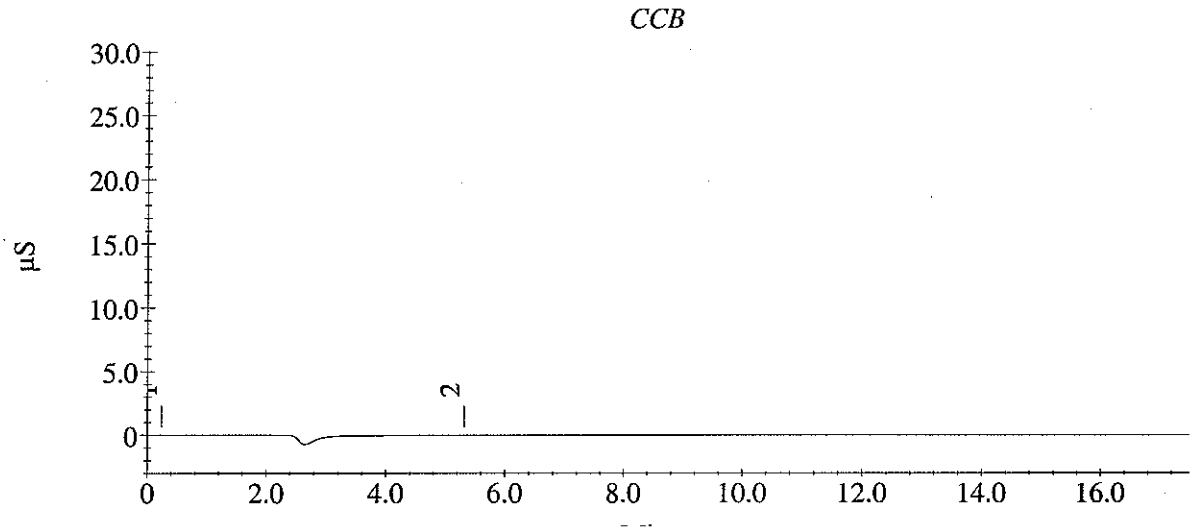
Sample Analysis Report

Sample Name : CCB
Data File Name : c:\instarch\data\system 2\011416-2\CCB_028.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/14/16 17:12:00
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded



Sample Analysis Report

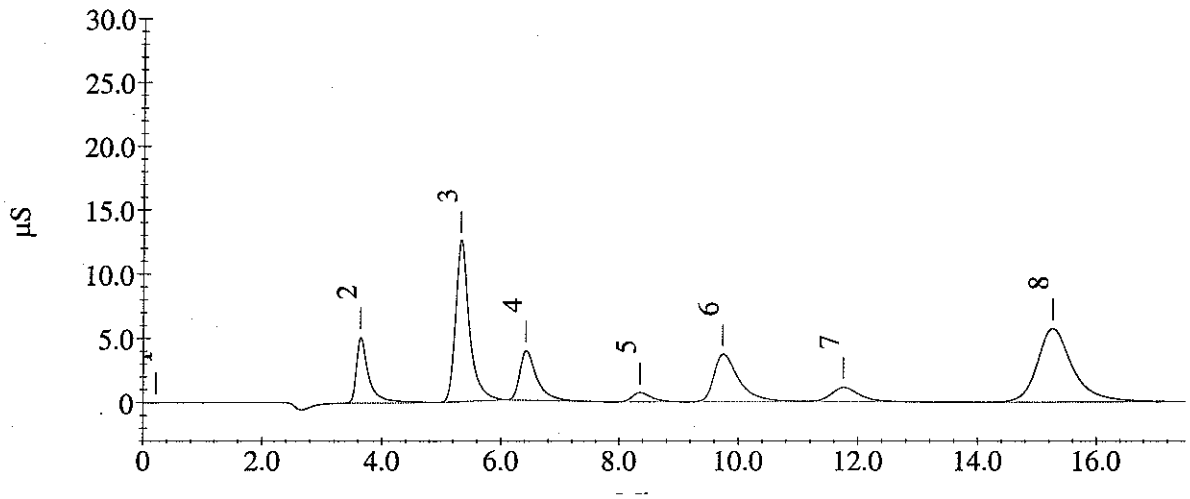
Sample Name : CCV IC0488 IC0489
Data File Name : c:\instarch\data\system 2\011416-2\CCV IC0488 IC0489_039.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/14/16 20:49:23
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.63	3.7235	729863	50533	
3	Chloride	5.32	14.6473	2021913	125069	
4	Nitrite	6.42	3.6845	770078	38388	
5	Bromide	8.35	3.7181	165662	7220	
6	Nitrate	9.73	3.6971	1058651	36824	
7	O.Phos	11.75	3.5283	363434	10940	
8	Sulfate	15.25	25.7877	2389897	57186	

CCV IC0488 IC0489



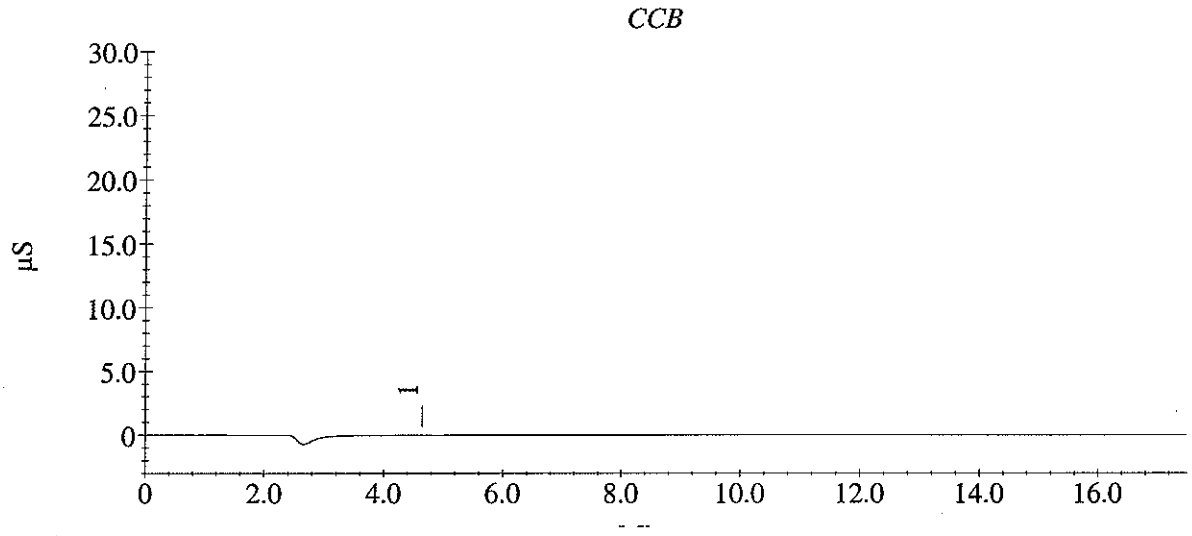
Sample Analysis Report

Sample Name : CCB
Data File Name : c:\instarch\data\system 2\011416-2\CCB_040.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/14/16 21:09:09
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded



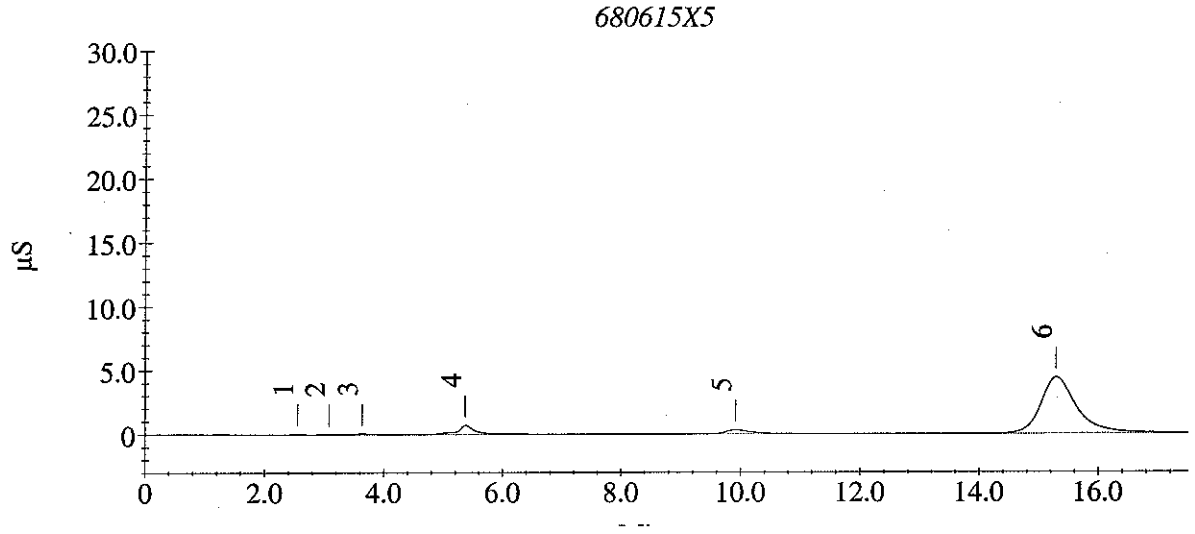
Sample Analysis Report

Sample Name : 680615X5
Data File Name : c:\instarch\data\system 2\011416-2\680615X5_044.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/14/16 22:28:11
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
3	Fluoride	3.63	0.1676	8711	658	
4	Chloride	5.37	1.4181	147825	7035	
5	Nitrate	9.92	0.4030	94029	3153	
6	Sulfate	15.28	20.1234	1855657	44133	



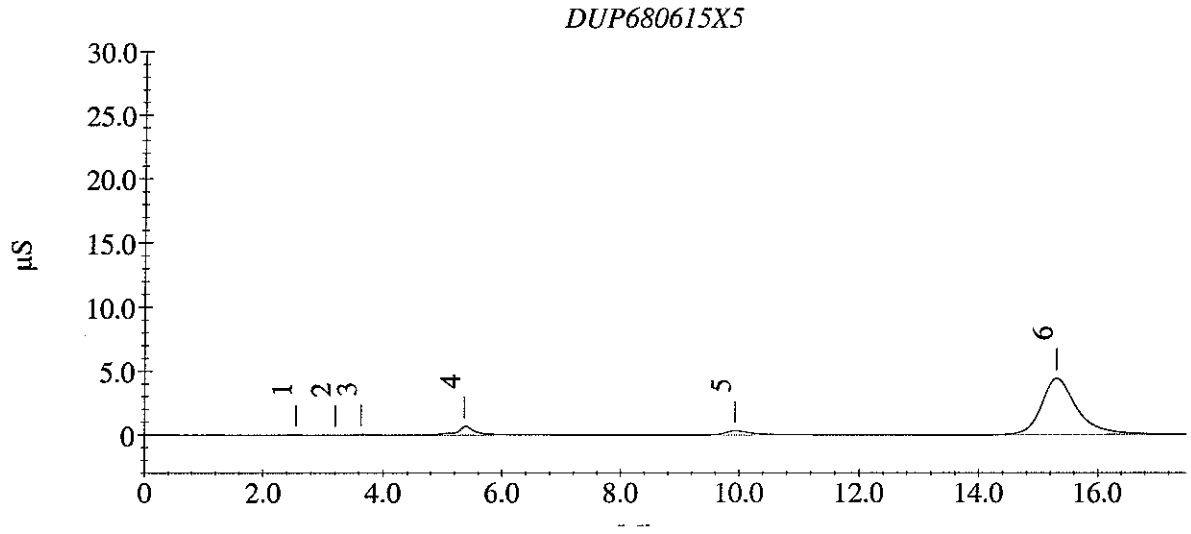
Sample Analysis Report

Sample Name : DUP680615X5
Data File Name : c:\instarch\data\system 2\011416-2\DUP680615_045.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/14/16 22:47:57
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
3	Fluoride	3.63	0.1658	8352	647	
4	Chloride	5.37	1.3803	142470	6728	
5	Nitrate	9.93	0.3973	92360	3124	
6	Sulfate	15.30	20.1377	1857014	44175	



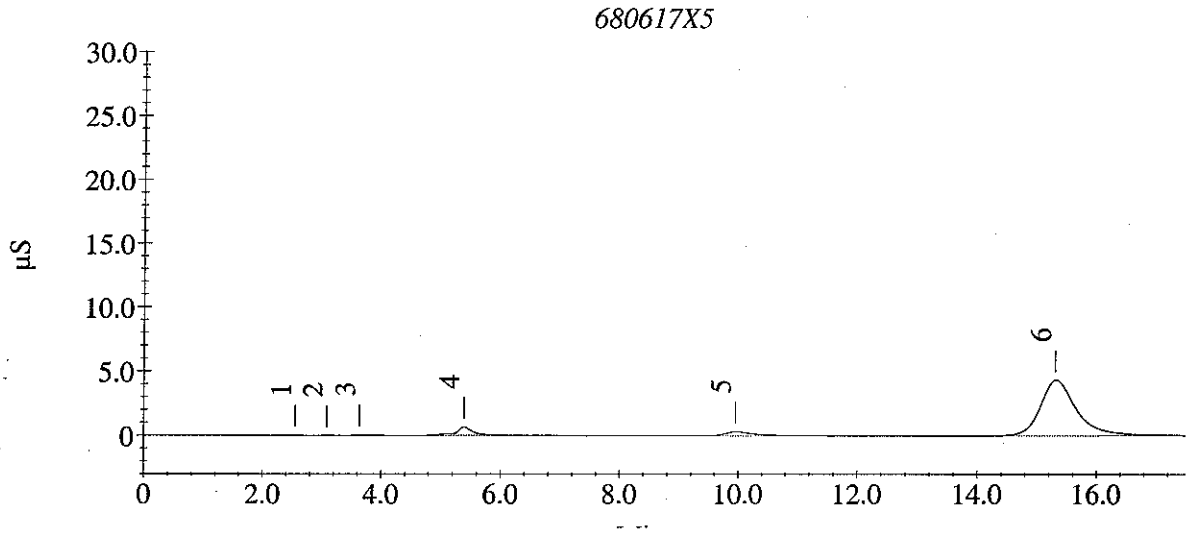
Sample Analysis Report

Sample Name : 680617X5
Data File Name : c:\instarch\data\system 2\011416-2\680617X5_046.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/14/16 23:07:43
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
3	Fluoride	3.63	0.1674	8668	638	
4	Chloride	5.38	1.3354	136109	6626	
5	Nitrate	9.95	0.4017	93634	3061	
6	Sulfate	15.30	19.7575	1821152	43245	



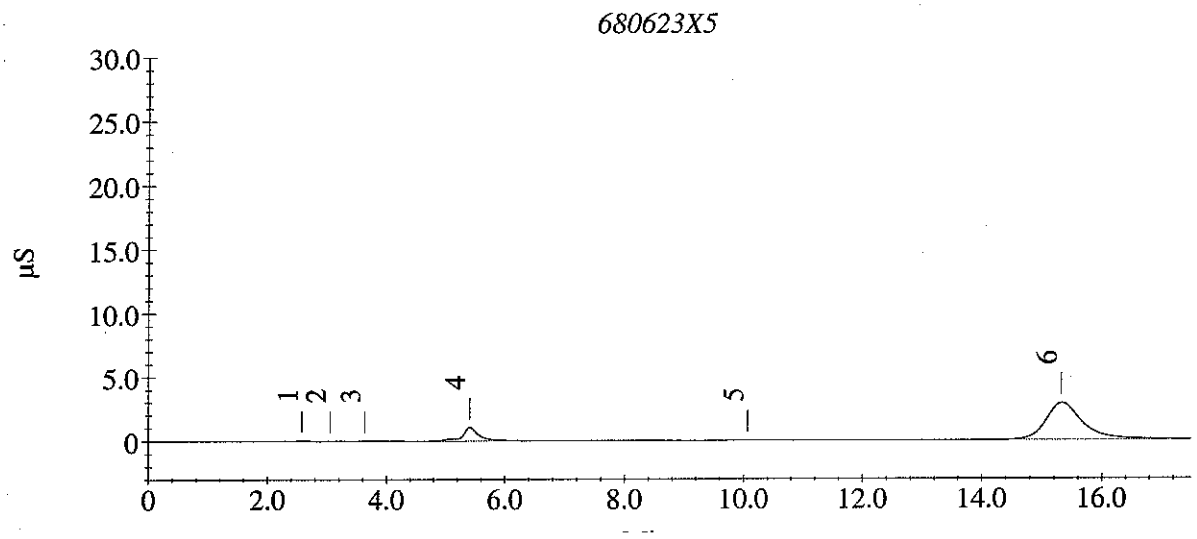
Sample Analysis Report

Sample Name : 680623X5
Data File Name : c:\instarch\data\system 2\011416-2\680623X5_048.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/14/16 23:47:15
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
3	Fluoride	3.63	0.1466	4446	331	
4	Chloride	5.40	1.8682	211591	10555	
5	Nitrate	10.07	0.1027	6090	251	
6	Sulfate	15.32	13.4498	1226234	28841	



Sample Analysis Report

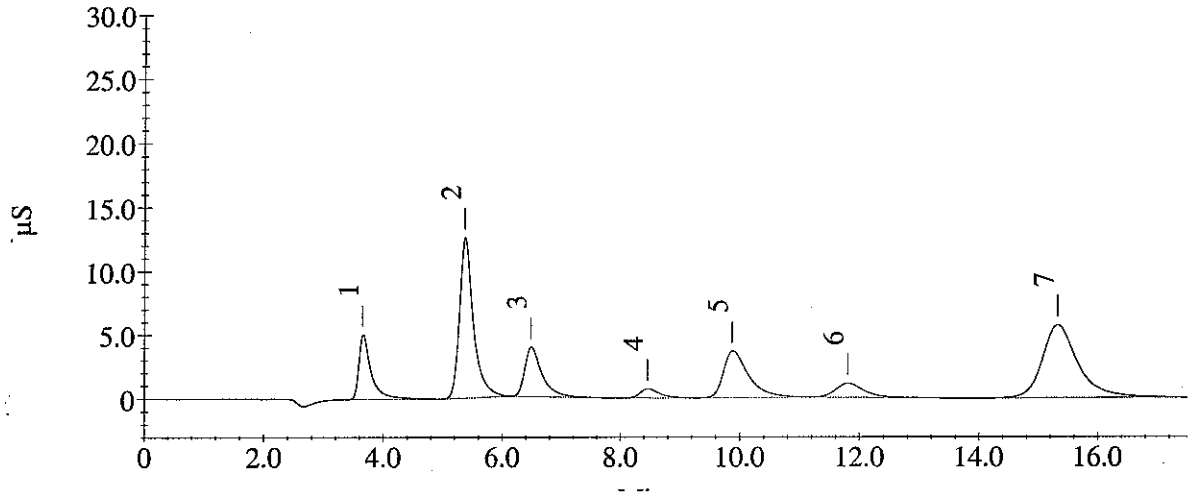
Sample Name : CCV IC0488 IC0489
Data File Name : c:\instarch\data\system 2\011416-2\CCV IC0488 IC0489_051.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/15/16 00:46:32
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.65	3.7352	732231	50020	
2	Chloride	5.37	14.7257	2033023	125630	
3	Nitrite	6.48	3.7425	782702	38624	
4	Bromide	8.45	3.7700	167987	7191	
5	Nitrate	9.87	3.6895	1056421	36464	
6	O.Phos	11.80	3.5052	361024	10931	
7	Sulfate	15.32	25.8945	2399967	57277	

CCV IC0488 IC0489



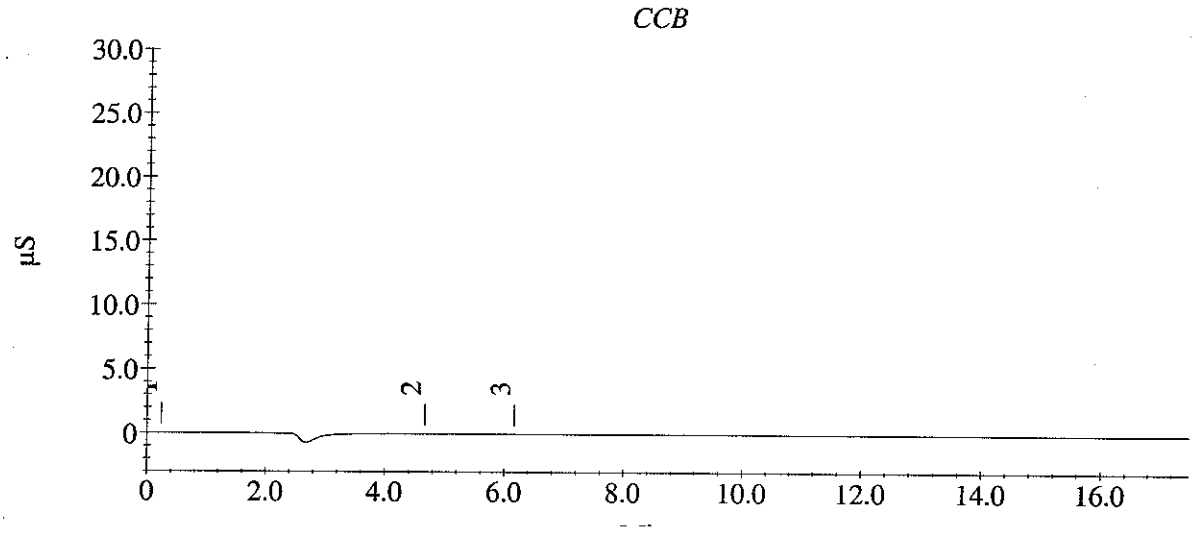
Sample Analysis Report

Sample Name : CCB
Data File Name : c:\instarch\data\system 2\011416-2\CCB_052.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/15/16 01:06:18
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Chloride	4.67	0.4031	4035	137	
3	Nitrite	6.17	0.1714	6230	69	



Schedule File: C:\INSTARCH\Sequences\System 2\011516-2.sch

Line	Sample	Sample Type	Level	Method
1	CCV IC0488 IC0489	Sample		system 2\ic0475.met
2	LCSW IC0495 IC0496	Sample		system 2\ic0475.met
3	MBW	Sample		system 2\ic0475.met
14	CCV IC0488 IC0489	Sample		system 2\ic0475.met
15	CCB	Sample		system 2\ic0475.met
17	681413	Sample		system 2\ic0475.met
18	681415	Sample		system 2\ic0475.met
19	681417	Sample		system 2\ic0475.met
20	681419	Sample		system 2\ic0475.met
21	681421	Sample		c:\instarch\methods\system 2\ic0475.met
26	CCV IC0488 IC0489	Sample		c:\instarch\methods\system 2\ic0475.met
28	MBW	Sample		c:\instarch\methods\system 2\ic0475.met
29	DUP681413	Sample		c:\instarch\methods\system 2\ic0475.met
30	MSW681413	Sample		c:\instarch\methods\system 2\ic0475.met
31	MSDW681413	Sample		c:\instarch\methods\system 2\ic0475.met
39	CCV IC0488 IC0489	Sample		c:\instarch\methods\system 2\ic0475.met
40	CCB	Sample		c:\instarch\methods\system 2\ic0475.met
45	681415X10	Sample		c:\instarch\methods\system 2\ic0475.met
46	681421X10	Sample		c:\instarch\methods\system 2\ic0475.met
49	CCV IC0488 IC0489	Sample		c:\instarch\methods\system 2\ic0475.met
50	CCB	Sample		c:\instarch\methods\system 2\ic0475.met

Sample Analysis Report

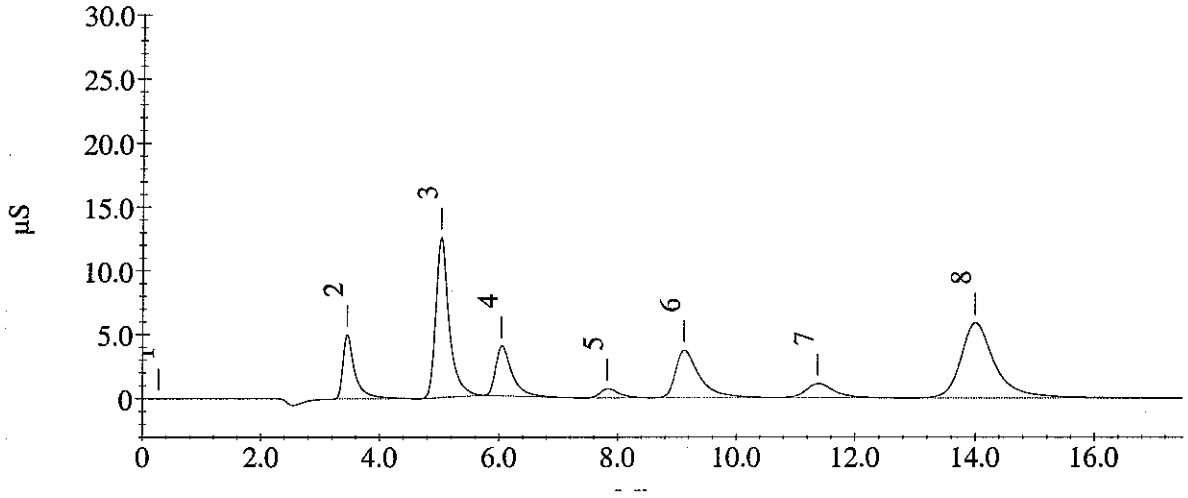
Sample Name : CCV IC0488 IC0489
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\011516-2\CCV IC0488 IC0489_001.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/15/16 09:23:25
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.45	3.5656	697838	49715	
3	Chloride	5.02	13.9987	1930022	125193	
4	Nitrite	6.03	3.5865	748769	38872	
5	Bromide	7.82	3.5995	160345	7142	
6	Nitrate	9.12	3.6306	1039190	37012	
7	O.Phos	11.37	3.5923	370107	10915	
8	Sulfate	13.98	25.4278	2355949	58728	

CCV IC0488 IC0489



Sample Analysis Report

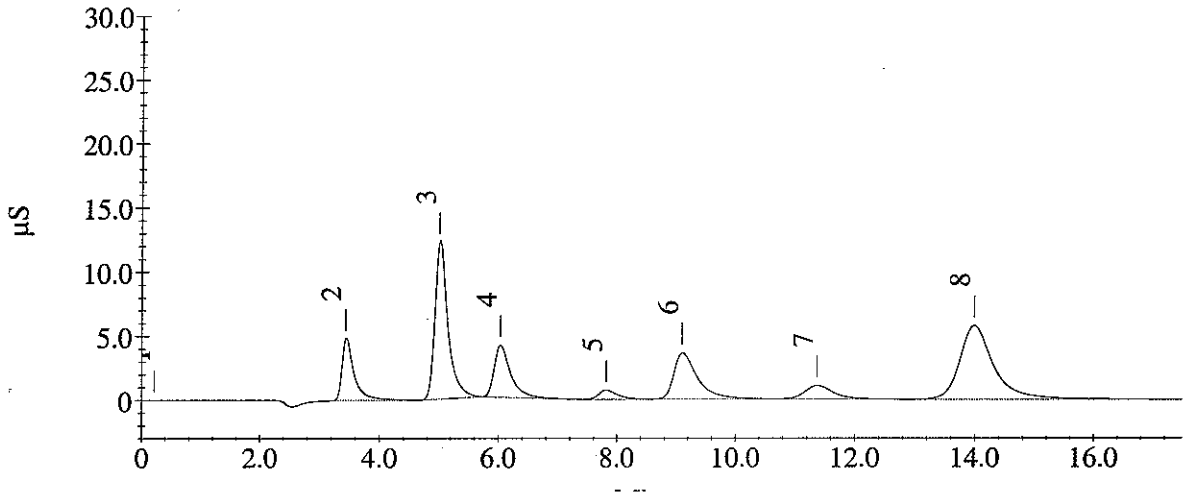
Sample Name : LCSW IC0495 IC0496
Data File Name : c:\instarch\data\system 2\011516-2\LCSW IC0495 IC0496_002.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/15/16 09:54:36
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.43	3.4838	681243	47755	
3	Chloride	5.00	13.8268	1905681	122052	
4	Nitrite	6.03	3.7399	782139	40674	
6	Nitrate	9.10	3.5481	1015041	36175	
7	O.Phos	11.37	3.4966	360130	10642	
8	Sulfate	13.98	24.9352	2309490	57647	

LCSW IC0495 IC0496



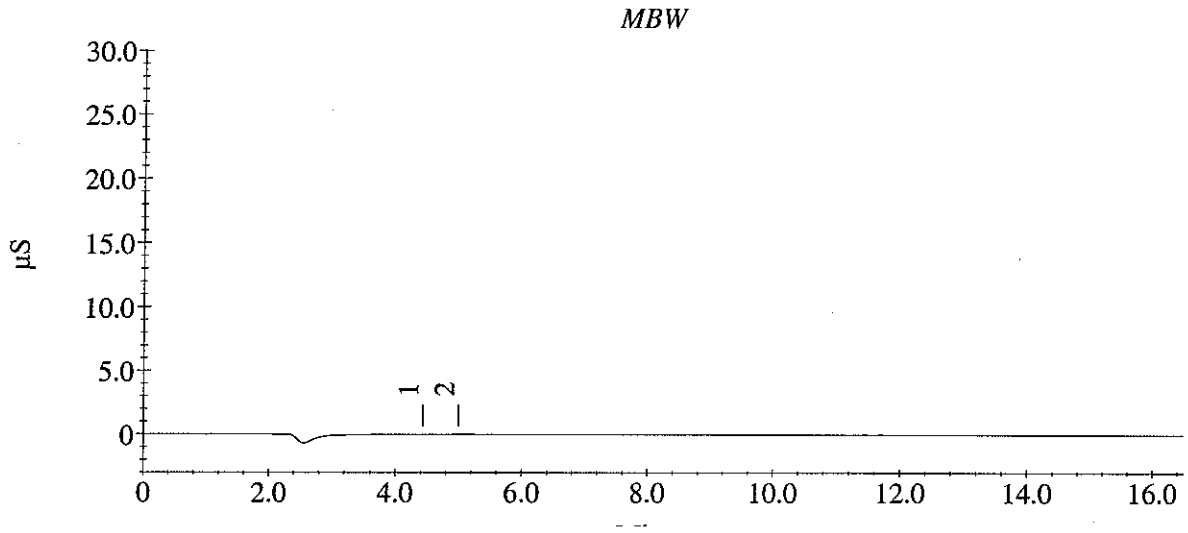
Sample Analysis Report

Sample Name : MBW
Data File Name : c:\instarch\data\system 2\011516-2\MBW_003.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/15/16 10:14:22
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Chloride	5.00	0.3936	2686	129	



Sample Analysis Report

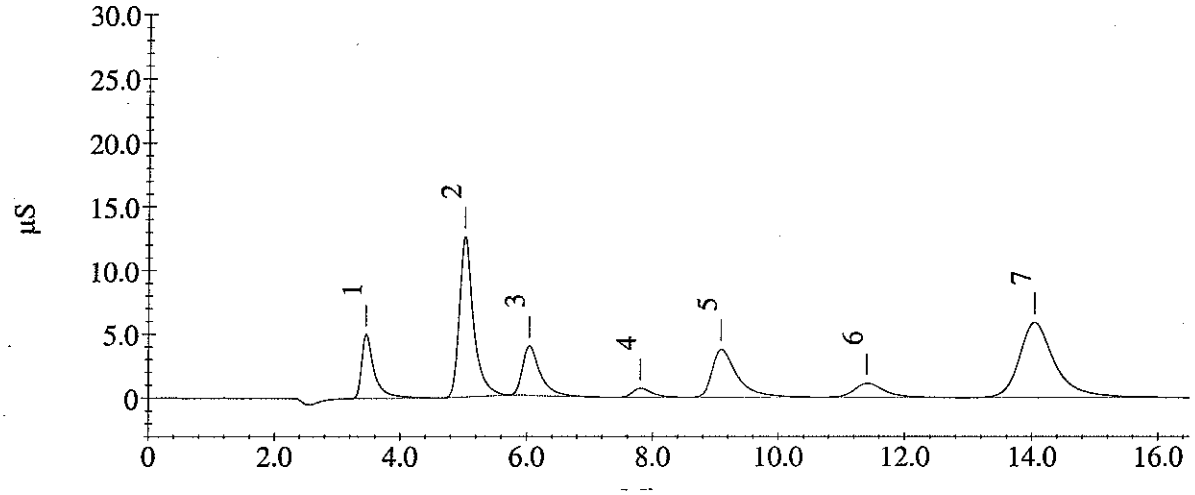
Sample Name : CCV IC0488 IC0489
Data File Name : c:\instarch\data\system 2\011516-2\CCV IC0488 IC0489_014.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/15/16 13:40:25
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.45	3.5608	696877	49600	
2	Chloride	5.02	14.0757	1940942	125569	
3	Nitrite	6.03	3.5682	744809	38674	
4	Bromide	7.80	3.6039	160543	7216	
5	Nitrate	9.08	3.6747	1052114	37392	
6	O.Phos	11.40	3.6041	371330	10912	
7	Sulfate	14.03	25.2417	2338399	58911	

CCV IC0488 IC0489



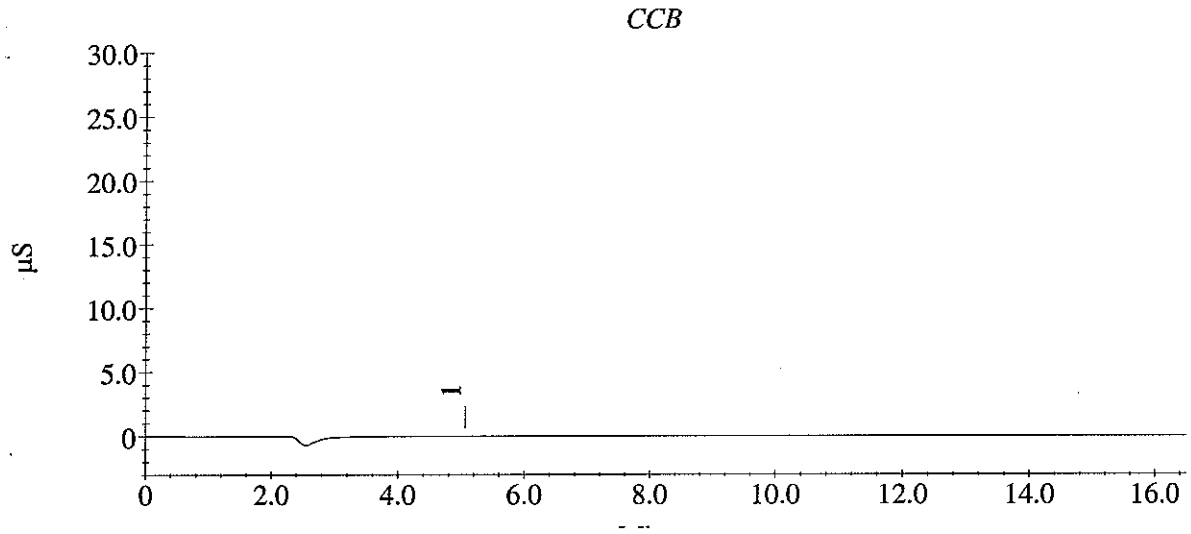
Sample Analysis Report

Sample Name : CCB
Data File Name : c:\instarch\data\system 2\011516-2\CCB_015.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/15/16 13:59:07
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded



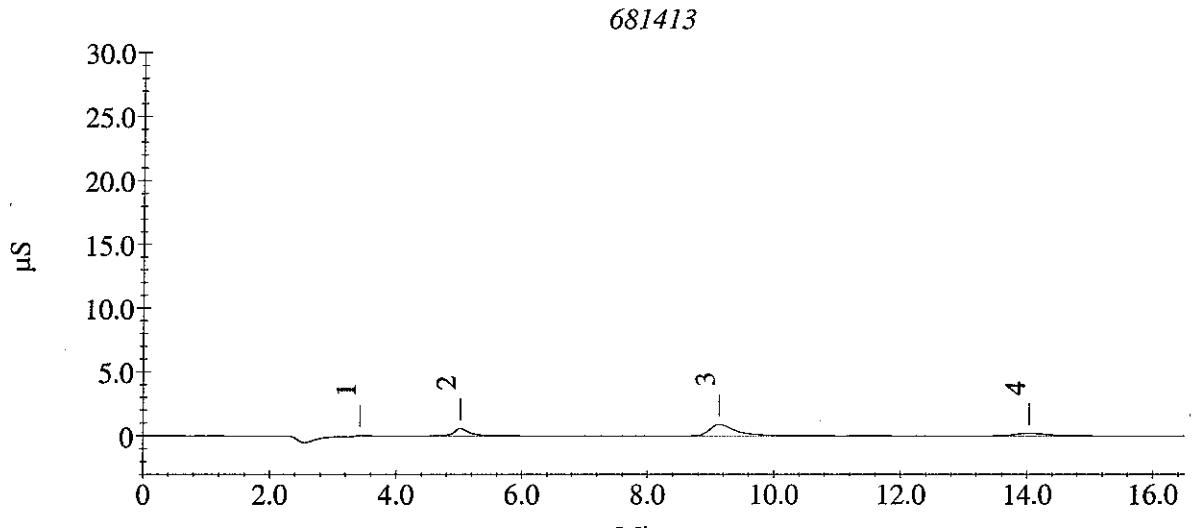
Sample Analysis Report

Sample Name : 681413
Data File Name : c:\instarch\data\system 2\011516-2\681413_017.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/15/16 14:36:34
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.43	0.1729	9777	890	
2	Chloride	5.02	1.1898	115485	5920	
3	Nitrate	9.13	0.9893	265710	8997	
4	Sulfate	14.03	1.3525	85268	2165	



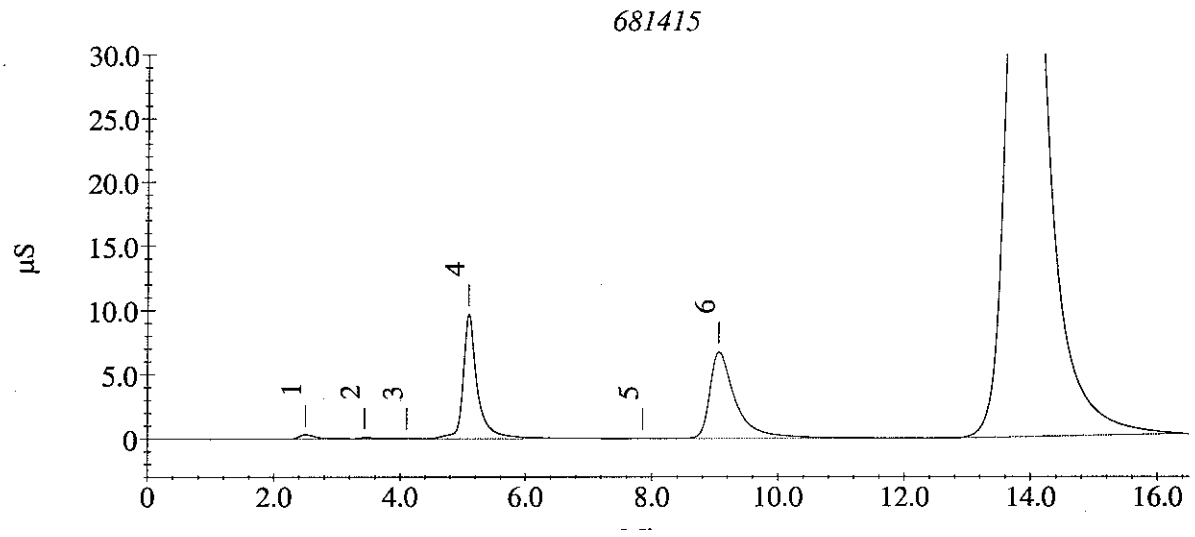
Sample Analysis Report

Sample Name : 681415
Data File Name : c:\instarch\data\system 2\011516-2\681415_018.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/15/16 14:55:16
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.43	0.1921	13672	1060	
4	Chloride	5.08	11.1745	1529949	96475	
5	Bromide	7.85	0.0778	2458	120	
6	Nitrate	9.05	6.6602	1926369	67052	
7	Sulfate	13.82	269.6596	25390852	645322	+



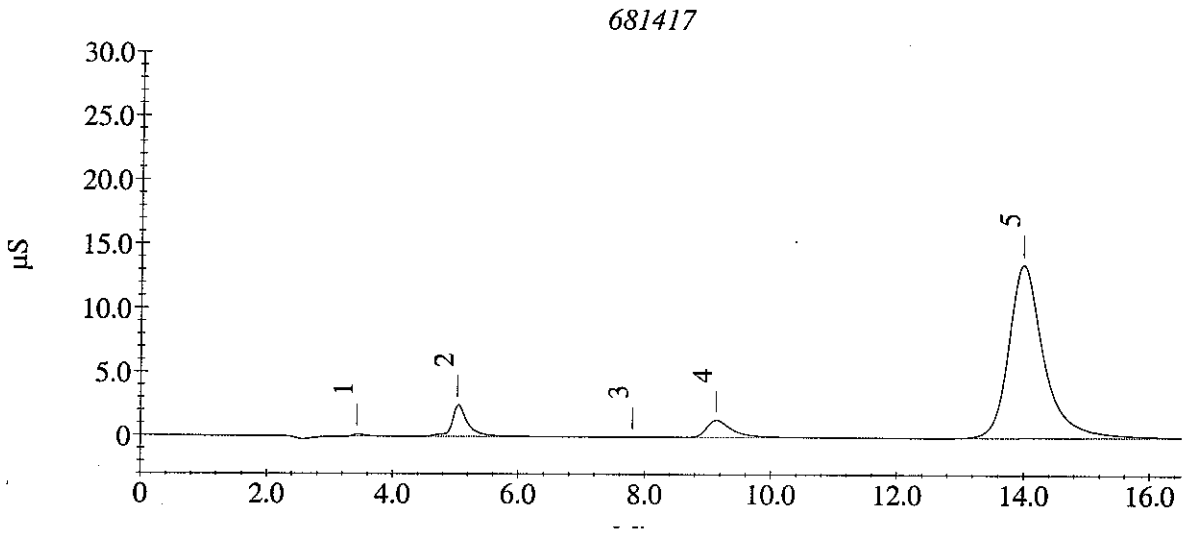
Sample Analysis Report

Sample Name : 681417
Data File Name : c:\instarch\data\system 2\011516-2\681417_019.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/15/16 15:13:59
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.43	0.2384	23073	1788	
2	Chloride	5.03	3.5038	443287	24617	
4	Nitrate	9.13	1.4235	392852	13531	
5	Sulfate	13.98	56.1136	5250102	135383	



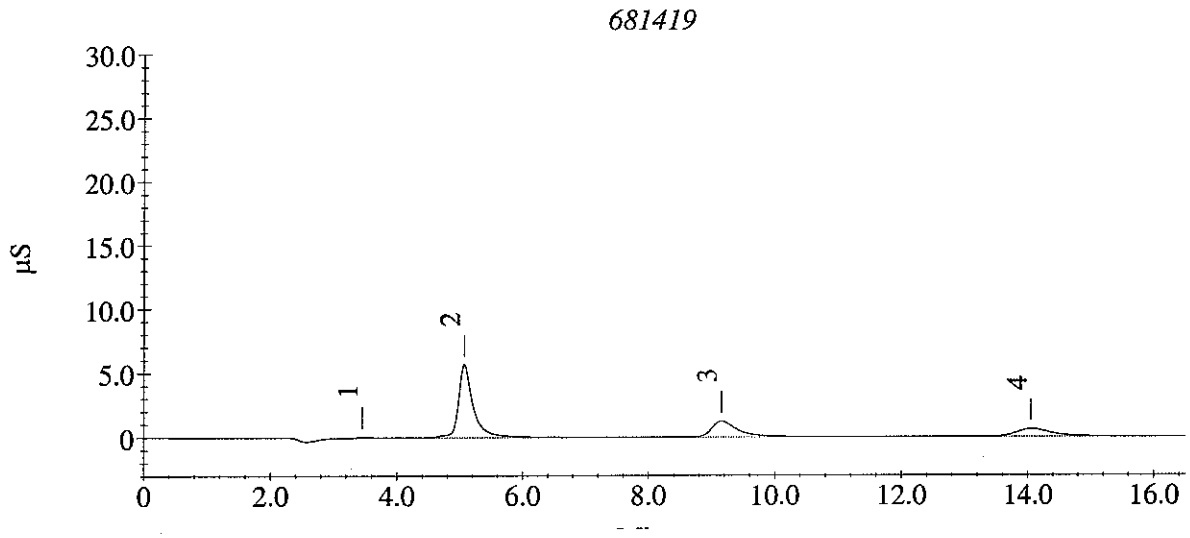
Sample Analysis Report

Sample Name : 681419
Data File Name : c:\instarch\data\system 2\011516-2\681419_020.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/15/16 15:32:41
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.45	0.1724	9675	814	
2	Chloride	5.07	7.0479	945356	56746	
3	Nitrate	9.15	1.3045	358007	12272	
4	Sulfate	14.05	3.0149	242058	6056	



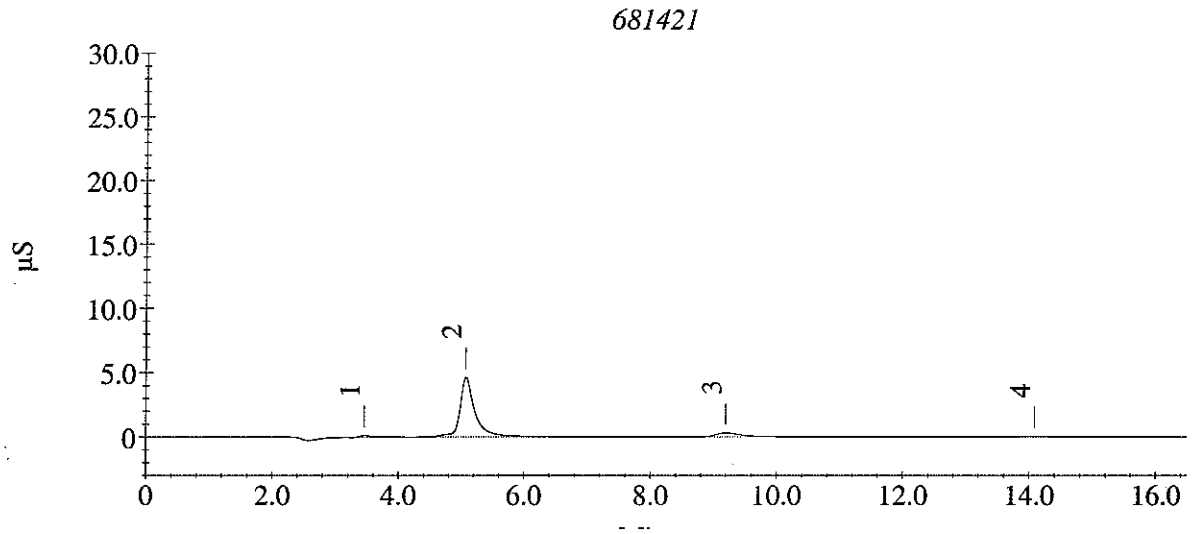
Sample Analysis Report

Sample Name : 681421
Data File Name : c:\instarch\data\system 2\011516-2\681421_021.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/15/16 15:51:25
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.45	0.2023	15753	1245	
2	Chloride	5.07	5.9138	784703	46326	
3	Nitrate	9.20	0.3884	89729	3046	
4	Sulfate	14.08	0.6857	22378	602	



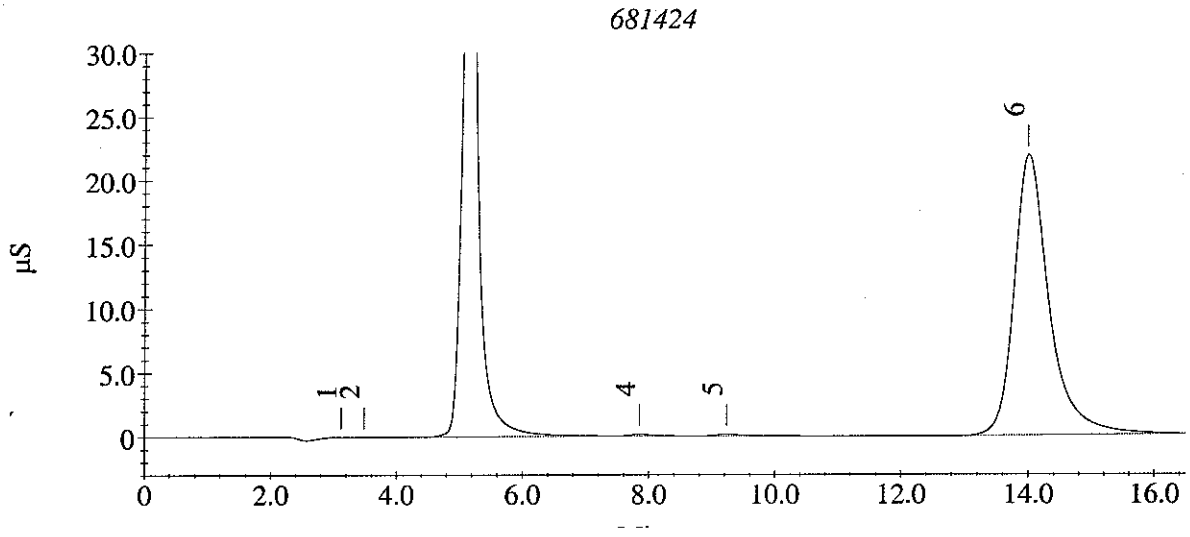
Sample Analysis Report

Sample Name : 681424
Data File Name : c:\instarch\data\system 2\011516-2\681424_022.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/15/16 16:10:08
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.48	0.1339	1871	179	
3	Chloride	5.15	63.1830	8897614	588510	+
4	Bromide	7.85	0.7191	31208	1405	
5	Nitrate	9.23	0.2135	38512	1391	
6	Sulfate	13.98	89.3640	8386144	218686	+



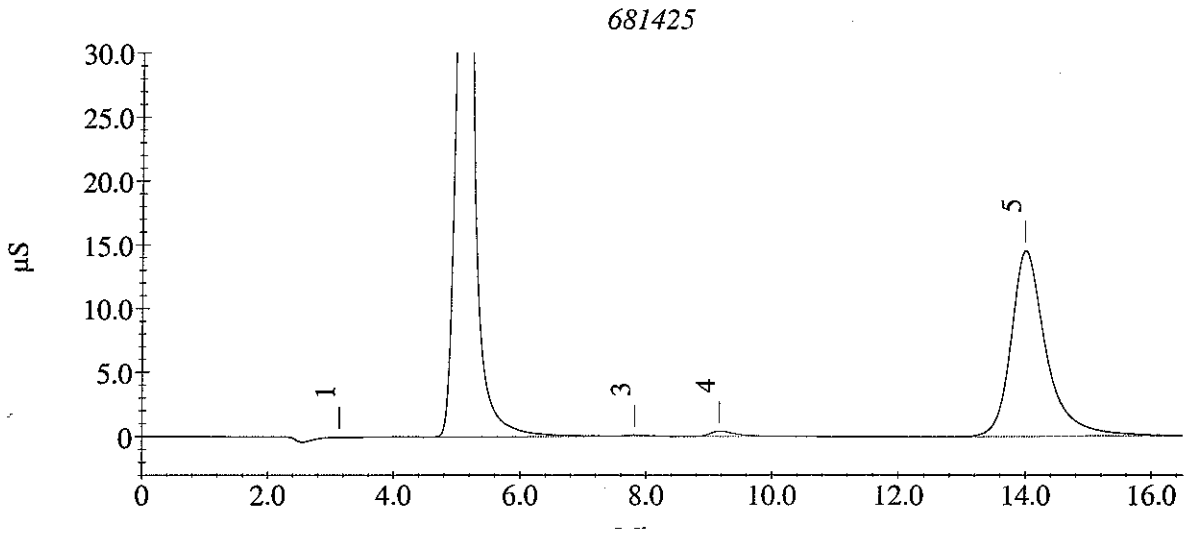
Sample Analysis Report

Sample Name : 681425
Data File Name : c:\instarch\data\system 2\011516-2\681425_023.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/15/16 16:28:51
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.13	0.1346	2009	173	
2	Chloride	5.10	87.8833	12396734	796001	+
3	Bromide	7.82	0.5427	23301	1062	
4	Nitrate	9.17	0.4888	119148	4062	
5	Sulfate	13.98	60.0939	5625510	145100	



Sample Analysis Report

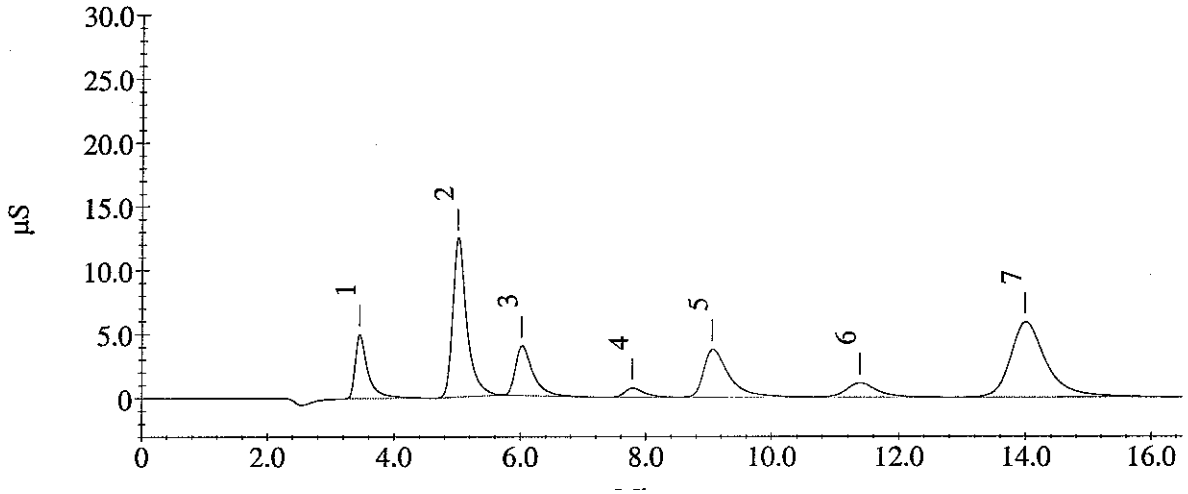
Sample Name : CCV IC0488 IC0489
Data File Name : c:\instarch\data\system 2\011516-2\CCV IC0488 IC0489_026.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/15/16 17:25:01
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.45	3.5401	692660	49297	
2	Chloride	5.00	13.9806	1927467	123725	
3	Nitrite	6.02	3.5595	742918	38457	
4	Bromide	7.78	3.6044	160566	7189	
5	Nitrate	9.05	3.6416	1042418	37046	
6	O.Phos	11.38	3.6119	372139	10938	
7	Sulfate	13.98	25.1339	2328230	58520	

CCV IC0488 IC0489



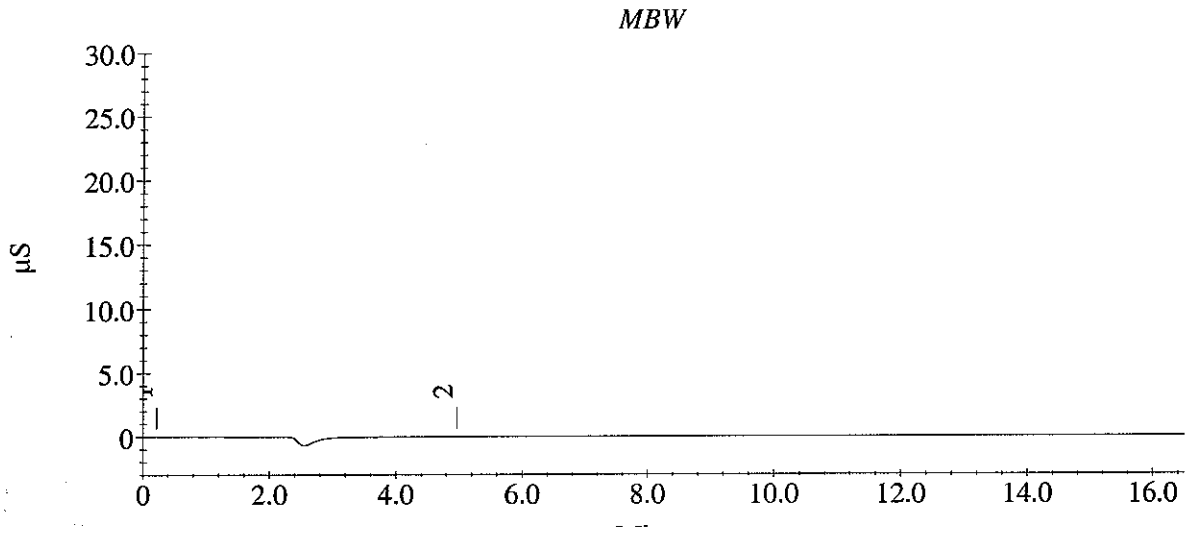
Sample Analysis Report

Sample Name : MBW
Data File Name : c:\instarch\data\system 2\011516-2\MBW_028.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/15/16 18:02:27
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded



Sample Analysis Report

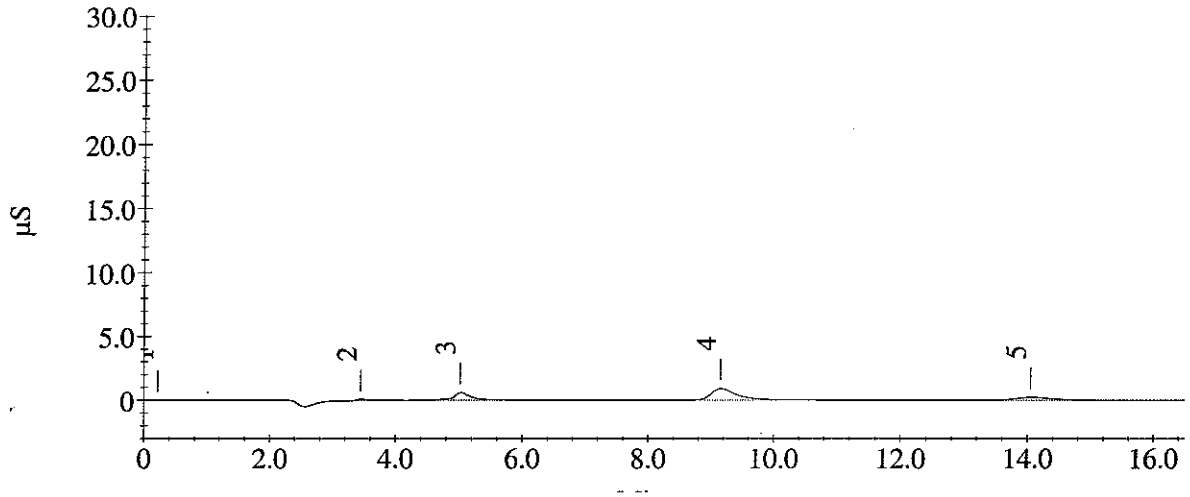
Sample Name : DUP681413
Data File Name : c:\instarch\data\system 2\011516-2\DUP681413_029.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/15/16 18:21:09
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.45	0.1705	9291	853	
3	Chloride	5.02	1.2088	118169	5918	
4	Nitrate	9.15	0.9864	264865	9045	
5	Sulfate	14.05	1.3762	87506	2209	

DUP681413



Sample Analysis Report

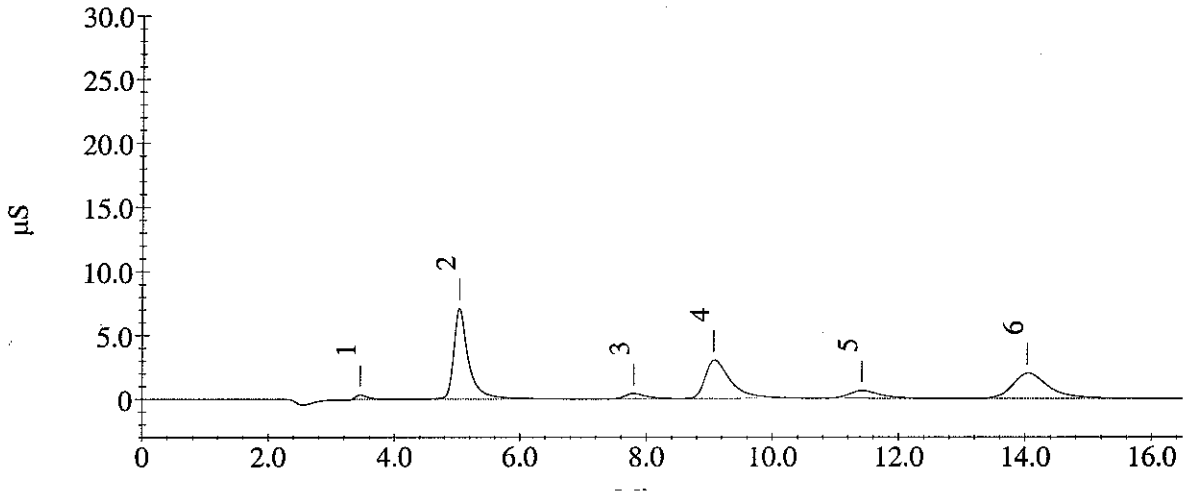
Sample Name : MSW681413
Data File Name : c:\instarch\data\system 2\011516-2\MSW681413_030.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/15/16 18:39:52
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.45	0.3485	45388	3442	
2	Chloride	5.03	8.5686	1160778	70852	
3	Bromide	7.80	2.1201	94020	4158	
4	Nitrate	9.07	2.9987	854144	30145	
5	O.Phos	11.42	2.0941	214031	6125	
6	Sulfate	14.03	9.0466	810940	20025	

MSW681413



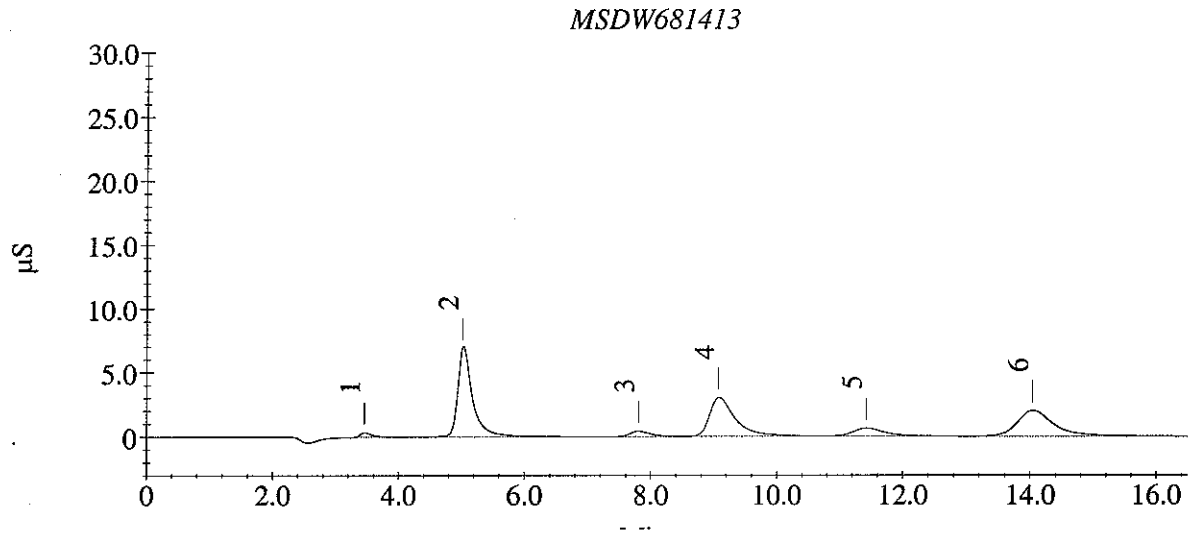
Sample Analysis Report

Sample Name : MSDW681413
Data File Name : c:\instarch\data\system 2\011516-2\MSDW681413_031.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/15/16 18:58:35
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.45	0.3479	45273	3442	
2	Chloride	5.02	8.5696	1160921	69296	
3	Bromide	7.80	2.1176	93907	4137	
4	Nitrate	9.07	2.9882	851069	30027	
5	O.Phos	11.42	2.0983	214469	6133	
6	Sulfate	14.03	8.9990	806453	19916	



Sample Analysis Report

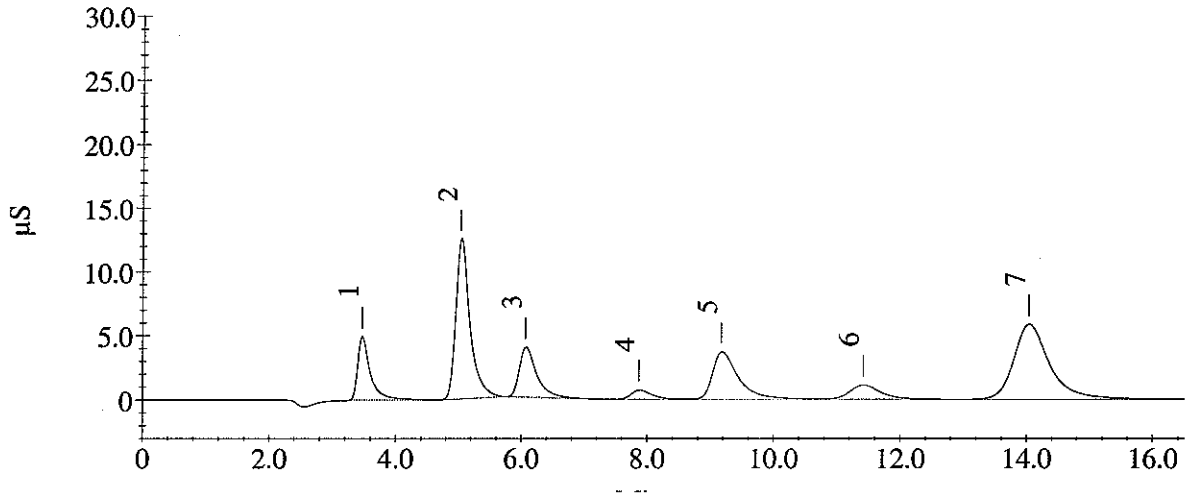
Sample Name : CCV IC0488 IC0489
Data File Name : c:\instarch\data\system 2\011516-2\CCV IC0488 IC0489_039.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/15/16 21:28:20
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.47	3.5597	696642	49321	
2	Chloride	5.03	14.1528	1951864	124606	
3	Nitrite	6.07	3.6066	753144	38750	
4	Bromide	7.87	3.6228	161389	7114	
5	Nitrate	9.17	3.6412	1042282	36593	
6	O.Phos	11.42	3.6275	373764	10932	
7	Sulfate	14.03	25.2612	2340240	58632	

CCV IC0488 IC0489



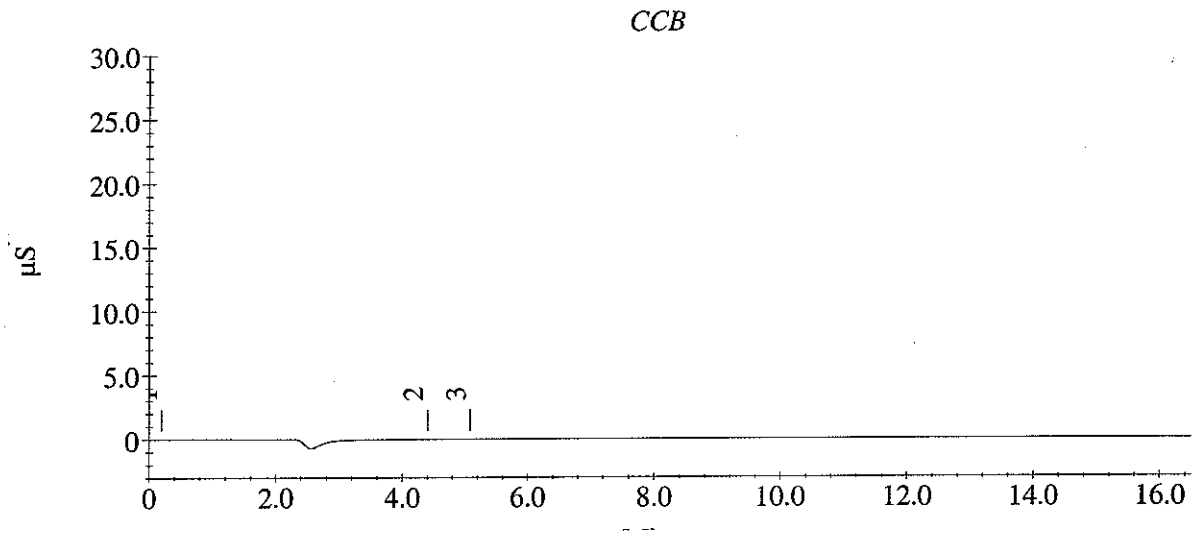
Sample Analysis Report

Sample Name : CCB
Data File Name : c:\instarch\data\system 2\011516-2\CCB_040.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/15/16 21:47:03
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
3	Chloride	5.08	0.3886	1984	84	



Sample Analysis Report

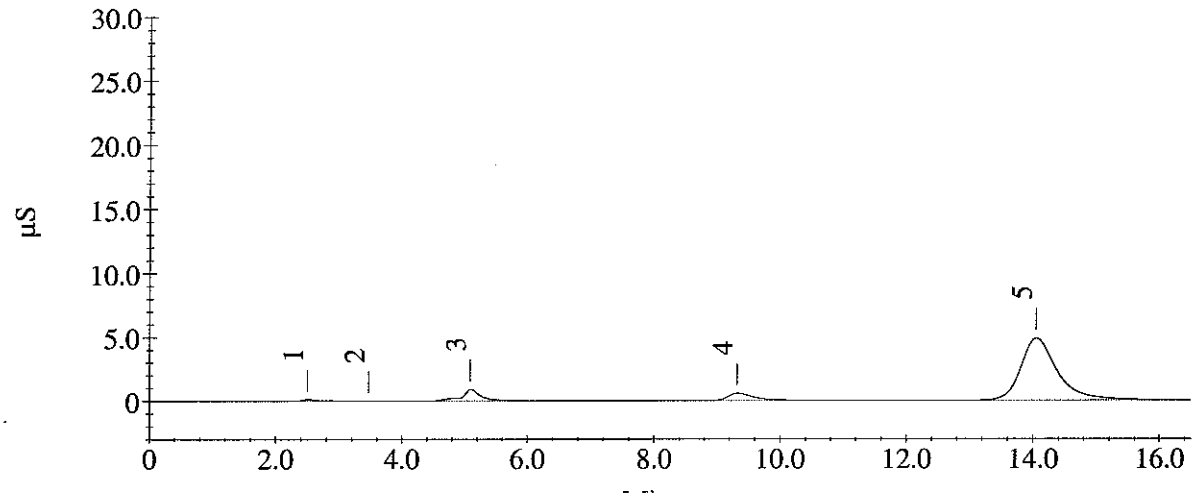
Sample Name : 681415X10
Data File Name : c:\instarch\data\system 2\011516-2\681415X10_045.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/15/16 23:20:37
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.47	0.1298	1040	92	
3	Chloride	5.08	1.7564	195755	9063	
4	Nitrate	9.32	0.6663	171117	5810	
5	Sulfate	14.05	21.2588	1962752	48878	

681415X10



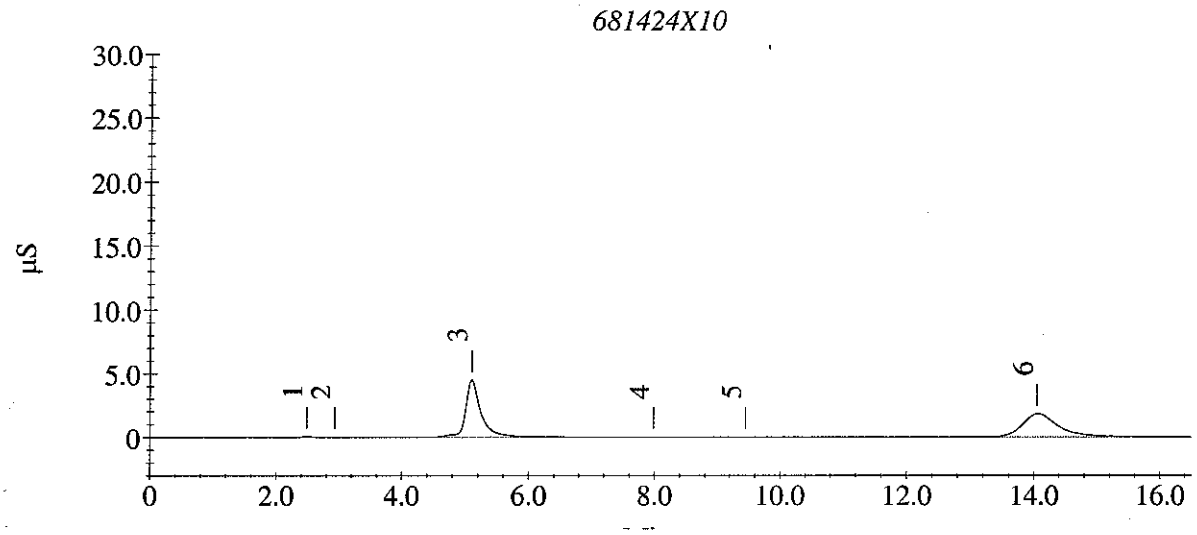
Sample Analysis Report

Sample Name : 681424X10
Data File Name : c:\instarch\data\system 2\011516-2\681424X10_047.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/15/16 23:58:04
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
3	Chloride	5.10	5.8167	770948	45067	
4	Bromide	7.98	0.0792	2519	124	
5	Nitrate	9.45	0.0909	2614	117	
6	Sulfate	14.05	8.2401	734878	18219	



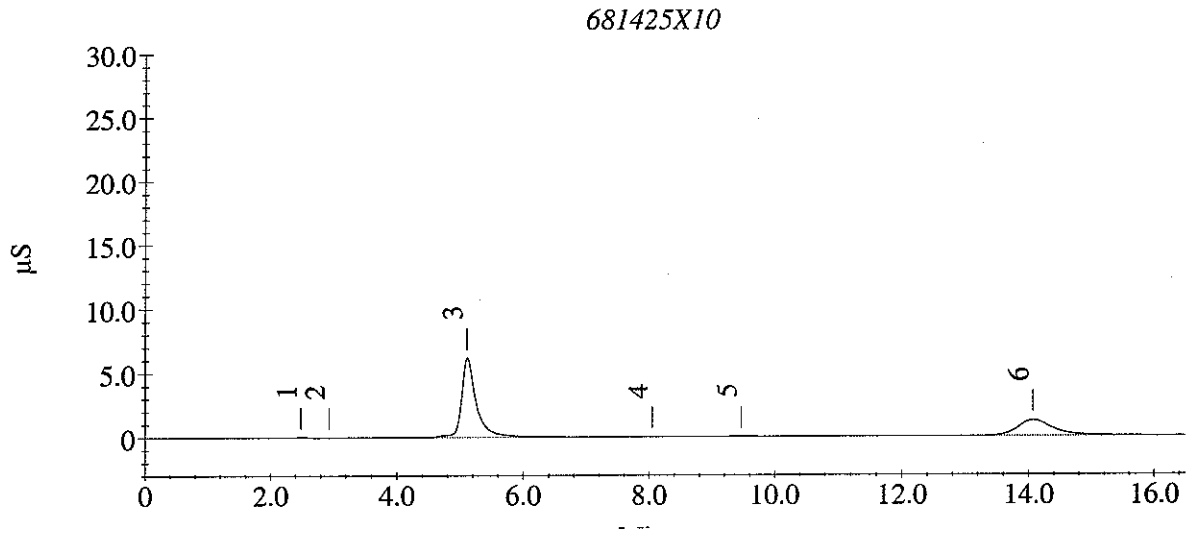
Sample Analysis Report

Sample Name : 681425X10
Data File Name : c:\instarch\data\system 2\011516-2\681425X10_048.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/16/16 00:16:46
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
3	Chloride	5.10	7.5457	1015884	61575	
4	Bromide	8.05	0.0642	1847	86	
5	Nitrate	9.47	0.1144	9498	370	
6	Sulfate	14.07	5.6717	492639	12265	



Sample Analysis Report

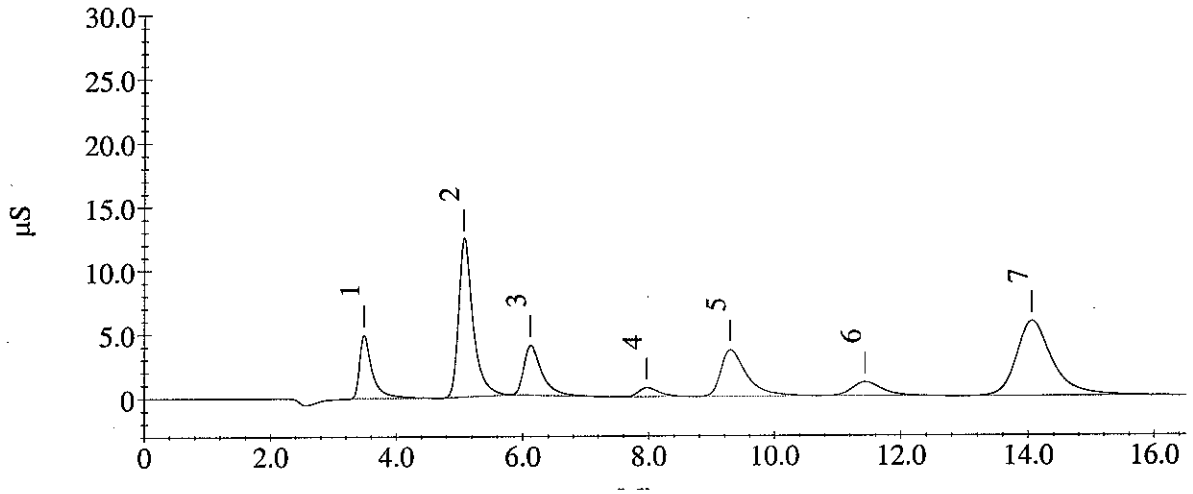
Sample Name : CCV IC0488 IC0489
Data File Name : c:\instarch\data\system 2\011516-2\CCV IC0488 IC0489_049.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/16/16 00:35:29
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.48	3.5707	698876	49233	
2	Chloride	5.07	14.1405	1950115	123326	
3	Nitrite	6.12	3.6510	762794	38826	
4	Bromide	7.97	3.6512	162661	7107	
5	Nitrate	9.28	3.6275	1038289	36293	
6	O.Phos	11.43	3.6003	370931	10907	
7	Sulfate	14.05	25.2737	2341420	58596	

CCV IC0488 IC0489



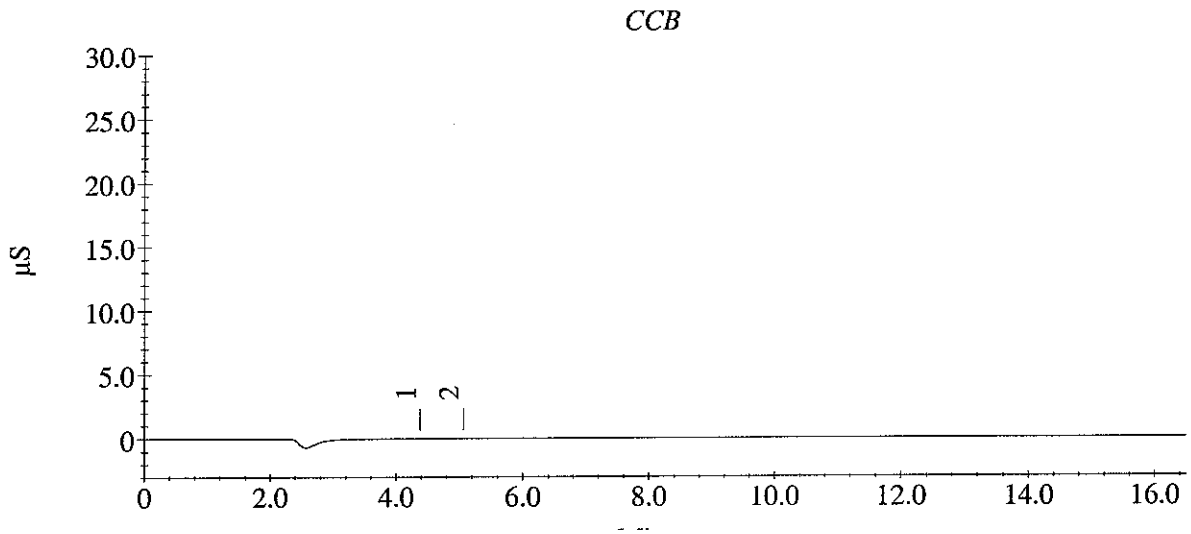
Sample Analysis Report

Sample Name : CCB
Data File Name : c:\instarch\data\system 2\011516-2\CCB_050.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/16/16 00:54:13
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Chloride	5.07	0.3910	2327	109	



Schedule File: C:\INSTARCH\Sequences\System 2\011616-2.sch

Line	Sample	Sample Type	Level	Method	Data File	Volume	Dilution	Weight
1	CCV IC0488 IC0489	Sample		ic0475.met	ccv ic0488 ic0489	1	1	1
2	LCSW IC0495 IC0496	Sample		ic0475.met	lcsw ic0495 ic0496	1	1	1
3	MBW	Sample		ic0475.met	mbw	1	1	1
4	681527	Sample		ic0475.met	681527	1	1	1
5	681529	Sample		ic0475.met	681529	1	1	1
6	681532	Sample		ic0475.met	681532	1	1	1
7	DUP681532	Sample		ic0475.met	dup681532	1	1	1
8	MSW681532	Sample		ic0475.met	msw681532	1	1	1
9	MSDW681532	Sample		ic0475.met	msdw681532	1	1	1
10	681534	Sample		ic0475.met	681534	1	1	1
11	681536	Sample		ic0475.met	681536	1	1	1
12	CCV IC0488 IC0489	Sample		ic0475.met	ccv ic0488 ic0489	1	1	1
13	CCB	Sample		ic0475.met	ccb	1	1	1
18	MSW681532 X5	Sample		ic0475.met	msw681532 x5	1	1	1
19	MSDW681532 X5	Sample		ic0475.met	msdw681532 x5	1	1	1
20	681534 X5	Sample		ic0475.met	681534 x5	1	1	1
21	681536 X5	Sample		ic0475.met	681536 x5	1	1	1
22	CCV IC0488 IC0489	Sample		ic0475.met	ccv ic0488 ic0489	1	1	1
23	CCB	Sample		ic0475.met	ccb	1	1	1

Sample Analysis Report

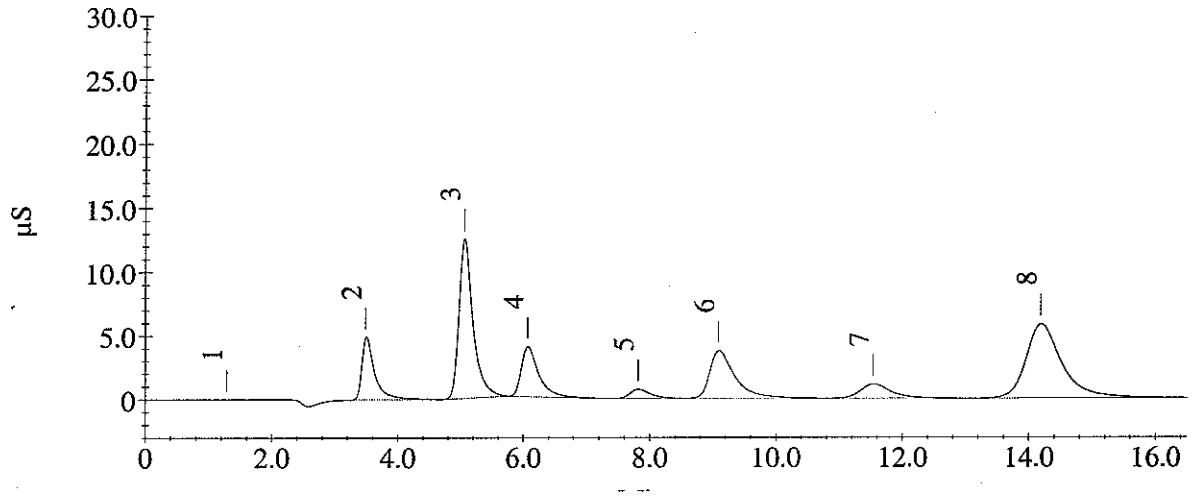
Sample Name : CCV IC0488 IC0489
Data File Name : c:\instarch\data\system 2\011516-2\011616-2\CCV IC0488 IC0489_001.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/16/16 11:03:45
System Operator : RLD

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.48	3.5281	690227	48657	
3	Chloride	5.05	13.9934	1929275	124747	
4	Nitrite	6.07	3.6198	756024	39214	
5	Bromide	7.82	3.5940	160098	7213	
6	Nitrate	9.08	3.6627	1048593	37414	
7	O.Phos	11.53	3.7059	381939	11111	
8	Sulfate	14.18	24.9970	2315315	58391	

CCV IC0488 IC0489



Sample Analysis Report

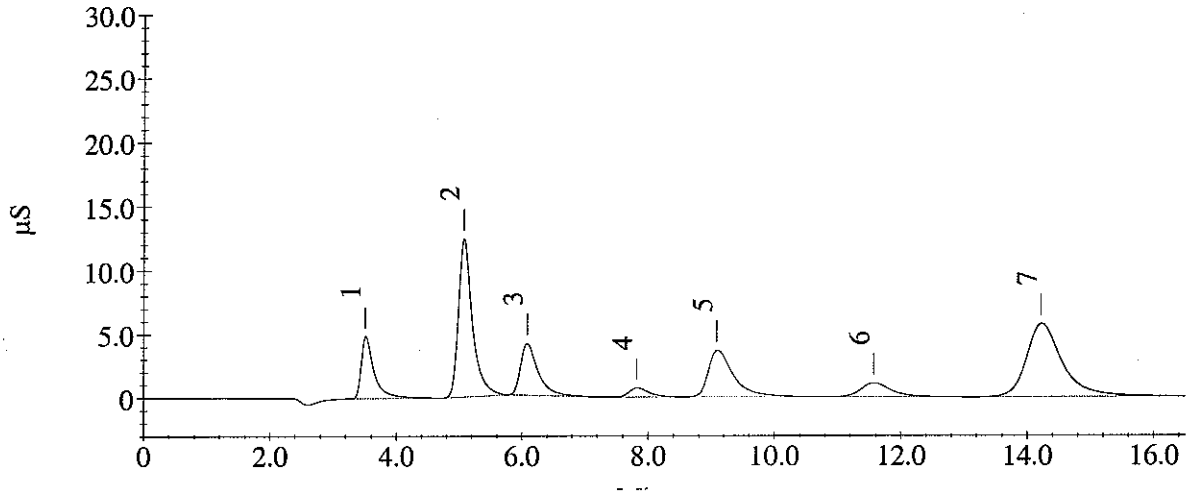
Sample Name : LCSW IC0495 IC0496
Data File Name : c:\instarch\data\system 2\011516-2\011616-2\LCSW IC0495 IC0496_002.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/16/16 11:22:34
System Operator : RLD

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.50	3.4980	684140	48242	
2	Chloride	5.07	13.8967	1915581	123754	
3	Nitrite	6.08	3.7447	783187	40567	
4	Bromide	7.82	3.5786	159408	7190	
5	Nitrate	9.08	3.6011	1030547	36682	
6	O.Phos	11.57	3.6107	372021	10865	
7	Sulfate	14.22	24.6799	2285414	57546	

LCSW IC0495 IC0496



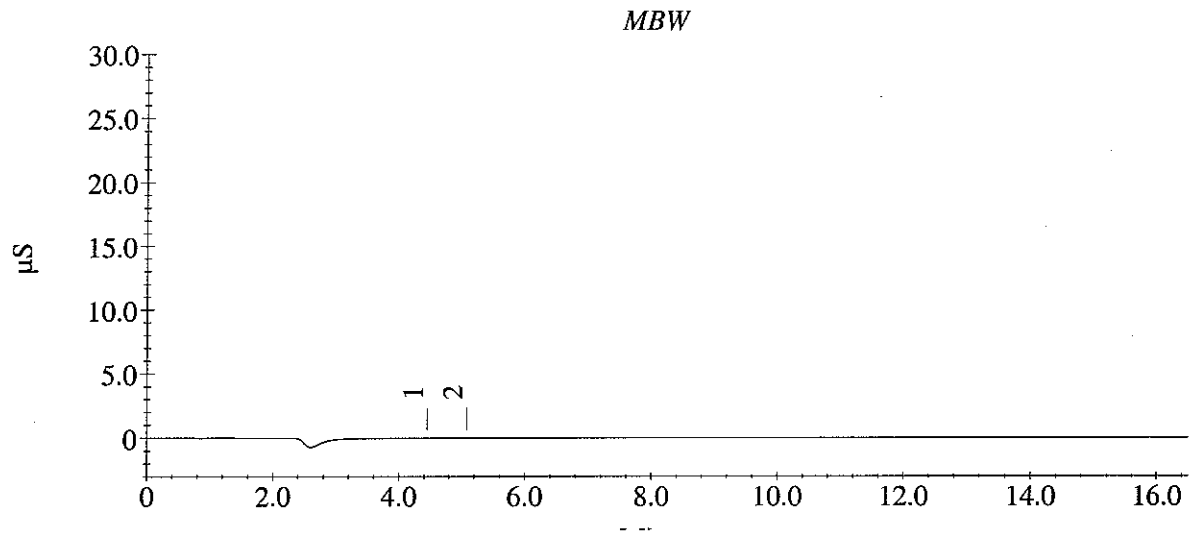
Sample Analysis Report

Sample Name : MBW
Data File Name : c:\instarch\data\system 2\011516-2\011616-2\MBW_003.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/16/16 11:41:17
System Operator : RLD

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Chloride	5.08	0.3936	2694	120	



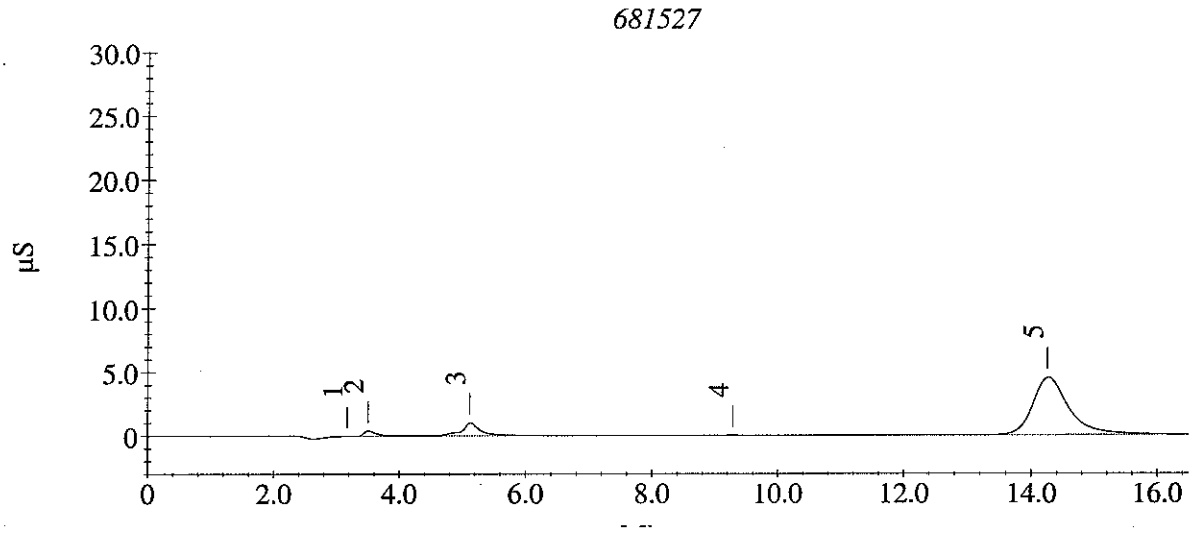
Sample Analysis Report

Sample Name : 681527
Data File Name : c:\instarch\data\system 2\011516-2\011616-2\681527_004.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/16/16 11:59:59
System Operator : RLD

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.50	0.4230	60498	4165	
3	Chloride	5.12	1.8991	215959	10086	
4	Nitrate	9.28	0.0980	4690	204	
5	Sulfate	14.25	19.5957	1805894	45126	



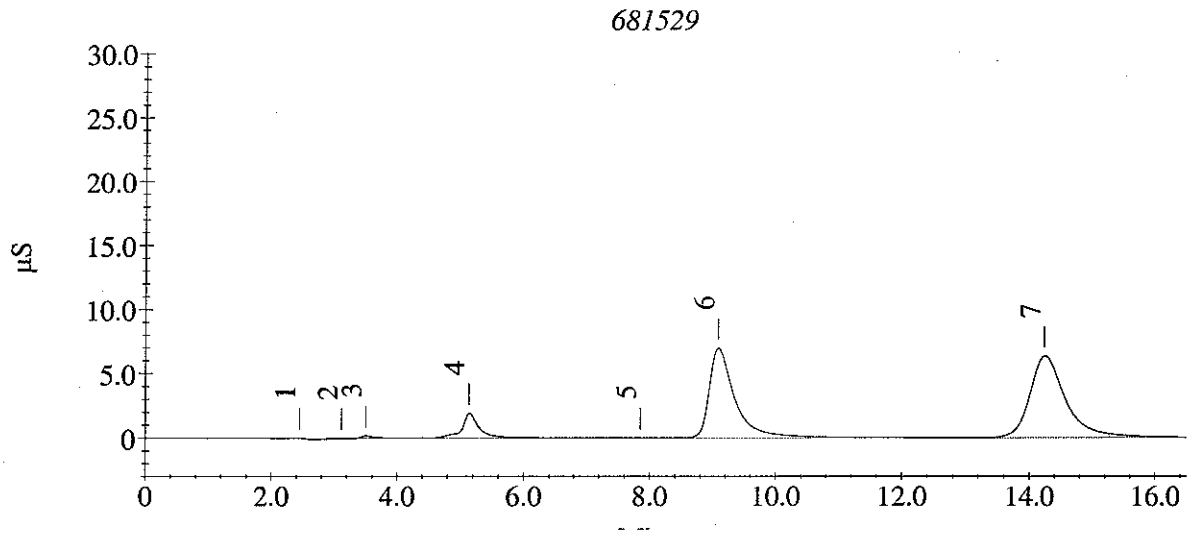
Sample Analysis Report

Sample Name : 681529
Data File Name : c:\instarch\data\system 2\011516-2\011616-2\681529_005.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/16/16 12:18:42
System Operator : RLD

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
3	Fluoride	3.50	0.2601	27460	1914	
4	Chloride	5.13	3.0219	375026	19136	
5	Bromide	7.85	0.0618	1742	99	
6	Nitrate	9.08	6.8363	1977953	69543	
7	Sulfate	14.23	27.0653	2510396	63419	



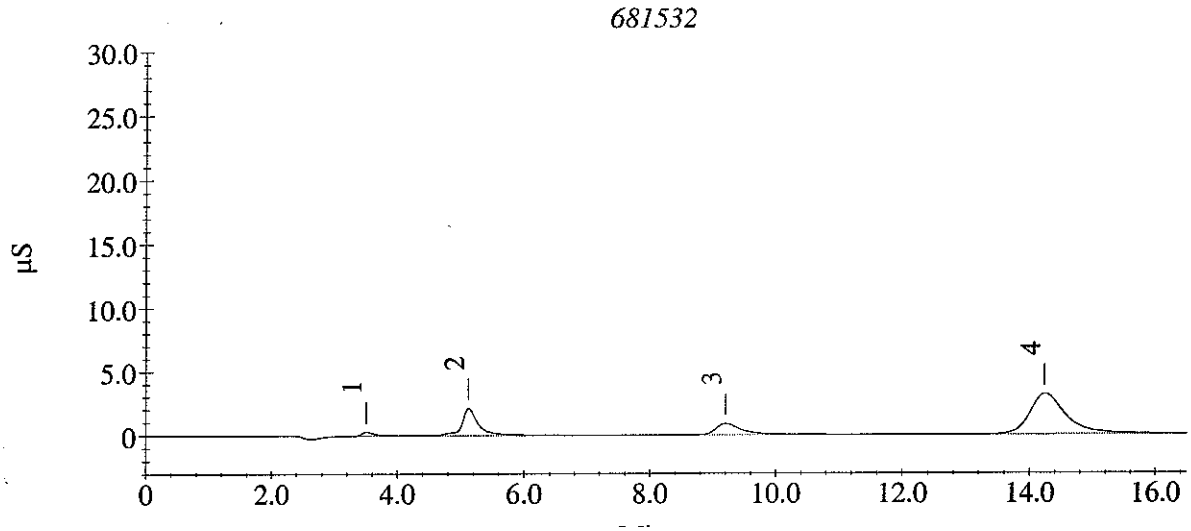
Sample Analysis Report

Sample Name : 681532
Data File Name : c:\instarch\data\system 2\011516-2\011616-2\681532_006.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/16/16 12:37:26
System Operator : RLD

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.50	0.2999	35549	2894	
2	Chloride	5.12	3.1191	388794	21270	
3	Nitrate	9.20	0.9346	249696	8732	
4	Sulfate	14.23	14.0203	1280046	31715	



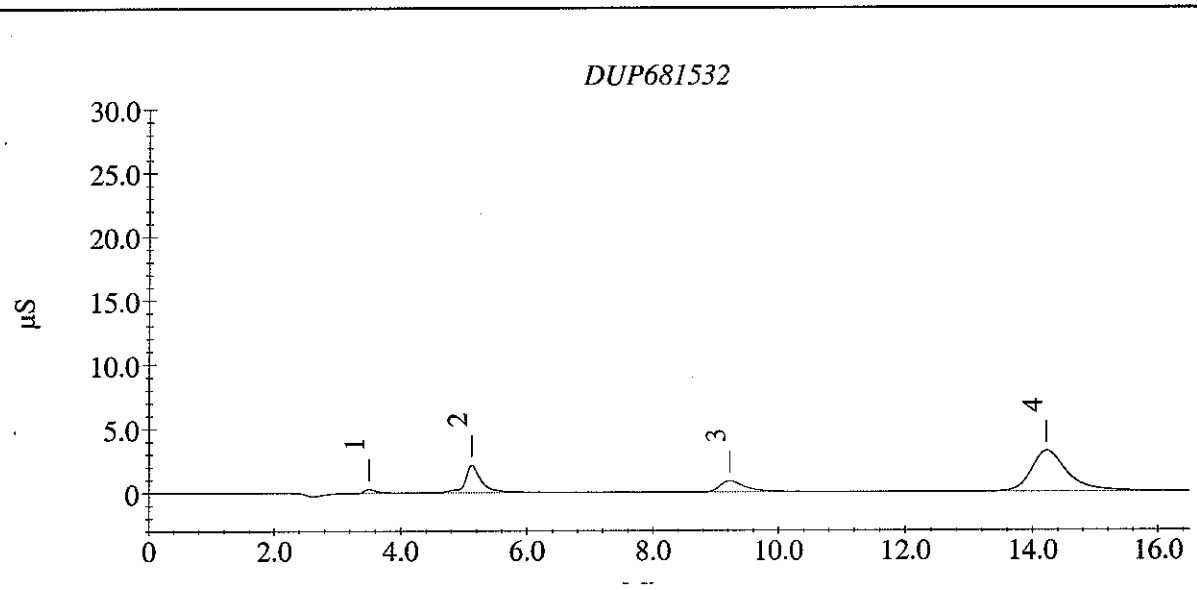
Sample Analysis Report

Sample Name : DUP681532
Data File Name : c:\instarch\data\system 2\011516-2\011616-2\DUP681532_007.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/16/16 12:56:09
System Operator : RLD

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.50	0.2971	34976	2853	
2	Chloride	5.12	3.1225	389279	21474	
3	Nitrate	9.22	0.9451	252779	8704	
4	Sulfate	14.22	13.9623	1274575	31728	



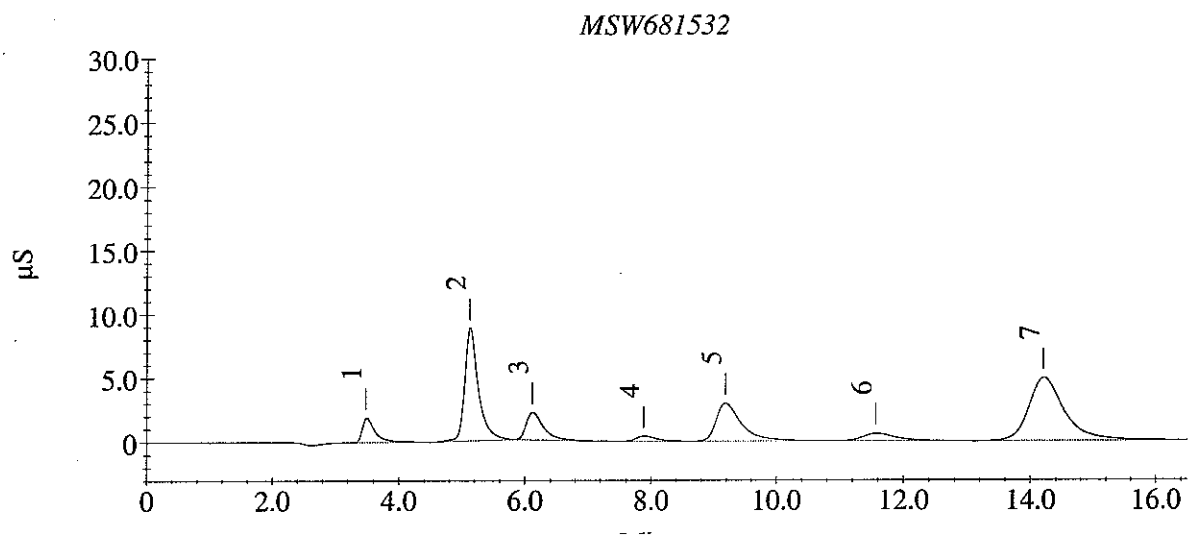
Sample Analysis Report

Sample Name : MSW681532
Data File Name : c:\instarch\data\system 2\011516-2\011616-2\MSW681532_008.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/16/16 13:14:52
System Operator : RLD

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.48	1.4203	262767	18481	
2	Chloride	5.12	9.7179	1323599	88140	
3	Nitrite	6.12	2.0118	406380	21514	
4	Bromide	7.88	2.0952	92902	4128	
5	Nitrate	9.18	2.9431	837868	29602	
6	O.Phos	11.57	2.0432	208723	5767	
7	Sulfate	14.20	21.2143	1958554	49268	



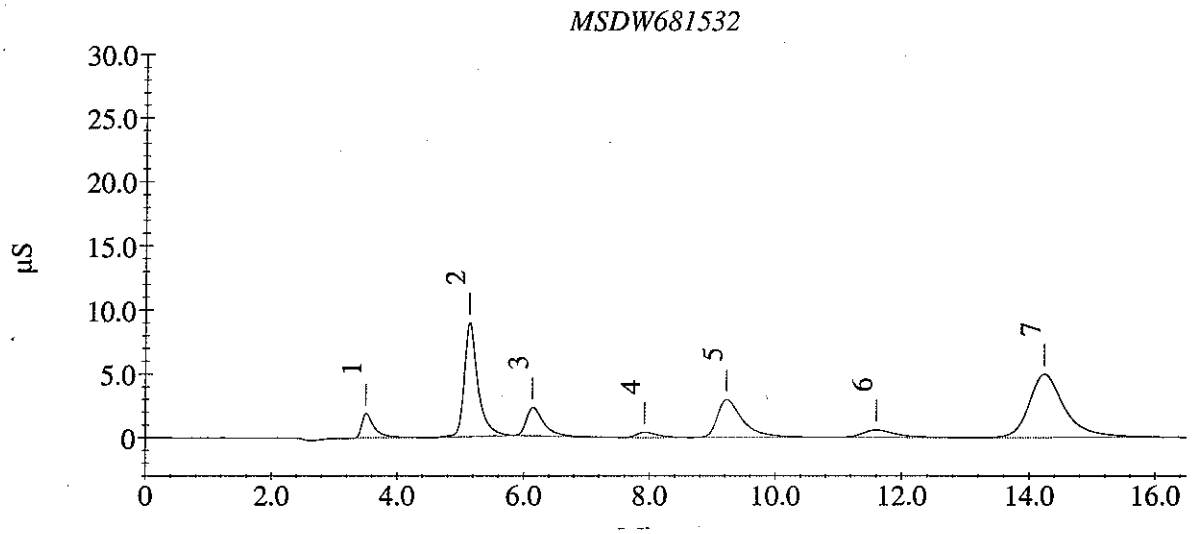
Sample Analysis Report

Sample Name : MSDW681532
Data File Name : c:\instarch\data\system 2\011516-2\011616-2\MSDW681532_009.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/16/16 13:33:35
System Operator : RLD

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.50	1.4349	265721	18884	
2	Chloride	5.13	9.8022	1335533	88767	
3	Nitrite	6.13	2.0833	421928	22202	
4	Bromide	7.92	2.1300	94461	4171	
5	Nitrate	9.22	2.9661	844608	29739	
6	O.Phos	11.60	2.0980	214433	5899	
7	Sulfate	14.23	21.3115	1967719	49478	



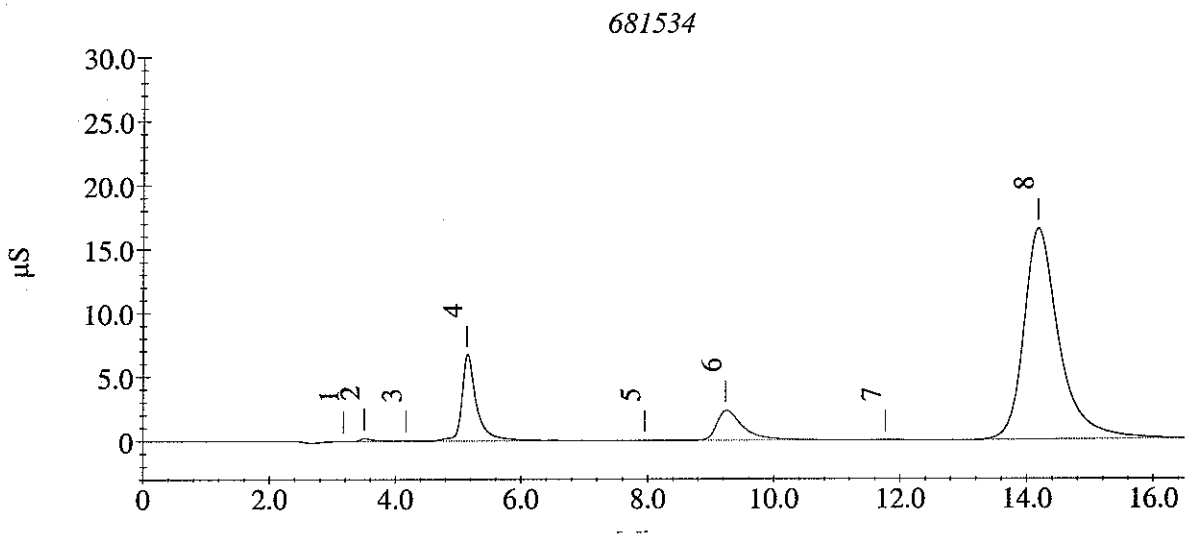
Sample Analysis Report

Sample Name : 681534
Data File Name : c:\instarch\data\system 2\011516-2\011616-2\681534_010.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/16/16 13:52:18
System Operator : RLD

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.50	0.2836	32230	2313	
4	Chloride	5.13	8.1606	1102991	66550	
5	Bromide	7.95	0.0666	1954	84	
6	Nitrate	9.23	2.3979	678205	23212	
7	O.Phos	11.77	0.0511	1196	65	
8	Sulfate	14.17	67.8040	6352695	164869	



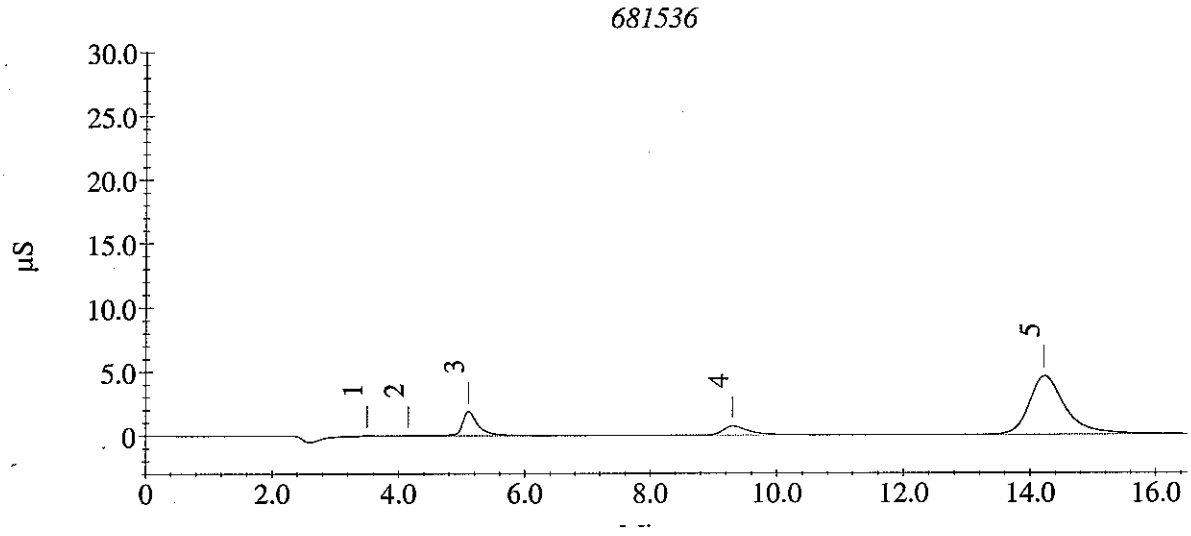
Sample Analysis Report

Sample Name : 681536
Data File Name : c:\instarch\data\system 2\011516-2\011616-2\681536_011.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/16/16 14:11:01
System Operator : RLD

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.50	0.1440	3923	461	
3	Chloride	5.10	2.7426	335449	18984	
4	Nitrate	9.30	0.7899	207323	7047	
5	Sulfate	14.22	19.9066	1835212	45778	



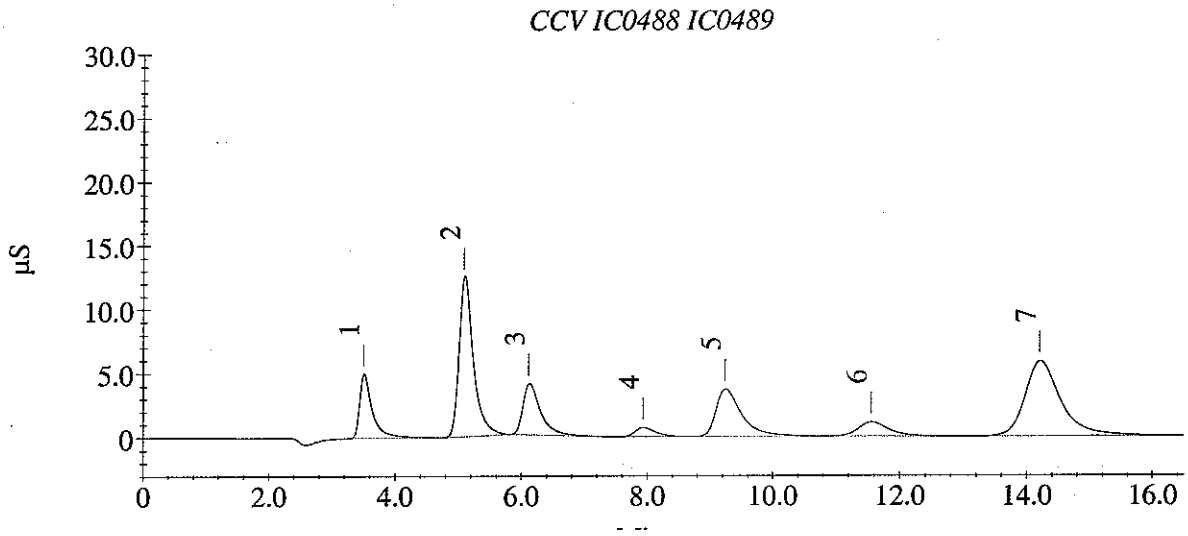
Sample Analysis Report

Sample Name : CCV IC0488 IC0489
Data File Name : c:\instarch\data\system 2\011516-2\011616-2\CCV IC0488 IC0489_012.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/16/16 14:29:45
System Operator : RLD

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.50	3.5604	696783	49219	
2	Chloride	5.08	14.1218	1947462	124037	
3	Nitrite	6.12	3.7127	776228	39658	
4	Bromide	7.93	3.6301	161719	7177	
5	Nitrate	9.23	3.6638	1048905	36912	
6	O.Phos	11.55	3.6530	376428	11009	
7	Sulfate	14.20	25.1580	2330504	58575	



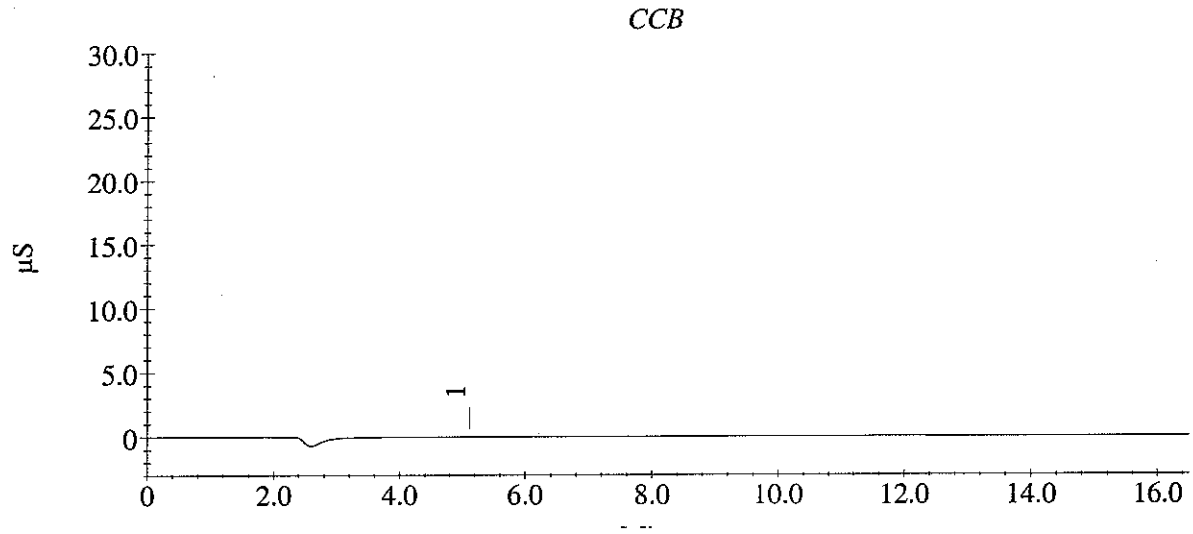
Sample Analysis Report

Sample Name : CCB
Data File Name : c:\instarch\data\system 2\011516-2\011616-2\CCB_013.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/16/16 14:48:28
System Operator : RLD

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded



Sample Analysis Report

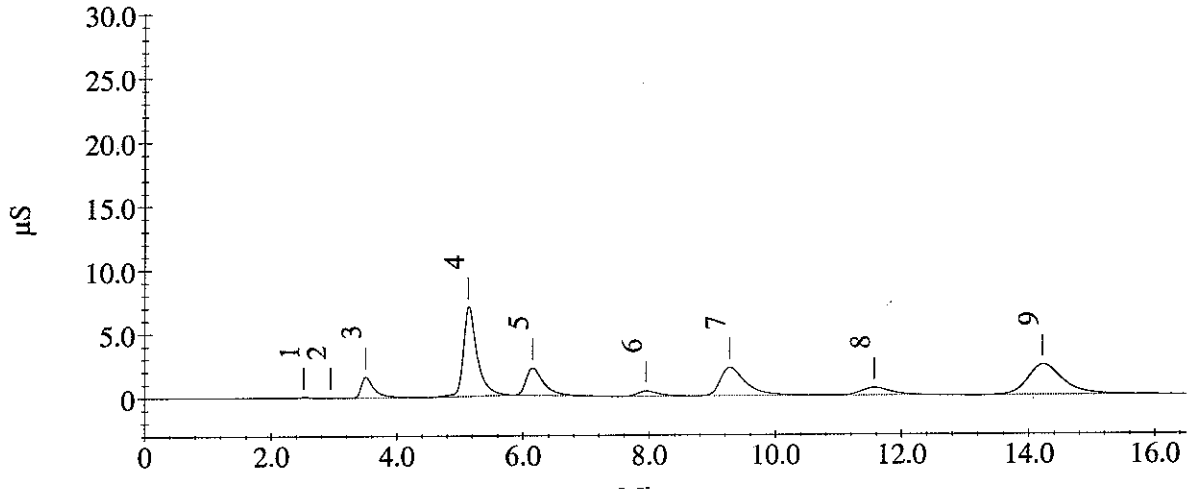
Sample Name : MSW681532 X5
Data File Name : c:\instarch\data\system 2\011516-2\011616-2\MSW681532 X5_018.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/16/16 16:22:03
System Operator : RLD

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
3	Fluoride	3.50	1.2746	233207	16051	
4	Chloride	5.13	7.8901	1064663	69838	
5	Nitrite	6.15	2.0218	408556	21432	
6	Bromide	7.95	2.0519	90963	4009	
7	Nitrate	9.27	2.2305	629182	22051	
8	O.Phos	11.57	2.0427	208676	5979	
9	Sulfate	14.22	10.6651	963590	23870	

MSW681532 X5



Sample Analysis Report

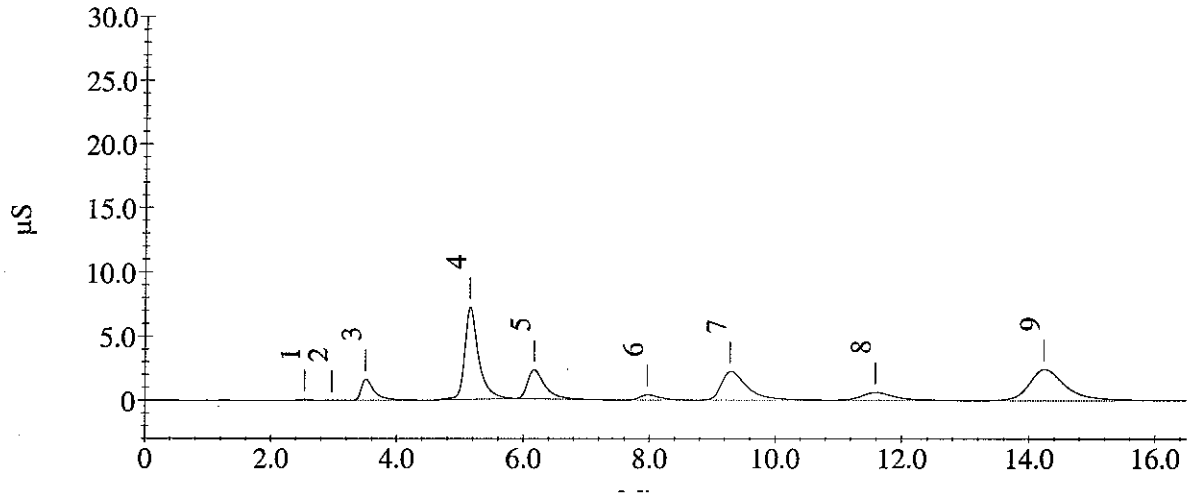
Sample Name : MSDW681532 X5
Data File Name : c:\instarch\data\system 2\011516-2\011616-2\MSDW681532 X5_019.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/16/16 16:40:46
System Operator : RLD

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
3	Fluoride	3.50	1.3081	240011	16411	
4	Chloride	5.15	8.0624	1089079	71746	
5	Nitrite	6.17	2.1208	430089	22455	
6	Bromide	7.97	2.1255	94263	4096	
7	Nitrate	9.28	2.2693	640552	22388	
8	O.Phos	11.58	2.0881	213399	6088	
9	Sulfate	14.23	10.8007	976385	24134	

MSDW681532 X5



Sample Analysis Report

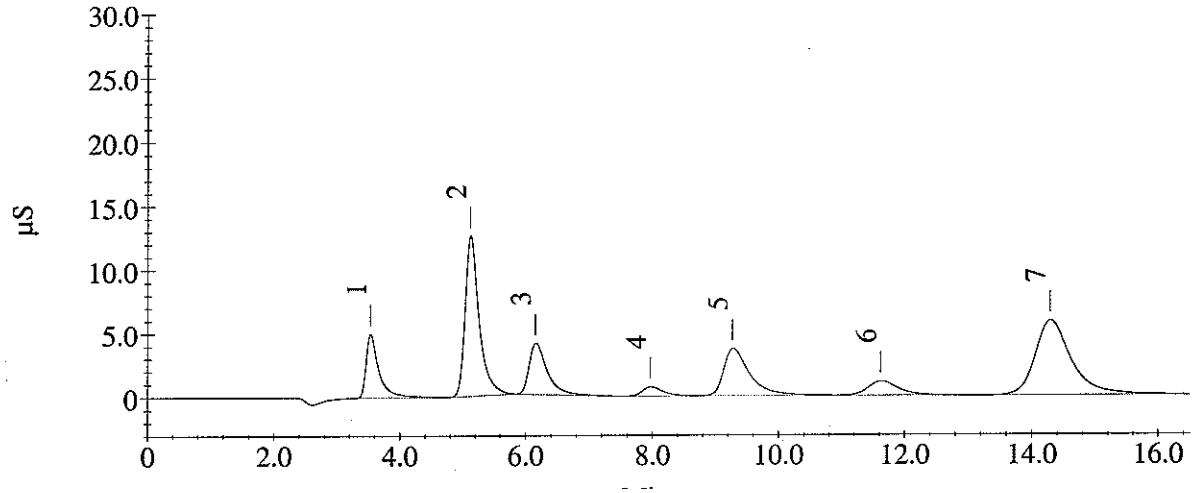
Sample Name : CCV IC0488 IC0489
Data File Name : c:\instarch\data\system 2\011516-2\011616-2\CCV IC0488 IC0489_022.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/16/16 17:36:54
System Operator : RLD

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.53	3.5802	700810	49795	
2	Chloride	5.12	14.2031	1958990	125076	
3	Nitrite	6.15	3.7816	791205	40083	
4	Bromide	7.97	3.6575	162947	7189	
5	Nitrate	9.27	3.6912	1056936	36917	
6	O.Phos	11.62	3.7033	381660	11075	
7	Sulfate	14.28	25.2576	2339894	58628	

CCV IC0488 IC0489



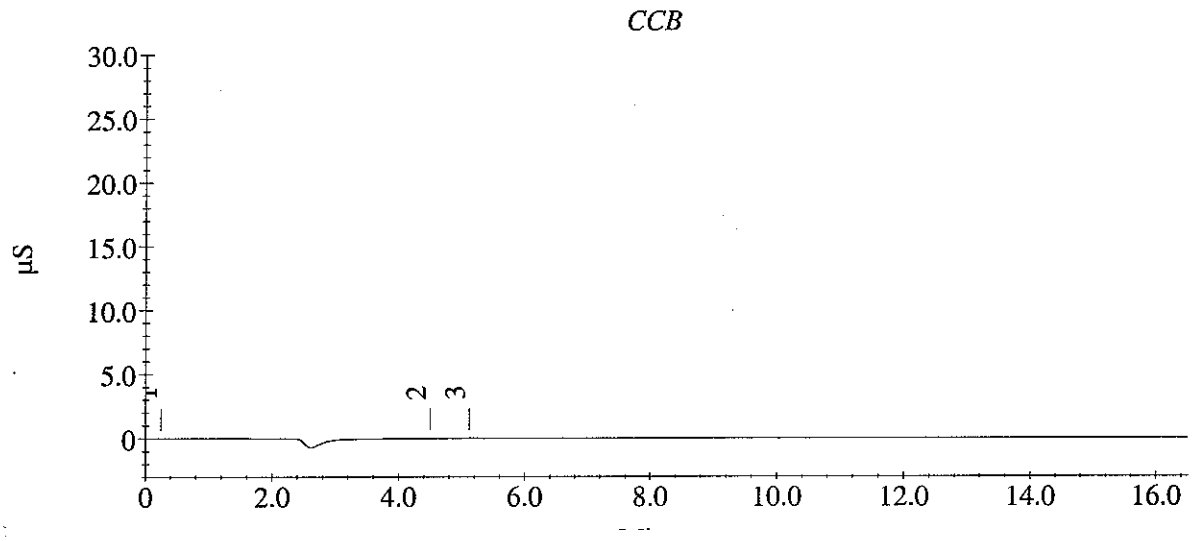
Sample Analysis Report

Sample Name : CCB
Data File Name : c:\instarch\data\system 2\011516-2\011616-2\CCB_023.DXD

Method File Name : c:\instarch\methods\system 2\ic0475.met
Date Time Collected : 1/16/16 17:55:38
System Operator : RLD

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
3	Chloride	5.12	0.4008	3713	207	



FWC11-02

Chemical Oxygen Demand (COD)

Analyst: MER **Run** 122773 **Date:** 01/19/2016

Calib. Std. W37443 **CCV Std.** W38028 **ICV/LCS Std.** W38026

Vial #	Spec #	Sample #	D.F.	BATCH	RESULTS
1	40	CCV			417
3	41	CCB			Ø
28	42	LCSW			421
29	43	MBW			Ø
34	44	679984			26
35	45	DUP679984			24
36	46	MSW679984			181
37	47	MSDW679984			182
38	48	681538			Ø
1	49	CCV			415
3	50	CCB			Ø

Spiking. Std. Ref: W38025

Spike Preparation

Spike Conc.: 2000

Matrix = Liquids

Spike Vol.: 0.2

Silver Sulfate: W37960

Sample Vol.: 2.5

Digestion Soln: W36944

Final Spike Value.: 148.2

Untitled

40
417.
41
-5.
42
421.
43
-2.
44
26.
45
24.
46
181.
47
182.
48
-7.
49
415.
50
-2.

{13}{10}
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NOT{32}THROUGH{32}0{13}{10}
{13}{10}
{32}{32}{32}{32}{32}{32}{32}{32}{32}{32}{32}{32}{32}ENTERED{32}{32}{32}{32}CALCULATED{13}{10}
STD{32}{32}{32}ABS{32}{32}{32}{32}{32}{32}CONC{32}{32}{32}{32}{32}{32}{32}{32}{32}CONC{32}{32}{32}{32}ERROR{13}{10}
{32}1{32}{32}-0.000{32}{32}{32}{32}0.000{32}{32}{32}{32}{32}{32}-6.843{32}{32}{32}-6.843{13}{10}
{32}2{32}{32}{32}0.006{32}{32}{32}{32}{32}10.0{32}{32}{32}{32}{32}{32}{32}{32}{32}9.5{32}{32}{32}{32}{32}-0.5{13}{10}
{32}3{32}{32}{32}0.012{32}{32}{32}{32}{32}25.0{32}{32}{32}{32}{32}{32}{32}{32}24.7{32}{32}{32}{32}{32}-0.3{13}{10}
{32}4{32}{32}{32}0.023{32}{32}{32}{32}{32}50.0{32}{32}{32}{32}{32}{32}{32}{32}53.7{32}{32}{32}{32}{32}{32}3.7{13}{10}
{32}5{32}{32}{32}0.037{32}{32}{32}{32}{32}100.{32}{32}{32}{32}{32}{32}{32}{32}{32}91.{32}{32}{32}{32}{32}{32}{32}-9.{13}{10}
{32}6{32}{32}{32}0.209{32}{32}{32}{32}{32}500.{32}{32}{32}{32}{32}{32}{32}{32}537.{32}{32}{32}{32}{32}{32}37.{13}{10}
{32}7{32}{32}{32}0.282{32}{32}{32}{32}{32}750.{32}{32}{32}{32}{32}{32}{32}{32}726.{32}{32}{32}{32}{32}-24.{13}{10}
----------{13}{10}
{13}{10}
SLOPE{32}{32}{32}{32}{32}{32}{32}{32}0.0004{13}{10}
INTERCEPT{32}{32}{32}{32}{32}0.002{13}{10}
CORR{32}COEFF{32}{32}{32}0.9959{13}{10}
----------{13}{10}
{13}{10}

ICAL W37443

ICV W37435
437.
ICB
-5.

FWC20,21-02 pH Bench Sheet

Date: 1/14/2016 Analyst: CES

Instrument: ***Mettler Toledo Seven Easy*** LIMS#: 122646, 122651

Time: 10:00 Slope (%): 95%

	SAMPLE#	MATRIX	pH	TEMP (°C)	COMMENTS:
1	680298	WW	10.93	6.0	
2	679984	GW	7.27	3.8	
3	DUP679984	GW	7.25	4.1	
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					

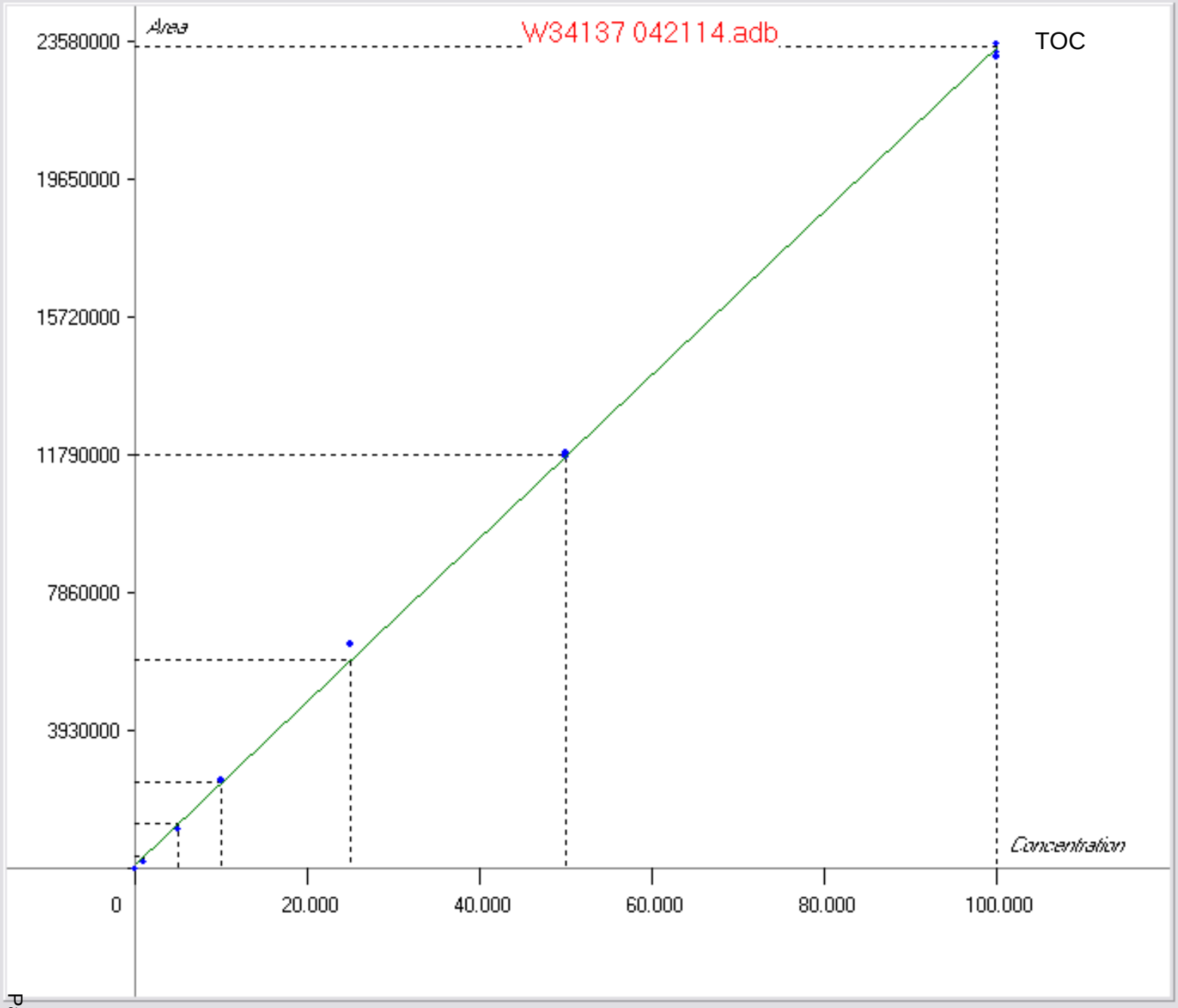
FWC20,21-02 pH Bench Sheet

Date: 1/21/2016 Analyst: CES

Instrument: ***Mettler Toledo Seven Easy*** LIMS#: 122842, 122843

Time: 10:00 Slope (%): 95

	SAMPLE#	MATRIX	pH	TEMP (°C)	COMMENTS:
1	681538	GW	7.43	9.3	
2	DUP681538	GW	7.43	9.1	
3	680846	WW	4.47	8.7	
4	DUP680846	WW	4.44	8.9	
5	680847	WW	4.88	8.7	
6	680848	WW	6.57	9.0	
7	680855	WW	7.38	9.5	
8	681457	WW	7.81	9.7	
9	681458	WW	6.47	8.9	
10	681459	WW	6.85	10.5	
11	681487	WW	7.30	10.1	
12	681488	WW	9.56	8.3	
13	681489	WW	8.04	8.7	
14	682105	WW	6.67	9.6	
15	682193	WW	7.35	8.9	
16	682194	WW	7.00	9.0	
17	682610	WW	7.13	10.0	
18	682683	WW	7.53	9.6	
19	682686	WW	4.72	8.6	
20	682687	WW	7.12	8.4	
21					
22					
23					
24					



Cursor Position

Concentration	Area
118.800 mg/l	786000

A2	0
A1	232983
A0	143764
Correlation	0.99963
Order	1
Volume	100 µl
Conc.	100.00
Area	23572615

Confidence Intervals 95%

Detection/Determination 95%

Conc.	Area	Sel.
0	0	☑
0	0	☑
0	0	☑
0	0	☑
1	235597	☑
1	223532	☑
1	230608	☑
1	226967	☑

Used Value
Ignored Value

CurveNo:1 CurveType:TC

<-- --> Print... Exit

Page 2120

04/24/2014

Analysis Name W34137 042114.adb

Template Name CURVE TEMP.tdb
Method Name N / A
Operator MDS

Date Monday, April 21, 2014
Time 13:55

Start Oven Temp. 757 °C
Start Cooler Temp. 2 °C

Version 2.55 Release
Info ICAL - W34137
ICV - W34138

Element	Integration Time	Samples	Extra Samples	Max. CV
Carbon	60 s	4	1	10 %
SampleTime	240 s			

No	Type	FileName	Date/Time	Max. Area	Max Conc.	Order	Correlation	Volume	Sel.
1	TC	This Analysis	Apr 21 2014, 13:55	23572615	100	1	0.99963	100 µl	Yes
	A2: 0		*A1: 232982.714758512*		*A0: 143764.497303468*				

Inj. Order	Position	Type	Identification		Dilution Factor
1	1	Unknown	BLANK		1 x

	Injection Type	Conc.	Area	CV	Inj. Volume
	TC	**0.00**	**0**	**0.00**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 21 2014 14:06:18	0.72	311300	1	759	2	-	-
2	4 21 2014 14:09:41	0.00	0	0	758	2	-	Yes
3	4 21 2014 14:13:42	0.00	0	0	758	2	-	Yes
4	4 21 2014 14:17:43	0.00	0	0	758	2	-	Yes
5	4 21 2014 14:21:44	0.00	0	0	758	2	-	Yes

Inj. Order	Position	Type	Identification		Dilution Factor
2	2	Unknown	BLANK		1 x

	Injection Type	Conc.	Area	CV	Inj. Volume
	TC	**0.00**	**0**	**0.00**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 21 2014 14:26:35	0.00	0	0	759	2	-	Yes
2	4 21 2014 14:31:13	0.00	0	0	758	2	-	Yes
3	4 21 2014 14:35:14	0.00	0	0	758	2	-	Yes
4	4 21 2014 14:39:15	0.00	0	0	757	2	-	Yes

Inj. Order	Position	Type	Identification		Dilution Factor
3	S1	Standard	TC Std	0.00 mg/l	1 x

	Injection Type	Conc.	Area	CV	Inj. Volume
	TC	**0.00**	**0**	**0.00**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 21 2014 14:44:06	0.00	0	1	757	2	-	Yes
2	4 21 2014 14:48:42	0.00	0	1	757	2	-	Yes
3	4 21 2014 14:52:43	0.00	0	1	756	2	-	Yes
4	4 21 2014 14:56:44	0.00	0	1	756	2	-	Yes

Inj. Order	Position	Type	Identification		Dilution Factor
4	S2	Standard	TC Std	1.00 mg/l	1 x

	Injection Type	Conc.	Area	CV	Inj. Volume
	TC	**0.37**	**229176**	**2.25**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 21 2014 15:01:38	0.39	235597	1	756	2	-	Yes
2	4 21 2014 15:04:49	0.34	223532	1	755	2	-	Yes
3	4 21 2014 15:07:19	0.37	230608	1	755	2	-	Yes
4	4 21 2014 15:09:52	0.36	226967	1	755	2	-	Yes

Inj. Order	Position	Type	Identification		Dilution Factor
5	S3	Standard	TC Std.	5.00 mg/l	1 x

	Injection Type	Conc.	Area	CV	Inj. Volume
	TC	**4.34**	**1155835**	**0.30**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 21 2014 15:13:15	4.35	1157893	1	755	2	-	Yes
2	4 21 2014 15:16:41	4.36	1158734	1	755	2	-	Yes
3	4 21 2014 15:19:30	4.34	1155751	1	754	2	-	Yes
4	4 21 2014 15:22:15	4.32	1150964	1	754	2	-	Yes

---

6 S4 Standard TC Std. 10.00 mg/l 1 x

	TC	**10.34**	**2551892**	**0.66**		**100 µl**	

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 21 2014 15:25:57	10.33	2550563	1	754	2	-	Yes
2	4 21 2014 15:29:32	10.44	2575084	1	753	2	-	Yes
3	4 21 2014 15:32:33	10.32	2547199	1	754	2	-	Yes
4	4 21 2014 15:35:33	10.26	2534724	1	754	2	-	Yes

---

7 S5 Standard TC Std. 25.00 mg/l 1 x

	TC	**26.93**	**6418556**	**0.35**		**100 µl**	

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 21 2014 15:39:23	26.89	6407700	1	754	2	-	Yes
2	4 21 2014 15:43:09	26.95	6422983	1	753	2	-	Yes
3	4 21 2014 15:46:13	27.06	6447788	1	753	2	-	Yes
4	4 21 2014 15:49:25	26.83	6395756	1	753	2	-	Yes

---

8 S6 Standard TC Std. 50.00 mg/l 1 x

	TC	**50.23**	**11846743**	**0.45**		**100 µl**	

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 21 2014 15:53:23	50.34	11871890	1	754	2	-	Yes
2	4 21 2014 15:57:15	50.50	11908449	1	753	2	-	Yes
3	4 21 2014 16:00:39	49.99	11789844	1	753	2	-	Yes
4	4 21 2014 16:03:51	50.10	11816789	1	753	2	-	Yes

---

9 S7 Standard TC Std. 100.00 mg/l 1 x

	TC	**99.41**	**23303846**	**0.82**		**100 µl**	

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 21 2014 16:07:59	98.71	23142453	1	754	2	-	Yes
2	4 21 2014 16:12:05	99.37	23295974	1	754	2	-	Yes
3	4 21 2014 16:15:29	98.98	23204343	1	755	2	-	Yes
4	4 21 2014 16:18:52	100.56	23572615	1	754	2	-	Yes

---

10 S8 Unknown ICV - 50.00 mg/L 1 x

	TC	**52.04**	**12268743**	**0.56**		**100 µl**	

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 21 2014 16:23:14	52.37	12344487	1	755	2	-	Yes
2	4 21 2014 16:27:09	52.00	12257775	1	754	2	-	Yes
3	4 21 2014 16:30:28	51.66	12180211	1	754	2	-	Yes
4	4 21 2014 16:33:44	52.14	12292500	1	753	2	-	Yes

---

11 S9 Unknown ICB 1 x

	TC	**0.00**	**0**	**0.00**		**100 µl**	

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 21 2014 16:37:57	0	0	0	753	2	-	Yes
2	4 21 2014 16:42:35	0	0	0	753	2	-	Yes
3	4 21 2014 16:46:37	0	0	0	754	2	-	Yes
4	4 21 2014 16:50:39	0	0	0	754	2	-	Yes

Analysis Name 011316 - 122566 122567 122608.adb

Template Name 011316 - 122566 122567 122608.tdb
Method Name N / A
Operator JJF

Date Wednesday, January 13, 2016
Time 9:02

Start Oven Temp. 747 °C
Start Cooler Temp. 2 °C

Version 2.55 Release
Info ICAL W34137 SPIKE TOC0011
CCV TOC0050
LCSW TOC0051

Element	Integration Time	Samples	Extra Samples	Max. CV
Carbon	60 s	4	1	10 %
SampleTime	240 s			

No	Type	FileName	Date/Time	Max. Area	Max Conc.	Order	Correlation	Volume	Sel.
1	TC	W34137 042114	Apr 21 2014, 13:55	23572615	100	1	0.99963	100 µl	Yes
	A2: 0		*A1: 232982.714758512*		*A0: 143764.497303468*				

Inj. Order	Position	Type	Identification	Dilution Factor
1	1	Unknown	BLANK	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**ZERO !**	**59038**	**67.48**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 13 2016 9:13:19	0.92	358461	1	754	2	-	-
2	1 13 2016 9:16:39	ZERO !	70085	1	754	2	-	Yes
3	1 13 2016 9:19:03	ZERO !	82019	1	753	2	-	Yes
4	1 13 2016 9:21:15	0	0	0	754	2	-	Yes
5	1 13 2016 9:25:16	ZERO !	84051	1	757	2	-	Yes

Inj. Order	Position	Type	Identification	Dilution Factor
2	S1	Unknown	CCV	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**52.03**	**12266448**	**0.23**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 13 2016 9:28:18	52.19	12303737	1	757	2	-	Yes
2	1 13 2016 9:32:18	52.02	12263583	1	758	2	-	Yes
3	1 13 2016 9:35:36	51.90	12234624	1	758	2	-	Yes
4	1 13 2016 9:38:51	52.02	12263851	1	759	2	-	Yes

Inj. Order	Position	Type	Identification	Dilution Factor
3	S5	Unknown	LCSW	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**49.67**	**11715661**	**0.29**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 13 2016 9:43:02	49.53	11684191	1	760	2	-	Yes
2	1 13 2016 9:47:05	49.58	11695950	1	760	2	-	Yes
3	1 13 2016 9:50:23	49.70	11723034	1	760	2	-	Yes
4	1 13 2016 9:53:45	49.86	11759472	1	760	2	-	Yes

Inj. Order	Position	Type	Identification	Dilution Factor
4	S8	Unknown	MBW	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**ZERO !**	**123515**	**9.64**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 13 2016 9:58:02	ZERO !	138460	1	760	2	-	Yes
2	1 13 2016 10:01:12	ZERO !	126560	1	759	2	-	Yes
3	1 13 2016 10:03:32	ZERO !	118467	1	758	2	-	Yes
4	1 13 2016 10:05:53	ZERO !	110576	1	758	2	-	Yes

Inj. Order	Position	Type	Identification	Dilution Factor
5	2	Unknown	677510	1 x

		TC	**0.86**	**344850**	**3.44**			**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	1 13 2016 10:09:14	0.93	361302	1	759	2	-	Yes
	2	1 13 2016 10:12:32	0.81	333398	1	758	2	-	Yes
	3	1 13 2016 10:14:58	0.86	344333	1	757	2	-	Yes
	4	1 13 2016 10:17:25	0.84	340369	1	757	2	-	Yes

6	3	Unknown	DUP677510		1 x

		TC	**0.84**	**338997**	**3.94**			**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	1 13 2016 10:20:44	0.85	341819	1	758	2	-	Yes
	2	1 13 2016 10:23:54	0.83	337409	1	757	2	-	Yes
	3	1 13 2016 10:26:21	0.77	322188	1	756	2	-	Yes
	4	1 13 2016 10:28:50	0.90	354572	1	756	2	-	Yes

7	4	Unknown	MSW677510		1 x

		TC	**51.93**	**12241350**	**0.31**			**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	1 13 2016 10:32:06	51.99	12256603	1	757	2	-	Yes
	2	1 13 2016 10:35:56	51.71	12190975	1	757	2	-	Yes
	3	1 13 2016 10:39:13	51.91	12238133	1	757	2	-	Yes
	4	1 13 2016 10:42:27	52.09	12279689	1	757	2	-	Yes

8	5	Unknown	MSDW677510		1 x

		TC	**51.16**	**12061576**	**1.65**			**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	1 13 2016 10:46:30	51.28	12090136	1	758	2	-	Yes
	2	1 13 2016 10:50:30	52.17	12297541	1	757	2	-	Yes
	3	1 13 2016 10:53:40	51.09	12047507	1	756	2	-	Yes
	4	1 13 2016 10:56:52	50.08	11811122	1	756	2	-	Yes

9	6	Unknown	677296		1 x

		TC	**1.63**	**522113**	**2.17**			**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	1 13 2016 11:00:54	1.70	538967	1	757	2	-	Yes
	2	1 13 2016 11:04:12	1.61	518223	1	755	2	-	Yes
	3	1 13 2016 11:06:48	1.60	516217	1	754	2	-	Yes
	4	1 13 2016 11:09:22	1.59	515045	1	754	2	-	Yes

10	7	Unknown	LQCKW		1 x

		TC	**3.18**	**884894**	**2.24**			**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	1 13 2016 11:12:47	3.20	889832	1	754	2	-	Yes
	2	1 13 2016 11:16:12	3.14	874802	1	754	2	-	Yes
	3	1 13 2016 11:18:54	3.09	864627	1	753	2	-	Yes
	4	1 13 2016 11:21:42	3.29	910315	1	753	2	-	Yes

11	8	Unknown	679481		1 x

		TC	**0.97**	**371450**	**6.55**			**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	1 13 2016 11:25:20	1.13	406553	1	754	2	-	Yes
	2	1 13 2016 11:28:27	0.96	368232	1	754	2	-	Yes
	3	1 13 2016 11:30:49	0.92	358904	1	753	2	-	Yes
	4	1 13 2016 11:33:12	0.89	352111	1	752	2	-	Yes

12	9	Unknown	679483		1 x

		TC	**1.05**	**389518**	**3.88**			**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	1 13 2016 11:36:28	1.14	409821	1	753	2	-	Yes
	2	1 13 2016 11:39:33	1.05	389010	1	752	2	-	Yes
	3	1 13 2016 11:41:56	1.04	385811	1	752	2	-	Yes
	4	1 13 2016 11:44:19	0.99	373431	1	752	2	-	Yes

13	10	Unknown	DUP679481		1 x

NOT USED

		TC	**0.72**	**312881**	**6.69**		**100 µl**		
Sample		Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1		1 13 2016 11:47:36	0.83	336357	1	752	2	-	Yes
2		1 13 2016 11:50:38	0.68	303120	1	752	2	-	Yes
3		1 13 2016 11:52:55	0.77	322984	1	751	2	-	Yes
4		1 13 2016 11:55:12	0.62	289066	1	751	2	-	Yes

---

14 11 Unknown MSW679481 1 x NOT USED

		TC	**50.69**	**11954180**	**0.31**		**100 µl**		
Sample		Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1		1 13 2016 11:58:44	50.69	11952642	1	753	2	-	Yes
2		1 13 2016 12:02:31	50.77	11973276	1	753	2	-	Yes
3		1 13 2016 12:05:52	50.84	11988589	1	753	2	-	Yes
4		1 13 2016 12:09:00	50.47	11902216	1	753	2	-	Yes

---

15 S1 Unknown CCV 1 x

		TC	**52.74**	**12432506**	**1.06**		**100 µl**		
Sample		Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1		1 13 2016 12:12:58	52.14	12291101	1	754	2	-	Yes
2		1 13 2016 12:17:22	52.57	12391783	1	754	2	-	Yes
3		1 13 2016 12:20:55	52.77	12439277	1	754	2	-	Yes
4		1 13 2016 12:24:24	53.50	12607865	1	754	2	-	Yes

---

16 S8 Unknown CCB 1 x

		TC	**0.00**	**0**	**0.00**		**100 µl**		
Sample		Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1		1 13 2016 12:28:58	0	0	0	754	2	-	Yes
2		1 13 2016 12:33:36	0	0	0	754	2	-	Yes
3		1 13 2016 12:37:37	0	0	0	753	2	-	Yes
4		1 13 2016 12:41:38	0	0	0	753	2	-	Yes

---

17 12 Unknown MSDW679481 1 x NOT USED

		TC	**52.87**	**12461989**	**0.59**		**100 µl**		
Sample		Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1		1 13 2016 12:46:31	52.45	12362602	1	754	2	-	Yes
2		1 13 2016 12:50:30	53.09	12511925	1	752	2	-	Yes
3		1 13 2016 12:53:44	52.81	12448685	1	753	2	-	Yes
4		1 13 2016 12:56:52	53.14	12524744	1	752	2	-	Yes

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18 13 Unknown 679481 1 x NOT USED

		TC	**81.38**	**19102557**	**0.51**		**100 µl**		
Sample		Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1		1 13 2016 13:00:53	81.26	19075657	1	752	2	-	Yes
2		1 13 2016 13:05:17	81.68	19174531	1	753	2	-	Yes
3		1 13 2016 13:09:12	80.84	18977079	1	752	2	-	Yes
4		1 13 2016 13:12:50	81.72	19182962	1	752	2	-	Yes

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19 14 Unknown 679483 1 x

		TC	**81.93**	**19230992**	**0.47**		**100 µl**		
Sample		Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1		1 13 2016 13:17:35	82.50	19363717	1	753	2	-	Yes
2		1 13 2016 13:22:13	81.63	19161181	1	753	2	-	Yes
3		1 13 2016 13:26:01	81.78	19197157	1	753	2	-	Yes
4		1 13 2016 13:29:58	81.80	19201913	1	753	2	-	Yes

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20 15 Unknown 679979 1 x

		TC	**92.80**	**21764348**	**0.34**		**100 µl**		
Sample		Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1		1 13 2016 13:34:32	93.27	21874766	1	753	2	-	Yes
2		1 13 2016 13:38:55	92.59	21714475	1	753	2	-	Yes
3		1 13 2016 13:42:48	92.61	21721059	1	753	2	-	Yes
4		1 13 2016 13:46:36	92.73	21747093	1	753	2	-	Yes

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21 16 Unknown 679981 1 x

		TC	**61.34**	**14435738**	**0.88**			**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	1 13 2016 13:51:14	61.20	14403465	1	754	2	-	Yes
	2	1 13 2016 13:55:36	62.11	14615344	1	753	2	-	Yes
	3	1 13 2016 13:59:16	61.23	14410044	1	753	2	-	Yes
	4	1 13 2016 14:02:38	60.82	14314099	1	753	2	-	Yes

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22 17 Unknown 679983 1 x

		TC	**47.70**	**11257025**	**0.32**			**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	1 13 2016 14:06:54	47.84	11290727	1	754	2	-	Yes
	2	1 13 2016 14:11:07	47.76	11271347	1	753	2	-	Yes
	3	1 13 2016 14:14:21	47.49	11206963	1	753	2	-	Yes
	4	1 13 2016 14:17:39	47.71	11259063	1	753	2	-	Yes

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23 18 Unknown DUP679979 1 x

		TC	**89.60**	**21018723**	**0.77**			**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	1 13 2016 14:21:46	90.55	21239970	1	753	2	-	Yes
	2	1 13 2016 14:26:21	89.19	20924557	1	753	2	-	Yes
	3	1 13 2016 14:30:04	88.97	20872590	1	753	2	-	Yes
	4	1 13 2016 14:33:41	89.68	21037776	1	753	2	-	Yes

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24 19 Unknown MSW679979X5 1 x

		TC	**63.97**	**15046077**	**14.14**			**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	1 13 2016 14:38:24	76.30	17920353	1	753	2	-	Yes
	2	1 13 2016 14:42:44	64.19	15098486	1	753	2	-	Yes
	3	1 13 2016 14:46:22	60.77	14301108	1	753	2	-	Yes
	4	1 13 2016 14:49:49	54.60	12864361	1	752	2	-	Yes
	5	1 13 2016 14:53:15	43.24	10217308	1	752	2	-	-

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25 20 Unknown MSDW679979X5 1 x

		TC	**69.51**	**16337358**	**1.55**			**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	1 13 2016 14:57:27	70.90	16662068	1	753	2	-	Yes
	2	1 13 2016 15:01:46	68.24	16041720	1	752	2	-	Yes
	3	1 13 2016 15:05:14	69.40	16313191	1	752	2	-	Yes
	4	1 13 2016 15:08:50	69.48	16332454	1	752	2	-	Yes

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26 21 Unknown 679481 1 x

		TC	**78.19**	**18359468**	**0.32**			**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	1 13 2016 15:13:19	78.36	18399367	1	753	2	-	Yes
	2	1 13 2016 15:17:38	77.89	18291645	1	752	2	-	Yes
	3	1 13 2016 15:20:53	78.06	18330111	1	752	2	-	Yes
	4	1 13 2016 15:24:40	78.43	18416751	1	752	2	-	Yes

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27 S1 Unknown CCV 1 x NOT USED

		TC	**55.29**	**13026702**	**0.50**			**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	1 13 2016 15:29:16	55.07	12974739	1	753	2	-	Yes
	2	1 13 2016 15:33:32	55.26	13018702	1	753	2	-	Yes
	3	1 13 2016 15:37:08	55.15	12993282	1	752	2	-	Yes
	4	1 13 2016 15:40:34	55.70	13120087	1	753	2	-	Yes

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28 S8 Unknown CCB 1 x NOT USED

		TC	**ZERO !**	**116257**	**5.95**			**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	1 13 2016 15:44:59	ZERO !	121437	1	753	2	-	Yes
	2	1 13 2016 15:48:12	ZERO !	119291	1	752	2	-	Yes
	3	1 13 2016 15:50:36	ZERO !	106073	1	752	2	-	Yes
	4	1 13 2016 15:52:58	ZERO !	118227	1	752	2	-	Yes

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29 22 Unknown BLANK 1 x NOT USED

TC **0.15** **179195** **9.75** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 13 2016 15:56:15	0.06	157132	1	753	2	-	Yes
2	1 13 2016 15:59:19	0.13	174483	1	752	2	-	Yes
3	1 13 2016 16:01:45	0.23	197456	1	752	2	-	Yes
4	1 13 2016 16:04:12	0.19	187711	1	751	2	-	Yes

30 23 Unknown 679979 1 x NOT USED

TC **1.89** **585204** **2.42** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 13 2016 16:07:29	2.60	748638	1	752	2	-	-
2	1 13 2016 16:11:20	1.94	596881	1	753	2	-	Yes
3	1 13 2016 16:13:55	1.87	580149	1	752	2	-	Yes
4	1 13 2016 16:16:25	1.94	596360	1	752	2	-	Yes
5	1 13 2016 16:18:58	1.82	567426	1	752	2	-	Yes

31 24 Unknown DUP679979 1 x NOT USED

TC **1.83** **569961** **1.04** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 13 2016 16:22:20	1.85	574975	1	753	2	-	Yes
2	1 13 2016 16:25:36	1.85	574302	1	752	2	-	Yes
3	1 13 2016 16:28:14	1.82	568334	1	752	2	-	Yes
4	1 13 2016 16:30:49	1.80	562234	1	752	2	-	Yes

32 S2 Unknown CCV 1 x

TC **51.86** **12225474** **0.72** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 13 2016 16:34:14	51.31	12098727	1	752	2	-	Yes
2	1 13 2016 16:38:15	52.01	12262211	1	752	2	-	Yes
3	1 13 2016 16:41:32	52.17	12298242	1	752	2	-	Yes
4	1 13 2016 16:44:57	51.93	12242716	1	752	2	-	Yes

33 S2 Unknown CCV 1 x

TC **51.95** **12248114** **0.06** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 13 2016 16:49:15	51.91	12237205	1	753	2	-	Yes
2	1 13 2016 16:53:28	51.98	12253936	1	752	2	-	Yes
3	1 13 2016 16:56:49	51.98	12253846	1	752	2	-	Yes
4	1 13 2016 17:00:21	51.95	12247470	1	752	2	-	Yes

34 S9 Unknown CCB 1 x

TC **ZERO !** **140195** **6.30** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 13 2016 17:04:38	0.04	153275	1	753	2	-	Yes
2	1 13 2016 17:07:45	ZERO !	136678	1	751	2	-	Yes
3	1 13 2016 17:10:04	ZERO !	133839	1	750	2	-	Yes
4	1 13 2016 17:12:20	ZERO !	136988	1	750	2	-	Yes

35 22 Unknown BLANK 1 x

TC **0.10** **167865** **6.51** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 13 2016 17:15:56	0.09	164177	1	751	2	-	Yes
2	1 13 2016 17:19:03	0.05	154632	1	751	2	-	Yes
3	1 13 2016 17:21:23	0.16	179986	1	751	2	-	Yes
4	1 13 2016 17:23:45	0.12	172667	1	751	2	-	Yes

36 23 Unknown 679979 1 x

TC **1.81** **565291** **2.60** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 13 2016 17:27:07	1.89	585243	1	753	2	-	Yes
2	1 13 2016 17:30:27	1.80	563811	1	752	2	-	Yes
3	1 13 2016 17:33:04	1.80	562327	1	752	2	-	Yes

4	1 13 2016 17:35:39	1.74	549783	1	752	2	-	Yes

37	24	Unknown	DUP679979				1 x		
		TC	**0.00**	**0**		**0.00**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	1 13 2016 17:39:04	0	0	0	752	2	-	Yes
	2	1 13 2016 17:43:42	0	0	0	754	2	-	Yes
	3	1 13 2016 17:47:42	0	0	0	754	2	-	Yes
	4	1 13 2016 17:51:43	0	0	0	754	2	-	Yes

38	25	Unknown	MSW679979				1 x		
		TC	**52.92**	**12473393**		**0.69**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	1 13 2016 17:57:01	53.09	12512234	1	754	2	-	Yes
	2	1 13 2016 18:01:13	52.94	12478595	1	752	2	-	Yes
	3	1 13 2016 18:04:24	52.40	12352302	1	752	2	-	Yes
	4	1 13 2016 18:07:39	53.25	12550444	1	752	2	-	Yes

39	26	Unknown	MSDW679979				1 x		
		TC	**52.23**	**12312117**		**0.71**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	1 13 2016 18:11:42	52.47	12368387	1	752	2	-	Yes
	2	1 13 2016 18:15:42	52.50	12376110	1	752	2	-	Yes
	3	1 13 2016 18:18:49	52.25	12317222	1	752	2	-	Yes
	4	1 13 2016 18:22:03	51.69	12186749	1	752	2	-	Yes

40	27	Unknown	679981				1 x		
		TC	**0.36**	**228579**		**5.85**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	1 13 2016 18:26:03	0.43	243887	1	753	2	-	Yes
	2	1 13 2016 18:29:06	0.39	235226	1	752	2	-	Yes
	3	1 13 2016 18:31:23	0.33	220448	1	751	2	-	Yes
	4	1 13 2016 18:33:40	0.30	214757	1	751	2	-	Yes

41	28	Unknown	679983				1 x		
		TC	**1.78**	**558511**		**37.43**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	1 13 2016 18:37:12	2.69	771625	1	752	2	-	Yes
	2	1 13 2016 18:40:30	2.39	700341	1	752	2	-	Yes
	3	1 13 2016 18:43:04	1.17	417025	1	751	2	-	Yes
	4	1 13 2016 18:45:26	0.86	345056	1	751	2	-	Yes
	5	1 13 2016 18:47:45	0.72	311492	1	751	2	-	-

45	S2	Unknown	CCV				1 x		
		TC	**52.13**	**12289202**		**0.41**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	1 13 2016 19:24:59	51.93	12243501	1	753	2	-	Yes
	2	1 13 2016 19:29:12	52.01	12261771	1	753	2	-	Yes
	3	1 13 2016 19:32:27	52.43	12358504	1	753	2	-	Yes
	4	1 13 2016 19:35:56	52.15	12293033	1	753	2	-	Yes

46	S9	Unknown	CCB				1 x		
		TC	**0.07**	**158634**		**3.73**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	1 13 2016 19:40:07	0.10	166603	1	753	2	-	Yes
	2	1 13 2016 19:43:14	0.04	152295	1	752	2	-	Yes
	3	1 13 2016 19:45:28	0.06	157453	1	751	2	-	Yes
	4	1 13 2016 19:47:45	0.06	158188	1	751	2	-	Yes

Analysis Name 011916 - 122769 122770 122776.adb

Template Name 011916 - 122769 122770 122776.tdb
Method Name N / A
Operator JJF

Date Tuesday, January 19, 2016
Time 10:23

Start Oven Temp. 756 °C
Start Cooler Temp. 2 °C

Version 2.55 Release
Info ICAL W34137 SPIKE TOC0011
CCV TOC0055
LCSW TOC0056

Element	Integration Time	Samples	Extra Samples	Max. CV
Carbon	60 s	4	1	10 %

SampleTime 240 s

No	Type	FileName	Date/Time	Max. Area	Max Conc.	Order	Correlation	Volume	Sel.
1	TC	W34137 042114	Apr 21 2014, 13:55	23572615	100	1	0.99963	100 µl	Yes
	A2: 0		*A1: 232982.714758512*		*A0: 143764.497303468*				

27	S1	Unknown	CCV				1 x		
		TC	**50.38**	**11880543**	**0.20**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	1 19 2016 16:25:29	50.33	11870172	1	752	2	-	Yes
	2	1 19 2016 16:29:29	50.34	11872578	1	752	2	-	Yes
	3	1 19 2016 16:32:43	50.30	11863349	1	752	2	-	Yes
	4	1 19 2016 16:35:59	50.53	11916074	1	752	2	-	Yes
28	S5	Unknown	LCSW				1 x		

		TC	**53.99**	**12722811**	**0.86**			**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	1 19 2016 16:40:10	53.32	12566510	1	753	2	-	Yes
	2	1 19 2016 16:44:25	54.15	12759496	1	753	2	-	Yes
	3	1 19 2016 16:47:53	54.42	12823724	1	753	2	-	Yes
	4	1 19 2016 16:51:19	54.07	12741517	1	752	2	-	Yes

29	S8	Unknown	MBW					1 x	
		TC	**0.00**	**0**	**0.00**			**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	1 19 2016 16:55:38	0	0	0	753	2	-	Yes
	2	1 19 2016 17:00:16	0	0	0	752	2	-	Yes
	3	1 19 2016 17:04:17	0	0	0	753	2	-	Yes
	4	1 19 2016 17:08:18	0	0	0	754	2	-	Yes

30	22	Unknown	680616					1 x	
		TC	**1.86**	**576519**	**4.49**			**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	1 19 2016 17:13:12	2.01	612320	1	754	2	-	Yes
	2	1 19 2016 17:16:28	1.87	578628	1	753	2	-	Yes
	3	1 19 2016 17:18:59	1.79	559670	1	751	2	-	Yes
	4	1 19 2016 17:21:27	1.77	555461	1	751	2	-	Yes

31	23	Unknown	680618					1 x	
		TC	**2.18**	**650390**	**2.88**			**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	1 19 2016 17:24:47	2.29	677633	1	752	2	-	Yes
	2	1 19 2016 17:28:00	2.15	644435	1	751	2	-	Yes
	3	1 19 2016 17:30:30	2.11	634685	1	751	2	-	Yes
	4	1 19 2016 17:32:57	2.15	644809	1	751	2	-	Yes

32	24	Unknown	680620					1 x	
		TC	**1.96**	**601331**	**1.76**			**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	1 19 2016 17:36:22	1.94	594826	1	752	2	-	Yes
	2	1 19 2016 17:39:27	1.98	604123	1	751	2	-	Yes
	3	1 19 2016 17:41:53	1.92	591398	1	751	2	-	Yes
	4	1 19 2016 17:44:23	2.02	614980	1	751	2	-	Yes

33	25	Unknown	680622					1 x	
		TC	**1.89**	**584100**	**5.62**			**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	1 19 2016 17:47:42	2.09	631168	1	752	2	-	Yes
	2	1 19 2016 17:50:52	1.87	580606	1	751	2	-	Yes
	3	1 19 2016 17:53:18	1.82	567647	1	751	2	-	Yes
	4	1 19 2016 17:55:44	1.77	556980	1	751	2	-	Yes

34	26	Unknown	680624					1 x	
		TC	**2.50**	**725281**	**3.46**			**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	1 19 2016 17:59:02	2.59	746097	1	752	2	-	Yes
	2	1 19 2016 18:02:12	2.59	747808	1	752	2	-	Yes
	3	1 19 2016 18:04:41	2.41	705274	1	751	2	-	Yes
	4	1 19 2016 18:07:12	2.40	701945	1	752	2	-	Yes

35	27	Unknown	680626					1 x	
		TC	**1.96**	**599767**	**2.63**			**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	1 19 2016 18:10:32	2.04	618077	1	753	2	-	Yes
	2	1 19 2016 18:13:38	1.89	584246	1	752	2	-	Yes
	3	1 19 2016 18:16:04	1.99	607433	1	752	2	-	Yes
	4	1 19 2016 18:18:26	1.91	589312	1	751	2	-	Yes

36	28	Unknown	680629				1 x		
		TC	**1.37**	**464186**		**4.28**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	1 19 2016 18:21:42	1.44	479664	1	752	2	-	Yes
	2	1 19 2016 18:24:40	1.34	455598	1	751	2	-	Yes
	3	1 19 2016 18:26:55	1.45	481350	1	751	2	-	Yes
	4	1 19 2016 18:29:15	1.27	440134	1	751	2	-	Yes

37	29	Unknown	681414				1 x		
		TC	**1.49**	**490521**		**3.83**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	1 19 2016 18:32:49	1.44	478888	1	753	2	-	Yes
	2	1 19 2016 18:35:47	1.61	518459	1	752	2	-	Yes
	3	1 19 2016 18:38:08	1.44	480118	1	751	2	-	Yes
	4	1 19 2016 18:40:25	1.46	484622	1	751	2	-	Yes

38	30	Unknown	681416				1 x		
		TC	**2.69**	**770432**		**2.45**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	1 19 2016 18:43:58	2.74	783284	1	753	2	-	Yes
	2	1 19 2016 18:47:04	2.72	776941	1	752	2	-	Yes
	3	1 19 2016 18:49:31	2.57	742435	1	751	2	-	Yes
	4	1 19 2016 18:51:55	2.73	779068	1	751	2	-	Yes

39	31	Unknown	681418				1 x		
		TC	**1.77**	**556580**		**5.08**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	1 19 2016 18:55:15	1.65	528243	1	752	2	-	Yes
	2	1 19 2016 18:58:13	0.80	330147	1	752	2	-	-
	3	1 19 2016 19:02:13	1.68	536273	1	753	2	-	Yes
	4	1 19 2016 19:04:31	1.88	581970	1	752	2	-	Yes
	5	1 19 2016 19:06:52	1.87	579836	1	752	2	-	Yes

40	S2	Unknown	CCV				1 x		
		TC	**53.20**	**12539313**		**1.57**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	1 19 2016 19:10:05	51.94	12245009	1	752	2	-	Yes
	2	1 19 2016 19:14:09	53.63	12639395	1	753	2	-	Yes
	3	1 19 2016 19:17:34	53.53	12616465	1	752	2	-	Yes
	4	1 19 2016 19:20:59	53.71	12656386	1	752	2	-	Yes

41	S9	Unknown	CCB				1 x		
		TC	**0.42**	**243033**		**4.65**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	1 19 2016 19:25:17	0.40	236382	1	753	2	-	Yes
	2	1 19 2016 19:28:19	0.37	230641	1	752	2	-	Yes
	3	1 19 2016 19:30:32	0.47	253862	1	752	2	-	Yes
	4	1 19 2016 19:32:45	0.46	251247	1	751	2	-	Yes

42	32	Unknown	681420				1 x			NOT USED
		TC	**1.86**	**578421**		**1.19**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.	
	1	1 19 2016 19:36:34	1.90	586271	1	753	2	-	Yes	
	2	1 19 2016 19:39:40	1.88	582169	1	752	2	-	Yes	
	3	1 19 2016 19:42:07	1.84	572682	1	752	2	-	Yes	
	4	1 19 2016 19:44:34	1.84	572565	1	752	2	-	Yes	

43	33	Unknown	681422				1 x			NOT USED
		TC	**2.79**	**792846**		**3.52**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.	

Analysis Name 0121116A - RR 122770 122776 MDL.adb

Template Name 012016 - 122770 122776.tdb
Method Name N / A
Operator JJF

Date Thursday, January 21, 2016
Time 14:54

Start Oven Temp. 768 °C
Start Cooler Temp. 3 °C

Version 2.55 Release
Info ICAL W34137 SPIKE TOC0011
CCV TOC0057
LCSW TOC0055

Element	Integration Time	Samples	Extra Samples	Max. CV
Carbon	60 s	4	1	10 %
SampleTime	240 s			

No	Type	FileName	Date/Time	Max. Area	Max Conc.	Order	Correlation	Volume	Sel.
1	TC	W34137 042114	Apr 21 2014, 13:55	23572615	100	1	0.99963	100 µl	Yes
	A2: 0		*A1: 232982.714758512*		*A0: 143764.497303468*				

Inj. Order 1 | Position 1 | Type Unknown | Identification BLANK | Dilution Factor 1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**0.00**	**0**	**0.00**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 21 2016 15:05:29	0	0	0	784	2	-	Yes
2	1 21 2016 15:10:07	0	0	0	784	2	-	Yes
3	1 21 2016 15:14:08	0	0	0	784	2	-	Yes
4	1 21 2016 15:18:10	0	0	0	783	2	-	Yes

---

2 | S1 | Unknown | CCV | 1 x

TC	**50.95**	**12013093**	**0.62**	**100 µl**	

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 21 2016 15:23:01	51.38	12113912	1	783	2	-	Yes
2	1 21 2016 15:27:39	50.99	12023689	1	780	2	-	Yes
3	1 21 2016 15:31:40	50.70	11956040	1	779	2	-	Yes
4	1 21 2016 15:35:42	50.71	11958732	1	777	2	-	Yes

---

3 | S8 | Unknown | CCB | 1 x

TC	**ZERO !**	**108948**	**35.47**	**100 µl**	

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 21 2016 15:40:27	0.01	146771	1	776	2	-	Yes
2	1 21 2016 15:43:37	ZERO !	58215	1	774	2	-	-
3	1 21 2016 15:45:54	ZERO !	137409	1	772	2	-	Yes
4	1 21 2016 15:48:17	ZERO !	80445	1	771	2	-	Yes
5	1 21 2016 15:50:39	ZERO !	71167	1	771	2	-	Yes

---

4 | 2 | Unknown | 681420 | 1 x

TC	**0.68**	**302709**	**6.31**	**100 µl**	

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 21 2016 15:53:49	0.75	317778	1	771	2	-	Yes
2	1 21 2016 15:57:06	0.57	275790	1	769	2	-	Yes
3	1 21 2016 15:59:37	0.73	314618	1	768	2	-	Yes
4	1 21 2016 16:02:06	0.68	302653	1	767	2	-	Yes

---

5 | 3 | Unknown | 681422 | 1 x

		TC	**0.88**	**347722**	**8.79**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	1 21 2016 16:05:27	1.04	386712	1	767	2	-	Yes
	2	1 21 2016 16:08:45	0.86	343876	1	766	2	-	Yes
	3	1 21 2016 16:11:25	0.88	348205	1	765	2	-	Yes
	4	1 21 2016 16:14:01	0.72	312098	1	764	2	-	Yes

6	4	Unknown	681528	1 x

		TC	**0.64**	**291719**	**7.13**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	1 21 2016 16:17:20	0.77	322212	1	764	2	-	Yes
	2	1 21 2016 16:20:30	0.60	283305	1	763	2	-	Yes
	3	1 21 2016 16:22:58	0.61	285778	1	762	2	-	Yes
	4	1 21 2016 16:25:26	0.57	275582	1	761	2	-	Yes

7	5	Unknown	681531	1 x

		TC	**0.64**	**292385**	**1.07**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	1 21 2016 16:28:48	1.02	380776	1	761	2	-	-
	2	1 21 2016 16:32:00	0.64	292713	1	761	2	-	Yes
	3	1 21 2016 16:34:27	0.66	296523	1	760	2	-	Yes
	4	1 21 2016 16:36:54	0.62	289103	1	760	2	-	Yes
	5	1 21 2016 16:39:20	0.63	291203	1	759	2	-	Yes

8	6	Unknown	681533	1 x

		TC	**1.55**	**505066**	**4.22**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	1 21 2016 16:42:36	1.68	535463	1	760	2	-	Yes
	2	1 21 2016 16:45:50	1.52	498920	1	759	2	-	Yes
	3	1 21 2016 16:48:22	1.47	485718	1	758	2	-	Yes
	4	1 21 2016 16:50:55	1.53	500164	1	758	2	-	Yes

9	7	Unknown	DUP681533	1 x

		TC	**1.16**	**413684**	**1.48**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	1 21 2016 16:54:19	1.59	513749	1	759	2	-	-
	2	1 21 2016 16:57:32	1.16	413865	1	758	2	-	Yes
	3	1 21 2016 16:59:58	1.12	405241	1	757	2	-	Yes
	4	1 21 2016 17:02:26	1.18	419734	1	757	2	-	Yes
	5	1 21 2016 17:04:56	1.17	415898	1	756	2	-	Yes

10	8	Unknown	MSW681533	1 x

		TC	**51.12**	**12054783**	**1.00**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	1 21 2016 17:08:13	51.63	12172700	1	757	2	-	Yes
	2	1 21 2016 17:12:07	51.44	12129148	1	757	2	-	Yes
	3	1 21 2016 17:15:22	50.48	11904360	1	757	2	-	Yes
	4	1 21 2016 17:18:39	50.94	12012924	1	757	2	-	Yes

11	9	Unknown	MSDW681533	1 x

		TC	**44.91**	**10607206**	**1.49**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	1 21 2016 17:22:44	45.74	10801073	1	757	2	-	Yes
	2	1 21 2016 17:26:59	44.63	10542396	1	757	2	-	Yes
	3	1 21 2016 17:30:13	44.15	10430600	1	756	2	-	Yes
	4	1 21 2016 17:33:24	45.11	10654757	1	756	2	-	Yes

12	10	Unknown	681535	1 x

		TC	**0.38**	**231284**	**11.30**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	1 21 2016 17:37:44	0.59	282226	1	756	2	-	-
	2	1 21 2016 17:40:43	0.50	260895	1	754	2	-	Yes
	3	1 21 2016 17:43:01	0.27	206271	1	753	2	-	Yes
	4	1 21 2016 17:45:19	0.44	245338	1	753	2	-	Yes
	5	1 21 2016 17:47:41	0.30	212632	1	753	2	-	Yes

13	11	Unknown	681537				1 x		
		TC	**ZERO !**	**108965**		**17.16**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	1 21 2016 17:50:54	ZERO !	136385	1	754	2	-	Yes
	2	1 21 2016 17:53:43	ZERO !	105375	1	753	2	-	Yes
	3	1 21 2016 17:55:49	ZERO !	-199019	1	752	2	-	-
	4	1 21 2016 17:59:29	ZERO !	97055	1	753	2	-	Yes
	5	1 21 2016 18:01:35	ZERO !	97046	1	753	2	-	Yes

14	S1	Unknown	CCV				1 x		
		TC	**51.15**	**12060566**		**0.37**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	1 21 2016 18:04:28	51.14	12058663	1	753	2	-	Yes
	2	1 21 2016 18:08:39	51.33	12103117	1	754	2	-	Yes
	3	1 21 2016 18:12:21	51.24	12081449	1	754	2	-	Yes
	4	1 21 2016 18:16:00	50.88	11999035	1	753	2	-	Yes

16	S8	Unknown	MBW				1 x		
		TC	**ZERO !**	**139554**		**7.15**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	1 21 2016 18:36:16	0.13	174928	1	754	2	-	-
	2	1 21 2016 18:39:18	ZERO !	134005	1	752	2	-	Yes
	3	1 21 2016 18:41:30	ZERO !	138210	1	752	2	-	Yes
	4	1 21 2016 18:43:48	0.04	154007	1	752	2	-	Yes
	5	1 21 2016 18:46:09	ZERO !	131997	1	753	2	-	Yes

INORGANICS
LOGBOOK
DOCUMENTS

WANIONS IC QSM 5.0 Analytical Run
122594 on 1/13/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	680086						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		ICV							
		Chloride		ICV							
		Sulfate		ICV							
	680087						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		ICB							
		Chloride		ICB							
		Sulfate		ICB							
	679906						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCV				0			
		Chloride		CCV				0			
		Sulfate		CCV				0			
	679907						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCB				0			
		Chloride		CCB				0			
		Sulfate		CCB				0			
	679908						WANIONS IC QSM 5.0				
		Chloride		LCSW				0			
		Nitrate Nitrogen		LCSW				0			
		Sulfate		LCSW				0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
122594 on 1/13/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	679909							WANIONS IC QSM 5.0				
		Nitrate Nitrogen			MBW				0			
		Chloride			MBW				0			
		Sulfate			MBW				0			
116426	679480		1/11/2016	1415		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
116426	679482		1/11/2016	1415		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
	679910		1/11/2016	1415				ANIONS IC QSM 5.0				
		Nitrate Nitrogen			DUP	679480			0			
		Chloride			DUP	679480			0			
		Sulfate			DUP	679480			0			
	679911		1/11/2016	1415				ANIONS IC QSM 5.0				
		Nitrate Nitrogen			MSW	679480			0			
		Chloride			MSW	679480			0			
		Sulfate			MSW	679480			0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
122594 on 1/13/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	679912		1/11/2016 1415				ANIONS IC QSM 5.0				
		Nitrate Nitrogen		MSDW 679911				0			
		Chloride		MSDW 679911				0			
		Sulfate		MSDW 679911				0			
	679913						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCV				0			
		Chloride		CCV				0			
		Sulfate		CCV				0			
	679914						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCB				0			
		Chloride		CCB				0			
		Sulfate		CCB				0			
116426	679480		1/11/2016 1415		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride	***RERUN***								
		Nitrate Nitrogen	***RERUN***								
		Sulfate	***RERUN***								
	679910		1/11/2016 1415				ANIONS IC QSM 5.0				
		Nitrate Nitrogen	***RERUN***	DUP 679480				0			
		Chloride	***RERUN***	DUP 679480				0			
		Sulfate	***RERUN***	DUP 679480				0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
122594 on 1/13/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	679916							WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCV				0			
		Chloride			CCV				0			
		Sulfate			CCV				0			
	679917							WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCB				0			
		Chloride			CCB				0			
		Sulfate			CCB				0			
116426	679482		1/11/2016	1415		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride	***RERUN***									
		Nitrate Nitrogen	***RERUN***									
		Sulfate	***RERUN***									
	679918							WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCV				0			
		Chloride			CCV				0			
		Sulfate			CCV				0			
	679919							WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCB				0			
		Chloride			CCB				0			
		Sulfate			CCB				0			

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Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

FWC37-01 Data Review Checklist

LIMS RUN # 122594 122596	Method: Anions by Ion Chromatography 300.0/9056				
Analysis Date	Analyst / Data Interpreter	Independent Reviewer	Date of Review	Approved (Yes/No)	Instrument
01/12/2016	JJF		1/14/16	Yes	DX120-System 2

Instructions: Complete one checklist per *analytical sequence* . Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement:	Acceptance	Analyst Review		Independent Review		Comments:
	Criteria	Yes	No	Yes	No	(indicate reference to an attachment if necessary)
1. Were the samples analyzed within hold time?	28 days for Cl, F, SO_4;14 days for preserved NO_2+NO_3; 48 hours for O.Phos, and unpreserved NO_2 and NO_3	Yes		✓		If no: Qualify date with an "H" flag.
2. Was the calibration performed using the required number of standards?	Minimum three plus a blank	Yes				If no: reacalibrate instrument minimum of 3 standaard + a blank.
3. Is the standard prep log number noted on the analytical report bench sheet?	---	Yes				If no: document all standards used.
4. Was the correlation coefficient acceptable?	≥ .995	Yes				If no: Reacalibrate instrument
5. Were the ICV and ICB run immediately after the calibration check standard?	---	Yes				If no: Analyze an ICV and ICB prior to sample analyses.
6. Was the ICV recovery acceptable?	90 – 110 % or contract/program specific	Yes				If no: reanalyze ICV or recalibrate if necessary.
7. Was the ICB result acceptable?	< LOD or contract/program specific	Yes				If no: reanalyze blank. Instrument must be confirmed free from contamination prior to sample analyses.
8. Were the CCV's and the CCB's analyzed at the required frequency?	1 / 10 samples or contract/program specific	Yes				If no: outliers should be reanalyzed with QC samples anlayzed at the proper frequency.
9. Were the CCV recoveries acceptable?	90 – 110 % or contract/program specific	Yes				If no: reanalyze affected data with acceptable CCV results.
10. Were the CCB results acceptable?	< LOD or program/project specific	Yes				If no: reanalyze affected sample if possible; otherwise sample detects must be qualified with a "B" flag.
11. Was the MB analyzed at the required frequency?	1 / 20 samples or contract/program specific	Yes				If no: affected sample must be reanalyzed including the MB.
12. Were the MB results acceptable?	< LOD or contract/program specific	Yes				If no: reanalyze affected samples with an acceptable MB if possible. If sample result is >20x the result detected in the blank results can be reported without qualificaton. If sample result is <20x the MB result and the MB was not reanalyzed, sample result must be qualified with a "B" flag.

13. Was a LCS run at the required frequency?	1 / 20 samples or contract/program specific	Yes				If no: affected sample must be reanalyzed including the LCS.
14. Was the LCS recovery acceptable?	Within in-house or contract/program specific limits					If no: affected sample should be reanalyzed with accecptable LCS recoveries if possible. Detects reported with an LCS failure must be qualified with a "Q" flag. Nondetected analytes reported with a low LCS recovery must also be qualified with a "Q" flag.
15. Was the LCS used before the indicated expiration date?	---	Yes				If no: samples should be reanalyed with non expired standards.
16. Were the MS and MSD (when required) prepared at the required frequency?	1per 20 samples per matrix or contract/program specific	Yes				If no: analyze a MS and MSD (if needed) to be included with the sample data.
17. Were the MS and MSD (when required) recoveries acceptable?	Within In-house or contract/program specific limits		No			If no: qualify parent sample results with an "M" flag if recoveries were low. If recoveries were high then qualify any affected detects in the parent sample.
18. Was the RPD between the MS and MSD (when required) acceptable?	Within in house or contract/program specific limits	Yes				If no: qualify the parent sample result with a "Y" flag.
19. Was a sample duplicate prepared at the required frequency?	Contract/program specific or 1 per 20 samples (1 / 10 for SDWA samples)	Yes				If no: analyze one of the sample from the batch as a duplicate.
20. Was the duplicate within precision limits?	Within in-house or contract/program specific limits	Yes				If no: qualify the parent sample result with a "Y" flag.
21. Were all chromatograms checked to ensure accurate peak identification?	---	Yes				If no: review the IC data to ensure proper retention times and peak identification.
22. Are all samples on the job lists accounted for?	---	Yes				If no: include and analzye missing sample with another batch.
23. Were non-matrix related nonconformities (if applicable) documented in the NCR spreadsheet?	---	Yes				If no: Enter nonconformities into the NCR spreadsheet before data review/validation..

WANIONS IC QSM 5.0 Analytical Run
122614 on 02/04/16

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	680311								WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCV					0			
		Chloride			CCV					0			
		Sulfate			CCV					0			
	680312								WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCB					0			
		Chloride			CCB					0			
		Sulfate			CCB					0			
116448	679978		01/12/16	1200			BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride			*								
		Nitrate Nitrogen			*								
		Sulfate			*								
	680313		01/12/16	1200					ANIONS IC QSM 5.0				
		Nitrate Nitrogen			DUP	679978				0			
		Chloride			DUP	679978				0			
		Sulfate			DUP	679978				0			
	680314		01/12/16	1200					ANIONS IC QSM 5.0				
		Nitrate Nitrogen			MSW	679978				0			
		Chloride			MSW	679978				0			
		Sulfate			MSW	679978				0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
122614 on 02/04/16

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	680315		01/12/16	1200				ANIONS IC QSM 5.0				
		Nitrate Nitrogen			MSDW 680314				0			
		Chloride			MSDW 680314				0			
		Sulfate			MSDW 680314				0			
116448	679980		01/12/16	0900		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
116448	679982		01/12/16	1505		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
	680316							WANIONS IC QSM 5.0				
		Chloride			LCSW				0			
		Nitrate Nitrogen			LCSW				0			
		Sulfate			LCSW				0			
	680317							WANIONS IC QSM 5.0				
		Nitrate Nitrogen			MBW				0			
		Chloride			MBW				0			
		Sulfate			MBW				0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
122614 on 02/04/16

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	680318						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCV				0			
		Chloride		CCV				0			
		Sulfate		CCV				0			
	680319						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCB				0			
		Chloride		CCB				0			
		Sulfate		CCB				0			

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Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

FWC37-01 Data Review Checklist

LIMS RUN # 122614	Method: Anions by Ion Chromatography 300.0/9056				
Analysis Date	Analyst / Data Interpreter	Independent Reviewer	Date of Review	Approved (Yes/No)	Instrument
01/13/2016	JJF	RD	1/14/16	Yes	DX120-System 2

Instructions: Complete one checklist per *analytical sequence* . Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement:	Acceptance	Analyst Review		Independent Review		Comments:
	Criteria	Yes	No	Yes	No	(indicate reference to an attachment if necessary)
1. Were the samples analyzed within hold time?	28 days for Cl, F, SO_4;14 days for preserved NO_2+NO_3; 48 hours for O.Phos, and unpreserved NO_2 and NO_3	Yes		✓		If no: Qualify date with an "H" flag.
2. Was the calibration performed using the required number of standards?	Minimum three plus a blank	Yes		✓		If no: reacalibrate instrument minimum of 3 standaard + a blank.
3. Is the standard prep log number noted on the analytical report bench sheet?	---	Yes		✓		If no: document all standards used.
4. Was the correlation coefficient acceptable?	≥ .995	Yes		✓		If no: Reacalibrate instrument
5. Were the ICV and ICB run immediately after the calibration check standard?	---	Yes		✓		If no: Analyze an ICV and ICB prior to sample analyses.
6. Was the ICV recovery acceptable?	90 – 110 % or contract/program specific	Yes		✓		If no: reanalyze ICV or recalibrate if necessary.
7. Was the ICB result acceptable?	< LOD or contract/program specific	Yes		✓		If no: reanalyze blank. Instrument must be confirmed free from contamination prior to sample analyses.
8. Were the CCV's and the CCB's analyzed at the required frequency?	1 / 10 samples or contract/program specific	Yes		✓		If no: outliers should be reanalyzed with QC samples anlayzed at the proper frequency.
9. Were the CCV recoveries acceptable?	90 – 110 % or contract/program specific	Yes		✓		If no: reanalyze affected data with acceptable CCV results.
10. Were the CCB results acceptable?	< LOD or program/project specific	Yes		✓		If no: reanalyze affected sample if possible; otherwise sample detects must be qualified with a "B" flag.
11. Was the MB analyzed at the required frequency?	1 / 20 samples or contract/program specific	Yes		✓		If no: affected sample must be reanalyzed including the MB.
12. Were the MB results acceptable?	< LOD or contract/program specific	Yes		✓		If no: reanalyze affected samples with an acceptable MB if possible. If sample result is >20x the result detected in the blank results can be reported without qualificaton. If sample result is <20x the MB result and the MB was not reanalyzed, sample result must be qualified with a "B" flag.

13. Was a LCS run at the required frequency?	1 / 20 samples or contract/program specific	Yes				If no: affected sample must be reanalyzed including the LCS.
14. Was the LCS recovery acceptable?	Within in-house or contract/program specific limits	Yes				If no: affected sample should be reanalyzed with accecptable LCS recoveries if possible. Detects reported with an LCS failure must be qualified with a "Q" flag. Nondetected analytes reported with a low LCS recovery must also be qualified with a "Q" flag.
15. Was the LCS used before the indicated expiration date?	---	Yes				If no: samples should be reanalyed with non expired standards.
16. Were the MS and MSD (when required) prepared at the required frequency?	1per 20 samples per matrix or contract/program specific	Yes				If no: analyze a MS and MSD (if needed) to be included with the sample data.
17. Were the MS and MSD (when required) recoveries acceptable?	Within In-house or contract/program specific limits	Yes				If no: qualify parent sample results with an "M" flag if recoveries were low. If recoveries were high then qualify any affected detects in the parent sample.
18. Was the RPD between the MS and MSD (when required) acceptable?	Within in house or contract/program specific limits	Yes				If no: qualify the parent sample result with a "Y" flag.
19. Was a sample duplicate prepared at the required frequency?	Contract/program specific or 1 per 20 samples (1 / 10 for SDWA samples)	Yes				If no: analyze one of the sample from the batch as a duplicate.
20. Was the duplicate within precision limits?	Within in-house or contract/program specific limits	Yes				If no: qualify the parent sample result with a "Y" flag.
21. Were all chromatograms checked to ensure accurate peak identification?	---	Yes				If no: review the IC data to ensure proper retention times and peak identification.
22. Are all samples on the job lists accounted for?	---	Yes				If no: include and analzye missing sample with another batch.
23. Were non-matrix related nonconformities (if applicable) documented in the NCR spreadsheet?	---	Yes				If no: Enter nonconformities into the NCR spreadsheet before data review/validation..

WANIONS IC QSM 5.0 Analytical Run
122661 on 1/18/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	681211						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCV				0			
		Chloride		CCV				0			
		Sulfate		CCV				0			
	681212						WANIONS IC QSM 5.0				
		Chloride		LCSW				0			
		Nitrate Nitrogen		LCSW				0			
		Sulfate		LCSW				0			
	681213						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		MBW				0			
		Chloride		MBW				0			
		Sulfate		MBW				0			
	681214						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCV				0			
		Chloride		CCV				0			
		Sulfate		CCV				0			
	681215						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCB				0			
		Chloride		CCB				0			
		Sulfate		CCB				0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
122661 on 1/18/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
116472	680615		1/13/2016	0915		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
116472	680617		1/13/2016	0915		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
116472	680619		1/13/2016	1105		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
116472	680621		1/13/2016	1225		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
116472	680623		1/13/2016	1335		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
122661 on 1/18/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
116472	680625		1/13/2016	1510		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
116472	680628		1/13/2016	1620		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
	681216		1/13/2016	0915				ANIONS IC QSM 5.0				
		Nitrate Nitrogen			DUP	680615			0			
		Chloride			DUP	680615			0			
		Sulfate			DUP	680615			0			
	681217		1/13/2016	0915				ANIONS IC QSM 5.0				
		Sulfate			MSW	680615			0			
		Nitrate Nitrogen			MSW	680615			0			
		Chloride			MSW	680615			0			
	681252		1/13/2016	0915				ANIONS IC QSM 5.0				
		Nitrate Nitrogen			MSDW	681217						
		Chloride			MSDW	681217						
		Sulfate			MSDW	681217						

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
122661 on 1/18/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	681219								WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCV					0			
		Chloride			CCV					0			
		Sulfate			CCV					0			
	681221								WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCB					0			
		Chloride			CCB					0			
		Sulfate			CCB					0			
	681222								WANIONS IC QSM 5.0				
		Sulfate			CCV					0			
	681223								WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCB					0			
		Chloride			CCB					0			
		Sulfate			CCB					0			
116472	680615		1/13/2016	0915			BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride		***RERUN***									
		Nitrate Nitrogen		***RERUN***									
		Sulfate		***RERUN***									
	681216		1/13/2016	0915					ANIONS IC QSM 5.0				
		Nitrate Nitrogen		***RERUN***	DUP	680615				0			
		Chloride		***RERUN***	DUP	680615				0			
		Sulfate		***RERUN***	DUP	680615				0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
122661 on 1/18/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
116472	680617		1/13/2016 0915		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride	***RERUN***								
		Nitrate Nitrogen	***RERUN***								
		Sulfate	***RERUN***								
116472	680623		1/13/2016 1335		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride	***RERUN***								
		Nitrate Nitrogen	***RERUN***								
		Sulfate	***RERUN***								
	681225						WANIONS IC QSM 5.0				
		Sulfate		CCV				0			
	681226						WANIONS IC QSM 5.0				
		Sulfate		CCB				0			

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Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

FWC37-01 Data Review Checklist

LIMS RUN # 122641 122652 122661		Method: Anions by Ion Chromatography 300.0/9056	Independent Data Review Checklist		
Analysis Date	Analyst / Data Interpreter	Independent Reviewer	Date of Review	Approved (Yes/No)	Instrument
1/14/2016	JJF	[illegible]	1/20/16	Yes	DX120-System 2

Instructions: Complete one checklist per *analytical sequence*. Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement:	Acceptance	Analyst Review		Independent Review		Comments:
	Criteria	Yes	No	Yes	No	(indicate reference to an attachment if necessary)
1. Were the samples analyzed within hold time?	28 days for Cl, F, SO_4;14 days for preserved NO_2+NO_3; 48 hours for O.Phos, and unpreserved NO_2 and NO_3	Yes		✓		If no: Qualify date with an "H" flag.
2. Was the calibration performed using the required number of standards?	Minimum three plus a blank	Yes				If no: reacalibrate instrument minimum of 3 standaard + a blank.
3. Is the standard prep log number noted on the analytical report bench sheet?	---	Yes				If no: document all standards used.
4. Was the correlation coefficient acceptable?	≥ .995	Yes				If no: Reacalibrate instrument
5. Were the ICV and ICB run immediately after the calibration check standard?	---	Yes				If no: Analyze an ICV and ICB prior to sample analyses.
6. Was the ICV recovery acceptable?	90 – 110 % or contract/program specific	Yes				If no: reanalyze ICV or recalibrate if necessary.
7. Was the ICB result acceptable?	< LOD or contract/program specific	Yes				If no: reanalyze blank. Instrument must be confirmed free from contamination prior to sample analyses.
8. Were the CCV's and the CCB's analyzed at the required frequency?	1 / 10 samples or contract/program specific	Yes				If no: outliers should be reanalyzed with QC samples anlayzed at the proper frequency.
9. Were the CCV recoveries acceptable?	90 – 110 % or contract/program specific	Yes				If no: reanalyze affected data with acceptable CCV results.
10. Were the CCB results acceptable?	< LOD or program/project specific	Yes				If no: reanalyze affected sample if possible; otherwise sample detects must be qualified with a "B" flag.
11. Was the MB analyzed at the required frequency?	1 / 20 samples or contract/program specific	Yes				If no: affected sample must be reanalyzed including the MB.
12. Were the MB results acceptable?	< LOD or contract/program specific	Yes				If no: reanalyze affected samples with an acceptable MB if possible. If sample result is >20x the result detected in the blank results can be reported without qualificaton. If sample result is <20x the MB result and the MB was not reanalyzed, sample result must be qualified with a "B" flag.

13. Was a LCS run at the required frequency?	1 / 20 samples or contract/program specific	Yes				If no: affected sample must be reanalyzed including the LCS.
14. Was the LCS recovery acceptable?	Within in-house or contract/program specific limits	Yes				If no: affected sample should be reanalyzed with acceeptable LCS recoveries if possible. Detects reported with an LCS failure must be qualified with a "Q" flag. Nondetected analytes reported with a low LCS recovery must also be qualified with a "Q" flag.
15. Was the LCS used before the indicated expiration date?	---	Yes				If no: samples should be reanalyed with non expired standards.
16. Were the MS and MSD (when required) prepared at the required frequency?	1per 20 samples per matrix or contract/program specific	Yes				If no: analyze a MS and MSD (if needed) to be included with the sample data.
17. Were the MS and MSD (when required) recoveries acceptable?	Within In-house or contract/program specific limits	Yes				If no: qualify parent sample results with an "M" flag if recoveries were low. If recoveries were high then qualify any affected detects in the parent sample.
18. Was the RPD between the MS and MSD (when required) acceptable?	Within in house or contract/program specific limits	Yes				If no: qualify the parent sample result with a "Y" flag.
19. Was a sample duplicate prepared at the required frequency?	Contract/program specific or 1 per 20 samples (1 / 10 for SDWA samples)	Yes				If no: analyze one of the sample from the batch as a duplicate.
20. Was the duplicate within precision limits?	Within in-house or contract/program specific limits	Yes				If no: qualify the parent sample result with a "Y" flag.
21. Were all chromatograms checked to ensure accurate peak identification?	---	Yes				If no: review the IC data to ensure proper retention times and peak identification.
22. Are all samples on the job lists accounted for?	---	Yes				If no: include and analzye missing sample with another batch.
23. Were non-matrix related nonconformities (if applicable) documented in the NCR spreadsheet?	---	Yes				If no: Enter nonconformities into the NCR spreadsheet before data review/validation..

WANIONS IC QSM 5.0 Analytical Run
122684 on 02/04/16

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	681798						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCV				0			
		Chloride		CCV				0			
		Sulfate		CCV				0			
	681799						WANIONS IC QSM 5.0				
		Chloride		LCSW				0			
		Nitrate Nitrogen		LCSW				0			
		Sulfate		LCSW				0			
	681800						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		MBW				0			
		Chloride		MBW				0			
		Sulfate		MBW				0			
	681801						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCV				0			
		Chloride		CCV				0			
		Sulfate		CCV				0			
	681802						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCB				0			
		Chloride		CCB				0			
		Sulfate		CCB				0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
122684 on 02/04/16

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
116508	681413		01/14/16	0900		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
116508	681415		01/14/16	1050		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
116508	681417		01/14/16	1230		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
116508	681419		01/14/16	1415		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
116508	681421		01/14/16	1645		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
122684 on 02/04/16

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	681424		01/11/16	1100							GW	4	
		Chloride											
		Nitrate Nitrogen											
		Sulfate											
	681425		01/11/16	1130							GW	4	
		Chloride											
		Nitrate Nitrogen											
		Sulfate											
	681803								WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCV					0			
		Chloride			CCV					0			
		Sulfate			CCV					0			
	681904								WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCB								
		Chloride			CCB								
		Sulfate			CCB								
	681806		01/14/16	0900					ANIONS IC QSM 5.0				
		Nitrate Nitrogen			DUP	681413				0			
		Chloride			DUP	681413				0			
		Sulfate			DUP	681413				0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
122684 on 02/04/16

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	681807		01/14/16	0900					ANIONS IC QSM 5.0				
		Nitrate Nitrogen			MSW	681413				0			
		Chloride			MSW	681413				0			
		Sulfate			MSW	681413				0			
	681808		01/14/16	0900					ANIONS IC QSM 5.0				
		Nitrate Nitrogen			MSDW	681807				0			
		Chloride			MSDW	681807				0			
		Sulfate			MSDW	681807				0			
	681809								WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCV					0			
		Chloride			CCV					0			
		Sulfate			CCV					0			
	681810								WANIONS IC QSM 5.0				
		Sulfate			CCB					0			
		Nitrate Nitrogen			CCB					0			
		Chloride			CCB					0			
116508	681415		01/14/16	1050			BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride		***RERUN***									
		Nitrate Nitrogen		***RERUN***									
		Sulfate		***RERUN***									

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
122684 on 02/04/16

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	681424		01/11/16 1100						GW	4	
		Chloride	***RERUN***								
		Nitrate Nitrogen	***RERUN***								
		Sulfate	***RERUN***								
	681425		01/11/16 1130						GW	4	
		Chloride	***RERUN***								
		Nitrate Nitrogen	***RERUN***								
		Sulfate	***RERUN***								
	681811						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCV				0			
		Chloride		CCV				0			
		Sulfate		CCV				0			
	681812						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCB				0			
		Chloride		CCB				0			
		Sulfate		CCB				0			

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Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

FWC37-01 Data Review Checklist

LIMS RUN # 122677 122684 122688	Method: Anions by Ion Chromatography 300.0/9056	Independent Data Review Checklist			
Analysis Date	Analyst / Data Interpreter	Independent Reviewer	Date of Review	Approved (Yes/No)	Instrument
1/15/2016	JJF	[illegible]	1/20/16	Yes	DX120-System 2

Instructions: Complete one checklist per *analytical sequence*. Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement:	Acceptance	Analyst Review		Independent Review		Comments:
	Criteria	Yes	No	Yes	No	(indicate reference to an attachment if necessary)
1. Were the samples analyzed within hold time?	28 days for Cl, F, SO_4; 14 days for preserved NO_2+NO_3; 48 hours for O.Phos, and unpreserved NO_2 and NO_3		No		✓	If no: Qualify date with an "H" flag.
2. Was the calibration performed using the required number of standards?	Minimum three plus a blank	Yes		✓		If no: reacalibrate instrument minimum of 3 standaard + a blank.
3. Is the standard prep log number noted on the analytical report bench sheet?	---	Yes				If no: document all standards used.
4. Was the correlation coefficient acceptable?	≥ .995	Yes				If no: Reacalibrate instrument
5. Were the ICV and ICB run immediately after the calibration check standard?	---	Yes				If no: Analyze an ICV and ICB prior to sample analyses.
6. Was the ICV recovery acceptable?	90 – 110 % or contract/program specific	Yes				If no: reanalyze ICV or recalibrate if necessary.
7. Was the ICB result acceptable?	< LOD or contract/program specific	Yes				If no: reanalyze blank. Instrument must be confirmed free from contamination prior to sample analyses.
8. Were the CCV's and the CCB's analyzed at the required frequency?	1 / 10 samples or contract/program specific	Yes				If no: outliers should be reanalyzed with QC samples anlayzed at the proper frequency.
9. Were the CCV recoveries acceptable?	90 – 110 % or contract/program specific	Yes				If no: reanalyze affected data with acceptable CCV results.
10. Were the CCB results acceptable?	< LOD or program/project specific	Yes				If no: reanalyze affected sample if possible; otherwise sample detects must be qualified with a "B" flag.
11. Was the MB analyzed at the required frequency?	1 / 20 samples or contract/program specific	Yes				If no: affected sample must be reanalyzed including the MB.
12. Were the MB results acceptable?	< LOD or contract/program specific	Yes				If no: reanalyze affected samples with an acceptable MB if possible. If sample result is >20x the result detected in the blank results can be reported without qualificaton. If sample result is <20x the MB result and the MB was not reanalyzed, sample result must be qualified with a "B" flag.

13. Was a LCS run at the required frequency?	1 / 20 samples or contract/program specific	Yes				If no: affected sample must be reanalyzed including the LCS.
14. Was the LCS recovery acceptable?	Within in-house or contract/program specific limits	Yes				If no: affected sample should be reanalyzed with acceptable LCS recoveries if possible. Detects reported with an LCS failure must be qualified with a "Q" flag. Nondetected analytes reported with a low LCS recovery must also be qualified with a "Q" flag.
15. Was the LCS used before the indicated expiration date?	---	Yes				If no: samples should be reanalyed with non expired standards.
16. Were the MS and MSD (when required) prepared at the required frequency?	1per 20 samples per matrix or contract/program specific	Yes				If no: analyze a MS and MSD (if needed) to be included with the sample data.
17. Were the MS and MSD (when required) recoveries acceptable?	Within In-house or contract/program specific limits	Yes				If no: qualify parent sample results with an "M" flag if recoveries were low. If recoveries were high then qualify any affected detects in the parent sample.
18. Was the RPD between the MS and MSD (when required) acceptable?	Within in house or contract/program specific limits	Yes				If no: qualify the parent sample result with a "Y" flag.
19. Was a sample duplicate prepared at the required frequency?	Contract/program specific or 1 per 20 samples (1 / 10 for SDWA samples)	Yes				If no: analyze one of the sample from the batch as a duplicate.
20. Was the duplicate within precision limits?	Within in-house or contract/program specific limits	Yes				If no: qualify the parent sample result with a "Y" flag.
21. Were all chromatograms checked to ensure accurate peak identification?	---	Yes				If no: review the IC data to ensure proper retention times and peak identification.
22. Are all samples on the job lists accounted for?	---	Yes				If no: include and analzye missing sample with another batch.
23. Were non-matrix related nonconformities (if applicable) documented in the NCR spreadsheet?	---	Yes				If no: Enter nonconformities into the NCR spreadsheet before data review/validation..

WANIONS IC QSM 5.0 Analytical Run
122704 on 1/19/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	681821							WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCV				0			
		Chloride			CCV				0			
		Sulfate			CCV				0			
	681822							WANIONS IC QSM 5.0				
		Chloride			LCSW				0			
		Nitrate Nitrogen			LCSW				0			
		Sulfate			LCSW				0			
	681823							WANIONS IC QSM 5.0				
		Nitrate Nitrogen			MBW				0			
		Chloride			MBW				0			
		Sulfate			MBW				0			
116524	681527		1/15/2016	0925		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
116524	681529		1/15/2016	1110		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
122704 on 1/19/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
116524	681532		1/15/2016	1345			BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride											
		Nitrate Nitrogen											
		Sulfate											
	681824		1/15/2016	1345					ANIONS IC QSM 5.0				
		Nitrate Nitrogen			DUP	681532				0			
		Chloride			DUP	681532				0			
		Sulfate			DUP	681532				0			
	681825		1/15/2016	1345					ANIONS IC QSM 5.0				
		Nitrate Nitrogen			MSW	681532				0			
		Chloride			MSW	681532				0			
		Sulfate			MSW	681532				0			
	681826		1/15/2016	1345					ANIONS IC QSM 5.0				
		Nitrate Nitrogen			MSDW	681825				0			
		Chloride			MSDW	681825				0			
		Sulfate			MSDW	681825				0			
116524	681534		1/15/2016	1640			BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride											
		Nitrate Nitrogen											
		Sulfate											

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
122704 on 1/19/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
116524	681536		1/15/2016	1650			BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride											
		Nitrate Nitrogen											
		Sulfate											
	681827								WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCV					0			
		Chloride			CCV					0			
		Sulfate			CCV					0			
	681828								WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCB					0			
		Chloride			CCB					0			
		Sulfate			CCB					0			
	681825		1/15/2016	1345					ANIONS IC QSM 5.0				
		Nitrate Nitrogen		***RERUN***	MSW	681532				0			
		Chloride		***RERUN***	MSW	681532				0			
		Sulfate		***RERUN***	MSW	681532				0			
	681826		1/15/2016	1345					ANIONS IC QSM 5.0				
		Nitrate Nitrogen		***RERUN***	MSDW	681825				0			
		Chloride		***RERUN***	MSDW	681825				0			
		Sulfate		***RERUN***	MSDW	681825				0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
122704 on 1/19/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	681832						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCV				0			
		Chloride		CCV				0			
		Sulfate		CCV				0			
	681833						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCB				0			
		Chloride		CCB				0			
		Sulfate		CCB				0			

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Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

FWC37-01 Data Review Checklist

LIMS RUN # 122704	Method: Anions by Ion Chromatography 300.0/9056	Independent Data Review Checklist			
Analysis Date	Analyst / Data Interpreter	Independent Reviewer	Date of Review	Approved (Yes/No)	Instrument
1/16/2016	RLD/ JJF	JJF	1/20/16	Yes	DX120-System 2

Instructions: Complete one checklist per *analytical sequence*. Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement:	Acceptance	Analyst Review		Independent Review		Comments:
	Criteria	Yes	No	Yes	No	(indicate reference to an attachment if necessary)
1. Were the samples analyzed within hold time?	28 days for Cl, F, SO_4;14 days for preserved NO_2+NO_3; 48 hours for O.Phos, and unpreserved NO_2 and NO_3	Yes		✓		If no: Qualify date with an "H" flag.
2. Was the calibration performed using the required number of standards?	Minimum three plus a blank	Yes				If no: reacalibrate instrument minimum of 3 standaard + a blank.
3. Is the standard prep log number noted on the analytical report bench sheet?	---	Yes				If no: document all standards used.
4. Was the correlation coefficient acceptable?	≥ .995	Yes				If no: Reacalibrate instrument
5. Were the ICV and ICB run immediately after the calibration check standard?	---	Yes				If no: Analyze an ICV and ICB prior to sample analyses.
6. Was the ICV recovery acceptable?	90 – 110 % or contract/program specific	Yes				If no: reanalyze ICV or recalibrate if necessary.
7. Was the ICB result acceptable?	< LOD or contract/program specific	Yes				If no: reanalyze blank. Instrument must be confirmed free from contamination prior to sample analyses.
8. Were the CCV's and the CCB's analyzed at the required frequency?	1 / 10 samples or contract/program specific	Yes				If no: outliers should be reanalyzed with QC samples anlayzed at the proper frequency.
9. Were the CCV recoveries acceptable?	90 – 110 % or contract/program specific	Yes				If no: reanalyze affected data with acceptable CCV results.
10. Were the CCB results acceptable?	< LOD or program/project specific	Yes				If no: reanalyze affected sample if possible; otherwise sample detects must be qualified with a "B" flag.
11. Was the MB analyzed at the required frequency?	1 / 20 samples or contract/program specific	Yes				If no: affected sample must be reanalyzed including the MB.
12. Were the MB results acceptable?	< LOD or contract/program specific	Yes				If no: reanalyze affected samples with an acceptable MB if possible. If sample result is >20x the result detected in the blank results can be reported without qualificaton. If sample result is <20x the MB result and the MB was not reanalyzed, sample result must be qualified with a "B" flag.

13. Was a LCS run at the required frequency?	1 / 20 samples or contract/program specific	Yes				If no: affected sample must be reanalyzed including the LCS.
14. Was the LCS recovery acceptable?	Within in-house or contract/program specific limits	Yes				If no: affected sample should be reanalyzed with acceeptable LCS recoveries if possible. Detects reported with an LCS failure must be qualified with a "Q" flag. Nondetected analytes reported with a low LCS recovery must also be qualified with a "Q" flag.
15. Was the LCS used before the indicated expiration date?	---	Yes				If no: samples should be reanalyed with non expired standards.
16. Were the MS and MSD (when required) prepared at the required frequency?	1per 20 samples per matrix or contract/program specific	Yes				If no: analyze a MS and MSD (if needed) to be included with the sample data.
17. Were the MS and MSD (when required) recoveries acceptable?	Within In-house or contract/program specific limits	Yes				If no: qualify parent sample results with an "M" flag if recoveries were low. If recoveries were high then qualify any affected detects in the parent sample.
18. Was the RPD between the MS and MSD (when required) acceptable?	Within in house or contract/program specific limits	Yes				If no: qualify the parent sample result with a "Y" flag.
19. Was a sample duplicate prepared at the required frequency?	Contract/program specific or 1 per 20 samples (1 / 10 for SDWA samples)	Yes				If no: analyze one of the sample from the batch as a duplicate.
20. Was the duplicate within precision limits?	Within in-house or contract/program specific limits	Yes				If no: qualify the parent sample result with a "Y" flag.
21. Were all chromatograms checked to ensure accurate peak identification?	---	Yes				If no: review the IC data to ensure proper retention times and peak identification.
22. Are all samples on the job lists aecounted for?	---	Yes				If no: include and analzye missing sample with another batch.
23. Were non-matrix related nonconformities (if applicable) documented in the NCR spreadsheet?	---	Yes				If no: Enter nonconformities into the NCR spreadsheet before data review/validation..

Dionex Run Log - System 2

Start Date	Start Time	End Date	End Time	Analyst	Lims Run #(s)	Calibration ID#	Data File	Spike ID's	Total Cond.	Pressure (Mpa)	Flow (mL/min)	Comments
12/21/15	11:07	12/21/15	23:39	JJF	RR122082 122136	IC0475	122115-2	IC0487 IC0485	19.13	1515	1.02	
12/22/15	8:00	12/22/15	11:05	JJF	RR122136	IC0475	122315-2		19.19	1517	1.02	
12/23/15	9:09	12/23/15	22:20	JJF	122216	IC0475	122415-2	IC0487 IC0485	19.32	1538	1.02	
12/28/15	8:51	12/28/15	20:11	JJF	121572 121573 122283 122278	IC0475	122815-2	IC0487 IC0485	19.35	1532	1.01	
12/29/15	10:40	12/30/15	10:13	JJF	122293 122323	IC0475	122915-2	IC0487 IC0485	19.5	1534	1.01	
12/31/15	8:56	12/31/15	12:51	JJF	122356	IC0475	123015-2	IC0487 IC0485	19.47	1490	1.02	
01/04/16	11:18	01/04/16	19:36	JJF	122387 122394	IC0475	010416-2	IC0487 IC0485	19.51	1562	1.01	
01/05/16	8:38	01/05/16	18:57	JJF	RR122387 122421	IC0475	010516-2	IC0487 IC0485	19.49	1563	1.01	
01/06/16	10:51	01/07/16	01:12	JJF	122461 122463 MDL STUDY	IC0475	010616-2	IC0487 IC0485	19.53	1545	1.01	
01/07/16	7:56	01/07/16	19:41	JJF	122483	IC0475	010716-2	IC0487 IC0485	19.62	1538	1.01	
01/08/16	9:02	01/08/16	16:45	JJF	RR122483 MDL SOIL STUDY	IC0475	010816-2	IC0487 IC0485	19.91	1505	1.01	
01/11/16	10:15	01/11/16	20:41	JJF	122543 122551 MDL CHK	IC0475	011116-2	IC0487 IC0485	19.73	1536	1.01	
01/12/16	8:12	01/12/16	22:25	JJF	RR122543 122594 122595	IC0475	011216-2	IC0487 IC0485	19.87	1539	1.01	
01/12/16	10:32	01/12/16	12:33	JJF		IC0513 NO2	011216-IC0513 NO2		19.87	1539	1.01	
01/13/16	7:34	01/13/16	14:58	JJF	RR122595 122614	IC0475	011316-2	IC0487 IC0485	20.1	1573	1.01	
01/14/16	7:40	01/15/16	01:06	JJF	122641 122652 122661	IC0475	011416-2	IC0487 IC0485	20.27	1506	1.01	
01/15/16	9:23	01/16/16	00:54	JJF	122677 122684 122688	IC0475	011516-2	IC0487 IC0485	19.85	1509	1.01	
01/16/16	11:03	01/16/16	14:48	RLH	122704	IC0475	011616-2	IC0487 IC0485	19.19	1515	1.01	
01/18/16	11:32	01/19/16	02:32	JJF	122739 122740	IC0475	011816-2	IC0528 IC0529	19.67	1558	1.02	
01/19/16	8:23	01/19/16	16:12	JJF	122780	IC0475	011916-2	IC0528 IC0529	19.32	1562	1.01	
01/20/16	11:50	01/20/16	19:14	JJF	122814 122832	IC0475	012016-2	IC0528 IC0529	19.4	1575	1.01	
01/21/16	11:04	01/21/16	15:58	JJF	122852	IC0475 NO2 IC0513	012116-2	IC0528 IC0529	19.4	1625	1.01	
01/22/16	9:43	01/22/16	16:22	JJF	122868 122889	IC0475	012216-2	IC0528 IC0529	19.49	1589	1.02	
01/25/16	11:00	01/25/16	23:18	JJF	122908 122924	IC0475	012516-2	IC0528 IC0529	19.64	1510	1.02	
01/26/16	8:27	01/26/16	21:23	JJF	RR122908 122950 122966 122967	IC0475 NO2 IC0513	012616-2	IC0528 IC0529	18.73	1592	0.99	
01/27/16	9:35	01/27/16	14:00	JJF	122979	IC0475	012716-2	IC0528 IC0529	18.64	1587	1.01	
01/28/16	9:13	01/28/16	15:10	JJF	RR122979 123023	IC0475	012816-2	IC0528 IC0529	18.94	1552	1.02	
02/01/16	14:50	02/01/16	18:57	JJF	123094 123095	IC0475	020116-2	IC0528 IC0529	18.78	1524	1.02	
02/02/16	9:01	02/03/16	08:03	JJF	123105 123093	IC0475	020216-2	IC0528 IC0529	19.59	1621	1.02	
02/03/16	8:35	02/03/16	22:05	JJF	123127	IC0475	020316-2	IC0528 IC0529	18.1	1608	1.02	
02/04/16				JJF		IC0475	020416-2	IC0528 IC0529	18.95	1627	1.02	

LPVO3-02
IC Prep Logbook
Logbook Created: 08/13/2015
NOTEBOOK VIEW: LTN_LPVO3_02_IC_Default, NOTEBOOK: LPVO3_02_IC, PAGE: 56
Page is Unlocked
Page is not Witnessed
Project: Unassigned
Page Title: 012116

Standard Log #:	IC0535	Standard:	IC Mid Level LCS
Analyst:	JJF	Concentrations:	0.70 mg/L F, NO_2, Br, NO_3, $P0_4$, 3.0 mg/L Cl, 5.0 mg/L SO_4
Prep Date:	01/21/2016	Expiration Date (48 hours):	01/23/2016
Prep:	Into a 100 ml volumetric flask pipette 10ml Mixed LCS (7mg/L F, NO_3, PO_4, Br & 50 mg/L SO_4 & 30 mg/L Cl) IC0495 and 10 mL Nitrite LCS (7 mg/L NO_2) IC0496 and dilute to		

Standard Log #:	IC0536	Standard:	IC CCV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	01/21/2016	Expiration Date (1 Month):	02/21/2016
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride IC0395, Phosphate IC0486, Bromide IC0178, and Nitrate IC0403, 15 ml 1000 mg/L Chloride IC0287, and 25 ml 1000 mg/L Sulfate IC0419 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0537	Standard:	IC CCV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - NO_2
Prep Date:	01/21/2016	Expiration Date (1 Month):	02/21/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. IC0396 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0538	Standard:	IC Mid Level CCV
Analyst:	JJF	Concentrations:	0.70 mg/L F, NO_2, Br, NO_3, $P0_4$, 3.0 mg/L Cl, 5.0 mg/L SO_4
Prep Date:	01/21/2016	Expiration Date (48 hours):	02/21/2016
Prep:	Into a 100 ml volumetric flask pipette 10ml Mixed CCV (7mg/L F, NO_3, PO_4, Br & 50 mg/L SO_4 & 30 mg/L Cl) IC0536 and 10 mL Nitrite CCV (7 mg/L NO_2) IC0537 and dilute to		

Standard Log #:	IC0539	Standard/Reagent:	Cl & SO4 Working Std.
Analyst:	JJF	Final Concentration:	100 mg/L
Prep Date:	01/21/2016	Expiration Date:	01/23/2016
Prep:	Into a 25 mL volumetric add 2.5 mL Chloride (IC0287) and 2.5 mL SO4 (IC0419) and dilute to 25 mL with Milli-Q water.		

Standard Log #:	IC0540	Standard/Reagent:	ML MDL STANDARDS
Analyst:	JJF	Final Concentration:	0.30 mg/L
Prep Date:	01/21/2016	Expiration Date:	01/23/2016
Prep:	Into 8 100 mL volumetric flasks pipette 0.30 mL (IC0539) Chloride and Sulfate working standard and bring to volume with Milli-Q water.		

Standard Log #:	IC0541	Standard/Reagent:	Metrohm ML Cailbration Std
Analyst:	JJF	Final Concentration:	100 mg/L Cl & SO4
Prep Date:	01/21/2016	Expiration Date:	01/23/2016
Prep:	Into a 100 mL volumetric pipette 1 mL Chloride Std. (IC0287) and 1 mL Sulfate Std (IC0419) and dilute to 100 mL with Milli-Q water.		

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CT Laboratories, LLC

LPVO3-02
IC Prep Logbook
Logbook Created: 08/13/2015
NOTEBOOK VIEW: LTN_LPVO3_02_IC_Default, NOTEBOOK: LPVO3_02_IC, PAGE: 53
Page is Locked
Author: jfaust on: 19.01.2016 08:33:08
Page is not Witnessed
Project: Unassigned
Page Title: 011816

Standard Log #:	IC0526	Standard:	IC LL o-Phos Working Std.
Analyst:	JJF	Concentrations:	50mg/L Phosphate
Prep Date:	01/18/2016	Expiration Date (48 hours):	01/20/2016
Prep:	Into a 100 ml volumetric flask pipette 5ml Phosphate(1000mg/L) IC0486 and fill to volume with Milli Q H_2O.		

Standard Log #:	IC0527	Standard/Reagent:	LL o-Phos Calibration Std.
Analyst:	JJF	Final Concentration:	0.40 mg/L
Prep Date:	01/18/2016	Expiration Date:	01/20/2016
Prep:	Into a 50 mL volumetric pipette 0.40 mL of (IC0526) LL o-Phos working standard and dilute to 50 mL with Milli-Q water.		

Standard Log #:	IC0528	Standard:	IC Spike Mixed
Analyst:	JJF	Concentrations:	64 mg/L - Br, NO_3, PO_4 256 mg/L - Cl, SO_4
Prep Date:	01/18/2016	Expiration Date (1 Month):	02/18/2016
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Bromide IC0178, Nitrate IC0403, and Phosphate IC0486 and 25.6 mL 1000 mg/L Chloride IC0287 and Sulfate IC0419 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0529	Standard:	IC Spike Nitrite & Fluorid
Analyst:	JJF	Concentrations:	32 mg/L - Fluoride 64 mg/L - Nitrite
Prep Date:	01/18/2016	Expiration Date (1 Month):	02/18/2016
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite IC0396 and 3.2 mL 1000 mg/L Fluoride IC0395 and brought to volume with Milli-Q DI H_20.		

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Standard Log #:	IC0512	Standard:	IC Cal Nitrite WS Dionex
Analyst:	JJF	Concentrations:	50mg/L Nitrite
Prep Date:	01/12/2016	Expiration Date (48 Hours):	01/14/2016
Prep:	Into a 100 mL volumetric flasks pipetted 5.0 mL of Nitrite (1000 mg/L) IC0396 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0513	Standard:	IC Cal Nitrite Dionex
Analyst:	JJF	Concentrations:	N/A
Prep Date:	01/12/2016	Expiration Date (48 Hours):	01/14/2016
Prep:	Into 6 separate 100 mL volumetric flasks pipetted 0, 0.2, 1.0, 2.0, 4.0, 10.0 mL of Nitrite working standard (50 mg/L) IC0512 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0514	Standard:	IC LL o-Phos Working Std.
Analyst:	JJF	Concentrations:	50mg/L Phosphate
Prep Date:	01/12/2016	Expiration Date (48 hours):	01/12/2016
Prep:	Into a 100 ml volumetric flask pipette 5ml Phosphate(1000mg/L) IC0486 and fill to volume with Milli Q H_2O.		

Standard Log #:	IC0515	Standard/Reagent:	IC LLo-Phos Calibration Std.
Analyst:	JJF	Final Concentration:	0.40 mg/L
Prep Date:	01/12/2016	Expiration Date:	01/14/2016
Prep:	Into a 50 mL volumetric pipette 0.40 mL Phosphate working Standard (50 mg/L) IC0514 and dilute to 50 mL with Milli-Q water.		

Standard Log #:	IC0516	Standard/Reagent:	Phosphate Standard Second
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	01/12/2016	Expiration Date:	11/30/2016
Prep:	SPEX CertiPrep 1000 mg/L Phosphate Anion Standard Lot# 3-103PO4P-2Y Catalog # AS-PO4P9-2Y		

Standard Log #:	IC0517	Standard:	IC Low Level LCS-ICV
Analyst:	JJF	Concentrations:	0.1mg/L Phosphate
Prep Date:	01/12/2016	Expiration Date (1 Month):	02/12/2016
Prep:	Into a 100 ml volumetric flask pipette 0.01 ml of Phosphate (1000mg/L) IC0516 and fill to volume with Milli-Q H_2O.		

Standard Log #:	IC0518	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	1/12/2016	Expiration Date (1 Year):	01/12/2017
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0141 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0519	Standard:	IC Low Level o-Phos CC\
Analyst:	JJF	Concentrations:	0.1mg/L Phosphate
Prep Date:	1/12/2016	Expiration Date (1 month):	2/12/2016
Prep:	Into a 200 ml volumetric flask pipette 0.02ml Phosphate(1000mg/L) IC0486 and fill to volume with Milli Q H_2O.		

Standard Log #:	IC0520	Standard:	IC Cal Nitrite Metrohm
Analyst:	JJF	Concentrations:	10.0mg/L Nitrite
Prep Date:	1/12/2016	Expiration Date (48 Hours):	1/14/2016
Prep:	Into a 100 mL volumetric flask pipetted 1.0 mL of Nitrite (1000 mg/L) IC0396 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0521	Standard/Reagent:	LL o-Phos LOQ STD
Analyst:	JJF	Final Concentration:	0.02 mg/L
Prep Date:	01/12/2016	Expiration Date:	01/14/2016
Prep:	Into a 100 mL volumetric pipette 0.04 mL working std (IC0514) @ 50 mg/L and dilute to 100 mL with Milli-Q water.		

Standard Log #:	IC0522	Standard/Reagent:	LL o-Phos LOD STD
Analyst:	JJF	Final Concentration:	0.01 mg/L
Prep Date:	01/12/2016	Expiration Date:	01/14/2016
Prep:	Into a 100 mL volumetric pipette 0.02 mL working std (ICO514) @ 50 mg/L and dilute to 100 mL with Milli-Q water.		

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Standard Log #:	IC0504	Standard:	IC LOD-LOQ2
Analyst:	JJF	Concentrations:	
Prep Date:	01/08/2016	Expiration Date (48 hours):	01/10/2016

Prep:

LOD Check:
Into a 100mL Volumetric flask pipetted the following, then brought to volume with Milli-Q DI water.

Fluoride	0.010	mL	IC0395	Nitrate	0.015	mL	IC0403
Chloride	0.200	mL	IC	Phosphate	0.025	mL	IC0486
Nitrite	0.020	mL	IC0396	Sulfate	0.250	mL	IC
Bromide	0.020	mL	IC0178				

LOQ Check:
Into a 100mL Volumetric flask pipetted the following, then brought to volume with Milli-Q DI water.

Fluoride	0.030	mL	IC0395	Nitrate	0.040	mL	IC0403
Chloride	0.400	mL	IC	Phosphate	0.050	mL	IC0486
Nitrite	0.040	mL	IC0396	Sulfate	0.500	mL	IC
Bromide	0.050	mL	IC0178				

Standard Log #:	IC0505	Standard:	IC Calibration Metrohm
Analyst:	JJF	Concentrations:	10mg/L - NO_2, NO_3, PO_4, Br, F 100mg/L - SO_4, Cl
Prep Date:	01/08/2016	Expiration Date (48 hours):	01/10/2016

Prep:

Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) IC0395, Nitrite (1000mg/L) IC0396, Bromide (1000mg/L) IC0178, Nitrate (1000mg/L) IC0403, Phosphate (1000mg/L) IC0486, and 10 mL each of Sulfate (1000mg/L) IC, and Chloride (1000mg/L) IC.

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Author: jfaust on: 08.01.2016 10:40:12
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Standard Log #:	IC0500	Standard:	IC Calibration Metrohm
Analyst:	JJF	Concentrations:	10mg/L - NO_2, NO_3, PO_4, Br, F 100mg/L - SO_4, Cl
Prep Date:	01/06/2016	Expiration Date (48 hours):	01/08/2016
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) IC0395, Nitrite (1000mg/L) IC0396, Bromide (1000mg/L) IC0178, Nitrate (1000mg/L) IC0403, Phosphate (1000mg/L) IC0486, and 10 mL each of Sulfate (1000mg/L) IC0419, and Chloride (1000mg/L) IC0287.		

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Author: jfaust on: 08.01.2016 10:38:58
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Standard Log #:	IC0495	Standard:	IC LCSW/ICV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	12/31/2015	Expiration Date (1 Month):	1/31/2016
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) IC0391 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0496	Standard:	IC LCSW/ICV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L
Prep Date:	12/31/2015	Expiration Date (1 Month):	1/31/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL 1000 mg/L Nitrite W37105 and brought to volume with Milli-Q DI H_20.		

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Standard Log #:	IC0488	Standard:	IC CCV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	12/21/2015	Expiration Date (1 Month):	1/21/2016
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride IC0395, Phosphate IC0486, Bromide IC0178, and Nitrate IC0403, 15 ml 1000 mg/L Chloride IC0287, and 25 ml 1000 mg/L Sulfate IC0419 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0489	Standard:	IC CCV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - NO_2
Prep Date:	12/21/2015	Expiration Date (1 Month):	1/21/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. IC0396 and brought to volume with Milli-Q DI H_20.		

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Standard Log #:	IC0487	Standard:	IC Spike Mixed
Analyst:	JJF	Concentrations:	64 mg/L - Br, NO_3, PO_4 256 mg/L - Cl, SO_4
Prep Date:	12/17/2015	Expiration Date (1 Month):	1/17/2016
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Bromide IC0178, Nitrate IC0403, and Phosphate IC0486 and 25.6 mL 1000 mg/L Chloride IC0287 and Sulfate IC0419 and brought to volume with Milli-Q DI H_20.		

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Author: JFAUST on: 17.12.2015 09:55:14
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Standard Log #:	IC0484	Standard:	IC Spike Mixed
Analyst:	JJF	Concentrations:	64 mg/L - Br, NO_3, PO_4 256 mg/L - Cl, SO_4
Prep Date:	12/15/2015	Expiration Date (1 Month):	1/15/2016
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Bromide IC0178, Nitrate IC0403, and Phosphate IC0486 and 25.6 mL 1000 mg/L Chloride IC0287 and Sulfate IC0419 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0485	Standard:	IC Spike Nitrite & Fluorid
Analyst:	JJF	Concentrations:	32 mg/L - Fluoride 64 mg/L - Nitrite
Prep Date:	12/15/2015	Expiration Date (1 Month):	1/15/2016
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite IC0396 and 3.2 mL 1000 mg/L Fluoride IC0395 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0486	Standard/Reagent:	IC PHOSPHATE STANDAR
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	12/15/2015	Expiration Date:	12/15/2016
Prep:	AccuSPEC IC Standard Phosphate as Phosphorus 1000 mg/L Lot #S151013001 Cat # 250-220-61x		

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Standard Log #:	IC0474	Standard:	IC ICAL Mixed Std. Dionex
Analyst:	JJF	Concentrations:	50mg/L - NO_2, NO_3, PO_4, Br, F
Prep Date:	12/01/2015	Expiration Date (48 Hours):	12/03/2015
Prep:	Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite IC0396, Fluoride IC0395, Bromide IC0178, Nitrate IC0403, and Phosphate IC0001 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0475	Standard:	IC_Calibration_Dionex_C
Analyst:	JJF	Concentrations:	N/A
Prep Date:	12/01/2015	Expiration Date (48 hours):	12/03/2015

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Mixed Std (50mg/L) IC0474	0	0.2	0.6	1.0	2.0	4.0	10.0	14.0	20.0
Chloride (1000mg/L) IC0287	0	0.05	0.075	0.1	0.5	1.0	2.0	3.0	4.0
Sulfate (1000mg/L) IC0419	0	0.05	0.075	0.1	0.5	1.0	3.0	5.0	7.0

Standard Log #:	IC0476	Standard:	IC Suppressor Regen Metrohm
Analyst:		Concentrations:	0.1 M Sulfuric Acid

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Standard Log #:	IC0467	Standard:	IC CCV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	11/30/2015	Expiration Date (1 Month):	12/22/2015
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride IC0395, Phosphate IC0001, Bromide IC0178, and Nitrate IC0403, 15 ml 1000 mg/L Chloride IC0287, and 25 ml 1000 mg/L Sulfate IC0419 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0468	Standard:	IC CCV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - NO_2
Prep Date:	11/30/2015	Expiration Date (1 Month):	12/30/2015
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. IC0396 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0469	Standard:	IC LCSW/ICV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	11/30/2015	Expiration Date (1 Month):	12/30/2015
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) IC0391 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0470	Standard:	IC LCSW/ICV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L
Prep Date:	11/30/2015	Expiration Date (1 Month):	12/30/2015
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL 1000 mg/L Nitrite W37105 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0471	Standard:	IC Calibration Metrohm
Analyst:	JJF	Concentrations:	10mg/L - NO_2, NO_3, PO_4, Br, F 100mg/L - SO_4, Cl
Prep Date:	11/30/2015	Expiration Date (48 hours):	12/2/2015
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) IC0395, Nitrite (1000mg/L) IC0396, Bromide (1000mg/L) IC0178, Nitrate (1000mg/L) IC0403, Phosphate (1000mg/L) IC0001, and 10 mL each of Sulfate (1000mg/L) IC0419, and Chloride (1000mg/L) IC0287.		

Standard Log #:	IC0472	Reagent:	Dionex IonPac AS14 Colum
Analyst:	JJF	Final Concentration:	
Prep Date:	11/30/2015	Expiration Date:	
Prep:	Thermo Scientific Dionex Ion Pac AS14 Column 4 x250 mm Lot # 014-11-185		

Standard Log #:	IC0473	Reagent:	Dionex Guard Column
Analyst:	JJF	Final Concentration:	
Prep Date:	11/30/2015	Expiration Date:	
Prep:	Thermo Scientific Dionex IonPac AG14 4 x 50 mm Lot# 014-11-086		

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Standard Log #:	IC0458	Standard:	IC Calibration Metrohm
Analyst:	JJF	Concentrations:	10mg/L - NO_2, NO_3, PO_4, Br, F 100mg/L - SO_4, Cl
Prep Date:	11/17/2015	Expiration Date (48 hours):	11/19/2015
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) IC0395, Nitrite (1000mg/L) IC0396, Bromide (1000mg/L) IC0178, Nitrate (1000mg/L) IC0403, Phosphate (1000mg/L) IC0001, and 10 mL each of Sulfate (1000mg/L) IC0419, and Chloride (1000mg/L) IC0287.		

Standard Log #:	IC0459	Standard:	IC LL o-Phos Working Std.
Analyst:	JJF	Concentrations:	50mg/L Phosphate
Prep Date:	11/17/2015	Expiration Date (48 hours):	11/18/2015
Prep:	Into a 100 ml volumetric flask pipette 5ml Phosphate(1000mg/L) IC0001 and fill to volume with Milli Q H_2O.		

Standard Log #:	IC0460	Standard/Reagent:	IC LL o-Phos Std
Analyst:	JJF	Final Concentration:	0.40 mg/L
Prep Date:	11/17/2015	Expiration Date:	11/19/2015
Prep:	Into a 100 mL volumetric add 0.80 mL of (IC0459) and dilute to 100 mL with Milli-Q water.		

Standard Log #:	IC0461	Standard:	IC Low Level o-Phos CC
Analyst:	JJF	Concentrations:	0.1mg/L Phosphate
Prep Date:	11/17/2015	Expiration Date (1 month):	12/17/2015
Prep:	Into a 200 ml volumetric flask pipette 0.02ml Phosphate(1000mg/L) IC0001 and fill to volume with Milli Q H_2O.		

Standard Log #:	IC0462	Standard:	IC Low Level LCS-ICV
Analyst:	JJF	Concentrations:	0.1mg/L Phosphate
Prep Date:	11/17/2015	Expiration Date (1 Month):	12/17/2015
Prep:	Into a 100 ml volumetric flask pipette 0.01 ml of Phosphate (1000mg/L) IC0016 and fill to volume with Milli-Q H_2O.		

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Standard Log #:	IC0454	Standard:	IC Calibration Metrohm
Analyst:	JJF	Concentrations:	10mg/L - NO_2, NO_3, PO_4, Br, F 100mg/L - SO_4, Cl
Prep Date:	11/13/15	Expiration Date (48 hours):	11/15/15
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) IC0395, Nitrite (1000mg/L) IC0396, Bromide (1000mg/L) IC0178, Nitrate (1000mg/L) IC0403, Phosphate (1000mg/L) IC0001, and 10 mL each of Sulfate (1000mg/L) IC0419, and Chloride (1000mg/L) IC0287.		

Standard Log #:	IC0455	Standard:	IC Spike Mixed
Analyst:	JJF	Concentrations:	64 mg/L - Br, NO_3, PO_4 256 mg/L - Cl, SO_4
Prep Date:	11/13/2015	Expiration Date (1 Month):	12/13/2015
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Bromide IC0178, Nitrate IC0403, and Phosphate IC0001 and 25.6 mL 1000 mg/L Chloride IC0287 and Sulfate IC0419 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0456	Standard:	IC Spike Nitrite & Fluoride
Analyst:	JJF	Concentrations:	32 mg/L - Fluoride 64 mg/L - Nitrite
Prep Date:	11/13/2015	Expiration Date (1 Month):	12/13/2015
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite IC0396 and 3.2 mL 1000 mg/L Fluoride IC0395 and brought to volume with Milli-Q DI H_20.		

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Standard Log #:	IC0452	Standard:	IC Cal Nitrite Metrohm
Analyst:	JJF	Concentrations:	10.0mg/L Nitrite
Prep Date:	11/10/2015	Expiration Date (48 Hours):	11/13/2015
Prep:	Into a 100 mL volumetric flask pipetted 1.0 mL of Nitrite (1000 mg/L) IC0396 and brought to volume with Milli-Q DI H_20.		

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Author: jfaust on: 11.11.2015 13:33:07
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Project: Unassigned
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Standard Log #:	IC0450	Standard:	IC CCV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	11/06/2015	Expiration Date (1 Month):	12/06/2015
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride IC0395, Phosphate IC0001, Bromide IC0178, and Nitrate IC0403, 15 ml 1000 mg/L Chloride IC0287, and 25 ml 1000 mg/L Sulfate IC0419 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0451	Standard:	IC CCV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - NO_2
Prep Date:	11/06/2015	Expiration Date (1 Month):	12/06/2015
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. IC0396 and brought to volume with Milli-Q DI H_20.		

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Author: JFAUST on: 06.11.2015 10:22:52
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Standard Log #:	IC0445	Reagent:	Metrohm Column
Analyst:	JJF	Final Concentration:	
Prep Date:	11/04/2015	Expiration Date:	
Prep:	Metrosep A Supp 5 150/4 Column #7402666		

Standard Log #:	IC0446	Standard:	IC Calibration Metrohm
Analyst:	JJF	Concentrations:	10mg/L - NO_2, NO_3, PO_4, Br, F 100mg/L - SO_4, Cl
Prep Date:	11/04/2015	Expiration Date (48 hours):	11/06/2015
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) IC0395, Nitrite (1000mg/L) IC0396, Bromide (1000mg/L) IC0178, Nitrate (1000mg/L) IC0403, Phosphate (1000mg/L) IC0001, and 10 mL each of Sulfate (1000mg/L) IC0419, and Chloride (1000mg/L) IC0287.		

Standard Log #:	IC0449	Standard:	IC LCSW/ICV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L
Prep Date:	11/04/2015	Expiration Date (1 Month):	12/04/2015
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL 1000 mg/L Nitrite W37105 and brought to volume with Milli-Q DI H_20.		

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Author: JFAUST on: 06.11.2015 10:22:39
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Standard Log #:	IC0442	Standard:	IC ICAL Mixed Std. Dionex
Analyst:	JJF	Concentrations:	50mg/L - NO_2, NO_3, PO_4, Br, F
Prep Date:	11/02/2015	Expiration Date (48 Hours):	11/04/2015
Prep:	Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite IC0396, Fluoride IC0395, Bromide IC0178, Nitrate IC0403, and Phosphate IC0001 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0443	Standard:	IC_Calibration_Dionex_D
Analyst:	JJF	Concentrations:	N/A
Prep Date:	11/02/2015	Expiration Date (48 hours):	11/04/2015

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Mixed Std (50mg/L) IC0422	0	0.2	1.0	2.0	4.0	10.0	14.0	20.0	
Chloride (1000mg/L) IC0287	0	0.05	0.1	0.5	1.0	2.0	3.0	3.5	4.0
Sulfate (1000mg/L) IC0419	0	0.05	0.1	0.5	1.0	3.0	5.0	6.0	7.0

Standard Log #:	IC0444	Standard:	IC Calibration Metrohm
Analyst:	JJF	Concentrations:	10mg/L - NO_2, NO_3, PO_4, Br, F 100mg/L - SO_4, Cl
Prep Date:	11/02/2015	Expiration Date (48 hours):	11/04/2015
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) IC0395, Nitrite (1000mg/L) IC0396, Bromide (1000mg/L) IC0178, Nitrate (1000mg/L) IC0403, Phosphate (1000mg/L) IC0001, and 10 mL each of Sulfate (1000mg/L) IC0419, and Chloride (1000mg/L) IC0287.		

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Author: jfaust on: 02.11.2015 14:11:25
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Standard Log #:	IC0436	Standard:	IC LCSW/ICV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	10/27/2015	Expiration Date (1 Month):	11/27/2015
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) IC0391 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0434	Standard:	IC Calibration - Methrohm - C
Analyst:	JJF	Concentrations:	N/A
Prep Date:	10/27/2015	Expiration Date (48 hours):	10/29/2015

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8
Working Std 20mg/L (F, NO_2, Br, NO_3, & o-P) 200mg/L (Cl & SO_4) IC0435	0	0.50	1.25	2.50	5.0	10.0	25.0	50.0

Standard Log #:	IC0435	Standard:	IC Calibration Metrohm B
Analyst:	JJF	Concentrations:	20mg/L - NO_2, NO_3, PO_4, Br, F 200mg/L - SO_4, Cl
Prep Date:	10/27/2015	Expiration Date (48 hours):	10/29/2015

Prep:

Into a 100 mL volumetric flask, pipetted 2.0 mL each of Fluoride (1000mg/L) IC0395, Nitrite (1000mg/L) IC0396, Bromide (1000mg/L) IC0178, Nitrate (1000mg/L) IC0403, Phosphate (1000mg/L) IC0001, and 20 mL each of Sulfate (1000mg/L) IC0419, and Chloride (1000mg/L) IC0287.

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Standard Log #:	IC0420	Standard/Reagent:	MID LEVEL CCV
Analyst:	JJF	Final Concentration:	3 mg/L Cl & 5 mg/L SO4
Prep Date:	10/16/15	Expiration Date:	11/16/2015
Prep:	Into a 100 mL volumetric add 10 ml IC0417 and 10 ml IC0418 and dilute to 100 mL with MilliQ water.		

Standard Log #:	IC0421	Standard/Reagent:	MID LEVEL LCS
Analyst:	JJF	Final Concentration:	3 mg/L & 5 mg/L
Prep Date:	10/16/15	Expiration Date:	11/16/2015
Prep:	Into a 100 mL volumetric add 10 mL IC0409 and 10 ml IC0410 and dilute to 100 mL with MilliQ water.		

Standard Log #:	IC0422	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	10/16/15	Expiration Date (1 Year):	10/16/16
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0141 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0423	Standard/Reagent:	Cl & SO4
Analyst:	JJF	Final Concentration:	100 mg/L
Prep Date:	10/16/2015	Expiration Date:	10/18/2015
Prep:	Into a 100 mL volumetric add 10 mL Chloride IC0287 and 10 mL Sulfate IC0419 and dilute to 100 mL with Milli Q water.		

Standard Log #:	IC0424	Standard:IC_CAL_ML_Met_B
Analyst:	JJF	Concentrations: n/a
Prep Date:	10/16/2015	Expiration Date (48 hours): 10/18/2015

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Working Std 10mg/L (F, NO2, Br, NO3, & o-P) 100mg/L (Cl & SO4) IC0423	0	0.1	0.25	0.50	1.0	2.0	5.0	7.5	10.0

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Standard Log #:	IC0417	Standard:	IC CCV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	10/15/2015	Expiration Date (1 Month):	11/15/2015
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride 0395, Phosphate IC0001, Bromide IC0178, and Nitrate IC0403, 15 ml 1000 mg/L Chloride IC0287, and 25 ml 1000 mg/L Sulfate IC and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0418	Standard:	IC CCV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - NO_2
Prep Date:	10/15/2015	Expiration Date (1 Month):	11/15/2015
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. IC0396 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0419	Standard/Reagent:	SULFATE STANDARD
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	10/15/2015	Expiration Date:	10/15/2016
Prep:	AccuSPEC Sulfate Standard for Ion Chromatography Lot # S150115013 Catalog #250-220-70x		

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Standard Log #:	IC0414	Standard:	IC Spike Mixed
Analyst:	JJF	Concentrations:	64 mg/L - Br, NO_3, PO_4 256 mg/L - Cl, SO_4
Prep Date:	10/12/2015	Expiration Date (1 Month):	11/12/2015
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Bromide IC0178, Nitrate IC0403, and Phosphate IC0001 and 25.6 mL 1000 mg/L Chloride IC and Sulfate IC and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0415	Standard:	IC Spike Nitrite & Fluoride
Analyst:	JJF	Concentrations:	32 mg/L - Fluoride 64 mg/L - Nitrite
Prep Date:	10/12/2015	Expiration Date (1 Month):	11/12/2015
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite IC0396 and 3.2 mL 1000 mg/L Fluoride IC0395 and brought to volume with Milli-Q DI H_20.		

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Standard Log #:	IC0409	Standard:	IC LCSW/ICV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	10/05/2015	Expiration Date (1 Month):	11/05/2016
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) IC0391 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0410	Standard:	IC LCSW/ICV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L
Prep Date:	10/05/2015	Expiration Date (1 Month):	11/05/2015
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL 1000 mg/L Nitrite W37105 and brought to volume with Milli-Q DI H_20.		

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Standard Log #:	IC0401	Standard:	IC CCV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	09/22/2015	Expiration Date (1 Month):	10/22/2015
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride IC0395, Phosphate IC0001, Bromide IC0178, and Nitrate IC, 15 ml 1000 mg/L Chloride IC0287, and 25 ml 1000 mg/L Sulfate IC0186 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0402	Standard:	IC CCV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - NO_2
Prep Date:	09/22/2015	Expiration Date (1 Month):	10/22/2015
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. IC0396 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0403	Standard/Reagent:	NO3 STANDARD
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	09/22/2015	Expiration Date:	9/22/2016
Prep:	Accu SPEC Nitrate Standard for Ion Chromatography Cat #250-220-521 Lot # S150804004		

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Standard Log #:	IC0395	Standard/Reagent:	Fluoride Std
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	09/09/2015	Expiration Date:	09/09/2016
Prep:	AccuSPEC IC Standard @ 1000 ug/ml Lot # S150818016 Catalog # 250-220-40x		

Standard Log #:	IC0396	Standard/Reagent:	Nitrite Std
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	09/09/2015	Expiration Date:	09/09/2016
Prep:	AccuSPEC IC Standard @ 1000 ug/ml Lot # S150410003 Catalog # 250-220-55x		

Standard Log #:	IC0397	Standard:	IC Spike Mixed
Analyst:	JJF	Concentrations:	64 mg/L - Br, NO_3, PO_4 256 mg/L - Cl, SO_4
Prep Date:	09/09/2015	Expiration Date (1 Month):	10/09/2015
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Bromide IC0178, Nitrate W35940, and Phosphate IC0001 and 25.6 mL 1000 mg/L Chloride IC0287 and Sulfate IC0186 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0398	Standard:	IC Spike Nitrite & Fluorid
Analyst:	JJF	Concentrations:	32 mg/L - Fluoride 64 mg/L - Nitrite
Prep Date:	09/09/2015	Expiration Date (1 Month):	10/09/2015
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite IC0396 and 3.2 mL 1000 mg/L Fluoride IC0395 and brought to volume with Milli-Q DI H_20.		

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Standard Log #:	IC0394	Standard:	IC Calibration Metrohm
Analyst:	JJF	Concentrations:	10mg/L - NO_2, NO_3, PO_4, Br, F 100mg/L - SO_4, Cl
Prep Date:	09/03/2015	Expiration Date (48 hours):	09/05/2015
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) W35388, Nitrite (1000mg/L) W35415, Bromide (1000mg/L) IC0178, Nitrate (1000mg/L) W35940, Phosphate (1000mg/L) IC0001, and 10 mL each of Sulfate (1000mg/L) IC0186, and Chloride (1000mg/L) IC0287.		

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Author: JFAUST on: 03.09.2015 15:36:31
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Standard Log #:	IC0388	Standard:	IC Suppressor Regen Metrohm
Analyst:	JJF	Concentrations:	0.1 M Sulfuric Acid
Prep Date:	08/31/2015	Expiration Date (6 months):	03/02/2016
Prep:	Into a 1L volumetric flask, pipetted 5.6mL of Sulfuric Acid W37170 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0389	Standard:	IC LCSW/ICV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	08/31/2015	Expiration Date (1 Month):	10/1/2016
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) IC0391 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0390	Standard:	IC LCSW/ICV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L
Prep Date:	08/31/2015	Expiration Date (1 Month):	10/01/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL 1000 mg/L Nitrite W37105 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0391	Standard/Reagent:	Custom Ion Standard
Analyst:	JJF	Final Concentration:	1250 mg/L SO4, 750mg/L C
Prep Date:	08/31/2015	Expiration Date:	08/30/2016
Prep:	Cat# VCTI-3-500 Lot# 7-60-JKS		

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Author: JFAUST on: 31.08.2015 09:29:32
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Standard Log #:	0381	Standard:	IC ICAL Mixed Std. Dionex
Analyst:	JJF	Concentrations:	50mg/L - NO_2, NO_3, PO_4, Br, F
Prep Date:	08/27/2015	Expiration Date (48 Hours):	08/29/2015
Prep:	Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite W35415, Fluoride W35388, Bromide IC0178, Nitrate W35940, and Phosphate IC0001 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0382	Standard:	IC_Calibration_Dionex_E
Analyst:	JJF	Concentrations:	N/A
Prep Date:	08/27/2015	Expiration Date (48 hours):	08/29/2015

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Mixed Std (50mg/L) IC0381	0	0.2	0.5	1.0	2.0	4.0	10.0	14.0	20.0
Chloride (1000mg/L) IC0287	0	0.05	0.075	0.1	0.5	1.0	2.0	3.0	3.5
Sulfate (1000mg/L) IC0186	0	0.05	0.075	0.1	0.5	1.0	3.0	5.0	6.0

Standard Log #:	IC0383	Standard:	IC Low Level o-Phos CCV
Analyst:	JJF	Concentrations:	0.1mg/L Phosphate
Prep Date:	08/27/2015	Expiration Date (1 month):	09/27/2015
Prep:	Into a 200 ml volumetric flask pipette 0.02ml Phosphate(1000mg/L) IC0001 and fill to volume with Milli Q H_2O.		

Standard Log #:	IC0384	Standard:	IC Low Level LCS-ICV
Analyst:	JJF	Concentrations:	0.1mg/L Phosphate
Prep Date:	08/27/2015	Expiration Date (1 Month):	09/27/2015
Prep:	Into a 100 ml volumetric flask pipette 0.01 ml of Phosphate (1000mg/L) IC0016 and fill to volume with Milli-Q H_2O.		

Standard Log #:	IC0386	Standard:	IC CCV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	08/27/2015	Expiration Date (1 Month):	09/27/2015
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride W35388, Phosphate IC0001, Bromide IC0178, and Nitrate w35940, 15 ml 1000 mg/L Chloride IC0287, and 25 ml 1000 mg/L Sulfate IC0186 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0387	Standard:	IC CCV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - NO_2
Prep Date:	08/27/2015	Expiration Date (1 Month):	09/22/2015
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. W35415 and brought to volume with Milli-Q DI H_20.		

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Standard Log #:	IC0380	Standard:	IC_Calibration_Dionex_E
Analyst:	JJF	Concentrations:	N/A
Prep Date:	08/26/2015	Expiration Date (48 hours):	08/27/2015

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Mixed Std (50mg/L) IC0377	0	0.2	0.5	1.0	2.0	4.0	10.0	14.0	20.0
Chloride (1000mg/L) IC0286	0	0.05	0.075	0.1	0.5	1.0	2.0	3.0	3.5
Sulfate (1000mg/L) IC0187	0	0.05	0.075	0.1	0.5	1.0	3.0	5.0	6.0

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Standard Log #:	IC0377	Standard:	IC ICAL Mixed Std. Dionex
Analyst:	JJF	Concentrations:	50mg/L - NO_2, NO_3, PO_4, Br, F
Prep Date:	08/25/2015	Expiration Date (48 Hours):	08/27/2015
Prep:	Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite W35415, Fluoride W35388, Bromide IC0178, Nitrate W35940, and Phosphate IC0001 and brought to volume with Milli-Q DI H_20.		

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Author: jfaust on: 11.08.2015 09:21:28
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Standard Log #:	IC0322	Standard:	IC CCV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	08/10/2015	Expiration Date (1 Month):	09/10/2015
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride W35388, Phosphate IC0001, Bromide IC0178, and Nitrate W35940, 15 ml 1000 mg/L Chloride IC0287, and 25 ml 1000 mg/L Sulfate IC0186 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0323	Standard:	IC CCV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - NO_2
Prep Date:	08/10/2015	Expiration Date (1 Month):	09/10/2015
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. W35415 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0324	Standard/Reagent:	IC MIDLEVEL CCV MIXED
Analyst:	JJF	Final Concentration:	3.5 mg/L Cl and 5 mg/L SO4
Prep Date:	08/10/2015	Expiration Date:	09/10/2015
Prep:	Into 100 mL volumetric add 10 mL CCV mixed IC0322 and 10 mL CCV NO2 IC0323 and dilute to 100 mL with Milli-Q water.		

Standard Log #:	IC0325	Standard:	IC Spike Mixed
Analyst:	JJF	Concentrations:	64 mg/L - Br, NO_3, PO_4 256 mg/L - Cl, SO_4
Prep Date:	08/10/2015	Expiration Date (1 Month):	09/10/2015
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Bromide IC0178, Nitrate W35940, and Phosphate IC0001 and 25.6 mL 1000 mg/L Chloride IC0287 and Sulfate IC0186 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0326	Standard:	IC Spike Nitrite & Fluorid
Analyst:	JJF	Concentrations:	32 mg/L - Fluoride 64 mg/L - Nitrite
Prep Date:	08/10/2015	Expiration Date (1 Month):	09/10/2015
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite W35415 and 3.2 mL 1000 mg/L Fluoride W35388 and brought to volume with Milli-Q DI H_20.		

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Author: jfaust on: 31.07.2015 09:36:40
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Standard Log #:	IC0313	Standard:	IC LL o-Phos Working Std.
Analyst:	JJF	Concentrations:	50mg/L Phosphate
Prep Date:	07/29/2015	Expiration Date (48 hours):	07/31/2015
Prep:	Into a 100 ml volumetric flask pipette 5ml Phosphate(1000mg/L) IC0001 and fill to volume with Milli Q H_2O.		

Standard Log #:	IC0314	Standard:	IC LL Phosphate Cal
Analyst:	JJF	Concentrations:	NA
Prep Date:	07/29/2015	Expiration Date (48 hours):	07/31/2015
Prep:	Into 8 separate 100 ml volumetric flasks pipette 0, 0.01, 0.02, 0.04, 0.06, 0.1, 0.2, and 0.4ml LL Ophos ICal Working (50mg/L) IC0313 and fill to volume with Milli-Q H_2O.		

Standard Log #:	IC0315	Standard:	IC LCSW/ICV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	07/29/2015	Expiration Date (1 Month):	08/29/2015
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) IC and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0316	Standard:	IC LCSW/ICV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L
Prep Date:	07/29/2015	Expiration Date (1 Month):	08/29/2015
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL 1000 mg/L Nitrite IC and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0317	Standard:	IC Low Level Spike
Analyst:	JJF	Concentrations:	30 mg/L
Prep Date:	07/29/2015	Expiration Date (1 Month):	08/29/2015
Prep:	Into a 100 ml volumetric flask pipette 3.0 ml of Phosphate (1000mg/L) IC0001 and fill to volume with Milli-Q H_2O.		

Standard Log #:	IC0318	Standard/Reagent:	Mid Level LCS
Analyst:	JJF	Final Concentration:	3 mg/L Cl and 5 mg/L SO4
Prep Date:	07/29/2015	Expiration Date:	08/29/2015
Prep:	Into a 100 mL volumetric pipet 10 mL LCS mixed IC0315 and 10 mL LCS NO2 IC0316 and dilute to 100 mL with Milli-Q water		

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Standard Log #:	IC0310	Standard:	IC LL o-Phos Working Std.
Analyst:	JJF	Concentrations:	50mg/L Phosphate
Prep Date:	07/24/2015	Expiration Date (48 hours):	07/26/2015
Prep:	Into a 100 ml volumetric flask pipette 5ml Phosphate(1000mg/L) IC0001 and fill to volume with Milli Q H_2O.		

Standard Log #:	IC0311	Standard:	IC LL Phosphate Cal
Analyst:	JJF	Concentrations:	NA
Prep Date:	07/24/2015	Expiration Date (48 hours):	07/26/2015
Prep:	Into 8 separate 100 ml volumetric flasks pipette 0, 0.01, 0.02, 0.04, 0.06, 0.1, 0.2, and 0.4ml LL Ophos ICal Working (50mg/L) IC0310 and fill to volume with Milli-Q H_2O.		

Standard Log #:	IC0312	Standard/Reagent:	IC Chlorate Standard
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	07/24/2015	Expiration Date:	07/24/2016
Prep:	Accu SPEC Chlorate Standard @ 990 or - 10 mg/L Lot # S141009020 Catalog # 250-220-355		

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Author: JFAUST on: 24.07.2015 08:08:57
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Standard Log #:	IC0304	Standard/Reagent:	LL OPhos Calibration
Analyst:	JJF	Final Concentration:	
Prep Date:	07/23/2015	Expiration Date:	07/25/2015
Prep:	Into 9 volumetric flasks add 0, 0.01, 0.02, 0.03, 0.04, 0.06, 0.10, 0.20, 0.40 working standard IC0297 and dilute to volume with Milli-Q water.		

Standard Log #:	IC0305	Standard/Reagent:	LL OPhos LOQ CHK
Analyst:	JJF	Final Concentration:	0.02 mg/L
Prep Date:	07/23/2015	Expiration Date:	07/25/2015
Prep:	Into a 50 mL volumetric add 10 mL IC0274 and dilute to 50 mL with Milli-Q water.		

Standard Log #:	IC0306	Standard/Reagent:	LL OPhos LOD CHK
Analyst:	JJF	Final Concentration:	0.01 mg/L
Prep Date:	07/23/2015	Expiration Date:	07/25/2015
Prep:	into A 50 mL volumetric add 25 mL IC0305 and dilute to 50 mL with Milli-Q water.		

Standard Log #:	IC0307	Standard:	IC Low Level o-Phos CC
Analyst:	JJF	Concentrations:	0.1mg/L Phosphate
Prep Date:	07/23/2015	Expiration Date (1 month):	08/23/2015
Prep:	Into a 200 ml volumetric flask pipette 0.02ml Phosphate(1000mg/L) IC0001 and fill to volume with Milli Q H_2O.		

Standard Log #:	IC0308	Standard:	IC LL o-Phos Working Std.
Analyst:	JJF	Concentrations:	50mg/L Phosphate
Prep Date:	07/23/2015	Expiration Date (48 hours):	07/25/2015
Prep:	Into a 100 ml volumetric flask pipette 5ml Phosphate(1000mg/L) IC0016 and fill to volume with Milli Q H_2O.		

Standard Log #:	IC0309	Standard/Reagent:	IC LL o-Phos LCS
Analyst:	JJF	Final Concentration:	0.10 mg/L
Prep Date:	07/23/2015	Expiration Date:	08/23/2015
Prep:	Into a 100 mL volumetric add 0.20 ml IC0308 LL working std and dilute to 100 mL with Milli-Q water.		

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Author: JFAUST on: 24.07.2015 08:08:44
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Standard Log #:	IC0302	Standard/Reagent:	LL OPHOS CALIBRATION
Analyst:	JJF	Final Concentration:	
Prep Date:	07/22/2015	Expiration Date:	07/24/2015
Prep:	Into 7 volumetric flasks pipet 0.02, 0.03, 0.04, 0.06, 0.10, 0.20 and 0.40 working standard IC0297 and dilute to volume with Milli-Q water.		

Standard Log #:	IC0303	Standard/Reagent:	Metrohm A Supp 5 Column
Analyst:	JJF	Final Concentration:	
Prep Date:	07/22/2015	Expiration Date:	
Prep:	Metrosep A Supp 5 150/4.0 150 mml x 4.0 mmID Catalog # 6.1006.520 column lot # 7408572		

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Standard Log #:	IC0297	Standard:	IC LL o-Phos Working Std.
Analyst:	JJF	Concentrations:	50mg/L Phosphate
Prep Date:	07/21/2015	Expiration Date (48 hours):	07/23/2015
Prep:	Into a 100 ml volumetric flask pipette 5ml Phosphate(1000mg/L) IC0001 and fill to volume with Milli Q H_2O.		

Standard Log #:	IC0298	Standard:	IC LL Phosphate Cal
Analyst:	JJF	Concentrations:	NA
Prep Date:	07/21/2015	Expiration Date (48 hours):	07/23/2015
Prep:	Into 8 separate 100 ml volumetric flasks pipette 0, 0.01, 0.02, 0.04, 0.06, 0.1, 0.2, and 0.4ml LL Ophos ICal Working (50mg/L) IC0297 and fill to volume with Milli-Q H_2O.		

Standard Log #:	IC0299	Standard:	IC Eluent Dionex
Analyst:	JJF	Concentrations:	3.5 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	07/21/2015	Expiration Date (1 Year):	07/21/2016
Prep:	Into a 10L carboy, pipetted 20mL of Dionex eluent concentrate W35344 and brought to volume with Milli-Q DI H_20.		

Standard ID#:	IC0300	Vendor:	SPEX CertiPrep
Analyst:	JJF	Chemical:	Chlorite Anion Standard 1000 ug/mL
Date Received:	07/21/2015	Lot #:	3-114CLO2-2Y
Expiration Date (if any):	1/30/2016	Catalog #:	AS-CLO29-2Y

Standard Log #:	IC0301	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	07/21/2015	Expiration Date (1 Year):	07/21/2016
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0141 and brought to volume with Milli-Q Di water.		

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Standard Log #:	IC0291	Standard/Reagent:	LL O PHOS LOD CHECK S
Analyst:	JJF	Final Concentration:	0.02 mg/L
Prep Date:	07/15/2015	Expiration Date:	07/17/2015
Prep:	Into a 50 ml volumetric add 10 mL of ICV/LCS standard IC0274 and dilute to 50 mL with Milli-Q water.		

Standard Log #:	IC0292	Standard/Reagent:	MID LEVEL CCV
Analyst:	JJF	Final Concentration:	3 mg/L Cl & 5 mg/L SO4
Prep Date:	07/15/2015	Expiration Date:	08/15/2015
Prep:	Into a 100 mL volumetric add 10 mL CCV IC0285 and 10 mL CCV IC0286 and bring to volume with Milli-Q water.		

Standard Log #:	IC0293	Standard/Reagent:	MID LEVEL LCS
Analyst:	JJF	Final Concentration:	3 mg/L Cl & 5 mg/L SO4
Prep Date:	07/15/2015	Expiration Date:	08/15/2015
Prep:	Into a 100 mL volumetric add 10 mL LCS IC0276 & 10 mL LCS IC0277 and dilute to 100 mL with Milli-Q water.		

Standard Log #:	IC0294	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	07/15/2015	Expiration Date (1 Year):	07/15/2016

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Standard Log #:	IC0290	Standard:	IC LOD-LOQ2
Analyst:	JJF	Concentrations:	
Prep Date:	07-14-2015	Expiration Date (48 hours):	07-16-2015

Prep:

LOD Check:
Into a 100mL Volumetric flask pipetted the following, then brought to volume with Milli-Q DI water.

Fluoride	0.010	mL	W35388	Nitrate	0.015	mL	W35940
Chloride	0.200	mL	IC0287	Phosphate	0.025	mL	IC0001
Nitrite	0.020	mL	W35415	Sulfate	0.250	mL	IC0186
Bromide	0.020	mL	IC0178				

LOQ Check:
Into a 100mL Volumetric flask pipetted the following, then brought to volume with Milli-Q DI water.

Fluoride	0.030	mL	W35388	Nitrate	0.040	mL	W35940
Chloride	0.400	mL	IC0287	Phosphate	0.050	mL	IC0001
Nitrite	0.040	mL	W35415	Sulfate	0.500	mL	IC0186
Bromide	0.050	mL	IC0178				

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Author: JFAUST on: 10.07.2015 14:23:36
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Standard Log #:	IC0283	Standard:	IC Spike Mixed
Analyst:	JJF	Concentrations:	64 mg/L - Br, NO_3, PO_4 256 mg/L - Cl, SO_4
Prep Date:	07/09/2015	Expiration Date (1 Month):	08/09/2015
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Bromide IC0178, Nitrate W35940, and Phosphate IC0001 and 25.6 mL 1000 mg/L Chloride IC0287 and Sulfate IC0186 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0284	Standard:	IC Spike Nitrite & Fluorid
Analyst:	JJF	Concentrations:	32 mg/L - Fluoride 64 mg/L - Nitrite
Prep Date:	07/09/2015	Expiration Date (1 Month):	08/09/2015
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite W35415 and 3.2 mL 1000 mg/L Fluoride W35388 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0285	Standard:	IC CCV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	07/09/2015	Expiration Date (1 Month):	08/09/2015
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride W35388, Phosphate IC0001, Bromide IC0178, and Nitrate W35940, 15 ml 1000 mg/L Chloride IC0287, and 25 ml 1000 mg/L Sulfate IC0186 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0286	Standard:	IC CCV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - NO_2
Prep Date:	07/09/2015	Expiration Date (1 Month):	08/09/2015
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. W35415 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0287	Standard/Reagent:	ANIONS CHLORIDE STD
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	07/09/2015	Expiration Date:	07/09/2016
Prep:	ACCU SPEC Chloride Standard Lot #S141030011 Catalog # 250-220-371		

Standard Log #:	IC0288	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	07/09/2015	Expiration Date (1 Year):	07/09/2016
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0141 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0289	Standard:	IC Eluent Dionex
Analyst:	JJF	Concentrations:	3.5 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	07/09/2015	Expiration Date (1 Year):	07/09/2016
Prep:	Into a 10L carboy, pipetted 20mL of Dionex eluent concentrate W35344 and brought to volume with Milli-Q DI H_20.		

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Author: JFAUST on: 09.07.2015 09:32:55
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Standard Log #:	IC0282	Standard:	IC_Calibration_Dionex_D
Analyst:	JJF	Concentrations:	N/A
Prep Date:	07/07/2015	Expiration Date (48 hours):	07/09/2015

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Mixed Std (50mg/L) IC0280	0	0.2	1.0	2.0	4.0	10.0	14.0	20.0	
Chloride (1000mg/L) IC0057	0	0.05	0.1	0.5	1.0	2.0	3.0	3.5	4.0
Sulfate (1000mg/L) IC0186	0	0.05	0.1	0.5	1.0	3.0	5.0	6.0	7.0

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Standard Log #:	IC0280	Standard:	IC ICAL Mixed Std. Dionex
Analyst:	JJF	Concentrations:	50mg/L - NO_2, NO_3, PO_4, Br, F
Prep Date:	07/06/2015	Expiration Date (48 Hours):	07/08/3015
Prep:	Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite W35415, Fluoride W35388, Bromide IC0178, Nitrate W35940, and Phosphate IC0001 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0281	Standard:	IC_Calibration_Dionex_B
Analyst:	JJF	Concentrations:	N/A
Prep Date:	07/06/2015	Expiration Date (48 hours):	07/08/2015

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Mixed Std (50mg/L) IC0280	0	0.2	0.6	1.0	2.0	4.0	10.0	14.0	28.0 20
Chloride (1000mg/L) IC0057	0	0.05	0.075	0.1	0.5	1.0	2.0	3.0	4.0
Sulfate (1000mg/L) IC0186	0	0.05	0.075	0.1	0.5	1.0	3.0	5.0	7.0

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Author: JFAUST on: 01.07.2015 08:58:18
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Standard Log #:	IC0276	Standard:	IC LCSW/ICV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	06/29/2015	Expiration Date (1 Month):	07/29/2015
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) W35338 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0277	Standard:	IC LCSW/ICV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L
Prep Date:	06/29/2015	Expiration Date (1 Month):	07/29/2015
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL 1000 mg/L Nitrite W37105 and brought to volume with Milli-Q DI H_20.		

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Author: jfaust on: 23.06.2015 14:12:42
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Standard Log #:	IC0269	Standard:	IC CCV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	06/19/2015	Expiration Date (1 Month):	07/19/2015
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride W35388, Phosphate IC0001, Bromide IC0178, and Nitrate W35940, 15 ml 1000 mg/L Chloride IC0057, and 25 ml 1000 mg/L Sulfate IC0186 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0270	Standard:	IC CCV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - NO_2
Prep Date:	06/19/2015	Expiration Date (1 Month):	07/19/2015
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. W35415 and brought to volume with Milli-Q DI H_20.		

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Standard Log #:	IC0259	Standard/Reagent:	MID LEVEL CCV
Analyst:	JJF	Final Concentration:	3 mg/L Cl and 5 mg/L SO4
Prep Date:	06/08/2015	Expiration Date:	07/08/2015
Prep:	Into a 100 mL volumetric add 10 mL CCV IC0257 and dilute to volume with Milli-Q water.		

Standard Log #:	IC0260	Standard:	IC Mid Level LCS
Analyst:	JJF	Concentrations:	0.70 mg/L F, NO_2, Br, NO_3, $P0_4$, 3.0 mg/L Cl, 5.0 mg/L SO_4
Prep Date:	06/08/2015	Expiration Date (48 hours):	07/08/2015
Prep:	Into a 100 ml volumetric flask pipette 10ml Mixed LCS (7mg/L F, NO_3, PO_4, Br & 50 mg/L SO_4 & 30 mg/L Cl) IC0247 and 10 mL Nitrite LCS (7 mg/L NO_2) IC0248 and dilute to		

Standard Log #:	IC0261	Standard/Reagent:	IC Mid Level Working Std.
Analyst:	JJF	Final Concentration:	
Prep Date:	06/08/2015	Expiration Date:	06/10/2015
Prep:	Into a 100 mL volumetric flask add 1 mL of Bromide (IC0178), Phosphate(IC0001), Fluoride (W35388), Nitrate (W35940), Nitrite (W35415) and 10 mL Chloride (IC0057) and Sulfate (IC0186) and dilute to volume with Milli-Q water.		

Standard Log #:	IC0262	Standard:IC_CAL_ML_Met_B
Analyst:	JJF	Concentrations: n/a
Prep Date:	06/08/2015	Expiration Date (48 hours): 06/10/2015

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Working Std 10mg/L (F, NO2, Br, NO3, & o-P) 100mg/L (Cl & SO4) IC0261	0	0.1	0.25	0.50	1.0	2.0	5.0	7.5	10.0

Standard Log #:	IC0263	Standard:	IC Spike Mixed
Analyst:	JJF	Concentrations:	64 mg/L - Br, NO_3, PO_4 256 mg/L - Cl, SO_4
Prep Date:	06/08/2015	Expiration Date (1 Month):	07/08/2015
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Bromide IC0178, Nitrate W35940, and Phosphate IC0001 and 25.6 mL 1000 mg/L Chloride IC0057 and Sulfate IC0186 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0264	Standard:	IC Spike Nitrite & Fluoride
Analyst:	JJF	Concentrations:	32 mg/L - Fluoride 64 mg/L - Nitrite
Prep Date:	06/08/2015	Expiration Date (1 Month):	07/08/2015
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite W35415 and 3.2 mL 1000 mg/L Fluoride W35388 and brought to volume with Milli-Q DI H_20.		

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Author: jfaust on: 05.06.2015 14:54:11
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Standard Log #:	IC0258	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	06/04/2015	Expiration Date (1 Year):	06/04/2016
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0141 and brought to volume with Milli-Q Di water.		

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IC Prep Logbook
Notebook Created: 01/12/2015

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Author: JFAUST on: 04.06.2015 10:05:53
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Standard Log #:	IC0257	Standard:	IC CCV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	06/01/2015	Expiration Date (1 Month):	07/01/2015
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride W35388, Phosphate IC0001, Bromide IC0178, and Nitrate W35940, 15 ml 1000 mg/L Chloride IC0057, and 25 ml 1000 mg/L Sulfate IC0186 and brought to volume with Milli-Q DI H_20.		

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LPVO3-01
IC Prep Logbook
Notebook Created: 01/12/2015

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Author: JFAUST on: 04.06.2015 10:05:45
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Standard Log #:	IC0256	Standard:	IC_Calibration_Dionex_D
Analyst:	JJF	Concentrations:	N/A
Prep Date:	05/29/2015	Expiration Date (48 hours):	05/31/2015

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Mixed Std (50mg/L) IC0252	0	0.2	1.0	2.0	4.0	10.0	14.0	20.0	
Chloride (1000mg/L) IC0057	0	0.05	0.1	0.5	1.0	2.0	3.0	3.5	4.0
Sulfate (1000mg/L) IC0186	0	0.05	0.1	0.5	1.0	3.0	5.0	6.0	7.0

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Author: jfaust on: 01.06.2015 13:58:20
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Project: Unassigned
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Standard Log #:	IC0252	Standard:	IC ICAL Mixed Std. Dionex
Analyst:	JJF	Concentrations:	50mg/L - NO_2, NO_3, PO_4, Br, F
Prep Date:	05/28/2015	Expiration Date (48 Hours):	05/30/2015
Prep:	Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite W35415, Fluoride W35388, Bromide IC0178, Nitrate W35940, and Phosphate IC0001 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0254	Standard:	IC CCV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	05/28/2015	Expiration Date (1 Month):	06/28/2015
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride W35388, Phosphate IC0001, Bromide IC0178, and Nitrate W35940, 15 ml 1000 mg/L Chloride IC0057, and 25 ml 1000 mg/L Sulfate IC0186 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0255	Standard:	IC CCV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - NO_2
Prep Date:	05/28/2015	Expiration Date (1 Month):	06/28/2015
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. W35415 and brought to volume with Milli-Q DI H_20.		

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Author: jfaust on: 01.06.2015 11:02:51
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Standard Log #:	IC0250	Standard/Reagent:	Dionex Ion Pac Guard
Analyst:	JJF	Final Concentration:	N/A
Prep Date:	05/27/2015	Expiration Date:	
Prep:	AG14 Guard 4 x 50 mm Lot # 014-11-086 Serial #039909 Product # 046134		

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Standard Log #:	IC0247	Standard:	IC LCSW/ICV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	05/26/2015	Expiration Date (1 Month):	06/26/2015
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) W35338 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0248	Standard:	IC LCSW/ICV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L
Prep Date:	05/26/2015	Expiration Date (1 Month):	06/26/2015
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL 1000 mg/L Nitrite W34871 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0249	Standard:	IC Eluent Dionex
Analyst:	JJF	Concentrations:	3.5 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	05/26/2015	Expiration Date (1 Year):	05/26/2016
Prep:	Into a 10L carboy, pipetted 20mL of Dionex eluent concentrate W35344 and brought to volume with Milli-Q DI H_20.		

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Standard Log #:	IC0244	Standard/Reagent:	LOD CHK QSM 5.0
Analyst:	JJF	Final Concentration:	
Prep Date:	05/22/2015	Expiration Date:	05/24/2015
Prep:	Into a 100 mL volumetric add 0.10 mL Bromide (IC0241) and Nitrite (IC0239), 0.08 mL Nitrate (IC0238), 0.05 mL Fluoride (IC0243), 1.1 mL Chloride (IC0240) and 1.3 mL Sulfate (IC0242) and dilute to 100 mL with Milli-Q water.		

Standard Log #:	IC0245	Standard/Reagent:	LOQ CHK QSM 5.0
Analyst:	JJF	Final Concentration:	
Prep Date:	05/22/2015	Expiration Date:	05/24/2015
Prep:	Into a 100 mL volumetric add 0.34 mL Bromide (IC0241) and Nitrite (IC0239), 0.26 mL Nitrate (IC0238), 0.15 mL Fluoride (IC0243), 3.7 mL Chloride (IC0240) and 4.3 mL Sulfate (IC0242) and dilute to 100 mL with Milli-Q water.		

Standard Log #:	IC0246	Standard:	IC LOD-LOQ2
Analyst:	JJF	Concentrations:	
Prep Date:	05/22/2015	Expiration Date (48 hours):	05/24/2015

Prep:

LOD Check:
Into a 100mL Volumetric flask pipetted the following, then brought to volume with Milli-Q DI water.

Fluoride	0.010	mL	W35388	Nitrate	0.015	mL	W35940
Chloride	0.200	mL	IC0078	Phosphate	0.025	mL	N/A
Nitrite	0.020	mL	W35415	Sulfate	0.250	mL	IC0186
Bromide	0.020	mL	IC0178				

LOQ Check:
Into a 100mL Volumetric flask pipetted the following, then brought to volume with Milli-Q DI water.

Fluoride	0.030	mL	W35388	Nitrate	0.040	mL	W35940
Chloride	0.400	mL	IC0078	Phosphate	0.050	mL	N/A
Nitrite	0.040	mL	W35415	Sulfate	0.500	mL	IC0186
Bromide	0.050	mL	IC0178				

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Standard Log #:	IC0231	Standard:	IC Cal Nitrite Metrohm
Analyst:	JJF	Concentrations:	10.0mg/L Nitrite
Prep Date:	05/14/2015	Expiration Date (48 Hours):	05/16/2015
Prep:	Into a 100 mL volumetric flask pipetted 1.0 mL of Nitrite (1000 mg/L) W35415 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0232	Standard:IC_Nitrite_Cal_Metrohm_B
Analyst:	JJF	Concentrations: n/a
Prep Date:	05/14/2015	Expiration Date (48 hours): 05/16/2015

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8
Working Std 10mg/L NO2 IC0231	0	1.00	2.50	5.00	10.0	20.0	50.0	100

Standard Log #:	IC0233	Standard:	IC CCV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	05/14/2015	Expiration Date (1 Month):	06/14/2015
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride W35388, Phosphate IC0001, Bromide IC0178, and Nitrate W35940, 15 ml 1000 mg/L Chloride IC0057, and 25 ml 1000 mg/L Sulfate IC0186 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0234	Standard:	IC CCV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - NO_2
Prep Date:	05/14/2015	Expiration Date (1 Month):	06/14/2015
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. W35415 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0225	Standard:	IC Spike Mixed
Analyst:	JJF	Concentrations:	64 mg/L - Br, NO_3, PO_4 256 mg/L - Cl, SO_4
Prep Date:	05-05-2015	Expiration Date (1 Month):	06-05-2015
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Bromide IC0178, Nitrate W35940, and Phosphate IC0001 and 25.6 mL 1000 mg/L Chloride IC0057 and Sulfate IC0186 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0226	Standard:	IC Spike Nitrite & Fluoride
Analyst:	JJF	Concentrations:	32 mg/L - Fluoride 64 mg/L - Nitrite
Prep Date:	05-05-2015	Expiration Date (1 Month):	06-05-2015
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite W35415 and 3.2 mL 1000 mg/L Fluoride W35388 and brought to volume with Milli-Q DI H_20.		

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Author: jfaust on: 05.05.2015 10:22:39
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Standard Log #:	IC0219	Standard:	IC LCSW/ICV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	04/29/2015	Expiration Date (1 Month):	05/29/2015
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) W35388 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0220	Standard:	IC Eluent Dionex
Analyst:	JJF	Concentrations:	3.5 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	04/29/2015	Expiration Date (1 Year):	04/29/2016
Prep:	Into a 10L carboy, pipetted 20mL of Dionex eluent concentrate W35344 and brought to volume with Milli-Q DI H_20.		

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Standard Log #:	IC0218	Standard:	IC Calibration - Methrohm - C
Analyst:	JJF	Concentrations:	N/A
Prep Date:	04/27/2015	Expiration Date (48 hours):	04/29/2015

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8
Working Std 20mg/L (F, NO_2, Br, NO_3, & o-P) 200mg/L (Cl & SO_4) IC0217	0	0.50	1.25	2.50	5.0	10.0	25.0	50.0

Standard Log #:	IC0217	Standard:	IC Calibration Metrohm B
Analyst:	JJF	Concentrations:	20mg/L - NO_2, NO_3, PO_4, Br, F 200mg/L - SO_4, Cl
Prep Date:	04/27/2015	Expiration Date (48 hours):	04/29/2015

Prep:

Into a 100 mL volumetric flask, pipetted 2.0 mL each of Fluoride (1000mg/L) W35388, Nitrite (1000mg/L) W35415, Bromide (1000mg/L) IC0178, Nitrate (1000mg/L) W35940, Phosphate (1000mg/L) IC0001, and 20 mL each of Sulfate (1000mg/L) IC0186, and Chloride (1000mg/L) IC0057.

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Author: jfaust on: 27.04.2015 14:52:07
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Project: Unassigned
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Standard Log #:	IC0210	Standard:	IC LCSW/ICV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	04/24/2015	Expiration Date (1 Month):	05/24/2015
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) W35388 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0211	Standard:	IC LCSW/ICV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L
Prep Date:	04/24/2015	Expiration Date (1 Month):	05/24/2015
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL 1000 mg/L Nitrite W34699 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0214	Standard/Reagent:	Metrsep A Supp 10- Column
Analyst:	JJF	Final Concentration:	
Prep Date:	04/24/2015	Expiration Date:	
Prep:	Metrohm Metrosep A Supp 10 -250/ 2.0 Column Catalog # 6.1020.230 Column S/N: 0016.3025		

Standard Log #:	IC0215	Standard/Reagent:	Metrosep A Guard Column
Analyst:	JJF	Final Concentration:	
Prep Date:	04/24/2015	Expiration Date:	
Prep:	Metrohm Metrosep A sup 10 Guard column 6.1020.600		

Standard Log #:	IC0186	Standard/Reagent:	Sulfate IC Standard
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	04/08/2015	Expiration Date:	04/08/2016
Prep:	AccuSPEC IC Standard 1000 mg/L Lot # S150115013 Catalog # 250-220-70x		

Standard Log #:	IC0181	Standard:	IC LL o-Phos Working Std.
Analyst:	JJF	Concentrations:	50mg/L Phosphate
Prep Date:	04/06/2015	Expiration Date (48 hours):	04/08/2015
Prep:	Into a 100 ml volumetric flask pipette 5ml Phosphate(1000mg/L) IC0001 and fill to volume with Milli Q H_2O.		

Standard Log #:	IC0182	Standard:	IC LL Phosphate Cal
Analyst:	JJF	Concentrations:	NA
Prep Date:	04/06/2015	Expiration Date (48 hours):	04/08/2015
Prep:	Into 8 separate 100 ml volumetric flasks pipette 0, 0.01, 0.02, 0.04, 0.06, 0.1, 0.2, and 0.4ml LL Ophos ICal Working (50mg/L) IC0181 and fill to volume with Milli-Q H_2O.		

Standard Log #:	IC0178	Standard/Reagent:	Bromide IC Standard
Analyst:	JJF	Final Concentration:	1000mg/L
Prep Date:	04/06/2015	Expiration Date:	4/06/2016
Prep:	AccuSPEC IC Standard Lot #S141117006 Catalog # 250-220-235		

Standard Log #:	IC0172	Standard:	IC Low Level LCS-ICV
Analyst:	JJF	Concentrations:	0.1mg/L Phosphate
Prep Date:	04/03/2015	Expiration Date (1 Month):	05/03/2015
Prep:	Into a 100 ml volumetric flask pipette 0.01 ml of Phosphate (1000mg/L) IC0016 and fill to volume with Milli-Q H_2O.		

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Author: jfaust on: 17.03.2015 15:23:44
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Standard Log #:	IC0152	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	03/10/2015	Expiration Date (1 Year):	03/10/2016
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate W35069 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0153	Standard:	IC Cal Nitrite WS Dionex
Analyst:	JJF	Concentrations:	50mg/L Nitrite
Prep Date:	03/10/2015	Expiration Date (48 Hours):	03/12/2015
Prep:	Into a 100 mL volumetric flasks pipetted 5.0 mL of Nitrite (1000 mg/L) W35415 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0154	Standard:	IC Cal Nitrite Dionex
Analyst:	JJF	Concentrations:	N/A
Prep Date:	03/10/2015	Expiration Date (48 Hours):	03/12/2015
Prep:	Into 6 separate 100 mL volumetric flasks pipetted 0, 0.2, 1.0, 2.0, 4.0, 10.0 mL of Nitrite working standard (50 mg/L) IC0153 and brought to volume with Milli-Q DI H_20.		

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Standard Log #:	IC0141	Standard:	IC Eluent Conc. Metrohm
Analyst:	JJF	Concentrations:	0.64M Sodium Carbonate 0.20M Sodium Bicarbonate
Prep Date:	03/03/2015	Expiration Date (1 Year):	03/03/2016
Prep:	Into a 1L volumetric flask, dissolved 67.8g of Sodium Carbonate W35065 and 16.8g of Sodium Bicarbonate W25134 and brought to volume with Milli-Q DI water. (200x concentrate)		

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Author: jfaust on: 02.03.2015 08:19:04
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Standard Log #:	IC0133	Standard/Reagent:	IC ML CCV
Analyst:	JJF	Final Concentration:	0.70 mg/L F,Br,NO2,NO3, o
Prep Date:	02/27/2015	Expiration Date:	03/27/2015
Prep:	Into a 100 mL volumetric add 10 ml mixed CCV (IC0095) and 10 mL NO2 CCV (IC0096) and dilute to 100 mL with Milli-Q water.		

Standard Log #:	IC0134	Standard/Reagent:	IC ML LCS
Analyst:	JJF	Final Concentration:	0.70 mg/L F, Br, NO2, NO3,
Prep Date:	02/27/2015	Expiration Date:	03/27/2015
Prep:	Into a 100 mL volumetric add 10 mL mixed LCS (IC0109) and 10 mL NO2 LCS (IC0110) and dilute to 100 mL with Milli-Q water		

Standard Log #:	IC0135	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	02/27/2015	Expiration Date (1 Year):	02/27/2016
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate W35069 and brought to volume with Milli-Q Di water.		

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Author: jfaust on: 02.03.2015 08:15:38
Witness: akurth on: 10.03.2015 10:28:01
Project: Unassigned
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Standard Log #:	IC0123	Standard/Reagent:	ML WORKING STD
Analyst:	JJF	Final Concentration:	10 mg/L F,Br, NO2, NO3, o-
Prep Date:	02/25/2015	Expiration Date:	02/27/2015
Prep:	Into a 100 mL volumetric add 1 ml each of 1000 mg/L standard Fluoride (W35388) Nitrite (W35415), Nitrate (W35940), Bromide (W34057) and Phosphate (IC0001) and 10ml each of 1000mg/L Chloride (IC0057) and Sulfate (W35941).		

Standard Log #:	IC0124	Standard:IC_CAL_ML_Met_B
Analyst:	JJF	Concentrations: n/a
Prep Date:	02/25/2015	Expiration Date (48 hours):

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Working Std 10mg/L (F, NO2, Br, NO3, & o-P) 100mg/L (Cl & SO4) IC0123	0	0.1	0.25	0.50	1.0	2.0	5.0	7.5	10.0

Standard Log #:	IC0110	Standard:	IC LCSW/ICV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L
Prep Date:	02/23/2015	Expiration Date (1 Month):	03/23/2015
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL 1000 mg/L Nitrite W34699 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0077	Standard:	IC LL o-Phos Working Std.
Analyst:	JJF	Concentrations:	50mg/L Phosphate
Prep Date:	02/09/2015	Expiration Date (48 hours):	02/11/2015
Prep:	Into a 100 ml volumetric flask pipette 5ml Phosphate(1000mg/L) IC0001 and fill to volume with Milli Q H_2O.		

Standard Log #:	IC0078	Standard:	IC LL Phosphate Cal
Analyst:	JJF	Concentrations:	NA
Prep Date:	02/09/2015	Expiration Date (48 hours):	02/11/2015
Prep:	Into 8 separate 100 ml volumetric flasks pipette 0, 0.01, 0.02, 0.04, 0.06, 0.1, 0.2, and 0.4ml LL Ophos ICal Working (50mg/L) IC0077 and fill to volume with Milli-Q H_2O.		

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Standard Log #:	IC0057	Standard/Reagent:	Chloride
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	01/30/2015	Expiration Date:	1/30/2016
Prep:	AccuSPEC Ion Chromatography Chloride Standard Cat #250-220-371 Lot #S141030011		

AccuSPEC Ion Chromatography Chloride Standard Cat #250-220-371 Lot #S141030011

Standard Log #:	IC0016	Standard/Reagent:	Phosphate Standard IC
Analyst:	JJF	Final Concentration:	1000 ug/mL
Prep Date:	01/12/2015	Expiration Date:	12/30/2015
Prep:	Lot # 3-105PO4P-2X SPEX CertiPrep Cat # AS-PO4P9-2X		

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Author: JFAUST on: 09.03.2015 15:20:41
Witness: akurth on: 10.03.2015 10:05:01
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Standard ID#:	IC0001	Vendor:	AccuSPEC
Analyst:	JJF	Chemical:	IC Phosphate Stock Std - 1000 ug/mL
Date Received:	12/22/2014	Lot #:	S140411008
Expiration Date (if any):	12/22/2015	Catalog #:	250-220-61x

PROJECT _____

W35940 12-1-14 JJF — AccuSpec Nitrate as Nitrogen 992 ± 11 ug/mL 250-220-501
lot # S140121025 exp 10/2015

W35941 12-2-14 JJF — AccuSpec SO4 standard @ 1005 ± 10 ug/mL Cat # 250-220-701
Lot # S141015007 Exp 12-2-2015

W35942 12-2-14 JJF

IC CCV Mixed Standard (7 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 50 mg/L Sulfate, and 30 mg/L Chloride) *Diluted 1:1 daily with IC CCV Nitrite Standard to equal a value of 3.5 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 25 mg/L Sulfate, and 15 mg/L Chloride

Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride W 35388, Phosphate W 34449, Bromide W 34057, and Nitrate W 35940, 15 ml 1000 mg/L Chloride W 35237, and 25 ml 1000 mg/L Sulfate W 35238 and brought to volume with Milli-Q DI H_2O. EXP (1 Month): 1-2-2015

W35943 12-2-14 JJF

IC CCV Nitrite Standard (7 mg/L) *Diluted 1:1 daily with IC CCV Mixed Standard to equal a value of 3.5 mg/L Nitrite

Into a 500 mL volumetric flask piepetted 3.5 mL 1000 mg/L Nitrite W 35415 and brought to volume with Milli-Q DI H_2O. EXP (1 month): 12-2-2015

W35944 12-2-14 JJF

IC Nitrite and Fluoride Spike Standard (64 mg/L Nitrite and 32 mg/L Fluoride)

Into a 100 mL volumetric flask pipetted 6.4 mL 1000 mg/L Nitrite W 35415 and 3.2 mL 1000 mg/L Fluoride W 35388 and brought to volume with Milli-Q DI H_2O. EXP (1 Month): 1-2-2015

W35945 12-2-14 JJF

IC Mixed Spike Standard (64 mg/L Bromide, Nitrate, and Phosphate, 256 mg/L Chloride and Sulfate)

Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Bromide W 34057, Nitrate W 35940, and Phosphate W 34449 and 25.6 mL 1000 mg/L Chloride W 35237 and Sulfate W 35941 and brought to volume with Milli-Q DI H_2O. EXP (1 Month): 1-2-15

Standard Log #:	W35946	Reagent:	SULFIDE LCS
Analyst:	LJS	Concentration:	5 mg/L
Prep Date:	12/2/14	Expiration Date (1Day):	12/3/14
Prep:	Into a 200 mL volumetric flask pipette 1.0 mL sulfide stock (1000 mg/L) W35776 and fill to volume with DI H_2O.		

Read and Understood By

12/6/14 03 — Signed — Date — Signed — Date

W35469
RD 9/29/14

IC Control Sand - Silica Sand rinsed w milliQ DI H2O + Dried in an oven overnight @ 175°C - Exp. 9/29/15

W35470
9-30-14
JJP

IC LCS/ICV Nitrite Standard (7 mg/L) *Diluted 1:1 daily with IC LCS/ICV Mixed Standard to equal a value of 3.5 mg/L Nitrite

Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite W 34699 and brought to volume with Milli-Q DI H_20. EXP (1 month): 10-30-14

Read and Understood By

Signed | Date | Signed | Date

JJF Nitrate Nitrogen AccuSpec 996 ±10 µg/mL Anion IC Standard
W35415 lot 514090507 Exp 9-22-15
9-22-14

IC CCV Nitrite Standard (7 mg/L) *Diluted 1:1 daily with IC CCV Mixed Standard to equal a value of 3.5 mg/L Nitrite

W 35416 JJF 9-22-14

Into a 500 mL volumetric flask piepetted 3.5 mL 1000 mg/L Nitrite W 35415 and brought to volume with Milli-Q DI H_2O. EXP (1 month): 10-22-14

IC ICAL (Metrohm):

W 35417 JJF 9-22-14

Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (W 35388), Nitrite (W 35415), Bromide (W 34051), Nitrate (W 33225), Phosphate (W 34449), and 10 mL each of Sulfate (W 35238), and Chloride (W 35237).
Expires (48 hours): 9-24-14

IC Eluent

W 35418 JJF 9-22-14

35344 JJF 9-22-14

Into a large carboy, pipetted 20mL eluent concentrate W ~~35344~~ and filled to a final volume of 10L with Milli Q DI H_2O.
Exp:_____

9/27/14 DS

Signed Date Signed Date

W35387 AHK 9-16-14 — Cr^6 Calibration
Into a 100 ml volumetric pipetted 0.500 mL of W35379 and BTU w/Milli-Q H_2O Exp: 9/30/14

W35388 JJF 9-16-14 — Fluoride IC Standard AccuSPEC @ 1003 ± 10 ug/mL
lot # S140409030 Exp 9-16-15

W35389 JJF 9-16-14

IC CCV Mixed Standard (7 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 50 mg/L Sulfate, and 30 mg/L Chloride) *Diluted 1:1 daily with IC CCV Nitrite Standard to equal a value of 3.5 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 25 mg/L Sulfate, and 15 mg/L Chloride
Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride W 35388, Phosphate W 34449, Bromide W 34057, and Nitrate W 33225, 15 ml 1000 mg/L Chloride W 35237, and 25 ml 1000 mg/L Sulfate W 35238 and brought to volume with Milli-Q DI H_2O. EXP (1 Month): 10-16-14

W35390 JJF 9-16-14

IC Nitrite and Fluoride Spike Standard (64 mg/L Nitrite and 32 mg/L Fluoride)
Into a 100 mL volumetric flask pipetted 6.4 mL 1000 mg/L Nitrite W 32990 and 3.2 mL 1000 mg/L Fluoride W 35388 and brought to volume with Milli-Q DI H_2O. EXP (1 Month): 10-16-14

W35391 9-16-14 JJF — IC ICAL Nitrite Standard (50mg/L)
Into a 100mL volumetric flask pipet 5 mL of 1000mg/L Nitrite W 32990 + dilute to volume with Milli Q DI H_2O
Exp 48 hours 9-18-14

W35392 9-16-14 JJF — IC ICAL
Prepared in 100mL volumetric flasks + brought to volume with milli Q DI H_2O

		1	2	3	4	5	6
mls	nitrite Std 50mg/L (W35391)	0	0.2	1.0	2.0	4.0	10.0

exp 48 hrs 9-18-14

Continued on Page

Read and Understood By

Signed 9/20/14 (C) Date — Signed Date

W353628
9-15-14
DJH

IC Mixed Spike Standard (64 mg/L Bromide, Nitrate, and Phosphate, 256 mg/L Chloride and Sulfate)

Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Bromide W 34057, Nitrate W 33225, and Phosphate W 34449 and 25.6 mL 1000 mg/L Chloride W 35237 and Sulfate W 35238 and brought to volume with Milli-Q DI H_2O. EXP (1 Month): 10-15-14

W353629
AGK
9/15/14

Fisher Ammonium Sulfate (A702-500)
CAS 7783-20-2 LOT# 135994A
Opened 09/15/14

W35342
9-8-14
JJF

LL Ophos CCV (0.1 mg/L)
Into a 200 ml volumetric flask pipette 0.02ml Tphos CCV stock standard (1000mg/L) W 34449 and fill to volume with Milli Q H_2O.
Exp (One month): 10-8-14

W35343
9-8-14
JJF

LL Ophos ICV/LCS (0.1 mg/L)
Into a 100 ml volumetric flask pipette 0.01ml Tphos ICV/LCS stock standard (1000mg/L) W 33243 and fill to volume with Milli Q H_2O.
Exp (One month): 10-8-14

W35344
9-9-14
JJF

IC Eluent concentrate Into a 1L volumetric flask slowly add 185.5g Sodium carbonate (W ~~28220~~ 35665) and 42g Sodium Bicarbonate (W 25134) + bring to volume w/ DI H_2O exp 9-9-15

Read and Understood By

9/18/14 AZ

W35337 9-8-14 JJF

IC CCV Mixed Standard (7 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 50 mg/L Sulfate, and 30 mg/L Chloride) *Diluted 1:1 daily with IC CCV Nitrite Standard to equal a value of 3.5 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 25 mg/L Sulfate, and 15 mg/L Chloride

Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride W 32406, Phosphate W 34449, Bromide W 34057, and Nitrate W 33225, 15 ml 1000 mg/L Chloride W 35237, and 25 ml 1000 mg/L Sulfate W 35238 and brought to volume with Milli-Q DI H_2O. EXP (1 Month): 10-8-14

JJF W35338 9-8-14 Custom Ion Standard Lot # 5-90 JKS Vol 500ml Exp 8-30-2015
Spex-Certiprep. Cat# VCTWI-3-500 (SO_4=250ug/mL, Cl=750ug/mL, Br, F, NO_3-N, PO_4-P = 175ug/mL).

JJF W35339 9-8-14

IC LCS/ICV Mixed Standard (7 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 50 mg/L Sulfate, and 30 mg/L Chloride) *Diluted 1:1 daily with IC LCS/ICV Nitrite Standard to equal a value of 3.5 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 25 mg/L Sulfate, and 15 mg/L Chloride

Into a 500 mL volumetric flask pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) W 35338 and brought to volume with Milli-Q DI H_2O.
EXP (1 Month): 10-8-14

Signed Date Signed Date

MFD 9/2/14

MFD 9/2/14

W35295 9-3-14 JJF

IC ICAL (Metrohm):
Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (W 32406), Nitrite (W 32990), Bromide (W 34057), Nitrate (W 33225), Phosphate (W 34449), and 10 mL each of Sulfate (W 35238), and Chloride (W 35237).
Expires (48 hours): 9-5-14

W35296 09/03/14 AGK

Dionex Analytical Column
Serial # 033131, Lot# 013-29-186

W 35297 9/3/14 JJF

IC LCS/ICV Nitrite Standard (7 mg/L) *Diluted 1:1 daily with IC LCS/ICV Mixed Standard to equal a value of 3.5 mg/L Nitrite
Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite W 34699 and brought to volume with Milli-Q DI H_2O. EXP (1 month): 10-3-14

Read and Understood By

Signed	Date	Signed	Date
9/6/14 KS			

W35095 AGK 08-05-14

VFA ICAL

Into 100 mL volumetric flasks pipette ICAL Stock W 33151, and fill to volume with Eluent W 35092. Exp. (one month) 09/05/14

	ICAL Stock (mLs)	True Value (mg/L)
A	0	0
B	0.1	1.0
C	0.2	2.0
D	0.5	5.0
E	1.0	10
F	2.5	25
G	5.0	50
H	10	100

Signed Date Signed Date

W35090 Sigma Aldrich T-butylammonium hydroxide solution
AGK LOT # BCBM9041V Exp: 08/04/15
08/04/14

W35091 AGK 08/04/14

VFA Regenerate

Into a 2L volumetric flask pipetted 20 mL of W 35090 (**tetrabutylammonium hydroxide solution**) and brought to volume with **Milli-Q DI H2O**, then added this solution to a carboy containing 2L of **Milli-Q DI H20** for a final volume of 4L. Exp (three months): ~~8~~ 11/04/14
AGK 08/04/14

W35092 JOF 8/04/14

VFA Eluent

Into a 2 L volumetric flask volumetrically add 50 mL **eluent concentrate** W 34349 and fill to volume with **Milli Q** H_2O. Exp. (one month): 9-4-14

W35093 JOF 8/4/14

VFA CCV (10 mg/L)

Into a 100 mL volumetric flask pipette 1.0 mL **ICAL/ CCV stock** W 33151, and fill to volume with **Milli-Q DI H20**. Exp. (six months): 2-4-15

W35094 JOF 8/4/14

VFA LCS (10 mg/L)

Into a 100 mL volumetric flask pipette 1.0 mL **ICV/ LCS Stock** W 33153, and fill to volume with **Milli-Q DI H20**. Exp. (six months): 2-~~4~~-15
4 JOF

AGK 08/05/14

Continued on Page

Read and Understood By

Signed _____ Date _____ Signed _____ Date _____

W3506 Sodium Carbonate Anhydrous Powder 500g 3602-01 JT Baker
JJK Batch# 00007136I Retest Date 1/27/2021

CKS 7/30/17

Continued on Page

Read and Understood By

5/2/17 CKS
Signed Date Signed Date

6/23/14 W34699 1000mg/L Nitrite Nitrogen Std SPEX (2nd Source)
JJF Lot # 3-61 NO2N-2Y 100.3mg/L → 5mg/L exp 6/30/15

6/23/14 W34700 Eluent IC Metrohm
JJF Into a 2L volumetric add 20mL of W34102 and B.T.V.
with Milliq H2O Exp 6/23/15

W34358 AGK 05-13-14 VFA CCV: Into a 100ml volumetric flask, pipetted 1mL of W33151 and brought to volume with Milli-Q water. Exp: 11/13/14

W34359 05-13-14 AGK VFA Eluent: Into a 2L volumetric flask, pipetted 50 mL of w34349 and brought to volume with Milli-Q water. Exp: 06/13/14

AGK W34360 05-13-14 VFA regenerate: Into a 2L volumetric flask, pipetted 20mL of W33199 and brought to volume with Milli-Q Water. Exp: 06/13/14

Read and Understood By

5/14/14 GK

Signed Date Signed Date

UFA Stock Heptafluorobutyric Acid Concentrate
AGK W34349 05/13/14
Inlc a 1L vol added 21.4g W26351 and BTV with M.W. -Q H_2O Exp: 05-13-15

Read and Understood By

5/14/14 CS
Signed Date Signed Date

W33939 AGK 03-24-14 IC Rinse Solution
Metrohm Rinse Solution (1% Methanol in Milli-Q H_2O)
Part # REAIC 1150C Lot # M1401230I

W33940 AGK 03-24-14 IC Colum A-Supp-5 150/4.0
Metrohm CAT # 6.1006.520 Gel # 130520

W33941 AGK 03-24-14 IC Column A-Supp 10 - 250/4.0
Metrohm CAT # 6.1020.030 SN 0077.3035

W33942 AGK 03-24-14 IC Column A Supp 5- 150/4.0
Metrohm CAT # 6.1006.520 GEL # 130930

W33943 AGK 03-24-14 IC Column A-Supp 5 150/4.0
Metrohm CAT # 6.1006.520 GEL # 130625

3/29/14 CG
Signed Date Signed Date

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PROJECT _____ Notebook No. _____
Continued From Page _____

11-23-10 Fisher. Cat # D85-25 exp: 11-23-15

W25134 CES 11/23/10 Sodium Bicarbonate. Fisher Cat # S233-500 lot # 164706 exp 11/23/15

Continued on Page

Read and Understood By

Signed Date Signed Date

WCOD QSM Analytical Run
122773 on 1/22/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
116448	679984		1/12/2016	1510			BERING SEA ENVIRONMENTAL	RADFORD AAP	COD QSM		GW	**4**	
		54ADW01								55935			
116524	681538		1/15/2016	1605			BERING SEA ENVIRONMENTAL	RADFORD AAP	COD QSM		GW	**4**	
		49ADW01								55935			
	682048								COD QSM				
					MBW					55935			
	682049								COD QSM				
					LCSW					55935			
	682050		1/12/2016	1510					COD QSM				
		54ADW01			DUP	679984				55935			
	682051		1/12/2016	1510					COD QSM				
		54ADW01			MSW	679984				55935			
	682052		1/12/2016	1510					COD QSM				
		54ADW01			MSDW	682051				55935			
	682552								WCOD QSM				
					CCV								
	682553								WCOD QSM				
					CCB								
	682554								WCOD QSM				
					CCV								
	682555								WCOD QSM				
					CCB								
	682574								WCOD QSM				
					ICV								
	682575								WCOD QSM				
					ICB								

13 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

PREP WORKSHEET 2
on 1/19/2016

Prep Batch: 55935

Date Prepped: 1/19/16

Prepped By: MEK

Date Entered:

D.F.

Folder #	Order	QC Type	Link	Test		Client Company Name	Client Sample Description	Matrix	Sample Date / Time		Due Date	SDG Level
	682048	MBW	0 29	COD QSM	1			LIQUID				
	682049	LCSW	0 28	COD QSM	1			LIQUID				
116448	679984	34, 35, 36, 37		COD QSM	1	BERING SEA ENVIRONMENT	54ADW01	GROUND WATER	1/12/16	1510	1/25/16	4
116524	681538	38		COD QSM	1	BERING SEA ENVIRONMENT	49ADW01	GROUND WATER	1/15/16	1605	1/28/16	4
	682050	DUP	679984	COD QSM			54ADW01	GROUND WATER	1/12/16	1510		
	682051	MSW	679984	COD QSM			54ADW01	GROUND WATER	1/12/16	1510		
	682052	MSDW	682051	COD QSM			54ADW01	GROUND WATER	1/12/16	1510		

Control Spike/Control Spike Dup Reference Number:

Methanol Supplier/Lot #:

Notes:

Distibution:

C:\LIMSREPS\PREPWRKSHT2.RPT

Data Validation Checklist

CT Laboratories

LIMS #: 122773	Method: Chemical Oxygen Demand EPA 410.4			
Analysis Date	Analyst / Data Interpreter	Independent Reviewer	Date of Review	Approved
1/19/16	MER	GG	1/22/16	Yes ... No

Instructions: Complete one checklist per *analytical run*. Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement	Acceptance Criteria	Analyst Review		Independent Review		Comments: (indicate reference to an attachment if necessary)
		Yes	No	Yes	No	
1. Does a digestion sheet accompany the data package?	---	X		Y		
2. Does the digestion sheet include all reagent and standard prep log numbers?	---	X		Y		
3. Was a Method Blank prepared at the required frequency?	1per 20 samples or at contract/program specific frequencies	X		Y		
4. Was the method blank within acceptance criteria?	< RL or client/project specific	X		Y		
5. Was an LCS prepared at the required frequency?	1per 20 samples or at contract/program specific frequencies	X		Y		
6. Was the LCS used before the indicated expiration date?	---	X		Y		
7. Did the LCS meet the acceptance criteria?	Within in-house or client/project specific limits	X		Y		
8. Was an MS and MSD prepared at the required frequency?	1per 20 of the same matrix or at contract/program specific frequencies	X		X		
9. Did the MS/ MSD's meet the acceptance criteria?	Within in-house or contract/program specific limits	X		Y		
10. Did the MS/MSD's meet the RPD criteria?	Within in-house or contract/program specific limits	X		Y		
11. Was a Duplicate prepared at the required frequency?	1per 20 of the same matrix or at contract/program specific frequencies	X		Y		
12. Did the Duplicate meet the RPD criteria?	Within in-house or contract/program specific limits	X		Y		
13. Were the samples digested within hold time?	---	X		Y		
14. Are all samples on the job lists accounted for?	---	X		Y		

Spec. 401 Accuracy Check / Maintenance Logbook

	*Acceptance Range: +/- 2 nm			
Date/Time	529 nm	742 nm	Analyst	Comments or Performed Maintenance:
11:00 12/1/15	529	740	UJS	
1730 12/4/15	529	741	UJS	
1405 12/10/15	530	741	UJS	
12/11/15 11:10	529	741	MER	
12/22/15 1530	529	741	UJS	Realigned light
12/30/15 1350	530	741	MER	
1/6/16 1330	530	742	UJS	
1/13/16 0900	530	742	UJS	
1/19/16 1410	529	741	MER	

*If values obtained are not within Acceptance Range, correct and document the problem then re-check the accuracy.

Reviewed By:_____

Spec. 401 Instrument Run Logbook

Milton Roy Spectronic 401

	Time				Spectrophotometer	
Date	Start	End	Analyst	Analytes/Test	Cal. Std. ID #	Comments:
12/22/15	1530	1630	VJS	COD	Test 23	122166167,168,169
12/30/15	1350	1402	MER	COD	Test 23	122331
1/6/16	1600	1620	VJS	COD	Test 23	122440,1
1/13/16	1145	1200	VJS	COD	Test 23	122597
1/19/16	1410	1447	MER	COD	Test 23	122771,772,773,774,775
1/19/16	1645	1712	MER	HxCr+6 Soils	Test 28	122777

Reviewed By:_____

PROJECT _____ Notebook No. _____

Continued From Page _____

W18817 mwl 4-18-08	TOC St. Prep Stock Std. 1000mg/L into a 100ml Vol. dissolved 0.2128g Potassium Hydrogen Phthalate W16594 + brought to Vol. w/milliQ H_2O exp 10-18-08
W18818 mwl 4-18-08	TOC LCS/ICV Stock Std. 1000mg/L into a 100ml Vol. dissolved 0.2128g Potassium Hydrogen Phthalate W16192 + brought to Vol. w/ milliQ H_2O exp 10-18-08
W18819 KMB (A+B) 4-18-08	Baker Potassium Dichromate Cat # 3093-01 Lot # E18590 (2-bottles, A+B) Dry/Store
W18820 KMB 4-18-08	Spex Certiprep Custom Ion Std 1250 mg/L SO_4^-, 750 mg/L Cl^- and 175 mg/L Cat # VCTWI-3-500 Lot # 38-81AS exp 04/2009.
W18821 KMB 4-18-08	Spex Certiprep NO_2^- Std 1000 mg/L Cat # AS-NO2N9-2Y Lot # 1-81NO2N-2 exp. 4-15-2009
W18822 mwl 4-18-08	Pyridine Into a 500ml Vol. dissolved 7.5g Barbituric acid W17815 pipetted 7.5ml HCL W18474 + Volumetrically added 37.5ml Pyridine W17409 + brought to Vol. w/DI H_2O exp 4-25-08
W18823 mwl 4-18-08	Chloramines T Into a 500ml Vol. dissolved 2g W17811 + brought to Vol. w/DI H_2O exp 4-19-08
W18824 CES 4-21-08	NH_3 LCS. Into a 200ml Vol pipetted 1ml W18721 + filled to Vol w/ DI H_2O.
W18825 KMB 4-21-08	TVN Hypochlorite - Into a 500ml vol. pipetted 30ml Bleach W18141 and brought to Vol. w/DI H_2O, exp 4-22-08
W18826 KMB 4-21-08	0.8M NaOH - Into a 1L vol. dissolved 32g NaOH W18334 and brought to Vol. w/DI H_2O. exp. 5-21-08
W18827 KMB 4-21-08	Na Nitroprusside/Na Salicylate - Into a 1L vol. dissolved 150g Salicylate W17871 and 1g Nitroprusside W18517 and brought to vol. w/DI H_2O. exp. 5-21-08

Continued on Page

Read and Understood By

RM 4/23/08

Signed Date

PROJECT _____ Notebook No. _____ 31

Continued From Page _____

W33266 GES 1/7/14 — Sodium hypochlorite soln - Fisher cat # SS290-4 lot # 133042 exp 7/2014

W33267 GES 1/7/14 — NH_3 IL Hypochlorite: Into a 500mL vol. volumetrically calibrated 30mL W33266 & filled to mark w/ DI H_2O exp 1/8/14

W33268 BJS 1/7/14 — TKN MDL ✓: (0.46mg/L) Into a 100mL vol flask pipetted 0.46mL NH_3/TKN 1000mg/L Stock W33411e + filled to volume w/ DI. Then pipetted 20mL into TKN tube.

W33269 Bms 01/07/14 — Potassium Hydrogen Phthalate (KHP): Agros Organics Catalog #: 424061000, Lot#: A0317291 (Received 06/24/13)

W33270 AGK 01/07/14 — TOCW ICAL/CCV stock (1000mg/L): Into a 100mL vol, dissolved 0.2128g KHP (W 33269) and brought to volume w/ milli-Q H_2O Exp: 07/07/14

W33271 01/07/14 AGK — TOCW ICV/LCS stock (1000mg/L) Into a 100mL vol, dissolved 0.2128g KHP (W 29079) and brought to volume w/ milli-Q H_2O Exp: 07/07/14

W33272 01/07/14 AGK — TOCW CCV Std: Into a 100mL vol pipetted 5.0mL of W33270 and Brought to Volume with Milli-Q H_2O Exp: 02-07-14

W33273 01/07/14 AGK — TOCW LCS Std: Into a 100mL vol pipetted 5.0mL of W33271 and brought to volume w/ milli-Q H_2O Exp: 02-07-14

W33274 01/07/14 AGK — TOCW Ical: Into 7 50mL vol, pipetted 0.005, 0.25, 0.5, 1.25, 2.5, and 5.0mL of W33270 and brought to volume with milli-Q H_2O Exp: 02/07/14

Continued on Page

Read and Understood By

1/9/14 CS
Signed — Date — Signed — Date

W34206 MER 4/28/14

KHP Buffer (pH 3.1)

Into a large beaker dissolve 2.5g potassium hydrogen phthalate (KHP) W 29079 + W34207 in 450 ml CO_2-free DI water. Add 42.5ml of 0.1 M HCL W 33112 and adjust pH to 3.1± 0.05.

EXP (one week): 5/5/14

W34207 MER 4/28/14 Potassium Hydrogen Phthalate (KHP) - Fisher Scientific Cat # P243-100 Lot # 132808

W34208 AGK 04-28-14

IC ICAL Mixed Standard (50 mg/L):

Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite W32990, Fluoride W32406, Bromide W34057, Nitrate W33225, and Phosphate W32479 and brought to volume with Milli-Q DI H_2O.

EXP (48 Hours):04/30/14

IC ICAL

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_2O.

W34209 AGK 04-28-14

	1	2	3	4	5	6	7	8
mLs Mixed Std 50mg/L W34208	0	0.2	1.0	2.0	4.0	10.0	14.0	28.0
mLs Chloride 1000mg/L W34199	0	0.05	0.1	0.5	1.0	2.0	3.0	4.0
mLs Sulfate 1000mg/L W33537	0	0.05	0.1	0.5	1.0	3.0	5.0	7.0

EXP (48 Hours):04/30/14

W34210 CES 4/28/14

Cyanide In-Line Phosphate Buffer

Into a 1L volumetric flask, dissolve 97 g potassium dihydrogen phosphate monobasic W ~~32106~~ W33932 CES 4/28/14 and fill to volume with DI H_2O. Exp. (One month): 5/28/14

W34211 CES 4/28/14

Sodium Salicylate-Nitroprusside Color Reagent

Into a 1L volumetric flask dissolved 150g sodium salicylate W 34212 and 1g sodium nitroprusside W 33031 and brought to volume with DI H_2O.

EXP(1 month): 5/28/14

W34212 CES 4/28/14

CES 4/28/14

dd Sodium Salicylate - Alfa Aesar - cat # A17056 Lot # J03Z041

W34213 CES 4/28/14

0.8M Sodium Hydroxide

Into a 1L volumetric flask dissolved 32g NaOH W 33021 and brought to volume with DI H_2O. EXP(1 month): 5/28/14

Read and Understood By

9/9/14 CES

Signed _____ Date _____ Signed _____ Date _____

W34448 MER 5/23/14

TKN/ TPHOS Cupric ICal using 250mg/L working W 34447 and brought to volume with diluent W 34265 Exp (one month) 6/23/14

	mL 250mg/L working	Final volume (mL)	True Value (mg/L)	Corrected Value (mg/L)
A	8	100	20	21.0
B	3.2	50	16	16.8
C	10	250	10	10.5
D	0.8	50	4	4.2
E	0.4	50	2	2.1
F	0.2	50	1	1.05
G	0.04	50	0.2	0.21
H	0	50	0	0

W34449 AGK 5/23/14 Phosphate Standard 1000mg/L CCV/ICAL AccuSpec Lot # S140411008 Exp: 05-23-15

W34450 MER 5/23/14

Potassium Dichromate Digestion Solution

Into a 2L volumetric flask dissolve 66.6g mercuric sulfate W 29723 (W19633) + W 34451 MER 5/23/14 in about 500mL DI H_2O. Volumetrically add 334mL H_2SO_4 W 34363 and dissolve 20.42g potassium dichromate W 18819A then fill to volume with DI H_2O.

Exp (one year): 5/23/15

W34451 MER 5/23/14 Mercury (II) sulfate Acros Organics Code# 413651000 Lot # A0330723 cas: 7783-35-9

W34452 MER 5/23/14

TKN/ TPHOS Cupric Diluent

Into a 1L volumetric flask volumetrically add ~~800~~ 400 MER 5/23/14 mL cupric digestion solution W 34424 and fill to volume with DI H_2O. Exp (one month): 6/23/14

W34453 GS 5/24/14

Cr^{+6} ICal (200mg/L)

Into a 250mL volumetric flask pipette 5mL Ical/CCV working (10.0 mg/L) W ~~33822~~ W34460 and fill to volume with DI H_2O. Exp. ~~(one year)~~: 5/24/15 GS 5/24/14

W34454 GS 5/24/14

Cr^{+6} CCV (100µg/L)

Into a 250mL volumetric flask pipette 2.5mL Ical/CCV working (10mg/L) W ~~33822~~ W34460 and fill to volume with DI H_2O. Exp. ~~(one year)~~: 5/24/15 GS 5/24/14

W34455 GS 5/24/14

Cr^{+6} ICV/LCS (100µg/L)

Into a 250mL volumetric flask pipette 2.5mL ICV/LCS working (10mg/L) W 34462 and fill to volume with DI H_2O. Exp. (one year): 5/24/15

Continued on Page

Read and Understood By

5/31/14 GS

Signed | Date | Signed | Date

WetChem Logbook 3
02/04/2015
NOTEBOOK VIEW: LTN_WetChem_3_Default, NOTEBOOK: WetChem_3, PAGE: 54
Page is Locked
Author: mradske on: 27.05.2015 17:17:54
Page is not Witnessed
Project: Unassigned
Page Title: 042815

Standard Log #:	W36769	Reagent:	NO2 NO3 BUFFER
Analyst:	MER		
Prep Date:	4/28/15	Expiration Date (1 Month):	5/28/15
Prep:	Into a 1 L volumetric flask dissolve 85g ammonium chloride W31507 and 1g EDTA W35251 and fill to volume with DI H_2O and degas. Adjust pH to 8.5 with 15 N NaOH W34485		

Standard Log #:	W36770	Reagent:	CN SOLID BUFFER
Analyst:	MER		
Prep Date:	4/28/15	Expiration Date (1 Month):	5/28/15
Prep:	Into a 500 mL volumetric flask dissolved 48.5 g potassium phosphate monobasic W35758 and brought to volume with DI H_2O.		

Standard ID#:	W36771	Vendor:	MACRON
Analyst:	LJS	Chemical:	SULFURIC ACID
Date Received:	N/A	Lot #:	91540
Expiration Date (if any):	9/9/19	Catalog #:	5557-46

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WetChem Logbook 3

02/04/2015

NOTEBOOK VIEW: LTN_WetChem_3_Default, NOTEBOOK: WetChem_3, PAGE: 62
Page is Locked
Author: mradske on: 27.05.2015 17:21:36
Page is not Witnessed
Project: Unassigned
Page Title: 051115

Standard Log #:	W36859	Reagent:	COD ICAL/CCV STK
Analyst:	LJS	Concentration:	1000 mg/L
Prep Date:	5/11/15	Expiration Date (3 Months):	8/11/15
Prep:	Into a 500mL volumetric flask dissolve 0.425g Potassium Hydrogen Phthalate W33269 and fill to volume with DI H_2O.		

Standard Log #:	W36860	Reagent:	COD SPIKE/ LCS STK
Analyst:	LJS	Concentration:	2000 mg/L
Prep Date:	5/11/15	Expiration Date (3 Months):	8/11/15
Prep:	Into a 500mL volumetric flask dissolve 0.85g Potassium Hydrogen Phthalate (KHP) W34207 and fill to volume with DI H_2O.		

Standard Log #:	W36861	Standard:	COD CCV
Analyst:	LJS	Concentration:	400 mg/L
Prep Date:	5/11/15	Expiration Date (3 Months):	8/11/15
Prep:	Into a 250mL volumetric flask volumetrically added 100ml ICal/CCV Stock (1000mg/L) W36859 and fill to volume with DI H_2O.		

Standard Log #:	W36862	Standard:	COD LCS
Analyst:	LJS	Concentration:	400 mg/L
Prep Date:	5/11/15	Expiration Date (3 Months):	8/11/15
Prep:	Into a 250mL volumetric flask, pipette 50mL of 2000mg/L COD Spike/LCS Stock (1) and fill to volume with DI water. (1) W36860		

Standard Log #:	W36863	Reagent:	H2SO4/ AG SULFATE
Analyst:	LJS		
Prep Date:	5/11/15	Expiration Date (1Year):	5/11/16
Prep:	Into a new 2.5 L sulfuric acid W36864 dissolve 25g silver sulfate W36865 .		

Standard ID#:	W36864	Vendor:	FISHER
Analyst:	LJS	Chemical:	SULFURIC ACID
Date Received:	N/A	Lot #:	150268
Expiration Date (if any):	N/A	Catalog #:	7664-93-9

Standard ID#:	W36865	Vendor:	FISHER
Analyst:	LJS	Chemical:	SILVER SULFATE
Date Received:	N/A	Lot #:	150577
Expiration Date (if any):	N/A	Catalog #:	190-25

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WetChem Logbook 3

02/04/2015

NOTEBOOK VIEW: LTN_WetChem_3_Default, NOTEBOOK: WetChem_3, PAGE: 73

Page is Locked

Author: mradske on: 27.05.2015 17:25:41

Page is not Witnessed

Project: Unassigned

Page Title: 052715

Standard Log #:	W36944	Reagent:	DICHROMATE DIG
Analyst:	MER		
Prep Date:	5/27/15	Expiration Date (1Year):	5/27/16
Prep:	Into a 2L volumetric flask dissolve 66.6g mercuric sulfate W34451 in about 500mL DI H_2O. Volumetrically add 334mL H_2SO_4 W36771 and dissolve 20.42g potassium dichromate W18819A then fill to volume with DI H_2O.		

Standard Log #:	W36945	Reagent:	COD ICAL
Analyst:	MER		
Prep Date:	5/27/15	Expiration Date (3 Months):	8/27/15
Prep:	Use ICal/CCV Stock (1000mg/L) W36859 and fill to a final volume of 100 mL with DI H_2O.		

	ICal Stock (mLs)	True Value (mg/L)
A	0	0
B	1	10
C	2.5	25
D	5	50
E	10	100
F	50	500
G	75	750

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LPWC-04
WetChem Prep Logbook
Logbook Created 07/07/15

NOTEBOOK VIEW: LTN_WetChem_4_Default, NOTEBOOK: WetChem_4, PAGE: 29
Page is Locked
Author: mradske on: 18.08.2015 14:29:04
Witness: lsilvers on: 19.08.2015 16:05:38
Project: Unassigned
Page Title: 081715

Standard Log #:	W37432	Reagent:	COD ICAL/CCV STK
Analyst:	MER	Concentration:	1000 mg/L
Prep Date:	8/17/15	Expiration Date (3 Months):	11/17/15
Prep:	Into a 500mL volumetric flask dissolve 0.425g Potassium Hydrogen Phthalate W33269 and fill to volume with DI H_2O.		

Standard Log #:	W37433	Standard:	COD CCV
Analyst:	MER	Concentration:	400 mg/L
Prep Date:	8/17/15	Expiration Date (3 Months):	11/17/15
Prep:	Into a 250mL volumetric flask volumetrically added 100ml ICal/CCV Stock (1000mg/L) W37432 and fill to volume with DI H_2O.		

Standard Log #:	W37434	Reagent:	COD SPIKE/ LCS STK
Analyst:	MER	Concentration:	2000 mg/L
Prep Date:	8/17/15	Expiration Date (3 Months):	11/17/15
Prep:	Into a 500mL volumetric flask dissolve 0.85g Potassium Hydrogen Phthalate (KHP) W34207 and fill to volume with DI H_2O.		

Standard Log #:	W37435	Standard:	COD LCS
Analyst:	MER	Concentration:	400 mg/L
Prep Date:	8/17/15	Expiration Date (3 Months):	11/17/15
Prep:	Into a 250mL volumetric flask, pipette 50mL of 2000mg/L COD Spike/LCS Stock (1) and fill to volume with DI water. (1) W37434		

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LPWC-04
WetChem Prep Logbook
Logbook Created 07/07/15

NOTEBOOK VIEW: LTN_WetChem_4_Default, NOTEBOOK: WetChem_4, PAGE: 30
Page is Locked
Author: mradske on: 19.08.2015 09:20:23
Witness: lsilvers on: 19.08.2015 16:05:57
Project: Unassigned
Page Title: 081815

Standard Log #:	W37443	Reagent:	COD ICAL
Analyst:	MER		
Prep Date:	8/18/15	Expiration Date (3 Months):	11/18/15

Prep:

Use ICal/CCV Stock (1000mg/L) W37432 and fill to a final volume of 100 mL with DI H_2O.

	ICal Stock (mLs)	True Value (mg/L)
A	0	0
B	1	10
C	2.5	25
D	5	50
E	10	100
F	50	500
G	75	750

LPWC-04
WetChem Prep Logbook
Logbook Created 07/07/15

NOTEBOOK VIEW: LTN_WetChem_4_Default, NOTEBOOK: WetChem_4, PAGE: 93
Page is Locked
Author: mradske on: 17.11.2015 10:07:56
Witness: LSILVERS on: 18.11.2015 10:27:36
Project: Unassigned
Page Title: 111615

Standard Log #:	W37960	Reagent:	H2SO4/ AG SULFATE
Analyst:	MER		
Prep Date:	11/16/15	Expiration Date (1Year):	11/16/16
Prep:	Into a new 2.5 L sulfuric acid W37961 dissolve 25g silver sulfate W37840 .		

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LPWC-04
WetChem Prep Logbook
Logbook Created 07/07/15

NOTEBOOK VIEW: LTN_WetChem_4_Default, NOTEBOOK: WetChem_4, PAGE: 100
Page is Locked
Author: LSILVERS on: 01.12.2015 12:44:27
Page is not Witnessed
Project: Unassigned
Page Title: 113015

Standard ID#:	W38024	Vendor:	VWR
Analyst:	LJS	Chemical:	SODIUM CARBONATE ANHYDROUS
Date Received:	11/30/15	Lot #:	1205C104
Expiration Date (if any):	N/A	Catalog #:	0585-500G

Standard Log #:	W38025	Reagent:	COD SPIKE/ LCS STK
Analyst:	LJS	Concentration:	2000 mg/L
Prep Date:	11/30/15	Expiration Date (3 Months):	2/30/16
Prep:	Into a 500mL volumetric flask dissolve 0.85g Potassium Hydrogen Phthalate (KHP) W34207 and fill to volume with DI H_2O.		

Standard Log #:	W38026	Standard:	COD LCS
Analyst:	LJS	Concentration:	400MG/L

Prep Date:	11/30/15	Expiration Date (3 Months):	2/30/15
Prep:	Into a 250mL volumetric flask, pipette 50mL of 2000mg/L COD Spike/LCS Stock (1) and fill to volume with DI water. (1) W38025		

Standard Log #:	W38027	Reagent:	COD ICAL/CCV STK
Analyst:	LJS	Concentration:	1000 mg/L
Prep Date:	11/30/15	Expiration Date (3 Months):	2/30/15
Prep:	Into a 500mL volumetric flask dissolve 0.425g Potassium Hydrogen Phthalate W33269 and fill to volume with DI H_2O.		

Standard Log #:	W38028	Standard:	COD CCV
Analyst:	LJS	Concentration:	400 mg/L
Prep Date:	11/30/15	Expiration Date (3 Months):	2/30/15
Prep:	Into a 250mL volumetric flask volumetrically added 100ml ICal/CCV Stock (1000mg/L) W38027 and fill to volume with DI H_2O.		

WPH Analytical Run
122651 on 1/14/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
116448	679984		1/12/2016	1510		BERING SEA ENVIRONMENTAL	RADFORD AAP	PH		GW	**4**	
		54ADW01										
	680645		1/12/2016	1510				PH				
		54ADW01			DUP 679984							

2 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

FWC20,21-01
Data Validation Checklist

LIMS #: 122651	Method: pH EPA 150.1			
Analysis Date	Analyst / Data Interpreter	Independent Reviewer	Date of Review	Approved
1/14/16	CS	JB	1/12/16	(Yes) ... No

Instructions: Complete one checklist per *analytical run.* Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement:	Acceptance Criteria	Analyst Review		Independent Review		Comments: (indicate reference to an attachment if necessary)
		Yes	No	Yes	No	
1. Was the calibration slope recorded on the bench sheet?	---	X		X		
2. Were duplicates analyzed at the appropriate frequency?	1 every 20 samples of the same matrix	X		X		
3. Were the duplicates within acceptable limits?	Differ by ≤ 0.10 pH units	X		X		
4. Are all samples on the job lists accounted for?	---	X		X		

WPH Analytical Run
122842 on 1/21/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	683005		1/15/2016	1605					PH				
		49ADW01			DUP	681538							
116524	681538		1/15/2016	1605			BERING SEA ENVIRONMENTAL	RADFORD AAP	PH		GW	**4**	
		49ADW01											

2 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

CT Laboratories

FWC20,21-01
Data Validation Checklist

LIMS #: 127842	Method: pH EPA 150.1			
Analysis Date	Analyst / Data Interpreter	Independent Reviewer	Date of Review	Approved
1/21/16	CS	JF	1/21/16	(Yes) ... No

Instructions: Complete one checklist per *analytical run.* Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement:	Acceptance Criteria	Analyst Review		Independent Review		Comments: (indicate reference to an attachment if necessary)
		Yes	No	Yes	No	
1. Was the calibration slope recorded on the bench sheet?	---	X		X		
2. Were duplicates analyzed at the appropriate frequency?	1 every 20 samples of the same matrix	X		X		
3. Were the duplicates within acceptable limits?	Differ by ≤ 0.10 pH units	X		X		
4. Are all samples on the job lists accounted for?	---	X		X		

Mettler Toledo (Easy Seven) Instrument Run Logbook

Date / It.	Start Time	End Time	Test (Analyte)	Sample Run # (s) / Prep Batch # (s)	Comments:
10/22/15 MER	1140	1338	pH	120085, 86, 87, 88	
10/30/15 MER	1100	1300	pH	120437, 36, 38, 42, 43	
11/3/15 MER	1200	1400	Hex Cr 7196 15	120518	
11/6/15 MER	1400	1630	pH	120706	
11/9/15 MER	1500	1625	pH	120746, 750, 751, 752	
11/13/15 MER	1405	1520	pH	120940, 941, 942	
11/16/15 MER	1500	1530	pH	120004, 5	
11/19/15 MER	1000	1630	pH	121110, 121135	
11/23/15 MER	1230	1330	pH	121290 92, 93	
12/1/15 MER	1540	1610	pH	121365, 387	
12/8/15 MER	1130	1230	pH	121636, 7, 4, 3, 5, 2	
12/14/15 MER	1400	1625	pH	121899, 900, 901, 902, 903	
12/18/15 MER	1015	1205	pH	122070, 71, 72, 73	
12/23/15 MER	1140	1210	pH	122194, 122195	
12/30/15 MER	1115	1205	pH	122333, 334, 335	
1/6/16 MER	0900	1000	pH	122437	
1/7/16 MER	1130	1200	pH	122490	
1/14/16 CES	1000	1130	pH	122646, 647, 651	
1/19/16 MER	1625	1635	Hex Cr +6 Soils	122777	
1/21/16 CES	1000	1130	pH	122841, 842, 843	
1/26/16 CES	1000	1200	pH	122948	

Reviewed By:_____

Daily pH Calibration & Maintenance Logbook

	pH Buffer Reference ID #	----3 Point Calibration----	

Date	Analyst	pH 7	pH 4	pH 10	1St Buffer	2nd Buffer	3rd Buffer	Slope %	Temp. °C	Comments / Maintenance Performed (if any)
1/6/16	JJF	W36459	W36995	W38037	7.03	4.00	10.01	94	17.8	
1/6/16	[illegible]	W36459	W36995	W38037	7.03	4.00	10.09	95	17.7	
1/7/16	MER	W36459	W36995	W38037	7.03	4.00	10.08	95	18.0	
1/14/16	[illegible]	W36459	W36995	W38037	7.03	4.00	10.09	95	18.3	
1/19/16	MER	W36459	W36995	W38037	7.02	4.00	10.07	95	19.2	
1/21/16	[illegible]	W36459	W36995	W38037	7.03	4.00	10.08	95	18.4	

Page 2304

Reviewed By:_____

WetChem Logbook 3
02/04/2015
NOTEBOOK VIEW: LTN_WetChem_3_Default, NOTEBOOK: WetChem_3, PAGE: 16
Page is Unlocked
Page is not Witnessed
Project: Unassigned
Page Title: 022615

Standard ID#:	W36459	Vendor:	MG SCIENTIFIC
Analyst:	MER	Chemical:	PH 7 BUFFER
Date Received:	11/8/14	Lot #:	4408476
Expiration Date (if any):	08/2016	Catalog #:	1551-1

Standard Log #:	W36460	Standard:	RESIDUAL CL LCS
Analyst:	MER	Concentration:	1mg/L
Prep Date:	2/26/15	Expiration Date (2 Years):	2/26/17
Prep:	Into a 100 mL volumetric flask, pipette 0.1mL potassium permanganate stock (1000 mg/L) W33725 and fill to volume with DI H_2O.		

Standard Log #:	W36461	Standard:	TKN/TPHOS Spiking Solution
Analyst:	MER	Concentration:	200mg/L NH_3 as N and PO_4^{-3} as P
Prep Date:	2/26/15	Expiration Date (1 month):	3/26/15
Prep:	Into a 100mL volumetric flask, pipetted 20mL of TPHOS ICV/LCS Stock Standard (1000mg/L) W36090 and 20mL NH_3/TKN ICV/LCS Stock Standard (1000mg/L) W35823 and brought to volume with DI H_2O.		

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WetChem Logbook 3
02/04/2015
NOTEBOOK VIEW: LTN_WetChem_3_Default, NOTEBOOK: WetChem_3, PAGE: 77
Page is Locked
Author: mradske on: 03.06.2015 09:18:44
Page is not Witnessed
Project: Unassigned
Page Title: 060215

Standard Log #:	W36993	Standard:	LCS/ICV Working
Analyst:	MML	Concentration:	10 mg/L
Prep Date:	6/2/15	Expiration Date (1 Week):	6/9/15
Prep:	Into a 100 mL volumetric flask pipette 1 mL CN LCS/ICV stock (1000mg/L) W36845 and fill to volume with 0.25N NaOH W36990 .		

Standard Log #:	W36994	Standard:	CN SOLID LCS/ICV
Analyst:	MML	Concentration:	50 pg/L
Prep Date:	6/2/15	Expiration Date (1 Week):	6/9/15
Prep:	Into a 200 mL volumetric flask pipetted 1 mL CN LCS/ICV **WORKING STD** 10,000 µg/L W36993 and brought to volume with 0.25 M NaOH W36990		

Standard ID#:	W36995	Vendor:	RICCA
Analyst:	MER	Chemical:	PH 4 BUFFER
Date Received:	5/29/15	Lot #:	4505426
Expiration Date (if any):	5/31/17	Catalog #:	1501-1

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Ct Laboratories LLC

LPWC01_05
WetChem Prep Logbook
Logbook Created: 11/25/15

NOTEBOOK VIEW: LTN_LPWC01_5_Default, NOTEBOOK: LPWC01_5, PAGE: 1
Page is Locked
Author: mradske on: 02.12.2015 15:41:32
Witness: lsilvers on: 03.12.2015 20:23:30
Project: Unassigned
Page Title: 120115

Standard ID#:	W38037	Vendor:	RICCA
Analyst:	MER	Chemical:	PH 10 BUFFER
Date Received:	11/24/15	Lot #:	2509915
Expiration Date (if any):	MAR 2017	Catalog #:	1601-1CT

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CT Laboratories, LLC

WORGANIC CARBON QSM 5.0 Analytical Run
122608 on 02/04/16

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	686999								WORGANIC CARBON QSM 5.0				
					ICV								
	687000								WORGANIC CARBON QSM 5.0				
					ICB								
	680400								WORGANIC CARBON QSM 5.0				
					CCV					0			
	680401								WORGANIC CARBON QSM 5.0				
					LCSW					0			
	680402								WORGANIC CARBON QSM 5.0				
					MBW					0			
116426	679481		01/11/16	1415			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	4	
		54MW10											
116426	679483		01/11/16	1415			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	4	
		54TM10											
	680406								WORGANIC CARBON QSM 5.0				
					CCV					0			
	680407								WORGANIC CARBON QSM 5.0				
					CCB					0			
	680412								WORGANIC CARBON QSM 5.0				
					CCV					0			
	680413								WORGANIC CARBON QSM 5.0				
					CCB					0			
	680415								WORGANIC CARBON QSM 5.0				
					CCV					0			
	680416								WORGANIC CARBON QSM 5.0				
					CCV					0			
	680417								WORGANIC CARBON QSM 5.0				
					CCB					0			
116448	679979		01/12/16	1200			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	4	
		54MW12			Designated MS/MSD								
	680418		01/12/16	1200					ORGAN CARBON T QSM 5.0				
		54MW12			DUP	679979				0			
	680419		01/12/16	1200					ORGAN CARBON T QSM 5.0				
		54MW12			MSW	679979				0			
	680458		01/12/16	1200					ORGAN CARBON T QSM 5.0				
		54MW12			MSDW	680419							
116448	679981		01/12/16	0900			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	4	
		54MW1											

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WORGANIC CARBON QSM 5.0 Analytical Run
122608 on 02/04/16

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
116448	679983		01/12/16 1505		BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	**4**	
		54MW13									
	680421						WORGANIC CARBON QSM 5.0				
				CCV				0			
	680422						WORGANIC CARBON QSM 5.0				
				CCB				0			

22 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

W CARBON, INORG & ORG Analytical Run
122618 on 02/04/16

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	680425							W CARBON, INORG & ORG				
					CCV				0			
	680426							W CARBON, INORG & ORG				
					LCSW				0			
	680427							W CARBON, INORG & ORG				
					MBW				0			
	680430							W CARBON, INORG & ORG				
					CCV				0			
	680431							W CARBON, INORG & ORG				
					CCB				0			
116426	679483	54TM10	01/11/16	1415		BERING SEA ENVIRONMENTAL	RADFORD AAP	CARBON, INORG & ORG		GW	**4**	
116448	679979	54MW12	01/12/16	1200	Designated MS/MSD	BERING SEA ENVIRONMENTAL	RADFORD AAP	CARBON, INORG & ORG		GW	**4**	
116448	679981	54MW1	01/12/16	0900		BERING SEA ENVIRONMENTAL	RADFORD AAP	CARBON, INORG & ORG		GW	**4**	
116448	679983	54MW13	01/12/16	1505		BERING SEA ENVIRONMENTAL	RADFORD AAP	CARBON, INORG & ORG		GW	**4**	
	680433	54MW12	01/12/16	1200				CARBON, INORG & ORG				
					DUP 679979				0			
116426	679481	54MW10	01/11/16	1415		BERING SEA ENVIRONMENTAL	RADFORD AAP	CARBON, INORG & ORG		GW	**4**	
	680436							W CARBON, INORG & ORG				
					CCV				0			
	680437							W CARBON, INORG & ORG				
					CCB				0			
	680439							W CARBON, INORG & ORG				
					CCV				0			
	680440							W CARBON, INORG & ORG				
					CCV				0			
	680441							W CARBON, INORG & ORG				
					CCB				0			

16 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

FWC39-01 Data Review Checklist

		Method: Total Organic Carbon Method 415.1/9060		Independent Data Review Checklist		
LIMS Run #(s)	**Analysis Date**	**Interpreter**	**Independent Reviewer**	**Date of Review**	**Approved? (Yes or No)**	
122566, 122567, 122608, 122618	01/13/16	JJF	RLD	01/14/16	Yes	

Instructions: Complete one checklist per *analytical sequence* . Enter the appropriate response for each question.
Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

		Analyst Review		**Independent Review**		**Comments:**
		Yes	No	Yes	No	(indicate reference to an attachment if necessary)
1. Were the samples preserved prior to analysis and analyzed within hold time?	pH <2, 28 days or program/project specific	Yes		Yes		If No: Qualify data analyzed after hold time (H).
2. Was the calibration curve performed using the required number of standards?	3 standards and a blank	Yes		Yes		If No: Recalibrate using required number of standards.
3. Was the correlation coefficient acceptable?	r ≥ .995	Yes		Yes		If No: Recalibrate.
4. Were the ICV and ICB analyzed?	---	Yes		Yes		If No: Analyze ICV and ICB prior to any sample analyses.
5. Was the ICV result acceptable?	90 – 110 % Rec. or contract/program specific	Yes		Yes		If No: Reanalyze, if NO after second analysis, address problem and recalibrate.
6. Was the ICB result acceptable?	< LOD or contract/program specific	Yes		Yes		If No: address possible contamination and reanalyze.
7. Was an LCS & MB run with each batch of samples?	One each per analytical batch or contract/program specific frequency.	Yes		Yes		If No: Reanalyze affected samples with appropriate QC.
8. Was the LCS recovery acceptable?	In-house derived or contract/program specific limits.	Yes		Yes		If No: Reanalyze affected samples with an acceptable LCS when possible, otherwise qualify affected samples (Q).
9. Were the MB results acceptable?	< LOD or project/ program specific (<1/2 RL for DOD-QSM).	Yes		Yes		If No: Reanalyze affected samples with acceptable MB when possible, otherwise qualify affected samples (B).
10. Were the CCV's analyzed at the required frequency?	Beginning, after every 10 sample, & at the end of a sequence.	Yes		Yes		If No: Reanalyze affected samples with appropriate CCV intervals.
11. Were the CCB's analyzed at the required frequency?	After each CCV (unless MB analyzed after CCV)	Yes		Yes		If No: Reanalyze affected samples with appropriate CCB intervals.
12. Were the CCV recoveries acceptable?	90 – 110 % Rec. or project/ program specific		No		No	If No: Reanalyze affected samples.
13. Were the CCB results acceptable?	< LOD or project/ program specific	Yes		Yes		If No: Reanalyze affected samples with acceptable CCB when possible, otherwise qualify affected samples (B).

14. Were all positive results that were reported within the calibration curve?	---	Yes		Yes		If No: Dilute sample and reanalyze.
15. Was an MS and MSD analyzed at the required frequency?	1 / 20 of the same matrix or project/ program specific	Yes		Yes		If No: Prepare and analyze the matrix spikes.
16. Were the MS and MSD recoveries acceptable?	In-house derived or project/ program specific limits	Yes		Yes		If No: Qualify the affected parent sample result (M).
17. Was the RPD between the MS and MSD acceptable?	In-house derived or project/ program specific limits	Yes		Yes		If No: Qualify the affected parent sample result (Y).
18. Was a Duplicate analyzed at the required frequency?	1 per 20 of the same matrix or contract/program specific	Yes		Yes		If No: Analyze the duplicate for appropriate sample.
19. Was the RPD between the Duplicate (if valid) and the sample acceptable?	In-house derived or project/ program specific limits (QSM samples, duplicate only valid when sample result ≥5x the LOQ)		No		No	If No: Qualify the affected parent sample result (Y). Dup <LOD = Invalid
20. Are all samples on the job lists accounted for?	---	Yes		Yes		If No: Analyze samples that were missed.
21. Is the standards prep log numbers noted on the analytical report?	---	Yes		Yes		If No: Document the standards used for calibration and analysis.
22. Were post analysis corrections addressed and/or the Audit Trail function turned on (if available)?	Correction should be initialed, dated, and reason given. Audit trail must be on (if available)	Yes		Yes		If No: Initial, date, and state reason for any changes or corrections.
23. Were non-matrix related nonconformities (if applicable) documented in the NCR spreadsheet?	---	Yes		Yes		If No: Enter nonconformity information into the NCR spreadsheet before data review/validation.

WORGANIC CARBON QSM 5.0 Analytical Run
122770 on 02/04/16

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	682451						WORGANIC CARBON QSM 5.0				
				CCV				0			
	682452						WORGANIC CARBON QSM 5.0				
				LCSW				0			
	682453						WORGANIC CARBON QSM 5.0				
				MBW				0			
116472	680616	13MW3	01/13/16 0915		BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	4	
116472	680618	49TM01	01/13/16 0915		BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	4	
116472	680620	13MW4	01/13/16 1105		BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	4	
116472	680622	49MW04	01/13/16 1225		BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	4	
116472	680624	13MW2	01/13/16 1335		BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	4	
116472	680626	49MW05	01/13/16 1510		BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	4	
116472	680629	13MW5	01/13/16 1620		BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	4	
116508	681414	48MW07	01/14/16 0900		BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	4	
116508	681416	48MW06	01/14/16 1050		BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	4	
116508	681418	48MW1	01/14/16 1230		BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	4	
	682454						WORGANIC CARBON QSM 5.0				
				CCV				0			
	682455						WORGANIC CARBON QSM 5.0				
				CCB				0			
	683425						WORGANIC CARBON QSM 5.0				
				CCV				0			
	683426						WORGANIC CARBON QSM 5.0				
				CCB				0			
116508	681420	49MW03	01/14/16 1415		BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	4	
116508	681422	49MW01	01/14/16 1645		BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	4	

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WORGANIC CARBON QSM 5.0 Analytical Run
122770 on 02/04/16

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
116524	681528		01/15/16	0925			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	**4**	
		49MW02											
116524	681531		01/15/16	1110			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	**4**	
		48MW3											
116524	681533		01/15/16	1345			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	**4**	
		48MW2			Designated MS/MSD								
	683427		01/15/16	1345					ORGAN CARBON T QSM 5.0				
		48MW2			DUP	681533				0			
	683428		01/15/16	1345					ORGAN CARBON T QSM 5.0				
		48MW2			MSW	681533				0			
	683429		01/15/16	1345					ORGAN CARBON T QSM 5.0				
		48MW2			MSDW	683428				0			
116524	681535		01/15/16	1640			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	**4**	
		50MW02											
116524	681537		01/15/16	1650			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	**4**	
		011516R1											
	683430								WORGANIC CARBON QSM 5.0				
					CCV					0			
	683434								WORGANIC CARBON QSM 5.0				
					CCB					0			

29 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

FWC39-01 Data Review Checklist

		Method: Total Organic Carbon Method 415.1/9060		Independent Data Review Checklist	
LIMS Run #(s)	**Analysis Date**	**Interpreter**	**Independent Reviewer**	**Date of Review**	**Approved? (Yes or No)**
122769 122770 122776	01/19/16	JJF	RLD	01/25/16	Yes

Instructions: Complete one checklist per *analytical sequence* . Enter the appropriate response for each question.
Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

		Analyst Review		**Independent Review**		**Comments:**
		Yes	No	Yes	No	(indicate reference to an attachment if necessary)
1. Were the samples preserved prior to analysis and analyzed within hold time?	pH <2, 28 days or program/project specific	Yes		Yes		If No: Qualify data analyzed after hold time (H).
2. Was the calibration curve performed using the required number of standards?	3 standards and a blank	Yes		Yes		If No: Recalibrate using required number of standards.
3. Was the correlation coefficient acceptable?	r ≥ .995	Yes		Yes		If No: Recalibrate.
4. Were the ICV and ICB analyzed?	---	Yes		Yes		If No: Analyze ICV and ICB prior to any sample analyses.
5. Was the ICV result acceptable?	90 – 110 % Rec. or contract/program specific	Yes		Yes		If No: Reanalyze, if NO after second analysis, address problem and recalibrate.
6. Was the ICB result acceptable?	< LOD or contract/program specific	Yes		Yes		If No: address possible contamination and reanalyze.
7. Was an LCS & MB run with each batch of samples?	One each per analytical batch or contract/program specific frequency.	Yes		Yes		If No: Reanalyze affected samples with appropriate QC.
8. Was the LCS recovery acceptable?	In-house derived or contract/program specific limits.	Yes		Yes		If No: Reanalyze affected samples with an acceptable LCS when possible, otherwise qualify affected samples (Q).
9. Were the MB results acceptable?	< LOD or project/ program specific (<1/2 RL for DOD-QSM).	Yes		Yes		If No: Reanalyze affected samples with acceptable MB when possible, otherwise qualify affected samples (B).
10. Were the CCV's analyzed at the required frequency?	Beginning, after every 10 sample, & at the end of a sequence.	Yes		Yes		If No: Reanalyze affected samples with appropriate CCV intervals.
11. Were the CCB's analyzed at the required frequency?	After each CCV (unless MB analyzed after CCV)	Yes		Yes		If No: Reanalyze affected samples with appropriate CCB intervals.
12. Were the CCV recoveries acceptable?	90 – 110 % Rec. or project/ program specific	Yes		Yes		If No: Reanalyze affected samples.
13. Were the CCB results acceptable?	< LOD or project/ program specific	Yes		Yes		If No: Reanalyze affected samples with acceptable CCB when possible, otherwise qualify affected samples (B).

14. Were all positive results that were reported within the calibration curve?	---	Yes		Yes		If No: Dilute sample and reanalyze.
15. Was an MS and MSD analyzed at the required frequency?	1 / 20 of the same matrix or project/ program specific	Yes		Yes		If No: Prepare and analyze the matrix spikes.
16. Were the MS and MSD recoveries acceptable?	In-house derived or project/ program specific limits	Yes		Yes		If No: Qualify the affected parent sample result (M).
17. Was the RPD between the MS and MSD acceptable?	In-house derived or project/ program specific limits	Yes		Yes		If No: Qualify the affected parent sample result (Y).
18. Was a Duplicate analyzed at the required frequency?	1 per 20 of the same matrix or contract/program specific	Yes		Yes		If No: Analyze the duplicate for appropriate sample.
19. Was the RPD between the Duplicate (if valid) and the sample acceptable?	In-house derived or project/ program specific limits (QSM samples, duplicate only valid when sample result ≥5x the LOQ)		No		No	If No: Qualify the affected parent sample result (Y).
20. Are all samples on the job lists accounted for?	---	Yes		Yes		If No: Analyze samples that were missed.
21. Is the standards prep log numbers noted on the analytical report?	---	Yes		Yes		If No: Document the standards used for calibration and analysis.
22. Were post analysis corrections addressed and/or the Audit Trail function turned on (if available)?	Correction should be initialed, dated, and reason given. Audit trail must be on (if available)	Yes		Yes		If No: Initial, date, and state reason for any changes or corrections.
23. Were non-matrix related nonconformities (if applicable) documented in the NCR spreadsheet?	---	Yes		Yes		If No: Enter nonconformity information into the NCR spreadsheet before data review/validation.

TOC Instrument Run Logbook

Start Date	Start Time	End Date	End Time	Analyst	LIMs Run #	Matrix (S or W)	Calibration ID #	COMMENTS
12/23/15	11:38	12/23/15	16:09	JJF	122221	S	W35182	
12/28/15	09:47	12/28/15	15:09	JJF	122262 122263 (122264)	W	W34137	
01/12/16	14:13	01/12/16	17:52	JJF	122566 122567 ~~122596~~ (122608 JJF)	W	W34137	Blank hit RR
01/13/16	09:28	01/13/16	19:40	JJF	RR 122566 122567 ~~122596~~ (122608 JJF)	W	W34137	
01/15/16	12:55	01/15/16	15:38	JJF	122674 122675 MDL	S	W35182	
01/19/16	10:51	01/20/16	2:52	JJF	122769 122770 122776	W	W34137	Blanks contaminated RR
01/20/16	11:07	1/20/16	15:05	JJF	RR 122770 122776	W	W34137	Fix Drain Blanks contamination Clean system
01/21/16	15:23	1/22/16	0:14	JJF	RR 122770 122776	W	W34137	
01/22/16	14:35	01/22/16	16:57	JJF	TOC0058	W	TOC0058	Calibration water
01/25/16	11:04	01/25/16	14:17	JJF	or MDL	W	TOC0058B	← JJF 1/28 MDL
01/25/16	16:08	01/25/16	18:23	JJF	TOC0058B	W	TOC0058B	01/26/16 Calibration
01/26/16	16:40	01/26/16	20:10	JJF	MDL	W	TOC0058B	MDL
01/28/16	11:56	01/28/16	13:12	JJF	TOC0061 012816	S	TOC0061	Calibration soil
01/28/16	~~11:06~~ 14:20 JJF 1/28	01/28/16	~~14:55~~ 15:37 JJF 1/28	JJF	123011	S	T0061	RR CCV failed
01/29/16	11:06	01/29/16	14:41	JJF	T0062 ✓ T0063	S	T0062 + T0063	ICV failed
02/02/16	11:15	02/02/16	12:14	JJF	123011	S	T0061	
02/03/16				JJF	123130 123131	W	TOC0058B	

Reviewed By:_____

LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

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Standard Log #:	TOC0057	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	01/20/2016	Expiration Date (1 Month):	02/20/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015
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Standard Log #:	TOC0055	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	01/19/2016	Expiration Date (1 Month):	02/19/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0056	Standard:	TOCW LCS Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	01/19/2016	Expiration Date (1 Month):	02/19/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0011 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0057	Standard/Reagent:	TOCW MDL STUDY
Analyst:	JJF	Final Concentration:	1 mg/L
Prep Date:	01/19/2016	Expiration Date:	01/21/2016
Prep:	Into 8 100 mL volumetric flasks add 0.10 mL TOC CCV Standard (TOC0049) @ 1000 mg/L and dilute to 100 mL with Milli-Q water.		

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

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Page Title: 121615

Standard Log #:	TOC0050	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	12/16/2015	Expiration Date (1 Month):	1/16/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0051	Standard:	TOCW LCS Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	12/16/2015	Expiration Date (1 Month):	1/16/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0011 and brought to volume with Milli-Q DI H_2O.		

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

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Page is Locked
Author: JFAUST on: 16.12.2015 15:27:30
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Project: Unassigned
Page Title: 120215

Standard Log #:	TOC0049	Standard/Reagent:	TOC STANDARD
Analyst:	JJF	Final Concentration:	1002 mg/L
Prep Date:	12/02/2015	Expiration Date:	09/30/2017
Prep:	TOC STANDARD lot # CM-4449 Catalog # IQC-106		

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 30
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Author: jfaust on: 01.12.2015 10:24:06
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Project: Unassigned
Page Title: 113015

Standard Log #:	TOC0048	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	11/30/2015	Expiration Date (1 Month):	12/30/2015
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) W34157 and brought to volume with Milli-Q DI H_2O.		

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 28
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Author: JFAUST on: 30.11.2015 11:29:15
Page is not Witnessed
Project: Unassigned
Page Title: 112415

Standard Log #:	TOC0046	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	11/24/2015	Expiration Date (1 Month):	12/24/2015
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) W34157 and brought to volume with Milli-Q DI H_2O.		

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

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Page is not Witnessed
Project: Unassigned
Page Title: 111615

Standard Log #:	TOC0045	Standard:	TOCW LCS Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	11/16/2015	Expiration Date (1 Month):	12/16/2015
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0011 and brought to volume with Milli-Q DI H_2O.		

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 26
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Page is not Witnessed
Project: Unassigned
Page Title: 111015

Standard Log #:	TOC0043	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	11/10/2015	Expiration Date (1 Month):	12/10/2015
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) W34157 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0044	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	11/10/2015	Expiration Date (1 Month):	12/10/2015
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) w34157 and brought to volume with Milli-Q DI H_2O.		

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CT Laboratories, LLC

LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 25
Page is Locked
Author: JFAUST on: 10.11.2015 10:37:00
Page is not Witnessed
Project: Unassigned
Page Title: 110615

Standard Log #:	TOC0041	Standard/Reagent:	Demand PT Testing
Analyst:	JJF	Final Concentration:	
Prep Date:	11/06/2015	Expiration Date:	11/08/2015
Prep:	Into a 100 mL volumetric add o.50 mL Demand PT Standard (648231) and dilute to 100 mL with Milli-Q water.		

Standard Log #:	TOC0042	Standard:	TOCW LCS Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	11/06/2015	Expiration Date (1 Month):	12/06/2015
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0011 and brought to volume with Milli-Q DI H_2O.		

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CT Laboratories, LLC

LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 24
Page is Locked
Author: JFAUST on: 06.11.2015 10:23:53
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Project: Unassigned
Page Title: 102615

Standard Log #:	TOC0040	Standard/Reagent:	TOC Water Calibration
Analyst:	JJF	Final Concentration:	
Prep Date:	10/26/2015	Expiration Date:	11/26/2015
Prep:	Into seven 50 mL volumetric flasks pipet 0, 0.05, 0.25, 0.50, 1.25, 2.50, and 5.0 mL of 100 mg/L ICAL/CCV stock (W34157) and bring to volume with Milli-Q water.		

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 23
Page is Locked
Author: JFAUST on: 26.10.2015 11:21:35
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Project: Unassigned
Page Title: 102215

Standard Log #:	TOC0039	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	10/22/2015	Expiration Date (1 Month):	11/22/2015
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) W34157 and brought to volume with Milli-Q DI H_2O.		

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 21
Page is Locked
Author: JFAUST on: 12.10.2015 09:16:28
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Project: Unassigned
Page Title: 100815

Standard Log #:	TOC0035	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	10/08/2015	Expiration Date (1 Month):	11/08/2015
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) W34157 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0036	Standard:	TOCW LCS Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	10/08/2015	Expiration Date (1 Month):	11/08/2015
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0011 and brought to volume with Milli-Q DI H_2O.		

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 20
Page is Locked
Author: akurth on: 23.09.2015 17:08:58
Page is not Witnessed
Project: Unassigned
Page Title: N/A

Standard Log #:	TOC0034	Standard:	TOCW CCV Std.
Analyst:	AGK	Concentration:	50 mg/L
Prep Date:	09/23/15	Expiration Date (1 Month):	10/23/15
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) W34157 and brought to volume with Milli-Q DI H_2O.		

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 19
Page is Locked
Author: JFAUST on: 10.09.2015 13:10:31
Page is not Witnessed
Project: Unassigned
Page Title: 090815

Standard Log #:	TOC0033	Standard:	TOCW LCS Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	09/08/2015	Expiration Date (1 Month):	10/08/2015
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0011 and brought to volume with Milli-Q DI H_2O.		

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CT Laboratories, LLC

LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 18
Page is Locked
Author: JFAUST on: 08.09.2015 10:40:30
Page is not Witnessed
Project: Unassigned
Page Title: 082715

Standard Log #:	TOC0032	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	08/27/2015	Expiration Date (1 Month):	09/27/2015
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) W34157 and brought to volume with Milli-Q DI H_2O.		

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CT Laboratories, LLC

LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 17
Page is Locked
Author: JFAUST on: 27.08.2015 13:37:05
Page is not Witnessed
Project: Unassigned
Page Title: 080315

Standard Log #:	TOC0031	Standard:	TOCW LCS Std.
Analyst:	MDS	Concentration:	50 mg/L
Prep Date:	08/03/2015	Expiration Date (1 Month):	09/03/2015
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0011 and brought to volume with Milli-Q DI H_2O.		

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 16
Page is Locked
Author: JFAUST on: 27.08.2015 13:36:59
Page is not Witnessed
Project: Unassigned
Page Title: 073115

Standard Log #:	TOC0030	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	07/31/2015	Expiration Date (1 Month):	08/31/2015
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) W34157 and brought to volume with Milli-Q DI H_2O.		

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 15
Page is Locked
Author: jfaust on: 31.07.2015 11:23:43
Page is not Witnessed
Project: Unassigned
Page Title: 072415

Standard Log #:	TOC0029	Standard:	TOCW LCS Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	07/24/2015	Expiration Date (1 Month):	08/24/2015
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0011 and brought to volume with Milli-Q DI H_2O.		

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 14
Page is Unlocked
Page is not Witnessed
Project: Unassigned
Page Title: 071615

Standard Log #:	TOC0028	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	07/16/2015	Expiration Date (1 Month):	-8/16/2015
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) W34157 and brought to volume with Milli-Q DI H_2O.		

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 12
Page is Locked
Author: JFAUST on: 16.07.2015 07:52:04
Page is not Witnessed
Project: Unassigned
Page Title: 061615

Standard Log #:	TOC0024	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	06/16/2016	Expiration Date (1 Month):	07/16/2015
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) W34157 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0025	Standard:	TOCW LCS Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	06/16/2015	Expiration Date (1 Month):	07/16/2015
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0011 and brought to volume with Milli-Q DI H_2O.		

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Standard Log #:	TOC0021	Standard:	TOCW LCS Std.
Analyst:	BMS	Concentration:	50 mg/L
Prep Date:	05/27/2015	Expiration Date (1 Month):	06/27/2015
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0011 and brought to volume with Milli-Q DI H_2O.		

TOC Logbook 01
01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 10
Page is Unlocked
Page is not Witnessed
Project: Unassigned
Page Title: 050815

Standard Log #:	TOC0020	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	05/08/2015	Expiration Date (1 Month):	06/05/2015
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) W34157 and brought to volume with Milli-Q DI H_2O.		

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TOC Logbook 01

01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 6
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Page is not Witnessed
Project: Unassigned
Page Title: 031715

Standard ID#:	TOC0011	Vendor:	SCP Science
Analyst:	BMS	Chemical:	TOCW LCS Stock Std. (1000mg/L)
Date Received:	03/17/2015	Lot #:	S150304004
Expiration Date (if any):	03/2017	Catalog #:	250-250-05x

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CT Laboratories, LLC

PROJECT _____ Notebook No. _____ 15

Continued from Page _____

Standard Log #:	W35209	Reagent:	LL H2SO4 Diluent
Analyst:	CES		
Prep Date:	8/20/14	Expiration Date (3 Montths):	11/20/14
Prep:	Into a 2 L volumetric flask, volumetrically add 4mL TMG H_2SO_4 W34615 and fill to volume with DI H_2O.		

Standard Log #:	W35210	Standard:	TOCW Ical/CCV Stock Std.
Analyst:	MDS	Concentration:	1000 mg/L
Prep Date:	08/20/2014	Expiration Date (6 Months):	02/20/2014
Prep:	Into a 100 mL volumetric flask, dissolved 0.2128g of potassium hydrogen phthalate (KHP) W33269 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	W35211	Standard:	TOCW CCV Std.
Analyst:	MDS	Concentration:	50 mg/L
Prep Date:	08/20/2014	Expiration Date (1 Month):	09/20/2014
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) W35210 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	W35212	Standard:	TOCW LCS Std.
Analyst:	MDS	Concentration:	50 mg/L
Prep Date:	08/20/2014	Expiration Date (1 Month):	09/20/2014
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) W35118 and brought to volume with Milli-Q DI H_2O.		

Continued on Page

Read and Understood By

Signed 8/25/14 Date Signed Date

W34154 COD PT Into a 1000mL vol'm pipetted 5mL of 444906 US 4/22/14 and filled to volume w/ DI H2O. Exp 5/22/14

W34155 MER 4/22/14 Methyl Orange Reagent
Into a 1 L volumetric flask, volumetrically added 100 ml methyl orange solution W 33215 and brought to volume with CO_2-free DI H_2O.
EXP (1 month): 5/22/14

W34156 CES 4/22/14 TPhos 8500 Ascorbic
Into a 1 L volumetric flask dissolve 70g ascorbic acid W 33837 and 1.0 g SDS W 32316 and fill to volume with DI H_2O. Exp. (two days): 4/24/14

W34157 BMS 04/22/14 TOCW CCV/ICal. Stock Std (1000mg/L): ULTRA Scientific catalog # IQC-106, Lot# R01266 Exp: 12/31/15

W34158 US 04/22/14 MER Blind Spike - Alkalinity (TV = 300mg/L) Into 100 mL vol'm pipetted 12mL of ALK ICV/LCS Stock (2500mg/L) W 34145 and filled to vol. w/ CO_2 free DI H_2O. EXP:

W34159 04-22-14 AGK IC LL Ophos ICal
Into 8 separate 100 ml volumetric flasks pipette 0, 0.01, 0.02, 0.04, 0.06, 0.1, 0.2, and 0.4ml LL Ophos ICal Working (50mg/L) W 32479 and fill to volume with MIlliQ H_2O. Exp (two days): 04-24-14

W34160 04-22-14 AGK LL Ophos CCV (0.1 mg/L)
Into a 200 ml volumetric flask pipette 0.02ml Tphos CCV stock standard (1000mg/L) W 32479 and fill to volume with Milli Q H_2O.
Exp (One month): 05-22-14

W34161 04-22-14 AGK LL Ophos ICV/LCS (0.1 mg/L)
Into a 100 ml volumetric flask pipette 0.01ml Tphos ICV/LCS stock standard (1000mg/L) W 33243 and fill to volume with Milli Q H_2O.
Exp (One month): 05-22-14

W34162 04-22-14 AGK LL Ophos Spike (30 mg/L)
Into a 100 ml volumetric flask pipette 3.0 ml Tphos ICV/LCS stock standard (1000mg/L) W 32479 and fill to volume with Milli Q H_2O.
Exp (One month): 05-22-14

Read and Understood By

Signed	Date	Signed	Date
4/26/14 CES			

W34137 TOCW ICAL: Into seven 50mL vol. flasks, pipetted 0, 0.05, 0.25, 0.50, 1.25, 2.50 and 5.0 mL of 1000 mg/L ICAL/CCV Stock (W34125) and brought to volume with milli-Q H_2O. Exp. 05/21/14
MDS 04/21/14

W34138 TOCW ICV: Into a 50mL vol. Flask, pipetted 2.50 mL of 1000mg/L ICV/LCS Stock std (W34126) and brought to volume with milli-Q H_2O. Exp. 05/21/14
MDS 04/21/14

W34139 1N Sodium Hydroxide
MER 4/21/14
Into a 500mL volumetric flask dissolved 20g NaOH W 33021 and brought to volume with DI H_2O. EXP(1 year): 4/21/15

W34140CS LL TPhos 8500 H_2SO_4 Diluent
4/21/14
Into a 2L volumetric flask pipette 4 mL trace metal grade H_2SO_4 W 33704 and fill to volume with DI H_2O. Exp. (three months): 7/21/14

W34141CS TPhos 8500 0.72N Sulfuric Acid Carrier
4/21/14
Into a 2L volumetric flask volumetrically add 76 mL trace metal grade H_2SO_4 W 33704 and dissolve 10g NaCl W 30481 and 2g SDS W 32316 and fill to volume with DI H_2O. Exp. (one month): 5/21/14

W34142CS TPhos 8500 Digestion Solution #2
4/21/14
Into a 2L volumetric flask dissolve 52g potassium persulfate W 33955 and fill to volume with DI H_2O. Exp. (one month): 5/21/14

W34143CS TPhos 8500 Molybdate
4/21/14
Into a 1 L volumetric flask volumetrically add 213 mL Ammonium Molybdate W 34005 and 72 mL Antimony Potassium Tartrate W 34004 then dissolve 22.8g NaOH W 33021 and fill to volume with DI H_2O. Exp. (one month) 5/21/14

W34144 KHP Buffer (pH 3.1)
MER 4/22/14
Into a large beaker dissolve 2.5g potassium hydrogen phthalate (KHP) W 29079 in 450 ml CO_2-free DI water. Add 42.5ml of 0.1 M HCL W 33112 and adjust pH to 3.1± 0.05.
EXP (one week): 4/29/14

Continued on Page

Read and Understood By

4/22/14 CS

Signed | Date | Signed | Date

W34120 mod 4-17-14 NH_3 Sodium Hypochloride
Into a 500mL volumetric flask volumetrically added 250mL Bleach W 33266 and brought to volume with DI H_2O. EXP(24 hours): 4-18-14

W34121 mod 4-17-14 Sodium Phenolate Color Reagent
Into a 500mL volumetric flask dissolved 16g NaOH W 33021 and volumetrically added 44mL phenol W 32542 and brought to volume with DI H_2O. EXP(1 week): 4/24/14

W34122 AGK 04-17-14 10x Eluent (3.2mM Sodium Carbonate / 1.0mM Sodium Bicarbonate) Into a 1L flask added 3390g W33947 and 8.40g of W25134 and BTV with M.Q. H_2O

W34123 MMS 04/18/14 TOCW CCV Std (50mg/L) - Into a 100mL vol. Flask, pipetted 5.0 mL of ~~W33270~~ W34125 MMS 04/18/14 exp. 05/18/14 + brought to volume with mili-Q H_2O

W34124 MMS 04/18/14 TOCW LCS Std (50mg/L) - Into a 100mL vol. Flask, pipetted 5.0mL of ~~W33271~~ W34126 MMS 04/18/14 exp 05/18/14 + brought to volume with mili-Q H_2O.

W34125 BMS 04/18/14 TOCW Ical./CCV Stock Std. (1000 mg/L): Into a 100 mL vol., dissolved 0.2128g of KHP (W33269) and brought to volume with Milli Q H_2O. Exp. 10/18/14.

W34126 BMS 04/18/14 TOCW ICV/LCS Stock Std. (1000 mg/L): Into a 100mL vol., dissolved 0.2128g of KHP (W29079) and brought to volume with Milli Q H_2O. Exp. 10/18/14.

W34127 HER 4/18/14 TKN Hypochlorite
Into a 500 mL volumetric flask volumetrically add 30 mL sodium hypochlorite solution W 33266 and fill to volume with DI H_2O. Exp. (one day): 4/19/14

W34127CF 4/18/14 TPhos 8500 Ascorbic
Into a 1 L volumetric flask dissolve 70g ascorbic acid W 33837 and 1.0 g SDS W 32316 and fill to volume with DI H_2O. Exp. (two days): 4/20/14

W34128CF 4/18/14 TPhos 8500 Digestion Solution #1
Into a 2L volumetric flask volumetrically add 213mL trace metal grade H2SO4 W 33704 and fill to volume with DI H_2O. Exp. (one month): 5/18/14

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Read and Understood By

4/19/14 03 _____ _____ _____ _____
Signed Date Signed Date

W33266 GES 1/7/14 Sodium hypochlorite soln - Fisher cat # SS290-4 lot # 133042 exp 7/2014

W33267 GES 1/7/14 NH_3 IL Hypochlorite Into a 500mL vol. volumetrically calculated 30mL W33266 & filled to mL w/ DI H_2O exp 1/8/14

W33268 BJS 1/7/14 TKN MDL ✓: (0.46mg/L) Into a 100mL vol flask pipetted 0.46mL NH_3/TKN 1000µg/L stock W32416 + filled to volume w/ DI. Then pipetted 20mL into TKN tube.

W33269 Bms 01/07/14 Potassium Hydrogen Phthalate (KHP): Agros Organics Catalog #: 424061000, Lot#: A0317291 (Received 06/24/13)

W33270 AGK 01/07/14 TOCW ICAL/CCV stock (1000mg/L): Into a 100mL vol, dissolved 0.2128g KHP (W 33269) and brought to volume w/ milli-Q H_2O Exp: 07/07/14

W33271 01/07/14 AGK TOCW ICV/LCS stock (1000mg/L) Into a 100mL vol, dissolved 0.2128g KHP (W 29079) and brought to volume w/ milli-Q H_2O Exp: 07/07/14

W33272 01/07/14 AGK TOCW CCV Sto: Into a 100mL vol pipetted 50mL of W33270 and Brought to Volume with milli-Q H_2O Exp: 02-07-14

W33273 01/07/14 AGK TOCW LCS Sto: Into a 100mL vol pipetted 5.0mL of W33271 and brought to volume w/ milli-Q H_2O Exp: 02-07-14

W33274 01/07/14 AGK TOCW Ical: Into 7, 50mL vol, pipetted 0, 0.05, 0.25, 0.5, 1.25, 2.5, and 5.0mL of W33270 and brought to volume with milli-Q H_2O Exp: 02/07/14

Continued on Page

Read and Understood By

Signed Date Signed Date

SUBCONTRACTED ANALYSIS DOCUMENTS

Microbac

Laboratory Report Number: L16010677

Patrick Letterer
CT Laboratories
1230 Lange Court
Baraboo, WI 53913

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac's Ohio Valley Division (OVD). If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed below.

Laboratory Contact:
Stephanie Mossburg – Team Chemist/Data Specialist
(740) 373-4071
Stephanie.Mossburg@microbac.com

I certify that all test results meet all of the requirements of the DoD QSM and other applicable contract terms and conditions. Any exceptions are attached to this cover page or addressed in the method narratives presented in the report. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories, DoD ELAP certification number 2936.01. The reported results are related only to the samples analyzed as received.

This report was certified on January 25 2016

David L. Vandenberg

David Vandenberg – Managing Director

State of Origin: MI
Accrediting Authority: N/A ID:N/A
QAPP: DOD Ver 5.0

Microbac

Lab Report #: L16010677
Lab Project #: 2694.005
Project Name: CT Labs DOD
Lab Contact: Stephanie Mossburg

Record of Sample Receipt and Inspection

Comments/Discrepancies

This is the record of the shipment conditions and the inspection records for the samples received and reported as a sample delivery group (SDG). All of the samples were inspected and observed to conform to our receipt policies, except as noted below.

There were no discrepancies.

Discrepancy	Resolution

Coolers

Cooler #	Temperature Gun	Temperature	COC #	Airbill #	Temp Required?
00113518	H	0.0		1Z1A4A851342654826	X

Inspection Checklist

#	Question	Result
1	Were shipping coolers sealed?	Yes
2	Were custody seals intact?	Yes
3	Were cooler temperatures in range of 0-6?	Yes
4	Was ice present?	Yes
5	Were COC's received/information complete/signed and dated?	Yes
6	Were sample containers intact and match COC?	Yes
7	Were sample labels intact and match COC?	Yes
8	Were the correct containers and volumes received?	Yes
9	Were samples received within EPA hold times?	Yes
10	Were correct preservatives used? (water only)	Yes
11	Were pH ranges acceptable? (voa's excluded)	NA
12	Were VOA samples free of headspace (less than 6mm)?	NA

Microbac

Lab Report #: L16010677
Lab Project #: 2694.005
Project Name: CT Labs DOD
Lab Contact: Stephanie Mossburg

Samples Received

Client ID	Laboratory ID	Date Collected	Date Received
54MW10	L16010677-01	01/11/2016 14:15	01/15/2016 10:19
54TM10	L16010677-02	01/11/2016 14:15	01/15/2016 10:19

Microbac Laboratories ● Ohio Valley Division
158 Starlite Drive, Marietta, OH 45750 ● T: (740)373-4071 F: (740)373-4835
www.microbac.com

Microbac REPORT L16010677
PREPARED FOR CT Laboratories
WORK ID:

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2.1.1 6850 LC/MS Data 15
2.1.1.1 Summary Data 16
2.1.1.2 QC Summary Data 20
2.1.1.3 Sample Data 68
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1.0 Summary Data

1.1 Narratives

Login Number: L16010677
Department: General Chromatography
Analyst: John W. Richards Jr.

METHOD

Analysis SW-846 6850

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: For all compounds that yielded a %RSD greater than 15%, linear or higher order equations were applied. All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Continuing Calibration and Tune: All acceptance criteria were met.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Matrix Spikes: The MS/MSD results were not associated with this sample delivery group.

SAMPLES

Samples: All acceptance criteria were met.

Internal Standards: All acceptance criteria were met.

Manual Integration Reason Codes

Reason #1: Data System Fails to Select Correct Peak In some cases the chromatography system selects and integrates the 'wrong peak'. In this case the analyst must correct the selection and force the system to integrate the proper peak. Other times the system may miss the peak completely.

Reason #2: Data System Splits the Peak Incorrectly or Integrates a False Peak as a Rider Peak This phenomena is common at low concentrations where the signal:noise ratio is low. A single compound (peak) is incorrectly split into multiple peaks or integrated as a main peak with one or more rider peaks resulting in low area counts for the target compound.

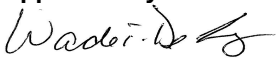
Reason #3: Improperly Integrated Isomers and/or coeluting compounds. This system often fails to distinguish coeluting compounds and or isomers. The integration areas and concentrations are wrong, and they must be corrected by manual integration. Prime examples are benzo(k)fluoranthene and benzo(b)fluoranthene which are often unresolved and integrated improperly when both are present at low concentrations in standards or samples.

Reason #4: System Establishes Incorrect Baseline There are numerous situations in chromatography where the system establishes the baseline incorrectly. Some baseline errors will be obvious to the analyst and should be corrected via manual procedures.

Reason #5: Miscellaneous Other situations involving integration errors may require in-depth review and technical judgment. These cases should be brought to the attention of the laboratory management. If the form of manual integration is not clearly covered by these four cases, then review and approval by the Laboratory Director or the QA/QC Supervisor will be required.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Microbac Laboratories Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Narrative ID: 108478
Approved By: Wade DeLong



1.2 Certificate of Analysis

Microbac

Lab Report #: L16010677
Lab Project #: 2694.005
Project Name: CT Labs DOD
Lab Contact: Stephanie Mossburg

Certificate of Analysis

Sample #:	L16010677-01	**PrePrep Method:**	N/A	**Instrument:**	LCMS1
Client ID:	54MW10	**Prep Method:**	6850	**Prep Date:**	01/20/2016 14:00
Matrix:	Water	**Analytical Method:**	6850	**Cal Date:**	01/21/2016 18:10
Workgroup #:	WG554543	**Analyst:**	JWR	**Run Date:**	01/21/2016 22:17
Collect Date:	01/11/2016 14:15	**Dilution:**	1	**File ID:**	1LM.LM32847
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Perchlorate	14797-73-0	0.326	J	0.400	0.200	0.100

J	Estimated value ; the analyte concentration was less than the LOQ.

Certificate of Analysis

Sample #:	L16010677-02	**PrePrep Method:**	N/A	**Instrument:**	LCMS1
Client ID:	54TM10	**Prep Method:**	6850	**Prep Date:**	01/20/2016 14:00
Matrix:	Water	**Analytical Method:**	6850	**Cal Date:**	01/21/2016 18:10
Workgroup #:	WG554543	**Analyst:**	JWR	**Run Date:**	01/21/2016 22:36
Collect Date:	01/11/2016 14:15	**Dilution:**	1	**File ID:**	1LM.LM32848
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Perchlorate	14797-73-0	0.284	J	0.400	0.200	0.100

J	Estimated value ; the analyte concentration was less than the LOQ.

2.0 Full Sample Data Package

2.1 General Chromatography Data

2.1.1 6850 LC/MS Data

2.1.1.1 Summary Data

Login Number: L16010677
Department: General Chromatography
Analyst: John W. Richards Jr.

METHOD

Analysis SW-846 6850

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: For all compounds that yielded a %RSD greater than 15%, linear or higher order equations were applied. All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Continuing Calibration and Tune: All acceptance criteria were met.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Matrix Spikes: The MS/MSD results were not associated with this sample delivery group.

SAMPLES

Samples: All acceptance criteria were met.

Internal Standards: All acceptance criteria were met.

Manual Integration Reason Codes

Reason #1: Data System Fails to Select Correct Peak In some cases the chromatography system selects and integrates the 'wrong peak'. In this case the analyst must correct the selection and force the system to integrate the proper peak. Other times the system may miss the peak completely.

Reason #2: Data System Splits the Peak Incorrectly or Integrates a False Peak as a Rider Peak This phenomena is common at low concentrations where the signal:noise ratio is low. A single compound (peak) is incorrectly split into multiple peaks or integrated as a main peak with one or more rider peaks resulting in low area counts for the target compound.

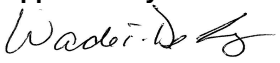
Reason #3: Improperly Integrated Isomers and/or coeluting compounds. This system often fails to distinguish coeluting compounds and or isomers. The integration areas and concentrations are wrong, and they must be corrected by manual integration. Prime examples are benzo(k)fluoranthene and benzo(b)fluoranthene which are often unresolved and integrated improperly when both are present at low concentrations in standards or samples.

Reason #4: System Establishes Incorrect Baseline There are numerous situations in chromatography where the system establishes the baseline incorrectly. Some baseline errors will be obvious to the analyst and should be corrected via manual procedures.

Reason #5: Miscellaneous Other situations involving integration errors may require in-depth review and technical judgment. These cases should be brought to the attention of the laboratory management. If the form of manual integration is not clearly covered by these four cases, then review and approval by the Laboratory Director or the QA/QC Supervisor will be required.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Microbac Laboratories Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Narrative ID: 108478
Approved By: Wade DeLong



Certificate of Analysis

Sample #:	L16010677-01	**PrePrep Method:**	N/A	**Instrument:**	LCMS1
Client ID:	54MW10	**Prep Method:**	6850	**Prep Date:**	01/20/2016 14:00
Matrix:	Water	**Analytical Method:**	6850	**Cal Date:**	01/21/2016 18:10
Workgroup #:	WG554543	**Analyst:**	JWR	**Run Date:**	01/21/2016 22:17
Collect Date:	01/11/2016 14:15	**Dilution:**	1	**File ID:**	1LM.LM32847
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Perchlorate	14797-73-0	0.326	J	0.400	0.200	0.100

J	Estimated value ; the analyte concentration was less than the LOQ.

Sample #:	L16010677-02	**PrePrep Method:**	N/A	**Instrument:**	LCMS1
Client ID:	54TM10	**Prep Method:**	6850	**Prep Date:**	01/20/2016 14:00
Matrix:	Water	**Analytical Method:**	6850	**Cal Date:**	01/21/2016 18:10
Workgroup #:	WG554543	**Analyst:**	JWR	**Run Date:**	01/21/2016 22:36
Collect Date:	01/11/2016 14:15	**Dilution:**	1	**File ID:**	1LM.LM32848
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Perchlorate	14797-73-0	0.284	J	0.400	0.200	0.100

J	Estimated value ; the analyte concentration was less than the LOQ.

2.1.1.2 QC Summary Data

Example Calculation 6850 - Perchlorate

Concentration from Linear Regression

Step 1: Retrieve Curve Data From Plot, y = mx + b

y = response ratio = response of analyte / response of internal standard (IS) = Rx/Ristd

x = amount ratio = concentration analyte/concentration internal standard (IS) = Cx / Cistd

m = slope from curve (1.45)

b = intercept from curve (-0.00242)

y = 1.45x + -0.00242

Step 2: Substitute the value for y

where y = 12600/226000 = 0.055752

Step 3: Solve for x

x = (y - b)/m = 0.0040119

Step 4: Solve for analyte concentration Cx

Cx = (Cis)(x) = (5 ug/L)(0.040119) = 0.200594 ug/L

Example Calculation - Water:

Slope from curve, m:	1.45
Intercept from curve, b:	-0.00242
Response of analyte, Rx:	12600
Response of Internal Standard , Ristd:	226000
Concentration of IS, Cistd (ug/L):	5.00
Response Ratio:	0.05575
Amount Ratio:	0.04012
Analyte Concentration, Cx (ug/L) :	0.200594

Example Calculation - Soil:

Analyte Concentration, Cx (ug/L):	0.20059
Amount of soil extracted (g):	5.00
Final volume of extract (mL):	50.00
Percent solids (Pct wt.)	100
Concentration in soil (ug/kg):	2.005938

Perchlorate Conductivity Check
(perchlorate1)

Conductivity Probe Calibration Check: 1457 /1410 µs/cm

Working MCT Level: 10,000 µs/cm

Sample	Conductivity (µs/cm)	Pretreatment or Dilution Needed
WG554543-01 MCT	9,680.	
-02 Blank	0.23	
-03 LCS	0.55	
L16010001-01 (LOD)	0.35	
L16010003-01 (LOQ)	0.39	
-09 (LOQ)	0.38	
L16010543-01 (PT)	1.02	
L16010677-01	622.	
-02	612.	
L16010678-01 RS	607.	
-02 MS	624.	
-03 MSD	614.	
-04	444.	
-05	335.	
L16010933-01	2,320.	

Analyst: John Richards

Date/Time: 01/25/16 1600

DCN#116188

Microbac Laboratories Inc.

Instrument Run Log

Instrument: LCMS1 Dataset: 012116_JWR.TXT
Analyst1: JWR Analyst2: NA
Method: 6850 SOP: HPLC06 Rev: 7

Maintenance Log ID: Syringe Filter Lot#: 150506254
Eluent ID#:

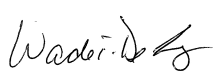
Workgroups: Column 1 ID: KP-RPPX250 Column 2 ID: NA
Analytical WG554543 (waters)
Internal STD: COA18071 Surrogate STD: NA Calibration STD STD72683 (01/21/2016)
CCV STD: STD72683 LCS STD: STD72685 MS/MSD STD: STD72685

Comments: ICAL WG554779 : Alternate Source STD72685
Analytical Column : RPPX 5um (250x4.6mm)
K'Prime S/N RPPX250-02115

Sample L16010933-01 was analyzed at a dilution based on its pre-run screen results.

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	1LM.LM32827	WG554779-01 CCB	1	1		01/21/16 15:58
2	1LM.LM32828	WG554779-02 STD (0.1 ug/L)	1	1	STD72683	01/21/16 16:17
3	1LM.LM32829	WG554779-03 STD (0.2 ug/L)	1	1	STD72683	01/21/16 16:36
4	1LM.LM32830	WG554779-04 STD (0.5 ug/L)	1	1	STD72683	01/21/16 16:55
5	1LM.LM32831	WG554779-05 STD-CCV (1.0 ug/L)	1	1	STD72683	01/21/16 17:14
6	1LM.LM32832	WG554779-06 STD (2.0 ug/L)	1	1	STD72683	01/21/16 17:32
7	1LM.LM32833	WG554779-07 STD (5.0 ug/L)	1	1	STD72683	01/21/16 17:51
8	1LM.LM32834	WG554779-08 STD (10 ug/L)	1	1	STD72683	01/21/16 18:10
9	1LM.LM32835	WG554779-09 SSCV (1.0 ug/L)	1	1	STD72685	01/21/16 18:29
10	1LM.LM32836	WG554545-01 CCB	1	1		01/21/16 18:48
11	1LM.LM32837	WG554545-02 CCV (1.0ug/L)	1	1	STD72683	01/21/16 19:07
12	1LM.LM32838	WG554543-07 MRL (0.2ug/L)	1	1	STD72683	01/21/16 19:26
13	1LM.LM32839	WG554543-01 MCT (0.2ug/L)	1	1	STD72685	01/21/16 19:45
14	1LM.LM32840	WG554543-02 BLANK	1	1		01/21/16 20:04
15	1LM.LM32841	WG554543-03 LCS (0.2ug/L)	1	1	STD72685	01/21/16 20:23
16	1LM.LM32842	L16010001-01 LOD (0.1ug/L)	1	1	STD72685	01/21/16 20:42
17	1LM.LM32843	L16010003-01 LOQ (0.2ug/L)	1	1	STD72685	01/21/16 21:01
18	1LM.LM32844	L16010003-09 LOQ (0.2ug/L)	1	1	STD72685	01/21/16 21:20
19	1LM.LM32845	L16010543-01 (NR)	1	1		01/21/16 21:39
20	1LM.LM32846	L16010543-01 (RR 5x)	1	5		01/21/16 21:58
21	1LM.LM32847	L16010677-01	1	1		01/21/16 22:17
22	1LM.LM32848	L16010677-02	1	1		01/21/16 22:36
23	1LM.LM32849	WG554545-03 CCV (1.0ug/L)	1	1	STD72683	01/21/16 22:54
24	1LM.LM32850	WG554543-08 MRL (0.2ug/L)	1	1	STD72683	01/21/16 23:13
25	1LM.LM32851	WG554545-04 CCB	1	1		01/21/16 23:32
26	1LM.LM32852	L16010678-01 RS	1	1		01/21/16 23:51
27	1LM.LM32853	L16010678-02 MS	1	1	STD72685	01/22/16 00:10
28	1LM.LM32854	L16010678-03 MSD	1	1	STD72685	01/22/16 00:29
29	1LM.LM32855	L16010678-04	1	1		01/22/16 00:48
30	1LM.LM32856	L16010678-05	1	1		01/22/16 01:07
31	1LM.LM32857	L16010933-01 (1000x)	1	1000		01/22/16 01:26
32	1LM.LM32858	WG554545-05 CCV (1.0ug/L)	1	1	STD72683	01/22/16 01:45

Page: 1 Approved: 25-JAN-16



Microbac Laboratories Inc.

Instrument Run Log

Instrument: LCMS1 Dataset: 012116_JWR.TXT

Analyst1: JWR Analyst2: NA

Method: 6850 SOP: HPLC06 Rev: 7

Maintenance Log ID: Syringe Filter Lot#: 150506254

Eluent ID#:

Workgroups: Column 1 ID: KP-RPPX250 Column 2 ID: NA

Analytical WG554543 (waters)

Internal STD: COA18071 Surrogate STD: NA STD72683 (01/21/2016)

CCV STD: STD72683 LCS STD: STD72685 STD72685

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
33	1LM.LM32859	WG554543-09 MRL (0.2ug/L)	1	1	STD72683	01/22/16 02:04
34	1LM.LM32860	WG554545-06 CCB	1	1		01/22/16 02:23

Comments

Seq.	Rerun	Dil.	Reason	Analytes
19	X	5	Over Calibration Range	
	L16010543-01 (NR) :			
27				
	L16010678-02 MS : The MS %Rec was above the advisory limit. The parent sample to this MS had a perchlorate result approx. 44 times greater than that of the spiked amount.			
28				
	L16010678-03 MSD : The MSD %Rec was below the advisory limit. The parent sample to this MSD had a perchlorate result approx. 44 times greater than that of the spiked amount.			

Page: 2 Approved: 25-JAN-16

Microbac Laboratories Inc.

Data Checklist

Date: 21-JAN-2016
Analyst: JWR
Analyst: NA
Method: 6850
Instrument: LCMS1
Curve Workgroup: WG554779
Runlog ID: 72896
Analytical Workgroups: L16010001(LOD), 0003(LOQ), 0543(PT), 0677, 0678, 0933

ANALYTICAL	
System Performance Check	NA
DFTPP (GCMS)	NA
Endrin/DDT breakdown (8081/GCMS)	NA
Pentachlorophenol/benzidine tailing (GCMS)	NA
Eluent check (IC)/system pressure (HPLC)	NA
Window standard (FID)	NA
Initial Calibration	X
Average RF	NA
Linear regression or higher order curve	X
Alternate source standard (ICV) % Difference	X
Continuing Calibration (CCV)	X
% D/% Drift	X
Minimum response factors (GCMS)	X
Continuing calibration blank (CCB) (IC/LCMS)	X
Limit of quantitation verification (LOQV) (LCMS)	X
Special standards	NA
Blanks	X
TCL hits	ND
Surrogate recoveries	NA
LCS/LCSD (Laboratory Control Sample)	X
Recoveries	X
Surrogate recoveries	NA
MS/MSD/Sample duplicates	X
Recoveries	X
%RPD	X
Interference check sample (ICS) (LCMS)	MCT
Samples	X
TCL hits	X
Mass spectra (MS/HPLC)/2nd column confirmations (ECD/FID/HPLC)	NA
Surrogate recoveries	NA
Internal standard areas (MS)	X
Library searches (GCMS)	NA
Calculations & correct factors	X
Compounds above calibration range	X
Reruns	X
Manual integrations	X
Project/client specific requirements	X
REPORTING	
Upload batch form	X
KOBRA workgroup data/forms/bench sheets	X
Case narratives	
Check for completeness	X
Primary Reviewer	JWR
SUPERVISORY/SECONDARY REVIEW	
Check for compliance with method and project specific requirements	X
Check the completeness/accuracy of reported information	X
Data qualifiers	X
Secondary Reviewer	WTD

Primary Reviewer:
22-JAN-2016
John Richards

Secondary Reviewer:
25-JAN-2016
Wadei D

CHECKLIST1 - Modified 03/05/2008
Generated: JAN-25-2016 08:11:57

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 6850 **AAB#:** WG554543

Login Number: L16010677

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
54MW10	01	01/11/16					01/20/2016	9	28		01/21/16	1.3	28	
54TM10	02	01/11/16					01/20/2016	9	28		01/21/16	1.4	28	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 4600906
Report generated 01/25/2016 08:56

Microbac Laboratories Inc.

METHOD BLANK SUMMARY

Login Number:	L16010677	Work Group:	WG554543
Blank File ID:	1LM.LM32840	Blank Sample ID:	WG554543-02
Prep Date:	01/20/16 14:00	Instrument ID:	LCMS1
Analyzed Date:	01/21/16 20:04	Method:	6850
Analyst:	JWR		

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
QCMRL	WG554543-07	1LM.LM32838	01/21/16 19:26	01
MCT	WG554543-01	1LM.LM32839	01/21/16 19:45	01
LCS	WG554543-03	1LM.LM32841	01/21/16 20:23	01
54MW10	L16010677-01	1LM.LM32847	01/21/16 22:17	01
54TM10	L16010677-02	1LM.LM32848	01/21/16 22:36	01
QCMRL	WG554543-08	1LM.LM32850	01/21/16 23:13	01
QCMRL	WG554543-09	1LM.LM32859	01/22/16 02:04	01

Report Name: BLANK_SUMMARY
PDF File ID: 4600907
Report generated 01/25/2016 08:56

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L16010677 Prep Date: 01/20/16 14:00 Sample ID: WG554543-02
Instrument ID: LCMS1 Run Date: 01/21/16 20:04 Prep Method: 6850
File ID: 1LM.LM32840 Analyst: JWR Method: 6850
Workgroup (AAB#): WG554543 Matrix: Water Units: ug/L
Contract #: Cal ID: LCMS1-21-JAN-16

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
Perchlorate	0.100	0.400	0.100	1	U

DL Method Detection Limit
LOQ Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > 1/2 RL

Report Name:BLANK
PDF ID: 4600908
25-JAN-2016 08:56

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L16010677 **Run Date:** 01/21/2016 **Sample ID:** WG554543-03
Instrument ID: LCMS1 **Run Time:** 20:23 **Prep Method:** 6850
File ID: 1LM.LM32841 **Analyst:** JWR **Method:** 6850
Workgroup (AAB#): WG554543 **Matrix:** Water **Units:** ug/L
QC Key: DOD5 **Lot#:** STD72685 **Cal ID:** LCMS1-21-JAN-16

Analytes	Expected	Found	% Rec	LCS Limits	Q
Perchlorate	0.200	0.190	95.0	84 - 119	

LCS - Modified 03/06/2008
PDF File ID: 4600909
Report generated: 01/25/2016 08:56

Microbac Laboratories Inc.
INITIAL CALIBRATION SUMMARY

Login Number: L16010677
Analytical Method: 6850
ICAL Workgroup: WG554779
Instrument ID: LCMS1
Initial Calibration Date: 21-JAN-16 18:10
Column ID: F

Analyte		AVG RF	% RSD	LINEAR (R)	QUAD (R^2)
Perchlorate		0.7897	25.0	1.00000	

R = Correlation coefficient; 0.995 minimum
R^2 = Coefficient of determination; 0.99 minimum

INT_CAL - Modified 03/06/2008
PDF File ID: 4601102
Report generated 01/25/2016 08:56

Microbac Laboratories Inc.

INITIAL CALIBRATION DATA

Login Number: L16010677
Analytical Method: 6850
Instrument ID: LCMS1
Initial Calibration Date: 21-JAN-16 18:10
Column ID: F

Analyte	WG554779-02			WG554779-03			WG554779-04		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Perchlorate	0.100	3320.00000	1.104	0.200	5200.00000	0.9050	0.500	11000.0000	0.7640

INT_CAL - Modified 03/06/2008
PDF File ID: 4601102
Report generated 01/25/2016 08:56

Microbac Laboratories Inc.

INITIAL CALIBRATION DATA

Login Number: L16010677
Analytical Method: 6850
Instrument ID: LCMS1
Initial Calibration Date: 21-JAN-16 18:10
Column ID: F

Analyte	WG554779-05			WG554779-06			WG554779-07		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Perchlorate	1.00	21600.0000	0.7350	2.00	37500.0000	0.6950	5.00	90700.0000	0.6730

INT_CAL - Modified 03/06/2008
PDF File ID: 4601102
Report generated 01/25/2016 08:56

Microbac Laboratories Inc.

INITIAL CALIBRATION DATA

Login Number: L16010677
Analytical Method: 6850
Instrument ID: LCMS1
Initial Calibration Date: 21-JAN-16 18:10
Column ID: F

Analyte	WG554779-08		
	CONC	RESP	RF
Perchlorate	10.0	173000.000	0.6520

INT_CAL - Modified 03/06/2008
PDF File ID: 4601102
Report generated 01/25/2016 08:56

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L16010677 Run Date: 01/21/2016 Sample ID: WG554779-09
Instrument ID: LCMS1 Run Time: 18:29 Method: 6850
File ID: 1LM.LM32835 Analyst: JWR QC Key: DOD5
ICal Workgroup: WG554779 Cal ID: LCMS1 - 21-JAN-16

Analyte		Expected	Found	Units	RF	%D	UCL	Q
Perchlorate		1.00	0.942	ug/L	0.668	5.80	15	

* Exceeds %D Limit

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 4601103
Report generated 01/25/2016 08:56

Microbac Laboratories Inc.

CONTINUING CALIBRATION BLANK (CCB)

Login Number: L16010677 Run Date: 01/21/2016 Sample ID: WG554545-01

Instrument ID: LCMS1 Run Time: 18:48 Method: 6850

File ID: 1LM.LM32836 Analyst: JWR Units: ug/L

Workgroup (AAB#): WG554543 Cal ID: LCMS1 - 21-JAN-16

Matrix: WATER QAPP: DOD5

Analytes	MDL	RDL	Concentration	Qualifier
Perchlorate	0.100	0.400	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 4600912
Report generated 01/25/2016 08:56

Microbac Laboratories Inc.

CONTINUING CALIBRATION BLANK (CCB)

Login Number: L16010677 Run Date: 01/21/2016 Sample ID: WG554545-04

Instrument ID: LCMS1 Run Time: 23:32 Method: 6850

File ID: 1LM.LM32851 Analyst: JWR Units: ug/L

Workgroup (AAB#): WG554543 Cal ID: LCMS1 - 21-JAN-16

Matrix: WATER QAPP: DOD5

Analytes	MDL	RDL	Concentration	Qualifier
Perchlorate	0.100	0.400	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 4600912
Report generated 01/25/2016 08:56

Microbac Laboratories Inc.

CONTINUING CALIBRATION BLANK (CCB)

Login Number: L16010677 Run Date: 01/22/2016 Sample ID: WG554545-06

Instrument ID: LCMS1 Run Time: 02:23 Method: 6850

File ID: 1LM.LM32860 Analyst: JWR Units: ug/L

Workgroup (AAB#): WG554543 Cal ID: LCMS1 - 21-JAN-16

Matrix: WATER QAPP: DOD5

Analytes	MDL	RDL	Concentration	Qualifier
Perchlorate	0.100	0.400	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 4600912
Report generated 01/25/2016 08:56

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L16010677 Run Date: 01/21/2016 Sample ID: WG554545-02
Instrument ID: LCMS1 Run Time: 19:07 Method: 6850
File ID: 1LM.LM32837 Analyst: JWR QC Key: DOD5
Workgroup (AAB#): WG554543 Cal ID: LCMS1 - 21-JAN-16
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Perchlorate		1.00	0.977	ug/L	0.691	2.30	15	

* Exceeds %D Criteria

CCV - Modified 03/05/2008
PDF File ID: 4600911
Report generated 01/25/2016 08:56

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L16010677 Run Date: 01/21/2016 Sample ID: WG554545-03
Instrument ID: LCMS1 Run Time: 22:54 Method: 6850
File ID: 1LM.LM32849 Analyst: JWR QC Key: DOD5
Workgroup (AAB#): WG554543 Cal ID: LCMS1 - 21-JAN-16
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Perchlorate		1.00	0.979	ug/L	0.692	2.10	15	

* Exceeds %D Criteria

CCV - Modified 03/05/2008
PDF File ID: 4600911
Report generated 01/25/2016 08:56

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L16010677 Run Date: 01/22/2016 Sample ID: WG554545-05

Instrument ID: LCMS1 Run Time: 01:45 Method: 6850

File ID: 1LM.LM32858 Analyst: JWR QC Key: DOD5

Workgroup (AAB#): WG554543 Cal ID: LCMS1 - 21-JAN-16

Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Perchlorate		1.00	0.881	ug/L	0.628	11.9	15	

* Exceeds %D Criteria

CCV - Modified 03/05/2008

PDF File ID: 4600911

Report generated 01/25/2016 08:56

Microbac Laboratories Inc.

QCMRL SAMPLE

Login Number:	L16010677	**Run Date:**	01/21/2016	**Sample ID:**	WG554543-07
Instrument ID:	LCMS1	**Run Time:**	19:26	**Prep Method:**	6850
File ID:	1LM.LM32838	**Analyst:**	JWR	**Method:**	6850
Workgroup (AAB#):	WG554543	**Matrix:**	Water	**Units:**	ug/L
Contract #:		**Cal ID:**	LCMS1-21-JAN-16		

Analytes	Expected	Found	% Rec	Limits	Q
Perchlorate	0.200	0.172	86.0	70 - 130	

QCMRL - Modified 03/06/2007
PDF File ID: 4600910
Report generated 01/25/2016 08:56

Microbac Laboratories Inc.

QCMRL SAMPLE

Login Number:	L16010677	**Run Date:**	01/21/2016	**Sample ID:**	WG554543-08
Instrument ID:	LCMS1	**Run Time:**	23:13	**Prep Method:**	6850
File ID:	1LM.LM32850	**Analyst:**	JWR	**Method:**	6850
Workgroup (AAB#):	WG554543	**Matrix:**	Water	**Units:**	ug/L
Contract #:		**Cal ID:**	LCMS1-21-JAN-16		

Analytes	Expected	Found	% Rec	Limits	Q
Perchlorate	0.200	0.187	93.5	70 - 130	

QCMRL - Modified 03/06/2007
PDF File ID: 4600910
Report generated 01/25/2016 08:56

Microbac Laboratories Inc.

QCMRL SAMPLE

Login Number:	L16010677	**Run Date:**	01/22/2016	**Sample ID:**	WG554543-09
Instrument ID:	LCMS1	**Run Time:**	02:04	**Prep Method:**	6850
File ID:	1LM.LM32859	**Analyst:**	JWR	**Method:**	6850
Workgroup (AAB#):	WG554543	**Matrix:**	Water	**Units:**	ug/L
Contract #:		**Cal ID:**	LCMS1-21-JAN-16		

Analytes	Expected	Found	% Rec	Limits	Q
Perchlorate	0.200	0.145	72.5	70 - 130	

QCMRL - Modified 03/06/2007
PDF File ID: 4600910
Report generated 01/25/2016 08:56

Microbac Laboratories Inc.

INTERNAL STANDARD AREA SUMMARY
(COMPARED TO AVERAGE OF ICAL)

Login Number: L16010677
Instrument ID: LCMS1
Workgroup (AAB#): WG554543

ICAL CCV Number: WG554779-05
CAL ID: LCMS1-21-JAN-16
Matrix: WATER

Sample Number	Dilution	Tag	IS-1
WG554779	NA	NA	141000
Upper Limit	NA	NA	211500
Lower Limit	NA	NA	70500
L16010677-01	1.00	01	143000
L16010677-02	1.00	01	143000

IS-1 - O18LP

Underline = Response outside limits

INTERNAL_STD_AVG_ICAL - Modified 03/10/2010
PDF File ID: 4600913
Report generated 01/25/2016 08:56

Microbac Laboratories Inc.

INTERNAL STANDARD AREA SUMMARY
(COMPARED TO AVERAGE OF ICAL)

Login Number: L16010677
Instrument ID: LCMS1
Workgroup (AAB#): WG554543

ICAL CCV Number: WG554779-05
CAL ID: LCMS1-21-JAN-16
Matrix: WATER

Sample Number	Dilution	Tag	IS-1
WG554779	NA	NA	141000
Upper Limit	NA	NA	211500
Lower Limit	NA	NA	70500
WG554543-02	1.00	01	147000
WG554543-03	1.00	01	136000

IS-1 - O18LP

Underline = Response outside limits

INTERNAL_STD_AVG_ICAL - Modified 03/10/2010
PDF File ID: 4600913
Report generated 01/25/2016 08:56

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16010677	**Prep Method:**	6850	**Samplenum:**	L16010677-01
Instrument:	LCMS1	**Prep Date:**	01/20/2016 14:00	**File ID:**	1LM.LM32847
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG554543	**Analysis Date:**	01/21/2016 22:17	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	7510	2670	2.81	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16010677	**Prep Method:**	6850	**Samplenum:**	L16010677-02
Instrument:	LCMS1	**Prep Date:**	01/20/2016 14:00	**File ID:**	1LM.LM32848
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG554543	**Analysis Date:**	01/21/2016 22:36	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	6740	2790	2.42	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16010677	**Prep Method:**	6850	**Samplenum:**	WG554543-01
Instrument:	LCMS1	**Prep Date:**	01/20/2016 14:00	**File ID:**	1LM.LM32839
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG554543	**Analysis Date:**	01/21/2016 19:45	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	4790	1670	2.87	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16010677	**Prep Method:**	6850	**Samplenum:**	WG554543-02
Instrument:	LCMS1	**Prep Date:**	01/20/2016 14:00	**File ID:**	1LM.LM32840
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG554543	**Analysis Date:**	01/21/2016 20:04	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	1160	280	4.14	2.3	3.8	*

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16010677	**Prep Method:**	6850	**Samplenum:**	WG554543-03
Instrument:	LCMS1	**Prep Date:**	01/20/2016 14:00	**File ID:**	1LM.LM32841
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG554543	**Analysis Date:**	01/21/2016 20:23	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	4760	1940	2.45	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16010677	**Prep Method:**	6850	**Samplenum:**	WG554543-07
Instrument:	LCMS1	**Prep Date:**	01/20/2016 14:00	**File ID:**	1LM.LM32838
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG554543	**Analysis Date:**	01/21/2016 19:26	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	4370	1870	2.34	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16010677	**Prep Method:**	6850	**Samplenum:**	WG554543-08
Instrument:	LCMS1	**Prep Date:**	01/20/2016 14:00	**File ID:**	1LM.LM32850
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG554543	**Analysis Date:**	01/21/2016 23:13	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	4730	1970	2.40	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16010677	**Prep Method:**	6850	**Samplenum:**	WG554543-09
Instrument:	LCMS1	**Prep Date:**	01/20/2016 14:00	**File ID:**	1LM.LM32859
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG554543	**Analysis Date:**	01/22/2016 02:04	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	3810	1660	2.30	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16010677	**Prep Method:**		**Samplenum:**	WG554545-01
Instrument:	LCMS1	**Prep Date:**		**File ID:**	1LM.LM32836
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG554543	**Analysis Date:**	01/21/2016 18:48	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	1430	124	11.5	2.3	3.8	*

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16010677	**Prep Method:**		**Samplenum:**	WG554545-02
Instrument:	LCMS1	**Prep Date:**		**File ID:**	1LM.LM32837
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG554543	**Analysis Date:**	01/21/2016 19:07	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	19000	8020	2.37	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16010677	**Prep Method:**		**Samplenum:**	WG554545-03
Instrument:	LCMS1	**Prep Date:**		**File ID:**	1LM.LM32849
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG554543	**Analysis Date:**	01/21/2016 22:54	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	19900	7650	2.60	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16010677	**Prep Method:**		**Samplenum:**	WG554545-04
Instrument:	LCMS1	**Prep Date:**		**File ID:**	1LM.LM32851
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG554543	**Analysis Date:**	01/21/2016 23:32	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	925	318	2.91	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16010677	**Prep Method:**		**Samplenum:**	WG554545-05
Instrument:	LCMS1	**Prep Date:**		**File ID:**	1LM.LM32858
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG554543	**Analysis Date:**	01/22/2016 01:45	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	17100	6670	2.56	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16010677	**Prep Method:**		**Samplenum:**	WG554545-06
Instrument:	LCMS1	**Prep Date:**		**File ID:**	1LM.LM32860
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG554543	**Analysis Date:**	01/22/2016 02:23	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	963	274	3.51	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16010677	**Prep Method:**		**Samplenum:**	WG554779-02
Instrument:	LCMS1	**Prep Date:**		**File ID:**	1LM.LM32828
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG554543	**Analysis Date:**	01/21/2016 16:17	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	3320	1300	2.55	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16010677	**Prep Method:**		**Samplenum:**	WG554779-03
Instrument:	LCMS1	**Prep Date:**		**File ID:**	1LM.LM32829
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG554543	**Analysis Date:**	01/21/2016 16:36	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	5200	1920	2.71	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16010677	**Prep Method:**		**Samplenum:**	WG554779-04
Instrument:	LCMS1	**Prep Date:**		**File ID:**	1LM.LM32830
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG554543	**Analysis Date:**	01/21/2016 16:55	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	11000	3930	2.80	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16010677	**Prep Method:**		**Samplenum:**	WG554779-05
Instrument:	LCMS1	**Prep Date:**		**File ID:**	1LM.LM32831
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG554543	**Analysis Date:**	01/21/2016 17:14	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	21600	8400	2.57	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16010677	**Prep Method:**		**Samplenum:**	WG554779-06
Instrument:	LCMS1	**Prep Date:**		**File ID:**	1LM.LM32832
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG554543	**Analysis Date:**	01/21/2016 17:32	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	37500	14200	2.64	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16010677	**Prep Method:**		**Samplenum:**	WG554779-07
Instrument:	LCMS1	**Prep Date:**		**File ID:**	1LM.LM32833
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG554543	**Analysis Date:**	01/21/2016 17:51	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	90700	36500	2.48	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16010677	**Prep Method:**		**Samplenum:**	WG554779-08
Instrument:	LCMS1	**Prep Date:**		**File ID:**	1LM.LM32834
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG554543	**Analysis Date:**	01/21/2016 18:10	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	173000	69200	2.50	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16010677	**Prep Method:**		**Samplenum:**	WG554779-09
Instrument:	LCMS1	**Prep Date:**		**File ID:**	1LM.LM32835
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG554543	**Analysis Date:**	01/21/2016 18:29	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	19300	7990	2.42	2.3	3.8	

2.1.1.3 Sample Data

Data File	LM32847.wiff	**Result Table**	012116_JWR.rdb
Acquisition Date	1/21/2016 10:17:04 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

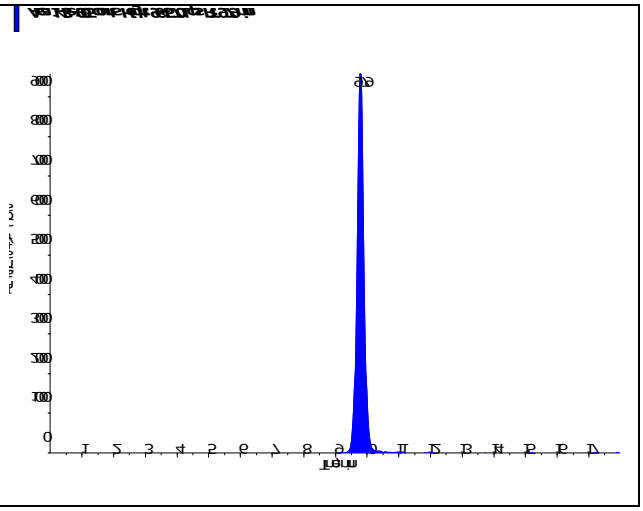
Sample Name	L16010677-01	**Injection Vial**	18.00
Data File	LM32847.wiff	**Injection Volume**	10.00
Acquisition Date	1/21/2016 10:17:04 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Unknown
Instrument Name	API 4000	**Result Table**	012116_JWR.rdb
Sample ID	L16010677-01	**Dilution Factor**	1.00
Sample Comment	1,1 (Hist)	**Weight to Volume**	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	1.430e+05	9.79	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	7.510e+03	9.82	N/A	0.326
Perchlorate conf	2.670e+03	9.81	N/A	0.298

O18LP (Internal Standard)

RT (Exp. RT): 9.79(10.00) min
Concentration: 5.00 ug/L
Sample Type: (Unknown)



s.dataFile Page 1 of 2

Perchlorate (98.8/83.3 amu) RT (Exp. RT): Calculated conc: Area Ratio: Sample Type:	9.82 (10.00) min 0.326 ng/ml 0.053 (Unknown)
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): Calculated conc: Area Ratio: Sample Type:	9.81 (10.00) min 0.298 ng/ml 0.019 (Unknown)

Data File	LM32848.wiff	**Result Table**	012116_JWR.rdb
Acquisition Date	1/21/2016 10:36:00 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

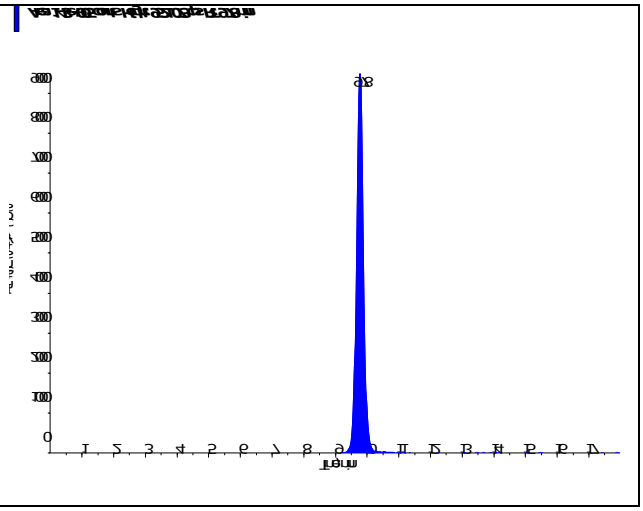
Sample Name	L16010677-02	**Injection Vial**	19.00
Data File	LM32848.wiff	**Injection Volume**	10.00
Acquisition Date	1/21/2016 10:36:00 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Unknown
Instrument Name	API 4000	**Result Table**	012116_JWR.rdb
Sample ID	L16010677-02	**Dilution Factor**	1.00
Sample Comment	1,1 (Hist)	**Weight to Volume**	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	1.430e+05	9.78	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	6.740e+03	9.75	N/A	0.284
Perchlorate conf	2.790e+03	9.80	N/A	0.315

O18LP (Internal Standard)

RT (Exp. RT): 9.78(10.00) min
Concentration: 5.00 ug/L
Sample Type: (Unknown)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): Calculated conc: Area Ratio: Sample Type:	9.75 (10.00) min 0.284 ng/ml 0.047 (Unknown)
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): Calculated conc: Area Ratio: Sample Type:	9.80 (10.00) min 0.315 ng/ml 0.02 (Unknown)

2.1.1.4 Standards Data

Data File	LM32827.wiff	**Result Table**	012116_JWR.rdb
Acquisition Date	1/21/2016 3:58:17 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

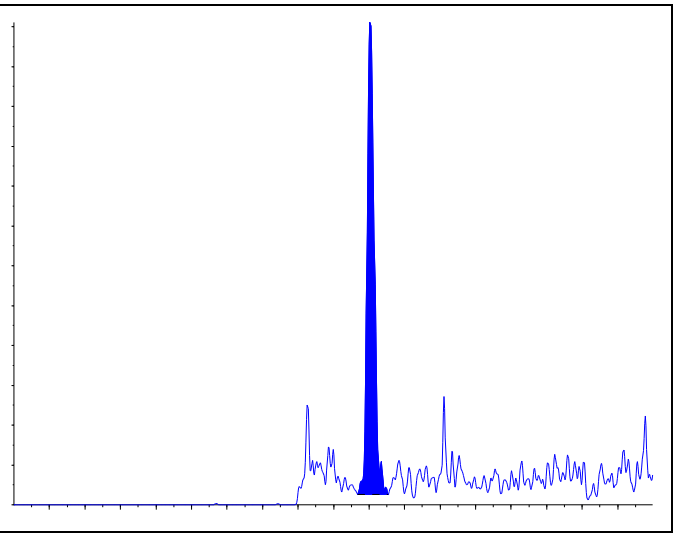
Sample Name	WG554779-01 CCB	**Injection Vial**	1.00
Data File	LM32827.wiff	**Injection Volume**	10.00
Acquisition Date	1/21/2016 3:58:17 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Unknown
Instrument Name	API 4000	**Result Table**	012116_JWR.rdb
Sample ID	WG554779-01	**Dilution Factor**	1.00
Sample Comment	11.00	**Weight to Volume**	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	1.450e+05	10.00	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	1.300e+03	10.10	N/A	< 0
Perchlorate conf	2.940e+02	10.10	N/A	< 0

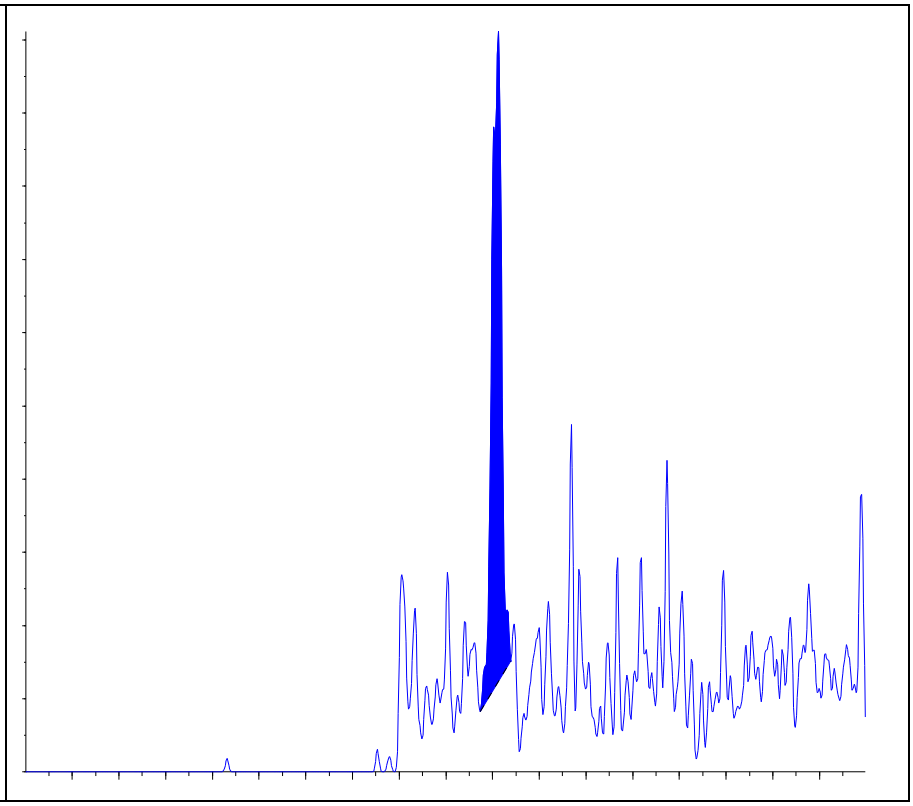
O18LP (Internal Standard)

RT (Exp. RT): 10.00(10.00) min
Concentration: 5.00 ug/L
Sample Type: (Unknown)



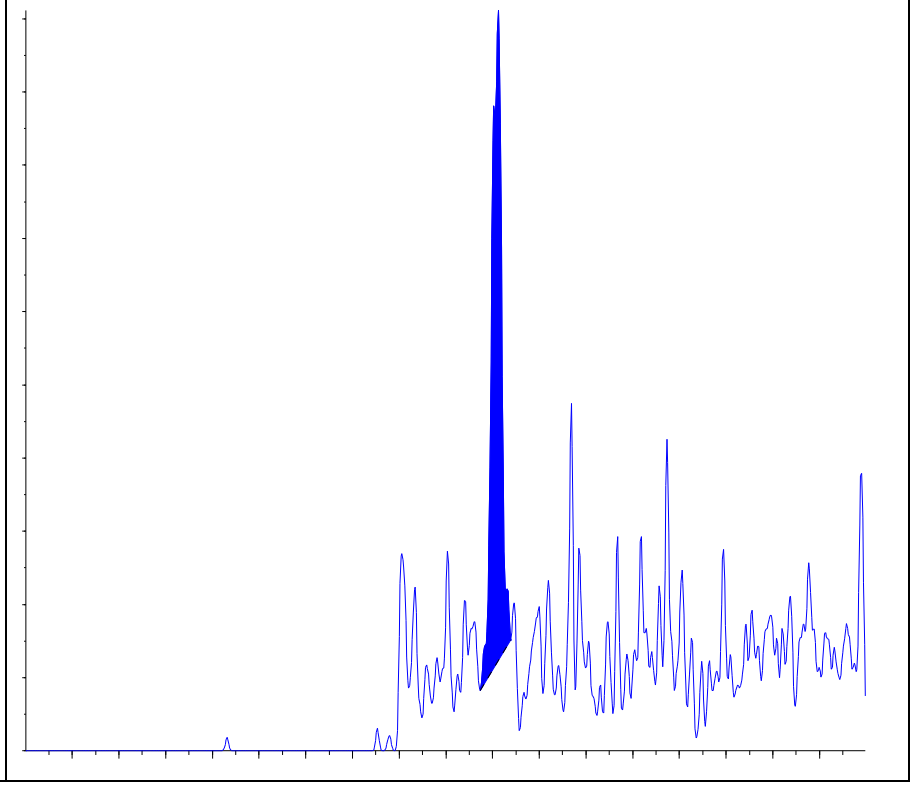
Perchlorate (98.8/83.3 amu)

RT (Exp. RT):	10.10 (10.00) min
Calculated conc:	< 0 ng/ml
Area Ratio:	0.009
Sample Type:	(Unknown)



Perchlorate conf (100.8/85.2 amu)

RT (Exp. RT):	10.10 (10.00) min
Calculated conc:	< 0 ng/ml
Area Ratio:	0.002
Sample Type:	(Unknown)

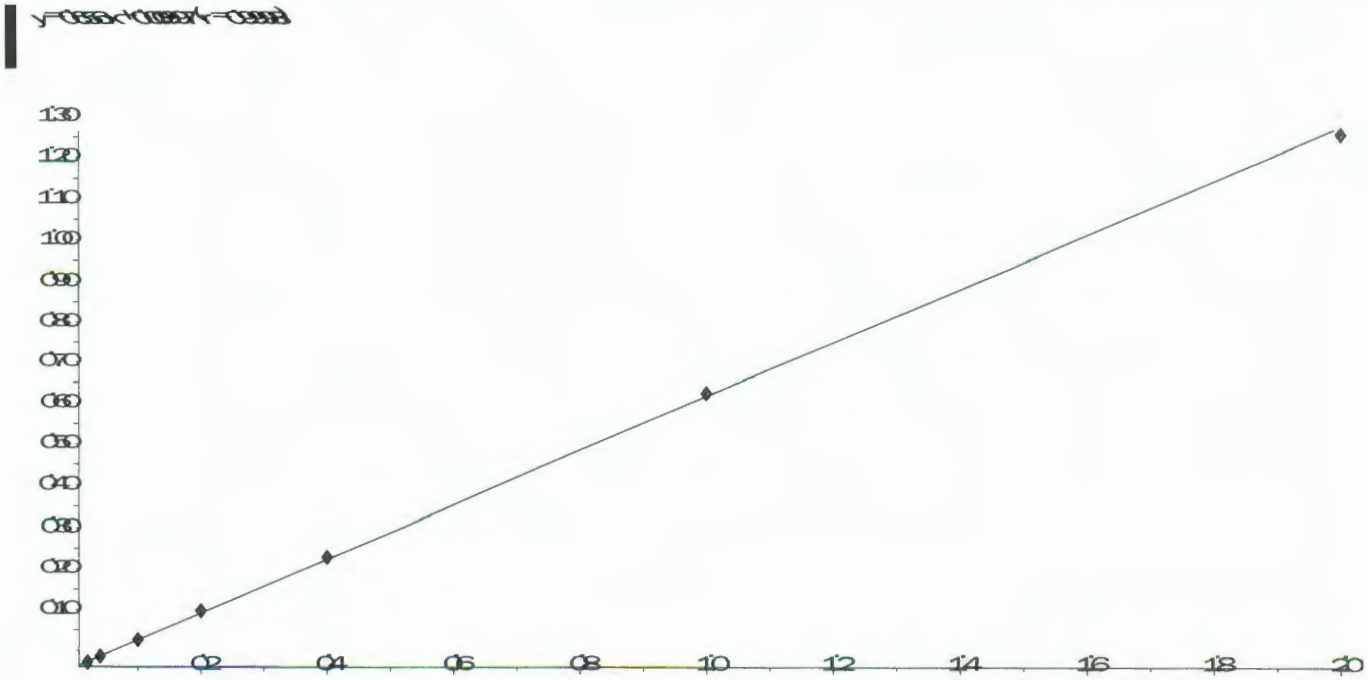


Analyte Name: **Perchlorate**
Internal Standard: O18LP

Data File	LM32827.wiff	**Result Table**	012116_JWR.rdb
Acquisition Date	1/21/2016 3:58:17 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

Regression Equation: y = 0.656 x + 0.00997 (r = 0.9998)

Expected Concentration	Number of Values	Mean Calculated Concentration	% Accuracy	Std. Deviation	%CV
0.10	1	0.09	92.4	N/A	N/A
0.20	1	0.20	100.0	N/A	N/A
0.50	1	0.51	101.3	N/A	N/A
1.00	1	1.04	104.4	N/A	N/A
2.00	1	2.04	102.2	N/A	N/A
5.00	1	5.05	101.0	N/A	N/A
10.00	1	9.86	98.6	N/A	N/A

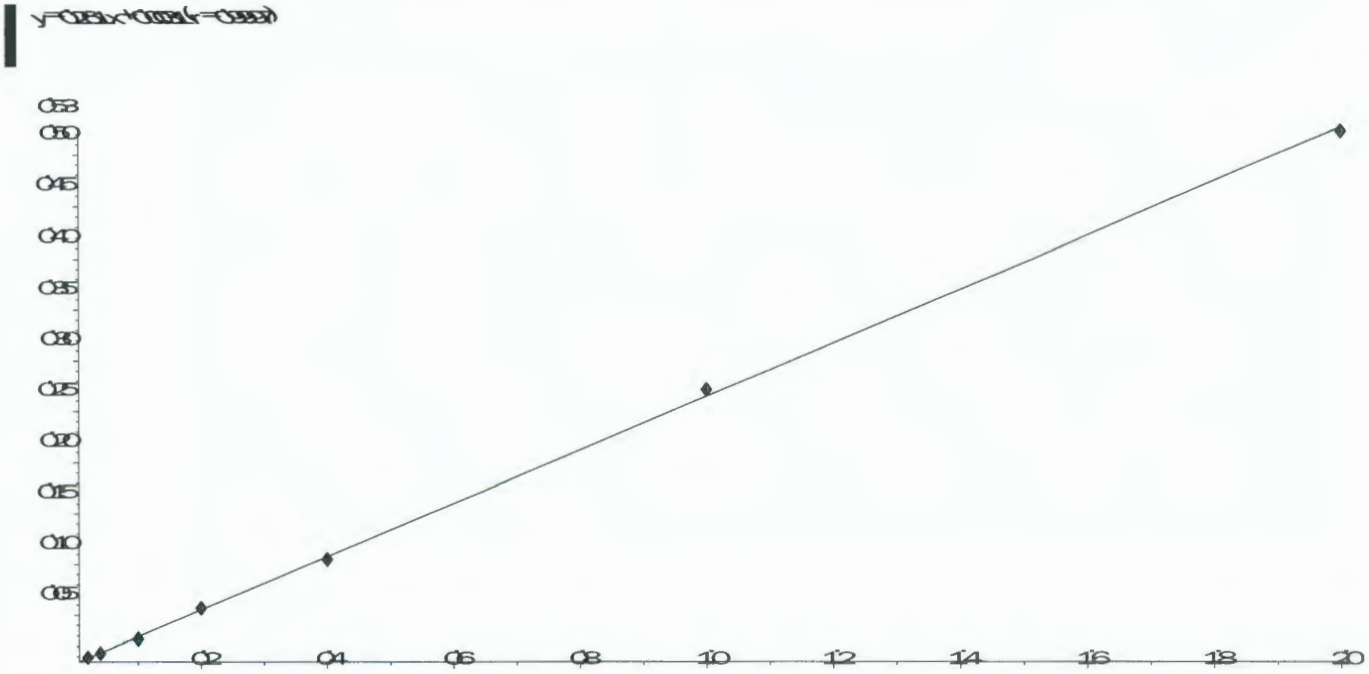


Analyte Name: **Perchlorate conf**
Internal Standard: O18LP

Data File	LM32827.wiff	**Result Table**	012116_JWR.rdb
Acquisition Date	1/21/2016 3:58:17 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

Regression Equation: y = 0.261 x + 0.0031 (r = 0.9997)

Expected Concentration	Number of Values	Mean Calculated Concentration	% Accuracy	Std. Deviation	%CV
0.10	1	0.11	106.5	N/A	N/A
0.20	1	0.20	98.2	N/A	N/A
0.50	1	0.46	92.5	N/A	N/A
1.00	1	1.04	103.6	N/A	N/A
2.00	1	1.95	97.6	N/A	N/A
5.00	1	5.12	102.4	N/A	N/A
10.00	1	9.93	99.3	N/A	N/A



Data File	LM32828.wiff	**Result Table**	012116_JWR.rdb
Acquisition Date	1/21/2016 4:17:14 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

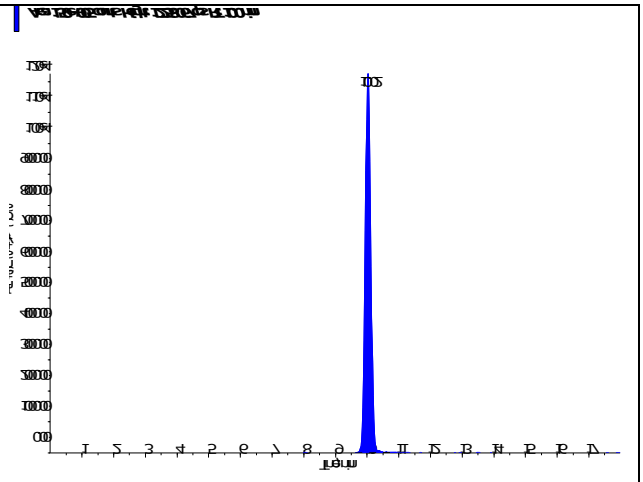
Sample Name	WG554779-02 STD (0.1 ug/L)	**Injection Vial**	2.00
Data File	LM32828.wiff	**Injection Volume**	10.00
Acquisition Date	1/21/2016 4:17:14 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Standard
Instrument Name	API 4000	**Result Table**	012116_JWR.rdb
Sample ID	WG554779-02	**Dilution Factor**	1.00
Sample Comment	1,1 STD72683	**Weight to Volume**	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	1.500e+05	10.00	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	3.320e+03	10.00	0.10	0.0924
Perchlorate conf	1.300e+03	10.00	0.10	0.106

O18LP (Internal Standard)

RT (Exp. RT): 10.00(10.00) min
Concentration: 5.00 ug/L
Sample Type: (Standard)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): Calculated conc: Area Ratio: Sample Type:	10.00 (10.00) min 0.0924 ng/ml 0.022 (Standard)
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): Calculated conc: Area Ratio: Sample Type:	10.00 (10.00) min 0.106 ng/ml 0.009 (Standard)

Data File	LM32829.wiff	**Result Table**	012116_JWR.rdb
Acquisition Date	1/21/2016 4:36:11 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	WG554779-03 STD (0.2 ug/L)	**Injection Vial**	3.00
Data File	LM32829.wiff	**Injection Volume**	10.00
Acquisition Date	1/21/2016 4:36:11 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Standard
Instrument Name	API 4000	**Result Table**	012116_JWR.rdb
Sample ID	WG554779-03	**Dilution Factor**	1.00
Sample Comment	1,1 STD72683	**Weight to Volume**	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	1.440e+05	10.00	5.00	-

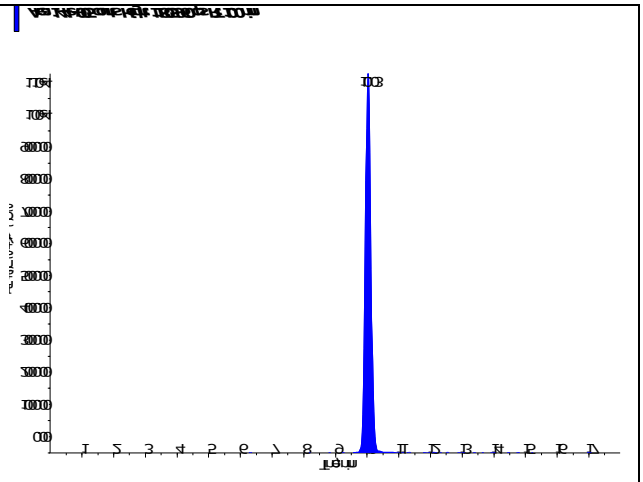
Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	5.200e+03	10.10	0.20	0.20
Perchlorate conf	1.920e+03	10.00	0.20	0.196

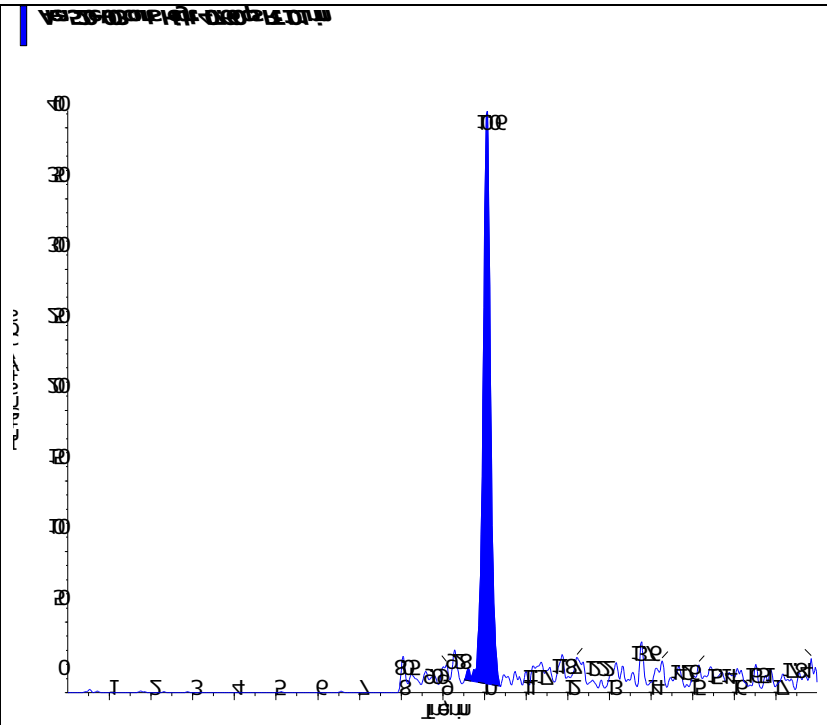
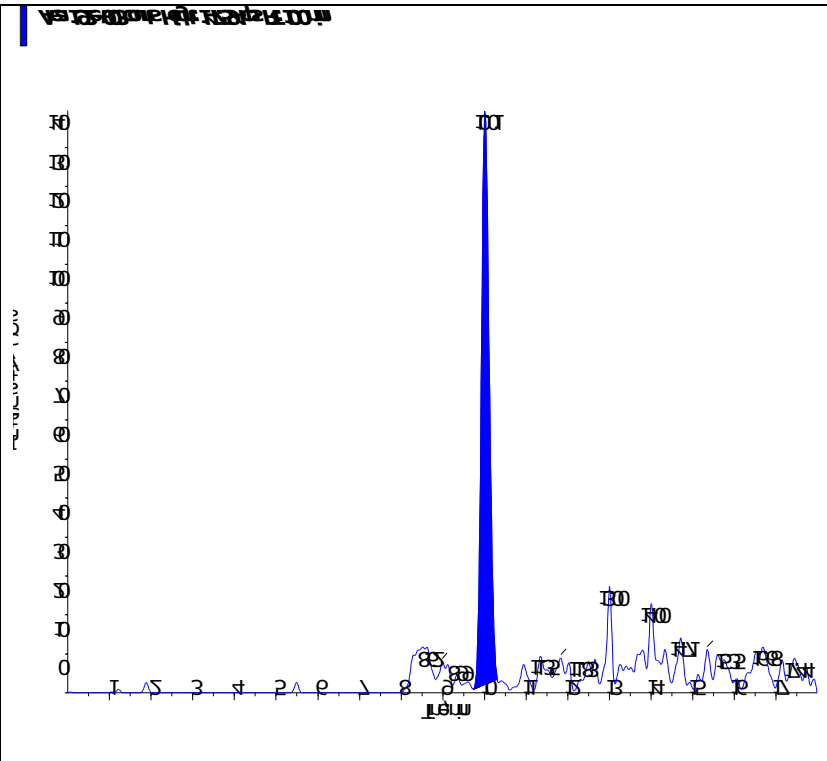
O18LP (Internal Standard)

RT (Exp. RT): 10.00(10.00) min

Concentration: 5.00 ug/L

Sample Type: (Standard)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): 10.10 (10.00) min Calculated conc: 0.20 ng/ml Area Ratio: 0.036 Sample Type: (Standard)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 10.00 (10.00) min Calculated conc: 0.196 ng/ml Area Ratio: 0.013 Sample Type: (Standard)	

Data File	LM32830.wiff	**Result Table**	012116_JWR.rdb
Acquisition Date	1/21/2016 4:55:05 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

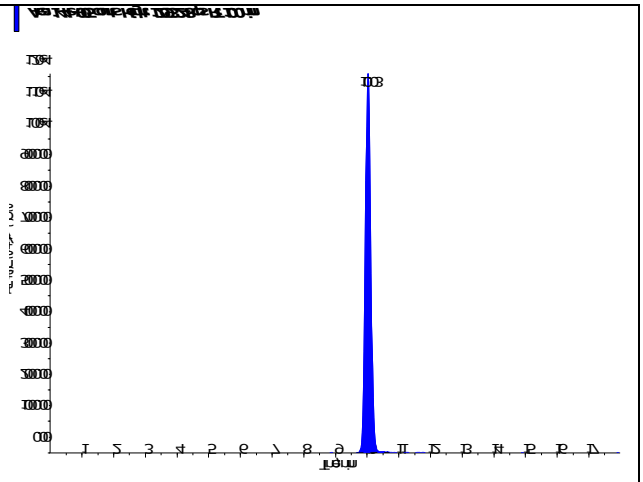
Sample Name	WG554779-04 STD (0.5 ug/L)	**Injection Vial**	4.00
Data File	LM32830.wiff	**Injection Volume**	10.00
Acquisition Date	1/21/2016 4:55:05 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Standard
Instrument Name	API 4000	**Result Table**	012116_JWR.rdb
Sample ID	WG554779-04	**Dilution Factor**	1.00
Sample Comment	1,1 STD72683	**Weight to Volume**	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	1.440e+05	10.00	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	1.100e+04	10.00	0.50	0.507
Perchlorate conf	3.930e+03	10.00	0.50	0.462

O18LP (Internal Standard)

RT (Exp. RT): 10.00(10.00) min
Concentration: 5.00 ug/L
Sample Type: (Standard)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): Calculated conc: Area Ratio: Sample Type:	10.00 (10.00) min 0.507 ng/ml 0.076 (Standard)
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): Calculated conc: Area Ratio: Sample Type:	10.00 (10.00) min 0.462 ng/ml 0.027 (Standard)

Data File	LM32831.wiff	**Result Table**	012116_JWR.rdb
Acquisition Date	1/21/2016 5:14:01 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

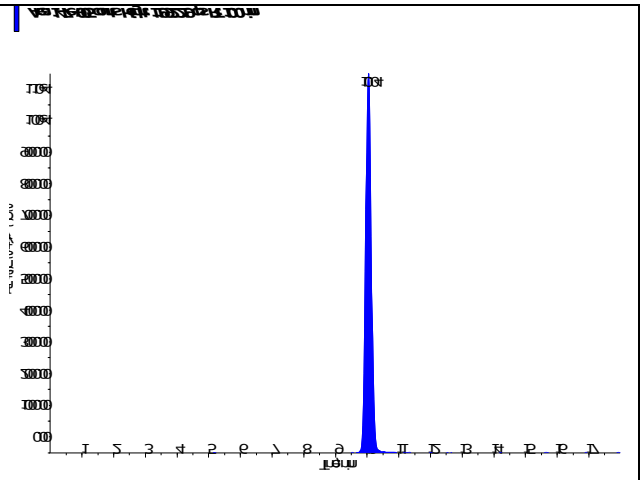
Sample Name	WG554779-05 STD (1.0 ug/L)	**Injection Vial**	5.00
Data File	LM32831.wiff	**Injection Volume**	10.00
Acquisition Date	1/21/2016 5:14:01 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Standard
Instrument Name	API 4000	**Result Table**	012116_JWR.rdb
Sample ID	WG554779-05	**Dilution Factor**	1.00
Sample Comment	1,1 STD72683	**Weight to Volume**	0.00

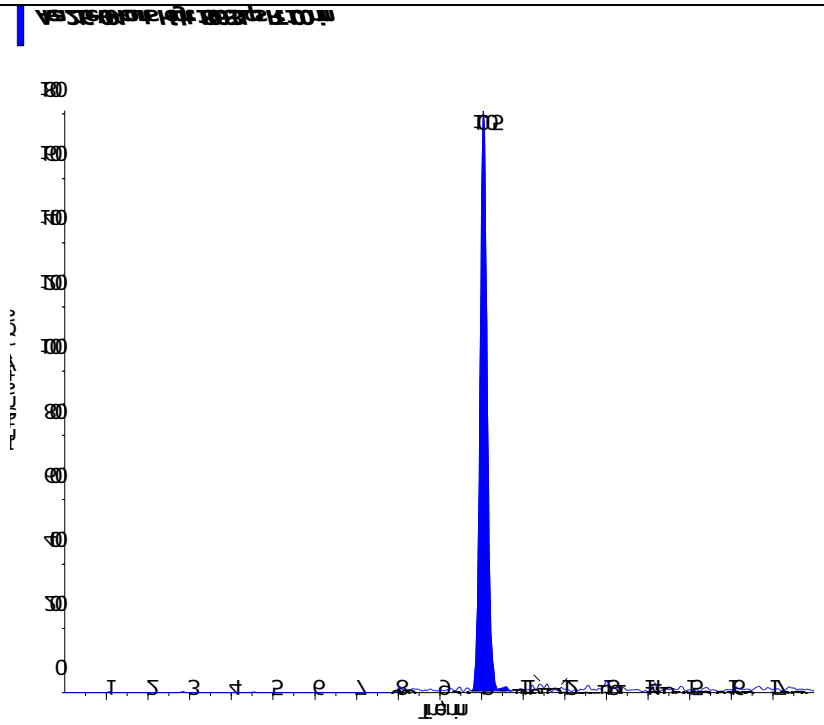
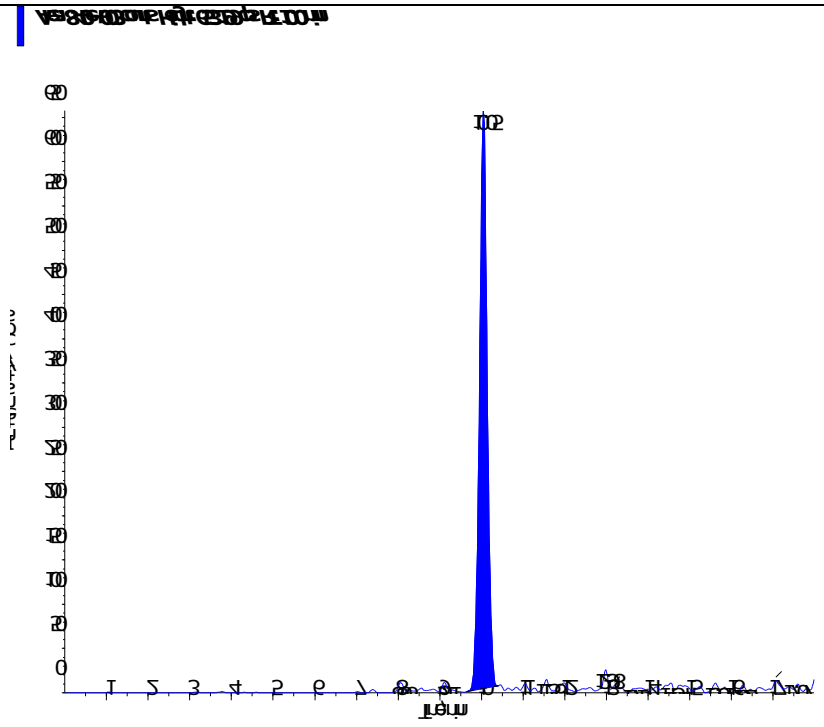
Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	1.470e+05	10.00	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	2.160e+04	10.00	1.00	1.04
Perchlorate conf	8.400e+03	10.00	1.00	1.04

O18LP (Internal Standard)

RT (Exp. RT): 10.00(10.00) min
Concentration: 5.00 ug/L
Sample Type: (Standard)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): 10.00 (10.00) min Calculated conc: 1.04 ng/ml Area Ratio: 0.147 Sample Type: (Standard)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 10.00 (10.00) min Calculated conc: 1.04 ng/ml Area Ratio: 0.057 Sample Type: (Standard)	

Data File	LM32832.wiff	**Result Table**	012116_JWR.rdb
Acquisition Date	1/21/2016 5:32:58 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	WG554779-06 STD (2.0 ug/L)	**Injection Vial**	6.00
Data File	LM32832.wiff	**Injection Volume**	10.00
Acquisition Date	1/21/2016 5:32:58 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Standard
Instrument Name	API 4000	**Result Table**	012116_JWR.rdb
Sample ID	WG554779-06	**Dilution Factor**	1.00
Sample Comment	1,1 STD72683	**Weight to Volume**	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	1.350e+05	10.10	5.00	-

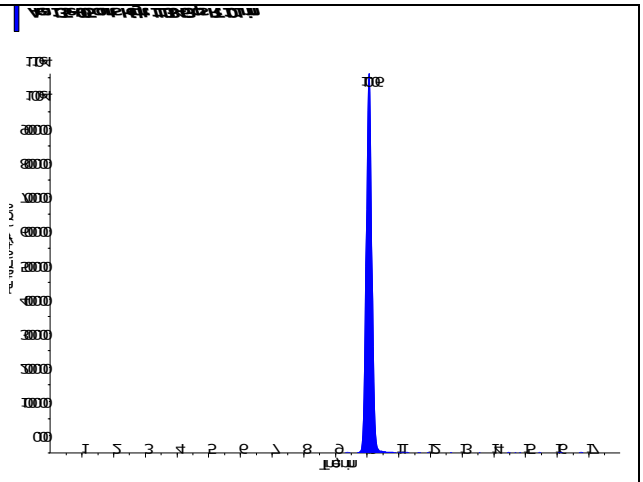
Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	3.750e+04	10.10	2.00	2.04
Perchlorate conf	1.420e+04	10.10	2.00	1.95

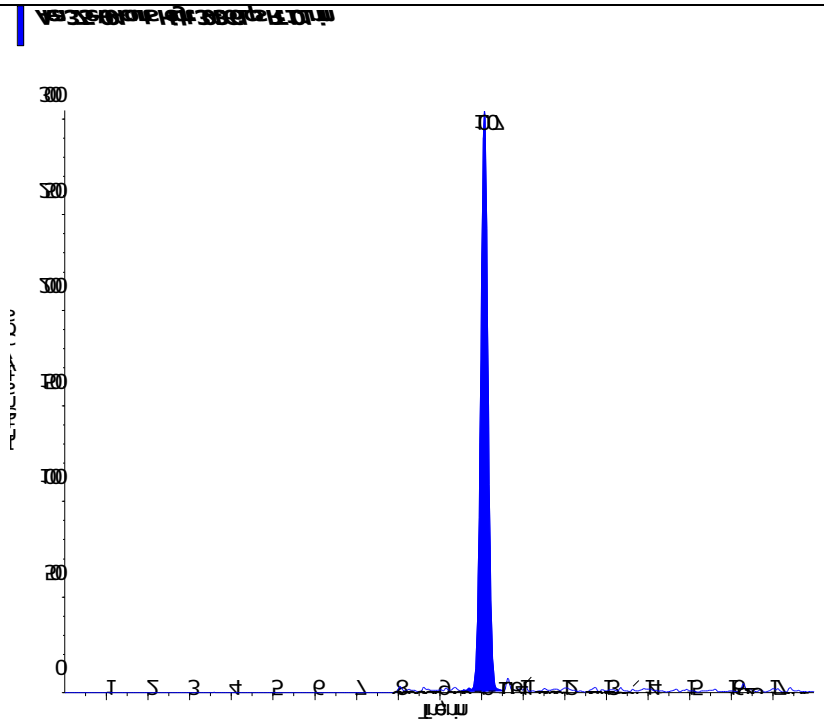
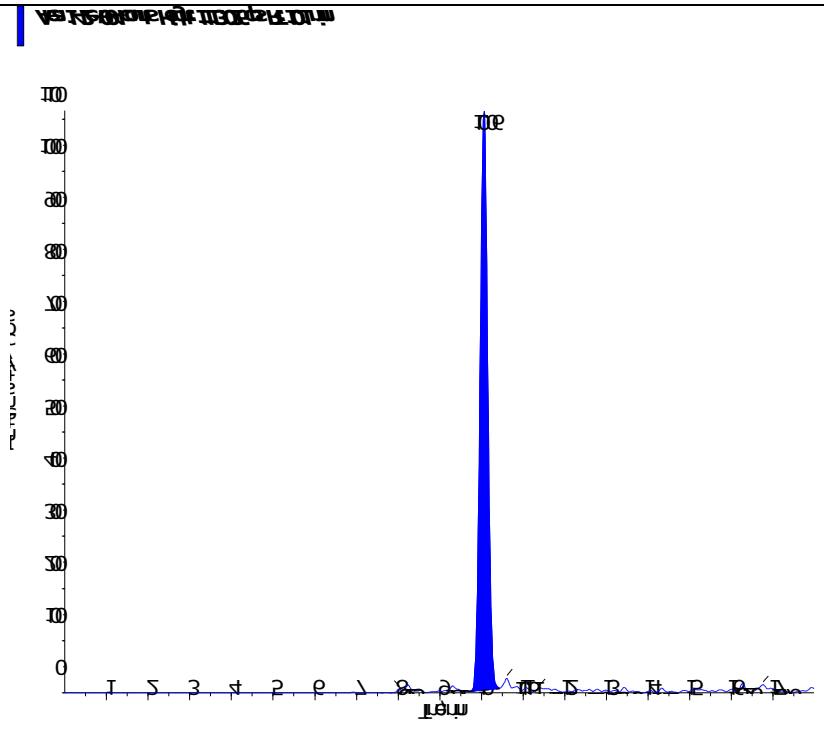
O18LP (Internal Standard)

RT (Exp. RT): 10.10(10.00) min

Concentration: 5.00 ug/L

Sample Type: (Standard)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): 10.10 (10.00) min Calculated conc: 2.04 ng/ml Area Ratio: 0.278 Sample Type: (Standard)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 10.10 (10.00) min Calculated conc: 1.95 ng/ml Area Ratio: 0.105 Sample Type: (Standard)	

Data File	LM32833.wiff	**Result Table**	012116_JWR.rdb
Acquisition Date	1/21/2016 5:51:55 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

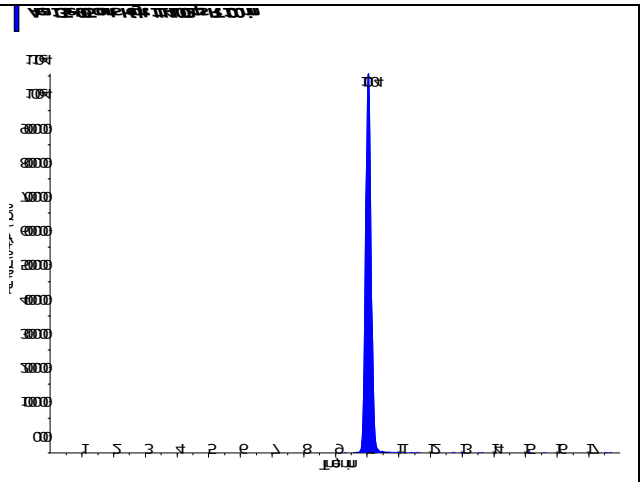
Sample Name	WG554779-07 STD (5.0 ug/L)	**Injection Vial**	7.00
Data File	LM32833.wiff	**Injection Volume**	10.00
Acquisition Date	1/21/2016 5:51:55 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Standard
Instrument Name	API 4000	**Result Table**	012116_JWR.rdb
Sample ID	WG554779-07	**Dilution Factor**	1.00
Sample Comment	1,1 STD72683	**Weight to Volume**	0.00

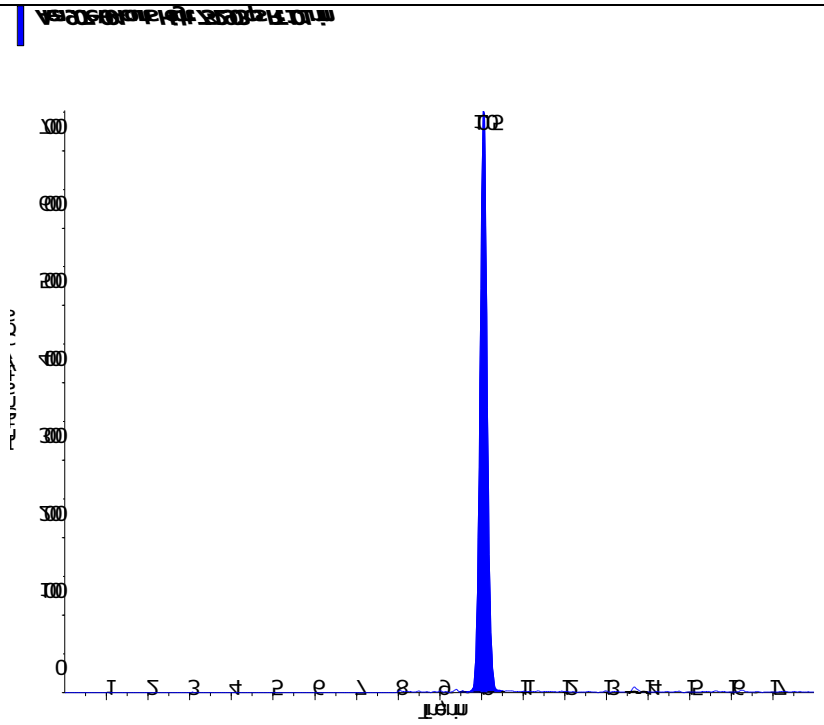
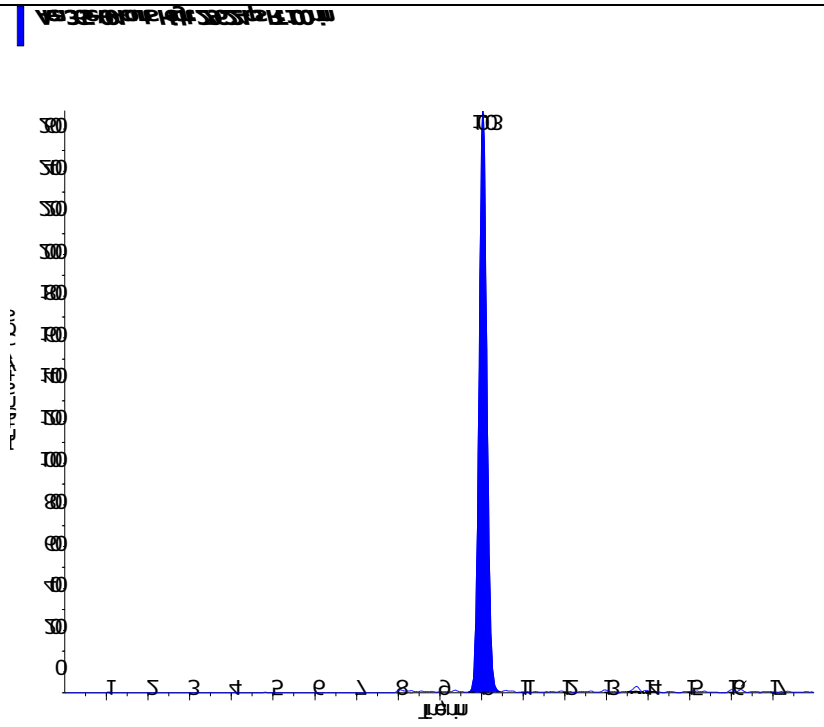
Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	1.350e+05	10.00	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	9.070e+04	10.10	5.00	5.05
Perchlorate conf	3.650e+04	10.00	5.00	5.12

O18LP (Internal Standard)

RT (Exp. RT): 10.00(10.00) min
Concentration: 5.00 ug/L
Sample Type: (Standard)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): 10.10 (10.00) min Calculated conc: 5.05 ng/ml Area Ratio: 0.673 Sample Type: (Standard)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 10.00 (10.00) min Calculated conc: 5.12 ng/ml Area Ratio: 0.271 Sample Type: (Standard)	

Data File	LM32834.wiff	**Result Table**	012116_JWR.rdb
Acquisition Date	1/21/2016 6:10:50 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

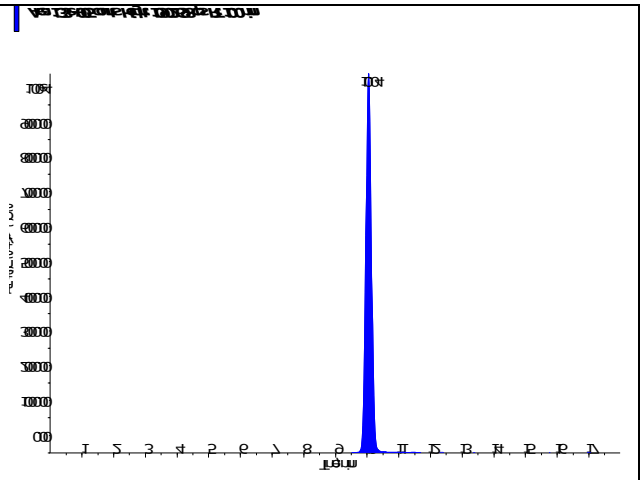
Sample Name	WG554779-08 STD (10 ug/L)	**Injection Vial**	8.00
Data File	LM32834.wiff	**Injection Volume**	10.00
Acquisition Date	1/21/2016 6:10:50 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Standard
Instrument Name	API 4000	**Result Table**	012116_JWR.rdb
Sample ID	WG554779-08	**Dilution Factor**	1.00
Sample Comment	1,1 STD72683	**Weight to Volume**	0.00

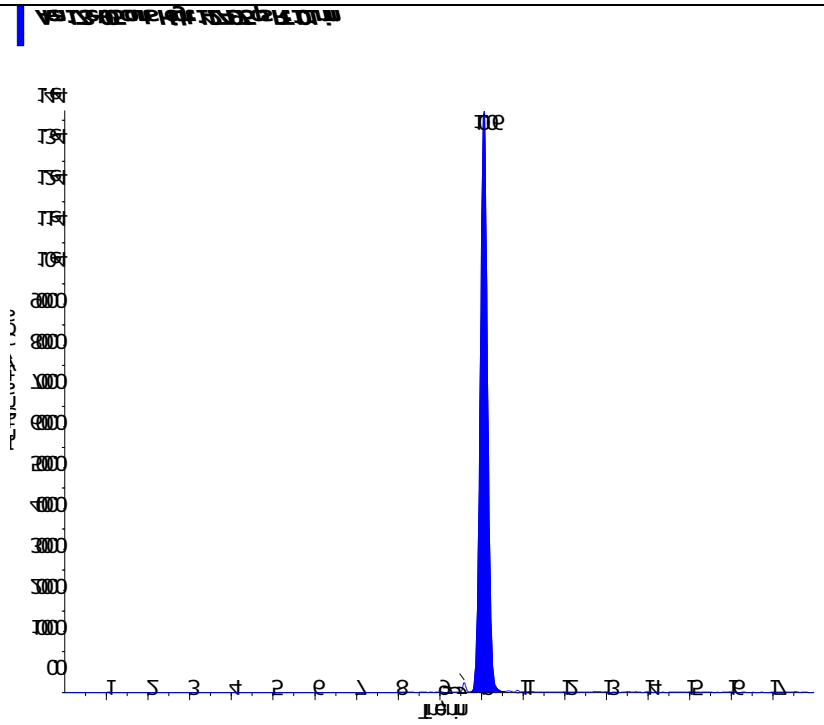
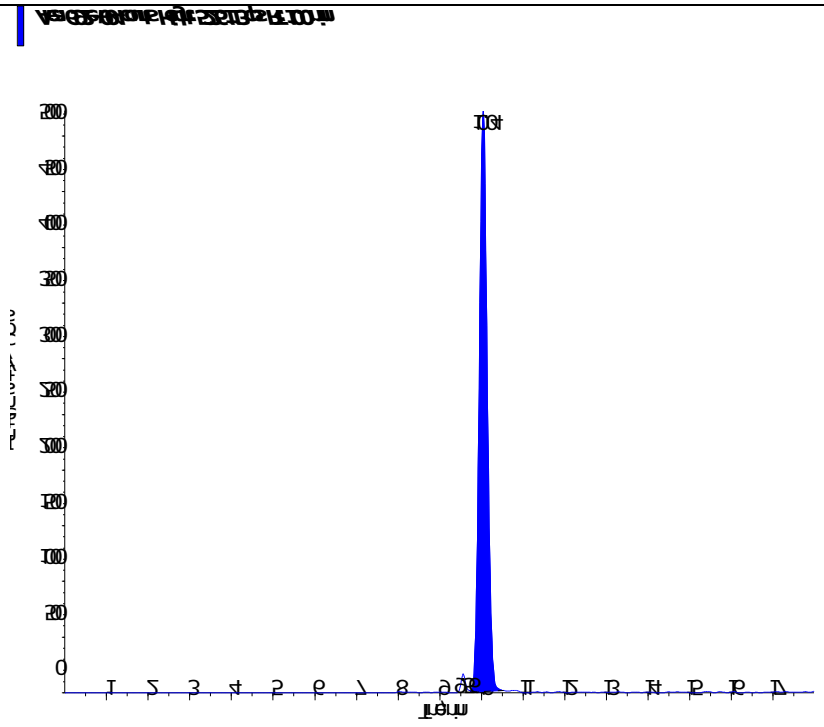
Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	1.330e+05	10.00	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	1.730e+05	10.10	10.00	9.86
Perchlorate conf	6.920e+04	10.00	10.00	9.93

O18LP (Internal Standard)

RT (Exp. RT): 10.00(10.00) min
Concentration: 5.00 ug/L
Sample Type: (Standard)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): 10.10 (10.00) min Calculated conc: 9.86 ng/ml Area Ratio: 1.303 Sample Type: (Standard)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 10.00 (10.00) min Calculated conc: 9.93 ng/ml Area Ratio: 0.522 Sample Type: (Standard)	

Data File	LM32835.wiff	**Result Table**	012116_JWR.rdb
Acquisition Date	1/21/2016 6:29:49 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

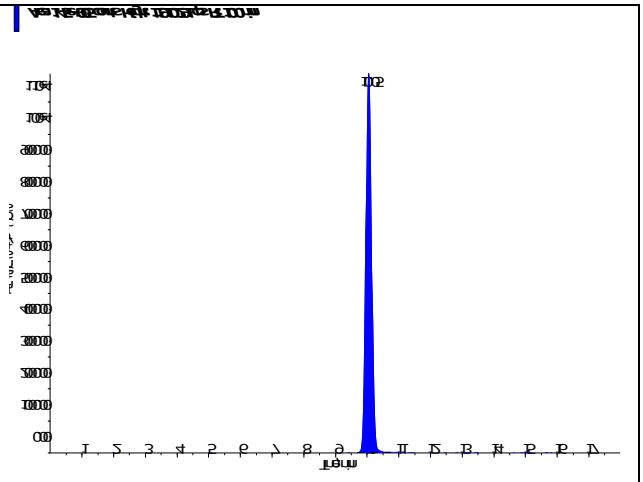
Sample Name	WG554779-09 SSCV (1.0 ug/L)	**Injection Vial**	9.00
Data File	LM32835.wiff	**Injection Volume**	10.00
Acquisition Date	1/21/2016 6:29:49 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Quality Control
Instrument Name	API 4000	**Result Table**	012116_JWR.rdb
Sample ID	WG554779-09	**Dilution Factor**	1.00
Sample Comment	1,1 STD72685	**Weight to Volume**	0.00

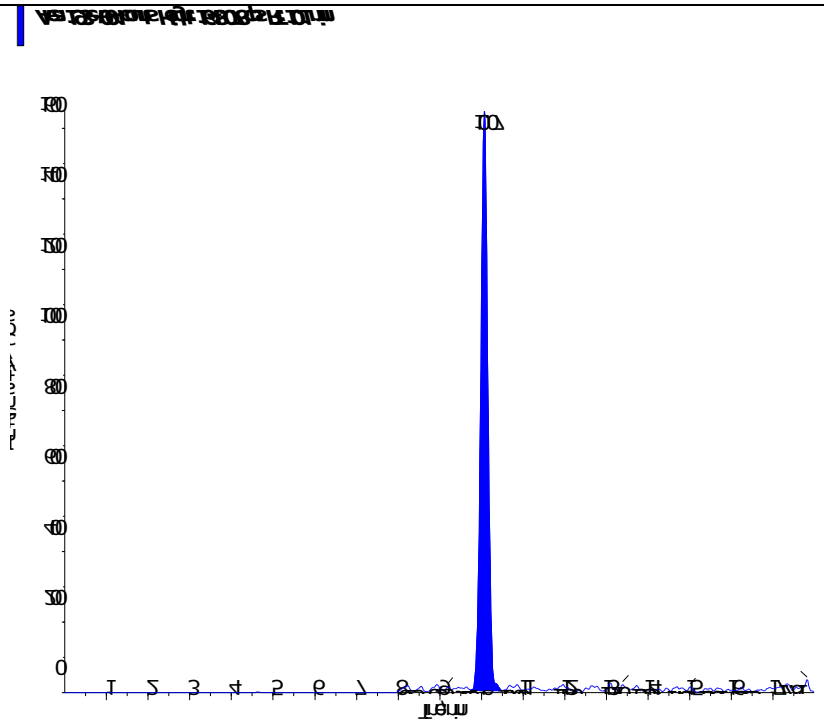
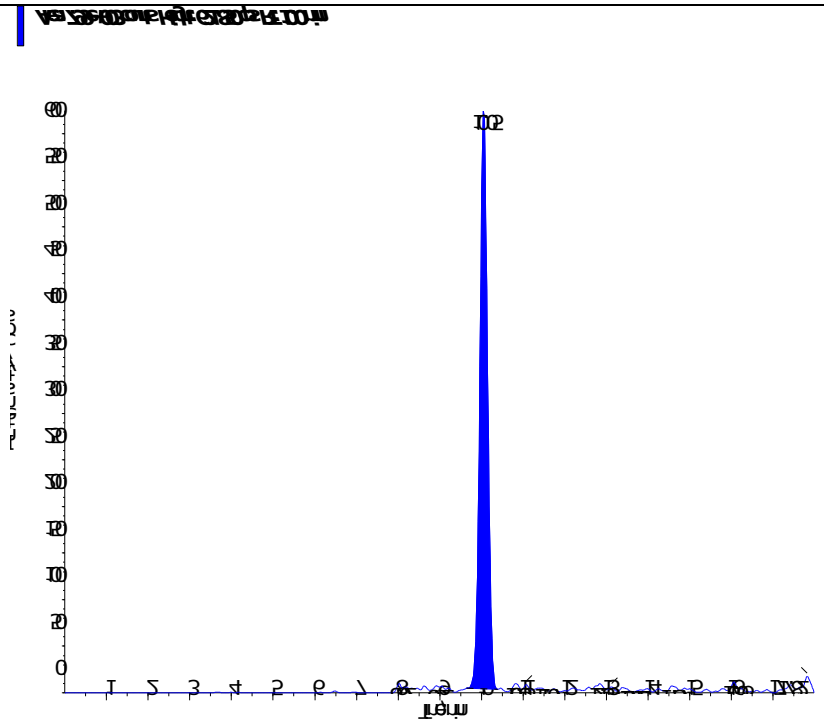
Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	1.450e+05	10.00	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	1.930e+04	10.10	1.00	0.942
Perchlorate conf	7.990e+03	10.00	1.00	0.996

O18LP (Internal Standard)

RT (Exp. RT): 10.00(10.00) min
Concentration: 5.00 ug/L
Sample Type: (Quality Control)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): 10.10 (10.00) min Calculated conc: 0.942 ng/ml Area Ratio: 0.134 Sample Type: (Quality Control)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 10.00 (10.00) min Calculated conc: 0.996 ng/ml Area Ratio: 0.055 Sample Type: (Quality Control)	

Data File	LM32837.wiff	**Result Table**	012116_JWR.rdb
Acquisition Date	1/21/2016 7:07:39 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

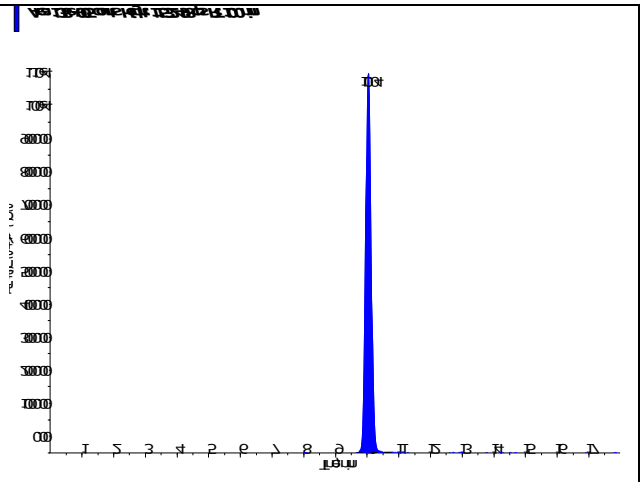
Sample Name	WG554545-02 CCV (1.0ug/L)	**Injection Vial**	5.00
Data File	LM32837.wiff	**Injection Volume**	10.00
Acquisition Date	1/21/2016 7:07:39 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Quality Control
Instrument Name	API 4000	**Result Table**	012116_JWR.rdb
Sample ID	WG554545-02	**Dilution Factor**	1.00
Sample Comment	1,1 STD72683	**Weight to Volume**	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	1.380e+05	10.00	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	1.900e+04	10.00	1.00	0.977
Perchlorate conf	8.020e+03	10.00	1.00	1.05

O18LP (Internal Standard)

RT (Exp. RT): 10.00(10.00) min
Concentration: 5.00 ug/L
Sample Type: (Quality Control)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): Calculated conc: Area Ratio: Sample Type:	10.00 (10.00) min 0.977 ng/ml 0.138 (Quality Control)
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): Calculated conc: Area Ratio: Sample Type:	10.00 (10.00) min 1.05 ng/ml 0.058 (Quality Control)

Data File	LM32849.wiff	**Result Table**	012116_JWR.rdb
Acquisition Date	1/21/2016 10:54:59 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

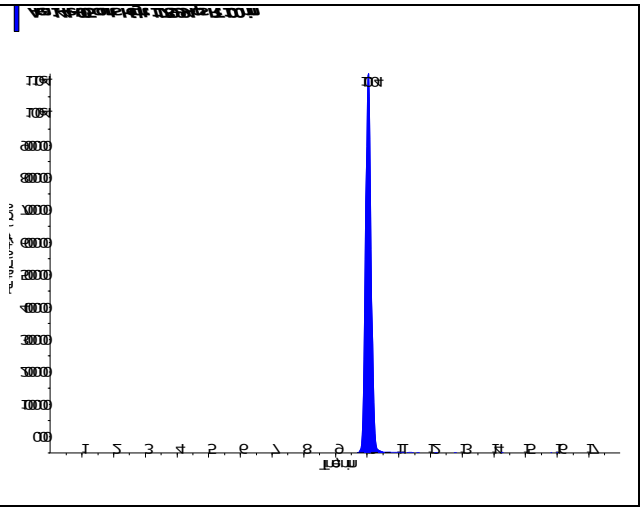
Sample Name	WG554545-03 CCV (1.0ug/L)	**Injection Vial**	5.00
Data File	LM32849.wiff	**Injection Volume**	10.00
Acquisition Date	1/21/2016 10:54:59 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Quality Control
Instrument Name	API 4000	**Result Table**	012116_JWR.rdb
Sample ID	WG554545-03	**Dilution Factor**	1.00
Sample Comment	1,1 STD72683	**Weight to Volume**	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	1.440e+05	10.00	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	1.990e+04	10.10	1.00	0.979
Perchlorate conf	7.650e+03	10.00	1.00	0.959

O18LP (Internal Standard)

RT (Exp. RT): 10.00(10.00) min
Concentration: 5.00 ug/L
Sample Type: (Quality Control)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): Calculated conc: Area Ratio: Sample Type:	10.10 (10.00) min 0.979 ng/ml 0.138 (Quality Control)
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): Calculated conc: Area Ratio: Sample Type:	10.00 (10.00) min 0.959 ng/ml 0.053 (Quality Control)

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Data File	LM32858.wiff	**Result Table**	012116_JWR.rdb
Acquisition Date	1/22/2016 1:45:27 AM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

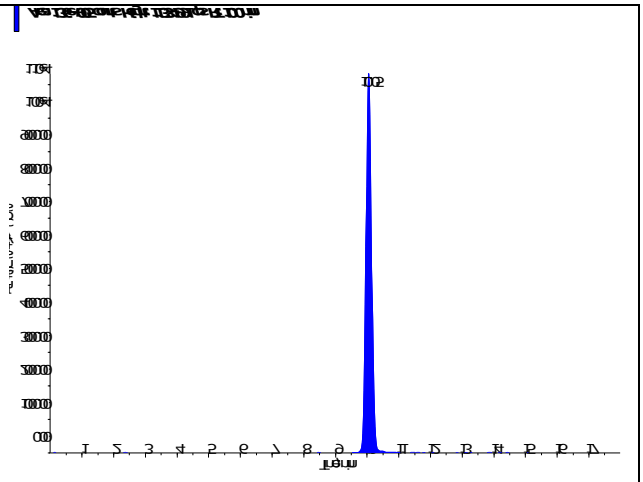
Sample Name	WG554545-05 CCV (1.0ug/L)	**Injection Vial**	5.00
Data File	LM32858.wiff	**Injection Volume**	10.00
Acquisition Date	1/22/2016 1:45:27 AM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Quality Control
Instrument Name	API 4000	**Result Table**	012116_JWR.rdb
Sample ID	WG554545-05	**Dilution Factor**	1.00
Sample Comment	1,1 STD72683	**Weight to Volume**	0.00

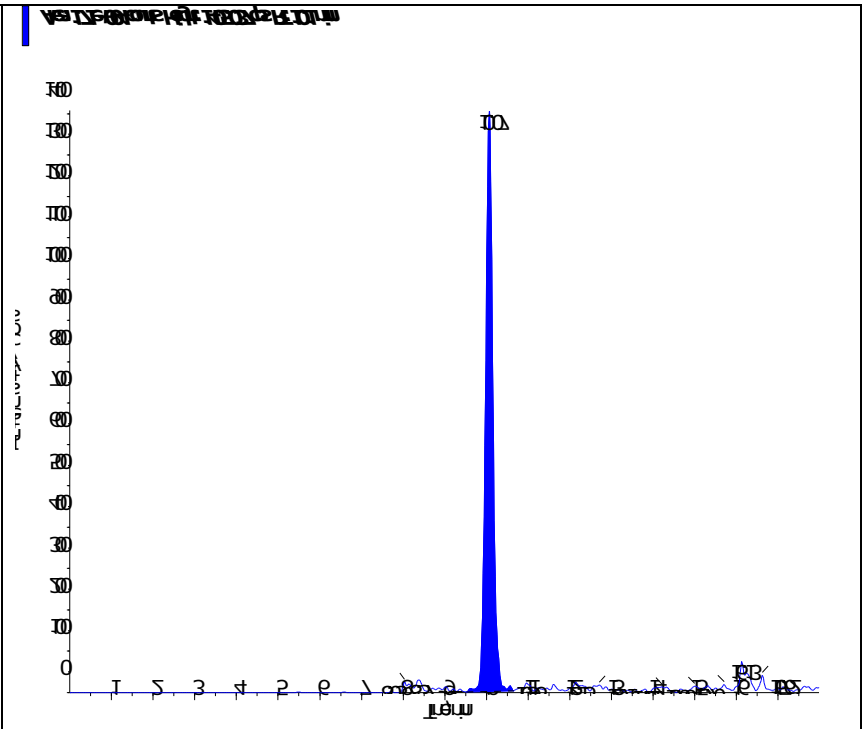
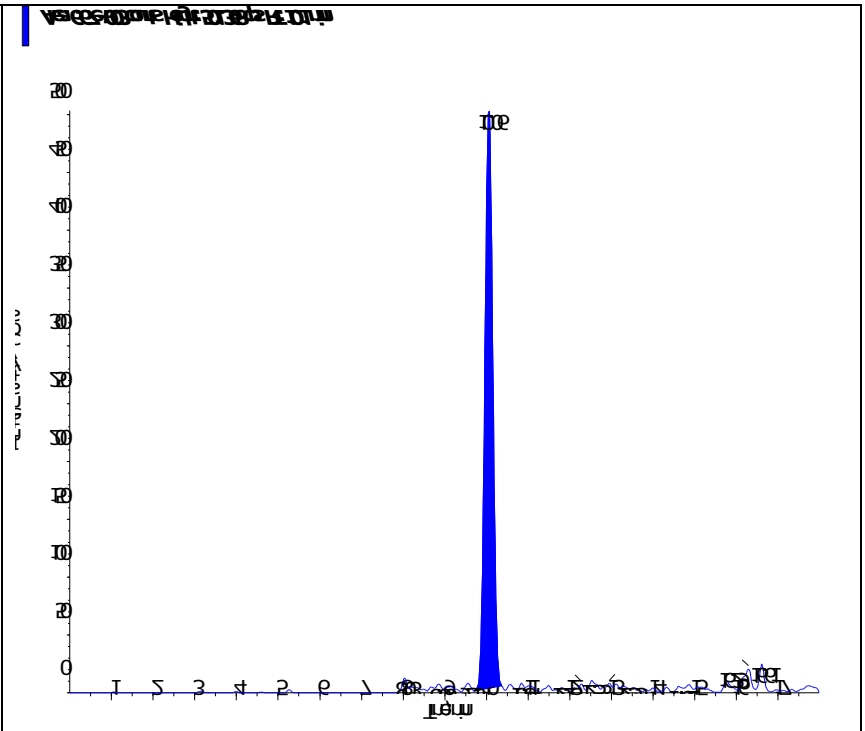
Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	1.360e+05	10.00	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	1.710e+04	10.10	1.00	0.881
Perchlorate conf	6.670e+03	10.10	1.00	0.875

O18LP (Internal Standard)

RT (Exp. RT): 10.00(10.00) min
Concentration: 5.00 ug/L
Sample Type: (Quality Control)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): 10.10 (10.00) min Calculated conc: 0.881 ng/ml Area Ratio: 0.126 Sample Type: (Quality Control)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 10.10 (10.00) min Calculated conc: 0.875 ng/ml Area Ratio: 0.049 Sample Type: (Quality Control)	

Data File	LM32838.wiff	**Result Table**	012116_JWR.rdb
Acquisition Date	1/21/2016 7:26:36 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

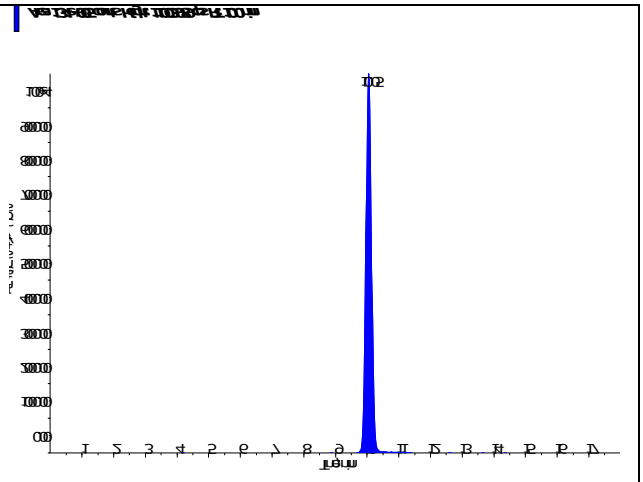
Sample Name	WG554543-07 MRL (0.2ug/L)	**Injection Vial**	3.00
Data File	LM32838.wiff	**Injection Volume**	10.00
Acquisition Date	1/21/2016 7:26:36 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Unknown
Instrument Name	API 4000	**Result Table**	012116_JWR.rdb
Sample ID	WG554543-07	**Dilution Factor**	1.00
Sample Comment	1,1 STD72683	**Weight to Volume**	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	1.340e+05	10.00	5.00	-

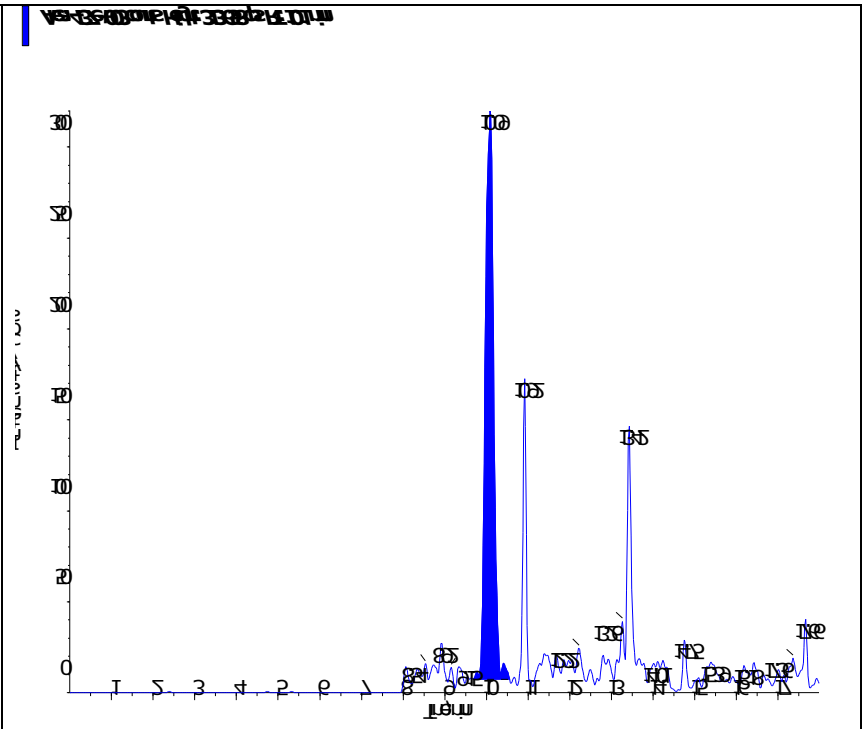
Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	4.370e+03	10.10	N/A	0.172
Perchlorate conf	1.870e+03	10.00	N/A	0.207

O18LP (Internal Standard)

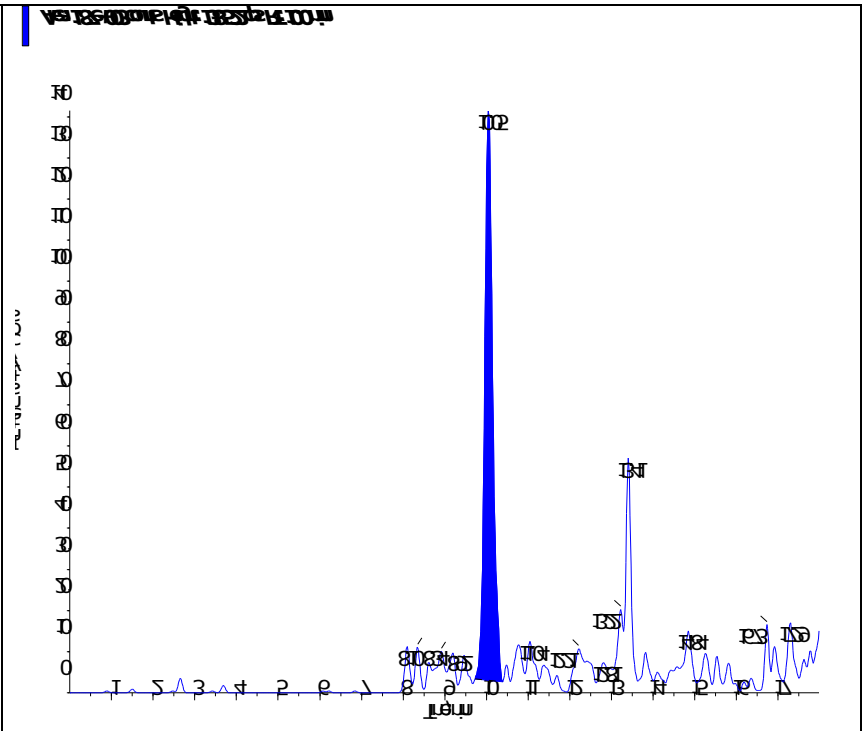
RT (Exp. RT): 10.00(10.00) min
Concentration: 5.00 ug/L
Sample Type: (Unknown)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): Calculated conc: Area Ratio: Sample Type:	10.10 (10.00) min 0.172 ng/ml 0.032 (Unknown)



Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): Calculated conc: Area Ratio: Sample Type:	10.00 (10.00) min 0.207 ng/ml 0.014 (Unknown)



Data File	LM32850.wiff	**Result Table**	012116_JWR.rdb
Acquisition Date	1/21/2016 11:13:54 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

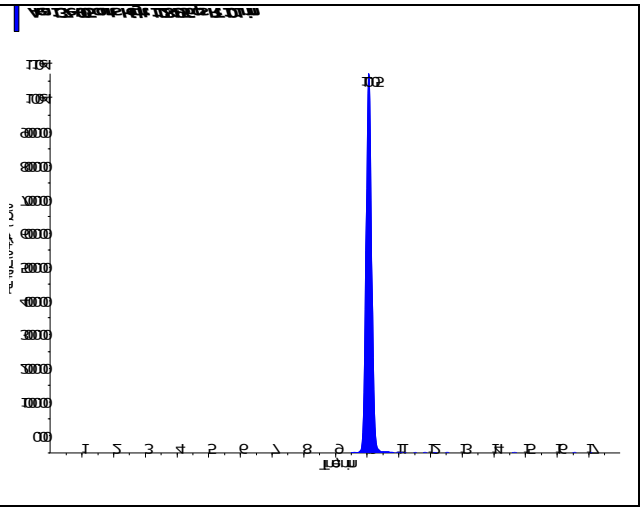
Sample Name	WG554543-08 MRL (0.2ug/L)	**Injection Vial**	3.00
Data File	LM32850.wiff	**Injection Volume**	10.00
Acquisition Date	1/21/2016 11:13:54 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Unknown
Instrument Name	API 4000	**Result Table**	012116_JWR.rdb
Sample ID	WG554543-08	**Dilution Factor**	1.00
Sample Comment	1,1 STD72683	**Weight to Volume**	0.00

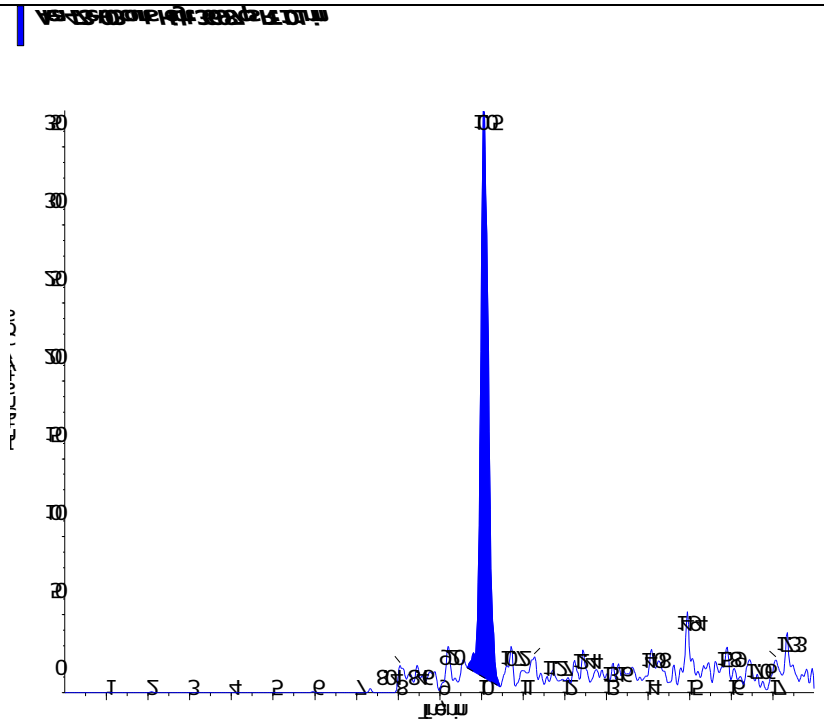
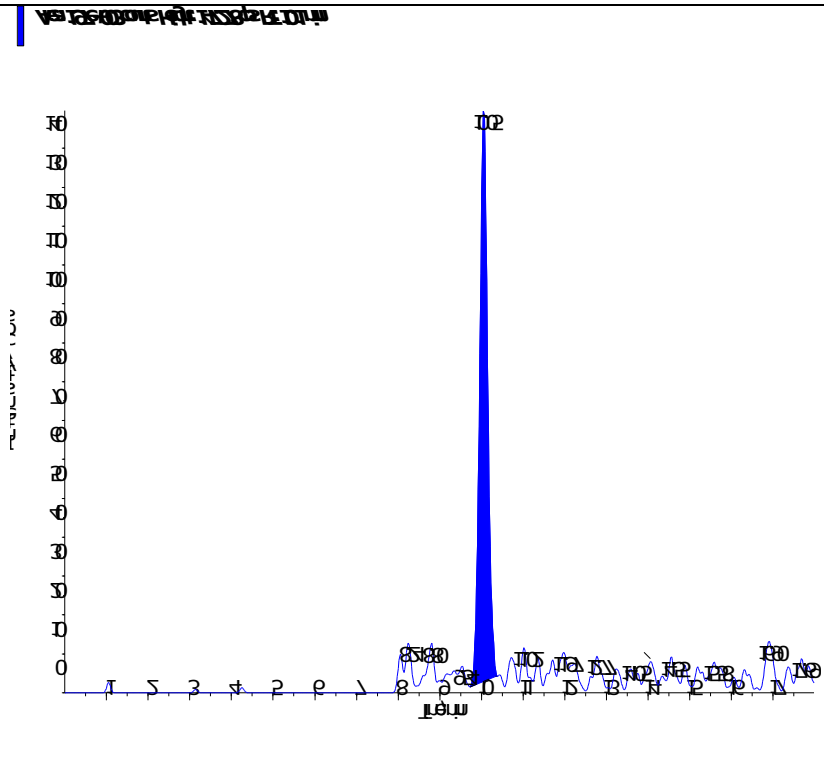
Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	1.370e+05	10.10	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	4.730e+03	10.10	N/A	0.187
Perchlorate conf	1.970e+03	10.10	N/A	0.216

O18LP (Internal Standard)

RT (Exp. RT): 10.10(10.00) min
Concentration: 5.00 ug/L
Sample Type: (Unknown)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): 10.10 (10.00) min Calculated conc: 0.187 ng/ml Area Ratio: 0.035 Sample Type: (Unknown)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 10.10 (10.00) min Calculated conc: 0.216 ng/ml Area Ratio: 0.014 Sample Type: (Unknown)	

Data File	LM32859.wiff	**Result Table**	012116_JWR.rdb
Acquisition Date	1/22/2016 2:04:24 AM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

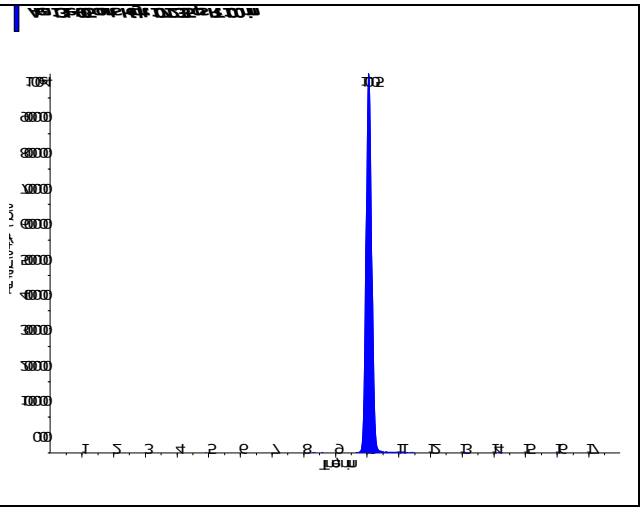
Sample Name	WG554543-09 MRL (0.2ug/L)	**Injection Vial**	3.00
Data File	LM32859.wiff	**Injection Volume**	10.00
Acquisition Date	1/22/2016 2:04:24 AM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Unknown
Instrument Name	API 4000	**Result Table**	012116_JWR.rdb
Sample ID	WG554543-09	**Dilution Factor**	1.00
Sample Comment	1,1 STD72683	**Weight to Volume**	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	1.310e+05	10.00	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	3.810e+03	10.10	N/A	0.145
Perchlorate conf	1.660e+03	10.10	N/A	0.182

O18LP (Internal Standard)

RT (Exp. RT): 10.00(10.00) min
Concentration: 5.00 ug/L
Sample Type: (Unknown)



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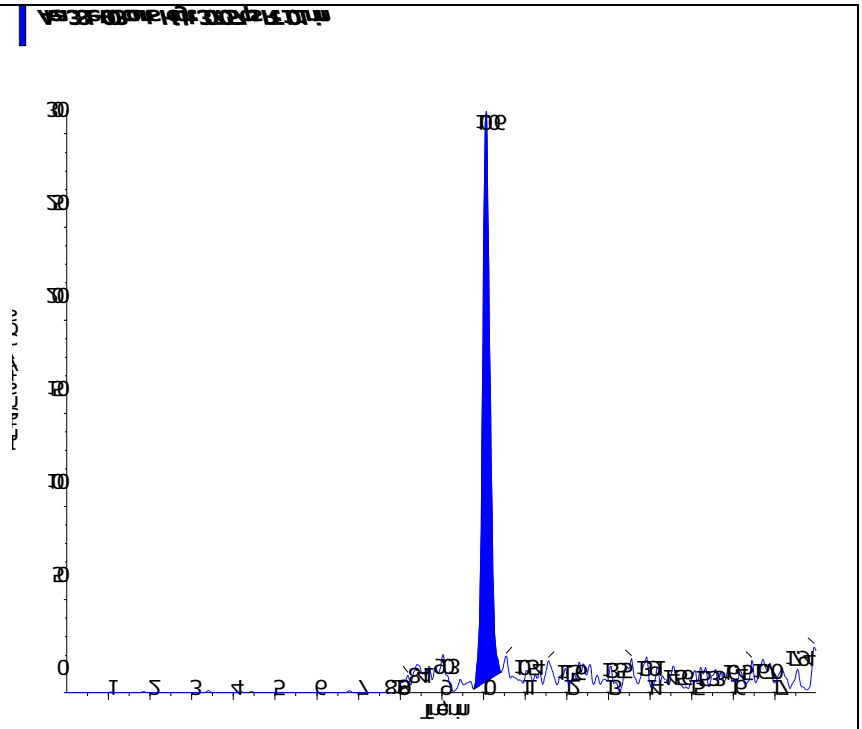
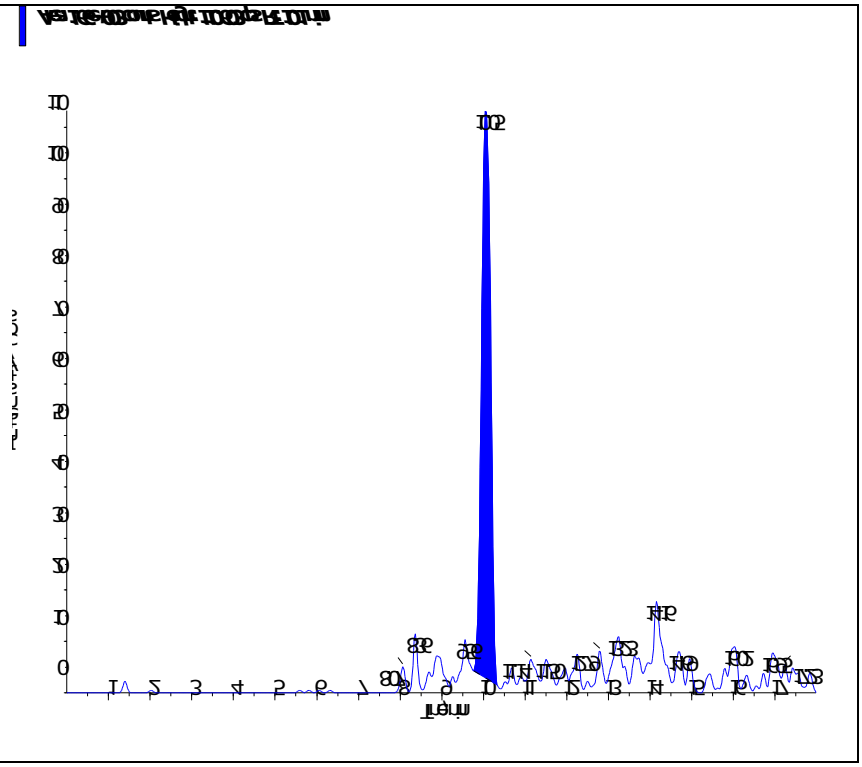
Perchlorate (98.8/83.3 amu) RT (Exp. RT): 10.10 (10.00) min Calculated conc: 0.145 ng/ml Area Ratio: 0.029 Sample Type: (Unknown)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 10.10 (10.00) min Calculated conc: 0.182 ng/ml Area Ratio: 0.013 Sample Type: (Unknown)	

Data File	LM32836.wiff	**Result Table**	012116_JWR.rdb
Acquisition Date	1/21/2016 6:48:44 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

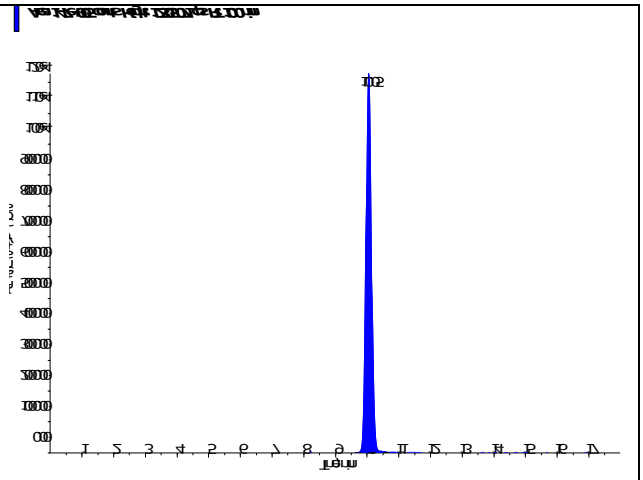
Sample Name	WG554545-01 CCB	**Injection Vial**	1.00
Data File	LM32836.wiff	**Injection Volume**	10.00
Acquisition Date	1/21/2016 6:48:44 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Unknown
Instrument Name	API 4000	**Result Table**	012116_JWR.rdb
Sample ID	WG554545-01	**Dilution Factor**	1.00
Sample Comment	11.00	**Weight to Volume**	0.00

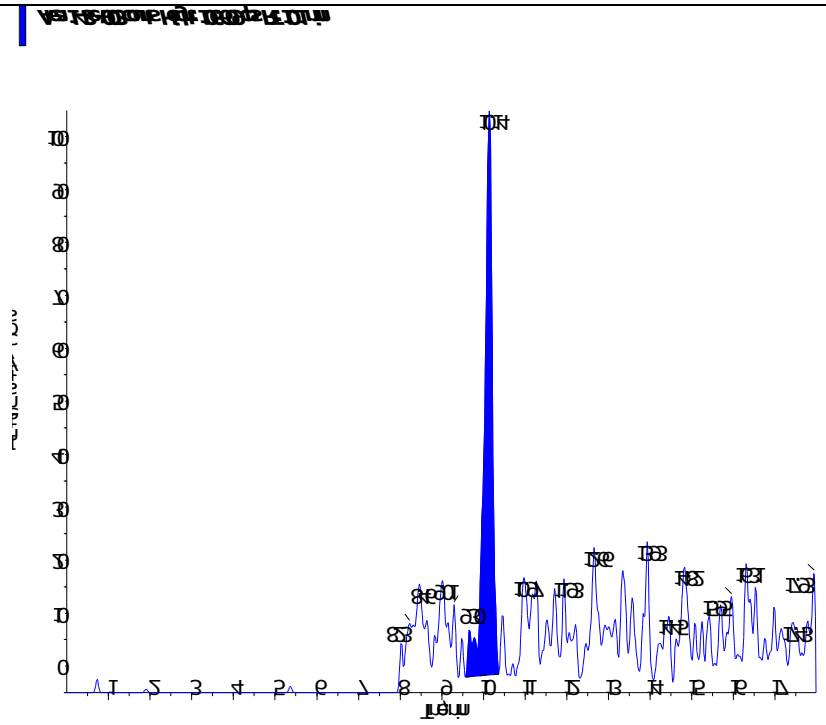
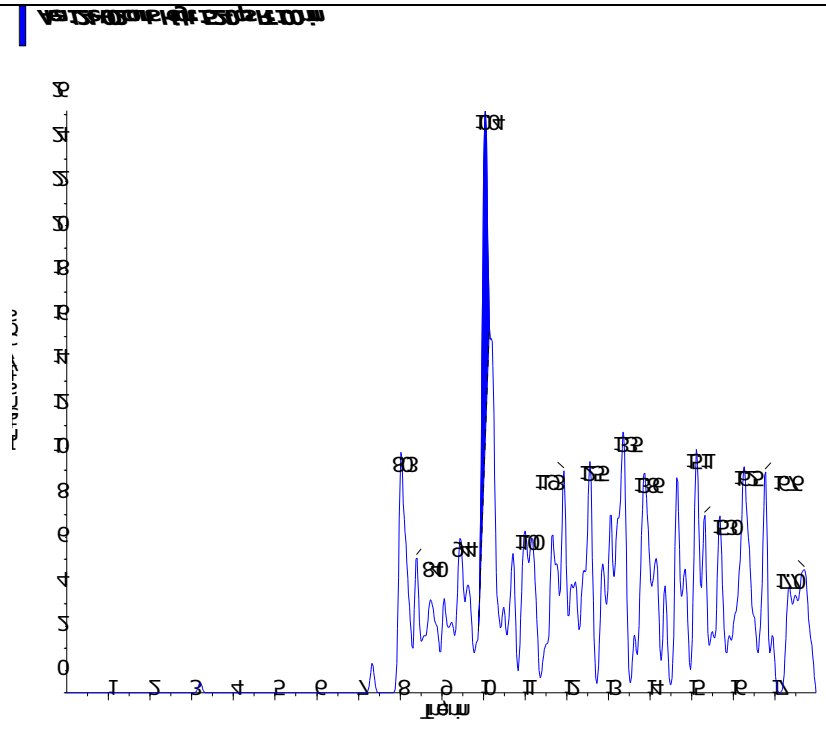
Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	1.470e+05	10.00	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	1.430e+03	10.10	N/A	< 0
Perchlorate conf	1.240e+02	10.00	N/A	< 0

O18LP (Internal Standard)

RT (Exp. RT): 10.00(10.00) min
Concentration: 5.00 ug/L
Sample Type: (Unknown)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): 10.10 (10.00) min Calculated conc: < 0 ng/ml Area Ratio: 0.01 Sample Type: (Unknown)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 10.00 (10.00) min Calculated conc: < 0 ng/ml Area Ratio: 0.001 Sample Type: (Unknown)	

Data File	LM32851.wiff	**Result Table**	012116_JWR.rdb
Acquisition Date	1/21/2016 11:32:50 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

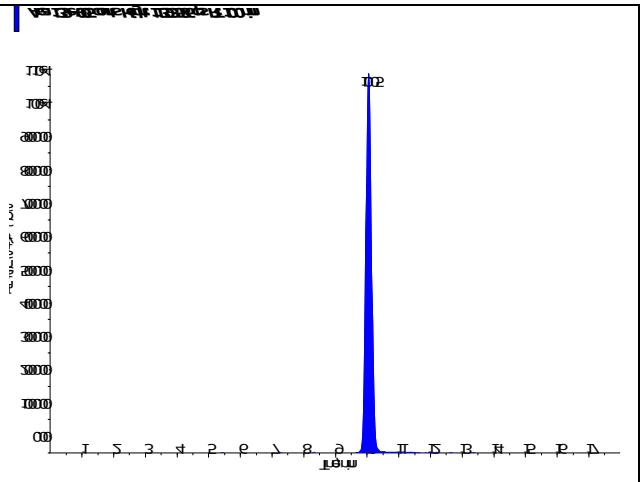
Sample Name	WG554545-04 CCB	**Injection Vial**	1.00
Data File	LM32851.wiff	**Injection Volume**	10.00
Acquisition Date	1/21/2016 11:32:50 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Unknown
Instrument Name	API 4000	**Result Table**	012116_JWR.rdb
Sample ID	WG554545-04	**Dilution Factor**	1.00
Sample Comment	11.00	**Weight to Volume**	0.00

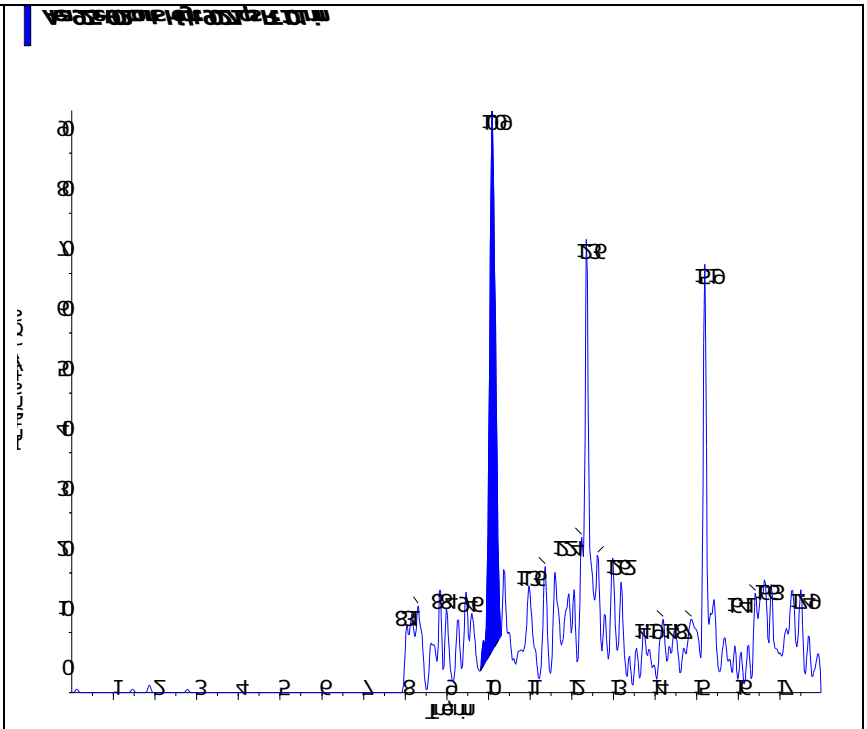
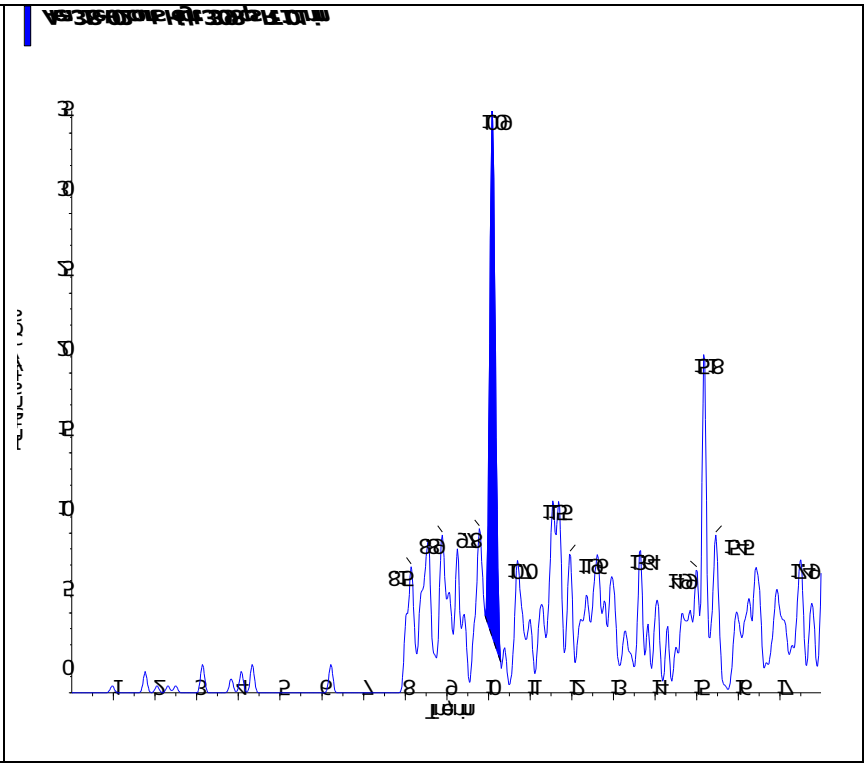
Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	1.390e+05	10.00	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	9.250e+02	10.10	N/A	< 0
Perchlorate conf	3.180e+02	10.10	N/A	< 0

O18LP (Internal Standard)

RT (Exp. RT): 10.00(10.00) min
Concentration: 5.00 ug/L
Sample Type: (Unknown)



Perchlorate (98.8/83.3 amu)	
RT (Exp. RT): 10.10 (10.00) min Calculated conc: < 0 ng/ml Area Ratio: 0.007 Sample Type: (Unknown)	
Perchlorate conf (100.8/85.2 amu)	
RT (Exp. RT): 10.10 (10.00) min Calculated conc: < 0 ng/ml Area Ratio: 0.002 Sample Type: (Unknown)	

Data File	LM32860.wiff	**Result Table**	012116_JWR.rdb
Acquisition Date	1/22/2016 2:23:19 AM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

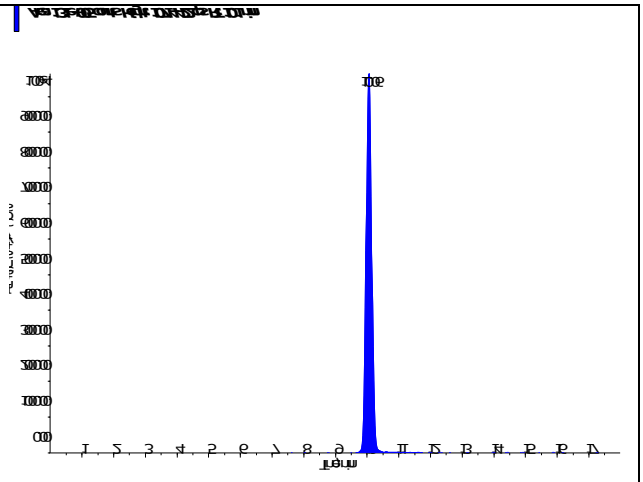
Sample Name	WG554545-06 CCB	**Injection Vial**	1.00
Data File	LM32860.wiff	**Injection Volume**	10.00
Acquisition Date	1/22/2016 2:23:19 AM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Unknown
Instrument Name	API 4000	**Result Table**	012116_JWR.rdb
Sample ID	WG554545-06	**Dilution Factor**	1.00
Sample Comment	11.00	**Weight to Volume**	0.00

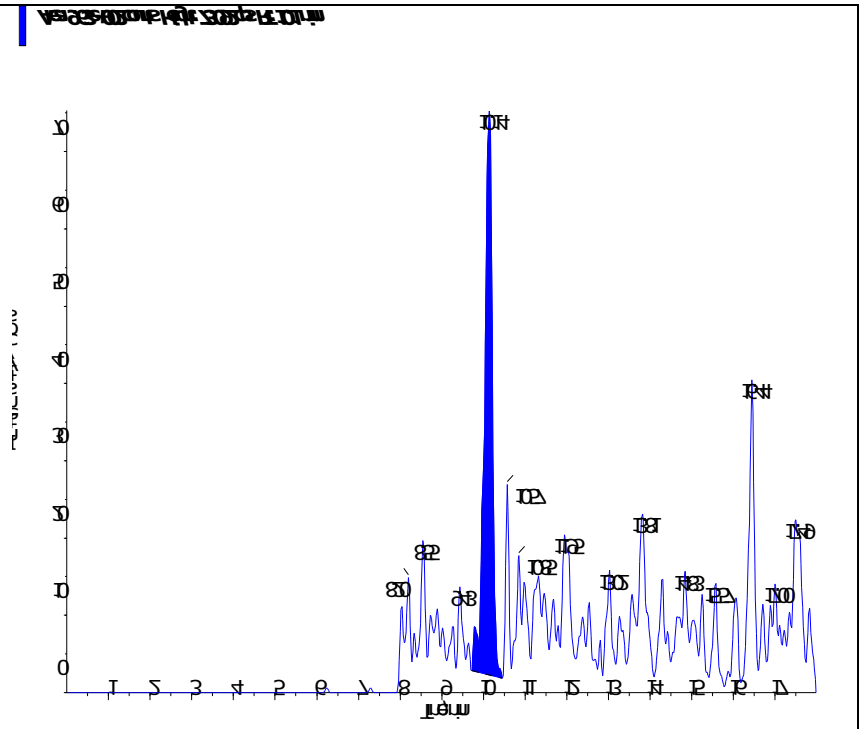
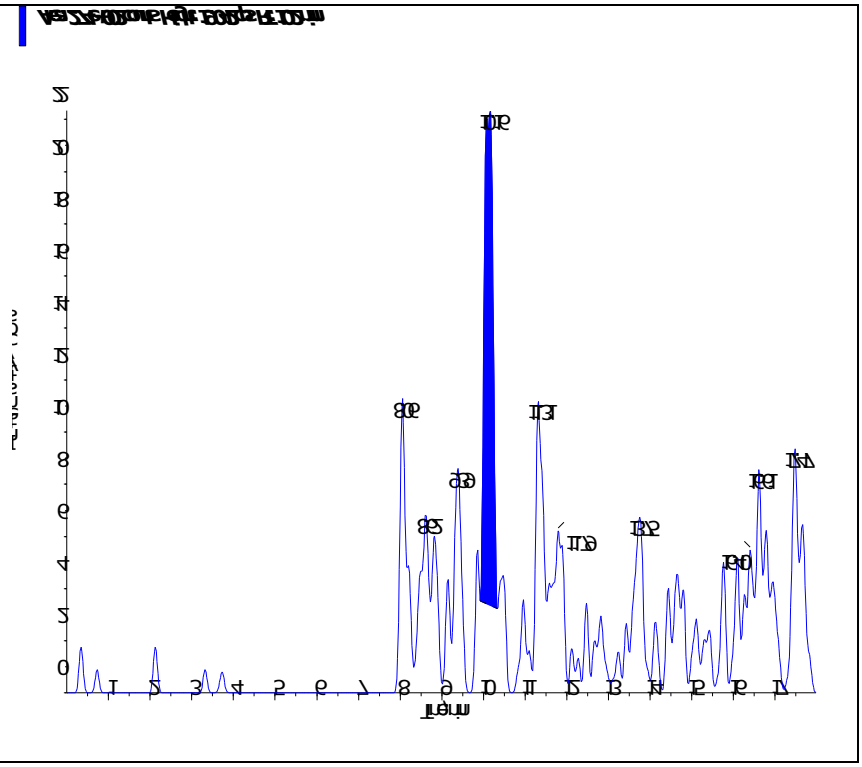
Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	1.310e+05	10.10	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	9.630e+02	10.10	N/A	< 0
Perchlorate conf	2.740e+02	10.20	N/A	< 0

O18LP (Internal Standard)

RT (Exp. RT): 10.10(10.00) min
Concentration: 5.00 ug/L
Sample Type: (Unknown)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): 10.10 (10.00) min Calculated conc: < 0 ng/ml Area Ratio: 0.007 Sample Type: (Unknown)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 10.20 (10.00) min Calculated conc: < 0 ng/ml Area Ratio: 0.002 Sample Type: (Unknown)	

Data File	LM32839.wiff	**Result Table**	012116_JWR.rdb
Acquisition Date	1/21/2016 7:45:33 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

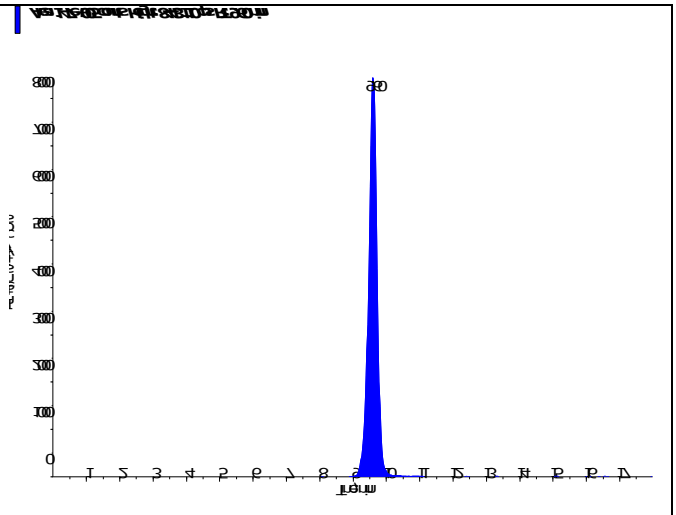
Sample Name	WG554543-01 MCT (0.2ug/L)	**Injection Vial**	10.00
Data File	LM32839.wiff	**Injection Volume**	10.00
Acquisition Date	1/21/2016 7:45:33 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Unknown
Instrument Name	API 4000	**Result Table**	012116_JWR.rdb
Sample ID	WG554543-01	**Dilution Factor**	1.00
Sample Comment	1,1 STD72685	**Weight to Volume**	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	1.470e+05	9.60	5.00	-

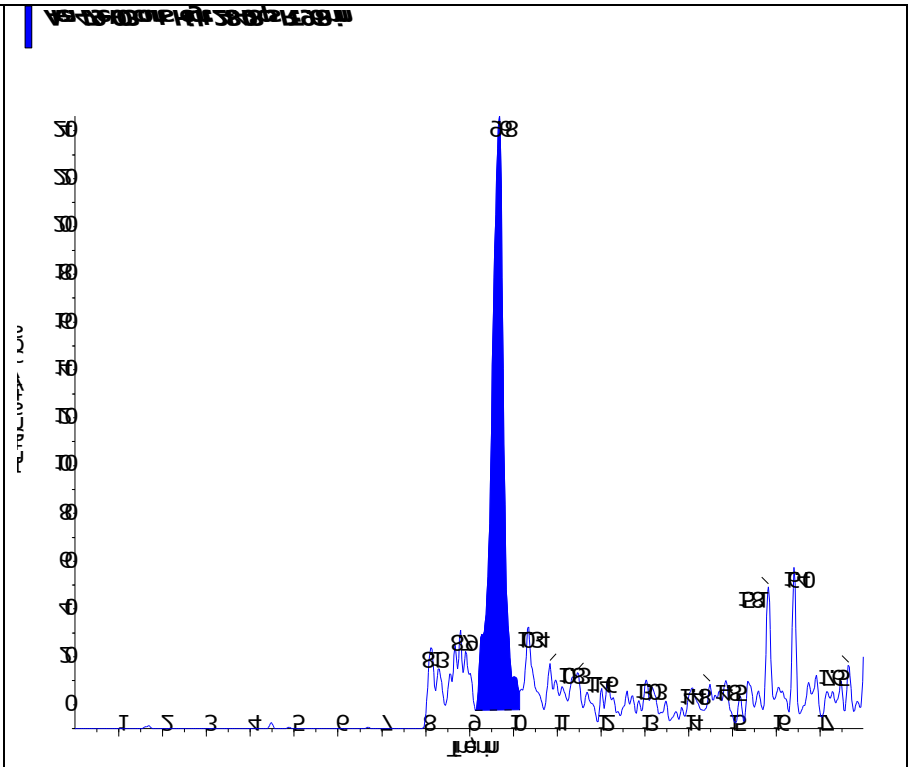
Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	4.790e+03	9.68	N/A	0.173
Perchlorate conf	1.670e+03	9.61	N/A	0.158

O18LP (Internal Standard)

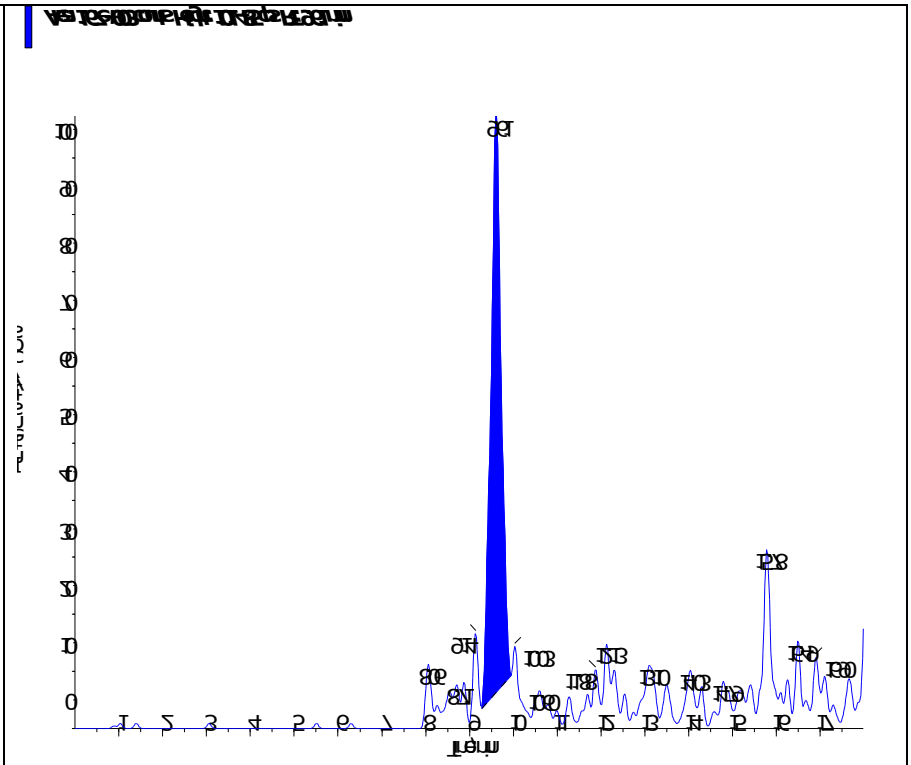
RT (Exp. RT): 9.60(10.00) min
Concentration: 5.00 ug/L
Sample Type: (Unknown)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): Calculated conc: Area Ratio: Sample Type:	9.68 (10.00) min 0.173 ng/ml 0.033 (Unknown)



Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): Calculated conc: Area Ratio: Sample Type:	9.61 (10.00) min 0.158 ng/ml 0.011 (Unknown)



2.1.1.5 Raw QC Data

Data File	LM32840.wiff	**Result Table**	012116_JWR.rdb
Acquisition Date	1/21/2016 8:04:28 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

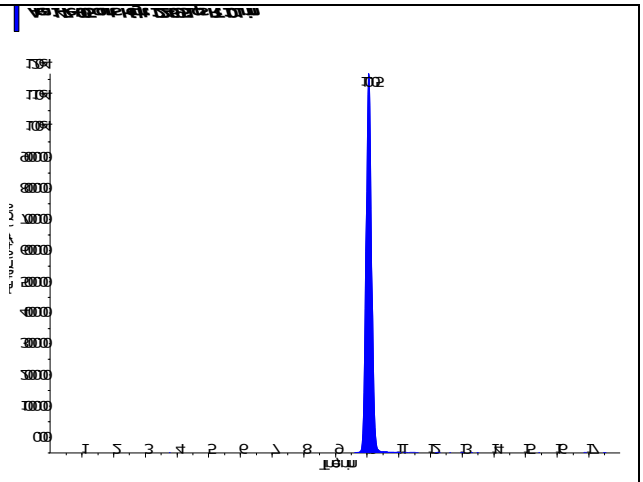
Sample Name	WG554543-02 BLANK	**Injection Vial**	11.00
Data File	LM32840.wiff	**Injection Volume**	10.00
Acquisition Date	1/21/2016 8:04:28 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Unknown
Instrument Name	API 4000	**Result Table**	012116_JWR.rdb
Sample ID	WG554543-02	**Dilution Factor**	1.00
Sample Comment	11.00	**Weight to Volume**	0.00

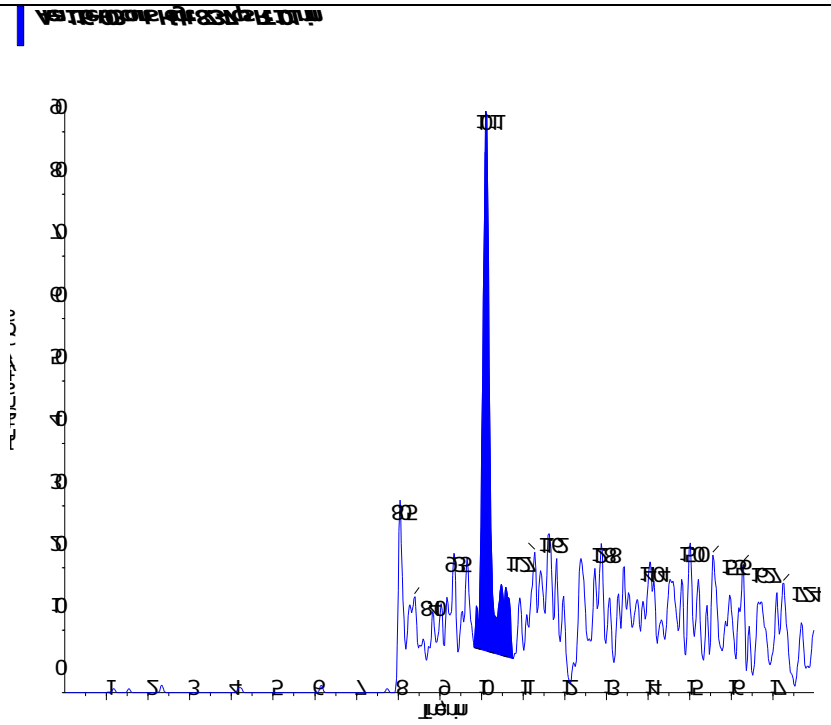
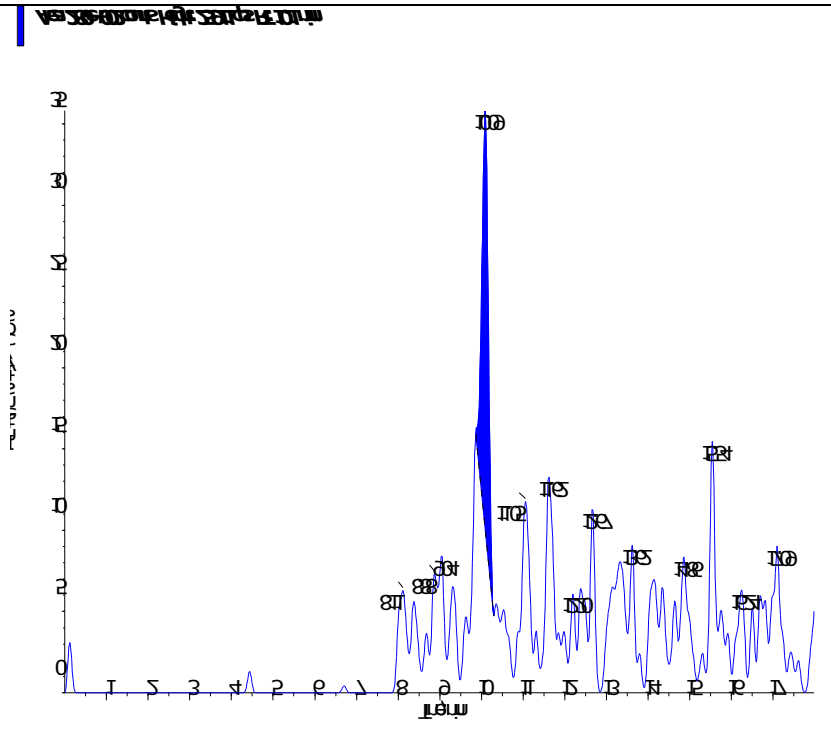
Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	1.470e+05	10.10	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	1.160e+03	10.10	N/A	< 0
Perchlorate conf	2.800e+02	10.10	N/A	< 0

O18LP (Internal Standard)

RT (Exp. RT): 10.10(10.00) min
Concentration: 5.00 ug/L
Sample Type: (Unknown)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): 10.10 (10.00) min Calculated conc: < 0 ng/ml Area Ratio: 0.008 Sample Type: (Unknown)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 10.10 (10.00) min Calculated conc: < 0 ng/ml Area Ratio: 0.002 Sample Type: (Unknown)	

Data File	LM32841.wiff	**Result Table**	012116_JWR.rdb
Acquisition Date	1/21/2016 8:23:27 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

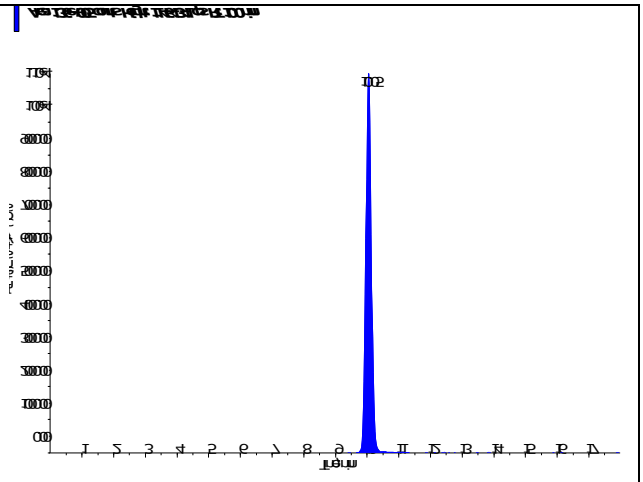
Sample Name	WG554543-03 LCS (0.2ug/L)	**Injection Vial**	12.00
Data File	LM32841.wiff	**Injection Volume**	10.00
Acquisition Date	1/21/2016 8:23:27 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Unknown
Instrument Name	API 4000	**Result Table**	012116_JWR.rdb
Sample ID	WG554543-03	**Dilution Factor**	1.00
Sample Comment	1,1 STD72685	**Weight to Volume**	0.00

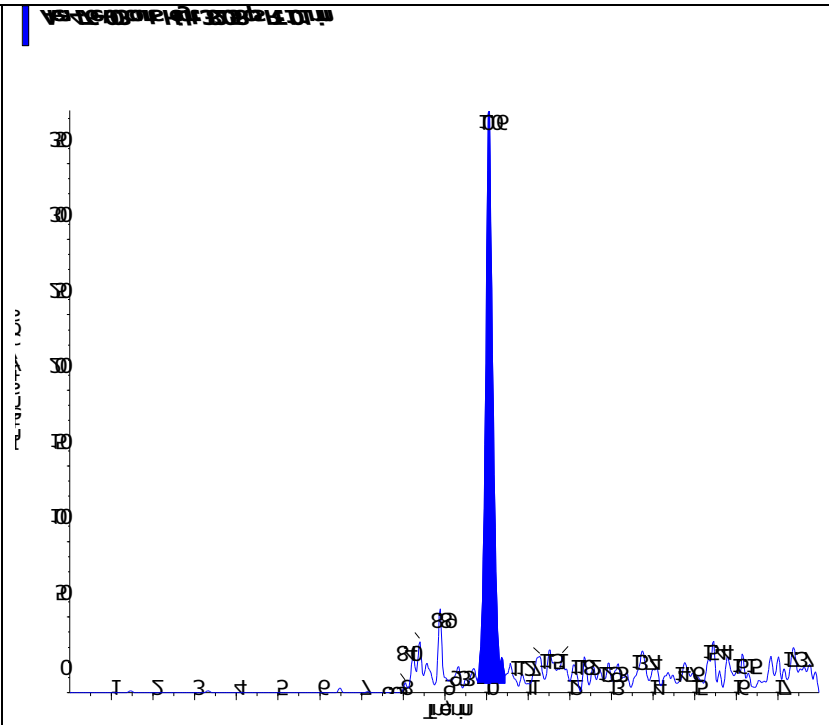
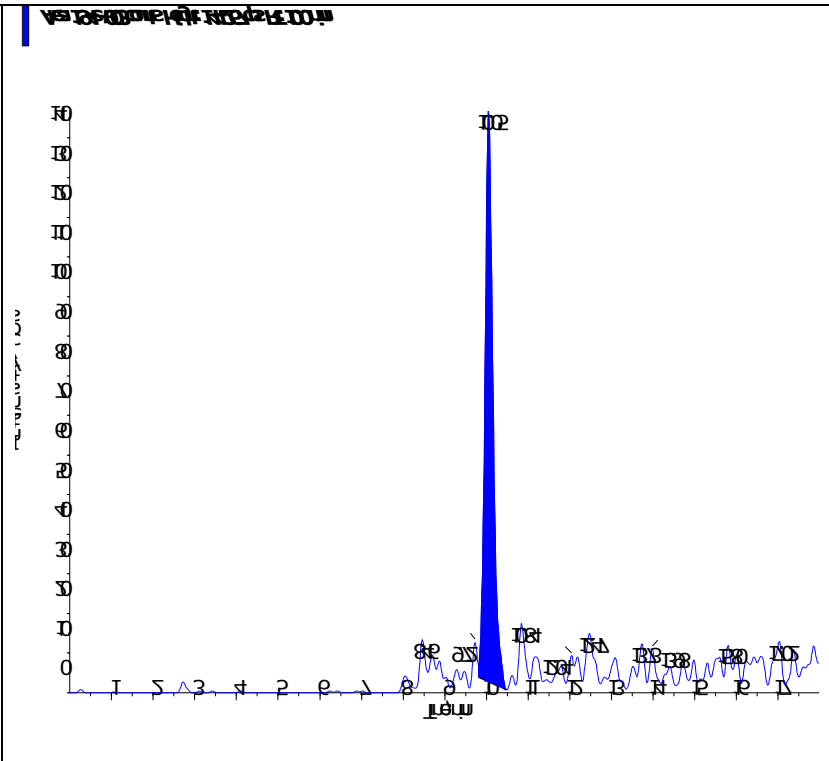
Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	1.360e+05	10.00	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	4.760e+03	10.10	N/A	0.19
Perchlorate conf	1.940e+03	10.00	N/A	0.213

O18LP (Internal Standard)

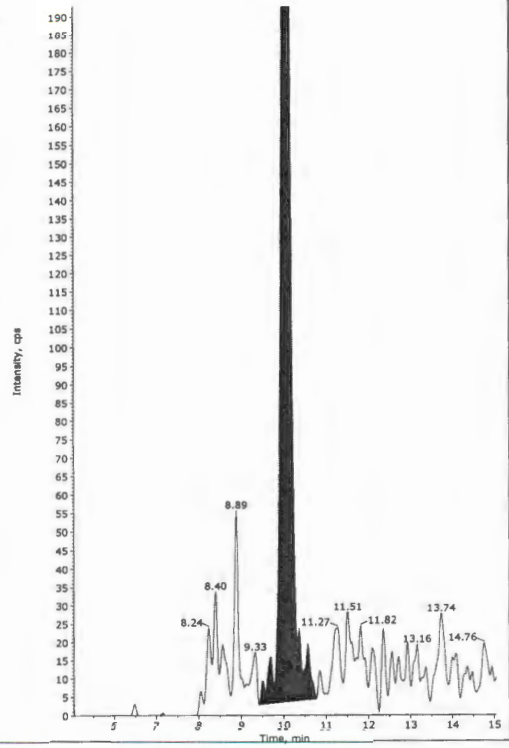
RT (Exp. RT): 10.00(10.00) min
Concentration: 5.00 ug/L
Sample Type: (Unknown)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): 10.10 (10.00) min Calculated conc: 0.19 ng/ml Area Ratio: 0.035 Sample Type: (Unknown)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 10.00 (10.00) min Calculated conc: 0.213 ng/ml Area Ratio: 0.014 Sample Type: (Unknown)	

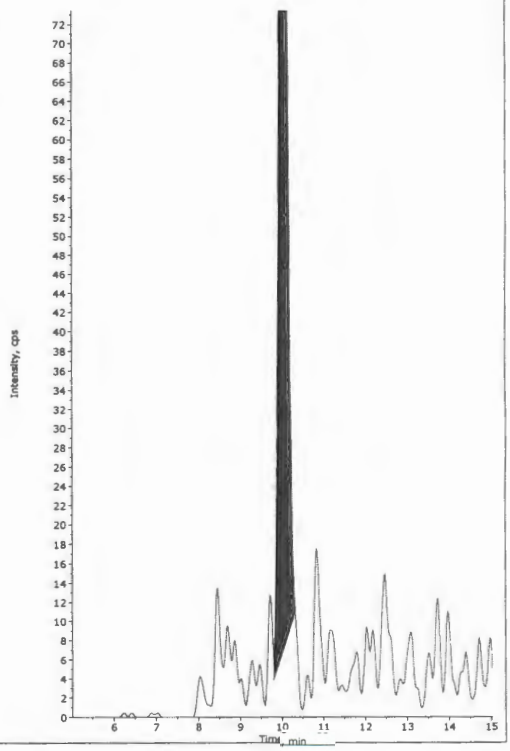
Sample Name: "WG554543-03 LCS (0.2ug/L)" Sample ID: "WG554543-03" File: "LM32841.wiff"
Peak Name: "Perchlorate" Mass(es): "98.8/83.3 amu"
Comment: "1,1 STD72685" Annotation: ""

Sample Index:	1
Sample Type:	Unknown
Concentration:	N/A
Calculated Conc:	0.212 ug/L
Acq. Date:	1/21/2016
Acq. Time:	8:23:27 PM
Modified:	No
Proc. Algorithm:	Analyst Classic
Bunching Factor:	3
Noise Threshold:	4.76 cps
Area Threshold:	23.82 cps
Num. Smooths:	5
Sep. Width:	0.20
Sep. Height:	0.01
Exp. Peak Ratio:	5.00
Exp. Adj. Ratio:	4.00
Exp. Val. Ratio:	3.00
RT Window:	30.000 sec
Expected RT:	10.0 min
Use Relative RT:	Yes
Int. Type:	Base To Base
Retention Time:	10.1 min
Area:	5.15e+003 counts
Height:	384.757 cps
Start Time:	9.417 min
End Time:	10.774 min



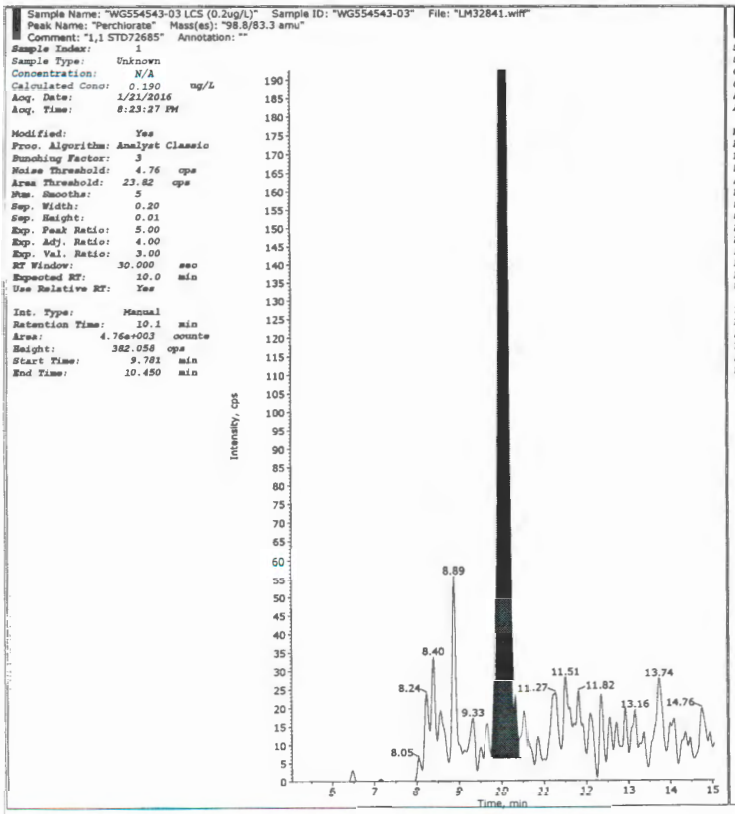
Sample Name: "WG554543-03 LCS (0.2ug/L)" Sample ID: "WG554543-03" File: "LM32841.wiff"
Peak Name: "Perchlorate conf" Mass(es): "100.8/85.2 amu"
Comment: "1,1 STD72685" Annotation: ""

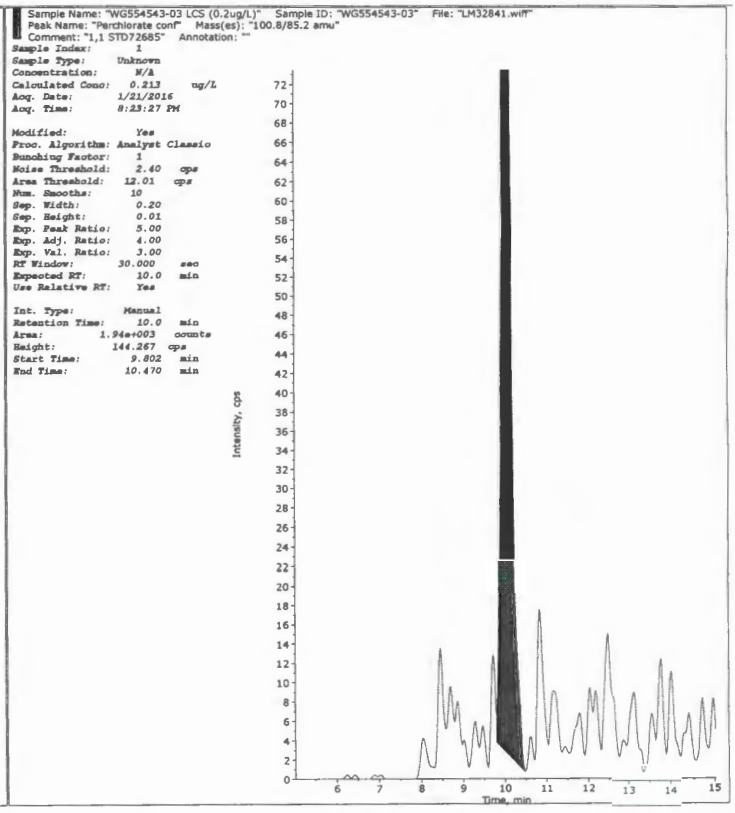
Sample Index:	1
Sample Type:	Unknown
Concentration:	N/A
Calculated Conc:	0.187 ug/L
Acq. Date:	1/21/2016
Acq. Time:	8:23:27 PM
Modified:	No
Proc. Algorithm:	Analyst Classic
Bunching Factor:	1
Noise Threshold:	2.40 cps
Area Threshold:	12.01 cps
Num. Smooths:	10
Sep. Width:	0.20
Sep. Height:	0.01
Exp. Peak Ratio:	5.00
Exp. Adj. Ratio:	4.00
Exp. Val. Ratio:	3.00
RT Window:	30.000 sec
Expected RT:	10.0 min
Use Relative RT:	Yes
Int. Type:	Valley
Retention Time:	10.0 min
Area:	1.75e+003 counts
Height:	139.839 cps
Start Time:	9.802 min
End Time:	10.328 min



Collected by: N/A
Electronic Signature: no
Operator: lcms1

Printing Time: 2:22:20 PM
Printing Date: Friday, January 22, 2016





#4
JWR 01/22/16

Collected by: N/A
Electronic Signature: no
Operator: lcmsl

3.0 Attachments

Microbac Laboratories Inc.
Ohio Valley Division Analyst List
January 25, 2016

---

001 – BIO-CHEM TESTING WVDEP 220	002 – REIC Consultants, Inc. WVDEP 060
003 – Sturm Environmental	004 – MICROBAC PITTSBURGH
005 – ES LABORATORIES	006 – ALCOSAN LABORATORIES
007 – ALS LABORATORIES	008 – BENCHMARK LABORATORIES
010 – MICROBAC CHICAGOLAND	AC – AMBER R. CARMICHAEL
ADC – ANTHONY D. CANTER	ADG – APRIL D. GREENE
AED – ALLEN E. DAVIS	ALS – ADRIANE L. STEED
AWE – ANDREW W. ESSIG	AZH – AFTER HOURS
BJO – BRIAN J. OGDEN	BKT – BRENDAN TORRENCE
BLG – BRENDA L. GREENWALT	BRG – BRENDA R. GREGORY
CAA – CASSIE A. AUGENSTEIN	CAF – CHERYL A. FLOWERS
CEB – CHAD E. BARNES	CJR – COURTNEY J. REXROAD
CLC – CHRYS L. CRAWFORD	CLS – CARA L. STRICKLER
CLW – CHARISSA L. WINTERS	CPD – CHAD P. DAVIS
CSH – CHRIS S. HILL	DAK – DEAN A. KETELSEN
DCM – DAVID C. MERCKLE	DEV – DAVID E. VANDENBERG
DIH – DEANNA I. HESSON	DLB – DAVID L. BUMGARNER
DLP – DOROTHY L. PAYNE	DLW – DIANA L. WRIGHT
DSM – DAVID S. MOSSOR	ECL – ERIC C. LAWSON
ENY – EMILY N. YOAK	ERP – ERIN R. PORTER
FJB – FRANCES J. BOLDEN	JBK – JEREMY B. KINNEY
JDH – JUSTIN D. HESSON	JDS – JARED D. SMITH
JJS – JOHN J. STE MARIE	JKP – JACQUELINE K. PARSONS
JLD – JESSICA L. DELONG	JLL – JOHN L. LENT
JMW – JEANA M. WHITE	JTP – JOSHUA T. PEMBERTON
JWR – JOHN W. RICHARDS	JWS – JACK W. SHEAVES
JYH – JI Y. HU	KAJ – KELLIE A. JOHNSON
KAT – KATHY A. TUCKER	KDW – KATHRYN D. WELCH
KEB – KATIE E. BARNES	KHR – KIM H. RHODES
KKB – KERRI K. BUCK	KRA – KATHY R. ALBERTSON
KRB – KAELY R. BECKER	KRP – KATHY R. PARSONS
LEC – LAURA E. CARPENTER	LKN – LINDA K. NEDEFF
LLS – LARRY L. STEPHENS	LSB – LESLIE S. BUCINA
MBK – MORGAN B. KNOWLTON	MDA – MIKE D. ALBERTSON
MDC – MIKE D. COCHRAN	MES – MARY E. SCHILLING
MLB – MEGAN L. BACHE	MMB – MAREN M. BEERY
MRT – MICHELLE R. TAYLOR	MSW – MATT S. WILSON
PDM – PIERCE D. MORRIS	PIT – MICROBAC WARRENDALE
PRL – PAIGE R. LAMB	PSW – PEGGY S. WEBB
QX – QIN XU	RAH – ROY A. HALSTEAD
REK – BOB E. KYER	RLB – BOB BUCHANAN
RM – RAYMOND MALEKE	RNP – RICK N. PETTY
RST – ROBIN S. TURNER	SAV – SARAH A. VANDENBERG
SCB – SARAH C. BOGOLIN	SDC – SHALYN D. CONLEY
SLM – STEPHANIE L. MOSSBURG	SLP – SHERI L. PFALZGRAF
TB – TODD BOYLE	TGF – TIM G. FELTON
TMB – TIFFANY M. BAILEY	TMM – TAMMY M. MORRIS
VC – VICKI COLLIER	WJB – WILL J. BEASLEY
WRR – WESLEY R. RICHARDS	WTD – WADE T. DELONG
XXX – UNAVAILABLE OR SUBCONTRACT	

Microbac Laboratories Inc.
List of Valid Qualifiers
January 25, 2016

Qualkey: DOD

Qualifier	Description
*	Surrogate or spike compound out of range
+	Correlation coefficient for the MSA is less than 0.995
<	Result is less than the associated numerical value.
>	Greater than
A	See the report narrative
B	The reported result is associated with a contaminated method blank.
B,H1	Analyte present in method blank. Sample analysis performed past holding time.
B1	Target analyte detected in method blank at or above the method reporting limit
B3	Target analyte detected in calibration blank at or above the method reporting limit
B4	The BOD unseeded dilution water blank exceeded 0.2 mg/L
C	Confirmed by GC/MS
CG	Confluent growth
CT1	Cooler temperature at sample reciept exceeded regulatory limit.
DL	Surrogate or spike compound was diluted out
E	Estimated concentration due to sample matrix interference
E,CT1	Estimated results. The cooler temperature at receipt exceeded regulatory guidelines for requested testing.
EDL	Elevated sample reporting limits, presence of non-target analytes
EMPC	Estimated Maximum Possible Concentration
F, S	Estimated result below quantitation limit; method of standard additions(MSA)
F,CT1	Estimated value; the analyte concentration was less than the RL/LOQ. The cooler temperature at receipt exceeded regula
FL	Free Liquid
FP1	Did not ignite.
H1	Sample analysis performed past holding time.
H1,CT1	Sample analysis performed past holding time. The cooler temperature at receipt exceeded regulatory guidelines for reque
I	Semiquantitative result (out of instrument calibration range)
J	Estimated concentration; sample matrix interference.
J	Estimated value ; the analyte concentration was greater than the highest standard
J	Estimated value ; the analyte concentration was less than the LOQ.
J	The reported result is an estimated value.
J,B	Analyte detected in both the method blank and sample above the MDL.
J,CT1	Estimated value ; the analyte concentration was less than the LOQ. Cooler temperature at sample reciept exceeded regu
J,H1	Estimated value ; the analyte concentration was less than the LOQ. Sample analysis performed past holding time.
J,H1	The reported result is an estimated value. Sample was analyzed past holding time.
J,P	Estimate; columns don't agree to within 40%
J,S	Estimated concentration; analyzed by method of standard addition (MSA)
JB	The reported result is an estimated value. The reported result is also associated with a contaminated method blank.
JQ	The reported result is an estimated value and one or more quality control criteria failed. See narrative.
L	Sample reporting limits elevated due to matrix interference
L1	The associated blank spike (LCS) recovery was above the laboratory acceptance limits.
L2	The associated blank spike (LCS) recovery was below the laboratory acceptance limits.
M	Matrix effect; the concentration is an estimate due to matrix effect.
N	Nontarget analyte; the analyte is a tentativlely identified compound (TIC) by GC/MS
NA	Not applicable
ND	Not detected at or above the reporting limit (RL)
ND, B	Not detected at or above the reporting limit (RL). Analyte present in method blank.
ND, CT1	Analyte was not detected. The concentration is below the reported LOD. The cooler temperature at receipt exceeded reg
ND, L	Not detected; sample reporting limit (RL) elevated due to interference
ND, S	Not detected; analyzed by method of standard addition (MSA)
ND,H1	Not detected; Sample analysis performed past holding time.
ND,H1,CT1	Not detected; Sample analysis performed past holding time. The cooler temperature at receipt exceeded regulatory guide
NF	Not found by library search
NFL	No free liquid
NI	Non-ignitable
NR	Analyte is not required to be analyzed
NS	Not spiked
P	Concentrations >40% difference between the two GC columns
Q	One or more quality control criteria failed. See narrative.
Q,H1	One or more quality control criteria failed. Sample analyzed past holding time. See narrative.
QNS	Quantity of sample not sufficient to perform analysis
RA	Reanalysis confirms reported results
RE	Reanalysis confirms sample matrix interference
S	Analyzed by method of standard addition (MSA)
SMI	Sample matrix interference on surrogate
SP	Reported results are for spike compounds only
T5	Laboratory not licensed for this parameter
TIC	Library Search Compound
TNTC	Too numerous to count

Qualkey: DOD

TNTC, B	Too numerous to count. Analyte present in method blank.
TNTC,CT1	Too numerous to count. The cooler temperature at receipt exceeded regulatory guidelines for requested testing.
TNTC,H1	Too numerous to count. Sample analysis performed past holding time.
U	Analyte was not detected. The concentration is below the reported LOD.
U,CT1	Analyte was not detected. The concentration is below the reported LOD. Cooler temperature at sample reciept exceeded
U,H1	Not detected; Sample analysis performed past holding time.
UJ	Undetected; the MDL and RL are estimated due to quality control discrepancies.
UQ	Undetected; the analyte was analyzed for, but not detected.
W	Post-digestion spike for furnace AA out of control limits
X	Exceeds regulatory limit
X, S	Exceeds regulatory limit; method of standard additions (MSA)
Z	Cannot be resolved from isomer - see below

L16010677 / Revision: 0 / 126 total pages

CT LABORATORIES
delivering more than data from your environmental analyses

1230 Lange Court • Baraboo, WI 53913 • 608-356-2760
www.ctlaboratories.com

Sub-Contract Laboratory Chain-of-Custody and Purchase Order

PURCHASE ORDER # 116426 MICROBAC

The PO# must appear on all invoice and reports!

Upon Receipt of Samples, please verify that samples were received in acceptable condition then sign this form and fax to (608)356-2766 or email to the project manager. Sample temperature, upon receipt, must be recorded on this document unless thermal preservation is not a method requirement.

Ship to: **Microbac**
158 Starlight Drive
Marietta, OH 45750

Return Invoice and Results to: **pletterer@ctlaboratories.com**

CTLaboratories
Pat Letterer
1230 Lange Court
Baraboo WI 53913

Date Due: 2 Week TAT ***RUSH TURNAROUND NEEDED? Y or (N) (Circle One)***

Project Name: RADFORD AAP **Project State:** VA

Analytical/QC Criteria: NONE INDICATED STATE (DOD QSM) NELAP (Circle one) OTHER_____

Report results as EDD? N Y (Circle one and indicate type: _____) Data Deliverable Package LEVEL: IV

✓ PWL 01-14-16

CTLabs ID#	Sample Date/Time	Matrix	Sample Description	Analyses / Method		Cost
679481	01/11/2016 1415	GROUND WATER	54MW10	PERCHLORATE	SW6850	
679483	01/11/2016 1415	GROUND WATER	54TM10	PERCHLORATE	SW6850	

Relinquished by: Todd Hendricks Date/Time: 1/14/16 1420

Received by: _____ Date/Time: _____ Receipt Temperature (C) _____

COMMENTS:

Microbac OVD
Received: 01/15/2016 10:19
By: BRENDA GREGORY 221000080891
Brenda Gregory

REPORT ALL SOLIDS ON A DRY WEIGHT BASIS UNLESS OTHERWISE INDICATED

Generated: 01/25/2016 20:40

Microbac Laboratories Inc.

Internal Chain of Custody Report

Login: L16010677
Account: 2694
Project: 2694.005
Samples: 2
Due Date: 26-JAN-2016

Samplenum	Container ID	Products
L16010677-01	688605	6850

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	15-JAN-2016 11:39	CLS		
2	ANALYZ	W1	SEM	19-JAN-2016 15:24	JWR	BRG	

Samplenum	Container ID	Products
L16010677-02	688606	6850

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	15-JAN-2016 11:39	CLS		
2	ANALYZ	W1	SEM	19-JAN-2016 15:24	JWR	BRG	

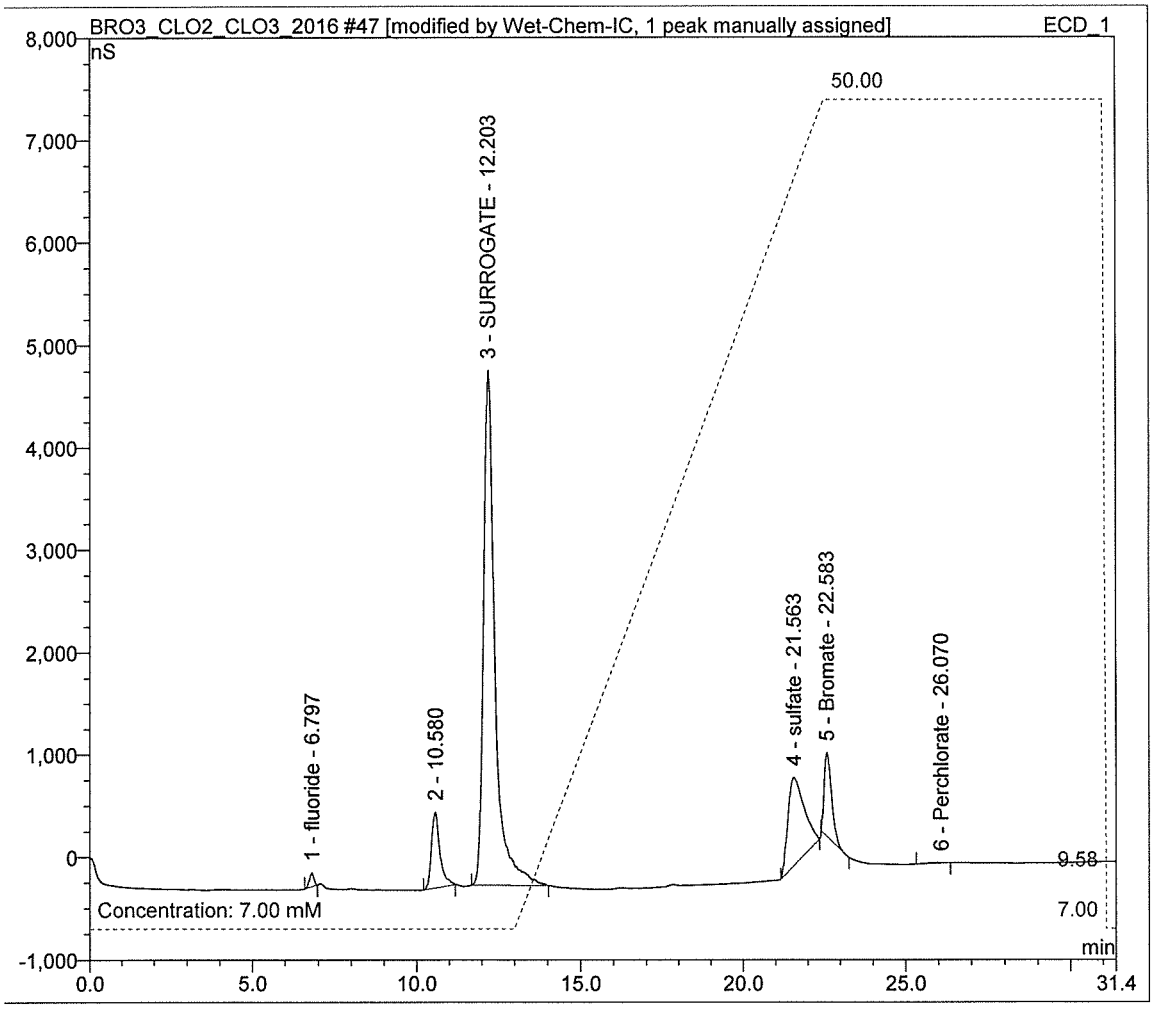
A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Initial Calibration Data

IC-2 EPA 300.1/ EPA314

Sample Name:	**BLK**	*Inj. Vol.:*	**900.0**
Sample Type:	**blank**	*Dilution Factor*	**1.0000**
Program:	**Anion_7_50mM_Ramp_32MIN_auto**	*Operator:*	**RT**
Inj. Date/Time:	**07.01.16 09:19**	*Run Time:*	**31.40**

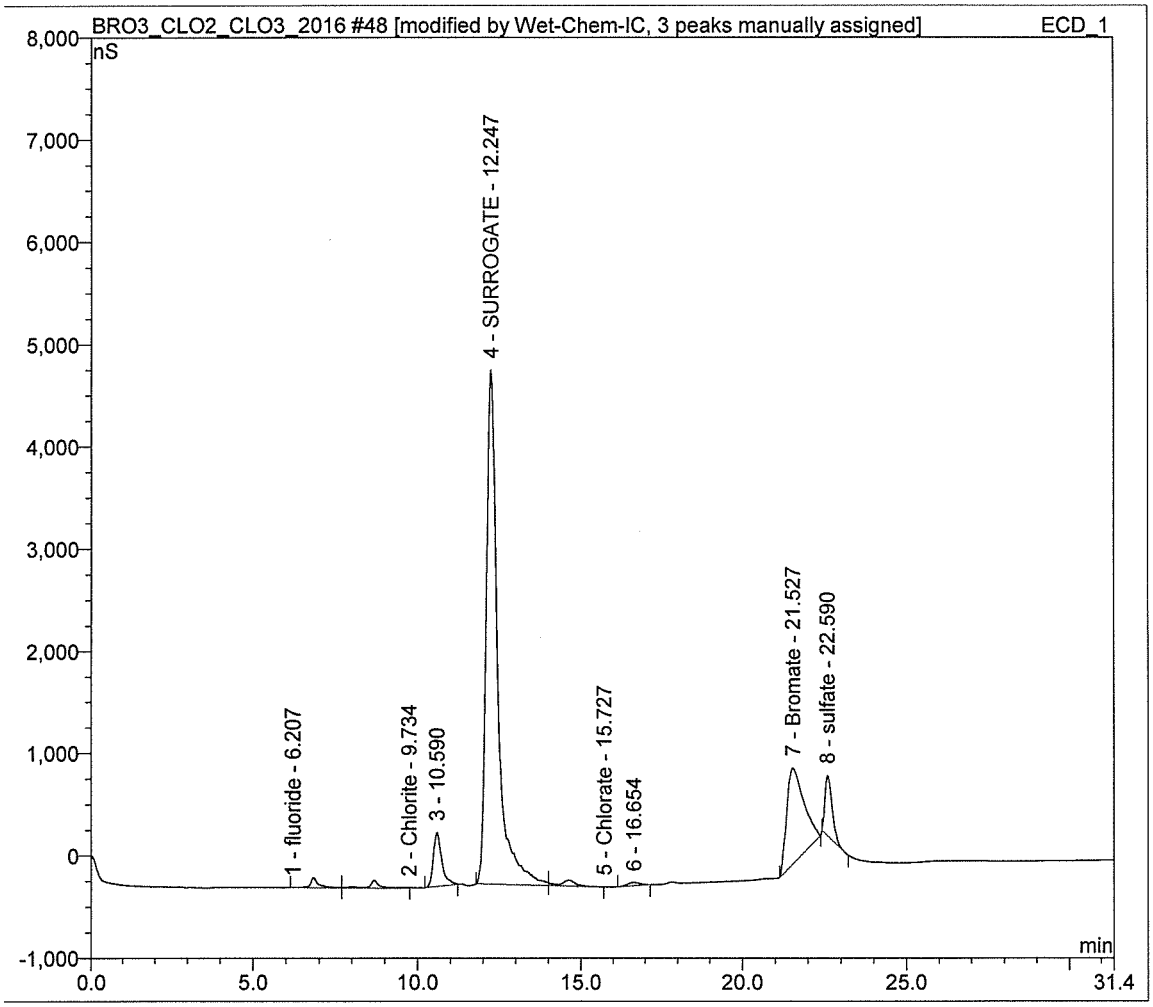
No.	Time min	Peak Name	Type	Area nS*min	Height nS	Amount ppb	Peak Width min	Peak Width min
1	6.80	fluoride	BMB	21.97	137.91	0.08	0.27	0.15
3	12.20	SURROGATE	BMB*^	2030.62	5028.69	1047.03	0.74	0.33
4	21.56	sulfate	BMB	501.17	860.13	2.42	1.01	0.55
5	22.58	Bromate	BMB	216.55	810.88	116.93	0.46	0.25
6	26.07	Perchlorate	BMB	3.74	4.85	n.a.	0.98	0.70
TOTAL:				2774.04	6842.46	1166.45		



IC-2 EPA 300.1/ EPA314

Sample Name:	**STD 10ppb CLO2/CLO3**	*Inj. Vol.:*	**900.0**
Sample Type:	**standard**	*Dilution Factor*	**1.0000**
Program:	**Anion_7_50mM_Ramp_32MIN_auto**	*Operator:*	**RT**
Inj. Date/Time:	**07.01.16 09:53**	*Run Time:*	**31.40**

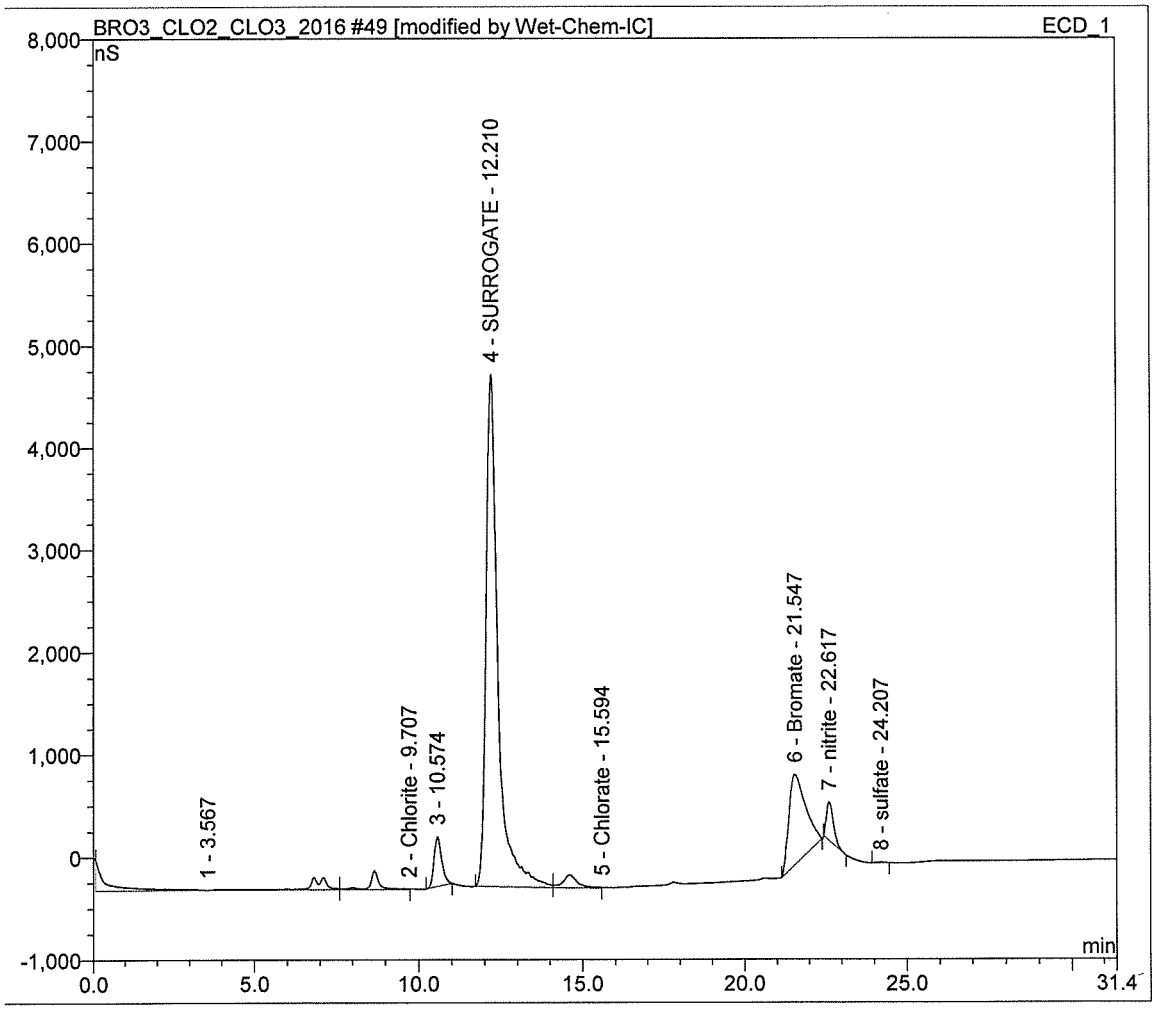
No.	Time min	Peak Name	Type	Area nS*min	Height nS	Amount ppb	Peak Width min	Peak Width min
1	6.21	fluoride	BM *	29.75	0.51	0.11	0.08	0.04
2	9.73	Chlorite	M *^	31.78	4.79	10.05	n.a.	n.a.
4	12.25	SURROGATE	BM *^	2041.90	5029.06	1052.70	0.72	0.32
5	15.73	Chlorate	M *^	32.02	2.28	9.65	n.a.	n.a.
7	21.53	Bromate	BMB	567.23	941.92	306.27	1.05	0.57
8	22.59	sulfate	BMB	150.05	582.42	0.72	0.45	0.24
		TOTAL:		2852.73	6560.98	1379.50		



IC-2 EPA 300.1/ EPA314

Sample Name:	**STD 20ppb CLO2/CLO3**	*Inj. Vol.:*	**900.0**
Sample Type:	**standard**	*Dilution Factor*	**1.0000**
Program:	**Anion_7_50mM_Ramp_32MIN_auto**	*Operator:*	**RT**
Inj. Date/Time:	**07.01.16 10:27**	*Run Time:*	**31.40**

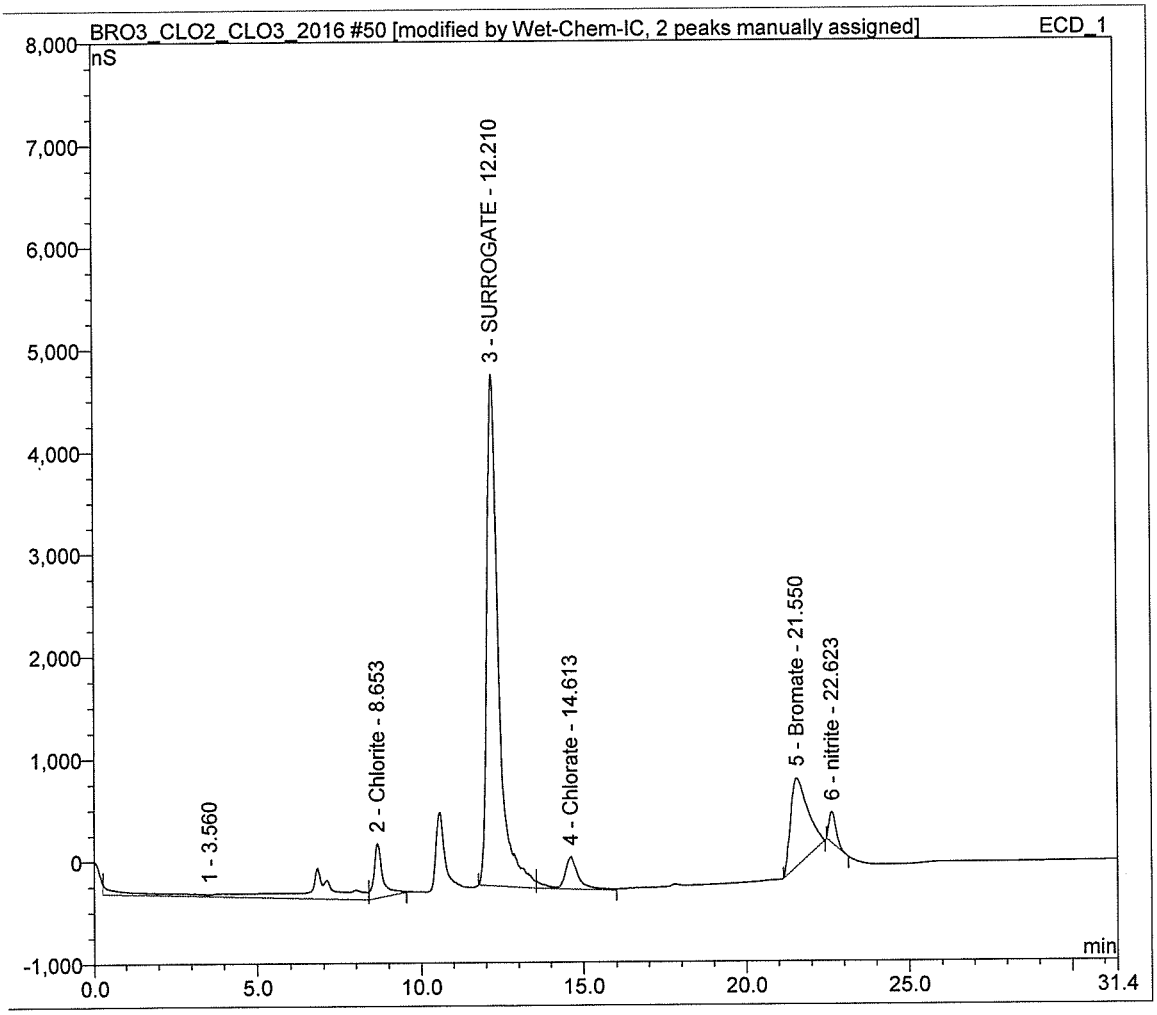
No.	Time min	Peak Name	Type	Area nS*min	Height nS	Amount ppb	Peak Width min	Peak Width min
2	9.71	Chlorite	M *	60.25	4.08	19.05	n.a.	n.a.
4	12.21	SURROGATE	BM *	2069.78	5010.11	1066.70	0.75	0.33
5	15.59	Chlorate	M *	66.92	8.03	20.15	n.a.	n.a.
6	21.55	Bromate	BMB	538.05	886.83	290.51	1.06	0.57
7	22.62	nitrite	BMB	93.08	370.98	0.23	0.43	0.24
8	24.21	sulfate	BMB	2.08	6.76	0.01	0.48	0.29
TOTAL:				2830.15	6286.79	1396.66		



IC-2 EPA 300.1/ EPA314

Sample Name:	**STD 50ppb CLO2/CLO3**	*Inj. Vol.:*	**900.0**
Sample Type:	**standard**	*Dilution Factor*	**1.0000**
Program:	**Anion_7_50mM_Ramp_32MIN_auto**	*Operator:*	**RT**
Inj. Date/Time:	**07.01.16 11:01**	*Run Time:*	**31.40**

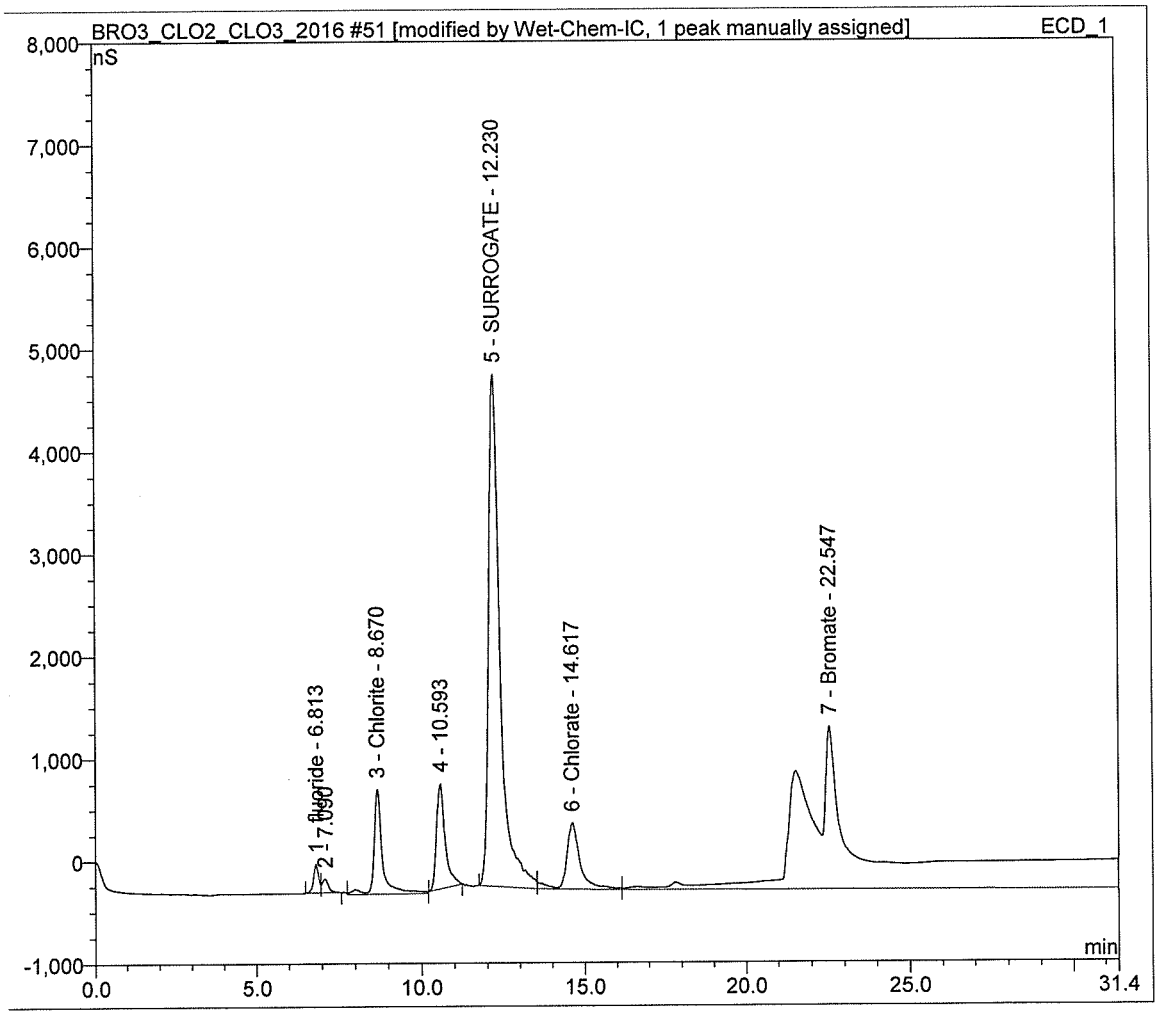
No.	Time min	Peak Name	Type	Area nS*min	Height nS	Amount ppb	Peak Width min	Peak Width min
2	8.65	Chlorite	M *^	167.20	532.78	52.87	n.a.	0.23
3	12.21	SURROGATE	BM *	2021.18	4999.16	1042.29	0.74	0.33
4	14.61	Chlorate	M *^	166.88	316.33	50.17	n.a.	0.37
5	21.55	Bromate	BMB	528.29	863.83	285.25	1.07	0.57
6	22.62	nitrite	BMB	75.88	299.53	0.19	0.43	0.24
TOTAL:				2959.43	7011.63	1430.77		



IC-2 EPA 300.1/ EPA314

Sample Name:	**STD 100ppb CLO2/CLO3**	*Inj. Vol.:*	**900.0**
Sample Type:	**standard**	*Dilution Factor*	**1.0000**
Program:	**Anion_7_50mM_Ramp_32MIN_auto**	*Operator:*	**RT**
Inj. Date/Time:	**07.01.16 11:36**	*Run Time:*	**31.40**

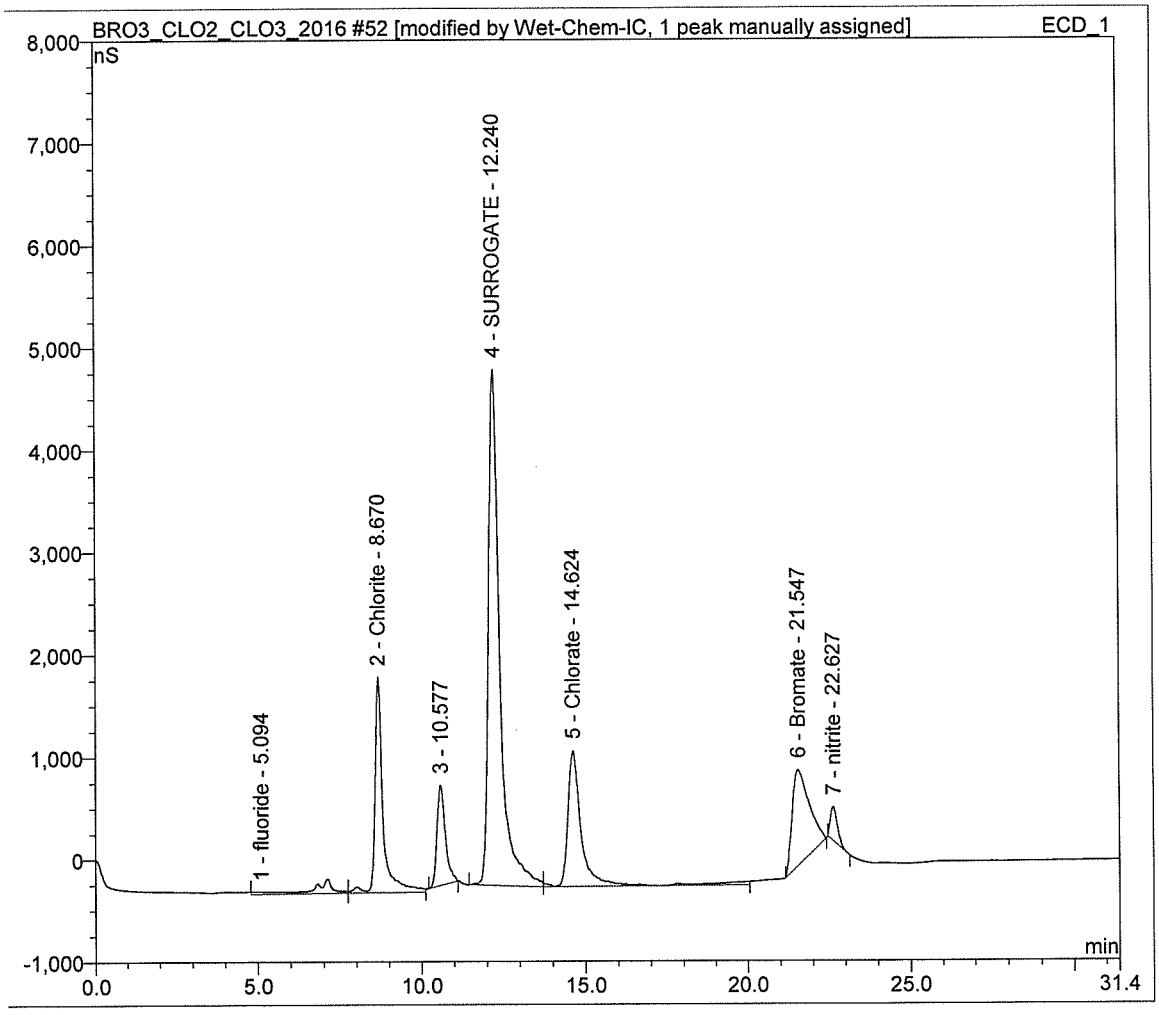
No.	Time min	Peak Name	Type	Area nS*min	Height nS	Amount ppb	Peak Width min	Peak Width min
1	6.81	fluoride	BM	53.09	278.06	0.19	n.a.	0.18
3	8.67	Chlorite	M *^	318.35	1022.32	100.68	0.52	0.21
5	12.23	SURROGATE	BM *	2027.54	4999.26	1045.49	0.74	0.33
6	14.62	Chlorate	M *	321.27	648.34	96.34	0.87	0.37
7	22.55	Bromate	M *	4007.04	1584.23	2163.56	n.a.	1.41
TOTAL:				6727.29	8532.21	3406.25		



IC-2 EPA 300.1/ EPA314

Sample Name:	**STD 200ppb CLO2/CLO3**	*Inj. Vol.:*	**900.0**
Sample Type:	**standard**	*Dilution Factor*	**1.0000**
Program:	**Anion_7_50mM_Ramp_32MIN_auto**	*Operator:*	**RT**
Inj. Date/Time:	**07.01.16 12:10**	*Run Time:*	**31.40**

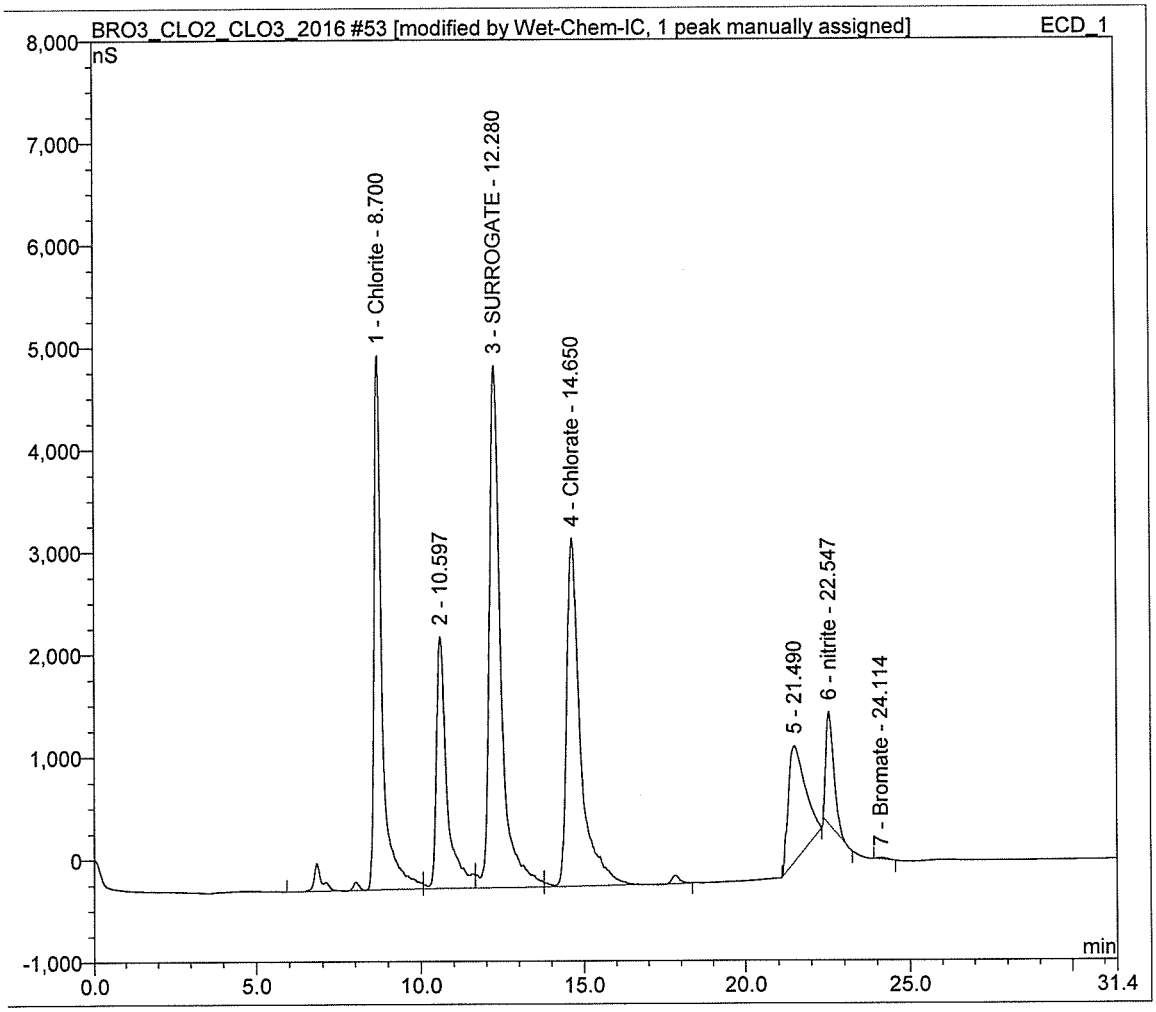
No.	Time min	Peak Name	Type	Area nS*min	Height nS	Amount ppb	Peak Width min	Peak Width min
1	5.09	fluoride	M *	102.87	21.71	0.37	n.a.	n.a.
2	8.67	Chlorite	M *^	622.46	2103.72	196.85	0.52	0.21
4	12.24	SURROGATE	BM *	2037.33	5041.16	1050.40	0.75	0.33
5	14.62	Chlorate	M *	678.91	1327.21	202.42	0.87	0.38
6	21.55	Bromate	BMB	566.93	937.75	306.11	1.06	0.57
7	22.63	nitrite	BMB	81.94	327.59	0.20	0.43	0.24
TOTAL:				4090.44	9759.14	1756.35		



IC-2 EPA 300.1/ EPA314

Sample Name:	**STD 500ppb CLO2/CLO3**	*Inj. Vol.:*	**900.0**
Sample Type:	**standard**	*Dilution Factor*	**1.0000**
Program:	**Anion_7_50mM_Ramp_32MIN_auto**	*Operator:*	**RT**
Inj. Date/Time:	**07.01.16 12:44**	*Run Time:*	**31.40**

No.	Time min	Peak Name	Type	Area nS*min	Height nS	Amount ppb	Peak Width min	Peak Width min
1	8.70	Chlorite	BM *^	1568.56	5210.83	496.05	0.53	0.22
3	12.28	SURROGATE	M *	2113.52	5094.90	1088.68	0.74	0.33
4	14.65	Chlorate	M *	1698.24	3394.88	498.36	0.98	0.39
6	22.55	nitrite	BMB	301.04	1089.72	0.75	0.48	0.26
7	24.11	Bromate	BMB	4.44	12.78	2.40	0.55	0.33
TOTAL:				5685.80	14803.11	2086.23		

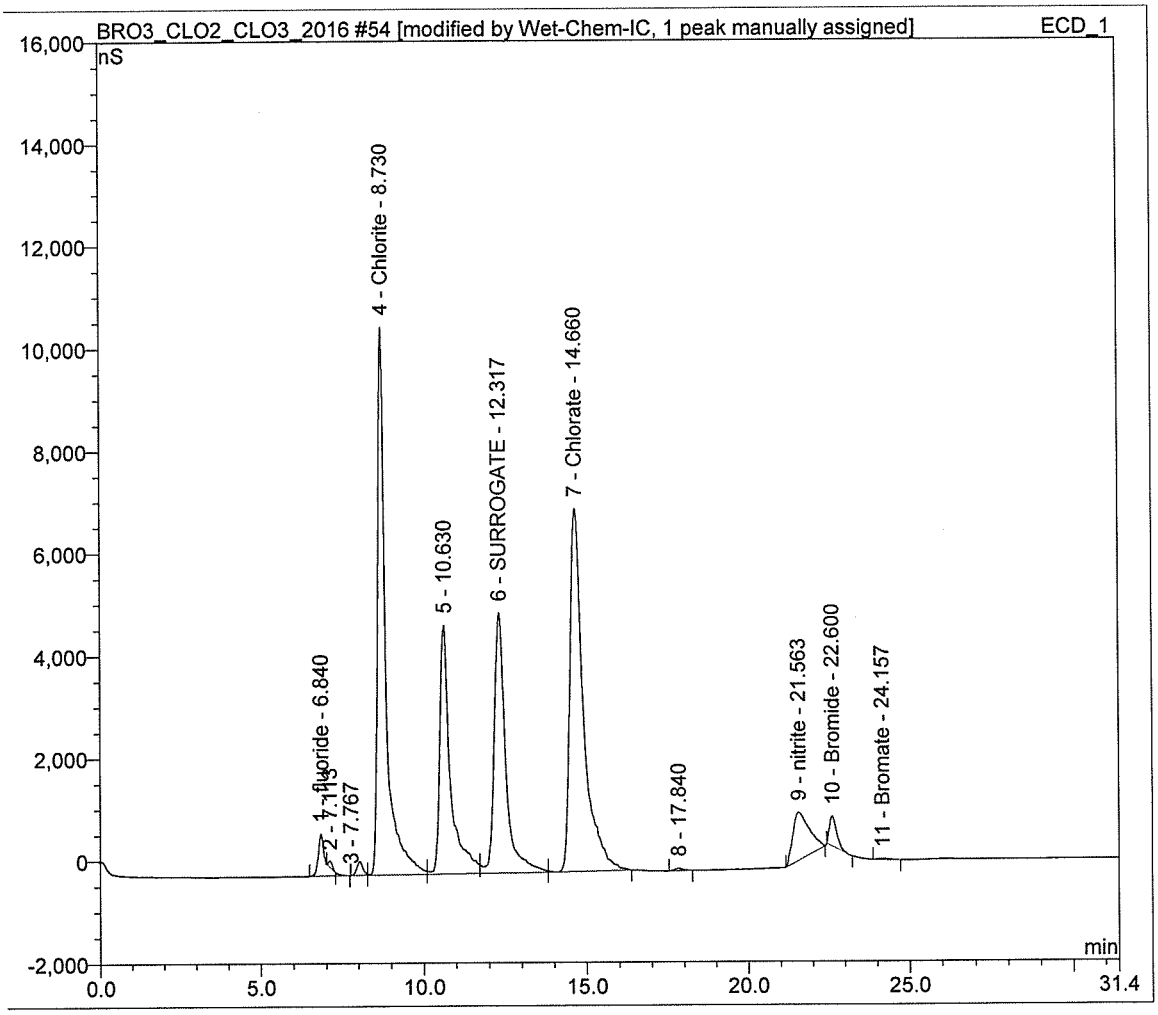


IC-2

EPA 300.1/ EPA314

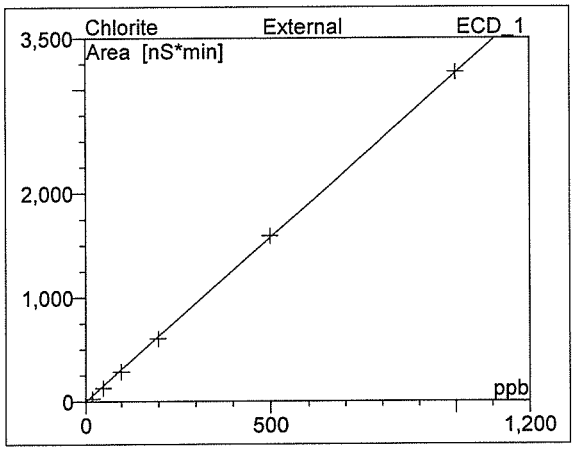
Sample Name:	**STD 1000ppb CLO2/CLO3**	*Inj. Vol.:*	**900.0**
Sample Type:	**standard**	*Dilution Factor*	**1.0000**
Program:	**Anion_7_50mM_Ramp_32MIN_auto**	*Operator:*	**RT**
Inj. Date/Time:	**07.01.16 13:18**	*Run Time:*	**31.40**

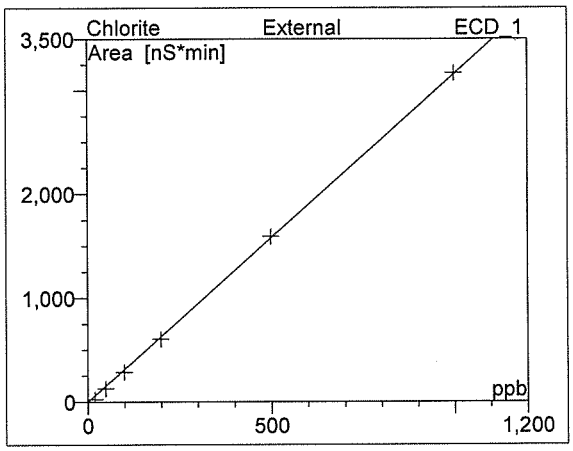
No.	Time min	Peak Name	Type	Area nS*min	Height nS	Amount ppb	Peak Width min	Peak Width min
1	6.84	fluoride	BMB	211.00	818.32	0.75	0.59	0.18
4	8.73	Chlorite	M *^	3157.89	10701.78	998.67	0.59	0.22
6	12.32	SURROGATE	M *	2094.76	5082.02	1079.26	0.73	0.33
7	14.66	Chlorate	MB*	3502.65	7087.88	1001.05	1.00	0.40
9	21.56	nitrite	BMB	548.79	934.96	1.36	1.02	0.56
10	22.60	Bromide	BMB	150.12	574.23	1.03	0.45	0.25
11	24.16	Bromate	BMB	8.13	20.96	4.39	0.69	0.37
TOTAL:				9673.35	25220.15	3086.51		

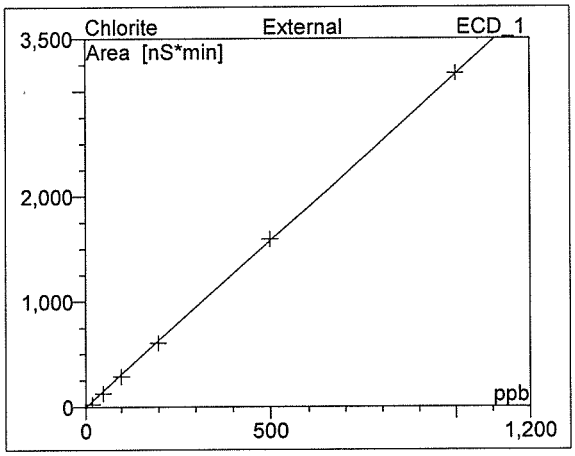


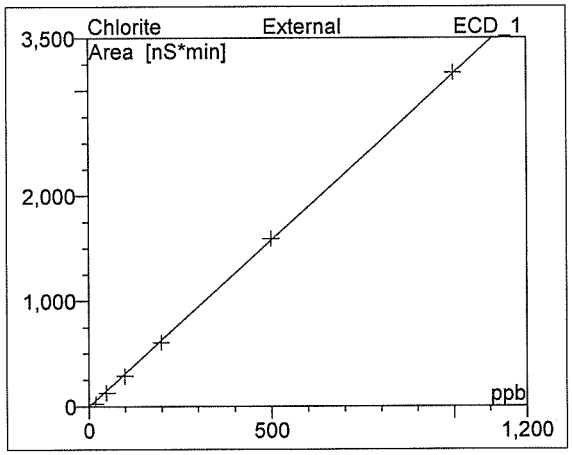
Calibration Batch Report

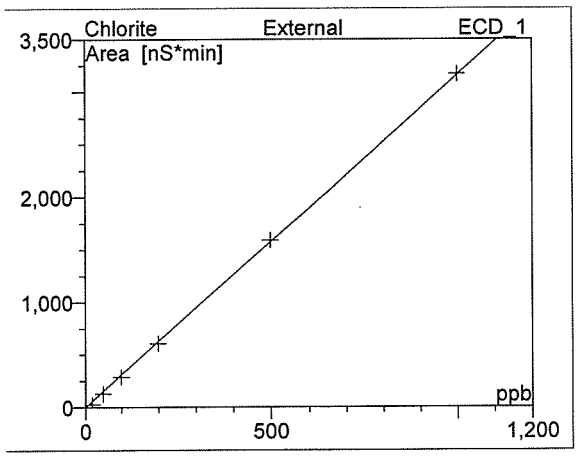
Sequence:	BRO3_CLO2_CLO3_2016	Inj. Vol.:	900.0
Program:	Anion_7_50mM_Ramp_32MIN_auto	Operator:	LENOVO-4885A199
Inj. Date/Time:	01/07/16 13:18	Run Time:	31.40

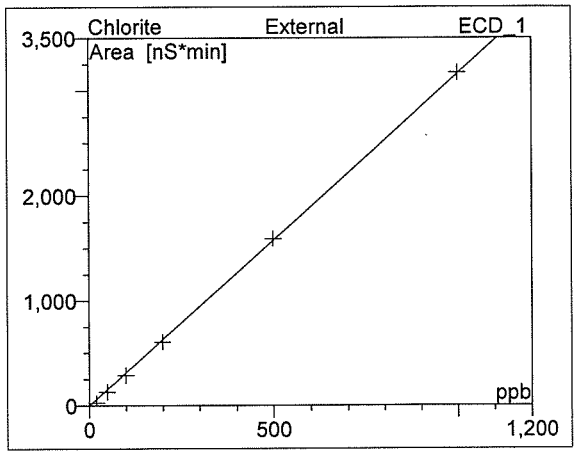




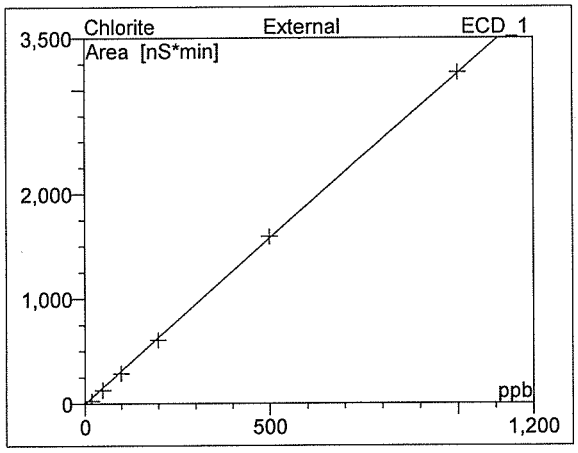








Sequence:	**BRO3_CLO2_CLO3_2016**	*Inj. Vol.:*	**900.0**
Program:	**Anion_7_50mM_Ramp_32MIN_auto**	*Operator:*	**n.a.**
Ini. Date/Time:	**01/07/16 13:18**	*Run Time:*	**31.40**

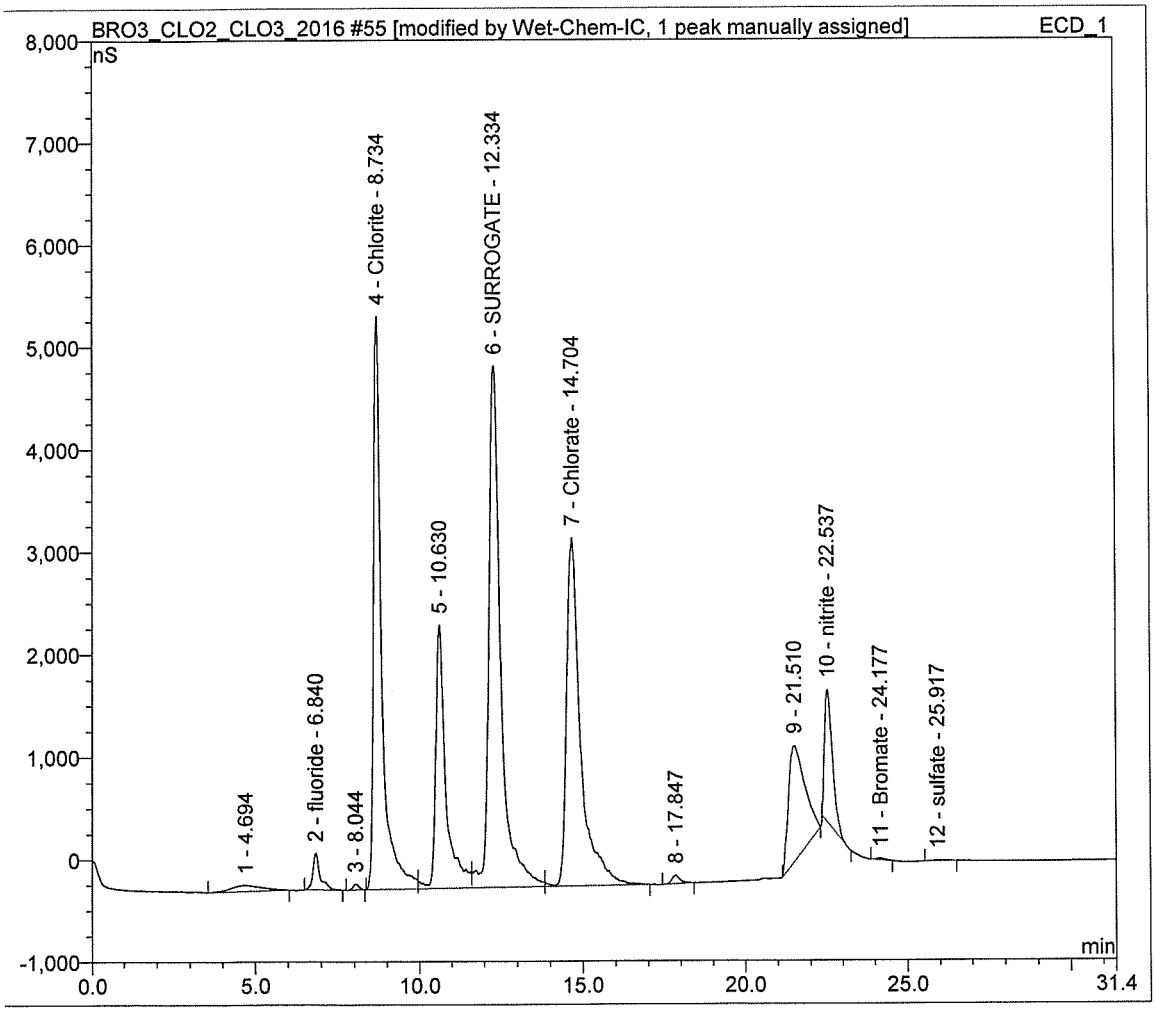


No.	Ret.Time min	Peak Name	Cal.Type	Points	Offset (C0)	Slope (C1)	Curve (C2)	Coeff.Det. %
1	6.84	fluoride	Lin	21	0.000	280.367	0.000	1.8935
4	8.73	Chlorite	ALin	6	0.000	3.162	0.000	99.9398
6	12.32	SURROGATE	LOff	4	-53.485	1.990	0.000	99.9000
7	14.66	Chlorate	AQuad	6	0.000	3.317	0.000	99.9934
9	21.56	nitrite	Lin	14	0.000	402.742	0.000	6.0741
10	22.60	Bromide	ALin	18	0.000	145.646	0.000	100.0000
11	24.16	Bromate	ALin	4	0.000	1.852	0.000	99.4788
AVERAGE:					-7.6407	119.8680	0.0000	72.4685

IC-2 EPA 300.1/ EPA314

Sample Name:	**ICV**	*Inj. Vol.:*	**900.0**
Sample Type:	**unknown**	*Dilution Factor*	**1.0000**
Program:	**Anion_7_50mM_Ramp_32MIN_auto**	*Operator:*	**RT**
Inj. Date/Time:	**07.01.16 13:52**	*Run Time:*	**31.40**

No.	Time min	Peak Name	Type	Area nS*min	Height nS	Amount ppb	Peak Width min	Peak Width min
2	6.84	fluoride	BMB	88.28	356.43	0.31	0.55	0.18
4	8.73	Chlorite	BM *^	1623.02	5592.57	513.27	0.55	0.22
6	12.33	SURROGATE	M *	2145.00	5087.29	1104.49	0.75	0.33
7	14.70	Chlorate	MB*	1685.71	3398.53	494.77	0.96	0.39
10	22.54	nitrite	BMB	366.74	1285.72	0.91	0.50	0.27
11	24.18	Bromate	BMB	4.80	15.36	2.59	0.53	0.30
12	25.92	sulfate	BMB	3.09	6.64	0.01	0.85	0.45
TOTAL:				5916.63	15742.54	2116.37		

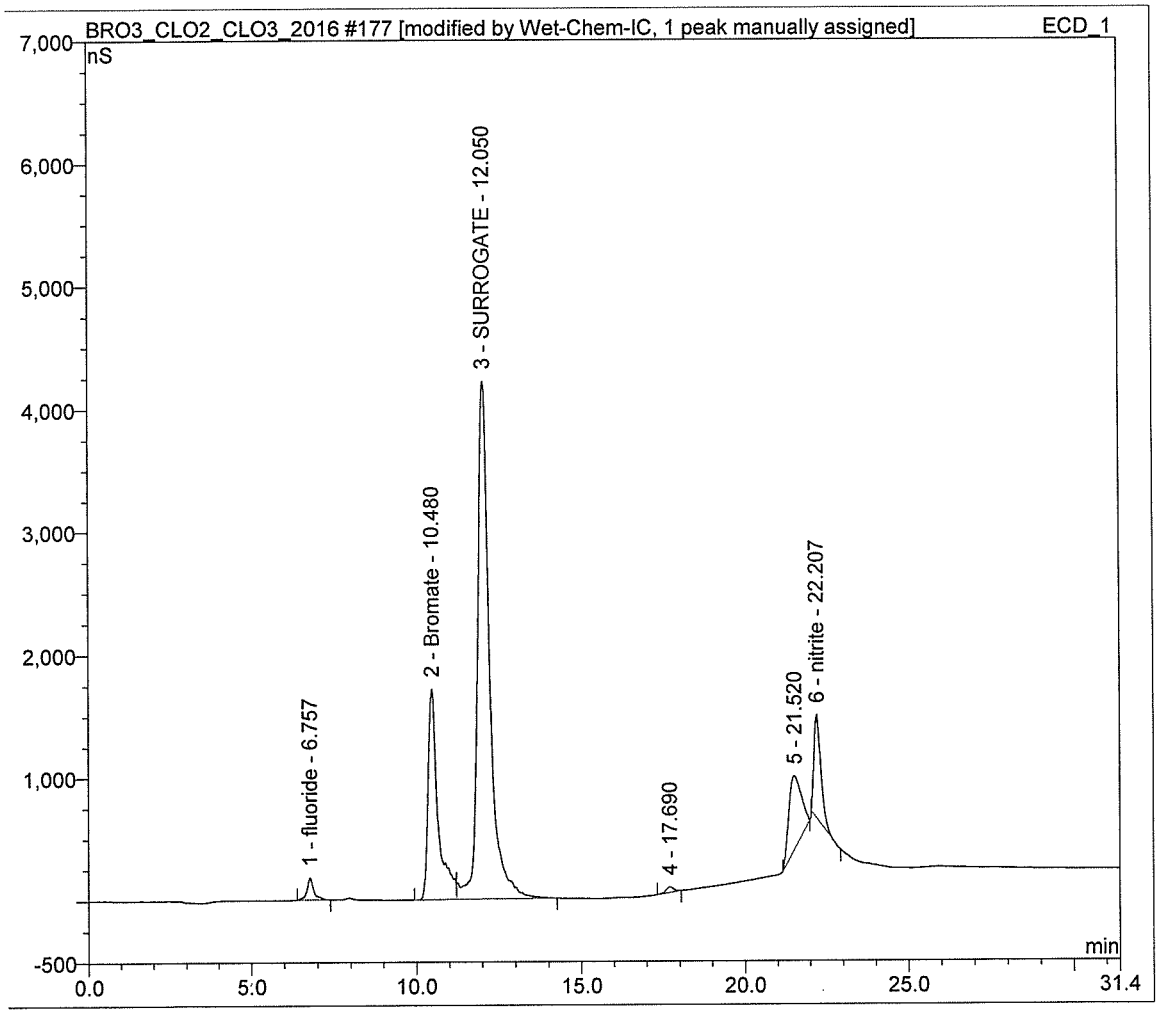


Continuing Calibration Data

IC-2 EPA 300.1/ EPA314

Sample Name:	**BLK**	*Inj. Vol.:*	**900.0**
Sample Type:	**unknown**	*Dilution Factor*	**1.0000**
Program:	**Anion_7_50mM_Ramp_32MIN_auto**	*Operator:*	**RT**
Inj. Date/Time:	**20.01.16 08:12**	*Run Time:*	**31.40**

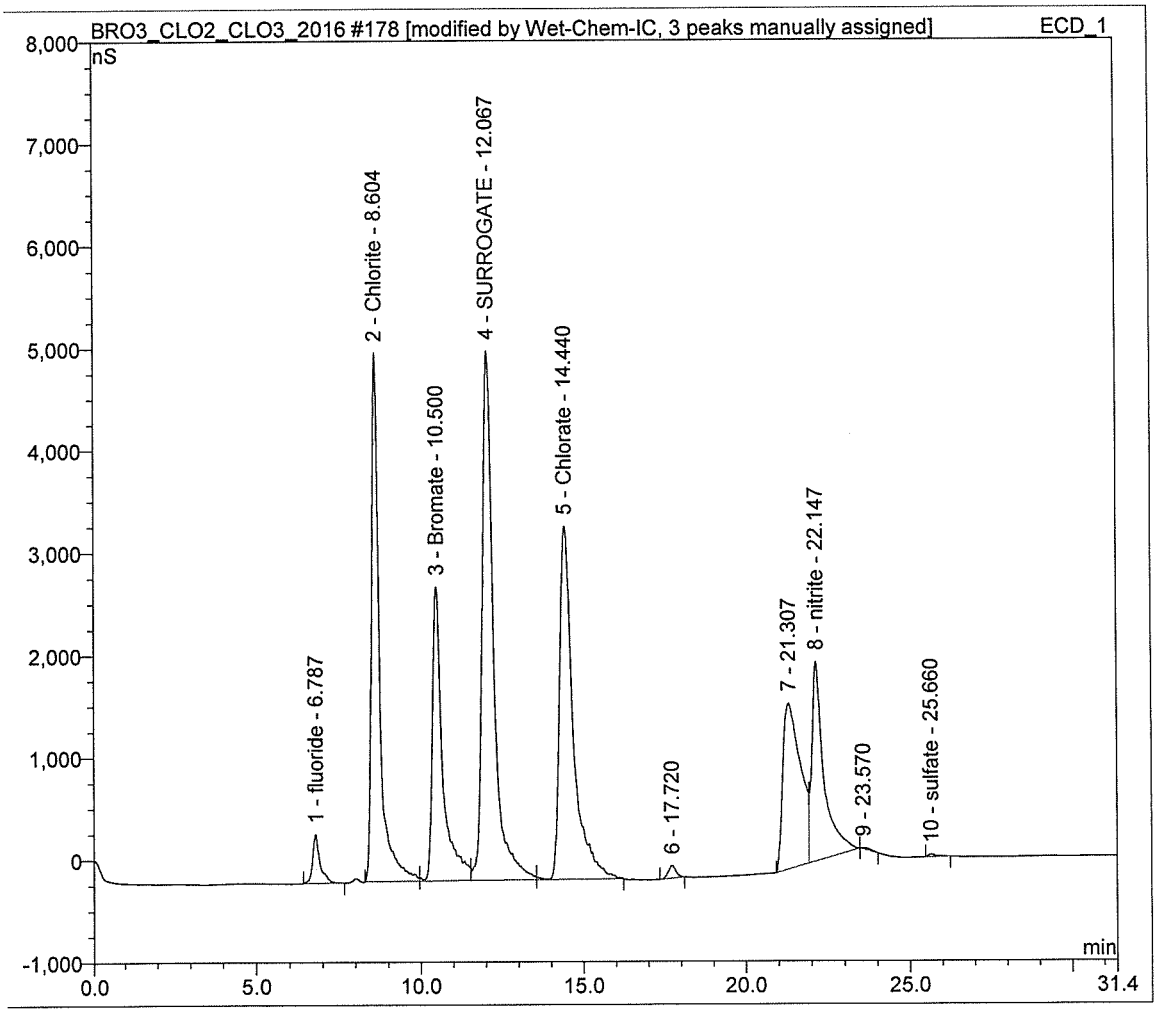
No.	Time min	Peak Name	Type	Area nS*min	Height nS	Amount ppb	Peak Width min	Peak Width min
1	6.76	fluoride	BMB	43.40	179.03	0.15	0.54	0.19
2	10.48	Bromate	BM *	605.57	1719.69	326.97	0.84	0.27
3	12.05	SURROGATE	MB*^	1776.36	4215.67	919.29	0.75	0.34
6	22.21	nitrite	BMB	202.51	840.96	0.50	0.43	0.23
		TOTAL:		2627.84	6955.35	1246.92		



IC-2 EPA 300.1/ EPA314

Sample Name:	**CCV 012016**	*Inj. Vol.:*	**900.0**
Sample Type:	**unknown**	*Dilution Factor*	**1.0000**
Program:	**Anion_7_50mM_Ramp_32MIN_auto**	*Operator:*	**RT**
Inj. Date/Time:	**20.01.16 08:46**	*Run Time:*	**31.40**

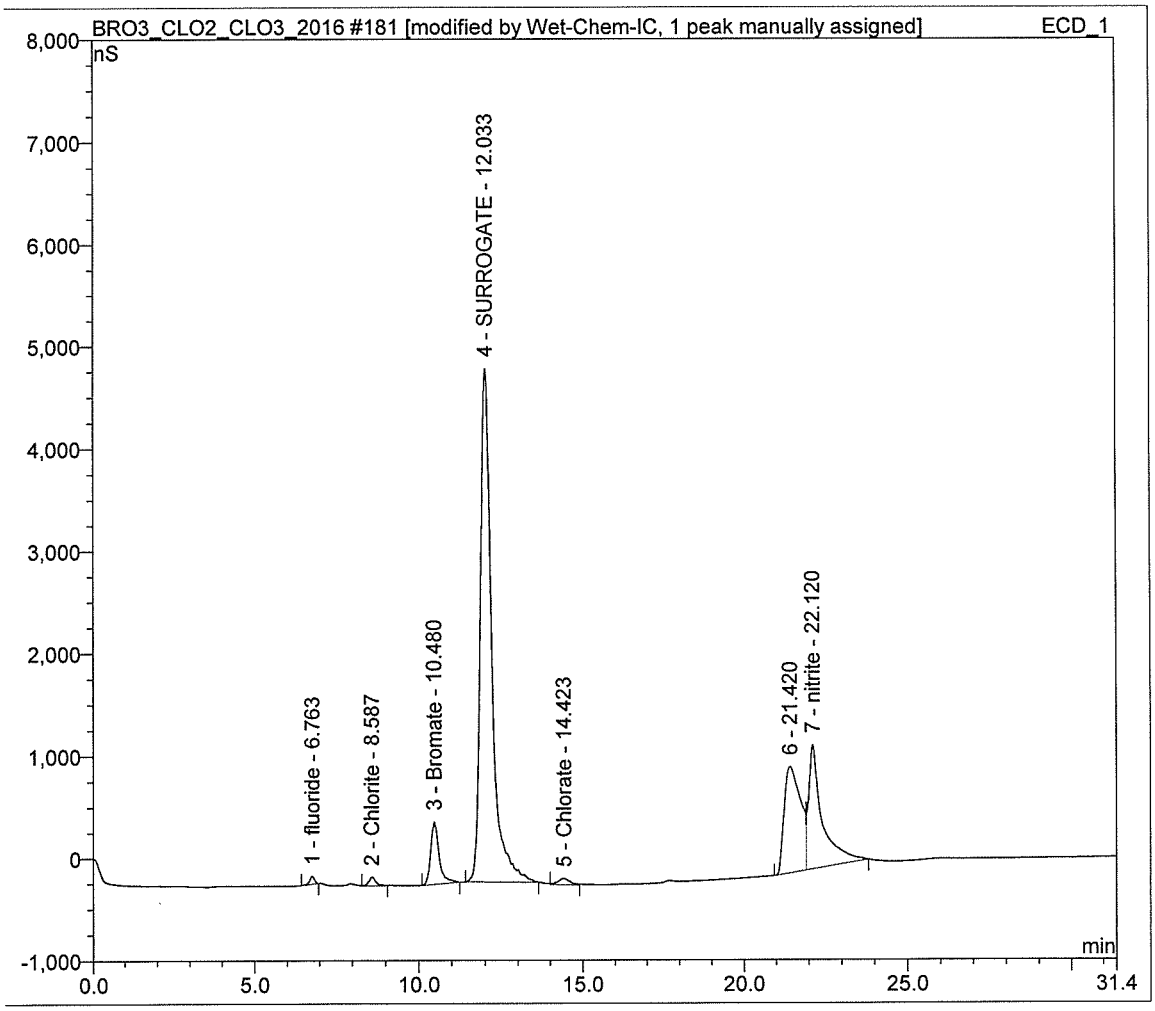
No.	Time min	Peak Name	Type	Area nS*min	Height nS	Amount ppb	Peak Width min	Peak Width min
1	6.79	fluoride	BMB	125.30	475.00	0.45	0.56	0.20
2	8.60	Chlorite	BM *^	1468.74	5162.79	464.48	0.54	0.22
3	10.50	Bromate	M *	1053.08	2867.92	568.60	0.80	0.27
4	12.07	SURROGATE	M *^	2099.81	5171.57	1081.79	0.71	0.33
5	14.44	Chlorate	MB*^	1685.85	3442.72	494.82	0.97	0.39
8	22.15	nitrite	Mb	815.48	1943.95	2.02	n.a.	0.31
10	25.66	sulfate	BMB	6.95	24.41	0.03	0.60	0.22
TOTAL:				7255.21	19088.36	2612.19		



IC-2 EPA 300.1/ EPA314

Sample Name:	**STD 10ppb 012016**	*Inj. Vol.:*	**900.0**
Sample Type:	**unknown**	*Dilution Factor*	**1.0000**
Program:	**Anion_7_50mM_Ramp_32MIN_auto**	*Operator:*	**RT**
Inj. Date/Time:	**20.01.16 10:29**	*Run Time:*	**31.40**

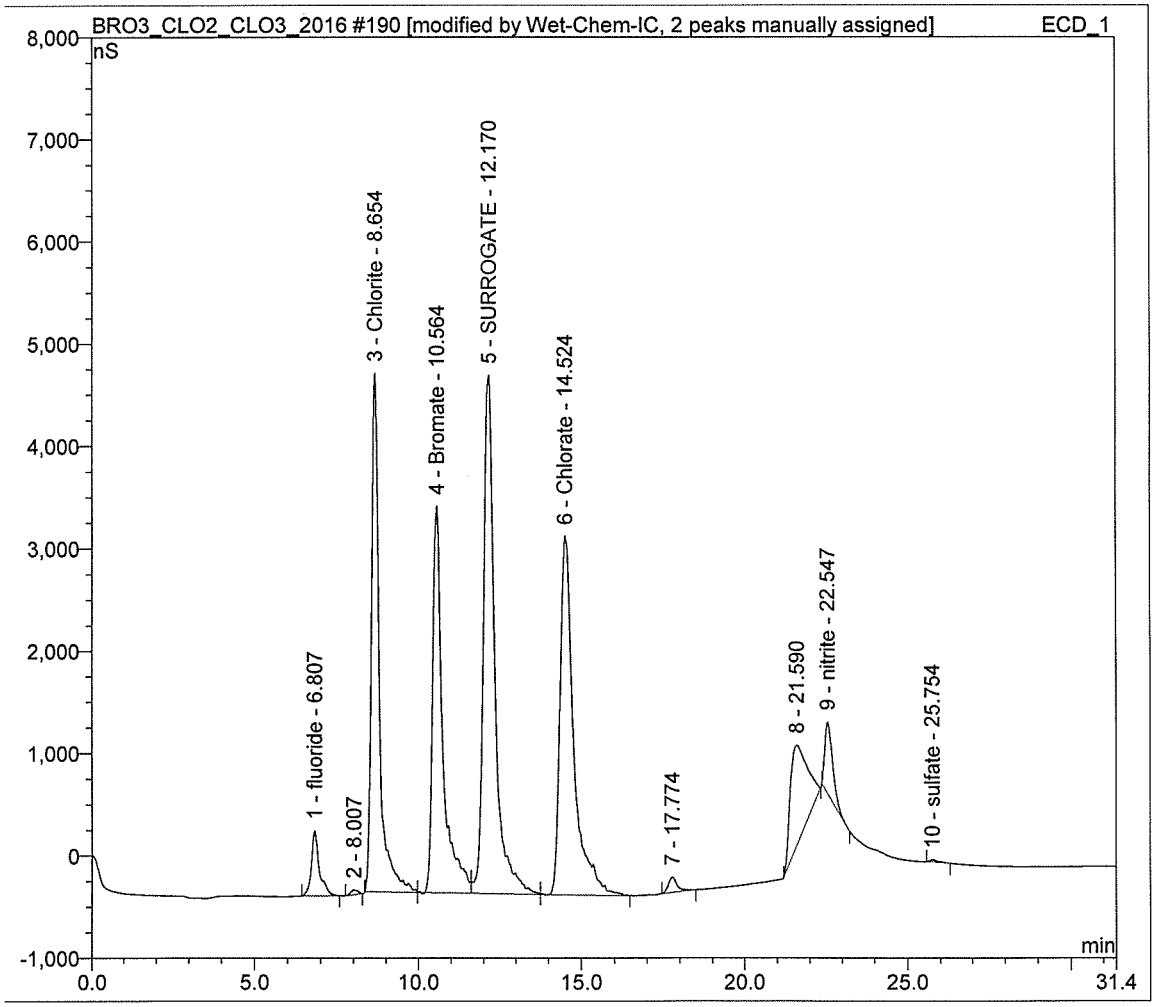
No.	Time min	Peak Name	Type	Area nS*min	Height nS	Amount ppb	Peak Width min	Peak Width min
1	6.76	fluoride	BMB	13.95	76.15	0.05	0.31	0.17
2	8.59	Chlorite	M *	23.57	87.44	7.45	0.53	0.22
3	10.48	Bromate	BMB	180.84	615.73	97.64	0.54	0.25
4	12.03	SURROGATE	BMB*^	2005.85	5015.37	1034.59	0.71	0.33
5	14.42	Chlorate	M *	26.58	60.62	8.01	n.a.	0.38
7	22.12	nitrite	MB	590.58	1215.80	1.47	n.a.	0.35
		TOTAL:		2841.37	7071.11	1149.21		



IC-2 EPA 300.1/ EPA314

Sample Name:	**CCV 012016**	*Inj. Vol.:*	**900.0**
Sample Type:	**unknown**	*Dilution Factor*	**1.0000**
Program:	**Anion_7_50mM_Ramp_32MIN_auto**	*Operator:*	**RT**
Inj. Date/Time:	**20.01.16 15:37**	*Run Time:*	**31.40**

No.	Time min	Peak Name	Type	Area nS*min	Height nS	Amount ppb	Peak Width min	Peak Width min
1	6.81	fluoride	BMB	177.42	632.27	0.63	0.60	0.21
3	8.65	Chlorite	BM *^	1448.00	5062.47	457.92	0.51	0.23
4	10.56	Bromate	M *	1370.73	3772.69	740.11	0.76	0.27
5	12.17	SURROGATE	M *^	2073.04	5059.15	1068.34	0.72	0.33
6	14.52	Chlorate	MB*	1688.94	3499.13	495.70	0.97	0.39
9	22.55	nitrite	BMB	195.61	689.24	0.49	0.50	0.26
10	25.75	sulfate	BMB	6.36	21.98	0.03	0.57	0.24
TOTAL:				6960.10	18736.93	2763.22		

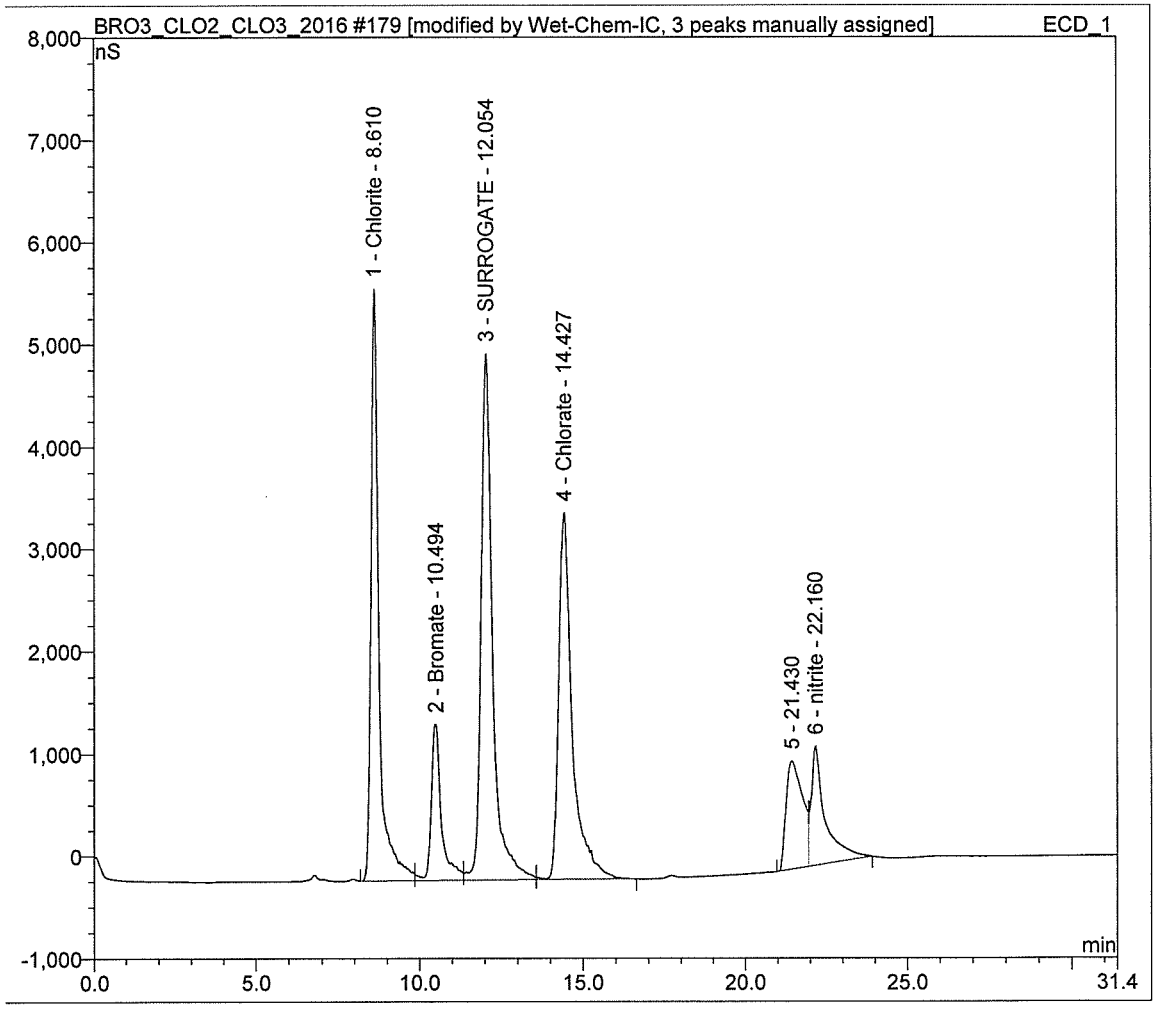


LCS/LCSD

IC-2 EPA 300.1/ EPA314

Sample Name:	**LCS 012016**	*Inj. Vol.:*	**900.0**
Sample Type:	**unknown**	*Dilution Factor*	**1.0000**
Program:	**Anion_7_50mM_Ramp_32MIN_auto**	*Operator:*	**RT**
Inj. Date/Time:	**20.01.16 09:21**	*Run Time:*	**31.40**

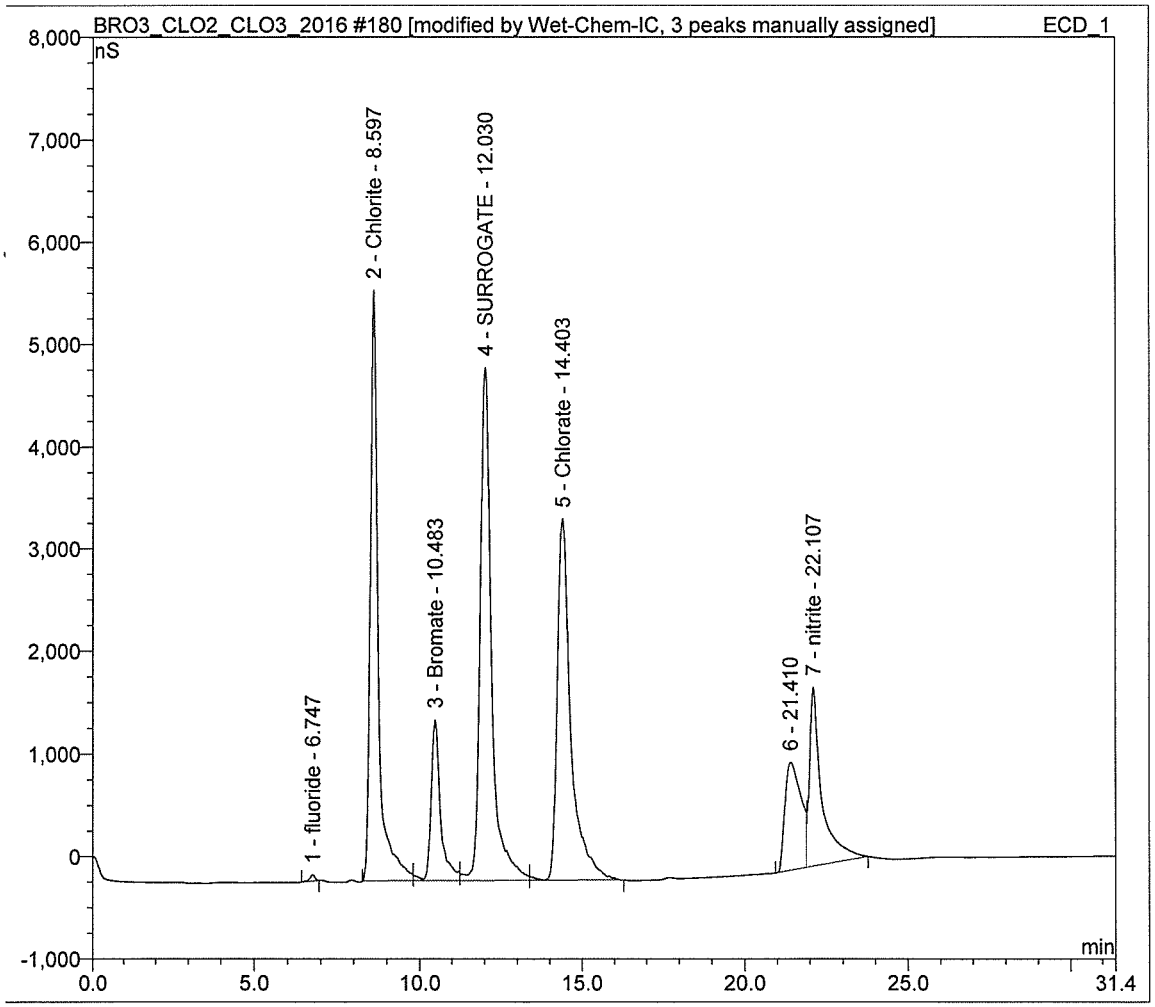
No.	Time min	Peak Name	Type	Area nS*min	Height nS	Amount ppb	Peak Width min	Peak Width min
1	8.61	Chlorite	BM *^	1674.25	5778.70	529.48	0.52	0.22
2	10.49	Bromate	M *	550.42	1529.71	297.20	0.76	0.27
3	12.05	SURROGATE	M *^	2088.93	5142.99	1076.33	0.71	0.33
4	14.43	Chlorate	MB*^	1736.58	3586.80	509.31	0.98	0.38
6	22.16	nitrite	MB	581.29	1169.73	1.44	n.a.	0.35
		TOTAL:		6631.47	17207.93	2413.75		



IC-2 EPA 300.1/ EPA314

Sample Name:	**LCSD 012016**	*Inj. Vol.:*	**900.0**
Sample Type:	**unknown**	*Dilution Factor*	**1.0000**
Program:	**Anion_7_50mM_Ramp_32MIN_auto**	*Operator:*	**RT**
Inj. Date/Time:	**20.01.16 09:55**	*Run Time:*	**31.40**

No.	Time min	Peak Name	Type	Area nS*min	Height nS	Amount ppb	Peak Width min	Peak Width min
1	6.75	fluoride	BMB	11.10	60.08	0.04	0.33	0.17
2	8.60	Chlorite	BM *^	1653.28	5767.36	522.84	0.50	0.23
3	10.48	Bromate	M *	531.66	1567.13	287.07	0.69	0.26
4	12.03	SURROGATE	M *^	2047.89	5009.26	1055.71	0.72	0.33
5	14.40	Chlorate	MB*^	1727.43	3526.37	506.70	0.99	0.38
7	22.11	nitrite	MB	761.69	1741.64	1.89	n.a.	0.31
TOTAL:				6733.05	17671.84	2374.25		

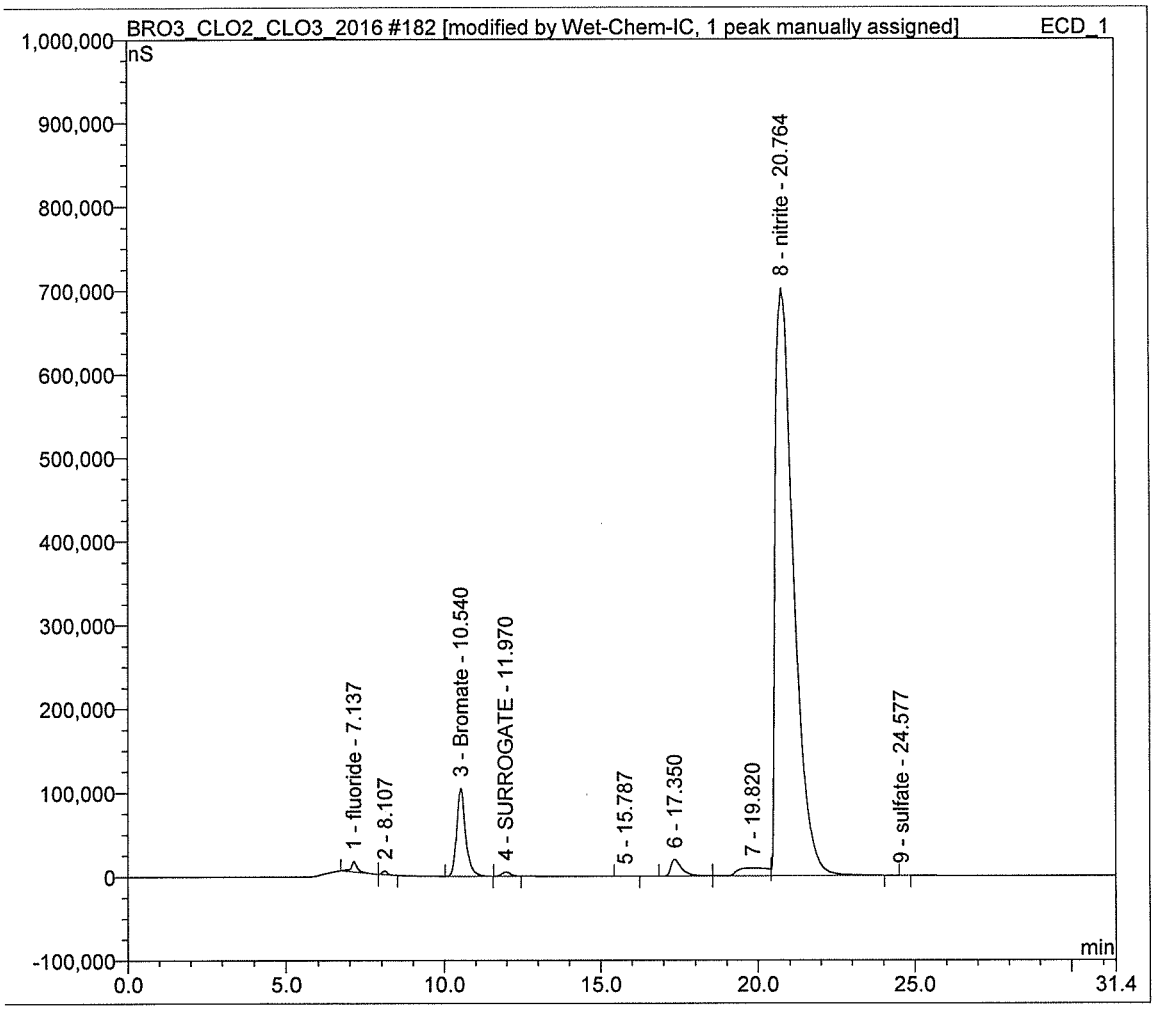


Sample Data

IC-2 EPA 300.1/ EPA314

Sample Name:	**16010838-01 CLO2/CLO3**	*Inj. Vol.:*	**900.0**
Sample Type:	**unknown**	*Dilution Factor*	**1.0000**
Program:	**Anion_7_50mM_Ramp_32MIN_auto**	*Operator:*	**RT**
Inj. Date/Time:	**20.01.16 11:03**	*Run Time:*	**31.40**

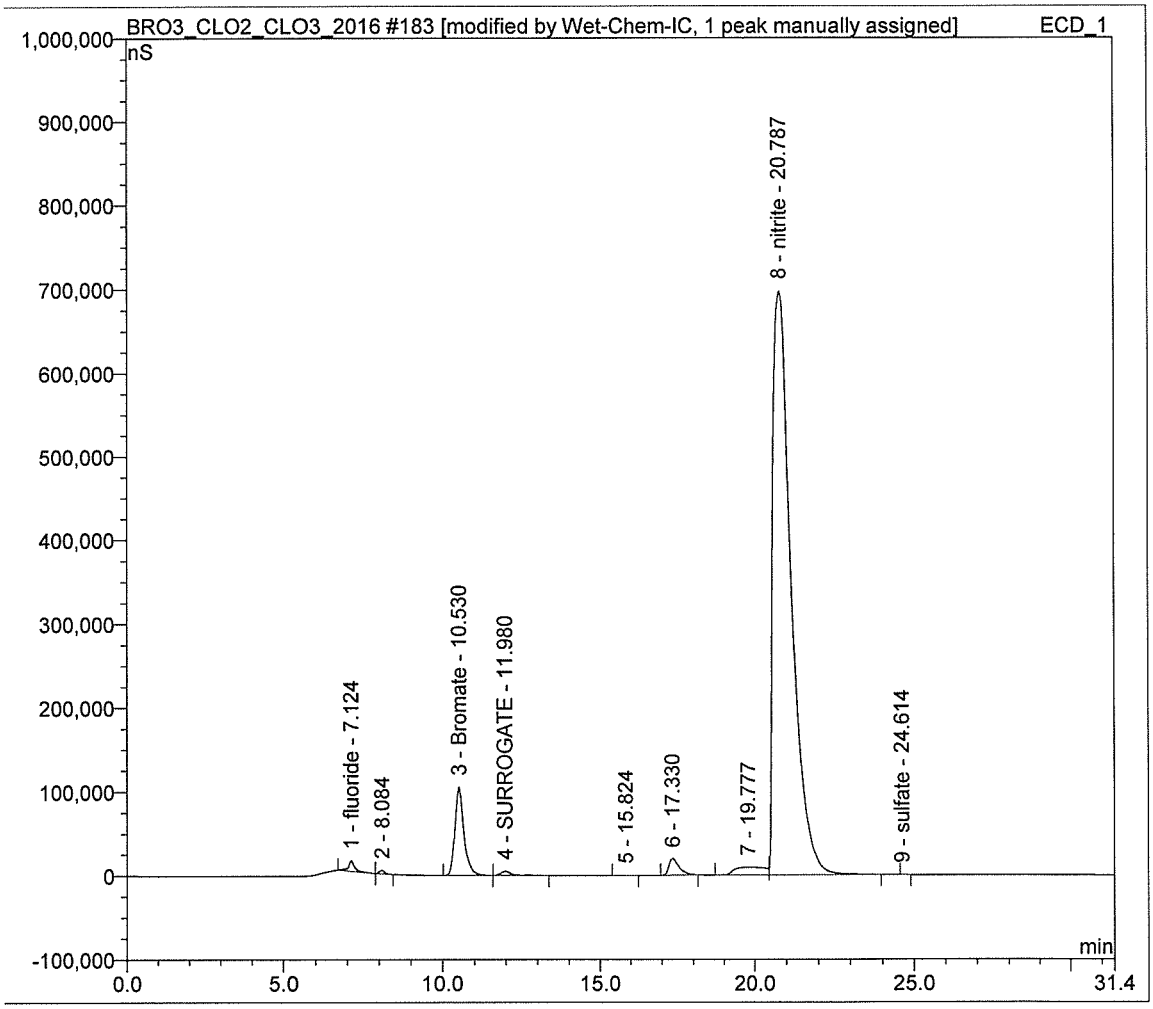
No.	Time min	Peak Name	Type	Area nS*min	Height nS	Amount ppb	Peak Width min	Peak Width min
1	7.14	fluoride	BMb	2814.59	12314.47	10.04	0.53	0.17
3	10.54	Bromate	BMB	34927.56	104404.44	18858.78	0.62	0.29
4	11.97	SURROGATE	M *^	1842.59	5124.89	952.57	0.68	0.32
8	20.76	nitrite	MB	468640.31	701245.39	1163.63	1.14	0.61
9	24.58	sulfate	BMB	4.15	16.96	0.02	0.30	0.20
TOTAL:				508229.20	823106.15	20985.03		



IC-2 EPA 300.1/ EPA314

Sample Name:	**16010838-01DUP CLO2/CLO3**	*Inj. Vol.:*	**900.0**
Sample Type:	**unknown**	*Dilution Factor*	**1.0000**
Program:	**Anion_7_50mM_Ramp_32MIN_auto**	*Operator:*	**RT**
Inj. Date/Time:	**20.01.16 11:37**	*Run Time:*	**31.40**

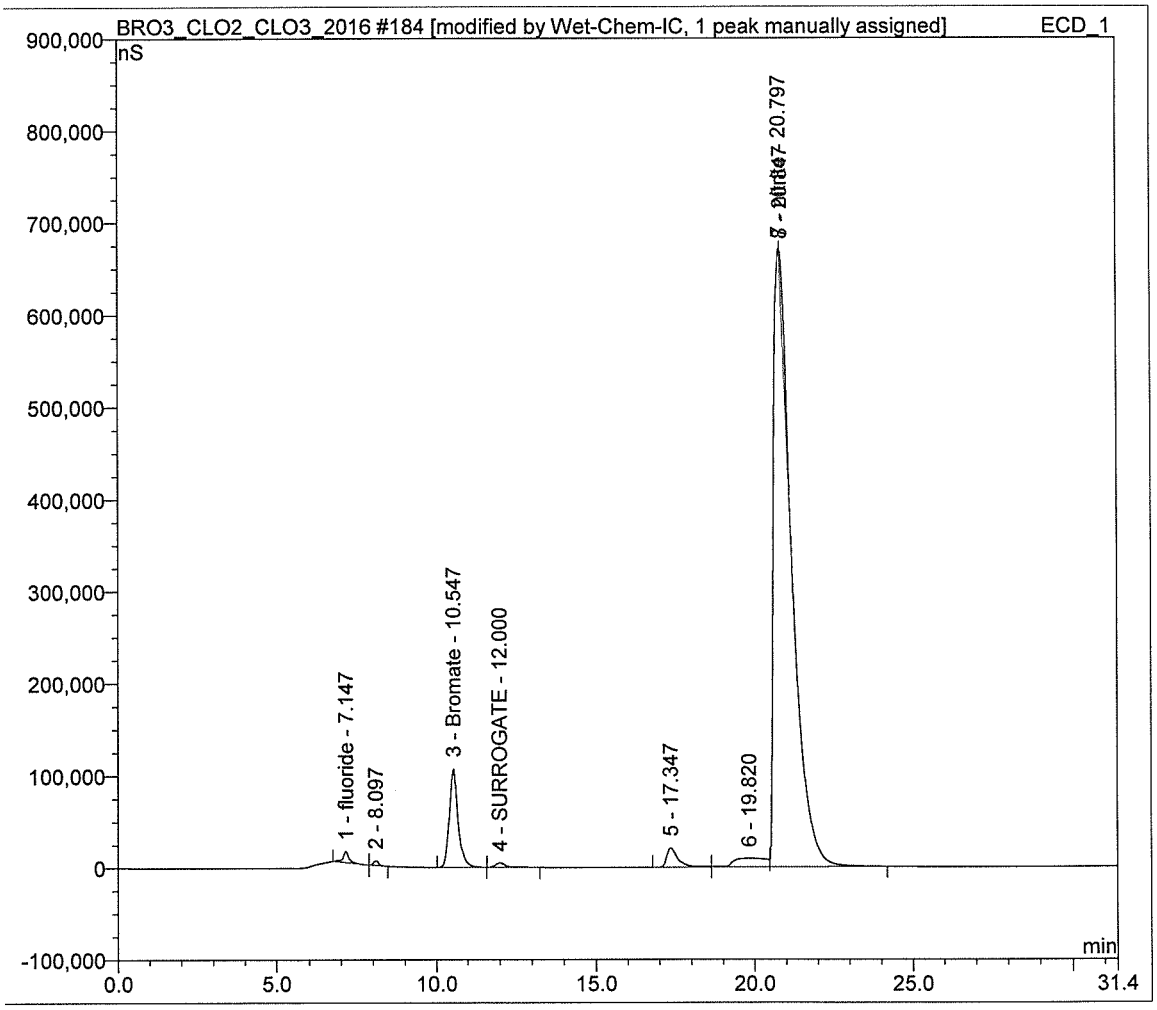
No.	Time min	Peak Name	Type	Area nS*min	Height nS	Amount ppb	Peak Width min	Peak Width min
1	7.12	fluoride	BMb	2862.12	12532.33	10.21	0.53	0.17
3	10.53	Bromate	BMB	34803.69	105343.73	18791.89	0.63	0.29
4	11.98	SURROGATE	BMB*^	1810.63	4886.42	936.51	0.61	0.31
8	20.79	nitrite	MB	468190.95	696961.10	1162.51	1.15	0.61
9	24.61	sulfate	BMB	3.94	14.43	0.02	0.30	0.21
TOTAL:				507671.33	819738.01	20901.14		



IC-2 EPA 300.1/ EPA314

Sample Name:	**16010838-02 CLO2/CLO3**	*Inj. Vol.:*	**900.0**
Sample Type:	**unknown**	*Dilution Factor*	**1.0000**
Program:	**Anion_7_50mM_Ramp_32MIN_auto**	*Operator:*	**RT**
Inj. Date/Time:	**20.01.16 12:12**	*Run Time:*	**31.40**

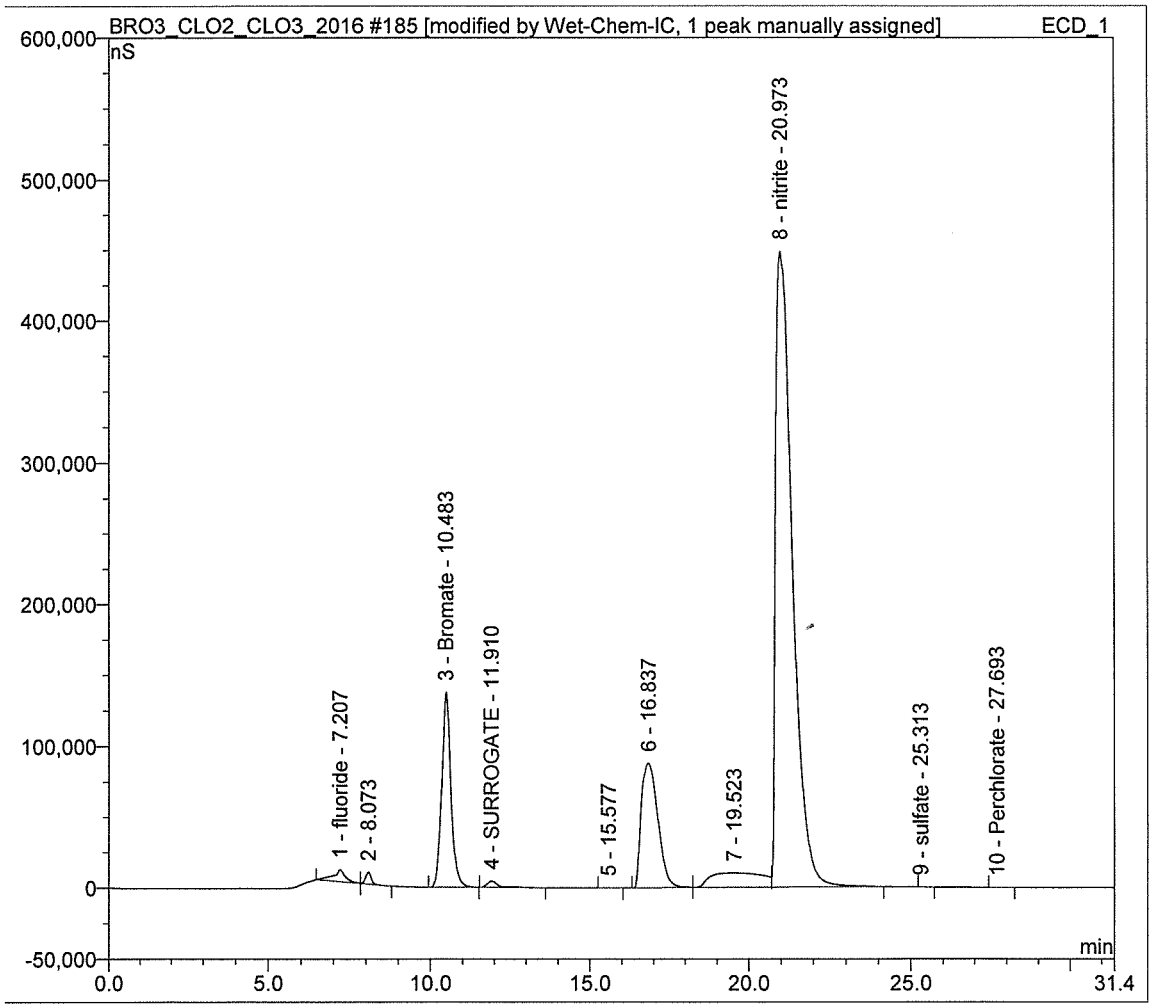
No.	Time min	Peak Name	Type	Area nS*min	Height nS	Amount ppb	Peak Width min	Peak Width min
1	7.15	fluoride	BMb	2786.22	12159.01	9.94	0.53	0.17
3	10.55	Bromate	BMB	35343.13	106962.97	19083.16	0.63	0.28
4	12.00	SURROGATE	BMB*^	1824.54	4805.74	943.50	0.62	0.31
7	20.80	nitrite	MB	434813.12	670020.79	1079.63	1.16	0.60
TOTAL:				474767.01	793948.51	21116.23		



IC-2 EPA 300.1/ EPA314

Sample Name:	**16010839-01 CLO2/CLO3**	*Inj. Vol.:*	**900.0**
Sample Type:	**unknown**	*Dilution Factor*	**1.0000**
Program:	**Anion_7_50mM_Ramp_32MIN_auto**	*Operator:*	**RT**
Inj. Date/Time:	**20.01.16 12:46**	*Run Time:*	**31.40**

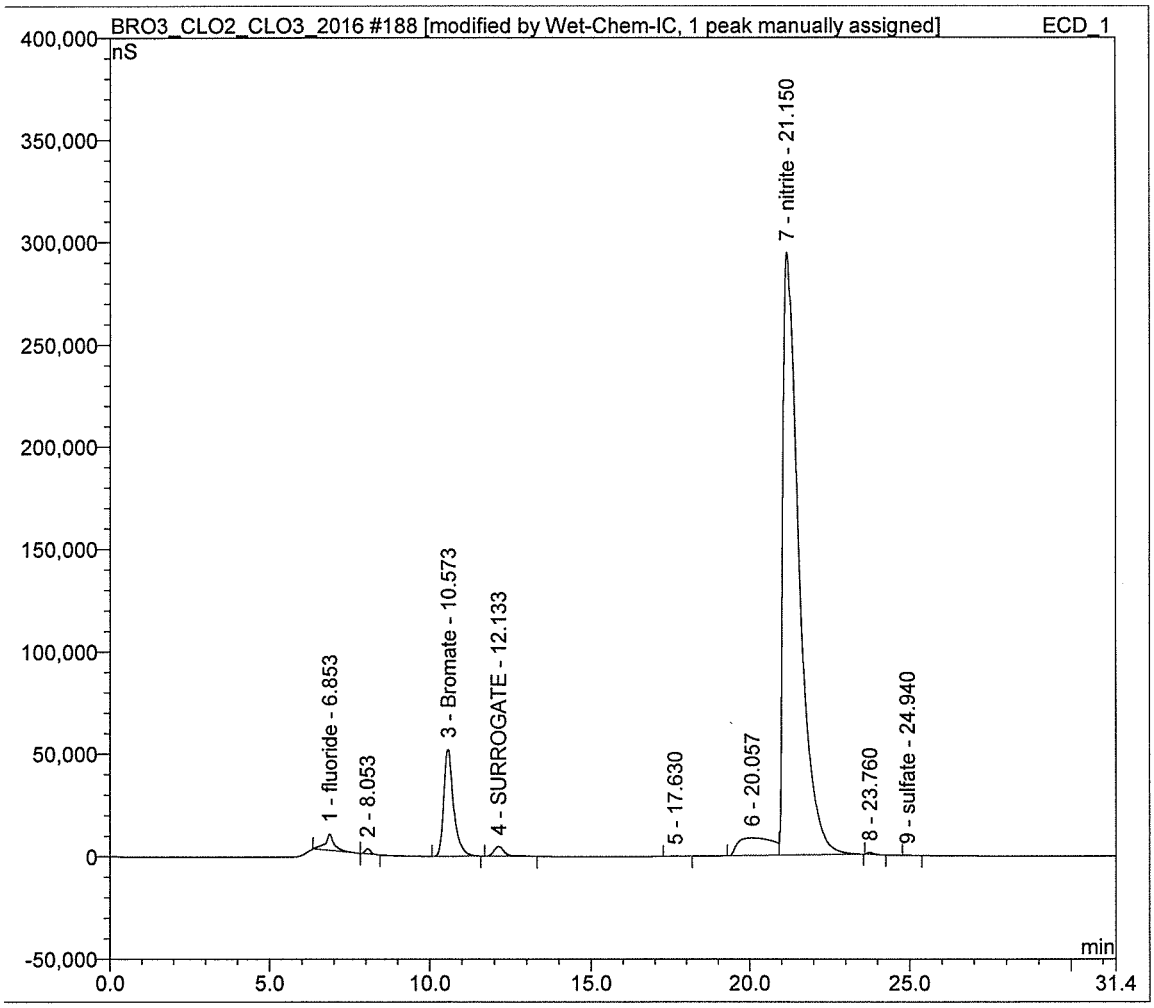
No.	Time min	Peak Name	Type	Area nS*min	Height nS	Amount ppb	Peak Width min	Peak Width min
1	7.21	fluoride	BM	3783.60	8466.50	13.50	1.03	0.29
3	10.48	Bromate	BMB	45480.34	137530.37	24556.64	0.62	0.28
4	11.91	SURROGATE	BMB*^	1825.46	4526.41	943.96	0.62	0.32
8	20.97	nitrite	MB	273622.28	448483.69	679.40	1.03	0.55
9	25.31	sulfate	BMB	5.28	16.12	0.03	0.42	0.28
10	27.69	Perchlorate	BMB	12.87	37.45	n.a.	0.57	0.33
		TOTAL:		324729.84	599060.53	26193.53		



IC-2 EPA 300.1/ EPA314

Sample Name:	**16010839-02 CLO2/CLO3**	*Inj. Vol.:*	**900.0**
Sample Type:	**unknown**	*Dilution Factor*	**1.0000**
Program:	**Anion_7_50mM_Ramp_32MIN_auto**	*Operator:*	**RT**
Inj. Date/Time:	**20.01.16 14:28**	*Run Time:*	**31.40**

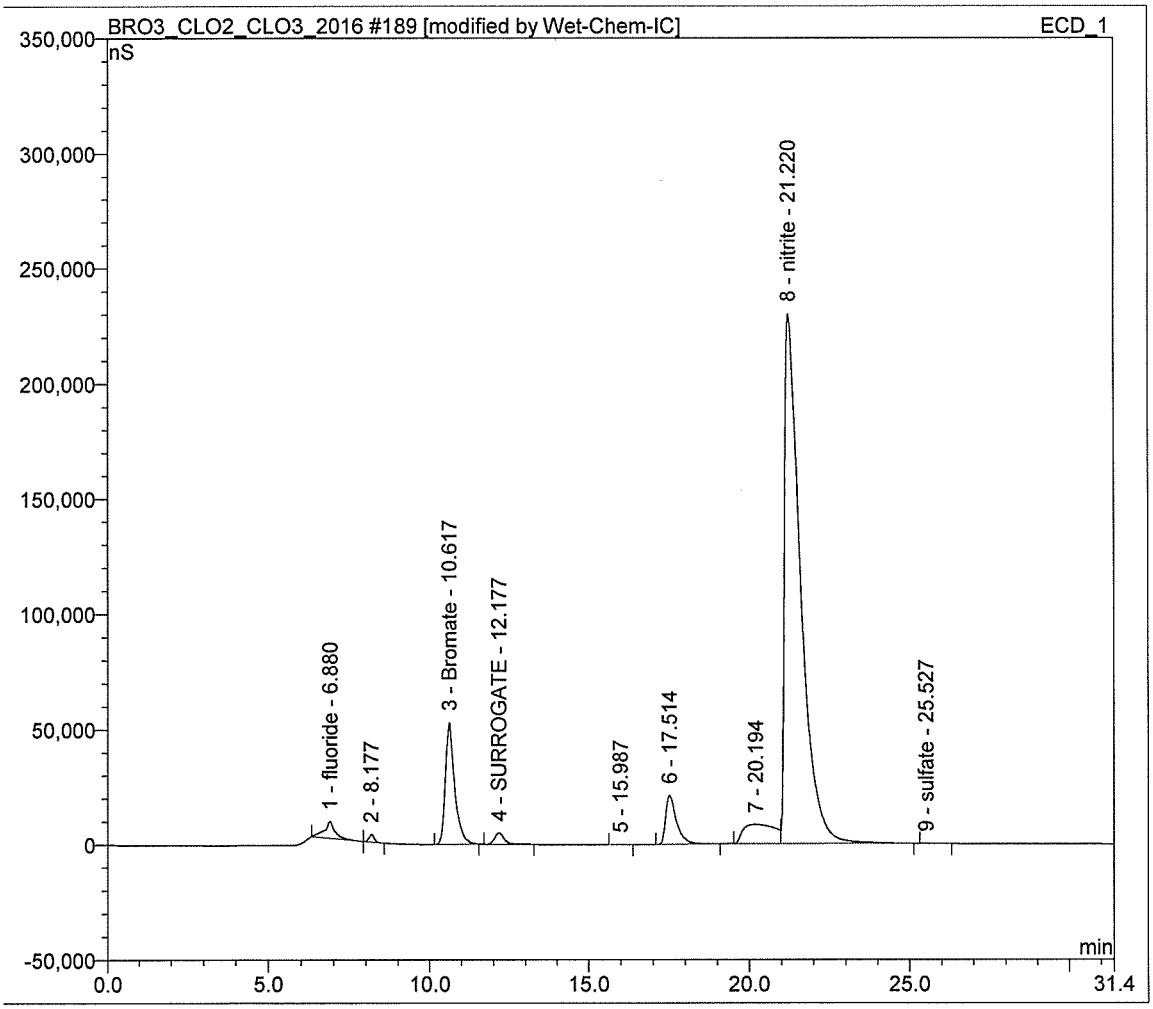
No.	Time min	Peak Name	Type	Area nS*min	Height nS	Amount ppb	Peak Width min	Peak Width min
1	6.85	fluoride	BMb	2775.75	8055.77	9.90	0.81	0.22
3	10.57	Bromate	BMB	18944.59	51987.70	10228.93	0.68	0.31
4	12.13	SURROGATE	BMB*^	1830.33	4763.82	946.41	0.64	0.32
7	21.15	nitrite	MB	171949.24	294363.04	426.95	1.06	0.52
9	24.94	sulfate	BMB	24.77	108.22	0.12	0.38	0.22
TOTAL:				195524.67	359278.55	11612.31		



IC-2 EPA 300.1/ EPA314

Sample Name:	**16010839-03 CLO2/CLO3**	*Inj. Vol.:*	**900.0**
Sample Type:	**unknown**	*Dilution Factor*	**1.0000**
Program:	**Anion_7_50mM_Ramp_32MIN_auto**	*Operator:*	**RT**
Inj. Date/Time:	**20.01.16 15:03**	*Run Time:*	**31.40**

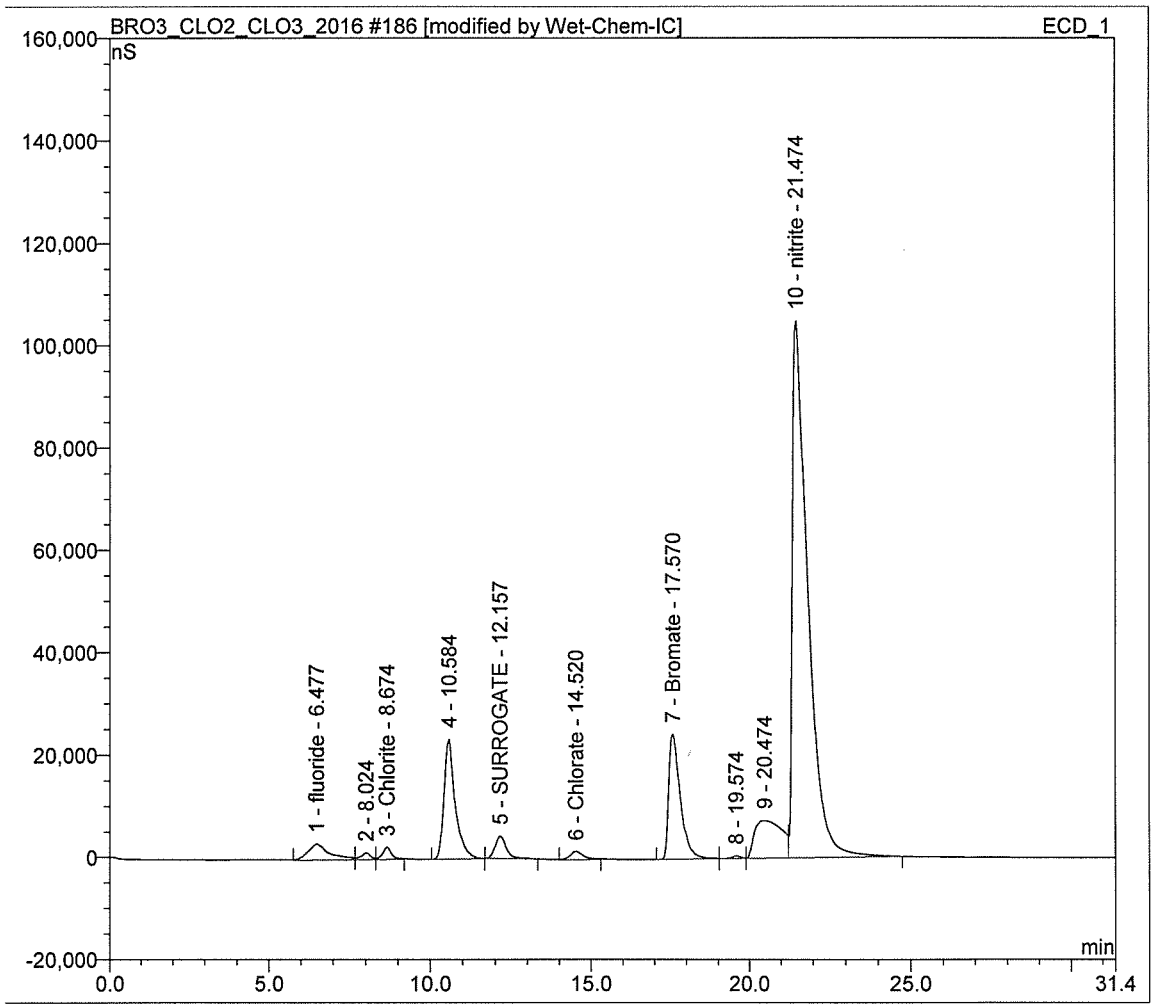
No.	Time min	Peak Name	Type	Area nS*min	Height nS	Amount ppb	Peak Width min	Peak Width min
1	6.88	fluoride	BMb	2847.58	7323.36	10.16	0.89	0.25
3	10.62	Bromate	BMB	18239.55	53036.36	9848.26	0.66	0.30
4	12.18	SURROGATE	BMB*	1855.09	4973.51	958.85	0.61	0.31
8	21.22	nitrite	MB	133226.15	229815.18	330.80	1.06	0.51
9	25.53	sulfate	BMB	31.15	89.68	0.15	0.63	0.31
		TOTAL:		156199.53	295238.09	11148.21		



IC-2 EPA 300.1/ EPA314

Sample Name:	**16010839-04MS 012016 1:5 (01)**	*Inj. Vol.:*	**900.0**
Sample Type:	**unknown**	*Dilution Factor*	**1.0000**
Program:	**Anion_7_50mM_Ramp_32MIN_auto**	*Operator:*	**RT**
Inj. Date/Time:	**20.01.16 13:20**	*Run Time:*	**31.40**

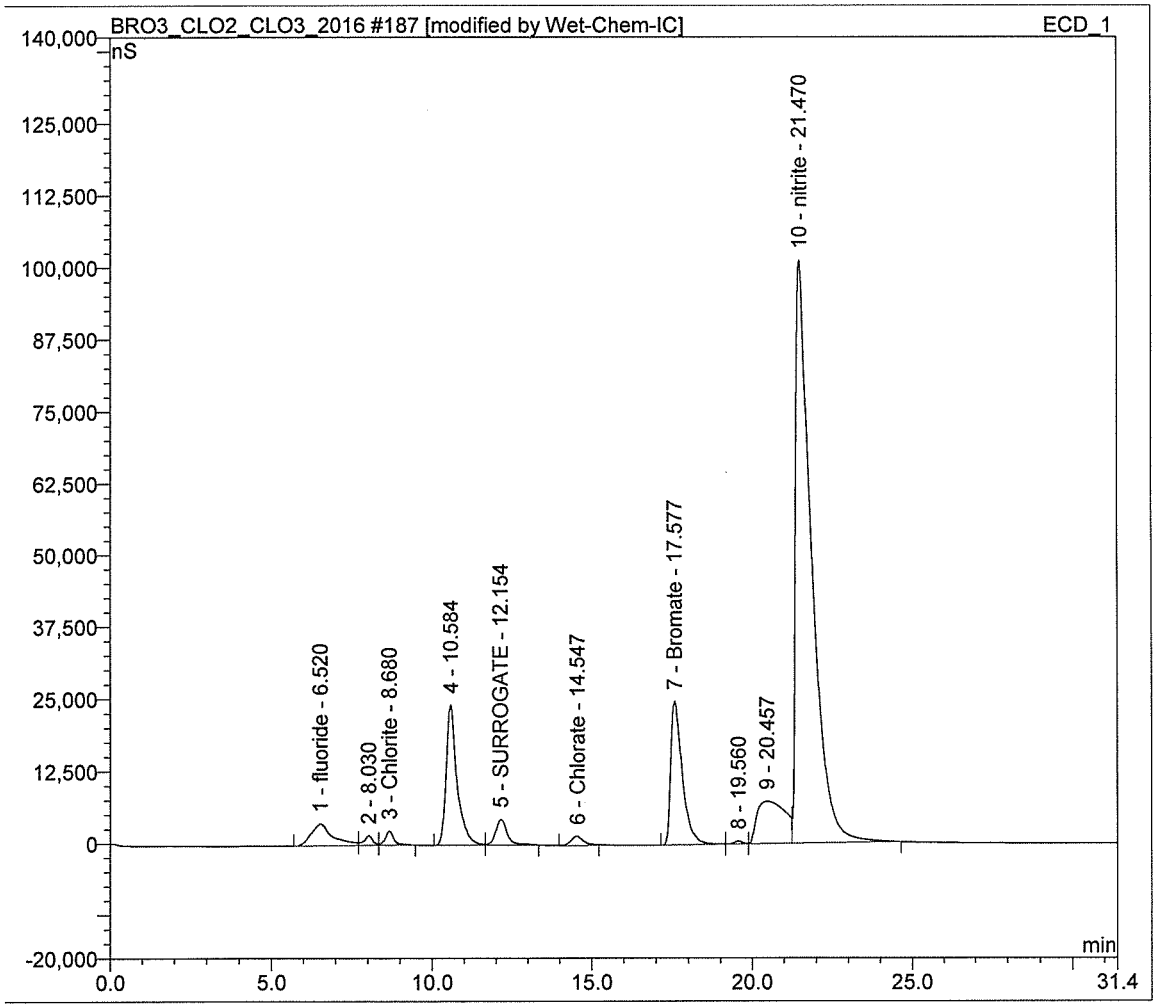
No.	Time min	Peak Name	Type	Area nS*min	Height nS	Amount ppb	Peak Width min	Peak Width min
1	6.48	fluoride	M *	2482.25	3211.40	8.85	n.a.	0.59
3	8.67	Chlorite	M *	763.34	2396.72	241.40	n.a.	0.27
5	12.16	SURROGATE	BMB*	1822.61	4420.91	942.53	0.72	0.36
6	14.52	Chlorate	M *	827.06	1625.18	246.01	1.09	0.43
7	17.57	Bromate	BM	10352.64	24399.46	5589.80	0.76	0.38
10	21.47	nitrite	MB	58362.97	104848.71	144.91	1.00	0.50
TOTAL:				74610.86	140902.38	7173.51		



IC-2 EPA 300.1/ EPA314

Sample Name:	**16010839-05MSD 012016 1:5 (01)**	*Inj. Vol.:*	**900.0**
Sample Type:	**unknown**	*Dilution Factor*	**1.0000**
Program:	**Anion_7_50mM_Ramp_32MIN_auto**	*Operator:*	**RT**
Inj. Date/Time:	**20.01.16 13:54**	*Run Time:*	**31.40**

No.	Time min	Peak Name	Type	Area nS*min	Height nS	Amount ppb	Peak Width min	Peak Width min
1	6.52	fluoride	BM *	2999.14	3824.07	10.70	n.a.	0.62
3	8.68	Chlorite	MB*	758.22	2438.55	239.78	n.a.	0.26
5	12.15	SURROGATE	MB*	1908.29	4451.97	985.57	0.75	0.36
6	14.55	Chlorate	M *	806.90	1640.73	240.09	0.98	0.42
7	17.58	Bromate	BM	10400.62	24844.71	5615.71	0.75	0.37
10	21.47	nitrite	MB	58729.25	101201.93	145.82	1.07	0.51
		TOTAL:		75602.42	138401.96	7237.68		



WO # 16010838/16010839
Summit Environmental Technologies, Inc.

Prep Logbook

DC-198
Rev. 12

Summit Environmental Technologies, Inc.
300.1, 314.0 Prep Logbook

Date: 1/20/16 Analyst: RT Batch ID: 012016 Balance ID: 7122110036 Inst. ID: IC2

No.	Sample ID	matrix	Bomb wash	pH	Initial Volume (mL)	Final Volume (mL)	Comments
1	BLANK	L		7	5.0	5.1	
2	CCV	L		7	5.0	5.1	
3	LCS	L		7	5.0	5.1	
4	LCSD	L		7	5.0	5.1	
5	Std 10ppb	L		7	5.0	5.1	
6	1L0108mg-01A	L		9	5.0	5.1	
7	-01ADUP	L		9	5.0	5.1	
8	1L0108mg-02A	L		9	5.0	5.1	
9	1L0108mg-01A	L		9	5.0	5.1	
10	-04AMS	L		7	1.0	5.1	MS/MSD for sample 1L0108mg-01A
11	-05AMSD	L		9	1.0	5.1	
12	-02A	L		9	5.0	5.1	
13	1L0108mg-03A	L		9	5.0	5.1	
14	CCV	L		7	5.0	5.1	
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RT 1/20/16

CCV SET#: CCV-010416
LCS SET#: LCS-012016
MSMSD SET#: LCS-012016
RL SET#: Std 10ppb-012016
Syringe SET#: WC-0M-0870

pH Strip SET#: WC-0M-0777
Filter Paper SET#: WC-0M-0728
Vial SET#: WC-0M-0787
Potassium Hydroxide SET#: WC-0M-0414
IC2 Surrogate SET#: IC-2 SURR: 010416

Disposable Pipettes: WC-0M-0879
Eluent SET#: DI Water
Syringe filters SET#: WC-0M-0818

Reagent/Stds Prep Log

Summit Environmental Technologies, Inc.
Standard/Reagent Preparation Logbook

Standard or Reagent Name	Supplier/ Catalog #	Conc. of Source Std/Reag.	Lot Number Source Std/Reag	Amount of Source Std/Reag Used	Expiration Date of Source Std/Reag	Amount of Diluent	Type of Diluent	Conc. of Working Std/Reag	Prep. Date	Expir. Date	Initials	S.E.T. ID Number
ClO2/ClO3-10ppb	NC0970446 NC0970448	10ppm	14K0918 158059	0.05mL	7/25/16	50mL	DI	10ppm	1/4/16	2/4/16	RT	ClO2/ClO3-0104/16
IC-2 Surrogate	NC0970405	500mg/L	1082411	10mL	12/1/16	40mL	DI	100ppm	1/4/16	~~1/4/16~~	RT	IC-2Surr-0104/16
Anions-25ppb	NC0970420	25ppm	1080071	0.05mL	10/1/16	50mL	DI	25ppb	1/5/16	2/5/16	RT	Anions-25ppb
50ppb		25ppm		0.1mL		49.9mL		50ppb				-50
100ppb				0.2mL		49.8mL		100ppb				-100
200ppb				0.4mL		49.6mL		200ppb				-200
250ppb				0.5mL		49.5mL		250ppb				-250
400ppb				0.8mL		49.2mL		400ppb				-400
Anions-1000ppb				2mL		40mL		1000ppb				-1000
Anions-500ppb				1mL		49mL		500ppb				Anions-500ppb
Anions-CCV	NC0970420	25ppm	1080071	1mL		49mL		500ppb				Anions-CCV 0105/16
Anions-LCS	NC0970420	20ppm	1080074	1.25mL	10/1/16	48.75mL	DI	500ppb	1/5/16	2/5/16	RT	Anions-LCS 0105/16
ClO2/ClO3-10ppb	NC0970446 NC0970448	ppm	14K0918 158059	0.5mL	7/25/16	49.5mL	DI	10 ppb	1/7/16	2/7/16	RT	Std10ppb-0107
20		ppm		1mL		49mL		20				20
50		ppm		2.5mL		47.5mL		50				50
100		ppm		5mL		45mL		100				100
200		ppm		10mL		40mL		200				200
ClO2/ClO3-500ppb	NC0970446 NC0970448	1000mg/L	14K0918 158059	0.125mL	7/25/16	50mL	DI	500ppb	1/7/16	2/7/16	RT	Std500-0107

All Stock Standards must have an assayed purity of 97% or greater.

Summit Environmental Technologies, Inc.
Standard/Reagent Preparation Logbook

Standard or Reagent Name	Supplier/ Catalog #	Conc. of Source Std/Reag.	Lot Number Source Std/Reag	Amount of Source Std/Reag Used	Expiration Date of Source Std/Reag	Amount of Diluent	Type of Diluent	Conc. of Working Std/Reag	Prep. Date	Expir. Date	Initials	S.E.T. ID Number
ClO2/ClO3-1000ppb	NC-03-0440 NC-03-0499	1000mg/L	19E098 15B059	0.05mL	7/25/16	50mL	DI	1000ppb	1/7/16	2/7/16	RT	ClO2/ClO3-1000ppb 010716
ClO2/ClO3-ICV	NC03-04000 NC03-0472	1000mg/L	19F203 15B177	0.025mL	7/25/16	50mL	DI	500ppb	1/7/16	2/7/16	RT	ClO2/ClO3-ICV-010716
BrO3-2ppb	NC-03-0457	1ppm	14H128	0.1mL	7/19/16	49.9mL	DI	2ppb	1/7/16	2/7/16	RT	BrO3-2ppb-010716
5ppb				0.25mL		49.75mL		5ppb				5ppb
10ppb				0.5mL		49.5mL		10ppb				10ppb
BrO3 25ppb	NC-03-0457		14H128	1.25mL	7/19/16	48.75mL		25ppb				BrO3 25ppb
BrO3-ICV	NC-03-04405		10716015	0.5mL	8/26/16	49.5mL		10ppb				BrO3 ICV
BrO3-CCV	NC-03-0457		14H128	1.25mL	7/19/16	48.75mL		12ppb				BrO3-CCV
BrO3-LCS	NC03-04405	1ppm	10716015	1.0mL	8/26/16	99mL	DI	10ppb	1/7/16	2/7/16	RT	BrO3-LCS-010716
ClO4-1ppm	NC-03-0430	1000ppm	15A112	0.05mL	10/2017	50mL	DI	1ppm	1/11/16	2/11/16	RT	ClO4-1ppm-011116
ClO4-1ppm	NC-03-0304	1000ppm	14H2109	0.05mL	3/15/16	50mL		1ppm				1ppm
ClO4-4ppb	NC-03-0430	1ppm	15A112	0.2mL	10/2017	49.8mL		4ppb				4ppb
10ppb				0.5mL		49.5mL		10ppb				10ppb
20ppb				1.0mL		49mL		20ppb				20ppb
ClO4 40ppb	NC-03-0430		15A112	2.0mL	10/2017	48mL		40ppb				40ppb
ClO4-ICV	NC-03-0304		14H2109	1.0mL	3/15/16	49mL		20ppb				ICV
ClO4-CCV	NC-03-0430		15A112	1.25mL	10/2017	48.75mL		25ppb				CCV
ClO4-LCS	NC-03-0304	1ppm	14H2109	1.0mL	3/15/16	49mL	DI	20ppb	1/11/16	2/11/16	RT	ClO4-LCS-011116

All Stock Standards must have an assayed purity of 97% or greater.

Page 2506

Summit Environmental Technologies, Inc.
Standard/Reagent Preparation Logbook

Standard or Reagent Name	Supplier/ Catalog #	Conc. of Source Std/Reag.	Lot Number Source Std/Reag	Amount of Source Std/Reag Used	Expiration Date of Source Std/Reag	Amount of Diluent	Type of Diluent	Conc. of Working Std/Reag	Prep. Date	Expir. Date	Initials	S.E.T. ID Number
ClO_2/ClO_3-LCS	WC-03-0466 WC-03-0472	1000mg/L	14P203 158171	0.1mL	7/25/16	199.9mL	DI	500ppb	1/20/16	2/20/16	RT	ClO_2/ClO_3 LCS-012016
ClO_2/ClO_3-RLC	WC-03-0446 WC-03-0448	500ppb	14K098 156059	1.0mL	7/25/16	49mL	DI	10ppb	1/20/16	2/20/16	RT	ClO_2/ClO_3 RLC-012016

All Stock Standards must have an assayed purity of 97% or greater.

Microbac

Laboratory Report Number: L16010678

Patrick Letterer
CT Laboratories
1230 Lange Court
Baraboo, WI 53913

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac's Ohio Valley Division (OVD). If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed below.

Laboratory Contact:
Stephanie Mossburg – Team Chemist/Data Specialist
(740) 373-4071
Stephanie.Mossburg@microbac.com

I certify that all test results meet all of the requirements of the DoD QSM and other applicable contract terms and conditions. Any exceptions are attached to this cover page or addressed in the method narratives presented in the report. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories, DoD ELAP certification number 2936.01. The reported results are related only to the samples analyzed as received.

This report was certified on January 25 2016

David L. Vandenberg

David Vandenberg – Managing Director

State of Origin: MI
Accrediting Authority: N/A ID:N/A
QAPP: DOD Ver 5.0

Microbac

Lab Report #: L16010678
Lab Project #: 2694.005
Project Name: CT Labs DOD
Lab Contact: Stephanie Mossburg

Record of Sample Receipt and Inspection

Comments/Discrepancies

This is the record of the shipment conditions and the inspection records for the samples received and reported as a sample delivery group (SDG). All of the samples were inspected and observed to conform to our receipt policies, except as noted below.

The following discrepancies were noted:

Discrepancy	Resolution
Sample ID: 679979 (1/12 @ 12:00). Received (2) extra containers for MS/MSD. BRG	Log and proceed. MRT

Coolers

Cooler #	Temperature Gun	Temperature	COC #	Airbill #	Temp Required?
00113518	H	0.0		1Z1A4A851342654826	X

Inspection Checklist

#	Question	Result
1	Were shipping coolers sealed?	Yes
2	Were custody seals intact?	Yes
3	Were cooler temperatures in range of 0-6?	Yes
4	Was ice present?	Yes
5	Were COC's received/information complete/signed and dated?	Yes
6	Were sample containers intact and match COC?	Yes
7	Were sample labels intact and match COC?	No
8	Were the correct containers and volumes received?	Yes
9	Were samples received within EPA hold times?	Yes
10	Were correct preservatives used? (water only)	Yes
11	Were pH ranges acceptable? (voa's excluded)	NA
12	Were VOA samples free of headspace (less than 6mm)?	NA

Microbac

Lab Report #: L16010678
Lab Project #: 2694.005
Project Name: CT Labs DOD
Lab Contact: Stephanie Mossburg

Samples Received

Client ID	Laboratory ID	Date Collected	Date Received
54MW12	L16010678-01	01/12/2016 12:00	01/15/2016 10:19
54MW12	L16010678-02	01/12/2016 12:00	01/15/2016 10:19
54MW12	L16010678-03	01/12/2016 12:00	01/15/2016 10:19
54MW1	L16010678-04	01/12/2016 09:00	01/15/2016 10:19
54MW13	L16010678-05	01/12/2016 15:05	01/15/2016 10:19

Microbac REPORT L16010678
PREPARED FOR CT Laboratories
WORK ID:

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1.1 Narratives 6
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2.1.1.3 Sample Data 74
2.1.1.4 Standards Data 85
2.1.1.5 Raw QC Data 126
3.0 Attachments 133

1.0 Summary Data

1.1 Narratives

Login Number: L16010678
Department: General Chromatography
Analyst: John W. Richards Jr.

METHOD

Analysis SW-846 6850

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: For all compounds that yielded a %RSD greater than 15%, linear or higher order equations were applied. All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Continuing Calibration and Tune: All acceptance criteria were met.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Matrix Spikes: The parent sample to the MS/MSD had a perchlorate result approximately 44 times greater than that of the spiked amount.

Sample #	Analyte	Date	Result	Lower	Upper	Type
L16010678-02	Perchlorate	2016-01-22 00:10:45	130	84	119	Recovery
L16010678-03	Perchlorate	2016-01-22 00:29:40	70.0	84	119	Recovery

SAMPLES

Samples: All acceptance criteria were met.

Internal Standards: All acceptance criteria were met.

Manual Integration Reason Codes

Reason #1: Data System Fails to Select Correct Peak In some cases the chromatography system selects and integrates the 'wrong peak'. In this case the analyst must correct the selection and force the system to integrate the proper peak. Other times the system may miss the peak completely.

Reason #2: Data System Splits the Peak Incorrectly or Integrates a False Peak as a Rider Peak This phenomena is common at low concentrations where the signal:noise ratio is low. A single compound (peak) is incorrectly split into multiple peaks or integrated as a main peak with one or more rider peaks resulting in low area counts for the target compound.

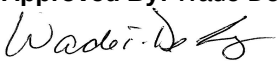
Reason #3: Improperly Integrated Isomers and/or coeluting compounds. This system often fails to distinguish coeluting compounds and or isomers. The integration areas and concentrations are wrong, and they must be corrected by manual integration. Prime examples are benzo(k)fluoranthene and benzo(b)fluoranthene which are often unresolved and integrated improperly when both are present at low concentrations in standards or samples.

Reason #4: System Establishes Incorrect Baseline There are numerous situations in chromatography where the system establishes the baseline incorrectly. Some baseline errors will be obvious to the analyst and should be corrected via manual procedures.

Reason #5: Miscellaneous Other situations involving integration errors may require in-depth review and technical judgment. These cases should be brought to the attention of the laboratory management. If the form of manual integration is not clearly covered by these four cases, then review and approval by the Laboratory Director or the QA/QC Supervisor will be required.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Microbac Laboratories Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Narrative ID: 108479
Approved By: Wade DeLong



1.2 Certificate of Analysis

Certificate of Analysis

Sample #:	L16010678-01	**PrePrep Method:**	N/A	**Instrument:**	LCMS1
Client ID:	54MW12	**Prep Method:**	6850	**Prep Date:**	01/20/2016 14:00
Matrix:	Water	**Analytical Method:**	6850	**Cal Date:**	01/21/2016 18:10
Workgroup #:	WG554543	**Analyst:**	JWR	**Run Date:**	01/21/2016 23:51
Collect Date:	01/12/2016 12:00	**Dilution:**	1	**File ID:**	1LM.LM32852
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Perchlorate	14797-73-0	8.85		0.400	0.200	0.100

Certificate of Analysis

Sample #:	L16010678-02	**PrePrep Method:**	N/A	**Instrument:**	LCMS1
Client ID:	54MW12	**Prep Method:**	6850	**Prep Date:**	01/20/2016 14:00
Matrix:	Water	**Analytical Method:**	6850	**Cal Date:**	01/21/2016 18:10
Workgroup #:	WG554543	**Analyst:**	JWR	**Run Date:**	01/22/2016 00:10
Collect Date:	01/12/2016 12:00	**Dilution:**	1	**File ID:**	1LM.LM32853
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Perchlorate	14797-73-0	9.11		0.400	0.200	0.100

Certificate of Analysis

Sample #:	L16010678-03	**PrePrep Method:**	N/A	**Instrument:**	LCMS1
Client ID:	54MW12	**Prep Method:**	6850	**Prep Date:**	01/20/2016 14:00
Matrix:	Water	**Analytical Method:**	6850	**Cal Date:**	01/21/2016 18:10
Workgroup #:	WG554543	**Analyst:**	JWR	**Run Date:**	01/22/2016 00:29
Collect Date:	01/12/2016 12:00	**Dilution:**	1	**File ID:**	1LM.LM32854
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Perchlorate	14797-73-0	8.99		0.400	0.200	0.100

Certificate of Analysis

Sample #:	L16010678-04	**PrePrep Method:**	N/A	**Instrument:**	LCMS1
Client ID:	54MW1	**Prep Method:**	6850	**Prep Date:**	01/20/2016 14:00
Matrix:	Water	**Analytical Method:**	6850	**Cal Date:**	01/21/2016 18:10
Workgroup #:	WG554543	**Analyst:**	JWR	**Run Date:**	01/22/2016 00:48
Collect Date:	01/12/2016 09:00	**Dilution:**	1	**File ID:**	1LM.LM32855
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Perchlorate	14797-73-0	0.200	U	0.400	0.200	0.100

U	Analyte was not detected. The concentration is below the reported LOD.

Certificate of Analysis

Sample #:	L16010678-05	**PrePrep Method:**	N/A	**Instrument:**	LCMS1
Client ID:	54MW13	**Prep Method:**	6850	**Prep Date:**	01/20/2016 14:00
Matrix:	Water	**Analytical Method:**	6850	**Cal Date:**	01/21/2016 18:10
Workgroup #:	WG554543	**Analyst:**	JWR	**Run Date:**	01/22/2016 01:07
Collect Date:	01/12/2016 15:05	**Dilution:**	1	**File ID:**	1LM.LM32856
Sample Tag:	01	**Units:**	ug/L		

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Perchlorate	14797-73-0	0.216	J	0.400	0.200	0.100

J	Estimated value ; the analyte concentration was less than the LOQ.

2.0 Full Sample Data Package

2.1 General Chromatography Data

2.1.1 6850 LC/MS Data

2.1.1.1 Summary Data

Login Number: L16010678
Department: General Chromatography
Analyst: John W. Richards Jr.

METHOD

Analysis SW-846 6850

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: For all compounds that yielded a %RSD greater than 15%, linear or higher order equations were applied. All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Continuing Calibration and Tune: All acceptance criteria were met.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Matrix Spikes: The parent sample to the MS/MSD had a perchlorate result approximately 44 times greater than that of the spiked amount.

Sample #	Analyte	Date	Result	Lower	Upper	Type
L16010678-02	Perchlorate	2016-01-22 00:10:45	130	84	119	Recovery
L16010678-03	Perchlorate	2016-01-22 00:29:40	70.0	84	119	Recovery

SAMPLES

Samples: All acceptance criteria were met.

Internal Standards: All acceptance criteria were met.

Manual Integration Reason Codes

Reason #1: Data System Fails to Select Correct Peak In some cases the chromatography system selects and integrates the 'wrong peak'. In this case the analyst must correct the selection and force the system to integrate the proper peak. Other times the system may miss the peak completely.

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Reason #5: Miscellaneous Other situations involving integration errors may require in-depth review and technical judgment. These cases should be brought to the attention of the laboratory management. If the form of manual integration is not clearly covered by these four cases, then review and approval by the Laboratory Director or the QA/QC Supervisor will be required.

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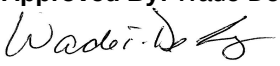
Narrative ID: 108479
Approved By: Wade DeLong



Certificate of Analysis

Sample #: L16010678-01 **PrePrep Method:** N/A **Instrument:** LCMS1
Client ID: 54MW12 **Prep Method:** 6850 **Prep Date:** 01/20/2016 14:00
Matrix: Water **Analytical Method:** 6850 **Cal Date:** 01/21/2016 18:10
Workgroup #: WG554543 **Analyst:** JWR **Run Date:** 01/21/2016 23:51
Collect Date: 01/12/2016 12:00 **Dilution:** 1 **File ID:** 1LM.LM32852
Sample Tag: 01 **Units:** ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Perchlorate	14797-73-0	8.85		0.400	0.200	0.100

Sample #: L16010678-02 **PrePrep Method:** N/A **Instrument:** LCMS1
Client ID: 54MW12 **Prep Method:** 6850 **Prep Date:** 01/20/2016 14:00
Matrix: Water **Analytical Method:** 6850 **Cal Date:** 01/21/2016 18:10
Workgroup #: WG554543 **Analyst:** JWR **Run Date:** 01/22/2016 00:10
Collect Date: 01/12/2016 12:00 **Dilution:** 1 **File ID:** 1LM.LM32853
Sample Tag: 01 **Units:** ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Perchlorate	14797-73-0	9.11		0.400	0.200	0.100

Sample #: L16010678-03 **PrePrep Method:** N/A **Instrument:** LCMS1
Client ID: 54MW12 **Prep Method:** 6850 **Prep Date:** 01/20/2016 14:00
Matrix: Water **Analytical Method:** 6850 **Cal Date:** 01/21/2016 18:10
Workgroup #: WG554543 **Analyst:** JWR **Run Date:** 01/22/2016 00:29
Collect Date: 01/12/2016 12:00 **Dilution:** 1 **File ID:** 1LM.LM32854
Sample Tag: 01 **Units:** ug/L

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Perchlorate	14797-73-0	8.99		0.400	0.200	0.100

Sample #: L16010678-04 **PrePrep Method:** N/A **Instrument:** LCMS1
Client ID: 54MW1 **Prep Method:** 6850 **Prep Date:** 01/20/2016 14:00
Matrix: Water **Analytical Method:** 6850 **Cal Date:** 01/21/2016 18:10
Workgroup #: WG554543 **Analyst:** JWR **Run Date:** 01/22/2016 00:48
Collect Date: 01/12/2016 09:00 **Dilution:** 1 **File ID:** 1LM.LM32855
Sample Tag: 01 **Units:** ug/L

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Perchlorate	14797-73-0	0.200	U	0.400	0.200	0.100

U	Analyte was not detected. The concentration is below the reported LOD.

Sample #: L16010678-05
Client ID: 54MW13
Matrix: Water
Workgroup #: WG554543
Collect Date: 01/12/2016 15:05
Sample Tag: 01

PrePrep Method: N/A
Prep Method: 6850
Analytical Method: 6850
Analyst: JWR
Dilution: 1
Units: ug/L

Instrument: LCMS1
Prep Date: 01/20/2016 14:00
Cal Date: 01/21/2016 18:10
Run Date: 01/22/2016 01:07
File ID: 1LM.LM32856

Analyte	CAS #	Result	Qual	LOQ	LOD	DL
Perchlorate	14797-73-0	0.216	J	0.400	0.200	0.100

J	Estimated value ; the analyte concentration was less than the LOQ.

2.1.1.2 QC Summary Data

Example Calculation 6850 - Perchlorate

Concentration from Linear Regression

Step 1: Retrieve Curve Data From Plot, y = mx + b

y = response ratio = response of analyte / response of internal standard (IS) = Rx/Ristd

x = amount ratio = concentration analyte/concentration internal standard (IS) = Cx / Cistd

m = slope from curve (1.45)

b = intercept from curve (-0.00242)

y = 1.45x + -0.00242

Step 2: Substitute the value for y

where y = 12600/226000 = 0.055752

Step 3: Solve for x

x = (y - b)/m = 0.0040119

Step 4: Solve for analyte concentration Cx

Cx = (Cis)(x) = (5 ug/L)(0.040119) = 0.200594 ug/L

Example Calculation - Water:

Slope from curve, m:	1.45
Intercept from curve, b:	-0.00242
Response of analyte, Rx:	12600
Response of Internal Standard , Ristd:	226000
Concentration of IS, Cistd (ug/L):	5.00
Response Ratio:	0.05575
Amount Ratio:	0.04012
Analyte Concentration, Cx (ug/L) :	0.200594

Example Calculation - Soil:

Analyte Concentration, Cx (ug/L):	0.20059
Amount of soil extracted (g):	5.00
Final volume of extract (mL):	50.00
Percent solids (Pct wt.)	100
Concentration in soil (ug/kg):	2.005938

Perchlorate Conductivity Check
(perchlorate1)

Conductivity Probe Calibration Check: 1457 /1410 µs/cm

Working MCT Level: 10,000 µs/cm

Sample	Conductivity (µs/cm)	Pretreatment or Dilution Needed
WG554543-01 MCT	9,680.	
-02 Blank	0.23	
-03 LCS	0.55	
L16010001-01 (LOD)	0.35	
L16010003-01 (LOQ)	0.39	
-09 (LOQ)	0.38	
L16010543-01 (PT)	1.02	
L16010677-01	622.	
-02	612.	
L16010678-01 RS	607.	
-02 MS	624.	
-03 MSD	614.	
-04	444.	
-05	335.	
L16010933-01	2,320.	

Analyst: John Richards

Date/Time: 01/25/16 1600

DCN#116188

Microbac Laboratories Inc.

Instrument Run Log

Instrument: LCMS1 Dataset: 012116_JWR.TXT
Analyst1: JWR Analyst2: NA
Method: 6850 SOP: HPLC06 Rev: 7

Maintenance Log ID: Syringe Filter Lot#: 150506254
Eluent ID#:

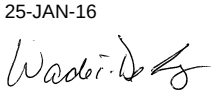
Workgroups: Column 1 ID: KP-RPPX250 Column 2 ID: NA
Analytical WG554543 (waters)
Internal STD: COA18071 Surrogate STD: NA Calibration STD STD72683 (01/21/2016)
CCV STD: STD72683 LCS STD: STD72685 MS/MSD STD: STD72685

Comments: ICAL WG554779 : Alternate Source STD72685
Analytical Column : RPPX 5um (250x4.6mm)
K'Prime S/N RPPX250-02115

Sample L16010933-01 was analyzed at a dilution based on its pre-run screen results.

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
1	1LM.LM32827	WG554779-01 CCB	1	1		01/21/16 15:58
2	1LM.LM32828	WG554779-02 STD (0.1 ug/L)	1	1	STD72683	01/21/16 16:17
3	1LM.LM32829	WG554779-03 STD (0.2 ug/L)	1	1	STD72683	01/21/16 16:36
4	1LM.LM32830	WG554779-04 STD (0.5 ug/L)	1	1	STD72683	01/21/16 16:55
5	1LM.LM32831	WG554779-05 STD-CCV (1.0 ug/L)	1	1	STD72683	01/21/16 17:14
6	1LM.LM32832	WG554779-06 STD (2.0 ug/L)	1	1	STD72683	01/21/16 17:32
7	1LM.LM32833	WG554779-07 STD (5.0 ug/L)	1	1	STD72683	01/21/16 17:51
8	1LM.LM32834	WG554779-08 STD (10 ug/L)	1	1	STD72683	01/21/16 18:10
9	1LM.LM32835	WG554779-09 SSCV (1.0 ug/L)	1	1	STD72685	01/21/16 18:29
10	1LM.LM32836	WG554545-01 CCB	1	1		01/21/16 18:48
11	1LM.LM32837	WG554545-02 CCV (1.0ug/L)	1	1	STD72683	01/21/16 19:07
12	1LM.LM32838	WG554543-07 MRL (0.2ug/L)	1	1	STD72683	01/21/16 19:26
13	1LM.LM32839	WG554543-01 MCT (0.2ug/L)	1	1	STD72685	01/21/16 19:45
14	1LM.LM32840	WG554543-02 BLANK	1	1		01/21/16 20:04
15	1LM.LM32841	WG554543-03 LCS (0.2ug/L)	1	1	STD72685	01/21/16 20:23
16	1LM.LM32842	L16010001-01 LOD (0.1ug/L)	1	1	STD72685	01/21/16 20:42
17	1LM.LM32843	L16010003-01 LOQ (0.2ug/L)	1	1	STD72685	01/21/16 21:01
18	1LM.LM32844	L16010003-09 LOQ (0.2ug/L)	1	1	STD72685	01/21/16 21:20
19	1LM.LM32845	L16010543-01 (NR)	1	1		01/21/16 21:39
20	1LM.LM32846	L16010543-01 (RR 5x)	1	5		01/21/16 21:58
21	1LM.LM32847	L16010677-01	1	1		01/21/16 22:17
22	1LM.LM32848	L16010677-02	1	1		01/21/16 22:36
23	1LM.LM32849	WG554545-03 CCV (1.0ug/L)	1	1	STD72683	01/21/16 22:54
24	1LM.LM32850	WG554543-08 MRL (0.2ug/L)	1	1	STD72683	01/21/16 23:13
25	1LM.LM32851	WG554545-04 CCB	1	1		01/21/16 23:32
26	1LM.LM32852	L16010678-01 RS	1	1		01/21/16 23:51
27	1LM.LM32853	L16010678-02 MS	1	1	STD72685	01/22/16 00:10
28	1LM.LM32854	L16010678-03 MSD	1	1	STD72685	01/22/16 00:29
29	1LM.LM32855	L16010678-04	1	1		01/22/16 00:48
30	1LM.LM32856	L16010678-05	1	1		01/22/16 01:07
31	1LM.LM32857	L16010933-01 (1000x)	1	1000		01/22/16 01:26
32	1LM.LM32858	WG554545-05 CCV (1.0ug/L)	1	1	STD72683	01/22/16 01:45

Page: 1 Approved: 25-JAN-16



Microbac Laboratories Inc.

Instrument Run Log

Instrument: LCMS1 Dataset: 012116_JWR.TXT

Analyst1: JWR Analyst2: NA

Method: 6850 SOP: HPLC06 Rev: 7

Maintenance Log ID: Syringe Filter Lot#: 150506254

Eluent ID#:

Workgroups: Column 1 ID: KP-RPPX250 Column 2 ID: NA

Analytical WG554543 (waters)

Internal STD: COA18071 Surrogate STD: NA STD72683 (01/21/2016)

CCV STD: STD72683 LCS STD: STD72685 STD72685

Seq.	File ID	Sample Information	Mat	Dil	Reference	Date/Time
33	1LM.LM32859	WG554543-09 MRL (0.2ug/L)	1	1	STD72683	01/22/16 02:04
34	1LM.LM32860	WG554545-06 CCB	1	1		01/22/16 02:23

Comments

Seq.	Rerun	Dil.	Reason	Analytes
19	X	5	Over Calibration Range	
	L16010543-01 (NR) :			
27				
	L16010678-02 MS : The MS %Rec was above the advisory limit. The parent sample to this MS had a perchlorate result approx. 44 times greater than that of the spiked amount.			
28				
	L16010678-03 MSD : The MSD %Rec was below the advisory limit. The parent sample to this MSD had a perchlorate result approx. 44 times greater than that of the spiked amount.			

Page: 2 Approved: 25-JAN-16

Microbac Laboratories Inc.

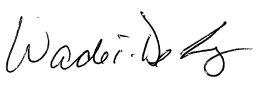
Data Checklist

Date: 21-JAN-2016
Analyst: JWR
Analyst: NA
Method: 6850
Instrument: LCMS1
Curve Workgroup: WG554779
Runlog ID: 72896
Analytical Workgroups: L16010001(LOD), 0003(LOQ), 0543(PT), 0677, 0678, 0933

ANALYTICAL	
System Performance Check	NA
DFTPP (GCMS)	NA
Endrin/DDT breakdown (8081/GCMS)	NA
Pentachlorophenol/benzidine tailing (GCMS)	NA
Eluent check (IC)/system pressure (HPLC)	NA
Window standard (FID)	NA
Initial Calibration	X
Average RF	NA
Linear regression or higher order curve	X
Alternate source standard (ICV) % Difference	X
Continuing Calibration (CCV)	X
% D/% Drift	X
Minimum response factors (GCMS)	X
Continuing calibration blank (CCB) (IC/LCMS)	X
Limit of quantitation verification (LOQV) (LCMS)	X
Special standards	NA
Blanks	X
TCL hits	ND
Surrogate recoveries	NA
LCS/LCSD (Laboratory Control Sample)	X
Recoveries	X
Surrogate recoveries	NA
MS/MSD/Sample duplicates	X
Recoveries	X
%RPD	X
Interference check sample (ICS) (LCMS)	MCT
Samples	X
TCL hits	X
Mass spectra (MS/HPLC)/2nd column confirmations (ECD/FID/HPLC)	NA
Surrogate recoveries	NA
Internal standard areas (MS)	X
Library searches (GCMS)	NA
Calculations & correct factors	X
Compounds above calibration range	X
Reruns	X
Manual integrations	X
Project/client specific requirements	X
REPORTING	
Upload batch form	X
KOBRA workgroup data/forms/bench sheets	X
Case narratives	
Check for completeness	X
Primary Reviewer	JWR
SUPERVISORY/SECONDARY REVIEW	
Check for compliance with method and project specific requirements	X
Check the completeness/accuracy of reported information	X
Data qualifiers	X
Secondary Reviewer	WTD

Primary Reviewer:
22-JAN-2016

Secondary Reviewer:
25-JAN-2016



CHECKLIST1 - Modified 03/05/2008
Generated: JAN-25-2016 08:11:57

Microbac Laboratories Inc.

HOLDING TIMES
EQUIVALENT TO AFCEE FORM 9

Analytical Method: 6850 **AAB#:** WG554543

Login Number: L16010678

Client ID	ID	Date Collected	TCLP Date	Time Held	Max Hold	Q	Extract Date	Time Held	Max Hold	Q	Run Date	Time Held	Max Hold	Q
54MW12	01	01/12/16					01/20/2016	8.1	28		01/21/16	1.4	28	
54MW12	02	01/12/16					01/20/2016	8.1	28		01/22/16	1.4	28	
54MW12	03	01/12/16					01/20/2016	8.1	28		01/22/16	1.4	28	
54MW1	04	01/12/16					01/20/2016	8.2	28		01/22/16	1.5	28	
54MW13	05	01/12/16					01/20/2016	8	28		01/22/16	1.5	28	

* = SEE PROJECT QAPP REQUIREMENTS

HOLD_TIMES - Modified 03/06/2008
PDF File ID: 4600914
Report generated 01/25/2016 08:59

Microbac Laboratories Inc.

METHOD BLANK SUMMARY

Login Number: L16010678
Blank File ID: 1LM.LM32840
Prep Date: 01/20/16 14:00
Analyzed Date: 01/21/16 20:04
Analyst: JWR

Work Group: WG554543
Blank Sample ID: WG554543-02
Instrument ID: LCMS1
Method: 6850

This Method Blank Applies To The Following Samples:

Client ID	Lab Sample ID	Lab File ID	Time Analyzed	TAG
QCMRL	WG554543-07	1LM.LM32838	01/21/16 19:26	01
MCT	WG554543-01	1LM.LM32839	01/21/16 19:45	01
LCS	WG554543-03	1LM.LM32841	01/21/16 20:23	01
QCMRL	WG554543-08	1LM.LM32850	01/21/16 23:13	01
54MW12	L16010678-01	1LM.LM32852	01/21/16 23:51	01
54MW12	L16010678-02	1LM.LM32853	01/22/16 00:10	01
54MW12	L16010678-03	1LM.LM32854	01/22/16 00:29	01
54MW1	L16010678-04	1LM.LM32855	01/22/16 00:48	01
54MW13	L16010678-05	1LM.LM32856	01/22/16 01:07	01
QCMRL	WG554543-09	1LM.LM32859	01/22/16 02:04	01

Report Name: BLANK_SUMMARY
PDF File ID: 4600915
Report generated 01/25/2016 08:59

Microbac Laboratories Inc.

METHOD BLANK REPORT

Login Number: L16010678 Prep Date: 01/20/16 14:00 Sample ID: WG554543-02
Instrument ID: LCMS1 Run Date: 01/21/16 20:04 Prep Method: 6850
File ID: 1LM.LM32840 Analyst: JWR Method: 6850
Workgroup (AAB#): WG554543 Matrix: Water Units: ug/L
Contract #: Cal ID: LCMS1-21-JAN-16

Analytes	DL	LOQ	Concentration	Dilution	Qualifier
Perchlorate	0.100	0.400	0.100	1	U

DL Method Detection Limit
LOQ Reporting/Practical Quantitation Limit
ND Analyte Not detected at or above reporting limit
* |Analyte concentration| > 1/2 RL

Report Name:BLANK
PDF ID: 4600916
25-JAN-2016 08:59

Microbac Laboratories Inc.
LABORATORY CONTROL SAMPLE (LCS)

Login Number: L16010678 **Run Date:** 01/21/2016 **Sample ID:** WG554543-03
Instrument ID: LCMS1 **Run Time:** 20:23 **Prep Method:** 6850
File ID: 1LM.LM32841 **Analyst:** JWR **Method:** 6850
Workgroup (AAB#): WG554543 **Matrix:** Water **Units:** ug/L
QC Key: DOD5 **Lot#:** STD72685 **Cal ID:** LCMS1-21-JAN-16

Analytes	Expected	Found	% Rec	LCS Limits	Q
Perchlorate	0.200	0.190	95.0	84 - 119	

LCS - Modified 03/06/2008
PDF File ID: 4600917
Report generated: 01/25/2016 08:59

Microbac Laboratories Inc.

MS/MSD REPORT

Loginnum:L16010678 Cal ID:LCMS1- 21-JAN-16 Worknum:WG554543

Instrument ID:LCMS1 Contract #: Prep Method:6850

Parent ID:L16010678-01 File ID:1LM.LM32852 Dil:1 Method:6850

Sample ID:L16010678-02 MS File ID:1LM.LM32853 Dil:1 Matrix:Water

Sample ID:L16010678-03 MSD File ID:1LM.LM32854 Dil:1 Units:ug/L

Analyte	Parent	MS Spiked	MS Found	MS %Rec	MSD Spiked	MSD Found	MSD %Rec	%RPD	%Rec Limits	RPD Limit	Q
Perchlorate	8.85	0.200	9.11	130	0.200	8.99	70	1.33	84 - 119	15	*

* FAILS %REC LIMIT

FAILS RPD LIMIT

MS_MSD - Modified 03/06/2008

PDF File ID: 4600918

Report generated 01/25/2016 08:59

Microbac Laboratories Inc.

INITIAL CALIBRATION SUMMARY

Login Number: L16010678
Analytical Method: 6850
ICAL Workgroup: WG554779
Instrument ID: LCMS1
Initial Calibration Date: 21-JAN-16 18:10
Column ID: F

Analyte		AVG RF	% RSD	LINEAR (R)	QUAD (R^2)
Perchlorate		0.7897	25.0	1.00000	

R = Correlation coefficient; 0.995 minimum
R^2 = Coefficient of determination; 0.99 minimum

INT_CAL - Modified 03/06/2008
PDF File ID: 4601104
Report generated 01/25/2016 08:59

Microbac Laboratories Inc.

INITIAL CALIBRATION DATA

Login Number: L16010678
Analytical Method: 6850
Instrument ID: LCMS1
Initial Calibration Date: 21-JAN-16 18:10
Column ID: F

Analyte	WG554779-02			WG554779-03			WG554779-04		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Perchlorate	0.100	3320.00000	1.104	0.200	5200.00000	0.9050	0.500	11000.0000	0.7640

INT_CAL - Modified 03/06/2008
PDF File ID: 4601104
Report generated 01/25/2016 08:59

Microbac Laboratories Inc.

INITIAL CALIBRATION DATA

Login Number: L16010678
Analytical Method: 6850
Instrument ID: LCMS1
Initial Calibration Date: 21-JAN-16 18:10
Column ID: F

Analyte	WG554779-05			WG554779-06			WG554779-07		
	CONC	RESP	RF	CONC	RESP	RF	CONC	RESP	RF
Perchlorate	1.00	21600.0000	0.7350	2.00	37500.0000	0.6950	5.00	90700.0000	0.6730

INT_CAL - Modified 03/06/2008
PDF File ID: 4601104
Report generated 01/25/2016 08:59

Microbac Laboratories Inc.

INITIAL CALIBRATION DATA

Login Number: L16010678
Analytical Method: 6850

Instrument ID: LCMS1
Initial Calibration Date: 21-JAN-16 18:10
Column ID: F

Analyte	WG554779-08		
	CONC	RESP	RF
Perchlorate	10.0	173000.000	0.6520

INT_CAL - Modified 03/06/2008
PDF File ID: 4601104
Report generated 01/25/2016 08:59

Microbac Laboratories Inc.
ALTERNATE SOURCE CALIBRATION REPORT

Login Number: L16010678 Run Date: 01/21/2016 Sample ID: WG554779-09
Instrument ID: LCMS1 Run Time: 18:29 Method: 6850
File ID: 1LM.LM32835 Analyst: JWR QC Key: DOD5
ICal Workgroup: WG554779 Cal ID: LCMS1 - 21-JAN-16

Analyte		Expected	Found	Units	RF	%D	UCL	Q
Perchlorate		1.00	0.942	ug/L	0.668	5.80	15	

* Exceeds %D Limit

ALT - Modified 09/06/2007
Version 1.5 PDF File ID: 4601105
Report generated 01/25/2016 08:59

Microbac Laboratories Inc.

CONTINUING CALIBRATION BLANK (CCB)

Login Number: L16010678 Run Date: 01/21/2016 Sample ID: WG554545-01

Instrument ID: LCMS1 Run Time: 18:48 Method: 6850

File ID: 1LM.LM32836 Analyst: JWR Units: ug/L

Workgroup (AAB#): WG554543 Cal ID: LCMS1 - 21-JAN-16

Matrix: WATER QAPP: DOD5

Analytes	MDL	RDL	Concentration	Qualifier
Perchlorate	0.100	0.400	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 4600921
Report generated 01/25/2016 08:59

Microbac Laboratories Inc.

CONTINUING CALIBRATION BLANK (CCB)

Login Number: L16010678 Run Date: 01/21/2016 Sample ID: WG554545-04

Instrument ID: LCMS1 Run Time: 23:32 Method: 6850

File ID: 1LM.LM32851 Analyst: JWR Units: ug/L

Workgroup (AAB#): WG554543 Cal ID: LCMS1 - 21-JAN-16

Matrix: WATER QAPP: DOD5

Analytes	MDL	RDL	Concentration	Qualifier
Perchlorate	0.100	0.400	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 4600921
Report generated 01/25/2016 08:59

Microbac Laboratories Inc.

CONTINUING CALIBRATION BLANK (CCB)

Login Number: L16010678 Run Date: 01/22/2016 Sample ID: WG554545-06

Instrument ID: LCMS1 Run Time: 02:23 Method: 6850

File ID: 1LM.LM32860 Analyst: JWR Units: ug/L

Workgroup (AAB#): WG554543 Cal ID: LCMS1 - 21-JAN-16

Matrix: WATER QAPP: DOD5

Analytes	MDL	RDL	Concentration	Qualifier
Perchlorate	0.100	0.400	0.100	U

U = Result is less than MDL.
F = Result is between MDL and RL.
* = Result is above RL.

CCB - Modified 03/05/2008
PDF File ID: 4600921
Report generated 01/25/2016 08:59

Microbac Laboratories Inc.
CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L16010678 Run Date: 01/21/2016 Sample ID: WG554545-02
Instrument ID: LCMS1 Run Time: 19:07 Method: 6850
File ID: 1LM.LM32837 Analyst: JWR QC Key: DOD5
Workgroup (AAB#): WG554543 Cal ID: LCMS1 - 21-JAN-16
Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Perchlorate		1.00	0.977	ug/L	0.691	2.30	15	

* Exceeds %D Criteria

CCV - Modified 03/05/2008
PDF File ID: 4600920
Report generated 01/25/2016 08:59

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L16010678 Run Date: 01/21/2016 Sample ID: WG554545-03

Instrument ID: LCMS1 Run Time: 22:54 Method: 6850

File ID: 1LM.LM32849 Analyst: JWR QC Key: DOD5

Workgroup (AAB#): WG554543 Cal ID: LCMS1 - 21-JAN-16

Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Perchlorate		1.00	0.979	ug/L	0.692	2.10	15	

* Exceeds %D Criteria

CCV - Modified 03/05/2008

PDF File ID: 4600920

Report generated 01/25/2016 08:59

Microbac Laboratories Inc.

CONTINUING CALIBRATION VERIFICATION (CCV)

Login Number: L16010678 Run Date: 01/22/2016 Sample ID: WG554545-05

Instrument ID: LCMS1 Run Time: 01:45 Method: 6850

File ID: 1LM.LM32858 Analyst: JWR QC Key: DOD5

Workgroup (AAB#): WG554543 Cal ID: LCMS1 - 21-JAN-16

Matrix: WATER

Analyte		Expected	Found	UNITS	RF	%D	UCL	Q
Perchlorate		1.00	0.881	ug/L	0.628	11.9	15	

* Exceeds %D Criteria

CCV - Modified 03/05/2008

PDF File ID: 4600920

Report generated 01/25/2016 08:59

Microbac Laboratories Inc.

QCMRL SAMPLE

Login Number:	L16010678	**Run Date:**	01/21/2016	**Sample ID:**	WG554543-07
Instrument ID:	LCMS1	**Run Time:**	19:26	**Prep Method:**	6850
File ID:	1LM.LM32838	**Analyst:**	JWR	**Method:**	6850
Workgroup (AAB#):	WG554543	**Matrix:**	Water	**Units:**	ug/L
Contract #:		**Cal ID:**	LCMS1-21-JAN-16		

Analytes	Expected	Found	% Rec	Limits	Q
Perchlorate	0.200	0.172	86.0	70 - 130	

QCMRL - Modified 03/06/2007
PDF File ID: 4600919
Report generated 01/25/2016 08:59

Microbac Laboratories Inc.

QCMRL SAMPLE

Login Number:	L16010678	**Run Date:**	01/21/2016	**Sample ID:**	WG554543-08
Instrument ID:	LCMS1	**Run Time:**	23:13	**Prep Method:**	6850
File ID:	1LM.LM32850	**Analyst:**	JWR	**Method:**	6850
Workgroup (AAB#):	WG554543	**Matrix:**	Water	**Units:**	ug/L
Contract #:		**Cal ID:**	LCMS1-21-JAN-16		

Analytes	Expected	Found	% Rec	Limits	Q
Perchlorate	0.200	0.187	93.5	70 - 130	

QCMRL - Modified 03/06/2007
PDF File ID: 4600919
Report generated 01/25/2016 08:59

Microbac Laboratories Inc.

QCMRL SAMPLE

Login Number:	L16010678	**Run Date:**	01/22/2016	**Sample ID:**	WG554543-09
Instrument ID:	LCMS1	**Run Time:**	02:04	**Prep Method:**	6850
File ID:	1LM.LM32859	**Analyst:**	JWR	**Method:**	6850
Workgroup (AAB#):	WG554543	**Matrix:**	Water	**Units:**	ug/L
Contract #:		**Cal ID:**	LCMS1-21-JAN-16		

Analytes	Expected	Found	% Rec	Limits	Q
Perchlorate	0.200	0.145	72.5	70 - 130	

QCMRL - Modified 03/06/2007
PDF File ID: 4600919
Report generated 01/25/2016 08:59

Microbac Laboratories Inc.

INTERNAL STANDARD AREA SUMMARY
(COMPARED TO AVERAGE OF ICAL)

Login Number: L16010678
Instrument ID: LCMS1
Workgroup (AAB#): WG554543

ICAL CCV Number: WG554779-05
CAL ID: LCMS1-21-JAN-16
Matrix: WATER

Sample Number	Dilution	Tag	IS-1
WG554779	NA	NA	141000
Upper Limit	NA	NA	211500
Lower Limit	NA	NA	70500
L16010678-03	1.00	01	129000
L16010678-04	1.00	01	140000
L16010678-05	1.00	01	139000

IS-1 - O18LP

Underline = Response outside limits

INTERNAL_STD_AVG_ICAL - Modified 03/10/2010
PDF File ID: 4600922
Report generated 01/25/2016 08:59

Microbac Laboratories Inc.

INTERNAL STANDARD AREA SUMMARY
(COMPARED TO AVERAGE OF ICAL)

Login Number: L16010678
Instrument ID: LCMS1
Workgroup (AAB#): WG554543

ICAL CCV Number: WG554779-05
CAL ID: LCMS1-21-JAN-16
Matrix: WATER

Sample Number	Dilution	Tag	IS-1
WG554779	NA	NA	141000
Upper Limit	NA	NA	211500
Lower Limit	NA	NA	70500
L16010678-01	1.00	01	132000
L16010678-02	1.00	01	130000
WG554543-02	1.00	01	147000
WG554543-03	1.00	01	136000

IS-1 - O18LP

Underline = Response outside limits

INTERNAL_STD_AVG_ICAL - Modified 03/10/2010
PDF File ID: 4600922
Report generated 01/25/2016 08:59

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16010678	**Prep Method:**	6850	**Samplenum:**	L16010678-01
Instrument:	LCMS1	**Prep Date:**	01/20/2016 14:00	**File ID:**	1LM.LM32852
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG554543	**Analysis Date:**	01/21/2016 23:51	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	155000	64000	2.42	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16010678	**Prep Method:**	6850	**Samplenum:**	L16010678-02
Instrument:	LCMS1	**Prep Date:**	01/20/2016 14:00	**File ID:**	1LM.LM32853
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG554543	**Analysis Date:**	01/22/2016 00:10	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	156000	60700	2.57	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16010678	**Prep Method:**	6850	**Samplenum:**	L16010678-03
Instrument:	LCMS1	**Prep Date:**	01/20/2016 14:00	**File ID:**	1LM.LM32854
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG554543	**Analysis Date:**	01/22/2016 00:29	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	153000	61700	2.48	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16010678	**Prep Method:**	6850	**Samplenum:**	L16010678-04
Instrument:	LCMS1	**Prep Date:**	01/20/2016 14:00	**File ID:**	1LM.LM32855
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG554543	**Analysis Date:**	01/22/2016 00:48	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	438	0.000	0.000	2.3	3.8	*

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16010678	**Prep Method:**	6850	**Samplenum:**	L16010678-05
Instrument:	LCMS1	**Prep Date:**	01/20/2016 14:00	**File ID:**	1LM.LM32856
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG554543	**Analysis Date:**	01/22/2016 01:07	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	5310	1870	2.84	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16010678	**Prep Method:**	6850	**Samplenum:**	WG554543-01
Instrument:	LCMS1	**Prep Date:**	01/20/2016 14:00	**File ID:**	1LM.LM32839
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG554543	**Analysis Date:**	01/21/2016 19:45	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	4790	1670	2.87	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16010678	**Prep Method:**	6850	**Samplenum:**	WG554543-02
Instrument:	LCMS1	**Prep Date:**	01/20/2016 14:00	**File ID:**	1LM.LM32840
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG554543	**Analysis Date:**	01/21/2016 20:04	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	1160	280	4.14	2.3	3.8	*

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16010678	**Prep Method:**	6850	**Samplenum:**	WG554543-03
Instrument:	LCMS1	**Prep Date:**	01/20/2016 14:00	**File ID:**	1LM.LM32841
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG554543	**Analysis Date:**	01/21/2016 20:23	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	4760	1940	2.45	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16010678	**Prep Method:**	6850	**Samplenum:**	WG554543-07
Instrument:	LCMS1	**Prep Date:**	01/20/2016 14:00	**File ID:**	1LM.LM32838
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG554543	**Analysis Date:**	01/21/2016 19:26	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	4370	1870	2.34	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16010678	**Prep Method:**	6850	**Samplenum:**	WG554543-08
Instrument:	LCMS1	**Prep Date:**	01/20/2016 14:00	**File ID:**	1LM.LM32850
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG554543	**Analysis Date:**	01/21/2016 23:13	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	4730	1970	2.40	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16010678	**Prep Method:**	6850	**Samplenum:**	WG554543-09
Instrument:	LCMS1	**Prep Date:**	01/20/2016 14:00	**File ID:**	1LM.LM32859
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG554543	**Analysis Date:**	01/22/2016 02:04	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	3810	1660	2.30	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16010678	**Prep Method:**		**Samplenum:**	WG554545-01
Instrument:	LCMS1	**Prep Date:**		**File ID:**	1LM.LM32836
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG554543	**Analysis Date:**	01/21/2016 18:48	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	1430	124	11.5	2.3	3.8	*

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16010678	**Prep Method:**		**Samplenum:**	WG554545-02
Instrument:	LCMS1	**Prep Date:**		**File ID:**	1LM.LM32837
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG554543	**Analysis Date:**	01/21/2016 19:07	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	19000	8020	2.37	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16010678	**Prep Method:**		**Samplenum:**	WG554545-03
Instrument:	LCMS1	**Prep Date:**		**File ID:**	1LM.LM32849
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG554543	**Analysis Date:**	01/21/2016 22:54	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	19900	7650	2.60	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16010678	**Prep Method:**		**Samplenum:**	WG554545-04
Instrument:	LCMS1	**Prep Date:**		**File ID:**	1LM.LM32851
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG554543	**Analysis Date:**	01/21/2016 23:32	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	925	318	2.91	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16010678	**Prep Method:**		**Samplenum:**	WG554545-05
Instrument:	LCMS1	**Prep Date:**		**File ID:**	1LM.LM32858
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG554543	**Analysis Date:**	01/22/2016 01:45	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	17100	6670	2.56	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16010678	**Prep Method:**		**Samplenum:**	WG554545-06
Instrument:	LCMS1	**Prep Date:**		**File ID:**	1LM.LM32860
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG554543	**Analysis Date:**	01/22/2016 02:23	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	963	274	3.51	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16010678	**Prep Method:**		**Samplenum:**	WG554779-02
Instrument:	LCMS1	**Prep Date:**		**File ID:**	1LM.LM32828
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG554543	**Analysis Date:**	01/21/2016 16:17	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	3320	1300	2.55	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16010678	**Prep Method:**		**Samplenum:**	WG554779-03
Instrument:	LCMS1	**Prep Date:**		**File ID:**	1LM.LM32829
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG554543	**Analysis Date:**	01/21/2016 16:36	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	5200	1920	2.71	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16010678	**Prep Method:**		**Samplenum:**	WG554779-04
Instrument:	LCMS1	**Prep Date:**		**File ID:**	1LM.LM32830
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG554543	**Analysis Date:**	01/21/2016 16:55	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	11000	3930	2.80	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16010678	**Prep Method:**		**Samplenum:**	WG554779-05
Instrument:	LCMS1	**Prep Date:**		**File ID:**	1LM.LM32831
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG554543	**Analysis Date:**	01/21/2016 17:14	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	21600	8400	2.57	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16010678	**Prep Method:**		**Samplenum:**	WG554779-06
Instrument:	LCMS1	**Prep Date:**		**File ID:**	1LM.LM32832
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG554543	**Analysis Date:**	01/21/2016 17:32	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	37500	14200	2.64	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16010678	**Prep Method:**		**Samplenum:**	WG554779-07
Instrument:	LCMS1	**Prep Date:**		**File ID:**	1LM.LM32833
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG554543	**Analysis Date:**	01/21/2016 17:51	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	90700	36500	2.48	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16010678	**Prep Method:**		**Samplenum:**	WG554779-08
Instrument:	LCMS1	**Prep Date:**		**File ID:**	1LM.LM32834
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG554543	**Analysis Date:**	01/21/2016 18:10	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	173000	69200	2.50	2.3	3.8	

Perchlorate Ion Ratios

Microbac Laboratories Inc.

Login #:	L16010678	**Prep Method:**		**Samplenum:**	WG554779-09
Instrument:	LCMS1	**Prep Date:**		**File ID:**	1LM.LM32835
Analyst:	JWR	**Anal Method:**	6850	**Matrix:**	Water
Worknum:	WG554543	**Analysis Date:**	01/21/2016 18:29	**Units:**	ug/L

Analyte	Res #1	Res #2	Ratio	Lower	Upper	Q
PERCHLORATE	19300	7990	2.42	2.3	3.8	

2.1.1.3 Sample Data

Data File	LM32852.wiff	**Result Table**	012116_JWR.rdb
Acquisition Date	1/21/2016 11:51:45 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

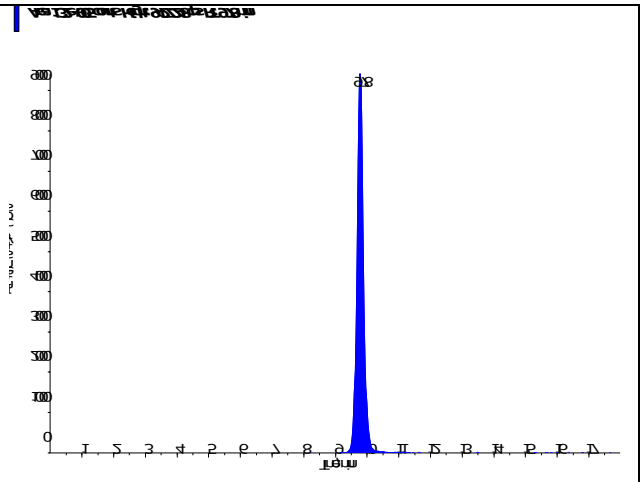
Sample Name	L16010678-01 RS	**Injection Vial**	20.00
Data File	LM32852.wiff	**Injection Volume**	10.00
Acquisition Date	1/21/2016 11:51:45 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Unknown
Instrument Name	API 4000	**Result Table**	012116_JWR.rdb
Sample ID	WG554543-04	**Dilution Factor**	1.00
Sample Comment	1,1 (Hist)	**Weight to Volume**	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	1.320e+05	9.78	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	1.550e+05	9.79	N/A	8.85
Perchlorate conf	6.400e+04	9.78	N/A	9.19

O18LP (Internal Standard)

RT (Exp. RT): 9.78(10.00) min
Concentration: 5.00 ug/L
Sample Type: (Unknown)



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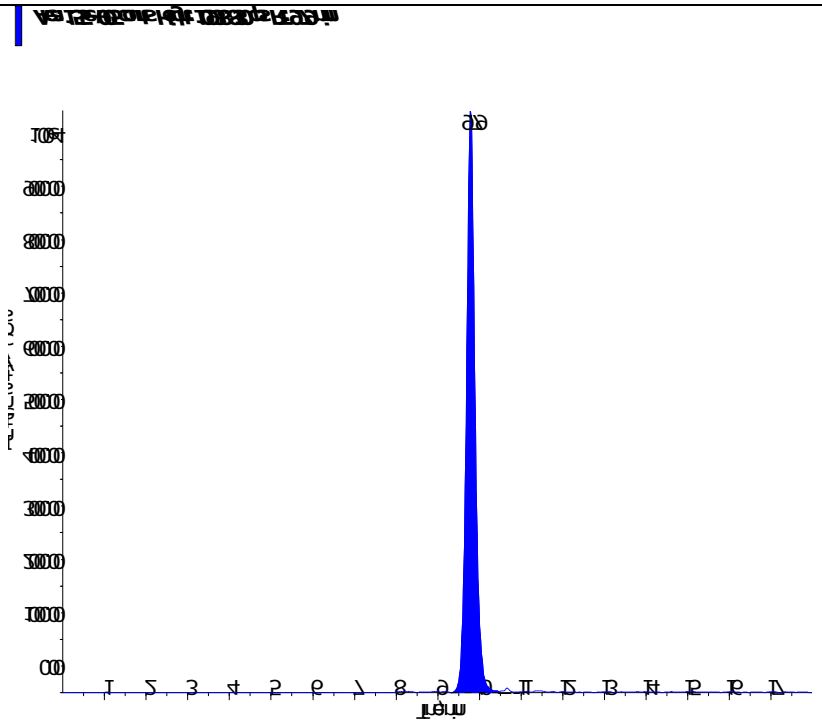
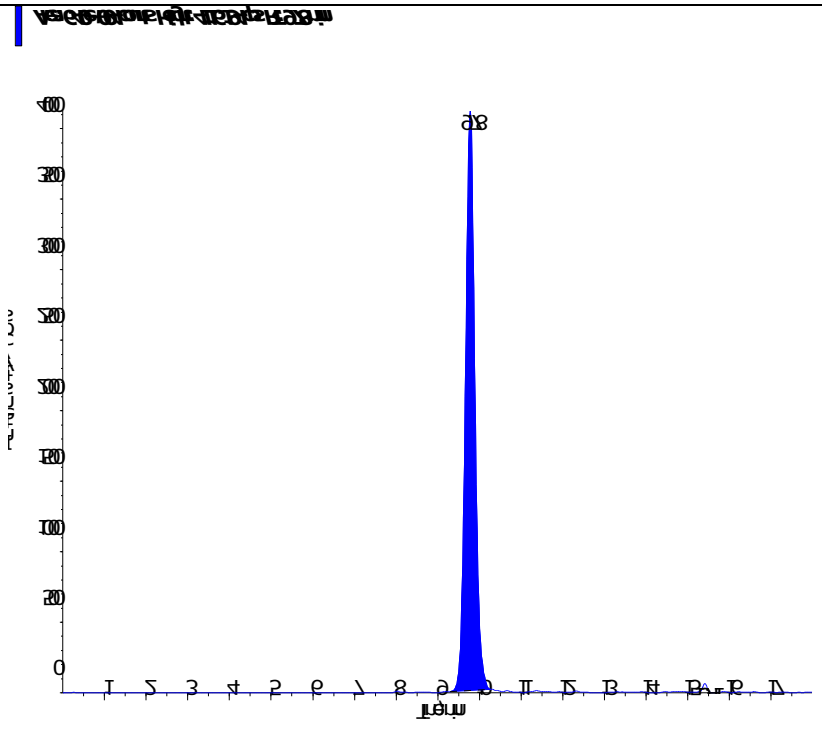
Perchlorate (98.8/83.3 amu) RT (Exp. RT): 9.79 (10.00) min Calculated conc: 8.85 ng/ml Area Ratio: 1.171 Sample Type: (Unknown)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 9.78 (10.00) min Calculated conc: 9.19 ng/ml Area Ratio: 0.483 Sample Type: (Unknown)	

Data File	LM32853.wiff	**Result Table**	012116_JWR.rdb
Acquisition Date	1/22/2016 12:10:45 AM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

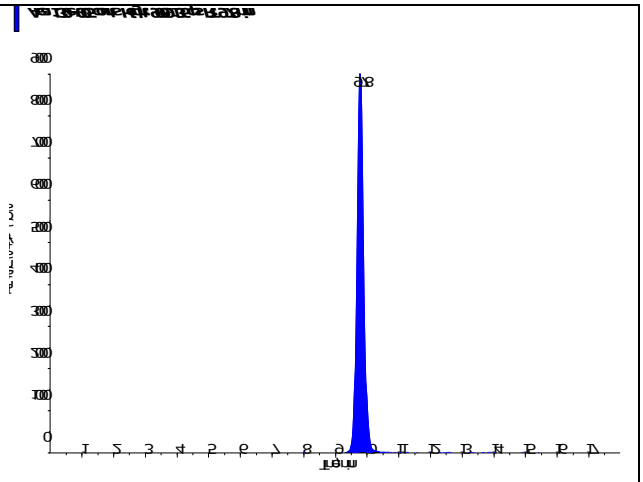
Sample Name	L16010678-02 MS	**Injection Vial**	21.00
Data File	LM32853.wiff	**Injection Volume**	10.00
Acquisition Date	1/22/2016 12:10:45 AM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Unknown
Instrument Name	API 4000	**Result Table**	012116_JWR.rdb
Sample ID	WG554543-05	**Dilution Factor**	1.00
Sample Comment	1,1 STD72685	**Weight to Volume**	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	1.300e+05	9.78	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	1.560e+05	9.80	N/A	9.11
Perchlorate conf	6.070e+04	9.78	N/A	8.90

O18LP (Internal Standard)

RT (Exp. RT): 9.78(10.00) min
Concentration: 5.00 ug/L
Sample Type: (Unknown)



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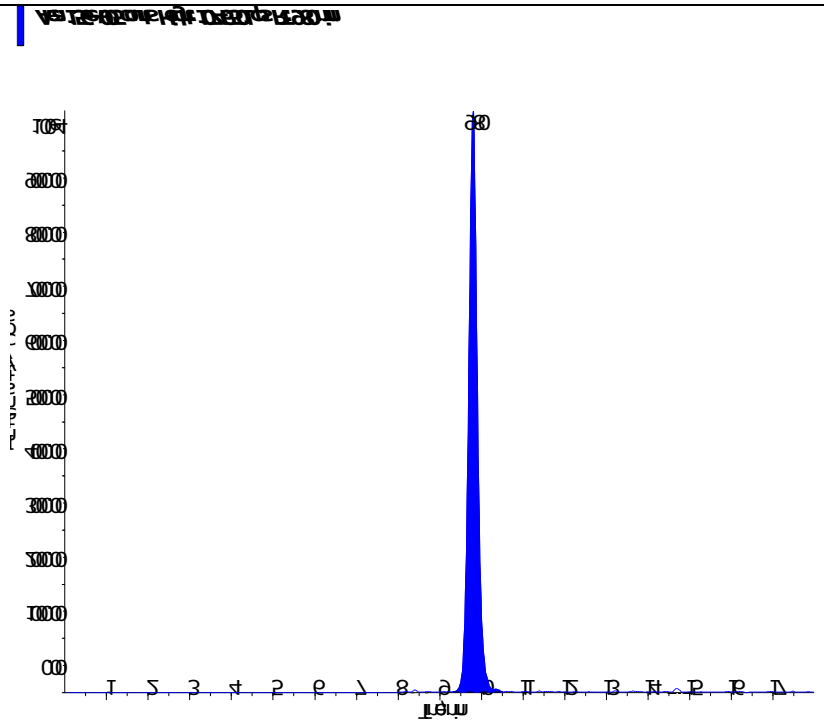
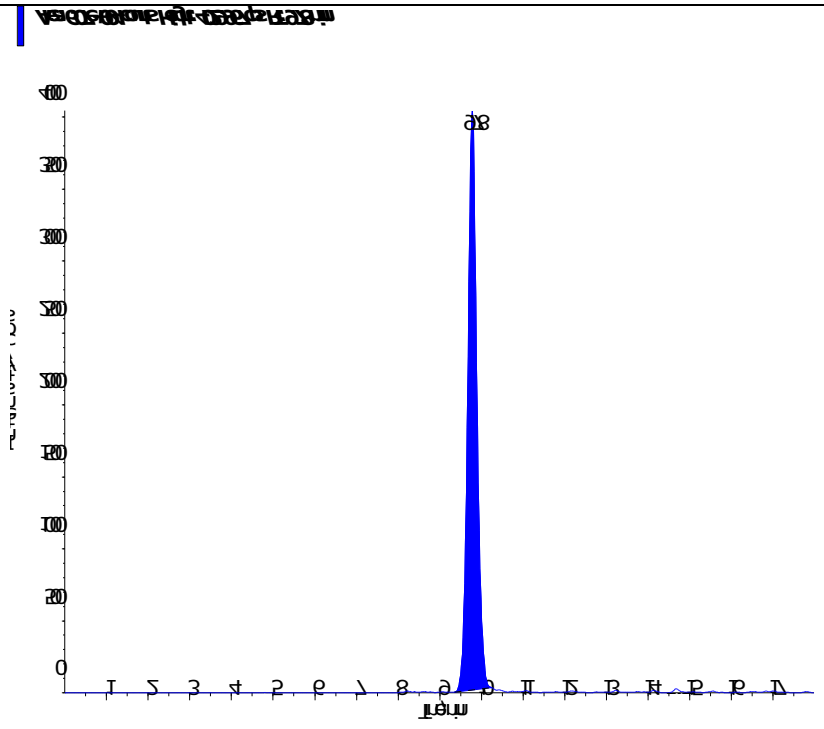
Perchlorate (98.8/83.3 amu) RT (Exp. RT): 9.80 (10.00) min Calculated conc: 9.11 ng/ml Area Ratio: 1.205 Sample Type: (Unknown)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 9.78 (10.00) min Calculated conc: 8.90 ng/ml Area Ratio: 0.468 Sample Type: (Unknown)	

Data File	LM32854.wiff	**Result Table**	012116_JWR.rdb
Acquisition Date	1/22/2016 12:29:40 AM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

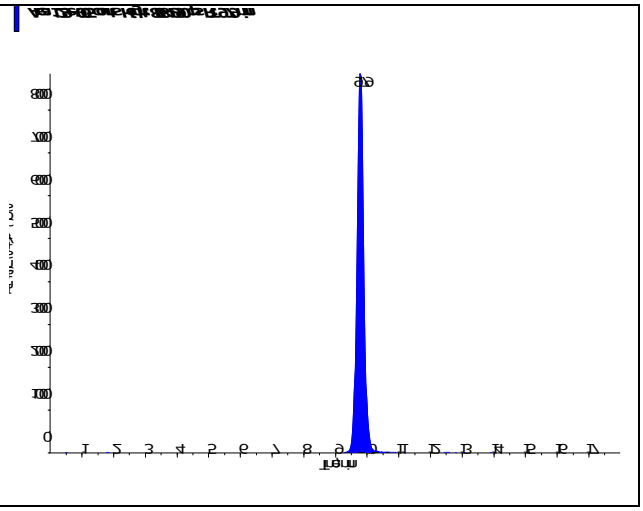
Sample Name	L16010678-03 MSD	**Injection Vial**	22.00
Data File	LM32854.wiff	**Injection Volume**	10.00
Acquisition Date	1/22/2016 12:29:40 AM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Unknown
Instrument Name	API 4000	**Result Table**	012116_JWR.rdb
Sample ID	WG554543-06	**Dilution Factor**	1.00
Sample Comment	1,1 STD72685	**Weight to Volume**	0.00

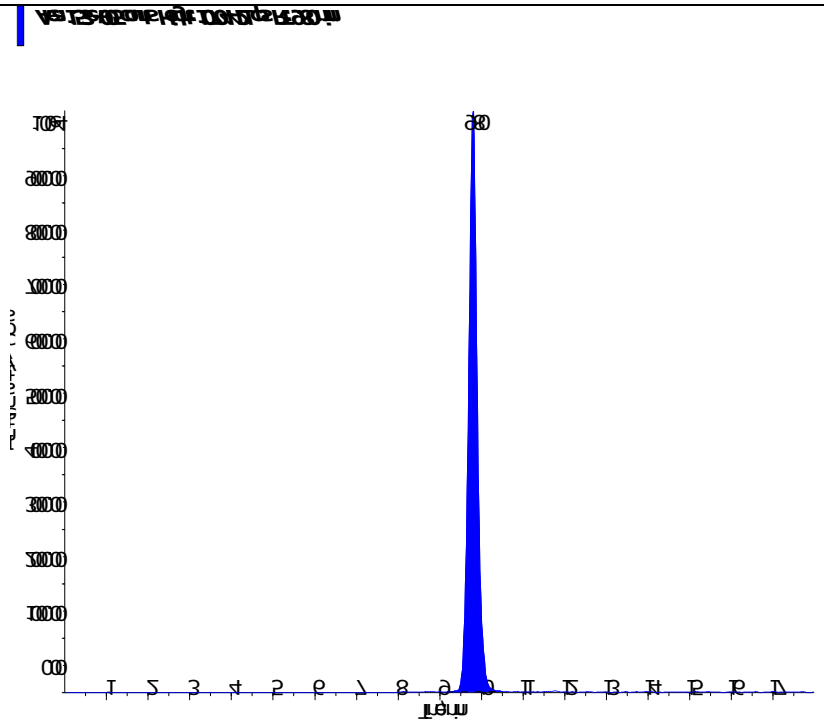
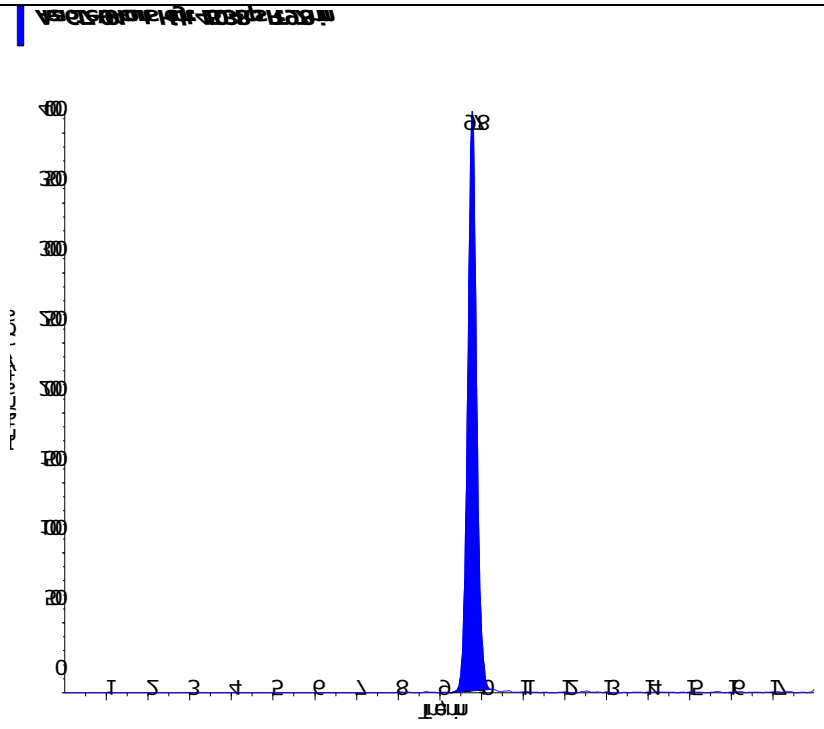
Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	1.290e+05	9.79	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	1.530e+05	9.80	N/A	8.99
Perchlorate conf	6.170e+04	9.78	N/A	9.12

O18LP (Internal Standard)

RT (Exp. RT): 9.79(10.00) min
Concentration: 5.00 ug/L
Sample Type: (Unknown)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): 9.80 (10.00) min Calculated conc: 8.99 ng/ml Area Ratio: 1.189 Sample Type: (Unknown)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 9.78 (10.00) min Calculated conc: 9.12 ng/ml Area Ratio: 0.48 Sample Type: (Unknown)	

Data File	LM32855.wiff	**Result Table**	012116_JWR.rdb
Acquisition Date	1/22/2016 12:48:37 AM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

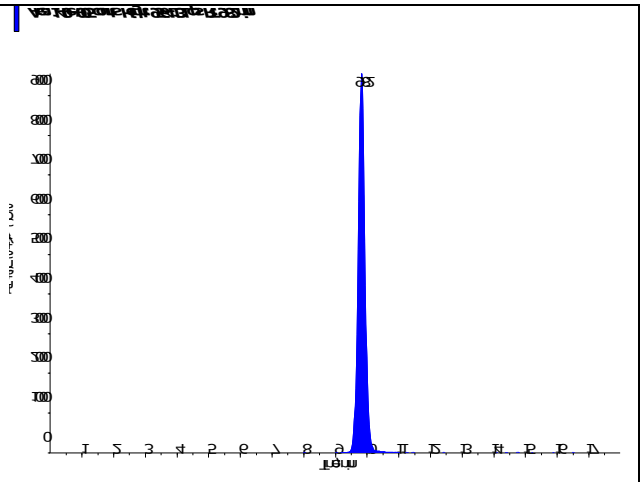
Sample Name	L16010678-04	**Injection Vial**	23.00
Data File	LM32855.wiff	**Injection Volume**	10.00
Acquisition Date	1/22/2016 12:48:37 AM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Unknown
Instrument Name	API 4000	**Result Table**	012116_JWR.rdb
Sample ID	L16010678-04	**Dilution Factor**	1.00
Sample Comment	1,1 (Hist)	**Weight to Volume**	0.00

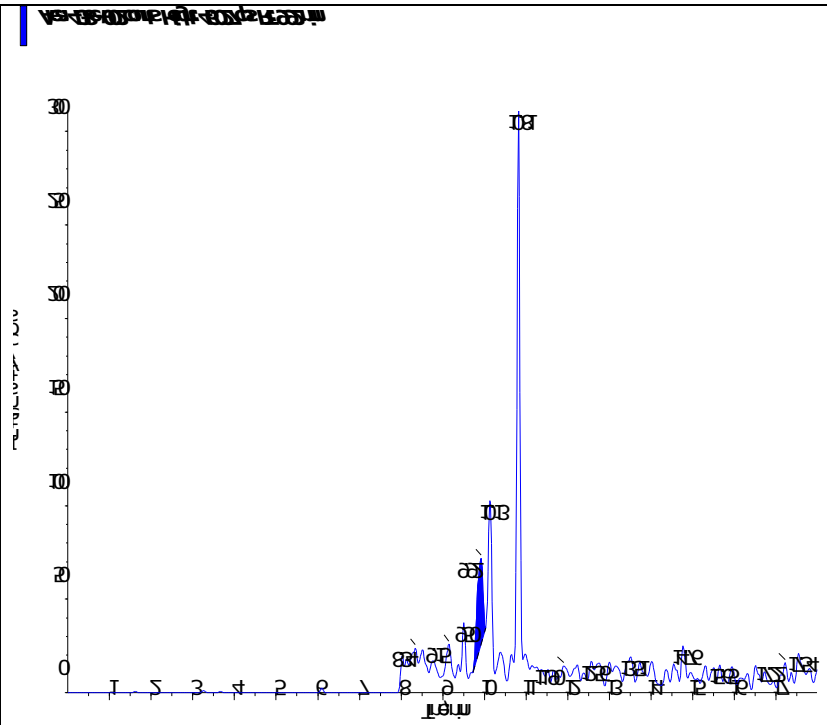
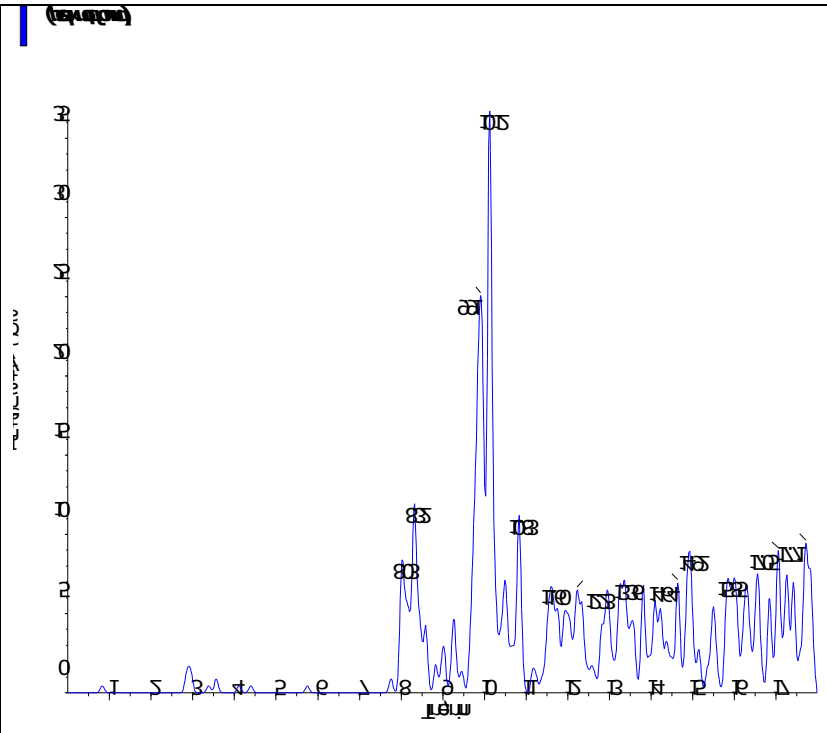
Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	1.400e+05	9.82	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	4.380e+02	9.92	N/A	< 0
Perchlorate conf	0.000e+00	0.00	N/A	No Peak

O18LP (Internal Standard)

RT (Exp. RT): 9.82(10.00) min
Concentration: 5.00 ug/L
Sample Type: (Unknown)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): 9.92 (10.00) min Calculated conc: < 0 ng/ml Area Ratio: 0.003 Sample Type: (Unknown)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 0.00 (10.00) min Calculated conc: No Peak ng/ml Area Ratio: 0.00 Sample Type: (Unknown)	

Data File	LM32856.wiff	**Result Table**	012116_JWR.rdb
Acquisition Date	1/22/2016 1:07:32 AM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

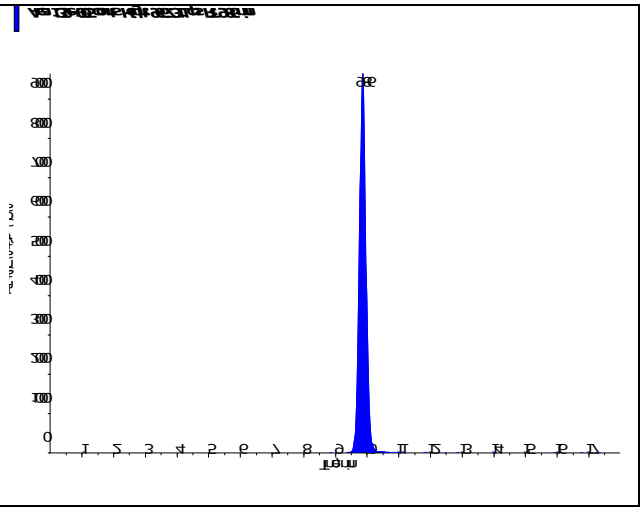
Sample Name	L16010678-05	**Injection Vial**	24.00
Data File	LM32856.wiff	**Injection Volume**	10.00
Acquisition Date	1/22/2016 1:07:32 AM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Unknown
Instrument Name	API 4000	**Result Table**	012116_JWR.rdb
Sample ID	L16010678-05	**Dilution Factor**	1.00
Sample Comment	1,1 (Hist)	**Weight to Volume**	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	1.390e+05	9.86	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	5.310e+03	9.86	N/A	0.216
Perchlorate conf	1.870e+03	9.87	N/A	0.198

O18LP (Internal Standard)

RT (Exp. RT): 9.86(10.00) min
Concentration: 5.00 ug/L
Sample Type: (Unknown)



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Perchlorate (98.8/83.3 amu) RT (Exp. RT): Calculated conc: Area Ratio: Sample Type:	9.86 (10.00) min 0.216 ng/ml 0.038 (Unknown)
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): Calculated conc: Area Ratio: Sample Type:	9.87 (10.00) min 0.198 ng/ml 0.013 (Unknown)

2.1.1.4 Standards Data

Data File	LM32827.wiff	**Result Table**	012116_JWR.rdb
Acquisition Date	1/21/2016 3:58:17 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

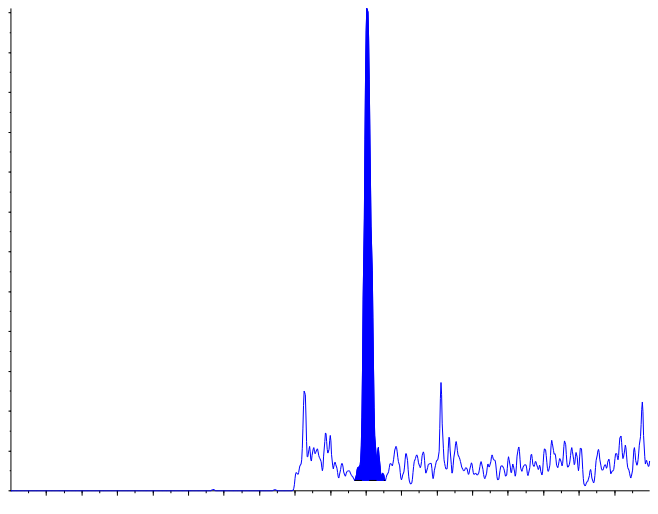
Sample Name	WG554779-01 CCB	**Injection Vial**	1.00
Data File	LM32827.wiff	**Injection Volume**	10.00
Acquisition Date	1/21/2016 3:58:17 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Unknown
Instrument Name	API 4000	**Result Table**	012116_JWR.rdb
Sample ID	WG554779-01	**Dilution Factor**	1.00
Sample Comment	11.00	**Weight to Volume**	0.00

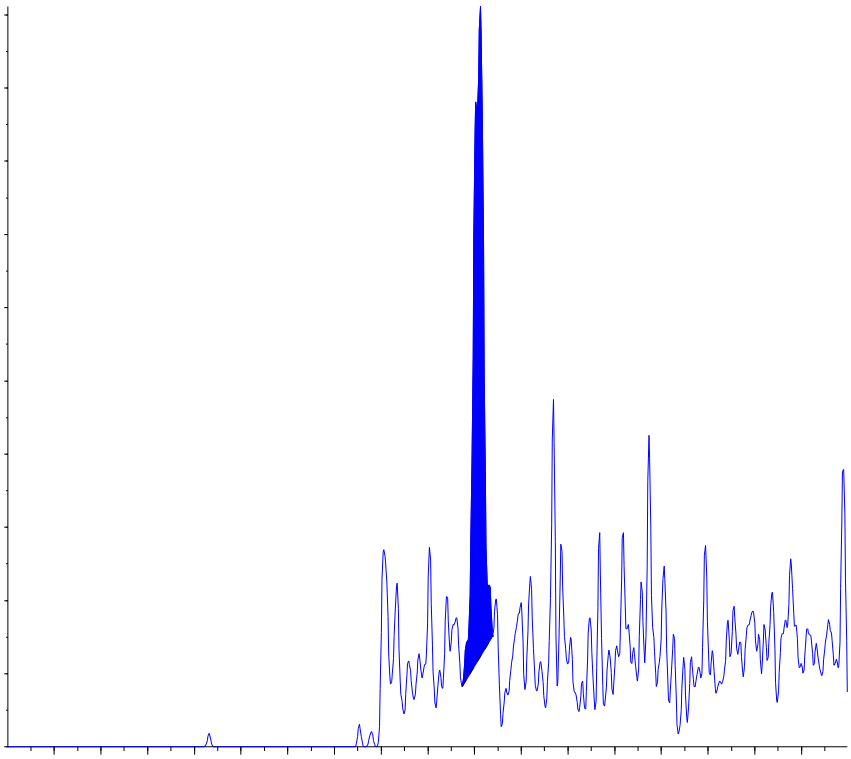
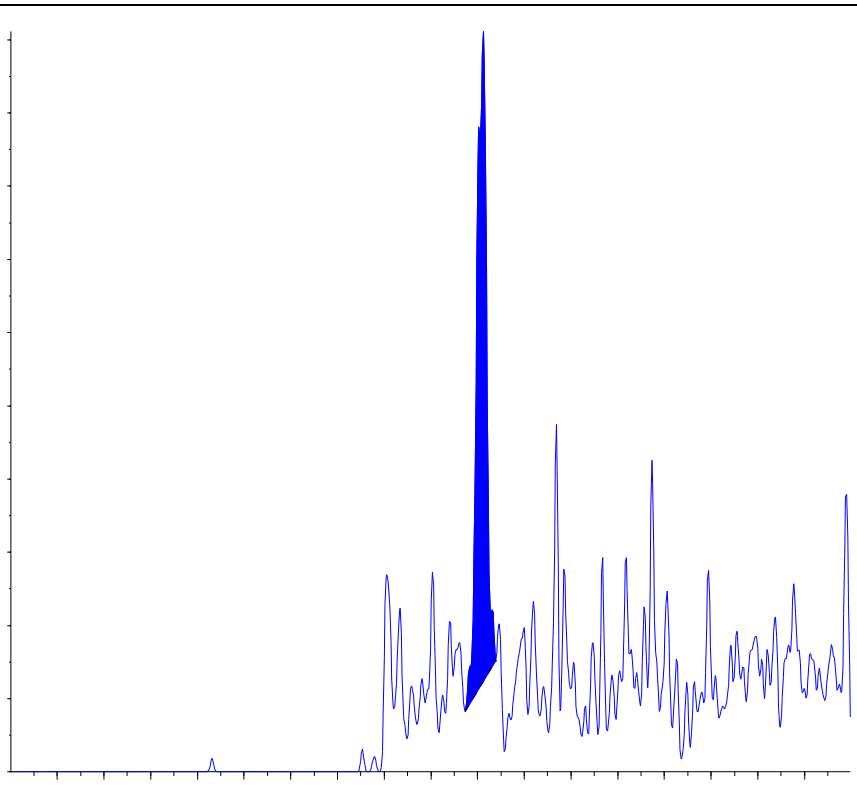
Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	1.450e+05	10.00	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	1.300e+03	10.10	N/A	< 0
Perchlorate conf	2.940e+02	10.10	N/A	< 0

O18LP (Internal Standard)

RT (Exp. RT): 10.00(10.00) min
Concentration: 5.00 ug/L
Sample Type: (Unknown)



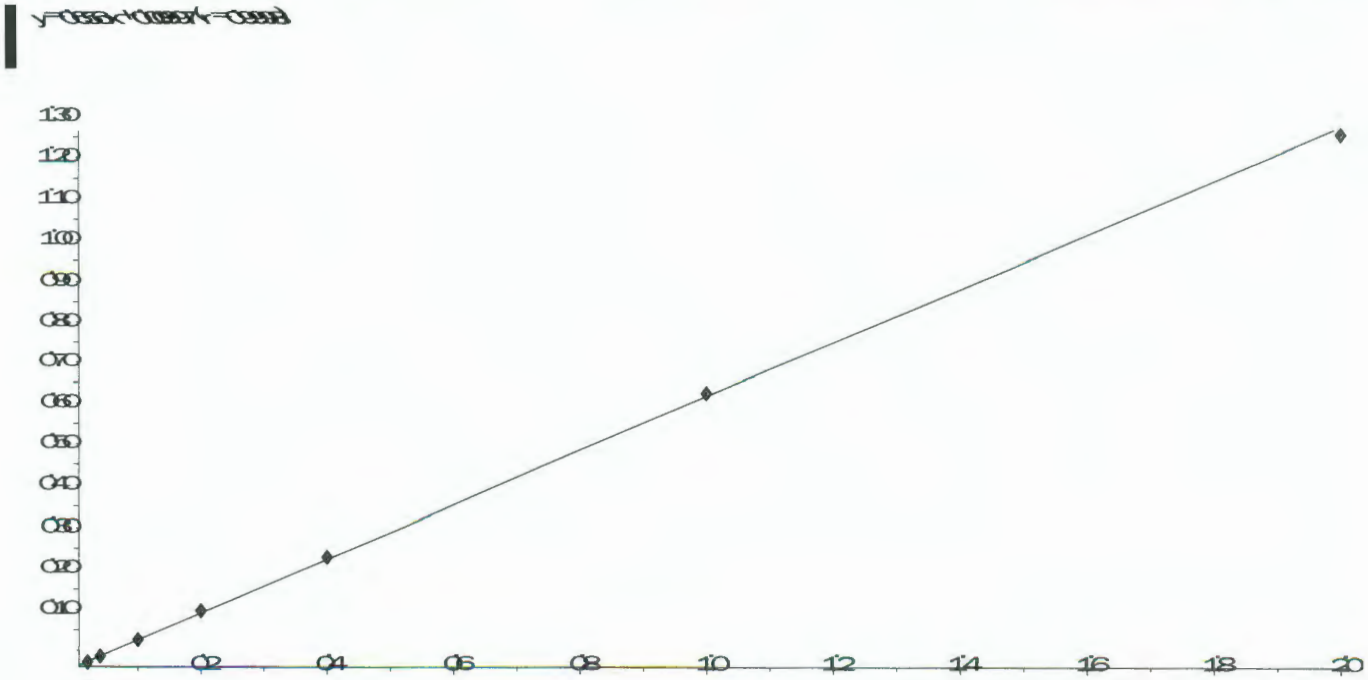
Perchlorate (98.8/83.3 amu) RT (Exp. RT): 10.10 (10.00) min Calculated conc: < 0 ng/ml Area Ratio: 0.009 Sample Type: (Unknown)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 10.10 (10.00) min Calculated conc: < 0 ng/ml Area Ratio: 0.002 Sample Type: (Unknown)	

Analyte Name: **Perchlorate**
Internal Standard: O18LP

Data File	LM32827.wiff	**Result Table**	012116_JWR.rdb
Acquisition Date	1/21/2016 3:58:17 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

Regression Equation: y = 0.656 x + 0.00997 (r = 0.9998)

Expected Concentration	Number of Values	Mean Calculated Concentration	% Accuracy	Std. Deviation	%CV
0.10	1	0.09	92.4	N/A	N/A
0.20	1	0.20	100.0	N/A	N/A
0.50	1	0.51	101.3	N/A	N/A
1.00	1	1.04	104.4	N/A	N/A
2.00	1	2.04	102.2	N/A	N/A
5.00	1	5.05	101.0	N/A	N/A
10.00	1	9.86	98.6	N/A	N/A

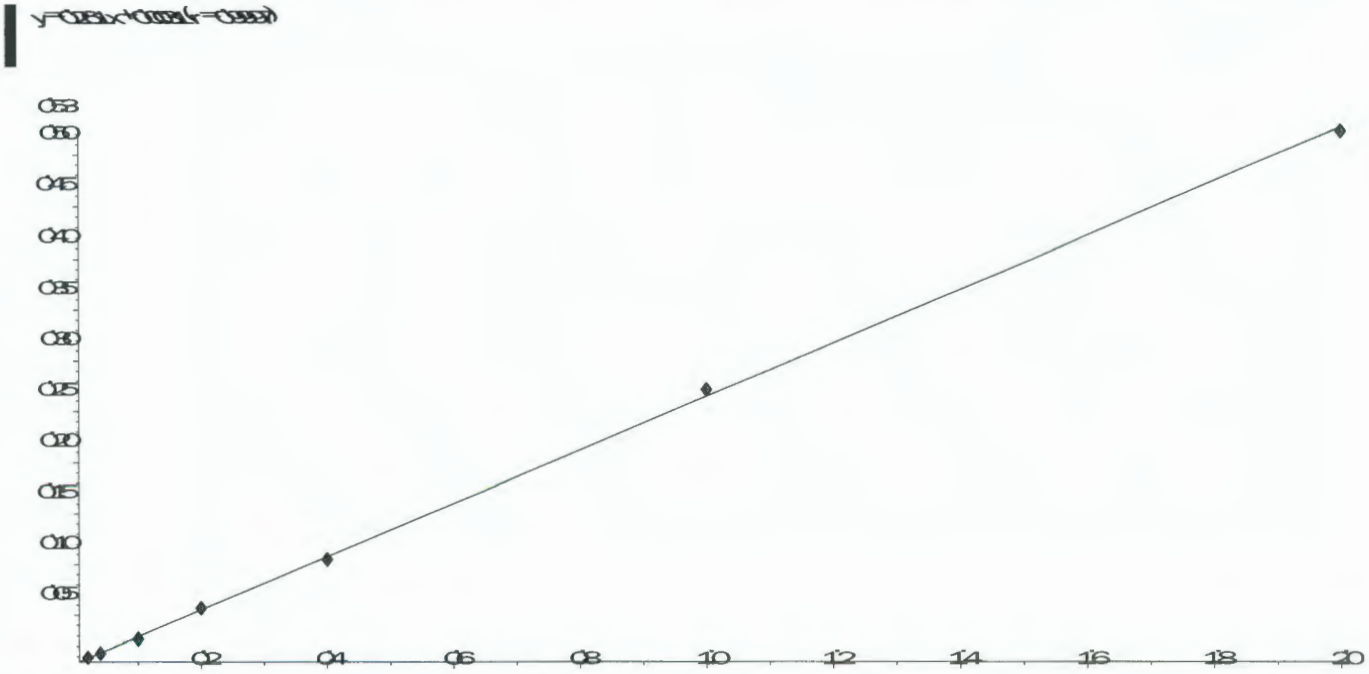


Analyte Name: **Perchlorate conf**
Internal Standard: O18LP

Data File	LM32827.wiff	**Result Table**	012116_JWR.rdb
Acquisition Date	1/21/2016 3:58:17 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

Regression Equation: y = 0.261 x + 0.0031 (r = 0.9997)

Expected Concentration	Number of Values	Mean Calculated Concentration	% Accuracy	Std. Deviation	%CV
0.10	1	0.11	106.5	N/A	N/A
0.20	1	0.20	98.2	N/A	N/A
0.50	1	0.46	92.5	N/A	N/A
1.00	1	1.04	103.6	N/A	N/A
2.00	1	1.95	97.6	N/A	N/A
5.00	1	5.12	102.4	N/A	N/A
10.00	1	9.93	99.3	N/A	N/A



Data File	LM32828.wiff	**Result Table**	012116_JWR.rdb
Acquisition Date	1/21/2016 4:17:14 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

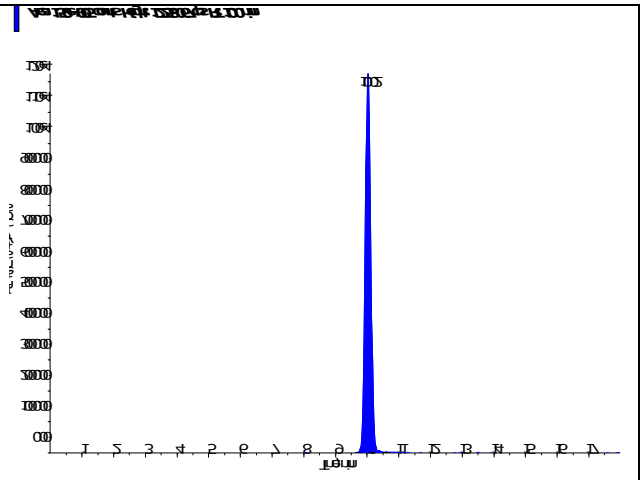
Sample Name	WG554779-02 STD (0.1 ug/L)	**Injection Vial**	2.00
Data File	LM32828.wiff	**Injection Volume**	10.00
Acquisition Date	1/21/2016 4:17:14 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Standard
Instrument Name	API 4000	**Result Table**	012116_JWR.rdb
Sample ID	WG554779-02	**Dilution Factor**	1.00
Sample Comment	1,1 STD72683	**Weight to Volume**	0.00

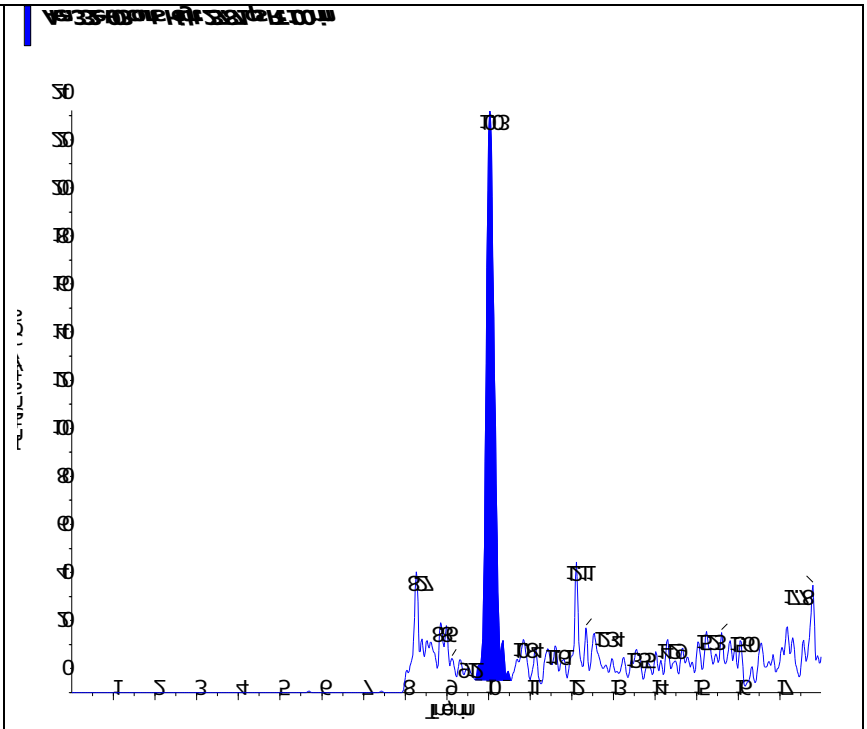
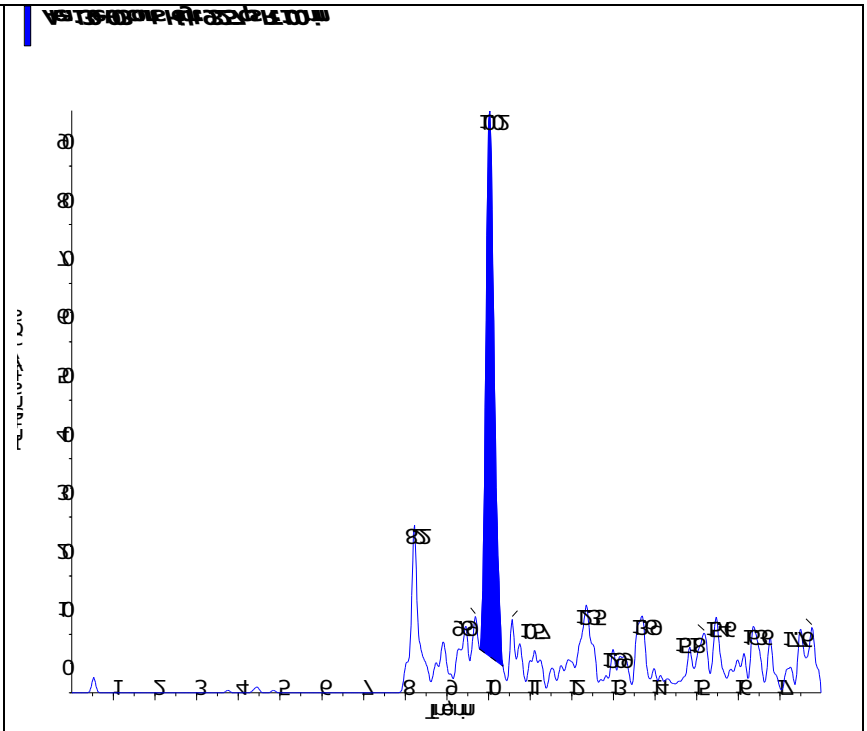
Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	1.500e+05	10.00	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	3.320e+03	10.00	0.10	0.0924
Perchlorate conf	1.300e+03	10.00	0.10	0.106

O18LP (Internal Standard)

RT (Exp. RT): 10.00(10.00) min
Concentration: 5.00 ug/L
Sample Type: (Standard)



Perchlorate (98.8/83.3 amu)	
RT (Exp. RT): 10.00 (10.00) min Calculated conc: 0.0924 ng/ml Area Ratio: 0.022 Sample Type: (Standard)	
Perchlorate conf (100.8/85.2 amu)	
RT (Exp. RT): 10.00 (10.00) min Calculated conc: 0.106 ng/ml Area Ratio: 0.009 Sample Type: (Standard)	

Data File	LM32829.wiff	**Result Table**	012116_JWR.rdb
Acquisition Date	1/21/2016 4:36:11 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

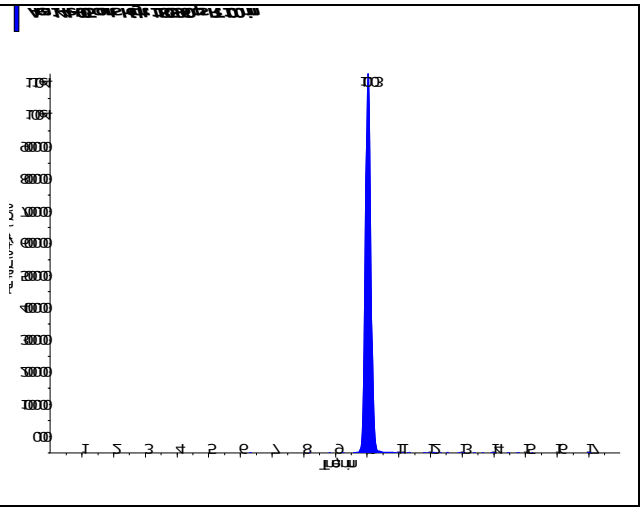
Sample Name	WG554779-03 STD (0.2 ug/L)	**Injection Vial**	3.00
Data File	LM32829.wiff	**Injection Volume**	10.00
Acquisition Date	1/21/2016 4:36:11 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Standard
Instrument Name	API 4000	**Result Table**	012116_JWR.rdb
Sample ID	WG554779-03	**Dilution Factor**	1.00
Sample Comment	1,1 STD72683	**Weight to Volume**	0.00

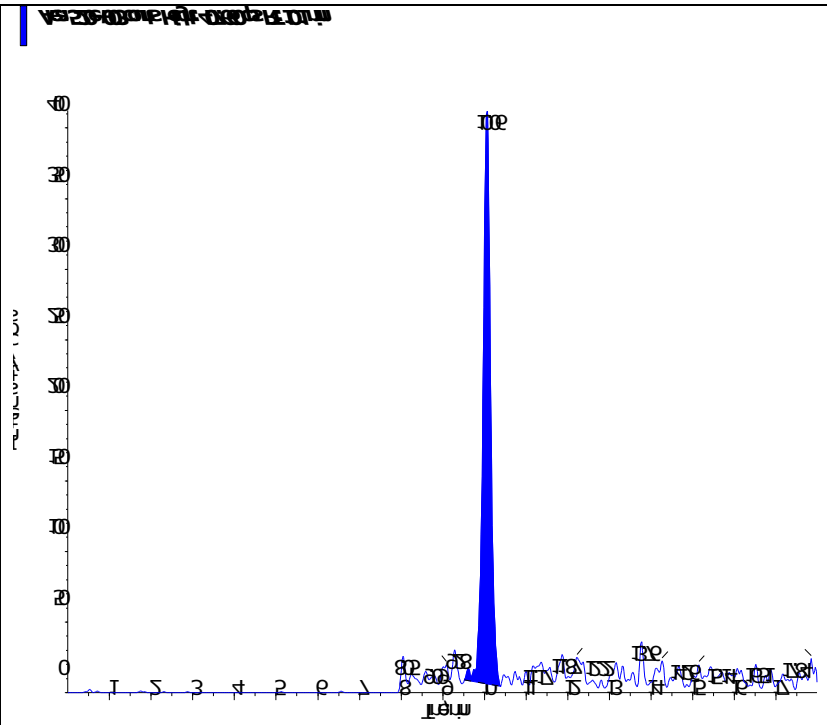
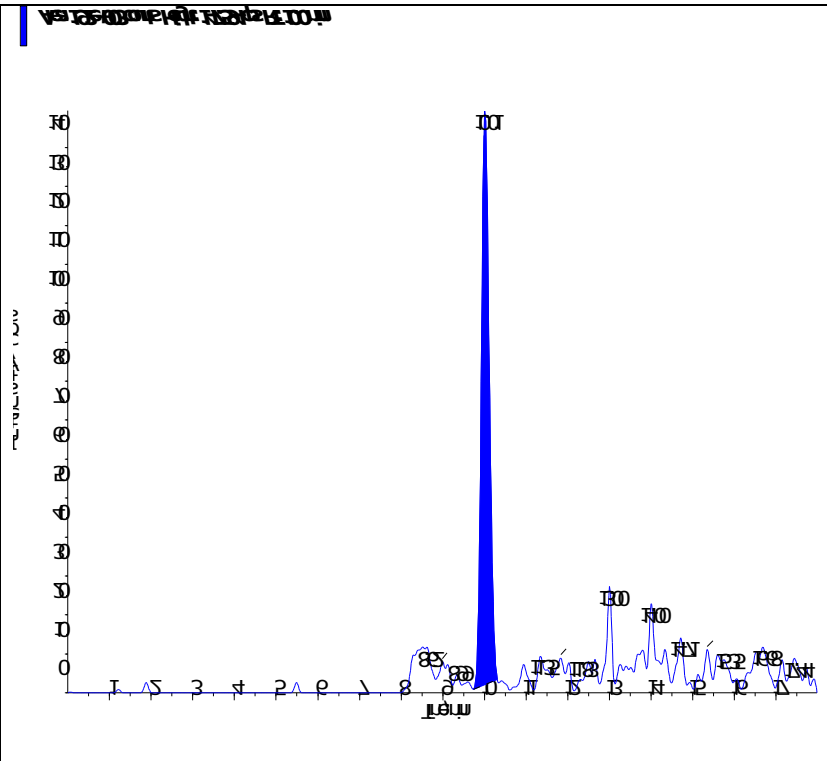
Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	1.440e+05	10.00	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	5.200e+03	10.10	0.20	0.20
Perchlorate conf	1.920e+03	10.00	0.20	0.196

O18LP (Internal Standard)

RT (Exp. RT): 10.00(10.00) min
Concentration: 5.00 ug/L
Sample Type: (Standard)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): 10.10 (10.00) min Calculated conc: 0.20 ng/ml Area Ratio: 0.036 Sample Type: (Standard)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 10.00 (10.00) min Calculated conc: 0.196 ng/ml Area Ratio: 0.013 Sample Type: (Standard)	

Data File	LM32830.wiff	**Result Table**	012116_JWR.rdb
Acquisition Date	1/21/2016 4:55:05 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

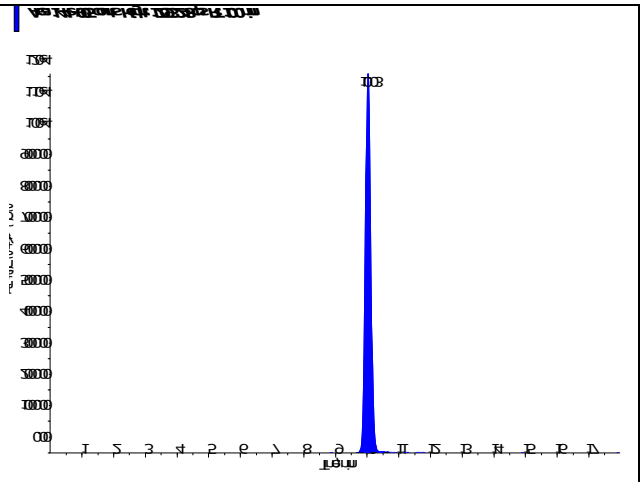
Sample Name	WG554779-04 STD (0.5 ug/L)	**Injection Vial**	4.00
Data File	LM32830.wiff	**Injection Volume**	10.00
Acquisition Date	1/21/2016 4:55:05 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Standard
Instrument Name	API 4000	**Result Table**	012116_JWR.rdb
Sample ID	WG554779-04	**Dilution Factor**	1.00
Sample Comment	1,1 STD72683	**Weight to Volume**	0.00

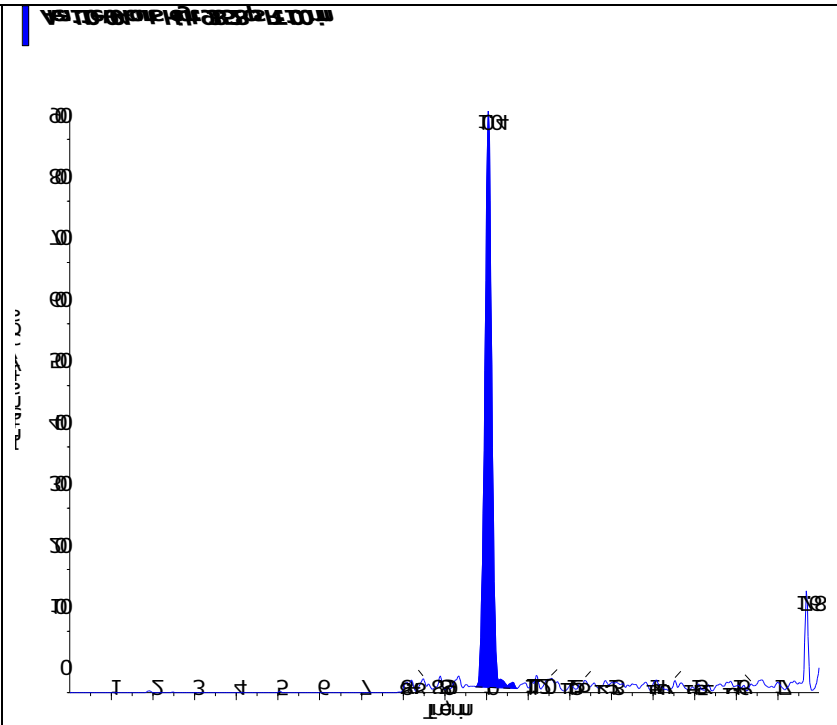
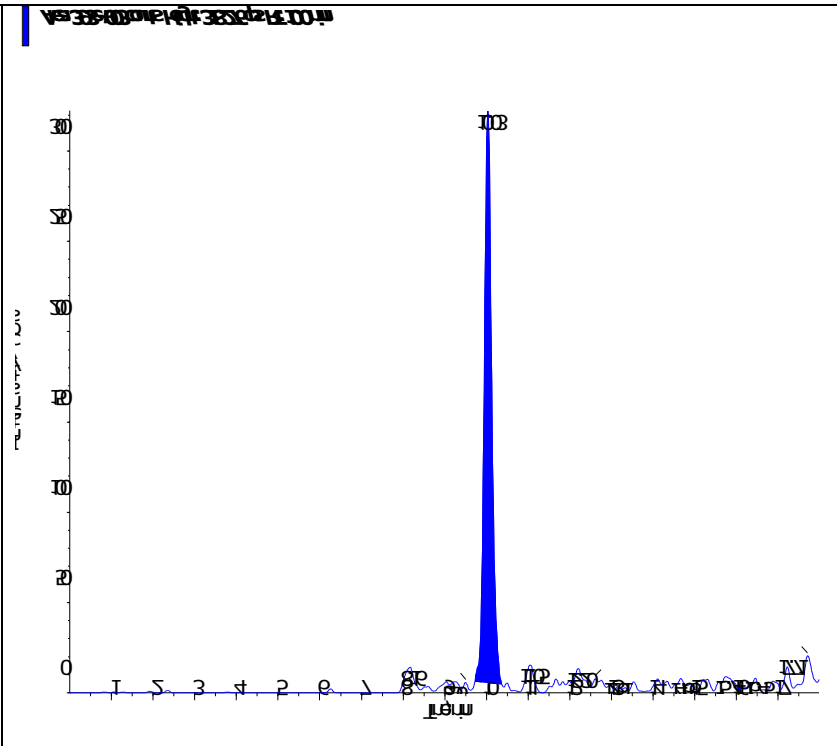
Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	1.440e+05	10.00	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	1.100e+04	10.00	0.50	0.507
Perchlorate conf	3.930e+03	10.00	0.50	0.462

O18LP (Internal Standard)

RT (Exp. RT): 10.00(10.00) min
Concentration: 5.00 ug/L
Sample Type: (Standard)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): 10.00 (10.00) min Calculated conc: 0.507 ng/ml Area Ratio: 0.076 Sample Type: (Standard)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 10.00 (10.00) min Calculated conc: 0.462 ng/ml Area Ratio: 0.027 Sample Type: (Standard)	

Data File	LM32831.wiff	**Result Table**	012116_JWR.rdb
Acquisition Date	1/21/2016 5:14:01 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

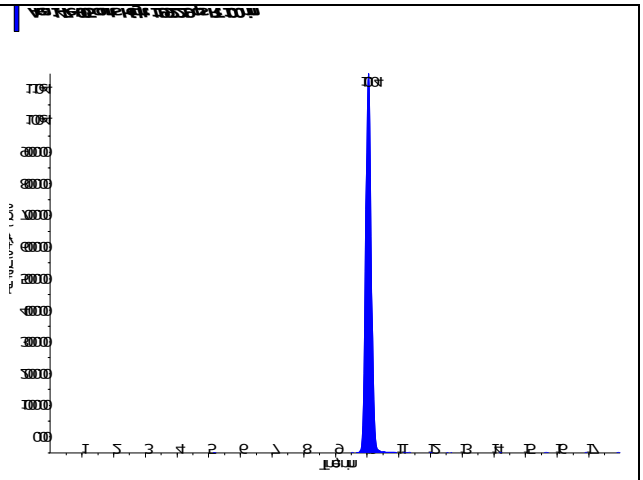
Sample Name	WG554779-05 STD (1.0 ug/L)	**Injection Vial**	5.00
Data File	LM32831.wiff	**Injection Volume**	10.00
Acquisition Date	1/21/2016 5:14:01 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Standard
Instrument Name	API 4000	**Result Table**	012116_JWR.rdb
Sample ID	WG554779-05	**Dilution Factor**	1.00
Sample Comment	1,1 STD72683	**Weight to Volume**	0.00

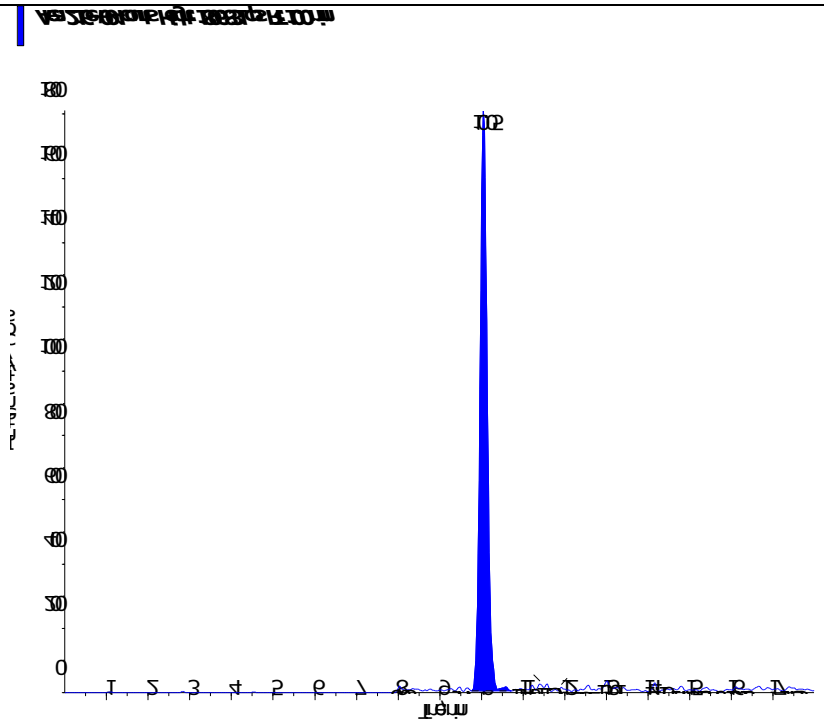
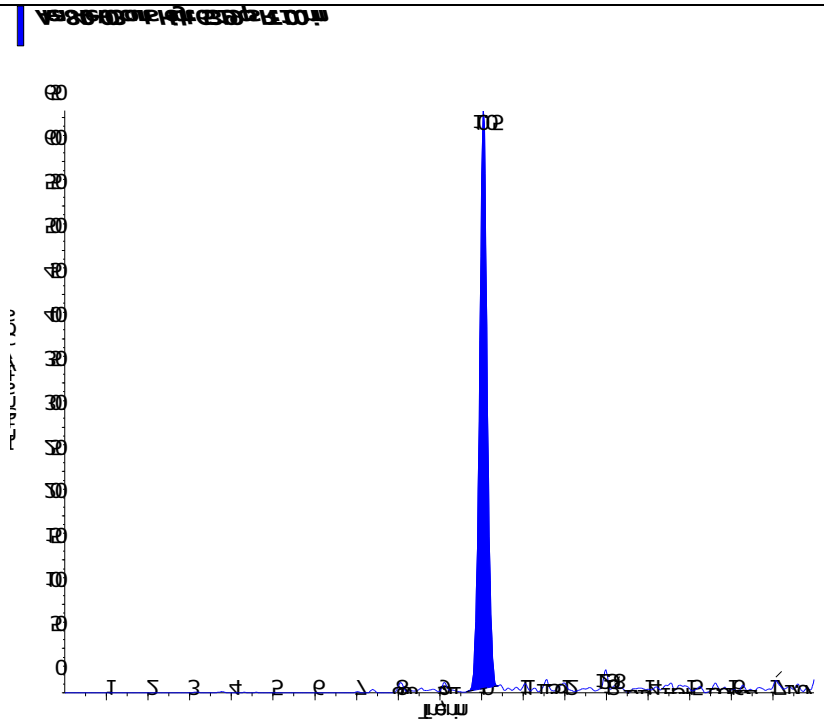
Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	1.470e+05	10.00	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	2.160e+04	10.00	1.00	1.04
Perchlorate conf	8.400e+03	10.00	1.00	1.04

O18LP (Internal Standard)

RT (Exp. RT): 10.00(10.00) min
Concentration: 5.00 ug/L
Sample Type: (Standard)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): 10.00 (10.00) min Calculated conc: 1.04 ng/ml Area Ratio: 0.147 Sample Type: (Standard)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 10.00 (10.00) min Calculated conc: 1.04 ng/ml Area Ratio: 0.057 Sample Type: (Standard)	

Data File	LM32832.wiff	**Result Table**	012116_JWR.rdb
Acquisition Date	1/21/2016 5:32:58 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

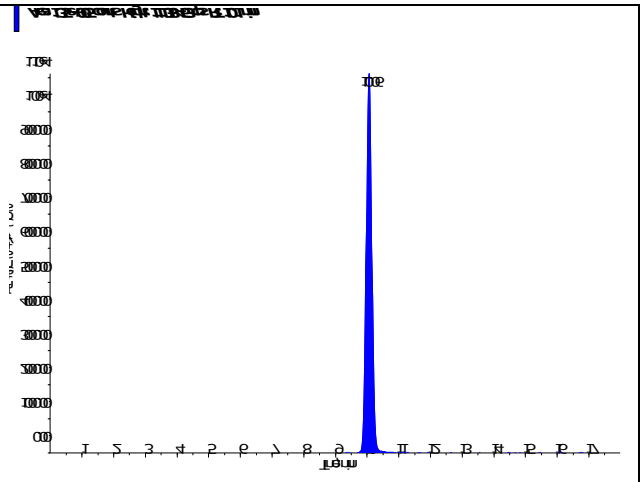
Sample Name	WG554779-06 STD (2.0 ug/L)	**Injection Vial**	6.00
Data File	LM32832.wiff	**Injection Volume**	10.00
Acquisition Date	1/21/2016 5:32:58 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Standard
Instrument Name	API 4000	**Result Table**	012116_JWR.rdb
Sample ID	WG554779-06	**Dilution Factor**	1.00
Sample Comment	1,1 STD72683	**Weight to Volume**	0.00

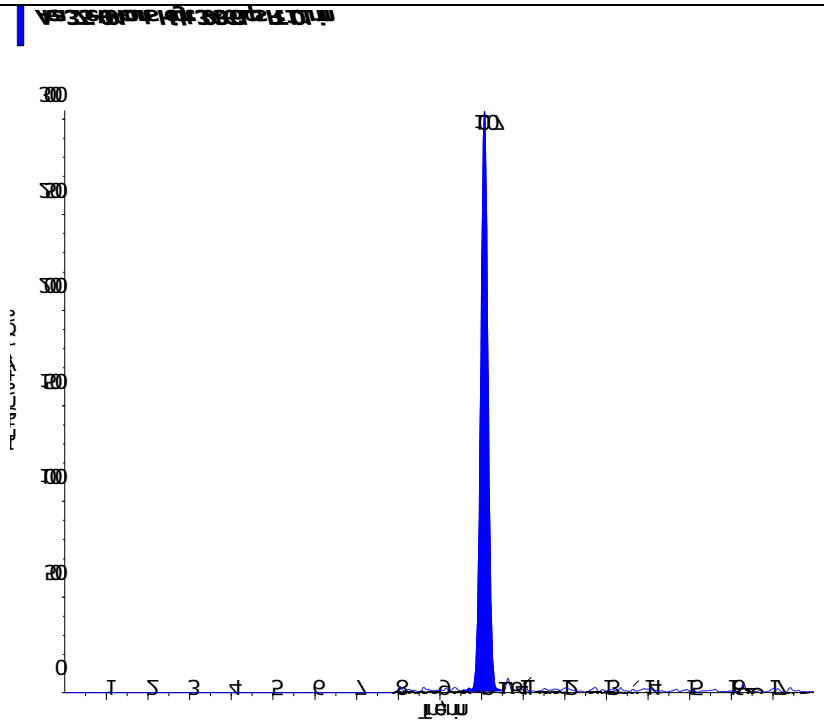
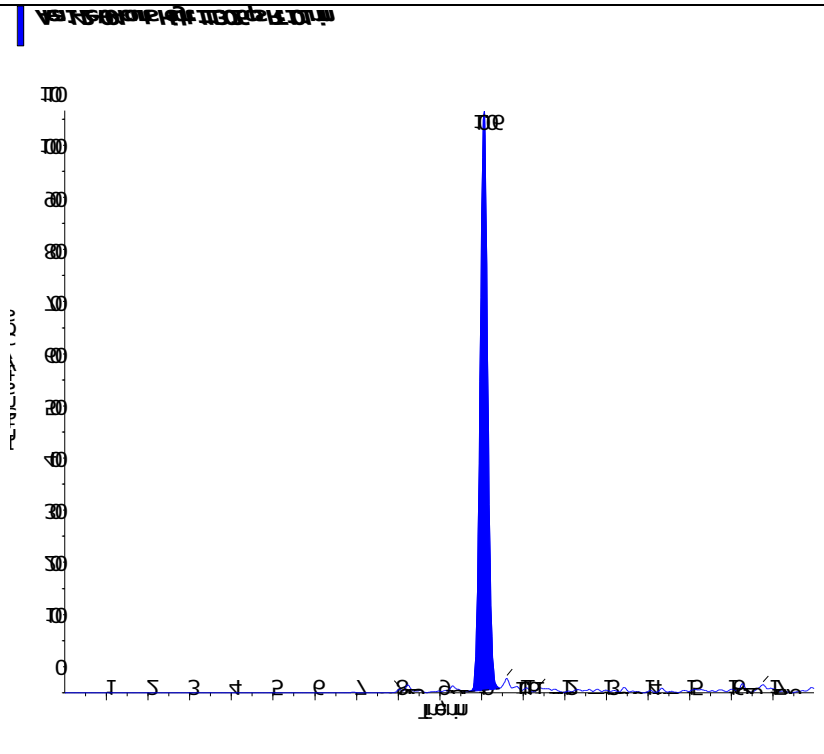
Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	1.350e+05	10.10	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	3.750e+04	10.10	2.00	2.04
Perchlorate conf	1.420e+04	10.10	2.00	1.95

O18LP (Internal Standard)

RT (Exp. RT): 10.10(10.00) min
Concentration: 5.00 ug/L
Sample Type: (Standard)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): 10.10 (10.00) min Calculated conc: 2.04 ng/ml Area Ratio: 0.278 Sample Type: (Standard)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 10.10 (10.00) min Calculated conc: 1.95 ng/ml Area Ratio: 0.105 Sample Type: (Standard)	

Data File	LM32833.wiff	**Result Table**	012116_JWR.rdb
Acquisition Date	1/21/2016 5:51:55 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

Sample Name	WG554779-07 STD (5.0 ug/L)	**Injection Vial**	7.00
Data File	LM32833.wiff	**Injection Volume**	10.00
Acquisition Date	1/21/2016 5:51:55 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Standard
Instrument Name	API 4000	**Result Table**	012116_JWR.rdb
Sample ID	WG554779-07	**Dilution Factor**	1.00
Sample Comment	1,1 STD72683	**Weight to Volume**	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	1.350e+05	10.00	5.00	-

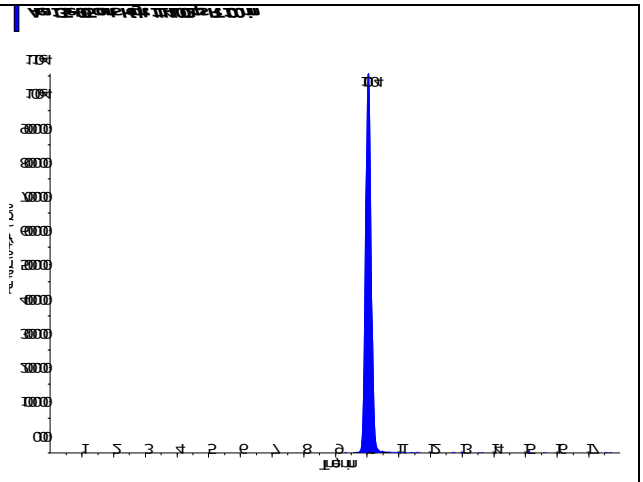
Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	9.070e+04	10.10	5.00	5.05
Perchlorate conf	3.650e+04	10.00	5.00	5.12

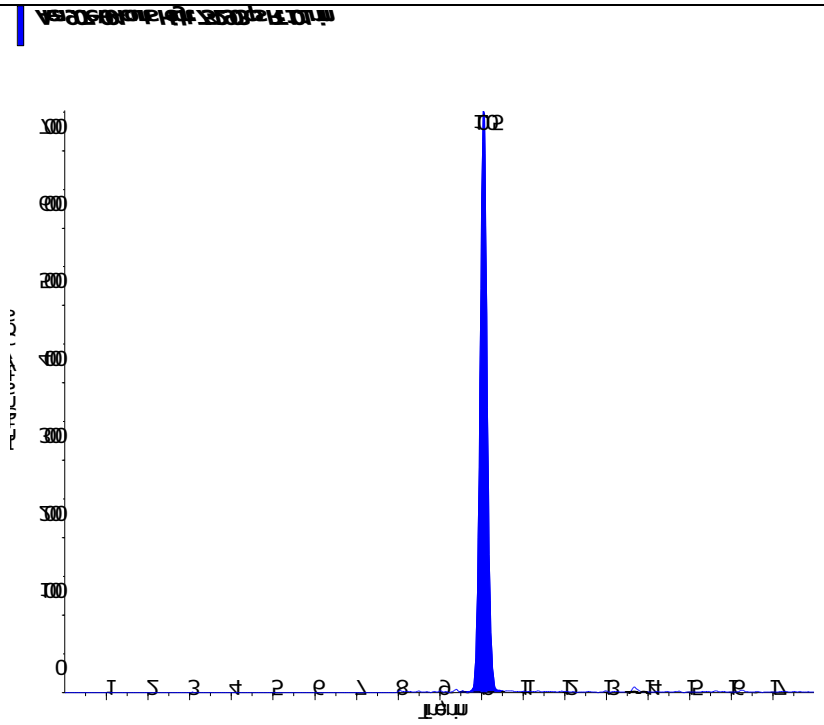
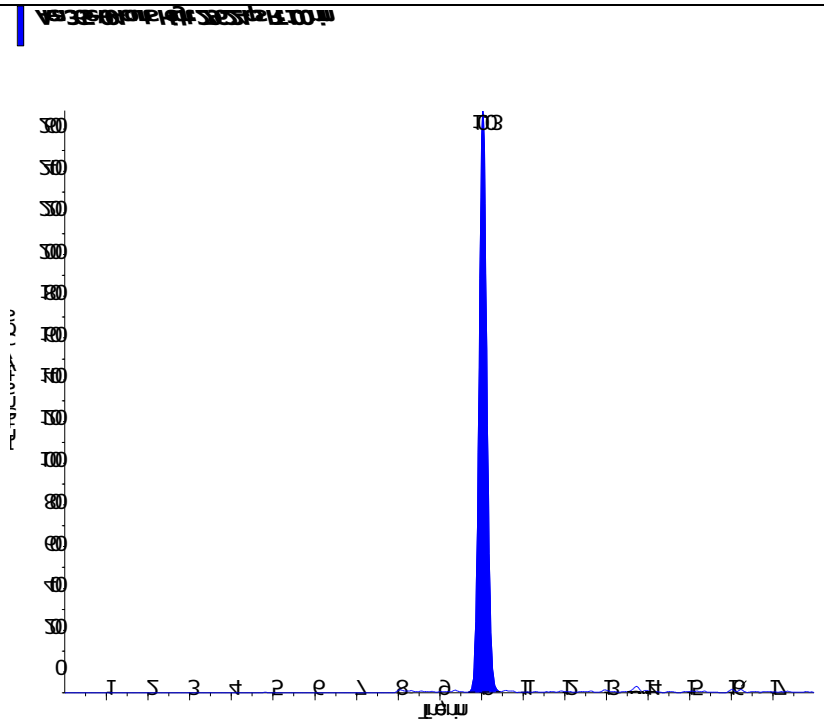
O18LP (Internal Standard)

RT (Exp. RT): 10.00(10.00) min

Concentration: 5.00 ug/L

Sample Type: (Standard)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): 10.10 (10.00) min Calculated conc: 5.05 ng/ml Area Ratio: 0.673 Sample Type: (Standard)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 10.00 (10.00) min Calculated conc: 5.12 ng/ml Area Ratio: 0.271 Sample Type: (Standard)	

Data File	LM32834.wiff	**Result Table**	012116_JWR.rdb
Acquisition Date	1/21/2016 6:10:50 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

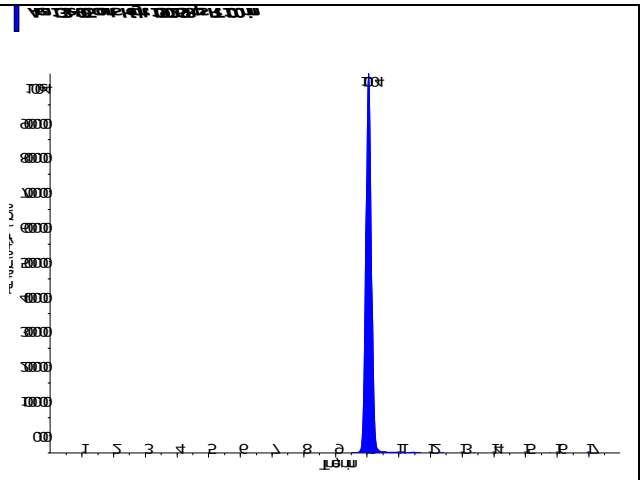
Sample Name	WG554779-08 STD (10 ug/L)	**Injection Vial**	8.00
Data File	LM32834.wiff	**Injection Volume**	10.00
Acquisition Date	1/21/2016 6:10:50 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Standard
Instrument Name	API 4000	**Result Table**	012116_JWR.rdb
Sample ID	WG554779-08	**Dilution Factor**	1.00
Sample Comment	1,1 STD72683	**Weight to Volume**	0.00

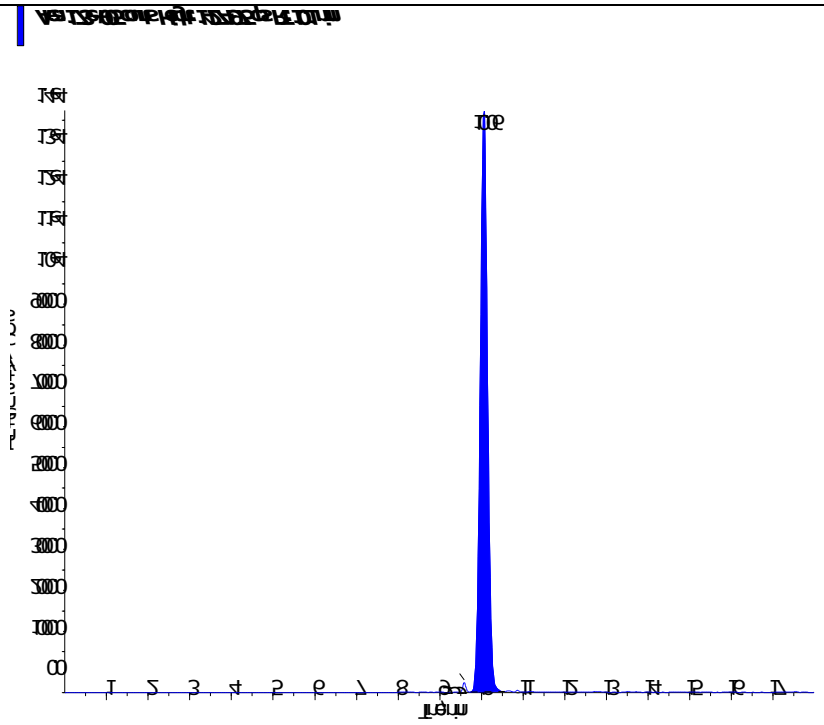
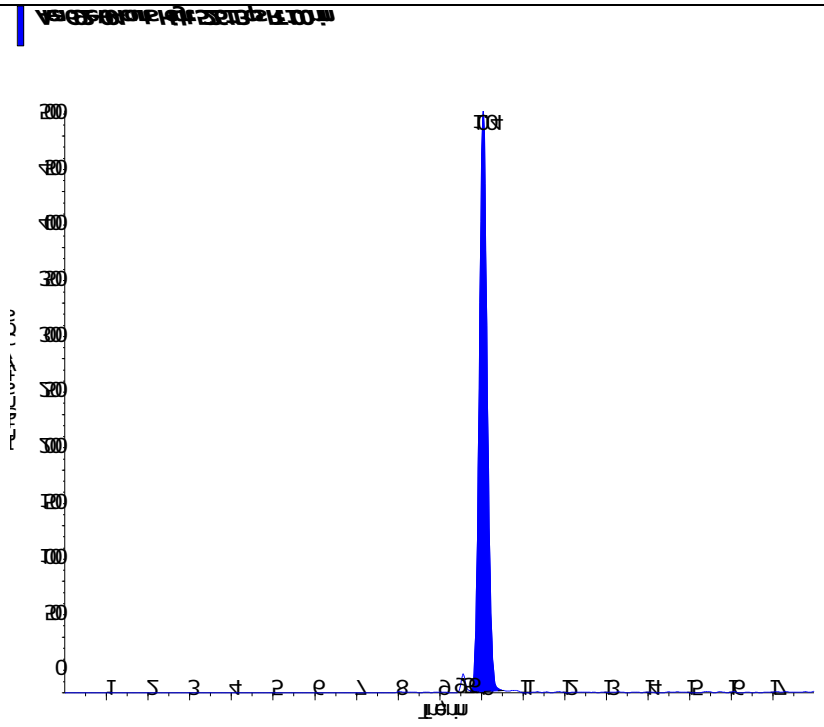
Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	1.330e+05	10.00	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	1.730e+05	10.10	10.00	9.86
Perchlorate conf	6.920e+04	10.00	10.00	9.93

O18LP (Internal Standard)

RT (Exp. RT): 10.00(10.00) min
Concentration: 5.00 ug/L
Sample Type: (Standard)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): 10.10 (10.00) min Calculated conc: 9.86 ng/ml Area Ratio: 1.303 Sample Type: (Standard)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 10.00 (10.00) min Calculated conc: 9.93 ng/ml Area Ratio: 0.522 Sample Type: (Standard)	

Data File	LM32835.wiff	**Result Table**	012116_JWR.rdb
Acquisition Date	1/21/2016 6:29:49 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

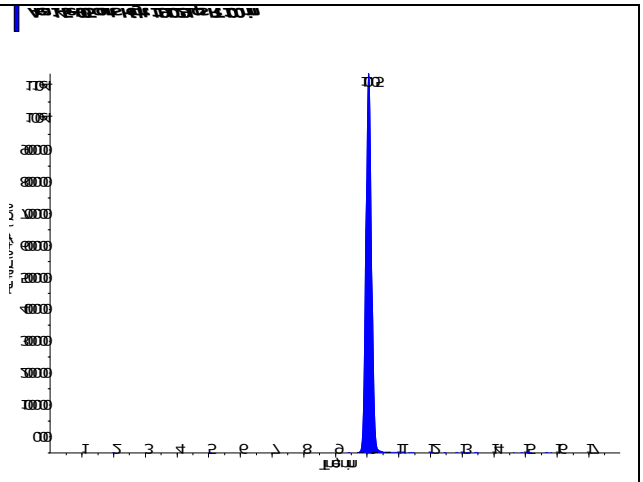
Sample Name	WG554779-09 SSCV (1.0 ug/L)	**Injection Vial**	9.00
Data File	LM32835.wiff	**Injection Volume**	10.00
Acquisition Date	1/21/2016 6:29:49 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Quality Control
Instrument Name	API 4000	**Result Table**	012116_JWR.rdb
Sample ID	WG554779-09	**Dilution Factor**	1.00
Sample Comment	1,1 STD72685	**Weight to Volume**	0.00

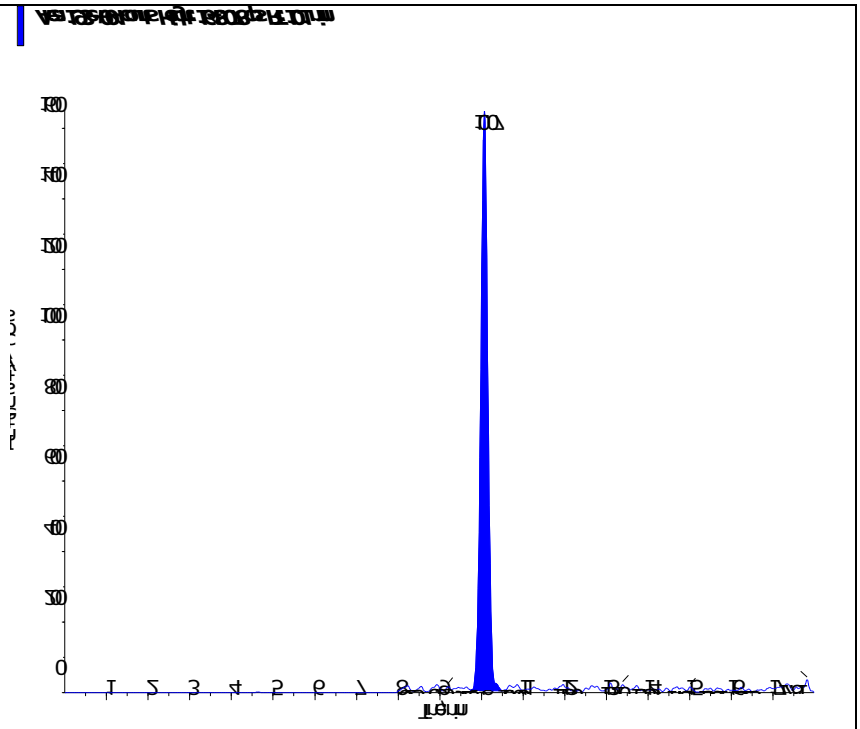
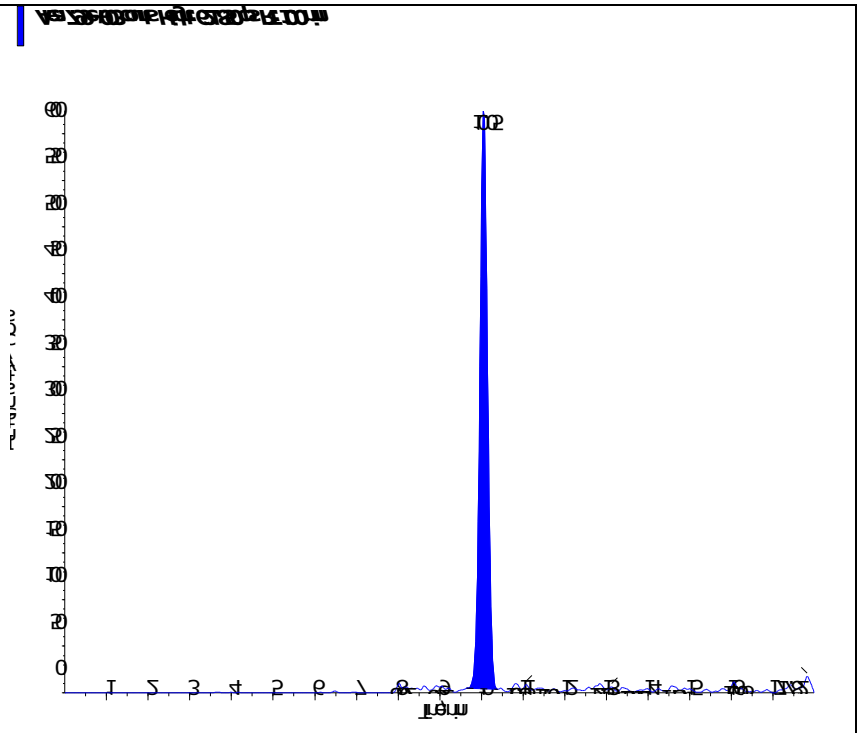
Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	1.450e+05	10.00	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	1.930e+04	10.10	1.00	0.942
Perchlorate conf	7.990e+03	10.00	1.00	0.996

O18LP (Internal Standard)

RT (Exp. RT): 10.00(10.00) min
Concentration: 5.00 ug/L
Sample Type: (Quality Control)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): 10.10 (10.00) min Calculated conc: 0.942 ng/ml Area Ratio: 0.134 Sample Type: (Quality Control)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 10.00 (10.00) min Calculated conc: 0.996 ng/ml Area Ratio: 0.055 Sample Type: (Quality Control)	

Data File	LM32837.wiff	**Result Table**	012116_JWR.rdb
Acquisition Date	1/21/2016 7:07:39 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

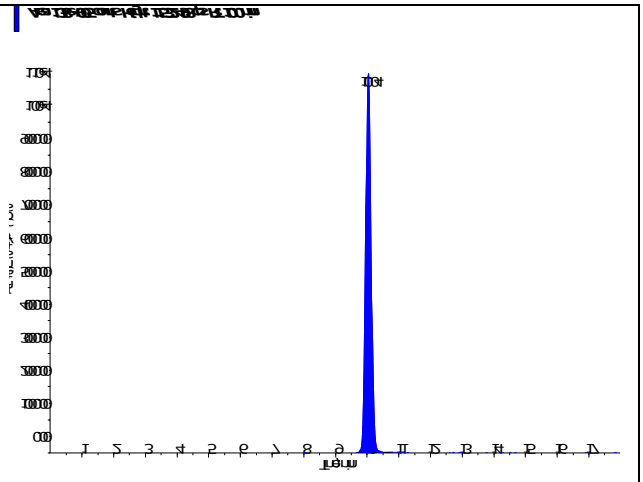
Sample Name	WG554545-02 CCV (1.0ug/L)	**Injection Vial**	5.00
Data File	LM32837.wiff	**Injection Volume**	10.00
Acquisition Date	1/21/2016 7:07:39 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Quality Control
Instrument Name	API 4000	**Result Table**	012116_JWR.rdb
Sample ID	WG554545-02	**Dilution Factor**	1.00
Sample Comment	1,1 STD72683	**Weight to Volume**	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	1.380e+05	10.00	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	1.900e+04	10.00	1.00	0.977
Perchlorate conf	8.020e+03	10.00	1.00	1.05

O18LP (Internal Standard)

RT (Exp. RT): 10.00(10.00) min
Concentration: 5.00 ug/L
Sample Type: (Quality Control)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): Calculated conc: Area Ratio: Sample Type:	10.00 (10.00) min 0.977 ng/ml 0.138 (Quality Control)
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): Calculated conc: Area Ratio: Sample Type:	10.00 (10.00) min 1.05 ng/ml 0.058 (Quality Control)

Data File	LM32849.wiff	**Result Table**	012116_JWR.rdb
Acquisition Date	1/21/2016 10:54:59 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

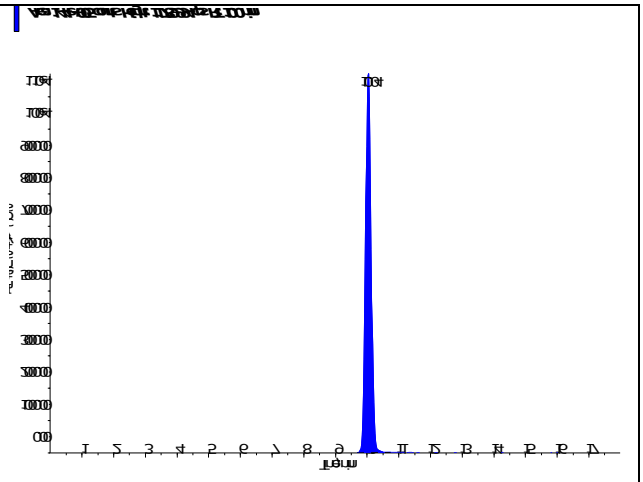
Sample Name	WG554545-03 CCV (1.0ug/L)	**Injection Vial**	5.00
Data File	LM32849.wiff	**Injection Volume**	10.00
Acquisition Date	1/21/2016 10:54:59 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Quality Control
Instrument Name	API 4000	**Result Table**	012116_JWR.rdb
Sample ID	WG554545-03	**Dilution Factor**	1.00
Sample Comment	1,1 STD72683	**Weight to Volume**	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	1.440e+05	10.00	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	1.990e+04	10.10	1.00	0.979
Perchlorate conf	7.650e+03	10.00	1.00	0.959

O18LP (Internal Standard)

RT (Exp. RT): 10.00(10.00) min
Concentration: 5.00 ug/L
Sample Type: (Quality Control)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): Calculated conc: Area Ratio: Sample Type:	10.10 (10.00) min 0.979 ng/ml 0.138 (Quality Control)
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): Calculated conc: Area Ratio: Sample Type:	10.00 (10.00) min 0.959 ng/ml 0.053 (Quality Control)

Data File	LM32858.wiff	**Result Table**	012116_JWR.rdb
Acquisition Date	1/22/2016 1:45:27 AM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

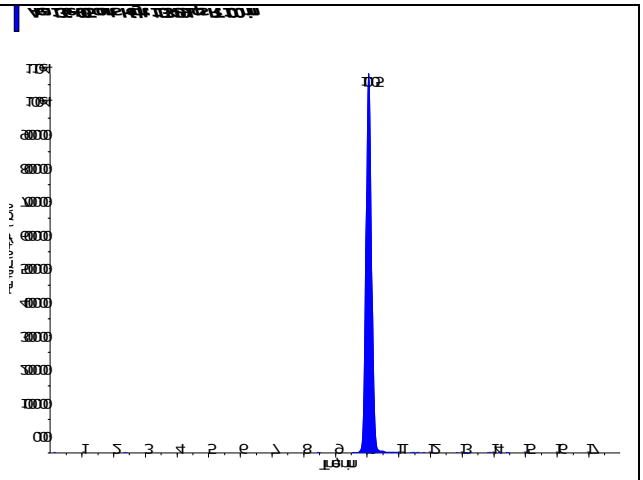
Sample Name	WG554545-05 CCV (1.0ug/L)	**Injection Vial**	5.00
Data File	LM32858.wiff	**Injection Volume**	10.00
Acquisition Date	1/22/2016 1:45:27 AM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Quality Control
Instrument Name	API 4000	**Result Table**	012116_JWR.rdb
Sample ID	WG554545-05	**Dilution Factor**	1.00
Sample Comment	1,1 STD72683	**Weight to Volume**	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	1.360e+05	10.00	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	1.710e+04	10.10	1.00	0.881
Perchlorate conf	6.670e+03	10.10	1.00	0.875

O18LP (Internal Standard)

RT (Exp. RT): 10.00(10.00) min
Concentration: 5.00 ug/L
Sample Type: (Quality Control)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): Calculated conc: Area Ratio: Sample Type:	10.10 (10.00) min 0.881 ng/ml 0.126 (Quality Control)
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): Calculated conc: Area Ratio: Sample Type:	10.10 (10.00) min 0.875 ng/ml 0.049 (Quality Control)

Data File	LM32838.wiff	**Result Table**	012116_JWR.rdb
Acquisition Date	1/21/2016 7:26:36 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

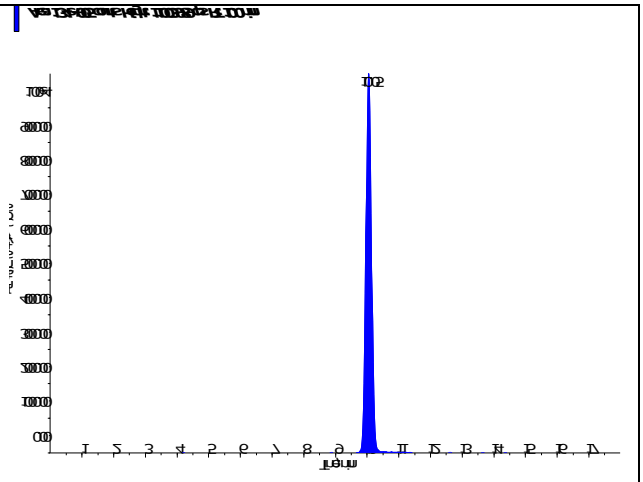
Sample Name	WG554543-07 MRL (0.2ug/L)	**Injection Vial**	3.00
Data File	LM32838.wiff	**Injection Volume**	10.00
Acquisition Date	1/21/2016 7:26:36 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Unknown
Instrument Name	API 4000	**Result Table**	012116_JWR.rdb
Sample ID	WG554543-07	**Dilution Factor**	1.00
Sample Comment	1,1 STD72683	**Weight to Volume**	0.00

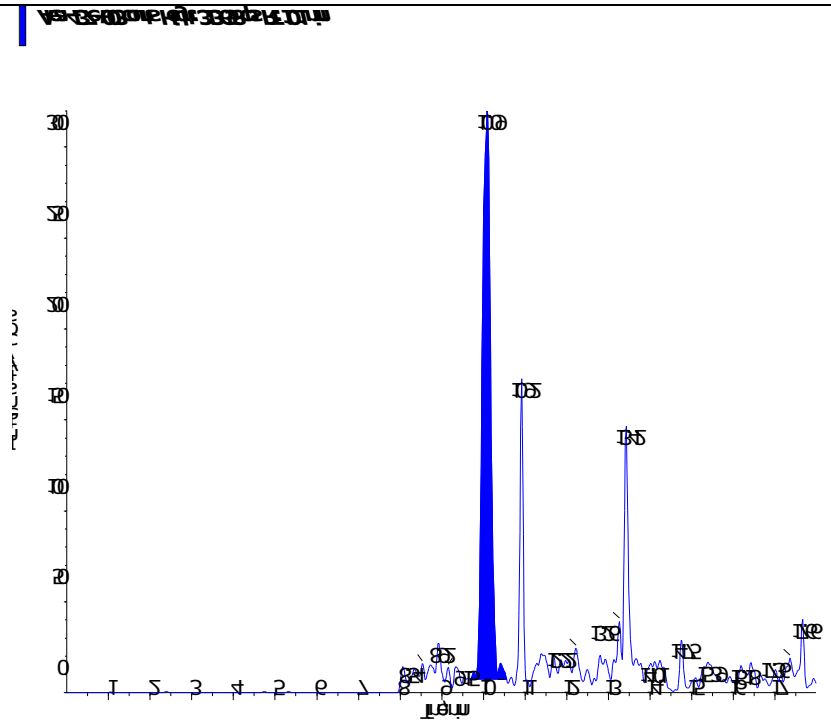
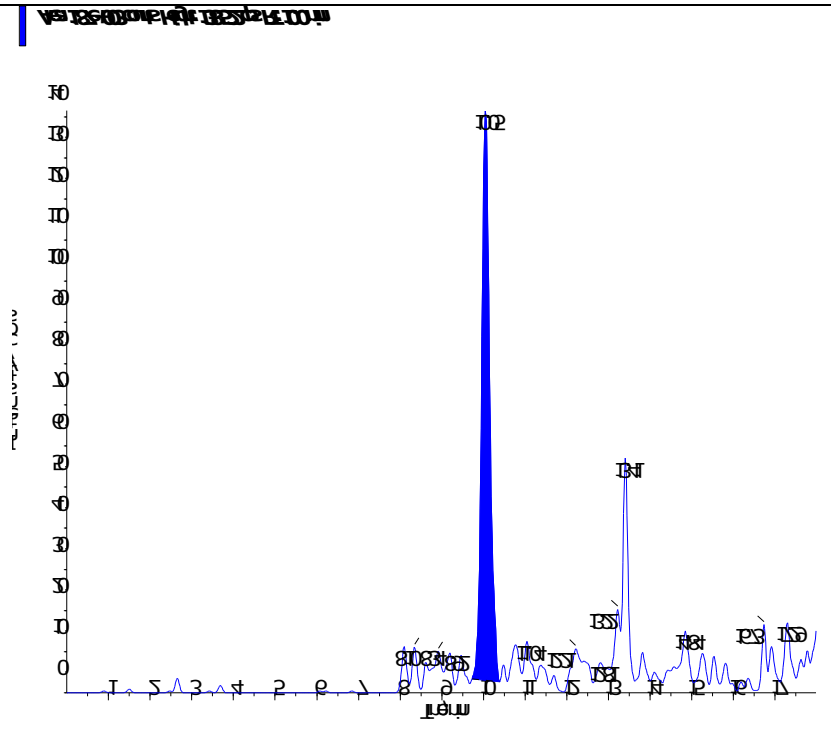
Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	1.340e+05	10.00	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	4.370e+03	10.10	N/A	0.172
Perchlorate conf	1.870e+03	10.00	N/A	0.207

O18LP (Internal Standard)

RT (Exp. RT): 10.00(10.00) min
Concentration: 5.00 ug/L
Sample Type: (Unknown)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): 10.10 (10.00) min Calculated conc: 0.172 ng/ml Area Ratio: 0.032 Sample Type: (Unknown)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 10.00 (10.00) min Calculated conc: 0.207 ng/ml Area Ratio: 0.014 Sample Type: (Unknown)	

Data File	LM32850.wiff	**Result Table**	012116_JWR.rdb
Acquisition Date	1/21/2016 11:13:54 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

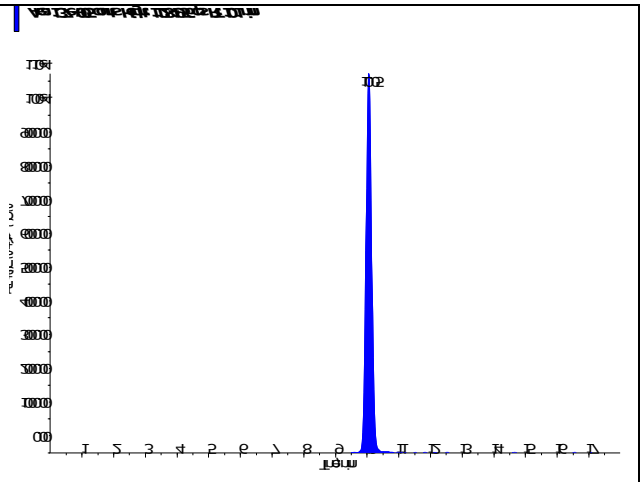
Sample Name	WG554543-08 MRL (0.2ug/L)	**Injection Vial**	3.00
Data File	LM32850.wiff	**Injection Volume**	10.00
Acquisition Date	1/21/2016 11:13:54 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Unknown
Instrument Name	API 4000	**Result Table**	012116_JWR.rdb
Sample ID	WG554543-08	**Dilution Factor**	1.00
Sample Comment	1,1 STD72683	**Weight to Volume**	0.00

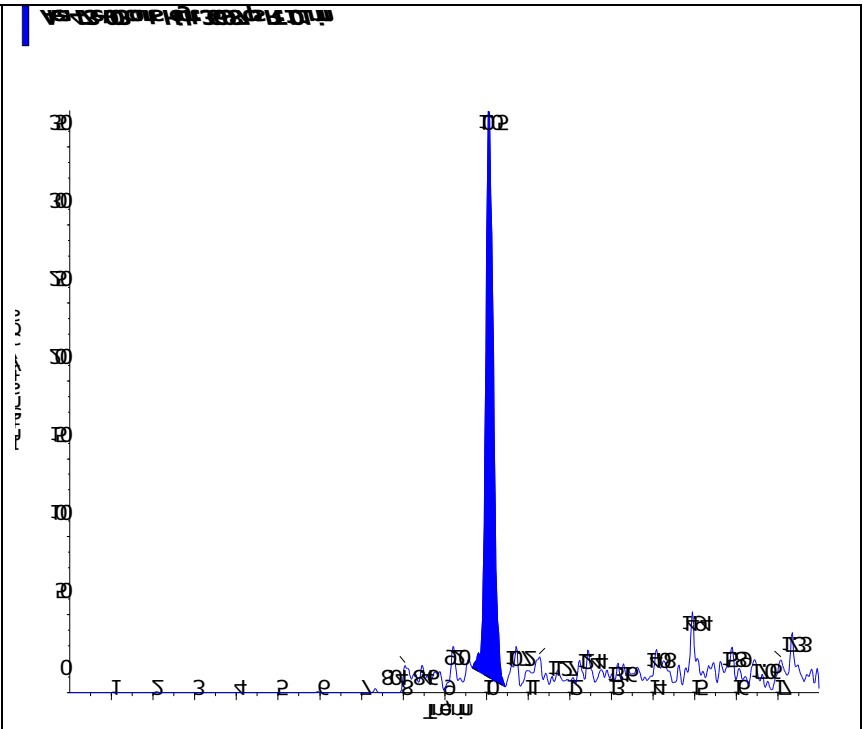
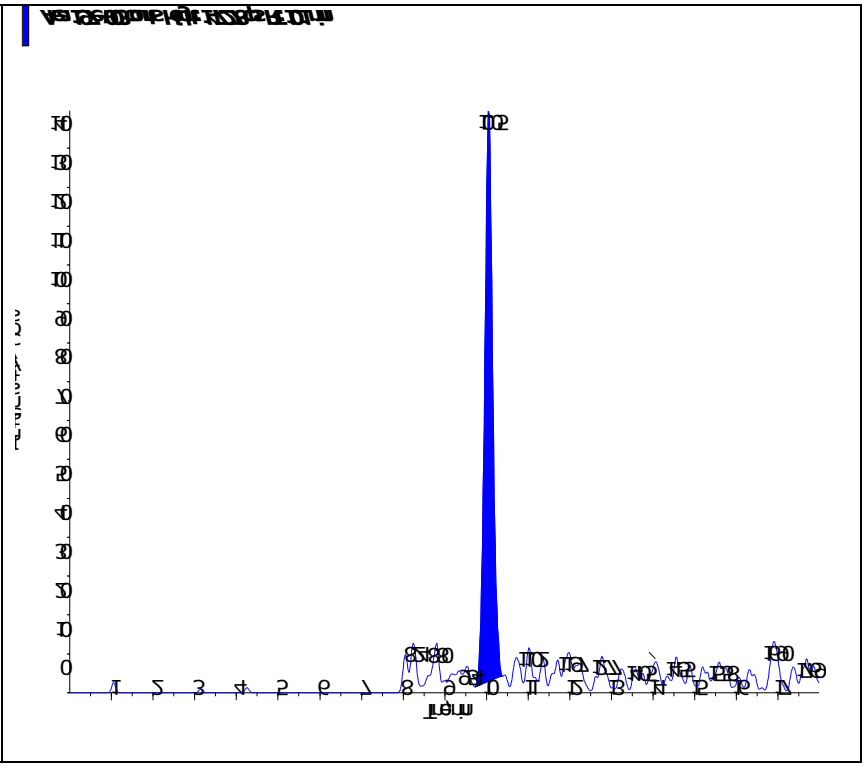
Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	1.370e+05	10.10	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	4.730e+03	10.10	N/A	0.187
Perchlorate conf	1.970e+03	10.10	N/A	0.216

O18LP (Internal Standard)

RT (Exp. RT): 10.10(10.00) min
Concentration: 5.00 ug/L
Sample Type: (Unknown)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): 10.10 (10.00) min Calculated conc: 0.187 ng/ml Area Ratio: 0.035 Sample Type: (Unknown)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 10.10 (10.00) min Calculated conc: 0.216 ng/ml Area Ratio: 0.014 Sample Type: (Unknown)	

Data File	LM32859.wiff	**Result Table**	012116_JWR.rdb
Acquisition Date	1/22/2016 2:04:24 AM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

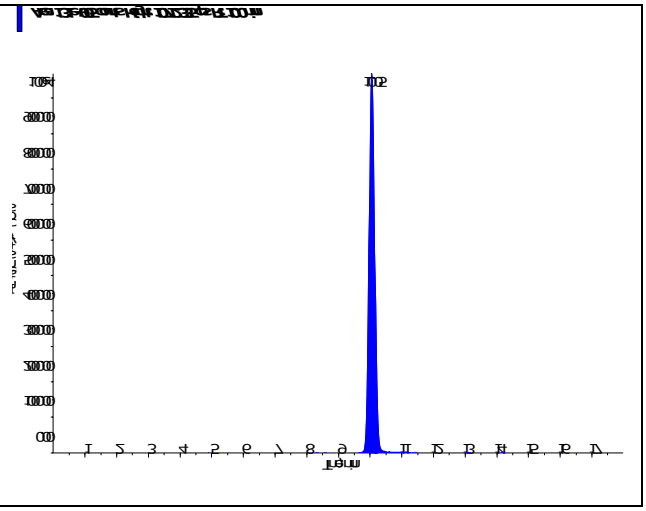
Sample Name	WG554543-09 MRL (0.2ug/L)	**Injection Vial**	3.00
Data File	LM32859.wiff	**Injection Volume**	10.00
Acquisition Date	1/22/2016 2:04:24 AM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Unknown
Instrument Name	API 4000	**Result Table**	012116_JWR.rdb
Sample ID	WG554543-09	**Dilution Factor**	1.00
Sample Comment	1,1 STD72683	**Weight to Volume**	0.00

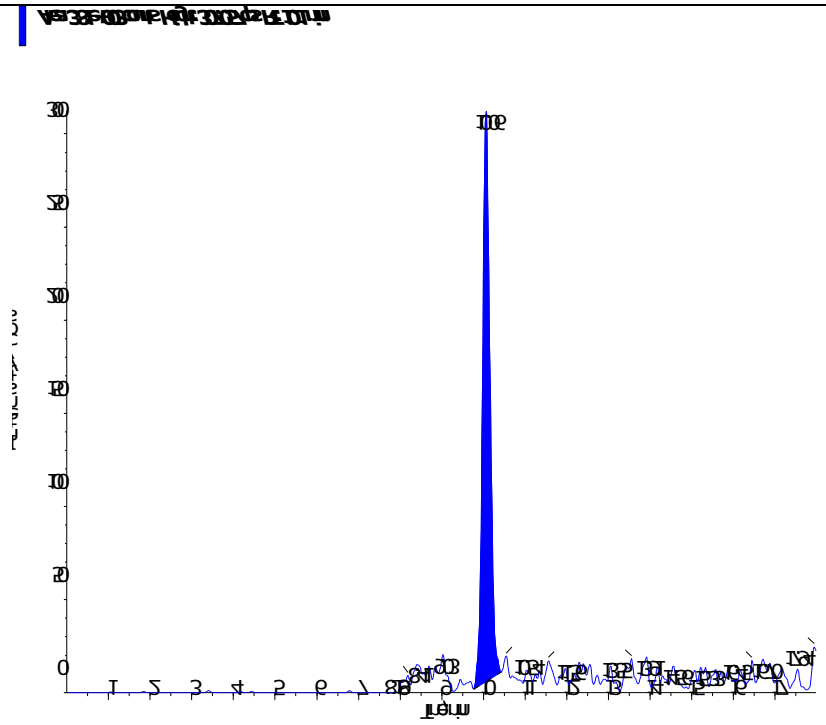
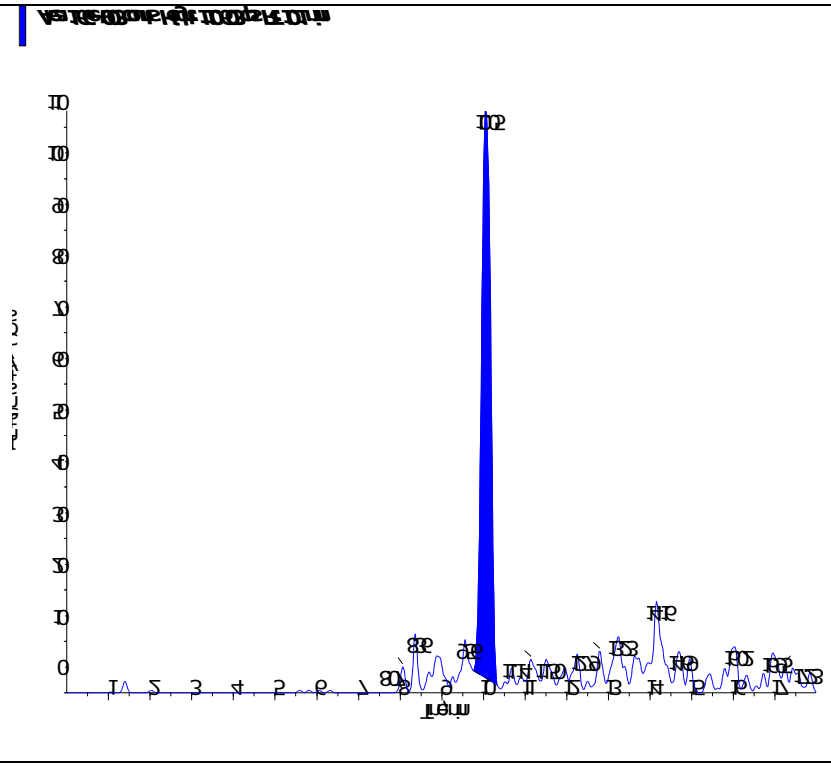
Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	1.310e+05	10.00	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	3.810e+03	10.10	N/A	0.145
Perchlorate conf	1.660e+03	10.10	N/A	0.182

O18LP (Internal Standard)

RT (Exp. RT): 10.00(10.00) min
Concentration: 5.00 ug/L
Sample Type: (Unknown)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): 10.10 (10.00) min Calculated conc: 0.145 ng/ml Area Ratio: 0.029 Sample Type: (Unknown)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 10.10 (10.00) min Calculated conc: 0.182 ng/ml Area Ratio: 0.013 Sample Type: (Unknown)	

Data File	LM32836.wiff	**Result Table**	012116_JWR.rdb
Acquisition Date	1/21/2016 6:48:44 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

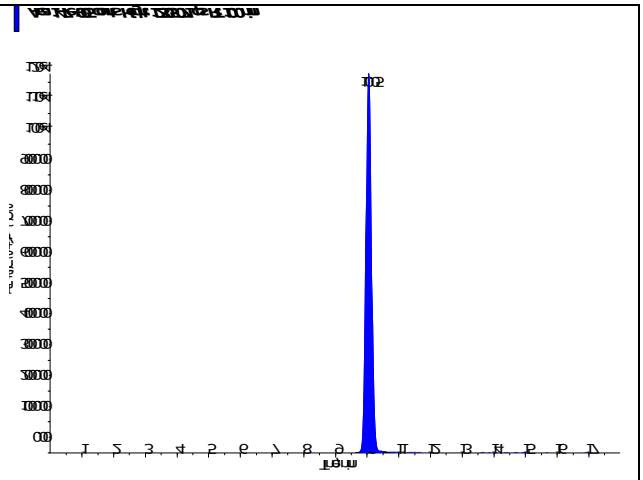
Sample Name	WG554545-01 CCB	**Injection Vial**	1.00
Data File	LM32836.wiff	**Injection Volume**	10.00
Acquisition Date	1/21/2016 6:48:44 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Unknown
Instrument Name	API 4000	**Result Table**	012116_JWR.rdb
Sample ID	WG554545-01	**Dilution Factor**	1.00
Sample Comment	11.00	**Weight to Volume**	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	1.470e+05	10.00	5.00	-

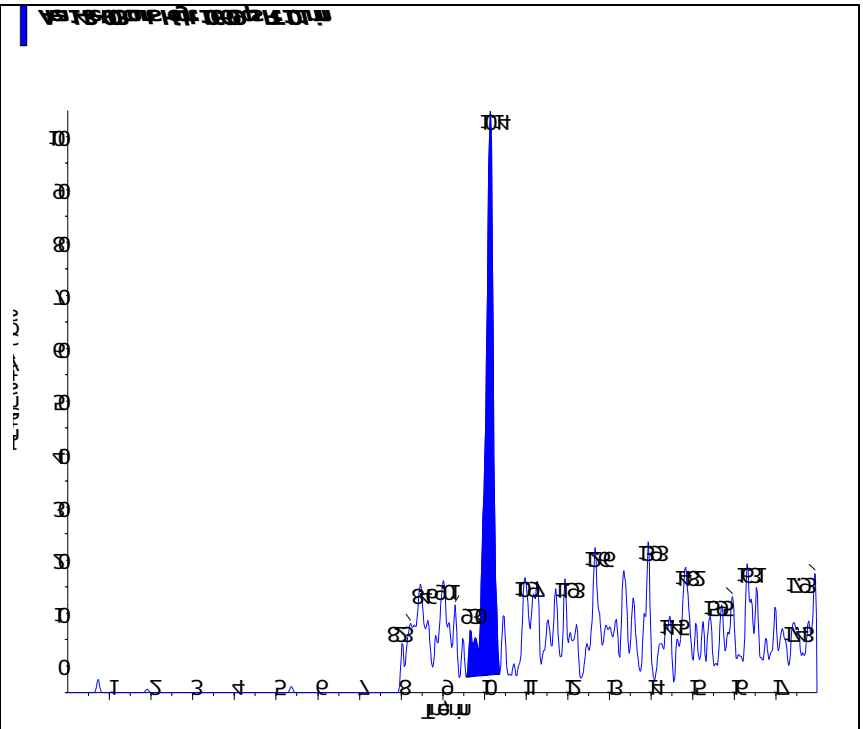
Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	1.430e+03	10.10	N/A	< 0
Perchlorate conf	1.240e+02	10.00	N/A	< 0

O18LP (Internal Standard)

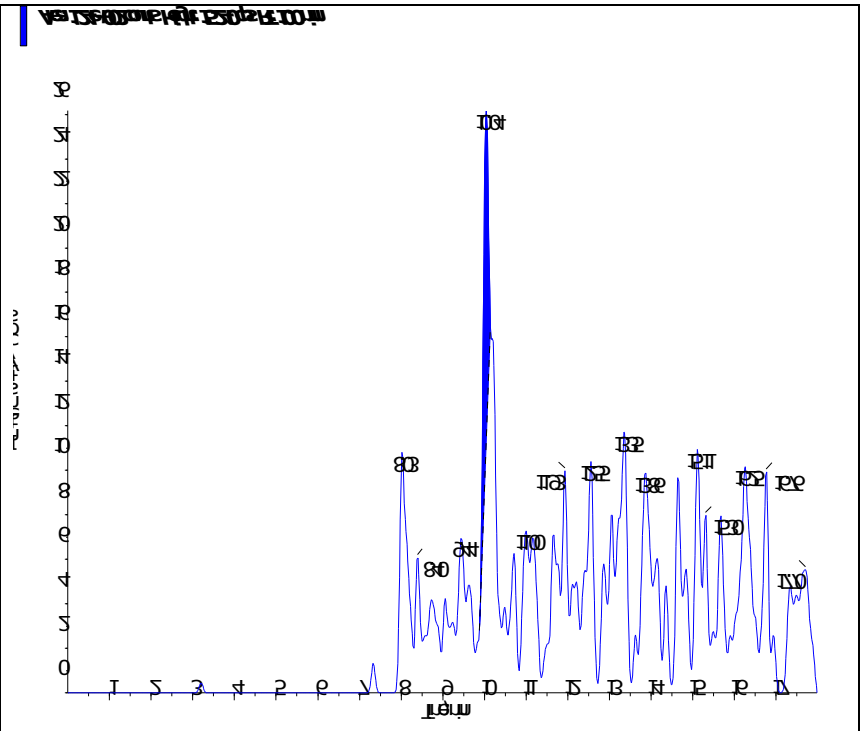
RT (Exp. RT): 10.00(10.00) min
Concentration: 5.00 ug/L
Sample Type: (Unknown)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): Calculated conc: Area Ratio: Sample Type:	10.10 (10.00) min < 0 ng/ml 0.01 (Unknown)



Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): Calculated conc: Area Ratio: Sample Type:	10.00 (10.00) min < 0 ng/ml 0.001 (Unknown)



Data File	LM32851.wiff	**Result Table**	012116_JWR.rdb
Acquisition Date	1/21/2016 11:32:50 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

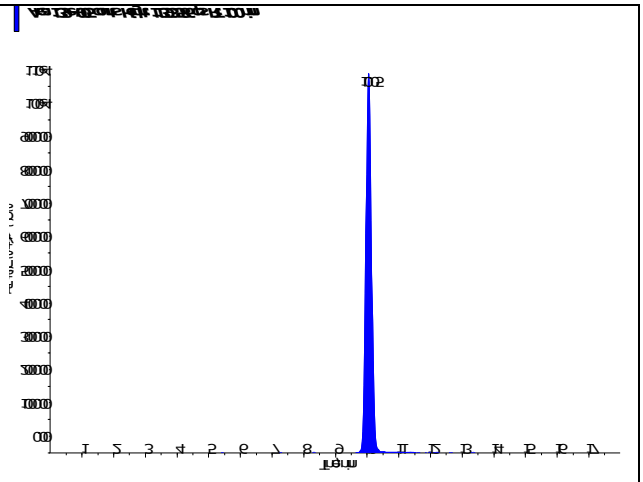
Sample Name	WG554545-04 CCB	**Injection Vial**	1.00
Data File	LM32851.wiff	**Injection Volume**	10.00
Acquisition Date	1/21/2016 11:32:50 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Unknown
Instrument Name	API 4000	**Result Table**	012116_JWR.rdb
Sample ID	WG554545-04	**Dilution Factor**	1.00
Sample Comment	11.00	**Weight to Volume**	0.00

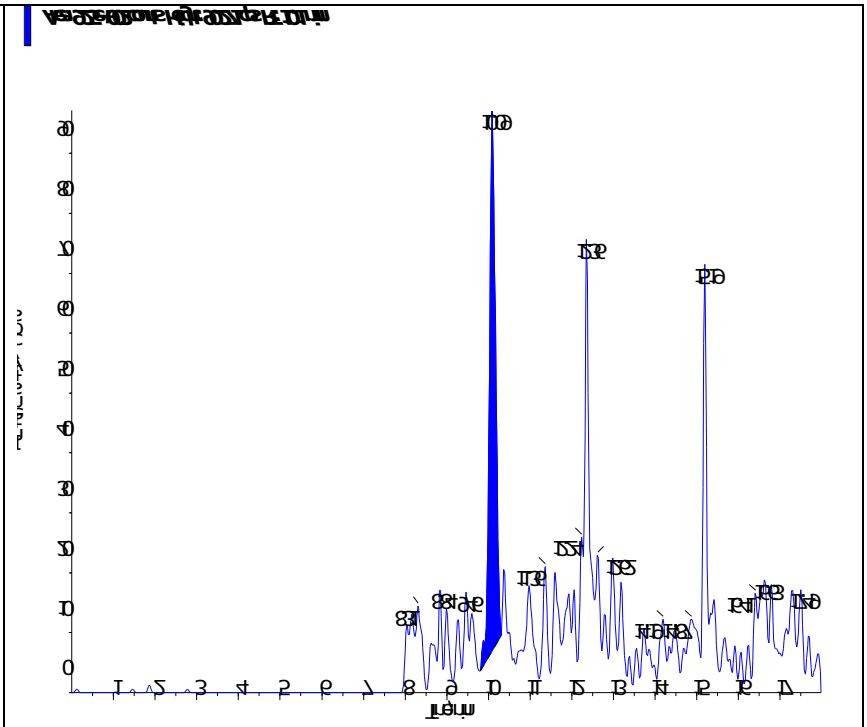
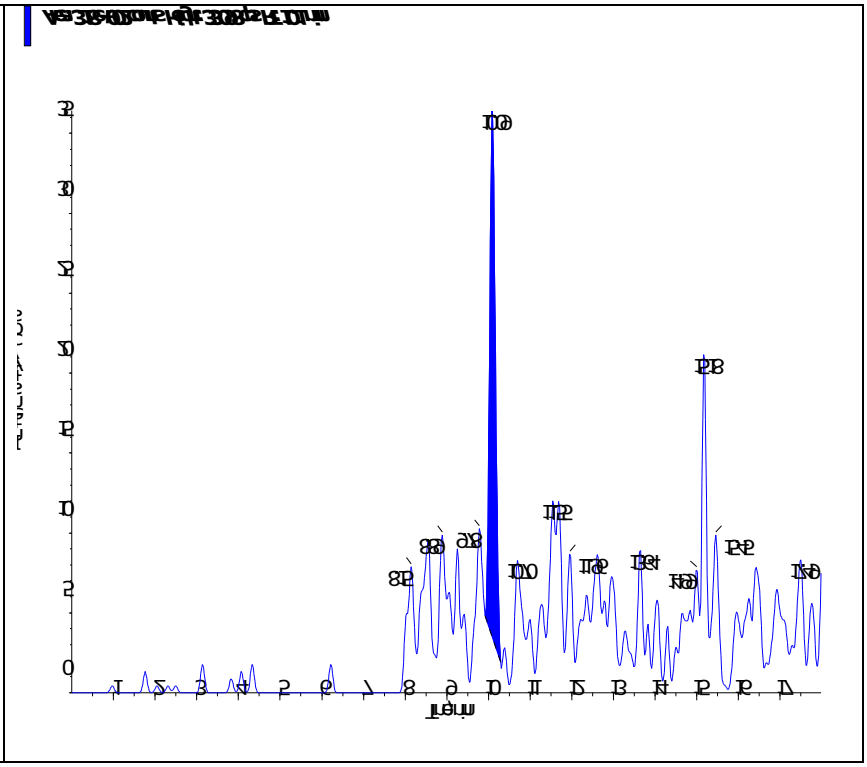
Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	1.390e+05	10.00	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	9.250e+02	10.10	N/A	< 0
Perchlorate conf	3.180e+02	10.10	N/A	< 0

O18LP (Internal Standard)

RT (Exp. RT): 10.00(10.00) min
Concentration: 5.00 ug/L
Sample Type: (Unknown)



Perchlorate (98.8/83.3 amu)	
RT (Exp. RT): 10.10 (10.00) min Calculated conc: < 0 ng/ml Area Ratio: 0.007 Sample Type: (Unknown)	
Perchlorate conf (100.8/85.2 amu)	
RT (Exp. RT): 10.10 (10.00) min Calculated conc: < 0 ng/ml Area Ratio: 0.002 Sample Type: (Unknown)	

Data File	LM32860.wiff	**Result Table**	012116_JWR.rdb
Acquisition Date	1/22/2016 2:23:19 AM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

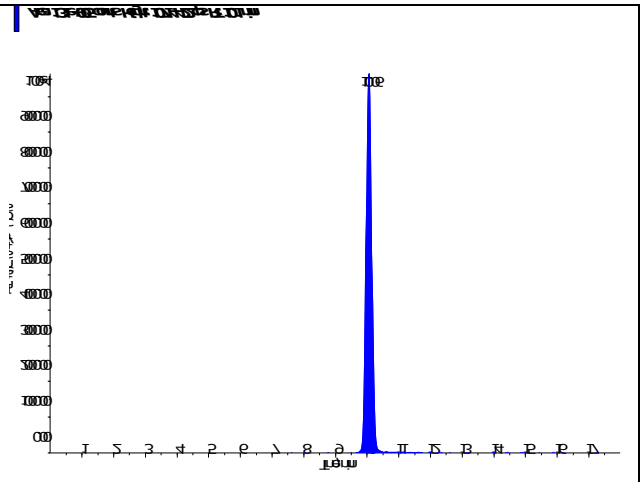
Sample Name	WG554545-06 CCB	**Injection Vial**	1.00
Data File	LM32860.wiff	**Injection Volume**	10.00
Acquisition Date	1/22/2016 2:23:19 AM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Unknown
Instrument Name	API 4000	**Result Table**	012116_JWR.rdb
Sample ID	WG554545-06	**Dilution Factor**	1.00
Sample Comment	11.00	**Weight to Volume**	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	1.310e+05	10.10	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	9.630e+02	10.10	N/A	< 0
Perchlorate conf	2.740e+02	10.20	N/A	< 0

O18LP (Internal Standard)

RT (Exp. RT): 10.10(10.00) min
Concentration: 5.00 ug/L
Sample Type: (Unknown)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): Calculated conc: Area Ratio: Sample Type:	10.10 (10.00) min < 0 ng/ml 0.007 (Unknown)
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): Calculated conc: Area Ratio: Sample Type:	10.20 (10.00) min < 0 ng/ml 0.002 (Unknown)

Data File	LM32839.wiff	**Result Table**	012116_JWR.rdb
Acquisition Date	1/21/2016 7:45:33 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

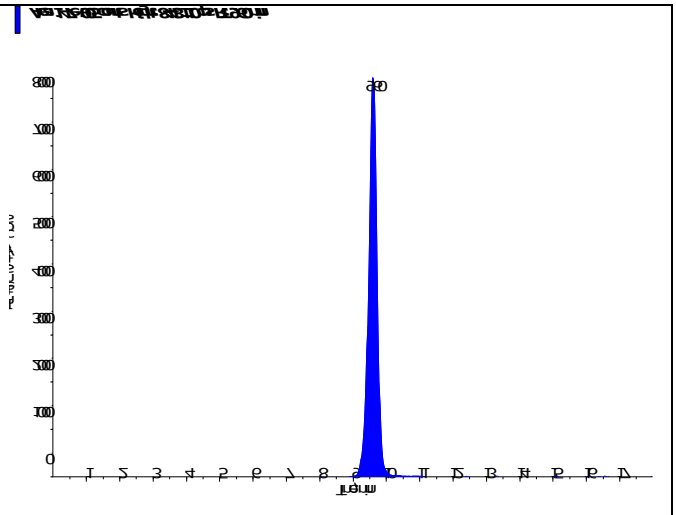
Sample Name	WG554543-01 MCT (0.2ug/L)	**Injection Vial**	10.00
Data File	LM32839.wiff	**Injection Volume**	10.00
Acquisition Date	1/21/2016 7:45:33 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Unknown
Instrument Name	API 4000	**Result Table**	012116_JWR.rdb
Sample ID	WG554543-01	**Dilution Factor**	1.00
Sample Comment	1,1 STD72685	**Weight to Volume**	0.00

Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	1.470e+05	9.60	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	4.790e+03	9.68	N/A	0.173
Perchlorate conf	1.670e+03	9.61	N/A	0.158

O18LP (Internal Standard)

RT (Exp. RT): 9.60(10.00) min
Concentration: 5.00 ug/L
Sample Type: (Unknown)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): Calculated conc: Area Ratio: Sample Type:	9.68 (10.00) min 0.173 ng/ml 0.033 (Unknown)
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): Calculated conc: Area Ratio: Sample Type:	9.61 (10.00) min 0.158 ng/ml 0.011 (Unknown)

2.1.1.5 Raw QC Data

Data File	LM32840.wiff	**Result Table**	012116_JWR.rdb
Acquisition Date	1/21/2016 8:04:28 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

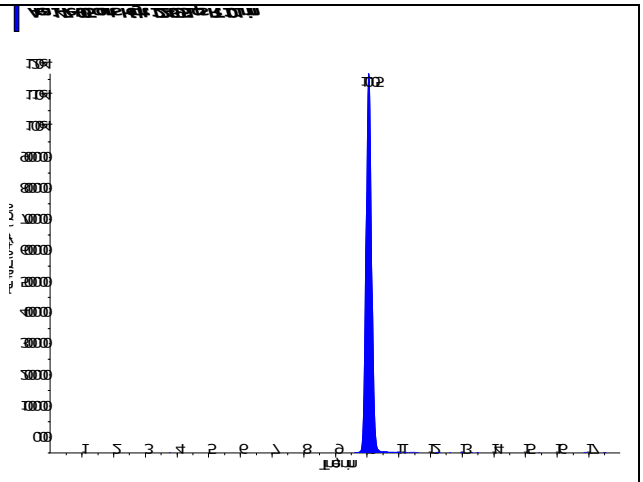
Sample Name	WG554543-02 BLANK	**Injection Vial**	11.00
Data File	LM32840.wiff	**Injection Volume**	10.00
Acquisition Date	1/21/2016 8:04:28 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Unknown
Instrument Name	API 4000	**Result Table**	012116_JWR.rdb
Sample ID	WG554543-02	**Dilution Factor**	1.00
Sample Comment	11.00	**Weight to Volume**	0.00

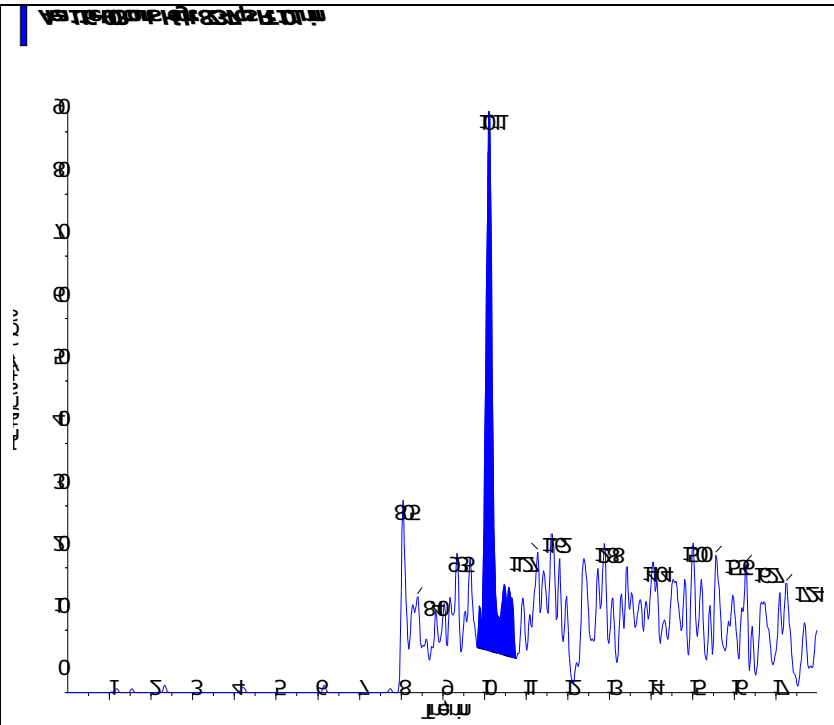
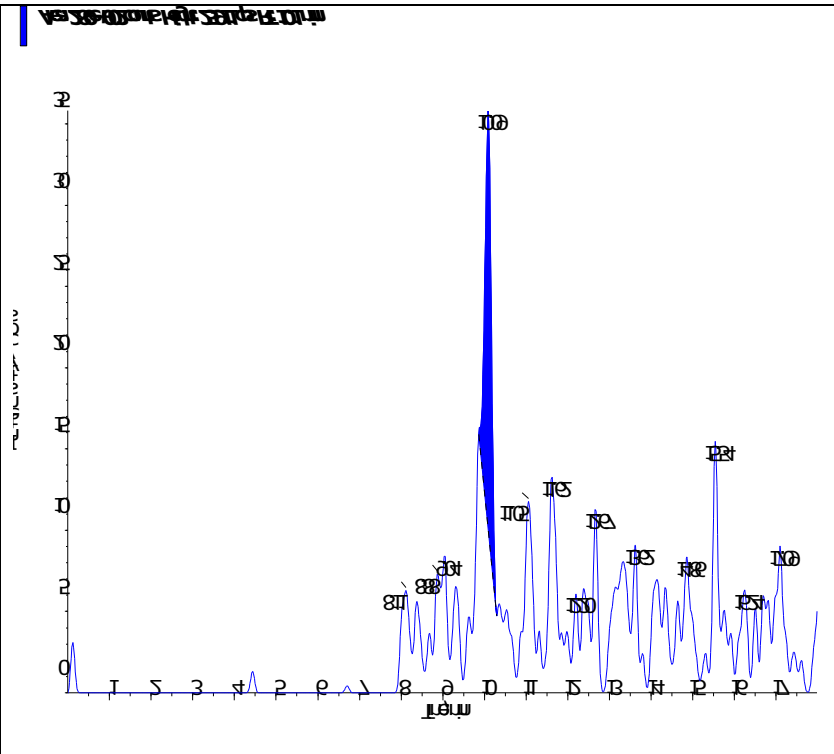
Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	1.470e+05	10.10	5.00	-

Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	1.160e+03	10.10	N/A	< 0
Perchlorate conf	2.800e+02	10.10	N/A	< 0

O18LP (Internal Standard)

RT (Exp. RT): 10.10(10.00) min
Concentration: 5.00 ug/L
Sample Type: (Unknown)



Perchlorate (98.8/83.3 amu) RT (Exp. RT): 10.10 (10.00) min Calculated conc: < 0 ng/ml Area Ratio: 0.008 Sample Type: (Unknown)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 10.10 (10.00) min Calculated conc: < 0 ng/ml Area Ratio: 0.002 Sample Type: (Unknown)	

Data File	LM32841.wiff	**Result Table**	012116_JWR.rdb
Acquisition Date	1/21/2016 8:23:27 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Instrument Name**	API 4000
Project	Perchlorate\2009_07_22		

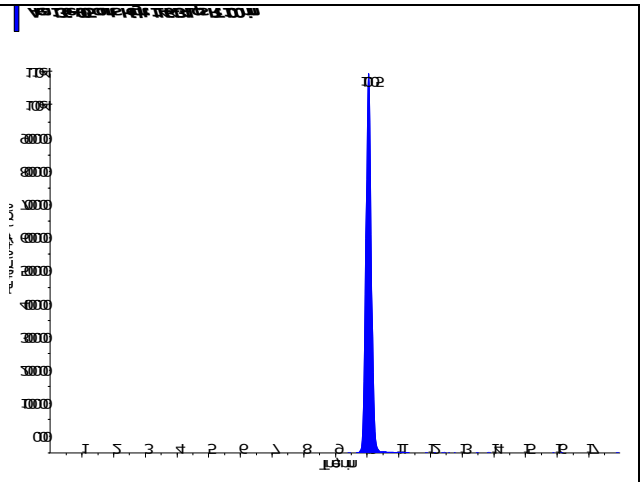
Sample Name	WG554543-03 LCS (0.2ug/L)	**Injection Vial**	12.00
Data File	LM32841.wiff	**Injection Volume**	10.00
Acquisition Date	1/21/2016 8:23:27 PM	**Algorithm Used**	Analyst Classic
Acquisition Method	062911.dam	**Sample Type**	Unknown
Instrument Name	API 4000	**Result Table**	012116_JWR.rdb
Sample ID	WG554543-03	**Dilution Factor**	1.00
Sample Comment	1,1 STD72685	**Weight to Volume**	0.00

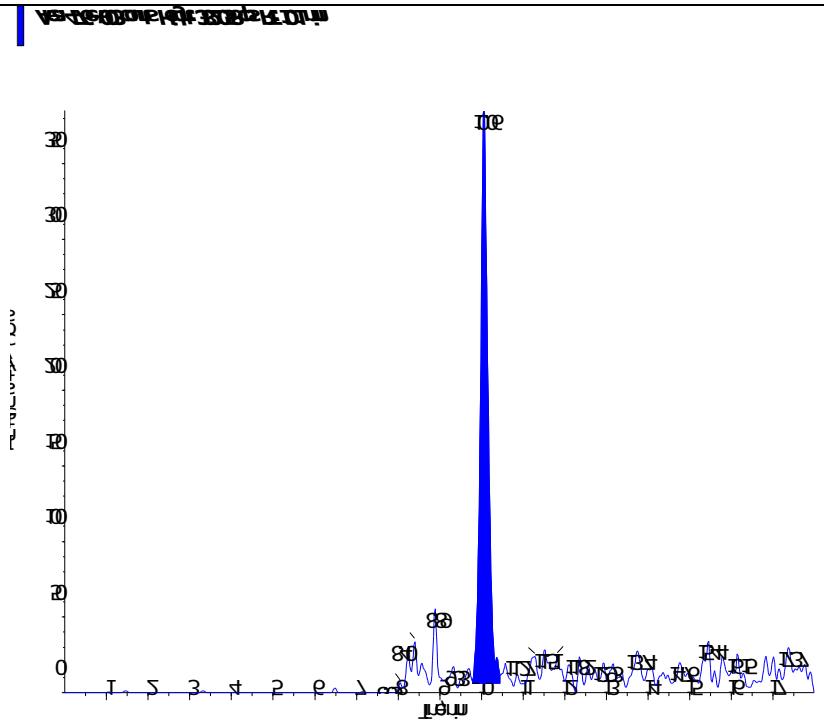
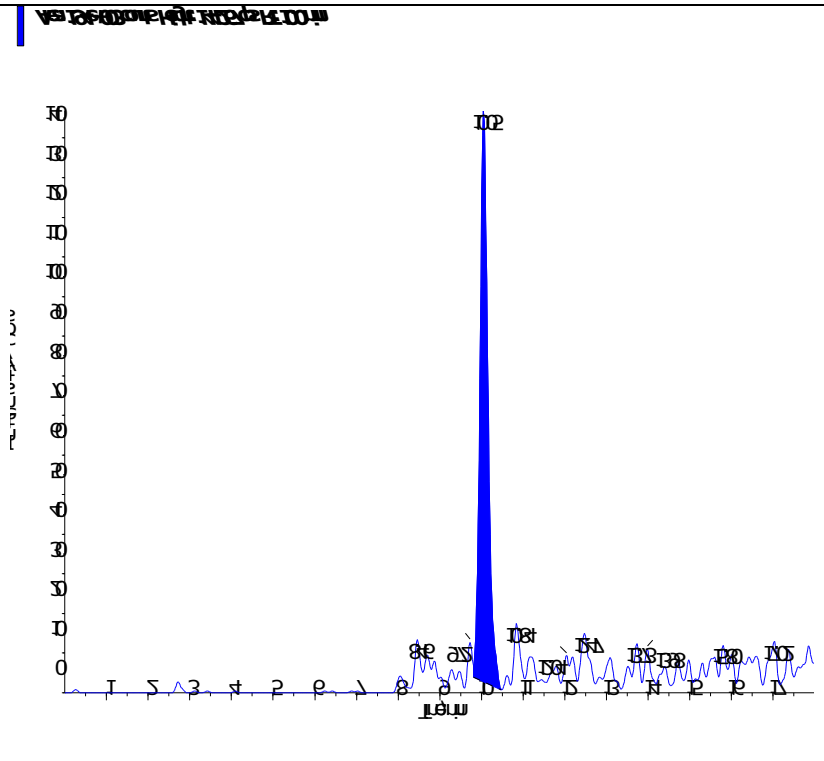
Internal Standard	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
O18LP	1.360e+05	10.00	5.00	-

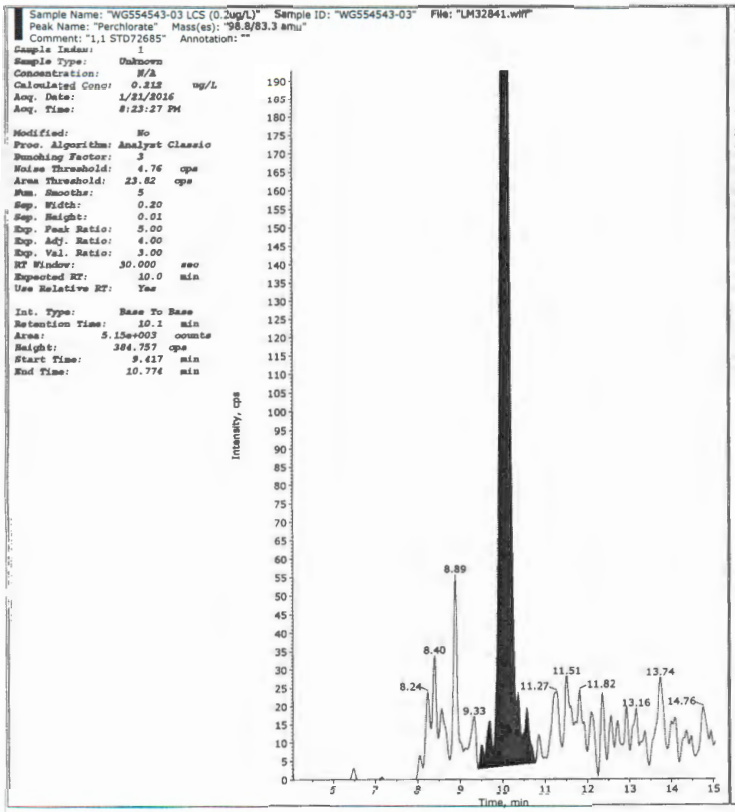
Target Analyte	Area (cps)	RT (min)	Target conc. (ug/L)	Calc. Conc. (ug/L)
Perchlorate	4.760e+03	10.10	N/A	0.19
Perchlorate conf	1.940e+03	10.00	N/A	0.213

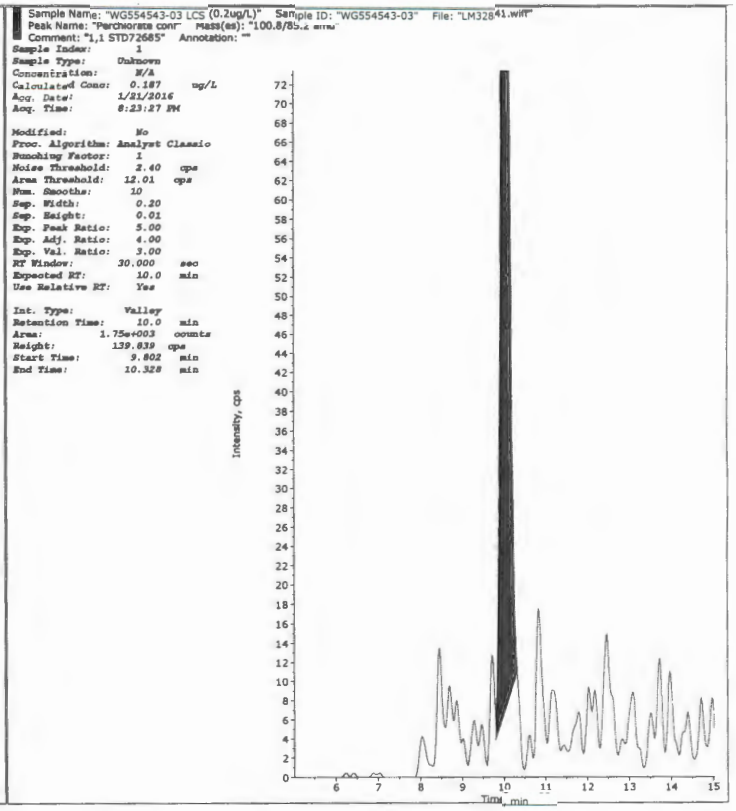
O18LP (Internal Standard)

RT (Exp. RT): 10.00(10.00) min
Concentration: 5.00 ug/L
Sample Type: (Unknown)

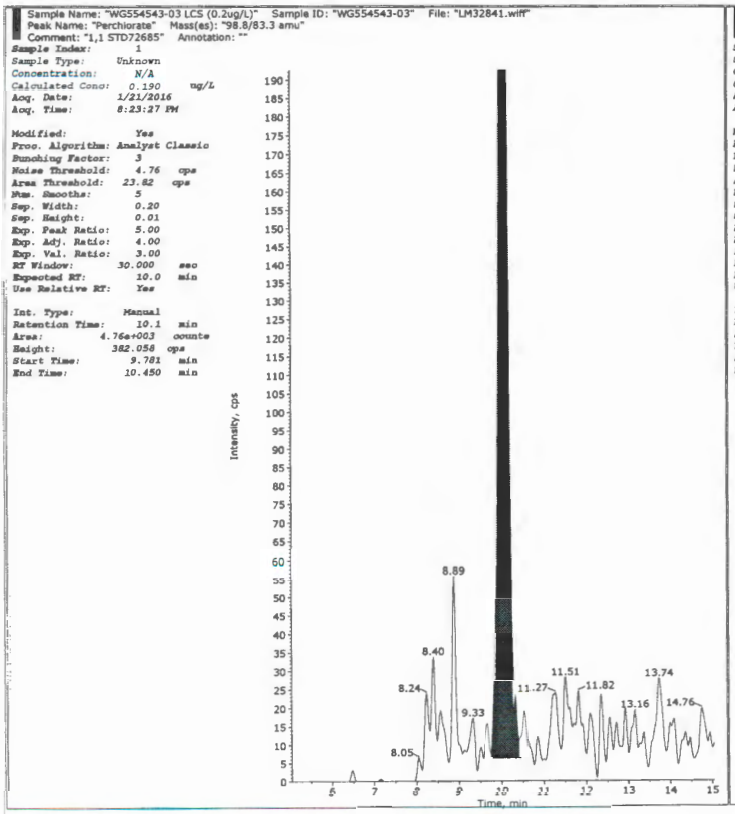


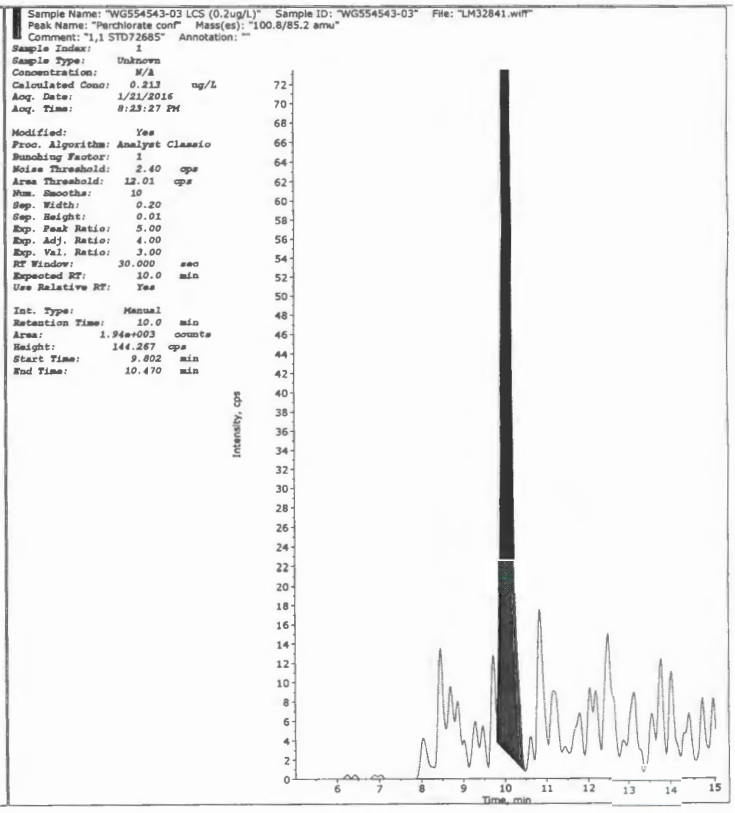
Perchlorate (98.8/83.3 amu) RT (Exp. RT): 10.10 (10.00) min Calculated conc: 0.19 ng/ml Area Ratio: 0.035 Sample Type: (Unknown)	
Perchlorate conf (100.8/85.2 amu) RT (Exp. RT): 10.00 (10.00) min Calculated conc: 0.213 ng/ml Area Ratio: 0.014 Sample Type: (Unknown)	





Collected by: N/A
Electronic Signature: no
Operator: lcms1





#4
JWR 01/22/16

Collected by: N/A
Electronic Signature: no
Operator: lcmsl

3.0 Attachments

Microbac Laboratories Inc.
Ohio Valley Division Analyst List
January 25, 2016

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001 – BIO-CHEM TESTING WVDEP 220	002 – REIC Consultants, Inc. WVDEP 060
003 – Sturm Environmental	004 – MICROBAC PITTSBURGH
005 – ES LABORATORIES	006 – ALCOSAN LABORATORIES
007 – ALS LABORATORIES	008 – BENCHMARK LABORATORIES
010 – MICROBAC CHICAGOLAND	AC – AMBER R. CARMICHAEL
ADC – ANTHONY D. CANTER	ADG – APRIL D. GREENE
AED – ALLEN E. DAVIS	ALS – ADRIANE L. STEED
AWE – ANDREW W. ESSIG	AZH – AFTER HOURS
BJO – BRIAN J. OGDEN	BKT – BRENDAN TORRENCE
BLG – BRENDA L. GREENWALT	BRG – BRENDA R. GREGORY
CAA – CASSIE A. AUGENSTEIN	CAF – CHERYL A. FLOWERS
CEB – CHAD E. BARNES	CJR – COURTNEY J. REXROAD
CLC – CHRYS L. CRAWFORD	CLS – CARA L. STRICKLER
CLW – CHARISSA L. WINTERS	CPD – CHAD P. DAVIS
CSH – CHRIS S. HILL	DAK – DEAN A. KETELSEN
DCM – DAVID C. MERCKLE	DEV – DAVID E. VANDENBERG
DIH – DEANNA I. HESSON	DLB – DAVID L. BUMGARNER
DLP – DOROTHY L. PAYNE	DLW – DIANA L. WRIGHT
DSM – DAVID S. MOSSOR	ECL – ERIC C. LAWSON
ENY – EMILY N. YOAK	ERP – ERIN R. PORTER
FJB – FRANCES J. BOLDEN	JBK – JEREMY B. KINNEY
JDH – JUSTIN D. HESSON	JDS – JARED D. SMITH
JJS – JOHN J. STE MARIE	JKP – JACQUELINE K. PARSONS
JLD – JESSICA L. DELONG	JLL – JOHN L. LENT
JMW – JEANA M. WHITE	JTP – JOSHUA T. PEMBERTON
JWR – JOHN W. RICHARDS	JWS – JACK W. SHEAVES
JYH – JI Y. HU	KAJ – KELLIE A. JOHNSON
KAT – KATHY A. TUCKER	KDW – KATHRYN D. WELCH
KEB – KATIE E. BARNES	KHR – KIM H. RHODES
KKB – KERRI K. BUCK	KRA – KATHY R. ALBERTSON
KRB – KAELY R. BECKER	KRP – KATHY R. PARSONS
LEC – LAURA E. CARPENTER	LKN – LINDA K. NEDEFF
LLS – LARRY L. STEPHENS	LSB – LESLIE S. BUCINA
MBK – MORGAN B. KNOWLTON	MDA – MIKE D. ALBERTSON
MDC – MIKE D. COCHRAN	MES – MARY E. SCHILLING
MLB – MEGAN L. BACHE	MMB – MAREN M. BEERY
MRT – MICHELLE R. TAYLOR	MSW – MATT S. WILSON
PDM – PIERCE D. MORRIS	PIT – MICROBAC WARRENDALE
PRL – PAIGE R. LAMB	PSW – PEGGY S. WEBB
QX – QIN XU	RAH – ROY A. HALSTEAD
REK – BOB E. KYER	RLB – BOB BUCHANAN
RM – RAYMOND MALEKE	RNP – RICK N. PETTY
RST – ROBIN S. TURNER	SAV – SARAH A. VANDENBERG
SCB – SARAH C. BOGOLIN	SDC – SHALYN D. CONLEY
SLM – STEPHANIE L. MOSSBURG	SLP – SHERI L. PFALZGRAF
TB – TODD BOYLE	TGF – TIM G. FELTON
TMB – TIFFANY M. BAILEY	TMM – TAMMY M. MORRIS
VC – VICKI COLLIER	WJB – WILL J. BEASLEY
WRR – WESLEY R. RICHARDS	WTD – WADE T. DELONG
XXX – UNAVAILABLE OR SUBCONTRACT	

Microbac Laboratories Inc.
List of Valid Qualifiers
January 25, 2016

Qualkey: DOD

Qualifier	Description
*	Surrogate or spike compound out of range
+	Correlation coefficient for the MSA is less than 0.995
<	Result is less than the associated numerical value.
>	Greater than
A	See the report narrative
B	The reported result is associated with a contaminated method blank.
B,H1	Analyte present in method blank. Sample analysis performed past holding time.
B1	Target analyte detected in method blank at or above the method reporting limit
B3	Target analyte detected in calibration blank at or above the method reporting limit
B4	The BOD unseeded dilution water blank exceeded 0.2 mg/L
C	Confirmed by GC/MS
CG	Confluent growth
CT1	Cooler temperature at sample reciept exceeded regulatory limit.
DL	Surrogate or spike compound was diluted out
E	Estimated concentration due to sample matrix interference
E,CT1	Estimated results. The cooler temperature at receipt exceeded regulatory guidelines for requested testing.
EDL	Elevated sample reporting limits, presence of non-target analytes
EMPC	Estimated Maximum Possible Concentration
F, S	Estimated result below quantitation limit; method of standard additions(MSA)
F,CT1	Estimated value; the analyte concentration was less than the RL/LOQ. The cooler temperature at receipt exceeded regula
FL	Free Liquid
FP1	Did not ignite.
H1	Sample analysis performed past holding time.
H1,CT1	Sample analysis performed past holding time. The cooler temperature at receipt exceeded regulatory guidelines for reque
I	Semiquantitative result (out of instrument calibration range)
J	Estimated concentration; sample matrix interference.
J	Estimated value ; the analyte concentration was greater than the highest standard
J	Estimated value ; the analyte concentration was less than the LOQ.
J	The reported result is an estimated value.
J,B	Analyte detected in both the method blank and sample above the MDL.
J,CT1	Estimated value ; the analyte concentration was less than the LOQ. Cooler temperature at sample reciept exceeded regu
J,H1	Estimated value ; the analyte concentration was less than the LOQ. Sample analysis performed past holding time.
J,H1	The reported result is an estimated value. Sample was analyzed past holding time.
J,P	Estimate; columns don't agree to within 40%
J,S	Estimated concentration; analyzed by method of standard addition (MSA)
JB	The reported result is an estimated value. The reported result is also associated with a contaminated method blank.
JQ	The reported result is an estimated value and one or more quality control criteria failed. See narrative.
L	Sample reporting limits elevated due to matrix interference
L1	The associated blank spike (LCS) recovery was above the laboratory acceptance limits.
L2	The associated blank spike (LCS) recovery was below the laboratory acceptance limits.
M	Matrix effect; the concentration is an estimate due to matrix effect.
N	Nontarget analyte; the analyte is a tentativlely identified compound (TIC) by GC/MS
NA	Not applicable
ND	Not detected at or above the reporting limit (RL)
ND, B	Not detected at or above the reporting limit (RL). Analyte present in method blank.
ND, CT1	Analyte was not detected. The concentration is below the reported LOD. The cooler temperature at receipt exceeded reg
ND, L	Not detected; sample reporting limit (RL) elevated due to interference
ND, S	Not detected; analyzed by method of standard addition (MSA)
ND,H1	Not detected; Sample analysis performed past holding time.
ND,H1,CT1	Not detected; Sample analysis performed past holding time. The cooler temperature at receipt exceeded regulatory guide
NF	Not found by library search
NFL	No free liquid
NI	Non-ignitable
NR	Analyte is not required to be analyzed
NS	Not spiked
P	Concentrations >40% difference between the two GC columns
Q	One or more quality control criteria failed. See narrative.
Q,H1	One or more quality control criteria failed. Sample analyzed past holding time. See narrative.
QNS	Quantity of sample not sufficient to perform analysis
RA	Reanalysis confirms reported results
RE	Reanalysis confirms sample matrix interference
S	Analyzed by method of standard addition (MSA)
SMI	Sample matrix interference on surrogate
SP	Reported results are for spike compounds only
T5	Laboratory not licensed for this parameter
TIC	Library Search Compound
TNTC	Too numerous to count

Qualkey: DOD

TNTC, B	Too numerous to count. Analyte present in method blank.
TNTC,CT1	Too numerous to count. The cooler temperature at receipt exceeded regulatory guidelines for requested testing.
TNTC,H1	Too numerous to count. Sample analysis performed past holding time.
U	Analyte was not detected. The concentration is below the reported LOD.
U,CT1	Analyte was not detected. The concentration is below the reported LOD. Cooler temperature at sample reciept exceeded
U,H1	Not detected; Sample analysis performed past holding time.
UJ	Undetected; the MDL and RL are estimated due to quality control discrepancies.
UQ	Undetected; the analyte was analyzed for, but not detected.
W	Post-digestion spike for furnace AA out of control limits
X	Exceeds regulatory limit
X, S	Exceeds regulatory limit; method of standard additions (MSA)
Z	Cannot be resolved from isomer - see below

CT LABORATORIES
delivering more than data from your environmental analyses

1230 Lange Court • Baraboo, WI 53913 • 608-356-2760
www.ctlaboratories.com

Sub-Contract Laboratory Chain-of-Custody and Purchase Order

PURCHASE ORDER # 116448 MICROBAC

The PO# must appear on all invoice and reports!

Upon Receipt of Samples, please verify that samples were received in acceptable condition then sign this form and fax to (608)356-2766 or email to the project manager. Sample temperature, upon receipt, must be recorded on this document unless thermal preservation is not a method requirement.

Ship to: **Microbac**
158 Starlight Drive
Marietta, OH 45750

Return Invoice and Results to: **pletterer@ctlaboratories.com**

CTLaboratories
Pat Letterer
1230 Lange Court
Baraboo WI 53913

Date Due: 2 Week TAT ***RUSH TURNAROUND NEEDED? Y or (N) (Circle One)***

Project Name: RADFORD AAP **Project State:** VA

Analytical/QC Criteria: NONE INDICATED STATE (DOD QSM) NELAP (Circle one) OTHER _____ AWL 01-14-16

Report results as EDD? N Y (Circle one and indicate type: _____) Data Deliverable Package LEVEL: IV

CTLabs ID#	Sample Date/Time	Matrix	Sample Description	Analyses / Method		Cost
679979	01/12/2016 1200	GROUND WATER	54MW12	PERCHLORATE	SW6850	
679981	01/12/2016 0900	GROUND WATER	54MW1	PERCHLORATE	SW6850	
679983	01/12/2016 1505	GROUND WATER	54MW13	PERCHLORATE	SW6850	

Relinquished by: Jodi Johnston Date/Time: 1/14/16 1420

Received by: _____ Date/Time: _____

Microbac OVD
Received: 01/15/2016 10:19
By: BRENDA GREGORY 221000080892
Brenda Gregory

COMMENTS:

REPORT ALL SOLIDS ON A DRY WEIGHT BASIS UNLESS OTHERWISE INDICATED

L160106678 / Revision: 0 / 139 total pages

CT Laboratories Terms and Conditions

1. ORDERS AND RECEIPT OF SAMPLES (Sample Acceptance Policy) - not applicable

2. PAYMENT TERMS

2.1 Services performed by CTL will be in accordance with prices quoted and later confirmed in writing or as stated in the Price Schedule. Invoices may be submitted to Client upon completion of any sample delivery group. Payment in advance is required for all Clients except those whose credit has been established with CTL. For Clients with approved credit, payment terms are net 30 days from the date of invoice by CTL. All overdue payments are subject to an additional interest and service charge of one and one-half percent (1.5%) (or the maximum rate permissible by law, whichever is lesser) per month or portion thereof from the due date until the date of payment. All fees are charged or billed directly to the Client. The billing of a third party will not be accepted without a statement, signed by the third party that acknowledges and accepts payment responsibility. CTL may suspend work and withhold delivery of data under this order at any time in the event Client fails to make timely payment of its invoices. Client shall be responsible for all costs and expenses of collection including reasonable attorneyâ€™s fees. CTL reserves the right to refuse to proceed with work at any time based upon an unfavorable Client credit report.

3. CHANGE ORDERS, TERMINATION

3.1 Changes to the Scope of Work, price, or result delivery date may be initiated by CTL after Sample Acceptance due to any condition which conflicts with analytical, QA or other protocols warranted in these Terms and Conditions. CTL will not proceed with such changes until an agreement with the Client is reached on the amount of any cost, schedule change or technical change to the Scope of Work, and such agreement is documented in writing.

3.2 Changes to the Scope of Work, including but not limited to increasing or decreasing the work, changing test and analysis specification or acceleration in the performance of the work may be initiated by the Client after sample acceptance. Such a change will be documented in writing and may result in a change in cost and turnaround time commitment. CTL's acceptance of such changes is contingent upon technical feasibility and operational capacity.

3.3 Suspension or termination of all or any part of the work may be initiated by the Client. CTL will be compensated consistent with Section 2 of these Terms and Conditions. CTL will complete all work in progress and be paid in full for all work completed.

4. WARRANTIES AND LIABILITY

4.1 Where applicable, CTL will use analytical methodologies which are in substantial conformity with published test methods. CTL has implemented these methods in its Laboratory Quality Manuals and referenced Standard Operating Procedures and where the nature or composition of the sample requires it, CTL reserves the right to deviate from these methodologies as necessary or appropriate, based on the reasonable judgment of CTL, which deviations, if any, will be made on a basis consistent with recognized standards of the industry and/or CTL's Laboratory Quality Manuals. Client may request that CTL perform according to a mutually agreed Quality Assurance Project Plan (QAPP). In the event that samples arrive prior to agreement on a QAPP, CTL will proceed with analyses under its standard Quality Manuals then in effect, and CTL will not be responsible for any resampling or other charges if work must be repeated to comply with a subsequently finalized QAPP.

4.2 CTL shall start preparation and/or analysis within holding times provided that Sample Acceptance occurs within 48 hours of sampling or 1/2 of the holding time for the test, whichever is less. Where resolution of inconsistencies leading to Sample Acceptance does not occur within this period, CTL will use its best efforts to meet holding times and will proceed with the work provided that, in CTL's judgment, the chain-of-custody or definition of the Scope of Work provide sufficient guidance. Reanalysis of samples to comply with CTL's Quality Manuals will be deemed to have met holding times provided the initial analysis was performed within the applicable holding time. Where reanalysis demonstrates that sample matrix interference is the cause of failure to meet any Quality Manual requirements, the warranty will be deemed to have been met.

4.3 CTL warrants that it possesses and maintains all licenses and certifications which are required to perform services under these Terms and Conditions provided that such requirements are specified in writing to CTL prior to Sample Acceptance. CTL will notify the Client in writing of any decertification or revocation of any license, or notice of either, which affects work in progress.

4.4 The warranty obligations set forth in Sections 4.1, 4.2 and 4.3 are the sole and exclusive warranties given by CTL in connection with any services performed by CTL or any Results generated from such services, and CTL gives and makes NO OTHER REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. No representative of CTL is authorized to give or make any other representation or warranty or modify this warranty in any way.

4.5 Client's sole and exclusive remedy for the breach of warranty in connection with any services performed by CTL, will be limited to repeating any services performed, contingent on the Client's providing, at the request of CTL and at the Client's expense, additional sample(s) if necessary. Any reanalysis requested by the Client generating Results consistent with the original Results will be at the Client's expense. If resampling is necessary, CTL's liability for resampling costs will be limited to actual cost or one hundred or one hundred fifty dollars ($150) per sample, whichever is less.

4.6 CTL's liability for any and all causes of action arising hereunder, whether based in contract, tort, warranty, negligence or otherwise, shall be limited to the lesser amount of compensation for the services performed or $100,000. All claims, including those for negligence, shall be deemed waived unless suit thereon is filed within one year after CTL's completion of the services. Under no circumstances, whether arising in contract, tort (including negligence), or otherwise, shall CTL be responsible for loss of use, loss of profits, or for any special, indirect, incidental or consequential damages occasioned by the services performed or by application or use of the reports prepared.

4.7 In no event shall CTL have any responsibility or liability to the Client for any failure or delay in performance by CTL which results, directly or indirectly, in whole or in part, from any cause or circumstance beyond the reasonable control of CTL. Such causes and circumstances shall include, but not be limited to, acts of God, acts of Client, acts or orders of any governmental authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, equipment breakdown, matrix interference or unknown highly contaminated samples that impact instrument operation, unavailability of supplies from usual suppliers, difficulties or delays in transportation, mail or delivery services, or any other cause beyond CTL's reasonable control.

5. RESULTS, WORK PRODUCT - not applicable

6. INSURANCE

6.1 CTL shall maintain in force during the performance of services under these Terms and Conditions, Workers' Compensation and Employer's Liability Insurance in accordance with the laws of the states having jurisdiction over CTL's employees who are engaged in the performance of the work. CTL shall also maintain during such period, Comprehensive General and Contractual Liability (limit of $2,000,000 per occurrence/ aggregate), Comprehensive Automobile Liability, owned and hired, ($1,000,000 combined single limit), and Professional/Pollution Liability Insurance (limit of $5,000,000 per occurrence/aggregate).Â Any Client required changes to these limits or conditions may result in a change in cost to the Client.

7. AUDIT

7.1 Upon prior notice to CTL, the Client may audit and inspect CTL's records and accounts covering reimbursable costs related to work done for the Client, for a period of one (1) year after completion of the work. The purpose of any such audit shall be only for verification of such costs, and CTL shall not be required to provide access to cost records where prices are expressed as fixed fees or published unit prices

Generated: 01/25/2016 16:46

Internal Chain of Custody Report

Login: L16010678
Account: 2694
Project: 2694.005
Samples: 5
Due Date: 26-JAN-2016

Samplenum	Container ID	Products
L16010678-01	688607	6850

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	15-JAN-2016 11:41	CLS		
2	ANALYZ	W1	SEM	19-JAN-2016 15:24	JWR	BRG	

Samplenum	Container ID	Products
L16010678-02	688608	6850

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	15-JAN-2016 11:41	CLS		
2	ANALYZ	W1	SEM	19-JAN-2016 15:24	JWR	BRG	

Samplenum	Container ID	Products
L16010678-03	688609	6850

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	15-JAN-2016 11:41	CLS		
2	ANALYZ	W1	SEM	19-JAN-2016 15:24	JWR	BRG	

Samplenum	Container ID	Products
L16010678-04	688610	6850

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	15-JAN-2016 11:41	CLS		
2	ANALYZ	W1	SEM	19-JAN-2016 15:24	JWR	BRG	

Samplenum	Container ID	Products
L16010678-05	688611	6850

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	15-JAN-2016 11:41	CLS		
2	ANALYZ	W1	SEM	19-JAN-2016 15:24	JWR	BRG	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Summit Environmental Technologies, Inc.
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January 21, 2016

Jodi Serstad
CTLaboratories
1230 Lange Court
Baraboo, WI 53913
TEL: 608-356-2760
FAX: 608-356-2766

RE: Radford AAP

Dear Jodi Serstad: Order No.: 16010839

Summit Environmental Technologies, Inc. received 5 sample(s) on 1/15/2016 for the analyses presented in the following report.

There were no problems with the analytical events associated with this report unless noted in the Case Narrative.

Quality control data is within laboratory defined or method specified acceptance limits except where noted.

If you have any questions regarding these tests results, please feel free to call the laboratory.

Sincerely,

Patti Alderson

Project Manager

3310 Win St.
Cuyahoga Falls, Ohio 44223

A2LA 0724.01, Alabama 41600, Arizona AZ0788, Arkansas 88-0735, California 07256CA, Colorado, Connecticut PH-0105, Delaware, Florida NELAC E87688, Georgia E87688 and 943, Idaho OH00923, Illinois 200061 and Reg.5, Indiana C-OH-13, Kansas E-10347, Kentucky (Underground Storage Tank) 3, Kentucky 90146, Louisiana 04061 and LA12004, Maine 2012015, Maryland 339, Massachusetts M-OPH923, Minnesota 409711, Montana CERT0099, New Hampshire 2996, New Jersey OH006, New York 11777, North Carolina 39705 and 631, Ohio Drinking Water 4170, Ohio VAP CL0052, Oklahoma 9940, Oregon OH200001, Rhode Island LA000317, South Carolina 92016001, Tennessee TN04018, Texas T104704466-11-5, Region 8 8TMS-L, USDA/APHIS P330-11-00244, Utah OH009232011-1, Vermont VT-87688, Virginia 00440 and 1581, Washington C891, West Virginia 248 and 9957C and E87688, Wisconsin 399013010

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Case Narrative

WO#: **16010839**
Date: **1/21/2016**

CLIENT: CTLaboratories
Project: Radford AAP

This report in its entirety consists of the documents listed below. All documents contain the Summit Environmental Technologies, Inc., Work Order Number assigned to this report.

Paginated Report including Cover Letter, Case Narrative, Analytical Results, Applicable Quality Control Summary Reports, and copies of the Chain of Custody Documents are supplied with this sample set.

Concentrations reported with a J-Flag in the Qualifier Field are values below the Limit of Quantitation (LOQ) but greater than the established Method Detection Limit (MDL).

Method numbers, unless specified as SM (Standard Methods) or ASTM, are EPA methods.

Estimated uncertainty values are available upon request.

Analysis performed by DBM, VRM, or SFG were performed at Summit Labs 2704 Eatonton Highway Haddock, GA 31033

All results for Solid Samples are reported on an "as received" or "wet weight" basis unless indicated as "dry weight" using the "-dry" designation on the reporting units.

Summit Environmental Technologies, Inc., holds the accreditations/certifications listed at the bottom of the cover letter that may or may not pertain to this report.

The information contained in this analytical report is the sole property of Summit Environmental Technologies, Inc. and that of the customer. It cannot be reproduced in any form without the consent of Summit Environmental Technologies, Inc. or the customer for which this report was issued. The results contained in this report are only representative of the samples received. Conditions can vary at different times and at different sampling conditions. Summit Environmental Technologies, Inc. is not responsible for use or interpretation of the data included herein.

This report is believed to meet all of the requirements of NELAC or the accrediting / certifying agency. Any comments or problems with the analytical events associated with this report are noted below.

Summit Environmental Technologies, In
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Qualifiers and Acronyms

WO#: **16010839**
Date: **1/21/2016**

These commonly used Qualifiers and Acronyms may or may not be present in this report.

Qualifiers

U	The compound was analyzed for but was not detected.
J	The reported value is greater than the Method Detection Limit but less than the Reporting Limit.
H	The hold time for sample preparation and/or analysis was exceeded.
D	The result is reported from a dilution.
E	The result exceeded the linear range of the calibration or is estimated due to interference.
MC	The result is below the Minimum Compound Limit.
*****	The result exceeds the Regulatory Limit or Maximum Contamination Limit.
m	Manual integration was used to determine the area response.
N	The result is presumptive based on a Mass Spectral library search assuming a 1:1 response.
P	The second column confirmation exceeded 25% difference.
C	The result has been confirmed by GC/MS.
X	The result was not confirmed when GC/MS Analysis was performed.
B/MB+	The analyte was detected in the associated blank.
G	The ICB or CCB contained reportable amounts of analyte.
QC-/+	The CCV recovery failed low (-) or high (+).
R/QDR	The RPD was outside of accepted recovery limits.
QL-/+	The LCS or LCSD recovery failed low (-) or high (+).
QLR	The LCS/LCSD RPD was outside of accepted recovery limits.
QM-/+	The MS or MSD recovery failed low (-) or high (+).
QMR	The MS/MSD RPD was outside of accepted recovery limits.
QV-/+	The ICV recovery failed low (-) or high (+).
S	The spike result was outside of accepted recovery limits.
Z	Deviation; A deviation from the method was performed; Please refer to the Case Narrative for additional information

Acronyms

ND	Not Detected	**RL**	Reporting Limit
QC	Quality Control	**MDL**	Method Detection Limit
MB	Method Blank	**LOD**	Level of Detection
LCS	Laboratory Control Sample	**LOQ**	Level of Quantitation
LCSD	Laboratory Control Sample Duplicate	**PQL**	Practical Quantitation Limit
QCS	Quality Control Sample	**CRQL**	Contract Required Quantitation Limit
DUP	Duplicate	**PL**	Permit Limit
MS	Matrix Spike	**RegLvl**	Regulatory Limit
MSD	Matrix Spike Duplicate	**MCL**	Maximum Contamination Limit
RPD	Relative Percent Different	**MinCL**	Minimum Compound Limit
ICV	Initial Calibration Verification	**RA**	Reanalysis
ICB	Initial Calibration Blank	**RE**	Reextraction
CCV	Continuing Calibration Verification	**TIC**	Tentatively Identified Compound
CCB	Continuing Calibration Blank	**RT**	Retention Time
RLC	Reporting Limit Check	**CF**	Calibration Factor
DF	Dilution Factor	**RF**	Response Factor

This list of Qualifiers and Acronyms reflects the most commonly utilized Qualifiers and Acronyms for reporting. Please refer to the Analytical Notes in the Case Narrative for any Qualifiers or Acronyms that do not appear in this list or for additional information regarding the use of these Qualifiers on reported data.

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Workorder Sample Summary

WO#: **16010839**

21-Jan-16

CLIENT: CTLaboratories
Project: Radford AAP

Lab SampleID	Client Sample ID	Tag No	Date Collected	Date Received	Matrix
16010839-001	679979		1/12/2016 12:00:00 PM	1/15/2016 10:20:00 AM	Non-Potable Water
16010839-002	679981		1/12/2016 9:00:00 AM	1/15/2016 10:20:00 AM	Non-Potable Water
16010839-003	679983		1/12/2016 3:05:00 PM	1/15/2016 10:20:00 AM	Non-Potable Water
16010839-004	679979MS		1/12/2016 12:00:00 PM	1/15/2016 10:20:00 AM	Non-Potable Water
16010839-005	679979MSD		1/12/2016 12:00:00 PM	1/15/2016 10:20:00 AM	Non-Potable Water

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WO#: **16010839**
Date Reported: **1/21/2016**
Company: CTLaboratories
Address: 1230 Lange Court
Baraboo WI 53913
Received: 1/15/2016
Project#: Radford AAP

Client ID#	Lab#	Collected	Analyte	Result	Units	Qual	Matrix	Method	DF	LOD	LOQ	Run	Analyst
679979	001	1/12/2016	Chlorate	ND	µg/L	U	Non-Potable Water	EPA 300.1	1	0.360	10.0	1/20/2016	RMT
679979	001	1/12/2016	Surr: DCA	94.4	%REC		Non-Potable Water	EPA 300.1	1		90-115	1/20/2016	RMT
679979	001	1/12/2016	Chlorite	ND	µg/L	U	Non-Potable Water	EPA 300.1	1	0.720	10.0	1/20/2016	RMT
679979	001	1/12/2016	Surr: DCA	94.4	%REC		Non-Potable Water	EPA 300.1	1		90-115	1/20/2016	RMT
679981	002	1/12/2016	Chlorate	ND	µg/L	U	Non-Potable Water	EPA 300.1	1	0.360	10.0	1/20/2016	RMT
679981	002	1/12/2016	Surr: DCA	94.6	%REC		Non-Potable Water	EPA 300.1	1		90-115	1/20/2016	RMT
679981	002	1/12/2016	Chlorite	ND	µg/L	U	Non-Potable Water	EPA 300.1	1	0.720	10.0	1/20/2016	RMT
679981	002	1/12/2016	Surr: DCA	94.6	%REC		Non-Potable Water	EPA 300.1	1		90-115	1/20/2016	RMT
679983	003	1/12/2016	Chlorate	ND	µg/L	U	Non-Potable Water	EPA 300.1	1	0.360	10.0	1/20/2016	RMT
679983	003	1/12/2016	Surr: DCA	95.9	%REC		Non-Potable Water	EPA 300.1	1		90-115	1/20/2016	RMT
679983	003	1/12/2016	Chlorite	ND	µg/L	U	Non-Potable Water	EPA 300.1	1	0.720	10.0	1/20/2016	RMT
679983	003	1/12/2016	Surr: DCA	95.9	%REC		Non-Potable Water	EPA 300.1	1		90-115	1/20/2016	RMT
679979MS	004	1/12/2016	Chlorate	1230	µg/L		Non-Potable Water	EPA 300.1	1	0.360	10.0	1/20/2016	RMT
679979MS	004	1/12/2016	Surr: DCA	94.3	%REC		Non-Potable Water	EPA 300.1	1		90-115	1/20/2016	RMT
679979MS	004	1/12/2016	Chlorite	1210	µg/L	S	Non-Potable Water	EPA 300.1	1	3.60	50.0	1/20/2016	RMT
679979MS	004	1/12/2016	Surr: DCA	94.3	%REC		Non-Potable Water	EPA 300.1	1		90-115	1/20/2016	RMT

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WO#: **16010839**
Date Reported: **1/21/2016**
Company: CTLaboratories
Address: 1230 Lange Court
Baraboo WI 53913
Received: 1/15/2016
Project#: Radford AAP

Client ID#	Lab#	Collected	Analyte	Result	Units	Qual	Matrix	Method	DF	LOD	LOQ	Run	Analyst
679979MSD	005	1/12/2016	Chlorate	1200	µg/L		Non-Potable Water	EPA 300.1	1	0.360	10.0	1/20/2016	RMT
679979MSD	005	1/12/2016	Surr: DCA	98.6	%REC		Non-Potable Water	EPA 300.1	1		90-115	1/20/2016	RMT
679979MSD	005	1/12/2016	Chlorite	1200	µg/L	S	Non-Potable Water	EPA 300.1	1	3.60	50.0	1/20/2016	RMT
679979MSD	005	1/12/2016	Surr: DCA	98.6	%REC		Non-Potable Water	EPA 300.1	1		90-115	1/20/2016	RMT

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QC SUMMARY REPORT

WO#: **16010839**

21-Jan-16

Client: CTLaboratories
Project: Radford AAP

TestCode: **Chlorate_DW(300.1)**

Sample ID	**MB-R48820**	SampType:	**MBLK**	TestCode:	**Chlorate_DW**	Units:	**µg/L**	Prep Date:		RunNo:	**48820**
Client ID:	**PBW**	Batch ID:	**R48820**	TestNo:	**E300.1**			Analysis Date:	**1/20/2016**	SeqNo:	**761604**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chlorate	ND	10.0									U
Surr: DCA	919		1000		91.9	90	115				

Sample ID	**CCV 1**	SampType:	**CCV**	TestCode:	**Chlorate_DW**	Units:	**µg/L**	Prep Date:		RunNo:	**48820**
Client ID:	**CCV**	Batch ID:	**R48820**	TestNo:	**E300.1**			Analysis Date:	**1/20/2016**	SeqNo:	**761605**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chlorate	495	10.0	500.0	0	99.0	85	115				
Surr: DCA	1080		1000		108	90	115				

Sample ID	**LCS-R48820**	SampType:	**LCS**	TestCode:	**Chlorate_DW**	Units:	**µg/L**	Prep Date:		RunNo:	**48820**
Client ID:	**LCSW**	Batch ID:	**R48820**	TestNo:	**E300.1**			Analysis Date:	**1/20/2016**	SeqNo:	**761606**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chlorate	509	10.0	500.0	0	102	85	115				
Surr: DCA	1080		1000		108	90	115				

Sample ID	**LCSD-R48820**	SampType:	**LCSD**	TestCode:	**Chlorate_DW**	Units:	**µg/L**	Prep Date:		RunNo:	**48820**
Client ID:	**LCSS02**	Batch ID:	**R48820**	TestNo:	**E300.1**			Analysis Date:	**1/20/2016**	SeqNo:	**761607**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chlorate	523	10.0	500.0	0	105	85	115	509.3	2.62	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	M	Manual Integration used to determine area respor
MC	Value is below Minimum Compound Limit.	ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits	U	Samples with CalcVal < MDL

Original

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TEL: (330) 253-8211 FAX: (330) 253-4489
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QC SUMMARY REPORT

WO#: **16010839**

21-Jan-16

Client: CTLaboratories
Project: Radford AAP

TestCode: **Chlorate_DW(300.1)**

Sample ID **LCSD-R48820** SampType: **LCSD** TestCode: **Chlorate_DW** Units: **µg/L** Prep Date: RunNo: **48820**
Client ID: **LCSS02** Batch ID: **R48820** TestNo: **E300.1** Analysis Date: **1/20/2016** SeqNo: **761607**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: DCA	1060		1000		106	90	115		0	0	

Sample ID **16010838-001ADUP** SampType: **DUP** TestCode: **Chlorate_DW** Units: **µg/L** Prep Date: RunNo: **48820**
Client ID: **BatchQC** Batch ID: **R48820** TestNo: **E300.1** Analysis Date: **1/20/2016** SeqNo: **761610**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chlorate	ND	10.0						0	0	20	U
Surr: DCA	937		1000		93.7	90	115		0	0	

Sample ID **16010839-001AMS** SampType: **MS** TestCode: **Chlorate_DW** Units: **µg/L** Prep Date: RunNo: **48820**
Client ID: **679979** Batch ID: **R48820** TestNo: **E300.1** Analysis Date: **1/20/2016** SeqNo: **761613**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chlorate	1230	10.0	1250	0	98.4	75	125				
Surr: DCA	943		1000		94.3	90	115				

Sample ID **16010839-001AMSD** SampType: **MSD** TestCode: **Chlorate_DW** Units: **µg/L** Prep Date: RunNo: **48820**
Client ID: **679979** Batch ID: **R48820** TestNo: **E300.1** Analysis Date: **1/20/2016** SeqNo: **761614**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chlorate	1200	10.0	1250	0	96.0	75	125	1230	2.44	20	
Surr: DCA	986		1000		98.6	90	115		0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	M	Manual Integration used to determine area respor
MC	Value is below Minimum Compound Limit.	ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits	U	Samples with CalcVal < MDL

Original

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QC SUMMARY REPORT

WO#: **16010839**

21-Jan-16

Client: CTLaboratories
Project: Radford AAP

TestCode: **Chlorate_DW(300.1)**

Sample ID	**16010839-001AMSD**	SampType:	**MSD**	TestCode:	**Chlorate_DW**	Units:	**µg/L**	Prep Date:		RunNo:	**48820**	
Client ID:	**679979**	Batch ID:	**R48820**	TestNo:	**E300.1**			Analysis Date:	**1/20/2016**	SeqNo:	**761614**	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID	**CCV 2**	SampType:	**CCV**	TestCode:	**Chlorate_DW**	Units:	**µg/L**	Prep Date:		RunNo:	**48820**	
Client ID:	**CCV**	Batch ID:	**R48820**	TestNo:	**E300.1**			Analysis Date:	**1/20/2016**	SeqNo:	**761617**	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chlorate	496	10.0	500.0	0	99.1	85	115				
Surr: DCA	1070		1000		107	90	115				

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	M	Manual Integration used to determine area respor
MC	Value is below Minimum Compound Limit.	ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits	U	Samples with CalcVal < MDL

Original

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Website: http://www.settek.com

QC SUMMARY REPORT

WO#: **16010839**

21-Jan-16

Client: CTLaboratories
Project: Radford AAP

TestCode: **Chlorite_DW(300.1)**

Sample ID **MB-R48818**	SampType: **MBLK**	TestCode: **Chlorite_DW(**	Units: **µg/L**	Prep Date:	RunNo: **48818**
Client ID: **PBW**	Batch ID: **R48818**	TestNo: **E300.1**		Analysis Date: **1/20/2016**	SeqNo: **761589**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chlorite	ND	10.0									U
Surr: DCA	919		1000		91.9	90	115				

Sample ID **CCV 1**	SampType: **CCV**	TestCode: **Chlorite_DW(**	Units: **µg/L**	Prep Date:	RunNo: **48818**
Client ID: **CCV**	Batch ID: **R48818**	TestNo: **E300.1**		Analysis Date: **1/20/2016**	SeqNo: **761590**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chlorite	464	10.0	500.0	0	92.9	85	115				
Surr: DCA	1080		1000		108	90	115				

Sample ID **LCS-R48818**	SampType: **LCS**	TestCode: **Chlorite_DW(**	Units: **µg/L**	Prep Date:	RunNo: **48818**
Client ID: **LCSW**	Batch ID: **R48818**	TestNo: **E300.1**		Analysis Date: **1/20/2016**	SeqNo: **761591**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chlorite	529	10.0	500.0	0	106	85	115				
Surr: DCA	1080		1000		108	90	115				

Sample ID **LCSD-R48818**	SampType: **LCSD**	TestCode: **Chlorite_DW(**	Units: **µg/L**	Prep Date:	RunNo: **48818**
Client ID: **LCSS02**	Batch ID: **R48818**	TestNo: **E300.1**		Analysis Date: **1/20/2016**	SeqNo: **761592**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chlorite	523	10.0	500.0	0	105	85	115	529.5	1.26	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	M	Manual Integration used to determine area respor
MC	Value is below Minimum Compound Limit.	ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits	U	Samples with CalcVal < MDL

Original

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QC SUMMARY REPORT

WO#: **16010839**

21-Jan-16

Client: CTLaboratories
Project: Radford AAP

TestCode: **Chlorite_DW(300.1)**

Sample ID	**LCSD-R48818**	SampType:	**LCSD**	TestCode:	**Chlorite_DW(**	Units:	**µg/L**	Prep Date:		RunNo:	**48818**
Client ID:	**LCSS02**	Batch ID:	**R48818**	TestNo:	**E300.1**			Analysis Date:	**1/20/2016**	SeqNo:	**761592**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: DCA	1060		1000		106	90	115		0	0	

Sample ID	**16010838-001ADUP**	SampType:	**DUP**	TestCode:	**Chlorite_DW(**	Units:	**mg/L**	Prep Date:		RunNo:	**48818**
Client ID:	**BatchQC**	Batch ID:	**R48818**	TestNo:	**E300.1**			Analysis Date:	**1/20/2016**	SeqNo:	**761595**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chlorite	ND	10.0						0	0	20	U
Surr: DCA	937		1000		93.7	90	115		0	0	

Sample ID	**16010839-001AMS**	SampType:	**MS**	TestCode:	**Chlorite_DW(**	Units:	**µg/L**	Prep Date:		RunNo:	**48818**
Client ID:	**679979**	Batch ID:	**R48818**	TestNo:	**E300.1**			Analysis Date:	**1/20/2016**	SeqNo:	**761598**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chlorite	1210	50.0	1250	0	96.6	75	125				
Surr: DCA	943		1000		94.3	90	115				

Sample ID	**16010839-001AMSD**	SampType:	**MSD**	TestCode:	**Chlorite_DW(**	Units:	**µg/L**	Prep Date:		RunNo:	**48818**
Client ID:	**679979**	Batch ID:	**R48818**	TestNo:	**E300.1**			Analysis Date:	**1/20/2016**	SeqNo:	**761599**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chlorite	1200	50.0	1250	0	95.9	75	125	1207	0.673	20	
Surr: DCA	986		1000		98.6	90	115		0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	M	Manual Integration used to determine area respor
MC	Value is below Minimum Compound Limit.	ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits	U	Samples with CalcVal < MDL

Original

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

QC SUMMARY REPORT

WO#: **16010839**

21-Jan-16

Client: CTLaboratories
Project: Radford AAP

TestCode: **Chlorite_DW(300.1)**

Sample ID	**16010839-001AMSD**	SampType:	**MSD**	TestCode:	**Chlorite_DW(**	Units:	**µg/L**	Prep Date:		RunNo:	**48818**
Client ID:	**679979**	Batch ID:	**R48818**	TestNo:	**E300.1**			Analysis Date:	**1/20/2016**	SeqNo:	**761599**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID	**CCV 2**	SampType:	**CCV**	TestCode:	**Chlorite_DW(**	Units:	**µg/L**	Prep Date:		RunNo:	**48818**
Client ID:	**CCV**	Batch ID:	**R48818**	TestNo:	**E300.1**			Analysis Date:	**1/20/2016**	SeqNo:	**761602**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chlorite	458	10.0	500.0	0	91.6	85	115				
Surr: DCA	1070		1000		107	90	115				

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	M	Manual Integration used to determine area respor
MC	Value is below Minimum Compound Limit.	ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits	U	Samples with CalcVal < MDL

Original

CT LABORATORIES
delivering more than data from your environmental analyses

1230 Lange Court • Baraboo, WI 53913 • 608-356-2760
www.ctlaboratories.com

Sub-Contract Laboratory Chain-of-Custody and Purchase Order

PURCHASE ORDER # 116448 Summit

The PO# must appear on all invoice and reports!

Upon Receipt of Samples, please verify that samples were received in acceptable condition then sign this form and fax to (608)356-2766 or email to the project manager. Sample temperature, upon receipt, must be recorded on this document unless thermal preservation is not a method requirement.

Ship to: **Summit Environmental Technol**
3310 Win Street
Cuyahoga Falls, Ohio 44223

Return Invoice and Results to: **pletterer@ctlaboratories.com**

CTLaboratories
Pat Letterer
1230 Lange Court
Baraboo WI 53913

Date Due: 2 Week TAT *RUSH TURNAROUND NEEDED? Y or (N) (Circle One)*

Project Name: RADFORD AAP **Project State:** VA

Analytical/QC Criteria: NONE INDICATED STATE (DOD QSM) NELAP (Circle one) OTHER _____

Report results as EDD? N Y (Circle one and indicate type: _____) Data Deliverable Package LEVEL: IV

BML 01-14-16

CTLabs ID#	Sample Date/Time	Matrix	Sample Description	Analyses / Method		Cost
679979	01/12/2016 1200	GROUND WATER	54MW12	CHLORATE/CHLORITE	300.1	
679981	01/12/2016 0900	GROUND WATER	54MW1	CHLORATE/CHLORITE	300.1	
679983	01/12/2016 1505	GROUND WATER	54MW13	CHLORATE/CHLORITE	300.1	

Relinquished by: _____ Date/Time: 1/14/16 1420

Received by: _____ Date/Time: 1/15/16 1020 Receipt Temperature (C) _____

COMMENTS:

160108 39-001-003sc

REPORT ALL SOLIDS ON A DRY WEIGHT BASIS UNLESS OTHERWISE INDICATED

Rev. 14

06/15/15

Summit Environmental Technologies, Inc.
Cooler Receipt Form

Client: CTL

Initials of person inspecting cooler and samples: CSL

Order Number: 1601839

Date Received: 1-15-16 Time Received: 1020 Date cooler(s) opened and samples inspected: 1-15-16

Number of Coolers/Boxes: _____ N/A

Shipper: FED EX (UPS) DHL Airborne US Postal Walk-in Pickup Other: _____

Packaging: Peanuts (Bubble Wrap) Paper Foam None Other: _____

Tape on cooler/box:	(Y)	N	N/A
Custody Seals intact	(Y)	N	N/A
C-O-C in plastic	(Y)	N	N/A
Ice_____ Blue ice _____	present / absent / melted		N/A
Sample Temperature IR Gun #16020459 CF 0.0 °C	3.9	°C	N/A
Radiological Testing Instrument serial #35127 (see page 2 for scan results)	Y	N	N/A

**Use 1 sheet per sample for Radiological Testing. If sample is HOT, the Radiological Safety Officer must be notified immediately.

C-O-C filled out properly	(Y)	N	N/A
Samples in separate bags	(Y)	N	N/A
Sample containers intact*	(Y)	N	N/A

*If no, list broken sample(s): _____

Sample label(s) complete (ID, date, etc.)	(Y)	N	N/A
Label(s) agree with C-O-C	(Y)	N	N/A
Correct containers used	(Y)	N	N/A
Sufficient sample received	(Y)	N	N/A
Samples received within holding time	(Y)	N	
Bubbles absent from 40 mL vials**	Y	N	(N/A)

** Samples with bubbles <6mm are acceptable. Indicate bubble size if >6mm. _____

Was client contacted about samples	Y	N
Will client send new samples	Y	N

Client contact: _____

Date/Time: _____

Logged in by: _____

Comments: _____

06/15/15

Summit Environmental Technologies, Inc.
Sample Receipt

pH and Chlorine test on samples

pH strip SET (0-14)# OES-01-0207 pH strip (2.8-4.6) SET#OES-01-0149
Total DPD packet SET#_____ Free DPD packet SET#_____
Disp. Pipette SET# WC-03-0610

ID	Method	pH	Chlorine (±)	Comments
1	✓	6		
2	✓	6		
3	✓	6		

Radiological scan on sample

ID	scan	CPM

Permanganate interference
.1, 508, 515.1, 525.2, 547, 548.1, 549.1, 531.2, 1613 methods checked for Total chlorine
.2 checked for Free chlorine
.2 pH is checked for ~3.8 (SET# OES-01-0149)
.2 = pH and Chlorine checked at bench and not log in department

CHAIN OF CUSTODY,
PM CONFIRMATION
AND
SAMPLE CONDITION FORMS
DOCUMENTS

CT LABORATORIES
delivering more than data from your environmental analyses

Sample Condition Report

Folder #: 116426
Client: BERING SEA ENVIRONMENTAL

Print Date / Time: 01/12/2016 12:59
Received Date / Time / By: 01/12/2016 1140 DJL

Project Name: RADFORD AAP
Project Phase:

Log-In Date / Time / By: 01/12/2016 1259 JLS
Project #: 313010-010 PM: PML

Coolers: 5469
Custody Seals Present : **Y**

Temperature: 4.1 C On Ice: **Y**
COC Present:? **Y** Complete? **Y**

Seal Intact? **Y**
Ship Method: FEDEX EXPRESS
Adequate Packaging: **Y**

Numbers: DATED AND SIGNED
Tracking Number: 782143907644
Temp Blank Enclosed? **Y**

Notes: SAMPLES WERE RECEIVED IN GOOD CONDITION ON ICE

2 CUSTODY SEALS PRESENT AND INTACT, BOTH DATED 1/11/16 AND SIGNED

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
679480 54MW10				
	LABEL ONLY	1	/	Anions
	Total # of Containers of Type	**(*LABEL ONLY*) = 1**		
679480 54MW10				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type	**(*UNPRES PL*) = 1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
679481 54MW10				
	AMBER GL	1	/	CARBON
	Total # of Containers of Type	**(*AMBER GL*) = 1**		
679481 54MW10				
	MISC	1	/	CHLORATE/CHLORITE
	Total # of Containers of Type	**(*MISC*) = 1**		
679481 54MW10				
	AMBER GL	1	/	EXPL
	AMBER GL	1	/	EXPL
	Total # of Containers of Type	**(*AMBER GL*) = 2**		
679481 54MW10				
	UNPRES PL	1	/	Perchlorate
	Total # of Containers of Type	**(*UNPRES PL*) = 1**		
679481 54MW10				
	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type	**(*H2SO4 PL*) = 1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
679482 54TM10				
	LABEL ONLY	1	/	Anions
	Total # of Containers of Type		**(*LABEL ONLY*) = 1**	
679482 54TM10				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type		**(*UNPRES PL*) = 1**	

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
679483 54TM10				
	AMBER GL	1	/	CARBON
	Total # of Containers of Type		**(*AMBER GL*) = 1**	
679483 54TM10				
	MISC	1	/	CHLORATE/CHLORITE
	Total # of Containers of Type		**(*MISC*) = 1**	
679483 54TM10				
	AMBER GL	1	/	EXPL
	AMBER GL	1	/	EXPL
	Total # of Containers of Type		**(*AMBER GL*) = 2**	
679483 54TM10				
	UNPRES PL	1	/	Perchlorate
	Total # of Containers of Type		**(*UNPRES PL*) = 1**	
679483 54TM10				
	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type		**(*H2SO4 PL*) = 1**	

Condition Code	*Condition Description*
1	Sample Received OK

Rev 8/2014

CHAIN OF CUSTODY

Page 1 of 1

Company: BSEN
Project Contact: JULIA LIU
Telephone: 757-256-6281
Project Name: RAAP
Project #: 313010-010
Location: RADFORD, VA
Sampled By: SJL

Folder #: 116426
Company: BERING SEA ENVIRON
Project: RADFORD AAP
Logged By: JLS PM: PM

1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

gram:
/ RCRA SDWA NPDES
d Waste Other _____

BSN-1223

Report To: JULIA LIU
EMAIL: SLIU@BSENV.COM
Company: BSEN
Address:

Invoice To:* JULIA LIU
EMAIL: SLIU@BSENV.COM
Company: BSEN
Address:

Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

Client Special Instructions
LAB WILL NEED TO FILTER

Matrix:
GW – groundwater **SW** - surface water **WW** - wastewater **DW** - drinking water
S - soil/sediment **SL** - sludge **A** - air **M** - misc/waste

Turnaround Time
(Normal) RUSH*
Date Needed: _____
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

Collection Date	Collection Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	ANALYSES REQUESTED: Explosives	MNX/DNX/TNX	TPC	Perchlorate	Chlorate / Chlorite	TIC/Nitrate / Chloride/Sulfate	Total # Containers	Designated MS/MSD	CT Lab ID # (Lab use only)
							Fill in Spaces with Bottles per Test								
1/11/16	1415	GW	GRAB		SATMW10	N	X	X	X	X	X	X	6		679480/481
1/11/16	1415	GW	GRAB		SATM10	N	X	X	X	X	X	X	6		679482/483

Relinquished By: _____ Date/Time 1/11/16 1716
Received by: _____ Date/Time _____

Received By: _____ Date/Time 1/12/16 1259
Received for Laboratory by: _____ Date/Time 1/12/16 11:40

Lab Use Only
Ice Present (Yes) No
Temp 4.1 IR Gun # 11
Cooler # 5469

CT Laboratories Terms and Conditions

Where a purchaser (Client) places an order for laboratory, consulting or sampling services from CT Laboratories (CTL), CTL shall provide the ordered services pursuant to these Terms and Conditions, and the related Quotation, or as agreed in a negotiated contract. In the absence of a written agreement to the contrary, the Order constitutes an acceptance by the Client of CTL's offer to do business under these Terms and Conditions, and an agreement to be bound by these Terms and Conditions. No contrary or additional terms and conditions expressed in a Client's document shall be deemed to become a part of the contract created upon acceptance of these Terms and Conditions, unless accepted by CTL in advance of the start of the project and in writing.

1. ORDERS AND RECEIPT OF SAMPLES (Sample Acceptance Policy)

1.1 The Client may place the Order (i.e., specify a Scope of Work) either by submitting a purchase order to CTL in writing, by telephone (confirmed in writing) or by negotiated contract. Whichever option the Client selects for placing the Order, the Order shall not be valid unless it contains sufficient specification to enable CTL to carry out the Client's requirements. It is the policy of CT Laboratories that samples not meeting the acceptance criteria, outlined in the NELAC standards and Section 5.8.3.2 of the DOD QSM, will not be accepted by the laboratory or will be qualified on the final report. All samples submitted to the laboratory must: (1) be accompanied by proper, full and complete documentation, including sample identification, location, date and time of collection, the collector's name, type of preservation (if any), type of sample, any special comments concerning the sample and any additional pertinent fields on the chain-of-custody. In the absence of any of the required information, the laboratory will attempt to contact the client to obtain the information; if unable to obtain the necessary information, the final report will be qualified. (2) be labeled appropriately with a unique sample identification written with indelible ink on water resistant labels. If the laboratory cannot determine the identity of a sample, it will be rejected and the client will be contacted for further instructions or resampling. (3) be in an appropriate sample container. If the container is inappropriate, the client will be contacted for further instructions or resampling. If analysis is possible, the final report will be qualified. CT Laboratories can provide a sampling guide containing approved containers and preservations for analytical methods requested. (4) adhere to specified holding times. If samples are received with less than ½ the holding time remaining for the requested test, CT Laboratories will make its best effort to analyze the samples and notify the client. If holding times are exceeded, the final report will be qualified. (5) contain adequate sample volume to perform the necessary testing. If sufficient volume is not present, the sample will be rejected and the client will be contacted for further instructions or resampling. If samples show signs of damage, contamination or inadequate preservation, the client will be notified. If analysis can be performed, the final report will be qualified. If not, the samples will be rejected and the client notified for further instructions or resampling.

1.2 CT Laboratories must be supplied with complete written disclosure of the known or suspected presence of any hazardous substances, as defined by applicable federal or state law. Where any samples which were not accompanied by the required disclosure, cause interruptions in the lab's ability to process work due to contamination of instruments or work areas, the Client will be responsible for the costs of clean up and recovery.

1.3 Prior to Sample Acceptance, the entire risk of loss or damage to samples remains with the Client. In no event will CTL have any responsibility or liability for the action or inaction of any carrier shipping or delivering any sample to or from CTL's premises. Client is responsible to assure that any sample containing any hazardous substance which is to be delivered to CTL's premises will be packaged, labeled, transported and delivered properly and in accordance with applicable laws.

2. PAYMENT TERMS

2.1 Services performed by CTL will be in accordance with prices quoted and later confirmed in writing or as stated in the Price Schedule. Invoices may be submitted to Client upon completion of any sample delivery group. Payment in advance is required for all Clients except those whose credit has been established with CTL. For Clients with approved credit, payment terms are net 30 days from the date of invoice by CTL. All overdue payments are subject to an additional interest and service charge of one and one-half percent (1.5%) (or the maximum rate permissible by law, whichever is lesser) per month or portion thereof from the due date until the date of payment. All fees are charged or billed directly to the Client. The billing of a third party will not be accepted without a statement, signed by the third party that acknowledges and accepts payment responsibility. CTL may suspend work and withhold delivery of data under this order at any time in the event Client fails to make timely payment of its invoices. Client shall be responsible for all costs and expenses of collection including reasonable attorney's fees. CTL reserves the right to refuse to proceed with work at any time based upon an unfavorable Client credit report.

3. CHANGE ORDERS, TERMINATION

3.1 Changes to the Scope of Work, price, or result delivery date may be initiated by CTL after Sample Acceptance due to any condition which conflicts with analytical, QA or other protocols warranted in these Terms and Conditions. CTL will not proceed with such changes until an agreement with the Client is reached on the amount of any cost, schedule change or technical change to the Scope of Work, and such agreement is documented in writing.

3.2 Changes to the Scope of Work, including but not limited to increasing or decreasing the work, changing test and analysis specification or acceleration in the performance of the work may be initiated by the Client after sample acceptance. Such a change will be documented in writing and may result in a change in cost and turnaround time commitment. CTL's acceptance of such changes is contingent upon technical feasibility and operational capacity.

3.3 Suspension or termination of all or any part of the work may be initiated by the Client. CTL will be compensated consistent with Section 2 of these Terms and Conditions. CTL will complete all work in progress and be paid in full for all work completed.

4. WARRANTIES AND LIABILITY

4.1 Where applicable, CTL will use analytical methodologies which are in substantial conformity with published test methods. CTL has implemented these methods in its Laboratory Quality Manuals and referenced Standard Operating Procedures and where the nature or composition of the sample requires it, CTL reserves the right to deviate from these methodologies as necessary or appropriate, based on the reasonable judgment of CTL, which deviations, if any, will be made on a basis consistent with recognized standards of the industry and/or CTL's Laboratory Quality Manuals. Client may request that CTL perform according to a mutually agreed Quality Assurance Project Plan (QAPP). In the event that samples arrive prior to agreement on a QAPP, CTL will proceed with analyses under its standard Quality Manuals then in effect, and CTL will not be responsible for any resampling or other charges if work must be repeated to comply with a subsequently finalized QAPP.

4.2 CTL shall start preparation and/or analysis within holding times provided that Sample Acceptance occurs within 48 hours of sampling or 1/2 of the holding time for the test, whichever is less. Where resolution of inconsistencies leading to Sample Acceptance does not occur within this period, CTL will use its best efforts to meet holding times and will proceed with the work provided that, in CTL's judgment, the chain-of-custody or definition of the Scope of Work provide sufficient guidance. Reanalysis of samples to comply with CTL's Quality Manuals will be deemed to have met holding times provided the initial analysis was performed within the applicable holding time. Where reanalysis demonstrates that sample matrix interference is the cause of failure to meet any Quality Manual requirements, the warranty will be deemed to have been met.

4.3 CTL warrants that it possesses and maintains all licenses and certifications which are required to perform services under these Terms and Conditions provided that such requirements are specified in writing to CTL prior to Sample Acceptance. CTL will notify the Client in writing of any decertification or revocation of any license, or notice of either, which affects work in progress.

4.4 The warranty obligations set forth in Sections 4.1, 4.2 and 4.3 are the sole and exclusive warranties given by CTL in connection with any services performed by CTL or any Results generated from such services, and CTL gives and makes NO OTHER REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. No representative of CTL is authorized to give or make any other representation or warranty or modify this warranty in any way.

4.5 Client's sole and exclusive remedy for the breach of warranty in connection with any services performed by CTL, will be limited to repeating any services performed, contingent on the Client's providing, at the request of CTL and at the Client's expense, additional sample(s) if necessary. Any reanalysis requested by the Client generating Results consistent with the original Results will be at the Client's expense. If resampling is necessary, CTL's liability for resampling costs will be limited to actual cost or one hundred or one hundred fifty dollars ($150) per sample, whichever is less.

4.6 CTL's liability for any and all causes of action arising hereunder, whether based in contract, tort, warranty, negligence or otherwise, shall be limited to the lesser amount of compensation for the services performed or $100,000. All claims, including those for negligence, shall be deemed waived unless suit thereon is filed within one year after CTL's completion of the services. Under no circumstances, whether arising in contract, tort (including negligence), or otherwise, shall CTL be responsible for loss of use, loss of profits, or for any special, indirect, incidental or consequential damages occasioned by the services performed or by application or use of the reports prepared.

4.7 In no event shall CTL have any responsibility or liability to the Client for any failure or delay in performance by CTL which results, directly or indirectly, in whole or in part, from any cause or circumstance beyond the reasonable control of CTL. Such causes and circumstances shall include, but not be limited to, acts of God, acts of Client, acts or orders of any governmental authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, equipment breakdown, matrix interference or unknown highly contaminated samples that impact instrument operation, unavailability of supplies from usual suppliers, difficulties or delays in transportation, mail or delivery services, or any other cause beyond CTL's reasonable control.

5. RESULTS, WORK PRODUCT

5.1 Data or information provided to CTL or generated by services performed under this agreement shall only become the property of the Client upon receipt in full by CTL of payment for the whole Order. Ownership of any analytical method, QA/QC protocols, software programs or equipment developed by CTL for performance of work will be retained by CTL, and Client shall not disclose such information to any third party.

5.2 Data and sample materials provided by Client or at Client's request, and the result obtained by CTL shall be held in confidence (unless such information is generally available to the public or is in the public domain or Client has failed to pay CTL for all services rendered or is otherwise in breach of these Terms and Conditions), subject to any disclosure required by law or legal process.

5.3 Should the Results delivered by CTL be used by the Client or Client's client, even though subsequently determined not to meet the warranties described in these Terms and Conditions, then the compensation will be adjusted based upon mutual agreement. In no case shall the Client unreasonably withhold CTL's right to independently defend its data.

5.4 CTL reserves the right to subcontract services ordered by the Client to another laboratory or laboratories, if, in CTL's sole judgment, it is reasonably necessary, appropriate or advisable to do so, and with the Client's permission. CTL will in no way be liable for any subcontracted services and all applicable warranties, guarantees and insurance are those of the subcontracted laboratory.

5.5 CTL shall dispose of the Client's samples 30 days after the analytical report is issued, unless instructed to store them for an alternate period of time or to return such samples to the Client, in a manner consistent with U.S. Environmental Protection Agency regulations or other applicable Federal, state or local requirements. Any samples for projects that are canceled or not accepted, or for which return was requested, will be returned to the Client at their own expense. CTL reserves the right to return to the Client any sample or unused portion of a sample that is not within CTL's permitted capability or the capabilities of CTL's designated waste disposal vendor(s).

5.6 Unless a different time period is agreed to in any order under these Terms and Conditions, CTL agrees to retain all records for five (5) years.

5.7 In the event that CTL is required to respond to legal process related to services for Client, Client agrees to reimburse CTL for hourly charges for personnel involved in the response and attorney fees reasonably incurred in obtaining advice concerning the response, preparation to testify, and appearances related to the legal process, travel and all reasonable expenses associated with the litigation.

6. INSURANCE

6.1 CTL shall maintain in force during the performance of services under these Terms and Conditions, Workers' Compensation and Employer's Liability Insurance in accordance with the laws of the states having jurisdiction over CTL's employees who are engaged in the performance of the work. CTL shall also maintain during such period, Comprehensive General and Contractual Liability (limit of $2,000,000 per occurrence/ aggregate), Comprehensive Automobile Liability, owned and hired, ($1,000,000 combined single limit), and Professional/Pollution Liability Insurance (limit of $5,000,000 per occurrence/aggregate). Any Client required changes to these limits or conditions may result in a change in cost to the Client.

7. AUDIT

7.1 Upon prior notice to CTL, the Client may audit and inspect CTL's records and accounts covering reimbursable costs related to work done for the Client, for a period of one (1) year after completion of the work. The purpose of any such audit shall be only for verification of such costs, and CTL shall not be required to provide access to cost records where prices are expressed as fixed fees or published unit prices

ORIGIN ID:WALA (757) 256-6281
S. JULIA LIU
BSEN
615 E 82ND AVE STE 200
ANCHORAGE, AK 99518
UNITED STATES US

SHIP DATE: 11JAN16
ACTWGT: 34.90 LB
CAD: 6997114/SSFO1621
DIMS: 24x14x13 IN
BILL THIRD PARTY

TO SAMPLE REVEIVING
CT LABORATORIES
1230 LANGE COURT

BARABOO WI 53913
(608) 356-2760
INV:
PO:
REF:
DEPT:

FedEx Express
J153015091001uv

TRK# 0201 7821 4390 7644

TUE - 12 JAN 10:30A
PRIORITY OVERNIGHT

XH MSNA

53913
WI-US MSN

Part # 156297-433 MIZ 10/15 V8

CUSTODY SEAL
DATE 1/11/16
SIGNATURE

QEC
Quality Environmental Containers
800-255-3950 • 304-255-3900

CUSTODY SEAL
DATE 1/11/16
SIGNATURE

QEC
Quality Environmental Containers
800-255-3950 • 304-255-3900

Ice Present Yes No
Temperature 4.1 #11
Initials BL
Date 1/12/16 Time 11:40
Cooler # 5469

Folder #: 116426

PM LOGIN CONFIRMATION

Contract #: 2842

Company: BERING SEA ENVIRONMENTAL **Project:** RADFORD AAP **Proj #:** 313010-010

Project Phase: **PO Number:** BSN-1228 **Invoice #:** 116952

Project Manager: *PML* **Date Received:** 01/12/16 **Log Date:** 01/12/2016

Report To: S. JULIA LIU CC: Invoice To : CC:

Phone: 757-256-6281: Fax: Phone: Fax:

Rep. E-Mail SLIU@BSENV.COM EMail:

Collected By: Arrival Temperature: 4.1 oC

Collector's Phone: 757-256-6281

SAMPLE #: 679480 DESCR: 54MW10 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED: 1/11/2016 Time: 1415**

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)					1/24/2016		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)				1/13/2016	1/24/2016		Entered
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 679481 DESCR: 54MW10 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED: 1/11/2016 Time: 1415**

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
759	CARBON, INORG & ORG	(EPA 9060A)				1/25/2016	1/24/2016		Logged
878	SUB PERCHLORATE	(SW6850)				2/8/2016	1/24/2016		Logged
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)				2/8/2016	1/24/2016		Logged
1240	8330B EXPLOSIVES QSM 5	(EPA 8330B)					1/24/2016		NeedPrep

Folder #: 116426 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 679481 **DESCR:** 54MW10 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 1/11/2016 **Time:** 1415

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1279	SUB CHLORATE/CHLORITE	(300.1)					1/24/2016		Logged
1280	8330B Breakdown Pdts QSM 5	(EPA 8330B)					1/24/2016		NeedPrep

SAMPLE #: 679482 **DESCR:** 54TM10 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 1/11/2016 **Time:** 1415

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)					1/24/2016		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)				1/13/2016	1/24/2016		Entered
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 679483 **DESCR:** 54TM10 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 1/11/2016 **Time:** 1415

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
759	CARBON, INORG & ORG	(EPA 9060A)				1/25/2016	1/24/2016		Logged
878	SUB PERCHLORATE	(SW6850)				2/8/2016	1/24/2016		Logged
1230	ORGAN CARBON T QSM 5.0	(EPA 9060A)				2/8/2016	1/24/2016		Logged
1240	8330B EXPLOSIVES QSM 5	(EPA 8330B)					1/24/2016		NeedPrep
1279	SUB CHLORATE/CHLORITE	(300.1)					1/24/2016		Logged
1280	8330B Breakdown Pdts QSM 5	(EPA 8330B)					1/24/2016		NeedPrep

Folder #: 116426 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

Invoice Number: 116952 **Preliminary Invoice Estimate:** $ 918.00

Item	Matrix	Quantity	Price	Expedited TAT Surcharge	Total
8330B Breakdown Pdts QSM 5	GROUND WATER	2	$ 90.00	0.00	$ 180.00
8330B EXPLOSIVES QSM 5	GROUND WATER	2	$ 85.00	0.00	$ 170.00
ANIONS IC QSM 5.0 Chloride	GROUND WATER	2	$ 10.00	0.00	$ 20.00
ANIONS IC QSM 5.0 Nitrate Nitrogen	GROUND WATER	2	$ 10.00	0.00	$ 20.00
ANIONS IC QSM 5.0 Sulfate	GROUND WATER	2	$ 10.00	0.00	$ 20.00
CARBON, INORG & ORG	GROUND WATER	2	$ 25.00	0.00	$ 50.00
FILTRATION, SAMPLE	GROUND WATER	2	$ 10.00	0.00	$ 20.00
ORGAN CARBON T QSM 5.0	GROUND WATER	2	$ 25.00	0.00	$ 50.00
SUB CHLORATE/CHLORITE	GROUND WATER	2	$ 90.00	0.00	$ 180.00
SUB PERCHLORATE	GROUND WATER	2	$ 104.00	0.00	$ 208.00
Temporary Fuel Surcharge on lab supplies and services (if applicable):					$ 0.00

Bottle Information

Container	# Containers	Tests
AMBER GL	**6**	EXPL
H2SO4 PL	**2**	TOC
LABEL ONLY	**2**	Anions
MISC	**2**	CHLORATE/CHLORITE
UNPRES PL	**4**	Anions

CT LABORATORIES
delivering more than data from your environmental analyses

Sample Condition Report

Folder #: 116448
Client: BERING SEA ENVIRONMENTAL

Print Date / Time: 01/13/2016 11:20
Received Date / Time / By: 01/13/2016 1040 DJL

Project Name: RADFORD AAP
Project Phase:

Log-In Date / Time / By: 01/13/2016 1115 JLS
Project #: 313010-001 PM: PML

Coolers: 5733,5689
Custody Seals Present : **Y**

Temperature: 4.1,3.1 C On Ice: **Y**
COC Present:? **Y** Complete? **Y**

Seal Intact? **Y**
Ship Method: FEDEX EXPRESS
Adequate Packaging: **Y**

Numbers: DATED AND SIGNED
Tracking Number: 782153097340, 782153121419
Temp Blank Enclosed? **Y**

Notes: SAMPLES WERE RECEIVED IN GOOD CONDITION ON ICE

2 CUSTODY SEALS PRESENT AND INTACT ON EACH COOLER. ALL DATED 1/12/16 AND SIGNED

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
679978 54MW12				
	LABEL ONLY	1	/	Anions
	LABEL ONLY	1	/	Anions
	LABEL ONLY	1	/	Anions
	Total # of Containers of Type	**(*LABEL ONLY*) = 3**		
679978 54MW12				
	UNPRES PL	1	/	Anions
	UNPRES PL	1	/	Anions
	UNPRES PL	1	/	Anions
	Total # of Containers of Type	**(*UNPRES PL*) = 3**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
679979 54MW12				
	AMBER GL	1	/	CARBON
	AMBER GL	1	/	CARBON
	AMBER GL	1	/	CARBON
	Total # of Containers of Type	**(*AMBER GL*) = 3**		
679979 54MW12				
	MISC	1	/	CHLORATE/CHLORITE
	MISC	1	/	CHLORATE/CHLORITE
	MISC	1	/	CHLORATE/CHLORITE
	Total # of Containers of Type	**(*MISC*) = 3**		
679979 54MW12				
	AMBER GL	1	/	EXPL
	AMBER GL	1	/	EXPL
	AMBER GL	1	/	EXPL
	AMBER GL	1	/	EXPL
	AMBER GL	1	Y /	EXPL
	AMBER GL	1	/	EXPL

Total # of Containers of Type (*AMBER GL*) = 6

679979 54MW12

UNPRES PL	1		/	Perchlorate
UNPRES PL	1		/	PERCHLORATE
UNPRES PL	1		/	PERCHLORATE

Total # of Containers of Type (*UNPRES PL*) = 3

679979 54MW12

AMBER GL H2SO4	1	Y	/	TOC
AMBER GL H2SO4	1	Y	/	TOC

Total # of Containers of Type (*AMBER GL H2SO4*) = 2

679979 54MW12

H2SO4 PL	1	Y	/	TOC

Total # of Containers of Type (*H2SO4 PL*) = 1

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

---

679980 54MW1

LABEL ONLY	1		/	Anions

Total # of Containers of Type (*LABEL ONLY*) = 1

679980 54MW1

UNPRES PL	1		/	Anions

Total # of Containers of Type (*UNPRES PL*) = 1

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

---

679981 54MW1

AMBER GL	1		/	CARBON

Total # of Containers of Type (*AMBER GL*) = 1

679981 54MW1

MISC	1		/	CHLORATE/CHLORITE

Total # of Containers of Type (*MISC*) = 1

679981 54MW1

AMBER GL	1		/	EXPL
AMBER GL	1		/	EXPL

Total # of Containers of Type (*AMBER GL*) = 2

679981 54MW1

UNPRES PL	1		/	Perchlorate

Total # of Containers of Type (*UNPRES PL*) = 1

679981 54MW1

H2SO4 PL	1	Y	/	TOC

Total # of Containers of Type (*H2SO4 PL*) = 1

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

---

679982 54MW13

		LABEL ONLY	1	/	Anions
		Total # of Containers of Type	**(*LABEL ONLY*) = 1**		
679982	54MW13				
		UNPRES PL	1	/	Anions
		Total # of Containers of Type	**(*UNPRES PL*) = 1**		

Sample ID / Description		Container Type	Cond. Code	pH OK?/Filtered?	Tests
679983	54MW13				
		AMBER GL	1	/	CARBON
		Total # of Containers of Type	**(*AMBER GL*) = 1**		
679983	54MW13				
		MISC	1	/	CHLORATE/CHLORITE
		Total # of Containers of Type	**(*MISC*) = 1**		
679983	54MW13				
		AMBER GL	1	/	EXPL
		AMBER GL	1	/	EXPL
		Total # of Containers of Type	**(*AMBER GL*) = 2**		
679983	54MW13				
		UNPRES PL	1	/	Perchlorate
		Total # of Containers of Type	**(*UNPRES PL*) = 1**		
679983	54MW13				
		H2SO4 PL	1	Y /	TOC
		Total # of Containers of Type	**(*H2SO4 PL*) = 1**		

Sample ID / Description		Container Type	Cond. Code	pH OK?/Filtered?	Tests
679984	54ADW01				
		H2SO4 PL	1	Y /	COD
		Total # of Containers of Type	**(*H2SO4 PL*) = 1**		
679984	54ADW01				
		HNO3	1	Y /	HG,ICP,K,NA
		Total # of Containers of Type	**(*HNO3*) = 1**		
679984	54ADW01				
		UNPRES PL	1	/	pH
		Total # of Containers of Type	**(*UNPRES PL*) = 1**		

Condition Code	*Condition Description*
1	Sample Received OK

Rev 8/2014

CHAIN OF CUSTODY

Page 1 of 1

Company: BSEN
Project Contact: S. JULIA LUI
Telephone: (757) 256-62
Project Name: RAAP
Project #: 312010-009
Location: RAAD
Sampled By: SJL

CT LABORATORIES

1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Folder #: 116448
Company: BERING SEA ENVIRON
Project: RADFORD AAP
Logged By: JLS PM: PM

Program:
SM RCRA SDWA NPDES
olid Waste Other _____
O #

Report To: JULIA LUI
EMAIL: SLUI@BSEN.COM
Company: BSEN
Address:

Invoice To:*
EMAIL:
Company:
Address:

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

Client Special Instructions
LAB MUST FILTER

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Collection Date	Collection Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	ANALYSES REQUESTED: EXPLOSIVES	MNX/DNX/TNX	TAL	PERCHLORATE	CHLORATE / CHLORATE	TIC / NITRATE / SULFATE / CHLORIDE	Total # Containers	Designated MS/MSD	CT Lab ID # (Lab use only)
							Fill in Spaces with Bottles per Test								
1/12/16	1200	GW	GRAB		SAMW12	N	X	X	X	X	X	X	18	X	679978/979

Turnaround Time
Normal RUSH*
Date Needed: _____
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

Relinquished By:	Date/Time	Received By:	Date/Time
	1/12/16 1730		1/13/16 1115
Received by:	Date/Time	Received for Laboratory by:	Date/Time
			1/13/16 10:40

Lab Use Only
Ice Present Yes No
Temp 4.1 IR Gun # 11
Cooler # 5733

CT Laboratories Terms and Conditions

Where a purchaser (Client) places an order for laboratory, consulting or sampling services from CT Laboratories (CTL), CTL shall provide the ordered services pursuant to these Terms and Conditions, and the related Quotation, or as agreed in a negotiated contract. In the absence of a written agreement to the contrary, the Order constitutes an acceptance by the Client of CTL's offer to do business under these Terms and Conditions, and an agreement to be bound by these Terms and Conditions. No contrary or additional terms and conditions expressed in a Client's document shall be deemed to become a part of the contract created upon acceptance of these Terms and Conditions, unless accepted by CTL in advance of the start of the project and in writing.

1. ORDERS AND RECEIPT OF SAMPLES (Sample Acceptance Policy)

1.1 The Client may place the Order (i.e., specify a Scope of Work) either by submitting a purchase order to CTL in writing, by telephone (confirmed in writing) or by negotiated contract. Whichever option the Client selects for placing the Order, the Order shall not be valid unless it contains sufficient specification to enable CTL to carry out the Client's requirements. It is the policy of CT Laboratories that samples not meeting the acceptance criteria, outlined in the NELAC standards and Section 5.8.3.2 of the DOD QSM, will not be accepted by the laboratory or will be qualified on the final report. All samples submitted to the laboratory must: (1) be accompanied by proper, full and complete documentation, including sample identification, location, date and time of collection, the collector's name, type of preservation (if any), type of sample, any special comments concerning the sample and any additional pertinent fields on the chain-of-custody. In the absence of any of the required information, the laboratory will attempt to contact the client to obtain the information; if unable to obtain the necessary information, the final report will be qualified. (2) be labeled appropriately with a unique sample identification written with indelible ink on water resistant labels. If the laboratory cannot determine the identity of a sample, it will be rejected and the client will be contacted for further instructions or resampling. (3) be in an appropriate sample container. If the container is inappropriate, the client will be contacted for further instructions or resampling. If analysis is possible, the final report will be qualified. CT Laboratories can provide a sampling guide containing approved containers and preservations for analytical methods requested. (4) adhere to specified holding times. If samples are received with less than ½ the holding time remaining for the requested test, CT Laboratories will make its best effort to analyze the samples and notify the client. If holding times are exceeded, the final report will be qualified. (5) contain adequate sample volume to perform the necessary testing. If sufficient volume is not present, the sample will be rejected and the client will be contacted for further instructions or resampling. If samples show signs of damage, contamination or inadequate preservation, the client will be notified. If analysis can be performed, the final report will be qualified. If not, the samples will be rejected and the client notified for further instructions or resampling.

1.2 CT Laboratories must be supplied with complete written disclosure of the known or suspected presence of any hazardous substances, as defined by applicable federal or state law. Where any samples which were not accompanied by the required disclosure, cause interruptions in the lab's ability to process work due to contamination of instruments or work areas, the Client will be responsible for the costs of clean up and recovery.

1.3 Prior to Sample Acceptance, the entire risk of loss or damage to samples remains with the Client. In no event will CTL have any responsibility or liability for the action or inaction of any carrier shipping or delivering any sample to or from CTL's premises. Client is responsible to assure that any sample containing any hazardous substance which is to be delivered to CTL's premises will be packaged, labeled, transported and delivered properly and in accordance with applicable laws.

2. PAYMENT TERMS

2.1 Services performed by CTL will be in accordance with prices quoted and later confirmed in writing or as stated in the Price Schedule. Invoices may be submitted to Client upon completion of any sample delivery group. Payment in advance is required for all Clients except those whose credit has been established with CTL. For Clients with approved credit, payment terms are net 30 days from the date of invoice by CTL. All overdue payments are subject to an additional interest and service charge of one and one-half percent (1.5%) (or the maximum rate permissible by law, whichever is lesser) per month or portion thereof from the due date until the date of payment. All fees are charged or billed directly to the Client. The billing of a third party will not be accepted without a statement, signed by the third party that acknowledges and accepts payment responsibility. CTL may suspend work and withhold delivery of data under this order at any time in the event Client fails to make timely payment of its invoices. Client shall be responsible for all costs and expenses of collection including reasonable attorney's fees. CTL reserves the right to refuse to proceed with work at any time based upon an unfavorable Client credit report.

3. CHANGE ORDERS, TERMINATION

3.1 Changes to the Scope of Work, price, or result delivery date may be initiated by CTL after Sample Acceptance due to any condition which conflicts with analytical, QA or other protocols warranted in these Terms and Conditions. CTL will not proceed with such changes until an agreement with the Client is reached on the amount of any cost, schedule change or technical change to the Scope of Work, and such agreement is documented in writing.

3.2 Changes to the Scope of Work, including but not limited to increasing or decreasing the work, changing test and analysis specification or acceleration in the performance of the work may be initiated by the Client after sample acceptance. Such a change will be documented in writing and may result in a change in cost and turnaround time commitment. CTL's acceptance of such changes is contingent upon technical feasibility and operational capacity.

3.3 Suspension or termination of all or any part of the work may be initiated by the Client. CTL will be compensated consistent with Section 2 of these Terms and Conditions. CTL will complete all work in progress and be paid in full for all work completed.

4. WARRANTIES AND LIABILITY

4.1 Where applicable, CTL will use analytical methodologies which are in substantial conformity with published test methods. CTL has implemented these methods in its Laboratory Quality Manuals and referenced Standard Operating Procedures and where the nature or composition of the sample requires it, CTL reserves the right to deviate from these methodologies as necessary or appropriate, based on the reasonable judgment of CTL, which deviations, if any, will be made on a basis consistent with recognized standards of the industry and/or CTL's Laboratory Quality Manuals. Client may request that CTL perform according to a mutually agreed Quality Assurance Project Plan (QAPP). In the event that samples arrive prior to agreement on a QAPP, CTL will proceed with analyses under its standard Quality Manuals then in effect, and CTL will not be responsible for any resampling or other charges if work must be repeated to comply with a subsequently finalized QAPP.

4.2 CTL shall start preparation and/or analysis within holding times provided that Sample Acceptance occurs within 48 hours of sampling or 1/2 of the holding time for the test, whichever is less. Where resolution of inconsistencies leading to Sample Acceptance does not occur within this period, CTL will use its best efforts to meet holding times and will proceed with the work provided that, in CTL's judgment, the chain-of-custody or definition of the Scope of Work provide sufficient guidance. Reanalysis of samples to comply with CTL's Quality Manuals will be deemed to have met holding times provided the initial analysis was performed within the applicable holding time. Where reanalysis demonstrates that sample matrix interference is the cause of failure to meet any Quality Manual requirements, the warranty will be deemed to have been met.

4.3 CTL warrants that it possesses and maintains all licenses and certifications which are required to perform services under these Terms and Conditions provided that such requirements are specified in writing to CTL prior to Sample Acceptance. CTL will notify the Client in writing of any decertification or revocation of any license, or notice of either, which affects work in progress.

4.4 The warranty obligations set forth in Sections 4.1, 4.2 and 4.3 are the sole and exclusive warranties given by CTL in connection with any services performed by CTL or any Results generated from such services, and CTL gives and makes NO OTHER REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. No representative of CTL is authorized to give or make any other representation or warranty or modify this warranty in any way.

4.5 Client's sole and exclusive remedy for the breach of warranty in connection with any services performed by CTL, will be limited to repeating any services performed, contingent on the Client's providing, at the request of CTL and at the Client's expense, additional sample(s) if necessary. Any reanalysis requested by the Client generating Results consistent with the original Results will be at the Client's expense. If resampling is necessary, CTL's liability for resampling costs will be limited to actual cost or one hundred or one hundred fifty dollars ($150) per sample, whichever is less.

4.6 CTL's liability for any and all causes of action arising hereunder, whether based in contract, tort, warranty, negligence or otherwise, shall be limited to the lesser amount of compensation for the services performed or $100,000. All claims, including those for negligence, shall be deemed waived unless suit thereon is filed within one year after CTL's completion of the services. Under no circumstances, whether arising in contract, tort (including negligence), or otherwise, shall CTL be responsible for loss of use, loss of profits, or for any special, indirect, incidental or consequential damages occasioned by the services performed or by application or use of the reports prepared.

4.7 In no event shall CTL have any responsibility or liability to the Client for any failure or delay in performance by CTL which results, directly or indirectly, in whole or in part, from any cause or circumstance beyond the reasonable control of CTL. Such causes and circumstances shall include, but not be limited to, acts of God, acts of Client, acts or orders of any governmental authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, equipment breakdown, matrix interference or unknown highly contaminated samples that impact instrument operation, unavailability of supplies from usual suppliers, difficulties or delays in transportation, mail or delivery services, or any other cause beyond CTL's reasonable control.

5. RESULTS, WORK PRODUCT

5.1 Data or information provided to CTL or generated by services performed under this agreement shall only become the property of the Client upon receipt in full by CTL of payment for the whole Order. Ownership of any analytical method, QA/QC protocols, software programs or equipment developed by CTL for performance of work will be retained by CTL, and Client shall not disclose such information to any third party.

5.2 Data and sample materials provided by Client or at Client's request, and the result obtained by CTL shall be held in confidence (unless such information is generally available to the public or is in the public domain or Client has failed to pay CTL for all services rendered or is otherwise in breach of these Terms and Conditions), subject to any disclosure required by law or legal process.

5.3 Should the Results delivered by CTL be used by the Client or Client's client, even though subsequently determined not to meet the warranties described in these Terms and Conditions, then the compensation will be adjusted based upon mutual agreement. In no case shall the Client unreasonably withhold CTL's right to independently defend its data.

5.4 CTL reserves the right to subcontract services ordered by the Client to another laboratory or laboratories, if, in CTL's sole judgment, it is reasonably necessary, appropriate or advisable to do so, and with the Client's permission. CTL will in no way be liable for any subcontracted services and all applicable warranties, guarantees and insurance are those of the subcontracted laboratory.

5.5 CTL shall dispose of the Client's samples 30 days after the analytical report is issued, unless instructed to store them for an alternate period of time or to return such samples to the Client, in a manner consistent with U.S. Environmental Protection Agency regulations or other applicable Federal, state or local requirements. Any samples for projects that are canceled or not accepted, or for which return was requested, will be returned to the Client at their own expense. CTL reserves the right to return to the Client any sample or unused portion of a sample that is not within CTL's permitted capability or the capabilities of CTL's designated waste disposal vendor(s).

5.6 Unless a different time period is agreed to in any order under these Terms and Conditions, CTL agrees to retain all records for five (5) years.

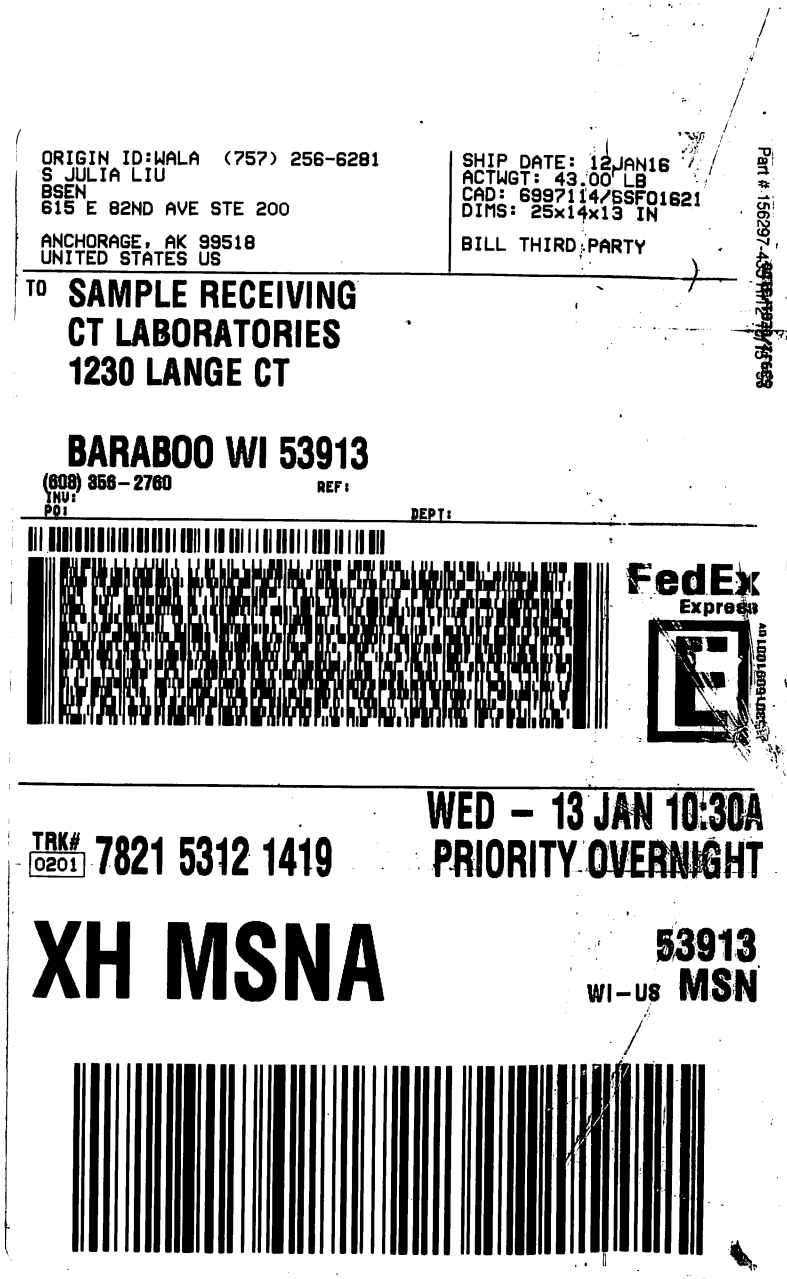
5.7 In the event that CTL is required to respond to legal process related to services for Client, Client agrees to reimburse CTL for hourly charges for personnel involved in the response and attorney fees reasonably incurred in obtaining advice concerning the response, preparation to testify, and appearances related to the legal process, travel and all reasonable expenses associated with the litigation.

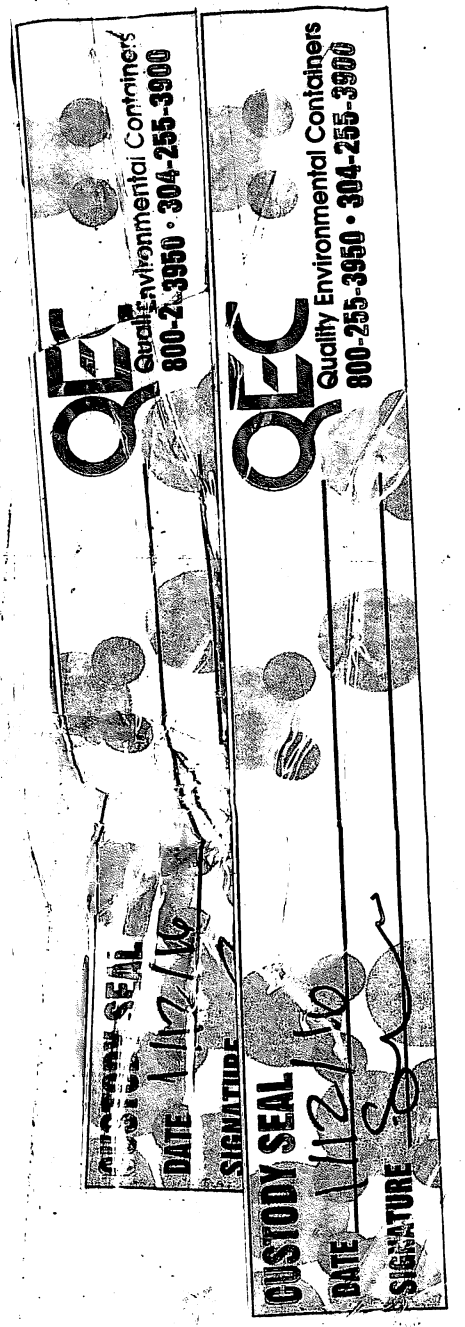
6. INSURANCE

6.1 CTL shall maintain in force during the performance of services under these Terms and Conditions, Workers' Compensation and Employer's Liability Insurance in accordance with the laws of the states having jurisdiction over CTL's employees who are engaged in the performance of the work. CTL shall also maintain during such period, Comprehensive General and Contractual Liability (limit of $2,000,000 per occurrence/ aggregate), Comprehensive Automobile Liability, owned and hired, ($1,000,000 combined single limit), and Professional/Pollution Liability Insurance (limit of $5,000,000 per occurrence/aggregate). Any Client required changes to these limits or conditions may result in a change in cost to the Client.

7. AUDIT

7.1 Upon prior notice to CTL, the Client may audit and inspect CTL's records and accounts covering reimbursable costs related to work done for the Client, for a period of one (1) year after completion of the work. The purpose of any such audit shall be only for verification of such costs, and CTL shall not be required to provide access to cost records where prices are expressed as fixed fees or published unit prices





Ice Present Yes No
Temperature 4.1 +1
Initials JL
Date 1/13/16 Time 10:40
Cooler # 5933

Rev 8/2014

CHAIN OF CUSTODY

Page 1 of 1

Company: BSEN
Project Contact: JULIA LIU
Telephone: (757)256-6291
Project Name: RAAP
Project #: 313010-001
Location: RADFORD, VA
Sampled By: SJL

CT LABORATORIES
1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Lab Use Only
Place Header Sticker Here:
Folder #: 116448
Company: BERING SEA ENVIRON
Project: RADFORD AAP
Logged By: JLS PM: PM

Program:
OSM RCRA SDWA NPDES
Solid Waste Other _____
PO #

Report To: JULIA LIU
EMAIL: [redacted] SLIU@BSENV.COM
Company: BSENV
Address: 615 E. 82ND AVE #200 ANCHORAGE, AK 99518
Invoice To:*
EMAIL:
Company: SAME
Address:

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

Client Special Instructions
LAB MUST FILTER

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Collection Date	Collection Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	ANALYSES REQUESTED: EXPLOSIVES	MNX/TNX/DNX	TDC	PERCHLORATE	CHLORATE/CHLORIDE	TIC/NITRATE/SULFATE/CHLORIDE	PH	COD	TAL METALS	Total # Containers	Designated MS/MSD	CT Lab ID # (Lab use only)
1/12/16	0900	GW	GRAB		54MW1		X	X	X	X	X	X				6		679980/981
(SJL)	~~1200~~	↓	↓		~~54MW12~~		~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~				~~12~~ 18	X	
	1505				54MW13		X	X	X	X	X	X				6		679982/983
↓	1510	↓	↓		54ADW01								X	X	X	3		679984

Fill in Spaces with Bottles per Test

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	1/12/16 1730	[signature]	1/13/16 1115
Received by:	Date/Time	Received for Laboratory by: [signature]	Date/Time 1/13/16 10:45

Lab Use Only
Ice Present Yes No
Temp 3.1 IR Gun # 61
Cooler # 5809

CT Laboratories Terms and Conditions

Where a purchaser (Client) places an order for laboratory, consulting or sampling services from CT Laboratories (CTL), CTL shall provide the ordered services pursuant to these Terms and Conditions, and the related Quotation, or as agreed in a negotiated contract. In the absence of a written agreement to the contrary, the Order constitutes an acceptance by the Client of CTL's offer to do business under these Terms and Conditions, and an agreement to be bound by these Terms and Conditions. No contrary or additional terms and conditions expressed in a Client's document shall be deemed to become a part of the contract created upon acceptance of these Terms and Conditions, unless accepted by CTL in advance of the start of the project and in writing.

1. ORDERS AND RECEIPT OF SAMPLES (Sample Acceptance Policy)

1.1 The Client may place the Order (i.e., specify a Scope of Work) either by submitting a purchase order to CTL in writing, by telephone (confirmed in writing) or by negotiated contract. Whichever option the Client selects for placing the Order, the Order shall not be valid unless it contains sufficient specification to enable CTL to carry out the Client's requirements. It is the policy of CT Laboratories that samples not meeting the acceptance criteria, outlined in the NELAC standards and Section 5.8.3.2 of the DOD QSM, will not be accepted by the laboratory or will be qualified on the final report. All samples submitted to the laboratory must: (1) be accompanied by proper, full and complete documentation, including sample identification, location, date and time of collection, the collector's name, type of preservation (if any), type of sample, any special comments concerning the sample and any additional pertinent fields on the chain-of-custody. In the absence of any of the required information, the laboratory will attempt to contact the client to obtain the information; if unable to obtain the necessary information, the final report will be qualified. (2) be labeled appropriately with a unique sample identification written with indelible ink on water resistant labels. If the laboratory cannot determine the identity of a sample, it will be rejected and the client will be contacted for further instructions or resampling. (3) be in an appropriate sample container. If the container is inappropriate, the client will be contacted for further instructions or resampling. If analysis is possible, the final report will be qualified. CT Laboratories can provide a sampling guide containing approved containers and preservations for analytical methods requested. (4) adhere to specified holding times. If samples are received with less than ½ the holding time remaining for the requested test, CT Laboratories will make its best effort to analyze the samples and notify the client. If holding times are exceeded, the final report will be qualified. (5) contain adequate sample volume to perform the necessary testing. If sufficient volume is not present, the sample will be rejected and the client will be contacted for further instructions or resampling. If samples show signs of damage, contamination or inadequate preservation, the client will be notified. If analysis can be performed, the final report will be qualified. If not, the samples will be rejected and the client notified for further instructions or resampling.

1.2 CT Laboratories must be supplied with complete written disclosure of the known or suspected presence of any hazardous substances, as defined by applicable federal or state law. Where any samples which were not accompanied by the required disclosure, cause interruptions in the lab's ability to process work due to contamination of instruments or work areas, the Client will be responsible for the costs of clean up and recovery.

1.3 Prior to Sample Acceptance, the entire risk of loss or damage to samples remains with the Client. In no event will CTL have any responsibility or liability for the action or inaction of any carrier shipping or delivering any sample to or from CTL's premises. Client is responsible to assure that any sample containing any hazardous substance which is to be delivered to CTL's premises will be packaged, labeled, transported and delivered properly and in accordance with applicable laws.

2. PAYMENT TERMS

2.1 Services performed by CTL will be in accordance with prices quoted and later confirmed in writing or as stated in the Price Schedule. Invoices may be submitted to Client upon completion of any sample delivery group. Payment in advance is required for all Clients except those whose credit has been established with CTL. For Clients with approved credit, payment terms are net 30 days from the date of invoice by CTL. All overdue payments are subject to an additional interest and service charge of one and one-half percent (1.5%) (or the maximum rate permissible by law, whichever is lesser) per month or portion thereof from the due date until the date of payment. All fees are charged or billed directly to the Client. The billing of a third party will not be accepted without a statement, signed by the third party that acknowledges and accepts payment responsibility. CTL may suspend work and withhold delivery of data under this order at any time in the event Client fails to make timely payment of its invoices. Client shall be responsible for all costs and expenses of collection including reasonable attorney's fees. CTL reserves the right to refuse to proceed with work at any time based upon an unfavorable Client credit report.

3. CHANGE ORDERS, TERMINATION

3.1 Changes to the Scope of Work, price, or result delivery date may be initiated by CTL after Sample Acceptance due to any condition which conflicts with analytical, QA or other protocols warranted in these Terms and Conditions. CTL will not proceed with such changes until an agreement with the Client is reached on the amount of any cost, schedule change or technical change to the Scope of Work, and such agreement is documented in writing.

3.2 Changes to the Scope of Work, including but not limited to increasing or decreasing the work, changing test and analysis specification or acceleration in the performance of the work may be initiated by the Client after sample acceptance. Such a change will be documented in writing and may result in a change in cost and turnaround time commitment. CTL's acceptance of such changes is contingent upon technical feasibility and operational capacity.

3.3 Suspension or termination of all or any part of the work may be initiated by the Client. CTL will be compensated consistent with Section 2 of these Terms and Conditions. CTL will complete all work in progress and be paid in full for all work completed.

4. WARRANTIES AND LIABILITY

4.1 Where applicable, CTL will use analytical methodologies which are in substantial conformity with published test methods. CTL has implemented these methods in its Laboratory Quality Manuals and referenced Standard Operating Procedures and where the nature or composition of the sample requires it, CTL reserves the right to deviate from these methodologies as necessary or appropriate, based on the reasonable judgment of CTL, which deviations, if any, will be made on a basis consistent with recognized standards of the industry and/or CTL's Laboratory Quality Manuals. Client may request that CTL perform according to a mutually agreed Quality Assurance Project Plan (QAPP). In the event that samples arrive prior to agreement on a QAPP, CTL will proceed with analyses under its standard Quality Manuals then in effect, and CTL will not be responsible for any resampling or other charges if work must be repeated to comply with a subsequently finalized QAPP.

4.2 CTL shall start preparation and/or analysis within holding times provided that Sample Acceptance occurs within 48 hours of sampling or 1/2 of the holding time for the test, whichever is less. Where resolution of inconsistencies leading to Sample Acceptance does not occur within this period, CTL will use its best efforts to meet holding times and will proceed with the work provided that, in CTL's judgment, the chain-of-custody or definition of the Scope of Work provide sufficient guidance. Reanalysis of samples to comply with CTL's Quality Manuals will be deemed to have met holding times provided the initial analysis was performed within the applicable holding time. Where reanalysis demonstrates that sample matrix interference is the cause of failure to meet any Quality Manual requirements, the warranty will be deemed to have been met.

4.3 CTL warrants that it possesses and maintains all licenses and certifications which are required to perform services under these Terms and Conditions provided that such requirements are specified in writing to CTL prior to Sample Acceptance. CTL will notify the Client in writing of any decertification or revocation of any license, or notice of either, which affects work in progress.

4.4 The warranty obligations set forth in Sections 4.1, 4.2 and 4.3 are the sole and exclusive warranties given by CTL in connection with any services performed by CTL or any Results generated from such services, and CTL gives and makes NO OTHER REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. No representative of CTL is authorized to give or make any other representation or warranty or modify this warranty in any way.

4.5 Client's sole and exclusive remedy for the breach of warranty in connection with any services performed by CTL, will be limited to repeating any services performed, contingent on the Client's providing, at the request of CTL and at the Client's expense, additional sample(s) if necessary. Any reanalysis requested by the Client generating Results consistent with the original Results will be at the Client's expense. If resampling is necessary, CTL's liability for resampling costs will be limited to actual cost or one hundred or one hundred fifty dollars ($150) per sample, whichever is less.

4.6 CTL's liability for any and all causes of action arising hereunder, whether based in contract, tort, warranty, negligence or otherwise, shall be limited to the lesser amount of compensation for the services performed or $100,000. All claims, including those for negligence, shall be deemed waived unless suit thereon is filed within one year after CTL's completion of the services. Under no circumstances, whether arising in contract, tort (including negligence), or otherwise, shall CTL be responsible for loss of use, loss of profits, or for any special, indirect, incidental or consequential damages occasioned by the services performed or by application or use of the reports prepared.

4.7 In no event shall CTL have any responsibility or liability to the Client for any failure or delay in performance by CTL which results, directly or indirectly, in whole or in part, from any cause or circumstance beyond the reasonable control of CTL. Such causes and circumstances shall include, but not be limited to, acts of God, acts of Client, acts or orders of any governmental authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, equipment breakdown, matrix interference or unknown highly contaminated samples that impact instrument operation, unavailability of supplies from usual suppliers, difficulties or delays in transportation, mail or delivery services, or any other cause beyond CTL's reasonable control.

5. RESULTS, WORK PRODUCT

5.1 Data or information provided to CTL or generated by services performed under this agreement shall only become the property of the Client upon receipt in full by CTL of payment for the whole Order. Ownership of any analytical method, QA/QC protocols, software programs or equipment developed by CTL for performance of work will be retained by CTL, and Client shall not disclose such information to any third party.

5.2 Data and sample materials provided by Client or at Client's request, and the result obtained by CTL shall be held in confidence (unless such information is generally available to the public or is in the public domain or Client has failed to pay CTL for all services rendered or is otherwise in breach of these Terms and Conditions), subject to any disclosure required by law or legal process.

5.3 Should the Results delivered by CTL be used by the Client or Client's client, even though subsequently determined not to meet the warranties described in these Terms and Conditions, then the compensation will be adjusted based upon mutual agreement. In no case shall the Client unreasonably withhold CTL's right to independently defend its data.

5.4 CTL reserves the right to subcontract services ordered by the Client to another laboratory or laboratories, if, in CTL's sole judgment, it is reasonably necessary, appropriate or advisable to do so, and with the Client's permission. CTL will in no way be liable for any subcontracted services and all applicable warranties, guarantees and insurance are those of the subcontracted laboratory.

5.5 CTL shall dispose of the Client's samples 30 days after the analytical report is issued, unless instructed to store them for an alternate period of time or to return such samples to the Client, in a manner consistent with U.S. Environmental Protection Agency regulations or other applicable Federal, state or local requirements. Any samples for projects that are canceled or not accepted, or for which return was requested, will be returned to the Client at their own expense. CTL reserves the right to return to the Client any sample or unused portion of a sample that is not within CTL's permitted capability or the capabilities of CTL's designated waste disposal vendor(s).

5.6 Unless a different time period is agreed to in any order under these Terms and Conditions, CTL agrees to retain all records for five (5) years.

5.7 In the event that CTL is required to respond to legal process related to services for Client, Client agrees to reimburse CTL for hourly charges for personnel involved in the response and attorney fees reasonably incurred in obtaining advice concerning the response, preparation to testify, and appearances related to the legal process, travel and all reasonable expenses associated with the litigation.

6. INSURANCE

6.1 CTL shall maintain in force during the performance of services under these Terms and Conditions, Workers' Compensation and Employer's Liability Insurance in accordance with the laws of the states having jurisdiction over CTL's employees who are engaged in the performance of the work. CTL shall also maintain during such period, Comprehensive General and Contractual Liability (limit of $2,000,000 per occurrence/ aggregate), Comprehensive Automobile Liability, owned and hired, ($1,000,000 combined single limit), and Professional/Pollution Liability Insurance (limit of $5,000,000 per occurrence/aggregate). Any Client required changes to these limits or conditions may result in a charge in cost to the Client.

7. AUDIT

7.1 Upon prior notice to CTL, the Client may audit and inspect CTL's records and accounts covering reimbursable costs related to work done for the Client, for a period of one (1) year after completion of the work. The purpose of any such audit shall be only for verification of such costs, and CTL shall not be required to provide access to cost records where prices are expressed as fixed fees or published unit prices

Ice Present (Yes) No

Temperature 3.7 #11

Initials AC

Date 1/13/16 Time 10:45

Cooler # 5687

Folder #: 116448

PM LOGIN CONFIRMATION

Contract #: 2842

Company: BERING SEA ENVIRONMENTAL **Project:** RADFORD AAP **Proj #:** 313010-001

Project Phase: **PO Number:** **Invoice #:** 116974

Project Manager: *PML* **Date Received:** 01/13/16 **Log Date:** 01/13/2016

Report To: S. JULIA LIU CC: Invoice To : CC:

Phone: 757-256-6281: Fax: Phone: Fax:

Rep. E-Mail SLIU@BSENV.COM EMail:

Collected By: Arrival Temperature: 4.1 oC

Collector's Phone: 757-256-6281

SAMPLE #: 679978 DESCR: 54MW12 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED: 1/12/2016 Time: 1200**

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)			***DESIGNATED MATRIX SPIKE***		1/25/2016		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)			***DESIGNATED MATRIX SPIKE***	1/14/2016	1/25/2016		Entered
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 679979 DESCR: 54MW12 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED: 1/12/2016 Time: 1200**

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
759	CARBON, INORG & ORG	(EPA 9060A)			***DESIGNATED MATRIX SPIKE***	1/26/2016	1/25/2016		Logged
878	SUB PERCHLORATE	(SW6850)			***DESIGNATED MATRIX SPIKE***	2/9/2016	1/25/2016		Logged
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)			***DESIGNATED MATRIX SPIKE***	2/9/2016	1/25/2016		Logged
1240	8330B EXPLOSIVES QSM 5	(EPA 8330B)			***DESIGNATED MATRIX SPIKE***		1/25/2016		NeedPrep

Folder #: 116448 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 679979 **DESCR:** 54MW12 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 1/12/2016 **Time:** 1200

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1279	SUB CHLORATE/CHLORITE	(300.1)			***DESIGNATED MATRIX SPIKE***		1/25/2016		Logged
1280	8330B Breakdown Pdts QSM 5	(EPA 8330B)			***DESIGNATED MATRIX SPIKE***		1/25/2016		NeedPrep

SAMPLE #: 679980 **DESCR:** 54MW1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 1/12/2016 **Time:** 0900

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)					1/25/2016		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)				1/14/2016	1/25/2016		Entered
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 679981 **DESCR:** 54MW1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 1/12/2016 **Time:** 0900

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
759	CARBON, INORG & ORG	(EPA 9060A)				1/26/2016	1/25/2016		Logged
878	SUB PERCHLORATE	(SW6850)				2/9/2016	1/25/2016		Logged
1230	ORGAN CARBON T QSM 5.0	(EPA 9060A)				2/9/2016	1/25/2016		Logged
1240	8330B EXPLOSIVES QSM 5	(EPA 8330B)					1/25/2016		NeedPrep
1279	SUB CHLORATE/CHLORITE	(300.1)					1/25/2016		Logged
1280	8330B Breakdown Pdts QSM 5	(EPA 8330B)					1/25/2016		NeedPrep

SAMPLE #: 679982 **DESCR:** 54MW13 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 1/12/2016 **Time:** 1505

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)					1/25/2016		Logged

Folder #: 116448 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 679982 **DESCR:** 54MW13 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 1/12/2016 **Time:** 1505

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1227	ANIONS IC QSM 5.0	(EPA 9056A)				1/14/2016	1/25/2016		Entered
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 679983 **DESCR:** 54MW13 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 1/12/2016 **Time:** 1505

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
759	CARBON, INORG & ORG	(EPA 9060A)				1/26/2016	1/25/2016		Logged
878	SUB PERCHLORATE	(SW6850)				2/9/2016	1/25/2016		Logged
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)				2/9/2016	1/25/2016		Logged
1240	8330B EXPLOSIVES QSM 5	(EPA 8330B)					1/25/2016		NeedPrep
1279	SUB CHLORATE/CHLORITE	(300.1)					1/25/2016		Logged
1280	8330B Breakdown Pdts QSM 5	(EPA 8330B)					1/25/2016		NeedPrep

SAMPLE #: 679984 **DESCR:** 54ADW01 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 1/12/2016 **Time:** 1510

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
203	PH	(EPA 9040C)					1/25/2016		Logged
989	COD QSM	(EPA 410.4)				2/9/2016	1/25/2016		NeedPrep
1183	ICP K TOTAL QSM 5.0	(EPA 6010C)				7/10/2016	1/25/2016		NeedPrep
1190	ICP NA TOTAL QSM 5.0	(EPA 6010C)				7/10/2016	1/25/2016		NeedPrep
1200	ICP TOTAL QSM 5.0	(EPA 6010C)				7/10/2016	1/25/2016		NeedPrep
			Total Aluminum						
			Total Antimony						
			Total Arsenic						
			Total Barium						

Folder #: 116448 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 679984 **DESCR:** 54ADW01 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 1/12/2016 **Time:** 1510

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
			Total Beryllium						
			Total Cadmium						
			Total Calcium						
			Total Chromium						
			Total Cobalt						
			Total Copper						
			Total Iron						
			Total Lead						
			Total Magnesium						
			Total Manganese						
			Total Nickel						
			Total Selenium						
			Total Silver						
			Total Thallium						
			Total Vanadium						
			Total Zinc						
1208	MERCURY TOTAL QSM 5.0(EPA 7470A)					2/9/2016	1/25/2016		NeedPrep

Folder #: 116448 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

Invoice Number: 116974 **Preliminary Invoice Estimate:** $ 1,500.00

Item	Matrix	Quantity	Price	Expedited TAT Surcharge	Total
8330B Breakdown Pdts QSM 5	GROUND WATER	3	$ 90.00	0.00	$ 270.00
8330B EXPLOSIVES QSM 5	GROUND WATER	3	$ 85.00	0.00	$ 255.00
ANIONS IC QSM 5.0 Chloride	GROUND WATER	3	$ 10.00	0.00	$ 30.00
ANIONS IC QSM 5.0 Nitrate Nitrogen	GROUND WATER	3	$ 10.00	0.00	$ 30.00
ANIONS IC QSM 5.0 Sulfate	GROUND WATER	3	$ 10.00	0.00	$ 30.00
CARBON, INORG & ORG	GROUND WATER	3	$ 25.00	0.00	$ 75.00
COD QSM	GROUND WATER	1	$ 18.00	0.00	$ 18.00
FILTRATION, SAMPLE	GROUND WATER	3	$ 10.00	0.00	$ 30.00
ICP K TOTAL QSM 5.0	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP NA TOTAL QSM 5.0	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Aluminum	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Antimony	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Arsenic	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Barium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Beryllium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Cadmium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Calcium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Chromium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Cobalt	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Copper	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Iron	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Lead	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Magnesium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Manganese	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Nickel	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Selenium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Silver	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Thallium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Vanadium	GROUND WATER	1	$ 3.25	0.00	$ 3.25

ICP TOTAL QSM 5.0 Total Zinc	GROUND WATER	1	$ 3.25	0.00	$ 3.25
MERCURY TOTAL QSM 5.0	GROUND WATER	1	$ 23.50	0.00	$ 23.50
ORGAN CARBON T QSM 5.0	GROUND WATER	3	$ 25.00	0.00	$ 75.00
PH	GROUND WATER	1	$ 10.00	0.00	$ 10.00
SUB CHLORATE/CHLORITE	GROUND WATER	3	$ 90.00	0.00	$ 270.00
SUB PERCHLORATE	GROUND WATER	3	$ 104.00	0.00	$ 312.00
Temporary Fuel Surcharge on lab supplies and services (if applicable):					$ 0.00

Bottle Information

Container	# Containers	Tests
AMBER GL	**15**	CARBON
AMBER GL H2SO4	**2**	TOC
H2SO4 PL	**4**	TOC
HNO3	**1**	HG,ICP,K,NA
LABEL ONLY	**5**	Anions
MISC	**5**	CHLORATE/CHLORITE
UNPRES PL	**11**	pH

CT LABORATORIES
delivering more than data from your environmental analyses

Sample Condition Report

Folder #: 116472
Client: BERING SEA ENVIRONMENTAL

Print Date / Time: 01/14/2016 11:29
Received Date / Time / By: 01/14/2016 1100 MDS

Project Name: RADFORD AAP
Project Phase:

Log-In Date / Time / By: 01/14/2016 1130 JLS
Project #: 313 PM: PML

Coolers: 5675
Custody Seals Present : **Y**

Temperature: 0.8 C On Ice: **Y**
COC Present:? **Y** Complete? **Y**

Seal Intact? **Y**
Ship Method: FEDEX EXPRESS
Adequate Packaging: **Y**

Numbers: DATED AND SIGNED
Tracking Number: 782161272329
Temp Blank Enclosed? **Y**

Notes: SAMPLES WERE RECEIVED IN GOOD CONDITION ON ICE

2 CUSTODY SEALS PRESENT AND INTACT, BOTH DATED 1/13/16 AND SIGNED

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
680615 13MW3				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type (*UNPRES PL*) = 1			
Sample ID / Description	**Container Type**	**Cond. Code**	**pH OK?/Filtered?**	**Tests**
680616 13MW3				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type (*VOA HCL*) = 4			
680616 13MW3				
	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type (*H2SO4 PL*) = 1			
Sample ID / Description	**Container Type**	**Cond. Code**	**pH OK?/Filtered?**	**Tests**
680617 49TM01				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type (*UNPRES PL*) = 1			
Sample ID / Description	**Container Type**	**Cond. Code**	**pH OK?/Filtered?**	**Tests**
680618 49TM01				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC

Total # of Containers of Type (*VOA HCL*) = 4

680618 49TM01

H2SO4 PL	1	Y	/	TOC

Total # of Containers of Type (*H2SO4 PL*) = 1

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

---

680619 13MW4

UNPRES PL	1		/	Anions

Total # of Containers of Type (*UNPRES PL*) = 1

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

---

680620 13MW4

VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC

Total # of Containers of Type (*VOA HCL*) = 4

680620 13MW4

H2SO4 PL	1	Y	/	TOC

Total # of Containers of Type (*H2SO4 PL*) = 1

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

---

680621 49MW04

UNPRES PL	1		/	Anions

Total # of Containers of Type (*UNPRES PL*) = 1

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

---

680622 49MW04

VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC

Total # of Containers of Type (*VOA HCL*) = 4

680622 49MW04

H2SO4 PL	1	Y	/	TOC

Total # of Containers of Type (*H2SO4 PL*) = 1

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

---

680623 13MW2

UNPRES PL	1		/	Anions

Total # of Containers of Type (*UNPRES PL*) = 1

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

680624 13MW2

VOA HCL	1	/	GAS,VOC
VOA HCL	1	/	GAS,VOC
VOA HCL	1	/	GAS,VOC
VOA HCL	1	/	GAS,VOC

Total # of Containers of Type (*VOA HCL*) = 4

680624 13MW2

H2SO4 PL	1 Y	/	TOC

Total # of Containers of Type (*H2SO4 PL*) = 1

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

680625 49MW05

UNPRES PL	1	/	Anions

Total # of Containers of Type (*UNPRES PL*) = 1

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

680626 49MW05

VOA HCL	1	/	GAS,VOC
VOA HCL	1	/	GAS,VOC
VOA HCL	1	/	GAS,VOC
VOA HCL	1	/	GAS,VOC

Total # of Containers of Type (*VOA HCL*) = 4

680626 49MW05

H2SO4 PL	1 Y	/	TOC

Total # of Containers of Type (*H2SO4 PL*) = 1

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

680627 011316T1

VOA HCL	1	/	VOC
VOA HCL	1	/	VOC

Total # of Containers of Type (*VOA HCL*) = 2

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

680628 13MW5

UNPRES PL	1	/	Anions

Total # of Containers of Type (*UNPRES PL*) = 1

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

680629 13MW5

VOA HCL	1	/	GAS,VOC
VOA HCL	1	/	GAS,VOC
VOA HCL	1	/	GAS,VOC
VOA HCL	1	/	GAS,VOC

Total # of Containers of Type (*VOA HCL*) = 4

680629 13MW5

H2SO4 PL 1 Y / TOC

Total # of Containers of Type (*H2SO4 PL*) = 1

Condition Code	*Condition Description*
1	Sample Received OK

Rev 8/2014

CHAIN OF CUSTODY

Page 1 of _____

Company: BSEN
Project Contact: JULIA LIU
Telephone: (757)256-6281
Project Name: RAAP
Project #: 313
Location: RADFORD, VA
Sampled By: SJL

CT LABORATORIES
1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Folder #: 116472
Company: BERING SEA ENVIRON
Project: RADFORD AAP
Logged By: JLS PM: PM

Program:
M RCRA SDWA NPDES
id Waste Other _____
#

Report To: JULIA LIU
EMAIL: SLIU@BSENV.COM
Company: BSEN
Address:

Invoice To:*
EMAIL:
Company: SAME
Address:

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

Client Special Instructions
LAB MUST FILTER

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Turnaround Time
(Normal) RUSH*
Date Needed: _____
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

Collection Date	Collection Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	VOC	METHANE/ ETHANE/ ETHENE	TOC	NITRATE/ SULFATE/ CHLORIDE										Total # Containers	Designated MS/MSD	CT Lab ID # (Lab use only)
							Fill in Spaces with Bottles per Test																
1/13/16	0915	GW	GRAB		13MW3		X	X	X	X										6		680615/616
	0915				49TM01		X	X	X	X										6		680~~616~~ 617/618
	1105				~~49MW04~~ 13MW4		X	X	X	X										6		680619/620
	1225				49MW04		X	X	X	X										6		680~~618~~ 621/622
	1335				13MW2		X	X	X	X										6		680~~619~~ 623/624
	1510				49MW05		X	X	X	X										6		680~~620~~ ~~625~~ 626
	1600				01,316T1		X													2		680627
	1620				13MW5		X	X	X	X										6		680628/629

Relinquished By:	Date/Time	Received By:	Date/Time	Lab Use Only
	1/13/16 1730		1/14/16 1130	Ice Present (Yes) No
Received by:	Date/Time	Received for Laboratory by:	Date/Time	Temp 0.8 IR Gun # SRT11
			01/14/16 1100	Cooler # 5675

CT Laboratories Terms and Conditions

Where a purchaser (Client) places an order for laboratory, consulting or sampling services from CT Laboratories (CTL), CTL shall provide the ordered services pursuant to these Terms and Conditions, and the related Quotation, or as agreed in a negotiated contract. In the absence of a written agreement to the contrary, the Order constitutes an acceptance by the Client of CTL's offer to do business under these Terms and Conditions, and an agreement to be bound by these Terms and Conditions. No contrary or additional terms and conditions expressed in a Client's document shall be deemed to become a part of the contract created upon acceptance of these Terms and Conditions, unless accepted by CTL in advance of the start of the project and in writing.

1. ORDERS AND RECEIPT OF SAMPLES (Sample Acceptance Policy)

1.1 The Client may place the Order (i.e., specify a Scope of Work) either by submitting a purchase order to CTL in writing, by telephone (confirmed in writing) or by negotiated contract. Whichever option the Client selects for placing the Order, the Order shall not be valid unless it contains sufficient specification to enable CTL to carry out the Client's requirements. It is the policy of CT Laboratories that samples not meeting the acceptance criteria, outlined in the NELAC standards and Section 5.8.3.2 of the DOD QSM, will not be accepted by the laboratory or will be qualified on the final report. All samples submitted to the laboratory must: (1) be accompanied by proper, full and complete documentation, including sample identification, location, date and time of collection, the collector's name, type of preservation (if any), type of sample, any special comments concerning the sample and any additional pertinent fields on the chain-of-custody. In the absence of any of the required information, the laboratory will attempt to contact the client to obtain the information; if unable to obtain the necessary information, the final report will be qualified. (2) be labeled appropriately with a unique sample identification written with indelible ink on water resistant labels. If the laboratory cannot determine the identity of a sample, it will be rejected and the client will be contacted for further instructions or resampling. (3) be in an appropriate sample container. If the container is inappropriate, the client will be contacted for further instructions or resampling. If analysis is possible, the final report will be qualified. CT Laboratories can provide a sampling guide containing approved containers and preservations for analytical methods requested. (4) adhere to specified holding times. If samples are received with less than ½ the holding time remaining for the requested test, CT Laboratories will make its best effort to analyze the samples and notify the client. If holding times are exceeded, the final report will be qualified. (5) contain adequate sample volume to perform the necessary testing. If sufficient volume is not present, the sample will be rejected and the client will be contacted for further instructions or resampling. If samples show signs of damage, contamination or inadequate preservation, the client will be notified. If analysis can be performed, the final report will be qualified. If not, the samples will be rejected and the client notified for further instructions or resampling.

1.2 CT Laboratories must be supplied with complete written disclosure of the known or suspected presence of any hazardous substances, as defined by applicable federal or state law. Where any samples which were not accompanied by the required disclosure, cause interruptions in the lab's ability to process work due to contamination of instruments or work areas, the Client will be responsible for the costs of clean up and recovery.

1.3 Prior to Sample Acceptance, the entire risk of loss or damage to samples remains with the Client. In no event will CTL have any responsibility or liability for the action or inaction of any carrier shipping or delivering any sample to or from CTL's premises. Client is responsible to assure that any sample containing any hazardous substance which is to be delivered to CTL's premises will be packaged, labeled, transported and delivered properly and in accordance with applicable laws.

2. PAYMENT TERMS

2.1 Services performed by CTL will be in accordance with prices quoted and later confirmed in writing or as stated in the Price Schedule. Invoices may be submitted to Client upon completion of any sample delivery group. Payment in advance is required for all Clients except those whose credit has been established with CTL. For Clients with approved credit, payment terms are net 30 days from the date of invoice by CTL. All overdue payments are subject to an additional interest and service charge of one and one-half percent (1.5%) (or the maximum rate permissible by law, whichever is lesser) per month or portion thereof from the due date until the date of payment. All fees are charged or billed directly to the Client. The billing of a third party will not be accepted without a statement, signed by the third party that acknowledges and accepts payment responsibility. CTL may suspend work and withhold delivery of data under this order at any time in the event Client fails to make timely payment of its invoices. Client shall be responsible for all costs and expenses of collection including reasonable attorney's fees. CTL reserves the right to refuse to proceed with work at any time based upon an unfavorable Client credit report.

3. CHANGE ORDERS, TERMINATION

3.1 Changes to the Scope of Work, price, or result delivery date may be initiated by CTL after Sample Acceptance due to any condition which conflicts with analytical, QA or other protocols warranted in these Terms and Conditions. CTL will not proceed with such changes until an agreement with the Client is reached on the amount of any cost, schedule change or technical change to the Scope of Work, and such agreement is documented in writing.

3.2 Changes to the Scope of Work, including but not limited to increasing or decreasing the work, changing test and analysis specification or acceleration in the performance of the work may be initiated by the Client after sample acceptance. Such a change will be documented in writing and may result in a change in cost and turnaround time commitment. CTL's acceptance of such changes is contingent upon technical feasibility and operational capacity.

3.3 Suspension or termination of all or any part of the work may be initiated by the Client. CTL will be compensated consistent with Section 2 of these Terms and Conditions. CTL will complete all work in progress and be paid in full for all work completed.

4. WARRANTIES AND LIABILITY

4.1 Where applicable, CTL will use analytical methodologies which are in substantial conformity with published test methods. CTL has implemented these methods in its Laboratory Quality Manuals and referenced Standard Operating Procedures and where the nature or composition of the sample requires it, CTL reserves the right to deviate from these methodologies as necessary or appropriate, based on the reasonable judgment of CTL, which deviations, if any, will be made on a basis consistent with recognized standards of the industry and/or CTL's Laboratory Quality Manuals. Client may request that CTL perform according to a mutually agreed Quality Assurance Project Plan (QAPP). In the event that samples arrive prior to agreement on a QAPP, CTL will proceed with analyses under its standard Quality Manuals then in effect, and CTL will not be responsible for any resampling or other charges if work must be repeated to comply with a subsequently finalized QAPP.

4.2 CTL shall start preparation and/or analysis within holding times provided that Sample Acceptance occurs within 48 hours of sampling or 1/2 of the holding time for the test, whichever is less. Where resolution of inconsistencies leading to Sample Acceptance does not occur within this period, CTL will use its best efforts to meet holding times and will proceed with the work provided that, in CTL's judgment, the chain-of-custody or definition of the Scope of Work provide sufficient guidance. Reanalysis of samples to comply with CTL's Quality Manuals will be deemed to have met holding times provided the initial analysis was performed within the applicable holding time. Where reanalysis demonstrates that sample matrix interference is the cause of failure to meet any Quality Manual requirements, the warranty will be deemed to have been met.

4.3 CTL warrants that it possesses and maintains all licenses and certifications which are required to perform services under these Terms and Conditions provided that such requirements are specified in writing to CTL prior to Sample Acceptance. CTL will notify the Client in writing of any decertification or revocation of any license, or notice of either, which affects work in progress.

4.4 The warranty obligations set forth in Sections 4.1, 4.2 and 4.3 are the sole and exclusive warranties given by CTL in connection with any services performed by CTL or any Results generated from such services, and CTL gives and makes NO OTHER REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. No representative of CTL is authorized to give or make any other representation or warranty or modify this warranty in any way.

4.5 Client's sole and exclusive remedy for the breach of warranty in connection with any services performed by CTL, will be limited to repeating any services performed, contingent on the Client's providing, at the request of CTL and at the Client's expense, additional sample(s) if necessary. Any reanalysis requested by the Client generating Results consistent with the original Results will be at the Client's expense. If resampling is necessary, CTL's liability for resampling costs will be limited to actual cost or one hundred or one hundred fifty dollars ($150) per sample, whichever is less.

4.6 CTL's liability for any and all causes of action arising hereunder, whether based in contract, tort, warranty, negligence or otherwise, shall be limited to the lesser amount of compensation for the services performed or $100,000. All claims, including those for negligence, shall be deemed waived unless suit thereon is filed within one year after CTL's completion of the services. Under no circumstances, whether arising in contract, tort (including negligence), or otherwise, shall CTL be responsible for loss of use, loss of profits, or for any special, indirect, incidental or consequential damages occasioned by the services performed or by application or use of the reports prepared.

4.7 In no event shall CTL have any responsibility or liability to the Client for any failure or delay in performance by CTL which results, directly or indirectly, in whole or in part, from any cause or circumstance beyond the reasonable control of CTL. Such causes and circumstances shall include, but not be limited to, acts of God, acts of Client, acts or orders of any governmental authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, equipment breakdown, matrix interference or unknown highly contaminated samples that impact instrument operation, unavailability of supplies from usual suppliers, difficulties or delays in transportation, mail or delivery services, or any other cause beyond CTL's reasonable control.

5. RESULTS, WORK PRODUCT

5.1 Data or information provided to CTL or generated by services performed under this agreement shall only become the property of the Client upon receipt in full by CTL of payment for the whole Order. Ownership of any analytical method, QA/QC protocols, software programs or equipment developed by CTL for performance of work will be retained by CTL, and Client shall not disclose such information to any third party.

5.2 Data and sample materials provided by Client or at Client's request, and the result obtained by CTL shall be held in confidence (unless such information is generally available to the public or is in the public domain or Client has failed to pay CTL for all services rendered or is otherwise in breach of these Terms and Conditions), subject to any disclosure required by law or legal process.

5.3 Should the Results delivered by CTL be used by the Client or Client's client, even though subsequently determined not to meet the warranties described in these Terms and Conditions, then the compensation will be adjusted based upon mutual agreement. In no case shall the Client unreasonably withhold CTL's right to independently defend its data.

5.4 CTL reserves the right to subcontract services ordered by the Client to another laboratory or laboratories, if, in CTL's sole judgment, it is reasonably necessary, appropriate or advisable to do so, and with the Client's permission. CTL will in no way be liable for any subcontracted services and all applicable warranties, guarantees and insurance are those of the subcontracted laboratory.

5.5 CTL shall dispose of the Client's samples 30 days after the analytical report is issued, unless instructed to store them for an alternate period of time or to return such samples to the Client, in a manner consistent with U.S. Environmental Protection Agency regulations or other applicable Federal, state or local requirements. Any samples for projects that are canceled or not accepted, or for which return was requested, will be returned to the Client at their own expense. CTL reserves the right to return to the Client any sample or unused portion of a sample that is not within CTL's permitted capability or the capabilities of CTL's designated waste disposal vendor(s).

5.6 Unless a different time period is agreed to in any order under these Terms and Conditions, CTL agrees to retain all records for five (5) years.

5.7 In the event that CTL is required to respond to legal process related to services for Client, Client agrees to reimburse CTL for hourly charges for personnel involved in the response and attorney fees reasonably incurred in obtaining advice concerning the response, preparation to testify, and appearances related to the legal process, travel and all reasonable expenses associated with the litigation.

6. INSURANCE

6.1 CTL shall maintain in force during the performance of services under these Terms and Conditions, Workers' Compensation and Employer's Liability Insurance in accordance with the laws of the states having jurisdiction over CTL's employees who are engaged in the performance of the work. CTL shall also maintain during such period, Comprehensive General and Contractual Liability (limit of $2,000,000 per occurrence/ aggregate), Comprehensive Automobile Liability, owned and hired, ($1,000,000 combined single limit), and Professional/Pollution Liability Insurance (limit of $5,000,000 per occurrence/aggregate). Any Client required changes to these limits or conditions may result in a change in cost to the Client.

7. AUDIT

7.1 Upon prior notice to CTL, the Client may audit and inspect CTL's records and accounts covering reimbursable costs related to work done for the Client, for a period of one (1) year after completion of the work. The purpose of any such audit shall be only for verification of such costs, and CTL shall not be required to provide access to cost records where prices are expressed as fixed fees or published unit prices

Page 2692

IGIN ID:WALA (757) 256-6281
JULIA LIU
EN
5 E 82ND AVE STE 200

CHORAGE, AK 99518
ITED STATES US

SHIP DATE: 13JAN16
ACTWGT: 42.00 LB
CAD: 6997114/SSFO1621
DIMS: 26x14x13 IN

BILL THIRD PARTY

Part # 156297-435 REV 10/15

SAMPLE RECEIVING
CT LABORATORIES
1230 LANGE COURT

BARABOO WI 53913
3) 356-2760 REF:

DEPT:

FedEx Express

REL# 3786346

THU - 14 JAN 10:30A
PRIORITY OVERNIGHT

TRK# 0201 **7821 6127 2329**

XH MSNA

53913
WI-US **MSN**

0.8°C SRT 11
01/14/16 11:00
MBS
Cooler # 5675

CUSTODY SEAL
DATE 1/13/16
SIGNATURE

QEC
Quality Environmental Containers
800-255-3950 • 304-255-3900

CUSTODY SEAL
DATE 1/13/16
SIGNATURE

QEC
Quality Environmental Containers
800-255-3950 • 304-255-3900

Folder #: 116472

PM LOGIN CONFIRMATION

Contract #: 2842

Company: BERING SEA ENVIRONMENTAL **Project:** RADFORD AAP **Proj #:** 313

Project Phase: **PO Number:** **Invoice #:** 116998

Project Manager: *PML* **Date Received:** 01/14/16 **Log Date:** 01/14/2016

Report To: S. JULIA LIU CC: Invoice To : CC:

Phone: 757-256-6281: Fax: Phone: Fax:

Rep. E-Mail SLIU@BSENV.COM EMail:

Collected By: Arrival Temperature: 0.8 oC

Collector's Phone: 757-256-6281

SAMPLE #: 680615 DESCR: 13MW3 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED: 1/13/2016 Time: 0915**

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)					1/26/2016		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)				1/15/2016	1/26/2016		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 680616 DESCR: 13MW3 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED: 1/13/2016 Time: 0915**

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	1/27/2016	1/26/2016		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				1/27/2016	1/26/2016		NeedPrep
			Ethane						
			Ethene						

C:\LIMSREPS\CONFIRMATION.RPT

Folder #: 116472 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 680616 **DESCR:** 13MW3 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 1/13/2016 **Time:** 0915

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
			Methane						
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)				2/10/2016	1/26/2016		Logged

SAMPLE #: 680617 **DESCR:** 49TM01 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 1/13/2016 **Time:** 0915

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)					1/26/2016		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)				1/15/2016	1/26/2016		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 680618 **DESCR:** 49TM01 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 1/13/2016 **Time:** 0915

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	1/27/2016	1/26/2016		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				1/27/2016	1/26/2016		NeedPrep
			Ethane						
			Ethene						
			Methane						
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)				2/10/2016	1/26/2016		Logged

SAMPLE #: 680619 **DESCR:** 13MW4 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 1/13/2016 **Time:** 1105

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)					1/26/2016		Logged

Folder #: 116472 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 680619 **DESCR:** 13MW4 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 1/13/2016 **Time:** 1105

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1227	ANIONS IC QSM 5.0	(EPA 9056A)				1/15/2016	1/26/2016		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 680620 **DESCR:** 13MW4 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 1/13/2016 **Time:** 1105

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	1/27/2016	1/26/2016		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				1/27/2016	1/26/2016		NeedPrep
			Ethane						
			Ethene						
			Methane						
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)				2/10/2016	1/26/2016		Logged

SAMPLE #: 680621 **DESCR:** 49MW04 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 1/13/2016 **Time:** 1225

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)					1/26/2016		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)				1/15/2016	1/26/2016		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

Folder #: 116472 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 680622 **DESCR:** 49MW04 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 1/13/2016 **Time:** 1225

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	1/27/2016	1/26/2016		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				1/27/2016	1/26/2016		NeedPrep
			Ethane						
			Ethene						
			Methane						
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)				2/10/2016	1/26/2016		Logged

SAMPLE #: 680623 **DESCR:** 13MW2 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 1/13/2016 **Time:** 1335

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)					1/26/2016		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)				1/15/2016	1/26/2016		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 680624 **DESCR:** 13MW2 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 1/13/2016 **Time:** 1335

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	1/27/2016	1/26/2016		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				1/27/2016	1/26/2016		NeedPrep
			Ethane						
			Ethene						
			Methane						
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)				2/10/2016	1/26/2016		Logged

Folder #: 116472 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 680625 **DESCR:** 49MW05 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 1/13/2016 **Time:** 1510

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)					1/26/2016		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)				1/15/2016	1/26/2016		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 680626 **DESCR:** 49MW05 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 1/13/2016 **Time:** 1510

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	1/27/2016	1/26/2016		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				1/27/2016	1/26/2016		NeedPrep
			Ethane						
			Ethene						
			Methane						
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)				2/10/2016	1/26/2016		Logged

SAMPLE #: 680627 **DESCR:** 011316T1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 1/13/2016 **Time:** 1600

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	1/27/2016	1/26/2016		Logged

SAMPLE #: 680628 **DESCR:** 13MW5 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 1/13/2016 **Time:** 1620

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)					1/26/2016		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)				1/15/2016	1/26/2016		Logged

Folder #: 116472 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 680628 **DESCR:** 13MW5 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 1/13/2016 **Time:** 1620

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 680629 **DESCR:** 13MW5 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 1/13/2016 **Time:** 1620

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	1/27/2016	1/26/2016		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				1/27/2016	1/26/2016		NeedPrep
			Ethane						
			Ethene						
			Methane						
1230	ORGAN CARBON T QSM 5.0	(EPA 9060A)				2/10/2016	1/26/2016		Logged

Invoice Number: 116998 **Preliminary Invoice Estimate:** $ 1,175.00

Item	Matrix	Quantity	Price	Expedited TAT Surcharge	Total
ANIONS IC QSM 5.0 Chloride	GROUND WATER	7	$ 10.00	0.00	$ 70.00
ANIONS IC QSM 5.0 Nitrate Nitrogen	GROUND WATER	7	$ 10.00	0.00	$ 70.00
ANIONS IC QSM 5.0 Sulfate	GROUND WATER	7	$ 10.00	0.00	$ 70.00
FILTRATION, SAMPLE	GROUND WATER	7	$ 10.00	0.00	$ 70.00
METH,ETH,ETHE QSM 5.0 Ethane	GROUND WATER	7	$ 0.00	0.00	$ 0.00
METH,ETH,ETHE QSM 5.0 Ethene	GROUND WATER	7	$ 0.00	0.00	$ 0.00
METH,ETH,ETHE QSM 5.0 Methane	GROUND WATER	7	$ 40.00	0.00	$ 280.00
ORGAN CARBON T QSM 5.0	GROUND WATER	7	$ 25.00	0.00	$ 175.00
VOC 8260 QSM 5.0	GROUND WATER	8	$ 55.00	0.00	$ 440.00
Temporary Fuel Surcharge on lab supplies and services (if applicable):					$ 0.00

Bottle Information

Container	# Containers	Tests
H2SO4 PL	**7**	TOC
UNPRES PL	**7**	Anions
VOA HCL	**30**	GAS,VOC

CT LABORATORIES
delivering more than data from your environmental analyses

Sample Condition Report

Folder #: 116508
Client: BERING SEA ENVIRONMENTAL

Print Date / Time: 01/15/2016 11:17
Received Date / Time / By: 01/15/2016 1045 DJL

Project Name: RADFORD AAP
Project Phase:

Log-In Date / Time / By: 01/15/2016 1116 JLS
Project #: 313010-001 PM: PML

Coolers: 5146
Custody Seals Present : **Y**

Temperature: 3.5 C On Ice: **Y**
COC Present:? **Y** Complete? **Y**

Seal Intact? **Y**
Ship Method: FEDEX EXPRESS
Adequate Packaging: **Y**

Numbers: DATED AND SIGNED
Tracking Number: 808194929882
Temp Blank Enclosed? **Y**

Notes: SAMPLES WERE RECEIVED IN GOOD CONDITION ON ICE

2 CUSTODY SEALS PRESENT AND INTACT, BOTH DATED 1/14/16 AND SIGNED

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
681413 48MW07				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type (*UNPRES PL*) = 1			

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
681414 48MW07				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type (*VOA HCL*) = 4			
681414 48MW07				
	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type (*H2SO4 PL*) = 1			

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
681415 48MW06				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type (*UNPRES PL*) = 1			

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
681416 48MW06				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC

Total # of Containers of Type (*VOA HCL*) = 4

681416 48MW06

H2SO4 PL	1	Y	/	TOC

Total # of Containers of Type (*H2SO4 PL*) = 1

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

---

681417 48MW1

UNPRES PL	1		/	Anions

Total # of Containers of Type (*UNPRES PL*) = 1

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

---

681418 48MW1

VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC

Total # of Containers of Type (*VOA HCL*) = 4

681418 48MW1

H2SO4 PL	1	Y	/	TOC

Total # of Containers of Type (*H2SO4 PL*) = 1

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

---

681419 49MW03

UNPRES PL	1		/	Anions

Total # of Containers of Type (*UNPRES PL*) = 1

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

---

681420 49MW03

VOA HCL	1		/	GAS,VOC

Total # of Containers of Type (*VOA HCL*) = 1

681420 49MW03

VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC

Total # of Containers of Type (*VOA HCL*) = 3

681420 49MW03

H2SO4 PL	1	Y	/	TOC

Total # of Containers of Type (*H2SO4 PL*) = 1

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

---

681421 49MW01

UNPRES PL	1		/	Anions

Total # of Containers of Type (*UNPRES PL*) = 1

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
681422 49MW01				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type (*VOA HCL*) = 4			
681422 49MW01				
	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type (*H2SO4 PL*) = 1			

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
681423 011416T1				
	VOA HCL	1	/	VOC
	VOA HCL	1	/	VOC
	Total # of Containers of Type (*VOA HCL*) = 2			

Condition Code	*Condition Description*
1	Sample Received OK

116508

Rev 8/2014

CHAIN OF CUSTODY

Page 1 of _____

Company: BSEN
Project Contact: JULIA LIU
Telephone: 857-256-6201
Project Name: RAAP
Project #: 313010-00
Location: RADFORD, VA
Sampled By: SJL

CT LABORATORIES

1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Folder #: 116508
Company: BERING SEA ENVIRON
Project: RADFORD AAP
Logged By: JLS PM: PM

Program:
QSM RCRA SDWA NPDES
Solid Waste Other _____

PO # BSN-1228

Report To: JULIA LIU
EMAIL: SLIU@BSEN.COM
Company: BSEN
Address: 615 E. 82ND AVE #200 ANCHORAGE, AK 99518

Invoice To:*
EMAIL:
Company: SAME
Address:

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

Client Special Instructions
LAB MUST FILTER

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Turnaround Time
Normal RUSH*
Date Needed: _____
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

Collection Date	Collection Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	ANALYSES REQUESTED: VOC	METHANE/ETHANE/ETHENE	TDL	NITRATE/SULFATE/CHLORIDE	Total # Containers	Designated MS/MSD	CT Lab ID # (Lab use only)
							Fill in Spaces with Bottles per Test						
1/14/16	0900	GW	GRAB		48MW07	N	X	X	X	X	6		681413/414
	1050				48MW06	N	X	X	X	X	6		681415/416
	1230				48MW1	N	X	X	X	X	6		681417/418
	1415				49MW03	N	X	X	X	X	6		681419/420
	1645				49MW01	N	X	X	X	X	6		681421/422
	1700				011416T1	N	X				2		681423

Relinquished By: [signature]
Date/Time 1/14/16 1730

Received by:
Date/Time

Received By:
Date/Time 1/15/16 1116

Received for Laboratory by:
Date/Time 1/15/16 1045

Lab Use Only
Ice Present Yes No
Temp 3.5 IR Gun # 10
Cooler # 5146

CT Laboratories Terms and Conditions

Where a purchaser (Client) places an order for laboratory, consulting or sampling services from CT Laboratories (CTL), CTL shall provide the ordered services pursuant to these Terms and Conditions, and the related Quotation, or as agreed in a negotiated contract. In the absence of a written agreement to the contrary, the Order constitutes an acceptance by the Client of CTL's offer to do business under these Terms and Conditions, and an agreement to be bound by these Terms and Conditions. No contrary or additional terms and conditions expressed in a Client's document shall be deemed to become a part of the contract created upon acceptance of these Terms and Conditions, unless accepted by CTL in advance of the start of the project and in writing.

1. ORDERS AND RECEIPT OF SAMPLES (Sample Acceptance Policy)

1.1 The Client may place the Order (i.e., specify a Scope of Work) either by submitting a purchase order to CTL in writing, by telephone (confirmed in writing) or by negotiated contract. Whichever option the Client selects for placing the Order, the Order shall not be valid unless it contains sufficient specification to enable CTL to carry out the Client's requirements. It is the policy of CT Laboratories that samples not meeting the acceptance criteria, outlined in the NELAC standards and Section 5.8.3.2 of the DOD QSM, will not be accepted by the laboratory or will be qualified on the final report. All samples submitted to the laboratory must: (1) be accompanied by proper, full and complete documentation, including sample identification, location, date and time of collection, the collector's name, type of preservation (if any), type of sample, any special comments concerning the sample and any additional pertinent fields on the chain-of-custody. In the absence of any of the required information, the laboratory will attempt to contact the client to obtain the information; if unable to obtain the necessary information, the final report will be qualified. (2) be labeled appropriately with a unique sample identification written with indelible ink on water resistant labels. If the laboratory cannot determine the identity of a sample, it will be rejected and the client will be contacted for further instructions or resampling. (3) be in an appropriate sample container. If the container is inappropriate, the client will be contacted for further instructions or resampling. If analysis is possible, the final report will be qualified. CT Laboratories can provide a sampling guide containing approved containers and preservations for analytical methods requested. (4) adhere to specified holding times. If samples are received with less than ½ the holding time remaining for the requested test, CT Laboratories will make its best effort to analyze the samples and notify the client. If holding times are exceeded, the final report will be qualified. (5) contain adequate sample volume to perform the necessary testing. If sufficient volume is not present, the sample will be rejected and the client will be contacted for further instructions or resampling. If samples show signs of damage, contamination or inadequate preservation, the client will be notified. If analysis can be performed, the final report will be qualified. If not, the samples will be rejected and the client notified for further instructions or resampling.

1.2 CT Laboratories must be supplied with complete written disclosure of the known or suspected presence of any hazardous substances, as defined by applicable federal or state law. Where any samples which were not accompanied by the required disclosure, cause interruptions in the lab's ability to process work due to contamination of instruments or work areas, the Client will be responsible for the costs of clean up and recovery.

1.3 Prior to Sample Acceptance, the entire risk of loss or damage to samples remains with the Client. In no event will CTL have any responsibility or liability for the action or inaction of any carrier shipping or delivering any sample to or from CTL's premises. Client is responsible to assure that any sample containing any hazardous substance which is to be delivered to CTL's premises will be packaged, labeled, transported and delivered properly and in accordance with applicable laws.

2. PAYMENT TERMS

2.1 Services performed by CTL will be in accordance with prices quoted and later confirmed in writing or as stated in the Price Schedule. Invoices may be submitted to Client upon completion of any sample delivery group. Payment in advance is required for all Clients except those whose credit has been established with CTL. For Clients with approved credit, payment terms are net 30 days from the date of invoice by CTL. All overdue payments are subject to an additional interest and service charge of one and one-half percent (1.5%) (or the maximum rate permissible by law, whichever is lesser) per month or portion thereof from the due date until the date of payment. All fees are charged or billed directly to the Client. The billing of a third party will not be accepted without a statement, signed by the third party that acknowledges and accepts payment responsibility. CTL may suspend work and withhold delivery of data under this order at any time in the event Client fails to make timely payment of its invoices. Client shall be responsible for all costs and expenses of collection including reasonable attorney's fees. CTL reserves the right to refuse to proceed with work at any time based upon an unfavorable Client credit report.

3. CHANGE ORDERS, TERMINATION

3.1 Changes to the Scope of Work, price, or result delivery date may be initiated by CTL after Sample Acceptance due to any condition which conflicts with analytical, QA or other protocols warranted in these Terms and Conditions. CTL will not proceed with such changes until an agreement with the Client is reached on the amount of any cost, schedule change or technical change to the Scope of Work, and such agreement is documented in writing.

3.2 Changes to the Scope of Work, including but not limited to increasing or decreasing the work, changing test and analysis specification or acceleration in the performance of the work may be initiated by the Client after sample acceptance. Such a change will be documented in writing and may result in a change in cost and turnaround time commitment. CTL's acceptance of such changes is contingent upon technical feasibility and operational capacity.

3.3 Suspension or termination of all or any part of the work may be initiated by the Client. CTL will be compensated consistent with Section 2 of these Terms and Conditions. CTL will complete all work in progress and be paid in full for all work completed.

4. WARRANTIES AND LIABILITY

4.1 Where applicable, CTL will use analytical methodologies which are in substantial conformity with published test methods. CTL has implemented these methods in its Laboratory Quality Manuals and referenced Standard Operating Procedures and where the nature or composition of the sample requires it, CTL reserves the right to deviate from these methodologies as necessary or appropriate, based on the reasonable judgment of CTL, which deviations, if any, will be made on a basis consistent with recognized standards of the industry and/or CTL's Laboratory Quality Manuals. Client may request that CTL perform according to a mutually agreed Quality Assurance Project Plan (QAPP). In the event that samples arrive prior to agreement on a QAPP, CTL will proceed with analyses under its standard Quality Manuals then in effect, and CTL will not be responsible for any resampling or other charges if work must be repeated to comply with a subsequently finalized QAPP.

4.2 CTL shall start preparation and/or analysis within holding times provided that Sample Acceptance occurs within 48 hours of sampling or 1/2 of the holding time for the test, whichever is less. Where resolution of inconsistencies leading to Sample Acceptance does not occur within this period, CTL will use its best efforts to meet holding times and will proceed with the work provided that, in CTL's judgment, the chain-of-custody or definition of the Scope of Work provide sufficient guidance. Reanalysis of samples to comply with CTL's Quality Manuals will be deemed to have met holding times provided the initial analysis was performed within the applicable holding time. Where reanalysis demonstrates that sample matrix interference is the cause of failure to meet any Quality Manual requirements, the warranty will be deemed to have been met.

4.3 CTL warrants that it possesses and maintains all licenses and certifications which are required to perform services under these Terms and Conditions provided that such requirements are specified in writing to CTL prior to Sample Acceptance. CTL will notify the Client in writing of any decertification or revocation of any license, or notice of either, which affects work in progress.

4.4 The warranty obligations set forth in Sections 4.1, 4.2 and 4.3 are the sole and exclusive warranties given by CTL in connection with any services performed by CTL or any Results generated from such services, and CTL gives and makes NO OTHER REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. No representative of CTL is authorized to give or make any other representation or warranty or modify this warranty in any way.

4.5 Client's sole and exclusive remedy for the breach of warranty in connection with any services performed by CTL, will be limited to repeating any services performed, contingent on the Client's providing, at the request of CTL and at the Client's expense, additional sample(s) if necessary. Any reanalysis requested by the Client generating Results consistent with the original Results will be at the Client's expense. If resampling is necessary, CTL's liability for resampling costs will be limited to actual cost or one hundred or one hundred fifty dollars ($150) per sample, whichever is less.

4.6 CTL's liability for any and all causes of action arising hereunder, whether based in contract, tort, warranty, negligence or otherwise, shall be limited to the lesser amount of compensation for the services performed or $100,000. All claims, including those for negligence, shall be deemed waived unless suit thereon is filed within one year after CTL's completion of the services. Under no circumstances, whether arising in contract, tort (including negligence), or otherwise, shall CTL be responsible for loss of use, loss of profits, or for any special, indirect, incidental or consequential damages occasioned by the services performed or by application or use of the reports prepared.

4.7 In no event shall CTL have any responsibility or liability to the Client for any failure or delay in performance by CTL which results, directly or indirectly, in whole or in part, from any cause or circumstance beyond the reasonable control of CTL. Such causes and circumstances shall include, but not be limited to, acts of God, acts of Client, acts or orders of any governmental authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, equipment breakdown, matrix interference or unknown highly contaminated samples that impact instrument operation, unavailability of supplies from usual suppliers, difficulties or delays in transportation, mail or delivery services, or any other cause beyond CTL's reasonable control.

5. RESULTS, WORK PRODUCT

5.1 Data or information provided to CTL or generated by services performed under this agreement shall only become the property of the Client upon receipt in full by CTL of payment for the whole Order. Ownership of any analytical method, QA/QC protocols, software programs or equipment developed by CTL for performance of work will be retained by CTL, and Client shall not disclose such information to any third party.

5.2 Data and sample materials provided by Client or at Client's request, and the result obtained by CTL shall be held in confidence (unless such information is generally available to the public or is in the public domain or Client has failed to pay CTL for all services rendered or is otherwise in breach of these Terms and Conditions), subject to any disclosure required by law or legal process.

5.3 Should the Results delivered by CTL be used by the Client or Client's client, even though subsequently determined not to meet the warranties described in these Terms and Conditions, then the compensation will be adjusted based upon mutual agreement. In no case shall the Client unreasonably withhold CTL's right to independently defend its data.

5.4 CTL reserves the right to subcontract services ordered by the Client to another laboratory or laboratories, if, in CTL's sole judgment, it is reasonably necessary, appropriate or advisable to do so, and with the Client's permission. CTL will in no way be liable for any subcontracted services and all applicable warranties, guarantees and insurance are those of the subcontracted laboratory.

5.5 CTL shall dispose of the Client's samples 30 days after the analytical report is issued, unless instructed to store them for an alternate period of time or to return such samples to the Client, in a manner consistent with U.S. Environmental Protection Agency regulations or other applicable Federal, state or local requirements. Any samples for projects that are canceled or not accepted, or for which return was requested, will be returned to the Client at their own expense. CTL reserves the right to return to the Client any sample or unused portion of a sample that is not within CTL's permitted capability or the capabilities of CTL's designated waste disposal vendor(s).

5.6 Unless a different time period is agreed to in any order under these Terms and Conditions, CTL agrees to retain all records for five (5) years.

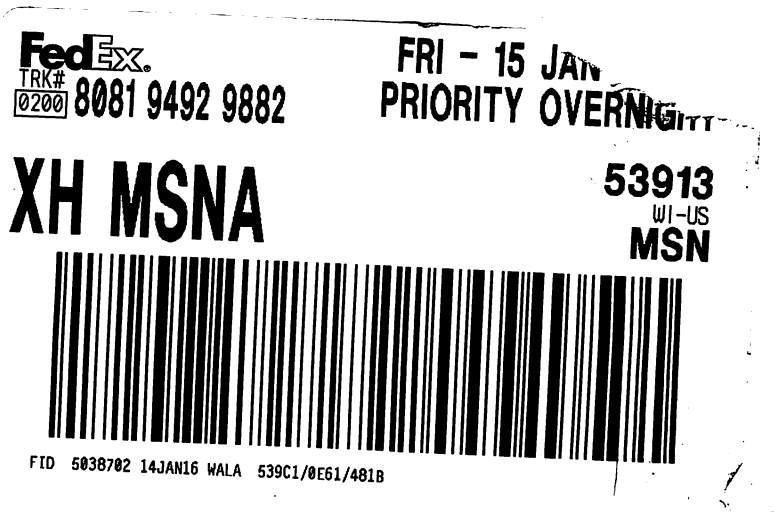
5.7 In the event that CTL is required to respond to legal process related to services for Client, Client agrees to reimburse CTL for hourly charges for personnel involved in the response and attorney fees reasonably incurred in obtaining advice concerning the response, preparation to testify, and appearances related to the legal process, travel and all reasonable expenses associated with the litigation.

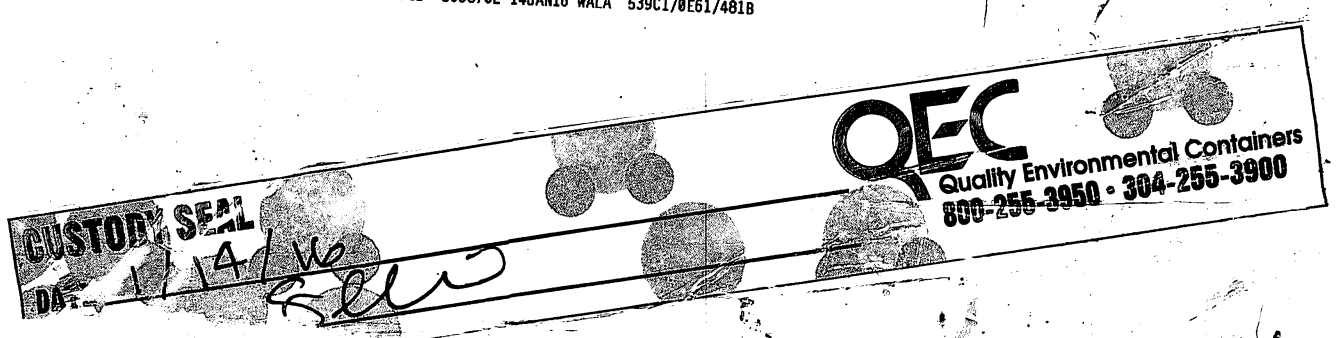
6. INSURANCE

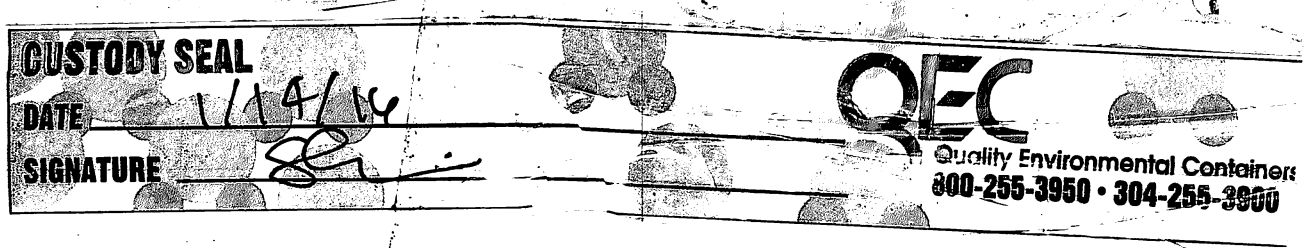
6.1 CTL shall maintain in force during the performance of services under these Terms and Conditions, Workers' Compensation and Employer's Liability Insurance in accordance with the laws of the states having jurisdiction over CTL's employees who are engaged in the performance of the work. CTL shall also maintain during such period, Comprehensive General and Contractual Liability (limit of $2,000,000 per occurrence/ aggregate), Comprehensive Automobile Liability, owned and hired, ($1,000,000 combined single limit), and Professional/Pollution Liability Insurance (limit of $5,000,000 per occurrence/aggregate). Any Client required changes to these limits or conditions may result in a change in cost to the Client.

7. AUDIT

7.1 Upon prior notice to CTL, the Client may audit and inspect CTL's records and accounts covering reimbursable costs related to work done for the Client, for a period of one (1) year after completion of the work. The purpose of any such audit shall be only for verification of such costs, and CTL shall not be required to provide access to cost records where prices are expressed as fixed fees or published unit prices







Ice Present (Yes) No #10
Temperature 3.5
Initials
Date 1/15/16 Time 10:45
Cooler # 5146

Folder #: 116508

PM LOGIN CONFIRMATION

Contract #: 2842

Company: BERING SEA ENVIRONMENTAL **Project:** RADFORD AAP **Proj #:** 313010-001

Project Phase: **PO Number:** BSN-1228 **Invoice #:** 117034

Project Manager: *PML* **Date Received:** 01/15/16 **Log Date:** 01/15/2016

Report To: S. JULIA LIU CC: Invoice To : CC:

Phone: 757-256-6281: Fax: Phone: Fax:

Rep. E-Mail SLIU@BSENV.COM EMail:

Collected By: Arrival Temperature: 3.5 oC

Collector's Phone: 757-256-6281

SAMPLE #: 681413 DESCR: 48MW07 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED: 1/14/2016 Time: 0900**

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)					1/27/2016		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)				1/16/2016	1/27/2016		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 681414 DESCR: 48MW07 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED: 1/14/2016 Time: 0900**

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	1/28/2016	1/27/2016		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				1/28/2016	1/27/2016		NeedPrep
			Ethane						
			Ethene						

C:\LIMSREPS\CONFIRMATION.RPT

Folder #: 116508 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 681414 **DESCR:** 48MW07 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 1/14/2016 **Time:** 0900

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
			Methane						
1230	ORGAN CARBON T QSM 5.(	EPA 9060A)				2/11/2016	1/27/2016		Logged

SAMPLE #: 681415 **DESCR:** 48MW06 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 1/14/2016 **Time:** 1050

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)					1/27/2016		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)				1/16/2016	1/27/2016		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 681416 **DESCR:** 48MW06 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 1/14/2016 **Time:** 1050

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	1/28/2016	1/27/2016		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				1/28/2016	1/27/2016		NeedPrep
			Ethane						
			Ethene						
			Methane						
1230	ORGAN CARBON T QSM 5.(	EPA 9060A)				2/11/2016	1/27/2016		Logged

SAMPLE #: 681417 **DESCR:** 48MW1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 1/14/2016 **Time:** 1230

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)					1/27/2016		Logged

Folder #: 116508 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 681417 **DESCR:** 48MW1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 1/14/2016 **Time:** 1230

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1227	ANIONS IC QSM 5.0	(EPA 9056A)				1/16/2016	1/27/2016		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 681418 **DESCR:** 48MW1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 1/14/2016 **Time:** 1230

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	1/28/2016	1/27/2016		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				1/28/2016	1/27/2016		NeedPrep
			Ethane						
			Ethene						
			Methane						
1230	ORGAN CARBON T QSM 5.0	(EPA 9060A)				2/11/2016	1/27/2016		Logged

SAMPLE #: 681419 **DESCR:** 49MW03 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 1/14/2016 **Time:** 1415

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)					1/27/2016		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)				1/16/2016	1/27/2016		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

Folder #: 116508 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 681420 **DESCR:** 49MW03 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 1/14/2016 **Time:** 1415

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	1/28/2016	1/27/2016		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				1/28/2016	1/27/2016		NeedPrep
			Ethane						
			Ethene						
			Methane						
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)				2/11/2016	1/27/2016		Logged

SAMPLE #: 681421 **DESCR:** 49MW01 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 1/14/2016 **Time:** 1645

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)					1/27/2016		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)				1/16/2016	1/27/2016		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 681422 **DESCR:** 49MW01 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 1/14/2016 **Time:** 1645

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	1/28/2016	1/27/2016		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				1/28/2016	1/27/2016		NeedPrep
			Ethane						
			Ethene						
			Methane						
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)				2/11/2016	1/27/2016		Logged

Folder #: 116508 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 681423 **DESCR:** 011416T1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / TRIP BLANK **SAMPLED:** 1/14/2016 **Time:** 1700

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	1/28/2016	1/27/2016		Logged

Invoice Number: 117034 **Preliminary Invoice Estimate:** $ 855.00

Item	Matrix	Quantity	Price	Expedited TAT Surcharge	Total
ANIONS IC QSM 5.0 Chloride	GROUND WATER	5	$ 10.00	0.00	$ 50.00
ANIONS IC QSM 5.0 Nitrate Nitrogen	GROUND WATER	5	$ 10.00	0.00	$ 50.00
ANIONS IC QSM 5.0 Sulfate	GROUND WATER	5	$ 10.00	0.00	$ 50.00
FILTRATION, SAMPLE	GROUND WATER	5	$ 10.00	0.00	$ 50.00
METH,ETH,ETHE QSM 5.0 Ethane	GROUND WATER	5	$ 0.00	0.00	$ 0.00
METH,ETH,ETHE QSM 5.0 Ethene	GROUND WATER	5	$ 0.00	0.00	$ 0.00
METH,ETH,ETHE QSM 5.0 Methane	GROUND WATER	5	$ 40.00	0.00	$ 200.00
ORGAN CARBON T QSM 5.0	GROUND WATER	5	$ 25.00	0.00	$ 125.00
VOC 8260 QSM 5.0	GROUND WATER	5	$ 55.00	0.00	$ 275.00
VOC 8260 QSM 5.0	TRIP BLANK	1	$ 55.00	0.00	$ 55.00
Temporary Fuel Surcharge on lab supplies and services (if applicable):					$ 0.00

Bottle Information

Container	# Containers	Tests
H2SO4 PL	**5**	TOC
UNPRES PL	**5**	Anions
VOA HCL	**22**	GAS,VOC

CT LABORATORIES
delivering more than data from your environmental analyses

Sample Condition Report

Folder #: 116524
Client: BERING SEA ENVIRONMENTAL

Print Date / Time: 01/18/2016 07:44
Received Date / Time / By: 01/16/2016 1010 CHB

Project Name: RADFORD AAP
Project Phase:

Log-In Date / Time / By: 01/18/2016 1010 CHB
Project #: PM: PML

Coolers: UNMARKED
Custody Seals Present : **Y**

Temperature: 4.9 C On Ice: **Y**
COC Present:? **Y** Complete? **Y**

Seal Intact? **Y**
Ship Method: FEDEX EXPRESS
Adequate Packaging: **Y**

Numbers: DATED AND SIGNED
Tracking Number: 782177105052
Temp Blank Enclosed? **Y**

Notes: SAMPLES WERE RECEIVED IN GOOD CONDITION ON ICE

2 CUSTODY SEALS PRESENT AND INTACT, BOTH DATED 1/15/16 AND SIGNED. CUSTODY SEALS WERE DAMAGED DURING REMOVAL AT TIME OF RECEIPT.

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
681527 49MW02				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type (*UNPRES PL*) = 1			
Sample ID / Description	**Container Type**	**Cond. Code**	**pH OK?/Filtered?**	**Tests**
681528 49MW02				
		1	/	GAS, VOC
	Total # of Containers of Type (			
681528 49MW02				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type (*VOA HCL*) = 3			
681528 49MW02				
	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type (*H2SO4 PL*) = 1			
Sample ID / Description	**Container Type**	**Cond. Code**	**pH OK?/Filtered?**	**Tests**
681529 48MW3				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type (*UNPRES PL*) = 1			
Sample ID / Description	**Container Type**	**Cond. Code**	**pH OK?/Filtered?**	**Tests**

681531	48MW3				
		1		/	GAS, VOC
	Total # of Containers of Type	**(**			

681531	48MW3				
	VOA HCL	1		/	GAS,VOC
	VOA HCL	1		/	GAS,VOC
	VOA HCL	1		/	GAS,VOC
	Total # of Containers of Type	**(** ***VOA HCL*** **) =**	**3**		

681531	48MW3				
	H2SO4 PL	1	Y	/	TOC
	Total # of Containers of Type	**(** ***H2SO4 PL*** **) =**	**1**		

Sample ID / Description	**Container Type**	**Cond. Code**	**pH OK?/Filtered?**	**Tests**

681532	48MW2				
		1		/	ANIONS
		1		/	ANIONS
	Total # of Containers of Type	**(**			

681532	48MW2				
	UNPRES PL	1		/	Anions
	Total # of Containers of Type	**(** ***UNPRES PL*** **) =**	**1**		

Sample ID / Description	**Container Type**	**Cond. Code**	**pH OK?/Filtered?**	**Tests**

681533	48MW2				
		1		/	GAS, VOC
		1		/	GAS, VOC
		1		/	GAS, VOC
		1		/	GAS, VOC
		1		/	GAS, VOC
	Total # of Containers of Type	**(**			

681533	48MW2				
	VOA HCL	1		/	GAS,VOC
	VOA HCL	1		/	GAS,VOC
	VOA HCL	1		/	GAS,VOC
	Total # of Containers of Type	**(** ***VOA HCL*** **) =**	**3**		

681533	48MW2				
		1	Y	/	TOC
		1	Y	/	TOC
	Total # of Containers of Type	**(**			

681533	48MW2				
	H2SO4 PL	1	Y	/	TOC
	Total # of Containers of Type	**(** ***H2SO4 PL*** **) =**	**1**		

Sample ID / Description	**Container Type**	**Cond. Code**	**pH OK?/Filtered?**	**Tests**

681534	50MW02				
	UNPRES PL	1		/	Anions
	Total # of Containers of Type	**(** ***UNPRES PL*** **) =**	**1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
681535 50MW02				
		1	/	GAS, VOC
	Total # of Containers of Type	**(**		
681535 50MW02				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type	**(*VOA HCL*) = 3**		
681535 50MW02				
	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type	**(*H2SO4 PL*) = 1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
681536 011516R1				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type	**(*UNPRES PL*) = 1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
681537 011516R1				
		1	/	GAS, VOC
	Total # of Containers of Type	**(**		
681537 011516R1				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type	**(*VOA HCL*) = 3**		
681537 011516R1				
	HNO3	1	Y /	HG
	Total # of Containers of Type	**(*HNO3*) = 1**		
681537 011516R1				
	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type	**(*H2SO4 PL*) = 1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
681538 49ADW01				
	H2SO4 PL	1	Y /	COD
	Total # of Containers of Type	**(*H2SO4 PL*) = 1**		
681538 49ADW01				
	HNO3	1	Y /	HG,ICP,K,NA

Total # of Containers of Type (*HNO3*) = 1

681538 49ADW01

UNPRES PL	1	/	pH

Total # of Containers of Type (*UNPRES PL*) = 1

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

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681539 011516T1

VOA HCL	1	/	VOC
VOA HCL	1	/	VOC

Total # of Containers of Type (*VOA HCL*) = 2

Condition Code	*Condition Description*
1	Sample Received OK

116524

Rev 8/2014

CHAIN OF CUSTODY

Page 1 of 1

Company: BSEN
Project Contact: JULIA LIU
Telephone: 757-256-6291
Project Name: RAAP
Project #: 313010-001
Location: RADFORD, VA
Sampled By: SJL

CT LABORATORIES

1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Folder #: 116524
Company: BERING SEA ENVIRON
Project: RADFORD AAP
Logged By: CHB PM: PM

Program:
QSM RCRA SDWA NPDES
Solid Waste Other _____

PO # BSN-1222

Report To: JULIA LIU
EMAIL: SLIU@BSENV.COM
Company: BSEN
Address: 615 E. 82ND AVE. # 200 ANCHORAGE, AK 99518

Invoice To:* SAME
EMAIL:
Company:
Address:

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

Client Special Instructions
LAB MUST FILTER

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Turnaround Time
(Normal) RUSH*
Date Needed: _____
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

Collection Date	Collection Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	VOC	METHANE/ ETHANE/ ETHENE	TOC	NITRATE/ SULFATE/ CHLORIDE	PH	COD	TAL METALS	MERCURY											Total # Containers	Designated MS/MSD	CT Lab ID # (Lab use only)
							Fill in Spaces with Bottles per Test																					
1/15/16	0925	GW	GRAB		49MW02	N	X	X	X	X															6		681527/28
	1110				49MW3	N	X	X	X	X															6		681529/30
	1345				48MW2	N	X	X	X	X															18	X	681532/33
	1640				50MW02	N	X	X	X	X															6		681534/35
	1650				011516R1	N	X	X	X	X				X											6		681536/37
	1605				49ADW01						X	X	X												3		681538
	1700				011516T1	N	X																		2		681539

Relinquished By: S. Liu
Date/Time 1/15/16 1730

Received by:
Date/Time

Received By:
Date/Time

Received for Laboratory by:
Date/Time 1/16/16 10:10

Lab Use Only
Ice Present (Yes) No
Temp 4.9 IR Gun # 10
Cooler # n/a

CT Laboratories Terms and Conditions

Where a purchaser (Client) places an order for laboratory, consulting or sampling services from CT Laboratories (CTL), CTL shall provide the ordered services pursuant to these Terms and Conditions, and the related Quotation, or as agreed in a negotiated contract. In the absence of a written agreement to the contrary, the Order constitutes an acceptance by the Client of CTL's offer to do business under these Terms and Conditions, and an agreement to be bound by these Terms and Conditions. No contrary or additional terms and conditions expressed in a Client's document shall be deemed to become a part of the contract created upon acceptance of these Terms and Conditions, unless accepted by CTL in advance of the start of the project and in writing.

1. ORDERS AND RECEIPT OF SAMPLES (Sample Acceptance Policy)

1.1 The Client may place the Order (i.e., specify a Scope of Work) either by submitting a purchase order to CTL in writing, by telephone (confirmed in writing) or by negotiated contract. Whichever option the Client selects for placing the Order, the Order shall not be valid unless it contains sufficient specification to enable CTL to carry out the Client's requirements. It is the policy of CT Laboratories that samples not meeting the acceptance criteria, outlined in the NELAC standards and Section 5.8.3.2 of the DOD QSM, will not be accepted by the laboratory or will be qualified on the final report. All samples submitted to the laboratory must: (1) be accompanied by proper, full and complete documentation, including sample identification, location, date and time of collection, the collector's name, type of preservation (if any), type of sample, any special comments concerning the sample and any additional pertinent fields on the chain-of-custody. In the absence of any of the required information, the laboratory will attempt to contact the client to obtain the information; if unable to obtain the necessary information, the final report will be qualified. (2) be labeled appropriately with a unique sample identification written with indelible ink on water resistant labels. If the laboratory cannot determine the identity of a sample, it will be rejected and the client will be contacted for further instructions or resampling. (3) be in an appropriate sample container. If the container is inappropriate, the client will be contacted for further instructions or resampling. If analysis is possible, the final report will be qualified. CT Laboratories can provide a sampling guide containing approved containers and preservations for analytical methods requested. (4) adhere to specified holding times. If samples are received with less than ½ the holding time remaining for the requested test, CT Laboratories will make its best effort to analyze the samples and notify the client. If holding times are exceeded, the final report will be qualified. (5) contain adequate sample volume to perform the necessary testing. If sufficient volume is not present, the sample will be rejected and the client will be contacted for further instructions or resampling. If samples show signs of damage, contamination or inadequate preservation, the client will be notified. If analysis can be performed, the final report will be qualified. If not, the samples will be rejected and the client notified for further instructions or resampling.

1.2 CT Laboratories must be supplied with complete written disclosure of the known or suspected presence of any hazardous substances, as defined by applicable federal or state law. Where any samples which were not accompanied by the required disclosure, cause interruptions in the lab's ability to process work due to contamination of instruments or work areas, the Client will be responsible for the costs of clean up and recovery.

1.3 Prior to Sample Acceptance, the entire risk of loss or damage to samples remains with the Client. In no event will CTL have any responsibility or liability for the action or inaction of any carrier shipping or delivering any sample to or from CTL's premises. Client is responsible to assure that any sample containing any hazardous substance which is to be delivered to CTL's premises will be packaged, labeled, transported and delivered properly and in accordance with applicable laws.

2. PAYMENT TERMS

2.1 Services performed by CTL will be in accordance with prices quoted and later confirmed in writing or as stated in the Price Schedule. Invoices may be submitted to Client upon completion of any sample delivery group. Payment in advance is required for all Clients except those whose credit has been established with CTL. For Clients with approved credit, payment terms are net 30 days from the date of invoice by CTL. All overdue payments are subject to an additional interest and service charge of one and one-half percent (1.5%) (or the maximum rate permissible by law, whichever is lesser) per month or portion thereof from the due date until the date of payment. All fees are charged or billed directly to the Client. The billing of a third party will not be accepted without a statement, signed by the third party that acknowledges and accepts payment responsibility. CTL may suspend work and withhold delivery of data under this order at any time in the event Client fails to make timely payment of its invoices. Client shall be responsible for all costs and expenses of collection including reasonable attorney's fees. CTL reserves the right to refuse to proceed with work at any time based upon an unfavorable Client credit report.

3. CHANGE ORDERS, TERMINATION

3.1 Changes to the Scope of Work, price, or result delivery date may be initiated by CTL after Sample Acceptance due to any condition which conflicts with analytical, QA or other protocols warranted in these Terms and Conditions. CTL will not proceed with such changes until an agreement with the Client is reached on the amount of any cost, schedule change or technical change to the Scope of Work, and such agreement is documented in writing.

3.2 Changes to the Scope of Work, including but not limited to increasing or decreasing the work, changing test and analysis specification or acceleration in the performance of the work may be initiated by the Client after sample acceptance. Such a change will be documented in writing and may result in a change in cost and turnaround time commitment. CTL's acceptance of such changes is contingent upon technical feasibility and operational capacity.

3.3 Suspension or termination of all or any part of the work may be initiated by the Client. CTL will be compensated consistent with Section 2 of these Terms and Conditions. CTL will complete all work in progress and be paid in full for all work completed.

4. WARRANTIES AND LIABILITY

4.1 Where applicable, CTL will use analytical methodologies which are in substantial conformity with published test methods. CTL has implemented these methods in its Laboratory Quality Manuals and referenced Standard Operating Procedures and where the nature or composition of the sample requires it, CTL reserves the right to deviate from these methodologies as necessary or appropriate, based on the reasonable judgment of CTL, which deviations, if any, will be made on a basis consistent with recognized standards of the industry and/or CTL's Laboratory Quality Manuals. Client may request that CTL perform according to a mutually agreed Quality Assurance Project Plan (QAPP). In the event that samples arrive prior to agreement on a QAPP, CTL will proceed with analyses under its standard Quality Manuals then in effect, and CTL will not be responsible for any resampling or other charges if work must be repeated to comply with a subsequently finalized QAPP.

4.2 CTL shall start preparation and/or analysis within holding times provided that Sample Acceptance occurs within 48 hours of sampling or 1/2 of the holding time for the test, whichever is less. Where resolution of inconsistencies leading to Sample Acceptance does not occur within this period, CTL will use its best efforts to meet holding times and will proceed with the work provided that, in CTL's judgment, the chain-of-custody or definition of the Scope of Work provide sufficient guidance. Reanalysis of samples to comply with CTL's Quality Manuals will be deemed to have met holding times provided the initial analysis was performed within the applicable holding time. Where reanalysis demonstrates that sample matrix interference is the cause of failure to meet any Quality Manual requirements, the warranty will be deemed to have been met.

4.3 CTL warrants that it possesses and maintains all licenses and certifications which are required to perform services under these Terms and Conditions provided that such requirements are specified in writing to CTL prior to Sample Acceptance. CTL will notify the Client in writing of any decertification or revocation of any license, or notice of either, which affects work in progress.

4.4 The warranty obligations set forth in Sections 4.1, 4.2 and 4.3 are the sole and exclusive warranties given by CTL in connection with any services performed by CTL or any Results generated from such services, and CTL gives and makes NO OTHER REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. No representative of CTL is authorized to give or make any other representation or warranty or modify this warranty in any way.

4.5 Client's sole and exclusive remedy for the breach of warranty in connection with any services performed by CTL, will be limited to repeating any services performed, contingent on the Client's providing, at the request of CTL and at the Client's expense, additional sample(s) if necessary. Any reanalysis requested by the Client generating Results consistent with the original Results will be at the Client's expense. If resampling is necessary, CTL's liability for resampling costs will be limited to actual cost or one hundred or one hundred fifty dollars ($150) per sample, whichever is less.

4.6 CTL's liability for any and all causes of action arising hereunder, whether based in contract, tort, warranty, negligence or otherwise, shall be limited to the lesser amount of compensation for the services performed or $100,000. All claims, including those for negligence, shall be deemed waived unless suit thereon is filed within one year after CTL's completion of the services. Under no circumstances, whether arising in contract, tort (including negligence), or otherwise, shall CTL be responsible for loss of use, loss of profits, or for any special, indirect, incidental or consequential damages occasioned by the services performed or by application or use of the reports prepared.

4.7 In no event shall CTL have any responsibility or liability to the Client for any failure or delay in performance by CTL which results, directly or indirectly, in whole or in part, from any cause or circumstance beyond the reasonable control of CTL. Such causes and circumstances shall include, but not be limited to, acts of God, acts of Client, acts or orders of any governmental authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, equipment breakdown, matrix interference or unknown highly contaminated samples that impact instrument operation, unavailability of supplies from usual suppliers, difficulties or delays in transportation, mail or delivery services, or any other cause beyond CTL's reasonable control.

5. RESULTS, WORK PRODUCT

5.1 Data or information provided to CTL or generated by services performed under this agreement shall only become the property of the Client upon receipt in full by CTL of payment for the whole Order. Ownership of any analytical method, QA/QC protocols, software programs or equipment developed by CTL for performance of work will be retained by CTL, and Client shall not disclose such information to any third party.

5.2 Data and sample materials provided by Client or at Client's request, and the result obtained by CTL shall be held in confidence (unless such information is generally available to the public or is in the public domain or Client has failed to pay CTL for all services rendered or is otherwise in breach of these Terms and Conditions), subject to any disclosure required by law or legal process.

5.3 Should the Results delivered by CTL be used by the Client or Client's client, even though subsequently determined not to meet the warranties described in these Terms and Conditions, then the compensation will be adjusted based upon mutual agreement. In no case shall the Client unreasonably withhold CTL's right to independently defend its data.

5.4 CTL reserves the right to subcontract services ordered by the Client to another laboratory or laboratories, if, in CTL's sole judgment, it is reasonably necessary, appropriate or advisable to do so, and with the Client's permission. CTL will in no way be liable for any subcontracted services and all applicable warranties, guarantees and insurance are those of the subcontracted laboratory.

5.5 CTL shall dispose of the Client's samples 30 days after the analytical report is issued, unless instructed to store them for an alternate period of time or to return such samples to the Client, in a manner consistent with U.S. Environmental Protection Agency regulations or other applicable Federal, state or local requirements. Any samples for projects that are canceled or not accepted, or for which return was requested, will be returned to the Client at their own expense. CTL reserves the right to return to the Client any sample or unused portion of a sample that is not within CTL's permitted capability or the capabilities of CTL's designated waste disposal vendor(s).

5.6 Unless a different time period is agreed to in any order under these Terms and Conditions, CTL agrees to retain all records for five (5) years.

5.7 In the event that CTL is required to respond to legal process related to services for Client, Client agrees to reimburse CTL for hourly charges for personnel involved in the response and attorney fees reasonably incurred in obtaining advice concerning the response, preparation to testify, and appearances related to the legal process, travel and all reasonable expenses associated with the litigation.

6. INSURANCE

6.1 CTL shall maintain in force during the performance of services under these Terms and Conditions, Workers' Compensation and Employer's Liability Insurance in accordance with the laws of the states having jurisdiction over CTL's employees who are engaged in the performance of the work. CTL shall also maintain during such period, Comprehensive General and Contractual Liability (limit of $2,000,000 per occurrence/ aggregate), Comprehensive Automobile Liability, owned and hired, ($1,000,000 combined single limit), and Professional/Pollution Liability Insurance (limit of $5,000,000 per occurrence/aggregate). Any Client required changes to these limits or conditions may result in a change in cost to the Client.

7. AUDIT

7.1 Upon prior notice to CTL, the Client may audit and inspect CTL's records and accounts covering reimbursable costs related to work done for the Client, for a period of one (1) year after completion of the work. The purpose of any such audit shall be only for verification of such costs, and CTL shall not be required to provide access to cost records where prices are expressed as fixed fees or published unit prices

Ice Present (Yes) No

Temperature 4.9 (IR#20)

Initials CHB

Date 1/15/16 Time 10:10

Cooler # N/A

FedEx Express

SDR

FedEx® Saturday Delivery

151966 10/04 MWI

ORIGIN ID:WALA (757) 256-6281
S. JULIA LIU
BSEN
615 E 82ND AVE STE 200

ANCHORAGE, AK 99518
UNITED STATES US

SHIP DATE: 15JAN16
ACTWGT: 44.40 LB
CAD: 6997114/SSFO1621
DIMS: 26x16x15 IN

BILL THIRD PARTY

Part # 156297-439 THU 28 JAN 10:30A
DELIVERY

TO **SAMPLE RECIEVING**
CT LABORATORIES
1230 LANGE COURT

BARABOO WI 53913

(608) 356-2760 REF:
INV:
PO: DEPT:

FedEx Express

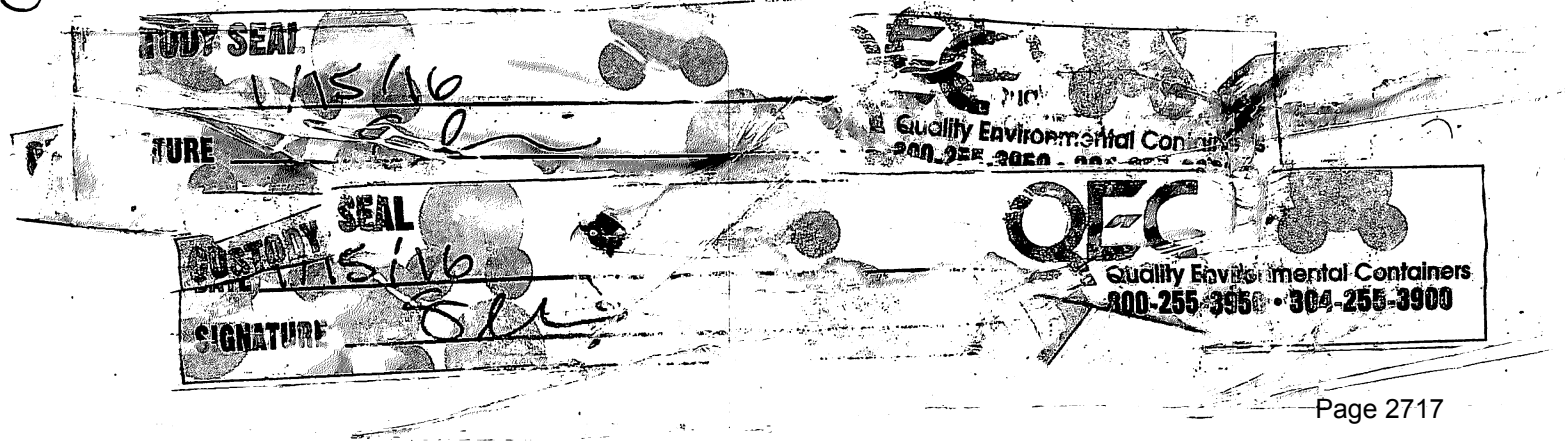
SATURDAY 12:00P
PRIORITY OVERNIGHT

TRK# 0201 7821 7710 5052

XO MSNA

53913
WI-US MSN

custody seals damaged on removal
CHB



Folder #: 116524

PM LOGIN CONFIRMATION

Contract #: 2842

Company: BERING SEA ENVIRONMENTAL **Project:** RADFORD AAP **Proj #:** 313010-001

Project Phase: **PO Number:** BSN-1222 **Invoice #:** 117050

Project Manager: *PML* **Date Received:** 01/16/16 **Log Date:** 01/16/2016

Report To: S. JULIA LIU CC: Invoice To : CC:

Phone: 757-256-6281: Fax: Phone: Fax:

Rep. E-Mail SLIU@BSENV.COM EMail:

Collected By: Arrival Temperature: 4.9 oC

Collector's Phone: 757-256-6281

SAMPLE #: 681527 DESCR: 49MW02 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED: 1/15/2016 Time: 0925**

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)					1/28/2016		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)				1/17/2016	1/28/2016		Entered
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 681528 DESCR: 49MW02 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED: 1/15/2016 Time: 0925**

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*		1/28/2016		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)					1/28/2016		Logged
			Ethane						
			Ethene						

C:\LIMSREPS\CONFIRMATION.RPT

Folder #: 116524 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 681528 **DESCR:** 49MW02 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 1/15/2016 **Time:** 0925

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
			Methane						
1230	ORGAN CARBON T QSM 5.(	EPA 9060A)					1/28/2016		Logged

SAMPLE #: 681529 **DESCR:** 48MW3 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 1/15/2016 **Time:** 1110

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)					1/28/2016		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)				1/17/2016	1/28/2016		Entered
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 681531 **DESCR:** 48MW3 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 1/15/2016 **Time:** 1110

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*		1/28/2016		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)					1/28/2016		Logged
			Ethane						
			Ethene						
			Methane						
1230	ORGAN CARBON T QSM 5.(	EPA 9060A)					1/28/2016		Logged

SAMPLE #: 681532 **DESCR:** 48MW2 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 1/15/2016 **Time:** 1345

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)					1/28/2016		Logged

Folder #: 116524 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 681532 **DESCR:** 48MW2 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 1/15/2016 **Time:** 1345

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1227	ANIONS IC QSM 5.0	(EPA 9056A)				1/17/2016	1/28/2016		Entered
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 681533 **DESCR:** 48MW2 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 1/15/2016 **Time:** 1345

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			***Y*** ***DESIGNATED MATRIX SPIKE***		1/28/2016		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)			***DESIGNATED MATRIX SPIKE***		1/28/2016		Logged
			Ethane						
			Ethene						
			Methane						
1230	ORGAN CARBON T QSM 5.0	(EPA 9060A)			***DESIGNATED MATRIX SPIKE***		1/28/2016		Logged

SAMPLE #: 681534 **DESCR:** 50MW02 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 1/15/2016 **Time:** 1640

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)					1/28/2016		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)				1/17/2016	1/28/2016		Entered
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

Folder #: 116524 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 681535 **DESCR:** 50MW02 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 1/15/2016 **Time:** 1640

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*		1/28/2016		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)					1/28/2016		Logged
			Ethane						
			Ethene						
			Methane						
1230	ORGAN CARBON T QSM 5.(	EPA 9060A)					1/28/2016		Logged

SAMPLE #: 681536 **DESCR:** 011516R1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 1/15/2016 **Time:** 1650

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)					1/28/2016		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)				1/17/2016	1/28/2016		Entered
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 681537 **DESCR:** 011516R1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 1/15/2016 **Time:** 1650

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1208	MERCURY TOTAL QSM 5.0	(EPA 7470A)					1/28/2016		NeedPrep
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*		1/28/2016		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)					1/28/2016		Logged
			Ethane						
			Ethene						
			Methane						
1230	ORGAN CARBON T QSM 5.(	EPA 9060A)					1/28/2016		Logged

Folder #: 116524 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 681538 **DESCR:** 49ADW01 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 1/15/2016 **Time:** 1605

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
203	PH	(EPA 9040C)					1/28/2016		Logged
989	COD QSM	(EPA 410.4)					1/28/2016		Logged
1183	ICP K TOTAL QSM 5.0	(EPA 6010C)					1/28/2016		Logged
1190	ICP NA TOTAL QSM 5.0	(EPA 6010C)					1/28/2016		Logged
1200	ICP TOTAL QSM 5.0	(EPA 6010C)					1/28/2016		Logged
			Total Aluminum						
			Total Antimony						
			Total Arsenic						
			Total Barium						
			Total Beryllium						
			Total Cadmium						
			Total Calcium						
			Total Chromium						
			Total Cobalt						
			Total Copper						
			Total Iron						
			Total Lead						
			Total Magnesium						
			Total Manganese						
			Total Nickel						
			Total Selenium						
			Total Silver						
			Total Thallium						
			Total Vanadium						
			Total Zinc						
1208	MERCURY TOTAL QSM 5.0	(EPA 7470A)					1/28/2016		NeedPrep

Folder #: 116524 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 681539 **DESCR:** 011516T1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / TRIP BLANK **SAMPLED:** 1/15/2016 **Time:** 1700

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	1/29/2016	1/28/2016		Logged

Folder #: 116524 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

Invoice Number: 117050 **Preliminary Invoice Estimate:** $ 1,001.50

Item	Matrix	Quantity	Price	Expedited TAT Surcharge	Total
ANIONS IC QSM 5.0 Chloride	GROUND WATER	5	$ 10.00	0.00	$ 50.00
ANIONS IC QSM 5.0 Nitrate Nitrogen	GROUND WATER	5	$ 10.00	0.00	$ 50.00
ANIONS IC QSM 5.0 Sulfate	GROUND WATER	5	$ 10.00	0.00	$ 50.00
COD QSM	GROUND WATER	1	$ 18.00	0.00	$ 18.00
FILTRATION, SAMPLE	GROUND WATER	5	$ 10.00	0.00	$ 50.00
ICP K TOTAL QSM 5.0	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP NA TOTAL QSM 5.0	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Aluminum	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Antimony	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Arsenic	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Barium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Beryllium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Cadmium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Calcium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Chromium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Cobalt	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Copper	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Iron	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Lead	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Magnesium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Manganese	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Nickel	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Selenium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Silver	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Thallium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Vanadium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Zinc	GROUND WATER	1	$ 3.25	0.00	$ 3.25
MERCURY TOTAL QSM 5.0	GROUND WATER	2	$ 23.50	0.00	$ 47.00
METH,ETH,ETHE QSM 5.0 Ethane	GROUND WATER	5	$ 0.00	0.00	$ 0.00

METH,ETH,ETHE QSM 5.0 Ethene	GROUND WATER	5	$ 0.00	0.00	$ 0.00
METH,ETH,ETHE QSM 5.0 Methane	GROUND WATER	5	$ 40.00	0.00	$ 200.00
ORGAN CARBON T QSM 5.0	GROUND WATER	5	$ 25.00	0.00	$ 125.00
PH	GROUND WATER	1	$ 10.00	0.00	$ 10.00
VOC 8260 QSM 5.0	GROUND WATER	5	$ 55.00	0.00	$ 275.00
VOC 8260 QSM 5.0	TRIP BLANK	1	$ 55.00	0.00	$ 55.00
Temporary Fuel Surcharge on lab supplies and services (if applicable):					$ 0.00

Bottle Information

Container	# Containers	Tests
	13	GAS, VOC
H2SO4 PL	**6**	COD
HNO3	**2**	HG
UNPRES PL	**6**	Anions
VOA HCL	**17**	GAS,VOC

CT LABORATORIES

delivering more than data from your environmental analyses

ANALYTICAL RESULTS FOR:

S JULIA LIU
BERING SEA ENVIRONMENTAL
615 E 82ND AVENUE, #200
ANCHORAGE, AL 99518

PROJECT SITE:	RAAP, RADFORD, VA
PROJECT #:	313010-001
SDG:	118236
	(Folders 118236, 118280)
PREPARED:	May 5, 2016
DOCUMENT PAGES:	1233

The data contained in the following report have been reviewed by the appropriate CT Laboratories' LLC staff members. In addition, CT Laboratories LLC certifies that to the best of our knowledge that the analyses reported herein are true, complete and correct within the limits of the methods employed and that they follow the applicable requirements as specified by the project plan, state-specific, NELAC or DOD QSM requirements. The estimated uncertainty of measurement is only available upon request. The reported results relate only to the tested samples. This report shall not be reproduced, except in full, without written approval of CT Laboratories LLC.

APPROVED BY: Brett Szymanski
PROJECT MANAGER

Certifications: IL (NELAP 002413), KS (NELAP E-10368), KY (0023), NC (674), WI (157066030), DOD ELAP (A2LA 3806.01), VA (7608), MD (344), LA (NELAP 115843), ISO17025 (A2LA 3806.01, GA EDP Stipulation (Accreditor: LA NELAP, ACC#: E971111, Scope: Non-potable water solid and chemical materials, biological tissue, Effective: 12/10/2014, Expires: annually)

CT LABORATORIES

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Case Narrative

Client: Bering Sea Environmental
Project: RAAP, Radford, VA
Sample Receipt Date(s): 04/13 through 04/14/2016
SDG #: 118236 (Folders 118236, 118280)

Twenty-seven water samples were received for a variety of analyses, including: pH, COD, anions, TOC, metals, dissolved gases, and VOC's. Two trip blanks were included with the VOC analyses. The assigned sample ID number, date sampled, and date received are indicated in the attached Project Summary. The samples were received intact and at a temperature within method specified acceptance limits. A breakdown of sample receipt information can be found on the Sample Condition Report located in the last section of the data package and any exceptions are noted below. The analyses were performed following DOD QSM 5.

Manual integrations may have been performed on the data provided with this package. If manual integrations were performed, a Reason #(s) was included on the raw data that corresponds to the "Index Key for Manual Integration Rationale." The raw data includes a "Before" and "After" manual integration illustration. The manual integrations were initialed and dated by the analyst, as well as, by the person reviewing the data.

Sample Analysis and Quality Control

Volatile Analysis:

The samples were analyzed using US EPA Methods 8260C and RSK-175. All samples were analyzed within the holding time. The following summaries of quality control procedures are included:

Surrogate Recovery Data
Matrix Spike/Matrix Spike Duplicate Recovery Data
Laboratory Control Spike Data
Method Blank Data
Initial Calibration Summary
Calibration Check Summary
Analysis Run Log
Prep Log
Chromatograms

All analysis results met the method specified quality control criteria with the following exceptions:

VOC (8260C) Water Analyses

Detailed reports were provided for the 8260 data for all detected compounds, as well as, for those compounds manually integrated (if applicable). Compounds not reported on the form 1's were either not detected or did not meet identification criteria so they were reported as non-detects.

Compounds that may not meet the recommended minimum average response factor (ARF) criteria for 8260C (such as several of the ketones) are analyzed at concentrations 2 to 50 times higher than normal to make up for their lack of response. However, the ARF on the response factor (RF) forms do not reflect this change in concentration. These compounds may be "flagged" on RF forms as a result.

Some samples may have been analyzed and/or reanalyzed diluted to obtain results for all target compounds within the calibration range of the instrument.

Level 8 was not used for 4-methyl-2-pentanone on the initial calibration curve (W041916) due to loss in linearity. 1,2-Dibromo-3-chloropropane was calibrated using quadratic regression (two ICV's were analyzed for these compounds).

Analytical Run # 124904

All analysis results for this SDG met the method/project specified quality control criteria.

Dissolved Gases (RSK-175) Water Analysis

Analytical Run # 124867

All analysis results for this SDG met the method/project specified quality control criteria.

Analytical Run # 125089

The Duplicate (DUP) for sample # 708694 was not applicable because the parent sample result was less than 5 times the LOQ. The DUP was considered invalid and the parent sample result was not qualified for the precision failure for methane.

Metals Analysis:

The samples were analyzed using US EPA Methods 6010C (ICP) and 7470A (Hg). All samples were analyzed within the holding time. The following summaries of quality control procedures are included:

Initial and Continuing Calibration Verification
Blanks Summary
ICP Interference Check Data
Spike Sample Recovery
Duplicates Data
Laboratory Control Sample Data
Analysis Run Log

All analysis results met the method specified quality control criteria with the following exceptions:

ICP Metals (6010C) Water Analyses

Continuing Calibration Verification (CCV) standards were analyzed at two levels (CCV1 & CCV2) with potentially differing wavelengths. Data associated with CCV's were evaluated based on the concentration of the element in the samples and compared to the appropriate CCV level/wavelength.

Some samples may have been analyzed and/or reanalyzed diluted to obtain results for all target analytes within the calibration range of the instrument.

Analytical Run # 124962

The Laboratory Control Sample (LCS) was reanalyzed for calcium and chromium and was acceptable.

Selenium was detected in the Method Blank (MB) greater than the Method Detection Limit (MDL) but less than ½ the Reporting Limit (RL). The sample was reported and qualified with a "B" flag for selenium because the MB raw result was greater than $1/10^{th}$ of the sample raw result.

Calcium was detected in the MB above the MDL and greater than ½ the RL. The sample was reported and not reanalyzed because the MB result was less than 1/10th of the sample result.

The Serial Dilution (L) for sample # 708711 was not applicable for multiple elements because the parent sample raw results were less than 50 times the Limit of Quantitation (LOQ). A Post Digestion Spike (PDS) was analyzed and was unacceptable for copper and manganese. The parent sample was reported and qualified with an "M" flag for the failing elements.

The L for sample # 708711 was not acceptable for calcium and magnesium because the results exceeded the Relative Percent Difference (RPD) limit. A PDS was analyzed and was acceptable. The parent sample was reported and not qualified.

The Duplicate (DUP) for sample # 708711 was not applicable for multiple elements because the parent sample results were less than five times the LOQ. A Matrix Spike Duplicate (MSD) was analyzed to demonstrate precision and was acceptable. The parent sample was reported and not qualified.

The Matrix Spike (MS) or MSD for sample # 708711 exceeded the recovery limit for barium, calcium, antimony, arsenic, and selenium. A PDS was analyzed and was unacceptable for barium. The parent sample was reported and qualified with an "M" flag for barium.

ICP Sodium and Potassium (6010C) Water Analyses

Analytical Run # 124966

The L for sample # 708711 was not applicable for sodium and potassium because the parent sample raw results were less than 50 times the LOQ. A PDS was analyzed and was acceptable. The parent sample was reported and not qualified.

The DUP for sample # 708711 was not applicable for potassium because the parent sample result was less than five times the LOQ. An MSD was not analyzed because there was an insufficient volume of sample.

CVAA Mercury (7470A) Water Analysis

Analytical Run # 125023

The DUP for sample # 708711 was not applicable for mercury because the parent sample result was less than five times the LOQ. An MSD was analyzed to demonstrate precision and was acceptable. The parent sample was reported and not qualified.

Inorganic Analyses:

The samples were analyzed using US EPA Methods 9060A (TOC), 9040C (pH), 410.4 (COD) and 9056A (anions). All samples were analyzed within the holding time. The following summaries of quality control procedures are included:

Duplicate Analysis Data
Laboratory Control Spike Data
Method Blank Data
Initial Calibration Summary
Calibration Check Summary
Analysis Run Log
Prep Log

All analysis results met the method specified quality control criteria with the following exceptions:

Anions (9056A) Water Analyses

Analytical Run # 124864

The Matrix Spike (MS) for sample # 708267 had a high recovery for chloride. The parent sample result for this analyte was qualified with an "M" flag.

Analytical Run # 124894

The Matrix Spike Duplicate (MSD) for sample # 708693 had low recoveries for nitrate and chloride. The parent sample results for these analytes were qualified with an "M" flag.

Total Organic Carbon (TOC) (906A)n Water Analyses

Analytical Run # 124879

The Duplicate (DUP) for sample # 707513 was not applicable because the parent sample result was less than 5 times the LOQ. The DUP was considered invalid and the parent sample result was not qualified for the precision failure.

Chemical Oxygen Demand (COD) (410.4) Water Analyses

Analytical Run # 125013

Sample Duplicate (DUP), MS, and MSD were analyzed on a sample from a different SDG. All analysis results for this SDG met the method/project specified quality control criteria.

pH (9040C) Water Analyses

Analytical Run # 124948

All analysis results for this SDG met the method/project specified quality control criteria.

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Data Qualifiers

Code	Description
A	Analyte averaged calibration criteria within acceptable limits.
B	Analyte detected in associated Method Blank.
C	Toxicity present in BOD sample.
D	Diluted Out.
E	Safe, No Total Coliform detected.
F	Unsafe, Total Coliform detected, no E. Coli detected.
G	Unsafe, Total Coliform detected and E. Coli detected.
H	Holding time exceeded.
J	Estimated value.
L	Significant peaks were detected outside the chromatographic window.
M	Matrix spike and/or Matrix Spike Duplicate recovery outside acceptance limits.
N	Insufficient BOD oxygen depletion.
O	Complete BOD oxygen depletion.
P	Concentration of analyte differs more than 40% between primary and confirmation analysis.
Q	Laboratory Control Sample outside acceptance limits.
R	See Narrative at end of report.
S	Surrogate standard recovery outside acceptance limits due to apparent matrix effects.
T	Sample received with improper preservation or temperature.
U	Analyte concentration was not above the detection level.
V	Raised Quantitation or Reporting Limit due to limited sample amount or dilution for matrix background interference.
W	Sample amount received was below program minimum.
X	Analyte exceeded calibration range.
Y	Replicate/Duplicate precision outside acceptance limits.
Z	Calibration criteria exceeded.

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MANUAL INTEGRATION REASON CODES

CTLaboratories has identified four general cases with valid reasons supporting the use of manual integration techniques. These codes are used on chromatograms in this data package to document the reasons for manual integrations per CTLaboratories' SOP SS-10 current revision.

#1: **Data system failed to select the correct peak or missed the peak entirely.**
In some cases the chromatography system selects and integrates the "wrong peak". In this case the analyst must correct the selection and force the system to integrate the proper peak. In other instances the system may miss the peak completely. In this case the analyst manually integrated the peak

#2: **Data System Splits the Peak Incorrectly or Integrates a False Peak as a Rider Peak.**
This phenomenon is common at low concentrations where the signal to noise ratio is low. A single compound (peak) is incorrectly split into multiple peaks or integrated as a main peak with one or more rider peaks resulting in low or high area counts for the target compound.

#3: Improperly Integrated Isomers and/or coeluting compounds.
For when the system fails to distinguish coeluting compounds and or isomers. The integration areas and concentrations may be inaccurate, and they must be corrected by manual integration. Prime examples are compounds that are unresolved and integrated improperly when present at low concentrations in standards or samples.

#4: System Established Incorrect Baseline.
There are numerous situations in chromatography where the system establishes the baseline incorrectly. Some baseline errors will be obvious to the analyst and may be corrected via manual procedures.

#5: Miscellaneous.
Some situations involving integration errors may require in-depth review and technical judgment. These cases should be brought to the attention of the group supervisor. If the form of manual integration is not clearly covered by these four cases, then review and approval by the group supervisor or the *QA/QC* Supervisor will be required.

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Sample Delivery Group

118236

BERING SEA ENVIRONMENTAL
S. JULIA LIU

Project Name: RADFORD AAP
Project #: 313010-001

CT Sample #	Folder #	Client Sample #	Sample Description	Matrix	Date Sampled	Date Received
707495	118236		50MW02	GROUND WATER	04/12/2016	04/13/2016
707512	118236		49MW02	GROUND WATER	04/12/2016	04/13/2016
707513	118236		48MW3	GROUND WATER	04/12/2016	04/13/2016
707514	118236		48MW2	GROUND WATER	04/12/2016	04/13/2016
707515	118236		48MW06	GROUND WATER	04/12/2016	04/13/2016
707516	118236		49TM01	GROUND WATER	04/12/2016	04/13/2016
707517	118236		041216T1	TRIP BLANK	04/12/2016	04/13/2016
708265	118236		50MW02	GROUND WATER	04/12/2016	04/13/2016
708266	118236		49MW02	GROUND WATER	04/12/2016	04/13/2016
708267	118236		48MW3	GROUND WATER	04/12/2016	04/13/2016
708268	118236		48MW2	GROUND WATER	04/12/2016	04/13/2016
708269	118236		48MW06	GROUND WATER	04/12/2016	04/13/2016
708270	118236		49TM01	GROUND WATER	04/12/2016	04/13/2016
708692	118280		49MW01	GROUND WATER	04/13/2016	04/14/2016
708693	118280		49MW01	GROUND WATER	04/13/2016	04/14/2016
708694	118280		48MW1	GROUND WATER	04/13/2016	04/14/2016
708695	118280		48MW1	GROUND WATER	04/13/2016	04/14/2016
708696	118280		13MW3	GROUND WATER	04/13/2016	04/14/2016
708697	118280		13MW3	GROUND WATER	04/13/2016	04/14/2016
708698	118280		041316R1	GROUND WATER	04/13/2016	04/14/2016
708699	118280		041316R1	GROUND WATER	04/13/2016	04/14/2016
708700	118280		13MW4	GROUND WATER	04/13/2016	04/14/2016
708701	118280		13MW4	GROUND WATER	04/13/2016	04/14/2016
708707	118280		13MW2	GROUND WATER	04/13/2016	04/14/2016
708708	118280		13MW2	GROUND WATER	04/13/2016	04/14/2016
708709	118280		49MW04	GROUND WATER	04/13/2016	04/14/2016
708710	118280		49MW04	GROUND WATER	04/13/2016	04/14/2016
708711	118280		49ADW01	GROUND WATER	04/13/2016	04/14/2016
708713	118280		041316T1	TRIP BLANK	04/13/2016	04/14/2016

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QC Batch Cross Reference Summary

BERING SEA ENVIRONMENTAL
S. JULIA LIU

Project Name:	RADFORD AAP
Project #:	313010-001
Report Date:	05/05/2016
Date Received:	04/14/2016
SDG #:	118236

Inorganic Parameters

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
708711	pH	EPA 9040C	GROUND WATER		124948

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
708265	Sample Filtration	SOP #FO-10	GROUND WATER		125034
708266	Sample Filtration	SOP #FO-10	GROUND WATER		125034
708267	Sample Filtration	SOP #FO-10	GROUND WATER		125034
708268	Sample Filtration	SOP #FO-10	GROUND WATER		125034
708269	Sample Filtration	SOP #FO-10	GROUND WATER		125034
708270	Sample Filtration	SOP #FO-10	GROUND WATER		125034
708693	Sample Filtration	SOP #FO-10	GROUND WATER		125038
708695	Sample Filtration	SOP #FO-10	GROUND WATER		125038
708697	Sample Filtration	SOP #FO-10	GROUND WATER		125038
708699	Sample Filtration	SOP #FO-10	GROUND WATER		125038
708701	Sample Filtration	SOP #FO-10	GROUND WATER		125038
708708	Sample Filtration	SOP #FO-10	GROUND WATER		125038
708710	Sample Filtration	SOP #FO-10	GROUND WATER		125038

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
708711	COD QSM	EPA 410.4	GROUND WATER	56824	125013

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
708265	Anions QSM 5.0	EPA 9056A	GROUND WATER		124864
708266	Anions QSM 5.0	EPA 9056A	GROUND WATER		124864
708267	Anions QSM 5.0	EPA 9056A	GROUND WATER		124864
708268	Anions QSM 5.0	EPA 9056A	GROUND WATER		124864
708269	Anions QSM 5.0	EPA 9056A	GROUND WATER		124864
708270	Anions QSM 5.0	EPA 9056A	GROUND WATER		124864
708693	Anions QSM 5.0	EPA 9056A	GROUND WATER		124894
708695	Anions QSM 5.0	EPA 9056A	GROUND WATER		124894

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Project Name: RADFORD AAP
Project #: 313010-001
SDG #: 118236

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
708697	Anions QSM 5.0	EPA 9056A	GROUND WATER		124894
708699	Anions QSM 5.0	EPA 9056A	GROUND WATER		124894
708701	Anions QSM 5.0	EPA 9056A	GROUND WATER		124894
708708	Anions QSM 5.0	EPA 9056A	GROUND WATER		124894
708710	Anions QSM 5.0	EPA 9056A	GROUND WATER		124894
708267	Anions QSM 5.0	EPA 9056A	GROUND WATER		124864
708269	Anions QSM 5.0	EPA 9056A	GROUND WATER		124864
708270	Anions QSM 5.0	EPA 9056A	GROUND WATER		124864
708697	Anions QSM 5.0	EPA 9056A	GROUND WATER		124894

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
707495	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		124879
707512	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		124879
707513	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		124879
707514	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		124879
707515	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		124879
707516	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		124879
708692	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		124879
708694	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		124879
708696	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		124879
708698	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		124879
708700	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		124879
708707	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		124879
708709	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		124879

Metal Parameters

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
708711	Potassium, Total QSM 5.0	EPA 6010C	GROUND WATER	56773	124966

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
708711	Sodium, Total QSM 5.0	EPA 6010C	GROUND WATER	56773	124966

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
708711	ICP Metals, Total QSM 5.0	EPA 6010C	GROUND WATER	56773	124962

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
708711	Mercury, Total QSM	EPA 7470A	GROUND WATER	56789	125023

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Project Name: RADFORD AAP
Project #: 313010-001
SDG #: 118236

Organic Parameters

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
707495	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		124904
707512	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		124904
707513	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		124904
707514	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		124904
707515	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		124904
707516	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		124904
707517	VOC's by 8260 QSM 5.0	EPA 8260C	TRIP BLANK		124904
708692	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		124904
708694	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		124904
708696	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		124904
708698	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		124904
708700	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		124904
708707	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		124904
708709	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		124904
708713	VOC's by 8260 QSM 5.0	EPA 8260C	TRIP BLANK		124904

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
707495	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	56752	124867
707512	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	56752	124867
707513	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	56752	124867
707514	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	56752	124867
707515	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	56752	124867
707516	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	56752	124867
708692	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	56848	125089
708694	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	56848	125089
708696	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	56848	125089
708698	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	56848	125089
708700	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	56848	125089
708707	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	56848	125089
708709	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	56848	125089

VOLATILE ORGANIC ANALYSIS
QUALITY CONTROL SUMMARY
DOCUMENTS

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1A

VOLATILE ORGANICS ANALYSIS

Sample Description

041216T1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	TRIP BLANK	SDG No.:	118236
Sample wt/vol:	(g/mL)	CTL Sample ID:	707517
% Solids:		Date Received:	04/13/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	124904	Dilution Factor:	1.00
Date & Time Analyzed:	04/21/2016 / 11:30	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W041916.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U	0.50	1.0	2.0	2.0

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1A

VOLATILE ORGANICS ANALYSIS

Sample Description

041216T1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	TRIP BLANK	SDG No.:	118236
Sample wt/vol:	(g/mL)	CTL Sample ID:	707517
% Solids:		Date Received:	04/13/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	124904	Dilution Factor:	1.00
Date & Time Analyzed:	04/21/2016 / 11:30	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W041916.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	0.50	U	0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.25	U	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.0	U	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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1A

VOLATILE ORGANICS ANALYSIS

Sample Description

041216T1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	TRIP BLANK	SDG No.:	118236
Sample wt/vol:	(g/mL)	CTL Sample ID:	707517
% Solids:		Date Received:	04/13/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	124904	Dilution Factor:	1.00
Date & Time Analyzed:	04/21/2016 / 11:30	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W041916.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	0.50	U	0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description: **041316R1**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	118236
Sample wt/vol:	20.2 (g/mL)	CTL Sample ID:	708698
% Solids:		Date Received:	04/14/2016
Soil Extract Vol:	20.2 (mL)	Date/Time Prepared:	04/20/2016 / 07:50
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	56848
Analytical Run #:	125089	Dilution Factor:	1.00
Date & Time Analyzed:	04/20/2016 / 11:46	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description: **041316R1**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	118236
Sample wt/vol:	(g/mL)	CTL Sample ID:	708698
% Solids:		Date Received:	04/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	124904	Dilution Factor:	1.00
Date & Time Analyzed:	04/21/2016 / 13:23	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W041916.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	5.7	J	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

041316R1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	118236
Sample wt/vol:	(g/mL)	CTL Sample ID:	708698
% Solids:		Date Received:	04/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	124904	Dilution Factor:	1.00
Date & Time Analyzed:	04/21/2016 / 13:23	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W041916.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	0.50	U	0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.25	U	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.0	U	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.3	J	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

041316R1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	118236
Sample wt/vol:	(g/mL)	CTL Sample ID:	708698
% Solids:		Date Received:	04/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	124904	Dilution Factor:	1.00
Date & Time Analyzed:	04/21/2016 / 13:23	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W041916.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	0.50	U	0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

041316T1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	TRIP BLANK	SDG No.:	118236
Sample wt/vol:	(g/mL)	CTL Sample ID:	708713
% Solids:		Date Received:	04/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	124904	Dilution Factor:	1.00
Date & Time Analyzed:	04/21/2016 / 11:02	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W041916.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description: **041316T1**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	TRIP BLANK	SDG No.:	118236
Sample wt/vol:	(g/mL)	CTL Sample ID:	708713
% Solids:		Date Received:	04/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	124904	Dilution Factor:	1.00
Date & Time Analyzed:	04/21/2016 / 11:02	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W041916.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	0.50	U	0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.25	U	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.0	U	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

041316T1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	TRIP BLANK	SDG No.:	118236
Sample wt/vol:	(g/mL)	CTL Sample ID:	708713
% Solids:		Date Received:	04/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	124904	Dilution Factor:	1.00
Date & Time Analyzed:	04/21/2016 / 11:02	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W041916.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	0.50	U	0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	118236
Sample wt/vol:	20.2 (g/mL)	CTL Sample ID:	708707
% Solids:		Date Received:	04/14/2016
Soil Extract Vol:	20.2 (mL)	Date/Time Prepared:	04/20/2016 / 07:50
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	56848
Analytical Run #:	125089	Dilution Factor:	1.00
Date & Time Analyzed:	04/20/2016 / 11:59	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	118236
Sample wt/vol:	(g/mL)	CTL Sample ID:	708707
% Solids:		Date Received:	04/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	124904	Dilution Factor:	1.00
Date & Time Analyzed:	04/21/2016 / 14:20	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W041916.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	118236
Sample wt/vol:	(g/mL)	CTL Sample ID:	708707
% Solids:		Date Received:	04/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	124904	Dilution Factor:	1.00
Date & Time Analyzed:	04/21/2016 / 14:20	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W041916.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	0.50	U	0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.25	U	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.0	U	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	118236
Sample wt/vol:	(g/mL)	CTL Sample ID:	708707
% Solids:		Date Received:	04/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	124904	Dilution Factor:	1.00
Date & Time Analyzed:	04/21/2016 / 14:20	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W041916.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	0.50	U	0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	118236
Sample wt/vol:	20.2 (g/mL)	CTL Sample ID:	708696
% Solids:		Date Received:	04/14/2016
Soil Extract Vol:	20.2 (mL)	Date/Time Prepared:	04/20/2016 / 07:50
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	56848
Analytical Run #:	125089	Dilution Factor:	1.00
Date & Time Analyzed:	04/20/2016 / 11:43	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	118236
Sample wt/vol:	(g/mL)	CTL Sample ID:	708696
% Solids:		Date Received:	04/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	124904	Dilution Factor:	1.00
Date & Time Analyzed:	04/21/2016 / 12:55	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W041916.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	118236
Sample wt/vol:	(g/mL)	CTL Sample ID:	708696
% Solids:		Date Received:	04/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	124904	Dilution Factor:	1.00
Date & Time Analyzed:	04/21/2016 / 12:55	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W041916.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	5.5		0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.51		0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.0	U	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	118236
Sample wt/vol:	(g/mL)	CTL Sample ID:	708696
% Solids:		Date Received:	04/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	124904	Dilution Factor:	1.00
Date & Time Analyzed:	04/21/2016 / 12:55	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W041916.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	1.0		0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.31	J	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

13MW4

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	118236
Sample wt/vol:	20.2 (g/mL)	CTL Sample ID:	708700
% Solids:		Date Received:	04/14/2016
Soil Extract Vol:	20.2 (mL)	Date/Time Prepared:	04/20/2016 / 07:50
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	56848
Analytical Run #:	125089	Dilution Factor:	1.00
Date & Time Analyzed:	04/20/2016 / 11:52	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

13MW4

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	118236
Sample wt/vol:	(g/mL)	CTL Sample ID:	708700
% Solids:		Date Received:	04/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	124904	Dilution Factor:	1.00
Date & Time Analyzed:	04/21/2016 / 13:52	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W041916.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

13MW4

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	118236
Sample wt/vol:	(g/mL)	CTL Sample ID:	708700
% Solids:		Date Received:	04/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	124904	Dilution Factor:	1.00
Date & Time Analyzed:	04/21/2016 / 13:52	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W041916.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	0.50	U	0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.25	U	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.0	U	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

13MW4

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	118236
Sample wt/vol:	(g/mL)	CTL Sample ID:	708700
% Solids:		Date Received:	04/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	124904	Dilution Factor:	1.00
Date & Time Analyzed:	04/21/2016 / 13:52	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W041916.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	0.80	J	0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	118236
Sample wt/vol:	(g/mL)	CTL Sample ID:	707515
% Solids:		Date Received:	04/13/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	124904	Dilution Factor:	1.00
Date & Time Analyzed:	04/21/2016 / 17:09	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W041916.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	1.2		0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	5.2		0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.34	J	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	6.5	J	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	118236
Sample wt/vol:	(g/mL)	CTL Sample ID:	707515
% Solids:		Date Received:	04/13/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	124904	Dilution Factor:	1.00
Date & Time Analyzed:	04/21/2016 / 17:09	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W041916.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	0.50	U	0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.25	U	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.0	U	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	8.1		0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.73	J	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	118236
Sample wt/vol:	(g/mL)	CTL Sample ID:	707515
% Solids:		Date Received:	04/13/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	124904	Dilution Factor:	1.00
Date & Time Analyzed:	04/21/2016 / 17:09	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W041916.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	5.9		0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	118236
Sample wt/vol:	20.4 (g/mL)	CTL Sample ID:	707515
% Solids:		Date Received:	04/13/2016
Soil Extract Vol:	20.4 (mL)	Date/Time Prepared:	04/14/2016 / 08:20
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	56752
Analytical Run #:	124867	Dilution Factor:	1.00
Date & Time Analyzed:	04/14/2016 / 17:43	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	118236
Sample wt/vol:	20.2 (g/mL)	CTL Sample ID:	708694
% Solids:		Date Received:	04/14/2016
Soil Extract Vol:	20.2 (mL)	Date/Time Prepared:	04/20/2016 / 07:50
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	56848
Analytical Run #:	125089	Dilution Factor:	1.00
Date & Time Analyzed:	04/20/2016 / 11:32	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.39	J	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	118236
Sample wt/vol:	(g/mL)	CTL Sample ID:	708694
% Solids:		Date Received:	04/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	124904	Dilution Factor:	1.00
Date & Time Analyzed:	04/21/2016 / 12:27	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W041916.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.42	J	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	1.1		0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	118236
Sample wt/vol:	(g/mL)	CTL Sample ID:	708694
% Solids:		Date Received:	04/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	124904	Dilution Factor:	1.00
Date & Time Analyzed:	04/21/2016 / 12:27	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W041916.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	0.50	U	0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.25	U	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.0	U	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.89	J	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	118236
Sample wt/vol:	(g/mL)	CTL Sample ID:	708694
% Solids:		Date Received:	04/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	124904	Dilution Factor:	1.00
Date & Time Analyzed:	04/21/2016 / 12:27	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W041916.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	2.2		0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	118236
Sample wt/vol:	(g/mL)	CTL Sample ID:	707514
% Solids:		Date Received:	04/13/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	124904	Dilution Factor:	1.00
Date & Time Analyzed:	04/21/2016 / 16:41	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W041916.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	118236
Sample wt/vol:	(g/mL)	CTL Sample ID:	707514
% Solids:		Date Received:	04/13/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	124904	Dilution Factor:	1.00
Date & Time Analyzed:	04/21/2016 / 16:41	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W041916.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	32		0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	3.2		0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.0	U	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	118236
Sample wt/vol:	(g/mL)	CTL Sample ID:	707514
% Solids:		Date Received:	04/13/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	124904	Dilution Factor:	1.00
Date & Time Analyzed:	04/21/2016 / 16:41	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W041916.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	2.3		0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	118236
Sample wt/vol:	20.4 (g/mL)	CTL Sample ID:	707514
% Solids:		Date Received:	04/13/2016
Soil Extract Vol:	20.4 (mL)	Date/Time Prepared:	04/14/2016 / 08:20
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	56752
Analytical Run #:	124867	Dilution Factor:	1.00
Date & Time Analyzed:	04/14/2016 / 17:39	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	118236
Sample wt/vol:	(g/mL)	CTL Sample ID:	707513
% Solids:		Date Received:	04/13/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	124904	Dilution Factor:	1.00
Date & Time Analyzed:	04/21/2016 / 16:12	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W041916.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	118236
Sample wt/vol:	(g/mL)	CTL Sample ID:	707513
% Solids:		Date Received:	04/13/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	124904	Dilution Factor:	1.00
Date & Time Analyzed:	04/21/2016 / 16:12	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W041916.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	73		0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	8.2		0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.0	U	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	118236
Sample wt/vol:	(g/mL)	CTL Sample ID:	707513
% Solids:		Date Received:	04/13/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	124904	Dilution Factor:	1.00
Date & Time Analyzed:	04/21/2016 / 16:12	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W041916.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	10		0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	118236
Sample wt/vol:	20.4 (g/mL)	CTL Sample ID:	707513
% Solids:		Date Received:	04/13/2016
Soil Extract Vol:	20.4 (mL)	Date/Time Prepared:	04/14/2016 / 08:20
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	56752
Analytical Run #:	124867	Dilution Factor:	1.00
Date & Time Analyzed:	04/14/2016 / 17:28	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	118236
Sample wt/vol:	20.2 (g/mL)	CTL Sample ID:	708692
% Solids:		Date Received:	04/14/2016
Soil Extract Vol:	20.2 (mL)	Date/Time Prepared:	04/20/2016 / 07:50
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	56848
Analytical Run #:	125089	Dilution Factor:	1.00
Date & Time Analyzed:	04/20/2016 / 11:25	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	118236
Sample wt/vol:	(g/mL)	CTL Sample ID:	708692
% Solids:		Date Received:	04/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	124904	Dilution Factor:	1.00
Date & Time Analyzed:	04/21/2016 / 11:59	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W041916.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	118236
Sample wt/vol:	(g/mL)	CTL Sample ID:	708692
% Solids:		Date Received:	04/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	124904	Dilution Factor:	1.00
Date & Time Analyzed:	04/21/2016 / 11:59	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W041916.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	3.0		0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.35	J	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.0	U	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	0.90	J	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	118236
Sample wt/vol:	(g/mL)	CTL Sample ID:	708692
% Solids:		Date Received:	04/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	124904	Dilution Factor:	1.00
Date & Time Analyzed:	04/21/2016 / 11:59	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W041916.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	0.50	U	0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	118236
Sample wt/vol:	(g/mL)	CTL Sample ID:	707512
% Solids:		Date Received:	04/13/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	124904	Dilution Factor:	1.00
Date & Time Analyzed:	04/21/2016 / 15:44	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W041916.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	118236
Sample wt/vol:	(g/mL)	CTL Sample ID:	707512
% Solids:		Date Received:	04/13/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	124904	Dilution Factor:	1.00
Date & Time Analyzed:	04/21/2016 / 15:44	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W041916.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	0.50	U	0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.25	U	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.0	U	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	118236
Sample wt/vol:	(g/mL)	CTL Sample ID:	707512
% Solids:		Date Received:	04/13/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	124904	Dilution Factor:	1.00
Date & Time Analyzed:	04/21/2016 / 15:44	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W041916.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	0.50	U	0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	118236
Sample wt/vol:	20.4 (g/mL)	CTL Sample ID:	707512
% Solids:		Date Received:	04/13/2016
Soil Extract Vol:	20.4 (mL)	Date/Time Prepared:	04/14/2016 / 08:20
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	56752
Analytical Run #:	124867	Dilution Factor:	1.00
Date & Time Analyzed:	04/14/2016 / 17:24	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW04

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	118236
Sample wt/vol:	20.2 (g/mL)	CTL Sample ID:	708709
% Solids:		Date Received:	04/14/2016
Soil Extract Vol:	20.2 (mL)	Date/Time Prepared:	04/20/2016 / 07:50
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	56848
Analytical Run #:	125089	Dilution Factor:	1.00
Date & Time Analyzed:	04/20/2016 / 12:09	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW04

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	118236
Sample wt/vol:	(g/mL)	CTL Sample ID:	708709
% Solids:		Date Received:	04/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	124904	Dilution Factor:	1.00
Date & Time Analyzed:	04/21/2016 / 14:48	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W041916.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW04

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	118236
Sample wt/vol:	(g/mL)	CTL Sample ID:	708709
% Solids:		Date Received:	04/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	124904	Dilution Factor:	1.00
Date & Time Analyzed:	04/21/2016 / 14:48	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W041916.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	0.73	J	0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.25	U	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.0	U	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW04

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	118236
Sample wt/vol:	(g/mL)	CTL Sample ID:	708709
% Solids:		Date Received:	04/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	124904	Dilution Factor:	1.00
Date & Time Analyzed:	04/21/2016 / 14:48	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W041916.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	0.50	U	0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49TM01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	118236
Sample wt/vol:	(g/mL)	CTL Sample ID:	707516
% Solids:		Date Received:	04/13/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	124904	Dilution Factor:	1.00
Date & Time Analyzed:	04/21/2016 / 17:37	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W041916.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	1.3		0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	5.3		0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.33	J	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49TM01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	118236
Sample wt/vol:	(g/mL)	CTL Sample ID:	707516
% Solids:		Date Received:	04/13/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	124904	Dilution Factor:	1.00
Date & Time Analyzed:	04/21/2016 / 17:37	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W041916.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	0.50	U	0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.25	U	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.0	U	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	8.2		0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.80	J	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49TM01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	118236
Sample wt/vol:	(g/mL)	CTL Sample ID:	707516
% Solids:		Date Received:	04/13/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	124904	Dilution Factor:	1.00
Date & Time Analyzed:	04/21/2016 / 17:37	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W041916.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	6.3		0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49TM01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	118236
Sample wt/vol:	20.4 (g/mL)	CTL Sample ID:	707516
% Solids:		Date Received:	04/13/2016
Soil Extract Vol:	20.4 (mL)	Date/Time Prepared:	04/14/2016 / 08:20
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	56752
Analytical Run #:	124867	Dilution Factor:	1.00
Date & Time Analyzed:	04/14/2016 / 17:46	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

50MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	118236
Sample wt/vol:	(g/mL)	CTL Sample ID:	707495
% Solids:		Date Received:	04/13/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	124904	Dilution Factor:	1.00
Date & Time Analyzed:	04/21/2016 / 15:16	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W041916.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.27	J	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.47	J	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

50MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	118236
Sample wt/vol:	(g/mL)	CTL Sample ID:	707495
% Solids:		Date Received:	04/13/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	124904	Dilution Factor:	1.00
Date & Time Analyzed:	04/21/2016 / 15:16	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W041916.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	1.1		0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.17	J	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.0	U	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.59	J	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

50MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	118236
Sample wt/vol:	(g/mL)	CTL Sample ID:	707495
% Solids:		Date Received:	04/13/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	124904	Dilution Factor:	1.00
Date & Time Analyzed:	04/21/2016 / 15:16	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W041916.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	1.9		0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

50MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	118236
Sample wt/vol:	20.4 (g/mL)	CTL Sample ID:	707495
% Solids:		Date Received:	04/13/2016
Soil Extract Vol:	20.4 (mL)	Date/Time Prepared:	04/14/2016 / 08:20
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	56752
Analytical Run #:	124867	Dilution Factor:	1.00
Date & Time Analyzed:	04/14/2016 / 17:17	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS (MB or CCB)

Sample Description

METHOD BLANK

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:		SDG No.:	118236
Sample wt/vol:	20.4 (g/mL)	CTL Sample ID:	708549
% Solids:		Date Received:	04/13/2016
Soil Extract Vol:	20.4 (mL)	Date/Time Prepared:	04/14/2016 / 08:20
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	56752
Analytical Run #:	124867	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
74-84-0	Ethane	04/14/2016	17:14	0.4	U	0.4	0.8	***0.4***
74-85-1	Ethene	04/14/2016	17:14	0.5	U	0.5	1.1	***0.6***
74-82-8	Methane	04/14/2016	17:14	0.3	U	0.3	0.7	***0.4***

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VOLATILE ORGANICS ANALYSIS (MB or CCB)

Sample Description

METHOD BLANK

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:		SDG No.:	118236
Sample wt/vol:	20.2 (g/mL)	CTL Sample ID:	711052
% Solids:		Date Received:	04/14/2016
Soil Extract Vol:	20.2 (mL)	Date/Time Prepared:	04/20/2016 / 07:50
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	56848
Analytical Run #:	125089	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
74-84-0	Ethane	04/20/2016	11:20	0.4	U	0.4	0.8	***0.4***
74-85-1	Ethene	04/20/2016	11:20	0.5	U	0.5	1.1	***0.6***
74-82-8	Methane	04/20/2016	11:20	0.3	U	0.3	0.7	***0.4***

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VOLATILE ORGANICS ANALYSIS (MB or CCB)

Sample Description: **METHOD BLANK**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:		SDG No.:	118236
Sample wt/vol:	(g/mL)	CTL Sample ID:	712083
% Solids:		Date Received:	04/13/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	0
Analytical Run #:	124904	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W041916.	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
71-55-6	1,1,1-Trichloroethane	04/21/2016	10:33	0.21	U	0.21	1.00	***0.50***
79-34-5	1,1,2,2-Tetrachloroethane	04/21/2016	10:33	0.19	U	0.19	1.00	***0.50***
79-00-5	1,1,2-Trichloroethane	04/21/2016	10:33	0.26	U	0.26	1.00	***0.50***
75-34-3	1,1-Dichloroethane	04/21/2016	10:33	0.20	U	0.20	1.00	***0.50***
75-35-4	1,1-Dichloroethene	04/21/2016	10:33	0.24	U	0.24	1.00	***0.50***
87-61-6	1,2,3-Trichlorobenzene	04/21/2016	10:33	0.3	U	0.3	1.0	***0.5***
120-82-1	1,2,4-Trichlorobenzene	04/21/2016	10:33	0.3	U	0.3	1.0	***0.5***
96-12-8	1,2-Dibromo-3-chloropropane	04/21/2016	10:33	0.4	U	0.4	1.0	***0.5***
106-93-4	1,2-Dibromoethane	04/21/2016	10:33	0.16	U	0.16	0.50	***0.25***
95-50-1	1,2-Dichlorobenzene	04/21/2016	10:33	0.23	U	0.23	1.00	***0.50***
107-06-2	1,2-Dichloroethane	04/21/2016	10:33	0.3	U	0.3	1.0	***0.5***
78-87-5	1,2-Dichloropropane	04/21/2016	10:33	0.22	U	0.22	1.00	***0.50***
541-73-1	1,3-Dichlorobenzene	04/21/2016	10:33	0.26	U	0.26	1.00	***0.50***
106-46-7	1,4-Dichlorobenzene	04/21/2016	10:33	0.23	U	0.23	1.00	***0.50***
123-91-1	1,4-Dioxane	04/21/2016	10:33	5	U	5	25	***12.5***
78-93-3	2-Butanone	04/21/2016	10:33	2.4	U	2.4	10.0	***5.0***
591-78-6	2-Hexanone	04/21/2016	10:33	4	U	4	20	***10***
108-10-1	4-Methyl-2-pentanone	04/21/2016	10:33	3	U	3	10	***5***
67-64-1	Acetone	04/21/2016	10:33	5	U	5	20	***10***
71-43-2	Benzene	04/21/2016	10:33	0.19	U	0.19	1.00	***0.50***
74-97-5	Bromochloromethane	04/21/2016	10:33	0.19	U	0.19	1.00	***0.50***
75-27-4	Bromodichloromethane	04/21/2016	10:33	0.20	U	0.20	1.00	***0.50***
75-25-2	Bromoform	04/21/2016	10:33	0.22	U	0.22	1.00	***0.50***

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VOLATILE ORGANICS ANALYSIS (MB or CCB)

Sample Description

METHOD BLANK

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:		SDG No.:	118236
Sample wt/vol:	(g/mL)	CTL Sample ID:	712083
% Solids:		Date Received:	04/13/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	0
Analytical Run #:	124904	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W041916.	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
74-83-9	Bromomethane	04/21/2016	10:33	0.5	U	0.5	1.0	***0.5***
75-15-0	Carbon disulfide	04/21/2016	10:33	0.5	U	0.5	1.0	***0.5***
56-23-5	Carbon tetrachloride	04/21/2016	10:33	0.23	U	0.23	1.00	***0.50***
108-90-7	Chlorobenzene	04/21/2016	10:33	0.24	U	0.24	1.00	***0.50***
75-00-3	Chloroethane	04/21/2016	10:33	0.4	U	0.4	2.0	***1.0***
67-66-3	Chloroform	04/21/2016	10:33	0.15	U	0.15	0.50	***0.25***
74-87-3	Chloromethane	04/21/2016	10:33	0.4	U	0.4	2.0	***1.0***
156-59-2	cis-1,2-Dichloroethene	04/21/2016	10:33	0.25	U	0.25	1.00	***0.50***
10061-01-5	cis-1,3-Dichloropropene	04/21/2016	10:33	0.19	U	0.19	1.00	***0.50***
110-82-7	Cyclohexane	04/21/2016	10:33	0.28	U	0.28	1.00	***0.50***
124-48-1	Dibromochloromethane	04/21/2016	10:33	0.19	U	0.19	1.00	***0.50***
75-71-8	Dichlorodifluoromethane	04/21/2016	10:33	0.26	U	0.26	1.00	***0.50***
100-41-4	Ethylbenzene	04/21/2016	10:33	0.22	U	0.22	1.00	***0.50***
76-13-1	Freon 113	04/21/2016	10:33	0.5	U	0.5	2.0	***1.0***
98-82-8	Isopropylbenzene	04/21/2016	10:33	0.18	U	0.18	1.00	***0.50***
179601-23-1	m & p-Xylene	04/21/2016	10:33	0.5	U	0.5	2.0	***1.0***
79-20-9	Methyl Acetate	04/21/2016	10:33	0.3	U	0.3	1.0	***0.5***
1634-04-4	Methyl tert-butyl ether	04/21/2016	10:33	0.29	U	0.29	1.00	***0.50***
108-87-2	Methylcyclohexane	04/21/2016	10:33	0.23	U	0.23	1.00	***0.50***
75-09-2	Methylene chloride	04/21/2016	10:33	0.4	U	0.4	2.0	***1.0***
95-47-6	o-Xylene	04/21/2016	10:33	0.24	U	0.24	1.00	***0.50***
100-42-5	Styrene	04/21/2016	10:33	0.20	U	0.20	1.00	***0.50***
127-18-4	Tetrachloroethene	04/21/2016	10:33	0.3	U	0.3	1.0	***0.5***

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VOLATILE ORGANICS ANALYSIS (MB or CCB)

Sample Description

METHOD BLANK

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:		SDG No.:	118236
Sample wt/vol:	(g/mL)	CTL Sample ID:	712083
% Solids:		Date Received:	04/13/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	0
Analytical Run #:	124904	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W041916.	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
108-88-3	Toluene	04/21/2016	10:33	0.22	U	0.22	1.00	***0.50***
156-60-5	trans-1,2-Dichloroethene	04/21/2016	10:33	0.25	U	0.25	1.00	***0.50***
10061-02-6	trans-1,3-Dichloropropene	04/21/2016	10:33	0.19	U	0.19	1.00	***0.50***
79-01-6	Trichloroethene	04/21/2016	10:33	0.21	U	0.21	1.00	***0.50***
75-69-4	Trichlorofluoromethane	04/21/2016	10:33	0.20	U	0.20	1.0	***0.5***
75-01-4	Vinyl chloride	04/21/2016	10:33	0.18	U	0.18	1.00	***0.50***

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WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Analytical Method:	EPA 8260C	SDG:	118236
Analytical Run #:	124904	ICAL Calibration #:	W041916.

CTLab #	707495				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	103	81	118	
Bromofluorobenzene	100	99	85	114	
d8-Toluene	100	101	89	112	
Dibromofluoromethane	100	101	80	119	

CTLab #	707512				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	104	81	118	
Bromofluorobenzene	100	99	85	114	
d8-Toluene	100	101	89	112	
Dibromofluoromethane	100	105	80	119	

CTLab #	707513				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	102	81	118	
Bromofluorobenzene	100	99	85	114	
d8-Toluene	100	101	89	112	
Dibromofluoromethane	100	102	80	119	

CTLab #	707514				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	102	81	118	
Bromofluorobenzene	100	98	85	114	
d8-Toluene	100	100	89	112	
Dibromofluoromethane	100	102	80	119	

CTLab #	707515				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	104	81	118	
Bromofluorobenzene	100	98	85	114	
d8-Toluene	100	102	89	112	
Dibromofluoromethane	100	103	80	119	

CTLab #	707516				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	106	81	118	
Bromofluorobenzene	100	98	85	114	
d8-Toluene	100	103	89	112	
Dibromofluoromethane	100	103	80	119	

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WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Analytical Method:	EPA 8260C	SDG:	118236
Analytical Run #:	124904	ICAL Calibration #:	W041916.

CTLab #	707517				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	106	81	118	
Bromofluorobenzene	100	102	85	114	
d8-Toluene	100	103	89	112	
Dibromofluoromethane	100	103	80	119	

CTLab #	708692				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	106	81	118	
Bromofluorobenzene	100	99	85	114	
d8-Toluene	100	101	89	112	
Dibromofluoromethane	100	102	80	119	

CTLab #	708694				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	103	81	118	
Bromofluorobenzene	100	100	85	114	
d8-Toluene	100	100	89	112	
Dibromofluoromethane	100	100	80	119	

CTLab #	708696				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	99	81	118	
Bromofluorobenzene	100	99	85	114	
d8-Toluene	100	101	89	112	
Dibromofluoromethane	100	100	80	119	

CTLab #	708698				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	102	81	118	
Bromofluorobenzene	100	100	85	114	
d8-Toluene	100	101	89	112	
Dibromofluoromethane	100	103	80	119	

CTLab #	708700				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	104	81	118	
Bromofluorobenzene	100	99	85	114	
d8-Toluene	100	101	89	112	
Dibromofluoromethane	100	102	80	119	

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2A

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Analytical Method:	EPA 8260C	SDG:	118236
Analytical Run #:	124904	ICAL Calibration #:	W041916.

CTLab #	708707				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	105	81	118	
Bromofluorobenzene	100	98	85	114	
d8-Toluene	100	101	89	112	
Dibromofluoromethane	100	104	80	119	

CTLab #	708709				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	104	81	118	
Bromofluorobenzene	100	97	85	114	
d8-Toluene	100	101	89	112	
Dibromofluoromethane	100	101	80	119	

CTLab #	708713				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	104	81	118	
Bromofluorobenzene	100	100	85	114	
d8-Toluene	100	102	89	112	
Dibromofluoromethane	100	102	80	119	

CTLab #	711960	Sample Type:	Lab Control Spike		
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	102	81	118	
Bromofluorobenzene	100	99.0	85	114	
d8-Toluene	100	100	89	112	
Dibromofluoromethane	100	98.0	80	119	

CTLab #	711965	Sample Type:	Normal Field Sample		
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	102	70	120	
Bromofluorobenzene	100	99.0	70	120	
d8-Toluene	100	100	85	120	
Dibromofluoromethane	100	98.0	85	115	

CTLab #	712083	Sample Type:	Method Blank		
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	100	70	120	
Bromofluorobenzene	100	99.0	75	120	
d8-Toluene	100	102	85	120	
Dibromofluoromethane	100	98.0	85	115	

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WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Analytical Method:	EPA 8260C	SDG:	118236
Analytical Run #:	124904	ICAL Calibration #:	W041916.

CTLab #	712391	Sample Type:	Matrix Spike		
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	99.0	81	118	
Bromofluorobenzene	100	97.0	85	114	
d8-Toluene	100	100	89	112	
Dibromofluoromethane	100	102	80	119	
CTLab #	**712392**	Sample Type:	Matrix Spike Duplicate		
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	104	81	118	
Bromofluorobenzene	100	98.0	85	114	
d8-Toluene	100	101	89	112	
Dibromofluoromethane	100	103	80	119	
CTLab #	**712395**	Sample Type:	Normal Field Sample		
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	100	50	150	
Bromofluorobenzene	100	103	50	150	
d8-Toluene	100	101	50	150	
Dibromofluoromethane	100	101	50	150	

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3A

WATER VOLATILE MATRIX SPIKE RECOVERY

Sample Description: **48MW3**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: GROUND WATER
SDG No.: 118236
Analytical Method: EPA 8260C
Concentration Units: ug/L
Analytical Run #: 124904
Sample No.: 712391
Parent Sample No.: 707513
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
ICAL Calibration #: W041916.

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
1,1,1-Trichloroethane	04/21/2016	18:05	74-131	10.9	BDL	10.0	109
1,1,2,2-Tetrachloroethane	04/21/2016	18:05	71-121	10.2	BDL	10.0	102
1,1,2-Trichloroethane	04/21/2016	18:05	80-119	9.58	BDL	10.0	96
1,1-Dichloroethane	04/21/2016	18:05	77-125	10.5	BDL	10.0	105
1,1-Dichloroethene	04/21/2016	18:05	71-131	11.2	BDL	10.0	112
1,2,3-Trichlorobenzene	04/21/2016	18:05	69-129	10.4	BDL	10.0	104
1,2,4-Trichlorobenzene	04/21/2016	18:05	69-130	10.1	BDL	10.0	101
1,2-Dibromo-3-chloropropane	04/21/2016	18:05	62-128	9.17	BDL	10.0	92
1,2-Dibromoethane	04/21/2016	18:05	77-121	10.0	BDL	10.0	100
1,2-Dichlorobenzene	04/21/2016	18:05	80-119	10.2	BDL	10.0	102
1,2-Dichloroethane	04/21/2016	18:05	73-128	10.3	BDL	10.0	103
1,2-Dichloropropane	04/21/2016	18:05	78-122	10.4	BDL	10.0	104
1,3-Dichlorobenzene	04/21/2016	18:05	80-119	10.6	BDL	10.0	106
1,4-Dichlorobenzene	04/21/2016	18:05	79-118	10.3	BDL	10.0	103
1,4-Dioxane	04/21/2016	18:05	59-139	406	BDL	500	81
2-Butanone	04/21/2016	18:05	56-143	83.2	BDL	100	83
2-Hexanone	04/21/2016	18:05	57-139	100	BDL	100	100
4-Methyl-2-pentanone	04/21/2016	18:05	67-130	102	BDL	100	102
Acetone	04/21/2016	18:05	39-160	60.5	BDL	100	60
Benzene	04/21/2016	18:05	79-120	10.6	BDL	10.0	106
Bromochloromethane	04/21/2016	18:05	78-123	10.2	BDL	10.0	102
Bromodichloromethane	04/21/2016	18:05	79-125	9.95	BDL	10.0	100
Bromoform	04/21/2016	18:05	66-130	8.91	BDL	10.0	89
Bromomethane	04/21/2016	18:05	53-141	12.5	BDL	10.0	125
Carbon disulfide	04/21/2016	18:05	64-133	21.8	BDL	20.0	109
Carbon tetrachloride	04/21/2016	18:05	72-136	84.7	73	10.0	117
Chlorobenzene	04/21/2016	18:05	82-118	10.5	BDL	10.0	105
Chloroethane	04/21/2016	18:05	60-138	11.8	2.1	10.0	97
Chloroform	04/21/2016	18:05	79-124	18.6	8.2	10.0	104
Chloromethane	04/21/2016	18:05	50-139	10.1	BDL	10.0	101
cis-1,2-Dichloroethene	04/21/2016	18:05	78-123	10.7	BDL	10.0	107

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WATER VOLATILE MATRIX SPIKE RECOVERY

Sample Description: **48MW3**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: GROUND WATER
SDG No.: 118236
Analytical Method: EPA 8260C
Concentration Units: ug/L
Analytical Run #: 124904
Sample No.: 712391
Parent Sample No.: 707513
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
ICAL Calibration #: W041916.

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
cis-1,3-Dichloropropene	04/21/2016	18:05	75-124	9.75	BDL	10.0	98
Cyclohexane	04/21/2016	18:05	71-130	10.8	BDL	10.0	108
Dibromochloromethane	04/21/2016	18:05	74-126	9.68	BDL	10.0	97
Dichlorodifluoromethane	04/21/2016	18:05	32-152	11.2	BDL	10.0	112
Ethylbenzene	04/21/2016	18:05	79-121	10.9	BDL	10.0	109
Freon 113	04/21/2016	18:05	70-136	23.4	BDL	20.0	117
Isopropylbenzene	04/21/2016	18:05	72-131	11.0	BDL	10.0	110
m & p-Xylene	04/21/2016	18:05	80-121	21.7	BDL	20.0	108
Methyl Acetate	04/21/2016	18:05	56-136	9.70	BDL	10.0	97
Methyl tert-butyl ether	04/21/2016	18:05	71-124	9.78	BDL	10.0	98
Methylcyclohexane	04/21/2016	18:05	72-132	11.2	BDL	10.0	112
Methylene chloride	04/21/2016	18:05	74-124	9.70	BDL	10.0	97
o-Xylene	04/21/2016	18:05	78-122	10.6	BDL	10.0	106
Styrene	04/21/2016	18:05	78-123	10.6	BDL	10.0	106
Tetrachloroethene	04/21/2016	18:05	74-129	11.1	BDL	10.0	111
Toluene	04/21/2016	18:05	80-121	10.5	BDL	10.0	105
trans-1,2-Dichloroethene	04/21/2016	18:05	75-124	10.8	BDL	10.0	108
trans-1,3-Dichloropropene	04/21/2016	18:05	73-127	9.36	BDL	10.0	94
Trichloroethene	04/21/2016	18:05	79-123	20.9	10	10.0	109
Trichlorofluoromethane	04/21/2016	18:05	65-141	12.0	BDL	10.0	120
Vinyl chloride	04/21/2016	18:05	58-137	11.6	BDL	10.0	116

Spike Recovery: 0 out of 52 outside QC limits

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WATER VOLATILE MATRIX SPIKE RECOVERY

Sample Description

48MW3

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: GROUND WATER SDG No.: 118236

Analytical Method: Mod RSK 175 Concentration Units: ug/L

Analytical Run #: 124867 Sample No.: 708551 Parent Sample No.: 707513

Analytical Prep Batch #: 56752 Analytical Preparation Date/Time: 04/14/2016 08:20

ICAL Calibration #: P4DG020315

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
Ethane	04/14/2016 17:32	74-131	4.21	BDL	4.78	88
Ethene	04/14/2016 17:32	72-133	6.00	BDL	6.79	88
Methane	04/14/2016 17:32	73-125	2.09	BDL	2.29	91

Spike Recovery: 0 out of 3 outside QC limits

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WATER VOLATILE MATRIX SPIKE RECOVERY

Sample Description

49MW01

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: GROUND WATER SDG No.: 118236

Analytical Method: Mod RSK 175 Concentration Units: ug/L

Analytical Run #: 125089 Sample No.: 711054 Parent Sample No.: 708692

Analytical Prep Batch #: 56848 Analytical Preparation Date/Time: 04/20/2016 07:50

ICAL Calibration #: P4DG020315

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
Ethane	04/20/2016	11:28	74-131	3.77	BDL	4.78	79
Ethene	04/20/2016	11:28	72-133	5.88	BDL	6.79	87
Methane	04/20/2016	11:28	73-125	2.12	BDL	2.30	92

Spike Recovery: 0 out of 3 outside QC limits

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3A

WATER VOLATILE MATRIX SPIKE DUPLICATE RECOVERY

Sample Description: **48MW3**

Lab Name: CT Laboratories | Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: GROUND WATER | SDG No.: 118236

Analytical Method: EPA 8260C | Concentration Units: ug/L

Analytical Run #: 124904 | Sample No.: 712392 | Parent Sample No.: 712391

Analytical Prep Batch #: 0 | Analytical Preparation Date/Time:

ICAL Calibration #: W041916.

Analyte	Analysis Date/Time		Spike Result	Spike Amount	%R	%RPD	Control Limits (%R)	Control Limits (%RPD)
1,1,1-Trichloroethane	04/21/2016	18:33	9.31	10.0	93	16	74-131	20
1,1,2,2-Tetrachloroethane	04/21/2016	18:33	8.83	10.0	88	14	71-121	20
1,1,2-Trichloroethane	04/21/2016	18:33	9.13	10.0	91	5	80-119	20
1,1-Dichloroethane	04/21/2016	18:33	9.03	10.0	90	15	77-125	20
1,1-Dichloroethene	04/21/2016	18:33	9.83	10.0	98	13	71-131	20
1,2,3-Trichlorobenzene	04/21/2016	18:33	9.51	10.0	95	9	69-129	20
1,2,4-Trichlorobenzene	04/21/2016	18:33	9.06	10.0	91	11	69-130	20
1,2-Dibromo-3-chloropropane	04/21/2016	18:33	8.56	10.0	86	7	62-128	20
1,2-Dibromoethane	04/21/2016	18:33	8.96	10.0	90	11	77-121	20
1,2-Dichlorobenzene	04/21/2016	18:33	9.15	10.0	92	11	80-119	20
1,2-Dichloroethane	04/21/2016	18:33	9.21	10.0	92	11	73-128	20
1,2-Dichloropropane	04/21/2016	18:33	8.91	10.0	89	15	78-122	20
1,3-Dichlorobenzene	04/21/2016	18:33	9.26	10.0	93	13	80-119	20
1,4-Dichlorobenzene	04/21/2016	18:33	9.41	10.0	94	9	79-118	20
1,4-Dioxane	04/21/2016	18:33	344	500	69	17	59-139	20
2-Butanone	04/21/2016	18:33	75.2	100	75	10	56-143	20
2-Hexanone	04/21/2016	18:33	86.5	100	86	15	57-139	20
4-Methyl-2-pentanone	04/21/2016	18:33	90.2	100	90	13	67-130	20
Acetone	04/21/2016	18:33	53.8	100	54	12	39-160	20
Benzene	04/21/2016	18:33	9.38	10.0	94	12	79-120	20
Bromochloromethane	04/21/2016	18:33	9.02	10.0	90	13	78-123	20
Bromodichloromethane	04/21/2016	18:33	8.79	10.0	88	12	79-125	20
Bromoform	04/21/2016	18:33	7.76	10.0	78	14	66-130	20
Bromomethane	04/21/2016	18:33	11.6	10.0	116	7	53-141	20
Carbon disulfide	04/21/2016	18:33	19.8	20.0	99	10	64-133	20
Carbon tetrachloride	04/21/2016	18:33	83.0	10.0	100	2	72-136	20
Chlorobenzene	04/21/2016	18:33	9.25	10.0	92	13	82-118	20
Chloroethane	04/21/2016	18:33	10.4	10.0	83	12	60-138	20
Chloroform	04/21/2016	18:33	17.3	10.0	91	7	79-124	20
Chloromethane	04/21/2016	18:33	9.32	10.0	93	8	50-139	20
cis-1,2-Dichloroethene	04/21/2016	18:33	9.56	10.0	96	11	78-123	20

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WATER VOLATILE MATRIX SPIKE DUPLICATE RECOVERY

Sample Description: **48MW3**

Lab Name: CT Laboratories | Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: GROUND WATER | SDG No.: 118236

Analytical Method: EPA 8260C | Concentration Units: ug/L

Analytical Run #: 124904 | Sample No.: 712392 | Parent Sample No.: 712391

Analytical Prep Batch #: 0 | Analytical Preparation Date/Time:

ICAL Calibration #: W041916.

Analyte	Analysis Date/Time		Spike Result	Spike Amount	%R	%RPD	Control Limits (%R)	Control Limits (%RPD)
cis-1,3-Dichloropropene	04/21/2016	18:33	8.49	10.0	85	14	75-124	20
Cyclohexane	04/21/2016	18:33	9.59	10.0	96	12	71-130	20
Dibromochloromethane	04/21/2016	18:33	8.65	10.0	86	11	74-126	20
Dichlorodifluoromethane	04/21/2016	18:33	10.1	10.0	101	10	32-152	20
Ethylbenzene	04/21/2016	18:33	9.50	10.0	95	13	79-121	20
Freon 113	04/21/2016	18:33	20.0	20.0	100	15	70-136	20
Isopropylbenzene	04/21/2016	18:33	9.76	10.0	98	12	72-131	20
m & p-Xylene	04/21/2016	18:33	18.6	20.0	93	15	80-121	20
Methyl Acetate	04/21/2016	18:33	8.34	10.0	83	15	56-136	20
Methyl tert-butyl ether	04/21/2016	18:33	8.76	10.0	88	11	71-124	20
Methylcyclohexane	04/21/2016	18:33	9.72	10.0	97	14	72-132	20
Methylene chloride	04/21/2016	18:33	8.62	10.0	86	12	74-124	20
o-Xylene	04/21/2016	18:33	9.12	10.0	91	15	78-122	20
Styrene	04/21/2016	18:33	9.21	10.0	92	14	78-123	20
Tetrachloroethene	04/21/2016	18:33	9.65	10.0	96	14	74-129	20
Toluene	04/21/2016	18:33	9.35	10.0	94	12	80-121	20
trans-1,2-Dichloroethene	04/21/2016	18:33	9.31	10.0	93	15	75-124	20
trans-1,3-Dichloropropene	04/21/2016	18:33	8.59	10.0	86	9	73-127	20
Trichloroethene	04/21/2016	18:33	19.6	10.0	96	7	79-123	20
Trichlorofluoromethane	04/21/2016	18:33	9.95	10.0	100	19	65-141	20
Vinyl chloride	04/21/2016	18:33	10.5	10.0	105	10	58-137	20

RPD or Spike Recovery: 0 out of 52 outside QC limits

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WATER VOLATILE MATRIX SPIKE DUPLICATE RECOVERY

Sample Description

48MW3

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: GROUND WATER SDG No.: 118236

Analytical Method: Mod RSK 175 Concentration Units: ug/L

Analytical Run #: 124867 Sample No.: 708552 Parent Sample No.: 708551

Analytical Prep Batch #: 56752 Analytical Preparation Date/Time: 04/14/2016 08:20

ICAL Calibration #: P4DG020315

Analyte	Analysis Date/Time		Spike Result	Spike Amount	%R	%RPD	Control Limits (%R)	Control Limits (%RPD)
Ethane	04/14/2016	17:35	4.81	4.78	101	13	74-131	30
Ethene	04/14/2016	17:35	6.84	6.79	101	13	72-133	30
Methane	04/14/2016	17:35	2.36	2.29	103	12	73-125	30

RPD or Spike Recovery: 0 out of 3 outside QC limits

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Sample Description

LCS

WATER VOLATILE LAB CONTROL SAMPLE

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Sample No.: 708550
SDG No.: 118236
Analytical Method: Mod RSK 175
Concentration Units: ug/L

Sample No.: 708550
Parent Sample No.: 0
Analytical Prep Batch #: 56752
Analytical Preparation Date/Time: 04/14/2016 08:20
Analytical Run #: 124867
ICAL Calibration #: P4DG020315

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
Ethane	04/14/2016	17:10	74-131	3.88		4.78	81
Ethene	04/14/2016	17:10	72-133	5.50		6.79	81
Methane	04/14/2016	17:10	73-125	2.16		2.29	94

Spike Recovery: 0 out of 3 outside limits

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Sample Description

LCS

WATER VOLATILE LAB CONTROL SAMPLE

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Sample No.: 711053
SDG No.: 118236
Analytical Method: Mod RSK 175
Concentration Units: ug/L

Sample No.: 711053
Parent Sample No.: 0
Analytical Prep Batch #: 56848
Analytical Preparation Date/Time: 04/20/2016 07:50
Analytical Run #: 125089
ICAL Calibration #: P4DG020315

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
Ethane	04/20/2016	10:55	74-131	4.68		4.78	98
Ethene	04/20/2016	10:55	72-133	6.67		6.79	98
Methane	04/20/2016	10:55	73-125	2.37		2.30	103

Spike Recovery: 0 out of 3 outside limits

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3A

Sample Description

WATER VOLATILE LAB CONTROL SAMPLE

LCS

Lab Name: CT Laboratories | Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Sample No.: 711960 | SDG No.: 118236

Analytical Method: EPA 8260C | Concentration Units: ug/L

Sample No.: 711960 | Parent Sample No.: 0

Analytical Prep Batch #: 0 | Analytical Preparation Date/Time:

Analytical Run #: 124904 | ICAL Calibration #: W041916.

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
1,1,1-Trichloroethane	04/21/2016	09:37	74-131	10.3		10.0	103
1,1,2,2-Tetrachloroethane	04/21/2016	09:37	71-121	10.1		10.0	101
1,1,2-Trichloroethane	04/21/2016	09:37	80-119	10.1		10.0	101
1,1-Dichloroethane	04/21/2016	09:37	77-125	10.3		10.0	103
1,1-Dichloroethene	04/21/2016	09:37	71-131	10.4		10.0	104
1,2,3-Trichlorobenzene	04/21/2016	09:37	69-129	9.78		10.0	98
1,2,4-Trichlorobenzene	04/21/2016	09:37	69-130	9.87		10.0	99
1,2-Dibromo-3-chloropropane	04/21/2016	09:37	62-128	9.13		10.0	91
1,2-Dibromoethane	04/21/2016	09:37	77-121	10.1		10.0	101
1,2-Dichlorobenzene	04/21/2016	09:37	80-119	10.2		10.0	102
1,2-Dichloroethane	04/21/2016	09:37	73-128	9.88		10.0	99
1,2-Dichloropropane	04/21/2016	09:37	78-122	9.99		10.0	100
1,3-Dichlorobenzene	04/21/2016	09:37	80-119	10.5		10.0	105
1,4-Dichlorobenzene	04/21/2016	09:37	79-118	10.3		10.0	103
1,4-Dioxane	04/21/2016	09:37	59-139	489		500	98
2-Butanone	04/21/2016	09:37	56-143	113		100	113
2-Hexanone	04/21/2016	09:37	57-139	119		100	119
4-Methyl-2-pentanone	04/21/2016	09:37	67-130	106		100	106
Acetone	04/21/2016	09:37	39-160	114		100	114
Benzene	04/21/2016	09:37	79-120	10.2		10.0	102
Bromochloromethane	04/21/2016	09:37	78-123	10.5		10.0	105
Bromodichloromethane	04/21/2016	09:37	79-125	9.68		10.0	97
Bromoform	04/21/2016	09:37	66-130	8.78		10.0	88
Bromomethane	04/21/2016	09:37	53-141	11.0		10.0	110
Carbon disulfide	04/21/2016	09:37	64-133	20.6		20.0	103
Carbon tetrachloride	04/21/2016	09:37	72-136	9.97		10.0	100
Chlorobenzene	04/21/2016	09:37	82-118	10.3		10.0	103
Chloroethane	04/21/2016	09:37	60-138	10.4		10.0	104

CT LABORATORIES
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3A

Sample Description

WATER VOLATILE LAB CONTROL SAMPLE

LCS

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Sample No.: 711960
SDG No.: 118236
Analytical Method: EPA 8260C
Concentration Units: ug/L

Sample No.: 711960
Parent Sample No.: 0
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
Analytical Run #: 124904
ICAL Calibration #: W041916.

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
Chloroform	04/21/2016	09:37	79-124	10.3		10.0	103
Chloromethane	04/21/2016	09:37	50-139	10.3		10.0	103
cis-1,2-Dichloroethene	04/21/2016	09:37	78-123	10.3		10.0	103
cis-1,3-Dichloropropene	04/21/2016	09:37	75-124	10.2		10.0	102
Cyclohexane	04/21/2016	09:37	71-130	10.4		10.0	104
Dibromochloromethane	04/21/2016	09:37	74-126	9.45		10.0	94
Dichlorodifluoromethane	04/21/2016	09:37	32-152	10.3		10.0	103
Ethylbenzene	04/21/2016	09:37	79-121	10.5		10.0	105
Freon 113	04/21/2016	09:37	70-136	21.0		20.0	105
Isopropylbenzene	04/21/2016	09:37	72-131	10.6		10.0	106
m & p-Xylene	04/21/2016	09:37	80-121	20.6		20.0	103
Methyl Acetate	04/21/2016	09:37	56-136	9.67		10.0	97
Methyl tert-butyl ether	04/21/2016	09:37	71-124	10.4		10.0	104
Methylcyclohexane	04/21/2016	09:37	72-132	10.5		10.0	105
Methylene chloride	04/21/2016	09:37	74-124	9.52		10.0	95
o-Xylene	04/21/2016	09:37	78-122	10.3		10.0	103
Styrene	04/21/2016	09:37	78-123	10.3		10.0	103
Tetrachloroethene	04/21/2016	09:37	74-129	10.3		10.0	103
Toluene	04/21/2016	09:37	80-121	10.2		10.0	102
trans-1,2-Dichloroethene	04/21/2016	09:37	75-124	10.2		10.0	102
trans-1,3-Dichloropropene	04/21/2016	09:37	73-127	9.93		10.0	99
Trichloroethene	04/21/2016	09:37	79-123	10.0		10.0	100
Trichlorofluoromethane	04/21/2016	09:37	65-141	10.5		10.0	105
Vinyl chloride	04/21/2016	09:37	58-137	10.7		10.0	107

CT LABORATORIES
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3A

Sample Description

LCS

WATER VOLATILE LAB CONTROL SAMPLE

Lab Name:	CT Laboratories	Contract	BERING SEA ENVIRONMENTAL-RADFORD AAP
Sample No.:	711960	SDG No.:	118236
Analytical Method:	EPA 8260C	Concentration Units:	ug/L

Spike Recovery: 0 out of 52 outside limits

CT LABORATORIES
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4A

VOLATILE METHOD BLANK SUMMARY

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Sample ID:	708549	SDG No.:	118236
Matrix:	LIQUID	Date Extracted:	04/14/2016
Date Analyzed:	04/14/2016	Time Analyzed:	17:14
Analytical Method:	Mod RSK 175	Extraction Method:	METHOD
Analytical Run #:	124867	Extraction Batch #:	56752
		ICAL Calibration #:	P4DG020315

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES AND QC:

SEQUENCE	SAMPLE DESCRIPTION	SAMPLE ID	DATE/TIME ANALYZED	CALIBRATION # ID
1	CCV	709128	04/14/2016 16:38	P4DG020315
2	LCSW	708550	04/14/2016 17:10	P4DG020315
3	MBW	708549	04/14/2016 17:14	P4DG020315
4	50MW02	707495	04/14/2016 17:17	P4DG020315
5	CCV	709129	04/14/2016 17:21	P4DG020315
6	49MW02	707512	04/14/2016 17:24	P4DG020315
7	48MW3	707513	04/14/2016 17:28	P4DG020315
8	48MW3MSW	708551	04/14/2016 17:32	P4DG020315
9	48MW3MSDW	708552	04/14/2016 17:35	P4DG020315
10	48MW2	707514	04/14/2016 17:39	P4DG020315
11	48MW06	707515	04/14/2016 17:43	P4DG020315
12	49TM01	707516	04/14/2016 17:46	P4DG020315
13	CCV	709130	04/14/2016 17:49	P4DG020315

CT LABORATORIES
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4A

VOLATILE METHOD BLANK SUMMARY

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Sample ID:	711052	SDG No.:	118236
Matrix:	LIQUID	Date Extracted:	04/20/2016
Date Analyzed:	04/20/2016	Time Analyzed:	11:20
Analytical Method:	Mod RSK 175	Extraction Method:	METHOD
Analytical Run #:	125089	Extraction Batch #:	56848
		ICAL Calibration #:	P4DG020315

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES AND QC:

SEQUENCE	SAMPLE DESCRIPTION	SAMPLE ID	DATE/TIME ANALYZED	CALIBRATION # ID
1	CCV	713032	04/20/2016 10:50	P4DG020315
2	LCSW	711053	04/20/2016 10:55	P4DG020315
3	MBW	711052	04/20/2016 11:20	P4DG020315
4	49MW01	708692	04/20/2016 11:25	P4DG020315
5	49MW01MSW	711054	04/20/2016 11:28	P4DG020315
6	48MW1	708694	04/20/2016 11:32	P4DG020315
7	48MW1DUP	713060	04/20/2016 11:38	P4DG020315
8	13MW3	708696	04/20/2016 11:43	P4DG020315
9	041316R1	708698	04/20/2016 11:46	P4DG020315
10	13MW4	708700	04/20/2016 11:52	P4DG020315
11	13MW2	708707	04/20/2016 11:59	P4DG020315
12	CCV	713033	04/20/2016 12:04	P4DG020315
13	49MW04	708709	04/20/2016 12:09	P4DG020315
14	CCV	713034	04/20/2016 12:57	P4DG020315

CT LABORATORIES
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4A

VOLATILE METHOD BLANK SUMMARY

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Sample ID:	712083	SDG No.:	118236
Matrix:	LIQUID	Date Extracted:	
Date Analyzed:	04/21/2016	Time Analyzed:	10:33
Analytical Method:	EPA 8260C	Extraction Method:	NONE
Analytical Run #:	124904	Extraction Batch #:	0
		ICAL Calibration #:	W041916.

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES AND QC:

SEQUENCE	SAMPLE DESCRIPTION	SAMPLE ID	DATE/TIME ANALYZED	CALIBRATION # ID
1	BFB	711959	04/21/2016 08:53	
2	LCSW	711960	04/21/2016 09:37	W041916.
3	CCV	711965	04/21/2016 09:37	W041916.
4	MBW	712083	04/21/2016 10:33	W041916.
5	041316T1	708713	04/21/2016 11:02	W041916.
6	041216T1	707517	04/21/2016 11:30	W041916.
7	49MW01	708692	04/21/2016 11:59	W041916.
8	48MW1	708694	04/21/2016 12:27	W041916.
9	13MW3	708696	04/21/2016 12:55	W041916.
10	041316R1	708698	04/21/2016 13:23	W041916.
11	13MW4	708700	04/21/2016 13:52	W041916.
12	13MW2	708707	04/21/2016 14:20	W041916.
13	49MW04	708709	04/21/2016 14:48	W041916.
14	50MW02	707495	04/21/2016 15:16	W041916.
15	49MW02	707512	04/21/2016 15:44	W041916.
16	48MW3	707513	04/21/2016 16:12	W041916.
17	48MW2	707514	04/21/2016 16:41	W041916.
18	48MW06	707515	04/21/2016 17:09	W041916.
19	49TM01	707516	04/21/2016 17:37	W041916.
20	48MW3MSW	712391	04/21/2016 18:05	W041916.
21	48MW3MSDW	712392	04/21/2016 18:33	W041916.
22	CCVF	712395	04/21/2016 20:01	W041916.

Data File : C:\Instarch\Data\APR1916\BFB1.D Vial: 1
Acq On : 19 Apr 2016 8:10 Operator: RLD-AGK
Sample : BFB INJ Inst : VMS4
Misc : 50 ng Injection Multiplr: 1.00
Integration File: VOC.P

Method : C:\INSTARCH\METHODS\W041916.M
Title : 8260C Waters Method

Spectrum Information: Average of 4.786 to 4.804 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	23.4	9626	PASS
75	95	30	60	47.2	19409	PASS
95	95	100	100	100.0	41132	PASS
96	95	5	9	8.6	3522	PASS
173	174	0.00	2	0.5	197	PASS
174	95	50	100	97.7	40182	PASS
175	174	5	9	7.5	3033	PASS
176	174	95	101	97.6	39224	PASS
177	176	5	9	7.1	2801	PASS

W041916.M Mon Apr 25 13:59:46 2016

pl_ilog
Injection Log Summary Report

Method : C:\INSTARCH\METHODS\W041916.M
Title : 8260C Waters Method
Start (Tune) File ID : C:\INSTARCH\DATA\APR1916\BFB1.D
Injection Date : 19 Apr 2016 Log Time Period (hrs) : ALL
Injection Time : 08:10 Total files within period : 15
Sample Directory : C:\INSTARCH\DATA\APR1916\

Injection Log Summary Table

File ID	Multiplier I	S	T	Sample Name / Misc Info	Date	Time
CALW1	1.00	1.00	1.00	CALIB. PT. 1 0.50/5.00 ug/L, 5.0	19 Apr 2016	09:46
CALW2	1.00	1.00	1.00	CALIB. PT. 2 2.00/20.0 ug/L, 5.0	19 Apr 2016	10:14
CALW3	1.00	1.00	1.00	CALIB. PT. 3 5.00/50.0 ug/L, 5.0	19 Apr 2016	10:42
CALW4	1.00	1.00	1.00	CALIB. PT. 4 10.0/100 ug/L, 5.0 m	19 Apr 2016	11:10
CALW5	1.00	1.00	1.00	CALIB. PT. 5 20.0/200 ug/L, 5.0 m	19 Apr 2016	11:38
CALW6	1.00	1.00	1.00	CALIB. PT. 6 30.0/300 ug/L, 5.0 m	19 Apr 2016	12:06
CALW7	1.00	1.00	1.00	CALIB. PT. 7 40.0/400 ug/L, 5.0 m	19 Apr 2016	12:34
CALW8	1.00	1.00	1.00	CALIB. PT. 8 80.0/800 ug/L, 5.0 m	19 Apr 2016	13:02
ICV1	1.00	1.00	1.00	INITIAL CALIB. VERIF 10.0/100 ug/L, 5.0 m	19 Apr 2016	13:58
ICV2	1.00	1.00	1.00	INITIAL CALIB. VERIF 30.0/300 ug/L, 5.0 m	19 Apr 2016	14:26
ICB1	1.00	1.00	1.00	INITIAL CALIB. BLANK pH<2, 5.0 ml DI H2O	19 Apr 2016	15:23

BFB

Data File : C:\Instarch\Data\APR2116\BFB1.D Vial: 1
Acq On : 21 Apr 2016 8:53 Operator: RLD-AGK
Sample : 124904,BFB, Inst : VMS4
Misc : 50 ng Injection Multiplr: 1.00
Integration File: VOC.P

Method : C:\INSTARCH\METHODS\W041916.M
Title : 8260C Waters Method

Spectrum Information: Average of 4.785 to 4.804 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	22.6	8038	PASS
75	95	30	60	49.3	17551	PASS
95	95	100	100	100.0	35626	PASS
96	95	5	9	6.5	2310	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	92.2	32862	PASS
175	174	5	9	8.2	2701	PASS
176	174	95	101	100.2	32942	PASS
177	176	5	9	7.4	2449	PASS

W041916.M Mon Apr 25 14:57:15 2016

Injection Log Summary Report

Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Start (Tune) File ID : C:\INSTARCH\DATA\APR2116\BFB1.D
Injection Date : 21 Apr 2016 Log Time Period (hrs) : ALL
Injection Time : 08:53 Total files within period : 22
Sample Directory : C:\INSTARCH\DATA\APR2116\

Injection Log Summary Table

File ID	Multiplier I	S	T	Sample Name Misc Info	Date	Time
CCV-LCS1	1.00	1.00	1.00	124904,LCSW, 10.0/100 ug/L, 5.0 ml Pur	21 Apr 2016	09:37
MB1	1.00	1.00	1.00	124904,MBW, pH<2, 5.0 ml DI H2O Purge	21 Apr 2016	10:33
708713	1.00	1.00	1.00	124904,708713, pH<2, 5.0 ml Purged + IS/	21 Apr 2016	11:02
707517	1.00	1.00	1.00	124904,707517, pH<2, 5.0 ml Purged + IS/	21 Apr 2016	11:30
708692	1.00	1.00	1.00	124904,708692, pH<2, 5.0 ml Purged + IS/	21 Apr 2016	11:59
708694	1.00	1.00	1.00	124904,708694, pH<2, 5.0 ml Purged + IS/	21 Apr 2016	12:27
708696	1.00	1.00	1.00	124904,708696, pH<2, 5.0 ml Purged + IS/	21 Apr 2016	12:55
708698	1.00	1.00	1.00	124904,708698, pH<2, 5.0 ml Purged + IS/	21 Apr 2016	13:23
708700	1.00	1.00	1.00	124904,708700, pH<2, 5.0 ml Purged + IS/	21 Apr 2016	13:52
708707	1.00	1.00	1.00	124904,708707, pH<2, 5.0 ml Purged + IS/	21 Apr 2016	14:20
708709	1.00	1.00	1.00	124904,708709, pH<2, 5.0 ml Purged + IS/	21 Apr 2016	14:48
707495	1.00	1.00	1.00	124904,707495, pH<2, 5.0 ml Purged + IS/	21 Apr 2016	15:16
707512	1.00	1.00	1.00	124904,707512, pH<2, 5.0 ml Purged + IS/	21 Apr 2016	15:44
707513	1.00	1.00	1.00	124904,707513, pH<2, 5.0 ml Purged + IS/	21 Apr 2016	16:12
707514	1.00	1.00	1.00	124904,707514, pH<2, 5.0 ml Purged + IS/	21 Apr 2016	16:41
707515	1.00	1.00	1.00	124904,707515, pH<2, 5.0 ml Purged + IS/	21 Apr 2016	17:09
707516	1.00	1.00	1.00	124904,707516, pH<2, 5.0 ml Purged + IS/	21 Apr 2016	17:37
707513MS	1.00	1.00	1.00	124904,MSW707513, pH<2, 10.0/100, 5.0 ml Pu	21 Apr 2016	18:05
707513SD	1.00	1.00	1.00	124904,MSDW707513, pH<2, 10.0/100, 5.0 ml Pu	21 Apr 2016	18:33
CCVF1	1.00	1.00	1.00	124904,CCVF, 10.0/100 ug/L, 5.0 ml Pur	21 Apr 2016	20:01

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name : CT Laboratories, LLC Contract :
Project : Site : Location : Group :
Lab File ID (Standard): CALW4.D Date Analyzed : 19 Apr 2016
Instrument ID : VMS4 Time Analyzed : 11:10
GC Column : DB-624 UI ID : VMS4(mm) Heated Purge (Y:N) : N

	IS1		IS2		IS3	
	Area #	RT #	Area #	RT #	Area #	RT #
12 HOUR STD	1503893	7.79	1221543	11.73	677991	15.04
UPPER LIMIT	3007786	8.29	2443086	12.23	1355982	15.54
LOWER LIMIT	751947	7.29	610772	11.23	338996	14.54
File ID Sample						
707495 124904,70	1420877	7.80	1147336	11.73	609974	15.04
707512 124904,70	1426475	7.80	1163919	11.73	619282	15.04
707513 124904,70	1429317	7.80	1165780	11.73	615189	15.04
707513MS 124904,MS	1489703	7.80	1192523	11.73	652142	15.04
707513SD 124904,MS	1475172	7.80	1191482	11.73	645667	15.04
707514 124904,70	1383557	7.80	1134737	11.73	593742	15.04
707515 124904,70	1464076	7.80	1184399	11.73	637580	15.04
707516 124904,70	1439649	7.80	1185332	11.73	629336	15.04
707517 124904,70	1443842	7.80	1201054	11.73	628305	15.04
708692 124904,70	1476692	7.80	1203982	11.73	636653	15.04
708694 124904,70	1476280	7.80	1176971	11.73	626684	15.04
708696 124904,70	1438740	7.80	1167326	11.73	620798	15.04
708698 124904,70	1455748	7.80	1181604	11.73	625929	15.04
708700 124904,70	1435859	7.80	1173997	11.73	624190	15.04
708707 124904,70	1441747	7.80	1179150	11.73	624170	15.04
708709 124904,70	1407826	7.80	1137285	11.73	608164	15.04
708713 124904,70	1409127	7.80	1156439	11.73	617078	15.04
CCV-LCS1 124904,LC	1611907	7.80	1293532	11.73	704255	15.04
CCVF1 124904,CC	1508081	7.80	1224036	11.73	654680	15.04
MB1 124904,MB	1486042	7.80	1207436	11.73	641227	15.04

IS1 = FLUOROBENZENE**ISTD**
IS2 = d5-CHLOROBENZENE**ISTD**
IS3 = d4-1,4-DICHLOROBENZENE**IS

AREA UPPER LIMIT = 200% of internal standard area
AREA LOWER LIMIT = 50% of internal standard area
RT UPPER LIMIT = 0.5 minutes of internal standard RT
RT LOWER LIMIT = -0.5 minutes of internal standard RT

Column to be used to flag values outside QC limit with an asterisk
* Values outside of contract required QC limits

VOLATILE ORGANIC ANALYSIS
SAMPLE DATA
DOCUMENTS

Quantitation Report

Data File : C:\INSTARCH\DATA\APR2116\708713.D Vial: 6
Acq On : 21 Apr 2016 11:02 Operator: RLD-AGK
Sample : 124904,708713, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 11:22:54 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:59:39 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.80	96	1409127	20.00 ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.73	117	1156439	20.00 ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	15.04	152	617078	20.00 ug/L	0.00 NA%
System Monitoring Compounds					
41) SURRDibrflma	6.95	113	389108	20.302 ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 102 %		
45) SURR12DCAd4	7.37	102	95325	20.771 ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 104 %		
61) SURRd8Tolule	9.80	98	1375958	20.500 ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 102 %		
83) SURR4BrFBenz	13.37	95	527709	20.008 ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 100 %		
Target Compounds					Qvalue
2) Dichlorodi	0.00	85	0	N.D.	
3) Chloromethan	2.13	50	2214	N.D.	
4) VinylChlorid	0.00	62	0	N.D.	
5) Bromomethane	2.80	94	1916	N.D.	
6) Chloroethane	2.91	64	5132	0.5339 ug/L #	43
7) Dichloroflmethane	0.00	67	0	N.D.	
8) Trichlorofma	0.00	101	0	N.D.	
9) Ethylether	0.00	59	0	N.D.	
10) dichlorotfluoroethan	0.00	67	0	N.D.	
11) propyleneoxide	0.00	58	0	N.D.	
12) Acrolein	0.00	56	0	N.D.	
13) 11dichlorthe	0.00	96	0	N.D.	
14) Trichlorotfluoroeth	0.00	101	0	N.D.	
15) Acetone	4.18	43	5339	N.D.	
16) Iodomethane	4.26	142	2278	2.6183 ug/L #	42
17) Carbon Dislf	4.32	76	4283	N.D.	
18) allylchloride	0.00	41	0	N.D.	
19) methylacetate	0.00	74	0	N.D.	
20) Methylchlorid	4.71	84	2746	N.D.	
21) tbutylalcohol	4.93	59	1215	N.D.	
22) Acrylonitrile	0.00	53	0	N.D.	
23) t12dichlorte	0.00	96	0	N.D.	
24) MtBE	0.00	73	0	N.D.	
25) Hexane	0.00	57	0	N.D.	
26) 11dichlorota	0.00	63	0	N.D.	
27) Vinylacetate	0.00	43	0	N.D.	
28) chloroprene	0.00	53	0	N.D.	
29) Diisopether	0.00	45	0	N.D.	
30) ETBE	0.00	59	0	N.D.	
31) 22dichloropr	0.00	77	0	N.D.	
32) c12dichlorte	0.00	96	0	N.D.	
33) 2Butanone	0.00	72	0	N.D.	
34) propionitrile	0.00	54	0	N.D.	
35) Ethylacetate	0.00	88	0	N.D.	
36) methacrylonitrile	0.00	67	0	N.D.	
37) Bromochlorma	0.00	128	0	N.D.	
38) Tetrahydofur	6.74	42	2335	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\APR2116\708713.D Vial: 6
Acq On : 21 Apr 2016 11:02 Operator: RLD-AGK
Sample : 124904,708713, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 11:22:54 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:59:39 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39) Chloroform	0.00	83	0	N.D.	
40) 111trichlota	0.00	97	0	N.D.	
42) Cyclohexane	0.00	56	0	N.D.	
43) Carbtetraclo	0.00	119	0	N.D.	
44) 11dicloprope	0.00	110	0	N.D.	
46) Benzene	0.00	78	0	N.D.	
47) 12dichlorota	0.00	62	0	N.D.	
48) TAME	0.00	73	0	N.D.	
49) trichloroete	0.00	95	0	N.D.	
50) methylcyclohexane	0.00	83	0	N.D.	
51) 12dicloropra	0.00	63	0	N.D.	
52) 23Dicl1propene	0.00	75	0	N.D.	
53) Dibromometha	0.00	93	0	N.D.	
54) methylmethacrylate	0.00	69	0	N.D.	
55) 14dioxane	0.00	88	0	N.D.	
56) Bromodiclrma	0.00	83	0	N.D.	
57) 2Nitropropane	0.00	43	0	N.D.	
58) 2CLEVE	0.00	63	0	N.D.	
59) c13dicloproe	0.00	75	0	N.D.	
60) 4Meth2Pentan	9.65	43	1421	N.D.	
62) Toluene	0.00	92	0	N.D.	
63) t13Dicloprop	0.00	75	0	N.D.	
64) ethylmethacrylate	0.00	69	0	N.D.	
65) 112Triclotha	0.00	83	0	N.D.	
66) Tetrachlorte	0.00	166	0	N.D.	
67) 13Diclorpropa	0.00	76	0	N.D.	
69) 2Hexanone	0.00	43	0	N.D.	
70) Clorodibrmta	0.00	129	0	N.D.	
71) 12Dibrometha	0.00	107	0	N.D.	
72) Chlorobenzen	0.00	112	0	N.D.	
73) 1Clhexane	11.72	91	2272	N.D.	
74) 1112Tetclota	0.00	131	0	N.D.	
75) Ethylbenzene	0.00	91	0	N.D.	
76) m p-Xylene	0.00	106	0	N.D.	
77) o-Xylene	0.00	106	0	N.D.	
78) Styrene	0.00	104	0	N.D.	
79) Bromoform	0.00	173	0	N.D.	
80) Isopropylben	0.00	105	0	N.D.	
81) cyclohexanone	13.38	55	1420	N.D.	
84) Bromobenzene	0.00	156	0	N.D.	
85) 1122Tetrclta	0.00	83	0	N.D.	
86) 123Triclproa	0.00	75	0	N.D.	
87) 14dichloro2butene	0.00	53	0	N.D.	
88) n-Propylbenz	0.00	91	0	N.D.	
89) 2chlorotolue	0.00	91	0	N.D.	
90) 4chlorotolue	0.00	91	0	N.D.	
91) 135Trimebenz	0.00	105	0	N.D.	
92) tbutylbenzen	0.00	119	0	N.D.	
93) 124Trimetben	0.00	105	0	N.D.	
94) sbutylbenzen	0.00	105	0	N.D.	
95) 13Diclorbenz	0.00	146	0	N.D.	
96) pIsopropylto	15.01	119	1739	N.D.	
97) 14dichlorobe	0.00	146	0	N.D.	
98) 12dichlorobe	0.00	146	0	N.D.	
99) nButylbenzen	15.59	91	2194	N.D.	
100) 12dibromo3cl	0.00	157	0	N.D.	
101) 135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\APR2116\708713.D Vial: 6
Acq On : 21 Apr 2016 11:02 Operator: RLD-AGK
Sample : 124904,708713, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 11:22:54 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:59:39 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	18.14	128	2085	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

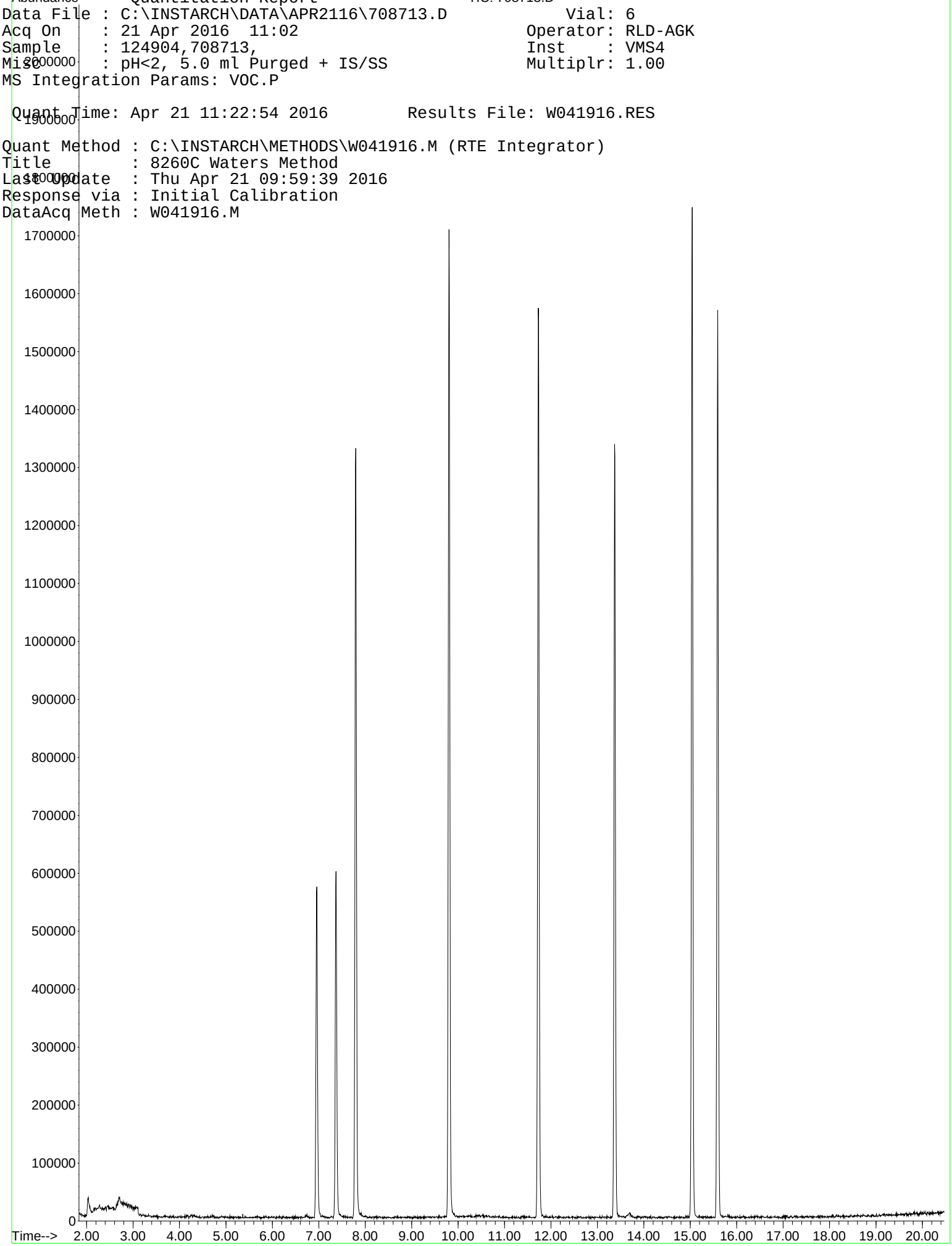
(#) = qualifier out of range (m) = manual integration

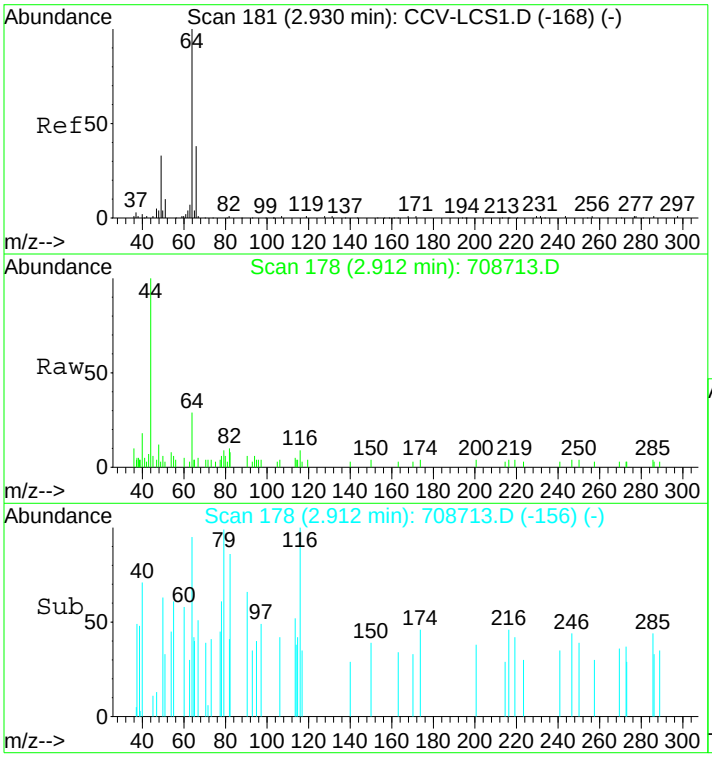
Abundance Quantitation Report TIC: 708713.D

Data File : C:\INSTARCH\DATA\APR2116\708713.D Vial: 6
Acq On : 21 Apr 2016 11:02 Operator: RLD-AGK
Sample : 124904,708713, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 11:22:54 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:59:39 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

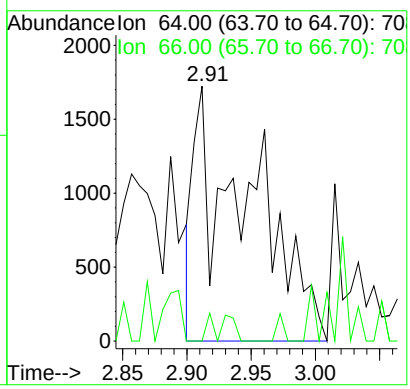




#6
Chloroethane
Concen: 0.53 ug/L
RT: 2.91 min Scan# 178
Delta R.T. -0.02 min
Lab File: 708713.D
Acq: 21 Apr 2016 11:02

Tgt Ion: 64 Resp: 5132

Ion	Ratio	Lower	Upper
64	100		
66	0.0	11.9	51.9#



Quantitation Report

Data File : C:\INSTARCH\DATA\APR2116\707517.D Vial: 7
Acq On : 21 Apr 2016 11:30 Operator: RLD-AGK
Sample : 124904,707517, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 11:51:14 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:59:39 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.80	96	1443842	20.00 ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.73	117	1201054	20.00 ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	15.04	152	628305	20.00 ug/L	0.00 NA%
System Monitoring Compounds					
41) SURRDibrflma	6.96	113	406010	20.675 ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 103 %		
45) SURR12DCAd4	7.37	102	100011	21.268 ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 106 %		
61) SURRd8Tolule	9.80	98	1418915	20.631 ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 103 %		
83) SURR4BrFBenz	13.37	95	546741	20.359 ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 102 %		
Target Compounds					Qvalue
2) Dichlorodi	0.00	85	0	N.D.	
3) Chloromethan	2.12	50	1689	N.D.	
4) VinylChlorid	0.00	62	0	N.D.	
5) Bromomethane	2.78	94	2676	N.D.	
6) Chloroethane	2.88	64	11098	1.1267 ug/L #	43
7) Dichloroflmethane	0.00	67	0	N.D.	
8) Trichlorofma	0.00	101	0	N.D.	
9) Ethylether	0.00	59	0	N.D.	
10) dichlorotfluoroethan	0.00	67	0	N.D.	
11) propyleneoxide	0.00	58	0	N.D.	
12) Acrolein	0.00	56	0	N.D.	
13) 11dichlorthe	0.00	96	0	N.D.	
14) Trichlorotfluoroeth	0.00	101	0	N.D.	
15) Acetone	4.17	43	7099	N.D.	
16) Iodomethane	4.29	142	1684	2.5709 ug/L #	42
17) Carbon Dislf	4.32	76	5530	N.D.	
18) allylchloride	0.00	41	0	N.D.	
19) methylacetate	0.00	74	0	N.D.	
20) Methylchlorid	4.71	84	1926	N.D.	
21) tbutylalcohol	4.93	59	1060	N.D.	
22) Acrylonitrile	0.00	53	0	N.D.	
23) t12dichlorte	0.00	96	0	N.D.	
24) MtBE	0.00	73	0	N.D.	
25) Hexane	0.00	57	0	N.D.	
26) 11dichlorota	0.00	63	0	N.D.	
27) Vinylacetate	0.00	43	0	N.D.	
28) chloroprene	0.00	53	0	N.D.	
29) Diisopether	5.78	45	1268	N.D.	
30) ETBE	0.00	59	0	N.D.	
31) 22dichloropr	0.00	77	0	N.D.	
32) c12dichlorte	0.00	96	0	N.D.	
33) 2Butanone	0.00	72	0	N.D.	
34) propionitrile	0.00	54	0	N.D.	
35) Ethylacetate	0.00	88	0	N.D.	
36) methacrylonitrile	0.00	67	0	N.D.	
37) Bromochlorma	0.00	128	0	N.D.	
38) Tetrahydofur	6.73	42	2731	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\APR2116\707517.D Vial: 7
Acq On : 21 Apr 2016 11:30 Operator: RLD-AGK
Sample : 124904,707517, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 11:51:14 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:59:39 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	0.00	119	0	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	7.43	78	1274	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	0.00	95	0	N.D.	
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	0.00	92	0	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	11.71	91	2597	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	0.00	106	0	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	13.37	55	1871	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	0.00	105	0	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	15.01	119	1779	N.D.	
97)	14dichlorobe	15.07	146	1051	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	15.58	91	2585	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\APR2116\707517.D Vial: 7
Acq On : 21 Apr 2016 11:30 Operator: RLD-AGK
Sample : 124904,707517, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 11:51:14 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:59:39 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	18.15	128	1331	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

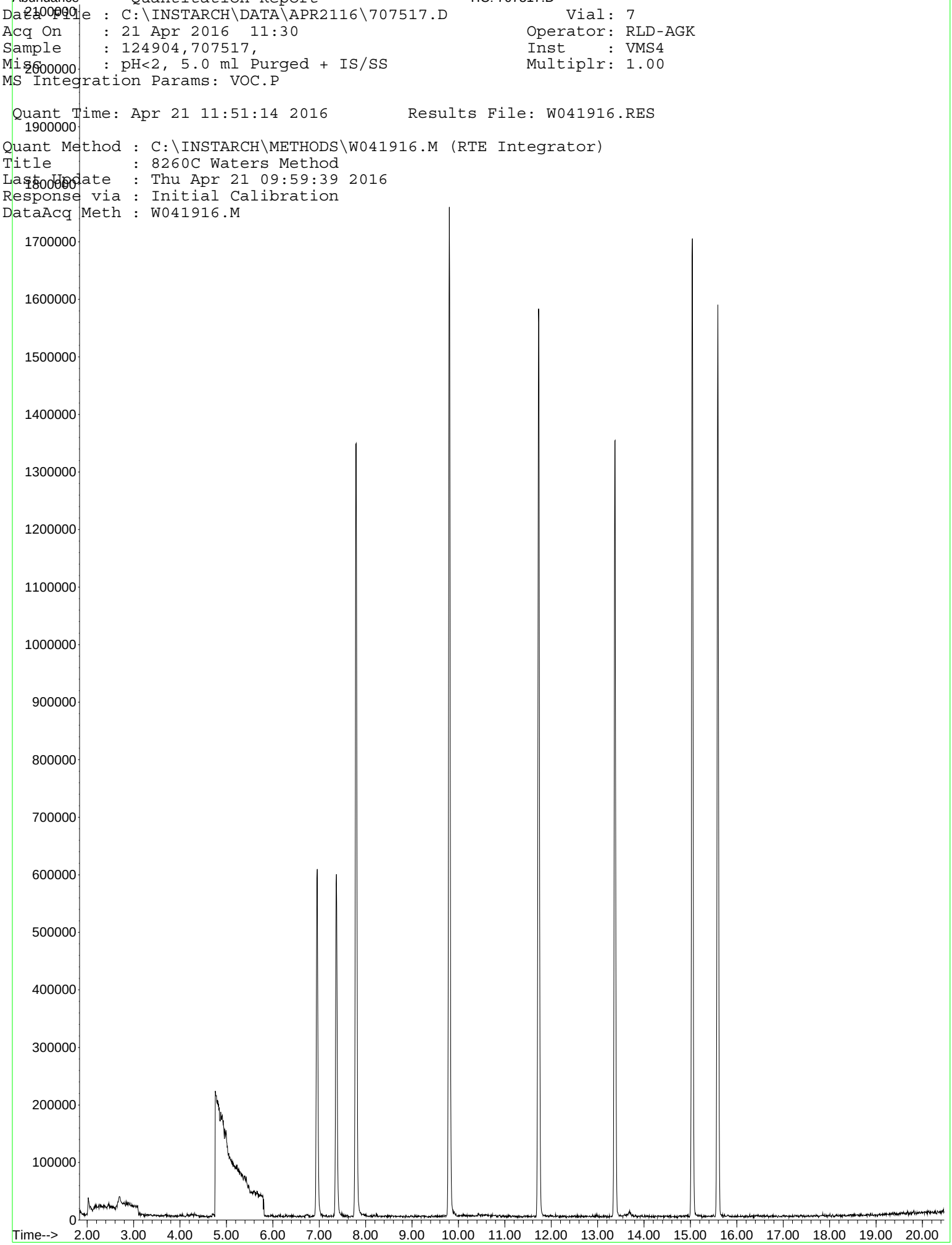
(#) = qualifier out of range (m) = manual integration

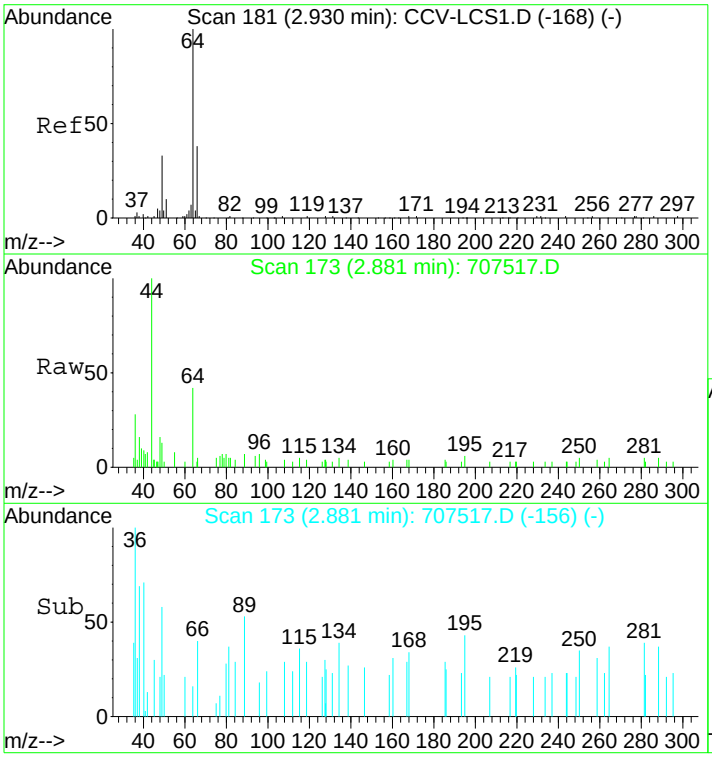
Abundance Quantitation Report TIC: 707517.D

Data File : C:\INSTARCH\DATA\APR2116\707517.D Vial: 7
Acq On : 21 Apr 2016 11:30 Operator: RLD-AGK
Sample : 124904,707517, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 11:51:14 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:59:39 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

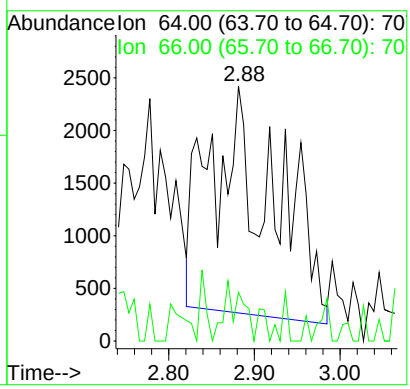




#6
Chloroethane
Concen: 1.13 ug/L
RT: 2.88 min Scan# 173
Delta R.T. -0.05 min
Lab File: 707517.D
Acq: 21 Apr 2016 11:30

Tgt Ion: 64 Resp: 11098

Ion	Ratio	Lower	Upper
64	100		
66	0.0	11.9	51.9#



Quantitation Report

Data File : C:\INSTARCH\DATA\APR2116\708692.D Vial: 8
Acq On : 21 Apr 2016 11:59 Operator: RLD-AGK
Sample : 124904,708692, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 12:19:46 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:59:39 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.80	96	1476692	20.00 ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.73	117	1203982	20.00 ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	15.04	152	636653	20.00 ug/L	0.00 NA%
System Monitoring Compounds					
41) SURRDibrflma	6.96	113	407747	20.301 ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 102 %		
45) SURR12DCAd4	7.37	102	102002	21.209 ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 106 %		
61) SURRd8Tolule	9.80	98	1421284	20.206 ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101 %		
83) SURR4BrFBenz	13.38	95	541390	19.895 ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 99 %		
Target Compounds					Qvalue
2) Dichlorodi	0.00	85	0	N.D.	
3) Chloromethan	2.14	50	2828	N.D.	
4) VinylChlorid	0.00	62	0	N.D.	
5) Bromomethane	0.00	94	0	N.D.	
6) Chloroethane	2.82	64	50748	5.0376 ug/L #	48
7) Dichloroflmethane	0.00	67	0	N.D.	
8) Trichlorofma	0.00	101	0	N.D.	
9) Ethylether	0.00	59	0	N.D.	
10) dichlorotfluoroethan	3.79	67	15735	0.9349 ug/L	94
11) propyleneoxide	0.00	58	0	N.D.	
12) Acrolein	0.00	56	0	N.D.	
13) 11dichlorthe	0.00	96	0	N.D.	
14) Trichlorotfluoroeth	4.08	101	13932	0.9049 ug/L	94
15) Acetone	4.16	43	3358	N.D.	
16) Iodomethane	4.24	142	2278	2.6105 ug/L #	42
17) Carbon Dislf	4.32	76	5110	N.D.	
18) allylchloride	0.00	41	0	N.D.	
19) methylacetate	0.00	74	0	N.D.	
20) Methylchlorid	0.00	84	0	N.D.	
21) tbutylalcohol	4.93	59	2018	N.D.	
22) Acrylonitrile	0.00	53	0	N.D.	
23) t12dichlorte	0.00	96	0	N.D.	
24) MtBE	0.00	73	0	N.D.	
25) Hexane	0.00	57	0	N.D.	
26) 11dichlorota	5.63	63	1046	N.D.	
27) Vinylacetate	0.00	43	0	N.D.	
28) chloroprene	0.00	53	0	N.D.	
29) Diisopether	0.00	45	0	N.D.	
30) ETBE	0.00	59	0	N.D.	
31) 22dichloropr	0.00	77	0	N.D.	
32) c12dichlorte	0.00	96	0	N.D.	
33) 2Butanone	0.00	72	0	N.D.	
34) propionitrile	0.00	54	0	N.D.	
35) Ethylacetate	0.00	88	0	N.D.	
36) methacrylonitrile	0.00	67	0	N.D.	
37) Bromochlorma	0.00	128	0	N.D.	
38) Tetrahydofur	6.74	42	1489	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\APR2116\708692.D Vial: 8
Acq On : 21 Apr 2016 11:59 Operator: RLD-AGK
Sample : 124904,708692, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 12:19:46 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:59:39 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	6.77	83	9529	0.3504 ug/L	98
40)	111trichlota	6.99	97	4848	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	7.20	119	60305	3.0304 ug/L	96
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	7.45	78	2090	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	0.00	95	0	N.D.	
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	9.88	92	3994	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	11.73	91	2966	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	11.93	91	2696	N.D.	
76)	m p-Xylene	12.07	106	3048	N.D.	
77)	o-Xylene	12.63	106	1094	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	13.16	105	1002	N.D.	
81)	cyclohexanone	13.37	55	1711	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	13.74	91	1278	N.D.	
89)	2chlorotolue	13.74	91	1192	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	14.00	105	1487	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	14.54	105	2661	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	15.01	119	2573	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	15.60	146	1249	N.D.	
99)	nButylbenzen	15.59	91	2289	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\APR2116\708692.D Vial: 8
Acq On : 21 Apr 2016 11:59 Operator: RLD-AGK
Sample : 124904,708692, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 12:19:46 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:59:39 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	18.15	128	2193	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

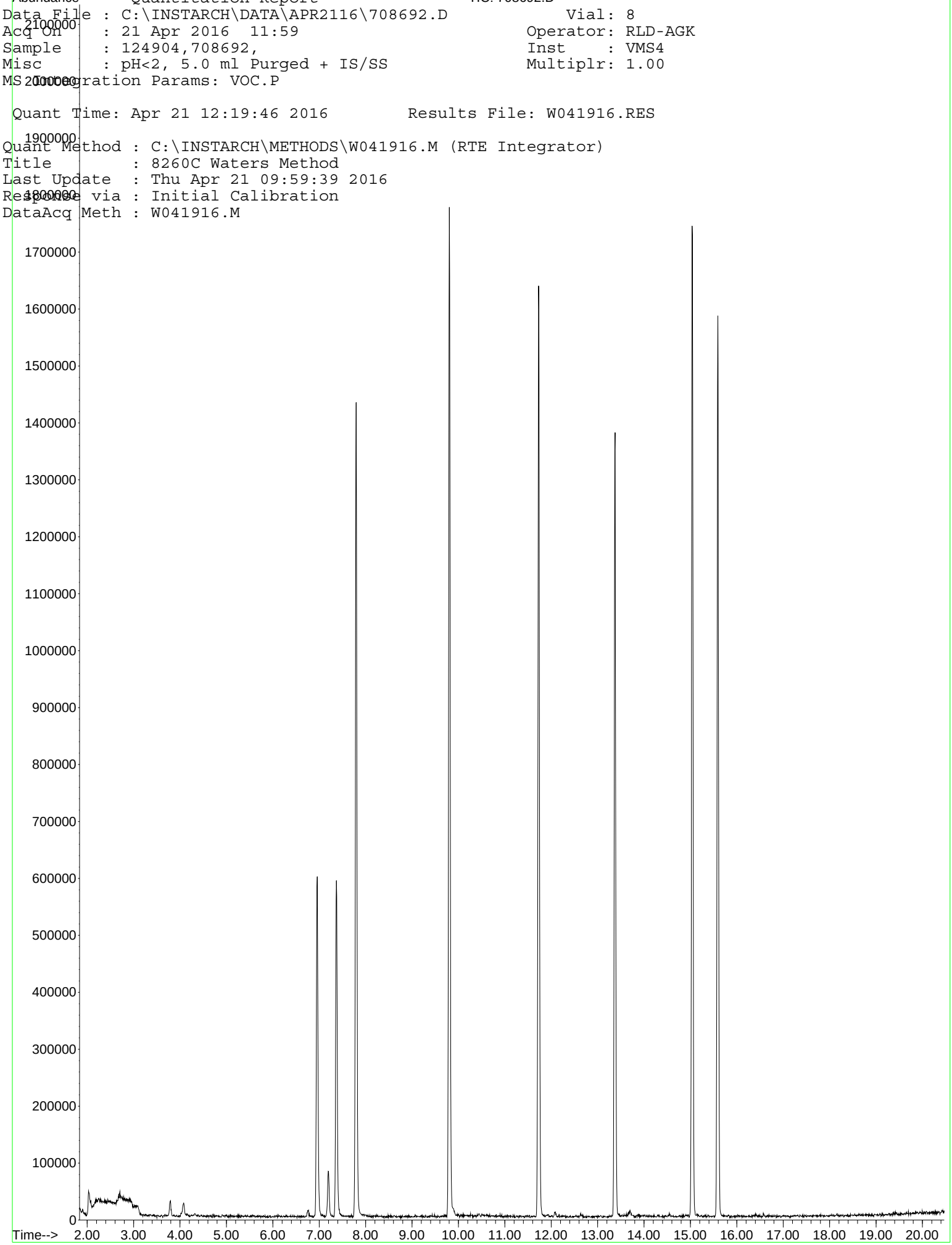
(#) = qualifier out of range (m) = manual integration

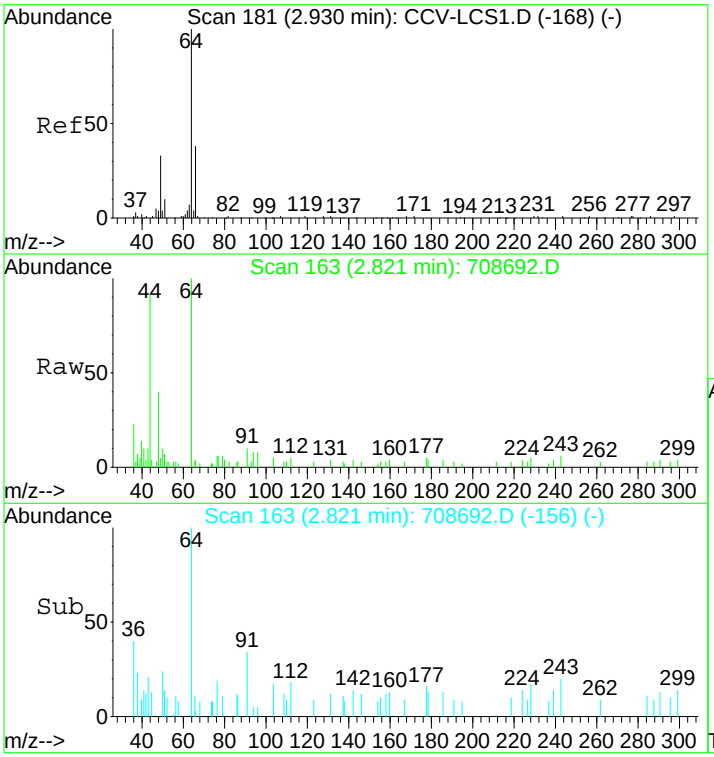
Abundance Quantitation Report TIC: 708692.D

Data File : C:\INSTARCH\DATA\APR2116\708692.D Vial: 8
Acq On : 21 Apr 2016 11:59 Operator: RLD-AGK
Sample : 124904,708692, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 12:19:46 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:59:39 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

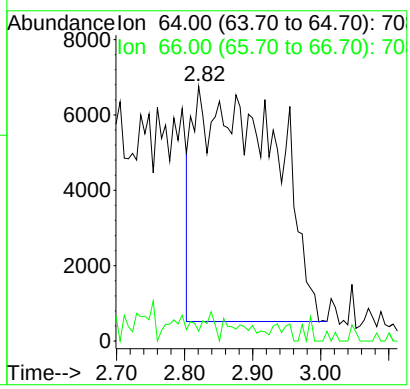


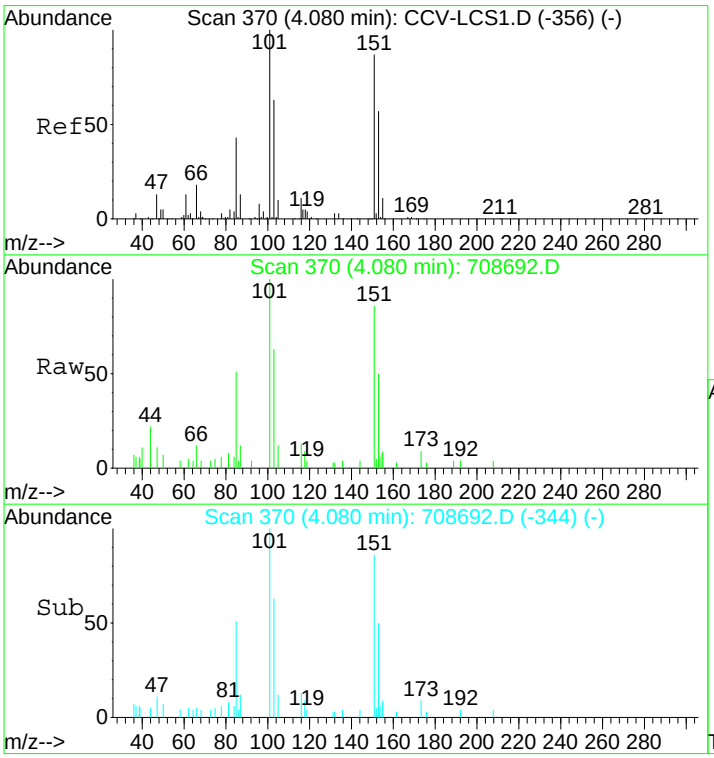


#6
Chloroethane
Concen: 5.04 ug/L
RT: 2.82 min Scan# 163
Delta R.T. -0.11 min
Lab File: 708692.D
Acq: 21 Apr 2016 11:59

Tgt Ion: 64 Resp: 50748

Ion	Ratio	Lower	Upper
64	100		
66	2.9	11.9	51.9#

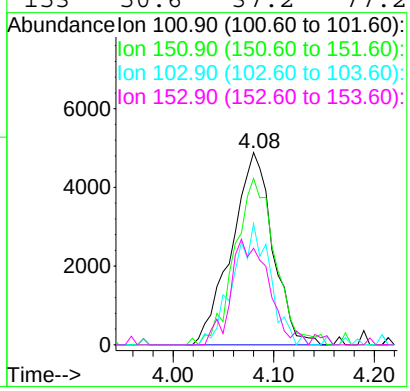


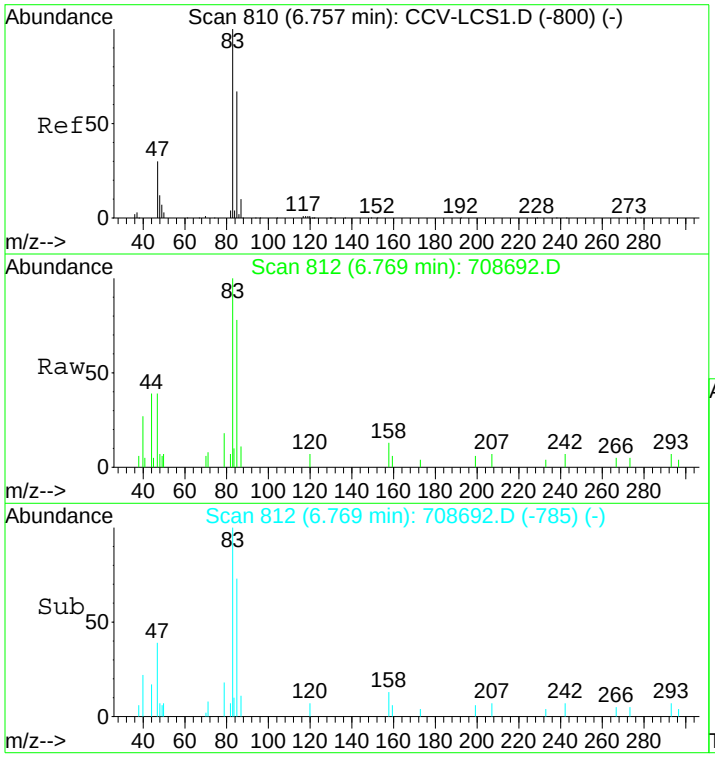


#14
Trichlorotfluoroeth
Concen: 0.90 ug/L
RT: 4.08 min Scan# 370
Delta R.T. 0.01 min
Lab File: 708692.D
Acq: 21 Apr 2016 11:59

Tgt Ion:101 Resp: 13932

Ion	Ratio	Lower	Upper
101	100		
151	85.1	67.2	107.2
103	56.1	42.3	82.3
153	50.6	37.2	77.2

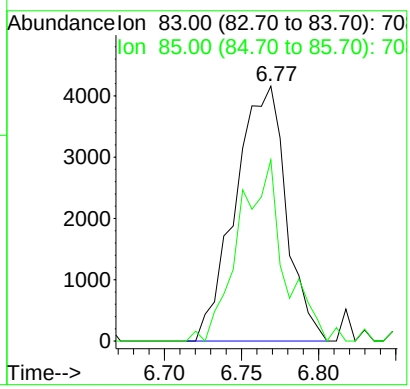


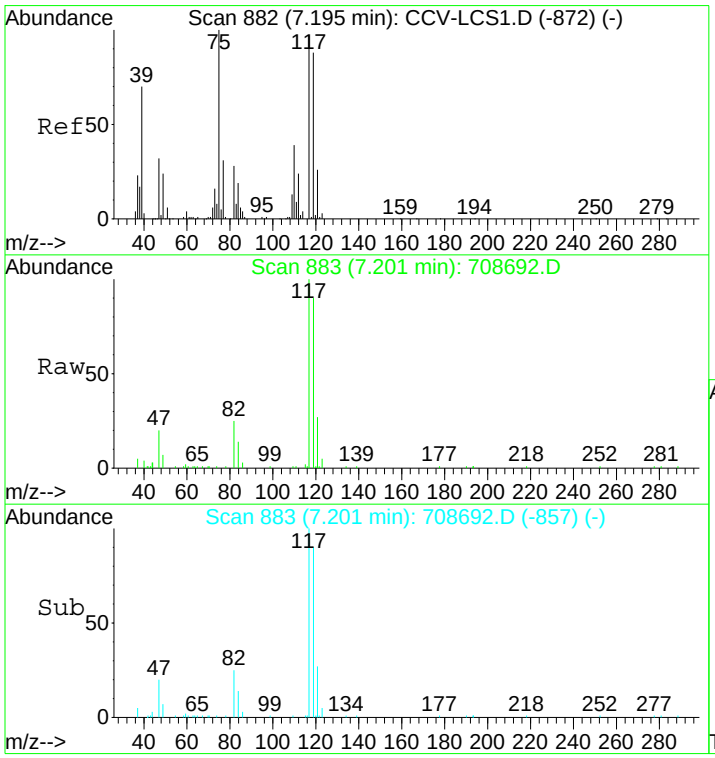


#39
Chloroform
Concen: 0.35 ug/L
RT: 6.77 min Scan# 812
Delta R.T. 0.01 min
Lab File: 708692.D
Acq: 21 Apr 2016 11:59

Tgt Ion: 83 Resp: 9529

Ion	Ratio	Lower	Upper
83	100		
85	63.8	45.4	85.4

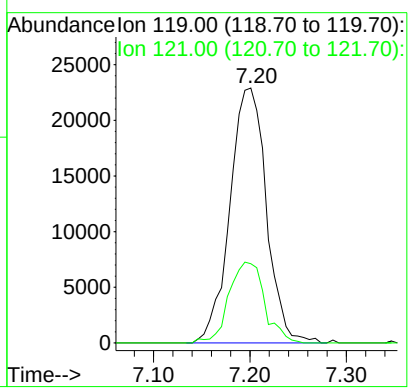




#43
Carbtetraclo
Concen: 3.03 ug/L
RT: 7.20 min Scan# 883
Delta R.T. 0.01 min
Lab File: 708692.D
Acq: 21 Apr 2016 11:59

Tgt Ion:119 Resp: 60305

Ion	Ratio	Lower	Upper
119	100		
121	30.9	13.1	53.1



Quantitation Report

Data File : C:\INSTARCH\DATA\APR2116\708694.D Vial: 9
Acq On : 21 Apr 2016 12:27 Operator: RLD-AGK
Sample : 124904,708694, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 12:48:12 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:59:39 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.80	96	1476280	20.00 ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.73	117	1176971	20.00 ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	15.04	152	626684	20.00 ug/L	0.00 NA%
System Monitoring Compounds					
41) SURRDibrflma	6.96	113	401370	19.989 ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100 %		
45) SURR12DCAd4	7.37	102	98867	20.563 ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 103 %		
61) SURRd8Tolule	9.80	98	1405057	19.981 ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100 %		
83) SURR4BrFBenz	13.37	95	535129	19.978 ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 100 %		
Target Compounds					Qvalue
2) Dichlorodi	0.00	85	0	N.D.	
3) Chloromethan	2.13	50	2307	N.D.	
4) VinylChlorid	0.00	62	0	N.D.	
5) Bromomethane	0.00	94	0	N.D.	
6) Chloroethane	2.88	64	15089	1.4983 ug/L #	43
7) Dichloroflmethane	0.00	67	0	N.D.	
8) Trichlorofma	0.00	101	0	N.D.	
9) Ethylether	0.00	59	0	N.D.	
10) dichlorotfluoroethan	3.79	67	6062	0.3603 ug/L	89
11) propyleneoxide	0.00	58	0	N.D.	
12) Acrolein	0.00	56	0	N.D.	
13) 11dichlorthe	4.05	96	2902	N.D.	
14) Trichlorotfluoroeth	4.07	101	1102	N.D.	
15) Acetone	4.16	43	4052	N.D.	
16) Iodomethane	4.23	142	2063	2.5952 ug/L #	42
17) Carbon Dislf	4.32	76	4359	N.D.	
18) allylchloride	0.00	41	0	N.D.	
19) methylacetate	0.00	74	0	N.D.	
20) Methylchlorid	0.00	84	0	N.D.	
21) tbutylalcohol	4.94	59	2860	N.D.	
22) Acrylonitrile	0.00	53	0	N.D.	
23) t12dichlorte	0.00	96	0	N.D.	
24) MtBE	0.00	73	0	N.D.	
25) Hexane	0.00	57	0	N.D.	
26) 11dichlorota	5.62	63	29296	1.0608 ug/L	97
27) Vinylacetate	0.00	43	0	N.D.	
28) chloroprene	0.00	53	0	N.D.	
29) Diisopether	0.00	45	0	N.D.	
30) ETBE	0.00	59	0	N.D.	
31) 22dichloropr	0.00	77	0	N.D.	
32) c12dichlorte	6.37	96	14709	0.8881 ug/L #	85
33) 2Butanone	0.00	72	0	N.D.	
34) propionitrile	0.00	54	0	N.D.	
35) Ethylacetate	0.00	88	0	N.D.	
36) methacrylonitrile	0.00	67	0	N.D.	
37) Bromochlorma	0.00	128	0	N.D.	
38) Tetrahydofur	6.73	42	1389	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\APR2116\708694.D Vial: 9
Acq On : 21 Apr 2016 12:27 Operator: RLD-AGK
Sample : 124904,708694, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 12:48:12 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:59:39 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	6.76	83	1217	N.D.	
40)	111trichlota	6.98	97	10150	0.4177 ug/L	93
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	0.00	119	0	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	0.00	78	0	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	8.25	95	36531	2.1931 ug/L	92
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	9.90	92	3407	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	10.62	166	3892	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	11.73	91	2443	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	11.92	91	1043	N.D.	
76)	m p-Xylene	12.10	106	2694	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	13.38	55	1460	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	0.00	105	0	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	15.01	119	1261	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	15.60	91	2126	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\APR2116\708694.D Vial: 9
Acq On : 21 Apr 2016 12:27 Operator: RLD-AGK
Sample : 124904,708694, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 12:48:12 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:59:39 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	18.18	128	1115	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

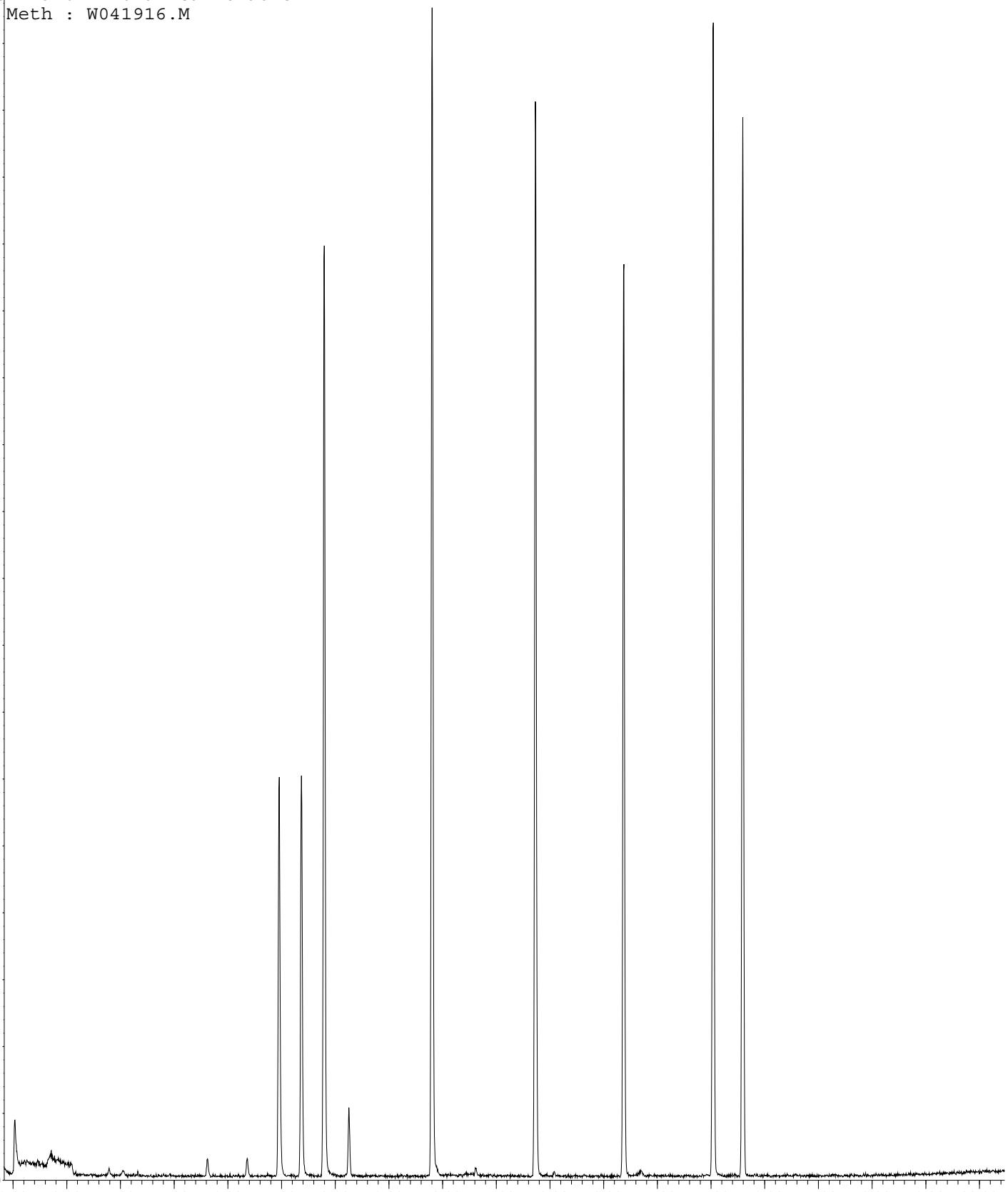
(#) = qualifier out of range (m) = manual integration

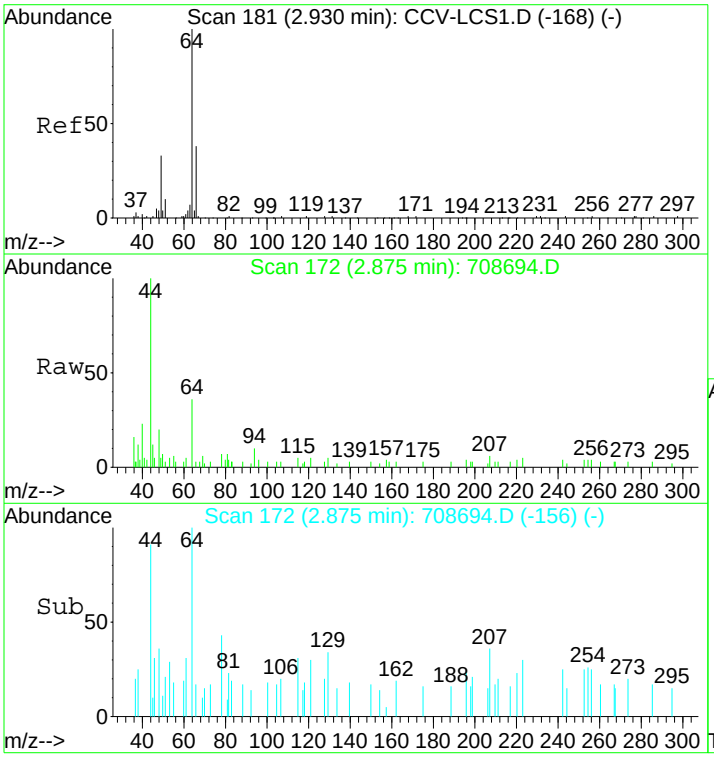
Abundance Quantitation Report TIC: 708694.D

Data File : C:\INSTARCH\DATA\APR2116\708694.D Vial: 9
Acq On : 21 Apr 2016 12:27 Operator: RLD-AGK
Sample : 124904,708694, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 12:48:12 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:59:39 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

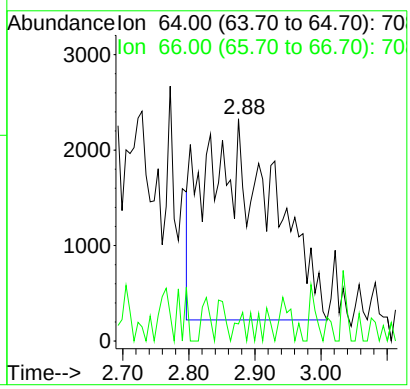


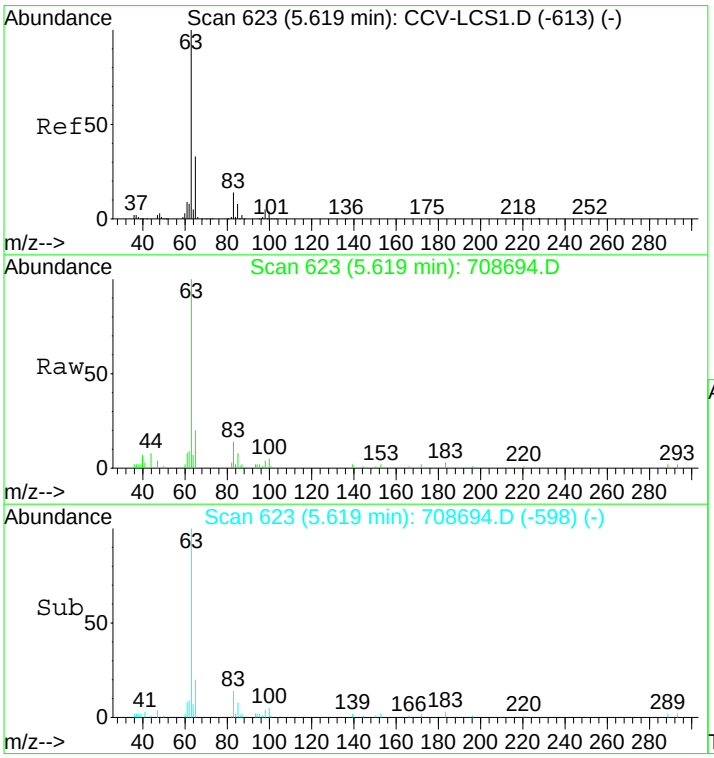


#6
Chloroethane
Concen: 1.50 ug/L
RT: 2.88 min Scan# 172
Delta R.T. -0.05 min
Lab File: 708694.D
Acq: 21 Apr 2016 12:27

Tgt Ion: 64 Resp: 15089

Ion	Ratio	Lower	Upper
64	100		
66	0.0	11.9	51.9#

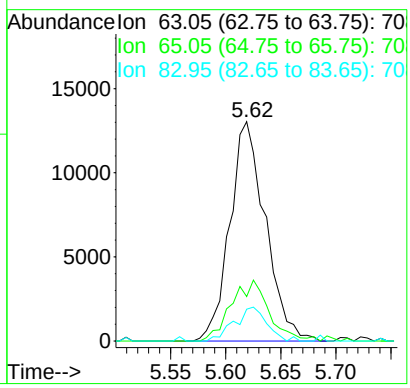


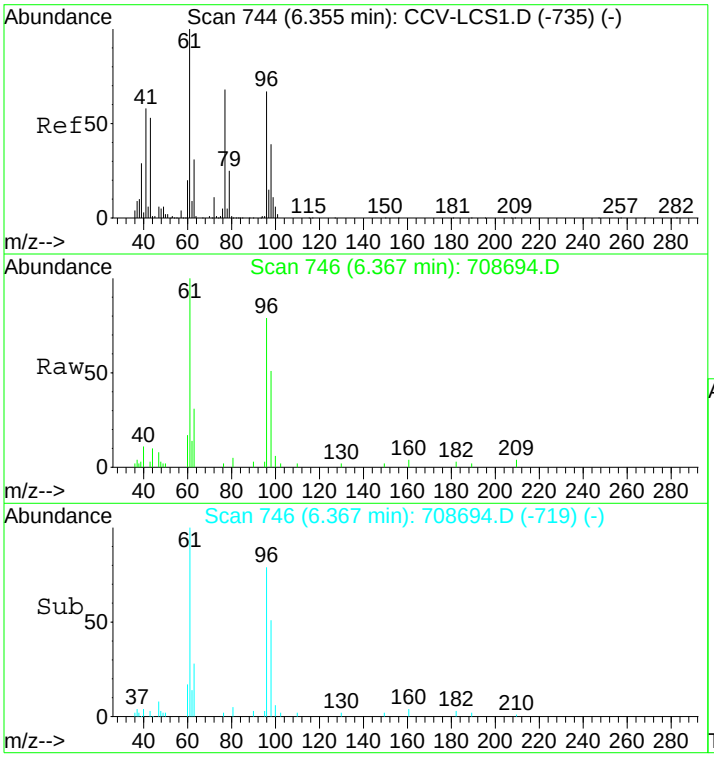


#26
11dichlorota
Concen: 1.06 ug/L
RT: 5.62 min Scan# 623
Delta R.T. 0.00 min
Lab File: 708694.D
Acq: 21 Apr 2016 12:27

Tgt Ion: 63 Resp: 29296

Ion	Ratio	Lower	Upper
63	100		
65	29.4	10.9	50.9
83	14.1	0.0	33.0

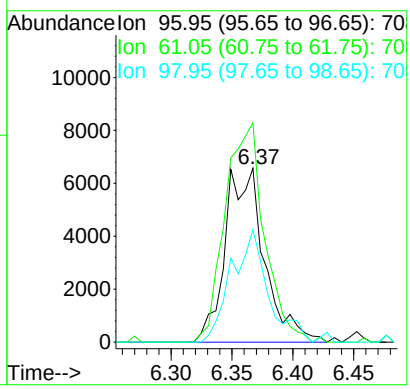


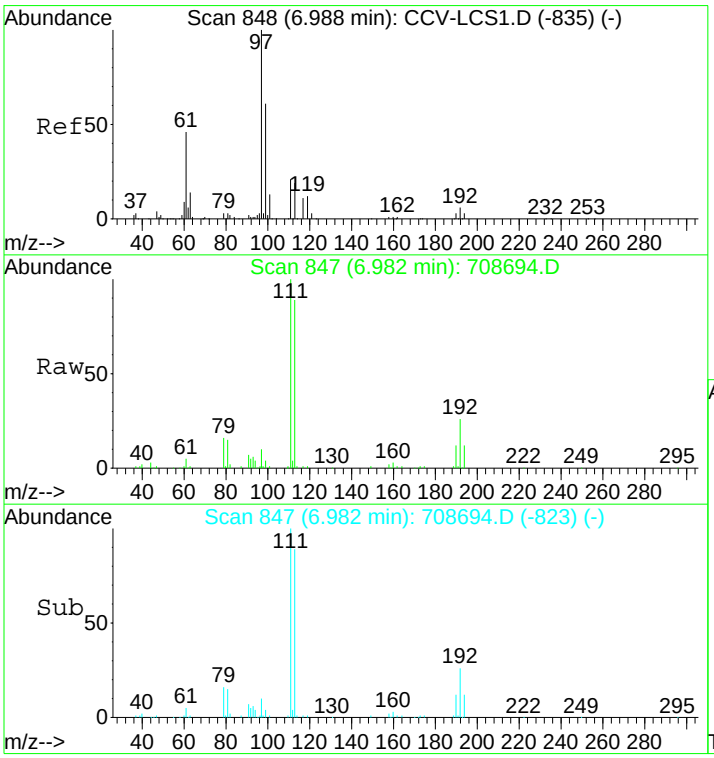


#32
c12dichlorte
Concen: 0.89 ug/L
RT: 6.37 min Scan# 746
Delta R.T. 0.01 min
Lab File: 708694.D
Acq: 21 Apr 2016 12:27

Tgt Ion: 96 Resp: 14709

Ion	Ratio	Lower	Upper
96	100		
61	126.7	131.5	171.5#
98	60.3	45.4	85.4

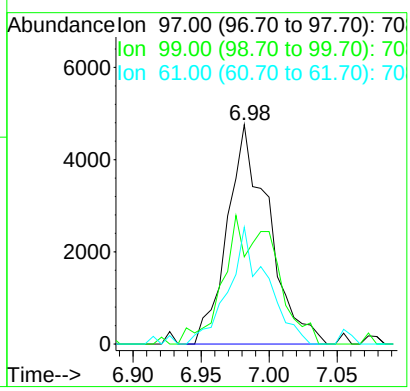


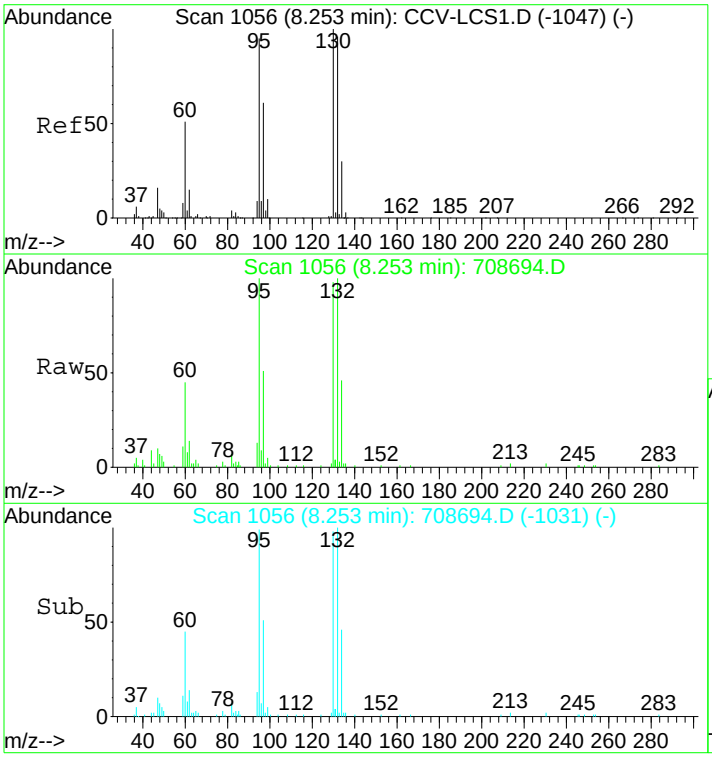


#40
111trichlota
Concen: 0.42 ug/L
RT: 6.98 min Scan# 847
Delta R.T. -0.01 min
Lab File: 708694.D
Acq: 21 Apr 2016 12:27

Tgt Ion: 97 Resp: 10150

Ion	Ratio	Lower	Upper
97	100		
99	71.7	44.2	84.2
61	48.4	25.6	65.6

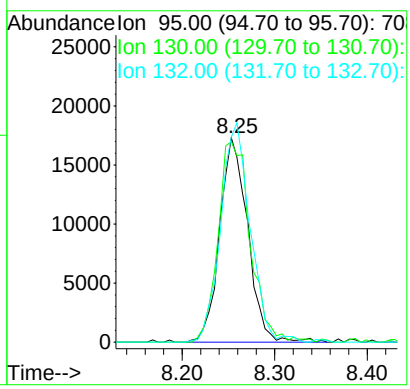




#49
trichloroete
Concen: 2.19 ug/L
RT: 8.25 min Scan# 1056
Delta R.T. 0.00 min
Lab File: 708694.D
Acq: 21 Apr 2016 12:27

Tgt Ion: 95 Resp: 36531

Ion	Ratio	Lower	Upper
95	100		
130	112.3	85.2	125.2
132	112.5	82.7	122.7



Quantitation Report

Data File : C:\INSTARCH\DATA\APR2116\708696.D Vial: 10
Acq On : 21 Apr 2016 12:55 Operator: RLD-AGK
Sample : 124904,708696, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 13:16:19 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:59:39 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.80	96	1438740	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.73	117	1167326	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	15.04	152	620798	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.96	113	392826	20.074	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100 %			
45) SURR12DCAd4	7.37	102	93159	19.881	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 99 %			
61) SURRd8Tolule	9.80	98	1384911	20.208	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101 %			
83) SURR4BrFBenz	13.38	95	523543	19.731	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 99 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	2.13	50	2559	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	2.81	94	1732	N.D.		
6) Chloroethane	2.84	64	13851	1.4112	ug/L #	43
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	3.31	101	7504	0.3070	ug/L #	84
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	4.16	43	6780	N.D.		
16) Iodomethane	4.27	142	1200	2.5360	ug/L #	42
17) Carbon Dislf	4.30	76	4853	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	4.92	59	1757	N.D.		
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	5.62	63	2895	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	0.00	42	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\APR2116\708696.D Vial: 10
Acq On : 21 Apr 2016 12:55 Operator: RLD-AGK
Sample : 124904,708696, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 13:16:19 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:59:39 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	6.76	83	13560	0.5118 ug/L	97
40)	111trichlota	6.99	97	1811	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	7.20	119	107384	5.5386 ug/L	99
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	0.00	78	0	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	8.26	95	16594	1.0222 ug/L	96
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	0.00	92	0	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	11.73	91	2116	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	0.00	106	0	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	13.38	55	1220	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	0.00	105	0	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	15.07	146	1135	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	15.60	91	2291	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\APR2116\708696.D Vial: 10
Acq On : 21 Apr 2016 12:55 Operator: RLD-AGK
Sample : 124904,708696, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 13:16:19 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:59:39 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	0.00	128	0	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

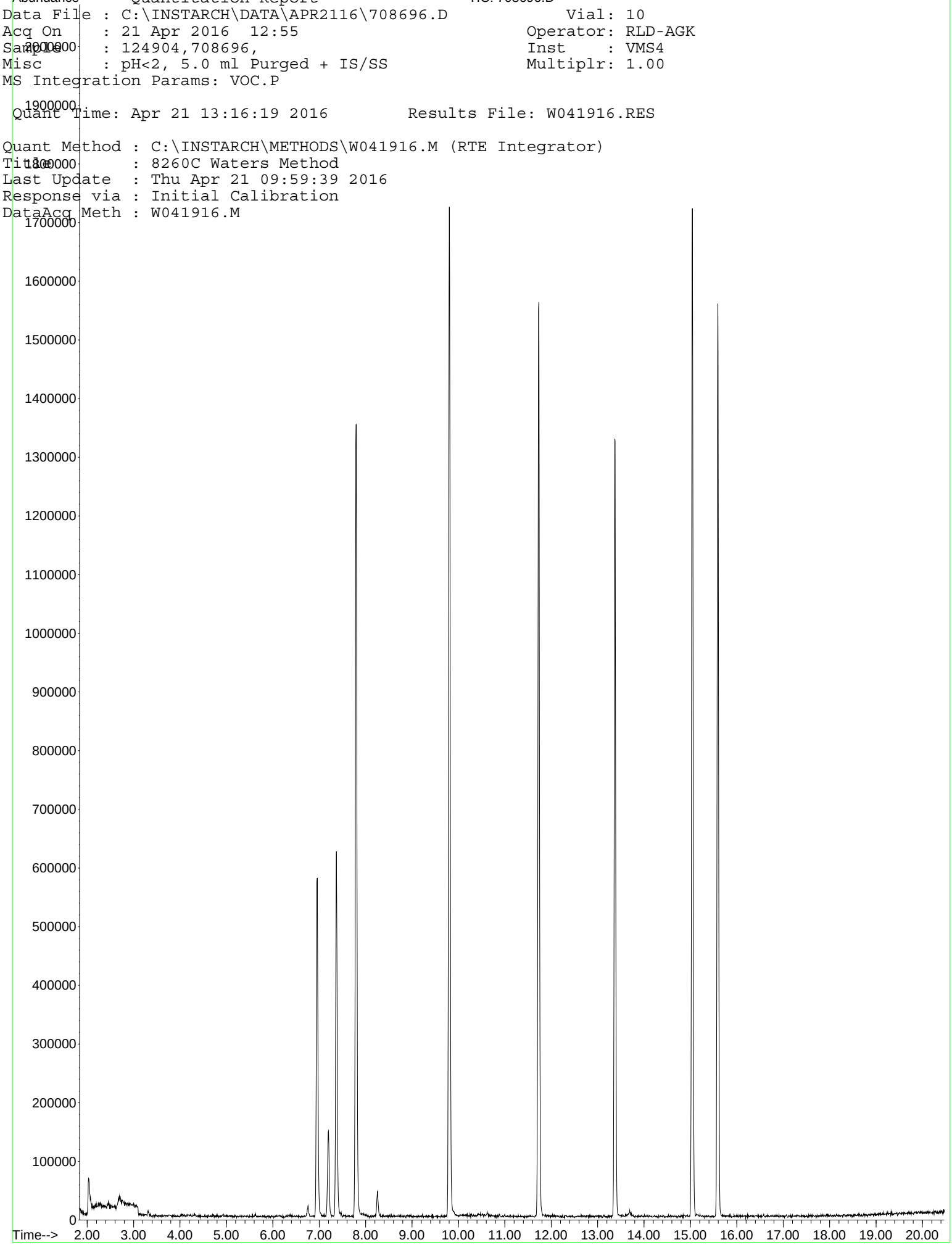
(#) = qualifier out of range (m) = manual integration

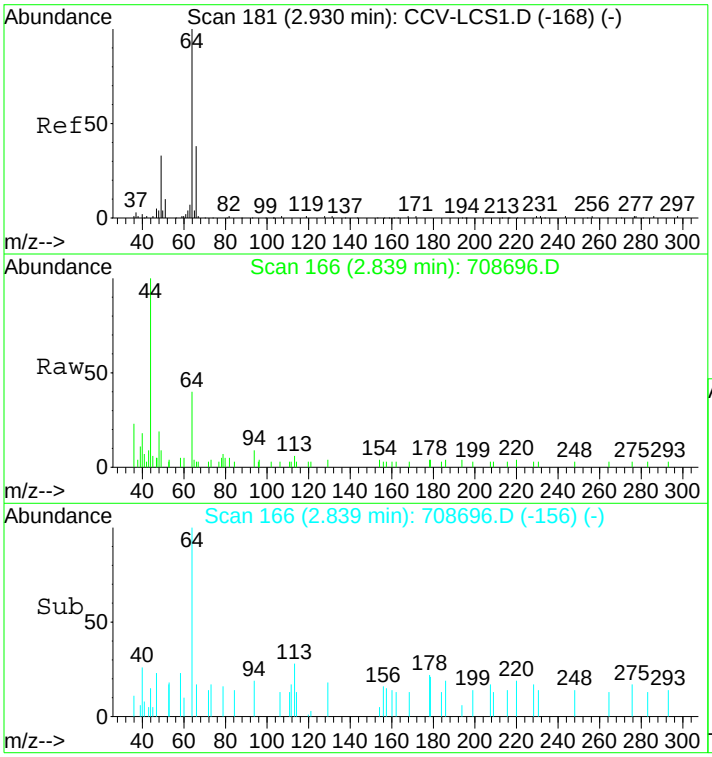
Abundance Quantitation Report TIC: 708696.D

Data File : C:\INSTARCH\DATA\APR2116\708696.D Vial: 10
Acq On : 21 Apr 2016 12:55 Operator: RLD-AGK
Sample : 124904,708696, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 13:16:19 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:59:39 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

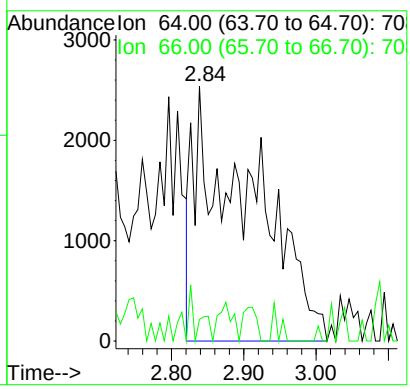


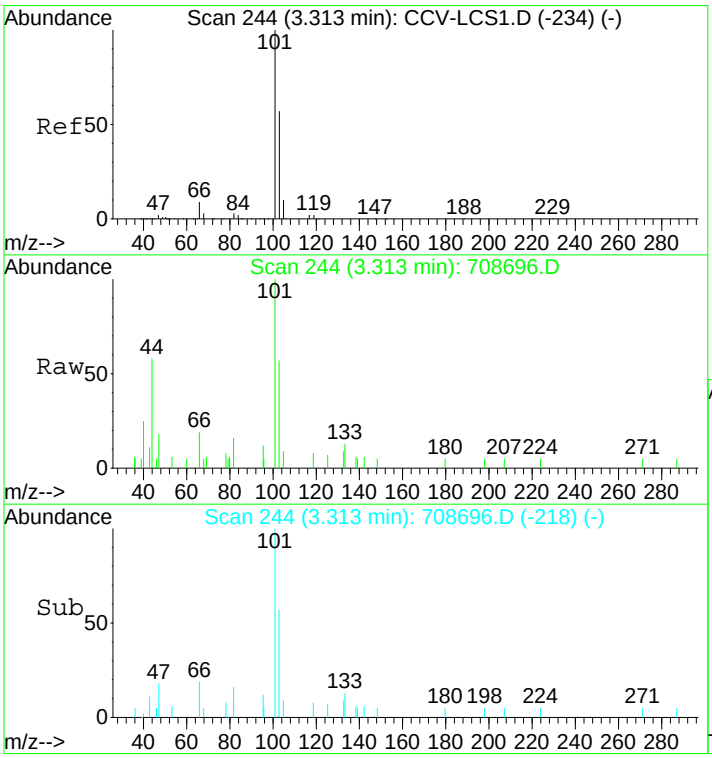


#6
Chloroethane
Concen: 1.41 ug/L
RT: 2.84 min Scan# 166
Delta R.T. -0.09 min
Lab File: 708696.D
Acq: 21 Apr 2016 12:55

Tgt Ion: 64 Resp: 13851

Ion	Ratio	Lower	Upper
64	100		
66	0.0	11.9	51.9#

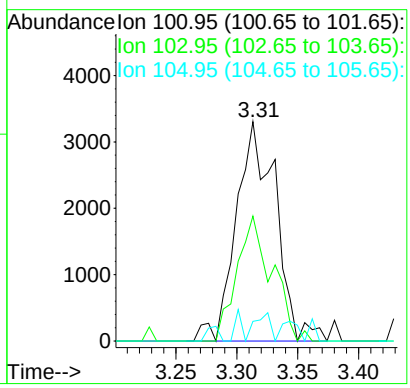


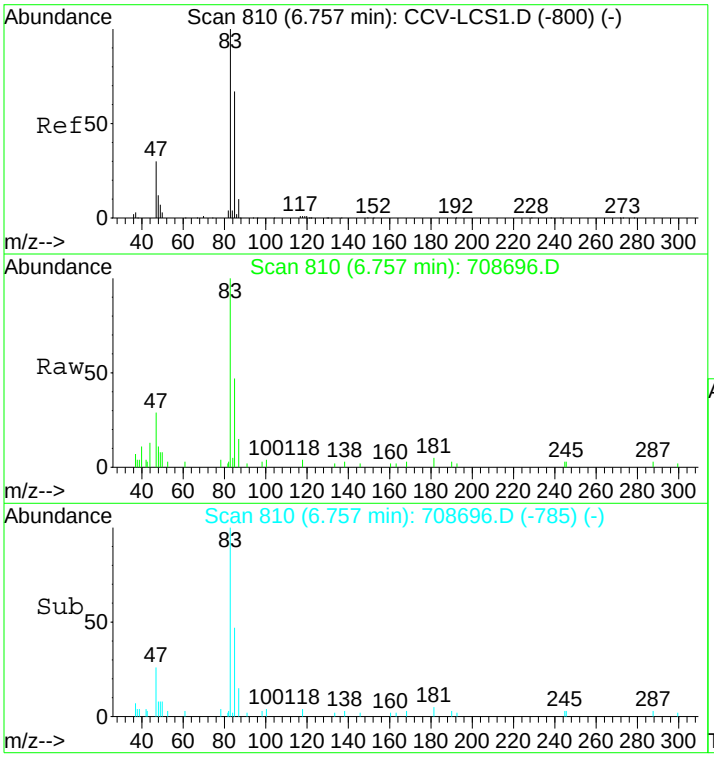


#8
Trichlorofma
Concen: 0.31 ug/L
RT: 3.31 min Scan# 244
Delta R.T. 0.01 min
Lab File: 708696.D
Acq: 21 Apr 2016 12:55

Tgt Ion:101 Resp: 7504

Ion	Ratio	Lower	Upper
101	100		
103	50.3	41.3	81.3
105	0.0	0.0	30.3

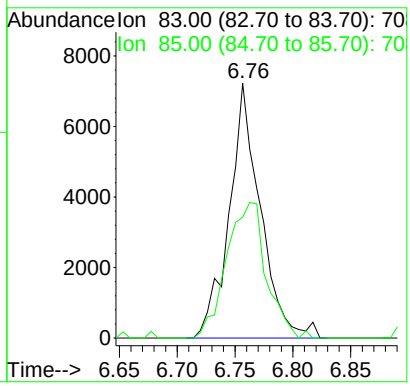


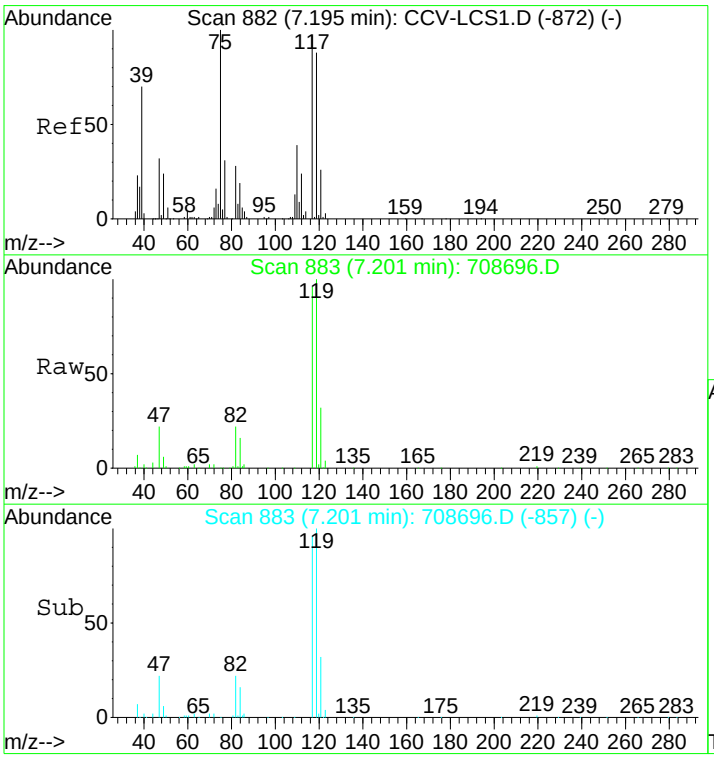


#39
Chloroform
Concen: 0.51 ug/L
RT: 6.76 min Scan# 810
Delta R.T. -0.00 min
Lab File: 708696.D
Acq: 21 Apr 2016 12:55

Tgt Ion: 83 Resp: 13560

Ion	Ratio	Lower	Upper
83	100		
85	67.7	45.4	85.4

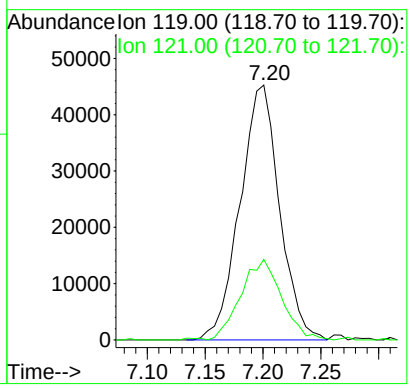


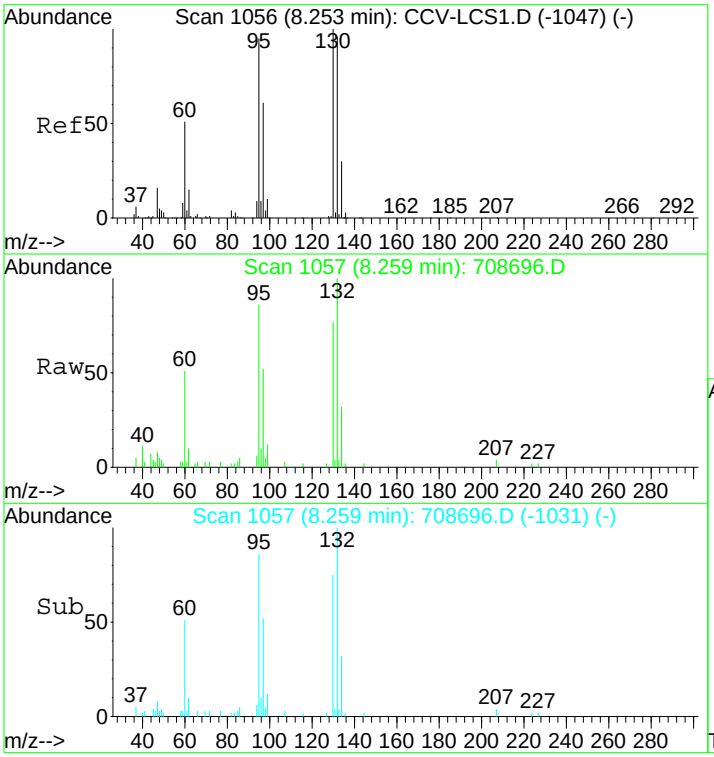


#43
Carbtetraclo
Concen: 5.54 ug/L
RT: 7.20 min Scan# 883
Delta R.T. 0.01 min
Lab File: 708696.D
Acq: 21 Apr 2016 12:55

Tgt Ion:119 Resp: 107384

Ion	Ratio	Lower	Upper
119	100		
121	32.6	13.1	53.1

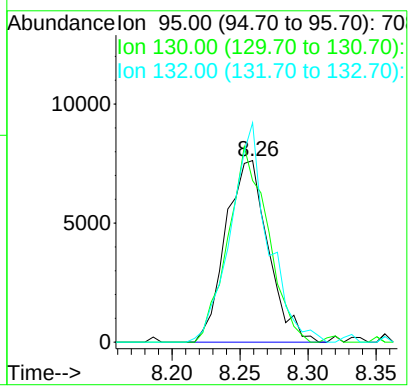




#49
trichloroete
Concen: 1.02 ug/L
RT: 8.26 min Scan# 1057
Delta R.T. 0.01 min
Lab File: 708696.D
Acq: 21 Apr 2016 12:55

Tgt Ion: 95 Resp: 16594

Ion	Ratio	Lower	Upper
95	100		
130	100.8	85.2	125.2
132	106.2	82.7	122.7



Quantitation Report

Data File : C:\INSTARCH\DATA\APR2116\708698.D Vial: 11
Acq On : 21 Apr 2016 13:23 Operator: RLD-AGK
Sample : 124904,708698, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 13:44:29 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:59:39 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.80	96	1455748	20.00 ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.73	117	1181604	20.00 ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	15.04	152	625929	20.00 ug/L	0.00 NA%
System Monitoring Compounds					
41) SURRDibrflma	6.95	113	407515	20.581 ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 103 %		
45) SURR12DCAd4	7.36	102	96529	20.359 ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 102 %		
61) SURRd8Tolule	9.80	98	1395554	20.126 ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101 %		
83) SURR4BrFBenz	13.38	95	536317	20.046 ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 100 %		
Target Compounds					Qvalue
2) Dichlorodi	0.00	85	0	N.D.	
3) Chloromethan	2.13	50	1919	N.D.	
4) VinylChlorid	0.00	62	0	N.D.	
5) Bromomethane	2.78	94	1157	N.D.	
6) Chloroethane	2.89	64	15527	1.5635 ug/L #	43
7) Dichloroflmethane	0.00	67	0	N.D.	
8) Trichlorofma	0.00	101	0	N.D.	
9) Ethylether	3.76	59	7322	0.5606 ug/L	81
10) dichlorotfluoroethan	0.00	67	0	N.D.	
11) propyleneoxide	0.00	58	0	N.D.	
12) Acrolein	0.00	56	0	N.D.	
13) 11dichlorthe	0.00	96	0	N.D.	
14) Trichlorotfluoroeth	0.00	101	0	N.D.	
15) Acetone	4.16	43	56576	5.6694 ug/L	99
16) Iodomethane	4.24	142	1064	2.5251 ug/L #	42
17) Carbon Dislf	4.32	76	4156	N.D.	
18) allylchloride	0.00	41	0	N.D.	
19) methylacetate	0.00	74	0	N.D.	
20) Methylchlorid	4.72	84	20362	1.2568 ug/L #	85
21) tbutylalcohol	4.94	59	3094	N.D.	
22) Acrylonitrile	0.00	53	0	N.D.	
23) t12dichlorte	0.00	96	0	N.D.	
24) MtBE	0.00	73	0	N.D.	
25) Hexane	0.00	57	0	N.D.	
26) 11dichlorota	0.00	63	0	N.D.	
27) Vinylacetate	0.00	43	0	N.D.	
28) chloroprene	0.00	53	0	N.D.	
29) Diisopether	0.00	45	0	N.D.	
30) ETBE	0.00	59	0	N.D.	
31) 22dichloropr	0.00	77	0	N.D.	
32) c12dichlorte	0.00	96	0	N.D.	
33) 2Butanone	0.00	72	0	N.D.	
34) propionitrile	0.00	54	0	N.D.	
35) Ethylacetate	6.48	88	3747	5.2786 ug/L	92
36) methacrylonitrile	0.00	67	0	N.D.	
37) Bromochlorma	0.00	128	0	N.D.	
38) Tetrahydofur	6.74	42	2438	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\APR2116\708698.D Vial: 11
Acq On : 21 Apr 2016 13:23 Operator: RLD-AGK
Sample : 124904,708698, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 13:44:29 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:59:39 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	0.00	119	0	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	7.45	78	2989	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	0.00	95	0	N.D.	
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	9.90	92	6689	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	11.73	91	2578	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	11.93	91	2404	N.D.	
76)	m p-Xylene	12.08	106	2688	N.D.	
77)	o-Xylene	12.64	106	1694	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	13.37	55	2084	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	13.89	105	1486	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	14.55	105	3720	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	15.07	146	1449	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	15.58	91	2165	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\APR2116\708698.D Vial: 11
Acq On : 21 Apr 2016 13:23 Operator: RLD-AGK
Sample : 124904,708698, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 13:44:29 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:59:39 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	18.16	128	2317	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

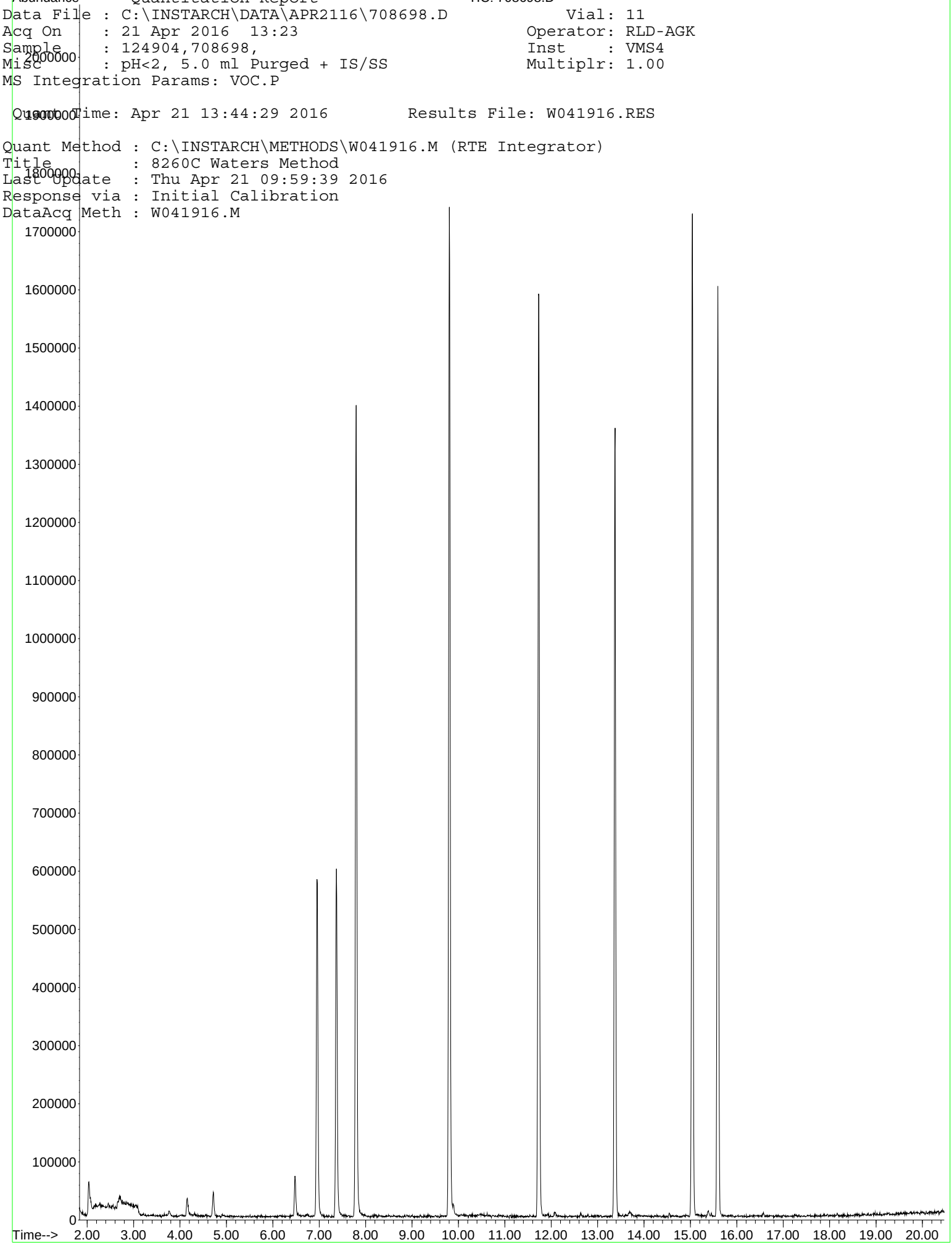
(#) = qualifier out of range (m) = manual integration

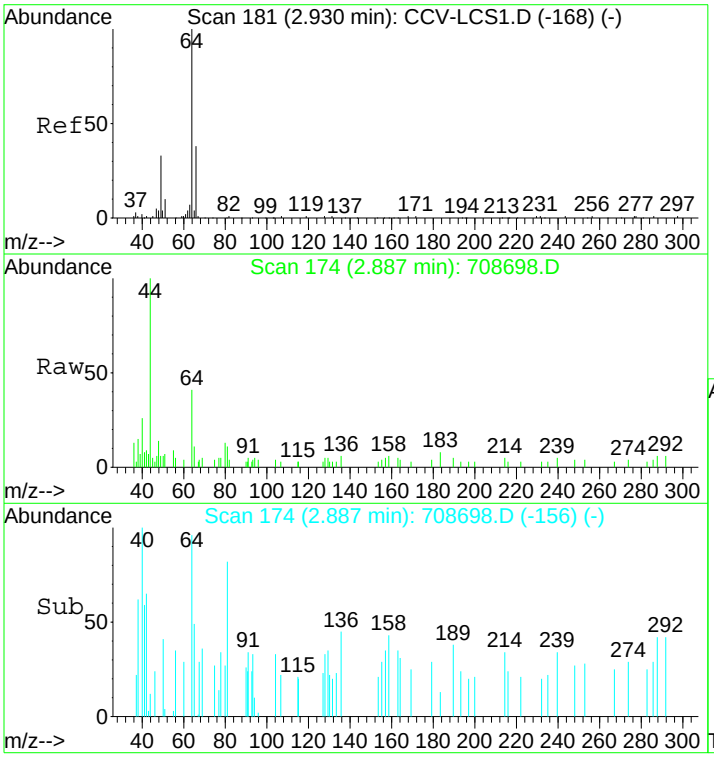
Abundance Quantitation Report TIC: 708698.D

Data File : C:\INSTARCH\DATA\APR2116\708698.D Vial: 11
Acq On : 21 Apr 2016 13:23 Operator: RLD-AGK
Sample : 124904,708698, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 13:44:29 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:59:39 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

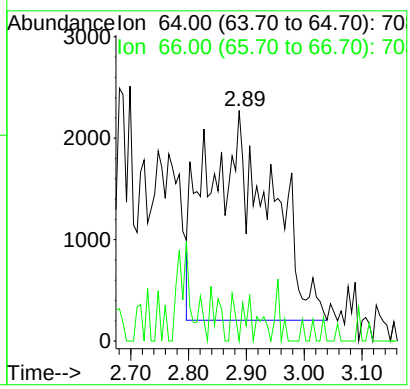


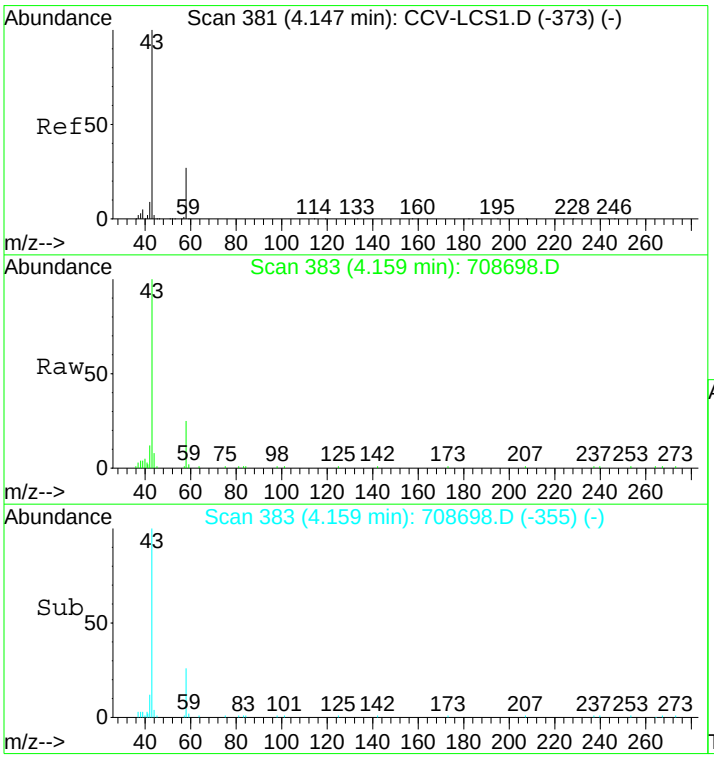


#6
Chloroethane
Concen: 1.56 ug/L
RT: 2.89 min Scan# 174
Delta R.T. -0.04 min
Lab File: 708698.D
Acq: 21 Apr 2016 13:23

Tgt Ion: 64 Resp: 15527

Ion	Ratio	Lower	Upper
64	100		
66	0.0	11.9	51.9#

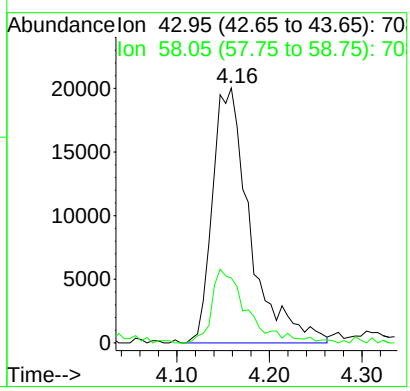


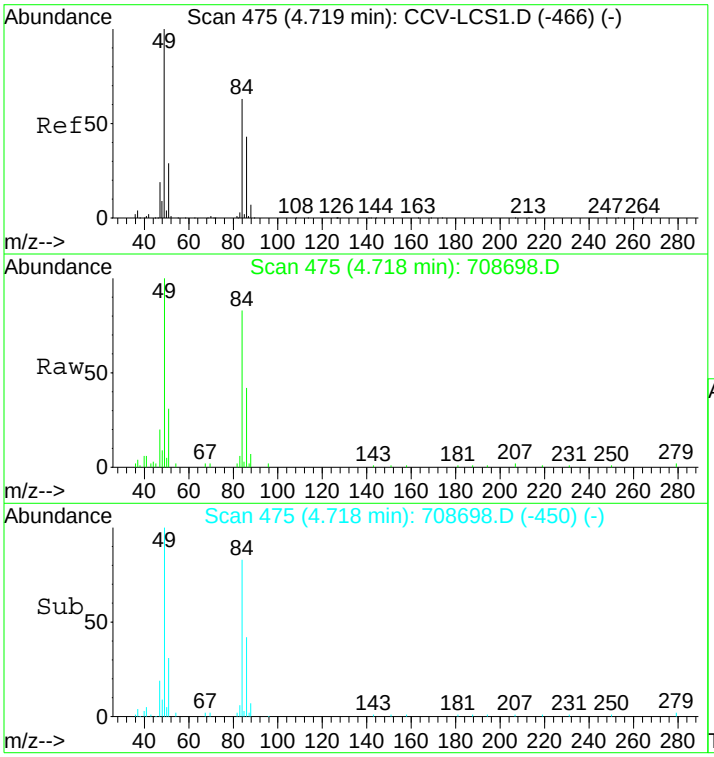


#15
Acetone
Concen: 5.67 ug/L
RT: 4.16 min Scan# 383
Delta R.T. 0.02 min
Lab File: 708698.D
Acq: 21 Apr 2016 13:23

Tgt Ion: 43 Resp: 56576

Ion	Ratio	Lower	Upper
43	100		
58	27.4	7.7	47.7

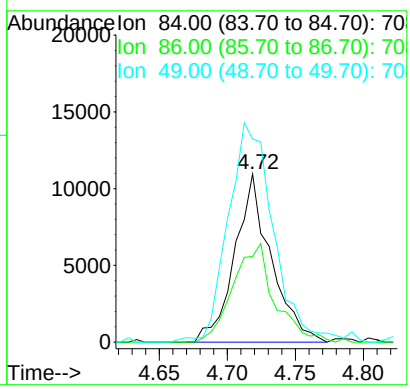




#20
Methylchlorid
Concen: 1.26 ug/L
RT: 4.72 min Scan# 475
Delta R.T. -0.00 min
Lab File: 708698.D
Acq: 21 Apr 2016 13:23

Tgt Ion: 84 Resp: 20362

Ion	Ratio	Lower	Upper
84	100		
86	66.7	45.2	85.2
49	163.6	118.8	158.8#



Quantitation Report

Data File : C:\INSTARCH\DATA\APR2116\708700.D Vial: 12
Acq On : 21 Apr 2016 13:52 Operator: RLD-AGK
Sample : 124904,708700, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 14:12:33 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:59:39 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.80	96	1435859	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.73	117	1173997	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	15.04	152	624190	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.95	113	397149	20.336	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 102 %			
45) SURR12DCAd4	7.36	102	97606	20.872	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 104 %			
61) SURRd8Tolule	9.80	98	1378302	20.152	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101 %			
83) SURR4BrFBenz	13.37	95	528043	19.792	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 99 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	2.13	50	1206	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	2.78	94	1390	N.D.		
6) Chloroethane	2.94	64	17687	1.8057	ug/L #	43
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	4.18	43	5408	N.D.		
16) Iodomethane	4.24	142	1063	2.5261	ug/L #	42
17) Carbon Dislf	4.30	76	3842	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	0.00	59	0	N.D.		
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	0.00	42	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\APR2116\708700.D Vial: 12
Acq On : 21 Apr 2016 13:52 Operator: RLD-AGK
Sample : 124904,708700, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 14:12:33 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:59:39 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.		
40)	111trichlota	0.00	97	0	N.D.		
42)	Cyclohexane	0.00	56	0	N.D.		
43)	Carbtetraclo	0.00	119	0	N.D.		
44)	11dicloprope	0.00	110	0	N.D.		
46)	Benzene	0.00	78	0	N.D.		
47)	12dichlorota	0.00	62	0	N.D.		
48)	TAME	0.00	73	0	N.D.		
49)	trichloroete	8.26	95	13013	0.8032	ug/L	91
50)	methylcyclohexane	0.00	83	0	N.D.		
51)	12dicloropra	0.00	63	0	N.D.		
52)	23Dicl1propene	0.00	75	0	N.D.		
53)	Dibromometha	0.00	93	0	N.D.		
54)	methylmethacrylate	0.00	69	0	N.D.		
55)	14dioxane	0.00	88	0	N.D.		
56)	Bromodiclrma	0.00	83	0	N.D.		
57)	2Nitropropane	0.00	43	0	N.D.		
58)	2CLEVE	0.00	63	0	N.D.		
59)	c13dicloproe	0.00	75	0	N.D.		
60)	4Meth2Pentan	0.00	43	0	N.D.		
62)	Toluene	9.88	92	1082	N.D.		
63)	t13Dicloprop	0.00	75	0	N.D.		
64)	ethylmethacrylate	0.00	69	0	N.D.		
65)	112Triclotha	0.00	83	0	N.D.		
66)	Tetrachlorte	0.00	166	0	N.D.		
67)	13Diclorpropa	0.00	76	0	N.D.		
69)	2Hexanone	0.00	43	0	N.D.		
70)	Clorodibrmta	0.00	129	0	N.D.		
71)	12Dibrometha	0.00	107	0	N.D.		
72)	Chlorobenzen	0.00	112	0	N.D.		
73)	1Clhexane	11.73	91	2309	N.D.		
74)	1112Tetclota	0.00	131	0	N.D.		
75)	Ethylbenzene	0.00	91	0	N.D.		
76)	m p-Xylene	0.00	106	0	N.D.		
77)	o-Xylene	0.00	106	0	N.D.		
78)	Styrene	0.00	104	0	N.D.		
79)	Bromoform	0.00	173	0	N.D.		
80)	Isopropylben	0.00	105	0	N.D.		
81)	cyclohexanone	13.37	55	1948	N.D.		
84)	Bromobenzene	0.00	156	0	N.D.		
85)	1122Tetrclta	0.00	83	0	N.D.		
86)	123Triclproa	0.00	75	0	N.D.		
87)	14dichloro2butene	0.00	53	0	N.D.		
88)	n-Propylbenz	0.00	91	0	N.D.		
89)	2chlorotolue	0.00	91	0	N.D.		
90)	4chlorotolue	0.00	91	0	N.D.		
91)	135Trimebenz	0.00	105	0	N.D.		
92)	tbutylbenzen	0.00	119	0	N.D.		
93)	124Trimetben	0.00	105	0	N.D.		
94)	sbutylbenzen	0.00	105	0	N.D.		
95)	13Diclorbenz	0.00	146	0	N.D.		
96)	pIsopropylto	0.00	119	0	N.D.		
97)	14dichlorobe	0.00	146	0	N.D.		
98)	12dichlorobe	0.00	146	0	N.D.		
99)	nButylbenzen	15.59	91	1989	N.D.		
100)	12dibromo3cl	0.00	157	0	N.D.		
101)	135Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\APR2116\708700.D Vial: 12
Acq On : 21 Apr 2016 13:52 Operator: RLD-AGK
Sample : 124904,708700, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 14:12:33 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:59:39 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	0.00	128	0	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

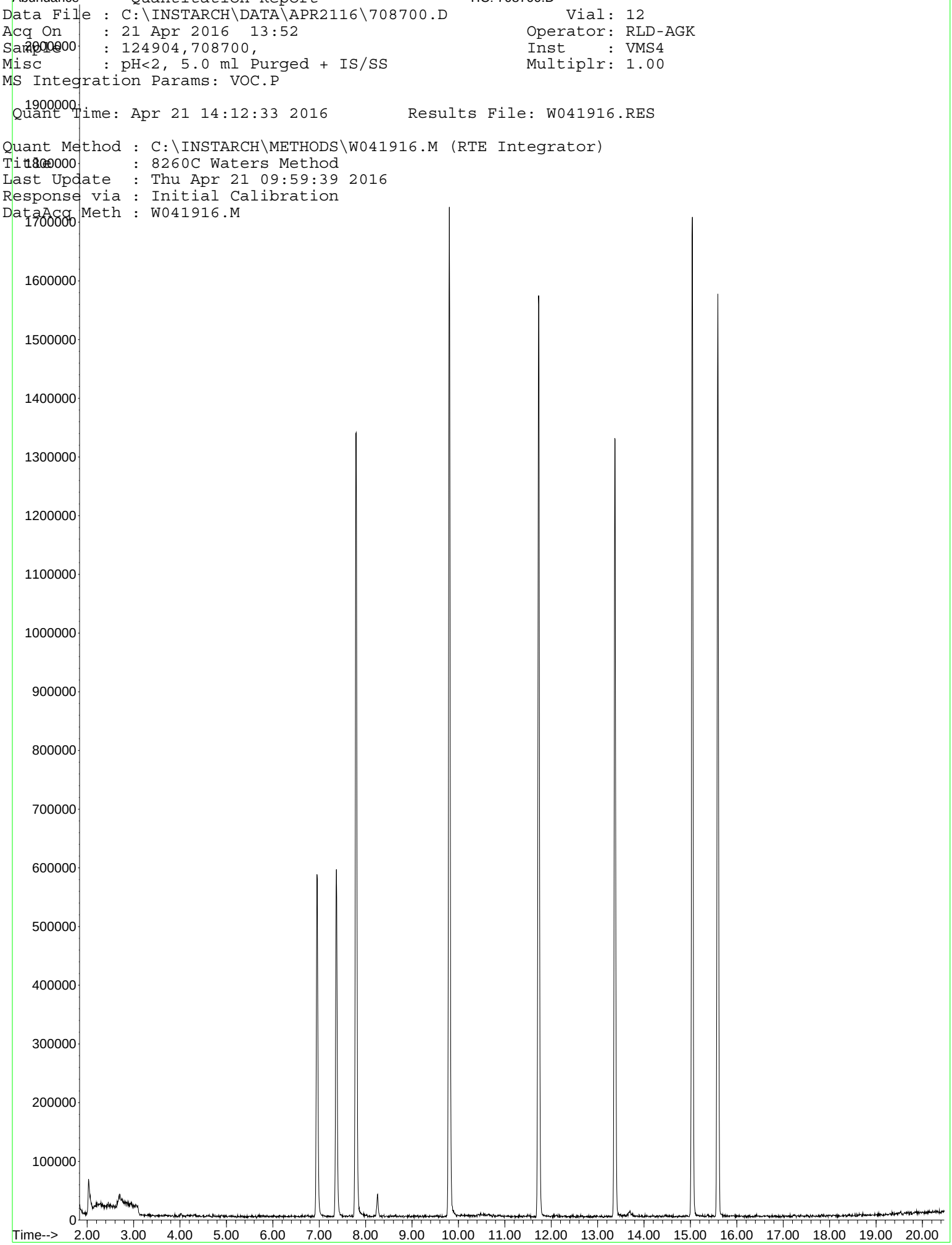
(#) = qualifier out of range (m) = manual integration

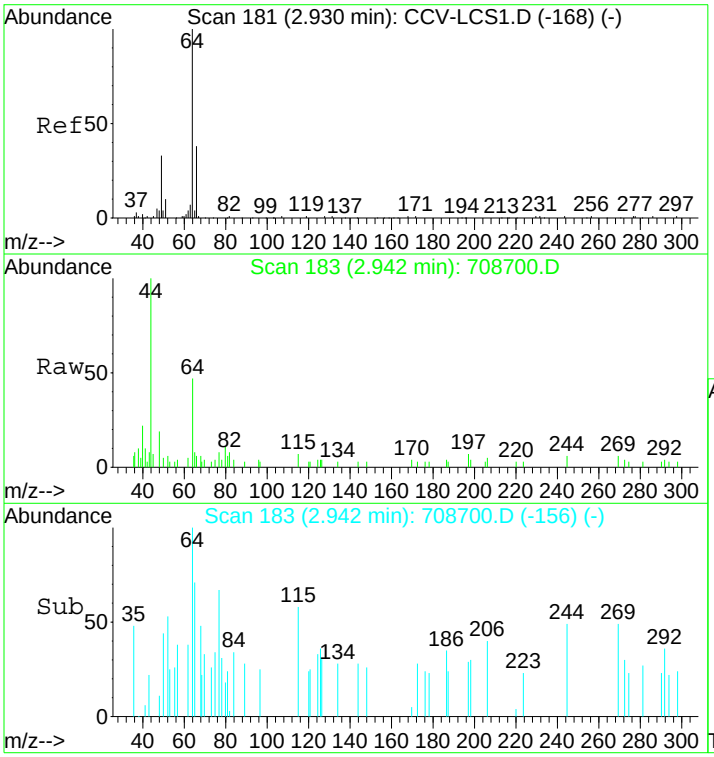
Abundance Quantitation Report TIC: 708700.D

Data File : C:\INSTARCH\DATA\APR2116\708700.D Vial: 12
Acq On : 21 Apr 2016 13:52 Operator: RLD-AGK
Sample : 124904,708700, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 14:12:33 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:59:39 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

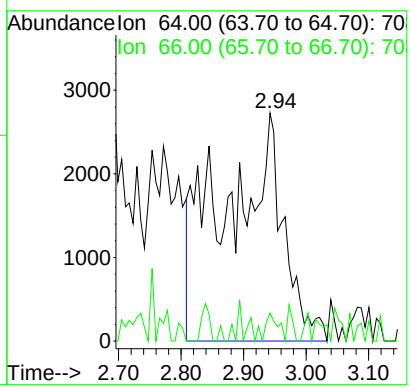


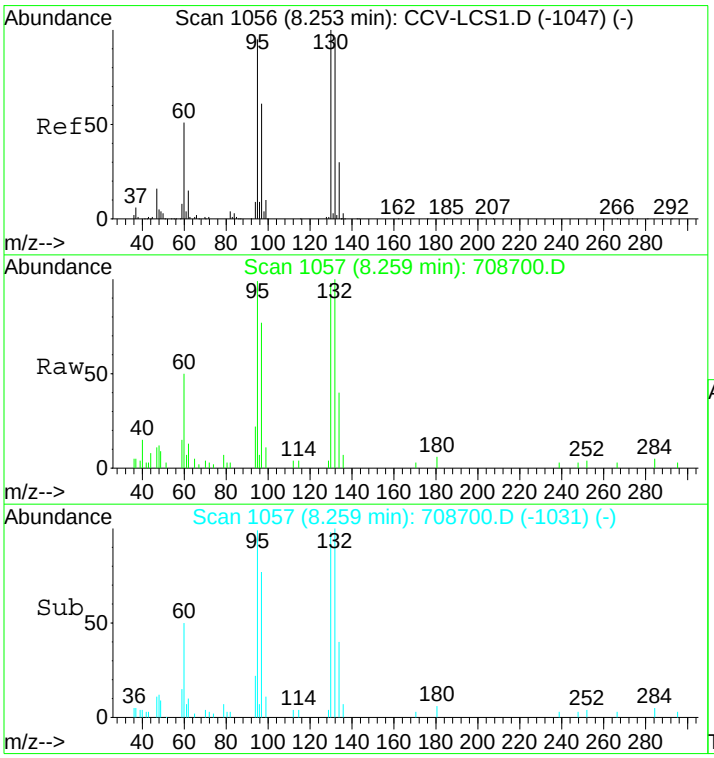


#6
Chloroethane
Concen: 1.81 ug/L
RT: 2.94 min Scan# 183
Delta R.T. 0.01 min
Lab File: 708700.D
Acq: 21 Apr 2016 13:52

Tgt Ion: 64 Resp: 17687

Ion	Ratio	Lower	Upper
64	100		
66	0.0	11.9	51.9#

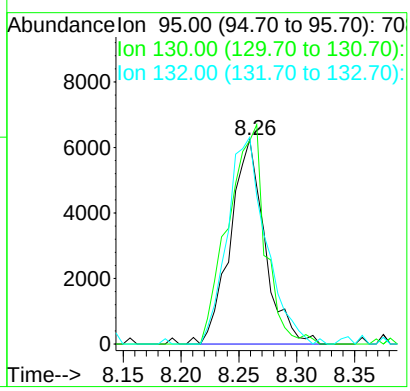




#49
trichloroete
Concen: 0.80 ug/L
RT: 8.26 min Scan# 1057
Delta R.T. 0.01 min
Lab File: 708700.D
Acq: 21 Apr 2016 13:52

Tgt Ion: 95 Resp: 13013

Ion	Ratio	Lower	Upper
95	100		
130	114.4	85.2	125.2
132	112.7	82.7	122.7



Quantitation Report

Data File : C:\INSTARCH\DATA\APR2116\708707.D Vial: 13
Acq On : 21 Apr 2016 14:20 Operator: RLD-AGK
Sample : 124904,708707, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 14:40:46 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:59:39 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.80	96	1441747	20.00 ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.73	117	1179150	20.00 ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	15.04	152	624170	20.00 ug/L	0.00 NA%
System Monitoring Compounds					
41) SURRDibrflma	6.96	113	407270	20.769 ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 104 %		
45) SURR12DCAd4	7.37	102	98795	21.040 ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 105 %		
61) SURRd8Tolule	9.80	98	1392363	20.275 ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101 %		
83) SURR4BrFBenz	13.37	95	524538	19.661 ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 98 %		
Target Compounds					Qvalue
2) Dichlorodi	0.00	85	0	N.D.	
3) Chloromethan	2.13	50	1711	N.D.	
4) VinylChlorid	0.00	62	0	N.D.	
5) Bromomethane	2.77	94	1150	N.D.	
6) Chloroethane	2.92	64	30054	3.0557 ug/L #	43
7) Dichloroflmethane	0.00	67	0	N.D.	
8) Trichlorofma	0.00	101	0	N.D.	
9) Ethylether	0.00	59	0	N.D.	
10) dichlorotfluoroethan	0.00	67	0	N.D.	
11) propyleneoxide	0.00	58	0	N.D.	
12) Acrolein	0.00	56	0	N.D.	
13) 11dichlorthe	0.00	96	0	N.D.	
14) Trichlorotfluoroeth	0.00	101	0	N.D.	
15) Acetone	4.17	43	5633	N.D.	
16) Iodomethane	4.23	142	1176	2.5341 ug/L #	42
17) Carbon Dislf	4.32	76	3760	N.D.	
18) allylchloride	0.00	41	0	N.D.	
19) methylacetate	0.00	74	0	N.D.	
20) Methylchlorid	4.72	84	1167	N.D.	
21) tbutylalcohol	0.00	59	0	N.D.	
22) Acrylonitrile	0.00	53	0	N.D.	
23) t12dichlorte	0.00	96	0	N.D.	
24) MtBE	0.00	73	0	N.D.	
25) Hexane	0.00	57	0	N.D.	
26) 11dichlorota	0.00	63	0	N.D.	
27) Vinylacetate	0.00	43	0	N.D.	
28) chloroprene	0.00	53	0	N.D.	
29) Diisopether	0.00	45	0	N.D.	
30) ETBE	0.00	59	0	N.D.	
31) 22dichloropr	0.00	77	0	N.D.	
32) c12dichlorte	0.00	96	0	N.D.	
33) 2Butanone	0.00	72	0	N.D.	
34) propionitrile	0.00	54	0	N.D.	
35) Ethylacetate	0.00	88	0	N.D.	
36) methacrylonitrile	0.00	67	0	N.D.	
37) Bromochlorma	0.00	128	0	N.D.	
38) Tetrahydofur	0.00	42	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\APR2116\708707.D Vial: 13
Acq On : 21 Apr 2016 14:20 Operator: RLD-AGK
Sample : 124904,708707, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 14:40:46 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:59:39 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	6.76	83	1196	N.D.	
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	7.21	119	2252	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	0.00	78	0	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	0.00	95	0	N.D.	
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	9.90	92	1275	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	11.71	91	2252	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	0.00	106	0	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	13.36	55	1398	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	0.00	105	0	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	15.07	146	1036	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	15.60	91	2005	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\APR2116\708707.D Vial: 13
Acq On : 21 Apr 2016 14:20 Operator: RLD-AGK
Sample : 124904,708707, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 14:40:46 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:59:39 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	0.00	128	0	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

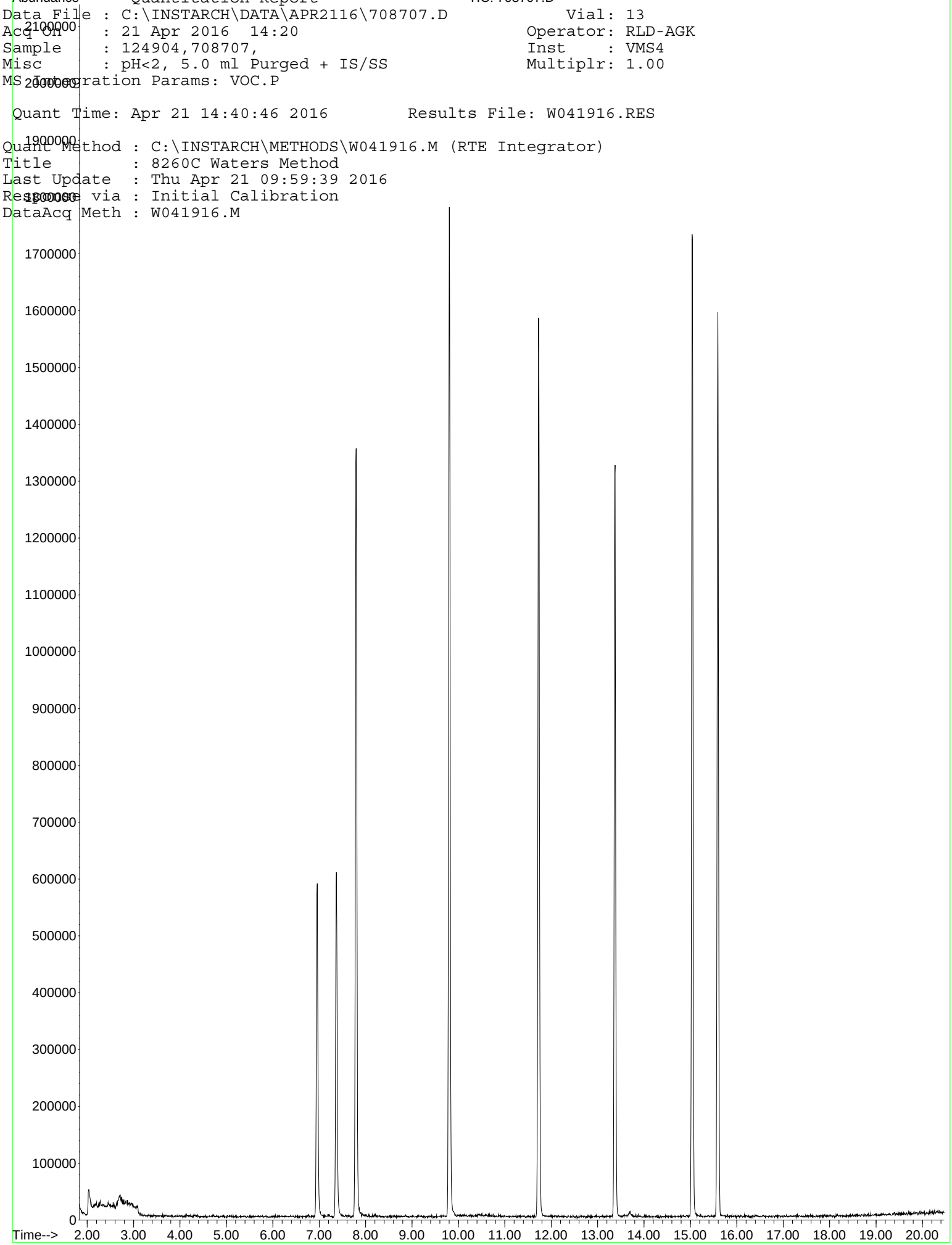
Quantitation Report

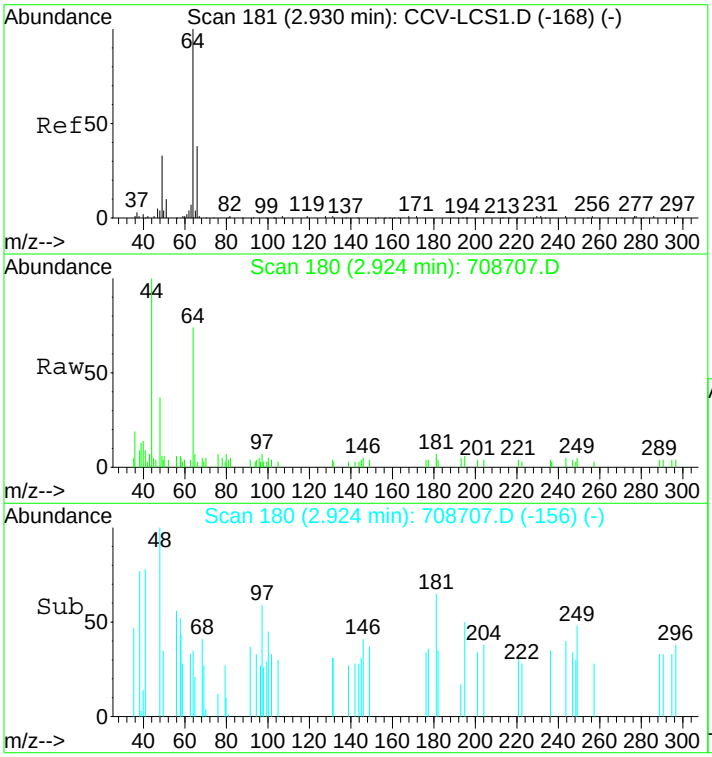
TIC: 708707.D

Data File : C:\INSTARCH\DATA\APR2116\708707.D Vial: 13
Acq On : 21 Apr 2016 14:20 Operator: RLD-AGK
Sample : 124904,708707, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 14:40:46 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:59:39 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

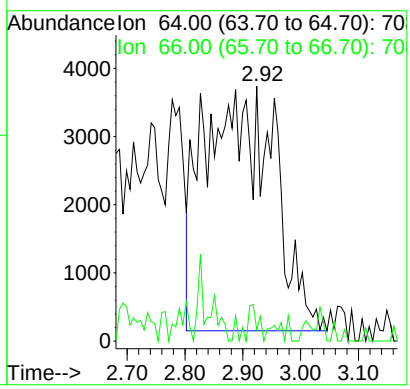




#6
Chloroethane
Concen: 3.06 ug/L
RT: 2.92 min Scan# 180
Delta R.T. -0.01 min
Lab File: 708707.D
Acq: 21 Apr 2016 14:20

Tgt Ion: 64 Resp: 30054

Ion	Ratio	Lower	Upper
64	100		
66	0.0	11.9	51.9#



Quantitation Report

Data File : C:\INSTARCH\DATA\APR2116\708709.D Vial: 14
Acq On : 21 Apr 2016 14:48 Operator: RLD-AGK
Sample : 124904,708709, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 15:09:00 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:59:39 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.80	96	1407826	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.73	117	1137285	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	15.04	152	608164	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.96	113	387665	20.245	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101 %			
45) SURR12DCAd4	7.37	102	94974	20.713	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 104 %			
61) SURRd8Tolule	9.80	98	1355448	20.213	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101 %			
83) SURR4BrFBenz	13.38	95	506219	19.474	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 97 %			

Target Compounds					Qvalue
2) Dichlorodi	0.00	85	0	N.D.	
3) Chloromethan	2.14	50	1874	N.D.	
4) VinylChlorid	0.00	62	0	N.D.	
5) Bromomethane	2.78	94	1356	N.D.	
6) Chloroethane	2.87	64	11700	1.2182 ug/L #	43
7) Dichloroflmethane	0.00	67	0	N.D.	
8) Trichlorofma	0.00	101	0	N.D.	
9) Ethylether	0.00	59	0	N.D.	
10) dichlorotfluoroethan	0.00	67	0	N.D.	
11) propyleneoxide	0.00	58	0	N.D.	
12) Acrolein	0.00	56	0	N.D.	
13) 11dichlorthe	0.00	96	0	N.D.	
14) Trichlorotfluoroeth	0.00	101	0	N.D.	
15) Acetone	4.16	43	3737	N.D.	
16) Iodomethane	4.26	142	1848	2.5863 ug/L #	42
17) Carbon Dislf	4.32	76	3157	N.D.	
18) allylchloride	0.00	41	0	N.D.	
19) methylacetate	0.00	74	0	N.D.	
20) Methylchlorid	0.00	84	0	N.D.	
21) tbutylalcohol	0.00	59	0	N.D.	
22) Acrylonitrile	0.00	53	0	N.D.	
23) t12dichlorte	0.00	96	0	N.D.	
24) MtBE	0.00	73	0	N.D.	
25) Hexane	0.00	57	0	N.D.	
26) 11dichlorota	0.00	63	0	N.D.	
27) Vinylacetate	0.00	43	0	N.D.	
28) chloroprene	0.00	53	0	N.D.	
29) Diisopether	0.00	45	0	N.D.	
30) ETBE	0.00	59	0	N.D.	
31) 22dichloropr	0.00	77	0	N.D.	
32) c12dichlorte	0.00	96	0	N.D.	
33) 2Butanone	0.00	72	0	N.D.	
34) propionitrile	0.00	54	0	N.D.	
35) Ethylacetate	0.00	88	0	N.D.	
36) methacrylonitrile	0.00	67	0	N.D.	
37) Bromochlorma	0.00	128	0	N.D.	
38) Tetrahydofur	0.00	42	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\APR2116\708709.D Vial: 14
Acq On : 21 Apr 2016 14:48 Operator: RLD-AGK
Sample : 124904,708709, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 15:09:00 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:59:39 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.75	83	2974	N.D.		
40)	111trichlota	0.00	97	0	N.D.		
42)	Cyclohexane	0.00	56	0	N.D.		
43)	Carbtetraclo	7.20	119	13876	0.7314	ug/L	93
44)	11dicloprope	0.00	110	0	N.D.		
46)	Benzene	0.00	78	0	N.D.		
47)	12dichlorota	0.00	62	0	N.D.		
48)	TAME	0.00	73	0	N.D.		
49)	trichloroete	0.00	95	0	N.D.		
50)	methylcyclohexane	0.00	83	0	N.D.		
51)	12dicloropra	0.00	63	0	N.D.		
52)	23Dicl1propene	0.00	75	0	N.D.		
53)	Dibromometha	0.00	93	0	N.D.		
54)	methylmethacrylate	0.00	69	0	N.D.		
55)	14dioxane	0.00	88	0	N.D.		
56)	Bromodiclrma	0.00	83	0	N.D.		
57)	2Nitropropane	0.00	43	0	N.D.		
58)	2CLEVE	0.00	63	0	N.D.		
59)	c13dicloproe	0.00	75	0	N.D.		
60)	4Meth2Pentan	0.00	43	0	N.D.		
62)	Toluene	9.90	92	2578	N.D.		
63)	t13Dicloprop	0.00	75	0	N.D.		
64)	ethylmethacrylate	0.00	69	0	N.D.		
65)	112Triclotha	0.00	83	0	N.D.		
66)	Tetrachlorte	0.00	166	0	N.D.		
67)	13Diclorpropa	0.00	76	0	N.D.		
69)	2Hexanone	0.00	43	0	N.D.		
70)	Clorodibrmta	0.00	129	0	N.D.		
71)	12Dibrometha	0.00	107	0	N.D.		
72)	Chlorobenzen	0.00	112	0	N.D.		
73)	1Clhexane	11.73	91	2037	N.D.		
74)	1112Tetclota	0.00	131	0	N.D.		
75)	Ethylbenzene	0.00	91	0	N.D.		
76)	m p-Xylene	12.09	106	2243	N.D.		
77)	o-Xylene	0.00	106	0	N.D.		
78)	Styrene	0.00	104	0	N.D.		
79)	Bromoform	0.00	173	0	N.D.		
80)	Isopropylben	0.00	105	0	N.D.		
81)	cyclohexanone	13.37	55	2067	N.D.		
84)	Bromobenzene	0.00	156	0	N.D.		
85)	1122Tetrclta	0.00	83	0	N.D.		
86)	123Triclproa	0.00	75	0	N.D.		
87)	14dichloro2butene	0.00	53	0	N.D.		
88)	n-Propylbenz	0.00	91	0	N.D.		
89)	2chlorotolue	0.00	91	0	N.D.		
90)	4chlorotolue	0.00	91	0	N.D.		
91)	135Trimebenz	0.00	105	0	N.D.		
92)	tbutylbenzen	0.00	119	0	N.D.		
93)	124Trimetben	0.00	105	0	N.D.		
94)	sbutylbenzen	0.00	105	0	N.D.		
95)	13Diclorbenz	0.00	146	0	N.D.		
96)	pIsopropylto	0.00	119	0	N.D.		
97)	14dichlorobe	0.00	146	0	N.D.		
98)	12dichlorobe	0.00	146	0	N.D.		
99)	nButylbenzen	15.60	91	1429	N.D.		
100)	12dibromo3cl	0.00	157	0	N.D.		
101)	135Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\APR2116\708709.D Vial: 14
Acq On : 21 Apr 2016 14:48 Operator: RLD-AGK
Sample : 124904,708709, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 15:09:00 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:59:39 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	0.00	128	0	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

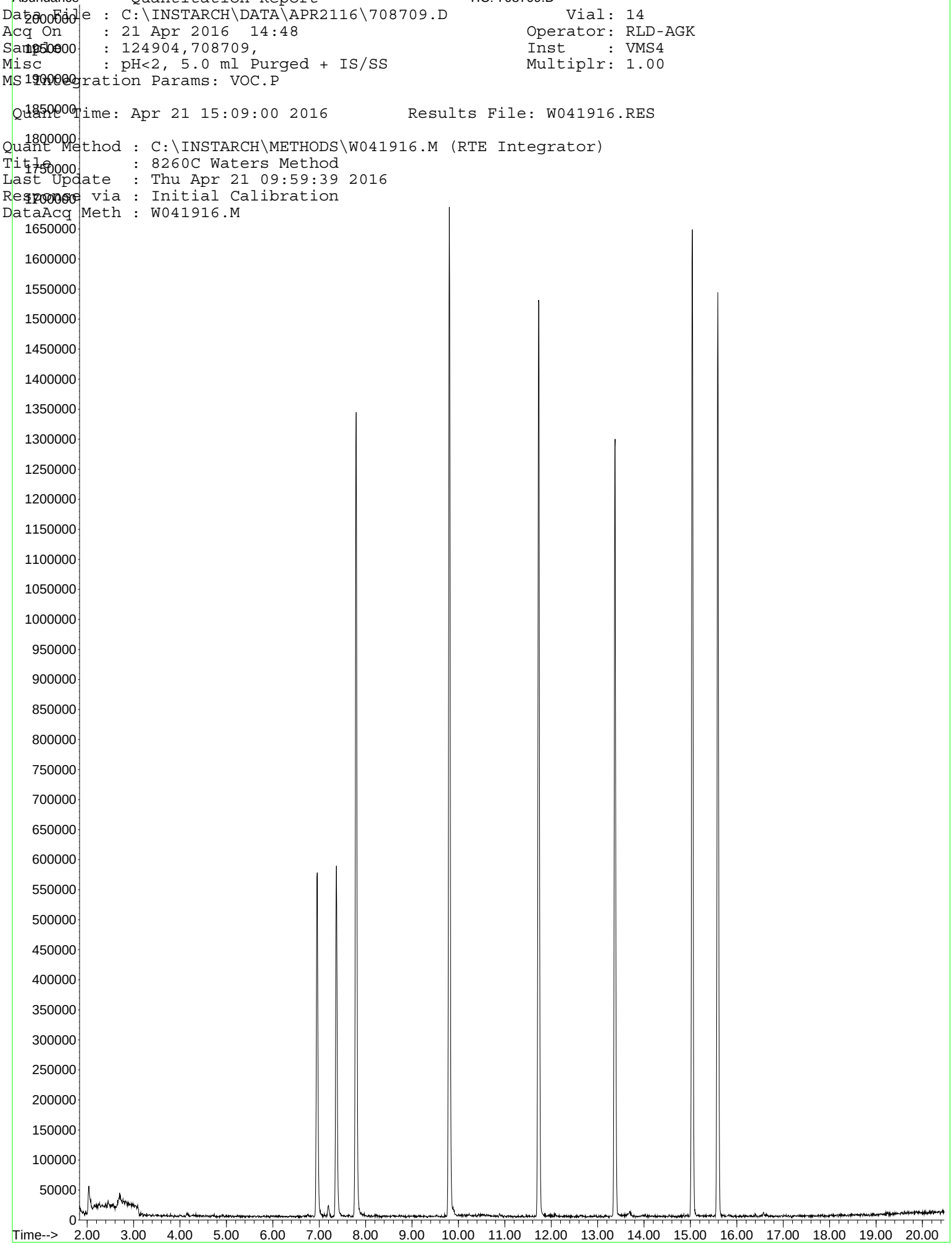
(#) = qualifier out of range (m) = manual integration

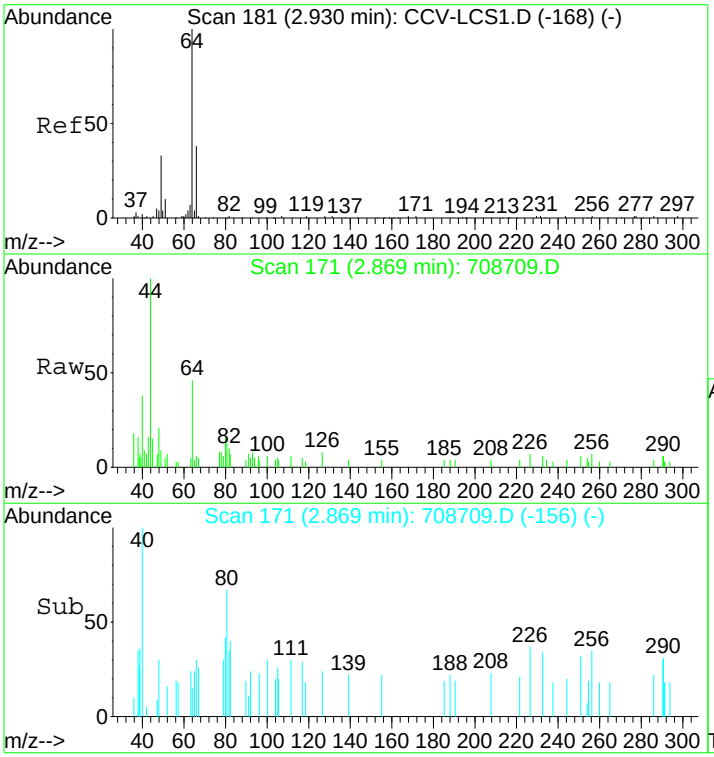
Abundance Quantitation Report TIC: 708709.D

Data File : C:\INSTARCH\DATA\APR2116\708709.D Vial: 14
Acq On : 21 Apr 2016 14:48 Operator: RLD-AGK
Sample : 124904,708709, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 15:09:00 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:59:39 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

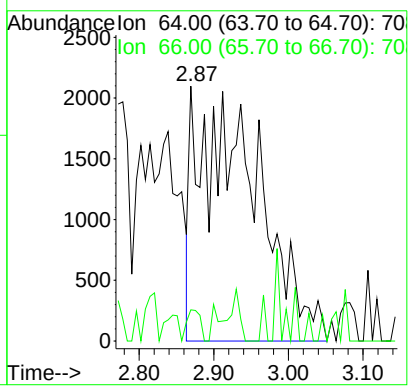


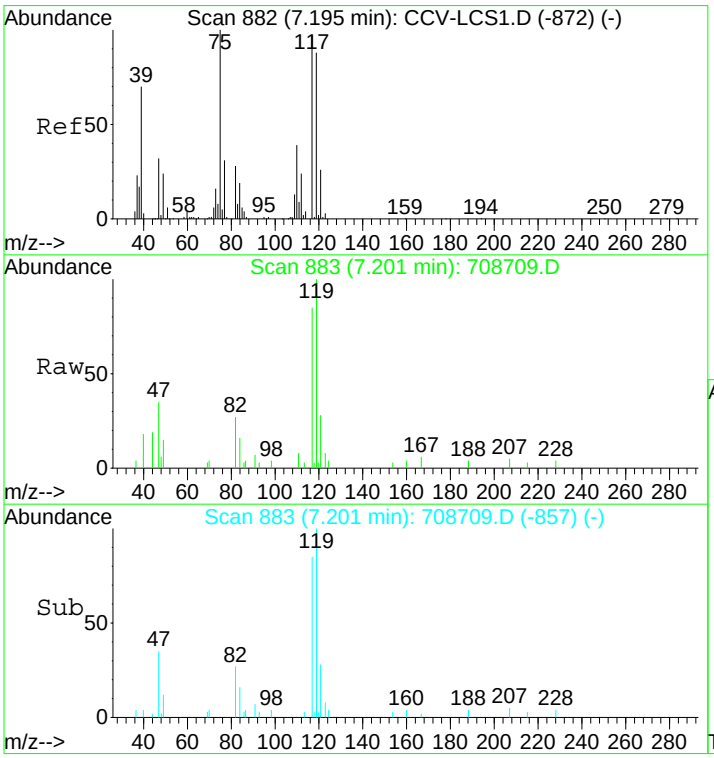


#6
Chloroethane
Concen: 1.22 ug/L
RT: 2.87 min Scan# 171
Delta R.T. -0.06 min
Lab File: 708709.D
Acq: 21 Apr 2016 14:48

Tgt Ion: 64 Resp: 11700

Ion	Ratio	Lower	Upper
64	100		
66	0.0	11.9	51.9#

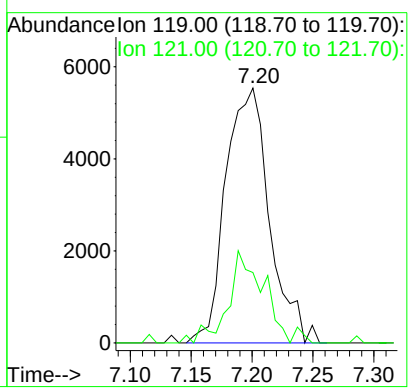




#43
Carbtetraclo
Concen: 0.73 ug/L
RT: 7.20 min Scan# 883
Delta R.T. 0.01 min
Lab File: 708709.D
Acq: 21 Apr 2016 14:48

Tgt Ion:119 Resp: 13876

Ion	Ratio	Lower	Upper
119	100		
121	28.9	13.1	53.1



Quantitation Report

Data File : C:\INSTARCH\DATA\APR2116\707495.D Vial: 15
Acq On : 21 Apr 2016 15:16 Operator: RLD-AGK
Sample : 124904,707495, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 15:37:13 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:59:39 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.80	96	1420877	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.73	117	1147336	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	15.04	152	609974	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.96	113	390486	20.205	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101 %			
45) SURR12DCAd4	7.37	102	95745	20.690	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 103 %			
61) SURRd8Tolule	9.80	98	1372632	20.281	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101 %			
83) SURR4BrFBenz	13.38	95	514685	19.741	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 99 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	2.13	50	1441	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	2.80	94	1262	N.D.		
6) Chloroethane	2.97	64	2416	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	3.32	101	2615	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	3.78	67	1738	N.D.		
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	4.05	96	1659	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	4.16	43	3722	N.D.		
16) Iodomethane	0.00	142	0	N.D.		
17) Carbon Dislf	4.32	76	3368	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	4.91	59	2168	N.D.		
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	5.61	63	12444	0.4681	ug/L	97
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	6.37	96	9389	0.5890	ug/L #	79
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	0.00	42	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\APR2116\707495.D Vial: 15
Acq On : 21 Apr 2016 15:16 Operator: RLD-AGK
Sample : 124904,707495, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 15:37:13 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:59:39 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	6.76	83	4457	0.1703 ug/L	92
40)	111trichlota	6.98	97	6388	0.2732 ug/L	87
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	7.19	119	21381	1.1166 ug/L	89
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	7.44	78	1182	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	8.25	95	30801	1.9212 ug/L	97
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	9.88	92	4363	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	10.61	166	5402	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	11.74	91	2432	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	11.92	91	2043	N.D.	
76)	m p-Xylene	12.09	106	2652	N.D.	
77)	o-Xylene	12.65	106	1107	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	13.38	55	1273	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	13.91	105	1046	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	14.55	105	1791	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	15.01	119	1450	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	15.58	91	1853	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\APR2116\707495.D Vial: 15
Acq On : 21 Apr 2016 15:16 Operator: RLD-AGK
Sample : 124904,707495, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 15:37:13 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:59:39 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	18.16	128	1088	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

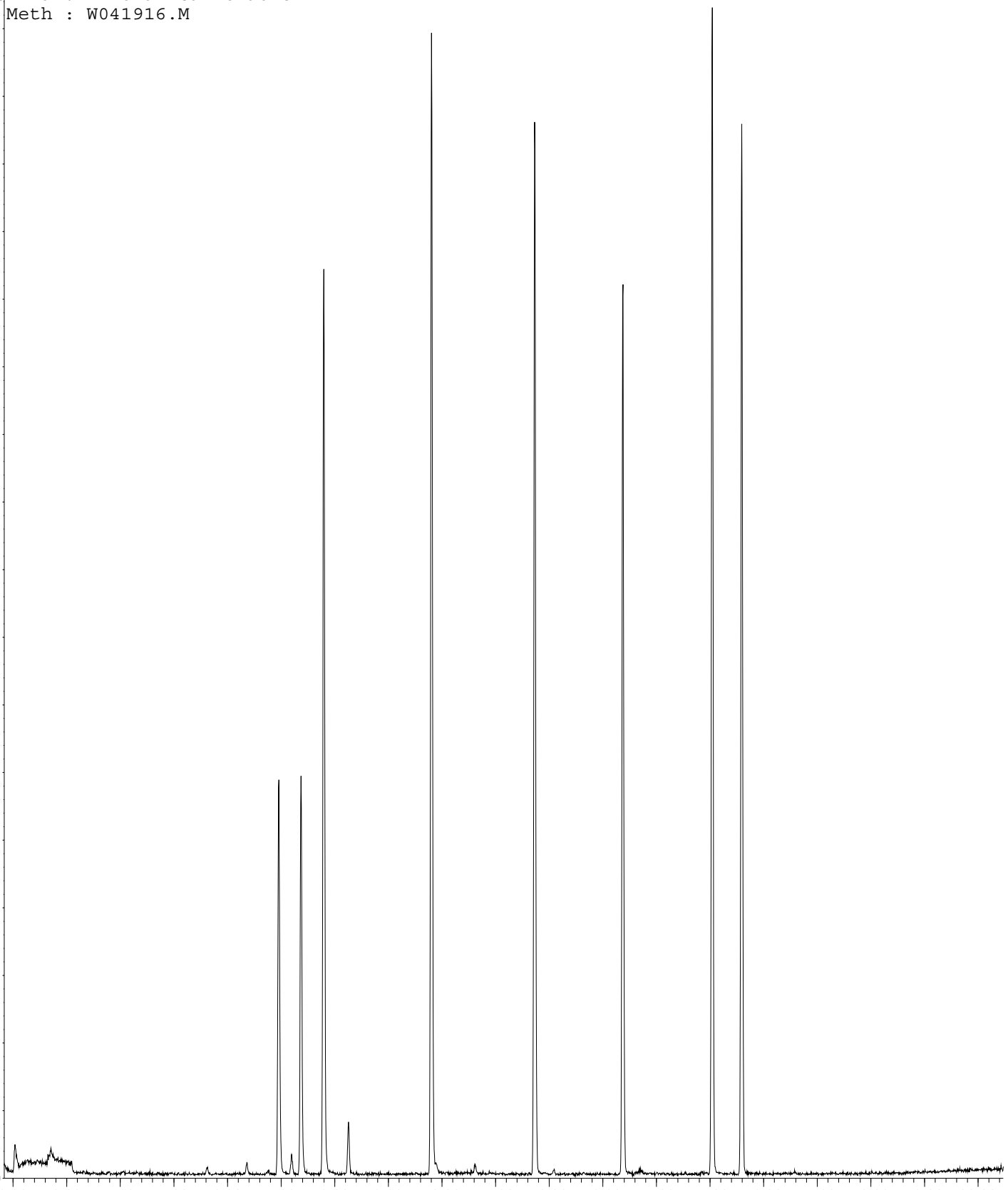
(#) = qualifier out of range (m) = manual integration

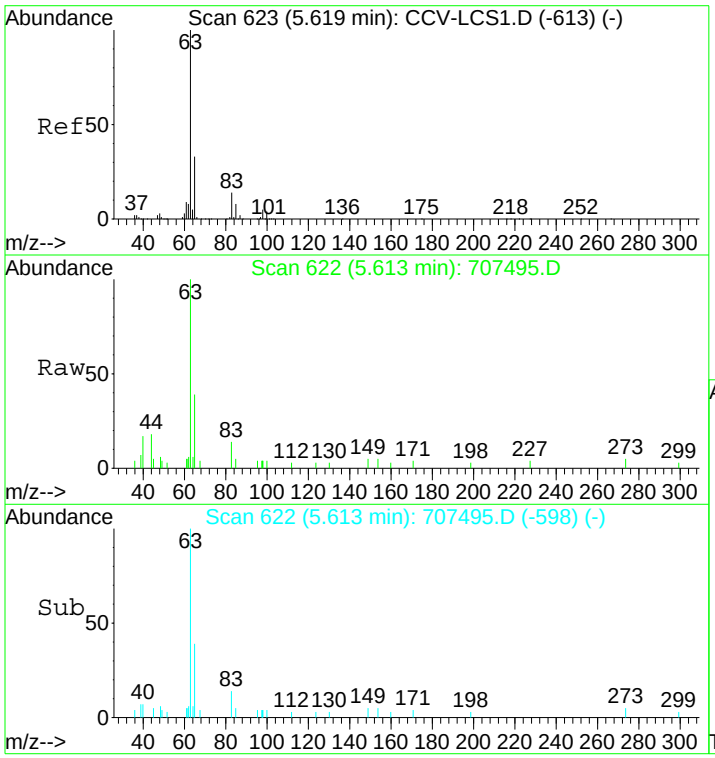
Abundance Quantitation Report TIC: 707495.D

Data File : C:\INSTARCH\DATA\APR2116\707495.D Vial: 15
Acq On : 21 Apr 2016 15:16 Operator: RLD-AGK
Sample : 124904,707495, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 15:37:13 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:59:39 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

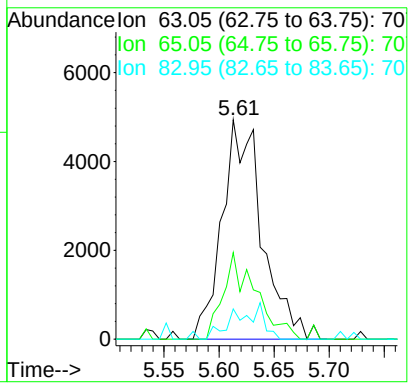


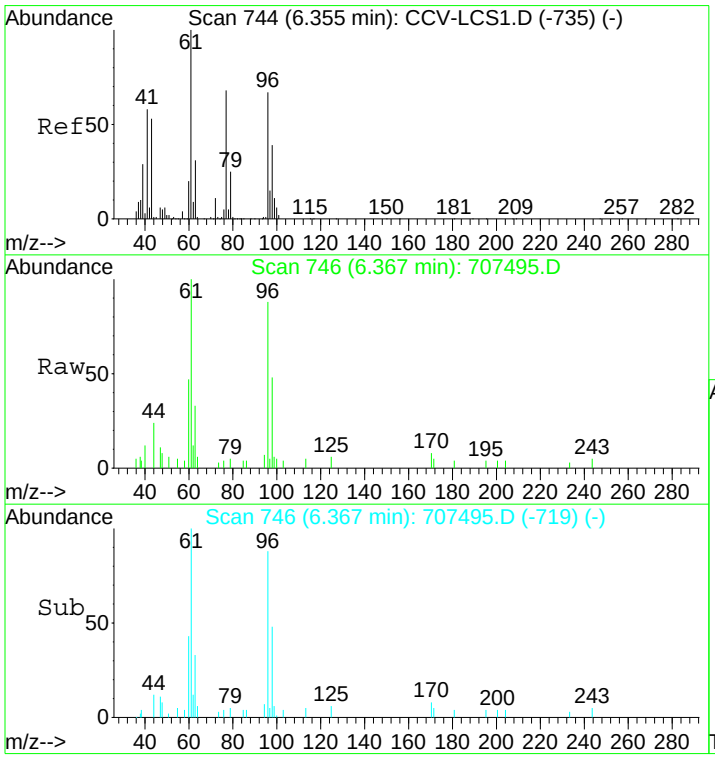


#26
11dichlorota
Concen: 0.47 ug/L
RT: 5.61 min Scan# 622
Delta R.T. -0.01 min
Lab File: 707495.D
Acq: 21 Apr 2016 15:16

Tgt Ion: 63 Resp: 12444

Ion	Ratio	Lower	Upper
63	100		
65	32.3	10.9	50.9
83	11.4	0.0	33.0

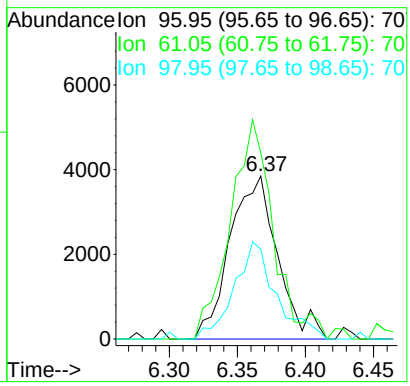


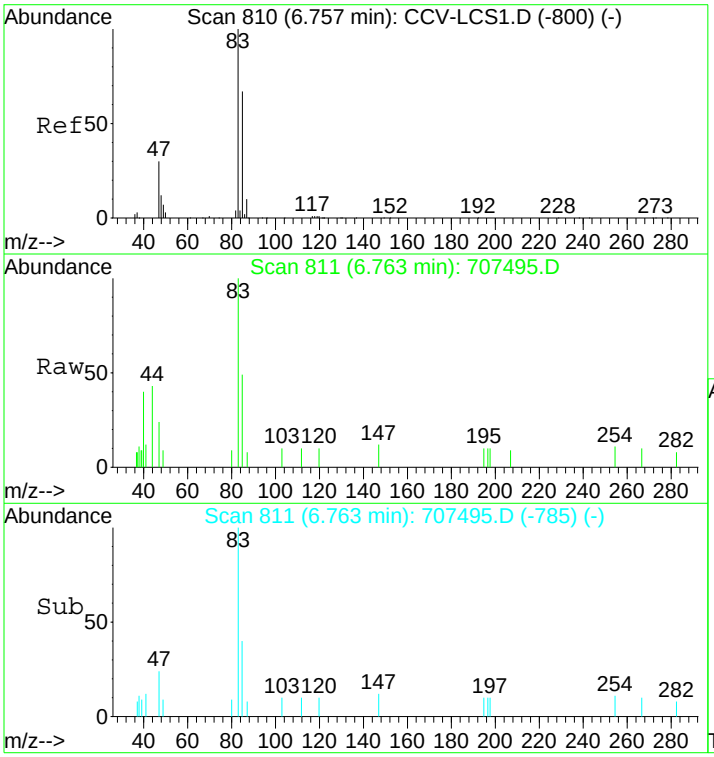


#32
c12dichlorte
Concen: 0.59 ug/L
RT: 6.37 min Scan# 746
Delta R.T. 0.01 min
Lab File: 707495.D
Acq: 21 Apr 2016 15:16

Tgt Ion: 96 Resp: 9389

Ion	Ratio	Lower	Upper
96	100		
61	123.1	131.5	171.5#
98	52.1	45.4	85.4

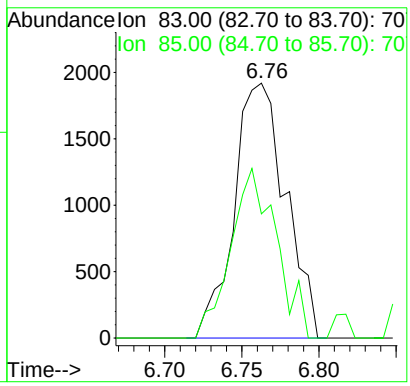


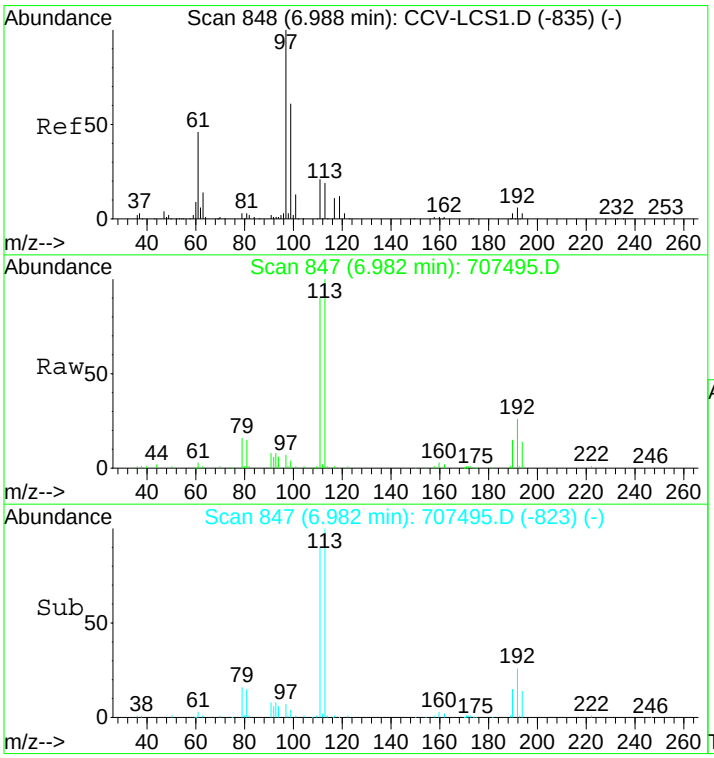


#39
Chloroform
Concen: 0.17 ug/L
RT: 6.76 min Scan# 811
Delta R.T. 0.01 min
Lab File: 707495.D
Acq: 21 Apr 2016 15:16

Tgt Ion: 83 Resp: 4457

Ion	Ratio	Lower	Upper
83	100		
85	59.0	45.4	85.4

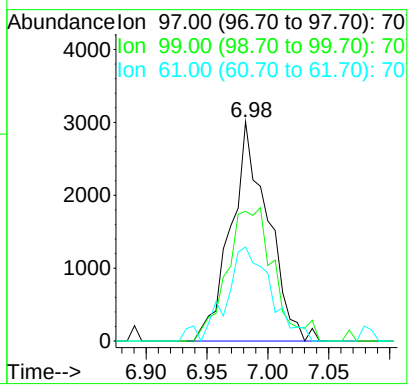


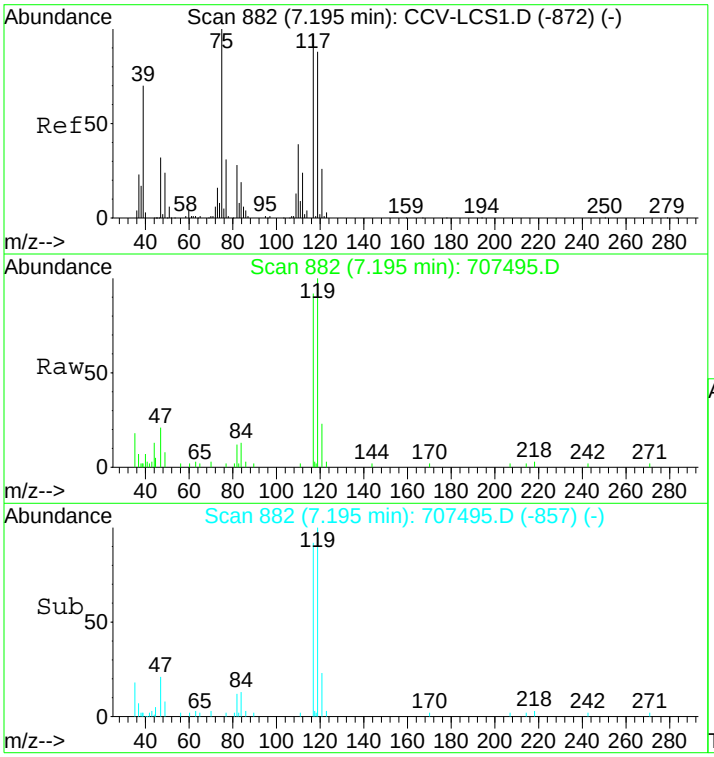


#40
111trichlota
Concen: 0.27 ug/L
RT: 6.98 min Scan# 847
Delta R.T. -0.01 min
Lab File: 707495.D
Acq: 21 Apr 2016 15:16

Tgt Ion: 97 Resp: 6388

Ion	Ratio	Lower	Upper
97	100		
99	76.0	44.2	84.2
61	52.3	25.6	65.6

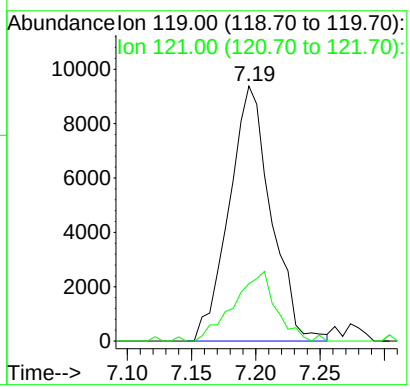


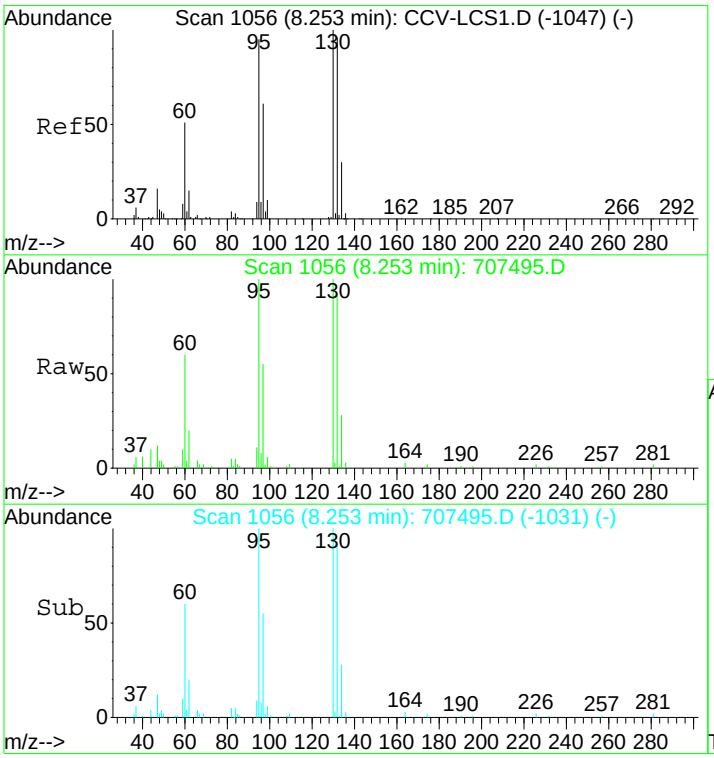


#43
Carbtetraclo
Concen: 1.12 ug/L
RT: 7.19 min Scan# 882
Delta R.T. 0.00 min
Lab File: 707495.D
Acq: 21 Apr 2016 15:16

Tgt Ion:119 Resp: 21381

Ion	Ratio	Lower	Upper
119	100		
121	27.1	13.1	53.1

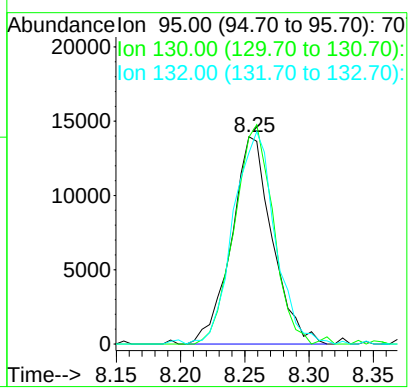




#49
trichloroete
Concen: 1.92 ug/L
RT: 8.25 min Scan# 1056
Delta R.T. 0.00 min
Lab File: 707495.D
Acq: 21 Apr 2016 15:16

Tgt Ion: 95 Resp: 30801

Ion	Ratio	Lower	Upper
95	100		
130	101.4	85.2	125.2
132	105.0	82.7	122.7



Quantitation Report

Data File : C:\INSTARCH\DATA\APR2116\707512.D Vial: 16
Acq On : 21 Apr 2016 15:44 Operator: RLD-AGK
Sample : 124904,707512, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 16:05:19 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:59:39 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.80	96	1426475	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.73	117	1163919	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	15.04	152	619282	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.96	113	405877	20.919	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 105 %			
45) SURR12DCAd4	7.37	102	96173	20.701	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 104 %			
61) SURRd8Tolule	9.80	98	1366484	20.111	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101 %			
83) SURR4BrFBenz	13.37	95	525468	19.852	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 99 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	2.14	50	1597	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	0.00	94	0	N.D.		
6) Chloroethane	2.85	64	48903	5.0254	ug/L #	49
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	4.18	43	3294	N.D.		
16) Iodomethane	0.00	142	0	N.D.		
17) Carbon Dislf	4.31	76	2467	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	4.93	59	1095	N.D.		
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	0.00	42	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\APR2116\707512.D Vial: 16
Acq On : 21 Apr 2016 15:44 Operator: RLD-AGK
Sample : 124904,707512, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 16:05:19 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:59:39 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	0.00	119	0	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	0.00	78	0	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	0.00	95	0	N.D.	
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	9.90	92	2921	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	11.73	91	2592	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	11.92	91	1330	N.D.	
76)	m p-Xylene	12.08	106	2131	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	13.38	55	1578	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	13.74	91	1059	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	14.55	105	1915	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	15.01	119	2504	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	15.59	91	2688	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\APR2116\707512.D Vial: 16
Acq On : 21 Apr 2016 15:44 Operator: RLD-AGK
Sample : 124904,707512, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 16:05:19 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:59:39 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	18.15	128	1133	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

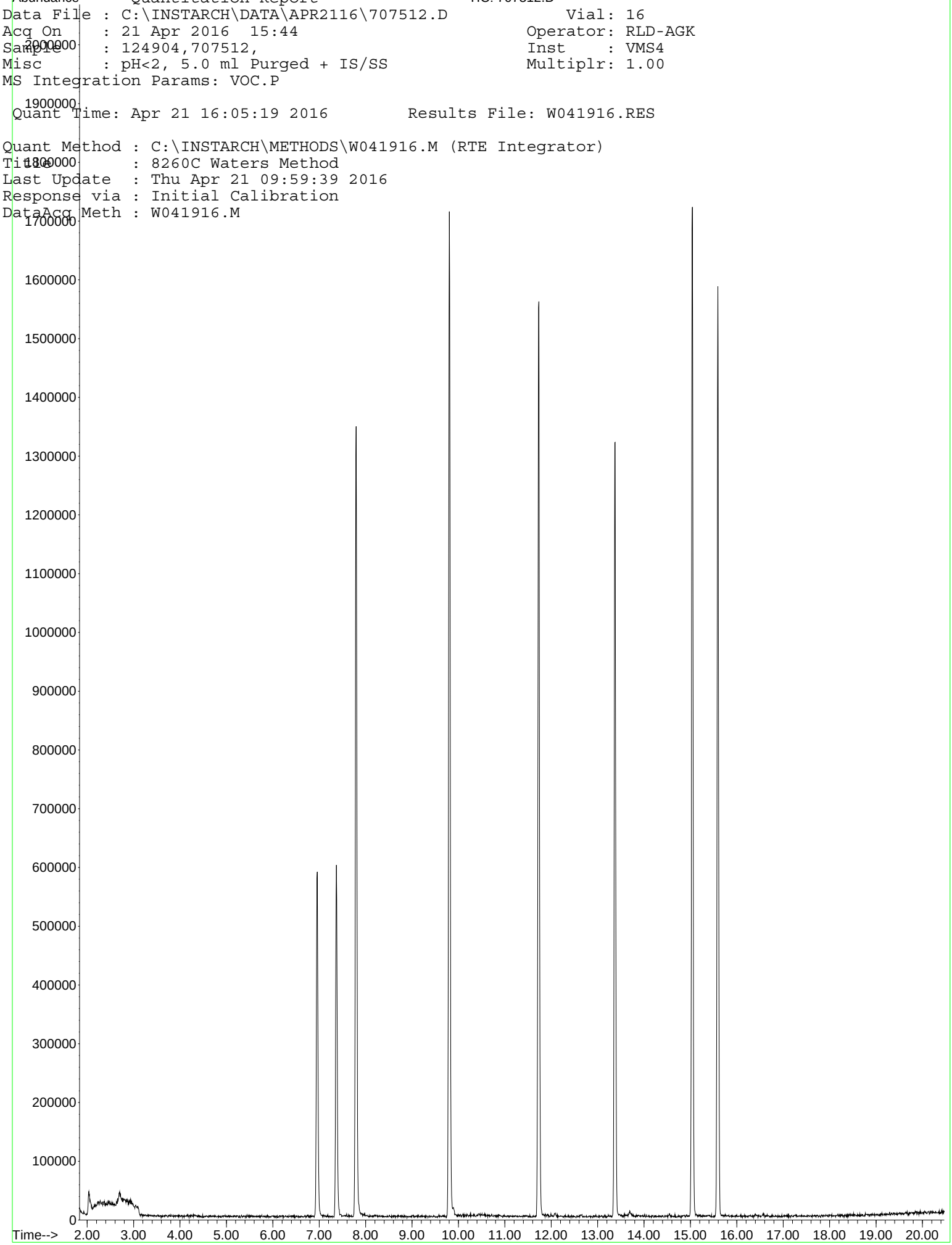
(#) = qualifier out of range (m) = manual integration

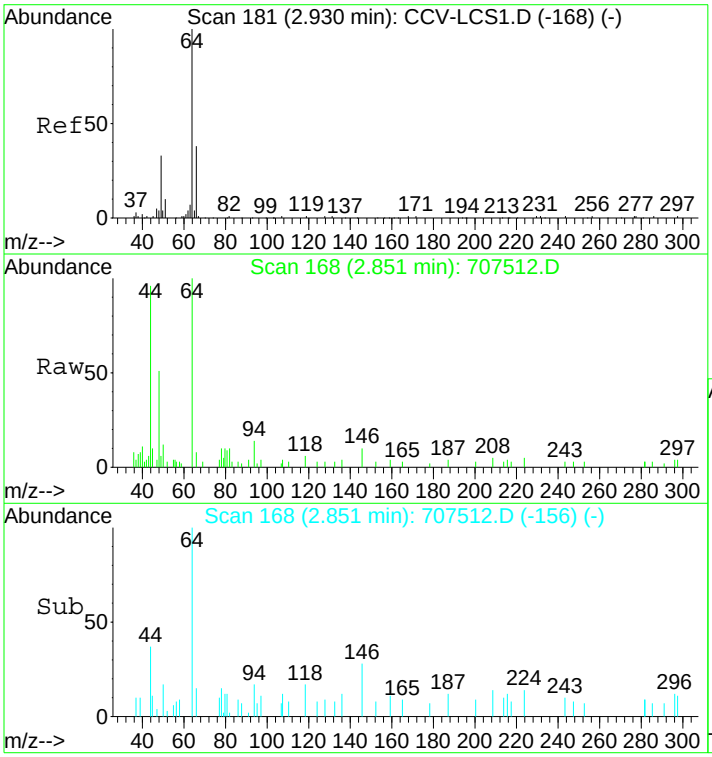
Abundance Quantitation Report TIC: 707512.D

Data File : C:\INSTARCH\DATA\APR2116\707512.D Vial: 16
Acq On : 21 Apr 2016 15:44 Operator: RLD-AGK
Sample : 124904,707512, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 16:05:19 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:59:39 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

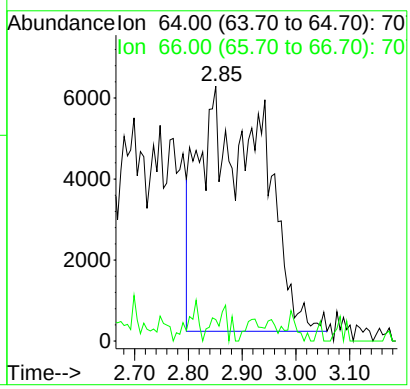




#6
Chloroethane
Concen: 5.03 ug/L
RT: 2.85 min Scan# 168
Delta R.T. -0.08 min
Lab File: 707512.D
Acq: 21 Apr 2016 15:44

Tgt Ion: 64 Resp: 48903

Ion	Ratio	Lower	Upper
64	100		
66	3.2	11.9	51.9#



Quantitation Report

Data File : C:\INSTARCH\DATA\APR2116\707513.D Vial: 17
Acq On : 21 Apr 2016 16:12 Operator: RLD-AGK
Sample : 124904,707513, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 16:33:32 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:59:39 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.80	96	1429317	20.00 ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.73	117	1165780	20.00 ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	15.04	152	615189	20.00 ug/L	0.00 NA%
System Monitoring Compounds					
41) SURRDibrflma	6.96	113	396249	20.383 ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 102 %		
45) SURR12DCAd4	7.37	102	95353	20.483 ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 102 %		
61) SURRd8Tolule	9.80	98	1374746	20.192 ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101 %		
83) SURR4BrFBenz	13.38	95	520096	19.779 ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 99 %		
Target Compounds					Qvalue
2) Dichlorodi	0.00	85	0	N.D.	
3) Chloromethan	2.12	50	1999	N.D.	
4) VinylChlorid	0.00	62	0	N.D.	
5) Bromomethane	0.00	94	0	N.D.	
6) Chloroethane	2.88	64	20404	2.0926 ug/L #	43
7) Dichloroflmethane	0.00	67	0	N.D.	
8) Trichlorofma	0.00	101	0	N.D.	
9) Ethylether	0.00	59	0	N.D.	
10) dichlorotfluoroethan	0.00	67	0	N.D.	
11) propyleneoxide	0.00	58	0	N.D.	
12) Acrolein	0.00	56	0	N.D.	
13) 11dichlorthe	0.00	96	0	N.D.	
14) Trichlorotfluoroeth	0.00	101	0	N.D.	
15) Acetone	4.19	43	4623	N.D.	
16) Iodomethane	4.25	142	1075	2.5274 ug/L #	42
17) Carbon Dislf	4.32	76	13321	N.D.	
18) allylchloride	0.00	41	0	N.D.	
19) methylacetate	0.00	74	0	N.D.	
20) Methylchlorid	4.72	84	1403	N.D.	
21) tbutylalcohol	4.93	59	1528	N.D.	
22) Acrylonitrile	0.00	53	0	N.D.	
23) t12dichlorte	0.00	96	0	N.D.	
24) MtBE	0.00	73	0	N.D.	
25) Hexane	0.00	57	0	N.D.	
26) 11dichlorota	0.00	63	0	N.D.	
27) Vinylacetate	0.00	43	0	N.D.	
28) chloroprene	0.00	53	0	N.D.	
29) Diisopether	0.00	45	0	N.D.	
30) ETBE	0.00	59	0	N.D.	
31) 22dichloropr	0.00	77	0	N.D.	
32) c12dichlorte	0.00	96	0	N.D.	
33) 2Butanone	0.00	72	0	N.D.	
34) propionitrile	0.00	54	0	N.D.	
35) Ethylacetate	0.00	88	0	N.D.	
36) methacrylonitrile	0.00	67	0	N.D.	
37) Bromochlorma	0.00	128	0	N.D.	
38) Tetrahydofur	6.77	42	1564	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\APR2116\707513.D Vial: 17
Acq On : 21 Apr 2016 16:12 Operator: RLD-AGK
Sample : 124904,707513, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 16:33:32 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:59:39 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.76	83	216520	8.2256	ug/L	98
40)	111trichlota	0.00	97	0	N.D.		
42)	Cyclohexane	0.00	56	0	N.D.		
43)	Carbtetraclo	7.20	119	1412819	73.3498	ug/L	99
44)	11dicloprope	0.00	110	0	N.D.		
46)	Benzene	7.45	78	1306	N.D.		
47)	12dichlorota	7.46	62	2152	N.D.		
48)	TAME	0.00	73	0	N.D.		
49)	trichloroete	8.26	95	168987	10.4783	ug/L	98
50)	methylcyclohexane	0.00	83	0	N.D.		
51)	12dicloropra	0.00	63	0	N.D.		
52)	23Dicl1propene	0.00	75	0	N.D.		
53)	Dibromometha	0.00	93	0	N.D.		
54)	methylmethacrylate	0.00	69	0	N.D.		
55)	14dioxane	0.00	88	0	N.D.		
56)	Bromodiclrma	0.00	83	0	N.D.		
57)	2Nitropropane	0.00	43	0	N.D.		
58)	2CLEVE	0.00	63	0	N.D.		
59)	c13dicloproe	0.00	75	0	N.D.		
60)	4Meth2Pentan	0.00	43	0	N.D.		
62)	Toluene	9.90	92	3110	N.D.		
63)	t13Dicloprop	0.00	75	0	N.D.		
64)	ethylmethacrylate	0.00	69	0	N.D.		
65)	112Triclotha	0.00	83	0	N.D.		
66)	Tetrachlorte	0.00	166	0	N.D.		
67)	13Diclorpropa	0.00	76	0	N.D.		
69)	2Hexanone	0.00	43	0	N.D.		
70)	Clorodibrmta	0.00	129	0	N.D.		
71)	12Dibrometha	0.00	107	0	N.D.		
72)	Chlorobenzen	0.00	112	0	N.D.		
73)	1Clhexane	11.73	91	2449	N.D.		
74)	1112Tetclota	0.00	131	0	N.D.		
75)	Ethylbenzene	11.93	91	1314	N.D.		
76)	m p-Xylene	12.08	106	2114	N.D.		
77)	o-Xylene	0.00	106	0	N.D.		
78)	Styrene	0.00	104	0	N.D.		
79)	Bromoform	0.00	173	0	N.D.		
80)	Isopropylben	0.00	105	0	N.D.		
81)	cyclohexanone	0.00	55	0	N.D.		
84)	Bromobenzene	0.00	156	0	N.D.		
85)	1122Tetrclta	0.00	83	0	N.D.		
86)	123Triclproa	0.00	75	0	N.D.		
87)	14dichloro2butene	0.00	53	0	N.D.		
88)	n-Propylbenz	0.00	91	0	N.D.		
89)	2chlorotolue	0.00	91	0	N.D.		
90)	4chlorotolue	0.00	91	0	N.D.		
91)	135Trimebenz	0.00	105	0	N.D.		
92)	tbutylbenzen	0.00	119	0	N.D.		
93)	124Trimetben	14.53	105	1208	N.D.		
94)	sbutylbenzen	0.00	105	0	N.D.		
95)	13Diclorbenz	0.00	146	0	N.D.		
96)	pIsopropylto	15.01	119	1705	N.D.		
97)	14dichlorobe	0.00	146	0	N.D.		
98)	12dichlorobe	0.00	146	0	N.D.		
99)	nButylbenzen	15.58	91	2090	N.D.		
100)	12dibromo3cl	0.00	157	0	N.D.		
101)	135Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\APR2116\707513.D Vial: 17
Acq On : 21 Apr 2016 16:12 Operator: RLD-AGK
Sample : 124904,707513, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 16:33:32 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:59:39 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	0.00	128	0	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

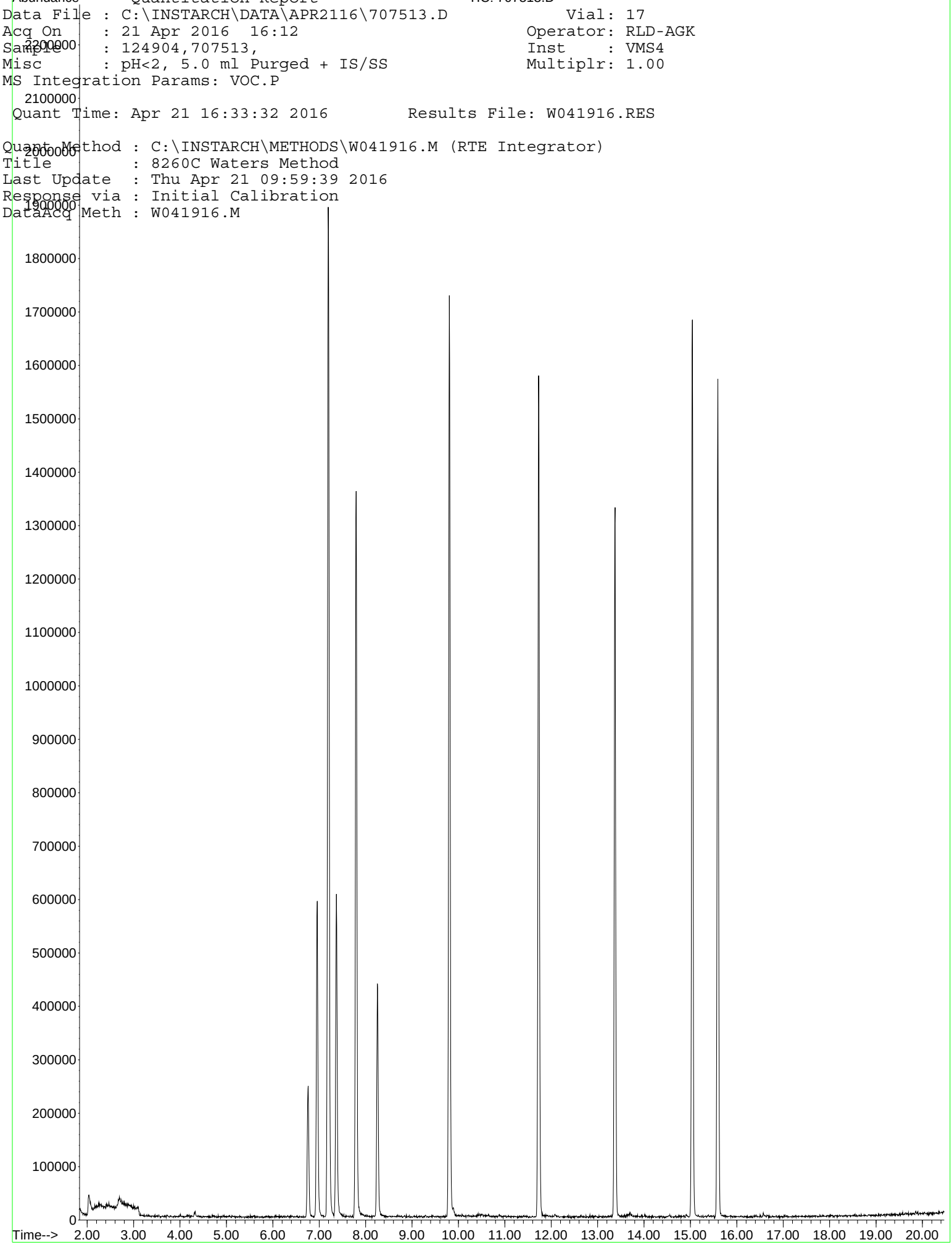
(#) = qualifier out of range (m) = manual integration

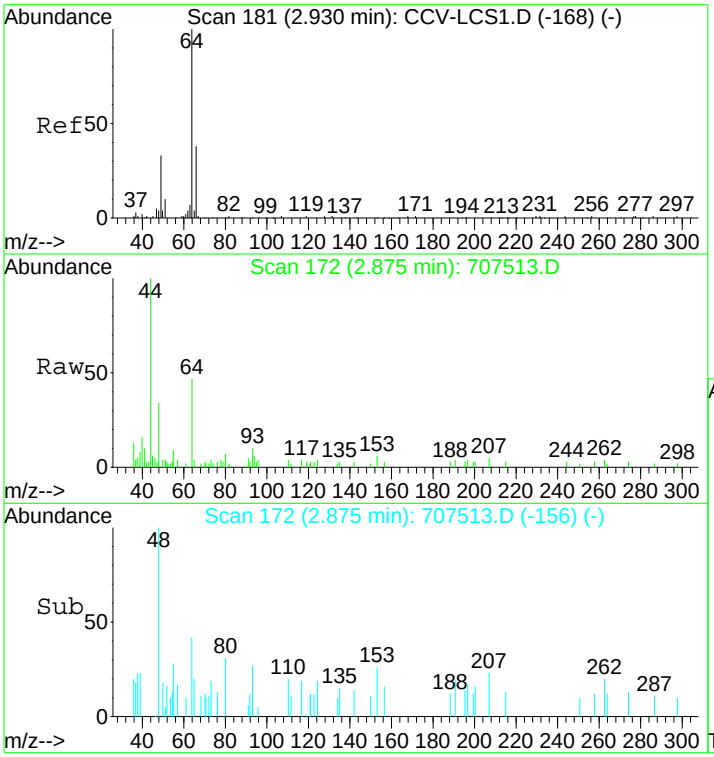
Abundance Quantitation Report TIC: 707513.D

Data File : C:\INSTARCH\DATA\APR2116\707513.D Vial: 17
Acq On : 21 Apr 2016 16:12 Operator: RLD-AGK
Sample : 124904,707513, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 16:33:32 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:59:39 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

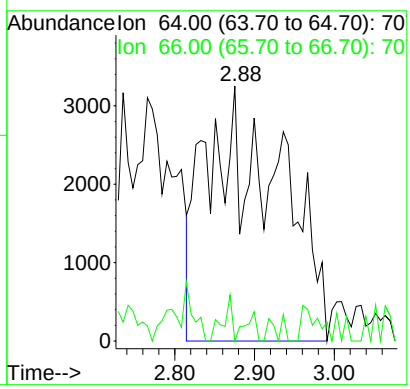


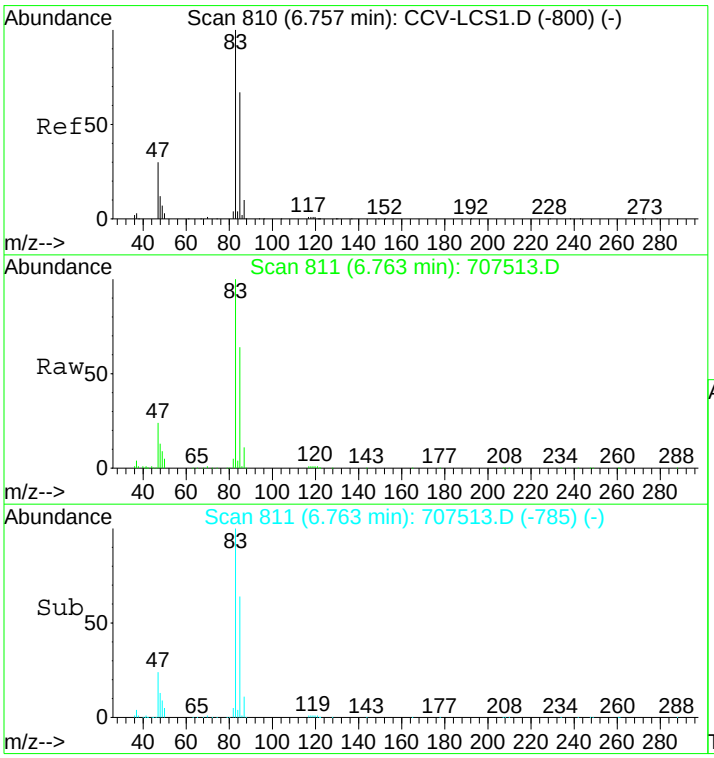


#6
Chloroethane
Concen: 2.09 ug/L
RT: 2.88 min Scan# 172
Delta R.T. -0.05 min
Lab File: 707513.D
Acq: 21 Apr 2016 16:12

Tgt Ion: 64 Resp: 20404

Ion	Ratio	Lower	Upper
64	100		
66	0.0	11.9	51.9#

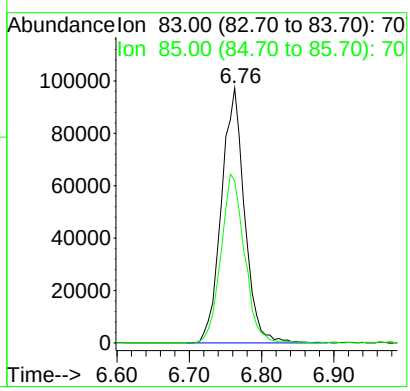


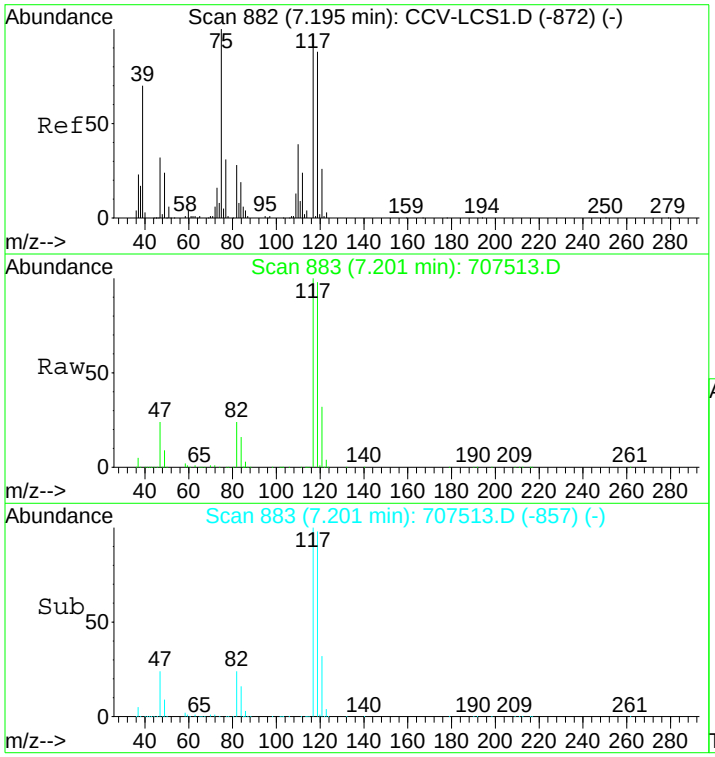


#39
Chloroform
Concen: 8.23 ug/L
RT: 6.76 min Scan# 811
Delta R.T. 0.01 min
Lab File: 707513.D
Acq: 21 Apr 2016 16:12

Tgt Ion: 83 Resp: 216520

Ion	Ratio	Lower	Upper
83	100		
85	67.2	45.4	85.4

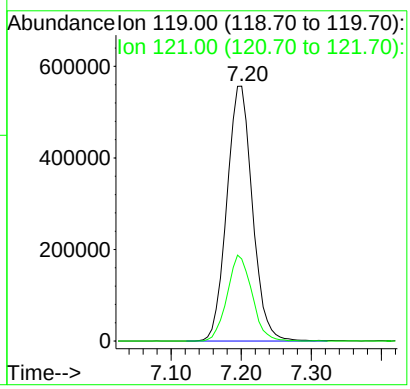


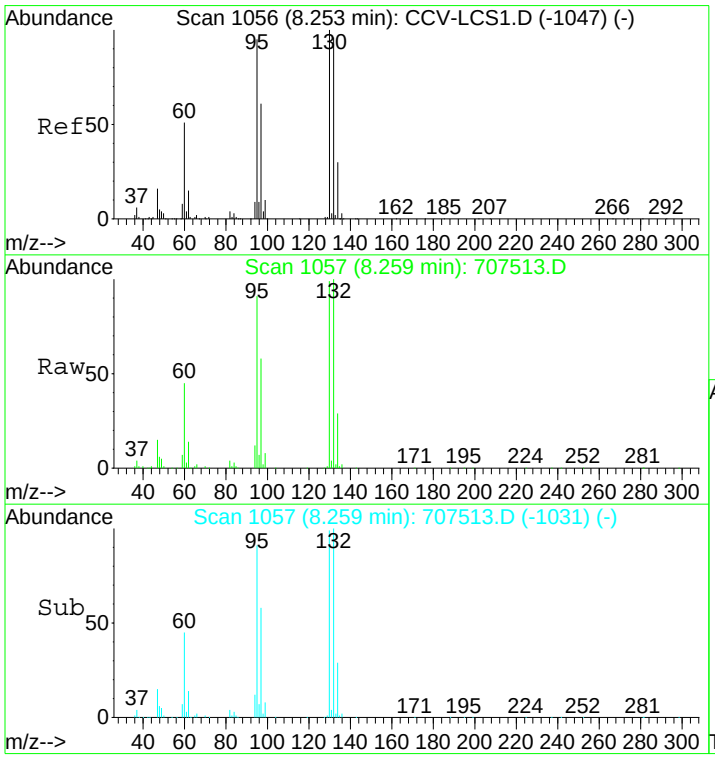


#43
Carbtetraclo
Concen: 73.35 ug/L
RT: 7.20 min Scan# 883
Delta R.T. 0.01 min
Lab File: 707513.D
Acq: 21 Apr 2016 16:12

Tgt Ion:119 Resp: 1412819

Ion	Ratio	Lower	Upper
119	100		
121	32.7	13.1	53.1

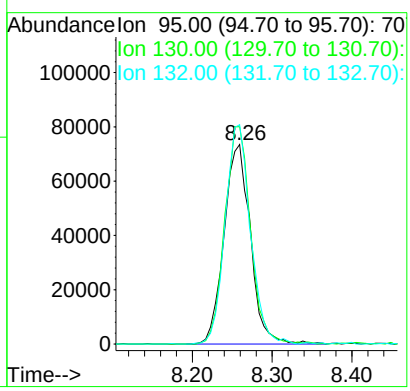




#49
trichloroete
Concen: 10.48 ug/L
RT: 8.26 min Scan# 1057
Delta R.T. 0.01 min
Lab File: 707513.D
Acq: 21 Apr 2016 16:12

Tgt Ion: 95 Resp: 168987

Ion	Ratio	Lower	Upper
95	100		
130	106.8	85.2	125.2
132	105.3	82.7	122.7



Quantitation Report

Data File : C:\INSTARCH\DATA\APR2116\707514.D Vial: 18
Acq On : 21 Apr 2016 16:41 Operator: RLD-AGK
Sample : 124904,707514, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 17:01:45 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:59:39 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.80	96	1383557	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.73	117	1134737	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	15.04	152	593742	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.96	113	383541	20.381	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 102 %			
45) SURR12DCAd4	7.37	102	91704	20.351	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 102 %			
61) SURRd8Tolule	9.80	98	1314831	19.951	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100 %			
83) SURR4BrFBenz	13.37	95	497830	19.617	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 98 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	2.13	50	2169	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	0.00	94	0	N.D.		
6) Chloroethane	2.93	64	5080	0.5382	ug/L #	43
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	3.76	67	1889	N.D.		
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	3.92	56	1169	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	4.07	101	1578	N.D.		
15) Acetone	4.15	43	4241	N.D.		
16) Iodomethane	0.00	142	0	N.D.		
17) Carbon Dislf	4.30	76	14881	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	4.74	84	1015	N.D.		
21) tbutylalcohol	0.00	59	0	N.D.		
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	0.00	42	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\APR2116\707514.D Vial: 18
Acq On : 21 Apr 2016 16:41 Operator: RLD-AGK
Sample : 124904,707514, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 17:01:45 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:59:39 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.76	83	81539	3.2001	ug/L	99
40)	111trichlota	0.00	97	0	N.D.		
42)	Cyclohexane	0.00	56	0	N.D.		
43)	Carbtetraclo	7.19	119	599823	32.1712	ug/L	98
44)	11dicloprope	0.00	110	0	N.D.		
46)	Benzene	0.00	78	0	N.D.		
47)	12dichlorota	0.00	62	0	N.D.		
48)	TAME	0.00	73	0	N.D.		
49)	trichloroete	8.25	95	36524	2.3396	ug/L	98
50)	methylcyclohexane	0.00	83	0	N.D.		
51)	12dicloropra	0.00	63	0	N.D.		
52)	23Dicl1propene	0.00	75	0	N.D.		
53)	Dibromometha	0.00	93	0	N.D.		
54)	methylmethacrylate	0.00	69	0	N.D.		
55)	14dioxane	0.00	88	0	N.D.		
56)	Bromodiclrma	0.00	83	0	N.D.		
57)	2Nitropropane	0.00	43	0	N.D.		
58)	2CLEVE	0.00	63	0	N.D.		
59)	c13dicloproe	0.00	75	0	N.D.		
60)	4Meth2Pentan	0.00	43	0	N.D.		
62)	Toluene	9.90	92	4444	N.D.		
63)	t13Dicloprop	0.00	75	0	N.D.		
64)	ethylmethacrylate	0.00	69	0	N.D.		
65)	112Triclotha	0.00	83	0	N.D.		
66)	Tetrachlorte	0.00	166	0	N.D.		
67)	13Diclorpropa	0.00	76	0	N.D.		
69)	2Hexanone	0.00	43	0	N.D.		
70)	Clorodibrmta	0.00	129	0	N.D.		
71)	12Dibrometha	0.00	107	0	N.D.		
72)	Chlorobenzen	0.00	112	0	N.D.		
73)	1Clhexane	11.74	91	2449	N.D.		
74)	1112Tetclota	0.00	131	0	N.D.		
75)	Ethylbenzene	11.92	91	1640	N.D.		
76)	m p-Xylene	12.08	106	1686	N.D.		
77)	o-Xylene	0.00	106	0	N.D.		
78)	Styrene	0.00	104	0	N.D.		
79)	Bromoform	0.00	173	0	N.D.		
80)	Isopropylben	0.00	105	0	N.D.		
81)	cyclohexanone	13.38	55	1648	N.D.		
84)	Bromobenzene	0.00	156	0	N.D.		
85)	1122Tetrclta	0.00	83	0	N.D.		
86)	123Triclproa	0.00	75	0	N.D.		
87)	14dichloro2butene	0.00	53	0	N.D.		
88)	n-Propylbenz	0.00	91	0	N.D.		
89)	2chlorotolue	0.00	91	0	N.D.		
90)	4chlorotolue	0.00	91	0	N.D.		
91)	135Trimebenz	0.00	105	0	N.D.		
92)	tbutylbenzen	0.00	119	0	N.D.		
93)	124Trimetben	14.54	105	1662	N.D.		
94)	sbutylbenzen	0.00	105	0	N.D.		
95)	13Diclorbenz	0.00	146	0	N.D.		
96)	pIsopropylto	15.01	119	2081	N.D.		
97)	14dichlorobe	0.00	146	0	N.D.		
98)	12dichlorobe	0.00	146	0	N.D.		
99)	nButylbenzen	15.61	91	2101	N.D.		
100)	12dibromo3cl	0.00	157	0	N.D.		
101)	135Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\APR2116\707514.D Vial: 18
Acq On : 21 Apr 2016 16:41 Operator: RLD-AGK
Sample : 124904,707514, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 17:01:45 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:59:39 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

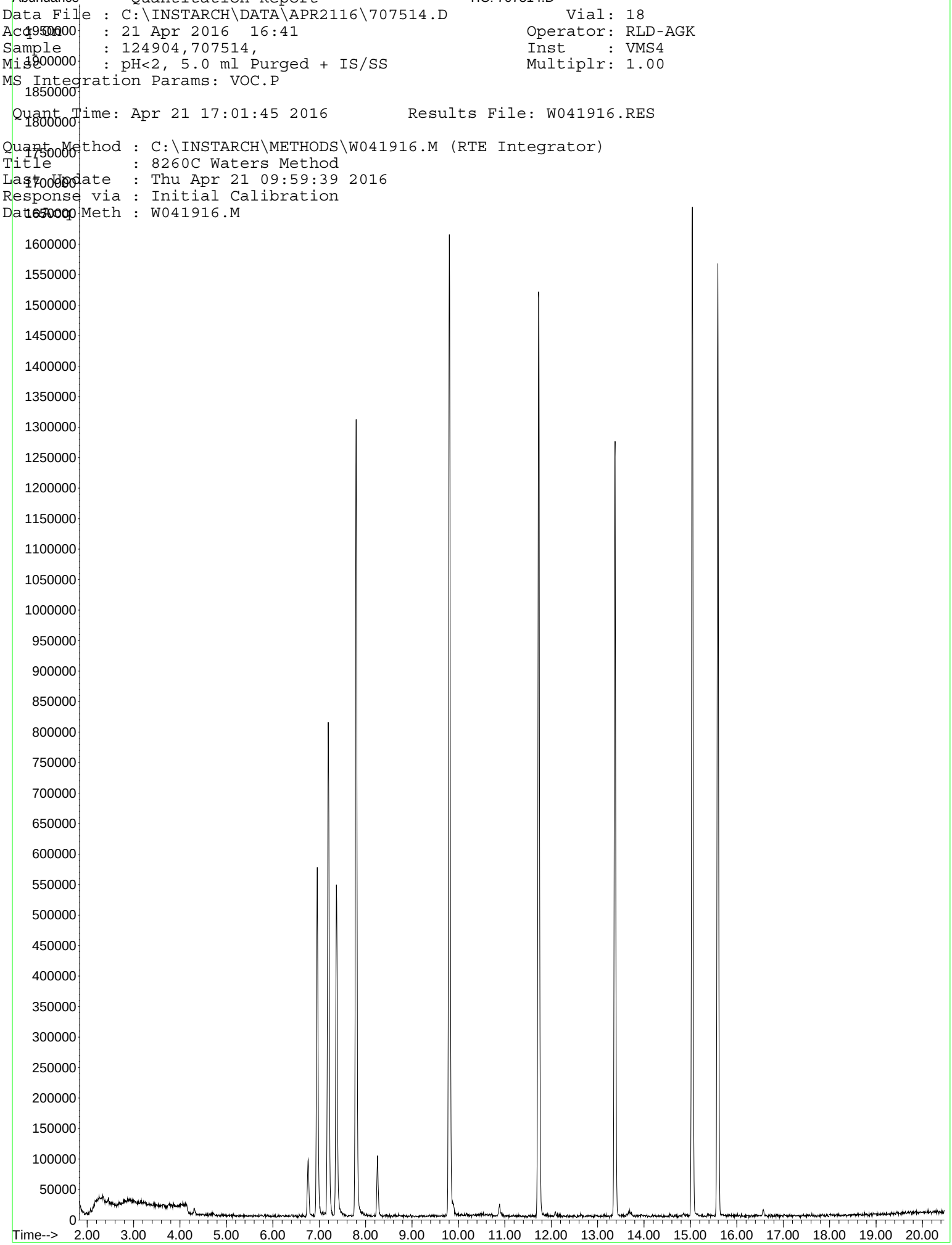
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	18.17	128	1795	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

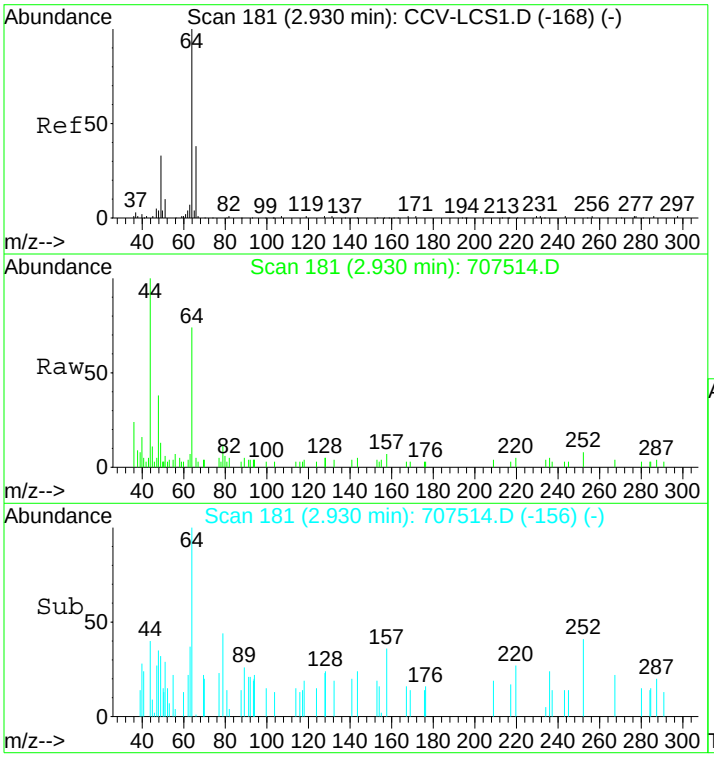
(#) = qualifier out of range (m) = manual integration

Data File : C:\INSTARCH\DATA\APR2116\707514.D Vial: 18
Acq On : 21 Apr 2016 16:41 Operator: RLD-AGK
Sample : 124904,707514, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 17:01:45 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:59:39 2016
Response via : Initial Calibration
Data Path Meth : W041916.M

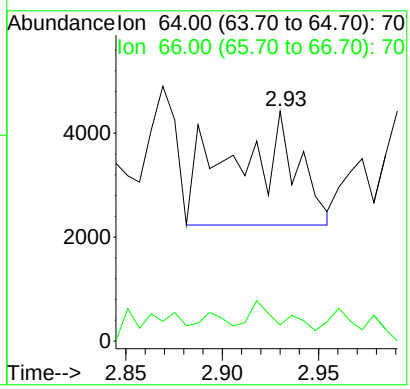


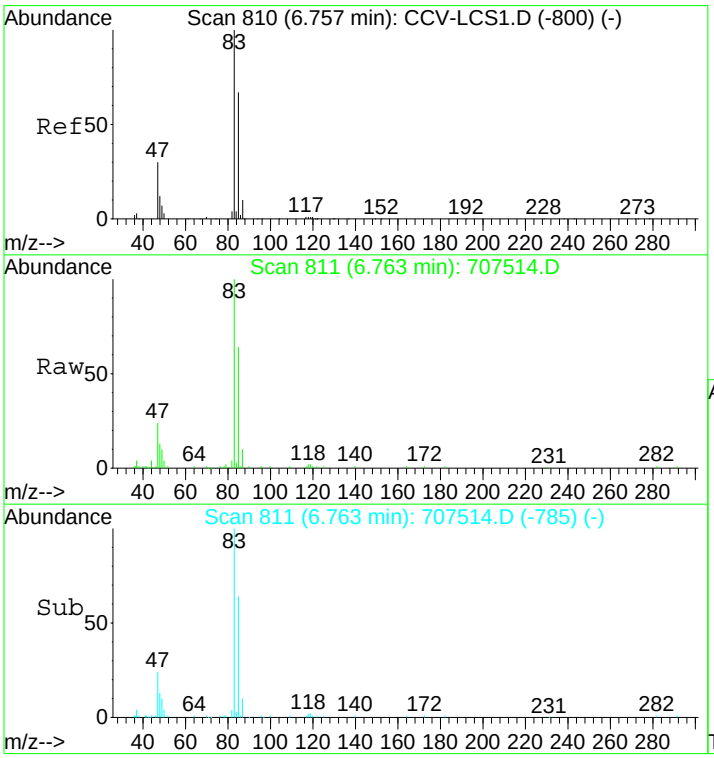


#6
Chloroethane
Concen: 0.54 ug/L
RT: 2.93 min Scan# 181
Delta R.T. 0.00 min
Lab File: 707514.D
Acq: 21 Apr 2016 16:41

Tgt Ion: 64 Resp: 5080

Ion	Ratio	Lower	Upper
64	100		
66	0.0	11.9	51.9#

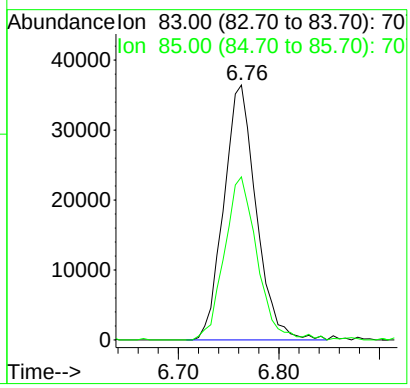


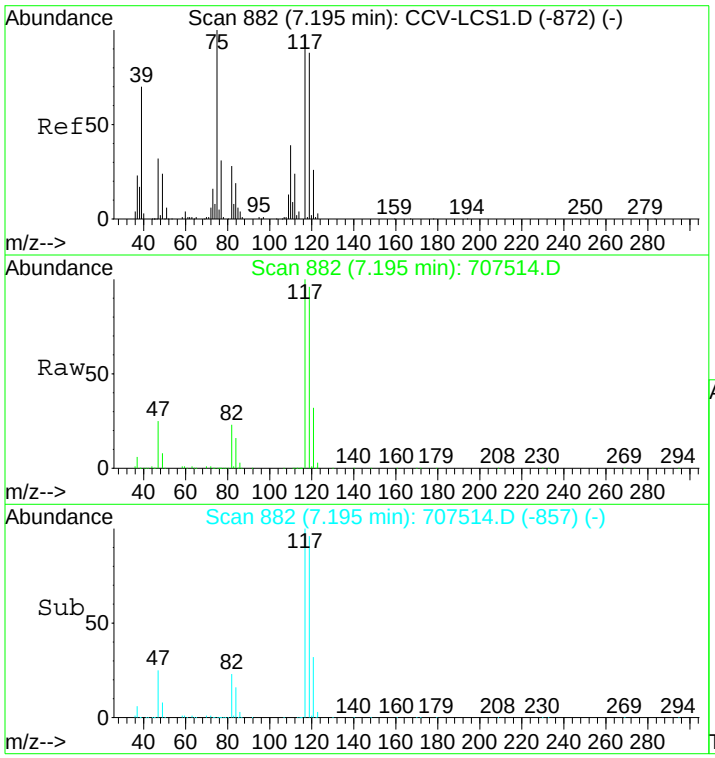


#39
Chloroform
Concen: 3.20 ug/L
RT: 6.76 min Scan# 811
Delta R.T. 0.01 min
Lab File: 707514.D
Acq: 21 Apr 2016 16:41

Tgt Ion: 83 Resp: 81539

Ion	Ratio	Lower	Upper
83	100		
85	64.9	45.4	85.4

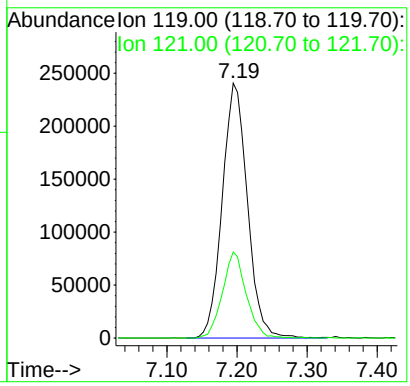


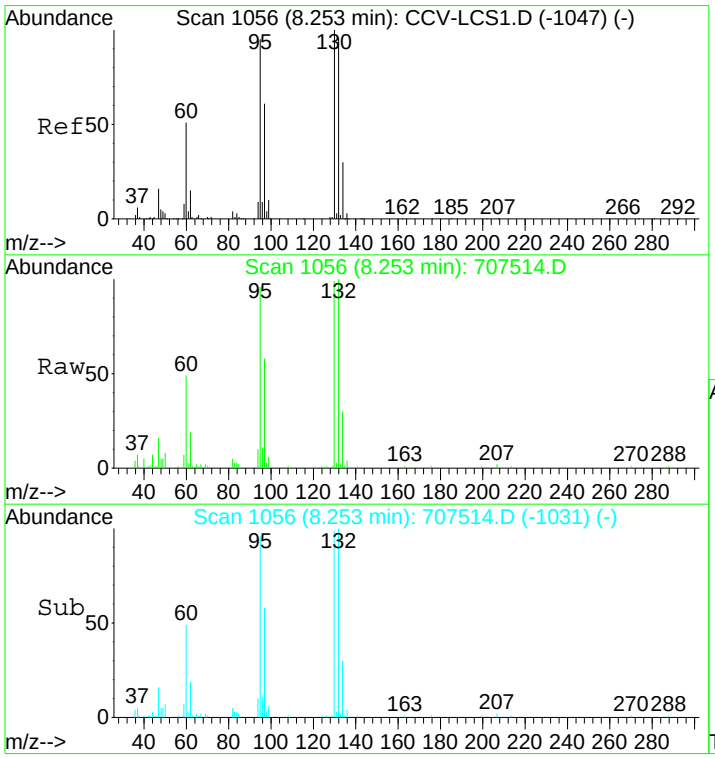


#43
Carbtetraclo
Concen: 32.17 ug/L
RT: 7.19 min Scan# 882
Delta R.T. 0.00 min
Lab File: 707514.D
Acq: 21 Apr 2016 16:41

Tgt Ion:119 Resp: 599823

Ion	Ratio	Lower	Upper
119	100		
121	31.9	13.1	53.1

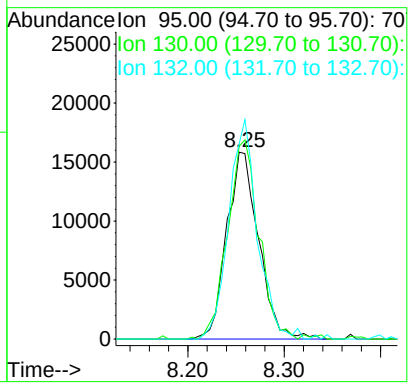




#49
trichloroete
Concen: 2.34 ug/L
RT: 8.25 min Scan# 1056
Delta R.T. 0.00 min
Lab File: 707514.D
Acq: 21 Apr 2016 16:41

Tgt Ion: 95 Resp: 36524

Ion	Ratio	Lower	Upper
95	100		
130	103.7	85.2	125.2
132	105.5	82.7	122.7



Quantitation Report

Data File : C:\INSTARCH\DATA\APR2116\707515.D Vial: 19
Acq On : 21 Apr 2016 17:09 Operator: RLD-AGK
Sample : 124904,707515, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 17:29:55 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:59:39 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.80	96	1464076	20.00 ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.73	117	1184399	20.00 ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	15.04	152	637580	20.00 ug/L	0.00 NA%
System Monitoring Compounds					
41) SURRDibrflma	6.96	113	409775	20.578 ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 103 %		
45) SURR12DCAd4	7.37	102	99444	20.855 ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 104 %		
61) SURRd8Tolule	9.80	98	1419439	20.354 ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 102 %		
83) SURR4BrFBenz	13.38	95	533645	19.582 ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 98 %		
Target Compounds					Qvalue
2) Dichlorodi	0.00	85	0	N.D.	
3) Chloromethan	2.04	50	1848	N.D.	
4) VinylChlorid	0.00	62	0	N.D.	
5) Bromomethane	2.79	94	1474	N.D.	
6) Chloroethane	2.86	64	43681	4.3735 ug/L #	54
7) Dichloroflmethane	0.00	67	0	N.D.	
8) Trichlorofma	0.00	101	0	N.D.	
9) Ethylether	0.00	59	0	N.D.	
10) dichlorotfluoroethan	3.79	67	8557	0.5128 ug/L	97
11) propyleneoxide	0.00	58	0	N.D.	
12) Acrolein	0.00	56	0	N.D.	
13) 11dichlorthe	4.04	96	4714	0.3368 ug/L	97
14) Trichlorotfluoroeth	0.00	101	0	N.D.	
15) Acetone	4.17	43	4803	N.D.	
16) Iodomethane	0.00	142	0	N.D.	
17) Carbon Dislf	4.32	76	2739	N.D.	
18) allylchloride	0.00	41	0	N.D.	
19) methylacetate	0.00	74	0	N.D.	
20) Methylchlorid	0.00	84	0	N.D.	
21) tbutylalcohol	4.92	59	2316	N.D.	
22) Acrylonitrile	0.00	53	0	N.D.	
23) t12dichlorte	0.00	96	0	N.D.	
24) MtBE	0.00	73	0	N.D.	
25) Hexane	0.00	57	0	N.D.	
26) 11dichlorota	5.62	63	141087	5.1511 ug/L	98
27) Vinylacetate	0.00	43	0	N.D.	
28) chloroprene	0.00	53	0	N.D.	
29) Diisopether	0.00	45	0	N.D.	
30) ETBE	0.00	59	0	N.D.	
31) 22dichloropr	0.00	77	0	N.D.	
32) c12dichlorte	6.36	96	132740	8.0814 ug/L	90
33) 2Butanone	6.35	72	1441	N.D.	
34) propionitrile	0.00	54	0	N.D.	
35) Ethylacetate	0.00	88	0	N.D.	
36) methacrylonitrile	0.00	67	0	N.D.	
37) Bromochlorma	0.00	128	0	N.D.	
38) Tetrahydofur	0.00	42	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\APR2116\707515.D Vial: 19
Acq On : 21 Apr 2016 17:09 Operator: RLD-AGK
Sample : 124904,707515, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 17:29:55 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:59:39 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	6.99	97	30038	1.2466 ug/L	97
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	0.00	119	0	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	7.44	78	2250	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	8.25	95	97464	5.8999 ug/L	97
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	8.72	88	1486	6.4597 ug/L #	26
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	9.89	92	1098	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	10.61	166	14867	0.7324 ug/L	95
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	11.72	91	2743	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	12.10	106	1306	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	13.37	55	1600	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	13.99	105	1093	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	14.54	105	1815	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	15.01	119	1999	N.D.	
97)	14dichlorobe	15.06	146	1152	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	15.59	91	1978	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\APR2116\707515.D Vial: 19
Acq On : 21 Apr 2016 17:09 Operator: RLD-AGK
Sample : 124904,707515, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 17:29:55 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:59:39 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	18.15	128	2122	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

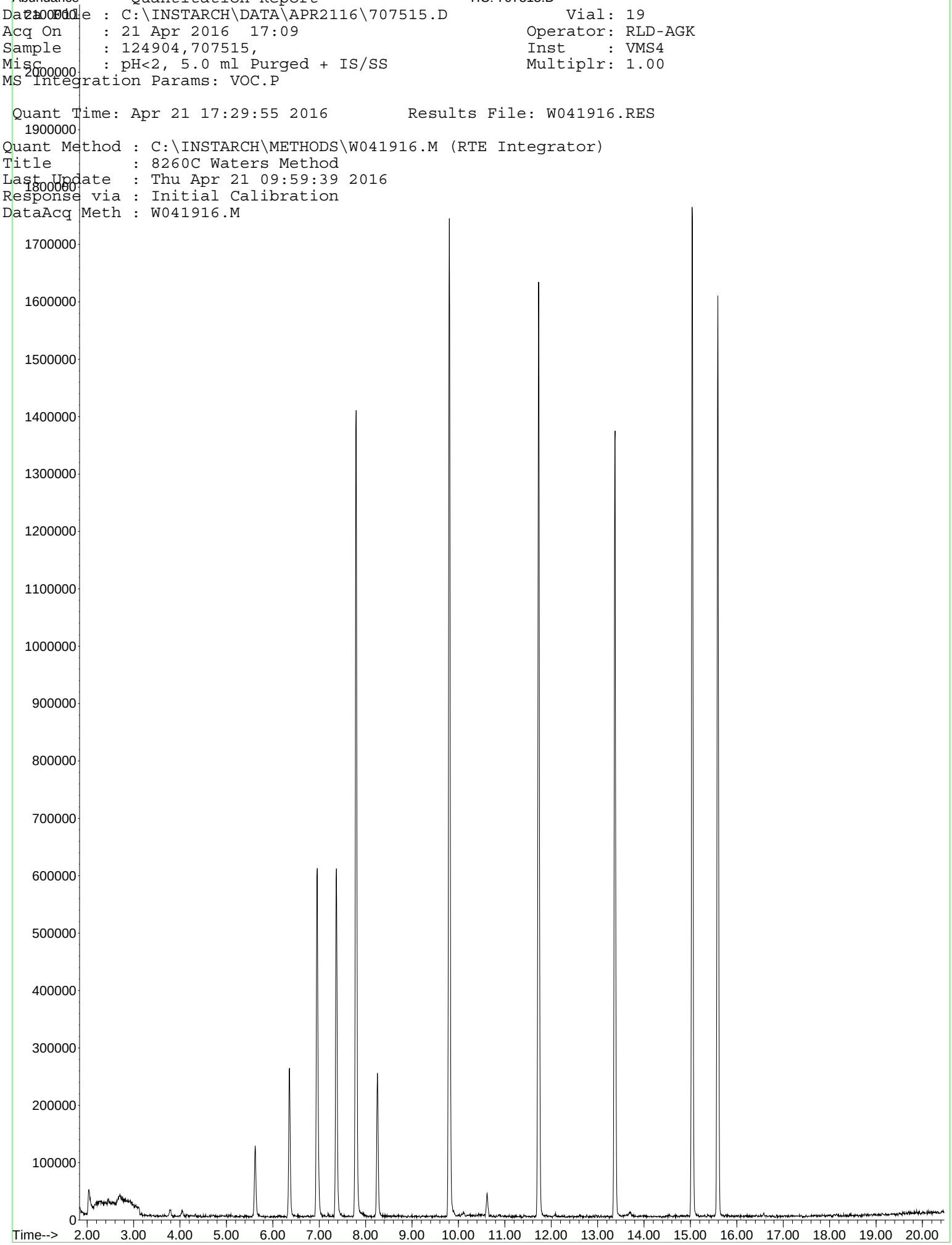
(#) = qualifier out of range (m) = manual integration

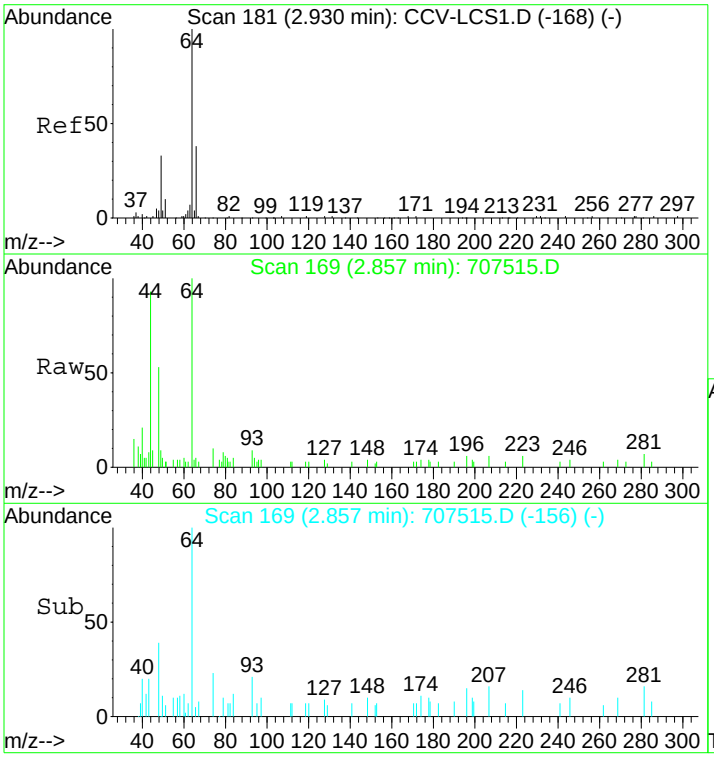
Quantitation Report

Data File : C:\INSTARCH\DATA\APR2116\707515.D Vial: 19
Acq On : 21 Apr 2016 17:09 Operator: RLD-AGK
Sample : 124904,707515, Inst : VMS4
MiscC : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 17:29:55 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:59:39 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

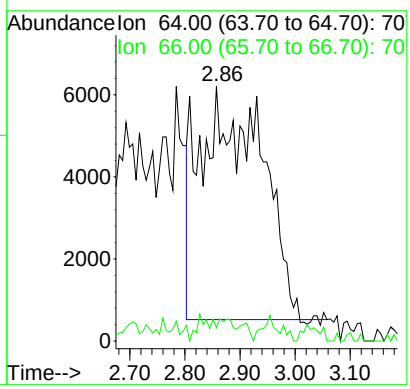


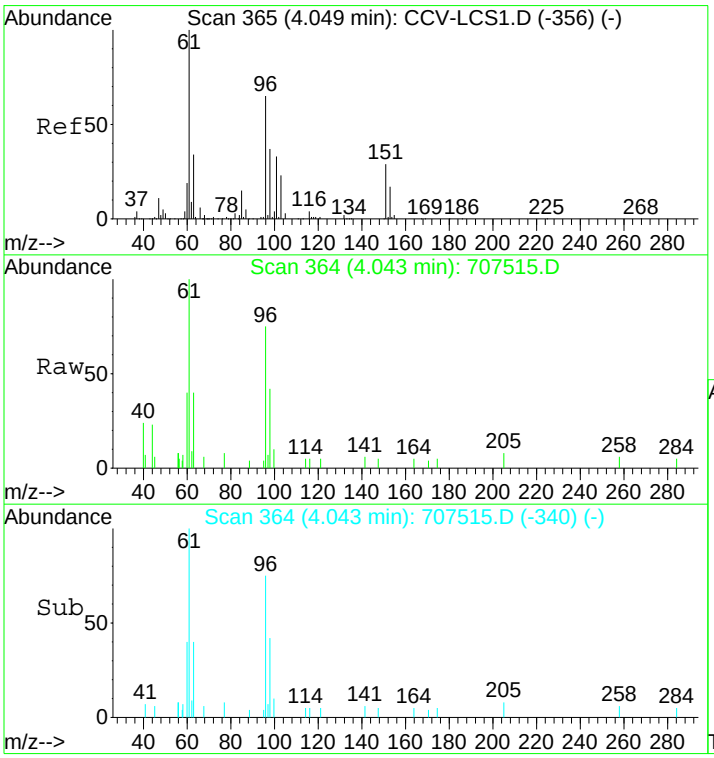


#6
Chloroethane
Concen: 4.37 ug/L
RT: 2.86 min Scan# 169
Delta R.T. -0.07 min
Lab File: 707515.D
Acq: 21 Apr 2016 17:09

Tgt Ion: 64 Resp: 43681

Ion	Ratio	Lower	Upper
64	100		
66	6.1	11.9	51.9#

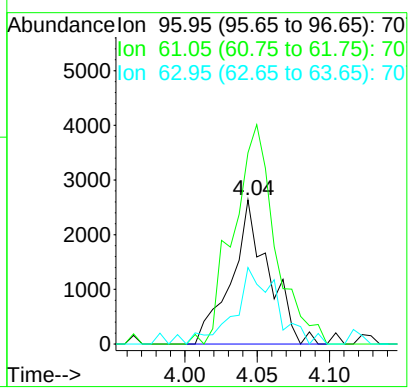


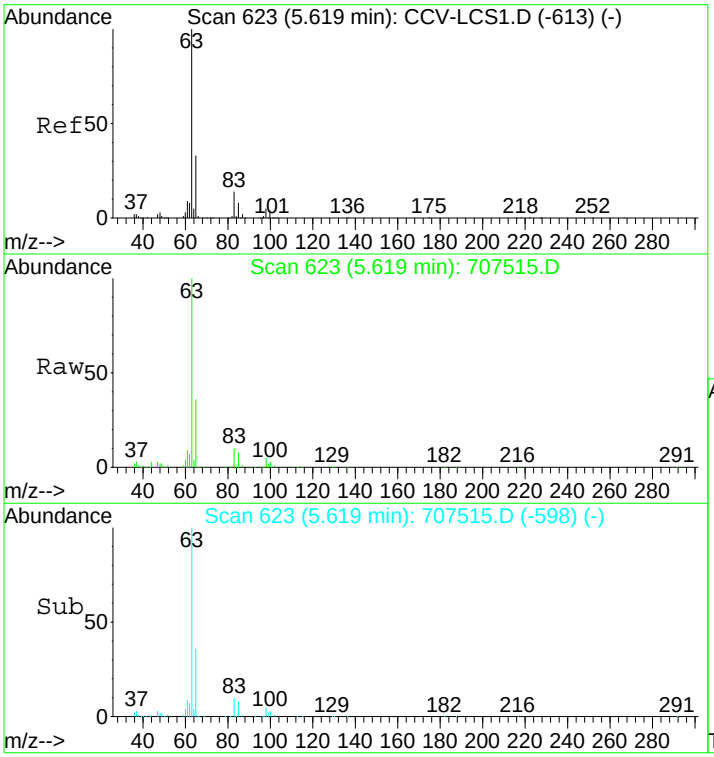


#13
11dichlorthe
Concen: 0.34 ug/L
RT: 4.04 min Scan# 364
Delta R.T. -0.01 min
Lab File: 707515.D
Acq: 21 Apr 2016 17:09

Tgt Ion: 96 Resp: 4714

Ion	Ratio	Lower	Upper
96	100		
61	172.1	150.4	190.4
63	60.9	35.3	75.3

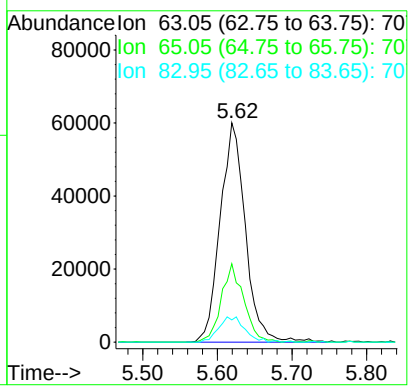


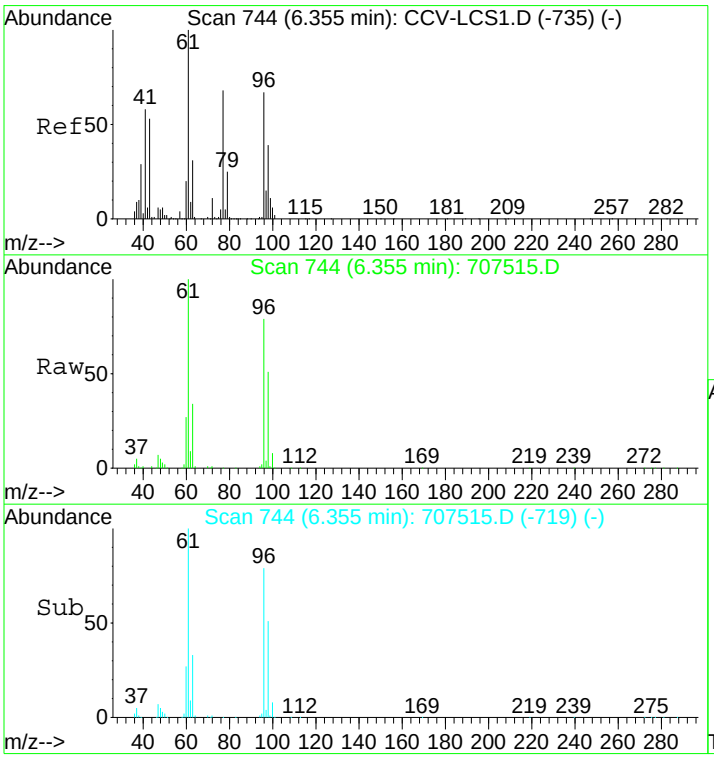


#26
11dichlorota
Concen: 5.15 ug/L
RT: 5.62 min Scan# 623
Delta R.T. 0.00 min
Lab File: 707515.D
Acq: 21 Apr 2016 17:09

Tgt Ion: 63 Resp: 141087

Ion	Ratio	Lower	Upper
63	100		
65	31.8	10.9	50.9
83	12.1	0.0	33.0

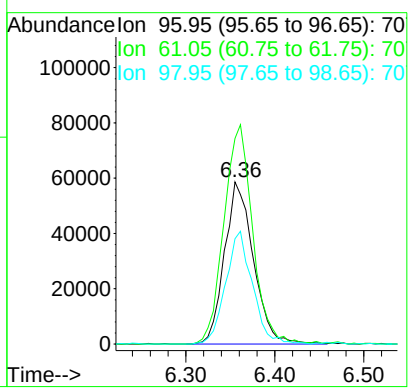


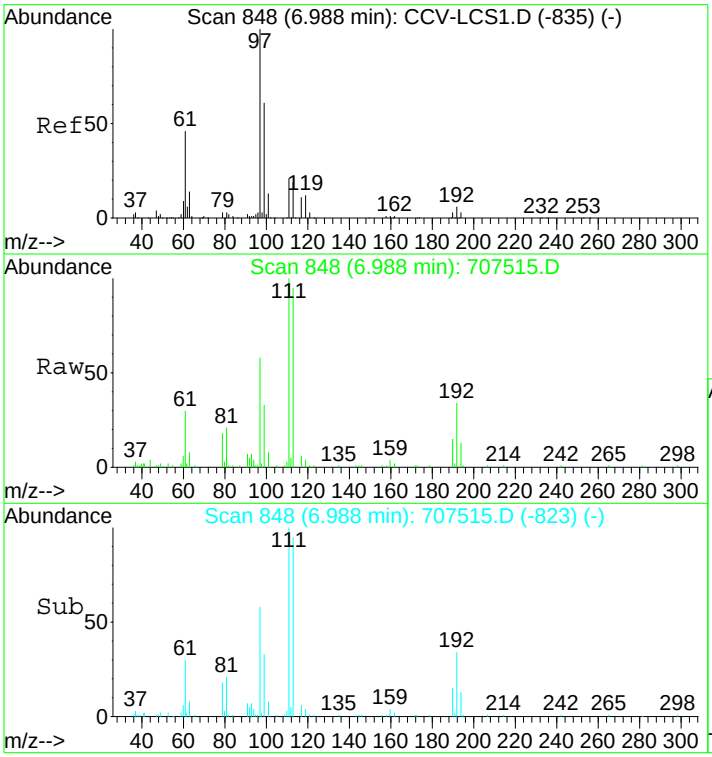


#32
c12dichlorte
Concen: 8.08 ug/L
RT: 6.36 min Scan# 744
Delta R.T. 0.00 min
Lab File: 707515.D
Acq: 21 Apr 2016 17:09

Tgt Ion: 96 Resp: 132740

Ion	Ratio	Lower	Upper
96	100		
61	134.4	131.5	171.5
98	64.3	45.4	85.4

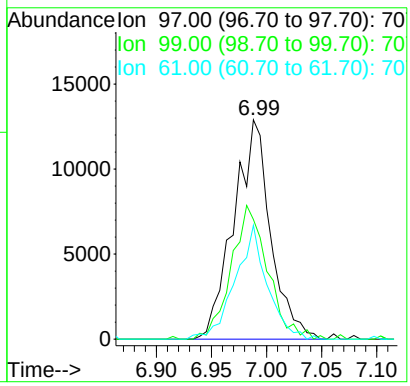


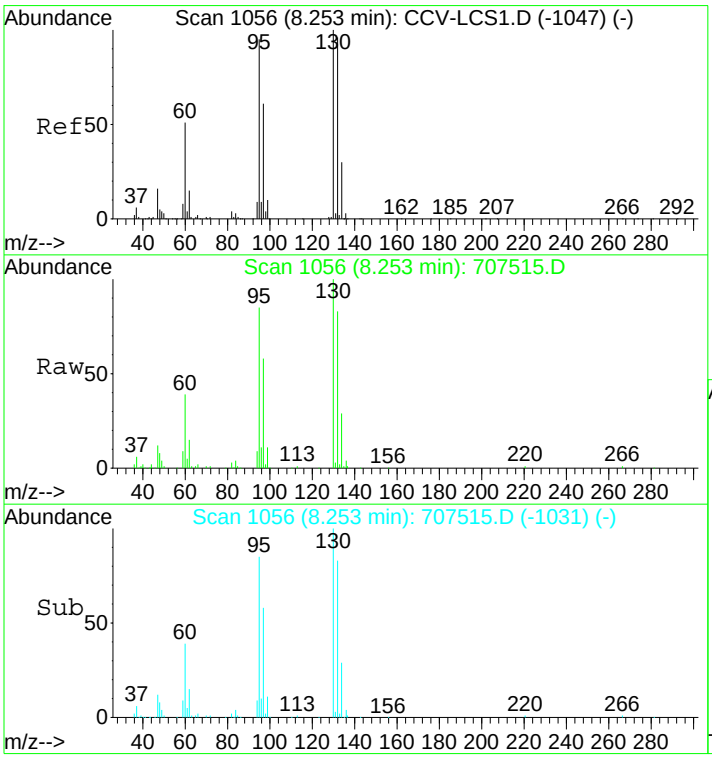


#40
111trichlota
Concen: 1.25 ug/L
RT: 6.99 min Scan# 848
Delta R.T. 0.00 min
Lab File: 707515.D
Acq: 21 Apr 2016 17:09

Tgt Ion: 97 Resp: 30038

Ion	Ratio	Lower	Upper
97	100		
99	60.1	44.2	84.2
61	45.0	25.6	65.6

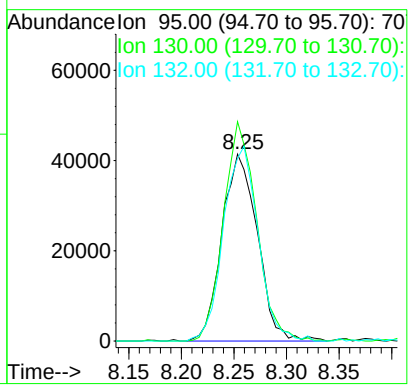


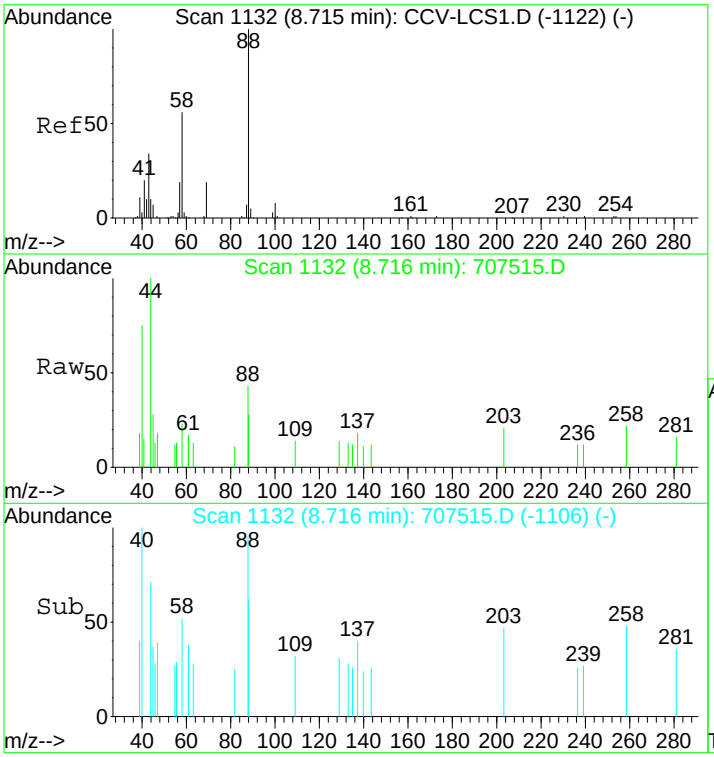


#49
trichloroete
Concen: 5.90 ug/L
RT: 8.25 min Scan# 1056
Delta R.T. 0.00 min
Lab File: 707515.D
Acq: 21 Apr 2016 17:09

Tgt Ion: 95 Resp: 97464

Ion	Ratio	Lower	Upper
95	100		
130	109.5	85.2	125.2
132	101.6	82.7	122.7

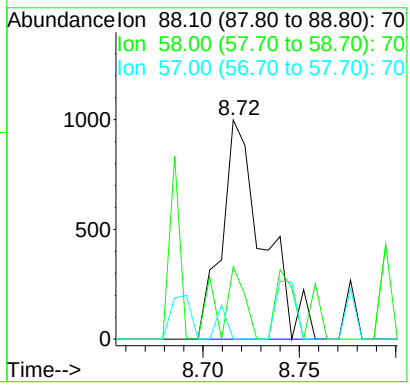


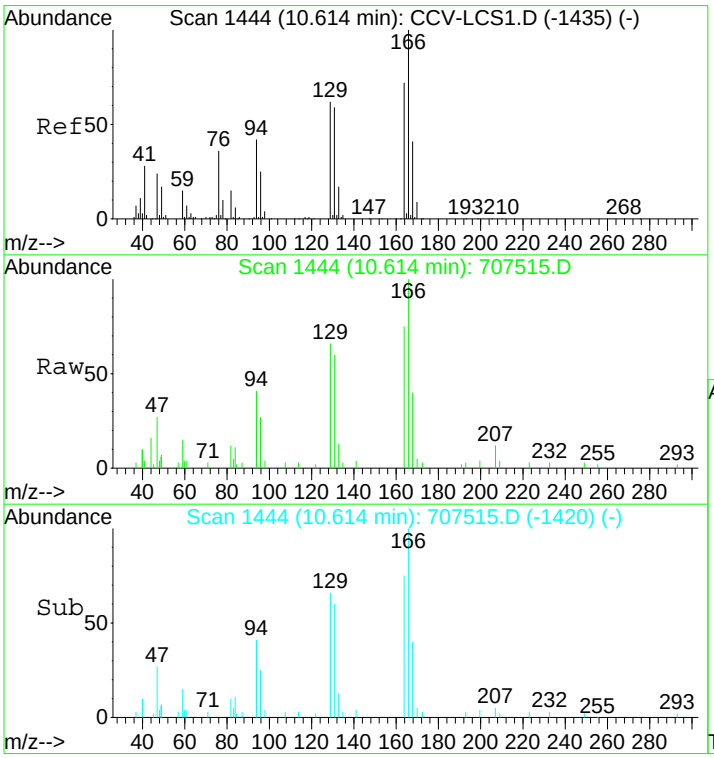


#55
14dioxane
Concen: 6.46 ug/L
RT: 8.72 min Scan# 1132
Delta R.T. 0.01 min
Lab File: 707515.D
Acq: 21 Apr 2016 17:09

Tgt Ion: 88 Resp: 1486

Ion	Ratio	Lower	Upper
88	100		
58	0.0	47.2	87.2#
57	0.0	2.9	42.9#

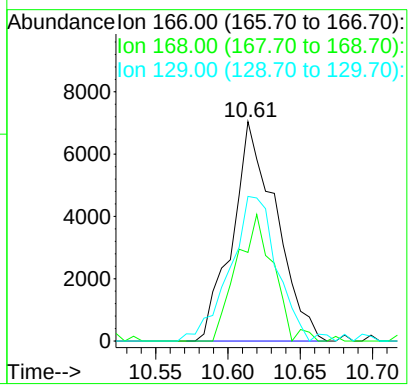




#66
Tetrachlorte
Concen: 0.73 ug/L
RT: 10.61 min Scan# 1444
Delta R.T. -0.01 min
Lab File: 707515.D
Acq: 21 Apr 2016 17:09

Tgt Ion:166 Resp: 14867

Ion	Ratio	Lower	Upper
166	100		
168	48.5	27.3	67.3
129	70.9	45.2	85.2



Quantitation Report

Data File : C:\INSTARCH\DATA\APR2116\707516.D Vial: 20
Acq On : 21 Apr 2016 17:37 Operator: RLD-AGK
Sample : 124904,707516, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 17:57:56 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:59:39 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.80	96	1439649	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.73	117	1185332	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	15.04	152	629336	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.95	113	405007	20.684	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 103 %			
45) SURR12DCAd4	7.37	102	99782	21.281	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 106 %			
61) SURRd8Tolule	9.80	98	1406161	20.505	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 103 %			
83) SURR4BrFBenz	13.37	95	528853	19.660	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 98 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	2.13	50	2212	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	0.00	94	0	N.D.		
6) Chloroethane	2.89	64	19646	2.0004	ug/L #	53
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	3.78	59	1190	N.D.		
10) dichlorotfluoroethan	3.79	67	7295	0.4446	ug/L	96
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	4.04	96	4507	0.3275	ug/L	94
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	4.16	43	4369	N.D.		
16) Iodomethane	0.00	142	0	N.D.		
17) Carbon Dislf	4.32	76	3034	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	4.72	84	1131	N.D.		
21) tbutylalcohol	4.93	59	2509	N.D.		
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	5.62	63	142587	5.2942	ug/L	97
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	6.36	96	132731	8.2179	ug/L	93
33) 2Butanone	6.36	72	1275	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	0.00	42	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\APR2116\707516.D Vial: 20
Acq On : 21 Apr 2016 17:37 Operator: RLD-AGK
Sample : 124904,707516, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 17:57:56 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:59:39 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	6.99	97	30476	1.2862 ug/L	94
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	0.00	119	0	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	7.45	78	2640	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	8.26	95	102760	6.3261 ug/L	97
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	9.90	92	1707	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	10.63	166	15897	0.7964 ug/L	99
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	11.73	91	2443	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	0.00	106	0	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	13.38	55	1799	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	14.55	105	1342	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	15.00	119	2288	N.D.	
97)	14dichlorobe	15.08	146	1197	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	15.58	91	2009	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\APR2116\707516.D Vial: 20
Acq On : 21 Apr 2016 17:37 Operator: RLD-AGK
Sample : 124904,707516, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 17:57:56 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:59:39 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	18.16	128	1376	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

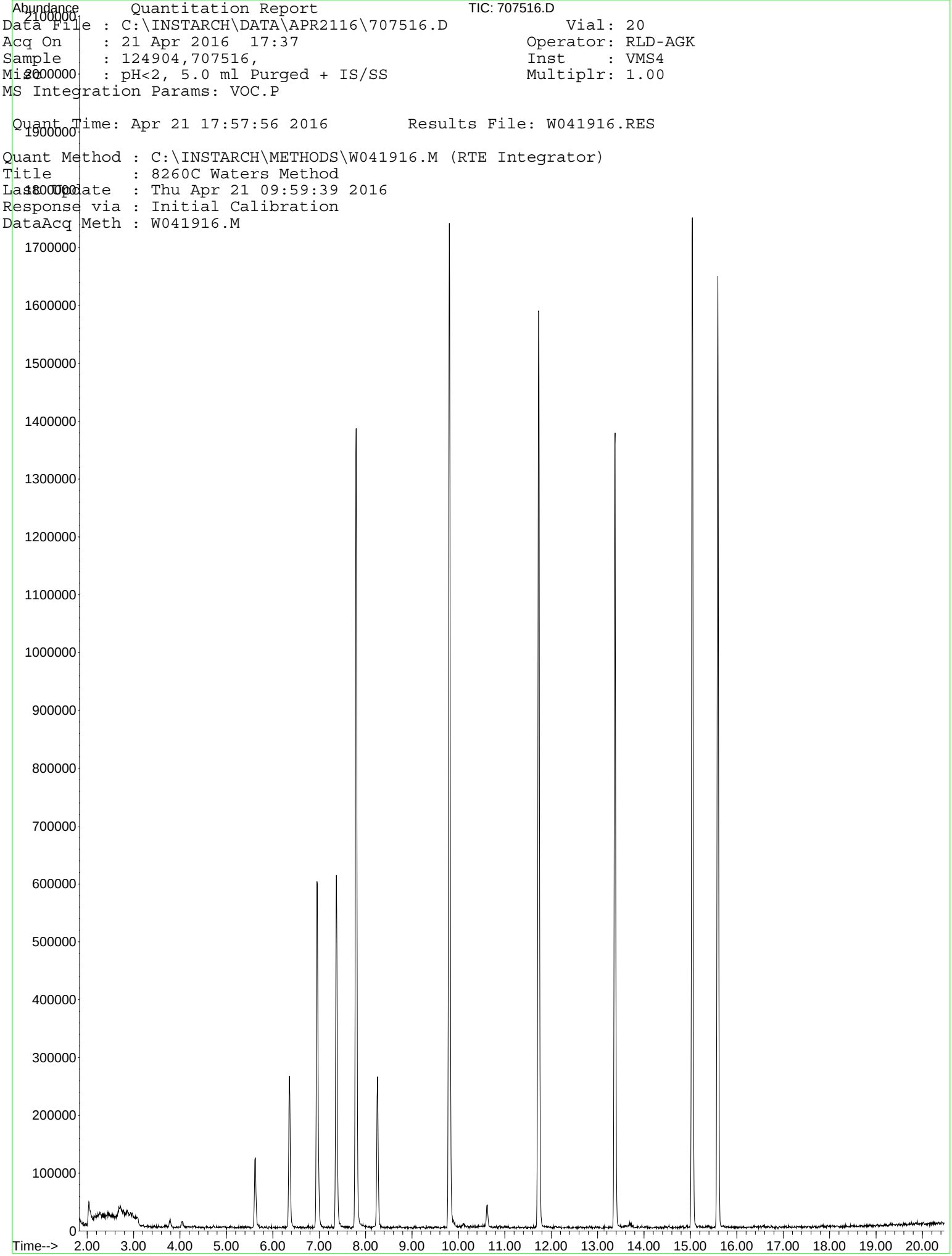
(#) = qualifier out of range (m) = manual integration

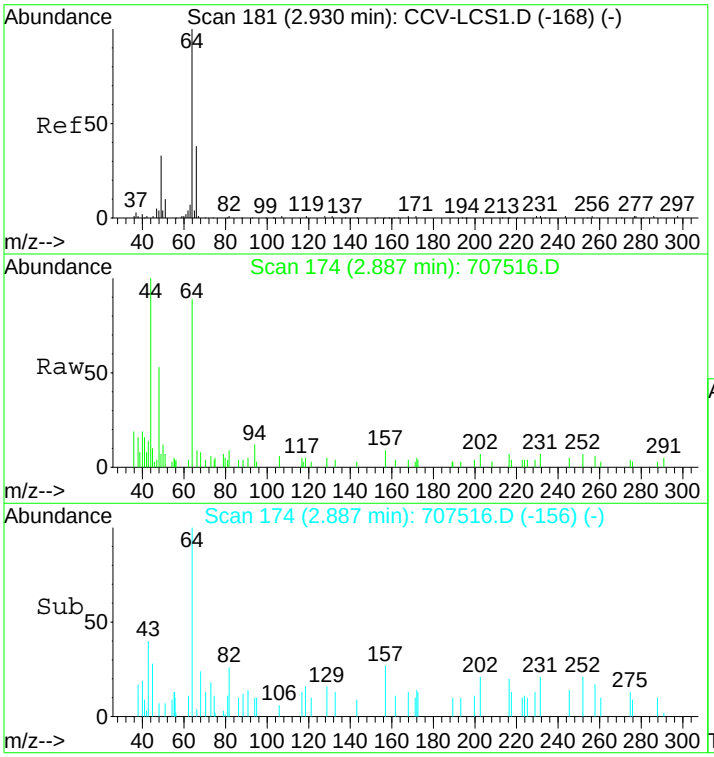
Abundance Quantitation Report TIC: 707516.D

Data File : C:\INSTARCH\DATA\APR2116\707516.D Vial: 20
Acq On : 21 Apr 2016 17:37 Operator: RLD-AGK
Sample : 124904,707516, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 17:57:56 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:59:39 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

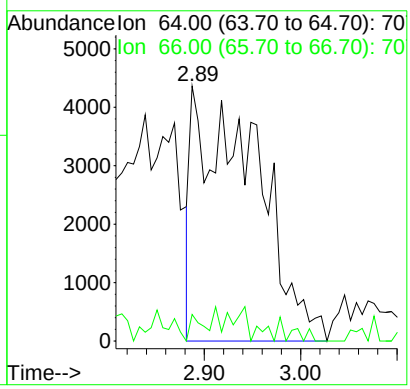


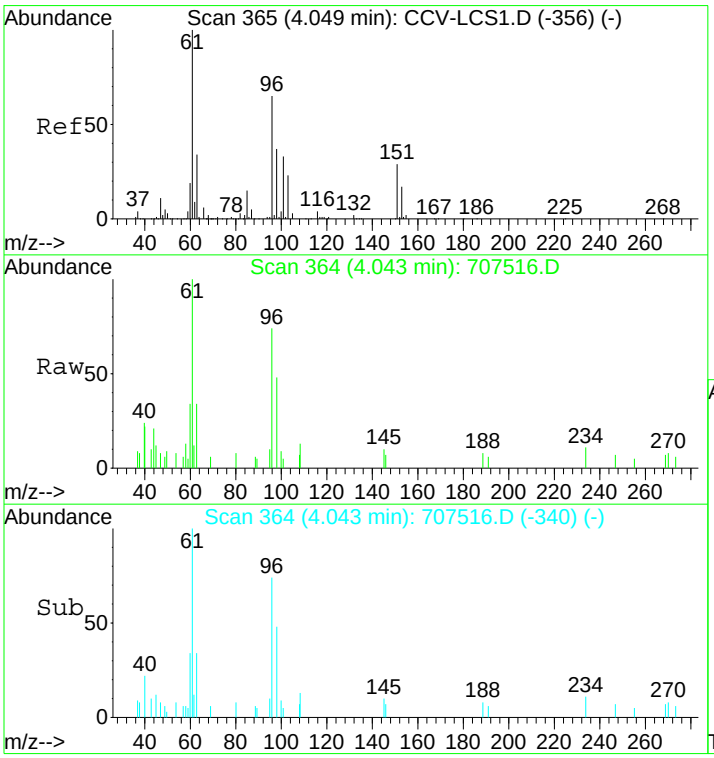


#6
Chloroethane
Concen: 2.00 ug/L
RT: 2.89 min Scan# 174
Delta R.T. -0.04 min
Lab File: 707516.D
Acq: 21 Apr 2016 17:37

Tgt Ion: 64 Resp: 19646

Ion	Ratio	Lower	Upper
64	100		
66	5.9	11.9	51.9#

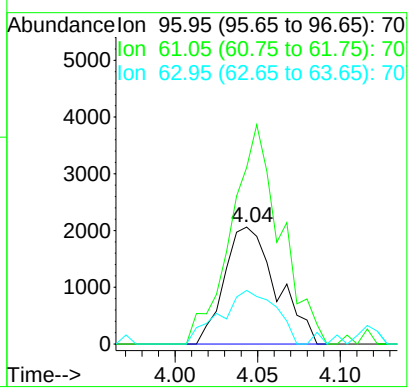


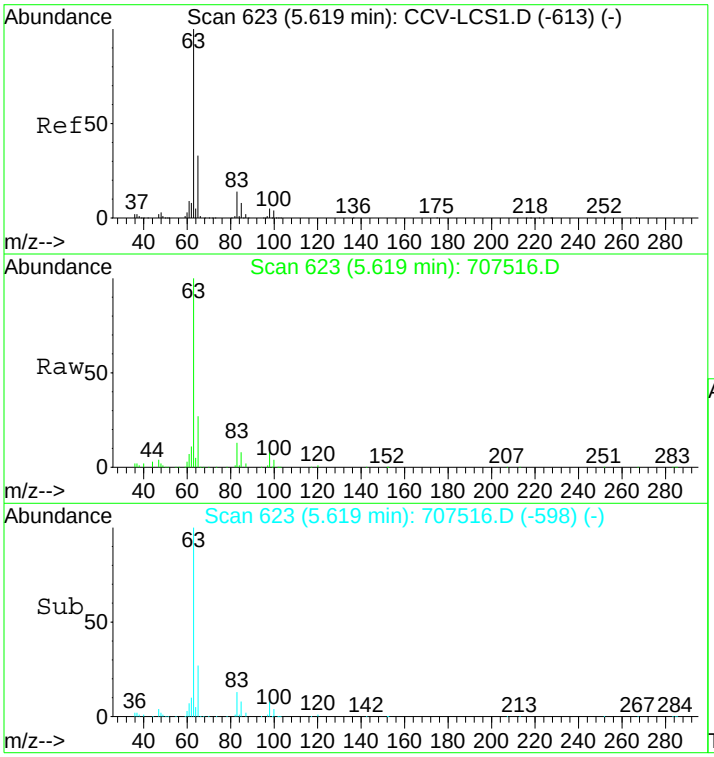


#13
11dichlorthe
Concen: 0.33 ug/L
RT: 4.04 min Scan# 364
Delta R.T. -0.01 min
Lab File: 707516.D
Acq: 21 Apr 2016 17:37

Tgt Ion: 96 Resp: 4507

Ion	Ratio	Lower	Upper
96	100		
61	178.0	150.4	190.4
63	49.2	35.3	75.3

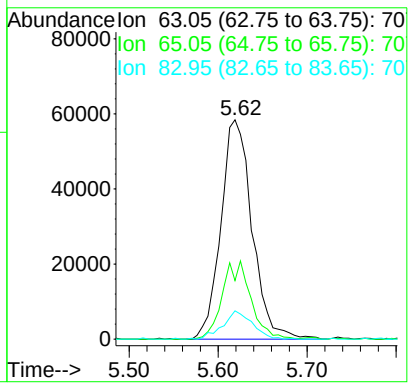


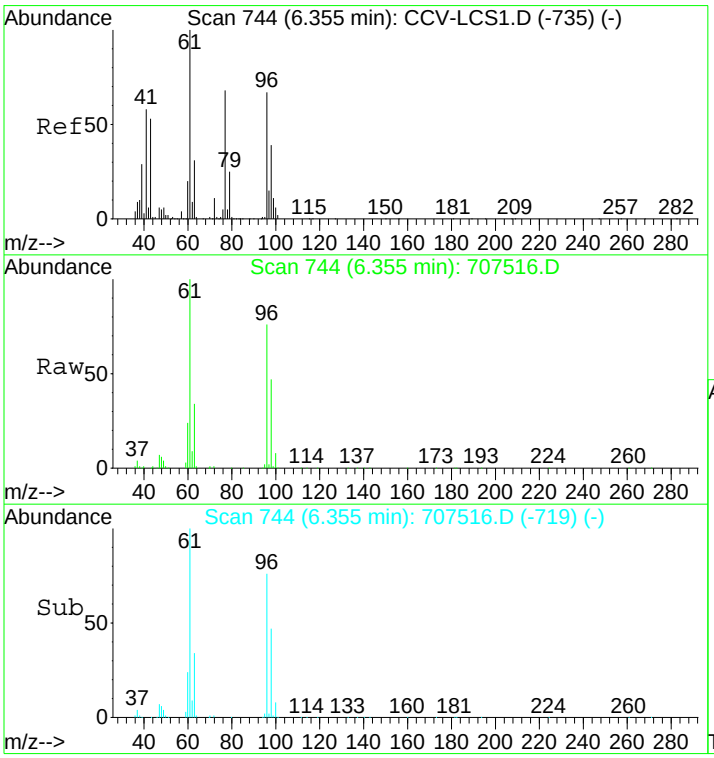


#26
11dichlorota
Concen: 5.29 ug/L
RT: 5.62 min Scan# 623
Delta R.T. 0.00 min
Lab File: 707516.D
Acq: 21 Apr 2016 17:37

Tgt Ion: 63 Resp: 142587

Ion	Ratio	Lower	Upper
63	100		
65	32.5	10.9	50.9
83	12.2	0.0	33.0

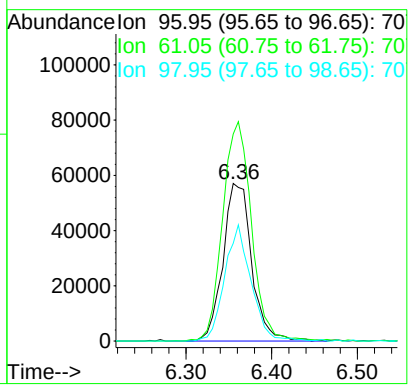


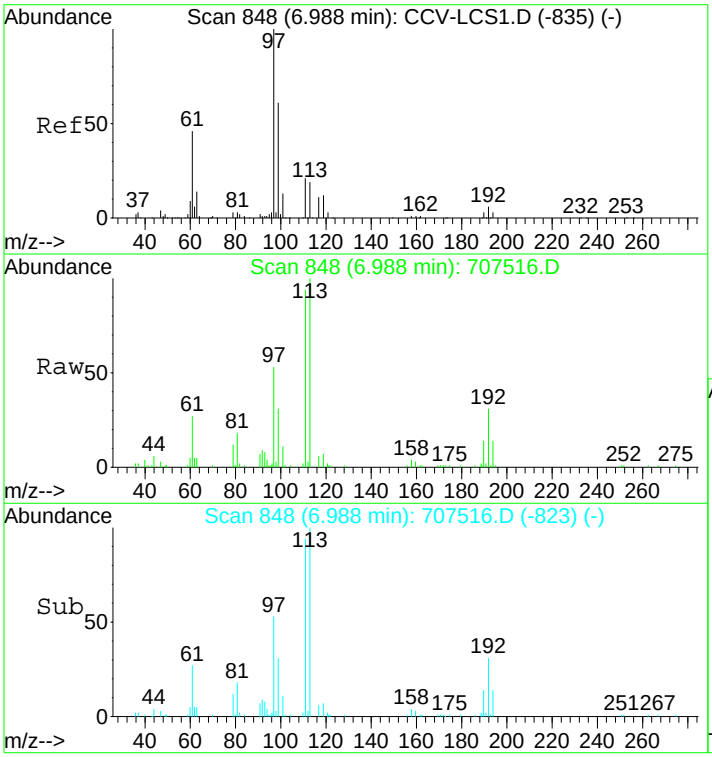


#32
c12dichlorte
Concen: 8.22 ug/L
RT: 6.36 min Scan# 744
Delta R.T. 0.00 min
Lab File: 707516.D
Acq: 21 Apr 2016 17:37

Tgt Ion: 96 Resp: 132731

Ion	Ratio	Lower	Upper
96	100		
61	140.5	131.5	171.5
98	67.9	45.4	85.4

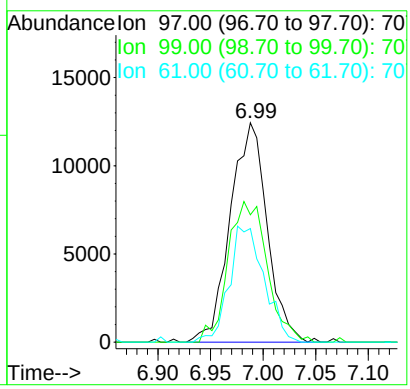


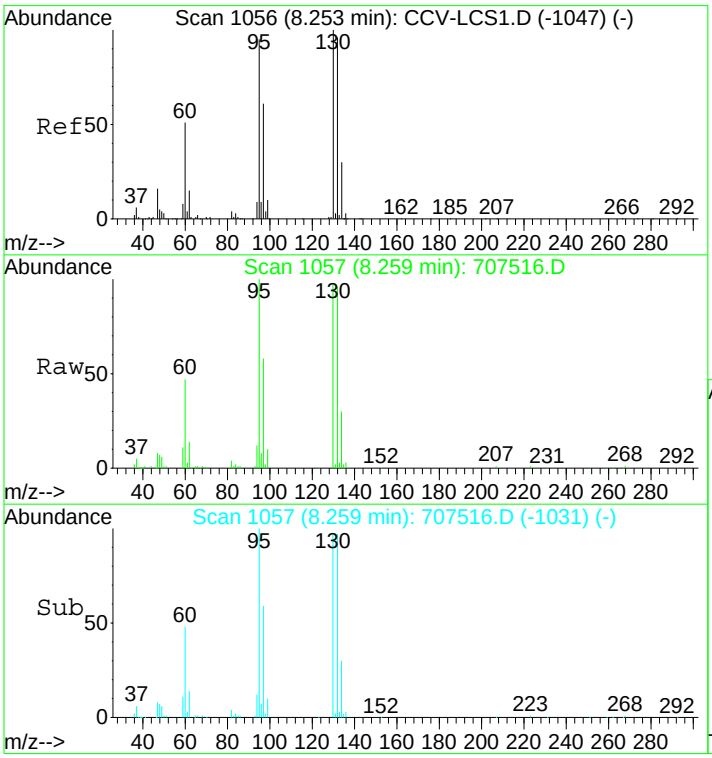


#40
111trichlota
Concen: 1.29 ug/L
RT: 6.99 min Scan# 848
Delta R.T. 0.00 min
Lab File: 707516.D
Acq: 21 Apr 2016 17:37

Tgt Ion: 97 Resp: 30476

Ion	Ratio	Lower	Upper
97	100		
99	67.9	44.2	84.2
61	50.0	25.6	65.6

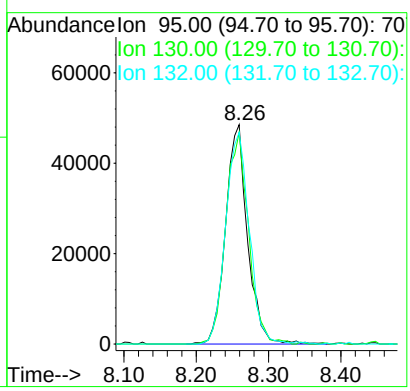


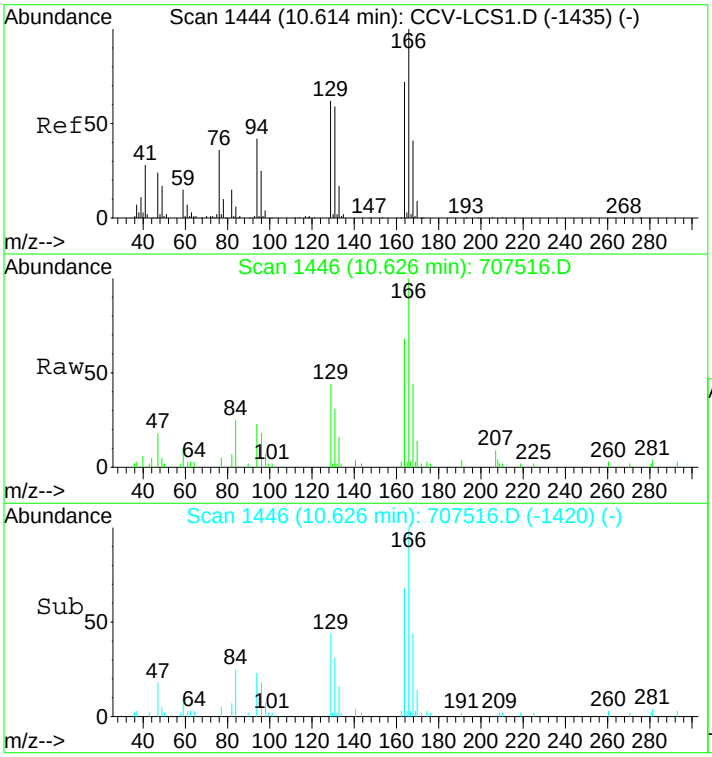


#49
trichloroete
Concen: 6.33 ug/L
RT: 8.26 min Scan# 1057
Delta R.T. 0.01 min
Lab File: 707516.D
Acq: 21 Apr 2016 17:37

Tgt Ion: 95 Resp: 102760

Ion	Ratio	Lower	Upper
95	100		
130	100.1	85.2	125.2
132	103.9	82.7	122.7

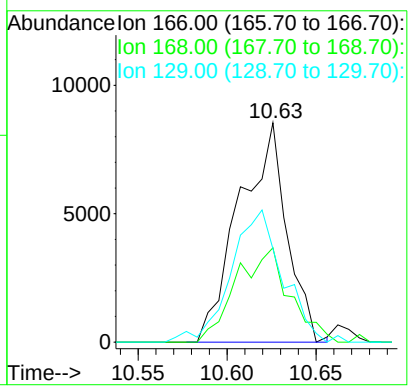




#66
Tetrachlorte
Concen: 0.80 ug/L
RT: 10.63 min Scan# 1446
Delta R.T. 0.01 min
Lab File: 707516.D
Acq: 21 Apr 2016 17:37

Tgt Ion:166 Resp: 15897

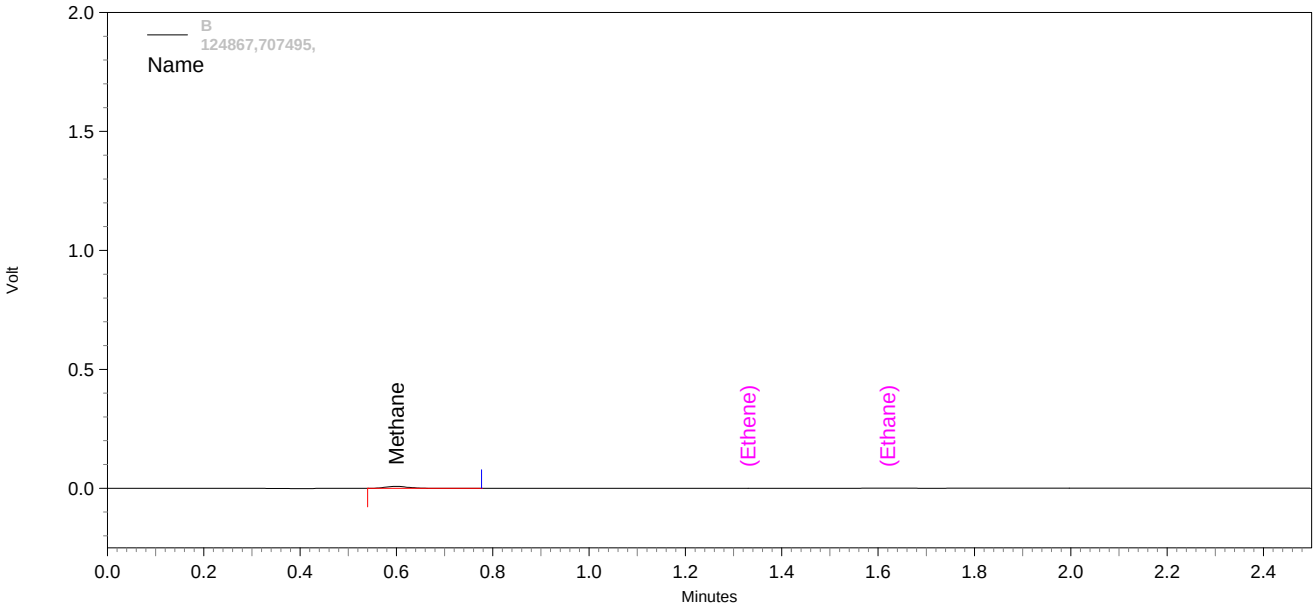
Ion	Ratio	Lower	Upper
166	100		
168	48.3	27.3	67.3
129	65.9	45.2	85.2



Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\041416\067.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 124867,707495,
Acquired: Apr 14, 2016 17:17:53
File Desc. 1.0 mL injection (Methane, Ethene, Ethane)



B Results

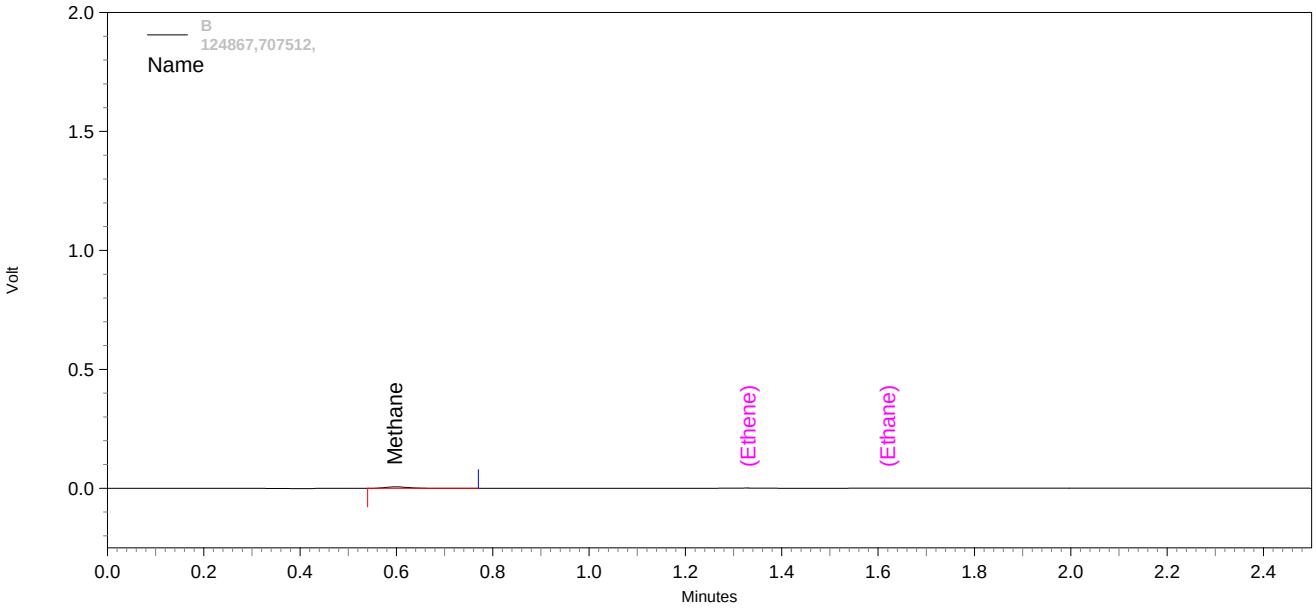
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.600	26812	**2.920**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			26812	**2.920**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\041416\069.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 124867,707512,
Acquired: Apr 14, 2016 17:24:48
File Desc. 1.0 mL injection (Methane, Ethene, Ethane)



B Results

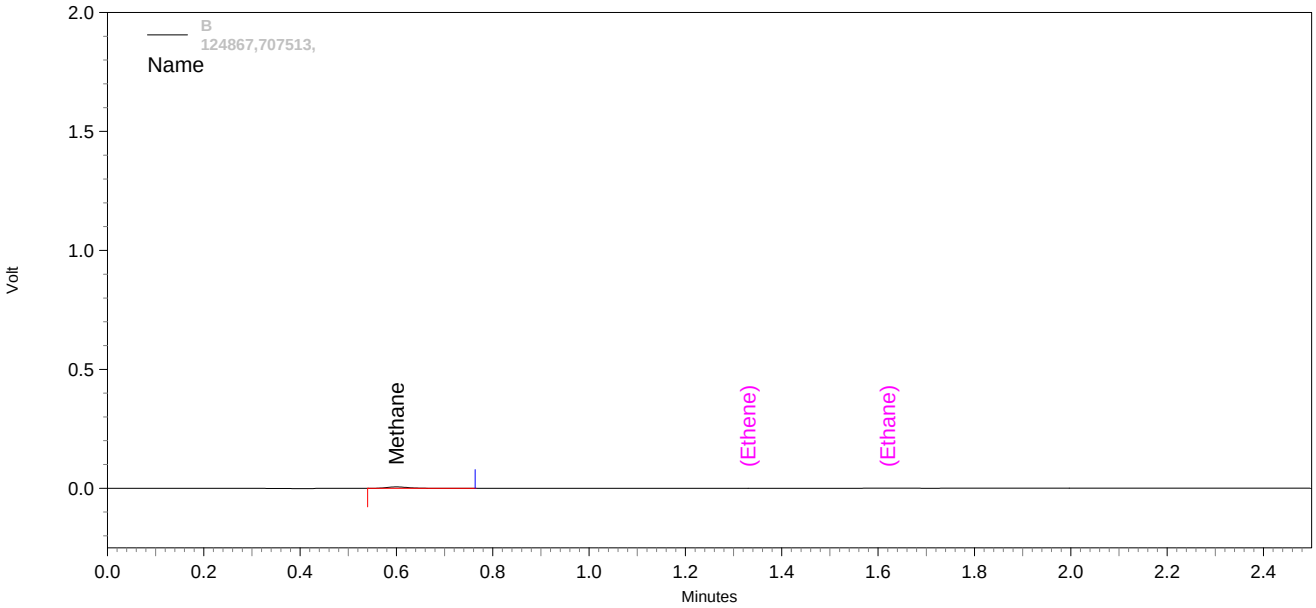
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.597	20357	**2.196**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			20357	**2.196**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\041416\070.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 124867,707513,
Acquired: Apr 14, 2016 17:28:16
File Desc. 1.0 mL injection (Methane, Ethene, Ethane)



B Results

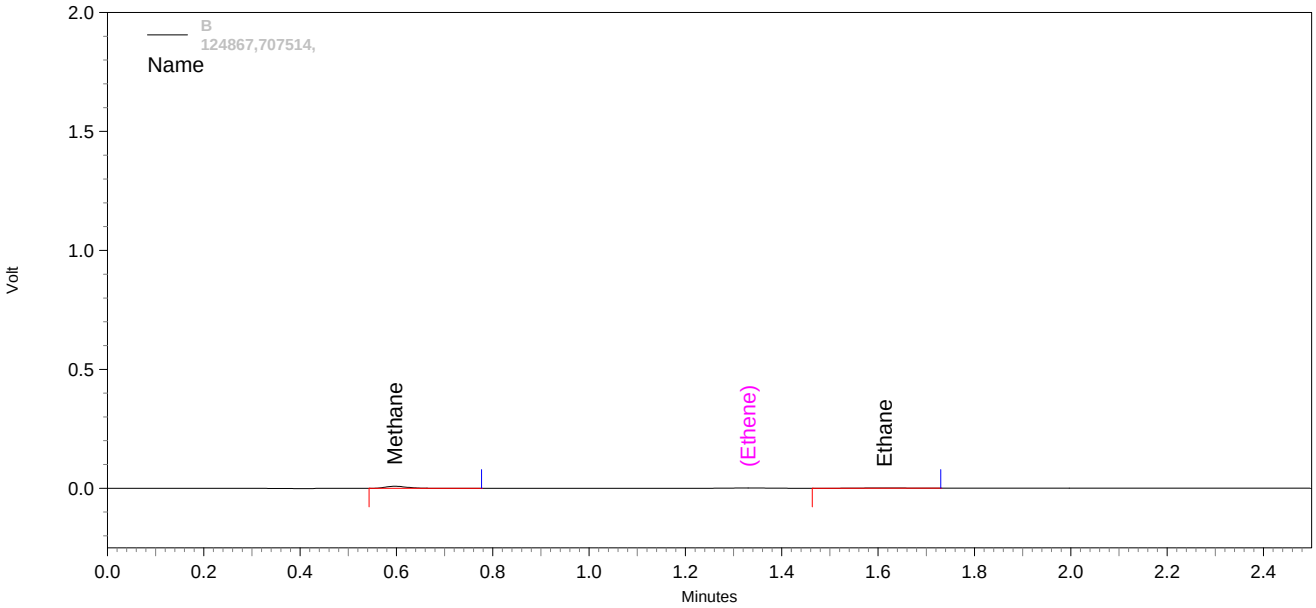
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.600	18617	**2.001**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			18617	**2.001**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\041416\073.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 124867,707514,
Acquired: Apr 14, 2016 17:39:22
File Desc. 1.0 mL injection (Methane, Ethene, Ethane)



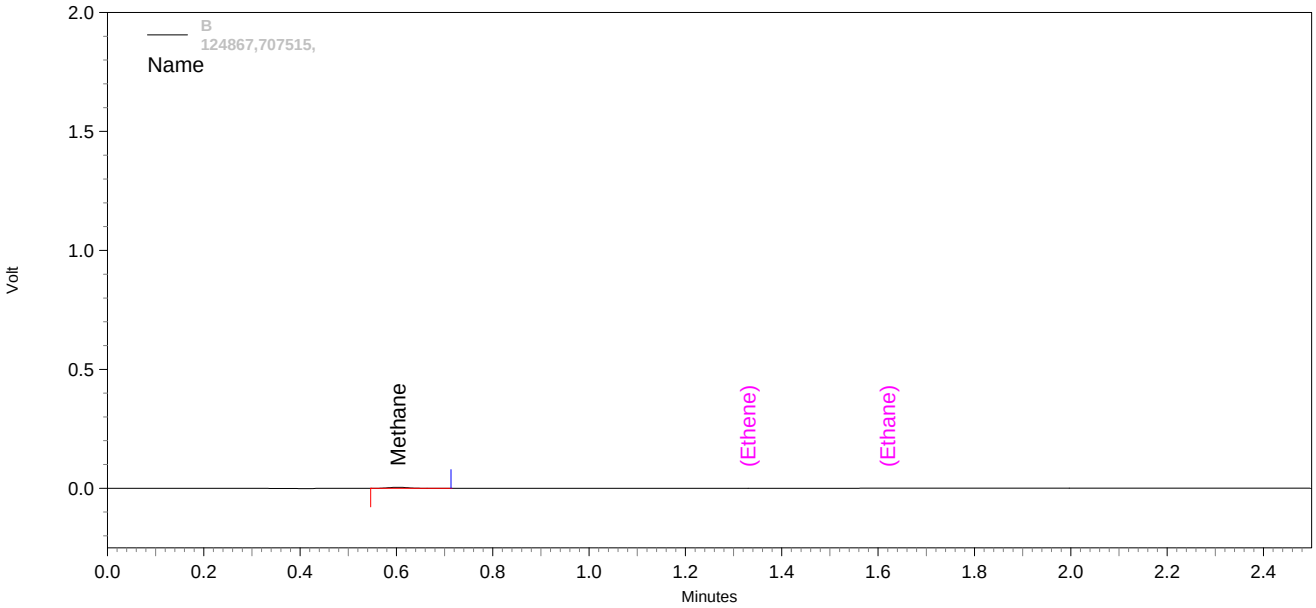
B Results

Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.597	26635	**2.900**
	Ethene			**0.000 BDL**
2	Ethane	1.613	7016	**1.008**
Totals			33651	**3.908**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\041416\074.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 124867,707515,
Acquired: Apr 14, 2016 17:43:00
File Desc. 1.0 mL injection (Methane, Ethene, Ethane)



B Results

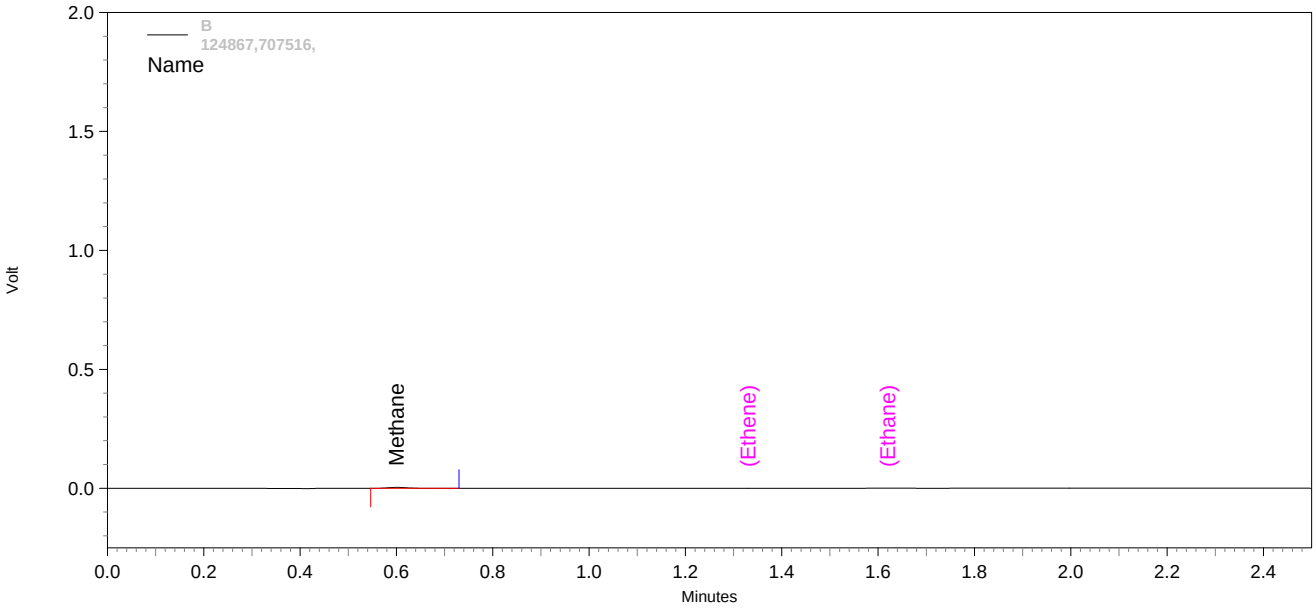
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.603	12002	**1.260**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			12002	**1.260**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\041416\075.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 124867,707516,
Acquired: Apr 14, 2016 17:46:44
File Desc. 1.0 mL injection (Methane, Ethene, Ethane)



B Results

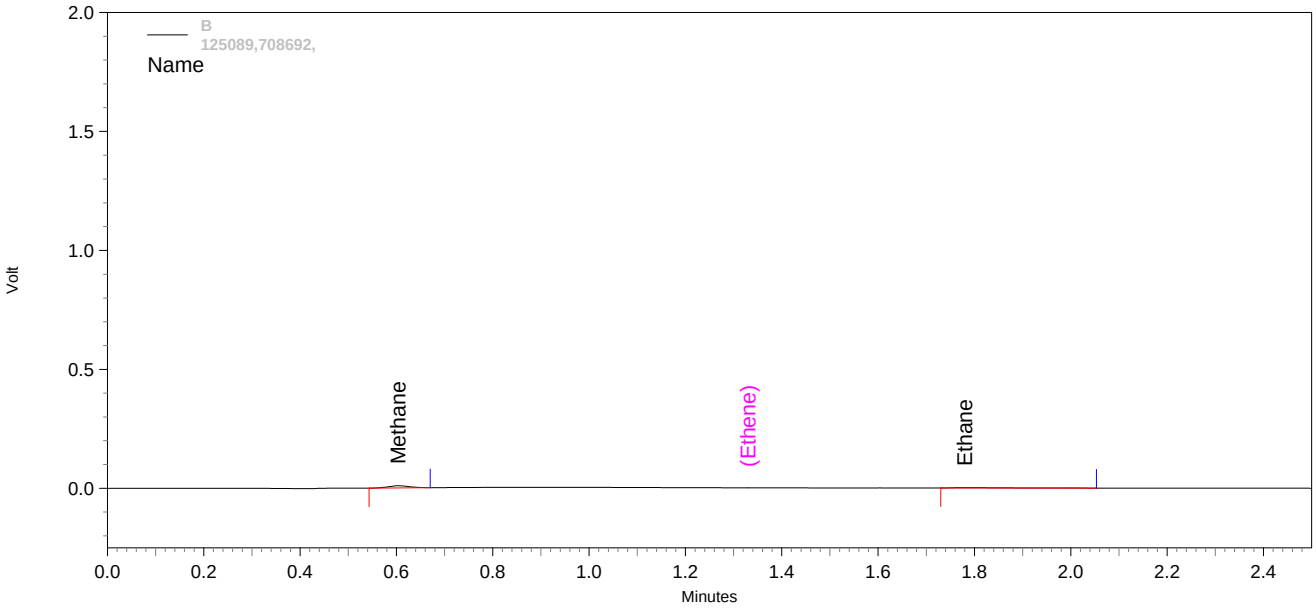
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.600	10992	**1.146**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			10992	**1.146**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\042016\011.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 125089,708692,
Acquired: Apr 20, 2016 11:25:03
File Desc. 1.0 mL injection (Methane, Ethene, Ethane)



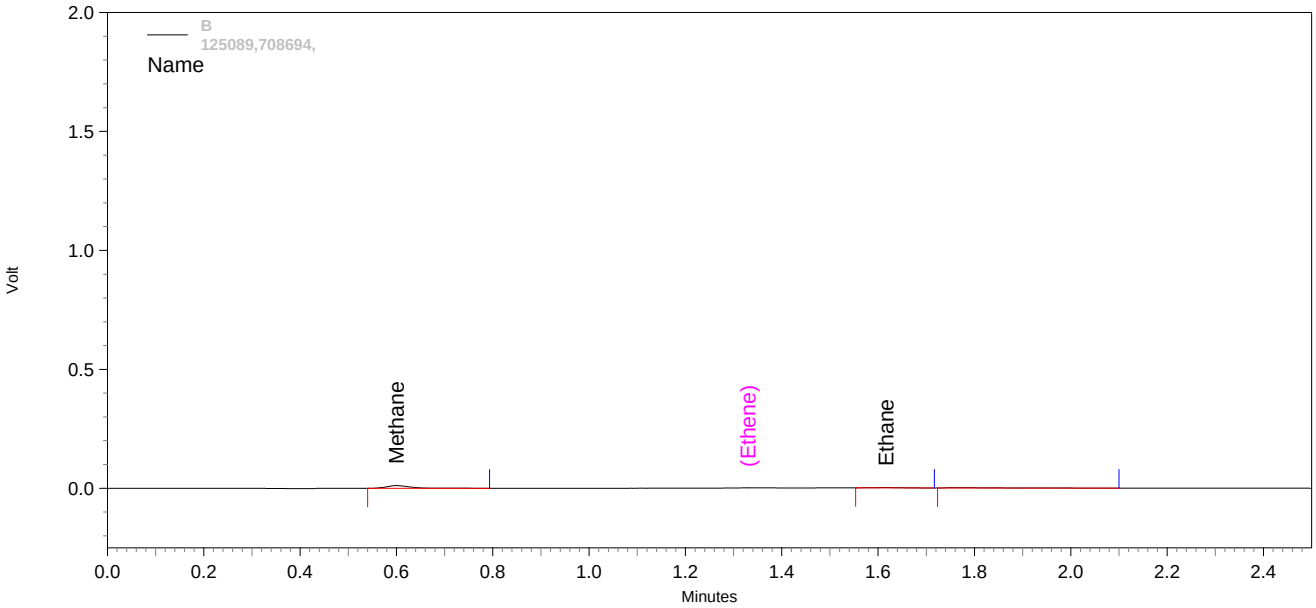
B Results

Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.603	28567	**3.117**
	Ethene			**0.000 BDL**
2	Ethane	1.780	12982	**1.357**
Totals			41549	**4.474**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\042016\013.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 125089,708694,
Acquired: Apr 20, 2016 11:32:28
File Desc. 1.0 mL injection (Methane, Ethene, Ethane)



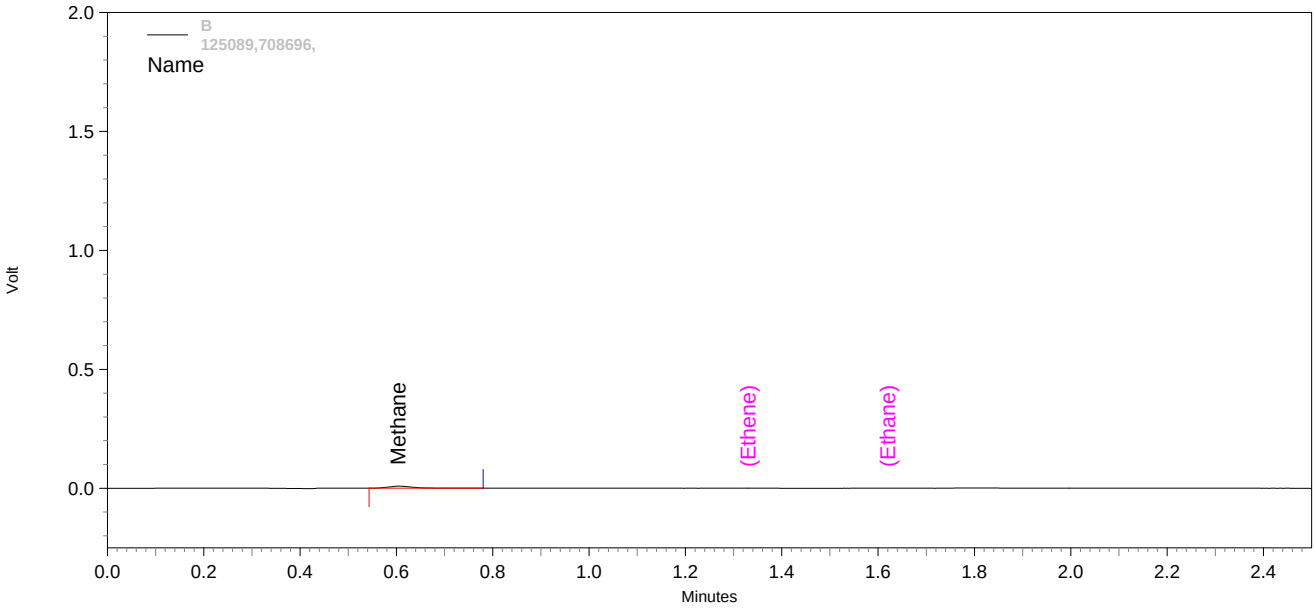
B Results

Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.600	38213	**4.199**
	Ethene			**0.000 BDL**
2	Ethane	1.617	5855	**0.940**
Totals			44068	**5.138**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\042016\015.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 125089,708696,
Acquired: Apr 20, 2016 11:43:06
File Desc. 1.0 mL injection (Methane, Ethene, Ethane)



B Results

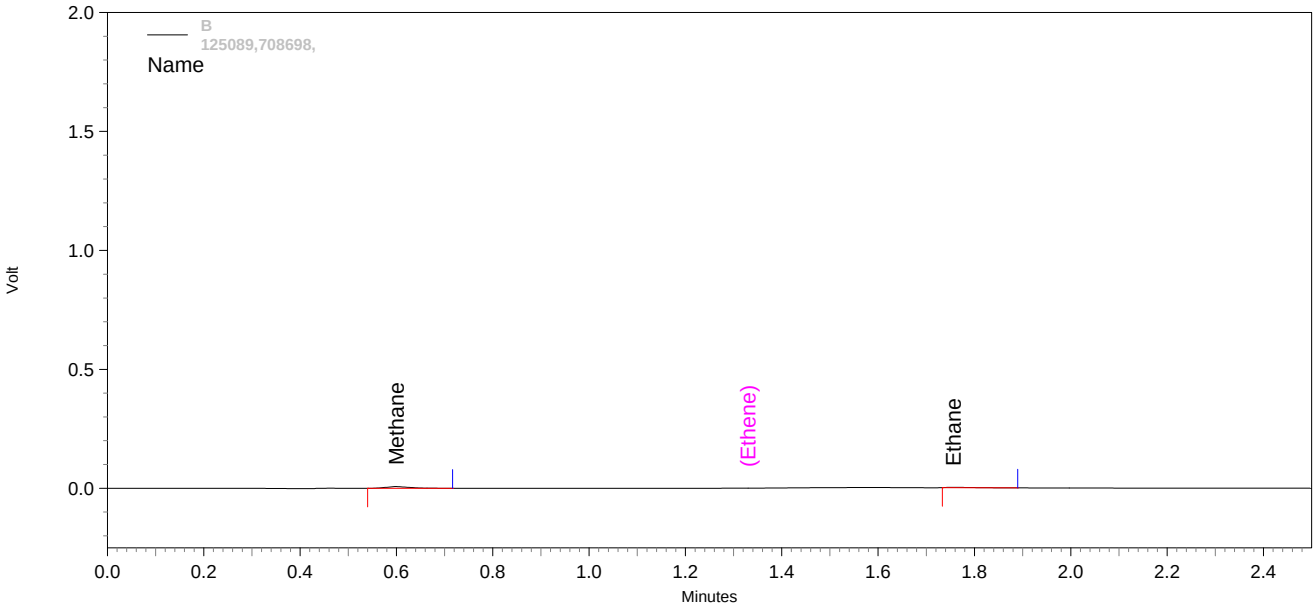
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.603	28307	**3.088**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			28307	**3.088**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\042016\016.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 125089,708698,
Acquired: Apr 20, 2016 11:46:30
File Desc. 1.0 mL injection (Methane, Ethene, Ethane)



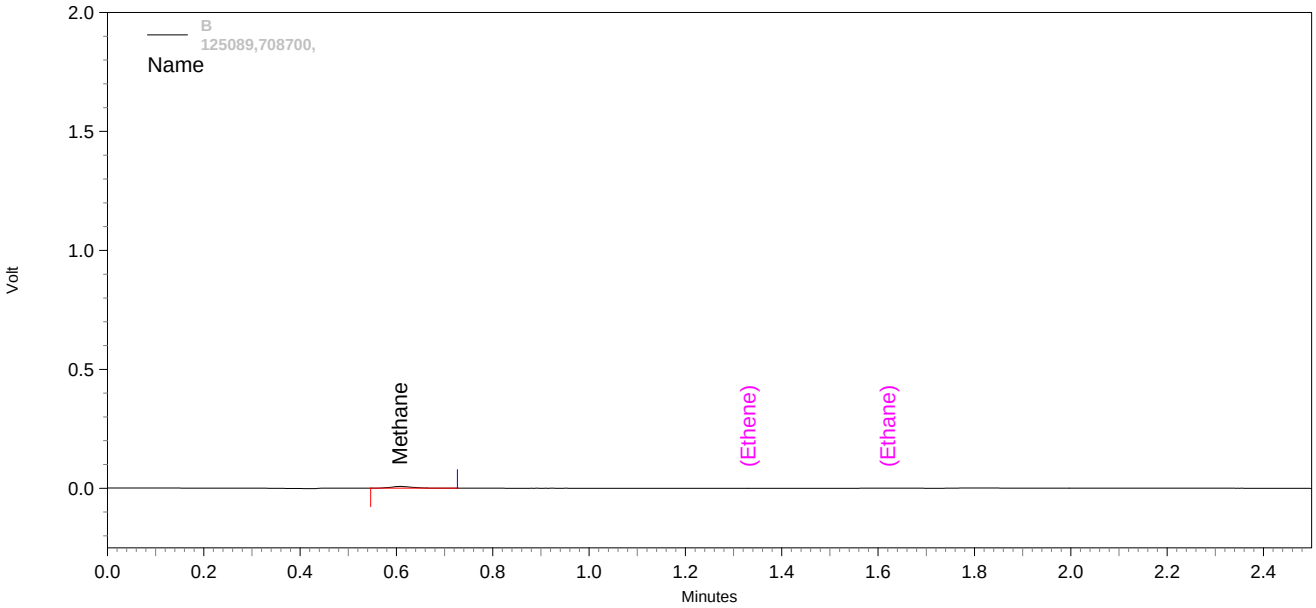
B Results

Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.600	23128	**2.507**
	Ethene			**0.000 BDL**
2	Ethane	1.757	5181	**0.900**
Totals			28309	**3.407**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\042016\017.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 125089,708700,
Acquired: Apr 20, 2016 11:52:02
File Desc. 1.0 mL injection (Methane, Ethene, Ethane)



B Results

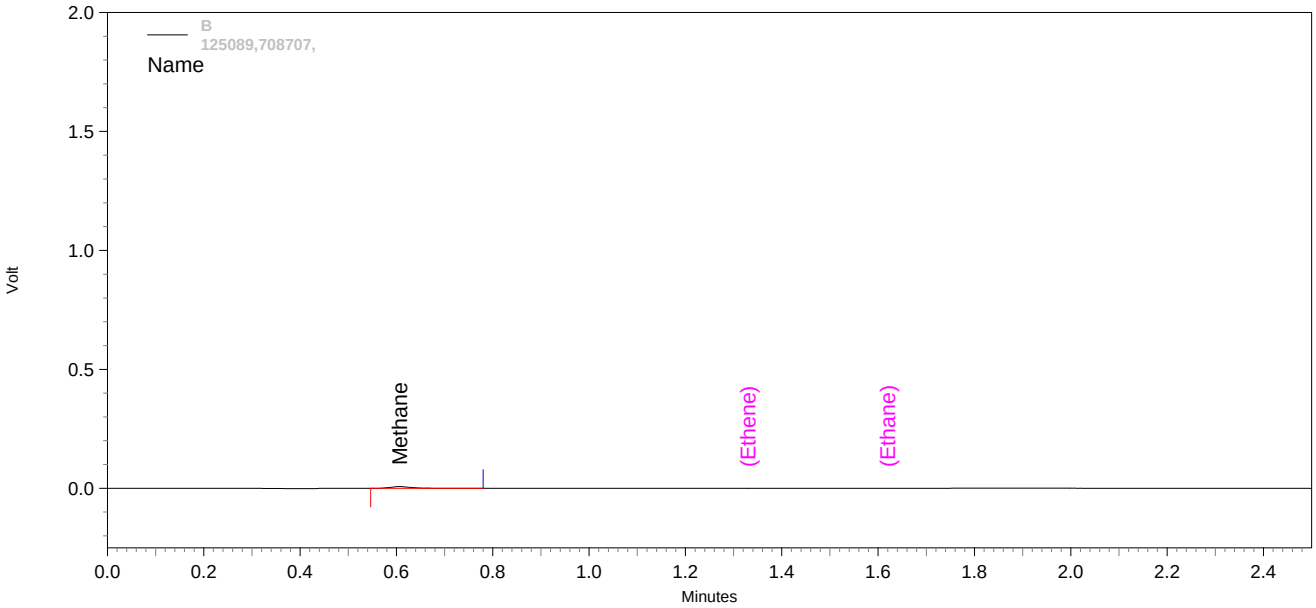
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.607	22650	**2.454**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			22650	**2.454**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\042016\018.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 125089,708707,
Acquired: Apr 20, 2016 11:59:02
File Desc. 1.0 mL injection (Methane, Ethene, Ethane)



B Results

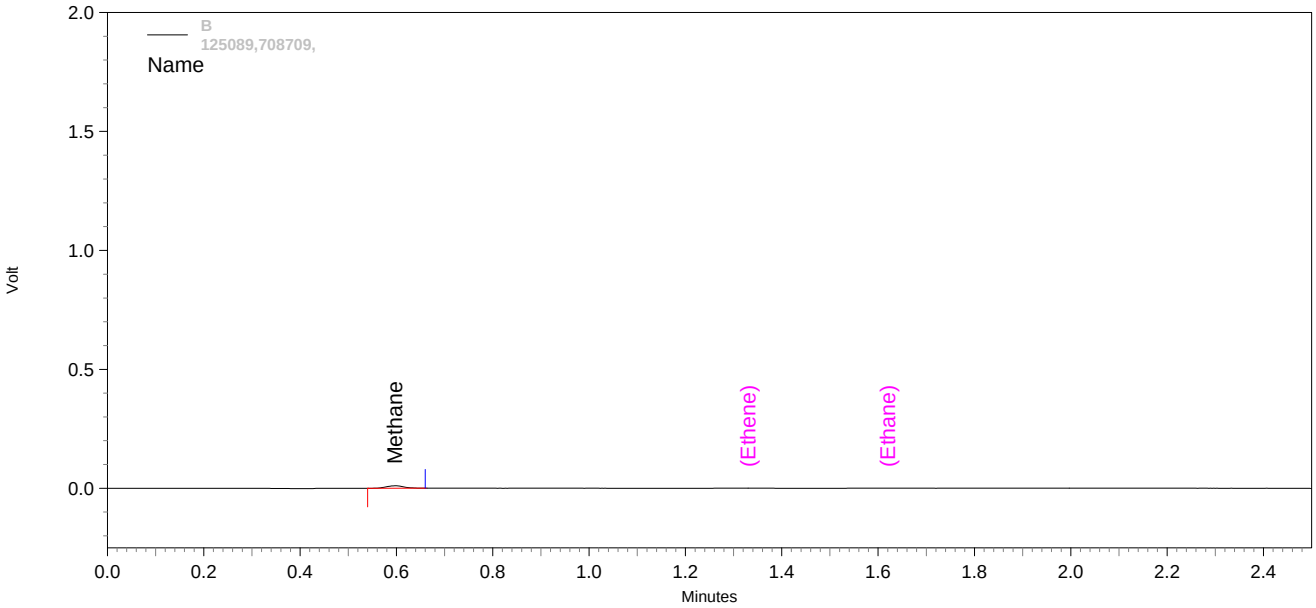
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.607	23300	**2.526**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			23300	**2.526**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\042016\020.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 125089,708709,
Acquired: Apr 20, 2016 12:09:09
File Desc. 1.0 mL injection (Methane, Ethene, Ethane)



B Results

Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.597	25767	**2.803**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			25767	**2.803**

VOLATILE ORGANIC ANALYSIS
INITIAL CALIBRATION
DOCUMENTS

Method Path : C:\INSTARCH\METHODS\
Method File : W041916.M
Title : 8260C Waters Method
Last Update : Thu Apr 21 21:20:05 2016
Response Via : Initial Calibration

RJ05/02/2016

Calibration Files ug/L
1 0.50/5.00 =CALW1.D 2 2.00/20.00 =CALW2.D 3 5.00/50.00 =CALW3.D
4 10.00/100 =CALW4.D 5 20.00/200 =CALW5.D 6 30.00/300 =CALW6.D
7 40.00/400 =CALW7.D 8 80.00/800 =CALW8.D

		Compound	1	2	3	4	5	6	7	8	Avg	%RSD
1)	I	FLUOROBENZENE**ISTD**	----------ISTD----------									
2)	PT	Dichlorodi	0.266	0.256	0.278	0.307	0.283	0.288	0.277	0.278		5.61
3)	PT	Chloromethan	0.316	0.279	0.286	0.278	0.260	0.264	0.255	0.273		8.17
4)	PT	VinylChlorid	0.258	0.253	0.278	0.291	0.264	0.269	0.257	0.264		5.60
5)	PT	Bromomethane	0.078	0.092	0.075	0.085	0.073	0.078	0.082	0.082#		8.90
6)	PT	Chloroethane	0.108	0.166	0.161	0.145	0.134	0.131	0.126	0.136		14.35
7)	T	Dichloroflmetha	0.321	0.332	0.330	0.338	0.314	0.322	0.317	0.322		3.62
8)	PT	Trichlorofma	0.326	0.304	0.351	0.374	0.346	0.350	0.339	0.340		6.13
9)	T	Ethylether	0.172	0.187	0.193	0.178	0.168	0.176	0.191	0.179		5.32
10)	T	dichlorotfluoro	0.233	0.208	0.239	0.249	0.228	0.227	0.221	0.228		5.67
11)	T	propyleneoxide	0.049	0.053	0.054	0.053	0.052	0.055	0.051	0.052		3.54
12)	T	Acrolein	0.032	0.030	0.027	0.025	0.023	0.023	0.023	0.026#		12.74
13)	PT	11dichlorthe	0.196	0.170	0.195	0.206	0.188	0.195	0.189	0.191		5.34
14)	PT	Trichlorotfluor	0.192	0.189	0.220	0.226	0.214	0.213	0.209	0.209		6.10
15)	PT	Acetone	0.164	0.124	0.155	0.124	0.137	0.148	0.126	0.137		12.20
16)	T	Iodomethane	0.090	0.096	0.128	0.156	0.173	0.190	0.198	-----		
			0.205									
									Q	A= 0.002 R=0.999		
										B= 0.190		
										C= -0.023		
17)	PT	Carbon Dislf	0.543	0.519	0.535	0.553	0.522	0.532	0.514	0.524		4.71
18)	T	allylchloride	0.326	0.292	0.303	0.312	0.301	0.311	0.304	0.304		4.13
19)	PT	methylacetate	0.044	0.055	0.059	0.059	0.056	0.061	0.059	0.057#		9.89
20)	PT	Methylchlorid	0.282	0.235	0.228	0.226	0.201	0.209	0.204	0.223		12.46
21)	T	tbutylalcohol	0.025	0.026	0.027	0.027	0.029	0.031	0.030	0.028#		7.61
22)	T	Acrylonitrile	0.100	0.104	0.104	0.102	0.102	0.107	0.101	0.102		2.69
23)	PT	t12dichlorte	0.227	0.209	0.215	0.211	0.202	0.210	0.203	0.210		4.16
24)	PT	MtBE	0.531	0.583	0.602	0.605	0.593	0.613	0.590	0.587		4.32
25)	T	Hexane	0.244	0.238	0.255	0.293	0.271	0.280	0.271	0.265		6.93
			0.269									

26)	PT	11dichlorota	0.382	0.360	0.384	0.389	0.370	0.377	0.371	0.374	2.86
			0.361								
27)	T	Vinylacetate	0.346	0.403	0.428	0.456	0.416	0.387	0.346	0.397	10.39
28)	T	chloroprene	0.344	0.350	0.389	0.408	0.377	0.384	0.364	0.368	7.17
			0.328								
29)	T	Diisopether	0.683	0.759	0.768	0.794	0.758	0.772	0.735	0.741	6.34
			0.658								
30)	T	ETBE	0.583	0.652	0.642	0.677	0.640	0.668	0.648	0.642	4.54
			0.623								
31)	T	22dichloropr	0.272	0.243	0.275	0.289	0.277	0.283	0.277	0.274	4.97
			0.275								
32)	PT	c12dichlorte	0.198	0.218	0.236	0.239	0.223	0.235	0.226	0.224	5.89
			0.220								
33)	PT	2Butanone	0.031	0.032	0.038	0.035	0.037	0.041	0.036	0.036#	9.14
			0.037								
34)	T	propionitrile	0.039	0.044	0.044	0.040	0.041	0.044	0.042	0.042	5.45
			0.039								
35)	T	Ethylacetate	0.009	0.009	0.010	0.009	0.010	0.011	0.010	0.010#	8.60
			0.010								
36)	T	methacrylonitri	0.084	0.095	0.099	0.102	0.100	0.108	0.103	0.099	7.32
			0.101								
37)	T	Bromochlorma	0.131	0.107	0.110	0.111	0.106	0.106	0.100	0.108	9.78
			0.095								
38)	T	Tetrahydofur	0.096	0.095	0.092	0.089	0.089	0.094	0.087	0.090	5.59
			0.081								
39)	PT	Chloroform	0.372	0.378	0.376	0.383	0.360	0.371	0.357	0.368	3.15
			0.349								
40)	PT	111trichlota	0.319	0.315	0.324	0.341	0.330	0.341	0.334	0.329	2.93
			0.329								
41)	S	SURRDibrflma	0.280	0.270	0.276	0.275	0.268	0.271	0.270	0.272	1.73
			0.267								
42)	PT	Cyclohexane	0.351	0.328	0.395	0.420	0.394	0.403	0.395	0.384	7.76
			0.385								
43)	PT	Carbtetraclo	0.260	0.243	0.264	0.278	0.267	0.282	0.277	0.270	5.18
			0.285								
44)	T	11dicloprope	0.114	0.092	0.106	0.114	0.104	0.108	0.106	0.106	6.59
			0.105								
45)	S	SURR12DCAd4	0.066	0.066	0.067	0.065	0.064	0.065	0.065	0.065	2.36
			0.062								
46)	PT	Benzene	0.791	0.840	0.830	0.847	0.798	0.818	0.793	0.808	4.13
			0.744								
47)	PT	12dichlorota	0.348	0.322	0.332	0.321	0.300	0.313	0.301	0.316	5.75
			0.293								
48)	T	TAME	0.562	0.560	0.584	0.595	0.577	0.607	0.592	0.583	2.78
			0.583								
49)	PT	trichloroete	0.244	0.208	0.235	0.233	0.219	0.226	0.223	0.226	4.93
			0.219								
50)	PT	methylcyclohexa	0.297	0.301	0.347	0.366	0.343	0.365	0.354	0.341	7.93
			0.354								
51)	PT	12dicloropra	0.202	0.224	0.229	0.231	0.220	0.228	0.222	0.222	4.14
			0.218								
52)	T	23Dicl1propene	0.277	0.321	0.340	0.337	0.331	0.344	0.332	0.327	6.47
			0.331								
53)	T	Dibromometha	0.127	0.133	0.142	0.144	0.134	0.138	0.138	0.136	3.95
			0.135								
54)	T	methylmethacryl	0.146	0.147	0.147	0.163	0.160	0.173	0.171	0.160	7.51
			0.173								
55)	T	14dioxane	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003#	8.40
			0.003								
56)	PT	Bromodiclrma	0.267	0.265	0.279	0.283	0.271	0.285	0.278	0.276	2.71
			0.280								
57)	T	2Nitropropane	0.049	0.056	0.064	0.068	0.076	0.085	0.083	-----	
			0.082								
								Q	A= -0.000	R=0.999	
									B= 0.086		
									C= -0.045		
58)	T	2CLEVE	0.126	0.151	0.156	0.158	0.156	0.163	0.155	0.151	7.56
			0.144								
59)	PT	c13dicloproe	0.285	0.298	0.315	0.323	0.314	0.332	0.324	0.314	4.95

			0.322								
60)	PT	4Meth2Pentan	0.258	0.283	0.290	0.279	0.266	0.265	0.232	0.268	7.22
61)	S	SURRd8Tolule	0.970	0.961	0.964	0.957	0.959	0.943	0.937	0.953	1.47
			0.931								
62)	PT	Toluene	0.542	0.547	0.547	0.549	0.511	0.532	0.512	0.528	4.15
			0.490								
63)	PT	t13Dicloprop	0.232	0.240	0.262	0.281	0.273	0.290	0.291	0.269	8.39
			0.285								
64)	T	ethylmethacryla	0.223	0.262	0.269	0.279	0.278	0.295	0.285	0.271	7.96
			0.276								
65)	PT	112Triclotha	0.150	0.155	0.160	0.164	0.157	0.163	0.157	0.157	3.10
			0.152								
66)	PT	Tetrachlorte	0.294	0.262	0.281	0.286	0.269	0.281	0.276	0.277	3.81
			0.268								
67)	T	13Diclorpropa	0.309	0.316	0.330	0.320	0.310	0.325	0.310	0.315	2.83
			0.303								
68)	I	d5-CHLOROBENZENE**IST	----------ISTD----------								
69)	PT	2Hexanone	0.236	0.256	0.292	0.268	0.276	0.285	0.246	0.256	12.57
			0.192								
70)	PT	Clorodibrmta	0.224	0.259	0.268	0.275	0.278	0.301	0.292	0.274	9.06
			0.296								
71)	PT	12Dibrometha	0.219	0.240	0.249	0.262	0.264	0.280	0.267	0.256	7.38
			0.264								
72)	PT	Chlorobenzen	0.764	0.733	0.757	0.747	0.726	0.749	0.718	0.736	3.12
			0.694								
73)	T	1Clhexane	0.401	0.353	0.360	0.391	0.376	0.400	0.385	0.382	4.62
			0.389								
74)	T	1112Tetclota	0.196	0.235	0.236	0.258	0.250	0.269	0.262	0.247	9.78
			0.267								
75)	PT	Ethylbenzene	1.176	1.237	1.241	1.297	1.226	1.270	1.217	1.224	4.27
			1.130								
76)	PT	m p-Xylene	0.467	0.492	0.506	0.512	0.487	0.504	0.483	0.488	4.10
			0.454								
77)	PT	o-Xylene	0.458	0.456	0.486	0.489	0.472	0.499	0.477	0.475	3.31
			0.463								
78)	PT	Styrene	0.629	0.730	0.800	0.802	0.780	0.823	0.789	0.763	8.09
			0.750								
79)	PT	Bromoform	0.172	0.192	0.201	0.201	0.207	0.230	0.223	0.208	10.08
			0.235								
80)	PT	Isopropylben	1.168	1.168	1.252	1.312	1.251	1.303	1.241	1.230	5.18
			1.143								
81)	T	cyclohexanone	0.010	0.010	0.011	0.011	0.012	0.014	0.013	0.012#	11.51
			0.012								
82)	I	d4-1,4-DICHLOROBENZEN	----------ISTD----------								
83)	S	SURR4BrFBenz	0.857	0.852	0.843	0.850	0.862	0.861	0.856	0.855	0.76
			0.859								
84)	T	Bromobenzene	0.640	0.696	0.651	0.664	0.662	0.677	0.644	0.658	3.32
			0.627								
85)	PT	1122Tetrclta	0.536	0.614	0.621	0.598	0.611	0.648	0.610	0.605	5.25
			0.603								
86)	T	123Triclproa	0.595	0.647	0.699	0.626	0.742	0.810	0.751	0.705	10.78
			0.768								
87)	T	14dichloro2bute	0.142	0.154	0.164	0.169	0.181	0.202	0.192	0.177	13.07
			0.207								
88)	T	n-Propylbenz	2.427	2.476	2.584	2.680	2.647	2.673	2.520	2.533	5.72
			2.258								
89)	T	2chlorotolue	1.447	1.577	1.564	1.572	1.545	1.585	1.524	1.533	3.64
			1.449								
90)	T	4chlorotolue	1.711	1.830	1.801	1.876	1.797	1.879	1.780	1.792	4.22
			1.661								
91)	T	135Trimebenz	1.646	1.764	1.848	1.886	1.842	1.917	1.809	1.801	5.17
			1.698								
92)	T	tbutylbenzen	1.411	1.625	1.636	1.696	1.715	1.723	1.659	1.630	6.22
			1.576								
93)	T	124Trimetben	1.556	1.750	1.800	1.901	1.841	1.913	1.813	1.783	6.57
			1.693								
94)	T	sbutylbenzen	2.177	2.253	2.386	2.552	2.475	2.527	2.390	2.366	6.37

			2.173								
95)	PT	13Diclorbenz	1.119	1.167	1.155	1.195	1.142	1.212	1.166	1.159	2.87
			1.118								
96)	T	pIsopropylto	1.746	1.848	2.001	2.075	2.044	2.105	1.998	1.960	6.47
			1.860								
97)	PT	14dichlorobe	1.119	1.195	1.199	1.200	1.153	1.218	1.162	1.171	3.28
			1.118								
98)	PT	12dichlorobe	1.067	1.122	1.090	1.100	1.075	1.123	1.059	1.082	3.11
			1.023								
99)	T	nButylbenzen	1.689	1.673	1.729	1.860	1.786	1.893	1.797	1.764	4.78
			1.681								
100)	PT	12dibromo3cl	0.092	0.114	0.121	0.120	0.133	0.157	0.147	-----	
			0.156								
								Q	A= 0.003	R=0.999	
									B= 0.146		
									C= -0.006		
101)	T	135Trichloroben	0.868	0.918	0.926	0.925	0.904	0.964	0.926	0.919	2.91
			0.918								
102)	PT	124Trichlobe	0.705	0.738	0.737	0.755	0.727	0.786	0.756	0.745	3.25
			0.756								
103)	T	Hexachlorobu	0.389	0.360	0.414	0.430	0.437	0.454	0.442	0.422	7.79
			0.451								
104)	T	Naphthalene	1.165	1.329	1.396	1.357	1.417	1.606	1.423	1.393	8.90
			1.452								
105)	T	123Trichlben	0.636	0.597	0.617	0.600	0.596	0.676	0.608	0.620	4.37
			0.628								

Total Average %RSD 6.06

L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range

W041916.M Mon Apr 25 14:03:31 2016

Data File : C:\Instarch\Data\APR1916\BFB1.D Vial: 1
Acq On : 19 Apr 2016 8:10 Operator: RLD-AGK
Sample : BFB INJ Inst : VMS4
Misc : 50 ng Injection Multiplr: 1.00
Integration File: VOC.P

Method : C:\INSTARCH\METHODS\W041916.M
Title : 8260C Waters Method

Spectrum Information: Average of 4.786 to 4.804 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	23.4	9626	PASS
75	95	30	60	47.2	19409	PASS
95	95	100	100	100.0	41132	PASS
96	95	5	9	8.6	3522	PASS
173	174	0.00	2	0.5	197	PASS
174	95	50	100	97.7	40182	PASS
175	174	5	9	7.5	3033	PASS
176	174	95	101	97.6	39224	PASS
177	176	5	9	7.1	2801	PASS

W041916.M Mon Apr 25 13:59:46 2016

Quantitation Report

Data File : C:\INSTARCH\DATA\APR1916\CALW1.D Vial: 4
Acq On : 19 Apr 2016 9:46 Operator: RLD-AGK
Sample : CALIB. PT. 1 Inst : VMS4
Misc : 0.50/5.00 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 08:31:14 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 08:22:31 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.80	96	1411528	20.00 ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.73	117	1175386	20.00 ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	15.04	152	637142	20.00 ug/L	0.00 NA%
System Monitoring Compounds					
41) SURRDibrflma	6.95	113	395547	20.603 ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 103 %		
45) SURR12DCAd4	7.37	102	93734	20.389 ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 102 %		
61) SURRd8Tolule	9.80	98	1369375	20.367 ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 102 %		
83) SURR4BrFBenz	13.37	95	546135	20.054 ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 100 %		
Target Compounds					Qvalue
2) Dichlorodi	1.87	85	9392	0.4785 ug/L	96
3) Chloromethan	2.13	50	11160	0.5795 ug/L	96
4) VinylChlorid	2.29	62	9097	0.4876 ug/L	73
5) Bromomethane	2.75	94	2736m	0.4423 ug/L #	98
6) Chloroethane	2.92	64	3814m	0.3435 ug/L #	92
7) Dichloroflmethane	3.25	67	11341	0.4992 ug/L	96
8) Trichlorofma	3.31	101	11498	0.4794 ug/L #	95
9) Ethylether	3.77	59	6076	0.4798 ug/L #	82
10) dichlorotfluoroethan	3.79	67	8228	0.5114 ug/L	95
11) propyleneoxide	3.84	58	17372	4.7184 ug/L	98
12) Acrolein	3.94	56	5578	3.0611 ug/L	92
13) 11dichlorthe	4.04	96	6907	0.5119 ug/L	96
14) Trichlorotfluoroeth	4.06	101	13554	0.9210 ug/L	95
15) Acetone	4.15	43	57742	5.9675 ug/L	98
16) Iodomethane	4.24	142	6355	0.5831 ug/L #	63
17) Carbon Dislf	4.32	76	38318	1.0368 ug/L	100
18) allylchloride	4.55	41	22988	1.0702 ug/L	96
19) methylacetate	4.62	74	1542	0.3852 ug/L #	36
20) Methylchlorid	4.72	84	9947	0.6332 ug/L	92
21) tbutylalcohol	4.93	59	43646	22.4539 ug/L	99
22) Acrylonitrile	5.05	53	17678	2.4471 ug/L	98
23) t12dichlorte	5.08	96	8006	0.5413 ug/L #	82
24) MtBE	5.10	73	18726	0.4517 ug/L	99
25) Hexane	5.44	57	17216	0.9197 ug/L	90
26) 11dichlorota	5.62	63	13480	0.5105 ug/L	93
27) Vinylacetate	5.71	43	121982	4.5904 ug/L	99
28) chloroprene	5.75	53	24256	0.9335 ug/L	98
29) Diisopether	5.73	45	24086	0.4606 ug/L	98
30) ETBE	6.20	59	20565	0.4541 ug/L	98
31) 22dichloropr	6.35	77	9598	0.4967 ug/L	93
32) c12dichlorte	6.36	96	6984	0.4410 ug/L #	83
33) 2Butanone	6.39	72	10878	4.2942 ug/L	96
34) propionitrile	6.45	54	13599	4.6161 ug/L	96
35) Ethylacetate	6.46	88	1505	2.1866 ug/L #	77
36) methacrylonitrile	6.65	67	5903	0.8443 ug/L #	83
37) Bromochlorma	6.66	128	4611	0.6039 ug/L #	70
38) Tetrahydofur	6.73	42	33945	5.3221 ug/L	92

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\APR1916\CALW1.D Vial: 4
Acq On : 19 Apr 2016 9:46 Operator: RLD-AGK
Sample : CALIB. PT. 1 Inst : VMS4
Misc : 0.50/5.00 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 08:31:14 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 08:22:31 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
39) Chloroform	6.76	83	13116	0.5046 ug/L		93
40) 111trichlota	6.98	97	11241	0.4839 ug/L		98
42) Cyclohexane	7.05	56	12372	0.4568 ug/L		93
43) Carbtetraclo	7.19	119	9168	0.4820 ug/L		78
44) 11dicloprope	7.19	110	4018	0.5360 ug/L		98
46) Benzene	7.44	78	27909	0.4896 ug/L	#	71
47) 12dichlorota	7.46	62	12264	0.5495 ug/L	#	92
48) TAME	7.60	73	19833	0.4823 ug/L		99
49) trichloroete	8.25	95	8600	0.5400 ug/L		91
50) methylcyclohexane	8.49	83	10469	0.4352 ug/L		91
51) 12dicloropra	8.53	63	7130	0.4555 ug/L	#	96
52) 23Dicl1propene	8.59	75	9778	0.4241 ug/L		81
53) Dibromometha	8.68	93	4478	0.4650 ug/L		96
54) methylmethacrylate	8.69	69	5157	0.4569 ug/L	#	71
55) 14dioxane	8.72	88	4827	21.7644 ug/L		95
56) Bromodiclrma	8.87	83	9415	0.4835 ug/L		98
57) 2Nitropropane	9.17	43	17310	3.4803 ug/L		96
58) 2CLEVE	9.27	63	22309	2.0893 ug/L		97
59) c13dicloproe	9.46	75	10040	0.4530 ug/L		97
60) 4Meth2Pentan	9.65	43	91135	5.0600 ug/L		96
62) Toluene	9.90	92	19113	0.5125 ug/L		93
63) t13Dicloprop	10.18	75	8191	0.4311 ug/L		85
64) ethylmethacrylate	10.30	69	15770	0.8248 ug/L		96
65) 112Triclotha	10.42	83	5293	0.4766 ug/L		91
66) Tetrachlorte	10.61	166	10383	0.5305 ug/L		94
67) 13Diclorpropa	10.64	76	10897	0.4898 ug/L		91
69) 2Hexanone	10.75	43	69244	4.5983 ug/L		94
70) Clorodibrmta	10.95	129	6579	0.4083 ug/L		98
71) 12Dibrometha	11.09	107	6442	0.4285 ug/L		96
72) Chlorobenzen	11.77	112	22462	0.5191 ug/L	#	58
73) 1Clhexane	11.73	91	11773	0.5246 ug/L	#	37
74) 1112Tetclota	11.88	131	5773	0.3983 ug/L	#	76
75) Ethylbenzene	11.92	91	34551	0.4802 ug/L		99
76) m p-Xylene	12.09	106	27440	0.9568 ug/L		93
77) o-Xylene	12.63	106	13450	0.4819 ug/L		94
78) Styrene	12.65	104	18481	0.4122 ug/L		91
79) Bromoform	12.91	173	5068	0.4152 ug/L		92
80) Isopropylben	13.16	105	34313	0.4748 ug/L		99
81) cyclohexanone	13.27	55	5618	8.2191 ug/L	#	90
84) Bromobenzene	13.59	156	10202	0.4869 ug/L		89
85) 1122Tetrclta	13.57	83	8536	0.4427 ug/L		85
86) 123Triclproa	13.63	75	9474	0.4220 ug/L		99
87) 14dichloro2butene	13.66	53	2267	0.4030 ug/L		89
88) n-Propylbenz	13.75	91	38652	0.4790 ug/L		94
89) 2chlorotolue	13.87	91	23053	0.4720 ug/L		99
90) 4chlorotolue	14.02	91	27258	0.4774 ug/L		94
91) 135Trimebenz	14.00	105	26215	0.4569 ug/L		88
92) tbutylbenzen	14.46	119	22477	0.4328 ug/L		98
93) 124Trimetben	14.54	105	24783	0.4362 ug/L		98
94) sbutylbenzen	14.79	105	34679	0.4600 ug/L		100
95) 13Diclorbenz	14.95	146	17832	0.4828 ug/L		93
96) pIsopropylto	15.01	119	27814	0.4456 ug/L	#	93
97) 14dichlorobe	15.07	146	17832	0.4782 ug/L	#	51
98) 12dichlorobe	15.61	146	17003	0.4932 ug/L	#	69
99) nButylbenzen	15.61	91	26899	0.4788 ug/L		96
100) 12dibromo3cl	16.73	157	1466	0.3545 ug/L		78
101) 135Trichlorobenzene	17.03	180	13824	0.4724 ug/L		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\APR1916\CALW1.D Vial: 4
Acq On : 19 Apr 2016 9:46 Operator: RLD-AGK
Sample : CALIB. PT. 1 Inst : VMS4
Misc : 0.50/5.00 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 08:31:14 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 08:22:31 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	17.84	180	11226	0.4731 ug/L	99
103) Hexachlorobu	18.07	225	6191	0.4605 ug/L	92
104) Naphthalene	18.15	128	18555	0.4181 ug/L	99
105) 123Trichlben	18.46	180	10138	0.5133 ug/L	96

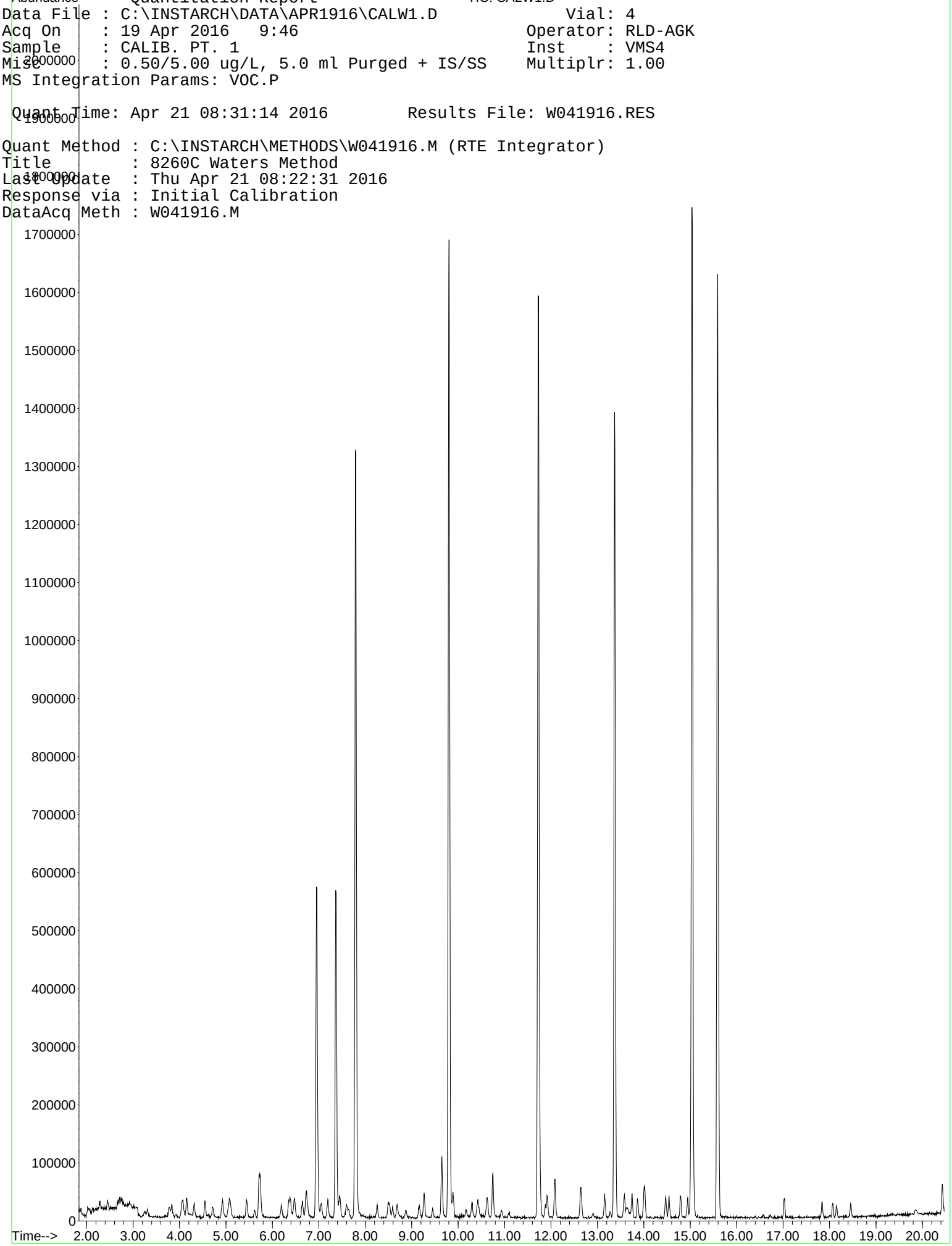
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: CALW1.D

Data File : C:\INSTARCH\DATA\APR1916\CALW1.D Vial: 4
Acq On : 19 Apr 2016 9:46 Operator: RLD-AGK
Sample : CALIB. PT. 1 Inst : VMS4
Misc : 0.50/5.00 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

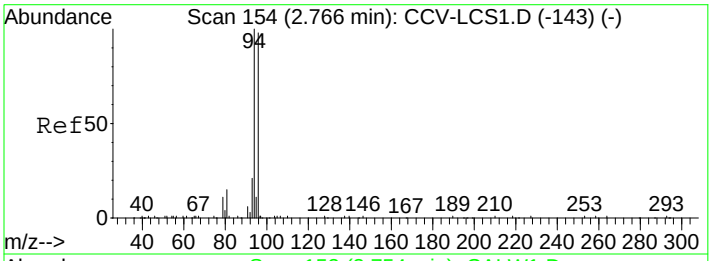
Quant Time: Apr 21 08:31:14 2016 Results File: W041916.RES

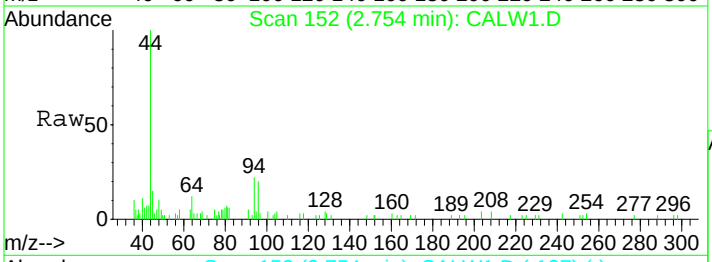
Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 08:22:31 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

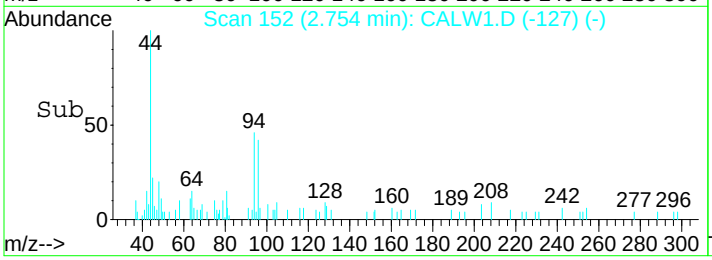


After Manual Integration

AgK 04/28/16



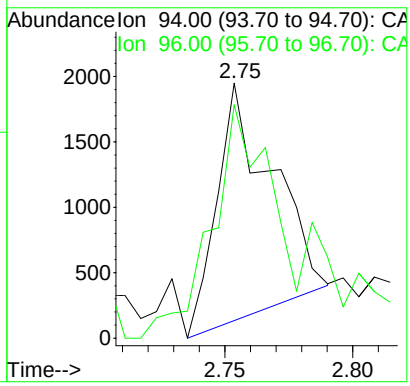


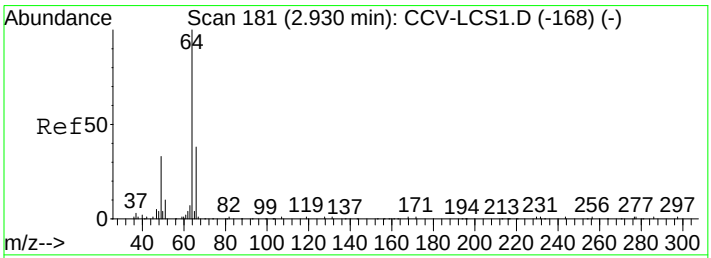


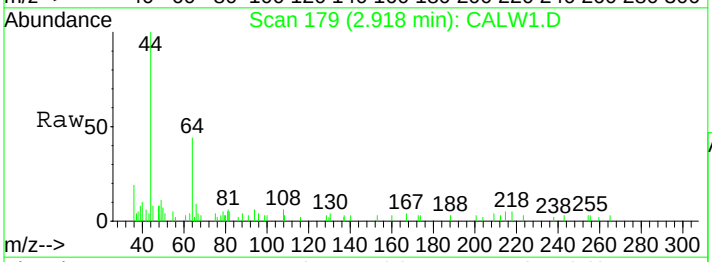
#5
Bromomethane
Concen: 0.44 ug/L m
RT: 2.75 min Scan# 152
Delta R.T. 0.00 min
Lab File: CALW1.D
Acq: 19 Apr 2016 9:46

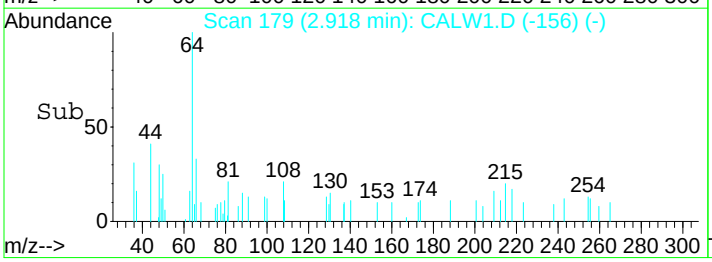
Tgt Ion: 94 Resp: 2736

Ion	Ratio	Lower	Upper
94	100		
96	144.9	68.6	108.6#





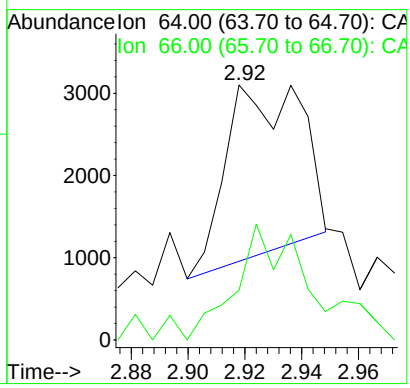




#6
Chloroethane
Concen: 0.34 ug/L m
RT: 2.92 min Scan# 179
Delta R.T. -0.01 min
Lab File: CALW1.D
Acq: 19 Apr 2016 9:46

Tgt Ion: 64 Resp: 3814

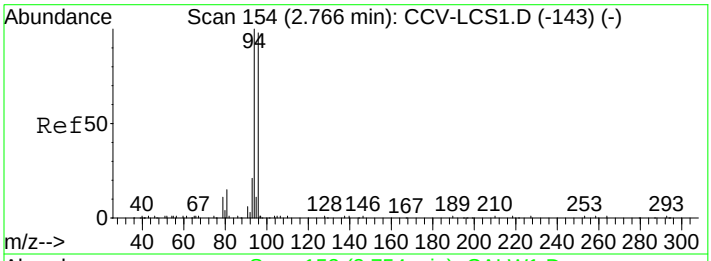
Ion	Ratio	Lower	Upper
64	100		
66	69.7	11.9	51.9#

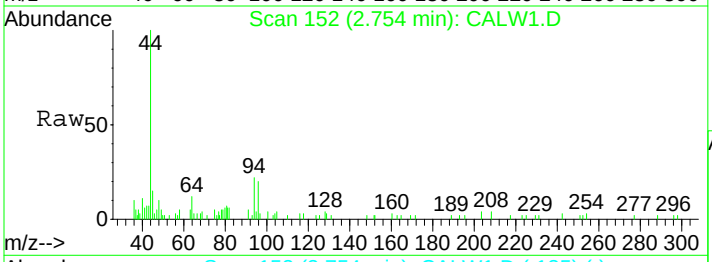


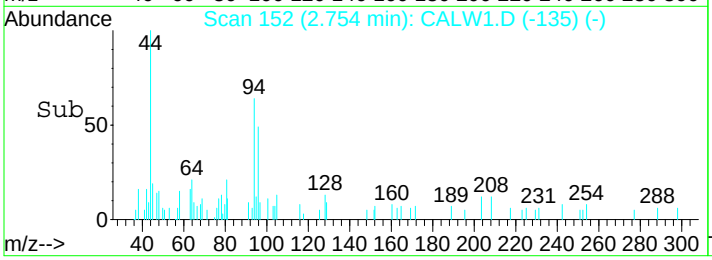
RJ 05/02/2016

Before Manual Integration

AgK 04/28/16



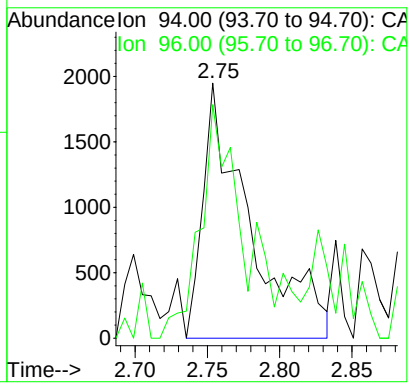




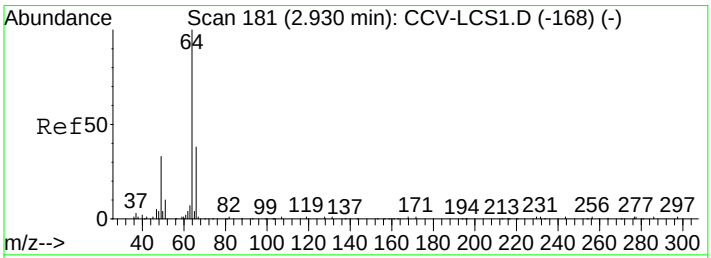
#5
Bromomethane
Concen: 0.76 ug/L
RT: 2.75 min Scan# 152
Delta R.T. 0.00 min
Lab File: CALW1.D
Acq: 19 Apr 2016 9:46

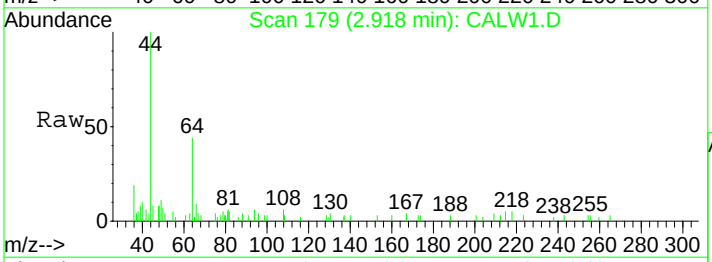
Tgt Ion: 94 Resp: 4371

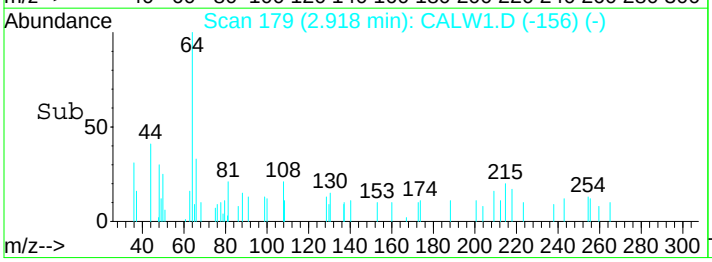
Ion	Ratio	Lower	Upper
94	100		
96	90.7	68.6	108.6



REASON # 2



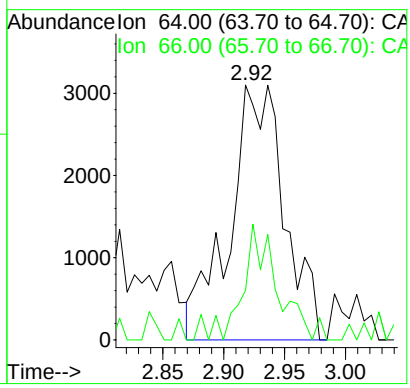




#6
Chloroethane
Concen: 1.01 ug/L
RT: 2.92 min Scan# 179
Delta R.T. -0.01 min
Lab File: CALW1.D
Acq: 19 Apr 2016 9:46

Tgt Ion: 64 Resp: 9708

Ion	Ratio	Lower	Upper
64	100		
66	27.4	11.9	51.9



REASON # 2

Quantitation Report

Data File : C:\INSTARCH\DATA\APR1916\CALW2.D Vial: 5
Acq On : 19 Apr 2016 10:14 Operator: RLD-AGK
Sample : CALIB. PT. 2 Inst : VMS4
Misc : 2.00/20.0 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 08:22:24 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 08:22:17 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.80	96	1443187	20.00 ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.73	117	1181315	20.00 ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	15.04	152	631394	20.00 ug/L	0.00 NA%
System Monitoring Compounds					
41) SURRDibrflma	6.95	113	389099	19.822 ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 99 %		
45) SURR12DCAd4	7.37	102	94750	20.158 ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 101 %		
61) SURRd8Tolule	9.80	98	1386685	20.172 ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101 %		
83) SURR4BrFBenz	13.37	95	537695	19.924 ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 100 %		
Target Compounds					Qvalue
2) Dichlorodi	1.88	85	36894	1.8385 ug/L	97
3) Chloromethan	2.13	50	40265	2.0450 ug/L	95
4) VinylChlorid	2.29	62	36456	1.9111 ug/L	97
5) Bromomethane	2.76	94	13316	2.1056 ug/L	86
6) Chloroethane	2.93	64	23903	2.1057 ug/L	90
7) Dichloroflmethane	3.25	67	47855	2.0604 ug/L	99
8) Trichlorofma	3.31	101	43881	1.7895 ug/L	96
9) Ethylether	3.76	59	26921	2.0791 ug/L	95
10) dichlorotfluoroethan	3.79	67	30000	1.8238 ug/L	93
11) propyleneoxide	3.83	58	75857	20.1517 ug/L	98
12) Acrolein	3.92	56	21390	11.4810 ug/L	100
13) 11dichlorthe	4.04	96	24555	1.7799 ug/L	89
14) Trichlorotfluoroeth	4.07	101	54561	3.6261 ug/L	98
15) Acetone	4.15	43	178401	18.0329 ug/L	98
16) Iodomethane	4.24	142	27777	2.4926 ug/L	83
17) Carbon Dislf	4.32	76	149741	3.9628 ug/L	99
18) allylchloride	4.55	41	84156	3.8320 ug/L	97
19) methylacetate	4.61	74	7951	1.9426 ug/L	95
20) Methylchlorid	4.72	84	33893	2.1102 ug/L	95
21) tbutylalcohol	4.92	59	188885	95.0410 ug/L	98
22) Acrylonitrile	5.04	53	75364	10.2036 ug/L	98
23) t12dichlorte	5.08	96	30110	1.9911 ug/L	98
24) MtBE	5.10	73	84187	1.9864 ug/L	97
25) Hexane	5.45	57	68705	3.5899 ug/L	99
26) 11dichlorota	5.62	63	51893	1.9220 ug/L	94
27) Vinylacetate	5.71	43	581821	21.4145 ug/L	97
28) chloroprene	5.74	53	101163	3.8081 ug/L	99
29) Diisopether	5.74	45	109534	2.0487 ug/L	98
30) ETBE	6.19	59	94116	2.0328 ug/L	96
31) 22dichloropr	6.35	77	35059	1.7745 ug/L	95
32) c12dichlorte	6.36	96	31391	1.9388 ug/L	91
33) 2Butanone	6.39	72	45905	17.7238 ug/L	93
34) propionitrile	6.45	54	63272	21.0063 ug/L	93
35) Ethylacetate	6.47	88	6422	9.1258 ug/L	95
36) methacrylonitrile	6.64	67	27496	3.8467 ug/L	97
37) Bromochlorma	6.65	128	15476	1.9825 ug/L	93
38) Tetrahydofur	6.73	42	137387	21.0678 ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\APR1916\CALW2.D Vial: 5
Acq On : 19 Apr 2016 10:14 Operator: RLD-AGK
Sample : CALIB. PT. 2 Inst : VMS4
Misc : 2.00/20.0 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 08:22:24 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 08:22:17 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
39)	Chloroform	6.76	83	54576	2.0534 ug/L		97
40)	111trichlota	6.99	97	45482	1.9148 ug/L		95
42)	Cyclohexane	7.05	56	47350	1.7097 ug/L		93
43)	Carbtetraclo	7.19	119	35086	1.8041 ug/L		97
44)	11dicloprope	7.19	110	13247	1.7284 ug/L	#	83
46)	Benzene	7.44	78	121187	2.0795 ug/L		99
47)	12dichlorota	7.46	62	46462	2.0361 ug/L		96
48)	TAME	7.60	73	80810	1.9221 ug/L		97
49)	trichloroete	8.25	95	30022	1.8437 ug/L		94
50)	methylcyclohexane	8.50	83	43465	1.7672 ug/L		92
51)	12dicloropra	8.53	63	32305	2.0184 ug/L		98
52)	23Dicl1propene	8.59	75	46389	1.9681 ug/L		99
53)	Dibromometha	8.68	93	19265	1.9568 ug/L		94
54)	methylmethacrylate	8.69	69	21166	1.8342 ug/L		98
55)	14dioxane	8.71	88	24051	106.0643 ug/L		96
56)	Bromodiclrma	8.88	83	38263	1.9218 ug/L		97
57)	2Nitropropane	9.16	43	80818	15.8926 ug/L		99
58)	2CLEVE	9.27	63	109000	9.9842 ug/L		99
59)	c13dicloproe	9.45	75	43043	1.8995 ug/L		99
60)	4Meth2Pentan	9.65	43	408229	22.1687 ug/L		100
62)	Toluene	9.88	92	78918	2.0695 ug/L		98
63)	t13Dicloprop	10.17	75	34621	1.7820 ug/L		91
64)	ethylmethacrylate	10.29	69	75587	3.8666 ug/L		98
65)	112Triclotha	10.41	83	22431	1.9755 ug/L		95
66)	Tetrachlorte	10.62	166	37851	1.8916 ug/L		97
67)	13Diclorpropa	10.63	76	45639	2.0063 ug/L		94
69)	2Hexanone	10.74	43	302717	20.0017 ug/L		99
70)	Clorodibrmta	10.94	129	30570	1.8877 ug/L		99
71)	12Dibrometha	11.09	107	28396	1.8795 ug/L		98
72)	Chlorobenzen	11.77	112	86611	1.9915 ug/L		91
73)	1Clhexane	11.74	91	41722	1.8499 ug/L	#	82
74)	1112Tetclota	11.88	131	27710	1.9023 ug/L		95
75)	Ethylbenzene	11.92	91	146071	2.0201 ug/L		97
76)	m p-Xylene	12.09	106	116337	4.0364 ug/L		98
77)	o-Xylene	12.64	106	53842	1.9193 ug/L		96
78)	Styrene	12.66	104	86266	1.9143 ug/L		98
79)	Bromoform	12.90	173	22627	1.8444 ug/L		93
80)	Isopropylben	13.16	105	137961	1.8996 ug/L		99
81)	cyclohexanone	13.28	55	24568	35.7625 ug/L		90
84)	Bromobenzene	13.59	156	43944	2.1164 ug/L		94
85)	1122Tetrclta	13.58	83	38798	2.0305 ug/L		97
86)	123Triclproa	13.63	75	40842	1.8359 ug/L		95
87)	14dichloro2butene	13.66	53	9751	1.7493 ug/L		94
88)	n-Propylbenz	13.75	91	156312	1.9548 ug/L		100
89)	2chlorotolue	13.87	91	99589	2.0577 ug/L		97
90)	4chlorotolue	14.02	91	115566	2.0427 ug/L		96
91)	135Trimebenz	14.00	105	111363	1.9586 ug/L		100
92)	tbutylbenzen	14.47	119	102619	1.9939 ug/L		99
93)	124Trimetben	14.54	105	110513	1.9630 ug/L		96
94)	sbutylbenzen	14.79	105	142244	1.9040 ug/L		100
95)	13Diclorbenz	14.95	146	73667	2.0125 ug/L		95
96)	pIsopropylto	15.01	119	116669	1.8859 ug/L		98
97)	14dichlorobe	15.08	146	75476	2.0423 ug/L		88
98)	12dichlorobe	15.61	146	70844	2.0734 ug/L		92
99)	nButylbenzen	15.60	91	105607	1.8968 ug/L		95
100)	12dibromo3cl	16.73	157	7210	1.7591 ug/L		91
101)	135Trichlorobenzene	17.02	180	57962	1.9985 ug/L		96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\APR1916\CALW2.D Vial: 5
Acq On : 19 Apr 2016 10:14 Operator: RLD-AGK
Sample : CALIB. PT. 2 Inst : VMS4
Misc : 2.00/20.0 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 08:22:24 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 08:22:17 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	17.84	180	46621	1.9825 ug/L	99
103) Hexachlorobu	18.07	225	22731	1.7061 ug/L	95
104) Naphthalene	18.15	128	83899	1.9079 ug/L	99
105) 123Trichlben	18.46	180	37691	1.9259 ug/L	94

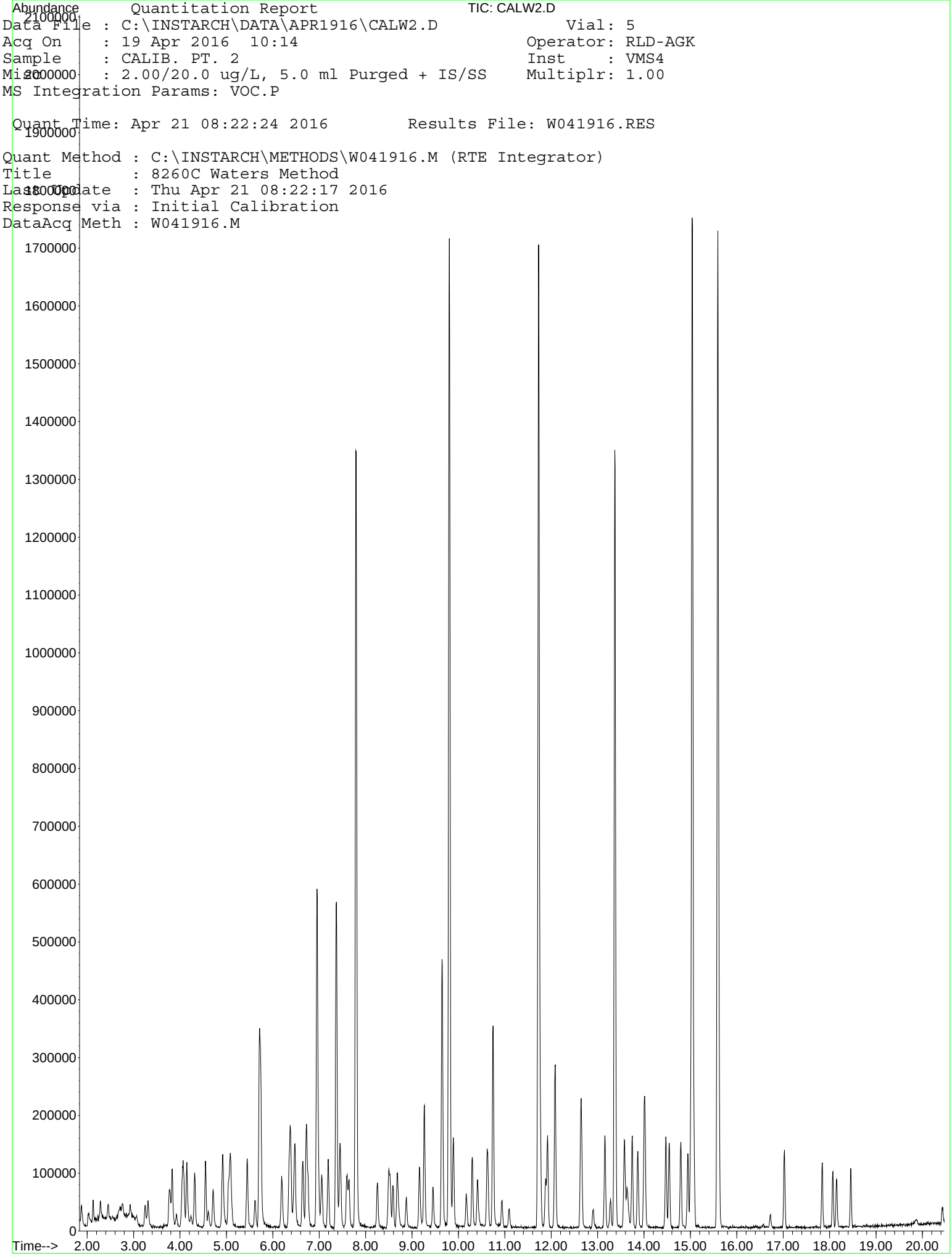
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: CALW2.D

Data File : C:\INSTARCH\DATA\APR1916\CALW2.D Vial: 5
Acq On : 19 Apr 2016 10:14 Operator: RLD-AGK
Sample : CALIB. PT. 2 Inst : VMS4
Misc : 2.00/20.0 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 08:22:24 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 08:22:17 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M



Quantitation Report

Data File : C:\INSTARCH\DATA\APR1916\CALW3.D Vial: 6
Acq On : 19 Apr 2016 10:42 Operator: RLD-AGK
Sample : CALIB. PT. 3 Inst : VMS4
Misc : 5.00/50.0 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 08:20:55 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 08:20:48 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.80	96	1462122	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.73	117	1200876	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	15.04	152	661895	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.95	113	404106	20.113	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101 %			
45) SURR12DCAd4	7.37	102	98634	20.548	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 103 %			
61) SURRd8Tolule	9.80	98	1409888	20.040	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100 %			
83) SURR4BrFBenz	13.37	95	557658	19.755	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 99 %			
Target Compounds						Qvalue
2) Dichlorodi	1.87	85	101435	5.0267	ug/L	99
3) Chloromethan	2.13	50	104467	4.9078	ug/L	96
4) VinylChlorid	2.29	62	101767	5.2113	ug/L	99
5) Bromomethane	2.76	94	27350	3.7162	ug/L #	78
6) Chloroethane	2.92	64	58674	4.1081	ug/L	94
7) Dichloroflmethane	3.25	67	120780	5.0047	ug/L	95
8) Trichlorofma	3.31	101	128218	5.2402	ug/L	98
9) Ethylether	3.76	59	70563	5.3973	ug/L	90
10) dichlorotfluoroethan	3.79	67	87456	5.2011	ug/L	98
11) propyleneoxide	3.83	58	198259	52.7023	ug/L	99
12) Acrolein	3.92	56	48640	23.0128	ug/L	95
13) 11dichlorthe	4.05	96	71326	5.1237	ug/L	99
14) Trichlorotfluoroeth	4.07	101	160550	10.8662	ug/L	98
15) Acetone	4.14	43	567450	56.6009	ug/L	99
16) Iodomethane	4.24	142	93368	11.2818	ug/L	100
17) Carbon Dislf	4.32	76	391025	9.9445	ug/L	99
18) allylchloride	4.55	41	221789	9.7941	ug/L	99
19) methylacetate	4.61	74	21621	5.6313	ug/L	92
20) Methylchlorid	4.71	84	83275	4.6032	ug/L	98
21) tbutylalcohol	4.92	59	494562	260.2067	ug/L	100
22) Acrylonitrile	5.05	53	190389	25.4838	ug/L	98
23) t12dichlorte	5.08	96	78597	4.9876	ug/L	98
24) MtBE	5.10	73	220110	5.2541	ug/L	98
25) Hexane	5.45	57	186588	9.8874	ug/L	97
26) 11dichlorota	5.61	63	140441	5.0998	ug/L	99
27) Vinylacetate	5.71	43	1564295	53.2663	ug/L	99
28) chloroprene	5.74	53	284388	10.5884	ug/L	98
29) Diisopether	5.74	45	280805	5.1554	ug/L	99
30) ETBE	6.19	59	234562	5.0342	ug/L	99
31) 22dichloropr	6.35	77	100497	5.1300	ug/L	99
32) c12dichlorte	6.36	96	86097	5.3958	ug/L	97
33) 2Butanone	6.38	72	139311	58.5127	ug/L	93
34) propionitrile	6.45	54	160743	53.8483	ug/L	97
35) Ethylacetate	6.47	88	17736	27.3306	ug/L	96
36) methacrylonitrile	6.64	67	72236	10.5561	ug/L	91
37) Bromochlorma	6.65	128	40371	4.7496	ug/L	96
38) Tetrahydofur	6.72	42	337915	49.4964	ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\APR1916\CALW3.D Vial: 6
Acq On : 19 Apr 2016 10:42 Operator: RLD-AGK
Sample : CALIB. PT. 3 Inst : VMS4
Misc : 5.00/50.0 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 08:20:55 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 08:20:48 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	6.76	83	137483	4.9819 ug/L	97
40)	111trichlota	6.98	97	118482	4.9897 ug/L	98
42)	Cyclohexane	7.05	56	144350	5.3968 ug/L	99
43)	Carbtetraclo	7.19	119	96458	5.0708 ug/L	98
44)	11dicloprope	7.19	110	38774	4.9714 ug/L	98
46)	Benzene	7.44	78	303474	5.0280 ug/L	100
47)	12dichlorota	7.46	62	121230	5.0228 ug/L	100
48)	TAME	7.60	73	213363	5.0988 ug/L	96
49)	trichloroete	8.25	95	85741	5.1413 ug/L	98
50)	methylcyclohexane	8.50	83	126945	5.4058 ug/L	98
51)	12dicloropra	8.53	63	83544	5.2189 ug/L	98
52)	23Dicl1propene	8.59	75	124125	5.4454 ug/L	99
53)	Dibromometha	8.68	93	51801	5.2519 ug/L	97
54)	methylmethacrylate	8.69	69	53669	4.8368 ug/L	94
55)	14dioxane	8.72	88	53198	232.7377 ug/L	98
56)	Bromodiclrma	8.88	83	101837	5.1259 ug/L	98
57)	2Nitropropane	9.16	43	232719	55.1329 ug/L	99
58)	2CLEVE	9.26	63	286022	26.9401 ug/L	99
59)	c13dicloproe	9.45	75	115071	5.2130 ug/L	98
60)	4Meth2Pentan	9.65	43	1058805	53.0036 ug/L	99
62)	Toluene	9.89	92	199764	5.0073 ug/L	98
63)	t13Dicloprop	10.18	75	95945	5.2270 ug/L	99
64)	ethylmethacrylate	10.30	69	196735	10.5656 ug/L	99
65)	112Triclotha	10.41	83	58372	5.1022 ug/L	99
66)	Tetrachlorte	10.61	166	102669	4.9987 ug/L	97
67)	13Diclorpropa	10.64	76	120457	5.2310 ug/L	100
69)	2Hexanone	10.75	43	875526	57.5902 ug/L	99
70)	Clorodibrmta	10.94	129	80595	5.3129 ug/L	98
71)	12Dibrometha	11.09	107	74879	5.1827 ug/L	100
72)	Chlorobenzen	11.77	112	227272	5.0584 ug/L	98
73)	1Clhexane	11.73	91	108007	4.7134 ug/L	95
74)	1112Tetclota	11.88	131	70871	5.1416 ug/L	96
75)	Ethylbenzene	11.92	91	372469	5.0170 ug/L	98
76)	m p-Xylene	12.09	106	303562	10.3107 ug/L	99
77)	o-Xylene	12.63	106	145997	5.2023 ug/L	96
78)	Styrene	12.65	104	240292	5.5552 ug/L	98
79)	Bromoform	12.91	173	60321	5.3305 ug/L	97
80)	Isopropylben	13.16	105	375890	5.1491 ug/L	98
81)	cyclohexanone	13.27	55	65563	104.6581 ug/L	98
84)	Bromobenzene	13.58	156	107737	4.8823 ug/L	98
85)	1122Tetrclta	13.57	83	102835	5.3304 ug/L	100
86)	123Triclproa	13.64	75	115684	5.5953 ug/L	94
87)	14dichloro2butene	13.65	53	27144	5.2824 ug/L	98
88)	n-Propylbenz	13.75	91	427538	5.1114 ug/L	98
89)	2chlorotolue	13.86	91	258851	5.1047 ug/L	97
90)	4chlorotolue	14.02	91	298053	4.9867 ug/L	97
91)	135Trimebenz	14.00	105	305830	5.2351 ug/L	99
92)	tbutylbenzen	14.47	119	270797	5.1871 ug/L	99
93)	124Trimetben	14.54	105	297804	5.1839 ug/L	97
94)	sbutylbenzen	14.79	105	394757	5.1254 ug/L	99
95)	13Diclorbenz	14.95	146	191183	4.9777 ug/L	96
96)	pIsopropylto	15.01	119	331114	5.2948 ug/L	100
97)	14dichlorobe	15.07	146	198379	5.1163 ug/L	99
98)	12dichlorobe	15.62	146	180355	4.9707 ug/L	97
99)	nButylbenzen	15.60	91	286034	4.9655 ug/L	99
100)	12dibromo3cl	16.72	157	19950	5.5455 ug/L	92
101)	135Trichlorobenzene	17.03	180	153162	5.1217 ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\APR1916\CALW3.D Vial: 6
Acq On : 19 Apr 2016 10:42 Operator: RLD-AGK
Sample : CALIB. PT. 3 Inst : VMS4
Misc : 5.00/50.0 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 08:20:55 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 08:20:48 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.84	180	121919	5.0282	ug/L	98
103) Hexachlorobu	18.07	225	68458	5.2633	ug/L	96
104) Naphthalene	18.15	128	231004	5.4381	ug/L	99
105) 123Trichlben	18.46	180	102139	5.0491	ug/L	99

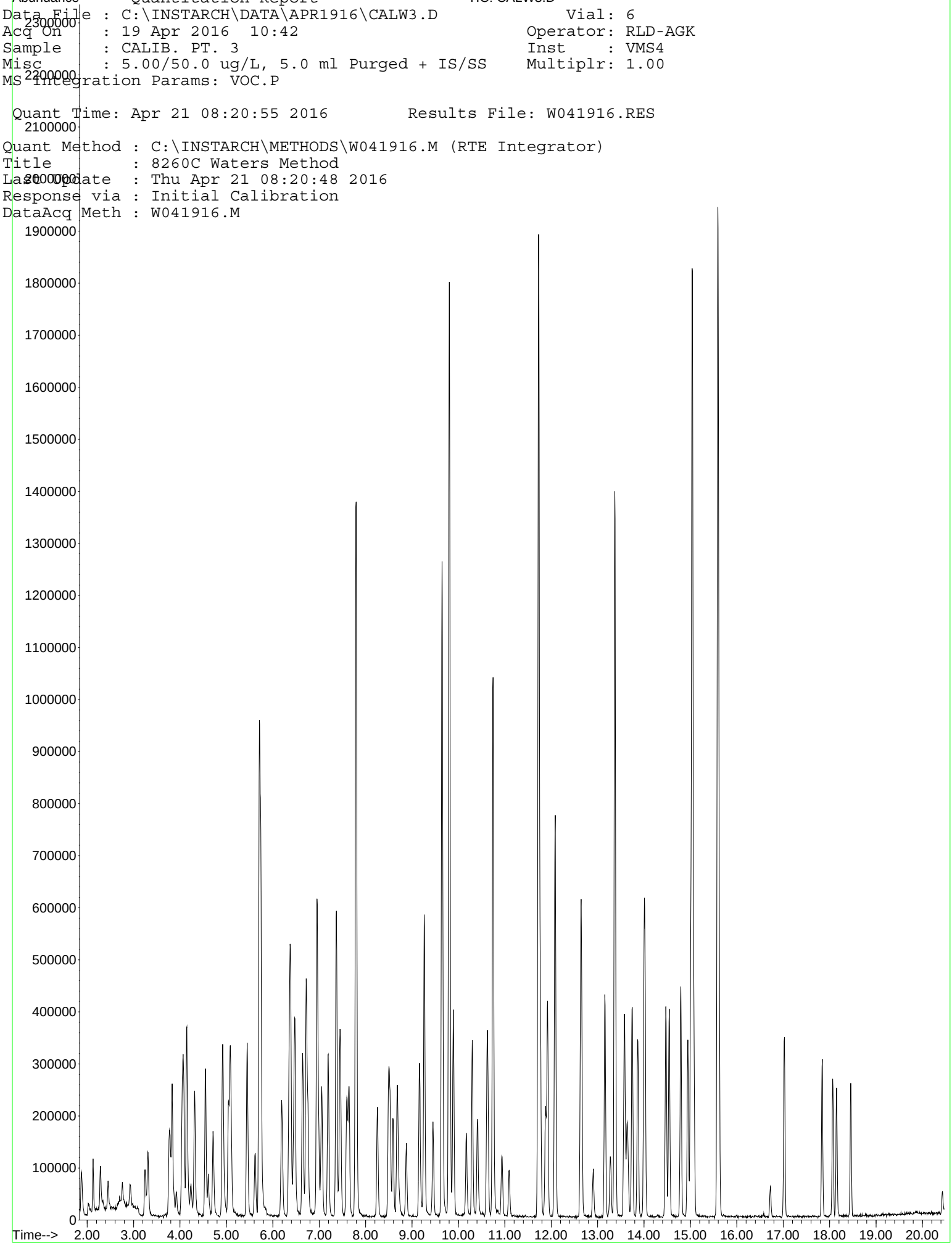
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: CALW3.D

Data File : C:\INSTARCH\DATA\APR1916\CALW3.D Vial: 6
Acq On : 19 Apr 2016 10:42 Operator: RLD-AGK
Sample : CALIB. PT. 3 Inst : VMS4
Misc : 5.00/50.0 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 08:20:55 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 08:20:48 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M



Quantitation Report

Data File : C:\INSTARCH\DATA\APR1916\CALW4.D Vial: 7
Acq On : 19 Apr 2016 11:10 Operator: RLD-AGK
Sample : CALIB. PT. 4 Inst : VMS4
Misc : 10.0/100 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 08:21:11 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 08:21:03 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.79	96	1503893	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.73	117	1221543	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	15.04	152	677991	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.96	113	413623	19.986	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100 %			
45) SURR12DCAd4	7.37	102	97672	19.648	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 98 %			
61) SURRd8Tolule	9.80	98	1438925	19.875	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 99 %			
83) SURR4BrFBenz	13.37	95	576363	19.994	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 100 %			
Target Compounds						Qvalue
2) Dichlorodi	1.88	85	231221	11.1253	ug/L	100
3) Chloromethan	2.13	50	209306	9.6042	ug/L	100
4) VinylChlorid	2.29	62	218876	10.7830	ug/L	100
5) Bromomethane	2.75	94	63965	9.0295	ug/L	100
6) Chloroethane	2.93	64	109349	7.7910	ug/L	100
7) Dichloroflmethane	3.25	67	253966	10.2287	ug/L	100
8) Trichlorofma	3.31	101	281481	11.0518	ug/L	100
9) Ethylether	3.76	59	133731	9.7512	ug/L	100
10) dichlorotfluoroethan	3.79	67	187593	10.7385	ug/L	100
11) propyleneoxide	3.83	58	396676	101.1511	ug/L	100
12) Acrolein	3.92	56	95828	44.9731	ug/L	100
13) 11dichlorthe	4.05	96	154988	10.7578	ug/L	100
14) Trichlorotfluoroeth	4.07	101	339260	21.8505	ug/L	100
15) Acetone	4.14	43	931367	87.4341	ug/L	100
16) Iodomethane	4.24	142	234740	26.7199	ug/L	100
17) Carbon Dislf	4.32	76	831235	20.5812	ug/L	100
18) allylchloride	4.55	41	469749	20.2720	ug/L	100
19) methylacetate	4.61	74	44207	10.8515	ug/L	100
20) Methylchlorid	4.72	84	169737	9.3067	ug/L	100
21) tbutylalcohol	4.92	59	1011438	512.1455	ug/L	100
22) Acrylonitrile	5.04	53	383453	49.6597	ug/L	100
23) t12dichlorte	5.08	96	158848	9.8062	ug/L	100
24) MtBE	5.10	73	455209	10.4317	ug/L	100
25) Hexane	5.45	57	440385	22.7521	ug/L	100
26) 11dichlorota	5.62	63	292261	10.2667	ug/L	100
27) Vinylacetate	5.71	43	3432552	111.8105	ug/L	100
28) chloroprene	5.74	53	613841	21.8977	ug/L	100
29) Diisopether	5.74	45	597135	10.5764	ug/L	100
30) ETBE	6.19	59	509354	10.6101	ug/L	100
31) 22dichloropr	6.36	77	217384	10.7188	ug/L	100
32) c12dichlorte	6.36	96	180062	10.7583	ug/L	100
33) 2Butanone	6.39	72	263796	103.3230	ug/L	100
34) propionitrile	6.45	54	301794	96.4362	ug/L	100
35) Ethylacetate	6.48	88	34606	50.6648	ug/L	100
36) methacrylonitrile	6.64	67	153327	21.4852	ug/L	100
37) Bromochlorma	6.65	128	83428	9.6635	ug/L	100
38) Tetrahydofur	6.72	42	667745	95.3319	ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\APR1916\CALW4.D Vial: 7
Acq On : 19 Apr 2016 11:10 Operator: RLD-AGK
Sample : CALIB. PT. 4 Inst : VMS4
Misc : 10.0/100 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 08:21:11 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 08:21:03 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	6.76	83	287812	10.1489 ug/L	100
40)	111trichlota	6.99	97	256562	10.5100 ug/L	100
42)	Cyclohexane	7.05	56	315481	11.2442 ug/L	100
43)	Carbtetraclo	7.19	119	208885	10.6385 ug/L	100
44)	11dicloprope	7.19	110	86064	10.7435 ug/L	100
46)	Benzene	7.44	78	636872	10.2444 ug/L	100
47)	12dichlorota	7.46	62	241448	9.7148 ug/L	100
48)	TAME	7.60	73	447756	10.3518 ug/L	100
49)	trichloroete	8.25	95	174988	10.1299 ug/L	100
50)	methylcyclohexane	8.50	83	275182	11.1663 ug/L	100
51)	12dicloropra	8.53	63	173777	10.4399 ug/L	100
52)	23Dicl1propene	8.59	75	253409	10.5729 ug/L	100
53)	Dibromometha	8.68	93	108600	10.5715 ug/L	100
54)	methylmethacrylate	8.69	69	122266	10.8011 ug/L	100
55)	14dioxane	8.71	88	124364	538.2638 ug/L	100
56)	Bromodiclrma	8.88	83	213149	10.3654 ug/L	100
57)	2Nitropropane	9.16	43	512757	115.1469 ug/L	100
58)	2CLEVE	9.26	63	595747	53.5159 ug/L	100
59)	c13dicloproe	9.45	75	243029	10.5912 ug/L	100
60)	4Meth2Pentan	9.65	43	2097298	100.5639 ug/L	100
62)	Toluene	9.89	92	412823	10.0567 ug/L	100
63)	t13Dicloprop	10.17	75	211562	11.0798 ug/L	100
64)	ethylmethacrylate	10.30	69	419375	21.5915 ug/L	100
65)	112Triclotha	10.41	83	123415	10.4345 ug/L	100
66)	Tetrachlorte	10.62	166	215396	10.1965 ug/L	100
67)	13Diclorpropa	10.63	76	240659	10.0447 ug/L	100
69)	2Hexanone	10.75	43	1634907	101.8557 ug/L	100
70)	Clorodibrmta	10.94	129	168121	10.7274 ug/L	100
71)	12Dibrometha	11.09	107	160185	10.8008 ug/L	100
72)	Chlorobenzen	11.77	112	456393	9.9571 ug/L	100
73)	1Clhexane	11.73	91	238853	10.3962 ug/L	100
74)	1112Tetclota	11.88	131	157366	11.1447 ug/L	100
75)	Ethylbenzene	11.92	91	792206	10.4812 ug/L	100
76)	m p-Xylene	12.09	106	625049	20.7101 ug/L	100
77)	o-Xylene	12.64	106	298463	10.3505 ug/L	100
78)	Styrene	12.65	104	489838	10.8321 ug/L	100
79)	Bromoform	12.91	173	123000	10.5118 ug/L	100
80)	Isopropylben	13.16	105	801203	10.7097 ug/L	100
81)	cyclohexanone	13.27	55	138543	214.9115 ug/L	100
84)	Bromobenzene	13.58	156	225045	10.0152 ug/L	100
85)	1122Tetrclta	13.56	83	202870	10.0991 ug/L	100
86)	123Triclproa	13.63	75	212139	9.7274 ug/L	99
87)	14dichloro2butene	13.66	53	57305	10.7356 ug/L	100
88)	n-Propylbenz	13.75	91	908480	10.5447 ug/L	100
89)	2chlorotolue	13.87	91	532922	10.2067 ug/L	100
90)	4chlorotolue	14.02	91	636115	10.3970 ug/L	100
91)	135Trimebenz	14.00	105	639382	10.5607 ug/L	100
92)	tbutylbenzen	14.47	119	574941	10.6518 ug/L	100
93)	124Trimetben	14.54	105	644566	10.8538 ug/L	100
94)	sbutylbenzen	14.79	105	865018	10.8962 ug/L	100
95)	13Diclorbenz	14.95	146	405242	10.3120 ug/L	100
96)	pIsopropylto	15.01	119	703347	10.8206 ug/L	100
97)	14dichlorobe	15.07	146	406778	10.1827 ug/L	100
98)	12dichlorobe	15.62	146	372753	10.0441 ug/L	100
99)	nButylbenzen	15.61	91	630695	10.7072 ug/L	100
100)	12dibromo3cl	16.73	157	40640	10.7357 ug/L	100
101)	135Trichlorobenzene	17.03	180	313551	10.1742 ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\APR1916\CALW4.D Vial: 7
Acq On : 19 Apr 2016 11:10 Operator: RLD-AGK
Sample : CALIB. PT. 4 Inst : VMS4
Misc : 10.0/100 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 08:21:11 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 08:21:03 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

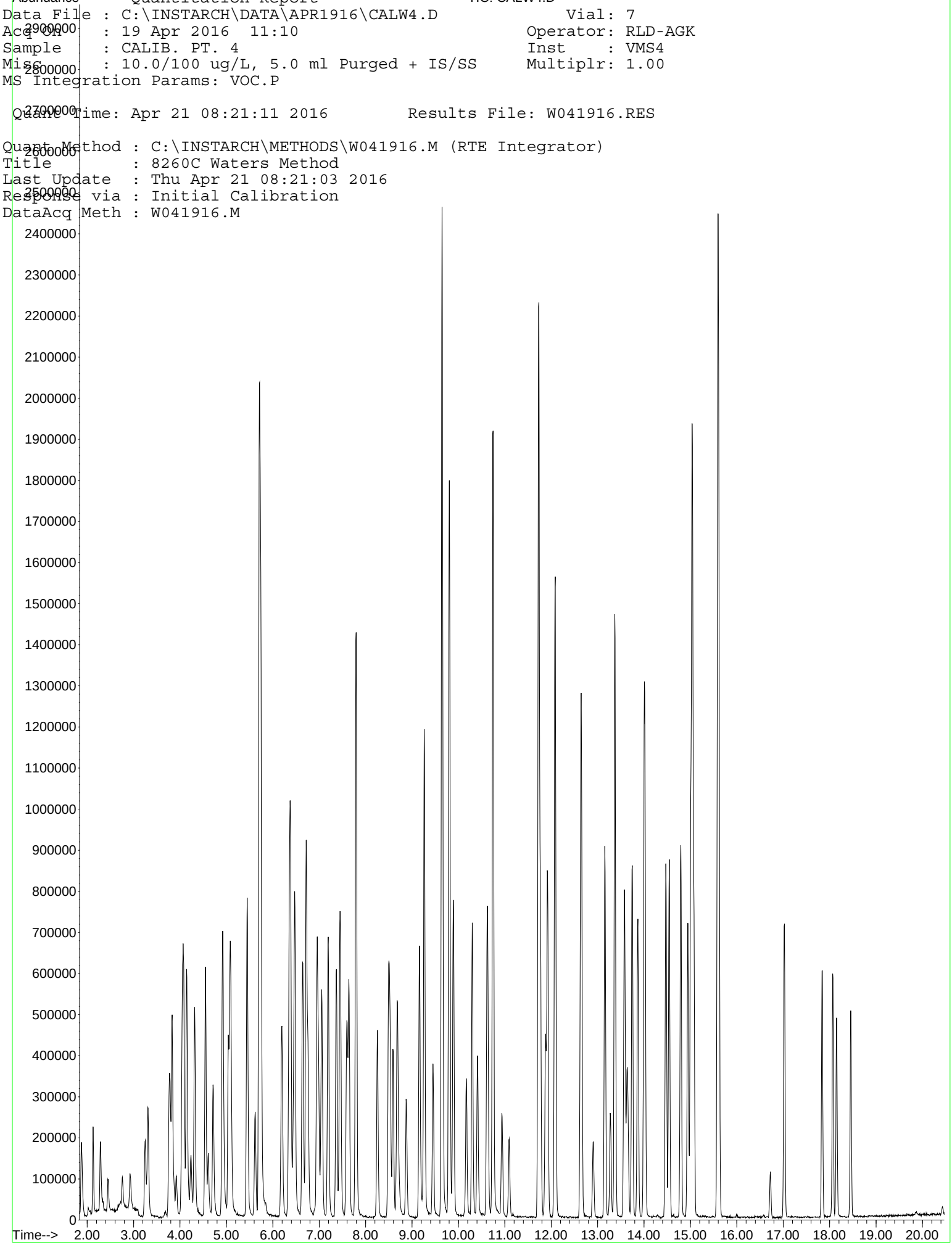
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.84	180	255882	10.2880	ug/L	100
103) Hexachlorobu	18.07	225	145884	10.8076	ug/L	100
104) Naphthalene	18.15	128	460000	10.3453	ug/L	100
105) 123Trichlben	18.46	180	203510	9.7973	ug/L	100

(#) = qualifier out of range (m) = manual integration

Data File : C:\INSTARCH\DATA\APR1916\CALW4.D Vial: 7
Acq On : 19 Apr 2016 11:10 Operator: RLD-AGK
Sample : CALIB. PT. 4 Inst : VMS4
Misc : 10.0/100 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 08:21:11 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 08:21:03 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M



Quantitation Report

Data File : C:\INSTARCH\DATA\APR1916\CALW5.D Vial: 8
Acq On : 19 Apr 2016 11:38 Operator: RLD-AGK
Sample : CALIB. PT. 5 Inst : VMS4
Misc : 20.0/200 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 08:21:25 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 08:21:18 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.80	96	1562711	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.73	117	1245876	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	15.04	152	673786	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.96	113	418047	19.433	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 97 %			
45) SURR12DCAd4	7.37	102	100049	19.367	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 97 %			
61) SURRd8Tolule	9.80	98	1497898	19.907	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100 %			
83) SURR4BrFBenz	13.37	95	580892	20.277	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 101 %			
Target Compounds						Qvalue
2) Dichlorodi	1.88	85	442725	20.4776	ug/L	99
3) Chloromethan	2.13	50	405561	17.9074	ug/L	99
4) VinylChlorid	2.29	62	412730	19.5659	ug/L	100
5) Bromomethane	2.75	94	114269	15.5570	ug/L	92
6) Chloroethane	2.92	64	208666	14.3065	ug/L	99
7) Dichloroflmethane	3.25	67	490868	19.0207	ug/L	98
8) Trichlorofma	3.31	101	540592	20.4241	ug/L	97
9) Ethylether	3.76	59	263228	18.4694	ug/L	98
10) dichlorotfluoroethan	3.79	67	356066	19.6049	ug/L	98
11) propyleneoxide	3.83	58	808544	198.2530	ug/L	99
12) Acrolein	3.92	56	177753	80.2742	ug/L	98
13) 11dichlorthe	4.04	96	294210	19.6338	ug/L	98
14) Trichlorotfluoroeth	4.07	101	669705	41.4925	ug/L	98
15) Acetone	4.14	43	2140199	193.4564	ug/L	99
16) Iodomethane	4.23	142	539349	58.7363	ug/L	99
17) Carbon Dislf	4.32	76	1631119	38.8506	ug/L	100
18) allylchloride	4.55	41	941772	39.1010	ug/L	100
19) methylacetate	4.60	74	88164	20.8249	ug/L	98
20) Methylchlorid	4.71	84	313691	16.5507	ug/L	97
21) tbutylalcohol	4.92	59	2233084	1090.0471	ug/L	97
22) Acrylonitrile	5.04	53	796326	99.2380	ug/L	99
23) t12dichlorte	5.08	96	315354	18.7332	ug/L	99
24) MtBE	5.10	73	927087	20.4435	ug/L	99
25) Hexane	5.45	57	848255	42.1589	ug/L	100
26) 11dichlorota	5.62	63	578565	19.5572	ug/L	100
27) Vinylacetate	5.71	43	6502883	203.8265	ug/L	99
28) chloroprene	5.74	53	1179822	40.4995	ug/L	99
29) Diisopether	5.73	45	1185067	20.1965	ug/L	99
30) ETBE	6.19	59	999742	20.0391	ug/L	98
31) 22dichloropr	6.36	77	432221	20.5077	ug/L	99
32) c12dichlorte	6.36	96	349134	20.0727	ug/L	99
33) 2Butanone	6.38	72	583961	220.0928	ug/L	95
34) propionitrile	6.45	54	648390	199.3709	ug/L	98
35) Ethylacetate	6.47	88	78019	109.9130	ug/L #	88
36) methacrylonitrile	6.64	67	313768	42.3078	ug/L	97
37) Bromochlorma	6.65	128	165741	18.4735	ug/L	95
38) Tetrahydofur	6.72	42	1389344	190.8684	ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\APR1916\CALW5.D Vial: 8
Acq On : 19 Apr 2016 11:38 Operator: RLD-AGK
Sample : CALIB. PT. 5 Inst : VMS4
Misc : 20.0/200 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 08:21:25 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 08:21:18 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	6.76	83	563185	19.1097 ug/L	98
40)	111trichlota	6.99	97	516181	20.3420 ug/L	99
42)	Cyclohexane	7.05	56	615551	21.1043 ug/L	98
43)	Carbtetraclo	7.19	119	416953	20.4339 ug/L	99
44)	11dicloprope	7.19	110	162688	19.5421 ug/L	94
46)	Benzene	7.44	78	1246902	19.2977 ug/L	100
47)	12dichlorota	7.46	62	468947	18.1563 ug/L	100
48)	TAME	7.60	73	902294	20.0732 ug/L	97
49)	trichloroete	8.25	95	341705	19.0345 ug/L	98
50)	methylcyclohexane	8.50	83	536154	20.9347 ug/L	99
51)	12dicloropra	8.53	63	344494	19.9149 ug/L	100
52)	23Dicl1propene	8.59	75	517477	20.7758 ug/L	99
53)	Dibromometha	8.67	93	210013	19.6719 ug/L	99
54)	methylmethacrylate	8.69	69	250261	21.2738 ug/L	95
55)	14dioxane	8.72	88	249926	1041.2757 ug/L	95
56)	Bromodiclrma	8.88	83	422934	19.7910 ug/L	98
57)	2Nitropropane	9.16	43	1189194	256.9694 ug/L	97
58)	2CLEVE	9.26	63	1217854	105.2346 ug/L	99
59)	c13dicloproe	9.45	75	490049	20.5503 ug/L	100
60)	4Meth2Pentan	9.65	43	4160363	191.9267 ug/L	98
62)	Toluene	9.89	92	798320	18.7129 ug/L	99
63)	t13Dicloprop	10.17	75	426071	21.4717 ug/L	99
64)	ethylmethacrylate	10.30	69	868943	43.0507 ug/L	99
65)	112Triclotha	10.41	83	245853	20.0019 ug/L	99
66)	Tetrachlorte	10.62	166	420786	19.1677 ug/L	99
67)	13Diclorpropa	10.63	76	484195	19.4468 ug/L	99
69)	2Hexanone	10.74	43	3433481	209.7300 ug/L	98
70)	Clorodibrmta	10.94	129	346555	21.6809 ug/L	98
71)	12Dibrometha	11.09	107	328754	21.7339 ug/L	99
72)	Chlorobenzen	11.77	112	905120	19.3612 ug/L	98
73)	1Clhexane	11.73	91	467965	19.9705 ug/L	97
74)	1112Tetclota	11.88	131	311236	21.6113 ug/L	98
75)	Ethylbenzene	11.92	91	1527112	19.8097 ug/L	97
76)	m p-Xylene	12.09	106	1213424	39.4199 ug/L	99
77)	o-Xylene	12.64	106	587624	19.9804 ug/L	99
78)	Styrene	12.65	104	971883	21.0720 ug/L	97
79)	Bromoform	12.91	173	258110	21.6277 ug/L	99
80)	Isopropylben	13.16	105	1558185	20.4216 ug/L	98
81)	cyclohexanone	13.28	55	304063	462.4583 ug/L	99
84)	Bromobenzene	13.58	156	446166	19.9796 ug/L	99
85)	1122Tetrclta	13.57	83	411513	20.6135 ug/L	97
86)	123Triclproa	13.63	75	499616	23.1131 ug/L	91
87)	14dichloro2butene	13.66	53	122272	23.0496 ug/L	89
88)	n-Propylbenz	13.75	91	1783215	20.8270 ug/L	99
89)	2chlorotolue	13.87	91	1040695	20.0560 ug/L	100
90)	4chlorotolue	14.02	91	1210968	19.9162 ug/L	98
91)	135Trimebenz	14.00	105	1240843	20.6230 ug/L	98
92)	tbutylbenzen	14.47	119	1155535	21.5420 ug/L	99
93)	124Trimetben	14.54	105	1240223	21.0144 ug/L	97
94)	sbutylbenzen	14.79	105	1667819	21.1398 ug/L	99
95)	13Diclorbenz	14.95	146	769548	19.7045 ug/L	97
96)	pIsopropylto	15.01	119	1377326	21.3217 ug/L	98
97)	14dichlorobe	15.07	146	776950	19.5704 ug/L	100
98)	12dichlorobe	15.62	146	724303	19.6388 ug/L	99
99)	nButylbenzen	15.60	91	1203547	20.5599 ug/L	99
100)	12dibromo3cl	16.72	157	89556	23.8052 ug/L	98
101)	135Trichlorobenzene	17.03	180	609257	19.8928 ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\APR1916\CALW5.D Vial: 8
Acq On : 19 Apr 2016 11:38 Operator: RLD-AGK
Sample : CALIB. PT. 5 Inst : VMS4
Misc : 20.0/200 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 08:21:25 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 08:21:18 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	17.84	180	489520	19.8045 ug/L	95
103) Hexachlorobu	18.07	225	294326	21.9408 ug/L	96
104) Naphthalene	18.15	128	954802	21.6073 ug/L	99
105) 123Trichlben	18.46	180	401691	19.4588 ug/L	97

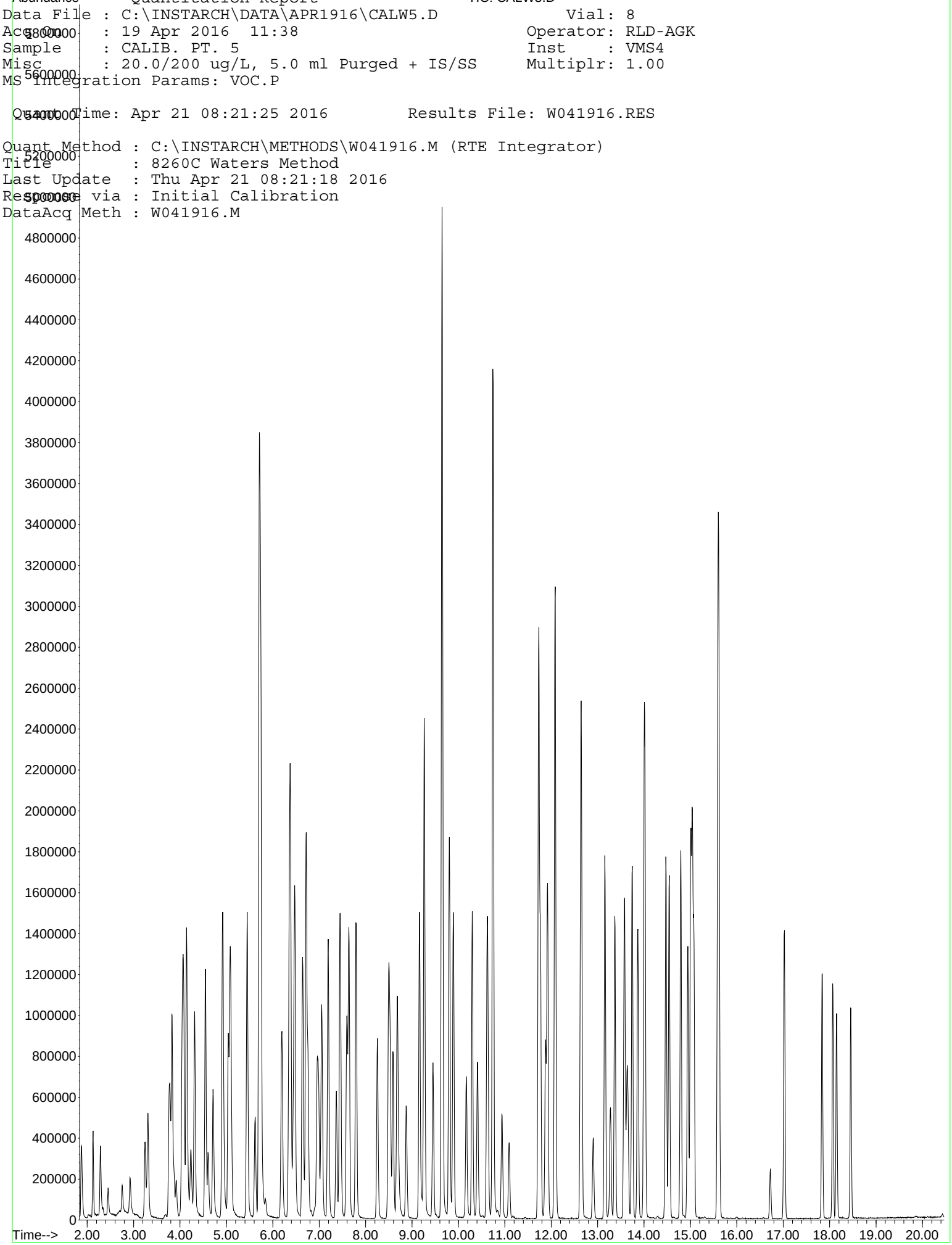
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: CALW5.D

Data File : C:\INSTARCH\DATA\APR1916\CALW5.D Vial: 8
Acq On : 19 Apr 2016 11:38 Operator: RLD-AGK
Sample : CALIB. PT. 5 Inst : VMS4
Misc : 20.0/200 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 08:21:25 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 08:21:18 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M



Quantitation Report

Data File : C:\INSTARCH\DATA\APR1916\CALW6.D Vial: 9
Acq On : 19 Apr 2016 12:06 Operator: RLD-AGK
Sample : CALIB. PT. 6 Inst : VMS4
Misc : 30.0/300 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 08:21:39 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 08:21:32 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.80	96	1583415	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.73	117	1248574	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	15.04	152	686341	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.96	113	428618	19.776	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 99 %			
45) SURR12DCAd4	7.37	102	103470	19.893	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 99 %			
61) SURRd8Tolule	9.80	98	1493138	19.602	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 98 %			
83) SURR4BrFBenz	13.37	95	591016	20.197	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 101 %			
Target Compounds						Qvalue
2) Dichlorodi	1.87	85	684055	31.0779	ug/L	99
3) Chloromethan	2.13	50	627644	27.9357	ug/L	97
4) VinylChlorid	2.29	62	637866	29.9734	ug/L	99
5) Bromomethane	2.75	94	185444	26.0754	ug/L	94
6) Chloroethane	2.92	64	310256	22.2610	ug/L	100
7) Dichloroflmethane	3.25	67	763933	29.5036	ug/L	98
8) Trichlorofma	3.31	101	830729	30.8446	ug/L	97
9) Ethylether	3.76	59	417201	29.3392	ug/L	98
10) dichlorotfluoroethan	3.79	67	539482	29.4316	ug/L	97
11) propyleneoxide	3.83	58	1302467	315.7375	ug/L	98
12) Acrolein	3.92	56	272467	126.4263	ug/L	99
13) 11dichlorthe	4.04	96	462448	30.5694	ug/L	99
14) Trichlorotfluoroeth	4.07	101	1013189	61.4938	ug/L	99
15) Acetone	4.14	43	3524170	316.4615	ug/L	97
16) Iodomethane	4.23	142	902638	88.7040	ug/L	99
17) Carbon Dislf	4.32	76	2529439	59.8030	ug/L	99
18) allylchloride	4.55	41	1479127	60.8819	ug/L	99
19) methylacetate	4.60	74	144913	33.5054	ug/L	97
20) Methylchlorid	4.71	84	495889	26.7441	ug/L	98
21) tbutylalcohol	4.92	59	3696208	1749.1567	ug/L	97
22) Acrylonitrile	5.04	53	1271513	156.6226	ug/L	98
23) t12dichlorte	5.08	96	499062	29.6339	ug/L	98
24) MtBE	5.10	73	1455735	31.5413	ug/L	99
25) Hexane	5.45	57	1330231	64.5522	ug/L	99
26) 11dichlorota	5.62	63	895440	30.0056	ug/L	99
27) Vinylacetate	5.71	43	9185758	283.0708	ug/L	95
28) chloroprene	5.74	53	1822197	61.5785	ug/L	99
29) Diisopether	5.74	45	1833920	30.7854	ug/L	100
30) ETBE	6.20	59	1586951	31.3811	ug/L	98
31) 22dichloropr	6.36	77	672161	31.3162	ug/L	97
32) c12dichlorte	6.36	96	557004	31.5820	ug/L	99
33) 2Butanone	6.38	72	969666	353.5806	ug/L	96
34) propionitrile	6.45	54	1055726	320.5781	ug/L	98
35) Ethylacetate	6.47	88	131078	178.7048	ug/L #	85
36) methacrylonitrile	6.64	67	514350	67.6662	ug/L	99
37) Bromochlorma	6.65	128	251020	28.0409	ug/L	96
38) Tetrahydofur	6.72	42	2223699	304.2764	ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\APR1916\CALW6.D Vial: 9
Acq On : 19 Apr 2016 12:06 Operator: RLD-AGK
Sample : CALIB. PT. 6 Inst : VMS4
Misc : 30.0/300 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 08:21:39 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 08:21:32 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	6.76	83	881518	29.7853 ug/L	98
40)	111trichlota	6.98	97	810627	31.4205 ug/L	100
42)	Cyclohexane	7.05	56	957089	32.0313 ug/L	98
43)	Carbtetraclo	7.19	119	670702	32.2996 ug/L	98
44)	11dicloprope	7.19	110	256449	30.5417 ug/L	96
46)	Benzene	7.44	78	1942725	29.8833 ug/L	99
47)	12dichlorota	7.46	62	744140	28.9684 ug/L	99
48)	TAME	7.60	73	1442377	31.6456 ug/L	97
49)	trichloroete	8.25	95	536150	29.7628 ug/L	98
50)	methylcyclohexane	8.50	83	866212	33.0708 ug/L	98
51)	12dicloropra	8.53	63	542703	30.9893 ug/L	99
52)	23Dicl1propene	8.59	75	817387	32.1382 ug/L	99
53)	Dibromometha	8.67	93	327476	30.3732 ug/L	96
54)	methylmethacrylate	8.69	69	411782	34.1119 ug/L	96
55)	14dioxane	8.72	88	403551	1645.7589 ug/L	96
56)	Bromodiclrma	8.88	83	676689	31.3168 ug/L	99
57)	2Nitropropane	9.16	43	2029883	409.5634 ug/L	97
58)	2CLEVE	9.26	63	1933836	163.2089 ug/L	99
59)	c13dicloproe	9.45	75	788442	32.4525 ug/L	98
60)	4Meth2Pentan	9.65	43	6293740	288.8799 ug/L	94
62)	Toluene	9.89	92	1262432	29.5858 ug/L	99
63)	t13Dicloprop	10.17	75	689388	33.7899 ug/L	98
64)	ethylmethacrylate	10.30	69	1400882	67.4684 ug/L	99
65)	112Triclotha	10.41	83	386799	31.0568 ug/L	100
66)	Tetrachlorte	10.61	166	667931	30.2799 ug/L	97
67)	13Diclorpropa	10.64	76	770827	30.7240 ug/L	99
69)	2Hexanone	10.75	43	5337754	322.2106 ug/L	95
70)	Clorodibrmta	10.94	129	563251	34.5802 ug/L	98
71)	12Dibrometha	11.09	107	523801	33.9647 ug/L	99
72)	Chlorobenzen	11.77	112	1403691	30.1538 ug/L	99
73)	1Clhexane	11.73	91	749114	31.9090 ug/L	94
74)	1112Tetclota	11.88	131	503408	34.3266 ug/L	98
75)	Ethylbenzene	11.92	91	2379290	30.8561 ug/L	97
76)	m p-Xylene	12.09	106	1887666	61.3691 ug/L	98
77)	o-Xylene	12.64	106	935089	31.7325 ug/L	97
78)	Styrene	12.65	104	1540960	32.9848 ug/L	98
79)	Bromoform	12.91	173	430942	35.4546 ug/L	99
80)	Isopropylben	13.16	105	2439566	31.7700 ug/L	99
81)	cyclohexanone	13.28	55	506961	746.0860 ug/L	98
84)	Bromobenzene	13.58	156	696797	30.6385 ug/L	99
85)	1122Tetrclta	13.57	83	666840	32.5924 ug/L	98
86)	123Triclproa	13.63	75	834356	36.7486 ug/L	91
87)	14dichloro2butene	13.66	53	208429	37.4310 ug/L	85
88)	n-Propylbenz	13.75	91	2752029	31.2954 ug/L	99
89)	2chlorotolue	13.87	91	1632077	30.8604 ug/L	99
90)	4chlorotolue	14.02	91	1934731	31.2637 ug/L	98
91)	135Trimebenz	14.00	105	1973305	31.9973 ug/L	99
92)	tbutylbenzen	14.47	119	1773728	31.9688 ug/L	99
93)	124Trimetben	14.54	105	1969358	32.4296 ug/L	98
94)	sbutylbenzen	14.79	105	2601408	32.0052 ug/L	98
95)	13Diclorbenz	14.95	146	1248070	31.4655 ug/L	98
96)	pIsopropylto	15.01	119	2166634	32.4975 ug/L	98
97)	14dichlorobe	15.07	146	1253933	31.1410 ug/L	100
98)	12dichlorobe	15.62	146	1155646	30.8725 ug/L	99
99)	nButylbenzen	15.60	91	1949223	32.5070 ug/L	99
100)	12dibromo3cl	16.72	157	161294	40.5470 ug/L	99
101)	135Trichlorobenzene	17.03	180	992731	31.8548 ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\APR1916\CALW6.D Vial: 9
Acq On : 19 Apr 2016 12:06 Operator: RLD-AGK
Sample : CALIB. PT. 6 Inst : VMS4
Misc : 30.0/300 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 08:21:39 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 08:21:32 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102)	124Trichlobe	17.83	180	809510	32.2143	ug/L	96
103)	Hexachlorobu	18.07	225	467414	33.5552	ug/L	97
104)	Naphthalene	18.15	128	1653053	36.1435	ug/L	100
105)	123Trichlben	18.46	180	696013	33.2798	ug/L	99

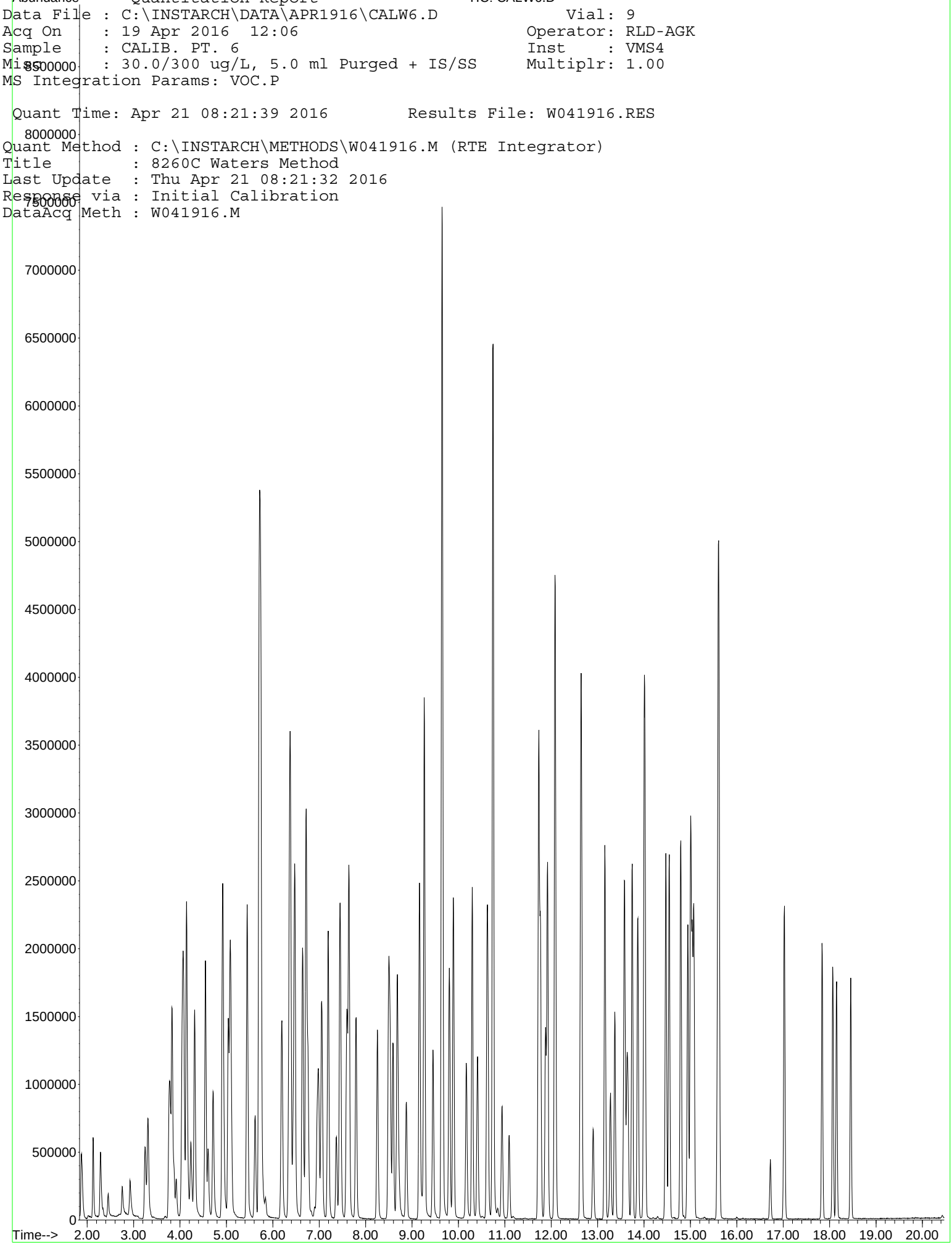
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: CALW6.D

Data File : C:\INSTARCH\DATA\APR1916\CALW6.D Vial: 9
Acq On : 19 Apr 2016 12:06 Operator: RLD-AGK
Sample : CALIB. PT. 6 Inst : VMS4
Misc : 30.0/300 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 08:21:39 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 08:21:32 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M



Quantitation Report

Data File : C:\INSTARCH\DATA\APR1916\CALW7.D Vial: 10
Acq On : 19 Apr 2016 12:34 Operator: RLD-AGK
Sample : CALIB. PT. 7 Inst : VMS4
Misc : 40.0/400 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 08:21:54 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 08:21:46 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.79	96	1596586	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.73	117	1268445	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	15.04	152	700097	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.96	113	431019	19.760	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 99 %			
45) SURR12DCAd4	7.37	102	103694	19.789	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 99 %			
61) SURRd8Tolule	9.80	98	1495538	19.537	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 98 %			
83) SURR4BrFBenz	13.37	95	599026	20.036	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 100 %			
Target Compounds						Qvalue
2) Dichlorodi	1.87	85	883549	39.5731	ug/L	99
3) Chloromethan	2.13	50	813619	36.3311	ug/L	99
4) VinylChlorid	2.29	62	821641	38.2961	ug/L	100
5) Bromomethane	2.75	94	263013	37.4949	ug/L	94
6) Chloroethane	2.92	64	401767	29.8735	ug/L	98
7) Dichloroflmethane	3.25	67	1013810	38.9384	ug/L	98
8) Trichlorofma	3.31	101	1081459	39.6368	ug/L	99
9) Ethylether	3.76	59	610171	42.7124	ug/L	89
10) dichlorotfluoroethan	3.79	67	704719	38.2498	ug/L	96
11) propyleneoxide	3.83	58	1641460	391.2115	ug/L	98
12) Acrolein	3.92	56	371331	175.4746	ug/L	99
13) 11dichlorthe	4.04	96	602742	39.3901	ug/L	98
14) Trichlorotfluoroeth	4.07	101	1333962	79.9629	ug/L	98
15) Acetone	4.14	43	4010959	353.9656	ug/L	97
16) Iodomethane	4.23	142	1263046	114.0079	ug/L	99
17) Carbon Dislf	4.32	76	3283424	77.0311	ug/L	98
18) allylchloride	4.55	41	1939329	78.9722	ug/L	99
19) methylacetate	4.60	74	189430	42.6071	ug/L	98
20) Methylchlorid	4.71	84	651692	35.4990	ug/L	98
21) tbutylalcohol	4.92	59	4733565	2161.7401	ug/L	97
22) Acrylonitrile	5.04	53	1605803	194.7351	ug/L	99
23) t12dichlorte	5.08	96	648292	38.2553	ug/L	99
24) MtBE	5.10	73	1883911	40.1381	ug/L	99
25) Hexane	5.45	57	1731292	82.2810	ug/L	99
26) 11dichlorota	5.62	63	1184037	39.3478	ug/L	98
27) Vinylacetate	5.71	43	11049011	340.8865	ug/L	92
28) chloroprene	5.74	53	2327775	77.6743	ug/L	98
29) Diisopether	5.73	45	2346249	38.8910	ug/L	99
30) ETBE	6.19	59	2068820	40.2634	ug/L	98
31) 22dichloropr	6.35	77	884767	40.5848	ug/L	98
32) c12dichlorte	6.36	96	722265	40.2606	ug/L	99
33) 2Butanone	6.38	72	1163765	408.6909	ug/L	96
34) propionitrile	6.45	54	1349523	401.8173	ug/L	97
35) Ethylacetate	6.47	88	166712	218.4442	ug/L #	85
36) methacrylonitrile	6.63	67	658460	84.1189	ug/L	99
37) Bromochlorma	6.65	128	318484	35.6719	ug/L	98
38) Tetrahydofur	6.71	42	2775566	375.7645	ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\APR1916\CALW7.D Vial: 10
Acq On : 19 Apr 2016 12:34 Operator: RLD-AGK
Sample : CALIB. PT. 7 Inst : VMS4
Misc : 40.0/400 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 08:21:54 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 08:21:46 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	6.76	83	1141178	38.2864 ug/L	95
40)	111trichlota	6.98	97	1066199	40.6649 ug/L	99
42)	Cyclohexane	7.05	56	1262446	41.4347 ug/L	100
43)	Carbtetraclo	7.19	119	885867	41.7758 ug/L	100
44)	11dicloprope	7.19	110	339664	39.9981 ug/L	96
46)	Benzene	7.44	78	2531930	38.6503 ug/L	99
47)	12dichlorota	7.46	62	962082	37.3577 ug/L	97
48)	TAME	7.60	73	1891924	40.7932 ug/L	99
49)	trichloroete	8.25	95	712057	39.2534 ug/L	99
50)	methylcyclohexane	8.50	83	1128930	42.0285 ug/L	99
51)	12dicloropra	8.53	63	709687	39.9704 ug/L	100
52)	23Dicl1propene	8.59	75	1060269	40.8586 ug/L	97
53)	Dibromometha	8.67	93	440570	40.4416 ug/L	99
54)	methylmethacrylate	8.69	69	544730	43.7536 ug/L	97
55)	14dioxane	8.71	88	540968	2153.1017 ug/L	96
56)	Bromodiclrma	8.88	83	888055	40.4637 ug/L	98
57)	2Nitropropane	9.16	43	2655102	500.8091 ug/L	96
58)	2CLEVE	9.26	63	2474824	204.1471 ug/L	99
59)	c13dicloproe	9.45	75	1035314	41.6942 ug/L	98
60)	4Meth2Pentan	9.65	43	7396143	338.7721 ug/L	90
62)	Toluene	9.89	92	1634082	38.0673 ug/L	100
63)	t13Dicloprop	10.17	75	927619	44.1617 ug/L	98
64)	ethylmethacrylate	10.30	69	1820001	85.1638 ug/L	98
65)	112Triclotha	10.41	83	502245	39.7601 ug/L	99
66)	Tetrachlorte	10.62	166	882800	39.6289 ug/L	98
67)	13Diclorpropa	10.63	76	988721	38.9273 ug/L	100
69)	2Hexanone	10.74	43	6248600	366.7588 ug/L	93
70)	Clorodibrmta	10.94	129	741212	43.6816 ug/L	99
71)	12Dibrometha	11.09	107	677278	42.2970 ug/L	99
72)	Chlorobenzen	11.77	112	1822014	38.4940 ug/L	99
73)	1Clhexane	11.73	91	977955	40.5737 ug/L	94
74)	1112Tetclota	11.88	131	665119	43.5950 ug/L	99
75)	Ethylbenzene	11.92	91	3087922	39.2322 ug/L	96
76)	m p-Xylene	12.09	106	2448402	78.0552 ug/L	97
77)	o-Xylene	12.63	106	1210898	40.0628 ug/L	96
78)	Styrene	12.65	104	2001920	41.4924 ug/L	98
79)	Bromoform	12.90	173	566008	44.4891 ug/L	99
80)	Isopropylben	13.16	105	3149169	39.9754 ug/L	98
81)	cyclohexanone	13.27	55	662333	922.0578 ug/L	99
84)	Bromobenzene	13.58	156	901395	38.7187 ug/L	98
85)	1122Tetrclta	13.57	83	854455	40.3604 ug/L	96
86)	123Triclproa	13.64	75	1051896	43.7784 ug/L	91
87)	14dichloro2butene	13.66	53	268388	45.3784 ug/L	83
88)	n-Propylbenz	13.75	91	3528172	39.0522 ug/L	99
89)	2chlorotolue	13.86	91	2133912	39.3684 ug/L	99
90)	4chlorotolue	14.02	91	2492090	39.2037 ug/L	98
91)	135Trimebenz	14.00	105	2532823	39.8211 ug/L	98
92)	tbutylbenzen	14.47	119	2322947	40.6010 ug/L	99
93)	124Trimetben	14.54	105	2538214	40.4300 ug/L	97
94)	sbutylbenzen	14.79	105	3345924	39.9115 ug/L	98
95)	13Diclorbenz	14.95	146	1632505	40.0231 ug/L	98
96)	pIsopropylto	15.01	119	2797175	40.5678 ug/L	98
97)	14dichlorobe	15.07	146	1627503	39.3747 ug/L	99
98)	12dichlorobe	15.61	146	1482785	38.6462 ug/L	100
99)	nButylbenzen	15.60	91	2516285	40.5742 ug/L	98
100)	12dibromo3cl	16.72	157	205402	47.8186 ug/L	99
101)	135Trichlorobenzene	17.03	180	1296961	40.3831 ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\APR1916\CALW7.D Vial: 10
Acq On : 19 Apr 2016 12:34 Operator: RLD-AGK
Sample : CALIB. PT. 7 Inst : VMS4
Misc : 40.0/400 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 08:21:54 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 08:21:46 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

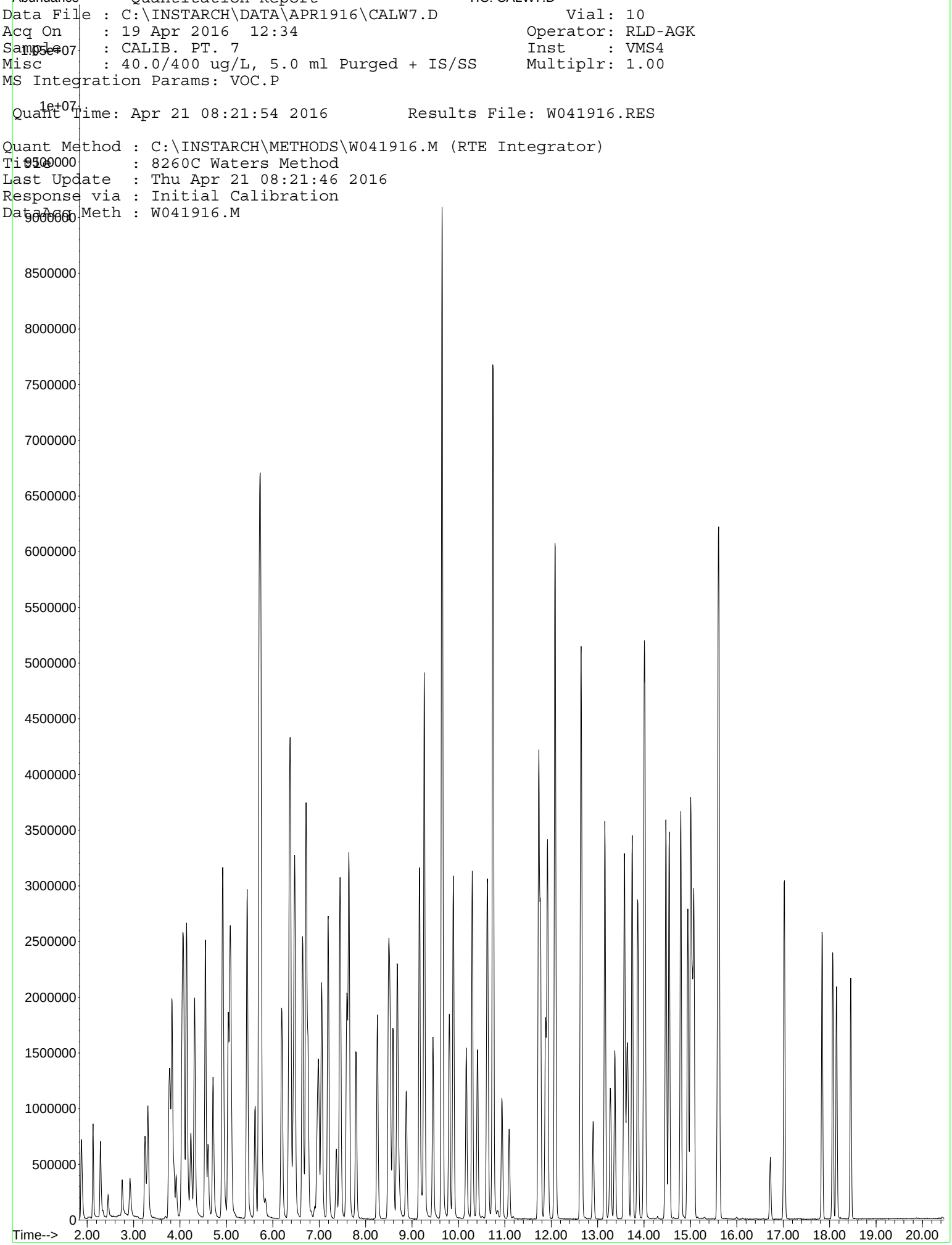
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.84	180	1058554	40.7954	ug/L	97
103) Hexachlorobu	18.07	225	618333	42.6744	ug/L	95
104) Naphthalene	18.15	128	1991853	41.2864	ug/L	99
105) 123Trichlben	18.46	180	851005	39.1773	ug/L	99

(#) = qualifier out of range (m) = manual integration

Data File : C:\INSTARCH\DATA\APR1916\CALW7.D Vial: 10
Acq On : 19 Apr 2016 12:34 Operator: RLD-AGK
Sample : CALIB. PT. 7 Inst : VMS4
Misc : 40.0/400 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 08:21:54 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 08:21:46 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M



Quantitation Report

Data File : C:\INSTARCH\DATA\APR1916\CALW8.D Vial: 11
Acq On : 19 Apr 2016 13:02 Operator: RLD-AGK
Sample : CALIB. PT. 8 Inst : VMS4
Misc : 80.0/800 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 08:22:09 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 08:22:02 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.80	96	1651733	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.73	117	1286295	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	15.04	152	718112	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.96	113	440658	19.561	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 98 %			
45) SURR12DCAd4	7.37	102	102943	19.019	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 95 %			
61) SURRd8Tolule	9.80	98	1537764	19.482	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 97 %			
83) SURR4BrFBenz	13.37	95	616526	20.099	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 100 %			
Target Compounds						Qvalue
2) Dichlorodi	1.88	85	1784013	77.3540	ug/L	100
3) Chloromethan	2.13	50	1617796	70.7558	ug/L	99
4) VinylChlorid	2.29	62	1618514	73.3656	ug/L	98
5) Bromomethane	2.75	94	604692	84.0785	ug/L	94
6) Chloroethane	2.92	64	805192	60.0429	ug/L	100
7) Dichloroflmethane	3.25	67	1986125	74.0168	ug/L	99
8) Trichlorofma	3.31	101	2175528	77.1737	ug/L	95
9) Ethylether	3.76	59	1127971	75.5904	ug/L	98
10) dichlorotfluoroethan	3.79	67	1441343	76.0950	ug/L	96
11) propyleneoxide	3.83	58	3340823	772.0627	ug/L	97
12) Acrolein	3.92	56	800831	372.3248	ug/L	97
13) 11dichlorthe	4.04	96	1259248	79.7198	ug/L	98
14) Trichlorotfluoroeth	4.07	101	2714920	157.3197	ug/L	99
15) Acetone	4.14	43	7896037	684.8161	ug/L	91
16) Iodomethane	4.24	142	2709122	222.8397	ug/L	99
17) Carbon Dislf	4.32	76	6229499	142.0213	ug/L	96
18) allylchloride	4.55	41	3770935	148.7038	ug/L	98
19) methylacetate	4.61	74	398290	85.7947	ug/L	100
20) Methylchlorid	4.71	84	1299894	69.5620	ug/L	98
21) tbutylalcohol	4.92	59	8624816	3763.8201	ug/L	99
22) Acrylonitrile	5.04	53	3253815	382.8543	ug/L	99
23) t12dichlorte	5.08	96	1320186	75.7746	ug/L	97
24) MtBE	5.10	73	3839255	79.0282	ug/L	99
25) Hexane	5.45	57	3557857	162.7815	ug/L	98
26) 11dichlorota	5.62	63	2383430	76.7402	ug/L	98
27) Vinylacetate	5.71	43	15196138	462.9553	ug/L	79
28) chloroprene	5.74	53	4337587	140.4897	ug/L	96
29) Diisopether	5.74	45	4349797	69.9714	ug/L	97
30) ETBE	6.19	59	4117302	77.3828	ug/L	97
31) 22dichloropr	6.35	77	1815530	80.3312	ug/L	97
32) c12dichlorte	6.36	96	1456743	78.4179	ug/L	99
33) 2Butanone	6.38	72	2423157	820.0075	ug/L	95
34) propionitrile	6.45	54	2592636	745.6938	ug/L	98
35) Ethylacetate	6.48	88	337478	421.8785	ug/L #	88
36) methacrylonitrile	6.64	67	1334973	163.6464	ug/L	100
37) Bromochlorma	6.65	128	625534	68.7872	ug/L	98
38) Tetrahydofur	6.71	42	5344159	705.4584	ug/L	95

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\APR1916\CALW8.D Vial: 11
Acq On : 19 Apr 2016 13:02 Operator: RLD-AGK
Sample : CALIB. PT. 8 Inst : VMS4
Misc : 80.0/800 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 08:22:09 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 08:22:02 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
39)	Chloroform	6.76	83	2305629	75.2314 ug/L		97
40)	111trichlota	6.99	97	2172393	79.8991 ug/L		99
42)	Cyclohexane	7.05	56	2543490	80.2812 ug/L		96
43)	Carbtetraclo	7.19	119	1882514	85.2710 ug/L		99
44)	11dicloprope	7.19	110	694312	79.0314 ug/L		97
46)	Benzene	7.44	78	4918435	72.9255 ug/L		97
47)	12dichlorota	7.46	62	1935178	73.3262 ug/L		98
48)	TAME	7.60	73	3850136	80.0174 ug/L		99
49)	trichloroete	8.25	95	1446334	77.2757 ug/L		99
50)	methylcyclohexane	8.50	83	2340790	83.6289 ug/L		99
51)	12dicloropra	8.53	63	1438007	78.2945 ug/L		100
52)	23Dicl1propene	8.59	75	2185401	81.1562 ug/L		98
53)	Dibromometha	8.68	93	890176	78.8602 ug/L		98
54)	methylmethacrylate	8.69	69	1142901	87.5608 ug/L		97
55)	14dioxane	8.72	88	947234	3604.7830 ug/L		96
56)	Bromodiclrma	8.88	83	1848116	81.2622 ug/L		98
57)	2Nitropropane	9.17	43	5428232	955.3022 ug/L		97
58)	2CLEVE	9.27	63	4763374	378.6880 ug/L		96
59)	c13dicloproe	9.45	75	2125152	82.2292 ug/L		97
60)	4Meth2Pentan	9.65	43	11166903	505.4633 ug/L		75
62)	Toluene	9.89	92	3234933	73.3506 ug/L		95
63)	t13Dicloprop	10.17	75	1880738	85.2805 ug/L		98
64)	ethylmethacrylate	10.30	69	3647883	163.4898 ug/L		98
65)	112Triclotha	10.41	83	1005218	76.9868 ug/L		99
66)	Tetrachlorte	10.62	166	1768429	76.8362 ug/L		98
67)	13Diclorpropa	10.63	76	2004212	76.5674 ug/L		100
69)	2Hexanone	10.75	43	9865811	577.8943 ug/L		81
70)	Clorodibrmta	10.94	129	1522446	87.3284 ug/L		98
71)	12Dibrometha	11.09	107	1360585	83.1096 ug/L		98
72)	Chlorobenzen	11.77	112	3573037	74.8432 ug/L		99
73)	1Clhexane	11.73	91	2001505	81.7193 ug/L		92
74)	1112Tetclota	11.88	131	1375919	87.8053 ug/L		98
75)	Ethylbenzene	11.92	91	5815173	73.0571 ug/L		92
76)	m p-Xylene	12.09	106	4668471	147.2772 ug/L	#	86
77)	o-Xylene	12.64	106	2381800	77.6913 ug/L		92
78)	Styrene	12.65	104	3858774	78.4502 ug/L		96
79)	Bromoform	12.90	173	1208806	92.2171 ug/L		99
80)	Isopropylben	13.16	105	5878509	73.5925 ug/L		93
81)	cyclohexanone	13.27	55	1238510	1663.9800 ug/L		98
84)	Bromobenzene	13.59	156	1802192	75.8166 ug/L		97
85)	1122Tetrclta	13.57	83	1732119	79.6620 ug/L		96
86)	123Triclproa	13.63	75	2205145	88.2813 ug/L		89
87)	14dichloro2butene	13.66	53	594831	96.2016 ug/L		81
88)	n-Propylbenz	13.75	91	6486294	70.2313 ug/L		94
89)	2chlorotolue	13.87	91	4163552	75.0554 ug/L		97
90)	4chlorotolue	14.02	91	4771726	73.3909 ug/L		96
91)	135Trimebenz	14.00	105	4876147	74.7875 ug/L		96
92)	tbutylbenzen	14.47	119	4528072	76.9919 ug/L		97
93)	124Trimetben	14.54	105	4862675	75.3963 ug/L		94
94)	sbutylbenzen	14.79	105	6240826	72.5985 ug/L		93
95)	13Diclorbenz	14.95	146	3212593	76.7790 ug/L		96
96)	pIsopropylto	15.01	119	5343388	75.3989 ug/L		94
97)	14dichlorobe	15.07	146	3210771	75.9001 ug/L		99
98)	12dichlorobe	15.62	146	2937858	75.0120 ug/L		99
99)	nButylbenzen	15.61	91	4830017	75.7732 ug/L		95
100)	12dibromo3cl	16.72	157	447143	98.7288 ug/L		99
101)	135Trichlorobenzene	17.03	180	2637316	79.9478 ug/L		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\APR1916\CALW8.D Vial: 11
Acq On : 19 Apr 2016 13:02 Operator: RLD-AGK
Sample : CALIB. PT. 8 Inst : VMS4
Misc : 80.0/800 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 08:22:09 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 08:22:02 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

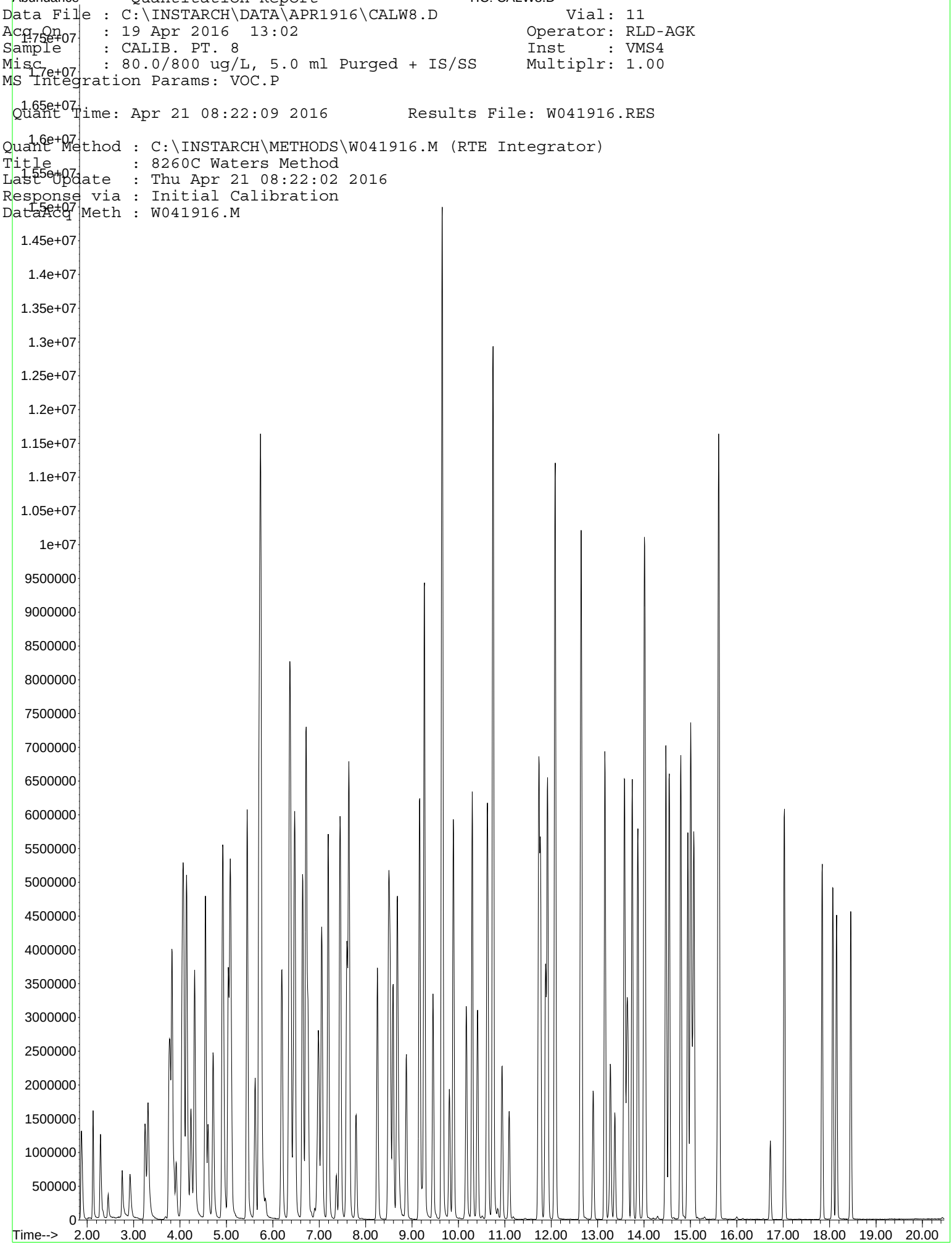
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	17.84	180	2170602	81.3228 ug/L	95
103) Hexachlorobu	18.07	225	1295712	86.3558 ug/L	97
104) Naphthalene	18.15	128	4170189	83.8844 ug/L	98
105) 123Trichlben	18.46	180	1805118	81.2554 ug/L	98

(#) = qualifier out of range (m) = manual integration

Data File : C:\INSTARCH\DATA\APR1916\CALW8.D Vial: 11
Acq On : 19 Apr 2016 13:02 Operator: RLD-AGK
Sample : CALIB. PT. 8 Inst : VMS4
Misc : 80.0/800 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 08:22:09 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 08:22:02 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M



Evaluate Continuing Calibration Report

Data File : C:\Instarch\Data\APR1916\ICV1.D Vial: 13
Acq On : 19 Apr 2016 13:58 Operator: RLD-AGK
Sample : INITIAL CALIB. VERIF. Inst : VMS4
Misc : 10.0/100 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Apr 21 08:35:59 2016

Quant Method : C:\INSTARCH\METHODS\W041916.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W041916.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	1.0000	1.0000	0.00	102	0.00
2	PT	Dichlorodi	0.2781	0.2987	-7.41	99	0.00
3	PT	Chloromethan	0.2729	0.2821	-3.37	104	0.00
4	PT	VinylChlorid	0.2644	0.2773	-4.88	97	0.00
5	PT	Bromomethane	0.0818	0.0940#	-14.91	113	0.00
6	PT	Chloroethane	0.1364	0.1412	-3.52	99	0.00
7	T	Dichloroflmethane	0.3219	0.3318	-3.08	100	0.00
8	PT	Trichlorofma	0.3398	0.3439	-1.21	94	0.00
9	T	Ethylether	0.1794	0.1978	-10.26	114	0.00
10	T	dichlorotfluoroethan	0.2280	0.2269	0.48	93	0.00
11	T	propyleneoxide	0.0522	0.0540	-3.45	105	0.00
12	T	Acrolein	0.0258	0.0249#	3.49	100	0.00
13	PT	11dichlorthe	0.1912	0.1961	-2.56	97	0.00
14	PT	Trichlorotfluoroeth	0.2085	0.2145	-2.88	97	0.00
15	PT	Acetone	0.1371	0.1454	-6.05	120	0.00
16	T	Iodomethane	0.1544	0.1114	27.85#	73	0.00
17	PT	Carbon Dislf	0.5237	0.5482	-4.68	101	0.00
18	T	allylchloride	0.3043	0.3167	-4.07	104	0.00
19	PT	methylacetate	0.0567	0.0588#	-3.70	102	0.00
20	PT	Methylchlorid	0.2226	0.2176	2.25	99	0.00
21	T	tbutylalcohol	0.0275	0.0294#	-6.91	112	0.00
22	T	Acrylonitrile	0.1024	0.1038	-1.37	104	0.00
23	PT	t12dichlorte	0.2096	0.2148	-2.48	104	0.00
24	PT	MtBE	0.5873	0.6132	-4.41	104	0.00
25	T	Hexane	0.2652	0.2691	-1.47	94	0.00
26	PT	11dichlorota	0.3742	0.3921	-4.78	103	0.00
27	T	Vinylacetate	0.3975	0.3683	7.35	83	0.00
28	T	chloroprene	0.3681	0.3919	-6.47	98	0.00
29	T	Diisopether	0.7409	0.7886	-6.44	102	0.00
30	T	ETBE	0.6416	0.6595	-2.79	100	0.00
31	T	22dichloropr	0.2738	0.2797	-2.15	99	0.00
32	PT	c12dichlorte	0.2244	0.2393	-6.64	102	0.00
33	PT	2Butanone	0.0359	0.0370#	-3.06	108	0.00
34	T	propionitrile	0.0417	0.0441	-5.76	112	0.00
35	T	Ethylacetate	0.0098	0.0106#	-8.16	118	0.00
36	T	methacrylonitrile	0.0991	0.1045	-5.45	105	0.00
37	T	Bromochlorma	0.1082	0.1120	-3.51	103	0.00
38	T	Tetrahydofur	0.0904	0.0895	1.00	103	0.00
39	PT	Chloroform	0.3683	0.3837	-4.18	103	0.00
40	PT	111trichlota	0.3292	0.3361	-2.10	101	0.00
41	S	SURRDibrflma	0.2720	0.2701	0.70	100	0.00
42	PT	Cyclohexane	0.3838	0.3983	-3.78	97	0.00
43	PT	Carbtetraclo	0.2695	0.2834	-5.16	104	0.00
44	T	11dicloprope	0.1062	0.1078	-1.51	96	0.00
45	S	SURR12DCAd4	0.0651	0.0673	-3.38	106	0.00
46	PT	Benzene	0.8076	0.8267	-2.37	100	0.00
47	PT	12dichlorota	0.3162	0.3228	-2.09	103	0.00
48	T	TAME	0.5826	0.5949	-2.11	102	0.00

49	PT	trichloroete	0.2257	0.2338	-3.59	103	0.00
50	PT	methylcyclohexane	0.3408	0.3579	-5.02	100	0.00
51	PT	12dicloropra	0.2218	0.2295	-3.47	102	0.00
52	T	23Dicl1propene	0.3267	0.3532	-8.11	107	0.00
53	T	Dibromometha	0.1364	0.1423	-4.33	101	0.00
54	T	methylmethacrylate	0.1599	0.1624	-1.56	102	0.00
55	T	14dioxane	0.0031	0.0033#	-6.45	102	0.00
56	PT	Bromodiclrma	0.2759	0.2853	-3.41	103	0.00
57	T	2Nitropropane	0.0705	0.0700	0.71	105	0.00
58	T	2CLEVE	0.1513	0.1644	-8.66	106	0.00
59	PT	c13dicloproe	0.3140	0.3236	-3.06	102	0.00
60	PT	4Meth2Pentan	0.2675	0.2841	-6.21	104	0.00
61	S	SURRd8Tolule	0.9527	0.9509	0.19	102	0.00
62	PT	Toluene	0.5285	0.5508	-4.22	103	0.00
63	PT	t13Dicloprop	0.2692	0.2762	-2.60	100	0.00
64	T	ethylmethacrylate	0.2709	0.2888	-6.61	106	0.00
65	PT	112Triclotha	0.1574	0.1610	-2.29	100	0.00
66	PT	Tetrachlorte	0.2773	0.2909	-4.90	104	0.00
67	T	13Diclorpropa	0.3152	0.3267	-3.65	104	0.00
68	I	d5-CHLOROBENZENE**ISTD**	1.0000	1.0000	0.00	100	0.00
69	PT	2Hexanone	0.2562	0.2883	-12.53	108	0.00
70	PT	Clorodibrmta	0.2742	0.2843	-3.68	104	0.00
71	PT	12Dibrometha	0.2558	0.2732	-6.80	105	0.00
72	PT	Chlorobenzen	0.7363	0.7595	-3.15	102	0.00
73	T	1Clhexane	0.3818	0.3868	-1.31	99	0.00
74	T	1112Tetclota	0.2466	0.2604	-5.60	102	0.00
75	PT	Ethylbenzene	1.2242	1.3042	-6.53	101	0.00
76	PT	m p-Xylene	0.4880	0.5135	-5.23	101	0.00
77	PT	o-Xylene	0.4750	0.4943	-4.06	102	0.00
78	PT	Styrene	0.7629	0.8212	-7.64	103	0.00
79	PT	Bromoform	0.2077	0.2030	2.26	101	0.00
80	PT	Isopropylben	1.2296	1.3167	-7.08	101	0.00
81	T	cyclohexanone	0.0116	0.0122#	-5.17	108	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	1.0000	1.0000	0.00	98	0.00
83	S	SURR4BrFBenz	0.8548	0.8715	-1.95	100	0.00
84	T	Bromobenzene	0.6577	0.6983	-6.17	103	0.00
85	PT	1122Tetrclta	0.6053	0.6067	-0.23	99	0.00
86	T	123Triclproa	0.7047	0.7566	-7.36	118	0.00
87	T	14dichloro2butene	0.1766	0.1795	-1.64	104	0.00
88	T	n-Propylbenz	2.5329	2.7626	-9.07	101	0.00
89	T	2chlorotolue	1.5330	1.6101	-5.03	100	0.00
90	T	4chlorotolue	1.7921	1.9028	-6.18	99	0.00
91	T	135Trimebenz	1.8011	1.9558	-8.59	102	0.00
92	T	tbutylbenzen	1.6303	1.7319	-6.23	100	0.00
93	T	124Trimetben	1.7833	1.9156	-7.42	99	0.00
94	T	sbutylbenzen	2.3665	2.5628	-8.29	98	0.00
95	PT	13Diclorbenz	1.1595	1.2196	-5.18	100	0.00
96	T	pIsopropylto	1.9595	2.1476	-9.60	101	0.00
97	PT	14dichlorobe	1.1706	1.2268	-4.80	100	0.00
98	PT	12dichlorobe	1.0823	1.1182	-3.32	100	0.00
99	T	nButylbenzen	1.7636	1.8590	-5.41	98	0.00
100	PT	12dibromo3cl	0.1298	0.1329	-2.39	109	0.00
101	T	135Trichlorobenzene	0.9187	0.9562	-4.08	101	0.00
102	PT	124Trichlobe	0.7449	0.7867	-5.61	102	0.00
103	T	Hexachlorobu	0.4220	0.4408	-4.45	100	0.00
104	T	Naphthalene	1.3930	1.4492	-4.03	105	0.00
105	T	123Trichlben	0.6199	0.6207	-0.13	101	0.00

(#) = Out of Range SPCC's out = 3 CCC's out = 0

W041916.M Mon Apr 25 14:01:06 2016

Evaluate Continuing Calibration Report

Data File : C:\Instarch\Data\APR1916\ICV1.D Vial: 13
Acq On : 19 Apr 2016 13:58 Operator: RLD-AGK
Sample : INITIAL CALIB. VERIF. Inst : VMS4
Misc : 10.0/100 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Apr 21 08:35:59 2016

Quant Method : C:\INSTARCH\METHODS\W041916.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W041916.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	20.0000	20.0000	0.00	102	0.00
2	PT	Dichlorodi	10.0000	10.7413	-7.41	99	0.00
3	PT	Chloromethan	10.0000	10.3398	-3.40	104	0.00
4	PT	VinylChlorid	10.0000	10.4883	-4.88	97	0.00
5	PT	Bromomethane	10.0000	11.4880	-14.88	113	0.00
6	PT	Chloroethane	10.0000	10.3481	-3.48	99	0.00
7	T	Dichloroflmethane	10.0000	10.3092	-3.09	100	0.00
8	PT	Trichlorofma	10.0000	10.1183	-1.18	94	0.00
9	T	Ethylether	10.0000	11.0251	-10.25	114	0.00
10	T	dichlorotfluoroethan	10.0000	9.9520	0.48	93	0.00
11	T	propyleneoxide	100.0000	103.5308	-3.53	105	0.00
12	T	Acrolein	50.0000	48.1706	3.66	100	0.00
13	PT	11dichlorthe	10.0000	10.2549	-2.55	97	0.00
14	PT	Trichlorotfluoroeth	20.0000	20.5766	-2.88	97	0.00
15	PT	Acetone	100.0000	106.0880	-6.09	120	0.00
16	T	Iodomethane	20.0000	14.0864	29.57#	73	0.00
17	PT	Carbon Dislf	20.0000	20.9367	-4.68	101	0.00
18	T	allylchloride	20.0000	20.8105	-4.05	104	0.00
19	PT	methylacetate	10.0000	10.3686	-3.69	102	0.00
20	PT	Methylchlorid	10.0000	9.7752	2.25	99	0.00
21	T	tbutylalcohol	500.0000	533.6067	-6.72	112	0.00
22	T	Acrylonitrile	50.0000	50.7031	-1.41	104	0.00
23	PT	t12dichlorte	10.0000	10.2475	-2.48	104	0.00
24	PT	MtBE	10.0000	10.4398	-4.40	104	0.00
25	T	Hexane	20.0000	20.2927	-1.46	94	0.00
26	PT	11dichlorota	10.0000	10.4800	-4.80	103	0.00
27	T	Vinylacetate	100.0000	92.6659	7.33	83	0.00
28	T	chloroprene	20.0000	21.2914	-6.46	98	0.00
29	T	Diisopether	10.0000	10.6433	-6.43	102	0.00
30	T	ETBE	10.0000	10.2786	-2.79	100	0.00
31	T	22dichloropr	10.0000	10.2142	-2.14	99	0.00
32	PT	c12dichlorte	10.0000	10.6660	-6.66	102	0.00
33	PT	2Butanone	100.0000	103.0503	-3.05	108	0.00
34	T	propionitrile	100.0000	105.5893	-5.59	112	0.00
35	T	Ethylacetate	50.0000	54.2469	-8.49	118	0.00
36	T	methacrylonitrile	20.0000	21.1063	-5.53	105	0.00
37	T	Bromochlorma	10.0000	10.3525	-3.52	103	0.00
38	T	Tetrahydofur	100.0000	99.0069	0.99	103	0.00
39	PT	Chloroform	10.0000	10.4162	-4.16	103	0.00
40	PT	111trichlota	10.0000	10.2109	-2.11	101	0.00
41	S	SURRDibrflma	20.0000	19.8616	0.69	100	0.00
42	PT	Cyclohexane	10.0000	10.3774	-3.77	97	0.00
43	PT	Carbtetraclo	10.0000	10.5135	-5.14	104	0.00
44	T	11dicloprope	10.0000	10.1473	-1.47	96	0.00
45	S	SURR12DCAd4	20.0000	20.6765	-3.38	106	0.00
46	PT	Benzene	10.0000	10.2365	-2.36	100	0.00
47	PT	12dichlorota	10.0000	10.2064	-2.06	103	0.00
48	T	TAME	10.0000	10.2110	-2.11	102	0.00

49	PT	trichloroete	10.0000	10.3626	-3.63	103	0.00
50	PT	methylcyclohexane	10.0000	10.5019	-5.02	100	0.00
51	PT	12dicloropra	10.0000	10.3489	-3.49	102	0.00
52	T	23Dicl1propene	10.0000	10.8125	-8.13	107	0.00
53	T	Dibromometha	10.0000	10.4265	-4.27	101	0.00
54	T	methylmethacrylate	10.0000	10.1564	-1.56	102	0.00
55	T	14dioxane	500.0000	526.7742	-5.35	102	0.00
56	PT	Bromodiclrma	10.0000	10.3410	-3.41	103	0.00
57	T	2Nitropropane	100.0000	91.8779	8.12	105	0.00
58	T	2CLEVE	50.0000	54.3390	-8.68	106	0.00
59	PT	c13dicloproe	10.0000	10.3061	-3.06	102	0.00
60	PT	4Meth2Pentan	100.0000	106.2062	-6.21	104	0.00
61	S	SURRd8Tolule	20.0000	19.9635	0.18	102	0.00
62	PT	Toluene	10.0000	10.4231	-4.23	103	0.00
63	PT	t13Dicloprop	10.0000	10.2587	-2.59	100	0.00
64	T	ethylmethacrylate	20.0000	21.3229	-6.61	106	0.00
65	PT	112Triclotha	10.0000	10.2343	-2.34	100	0.00
66	PT	Tetrachlorte	10.0000	10.4895	-4.89	104	0.00
67	T	13Diclorpropa	10.0000	10.3620	-3.62	104	0.00
68	I	d5-CHLOROBENZENE**ISTD**	20.0000	20.0000	0.00	100	0.00
69	PT	2Hexanone	100.0000	112.5000	-12.50	108	0.00
70	PT	Clorodibrmta	10.0000	10.3710	-3.71	104	0.00
71	PT	12Dibrometha	10.0000	10.6807	-6.81	105	0.00
72	PT	Chlorobenzen	10.0000	10.3153	-3.15	102	0.00
73	T	1Clhexane	10.0000	10.1303	-1.30	99	0.00
74	T	1112Tetclota	10.0000	10.5571	-5.57	102	0.00
75	PT	Ethylbenzene	10.0000	10.6538	-6.54	101	0.00
76	PT	m p-Xylene	20.0000	21.0475	-5.24	101	0.00
77	PT	o-Xylene	10.0000	10.4081	-4.08	102	0.00
78	PT	Styrene	10.0000	10.7639	-7.64	103	0.00
79	PT	Bromoform	10.0000	9.7755	2.25	101	0.00
80	PT	Isopropylben	10.0000	10.7089	-7.09	101	0.00
81	T	cyclohexanone	200.0000	209.2626	-4.63	108	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	20.0000	20.0000	0.00	98	0.00
83	S	SURR4BrFBenz	20.0000	20.3895	-1.95	100	0.00
84	T	Bromobenzene	10.0000	10.6173	-6.17	103	0.00
85	PT	1122Tetrclta	10.0000	10.0239	-0.24	99	0.00
86	T	123Triclproa	10.0000	10.7369	-7.37	118	0.00
87	T	14dichloro2butene	10.0000	10.1685	-1.68	104	0.00
88	T	n-Propylbenz	10.0000	10.9069	-9.07	101	0.00
89	T	2chlorotolue	10.0000	10.5027	-5.03	100	0.00
90	T	4chlorotolue	10.0000	10.6180	-6.18	99	0.00
91	T	135Trimebenz	10.0000	10.8588	-8.59	102	0.00
92	T	tbutylbenzen	10.0000	10.6234	-6.23	100	0.00
93	T	124Trimetben	10.0000	10.7416	-7.42	99	0.00
94	T	sbutylbenzen	10.0000	10.8298	-8.30	98	0.00
95	PT	13Diclorbenz	10.0000	10.5189	-5.19	100	0.00
96	T	pIsopropylto	10.0000	10.9597	-9.60	101	0.00
97	PT	14dichlorobe	10.0000	10.4801	-4.80	100	0.00
98	PT	12dichlorobe	10.0000	10.3323	-3.32	100	0.00
99	T	nButylbenzen	10.0000	10.5414	-5.41	98	0.00
100	PT	12dibromo3cl	10.0000	9.8176	1.82	109	0.00
101	T	135Trichlorobenzene	10.0000	10.4080	-4.08	101	0.00
102	PT	124Trichlobe	10.0000	10.5611	-5.61	102	0.00
103	T	Hexachlorobu	10.0000	10.4454	-4.45	100	0.00
104	T	Naphthalene	10.0000	10.4040	-4.04	105	0.00
105	T	123Trichlben	10.0000	10.0129	-0.13	101	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

W041916.M Mon Apr 25 14:01:33 2016

Quantitation Report

Data File : C:\Instarch\Data\APR1916\ICV1.D Vial: 13
Acq On : 19 Apr 2016 13:58 Operator: RLD-AGK
Sample : INITIAL CALIB. VERIF. Inst : VMS4
Misc : 10.0/100 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 08:35:59 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 08:35:55 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.80	96	1538204	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.73	117	1227484	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	15.04	152	664272	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.95	113	415537	19.862	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 99 %			
45) SURR12DCAd4	7.37	102	103585	20.677	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 103 %			
61) SURRd8Tolule	9.80	98	1462711	19.963	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100 %			
83) SURR4BrFBenz	13.37	95	578912	20.390	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 102 %			
Target Compounds						Qvalue
2) Dichlorodi	1.87	85	229746	10.7413	ug/L	98
3) Chloromethan	2.13	50	216984	10.3398	ug/L	99
4) VinylChlorid	2.29	62	213244	10.4883	ug/L	100
5) Bromomethane	2.75	94	72316	11.4880	ug/L	98
6) Chloroethane	2.93	64	108586	10.3481	ug/L	98
7) Dichloroflmethane	3.25	67	255209	10.3092	ug/L	98
8) Trichlorofma	3.31	101	264457	10.1183	ug/L	94
9) Ethylether	3.76	59	152155	11.0251	ug/L	89
10) dichlorotfluoroethan	3.79	67	174476	9.9520	ug/L	96
11) propyleneoxide	3.83	58	415379	103.5308	ug/L	99
12) Acrolein	3.92	56	95654	48.1706	ug/L	98
13) 11dichlorthe	4.04	96	150786	10.2549	ug/L	99
14) Trichlorotfluoroeth	4.07	101	329998	20.5766	ug/L	98
15) Acetone	4.14	43	1118634	106.0880	ug/L	100
16) Iodomethane	4.24	142	171418	14.0864	ug/L	99
17) Carbon Dislf	4.32	76	843216	20.9367	ug/L	98
18) allylchloride	4.55	41	487117	20.8105	ug/L	96
19) methylacetate	4.60	74	45232	10.3686	ug/L	98
20) Methylchlorid	4.71	84	167338	9.7752	ug/L	97
21) tbutylalcohol	4.92	59	1130314	533.6067	ug/L	97
22) Acrylonitrile	5.04	53	399149	50.7031	ug/L	99
23) t12dichlorte	5.08	96	165168	10.2475	ug/L	97
24) MtBE	5.10	73	471598	10.4398	ug/L	99
25) Hexane	5.45	57	413943	20.2927	ug/L	100
26) 11dichlorota	5.62	63	301575	10.4800	ug/L	98
27) Vinylacetate	5.71	43	2832619	92.6659	ug/L	99
28) chloroprene	5.74	53	602852	21.2914	ug/L	99
29) Diisopether	5.73	45	606513	10.6433	ug/L	98
30) ETBE	6.20	59	507220	10.2786	ug/L	99
31) 22dichloropr	6.36	77	215091	10.2142	ug/L	98
32) c12dichlorte	6.36	96	184063	10.6660	ug/L	98
33) 2Butanone	6.38	72	284474	103.0503	ug/L	95
34) propionitrile	6.45	54	338980	105.5893	ug/L	98
35) Ethylacetate	6.47	88	40688	54.2469	ug/L #	80
36) methacrylonitrile	6.64	67	160801	21.1063	ug/L	98
37) Bromochlorma	6.65	128	86136	10.3525	ug/L	97
38) Tetrahydofur	6.72	42	688152	99.0069	ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\Instarch\Data\APR1916\ICV1.D Vial: 13
Acq On : 19 Apr 2016 13:58 Operator: RLD-AGK
Sample : INITIAL CALIB. VERIF. Inst : VMS4
Misc : 10.0/100 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 08:35:59 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 08:35:55 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.76	83	295070	10.4162	ug/L	99
40)	111trichlota	6.98	97	258504	10.2109	ug/L	98
42)	Cyclohexane	7.05	56	306316	10.3774	ug/L	98
43)	Carbtetraclo	7.19	119	217931	10.5135	ug/L	96
44)	11dicloprope	7.19	110	82894	10.1473	ug/L	95
46)	Benzene	7.45	78	635835	10.2365	ug/L	99
47)	12dichlorota	7.47	62	248231	10.2064	ug/L	98
48)	TAME	7.60	73	457556	10.2110	ug/L	99
49)	trichloroete	8.25	95	179853	10.3626	ug/L	98
50)	methylcyclohexane	8.50	83	275298	10.5019	ug/L	99
51)	12dicloropra	8.53	63	176538	10.3489	ug/L	97
52)	23Dicl1propene	8.59	75	271639	10.8125	ug/L	98
53)	Dibromometha	8.67	93	109410	10.4265	ug/L	97
54)	methylmethacrylate	8.69	69	124915	10.1564	ug/L	97
55)	14dioxane	8.71	88	127315	526.7742	ug/L	96
56)	Bromodiclrma	8.87	83	219449	10.3410	ug/L	98
57)	2Nitropropane	9.16	43	538144	91.8779	ug/L	98
58)	2CLEVE	9.26	63	632291	54.3390	ug/L	98
59)	c13dicloproe	9.45	75	248911	10.3061	ug/L	99
60)	4Meth2Pentan	9.65	43	2185079	106.2062	ug/L	99
62)	Toluene	9.89	92	423640	10.4231	ug/L	99
63)	t13Dicloprop	10.17	75	212428	10.2587	ug/L	97
64)	ethylmethacrylate	10.30	69	444277	21.3229	ug/L	97
65)	112Triclotha	10.41	83	123859	10.2343	ug/L	99
66)	Tetrachlorte	10.61	166	223716	10.4895	ug/L	97
67)	13Diclorpropa	10.63	76	251236	10.3620	ug/L	99
69)	2Hexanone	10.75	43	1769183	112.5000	ug/L	100
70)	Clorodibrmta	10.94	129	174513	10.3710	ug/L	98
71)	12Dibrometha	11.09	107	167669	10.6807	ug/L	97
72)	Chlorobenzen	11.77	112	466155	10.3153	ug/L	99
73)	1Clhexane	11.73	91	237407	10.1303	ug/L	99
74)	1112Tetclota	11.88	131	159792	10.5571	ug/L	99
75)	Ethylbenzene	11.92	91	800468	10.6538	ug/L	99
76)	m p-Xylene	12.08	106	630342	21.0475	ug/L	98
77)	o-Xylene	12.63	106	303395	10.4081	ug/L	99
78)	Styrene	12.65	104	504020	10.7639	ug/L	99
79)	Bromoform	12.90	173	124616	9.7755	ug/L	95
80)	Isopropylben	13.16	105	808137	10.7089	ug/L	99
81)	cyclohexanone	13.27	55	149377	209.2626	ug/L	97
84)	Bromobenzene	13.59	156	231930	10.6173	ug/L	98
85)	1122Tetrclta	13.57	83	201506	10.0239	ug/L	95
86)	123Triclproa	13.64	75	251296	10.7369	ug/L	92
87)	14dichloro2butene	13.66	53	59632	10.1685	ug/L	95
88)	n-Propylbenz	13.75	91	917573	10.9069	ug/L	98
89)	2chlorotolue	13.87	91	534773	10.5027	ug/L	100
90)	4chlorotolue	14.02	91	632004	10.6180	ug/L	98
91)	135Trimebenz	14.00	105	649581	10.8588	ug/L	99
92)	tbutylbenzen	14.47	119	575225	10.6234	ug/L	99
93)	124Trimetben	14.54	105	636225	10.7416	ug/L	97
94)	sbutylbenzen	14.79	105	851211	10.8298	ug/L	100
95)	13Diclorbenz	14.95	146	405087	10.5189	ug/L	99
96)	pIsopropylto	15.01	119	713297	10.9597	ug/L	100
97)	14dichlorobe	15.07	146	407469	10.4801	ug/L	99
98)	12dichlorobe	15.62	146	371410	10.3323	ug/L	99
99)	nButylbenzen	15.61	91	617456	10.5414	ug/L	99
100)	12dibromo3cl	16.72	157	44129	9.8176	ug/L	98
101)	135Trichlorobenzene	17.03	180	317572	10.4080	ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\Instarch\Data\APR1916\ICV1.D Vial: 13
Acq On : 19 Apr 2016 13:58 Operator: RLD-AGK
Sample : INITIAL CALIB. VERIF. Inst : VMS4
Misc : 10.0/100 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 08:35:59 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 08:35:55 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

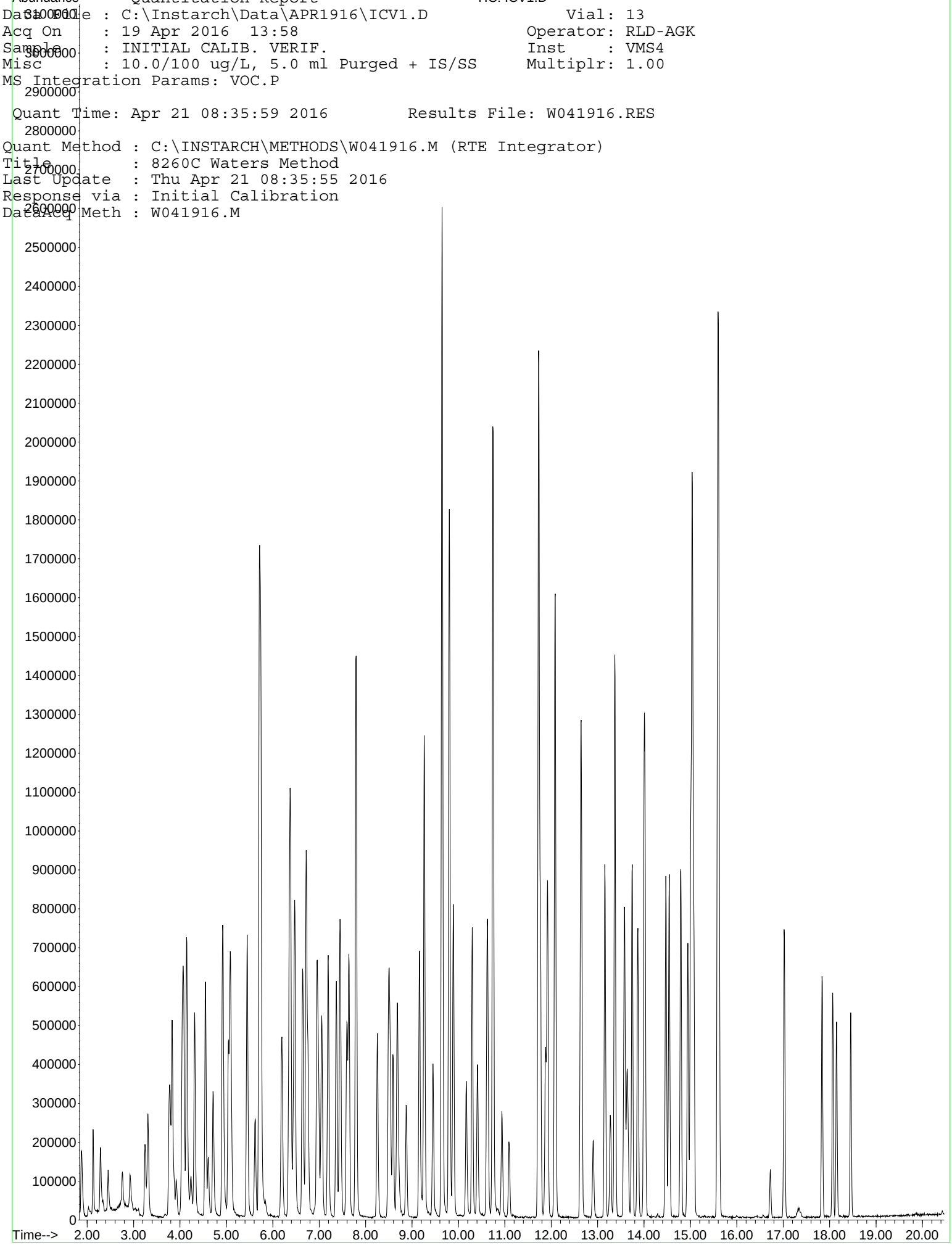
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	17.84	180	261294	10.5611 ug/L	99
103) Hexachlorobu	18.07	225	146416	10.4454 ug/L	98
104) Naphthalene	18.15	128	481346	10.4040 ug/L	99
105) 123Trichlben	18.46	180	206167	10.0129 ug/L	99

(#) = qualifier out of range (m) = manual integration

Data File : C:\Instarch\Data\APR1916\ICV1.D Vial: 13
Acq On : 19 Apr 2016 13:58 Operator: RLD-AGK
Sample : INITIAL CALIB. VERIF. Inst : VMS4
Misc : 10.0/100 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 08:35:59 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 08:35:55 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M



Evaluate Continuing Calibration Report

Data File : C:\Instarch\Data\APR1916\ICV2.D Vial: 14
Acq On : 19 Apr 2016 14:26 Operator: RLD-AGK
Sample : INITIAL CALIB. VERIF. Inst : VMS4
Misc : 30.0/300 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Apr 21 08:36:37 2016

Quant Method : C:\INSTARCH\METHODS\W041916.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W041916.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	20.0000	20.0000	0.00	101	0.00
2	PT	Dichlorodi	30.0000	30.9000	-3.00	101	0.00
3	PT	Chloromethan	30.0000	28.9588	3.47	101	0.00
4	PT	VinylChlorid	30.0000	29.8670	0.44	99	0.00
5	PT	Bromomethane	30.0000	32.0164	-6.72	113	0.00
6	PT	Chloroethane	30.0000	28.4967	5.01	100	0.00
7	T	Dichloroflmethane	30.0000	29.6242	1.25	100	0.00
8	PT	Trichlorofma	30.0000	30.9987	-3.33	102	0.00
9	T	Ethylether	30.0000	31.2713	-4.24	108	0.00
10	T	dichlorotfluoroethan	30.0000	29.6824	1.06	100	0.00
11	T	propyleneoxide	300.0000	301.5217	-0.51	97	0.00
12	T	Acrolein	150.0000	130.5485	12.97	99	0.00
13	PT	11dichlorthe	30.0000	30.2586	-0.86	100	0.00
14	PT	Trichlorotfluoroeth	60.0000	61.0310	-1.72	101	0.00
15	PT	Acetone	300.0000	274.2203	8.59	85	0.00
16	T	Iodomethane	60.0000	51.9554	13.41	86	0.00
17	PT	Carbon Dislf	60.0000	61.0712	-1.79	101	0.00
18	T	allylchloride	60.0000	59.3629	1.06	98	0.00
19	PT	methylacetate	30.0000	29.8493	0.50	94	0.00
20	PT	Methylchlorid	30.0000	27.0406	9.86	97	0.00
21	T	tbutylalcohol	1500.0000	1601.7862	-6.79	96	0.00
22	T	Acrylonitrile	150.0000	149.4794	0.35	96	0.00
23	PT	t12dichlorte	30.0000	29.0523	3.16	98	0.00
24	PT	MtBE	30.0000	29.6043	1.32	96	0.00
25	T	Hexane	60.0000	59.5489	0.75	95	0.00
26	PT	11dichlorota	30.0000	29.5854	1.38	99	0.00
27	T	Vinylacetate	300.0000	281.5875	6.14	98	0.00
28	T	chloroprene	60.0000	60.6980	-1.16	98	0.00
29	T	Diisopether	30.0000	29.5350	1.55	96	0.00
30	T	ETBE	30.0000	29.8053	0.65	97	0.00
31	T	22dichloropr	30.0000	29.8124	0.63	97	0.00
32	PT	c12dichlorte	30.0000	30.3300	-1.10	98	0.00
33	PT	2Butanone	300.0000	297.7603	0.75	88	0.00
34	T	propionitrile	300.0000	298.2938	0.57	94	0.00
35	T	Ethylacetate	150.0000	154.6352	-3.09	92	0.00
36	T	methacrylonitrile	60.0000	62.6854	-4.48	97	0.00
37	T	Bromochlorma	30.0000	27.3359	8.88	94	0.00
38	T	Tetrahydofur	300.0000	289.6599	3.45	94	0.00
39	PT	Chloroform	30.0000	29.5340	1.55	99	0.00
40	PT	111trichlota	30.0000	30.1953	-0.65	98	0.00
41	S	SURRDibrflma	20.0000	19.8605	0.70	101	0.00
42	PT	Cyclohexane	30.0000	30.7160	-2.39	99	0.00
43	PT	Carbtetraclo	30.0000	31.1046	-3.68	100	0.00
44	T	11dicloprope	30.0000	29.9150	0.28	99	0.00
45	S	SURR12DCAd4	20.0000	19.7208	1.40	99	0.00
46	PT	Benzene	30.0000	29.3733	2.09	98	0.00
47	PT	12dichlorota	30.0000	28.2195	5.93	96	0.00
48	T	TAME	30.0000	30.0988	-0.33	97	0.00

49	PT	trichloroete	30.0000	29.9346	0.22	101	0.00
50	PT	methylcyclohexane	30.0000	31.4216	-4.74	99	0.00
51	PT	12dicloropra	30.0000	29.6463	1.18	97	0.00
52	T	23Dicl1propene	30.0000	30.4687	-1.56	98	0.00
53	T	Dibromometha	30.0000	29.6786	1.07	99	0.00
54	T	methylmethacrylate	30.0000	31.4824	-4.94	98	0.00
55	T	14dioxane	1500.0000	1484.0643	1.06	93	0.00
56	PT	Bromodiclrma	30.0000	30.0810	-0.27	98	0.00
57	T	2Nitropropane	300.0000	292.5531	2.48	95	0.00
58	T	2CLEVE	150.0000	156.2531	-4.17	98	0.00
59	PT	c13dicloproe	30.0000	31.0394	-3.46	99	0.00
60	PT	4Meth2Pentan	300.0000	280.6977	6.43	96	0.00
61	S	SURRd8Tolule	20.0000	19.9314	0.34	102	0.00
62	PT	Toluene	30.0000	29.3739	2.09	98	0.00
63	PT	t13Dicloprop	30.0000	31.1350	-3.78	97	0.00
64	T	ethylmethacrylate	60.0000	63.5396	-5.90	98	0.00
65	PT	112Triclotha	30.0000	29.3693	2.10	96	0.00
66	PT	Tetrachlorte	30.0000	29.4781	1.74	98	0.00
67	T	13Diclorpropa	30.0000	29.3269	2.24	96	0.00
68	I	d5-CHLOROBENZENE**ISTD**	20.0000	20.0000	0.00	101	0.00
69	PT	2Hexanone	300.0000	304.1971	-1.40	92	0.00
70	PT	Clorodibrmta	30.0000	31.4073	-4.69	97	0.00
71	PT	12Dibrometha	30.0000	31.5367	-5.12	97	0.00
72	PT	Chlorobenzen	30.0000	29.8401	0.53	99	0.00
73	T	1Clhexane	30.0000	30.7444	-2.48	99	0.00
74	T	1112Tetclota	30.0000	31.3245	-4.42	97	0.00
75	PT	Ethylbenzene	30.0000	30.6138	-2.05	100	0.00
76	PT	m p-Xylene	60.0000	60.0034	-0.01	98	0.00
77	PT	o-Xylene	30.0000	30.5854	-1.95	98	0.00
78	PT	Styrene	30.0000	31.2884	-4.29	98	0.00
79	PT	Bromoform	30.0000	31.8029	-6.01	97	0.00
80	PT	Isopropylben	30.0000	30.9159	-3.05	98	0.00
81	T	cyclohexanone	600.0000	636.6994	-6.12	92	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	20.0000	20.0000	0.00	102	0.00
83	S	SURR4BrFBenz	20.0000	20.3613	-1.81	103	0.00
84	T	Bromobenzene	30.0000	29.7281	0.91	98	0.00
85	PT	1122Tetrclta	30.0000	30.1813	-0.60	96	0.00
86	T	123Triclproa	30.0000	32.3958	-7.99	95	0.00
87	T	14dichloro2butene	30.0000	32.8256	-9.42	97	0.00
88	T	n-Propylbenz	30.0000	30.7304	-2.43	99	0.00
89	T	2chlorotolue	30.0000	30.2513	-0.84	99	0.00
90	T	4chlorotolue	30.0000	30.3875	-1.29	98	0.00
91	T	135Trimebenz	30.0000	30.9225	-3.07	98	0.00
92	T	tbutylbenzen	30.0000	31.0027	-3.34	99	0.00
93	T	124Trimetben	30.0000	30.8755	-2.92	98	0.00
94	T	sbutylbenzen	30.0000	31.2984	-4.33	99	0.00
95	PT	13Diclorbenz	30.0000	29.9991	0.00	97	0.00
96	T	pIsopropylto	30.0000	31.7539	-5.85	100	0.00
97	PT	14dichlorobe	30.0000	29.8283	0.57	97	0.00
98	PT	12dichlorobe	30.0000	29.6034	1.32	97	0.00
99	T	nButylbenzen	30.0000	30.9740	-3.25	98	0.00
100	PT	12dibromo3cl	30.0000	29.7085	0.97	94	0.00
101	T	135Trichlorobenzene	30.0000	29.7935	0.69	96	0.00
102	PT	124Trichlobe	30.0000	29.9774	0.08	96	0.00
103	T	Hexachlorobu	30.0000	31.2030	-4.01	98	0.00
104	T	Naphthalene	30.0000	31.8531	-6.18	94	0.00
105	T	123Trichlben	30.0000	30.3739	-1.25	94	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

W041916.M Mon Apr 25 14:02:00 2016

Quantitation Report

Data File : C:\Instarch\Data\APR1916\ICV2.D Vial: 14
Acq On : 19 Apr 2016 14:26 Operator: RLD-AGK
Sample : INITIAL CALIB. VERIF. Inst : VMS4
Misc : 30.0/300 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 08:36:37 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 08:36:23 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.80	96	1601989	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.73	117	1263806	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	15.04	152	697924	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.95	113	432743	19.860	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 99 %			
45) SURR12DCAd4	7.37	102	102894	19.721	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 99 %			
61) SURRd8Tolule	9.80	98	1520919	19.931	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100 %			
83) SURR4BrFBenz	13.37	95	607398	20.361	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 102 %			
Target Compounds						Qvalue
2) Dichlorodi	1.88	85	688325	30.9000	ug/L	99
3) Chloromethan	2.13	50	632911	28.9588	ug/L	98
4) VinylChlorid	2.29	62	632425	29.8670	ug/L	99
5) Bromomethane	2.75	94	209898	32.0164	ug/L	97
6) Chloroethane	2.92	64	311426	28.4967	ug/L	100
7) Dichloroflmethane	3.25	67	763771	29.6242	ug/L	99
8) Trichlorofma	3.31	101	843794	30.9987	ug/L	97
9) Ethylether	3.76	59	449463	31.2713	ug/L	89
10) dichlorotfluoroethan	3.79	67	541966	29.6824	ug/L	98
11) propyleneoxide	3.83	58	1259909	301.5217	ug/L	98
12) Acrolein	3.92	56	269984	130.5485	ug/L	100
13) 11dichlorthe	4.04	96	463365	30.2586	ug/L	98
14) Trichlorotfluoroeth	4.07	101	1019375	61.0310	ug/L	98
15) Acetone	4.14	43	3011391	274.2203	ug/L	98
16) Iodomethane	4.24	142	777083	51.9554	ug/L	98
17) Carbon Dislf	4.32	76	2561608	61.0712	ug/L	99
18) allylchloride	4.55	41	1447144	59.3629	ug/L	98
19) methylacetate	4.61	74	135615	29.8493	ug/L	97
20) Methylchlorid	4.71	84	482093	27.0406	ug/L	98
21) tbutylalcohol	4.92	59	3533686	1601.7862	ug/L	97
22) Acrylonitrile	5.04	53	1225539	149.4794	ug/L	99
23) t12dichlorte	5.08	96	487680	29.0523	ug/L	100
24) MtBE	5.10	73	1392770	29.6043	ug/L	99
25) Hexane	5.45	57	1265084	59.5489	ug/L	100
26) 11dichlorota	5.62	63	886665	29.5854	ug/L	99
27) Vinylacetate	5.71	43	8964524	281.5875	ug/L	95
28) chloroprene	5.74	53	1789895	60.6980	ug/L	98
29) Diisopether	5.73	45	1752858	29.5350	ug/L	99
30) ETBE	6.19	59	1531800	29.8053	ug/L	98
31) 22dichloropr	6.35	77	653823	29.8124	ug/L	98
32) c12dichlorte	6.36	96	545110	30.3300	ug/L	99
33) 2Butanone	6.38	72	856063	297.7603	ug/L	97
34) propionitrile	6.45	54	997342	298.2938	ug/L	97
35) Ethylacetate	6.48	88	120794	154.6352	ug/L #	91
36) methacrylonitrile	6.64	67	497379	62.6854	ug/L	100
37) Bromochlorma	6.65	128	236876	27.3359	ug/L	97
38) Tetrahydofur	6.72	42	2096779	289.6599	ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\Instarch\Data\APR1916\ICV2.D Vial: 14
Acq On : 19 Apr 2016 14:26 Operator: RLD-AGK
Sample : INITIAL CALIB. VERIF. Inst : VMS4
Misc : 30.0/300 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 08:36:37 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 08:36:23 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	6.76	83	871334	29.5340 ug/L	99
40)	111trichlota	6.98	97	796135	30.1953 ug/L	99
42)	Cyclohexane	7.05	56	944259	30.7160 ug/L	98
43)	Carbtetraclo	7.19	119	671495	31.1046 ug/L	99
44)	11dicloprope	7.19	110	254511	29.9150 ug/L	97
46)	Benzene	7.44	78	1900173	29.3733 ug/L	99
47)	12dichlorota	7.46	62	714790	28.2195 ug/L	99
48)	TAME	7.60	73	1404663	30.0988 ug/L	99
49)	trichloroete	8.25	95	541085	29.9346 ug/L	99
50)	methylcyclohexane	8.50	83	857845	31.4216 ug/L	100
51)	12dicloropra	8.53	63	526697	29.6463 ug/L	99
52)	23Dicl1propene	8.59	75	797200	30.4687 ug/L	99
53)	Dibromometha	8.68	93	324345	29.6786 ug/L	98
54)	methylmethacrylate	8.69	69	403261	31.4824 ug/L	96
55)	14dioxane	8.71	88	373554	1484.0643 ug/L	99
56)	Bromodiclrma	8.88	83	664827	30.0810 ug/L	99
57)	2Nitropropane	9.16	43	1925316	292.5531 ug/L	97
58)	2CLEVE	9.26	63	1893562	156.2531 ug/L	99
59)	c13dicloproe	9.45	75	780741	31.0394 ug/L	99
60)	4Meth2Pentan	9.65	43	6014528	280.6977 ug/L	94
62)	Toluene	9.89	92	1243387	29.3739 ug/L	100
63)	t13Dicloprop	10.17	75	671453	31.1350 ug/L	99
64)	ethylmethacrylate	10.30	69	1378785	63.5396 ug/L	98
65)	112Triclotha	10.41	83	370175	29.3693 ug/L	98
66)	Tetrachlorte	10.62	166	654770	29.4781 ug/L	98
67)	13Diclorpropa	10.64	76	740542	29.3269 ug/L	99
69)	2Hexanone	10.74	43	4925381	304.1971 ug/L	97
70)	Clorodibrmta	10.94	129	544129	31.4073 ug/L	100
71)	12Dibrometha	11.09	107	509725	31.5367 ug/L	100
72)	Chlorobenzen	11.77	112	1388390	29.8401 ug/L	98
73)	1Clhexane	11.73	91	741827	30.7444 ug/L	94
74)	1112Tetclota	11.88	131	488158	31.3245 ug/L	98
75)	Ethylbenzene	11.92	91	2368213	30.6138 ug/L	97
76)	m p-Xylene	12.09	106	1850189	60.0034 ug/L	100
77)	o-Xylene	12.64	106	917946	30.5854 ug/L	98
78)	Styrene	12.65	104	1508430	31.2884 ug/L	98
79)	Bromoform	12.91	173	417411	31.8029 ug/L	99
80)	Isopropylben	13.16	105	2402073	30.9159 ug/L	99
81)	cyclohexanone	13.27	55	467941	636.6994 ug/L	99
84)	Bromobenzene	13.58	156	682293	29.7281 ug/L	99
85)	1122Tetrclta	13.57	83	637458	30.1813 ug/L	95
86)	123Triclproa	13.64	75	796629	32.3958 ug/L	91
87)	14dichloro2butene	13.66	53	202254	32.8256 ug/L	87
88)	n-Propylbenz	13.75	91	2716252	30.7304 ug/L	99
89)	2chlorotolue	13.87	91	1618353	30.2513 ug/L	100
90)	4chlorotolue	14.02	91	1900362	30.3875 ug/L	99
91)	135Trimebenz	14.00	105	1943511	30.9225 ug/L	99
92)	tbutylbenzen	14.47	119	1763752	31.0027 ug/L	99
93)	124Trimetben	14.54	105	1921406	30.8755 ug/L	97
94)	sbutylbenzen	14.79	105	2584643	31.2984 ug/L	99
95)	13Diclorbenz	14.95	146	1213796	29.9991 ug/L	97
96)	pIsopropylto	15.01	119	2171359	31.7539 ug/L	99
97)	14dichlorobe	15.07	146	1218484	29.8283 ug/L	100
98)	12dichlorobe	15.62	146	1118044	29.6034 ug/L	99
99)	nButylbenzen	15.60	91	1906202	30.9740 ug/L	99
100)	12dibromo3cl	16.73	157	151558	29.7085 ug/L	97
101)	135Trichlorobenzene	17.03	180	955118	29.7935 ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\Instarch\Data\APR1916\ICV2.D Vial: 14
Acq On : 19 Apr 2016 14:26 Operator: RLD-AGK
Sample : INITIAL CALIB. VERIF. Inst : VMS4
Misc : 30.0/300 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 08:36:37 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 08:36:23 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	17.84	180	779245	29.9774 ug/L	96
103) Hexachlorobu	18.07	225	459537	31.2030 ug/L	97
104) Naphthalene	18.15	128	1548356	31.8531 ug/L	99
105) 123Trichlben	18.46	180	657083	30.3739 ug/L	99

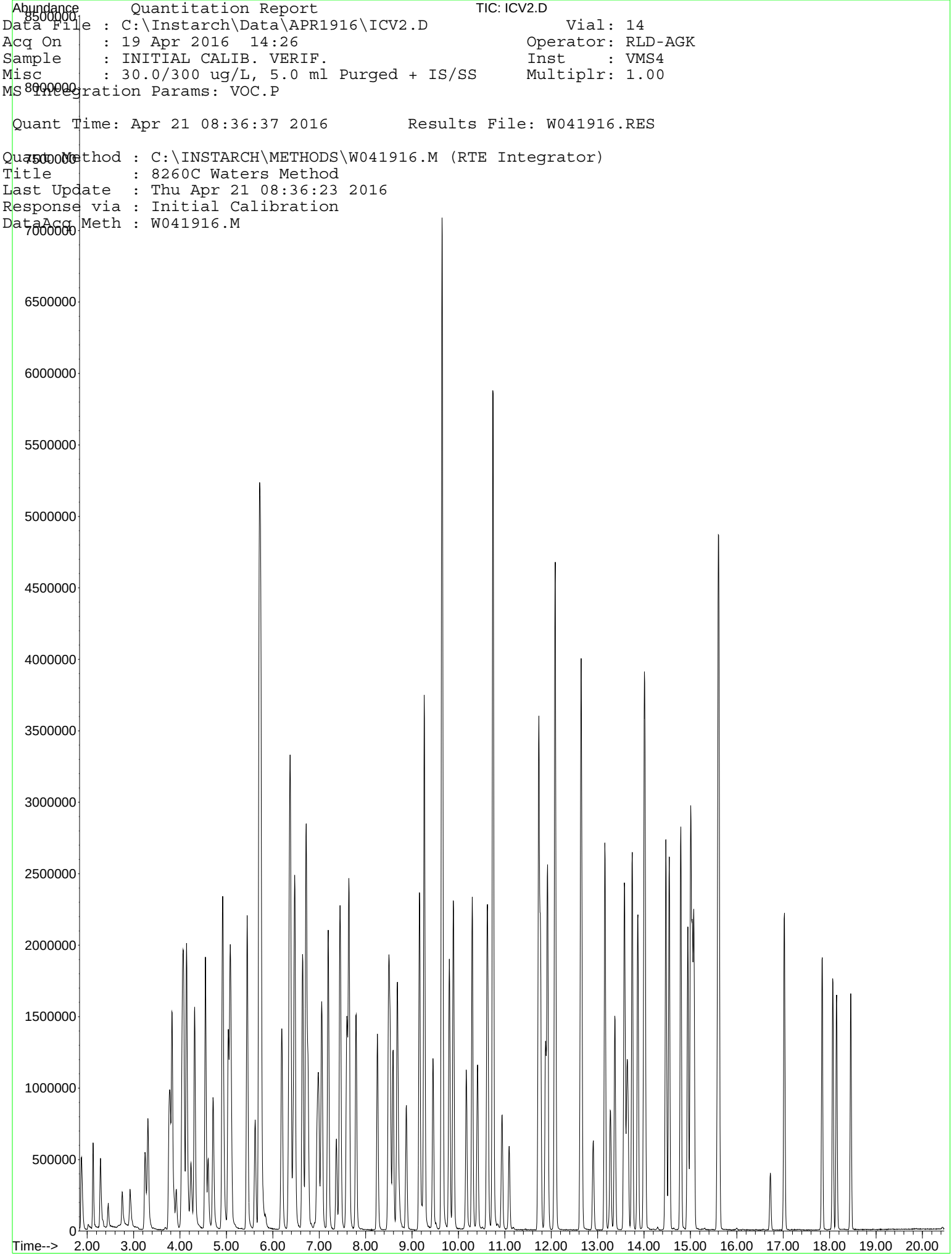
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: ICV2.D

Data File : C:\Instarch\Data\APR1916\ICV2.D Vial: 14
Acq On : 19 Apr 2016 14:26 Operator: RLD-AGK
Sample : INITIAL CALIB. VERIF. Inst : VMS4
Misc : 30.0/300 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 08:36:37 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 08:36:23 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M



Quantitation Report

Data File : C:\Instarch\Data\APR1916\ICB1.D Vial: 16
Acq On : 19 Apr 2016 15:23 Operator: RLD-AGK
Sample : INITIAL CALIB. BLANK Inst : VMS4
Misc : pH<2, 5.0 ml DI H2O Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 08:37:16 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 08:36:23 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.80	96	1479213	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.73	117	1210173	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	15.04	152	635375	20.00	ug/L	0.00 NA%

System Monitoring Compounds							
41) SURRDibrflma	6.96	113	405346	20.147	ug/L	0.00	
Spiked Amount 20.000	Range 88 - 115		Recovery = 101 %				
45) SURR12DCAd4	7.37	102	98284	20.401	ug/L	0.00	
Spiked Amount 20.000	Range 89 - 112		Recovery = 102 %				
61) SURRd8Tolule	9.80	98	1430018	20.296	ug/L	0.00	
Spiked Amount 20.000	Range 88 - 115		Recovery = 101 %				
83) SURR4BrFBenz	13.37	95	551304	20.300	ug/L	0.00	
Spiked Amount 20.000	Range 80 - 125		Recovery = 102 %				

Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	2.13	50	2730	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	0.00	94	0	N.D.		
6) Chloroethane	2.95	64	1649	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	4.15	43	29953	N.D.		
16) Iodomethane	4.23	142	1614	2.5630	ug/L #	42
17) Carbon Dislf	4.31	76	8623	N.D.		
18) allylchloride	4.54	41	3313	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	4.71	84	2650	N.D.		
21) tbutylalcohol	4.93	59	5177	N.D.		
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	5.73	43	1921	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	6.73	42	3214	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\Instarch\Data\APR1916\ICB1.D Vial: 16
Acq On : 19 Apr 2016 15:23 Operator: RLD-AGK
Sample : INITIAL CALIB. BLANK Inst : VMS4
Misc : pH<2, 5.0 ml DI H2O Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 08:37:16 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 08:36:23 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	0.00	119	0	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	7.45	78	1751	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	0.00	95	0	N.D.	
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	8.72	88	1448	6.2301 ug/L #	26
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	9.47	75	1026	N.D.	
60)	4Meth2Pentan	9.65	43	2768	N.D.	
62)	Toluene	0.00	92	0	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	10.75	43	3382	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	11.76	112	1080	N.D.	
73)	1Clhexane	11.72	91	3053	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	12.09	106	1113	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	13.37	55	1130	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	13.75	91	2337	N.D.	
89)	2chlorotolue	13.86	91	1319	N.D.	
90)	4chlorotolue	14.03	91	1560	N.D.	
91)	135Trimebenz	13.99	105	1931	N.D.	
92)	tbutylbenzen	14.46	119	1108	N.D.	
93)	124Trimetben	14.54	105	2317	N.D.	
94)	sbutylbenzen	14.78	105	2898	N.D.	
95)	13Diclorbenz	14.95	146	1706	N.D.	
96)	pIsopropylto	15.01	119	2820	N.D.	
97)	14dichlorobe	15.07	146	2856	N.D.	
98)	12dichlorobe	15.61	146	1829	N.D.	
99)	nButylbenzen	15.61	91	5026	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	17.01	180	2815	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\Instarch\Data\APR1916\ICB1.D Vial: 16
Acq On : 19 Apr 2016 15:23 Operator: RLD-AGK
Sample : INITIAL CALIB. BLANK Inst : VMS4
Misc : pH<2, 5.0 ml DI H2O Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 08:37:16 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 08:36:23 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	17.84	180	3839	N.D.	
103) Hexachlorobu	18.08	225	2344	N.D.	
104) Naphthalene	18.15	128	9704	N.D.	
105) 123Trichlben	18.46	180	4538	N.D.	

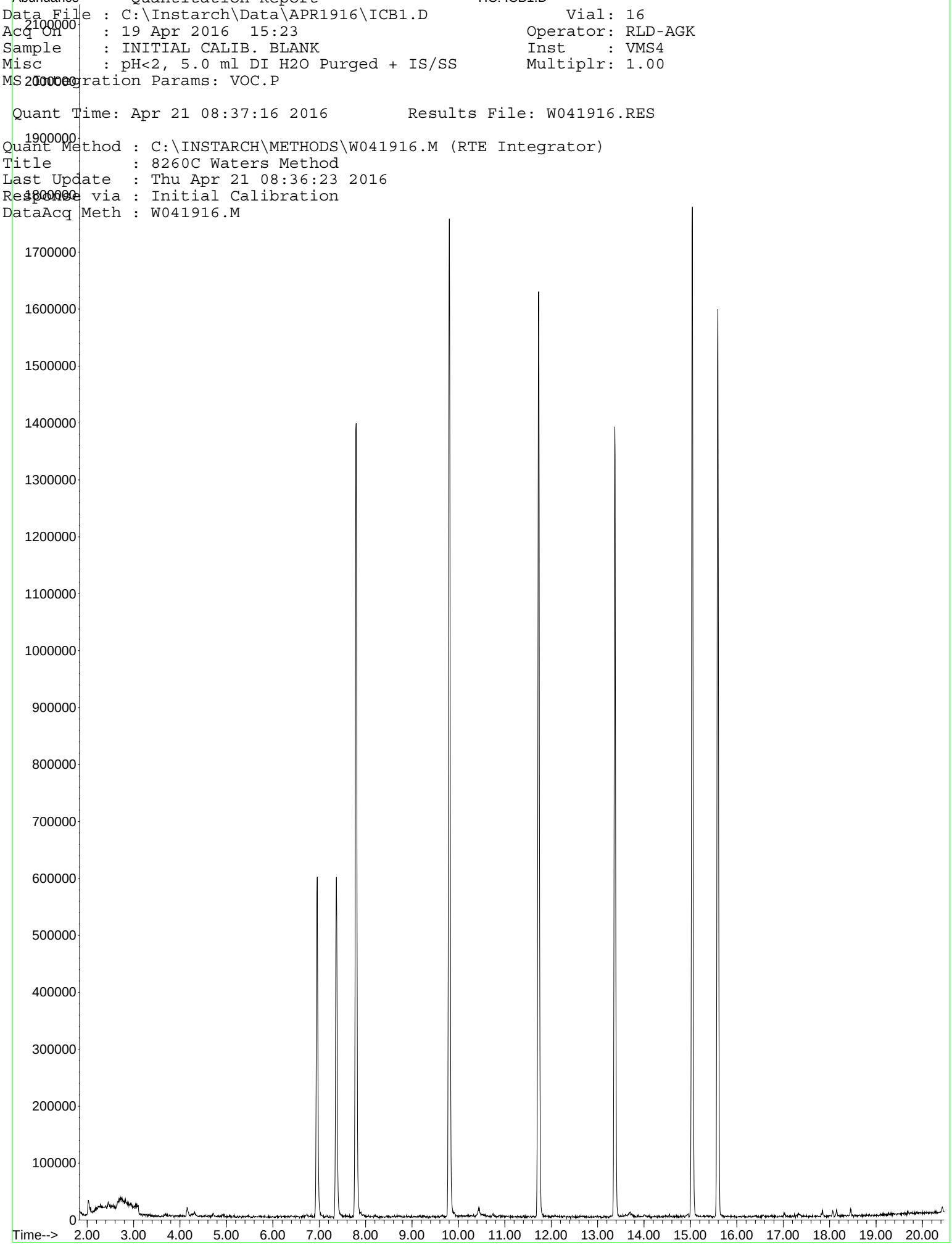
(#) = qualifier out of range (m) = manual integration

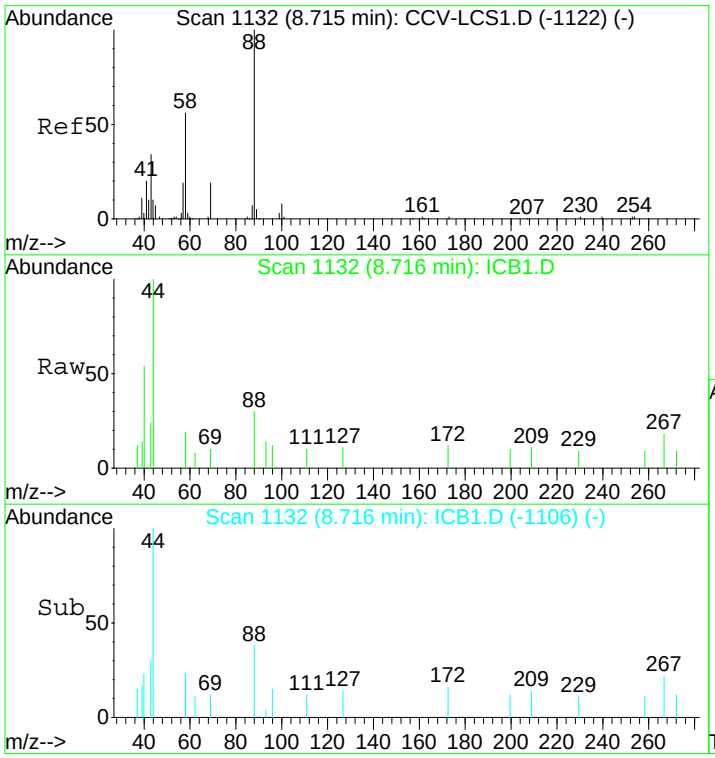
Abundance Quantitation Report TIC: ICB1.D

Data File : C:\Instarch\Data\APR1916\ICB1.D Vial: 16
Acq On : 19 Apr 2016 15:23 Operator: RLD-AGK
Sample : INITIAL CALIB. BLANK Inst : VMS4
Misc : pH<2, 5.0 ml DI H2O Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 08:37:16 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 08:36:23 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

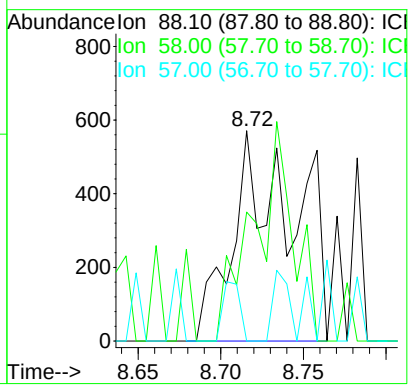




#55
14dioxane
Concen: 6.23 ug/L
RT: 8.72 min Scan# 1132
Delta R.T. 0.01 min
Lab File: ICB1.D
Acq: 19 Apr 2016 15:23

Tgt Ion: 88 Resp: 1448

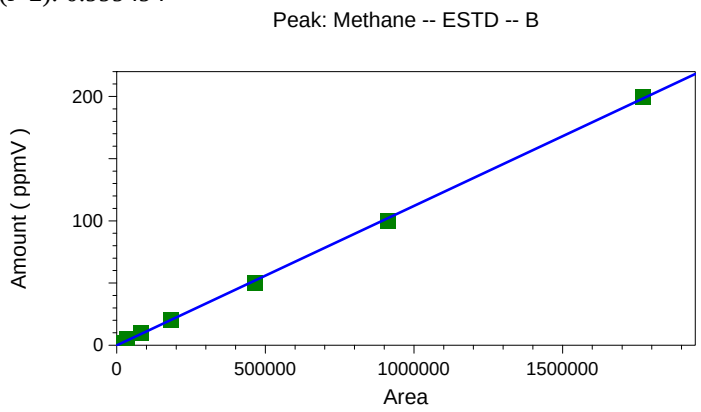
Ion	Ratio	Lower	Upper
88	100		
58	0.0	47.2	87.2#
57	0.0	2.9	42.9#



Calibration Report

Method: C:\Instarch\PVOC4\Methods\P4DG020315.met
Print Time: Feb 11, 2015 14:41:33
User: AGK
Instrument: PVOC4

Methane (B)
Average RF: 0.000126758 RF StDev: 2.66182e-005 RF %RSD: 20.9992
Scaling: None LSQ Weighting: None Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 0.000112132x - 0.0862934
Goodness of fit (r^2): 0.999494



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	2	5	10	20	50
Area	11158	34407	81596	181231	466265
RF	0.000179243	0.00014531926	0.000122555027	0.000110356395	0.0001072351
	592041585	6428343	207216	98082	55973534
Last Area					
Residual	0.835122	1.22816	0.936751	-0.235545	-2.19705
Rep StDev					
Rep %RSD					
Rep 1 Area	11158	34407	81596	181231	466265
Rep 1 User	BMS	BMS	BMS	BMS	BMS
Rep 1 Data File	C:\Instarch\P	C:\Instarch\PV	C:\Instarch\PVO	C:\Instarch\PVO	C:\Instarch\PV
	VOC4\Data\0	OC4\Data\0203	C4\Data\020315	C4\Data\020315	OC4\Data\020
	20315icdg\00	15icdg\002.dat	icdg\003.dat	icdg\004.dat	315icdg\005.d
	1.dat				at
Rep 1 Sample ID	MEE PT1 - 2	MEE PT2 - 5	MEE PT3 - 10	MEE PT4 - 20	MEE PT5 - 50
	ppmV	ppmV	ppmV	ppmV	ppmV
Rep 1 Calib. Time	Feb 03, 2015	Feb 03, 2015	Feb 03, 2015	Feb 03, 2015	Feb 03, 2015
	10:55:14	10:55:32	10:55:50	10:56:05	10:56:18

	Level 6	Level 7
Amount	100	200
Area	912807	1769205

RJ 02/11/2015

Calibration Report

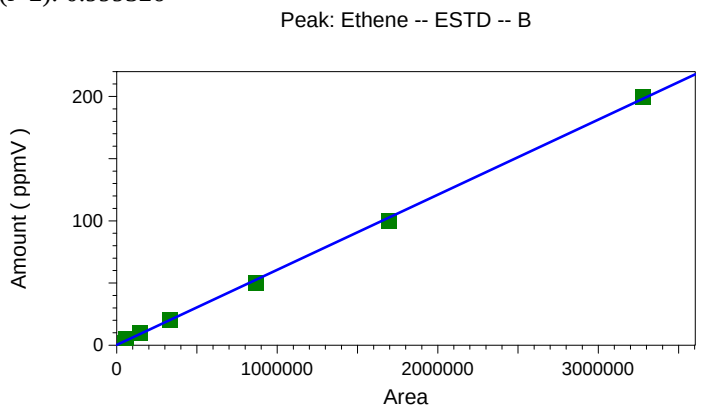
Method: C:\Instarch\PVOC4\Methods\P4DG020315.met
Print Time: Feb 11, 2015 14:41:33
User: AGK
Instrument: PVOC4

RF	0.000109552183539346	0.00011304512 4787687
Last Area Residual	-2.2688	1.70137
Rep StDev		
Rep %RSD		
Rep 1 Area	912807	1769205
Rep 1 User	BMS	BMS
Rep 1 Data File	C:\Instarch\PVOC4\Data\020315icdg\006.dat	C:\Instarch\PVOC4\Data\020315icdg\007.dat
Rep 1 Sample ID	MEE PT6 - 100 ppmV	MEE PT7 - 200 ppmV
Rep 1 Calib. Time	Feb 03, 2015 10:56:31	Feb 03, 2015 10:56:53

Calibration Report

Method: C:\Instarch\PVOC4\Methods\P4DG020315.met
Print Time: Feb 11, 2015 14:41:51
User: AGK
Instrument: PVOC4

Ethene (B)
Average RF: 7.34101e-005 RF StDev: 2.20333e-005 RF %RSD: 30.0140
Scaling: None LSQ Weighting: None Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 6.03920e-005x + 0.196712
Goodness of fit (r^2): 0.999326



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	2	5	10	20	50
Area	17089	56566	142389	330410	867023
RF	0.000117034	8.83923204751	7.023014418248	6.053085560364	5.7668597026
	349581602	971e-005	6e-005	4e-005	8378e-005
Last Area					
Residual	0.77125	1.38716	1.20414	-0.150822	-2.55794
Rep StDev					
Rep %RSD					
Rep 1 Area	17089	56566	142389	330410	867023
Rep 1 User	BMS	BMS	BMS	BMS	BMS
Rep 1 Data File	C:\Instarch\P	C:\Instarch\PV	C:\Instarch\PVO	C:\Instarch\PVO	C:\Instarch\PV
	VOC4\Data\0	OC4\Data\0203	C4\Data\020315	C4\Data\020315	OC4\Data\020
	20315icdg\00	15icdg\002.dat	icdg\003.dat	icdg\004.dat	315icdg\005.d
	1.dat				at
Rep 1 Sample ID	MEE PT1 - 2	MEE PT2 - 5	MEE PT3 - 10	MEE PT4 - 20	MEE PT5 - 50
	ppmV	ppmV	ppmV	ppmV	ppmV
Rep 1 Calib. Time	Feb 03, 2015	Feb 03, 2015	Feb 03, 2015	Feb 03, 2015	Feb 03, 2015
	10:55:14	10:55:32	10:55:50	10:56:05	10:56:18

	Level 6	Level 7
Amount	100	200
Area	1696051	3275808

RJ 02/11/2015

Calibration Report

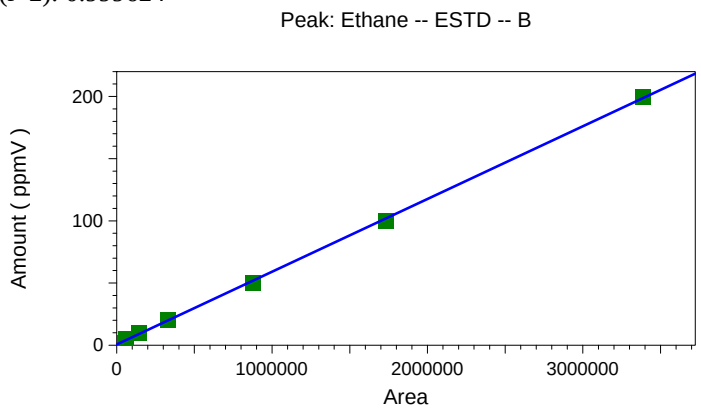
Method: C:\Instarch\PVOC4\Methods\P4DG020315.met
Print Time: Feb 11, 2015 14:41:51
User: AGK
Instrument: PVOC4

RF	5.89604911644756e-005	6.10536392853305e-005
Last Area Residual	-2.62457	1.97079
Rep StDev		
Rep %RSD		
Rep 1 Area	1696051	3275808
Rep 1 User	BMS	BMS
Rep 1 Data File	C:\Instarch\PVOC4\Data\020315icdg\006.dat	C:\Instarch\PVOC4\Data\020315icdg\007.dat
Rep 1 Sample ID	MEE PT6 - 100 ppmV	MEE PT7 - 200 ppmV
Rep 1 Calib. Time	Feb 03, 2015 10:56:31	Feb 03, 2015 10:56:53

Calibration Report

Method: C:\Instarch\PVOC4\Methods\P4DG020315.met
Print Time: Feb 11, 2015 14:41:59
User: AGK
Instrument: PVOC4

Ethane (B)
Average RF: 7.20208e-005 RF StDev: 2.08377e-005 RF %RSD: 28.9328
Scaling: None LSQ Weighting: None Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 5.84964e-005x + 0.597310
Goodness of fit (r^2): 0.999624



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	2	5	10	20	50
Area	17853	56692	142896	332327	878485
RF	0.000112025 990029687	8.81958653778 311e-005	6.998096517747 17e-005	6.018168851763 47e-005	5.6916168175 8937e-005
Last Area Residual	0.358353	1.08641	1.04378	-0.0372589	-1.98556
Rep StDev					
Rep %RSD					
Rep 1 Area	17853	56692	142896	332327	878485
Rep 1 User	BMS	BMS	BMS	BMS	BMS
Rep 1 Data File	C:\Instarch\PVOC4\Data\020315icdg\001.dat	C:\Instarch\PVOC4\Data\020315icdg\002.dat	C:\Instarch\PVOC4\Data\020315icdg\003.dat	C:\Instarch\PVOC4\Data\020315icdg\004.dat	C:\Instarch\PVOC4\Data\020315icdg\005.dat
Rep 1 Sample ID	MEE PT1 - 2 ppmV	MEE PT2 - 5 ppmV	MEE PT3 - 10 ppmV	MEE PT4 - 20 ppmV	MEE PT5 - 50 ppmV
Rep 1 Calib. Time	Feb 03, 2015 10:55:14	Feb 03, 2015 10:55:32	Feb 03, 2015 10:55:50	Feb 03, 2015 10:56:05	Feb 03, 2015 10:56:18

	Level 6	Level 7
Amount	100	200
Area	1731517	3384539

RJ 02/11/2015

Calibration Report

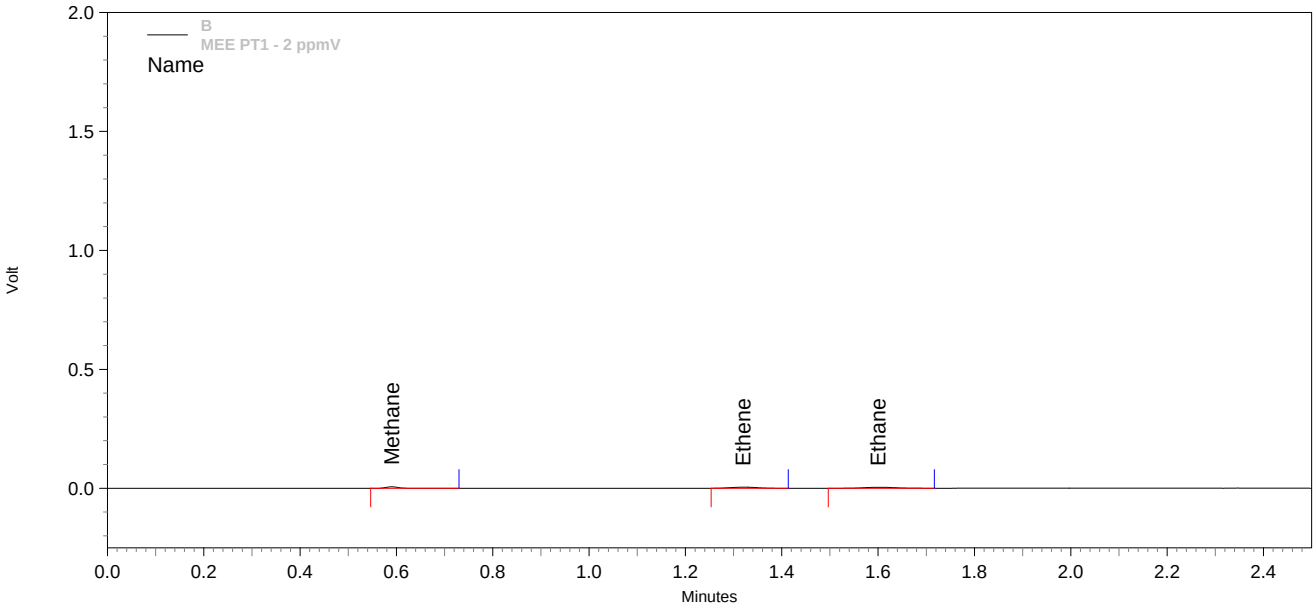
Method: C:\Instarch\PVOC4\Methods\P4DG020315.met
Print Time: Feb 11, 2015 14:41:59
User: AGK
Instrument: PVOC4

RF	5.77528259901578e-005	5.90922426953863e-005
Last Area Residual	-1.8849	1.41918
Rep StDev		
Rep %RSD		
Rep 1 Area	1731517	3384539
Rep 1 User	BMS	BMS
Rep 1 Data File	C:\Instarch\PVOC4\Data\020315icdg\006.dat	C:\Instarch\PVOC4\Data\020315icdg\007.dat
Rep 1 Sample ID	MEE PT6 - 100 ppmV	MEE PT7 - 200 ppmV
Rep 1 Calib. Time	Feb 03, 2015 10:56:31	Feb 03, 2015 10:56:53

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\020315icdg\001.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: MEE PT1 - 2 ppmV
Acquired: Feb 03, 2015 10:27:30
File Desc. 0.01 mL injection (Methane, Ethene, Ethane)



B Results

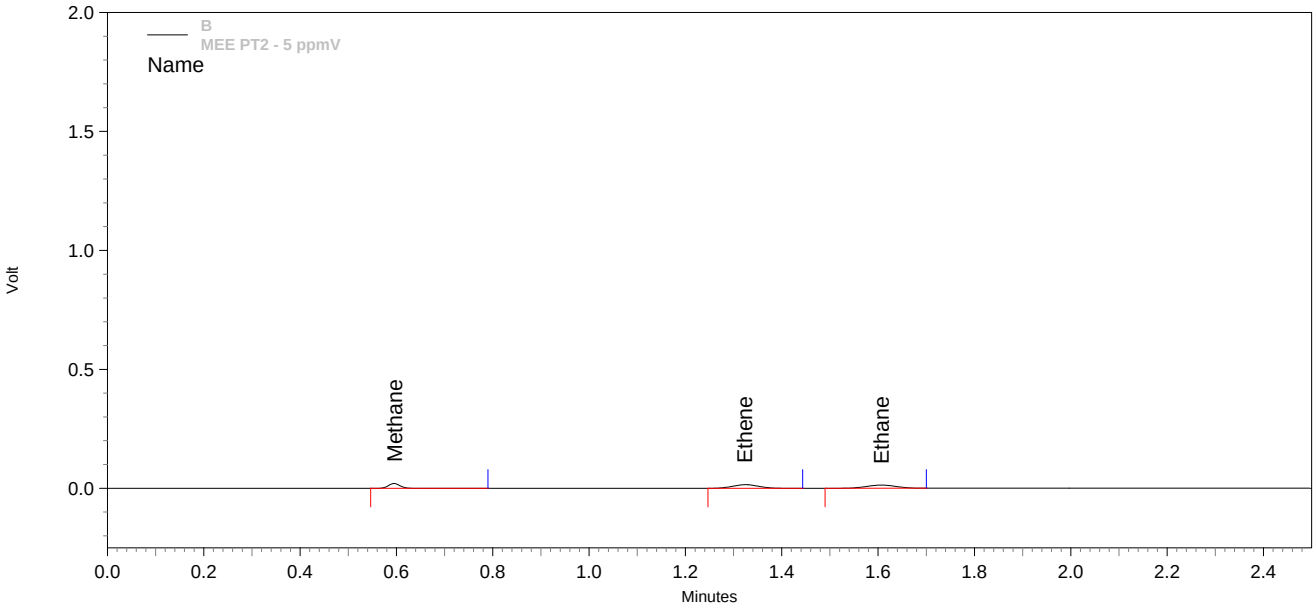
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.590	11158	**1.165**
2	Ethene	1.320	17089	**1.229**
3	Ethane	1.600	17853	**1.642**

Totals			46100	**4.035**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\020315icdg\002.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: MEE PT2 - 5 ppmV
Acquired: Feb 03, 2015 10:35:02
File Desc. 0.025 mL injection (Methane, Ethene, Ethane)



B Results

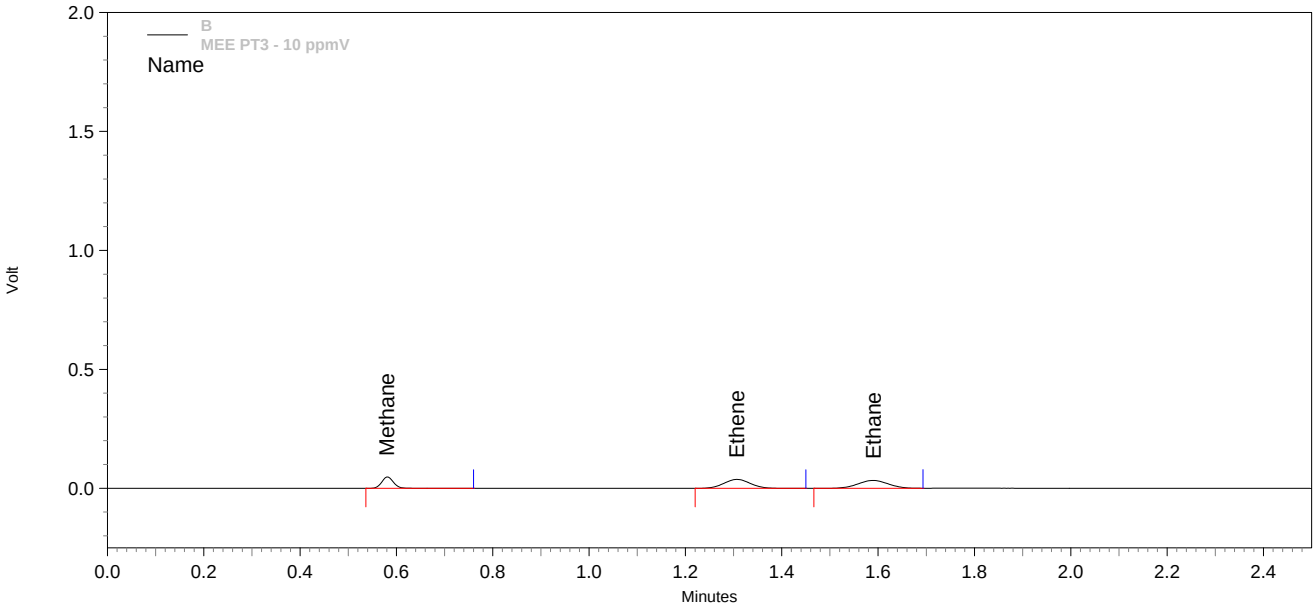
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.597	34407	**5.000 CAL**
2	Ethene	1.323	56566	**5.000 CAL**
3	Ethane	1.607	56692	**5.000 CAL**

Totals			147665	**15.000 CAL**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\020315icdg\003.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: MEE PT3 - 10 ppmV
Acquired: Feb 03, 2015 10:38:17
File Desc. 0.05 mL injection (Methane, Ethene, Ethane)



B Results

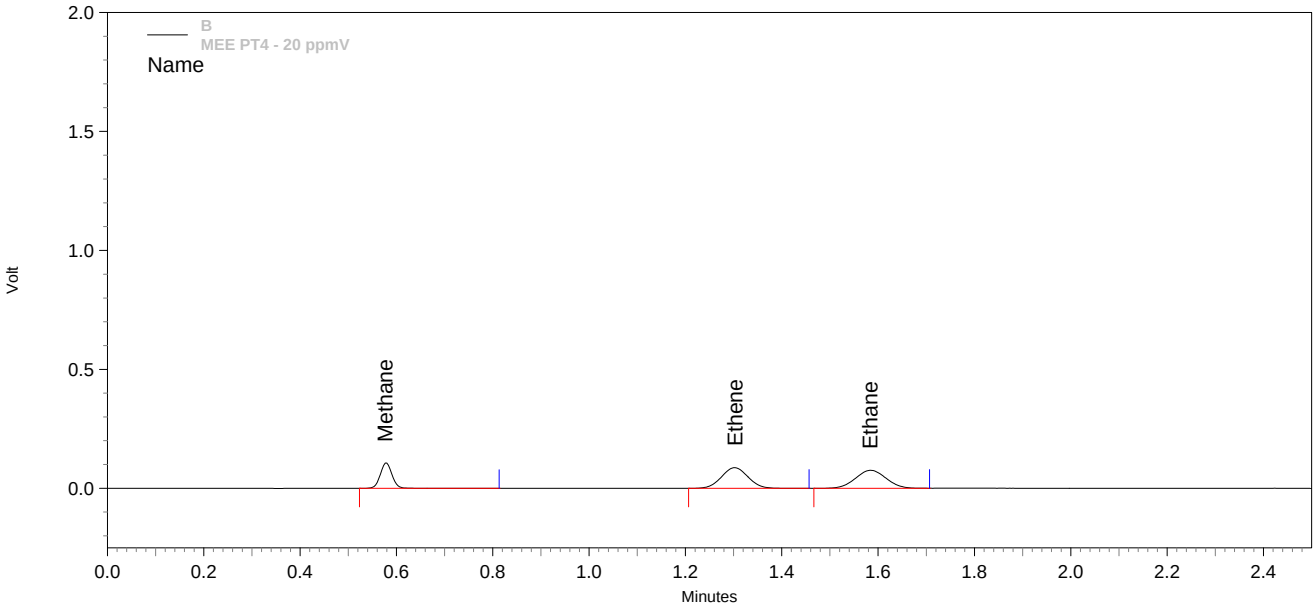
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.580	81596	**10.000 CAL**
2	Ethene	1.307	142389	**10.000 CAL**
3	Ethane	1.590	142896	**10.000 CAL**

Totals			366881	**30.000 CAL**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\020315icdg\004.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: MEE PT4 - 20 ppmV
Acquired: Feb 03, 2015 10:41:32
File Desc. 0.1 mL injection (Methane, Ethene, Ethane)



B Results

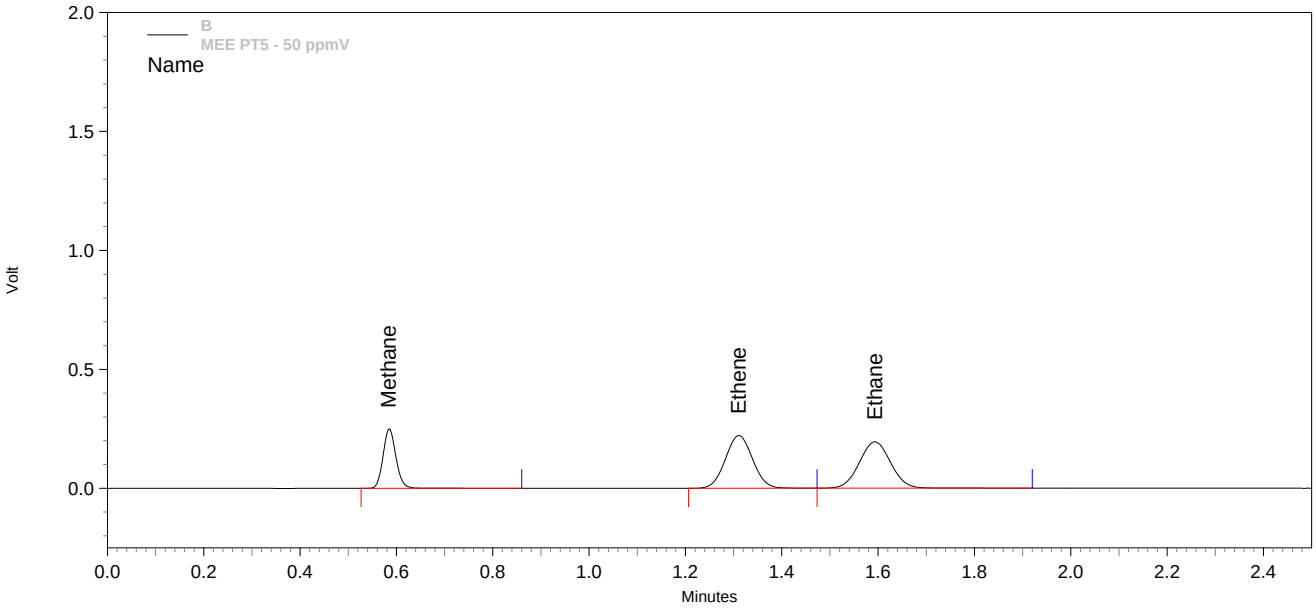
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.577	181231	**20.000 CAL**
2	Ethene	1.303	330410	**20.000 CAL**
3	Ethane	1.583	332327	**20.000 CAL**

Totals			843968	**60.000 CAL**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\020315icdg\005.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: MEE PT5 - 50 ppmV
Acquired: Feb 03, 2015 10:44:59
File Desc. 0.25 mL injection (Methane, Ethene, Ethane)



B Results

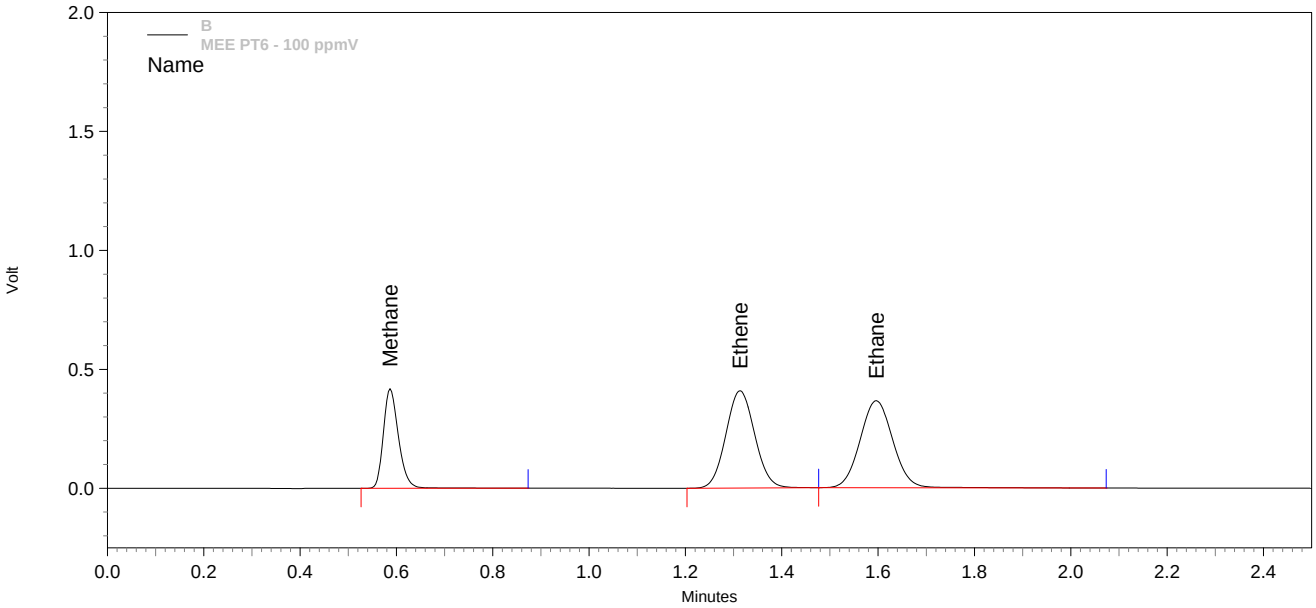
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.583	466265	**50.000 CAL**
2	Ethene	1.310	867023	**50.000 CAL**
3	Ethane	1.593	878485	**50.000 CAL**

Totals			2211773	**150.000 CAL**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\020315icdg\006.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: MEE PT6 - 100 ppmV
Acquired: Feb 03, 2015 10:48:29
File Desc. 0.5 mL injection (Methane, Ethene, Ethane)



B Results

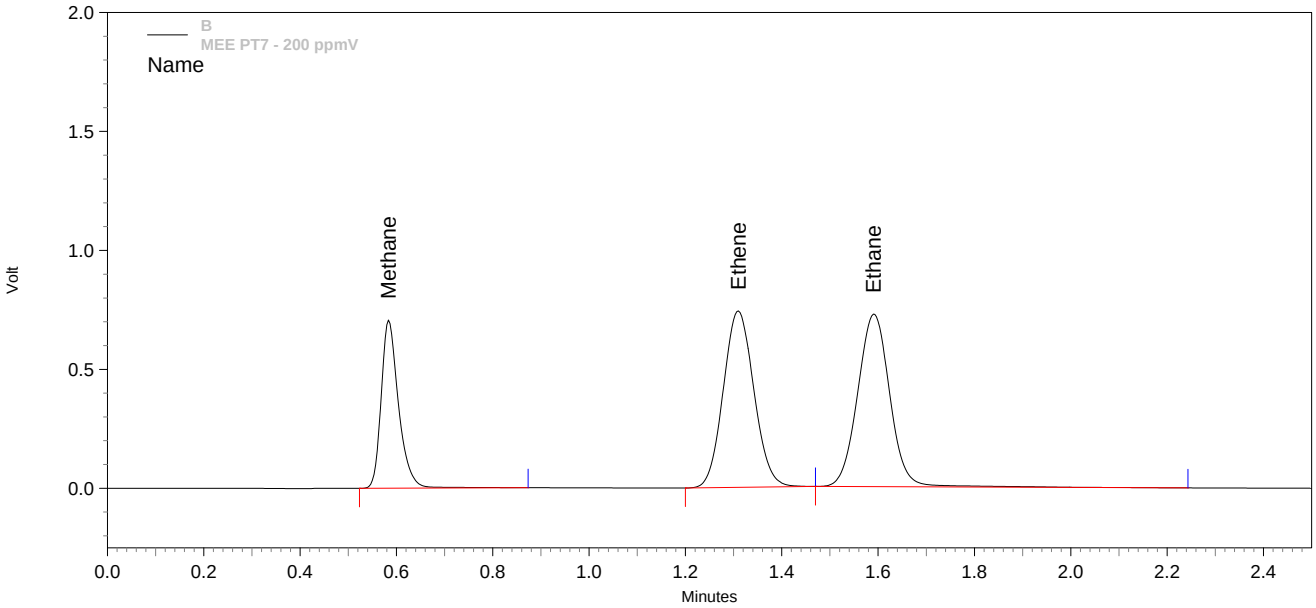
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.587	912807	**100.000 CAL**
2	Ethene	1.313	1696051	**100.000 CAL**
3	Ethane	1.597	1731517	**100.000 CAL**

Totals			4340375	**300.000 CAL**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\020315icdg\007.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: MEE PT7 - 200 ppmV
Acquired: Feb 03, 2015 10:52:17
File Desc. 1.0 mL injection (Methane, Ethene, Ethane)



B Results

Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.583	1769205	**200.000 CAL**
2	Ethene	1.310	3275808	**200.000 CAL**
3	Ethane	1.590	3384539	**200.000 CAL**

Totals			8429552	**600.000 CAL**

QC Check Standard Report

Sequence : C:\InStarch\PVOC4\Sequence\020315DGIC.seq
User : AGK
Printed : Feb 11, 2015 14:43:24

File	Sample ID	Acquired
C:\Instarch\PVOC4\Data\020315icdg\008.dat	ICV - 50 ppmV	Feb 11, 2015 14:43:24

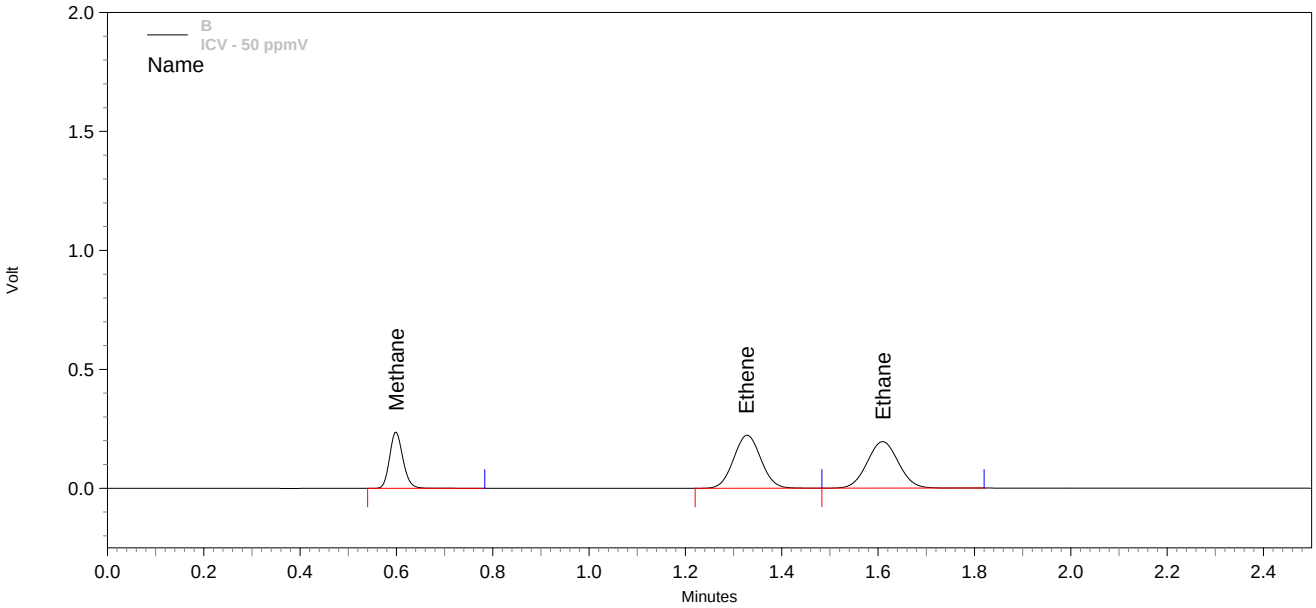
B

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
Methane	50.000	50.955	1.911	15.000	**Passed**
Ethene	50.000	53.018	6.036	15.000	**Passed**
Ethane	50.000	52.143	4.287	15.000	**Passed**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\020315icdg\008.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: ICV - 50 ppmV
Acquired: Feb 03, 2015 11:02:07
File Desc. INITIAL CALIB. VERIF. - 0.25 mL injection (Methane, Ethene, Ethane)



B Results

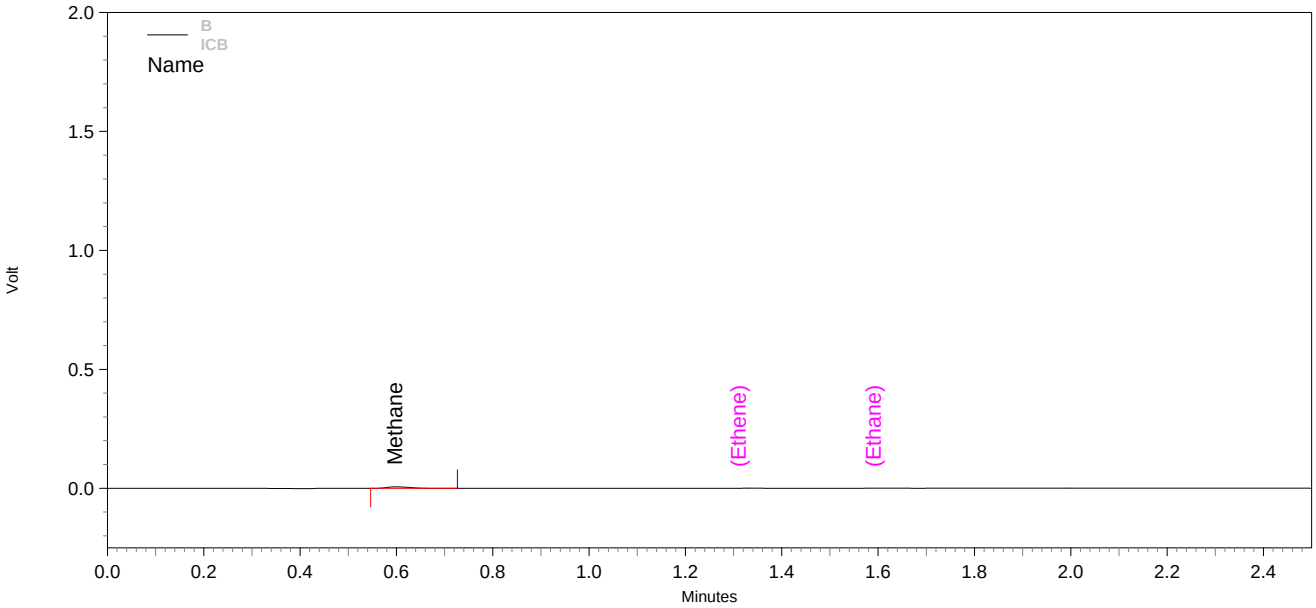
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.600	455191	**50.955**
2	Ethene	1.327	874641	**53.018**
3	Ethane	1.610	881181	**52.143**

Totals			2211013	**156.117**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\020315icdg\009.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: ICB
Acquired: Feb 03, 2015 11:19:15
File Desc. INITIAL CALIB. BLANK - 1.0 mL injection (Methane, Ethene, Ethane)



B Results

Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.597	20063	**2.163**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			20063	**2.163**

VOLATILE ORGANIC ANALYSIS
CONTINUING CALIBRATION
DOCUMENTS

BFB

Data File : C:\Instarch\Data\APR2116\BFB1.D Vial: 1
Acq On : 21 Apr 2016 8:53 Operator: RLD-AGK
Sample : 124904,BFB, Inst : VMS4
Misc : 50 ng Injection Multiplr: 1.00
Integration File: VOC.P

Method : C:\INSTARCH\METHODS\W041916.M
Title : 8260C Waters Method

Spectrum Information: Average of 4.785 to 4.804 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	22.6	8038	PASS
75	95	30	60	49.3	17551	PASS
95	95	100	100	100.0	35626	PASS
96	95	5	9	6.5	2310	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	92.2	32862	PASS
175	174	5	9	8.2	2701	PASS
176	174	95	101	100.2	32942	PASS
177	176	5	9	7.4	2449	PASS

W041916.M Mon Apr 25 14:57:15 2016

Evaluate Continuing Calibration Report

Data File : C:\Instarch\Data\APR2116\CCV-LCS1.D Vial: 3
Acq On : 21 Apr 2016 9:37 Operator: RLD-AGK
Sample : 124904,LCSW, Inst : VMS4
Misc : 10.0/100 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Apr 21 09:58:52 2016

Quant Method : C:\INSTARCH\METHODS\W041916.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W041916.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	1.0000	1.0000	0.00	107	0.00
2	PT	Dichlorodi	0.2781	0.2870	-3.20	100	0.00
3	PT	Chloromethan	0.2729	0.2807	-2.86	108	0.00
4	PT	VinylChlorid	0.2644	0.2833	-7.15	104	0.00
5	PT	Bromomethane	0.0818	0.0901#	-10.15	114	0.00
6	PT	Chloroethane	0.1364	0.1422	-4.25	105	0.00
7	T	Dichloroflmethane	0.3219	0.3315	-2.98	105	0.00
8	PT	Trichlorofma	0.3398	0.3568	-5.00	102	0.00
9	T	Ethylether	0.1794	0.1914	-6.69	115	0.00
10	T	dichlorotfluoroethan	0.2280	0.2405	-5.48	103	0.00
11	T	propyleneoxide	0.0522	0.0532	-1.92	108	0.00
12	T	Acrolein	0.0258	0.0285#	-10.47	120	0.00
13	PT	11dichlorthe	0.1912	0.1985	-3.82	103	0.00
14	PT	Trichlorotfluoroeth	0.2085	0.2194	-5.23	104	0.00
15	PT	Acetone	0.1371	0.1559	-13.71	135	0.00
16	T	Iodomethane	0.1544	0.1953	-26.49#	134	0.00
17	PT	Carbon Dislf	0.5237	0.5403	-3.17	105	0.00
18	T	allylchloride	0.3043	0.3045	-0.07	104	0.00
19	PT	methylacetate	0.0567	0.0548#	3.35	100	0.00
20	PT	Methylchlorid	0.2226	0.2120	4.76	101	0.00
21	T	tbutylalcohol	0.0275	0.0268#	2.55	107	0.00
22	T	Acrylonitrile	0.1024	0.1034	-0.98	109	0.00
23	PT	t12dichlorte	0.2096	0.2129	-1.57	108	0.00
24	PT	MtBE	0.5873	0.6080	-3.52	108	0.00
25	T	Hexane	0.2652	0.2742	-3.39	100	0.00
26	PT	11dichlorota	0.3742	0.3845	-2.75	106	0.00
27	T	Vinylacetate	0.3975	0.4276	-7.57	100	0.00
28	T	chloroprene	0.3681	0.4043	-9.83	106	0.00
29	T	Diisopether	0.7409	0.7717	-4.16	104	0.00
30	T	ETBE	0.6416	0.6565	-2.32	104	0.00
31	T	22dichloropr	0.2738	0.2949	-7.71	109	0.00
32	PT	c12dichlorte	0.2244	0.2308	-2.85	103	0.00
33	PT	2Butanone	0.0359	0.0404#	-12.53	123	0.00
34	T	propionitrile	0.0417	0.0416	0.24	111	0.00
35	T	Ethylacetate	0.0098	0.0102#	-4.08	119	0.00
36	T	methacrylonitrile	0.0991	0.1039	-4.84	109	0.00
37	T	Bromochlorma	0.1082	0.1133	-4.71	109	0.00
38	T	Tetrahydofur	0.0904	0.0912	-0.88	110	0.00
39	PT	Chloroform	0.3683	0.3803	-3.26	106	0.00
40	PT	111trichlota	0.3292	0.3397	-3.19	107	0.00
41	S	SURRDibrflma	0.2720	0.2659	2.24	104	0.00
42	PT	Cyclohexane	0.3838	0.3991	-3.99	102	0.00
43	PT	Carbtetraclo	0.2695	0.2688	0.26	104	0.00
44	T	11dicloprope	0.1062	0.1137	-7.06	106	0.00
45	S	SURR12DCAd4	0.0651	0.0664	-2.00	110	0.00
46	PT	Benzene	0.8076	0.8249	-2.14	104	0.00
47	PT	12dichlorota	0.3162	0.3126	1.14	104	0.00
48	T	TAME	0.5826	0.5792	0.58	104	0.00

49	PT	trichloroete	0.2257	0.2262	-0.22	104	0.00
50	PT	methylcyclohexane	0.3408	0.3592	-5.40	105	0.00
51	PT	12dicloropra	0.2218	0.2216	0.09	103	0.00
52	T	23Dicl1propene	0.3267	0.3339	-2.20	106	0.00
53	T	Dibromometha	0.1364	0.1331	2.42	99	0.00
54	T	methylmethacrylate	0.1599	0.1546	3.31	102	0.00
55	T	14dioxane	0.0031	0.0031#	0.00	100	0.00
56	PT	Bromodiclrma	0.2759	0.2672	3.15	101	0.00
57	T	2Nitropropane	0.0705	0.0555	21.28#	87	0.00
58	T	2CLEVE	0.1513	0.1564	-3.37	106	0.00
59	PT	c13dicloproe	0.3140	0.3188	-1.53	106	0.00
60	PT	4Meth2Pentan	0.2675	0.2831	-5.83	109	0.00
61	S	SURRd8Tolule	0.9527	0.9558	-0.33	107	0.00
62	PT	Toluene	0.5285	0.5385	-1.89	105	0.00
63	PT	t13Dicloprop	0.2692	0.2674	0.67	102	0.00
64	T	ethylmethacrylate	0.2709	0.2711	-0.07	104	0.00
65	PT	112Triclotha	0.1574	0.1591	-1.08	104	0.00
66	PT	Tetrachlorte	0.2773	0.2867	-3.39	107	0.00
67	T	13Diclorpropa	0.3152	0.3151	0.03	106	0.00
68	I	d5-CHLOROBENZENE**ISTD**	1.0000	1.0000	0.00	106	0.00
69	PT	2Hexanone	0.2562	0.3045	-18.85	120	0.00
70	PT	Clorodibrmta	0.2742	0.2591	5.51	100	0.00
71	PT	12Dibrometha	0.2558	0.2596	-1.49	105	0.00
72	PT	Chlorobenzen	0.7363	0.7595	-3.15	108	0.00
73	T	1Clhexane	0.3818	0.3935	-3.06	107	0.00
74	T	1112Tetclota	0.2466	0.2485	-0.77	102	0.00
75	PT	Ethylbenzene	1.2242	1.2907	-5.43	105	0.00
76	PT	m p-Xylene	0.4880	0.5036	-3.20	104	0.00
77	PT	o-Xylene	0.4750	0.4886	-2.86	106	0.00
78	PT	Styrene	0.7629	0.7842	-2.79	104	0.00
79	PT	Bromoform	0.2077	0.1823	12.23	96	0.00
80	PT	Isopropylben	1.2296	1.3064	-6.25	105	0.00
81	T	cyclohexanone	0.0116	0.0113#	2.59	106	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	1.0000	1.0000	0.00	104	0.00
83	S	SURR4BrFBenz	0.8548	0.8444	1.22	103	0.00
84	T	Bromobenzene	0.6577	0.6765	-2.86	106	0.00
85	PT	1122Tetrclta	0.6053	0.6119	-1.09	106	0.00
86	T	123Triclproa	0.7047	0.7319	-3.86	121	0.00
87	T	14dichloro2butene	0.1766	0.1808	-2.38	111	0.00
88	T	n-Propylbenz	2.5329	2.7662	-9.21	107	0.00
89	T	2chlorotolue	1.5330	1.6237	-5.92	107	0.00
90	T	4chlorotolue	1.7921	1.9014	-6.10	105	0.00
91	T	135Trimebenz	1.8011	1.9341	-7.38	107	0.00
92	T	tbutylbenzen	1.6303	1.7712	-8.64	108	0.00
93	T	124Trimetben	1.7833	1.9090	-7.05	104	0.00
94	T	sbutylbenzen	2.3665	2.5498	-7.75	104	0.00
95	PT	13Diclorbenz	1.1595	1.2134	-4.65	105	0.00
96	T	pIsopropylto	1.9595	2.1233	-8.36	106	0.00
97	PT	14dichlorobe	1.1706	1.2051	-2.95	104	0.00
98	PT	12dichlorobe	1.0823	1.1038	-1.99	104	0.00
99	T	nButylbenzen	1.7636	1.8596	-5.44	104	0.00
100	PT	12dibromo3cl	0.1298	0.1227	5.47	106	0.00
101	T	135Trichlorobenzene	0.9187	0.9439	-2.74	106	0.00
102	PT	124Trichlobe	0.7449	0.7354	1.28	101	0.00
103	T	Hexachlorobu	0.4220	0.4746	-12.46	115	0.00
104	T	Naphthalene	1.3930	1.4001	-0.51	107	0.00
105	T	123Trichlben	0.6199	0.6061	2.23	105	0.00

(#) = Out of Range SPCC's out = 3 CCC's out = 0

W041916.M Mon Apr 25 14:58:21 2016

Evaluate Continuing Calibration Report

Data File : C:\Instarch\Data\APR2116\CCV-LCS1.D Vial: 3
Acq On : 21 Apr 2016 9:37 Operator: RLD-AGK
Sample : 124904,LCSW, Inst : VMS4
Misc : 10.0/100 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Apr 21 09:58:52 2016

Quant Method : C:\INSTARCH\METHODS\W041916.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W041916.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	20.0000	20.0000	0.00	107	0.00
2	PT	Dichlorodi	10.0000	10.3210	-3.21	100	0.00
3	PT	Chloromethan	10.0000	10.2872	-2.87	108	0.00
4	PT	VinylChlorid	10.0000	10.7171	-7.17	104	0.00
5	PT	Bromomethane	10.0000	11.0090	-10.09	114	0.00
6	PT	Chloroethane	10.0000	10.4194	-4.19	105	0.00
7	T	Dichloroflmethane	10.0000	10.2985	-2.99	105	0.00
8	PT	Trichlorofma	10.0000	10.5006	-5.01	102	0.00
9	T	Ethylether	10.0000	10.6659	-6.66	115	0.00
10	T	dichlorotfluoroethan	10.0000	10.5491	-5.49	103	0.00
11	T	propyleneoxide	100.0000	102.0174	-2.02	108	0.00
12	T	Acrolein	50.0000	55.1214	-10.24	120	0.00
13	PT	11dichlorthe	10.0000	10.3852	-3.85	103	0.00
14	PT	Trichlorotfluoroeth	20.0000	21.0461	-5.23	104	0.00
15	PT	Acetone	100.0000	113.7247	-13.72	135	0.00
16	T	Iodomethane	20.0000	22.7377	-13.69	134	0.00
17	PT	Carbon Dislf	20.0000	20.6344	-3.17	105	0.00
18	T	allylchloride	20.0000	20.0104	-0.05	104	0.00
19	PT	methylacetate	10.0000	9.6692	3.31	100	0.00
20	PT	Methylchlorid	10.0000	9.5228	4.77	101	0.00
21	T	tbutylalcohol	500.0000	486.7208	2.66	107	0.00
22	T	Acrylonitrile	50.0000	50.4906	-0.98	109	0.00
23	PT	t12dichlorte	10.0000	10.1579	-1.58	108	0.00
24	PT	MtBE	10.0000	10.3522	-3.52	108	0.00
25	T	Hexane	20.0000	20.6771	-3.39	100	0.00
26	PT	11dichlorota	10.0000	10.2755	-2.75	106	0.00
27	T	Vinylacetate	100.0000	107.5918	-7.59	100	0.00
28	T	chloroprene	20.0000	21.9643	-9.82	106	0.00
29	T	Diisopether	10.0000	10.4157	-4.16	104	0.00
30	T	ETBE	10.0000	10.2316	-2.32	104	0.00
31	T	22dichloropr	10.0000	10.7704	-7.70	109	0.00
32	PT	c12dichlorte	10.0000	10.2840	-2.84	103	0.00
33	PT	2Butanone	100.0000	112.5924	-12.59	123	0.00
34	T	propionitrile	100.0000	99.7545	0.25	111	0.00
35	T	Ethylacetate	50.0000	52.1953	-4.39	119	0.00
36	T	methacrylonitrile	20.0000	20.9762	-4.88	109	0.00
37	T	Bromochlorma	10.0000	10.4693	-4.69	109	0.00
38	T	Tetrahydofur	100.0000	100.9151	-0.92	110	0.00
39	PT	Chloroform	10.0000	10.3253	-3.25	106	0.00
40	PT	111trichlota	10.0000	10.3189	-3.19	107	0.00
41	S	SURRDibrflma	20.0000	19.5467	2.27	104	0.00
42	PT	Cyclohexane	10.0000	10.3998	-4.00	102	0.00
43	PT	Carbtetraclo	10.0000	9.9729	0.27	104	0.00
44	T	11dicloprope	10.0000	10.7037	-7.04	106	0.00
45	S	SURR12DCAd4	20.0000	20.3789	-1.89	110	0.00
46	PT	Benzene	10.0000	10.2141	-2.14	104	0.00
47	PT	12dichlorota	10.0000	9.8847	1.15	104	0.00
48	T	TAME	10.0000	9.9403	0.60	104	0.00

49	PT	trichloroete	10.0000	10.0229	-0.23	104	0.00
50	PT	methylcyclohexane	10.0000	10.5388	-5.39	105	0.00
51	PT	12dicloropra	10.0000	9.9897	0.10	103	0.00
52	T	23Dicl1propene	10.0000	10.2206	-2.21	106	0.00
53	T	Dibromometha	10.0000	9.7590	2.41	99	0.00
54	T	methylmethacrylate	10.0000	9.6688	3.31	102	0.00
55	T	14dioxane	500.0000	489.2200	2.16	100	0.00
56	PT	Bromodiclrma	10.0000	9.6821	3.18	101	0.00
57	T	2Nitropropane	100.0000	75.0149	24.99#	87	0.00
58	T	2CLEVE	50.0000	51.7028	-3.41	106	0.00
59	PT	c13dicloproe	10.0000	10.1527	-1.53	106	0.00
60	PT	4Meth2Pentan	100.0000	105.8375	-5.84	109	0.00
61	S	SURRd8Tolule	20.0000	20.0652	-0.33	107	0.00
62	PT	Toluene	10.0000	10.1903	-1.90	105	0.00
63	PT	t13Dicloprop	10.0000	9.9326	0.67	102	0.00
64	T	ethylmethacrylate	20.0000	20.0158	-0.08	104	0.00
65	PT	112Triclotha	10.0000	10.1106	-1.11	104	0.00
66	PT	Tetrachlorte	10.0000	10.3405	-3.41	107	0.00
67	T	13Diclorpropa	10.0000	9.9945	0.05	106	0.00
68	I	d5-CHLOROBENZENE**ISTD**	20.0000	20.0000	0.00	106	0.00
69	PT	2Hexanone	100.0000	118.8537	-18.85	120	0.00
70	PT	Clorodibrmta	10.0000	9.4491	5.51	100	0.00
71	PT	12Dibrometha	10.0000	10.1484	-1.48	105	0.00
72	PT	Chlorobenzen	10.0000	10.3152	-3.15	108	0.00
73	T	1Clhexane	10.0000	10.3051	-3.05	107	0.00
74	T	1112Tetclota	10.0000	10.0773	-0.77	102	0.00
75	PT	Ethylbenzene	10.0000	10.5434	-5.43	105	0.00
76	PT	m p-Xylene	20.0000	20.6421	-3.21	104	0.00
77	PT	o-Xylene	10.0000	10.2867	-2.87	106	0.00
78	PT	Styrene	10.0000	10.2782	-2.78	104	0.00
79	PT	Bromoform	10.0000	8.7777	12.22	96	0.00
80	PT	Isopropylben	10.0000	10.6247	-6.25	105	0.00
81	T	cyclohexanone	200.0000	194.7584	2.62	106	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	20.0000	20.0000	0.00	104	0.00
83	S	SURR4BrFBenz	20.0000	19.7565	1.22	103	0.00
84	T	Bromobenzene	10.0000	10.2853	-2.85	106	0.00
85	PT	1122Tetrclta	10.0000	10.1106	-1.11	106	0.00
86	T	123Triclproa	10.0000	10.3860	-3.86	121	0.00
87	T	14dichloro2butene	10.0000	10.2400	-2.40	111	0.00
88	T	n-Propylbenz	10.0000	10.9209	-9.21	107	0.00
89	T	2chlorotolue	10.0000	10.5914	-5.91	107	0.00
90	T	4chlorotolue	10.0000	10.6098	-6.10	105	0.00
91	T	135Trimebenz	10.0000	10.7387	-7.39	107	0.00
92	T	tbutylbenzen	10.0000	10.8644	-8.64	108	0.00
93	T	124Trimetben	10.0000	10.7050	-7.05	104	0.00
94	T	sbutylbenzen	10.0000	10.7746	-7.75	104	0.00
95	PT	13Diclorbenz	10.0000	10.4653	-4.65	105	0.00
96	T	pIsopropylto	10.0000	10.8358	-8.36	106	0.00
97	PT	14dichlorobe	10.0000	10.2944	-2.94	104	0.00
98	PT	12dichlorobe	10.0000	10.1985	-1.98	104	0.00
99	T	nButylbenzen	10.0000	10.5445	-5.44	104	0.00
100	PT	12dibromo3cl	10.0000	9.1346	8.65	106	0.00
101	T	135Trichlorobenzene	10.0000	10.2749	-2.75	106	0.00
102	PT	124Trichlobe	10.0000	9.8719	1.28	101	0.00
103	T	Hexachlorobu	10.0000	11.2446	-12.45	115	0.00
104	T	Naphthalene	10.0000	10.0515	-0.52	107	0.00
105	T	123Trichlben	10.0000	9.7766	2.23	105	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

W041916.M Mon Apr 25 14:58:48 2016

Quantitation Report

Data File : C:\Instarch\Data\APR2116\CCV-LCS1.D Vial: 3
Acq On : 21 Apr 2016 9:37 Operator: RLD-AGK
Sample : 124904,LCSW, Inst : VMS4
Misc : 10.0/100 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 09:58:52 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:58:48 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.80	96	1611907	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.73	117	1293532	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	15.04	152	704255	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.96	113	428543	19.547	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 98 %			
45) SURR12DCAd4	7.37	102	106986	20.379	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 102 %			
61) SURRd8Tolule	9.80	98	1540606	20.065	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100 %			
83) SURR4BrFBenz	13.38	95	594701	19.756	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 99 %			
Target Compounds						Qvalue
2) Dichlorodi	1.88	85	231334	10.3210	ug/L	100
3) Chloromethan	2.13	50	226224	10.2872	ug/L	98
4) VinylChlorid	2.28	62	228336	10.7171	ug/L	99
5) Bromomethane	2.76	94	72621	11.0090	ug/L	97
6) Chloroethane	2.93	64	114573	10.4194	ug/L	94
7) Dichloroflmethane	3.25	67	267161	10.2985	ug/L	99
8) Trichlorofma	3.31	101	287599	10.5006	ug/L	95
9) Ethylether	3.76	59	154250	10.6659	ug/L	90
10) dichlorotfluoroethan	3.79	67	193807	10.5491	ug/L	97
11) propyleneoxide	3.83	58	428919	102.0174	ug/L	97
12) Acrolein	3.92	56	114701	55.1214	ug/L	96
13) 11dichlorthe	4.05	96	160018	10.3852	ug/L	100
14) Trichlorotfluoroeth	4.07	101	353701	21.0461	ug/L	99
15) Acetone	4.14	43	1256616	113.7247	ug/L	100
16) Iodomethane	4.24	142	314825	22.7377	ug/L	98
17) Carbon Dislf	4.32	76	870862	20.6344	ug/L	100
18) allylchloride	4.55	41	490832	20.0104	ug/L	99
19) methylacetate	4.61	74	44202	9.6692	ug/L	96
20) Methylchlorid	4.71	84	170828	9.5228	ug/L	97
21) tbutylalcohol	4.92	59	1080398	486.7208	ug/L	99
22) Acrylonitrile	5.05	53	416521	50.4906	ug/L	99
23) t12dichlorte	5.08	96	171569	10.1579	ug/L	96
24) MtBE	5.10	73	490048	10.3522	ug/L	98
25) Hexane	5.45	57	441994	20.6771	ug/L	99
26) 11dichlorota	5.62	63	309860	10.2755	ug/L	99
27) Vinylacetate	5.71	43	3446461	107.5918	ug/L	100
28) chloroprene	5.74	53	651705	21.9643	ug/L	99
29) Diisopether	5.74	45	621981	10.4157	ug/L	100
30) ETBE	6.20	59	529092	10.2316	ug/L	100
31) 22dichloropr	6.35	77	237670	10.7704	ug/L	99
32) c12dichlorte	6.36	96	185976	10.2840	ug/L	95
33) 2Butanone	6.39	72	325708	112.5924	ug/L	95
34) propionitrile	6.45	54	335593	99.7545	ug/L	96
35) Ethylacetate	6.48	88	41025	52.1953	ug/L #	85
36) methacrylonitrile	6.64	67	167467	20.9762	ug/L	100
37) Bromochlorma	6.65	128	91282	10.4693	ug/L	94
38) Tetrahydofur	6.72	42	735023	100.9151	ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\Instarch\Data\APR2116\CCV-LCS1.D Vial: 3
Acq On : 21 Apr 2016 9:37 Operator: RLD-AGK
Sample : 124904,LCSW, Inst : VMS4
Misc : 10.0/100 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 09:58:52 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:58:48 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	6.76	83	306511	10.3253 ug/L	100
40)	111trichlota	6.99	97	273754	10.3189 ug/L	99
42)	Cyclohexane	7.05	56	321686	10.3998 ug/L	97
43)	Carbtetraclo	7.20	119	216632	9.9729 ug/L	99
44)	11dicloprope	7.19	110	91629	10.7037 ug/L	99
46)	Benzene	7.45	78	664846	10.2141 ug/L	99
47)	12dichlorota	7.47	62	251926	9.8847 ug/L	97
48)	TAME	7.60	73	466769	9.9403 ug/L	99
49)	trichloroete	8.25	95	182292	10.0229 ug/L	96
50)	methylcyclohexane	8.50	83	289504	10.5388 ug/L	99
51)	12dicloropra	8.53	63	178576	9.9897 ug/L	100
52)	23Dicl1propene	8.59	75	269074	10.2206 ug/L	98
53)	Dibromometha	8.68	93	107312	9.7590 ug/L	94
54)	methylmethacrylate	8.68	69	124615	9.6688 ug/L	97
55)	14dioxane	8.71	88	123904	489.2200 ug/L	98
56)	Bromodiclrma	8.88	83	215311	9.6821 ug/L	99
57)	2Nitropropane	9.16	43	447474	75.0149 ug/L	99
58)	2CLEVE	9.26	63	630442	51.7028 ug/L	98
59)	c13dicloproe	9.46	75	256953	10.1527 ug/L	99
60)	4Meth2Pentan	9.65	43	2281827	105.8375 ug/L	99
62)	Toluene	9.89	92	434023	10.1903 ug/L	100
63)	t13Dicloprop	10.17	75	215531	9.9326 ug/L	98
64)	ethylmethacrylate	10.30	69	437024	20.0158 ug/L	100
65)	112Triclotha	10.41	83	128224	10.1106 ug/L	99
66)	Tetrachlorte	10.62	166	231106	10.3405 ug/L	97
67)	13Diclorpropa	10.64	76	253937	9.9945 ug/L	99
69)	2Hexanone	10.75	43	1969673	118.8537 ug/L	99
70)	Clorodibrmta	10.94	129	167556	9.4491 ug/L	98
71)	12Dibrometha	11.09	107	167885	10.1484 ug/L	97
72)	Chlorobenzen	11.77	112	491229	10.3152 ug/L	99
73)	1Clhexane	11.73	91	254499	10.3051 ug/L	99
74)	1112Tetclota	11.88	131	160738	10.0773 ug/L	98
75)	Ethylbenzene	11.92	91	834793	10.5434 ug/L	99
76)	m p-Xylene	12.09	106	651464	20.6421 ug/L	97
77)	o-Xylene	12.64	106	315993	10.2867 ug/L	98
78)	Styrene	12.65	104	507172	10.2782 ug/L	97
79)	Bromoform	12.91	173	117917	8.7777 ug/L	99
80)	Isopropylben	13.16	105	844921	10.6247 ug/L	99
81)	cyclohexanone	13.28	55	146504	194.7584 ug/L	97
84)	Bromobenzene	13.58	156	238200	10.2853 ug/L	99
85)	1122Tetrclta	13.57	83	215483	10.1106 ug/L	96
86)	123Triclproa	13.63	75	257713	10.3860 ug/L	92
87)	14dichloro2butene	13.66	53	63666	10.2400 ug/L	97
88)	n-Propylbenz	13.75	91	974048	10.9209 ug/L	99
89)	2chlorotolue	13.87	91	571748	10.5914 ug/L	99
90)	4chlorotolue	14.02	91	669532	10.6098 ug/L	98
91)	135Trimebenz	14.00	105	681062	10.7387 ug/L	99
92)	tbutylbenzen	14.47	119	623685	10.8644 ug/L	99
93)	124Trimetben	14.54	105	672222	10.7050 ug/L	100
94)	sbutylbenzen	14.79	105	897845	10.7746 ug/L	98
95)	13Diclorbenz	14.94	146	427278	10.4653 ug/L	100
96)	pIsopropylto	15.01	119	747681	10.8358 ug/L	100
97)	14dichlorobe	15.07	146	424340	10.2944 ug/L	99
98)	12dichlorobe	15.61	146	388664	10.1985 ug/L	99
99)	nButylbenzen	15.60	91	654815	10.5445 ug/L	99
100)	12dibromo3cl	16.72	157	43210	9.1346 ug/L	98
101)	135Trichlorobenzene	17.03	180	332379	10.2749 ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\Instarch\Data\APR2116\CCV-LCS1.D Vial: 3
Acq On : 21 Apr 2016 9:37 Operator: RLD-AGK
Sample : 124904,LCSW, Inst : VMS4
Misc : 10.0/100 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 09:58:52 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:58:48 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.84	180	258942	9.8719	ug/L	96
103) Hexachlorobu	18.07	225	167106	11.2446	ug/L	95
104) Naphthalene	18.15	128	493030	10.0515	ug/L	100
105) 123Trichlben	18.46	180	213418	9.7766	ug/L	98

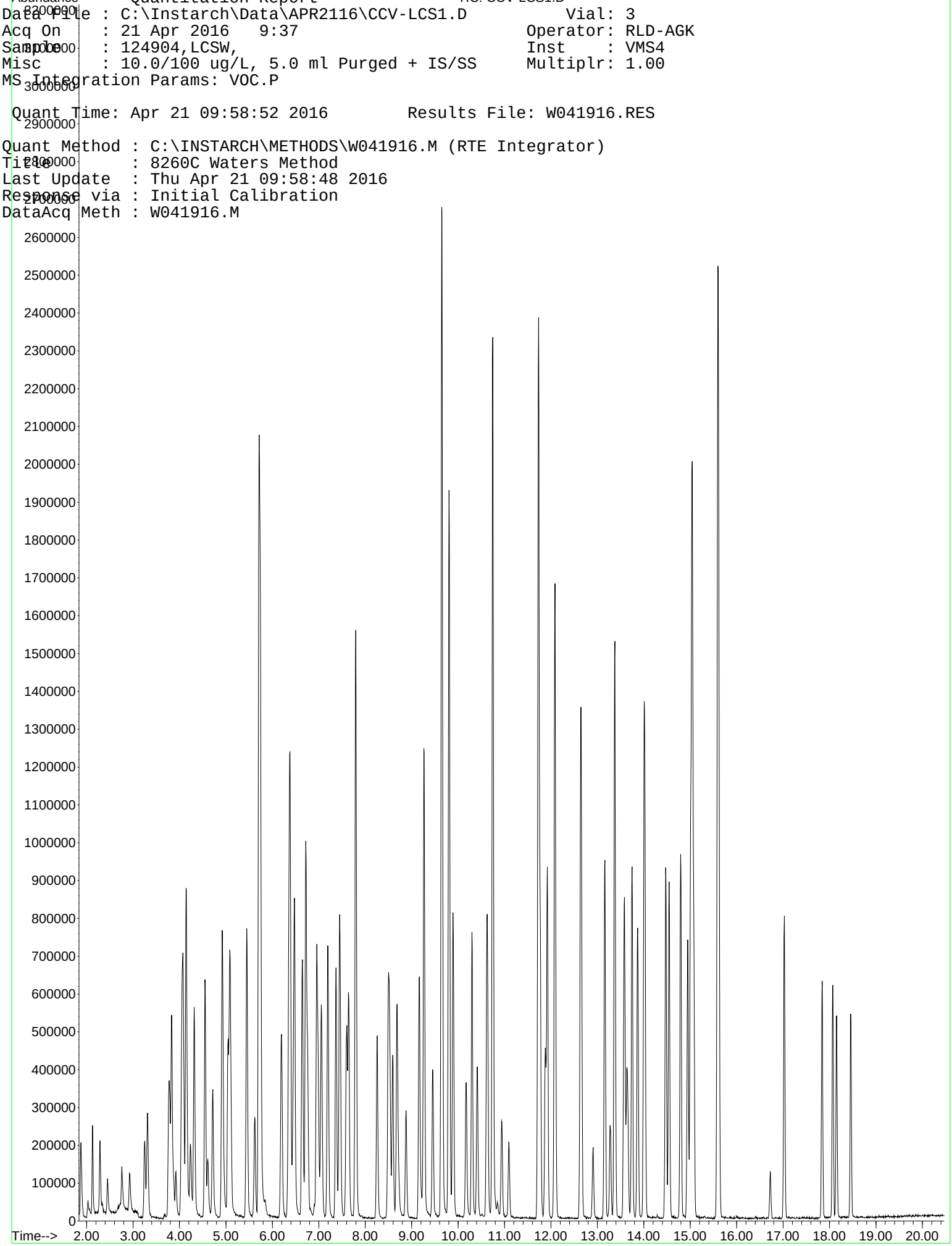
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\Instarch\Data\APR2116\CCV-LCS1.D Vial: 3
Acq On : 21 Apr 2016 9:37 Operator: RLD-AGK
Sample : 124904,LCSW, Inst : VMS4
Misc : 10.0/100 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 09:58:52 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:58:48 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M



Evaluate Continuing Calibration Report

Data File : C:\Instarch\Data\APR2116\CCVF1.D Vial: 23
Acq On : 21 Apr 2016 20:01 Operator: RLD-AGK
Sample : 124904,CCVF, Inst : VMS4
Misc : 10.0/100 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Apr 21 20:24:35 2016

Quant Method : C:\INSTARCH\METHODS\W041916.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W041916.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 50% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	1.0000	1.0000	0.00	100	0.00
2	PT	Dichlorodi	0.2781	0.2776	0.18	91	0.00
3	PT	Chloromethan	0.2729	0.2669	2.20	96	0.00
4	PT	VinylChlorid	0.2644	0.2694	-1.89	93	0.00
5	PT	Bromomethane	0.0818	0.0950#	-16.14	112	0.01
6	PT	Chloroethane	0.1364	0.1481	-8.58	102	0.00
7	T	Dichloroflmethane	0.3219	0.3177	1.30	94	0.00
8	PT	Trichlorofma	0.3398	0.3387	0.32	91	0.00
9	T	Ethylether	0.1794	0.1955	-8.97	110	0.00
10	T	dichlorotfluoroethan	0.2280	0.2281	-0.04	92	0.00
11	T	propyleneoxide	0.0522	0.0589	-12.84	112	0.00
12	T	Acrolein	0.0258	0.0367	-42.25	145	0.00
13	PT	11dichlorthe	0.1912	0.1892	1.05	92	0.00
14	PT	Trichlorotfluoroeth	0.2085	0.2128	-2.06	95	0.00
15	PT	Acetone	0.1371	0.1081	21.15	88	0.00
16	T	Iodomethane	0.1544	0.1567	-1.49	101	0.00
17	PT	Carbon Dislf	0.5237	0.5299	-1.18	96	0.00
18	T	allylchloride	0.3043	0.3060	-0.56	98	0.00
19	PT	methylacetate	0.0567	0.0697#	-22.93	119	0.00
20	PT	Methylchlorid	0.2226	0.2147	3.55	95	0.00
21	T	tbutylalcohol	0.0275	0.0302	-9.82	113	0.00
22	T	Acrylonitrile	0.1024	0.1153	-12.60	113	0.00
23	PT	t12dichlorte	0.2096	0.2114	-0.86	100	0.00
24	PT	MtBE	0.5873	0.6109	-4.02	101	0.00
25	T	Hexane	0.2652	0.2909	-9.69	100	0.00
26	PT	11dichlorota	0.3742	0.3683	1.58	95	0.00
27	T	Vinylacetate	0.3975	0.4940	-24.28	109	0.00
28	T	chloroprene	0.3681	0.3848	-4.54	95	0.00
29	T	Diisopether	0.7409	0.7691	-3.81	97	0.00
30	T	ETBE	0.6416	0.6374	0.65	94	0.00
31	T	22dichloropr	0.2738	0.3010	-9.93	104	0.00
32	PT	c12dichlorte	0.2244	0.2354	-4.90	99	0.00
33	PT	2Butanone	0.0359	0.0357#	0.56	102	0.00
34	T	propionitrile	0.0417	0.0465	-11.51	116	0.00
35	T	Ethylacetate	0.0098	0.0121#	-23.47	132	0.00
36	T	methacrylonitrile	0.0991	0.1144	-15.44	113	0.00
37	T	Bromochlorma	0.1082	0.1140	-5.36	103	0.00
38	T	Tetrahydofur	0.0904	0.1012	-11.95	114	0.00
39	PT	Chloroform	0.3683	0.3759	-2.06	98	0.00
40	PT	111trichlota	0.3292	0.3263	0.88	96	0.00
41	S	SURRDibrflma	0.2720	0.2761	-1.51	101	0.00
42	PT	Cyclohexane	0.3838	0.3730	2.81	89	0.00
43	PT	Carbtetraclo	0.2695	0.2659	1.34	96	0.00
44	T	11dicloprope	0.1062	0.1118	-5.27	98	0.00
45	S	SURR12DCAd4	0.0651	0.0649	0.31	100	0.00
46	PT	Benzene	0.8076	0.8129	-0.66	96	0.00
47	PT	12dichlorota	0.3162	0.3214	-1.64	100	0.00
48	T	TAME	0.5826	0.5814	0.21	98	0.00

49	PT	trichloroete	0.2257	0.2172	3.77	94	0.00
50	PT	methylcyclohexane	0.3408	0.3432	-0.70	94	0.00
51	PT	12dicloropra	0.2218	0.2273	-2.48	99	0.00
52	T	23Dicl1propene	0.3267	0.3306	-1.19	98	0.00
53	T	Dibromometha	0.1364	0.1460	-7.04	101	0.00
54	T	methylmethacrylate	0.1599	0.1754	-9.69	108	0.00
55	T	14dioxane	0.0031	0.0029#	6.45	87	0.00
56	PT	Bromodiclrma	0.2759	0.2776	-0.62	98	0.00
57	T	2Nitropropane	0.0705	0.0725	-2.84	107	0.00
58	T	2CLEVE	0.1513	0.1653	-9.25	105	0.00
59	PT	c13dicloproe	0.3140	0.3226	-2.74	100	0.00
60	PT	4Meth2Pentan	0.2675	0.3148	-17.68	113	0.00
61	S	SURRd8Tolule	0.9527	0.9616	-0.93	101	0.00
62	PT	Toluene	0.5285	0.5377	-1.74	98	0.00
63	PT	t13Dicloprop	0.2692	0.2693	-0.04	96	0.00
64	T	ethylmethacrylate	0.2709	0.2873	-6.05	103	0.00
65	PT	112Triclotha	0.1574	0.1647	-4.64	101	0.00
66	PT	Tetrachlorte	0.2773	0.2748	0.90	96	0.00
67	T	13Diclorpropa	0.3152	0.3255	-3.27	102	0.00
68	I	d5-CHLOROBENZENE**ISTD**	1.0000	1.0000	0.00	100	0.00
69	PT	2Hexanone	0.2562	0.2987	-16.59	112	0.00
70	PT	Clorodibrmta	0.2742	0.2649	3.39	96	0.00
71	PT	12Dibrometha	0.2558	0.2680	-4.77	102	0.00
72	PT	Chlorobenzen	0.7363	0.7525	-2.20	101	0.00
73	T	1Clhexane	0.3818	0.3705	2.96	95	0.00
74	T	1112Tetclota	0.2466	0.2438	1.14	95	0.00
75	PT	Ethylbenzene	1.2242	1.2545	-2.48	97	0.00
76	PT	m p-Xylene	0.4880	0.4996	-2.38	98	0.00
77	PT	o-Xylene	0.4750	0.4853	-2.17	100	0.00
78	PT	Styrene	0.7629	0.8095	-6.11	101	0.00
79	PT	Bromoform	0.2077	0.1795	13.58	89	0.00
80	PT	Isopropylben	1.2296	1.2633	-2.74	96	0.00
81	T	cyclohexanone	0.0116	0.0118#	-1.72	105	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	1.0000	1.0000	0.00	97	0.00
83	S	SURR4BrFBenz	0.8548	0.8790	-2.83	100	0.00
84	T	Bromobenzene	0.6577	0.6952	-5.70	101	0.00
85	PT	1122Tetrclta	0.6053	0.6632	-9.57	107	0.01
86	T	123Triclproa	0.7047	0.7379	-4.71	114	0.00
87	T	14dichloro2butene	0.1766	0.1274	27.86	73	0.00
88	T	n-Propylbenz	2.5329	2.7453	-8.39	99	0.00
89	T	2chlorotolue	1.5330	1.6179	-5.54	99	0.00
90	T	4chlorotolue	1.7921	1.8922	-5.59	97	0.00
91	T	135Trimebenz	1.8011	1.9018	-5.59	97	0.00
92	T	tbutylbenzen	1.6303	1.7026	-4.43	97	0.00
93	T	124Trimetben	1.7833	1.9139	-7.32	97	0.00
94	T	sbutylbenzen	2.3665	2.5390	-7.29	96	0.00
95	PT	13Diclorbenz	1.1595	1.2294	-6.03	99	0.00
96	T	pIsopropylto	1.9595	2.1273	-8.56	99	0.00
97	PT	14dichlorobe	1.1706	1.2482	-6.63	100	0.00
98	PT	12dichlorobe	1.0823	1.1349	-4.86	100	0.00
99	T	nButylbenzen	1.7636	1.9040	-7.96	99	0.00
100	PT	12dibromo3cl	0.1298	0.1357	-4.55	109	0.00
101	T	135Trichlorobenzene	0.9187	0.9823	-6.92	103	0.00
102	PT	124Trichlobe	0.7449	0.7924	-6.38	101	0.00
103	T	Hexachlorobu	0.4220	0.4829	-14.43	108	0.00
104	T	Naphthalene	1.3930	1.7289	-24.11	123	0.00
105	T	123Trichlben	0.6199	0.7249	-16.94	117	0.00

(#) = Out of Range SPCC's out = 3 CCC's out = 0

W041916.M Mon Apr 25 14:59:57 2016

Evaluate Continuing Calibration Report

Data File : C:\Instarch\Data\APR2116\CCVF1.D Vial: 23
Acq On : 21 Apr 2016 20:01 Operator: RLD-AGK
Sample : 124904,CCVF, Inst : VMS4
Misc : 10.0/100 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Apr 21 20:24:35 2016

Quant Method : C:\INSTARCH\METHODS\W041916.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W041916.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 50% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	20.0000	20.0000	0.00	100	0.00
2	PT	Dichlorodi	10.0000	9.9814	0.19	91	0.00
3	PT	Chloromethan	10.0000	9.7810	2.19	96	0.00
4	PT	VinylChlorid	10.0000	10.1912	-1.91	93	0.00
5	PT	Bromomethane	10.0000	11.6081	-16.08	112	0.01
6	PT	Chloroethane	10.0000	10.8580	-8.58	102	0.00
7	T	Dichloroflmethane	10.0000	9.8717	1.28	94	0.00
8	PT	Trichlorofma	10.0000	9.9661	0.34	91	0.00
9	T	Ethylether	10.0000	10.8927	-8.93	110	0.00
10	T	dichlorotfluoroethan	10.0000	10.0073	-0.07	92	0.00
11	T	propyleneoxide	100.0000	112.9865	-12.99	112	0.00
12	T	Acrolein	50.0000	71.1418	-42.28	145	0.00
13	PT	11dichlorthe	10.0000	9.8983	1.02	92	0.00
14	PT	Trichlorotfluoroeth	20.0000	20.4059	-2.03	95	0.00
15	PT	Acetone	100.0000	78.8553	21.14	88	0.00
16	T	Iodomethane	20.0000	18.7635	6.18	101	0.00
17	PT	Carbon Dislf	20.0000	20.2386	-1.19	96	0.00
18	T	allylchloride	20.0000	20.1114	-0.56	98	0.00
19	PT	methylacetate	10.0000	12.2827	-22.83	119	0.00
20	PT	Methylchlorid	10.0000	9.6475	3.52	95	0.00
21	T	tbutylalcohol	500.0000	548.2030	-9.64	113	0.00
22	T	Acrylonitrile	50.0000	56.3117	-12.62	113	0.00
23	PT	t12dichlorte	10.0000	10.0888	-0.89	100	0.00
24	PT	MtBE	10.0000	10.4009	-4.01	101	0.00
25	T	Hexane	20.0000	21.9360	-9.68	100	0.00
26	PT	11dichlorota	10.0000	9.8422	1.58	95	0.00
27	T	Vinylacetate	100.0000	124.3034	-24.30	109	0.00
28	T	chloroprene	20.0000	20.9044	-4.52	95	0.00
29	T	Diisopether	10.0000	10.3805	-3.80	97	0.00
30	T	ETBE	10.0000	9.9341	0.66	94	0.00
31	T	22dichloropr	10.0000	10.9946	-9.95	104	0.00
32	PT	c12dichlorte	10.0000	10.4900	-4.90	99	0.00
33	PT	2Butanone	100.0000	99.5701	0.43	102	0.00
34	T	propionitrile	100.0000	111.3517	-11.35	116	0.00
35	T	Ethylacetate	50.0000	62.0319	-24.06	132	0.00
36	T	methacrylonitrile	20.0000	23.1028	-15.51	113	0.00
37	T	Bromochlorma	10.0000	10.5345	-5.34	103	0.00
38	T	Tetrahydofur	100.0000	111.9946	-11.99	114	0.00
39	PT	Chloroform	10.0000	10.2054	-2.05	98	0.00
40	PT	111trichlota	10.0000	9.9116	0.88	96	0.00
41	S	SURRDibrflma	20.0000	20.2985	-1.49	101	0.00
42	PT	Cyclohexane	10.0000	9.7197	2.80	89	0.00
43	PT	Carbtetraclo	10.0000	9.8641	1.36	96	0.00
44	T	11dicloprope	10.0000	10.5241	-5.24	98	0.00
45	S	SURR12DCAd4	20.0000	19.9211	0.39	100	0.00
46	PT	Benzene	10.0000	10.0647	-0.65	96	0.00
47	PT	12dichlorota	10.0000	10.1620	-1.62	100	0.00
48	T	TAME	10.0000	9.9783	0.22	98	0.00

49	PT	trichloroete	10.0000	9.6239	3.76	94	0.00
50	PT	methylcyclohexane	10.0000	10.0707	-0.71	94	0.00
51	PT	12dicloropra	10.0000	10.2472	-2.47	99	0.00
52	T	23Dicl1propene	10.0000	10.1218	-1.22	98	0.00
53	T	Dibromometha	10.0000	10.7020	-7.02	101	0.00
54	T	methylmethacrylate	10.0000	10.9671	-9.67	108	0.00
55	T	14dioxane	500.0000	455.2342	8.95	87	0.00
56	PT	Bromodiclrma	10.0000	10.0601	-0.60	98	0.00
57	T	2Nitropropane	100.0000	94.8287	5.17	107	0.00
58	T	2CLEVE	50.0000	54.6153	-9.23	105	0.00
59	PT	c13dicloproe	10.0000	10.2741	-2.74	100	0.00
60	PT	4Meth2Pentan	100.0000	117.6756	-17.68	113	0.00
61	S	SURRd8Tolule	20.0000	20.1884	-0.94	101	0.00
62	PT	Toluene	10.0000	10.1754	-1.75	98	0.00
63	PT	t13Dicloprop	10.0000	10.0025	-0.02	96	0.00
64	T	ethylmethacrylate	20.0000	21.2096	-6.05	103	0.00
65	PT	112Triclotha	10.0000	10.4689	-4.69	101	0.00
66	PT	Tetrachlorte	10.0000	9.9096	0.90	96	0.00
67	T	13Diclorpropa	10.0000	10.3255	-3.25	102	0.00
68	I	d5-CHLOROBENZENE**ISTD**	20.0000	20.0000	0.00	100	0.00
69	PT	2Hexanone	100.0000	116.5866	-16.59	112	0.00
70	PT	Clorodibrmta	10.0000	9.6620	3.38	96	0.00
71	PT	12Dibrometha	10.0000	10.4773	-4.77	102	0.00
72	PT	Chlorobenzen	10.0000	10.2201	-2.20	101	0.00
73	T	1Clhexane	10.0000	9.7036	2.96	95	0.00
74	T	1112Tetclota	10.0000	9.8868	1.13	95	0.00
75	PT	Ethylbenzene	10.0000	10.2473	-2.47	97	0.00
76	PT	m p-Xylene	20.0000	20.4750	-2.38	98	0.00
77	PT	o-Xylene	10.0000	10.2185	-2.19	100	0.00
78	PT	Styrene	10.0000	10.6100	-6.10	101	0.00
79	PT	Bromoform	10.0000	8.6435	13.57	89	0.00
80	PT	Isopropylben	10.0000	10.2743	-2.74	96	0.00
81	T	cyclohexanone	200.0000	203.5106	-1.76	105	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	20.0000	20.0000	0.00	97	0.00
83	S	SURR4BrFBenz	20.0000	20.5645	-2.82	100	0.00
84	T	Bromobenzene	10.0000	10.5696	-5.70	101	0.00
85	PT	1122Tetrclta	10.0000	10.9581	-9.58	107	0.01
86	T	123Triclproa	10.0000	10.4717	-4.72	114	0.00
87	T	14dichloro2butene	10.0000	7.2132	27.87	73	0.00
88	T	n-Propylbenz	10.0000	10.8386	-8.39	99	0.00
89	T	2chlorotolue	10.0000	10.5534	-5.53	99	0.00
90	T	4chlorotolue	10.0000	10.5584	-5.58	97	0.00
91	T	135Trimebenz	10.0000	10.5592	-5.59	97	0.00
92	T	tbutylbenzen	10.0000	10.4435	-4.44	97	0.00
93	T	124Trimetben	10.0000	10.7321	-7.32	97	0.00
94	T	sbutylbenzen	10.0000	10.7290	-7.29	96	0.00
95	PT	13Diclorbenz	10.0000	10.6034	-6.03	99	0.00
96	T	pIsopropylto	10.0000	10.8558	-8.56	99	0.00
97	PT	14dichlorobe	10.0000	10.6624	-6.62	100	0.00
98	PT	12dichlorobe	10.0000	10.4860	-4.86	100	0.00
99	T	nButylbenzen	10.0000	10.7961	-7.96	99	0.00
100	PT	12dibromo3cl	10.0000	10.0084	-0.08	109	0.00
101	T	135Trichlorobenzene	10.0000	10.6924	-6.92	103	0.00
102	PT	124Trichlobe	10.0000	10.6382	-6.38	101	0.00
103	T	Hexachlorobu	10.0000	11.4417	-14.42	108	0.00
104	T	Naphthalene	10.0000	12.4115	-24.12	123	0.00
105	T	123Trichlben	10.0000	11.6940	-16.94	117	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

W041916.M Mon Apr 25 15:00:18 2016

Quantitation Report

Data File : C:\Instarch\Data\APR2116\CCVF1.D Vial: 23
Acq On : 21 Apr 2016 20:01 Operator: RLD-AGK
Sample : 124904,CCVF, Inst : VMS4
Misc : 10.0/100 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 20:24:35 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 20:24:31 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.80	96	1508081	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.73	117	1224036	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	15.04	152	654680	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.96	113	416360	20.298	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101 %			
45) SURR12DCAd4	7.37	102	97846	19.921	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 100 %			
61) SURRd8Tolule	9.80	98	1450224	20.188	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101 %			
83) SURR4BrFBenz	13.37	95	575448	20.564	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 103 %			
Target Compounds						Qvalue
2) Dichlorodi	1.87	85	209311	9.9814	ug/L	98
3) Chloromethan	2.13	50	201239	9.7810	ug/L	98
4) VinylChlorid	2.29	62	203146	10.1912	ug/L	96
5) Bromomethane	2.77	94	71641	11.6081	ug/L	97
6) Chloroethane	2.93	64	111706	10.8580	ug/L	98
7) Dichloroflmethane	3.25	67	239593	9.8717	ug/L	96
8) Trichlorofma	3.31	101	255378	9.9661	ug/L	98
9) Ethylether	3.77	59	147383	10.8927	ug/L	89
10) dichlorotfluoroethan	3.79	67	172011	10.0073	ug/L	97
11) propyleneoxide	3.83	58	444439	112.9865	ug/L	97
12) Acrolein	3.92	56	138502	71.1418	ug/L	100
13) 11dichlorthe	4.05	96	142693	9.8983	ug/L	96
14) Trichlorotfluoroeth	4.08	101	320851	20.4059	ug/L	98
15) Acetone	4.15	43	815199	78.8553	ug/L	99
16) Iodomethane	4.24	142	236277	18.7635	ug/L	98
17) Carbon Dislf	4.32	76	799136	20.2386	ug/L	100
18) allylchloride	4.55	41	461534	20.1114	ug/L	98
19) methylacetate	4.62	74	52533	12.2827	ug/L	100
20) Methylchlorid	4.71	84	161917	9.6475	ug/L	97
21) tbutylalcohol	4.92	59	1138492	548.2030	ug/L	100
22) Acrylonitrile	5.04	53	434620	56.3117	ug/L	98
23) t12dichlorte	5.08	96	159426	10.0888	ug/L	97
24) MtBE	5.10	73	460641	10.4009	ug/L	99
25) Hexane	5.45	57	438700	21.9360	ug/L	97
26) 11dichlorota	5.63	63	277677	9.8422	ug/L	98
27) Vinylacetate	5.71	43	3725306	124.3034	ug/L	100
28) chloroprene	5.74	53	580303	20.9044	ug/L	99
29) Diisopether	5.74	45	579951	10.3805	ug/L	99
30) ETBE	6.20	59	480622	9.9341	ug/L	99
31) 22dichloropr	6.36	77	226990	10.9946	ug/L	99
32) c12dichlorte	6.36	96	177481	10.4900	ug/L	100
33) 2Butanone	6.39	72	269484	99.5701	ug/L	94
34) propionitrile	6.45	54	350479	111.3517	ug/L	98
35) Ethylacetate	6.48	88	45616	62.0319	ug/L #	80
36) methacrylonitrile	6.64	67	172564	23.1028	ug/L	99
37) Bromochlorma	6.65	128	85934	10.5345	ug/L	94
38) Tetrahydofur	6.72	42	763179	111.9946	ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\Instarch\Data\APR2116\CCVF1.D Vial: 23
Acq On : 21 Apr 2016 20:01 Operator: RLD-AGK
Sample : 124904,CCVF, Inst : VMS4
Misc : 10.0/100 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 20:24:35 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 20:24:31 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	6.76	83	283436	10.2054 ug/L	97
40)	111trichlota	6.99	97	246012	9.9116 ug/L	98
42)	Cyclohexane	7.05	56	281284	9.7197 ug/L	95
43)	Carbtetraclo	7.20	119	200467	9.8641 ug/L	100
44)	11dicloprope	7.19	110	84288	10.5241 ug/L	99
46)	Benzene	7.45	78	612922	10.0647 ug/L	99
47)	12dichlorota	7.47	62	242312	10.1620 ug/L	99
48)	TAME	7.60	73	438375	9.9783 ug/L	95
49)	trichloroete	8.26	95	163761	9.6239 ug/L	96
50)	methylcyclohexane	8.50	83	258824	10.0707 ug/L	98
51)	12dicloropra	8.53	63	171381	10.2472 ug/L	100
52)	23Dicl1propene	8.59	75	249309	10.1218 ug/L	99
53)	Dibromometha	8.68	93	110102	10.7020 ug/L	98
54)	methylmethacrylate	8.69	69	132244	10.9671 ug/L	97
55)	14dioxane	8.71	88	107870	455.2342 ug/L	99
56)	Bromodiclrma	8.88	83	209307	10.0601 ug/L	99
57)	2Nitropropane	9.17	43	546655	94.8287 ug/L	98
58)	2CLEVE	9.27	63	623060	54.6153 ug/L	99
59)	c13dicloproe	9.46	75	243277	10.2741 ug/L	99
60)	4Meth2Pentan	9.65	43	2373637	117.6756 ug/L	99
62)	Toluene	9.89	92	405472	10.1754 ug/L	100
63)	t13Dicloprop	10.17	75	203067	10.0025 ug/L	98
64)	ethylmethacrylate	10.30	69	433262	21.2096 ug/L	99
65)	112Triclotha	10.41	83	124217	10.4689 ug/L	98
66)	Tetrachlorte	10.62	166	207210	9.9096 ug/L	98
67)	13Diclorpropa	10.64	76	245448	10.3255 ug/L	99
69)	2Hexanone	10.75	43	1828299	116.5866 ug/L	99
70)	Clorodibrmta	10.94	129	162126	9.6620 ug/L	98
71)	12Dibrometha	11.09	107	164014	10.4773 ug/L	97
72)	Chlorobenzen	11.77	112	460554	10.2201 ug/L	99
73)	1Clhexane	11.74	91	226768	9.7036 ug/L	99
74)	1112Tetclota	11.88	131	149226	9.8868 ug/L	96
75)	Ethylbenzene	11.92	91	767765	10.2473 ug/L	97
76)	m p-Xylene	12.09	106	611474	20.4750 ug/L	99
77)	o-Xylene	12.64	106	297033	10.2185 ug/L	97
78)	Styrene	12.66	104	495416	10.6100 ug/L	100
79)	Bromoform	12.91	173	109876	8.6435 ug/L	97
80)	Isopropylben	13.16	105	773160	10.2743 ug/L	99
81)	cyclohexanone	13.28	55	144863	203.5106 ug/L	98
84)	Bromobenzene	13.59	156	227553	10.5696 ug/L	97
85)	1122Tetrclta	13.58	83	217105	10.9581 ug/L	99
86)	123Triclproa	13.64	75	241549	10.4717 ug/L	98
87)	14dichloro2butene	13.66	53	41690	7.2132 ug/L	96
88)	n-Propylbenz	13.75	91	898660	10.8386 ug/L	99
89)	2chlorotolue	13.87	91	529592	10.5534 ug/L	99
90)	4chlorotolue	14.02	91	619384	10.5584 ug/L	100
91)	135Trimebenz	14.00	105	622537	10.5592 ug/L	98
92)	tbutylbenzen	14.48	119	557322	10.4435 ug/L	99
93)	124Trimetben	14.54	105	626487	10.7321 ug/L	98
94)	sbutylbenzen	14.79	105	831112	10.7290 ug/L	99
95)	13Diclorbenz	14.95	146	402444	10.6034 ug/L	98
96)	pIsopropylto	15.01	119	696336	10.8558 ug/L	99
97)	14dichlorobe	15.08	146	408573	10.6624 ug/L	99
98)	12dichlorobe	15.61	146	371491	10.4860 ug/L	99
99)	nButylbenzen	15.61	91	623247	10.7961 ug/L	99
100)	12dibromo3cl	16.73	157	44421	10.0084 ug/L	92
101)	135Trichlorobenzene	17.03	180	321539	10.6924 ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\Instarch\Data\APR2116\CCVF1.D Vial: 23
Acq On : 21 Apr 2016 20:01 Operator: RLD-AGK
Sample : 124904,CCVF, Inst : VMS4
Misc : 10.0/100 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 20:24:35 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 20:24:31 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.84	180	259399	10.6382	ug/L	93
103) Hexachlorobu	18.07	225	158065	11.4417	ug/L	95
104) Naphthalene	18.15	128	565930	12.4115	ug/L	100
105) 123Trichlben	18.46	180	237304	11.6940	ug/L	98

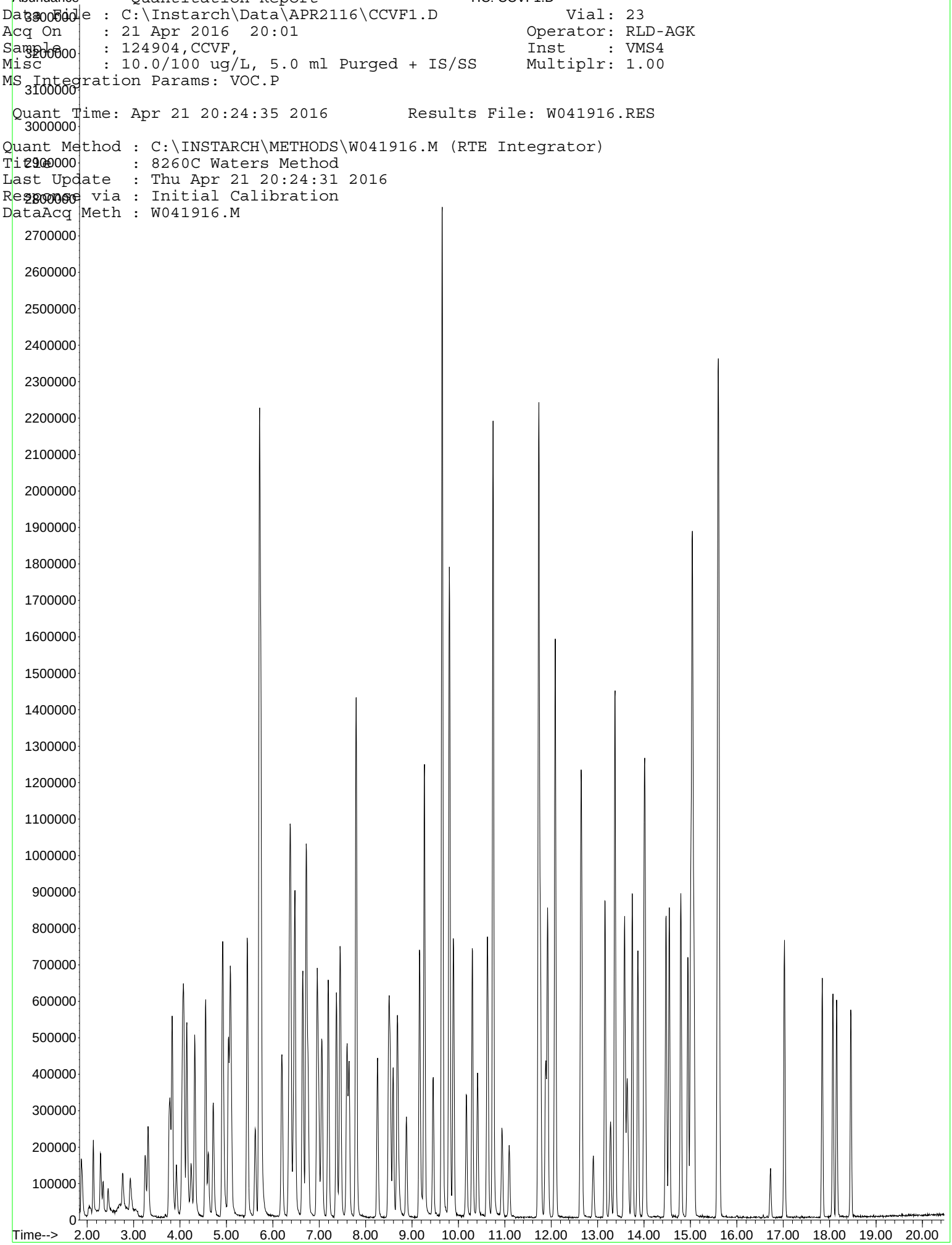
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: CCVF1.D

Data File : C:\Instarch\Data\APR2116\CCVF1.D Vial: 23
Acq On : 21 Apr 2016 20:01 Operator: RLD-AGK
Sample : 124904,CCVF, Inst : VMS4
Misc : 10.0/100 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 20:24:35 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 20:24:31 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M



QC Check Standard Report

Sequence : C:\InStarch\PVOC4\Sequence\041416.seq
User : AMA
Printed : Apr 15, 2016 06:46:47

File	Sample ID	Acquired
C:\Instarch\PVOC4\Data\041416\057.dat	124866,CCV,	Apr 15, 2016 06:46:47

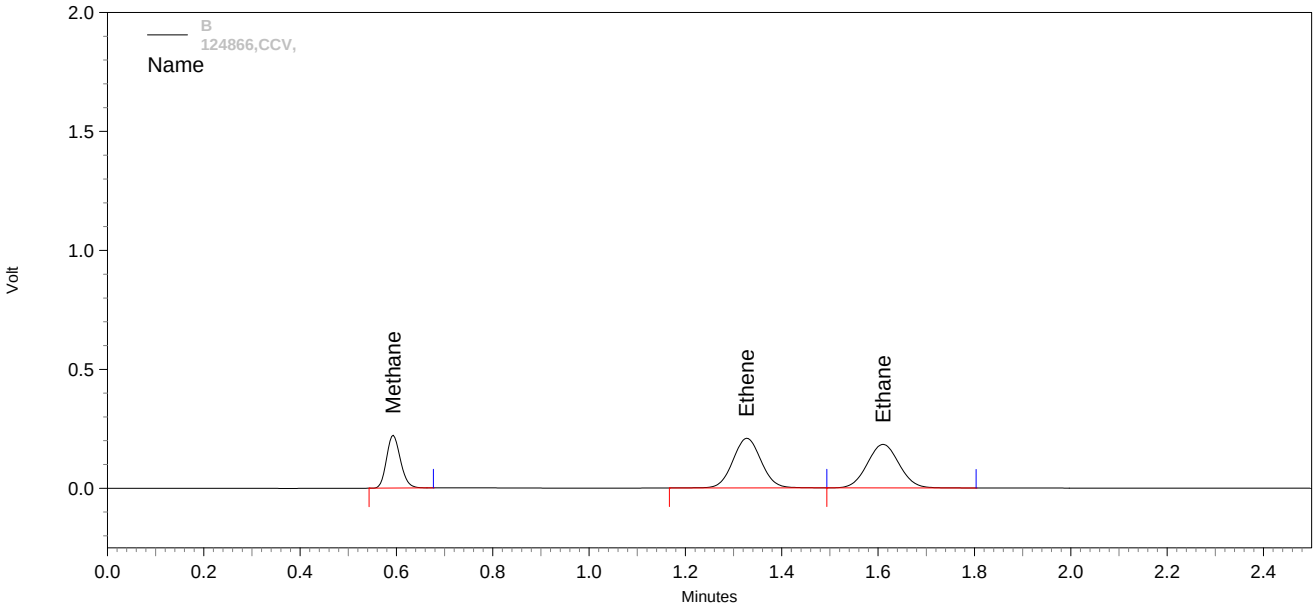
B

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
Methane	50.000	49.927	0.145	15.000	**Passed**
Ethene	50.000	51.427	2.854	15.000	**Passed**
Ethane	50.000	49.662	0.675	15.000	**Passed**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\041416\057.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 124866,CCV,
Acquired: Apr 14, 2016 16:38:51
File Desc. 250 uL of 200 ppmV Methane/Ethene/Ethane Gas Std



B Results

Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.593	446023	**49.927**
2	Ethene	1.327	848297	**51.427**
3	Ethane	1.610	838768	**49.662**

Totals			2133088	**151.017**

QC Check Standard Report

Sequence : C:\InStarch\PVOC4\Sequence\041416.seq
User : AMA
Printed : Apr 15, 2016 06:49:22

File	Sample ID	Acquired
C:\Instarch\PVOC4\Data\041416\068.dat	124866,CCV,	Apr 15, 2016 06:49:21

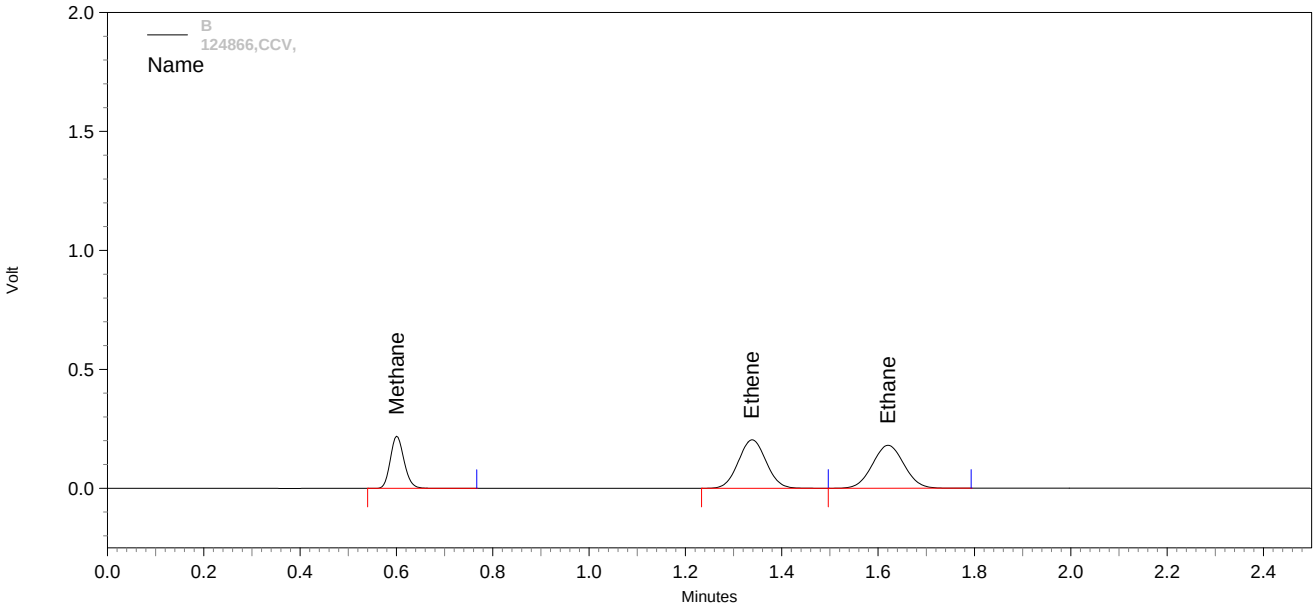
B

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
Methane	50.000	48.554	2.893	15.000	**Passed**
Ethene	50.000	49.377	1.246	15.000	**Passed**
Ethane	50.000	48.726	2.549	15.000	**Passed**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\041416\068.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 124866,CCV,
Acquired: Apr 14, 2016 17:21:23
File Desc. 250 uL of 200 ppmV Methane/Ethene/Ethane Gas Std



B Results

Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.600	433773	**48.554**
2	Ethene	1.337	814349	**49.377**
3	Ethane	1.620	822756	**48.726**

Totals			2070878	**146.656**

QC Check Standard Report

Sequence : C:\InStarch\PVOC4\Sequence\041416.seq
User : AMA
Printed : Apr 15, 2016 06:52:16

File	Sample ID	Acquired
C:\Instarch\PVOC4\Data\041416\076.dat	124867,CCV,	Apr 15, 2016 06:52:16

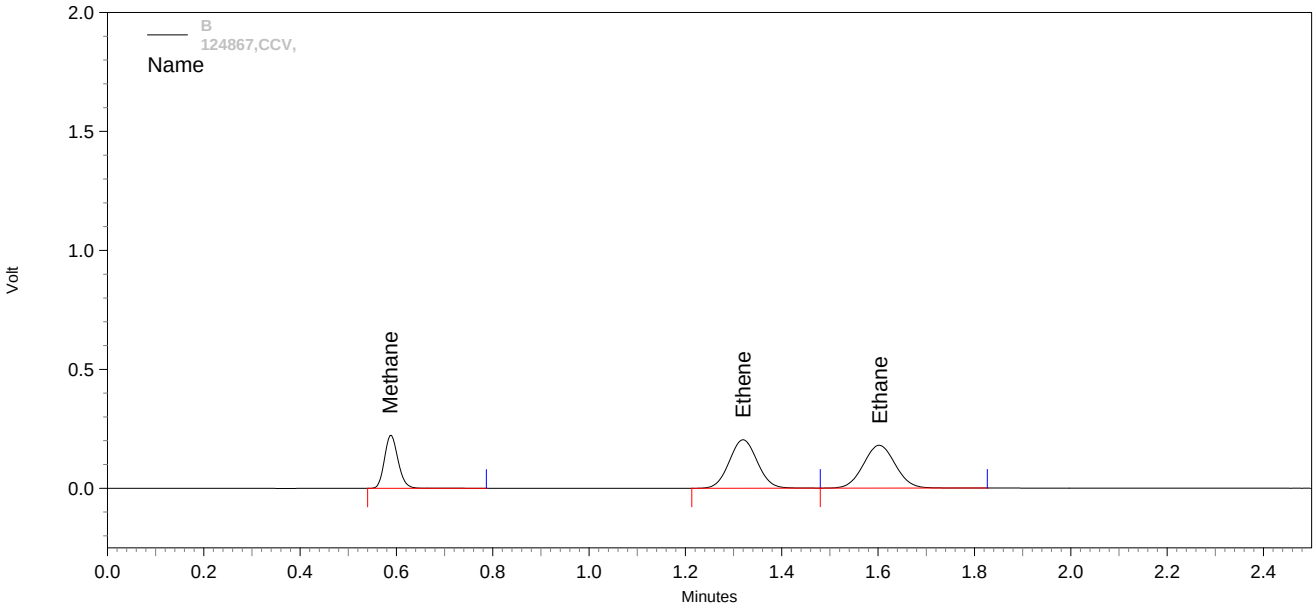
B

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
Methane	50.000	49.059	1.882	15.000	**Passed**
Ethene	50.000	49.680	0.641	15.000	**Passed**
Ethane	50.000	48.992	2.016	15.000	**Passed**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\041416\076.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 124867,CCV,
Acquired: Apr 14, 2016 17:49:58
File Desc. 250 uL of 200 ppmV Methane/Ethene/Ethane Gas Std



B Results

Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.587	438280	**49.059**
2	Ethene	1.320	819361	**49.680**
3	Ethane	1.603	827309	**48.992**

Totals			2084950	**147.731**

QC Check Standard Report

Sequence : C:\InStarch\PVOC4\Sequence\042016.seq
User : AMA
Printed : Apr 22, 2016 11:13:35

File	Sample ID	Acquired
C:\Instarch\PVOC4\Data\042016\001.dat	125088,CCV,	Apr 22, 2016 11:13:35

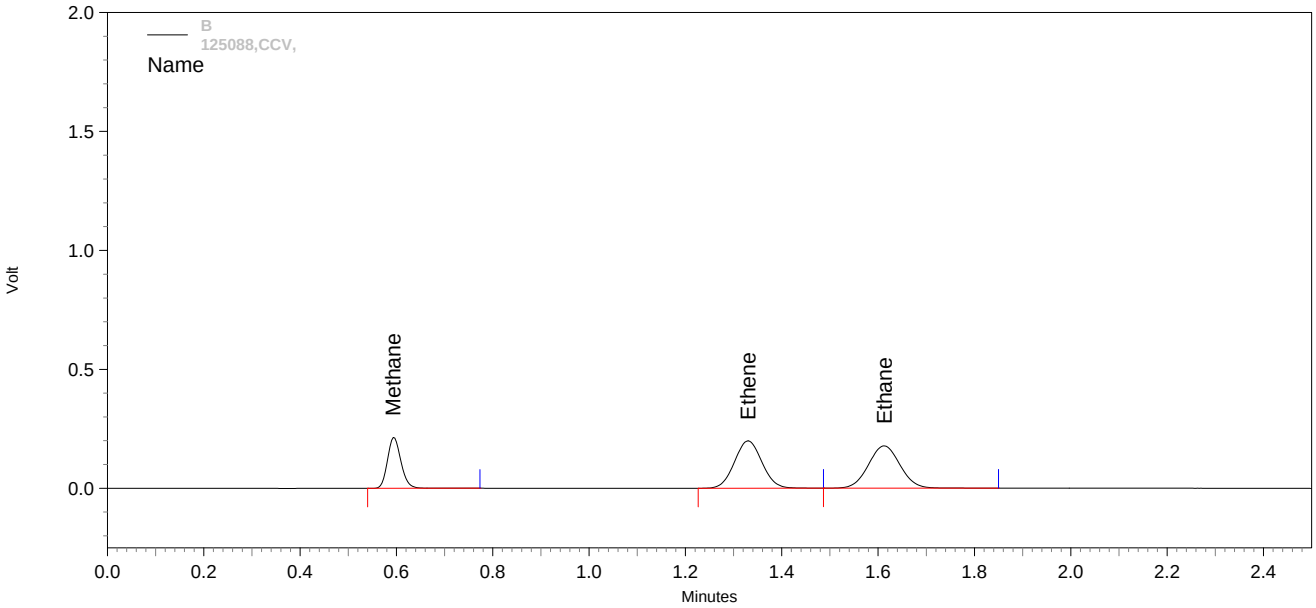
B

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
Methane	50.000	46.529	6.941	15.000	**Passed**
Ethene	50.000	47.779	4.442	15.000	**Passed**
Ethane	50.000	47.711	4.578	15.000	**Passed**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\042016\001.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 125088,CCV,
Acquired: Apr 20, 2016 10:00:11
File Desc. 250 uL of 200 ppmV Methane/Ethene/Ethane Gas Std



B Results

Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.593	415720	**46.529**
2	Ethene	1.330	787887	**47.779**
3	Ethane	1.613	805413	**47.711**

Totals			2009020	**142.019**

QC Check Standard Report

Sequence : C:\InStarch\PVOC4\Sequence\042016.seq
User : AMA
Printed : Apr 22, 2016 11:14:37

File	Sample ID	Acquired
C:\Instarch\PVOC4\Data\042016\019.dat	125089,CCV,	Apr 22, 2016 11:14:37

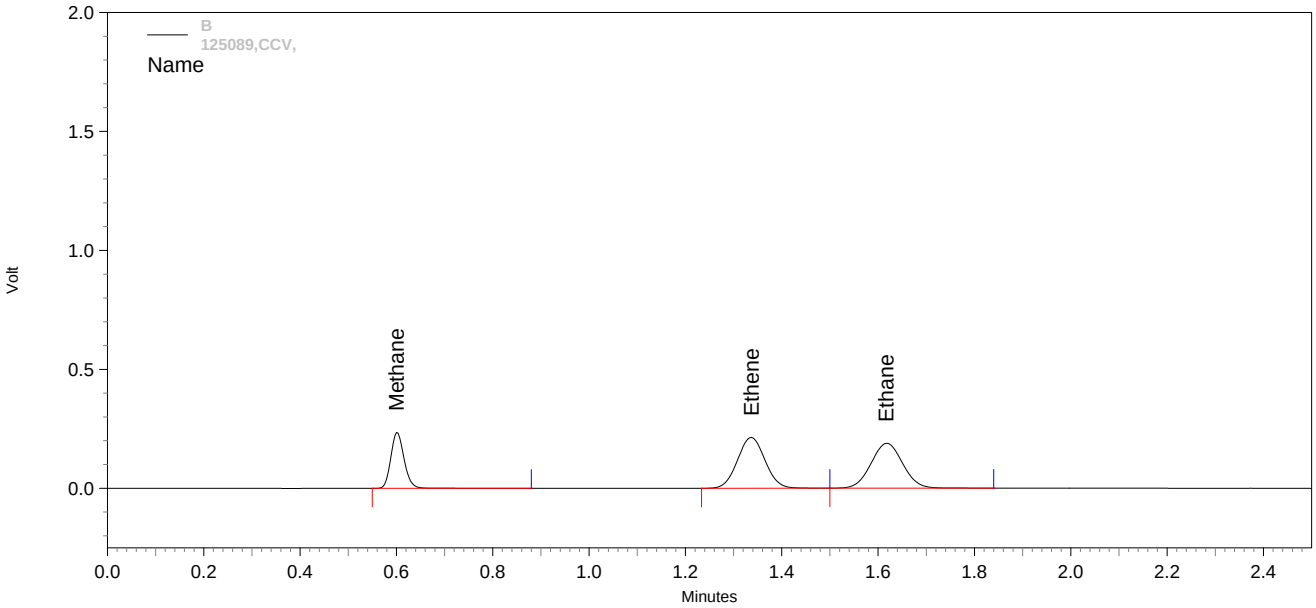
B

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
Methane	50.000	50.278	0.555	15.000	**Passed**
Ethene	50.000	51.240	2.479	15.000	**Passed**
Ethane	50.000	50.682	1.364	15.000	**Passed**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\042016\019.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 125089,CCV,
Acquired: Apr 20, 2016 12:04:51
File Desc. 250 uL of 200 ppmV Methane/Ethene/Ethane Gas Std



B Results

Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.600	449147	**50.278**
2	Ethene	1.337	845193	**51.240**
3	Ethane	1.617	856203	**50.682**

Totals			2150543	**152.199**

QC Check Standard Report

Sequence : C:\InStarch\PVOC4\Sequence\042016.seq
User : AMA
Printed : Apr 22, 2016 11:15:14

File	Sample ID	Acquired
C:\Instarch\PVOC4\Data\042016\030.dat	125091,CCV,	Apr 22, 2016 11:15:14

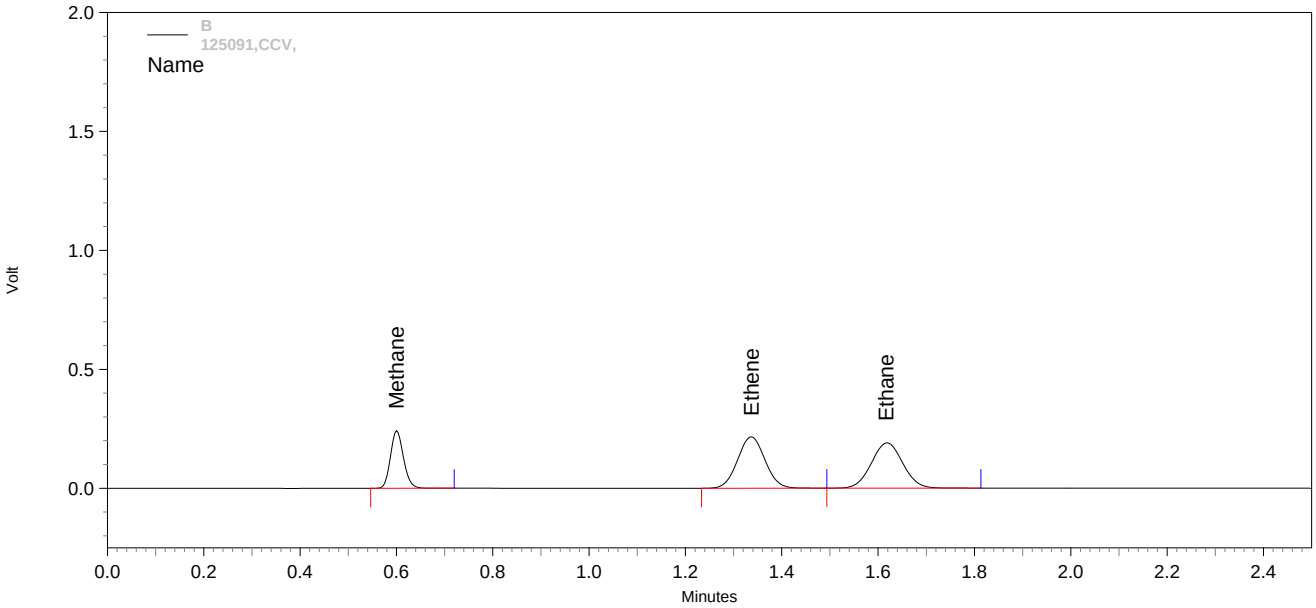
B

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
Methane	50.000	50.842	1.684	15.000	**Passed**
Ethene	50.000	51.519	3.038	15.000	**Passed**
Ethane	50.000	50.923	1.846	15.000	**Passed**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\042016\030.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 125091,CCV,
Acquired: Apr 20, 2016 12:57:00
File Desc. 250 uL of 200 ppmV Methane/Ethene/Ethane Gas Std



B Results

Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.600	454181	**50.842**
2	Ethene	1.337	849817	**51.519**
3	Ethane	1.617	860319	**50.923**

Totals			2164317	**153.284**

VOLATILE ORGANIC ANALYSIS
QUALITY CONTROL
DOCUMENTS

Quantitation Report

Data File : C:\Instarch\Data\APR2116\CCV-LCS1.D Vial: 3
Acq On : 21 Apr 2016 9:37 Operator: RLD-AGK
Sample : 124904,LCSW, Inst : VMS4
Misc : 10.0/100 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 09:58:52 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:58:48 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.80	96	1611907	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.73	117	1293532	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	15.04	152	704255	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.96	113	428543	19.547	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 98 %			
45) SURR12DCAd4	7.37	102	106986	20.379	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 102 %			
61) SURRd8Tolule	9.80	98	1540606	20.065	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100 %			
83) SURR4BrFBenz	13.38	95	594701	19.756	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 99 %			
Target Compounds						Qvalue
2) Dichlorodi	1.88	85	231334	10.3210	ug/L	100
3) Chloromethan	2.13	50	226224	10.2872	ug/L	98
4) VinylChlorid	2.28	62	228336	10.7171	ug/L	99
5) Bromomethane	2.76	94	72621	11.0090	ug/L	97
6) Chloroethane	2.93	64	114573	10.4194	ug/L	94
7) Dichloroflmethane	3.25	67	267161	10.2985	ug/L	99
8) Trichlorofma	3.31	101	287599	10.5006	ug/L	95
9) Ethylether	3.76	59	154250	10.6659	ug/L	90
10) dichlorotfluoroethan	3.79	67	193807	10.5491	ug/L	97
11) propyleneoxide	3.83	58	428919	102.0174	ug/L	97
12) Acrolein	3.92	56	114701	55.1214	ug/L	96
13) 11dichlorthe	4.05	96	160018	10.3852	ug/L	100
14) Trichlorotfluoroeth	4.07	101	353701	21.0461	ug/L	99
15) Acetone	4.14	43	1256616	113.7247	ug/L	100
16) Iodomethane	4.24	142	314825	22.7377	ug/L	98
17) Carbon Dislf	4.32	76	870862	20.6344	ug/L	100
18) allylchloride	4.55	41	490832	20.0104	ug/L	99
19) methylacetate	4.61	74	44202	9.6692	ug/L	96
20) Methylchlorid	4.71	84	170828	9.5228	ug/L	97
21) tbutylalcohol	4.92	59	1080398	486.7208	ug/L	99
22) Acrylonitrile	5.05	53	416521	50.4906	ug/L	99
23) t12dichlorte	5.08	96	171569	10.1579	ug/L	96
24) MtBE	5.10	73	490048	10.3522	ug/L	98
25) Hexane	5.45	57	441994	20.6771	ug/L	99
26) 11dichlorota	5.62	63	309860	10.2755	ug/L	99
27) Vinylacetate	5.71	43	3446461	107.5918	ug/L	100
28) chloroprene	5.74	53	651705	21.9643	ug/L	99
29) Diisopether	5.74	45	621981	10.4157	ug/L	100
30) ETBE	6.20	59	529092	10.2316	ug/L	100
31) 22dichloropr	6.35	77	237670	10.7704	ug/L	99
32) c12dichlorte	6.36	96	185976	10.2840	ug/L	95
33) 2Butanone	6.39	72	325708	112.5924	ug/L	95
34) propionitrile	6.45	54	335593	99.7545	ug/L	96
35) Ethylacetate	6.48	88	41025	52.1953	ug/L #	85
36) methacrylonitrile	6.64	67	167467	20.9762	ug/L	100
37) Bromochlorma	6.65	128	91282	10.4693	ug/L	94
38) Tetrahydofur	6.72	42	735023	100.9151	ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\Instarch\Data\APR2116\CCV-LCS1.D Vial: 3
Acq On : 21 Apr 2016 9:37 Operator: RLD-AGK
Sample : 124904,LCSW, Inst : VMS4
Misc : 10.0/100 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 09:58:52 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:58:48 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39) Chloroform	6.76	83	306511	10.3253 ug/L	100
40) 111trichlota	6.99	97	273754	10.3189 ug/L	99
42) Cyclohexane	7.05	56	321686	10.3998 ug/L	97
43) Carbtetraclo	7.20	119	216632	9.9729 ug/L	99
44) 11dicloprope	7.19	110	91629	10.7037 ug/L	99
46) Benzene	7.45	78	664846	10.2141 ug/L	99
47) 12dichlorota	7.47	62	251926	9.8847 ug/L	97
48) TAME	7.60	73	466769	9.9403 ug/L	99
49) trichloroete	8.25	95	182292	10.0229 ug/L	96
50) methylcyclohexane	8.50	83	289504	10.5388 ug/L	99
51) 12dicloropra	8.53	63	178576	9.9897 ug/L	100
52) 23Dicl1propene	8.59	75	269074	10.2206 ug/L	98
53) Dibromometha	8.68	93	107312	9.7590 ug/L	94
54) methylmethacrylate	8.68	69	124615	9.6688 ug/L	97
55) 14dioxane	8.71	88	123904	489.2200 ug/L	98
56) Bromodiclrma	8.88	83	215311	9.6821 ug/L	99
57) 2Nitropropane	9.16	43	447474	75.0149 ug/L	99
58) 2CLEVE	9.26	63	630442	51.7028 ug/L	98
59) c13dicloproe	9.46	75	256953	10.1527 ug/L	99
60) 4Meth2Pentan	9.65	43	2281827	105.8375 ug/L	99
62) Toluene	9.89	92	434023	10.1903 ug/L	100
63) t13Dicloprop	10.17	75	215531	9.9326 ug/L	98
64) ethylmethacrylate	10.30	69	437024	20.0158 ug/L	100
65) 112Triclotha	10.41	83	128224	10.1106 ug/L	99
66) Tetrachlorte	10.62	166	231106	10.3405 ug/L	97
67) 13Diclorpropa	10.64	76	253937	9.9945 ug/L	99
69) 2Hexanone	10.75	43	1969673	118.8537 ug/L	99
70) Clorodibrmta	10.94	129	167556	9.4491 ug/L	98
71) 12Dibrometha	11.09	107	167885	10.1484 ug/L	97
72) Chlorobenzen	11.77	112	491229	10.3152 ug/L	99
73) 1Clhexane	11.73	91	254499	10.3051 ug/L	99
74) 1112Tetclota	11.88	131	160738	10.0773 ug/L	98
75) Ethylbenzene	11.92	91	834793	10.5434 ug/L	99
76) m p-Xylene	12.09	106	651464	20.6421 ug/L	97
77) o-Xylene	12.64	106	315993	10.2867 ug/L	98
78) Styrene	12.65	104	507172	10.2782 ug/L	97
79) Bromoform	12.91	173	117917	8.7777 ug/L	99
80) Isopropylben	13.16	105	844921	10.6247 ug/L	99
81) cyclohexanone	13.28	55	146504	194.7584 ug/L	97
84) Bromobenzene	13.58	156	238200	10.2853 ug/L	99
85) 1122Tetrclta	13.57	83	215483	10.1106 ug/L	96
86) 123Triclproa	13.63	75	257713	10.3860 ug/L	92
87) 14dichloro2butene	13.66	53	63666	10.2400 ug/L	97
88) n-Propylbenz	13.75	91	974048	10.9209 ug/L	99
89) 2chlorotolue	13.87	91	571748	10.5914 ug/L	99
90) 4chlorotolue	14.02	91	669532	10.6098 ug/L	98
91) 135Trimebenz	14.00	105	681062	10.7387 ug/L	99
92) tbutylbenzen	14.47	119	623685	10.8644 ug/L	99
93) 124Trimetben	14.54	105	672222	10.7050 ug/L	100
94) sbutylbenzen	14.79	105	897845	10.7746 ug/L	98
95) 13Diclorbenz	14.94	146	427278	10.4653 ug/L	100
96) pIsopropylto	15.01	119	747681	10.8358 ug/L	100
97) 14dichlorobe	15.07	146	424340	10.2944 ug/L	99
98) 12dichlorobe	15.61	146	388664	10.1985 ug/L	99
99) nButylbenzen	15.60	91	654815	10.5445 ug/L	99
100) 12dibromo3cl	16.72	157	43210	9.1346 ug/L	98
101) 135Trichlorobenzene	17.03	180	332379	10.2749 ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\Instarch\Data\APR2116\CCV-LCS1.D Vial: 3
Acq On : 21 Apr 2016 9:37 Operator: RLD-AGK
Sample : 124904,LCSW, Inst : VMS4
Misc : 10.0/100 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 09:58:52 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:58:48 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.84	180	258942	9.8719	ug/L	96
103) Hexachlorobu	18.07	225	167106	11.2446	ug/L	95
104) Naphthalene	18.15	128	493030	10.0515	ug/L	100
105) 123Trichlben	18.46	180	213418	9.7766	ug/L	98

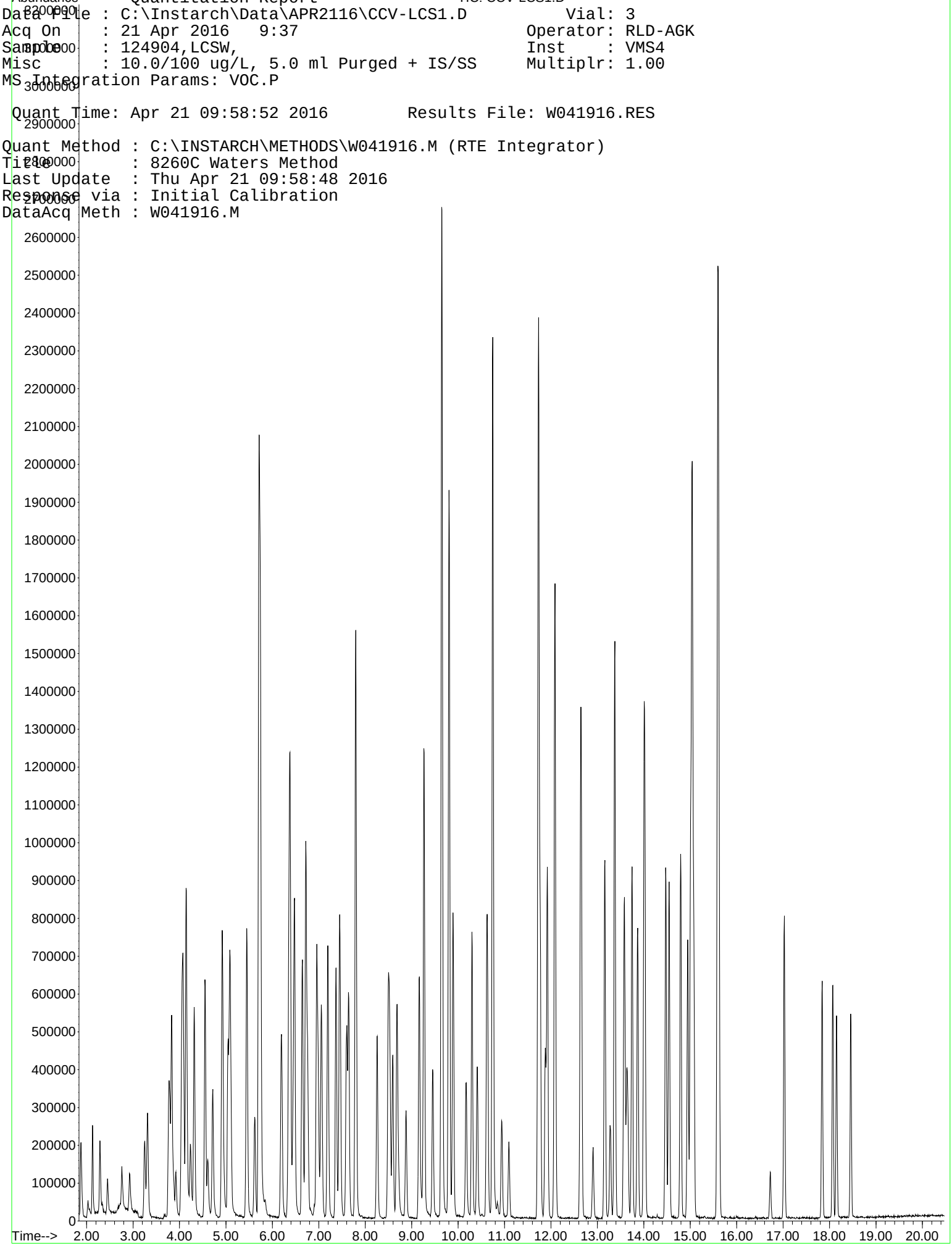
(#) = qualifier out of range (m) = manual integration

Quantitation Report (TIC: CCV-LCS1.D)

Data File : C:\Instarch\Data\APR2116\CCV-LCS1.D Vial: 3
Acq On : 21 Apr 2016 9:37 Operator: RLD-AGK
Sample : 124904,LCSW, Inst : VMS4
Misc : 10.0/100 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 09:58:52 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:58:48 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M



Quantitation Report

Data File : C:\INSTARCH\DATA\APR2116\MB1.D Vial: 5
Acq On : 21 Apr 2016 10:33 Operator: RLD-AGK
Sample : 124904,MBW, Inst : VMS4
Misc : pH<2, 5.0 ml DI H2O Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 10:54:11 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:59:39 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.80	96	1486042	20.00 ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.73	117	1207436	20.00 ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	15.04	152	641227	20.00 ug/L	0.00 NA%
System Monitoring Compounds					
41) SURRDibrflma	6.96	113	398164	19.699 ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 98 %		
45) SURR12DCAd4	7.37	102	96610	19.961 ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 100 %		
61) SURRd8Tolule	9.80	98	1443332	20.390 ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 102 %		
83) SURR4BrFBenz	13.38	95	540732	19.729 ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 99 %		
Target Compounds					Qvalue
2) Dichlorodi	0.00	85	0	N.D.	
3) Chloromethan	2.13	50	2523	N.D.	
4) VinylChlorid	0.00	62	0	N.D.	
5) Bromomethane	2.73	94	1221	N.D.	
6) Chloroethane	2.92	64	3165	N.D.	
7) Dichloroflmethane	0.00	67	0	N.D.	
8) Trichlorofma	0.00	101	0	N.D.	
9) Ethylether	0.00	59	0	N.D.	
10) dichlorotfluoroethan	0.00	67	0	N.D.	
11) propyleneoxide	0.00	58	0	N.D.	
12) Acrolein	0.00	56	0	N.D.	
13) 11dichlorthe	0.00	96	0	N.D.	
14) Trichlorotfluoroeth	0.00	101	0	N.D.	
15) Acetone	4.15	43	26146	N.D.	
16) Iodomethane	4.24	142	3025	2.6624 ug/L #	89
17) Carbon Dislf	4.32	76	3428	N.D.	
18) allylchloride	4.54	41	2508	N.D.	
19) methylacetate	0.00	74	0	N.D.	
20) Methylchlorid	4.71	84	1223	N.D.	
21) tbutylalcohol	4.94	59	2675	N.D.	
22) Acrylonitrile	0.00	53	0	N.D.	
23) t12dichlorte	0.00	96	0	N.D.	
24) MtBE	0.00	73	0	N.D.	
25) Hexane	0.00	57	0	N.D.	
26) 11dichlorota	0.00	63	0	N.D.	
27) Vinylacetate	0.00	43	0	N.D.	
28) chloroprene	0.00	53	0	N.D.	
29) Diisopether	0.00	45	0	N.D.	
30) ETBE	0.00	59	0	N.D.	
31) 22dichloropr	0.00	77	0	N.D.	
32) c12dichlorte	0.00	96	0	N.D.	
33) 2Butanone	0.00	72	0	N.D.	
34) propionitrile	0.00	54	0	N.D.	
35) Ethylacetate	0.00	88	0	N.D.	
36) methacrylonitrile	0.00	67	0	N.D.	
37) Bromochlorma	0.00	128	0	N.D.	
38) Tetrahydofur	6.74	42	1557	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\APR2116\MB1.D Vial: 5
Acq On : 21 Apr 2016 10:33 Operator: RLD-AGK
Sample : 124904,MBW, Inst : VMS4
Misc : pH<2, 5.0 ml DI H2O Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 10:54:11 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:59:39 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	0.00	119	0	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	0.00	78	0	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	0.00	95	0	N.D.	
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	0.00	92	0	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	10.76	43	1940	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	11.74	91	2762	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	0.00	106	0	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	13.36	55	1597	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	14.47	119	1413	N.D.	
93)	124Trimetben	0.00	105	0	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	14.95	146	1030	N.D.	
96)	pIsopropylto	15.01	119	1681	N.D.	
97)	14dichlorobe	15.08	146	1001	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	15.59	91	2500	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	17.03	180	1242	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\APR2116\MB1.D Vial: 5
Acq On : 21 Apr 2016 10:33 Operator: RLD-AGK
Sample : 124904,MBW, Inst : VMS4
Misc : pH<2, 5.0 ml DI H2O Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 10:54:11 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:59:39 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	18.07	225	1011	N.D.	
104) Naphthalene	18.15	128	2913	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

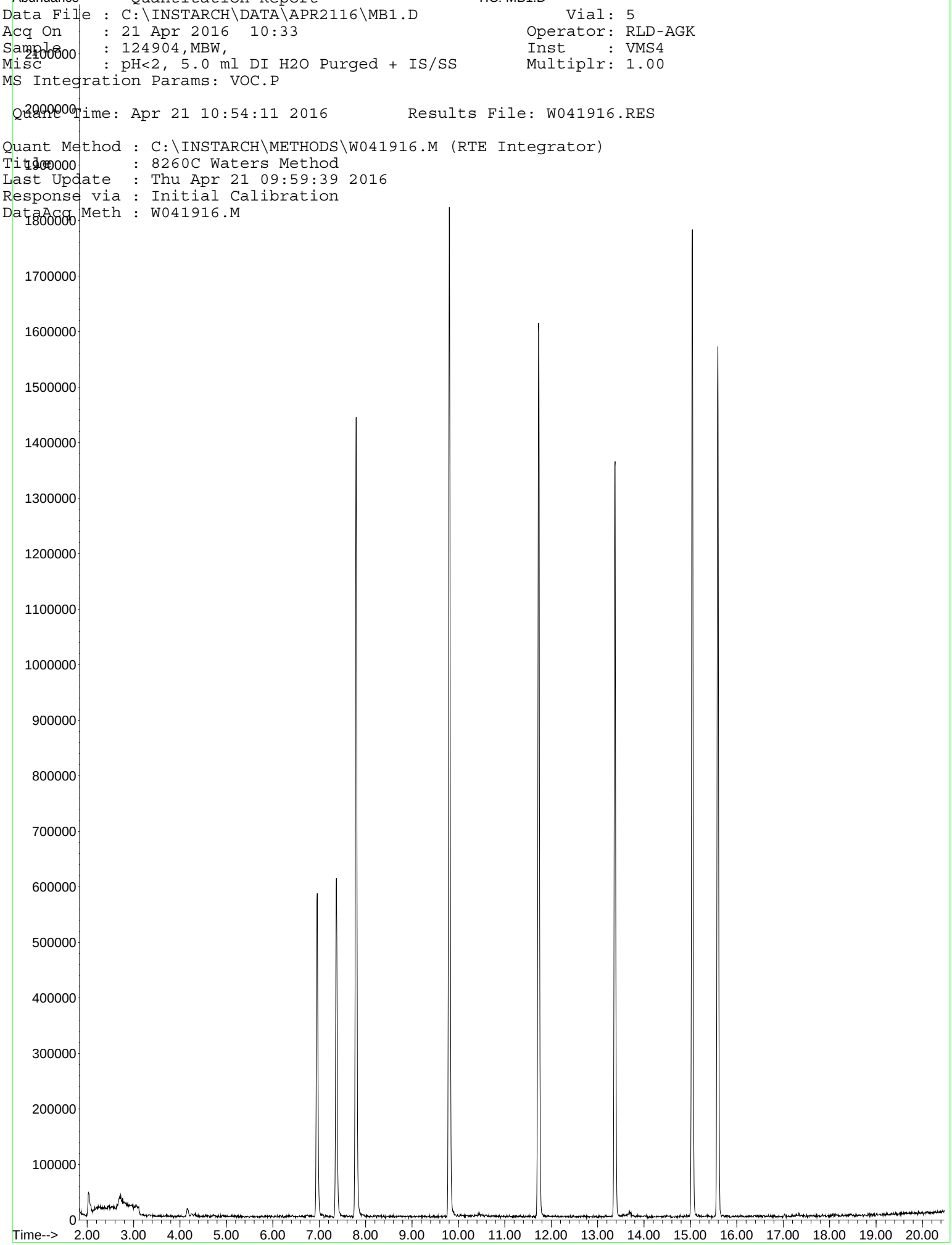
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: MB1.D

Data File : C:\INSTARCH\DATA\APR2116\MB1.D Vial: 5
Acq On : 21 Apr 2016 10:33 Operator: RLD-AGK
Sample : 124904,MBW, Inst : VMS4
Misc : pH<2, 5.0 ml DI H2O Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 10:54:11 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:59:39 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M



Quantitation Report

Data File : C:\INSTARCH\DATA\APR2116\707513MS.D Vial: 21
Acq On : 21 Apr 2016 18:05 Operator: RLD-AGK
Sample : 124904,MSW707513, Inst : VMS4
Misc : pH<2, 10.0/100, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 18:25:51 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:59:39 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.80	96	1489703	20.00 ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.73	117	1192523	20.00 ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	15.04	152	652142	20.00 ug/L	0.00 NA%
System Monitoring Compounds					
41) SURRDibrflma	6.95	113	411888	20.328 ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 102 %		
45) SURR12DCAd4	7.37	102	95873	19.760 ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 99 %		
61) SURRd8Tolule	9.80	98	1417207	19.972 ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100 %		
83) SURR4BrFBenz	13.37	95	543335	19.492 ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 97 %		
Target Compounds					Qvalue
2) Dichlorodi	1.88	85	231509	11.1761 ug/L	100
3) Chloromethan	2.13	50	204673	10.0707 ug/L	99
4) VinylChlorid	2.29	62	227779	11.5679 ug/L	94
5) Bromomethane	2.77	94	75959	12.4596 ug/L	91
6) Chloroethane	2.92	64	119752	11.7837 ug/L	99
7) Dichloroflmethane	3.25	67	263207	10.9784 ug/L	98
8) Trichlorofma	3.31	101	303987	12.0094 ug/L	99
9) Ethylether	3.76	59	126310	9.4504 ug/L	95
10) dichlorotfluoroethan	3.79	67	188470	11.1002 ug/L	96
11) propyleneoxide	3.77	58	1915	N.D.	
12) Acrolein	3.92	56	169703	88.2436 ug/L	98
13) 11dichlorthe	4.05	96	159065	11.1702 ug/L	100
14) Trichlorotfluoroeth	4.08	101	362692	23.3515 ug/L	99
15) Acetone	4.15	43	617576	60.4760 ug/L	98
16) Iodomethane	4.24	142	166289	14.1056 ug/L	98
17) Carbon Dislf	4.32	76	849098	21.7692 ug/L	98
18) allylchloride	4.55	41	454725	20.0591 ug/L	98
19) methylacetate	4.62	74	40964	9.6959 ug/L	98
20) Methylchlorid	4.72	84	160784	9.6981 ug/L	99
21) tbutylalcohol	4.92	59	954092	465.0789 ug/L	98
22) Acrylonitrile	5.04	53	353443	46.3589 ug/L	98
23) t12dichlorte	5.08	96	168307	10.7822 ug/L	97
24) MtBE	5.10	73	427775	9.7780 ug/L	100
25) Hexane	5.45	57	439976	22.2712 ug/L	99
26) 11dichlorota	5.62	63	291338	10.4538 ug/L	99
27) Vinylacetate	5.71	43	3322538	112.2318 ug/L	100
28) chloroprene	5.74	53	634560	23.1409 ug/L	99
29) Diisopether	5.74	45	564986	10.2374 ug/L	98
30) ETBE	6.20	59	459488	9.6145 ug/L	100
31) 22dichloropr	6.36	77	208898	10.2431 ug/L	98
32) c12dichlorte	6.36	96	178966	10.7082 ug/L	99
33) 2Butanone	6.38	72	222305	83.1515 ug/L	95
34) propionitrile	6.45	54	294050	94.5761 ug/L	97
35) Ethylacetate	6.48	88	33327	45.8795 ug/L #	88
36) methacrylonitrile	6.64	67	147709	20.0191 ug/L	99
37) Bromochlorma	6.66	128	82560	10.2457 ug/L	96
38) Tetrahydofur	6.72	42	608901	90.4570 ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\APR2116\707513MS.D Vial: 21
Acq On : 21 Apr 2016 18:05 Operator: RLD-AGK
Sample : 124904,MSW707513, Inst : VMS4
Misc : pH<2, 10.0/100, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 18:25:51 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:59:39 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	6.76	83	509159	18.5589 ug/L	100
40)	111trichlota	6.98	97	266715	10.8783 ug/L	97
42)	Cyclohexane	7.05	56	308113	10.7781 ug/L	94
43)	Carbtetraclo	7.19	119	1700079	84.6857 ug/L	99
44)	11dicloprope	7.19	110	84116	10.6322 ug/L	94
46)	Benzene	7.44	78	638430	10.6129 ug/L	100
47)	12dichlorota	7.46	62	242360	10.2894 ug/L	99
48)	TAME	7.60	73	398975	9.1935 ug/L	85
49)	trichloroete	8.25	95	352138	20.9498 ug/L	98
50)	methylcyclohexane	8.50	83	284662	11.2126 ug/L	99
51)	12dicloropra	8.53	63	171628	10.3886 ug/L	93
52)	23Dicl1propene	8.59	75	244624	10.0542 ug/L	98
53)	Dibromometha	8.68	93	104866	10.3188 ug/L	97
54)	methylmethacrylate	8.69	69	108485	9.1077 ug/L	97
55)	14dioxane	8.72	88	95071	406.1694 ug/L	95
56)	Bromodiclrma	8.88	83	204522	9.9514 ug/L	98
57)	2Nitropropane	9.16	43	428763	77.3971 ug/L	97
58)	2CLEVE	9.28	63	2689	N.D.	
59)	c13dicloproe	9.45	75	227987	9.7471 ug/L	98
60)	4Meth2Pentan	9.65	43	2038010	102.2830 ug/L	99
62)	Toluene	9.89	92	414652	10.5341 ug/L	99
63)	t13Dicloprop	10.17	75	187746	9.3619 ug/L	96
64)	ethylmethacrylate	10.30	69	398076	19.7276 ug/L	98
65)	112Triclotha	10.41	83	112296	9.5810 ug/L	96
66)	Tetrachlorte	10.62	166	229793	11.1252 ug/L	98
67)	13Diclorpropa	10.64	76	233109	9.9274 ug/L	99
69)	2Hexanone	10.75	43	1534257	100.4216 ug/L	100
70)	Clorodibrmta	10.94	129	158280	9.6821 ug/L	99
71)	12Dibrometha	11.10	107	153218	10.0463 ug/L	100
72)	Chlorobenzen	11.77	112	462448	10.5333 ug/L	98
73)	1Clhexane	11.74	91	236252	10.3765 ug/L	98
74)	1112Tetclota	11.88	131	152558	10.3746 ug/L	98
75)	Ethylbenzene	11.92	91	793075	10.8649 ug/L	99
76)	m p-Xylene	12.09	106	632397	21.7352 ug/L	100
77)	o-Xylene	12.64	106	299373	10.5712 ug/L	98
78)	Styrene	12.65	104	483838	10.6358 ug/L	97
79)	Bromoform	12.90	173	110313	8.9072 ug/L	98
80)	Isopropylben	13.16	105	809455	11.0409 ug/L	98
81)	cyclohexanone	13.28	55	130482	188.1515 ug/L	98
84)	Bromobenzene	13.58	156	226847	10.5778 ug/L	93
85)	1122Tetrclta	13.57	83	200420	10.1553 ug/L	96
86)	123Triclproa	13.64	75	215555	9.3811 ug/L	98
87)	14dichloro2butene	13.66	53	37965	6.5942 ug/L	95
88)	n-Propylbenz	13.75	91	915175	11.0807 ug/L	99
89)	2chlorotolue	13.87	91	529028	10.5832 ug/L	99
90)	4chlorotolue	14.02	91	626517	10.7215 ug/L	98
91)	135Trimebenz	14.00	105	638169	10.8665 ug/L	100
92)	tbutylbenzen	14.47	119	591258	11.1226 ug/L	98
93)	124Trimetben	14.54	105	613614	10.5525 ug/L	97
94)	sbutylbenzen	14.79	105	875298	11.3434 ug/L	100
95)	13Diclorbenz	14.95	146	400686	10.5982 ug/L	97
96)	pIsopropylto	15.01	119	718293	11.2417 ug/L	100
97)	14dichlorobe	15.07	146	394931	10.3465 ug/L	99
98)	12dichlorobe	15.62	146	360967	10.2286 ug/L	99
99)	nButylbenzen	15.61	91	633301	11.0130 ug/L	100
100)	12dibromo3cl	16.72	157	40176	9.1683 ug/L	96
101)	135Trichlorobenzene	17.03	180	307191	10.2551 ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report
Data File : C:\INSTARCH\DATA\APR2116\707513MS.D Vial: 21
Acq On : 21 Apr 2016 18:05 Operator: RLD-AGK
Sample : 124904,MSW707513, Inst : VMS4
Misc : pH<2, 10.0/100, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 18:25:51 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:59:39 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

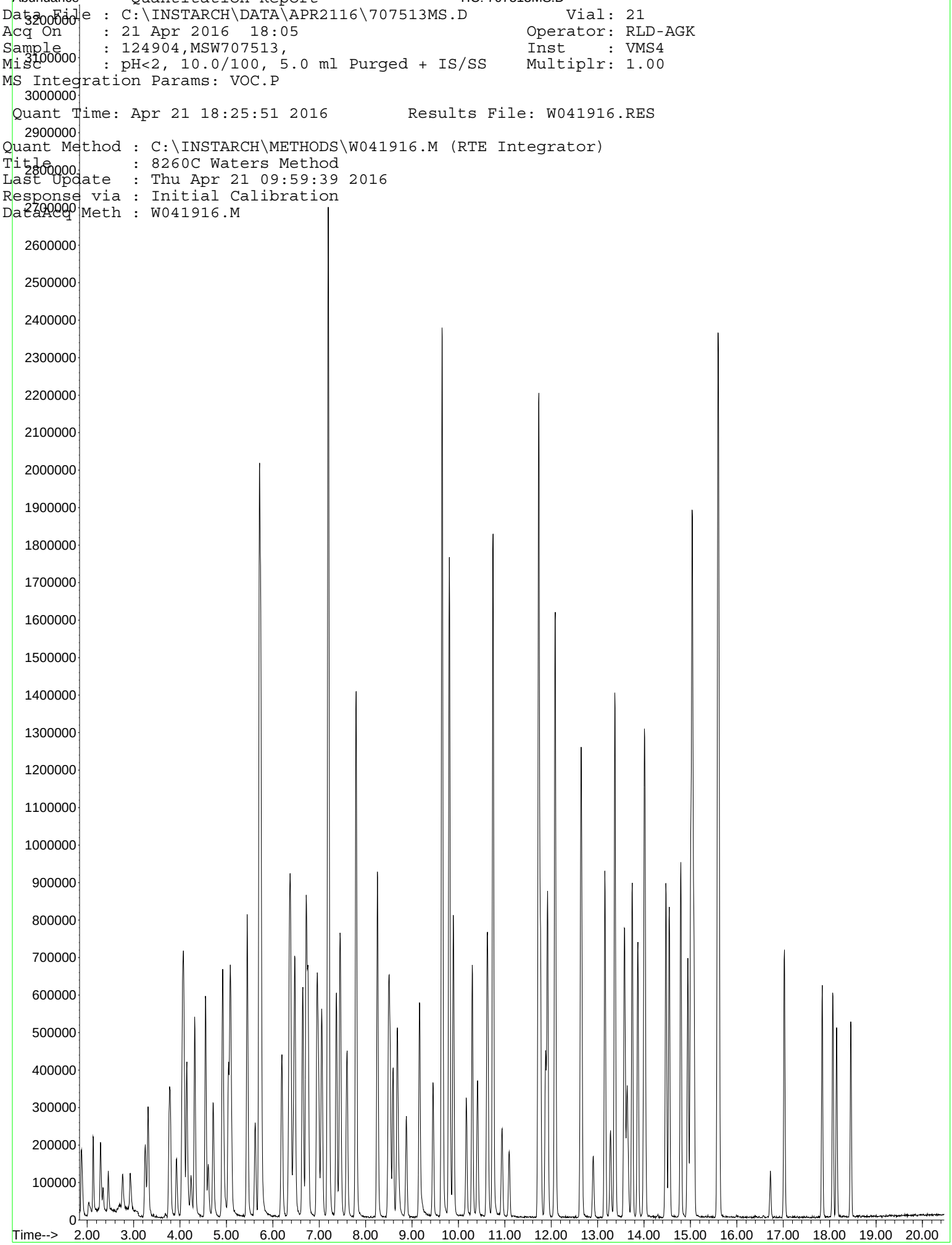
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.84	180	244553	10.0684	ug/L	97
103) Hexachlorobu	18.07	225	156934	11.4040	ug/L	97
104) Naphthalene	18.15	128	469865	10.3448	ug/L	99
105) 123Trichlben	18.46	180	209665	10.3722	ug/L	98

(#) = qualifier out of range (m) = manual integration
707513MS.D W041916.M Mon Apr 25 15:01:52 2016

Data File : C:\INSTARCH\DATA\APR2116\707513MS.D Vial: 21
Acq On : 21 Apr 2016 18:05 Operator: RLD-AGK
Sample : 124904,MSW707513, Inst : VMS4
Misc : pH<2, 10.0/100, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 18:25:51 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:59:39 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M



Quantitation Report

Data File : C:\INSTARCH\DATA\APR2116\707513SD.D Vial: 22
Acq On : 21 Apr 2016 18:33 Operator: RLD-AGK
Sample : 124904,MSDW707513, Inst : VMS4
Misc : pH<2, 10.0/100, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 18:54:17 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:59:39 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.80	96	1475172	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.73	117	1191482	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	15.04	152	645667	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.96	113	413499	20.609	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 103	%		
45) SURR12DCAd4	7.37	102	100102	20.835	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 104	%		
61) SURRd8Tolule	9.80	98	1423572	20.259	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101	%		
83) SURR4BrFBenz	13.38	95	538910	19.528	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 98	%		
Target Compounds						Qvalue
2) Dichlorodi	1.87	85	207167	10.0995	ug/L	99
3) Chloromethan	2.13	50	187523	9.3177	ug/L	100
4) VinylChlorid	2.29	62	204504	10.4882	ug/L	94
5) Bromomethane	2.76	94	70324	11.6489	ug/L	94
6) Chloroethane	2.93	64	104926	10.4265	ug/L	96
7) Dichloroflmethane	3.25	67	227957	9.6018	ug/L	98
8) Trichlorofma	3.31	101	249294	9.9457	ug/L	97
9) Ethylether	3.76	59	111400	8.4169	ug/L	96
10) dichlorotfluoroethan	3.79	67	165031	9.8154	ug/L	98
11) propyleneoxide	3.76	58	2037	N.D.		
12) Acrolein	3.93	56	150003	78.7681	ug/L	98
13) 11dichlorthe	4.05	96	138654	9.8327	ug/L	99
14) Trichlorotfluoroeth	4.07	101	307939	20.0216	ug/L	97
15) Acetone	4.15	43	544013	53.7971	ug/L	100
16) Iodomethane	4.24	142	191621	15.9981	ug/L	99
17) Carbon Dislf	4.32	76	763075	19.7564	ug/L	100
18) allylchloride	4.55	41	404142	18.0034	ug/L	96
19) methylacetate	4.62	74	34871	8.3350	ug/L	98
20) Methylchlorid	4.71	84	141516	8.6200	ug/L	99
21) tbutylalcohol	4.92	59	821713	404.4954	ug/L	98
22) Acrylonitrile	5.05	53	317253	42.0220	ug/L	98
23) t12dichlorte	5.08	96	143917	9.3105	ug/L	98
24) MtBE	5.10	73	379703	8.7647	ug/L	99
25) Hexane	5.45	57	370103	18.9188	ug/L	99
26) 11dichlorota	5.63	63	249152	9.0282	ug/L	98
27) Vinylacetate	5.71	43	2918439	99.5528	ug/L	100
28) chloroprene	5.74	53	547085	20.1474	ug/L	97
29) Diisopether	5.73	45	494917	9.0561	ug/L	100
30) ETBE	6.20	59	405729	8.5732	ug/L	100
31) 22dichloropr	6.36	77	181631	8.9938	ug/L	97
32) c12dichlorte	6.36	96	158226	9.5605	ug/L	100
33) 2Butanone	6.39	72	198964	75.1541	ug/L	94
34) propionitrile	6.45	54	248192	80.6130	ug/L	100
35) Ethylacetate	6.48	88	29957	41.6465	ug/L #	84
36) methacrylonitrile	6.64	67	127810	17.4928	ug/L	99
37) Bromochlorma	6.65	128	72011	9.0246	ug/L	99
38) Tetrahydofur	6.72	42	541912	81.2983	ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\APR2116\707513SD.D Vial: 22
Acq On : 21 Apr 2016 18:33 Operator: RLD-AGK
Sample : 124904,MSDW707513, Inst : VMS4
Misc : pH<2, 10.0/100, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 18:54:17 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:59:39 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	6.76	83	469396	17.2780 ug/L	100
40)	111trichlota	6.99	97	225957	9.3067 ug/L	96
42)	Cyclohexane	7.05	56	271547	9.5926 ug/L	98
43)	Carbtetraclo	7.19	119	1650577	83.0298 ug/L	100
44)	11dicloprope	7.19	110	76179	9.7238 ug/L	97
46)	Benzene	7.45	78	558841	9.3813 ug/L	100
47)	12dichlorota	7.46	62	214746	9.2069 ug/L	97
48)	TAME	7.60	73	356004	8.2842 ug/L	84
49)	trichloroete	8.25	95	325605	19.5621 ug/L	99
50)	methylcyclohexane	8.50	83	244479	9.7247 ug/L	98
51)	12dicloropra	8.53	63	145789	8.9115 ug/L	100
52)	23Dicl1propene	8.59	75	215514	8.9450 ug/L	99
53)	Dibromometha	8.68	93	87479	8.6927 ug/L	92
54)	methylmethacrylate	8.69	69	97699	8.2830 ug/L	98
55)	14dioxane	8.71	88	79741	344.0312 ug/L	91
56)	Bromodiclrma	8.88	83	178837	8.7874 ug/L	98
57)	2Nitropropane	9.16	43	381030	70.5117 ug/L	98
58)	2CLEVE	9.28	63	1604	N.D.	
59)	c13dicloproe	9.45	75	196615	8.4887 ug/L	98
60)	4Meth2Pentan	9.65	43	1779953	90.2117 ug/L	99
62)	Toluene	9.89	92	364477	9.3506 ug/L	100
63)	t13Dicloprop	10.17	75	170513	8.5863 ug/L	99
64)	ethylmethacrylate	10.30	69	341849	17.1080 ug/L	99
65)	112Triclotha	10.41	83	105977	9.1309 ug/L	98
66)	Tetrachlorte	10.62	166	197381	9.6501 ug/L	98
67)	13Diclorpropa	10.64	76	209230	8.9982 ug/L	96
69)	2Hexanone	10.75	43	1319831	86.4623 ug/L	98
70)	Clorodibrmta	10.94	129	141204	8.6451 ug/L	99
71)	12Dibrometha	11.09	107	136551	8.9612 ug/L	100
72)	Chlorobenzen	11.77	112	405611	9.2468 ug/L	99
73)	1Clhexane	11.73	91	215217	9.4609 ug/L	96
74)	1112Tetclota	11.88	131	130119	8.8564 ug/L	98
75)	Ethylbenzene	11.92	91	692777	9.4991 ug/L	98
76)	m p-Xylene	12.09	106	541917	18.6417 ug/L	96
77)	o-Xylene	12.64	106	258019	9.1189 ug/L	100
78)	Styrene	12.65	104	418602	9.2098 ug/L	98
79)	Bromoform	12.91	173	96023	7.7602 ug/L	99
80)	Isopropylben	13.16	105	714849	9.7590 ug/L	99
81)	cyclohexanone	13.28	55	112778	162.7649 ug/L	98
84)	Bromobenzene	13.59	156	196459	9.2527 ug/L	96
85)	1122Tetrclta	13.56	83	172489	8.8277 ug/L	97
86)	123Triclproa	13.63	75	190417	8.3702 ug/L	95
87)	14dichloro2butene	13.67	53	34346	6.0255 ug/L	97
88)	n-Propylbenz	13.75	91	812457	9.9357 ug/L	99
89)	2chlorotolue	13.87	91	460694	9.3086 ug/L	100
90)	4chlorotolue	14.02	91	547624	9.4654 ug/L	98
91)	135Trimebenz	14.00	105	561224	9.6521 ug/L	97
92)	tbutylbenzen	14.47	119	522472	9.9271 ug/L	98
93)	124Trimetben	14.54	105	549490	9.5445 ug/L	97
94)	sbutylbenzen	14.79	105	771951	10.1044 ug/L	99
95)	13Diclorbenz	14.95	146	346674	9.2615 ug/L	97
96)	pIsopropylto	15.01	119	631877	9.9884 ug/L	100
97)	14dichlorobe	15.07	146	355749	9.4135 ug/L	98
98)	12dichlorobe	15.61	146	319851	9.1544 ug/L	99
99)	nButylbenzen	15.61	91	561843	9.8683 ug/L	98
100)	12dibromo3cl	16.72	157	36872	8.5622 ug/L	93
101)	135Trichlorobenzene	17.03	180	274563	9.2578 ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report
Data File : C:\INSTARCH\DATA\APR2116\707513SD.D Vial: 22
Acq On : 21 Apr 2016 18:33 Operator: RLD-AGK
Sample : 124904,MSDW707513, Inst : VMS4
Misc : pH<2, 10.0/100, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 18:54:17 2016 Results File: W041916.RES

Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:59:39 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M

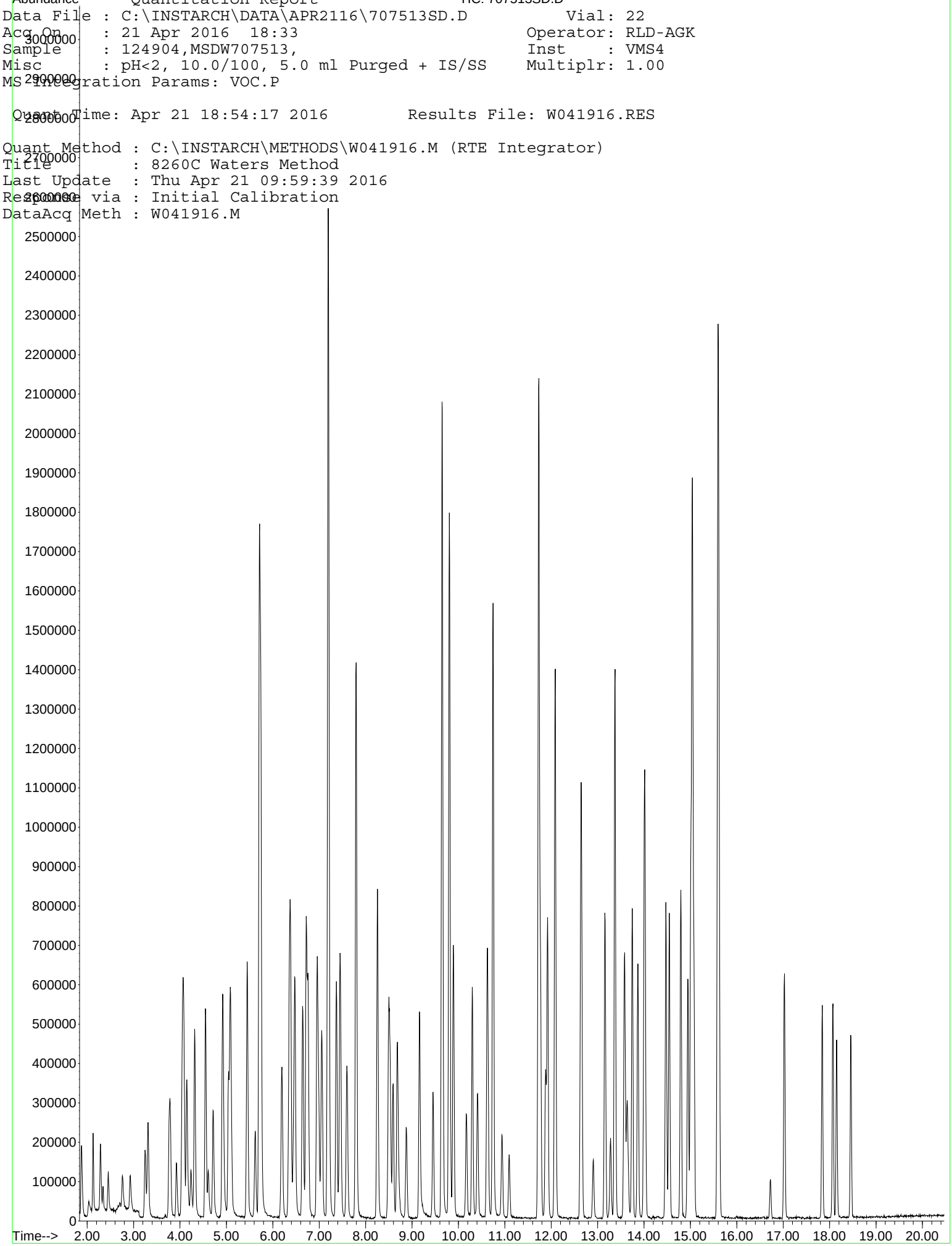
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.84	180	217874	9.0599	ug/L	95
103) Hexachlorobu	18.07	225	137112	10.0635	ug/L	99
104) Naphthalene	18.15	128	418222	9.3001	ug/L	99
105) 123Trichlben	18.46	180	190345	9.5109	ug/L	97

(#) = qualifier out of range (m) = manual integration

Data File : C:\INSTARCH\DATA\APR2116\707513SD.D Vial: 22
Acq On : 21 Apr 2016 18:33 Operator: RLD-AGK
Sample : 124904,MSDW707513, Inst : VMS4
Misc : pH<2, 10.0/100, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 21 18:54:17 2016 Results File: W041916.RES

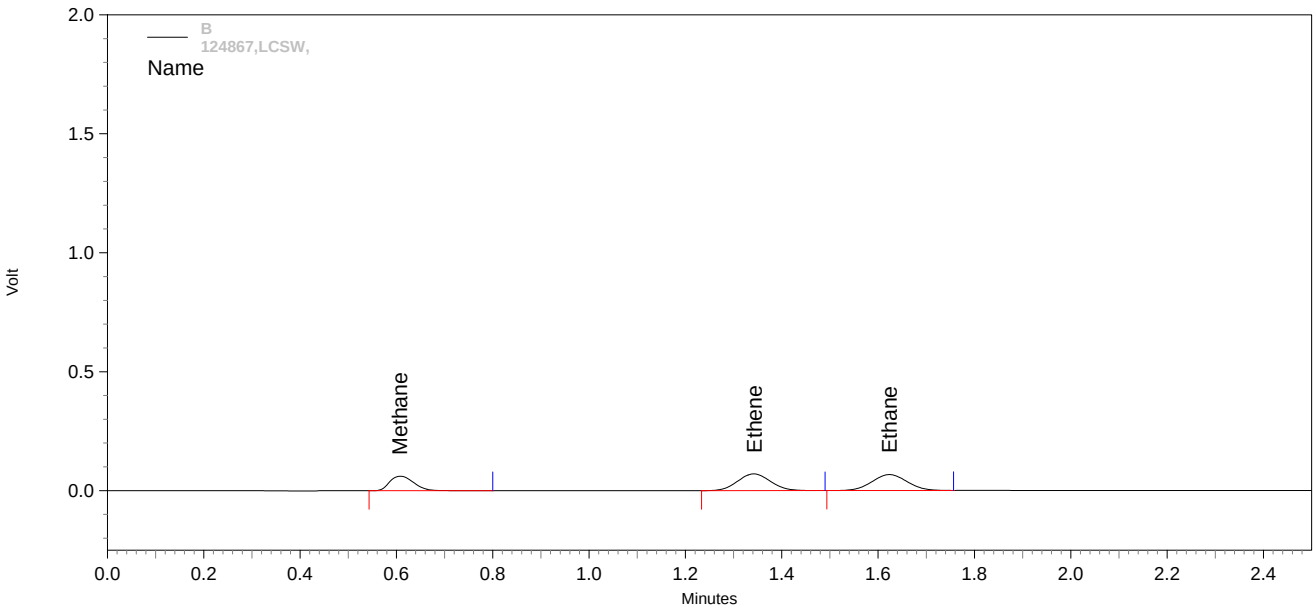
Quant Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 21 09:59:39 2016
Response via : Initial Calibration
DataAcq Meth : W041916.M



Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\041416\065.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 124867,LCSW,
Acquired: Apr 14, 2016 17:10:08
File Desc. Laboratory Control Sample - 25 ppmV
1.0 mL injection (Methane, Ethene, Ethane)



B Results

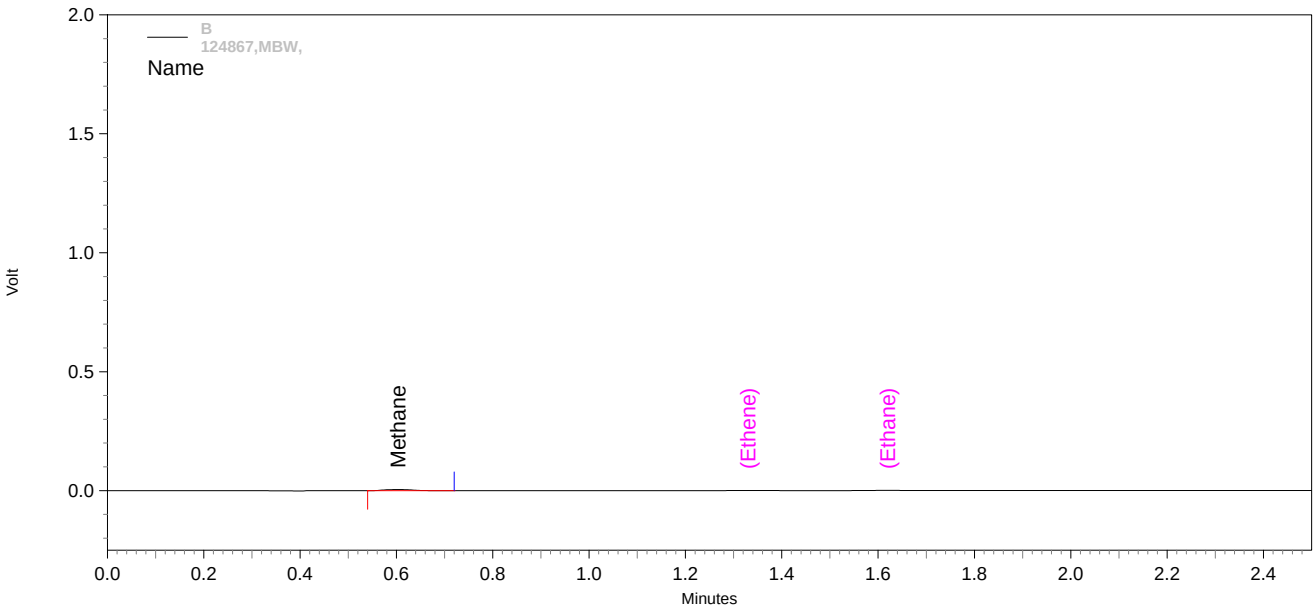
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.607	210677	**23.537**
2	Ethene	1.343	332158	**20.256**
3	Ethane	1.623	337164	**20.320**

Totals			879999	**64.114**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\041416\066.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 124867,MBW,
Acquired: Apr 14, 2016 17:14:17
File Desc. Method Blank
1mL injection (Methane, Ethene, Ethane)



B Results

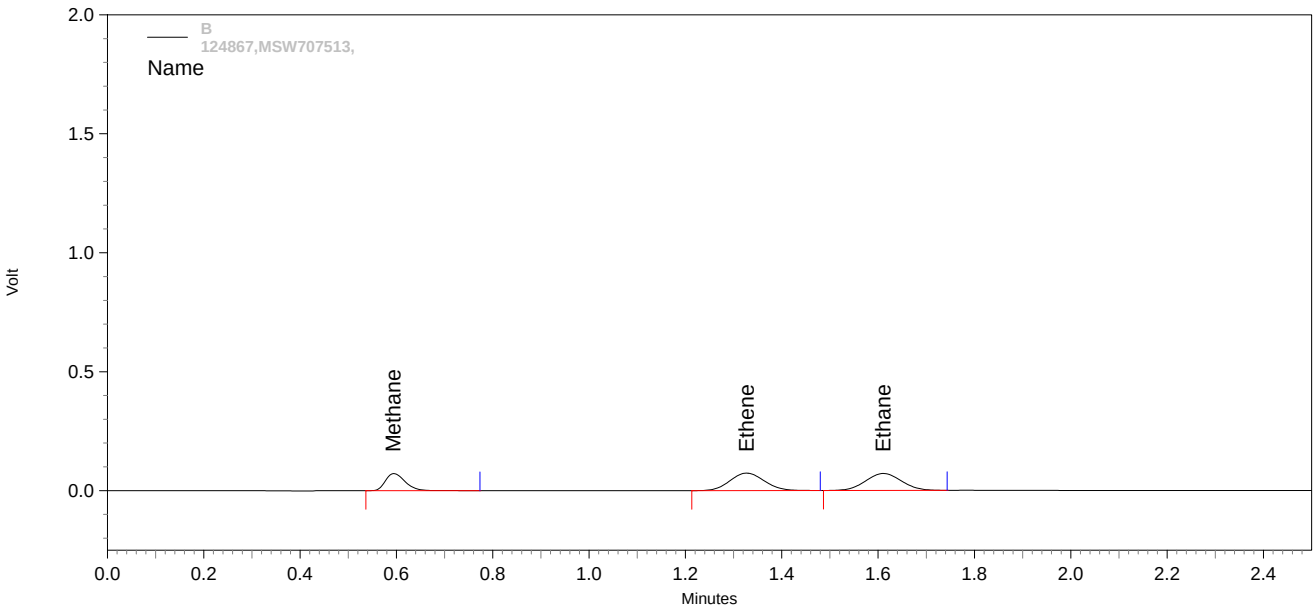
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.603	18154	**1.949**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			18154	**1.949**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\041416\071.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 124867,MSW707513,
Acquired: Apr 14, 2016 17:32:02
File Desc. Matrix Spike - 25 ppmV
1.0 mL injection (Methane, Ethene, Ethane)



B Results

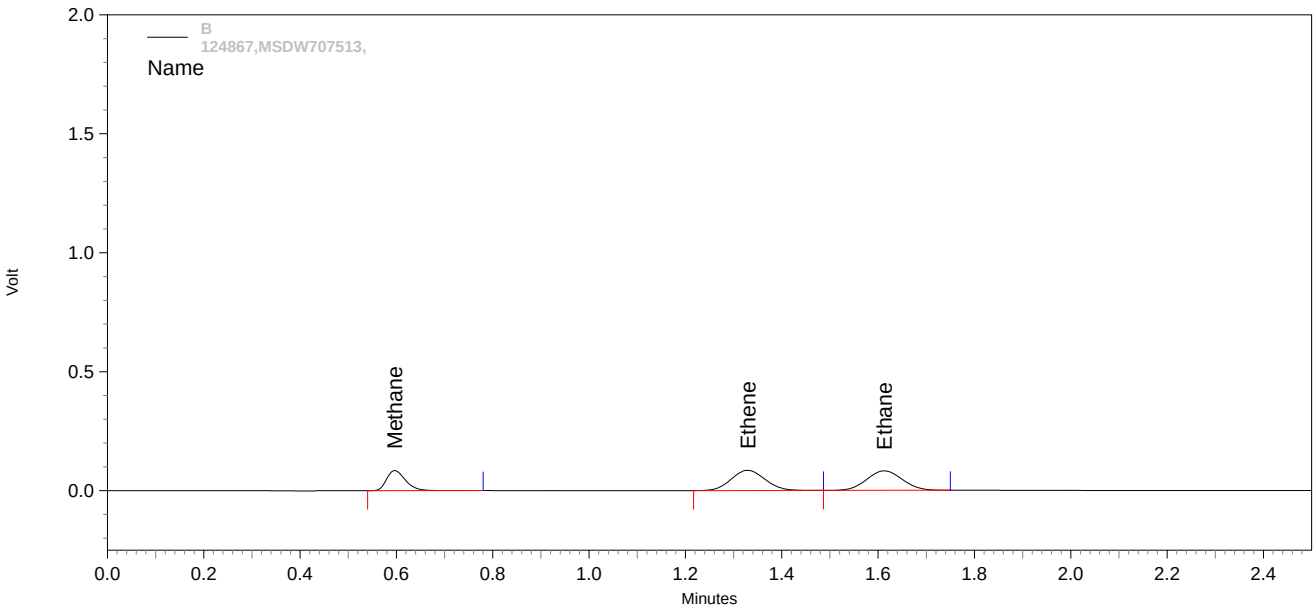
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.593	203933	**22.781**
2	Ethene	1.327	362264	**22.075**
3	Ethane	1.610	365958	**22.005**

Totals			932155	**66.860**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\041416\072.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 124867,MSDW707513,
Acquired: Apr 14, 2016 17:35:53
File Desc. Matrix Spike Duplicate- 25 ppmV
1.0 mL injection (Methane, Ethene, Ethane)



B Results

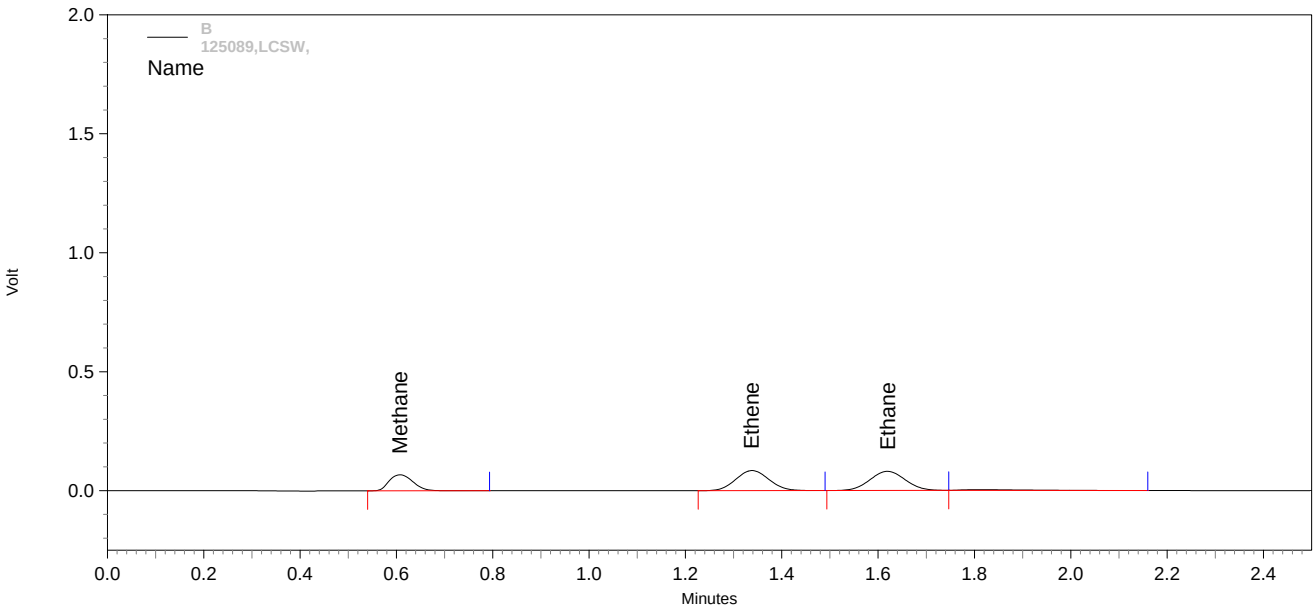
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.597	229805	**25.682**
2	Ethene	1.330	413975	**25.197**
3	Ethane	1.613	420253	**25.181**

Totals			1064033	**76.060**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\042016\009.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 125089,LCSW,
Acquired: Apr 20, 2016 10:55:57
File Desc. Laboratory Control Sample - 25 ppmV
1.0 mL injection (Methane, Ethene, Ethane)



B Results

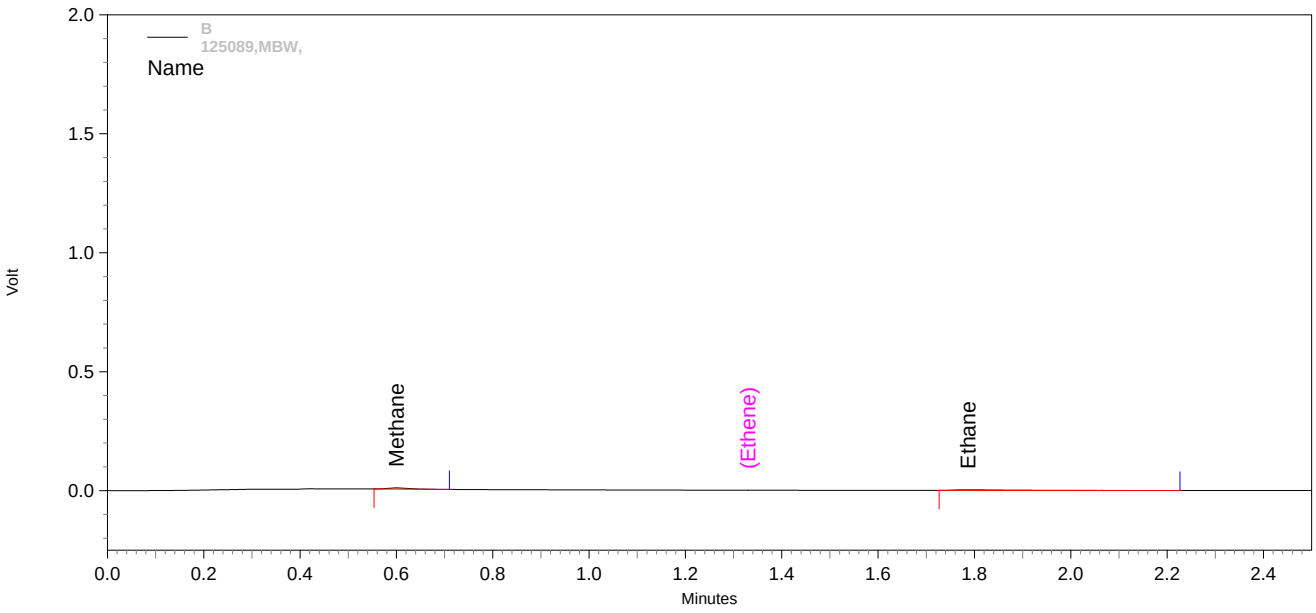
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.607	230574	**25.768**
2	Ethene	1.337	403098	**24.541**
3	Ethane	1.620	408181	**24.474**

Totals			1041853	**74.784**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\042016\010.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 125089,MBW,
Acquired: Apr 20, 2016 11:20:44
File Desc. Method Blank
1mL injection (Methane, Ethene, Ethane)



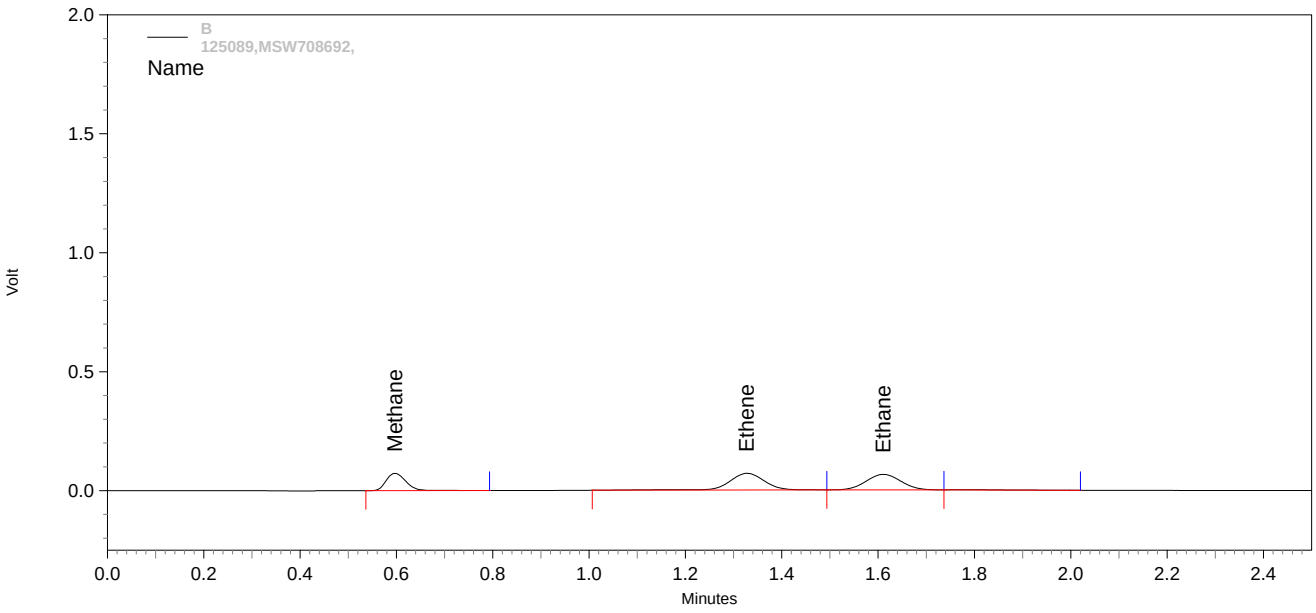
B Results

Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.600	15172	**1.615**
	Ethene			**0.000 BDL**
2	Ethane	1.787	19973	**1.766**
Totals			35145	**3.381**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\042016\012.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 125089,MSW708692,
Acquired: Apr 20, 2016 11:28:56
File Desc. Matrix Spike - 25 ppmV
1.0 mL injection (Methane, Ethene, Ethane)



B Results

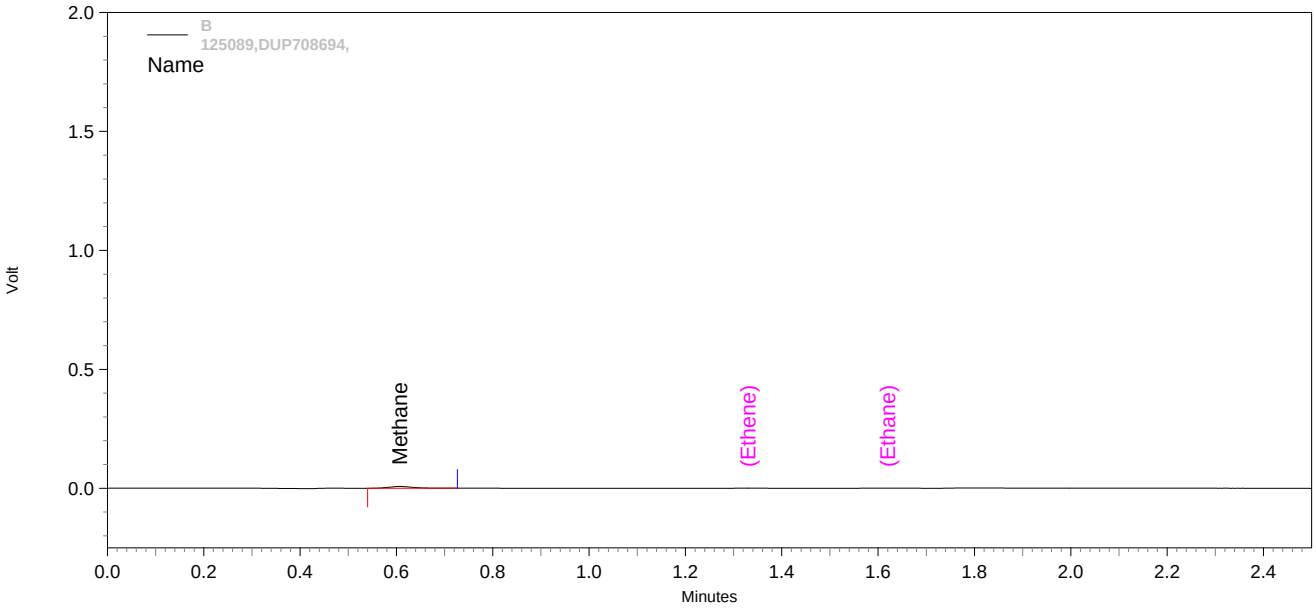
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.597	206271	**23.043**
2	Ethene	1.327	355338	**21.656**
3	Ethane	1.610	326681	**19.707**

Totals			888290	**64.407**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\042016\014.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 125089,DUP708694,
Acquired: Apr 20, 2016 11:38:10
File Desc. 1.0 mL injection (Methane, Ethene, Ethane)



B Results

Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.607	24708	**2.684**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			24708	**2.684**

VOLATILE ORGANIC ANALYSIS
LOGBOOK
DOCUMENTS

VOC 8260 QSM WATER 5.0 Analytical Run
124904 on 4/26/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	711959							VOC 8260 QSM WATER 5.0				
					BFB				0			
	711960							VOC 8260 QSM WATER 5.0				
					LCSW				0			
	711965							VOC 8260 QSM WATER 5.0				
					CCV				0			
	712083							VOC 8260 QSM WATER 5.0				
					MBW				0			
118280	708713	041316T1	4/13/2016	1600		BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		M	4	
118236	707517	041216T1	4/12/2016	1630		BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		M	4	
118280	708692	49MW01	4/13/2016	0850		BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	4	
118280	708694	48MW1	4/13/2016	1000		BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	4	
118280	708696	13MW3	4/13/2016	1217		BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	4	
118280	708698	041316R1	4/13/2016	1025		BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	4	
118280	708700	13MW4	4/13/2016	1317		BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	4	
118280	708707	13MW2	4/13/2016	1410		BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	4	
118280	708709	49MW04	4/13/2016	1525		BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	4	
118236	707495	50MW02	4/12/2016	0910		BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	4	
118236	707512	49MW02	4/12/2016	1115		BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	4	
118236	707513	48MW3	4/12/2016	1240	Designated MS/MSD	BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	4	
118236	707514	48MW2	4/12/2016	1435		BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	4	
118236	707515	48MW06	4/12/2016	1620		BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	4	
118236	707516	49TM01	4/12/2016	1620		BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	4	

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

Distribution: Volatiles C:\LIMSREPS\ANALYTICALRUN.RPT Page 1 of 1

VOC 8260 QSM WATER 5.0 Analytical Run
124904 on 4/26/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	712391		4/12/2016	1240					VOC 8260 QSM 5.0				
		48MW3			MSW	707513				0			
	712392		4/12/2016	1240					VOC 8260 QSM 5.0				
		48MW3			MSDW	712391				0			
	712395								VOC 8260 QSM WATER 5.0				
					CCVF					0			

22 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

Injection Log Summary Report

Method : C:\INSTARCH\METHODS\W041916.M (RTE Integrator)
Title : 8260C Waters Method
Start (Tune) File ID : C:\INSTARCH\DATA\APR2116\BFB1.D
Injection Date : 21 Apr 2016 Log Time Period (hrs) : ALL
Injection Time : 08:53 Total files within period : 22
Sample Directory : C:\INSTARCH\DATA\APR2116\

Injection Log Summary Table

File ID	Multiplier I	S	T	Sample Name Misc Info	Date	Time
CCV-LCS1	1.00	1.00	1.00	124904,LCSW, 10.0/100 ug/L, 5.0 ml Pur	21 Apr 2016	09:37
MB1	1.00	1.00	1.00	124904,MBW, pH<2, 5.0 ml DI H2O Purge	21 Apr 2016	10:33
708713	1.00	1.00	1.00	124904,708713, pH<2, 5.0 ml Purged + IS/	21 Apr 2016	11:02
707517	1.00	1.00	1.00	124904,707517, pH<2, 5.0 ml Purged + IS/	21 Apr 2016	11:30
708692	1.00	1.00	1.00	124904,708692, pH<2, 5.0 ml Purged + IS/	21 Apr 2016	11:59
708694	1.00	1.00	1.00	124904,708694, pH<2, 5.0 ml Purged + IS/	21 Apr 2016	12:27
708696	1.00	1.00	1.00	124904,708696, pH<2, 5.0 ml Purged + IS/	21 Apr 2016	12:55
708698	1.00	1.00	1.00	124904,708698, pH<2, 5.0 ml Purged + IS/	21 Apr 2016	13:23
708700	1.00	1.00	1.00	124904,708700, pH<2, 5.0 ml Purged + IS/	21 Apr 2016	13:52
708707	1.00	1.00	1.00	124904,708707, pH<2, 5.0 ml Purged + IS/	21 Apr 2016	14:20
708709	1.00	1.00	1.00	124904,708709, pH<2, 5.0 ml Purged + IS/	21 Apr 2016	14:48
707495	1.00	1.00	1.00	124904,707495, pH<2, 5.0 ml Purged + IS/	21 Apr 2016	15:16
707512	1.00	1.00	1.00	124904,707512, pH<2, 5.0 ml Purged + IS/	21 Apr 2016	15:44
707513	1.00	1.00	1.00	124904,707513, pH<2, 5.0 ml Purged + IS/	21 Apr 2016	16:12
707514	1.00	1.00	1.00	124904,707514, pH<2, 5.0 ml Purged + IS/	21 Apr 2016	16:41
707515	1.00	1.00	1.00	124904,707515, pH<2, 5.0 ml Purged + IS/	21 Apr 2016	17:09
707516	1.00	1.00	1.00	124904,707516, pH<2, 5.0 ml Purged + IS/	21 Apr 2016	17:37
707513MS	1.00	1.00	1.00	124904,MSW707513, pH<2, 10.0/100, 5.0 ml Pu	21 Apr 2016	18:05
707513SD	1.00	1.00	1.00	124904,MSDW707513, pH<2, 10.0/100, 5.0 ml Pu	21 Apr 2016	18:33
CCVF1	1.00	1.00	1.00	124904,CCVF, 10.0/100 ug/L, 5.0 ml Pur	21 Apr 2016	20:01

8260 ISTD/SSTD 20ug/ml VOC0162
8260 BFB STD. 50ug/ml VOC0161
8260 ICV STD. 100ug/ml VOC0163
8260 CCV/CALIB. 100ug/ml VOC0164

FVO4-01 Data Review Checklist

INDEPENDENT DATA REVIEW CHECKLIST		Method: GCMS (EPA SW-846 8260C)					
Analysis Date	LIMs Run #(s):	Analyst/Data Interpreter	Independent Reviewer	Date of Review	Approved? Yes	Approved? No	Instrument
04/21/2016	124904	AGK	RLD	04/26/2016	Yes		VMS4
Instructions: Complete one checklist per analytical sequence. Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section and may require the initiation of a Nonconformance Report.							

Requirement:	Acceptance criteria	Analyst Review Yes	Analyst Review No	Independent Review Yes	Independent Review No	Comments:
I. BFB Tune Check						
Was a BFB tune check analyzed with acceptable results?	Relative abundance criteria met?	Yes		Yes		If no, Do not proceed with analyses.
II. Initial Calibration Verification (ICV)						
Was initial calibration performed using a minimum of five standard concentration levels (minimum of 6 levels for quadratic curves)?	Lowest standard at or below RL?	Yes		Yes		If no, recalibrate with required # of levels
Were the Average Relative Response Factors (ARRF) acceptable?	ARRF≥ specified limits (see SOP)	Yes		Yes		If no, analyses stopped, recalibrate.
Was a second-source ICV analyzed?	Required before sample analyses.	Yes		Yes		If no, analyze prior to sample analyses.
Were all target compound %Deviation or %Drift acceptable?	%D < 20% or project/program specific	Yes		Yes		If no, reanalyzed ICV to address failures
Was Initial Calibration Blank (ICB) analyzed?	Required before sample analyses.	Yes		Yes		If no, analyzed ICB before sample analyses.
Were the ICB results for all target analytes less than the limit of detection (LOD).	<LOD or < project/program specific limits	Yes		Yes		If no, analyze another blank to address detects.
III. Continuing Calibration Verification (CCV)						
Was an acceptable BFB tune check run at the beginning of every twelve hour shift?	Relative abundance criteria met?	Yes		Yes		If no, reanalyze BFB until acceptable; re-tuning the instrument may be necessary.
Was a CCV analyzed after every 12 hour tune check?	Required before sample analyses.	Yes		Yes		If no, analyzed CCV after acceptable tune check.
Were all target compound %Deviation or %Drift acceptable?	%D < 20% or project/program specific	Yes		Yes		If no, reanalysis or recalibration may be required.
If necessary, were the results for outlying compounds qualified?						If yes, results qualified "Z"

IV. Blanks						
Was a Method Blank (MB) analyzed prior to analysis of samples?	1 per 20 samples or project/program specific.	Yes		Yes		If no, analyze a MB with each sample batch.
Were the MB results for all target analytes less than the limit of detection (LOD)?	*All target analytes <LOD or < project/program specific limits (<1/2 RL for DoD-QSM)	Yes		Yes		If no, reanalyze MB an all affected data if possible or see SOP for more detailed criteria
If analytes were detected in the MB with no associated positives in the samples, no further action is needed. If the analyte detects in the MB were greater than the acceptance criteria and there were detects in the samples, was the data qualified.?						If yes, affected results qualified "B"
V. Laboratory Control Spike (LCS)						
Was a LCS analyzed at the required frequency?	1 per 20 samples or project/program specific.	Yes		Yes		If no, analyze a LCS with each sample batch.
Were the LCS recoveries for all analytes within acceptance criteria?	Default 70-130%, or see internally generated limits, or project/program specified limits.	Yes		Yes		If no, Reanalyze LCS and all affected data if possible or data requires qualification.
If applicable, were associated sample detects (and non-detects for low recoveries) qualified?						If yes, affected results qualified "Q"
VI. Matrix Spike/Matrix Spike Duplicate (MS/MSD)						
Was a Martrix Spike (MS) and a Matrix Spike Duplicate (MSD) analyzed at the required frequency?	1 per 20 samples or project/program specific.	Yes		Yes		If no, analyze a MS/MSD pair with each sample batch.
Were the MS/MSD recoveries for all analytes within acceptance criteria?	Default 70-130%, or see internally generated limits, or project/program specified limits.	Yes		Yes		If no, qualify detects (with an "M" flag) in the parent sample, also qualify non-detects if MS/MSD recoveries were low.
Is the relative percent difference (RPD) for each analyte between the MS and MSD acceptable?	generated limits, or client specific limits.	Yes		Yes		If no, affected results qualified "Y"
VII. Sample Analyses						
Are chromatogram characteristics, including peak shapes and areas, consistent with those of the CCV?		Yes		Yes		If no, instrument maintenance may be required to correct problems.
Were surrogate recoveries for all samples and QC within acceptance criteria?	Default 70-130%, or see internally generated program limits, or client specified limits.	Yes		Yes		If no, samples with high surrogate recoveries and no associated analyte detects were not reanalyzed. Low surrogate recoveries require reanalysis.
If possible, were the affected samples reanalyzed?						If no, see below **
**Were reported sample results with failing surrogate recoveries qualified?						If yes, affected results qualified "S"
Were all samples having analytes detected in amounts exceeding the calibration range diluted and reanalyzed? If not qualify (X).	Target upper middle range of calibration curve.	Yes		Yes		
Did all samples meet hold time and preservation criteria as defined by method/program?	H2O sample: pH < 2 = 14 days, pH >2 = 7 days. Soil samples: 14 days (other criteria may apply)	Yes		Yes		If no, see below: If analyzed past hold, qualify "H" If improperly preserved qualify "T"
Were all samples and QC injected within 12 hours of BFB tune check?		Yes		Yes		If no, affected samples reanalyzed
Were internal standard recoveries acceptable relevant to associated ICAL?	Response = -50 to +200%; Ret. time = +/- 30 sec.	Yes		Yes		If no, affected samples reanalyzed

VIII. Records and Reporting						
Is sequence file / injection log present in the data package?		Yes		Yes		If no, include sequence run with raw data.
Were all data, calculations, and values verified in LIMS upon completion of data capture?		Yes		Yes		If no, recapture the data and verify data prior to validation.
Were manual integrations addressed properly and were the audit trails turned on (where applicable)?	Manual integration must be initialed, dated, and reason given, along with before & after chromatograms. Audit trail must be on (if available).	Yes		Yes		IF No, address manual integration and/or turn on audit trail feature and document reason why it may have been turned off.
Are reported results whose amounts exceeded the acceptance criteria flagged with an appropriate qualifier and, if needed, were any non-matrix related nonconformities documented in the NCR spreadsheet?		Yes		Yes		If No, include proper qualification(s) in LIMS and enter nonconformities into the NCR spreadsheet before data review/validation.

Non-applicable Yes/No cells are left blank

Comments:

pl_ilog
Injection Log Summary Report

Method : C:\INSTARCH\METHODS\W041916.M
Title : 8260C Waters Method
Start (Tune) File ID : C:\INSTARCH\DATA\APR1916\BFB1.D
Injection Date : 19 Apr 2016 Log Time Period (hrs) : ALL
Injection Time : 08:10 Total files within period : 15
Sample Directory : C:\INSTARCH\DATA\APR1916\

Injection Log Summary Table

File ID	Multiplier I	S	T	Sample Name Misc Info	Date	Time
CALW1	1.00	1.00	1.00	CALIB. PT. 1 0.50/5.00 ug/L, 5.0	19 Apr 2016	09:46
CALW2	1.00	1.00	1.00	CALIB. PT. 2 2.00/20.0 ug/L, 5.0	19 Apr 2016	10:14
CALW3	1.00	1.00	1.00	CALIB. PT. 3 5.00/50.0 ug/L, 5.0	19 Apr 2016	10:42
CALW4	1.00	1.00	1.00	CALIB. PT. 4 10.0/100 ug/L, 5.0 m	19 Apr 2016	11:10
CALW5	1.00	1.00	1.00	CALIB. PT. 5 20.0/200 ug/L, 5.0 m	19 Apr 2016	11:38
CALW6	1.00	1.00	1.00	CALIB. PT. 6 30.0/300 ug/L, 5.0 m	19 Apr 2016	12:06
CALW7	1.00	1.00	1.00	CALIB. PT. 7 40.0/400 ug/L, 5.0 m	19 Apr 2016	12:34
CALW8	1.00	1.00	1.00	CALIB. PT. 8 80.0/800 ug/L, 5.0 m	19 Apr 2016	13:02
ICV1	1.00	1.00	1.00	INITIAL CALIB. VERIF 10.0/100 ug/L, 5.0 m	19 Apr 2016	13:58
ICV2	1.00	1.00	1.00	INITIAL CALIB. VERIF 30.0/300 ug/L, 5.0 m	19 Apr 2016	14:26
ICB1	1.00	1.00	1.00	INITIAL CALIB. BLANK pH<2, 5.0 ml DI H2O	19 Apr 2016	15:23

file:////Lennon/j%20drive%20raw%20data%20inprocess/Volatiles%20Raw%20Data/VOC%20STD%20VMS3.txt

8260 ISTD/SSTD 20ug/ml VOC0162
8260 BFB STD. 50ug/ml VOC0161
8260 ICV STD. 100ug/ml VOC0163
8260 CCV/CALIB. 100ug/ml VOC0164

LPVO1-01
Volatiles Standards Prep Logbook
Logbook Created: 01/16/2015
NOTEBOOK VIEW: LTN_VOC_Logbook_01_Default, NOTEBOOK: VOC_Logbook_01, PAGE: 67
Page is Locked
Author: rdigmann on: 18.04.2016 10:20:07
Page is not Witnessed
Project: Unassigned
Page Title: 041716

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0161	8260 BFB Std.	75uL of 2,000 ug/mL 4-Bromofluorobenzene Std. V726 into 2925uL of MeOH.	MeOH / Fisher/157266	50 ug/mL	04/17/2016	05/17/2016	RLD

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0162	8260 ISTD/SSTD	200uL of 2,500 ug/mL 8260 Istd./Sstd. Mix V725 and 250uL of 2000 ug/mL 1,2-Dichlorobenzene-$_{d4}$ Std. V756 into 25mL of MeOH.	MeOH / Fisher/157266	20 ug/mL	04/17/2016	05/17/2016	RLD

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0163	8260 ICV/Spiking Std.	150uL of 2,000 ug/mL VOC Mix V758, 300uL of 1,000/10,000 ug/mL VOC 8260 Additions Std. V0770, and 300uL of 1,000/10,000 ug/mL 8260 Special Additions Std. V0774 into 2250uL of MeOH.	MeOH / Fisher/157266	100 ug/mL	04/17/2016	04/24/2016	RLD

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0164	8260 CCV/Calib. Std.	150uL of 2,000 ug/mL VOC Mix V0768, 300uL of 1,000/10,000 ug/mL VOC 8260 Additions Std. V0769, and 300uL of 1,000/10,000 ug/mL 8260 Special Additions Std. V0775 into 2250uL of MeOH.	MeOH / Fisher/157266	100 ug/mL	04/17/2016	04/24/2016	RLD

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0780	8260 VOC Mix	AccuStandard	M-502-10X-PAK	216031211
Concentration	**Neat (% purity) or Solvent**	**Expiration Date**	**Date Received**	**Analyst**
2,000 ug/mL	MeOH	05/17/2019	04/26/2016	RLD
# of Ampules/Units:	5	Comments:	Used for 8260 ICV/Spiking Std. prep.	

LSVO1-01
Volatiles Standards Logbook
Logbook Created: 12/08/2015

NOTEBOOK VIEW: LTN_LSVO1_01_VOC_Default, NOTEBOOK: LSVO1_01_VOC, PAGE: 11
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Author: rdigmann on: 30.03.2016 16:00:24
Witness: akurth on: 18.04.2016 10:11:46
Project: Unassigned
Page Title: 032516

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0776	VOC 8260 Additions	SPEX CertiPrep	VO-CTWI-12	BW160321006
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
1,000 - 10,000 ug/mL	MeOH	06/19/2016	03/25/2016	BMS
# of Ampules/Units:	2 x 1 mL	Comments:	Used for 8260 ICV/Spiking Std.	

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0777	VOC 8260 Additions	SPEX CertiPrep	VO-CTWI-12	BW160321007
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
1,000 - 10,000 ug/mL	MeOH	06/19/2016	03/25/2016	BMS
# of Ampules/Units:	2 x 1 mL	Comments:	Used for 8260 CCV/Calib. Std.	

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LSVO1-01
Volatiles Standards Logbook
Logbook Created: 12/08/2015

NOTEBOOK VIEW: LTN_LSVO1_01_VOC_Default, NOTEBOOK: LSVO1_01_VOC, PAGE: 10
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Author: rdigmann on: 30.03.2016 16:00:15
Witness: akurth on: 18.04.2016 10:11:35
Project: Unassigned
Page Title: 030116

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0774	VOC 8260 Special Additions	SPEX CertiPrep	VO-CTWI-5	BW160224011
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
1,000 - 50,000 ug/mL	MeOH	08/22/2016	03/01/2016	RLD
# of Ampules/Units:	2	Comments:	Used for 8260 ICV/Spiking Mix	

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0775	VOC 8260 Special Additions	SPEX CertiPrep	VO-CTWI-5	BW160224012
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
1,000 - 50,000 ug/mL	MeOH	08/22/2016	03/01/2016	RLD
# of Ampules/Units:	2	Comments:	Used for 8260 CCV/Calib Mix	

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LSVO1-01
Volatiles Standards Logbook
Logbook Created: 12/08/2015
NOTEBOOK VIEW: LTN_LSVO1_01_VOC_Default, NOTEBOOK: LSVO1_01_VOC, PAGE: 6
Page is Locked
Author: rdigmann on: 01.03.2016 10:06:38
Page is not Witnessed
Project: Unassigned
Page Title: 020516

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0769	VOC 8260 Additions	SPEX CertiPrep	VO-CTWI-12	BW160128016
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
1,000 - 10,000 ug/mL	MeOH	04/27/2016	02/05/2016	RLD
# of Ampules/Units:	2	Comments:	Used for 8260 CCV/Calib. Std	

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0770	VOC 8260 Additions	SPEX CertiPrep	VO-CTWI-12	BW160128017
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
1,000 - 10,000 ug/mL	MeOH	04/27/2016	02/05/2016	RLD
# of Ampules/Units:	2	Comments:	Used for 8260 ICV/Spiking Std.	

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LSVO1-01
Volatiles Standards Logbook
Logbook Created: 12/08/2015
NOTEBOOK VIEW: LTN_LSVO1_01_VOC_Default, NOTEBOOK: LSVO1_01_VOC, PAGE: 5
Page is Locked
Author: rdigmann on: 01.03.2016 10:06:24
Page is not Witnessed
Project: Unassigned
Page Title: 012816

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0768	8260 VOC Mix	Ultra Scientific	DWM-588-1	CM-5595
Concentration	**Neat (% purity) or Solvent**	**Expiration Date**	**Date Received**	**Analyst**
2,000 ug/mL	MeOH	11/30/2018	01/28/2016	RLD
# of Ampules/Units:	2	Comments:	Used for 8260 CCV/Calib. Std.	

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LSVO1-01
Volatiles Standards Logbook
Logbook Created: 12/08/2015
NOTEBOOK VIEW: LTN_LSVO1_01_VOC_Default, NOTEBOOK: LSVO1_01_VOC, PAGE: 2
Page is Locked
Author: bszymanski on: 30.12.2015 09:43:38
Page is not Witnessed
Project: Unassigned
Page Title: 122215

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0764	VOC 8260 Special Additions	SPEX CertiPrep	VO-CTWI-5	BW151216003
Concentration	**Neat (% purity) or Solvent**	**Expiration Date**	**Date Received**	**Analyst**
1,000 - 50,000 ug/mL	MeOH	06/13/2016	12/22/2015	RLD
# of Ampules/Units:	2	Comments:	Used for ICV mix.	

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0765	VOC 8260 Special Additions	SPEX CertiPrep	VO-CTWI-5	BW151216004
Concentration	**Neat (% purity) or Solvent**	**Expiration Date**	**Date Received**	**Analyst**
1,000 - 50,000 ug/mL	MeOH	06/13/2016	12/22/2015	RLD
# of Ampules/Units:	2	Comments:	Used for CCV mix.	

LSVO1-01
Volatiles Standards Logbook
Logbook Created: 12/08/2015
NOTEBOOK VIEW: LTN_LSVO1_01_VOC_Default, NOTEBOOK: LSVO1_01_VOC, PAGE: 1
Page is Unlocked
Page is not Witnessed
Project: Unassigned
Page Title: 120815

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0761	VOC 8260 Additions	SPEX CertiPrep	VO-CTWI-12	BW151117005
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
1,000 - 10,000 ug/mL	MeOH	02/15/2016	12/08/2015	RLD
# of Ampules/Units:	2 x 1 mL	Comments:	Used for ICV mix.	

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0762	VOC 8260 Additions	SPEX CertiPrep	VO-CTWI-12	BW151117006
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
1,000 - 10,000 ug/mL	MeOH	02/15/2016	12/08/2015	RLD
# of Ampules/Units:	2 x 1 mL	Comments:	Used for CCV mix.	

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0763	2-Methylpentane; 1,2,4-Trimethylbenzene	SPEX CertiPrep	VO-CTWI-1	C1141107008
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
1,000 ug/mL	MeOH	11/06/2017	12/08/2015	BMS
# of Ampules/Units:	1 x 1 mL	Comments:	8015 Retention Time Window Standard.	

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CT Laboratories, LLC

CTI VOLATILE STANDARDS LOGBOOK 1

CTI STANDARD NUMBER (EXAMPLE = CTIV001*)	COMPOUND or SOLUTION NAME	COMPOUND / SOLUTION SUPPLIER	STANDARD'S PART NUMBER	STANDARD'S LOT #	STANDARD CONCENTRATION [1] and EXPIRATION DATE	NEAT (N) or SOLUTION (S) (If neat list % purity, if solution list solvent)	DATE REC'D and ANALYST'S INITIALS	COMMENTS
V742	VOC 8260 Special Additions	SPEX	VO-CTWI-5	SM150526010	1000-50000 ug/mL, 11/26/15	MeOH	6/2/15 RD	2x1mL
V743	8260 VOC Mix	Accu Standard	M-502-10X-PAK	21501040	2000 ug/mL, 11/26/18	MeOH	6/9/15, RD	5x1mL
V744	8260 VOC Mix	Ultra Sci.	DWM-588-1	CM-1859	2000 ug/mL, 5/31/18	MeOH	6/18/15, RD	2x1mL
V745	VOC 8260 Special Additions	SPEX	VO-CTWI-5	SM150526009	1000-50000 ug/mL, 11/26/15	MeOH	7/2/15, RD	2x1mL
V746	VOC 8260 Special Additions	SPEX	VO-CTWI-5	SM150526010	1000-50000 ug/mL, 11/26/15	MeOH	7/21/15, RD	2x1mL
V747	VOC 8260 Additions	SPEX	VO-CTWI-12	TS150721007	1000-10000 ug/mL, 10/26/15	MeOH	7/23/15, RD	2x1mL
V748	VOC 8260 Additions	SPEX	VO-CTWI-12	TS150721008	1000-10000 ug/mL, 10/26/15	MeOH	7/23/15, RD	2x1mL
V749	8260 VOC Mix	Ultra Sci.	DWM-588-1	CM-3808	2000 ug/mL, 8/31/18	MeOH	8/6/15, RD	2x1mL
V750	VOC 8260 Special Additions	SPEX	VO-CTWI-12	TS150901001	1000-10000 ug/mL, 11/26/15	MeOH	9/1/15, RD	2x1mL
V751	VOC 2nd/4th 8260 Special Additions	SPEX	VO-CTWI-12	TS150901001	1000-10000 ug/mL, 12/3/15	MeOH	9/1/15 RD	2x1mL
V752	Fluorobenzene	Ultra Sci	STS-760-1	CL-3264	2000 ug/mL 9/30/18	MeOH	9/25/15 RD	4x1mL
V753	3,4,5 - TFT	Ultra Sci	STS-220N-1	CM-5040	2000 ug/mL 10/31/15	MeOH	9/25/15 RD	4x1mL
V754	VOC 8260 Special Additions	SPEX	VO-CTWI-5	BW150925015	1000-50000 ug/mL 03/23/16	MeOH	10/02/15 BMS	2x1mL
V755	VOC 8260 Special Additions	SPEX	VO-CTWI-5	SM150925016	1000-50000 ug/mL 03/23/16	MeOH	10/02/15 BMS	2x1mL
V756	1,2-Dichlorobenzene-d4	Ultra Sci	STS-210-1	C6-K392	2000 ug/mL 9/20/18	MeOH	10/6/15 RD	4x1mL
V757	8260 VOC Mix	Ultra Sci	DWM-588-1	CM-3956	2000 ug/mL 8/21/18	MeOH	10/15/15 RD	4x1mL
V758	8260 VOC Mix	Accustandard	M-502-10X-PAK	21508111	2000 ug/mL 8/25/18	MeOH	11/3/15 RD	5x1mL
V759	PVOC/8260 Mix	RESTEK	30095	A0112470	1000/10,000 ug/mL 08/31/22	MeOH	11/10/15 BMS	2x1mL
V760	PVOC/8260 Mix	ULTRA	UST-100-1	CK-2547A	1000/10000 ug/mL 08/30/17	MeOH	11/10/15 BMS	4x1mL

* = If multiple vials of the same lot number and expiration date are received the standard will be given one CTI Standard # and each vial will have a alpha designation asigned to it. (Example = Three vials of DRO standard solution, CTI001A-C)

1 = If multiple analytes and all of the concentrations vary, mark VARIES.

RD 11/23/15

CTI VOLATILE STANDARDS LOGBOOK 1

CTI STANDARD NUMBER (EXAMPLE = CTIV001*)	COMPOUND or SOLUTION NAME	COMPOUND / SOLUTION SUPPLIER	STANDARD'S PART NUMBER	STANDARD'S LOT #	STANDARD CONCENTRATION [1] and EXPIRATION DATE	NEAT (N) or SOLUTION (S) (If neat list % purity, if solution list solvent)	DATE REC'D and ANALYST'S INITIALS	COMMENTS
V723	8260 Special Additives	SPEX	VO-CTWI-5	CI141119008	1000-5000 ug/mL 5/18/15	MeOH	RD 12/16/14	2 x 1mL
V724	8260 Special Additives	SPEX	VO-CTWI-5	CI141119009	1000-5000 ug/mL 5/18/15	MeOH	RD 12/16/14	2 x 1mL
V725	8260 ISTD/SSTD Mix	Ultra Sci.	STM-540	CK-2154	2500 ug/mL 7/31/16	MeOH	RD 12/18/14	4 x 1mL
V726	BFB Stn.	Ultra Sci.	STS-110N	CH-32YBA	2000 ug/mL 11/30/17	MeOH	RD 12/18/14	2 x 1mL
V727	Acetylene Std.	AIRGAS	X03HE99C3360067	54-1244K7791-1	200 PPMV 12/17/17	Helium	Bms 12/22/14	1 cylinder @ 28.7CF
V728	1,4-Dioxane Std	SPEX	S-1715	CI121219012	1000 ug/mL 12/15/15	MeOH	RD 12/31/14	2 x 1mL
V729	VOC Mix	Ultra Sci	DWM-588-1	CL-5325	2000 ug/mL 11/31/18	MeOH	RD 1/31/15	2 x 1mL
V730	Methane, Ethene, Ethane Std.	AIRGAS	X04HE99C3530380	54-1248928001	200 ppmV 02/03/16	He	Bms 02/03/15	Re-certified V619
V731	VOC 8260 Additions	SPEX	VO-CTWI-12	CI150202012	1000-10000 ug/mL 5/31/15	MeOH	RD 2/6/15	2 x 1mL
V732	VOC 8260 Additions	SPEX	VOCTWI-12	CI150202013	1000-10000 ug/mL 5/31/15	MeOH	RD 2/6/15	2 x 1mL
V733	8260 Special Additions	SPEX	VO-CTWI-5	CI150303001	1000-5000 ug/mL 8/31/15	MeOH	RD 3/11/15	2 x 1mL
V734	8260 Special Additions	SPEX	VO-CTWI-5	CI150304006	1000-5000 ug/mL 8/31/15	MeOH	RD 3/11/15	2 x 1mL
V735	VOC Mix	Accu Std.	M-502-10X	214111014	2000 ug/mL 11/12/17	MeOH	RD 3/31/15	2 x 1mL
V736	VOC Mixture	ULTRA SCI	DWM-588-1	CM-0137	2000 ug/mL 02/28/18	MeOH	Bms 04/09/15	2 x 1mL
V737	Unleaded Gasoline	ULTRA SCI.	RGO-601-1	CH-0979A	5000 ug/mL 05/31/17	MeOH	Bms 04/09/15	2 x 1mL
V738	Unleaded Gasoline	RESTEK	30205	A0101022	50,000 ug/mL 03/28/21	MeOH	Bms 04/09/15	2 x 1mL
V739	VOC 8260 Additions	SPEX	VO-CTWI-12	TS150506001	1000-10000 ug/mL 8/4/15	MeOH	RD 5/11/15	2 x 1mL
V740	VOC 8260 Additions	SPEX	VO-CTWI-12	TS150506002	1000-10000 ug/mL 8/4/15	MeOH	RD 5/11/15	2 x 1mL
V741	VOC 8260 Special Additions	SPEX	VO-CTWI-5	S01505260009	1000-5000 ug/mL 11/22/15	MeOH	RD 6/2/15	2 x 1mL

* = If multiple vials of the same lot number and expiration date are received the standard will be given one CTI Standard # and each vial will have a alpha designation asigned to it. (Example = Three vials of DRO standard solution, CTI001A-C)

1 = If multiple analytes and all of the concentrations vary, mark VARIES.

RD 6/2/15

V METH, ETH, ETHENE QSM 5.0 Analytical Run
124867 on 04/15/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	709128								V METH, ETH, ETHENE QSM 5.				
					CCV					0			
	708550								METH,ETH,ETHE QSM 5.0				
					LCSW					56752			
	708549								METH,ETH,ETHE QSM 5.0				
					MBW					56752			
118236	707495		04/12/2016	0910			BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		50MW02								56752			
	709129								V METH, ETH, ETHENE QSM 5.				
					CCV					0			
118236	707512		04/12/2016	1115			BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		49MW02								56752			
118236	707513		04/12/2016	1240			BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		48MW3			Designated MS/MSD					56752			
	708551		04/12/2016	1240					METH,ETH,ETHE QSM 5.0				
		48MW3			MSW	707513				56752			
	708552		04/12/2016	1240					METH,ETH,ETHE QSM 5.0				
		48MW3			MSDW	708551				56752			
118236	707514		04/12/2016	1435			BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		48MW2								56752			
118236	707515		04/12/2016	1620			BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		48MW06								56752			
118236	707516		04/12/2016	1620			BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		49TM01								56752			
	709130								V METH, ETH, ETHENE QSM 5.				
					CCV					0			

13 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

PREP WORKSHEET
on 04/15/2016

Prep Batch **56,752** Date Prepped: 04/14/2016 Prepped By AMA

Folder #	Order	QC Type	Link	Test	Matrix	Volume	Weight	Initial Volume	SDG Level	Notes
	708549	MBW		METH,ETH,ETHE QSM	LIQUID	20.4				
	708550	LCSW		METH,ETH,ETHE QSM	LIQUID	20.4				
118236	707495			METH,ETH,ETHE QSM	GROUND WATER	20.4			4	
	707512			METH,ETH,ETHE QSM	GROUND WATER	20.4			4	
	707513	*		METH,ETH,ETHE QSM	GROUND WATER	20.4			4	
	707514			METH,ETH,ETHE QSM	GROUND WATER	20.4			4	
	707515			METH,ETH,ETHE QSM	GROUND WATER	20.4			4	
	707516			METH,ETH,ETHE QSM	GROUND WATER	20.4			4	
	708551	MSW	707513	METH,ETH,ETHE QSM	GROUND WATER	20.4				
	708552	MSDW	708551	METH,ETH,ETHE QSM	GROUND WATER	20.4				

Notes:_____

Sequence Summary Report

Sequence Filename: C:\InStarch\PVOC4\Sequence\041416.seq
Instrument: PVOC4
Processing Date: Apr 14, 2016 17:49:58

'Run Number	Sample ID	Data Filename	Method Filename	Run Time
1	124662,CCV,	C:\Instarch\PVOC4\Data\041416\001.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 14, 2016 10:25:59
2	124662,LCSW,	C:\Instarch\PVOC4\Data\041416\002.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 14, 2016 10:30:55
3	124662,MBW,	C:\Instarch\PVOC4\Data\041416\003.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 14, 2016 10:35:21
4	124662,704184,	C:\Instarch\PVOC4\Data\041416\004.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 14, 2016 10:39:51
5	124662,704185,	C:\Instarch\PVOC4\Data\041416\005.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 14, 2016 10:43:46
6	124662,MSW704185,	C:\Instarch\PVOC4\Data\041416\006.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 14, 2016 10:48:13
7	124662,MSDW7041...	C:\Instarch\PVOC4\Data\041416\007.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 14, 2016 10:53:00
8	124662,704187,	C:\Instarch\PVOC4\Data\041416\008.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 14, 2016 10:58:47
9	124662,705126,25	C:\Instarch\PVOC4\Data\041416\009.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 14, 2016 11:02:55
10	124662,705144,50	C:\Instarch\PVOC4\Data\041416\010.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 14, 2016 11:08:01
11	124662,705145,10	C:\Instarch\PVOC4\Data\041416\011.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 14, 2016 11:13:58
12	124662,CCV	C:\Instarch\PVOC4\Data\041416\012.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 14, 2016 11:18:40
13	124662,705146,	C:\Instarch\PVOC4\Data\041416\013.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 14, 2016 11:22:59
14	124662,705147,50	C:\Instarch\PVOC4\Data\041416\014.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 14, 2016 11:26:25
15	124662,705148,25	C:\Instarch\PVOC4\Data\041416\015.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 14, 2016 11:31:33
16	124662,705149,	C:\Instarch\PVOC4\Data\041416\016.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 14, 2016 11:35:38
17	124662,705150,	C:\Instarch\PVOC4\Data\041416\017.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 14, 2016 11:39:58
18	124662,705152,	C:\Instarch\PVOC4\Data\041416\018.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 14, 2016 11:43:28
19	124865,LCSW,	C:\Instarch\PVOC4\Data\041416\019.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 14, 2016 11:48:03
20	124865,MBW,	C:\Instarch\PVOC4\Data\041416\020.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 14, 2016 11:51:48
21	124865,706899,	C:\Instarch\PVOC4\Data\041416\021.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 14, 2016 11:56:53
22	124865,706901,	C:\Instarch\PVOC4\Data\041416\022.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 14, 2016 12:03:19
23	124865,706901,50	C:\Instarch\PVOC4\Data\041416\023.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 14, 2016 12:07:39
24	124865,CCV,	C:\Instarch\PVOC4\Data\041416\024.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 14, 2016 12:11:34
25	124865,706902,	C:\Instarch\PVOC4\Data\041416\025.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 14, 2016 13:16:48
26	124865,706902,50	C:\Instarch\PVOC4\Data\041416\026.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 14, 2016 13:23:20
27	124865,706903,	C:\Instarch\PVOC4\Data\041416\027.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 14, 2016 13:29:20
28	124865,706903,200	C:\Instarch\PVOC4\Data\041416\028.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 14, 2016 13:33:17
29	124865,706905,	C:\Instarch\PVOC4\Data\041416\029.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 14, 2016 13:37:46
30	124865,706905,10	C:\Instarch\PVOC4\Data\041416\030.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 14, 2016 13:41:37
31	124865,MSW706905,	C:\Instarch\PVOC4\Data\041416\031.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 14, 2016 13:46:16
32	124865,MSDW7069...	C:\Instarch\PVOC4\Data\041416\032.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 14, 2016 13:50:28
33	124865,706908,	C:\Instarch\PVOC4\Data\041416\033.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 14, 2016 13:54:05
34	124865,706908,50	C:\Instarch\PVOC4\Data\041416\034.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 14, 2016 13:59:05
35	124865,CCV,	C:\Instarch\PVOC4\Data\041416\035.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 14, 2016 14:02:47
36	124865,707927,	C:\Instarch\PVOC4\Data\041416\036.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 14, 2016 14:06:44
37	124865,707927,250	C:\Instarch\PVOC4\Data\041416\037.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 14, 2016 14:26:01
38	124865,MSW707927,5	C:\Instarch\PVOC4\Data\041416\038.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 14, 2016 14:31:46
39	124865,MSDW7079...	C:\Instarch\PVOC4\Data\041416\039.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 14, 2016 14:36:37
40	124865,707929,	C:\Instarch\PVOC4\Data\041416\040.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 14, 2016 14:41:37
41	124865,707929,250	C:\Instarch\PVOC4\Data\041416\041.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 14, 2016 14:51:52
42	124865,707930,	C:\Instarch\PVOC4\Data\041416\042.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 14, 2016 14:55:20
43	124865,707930,250	C:\Instarch\PVOC4\Data\041416\043.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 14, 2016 14:59:26
44	124865,707934,	C:\Instarch\PVOC4\Data\041416\044.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 14, 2016 15:05:15
45	124865,707934,50	C:\Instarch\PVOC4\Data\041416\045.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 14, 2016 15:09:16
46	124865,CCV,	C:\Instarch\PVOC4\Data\041416\046.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 14, 2016 15:12:41
47	124866,LCSW,	C:\Instarch\PVOC4\Data\041416\047.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 14, 2016 16:00:23
48	124866,MBW,	C:\Instarch\PVOC4\Data\041416\048.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 14, 2016 16:03:49
49	124866,705580,	C:\Instarch\PVOC4\Data\041416\049.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 14, 2016 16:07:17
50	124866,MSW705580,	C:\Instarch\PVOC4\Data\041416\050.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 14, 2016 16:11:29
51	124866,MSDW7055...	C:\Instarch\PVOC4\Data\041416\051.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 14, 2016 16:15:51
52	124866,705581,	C:\Instarch\PVOC4\Data\041416\052.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 14, 2016 16:20:47
53	124866,705582,	C:\Instarch\PVOC4\Data\041416\053.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 14, 2016 16:24:22
54	124866,705582,10	C:\Instarch\PVOC4\Data\041416\054.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 14, 2016 16:28:04
55	124866,705583,	C:\Instarch\PVOC4\Data\041416\055.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 14, 2016 16:31:49
56	124866,705583,5	C:\Instarch\PVOC4\Data\041416\056.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 14, 2016 16:35:30
57	124866,CCV	C:\Instarch\PVOC4\Data\041416\057.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 14, 2016 16:38:51
58	124866,705584,	C:\Instarch\PVOC4\Data\041416\058.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 14, 2016 16:42:23
59	124866,705585,	C:\Instarch\PVOC4\Data\041416\059.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 14, 2016 16:46:07
60	124866,705586,	C:\Instarch\PVOC4\Data\041416\060.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 14, 2016 16:49:27
61	124866,705587,	C:\Instarch\PVOC4\Data\041416\061.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 14, 2016 16:52:46
62	124866,705588,	C:\Instarch\PVOC4\Data\041416\062.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 14, 2016 16:56:40
63	124866,705588,10	C:\Instarch\PVOC4\Data\041416\063.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 14, 2016 17:01:37
64	124866,705589,	C:\Instarch\PVOC4\Data\041416\064.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 14, 2016 17:05:22
65	124867,LCSW,	C:\Instarch\PVOC4\Data\041416\065.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 14, 2016 17:10:08
66	124867,MBW,	C:\Instarch\PVOC4\Data\041416\066.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 14, 2016 17:14:17
67	124867,707495,	C:\Instarch\PVOC4\Data\041416\067.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 14, 2016 17:17:53
68	124866,CCV,	C:\Instarch\PVOC4\Data\041416\068.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 14, 2016 17:21:23
69	124867,707512,	C:\Instarch\PVOC4\Data\041416\069.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 14, 2016 17:24:48

70	124867,707513,	C:\Instarch\PVOC4\Data\041416\070.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 14, 2016 17:28:16
71	124867,MSW707513,	C:\Instarch\PVOC4\Data\041416\071.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 14, 2016 17:32:02
72	124867,MSDW7075...	C:\Instarch\PVOC4\Data\041416\072.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 14, 2016 17:35:53
73	124867,707514,	C:\Instarch\PVOC4\Data\041416\073.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 14, 2016 17:39:22
74	124867,707515,	C:\Instarch\PVOC4\Data\041416\074.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 14, 2016 17:43:00
75	124867,707516,	C:\Instarch\PVOC4\Data\041416\075.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 14, 2016 17:46:44
76	124867,CCV,	C:\Instarch\PVOC4\Data\041416\076.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 14, 2016 17:49:58

Dissolved Gases (Injection)

(Sequence Log)

LIMS Run #(s): 124662, 124865, 124866, 124867 Instrument: Proc 4

Sequence Date: 04/14/16 Analyst: AMA

Calibration Date: 02/03/15 Ambient Temp. (°C): 20.4

Injection #	Sample #	Injection Vol. (ml)	Sample Vol. (ml)
51	MSDW 705580	1.0	43
52	705581	1.0	43
53	705582	1.0	43
54	705582	0.3	43
55	705583	1.0	43
56	705583	0.2	43
57	CCV	0.25	43
58	705584	1.0	43
59	705585	1.0	43
60	705586	1.0	43
61	705587	1.0	43
62	705588	1.0	43
63	705588	0.3	43
64	705589	1.0	43
65	LCSD	1.0	43
66	MSD	1.0	43
67	707495	1.0	43
68	CCV	0.25	43
69	707512	1.0	43
70	707513	1.0	43
71	MSD 707513	1.0	43
72	MSDW 707513	1.0	43
73	707514	1.0	43
74	707515	1.0	43
75	707516	1.0	43

Calibration Standard Ref. #: V083

Second Source Ref. #: V730

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Dissolved Gases (Injection)

(Sequence Log)

LIMS Run #(s): 124662, 124865, 124866, 124867 Instrument: Prot 4

Sequence Date: 04/14/16 Analyst: AMA

Calibration Date: 02/03/15 Ambient Temp. (°C): 20.4

Injection #	Sample #	Injection Vol. (ml)	Sample Vol. (ml)
76	CCV	0.25	43
77			43
78			43
79			43
80			43
81			43
82			43
83			43
84			43
85			43
86			43
87			43
88			43
89			43
90			43
91			43
92			43
93			43
94			43
95			43
96			43
97			43
98			43
99			43
100			43

AMA 04/15/16

Calibration Standard Ref. #: V681

Second Source Ref. #: V730

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FVO1-01 Data Review Checklist

	FVO1-01 Method: Dissolved Gases (EPA SW-846 8015 / RSK 175 Modified)					
LIMS Run #(s)	Analysis Date (s)	Analyst / Data Interpreter	Independent Reviewer	Date of Review	Approved? (Yes or No)	Instrument
124662, 124865, 124866, 124867	04/14/2016, 04/15/2016	AMA	RLD	04/18/2016	Yes	PVOC4

Instructions: Complete one checklist per *analytical sequence* . Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement:	Acceptance Criteria	Analyst Review		Independent Review		Comments: (indicate reference to an attachment if necessary)
1. INITIAL CALIBRATION (ICAL)		Yes	No	Yes	No	
a. Was the initial calibration performed using a minimum of five concentration levels?	Lowest standard at or below RL	Yes		Yes		If NO, recalibrate
b. For each analyte/component is the variation between calibration response factors for all concentration levels <20% RSD or is $r^2 \geq .99$ or $r \geq .995$ for the regression line?	RSD <20% or $r^2 \geq .99$ or $r \geq .995$ or program/project specific	Yes		Yes		If NO, recalibrate
c. Are the identification and date of the ICAL listed on the printout (or PDF) of the analytical run and in the method file?	ID# and date of ICAL listed	Yes		Yes		
d. Was an Initial Calibration Verification (ICV) analyzed after the ICAL?	Analyzed prior to sample analyses	Yes		Yes		If NO, analyze ICV prior to sample analyses.
e. Were the recoveries for each analyte in the ICV within required limits?	Recoveries 85 - 115% or within program/project specific limits	Yes		Yes		If NO, reanalyze ICV. If still No then necessary maintenance and recalibration should be performed.
f. Was an Initial Calibration Blank (ICB) analyzed?		Yes		Yes		If NO, reanalyze ICB before sample analyses.
g. Were the ICB results for all target analytes/components less than the reporting limit (RL)?	<RL or < program/project specific	Yes		Yes		
3. CONTINUING CALIBRATION VERIFICATION (CCV)						
a . Was a CCV analyzed at the beginning and end of a sequential analysis run, as well as after ever 10 samples?		Yes		Yes		If NO, then samples / QC in the affected window must be reanalyzed.
b. Were the recoveries for each analyte/component in the CCV within acceptance criteria?	Recoveries 85 - 115% or within program/project specific limits	Yes		Yes		If NO, then necessary maintenance and possible recalibration should be performed. Affected samples must be reanalyzed for compounds exceeding CCV criteria.
4. METHOD BLANKS (MB)						
a. Was a method blank (MB) analyzed?	1 / 20 or program/project specific	Yes		Yes		If NO, reanalyze sample batch with an associated MB.
b. Were the MB results for all analytes/components less than reporting limit?	All target analytes/components <RL or within program/project specific limits (DoD-QSM: <1/2 the RL)	Yes		Yes		If analytes/components were detected in the MB with no associated positives in the samples, no further action is needed. If analyte detects are greater than the RL with associated positives in the samples, flag associated positives with a "B" qualifier.
5. LABORATORY CONTROL SAMPLE (LCS)						
a. Was a LCS analyzed at the required frequency?	1 / 20 or program/project specific	Yes		Yes		If NO, reanalyze sample batch with an associated LCS.
b. Were LCS recoveries for all analytes within the acceptance criteria?	Default = 70-130%, or within In-house generated or program/project specific limits	Yes		Yes		If NO, reanalyze LCS to confirm no preparation error.
c. If LCS recoveries exceed acceptance criteria, was the LCS reanalyzed in an effort to eliminate the possibility of a preparation error?						If LCS recoveries exceed acceptance criteria again, investigate and correct problem and reanalyze affected samples, if possible. If LCS recoveries exceed criteria after sample reanalysis and if samples are not reanalyzed, See Below: *If LCS recovery is high with no associated positives in samples, no further action needed. *If LCS recovery is high with associated positives in samples, flag associated positives "Q". *If LCS recoveries are low, flag all affected analytes/components within the batch "Q".

6. MATRIX SPIKE (MS)/ MATRIX SPIKE DUPLICATES (MSD) and DUPLICATE						
a. Was a MS, MSD, and/or Duplicate (if valid) Vial analyzed with each batch of 20 samples (or program-specified frequency)?	1 / 20 or program/project specific frequency (QSM samples, duplicate only valid if sample result ≥ 5x the LOQ)	Yes		Yes		If NO, analyze a MS/MSD from the specific sample batch. When insufficient sample amount is provided for matrix spikes, preparing a sample in duplicate is possible.
b. Were MS/MSD recoveries for all analytes within acceptance criteria?	Default =70-130%, or within In-house generated or program/project specific limits		No		No	If NO, See Below: *If MS/MSD recoveries are below acceptable limits, and unspiked sample has detects or no detects for affected analytes, flag affected analytes "M". *If MS/MSD recoveries are above acceptable limits, and the unspiked sample has no detects for affected analytes, no action is required. *If MS/MSD recoveries are outside of acceptable limits, and unspiked sample has detects for affected analytes, flag affected analytes "M" in parent sample.
7. PRECISION						
a. Is the relative percent difference (RPD) for each analyte between duplicate QC samples (i.e. parent sample / Duplicate vial), or for each MS/MSD within the acceptance criteria?	Default = 20 % RPD, or within In-house generated or program/project specific limits	Yes		Yes		If NO, "Y" flag all affected compounds in the unspiked sample if the precision failure is between the MS and MSD or the parent sample if the precision failure is between a duplicate samples.
8. SAMPLES (INCLUDING BLANKS, STANDARDS, AND QC SAMPLES)						
a. Are chromatogram characteristics, including peak shapes and areas, consistent with those of the CCV?		Yes		Yes		If NO, document any discrepancies. Manual integrations should include before and after chromatography. Manual integrations should be signed and dated.
b. Were all samples having analytes detected in amounts exceeding the calibration range diluted and reanalyzed or reanalyzed using a smaller sample aliquot? Affected analyte detects should remain above the limit of quantitation (LOQ) after reanalysis.		Yes		Yes		If NO, dilute and reanalyze samples for compounds exceeding calibration range.
c. Was the correct ambient temperature recorded on sample spreadsheets?		Yes		Yes		If NO, sample must be reanalyzed. Temperature must be documented.
d. Were all samples adequately preserved and analyzed within holding time?	CO2 samples received unpreserved (analyze within 7 days or program/project specific) Methane, Ethene, Ethane samples received preserved to <2 (analyze within 14 days or program/project specific)	Yes		Yes		If NO, qualify samples analyzed past hold time with an "H" flag. Sample improperly preserved should be qualified with a "T" flag.
9. RECORDS AND REPORTING						
a. Is a sequence run file present in the raw data file?		Yes		Yes		If NO, include sequence run with raw data.
b. Is the data initialed and dated by analyst?	Analysis Run sheet is initialed & dated by the analyst processing the raw data.	Yes		Yes		If NO, if no obtain initials and date from analyst.
c. Do all values, units, etc. listed match the raw data and associated calculations and records?		Yes		Yes		If NO, data should be reprocessed to include correct units and results.
e. Has the data been electronically transferred to the LIMS and were the applicable qualifiers assigned?		Yes		Yes		If NO, recapture data. Manual entries into LIMS must be documented to ensure proper review.
f. Were manual integrations addressed properly and were the audit trails turned on (where applicable)?	Manual integration must be initialed, dated, and reason given, along with before & after chromatograms. Audit trail must be on (if available).	Yes		Yes		If NO, address manual integration and/or turn on audit trail feature and document reason why it may have been turned off.
g. Are reported results whose amounts exceeded the acceptance criteria flagged with an appropriate qualifier in LIMS and, if needed, were any non-matrix related nonconformities documented in the NCR spreadsheet?		Yes		Yes		If NO, include proper qualification(s) in LIMS and enter nonconformities into the NCR spreadsheet before data review/validation.

V METH, ETH, ETHENE QSM 5.0 Analytical Run
125089 on 04/22/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	713032								V METH, ETH, ETHENE QSM 5.				
					CCV					0			
	711053								METH,ETH,ETHE QSM 5.0				
					LCSW					56848			
	711052								METH,ETH,ETHE QSM 5.0				
					MBW					56848			
118280	708692		04/13/2016	0850			BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		49MW01								56848			
	711054		04/13/2016	0850					METH,ETH,ETHE QSM 5.0				
		49MW01			MSW	708692				56848			
118280	708694		04/13/2016	1000			BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		48MW1								56848			
	713060		04/13/2016	1000					METH,ETH,ETHE QSM 5.0				
		48MW1			DUP	708694				56848			
118280	708696		04/13/2016	1217			BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		13MW3								56848			
118280	708698		04/13/2016	1025			BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		041316R1								56848			
118280	708700		04/13/2016	1317			BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		13MW4								56848			
118280	708707		04/13/2016	1410			BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		13MW2								56848			
	713033								V METH, ETH, ETHENE QSM 5.				
					CCV					0			
118280	708709		04/13/2016	1525			BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		49MW04								56848			
	713034								V METH, ETH, ETHENE QSM 5.				
					CCV					0			

14 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

PREP WORKSHEET
on 04/22/2016

Prep Batch **56,848** Date Prepped: 04/20/2016 Prepped By AMA

Folder #	Order	QC Type	Link	Test	Matrix	Volume	Weight	Initial Volume	SDG Level	Notes
	711052	MBW		METH,ETH,ETHE QSM	LIQUID	20.2				
	711053	LCSW		METH,ETH,ETHE QSM	LIQUID	20.2				
118280	708692			METH,ETH,ETHE QSM	GROUND WATER	20.2			4	
	708694			METH,ETH,ETHE QSM	GROUND WATER	20.2			4	
	708696			METH,ETH,ETHE QSM	GROUND WATER	20.2			4	
	708698			METH,ETH,ETHE QSM	GROUND WATER	20.2			4	
	708700			METH,ETH,ETHE QSM	GROUND WATER	20.2			4	
	708707			METH,ETH,ETHE QSM	GROUND WATER	20.2			4	
	708709			METH,ETH,ETHE QSM	GROUND WATER	20.2			4	
	711054	MSW	708692	METH,ETH,ETHE QSM	GROUND WATER	20.2				
	713060	DUP	708694	METH,ETH,ETHE QSM	GROUND WATER	20.2				

Notes:_____

Sequence Summary Report

Sequence Filename: C:\InStarch\PVOC4\Sequence\042016.seq
Instrument: PVOC4
Processing Date: Apr 20, 2016 14:51:22

'Run Number	Sample ID	Data Filename	Method Filename	Run Time
1	125088,CCV,	C:\Instarch\PVOC4\Data\042016\001.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 20, 2016 10:00:11
2	125088,LCSW,	C:\Instarch\PVOC4\Data\042016\002.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 20, 2016 10:05:37
3	125088,MBW,	C:\Instarch\PVOC4\Data\042016\003.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 20, 2016 10:13:24
4	125088,707141,	C:\Instarch\PVOC4\Data\042016\004.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 20, 2016 10:23:19
5	125088,LQCKW,	C:\Instarch\PVOC4\Data\042016\005.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 20, 2016 10:29:22
6	125088,707141,	C:\Instarch\PVOC4\Data\042016\006.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 20, 2016 10:38:27
7	125088,LQCKW,	C:\Instarch\PVOC4\Data\042016\007.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 20, 2016 10:44:10
8	125088,CCV,	C:\Instarch\PVOC4\Data\042016\008.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 20, 2016 10:50:10
9	125089,LCSW,	C:\Instarch\PVOC4\Data\042016\009.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 20, 2016 10:55:57
10	125089,MBW,	C:\Instarch\PVOC4\Data\042016\010.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 20, 2016 11:20:44
11	125089,708692,	C:\Instarch\PVOC4\Data\042016\011.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 20, 2016 11:25:03
12	125089,MSW708692,	C:\Instarch\PVOC4\Data\042016\012.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 20, 2016 11:28:56
13	125089,708694,	C:\Instarch\PVOC4\Data\042016\013.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 20, 2016 11:32:28
14	125089,DUP708694,	C:\Instarch\PVOC4\Data\042016\014.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 20, 2016 11:38:10
15	125089,708696,	C:\Instarch\PVOC4\Data\042016\015.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 20, 2016 11:43:06
16	125089,708698,	C:\Instarch\PVOC4\Data\042016\016.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 20, 2016 11:46:30
17	125089,708700,	C:\Instarch\PVOC4\Data\042016\017.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 20, 2016 11:52:02
18	125089,708707,	C:\Instarch\PVOC4\Data\042016\018.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 20, 2016 11:59:02
19	125089,CCV,	C:\Instarch\PVOC4\Data\042016\019.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 20, 2016 12:04:51
20	125089,708709,	C:\Instarch\PVOC4\Data\042016\020.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 20, 2016 12:09:09
21	125091,709464,	C:\Instarch\PVOC4\Data\042016\021.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 20, 2016 12:12:54
22	125091,709464,250	C:\Instarch\PVOC4\Data\042016\022.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 20, 2016 12:18:18
23	125091,709467,	C:\Instarch\PVOC4\Data\042016\023.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 20, 2016 12:22:45
24	125091,709467,20	C:\Instarch\PVOC4\Data\042016\024.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 20, 2016 12:26:50
25	125091,709468,	C:\Instarch\PVOC4\Data\042016\025.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 20, 2016 12:30:41
26	125091,709468,100	C:\Instarch\PVOC4\Data\042016\026.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 20, 2016 12:35:19
27	125091,709468,10	C:\Instarch\PVOC4\Data\042016\027.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 20, 2016 12:39:29
28	125091,709468,100	C:\Instarch\PVOC4\Data\042016\028.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 20, 2016 12:44:04
29	125091,709468,200	C:\Instarch\PVOC4\Data\042016\029.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 20, 2016 12:47:43
30	125091,CCV,	C:\Instarch\PVOC4\Data\042016\030.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 20, 2016 12:57:00
31	125091,709469,	C:\Instarch\PVOC4\Data\042016\031.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 20, 2016 13:17:45
32	125091,709469,200	C:\Instarch\PVOC4\Data\042016\032.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 20, 2016 13:22:50
33	125091,710854,	C:\Instarch\PVOC4\Data\042016\033.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 20, 2016 13:27:51
34	125091,710854,200	C:\Instarch\PVOC4\Data\042016\034.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 20, 2016 14:20:14
35	125091,710856,	C:\Instarch\PVOC4\Data\042016\035.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 20, 2016 14:24:29
36	125091,710856,50	C:\Instarch\PVOC4\Data\042016\036.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 20, 2016 14:28:05
37	125091,710857,	C:\Instarch\PVOC4\Data\042016\037.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 20, 2016 14:31:43
38	125091,710857,50	C:\Instarch\PVOC4\Data\042016\038.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 20, 2016 14:36:12
39	125091,MSW710857,	C:\Instarch\PVOC4\Data\042016\039.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 20, 2016 14:40:02
40	125091,MSDW7108...	C:\Instarch\PVOC4\Data\042016\040.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 20, 2016 14:44:06
41	125091,CCV,	C:\Instarch\PVOC4\Data\042016\041.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Apr 20, 2016 14:51:22

Dissolved Gases (Injection)
(Sequence Log)

LIMS Run #(s): 125088, 125089, 125091 Instrument: Proc 4

Sequence Date: 04/20/16 Analyst: AMA

Calibration Date: 02/03/15 Ambient Temp. (°C): 20.2 °C

Injection #	Sample #	Injection Vol. (ml)	Sample Vol. (ml)
1	CCV	0.25	42
2	LCSD	1.0	42
3	MBD	1.0	42
4	LODM	1.0	42
5	LOQA	1.0	42
6	LODEE	1.0	42
7	LOQEE	1.0	42
8	CCV	0.25	42
9	LCSD	1.0	42
10	MBD	1.0	42
11	709692	1.0	42
12	MSD 709692	1.0	42
13	708694	1.0	42
14	DUP 708694	1.0	42
15	705696	1.0	42
16	708698	1.0	42
17	703700	1.0	42
18	708707	1.0	42
19	CCV	0.25	42
20	708709	1.0	42
21	709464	1.0	42
22	709464	0.004	42
23	709467	1.0	42
24	709467	0.05	42
25	709468	1.0	42

Calibration Standard Ref. #: V1681

Second Source Ref. #: V730

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Dissolved Gases (Injection)
(Sequence Log)

LIMS Run #(s): 125088, 125089 125091 Instrument: Pvoc 4

Sequence Date: 04/20/16 Analyst: AHA

Calibration Date: 02/03/15 Ambient Temp. (°C): 20.2 °C

Injection #	Sample #	Injection Vol. (ml)	Sample Vol. (ml)
26	709468	0.01	43
27	709468	0.1	43
28	709468	0.01	43
29	709468	0.005	43
30	CCV	0.25	43
31	709469	1.0	43
32	709469	0.005	43
33	710854	1.0	43
34	710854	0.005	43
35	710856	1.0	43
36	710856	0.02	43
37	710857	1.0	43
38	710857	0.02	43
39	MSD 710857	1.0	43
40	MSD 710857	1.0	43
41	CCV	0.25	43
42			43
43			43
44		04/20/16 AHA	43
45			43
46			43
47			43
48			43
49			43
50			43

Calibration Standard Ref. #: V481

Second Source Ref. #: V730

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FVO1-01 Data Review Checklist

	FVO1-01 Method: Dissolved Gases (EPA SW-846 8015 / RSK 175 Modified)					
LIMS Run #(s)	Analysis Date (s)	Analyst / Data Interpreter	Independent Reviewer	Date of Review	Approved? (Yes or No)	Instrument
125088, 125089, 125091	04/20/2016	AMA	RLD	04/26/2016	Yes	PVOC4

Instructions: Complete one checklist per *analytical sequence* . Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement:	Acceptance Criteria	Analyst Review		Independent Review		Comments: (indicate reference to an attachment if necessary)
1. INITIAL CALIBRATION (ICAL)		Yes	No	Yes	No	
a. Was the initial calibration performed using a minimum of five concentration levels?	Lowest standard at or below RL	Yes		Yes		If NO, recalibrate
b. For each analyte/component is the variation between calibration response factors for all concentration levels <20% RSD or is $r^2 \geq .99$ or $r \geq .995$ for the regression line?	RSD <20% or $r^2 \geq .99$ or $r \geq .995$ or program/project specific	Yes		Yes		If NO, recalibrate
c. Are the identification and date of the ICAL listed on the printout (or PDF) of the analytical run and in the method file?	ID# and date of ICAL listed	Yes		Yes		
d. Was an Initial Calibration Verification (ICV) analyzed after the ICAL?	Analyzed prior to sample analyses	Yes		Yes		If NO, analyze ICV prior to sample analyses.
e. Were the recoveries for each analyte in the ICV within required limits?	Recoveries 85 - 115% or within program/project specific limits	Yes		Yes		If NO, reanalyze ICV. If still No then necessary maintenance and recalibration should be performed.
f. Was an Initial Calibration Blank (ICB) analyzed?		Yes		Yes		If NO, reanalyze ICB before sample analyses.
g. Were the ICB results for all target analytes/components less than the reporting limit (RL)?	<RL or < program/project specific	Yes				
3. CONTINUING CALIBRATION VERIFICATION (CCV)						
a . Was a CCV analyzed at the beginning and end of a sequential analysis run, as well as after ever 10 samples?		Yes		Yes		If NO, then samples / QC in the affected window must be reanalyzed.
b. Were the recoveries for each analyte/component in the CCV within acceptance criteria?	Recoveries 85 - 115% or within program/project specific limits	Yes		Yes		If NO, then necessary maintenance and possible recalibration should be performed. Affected samples must be reanalyzed for compounds exceeding CCV criteria.
4. METHOD BLANKS (MB)						
a. Was a method blank (MB) analyzed?	1 / 20 or program/project specific	Yes		Yes		If NO, reanalyze sample batch with an associated MB.
b. Were the MB results for all analytes/components less than reporting limit?	All target analytes/components <RL or within program/project specific limits (DoD-QSM: <1/2 the RL)	Yes		Yes		If analytes/components were detected in the MB with no associated positives in the samples, no further action is needed. If analyte detects are greater than the RL with associated positives in the samples, flag associated positives with a "B" qualifier.
5. LABORATORY CONTROL SAMPLE (LCS)						
a. Was a LCS analyzed at the required frequency?	1 / 20 or program/project specific	Yes		Yes		If NO, reanalyze sample batch with an associated LCS.
b. Were LCS recoveries for all analytes within the acceptance criteria?	Default = 70-130%, or within In-house generated or program/project specific limits	Yes		Yes		If NO, reanalyze LCS to confirm no preparation error.
c. If LCS recoveries exceed acceptance criteria, was the LCS reanalyzed in an effort to eliminate the possibility of a preparation error?						If LCS recoveries exceed acceptance criteria again, investigate and correct problem and reanalyze affected samples, if possible. If LCS recoveries exceed criteria after sample reanalysis and if samples are not reanalyzed, See Below: *If LCS recovery is high with no associated positives in samples, no further action needed. *If LCS recovery is high with associated positives in samples, flag associated positives "Q". *If LCS recoveries are low, flag all affected analytes/components within the batch "Q".

6. MATRIX SPIKE (MS)/ MATRIX SPIKE DUPLICATES (MSD) and DUPLICATE						
a. Was a MS, MSD, and/or Duplicate (if valid) Vial analyzed with each batch of 20 samples (or program-specified frequency)?	1 / 20 or program/project specific frequency (QSM samples, duplicate only valid if sample result ≥ 5x the LOQ)	Yes		Yes		If NO, analyze a MS/MSD from the specific sample batch. When insufficient sample amount is provided for matrix spikes, preparing a sample in duplicate is possible.
b. Were MS/MSD recoveries for all analytes within acceptance criteria?	Default =70-130%, or within In-house generated or program/project specific limits		No		No	If NO, See Below: *If MS/MSD recoveries are below acceptable limits, and unspiked sample has detects or no detects for affected analytes, flag affected analytes "M". *If MS/MSD recoveries are above acceptable limits, and the unspiked sample has no detects for affected analytes, no action is required. *If MS/MSD recoveries are outside of acceptable limits, and unspiked sample has detects for affected analytes, flag affected analytes "M" in parent sample.
7. PRECISION						
a. Is the relative percent difference (RPD) for each analyte between duplicate QC samples (i.e. parent sample / Duplicate vial), or for each MS/MSD within the acceptance criteria?	Default = 20 % RPD, or within In-house generated or program/project specific limits		No		No	If NO, "Y" flag all affected compounds in the unspiked sample if the precision failure is between the MS and MSD or the parent sample if the precision failure is between a duplicate samples.
8. SAMPLES (INCLUDING BLANKS, STANDARDS, AND QC SAMPLES)						
a. Are chromatogram characteristics, including peak shapes and areas, consistent with those of the CCV?		Yes		Yes		If NO, document any discrepancies. Manual integrations should include before and after chromatography. Manual integrations should be signed and dated.
b. Were all samples having analytes detected in amounts exceeding the calibration range diluted and reanalyzed or reanalyzed using a smaller sample aliquot? Affected analyte detects should remain above the limit of quantitation (LOQ) after reanalysis.		Yes		Yes		If NO, dilute and reanalyze samples for compounds exceeding calibration range.
c. Was the correct ambient temperature recorded on sample spreadsheets?		Yes		Yes		If NO, sample must be reanalyzed. Temperature must be documented.
d. Were all samples adequately preserved and analyzed within holding time?	CO2 samples received unpreserved (analyze within 7 days or program/project specific) Methane, Ethene, Ethane samples received preserved to <2 (analyze within 14 days or program/project specific)	Yes		Yes		If NO, qualify samples analyzed past hold time with an "H" flag. Sample improperly preserved should be qualified with a "T" flag.
9. RECORDS AND REPORTING						
a. Is a sequence run file present in the raw data file?		Yes		Yes		If NO, include sequence run with raw data.
b. Is the data initialed and dated by analyst?	Analysis Run sheet is initialed & dated by the analyst processing the raw data.	Yes		Yes		If NO, if no obtain initials and date from analyst.
c. Do all values, units, etc. listed match the raw data and associated calculations and records?		Yes		Yes		If NO, data should be reprocessed to include correct units and results.
e. Has the data been electronically transferred to the LIMS and were the applicable qualifiers assigned?		Yes		Yes		If NO, recapture data. Manual entries into LIMS must be documented to ensure proper review.
f. Were manual integrations addressed properly and were the audit trails turned on (where applicable)?	Manual integration must be initialed, dated, and reason given, along with before & after chromatograms. Audit trail must be on (if available).	Yes		Yes		If NO, address manual integration and/or turn on audit trail feature and document reason why it may have been turned off.
g. Are reported results whose amounts exceeded the acceptance criteria flagged with an appropriate qualifier in LIMS and, if needed, were any non-matrix related nonconformities documented in the NCR spreadsheet?		Yes		Yes		If NO, include proper qualification(s) in LIMS and enter nonconformities into the NCR spreadsheet before data review/validation.

Sequence Summary Report

Sequence Filename: C:\InStarch\PVOC4\Sequence\020315DGIC.seq
Instrument: PVOC4
Processing Date: Feb 03, 2015 11:19:15

'Run Number	Sample ID	Data Filename	Method Filename	Run Time
1	MEE PT1 - 2 ppmV	C:\Instarch\PVOC4\Data\020315icdg\001....	C:\Instarch\PVOC4\Methods\P4DG020...	Feb 03, 2015 10:27:30
2	MEE PT2 - 5 ppmV	C:\Instarch\PVOC4\Data\020315icdg\002....	C:\Instarch\PVOC4\Methods\P4DG020...	Feb 03, 2015 10:35:02
3	MEE PT3 - 10 ppmV	C:\Instarch\PVOC4\Data\020315icdg\003....	C:\Instarch\PVOC4\Methods\P4DG020...	Feb 03, 2015 10:38:17
4	MEE PT4 - 20 ppmV	C:\Instarch\PVOC4\Data\020315icdg\004....	C:\Instarch\PVOC4\Methods\P4DG020...	Feb 03, 2015 10:41:32
5	MEE PT5 - 50 ppmV	C:\Instarch\PVOC4\Data\020315icdg\005....	C:\Instarch\PVOC4\Methods\P4DG020...	Feb 03, 2015 10:44:59
6	MEE PT6 - 100 ppmV	C:\Instarch\PVOC4\Data\020315icdg\006....	C:\Instarch\PVOC4\Methods\P4DG020...	Feb 03, 2015 10:48:29
7	MEE PT7 - 200 ppmV	C:\Instarch\PVOC4\Data\020315icdg\007....	C:\Instarch\PVOC4\Methods\P4DG020...	Feb 03, 2015 10:52:17
8	ICV - 50 ppmV	C:\Instarch\PVOC4\Data\020315icdg\008....	C:\Instarch\PVOC4\Methods\P4DG020...	Feb 03, 2015 11:02:07
9	ICB	C:\Instarch\PVOC4\Data\020315icdg\009....	C:\Instarch\PVOC4\Methods\P4DG020...	Feb 03, 2015 11:19:15

Dissolved Gases (Injection)

(Sequence Log)

LIMS Run #(s): _____ Instrument: PVOC4

Sequence Date: 02/03/15 Analyst: AGK / BMS

Calibration Date: 02/03/15 Ambient Temp. (°C): 21.0

Injection #	Sample #	Injection Vol. (ml)	Sample Vol. (ml)
1	MEE PT1	0.01 mL	42
2	MEE PT2	0.025 mL	42
3	MEE PT 3	0.05 mL	42
4	MEE PT4	0.10 mL	42
5	MEE PT5	0.25 mL	42
6	MEE PT6	0.50 mL	42
7	MEE PT7	1.0 mL	42
8	ICV	.25 mL	42
9	ICB	1 mL	42
10	Re-Cert Rep 1	.25 mL	42
11	ReCert Rep 2	.25 mL	42
12	ReCert Rep 3	.25 mL	42
13	ReCert Rep 4	.25 mL	42
14	ReCert Rep 5	.25 mL	42
15			42
16			42
17			42
18			42
19	AGK 02/03/15		42
20			42
21			42
22			42
23			42
24			42
25			42

Calibration Standard Ref. #: V681

Second Source Ref. #: V619 / V730

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CTI VOLATILE STANDARDS LOGBOOK 1

CTI STANDARD NUMBER (EXAMPLE = CTIV001*)	COMPOUND or SOLUTION NAME	COMPOUND / SOLUTION SUPPLIER	STANDARD'S PART NUMBER	STANDARD'S LOT #	STANDARD CONCENTRATION [1] and EXPIRATION DATE	NEAT (N) or SOLUTION (S) (If neat list % purity, if solution list solvent)	DATE REC'D and ANALYST'S INITIALS	COMMENTS
V723	8260 Special Additions	SPEX	VO-CTWI-5	C114211900B	1000-5000 ug/mL 5/14/15	MeOH	RD 12/16/14	2 x 1mL
V724	8260 Special Additions	SPEX	VO-CTWI-5	C114211900G	1000-5000 ug/mL 5/14/15	MeOH	RD 12/16/14	2 x 1mL
V725	8260 ISTD/SS Mix	Ultra Sci.	STM-540	CK-2154	2500 ug/mL 7/31/16	MeOH	RD 12/18/14	4 x 1mL
V726	BFB Stn.	Ultra Sci.	STS-110N	CH-3248A	2000 ug/mL 11/30/17	MeOH	RD 12/18/14	2 x 1mL
V727	Acetylene Std.	AIRGAS	X02IHE99C33A087	54-1244K7791-1	300 PPMV 12/7/17	Helium	Bms 12/22/14	Cylinder @ 28.7 CF
V728	1,4-Dioxane Std.	SPEX	S-1715	C112121901Z	1000 ug/mL 12/15/15	MeOH	RD 12/31/14	2 x 1mL
V729	VOC Mix	Ultra Sci	DWM-588-1	CL-5325	2000 ug/mL 1/31/16	MeOH	RD 1/31/15	2 x 1mL
V730	Methane, Ethene, Ethane Std.	AIRGAS	X04HE99C3737C80	54-1248928001	200 ppmV 02/03/16	He	Bms 02/03/15	Re-certified V619
V731	VOC 8260 Additions	SPEX	VO-CTWI-12	C115020201Z	1000-10000 ug/mL Stds	MeOH	RD 2/6/15	2 x 1mL
V732	VOC 8260 Additions	SPEX	VOCTWI-12	C115020201J	1000-10000 ug/mL Stds	MeOH	RD 2/6/15	2 x 1mL

* = If multiple vials of the same lot number and expiration date are received the standard will be given one CTI Standard # and each vial will have a alpha designation asigned to it. (Example = Three vials of DRO standard solution, CTI001A-C)

1 = If multiple analytes and all of the concentrations vary, mark VARIES.

CTI VOLATILE STANDARDS LOGBOOK 1

CTI STANDARD NUMBER (EXAMPLE = CTIV001*)	COMPOUND or SOLUTION NAME	COMPOUND / SOLUTION SUPPLIER	STANDARD'S PART NUMBER	STANDARD'S LOT #	STANDARD CONCENTRATION [1] and EXPIRATION DATE	NEAT (N) or SOLUTION (S) (If neat list % purity, if solution list solvent)	DATE REC'D and ANALYST'S INITIALS	COMMENTS
V6666	8260 Addition	SPEX	VO-CTIW-12	CI130701014	1000-10,000 ug/mL 08/05/13	MeOH	07/08/13 BmS	2 x 1mL
V6667	VOC Mix	ULTRA	DWM-588	CK-1488	2000 ug/mL 06/30/16	MeOH	07/08/13 BmS	4 x 1mL
V6668	8260 Isth./Sstd. Mix	ULTRA	STM-540	CK-3154	2500 ug/mL 07/31/16	MeOH	07/08/13 BmS	4 x 1mL
V6669	Fluorobenzene	ULTRA	STS-160	CE-9128A	2000 ug/mL 01/31/15	MeOH	07/08/13 BmS	4 x 1mL
V6670	Unleaded Gasoline	ULTRA	RGO-601	CH-0979	5000 ug/mL 04/30/15	MeOH	07/08/13 BmS	4 x 1mL
V6671	8260 Special Addition	SPEX	VO-CTWE-5	CI130726021	1000-10000 ug/mL 01/22/16	MeOH	08/02/13 BmS	2 x 1mL
V6672	8260 Special Addition	SPEX	VO-CTWI-5	CI130726023	1000-5000 ug/mL 01/22/14	MeOH	08/02/13 BmS	2 x 1mL
V6673	Carbon Dioxide Std.	AIRGAS	X02HE99C358888	Cylinder #: SF7598 Lot: 136-40C358836-1	10,000 ppmV 8/2016	1% CO2/He	08/26/13 BmS	1 cylinder @ 28.7 CF
V674	8260 VOC mix.	AccuStd.	M-502-10X-PAK	213041330	2000 ug/mL 5/20/16	MeOH	9/16/13 RJ	5 x 1mL
V675	8260 Addition	SPEX	VO-CTWE-12	CI130919006	1000-10000 ug/mL 12/18/13	MeOH	10/1/13 RJ	2 x 1mL
V676	8260 Addition	SPEX	VO CTWI-12	CI130919007	1000-10000 ug/mL, 12/18/13	MeOH	10/1/13 RJ	2 x 1mL
V677	8260 Special Addition	SPEX	VO-CTWI-5	CI130923019	1000-5000 ug/mL, 3/22/14	MeOH	10/1/13 RJ	2 x 1mL
V678	8260 Special Addition	SPEX	VO-CTWI-5	CI130923020	1000-5000 ug/mL, 3/22/14	MeOH	10/1/13 RJ	2 x 1mL
V679	124 TMB 2-methylpentane	SPEX	VI-CTWI-1	T131004003	1000 ug/mL 10/03/16	MeOH	10/08/13 BmS	1mL
V680	4bromo-Trifluorotoluene	ULTRA	STS-23CN	CE-1903Z	2000 ug/mL 08/31/16	MeOH	10/08/13 BmS	4 x 1mL
V681	Methane, Ethene, Ethane Std.	AIRGAS	X04HE99C353880	54-1243927530-1	250 ppmV 10/2016	Helium	10/21/13 BmS	1 cylinder @ 31.6 CF

* = If multiple vials of the same lot number and expiration date are received the standard will be given one CTI Standard # and each vial will have a alpha designation asigned to it. (Example = Three vials of DRO standard solution, CTI001A-C)

1 = If multiple analytes and all of the concentrations vary, mark VARIES.

CTI VOLATILE STANDARDS LOGBOOK 1

CTI STANDARD NUMBER (EXAMPLE = CTIV001)	COMPOUND or SOLUTION NAME	COMPOUND / SOLUTION SUPPLIER	STANDARD'S PART NUMBER	STANDARD'S LOT #	STANDARD CONCENTRATION [1] and EXPIRATION DATE	NEAT (N) or SOLUTION (S) (If neat list % purity, if solution list solvent)	DATE REC'D and ANALYST'S INITIALS	COMMENTS
V609	Fluorobenzene	ULTRA	STS-160	CE-4128	2000 ug/mL 12/31/12	MeOH	09/19/11 BMS	4x1
V610	para-Trifluorotoluene	ULTRA	STS-220N	CE-1903A	2000 ug/mL 07/31/14	MeOH	09/19/11 BMS	4x1
V611	8260 SPK Add.	SPEX	VO-CTWI-5	C1110914008	1000-10,000 2000 ug/mL 3/12/12	meoH	9/21/11 MP6	2x1
V612	8260 SPK Add 2	SPEX	VO-CTWI-5	C1110914009	1000-10,000 2000 ug/mL 3/12/12	meoH	9/21/11 MP6	2x1
V613	Pvac/GRO Mix	RESTEK	30095	A078677	1000 ug/mL 3/17	MeOH	09/30/11 BMS	4x1
V614	Unleaded Gasoline	RESTEK	30205	A076842	50,000 ug/mL 10/17	MeOH	09/30/11 BMS	2x1
V615	Surr. Spk Add	SPEX	VO-CTWI-5	C1.1091400B	1000-10,000 2000 ug/mL 3/12/12	meoH	11/23/11 MP6	1x1
V616	8260 SPC Add	SPEX	VO-CTWI-5	C1111123007	1000-10,000 2000 ug/mL 5/21/12	meoH	12/6/11 MP6	2x1
V617	8260 SPK Add	SPEX	VO-CTWI-5	C1111129018	1000-10,000 2000 ug/mL 5/21/12	meoH	12/6/11 MP6	2x1
V618	Carbon Dioxide	Air Gas	X02Hg99C33B1854	Cylinder # XE0046953	10,000 ppmV 12/2014	1% CO2/He	RB 12/19/11	1 cylinder @ 28.7 CF
V619	Methane, Ethene, Ethane Std.	Airgas	XC4HE99C353080	Cylinder # 477A937	200 ppmV 12/2019	Helium	BMS 12/27/11	1 cylinder @ 316 CF
V620	8260 ISTD/SSTD MIX	ULTRA	STM-540	CH-2681	2500 ug/mL 9/30/14	meoH	MP6 11/9/12	4x1
V621	Methane, Ethene, Ethane Std.	PRAXAIR	HE ETAOOEMIC-AQ	917830501	200 ppm 01/11/13	Helium	BMS 01/31/12	Re-certified (V488)

[1] When the lot number and expiration date are received the standard will be given one CTI Standard # and each vial will have a alpha designation (i.e. 3 vials of DRO standard solution, CTI001A-C)
If the concentrations vary, mark VARIES.

METALS
CLP FORMS
DOCUMENTS

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	118236
% Solids:		Lab Sample ID:	708711
Analytical Method:	EPA 6010C	Date Received:	04/14/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	124966	Analysis Date/Time	04/18/2016 13:01
Analytical Prep Batch #:	56773	Prep. Date/Time:	04/15/2016 11:00
ICAL Calibration #:		Concentration Units:	ug/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7440-09-7	Total Potassium	830		90	250	500	500
7440-23-5	Total Sodium	27900		100	300	600	600

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	118236
% Solids:		Lab Sample ID:	708711
Analytical Method:	EPA 7470A	Date Received:	04/14/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	125023	Analysis Date/Time	04/26/2016 13:25
Analytical Prep Batch #:	56789	Prep. Date/Time:	04/18/2016 07:00
ICAL Calibration #:	04262016	Concentration Units:	ug/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7439-97-6	Total Mercury	0.060	U	0.030	0.060	0.12	0.12

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1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	118236
% Solids:		Lab Sample ID:	708711
Analytical Method:	EPA 6010C	Date Received:	04/14/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	124962	Analysis Date/Time	04/18/2016 14:04
Analytical Prep Batch #:	56773	Prep. Date/Time:	04/15/2016 11:00
ICAL Calibration #:		Concentration Units:	ug/L

CAS #	Analyte	Concentration	Qualifiers		DL	LOD	LOQ	RL
7429-90-5	Total Aluminum	10.6	J		6.0	18	36	36
7440-36-0	Total Antimony	6.0	U		2.0	6.0	12	12
7440-38-2	Total Arsenic	12	U		4.0	12	24	24
7440-39-3	Total Barium	116		M	0.29	0.90	1.8	1.8
7440-41-7	Total Beryllium	0.30	U		0.10	0.30	0.60	0.60
7440-43-9	Total Cadmium	1.0	U		0.30	1.0	2.0	2.0
7440-70-2	Total Calcium	66100			17	50	100	100
7440-47-3	Total Chromium	3.4	J		0.60	2.0	4.0	4.0
7440-48-4	Total Cobalt	2.0	U		0.70	2.0	4.0	4.0
7440-50-8	Total Copper	3.5	U	M	1.2	3.5	7.0	7.0
7439-89-6	Total Iron	50	U		16	50	100	100
7439-92-1	Total Lead	2.0	U		1.4	2.0	4.0	4.0
7439-95-4	Total Magnesium	29500			6.0	20	40	40
7439-96-5	Total Manganese	2.3	J	M	0.70	2.0	4.0	4.0
7440-02-0	Total Nickel	3.0	U		1.0	3.0	6.0	6.0
7782-49-2	Total Selenium	2.6	J	B	2.2	6.5	13	13
7440-22-4	Total Silver	2.0	U		0.70	2.0	4.0	4.0
7440-28-0	Total Thallium	7.5	U		2.5	7.5	15	15
7440-62-2	Total Vanadium	0.86	J		0.80	2.5	5.0	5.0
7440-66-6	Total Zinc	7.7	J		1.6	5.0	10	10

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Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 125023 Lab Sample ID: 715537

ICAL Calibration #: 04262016 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Mercury	4/26/16 10:41	3.00	3.04	101	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

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Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 124966

Lab Sample ID: 711166

ICAL Calibration #:

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	4/18/16	08:38	100000	98600	99	90	110
Sodium	4/18/16	08:38	100000	97700	98	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

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Sample No.

LLQC

2A-1

LOWER LIMIT OF QUANTITATION CHECK (LLQC)

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 124966

Lab Sample ID: 711167

ICAL Calibration #:

Concentration Units:

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	4/18/16	08:40	3000	2870	96	80	120
Sodium	4/18/16	08:40	3000	3020	101	80	120

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 124962 Lab Sample ID: 711566

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	4/18/16	10:27	12000	11600	97	90	110
Antimony	4/18/16	10:27	500.0	518.0	104	90	110
Arsenic	4/18/16	10:27	2000	2040	102	90	110
Barium	4/18/16	10:27	2000	2010	100	90	110
Beryllium	4/18/16	10:27	50.00	50.30	101	90	110
Cadmium	4/18/16	10:27	50.00	49.80	100	90	110
Calcium	4/18/16	10:27	10000	9820	98	90	110
Chromium	4/18/16	10:27	200.0	203.0	102	90	110
Cobalt	4/18/16	10:27	500.0	515.0	103	90	110
Copper	4/18/16	10:27	250.0	261.0	104	90	110
Iron	4/18/16	10:27	5000	5050	101	90	110
Lead	4/18/16	10:27	500.0	516.0	103	90	110
Magnesium	4/18/16	10:27	10000	9940	99	90	110
Manganese	4/18/16	10:27	500.0	509.0	102	90	110
Nickel	4/18/16	10:27	500.0	513.0	103	90	110
Selenium	4/18/16	10:27	2000	2040	102	90	110
Silver	4/18/16	10:27	50.00	50.80	102	90	110
Thallium	4/18/16	10:27	2000	2110	106	90	110
Vanadium	4/18/16	10:27	500.0	511.0	102	90	110
Zinc	4/18/16	10:27	500.0	514.0	103	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

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Sample No.

LLQC

2A-1

LOWER LIMIT OF QUANTITATION CHECK (LLQC)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 124962 Lab Sample ID: 711567

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	4/18/16	10:34	1200	1260	105	80	120
Antimony	4/18/16	10:34	60.00	60.50	101	80	120
Arsenic	4/18/16	10:34	60.00	62.60	104	80	120
Barium	4/18/16	10:34	30.00	28.90	96	80	120
Beryllium	4/18/16	10:34	12.00	12.30	102	80	120
Cadmium	4/18/16	10:34	15.00	15.00	100	80	120
Calcium	4/18/16	10:34	1500	1520	101	80	120
Chromium	4/18/16	10:34	30.00	30.40	101	80	120
Cobalt	4/18/16	10:34	30.00	29.80	99	80	120
Copper	4/18/16	10:34	30.00	31.20	104	80	120
Iron	4/18/16	10:34	900.0	932.0	104	80	120
Lead	4/18/16	10:34	30.00	30.80	103	80	120
Magnesium	4/18/16	10:34	1500	1500	100	80	120
Manganese	4/18/16	10:34	30.00	30.80	103	80	120
Nickel	4/18/16	10:34	30.00	29.20	97	80	120
Selenium	4/18/16	10:34	60.00	63.40	106	80	120
Silver	4/18/16	10:34	60.00	52.70	88	80	120
Thallium	4/18/16	10:34	60.00	62.00	103	80	120
Vanadium	4/18/16	10:34	30.00	29.40	98	80	120
Zinc	4/18/16	10:34	30.00	30.90	103	80	120

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

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Sample No.

LLQC

2A-1

LOWER LIMIT OF QUANTITATION CHECK (LLQC)

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 124962

Lab Sample ID: 711571

ICAL Calibration #:

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Silver	4/18/16	11:13	10.00	11.10	111	80	120

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 124962 Lab Sample ID: 715710

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	4/26/16	10:01	12000	11900	99	90	110
Antimony	4/26/16	10:01	500.0	534.0	107	90	110
Arsenic	4/26/16	10:01	2000	2100	105	90	110
Barium	4/26/16	10:01	2000	2050	102	90	110
Beryllium	4/26/16	10:01	50.00	51.50	103	90	110
Cadmium	4/26/16	10:01	50.00	51.50	103	90	110
Calcium	4/26/16	10:01	10000	9510	95	90	110
Chromium	4/26/16	10:01	200.0	201.0	100	90	110
Cobalt	4/26/16	10:01	500.0	523.0	105	90	110
Copper	4/26/16	10:01	250.0	263.0	105	90	110
Iron	4/26/16	10:01	5000	4900	98	90	110
Lead	4/26/16	10:01	500.0	517.0	103	90	110
Magnesium	4/26/16	10:01	10000	9890	99	90	110
Manganese	4/26/16	10:01	500.0	532.0	106	90	110
Nickel	4/26/16	10:01	500.0	511.0	102	90	110
Selenium	4/26/16	10:01	2000	2080	104	90	110
Silver	4/26/16	10:01	50.00	51.40	103	90	110
Thallium	4/26/16	10:01	2000	2130	106	90	110
Vanadium	4/26/16	10:01	500.0	498.0	100	90	110
Zinc	4/26/16	10:01	500.0	524.0	105	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

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Sample No.

LLQC

2A-1

LOWER LIMIT OF QUANTITATION CHECK (LLQC)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 124962 Lab Sample ID: 715711

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	4/26/16	10:07	1200	1210	101	80	120
Antimony	4/26/16	10:07	60.00	65.80	110	80	120
Arsenic	4/26/16	10:07	60.00	64.10	107	80	120
Barium	4/26/16	10:07	30.00	30.30	101	80	120
Beryllium	4/26/16	10:07	12.00	12.50	104	80	120
Cadmium	4/26/16	10:07	15.00	15.80	105	80	120
Calcium	4/26/16	10:07	1500	1560	104	80	120
Chromium	4/26/16	10:07	30.00	30.90	103	80	120
Cobalt	4/26/16	10:07	30.00	29.80	99	80	120
Copper	4/26/16	10:07	30.00	31.70	106	80	120
Iron	4/26/16	10:07	900.0	935.0	104	80	120
Lead	4/26/16	10:07	30.00	30.70	102	80	120
Magnesium	4/26/16	10:07	1500	1540	103	80	120
Manganese	4/26/16	10:07	30.00	32.40	108	80	120
Nickel	4/26/16	10:07	30.00	29.90	100	80	120
Selenium	4/26/16	10:07	60.00	64.00	107	80	120
Silver	4/26/16	10:07	60.00	53.30	89	80	120
Thallium	4/26/16	10:07	60.00	62.10	104	80	120
Vanadium	4/26/16	10:07	30.00	29.00	97	80	120
Zinc	4/26/16	10:07	30.00	31.90	106	80	120

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

LLQC

2A-1

LOWER LIMIT OF QUANTITATION CHECK (LLQC)

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 124962

Lab Sample ID: 715715

ICAL Calibration #:

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Silver	4/26/16 10:47	10.00	11.20	112	80	120

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 124966

Lab Sample ID: 711172

ICAL Calibration #:

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	4/18/16	12:45	100000	103000	103	90	110
Sodium	4/18/16	12:45	100000	99300	99	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 124966 Lab Sample ID: 711176

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	4/18/16	13:18	100000	104000	104	90	110
Sodium	4/18/16	13:18	100000	96700	97	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV High Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 124962 Lab Sample ID: 711572

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	4/18/16	12:20	5000	4780	96	90	110
Antimony	4/18/16	12:20	5000	4940	99	90	110
Arsenic	4/18/16	12:20	5000	4920	98	90	110
Barium	4/18/16	12:20	5000	5000	100	90	110
Beryllium	4/18/16	12:20	500.0	492.0	98	90	110
Cadmium	4/18/16	12:20	500.0	517.0	103	90	110
Calcium	4/18/16	12:20	5000	4960	99	90	110
Chromium	4/18/16	12:20	5000	5050	101	90	110
Cobalt	4/18/16	12:20	5000	4960	99	90	110
Copper	4/18/16	12:20	5000	4990	100	90	110
Iron	4/18/16	12:20	5000	4990	100	90	110
Lead	4/18/16	12:20	5000	4960	99	90	110
Magnesium	4/18/16	12:20	5000	4880	98	90	110
Manganese	4/18/16	12:20	5000	4860	97	90	110
Nickel	4/18/16	12:20	5000	4980	100	90	110
Selenium	4/18/16	12:20	5000	4970	99	90	110
Silver	4/18/16	12:20	500.0	475.0	95	90	110
Thallium	4/18/16	12:20	5000	5030	101	90	110
Vanadium	4/18/16	12:20	5000	4960	99	90	110
Zinc	4/18/16	12:20	5000	5440	109	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

CCV Low Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 124962 Lab Sample ID: 711573

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	4/18/16	12:26	500.0	545.0	109	90	110
Antimony	4/18/16	12:26	500.0	513.0	103	90	110
Arsenic	4/18/16	12:26	500.0	513.0	103	90	110
Barium	4/18/16	12:26	500.0	486.0	97	90	110
Beryllium	4/18/16	12:26	50.00	51.30	103	90	110
Cadmium	4/18/16	12:26	50.00	54.00	108	90	110
Calcium	4/18/16	12:26	500.0	518.0	104	90	110
Chromium	4/18/16	12:26	500.0	498.0	100	90	110
Cobalt	4/18/16	12:26	500.0	516.0	103	90	110
Copper	4/18/16	12:26	500.0	531.0	106	90	110
Iron	4/18/16	12:26	500.0	507.0	101	90	110
Lead	4/18/16	12:26	500.0	516.0	103	90	110
Magnesium	4/18/16	12:26	500.0	494.0	99	90	110
Manganese	4/18/16	12:26	500.0	492.0	98	90	110
Nickel	4/18/16	12:26	500.0	503.0	101	90	110
Selenium	4/18/16	12:26	500.0	532.0	106	90	110
Silver	4/18/16	12:26	50.00	51.10	102	90	110
Thallium	4/18/16	12:26	500.0	534.0	107	90	110
Vanadium	4/18/16	12:26	500.0	491.0	98	90	110
Zinc	4/18/16	12:26	500.0	493.0	99	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV High Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 124962 Lab Sample ID: 711575

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	4/18/16	13:45	5000	4550	91	90	110
Antimony	4/18/16	13:45	5000	5000	100	90	110
Arsenic	4/18/16	13:45	5000	4920	98	90	110
Barium	4/18/16	13:45	5000	5040	101	90	110
Beryllium	4/18/16	13:45	500.0	460.0	92	90	110
Cadmium	4/18/16	13:45	500.0	505.0	101	90	110
Calcium	4/18/16	13:45	5000	4670	93	90	110
Chromium	4/18/16	13:45	5000	4920	98	90	110
Cobalt	4/18/16	13:45	5000	4850	97	90	110
Copper	4/18/16	13:45	5000	5020	100	90	110
Iron	4/18/16	13:45	5000	4800	96	90	110
Lead	4/18/16	13:45	5000	5040	101	90	110
Magnesium	4/18/16	13:45	5000	4500	90	90	110
Manganese	4/18/16	13:45	5000	4490	90	90	110
Nickel	4/18/16	13:45	5000	4520	90	90	110
Selenium	4/18/16	13:45	5000	5080	102	90	110
Silver	4/18/16	13:45	500.0	458.0	92	90	110
Thallium	4/18/16	13:45	5000	5050	101	90	110
Vanadium	4/18/16	13:45	5000	4860	97	90	110
Zinc	4/18/16	13:45	5000	5060	101	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

CCV Low Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 124962 Lab Sample ID: 711576

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	4/18/16	13:51	500.0	517.0	103	90	110
Antimony	4/18/16	13:51	500.0	506.0	101	90	110
Arsenic	4/18/16	13:51	500.0	502.0	100	90	110
Barium	4/18/16	13:51	500.0	461.0	92	90	110
Beryllium	4/18/16	13:51	50.00	48.20	96	90	110
Cadmium	4/18/16	13:51	50.00	50.90	102	90	110
Calcium	4/18/16	13:51	500.0	513.0	103	90	110
Chromium	4/18/16	13:51	500.0	464.0	93	90	110
Cobalt	4/18/16	13:51	500.0	492.0	98	90	110
Copper	4/18/16	13:51	500.0	511.0	102	90	110
Iron	4/18/16	13:51	500.0	474.0	95	90	110
Lead	4/18/16	13:51	500.0	498.0	100	90	110
Magnesium	4/18/16	13:51	500.0	457.0	91	90	110
Manganese	4/18/16	13:51	500.0	462.0	92	90	110
Nickel	4/18/16	13:51	500.0	476.0	95	90	110
Selenium	4/18/16	13:51	500.0	515.0	103	90	110
Silver	4/18/16	13:51	50.00	49.40	99	90	110
Thallium	4/18/16	13:51	500.0	523.0	105	90	110
Vanadium	4/18/16	13:51	500.0	468.0	94	90	110
Zinc	4/18/16	13:51	500.0	465.0	93	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

CCV High Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 124962 Lab Sample ID: 711580

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	4/18/16	15:09	5000	4580	92	90	110
Antimony	4/18/16	15:09	5000	4920	98	90	110
Arsenic	4/18/16	15:09	5000	4860	97	90	110
Barium	4/18/16	15:09	5000	5040	101	90	110
Beryllium	4/18/16	15:09	500.0	465.0	93	90	110
Cadmium	4/18/16	15:09	500.0	489.0	98	90	110
Calcium	4/18/16	15:09	5000	4780	96	90	110
Chromium	4/18/16	15:09	5000	4750	95	90	110
Cobalt	4/18/16	15:09	5000	4730	95	90	110
Copper	4/18/16	15:09	5000	5020	100	90	110
Iron	4/18/16	15:09	5000	4820	96	90	110
Lead	4/18/16	15:09	5000	4970	99	90	110
Magnesium	4/18/16	15:09	5000	4530	91	90	110
Manganese	4/18/16	15:09	5000	4590	92	90	110
Nickel	4/18/16	15:09	5000	4630	93	90	110
Selenium	4/18/16	15:09	5000	4920	98	90	110
Silver	4/18/16	15:09	500.0	455.0	91	90	110
Thallium	4/18/16	15:09	5000	4970	99	90	110
Vanadium	4/18/16	15:09	5000	4860	97	90	110
Zinc	4/18/16	15:09	5000	4980	100	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

CCV Low Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 124962 Lab Sample ID: 711581

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	4/18/16	15:15	500.0	521.0	104	90	110
Antimony	4/18/16	15:15	500.0	495.0	99	90	110
Arsenic	4/18/16	15:15	500.0	488.0	98	90	110
Barium	4/18/16	15:15	500.0	473.0	95	90	110
Beryllium	4/18/16	15:15	50.00	49.30	99	90	110
Cadmium	4/18/16	15:15	50.00	49.90	100	90	110
Calcium	4/18/16	15:15	500.0	513.0	103	90	110
Chromium	4/18/16	15:15	500.0	477.0	95	90	110
Cobalt	4/18/16	15:15	500.0	485.0	97	90	110
Copper	4/18/16	15:15	500.0	502.0	100	90	110
Iron	4/18/16	15:15	500.0	492.0	98	90	110
Lead	4/18/16	15:15	500.0	495.0	99	90	110
Magnesium	4/18/16	15:15	500.0	469.0	94	90	110
Manganese	4/18/16	15:15	500.0	472.0	94	90	110
Nickel	4/18/16	15:15	500.0	487.0	97	90	110
Selenium	4/18/16	15:15	500.0	503.0	101	90	110
Silver	4/18/16	15:15	50.00	50.20	100	90	110
Thallium	4/18/16	15:15	500.0	513.0	103	90	110
Vanadium	4/18/16	15:15	500.0	481.0	96	90	110
Zinc	4/18/16	15:15	500.0	477.0	95	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 125023 Lab Sample ID: 715560

ICAL Calibration #: 04262016 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Mercury	4/26/16 13:14	3.00	2.88	96	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 125023 Lab Sample ID: 715566

ICAL Calibration #: 04262016 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Mercury	4/26/16 13:40	3.00	2.95	98	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV High Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 124962 Lab Sample ID: 715716

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	4/26/16	11:50	5000	5090	102	90	110
Antimony	4/26/16	11:50	5000	4650	93	90	110
Arsenic	4/26/16	11:50	5000	4700	94	90	110
Barium	4/26/16	11:50	5000	4930	99	90	110
Beryllium	4/26/16	11:50	500.0	509.0	102	90	110
Cadmium	4/26/16	11:50	500.0	508.0	102	90	110
Calcium	4/26/16	11:50	5000	4750	95	90	110
Chromium	4/26/16	11:50	5000	4840	97	90	110
Cobalt	4/26/16	11:50	5000	4920	98	90	110
Copper	4/26/16	11:50	5000	5030	101	90	110
Iron	4/26/16	11:50	5000	4490	90	90	110
Lead	4/26/16	11:50	5000	4670	93	90	110
Magnesium	4/26/16	11:50	5000	4660	93	90	110
Manganese	4/26/16	11:50	5000	5250	105	90	110
Nickel	4/26/16	11:50	5000	4740	95	90	110
Selenium	4/26/16	11:50	5000	4860	97	90	110
Silver	4/26/16	11:50	500.0	505.0	101	90	110
Thallium	4/26/16	11:50	5000	4710	94	90	110
Vanadium	4/26/16	11:50	5000	4890	98	90	110
Zinc	4/26/16	11:50	5000	4710	94	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

CCV Low Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 124962 Lab Sample ID: 715717

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	4/26/16	11:56	500.0	512.0	102	90	110
Antimony	4/26/16	11:56	500.0	492.0	98	90	110
Arsenic	4/26/16	11:56	500.0	487.0	97	90	110
Barium	4/26/16	11:56	500.0	475.0	95	90	110
Beryllium	4/26/16	11:56	50.00	50.90	102	90	110
Cadmium	4/26/16	11:56	50.00	54.10	108	90	110
Calcium	4/26/16	11:56	500.0	507.0	101	90	110
Chromium	4/26/16	11:56	500.0	487.0	97	90	110
Cobalt	4/26/16	11:56	500.0	497.0	99	90	110
Copper	4/26/16	11:56	500.0	471.0	94	90	110
Iron	4/26/16	11:56	500.0	504.0	101	90	110
Lead	4/26/16	11:56	500.0	468.0	94	90	110
Magnesium	4/26/16	11:56	500.0	497.0	99	90	110
Manganese	4/26/16	11:56	500.0	507.0	101	90	110
Nickel	4/26/16	11:56	500.0	483.0	97	90	110
Selenium	4/26/16	11:56	500.0	484.0	97	90	110
Silver	4/26/16	11:56	50.00	52.80	106	90	110
Thallium	4/26/16	11:56	500.0	494.0	99	90	110
Vanadium	4/26/16	11:56	500.0	458.0	92	90	110
Zinc	4/26/16	11:56	500.0	486.0	97	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

MRL

2B

MRL STANDARD CHECK

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 124966 Lab Sample ID: 711169

ICAL Calibration #: Concentration Units:

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	4/18/16	08:46	1000	963.0	96	70	130
Sodium	4/18/16	08:46	1000	987.0	99	70	130

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 125023 Lab Sample ID: 715538

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: 04262016 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Mercury	04/26/2016 10:43	0	U	0.03	0.06

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 124966 Lab Sample ID: 711168

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Potassium	04/18/2016 08:43	-68.0	U	90	250
Sodium	04/18/2016 08:43	34.00	U	100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 124962 Lab Sample ID: 711568

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Aluminum	04/18/2016 10:46	2.19	U	6	18
Antimony	04/18/2016 10:46	-1.20	U	2.0	6.0
Arsenic	04/18/2016 10:46	-0.449	U	4	12
Barium	04/18/2016 10:46	-0.299	U	0.29	0.90
Beryllium	04/18/2016 10:46	0.0830	U	0.10	0.30
Cadmium	04/18/2016 10:46	-0.00900	U	0.3	1.0
Calcium	04/18/2016 10:46	-2.49	U	17	50
Chromium	04/18/2016 10:46	-1.12	U	0.6	2.0
Cobalt	04/18/2016 10:46	0.256	U	0.7	2.0
Copper	04/18/2016 10:46	-0.116	U	1.2	3.5
Iron	04/18/2016 10:46	2.57	U	16	50
Lead	04/18/2016 10:46	0.728	U	1.4	2.0
Magnesium	04/18/2016 10:46	-0.118	U	6	20
Manganese	04/18/2016 10:46	-0.269	U	0.7	2.0
Nickel	04/18/2016 10:46	-0.472	U	1.0	3.0
Selenium	04/18/2016 10:46	2.59		2.2	6.5
Silver	04/18/2016 10:46	1.17		0.7	2.0
Thallium	04/18/2016 10:46	-0.561	U	2.5	7.5
Vanadium	04/18/2016 10:46	-0.0870	U	0.8	2.5
Zinc	04/18/2016 10:46	-0.228	U	1.6	4.0

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 124962 Lab Sample ID: 715712

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Aluminum	04/26/2016 10:20	1.36	U	6	18
Antimony	04/26/2016 10:20	3.77		2.0	6.0
Arsenic	04/26/2016 10:20	0.312	U	4	12
Barium	04/26/2016 10:20	0.0500	U	0.29	0.90
Beryllium	04/26/2016 10:20	0.0420	U	0.10	0.30
Cadmium	04/26/2016 10:20	0.163	U	0.3	1.0
Calcium	04/26/2016 10:20	-0.914	U	17	50
Chromium	04/26/2016 10:20	-0.212	U	0.6	2.0
Cobalt	04/26/2016 10:20	0.215	U	0.7	2.0
Copper	04/26/2016 10:20	-0.739	U	1.2	3.5
Iron	04/26/2016 10:20	9.00	U	16	50
Lead	04/26/2016 10:20	-1.48	U	1.4	2.0
Magnesium	04/26/2016 10:20	1.82	U	6	20
Manganese	04/26/2016 10:20	-0.168	U	0.7	2.0
Nickel	04/26/2016 10:20	0.0900	U	1.0	3.0
Selenium	04/26/2016 10:20	-0.586	U	2.2	6.5
Silver	04/26/2016 10:20	0.125	U	0.7	2.0
Thallium	04/26/2016 10:20	-0.0740	U	2.5	7.5
Vanadium	04/26/2016 10:20	0.244	U	0.8	2.5
Zinc	04/26/2016 10:20	-0.220	U	1.6	4.0

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 125023 Lab Sample ID: 715561

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: 04262016 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Mercury	04/26/2016 13:17	0	U	0.03	0.06

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 125023 Lab Sample ID: 715568

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: 04262016 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Mercury	04/26/2016 13:42	0	U	0.03	0.06

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 124966 Lab Sample ID: 711173

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Potassium	04/18/2016 12:47	117.0		90	250
Sodium	04/18/2016 12:47	107.0		100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 124966 Lab Sample ID: 711177

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Potassium	04/18/2016 13:21	-10.0	U	90	250
Sodium	04/18/2016 13:21	63.00	U	100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 124962 Lab Sample ID: 711574

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Aluminum	04/18/2016 12:32	-1.18	U	6	18
Antimony	04/18/2016 12:32	-1.17	U	2.0	6.0
Arsenic	04/18/2016 12:32	-1.28	U	4	12
Barium	04/18/2016 12:32	-0.0270	U	0.29	0.90
Beryllium	04/18/2016 12:32	0.134		0.10	0.30
Cadmium	04/18/2016 12:32	-0.0290	U	0.3	1.0
Calcium	04/18/2016 12:32	-4.63	U	17	50
Chromium	04/18/2016 12:32	-0.855	U	0.6	2.0
Cobalt	04/18/2016 12:32	0.300	U	0.7	2.0
Copper	04/18/2016 12:32	-0.812	U	1.2	3.5
Iron	04/18/2016 12:32	-0.316	U	16	50
Lead	04/18/2016 12:32	1.26	U	1.4	2.0
Magnesium	04/18/2016 12:32	-1.61	U	6	20
Manganese	04/18/2016 12:32	-0.235	U	0.7	2.0
Nickel	04/18/2016 12:32	-0.500	U	1.0	3.0
Selenium	04/18/2016 12:32	-1.24	U	2.2	6.5
Silver	04/18/2016 12:32	0.666	U	0.7	2.0
Thallium	04/18/2016 12:32	-1.29	U	2.5	7.5
Vanadium	04/18/2016 12:32	0.226	U	0.8	2.5
Zinc	04/18/2016 12:32	-0.728	U	1.6	5.0

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 124962 Lab Sample ID: 711577

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Aluminum	04/18/2016 13:57	-1.43	U	6	18
Antimony	04/18/2016 13:57	-0.580	U	2.0	6.0
Arsenic	04/18/2016 13:57	-1.14	U	4	12
Barium	04/18/2016 13:57	-0.275	U	0.29	0.90
Beryllium	04/18/2016 13:57	0.0650	U	0.10	0.30
Cadmium	04/18/2016 13:57	-0.0880	U	0.3	1.0
Calcium	04/18/2016 13:57	-4.49	U	17	50
Chromium	04/18/2016 13:57	-0.484	U	0.6	2.0
Cobalt	04/18/2016 13:57	0.403	U	0.7	2.0
Copper	04/18/2016 13:57	-0.423	U	1.2	3.5
Iron	04/18/2016 13:57	1.01	U	16	50
Lead	04/18/2016 13:57	-2.40	U	1.4	2.0
Magnesium	04/18/2016 13:57	-1.51	U	6	20
Manganese	04/18/2016 13:57	-0.159	U	0.7	2.0
Nickel	04/18/2016 13:57	-0.789	U	1.0	3.0
Selenium	04/18/2016 13:57	0.0390	U	2.2	6.5
Silver	04/18/2016 13:57	0.846		0.7	2.0
Thallium	04/18/2016 13:57	-0.472	U	2.5	7.5
Vanadium	04/18/2016 13:57	0.360	U	0.8	2.5
Zinc	04/18/2016 13:57	-0.629	U	1.6	5.0

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 124962 Lab Sample ID: 711582

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Aluminum	04/18/2016 15:21	-0.789	U	6	18
Antimony	04/18/2016 15:21	-0.575	U	2.0	6.0
Arsenic	04/18/2016 15:21	-2.21	U	4	12
Barium	04/18/2016 15:21	-0.450	U	0.29	0.90
Beryllium	04/18/2016 15:21	0.0710	U	0.10	0.30
Cadmium	04/18/2016 15:21	-0.0740	U	0.3	1.0
Calcium	04/18/2016 15:21	-4.40	U	17	50
Chromium	04/18/2016 15:21	-0.283	U	0.6	2.0
Cobalt	04/18/2016 15:21	0.309	U	0.7	2.0
Copper	04/18/2016 15:21	-0.0230	U	1.2	3.5
Iron	04/18/2016 15:21	0.946	U	16	50
Lead	04/18/2016 15:21	-0.316	U	1.4	2.0
Magnesium	04/18/2016 15:21	-1.53	U	6	20
Manganese	04/18/2016 15:21	-0.229	U	0.7	2.0
Nickel	04/18/2016 15:21	-0.385	U	1.0	3.0
Selenium	04/18/2016 15:21	4.11		2.2	6.5
Silver	04/18/2016 15:21	0.496	U	0.7	2.0
Thallium	04/18/2016 15:21	-0.858	U	2.5	7.5
Vanadium	04/18/2016 15:21	-0.167	U	0.8	2.5
Zinc	04/18/2016 15:21	-0.781	U	1.6	5.0

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 124962 Lab Sample ID: 715718

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Aluminum	04/26/2016 12:02	-1.73	U	6	18
Antimony	04/26/2016 12:02	2.97		2.0	6.0
Arsenic	04/26/2016 12:02	0.837	U	4	12
Barium	04/26/2016 12:02	-0.0150	U	0.29	0.90
Beryllium	04/26/2016 12:02	0.112		0.10	0.30
Cadmium	04/26/2016 12:02	0.259	U	0.3	1.0
Calcium	04/26/2016 12:02	-2.33	U	17	50
Chromium	04/26/2016 12:02	-0.214	U	0.6	2.0
Cobalt	04/26/2016 12:02	-0.0770	U	0.7	2.0
Copper	04/26/2016 12:02	-0.503	U	1.2	3.5
Iron	04/26/2016 12:02	4.75	U	16	50
Lead	04/26/2016 12:02	-1.31	U	1.4	2.0
Magnesium	04/26/2016 12:02	0.851	U	6	20
Manganese	04/26/2016 12:02	-0.153	U	0.7	2.0
Nickel	04/26/2016 12:02	-0.225	U	1.0	3.0
Selenium	04/26/2016 12:02	4.73		2.2	6.5
Silver	04/26/2016 12:02	0.112	U	0.7	2.0
Thallium	04/26/2016 12:02	-0.452	U	2.5	7.5
Vanadium	04/26/2016 12:02	0.0350	U	0.8	2.5
Zinc	04/26/2016 12:02	-0.421	U	1.6	5.0

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 125023 Lab Sample ID: 709907

Analytical Prep Batch # 56789 Preparation Date/Time: 04/18/2016 07:00

ICAL Calibration #: 04262016 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Mercury	04/26/2016 13:23	0	U	0.03	0.06

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 124962 Lab Sample ID: 709200

Analytical Prep Batch # 56773 Preparation Date/Time: 04/15/2016 11:00

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit	
Total Aluminum	04/18/2016 13:39	-0.556	U	6	18	
Total Antimony	04/18/2016 13:39	-0.964	U	2.0	6.0	
Total Arsenic	04/18/2016 13:39	-2.71	U	4	12	
Total Barium	04/18/2016 13:39	-0.416	U	0.29	0.90	
Total Beryllium	04/18/2016 13:39	0.0940	U	0.10	0.30	
Total Cadmium	04/18/2016 13:39	-0.235	U	0.3	1.0	
Total Calcium	04/18/2016 13:39	66.50		17	50	FAIL
Total Chromium	04/18/2016 13:39	-0.398	U	0.6	2.0	
Total Cobalt	04/18/2016 13:39	-0.0550	U	0.7	2.0	
Total Copper	04/18/2016 13:39	-0.124	U	1.2	3.5	
Total Iron	04/18/2016 13:39	-2.76	U	16	50	
Total Lead	04/18/2016 13:39	-2.45	U	1.4	2.0	
Total Magnesium	04/18/2016 13:39	-1.38	U	6	20	
Total Manganese	04/18/2016 13:39	-0.261	U	0.7	2.0	
Total Nickel	04/18/2016 13:39	-0.956	U	1.0	3.0	
Total Selenium	04/18/2016 13:39	2.60		2.2	6.5	FAIL
Total Silver	04/18/2016 13:39	0.167	U	0.7	2.0	
Total Thallium	04/18/2016 13:39	-1.29	U	2.5	7.5	
Total Vanadium	04/18/2016 13:39	0.354	U	0.8	2.5	
Total Zinc	04/18/2016 13:39	-0.974	U	1.6	5.0	

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 124966 Lab Sample ID: 709200

Analytical Prep Batch # 56773 Preparation Date/Time: 04/15/2016 11:00

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Potassium	04/18/2016 12:58	0	U	90	250
Total Sodium	04/18/2016 12:58	1.00	U	100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 124966 Lab Sample ID: 709200

Analytical Prep Batch # 56773 Preparation Date/Time: 04/15/2016 11:00

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Potassium	04/18/2016 12:58	0	U	90	250
Total Sodium	04/18/2016 12:58	1.00	U	100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No:

4-1

ICP INTERFERENCE CHECK SAMPLE (SOL. A)

ICSA

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
ICP ID Number: TJA 6000
SDG No.: 118236
ICS Source: SPEX

Analytical Run #: 124966
Lab Sample ID: 711170
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	04/18/2016 08:49	500000	510000	102	80	120
Calcium	04/18/2016 08:49	500000	499000	100	80	120
Iron	04/18/2016 08:49	500000	498000	100	80	120
Magnesium	04/18/2016 08:49	500000	515000	103	80	120
Potassium	04/18/2016 08:49	0	0		-170	170
Sodium	04/18/2016 08:49	0	0		-140	140

CT LABORATORIES
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Sample No:

4-1

ICP INTERFERENCE CHECK SAMPLE (SOL. A)

ICSA

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
ICP ID Number: TJA 6000
SDG No.: 118236
ICS Source: SPEX

Analytical Run #: 124962
Lab Sample ID: 711569
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	04/18/2016 10:59	500000	508000	102	80	120
Antimony	04/18/2016 10:59	0	0.00100		-5	5
Arsenic	04/18/2016 10:59	0	0.390		-6	6
Barium	04/18/2016 10:59	0	0.0490		-0.7	0.7
Beryllium	04/18/2016 10:59	0	0.176		-0.29	0.29
Cadmium	04/18/2016 10:59	0	0.00100		-0.26	0.26
Calcium	04/18/2016 10:59	500000	478000	96	80	120
Chromium	04/18/2016 10:59	0	-0.274		-1.9	1.9
Cobalt	04/18/2016 10:59	0	0.0120		-1.2	1.2
Copper	04/18/2016 10:59	0	0.0760		-4	4
Iron	04/18/2016 10:59	500000	502000	100	80	120
Lead	04/18/2016 10:59	0	-0.0310		-1.5	1.5
Magnesium	04/18/2016 10:59	500000	507000	101	80	120
Manganese	04/18/2016 10:59	0	-0.559		-1.6	1.6
Nickel	04/18/2016 10:59	0	0.0610		-2.3	2.3
Selenium	04/18/2016 10:59	0	0		-12	12
Silver	04/18/2016 10:59	0	0.0570		-2.0	2.0
Thallium	04/18/2016 10:59	0	0.776		-5	5
Vanadium	04/18/2016 10:59	0	0.108		-1.7	1.7
Zinc	04/18/2016 10:59	0	0.00100		-2.4	2.4

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Sample No:

4-1

ICP INTERFERENCE CHECK SAMPLE (SOL. A)

ICSA

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
ICP ID Number: TJA 6000
SDG No.: 118236
ICS Source: SPEX

Analytical Run #: 124962
Lab Sample ID: 715713
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	04/26/2016 10:33	500000	507000	101	80	120
Antimony	04/26/2016 10:33	0	0		-5	5
Arsenic	04/26/2016 10:33	0	-0.114		-6	6
Barium	04/26/2016 10:33	0	0.0300		-0.7	0.7
Beryllium	04/26/2016 10:33	0	0.00800		-0.29	0.29
Cadmium	04/26/2016 10:33	0	0		-0.26	0.26
Calcium	04/26/2016 10:33	500000	447000	89	80	120
Chromium	04/26/2016 10:33	0	0.223		-1.9	1.9
Cobalt	04/26/2016 10:33	0	0		-1.2	1.2
Copper	04/26/2016 10:33	0	0		-4	4
Iron	04/26/2016 10:33	500000	442000	88	80	120
Lead	04/26/2016 10:33	0	-0.336		-1.5	1.5
Magnesium	04/26/2016 10:33	500000	480000	96	80	120
Manganese	04/26/2016 10:33	0	0.169		-1.6	1.6
Nickel	04/26/2016 10:33	0	0.505		-2.3	2.3
Selenium	04/26/2016 10:33	0	-0.00100		-12	12
Silver	04/26/2016 10:33	0	-0.0610		-2.0	2.0
Thallium	04/26/2016 10:33	0	-0.225		-5	5
Vanadium	04/26/2016 10:33	0	-0.148		-1.7	1.7
Zinc	04/26/2016 10:33	0	0		-2.4	2.4

CT LABORATORIES
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Sample No:

4-2

ICP INTERFERENCE CHECK SAMPLE (SOL. AB)

ICSAB

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
ICP ID Number: TJA 6000
SDG No.: 118236
ICS Source: SPEX, Ultra

Analytical Run #: 124966
Lab Sample ID: 711171
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	04/18/2016 08:52	500000	496000	99	80	120
Calcium	04/18/2016 08:52	500000	479000	96	80	120
Iron	04/18/2016 08:52	500000	489000	98	80	120
Magnesium	04/18/2016 08:52	500000	493000	99	80	120
Potassium	04/18/2016 08:52	100000	99000	99	80	120
Sodium	04/18/2016 08:52	100000	98600	99	80	120

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Sample No:

4-2

ICP INTERFERENCE CHECK SAMPLE (SOL. AB)

ICSAB

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
ICP ID Number: TJA 6000
SDG No.: 118236
ICS Source: SPEX, Ultra

Analytical Run #: 124962
Lab Sample ID: 711570
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	04/18/2016 11:06	500000	532000	106	80	120
Antimony	04/18/2016 11:06	500.0	552.0	110	80	120
Arsenic	04/18/2016 11:06	500.0	551.0	110	80	120
Barium	04/18/2016 11:06	500.0	434.0	87	80	120
Beryllium	04/18/2016 11:06	500.0	518.0	104	80	120
Cadmium	04/18/2016 11:06	500.0	491.0	98	80	120
Calcium	04/18/2016 11:06	500000	505000	101	80	120
Chromium	04/18/2016 11:06	500.0	507.0	101	80	120
Cobalt	04/18/2016 11:06	500.0	496.0	99	80	120
Copper	04/18/2016 11:06	500.0	529.0	106	80	120
Iron	04/18/2016 11:06	500000	500000	100	80	120
Lead	04/18/2016 11:06	500.0	473.0	95	80	120
Magnesium	04/18/2016 11:06	500000	534000	107	80	120
Manganese	04/18/2016 11:06	500.0	571.0	114	80	120
Nickel	04/18/2016 11:06	500.0	473.0	95	80	120
Selenium	04/18/2016 11:06	500.0	543.0	109	80	120
Silver	04/18/2016 11:06	500.0	480.0	96	80	120
Thallium	04/18/2016 11:06	500.0	451.0	90	80	120
Vanadium	04/18/2016 11:06	500.0	520.0	104	80	120
Zinc	04/18/2016 11:06	500.0	529.0	106	80	120

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Sample No:

4-2

ICP INTERFERENCE CHECK SAMPLE (SOL. AB)

ICSAB

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
ICP ID Number: TJA 6000
SDG No.: 118236
ICS Source: SPEX, Ultra

Analytical Run #: 124962
Lab Sample ID: 715714
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	04/26/2016 10:40	500000	501000	100	80	120
Antimony	04/26/2016 10:40	500.0	521.0	104	80	120
Arsenic	04/26/2016 10:40	500.0	508.0	102	80	120
Barium	04/26/2016 10:40	500.0	483.0	97	80	120
Beryllium	04/26/2016 10:40	500.0	485.0	97	80	120
Cadmium	04/26/2016 10:40	500.0	456.0	91	80	120
Calcium	04/26/2016 10:40	500000	446000	89	80	120
Chromium	04/26/2016 10:40	500.0	461.0	92	80	120
Cobalt	04/26/2016 10:40	500.0	438.0	88	80	120
Copper	04/26/2016 10:40	500.0	534.0	107	80	120
Iron	04/26/2016 10:40	500000	407000	81	80	120
Lead	04/26/2016 10:40	500.0	435.0	87	80	120
Magnesium	04/26/2016 10:40	500000	477000	95	80	120
Manganese	04/26/2016 10:40	500.0	464.0	93	80	120
Nickel	04/26/2016 10:40	500.0	430.0	86	80	120
Selenium	04/26/2016 10:40	500.0	482.0	96	80	120
Silver	04/26/2016 10:40	500.0	465.0	93	80	120
Thallium	04/26/2016 10:40	500.0	431.0	86	80	120
Vanadium	04/26/2016 10:40	500.0	468.0	94	80	120
Zinc	04/26/2016 10:40	500.0	483.0	97	80	120

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5A

SPIKE SAMPLE RECOVERY

Sample Description

49ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	118236
% Solids for Sample:		Concentration Units:	ug/L
Sample No	709910	Parent Sample No.:	708711
Analytical Prep Batch #	56789	Analytical Preparation Date/Time:	04/18/2016 07:00
Analytical Run #:	125023	ICAL Calibration #:	04262016

Analysis Type *Initial Analysis* Analysis Date: ----- 04/26/2016 Analysis Time: -------- 13:31

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Mercury	82-119	1.8		BDL	U	2.0	90		CV

BDL = analyte concentration was below detection limit

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5A

SPIKE SAMPLE RECOVERY

Sample Description: **49ADW01**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 118236
% Solids for Sample:
Concentration Units: ug/L
Sample No: 709203
Parent Sample No.: 708711
Analytical Prep Batch #: 56773
Analytical Preparation Date/Time: 04/15/2016 11:00
Analytical Run #: 124962
ICAL Calibration #:

Analysis Type: *Initial Analysis* Analysis Date: ----- 04/18/2016 Analysis Time: -------- 14:24

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Total Aluminum	86-115	827		10.6	J	800	102		P	
Total Antimony	88-113	224		BDL	U	200	112		P	
Total Arsenic	87-113	886		BDL	U	800	111		P	
Total Barium	88-113	1110		116		800	124		P	*FAIL*
Total Beryllium	89-112	19.6		BDL	U	20.0	98		P	
Total Cadmium	88-113	18.5		BDL	U	20.0	92		P	
Total Calcium	87-113	230000		66100		200000	82		P	*FAIL*
Total Chromium	90-113	78.3		3.4	J	80.0	94		P	
Total Cobalt	89-114	197		BDL	U	200	98		P	
Total Copper	86-114	106		BDL	U	100	106		P	
Total Iron	87-115	388		BDL	U	400	97		P	
Total Lead	86-113	197		BDL	U	200	98		P	
Total Magnesium	85-113	118000		29500		100000	88		P	
Total Manganese	90-114	214		2.3	J	200	106		P	
Total Nickel	88-113	187		BDL	U	200	94		P	
Total Selenium	83-114	878		2.6	J	800	109		P	
Total Silver	84-115	18.2		BDL	U	20.0	91		P	
Total Thallium	85-114	799		BDL	U	800	100		P	
Total Vanadium	90-111	201		0.86	J	200	100		P	
Total Zinc	87-115	205		7.7	J	200	99		P	

BDL = analyte concentration was below detection limit

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5A

SPIKE SAMPLE RECOVERY

Sample Description: **49ADW01**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	118236
% Solids for Sample:		Concentration Units:	ug/L
Sample No	709203	Parent Sample No.:	708711
Analytical Prep Batch #	56773	Analytical Preparation Date/Time:	04/15/2016 11:00
Analytical Run #:	124966	ICAL Calibration #:	

Analysis Type: *Initial Analysis* Analysis Date: ----- 04/18/2016 Analysis Time: -------- 13:10

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Potassium	86-114	101000		830		100000	100		P
Total Sodium	87-115	125000		27900		100000	97		P

BDL = analyte concentration was below detection limit

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5B

POST DIGESTION SPIKE SAMPLE RECOVERY

Sample Description

49ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	118236
% Solids for Sample:		Concentration Units:	ug/L
Sample No	711175	Parent Sample No.:	708711
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	124966	ICAL Calibration #:	

Analysis Type *Initial Analysis* Analysis Date: ----- 04/18/2016 Analysis Time: -------- 13:12

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Potassium	80-120.	100000		830		100000	99		P
Sodium	80-120.	128000		27900		100000	100		P

BDL = analyte concentration was below detection limit

CT LABORATORIES
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5B

POST DIGESTION SPIKE SAMPLE RECOVERY

Sample Description: **49ADW01**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 118236
% Solids for Sample:
Concentration Units: ug/L
Sample No: 711579
Parent Sample No.: 708711
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
Analytical Run #: 124962
ICAL Calibration #:

Analysis Type: *Initial Analysis* Analysis Date: ----- 04/18/2016 Analysis Time: -------- 14:37

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Aluminum	80-120	4040		10.6	J	4000	101		P	
Antimony	80-120	1130		BDL	U	1000	113		P	
Arsenic	80-120	4380		BDL	U	4000	110		P	
Barium	80-120	5030		116		4000	123		P	*FAIL*
Beryllium	80-120	94.8		BDL	U	100	95		P	
Cadmium	80-120	93.4		BDL	U	100	93		P	
Calcium	80-120	418000		66100		400000	88		P	
Chromium	80-120	365		3.4	J	400	90		P	
Cobalt	80-120	974		BDL	U	1000	97		P	
Copper	80-120	629		BDL	U	500	126		P	*FAIL*
Iron	80-120	1910		BDL	U	2000	96		P	
Lead	80-120	969		BDL	U	1000	97		P	
Magnesium	80-120	221000		29500		200000	96		P	
Manganese	80-120	709		2.3	J	1000	71		P	*FAIL*
Nickel	80-120	902		BDL	U	1000	90		P	
Selenium	80-120	4410		2.6	J	4000	110		P	
Silver	80-120	87.7		BDL	U	100	88		P	
Thallium	80-120	3890		BDL	U	4000	97		P	
Vanadium	80-120	980		0.86	J	1000	98		P	

BDL = analyte concentration was below detection limit

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5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description: **49ADW01**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	118236
% Solids for Sample:		Concentration Units:	ug/L
Sample No	709911	Parent Sample No.:	709910
Analytical Prep Batch #	56789	Analytical Preparation Date/Time:	04/18/2016 07:00
Analytical Run #:	125023	ICAL Calibration #:	04262016

Analysis Type: *Initial Analysis* Analysis Date: ----- 04/26/2016 Analysis Time: -------- 13:34

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Mercury	82-119	1.9		BDL	U	2.0	95		CV

BDL = analyte concentration was below detection limit

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5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description: **49ADW01**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	118236
% Solids for Sample:		Concentration Units:	ug/L
Sample No	709204	Parent Sample No.:	709203
Analytical Prep Batch #	56773	Analytical Preparation Date/Time:	04/15/2016 11:00
Analytical Run #:	124962	ICAL Calibration #:	

Analysis Type: *Initial Analysis* Analysis Date: ----- 04/18/2016 Analysis Time: -------- 14:31

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Total Aluminum	86-115	846		10.6	J	800	104		P	
Total Antimony	88-113	228		BDL	U	200	114		P	*FAIL*
Total Arsenic	87-113	909		BDL	U	800	114		P	*FAIL*
Total Barium	88-113	1110		116		800	124		P	*FAIL*
Total Beryllium	89-112	19.7		BDL	U	20.0	98		P	
Total Cadmium	88-113	19.1		BDL	U	20.0	96		P	
Total Calcium	87-113	234000		66100		200000	84		P	*FAIL*
Total Chromium	90-113	78.1		3.4	J	80.0	93		P	
Total Cobalt	89-114	200		BDL	U	200	100		P	
Total Copper	86-114	108		BDL	U	100	108		P	
Total Iron	87-115	398		BDL	U	400	100		P	
Total Lead	86-113	201		BDL	U	200	100		P	
Total Magnesium	85-113	120000		29500		100000	90		P	
Total Manganese	90-114	191		2.3	J	200	94		P	
Total Nickel	88-113	188		BDL	U	200	94		P	
Total Selenium	83-114	922		2.6	J	800	115		P	*FAIL*
Total Silver	84-115	18.0		BDL	U	20.0	90		P	
Total Thallium	85-114	816		BDL	U	800	102		P	
Total Vanadium	90-111	203		0.86	J	200	101		P	
Total Zinc	87-115	204		7.7	J	200	98		P	

BDL = analyte concentration was below detection limit

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DUPLICATES

Sample Description

49ADW01

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID

SDG No.: 118236

% Solid for Sample:

Concentration Units: ug/L

Analytical Prep Batch # 1

Analytical Preparation Date/Time 56789

Analytical Run #: 125023

ICAL Calibration #: 04262016

Sample #: 709909

Parent Sample #: 708711

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Total Mercury	04/26/2016	13:29	20	0.030	U	0.030	U	0		CV

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DUPLICATES

Sample Description

49ADW01

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID

SDG No.: 118236

% Solid for Sample:

Concentration Units: ug/L

Analytical Prep Batch # 1

Analytical Preparation Date/Time 56773

Analytical Run #: 124962

ICAL Calibration #:

Sample #: 709202

Parent Sample #: 708711

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M	
Total Aluminum	04/18/2016	14:17	20	10.6	J	10.2	J	4		P	
Total Antimony	04/18/2016	14:17	20	2.0	U	2.0	U	0		P	
Total Arsenic	04/18/2016	14:17	20	4.0	U	4.0	U	0		P	
Total Barium	04/18/2016	14:17	20	116		117		1		P	
Total Beryllium	04/18/2016	14:17	20	0.10	U	0.10	U	0		P	
Total Cadmium	04/18/2016	14:17	20	0.30	U	0.30	U	0		P	
Total Calcium	04/18/2016	14:17	20	66100		66800		1		P	
Total Chromium	04/18/2016	14:17	20	3.4	J	3.5	J	3		P	
Total Cobalt	04/18/2016	14:17	20	0.70	U	0.70	U	0		P	
Total Copper	04/18/2016	14:17	20	1.2	U	1.2	U	0		P	
Total Iron	04/18/2016	14:17	20	16	U	16	U	0		P	
Total Lead	04/18/2016	14:17	20	1.4	U	1.4	U	0		P	
Total Magnesium	04/18/2016	14:17	20	29500		29800		1		P	
Total Manganese	04/18/2016	14:17	20	2.3	J	0.70	U	200		P	*FAIL*
Total Nickel	04/18/2016	14:17	20	1.0	U	1.0	U	0		P	
Total Selenium	04/18/2016	14:17	20	2.6	J	2.2	U	200		P	*FAIL*
Total Silver	04/18/2016	14:17	20	0.70	U	0.78	J	200		P	*FAIL*
Total Thallium	04/18/2016	14:17	20	2.5	U	2.5	U	0		P	
Total Vanadium	04/18/2016	14:17	20	0.86	J	0.80	U	200		P	*FAIL*
Total Zinc	04/18/2016	14:17	20	7.7	J	7.4	J	4		P	

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6

DUPLICATES

Sample Description

49ADW01

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 118236
% Solid for Sample:
Concentration Units: ug/L
Analytical Prep Batch # 1
Analytical Preparation Date/Time 56773
Analytical Run #: 124966
ICAL Calibration #:
Sample #: 709202
Parent Sample #: 708711

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Total Potassium	04/18/2016	13:07	20	830		810		2		P
Total Sodium	04/18/2016	13:07	20	27900		28200		1		P

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6A

MATRIX SPIKE DUPLICATES

Sample Description: **49ADW01**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 118236
% Solid for Sample:
Concentration Units: ug/L
Analytical Prep Batch #: 56789
Analytical Preparation Date/Time: 04/18/2016 07:00
Analytical Run #: 125023
ICAL Calibration #: 04262016
Sample #: 709911
Parent Sample #: 709910

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim	RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Total Mercury	04/26/2016 13:34	20	1.8		1.9		6		CV

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6A

MATRIX SPIKE DUPLICATES

Sample Description: **49ADW01**

Lab Name: CT Laboratories | Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID | SDG No.: 118236

% Solid for Sample: | Concentration Units: ug/L

Analytical Prep Batch #: 56773 | Analytical Preparation Date/Time: 04/15/2016 11:00

Analytical Run #: 124962 | ICAL Calibration #:

Sample #: 709204 | Parent Sample #: 709203

Analysis Type: *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Total Aluminum	04/18/2016	14:31	20	827		846		2		P
Total Antimony	04/18/2016	14:31	20	224		228		2		P
Total Arsenic	04/18/2016	14:31	20	886		909		3		P
Total Barium	04/18/2016	14:31	20	1110		1110		0		P
Total Beryllium	04/18/2016	14:31	20	19.6		19.7		1		P
Total Cadmium	04/18/2016	14:31	20	18.5		19.1		3		P
Total Calcium	04/18/2016	14:31	20	230000		234000		2		P
Total Chromium	04/18/2016	14:31	20	78.3		78.1		0		P
Total Cobalt	04/18/2016	14:31	20	197		200		2		P
Total Copper	04/18/2016	14:31	20	106		108		2		P
Total Iron	04/18/2016	14:31	20	388		398		3		P
Total Lead	04/18/2016	14:31	20	197		201		2		P
Total Magnesium	04/18/2016	14:31	20	118000		120000		2		P
Total Manganese	04/18/2016	14:31	20	214		191		11		P
Total Nickel	04/18/2016	14:31	20	187		188		1		P
Total Selenium	04/18/2016	14:31	20	878		922		5		P
Total Silver	04/18/2016	14:31	20	18.2		18.0		1		P
Total Thallium	04/18/2016	14:31	20	799		816		2		P
Total Vanadium	04/18/2016	14:31	20	201		203		1		P
Total Zinc	04/18/2016	14:31	20	205		204		0		P

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7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 118236

Concentration Units: ug/L

Analytical Run #: 125023 Sample No.:#: 709908

Analytical Prep Batch #: 56789 Preparation Date/Time: 04/18/2016 07:00

ICAL Calibration #: 04262016

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Total Mercury	04/26/2016 13:21	82-119	2.65		3.00	88		CV

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7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 118236

Concentration Units: ug/L

Analytical Run #: 124962 Sample No.:#: 709201

Analytical Prep Batch #: 56773 Preparation Date/Time: 04/15/2016 11:00

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Total Aluminum	04/18/2016 13:32	86-115	793.0		800.0	99		P
Total Antimony	04/18/2016 13:32	88-113	211.0		200.0	106		P
Total Arsenic	04/18/2016 13:32	87-113	840.0		800.0	105		P
Total Barium	04/18/2016 13:32	88-113	879.0		800.0	110		P
Total Beryllium	04/18/2016 13:32	89-112	18.50		20.00	92		P
Total Cadmium	04/18/2016 13:32	88-113	18.20		20.00	91		P
Total Cobalt	04/18/2016 13:32	89-114	191.0		200.0	96		P
Total Copper	04/18/2016 13:32	86-114	101.0		100.0	101		P
Total Iron	04/18/2016 13:32	87-115	384.0		400.0	96		P
Total Lead	04/18/2016 13:32	86-113	190.0		200.0	95		P
Total Magnesium	04/18/2016 13:32	85-113	85300		100000	85		P
Total Manganese	04/18/2016 13:32	90-114	183.0		200.0	92		P
Total Nickel	04/18/2016 13:32	88-113	179.0		200.0	90		P
Total Selenium	04/18/2016 13:32	83-114	854.0		800.0	107		P
Total Silver	04/18/2016 13:32	84-115	18.50		20.00	92		P
Total Thallium	04/18/2016 13:32	85-114	781.0		800.0	98		P
Total Vanadium	04/18/2016 13:32	90-111	190.0		200.0	95		P
Total Zinc	04/18/2016 13:32	87-115	186.0		200.0	93		P

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7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 118236

Concentration Units: ug/L

Analytical Run #: 124962 Sample No.:#: 709201

Analytical Prep Batch #: 56773 Preparation Date/Time: 04/15/2016 11:00

ICAL Calibration #:

ReRun Re-Analysis #1

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Total Calcium	04/26/2016 10:53	87-113	185000		200000	92		P
Total Chromium	04/26/2016 10:53	90-113	79.60		80.00	100		P

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7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 118236

Concentration Units: ug/L

Analytical Run #: 124966 Sample No.:#: 709201

Analytical Prep Batch #: 56773 Preparation Date/Time: 04/15/2016 11:00

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Total Potassium	04/18/2016 12:56	86-114	99600		100000	100		P
Total Sodium	04/18/2016 12:56	87-115	94500		100000	94		P

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ICP SERIAL DILUTION

Sample Description

49ADW01

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID SDG No.: 118236

Concentration Units: ug/L

Sample No.: 711174 Parent Sample No.: 708711

LIMS Run #: 124966 ICAL Calibration #:.:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Initial Sample Result (I)	C (I)	Serial Dilution Result (S)	C (S)	% Diff.	Q	M	
Potassium	04/18/2016 13:04	.830	U	450	U	100		P	*INVALID*
Sodium	04/18/2016 13:04	27.9	U	500	U	100		P	*INVALID*

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ICP SERIAL DILUTION

Sample Description

49ADW01

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID SDG No.: 118236

Concentration Units: ug/L

Sample No.: 711578 Parent Sample No.: 708711

LIMS Run #: 124962 ICAL Calibration #:.:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Initial Sample Result (I)	C (I)	Serial Dilution Result (S)	C (S)	% Diff.	Q	M	
Aluminum	04/18/2016 14:10	10.6	U	30	U	100		P	*INVALID*
Antimony	04/18/2016 14:10	BDL	U	10	U	0		P	*INVALID*
Arsenic	04/18/2016 14:10	BDL	U	20	U	0		P	*INVALID*
Barium	04/18/2016 14:10	116.		122		5		P	
Beryllium	04/18/2016 14:10	BDL	U	0.5	U	0		P	*INVALID*
Cadmium	04/18/2016 14:10	BDL	U	1.5	U	0		P	*INVALID*
Calcium	04/18/2016 14:10	66100.		99500		51		P	*FAIL*
Chromium	04/18/2016 14:10	3.37	J	3	U	100		P	*INVALID*
Cobalt	04/18/2016 14:10	BDL	U	3.5	U	0		P	*INVALID*
Copper	04/18/2016 14:10	BDL	U	6	U	0		P	*INVALID*
Iron	04/18/2016 14:10	BDL	U	80	U	0		P	*INVALID*
Lead	04/18/2016 14:10	BDL	U	7	U	0		P	*INVALID*
Magnesium	04/18/2016 14:10	29500.		37950		29		P	*FAIL*
Manganese	04/18/2016 14:10	2.28	U	3.5	U	100		P	*INVALID*
Nickel	04/18/2016 14:10	BDL	U	5	U	0		P	*INVALID*
Selenium	04/18/2016 14:10	2.58	U	11	U	100		P	*INVALID*
Silver	04/18/2016 14:10	BDL	U	3.5	U	0		P	*INVALID*
Thallium	04/18/2016 14:10	BDL	U	12.5	U	0		P	*INVALID*
Vanadium	04/18/2016 14:10	.857	U	4	U	100		P	*INVALID*
Zinc	04/18/2016 14:10	7.65	U	8	U	100		P	*INVALID*

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METHOD DETECTION LIMITS (ANNUALLY)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Matrix: LIQUID

Analyte	Wavelength (nm)	Background	CRDL (ug/L)	MDL (ug/L)	M
Total Mercury	253.7			0.03	CV

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METHOD DETECTION LIMITS (ANNUALLY)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

ICP ID Number: TJA SDG No.: 118236

Matrix: LIQUID

Analyte	Wavelength (nm)	Background	CRDL (ug/L)	MDL (ug/L)	M
Total Aluminum	167.0			6	P
Total Antimony	217.5			2.0	P
Total Arsenic	193.7			4	P
Total Barium	455.4			0.29	P
Total Beryllium	313.041			0.10	P
Total Cadmium	226.502			0.3	P
Total Calcium	393.3			17	P
Total Chromium	267.716			0.6	P
Total Cobalt	228.616			0.7	P
Total Copper	327.3			1.2	P
Total Iron	259.9			16	P
Total Lead	220.35			1.4	P
Total Magnesium	279.5			6	P
Total Manganese	257.61			0.7	P
Total Nickel	231.604			1.0	P
Total Potassium	766.491			90	P
Total Selenium	196.02			2.2	P
Total Silver	328.068			0.7	P
Total Sodium	589.5			100	P
Total Thallium	190.864			2.5	P
Total Vanadium	292.402			0.8	P
Total Zinc	213.856			1.6	P

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ICP INTERELEMENT CORRECTION FACTORS (ANNUAL)
ICP ID NUMBER: TA ICAP6000 / ICAP6500

Element, Wavelength and Order	Use?	# IECs	IEC	k1
Ag 328.068 {103}	☒	1	Fe	0.000006
Al 308.215 {109}	☒	None		
Al 309.271 {109}	☒	None		
Al 396.152 { 85}	☒	None		
Al 167.079 {502}	☒	1	Fe	0.000627
As 193.759 {474}	☒	3	Fe	-0.000324
			Mo	0.000000
			Co	0.000000
As 189.042 {479}	☒	1	Fe	0.000027
Ba 455.403 { 74}	☒	1	Fe	-0.000000
Ba 493.409 { 68}	☒	1	Fe	0.000106
Be 313.042 {108}	☒	1	Fe	0.000000
Be 234.861 {144}	☒	1	Fe	0.000101
Ca 315.887 {107}	☒	None		
Ca 317.933 {106}	☒	None		
Ca 393.366 { 86}	☒	None		
Ca 396.847 { 85}	☒	None		
Cd 226.502 {449}	☒	2	Fe	0.000381
			Ag	0.049000
Cd 228.802 {447}	☒	1	Fe	0.000100
Co 228.616 {447}	☒	6	Ti	-0.002110
			Mo	-0.001300
			Cr	-0.000235
			Ba	0.000315
			Ni	0.000000
			Fe	0.000017
Co 238.892 {141}	☒	1	Fe	0.000242
Cr 267.716 {126}	☒	1	Fe	0.000010
Cr 283.563 {119}	☒	1	Fe	0.000949
Cu 224.700 {450}	☒	2	Fe	0.000062
			Ag	-0.050000
Cu 324.754 {104}	☒	1	Fe	0.000200
Cu 327.396 {103}	☒	1	Fe	-0.000016
Fe 234.349 {144}	☒	None		
Fe 239.562 {141}	☒	None		
Fe 259.940 {130}	☒	None		
Mg 202.582 {466}	☒	None		
Mg 279.079 {121}	☒	None		
Mg 280.270 {120}	☒	None		
Mn 257.610 {131}	☒	1	Al	-0.000055
Mn 259.373 {130}	☒	1	Mg	0.001246
Mo 203.844 {465}	☒	1	Fe	-0.000027
Mo 202.030 {467}	☒	1	Fe	-0.000020
Mo 204.598 {465}	☒	1	Fe	-0.000100

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ICP INTERELEMENT CORRECTION FACTORS (ANNUAL)
ICP ID NUMBER: TA ICAP6000 / ICAP6500

Element, Wavelength and Order	Use?	# IECs	IEC	k1
Ni 221.647 (452)	☒	1	Ca	0.000022
Ni 231.604 (445)	☒	4	Fe	0.000117
			Co	-0.050000
			Ag	-0.050000
			Mo	-0.000200
Pb 216.999 (455)	☒	2	Al	0.000478
			Na	0.000000
Pb 220.353 (153)	☒	1	Fe	0.000024
Pb 220.353 (453)	☒	9	Fe	0.000071
			Si	0.000940
			Ti	0.000640
			Cu	0.000370
			Ni	0.000109
			Al	0.000000
			Co	-0.000149
			Mn	0.000074
			Ti	0.000004
Sb 206.833 (463)	☒	1	Fe	0.000032
Sb 217.581 (455)	☒	1	Fe	-0.000048
Se 196.090 (172)	☒	1	Fe	-0.000205
Se 196.090 (472)	☒	1	Fe	0.000022
Se 206.279 (463)	☒	1	Fe	0.001119
Tl 276.787 (122)	☒	1	Mg	0.006492
Tl 190.856 (477)	☒	10	Ti	0.000050
			Al	-0.000002
			V	0.000586
			Mn	0.000398
			Mo	-0.000120
			Be	-0.000013
			Fe	-0.000033
			Sr	-0.000027
			Co	0.000016
			Cr	0.000251
V 290.882 (116)	☒	1	Fe	0.000170
V 292.402 (115)	☒	1	Fe	0.000041
Zn 206.200 (463)	☒	1	Fe	0.000173
Zn 213.856 (458)	☒	1	Fe	0.000380
Y 360.073 (94)*	☒	None		
Na 330.298 (102)	☒	1	Fe	0.000991
Si 251.611 (134)	☒	1	Fe	-0.000042
Ti 334.941 (101)	☒	1	Fe	0.000050
Ti 337.280 (100)	☒	1	Fe	0.000006
Sr 407.771 (83)	☒	1	Fe	0.000039
Sr 421.552 (80)	☒	1	Fe	0.000039

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ICP INTERELEMENT CORRECTION FACTORS (ANNUAL)
ICP ID NUMBER: TA ICAP6000 / ICAP6500

Element, Wavelength and Order	Use?	# IECs	IEC	k1
Sn 189.989 {477}	☒	1	Fe	0.000011
Sn 283.999 {119}	☒	1	Fe	-0.003092
B 249.678 {135}	☒	1	Fe	-0.000918
B 249.773 {135}	☒	1	Fe	0.000199
Li 670.784 { 50}	☒	1	Fe	0.000029
K 766.490 { 44}	☒	1	Fe	0.006630

Element, Wavelength and Order	Use?	# IECs	IEC	k1
K 766.490 { 44}	☒	1	Fe	0.000178
Na 330.237 {102}	☒	1	Fe	-0.004289
Na 589.592 { 57}	☒	1	Fe	0.000173
Y 360.073 { 94}	☒	None		
Y 320.332 {105}*	☒	None		
Al 308.215 {109}	☒	1	Fe	0.000000
Al 396.152 { 85}	☒	None		
Mg 285.213 {118}	☒	None		
Ca 317.933 {106}	☒	None		
Fe 234.349 {144}	☒	None		

ICP LINEAR RANGES (QUARTERLY)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

ICP ID Number: TA SDG No.: 118236

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	M
Aluminum	15.00	1000000	P
Antimony	15.00	10000	P
Arsenic	15.00	10000	P
Barium	15.00	10000	P
Beryllium	15.00	1000	P
Boron	15.00	1000	P
Cadmium	15.00	1000	P
Calcium	15.00	1000000	P
Chromium	15.00	100000	P
Cobalt	15.00	10000	P
Copper	15.00	100000	P
Iron	15.00	1000000	P
Lead	15.00	100000	P
Lithium	15.00	10000	P
Magnesium	15.00	1000000	P
Manganese	15.00	100000	P
Molybdenum	15.00	10000	P
Nickel	15.00	10000	P
Potassium	15.00	200000	P
Selenium	15.00	10000	P
Silicon	15.00	1000	P
Silver	15.00	100	P
Sodium	15.00	200000	P
Strontium	15.00	10000	P
Thallium	15.00	10000	P
Tin	15.00	10000	P
Titanium	15.00	1000	P
Tungsten	15.00	10000	P
Vanadium	15.00	10000	P
Zinc	15.00	100000	P

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PREPARATION LOG

Lab Name: CT Laboratories | Project: BERING SEA ENVIRONMENTAL-RADFORD AAP

Method: EPA 3010A | SDG No.: 118236

Preparation Batch #: 56773 | Preparation Date/Time: 04/15/2016 / 11:00

Lab Sample #	QC Type	Sample Description	Matrix	**Weight (g for solid/soil) or Volume (mL for liquid/aqueous)**
708711	Normal Sample	49ADW01	GROUND WATER	50.0
709200	Method Blank		LIQUID	50.0
709201	Lab Control Spike		LIQUID	50.0
709202	Lab Duplicate	49ADW01	GROUND WATER	50.0
709203	Matrix Spike	49ADW01	GROUND WATER	50.0
709204	Matrix Spike Duplicate	49ADW01	GROUND WATER	50.0

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PREPARATION LOG

Lab Name: CT Laboratories

Project: BERING SEA ENVIRONMENTAL-RADFORD AAP

Method: EPA 7470A

SDG No.: 118236

Preparation Batch #: 56789

Preparation Date/Time: 04/18/2016 / 07:00

Lab Sample #	QC Type	Sample Description	Matrix	**Weight (g for solid/soil) or Volume (mL for liquid/aqueous)**
708711	Normal Sample	49ADW01	GROUND WATER	25.0
709907	Method Blank		LIQUID	25.0
709908	Lab Control Spike		LIQUID	25.0
709909	Lab Duplicate	49ADW01	GROUND WATER	25.0
709910	Matrix Spike	49ADW01	GROUND WATER	25.0
709911	Matrix Spike Duplicate	49ADW01	GROUND WATER	25.0

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ANALYSIS RUN LOG

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Lab Code: CTL

SDG No.: 118236

Instrument ID Number: CETAC

Method Number: CV

Start & End Date: 04/26/2016 to 04/26/2016

Analytical Run #: 125023

Sample Number	Analysis or QC Type	DF	Analysis Date/ Time	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Mo	Li	Ni	K	Se	Si	Ag	Na	Sr	Tl	Sn	W	V	Zn
715537	ICV	1.00	4/26 10:41																X													
715538	ICB	1.00	4/26 10:43																X													
715560	CCV	1.00	4/26 13:14																X													
715561	CCB	1.00	4/26 13:17																X													
709908	LCSW	1.00	4/26 13:21																X													
709907	MBW	1.00	4/26 13:23																X													
708711	Initial	1.00	4/26 13:25																X													
709909	DUP	1.00	4/26 13:29																X													
709910	MSW	1.00	4/26 13:31																X													
709911	MSDW	1.00	4/26 13:34																X													
715566	CCV	1.00	4/26 13:40																X													
715568	CCB	1.00	4/26 13:42																X													

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ANALYSIS RUN LOG

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Lab Code: CTL

SDG No.: 118236

Instrument ID Number: TJA

Method Number: P

Start & End Date: 04/18/2016 to 04/26/2016

Analytical Run #: 124962

Sample Number	Analysis or QC Type	DF	Analysis Date/ Time	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Mo	Li	Ni	K	Se	Si	Ag	Na	Sr	Tl	Sn	W	V	Zn
711566	ICV	1.00	4/18 10:27	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
711567	ICVLL	1.00	4/18 10:34	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
711568	ICB	1.00	4/18 10:46	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
711569	ICSA	1.00	4/18 10:59	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
711570	ICSAB	1.00	4/18 11:06	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
711571	ICVLL	1.00	4/18 11:13																							X							
711572	CCV1	1.00	4/18 12:20	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
711573	CCV2	1.00	4/18 12:26	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
711574	CCB	1.00	4/18 12:32	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
709201	LCSW	1.00	4/18 13:32	X	X	X	X	X		X			X	X	X	X	X	X				X		X		X			X			X	X
709200	MBW	1.00	4/18 13:39	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
711575	CCV1	1.00	4/18 13:45	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
711576	CCV2	1.00	4/18 13:51	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
711577	CCB	1.00	4/18 13:57	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
708711	Initial	1.00	4/18 14:04	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
711578	L	5	4/18 14:10	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
709202	DUP	1.00	4/18 14:17	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
709203	MSW	1.00	4/18 14:24	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
709204	MSDW	1.00	4/18 14:31	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
711579	PDSW	1.00	4/18 14:37	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
711580	CCV1	1.00	4/18 15:09	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
711581	CCV2	1.00	4/18 15:15	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
711582	CCB	1.00	4/18 15:21	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
715710	ICV	1.00	4/26 10:01	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
715711	ICVLL	1.00	4/26 10:07	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
715712	ICB	1.00	4/26 10:20	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
715713	ICSA	1.00	4/26 10:33	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
715714	ICSAB	1.00	4/26 10:40	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X

CT LABORATORIES
delivering more than data from your environmental analyses

14

ANALYSIS RUN LOG

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Lab Code: CTL
SDG No.: 118236

Instrument ID Number: TJA
Method Number: P

Start & End Date: 04/18/2016 to 04/26/2016
Analytical Run #: 124962

Sample Number	Analysis or QC Type	DF	Analysis Date/ Time	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Mo	Li	Ni	K	Se	Si	Ag	Na	Sr	Tl	Sn	W	V	Zn
715715	ICVLL	1.00	4/26 10:47																							X							
709201	LCSW	1.00	4/26 10:53								X	X																					
715716	CCV1	1.00	4/26 11:50	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
715717	CCV2	1.00	4/26 11:56	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
715718	CCB	1.00	4/26 12:02	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X

CT LABORATORIES
delivering more than data from your environmental analyses

14

ANALYSIS RUN LOG

Lab Name: CT Laboratories | Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Lab Code: CTL | SDG No.: 118236

Instrument ID Number: TJA | Method Number: P

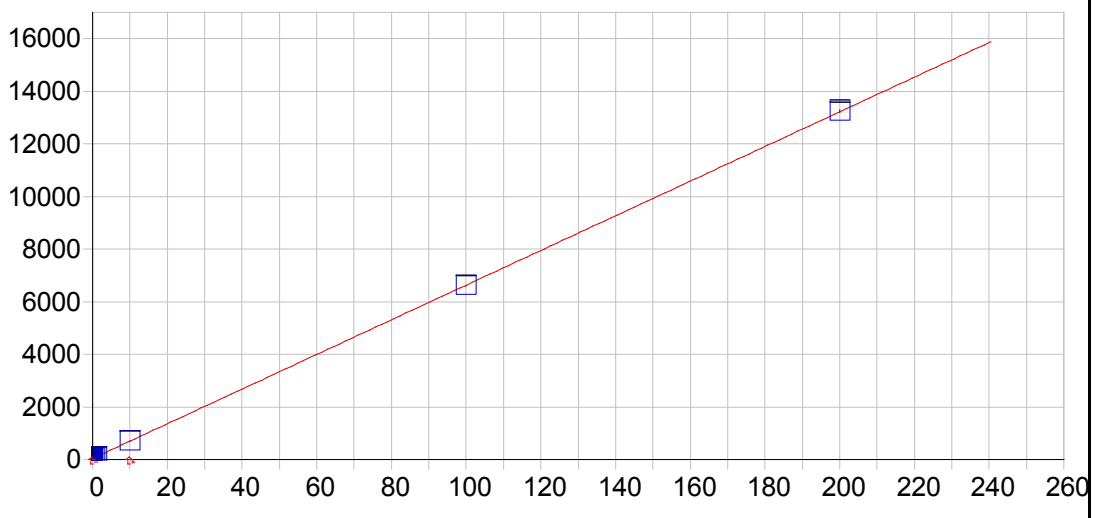
Start & End Date: 04/18/2016 to 04/18/2016 | Analytical Run #: 124966

Sample Number	Analysis or QC Type	DF	Analysis Date/ Time	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Mo	Li	Ni	K	Se	Si	Ag	Na	Sr	Tl	Sn	W	V	Zn
711166	ICV	1.00	4/18 08:38																				X				X					
711167	ICVLL	1.00	4/18 08:40																				X				X					
711168	ICB	1.00	4/18 08:43																				X				X					
711169	MRL	1.00	4/18 08:46																				X				X					
711170	ICSA	1.00	4/18 08:49	X							X				X		X						X				X					
711171	ICSAB	1.00	4/18 08:52	X							X				X		X						X				X					
711172	CCV	1.00	4/18 12:45																				X				X					
711173	CCB	1.00	4/18 12:47																				X				X					
709201	LCSW	1.00	4/18 12:56																				X				X					
709200	MBW	1.00	4/18 12:58																				X				X					
708711	Initial	1.00	4/18 13:01																				X				X					
711174	L	5	4/18 13:04																				X				X					
709202	DUP	1.00	4/18 13:07																				X				X					
709203	MSW	1.00	4/18 13:10																				X				X					
711175	PDSW	1.00	4/18 13:12																				X				X					
711176	CCV	1.00	4/18 13:18																				X				X					
711177	CCB	1.00	4/18 13:21																				X				X					

METALS
RAW DATA
DOCUMENTS

	Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)	Correlation	Std Error of Est	Predicted MDL	Predicted MQL
	K 766.490 { 44}	04/19/2016 07:17:43	04/18/2016 08:35:04	Linear	1/Conc	41.825326	65.882527	0.000000	1.000000	0.999976	0.220672	0.086567	0.288555
	Na 330.237 {102}	04/19/2016 07:17:43	04/18/2016 08:35:04	Curvilin	None	0.000468	0.000319	-0.000000	1.000000	1.000000	0.000019	1.909228	6.364093
	Na 589.592 { 57}	04/19/2016 07:17:43	04/18/2016 08:35:04	Linear	1/Conc	0.005462	0.148018	0.000000	1.000000	0.999986	0.000388	0.013346	0.044487
	Y 360.073 { 94}	04/19/2016 07:17:43	04/18/2016 08:15:36	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000
	Y 320.332 {105}*	04/19/2016 07:17:43	04/18/2016 08:15:36	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000
	Al 308.215 {109}	04/19/2016 07:17:43	04/18/2016 08:38:06	Linear	1/Conc	0.019668	0.000076	0.000000	1.000000	1.000000	0.000000	-1.000000	-1.000000
	Al 396.152 { 85}	04/19/2016 07:17:43	04/18/2016 08:38:06	Linear	1/Conc	-0.000107	0.046892	0.000000	1.000000	1.000000	0.000000	0.017827	0.059423
	Mg 285.213 {118}	04/19/2016 07:17:43	04/18/2016 08:38:06	Linear	None	0.004480	0.196309	0.000000	1.000000	1.000000	0.000000	0.002094	0.006980
	Ca 317.933 {106}	04/19/2016 07:17:43	04/18/2016 08:38:06	Linear	None	0.031458	0.055000	0.000000	1.000000	1.000000	0.000000	0.007165	0.023883
	Fe 234.349 {144}	04/19/2016 07:17:43	04/18/2016 08:38:06	Linear	None	0.000790	0.014625	0.000000	1.000000	1.000000	0.000000	0.009838	0.032794

	Element, Wavelength and Order	Status	Reslope		QC Norm	
			Slope	Y-int	Slope factor	Offset
	K 766.490 { 44}	OK.	1.000000	0.000000	1	0
	Na 330.237 {102}	OK.	1.000000	0.000000	1	0
	Na 589.592 { 57}	OK.	1.000000	0.000000	1	0
	Y 360.073 { 94}	Warnin	1.000000	0.000000	1	0
	Y 320.332 {105}*	Warnin	1.000000	0.000000	1	0
	Al 308.215 {109}	OK.	1.000000	0.000000	1	0
	Al 396.152 { 85}	OK.	1.000000	0.000000	1	0
	Mg 285.213 {118}	OK.	1.000000	0.000000	1	0
	Ca 317.933 {106}	OK.	1.000000	0.000000	1	0
	Fe 234.349 {144}	OK.	1.000000	0.000000	1	0

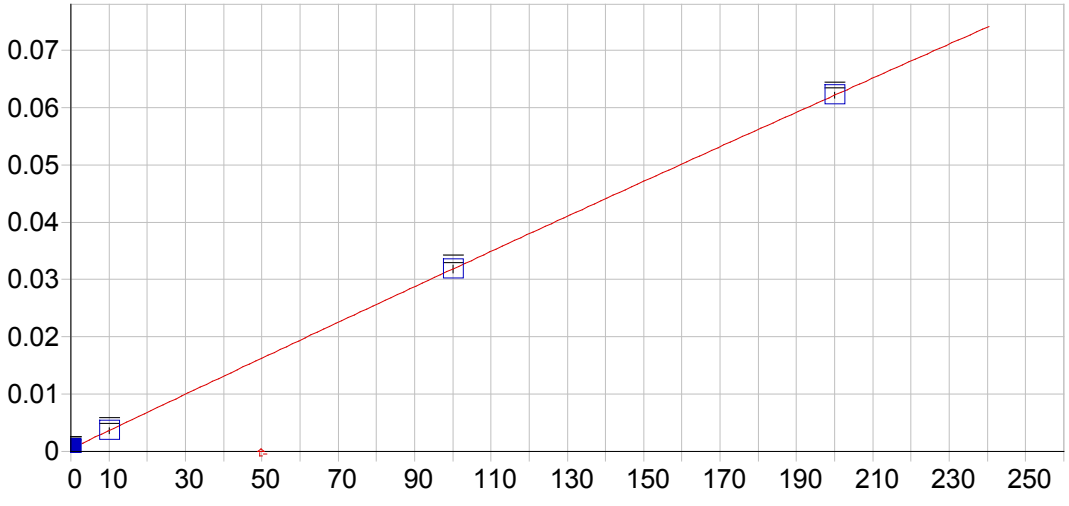


K 766.490 { 44}

Date of Fit:	04/19/2016 07:17:43	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	41.825326	Re-Slope:	1.000000
A1 (Gain):	65.882527	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999976	Status:	OK.
Std Error of Est:	0.220672		
Predicted MDL:	0.086567		
Predicted MQL:	0.288555		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00010	.000	.000	41.832	4.81	1
CalibStd-1.0	1.0000	.96904	-.031	-3.10	105.67	8.33	1
CalibStd-10.0	10.000	10.029	.029	.289	702.55	9.17	1
CalibStd-0.5	.50000	.41926	-.081	-16.1	69.447	4.74	1
CalibStd-200	200.00	200.29	.295	.147	13238.	46.2	1
CalibStd-100	100.00	99.788	-.212	-.212	6616.1	14.0	1

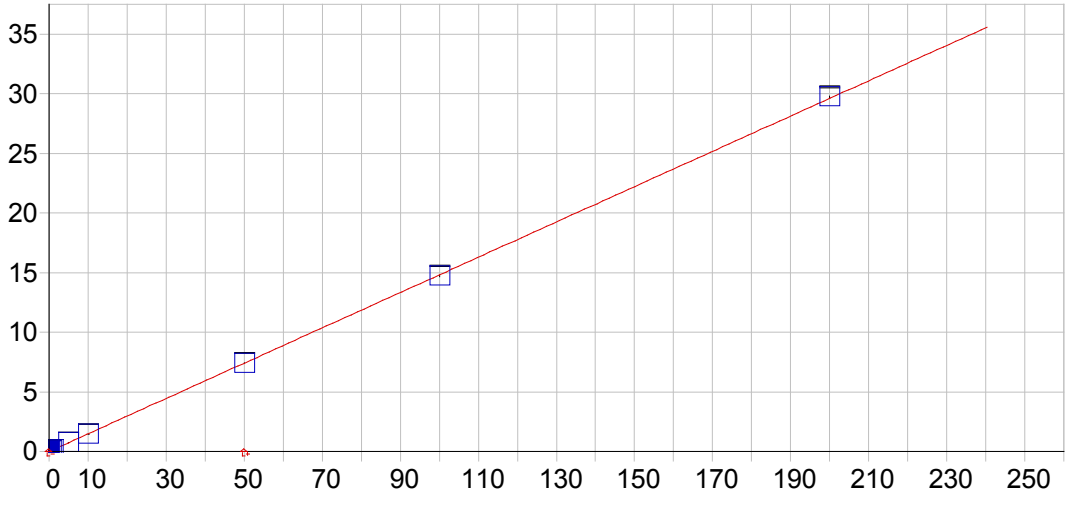


Na 330.237 {102}

Date of Fit:	04/19/2016 07:17:43	Type of Fit:	Curvilinear	Weighting:	None

A0 (Offset):	0.000468	Re-Slope:	1.000000
A1 (Gain):	0.000319	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000019		
Predicted MDL:	1.909228		
Predicted MQL:	6.364093		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.03814	.038	.000	.00048	.000	1
CalibStd-200	200.00	200.00	-.002	-.001	.06216	.001	1
CalibStd-10.0	10.000	9.9552	-.045	-.448	.00363	.000	1
CalibStd-100	100.00	100.01	.009	.009	.03182	.001	1

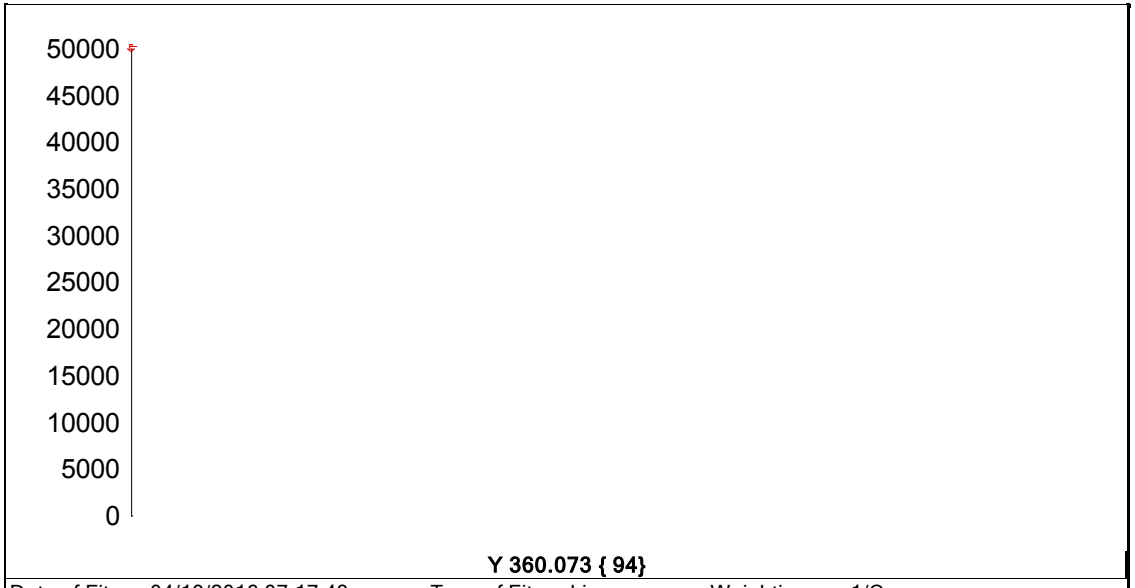


Na 589.592 { 57}

Date of Fit:	04/19/2016 07:17:43	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.005462	Re-Slope:	1.000000
A1 (Gain):	0.148018	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999986	Status:	OK.
Std Error of Est:	0.000388		
Predicted MDL:	0.013346		
Predicted MQL:	0.044487		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00004	.000	.000	.00547	.003	1
CalibStd-0.5	.50000	.49627	-.004	-.746	.07892	.001	1
CalibStd-1.0	1.0000	.96640	-.034	-3.36	.14851	.001	1
CalibStd-5.0	5.0000	4.9151	-.085	-1.70	.73299	.002	1
CalibStd-10.0	10.000	9.8711	-.129	-1.29	1.4666	.003	1
CalibStd-50	50.000	49.992	-.008	-.017	7.4051	.026	1
CalibStd-100	100.00	99.464	-.536	-.536	14.728	.047	1
CalibStd-200	200.00	200.80	.796	.398	29.727	.068	1



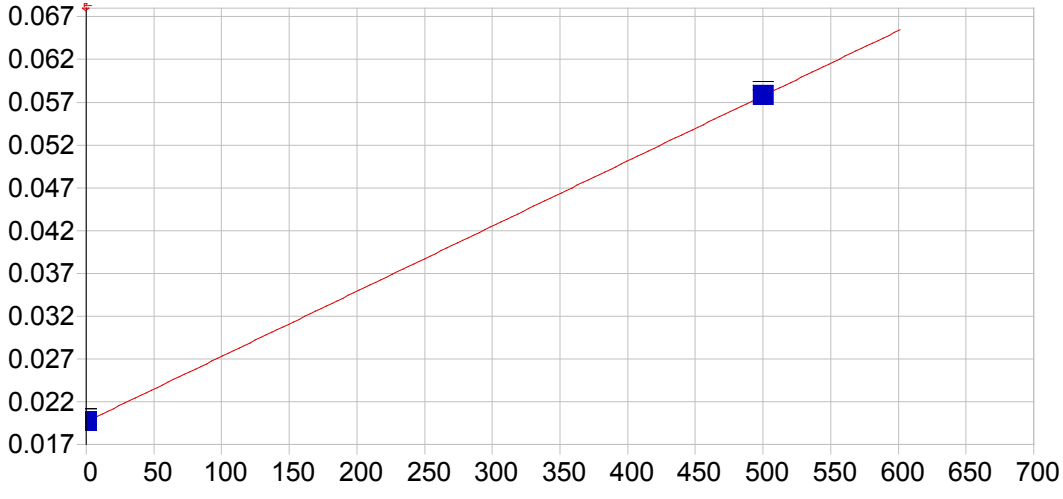
Date of Fit:	04/19/2016 07:17:43	Type of Fit:	Linear	Weighting:	1/Conc	
A0 (Offset):	0.000000		Re-Slope:	1.000000		
A1 (Gain):	0.000000		Y-int:	0.000000		
A2 (Curvature):	0.000000					
n (Exponent):	1.000000					
Correlation:	0.000000		Status:	Warning	Zero Gain	
Std Error of Est:	0.000000					
Predicted MDL:	n/a					
Predicted MQL:	n/a					

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	43679.	298.	1

Y 320.332 {105}*

Date of Fit:	04/19/2016 07:17:43	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.000000		Re-Slope:	1.000000	
A1 (Gain):	0.000000		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.000000		Status:	Warning	Zero Gain
Std Error of Est:	0.000000				
Predicted MDL:	n/a				
Predicted MQL:	n/a				

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	5312.4	12.0	1

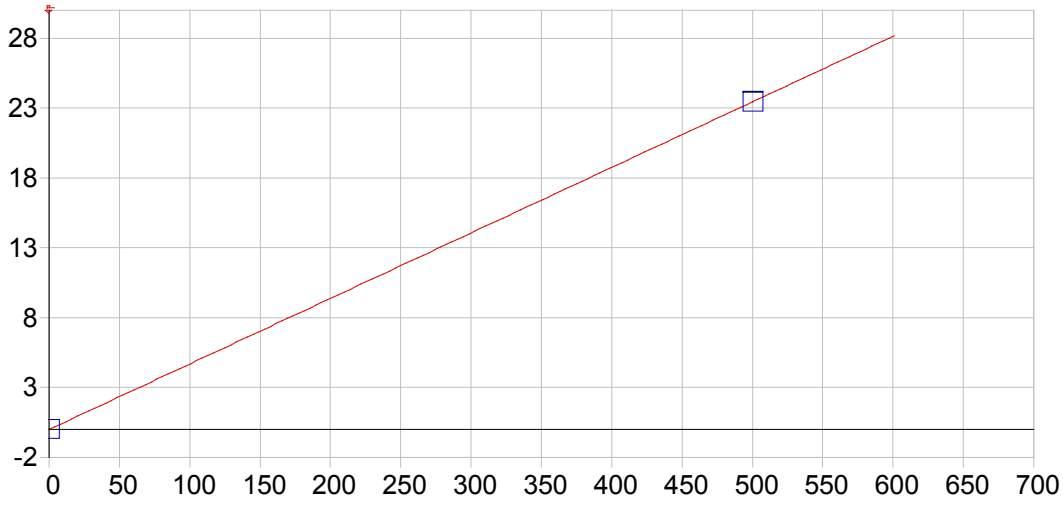


Al 308.215 {109}

Date of Fit:	04/19/2016 07:17:43	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.019668	Re-Slope:	1.000000
A1 (Gain):	0.000076	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.01967	.000	1
CalibStd-500	500.00	500.00	.000	.000	.05775	.001	1

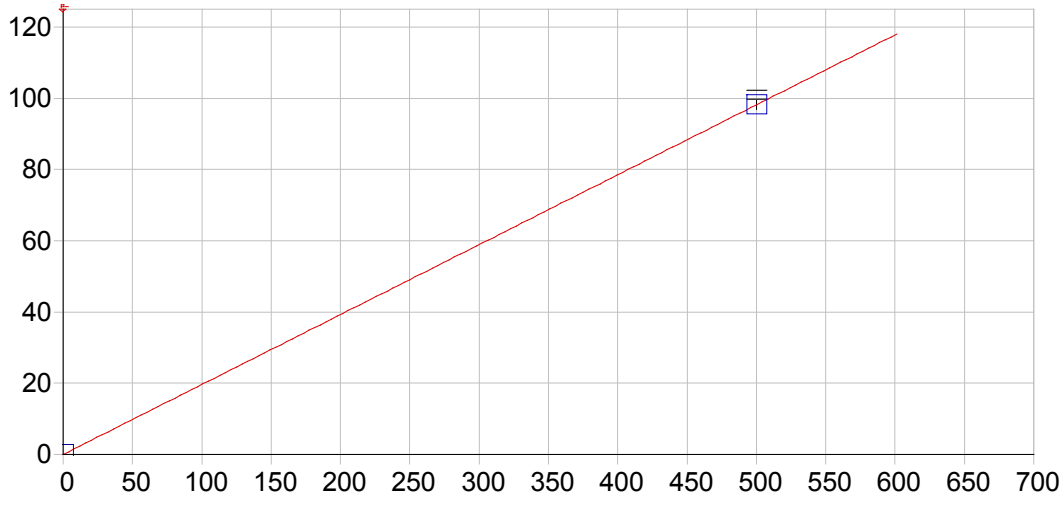


Al 396.152 { 85}

Date of Fit:	04/19/2016 07:17:43	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000107	Re-Slope:	1.000000
A1 (Gain):	0.046892	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.017827		
Predicted MQL:	0.059423		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	-.00011	.001	1
CalibStd-500	500.00	500.00	.000	.000	23.446	.033	1

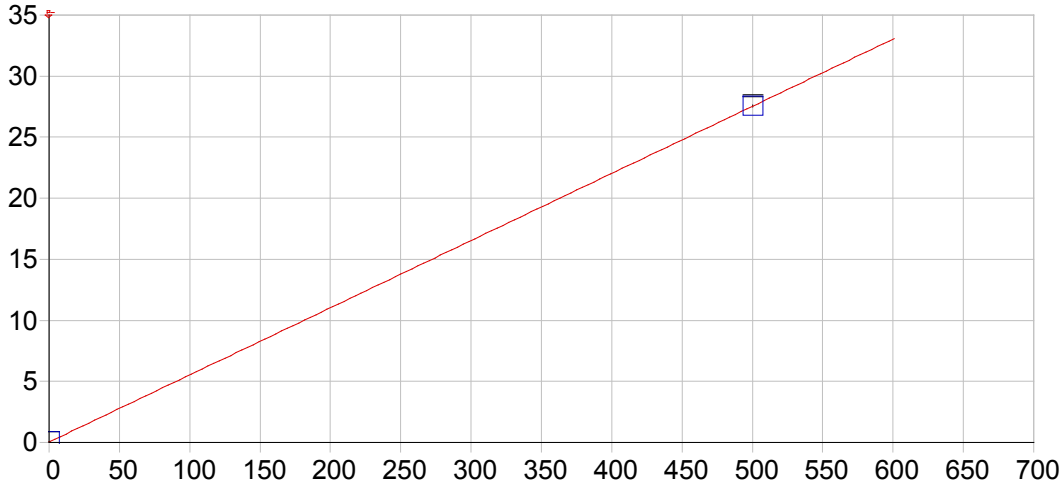


Mg 285.213 {118}

Date of Fit:	04/19/2016 07:17:43	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.004480	Re-Slope:	1.000000
A1 (Gain):	0.196309	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.002094		
Predicted MQL:	0.006980		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00448	.000	1
CalibStd-500	500.00	500.00	.000	.000	98.159	1.32	1

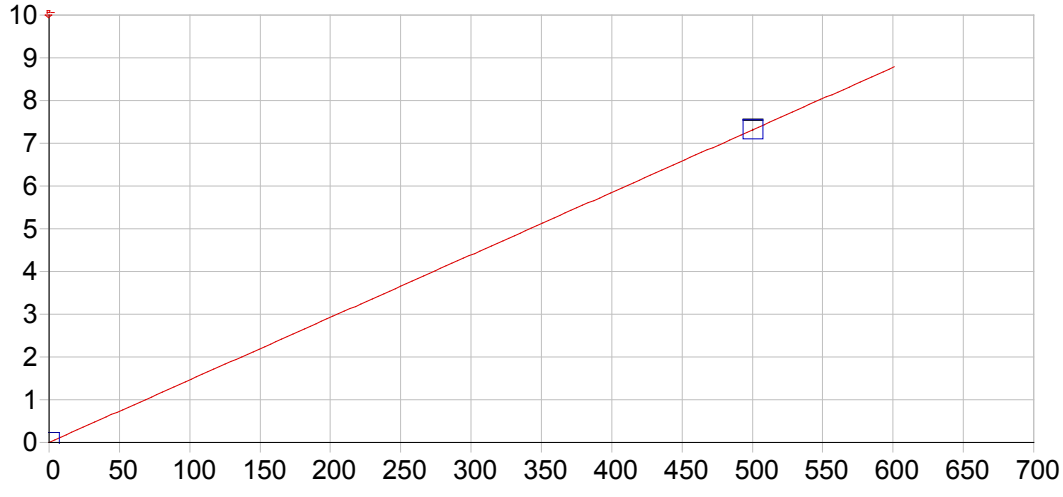


Ca 317.933 {106}

Date of Fit:	04/19/2016 07:17:43	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.031458	Re-Slope:	1.000000
A1 (Gain):	0.055000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.007165		
Predicted MQL:	0.023883		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.03146	.000	1
CalibStd-500	500.00	500.00	.000	.000	27.532	.080	1



Fe 234.349 {144}

Date of Fit:	04/19/2016 07:17:43	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000790	Re-Slope:	1.000000
A1 (Gain):	0.014625	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.009838		
Predicted MQL:	0.032794		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00079	.000	1
CalibStd-500	500.00	500.00	.000	.000	7.3133	.014	1

Sample Name: Blank Acquired: 04/18/2016 08:12:42 Type: Cal
Method: Sodium and Potassium 1(v720) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**41.8**	**.000**	**.005**	**.000**	**.004**	**.031**	**.001**
Stddev	4.8	.000	.003	.00	.000	.000	.000
%RSD	11.5	52.6	47.4	810.	6.42	.293	15.0

Int. Std.	Y_3203
Units	Cts/S
Avg	**5312.4**
Stddev	12.0
%RSD	.22513

Sample Name: CalibStd-0.5 Acquired: 04/18/2016 08:15:39 Type: Cal
Method: Sodium and Potassium 1(v720) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895
Units	Cts/S	Cts/S
Avg	**69.4**	**.079**
Stddev	4.7	.001
%RSD	6.83	1.80

Int. Std.	Y_3203
Units	Cts/S
Avg	**5305.6**
Stddev	16.9
%RSD	.31936

Sample Name: CalibStd-1.0 Acquired: 04/18/2016 08:18:25 Type: Cal
Method: Sodium and Potassium 1(v720) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895
Units	Cts/S	Cts/S
Avg	**106.**	**.149**
Stddev	8.	.001
%RSD	7.88	.928

Int. Std.	Y_3203
Units	Cts/S
Avg	**5339.1**
Stddev	23.7
%RSD	.44356

Sample Name: CalibStd-5.0 Acquired: 04/18/2016 08:21:11 Type: Cal
Method: Sodium and Potassium 1(v720) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Na5895
Units	Cts/S
Avg	.733
Stddev	.002
%RSD	.253

Int. Std.	Y_3203
Units	Cts/S
Avg	5330.7
Stddev	10.8
%RSD	.20206

Sample Name: CalibStd-10.0 Acquired: 04/18/2016 08:23:58 Type: Cal
Method: Sodium and Potassium 1(v720) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Na5895
Units	Cts/S	Cts/S	Cts/S
Avg	**703.**	**.004**	**1.47**
Stddev	9.	.000	.00
%RSD	1.31	13.0	.208

Int. Std.	Y_3203
Units	Cts/S
Avg	**5239.4**
Stddev	27.9
%RSD	.53307

Sample Name: CalibStd-50 Acquired: 04/18/2016 08:26:46 Type: Cal
Method: Sodium and Potassium 1(v720) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Na5895
Units	Cts/S
Avg	**7.41**
Stddev	.03
%RSD	.356

Int. Std.	Y_3203
Units	Cts/S
Avg	**5141.5**
Stddev	5.4
%RSD	.10467

Sample Name: CalibStd-100 Acquired: 04/18/2016 08:29:34 Type: Cal
Method: Sodium and Potassium 1(v720) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Na5895
Units	Cts/S	Cts/S	Cts/S
Avg	**6620.**	**.032**	**14.7**
Stddev	14.	.001	.0
%RSD	.212	2.11	.317

Int. Std.	Y_3203
Units	Cts/S
Avg	**5196.6**
Stddev	16.9
%RSD	.32467

Sample Name: CalibStd-200 Acquired: 04/18/2016 08:32:21 Type: Cal
Method: Sodium and Potassium 1(v720) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Na5895
Units	Cts/S	Cts/S	Cts/S
Avg	**13200.**	**.062**	**29.7**
Stddev	46.	.001	.1
%RSD	.349	.871	.230

Int. Std.	Y_3203
Units	Cts/S
Avg	**5216.0**
Stddev	6.5
%RSD	.12524

Sample Name: CalibStd-500 Acquired: 04/18/2016 08:35:07 Type: Cal
Method: Sodium and Potassium 1(v720) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Mg2852	Ca3179	Fe2343
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**23.4**	**98.2**	**27.5**	**7.31**
Stddev	.0	1.3	.1	.01
%RSD	.139	1.34	.290	.191

Int. Std.	Y_3203
Units	Cts/S
Avg	**5103.8**
Stddev	17.3
%RSD	.33981

Sample Name: icv Acquired: 04/18/2016 08:38:10 Type: QC
Method: Sodium and Potassium 1(v720) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**98.6**	**97.7**	**.057**	**.050**	**.060**	**.209**
Stddev	.3	2.0	.010	.002	.005	.055
%RSD	.294	2.10	18.3	3.87	7.69	26.2
#1	98.8	99.8	.061	.052	.056	.285
#2	98.3	95.0	.058	.047	.060	.212
#3	98.8	97.5	.066	.051	.066	.174
#4	98.4	98.7	.042	.049	.058	.165
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**5332.6**
Stddev	32.6
%RSD	.61181
#1	5372.7
#2	5293.4
#3	5337.2
#4	5327.0

Sample Name: ICVLL Acquired: 04/18/2016 08:40:56 Type: QC
Method: Sodium and Potassium 1(v720) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**2.87**	**3.02**	**-.016**	**-.007**	**.004**	**.000**
Stddev	.02	.01	.015	.003	.007	.006
%RSD	.824	.236	97.6	40.2	169.	2330.
#1	2.85	3.01	-.022	-.003	-.006	.006
#2	2.86	3.02	-.009	-.009	.006	.003
#3	2.85	3.01	.002	-.009	.009	.001
#4	2.90	3.02	-.034	-.009	.007	-.009
Check ?	Chk Pass	Chk Pass	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**5335.3**
Stddev	30.5
%RSD	.57187
#1	5328.8
#2	5360.4
#3	5294.8
#4	5357.2

Sample Name: icb Acquired: 04/18/2016 08:43:43 Type: QC
Method: Sodium and Potassium 1(v720) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**-.068**	**.034**	**-.026**	**-.018**	**-.005**	**-.013**
Stddev	.051	.016	.005	.003	.009	.005
%RSD	75.9	46.6	19.4	14.8	206.	36.2
#1	-.060	.012	-.022	-.019	-.012	-.014
#2	-.138	.050	-.033	-.016	-.013	-.014
#3	-.014	.035	-.023	-.021	.006	-.018
#4	-.058	.038	-.026	-.016	.001	-.007
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**5280.5**
Stddev	32.2
%RSD	.60960
#1	5246.5
#2	5267.3
#3	5285.8
#4	5322.3

Sample Name: mrl Acquired: 04/18/2016 08:46:29 Type: QC
Method: Sodium and Potassium 1(v720) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.963**	**.987**	**-.035**	**-.020**	**-.005**	**-.038**
Stddev	.022	.017	.006	.001	.007	.008
%RSD	2.29	1.68	16.6	3.28	151.	20.0
#1	.960	.985	-.029	-.021	-.005	-.042
#2	.935	1.01	-.031	-.020	.001	-.027
#3	.988	.987	-.042	-.019	.000	-.037
#4	.968	.967	-.036	-.021	-.014	-.045
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**5283.3**
Stddev	12.6
%RSD	.23905
#1	5265.4
#2	5286.1
#3	5295.1
#4	5286.6

Sample Name: icsa Acquired: 04/18/2016 08:49:16 Type: QC
Method: Sodium and Potassium 1(v720) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.000**	**.000**	**510.**	**515.**	**499.**	**498.**
Stddev	.12	.016	1.	4.	3.	2.
%RSD	45e15	133e15	.184	.720	.530	.304
#1	-.135	-.018	509.	511.	499.	497.
#2	.101	.006	511.	520.	497.	496.
#3	.108	-.007	509.	514.	503.	499.
#4	-.073	.020	510.	513.	498.	499.
Check ?	Chk Pass	Chk Pass	None	None	None	None
High Limit						
Low Limit						

Int. Std.	Y_3203
Units	Cts/S
Avg	**5042.4**
Stddev	11.7
%RSD	.23158
#1	5048.9
#2	5048.8
#3	5024.9
#4	5046.8

Sample Name: icsab Acquired: 04/18/2016 08:52:20 Type: QC
Method: Sodium and Potassium 1(v720) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**99.0**	**98.6**	**496.**	**493.**	**479.**	**489.**
Stddev	.2	1.2	1.	1.	2.	1.
%RSD	.202	1.20	.243	.240	.362	.189
#1	98.8	99.5	497.	494.	481.	490.
#2	99.1	98.4	495.	493.	479.	488.
#3	98.8	99.4	498.	492.	477.	489.
#4	99.2	97.0	496.	492.	479.	490.
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**5109.0**
Stddev	13.9
%RSD	.27137
#1	5096.9
#2	5128.6
#3	5107.9
#4	5102.5

Sample Name: ccv Acquired: 04/18/2016 12:45:02 Type: QC
Method: Sodium and Potassium 1(v720) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**103.**	**99.3**	**-.024**	**.005**	**.052**	**-.010**
Stddev	.	2.0	.007	.002	.007	.008
%RSD	.356	1.97	29.0	35.4	14.2	81.6
#1	103.	101.	-.021	.005	.050	-.006
#2	103.	98.2	-.034	.008	.053	-.018
#3	103.	101.	-.021	.003	.062	.000
#4	104.	97.1	-.019	.005	.045	-.014
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**5203.5**
Stddev	11.4
%RSD	.21830
#1	5198.2
#2	5211.0
#3	5190.1
#4	5214.6

Sample Name: ccb Acquired: 04/18/2016 12:47:49 Type: QC
Method: Sodium and Potassium 1(v720) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.117**	**.107**	**-.031**	**-.017**	**.003**	**-.031**
Stddev	.069	.009	.006	.001	.004	.019
%RSD	58.9	8.38	18.2	4.22	133.	62.4
#1	.153	.109	-.033	-.017	.010	-.041
#2	.014	.119	-.025	-.016	.000	-.053
#3	.147	.102	-.030	-.017	.002	-.017
#4	.154	.099	-.038	-.018	.001	-.013
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**5235.8**
Stddev	13.2
%RSD	.25258
#1	5251.8
#2	5232.4
#3	5238.9
#4	5220.0

Sample Name: lcsw56773 Acquired: 04/18/2016 12:56:09 Type: Unk
Method: Sodium and Potassium 1(v720) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**99.6**	**94.5**	**.911**	**102.**	**188.**	**.405**
Stddev	.5	1.5	.019	.	.	.003
%RSD	.453	1.61	2.05	.264	.224	.795
#1	99.8	93.8	.888	102.	188.	.408
#2	100.0	96.6	.908	103.	188.	.403
#3	99.7	94.5	.933	102.	188.	.408
#4	99.0	93.1	.915	103.	189.	.402

Int. Std.	Y_3203
Units	Cts/S
Avg	**5180.8**
Stddev	17.9
%RSD	.34558
#1	5168.3
#2	5195.7
#3	5196.6
#4	5162.6

Sample Name: mbw56773 Acquired: 04/18/2016 12:58:55 Type: Unk
Method: Sodium and Potassium 1(v720) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**-.085**	**.001**	**-.025**	**-.019**	**.003**	**-.047**
Stddev	.059	.007	.009	.001	.003	.006
%RSD	69.8	574.	36.2	8.03	86.5	13.5
#1	-.095	-.003	-.028	-.018	.003	-.048
#2	.001	.004	-.014	-.018	.007	-.044
#3	-.133	-.006	-.036	-.018	.003	-.040
#4	-.112	.010	-.023	-.021	.000	-.055

Int. Std.	Y_3203
Units	Cts/S
Avg	**5301.8**
Stddev	13.1
%RSD	.24686
#1	5292.5
#2	5321.0
#3	5294.9
#4	5298.8

Sample Name: 708711 Acquired: 04/18/2016 13:01:45 Type: Unk
Method: Sodium and Potassium 1(v720) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.830**	**27.9**	**.055**	**34.8**	**74.2**	**-.024**
Stddev	.078	.1	.009	.1	.4	.006
%RSD	9.41	.367	16.1	.416	.486	24.3
#1	.714	27.8	.064	34.7	74.2	-.021
#2	.886	27.9	.048	34.8	74.1	-.019
#3	.856	27.9	.047	34.7	73.9	-.032
#4	.862	28.0	.062	35.0	74.7	-.025

Int. Std.	Y_3203
Units	Cts/S
Avg	**5310.3**
Stddev	10.6
%RSD	.19939
#1	5306.7
#2	5317.9
#3	5319.7
#4	5297.0

Sample Name: I708711 Acquired: 04/18/2016 13:04:31 Type: Unk
Method: Sodium and Potassium 1(v720) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.089**	**5.66**	**-.015**	**7.29**	**15.7**	**-.043**
Stddev	.054	.04	.010	.05	.2	.007
%RSD	60.2	.668	65.9	.732	1.06	16.6
#1	.052	5.67	-.006	7.35	15.9	-.054
#2	.034	5.69	-.019	7.32	15.9	-.043
#3	.142	5.68	-.008	7.26	15.6	-.040
#4	.128	5.60	-.027	7.24	15.6	-.037

Int. Std.	Y_3203
Units	Cts/S
Avg	**5343.1**
Stddev	15.3
%RSD	.28575
#1	5330.8
#2	5333.2
#3	5364.3
#4	5344.0

Sample Name: dup708711 Acquired: 04/18/2016 13:07:17 Type: Unk
Method: Sodium and Potassium 1(v720) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.810**	**28.2**	**.051**	**35.6**	**75.2**	**-.029**
Stddev	.089	.1	.017	.1	.5	.009
%RSD	11.0	.373	34.0	.306	.681	31.3
#1	.853	28.1	.055	35.7	75.7	-.019
#2	.743	28.3	.072	35.6	75.7	-.033
#3	.729	28.2	.030	35.5	74.7	-.024
#4	.913	28.0	.047	35.5	75.0	-.039

Int. Std.	Y_3203
Units	Cts/S
Avg	**5313.3**
Stddev	40.1
%RSD	.75466
#1	5262.8
#2	5306.0
#3	5358.7
#4	5325.9

Sample Name: msw708711 Acquired: 04/18/2016 13:10:03 Type: Unk
Method: Sodium and Potassium 1(v720) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**101.**	**125.**	**.972**	**141.**	**261.**	**.396**
Stddev	.	1.	.016	.	1.	.009
%RSD	.175	1.19	1.60	.307	.300	2.38
#1	101.	125.	.951	141.	261.	.402
#2	102.	124.	.976	141.	261.	.394
#3	101.	125.	.976	141.	260.	.384
#4	101.	127.	.988	142.	262.	.405

Int. Std.	Y_3203
Units	Cts/S
Avg	**5129.6**
Stddev	13.1
%RSD	.25526
#1	5136.8
#2	5121.4
#3	5144.1
#4	5116.0

Sample Name: pdsw708711 Acquired: 04/18/2016 13:12:49 Type: Unk
Method: Sodium and Potassium 1(v720) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**100.**	**128.**	**.049**	**34.2**	**72.8**	**-.035**
Stddev	1.	2.	.016	.1	.2	.007
%RSD	.625	1.28	32.4	.326	.265	18.7
#1	99.4	127.	.054	34.1	72.6	-.029
#2	100.	128.	.040	34.2	72.9	-.030
#3	100.	130.	.069	34.3	72.6	-.039
#4	101.	128.	.033	34.4	73.0	-.042

Int. Std.	Y_3203
Units	Cts/S
Avg	**5240.6**
Stddev	20.6
%RSD	.39382
#1	5231.5
#2	5216.2
#3	5252.6
#4	5262.0

Sample Name: ccv Acquired: 04/18/2016 13:18:21 Type: QC
Method: Sodium and Potassium 1(v720) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**104.**	**96.7**	**-.019**	**.007**	**.059**	**-.011**
Stddev	.	1.2	.012	.002	.004	.009
%RSD	.385	1.21	63.1	24.7	7.67	80.1
#1	104.	95.6	-.019	.006	.061	-.007
#2	104.	97.1	-.034	.007	.061	-.001
#3	105.	98.2	-.006	.005	.052	-.013
#4	104.	96.0	-.015	.009	.061	-.021
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**5256.2**
Stddev	20.5
%RSD	.39032
#1	5262.6
#2	5225.8
#3	5266.7
#4	5269.9

Sample Name: ccb Acquired: 04/18/2016 13:21:08 Type: QC
Method: Sodium and Potassium 1(v720) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**-.010**	**.063**	**-.013**	**-.017**	**.001**	**-.031**
Stddev	.068	.006	.016	.001	.003	.005
%RSD	689.	9.04	119.	6.32	306.	17.3
#1	-.071	.056	.010	-.016	-.003	-.025
#2	.076	.061	-.026	-.017	.002	-.035
#3	.013	.068	-.020	-.017	.002	-.036
#4	-.059	.068	-.018	-.019	.002	-.029
Check ?	None	None	None	None	None	None
Value						
Range						

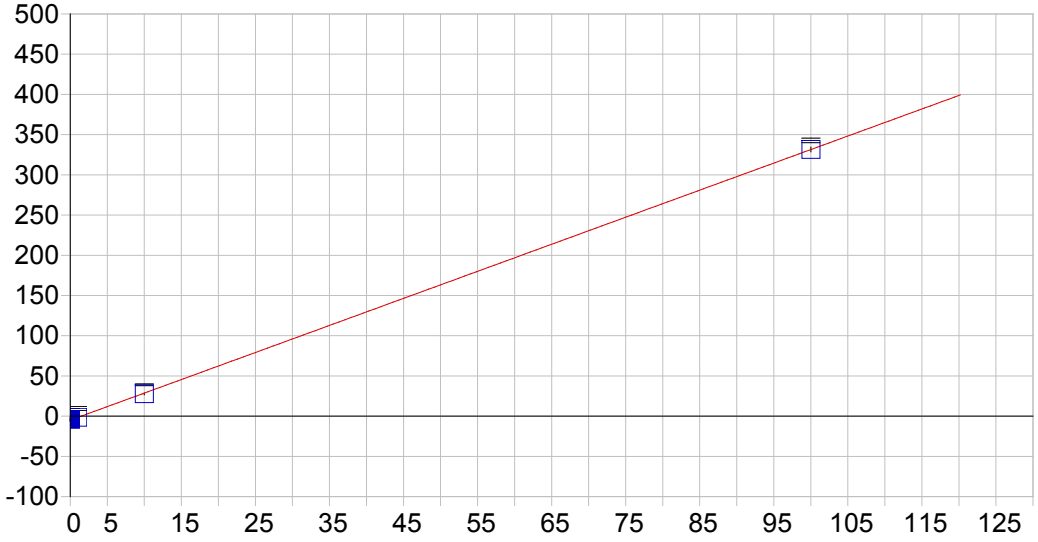
Int. Std.	Y_3203
Units	Cts/S
Avg	**5335.7**
Stddev	14.2
%RSD	.26543
#1	5316.5
#2	5335.5
#3	5340.7
#4	5350.1

Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)	Correlation	Std Error of Est	Predicted MDL	Predicted MQL	Status	Resl Slope
Ag 328.068 {103}	04/25/2016 11:03:09	04/18/2016 09:42:49	Linear	None	-4.955051	3.363713	0.000000	1.000000	0.999989	0.931961	0.838321	2.794405	OK.	1.000000
Al 309.271 {109}	04/25/2016 11:03:09	04/18/2016 10:07:43	Curvilin	None	0.000926	0.000002	0.000000	1.000000	1.000000	0.000044	19.211500	64.038333	OK.	1.000000
Al 396.152 { 85}	04/25/2016 11:03:09	04/18/2016 10:21:07	Curvilin	1/Var	-0.000068	0.000008	0.000000	1.000000	0.999949	0.000422	9.102219	30.340730	OK.	1.000000
Al 167.079 {502}	04/25/2016 11:03:09	04/18/2016 09:48:38	Linear	1/Conc	0.000161	0.000037	0.000000	1.000000	0.999734	0.000003	1.279049	4.263495	OK.	1.000000
As 193.759 {474}	04/25/2016 11:03:09	04/18/2016 09:54:33	Linear	1/Conc	-0.000021	0.000025	0.000000	1.000000	0.999891	0.000005	3.505995	11.686650	OK.	1.000000
As 189.042 {479}	04/25/2016 11:03:09	04/18/2016 09:54:33	Linear	1/Var	0.000035	0.000008	0.000000	1.000000	0.999978	0.000087	9.815018	32.716728	OK.	1.000000
Ba 233.527 {445}	04/25/2016 11:03:09	04/18/2016 09:48:38	Linear	1/Conc	0.000001	0.000003	0.000000	1.000000	0.999941	0.000000	0.331986	1.106619	OK.	1.000000
Ba 455.403 { 74}	04/25/2016 11:03:09	04/18/2016 09:54:33	Linear	None	0.000001	0.000017	0.000000	1.000000	0.999991	0.000268	0.322838	1.076127	OK.	1.000000
Ba 493.409 { 68}	04/25/2016 11:03:09	04/18/2016 09:54:33	Linear	None	0.003785	0.000010	0.000000	1.000000	0.999988	0.000298	1.005694	3.352314	OK.	1.000000
Be 313.042 {108}	04/25/2016 11:03:09	04/18/2016 09:48:38	Linear	1/Conc	-0.000065	0.000170	0.000000	1.000000	0.999908	0.000001	0.034091	0.113637	OK.	1.000000
Be 234.861 {144}	04/25/2016 11:03:09	04/18/2016 09:48:38	Linear	1/Var	-0.000000	0.000002	0.000000	1.000000	0.999893	0.000001	0.620015	2.066718	OK.	1.000000
Ca 315.887 {107}	04/25/2016 11:03:09	04/18/2016 10:21:07	Curvilin	1/Conc	0.000055	0.000001	0.000000	1.000000	0.999997	0.000005	14.579227	48.597424	OK.	1.000000
Ca 317.933 {106}	04/25/2016 11:03:09	04/18/2016 10:21:07	Full Fit	1/Var	0.004772	0.000004	0.000000	1.000000	0.999987	0.000146	5.167405	17.224684	OK.	1.000000
Ca 393.366 { 86}	04/25/2016 11:03:09	04/18/2016 09:48:38	Linear	1/Var	0.000461	0.000069	0.000000	1.000000	0.998012	0.000241	0.055705	0.185682	OK.	1.000000
Ca 396.847 { 85}	04/25/2016 11:03:09	04/18/2016 09:54:33	Linear	1/Conc	0.004898	0.000353	0.000000	1.000000	0.999995	0.000053	0.132643	0.442142	OK.	1.000000
Cd 226.502 {449}	04/25/2016 11:03:09	04/18/2016 09:48:38	Linear	1/Conc	0.000008	0.000922	0.000000	1.000000	0.999866	0.000013	0.169586	0.565286	OK.	1.000000
Cd 228.802 {447}	04/25/2016 11:03:09	04/18/2016 09:48:38	Linear	1/Conc	0.000330	0.001053	0.000000	1.000000	0.999887	0.000014	0.174854	0.582846	OK.	1.000000
Co 228.616 {447}	04/25/2016 11:03:09	04/18/2016 09:54:33	Linear	1/Conc	-0.000400	0.000745	0.000000	1.000000	0.999983	0.000017	0.238693	0.795643	OK.	1.000000
Co 238.892 {141}	04/25/2016 11:03:09	04/18/2016 09:54:33	Linear	None	0.000013	0.000005	0.000000	1.000000	1.000000	0.000016	1.028411	3.428037	OK.	1.000000
Cr 205.560 {464}	04/25/2016 11:03:09	04/18/2016 10:01:03	Linear	1/Var	-0.000072	0.000521	0.000000	1.000000	0.999219	0.000977	0.199625	0.665417	OK.	1.000000
Cr 267.716 {126}	04/25/2016 11:03:09	04/18/2016 09:54:34	Linear	1/Conc	0.000003	0.000010	0.000000	1.000000	0.999994	0.000000	0.659063	2.196878	OK.	1.000000
Cu 224.700 {450}	04/25/2016 11:03:09	04/18/2016 09:54:34	Linear	1/Var	0.000183	0.000175	0.000000	1.000000	0.999982	0.000153	0.759934	2.533114	OK.	1.000000
Cu 324.754 {104}	04/25/2016 11:03:09	04/18/2016 10:01:03	Linear	1/Conc	0.000032	0.000001	0.000000	1.000000	0.999988	0.000001	2.974329	9.914429	OK.	1.000000
Cu 327.396 {103}	04/25/2016 11:03:09	04/18/2016 10:01:03	Curvilin	1/Conc	-0.000120	0.000009	-0.000000	1.000000	0.999997	0.000001	4.588184	15.293948	OK.	1.000000
Fe 234.349 {144}	04/25/2016 11:03:09	04/18/2016 10:21:07	Full Fit	1/Var	0.000019	0.000001	0.000000	0.990000	0.999736	0.000042	1.614953	5.383176	OK.	1.000000
Fe 239.562 {140}	04/25/2016 11:03:09	04/18/2016 10:21:07	Linear	1/Var	0.000002	0.000000	0.000000	1.000000	0.999927	0.000008	5.174738	17.249126	OK.	1.000000
Fe 259.940 {129}	04/25/2016 11:03:09	04/18/2016 10:21:07	Curvilin	1/Conc	0.000035	0.000005	0.000000	1.000000	0.999997	0.000020	4.013699	13.378997	OK.	1.000000
Mg 202.582 {466}	04/25/2016 11:03:09	04/18/2016 10:21:07	Curvilin	1/Conc	0.000030	0.000037	-0.000000	1.000000	0.999628	0.001716	3.084862	10.282873	OK.	1.000000
Mg 279.079 {121}	04/25/2016 11:03:09	04/18/2016 10:21:07	Full Fit	1/Var	-0.000003	0.000000	0.000000	1.010000	0.999963	0.000037	45.948655	153.162183	OK.	1.000000
Mg 280.270 {120}	04/25/2016 11:03:09	04/18/2016 09:54:34	Curvilin	1/Conc	0.000294	0.000080	-0.000000	1.000000	0.999993	0.000010	0.041058	0.136859	OK.	1.000000
Mn 257.610 {131}	04/25/2016 11:03:09	04/18/2016 09:54:34	Linear	1/Var	0.000010	0.000027	0.000000	1.000000	0.999564	0.000022	0.114133	0.380443	OK.	1.000000
Mn 259.373 {130}	04/25/2016 11:03:09	04/18/2016 10:01:03	Linear	1/Var	0.000040	0.000028	0.000000	1.000000	0.999616	0.000220	0.764589	2.548629	OK.	1.000000
Mo 202.030 {466}	04/25/2016 11:03:09	04/18/2016 09:48:39	Linear	1/Conc	0.000106	0.000229	0.000000	1.000000	0.999905	0.000009	0.418276	1.394252	OK.	1.000000
Mo 204.598 {464}	04/25/2016 11:03:09	04/18/2016 09:54:34	Curvilin	1/Conc	-0.000000	0.000002	0.000000	1.000000	0.999989	0.000000	0.708736	2.362455	OK.	1.000000
Mo 204.598 {465}	04/25/2016 11:03:09	04/18/2016 09:54:34	Linear	1/Conc	0.000000	0.000001	0.000000	1.000000	0.999997	0.000000	0.923540	3.078465	OK.	1.000000
Ni 221.647 {452}	04/25/2016 11:03:09	04/18/2016 09:54:34	Linear	1/Conc	0.000002	0.000005	0.000000	1.000000	0.999968	0.000002	0.473755	1.579182	OK.	1.000000
Ni 231.604 {445}	04/25/2016 11:03:09	04/18/2016 09:54:34	Linear	1/Conc	-0.000000	0.000004	0.000000	1.000000	0.999945	0.000000	0.489233	1.630776	OK.	1.000000
Pb 216.999 {455}	04/25/2016 11:03:09	04/18/2016 10:01:03	Full Fit	1/Var	0.000168	0.000037	-0.000000	1.010000	0.999995	0.000143	4.319013	14.396711	OK.	1.000000
Pb 220.353 {453}	04/25/2016 11:03:09	04/18/2016 09:54:34	Linear	1/Conc	-0.000018	0.000075	0.000000	1.000000	0.999997	0.000002	2.766341	9.221136	OK.	1.000000
Pb 220.353 {153}	04/25/2016 11:03:09	04/18/2016 10:01:03	Linear	1/Conc	-0.000180	0.000055	0.000000	1.000000	0.999988	0.000037	4.998223	16.660744	OK.	1.000000
Sb 206.833 {463}	04/25/2016 11:03:09	04/18/2016 09:54:34	Linear	1/Conc	-0.000263	0.000065	0.000000	1.000000	0.999955	0.000008	1.902267	6.340889	OK.	1.000000
Sb 217.581 {455}	04/25/2016 11:03:09	04/18/2016 09:54:34	Linear	1/Conc	0.000065	0.000072	0.000000	1.000000	0.999932	0.000007	1.949761	6.499203	OK.	1.000000
Se 196.090 {472}	04/25/2016 11:03:09	04/18/2016 09:54:34	Linear	1/Conc	0.000120	0.000029	0.000000	1.000000	0.999959	0.000003	3.397493	11.324977	OK.	1.000000
Se 206.279 {463}	04/25/2016 11:03:09	04/18/2016 09:54:34	Linear	1/Conc	0.000013	0.000008	0.000000	1.000000	0.999967	0.000003	17.362040	57.873468	OK.	1.000000
Se 196.090 {471}	04/25/2016 11:03:09	04/18/2016 09:54:34	Linear	1/Conc	0.000034	0.000018	0.000000	1.000000	0.999906	0.000003	4.735161	15.783871	OK.	1.000000
Tl 190.856 {476}	04/25/2016 11:03:09	04/18/2016 09:54:34	Linear	1/Conc	0.000186	0.000061	0.000000	1.000000	0.999961	0.000007	1.985172	6.617240	OK.	1.000000

Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)	Correlation	Std Error of Est	Predicted MDL	Predicted MQL	Status	Resl Slope
Tl 190.856 {477}	04/25/2016 11:03:09	04/18/2016 09:54:35	Linear	1/Conc	-0.000052	0.000022	0.000000	1.000000	0.999973	0.000002	4.447330	14.824434	OK.	1.000000
V 290.882 {116}	04/25/2016 11:03:09	04/18/2016 09:54:35	Linear	1/Conc	0.000007	0.000001	0.000000	1.000000	0.999873	0.000000	3.623314	12.077712	OK.	1.000000
V 292.402 {115}	04/25/2016 11:03:09	04/18/2016 09:54:35	Linear	1/Conc	0.000008	0.000015	0.000000	1.000000	0.999973	0.000001	0.594843	1.982810	OK.	1.000000
Zn 206.200 {463}	04/25/2016 11:03:09	04/18/2016 10:01:03	Linear	1/Conc	0.000824	0.000449	0.000000	1.000000	0.999512	0.006611	0.297402	0.991341	OK.	1.000000
Zn 213.856 {458}	04/25/2016 11:03:09	04/18/2016 09:54:35	Linear	1/Var	0.000008	0.000005	0.000000	1.000000	0.999469	0.000004	0.217552	0.725174	OK.	1.000000
Y 324.228 {104}*	04/25/2016 11:03:09	04/18/2016 08:51:08	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000
Y 371.030 { 91}*	04/25/2016 11:03:09	04/18/2016 08:51:08	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000
Y 224.306 {451}*	04/25/2016 11:03:09	04/18/2016 08:51:08	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000
Na 588.995 { 57}	04/25/2016 11:03:09	04/18/2016 10:07:44	Linear	1/Conc	0.001712	0.000004	0.000000	1.000000	0.995062	0.000228	3.978646	13.262154	OK.	1.000000
Si 251.611 {134}	04/25/2016 11:03:09	04/18/2016 10:07:44	Linear	1/Conc	0.000130	0.000002	0.000000	1.000000	0.954834	0.000121	9.414936	31.383120	OK.	1.000000
Ti 334.941 {101}	04/25/2016 11:03:09	04/18/2016 09:54:35	Linear	1/Conc	0.000016	0.000020	0.000000	1.000000	0.999987	0.000001	1.456119	4.853731	OK.	1.000000
Sr 407.771 { 83}	04/25/2016 11:03:09	04/18/2016 09:54:35	Linear	1/Conc	-0.000624	0.000459	0.000000	1.000000	0.999989	0.000009	0.116967	0.389889	OK.	1.000000
Sn 189.989 {478}	04/25/2016 11:03:09	04/18/2016 09:54:35	Linear	1/Var	0.000057	0.000027	0.000000	1.000000	0.999963	0.000080	2.533995	8.446649	OK.	1.000000
B 249.678 {135}	04/25/2016 11:03:09	04/18/2016 09:54:35	Linear	1/Conc	0.000023	0.000006	0.000000	1.000000	0.999944	0.000001	1.042286	3.474286	OK.	1.000000
B 249.773 {135}	04/25/2016 11:03:09	04/18/2016 09:54:35	Linear	1/Conc	0.000051	0.000010	0.000000	1.000000	0.999960	0.000001	0.578700	1.929000	OK.	1.000000
Li 670.784 { 50}	04/25/2016 11:03:09	04/18/2016 09:54:35	Linear	1/Var	-0.000061	0.000150	0.000000	1.000000	0.999991	0.000090	1.145452	3.818174	OK.	1.000000
K 766.490 { 44}	04/25/2016 11:03:09	04/18/2016 10:07:44	Linear	1/Conc	0.000248	0.000005	0.000000	1.000000	0.995081	0.000274	31.773260	105.910866	OK.	1.000000
P 213.618 {457}	04/25/2016 11:03:09	04/18/2016 10:07:44	Linear	1/Conc	-0.000004	0.000000	0.000000	1.000000	0.994789	0.000009	7.069714	23.565713	OK.	1.000000
S 182.034 {485}	04/25/2016 11:03:09	04/18/2016 10:21:07	Linear	1/Conc	0.000112	0.000020	0.000000	1.000000	0.999237	0.001147	3.947753	13.159175	OK.	1.000000
W 239.709 {140}	04/25/2016 11:03:09	04/18/2016 10:07:44	Curvilin	1/Var	0.000001	-0.000000	0.000000	1.000000	1.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000

Element, Wavelength and Order	ope	QC Norm	
	Y-int	Slope factor	Offset
Ag 328.068 {103}	0.000000	1	0
Al 309.271 {109}	0.000000	1	0
Al 396.152 { 85}	0.000000	1	0
Al 167.079 {502}	0.000000	1	0
As 193.759 {474}	0.000000	1	0
As 189.042 {479}	0.000000	1	0
Ba 233.527 {445}	0.000000	1	0
Ba 455.403 { 74}	0.000000	1	0
Ba 493.409 { 68}	0.000000	1	0
Be 313.042 {108}	0.000000	1	0
Be 234.861 {144}	0.000000	1	0
Ca 315.887 {107}	0.000000	1	0
Ca 317.933 {106}	0.000000	1	0
Ca 393.366 { 86}	0.000000	1	0
Ca 396.847 { 85}	0.000000	1	0
Cd 226.502 {449}	0.000000	1	0
Cd 228.802 {447}	0.000000	1	0
Co 228.616 {447}	0.000000	1	0
Co 238.892 {141}	0.000000	1	0
Cr 205.560 {464}	0.000000	1	0
Cr 267.716 {126}	0.000000	1	0
Cu 224.700 {450}	0.000000	1	0
Cu 324.754 {104}	0.000000	1	0
Cu 327.396 {103}	0.000000	1	0
Fe 234.349 {144}	0.000000	1	0
Fe 239.562 {140}	0.000000	1	0
Fe 259.940 {129}	0.000000	1	0
Mg 202.582 {466}	0.000000	1	0
Mg 279.079 {121}	0.000000	1	0
Mg 280.270 {120}	0.000000	1	0
Mn 257.610 {131}	0.000000	1	0
Mn 259.373 {130}	0.000000	1	0
Mo 202.030 {466}	0.000000	1	0
Mo 204.598 {464}	0.000000	1	0
Mo 204.598 {465}	0.000000	1	0
Ni 221.647 {452}	0.000000	1	0
Ni 231.604 {445}	0.000000	1	0
Pb 216.999 {455}	0.000000	1	0
Pb 220.353 {453}	0.000000	1	0
Pb 220.353 {153}	0.000000	1	0
Sb 206.833 {463}	0.000000	1	0
Sb 217.581 {455}	0.000000	1	0
Se 196.090 {472}	0.000000	1	0
Se 206.279 {463}	0.000000	1	0
Se 196.090 {471}	0.000000	1	0
Tl 190.856 {476}	0.000000	1	0

Element, Wavelength and Order	ope	QC Norm	
	Y-int	Slope factor	Offset
Tl 190.856 {477}	0.000000	1	0
V 290.882 {116}	0.000000	1	0
V 292.402 {115}	0.000000	1	0
Zn 206.200 {463}	0.000000	1	0
Zn 213.856 {458}	0.000000	1	0
Y 324.228 {104}*	0.000000	1	0
Y 371.030 { 91}*	0.000000	1	0
Y 224.306 {451}*	0.000000	1	0
Na 588.995 { 57}	0.000000	1	0
Si 251.611 {134}	0.000000	1	0
Ti 334.941 {101}	0.000000	1	0
Sr 407.771 { 83}	0.000000	1	0
Sn 189.989 {478}	0.000000	1	0
B 249.678 {135}	0.000000	1	0
B 249.773 {135}	0.000000	1	0
Li 670.784 { 50}	0.000000	1	0
K 766.490 { 44}	0.000000	1	0
P 213.618 {457}	0.000000	1	0
S 182.034 {485}	0.000000	1	0
W 239.709 {140}	0.000000	1	0

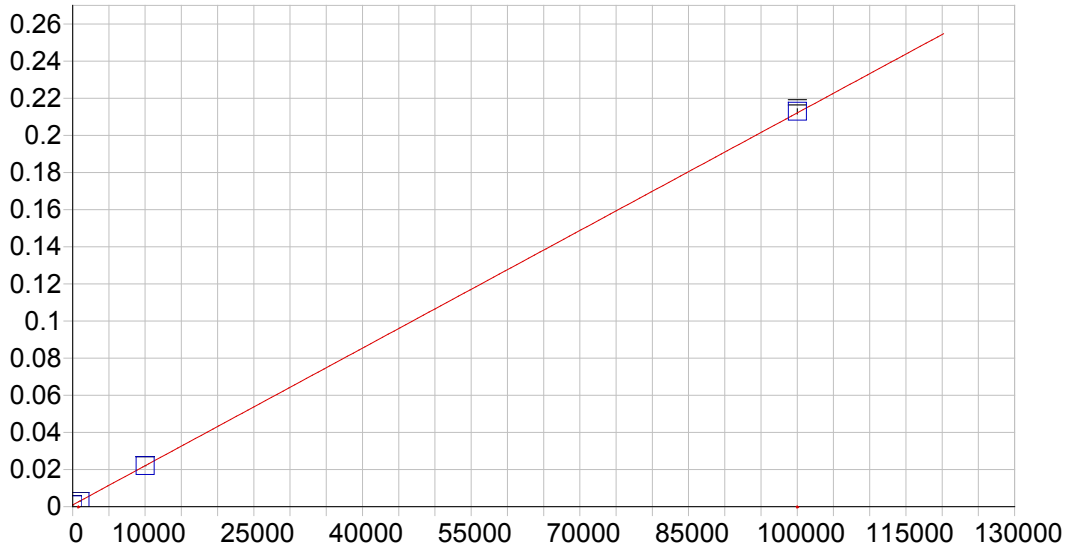


Ag 328.068 {103}

Date of Fit:	04/25/2016 11:03:09	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	-4.955051	Re-Slope:	1.000000
A1 (Gain):	3.363713	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999989	Status:	OK.
Std Error of Est:	0.931961		
Predicted MDL:	0.838321		
Predicted MQL:	2.794405		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.26906	.269	.000	-4.0500	2.16	1
CalStd5=10	10.000	9.7170	-.283	-2.83	27.730	1.08	1
CalStd8=100	100.00	100.03	.028	.028	331.51	2.93	1
CalStd3=1	1.0000	.98553	-.014	-1.45	-1.6400	2.40	1

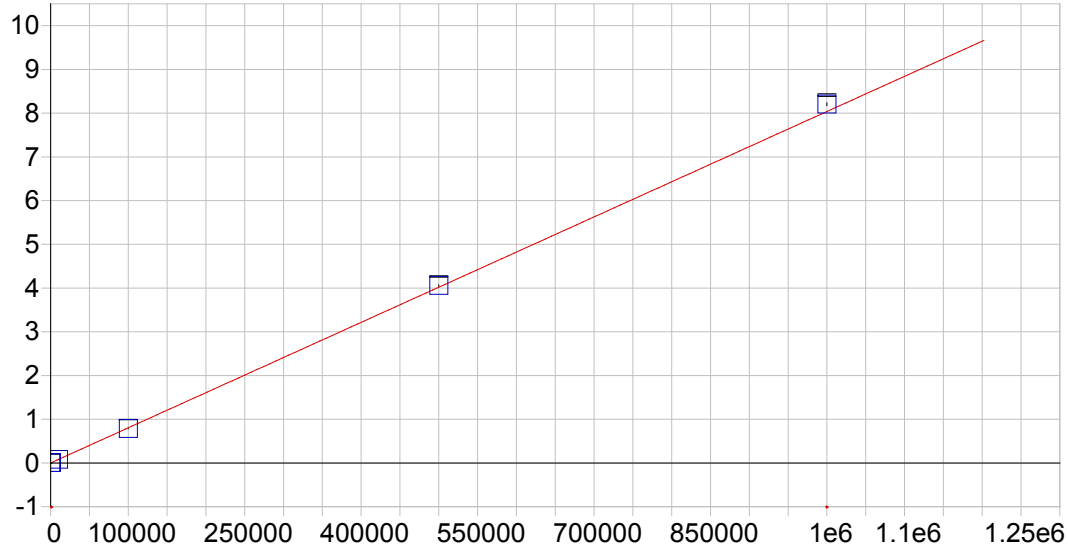


Al 309.271 {109}

Date of Fit:	04/25/2016 11:03:09	Type of Fit:	Curvilinear	Weighting:	None

A0 (Offset):	0.000926	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000044		
Predicted MDL:	19.211500		
Predicted MQL:	64.038333		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	13.922	13.9	.000	.00096	.000	1
CalStd10=10	10000.	10006.	5.65	.057	.02205	.000	1
CalStd9=100	1000.0	984.41	-15.6	-1.56	.00300	.000	1
CalStd12-100	100000.	100390.	393.	.393	.21292	.001	1

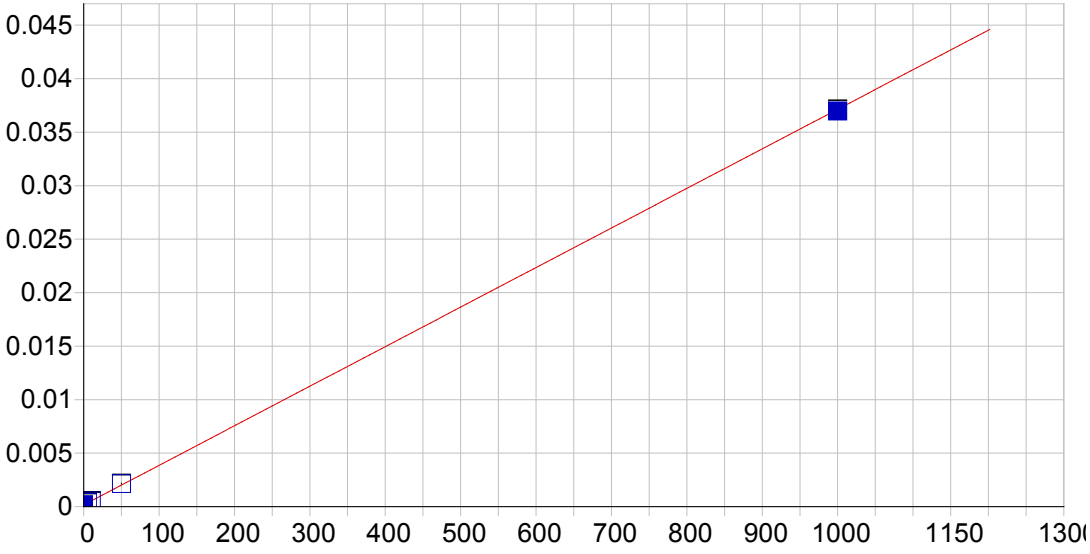


Al 396.152 { 85}

Date of Fit:	04/25/2016 11:03:09	Type of Fit:	Curvilinear	Weighting:	1/Var

A0 (Offset):	-0.000068	Re-Slope:	1.000000
A1 (Gain):	0.000008	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999949	Status:	OK.
Std Error of Est:	0.000422		
Predicted MDL:	9.102219		
Predicted MQL:	30.340730		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	3.5695	3.57	.000	-.00004	.000	1
CalStd14-100	1000000.	1020700.	20700.	2.07	8.2046	.028	1
CalStd13=50	500000.	504950.	4950.	.991	4.0588	.014	1
CalStd10=10	10000.	10103.	103.	1.03	.08114	.000	1
CalStd12-100	100000.	97695.	-2300.	-2.30	.78522	.005	1
CalStd9=100	1000.0	987.48	-12.5	-1.25	.00787	.000	1

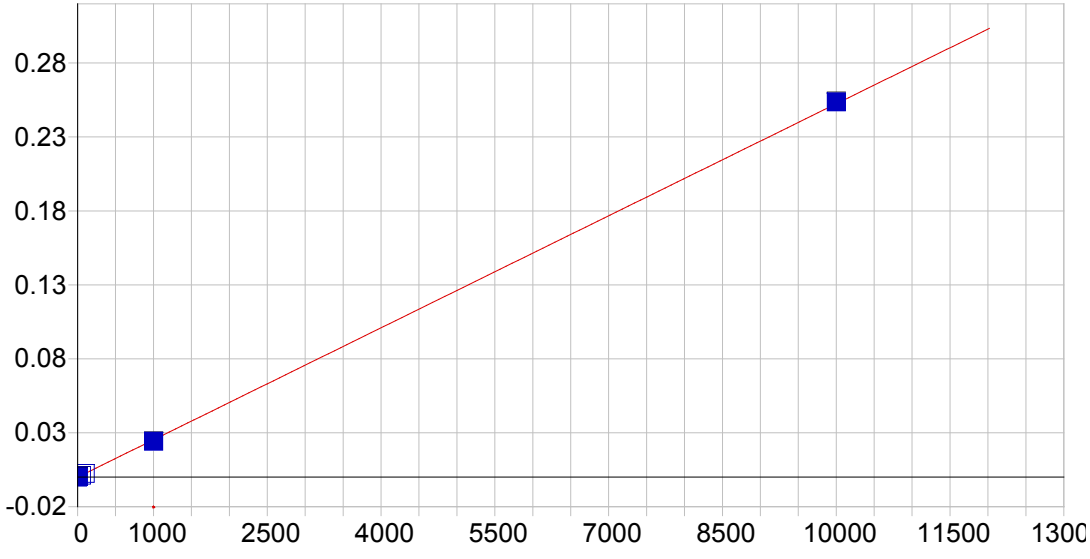


Al 167.079 {502}

Date of Fit:	04/25/2016 11:03:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000161	Re-Slope:	1.000000
A1 (Gain):	0.000037	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999734	Status:	OK.
Std Error of Est:	0.000003		
Predicted MDL:	1.279049		
Predicted MQL:	4.263495		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00135	-.001	.000	.00016	.000	1
CalStd9=100	1000.0	995.43	-4.57	-.457	.03699	.000	1
CalStd5=10	10.000	9.7159	-.284	-2.84	.00052	.000	1
CalStd4=5	5.0000	6.1445	1.14	22.9	.00039	.000	1
CalStd7=50	50.000	53.714	3.71	7.43	.00215	.000	1

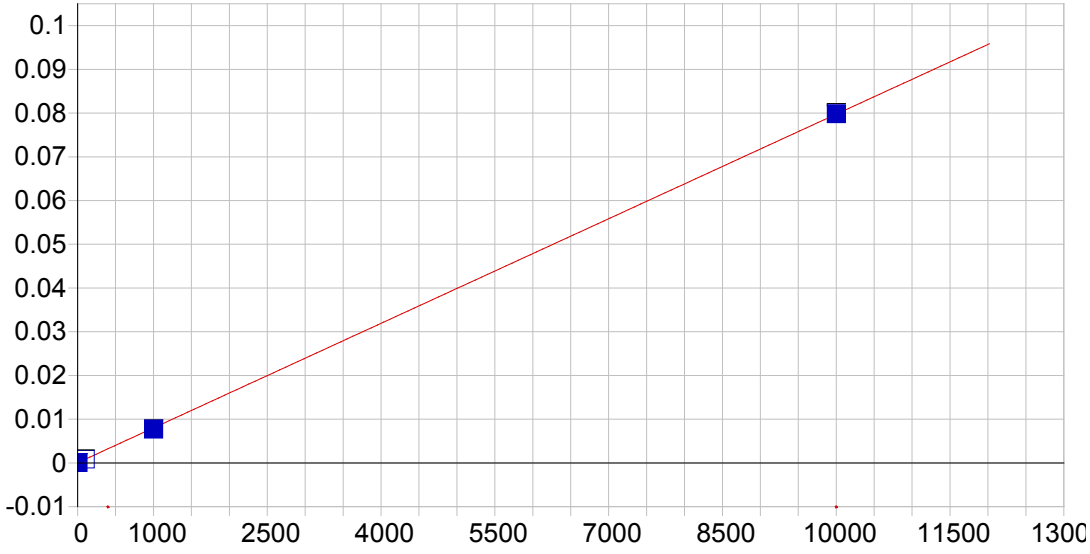


As 193.759 {474}

Date of Fit:	04/25/2016 11:03:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000021	Re-Slope:	1.000000
A1 (Gain):	0.000025	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999891	Status:	OK.
Std Error of Est:	0.000005		
Predicted MDL:	3.505995		
Predicted MQL:	11.686650		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00253	.003	.000	-.00002	.000	1
CalStd9=100	1000.0	957.38	-42.6	-4.26	.02414	.000	1
CalStd7=50	50.000	48.555	-1.45	-2.89	.00120	.000	1
CalStd5=10	10.000	8.4258	-1.57	-15.7	.00019	.000	1
CalStd8=100	100.00	97.061	-2.94	-2.94	.00243	.000	1
CalStd10=10	10000.	10049.	48.6	.486	.25362	.000	1

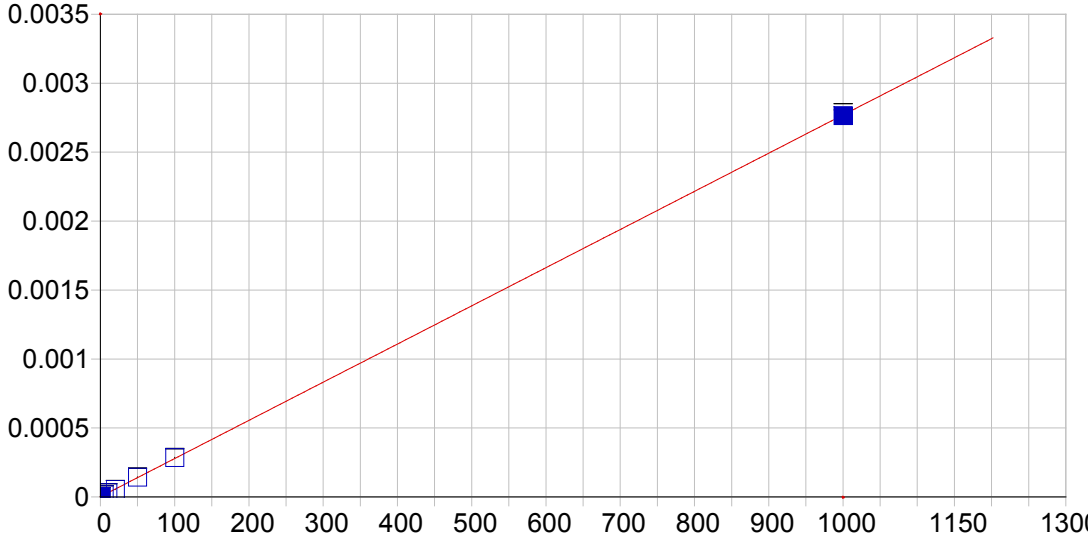


As 189.042 {479}

Date of Fit:	04/25/2016 11:03:09	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000035	Re-Slope:	1.000000
A1 (Gain):	0.000008	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999978	Status:	OK.
Std Error of Est:	0.000087		
Predicted MDL:	9.815018		
Predicted MQL:	32.716728		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.52442	.524	.000	.00004	.000	1
CalStd9=100	1000.0	962.92	-37.1	-3.71	.00771	.000	1
CalStd10=10	10000.	10010.	9.55	.096	.07985	.000	1
CalStd8=100	100.00	102.84	2.84	2.84	.00086	.000	1
CalStd4=5	5.0000	4.8543	-.146	-2.91	.00007	.000	1

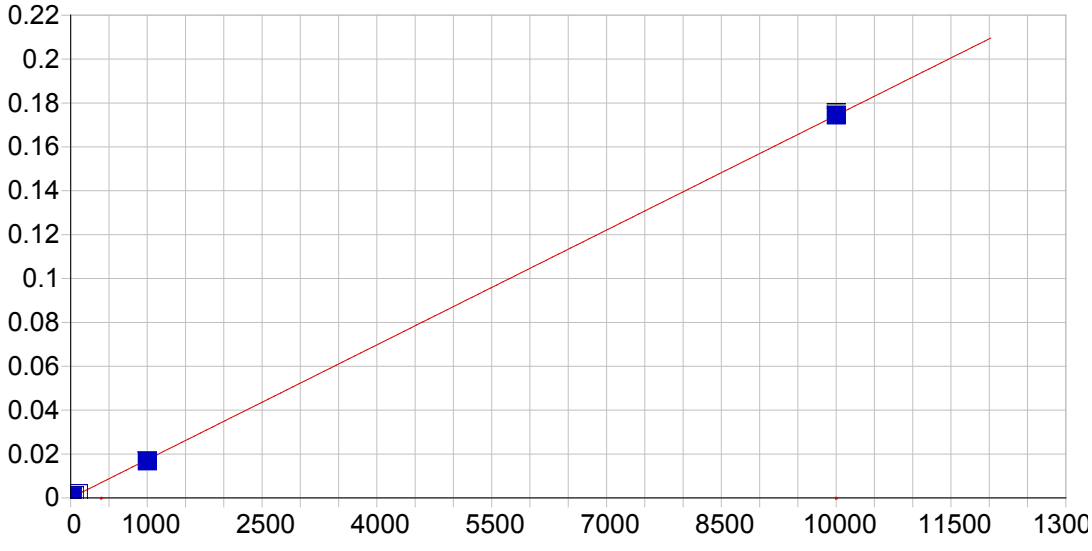


Ba 233.527 {445}

Date of Fit:	04/25/2016 11:03:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000003	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999941	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.331986		
Predicted MQL:	1.106619		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00010	.000	.000	.00000	.000	1
CalStd7=50	50.000	50.910	.910	1.82	.00014	.000	1
CalStd5=10	10.000	10.307	.307	3.07	.00003	.000	1
CalStd6=20	20.000	18.969	-1.03	-5.16	.00005	.000	1
CalStd8=100	100.00	102.09	2.09	2.09	.00028	.000	1
CalStd4=5	5.0000	4.9816	-.018	-.368	.00002	.000	1
CalStd9=100	1000.0	997.85	-2.15	-.215	.00276	.000	1
CalStd3=1	1.0000	.88945	-.111	-11.1	.00000	.000	1

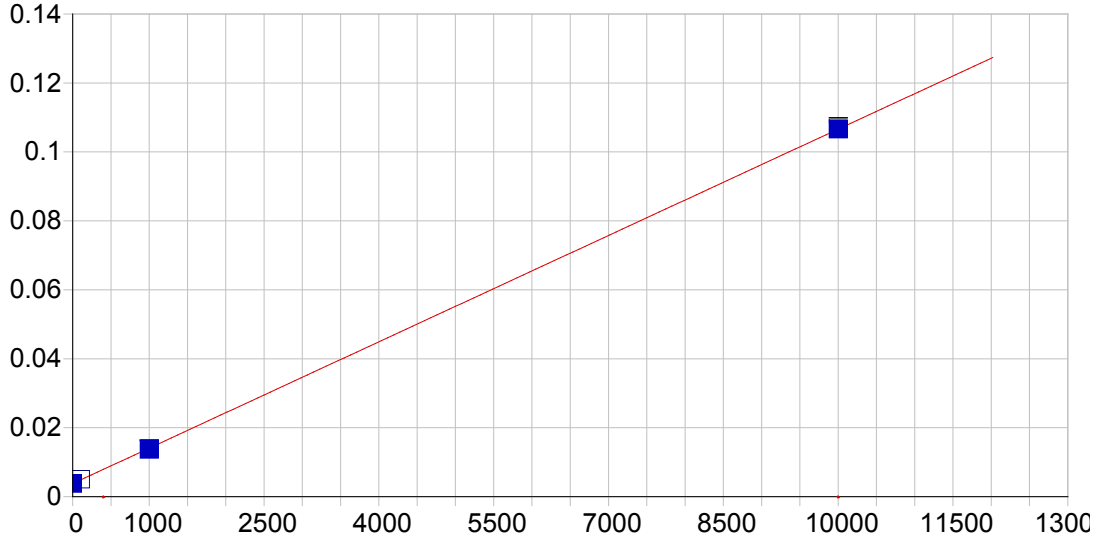


Ba 455.403 { 74}

Date of Fit:	04/25/2016 11:03:09	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000017	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999991	Status:	OK.
Std Error of Est:	0.000268		
Predicted MDL:	0.322838		
Predicted MQL:	1.076127		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	5.4591	5.46	.000	.00010	.000	1
CalStd7=50	50.000	53.855	3.86	7.71	.00094	.000	1
CalStd5=10	10.000	15.074	5.07	50.7	.00026	.000	1
CalStd6=20	20.000	23.252	3.25	16.3	.00041	.000	1
CalStd8=100	100.00	106.66	6.66	6.66	.00186	.000	1
CalStd4=5	5.0000	9.9745	4.97	99.5	.00018	.000	1
CalStd9=100	1000.0	961.78	-38.2	-3.82	.01678	.000	1
CalStd3=1	1.0000	6.2219	5.22	522.	.00011	.000	1
CalStd10=10	10000.	10004.	3.72	.037	.17451	.001	1

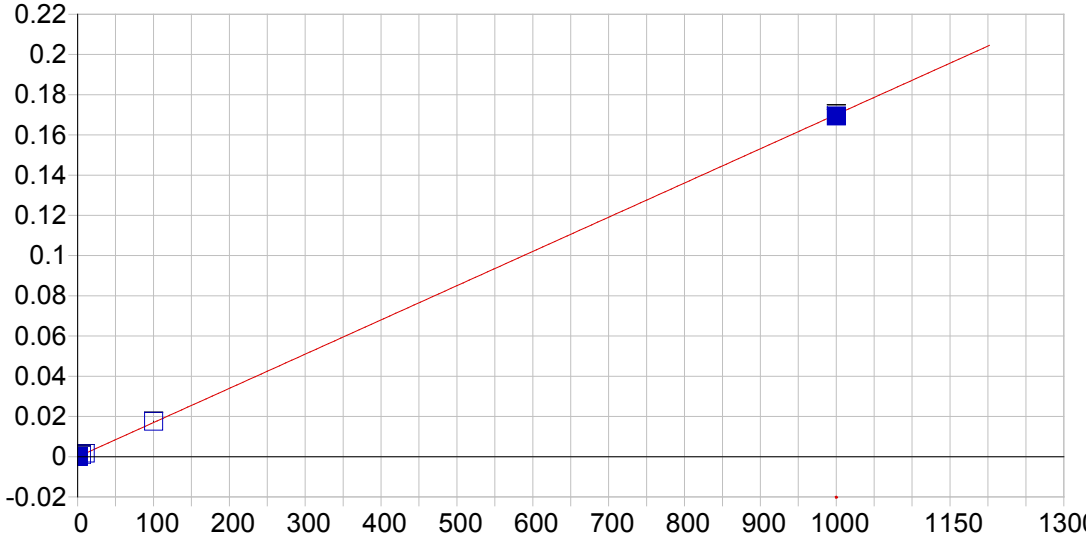


Ba 493.409 { 68}

Date of Fit:	04/25/2016 11:03:09	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.003785	Re-Slope:	1.000000
A1 (Gain):	0.000010	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999988	Status:	OK.
Std Error of Est:	0.000298		
Predicted MDL:	1.005694		
Predicted MQL:	3.352314		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	4.6376	4.64	.000	.00383	.000	1
CalStd9=100	1000.0	967.73	-32.3	-3.23	.01374	.000	1
CalStd8=100	100.00	124.66	24.7	24.7	.00507	.000	1
CalStd10=10	10000.	10003.	2.98	.030	.10668	.001	1

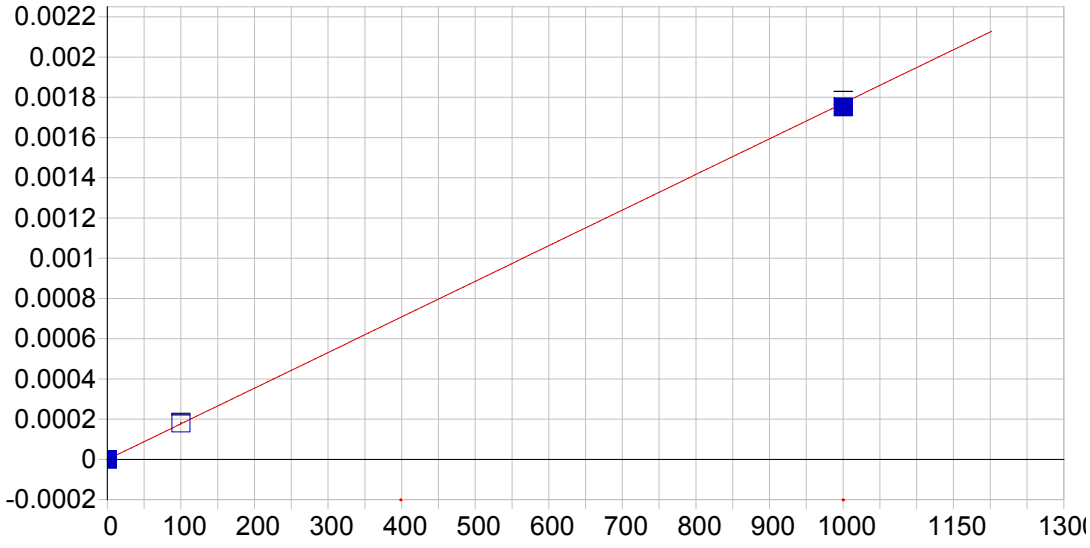


Be 313.042 {108}

Date of Fit:	04/25/2016 11:03:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000065	Re-Slope:	1.000000
A1 (Gain):	0.000170	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999908	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.034091		
Predicted MQL:	0.113637		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00012	.000	.000	-.00007	.000	1
CalStd5=10	10.000	10.468	.468	4.68	.00172	.000	1
CalStd8=100	100.00	103.65	3.65	3.65	.01758	.000	1
CalStd2=0.5	.50000	.56212	.062	12.4	.00003	.000	1
CalStd4=5	5.0000	5.2286	.229	4.57	.00082	.000	1
CalStd1=0.25	.25000	.30555	.056	22.2	-.00001	.000	1
CalStd9=100	1000.0	995.51	-4.49	-.449	.16938	.001	1
CalStd3=1	1.0000	1.0230	.023	2.30	.00011	.000	1

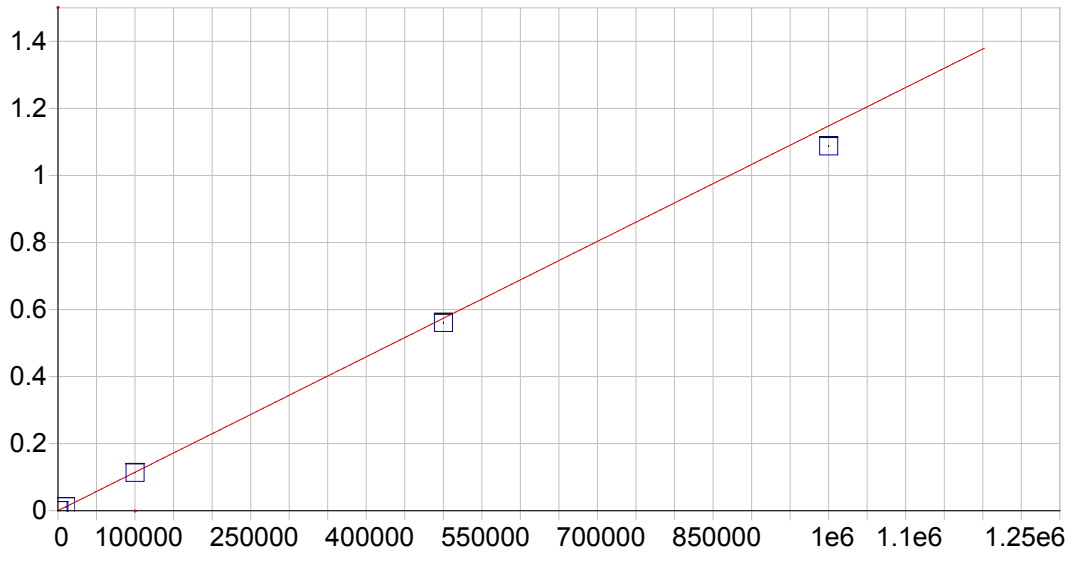


Be 234.861 {144}

Date of Fit:	04/25/2016 11:03:09	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999893	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.620015		
Predicted MQL:	2.066718		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.04462	-.045	.000	.00000	.000	1
CalStd9=100	1000.0	989.19	-10.8	-1.08	.00175	.000	1
CalStd8=100	100.00	101.93	1.93	1.93	.00018	.000	1

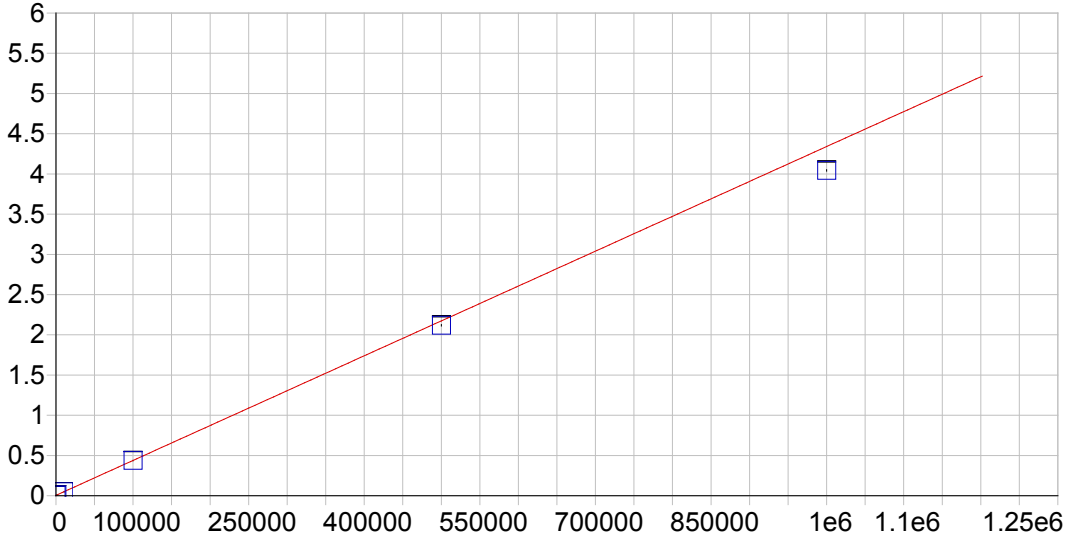


Ca 315.887 {107}

Date of Fit: 04/25/2016 11:03:09 Type of Fit: Curvilinear Weighting: 1/Conc

A0 (Offset):	0.000055	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999997	Status:	OK.
Std Error of Est:	0.000005		
Predicted MDL:	14.579227		
Predicted MQL:	48.597424		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.03271	.033	.000	.00005	.000	1
CalStd10=10	10000.	9926.8	-73.2	-.732	.01145	.000	1
CalStd13=50	500000.	488500.	-11500.	-2.30	.56061	.001	1
CalStd14-100	1000000.	947710.	-52300.	-5.23	1.0876	.001	1
CalStd9=100	1000.0	978.72	-21.3	-2.13	.00118	.000	1
CalStd12-100	100000.	98797.	-1200.	-1.20	.11342	.001	1

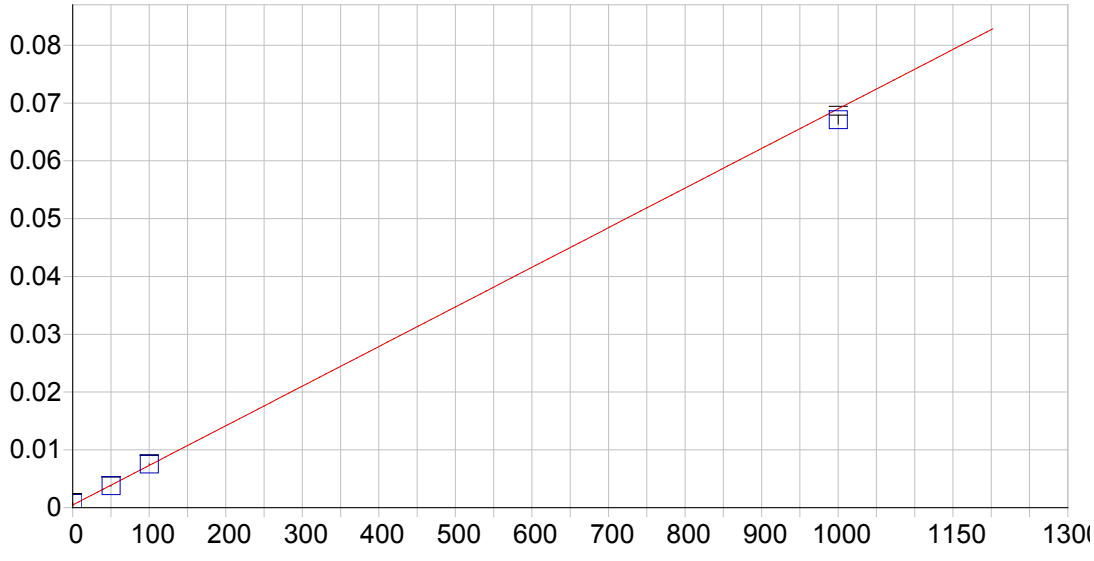


Ca 317.933 {106}

Date of Fit: 04/25/2016 11:03:09 Type of Fit: Full Fit Weighting: 1/Var

A0 (Offset):	0.004772	Re-Slope:	1.000000
A1 (Gain):	0.000004	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999987	Status:	OK.
Std Error of Est:	0.000146		
Predicted MDL:	5.167405		
Predicted MQL:	17.224684		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	8.4940	8.49	.000	.00481	.000	1
CalStd10=10	10000.	9971.6	-28.4	-.284	.04801	.000	1
CalStd13=50	500000.	487440.	-12600.	-2.51	2.1183	.009	1
CalStd14-100	1000000.	931450.	-68600.	-6.86	4.0435	.009	1
CalStd9=100	1000.0	979.22	-20.8	-2.08	.00902	.000	1
CalStd12-100	100000.	99699.	-301.	-.301	.43706	.003	1

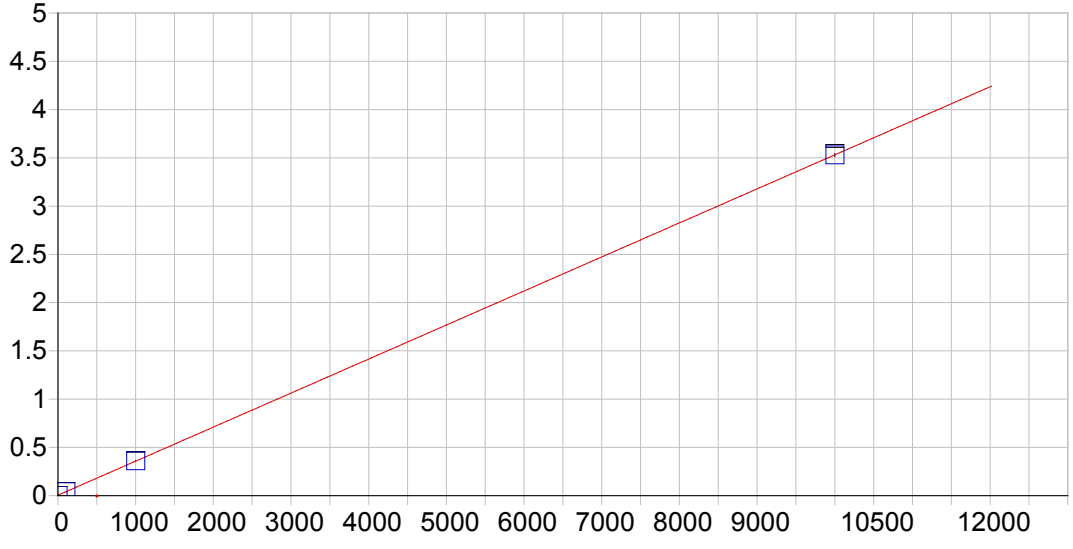


Ca 393.366 { 86}

Date of Fit: 04/25/2016 11:03:09 Type of Fit: Linear Weighting: 1/Var

A0 (Offset):	0.000461	Re-Slope:	1.000000
A1 (Gain):	0.000069	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998012	Status:	OK.
Std Error of Est:	0.000241		
Predicted MDL:	0.055705		
Predicted MQL:	0.185682		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	4.6747	4.67	.000	.00078	.000	1
CalStd7=50	50.000	48.394	-1.61	-3.21	.00378	.000	1
CalStd9=100	1000.0	972.44	-27.6	-2.76	.06711	.001	1
CalStd8=100	100.00	102.94	2.94	2.94	.00752	.000	1

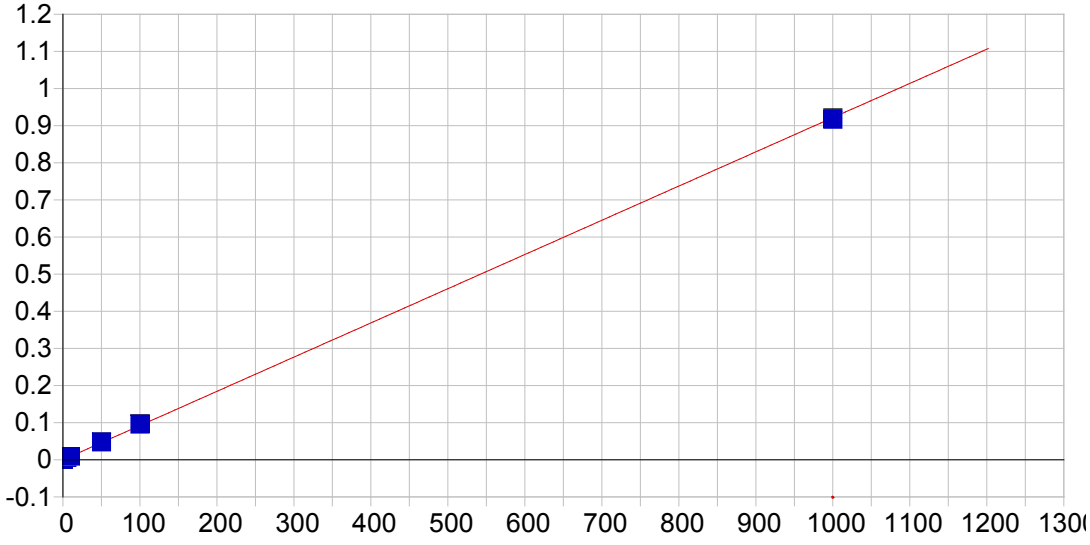


Ca 396.847 { 85}

Date of Fit:	04/25/2016 11:03:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.004898	Re-Slope:	1.000000
A1 (Gain):	0.000353	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999995	Status:	OK.
Std Error of Est:	0.000053		
Predicted MDL:	0.132643		
Predicted MQL:	0.442142		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00113	.001	.000	.00490	.001	1
CalStd10=10	10000.	9993.5	-6.51	-.065	3.5285	.015	1
CalStd8=100	100.00	98.095	-1.90	-1.90	.03949	.000	1
CalStd9=100	1000.0	1008.4	8.42	.842	.36046	.003	1

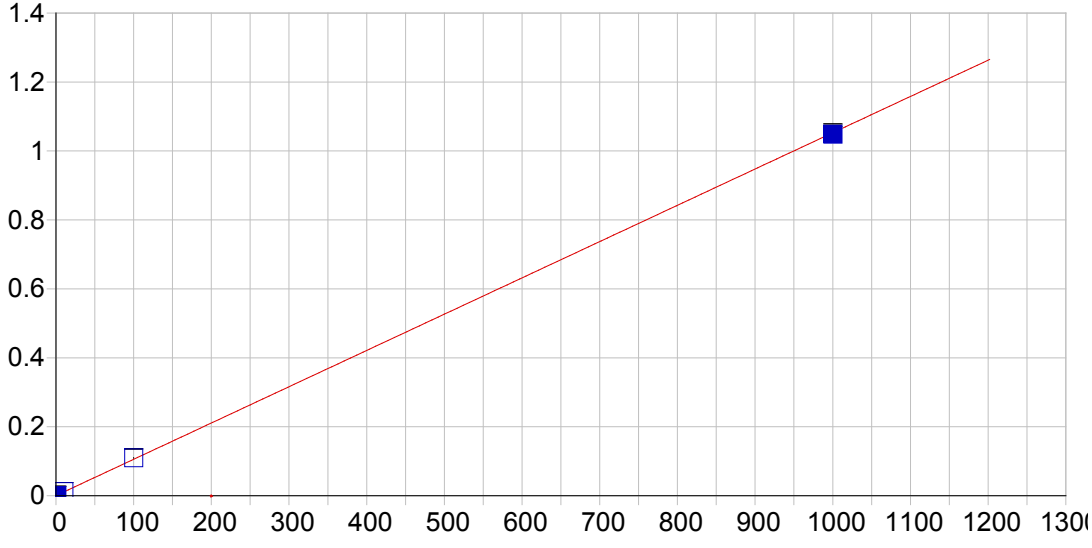


Cd 226.502 {449}

Date of Fit: 04/25/2016 11:03:09 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	0.000008	Re-Slope:	1.000000
A1 (Gain):	0.000922	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999866	Status:	OK.
Std Error of Est:	0.000013		
Predicted MDL:	0.169586		
Predicted MQL:	0.565286		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00018	.000	.000	.00001	.000	1
CalStd7=50	50.000	51.532	1.53	3.06	.04750	.000	1
CalStd3=1	1.0000	.88006	-.120	-12.0	.00082	.000	1
CalStd2=0.5	.50000	.32626	-.174	-34.7	.00031	.000	1
CalStd4=5	5.0000	5.0037	.004	.074	.00462	.000	1
CalStd8=100	100.00	103.79	3.79	3.79	.09566	.001	1
CalStd5=10	10.000	10.418	.418	4.18	.00961	.000	1
CalStd9=100	1000.0	994.55	-5.45	-.545	.91670	.003	1

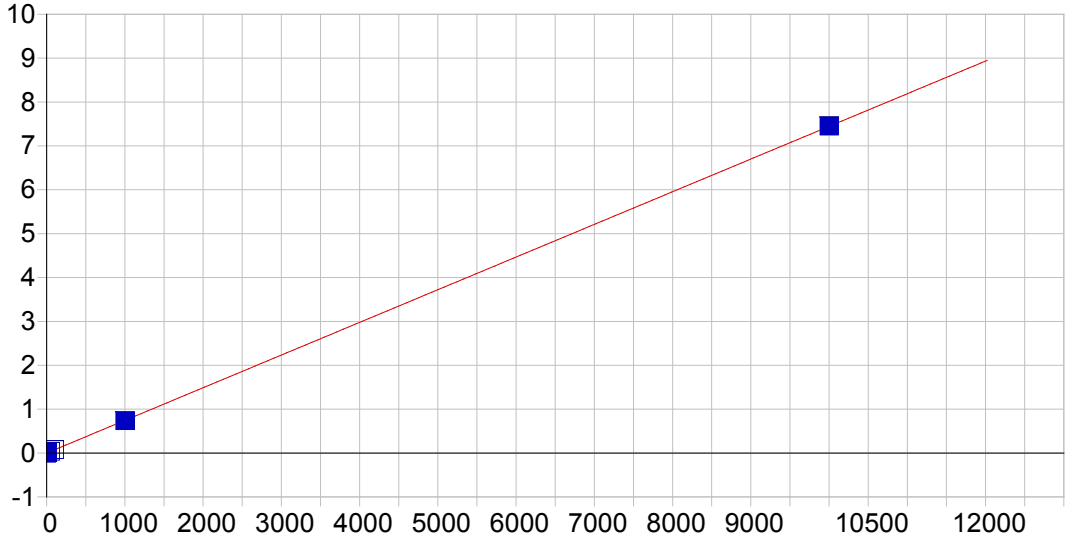


Cd 228.802 {447}

Date of Fit: 04/25/2016 11:03:09 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	0.000330	Re-Slope:	1.000000
A1 (Gain):	0.001053	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999887	Status:	OK.
Std Error of Est:	0.000014		
Predicted MDL:	0.174854		
Predicted MQL:	0.582846		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00027	.000	.000	.00033	.000	1
CalStd9=100	1000.0	995.48	-4.52	-.452	1.0483	.004	1
CalStd8=100	100.00	103.67	3.67	3.67	.10945	.001	1
CalStd2=0.5	.50000	.63747	.137	27.5	.00100	.000	1
CalStd3=1	1.0000	1.1723	.172	17.2	.00156	.000	1
CalStd5=10	10.000	10.539	.539	5.39	.01142	.000	1

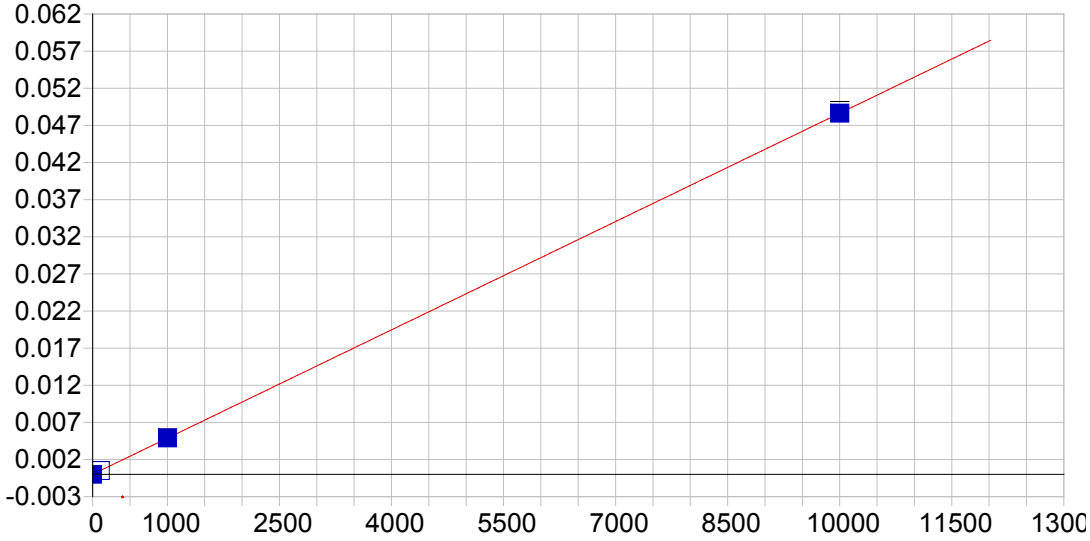


Co 228.616 {447}

Date of Fit:	04/25/2016 11:03:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000400	Re-Slope:	1.000000
A1 (Gain):	0.000745	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999983	Status:	OK.
Std Error of Est:	0.000017		
Predicted MDL:	0.238693		
Predicted MQL:	0.795643		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00032	.000	.000	-.00040	.000	1
CalStd7=50	50.000	51.426	1.43	2.85	.03789	.000	1
CalStd5=10	10.000	10.530	.530	5.30	.00744	.000	1
CalStd4=5	5.0000	5.3241	.324	6.48	.00356	.000	1
CalStd8=100	100.00	102.64	2.64	2.64	.07602	.000	1
CalStd9=100	1000.0	986.67	-13.3	-1.33	.73422	.003	1
CalStd3=1	1.0000	1.1610	.161	16.1	.00046	.000	1
CalStd10=10	10000.	10008.	8.25	.082	7.4511	.008	1

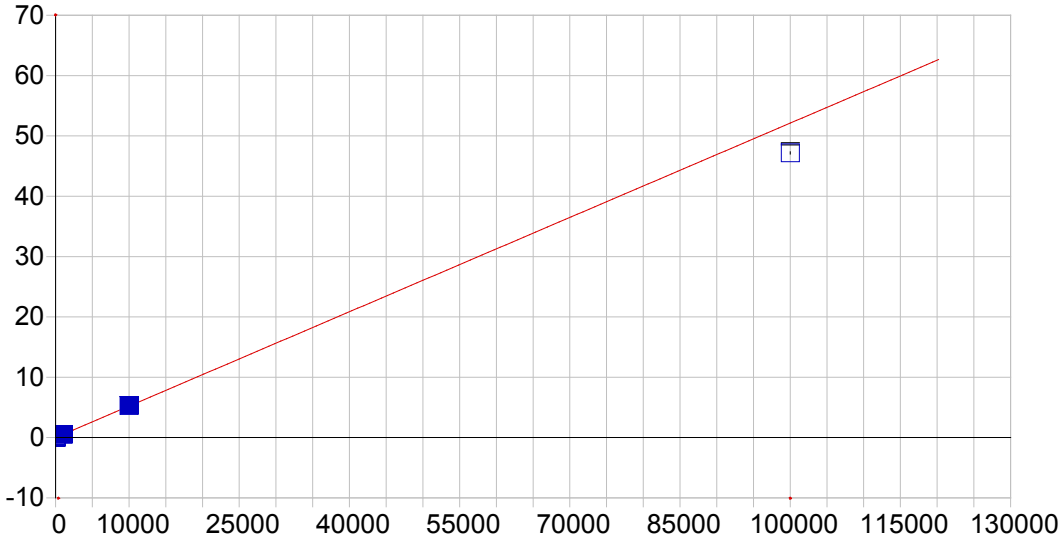


Co 238.892 {141}

Date of Fit:	04/25/2016 11:03:09	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000013	Re-Slope:	1.000000
A1 (Gain):	0.000005	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000016		
Predicted MDL:	1.028411		
Predicted MQL:	3.428037		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-3.7325	-3.73	.000	-.00001	.000	1
CalStd9=100	1000.0	1002.6	2.62	.262	.00489	.000	1
CalStd10=10	10000.	9999.7	-.276	-.003	.04865	.000	1
CalStd8=100	100.00	101.39	1.39	1.39	.00051	.000	1

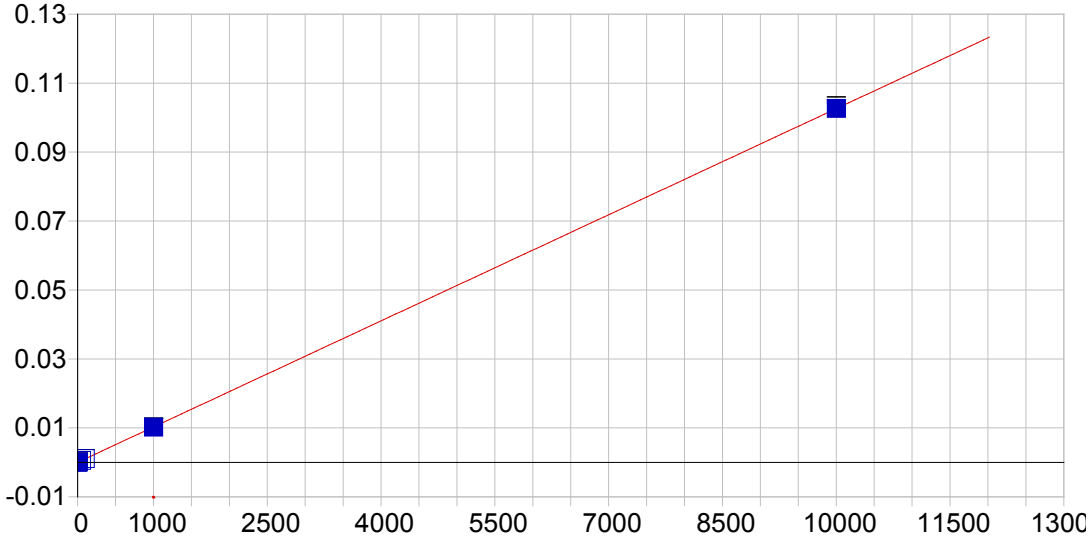


Cr 205.560 {464}

Date of Fit:	04/25/2016 11:03:09	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-0.000072	Re-Slope:	1.000000
A1 (Gain):	0.000521	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999219	Status:	OK.
Std Error of Est:	0.000977		
Predicted MDL:	0.199625		
Predicted MQL:	0.665417		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.16961	-.170	.000	-.00016	.000	1
CalStd5=10	10.000	10.190	.190	1.90	.00524	.000	1
CalStd7=50	50.000	51.692	1.69	3.38	.02687	.000	1
CalStd9=100	1000.0	1000.3	.321	.032	.52131	.002	1
CalStd8=100	100.00	103.79	3.79	3.79	.05403	.000	1
CalStd4=5	5.0000	5.1704	.170	3.41	.00262	.000	1
CalStd3=1	1.0000	.83864	-.161	-16.1	.00037	.000	1
CalStd11-100	100000.	90536.	-9460.	-9.46	47.189	.189	1
CalStd10=10	10000.	10160.	160.	1.60	5.2955	.009	1

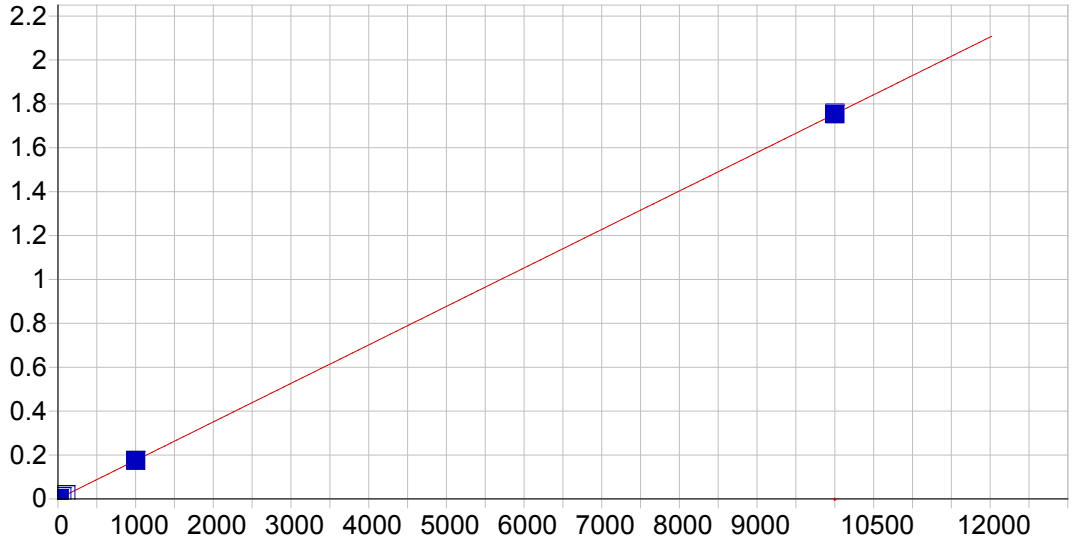


Cr 267.716 {126}

Date of Fit: 04/25/2016 11:03:09 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	0.000003	Re-Slope:	1.000000
A1 (Gain):	0.000010	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999994	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.659063		
Predicted MQL:	2.196878		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00006	.000	.000	.00000	.000	1
CalStd5=10	10.000	10.248	.248	2.48	.00011	.000	1
CalStd7=50	50.000	51.089	1.09	2.18	.00053	.000	1
CalStd9=100	1000.0	994.00	-6.00	-.600	.01020	.000	1
CalStd8=100	100.00	102.41	2.41	2.41	.00105	.000	1
CalStd4=5	5.0000	4.7344	-.266	-5.31	.00005	.000	1
CalStd10=10	10000.	10003.	2.53	.025	.10263	.001	1

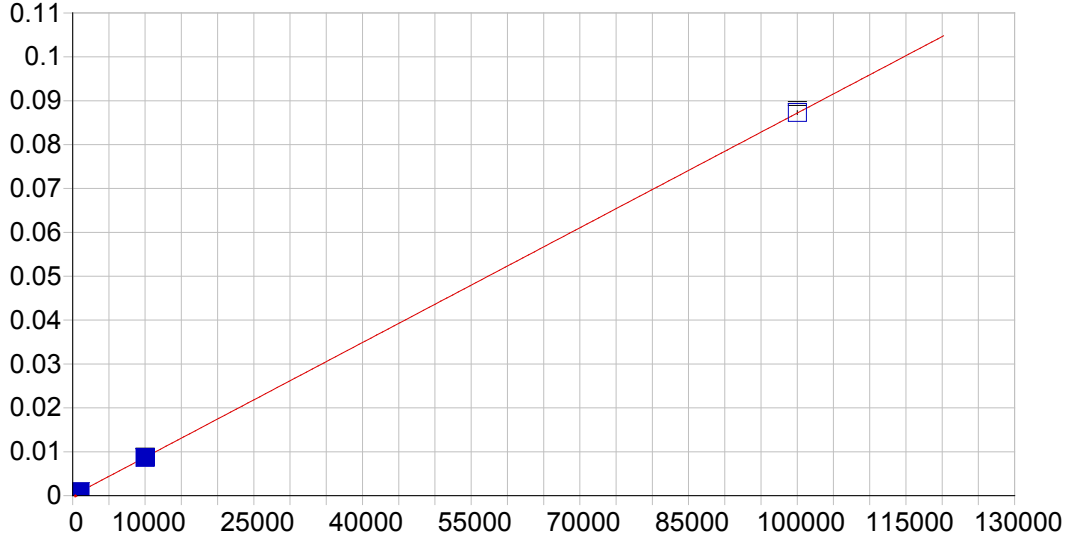


Cu 224.700 {450}

Date of Fit:	04/25/2016 11:03:09	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000183	Re-Slope:	1.000000
A1 (Gain):	0.000175	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999982	Status:	OK.
Std Error of Est:	0.000153		
Predicted MDL:	0.759934		
Predicted MQL:	2.533114		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.29717	-.297	.000	.00013	.000	1
CalStd9=100	1000.0	993.92	-6.08	-.608	.17474	.001	1
CalStd7=50	50.000	52.082	2.08	4.16	.00932	.000	1
CalStd8=100	100.00	104.50	4.50	4.50	.01851	.000	1
CalStd5=10	10.000	10.648	.648	6.48	.00205	.000	1
CalStd10=10	10000.	9996.5	-3.47	-.035	1.7558	.002	1
CalStd4=5	5.0000	4.8323	-.168	-3.35	.00103	.000	1
CalStd6=20	20.000	19.394	-.606	-3.03	.00358	.000	1
CalStd3=1	1.0000	1.1775	.178	17.8	.00039	.000	1

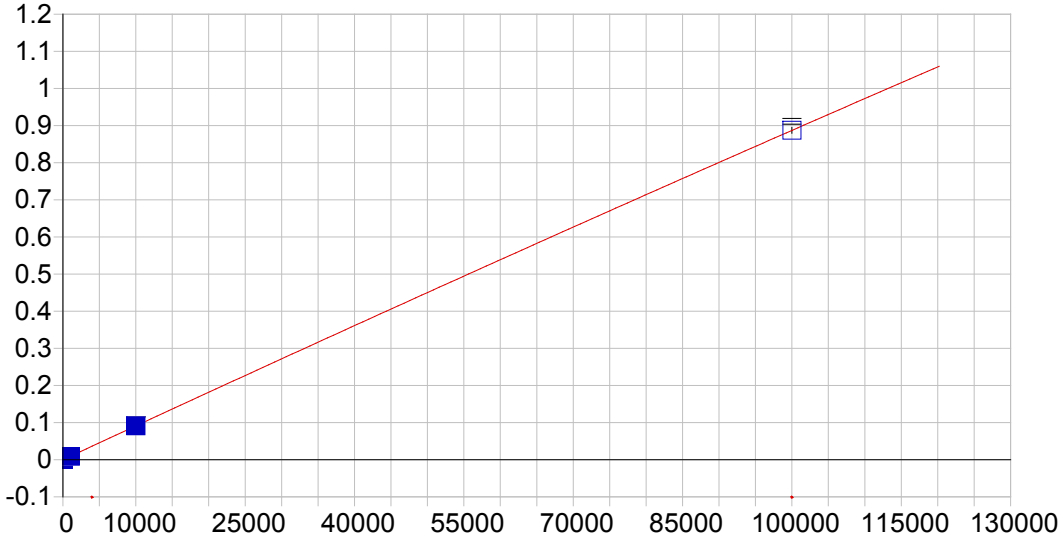


Cu 324.754 {104}

Date of Fit:	04/25/2016 11:03:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000032	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999988	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	2.974329		
Predicted MQL:	9.914429		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00240	.002	.000	.00003	.000	1
CalStd9=100	1000.0	958.64	-41.4	-4.14	.00087	.000	1
CalStd8=100	100.00	102.49	2.49	2.49	.00012	.000	1
CalStd10=10	10000.	9911.6	-88.4	-.884	.00867	.000	1
CalStd11-100	100000.	100130.	127.	.127	.08730	.000	1

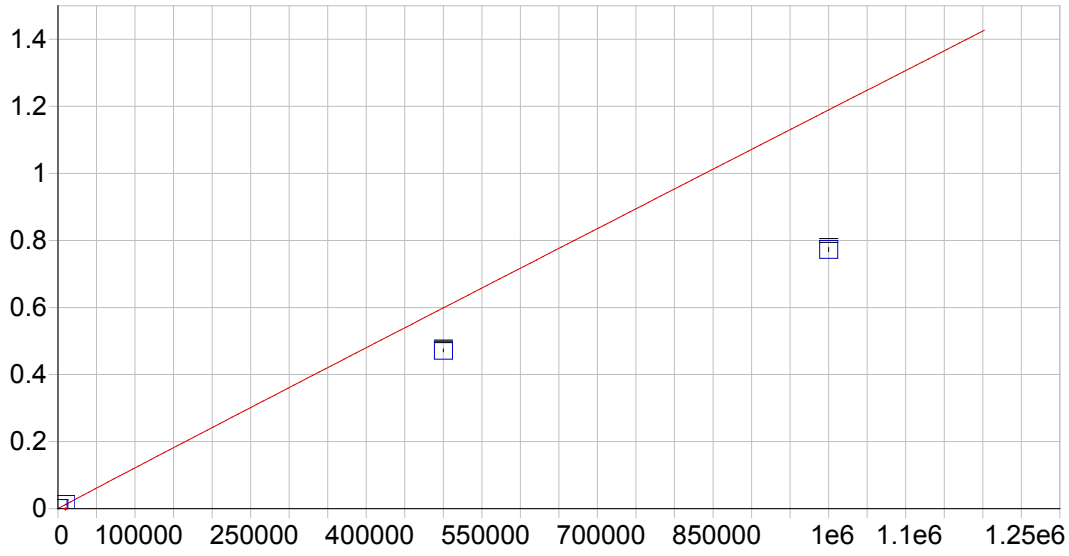


Cu 327.396 {103}

Date of Fit: 04/25/2016 11:03:09 Type of Fit: Curvilinear Weighting: 1/Conc

A0 (Offset):	-0.000120	Re-Slope:	1.000000
A1 (Gain):	0.000009	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999997	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	4.588184		
Predicted MQL:	15.293948		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00199	-.002	.000	-.00012	.000	1
CalStd6=20	20.000	19.516	-.484	-2.42	.00006	.000	1
CalStd7=50	50.000	55.073	5.07	10.1	.00038	.000	1
CalStd8=100	100.00	102.24	2.24	2.24	.00081	.000	1
CalStd9=100	1000.0	1000.7	.674	.067	.00903	.000	1
CalStd10=10	10000.	9991.6	-8.38	-.084	.09095	.000	1
CalStd11-100	100000.	100000.	.873	.001	.88702	.008	1

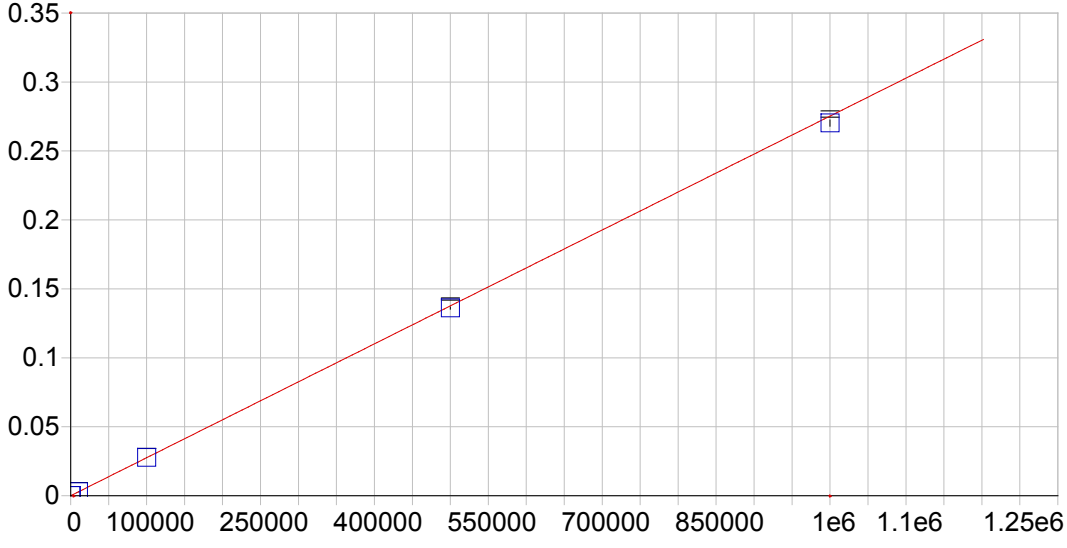


Fe 234.349 {144}

Date of Fit:	04/25/2016 11:03:09	Type of Fit:	Full Fit	Weighting:	1/Var

A0 (Offset):	0.000019	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	0.990000		
Correlation:	0.999736	Status:	OK.
Std Error of Est:	0.000042		
Predicted MDL:	1.614953		
Predicted MQL:	5.383176		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	1.1787	1.18	.000	.00002	.000	1
CalStd10=10	10000.	10313.	313.	3.13	.01286	.000	1
CalStd13=50	500000.	393030.	-107000.	-21.4	.47177	.004	1
CalStd14-100	1000000.	647150.	-353000.	-35.3	.77293	.006	1
CalStd9=100	1000.0	995.01	-4.99	-.499	.00129	.000	1

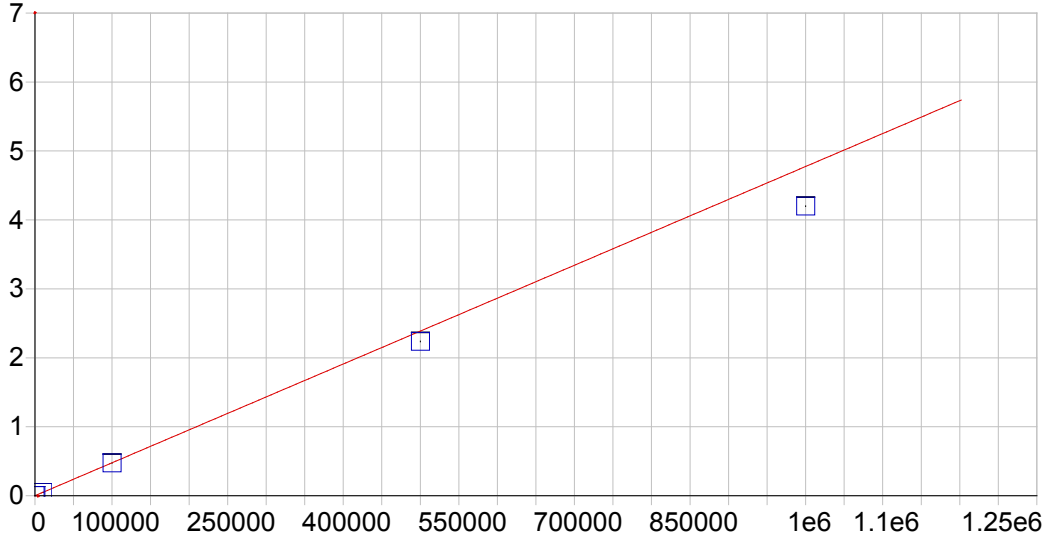


Fe 239.562 {140}

Date of Fit:	04/25/2016 11:03:09	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999927	Status:	OK.
Std Error of Est:	0.000008		
Predicted MDL:	5.174738		
Predicted MQL:	17.249126		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	3.7313	3.73	.000	.00000	.000	1
CalStd10=10	10000.	10177.	177.	1.77	.00280	.000	1
CalStd13=50	500000.	494400.	-5600.	-1.12	.13610	.001	1
CalStd14-100	1000000.	981690.	-18300.	-1.83	.27025	.002	1
CalStd9=100	1000.0	967.87	-32.1	-3.21	.00027	.000	1
CalStd12-100	100000.	100580.	583.	.583	.02769	.000	1

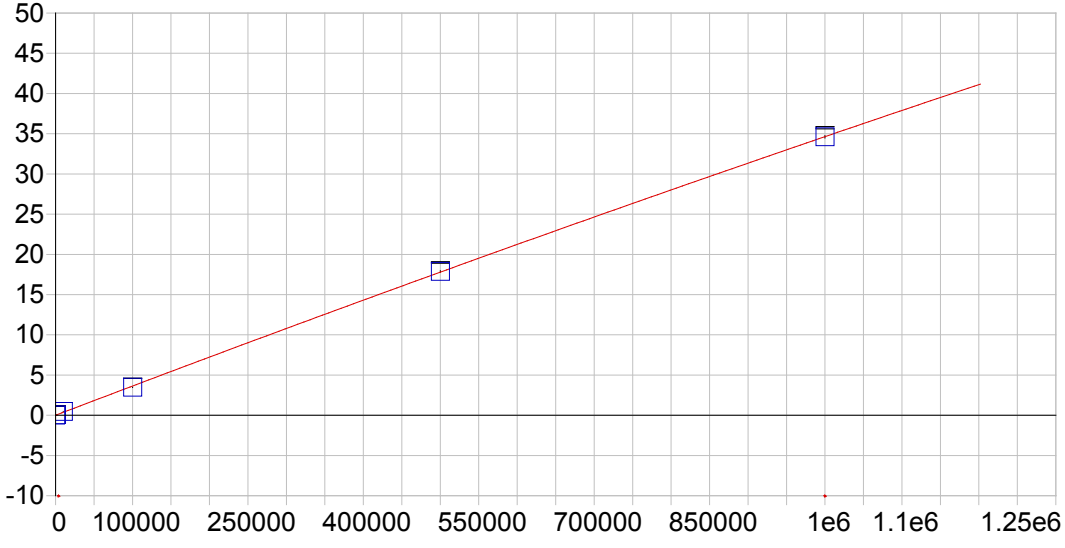


Fe 259.940 {129}

Date of Fit:	04/25/2016 11:03:09	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	0.000035	Re-Slope:	1.000000
A1 (Gain):	0.000005	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999997	Status:	OK.
Std Error of Est:	0.000020		
Predicted MDL:	4.013699		
Predicted MQL:	13.378997		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.02868	-.029	.000	.00003	.000	1
CalStd10=10	10000.	10216.	216.	2.16	.04882	.000	1
CalStd13=50	500000.	468660.	-31300.	-6.27	2.2379	.005	1
CalStd14-100	1000000.	879220.	-121000.	-12.1	4.1983	.004	1
CalStd9=100	1000.0	1004.2	4.19	.419	.00483	.000	1
CalStd12-100	100000.	99102.	-898.	-.898	.47325	.003	1

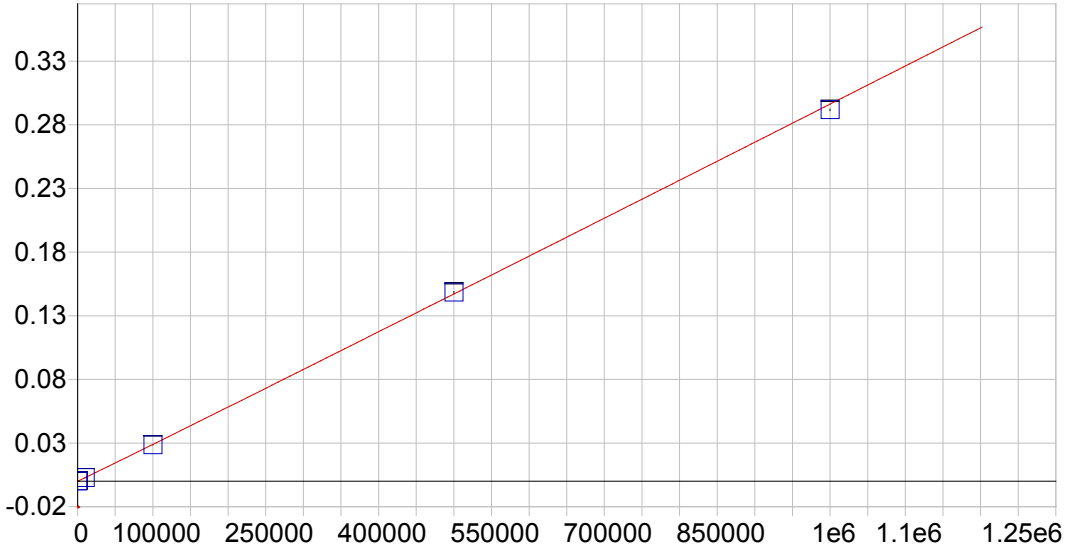


Mg 202.582 {466}

Date of Fit:	04/25/2016 11:03:09	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	0.000030	Re-Slope:	1.000000
A1 (Gain):	0.000037	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999628	Status:	OK.
Std Error of Est:	0.001716		
Predicted MDL:	3.084862		
Predicted MQL:	10.282873		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.51965	-.520	.000	.00001	.000	1
CalStd13=50	500000.	502300.	2300.	.461	17.872	.092	1
CalStd10=10	10000.	12834.	2830.	28.3	.46857	.001	1
CalStd14-100	1000000.	999270.	-733.	-.073	34.613	.153	1
CalStd12-100	100000.	95316.	-4680.	-4.68	3.4649	.015	1
CalStd9=100	1000.0	1279.3	279.	27.9	.04676	.000	1

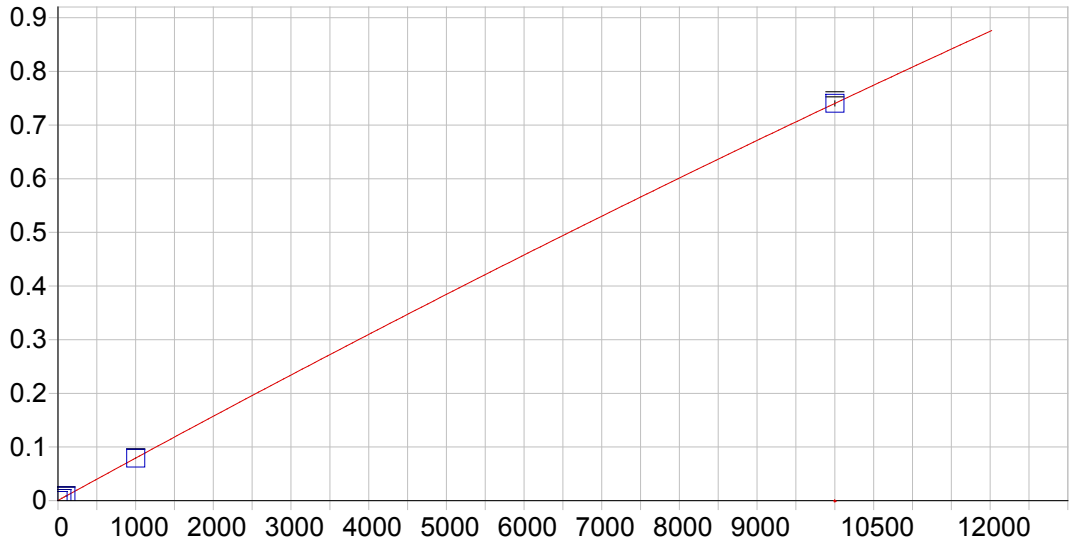


Mg 279.079 {121}

Date of Fit:	04/25/2016 11:03:09	Type of Fit:	Full Fit	Weighting:	1/Var

A0 (Offset):	-0.000003	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.010000		
Correlation:	0.999963	Status:	OK.
Std Error of Est:	0.000037		
Predicted MDL:	45.948655		
Predicted MQL:	153.162183		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00000	.000	1
CalStd13=50	500000.	504450.	4450.	.891	.14841	.001	1
CalStd10=10	10000.	10003.	3.43	.034	.00283	.000	1
CalStd14-100	1000000.	984940.	-15100.	-1.51	.29172	.001	1
CalStd12-100	100000.	98569.	-1430.	-1.43	.02853	.000	1
CalStd9=100	1000.0	1031.9	31.9	3.19	.00028	.000	1

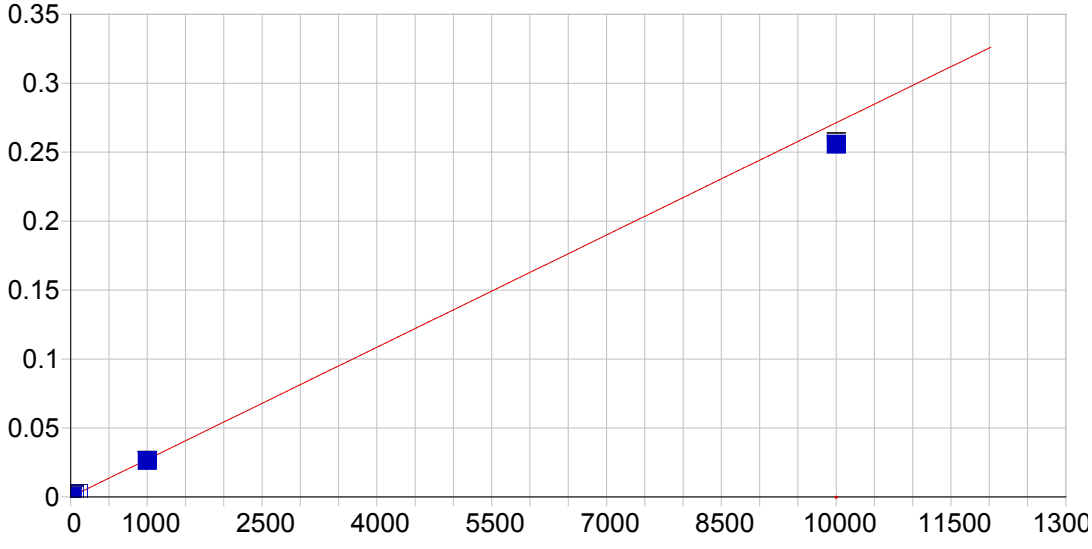


Mg 280.270 {120}

Date of Fit:	04/25/2016 11:03:09	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	0.000294	Re-Slope:	1.000000
A1 (Gain):	0.000080	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999993	Status:	OK.
Std Error of Est:	0.000010		
Predicted MDL:	0.041058		
Predicted MQL:	0.136859		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00203	-.002	.000	.00029	.000	1
CalStd9=100	1000.0	995.69	-4.31	-.431	.07902	.000	1
CalStd10=10	10000.	10000.	.453	.005	.74029	.005	1
CalStd8=100	100.00	103.24	3.24	3.24	.00851	.000	1
CalStd7=50	50.000	50.624	.624	1.25	.00432	.000	1

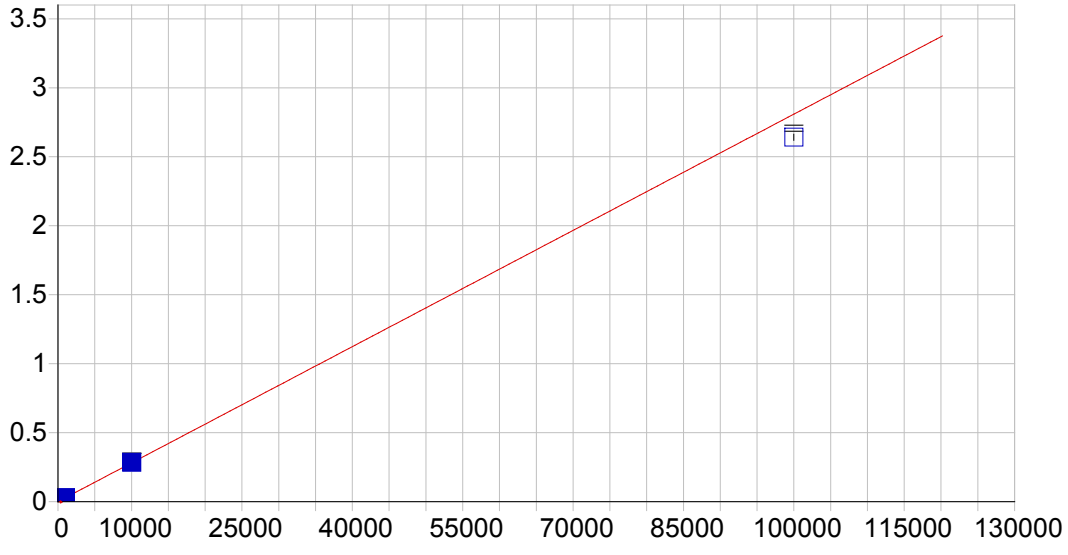


Mn 257.610 {131}

Date of Fit:	04/25/2016 11:03:09	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000010	Re-Slope:	1.000000
A1 (Gain):	0.000027	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999564	Status:	OK.
Std Error of Est:	0.000022		
Predicted MDL:	0.114133		
Predicted MQL:	0.380443		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.08151	-.082	.000	.00001	.000	1
CalStd5=10	10.000	10.123	.123	1.23	.00028	.000	1
CalStd7=50	50.000	50.759	.759	1.52	.00139	.000	1
CalStd6=20	20.000	18.894	-1.11	-5.53	.00052	.000	1
CalStd8=100	100.00	101.36	1.36	1.36	.00276	.000	1
CalStd4=5	5.0000	4.9640	-.036	-.719	.00014	.000	1
CalStd9=100	1000.0	969.93	-30.1	-3.01	.02633	.000	1
CalStd10=10	10000.	9425.0	-575.	-5.75	.25572	.002	1

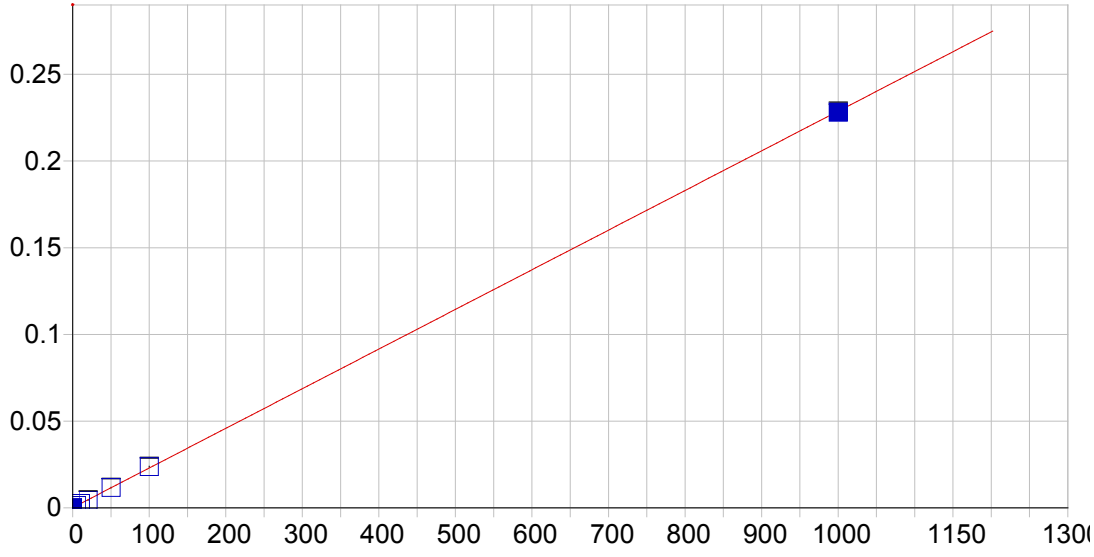


Mn 259.373 {130}

Date of Fit: 04/25/2016 11:03:09 Type of Fit: Linear Weighting: 1/Var

A0 (Offset):	0.000040	Re-Slope:	1.000000
A1 (Gain):	0.000028	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999616	Status:	OK.
Std Error of Est:	0.000220		
Predicted MDL:	0.764589		
Predicted MQL:	2.548629		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.15491	-.155	.000	.00004	.000	1
CalStd10=10	10000.	10128.	128.	1.28	.28480	.001	1
CalStd11-100	100000.	94055.	-5950.	-5.95	2.6418	.022	1
CalStd9=100	1000.0	1012.9	12.9	1.29	.02852	.000	1

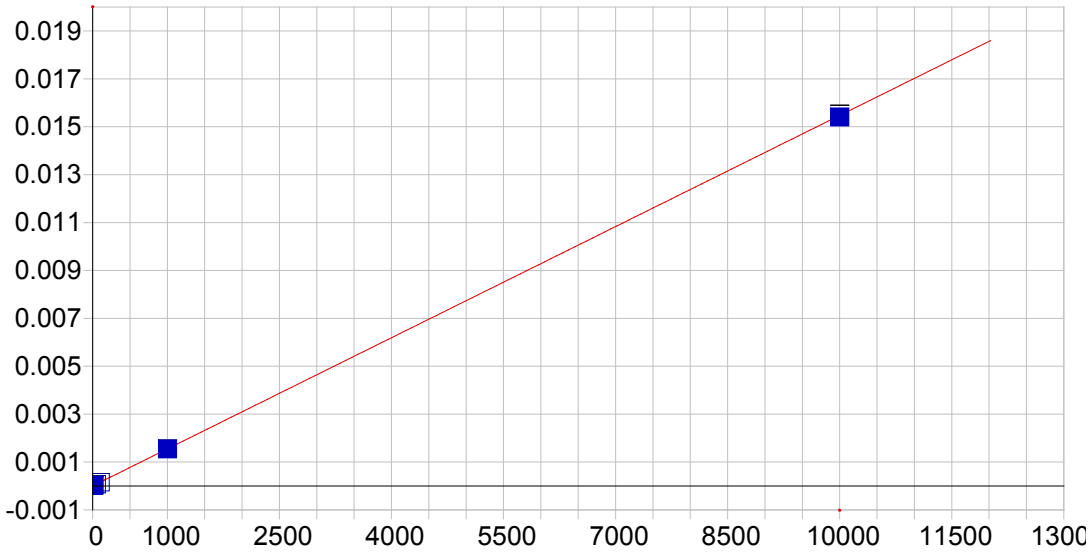


Mo 202.030 {466}

Date of Fit: 04/25/2016 11:03:09 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	0.000106	Re-Slope:	1.000000
A1 (Gain):	0.000229	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999905	Status:	OK.
Std Error of Est:	0.000009		
Predicted MDL:	0.418276		
Predicted MQL:	1.394252		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00034	.000	.000	.00011	.000	1
CalStd7=50	50.000	50.541	.541	1.08	.01166	.000	1
CalStd6=20	20.000	18.756	-1.24	-6.22	.00439	.000	1
CalStd5=10	10.000	10.350	.350	3.50	.00247	.000	1
CalStd8=100	100.00	103.26	3.26	3.26	.02372	.000	1
CalStd4=5	5.0000	5.2714	.271	5.43	.00131	.000	1
CalStd9=100	1000.0	996.83	-3.17	-.317	.22802	.001	1

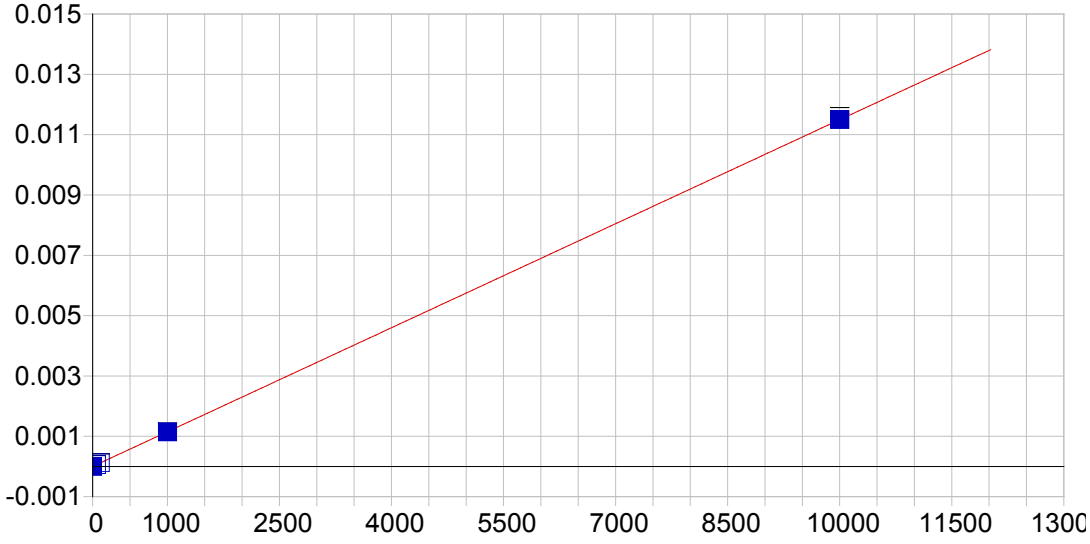


Mo 204.598 {464}

Date of Fit:	04/25/2016 11:03:09	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	-0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999989	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.708736		
Predicted MQL:	2.362455		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00066	-.001	.000	.00000	.000	1
CalStd7=50	50.000	50.472	.472	.945	.00008	.000	1
CalStd6=20	20.000	18.770	-1.23	-6.15	.00003	.000	1
CalStd5=10	10.000	10.624	.624	6.24	.00002	.000	1
CalStd8=100	100.00	102.64	2.64	2.64	.00016	.000	1
CalStd4=5	5.0000	5.4922	.492	9.84	.00001	.000	1
CalStd9=100	1000.0	996.24	-3.76	-.376	.00154	.000	1
CalStd10=10	10000.	9955.5	-44.5	-.445	.01541	.000	1

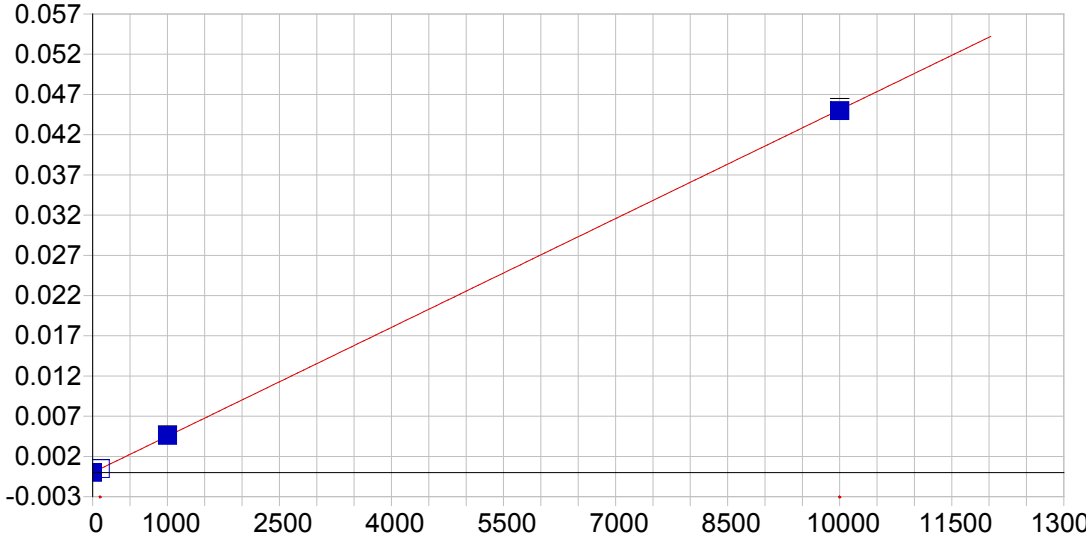


Mo 204.598 {465}

Date of Fit:	04/25/2016 11:03:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999997	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.923540		
Predicted MQL:	3.078465		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00072	-.001	.000	.00000	.000	1
CalStd9=100	1000.0	994.56	-5.44	-.544	.00114	.000	1
CalStd10=10	10000.	10003.	3.38	.034	.01150	.000	1
CalStd7=50	50.000	49.896	-.104	-.208	.00006	.000	1
CalStd8=100	100.00	102.16	2.16	2.16	.00012	.000	1

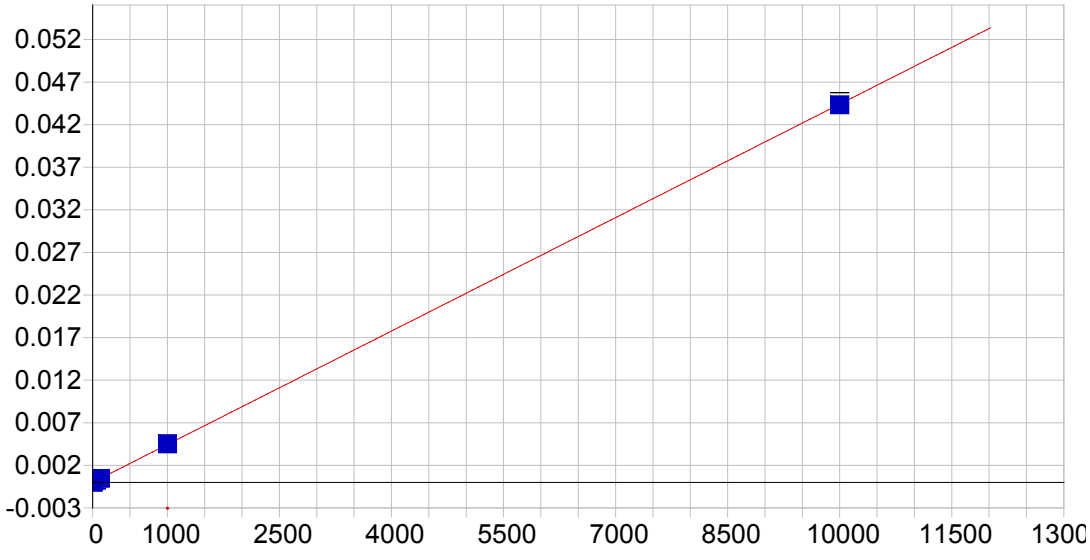


Ni 221.647 {452}

Date of Fit:	04/25/2016 11:03:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000005	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999968	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	0.473755		
Predicted MQL:	1.579182		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00645	-.006	.000	.00000	.000	1
CalStd10=10	10000.	9974.4	-25.6	-.256	.04498	.000	1
CalStd8=100	100.00	104.60	4.60	4.60	.00047	.000	1
CalStd9=100	1000.0	1021.0	21.0	2.10	.00461	.000	1

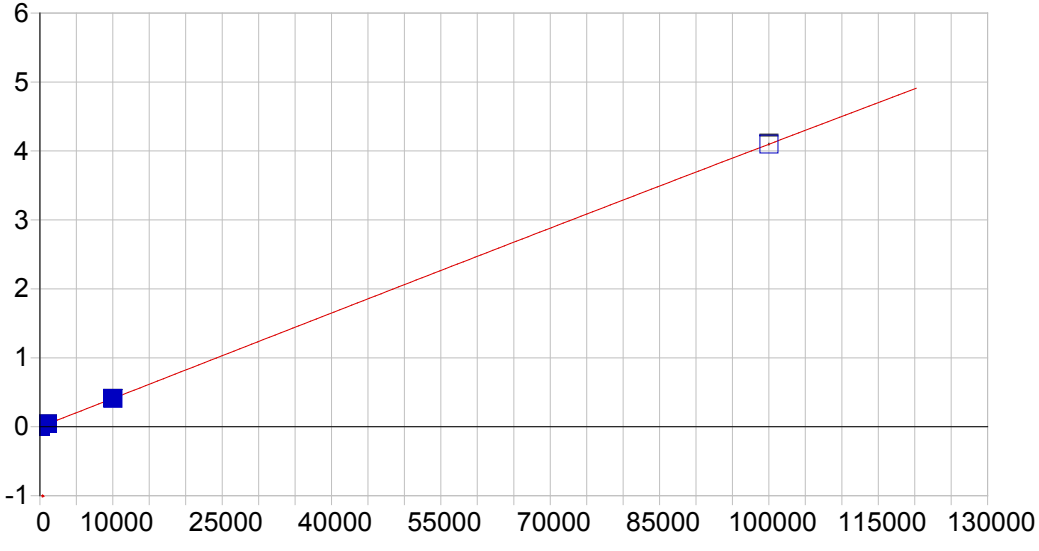


Ni 231.604 {445}

Date of Fit:	04/25/2016 11:03:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000004	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999945	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.489233		
Predicted MQL:	1.630776		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00084	.001	.000	.00000	.000	1
CalStd7=50	50.000	51.587	1.59	3.17	.00023	.000	1
CalStd5=10	10.000	9.8145	-.185	-1.85	.00004	.000	1
CalStd8=100	100.00	104.24	4.24	4.24	.00046	.000	1
CalStd4=5	5.0000	4.5271	-.473	-9.46	.00002	.000	1
CalStd9=100	1000.0	1016.0	16.0	1.60	.00451	.000	1
CalStd3=1	1.0000	.18905	-.811	-81.1	.00000	.000	1
CalStd10=10	10000.	9979.6	-20.4	-.204	.04432	.000	1

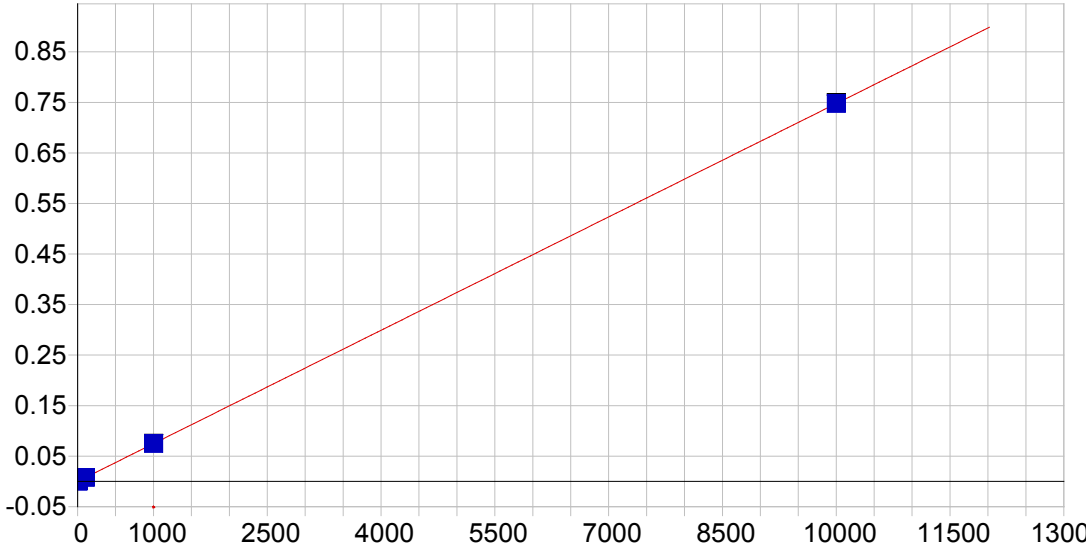


Pb 216.999 {455}

Date of Fit: 04/25/2016 11:03:09 Type of Fit: Full Fit Weighting: 1/Var

A0 (Offset):	0.000168	Re-Slope:	1.000000
A1 (Gain):	0.000037	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.010000		
Correlation:	0.999995	Status:	OK.
Std Error of Est:	0.000143		
Predicted MDL:	4.319013		
Predicted MQL:	14.396711		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00002	.000	1
CalStd9=100	1000.0	1003.7	3.73	.373	.04043	.000	1
CalStd10=10	10000.	9985.8	-14.2	-.142	.40917	.001	1
CalStd11-100	100000.	100020.	15.5	.015	4.0985	.012	1
CalStd8=100	100.00	100.80	.801	.801	.00412	.000	1
CalStd5=10	10.000	8.5149	-1.49	-14.9	.00049	.000	1

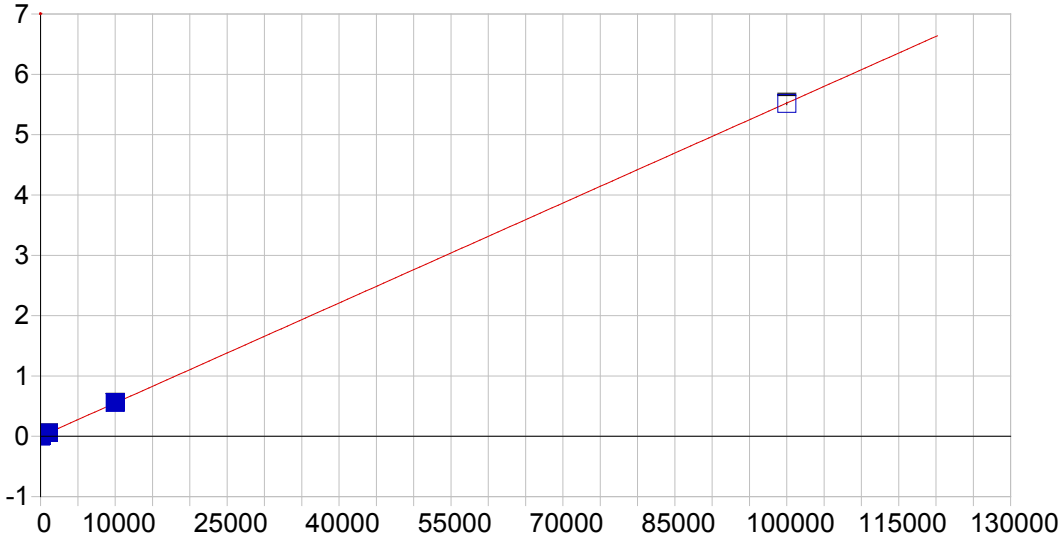


Pb 220.353 {453}

Date of Fit: 04/25/2016 11:03:09 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	-0.000018	Re-Slope:	1.000000
A1 (Gain):	0.000075	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999997	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	2.766341		
Predicted MQL:	9.221136		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00028	.000	.000	-.00002	.000	1
CalStd5=10	10.000	9.7911	-.209	-2.09	.00071	.000	1
CalStd8=100	100.00	102.13	2.13	2.13	.00762	.000	1
CalStd4=5	5.0000	5.2814	.281	5.63	.00038	.000	1
CalStd9=100	1000.0	999.76	-.241	-.024	.07474	.000	1
CalStd10=10	10000.	9998.0	-1.97	-.020	.74756	.002	1

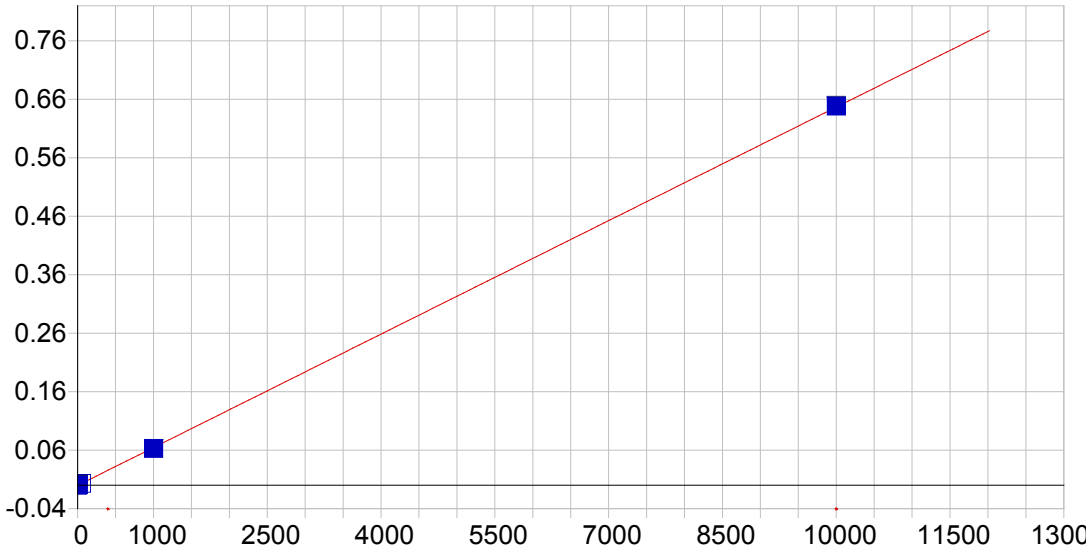


Pb 220.353 {153}

Date of Fit:	04/25/2016 11:03:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000180	Re-Slope:	1.000000
A1 (Gain):	0.000055	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999988	Status:	OK.
Std Error of Est:	0.000037		
Predicted MDL:	4.998223		
Predicted MQL:	16.660744		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.01055	-.011	.000	-.00018	.000	1
CalStd9=100	1000.0	999.65	-.348	-.035	.05504	.000	1
CalStd10=10	10000.	10124.	124.	1.24	.55908	.001	1
CalStd8=100	100.00	109.47	9.47	9.47	.00587	.000	1
CalStd11-100	100000.	99867.	-133.	-.133	5.5163	.020	1

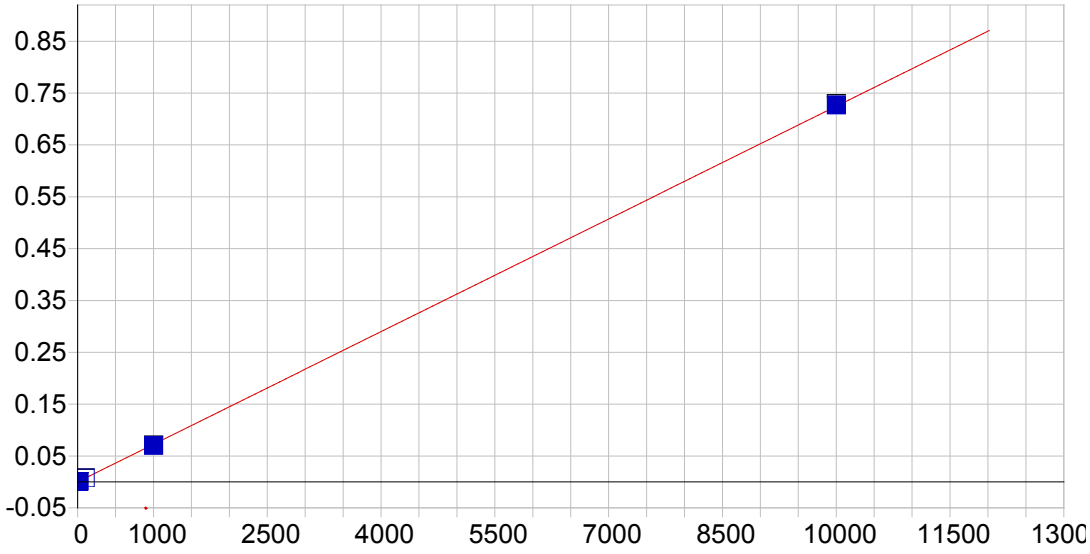


Sb 206.833 {463}

Date of Fit:	04/25/2016 11:03:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000263	Re-Slope:	1.000000
A1 (Gain):	0.000065	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999955	Status:	OK.
Std Error of Est:	0.000008		
Predicted MDL:	1.902267		
Predicted MQL:	6.340889		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00139	.001	.000	-.00026	.000	1
CalStd9=100	1000.0	972.88	-27.1	-2.71	.06267	.000	1
CalStd5=10	10.000	8.6738	-1.33	-13.3	.00030	.000	1
CalStd7=50	50.000	50.890	.890	1.78	.00303	.000	1
CalStd10=10	10000.	10028.	27.6	.276	.64843	.001	1

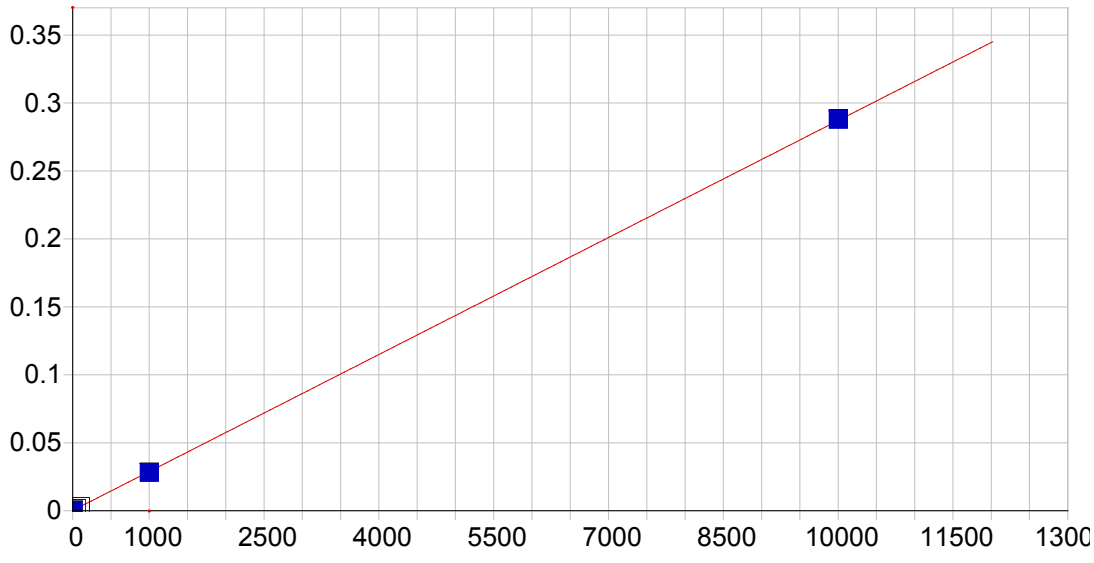


Sb 217.581 {455}

Date of Fit:	04/25/2016 11:03:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000065	Re-Slope:	1.000000
A1 (Gain):	0.000072	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999932	Status:	OK.
Std Error of Est:	0.000007		
Predicted MDL:	1.949761		
Predicted MQL:	6.499203		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00170	.002	.000	.00006	.000	1
CalStd9=100	1000.0	968.66	-31.3	-3.13	.07024	.001	1
CalStd6=20	20.000	17.777	-2.22	-11.1	.00135	.000	1
CalStd5=10	10.000	9.1806	-.819	-8.19	.00073	.000	1
CalStd8=100	100.00	101.07	1.07	1.07	.00739	.000	1
CalStd4=5	5.0000	4.3506	-.649	-13.0	.00038	.000	1
CalStd10=10	10000.	10034.	34.0	.340	.72697	.002	1

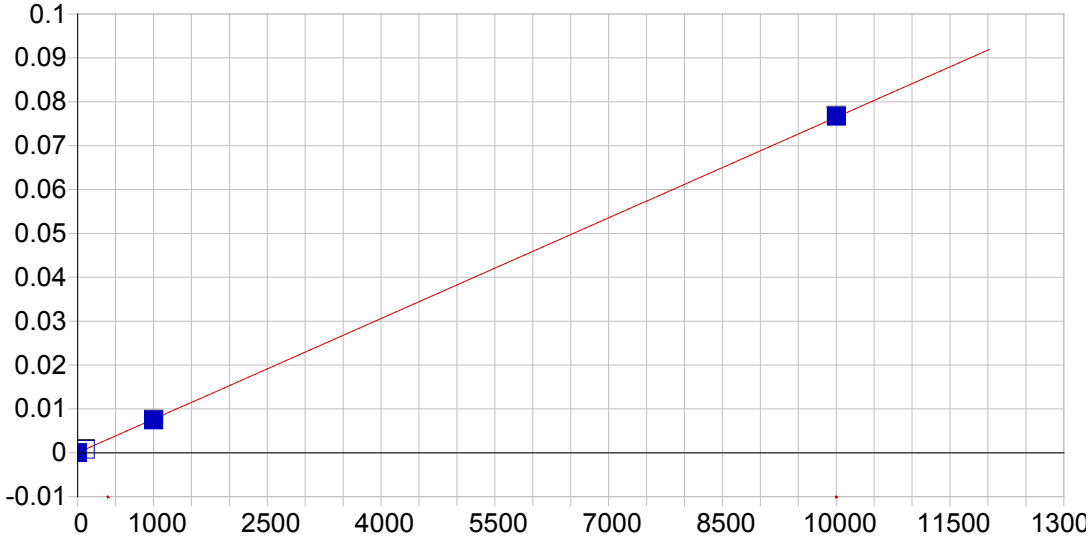


Se 196.090 {472}

Date of Fit: 04/25/2016 11:03:09 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	0.000120	Re-Slope:	1.000000
A1 (Gain):	0.000029	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999959	Status:	OK.
Std Error of Est:	0.000003		
Predicted MDL:	3.397493		
Predicted MQL:	11.324977		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00028	.000	.000	.00012	.000	1
CalStd7=50	50.000	53.038	3.04	6.08	.00164	.000	1
CalStd9=100	1000.0	974.03	-26.0	-2.60	.02807	.000	1
CalStd5=10	10.000	9.8912	-.109	-1.09	.00040	.000	1
CalStd8=100	100.00	100.15	.146	.146	.00299	.000	1
CalStd10=10	10000.	10023.	22.9	.229	.28772	.001	1

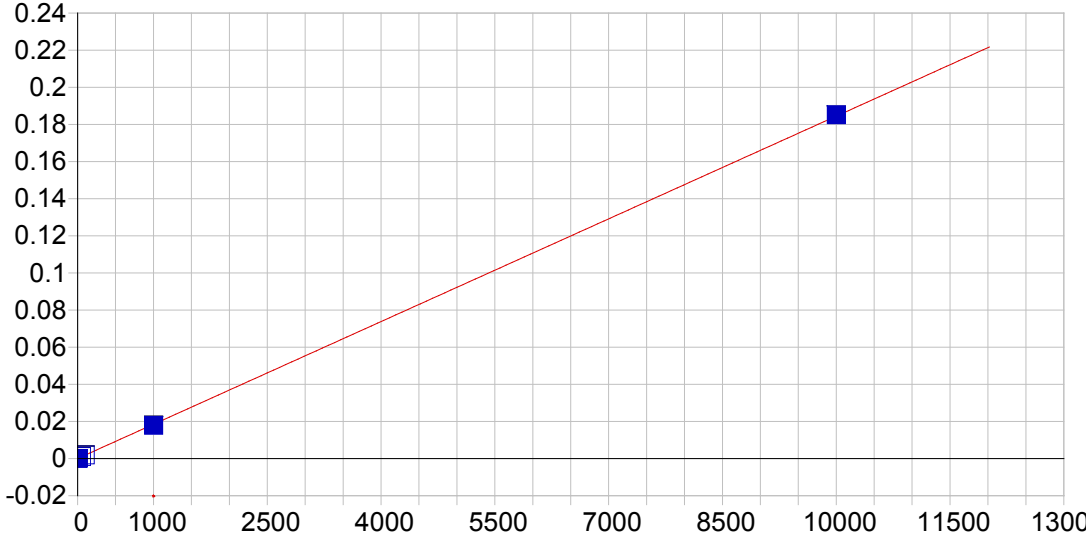


Se 206.279 {463}

Date of Fit:	04/25/2016 11:03:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000013	Re-Slope:	1.000000
A1 (Gain):	0.000008	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999967	Status:	OK.
Std Error of Est:	0.000003		
Predicted MDL:	17.362040		
Predicted MQL:	57.873468		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00146	.001	.000	.00001	.000	1
CalStd9=100	1000.0	974.21	-25.8	-2.58	.00747	.000	1
CalStd10=10	10000.	10025.	24.9	.249	.07676	.000	1
CalStd8=100	100.00	100.87	.869	.869	.00078	.000	1

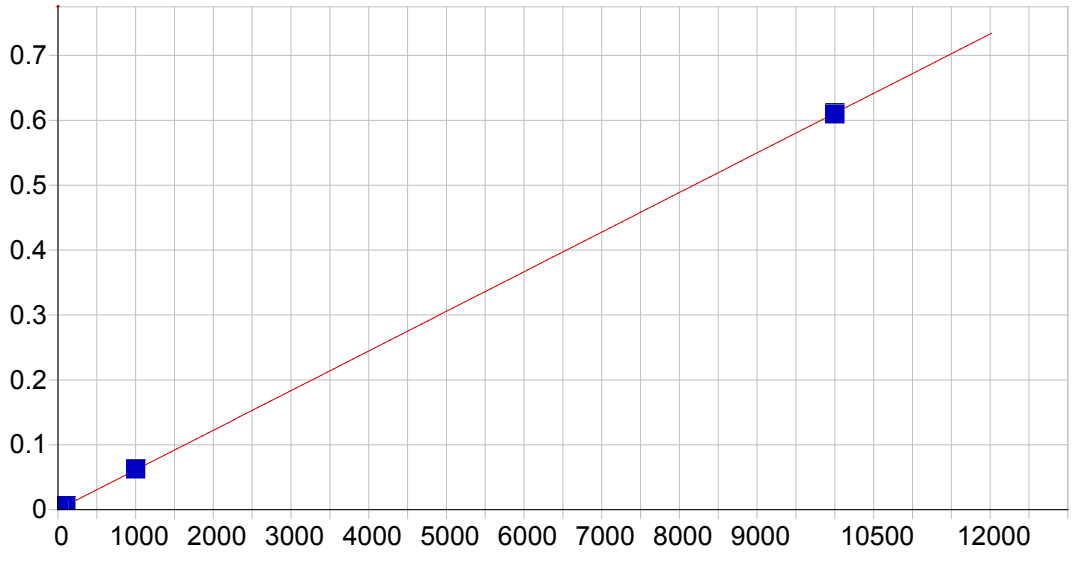


Se 196.090 {471}

Date of Fit:	04/25/2016 11:03:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000034	Re-Slope:	1.000000
A1 (Gain):	0.000018	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999906	Status:	OK.
Std Error of Est:	0.000003		
Predicted MDL:	4.735161		
Predicted MQL:	15.783871		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00232	.002	.000	.00003	.000	1
CalStd7=50	50.000	52.287	2.29	4.57	.00100	.000	1
CalStd9=100	1000.0	964.31	-35.7	-3.57	.01782	.000	1
CalStd5=10	10.000	7.5564	-2.44	-24.4	.00017	.000	1
CalStd8=100	100.00	99.848	-.152	-.152	.00188	.000	1
CalStd10=10	10000.	10036.	36.0	.360	.18513	.000	1

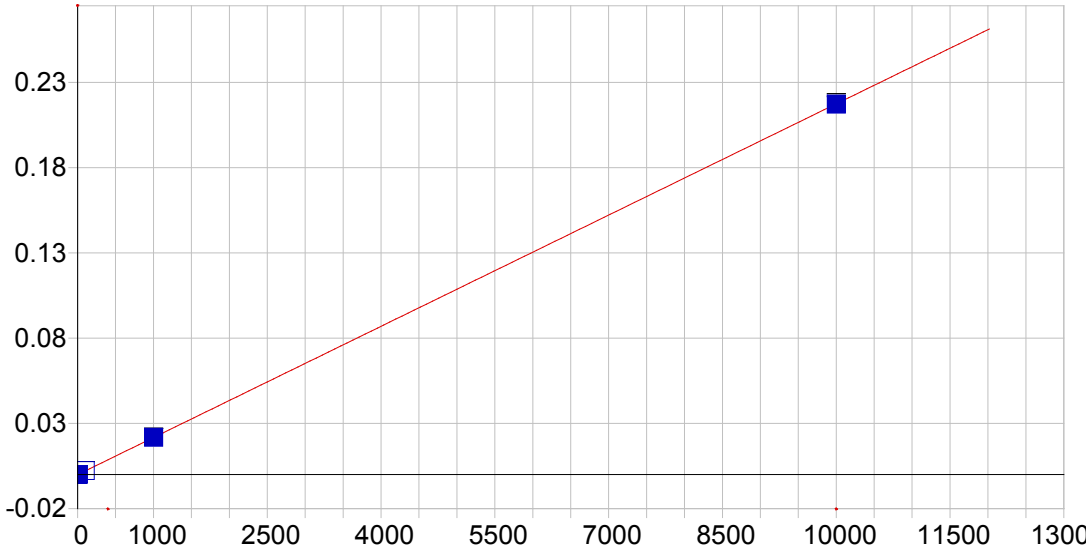


Tl 190.856 {476}

Date of Fit:	04/25/2016 11:03:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000186	Re-Slope:	1.000000
A1 (Gain):	0.000061	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999961	Status:	OK.
Std Error of Est:	0.000007		
Predicted MDL:	1.985172		
Predicted MQL:	6.617240		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00044	.000	.000	.00019	.000	1
CalStd9=100	1000.0	1018.1	18.1	1.81	.06242	.000	1
CalStd8=100	100.00	105.92	5.92	5.92	.00666	.000	1
CalStd5=10	10.000	8.8063	-1.19	-11.9	.00072	.000	1
CalStd10=10	10000.	9977.2	-22.8	-.228	.61008	.001	1

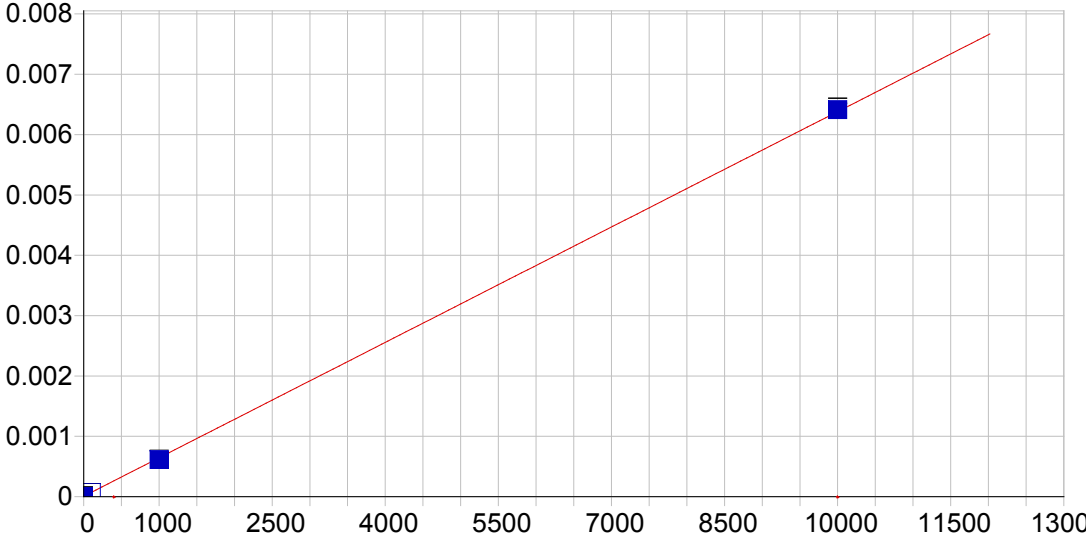


Tl 190.856 {477}

Date of Fit: 04/25/2016 11:03:09 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	-0.000052	Re-Slope:	1.000000
A1 (Gain):	0.000022	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999973	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	4.447330		
Predicted MQL:	14.824434		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00040	.000	.000	-.00005	.000	1
CalStd9=100	1000.0	1003.8	3.80	.380	.02178	.000	1
CalStd8=100	100.00	106.74	6.74	6.74	.00227	.000	1
CalStd5=10	10.000	8.8993	-1.10	-11.0	.00014	.000	1
CalStd10=10	10000.	9990.6	-9.44	-.094	.21721	.001	1

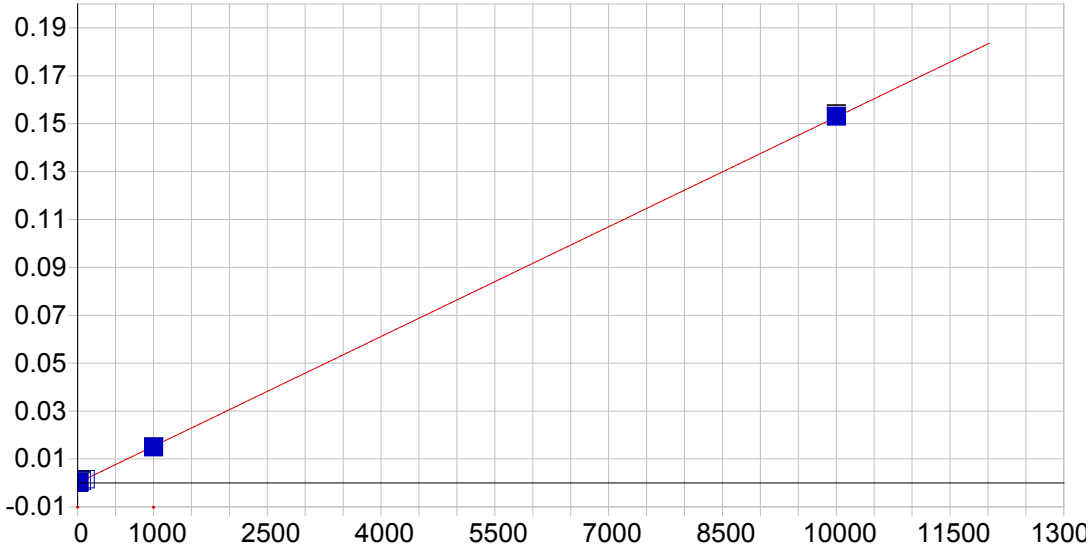


V 290.882 {116}

Date of Fit:	04/25/2016 11:03:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000007	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999873	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	3.623314		
Predicted MQL:	12.077712		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00238	.002	.000	.00001	.000	1
CalStd9=100	1000.0	949.52	-50.5	-5.05	.00061	.000	1
CalStd10=10	10000.	10048.	48.3	.483	.00641	.000	1
CalStd8=100	100.00	102.18	2.18	2.18	.00007	.000	1

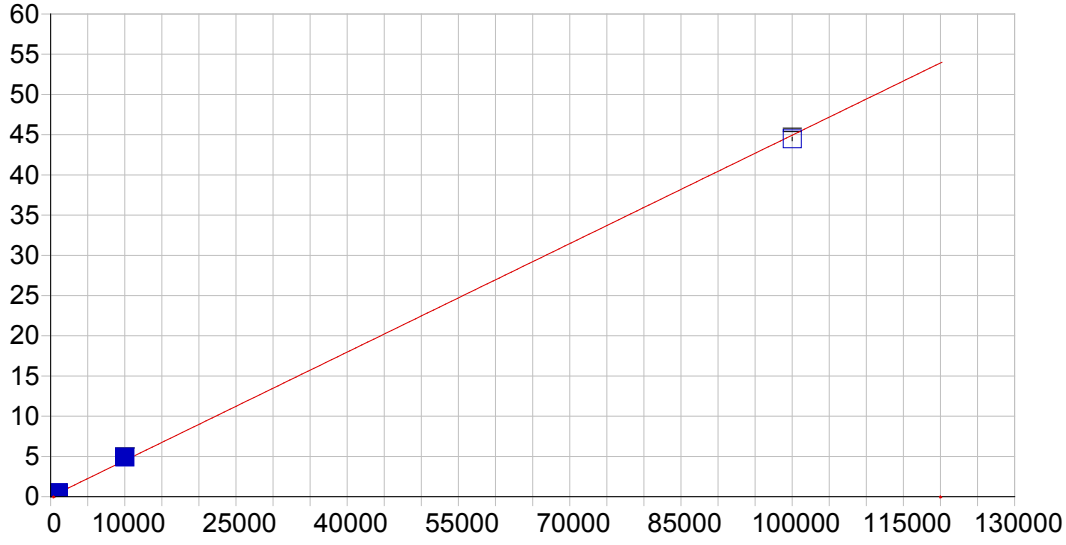


V 292.402 {115}

Date of Fit: 04/25/2016 11:03:09 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	0.000008	Re-Slope:	1.000000
A1 (Gain):	0.000015	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999973	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.594843		
Predicted MQL:	1.982810		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00019	.000	.000	.00001	.000	1
CalStd7=50	50.000	51.082	1.08	2.16	.00079	.000	1
CalStd9=100	1000.0	978.53	-21.5	-2.15	.01496	.000	1
CalStd6=20	20.000	19.056	-.944	-4.72	.00030	.000	1
CalStd5=10	10.000	10.567	.567	5.67	.00017	.000	1
CalStd8=100	100.00	100.73	.727	.727	.00155	.000	1
CalStd10=10	10000.	10020.	20.0	.200	.15311	.001	1

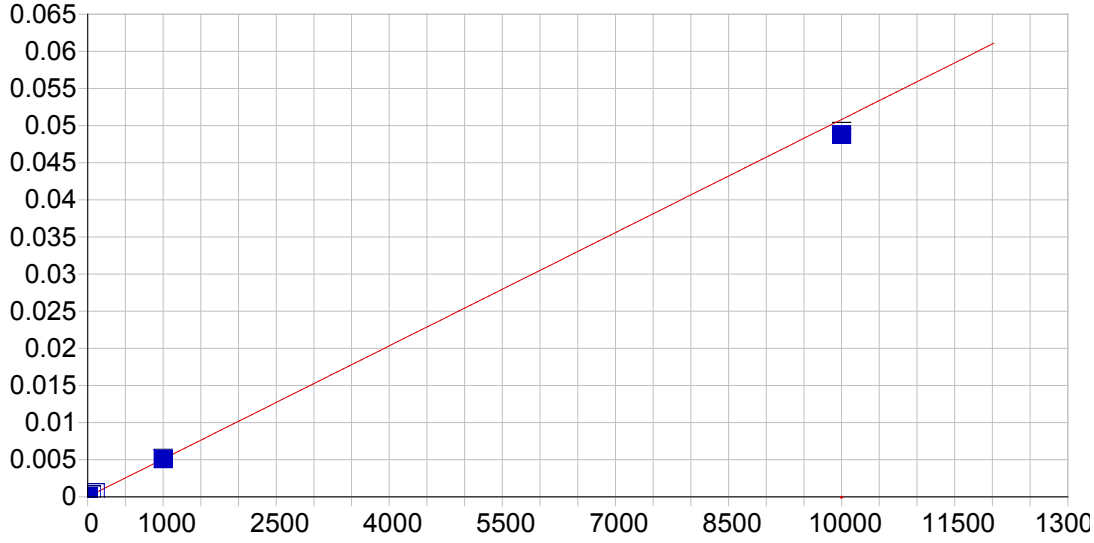


Zn 206.200 {463}

Date of Fit:	04/25/2016 11:03:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000824	Re-Slope:	1.000000
A1 (Gain):	0.000449	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999512	Status:	OK.
Std Error of Est:	0.006611		
Predicted MDL:	0.297402		
Predicted MQL:	0.991341		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
CalStd10=10	10000.	10943.	943.	9.43	4.9176	.015	1
Blank	.00000	-.17672	-.177	.000	.00074	.000	1
CalStd9=100	1000.0	1092.7	92.7	9.27	.49178	.000	1
CalStd11-100	100000.	98964.	-1040.	-1.04	44.468	.212	1

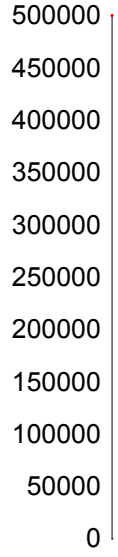


Zn 213.856 {458}

Date of Fit:	04/25/2016 11:03:09	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000008	Re-Slope:	1.000000
A1 (Gain):	0.000005	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999469	Status:	OK.
Std Error of Est:	0.000004		
Predicted MDL:	0.217552		
Predicted MQL:	0.725174		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.07941	.079	.000	.00001	.000	1
CalStd8=100	100.00	103.75	3.75	3.75	.00054	.000	1
CalStd7=50	50.000	50.770	.770	1.54	.00027	.000	1
CalStd5=10	10.000	10.264	.264	2.64	.00006	.000	1
CalStd9=100	1000.0	1004.7	4.70	.470	.00512	.000	1
CalStd4=5	5.0000	4.5574	-.443	-8.85	.00003	.000	1
CalStd10=10	10000.	9597.5	-402.	-4.02	.04880	.000	1

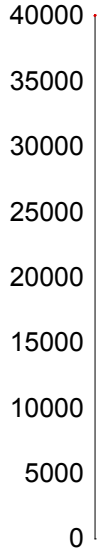


Y 324.228 {104}*

Date of Fit:	04/25/2016 11:03:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.000000	Status:	Warning Zero Gain
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	450910.	3570.	1

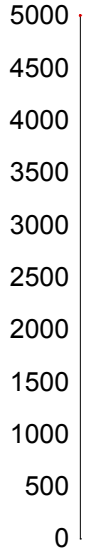


Y 371.030 { 91}*

Date of Fit:	04/25/2016 11:03:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.000000	Status:	Warning Zero Gain
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	37084.	187.	1

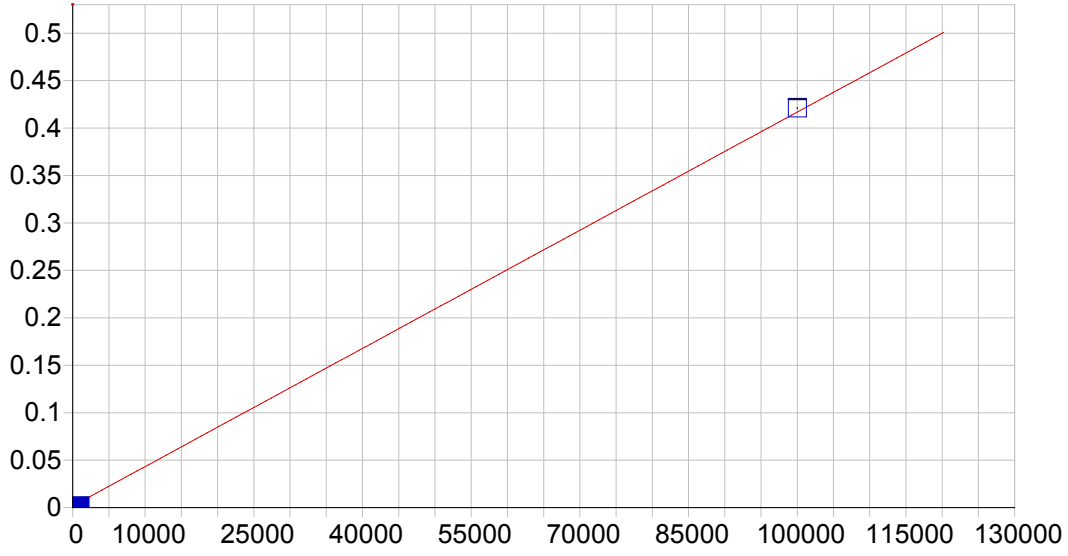


Y 224.306 {451}*

Date of Fit:	04/25/2016 11:03:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.000000	Status:	Warning Zero Gain
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	4687.8	6.76	1

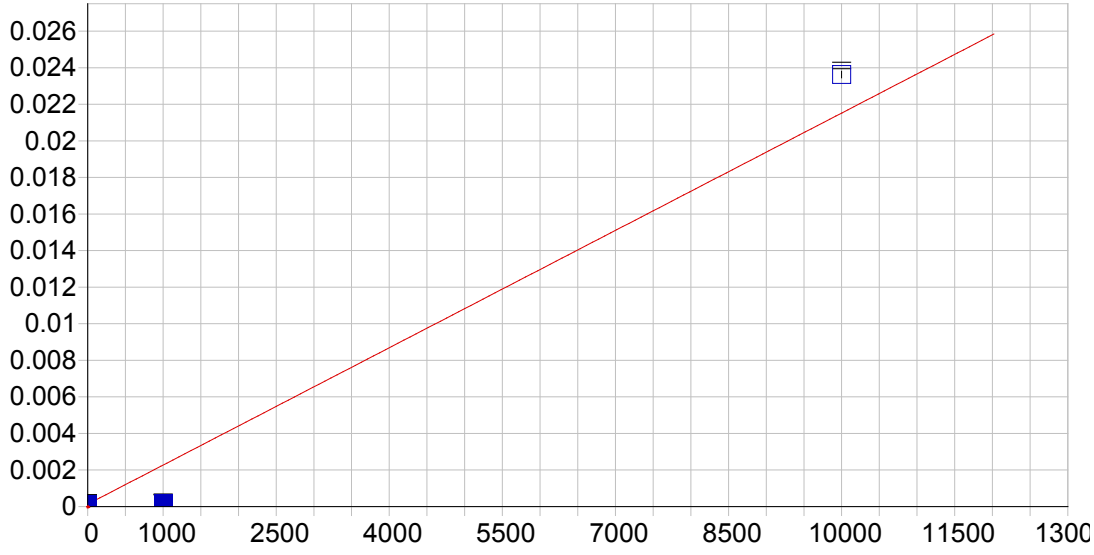


Na 588.995 { 57}

Date of Fit:	04/25/2016 11:03:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.001712	Re-Slope:	1.000000
A1 (Gain):	0.000004	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.995062	Status:	OK.
Std Error of Est:	0.000228		
Predicted MDL:	3.978646		
Predicted MQL:	13.262154		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.98701	.987	.000	.00172	.000	1
CalStd9=100	1000.0	3.0201	-997.	-99.7	.00172	.000	1
CalStd12-100	100000.	101000.	997.	.997	.42101	.001	1

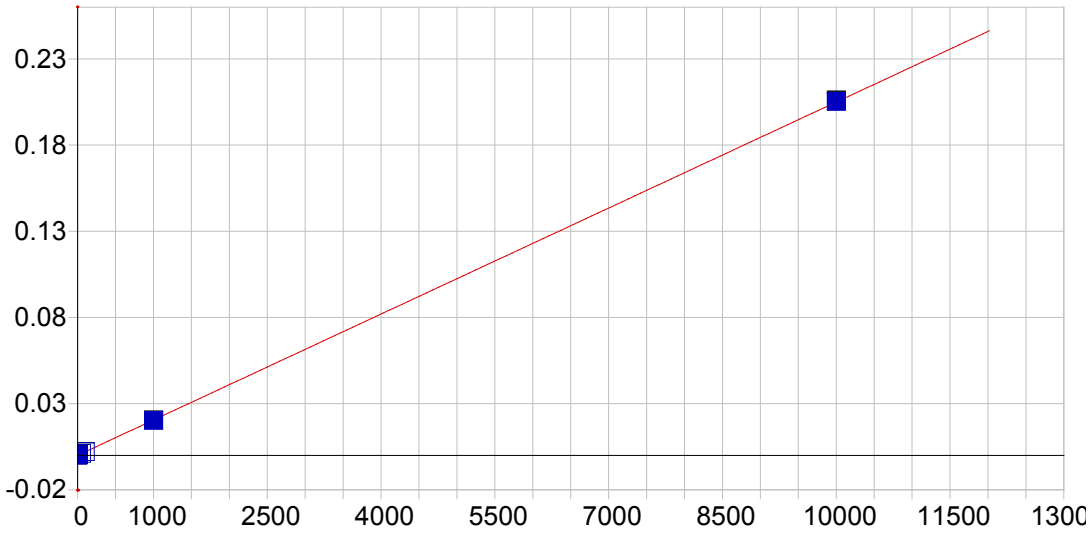


Si 251.611 {134}

Date of Fit:	04/25/2016 11:03:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000130	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.954834	Status:	OK.
Std Error of Est:	0.000121		
Predicted MDL:	9.414936		
Predicted MQL:	31.383120		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.88520	.885	.000	.00013	.000	1
CalStd9=100	1000.0	16.456	-984.	-98.4	.00017	.000	1
CalStd12-100	10000.	10983.	983.	9.83	.02362	.000	1

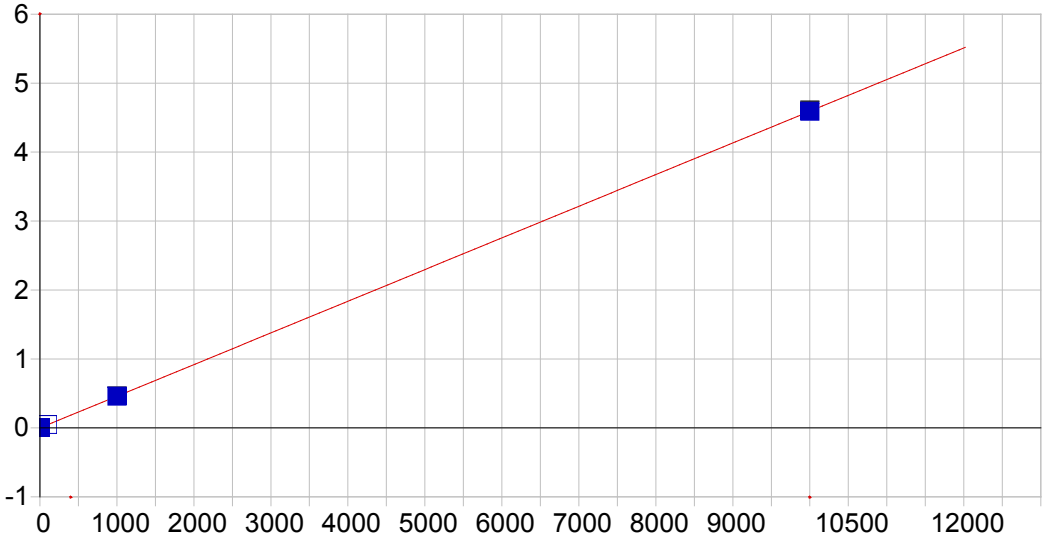


Ti 334.941 {101}

Date of Fit: 04/25/2016 11:03:09 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	0.000016	Re-Slope:	1.000000
A1 (Gain):	0.000020	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999987	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	1.456119		
Predicted MQL:	4.853731		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00073	.001	.000	.00002	.000	1
CalStd5=10	10.000	9.9490	-.051	-.510	.00022	.000	1
CalStd8=100	100.00	99.346	-.654	-.654	.00205	.000	1
CalStd9=100	1000.0	986.11	-13.9	-1.39	.02023	.000	1
CalStd10=10	10000.	10015.	15.4	.154	.20530	.001	1
CalStd7=50	50.000	49.826	-.174	-.349	.00104	.000	1
CalStd4=5	5.0000	4.4085	-.592	-11.8	.00011	.000	1

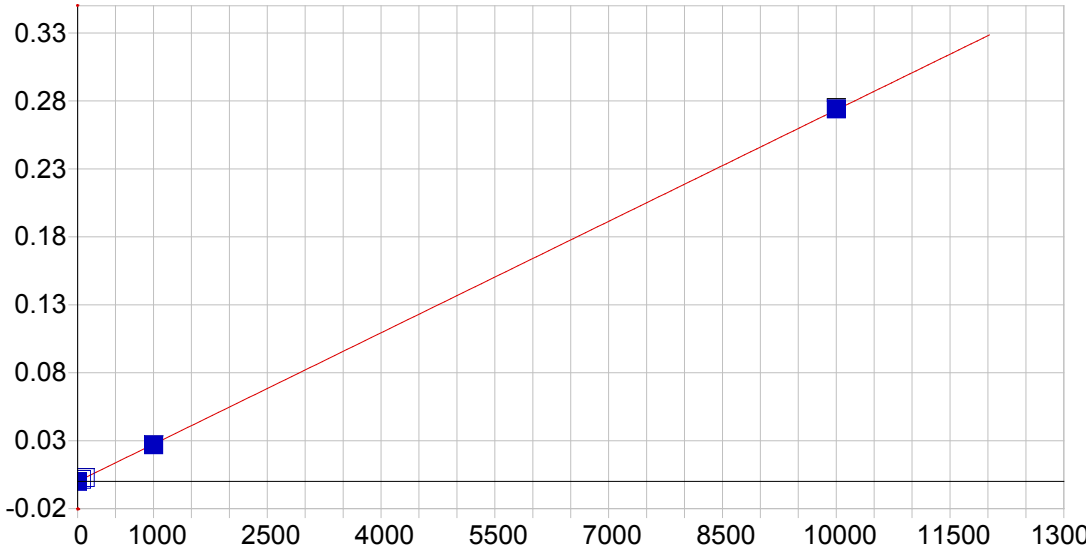


Sr 407.771 { 83}

Date of Fit: 04/25/2016 11:03:09 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	-0.000624	Re-Slope:	1.000000
A1 (Gain):	0.000459	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999989	Status:	OK.
Std Error of Est:	0.000009		
Predicted MDL:	0.116967		
Predicted MQL:	0.389889		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00037	.000	.000	-.00062	.000	1
CalStd3=1	1.0000	1.1645	.164	16.4	-.00009	.000	1
CalStd4=5	5.0000	5.4670	.467	9.34	.00189	.000	1
CalStd5=10	10.000	10.817	.817	8.17	.00434	.000	1
CalStd8=100	100.00	103.34	3.34	3.34	.04684	.000	1
CalStd9=100	1000.0	998.52	-1.48	-.148	.45802	.004	1
CalStd10=10	10000.	9996.7	-3.31	-.033	4.5911	.016	1

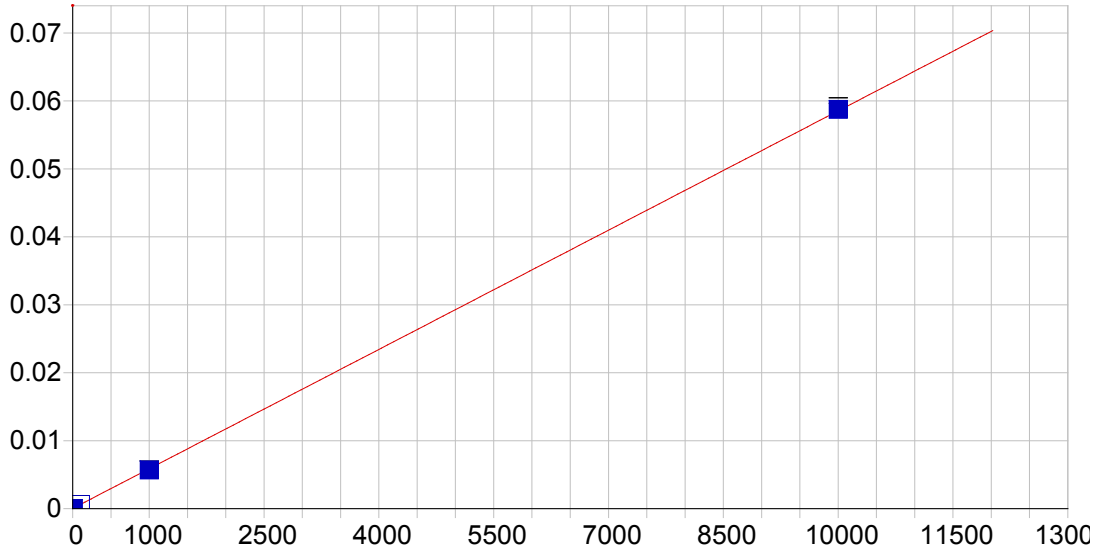


Sn 189.989 {478}

Date of Fit:	04/25/2016 11:03:09	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000057	Re-Slope:	1.000000
A1 (Gain):	0.000027	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999963	Status:	OK.
Std Error of Est:	0.000080		
Predicted MDL:	2.533995		
Predicted MQL:	8.446649		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-2.7218	-2.72	.000	-.00002	.000	1
CalStd10=10	10000.	10022.	22.3	.223	.27397	.001	1
CalStd9=100	1000.0	983.60	-16.4	-1.64	.02694	.000	1
CalStd8=100	100.00	99.171	-.829	-.829	.00277	.000	1
CalStd7=50	50.000	52.112	2.11	4.22	.00148	.000	1

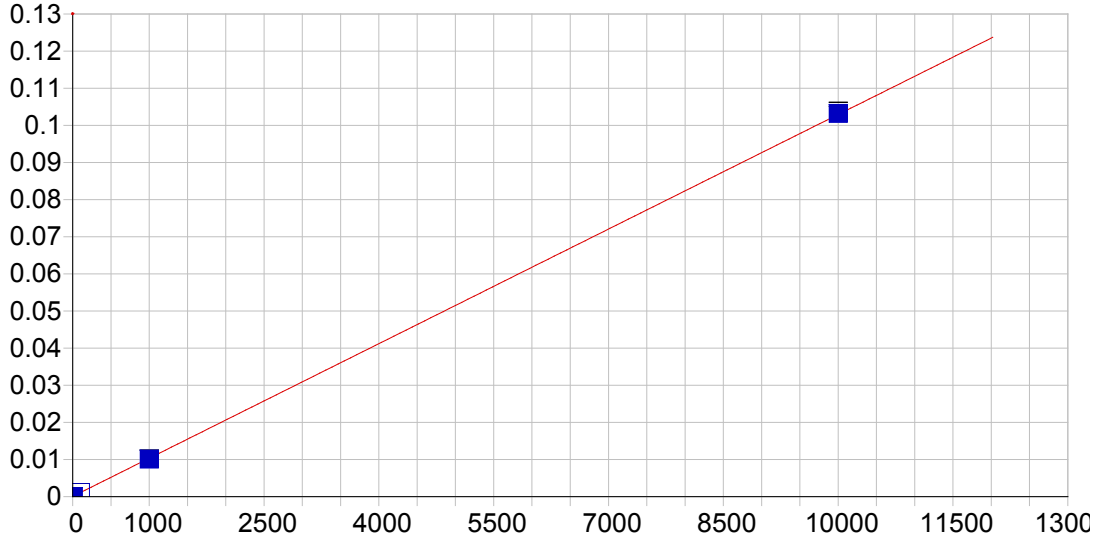


B 249.678 {135}

Date of Fit:	04/25/2016 11:03:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000023	Re-Slope:	1.000000
A1 (Gain):	0.000006	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999944	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	1.042286		
Predicted MQL:	3.474286		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00091	.001	.000	.00002	.000	1
CalStd8=100	100.00	100.63	.627	.627	.00061	.000	1
CalStd5=10	10.000	9.3197	-.680	-6.80	.00008	.000	1
CalStd9=100	1000.0	967.18	-32.8	-3.28	.00568	.000	1
CalStd10=10	10000.	10033.	32.9	.329	.05870	.000	1

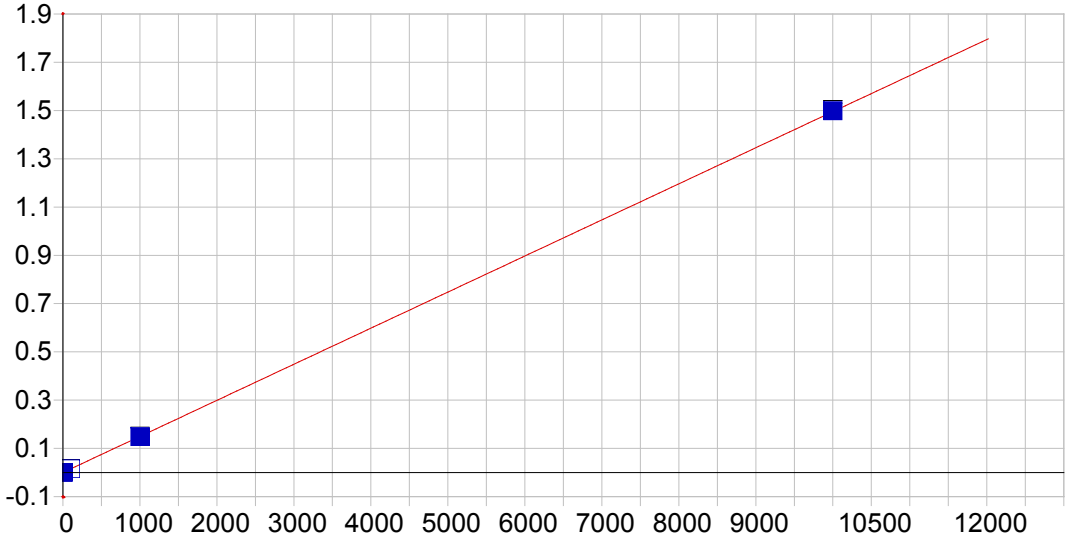


B 249.773 {135}

Date of Fit:	04/25/2016 11:03:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000051	Re-Slope:	1.000000
A1 (Gain):	0.000010	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999960	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.578700		
Predicted MQL:	1.929000		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00151	.002	.000	.00005	.000	1
CalStd8=100	100.00	101.96	1.96	1.96	.00110	.000	1
CalStd5=10	10.000	8.5066	-1.49	-14.9	.00014	.000	1
CalStd9=100	1000.0	975.88	-24.1	-2.41	.01010	.000	1
CalStd10=10	10000.	10024.	23.6	.236	.10325	.001	1

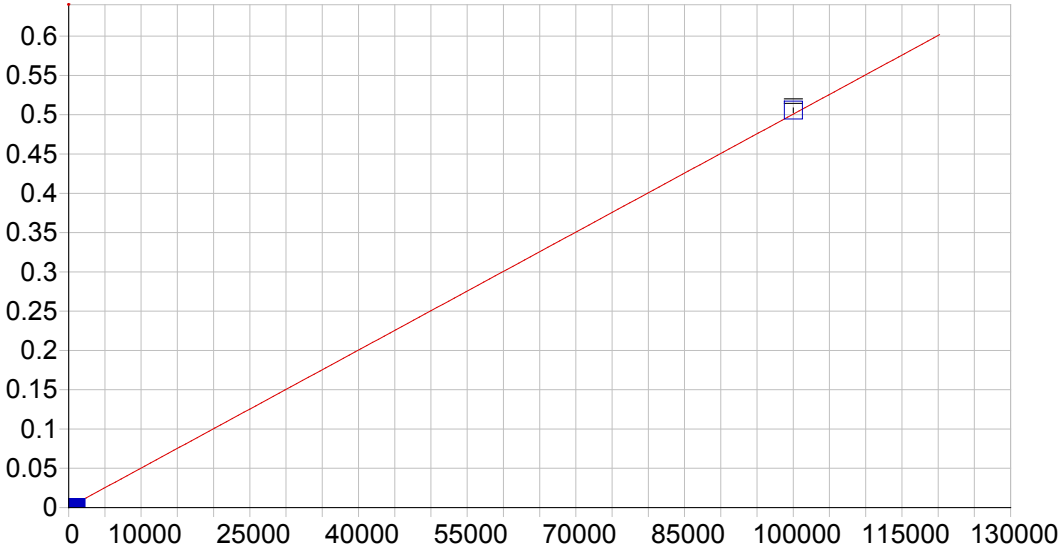


Li 670.784 { 50}

Date of Fit: 04/25/2016 11:03:09 Type of Fit: Linear Weighting: 1/Var

A0 (Offset):	-0.000061	Re-Slope:	1.000000
A1 (Gain):	0.000150	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999991	Status:	OK.
Std Error of Est:	0.000090		
Predicted MDL:	1.145452		
Predicted MQL:	3.818174		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.18898	-.189	.000	-.00009	.000	1
CalStd5=10	10.000	10.034	.034	.342	.00144	.000	1
CalStd8=100	100.00	100.04	.042	.042	.01490	.000	1
CalStd9=100	1000.0	990.42	-9.58	-.958	.14805	.001	1
CalStd10=10	10000.	10019.	19.4	.194	1.4983	.006	1

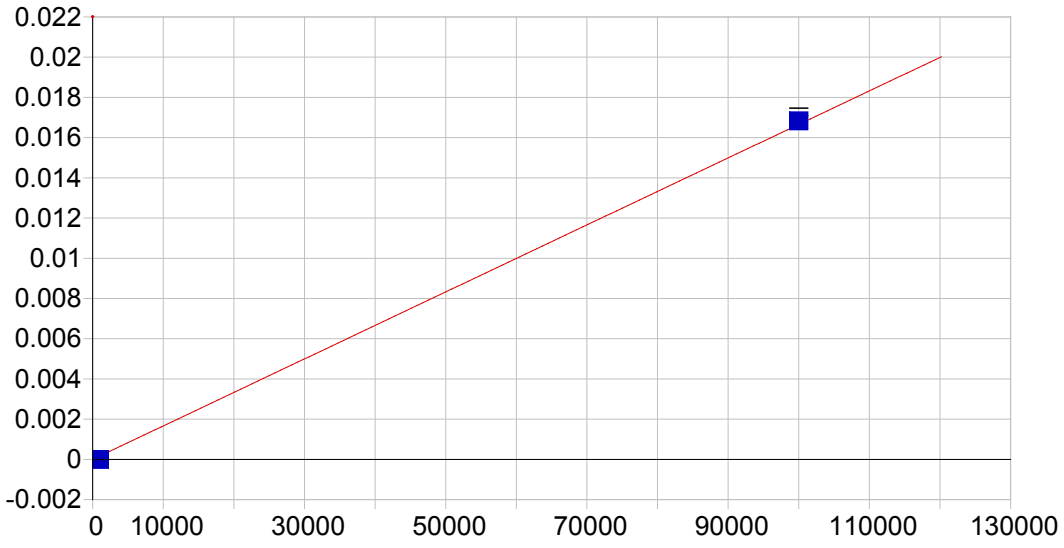


K 766.490 { 44}

Date of Fit:	04/25/2016 11:03:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000248	Re-Slope:	1.000000
A1 (Gain):	0.000005	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.995081	Status:	OK.
Std Error of Est:	0.000274		
Predicted MDL:	31.773260		
Predicted MQL:	105.910866		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.98510	.985	.000	.00025	.000	1
CalStd9=100	1000.0	4.9584	-995.	-99.5	.00027	.000	1
CalStd12-100	100000.	100990.	995.	.995	.50573	.003	1

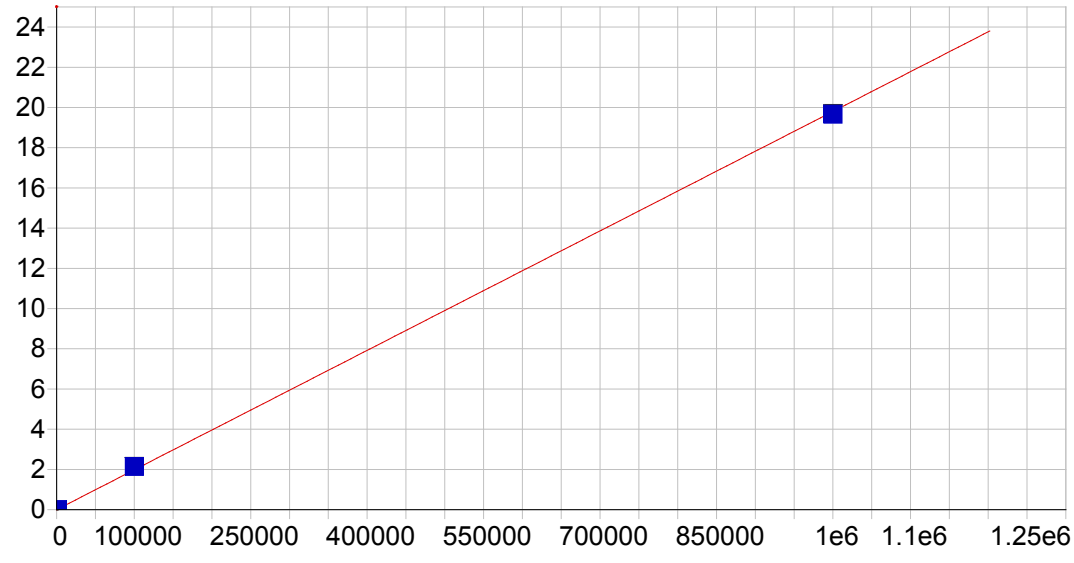


P 213.618 {457}

Date of Fit:	04/25/2016 11:03:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000004	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.994789	Status:	OK.
Std Error of Est:	0.000009		
Predicted MDL:	7.069714		
Predicted MQL:	23.565713		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	1.0141	1.01	.000	.00000	.000	1
CalStd9=100	1000.0	-24.374	-1020.	-102.	-.00001	.000	1
CalStd12-100	100000.	101020.	1020.	1.02	.01683	.000	1

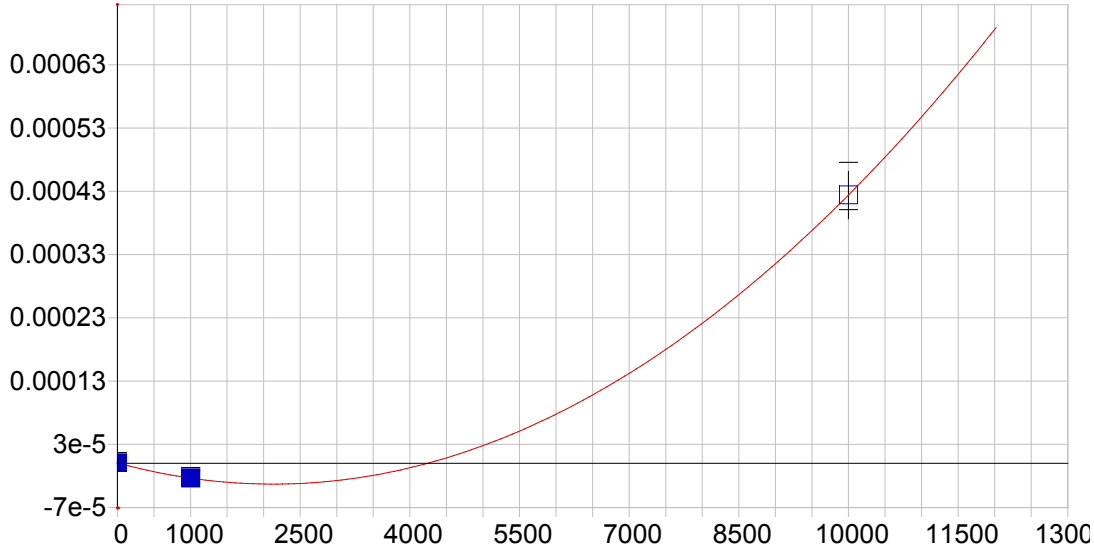


S 182.034 {485}

Date of Fit:	04/25/2016 11:03:09	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000112	Re-Slope:	1.000000
A1 (Gain):	0.000020	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999237	Status:	OK.
Std Error of Est:	0.001147		
Predicted MDL:	3.947753		
Predicted MQL:	13.159175		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.91488	.915	.000	.00013	.000	1
CalStd12-100	100000.	108080.	8080.	8.08	2.1396	.004	1
CalStd14-100	1000000.	992910.	-7090.	-.709	19.655	.034	1
CalStd9=100	1000.0	11.458	-989.	-98.9	.00033	.000	1



W 239.709 {140}

Date of Fit:	04/25/2016 11:03:09	Type of Fit:	Curvilinear	Weighting:	1/Var

A0 (Offset):	0.000001		Re-Slope:	1.000000	
A1 (Gain):	-0.000000		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	1.000000	Status:	Warning	Positive Curvature	
Std Error of Est:	0.000000				
Predicted MDL:	n/a				
Predicted MQL:	n/a				

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00000	.000	1
CalStd9=100	1000.0	1000.0	.000	.000	-.00002	.000	1
CalStd12-100	10000.	-5741.1	-15700.	-157.	.00042	.000	1

Sample Name: Blank Acquired: 04/18/2016 08:44:44 Type: Cal
Method: DOD Calibration Updated 060614(v1412) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	Al1670	As1937	As1890	Ba2335	Ba4554	Be3130	Ca3158	Ca3933	Ca3968	Cd2265
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**-4.05**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.001**	**.005**	**.000**
Stddev	2.16	.00	.000	.00	.000	.000	.000	.00	.000	.000	.001	.000
%RSD	53.4	199.	13.3	180.	255.	56.8	2.48	9.68	26.9	11.6	11.2	675.

Elem	Cd2288	Co2286	Cr2055	Cr2677	Cu2247	Cu3247	Fe2395	Fe2599	Mg2790	Mg2802	Mn2576	Mn2593
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	.000	.00	.00	.000	.000	.000	.000	.000	.00	.000	.000	.000
%RSD	36.9	13.6	34.2	189.	23.2	6.26	52.1	6.93	108.	1.06	23.6	52.7

Elem	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se2062	Se1960	Tl1908	V_2908	V_2924
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	.00	.000	.00	.000	.00	.00	.000	.000	.000	.000	.000	.000
%RSD	228.	106.	324.	850.	879.	56.0	291.	411.	177.	42.6	53.6	125.

Elem	Zn2062	Zn2138
Units	Cts/S	Cts/S
Avg	**.001**	**.000**
Stddev	.000	.000
%RSD	22.0	9.10

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**450910.**	**37084.**	**4687.8**
Stddev	3573.	187.	6.8
%RSD	.79234	.50351	.14429

Sample Name: CalStd1=0.25 Acquired: 04/18/2016 08:51:11 Type: Cal
Method: DOD Calibration Updated 060614(v1412) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Be3130
Units	Cts/S
Avg	**.000**
Stddev	.00
%RSD	51.5

Int. Std.	Y_3242
Units	Cts/S
Avg	**448620.**
Stddev	2251.
%RSD	.50173

Sample Name: CalStd2=0.5 Acquired: 04/18/2016 08:57:44 Type: Cal
Method: DOD Calibration Updated 060614(v1412) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Be3130	Cd2265	Cd2288
Units	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.001**
Stddev	.000	.000	.000
%RSD	27.6	28.8	11.9

Int. Std.	Y_3242	Y_2243
Units	Cts/S	Cts/S
Avg	**439210.**	**4493.5**
Stddev	1870.	16.1
%RSD	.42579	.35795

Sample Name: CalStd3=1 Acquired: 04/18/2016 09:04:15 Type: Cal
Method: DOD Calibration Updated 060614(v1412) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Ba2335	Ba4554	Be3130	Cd2265	Cd2288	Co2286	Cr2055	Cu2247	Ni2316
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**-1.64**	**.000**	**.000**	**.000**	**.001**	**.002**	**.000**	**.000**	**.000**	**.000**
Stddev	2.40	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	146.	19.1	4.89	3.74	7.93	12.0	27.1	12.6	23.1	139.

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**447160.**	**38974.**	**4542.7**
Stddev	1413.	216.	24.1
%RSD	.31605	.55381	.53018

Sample Name: CalStd4=5 Acquired: 04/18/2016 09:10:46 Type: Cal
Method: DOD Calibration Updated 060614(v1412) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al1670	As1890	Ba2335	Ba4554	Be3130	Cd2265	Co2286	Cr2055	Cr2677	Cu2247	Mn2576	Mo2045
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.001**	**.005**	**.004**	**.003**	**.000**	**.001**	**.000**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	10.3	72.5	8.19	1.51	1.12	1.38	3.61	3.04	1.36	4.01	2.34	6.14

Elem	Ni2316	Pb2203	Sb2175	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**
Stddev	.000	.000	.000	.000
%RSD	6.69	54.5	13.6	2.69

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**439640.**	**39370.**	**4387.6**
Stddev	2062.	134.	17.5
%RSD	.46910	.33930	.39966

Sample Name: CalStd5=10 Acquired: 04/18/2016 09:17:18 Type: Cal
Method: DOD Calibration Updated 060614(v1412) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Ba4554	Be3130	Cd2265	Cd2288	Co2286	Cr2055	Cr2677	Cu2247
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**27.7**	**.001**	**.000**	**.000**	**.000**	**.002**	**.010**	**.011**	**.007**	**.005**	**.000**	**.002**
Stddev	1.1	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	3.91	7.67	43.8	3.24	2.01	.787	3.16	1.33	1.65	1.76	10.4	5.71

Elem	Mn2576	Mo2045	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.001**	**.000**	**.001**	**.000**	**.001**	**.000**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	1.18	5.57	2.90	33.1	21.9	26.2	15.2	37.6	8.57	2.80	1.97

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**428030.**	**39753.**	**4361.1**
Stddev	2316.	88.	16.1
%RSD	.54115	.22189	.36978

Sample Name: CalStd6=20 Acquired: 04/18/2016 09:23:47 Type: Cal
Method: DOD Calibration Updated 060614(v1412) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ba2335	Ba4554	Cu2247	Mn2576	Mo2045	Sb2175	V_2924
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.004**	**.001**	**.000**	**.001**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000
%RSD	1.36	1.90	3.33	.843	2.26	5.77	2.33

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**440640.**	**39455.**	**4481.8**
Stddev	1907.	226.	18.5
%RSD	.43274	.57267	.41329

Sample Name: CalStd7=50 Acquired: 04/18/2016 09:30:14 Type: Cal
Method: DOD Calibration Updated 060614(v1412) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al1670	As1937	Ba2335	Ba4554	Ca3933	Cd2265	Co2286	Cr2055	Cr2677	Cu2247	Mg2802	Mn2576
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.002**	**.001**	**.000**	**.001**	**.004**	**.047**	**.038**	**.027**	**.001**	**.009**	**.004**	**.001**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	1.64	5.04	1.20	1.07	.754	.464	.798	.625	1.60	.843	.518	.255

Elem	Mo2045	Ni2316	Sb2068	Se1960	V_2924	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.003**	**.001**	**.001**	**.000**
Stddev	.000	.000	.000	.000	.000	.000
%RSD	2.19	.877	3.32	6.64	.741	.805

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**431190.**	**40332.**	**4332.2**
Stddev	1176.	256.	23.7
%RSD	.27275	.63476	.54800

Sample Name: CalStd8=100 Acquired: 04/18/2016 09:36:34 Type: Cal
Method: DOD Calibration Updated 060614(v1412) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	As1937	As1890	Ba2335	Ba4554	Be3130	Ca3933	Ca3968	Cd2265	Cd2288	Co2286	Cr2055
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**332.**	**.002**	**.001**	**.000**	**.002**	**.018**	**.008**	**.039**	**.096**	**.109**	**.076**	**.054**
Stddev	3.	.000	.000	.000	.000	.000	.000	.000	.001	.001	.000	.000
%RSD	.884	1.66	4.50	.798	.912	.307	.597	.648	.774	.811	.595	.778

Elem	Cr2677	Cu2247	Cu3247	Mg2802	Mn2576	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2175	Se2062
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.001**	**.019**	**.000**	**.009**	**.003**	**.000**	**.000**	**.000**	**.004**	**.008**	**.007**	**.001**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	.381	1.38	3.04	.501	.330	.856	.533	.706	1.50	2.83	2.09	14.6

Elem	Se1960	Tl1908	V_2908	V_2924	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.002**	**.007**	**.000**	**.002**	**.001**
Stddev	.000	.000	.000	.000	.000
%RSD	4.51	1.24	3.56	.818	.978

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**423430.**	**41146.**	**4260.6**
Stddev	1189.	170.	30.7
%RSD	.28074	.41220	.72072

Sample Name: CalStd9=1000 Acquired: 04/18/2016 09:42:54 Type: Cal
Method: DOD Calibration Updated 060614(v1412) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Al1670	As1937	As1890	Ba2335	Ba4554	Be3130	Ca3158	Ca3933	Ca3968	Cd2265	Cd2288
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.008**	**.037**	**.024**	**.008**	**.003**	**.017**	**.169**	**.001**	**.067**	**.360**	**.917**	**1.05**
Stddev	.000	.000	.000	.000	.000	.000	.001	.000	.001	.003	.003	.00
%RSD	1.11	.431	.508	1.72	.810	1.22	.651	1.91	1.14	.729	.380	.358

Elem	Co2286	Cr2055	Cr2677	Cu2247	Cu3247	Fe2395	Fe2599	Mg2790	Mg2802	Mn2576	Mn2593	Mo2045
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.734**	**.521**	**.010**	**.175**	**.001**	**.000**	**.005**	**.000**	**.079**	**.026**	**.029**	**.002**
Stddev	.003	.002	.000	.001	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	.342	.405	.943	.419	1.16	1.40	.896	3.68	.553	.545	.652	.919

Elem	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se2062	Se1960	Tl1908	V_2908	V_2924	Zn2062
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.005**	**.005**	**.040**	**.075**	**.063**	**.070**	**.007**	**.018**	**.062**	**.001**	**.015**	**.492**
Stddev	.000	.000	.000	.000	.000	.001	.000	.000	.000	.000	.000	.000
%RSD	.826	.711	.513	.475	.155	.780	1.65	.524	.376	.869	.499	.091

Elem	Zn2138
Units	Cts/S
Avg	**.005**
Stddev	.000
%RSD	.950

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**432980.**	**40955.**	**4391.5**
Stddev	2285.	50.	26.5
%RSD	.52774	.12329	.60323

Sample Name: CalStd10=10000 Acquired: 04/18/2016 09:48:43 Type: Cal
Method: DOD Calibration Updated 060614(v1412) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	As1937	As1890	Ba4554	Ca3158	Ca3968	Co2286	Cr2055	Cr2677	Cu2247	Cu3247	Fe2395
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.081**	**.254**	**.080**	**.175**	**.011**	**3.53**	**7.45**	**5.30**	**.103**	**1.76**	**.009**	**.003**
Stddev	.000	.000	.000	.001	.000	.01	.01	.01	.001	.00	.000	.000
%RSD	.362	.162	.280	.577	.496	.419	.113	.165	.711	.099	.677	.778

Elem	Fe2599	Mg2790	Mg2802	Mn2576	Mn2593	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.049**	**.003**	**.740**	**.256**	**.285**	**.015**	**.045**	**.044**	**.409**	**.748**	**.648**	**.727**
Stddev	.000	.000	.005	.002	.001	.000	.000	.000	.001	.002	.001	.002
%RSD	.393	.453	.655	.638	.430	.759	.886	.851	.275	.244	.135	.308

Elem	Se2062	Se1960	Tl1908	V_2908	V_2924	Zn2062	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.077**	**.185**	**.610**	**.006**	**.153**	**4.92**	**.049**
Stddev	.000	.000	.001	.000	.001	.01	.000
%RSD	.196	.099	.244	.647	.588	.295	.861

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**414710.**	**40698.**	**4126.8**
Stddev	1928.	125.	16.1
%RSD	.46494	.30675	.38958

Sample Name: CalStd11-100k Acquired: 04/18/2016 09:54:39 Type: Cal
Method: DOD Calibration Updated 060614(v1412) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Cr2055	Cu3247	Mn2593	Pb2169	Zn2062
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**47.2**	**.087**	**2.64**	**4.10**	**44.5**
Stddev	.2	.000	.02	.01	.2
%RSD	.400	.505	.831	.301	.476

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**416260.**	**42015.**	**4060.0**
Stddev	1357.	89.	14.9
%RSD	.32608	.21066	.36773

Sample Name: CalStd12-100000 Acquired: 04/18/2016 10:01:07 Type: Cal
Method: DOD Calibration Updated 060614(v1412) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Ca3158	Fe2395	Fe2599	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.785**	**.113**	**.028**	**.473**	**.029**
Stddev	.005	.001	.000	.003	.000
%RSD	.605	.605	.328	.709	.435

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**402650.**	**40339.**	**4038.6**
Stddev	2554.	96.	11.7
%RSD	.63429	.23767	.29030

Sample Name: CalStd13=500000 Acquired: 04/18/2016 10:07:48 Type: Cal
Method: DOD Calibration Updated 060614(v1412) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Ca3158	Fe2395	Fe2599	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**4.06**	**.561**	**.136**	**2.24**	**.148**
Stddev	.01	.001	.001	.01	.001
%RSD	.347	.260	.558	.221	.357

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**370730.**	**38901.**	**3599.6**
Stddev	3502.	291.	17.9
%RSD	.94450	.74691	.49621

Sample Name: CalStd14-1000k Acquired: 04/18/2016 10:14:26 Type: Cal
Method: DOD Calibration Updated 060614(v1412) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Ca3158	Fe2395	Fe2599	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**8.20**	**1.09**	**.270**	**4.20**	**.292**
Stddev	.03	.00	.002	.00	.001
%RSD	.345	.118	.829	.103	.208

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**334460.**	**37248.**	**3236.1**
Stddev	2564.	59.	12.4
%RSD	.76662	.15946	.38331

Sample Name: icv Acquired: 04/18/2016 10:27:37 Type: QC
Method: DOD Calibration Updated 060614(v1412) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3968	Cd2265	Co2286	Cr2677	Cu2247	Fe2395	Mg2790
Avg	**50.8**	**11600.**	**2040.**	**2010.**	**50.3**	**9820.**	**49.8**	**515.**	**203.**	**261.**	**5050.**	**9940.**
Stddev	1.1	12.	14.	10.	.1	105.	.2	3.	2.	2.	38.	55.
%RSD	2.10	.102	.696	.490	.299	1.07	.390	.571	.980	.762	.760	.551
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se2062	Tl1908	V_2924	Zn2138
Avg	**509.**	**503.**	**513.**	**516.**	**518.**	**2040.**	**2110.**	**511.**	**514.**
Stddev	1.	3.	3.	6.	3.	29.	9.	2.	4.
%RSD	.242	.604	.525	1.07	.570	1.41	.438	.323	.681
Check ?	None	None	None	None	None	None	None	None	None
Value									
Range									

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**428340.**	**41602.**	**4287.7**
Stddev	780.	158.	9.2
%RSD	.18216	.38020	.21353

Sample Name: ICVLL Acquired: 04/18/2016 10:34:00 Type: QC
Method: DOD Calibration Updated 060614(v1412) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2802
Avg	**52.7**	**1260.**	**62.6**	**28.9**	**12.3**	**1520.**	**15.0**	**29.8**	**30.4**	**31.2**	**932.**	**1500.**
Stddev	.9	3.	1.8	.3	.1	5.	.1	.1	.9	.8	11.	9.
%RSD	1.62	.229	2.91	.930	.724	.325	.743	.444	2.80	2.62	1.22	.572
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**30.8**	**29.4**	**29.2**	**30.8**	**60.5**	**63.4**	**62.0**	**29.4**	**30.9**
Stddev	.4	.7	.3	1.4	1.7	1.0	3.4	.5	.3
%RSD	1.27	2.25	1.04	4.56	2.85	1.53	5.48	1.82	.956
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**424740.**	**42529.**	**4176.0**
Stddev	2364.	49.	12.4
%RSD	.55667	.11555	.29717

Sample Name: icb Acquired: 04/18/2016 10:46:55 Type: QC
Method: DOD Calibration Updated 060614(v1412) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2802
Avg	**1.17**	**2.19**	**-.449**	**-.299**	**.083**	**-2.49**	**-.009**	**.256**	**-1.12**	**-.116**	**2.57**	**-.118**
Stddev	.40	.58	2.16	.309	.010	.38	.262	.128	.50	.599	.78	.055
%RSD	33.8	26.7	481.	103.	12.6	15.2	3060.	49.9	44.4	516.	30.4	46.5
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**-.269**	**-.431**	**-.472**	**.728**	**-1.20**	**2.59**	**-.561**	**-.087**	**-.228**
Stddev	.045	.396	.202	2.95	.87	2.53	1.12	.312	.204
%RSD	16.8	91.9	42.7	405.	72.9	97.6	200.	359.	89.5
Check ?	None	None	None	None	None	None	None	None	None
Value									
Range									

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**431740.**	**41673.**	**4327.3**
Stddev	320.	88.	16.8
%RSD	.07421	.21072	.38841

Sample Name: icsa Acquired: 04/18/2016 10:59:52 Type: QC
Method: DOD Calibration Updated 060614(v1412) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2247	Fe2395
Avg	**.057**	**508000.**	**.390**	**.049**	**.176**	**478000.**	**.001**	**.012**	**-.274**	**.076**	**502000.**
Stddev	.719	5310.	16.9	1.19	.038	6330.	1.07	.304	1.03	6.37	4440.
%RSD	1270.	1.04	4330.	2430.	21.5	1.32	187000.	2440.	375.	8370.	.884
Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None
High Limit											
Low Limit											

Elem	Mg2790	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**507000.**	**-.559**	**.000**	**.061**	**-.031**	**.001**	**.000**	**.776**	**.108**	**.001**
Stddev	5970.	.308	2.42	.679	4.31	3.50	6.48	6.27	.802	.806
%RSD	1.18	55.2	3010000.	1110.	13900.	379000.	1390000.	807.	745.	72400.
Check ?	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit										
Low Limit										

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**367870.**	**39877.**	**3610.4**
Stddev	422.	256.	15.6
%RSD	.11461	.64129	.43276

Sample Name: icsab Acquired: 04/18/2016 11:06:31 Type: QC
Method: DOD Calibration Updated 060614(v1412) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	As1890	Ba2335	Ba4554	Be3130	Ca3158	Cd2265	Cd2288	Co2286
Avg	**480.**	**532000.**	**551.**	**430.**	**507.**	**434.**	**518.**	**505000.**	**495.**	**491.**	**496.**
Stddev	1.	4550.	9.	25.	3.	5.	4.	5670.	1.	1.	2.
%RSD	.248	.856	1.57	5.79	.574	1.19	.827	1.12	.147	.220	.317
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Elem	Cr2055	Cr2677	Cu2247	Cu3247	Fe2395	Mg2790	Mn2576	Mn2593	Mo2045	Ni2216	Ni2316
Avg	**532.**	**507.**	**499.**	**529.**	**500000.**	**534000.**	**490.**	**571.**	**513.**	**494.**	**473.**
Stddev	1.	5.	6.	5.	5110.	5420.	4.	13.	2.	2.	2.
%RSD	.141	.933	1.26	.960	1.02	1.02	.861	2.31	.320	.495	.521
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Elem	Pb2169	Pb2203	Sb2068	Sb2175	Se2062	Se1960	Tl1908	V_2908	V_2924	Zn2062	Zn2138
Avg	**585.**	**473.**	**544.**	**552.**	**543.**	**522.**	**451.**	**497.**	**520.**	**569.**	**529.**
Stddev	6.	4.	6.	5.	56.	8.	3.	10.	5.	2.	3.
%RSD	.987	.806	1.07	.993	10.4	1.59	.761	2.02	1.05	.359	.559
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Sample Name: icsab Acquired: 04/18/2016 11:06:31 Type: QC
Method: DOD Calibration Updated 060614(v1412) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**371190.**	**39695.**	**3644.0**
Stddev	2370.	224.	13.2
%RSD	.63861	.56368	.36359

Sample Name: ICVLL ag Acquired: 04/18/2016 11:13:38 Type: Unk
Method: DOD Calibration Updated 060614(v1412) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2802
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**11.1**	**20.8**	**-3.11**	**-.398**	**.141**	**9.11**	**-.158**	**.181**	**-.728**	**-1.29**	**699.**	**.545**
Stddev	.7	2.6	1.06	.187	.024	11.8	.100	.204	.277	1.24	743.	.139
%RSD	6.06	12.4	34.1	47.0	16.7	130.	63.5	113.	38.1	95.7	106.	25.5

Elem	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-.301**	**.620**	**-.753**	**-1.60**	**1.52**	**2.97**	**-1.03**	**-.437**	**-.910**
Stddev	.047	.427	.273	2.76	1.91	4.34	1.16	.503	.237
%RSD	15.5	68.8	36.3	173.	126.	146.	113.	115.	26.1

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**431350.**	**42479.**	**4222.7**
Stddev	7783.	177.	24.4
%RSD	1.8044	.41581	.57668

Sample Name: ccv1 Acquired: 04/18/2016 12:20:42 Type: QC
Method: DOD Calibration Updated 060614(v1412) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3968	Cd2288	Co2286	Cr2055	Cu3247	Fe2395	Mg2790
Avg	**475.**	**4780.**	**4920.**	**5000.**	**492.**	**4960.**	**517.**	**4960.**	**5050.**	**4990.**	**4990.**	**4880.**
Stddev	2.	46.	22.	16.	4.	52.	1.	4.	5.	20.	43.	36.
%RSD	.510	.965	.441	.319	.874	1.04	.127	.090	.093	.403	.860	.727
Check ?	None	Chk Pass	Chk Pass	None	None	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Mn2593	Mo2045	Ni2216	Pb2169	Sb2068	Se2062	Tl1908	V_2908	Zn2062
Avg	**4860.**	**4950.**	**4980.**	**4960.**	**4940.**	**4970.**	**5030.**	**4960.**	**5440.**
Stddev	49.	26.	23.	17.	14.	41.	7.	28.	7.
%RSD	1.02	.518	.463	.337	.290	.827	.139	.565	.124
Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass
Value									
Range									

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**423820.**	**42961.**	**4243.9**
Stddev	2365.	115.	5.4
%RSD	.55809	.26810	.12837

Sample Name: ccv2 Acquired: 04/18/2016 12:26:13 Type: QC
Method: DOD Calibration Updated 060614(v1412) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2802
Avg	**51.1**	**545.**	**513.**	**486.**	**51.3**	**518.**	**54.0**	**516.**	**498.**	**531.**	**507.**	**494.**
Stddev	.2	2.	4.	2.	.2	4.	.3	1.	2.	2.	6.	1.
%RSD	.429	.390	.735	.351	.427	.714	.629	.109	.340	.365	1.12	.227
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**492.**	**492.**	**503.**	**516.**	**513.**	**532.**	**534.**	**491.**	**493.**
Stddev	2.	3.	2.	6.	3.	6.	3.	2.	2.
%RSD	.317	.537	.408	1.12	.556	1.05	.627	.338	.353
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**425180.**	**43487.**	**4125.4**
Stddev	1928.	235.	7.3
%RSD	.45351	.54026	.17703

Sample Name: ccb Acquired: 04/18/2016 12:32:14 Type: QC
Method: DOD Calibration Updated 060614(v1412) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2802
Avg	**.666**	**-1.18**	**-1.28**	**-.027**	**.134**	**-4.63**	**-.029**	**.300**	**-.855**	**-.812**	**-.316**	**-1.61**
Stddev	.667	.80	2.91	.517	.023	1.01	.045	.215	.368	.219	2.29	.07
%RSD	100.	67.5	227.	1890.	16.8	21.8	154.	71.7	43.0	27.0	726.	4.59
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**-.235**	**.828**	**-.500**	**1.26**	**-1.17**	**-1.24**	**-1.29**	**.226**	**-.728**
Stddev	.068	.541	.251	2.05	.90	2.12	2.20	.509	.218
%RSD	28.9	65.3	50.1	163.	77.0	171.	170.	225.	30.0
Check ?	None	None	None	None	None	None	None	None	None
Value									
Range									

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**424400.**	**43374.**	**4150.6**
Stddev	1599.	154.	26.4
%RSD	.37679	.35513	.63521

Sample Name: lcsw56773 Acquired: 04/18/2016 13:32:46 Type: Unk
Method: DOD Calibration Updated 060614(v1412) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	As1890	Ba2335	Ba4554	Be3130	Ca3158	Cd2265	Co2286	Cr2677
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**18.5**	**793.**	**840.**	**838.**	**710.**	**879.**	**18.5**	**163000.**	**18.2**	**191.**	**71.0**
Stddev	.9	5.	8.	20.	5.	12.	.1	888.	.2	1.	1.3
%RSD	5.13	.658	.969	2.36	.746	1.31	.738	.546	1.30	.355	1.87

Elem	Cu2247	Fe2599	Mg2790	Mn2576	Mo2045	Ni2216	Ni2316	Pb2203	Sb2175	Se2062	Se1960
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**101.**	**384.**	**85300.**	**183.**	**.349**	**183.**	**179.**	**190.**	**211.**	**854.**	**840.**
Stddev	1.	10.	505.	2.	.465	1.	2.	3.	3.	17.	7.
%RSD	1.18	2.59	.592	.859	133.	.781	.855	1.40	1.53	1.95	.823

Elem	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L
Avg	**781.**	**190.**	**186.**
Stddev	5.	2.	1.
%RSD	.583	.981	.636

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**397600.**	**44150.**	**3786.8**
Stddev	2752.	159.	13.7
%RSD	.69202	.36120	.36071

Sample Name: mbw56773 Acquired: 04/18/2016 13:39:13 Type: Unk
Method: DOD Calibration Updated 060614(v1412) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2802
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**.167**	**-.556**	**-2.71**	**-.416**	**.094**	**66.5**	**-.235**	**-.055**	**-.398**	**-.124**	**-2.76**	**-1.38**
Stddev	.697	.690	1.79	.121	.030	91.1	.145	.295	.431	.113	2.14	.07
%RSD	418.	124.	65.9	29.1	31.8	137.	61.7	541.	108.	91.3	77.5	5.36

Elem	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-.261**	**-.251**	**-.956**	**-2.45**	**-.964**	**2.60**	**-1.29**	**.354**	**-.974**
Stddev	.074	.775	.246	2.36	2.22	6.46	2.34	.310	.110
%RSD	28.1	309.	25.8	96.7	230.	248.	181.	87.5	11.2

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**435780.**	**44700.**	**4211.2**
Stddev	2125.	229.	17.1
%RSD	.48767	.51228	.40646

Sample Name: ccv1 Acquired: 04/18/2016 13:45:50 Type: QC
Method: DOD Calibration Updated 060614(v1412) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3968	Cd2288	Co2286	Cr2055	Cu3247	Fe2395	Mg2790
Avg	**458.**	**4550.**	**4920.**	**5040.**	**460.**	**4670.**	**505.**	**4850.**	**4920.**	**5020.**	**4800.**	**4500.**
Stddev	1.	26.	34.	41.	2.	27.	2.	17.	19.	37.	59.	57.
%RSD	.270	.575	.690	.810	.514	.579	.373	.359	.388	.742	1.23	1.28
Check ?	None	Chk Pass	Chk Pass	None	None	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Mn2593	Mo2045	Ni2216	Pb2169	Sb2068	Se2062	Tl1908	V_2908	Zn2062
Avg	**4490.**	**4560.**	**4520.**	**5040.**	**5000.**	**5080.**	**5050.**	**4860.**	**5060.**
Stddev	33.	57.	63.	14.	24.	39.	20.	45.	13.
%RSD	.737	1.26	1.39	.280	.479	.768	.392	.929	.246
Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass
Value									
Range									

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**423320.**	**45047.**	**3987.5**
Stddev	3588.	210.	28.2
%RSD	.84745	.46528	.70765

Sample Name: ccv2 Acquired: 04/18/2016 13:51:22 Type: QC
Method: DOD Calibration Updated 060614(v1412) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2802
Avg	**49.4**	**517.**	**502.**	**461.**	**48.2**	**513.**	**50.9**	**492.**	**464.**	**511.**	**474.**	**457.**
Stddev	1.0	2.	7.	3.	.2	4.	.4	3.	3.	2.	8.	3.
%RSD	2.07	.436	1.47	.556	.452	.724	.813	.612	.741	.433	1.76	.661
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**462.**	**471.**	**476.**	**498.**	**506.**	**515.**	**523.**	**468.**	**465.**
Stddev	4.	2.	3.	4.	3.	6.	2.	4.	2.
%RSD	.832	.502	.715	.704	.500	1.15	.329	.816	.401
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**427320.**	**45028.**	**4101.3**
Stddev	2441.	169.	14.9
%RSD	.57120	.37487	.36224

Sample Name: ccb Acquired: 04/18/2016 13:57:34 Type: QC
Method: DOD Calibration Updated 060614(v1412) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2802
Avg	**.846**	**-1.43**	**-1.14**	**-.275**	**.065**	**-4.49**	**-.088**	**.403**	**-.484**	**-.423**	**1.01**	**-1.51**
Stddev	.328	.62	3.58	.140	.021	1.04	.046	.197	.822	1.03	3.06	.04
%RSD	38.8	42.9	313.	51.0	31.9	23.2	52.5	48.8	170.	243.	302.	2.48
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**-.159**	**.897**	**-.789**	**-2.40**	**-.580**	**.039**	**-.472**	**.360**	**-.629**
Stddev	.075	1.21	.341	2.05	2.59	2.75	1.95	.432	.171
%RSD	47.4	135.	43.2	85.4	446.	7000.	412.	120.	27.2
Check ?	None	None	None	None	None	None	None	None	None
Value									
Range									

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**429170.**	**44134.**	**4197.0**
Stddev	721.	115.	29.5
%RSD	.16790	.26041	.70210

Sample Name: 708711 Acquired: 04/18/2016 14:04:06 Type: Unk
Method: DOD Calibration Updated 060614(v1412) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3968	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2790
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**.508**	**10.6**	**-2.07**	**116.**	**.061**	**66100.**	**-.307**	**.102**	**3.37**	**.585**	**8.80**	**29500.**
Stddev	.783	2.2	4.75	1.	.042	435.	.089	.107	.78	1.22	2.85	169.
%RSD	154.	21.2	230.	.803	69.2	.658	29.1	105.	23.3	209.	32.4	.573

Elem	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**2.28**	**.920**	**.624**	**.379**	**-1.35**	**2.58**	**-.512**	**.857**	**7.65**
Stddev	.07	.144	.337	2.39	.59	3.96	1.78	.793	.20
%RSD	3.20	15.7	54.0	630.	43.8	153.	348.	92.5	2.61

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**404130.**	**43150.**	**3852.8**
Stddev	641.	229.	10.4
%RSD	.15858	.53177	.26872

Sample Name: I708711 Acquired: 04/18/2016 14:10:54 Type: Unk
Method: DOD Calibration Updated 060614(v1412) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3968	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2790
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**.557**	**-.357**	**.908**	**24.4**	**.048**	**19900.**	**-.030**	**.042**	**.183**	**-.320**	**-.451**	**8370.**
Stddev	.626	1.00	3.61	2.5	.024	819.	.135	.333	.322	.928	1.42	260.
%RSD	112.	281.	398.	10.1	49.3	4.11	446.	797.	176.	290.	315.	3.11

Elem	Mg2802	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**7590.**	**.288**	**-.024**	**-.682**	**-.906**	**.672**	**2.03**	**-.041**	**-.056**	**.793**
Stddev	190.	.062	.403	.347	1.61	1.94	2.10	.255	.280	.183
%RSD	2.51	21.4	1670.	50.9	178.	289.	104.	622.	500.	23.1

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**430720.**	**43794.**	**4214.2**
Stddev	2483.	367.	32.3
%RSD	.57644	.83776	.76560

Sample Name: dup708711 Acquired: 04/18/2016 14:17:57 Type: Unk
Method: DOD Calibration Updated 060614(v1412) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3968	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2790
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**.780**	**10.2**	**-1.42**	**117.**	**.044**	**66800.**	**-.213**	**.018**	**3.48**	**.344**	**12.0**	**29800.**
Stddev	.615	.8	3.42	1.	.028	402.	.028	.101	.62	.266	2.8	177.
%RSD	78.8	7.49	242.	.535	63.8	.602	13.2	554.	17.9	77.3	23.4	.593

Elem	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**.520**	**.327**	**.188**	**.135**	**-2.61**	**-4.45**	**-.346**	**.516**	**7.35**
Stddev	.094	.331	.359	1.31	1.84	5.82	1.41	.380	.08
%RSD	18.0	101.	191.	969.	70.5	131.	407.	73.7	1.06

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**393570.**	**44028.**	**3678.4**
Stddev	1907.	280.	23.1
%RSD	.48461	.63667	.62797

Sample Name: msw708711 Acquired: 04/18/2016 14:24:46 Type: Unk
Method: DOD Calibration Updated 060614(v1412) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	As1890	Ba2335	Ba4554	Be3130	Ca3158	Cd2265	Co2286	Cr2677
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**18.2**	**827.**	**886.**	**874.**	**859.**	**1110.**	**19.6**	**230000.**	**18.5**	**197.**	**78.3**
Stddev	.7	5.	6.	20.	14.	16.	.3	3350.	.1	1.	2.0
%RSD	3.82	.643	.628	2.25	1.57	1.40	1.62	1.46	.504	.302	2.60

Elem	Cu2247	Fe2599	Mg2790	Mn2576	Mo2045	Ni2216	Ni2316	Pb2203	Sb2175	Se2062	Se1960
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**106.**	**388.**	**118000.**	**214.**	**.061**	**198.**	**187.**	**197.**	**224.**	**878.**	**879.**
Stddev	1.	8.	1400.	3.	.772	2.	3.	4.	3.	26.	11.
%RSD	.873	1.98	1.19	1.47	1270.	1.21	1.55	2.13	1.30	2.92	1.21

Elem	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L
Avg	**799.**	**201.**	**205.**
Stddev	2.	3.	3.
%RSD	.312	1.38	1.34

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**369990.**	**42776.**	**3551.2**
Stddev	2899.	151.	19.9
%RSD	.78355	.35332	.56095

Sample Name: msdw708711 Acquired: 04/18/2016 14:31:09 Type: Unk
Method: DOD Calibration Updated 060614(v1412) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	As1890	Ba2335	Ba4554	Be3130	Ca3158	Cd2265	Co2286	Cr2677
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**18.0**	**846.**	**909.**	**897.**	**860.**	**1110.**	**19.7**	**234000.**	**19.1**	**200.**	**78.1**
Stddev	.5	5.	2.	21.	10.	11.	.2	3300.	.2	.	.7
%RSD	2.90	.618	.263	2.31	1.19	.977	1.07	1.41	.847	.191	.935

Elem	Cu2247	Fe2599	Mg2790	Mn2576	Mo2045	Ni2216	Ni2316	Pb2203	Sb2175	Se2062	Se1960
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**108.**	**398.**	**120000.**	**191.**	**-.586**	**198.**	**188.**	**201.**	**228.**	**922.**	**903.**
Stddev	1.	5.	1200.	2.	.895	3.	2.	5.	4.	43.	7.
%RSD	.597	1.38	1.00	.870	153.	1.44	.958	2.46	1.54	4.64	.815

Elem	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L
Avg	**816.**	**203.**	**204.**
Stddev	3.	2.	3.
%RSD	.333	1.04	1.39

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**369950.**	**42167.**	**3490.5**
Stddev	1668.	139.	22.8
%RSD	.45082	.32897	.65305

Sample Name: pdsw708711 Acquired: 04/18/2016 14:37:32 Type: Unk
Method: DOD Calibration Updated 060614(v1412) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3158	Cd2265	Co2286	Cr2055	Cr2677	Cu2247
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**87.7**	**4040.**	**4380.**	**5030.**	**94.8**	**418000.**	**93.4**	**974.**	**400.**	**365.**	**522.**
Stddev	.5	46.	12.	84.	.5	3030.	.3	3.	1.	2.	2.
%RSD	.566	1.15	.276	1.67	.484	.726	.332	.285	.296	.423	.394

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Mn2593	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**629.**	**1910.**	**221000.**	**909.**	**709.**	**.800**	**909.**	**902.**	**1110.**	**969.**	**1130.**
Stddev	7.	17.	2270.	4.	11.	.656	6.	5.	8.	2.	8.
%RSD	1.11	.873	1.02	.483	1.48	82.0	.632	.583	.755	.242	.699

Elem	Se2062	Tl1908	V_2908	V_2924	Zn2062	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**4410.**	**3890.**	**1150.**	**980.**	**990.**	**967.**
Stddev	29.	7.	19.	6.	4.	6.
%RSD	.667	.178	1.67	.575	.449	.599

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**367570.**	**42774.**	**3453.4**
Stddev	1005.	183.	13.9
%RSD	.27350	.42823	.40314

Sample Name: ccv1 Acquired: 04/18/2016 15:09:59 Type: QC
Method: DOD Calibration Updated 060614(v1412) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be3130	Ca3968	Cd2288	Co2286	Cr2055	Cu3247	Fe2395	Mg2790
Avg	**455.**	**4580.**	**4860.**	**5040.**	**465.**	**4780.**	**489.**	**4730.**	**4750.**	**5020.**	**4820.**	**4530.**
Stddev	2.	44.	13.	63.	3.	57.	2.	15.	14.	66.	61.	27.
%RSD	.380	.958	.275	1.25	.725	1.19	.378	.320	.298	1.31	1.26	.603
Check ?	None	Chk Pass	Chk Pass	None	None	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Mn2593	Mo2045	Ni2216	Pb2169	Sb2068	Se2062	Tl1908	V_2908	Zn2062
Avg	**4590.**	**4720.**	**4630.**	**4970.**	**4920.**	**4920.**	**4970.**	**4860.**	**4980.**
Stddev	68.	21.	31.	23.	27.	31.	16.	74.	15.
%RSD	1.47	.454	.676	.458	.556	.621	.320	1.51	.300
Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass
Value									
Range									

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**422170.**	**44019.**	**4123.1**
Stddev	1517.	160.	21.6
%RSD	.35940	.36268	.52273

Sample Name: ccv2 Acquired: 04/18/2016 15:15:30 Type: QC
Method: DOD Calibration Updated 060614(v1412) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2802
Avg	**50.2**	**521.**	**488.**	**473.**	**49.3**	**513.**	**49.9**	**485.**	**477.**	**502.**	**492.**	**469.**
Stddev	1.1	5.	9.	4.	.4	4.	.4	5.	5.	4.	9.	4.
%RSD	2.16	.973	1.75	.821	.771	.768	.863	1.11	.952	.858	1.80	.839
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**472.**	**481.**	**487.**	**495.**	**495.**	**503.**	**513.**	**481.**	**477.**
Stddev	3.	5.	4.	6.	5.	8.	5.	2.	4.
%RSD	.706	1.06	.762	1.18	.976	1.59	1.06	.506	.776
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**429760.**	**43862.**	**4246.7**
Stddev	3100.	69.	22.2
%RSD	.72127	.15652	.52165

Sample Name: ccb Acquired: 04/18/2016 15:21:31 Type: QC
Method: DOD Calibration Updated 060614(v1412) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2802
Avg	**.496**	**-.789**	**-2.21**	**-.450**	**.071**	**-4.40**	**-.074**	**.309**	**-.283**	**-.023**	**.946**	**-1.53**
Stddev	.929	1.46	1.99	.356	.015	1.08	.137	.113	.341	.604	1.76	.03
%RSD	187.	185.	90.3	79.1	21.1	24.5	186.	36.6	120.	2620.	186.	2.16
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**-.229**	**.935**	**-.385**	**-.316**	**-.575**	**4.11**	**-.858**	**-.167**	**-.781**
Stddev	.126	.485	.303	3.35	.746	3.57	3.10	.557	.182
%RSD	54.9	51.8	78.7	1060.	130.	86.9	361.	334.	23.3
Check ?	None	None	None	None	None	None	None	None	None
Value									
Range									

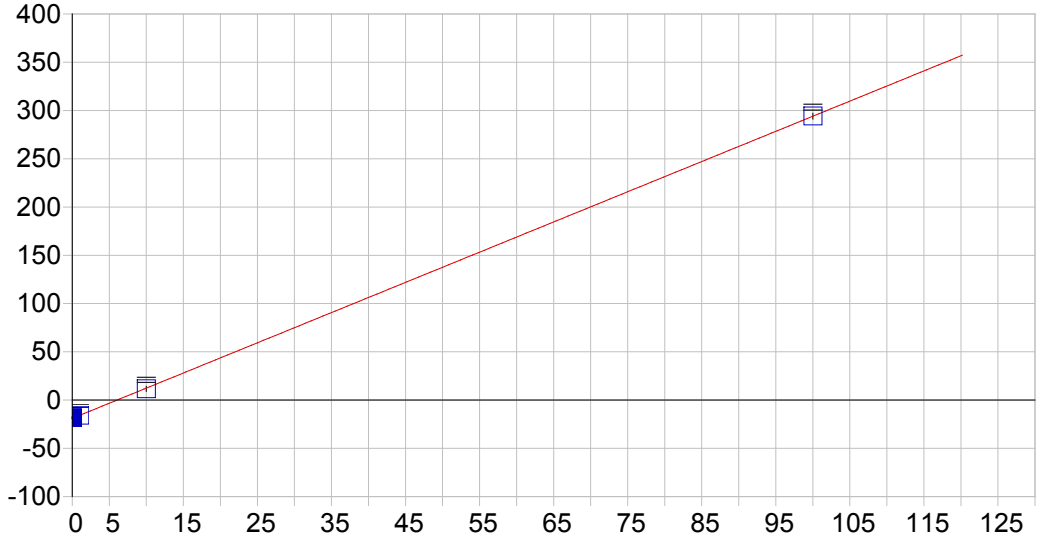
Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**440070.**	**44004.**	**4217.9**
Stddev	3764.	63.	24.3
%RSD	.85524	.14370	.57628

Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)	Correlation	Std Error of Est	Predicted MDL	Predicted MQL	Status	Resl Slope
Ag 328.068 {103}	04/27/2016 10:03:59	04/26/2016 09:16:11	Linear	None	-18.920482	3.129649	0.000000	1.000000	0.999993	0.715977	0.981491	3.271638	OK.	1.000000
Al 309.271 {109}	04/27/2016 10:03:59	04/26/2016 09:41:08	Curvilin	None	0.000172	0.000001	0.000000	1.000000	1.000000	0.000013	17.200232	57.334106	OK.	1.000000
Al 396.152 { 85}	04/27/2016 10:03:59	04/26/2016 09:54:53	Full Fit	1/Var	-0.000017	0.000003	0.000000	1.000000	0.999817	0.000091	7.457040	24.856800	OK.	1.000000
Al 167.079 {502}	04/27/2016 10:03:59	04/26/2016 09:22:00	Linear	None	0.000065	0.000014	0.000000	1.000000	0.999986	0.000037	1.228627	4.095424	OK.	1.000000
As 193.759 {474}	04/27/2016 10:03:59	04/26/2016 09:28:01	Linear	1/Conc	-0.000016	0.000008	0.000000	1.000000	0.999859	0.000002	3.748872	12.496239	OK.	1.000000
As 189.042 {479}	04/27/2016 10:03:59	04/26/2016 09:28:01	Linear	1/Var	0.000008	0.000003	0.000000	1.000000	0.999947	0.000045	10.093833	33.646109	OK.	1.000000
Ba 233.527 {445}	04/27/2016 10:03:59	04/26/2016 09:22:00	Linear	1/Conc	0.000000	0.000001	0.000000	1.000000	0.999899	0.000000	0.293151	0.977171	OK.	1.000000
Ba 455.403 { 74}	04/27/2016 10:03:59	04/26/2016 09:28:01	Linear	1/Var	0.000014	0.000005	0.000000	1.000000	0.999601	0.000004	0.355422	1.184740	OK.	1.000000
Ba 493.409 { 68}	04/27/2016 10:03:59	04/26/2016 09:28:01	Linear	None	0.001182	0.000003	0.000000	1.000000	0.999978	0.000130	0.997991	3.326637	OK.	1.000000
Be 313.042 {108}	04/27/2016 10:03:59	04/26/2016 09:22:01	Linear	1/Conc	-0.000046	0.000062	0.000000	1.000000	0.999951	0.000000	0.033008	0.110027	OK.	1.000000
Be 234.861 {144}	04/27/2016 10:03:59	04/26/2016 09:22:01	Linear	1/Var	-0.000000	0.000001	0.000000	1.000000	0.999944	0.000000	0.636316	2.121052	OK.	1.000000
Ca 315.887 {107}	04/27/2016 10:03:59	04/26/2016 09:54:53	Curvilin	1/Conc	0.000067	0.000000	0.000000	1.000000	0.999947	0.000007	12.012461	40.041536	OK.	1.000000
Ca 317.933 {106}	04/27/2016 10:03:59	04/26/2016 09:54:53	Curvilin	1/Conc	0.002861	0.000002	0.000000	1.000000	0.999928	0.000029	3.929175	13.097250	OK.	1.000000
Ca 393.366 { 86}	04/27/2016 10:03:59	04/26/2016 09:22:01	Linear	1/Var	0.000117	0.000020	0.000000	1.000000	0.998177	0.000074	0.064184	0.213945	OK.	1.000000
Ca 396.847 { 85}	04/27/2016 10:03:59	04/26/2016 09:28:01	Linear	1/Conc	0.000144	0.000090	0.000000	1.000000	0.999991	0.000019	0.135793	0.452642	OK.	1.000000
Cd 226.502 {449}	04/27/2016 10:03:59	04/26/2016 09:22:01	Linear	1/Conc	-0.000018	0.000261	0.000000	1.000000	0.999822	0.000004	0.212649	0.708829	OK.	1.000000
Cd 228.802 {447}	04/27/2016 10:03:59	04/26/2016 09:22:01	Linear	1/Conc	0.000103	0.000335	0.000000	1.000000	0.999928	0.000004	0.192600	0.642000	OK.	1.000000
Co 228.616 {447}	04/27/2016 10:03:59	04/26/2016 09:28:01	Linear	1/Conc	-0.000091	0.000250	0.000000	1.000000	0.999983	0.000006	0.251984	0.839948	OK.	1.000000
Co 238.892 {141}	04/27/2016 10:03:59	04/26/2016 09:28:01	Linear	None	-0.000024	0.000003	0.000000	1.000000	0.999997	0.000045	0.672132	2.240439	OK.	1.000000
Cr 205.560 {464}	04/27/2016 10:03:59	04/26/2016 09:34:30	Linear	1/Var	-0.000013	0.000130	0.000000	1.000000	0.999633	0.000978	0.253634	0.845446	OK.	1.000000
Cr 267.716 {126}	04/27/2016 10:03:59	04/26/2016 09:28:01	Linear	1/Conc	-0.000000	0.000004	0.000000	1.000000	0.999951	0.000000	0.593189	1.977297	OK.	1.000000
Cu 224.700 {450}	04/27/2016 10:03:59	04/26/2016 09:28:01	Linear	1/Var	-0.000006	0.000103	0.000000	1.000000	0.999962	0.000107	0.660310	2.201035	OK.	1.000000
Cu 324.754 {104}	04/27/2016 10:03:59	04/26/2016 09:34:30	Linear	1/Conc	0.000127	0.000000	0.000000	1.000000	0.999927	0.000000	3.121189	10.403964	OK.	1.000000
Cu 327.396 {103}	04/27/2016 10:03:59	04/26/2016 09:34:30	Curvilin	1/Conc	-0.000058	0.000003	0.000000	1.000000	0.999993	0.000001	4.283851	14.279503	OK.	1.000000
Fe 234.349 {144}	04/27/2016 10:03:59	04/26/2016 09:54:53	Full Fit	1/Conc	0.000019	0.000000	0.000000	0.970000	0.999992	0.000002	1.472506	4.908353	OK.	1.000000
Fe 239.562 {140}	04/27/2016 10:03:59	04/26/2016 09:54:53	Linear	1/Var	0.000001	0.000000	0.000000	1.000000	0.998665	0.000011	9.734487	32.448291	OK.	1.000000
Fe 259.940 {129}	04/27/2016 10:03:59	04/26/2016 09:54:53	Curvilin	1/Var	0.000000	0.000001	0.000000	1.000000	0.999954	0.000020	4.045690	13.485632	OK.	1.000000
Mg 202.582 {466}	04/27/2016 10:03:59	04/26/2016 09:54:53	Curvilin	1/Conc	-0.000055	0.000016	-0.000000	1.000000	0.999647	0.000651	2.555984	8.519948	OK.	1.000000
Mg 279.079 {121}	04/27/2016 10:03:59	04/26/2016 09:54:53	Curvilin	1/Conc	-0.000001	0.000000	0.000000	1.000000	0.999748	0.000003	34.627090	115.423632	OK.	1.000000
Mg 280.270 {120}	04/27/2016 10:03:59	04/26/2016 09:28:02	Curvilin	1/Conc	0.000164	0.000028	-0.000000	1.000000	0.999988	0.000005	0.039355	0.131185	OK.	1.000000
Mn 257.610 {131}	04/27/2016 10:03:59	04/26/2016 09:28:02	Linear	1/Var	0.000004	0.000014	0.000000	1.000000	0.999611	0.000008	0.084328	0.281092	OK.	1.000000
Mn 259.373 {130}	04/27/2016 10:03:59	04/26/2016 09:34:30	Linear	1/Var	0.000006	0.000009	0.000000	1.000000	0.999833	0.000041	0.625400	2.084668	OK.	1.000000
Mo 202.030 {466}	04/27/2016 10:03:59	04/26/2016 09:22:02	Linear	1/Conc	0.000041	0.000088	0.000000	1.000000	0.999908	0.000003	0.390868	1.302895	OK.	1.000000
Mo 204.598 {464}	04/27/2016 10:03:59	04/26/2016 09:28:02	Curvilin	1/Conc	-0.000000	0.000001	0.000000	1.000000	0.999992	0.000000	0.632722	2.109073	Warnin	1.000000
Mo 204.598 {465}	04/27/2016 10:03:59	04/26/2016 09:28:02	Linear	1/Conc	-0.000000	0.000000	0.000000	1.000000	0.999937	0.000000	0.855489	2.851628	OK.	1.000000
Ni 221.647 {452}	04/27/2016 10:03:59	04/26/2016 09:28:02	Linear	1/Var	0.000000	0.000002	0.000000	1.000000	0.999981	0.000003	0.424998	1.416660	OK.	1.000000
Ni 231.604 {445}	04/27/2016 10:03:59	04/26/2016 09:28:02	Linear	1/Conc	-0.000002	0.000002	0.000000	1.000000	0.999981	0.000000	0.438106	1.460354	OK.	1.000000
Pb 216.999 {455}	04/27/2016 10:03:59	04/26/2016 09:34:30	Curvilin	1/Var	-0.000067	0.000015	0.000000	1.000000	0.999956	0.000144	3.814911	12.716371	OK.	1.000000
Pb 220.353 {453}	04/27/2016 10:03:59	04/26/2016 09:28:02	Linear	1/Conc	0.000052	0.000030	0.000000	1.000000	0.999889	0.000004	2.417645	8.058815	OK.	1.000000
Pb 220.353 {153}	04/27/2016 10:03:59	04/26/2016 09:34:30	Linear	1/Conc	0.000129	0.000020	0.000000	1.000000	0.999998	0.000006	4.782644	15.942148	OK.	1.000000
Sb 206.833 {463}	04/27/2016 10:03:59	04/26/2016 09:28:02	Linear	1/Conc	-0.000097	0.000023	0.000000	1.000000	0.999949	0.000003	1.931237	6.437456	OK.	1.000000
Sb 217.581 {455}	04/27/2016 10:03:59	04/26/2016 09:28:02	Linear	1/Conc	-0.000079	0.000024	0.000000	1.000000	0.999824	0.000004	2.110045	7.033482	OK.	1.000000
Se 196.090 {472}	04/27/2016 10:03:59	04/26/2016 09:28:02	Linear	1/Conc	0.000005	0.000006	0.000000	1.000000	0.999954	0.000001	5.979275	19.930915	OK.	1.000000
Se 206.279 {463}	04/27/2016 10:03:59	04/26/2016 09:28:02	Linear	1/Conc	0.000024	0.000002	0.000000	1.000000	0.999968	0.000001	19.291704	64.305682	OK.	1.000000
Se 196.090 {471}	04/27/2016 10:03:59	04/26/2016 09:28:02	Linear	1/Conc	0.000024	0.000008	0.000000	1.000000	0.999967	0.000001	4.419396	14.731319	OK.	1.000000
Tl 190.856 {476}	04/27/2016 10:03:59	04/26/2016 09:28:03	Linear	1/Conc	0.000043	0.000022	0.000000	1.000000	0.999974	0.000002	1.991455	6.638184	OK.	1.000000

Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)	Correlation	Std Error of Est	Predicted MDL	Predicted MQL	Status	Resl Slope
Tl 190.856 {477}	04/27/2016 10:03:59	04/26/2016 09:28:03	Linear	1/Conc	-0.000045	0.000007	0.000000	1.000000	0.999974	0.000001	5.075416	16.918053	OK.	1.000000
V 290.882 {116}	04/27/2016 10:03:59	04/26/2016 09:28:03	Linear	1/Conc	0.000002	0.000000	0.000000	1.000000	0.999714	0.000000	3.477366	11.591220	OK.	1.000000
V 292.402 {115}	04/27/2016 10:03:59	04/26/2016 09:28:03	Linear	1/Conc	0.000003	0.000007	0.000000	1.000000	0.999868	0.000001	0.472267	1.574223	OK.	1.000000
Zn 206.200 {463}	04/27/2016 10:03:59	04/26/2016 09:34:30	Curvilin	1/Var	0.000086	0.000183	-0.000000	1.000000	0.999982	0.000486	0.262238	0.874128	OK.	1.000000
Zn 213.856 {458}	04/27/2016 10:03:59	04/26/2016 09:28:03	Linear	1/Var	0.000002	0.000002	0.000000	1.000000	0.999892	0.000002	0.195812	0.652705	OK.	1.000000
Y 324.228 {104}*	04/27/2016 10:03:59	04/26/2016 08:24:54	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000
Y 371.030 { 91}*	04/27/2016 10:03:59	04/26/2016 08:24:54	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000
Y 224.306 {451}*	04/27/2016 10:03:59	04/26/2016 08:24:54	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000
Na 588.995 { 57}	04/27/2016 10:03:59	04/26/2016 09:41:08	Linear	1/Conc	0.000540	0.000001	0.000000	1.000000	0.995094	0.000081	3.550617	11.835391	OK.	1.000000
Si 251.611 {134}	04/27/2016 10:03:59	04/26/2016 09:41:08	Linear	1/Conc	0.000019	0.000000	0.000000	1.000000	0.955525	0.000021	13.571879	45.239597	OK.	1.000000
Ti 334.941 {101}	04/27/2016 10:03:59	04/26/2016 09:28:03	Linear	1/Conc	-0.000002	0.000006	0.000000	1.000000	0.999937	0.000001	1.245174	4.150580	OK.	1.000000
Sr 407.771 { 83}	04/27/2016 10:03:59	04/26/2016 09:28:03	Linear	1/Conc	-0.000060	0.000119	0.000000	1.000000	0.999962	0.000004	0.113108	0.377025	OK.	1.000000
Sn 189.989 {478}	04/27/2016 10:03:59	04/26/2016 09:28:03	Linear	1/Var	0.000015	0.000008	0.000000	1.000000	0.999989	0.000026	3.243805	10.812683	OK.	1.000000
B 249.678 {135}	04/27/2016 10:03:59	04/26/2016 09:28:03	Linear	1/Conc	-0.000000	0.000002	0.000000	1.000000	0.999852	0.000000	1.331381	4.437937	OK.	1.000000
B 249.773 {135}	04/27/2016 10:03:59	04/26/2016 09:28:03	Linear	1/Conc	0.000001	0.000003	0.000000	1.000000	0.999893	0.000001	0.686588	2.288628	OK.	1.000000
Li 670.784 { 50}	04/27/2016 10:03:59	04/26/2016 09:28:03	Linear	1/Var	-0.000068	0.000044	0.000000	1.000000	0.999952	0.000145	1.004238	3.347461	OK.	1.000000
K 766.490 { 44}	04/27/2016 10:03:59	04/26/2016 09:41:08	Linear	1/Conc	0.000051	0.000002	0.000000	1.000000	0.995350	0.000080	27.472418	91.574725	OK.	1.000000
P 213.618 {457}	04/27/2016 10:03:59	04/26/2016 09:41:08	Linear	1/Conc	-0.000001	0.000000	0.000000	1.000000	0.994666	0.000004	5.292840	17.642801	OK.	1.000000
S 182.034 {485}	04/27/2016 10:03:59	04/26/2016 09:54:53	Linear	1/Conc	0.000036	0.000007	0.000000	1.000000	0.998292	0.000604	3.948243	13.160810	OK.	1.000000
W 239.709 {140}	04/27/2016 10:03:59	04/26/2016 09:41:08	Curvilin	1/Var	0.000000	-0.000000	0.000000	1.000000	1.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000

Element, Wavelength and Order	ope	QC Norm	
	Y-int	Slope factor	Offset
Ag 328.068 {103}	0.000000	1	0
Al 309.271 {109}	0.000000	1	0
Al 396.152 { 85}	0.000000	1	0
Al 167.079 {502}	0.000000	1	0
As 193.759 {474}	0.000000	1	0
As 189.042 {479}	0.000000	1	0
Ba 233.527 {445}	0.000000	1	0
Ba 455.403 { 74}	0.000000	1	0
Ba 493.409 { 68}	0.000000	1	0
Be 313.042 {108}	0.000000	1	0
Be 234.861 {144}	0.000000	1	0
Ca 315.887 {107}	0.000000	1	0
Ca 317.933 {106}	0.000000	1	0
Ca 393.366 { 86}	0.000000	1	0
Ca 396.847 { 85}	0.000000	1	0
Cd 226.502 {449}	0.000000	1	0
Cd 228.802 {447}	0.000000	1	0
Co 228.616 {447}	0.000000	1	0
Co 238.892 {141}	0.000000	1	0
Cr 205.560 {464}	0.000000	1	0
Cr 267.716 {126}	0.000000	1	0
Cu 224.700 {450}	0.000000	1	0
Cu 324.754 {104}	0.000000	1	0
Cu 327.396 {103}	0.000000	1	0
Fe 234.349 {144}	0.000000	1	0
Fe 239.562 {140}	0.000000	1	0
Fe 259.940 {129}	0.000000	1	0
Mg 202.582 {466}	0.000000	1	0
Mg 279.079 {121}	0.000000	1	0
Mg 280.270 {120}	0.000000	1	0
Mn 257.610 {131}	0.000000	1	0
Mn 259.373 {130}	0.000000	1	0
Mo 202.030 {466}	0.000000	1	0
Mo 204.598 {464}	0.000000	1	0
Mo 204.598 {465}	0.000000	1	0
Ni 221.647 {452}	0.000000	1	0
Ni 231.604 {445}	0.000000	1	0
Pb 216.999 {455}	0.000000	1	0
Pb 220.353 {453}	0.000000	1	0
Pb 220.353 {153}	0.000000	1	0
Sb 206.833 {463}	0.000000	1	0
Sb 217.581 {455}	0.000000	1	0
Se 196.090 {472}	0.000000	1	0
Se 206.279 {463}	0.000000	1	0
Se 196.090 {471}	0.000000	1	0
Tl 190.856 {476}	0.000000	1	0

	Element, Wavelength and Order	ope	QC Norm	
		Y-int	Slope factor	Offset
	Tl 190.856 {477}	0.000000	1	0
	V 290.882 {116}	0.000000	1	0
	V 292.402 {115}	0.000000	1	0
	Zn 206.200 {463}	0.000000	1	0
	Zn 213.856 {458}	0.000000	1	0
	Y 324.228 {104}*	0.000000	1	0
	Y 371.030 { 91}*	0.000000	1	0
	Y 224.306 {451}*	0.000000	1	0
	Na 588.995 { 57}	0.000000	1	0
	Si 251.611 {134}	0.000000	1	0
	Ti 334.941 {101}	0.000000	1	0
	Sr 407.771 { 83}	0.000000	1	0
	Sn 189.989 {478}	0.000000	1	0
	B 249.678 {135}	0.000000	1	0
	B 249.773 {135}	0.000000	1	0
	Li 670.784 { 50}	0.000000	1	0
	K 766.490 { 44}	0.000000	1	0
	P 213.618 {457}	0.000000	1	0
	S 182.034 {485}	0.000000	1	0
	W 239.709 {140}	0.000000	1	0

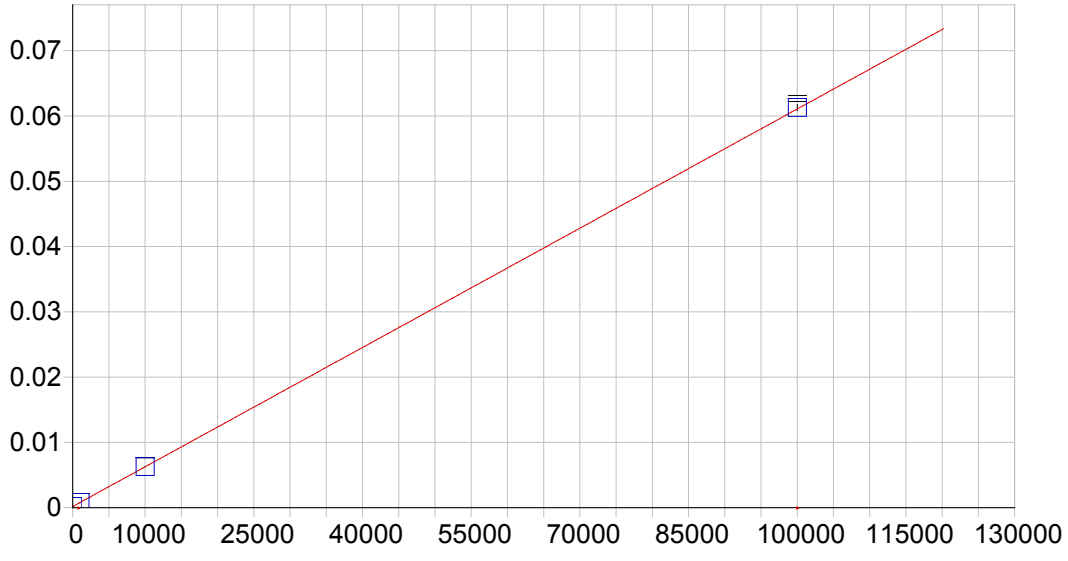


Ag 328.068 {103}

Date of Fit:	04/27/2016 10:03:59	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	-18.920482	Re-Slope:	1.000000
A1 (Gain):	3.129649	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999993	Status:	OK.
Std Error of Est:	0.715977		
Predicted MDL:	0.981491		
Predicted MQL:	3.271638		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.21743	.217	.000	-18.240	.956	1
CalStd5=10	10.000	9.7616	-.238	-2.38	11.630	2.61	1
CalStd8=100	100.00	100.02	.024	.024	294.12	3.07	1
CalStd3=1	1.0000	.99707	-.003	-.293	-15.800	1.48	1

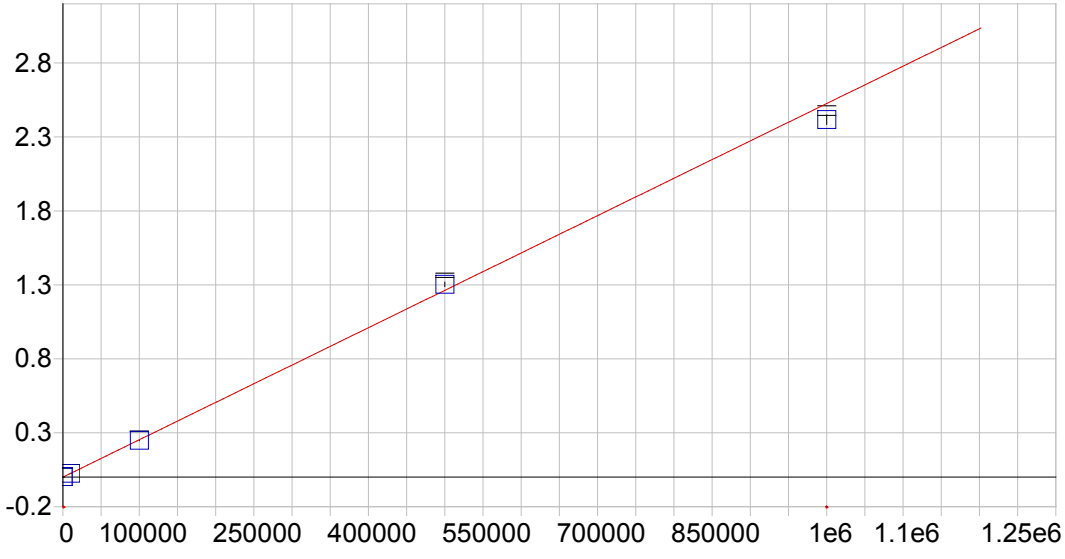


Al 309.271 {109}

Date of Fit:	04/27/2016 10:03:59	Type of Fit:	Curvilinear	Weighting:	None

A0 (Offset):	0.000172	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000013		
Predicted MDL:	17.200232		
Predicted MQL:	57.334106		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	14.425	14.4	.000	.00018	.000	1
CalStd10=10	10000.	10005.	5.17	.052	.00627	.000	1
CalStd9=100	1000.0	983.84	-16.2	-1.62	.00077	.000	1
CalStd12-100	100000.	100340.	339.	.339	.06129	.000	1

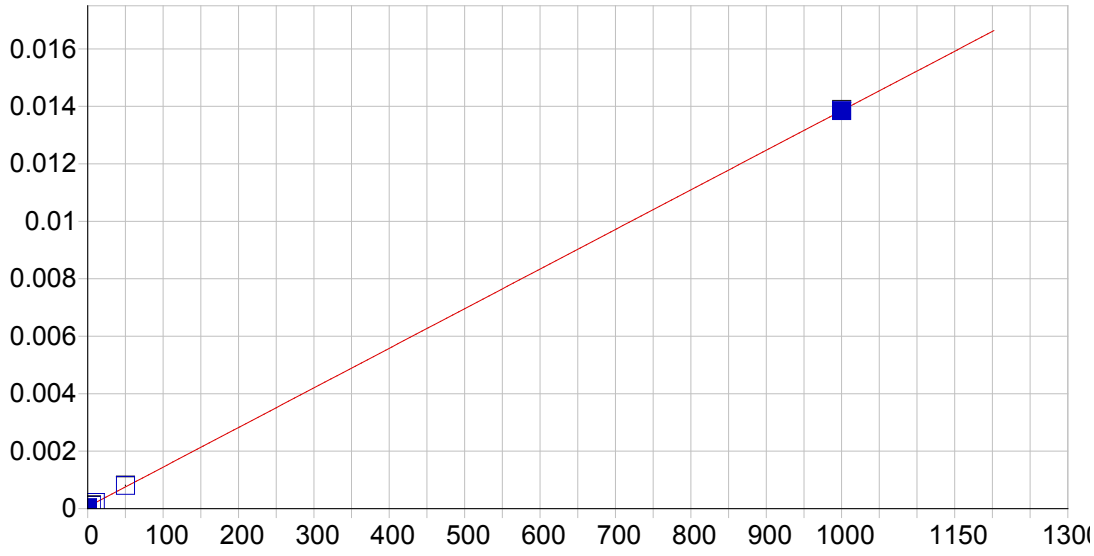


Al 396.152 { 85}

Date of Fit: 04/27/2016 10:03:59 Type of Fit: Full Fit Weighting: 1/Var

A0 (Offset):	-0.000017	Re-Slope:	1.000000
A1 (Gain):	0.000003	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999817	Status:	OK.
Std Error of Est:	0.000091		
Predicted MDL:	7.457040		
Predicted MQL:	24.856800		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	1.8456	1.85	.000	-.00001	.000	1
CalStd14-100	1000000.	956820.	-43200.	-4.32	2.4168	.032	1
CalStd13=50	500000.	515950.	15900.	3.19	1.3032	.014	1
CalStd10=10	10000.	10035.	35.1	.351	.02533	.000	1
CalStd12-100	100000.	98333.	-1670.	-1.67	.24836	.002	1
CalStd9=100	1000.0	951.81	-48.2	-4.82	.00239	.000	1

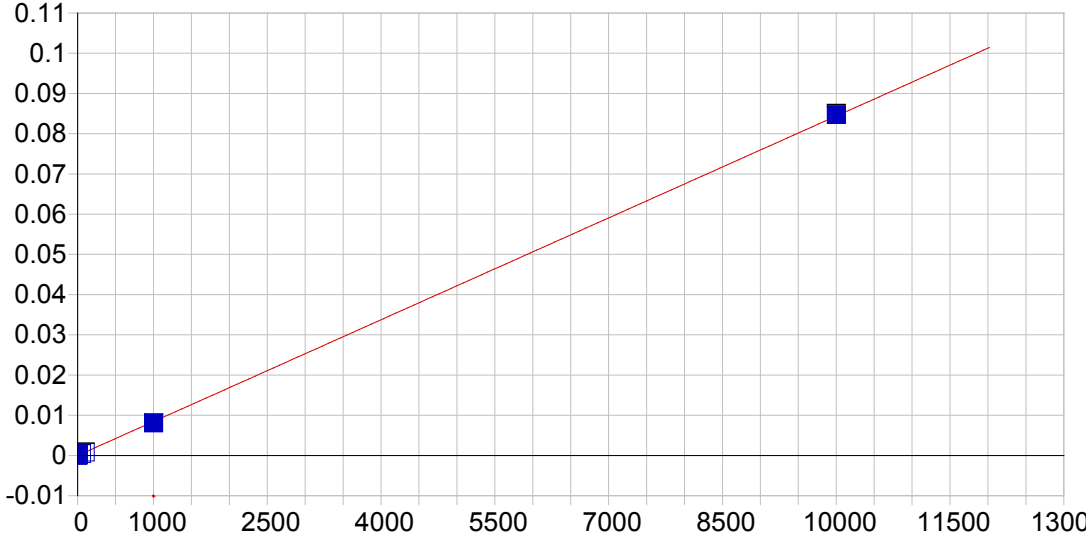


Al 167.079 {502}

Date of Fit:	04/27/2016 10:03:59	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000065	Re-Slope:	1.000000
A1 (Gain):	0.000014	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999986	Status:	OK.
Std Error of Est:	0.000037		
Predicted MDL:	1.228627		
Predicted MQL:	4.095424		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-2.8955	-2.90	.000	.00003	.000	1
CalStd9=100	1000.0	999.83	-.174	-.017	.01386	.000	1
CalStd5=10	10.000	10.703	.703	7.03	.00021	.000	1
CalStd4=5	5.0000	3.9155	-1.08	-21.7	.00012	.000	1
CalStd7=50	50.000	53.451	3.45	6.90	.00080	.000	1

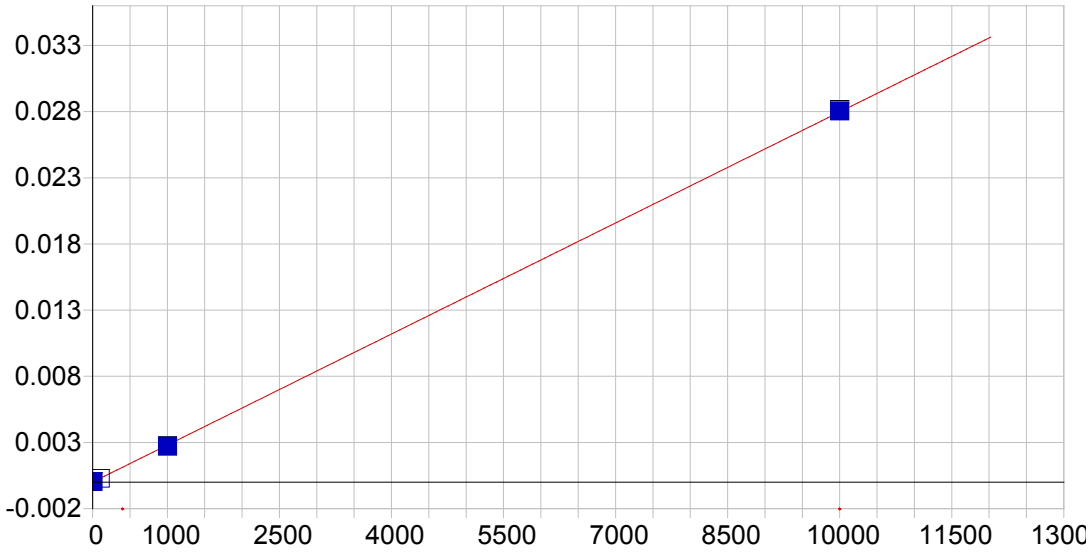


As 193.759 {474}

Date of Fit:	04/27/2016 10:03:59	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000016	Re-Slope:	1.000000
A1 (Gain):	0.000008	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999859	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	3.748872		
Predicted MQL:	12.496239		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00302	-.003	.000	-.00002	.000	1
CalStd9=100	1000.0	956.49	-43.5	-4.35	.00806	.000	1
CalStd7=50	50.000	51.575	1.58	3.15	.00042	.000	1
CalStd5=10	10.000	13.218	3.22	32.2	.00010	.000	1
CalStd8=100	100.00	98.788	-1.21	-1.21	.00082	.000	1
CalStd10=10	10000.	10040.	39.9	.399	.08472	.000	1

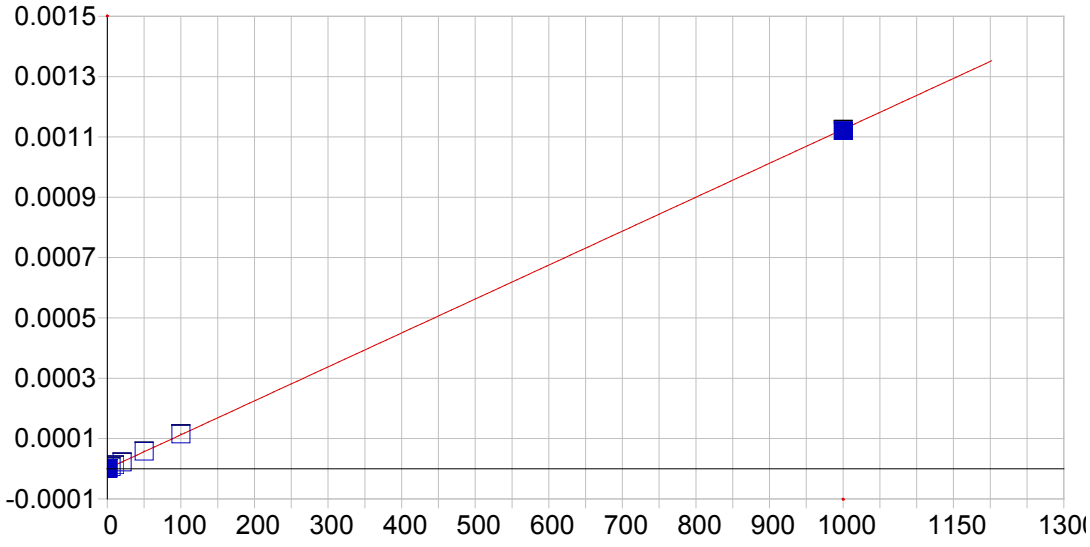


As 189.042 {479}

Date of Fit:	04/27/2016 10:03:59	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000008	Re-Slope:	1.000000
A1 (Gain):	0.000003	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999947	Status:	OK.
Std Error of Est:	0.000045		
Predicted MDL:	10.093833		
Predicted MQL:	33.646109		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	5.7050	5.70	.000	.00002	.000	1
CalStd9=100	1000.0	964.36	-35.6	-3.56	.00271	.000	1
CalStd10=10	10000.	10024.	24.1	.241	.02805	.000	1
CalStd8=100	100.00	99.983	-.017	-.017	.00029	.000	1
CalStd4=5	5.0000	12.886	7.89	158.	.00004	.000	1

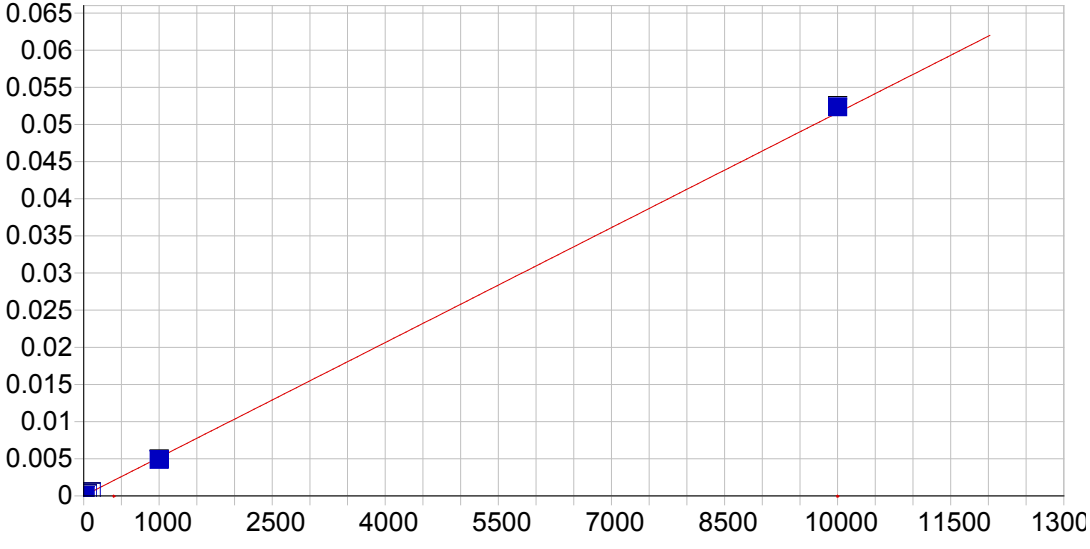


Ba 233.527 {445}

Date of Fit:	04/27/2016 10:03:59	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999899	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.293151		
Predicted MQL:	0.977171		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00014	.000	.000	.00000	.000	1
CalStd7=50	50.000	51.351	1.35	2.70	.00006	.000	1
CalStd5=10	10.000	10.951	.951	9.51	.00001	.000	1
CalStd6=20	20.000	19.295	-.705	-3.53	.00002	.000	1
CalStd8=100	100.00	102.21	2.21	2.21	.00012	.000	1
CalStd4=5	5.0000	5.3276	.328	6.55	.00001	.000	1
CalStd9=100	1000.0	995.89	-4.11	-.411	.00112	.000	1
CalStd3=1	1.0000	.97051	-.029	-2.95	.00000	.000	1

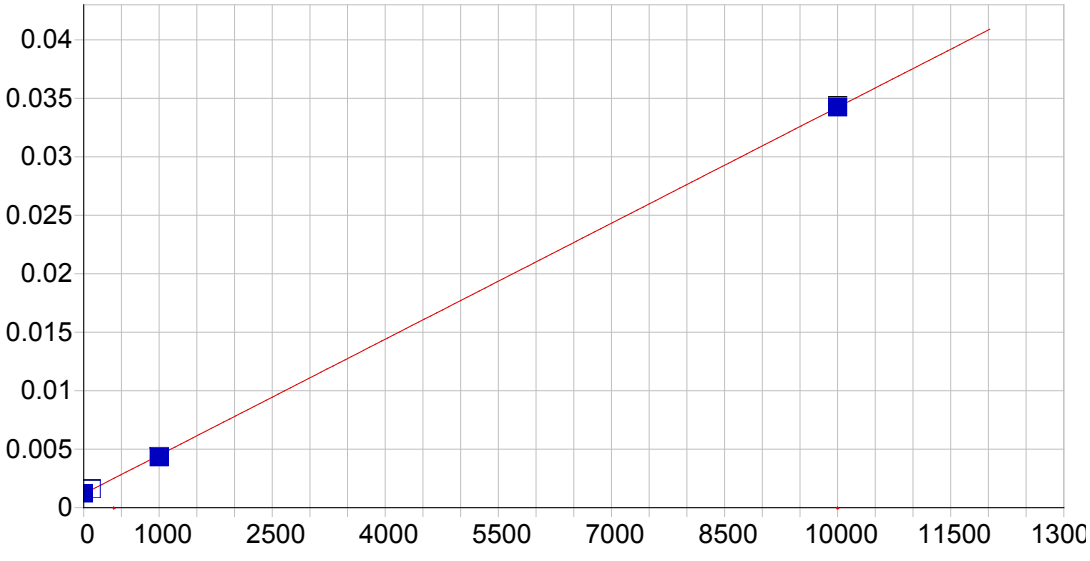


Ba 455.403 { 74}

Date of Fit:	04/27/2016 10:03:59	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000014	Re-Slope:	1.000000
A1 (Gain):	0.000005	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999601	Status:	OK.
Std Error of Est:	0.000004		
Predicted MDL:	0.355422		
Predicted MQL:	1.184740		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.24880	.249	.000	.00002	.000	1
CalStd7=50	50.000	48.815	-1.19	-2.37	.00027	.000	1
CalStd5=10	10.000	10.437	.437	4.37	.00007	.000	1
CalStd6=20	20.000	18.280	-1.72	-8.60	.00011	.000	1
CalStd8=100	100.00	96.778	-3.22	-3.22	.00051	.000	1
CalStd4=5	5.0000	4.9251	-.075	-1.50	.00004	.000	1
CalStd9=100	1000.0	944.49	-55.5	-5.55	.00489	.000	1
CalStd3=1	1.0000	1.0925	.093	9.25	.00002	.000	1
CalStd10=10	10000.	10152.	152.	1.52	.05238	.000	1

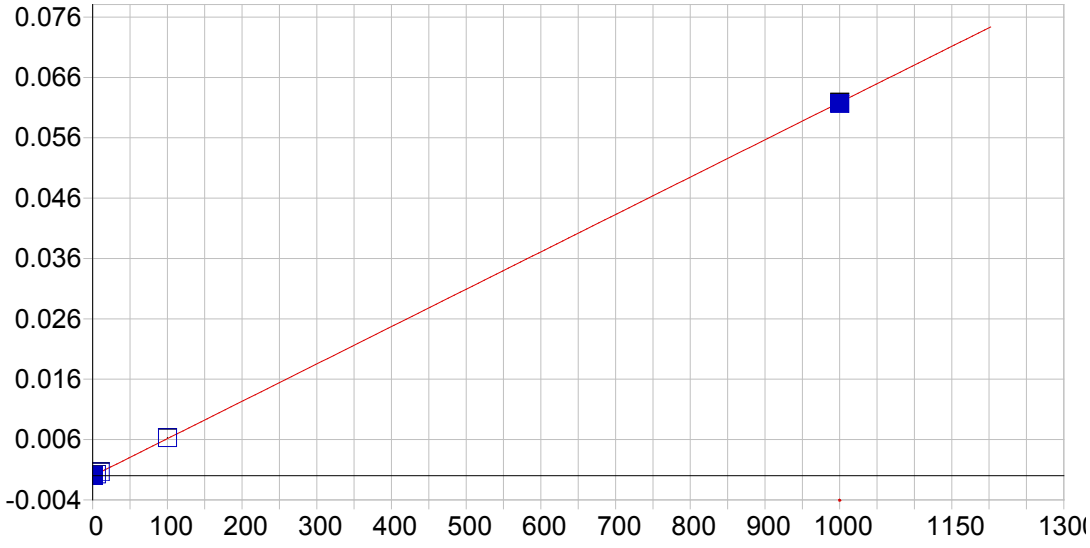


Ba 493.409 { 68}

Date of Fit:	04/27/2016 10:03:59	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.001182	Re-Slope:	1.000000
A1 (Gain):	0.000003	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999978	Status:	OK.
Std Error of Est:	0.000130		
Predicted MDL:	0.997991		
Predicted MQL:	3.326637		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	17.718	17.7	.000	.00124	.000	1
CalStd9=100	1000.0	953.57	-46.4	-4.64	.00434	.000	1
CalStd8=100	100.00	124.31	24.3	24.3	.00159	.000	1
CalStd10=10	10000.	10004.	4.40	.044	.03427	.000	1

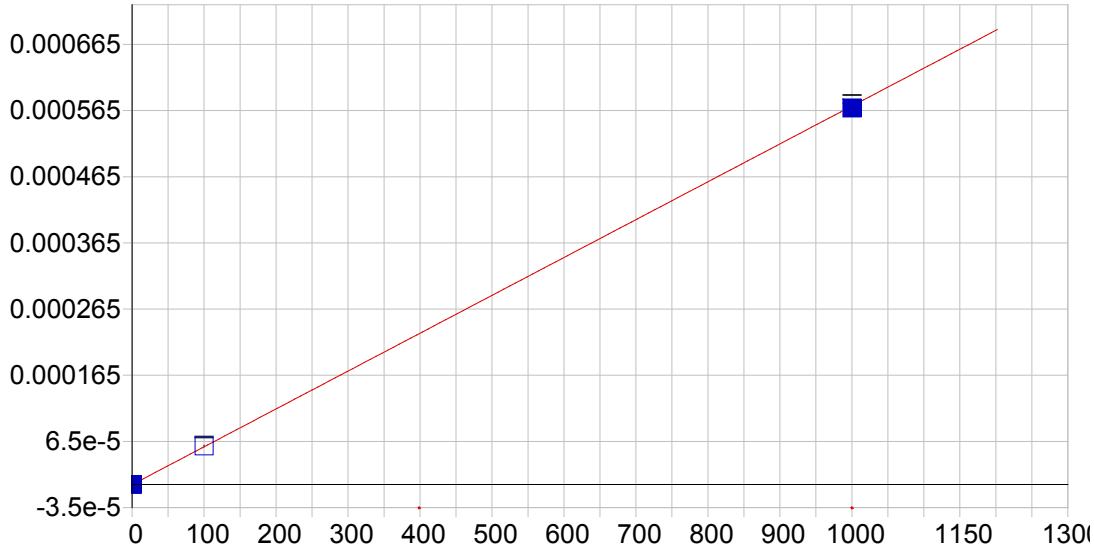


Be 313.042 {108}

Date of Fit:	04/27/2016 10:03:59	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000046	Re-Slope:	1.000000
A1 (Gain):	0.000062	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999951	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.033008		
Predicted MQL:	0.110027		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00006	.000	.000	-.00005	.000	1
CalStd5=10	10.000	10.603	.603	6.03	.00061	.000	1
CalStd8=100	100.00	102.42	2.42	2.42	.00629	.000	1
CalStd2=0.5	.50000	.53011	.030	6.02	-.00001	.000	1
CalStd4=5	5.0000	5.0989	.099	1.98	.00027	.000	1
CalStd1=0.25	.25000	.26444	.014	5.78	-.00003	.000	1
CalStd9=100	1000.0	996.83	-3.17	-.317	.06166	.000	1
CalStd3=1	1.0000	1.0117	.012	1.17	.00002	.000	1

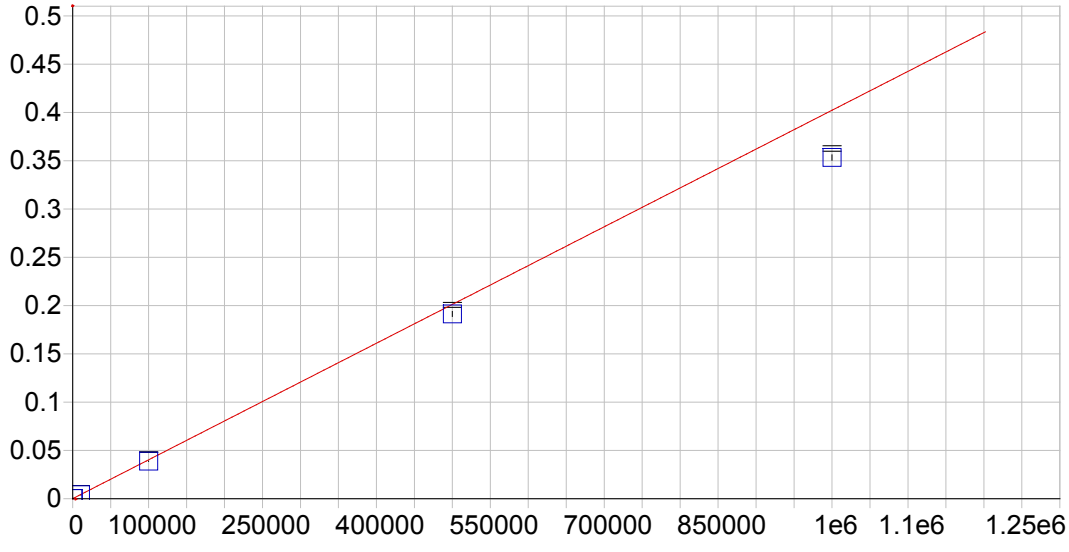


Be 234.861 {144}

Date of Fit:	04/27/2016 10:03:59	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999944	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.636316		
Predicted MQL:	2.121052		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.03145	-.031	.000	.00000	.000	1
CalStd9=100	1000.0	994.42	-5.58	-.558	.00057	.000	1
CalStd8=100	100.00	101.98	1.98	1.98	.00006	.000	1

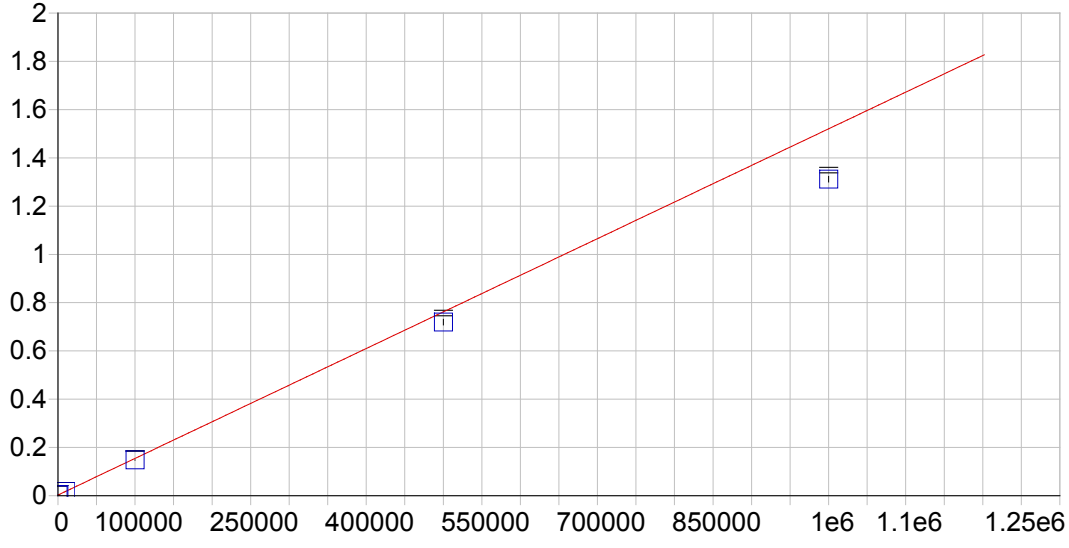


Ca 315.887 {107}

Date of Fit: 04/27/2016 10:03:59 Type of Fit: Curvilinear Weighting: 1/Conc

A0 (Offset):	0.000067	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999947	Status:	OK.
Std Error of Est:	0.000007		
Predicted MDL:	12.012461		
Predicted MQL:	40.041536		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.11664	.117	.000	.00007	.000	1
CalStd10=10	10000.	9602.3	-398.	-3.98	.00393	.000	1
CalStd13=50	500000.	475460.	-24500.	-4.91	.19129	.003	1
CalStd14-100	1000000.	878290.	-122000.	-12.2	.35330	.003	1
CalStd9=100	1000.0	938.10	-61.9	-6.19	.00044	.000	1
CalStd12-100	100000.	96360.	-3640.	-3.64	.03882	.000	1

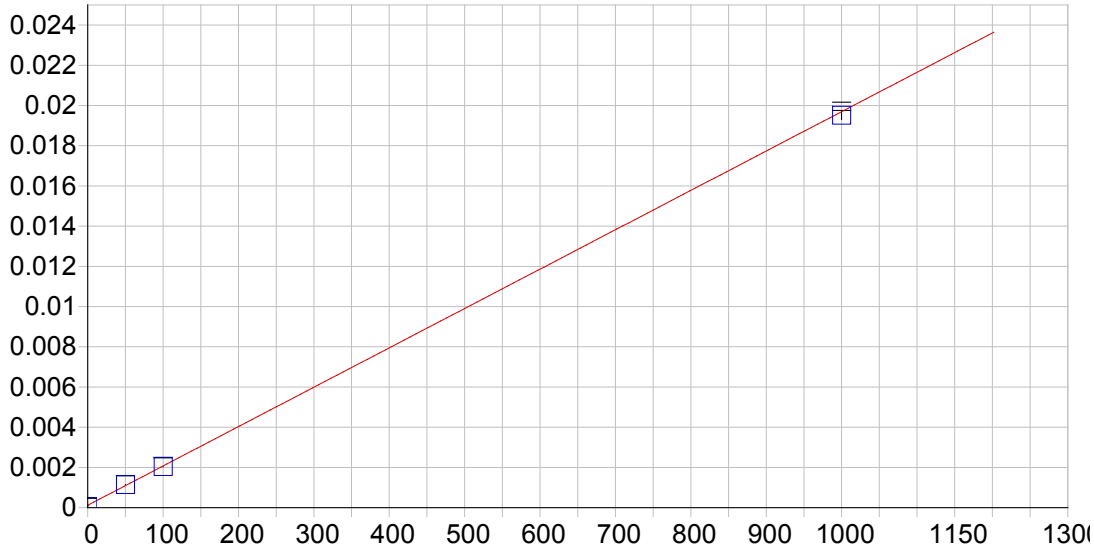


Ca 317.933 {106}

Date of Fit: 04/27/2016 10:03:59 Type of Fit: Curvilinear Weighting: 1/Conc

A0 (Offset):	0.002861	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999928	Status:	OK.
Std Error of Est:	0.000029		
Predicted MDL:	3.929175		
Predicted MQL:	13.097250		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.04434	-.044	.000	.00286	.000	1
CalStd10=10	10000.	9679.4	-321.	-3.21	.01755	.000	1
CalStd13=50	500000.	472100.	-27900.	-5.58	.71931	.011	1
CalStd14-100	1000000.	862400.	-138000.	-13.8	1.3116	.011	1
CalStd9=100	1000.0	1096.0	96.0	9.60	.00452	.000	1
CalStd12-100	100000.	95632.	-4370.	-4.37	.14799	.001	1

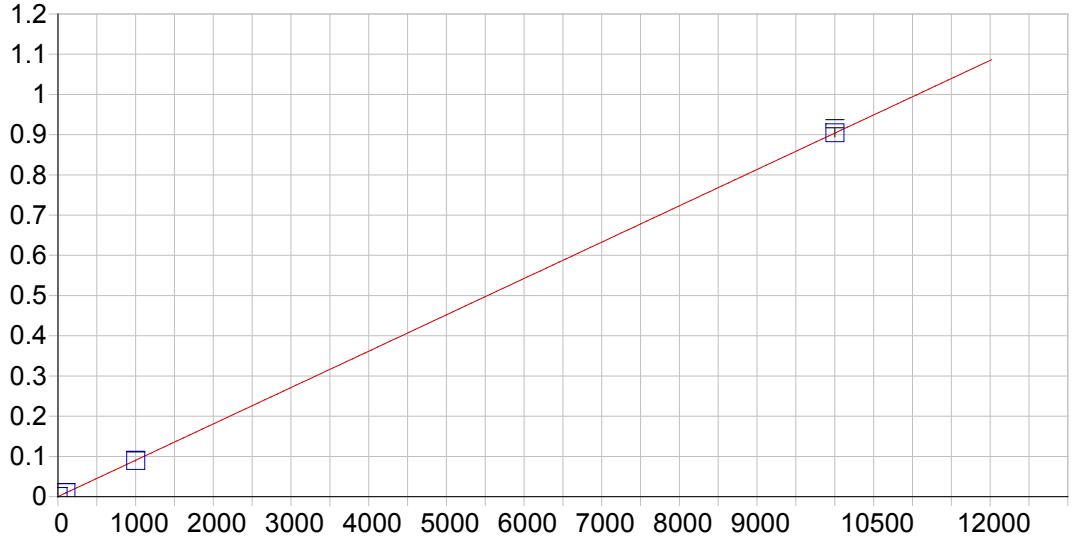


Ca 393.366 { 86}

Date of Fit:	04/27/2016 10:03:59	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000117	Re-Slope:	1.000000
A1 (Gain):	0.000020	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998177	Status:	OK.
Std Error of Est:	0.000074		
Predicted MDL:	0.064184		
Predicted MQL:	0.213945		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-4.3510	-4.35	.000	.00003	.000	1
CalStd7=50	50.000	52.360	2.36	4.72	.00114	.000	1
CalStd9=100	1000.0	990.56	-9.44	-.944	.01951	.000	1
CalStd8=100	100.00	98.214	-1.79	-1.79	.00204	.000	1

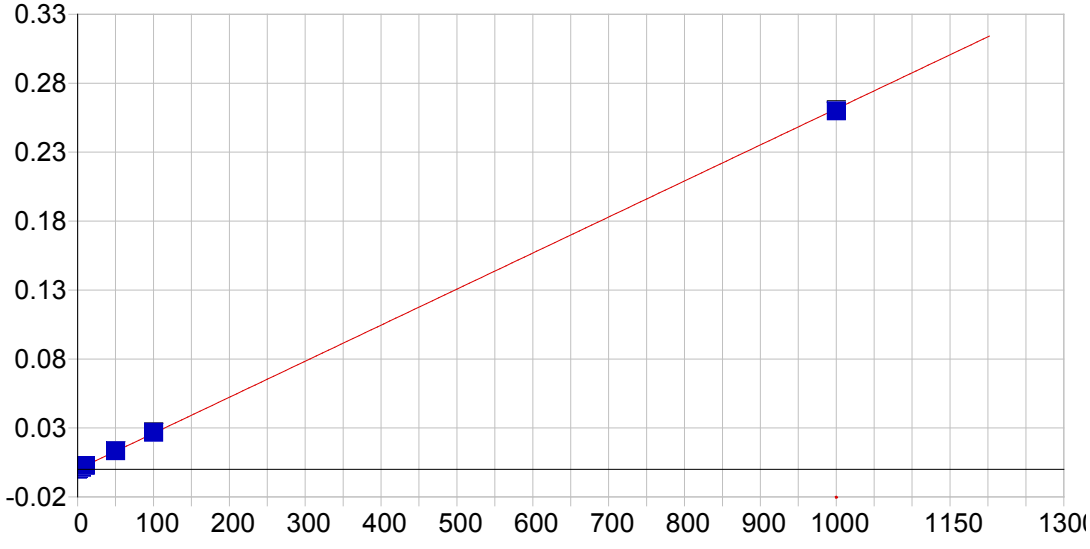


Ca 396.847 { 85}

Date of Fit:	04/27/2016 10:03:59	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000144	Re-Slope:	1.000000
A1 (Gain):	0.000090	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999991	Status:	OK.
Std Error of Est:	0.000019		
Predicted MDL:	0.135793		
Predicted MQL:	0.452642		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00224	-.002	.000	.00014	.000	1
CalStd10=10	10000.	10007.	7.00	.070	.90456	.010	1
CalStd8=100	100.00	103.19	3.19	3.19	.00947	.000	1
CalStd9=100	1000.0	989.82	-10.2	-1.02	.08960	.001	1

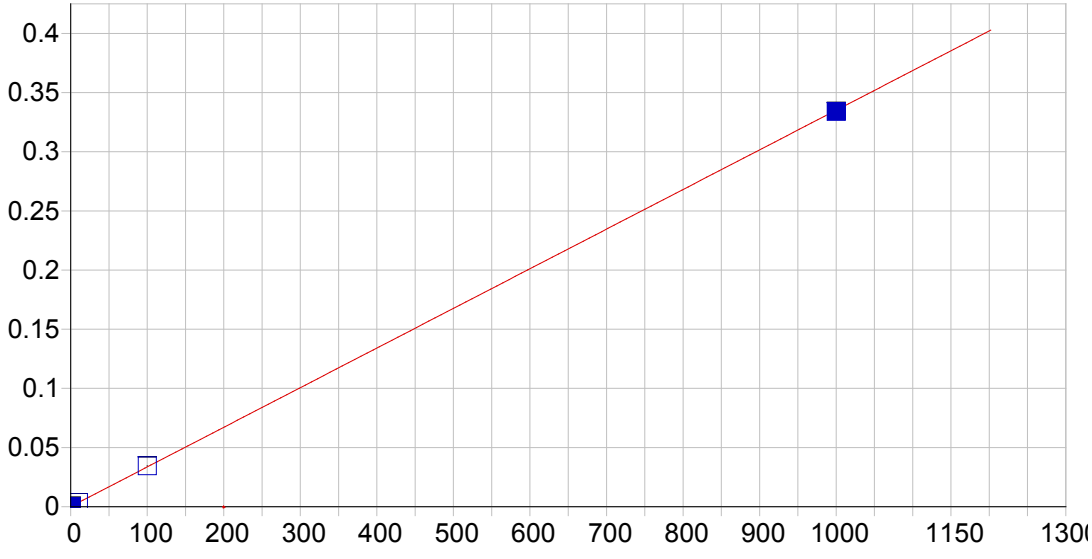


Cd 226.502 {449}

Date of Fit:	04/27/2016 10:03:59	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000018	Re-Slope:	1.000000
A1 (Gain):	0.000261	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999822	Status:	OK.
Std Error of Est:	0.000004		
Predicted MDL:	0.212649		
Predicted MQL:	0.708829		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00047	.000	.000	-.00002	.000	1
CalStd7=50	50.000	51.418	1.42	2.84	.01342	.000	1
CalStd3=1	1.0000	1.2727	.273	27.3	.00031	.000	1
CalStd2=0.5	.50000	.74971	.250	49.9	.00018	.000	1
CalStd4=5	5.0000	5.2409	.241	4.82	.00135	.000	1
CalStd8=100	100.00	102.71	2.71	2.71	.02683	.000	1
CalStd5=10	10.000	10.769	.769	7.69	.00280	.000	1
CalStd9=100	1000.0	994.34	-5.66	-.566	.25994	.001	1

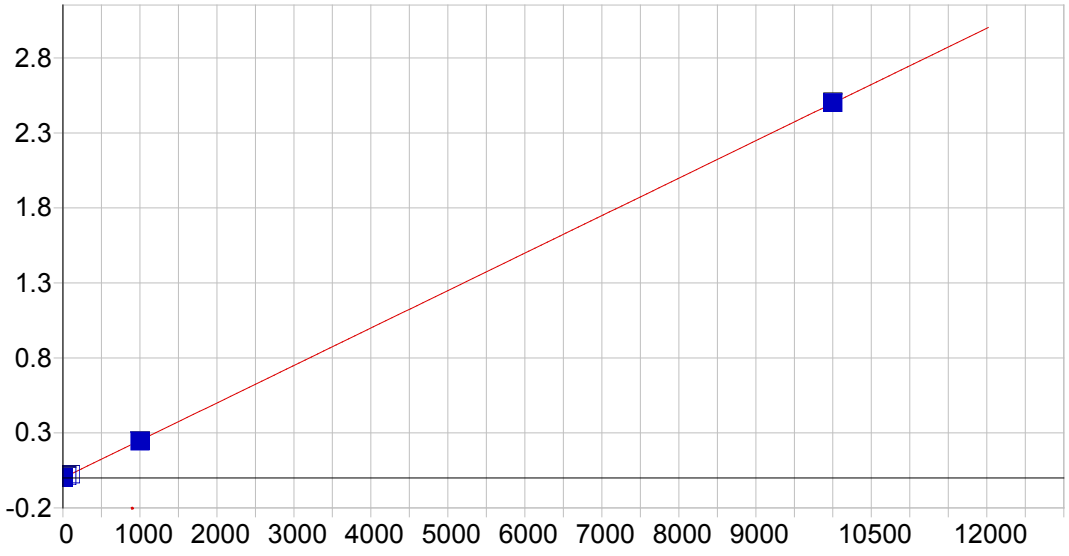


Cd 228.802 {447}

Date of Fit: 04/27/2016 10:03:59 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	0.000103	Re-Slope:	1.000000
A1 (Gain):	0.000335	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999928	Status:	OK.
Std Error of Est:	0.000004		
Predicted MDL:	0.192600		
Predicted MQL:	0.642000		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00001	.000	.000	.00010	.000	1
CalStd9=100	1000.0	996.58	-3.42	-.342	.33401	.000	1
CalStd8=100	100.00	102.72	2.72	2.72	.03451	.000	1
CalStd2=0.5	.50000	.47973	-.020	-4.05	.00026	.000	1
CalStd3=1	1.0000	.91249	-.088	-8.75	.00041	.000	1
CalStd5=10	10.000	10.807	.807	8.07	.00372	.000	1

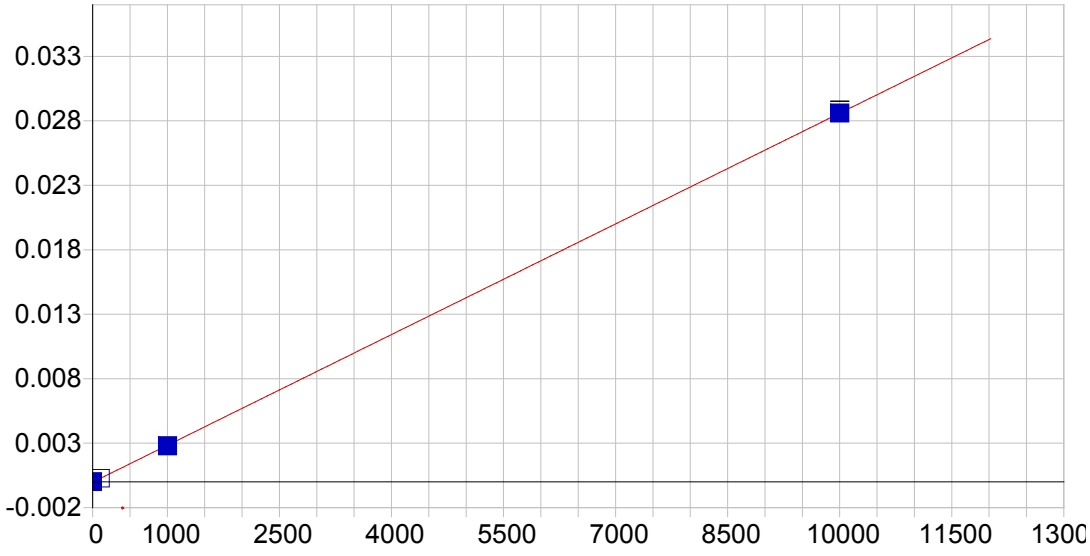


Co 228.616 {447}

Date of Fit:	04/27/2016 10:03:59	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000091	Re-Slope:	1.000000
A1 (Gain):	0.000250	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999983	Status:	OK.
Std Error of Est:	0.000006		
Predicted MDL:	0.251984		
Predicted MQL:	0.839948		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00023	.000	.000	-.00009	.000	1
CalStd7=50	50.000	51.310	1.31	2.62	.01273	.000	1
CalStd5=10	10.000	10.531	.531	5.31	.00254	.000	1
CalStd4=5	5.0000	5.1252	.125	2.50	.00119	.000	1
CalStd8=100	100.00	100.75	.752	.752	.02508	.000	1
CalStd9=100	1000.0	983.30	-16.7	-1.67	.24554	.000	1
CalStd3=1	1.0000	1.1335	.134	13.4	.00019	.000	1
CalStd10=10	10000.	10014.	13.8	.138	2.5014	.003	1

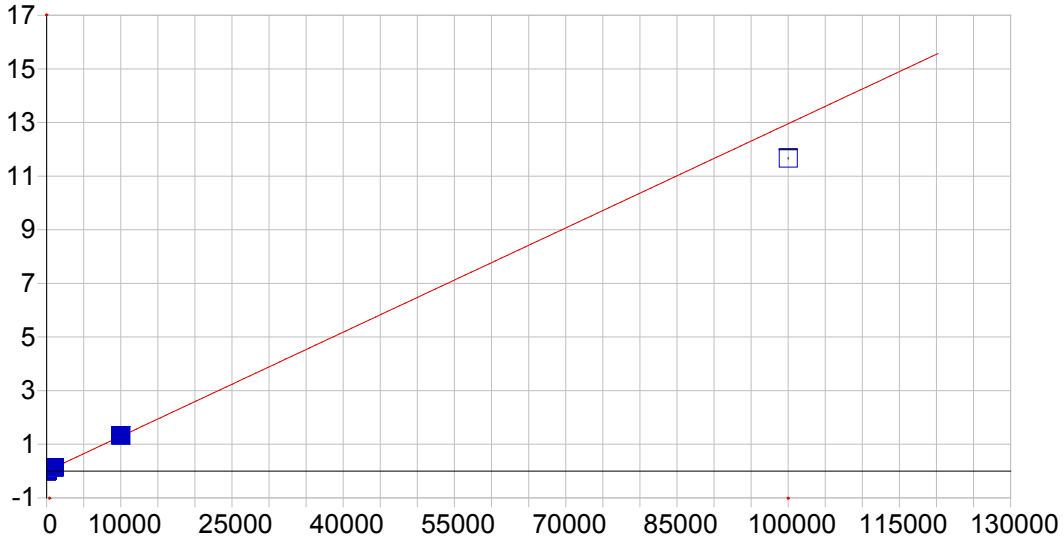


Co 238.892 {141}

Date of Fit:	04/27/2016 10:03:59	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	-0.000024	Re-Slope:	1.000000
A1 (Gain):	0.000003	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999997	Status:	OK.
Std Error of Est:	0.000045		
Predicted MDL:	0.672132		
Predicted MQL:	2.240439		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	8.1824	8.18	.000	.00000	.000	1
CalStd9=100	1000.0	981.46	-18.5	-1.85	.00279	.000	1
CalStd10=10	10000.	10002.	1.77	.018	.02860	.000	1
CalStd8=100	100.00	108.59	8.59	8.59	.00029	.000	1

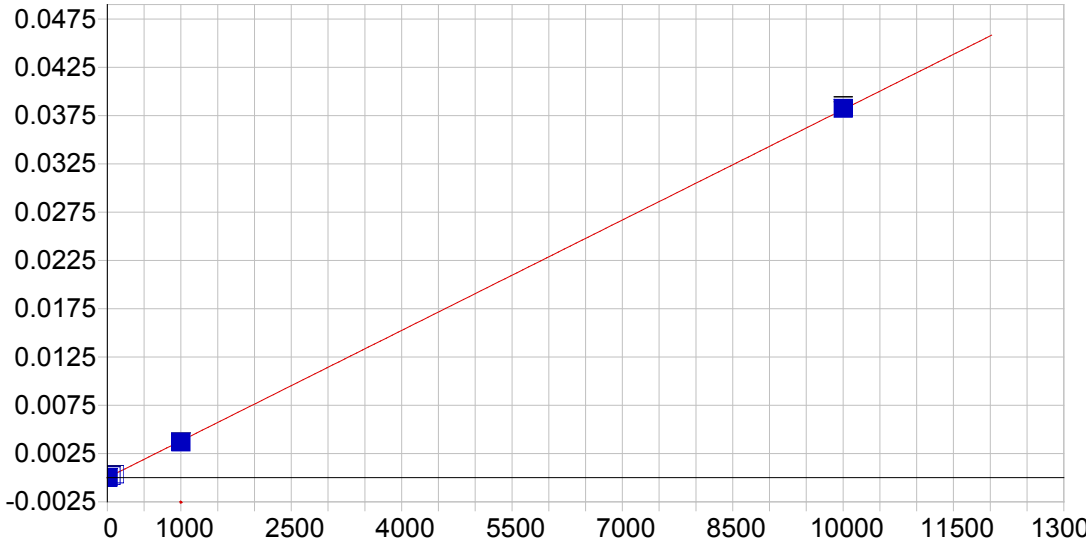


Cr 205.560 {464}

Date of Fit:	04/27/2016 10:03:59	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-0.000013	Re-Slope:	1.000000
A1 (Gain):	0.000130	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999633	Status:	OK.
Std Error of Est:	0.000978		
Predicted MDL:	0.253634		
Predicted MQL:	0.845446		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.57029	-.570	.000	-.00009	.000	1
CalStd5=10	10.000	10.269	.269	2.69	.00132	.000	1
CalStd7=50	50.000	51.602	1.60	3.20	.00667	.000	1
CalStd9=100	1000.0	1002.8	2.80	.280	.12989	.000	1
CalStd8=100	100.00	101.67	1.67	1.67	.01316	.000	1
CalStd4=5	5.0000	4.5958	-.404	-8.08	.00058	.000	1
CalStd3=1	1.0000	.43232	-.568	-56.8	.00004	.000	1
CalStd11-100	100000.	90035.	-9970.	-9.97	11.663	.016	1
CalStd10=10	10000.	10221.	221.	2.21	1.3240	.001	1

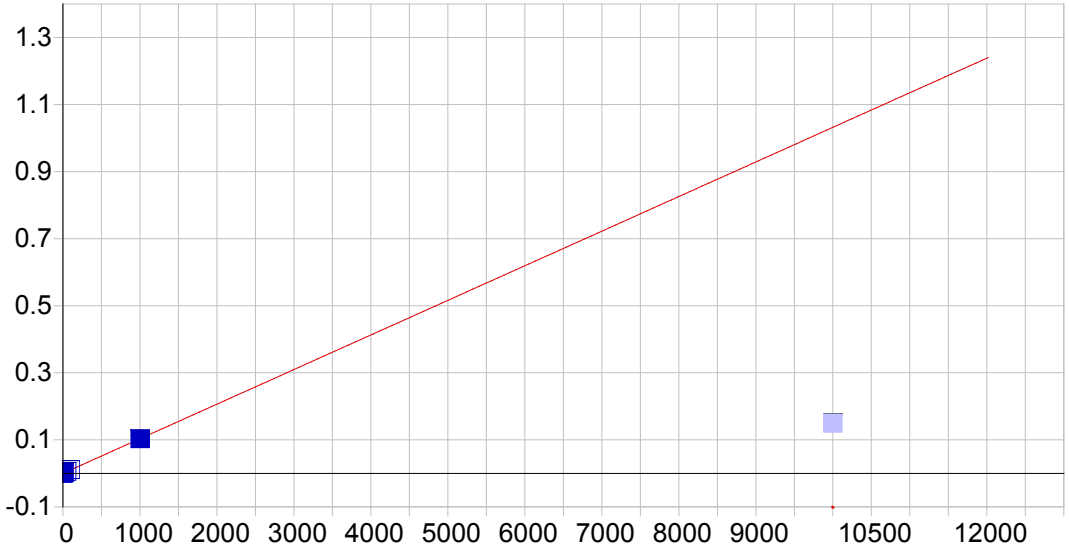


Cr 267.716 {126}

Date of Fit: 04/27/2016 10:03:59 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	-0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000004	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999951	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.593189		
Predicted MQL:	1.977297		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00025	.000	.000	.00000	.000	1
CalStd5=10	10.000	10.196	.196	1.96	.00004	.000	1
CalStd7=50	50.000	49.912	-.088	-.176	.00019	.000	1
CalStd9=100	1000.0	968.99	-31.0	-3.10	.00369	.000	1
CalStd8=100	100.00	98.598	-1.40	-1.40	.00038	.000	1
CalStd4=5	5.0000	4.8658	-.134	-2.68	.00002	.000	1
CalStd10=10	10000.	10032.	32.4	.324	.03825	.000	1

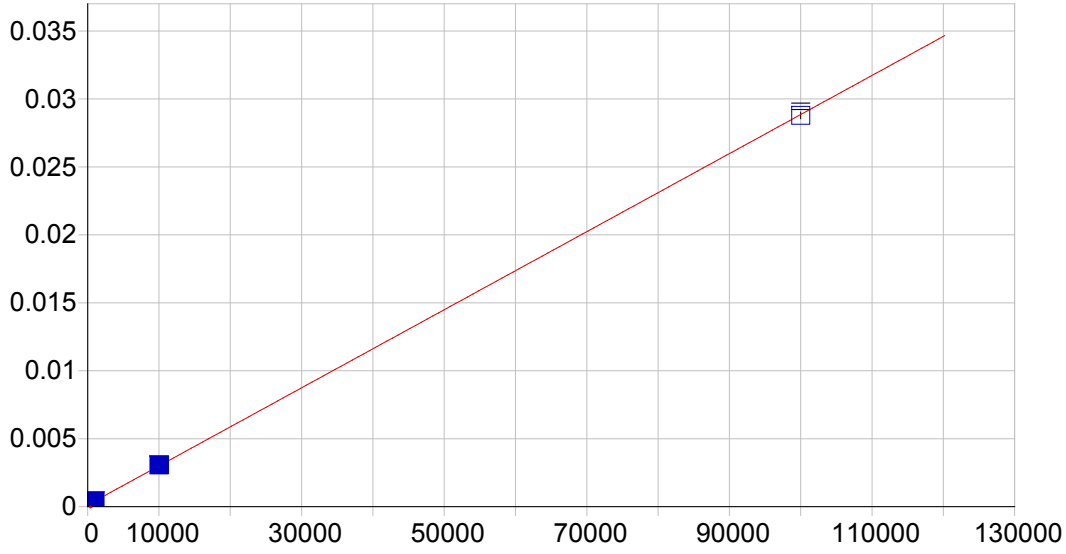


Cu 224.700 {450}

Date of Fit:	04/27/2016 10:03:59	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-0.000006	Re-Slope:	1.000000
A1 (Gain):	0.000103	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999962	Status:	OK.
Std Error of Est:	0.000107		
Predicted MDL:	0.660310		
Predicted MQL:	2.201035		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.45756	-.458	.000	-.00005	.000	1
CalStd9=100	1000.0	997.86	-2.14	-.214	.10299	.000	1
CalStd7=50	50.000	51.572	1.57	3.14	.00532	.000	1
CalStd8=100	100.00	102.48	2.48	2.48	.01057	.000	1
CalStd5=10	10.000	10.112	.112	1.12	.00104	.000	1
CalStd10=10	10000.	1449.1	-8550.	-85.5	.14960	.001	0
CalStd4=5	5.0000	5.1512	.151	3.02	.00053	.000	1
CalStd6=20	20.000	18.907	-1.09	-5.46	.00195	.000	1
CalStd3=1	1.0000	.80514	-.195	-19.5	.00008	.000	1

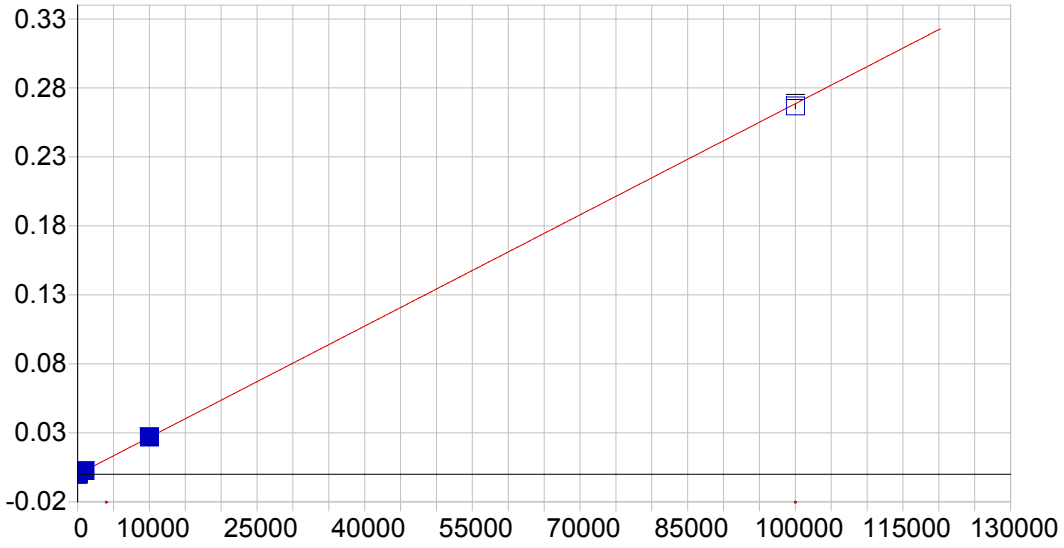


Cu 324.754 {104}

Date of Fit:	04/27/2016 10:03:59	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000127	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999927	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	3.121189		
Predicted MQL:	10.403964		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.03487	-.035	.000	.00013	.000	1
CalStd9=100	1000.0	991.22	-8.78	-.878	.00041	.000	1
CalStd8=100	100.00	133.94	33.9	33.9	.00017	.000	1
CalStd10=10	10000.	10204.	204.	2.04	.00306	.000	1
CalStd11-100	100000.	99771.	-229.	-.229	.02879	.000	1

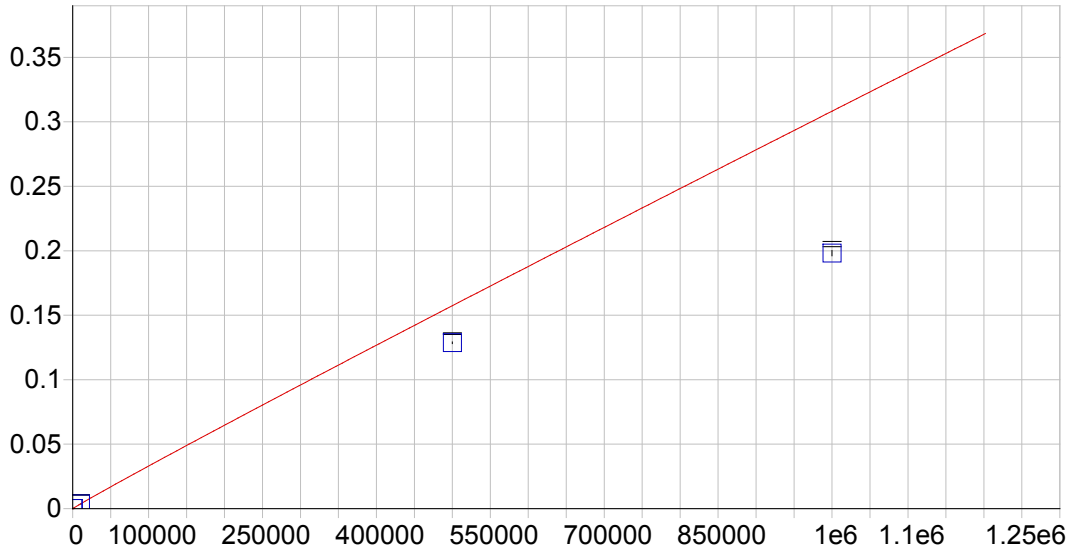


Cu 327.396 {103}

Date of Fit: 04/27/2016 10:03:59 Type of Fit: Curvilinear Weighting: 1/Conc

A0 (Offset):	-0.000058	Re-Slope:	1.000000
A1 (Gain):	0.000003	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999993	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	4.283851		
Predicted MQL:	14.279503		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00326	.003	.000	-.00006	.000	1
CalStd6=20	20.000	18.162	-1.84	-9.19	-.00001	.000	1
CalStd7=50	50.000	48.982	-1.02	-2.04	.00007	.000	1
CalStd8=100	100.00	97.704	-2.30	-2.30	.00020	.000	1
CalStd9=100	1000.0	967.90	-32.1	-3.21	.00254	.000	1
CalStd10=10	10000.	10035.	34.8	.348	.02690	.000	1
CalStd11-100	100000.	99375.	-625.	-.625	.26691	.002	1

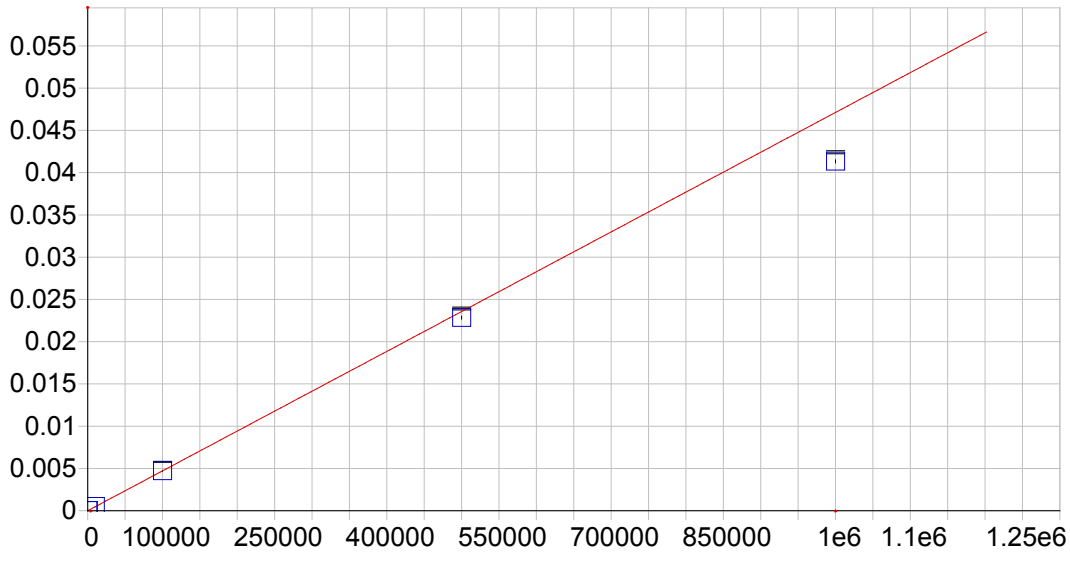


Fe 234.349 {144}

Date of Fit:	04/27/2016 10:03:59	Type of Fit:	Full Fit	Weighting:	1/Conc

A0 (Offset):	0.000019	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	0.970000		
Correlation:	0.999992	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	1.472506		
Predicted MQL:	4.908353		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.05877	.059	.000	.00002	.000	1
CalStd10=10	10000.	10060.	59.5	.595	.00358	.000	1
CalStd13=50	500000.	406290.	-93700.	-18.7	.12868	.001	1
CalStd14-100	1000000.	634060.	-366000.	-36.6	.19814	.002	1
CalStd9=100	1000.0	909.01	-91.0	-9.10	.00036	.000	1

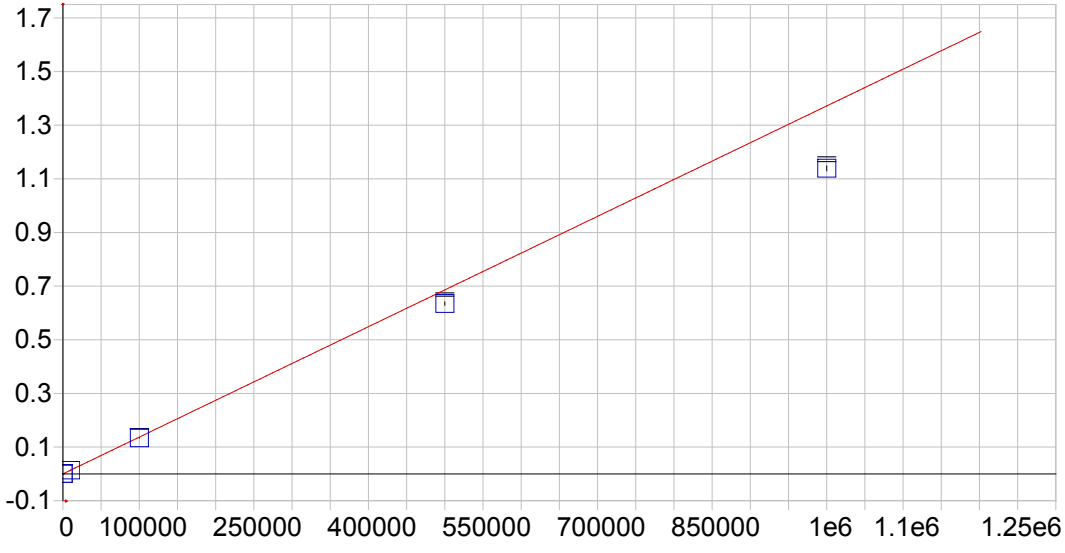


Fe 239.562 {140}

Date of Fit:	04/27/2016 10:03:59	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998665	Status:	OK.
Std Error of Est:	0.000011		
Predicted MDL:	9.734487		
Predicted MQL:	32.448291		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-2.9328	-2.93	.000	.00000	.000	1
CalStd10=10	10000.	10194.	194.	1.94	.00048	.000	1
CalStd13=50	500000.	484940.	-15100.	-3.01	.02285	.000	1
CalStd14-100	1000000.	877260.	-123000.	-12.3	.04134	.000	1
CalStd9=100	1000.0	945.86	-54.1	-5.41	.00005	.000	1
CalStd12-100	100000.	100080.	80.1	.080	.00472	.000	1

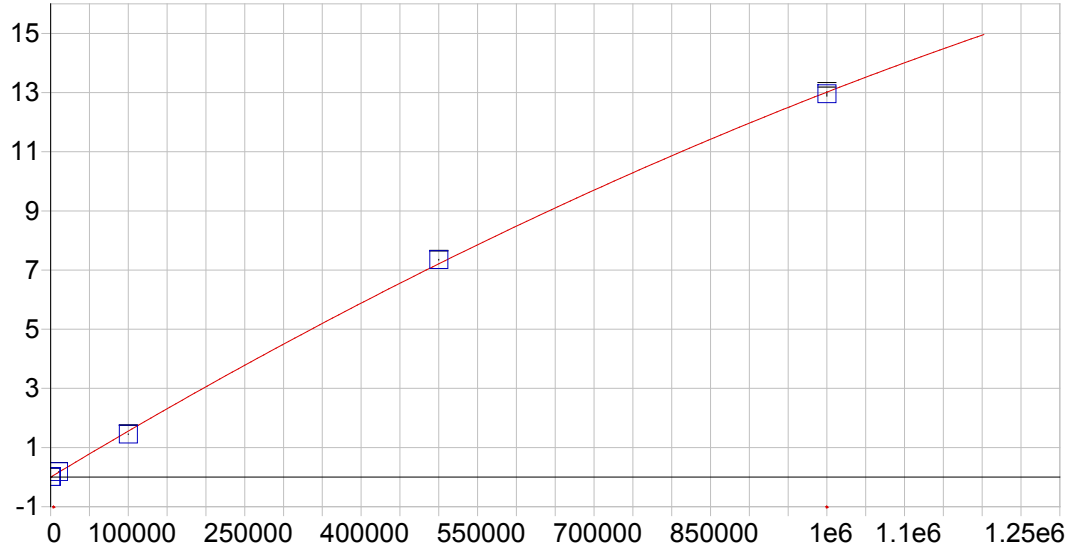


Fe 259.940 {129}

Date of Fit:	04/27/2016 10:03:59	Type of Fit:	Curvilinear	Weighting:	1/Var

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999954	Status:	OK.
Std Error of Est:	0.000020		
Predicted MDL:	4.045690		
Predicted MQL:	13.485632		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	2.0475	2.05	.000	.00000	.000	1
CalStd10=10	10000.	10061.	60.5	.605	.01380	.000	1
CalStd13=50	500000.	462810.	-37200.	-7.44	.63494	.006	1
CalStd14-100	1000000.	830520.	-169000.	-16.9	1.1394	.009	1
CalStd9=100	1000.0	973.22	-26.8	-2.68	.00134	.000	1
CalStd12-100	100000.	97938.	-2060.	-2.06	.13436	.001	1

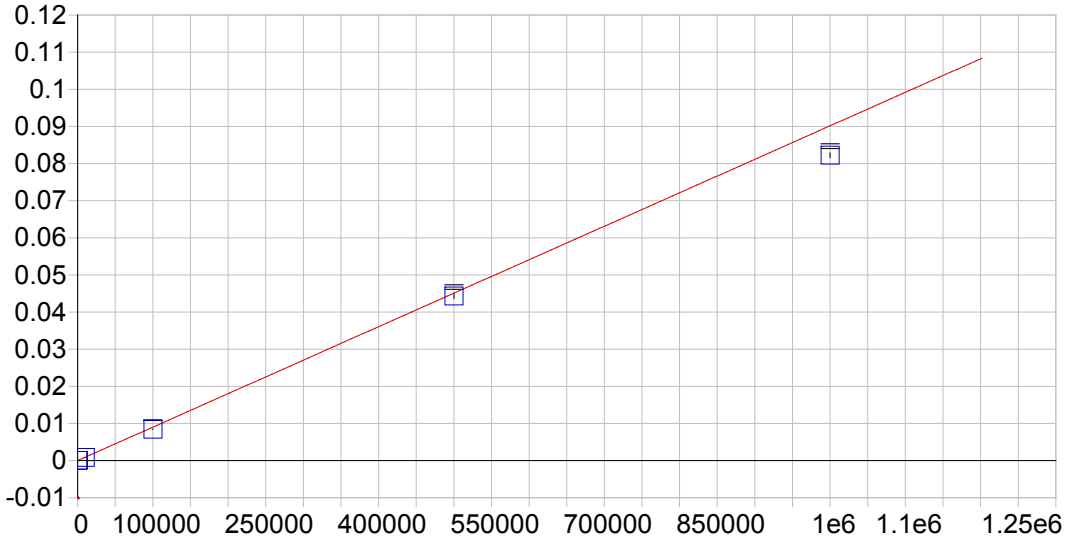


Mg 202.582 {466}

Date of Fit:	04/27/2016 10:03:59	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	-0.000055	Re-Slope:	1.000000
A1 (Gain):	0.000016	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999647	Status:	OK.
Std Error of Est:	0.000651		
Predicted MDL:	2.555984		
Predicted MQL:	8.519948		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.24948	-.249	.000	-.00006	.000	1
CalStd13=50	500000.	510510.	10500.	2.10	7.3476	.011	1
CalStd10=10	10000.	11508.	1510.	15.1	.18175	.000	1
CalStd14-100	1000000.	994320.	-5680.	-.568	12.957	.078	1
CalStd12-100	100000.	93156.	-6840.	-6.84	1.4502	.003	1
CalStd9=100	1000.0	1151.8	152.	15.2	.01817	.000	1

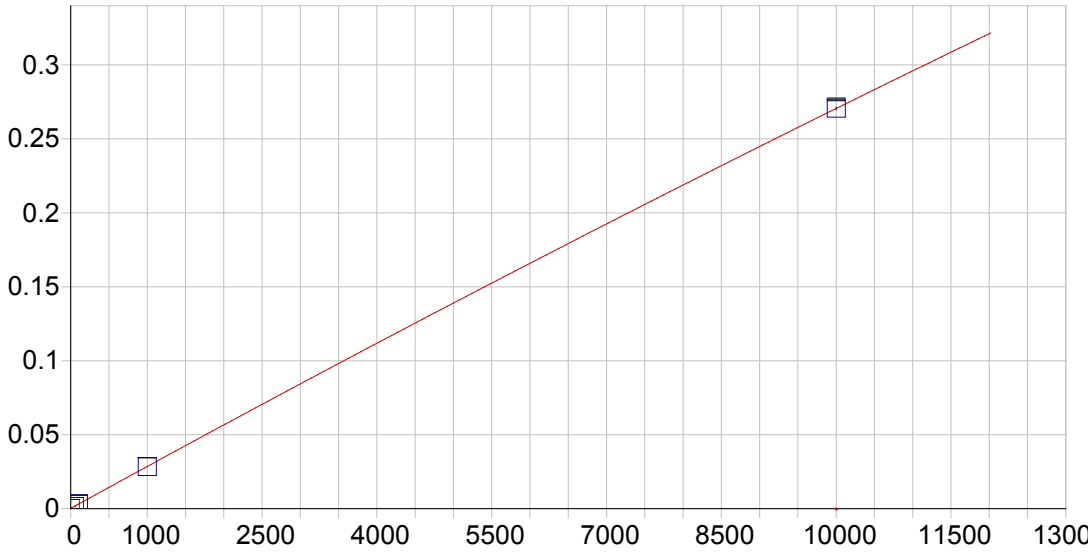


Mg 279.079 {121}

Date of Fit:	04/27/2016 10:03:59	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	-0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999748	Status:	OK.
Std Error of Est:	0.000003		
Predicted MDL:	34.627090		
Predicted MQL:	115.423632		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.24088	.241	.000	.00000	.000	1
CalStd13=50	500000.	491270.	-8730.	-1.75	.04430	.001	1
CalStd10=10	10000.	9208.6	-791.	-7.91	.00083	.000	1
CalStd14-100	1000000.	911860.	-88100.	-8.81	.08222	.001	1
CalStd12-100	100000.	93533.	-6470.	-6.47	.00843	.000	1
CalStd9=100	1000.0	875.25	-125.	-12.5	.00008	.000	1

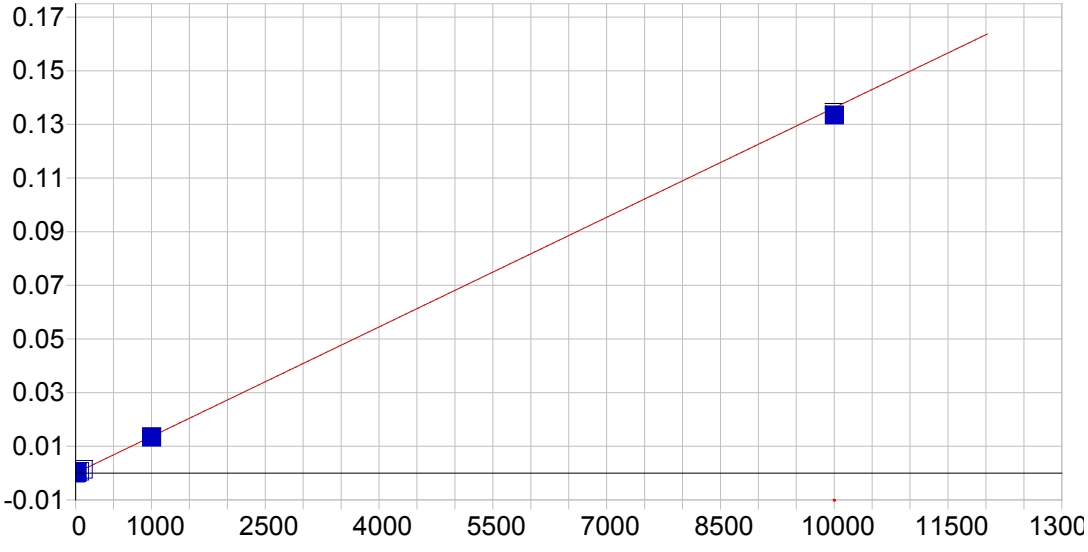


Mg 280.270 {120}

Date of Fit: 04/27/2016 10:03:59 Type of Fit: Curvilinear Weighting: 1/Conc

A0 (Offset):	0.000164	Re-Slope:	1.000000
A1 (Gain):	0.000028	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999988	Status:	OK.
Std Error of Est:	0.000005		
Predicted MDL:	0.039355		
Predicted MQL:	0.131185		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00359	-.004	.000	.00016	.000	1
CalStd9=100	1000.0	994.14	-5.86	-.586	.02835	.000	1
CalStd10=10	10000.	10001.	.602	.006	.27057	.001	1
CalStd8=100	100.00	102.78	2.78	2.78	.00309	.000	1
CalStd7=50	50.000	52.489	2.49	4.98	.00166	.000	1

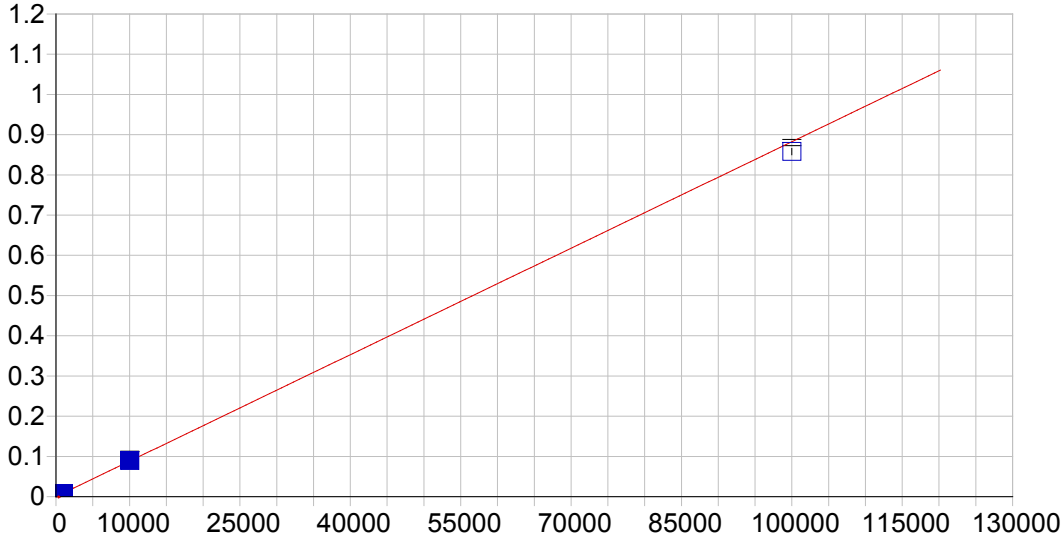


Mn 257.610 {131}

Date of Fit:	04/27/2016 10:03:59	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000004	Re-Slope:	1.000000
A1 (Gain):	0.000014	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999611	Status:	OK.
Std Error of Est:	0.000008		
Predicted MDL:	0.084328		
Predicted MQL:	0.281092		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.26580	-.266	.000	.00000	.000	1
CalStd5=10	10.000	10.538	.538	5.38	.00015	.000	1
CalStd7=50	50.000	50.958	.958	1.92	.00070	.000	1
CalStd6=20	20.000	19.084	-.916	-4.58	.00026	.000	1
CalStd8=100	100.00	101.31	1.31	1.31	.00138	.000	1
CalStd4=5	5.0000	4.9763	-.024	-.474	.00007	.000	1
CalStd9=100	1000.0	981.66	-18.3	-1.83	.01338	.000	1
CalStd10=10	10000.	9798.5	-201.	-2.01	.13348	.001	1

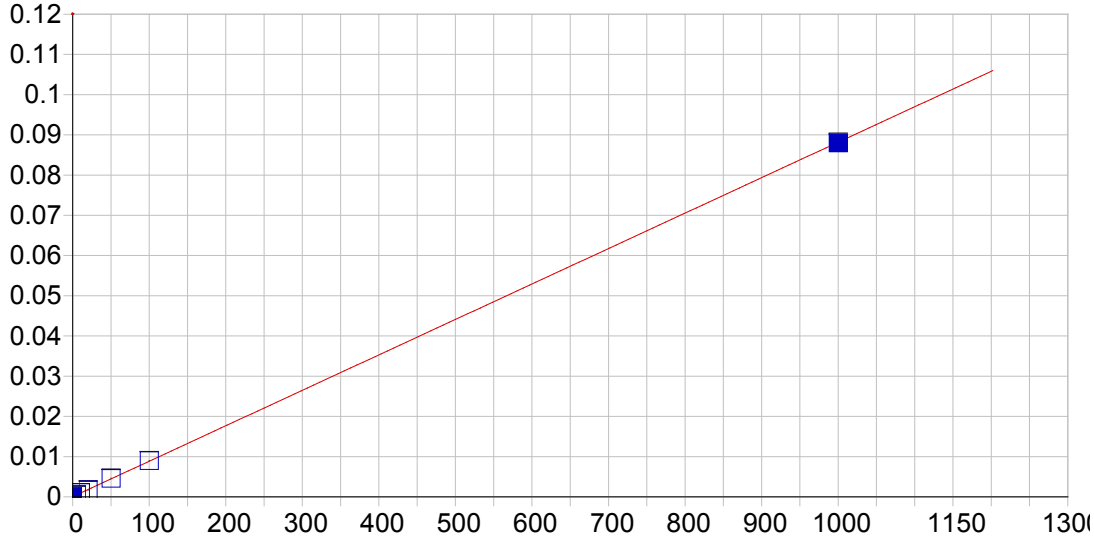


Mn 259.373 {130}

Date of Fit:	04/27/2016 10:03:59	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000006	Re-Slope:	1.000000
A1 (Gain):	0.000009	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999833	Status:	OK.
Std Error of Est:	0.000041		
Predicted MDL:	0.625400		
Predicted MQL:	2.084668		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.07021	.070	.000	.00001	.000	1
CalStd10=10	10000.	10150.	150.	1.50	.08968	.000	1
CalStd11-100	100000.	97219.	-2780.	-2.78	.85792	.008	1
CalStd9=100	1000.0	985.84	-14.2	-1.42	.00872	.000	1

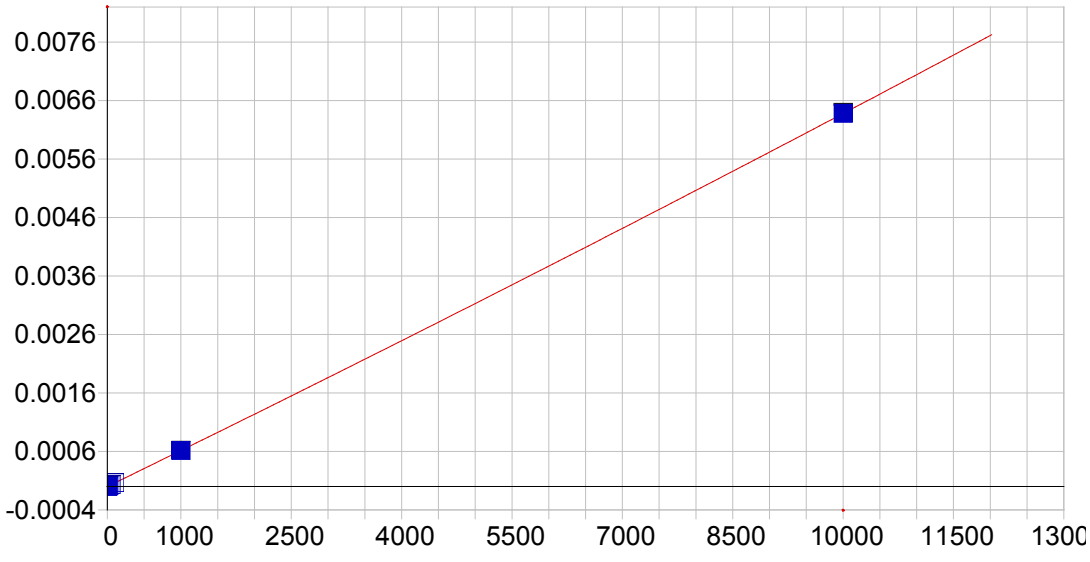


Mo 202.030 {466}

Date of Fit: 04/27/2016 10:03:59 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	0.000041	Re-Slope:	1.000000
A1 (Gain):	0.000088	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999908	Status:	OK.
Std Error of Est:	0.000003		
Predicted MDL:	0.390868		
Predicted MQL:	1.302895		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00010	.000	.000	.00004	.000	1
CalStd7=50	50.000	51.457	1.46	2.91	.00458	.000	1
CalStd6=20	20.000	18.676	-1.32	-6.62	.00169	.000	1
CalStd5=10	10.000	10.734	.734	7.34	.00099	.000	1
CalStd8=100	100.00	101.57	1.57	1.57	.00899	.000	1
CalStd4=5	5.0000	4.8509	-.149	-2.98	.00047	.000	1
CalStd9=100	1000.0	997.71	-2.29	-.229	.08797	.000	1

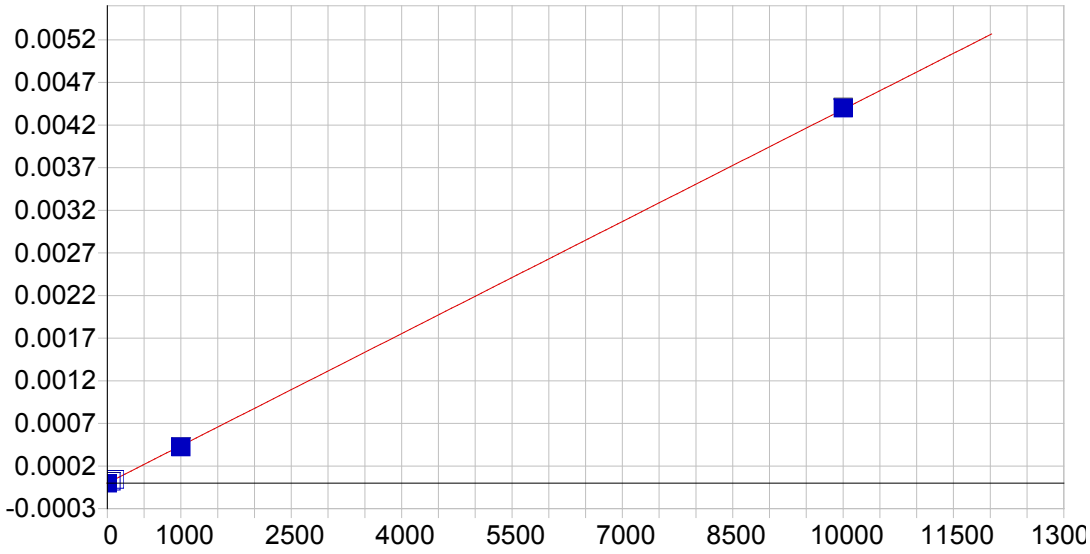


Mo 204.598 {464}

Date of Fit:	04/27/2016 10:03:59	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	-0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999992	Status:	Warning Positive Curvature
Std Error of Est:	0.000000		
Predicted MDL:	0.632722		
Predicted MQL:	2.109073		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00041	.000	.000	.00000	.000	1
CalStd7=50	50.000	51.426	1.43	2.85	.00003	.000	1
CalStd6=20	20.000	19.175	-.825	-4.13	.00001	.000	1
CalStd5=10	10.000	10.462	.462	4.62	.00001	.000	1
CalStd8=100	100.00	102.77	2.77	2.77	.00006	.000	1
CalStd4=5	5.0000	5.1241	.124	2.48	.00000	.000	1
CalStd9=100	1000.0	995.67	-4.33	-.433	.00061	.000	1
CalStd10=10	10000.	10000.	.373	.004	.00638	.000	1

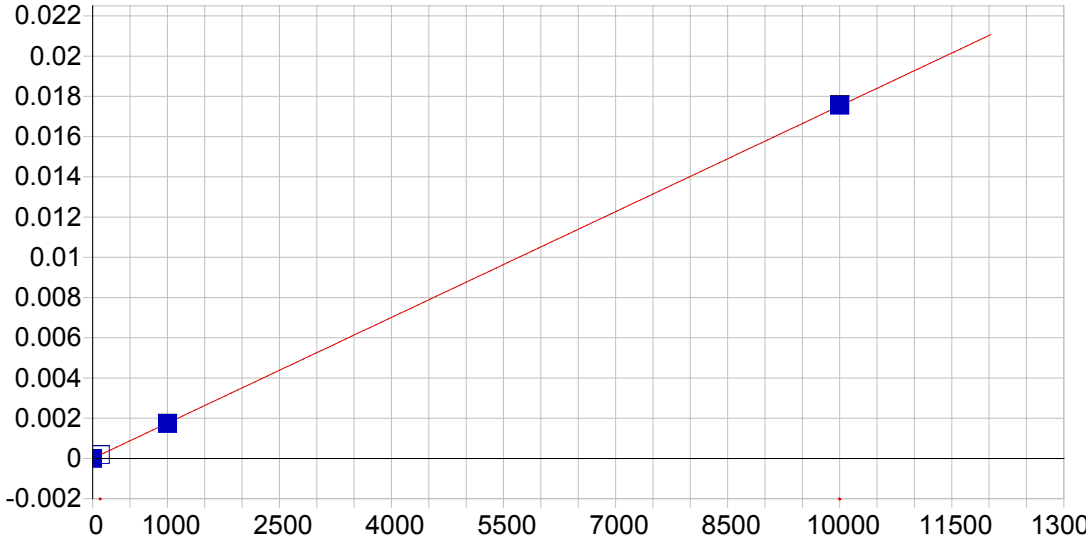


Mo 204.598 {465}

Date of Fit:	04/27/2016 10:03:59	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999937	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.855489		
Predicted MQL:	2.851628		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00316	.003	.000	.00000	.000	1
CalStd9=100	1000.0	964.97	-35.0	-3.50	.00042	.000	1
CalStd10=10	10000.	10038.	37.5	.375	.00440	.000	1
CalStd7=50	50.000	49.309	-.691	-1.38	.00002	.000	1
CalStd8=100	100.00	98.182	-1.82	-1.82	.00004	.000	1

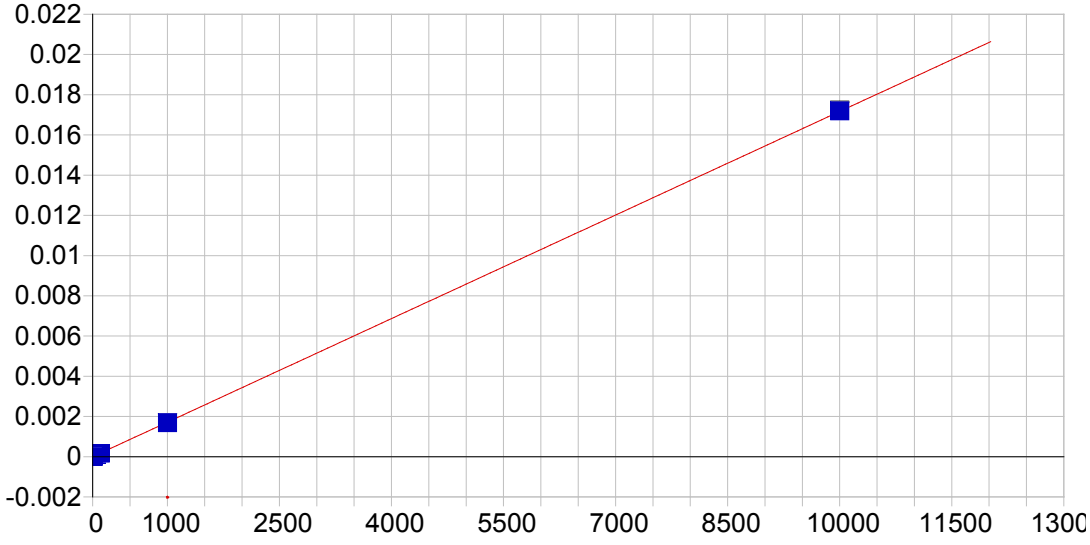


Ni 221.647 {452}

Date of Fit:	04/27/2016 10:03:59	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999981	Status:	OK.
Std Error of Est:	0.000003		
Predicted MDL:	0.424998		
Predicted MQL:	1.416660		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.16050	-.160	.000	.00000	.000	1
CalStd10=10	10000.	10017.	16.9	.169	.01755	.000	1
CalStd8=100	100.00	101.75	1.75	1.75	.00018	.000	1
CalStd9=100	1000.0	989.01	-11.0	-1.10	.00173	.000	1

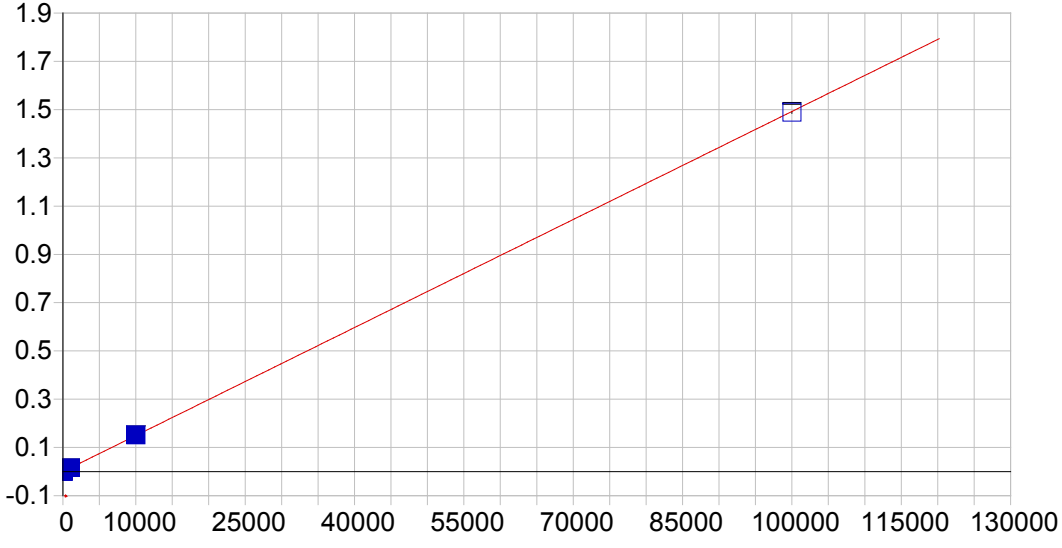


Ni 231.604 {445}

Date of Fit:	04/27/2016 10:03:59	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999981	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.438106		
Predicted MQL:	1.460354		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00038	.000	.000	.00000	.000	1
CalStd7=50	50.000	50.648	.648	1.30	.00008	.000	1
CalStd5=10	10.000	10.570	.570	5.70	.00002	.000	1
CalStd8=100	100.00	101.18	1.18	1.18	.00017	.000	1
CalStd4=5	5.0000	5.0893	.089	1.79	.00001	.000	1
CalStd9=100	1000.0	983.63	-16.4	-1.64	.00169	.000	1
CalStd3=1	1.0000	1.2912	.291	29.1	.00000	.000	1
CalStd10=10	10000.	10014.	13.6	.136	.01719	.000	1

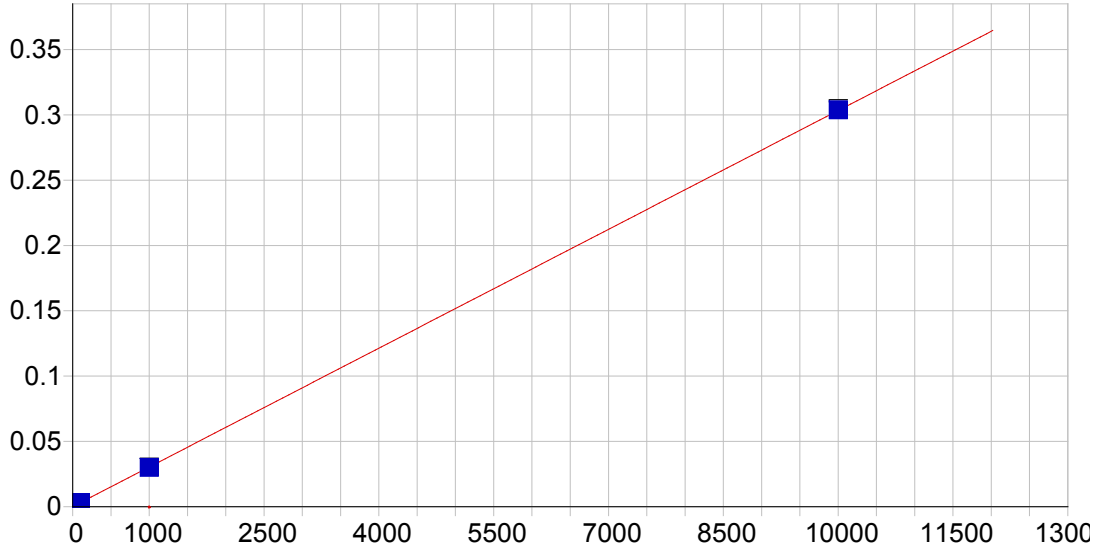


Pb 216.999 {455}

Date of Fit: 04/27/2016 10:03:59 Type of Fit: Curvilinear Weighting: 1/Var

A0 (Offset):	-0.000067	Re-Slope:	1.000000
A1 (Gain):	0.000015	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999956	Status:	OK.
Std Error of Est:	0.000144		
Predicted MDL:	3.814911		
Predicted MQL:	12.716371		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.65523	.655	.000	-.00006	.000	1
CalStd9=100	1000.0	994.52	-5.48	-.548	.01476	.000	1
CalStd10=10	10000.	10164.	164.	1.64	.15146	.001	1
CalStd11-100	100000.	99742.	-258.	-.258	1.4884	.004	1
CalStd8=100	100.00	104.03	4.03	4.03	.00149	.000	1
CalStd5=10	10.000	11.787	1.79	17.9	.00011	.000	1

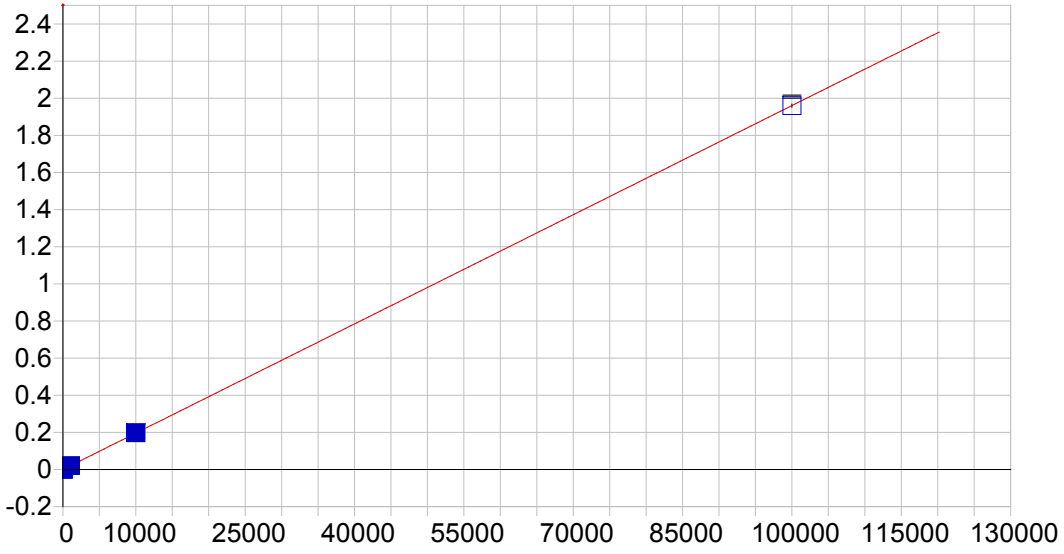


Pb 220.353 {453}

Date of Fit: 04/27/2016 10:03:59 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	0.000052	Re-Slope:	1.000000
A1 (Gain):	0.000030	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999889	Status:	OK.
Std Error of Est:	0.000004		
Predicted MDL:	2.417645		
Predicted MQL:	8.058815		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00375	.004	.000	.00005	.000	1
CalStd5=10	10.000	9.0332	-.967	-9.67	.00033	.000	1
CalStd8=100	100.00	101.75	1.75	1.75	.00314	.000	1
CalStd4=5	5.0000	1.7040	-3.30	-65.9	.00010	.000	1
CalStd9=100	1000.0	987.71	-12.3	-1.23	.03001	.000	1
CalStd10=10	10000.	10015.	14.8	.148	.30378	.001	1

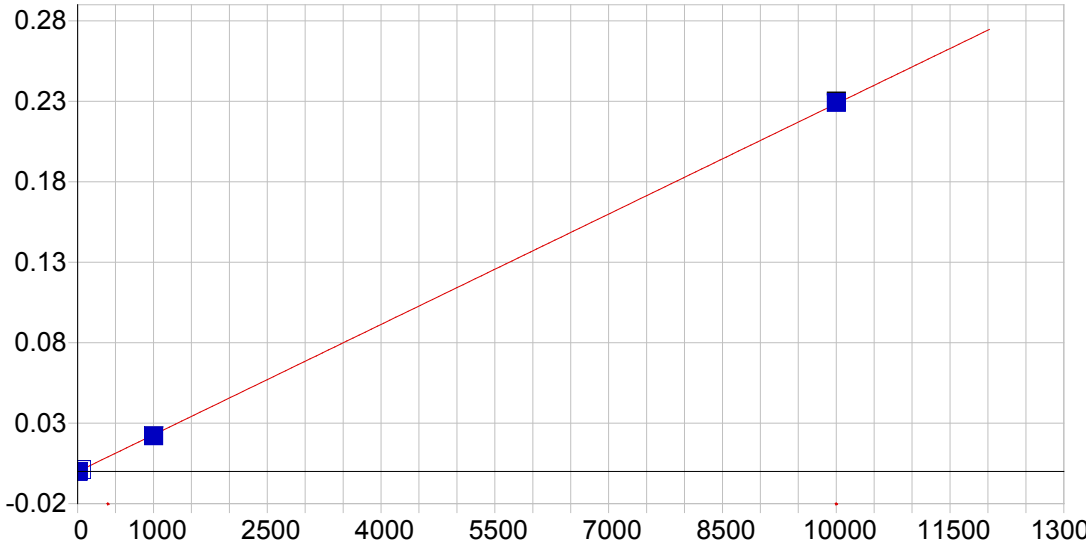


Pb 220.353 {153}

Date of Fit:	04/27/2016 10:03:59	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000129	Re-Slope:	1.000000
A1 (Gain):	0.000020	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999998	Status:	OK.
Std Error of Est:	0.000006		
Predicted MDL:	4.782644		
Predicted MQL:	15.942148		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00458	.005	.000	.00013	.000	1
CalStd9=100	1000.0	990.61	-9.39	-.939	.01955	.000	1
CalStd10=10	10000.	10049.	48.6	.486	.19711	.001	1
CalStd8=100	100.00	95.911	-4.09	-4.09	.00201	.000	1
CalStd11-100	100000.	99965.	-35.2	-.035	1.9597	.008	1

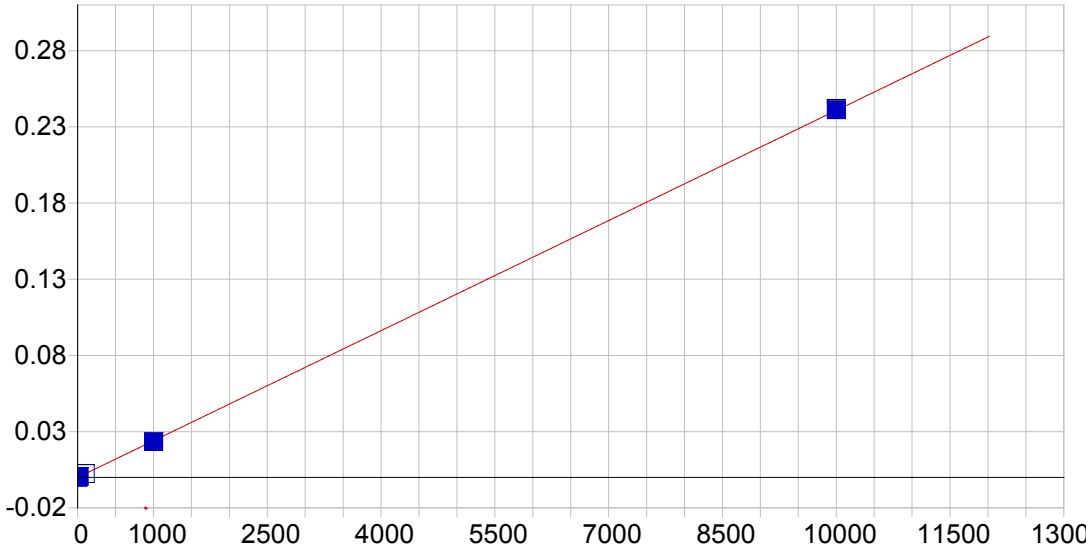


Sb 206.833 {463}

Date of Fit:	04/27/2016 10:03:59	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000097	Re-Slope:	1.000000
A1 (Gain):	0.000023	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999949	Status:	OK.
Std Error of Est:	0.000003		
Predicted MDL:	1.931237		
Predicted MQL:	6.437456		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00041	.000	.000	-.00010	.000	1
CalStd9=100	1000.0	968.42	-31.6	-3.16	.02204	.000	1
CalStd5=10	10.000	10.470	.470	4.70	.00014	.000	1
CalStd7=50	50.000	51.126	1.13	2.25	.00107	.000	1
CalStd10=10	10000.	10030.	30.0	.300	.22920	.001	1

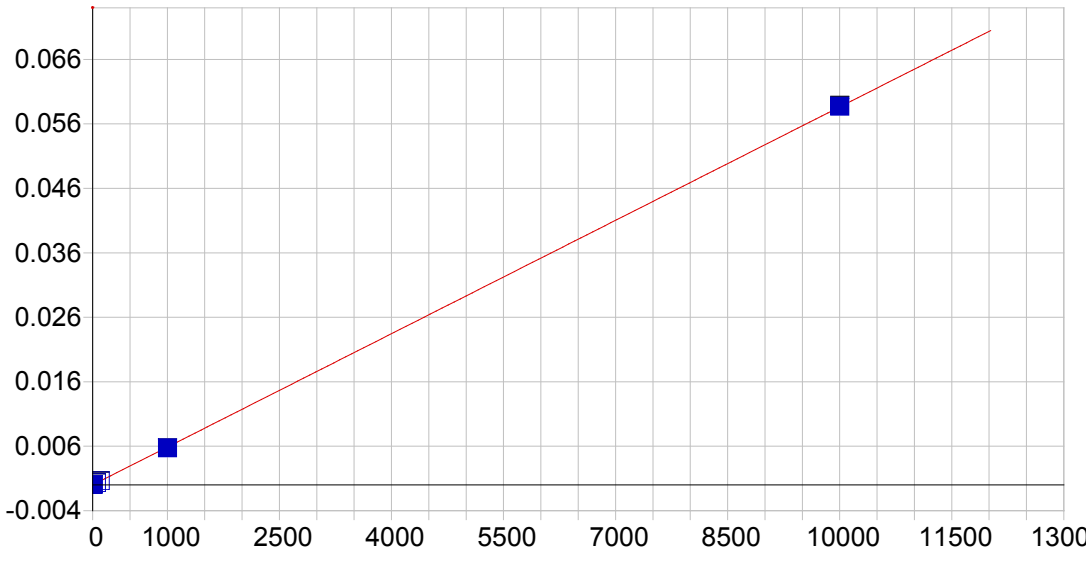


Sb 217.581 {455}

Date of Fit: 04/27/2016 10:03:59 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	-0.000079	Re-Slope:	1.000000
A1 (Gain):	0.000024	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999824	Status:	OK.
Std Error of Est:	0.000004		
Predicted MDL:	2.110045		
Predicted MQL:	7.033482		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00517	-.005	.000	-.00008	.000	1
CalStd9=100	1000.0	974.93	-25.1	-2.51	.02340	.000	1
CalStd6=20	20.000	22.453	2.45	12.3	.00046	.000	1
CalStd5=10	10.000	13.521	3.52	35.2	.00025	.000	1
CalStd8=100	100.00	99.764	-.236	-.236	.00232	.000	1
CalStd4=5	5.0000	7.9295	2.93	58.6	.00011	.000	1
CalStd10=10	10000.	10016.	16.4	.164	.24115	.001	1

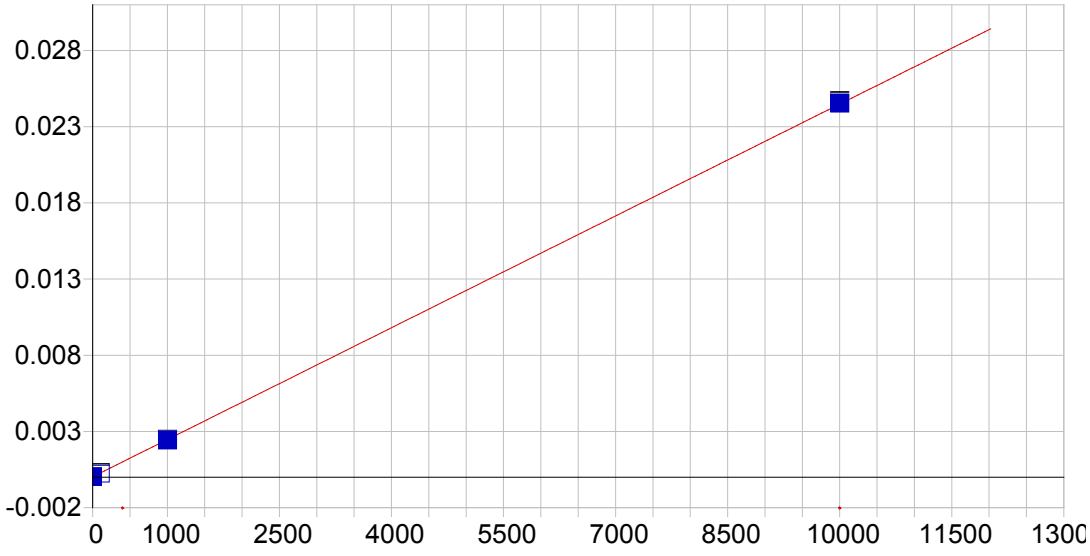


Se 196.090 {472}

Date of Fit:	04/27/2016 10:03:59	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000005	Re-Slope:	1.000000
A1 (Gain):	0.000006	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999954	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	5.979275		
Predicted MQL:	19.930915		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00170	-.002	.000	.00000	.000	1
CalStd7=50	50.000	52.622	2.62	5.24	.00031	.000	1
CalStd9=100	1000.0	975.95	-24.1	-2.41	.00572	.000	1
CalStd5=10	10.000	10.961	.961	9.61	.00007	.000	1
CalStd8=100	100.00	104.43	4.43	4.43	.00062	.000	1
CalStd10=10	10000.	10016.	16.0	.160	.05870	.000	1

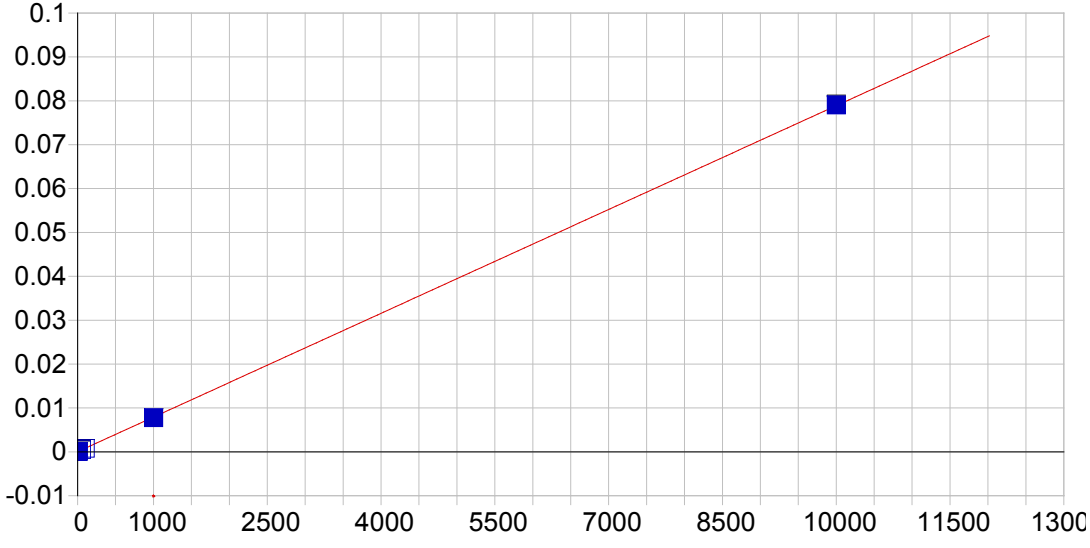


Se 206.279 {463}

Date of Fit:	04/27/2016 10:03:59	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000024	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999968	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	19.291704		
Predicted MQL:	64.305682		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00759	.008	.000	.00002	.000	1
CalStd9=100	1000.0	983.29	-16.7	-1.67	.00243	.000	1
CalStd10=10	10000.	10023.	22.9	.229	.02456	.000	1
CalStd8=100	100.00	93.849	-6.15	-6.15	.00025	.000	1

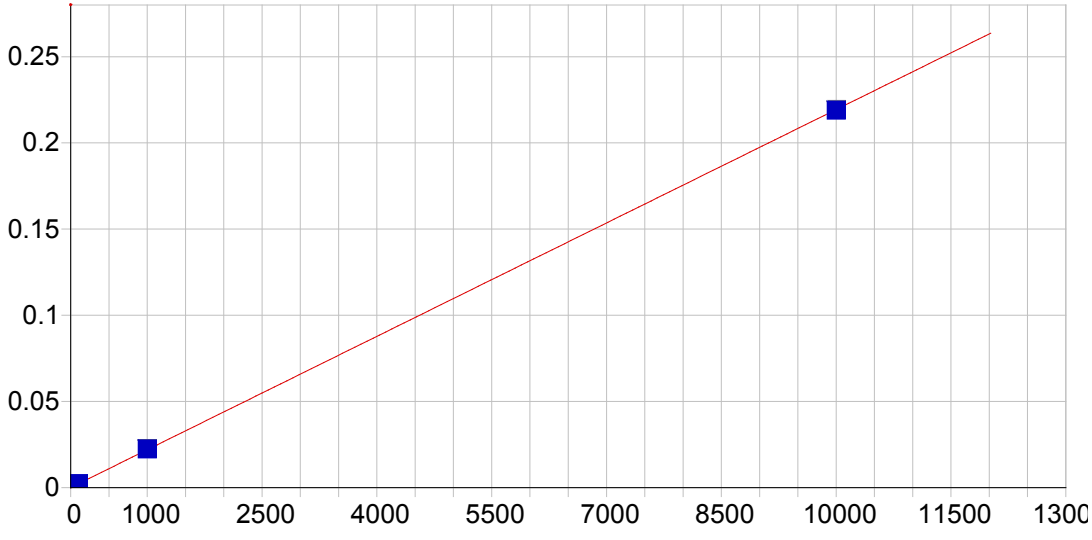


Se 196.090 {471}

Date of Fit:	04/27/2016 10:03:59	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000024	Re-Slope:	1.000000
A1 (Gain):	0.000008	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999967	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	4.419396		
Predicted MQL:	14.731319		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00048	.000	.000	.00002	.000	1
CalStd7=50	50.000	53.078	3.08	6.16	.00044	.000	1
CalStd9=100	1000.0	979.48	-20.5	-2.05	.00775	.000	1
CalStd5=10	10.000	9.2868	-.713	-7.13	.00010	.000	1
CalStd8=100	100.00	98.047	-1.95	-1.95	.00080	.000	1
CalStd10=10	10000.	10020.	20.1	.201	.07902	.000	1

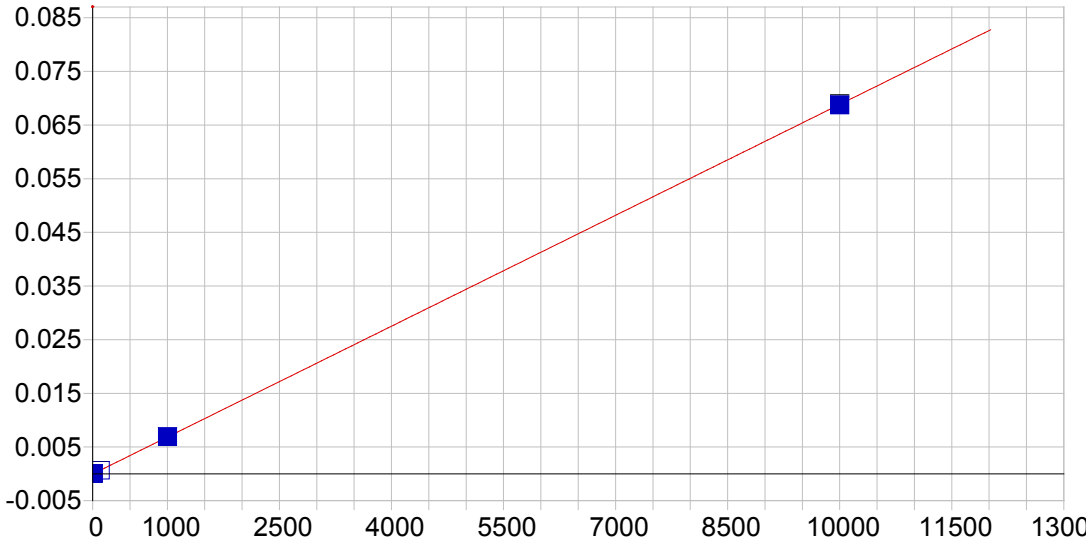


Tl 190.856 {476}

Date of Fit: 04/27/2016 10:03:59 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	0.000043	Re-Slope:	1.000000
A1 (Gain):	0.000022	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999974	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	1.991455		
Predicted MQL:	6.638184		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00080	-.001	.000	.00004	.000	1
CalStd9=100	1000.0	1016.9	16.9	1.69	.02236	.000	1
CalStd8=100	100.00	104.98	4.98	4.98	.00235	.000	1
CalStd5=10	10.000	10.155	.155	1.55	.00027	.000	1
CalStd10=10	10000.	9978.0	-22.0	-.220	.21907	.000	1

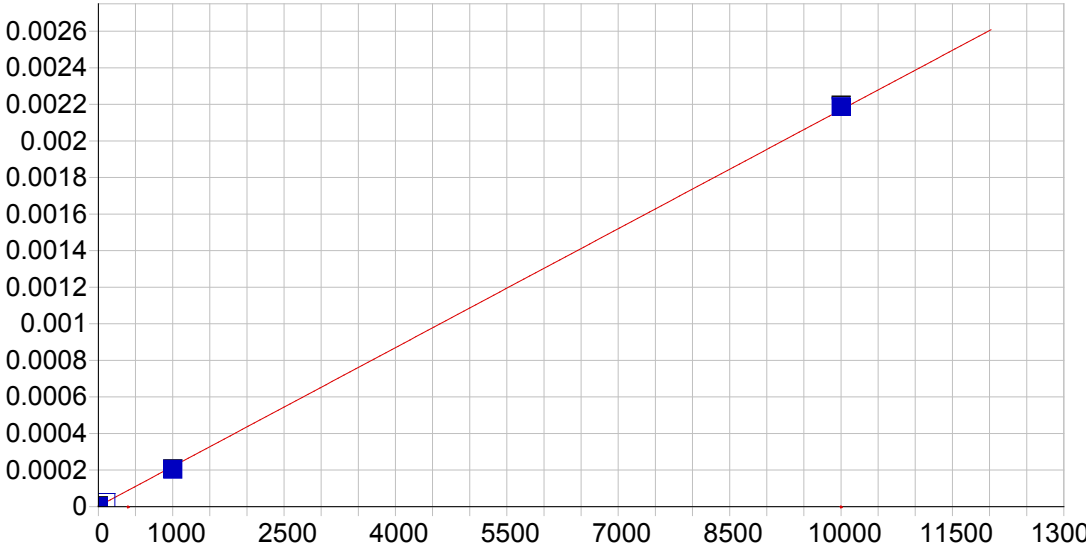


Tl 190.856 {477}

Date of Fit:	04/27/2016 10:03:59	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000045	Re-Slope:	1.000000
A1 (Gain):	0.000007	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999974	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	5.075416		
Predicted MQL:	16.918053		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00231	-.002	.000	-.00004	.000	1
CalStd9=100	1000.0	1009.8	9.80	.980	.00691	.000	1
CalStd8=100	100.00	102.75	2.75	2.75	.00066	.000	1
CalStd5=10	10.000	11.950	1.95	19.5	.00004	.000	1
CalStd10=10	10000.	9985.5	-14.5	-.145	.06873	.000	1

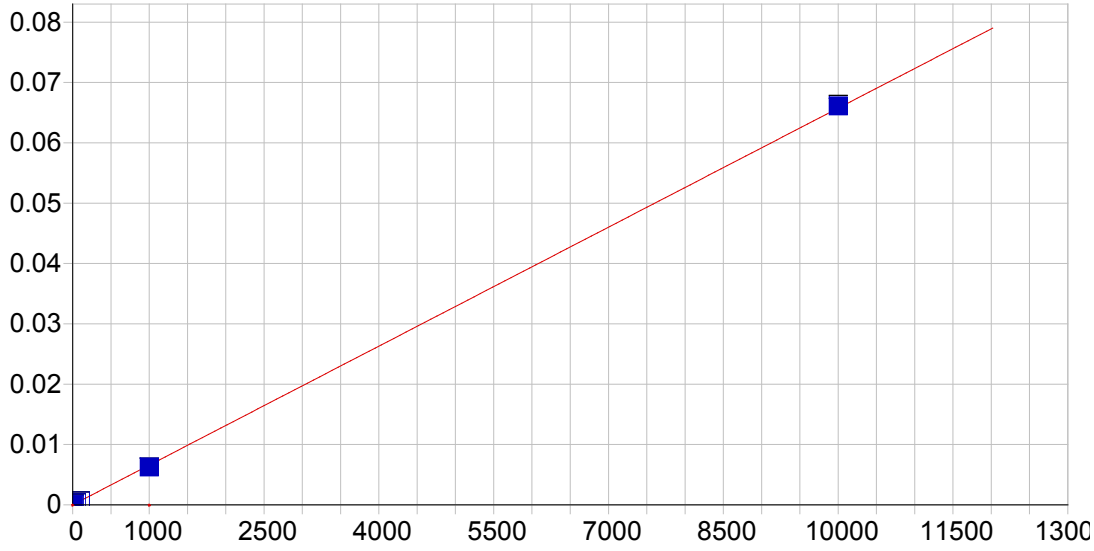


V 290.882 {116}

Date of Fit:	04/27/2016 10:03:59	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999714	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	3.477366		
Predicted MQL:	11.591220		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.01358	.014	.000	.00000	.000	1
CalStd9=100	1000.0	927.84	-72.2	-7.22	.00020	.000	1
CalStd10=10	10000.	10079.	79.3	.793	.00219	.000	1
CalStd8=100	100.00	92.840	-7.16	-7.16	.00002	.000	1

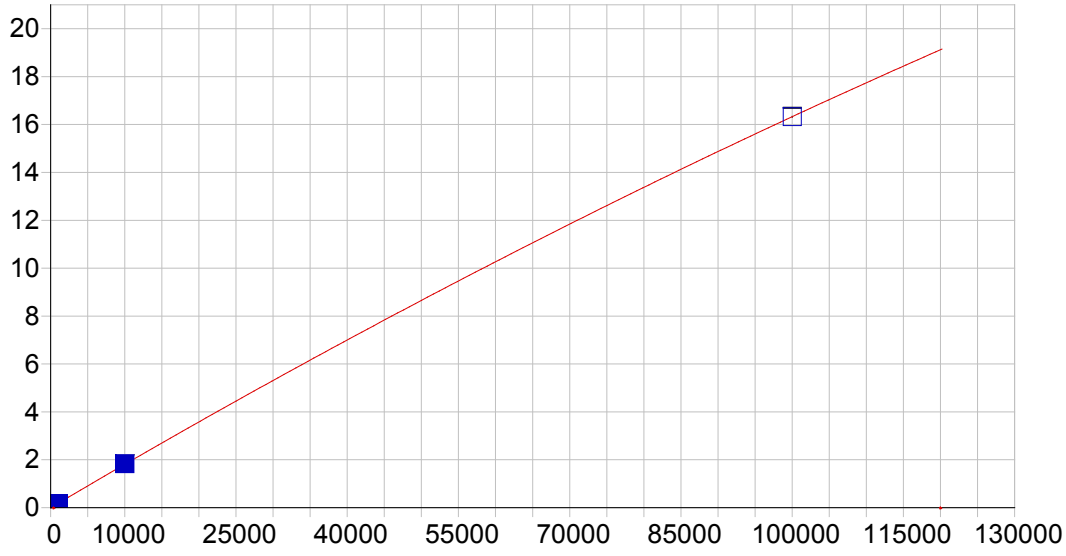


V 292.402 {115}

Date of Fit: 04/27/2016 10:03:59 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	0.000003	Re-Slope:	1.000000
A1 (Gain):	0.000007	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999868	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.472267		
Predicted MQL:	1.574223		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00118	.001	.000	.00000	.000	1
CalStd7=50	50.000	50.043	.043	.086	.00033	.000	1
CalStd9=100	1000.0	950.73	-49.3	-4.93	.00625	.000	1
CalStd6=20	20.000	18.398	-1.60	-8.01	.00012	.000	1
CalStd5=10	10.000	10.362	.362	3.62	.00007	.000	1
CalStd8=100	100.00	96.942	-3.06	-3.06	.00064	.000	1
CalStd10=10	10000.	10054.	53.5	.535	.06610	.000	1

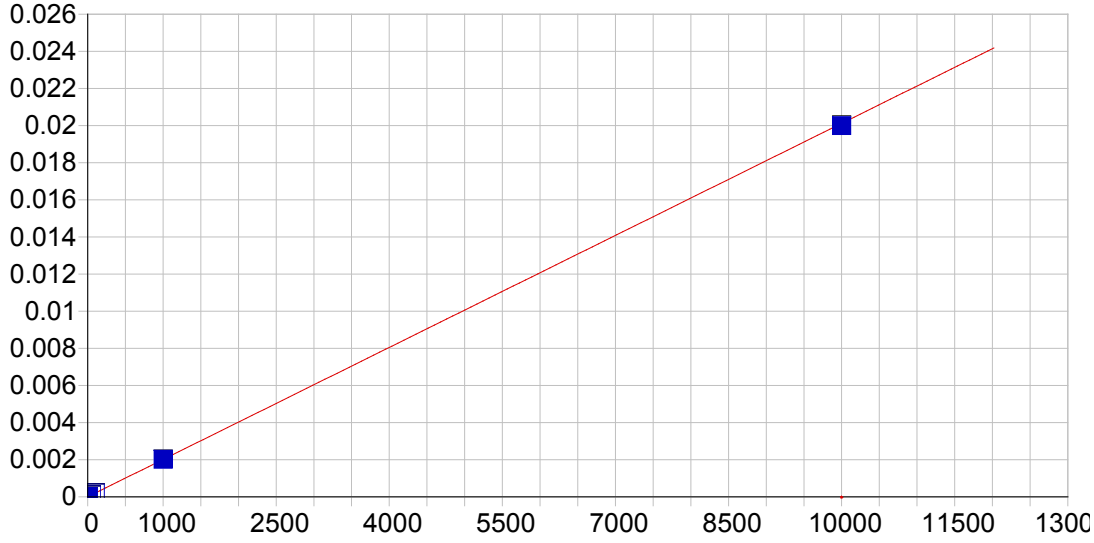


Zn 206.200 {463}

Date of Fit:	04/27/2016 10:03:59	Type of Fit:	Curvilinear	Weighting:	1/Var

A0 (Offset):	0.000086	Re-Slope:	1.000000
A1 (Gain):	0.000183	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999982	Status:	OK.
Std Error of Est:	0.000486		
Predicted MDL:	0.262238		
Predicted MQL:	0.874128		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
CalStd10=10	10000.	10101.	101.	1.01	1.8276	.004	1
Blank	.00000	.07856	.079	.000	.00010	.000	1
CalStd9=100	1000.0	990.73	-9.27	-.927	.18110	.000	1
CalStd11-100	100000.	99970.	-30.0	-.030	16.323	.020	1

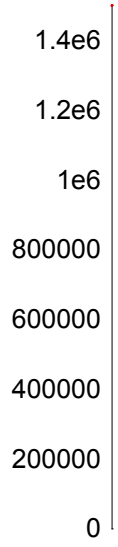


Zn 213.856 {458}

Date of Fit: 04/27/2016 10:03:59 Type of Fit: Linear Weighting: 1/Var

A0 (Offset):	0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999892	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	0.195812		
Predicted MQL:	0.652705		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.44520	-.445	.000	.00000	.000	1
CalStd8=100	100.00	102.79	2.79	2.79	.00021	.000	1
CalStd7=50	50.000	51.358	1.36	2.72	.00011	.000	1
CalStd5=10	10.000	10.914	.914	9.14	.00002	.000	1
CalStd9=100	1000.0	1000.5	.505	.050	.00201	.000	1
CalStd4=5	5.0000	4.8038	-.196	-3.92	.00001	.000	1
CalStd10=10	10000.	9936.9	-63.1	-.631	.02000	.000	1

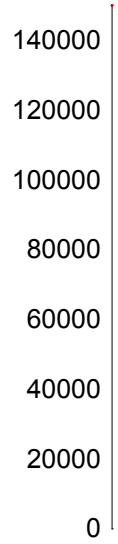


Y 324.228 {104}*

Date of Fit:	04/27/2016 10:03:59	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.000000	Status:	Warning Zero Gain
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	1369300.	9720.	1

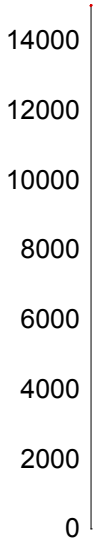


Y 371.030 { 91}*

Date of Fit:	04/27/2016 10:03:59	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.000000	Status:	Warning Zero Gain
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	142020.	530.	1

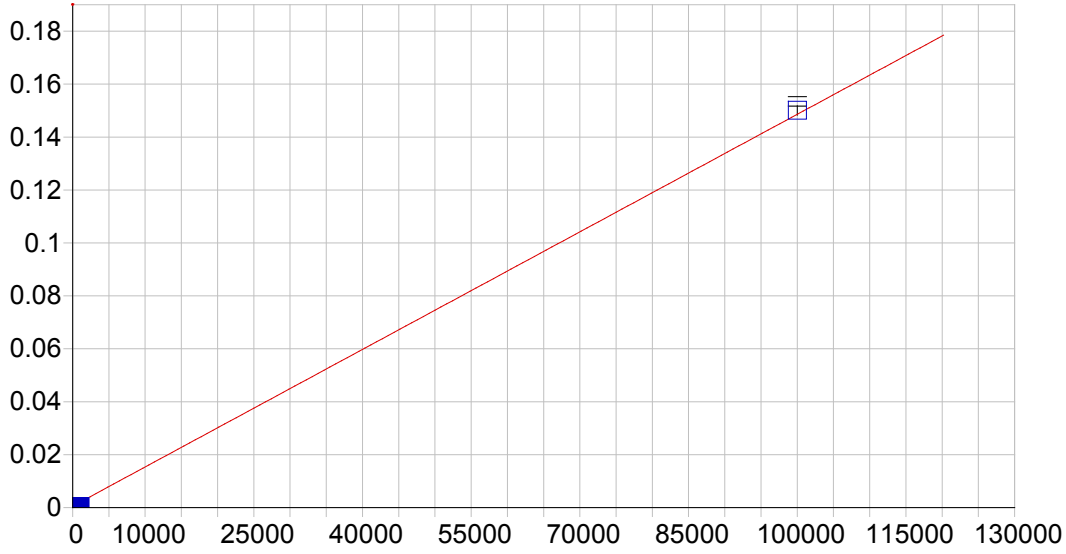


Y 224.306 {451}*

Date of Fit:	04/27/2016 10:03:59	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.000000	Status:	Warning Zero Gain
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	14045.	28.0	1

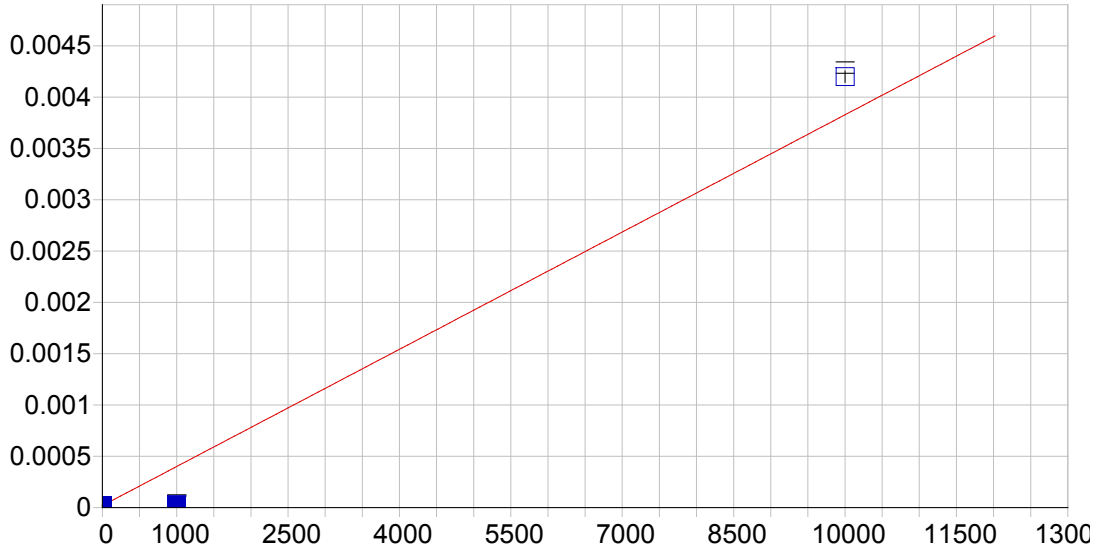


Na 588.995 { 57}

Date of Fit:	04/27/2016 10:03:59	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000540	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.995094	Status:	OK.
Std Error of Est:	0.000081		
Predicted MDL:	3.550617		
Predicted MQL:	11.835391		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.98378	.984	.000	.00054	.000	1
CalStd9=100	1000.0	6.2799	-994.	-99.4	.00055	.000	1
CalStd12-100	100000.	100990.	994.	.994	.15007	.002	1

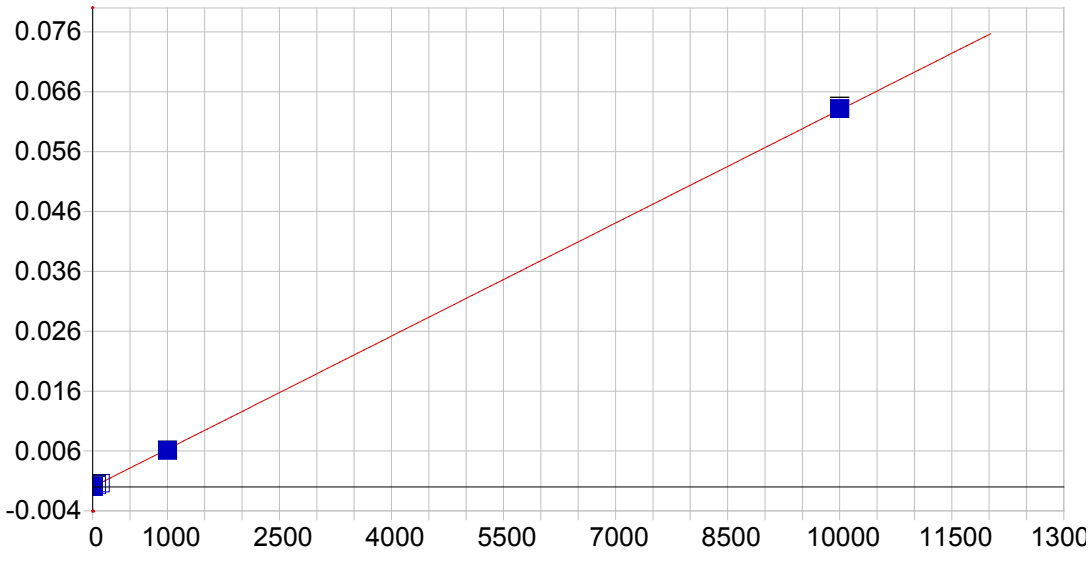


Si 251.611 {134}

Date of Fit:	04/27/2016 10:03:59	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000019	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.955525	Status:	OK.
Std Error of Est:	0.000021		
Predicted MDL:	13.571879		
Predicted MQL:	45.239597		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.87792	.878	.000	.00002	.000	1
CalStd9=100	1000.0	24.541	-975.	-97.5	.00003	.000	1
CalStd12-100	10000.	10975.	975.	9.75	.00420	.000	1

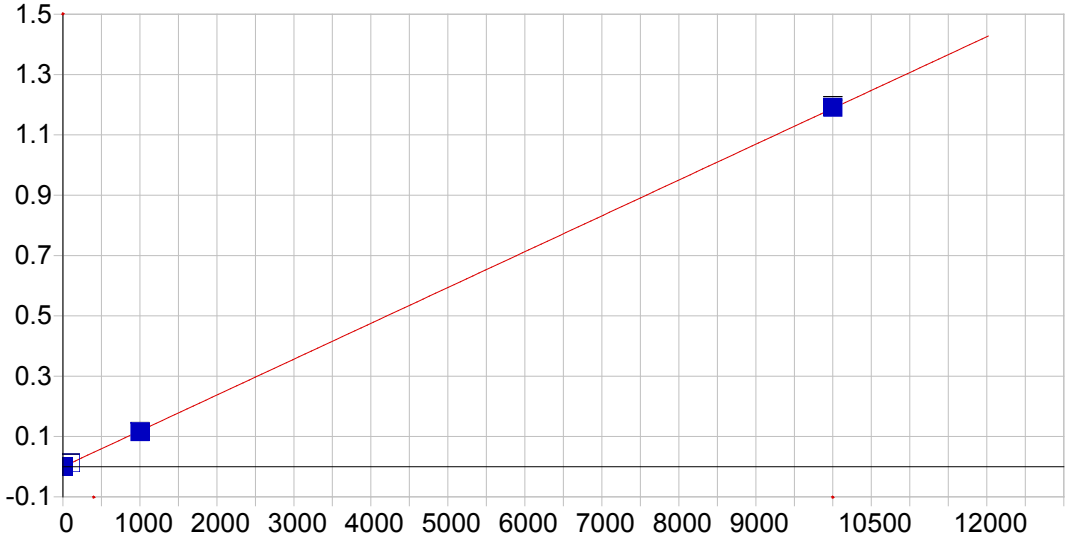


Ti 334.941 {101}

Date of Fit:	04/27/2016 10:03:59	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000006	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999937	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	1.245174		
Predicted MQL:	4.150580		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00042	.000	.000	.00000	.000	1
CalStd5=10	10.000	11.197	1.20	12.0	.00007	.000	1
CalStd8=100	100.00	98.503	-1.50	-1.50	.00062	.000	1
CalStd9=100	1000.0	966.28	-33.7	-3.37	.00608	.000	1
CalStd10=10	10000.	10034.	34.0	.340	.06320	.000	1
CalStd7=50	50.000	50.002	.002	.005	.00031	.000	1
CalStd4=5	5.0000	5.0456	.046	.912	.00003	.000	1

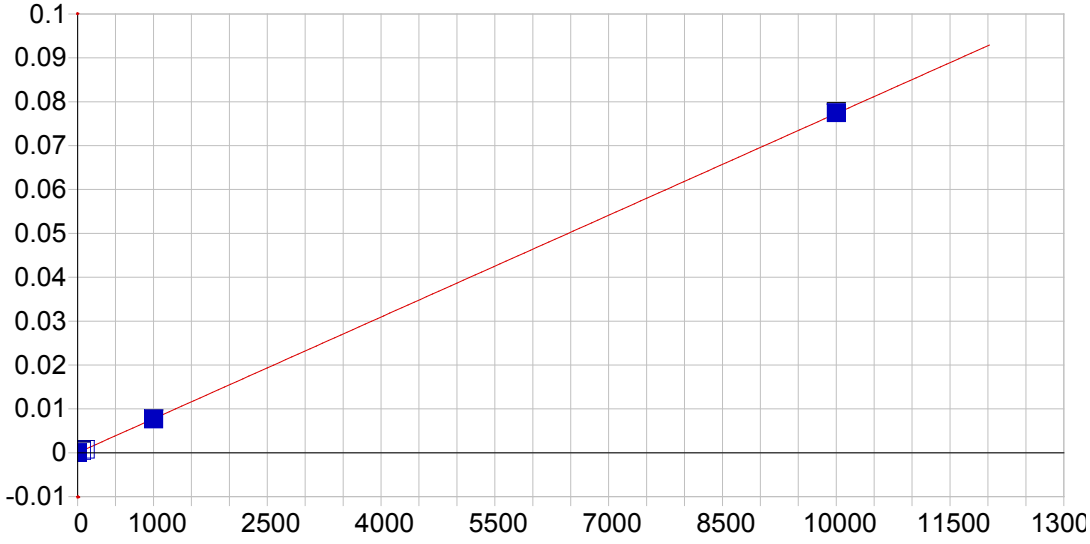


Sr 407.771 { 83}

Date of Fit: 04/27/2016 10:03:59 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	-0.000060	Re-Slope:	1.000000
A1 (Gain):	0.000119	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999962	Status:	OK.
Std Error of Est:	0.000004		
Predicted MDL:	0.113108		
Predicted MQL:	0.377025		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00003	.000	.000	-.00006	.000	1
CalStd3=1	1.0000	1.0082	.008	.823	.00006	.000	1
CalStd4=5	5.0000	5.0160	.016	.320	.00054	.000	1
CalStd5=10	10.000	10.469	.469	4.69	.00118	.000	1
CalStd8=100	100.00	99.893	-.107	-.107	.01181	.000	1
CalStd9=100	1000.0	972.76	-27.2	-2.72	.11550	.001	1
CalStd10=10	10000.	10027.	26.9	.269	1.1911	.006	1

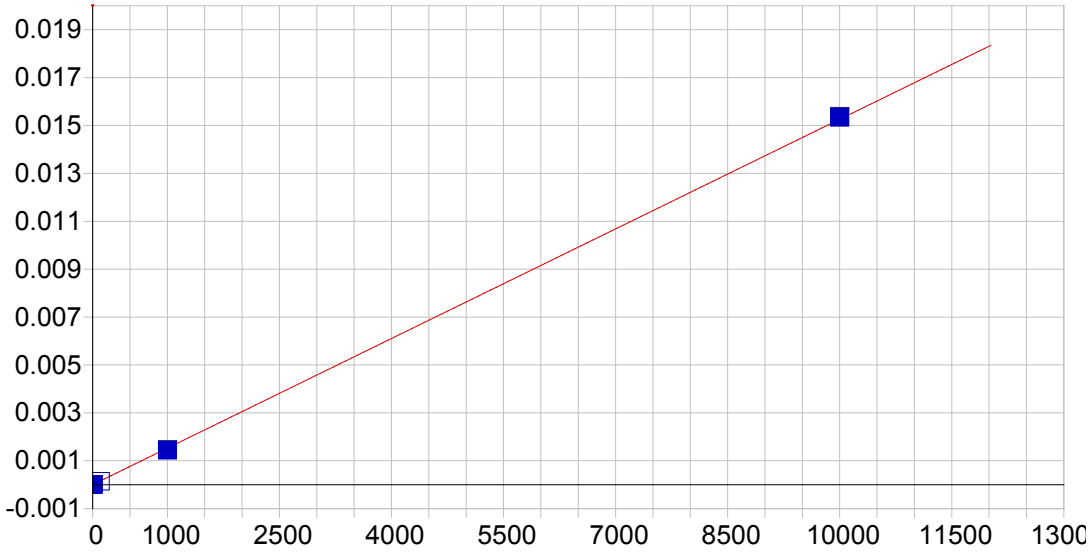


Sn 189.989 {478}

Date of Fit:	04/27/2016 10:03:59	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000015	Re-Slope:	1.000000
A1 (Gain):	0.000008	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999989	Status:	OK.
Std Error of Est:	0.000026		
Predicted MDL:	3.243805		
Predicted MQL:	10.812683		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.87584	-.876	.000	.00001	.000	1
CalStd10=10	10000.	10021.	20.6	.206	.07748	.000	1
CalStd9=100	1000.0	992.03	-7.97	-.797	.00768	.000	1
CalStd8=100	100.00	100.88	.879	.879	.00079	.000	1
CalStd7=50	50.000	51.205	1.20	2.41	.00041	.000	1

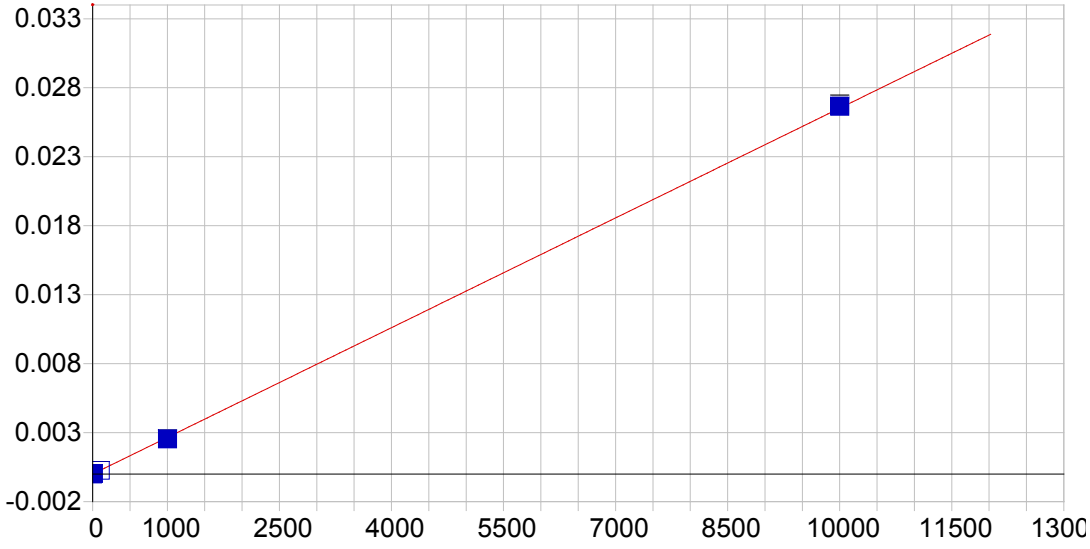


B 249.678 {135}

Date of Fit:	04/27/2016 10:03:59	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999852	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	1.331381		
Predicted MQL:	4.437937		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00007	.000	.000	.00000	.000	1
CalStd8=100	100.00	96.326	-3.67	-3.67	.00015	.000	1
CalStd5=10	10.000	10.766	.766	7.66	.00002	.000	1
CalStd9=100	1000.0	947.16	-52.8	-5.28	.00144	.000	1
CalStd10=10	10000.	10056.	55.7	.557	.01534	.000	1

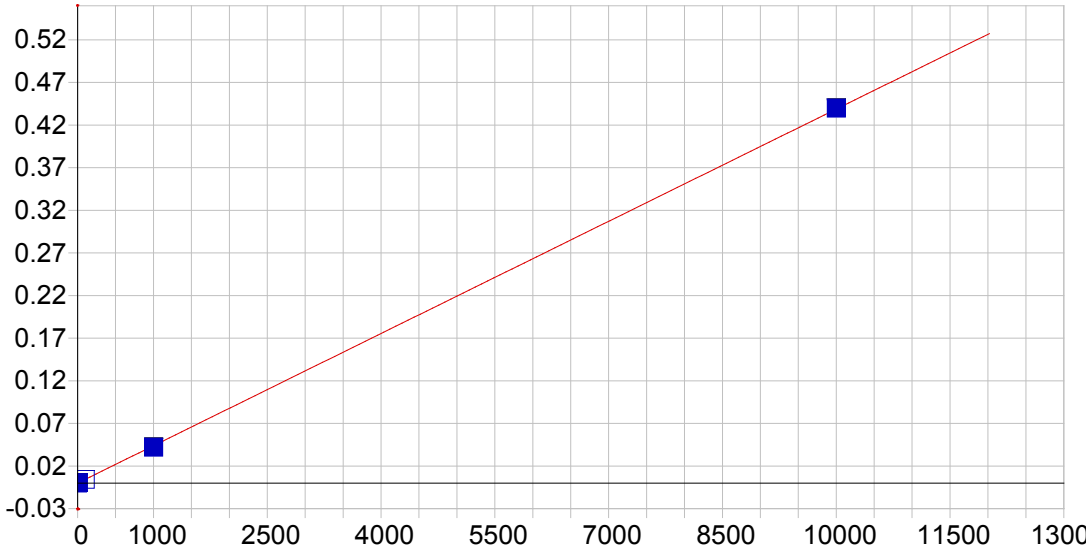


B 249.773 {135}

Date of Fit:	04/27/2016 10:03:59	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000003	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999893	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.686588		
Predicted MQL:	2.288628		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00048	.000	.000	.00000	.000	1
CalStd8=100	100.00	97.573	-2.43	-2.43	.00026	.000	1
CalStd5=10	10.000	11.128	1.13	11.3	.00003	.000	1
CalStd9=100	1000.0	955.22	-44.8	-4.48	.00254	.000	1
CalStd10=10	10000.	10046.	46.1	.461	.02673	.000	1

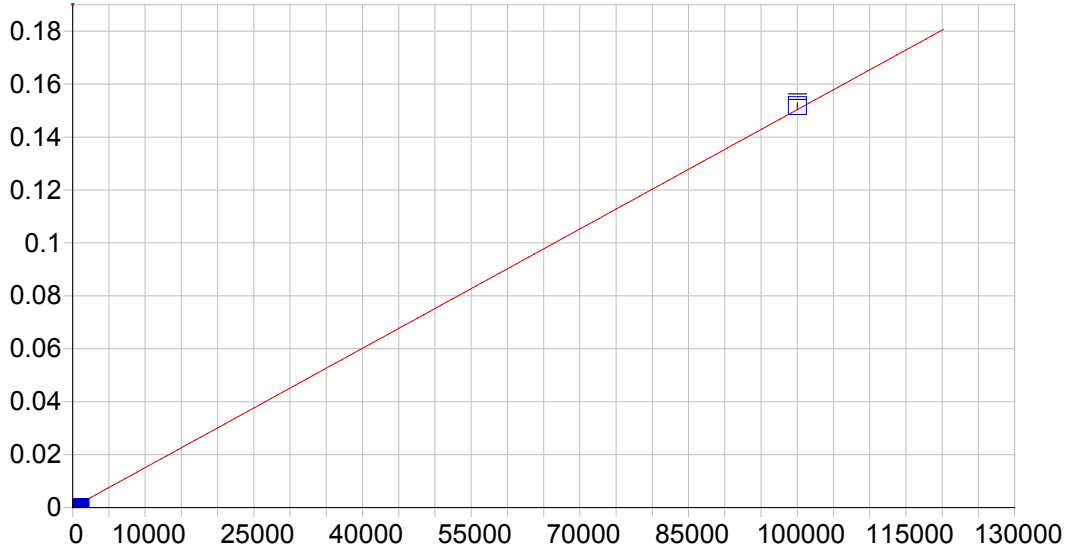


Li 670.784 { 50}

Date of Fit: 04/27/2016 10:03:59 Type of Fit: Linear Weighting: 1/Var

A0 (Offset):	-0.000068	Re-Slope:	1.000000
A1 (Gain):	0.000044	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999952	Status:	OK.
Std Error of Est:	0.000145		
Predicted MDL:	1.004238		
Predicted MQL:	3.347461		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.06862	.069	.000	-.00007	.000	1
CalStd5=10	10.000	10.993	.993	9.93	.00041	.000	1
CalStd8=100	100.00	98.450	-1.55	-1.55	.00425	.000	1
CalStd9=100	1000.0	958.71	-41.3	-4.13	.04200	.000	1
CalStd10=10	10000.	10025.	24.9	.249	.43985	.001	1

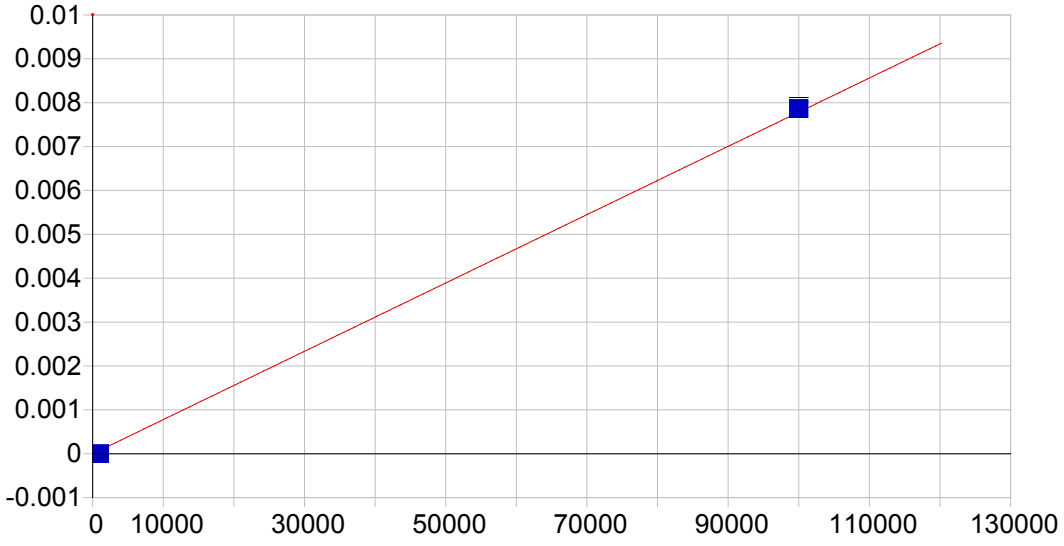


K 766.490 { 44}

Date of Fit:	04/27/2016 10:03:59	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000051	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.995350	Status:	OK.
Std Error of Est:	0.000080		
Predicted MDL:	27.472418		
Predicted MQL:	91.574725		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.95756	.958	.000	.00005	.000	1
CalStd9=100	1000.0	32.772	-967.	-96.7	.00010	.000	1
CalStd12-100	100000.	100970.	967.	.967	.15181	.001	1

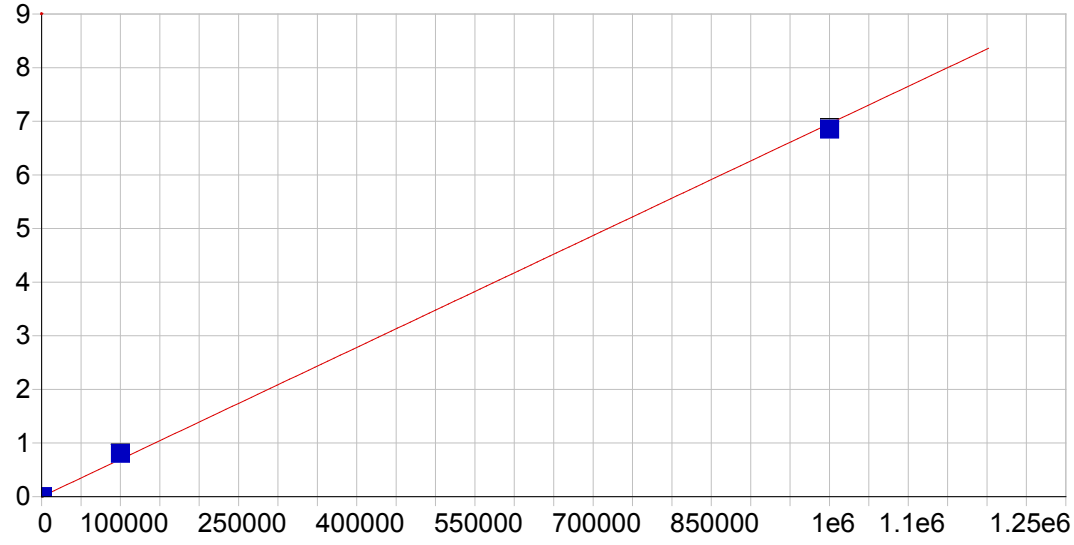


P 213.618 {457}

Date of Fit:	04/27/2016 10:03:59	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.994666	Status:	OK.
Std Error of Est:	0.000004		
Predicted MDL:	5.292840		
Predicted MQL:	17.642801		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	1.0261	1.03	.000	.00000	.000	1
CalStd9=100	1000.0	-36.452	-1040.	-104.	.00000	.000	1
CalStd12-100	100000.	101040.	1040.	1.04	.00786	.000	1

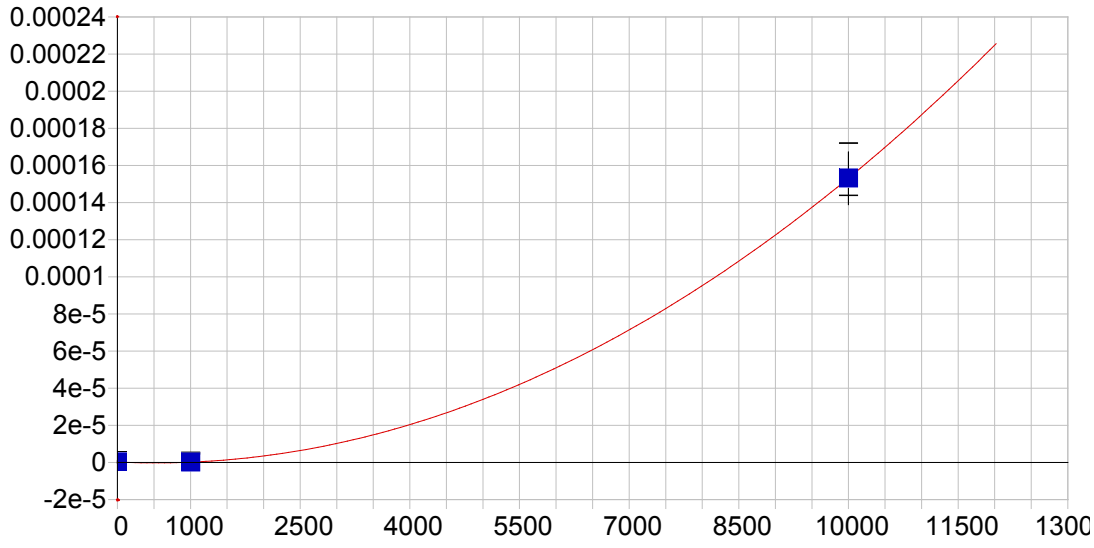


S 182.034 {485}

Date of Fit:	04/27/2016 10:03:59	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000036	Re-Slope:	1.000000
A1 (Gain):	0.000007	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998292	Status:	OK.
Std Error of Est:	0.000604		
Predicted MDL:	3.948243		
Predicted MQL:	13.160810		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.85387	.854	.000	.00004	.000	1
CalStd12-100	100000.	115960.	16000.	16.0	.80642	.001	1
CalStd14-100	1000000.	985040.	-15000.	-1.50	6.8499	.027	1
CalStd9=100	1000.0	1.5172	-998.	-99.8	.00004	.000	1



W 239.709 {140}

Date of Fit:	04/27/2016 10:03:59	Type of Fit:	Curvilinear	Weighting:	1/Var

A0 (Offset):	0.000000		Re-Slope:	1.000000	
A1 (Gain):	-0.000000		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	1.000000	Status:	Warning	Positive Curvature	
Std Error of Est:	0.000000				
Predicted MDL:	n/a				
Predicted MQL:	n/a				

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00000	.000	1
CalStd9=100	1000.0	56.678	-943.	-94.3	.00000	.000	1
CalStd12-100	10000.	-8943.3	-18900.	-189.	.00015	.000	1

Sample Name: Blank Acquired: 04/26/2016 08:18:29 Type: Cal
Method: DOD Calibration Updated 060614(v1421) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	Al1670	As1937	As1890	Ba2335	Ba4934	Be3130	Be2348	Ca3158	Ca3933	Cd2265
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**-18.2**	**.000**	**.000**	**.000**	**.000**	**.000**	**.001**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	1.0	.00	.000	.00	.000	.000	.000	.00	.00	.000	.000	.00
%RSD	5.24	83.0	48.3	189.	101.	321.	.482	1.66	44.1	.559	50.4	187.

Elem	Cd2288	Co2286	Co2388	Cr2055	Cr2677	Cu2247	Cu3247	Fe2395	Fe2599	Mg2790	Mg2802	Mn2576
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	.000	.00	.00	.00	.00	.00	.000	.000	.000	.00	.000	.000
%RSD	51.2	33.7	628.	60.1	600.	59.7	1.30	91.9	178.	138.	1.21	876.

Elem	Mn2593	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se2062	Se1960	Tl1908	V_2908
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	.000	.00	.00	.00	.00	.000	.00	.00	.000	.000	.000	.000
%RSD	91.4	74.5	245.	27.7	70.8	75.2	39.7	25.4	104.	161.	92.7	29.5

Elem	V_2924	Zn2062	Zn2138
Units	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**
Stddev	.000	.000	.000
%RSD	44.7	38.2	20.2

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1369300.**	**142020.**	**14045.**
Stddev	9715.	530.	28.
%RSD	.70949	.37286	.19921

Sample Name: CalStd1=0.25 Acquired: 04/26/2016 08:24:57 Type: Cal
Method: DOD Calibration Updated 060614(v1421) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Be3130
Units	Cts/S
Avg	.000
Stddev	.00
%RSD	7.07

Int. Std.	Y_3242
Units	Cts/S
Avg	1366900.
Stddev	5325.
%RSD	.38958

Sample Name: CalStd2=0.5 Acquired: 04/26/2016 08:31:25 Type: Cal
Method: DOD Calibration Updated 060614(v1421) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Be3130	Cd2265	Cd2288
Units	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**
Stddev	.00	.000	.000
%RSD	7.65	27.1	13.4

Int. Std.	Y_3242	Y_2243
Units	Cts/S	Cts/S
Avg	**1373200.**	**14103.**
Stddev	3744.	60.
%RSD	.27262	.42741

Sample Name: CalStd3=1 Acquired: 04/26/2016 08:37:53 Type: Cal
Method: DOD Calibration Updated 060614(v1421) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Ba2335	Be3130	Cd2265	Cd2288	Co2286	Cr2055	Cu2247	Ni2316
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**-15.8**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	1.5	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	9.38	26.0	8.85	9.03	16.6	16.4	40.6	29.7	317.

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1364300.**	**141450.**	**14002.**
Stddev	6814.	351.	28.
%RSD	.49942	.24794	.20320

Sample Name: CalStd4=5 Acquired: 04/26/2016 08:44:22 Type: Cal
Method: DOD Calibration Updated 060614(v1421) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al1670	As1890	Ba2335	Be3130	Cd2265	Co2286	Cr2055	Cr2677	Cu2247	Mn2576	Ni2316	Pb2203
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.001**	**.001**	**.001**	**.000**	**.001**	**.000**	**.000**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	6.33	53.8	3.66	1.28	2.45	4.24	2.67	10.4	10.6	1.46	5.58	36.7

Elem	Sb2175	Zn2138
Units	Cts/S	Cts/S
Avg	**.000**	**.000**
Stddev	.000	.000
%RSD	23.4	2.52

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1365500.**	**141700.**	**14065.**
Stddev	6993.	234.	31.
%RSD	.51213	.16531	.22205

Sample Name: CalStd5=10 Acquired: 04/26/2016 08:50:52 Type: Cal
Method: DOD Calibration Updated 060614(v1421) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Cd2265	Cd2288	Co2286	Cr2055	Cr2677	Cu2247	Mn2576
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**11.6**	**.000**	**.000**	**.000**	**.001**	**.003**	**.004**	**.003**	**.001**	**.000**	**.001**	**.000**
Stddev	2.6	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	22.5	7.31	9.76	2.82	.443	1.65	.987	1.86	2.10	6.51	5.38	.885

Elem	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	2.33	36.4	19.2	22.9	13.7	32.0	8.29	6.54	2.10

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1352500.**	**140330.**	**13990.**
Stddev	8132.	722.	15.
%RSD	.60128	.51421	.10370

Sample Name: CalStd6=20 Acquired: 04/26/2016 08:57:18 Type: Cal
Method: DOD Calibration Updated 060614(v1421) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ba2335	Cu2247	Mn2576	Sb2175	V_2924
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.002**	**.000**	**.000**	**.000**
Stddev	.000	.000	.000	.000	.000
%RSD	1.15	2.82	.752	3.05	3.13

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1353900.**	**140810.**	**14001.**
Stddev	2863.	648.	34.
%RSD	.21145	.45984	.24028

Sample Name: CalStd7=50 Acquired: 04/26/2016 09:03:39 Type: Cal
Method: DOD Calibration Updated 060614(v1421) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al1670	As1937	Ba2335	Ca3933	Cd2265	Co2286	Cr2055	Cr2677	Cu2247	Mg2802	Mn2576	Mo2045
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.001**	**.000**	**.000**	**.001**	**.013**	**.013**	**.007**	**.000**	**.005**	**.002**	**.001**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	1.32	4.01	.676	.767	.639	.296	.541	.748	1.38	.095	.304	1.39

Elem	Ni2316	Sb2068	Se1960	V_2924	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.001**	**.000**	**.000**	**.000**
Stddev	.000	.000	.000	.000	.000
%RSD	1.13	5.28	3.83	1.02	.352

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1360200.**	**140870.**	**13980.**
Stddev	2097.	318.	32.
%RSD	.15415	.22577	.22802

Sample Name: CalStd8=100 Acquired: 04/26/2016 09:09:59 Type: Cal
Method: DOD Calibration Updated 060614(v1421) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	As1937	As1890	Ba2335	Ba4934	Be3130	Be2348	Ca3933	Cd2265	Cd2288	Co2286	Co2388
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**294.**	**.001**	**.000**	**.000**	**.002**	**.006**	**.000**	**.002**	**.027**	**.035**	**.025**	**.000**
Stddev	3.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	1.04	3.23	6.07	.673	.549	.603	2.01	.570	.332	.121	.262	1.27

Elem	Cr2055	Cr2677	Cu2247	Cu3247	Mg2802	Mn2576	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2175
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.013**	**.000**	**.011**	**.000**	**.003**	**.001**	**.000**	**.000**	**.000**	**.001**	**.003**	**.002**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	.451	1.01	.495	.339	.701	.757	.614	.832	.700	2.18	1.05	.648

Elem	Se2062	Se1960	Tl1908	V_2908	V_2924	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.001**	**.002**	**.000**	**.001**	**.000**
Stddev	.000	.000	.000	.000	.000	.000
%RSD	22.5	4.57	1.23	6.22	.566	.849

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1341500.**	**139860.**	**14000.**
Stddev	5777.	452.	14.
%RSD	.43061	.32347	.10239

Sample Name: CalStd9=1000 Acquired: 04/26/2016 09:16:16 Type: Cal
Method: DOD Calibration Updated 060614(v1421) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Al1670	As1937	As1890	Ba2335	Ba4934	Be3130	Be2348	Ca3158	Ca3933	Cd2265	Cd2288
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.002**	**.014**	**.008**	**.003**	**.001**	**.004**	**.062**	**.001**	**.000**	**.020**	**.260**	**.334**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.001	.000
%RSD	2.10	.233	.517	1.35	.396	.753	.324	1.09	.699	1.07	.218	.045

Elem	Co2286	Co2388	Cr2055	Cr2677	Cu2247	Cu3247	Fe2395	Fe2599	Mg2790	Mg2802	Mn2576	Mn2593
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.246**	**.003**	**.130**	**.004**	**.103**	**.000**	**.000**	**.001**	**.000**	**.028**	**.013**	**.009**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	.076	.244	.034	.511	.143	.744	.759	1.29	5.43	.321	.362	.877

Elem	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se2062	Se1960	Tl1908	V_2908	V_2924
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.002**	**.002**	**.015**	**.030**	**.022**	**.023**	**.002**	**.008**	**.022**	**.000**	**.006**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	.367	.398	.394	.204	.490	.227	.349	1.71	.401	.422	1.35	.297

Elem	Zn2062	Zn2138
Units	Cts/S	Cts/S
Avg	**.181**	**.002**
Stddev	.000	.000
%RSD	.216	.354

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1341600.**	**140440.**	**13962.**
Stddev	2404.	446.	29.
%RSD	.17920	.31764	.21081

Sample Name: CalStd10=10000 Acquired: 04/26/2016 09:22:06 Type: Cal
Method: DOD Calibration Updated 060614(v1421) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	As1937	As1890	Ba4934	Ca3158	Co2286	Co2388	Cr2055	Cr2677	Cu2247	Cu3247	Fe2395
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.025**	**.085**	**.028**	**.034**	**.004**	**2.50**	**.029**	**1.32**	**.038**	*****	**.003**	**.000**
Stddev	.000	.000	.000	.000	.000	.00	.000	.00	.000	-----	.000	.000
%RSD	.483	.365	.338	.277	1.11	.113	.778	.071	.663	-----	.262	.132

Elem	Fe2599	Mg2790	Mg2802	Mn2576	Mn2593	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.014**	**.001**	**.271**	**.133**	**.090**	**.004**	**.018**	**.017**	**.151**	**.304**	**.229**	**.241**
Stddev	.000	.000	.001	.001	.000	.000	.000	.000	.001	.001	.001	.001
%RSD	.604	1.11	.323	.690	.515	.164	.190	.171	.342	.247	.333	.356

Elem	Se2062	Se1960	Tl1908	V_2908	V_2924	Zn2062	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.025**	**.079**	**.219**	**.002**	**.066**	**1.83**	**.020**
Stddev	.000	.000	.000	.000	.000	.00	.000
%RSD	.540	.199	.135	.325	.390	.211	.160

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1294700.**	**140130.**	**13577.**
Stddev	6005.	314.	54.
%RSD	.46379	.22385	.39747

Sample Name: CalStd11-100k Acquired: 04/26/2016 09:28:07 Type: Cal
Method: DOD Calibration Updated 060614(v1421) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Cr2055	Cu3247	Mn2593	Pb2169	Zn2062
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**11.7**	**.029**	**.858**	**1.49**	**16.3**
Stddev	.0	.000	.008	.00	.0
%RSD	.134	.828	.905	.245	.121

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1328600.**	**141970.**	**13526.**
Stddev	2387.	349.	37.
%RSD	.17966	.24597	.27116

Sample Name: CalStd12-100000 Acquired: 04/26/2016 09:34:34 Type: Cal
Method: DOD Calibration Updated 060614(v1421) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Ca3158	Fe2395	Fe2599	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.248**	**.039**	**.005**	**.134**	**.008**
Stddev	.002	.000	.000	.001	.000
%RSD	.838	.747	1.11	.607	.930

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1262400.**	**138230.**	**12901.**
Stddev	5404.	365.	29.
%RSD	.42809	.26438	.22527

Sample Name: CalStd13=500000 Acquired: 04/26/2016 09:41:12 Type: Cal
Method: DOD Calibration Updated 060614(v1421) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Ca3158	Fe2395	Fe2599	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**1.30**	**.191**	**.023**	**.635**	**.044**
Stddev	.01	.003	.000	.006	.001
%RSD	1.11	1.31	.716	.945	1.38

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1177100.**	**133140.**	**11979.**
Stddev	4354.	866.	24.
%RSD	.36988	.65054	.20130

Sample Name: CalStd14-1000k Acquired: 04/26/2016 09:47:52 Type: Cal
Method: DOD Calibration Updated 060614(v1421) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Ca3158	Fe2395	Fe2599	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**2.42**	**.353**	**.041**	**1.14**	**.082**
Stddev	.03	.003	.000	.01	.001
%RSD	1.34	.791	.420	.769	.791

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1115500.**	**126780.**	**11197.**
Stddev	3601.	445.	71.
%RSD	.32286	.35090	.63364

Sample Name: icv Acquired: 04/26/2016 10:01:20 Type: QC
Method: DOD Calibration Updated 060614(v1421) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1890	Ba4934	Be3130	Ca3158	Cd2265	Co2286	Co2388	Cr2677	Cu2247	Fe2395
Avg	**51.4**	**11900.**	**2100.**	**2050.**	**51.5**	**9510.**	**51.5**	**524.**	**523.**	**201.**	**263.**	**4900.**
Stddev	.6	85.	12.	27.	.4	87.	.2	.	3.	2.	.	20.
%RSD	1.26	.718	.563	1.30	.704	.910	.440	.074	.664	1.20	.092	.400
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Mg2790	Mg2802	Mn2576	Mn2593	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se2062
Avg	**9300.**	**9890.**	**523.**	**532.**	**502.**	**512.**	**511.**	**544.**	**517.**	**521.**	**534.**	**2080.**
Stddev	107.	64.	3.	5.	5.	5.	5.	5.	3.	5.	2.	16.
%RSD	1.15	.644	.572	.911	.898	.914	.924	.883	.486	.902	.349	.783
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Tl1908	V_2908	V_2924	Zn2062	Zn2138
Avg	**2130.**	**507.**	**498.**	**517.**	**524.**
Stddev	6.	6.	4.	1.	4.
%RSD	.278	1.26	.784	.250	.854
Check ?	None	None	None	None	None
Value					
Range					

Sample Name: icv Acquired: 04/26/2016 10:01:20 Type: QC
Method: DOD Calibration Updated 060614(v1421) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1314500.**	**137970.**	**13619.**
Stddev	6313.	569.	34.
%RSD	.48027	.41208	.24705

Sample Name: ICVLL Acquired: 04/26/2016 10:07:41 Type: QC
Method: DOD Calibration Updated 060614(v1421) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	Al1670	As1937	Ba2335	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu2247	Fe2599
Avg	**53.3**	**1210.**	**1260.**	**64.1**	**30.3**	**12.5**	**1560.**	**15.8**	**29.8**	**30.9**	**31.7**	**935.**
Stddev	.3	11.	4.	2.6	.1	.1	10.	.2	.1	.4	.7	13.
%RSD	.596	.865	.284	4.05	.467	1.01	.635	1.30	.339	1.44	2.24	1.33
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Mg2790	Mg2802	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**1370.**	**1540.**	**32.4**	**30.0**	**29.9**	**30.7**	**65.8**	**64.0**	**62.1**	**29.0**	**31.9**
Stddev	42.	14.	.5	.6	.4	1.4	1.5	2.4	1.7	.5	.3
%RSD	3.09	.932	1.44	2.07	1.38	4.55	2.27	3.74	2.71	1.76	.986
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1316100.**	**136810.**	**13596.**
Stddev	7139.	358.	19.
%RSD	.54247	.26145	.13622

Sample Name: icb Acquired: 04/26/2016 10:20:28 Type: QC
Method: DOD Calibration Updated 060614(v1421) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2802
Avg	**.125**	**1.36**	**.312**	**.050**	**.042**	**-.914**	**.163**	**.215**	**-.212**	**-.739**	**9.00**	**1.82**
Stddev	.774	2.32	3.14	.199	.023	.250	.085	.207	.085	1.18	2.72	.04
%RSD	620.	171.	1010.	393.	55.1	27.3	52.3	96.4	40.0	159.	30.3	2.18
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**-.168**	**.678**	**.090**	**-1.48**	**3.77**	**-.586**	**-.074**	**.244**	**-.220**
Stddev	.075	.584	.429	1.05	1.16	3.92	1.08	.277	.185
%RSD	44.6	86.1	475.	70.8	30.7	669.	1460.	113.	84.0
Check ?	None	None	None	None	None	None	None	None	None
Value									
Range									

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1320400.**	**136990.**	**13640.**
Stddev	1248.	354.	34.
%RSD	.09447	.25813	.25146

Sample Name: icsa Acquired: 04/26/2016 10:33:22 Type: QC
Method: DOD Calibration Updated 060614(v1421) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2247	Fe2395
Avg	**-.061**	**507000.**	**-.114**	**.030**	**.008**	**447000.**	**.000**	**.000**	**.223**	**.000**	**442000.**
Stddev	1.37	4300.	7.59	.411	.033	3690.	.63	.184	.599	.411	4110.
%RSD	2230.	.849	6630.	1350.	411.	.826	616000.	9210000.	269.	7260000.	.930
Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None
High Limit											
Low Limit											

Elem	Mg2790	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**480000.**	**.169**	**-.476**	**.505**	**-.336**	**.000**	**-.001**	**-.225**	**-.148**	**.000**
Stddev	3770.	.410	1.60	1.17	5.57	3.43	6.18	1.38	.682	1.48
%RSD	.786	243.	337.	231.	1660.	2200000.	647000.	613.	459.	389000.
Check ?	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit										
Low Limit										

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1154800.**	**128170.**	**11828.**
Stddev	4605.	471.	41.
%RSD	.39874	.36724	.34505

Sample Name: icsab Acquired: 04/26/2016 10:40:03 Type: QC
Method: DOD Calibration Updated 060614(v1421) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	As1890	Ba2335	Ba4934	Be3130	Be2348	Ca3158	Cd2265	Cd2288
Avg	**465.**	**501000.**	**508.**	**498.**	**472.**	**483.**	**485.**	**406.**	**446000.**	**473.**	**456.**
Stddev	3.	4690.	11.	22.	1.	9.	6.	5.	3280.	2.	1.
%RSD	.589	.936	2.07	4.35	.313	1.89	1.23	1.14	.736	.390	.203
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Elem	Co2286	Co2388	Cr2055	Cr2677	Cu2247	Cu3247	Fe2395	Mg2790	Mn2576	Mn2593	Mo2045
Avg	**461.**	**438.**	**490.**	**461.**	**451.**	**534.**	**407000.**	**477000.**	**468.**	**464.**	**476.**
Stddev	1.	4.	1.	6.	1.	14.	4130.	4060.	6.	6.	5.
%RSD	.259	.960	.156	1.26	.266	2.65	1.02	.851	1.31	1.28	1.10
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Elem	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se2062	Se1960	Tl1908	V_2908	V_2924
Avg	**445.**	**430.**	**516.**	**435.**	**507.**	**521.**	**482.**	**475.**	**431.**	**457.**	**468.**
Stddev	2.	3.	8.	4.	5.	4.	26.	5.	3.	8.	5.
%RSD	.419	.592	1.55	.993	.984	.719	5.37	.987	.702	1.76	.998
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Sample Name: icsab Acquired: 04/26/2016 10:40:03 Type: QC
Method: DOD Calibration Updated 060614(v1421) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Zn2062	Zn2138
Avg	**471.**	**483.**
Stddev	2.	2.
%RSD	.362	.371
Check ?	Chk Pass	Chk Pass
Value		
Range		

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1158100.**	**126760.**	**11810.**
Stddev	7095.	219.	31.
%RSD	.61264	.17280	.25930

Sample Name: lcsw56773 Acquired: 04/26/2016 10:53:37 Type: Unk
Method: DOD Calibration Updated 060614(v1421) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	As1890	Ba2335	Ba4934	Be3130	Ca3158	Cd2265	Co2286	Cr2677
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**20.6**	**830.**	**879.**	**864.**	**794.**	**958.**	**20.9**	**185000.**	**20.9**	**207.**	**79.6**
Stddev	.7	4.	5.	9.	6.	4.	.1	2130.	.2	1.	1.7
%RSD	3.18	.518	.532	1.02	.759	.392	.583	1.15	1.12	.282	2.12

Elem	Cu2247	Fe2599	Mg2790	Mn2576	Mo2045	Ni2216	Ni2316	Pb2203	Sb2175	Se2062	Se1960
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**100.**	**425.**	**94000.**	**212.**	**.159**	**202.**	**196.**	**193.**	**222.**	**881.**	**838.**
Stddev	.	7.	1020.	1.	.763	1.	1.	3.	1.	10.	5.
%RSD	.445	1.68	1.09	.558	478.	.400	.743	1.63	.356	1.15	.639

Elem	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L
Avg	**791.**	**200.**	**210.**
Stddev	1.	1.	1.
%RSD	.142	.434	.595

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1195700.**	**128440.**	**12435.**
Stddev	6114.	593.	21.
%RSD	.51134	.46181	.16949

Sample Name: ccv1 Acquired: 04/26/2016 11:50:42 Type: QC
Method: DOD Calibration Updated 060614(v1421) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1890	Ba4934	Be2348	Ca3158	Cd2288	Co2388	Cr2055	Cu3247	Fe2395	Mg2790
Avg	**505.**	**5090.**	**4700.**	**4930.**	**509.**	**4750.**	**508.**	**4920.**	**4840.**	**5030.**	**4490.**	**4660.**
Stddev	3.	16.	20.	66.	7.	54.	1.	14.	2.	67.	221.	65.
%RSD	.601	.306	.417	1.34	1.33	1.14	.122	.284	.033	1.33	4.92	1.39
Check ?	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Mn2593	Mo2045	Ni2216	Pb2169	Sb2068	Se2062	Tl1908	V_2908	Zn2062
Avg	**5250.**	**4740.**	**4740.**	**4670.**	**4650.**	**4860.**	**4710.**	**4890.**	**4710.**
Stddev	39.	23.	22.	19.	11.	10.	17.	46.	9.
%RSD	.740	.495	.470	.396	.240	.212	.360	.944	.187
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass
Value									
Range									

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1306400.**	**130400.**	**14040.**
Stddev	7386.	403.	38.
%RSD	.56537	.30917	.26848

Sample Name: ccv2 Acquired: 04/26/2016 11:56:14 Type: QC
Method: DOD Calibration Updated 060614(v1421) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2802
Avg	**52.8**	**512.**	**487.**	**475.**	**50.9**	**507.**	**54.1**	**497.**	**487.**	**471.**	**504.**	**497.**
Stddev	1.1	4.	2.	2.	.3	9.	.2	1.	3.	1.	8.	3.
%RSD	1.99	.695	.402	.471	.529	1.81	.395	.200	.669	.108	1.67	.575
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**507.**	**475.**	**483.**	**468.**	**492.**	**484.**	**494.**	**458.**	**486.**
Stddev	3.	4.	3.	4.	3.	6.	2.	4.	2.
%RSD	.530	.755	.532	.791	.548	1.32	.463	.827	.357
Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1302000.**	**128540.**	**13736.**
Stddev	6561.	367.	48.
%RSD	.50393	.28529	.35307

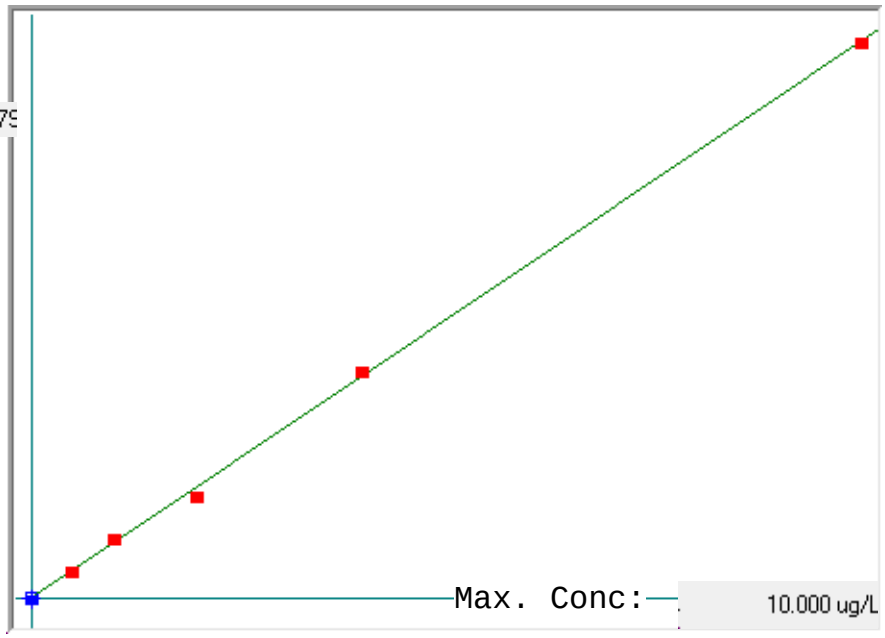
Sample Name: ccb Acquired: 04/26/2016 12:02:14 Type: QC
Method: DOD Calibration Updated 060614(v1421) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2802
Avg	**.112**	**-1.73**	**.837**	**-.015**	**.112**	**-2.33**	**.259**	**-.077**	**-.214**	**-.503**	**4.75**	**.851**
Stddev	.794	1.46	1.50	.136	.017	1.56	.219	.255	.286	.611	2.38	.044
%RSD	709.	84.7	180.	879.	15.2	67.1	84.7	332.	134.	121.	50.1	5.16
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**-.153**	**1.26**	**-.225**	**-1.31**	**2.97**	**4.73**	**-.452**	**.035**	**-.421**
Stddev	.076	.60	.282	.95	1.67	2.36	2.11	.333	.074
%RSD	49.5	47.5	125.	72.5	56.1	49.9	466.	951.	17.6
Check ?	None	None	None	None	None	None	None	None	None
Value									
Range									

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1300200.**	**128690.**	**13692.**
Stddev	6771.	377.	26.
%RSD	.52074	.29273	.19047

CVAA water



Std ID	Conc.	Calc.	Dev.	Mean	SD or %RSD	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
Calibration Blank	0.000	0.005	0.005	20	2.494	24	20	18		
0.5	0.500	0.489	-0.011	2230	1.6 %	2185	2234	2272		
1.0	1.000	1.077	0.077	4913	1.7 %	4809	4916	5016		
2.0	2.000	1.866	-0.134	8515	1.7 %	8329	8534	8684		
4.0	4.000	4.078	0.078	18615	1.2 %	18337	18635	18873		
10.0	10.000	9.985	-0.015	45578	1.8 %	44564	45577	46595		

Method: CVAA water Operator: Admin Date of Analysis: 26 Apr 2016 10:16:26

Sample ID	Date	Element	Units	Extended ID	LT Mean Conc
Calibration Blank	26 Apr 2016 10:26:17	Hg	ug/L		20.6667
0.5	26 Apr 2016 10:28:23	Hg	ug/L		2230.3333
1.0	26 Apr 2016 10:30:32	Hg	ug/L		4913.6667
2.0	26 Apr 2016 10:32:40	Hg	ug/L		8515.6667
4.0	26 Apr 2016 10:34:49	Hg	ug/L		18615.0000
10.0	26 Apr 2016 10:36:57	Hg	ug/L		45578.6667
ICV	26 Apr 2016 10:41:51	Hg	ug/L		3.0433
ICB	26 Apr 2016 10:43:57	Hg	ug/L		-0.0283
712448 LCSW56910	26 Apr 2016 10:46:04	Hg	ug/L		3.0453
712447 MBW56910	26 Apr 2016 10:48:10	Hg	ug/L		-0.0261
712064	26 Apr 2016 10:50:17	Hg	ug/L		0.0222
L712064	26 Apr 2016 10:52:24	Hg	ug/L		0.0022
DUP712064	26 Apr 2016 10:54:30	Hg	ug/L		0.0029
MSW712064	26 Apr 2016 10:56:37	Hg	ug/L		1.9749
MSDW712064	26 Apr 2016 10:58:44	Hg	ug/L		1.9681
PDSW712064	26 Apr 2016 11:00:51	Hg	ug/L		1.2686
712065	26 Apr 2016 11:02:59	Hg	ug/L		-0.0104
712408 LCSW56904	26 Apr 2016 11:05:07	Hg	ug/L		2.9900
CCV	26 Apr 2016 11:07:15	Hg	ug/L		3.0280
CCB	26 Apr 2016 11:09:21	Hg	ug/L		-0.0332
712407 MBW56904	26 Apr 2016 11:11:29	Hg	ug/L		0.0028
710865	26 Apr 2016 11:13:37	Hg	ug/L		0.0056
L710865	26 Apr 2016 11:15:46	Hg	ug/L		0.0029
DUP710865	26 Apr 2016 11:17:52	Hg	ug/L		0.0053
MSW710865	26 Apr 2016 11:19:59	Hg	ug/L		1.8398
MSDW710865	26 Apr 2016 11:22:06	Hg	ug/L		1.8897
PDSW710865	26 Apr 2016 11:24:13	Hg	ug/L		1.2495
712417 LCSW56906	26 Apr 2016 11:26:19	Hg	ug/L		2.9660
712416 MBW56906	26 Apr 2016 11:28:26	Hg	ug/L		-0.0329
711472	26 Apr 2016 11:30:34	Hg	ug/L		0.1076
CCV	26 Apr 2016 11:32:42	Hg	ug/L		2.9980
CCB	26 Apr 2016 11:34:47	Hg	ug/L		-0.0308
711641	26 Apr 2016 11:36:55	Hg	ug/L		0.0043
MSW711641	26 Apr 2016 11:39:03	Hg	ug/L		1.9688
MSDW711641	26 Apr 2016 11:41:11	Hg	ug/L		1.9330
PDSW711641	26 Apr 2016 11:43:19	Hg	ug/L		1.2418
711948	26 Apr 2016 11:45:28	Hg	ug/L		0.0048
MSW711948	26 Apr 2016 11:47:35	Hg	ug/L		1.9833
PDSW711948	26 Apr 2016 11:49:42	Hg	ug/L		1.2347
711968	26 Apr 2016 11:51:49	Hg	ug/L		0.0178
MSW711968	26 Apr 2016 11:53:56	Hg	ug/L		1.9333
MSDW711968	26 Apr 2016 11:56:03	Hg	ug/L		1.8621
CCV	26 Apr 2016 11:58:09	Hg	ug/L		2.9557
CCB	26 Apr 2016 12:00:15	Hg	ug/L		-0.0333
PDSW711968	26 Apr 2016 12:02:22	Hg	ug/L		1.2986
711984	26 Apr 2016 12:04:29	Hg	ug/L		0.2220
712335	26 Apr 2016 12:06:37	Hg	ug/L		0.0000
MSW712335	26 Apr 2016 12:08:44	Hg	ug/L		1.9235
MSDW712335	26 Apr 2016 12:10:52	Hg	ug/L		1.9173
PDSW712335	26 Apr 2016 12:13:01	Hg	ug/L		1.2213
712355	26 Apr 2016 12:15:10	Hg	ug/L		0.0104
712356	26 Apr 2016 12:17:17	Hg	ug/L		0.0203
MSW712356	26 Apr 2016 12:19:24	Hg	ug/L		1.4552
MSDW712356	26 Apr 2016 12:21:31	Hg	ug/L		1.3791
CCV	26 Apr 2016 12:23:39	Hg	ug/L		2.8526
CCB	26 Apr 2016 12:25:46	Hg	ug/L		-0.0353
PDSW712356	26 Apr 2016 12:27:53	Hg	ug/L		1.0331
711278 LCSW56860	26 Apr 2016 12:30:00	Hg	ug/L		2.7318
711277 MBW56860	26 Apr 2016 12:32:07	Hg	ug/L		-0.0319
711263	26 Apr 2016 12:34:15	Hg	ug/L		0.0030
MSW711263	26 Apr 2016 12:36:23	Hg	ug/L		1.9100
MSDW711263	26 Apr 2016 12:38:31	Hg	ug/L		1.9222
PDSW711263	26 Apr 2016 12:40:39	Hg	ug/L		1.2527
712413 LCSW56905	26 Apr 2016 12:42:47	Hg	ug/L		2.8500
712412 MBW56905	26 Apr 2016 12:44:56	Hg	ug/L		-0.0281

Sample ID	Date	Element	Units	Extended ID	LT Mean Conc
708260	26 Apr 2016 12:47:04	Hg	ug/L		4.7038
CCV	26 Apr 2016 12:49:11	Hg	ug/L		2.9181
CCB	26 Apr 2016 12:51:18	Hg	ug/L		-0.0344
DUP708260	26 Apr 2016 12:53:26	Hg	ug/L		4.8049
MSW708260	26 Apr 2016 12:55:33	Hg	ug/L		6.5381
PDSW708260	26 Apr 2016 12:57:41	Hg	ug/L		6.0707
712432 LCSW56909	26 Apr 2016 12:59:50	Hg	ug/L		2.8799
712431 MBW56909	26 Apr 2016 13:01:59	Hg	ug/L		-0.0358
708260	26 Apr 2016 13:04:06	Hg	ug/L		4.9144
L708260	26 Apr 2016 13:06:14	Hg	ug/L		0.8863
DUP708260	26 Apr 2016 13:08:23	Hg	ug/L		4.7946
MSW708260	26 Apr 2016 13:10:32	Hg	ug/L		6.6592
MSDW708260	26 Apr 2016 13:12:41	Hg	ug/L		6.5431
CCV	26 Apr 2016 13:14:52	Hg	ug/L		2.8783
CCB	26 Apr 2016 13:17:00	Hg	ug/L		-0.0342
PDSW708260	26 Apr 2016 13:19:07	Hg	ug/L		6.0209
709908 LCSW56789	26 Apr 2016 13:21:14	Hg	ug/L		2.6463
709907 MBW56789	26 Apr 2016 13:23:24	Hg	ug/L		-0.0277
708711	26 Apr 2016 13:25:32	Hg	ug/L		0.0029
L708711	26 Apr 2016 13:27:39	Hg	ug/L		0.0075
DUP708711	26 Apr 2016 13:29:46	Hg	ug/L		0.0077
MSW708711	26 Apr 2016 13:31:54	Hg	ug/L		1.7964
MSDW708711	26 Apr 2016 13:34:01	Hg	ug/L		1.9064
PDSW708711	26 Apr 2016 13:36:08	Hg	ug/L		1.2186
709918 LCSW56791	26 Apr 2016 13:38:16	Hg	ug/L		2.6995
CCV	26 Apr 2016 13:40:24	Hg	ug/L		2.9488
CCB	26 Apr 2016 13:42:31	Hg	ug/L		-0.0320
709917 MBW56791	26 Apr 2016 13:44:38	Hg	ug/L		0.0038
708832	26 Apr 2016 13:46:46	Hg	ug/L		0.0053
L708832	26 Apr 2016 13:48:55	Hg	ug/L		0.0042
DUP708832	26 Apr 2016 13:51:03	Hg	ug/L		0.0048
MSW708832	26 Apr 2016 13:53:11	Hg	ug/L		1.9042
MSDW708832	26 Apr 2016 13:55:19	Hg	ug/L		1.8903
PDSW708832	26 Apr 2016 13:57:26	Hg	ug/L		1.2398
709903 LCSW56788	26 Apr 2016 13:59:34	Hg	ug/L		2.7697
709902 MBW56788	26 Apr 2016 14:01:42	Hg	ug/L		-0.0283
707927	26 Apr 2016 14:03:50	Hg	ug/L		0.0989
CCV	26 Apr 2016 14:05:58	Hg	ug/L		2.9786
CCB	26 Apr 2016 14:08:04	Hg	ug/L		-0.0293
L707927	26 Apr 2016 14:10:12	Hg	ug/L		0.0259
DUP707927	26 Apr 2016 14:12:19	Hg	ug/L		0.0919
MSW707927	26 Apr 2016 14:14:28	Hg	ug/L		1.8243
MSDW707927	26 Apr 2016 14:16:36	Hg	ug/L		1.7747
PDSW707927	26 Apr 2016 14:18:45	Hg	ug/L		1.2498
709913 LCSW56790	26 Apr 2016 14:20:53	Hg	ug/L		2.6582
709912 MBW56790	26 Apr 2016 14:23:01	Hg	ug/L		-0.0314
708817	26 Apr 2016 14:25:10	Hg	ug/L		0.0237
708818	26 Apr 2016 14:27:17	Hg	ug/L		0.0148
L708818	26 Apr 2016 14:29:25	Hg	ug/L		0.0056
CCV	26 Apr 2016 14:31:33	Hg	ug/L		2.9416
CCB	26 Apr 2016 14:33:38	Hg	ug/L		-0.0310
DUP708818	26 Apr 2016 14:35:46	Hg	ug/L		0.0192
MSW708818	26 Apr 2016 14:37:54	Hg	ug/L		1.5897
MSDW708818	26 Apr 2016 14:40:01	Hg	ug/L		1.5188
PDSW708818	26 Apr 2016 14:42:10	Hg	ug/L		0.9947
709898 LCSW56787	26 Apr 2016 14:44:19	Hg	ug/L		2.7370
709897 MBW56787	26 Apr 2016 14:46:28	Hg	ug/L		-0.0289
706904	26 Apr 2016 14:48:37	Hg	ug/L		0.0110
706905	26 Apr 2016 14:50:45	Hg	ug/L		0.0169
L706905	26 Apr 2016 14:52:53	Hg	ug/L		0.0074
DUP706905	26 Apr 2016 14:55:00	Hg	ug/L		0.0117
CCV	26 Apr 2016 14:57:08	Hg	ug/L		2.9468
CCB	26 Apr 2016 14:59:14	Hg	ug/L		-0.0303
MSW706905	26 Apr 2016 15:01:21	Hg	ug/L		1.7863
MSDW706905	26 Apr 2016 15:03:29	Hg	ug/L		1.7763

Sample ID	Date	Element	Units	Extended ID	LT Mean Conc
PDSW706905	26 Apr 2016 15:05:37	Hg	ug/L		1.1763
711282 LCSW56862	26 Apr 2016 15:07:45	Hg	ug/L		2.7188
711281 MBW56862	26 Apr 2016 15:09:53	Hg	ug/L		-0.0291
710492	26 Apr 2016 15:12:01	Hg	ug/L		0.0082
MSW710492	26 Apr 2016 15:14:09	Hg	ug/L		1.8001
MSDW710492	26 Apr 2016 15:16:17	Hg	ug/L		1.7789
PDSW710492	26 Apr 2016 15:18:26	Hg	ug/L		1.1921
711473	26 Apr 2016 15:20:34	Hg	ug/L		0.0307
CCV	26 Apr 2016 15:22:42	Hg	ug/L		2.8325
CCB	26 Apr 2016 15:24:48	Hg	ug/L		-0.0343
711474	26 Apr 2016 15:26:56	Hg	ug/L		0.0362
712720 LCSW56929	26 Apr 2016 15:29:04	Hg	ug/L		2.5395
712719 MBW56929	26 Apr 2016 15:31:12	Hg	ug/L		-0.0223
711342	26 Apr 2016 15:33:21	Hg	ug/L		0.0031
L711342	26 Apr 2016 15:35:29	Hg	ug/L		0.0072
DUP711342	26 Apr 2016 15:37:37	Hg	ug/L		0.0048
MSW711342	26 Apr 2016 15:39:45	Hg	ug/L		1.8290
MSDW711342	26 Apr 2016 15:41:54	Hg	ug/L		1.7202
PDSW711342	26 Apr 2016 15:44:02	Hg	ug/L		1.2379
711372	26 Apr 2016 15:46:11	Hg	ug/L		-0.0017
CCV	26 Apr 2016 15:48:19	Hg	ug/L		2.9159
CCB	26 Apr 2016 15:50:25	Hg	ug/L		-0.0288
712403 LCSW56903	26 Apr 2016 15:52:33	Hg	ug/L		2.9001
712402 MBW56903	26 Apr 2016 15:54:41	Hg	ug/L		-0.0273
708864	26 Apr 2016 15:56:50	Hg	ug/L		0.0037
L708864	26 Apr 2016 15:58:59	Hg	ug/L		0.0018
DUP708864	26 Apr 2016 16:01:07	Hg	ug/L		0.0056
MSW708864	26 Apr 2016 16:03:16	Hg	ug/L		1.8077
MSDW708864	26 Apr 2016 16:05:24	Hg	ug/L		1.7538
PDSW708864	26 Apr 2016 16:07:33	Hg	ug/L		1.1106
712427 LCSW56907	26 Apr 2016 16:09:42	Hg	ug/L		2.7930
712426 MBW56907	26 Apr 2016 16:11:51	Hg	ug/L		-0.0313
CCV	26 Apr 2016 16:14:00	Hg	ug/L		2.9009
CCB	26 Apr 2016 16:16:06	Hg	ug/L		-0.0310
712015	26 Apr 2016 16:18:13	Hg	ug/L		0.0051
L712015	26 Apr 2016 16:20:22	Hg	ug/L		0.0014
DUP712015	26 Apr 2016 16:22:30	Hg	ug/L		0.0055
MSW712015	26 Apr 2016 16:24:39	Hg	ug/L		1.8615
MSDW712015	26 Apr 2016 16:26:47	Hg	ug/L		1.8570
PDSW712015	26 Apr 2016 16:28:56	Hg	ug/L		1.2129
709923 LCSW56792	26 Apr 2016 16:31:04	Hg	ug/L		2.7713
709922 MBW56792	26 Apr 2016 16:33:13	Hg	ug/L		-0.0232
718770	26 Apr 2016 16:35:22	Hg	ug/L		0.6434
708774	26 Apr 2016 16:37:31	Hg	ug/L		-0.0022
CCV	26 Apr 2016 16:39:39	Hg	ug/L		2.8718
CCB	26 Apr 2016 16:41:45	Hg	ug/L		-0.0287
L708774	26 Apr 2016 16:43:52	Hg	ug/L		0.0063
DUP708774	26 Apr 2016 16:46:01	Hg	ug/L		0.7534
MSW708774	26 Apr 2016 16:48:09	Hg	ug/L		2.5820
MSDW708774	26 Apr 2016 16:50:18	Hg	ug/L		2.5894
PDSW708774	26 Apr 2016 16:52:27	Hg	ug/L		1.2321
708775	26 Apr 2016 16:54:36	Hg	ug/L		0.0376
708776	26 Apr 2016 16:56:45	Hg	ug/L		0.0083
708777	26 Apr 2016 16:58:53	Hg	ug/L		0.6719
708778	26 Apr 2016 17:01:02	Hg	ug/L		-0.0014
708779	26 Apr 2016 17:03:11	Hg	ug/L		0.0149
CCV	26 Apr 2016 17:05:20	Hg	ug/L		2.8924
CCB	26 Apr 2016 17:07:26	Hg	ug/L		-0.0269
708780	26 Apr 2016 17:09:34	Hg	ug/L		0.0056
708781	26 Apr 2016 17:11:42	Hg	ug/L		0.0156
708782	26 Apr 2016 17:13:51	Hg	ug/L		0.8614
708783	26 Apr 2016 17:15:59	Hg	ug/L		0.0015
708785	26 Apr 2016 17:18:08	Hg	ug/L		0.0101
712452 MBW56911	26 Apr 2016 17:20:17	Hg	ug/L		0.0056
LOD	26 Apr 2016 17:22:25	Hg	ug/L		0.0529

042616WA PDF

Method: CVAA water Operator: Admin Date of Analysis: 26 Apr 2016 10:16:26

Sample ID	Date	Element	Units	Extended ID	LT Mean Conc
LOQ	26 Apr 2016 17:24:34	Hg	ug/L		0.1719
CCV	26 Apr 2016 17:26:44	Hg	ug/L		2.8753
CCB	26 Apr 2016 17:28:50	Hg	ug/L		-0.0275

METALS
LOGBOOK
DOCUMENTS

MICP WATER QSM Analytical Run
124962 on 05/03/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	711566								MICP WATER QSM				
					ICV					0			
	711567								MICP WATER QSM				
					ICVLL					0			
	711568								MICP WATER QSM				
					ICB					0			
	711569								MICP WATER QSM				
					ICSA					0			
	711570								MICP WATER QSM				
					ICSAB					0			
	711571								MICP WATER QSM				
					ICVLL					0			
	711572								MICP WATER QSM				
					CCV1					0			
	711573								MICP WATER QSM				
					CCV2					0			
	711574								MICP WATER QSM				
					CCB					0			
	709201								ICP TOTAL QSM 5.0				
					LCSW					56773			
	709200								ICP TOTAL QSM 5.0				
					MBW					56773			
	711575								MICP WATER QSM				
					CCV1					0			
	711576								MICP WATER QSM				
					CCV2					0			
	711577								MICP WATER QSM				
					CCB					0			
118280	708711		04/13/2016	1550			BERING SEA ENVIRONMENTAL	RADFORD AAP	ICP TOTAL QSM 5.0		GW	4	
		49ADW01								56773			
	711578								ICP TOTAL QSM 5.0				
					L	708711				0			
	709202		04/13/2016	1550					ICP TOTAL QSM 5.0				
		49ADW01			DUP	708711				56773			
	709203		04/13/2016	1550					ICP TOTAL QSM 5.0				
		49ADW01			MSW	708711				56773			
	709204		04/13/2016	1550					ICP TOTAL QSM 5.0				
		49ADW01			MSDW	709203				56773			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

MICP WATER QSM Analytical Run
124962 on 05/03/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	711579						ICP TOTAL QSM 5.0				
				PDSW 708711				0			
	711580						MICP WATER QSM				
				CCV1				0			
	711581						MICP WATER QSM				
				CCV2				0			
	711582						MICP WATER QSM				
				CCB				0			
	715710						MICP WATER QSM				
				ICV				0			
	715711						MICP WATER QSM				
				ICVLL				0			
	715712						MICP WATER QSM				
				ICB				0			
	715713						MICP WATER QSM				
				ICSA				0			
	715714						MICP WATER QSM				
				ICSAB				0			
	715715						MICP WATER QSM				
				ICVLL				0			
	709201						ICP TOTAL QSM 5.0				
RERUN				LCSW				56773			
	715716						MICP WATER QSM				
				CCV1				0			
	715717						MICP WATER QSM				
				CCV2				0			
	715718						MICP WATER QSM				
				CCB				0			

33 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

MICP WATER QSM K&Na Analytical Run
124966 on 05/03/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	711166								MICP WATER QSM K&Na				
					ICV					0			
	711167								MICP WATER QSM K&Na				
					ICVLL					0			
	711168								MICP WATER QSM K&Na				
					ICB					0			
	711169								MICP WATER QSM K&Na				
					MRL					0			
	711170								MICP WATER QSM K&Na				
					ICSA					0			
	711171								MICP WATER QSM K&Na				
					ICSAB					0			
	711172								MICP WATER QSM K&Na				
					CCV					0			
	711173								MICP WATER QSM K&Na				
					CCB					0			
	709201								ICP K TOTAL QSM 5.0				
					LCSW					56773			
	709201								ICP NA TOTAL QSM 5.0				
					LCSW					56773			
	709200								ICP K TOTAL QSM 5.0				
					MBW					56773			
	709200								ICP NA TOTAL QSM 5.0				
					MBW					56773			
118280	708711		04/13/2016	1550			BERING SEA ENVIRONMENTAL	RADFORD AAP	ICP K TOTAL QSM 5.0		GW	**4**	
		49ADW01								56773			
118280	708711		04/13/2016	1550			BERING SEA ENVIRONMENTAL	RADFORD AAP	ICP NA TOTAL QSM 5.0		GW	**4**	
		49ADW01								56773			
	711174								ICP K TOTAL QSM 5.0				
					L	708711				0			
	711174								ICP NA TOTAL QSM 5.0				
					L	708711				0			
	709202		04/13/2016	1550					ICP K TOTAL QSM 5.0				
		49ADW01			DUP	708711				56773			
	709202		04/13/2016	1550					ICP NA TOTAL QSM 5.0				
		49ADW01			DUP	708711				56773			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

MICP WATER QSM K&Na Analytical Run
124966 on 05/03/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME	QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	709203		04/13/2016 1550					ICP K TOTAL QSM 5.0				
		49ADW01		MSW	708711				56773			
	709203		04/13/2016 1550					ICP NA TOTAL QSM 5.0				
		49ADW01		MSW	708711				56773			
	711175							ICP K TOTAL QSM 5.0				
				PDSW	708711				0			
	711175							ICP NA TOTAL QSM 5.0				
				PDSW	708711				0			
	711176							MICP WATER QSM K&Na				
				CCV					0			
	711177							MICP WATER QSM K&Na				
				CCB					0			

24 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

MERCURY QSM 5.0 Analytical Run
125023 on 05/03/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	715537								MERCURY QSM 5.0				
					ICV					0			
	715538								MERCURY QSM 5.0				
					ICB					0			
	715560								MERCURY QSM 5.0				
					CCV					0			
	715561								MERCURY QSM 5.0				
					CCB					0			
	709908								MERCURY TOTAL QSM 5.0				
					LCSW					56789			
	709907								MERCURY TOTAL QSM 5.0				
					MBW					56789			
118280	708711		04/13/2016	1550			BERING SEA ENVIRONMENTAL	RADFORD AAP	MERCURY TOTAL QSM 5.0		GW	**4**	
		49ADW01								56789			
	709909		04/13/2016	1550					MERCURY TOTAL QSM 5.0				
		49ADW01			DUP	708711				56789			
	709910		04/13/2016	1550					MERCURY TOTAL QSM 5.0				
		49ADW01			MSW	708711				56789			
	709911		04/13/2016	1550					MERCURY TOTAL QSM 5.0				
		49ADW01			MSDW	709910				56789			
	715566								MERCURY QSM 5.0				
					CCV					0			
	715568								MERCURY QSM 5.0				
					CCB					0			

12 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

PREP WORKSHEET
on 05/03/2016

Prep Batch **56,773** Date Prepped: 04/15/2016 Prepped By LJF

Folder #	Order	QC Type	Link	Test	Matrix	Volume	Weight	Initial Volume	SDG Level	Notes
	709200	MBW		ICP K TOTAL QSM 5.0	LIQUID	50		50.0		
	709200	MBW		ICP NA TOTAL QSM 5.0	LIQUID	50		50.0		
	709200	MBW		ICP TOTAL QSM 5.0	LIQUID	50		50.0		
	709201	LCSW		ICP K TOTAL QSM 5.0	LIQUID	50		50.0		
	709201	LCSW		ICP NA TOTAL QSM 5.0	LIQUID	50		50.0		
	709201	LCSW		ICP TOTAL QSM 5.0	LIQUID	50		50.0		
	709201	LCSW		ICP TOTAL QSM 5.0	LIQUID	50		50.0		
118280	708711			ICP K TOTAL QSM 5.0	GROUND WATER	50		50.0	4	
	708711			ICP NA TOTAL QSM 5.0	GROUND WATER	50		50.0	4	
	708711			ICP TOTAL QSM 5.0	GROUND WATER	50		50.0	4	
	709202	DUP	708711	ICP K TOTAL QSM 5.0	GROUND WATER	50		50.0		
	709202	DUP	708711	ICP NA TOTAL QSM 5.0	GROUND WATER	50		50.0		
	709202	DUP	708711	ICP TOTAL QSM 5.0	GROUND WATER	50		50.0		
	709203	MSW	708711	ICP K TOTAL QSM 5.0	GROUND WATER	50		50.0		
	709203	MSW	708711	ICP NA TOTAL QSM 5.0	GROUND WATER	50		50.0		
	709203	MSW	708711	ICP TOTAL QSM 5.0	GROUND WATER	50		50.0		
	709204	MSDW	709203	ICP TOTAL QSM 5.0	GROUND WATER	50		50.0		

PREP WORKSHEET
on 05/03/2016

Notes:_____

PREP WORKSHEET
on 05/03/2016

Prep Batch **56,789** Date Prepped: 04/18/2016 Prepped By LJF

Folder #	Order	QC Type	Link	Test	Matrix	Volume	Weight	Initial Volume	SDG Level	Notes
	709907	MBW		MERCURY TOTAL QSM	LIQUID	25		25.0		
	709908	LCSW		MERCURY TOTAL QSM	LIQUID	25		25.0		
118280	708711			MERCURY TOTAL QSM	GROUND WATER	25		25.0	4	
	709909	DUP	708711	MERCURY TOTAL QSM	GROUND WATER	25		25.0		
	709910	MSW	708711	MERCURY TOTAL QSM	GROUND WATER	25		25.0		
	709911	MSDW	709910	MERCURY TOTAL QSM	GROUND WATER	25		25.0		

Notes:_____

Metals Digestion Bench Sheet

(Prep Methods 3010, 3020, 3005, & 3050)

Program: QSM

*Matrix: GW

3010= ICP Liquids
3020= GFAA Liquids
3005= Sb Liquids
3050= ICP/GFAA Solids
7060/7740= GFAA, As & Se Liquids

Prep Batch #:	56773
Prep Method:	3010
Analyst:	LJF
Date:	04/15/2016
Start Time:	11:00

Prep Analyst: LJF

Balance ID:

End Date: 04/15/2016

End Time: 16:00

Digestion Tube Lot #: J233685-6560

Block Used: B

Cell Position for Temp. Check: F-3

Initial-DigestionTemp (ºC): 91.5

Final-Digestion Temp (ºC): 91.5

Reagent:	Ref. #
Nitric Acid:	AB.617
Hydrochloric Acid:	AB.615
Hydrogen Peroxide:	

Sample ID			(Solids) Sample Weight (g)	(Liquids) Sample Volume (ml)	Final Volume (ml)
709200	(MB)			50.0	50
709201	(LCS)			50.0	50
708711				50.0	50
	Comments:				50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
709202	(DUP) if applicable			50.0	50
709203	(MS)	Parent Sample		50.0	50
709204	(MSD)	708711		50.0	50
Leave >>	(DUP) if applicable				50
blank	(MS)	Parent Sample			50
if N/A	(MSD)				50

MB=Method Blank, LCS=Laboratory Control Sample, DUP=Duplicate, MS=Matrix Spike & MSD=Matrix Spike Duplicate

*Matrix: Soil, Sludge, Waste, GW=Groundwater, WW=Wastewater, Tissue, TLCP, SPLP, ASTM or other.

MS/MSD Spike Amount (ml)	Spike Ref. #
0.2	M12773
0.5	M12744
0.5	M12768

LCS Spike Amount (ml)	Spike Ref. #
0.2	M12773
0.5	M12744
0.5	M12768

Reviewed By/Date:

FMT12-03

Mercury Digestion Bench Sheet

(Prep Methods 7470A & 7471A)

CCV ID: M12823
ICV/LCSW ID: M12822

*Matrix: GW
Balance ID:

Prep Batch #:	56789
Prep Method:	7470A
Analyst:	LJF
Date:	04/18/2016
Start Time:	07:00

7470A= Hg Liquids
7471A= Hg Solids

End Date: 04/18/2016
End Time: 09:00

Digestion Tube Lot #: 2116018
Block Used: B
Cell Position for Temp. Check: A-1
Initial-DigestionTemp (ºC): 91.8
Final-Digestion Temp (ºC): 91.8
Additional KMnO4 added (ml):
Aqua Regia added (ml)
Calibration Stds: M12820

Reagent:	Ref. #
HNO3:	AB.617
H2SO4:	AB.605
NaCl/Hydrox.SO4:	M12818
KMnO4:	M12827
K2S2O8:	M12774
Aqua-Regia:	M12825

Sample ID			(Solids) Sample Weight (g)	(Liquids) Sample Volume (ml)	Final Volume (ml)
709907	(MB)			25.0	25
709908	(LCS)			25.0	25
708711				25.0	25
	Comments:				25
					25
					25
					25
					25
					25
					25
					25
					25
					25
					25
					25
					25
					25
					25
					25
					25
					25
					25
					25
					25
					25
709909	(DUP) if applicable			25.0	25
709910	(MS)	Parent Sample		25.0	25
709911	(MSD)	708711		25.0	25
Leave >>	(DUP) if applicable				25
blank	(MS)	Parent Sample			25
	(MSD)				25
	(DUP) if applicable				25
	(MS)	Parent Sample			25
if N/A	(MSD)				25

MB=Method Blank, LCS=Laboratory Control Sample, DUP=Duplicate, MS=Matrix Spike & MSD=Matrix Spike Duplicate
*Matrix: Soil, Sludge, Waste, GW=Groundwater, WW=Wastewater, Tissue, TLCP, SPLP, ASTM or other.

A: Spike Amount (ml)	Spike Conc. (ug/L)	Spike Ref. #
0.5	100ug/L	M12821

B: Spike Amount (ml)	Spike Conc. (ug/L)	Spike Ref. #

Reviewed By/Date:

iCAP 6000 / 6500 Data Review Checklist	Analysis Date: 9-18-16		Data File: 00Results		Date of review: 9/19/16
Cal Std ID: MIX205 LIMS #: 124962	Analyst:		Reviewer: MOS		Approved? Yes No
Is Audit Trail turned on or Manual Manipulations addressed? Yes / No (If no, any manual manipulations must be initialed, dated, and reason(s) stated for change)					
QC Parameters : 6010 / 200.7 / QSM / Other	**YES**	**NO**	**YES**	**NO**	**Comments:**
1) Calibration linearity: r ≥ 0.995 / r > 0.998	✓		✓		
2) ICV: 90-110% / 95-105%	✓		✓		
2) ICVLL: 70-130% / 80-120%	✓		✓		
3) ICB: < 3X IDL / <LOD / <LOQ	✓		✓		
4) ICSA: < ABS LOD	✓		✓		
5) ICSAB: 80-120%	✓		✓		
6) MRL: 70-130% / 80-120%					
7) MDL Check: >LOD					
8) CCV1/CCB1 (CCV: 90-110%)	✓		✓		
9) CCV2/CCB2 (CCB: < 3X IDL / <LOD / <LOQ)					
10) CCV3/CCB3					
11) CCV4/CCB4					
12) CCV5/CCB5					
Preparation Batch Parameters	**YES**	**NO**	**YES**	**NO**	
Prep Batch ID#: 516723 Dig. Meth. 3010	✓		✓		
LCS - generated limits or project specific limits	✓		✓		
MB - <LOD or ≤ ½ RL	✓	✓	✓	✓	Ca, Se 7000 Se c/s RL "B"
Spiked samples in batch:					
a) 208711 matrix = GW	GW	✓	✓	✓	Ca, Mg, Na, K, Fe, Mn, Al, Ba, Cu, Zn, Co, Ni, Se, Tl, Pb, Sb, Be, Cd, Cr, V, Ag, Mo, Li, Sr, B, Si, Sn, Ti, Zr, Ce, Ge, Hf, Nb, Ta, W, Y, Sc, Th, U, Bi, Au, Pt, Pd, Ir, Os, Re, Rh, Ru, Te, Tb, Dy, Er, Eu, Gd, Ho, La, Lu, Nd, Pr, Sm, Tm, Yb, Hg
b) matrix =					
c) matrix =					
PDS: ±15% / 20% / 25% Sample#: a	✓	✓	✓	✓	
Prep Batch ID#: Dig. Meth.					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a) matrix =					
b) matrix =					
c) matrix =					
PDS: ±15% / 20% / 25% Sample#:					
Prep Batch ID#: Dig. Meth.					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a) matrix =					
b) matrix =					
c) matrix =					
PDS: ±15% / 20% / 25% Sample#:					
Prep Batch ID#: Dig. Meth.					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a) matrix =					
b) matrix =					
c) matrix =					
PDS: ±15% / 20% / 25% Sample#:					

iCAP 6000 / 6500 Data Review Checklist	Analysis Date: 04/18/16	Data File: Na K041816 v720	Date of review: 9-20-16
Cal Std ID: M17204 | LIMS # : 124966	Analyst: MJS	Reviewer:	Approved? (Yes) No
Is Audit Trail turned on or Manual Manipulations addressed? (Yes) No (If no, any manual manipulations must be initialed, dated, and reason(s) stated for change)			

QC Parameters : 6010 / 200.7 / QSM / Other	YES	NO	YES	NO	Comments:
1) Calibration linearity: r ≥ 0.995 / r > 0.998	✓		✓		
2) ICV: 90-110% / 95-105%	✓		✓		
2) ICVLL: 70-130% / (80-120%	✓		✓		
3) ICB: < 3X IDL / <LOD / <LOQ	✓		✓		
4) ICSA: < ABS LOD	✓		✓		
5) ICSAB: 80-120%	✓		✓		
6) MRL: 70-130% / 80-120%	✓		✓		
7) MDL Check: >LOD					
8) CCV1/CCB1 (CCV: 90-110%)	✓		✓		
9) CCV2/CCB2 (CCB: < 3X IDL / <LOD / <LOQ)					
10) CCV3/CCB3					
11) CCV4/CCB4					
12) CCV5/CCB5					

Preparation Batch Parameters	YES	NO	YES	NO	Comments:
Prep Batch ID#: 56773 Dig. Meth. 3010	✓		✓		
LCS - generated limits or project specific limits	✓		✓		
MB - <LOD or ≤ ½ RL	✓		✓		
Spiked samples in batch:					
a) 703711 matrix = GW	✓	✓	✓	✓	Linvalid, Dup invalid K NOT enough sample For MSD
b) matrix =					
c) matrix =					
PDS: ±15% / 20% / 25% Sample#: a	✓		✓		
Prep Batch ID#: Dig. Meth.					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a) matrix =					
b) matrix =					
c) matrix =					
PDS: ±15% / 20% / 25% Sample#:					
Prep Batch ID#: Dig. Meth.					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a) matrix =					
b) matrix =					
c) matrix =					
PDS: ±15% / 20% / 25% Sample#:					
Prep Batch ID#: Dig. Meth.					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a) matrix =					
b) matrix =					
c) matrix =					
PDS: ±15% / 20% / 25% Sample#:					

GFAA / FLAA / CVAA Data Review checklist		Method: 200.9	7000 series AA	245.1 & 245.2	245.7	7470a / 7471a
Instrumentation:	THERMO M SERIES AA		CETAC Hg ANALYZER			
Analysis Date: 4/26/16	Data File: 042616w2a	Date Reviewed: 4-27-16	Analyte: Hg			
Cal Std ID: M1870	LIMS #: 175023	Analyst: SF	Reviewer:	Approved? Yes	No	
Is Audit Trail turned on or Manual Manipulations addressed? (Yes) / No (If no, any manual manipulations must be initialed, dated, and reason(s) stated for change)						

Calibration Parameters -	YES	NO	YES	NO	Comments:
1) Calibration linearity - r > 0.995	✓		✓		
2) ICV: 90-110% 95-105%	✓		✓		
2) ICVLL: 70-130% 80-120%					
3) ICB: <IDL / <LOD / <LOQ / <½ RL	✓		✓		
6) MRL: 70-130%					
7) CCV1/CCB1- (CCV: 90-110% / 80-120%)	✓		✓		
8) CCV2/CCB2 (CCB: <IDL / <LOD / <LOQ / <½ RL)					
9) CCV3/CCB3					
10) CCV4/CCB4					
11) CCV5/CCB5					

Preparation Batch Parameters	YES	NO	YES	NO	Comments:
Prep Batch ID#: 56789 Dig. Meth. 7470A	✓		✓		
LCS - generated limits or project specific limits	✓		✓		
MB - <LOD / <2.2X LOD / ≤ ½RL	✓		✓		
Spiked samples in batch:					
a) 708711 matrix = GW	✓		✓		
b) matrix =					
c) matrix =					
d) matrix =					
e) matrix =					
PDS: ±15% / 20% / 25% Sample# 708711	✓		✓		
MSA Performed? Yes No					
Prep Batch ID#: Dig. Meth.					
LCS - generated limits or project specific limits					
MB - <LOD / <2.2X LOD / ≤ ½RL					
Spiked samples in batch:					
a) matrix =					
b) matrix =					
c) matrix =					
d) matrix =					
e) matrix =					
PDS: ±15% / 20% / 25% Sample#					
MSA Performed? Yes No					
Prep Batch ID#: Dig. Meth.					
LCS - generated limits or project specific limits					
MB - <LOD / <2.2X LOD / ≤ ½RL					
Spiked samples in batch:					
a) matrix =					
b) matrix =					
c) matrix =					
d) matrix =					
e) matrix =					
PDS: ±15% / 20% / 25% Sample#					
MSA Performed? Yes No					

CT Laboratories Instrument Run Log

Instrument ID: ICP 6000 (See Journal for Wavelength Check)

Date	Time Start	Time End	Analyst	Method	LDMS# or Sample #	Sequence I.D.	Cal. Std. ID	Comments	Pressure (KPa)
04/14/16	0940	1607	MDS	NaK	124737, 124781, 124930	NaK041416	M12704	v716, v717	320
04/15/16	0853	1102	MDS	NaK	124830, 124831	NaK041516	M12704	v718	320
04/18/16	0812	1603	MDS	NaK	124926, 124966, 124967, 124968, 124969, 124916, 124915, 124914, 124987, 124911	NaK041816	M12704	v720, v721	320
04/21/16	1107	1452	MDS	NaK	125006, 125007, 125011, 125084, 125086, 125062, 125064	NaK042116	M12704	v723, v724	320
04/22/16	1406	1810	MDS	NaK	125105, 125241, 125240, 125261	NaK042216	M12704	~~v725~~ v726	320

Checked by: _____ Verified by: _____

CT Laboratories Instrument Run Log

Instrument ID: ICP 6500

Date	Time Start/End	Analyst	Analytes	LIMS run or Samples Analyzed	Sequence ID	Cal Std ID	Neb Pressure	Comments
4-8-16	0743/1400	[redacted]	DOD Cal w	[redacted]	040816	M12705	270	V1374, V1376
4-11-16	0752/2200	[redacted]	DOD calw	[redacted]	041116	M12705	270	V1378, V1379
4-12-16	0752/1430	[redacted]	DOD calw	[redacted]	041216	M12705	270	V1381, V1382, V1383, V1384, V1385, V1386, V1387, V1388, V1389, V1390, V1391, V1392, V1393, V1394, V1395
4-13-16	0957/1859	[redacted]	DOD cal w	124783, 124784, 124782	041316	M12705	270	V1395
4-14-16	1032/2348	[redacted]	DOD cal w	[redacted]	041416	M12705	270	V1396, V1397
4-15-16	1108/2237	[redacted]	DOD calw	[redacted]	041516	M12705	270	V1398, V1402, V1403, V1404, V1405, V1406, V1407
4-18-16	0849/2138	[redacted]	DOD Cal w	[redacted]	041816	M12705	260	V1401, V1408, V1409, V1412
4-19-16	1007/1642	[redacted]	DOD Cal w	CCB LDB PT	041916	M12705	260	V1417
4-20-16	0812/1550	[redacted]	DOD cal w	[redacted]	042016	M12705	260	V1413, V1414, V1415, V1416
4-22-16	0900/1410	[redacted]	DOD Cal w	125237	042216	M12705	260	V1411
4-25-16	0840/1911	[redacted]	DOD Cal w	[redacted]	042516	M12705	330	V1418, V1419
4-26-16	0818/0845	[redacted]	DOD Cal w	[redacted]	042616	M12705	330	V1421
4-27-16	1615/0813	[redacted]	DOD Cal w	[redacted]	042716	M12705	330	V1422, V1423
4-28-16	1615/013	[redacted]	DOD Cal w	[redacted]	042816	M12705	330	V1423
4-28-16	1136/1521	[redacted]	DOD Cal w	[redacted]	042816	M12705	330	V1426
4-29-16	0852/2217	[redacted]	DOD Cal w	[redacted]	042916	M12705	330	V1427, V1428, V1429, V1430, V1431
5-2-16	0848/0010	[redacted]	DOD Cal w	[redacted]	050216	M12705	300	V1432, V1433
5-3-16	/	[redacted]	DOD Cal w		05			

CT Laboratories

Mercury Analyzer Instrument Run Log

Instrument ID: ~~Cetac M-6000A~~ 12/15/15 SF Teledyne Hydra II

Analysis Date	Start Time	End Time	Analyst	LIMS Run # (s)	Method File ID #	Cal. Std. ID #	Lamp Current (mA)	Analysis Tube Lot #	Comments
04/14/16	11:45	12:42	SF	124806, 124809, 124808, 124810	04141600	M12810	22.86	250774	Sncl2: M12826
04/18/16	08:56	11:29	SF	124807, 124806, 124810	04181600	M12820	22.86	250774	Sncl2: M12826 04/18/16 SF
04/19/16	08:20	10:43	SF	125000 125002, 124999, 124995, 125001	04191600	M12820	22.86	250774	Sncl2: M12826
04/19/16	10:55	12:17	SF	125006, 124822	04191650	M12820	22.86	250774	Sncl2: M12826
04/26/16	10:26	17:28	SF	[illegible]	04261600	M12820	22.86	250774	Sncl2: M12826 04/26/16 SF
04/27/16	09:11	11:46	SF	125417 125325, 125323, 125322	04271650	M12820	22.86	250774	Sncl2: M12826
04/28/16	08:31	10:18	SF	125451, 125450, 125419	04281600	M12820	22.86	250774	Sncl2: M12826
04/28/16	10:53	11:50	SF	125470	04281650	M12820	22.86	250774	Sncl2: M12826
05/02/16	07:34	09:07	SF	125539, 125540	05021600	M12820	22.86	250774	Sncl2: M12826
05/02/16	11:27	12:52	SF	125537	05021650	M12820	22.86	250774	Sncl2: M12826

Reviewed By/Date: _____

Type	Date/Time	Message	User name	Application	Sequence Name
	04/15/2016 10:57:12	Running 706897 (50)	MDS	Analyst	S_Sodium and Potas
	04/15/2016 10:59:57	Running ccv (14)	MDS	Analyst	S_Sodium and Potas
	04/15/2016 11:02:45	Running ccb (15)	MDS	Analyst	S_Sodium and Potas
	04/15/2016 11:05:32	Plasma extinguished successfully	MDS	Analyst	
	04/15/2016 11:05:32	Plasma off	MDS	iTEVA Control Center	
	04/15/2016 11:05:34	Autosampler Run Completed	MDS	Analyst	S_Sodium and Potas
	04/18/2016 07:52:45	Plasma On	MDS	iTEVA Control Center	
	04/18/2016 07:52:50	Plasma ignition successful	MDS	Analyst	
	04/18/2016 07:53:29	D33534 - Debug:Wavelength check : x = -0.457, y =-0.439	MDS	Analyst	
	04/18/2016 08:12:21	Sequence Started	MDS	Analyst	S_Sodium and Potas
	04/18/2016 08:12:21	Autosampler Run Started	MDS	Analyst	
	04/18/2016 08:12:42	Running Blank (1)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 08:15:39	Running CalibStd-0.5 (2)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 08:18:25	Running CalibStd-1.0 (3)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 08:21:11	Running CalibStd-5.0 (4)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 08:23:58	Running CalibStd-10.0 (5)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 08:26:46	Running CalibStd-50 (6)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 08:29:34	Running CalibStd-100 (7)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 08:32:21	Running CalibStd-200 (8)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 08:35:07	Running CalibStd-500 (9)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 08:38:10	Running icv (10)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 08:40:56	Running ICVLL (17)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 08:43:43	Running icb (11)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 08:46:29	Running mrl (16)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 08:49:16	Running icsa (12)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 08:52:20	Running icsab (13)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 08:55:15	Running lcsw56774 (1)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 08:57:59	Running mbw56774 (2)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 09:00:46	Running 708770 (3)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 09:03:29	Running l708770 (4)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 09:06:13	Running dup708770 (5)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 09:08:57	Running msw708770 (6)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 09:11:41	Running pdsw708770 (7)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 09:14:26	Running 708774 (8)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 09:17:09	Running 708775 (9)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 09:19:55	Running 708776 (10)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 09:22:51	Running ccv (14)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 09:25:39	Running ccb (15)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 09:28:26	Running 708777 (11)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 09:31:11	Running 708778 (12)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 09:34:08	Running 708779 (13)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 09:36:52	Running 708780 (14)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 09:39:35	Running 708781 (15)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 09:42:19	Running 708782 (16)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 09:45:03	Running 708783 (17)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 09:47:46	Running 708785 (18)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 09:50:29	Running lcsw56739 (19)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 09:53:16	Running mbw56739 (20)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 09:56:04	Running ccv (14)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 09:58:51	Running ccb (15)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 10:01:39	Running 707452 (21)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 10:04:25	Running 707469 (22)	MDS	Analyst	S_Sodium and Potas

Type	Date/Time	Message	User name	Application	Sequence Name
	04/18/2016 10:07:08	Running 707470 (23)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 10:09:54	Running 707921 (24)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 10:12:40	Running 707922 (25)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 10:15:24	Running 707923 (26)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 10:18:08	Running 707924 (27)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 10:20:52	Running msw707924 (28)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 10:23:37	Running msdw707924 (29)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 10:26:22	Running pdsw707924 (30)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 10:29:07	Running ccv (14)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 10:31:54	Running ccb (15)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 10:34:40	Running 707925 (31)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 10:37:46	Running lcsw56741 (32)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 10:40:31	Running mbw56741 (33)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 10:43:19	Running 707927 (34)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 10:46:14	Running l707927 (35)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 10:49:02	Running dup707927 (36)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 10:51:56	Running msw707927 (37)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 10:54:51	Running msdw707927 (38)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 10:57:46	Running pdsw707927 (39)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 11:00:41	Running lcss56738 (40)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 11:03:24	Running ccv (14)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 11:06:12	Running ccb (15)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 11:08:59	Running mbs56738 (41)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 11:11:46	Running 706934 (42)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 11:14:31	Running mss706934 (43)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 11:17:14	Running msds706934 (44)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 11:19:58	Running pdss706934 (45)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 11:22:43	Running 707881 (46)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 11:25:48	Running mss707881 (47)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 11:28:53	Running msds707881 (48)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 11:31:59	Running pdss707881 (49)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 11:35:04	Running lcsw (50)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 11:37:51	Running ccv (14)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 11:40:39	Running ccb (15)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 11:43:26	Running mbw (51)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 11:46:14	Running 708958 (52)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 11:48:59	Running msw708958 (53)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 11:51:44	Running msdw708958 (54)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 11:54:29	Running 708968 (55)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 11:57:14	Running 708969 (56)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 11:59:59	Running 708970 (57)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 12:02:44	Running 708971 (58)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 12:05:29	Running 708972 (59)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 12:08:15	Running 708973 (60)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 12:11:02	Running ccv (14)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 12:13:49	Running ccb (15)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 12:16:36	Running 708974 (61)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 12:19:22	Running 708975 (62)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 12:22:07	Running 708976 (63)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 12:24:52	Running 708978 (64)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 12:27:38	Running lcsw56775 (65)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 12:30:26	Running mbw56775 (66)	MDS	Analyst	S_Sodium and Potas

Type	Date/Time	Message	User name	Application	Sequence Name
	04/18/2016 12:33:14	Running 708726 (67)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 12:36:11	Running msw708726 (68)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 12:39:08	Running msdw708726 (69)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 12:42:05	Running pdsw708726 (70)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 12:45:02	Running ccv (14)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 12:47:49	Running ccb (15)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 12:50:37	Running 708745 (71)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 12:53:22	Running 708746 (72)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 12:56:09	Running lcsw56773 (73)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 12:58:55	Running mbw56773 (74)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 13:01:45	Running 708711 (75)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 13:04:31	Running l708711 (76)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 13:07:17	Running dup708711 (77)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 13:10:03	Running msw708711 (78)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 13:12:49	Running pdsw708711 (79)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 13:15:35	Running lcsw56770 (80)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 13:18:21	Running ccv (14)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 13:21:08	Running ccb (15)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 13:23:56	Running mbw56770 (81)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 13:26:45	Running 708817 (82)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 13:29:29	Running l708817 (83)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 13:32:16	Running dup708817 (84)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 13:35:01	Running msw708817 (85)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 13:37:56	Running msdw708817 (86)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 13:40:53	Running pdsw708817 (87)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 13:43:47	Running 708818 (88)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 13:46:32	Running lcsw56771 (89)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 13:49:18	Running mbw56771 (90)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 13:52:07	Running ccv (14)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 13:54:54	Running ccb (15)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 13:57:43	Running 708832 (91)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 14:00:27	Running l708832 (92)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 14:03:16	Running dup708832 (93)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 14:06:00	Running msw708832 (94)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 14:08:45	Running pdsw708832 (95)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 14:11:29	Running lcsw56772 (96)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 14:14:15	Running mbw56772 (97)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 14:17:05	Running 708863 (98)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 14:19:52	Running l708863 (99)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 14:22:38	Running dup708863 (100)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 14:25:24	Running ccv (14)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 14:28:12	Running ccb (15)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 14:30:59	Running msw708863 (101)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 14:33:57	Running msdw708863 (102)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 14:36:55	Running pdsw708863 (103)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 14:39:53	Running 708898 (104)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 14:42:40	Running 708776 (105)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 14:45:27	Running 708778 (106)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 14:48:13	Running 707921 (107)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 14:51:00	Running 707925 (108)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 14:53:46	Running 707927 (109)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 14:56:35	Running l707927 (110)	MDS	Analyst	S_Sodium and Potas

Type	Date/Time	Message	User name	Application	Sequence Name
	04/15/2016 19:00:35	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	04/15/2016 19:06:39	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	04/15/2016 19:13:10	Running 709009 (41)	NAH	Analyst	S_DOD Calibration
	04/15/2016 19:19:33	Running mss709009 (42)	NAH	Analyst	S_DOD Calibration
	04/15/2016 19:25:33	Running msds709009 (43)	NAH	Analyst	S_DOD Calibration
	04/15/2016 19:31:30	Running pdss709009 (44)	NAH	Analyst	S_DOD Calibration
	04/15/2016 19:37:30	Running lcsw56774 (45)	NAH	Analyst	S_DOD Calibration
	04/15/2016 19:43:58	Running mbw56774 (46)	NAH	Analyst	S_DOD Calibration
	04/15/2016 19:50:29	Running 708770 (47)	NAH	Analyst	S_DOD Calibration
	04/15/2016 19:57:20	Running l708770 (48)	NAH	Analyst	S_DOD Calibration
	04/15/2016 20:03:42	Running dup708770 (49)	NAH	Analyst	S_DOD Calibration
	04/15/2016 20:10:34	Running msw708770 (50)	NAH	Analyst	S_DOD Calibration
	04/15/2016 20:17:10	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	04/15/2016 20:22:44	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	04/15/2016 20:28:48	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	04/15/2016 20:35:19	Running msdw708770 (51)	NAH	Analyst	S_DOD Calibration
	04/15/2016 20:41:55	Running pdsw708770 (52)	NAH	Analyst	S_DOD Calibration
	04/15/2016 20:48:11	Running 708774 (53)	NAH	Analyst	S_DOD Calibration
	04/15/2016 20:54:57	Running 708775 (54)	NAH	Analyst	S_DOD Calibration
	04/15/2016 21:01:13	Running 708776 (55)	NAH	Analyst	S_DOD Calibration
	04/15/2016 21:08:08	Running 708777 (56)	NAH	Analyst	S_DOD Calibration
	04/15/2016 21:14:59	Running 708778 (57)	NAH	Analyst	S_DOD Calibration
	04/15/2016 21:21:53	Running 708779 (58)	NAH	Analyst	S_DOD Calibration
	04/15/2016 21:28:47	Running 708780 (59)	NAH	Analyst	S_DOD Calibration
	04/15/2016 21:35:16	Running 708781 (60)	NAH	Analyst	S_DOD Calibration
	04/15/2016 21:41:50	Running ccv1 (28)	NAH	Analyst	S_DOD Calibration
	04/15/2016 21:47:26	Running ccv2 (26)	NAH	Analyst	S_DOD Calibration
	04/15/2016 21:53:29	Running ccb (27)	NAH	Analyst	S_DOD Calibration
	04/15/2016 22:00:00	Running 708782 (61)	NAH	Analyst	S_DOD Calibration
	04/15/2016 22:06:27	Running 708783 (62)	NAH	Analyst	S_DOD Calibration
	04/15/2016 22:12:58	Running 708785 (63)	NAH	Analyst	S_DOD Calibration
	04/15/2016 22:19:29	Running MRL (24)	NAH	Analyst	S_DOD Calibration
	04/15/2016 22:25:55	Running ccv1 (28)	NAH	Analyst	S_DOD Calibration
	04/15/2016 22:31:30	Running ccv2 (26)	NAH	Analyst	S_DOD Calibration
	04/15/2016 22:37:34	Running ccb (27)	NAH	Analyst	S_DOD Calibration
	04/15/2016 22:44:05	Plasma extinguished successfully	NAH	Analyst	
	04/15/2016 22:44:06	Plasma off	NAH	iTEVA Control Center	
	04/15/2016 22:44:07	Autosampler Run Completed	NAH	Analyst	S_DOD Calibration
	04/18/2016 07:24:26	iTEVA loaded	NAH	iTEVA Control Center	
	04/18/2016 07:24:45	Connected to instrument 20082101	NAH	iTEVA Control Center	
	04/18/2016 07:44:43	Plasma On	NAH	iTEVA Control Center	
	04/18/2016 07:44:50	Plasma ignition successful	NAH	Analyst	
	04/18/2016 07:45:29	D33534 - Debug:Wavelength check : x = 1.497, y =1.424	NAH	Analyst	
	04/18/2016 08:32:05	Autosampler Run Started	NAH	Analyst	
	04/18/2016 08:32:05	Sequence Started	NAH	Analyst	S_DOD Calibration
	04/18/2016 08:32:26	Running Blank (1)	NAH	Analyst	S_DOD Calibration
	04/18/2016 08:39:02	Running CalStd1=0.25 (2)	NAH	Analyst	S_DOD Calibration
	04/18/2016 08:40:32	Autosampler Run Completed	NAH	Analyst	S_DOD Calibration
	04/18/2016 08:44:23	Autosampler Run Started	NAH	Analyst	
	04/18/2016 08:44:23	Sequence Started	NAH	Analyst	S_DOD Calibration
	04/18/2016 08:44:44	Running Blank (1)	NAH	Analyst	S_DOD Calibration
	04/18/2016 08:51:11	Running CalStd1=0.25 (2)	NAH	Analyst	S_DOD Calibration
	04/18/2016 08:57:44	Running CalStd2=0.5 (3)	NAH	Analyst	S_DOD Calibration

Type	Date/Time	Message	User name	Application	Sequence Name
	04/18/2016 09:04:15	Running CalStd3=1 (4)	NAH	Analyst	S_DOD Calibration
	04/18/2016 09:10:33	Closing will close the method and all associated samples.	NAH	Analyst	
	04/18/2016 09:10:46	Running CalStd4=5 (5)	NAH	Analyst	S_DOD Calibration
	04/18/2016 09:11:28	Closing will close the method and all associated samples.	NAH	Analyst	
	04/18/2016 09:15:15	Closing will close the method and all associated samples.	NAH	Analyst	
	04/18/2016 09:17:18	Running CalStd5=10 (6)	NAH	Analyst	S_DOD Calibration
	04/18/2016 09:23:47	Running CalStd6=20 (7)	NAH	Analyst	S_DOD Calibration
	04/18/2016 09:30:14	Running CalStd7=50 (8)	NAH	Analyst	S_DOD Calibration
	04/18/2016 09:36:34	Running CalStd8=100 (9)	NAH	Analyst	S_DOD Calibration
	04/18/2016 09:42:54	Running CalStd9=1000 (10)	NAH	Analyst	S_DOD Calibration
	04/18/2016 09:48:43	Running CalStd10=10000 (11)	NAH	Analyst	S_DOD Calibration
	04/18/2016 09:54:39	Running CalStd11-100k (12)	NAH	Analyst	S_DOD Calibration
	04/18/2016 10:00:46	Closing will close the method and all associated samples.	NAH	Analyst	
	04/18/2016 10:01:07	Running CalStd12-100000 (13)	NAH	Analyst	S_DOD Calibration
	04/18/2016 10:06:51	Closing will close the method and all associated samples.	NAH	Analyst	
	04/18/2016 10:07:48	Running CalStd13=500000 (14)	NAH	Analyst	S_DOD Calibration
	04/18/2016 10:14:26	Running CalStd14-1000k (15)	NAH	Analyst	S_DOD Calibration
	04/18/2016 10:21:12	Running blkrinse (22)	NAH	Analyst	S_DOD Calibration
	04/18/2016 10:27:37	Running icv (16)	NAH	Analyst	S_DOD Calibration
	04/18/2016 10:34:00	Running ICVLL (25)	NAH	Analyst	S_DOD Calibration
	04/18/2016 10:40:21	Running icb (17)	NAH	Analyst	S_DOD Calibration
	04/18/2016 10:46:55	Running icb (17)	NAH	Analyst	S_DOD Calibration
	04/18/2016 10:53:26	Running MRL (24)	NAH	Analyst	S_DOD Calibration
	04/18/2016 10:59:52	Running icsa (20)	NAH	Analyst	S_DOD Calibration
	04/18/2016 11:06:31	Running icsab (21)	NAH	Analyst	S_DOD Calibration
	04/18/2016 11:13:38	Running ICVLL ag (1)	NAH	Analyst	S_DOD Calibration
	04/18/2016 11:20:06	Running lcsw56775 (2)	NAH	Analyst	S_DOD Calibration
	04/18/2016 11:24:22	Closing will close the method and all associated samples.	NAH	Analyst	
	04/18/2016 11:26:25	Running mbw56775 (3)	NAH	Analyst	S_DOD Calibration
	04/18/2016 11:33:10	Running 708953 (4)	NAH	Analyst	S_DOD Calibration
	04/18/2016 11:39:06	The standard CalStd8=100 will be permanently removed from the stand	NAH	Analyst	
	04/18/2016 11:40:01	Running 708957 (5)	NAH	Analyst	S_DOD Calibration
	04/18/2016 11:46:51	Running msw708957 (6)	NAH	Analyst	S_DOD Calibration
	04/18/2016 11:53:48	Running msdw708957 (7)	NAH	Analyst	S_DOD Calibration
	04/18/2016 12:00:37	Running pdsw708957 (8)	NAH	Analyst	S_DOD Calibration
	04/18/2016 12:07:24	Running 708977 (9)	NAH	Analyst	S_DOD Calibration
	04/18/2016 12:14:15	Running lcsw56772 (10)	NAH	Analyst	S_DOD Calibration
	04/18/2016 12:20:42	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	04/18/2016 12:26:13	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	04/18/2016 12:32:14	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	04/18/2016 12:38:45	Running mbw56772 (11)	NAH	Analyst	S_DOD Calibration
	04/18/2016 12:45:17	Running 708863 (12)	NAH	Analyst	S_DOD Calibration
	04/18/2016 12:52:20	Running l708863 (13)	NAH	Analyst	S_DOD Calibration
	04/18/2016 12:59:13	Running dup708863 (14)	NAH	Analyst	S_DOD Calibration
	04/18/2016 13:06:15	Running msw708863 (15)	NAH	Analyst	S_DOD Calibration
	04/18/2016 13:11:49	Closing will close the method and all associated samples.	NAH	Analyst	
	04/18/2016 13:12:47	Running msdw708863 (16)	NAH	Analyst	S_DOD Calibration
	04/18/2016 13:19:30	Running pdsw708863 (17)	NAH	Analyst	S_DOD Calibration
	04/18/2016 13:25:52	Running 708898 (18)	NAH	Analyst	S_DOD Calibration
	04/18/2016 13:32:46	Running lcsw56773 (19)	NAH	Analyst	S_DOD Calibration
	04/18/2016 13:39:13	Running mbw56773 (20)	NAH	Analyst	S_DOD Calibration
	04/18/2016 13:45:50	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	04/18/2016 13:51:22	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration

Type	Date/Time	Message	User name	Application	Sequence Name
	04/18/2016 13:57:34	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	04/18/2016 14:04:06	Running 708711 (21)	NAH	Analyst	S_DOD Calibration
	04/18/2016 14:10:54	Running l708711 (22)	NAH	Analyst	S_DOD Calibration
	04/18/2016 14:17:57	Running dup708711 (23)	NAH	Analyst	S_DOD Calibration
	04/18/2016 14:24:46	Running msw708711 (24)	NAH	Analyst	S_DOD Calibration
	04/18/2016 14:31:09	Running msdw708711 (25)	NAH	Analyst	S_DOD Calibration
	04/18/2016 14:37:32	Running pdsw708711 (26)	NAH	Analyst	S_DOD Calibration
	04/18/2016 14:43:43	Running lcsw56771 (27)	NAH	Analyst	S_DOD Calibration
	04/18/2016 14:50:19	Running mbw56771 (28)	NAH	Analyst	S_DOD Calibration
	04/18/2016 14:56:50	Running 708832 (29)	NAH	Analyst	S_DOD Calibration
	04/18/2016 15:03:38	Running l708832 (30)	NAH	Analyst	S_DOD Calibration
	04/18/2016 15:09:59	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	04/18/2016 15:15:30	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	04/18/2016 15:21:31	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	04/18/2016 15:28:01	Running dup708832 (31)	NAH	Analyst	S_DOD Calibration
	04/18/2016 15:34:50	Running msw708832 (32)	NAH	Analyst	S_DOD Calibration
	04/18/2016 15:41:10	Running msdw708832 (33)	NAH	Analyst	S_DOD Calibration
	04/18/2016 15:47:30	Running pdsw708832 (34)	NAH	Analyst	S_DOD Calibration
	04/18/2016 15:53:42	Running lcsw56770 (35)	NAH	Analyst	S_DOD Calibration
	04/18/2016 16:00:09	Running mbw56770 (36)	NAH	Analyst	S_DOD Calibration
	04/18/2016 16:06:39	Running 708817 (37)	NAH	Analyst	S_DOD Calibration
	04/18/2016 16:13:14	Running l708817 (38)	NAH	Analyst	S_DOD Calibration
	04/18/2016 16:19:45	Running dup708817 (39)	NAH	Analyst	S_DOD Calibration
	04/18/2016 16:26:21	Running msw708817 (40)	NAH	Analyst	S_DOD Calibration
	04/18/2016 16:32:52	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	04/18/2016 16:38:25	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	04/18/2016 16:44:26	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	04/18/2016 16:50:57	Running msdw708817 (41)	NAH	Analyst	S_DOD Calibration
	04/18/2016 16:57:27	Running pdsw708817 (42)	NAH	Analyst	S_DOD Calibration
	04/18/2016 17:03:41	Running 708818 (43)	NAH	Analyst	S_DOD Calibration
	04/18/2016 17:10:17	Running 707642 (44)	NAH	Analyst	S_DOD Calibration
	04/18/2016 17:16:29	Running 707888 (45)	NAH	Analyst	S_DOD Calibration
	04/18/2016 17:22:56	Running 707881 (46)	NAH	Analyst	S_DOD Calibration
	04/18/2016 17:29:33	Running pdss707881 (47)	NAH	Analyst	S_DOD Calibration
	04/18/2016 17:36:07	Running LCSS56822 (48)	NAH	Analyst	S_DOD Calibration
	04/18/2016 17:42:04	Running MBS56822 (49)	NAH	Analyst	S_DOD Calibration
	04/18/2016 17:48:34	Running 709402 (50)	NAH	Analyst	S_DOD Calibration
	04/18/2016 17:55:11	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	04/18/2016 18:00:42	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	04/18/2016 18:06:41	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	04/18/2016 18:13:12	Running MSS709402 (51)	NAH	Analyst	S_DOD Calibration
	04/18/2016 18:19:43	Running MSDS709402 (52)	NAH	Analyst	S_DOD Calibration
	04/18/2016 18:26:14	Running PDSS709402 (53)	NAH	Analyst	S_DOD Calibration
	04/18/2016 18:32:25	Running 709441 (54)	NAH	Analyst	S_DOD Calibration
	04/18/2016 18:38:52	Running 709858 (55)	NAH	Analyst	S_DOD Calibration
	04/18/2016 18:45:10	Running LCSW56813 (56)	NAH	Analyst	S_DOD Calibration
	04/18/2016 18:51:37	Running MBW56813 (57)	NAH	Analyst	S_DOD Calibration
	04/18/2016 18:58:07	Running 709467 (58)	NAH	Analyst	S_DOD Calibration
	04/18/2016 19:05:06	Running 709468 (59)	NAH	Analyst	S_DOD Calibration
	04/18/2016 19:12:04	Running 709469 (60)	NAH	Analyst	S_DOD Calibration
	04/18/2016 19:19:01	Running ccv1 (28)	NAH	Analyst	S_DOD Calibration
	04/18/2016 19:24:35	Running ccv2 (26)	NAH	Analyst	S_DOD Calibration
	04/18/2016 19:30:37	Running ccb (27)	NAH	Analyst	S_DOD Calibration

Type	Date/Time	Message	User name	Application	Sequence Name
	04/26/2016 02:51:20	Running 712326 (98)	NAH	Analyst	S_DOD Calibration
	04/26/2016 02:57:55	Running 712327 (99)	NAH	Analyst	S_DOD Calibration
	04/26/2016 03:04:33	Running 712328 (100)	NAH	Analyst	S_DOD Calibration
	04/26/2016 03:11:13	Running 712329 (101)	NAH	Analyst	S_DOD Calibration
	04/26/2016 03:17:49	Running 712330 (102)	NAH	Analyst	S_DOD Calibration
	04/26/2016 03:24:09	Running 712331 (103)	NAH	Analyst	S_DOD Calibration
	04/26/2016 03:30:33	Running 712332 (104)	NAH	Analyst	S_DOD Calibration
	04/26/2016 03:37:11	Running 712335 (105)	NAH	Analyst	S_DOD Calibration
	04/26/2016 03:43:54	Running ccv1 (31)	NAH	Analyst	S_DOD Calibration
	04/26/2016 03:49:38	Running ccv2 (29)	NAH	Analyst	S_DOD Calibration
	04/26/2016 03:55:23	Running ccb (30)	NAH	Analyst	S_DOD Calibration
	04/26/2016 04:01:46	Running 712337 (106)	NAH	Analyst	S_DOD Calibration
	04/26/2016 04:08:09	Running 712340 (107)	NAH	Analyst	S_DOD Calibration
	04/26/2016 04:14:48	Running 712341 (108)	NAH	Analyst	S_DOD Calibration
	04/26/2016 04:15:43	E9006 - : Plasma went out unexpectedly; RF reported over current failu	NAH	iTEVA Control Center	
	04/26/2016 04:15:46	E33495 - Plasma went out during analysis.	NAH	Analyst	
	04/26/2016 04:15:54	Plasma extinguished successfully	NAH	Analyst	
	04/26/2016 04:15:56	Autosampler Run Completed	NAH	Analyst	S_DOD Calibration
	04/26/2016 06:55:57	Plasma On	NAH	iTEVA Control Center	
	04/26/2016 06:56:01	Plasma ignition successful	NAH	Analyst	
	04/26/2016 06:56:40	D33534 - Debug:Wavelength check : x = 1.744, y =1.590	NAH	Analyst	
	04/26/2016 07:43:22	Sequence Started	NAH	Analyst	S_DOD Calibration
	04/26/2016 07:43:22	Autosampler Run Started	NAH	Analyst	
	04/26/2016 07:43:42	Running Blank (1)	NAH	Analyst	S_DOD Calibration
	04/26/2016 07:50:10	Running CalStd1=0.25 (2)	NAH	Analyst	S_DOD Calibration
	04/26/2016 07:56:37	Running CalStd2=0.5 (3)	NAH	Analyst	S_DOD Calibration
	04/26/2016 08:03:05	Running CalStd3=1 (4)	NAH	Analyst	S_DOD Calibration
	04/26/2016 08:09:35	Running CalStd4=5 (5)	NAH	Analyst	S_DOD Calibration
	04/26/2016 08:12:31	Autosampler Run Completed	NAH	Analyst	S_DOD Calibration
	04/26/2016 08:18:08	Autosampler Run Started	NAH	Analyst	
	04/26/2016 08:18:08	Sequence Started	NAH	Analyst	S_DOD Calibration
	04/26/2016 08:18:29	Running Blank (1)	NAH	Analyst	S_DOD Calibration
	04/26/2016 08:24:57	Running CalStd1=0.25 (2)	NAH	Analyst	S_DOD Calibration
	04/26/2016 08:31:25	Running CalStd2=0.5 (3)	NAH	Analyst	S_DOD Calibration
	04/26/2016 08:37:53	Running CalStd3=1 (4)	NAH	Analyst	S_DOD Calibration
	04/26/2016 08:44:22	Running CalStd4=5 (5)	NAH	Analyst	S_DOD Calibration
	04/26/2016 08:50:52	Running CalStd5=10 (6)	NAH	Analyst	S_DOD Calibration
	04/26/2016 08:57:18	Running CalStd6=20 (7)	NAH	Analyst	S_DOD Calibration
	04/26/2016 09:03:39	Running CalStd7=50 (8)	NAH	Analyst	S_DOD Calibration
	04/26/2016 09:09:59	Running CalStd8=100 (9)	NAH	Analyst	S_DOD Calibration
	04/26/2016 09:16:16	Running CalStd9=1000 (10)	NAH	Analyst	S_DOD Calibration
	04/26/2016 09:22:06	Running CalStd10=10000 (11)	NAH	Analyst	S_DOD Calibration
	04/26/2016 09:28:07	Running CalStd11-100k (12)	NAH	Analyst	S_DOD Calibration
	04/26/2016 09:34:34	Running CalStd12-100000 (13)	NAH	Analyst	S_DOD Calibration
	04/26/2016 09:41:12	Running CalStd13=500000 (14)	NAH	Analyst	S_DOD Calibration
	04/26/2016 09:47:52	Running CalStd14-1000k (15)	NAH	Analyst	S_DOD Calibration
	04/26/2016 09:54:57	Running blkrinse (22)	NAH	Analyst	S_DOD Calibration
	04/26/2016 10:01:20	Running icv (16)	NAH	Analyst	S_DOD Calibration
	04/26/2016 10:07:41	Running ICVLL (25)	NAH	Analyst	S_DOD Calibration
	04/26/2016 10:14:01	Running icb (17)	NAH	Analyst	S_DOD Calibration
	04/26/2016 10:20:28	Running icb (17)	NAH	Analyst	S_DOD Calibration
	04/26/2016 10:26:57	Running MRL (24)	NAH	Analyst	S_DOD Calibration
	04/26/2016 10:33:22	Running icsa (20)	NAH	Analyst	S_DOD Calibration

Type	Date/Time	Message	User name	Application	Sequence Name
	04/26/2016 10:40:03	Running icsab (21)	NAH	Analyst	S_DOD Calibration
	04/26/2016 10:47:13	Running ICVLL Ag (1)	NAH	Analyst	S_DOD Calibration
	04/26/2016 10:53:37	Running lcsw56773 (2)	NAH	Analyst	S_DOD Calibration
	04/26/2016 11:00:01	Running 712048 (61)	NAH	Analyst	S_DOD Calibration
	04/26/2016 11:06:23	Running 712049 (62)	NAH	Analyst	S_DOD Calibration
	04/26/2016 11:12:44	Running lcss56945 (63)	NAH	Analyst	S_DOD Calibration
	04/26/2016 11:18:40	Running mbs56945 (64)	NAH	Analyst	S_DOD Calibration
	04/26/2016 11:25:06	Running 712050 (65)	NAH	Analyst	S_DOD Calibration
	04/26/2016 11:31:18	Running 712051 (66)	NAH	Analyst	S_DOD Calibration
	04/26/2016 11:37:44	Running l712051 (67)	NAH	Analyst	S_DOD Calibration
	04/26/2016 11:44:07	Running dup712051 (68)	NAH	Analyst	S_DOD Calibration
	04/26/2016 11:50:42	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	04/26/2016 11:56:14	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	04/26/2016 12:02:14	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	04/26/2016 12:08:44	Running mss712051 (69)	NAH	Analyst	S_DOD Calibration
	04/26/2016 12:14:54	Running msds712051 (70)	NAH	Analyst	S_DOD Calibration
	04/26/2016 12:21:03	Running pdss712051 (71)	NAH	Analyst	S_DOD Calibration
	04/26/2016 12:27:18	Running 712052 (72)	NAH	Analyst	S_DOD Calibration
	04/26/2016 12:33:44	Running 712053 (73)	NAH	Analyst	S_DOD Calibration
	04/26/2016 12:40:09	Running 712054 (74)	NAH	Analyst	S_DOD Calibration
	04/26/2016 12:46:34	Running 712058 (75)	NAH	Analyst	S_DOD Calibration
	04/26/2016 12:53:06	Running 712059 (76)	NAH	Analyst	S_DOD Calibration
	04/26/2016 12:59:38	Running 712060 (77)	NAH	Analyst	S_DOD Calibration
	04/26/2016 13:06:08	Running 712061 (78)	NAH	Analyst	S_DOD Calibration
	04/26/2016 13:12:28	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	04/26/2016 13:15:57	Closing will close the method and all associated samples.	NAH	Analyst	
	04/26/2016 13:18:00	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	04/26/2016 13:24:00	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	04/26/2016 13:30:30	Running 712062 (79)	NAH	Analyst	S_DOD Calibration
	04/26/2016 13:36:53	Running 712063 (80)	NAH	Analyst	S_DOD Calibration
	04/26/2016 13:43:12	Running lcswtclp (81)	NAH	Analyst	S_DOD Calibration
	04/26/2016 13:49:30	Running mbwtclp (82)	NAH	Analyst	S_DOD Calibration
	04/26/2016 13:55:58	Running 711948 (83)	NAH	Analyst	S_DOD Calibration
	04/26/2016 14:02:42	Running msw711948 (84)	NAH	Analyst	S_DOD Calibration
	04/26/2016 14:09:05	Running 713799 (3)	NAH	Analyst	S_DOD Calibration
	04/26/2016 14:16:02	Running 713800 (4)	NAH	Analyst	S_DOD Calibration
	04/26/2016 14:22:33	Running 713817 (5)	NAH	Analyst	S_DOD Calibration
	04/26/2016 14:26:16	Closing will close the method and all associated samples.	NAH	Analyst	
	04/26/2016 14:29:32	Running 713823 (6)	NAH	Analyst	S_DOD Calibration
	04/26/2016 14:36:15	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	04/26/2016 14:41:54	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	04/26/2016 14:47:54	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	04/26/2016 14:54:23	Running 713832 (7)	NAH	Analyst	S_DOD Calibration
	04/26/2016 15:01:10	Running lcss56993 (8)	NAH	Analyst	S_DOD Calibration
	04/26/2016 15:07:12	Running mbs56993 (9)	NAH	Analyst	S_DOD Calibration
	04/26/2016 15:13:37	Running 710541 (10)	NAH	Analyst	S_DOD Calibration
	04/26/2016 15:20:19	Running mss710541 (11)	NAH	Analyst	S_DOD Calibration
	04/26/2016 15:26:15	Running msds710541 (12)	NAH	Analyst	S_DOD Calibration
	04/26/2016 15:32:08	Running pdss710541 (13)	NAH	Analyst	S_DOD Calibration
	04/26/2016 15:38:19	Running 711464 (14)	NAH	Analyst	S_DOD Calibration
	04/26/2016 15:44:58	Running 713428 (15)	NAH	Analyst	S_DOD Calibration
	04/26/2016 15:51:14	Running mss713428 (16)	NAH	Analyst	S_DOD Calibration
	04/26/2016 15:57:07	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration

		Instrument:	GFAA
Standard Log #:	M12846	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	04/29/16	Expiration Date:	06/01/16
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M12504 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M12847	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	04/29/16	Expiration Date:	06/01/16
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M12505 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

Standard ID#:	M12843	Vendor:	FISHER
Analyst:	LJF	Chemical:	HYDROXYLAMINE SULFATE
Date Received:	04/28/16	Lot #:	161238
Expiration Date (if any):		Catalog #:	H331-500

		Instrument:	ICP 6000
Standard Log #:	M12844	Standard:	B&Si ICV
Analyst:	MDS	Concentrations:	1000 ug/L (B, Si)
Prep Date:	04/29/16	Expiration Date:	02/28/17
Prep:	Into a 1 L volumetric flask, pipetted **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, **B**, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12769 and **1.0 mL** Si (1000 mg/L) M12675 and brought up to volume using milli-Q H_2O.		

		Instrument:	GFAA
Standard Log #:	M12845	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	04/29/16	Expiration Date:	06/01/16
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M12504 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M12841	Standard:	NaK ICV
Analyst:	MDS	Concentrations:	100 mg/L (Na, K)
Prep Date:	04/22/2016	Expiration Date:	04/15/2017
Prep:	Into a 250 mL volumetric flask, pipetted **2.5 mL** of K (10,000 mg/L) M12744 and Na (10,000 mg/L) M12679 and brought up to volume using Milli-Q H_2O. ($2\% HNO_3$)		

		Instrument:	ICP 6000
Standard Log #:	M12842	Standard:	NaK ICSAB
Analyst:	MDS	Concentrations:	500 mg/L (Al, Ca, Fe, Mg) 100 mg/L (Na, K)
Prep Date:	04/22/2016	Expiration Date:	12/30/2016
Prep:	Into a 250 mL volumetric flask, pipetted **25 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M12733, **2.5 mL** of K (10,000 mg/L) M12744, **2.5 mL** of Na (10,000 mg/L) M12679 and **7.5 mL** of Fe (10,000 mg/L) M12745 and brought up to volume using Milli-Q H_2O. ($2\% HNO_3$)		

Standard Log #:	M12840	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3050 S Spiking Solution
Prep Date:	04/19/2016	Expiration Date:	10/2016

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
S	240	M12770	10000	1.2

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M12839	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3010 S Spiking Solution
Prep Date:	04/19/2016	Expiration Date:	10/2016

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
S	200	M12770	10000	1.0

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M12838	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3050 B&Si Spiking Solution
Prep Date:	04/19/2016	Expiration Date:	10/2016

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
B	52	M12471	1000	2.6
Si	192	M12675	1000	9.6

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M12837	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3010 B&Si Spiking Solution
Prep Date:	04/19/2016	Expiration Date:	10/2016

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
B	16	M12471	1000	0.8
Si	200	M12675	1000	10

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M12836	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3050 k&na Spiking Solution
Prep Date:	04/19/2016	Expiration Date:	10/2016

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
K	2640	M12744	10000	13.2
Na	960	M12679	10000	4.8

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M12835	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3010 k&na Spiking Solution
Prep Date:	04/19/2016	Expiration Date:	10/2016

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
K	500	M12744	10000	2.5
Na	600	M12679	10000	3

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M12834	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3050 L2 Spiking Solution
Prep Date:	04/19/2016	Expiration Date:	10/2016

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
Li	14.4	M12672	1000	0.72
Sn	20	M12669	1000	1
Sr	3.2	M12670	1000	0.16
Ti	9.6	M12671	1000	0.48
W	24	M12673	1000	1.2

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M12833	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3010 L2 Spiking Solution
Prep Date:	04/19/2016	Expiration Date:	10/2016

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
Li	10	M12672	1000	0.5
Sn	10	M12669	1000	0.5
Sr	2	M12670	1000	0.1
Ti	8	M12671	1000	0.8
W	36	M12673	1000	1.8

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M12832	Instrument:	ICP 6500
Analyst:	NAH	Standard:	LOQ 3050 DOD Metals Spiking S
Prep Date:	0419/2016	Expiration Date:	10/2016

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3, 5% HCl)

Analyte	MDL Conc. (ug/L)	Std. ID #	Std Conc	Volume (mL) pipetted into 1 L
Ag	4	M12599	1000	0.2
Al	9.6	M12713	**10000**	0.048
As	32	M12315	1000	1.6
Ba	2	M12473	1000	0.1
Be	1.6	M12667	1000	0.08
Ca	56	M12716	**10000**	0.28
Cd	1.6	M12674	1000	0.08
Co	9.6	M12678	1000	0.48
Cr	5.6	M12470	**10000**	0.028
Cu	16	M12472	**10000**	0.08
Fe	72	M12745	**10000**	0.36
Mg	32	M12715	**10000**	0.16
Mn	6	M12733	**10000**	0.03
Mo	9.6	M12677	1000	0.48
Ni	4.8	M12681	1000	0.24
Pb	10	M12313	**10000**	0.05
Sb	32	M12602	1000	1.6
Se	16	M12600	1000	0.8
Tl	19	M12668	1000	0.95
V	3.2	M12676	1000	0.16
Zn	12	M12680	**10000**	0.06

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M12831	Instrument:	ICP 6500
Analyst:	NAH	Standard:	LOQ 3010 DOD Metals Spiking S
Prep Date:	04/19/2016	Expiration Date:	10/2016

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3, 5% HCl)

Analyte	MDL Conc. (ug/L)	Std. ID #	Std Conc	Volume (mL) pipetted into 1 L
Ag	4	M12599	1000	0.2
Al	36	M12713	**10000**	0.18
As	24	M12315	1000	1.2
Ba	1.8	M12473	1000	0.09
Be	0.6	M12667	1000	0.03
Ca	100	M12716	**10000**	0.5
Cd	2.0	M12674	1000	0.1
Co	4	M12678	1000	0.2
Cr	4	M12470	**10000**	0.02
Cu	7	M12472	**10000**	0.035
Fe	100	M12745	**10000**	0.5
Mg	40	M12715	**10000**	0.2
Mn	4	M12533	**10000**	0.02
Mo	7	M12677	1000	0.35
Ni	6	M12681	1000	0.2
Pb	4	M12313	**10000**	0.02
Sb	12	M12602	1000	0.6
Se	13	M12600	1000	0.65
Tl	20	M12668	1000	0.75
V	5	M12676	1000	0.25
Zn	10	M12680	**10000**	0.05

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M12830	Reagent:	Potassium Persulfate Solution
Analyst:	LJF		
Prep Date:	041916	Expiration Date:	101916
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M11748 and brought up to volume.		

Standard Log #:	M12827	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	041816	Expiration Date:	101816
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

Standard ID#:	M12828	Vendor:	Environmental Express
Analyst:	NAH	Chemical:	Yttrium 10,000 ug/mL
Date Received:	04/18/2016	Lot #:	1518025
Expiration Date (if any):	10/14/2017	Catalog #:	hp10m67-1

Standard ID#:	M12829	Vendor:	CPI
Analyst:	NAH	Chemical:	Yttrium 10,000 ug/mL
Date Received:	04/18/2016	Lot #:	16a118
Expiration Date (if any):	10/12/2017	Catalog #:	4400-10m671

		Instrument:	CETAC
Standard Log #:	M12823	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	041816	Expiration Date:	063016
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12788 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M12824	Standard:	Hg MRL
Analyst:	LJF	Concentration:	0.2 ug/L Hg
Prep Date:	041816	Expiration Date:	063016
Prep:	Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12825	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	041816	Expiration Date:	010118
Prep:	Carefully mixed **3** parts HCl AB.618 with **1** part HNO_3 AB.617 in a hood.		

		Instrument:	CETAC
Standard Log #:	M12826	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	041816	Expiration Date:	101816
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.618 and dissolved **100 g** Stannous chloride M12802 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M12820	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	041816	Expiration Date:	081817
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12788 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M12821	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	041816	Expiration Date:	063016
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M12532 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M12822	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	041816	Expiration Date:	063016
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

Standard ID#:	M12819	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Std
Date Received:	04/12/2016	Lot #:	36-051CR
Expiration Date (if any):	4/30/2017	Catalog #:	XSPIKE-1-250

		Instrument:	CETAC
Standard Log #:	M12816	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	04/01/16	Expiration Date:	02/26/17
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.615 and dissolved **100 g** Stannous chloride M12789 and brought up to volume.		

Standard Log #:	M12817	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	04/01/16	Expiration Date:	10/01/16
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

Standard Log #:	M12818	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	04/01/16	Expiration Date:	10/01/16
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M12403 and **60 g** hydroxylamine sulfate M12610 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M12813	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	04/01/16	Expiration Date:	08/18/17
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12788 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M12814	Standard:	Hg MRL
Analyst:	LJF	Concentration:	0.2 ug/L Hg
Prep Date:	04/01/16	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12815	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	04/01/16	Expiration Date:	10/01/17
Prep:	Carefully mixed **3** parts HCl AB.615 with **1** part HNO_3 AB.614 in a hood.		

		Instrument:	CETAC
Standard Log #:	M12810	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	04/01/16	Expiration Date:	08/18/17
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12788 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M12811	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	04/01/16	Expiration Date:	06/30/16
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M12532 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M12812	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	04/01/16	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

Standard Log #:	M12809	Instrument:	ICP 6500
Analyst:	MDS	Standard:	MDL 21 Metals Spiking Solution
Prep Date:	03/22/2016	Expiration Date:	06/02/2016

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3, 5% HCl)

Analyte	MDL Conc. (ug/L)	Std. ID #	Std Conc	Volume (mL) pipetted into 1 L
Ag	5	M12599	1000	0.25
Al	10	M12713	**10000**	0.05
As	20	M12315	1000	1
Ba	2	M12473	1000	0.1
Be	0.5	M12667	1000	0.025
Ca	50	M12716	**10000**	0.25
Cd	0.5	M12674	1000	0.025
Co	2.5	M12678	1000	0.125
Cr	50	M12470	**10000**	0.25
Cu	10	M12472	**10000**	0.05
Fe	40	M12714	**10000**	0.2
Mg	25	M12715	**10000**	0.125
Mn	5	M12533	**10000**	0.025
Mo	2.5	M12677	1000	0.125
Ni	5	M12681	1000	0.25
Pb	10	M12313	**10000**	0.05
Sb	20	M12602	1000	1
Se	20	M12600	1000	1
Tl	20	M12668	1000	1
V	5	M12676	1000	0.25
Zn	5	M12680	**10000**	0.025

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M12808	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	03/17/16	Expiration Date:	03/17/17
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.534 and **128.6 mL** 10N NaOH M12645. Dilute to 20 L and mix.		

		Instrument:	GFAA
Standard Log #:	M12805	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	03/15/2016	Expiration Date:	06/01/2016
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M12504 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M12806	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	03/15/2016	Expiration Date:	06/01/2016
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M12504 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M12807	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	03/15/2016	Expiration Date:	06/01/2016
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M12505 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

Standard ID#:	M12802	Vendor:	LabChem
Analyst:	LJF	Chemical:	STANNOUS CHLORIDE
Date Received:	03/09/16	Lot #:	F053-07
Expiration Date (if any):		Catalog #:	LC251701

Standard Log #:	M12803	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	03/09/16	Expiration Date:	09/09/17
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

Standard ID#:	M12804	Vendor:	CPI
Analyst:	NAH	Chemical:	Arsenic 10,000 mg/L
Date Received:	03/09/16	Lot #:	14A276
Expiration Date (if any):	09/03/17	Catalog #:	S4400-10M31

		Instrument:	ICP 6000
Standard Log #:	M12800	Standard:	L2 ICV
Analyst:	MDS	Concentrations:	1000 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	03/08/2016	Expiration Date:	04/15/2017
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of the following and brought up to volume using milli-Q H_2O. (0.5% HNO_3, 0.5% HCl) Li (1000 µg/mL) M12672 Sn (1000 µg/mL) M12669 Sr (1000 µg/mL) M12670 Ti (1000 µg/mL) M12671 W (1000 µg/mL) M12784		

		Instrument:	ICP 6000
Standard Log #:	M12801	Standard:	List 2 MRL/ICVLL Prep Solution
Analyst:	MDS	Concentrations:	5000 µg/L (W) 1000 µg/L (Li, Sn) 500 µg/L (Ti, Sr)
Prep Date:	03/08/2016	Expiration Date:	04/15/2017

Prep:

Analyte	MRL/ICVLL Conc. (µg/L)	Standard ID	Std. Conc. (µg/mL)	Volume (mL) Pipetted into 1 L	Expiration Date
Li	20/60	M12672	1000	1	04/15/2017
W	100/300	M12784	1000	5	08/11/2017
Ti	10/30	M12671	1000	0.5	04/15/2017
Sr	10/30	M12670	1000	0.5	04/15/2017
Sn	20/60	M12669	1000	1	04/15/2017

Pipette **10 mL** into a 500 mL volumetric flask to create a working MRL std. or **1 mL** into a 50 mL digestion tube for a digested MRL standard. Pipette **30 mL** into 500 mL for a working ICVLL std. or **3 mL** into a 50 mL digestion tube for a digested ICVLL standard.

(0.5% HNO_3, 0.5% HCl)

Standard Log #:	M12798	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	03/07/16	Expiration Date:	03/07/17
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12645. Dilute to 20 L and mix.		

Standard Log #:	M12799	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	03/07/16	Expiration Date:	03/07/17
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12645. Dilute to 20 L and mix.		

Standard Log #:	M12797	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	02/29/16	Expiration Date:	08/29/16
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M12403 and **60 g** hydroxylamine sulfate M12548 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M12793	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	02/26/16	Expiration Date:	08/18/17
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12788 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M12794	Standard:	Hg MRL
Analyst:	LJF	Concentration:	0.2 ug/L Hg
Prep Date:	02/26/16	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12795	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	02/26/16	Expiration Date:	10/01/17
Prep:	Carefully mixed **3** parts HCl AB.615 with **1** part HNO_3 AB.614 in a hood.		

		Instrument:	CETAC
Standard Log #:	M12796	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	02/26/16	Expiration Date:	02/26/17
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.615 and dissolved **100 g** Stannous chloride M12789 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M12790	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	02/26/16	Expiration Date:	08/18/17
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12788 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M12791	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	02/26/16	Expiration Date:	06/30/16
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M12532 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M12792	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	02/26/16	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

Standard ID#:	M12787	Vendor:	CPI
Analyst:	NAH	Chemical:	Yttrium 10,000 mg/L
Date Received:	02/24/2016	Lot #:	16A118
Expiration Date (if any):	08/18/2017	Catalog #:	4400-10M671

Standard ID#:	M12788	Vendor:	CPI
Analyst:	NAH	Chemical:	Mercury 1000 mg/L
Date Received:	02/24/2016	Lot #:	15J139
Expiration Date (if any):	08/18/2017	Catalog #:	S4400-1000331

Standard ID#:	M12789	Vendor:	LabChem
Analyst:	LJF	Chemical:	STANNOUS CHLORIDE
Date Received:	02/24/16	Lot #:	F053-07
Expiration Date (if any):		Catalog #:	LC251701

Standard Log #:	M12786	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	02/22/16	Expiration Date:	02/22/17
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12645. Dilute to 20 L and mix.		

Standard Log #:	M12785	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	02/18/16	Expiration Date:	02/18/17
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12645. Dilute to 20 L and mix.		

Standard Log #:	M12783	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	02/16/16	Expiration Date:	08/16/16
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

Standard ID#:	M12784	Vendor:	CPI
Analyst:	NAH	Chemical:	Tungsten
Date Received:	02/16/2016	Lot #:	15k204
Expiration Date (if any):	08/11/2017	Catalog #:	S4400-1000633

		Instrument:	CETAC
Standard Log #:	M12780	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	02/15/16	Expiration Date:	10/01/17
Prep:	Carefully mixed **3** parts HCl AB.615 with **1** part HNO_3 AB.614 in a hood.		

		Instrument:	CETAC
Standard Log #:	M12781	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	02/15/16	Expiration Date:	08/12/16
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.615 and dissolved **100 g** Stannous chloride M12731 and brought up to volume.		

Standard ID#:	M12782	Vendor:	ALFA AESAR
Analyst:	LJF	Chemical:	TIN CHLORIDE DIH
Date Received:	02/11/16	Lot #:	W03B012
Expiration Date (if any):		Catalog #:	11536

		Instrument:	CETAC
Standard Log #:	M12777	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	02/15/16	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12778	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	02/15/16	Expiration Date:	02/26/16
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M12779	Standard:	Hg MRL
Analyst:	LJF	Concentration:	0.2 ug/L Hg
Prep Date:	02/15/16	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

Standard Log #:	M12774	Reagent:	Potassium Persulfate Solution
Analyst:	LJF		
Prep Date:	02/15/16	Expiration Date:	08/15/16
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M12774 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M12775	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	02/15/16	Expiration Date:	02/26/16
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M12776	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	02/15/16	Expiration Date:	06/30/16
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M12532 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M12773	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Custom Assurance std-spike
Date Received:	02/12/16	Lot #:	35-054CR
Expiration Date (if any):	02/28/2016	Catalog #:	XSPIKE-1-250

Standard ID#:	M12770	Vendor:	SPEX CertiPrep
Analyst:	MDS	Chemical:	Sulfur 10,000 µg/mL
Date Received:	02/09/2016	Lot #:	AJ16-45SY
Expiration Date (if any):	02/28/2017	Catalog #:	PLS9-3Y

		Instrument:	ICP 6000
Standard Log #:	M12771	Standard:	Sulfur ICAL
Analyst:	MDS	Concentrations:	1000 10,000 100,000 1000K µg/L (S)
Prep Date:	02/09/2016	Expiration Date:	02/28/2017
Prep:	Into four, 100 mL volumetric flasks, pipetted the following from stock standard S (10,000 µg/mL) M12770 and brought up to volume using milli-Q H_2O. *1000 ug/L std.* - **0.01 mL** *10,000 ug/L std.* - **0.1 mL** *100,000 ug/L std.* -**1.0 mL**, also used as the CCV *1000K ug/L std.* - **10 mL**		

		Instrument:	ICP 6000
Standard Log #:	M12772	Standard:	Sulfur ICV
Analyst:	MDS	Concentrations:	100,000 µg/L (S)
Prep Date:	02/09/2016	Expiration Date:	08/13/2016
Prep:	Into a 100 mL volumetric flask, pipetted **1.0 mL** of S (10,000 µg/mL) M12371 and brought up to volume using Milli-Q H_2O.		

Standard ID#:	M12769	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	02/08/2016	Lot #:	11-035WL
Expiration Date (if any):	02/28/2017	Catalog #:	XCTWI-5-500

		Instrument:	ICP 6000
Standard Log #:	M12766	Standard:	List 2 ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	02/04/2016	Expiration Date:	12/30/2016
Prep:	Into a 200 mL volumetric flask, pipetted **20 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M12733, **6 mL** of Fe (10,000 mg/L) M12714, **0.1 mL** of Li (1000 µg/mL) M12672, **0.1 mL** of Sn (1000 µg/mL) M12669, **0.1 mL** of Sr (1000 µg/mL) M12670, **0.1 mL** of Ti (1000 µg/mL) M12671, and **0.1 mL** of W (1000 µg/mL) M12673 and brought up to volume using Milli-Q H_2O. (0.5% HNO_3, 0.5% HCl)		

		Instrument:	ICP 6000
Standard Log #:	M12767	Standard:	List 2 MRL/ICVLL Prep Solution
Analyst:	MDS	Concentrations:	5000 µg/L (W) 1000 µg/L (Li, Sn) 500 µg/L (Ti, Sr)
Prep Date:	02/04/2016	Expiration Date:	02/06/2016

Prep:

Analyte	MRL/ICVLL Conc. (µg/L)	Standard ID	Std. Conc. (µg/mL)	Volume (mL) Pipetted into 1 L	Expiration Date
Li	20/60	M12672	1000	1	04/15/2017
W	100/300	M12163	1000	5	02/06/2016
Ti	10/30	M12671	1000	0.5	04/15/2017
Sr	10/30	M12670	1000	0.5	04/15/2017
Sn	20/60	M12669	1000	1	04/15/2017

Pipette **10 mL** into a 500 mL volumetric flask to create a working MRL std. or **1 mL** into a 50 mL digestion tube for a digested MRL standard. Pipette **30 mL** into 500 mL for a working ICVLL std. or **3 mL** into a 50 mL digestion tube for a digested ICVLL standard.

(0.5% HNO_3, 0.5% HCl)

Standard ID#:	M12768	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Custum Assurance Std Ca,Mg,Na
Date Received:	02/04/2016	Lot #:	11-022WL
Expiration Date (if any):	01/30/2017	Catalog #:	XTTWI-1-500

		Instrument:	ICP
Standard Log #:	M12764	Standard:	L2 ICAL
Analyst:	MDS	Concentrations:	1 (µg/L) 10 (µg/L) 100 (µg/L) 1000 (µg/L) 10,000 (µg/L)
Prep Date:	02/04/2016	Expiration Date:	11/30/2016
Prep:	Standard Conc. (ug/L)	Pipette the following:	
	1	**0.01 mL** of Custom Assurance Standard XCTWI-5-500 M12703 and **0.001 mL** W (1000 µg/mL) M12673 into 1L = *1 µg/L*	
	10	**0.10 mL** of Custom Assurance Standard XCTWI-5-500 M12703 and **0.01 mL** W (1000 µg/mL) M12673 into 1L = *10 µg/L*	
	100	**1 mL** of Custom Assurance Standard XCTWI-5-500 M12703 and **0.1 mL** W (1000 µg/mL) M12673 into 1L = *100 µg/L*	
	1000 (CCV)	**2 mL** of Custom Assurance Standard XCTWI-5-500 M12703 and **0.2 mL** W (1000 µg/mL) M12673 into 200mL = *1000 µg/L*	
	10000	**20 mL** of Custom Assurance Standard XCTWI-5-500 M12703 and **2 mL** W (1000 µg/mL) M12673 into 200mL = *10000 µg/L*	

		Instrument:	ICP 6000
Standard Log #:	M12765	Standard:	L2 ICV
Analyst:	MDS	Concentrations:	1000 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	02/04/2016	Expiration Date:	02/06/2016
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of the following and brought up to volume using milli-Q H_2O. (0.5% HNO_3, 0.5% HCl) Li (1000 µg/mL) M12672 Sn (1000 µg/mL) M12669 Sr (1000 µg/mL) M12670 Ti (1000 µg/mL) M12671 W (1000 µg/mL) M12163		

Standard Log #:	M12763	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	02/03/16	Expiration Date:	08/03/16
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M12403 and **60 g** hydroxylamine sulfate M12548 and brought up to volume.		

Standard Log #:	M12762	Reagent:	Potassium Persulfate Solution
Analyst:	LJF		
Prep Date:	01/29/16	Expiration Date:	07/29/16
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M11748 and brought up to volume.		

Standard Log #:	M12761	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	01/28/16	Expiration Date:	07/28/16
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

Standard Log #:	M12760	Instrument:	GFAA
Analyst:	MDS	Standard:	MDL Spiking Solution
Prep Date:	01/25/2016	Expiration Date:	06/02/2016

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (2% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
Ag	0.2	M12599	1000	0.01
As	2	M12315	1000	0.1
Pb	2	M12313	10000	0.01
Sb	2	M12602	1000	0.1
Se	2	M12600	1000	0.1
Tl	2	M12668	1000	0.1

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

		Instrument:	CETAC
Standard Log #:	M12757	Standard:	Hg MRL
Analyst:	LJF	Concentration:	0.2 ug/L Hg
Prep Date:	01/19/16	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12758	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	01/19/16	Expiration Date:	09/01/17
Prep:	Carefully mixed **3** parts HCl AB.611 with **1** part HNO_3 AB.609 in a hood.		

		Instrument:	CETAC
Standard Log #:	M12759	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	01/19/16	Expiration Date:	08/12/16
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.611 and dissolved **100 g** Stannous chloride M12731 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M12755	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	01/19/16	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12756	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	01/19/16	Expiration Date:	02/26/16
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

Standard Log #:	M12752	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	01/19/16	Expiration Date:	01/19/17
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12645. Dilute to 20 L and mix.		

		Instrument:	CETAC
Standard Log #:	M12753	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	01/19/16	Expiration Date:	02/26/16
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M12754	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	01/19/16	Expiration Date:	06/30/16
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M12532 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard Log #:	M12751	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	011116	Expiration Date:	071116
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M12403 and **60 g** hydroxylamine sulfate M12548 and brought up to volume.		

		Instrument:	GFAA
Standard Log #:	M12750	Standard:	LODW/LOQW Spiking Sol'n
Analyst:	MDS	Concentrations:	150 ug/L (Sb) 100 ug/L (As) 200 ug/L (Se) 45 ug/L (Pb) 40 ug/L (Tl)
Prep Date:	01/05/2016	Expiration Date:	06/02/2016
Prep:	Into a 100 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. **1.5 mL** of Sb (1000 mg/L) M12602 **1.0 mL** of As (1000 mg/L) M12315 **2.0 mL** of Se (1000 mg/L) M12600 **0.045 mL** of Pb (10,000 mg/L) M12313 **0.4 mL** of Tl (1000 mg/L) M12668 From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (*3 ug/L* Sb, *2 ug/L* As, *4 ug/L* Se, *0.9 ug/L* Pb, *0.8 ug/L* Tl) and **2 mL** spiking solution for LOQ (*6 ug/L* Sb, *4 ug/L* As, *8 ug/L* Se, *1.8 ug/L* Pb, *1.6 ug/L* Tl)		

Standard Log #:	M12748	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	010516	Expiration Date:	070516
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

		Instrument:	GFAA
Standard Log #:	M12749	Standard:	LODS/LOQS Spiking Sol'n
Analyst:	MDS	Concentrations:	60 ug/L (Sb) 160 ug/L (As,Se) 40 ug/L (Pb) 50 ug/L (Tl)
Prep Date:	01/05/2016	Expiration Date:	06/02/2016
Prep:	Into a 200 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. **1.2 mL** of Sb (1000 mg/L) M12602 **3.2 mL** of As (1000 mg/L) M12315 **3.2 mL** of Se (1000 mg/L) M12600 **0.08 mL** of Pb (10,000 mg/L) M12313 **1.0 mL** of Tl (1000 mg/L) M12668 From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (1.2 *ug/L* Sb, *3.2 ug/L* As, *3.2 ug/L* Se, *0.8 ug/L* Pb, *1 ug/L* Tl) and **2 mL** spiking solution for LOQ (2.4 *ug/L* Sb, *6.4 ug/L* As, *6.4 ug/L* Se, *1.6 ug/L* Pb, *2 ug/L* Tl)		

Standard Log #:	M12747	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	123015	Expiration Date:	123016
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12645. Dilute to 20 L and mix.		

		Instrument:	ICP 6000
Standard Log #:	M12744b	Standard:	B&Si ICAL
Analyst:	MDS	Concentrations:	50, 200, 1000, 2000 and 10,000 ug/L (B, Si)
Prep Date:	12/21/2015	Expiration Date:	10/15/2016
Prep:	Into five, 1 L volumetric flasks, pipetted the following from stock standards B (1000 mg/L) M12471 and Si (1000 mg/L) M12601 and brought up to volume using milli-Q H_2O. *50 ug/L std.* - **0.05 mL** of each *200 ug/L std.* - **0.2 mL** of each *1000 ug/L std.* -**1.0 mL** of each, also used for Continuing Calibration Verification *2000 ug/L std.* - **2.0 mL** of each *10,000 ug/L std.* -**10 mL** of each		

		Instrument:	ICP 6000
Standard Log #:	M12745b	Standard:	B & Si ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (B,Si)
Prep Date:	12/22/2015	Expiration Date:	06/30/2016
Prep:	Into a 100 mL volumetric flask, pipetted **10 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M12529, **0.05 mL** of B (1000 µg/mL) M12471, **0.05 mL** of Si (1000 µg/mL) M12601 and **3 mL** of Fe (10,000 mg/L) M12714 and brought up to volume using Milli-Q H_2O.		

Standard Log #:	M12746b	Instrument:	GFAA
Analyst:	MDS	Reagent:	Pd/Mg Matrix Modifier
Prep Date:	12/22/2015	Expiration Date:	05/18/2017
Prep:	Into a 50 mL volumetric flask, partially filled with milli-Q H_2O, pipetted **15 mL** Pd Modifier M12584 and **10 mL** Mg (10,000 mg/L) M12715 and brought up to volume.		

Standard ID#:	M12744	Vendor:	CPI
Analyst:	NAH	Chemical:	potassium 10,000 mg/L
Date Received:	12/21/2015	Lot #:	15L015
Expiration Date (if any):	06/08/2017	Catalog #:	4400-10M411

Standard ID#:	M12745	Vendor:	CPI
Analyst:	NAH	Chemical:	iron 10,000 mg/L
Date Received:	12/21/2015	Lot #:	15H243
Expiration Date (if any):	06/08/2017	Catalog #:	4400-10M261

Standard ID#:	M12746	Vendor:	CPI
Analyst:	NAH	Chemical:	Y 10,000 mg/L
Date Received:	12/21/2015	Lot #:	15E153
Expiration Date (if any):	06/08/2017	Catalog #:	4400-10M671

		Instrument:	CETAC
Standard Log #:	M12740	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	12/21/15	Expiration Date:	02/26/16
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M12741	Standard:	Hg MRL
Analyst:	LJF	Concentration:	0.2 ug/L Hg
Prep Date:	12/21/15	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12742	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	12/21/15	Expiration Date:	09/01/17
Prep:	Carefully mixed **3** parts HCl AB.611 with **1** part HNO_3 AB.609 in a hood.		

		Instrument:	CETAC
Standard Log #:	M12743	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	12/21/15	Expiration Date:	08/12/16
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.611 and dissolved **100 g** Stannous chloride M12731 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M12737	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	12/21/15	Expiration Date:	02/26/16
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M12738	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	12/21/15	Expiration Date:	06/30/16
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M12532 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M12739	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	12/21/15	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

Standard Log #:	M12734	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	121715	Expiration Date:	121716
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12645. Dilute to 20 L and mix.		

Standard Log #:	M12735	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	121715	Expiration Date:	061716
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M12403 and **60 g** hydroxylamine sulfate M12548 and brought up to volume.		

Standard Log #:	M12736	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	121715	Expiration Date:	121716
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12645. Dilute to 20 L and mix.		

Standard Log #:	M12730	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	12/14/15	Expiration Date:	06/14/16
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

Standard ID#:	M12731	Vendor:	MACRON
Analyst:	LJF	Chemical:	STANNOUS CHLORIDE
Date Received:	12/10/15	Lot #:	0000119473
Expiration Date (if any):	08/12/16	Catalog #:	8176-04

Standard ID#:	M12732	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	12-14-2015	Lot #:	34-008CR
Expiration Date (if any):	12-30-2016	Catalog #:	XSPIKE-1-250

Standard ID#:	M12733	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Interference A
Date Received:	12-14-2015	Lot #:	12-165YPX
Expiration Date (if any):	12-30-2016	Catalog #:	INT-A1

		Instrument:	ICP 6000
Standard Log #:	M12729	Standard:	Na,K MRL
Analyst:	MDS	Concentrations:	1 mg/L (Na,K)
Prep Date:	12/07/2015	Expiration Date:	06/03/2015
Prep:	Into a 500 mL volumetric flask, pipetted **0.5 mL** of Na (1000 µg/mL) M12377 and **0.5 mL** K (1000 µg/mL) M12378 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

Standard Log #:	M12725	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	120415	Expiration Date:	060416
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M12403 and **60 g** hydroxylamine sulfate M12548 and brought up to volume.		

Standard Log #:	M12726	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	120415	Expiration Date:	060416
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

		Instrument:	ICP
Standard Log #:	M12727	Standard:	As Pb ICV1
Analyst:	MDS	Concentrations:	5000 ug/L (As,Pb)
Prep Date:	12/04/2015	Expiration Date:	03/26/2016
Prep:	Into a 1 L volumetric flask, pipetted **0.5 mL** of As (10,000 mg/L) M12213 and **0.5 mL** Pb (10,000 mg/L) M12313 and brought to volume with Milli-Q H_2O. (2% HNO_3, 2% HCl)		

Standard Log #:	M12728	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	120415	Expiration Date:	120416
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12645. Dilute to 20 L and mix.		

		Instrument:	CETAC
Standard Log #:	M12721	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	120215	Expiration Date:	022616
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M12722	Standard:	Hg MRL
Analyst:	LJF	Concentration:	0.2 ug/L Hg
Prep Date:	120215	Expiration Date:	063016
Prep:	Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12723	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	120215	Expiration Date:	040117
Prep:	Carefully mixed **3** parts HCl AB.607 with **1** part HNO_3 AB.609 in a hood.		

		Instrument:	CETAC
Standard Log #:	M12724	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	120215	Expiration Date:	120915
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.607 and dissolved **100 g** Stannous chloride M12549 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M12718	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	120215	Expiration Date:	022616
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M12719	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	120215	Expiration Date:	063016
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M12532 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M12720	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	120215	Expiration Date:	063016
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	ICP 6500
Standard Log #:	M12717	Standard:	ICV Std.
Analyst:	NAH	Concentrations:	**12,000 mg/L** Al **10,000 mg/L** Ca, Mg **5000 mg/L** Fe **2000 mg/L** As, Ba, Se, Tl **500 mg/L** B, Co, Li, Mn, Mo, Ni, Pb, Sb, Sn, Sr, Ti, V, Zn **250 mg/L** Cu **200 mg/L** Cr **50 mg/L** Ag, Be, Cd
Prep Date:	12-01-2015	Expiration Date:	06-16
Prep:	Into a 1 L volumetric flask, pipetted the following and brought up to volume with milli-Q H_2O. **10 mL** Custom Assurance Standard #18 ((200 mg/L Al, As, Ba, Se, Tl) (100 mg/L Fe) (50 mg/L Co, Mn, Ni, Pb, Sb, V, Zn) (25 mg/L Cu) (20 mg/L Cr) (5 mg/L Ag, Be, Cd)) M12653, **2 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M12529, **0.5 mL** Mo (1000 mg/L) M12677, **0.5 mL** B (1000 mg/L) M12471, **0.5 mL** Sr (1000 mg/L) M12670, **0.5 mL** Li (1000 mg/L) M12672, **0.5 mL** Sn (1000 mg/L) M12669 and **0.5 mL** Ti (1000 mg/L) M12671.		

Standard ID#:	M12713	Vendor:	CPI
Analyst:	NAH	Chemical:	Al 10,000 mg/L
Date Received:	12/01/2015	Lot #:	15l132
Expiration Date (if any):	05/18/2017	Catalog #:	p/n 4400-10m11

Standard ID#:	M12714	Vendor:	CPI
Analyst:	NAH	Chemical:	Fe 10,000 mg/L
Date Received:	12/01/2015	Lot #:	15H243
Expiration Date (if any):	05/18/2017	Catalog #:	p/n 4400-10m261

Standard ID#:	M12715	Vendor:	CPI
Analyst:	NAH	Chemical:	Mg 10,000 mg/L
Date Received:	12-01-2015	Lot #:	15G077
Expiration Date (if any):	5-18-2015	Catalog #:	p/n 4400-10m311

Standard ID#:	M12716	Vendor:	CPI
Analyst:	NAH	Chemical:	Ca 10,000 mg/L
Date Received:	12-01-2015	Lot #:	15k045
Expiration Date (if any):	5-18-2015	Catalog #:	p/n 4400-10m91

		Instrument:	ICP 6500
Standard Log #:	M12710	Standard:	ICVLL
Analyst:	NAH	Concentrations:	12 ug/L: Be. 15 ug/L: Cd. 30 ug/L: Ag, Ba, Co, Cr, Cu, Mn, Mo. Ni, Pb, V, Zn, Sr, and Ti. 60 ug/L: Sb, As, Se, Tl, Li, Sn and B. 150 ug/L: W. 300 ug/L: Si. 900 ug/L: Fe. 1200 ug/L Al. 1500 ug/L: S, Ca and Mg. 3000 ug/L: K and Na.
Prep Date:	12/01/2015	Expiration Date:	06/2016
Prep:	Into a 500 mL volumetric flask, pipetted 30 **mL** of MRL Base STD M12709 and brought to volume with Milli-Q H_2O. (5% HNO_3 & 5% HCL)		

		Instrument:	ICP 6500
Standard Log #:	M12711	Standard:	ICSA
Analyst:	NAH	Concentrations:	**500,000 ug/L** Al, Ca, Fe, Mg
Prep Date:	12/01/2015	Expiration Date:	06/2016
Prep:	Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M12529 and **15 mL** Fe (10000 mg/L) M12603 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M12712	Standard:	ICSAB
Analyst:	NAH	Concentrations:	**500,000 ug/L** Al, Ca, Fe, Mg **500 ug/L** Ag, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Tl, V, Zn
Prep Date:	12/01/2015	Expiration Date:	06/2016
Prep:	Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M12529, **15 mL** Fe (10,000 mg/L) M12603, **2.5 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M12530 and **2.5 mL** Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12558 and brought up to volume with milli-Q H_2O.		

MRL BASE STD M12709

Analyst NAH

Prep Date 12-01-2015

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	(ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L	Expiration Date
Ag	20	M12599	1000	1	-
Al	400	M12605	10000	2	-
Ba	10	M12473	1000	0.5	-
Be	4	M12667	1000	0.2	-
Cd	5	M12674	1000	0.25	-
Co	10	M12678	1000	0.5	-
Cr	10	M12470	10000	0.05	-
Cu	10	M12472	10000	0.05	-
Mg	500	M12606	10000	2.5	-
Mn	10	M12533	10000	0.05	-
Mo	10	M12677	1000	0.5	---
Ni	10	M12681	1000	0.5	--
Pb	10	M12313	10000	0.05	--
Sb	20	M12602	1000	1	--
V	10	M12676	1000	0.5	--
Zn	10	M12680	10000	0.05	--
K	1000	M12608	10000	5	--
Na	1000	M12607	10000	5	--
As	20	M12315	1000	1	--
Ca	500	M12604	10000	2.5	--
Fe	300	M12603	10000	1.5	--
Se	20	M12600	1000	1	--
Tl	20	M12668	1000	1	--
Si	100	M12601	1000	5	--
B	20	M12471	1000	1	--
Li	20	M12672	1000	1	--
W	50	M12673	1000	2.5	--
Ti	10	M12671	1000	0.5	--
Sr	10	M12670	1000	0.5	--
Sn	50	M12669	1000	2.5	--
S	300	M12371	10000	1.5	-

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expiration Date: 10/2016

		Instrument:	ICP 6500
Standard Log #:	M12706	Standard:	CCV1
Analyst:	NAH	Concentrations:	**5000 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn **500 µg/L** Ag, Be, Cd
Prep Date:	12/01/2015	Expiration Date:	06/2016
Prep:	Into a 1 L volumetric flask, pipetted **50 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12558 and **5.0 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M12530 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M12707	Standard:	CCV2
Analyst:	NAH	Concentrations:	**500 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn **50 µg/L** Ag, Be, Cd
Prep Date:	12/01/2015	Expiration Date:	06/2016
Prep:	Into a 1 L volumetric flask, pipetted **5 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12558 and **0.5 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M12830 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M12708	Standard:	DOD MRL
Analyst:	NAH	Concentrations:	4 ug/L: Be. 5 ug/L: Cd. 10 ug/L: Ag, Ba, Co, Cr, Cu, Mn, Mo. Ni, Pb, V, Zn, Sr, and Ti. 20 ug/L: Sb, As, Se, Tl, Li, Sn and B. 50 ug/L: W. 100 ug/L: Si. 300 ug/L: Fe. 400 ug/L Al. 500 ug/L: S, Ca and Mg. 1000 ug/L: K and Na.
Prep Date:	12/01/2015	Expiration Date:	06/2016
Prep:	Into a 500 mL volumetric flask, pipetted **10 mL** of MRL Base STD M12709 and brought to volume with Milli-Q H_2O. (5% HNO_3 & 5% HCL)		

		Instrument:	ICP 6000
Standard Log #:	M12704	Standard:	Na & K ICAL
Analyst:	MDS	Concentrations:	0.5, 1, 5, 10, 50, 100, and 200 mg/L (Na,K)
Prep Date:	12/01/2015	Expiration Date:	07/03/2016
Prep:	Into seven, 200 mL volumetric flasks, pipetted the following from Na (1000 µg/mL) M12377 and K (1000 µg/mL) M12378 and brought up to volume using milli-Q H_2O. (2% HNO_3) *0.5 mg/L std.* - **0.1 mL** of each *1.0 mg/L std.* - **0.2 mL** of each *5.0 mg/L std.* - **1.0 mL** of each *10 mg/L std.* - **2.0 mL** of each *50 mg/L std.* - **10 mL** of each *100 mg/L std.* -**20 mL** of each, also used for Continuing Calibration Verification *200 mg/L std.* - **40 mL** of each		

		Instrument:	ICP 6500
Standard Log #:	M12705	Standard:	ICAL
Analyst:	NAH	Concentrations:	0.25, 0.5, 1, 5, 10, 20, 50, 100, 1000, 10,000, 100k, 100,000, 500,000 and 1000k (ug/L)
Prep Date:	12/01/2015	Expiration Date:	06/2016
Prep:	Using 1 L volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (5% HNO_3, 5% HCl) *1000 ug/L Std.* - **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12558, **10 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M12530 and **1 mL** of Si (1000 mg/L) M12601. *0.25 ug/L Std.* - **0.25 mL** of the 1000 ug/L Std. *0.5 ug/L Std.* - **0.5 mL** of the 1000 ug/L Std. *1 ug/L Std.* - **1 mL** of the 1000 ug/L Std. *5 ug/L Std.* - **5 mL** of the 1000 ug/L Std. *10 ug/L Std.* - **10 mL** of the 1000 ug/L Std. *20 ug/L Std.* - **20 mL** of the 1000 ug/L Std. *50 ug/L Std.* - **50 mL** of the 1000 ug/L Std. *100 ug/L Std.* - **1 mL** of Custom Assurance Std. (CAS) #23 and **1 mL** of CAS #3 *10,000 ug/L Std.* - **100 mL** CAS #23, **100 mL** CAS #3 and **1 mL** of K (10,000 mg/L) M12609. *100k ug/L Std.* - **10 mL** of Cu (10,000 mg/L) M12472, **10 mL** of Mn (10,000 mg/L) M12533, **10 mL** of Cr (10,000 mg/L) M12470, **10 mL** Pb (10,000 mg/L) M12313, **10 mL** of Zn (10,000 mg/L) M12680 and **10 mL** of Na (10,000 mg/L) M12679. *100,000 ug/L Std.* - **10 mL** of Mg (10,000 mg/L) M12606, **10 mL** of Fe (10,000 mg/L) M12603, **10 mL** of Ca (10,000 mg/L) M12490 and **10 mL** Al (10,000 mg/L) M12605. *500,000 ug/L Std.* - **50 mL** of Mg (10,000 mg/L), **50 mL** of Fe (10,000 mg/L), **50 mL** of Ca (10,000 mg/L) and **50 mL** of Al (10,000 mg/L) *1000k ug/L Std.* - **100 mL** of Mg (10,000 mg/L), **100 mL** of Fe (10,000 mg/L), **100 mL** of Ca (10,000 mg/L) and **100 mL** of Al (10,000 mg/L)		

		Instrument:	ICP 6000
Standard Log #:	M12701	Standard:	W ICAL and CCV
Analyst:	MDS	Concentrations:	100, 1000, and 10,000 µg/L (W)
Prep Date:	11/23/15	Expiration Date:	04/15/17
Prep:	Into four, 1 L volumetric flasks, pipetted the following from W (1000 µg/mL) M12673 and brought up to volume using milli-Q H_2O. (0.5% HNO_3, 0.5% HCl) *100 µg/L std.* - **0.1 mL** *1000 µg/L std.* - **1.0 mL** - also used for Continuing Calibration Verification *10,000 µg/L std.* - **10 mL**		

		Instrument:	ICP 6000
Standard Log #:	M12702	Standard:	W ICV
Analyst:	MDS	Concentrations:	1000 µg/L (W)
Prep Date:	11/23/15	Expiration Date:	02/06/16
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of W (1000 µg/mL) M12163 and brought up to volume using milli-Q H_2O. (0.5% HNO_3, 0.5% HCl)		

Standard ID#:	M12703	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custum Assurance Standard
Date Received:	11/19/2015	Lot #:	33-195CR
Expiration Date (if any):	11/30/2016	Catalog #:	XCTWI-5-500

Standard Log #:	M12700	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	11/20/15	Expiration Date:	11/20/16
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12645. Dilute to 20 L and mix.		

Standard Log #:	M12699	Standard:	GFAA Instrument Check
Analyst:	MDS	Final Concentration:	10 µg/L As 6 µg/L Pb 22 µg/L Tl 24 µg/L Sb, Se 0.8 µg/L Ag
Prep Date:	11/12/15	Expiration Date:	06/02/16

Into six, 100 mL volumetric flasks, add the following and bring up to volume with milli-Q H_2O.

Element	Volume Pipetted (mL)	Standard Conc. (µg/mL)	Standard ID	New Conc. (µg/L)
As	1	1000	M12315	10,000
Pb	0.1	10,000	M12313	10,000
Tl	1	1000	M12668	10,000
Se	1	1000	M12600	10,000
Sb	1	1000	M12602	10,000
Ag	0.1	1000	M12599	1000

Into a 1 L volumetric flask, add the following and bring up to volume with Milli-Q H_20. (1% HNO_3)

Element	Volume Pipetted (mL)	Standard Conc. (µg/L)	New Conc. (µg/L)
As	1	10,000	10
Pb	0.6	10,000	6
Tl	2.2	10,000	22
Se	2.4	10,000	24
Sb	2.4	10,000	24
Ag	0.8	1000	0.8

		Instrument:	ICP 6000
Standard Log #:	M12695	Standard:	NaK ICV
Analyst:	MDS	Concentrations:	100 mg/L (Na, K)
Prep Date:	11/11/15	Expiration Date:	02/12/17
Prep:	Into a 250 mL volumetric flask, pipetted **2.5 mL** of K (10,000 mg/L) M12609 and Na (10,000 mg/L) M12679 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M12696	Standard:	Na,K ICVLL
Analyst:	MDS	Concentrations:	3 mg/L (Na,K)
Prep Date:	11/11/15	Expiration Date:	02/12/17
Prep:	Into a 500 mL volumetric flask, pipetted **0.15 mL** of Na (10,000 µg/mL) M12679 and **0.15 mL** K (10,000 µg/mL) M12609 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M12697	Standard:	NaK ICSAB
Analyst:	MDS	Concentrations:	500 mg/L (Al, Ca, Fe, Mg) 100 mg/L (Na, K)
Prep Date:	11/11/15	Expiration Date:	06/30/16
Prep:	Into a 250 mL volumetric flask, pipetted **25 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M12529, **2.5 mL** of K (10,000 mg/L) M12609, **2.5 mL** of Na (10,000 mg/L) M12679 and **7.5 mL** of Fe (10,000 mg/L) M12603 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

Standard Log #:	M12698	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	11/11/15	Expiration Date:	05/11/16
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M12403 and **60 g** hydroxylamine sulfate M12548 and brought up to volume.		

		Instrument:	GFAA
Standard Log #:	M12693	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	11/02/2015	Expiration Date:	06/01/2016
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M12505 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M12694	Standard:	List 2 ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	11/02/2015	Expiration Date:	02/06/2016
Prep:	Into a 200 mL volumetric flask, pipetted **20 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M12529, **6 mL** of Fe (10,000 mg/L) M12603, **0.1 mL** of Li (1000 µg/mL) M12672, **0.1 mL** of Sn (1000 µg/mL) M12669, **0.1 mL** of Sr (1000 µg/mL) M12670, **0.1 mL** of Ti (1000 µg/mL) M12671, and **0.1 mL** of W (1000 µg/mL) M12163 and brought up to volume using Milli-Q H_2O. (0.5% HNO_3, 0.5% HCl)		

Standard ID#:	M12690	Vendor:	MACRON
Analyst:	LJF	Chemical:	STANNOUS CHLORIDE
Date Received:	11/02/15	Lot #:	0000119473
Expiration Date (if any):	08/12/16	Catalog #:	8176-04

		Instrument:	GFAA
Standard Log #:	M12691	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	11/02/2015	Expiration Date:	06/01/2016
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M12504 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M12692	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	11/02/2015	Expiration Date:	06/01/2016
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M12504 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	CETAC
Standard Log #:	M12688	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	10/27/15	Expiration Date:	08/12/16
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.607 and dissolved **100 g** Stannous chloride M12649 and brought up to volume.		

Standard Log #:	M12689	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	10/27/15	Expiration Date:	04/27/16
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M12270 and **60 g** hydroxylamine sulfate M12548 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M12685	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	10/27/15	Expiration Date:	02/26/16
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M12686	Standard:	Hg MRL
Analyst:	LJF	Concentration:	0.2 ug/L Hg
Prep Date:	10/27/15	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12687	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	10/27/15	Expiration Date:	06/30/15
Prep:	Carefully mixed **3** parts HCl AB.607 with **1** part HNO_3 AB.606 in a hood.		

		Instrument:	CETAC
Standard Log #:	M12682	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	10/27/15	Expiration Date:	02/26/16
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M12683	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	10/27/15	Expiration Date:	02/26/16
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M12684	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	10/27/15	Expiration Date:	02/26/16
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

Standard ID#:	M12677	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Mo 1000 ug/L
Date Received:	10/21/15	Lot #:	15G130
Expiration Date (if any):	04/15/17	Catalog #:	S4400-1000343

Standard ID#:	M12678	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Co 1000 ug/L
Date Received:	10/21/15	Lot #:	15I020
Expiration Date (if any):	04/15/17	Catalog #:	S4400-1000131

Standard ID#:	M12679	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Na 10,000 ug/L
Date Received:	10/21/15	Lot #:	15I102
Expiration Date (if any):	04/15/17	Catalog #:	4400-10M521

Standard ID#:	M12680	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Zn 10,000 ug/L
Date Received:	10/21/15	Lot #:	15H234
Expiration Date (if any):	04/15/17	Catalog #:	S4400-10M681

Standard ID#:	M12681	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Ni 1000 ug/L
Date Received:	10/21/15	Lot #:	15G129
Expiration Date (if any):	04/15/17	Catalog #:	S4400-1000361

Standard ID#:	M12672	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Li 1000ug/L
Date Received:	10/21/15	Lot #:	15I044
Expiration Date (if any):	04/15/17	Catalog #:	S4400-1000291

Standard ID#:	M12673	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	W 1000ug/L
Date Received:	10/21/15	Lot #:	15F057
Expiration Date (if any):	04/15/17	Catalog #:	S4400-100633

Standard ID#:	M12674	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Cd 1000ug/L
Date Received:	10/21/15	Lot #:	15G138
Expiration Date (if any):	04/15/17	Catalog #:	S4400-100081

Standard ID#:	M12675	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Si 1000 ug/L
Date Received:	10/21/15	Lot #:	15H045
Expiration Date (if any):	04/15/17	Catalog #:	S4400-1000504F

Standard ID#:	M12676	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	V 1000 ug/L
Date Received:	10/21/15	Lot #:	15H133
Expiration Date (if any):	04/15/17	Catalog #:	S4400-1000651

Standard ID#:	M12667	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Be 1000ug/L
Date Received:	10/21/15	Lot #:	15I030
Expiration Date (if any):	04/15/17	Catalog #:	S4400-100051

Standard ID#:	M12668	Vendor:	CPI INERNATIONAL
Analyst:	LJF	Chemical:	Tl 1000ug/L
Date Received:	10/21/15	Lot #:	15F051
Expiration Date (if any):	04/15/17	Catalog #:	S4400-1000581

Standard ID#:	M12669	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Sn 1000ug/L
Date Received:	10/21/15	Lot #:	15H126
Expiration Date (if any):	04/15/17	Catalog #:	S4400-1000613

Standard ID#:	M12670	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Sr 1000ug/L
Date Received:	10/21/15	Lot #:	15F052
Expiration Date (if any):	04/15/17	Catalog #:	S4400-1000531

Standard ID#:	M12671	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Tl 100ug/L
Date Received:	10/21/15	Lot #:	15G013
Expiration Date (if any):	04/15/17	Catalog #:	S4400-1000623

		Instrument:	ICP 6000
Standard Log #:	M12666	Standard:	B&Si ICV
Analyst:	MDS	Concentrations:	1000 ug/L (B, Si)
Prep Date:	10/21/2015	Expiration Date:	03/2016
Prep:	Into a 1 L volumetric flask, pipetted **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, **B**, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12558 and **1.0 mL** Si (1000 mg/L) M11919 and brought up to volume using milli-Q H_2O.		

		Instrument:	CETAC
Standard Log #:	M12662	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	10/16/15	Expiration Date:	02/26/16
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M12663	Standard:	Hg MRL
Analyst:	LJF	Concentration:	0.2 ug/L Hg
Prep Date:	10/16/15	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12664	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	10/16/15	Expiration Date:	07/01/17
Prep:	Carefully mixed **3** parts HCl AB.607 with **1** part HNO_3 AB.606 in a hood.		

		Instrument:	CETAC
Standard Log #:	M12665	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	10/16/15	Expiration Date:	08/12/16
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.607 and dissolved **100 g** Stannous chloride M12649 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M12659	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	10/16/15	Expiration Date:	02/26/16
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M12660	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	10/16/15	Expiration Date:	06/30/16
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M12532 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M12661	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	10/16/15	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	GFAA
Standard Log #:	M12657	Standard:	LODS/LOQS Spiking Sol'n
Analyst:	MDS	Concentrations:	60 ug/L (Sb) 160 ug/L (As,Se) 40 ug/L (Pb) 50 ug/L (Tl)
Prep Date:	10/12/2015	Expiration Date:	11/08/2015
Prep:	Into a 200 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. **1.2 mL** of Sb (1000 mg/L) M12602 **3.2 mL** of As (1000 mg/L) M12315 **3.2 mL** of Se (1000 mg/L) M12600 **0.08 mL** of Pb (10,000 mg/L) M12313 **1.0 mL** of Tl (1000 mg/L) M11997 From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (1.2 *ug/L* Sb, *3.2 ug/L* As, *3.2 ug/L* Se, *0.8 ug/L* Pb, *1 ug/L* Tl) and **2 mL** spiking solution for LOQ (2.4 *ug/L* Sb, *6.4 ug/L* As, *6.4 ug/L* Se, *1.6 ug/L* Pb, *2 ug/L* Tl)		

		Instrument:	GFAA
Standard Log #:	M12658	Standard:	LODW/LOQW Spiking Sol'n
Analyst:	MDS	Concentrations:	150 ug/L (Sb) 100 ug/L (As) 200 ug/L (Se) 45 ug/L (Pb) 40 ug/L (Tl)
Prep Date:	10/12/2015	Expiration Date:	11/08/2015
Prep:	Into a 100 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. **1.5 mL** of Sb (1000 mg/L) M12602 **1.0 mL** of As (1000 mg/L) M12315 **2.0 mL** of Se (1000 mg/L) M12600 **0.045 mL** of Pb (10,000 mg/L) M12313 **0.4 mL** of Tl (1000 mg/L) M11997 From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (*3 ug/L* Sb, *2 ug/L* As, *4 ug/L* Se, *0.9 ug/L* Pb, *0.8 ug/L* Tl) and **2 mL** spiking solution for LOQ (*6 ug/L* Sb, *4 ug/L* As, *8 ug/L* Se, *1.8 ug/L* Pb, *1.6 ug/L* Tl)		

		Instrument:	GFAA
Standard Log #:	M12655	Standard:	LODW/LOQW Ag Spiking Sol'n
Analyst:	MDS	Concentrations:	10 ug/L (Ag)
Prep Date:	10/12/2015	Expiration Date:	02/10/2017
Prep:	Into a 100 mL volumetric flask, pipetted **0.1 mL** of Ag (1000mg/L) M12599 and brought to volume with Milli-Q H_2O to make a 1000 ug/L Ag std. Into a 1 L volumetric flask, pipetted **10 mL** of Ag (*1000 ug/L*) std. and brought to volume with Milli-Q H_2O. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (*0.2 ug/L*) and **2 mL** spiking solution for LOQ (*0.4 ug/L*)		

		Instrument:	GFAA
Standard Log #:	M12656	Standard:	LODS/LOQS Ag Spiking Sol'n
Analyst:	MDS	Concentration:	6 ug/L (Ag)
Prep Date:	10/12/2015	Expiration Date:	02/10/2017
Prep:	Into a 200 mL volumetric flask, pipetted **0.12 mL** of Ag (1000 mg/L) M12599 and brought up to volume with Milli-Q H_2O. From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **2 mL** spiking solution into 50 mL H_2O for LOD *(0.24 ug/L)* and **4 mL** spiking solution for LOQ *(0.48 ug/L)*		

Standard ID#:	M12652	Vendor:	SIGMA-ALDRICH
Analyst:	LJF	Chemical:	POTASSIUM PERSULFATE
Date Received:	10/09/2015	Lot #:	MKBV6966V
Expiration Date (if any):	10/09/2016	Catalog #:	216224

Standard ID#:	M12653	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	10/09/2015	Lot #:	33-28CR
Expiration Date (if any):	10/30/2016	Catalog #:	XSPIKE-1-250

Standard ID#:	M12654	Vendor:	AMCO Clear
Analyst:	NAH	Chemical:	turbidity standard 2.0 ntu
Date Received:	10/09/2015	Lot #:	C580865
Expiration Date (if any):	10/30/2016	Catalog #:	8008

Standard Log #:	M12651	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	10/08/15	Expiration Date:	10/08/16
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12645. Dilute to 20 L and mix.		

Standard Log #:	M12650	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	10/07/15	Expiration Date:	10/07/16
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12645. Dilute to 20 L and mix.		

Standard Log #:	M12648	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	10/02/15	Expiration Date:	10/02/16
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12645. Dilute to 20 L and mix.		

Standard ID#:	M12649	Vendor:	MACRON
Analyst:	LJF	Chemical:	STANNOUS CHLORIDE
Date Received:	10/02/15	Lot #:	119473
Expiration Date (if any):	08/12/16	Catalog #:	8176-04

Standard Log #:	M12646	Reagent:	Potassium Persulfate Solution
Analyst:	LJF		
Prep Date:	10/01/15	Expiration Date:	04/01/16
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M11748 and brought up to volume.		

Standard Log #:	M12647	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	10/01/15	Expiration Date:	04/01/16
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

Standard Log #:	M12645	Reagent:	10N NaOH
Analyst:	LJF		
Prep Date:	09/29/15	Expiration Date:	09/29/16
Prep:	Into a 1 L volumetric flask, added **400 g** NaOH M12543 and brought up to volume.		

Standard Log #:	M12644	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	09/28/15	Expiration Date:	09/28/16
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12543. Dilute to 20 L and mix.		

Standard Log #:	M12641	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	MDS	pH:	4.93 ± 0.05
Prep Date:	09/24/2015	Expiration Date:	06/18/2016
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12543. Dilute to 20 L and mix.		

Standard Log #:	M12642	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	MDS	pH:	4.93 ± 0.05
Prep Date:	09/24/2015	Expiration Date:	06/18/2016
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12543. Dilute to 20 L and mix.		

Standard Log #:	M12643	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	09/24/15	Expiration Date:	03/24/16
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M12270 and **60 g** hydroxylamine sulfate M12548 and brought up to volume.		

Standard Log #:	M12638	Standard:	GFAA Instrument Check
Analyst:	MDS	Final Concentration:	10 µg/L As 6 µg/L Pb 22 µg/L Tl 24 µg/L Sb, Se 0.8 µg/L Ag
Prep Date:	09/22/2015	Expiration Date:	11/08/2015

Into six, 100 mL volumetric flasks, add the following and bring up to volume with milli-Q H_2O.

Element	Volume Pipetted (mL)	Standard Conc. (µg/mL)	Standard ID	New Conc. (µg/L)
As	1	1000	M12315	10,000
Pb	0.1	10,000	M12313	10,000
Tl	1	1000	M11997	10,000
Se	1	1000	M12600	10,000
Sb	1	1000	M12602	10,000
Ag	0.1	1000	M12599	1000

Into a 1 L volumetric flask, add the following and bring up to volume with Milli-Q H_20. (1% HNO_3)

Element	Volume Pipetted (mL)	Standard Conc. (µg/L)	New Conc. (µg/L)
As	1	10,000	10
Pb	0.6	10,000	6
Tl	2.2	10,000	22
Se	2.4	10,000	24
Sb	2.4	10,000	24
Ag	0.8	1000	0.8

		Instrument:	GFAA
Standard Log #:	M12639	Standard:	As Spiking Solution
Analyst:	MDS	Concentration:	10 ug/mL (As)
Prep Date:	09/22/2015	Expiration Date:	06/02/2016
Prep:	Into a 100 mL volumetric flask, pipetted **1.0 mL** of As (1000 mg/L) M12315 and brought to volume with Milli-Q DI H_2O. (3% HNO_3) *Pipette **0.075 mL** of spiking solution into 50 mL DI or sample for a final spike concentration of 15 ug/L		

		Instrument:	GFAA
Standard Log #:	M12640	Standard:	As/Se Spiking Solution
Analyst:	MDS	Concentration:	10 ug/mL (As,Se)
Prep Date:	09/22/2015	Expiration Date:	06/02/2016
Prep:	Into a 100 mL volumetric flask, pipetted **1.0 mL** of As (1000 mg/L) M12315 and **1.0 mL** of Se (1000 mg/L) M12600 and brought to volume with Milli-Q DI H_2O. (3% HNO_3) *Pipette **0.075 mL** of spiking solution into 50 mL DI or sample for a final spike concentration of 15 ug/L		

		Instrument:	CETAC
Standard Log #:	M12636	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	09/18/15	Expiration Date:	12/09/15
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.604 and dissolved **100 g** Stannous chloride M12549 and brought up to volume.		

Standard Log #:	M12637	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	09/18/15	Expiration Date:	03/18/16
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M12633	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	09/18/15	Expiration Date:	02/26/15
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M12634	Standard:	Hg MRL
Analyst:	LJF	Concentration:	0.2 ug/L Hg
Prep Date:	09/18/15	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12635	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	09/18/15	Expiration Date:	04/01/17
Prep:	Carefully mixed **3** parts HCl AB.604 with **1** part HNO_3 AB.603 in a hood.		

		Instrument:	CETAC
Standard Log #:	M12630	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	09/18/15	Expiration Date:	02/26/15
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M12631	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	09/18/15	Expiration Date:	06/30/16
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M12532 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M12632	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	09/18/15	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

Standard Log #:	M12628	Reagent:	10N NaOH
Analyst:	LJF		
Prep Date:	09/16/15	Expiration Date:	09/16/16
Prep:	Into a 1 L volumetric flask, added **400 g** NaOH M11852 and brought up to volume.		

Standard ID#:	M12629	Vendor:	GR ACS
Analyst:	LJF	Chemical:	SODIUM CHLORIDE
Date Received:	09/16/15	Lot #:	x131a
Expiration Date (if any):		Catalog #:	C710L50

		Instrument:	Hach 2100 turbidity meter
Standard Log #:	M12627	Standard:	Turbity ICAL
Analyst:	NAH	Concentrations:	20, 100, 200 ntu
Prep Date:	9/11/2015	Expiration Date:	08/2016
Prep:	Using the hach vials , pipet the following: *20 ntu Std.* = **1 ml** M12186 and 9 mls DI H20. *100 ntu Std.* = **5 mls** M12186 and 5 mls DI H20. *200 ntu Std.* = ***10 mls*** M12186 *and* 0 mls DI H20.		

Standard Log #:	M12626	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	09/10/15	Expiration Date:	09/10/16
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.577 and **128.6 mL** 10N NaOH M12543. Dilute to 20 L and mix.		

Standard Log #:	M12625	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	09/09/15	Expiration Date:	09/09/16
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.577 and **128.6 mL** 10N NaOH M12543. Dilute to 20 L and mix.		

		Instrument:	CETAC
Standard Log #:	M12622	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	09/03/15	Expiration Date:	12/09/15
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.604 and dissolved **100 g** Stannous chloride M12549 and brought up to volume.		

Standard Log #:	M12623	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	09/03/15	Expiration Date:	03/03/16
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M12270 and **60 g** hydroxylamine sulfate M11798 and brought up to volume.		

Standard Log #:	M12624	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	09/03/15	Expiration Date:	03/03/16
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M12619	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	09/03/15	Expiration Date:	02/26/15
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M12620	Standard:	Hg MRL
Analyst:	LJF	Concentration:	0.2 ug/L Hg
Prep Date:	09/03/15	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12621	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	09/03/15	Expiration Date:	04/01/17
Prep:	Carefully mixed **3** parts HCl AB.604 with **1** part HNO_3 AB.603 in a hood.		

		Instrument:	CETAC
Standard Log #:	M12616	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	09/03/15	Expiration Date:	02/26/15
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M12617	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	09/03/15	Expiration Date:	06/30/16
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M12532 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M12618	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	09/03/15	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

Standard ID#:	M12615	Vendor:	SPEX Certiprep
Analyst:	NAH	Chemical:	Custum Assurance Standard
Date Received:	09/01/2015	Lot #:	32-105CR
Expiration Date (if any):	09/20/2015	Catalog #:	XSPIKE-1-250

		Instrument:	ICP 6000
Standard Log #:	M12614	Standard:	NaK ICSAB
Analyst:	MDS	Concentrations:	500 mg/L (Al, Ca, Fe, Mg) 100 mg/L (Na, K)
Prep Date:	08/31/15	Expiration Date:	11/08/15
Prep:	Into a 250 mL volumetric flask, pipetted **25 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M12529, **2.5 mL** of K (10,000 mg/L) M12474, **2.5 mL** of Na (10,000 mg/L) M12010 and **7.5 mL** of Fe (10,000 mg/L) M12489 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

Standard Log #:	M12613	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	08/27/15	Expiration Date:	08/27/16
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12543. Dilute to 20 L and mix.		

Standard ID#:	M12612	Vendor:	CPI
Analyst:	NAH	Chemical:	Yttrium 10000 ug/mL
Date Received:	08/27/15	Lot #:	15E153
Expiration Date (if any):	02/20/17	Catalog #:	4400-10M671

Standard Log #:	M12611	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	08/24/15	Expiration Date:	08/24/16
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12543. Dilute to 20 L and mix.		

Standard ID#:	M12607	Vendor:	CPI
Analyst:	NAH	Chemical:	SODIUM 1000ug/mL
Date Received:	08/19/2015	Lot #:	15F159
Expiration Date (if any):	02/12/2017	Catalog #:	4400-1000521

Standard ID#:	M12608	Vendor:	CPI
Analyst:	NAH	Chemical:	POTASSIUM 1000ug/mL
Date Received:	08/19/2015	Lot #:	15E009
Expiration Date (if any):	02/12/2017	Catalog #:	4400-1000411

Standard ID#:	M12609	Vendor:	CPI
Analyst:	NAH	Chemical:	POTASSIUM 10000ug/mL
Date Received:	08/19/2015	Lot #:	15E086
Expiration Date (if any):	02/12/2017	Catalog #:	4400-10M411

Standard ID#:	M12610	Vendor:	ALFA AESAR
Analyst:	LJF	Chemical:	HYDROXYLAMINE SULFATE
Date Received:	08/20/15	Lot #:	Z16A019
Expiration Date (if any):		Catalog #:	88944

Standard ID#:	M12602	Vendor:	CPI
Analyst:	NAH	Chemical:	ANTIMONY 1000 ug/ml
Date Received:	08-14-2015	Lot #:	15D168
Expiration Date (if any):	02-10-2017	Catalog #:	S4400-100023

Standard ID#:	M12603	Vendor:	CPI
Analyst:	NAH	Chemical:	IRON 10000 ug/ml
Date Received:	08-14-2015	Lot #:	15C057
Expiration Date (if any):	02-10-2017	Catalog #:	4400-10M261

Standard ID#:	M12604	Vendor:	CPI
Analyst:	NAH	Chemical:	CALCIUM 10000 ug/ml
Date Received:	08-14-2015	Lot #:	15G076
Expiration Date (if any):	02-10-2017	Catalog #:	4400-10M91

Standard ID#:	M12605	Vendor:	CPI
Analyst:	NAH	Chemical:	ALUMINUM 10000 ug/ml
Date Received:	08-14-2015	Lot #:	15E015
Expiration Date (if any):	02-10-2017	Catalog #:	4400-10M11

Standard ID#:	M12606	Vendor:	CPI
Analyst:	NAH	Chemical:	MAGNESIUM 10000 ug/ml
Date Received:	08-14-2015	Lot #:	15G077
Expiration Date (if any):	02-10-2015	Catalog #:	4400-10M311

Standard ID#:	M12599	Vendor:	CPI
Analyst:	NAH	Chemical:	SILVER 1000 ug/ml
Date Received:	8-14-2015	Lot #:	15H040
Expiration Date (if any):	02-10-2017	Catalog #:	S4400-1000511

Standard ID#:	M12600	Vendor:	CPI
Analyst:	NAH	Chemical:	SELENIUM 1000 ug/ml
Date Received:	08-14-2015	Lot #:	15E095
Expiration Date (if any):	2-10-2017	Catalog #:	S4400-1000491

Standard ID#:	M12601	Vendor:	CPI
Analyst:	NAH	Chemical:	SILICON 1000 ug/ml
Date Received:	08-14-2015	Lot #:	15F050
Expiration Date (if any):	02-10-2017	Catalog #:	S4400-1000504F

		Instrument:	CETAC
Standard Log #:	M12596	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	08/13/15	Expiration Date:	02/26/16
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M12597	Standard:	Hg MRL
Analyst:	LJF	Concentration:	0.2 ug/L Hg
Prep Date:	08/13/15	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12598	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	08/13/15	Expiration Date:	04/01/17
Prep:	Carefully mixed **3** parts HCl AB.604 with **1** part HNO_3 AB.603 in a hood.		

		Instrument:	CETAC
Standard Log #:	M12599a	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	08/13/15	Expiration Date:	12/09/15
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.604 and dissolved **100 g** Stannous chloride M12549 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M12593	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	08/13/15	Expiration Date:	02/26/15
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M12594	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	08/13/15	Expiration Date:	06/30/16
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M12532 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M12595	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	08/13/15	Expiration Date:	06/30/15
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

Standard Log #:	M12588	Instrument:	GFAA
Analyst:	MDS	Reagent:	Pd/Mg Matrix Modifier
Prep Date:	08/10/15	Expiration Date:	10/23/16
Prep:	Into a 50 mL volumetric flask, partially filled with milli-Q H_2O, pipetted **15 mL** Pd Modifier M12584 and **10 mL** Mg (10,000 mg/L) M12488 and brought up to volume.		

		Instrument:	ICP 6500
Standard Log #:	M12586	Standard:	ICSA
Analyst:	NAH	Concentrations:	**500,000 ug/L** Al, Ca, Fe, Mg
Prep Date:	08/05/15	Expiration Date:	07/16
Prep:	Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M12529 and **15 mL** Fe (10000 mg/L) M12489 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M12587	Standard:	ICSAB
Analyst:	NAH	Concentrations:	**500,000 ug/L** Al, Ca, Fe, Mg **500 ug/L** Ag, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Tl, V, Zn
Prep Date:	08/05/15	Expiration Date:	07/16
Prep:	Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M12529 , **15 mL** Fe (10,000 mg/L) M12489 , **2.5 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M12530 and **2.5 mL** Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12558 and brought up to volume with milli-Q H_2O.		

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Standard ID#:	M12584	Vendor:	Environmental Express
Analyst:	MDS	Chemical:	GFAA Pd Matrix Modifier
Date Received:	08/05/15	Lot #:	1421912
Expiration Date (if any):	07/31/17	Catalog #:	HP1900-100

		Instrument:	ICP 6500
Standard Log #:	M12585	Standard:	ICV Std.
Analyst:	NAH	Concentrations:	**12,000 mg/L** Al **10,000 mg/L** Ca, Mg **5000 mg/L** Fe **2000 mg/L** As, Ba, Se, Tl **500 mg/L** B, Co, Li, Mn, Mo, Ni, Pb, Sb, Sn, Sr, Ti, V, Zn **250 mg/L** Cu **200 mg/L** Cr **50 mg/L** Ag, Be, Cd
Prep Date:	08/05/15	Expiration Date:	11/15
Prep:	Into a 1 L volumetric flask, pipetted the following and brought up to volume with milli-Q H_2O. **10 mL** Custom Assurance Standard #18 ((200 mg/L Al, As, Ba, Se, Tl) (100 mg/L Fe) (50 mg/L Co, Mn, Ni, Pb, Sb, V, Zn) (25 mg/L Cu) (20 mg/L Cr) (5 mg/L Ag, Be, Cd)) M12574, **2 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M12529, **0.5 mL** Mo (1000 mg/L) M12008, **0.5 mL** B (1000 mg/L) M12471, **0.5 mL** Sr (1000 mg/L) M11999, **0.5 mL** Li (1000 mg/L) M11998, **0.5 mL** Sn (1000 mg/L) M11996 and **0.5 mL** Ti (1000 mg/L) M12003.		

		Instrument:	ICP 6500
Standard Log #:	M12582	Standard:	CCV1
Analyst:	NAH	Concentrations:	**5000 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn **500 µg/L** Ag, Be, Cd
Prep Date:	08/03/15	Expiration Date:	7/30/16
Prep:	Into a 1 L volumetric flask, pipetted **50 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12558 and **5.0 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M12530 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M12583	Standard:	CCV2
Analyst:	NAH	Concentrations:	**500 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn **50 µg/L** Ag, Be, Cd
Prep Date:	08/03/2015	Expiration Date:	7/30/16
Prep:	Into a 1 L volumetric flask, pipetted **5 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12558 and **0.5 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M12530 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M12581	Standard:	ICAL
Analyst:	NAH	Concentrations:	0.25, 0.5, 1, 5, 10, 20, 50, 100, 1000, 10,000, 100k, 100,000, 500,000 and 1000k (ug/L)
Prep Date:	08/03/15	Expiration Date:	11/2015

Prep:

Using 1 L volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O.
(5% HNO_3, 5% HCl)
1000 ug/L Std. - **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12558, **10 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M12530 and **1 mL** of Si (1000 mg/L) M11919.
0.25 ug/L Std. - **0.25 mL** of the 1000 ug/L Std.
0.5 ug/L Std. - **0.5 mL** of the 1000 ug/L Std.
1 ug/L Std. - **1 mL** of the 1000 ug/L Std.
5 ug/L Std. - **5 mL** of the 1000 ug/L Std.
10 ug/L Std. - **10 mL** of the 1000 ug/L Std.
20 ug/L Std. - **20 mL** of the 1000 ug/L Std.
50 ug/L Std. - **50 mL** of the 1000 ug/L Std.
100 ug/L Std. - **1 mL** of Custom Assurance Std. (CAS) #23 and **1 mL** of CAS #3
10,000 ug/L Std. - **100 mL** CAS #23, **100 mL** CAS #3 and **1 mL** of K (10,000 mg/L) M12474.
100k ug/L Std. - **10 mL** of Cu (10,000 mg/L) M12472, **10 mL** of Mn (10,000 mg/L) M12533, **10 mL** of Cr (10,000 mg/L) M12470, **10 mL** Pb (10,000 mg/L) M12313, **10 mL** of Zn (10,000 mg/L) M12005 and **10 mL** of Na (10,000 mg/L) M12010.
100,000 ug/L Std. - **10 mL** of Mg (10,000 mg/L) M12488, **10 mL** of Fe (10,000 mg/L) M12489, **10 mL** of Ca (10,000 mg/L) M12490 and **10 mL** Al (10,000 mg/L) M12400.
500,000 ug/L Std. - **50 mL** of Mg (10,000 mg/L), **50 mL** of Fe (10,000 mg/L), **50 mL** of Ca (10,000 mg/L) and **50 mL** of Al (10,000 mg/L)
1000k ug/L Std. - **100 mL** of Mg (10,000 mg/L), **100 mL** of Fe (10,000 mg/L), **100 mL** of Ca (10,000 mg/L) and **100 mL** of Al (10,000 mg/L)

Standard Log #:	M12579	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	07/24/15	Expiration Date:	01/24/16
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M11285 and brought up to volume.		

		Instrument:	GFAA
Standard Log #:	M12576	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	07/23/2015	Expiration Date:	06/01/2016
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M12504 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M12577	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	07/23/2015	Expiration Date:	06/01/2016
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M12504 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M12578	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	07/23/2015	Expiration Date:	06/01/2016
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M12505 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

Standard ID#:	M12574	Vendor:	SpexCertiprep
Analyst:	NAH	Chemical:	Custum Assurance Std
Date Received:	07/21/2015	Lot #:	31-138CR
Expiration Date (if any):	07/30/2016	Catalog #:	XSPIKE-1-500

Standard ID#:	M12575	Vendor:	SpexCertiprep
Analyst:	NAH	Chemical:	Custum Assurance Std
Date Received:	07/21/2015	Lot #:	07-30-2016
Expiration Date (if any):	07/30/2015	Catalog #:	XCTWI-1-500

		Instrument:	ICP 6000
Standard Log #:	M12559	Standard:	B&Si ICAL
Analyst:	MDS	Concentrations:	50, 200, 1000, 2000 and 10,000 ug/L (B, Si)
Prep Date:	07/15/2015	Expiration Date:	11/08/2015
Prep:	Into five, 1 L volumetric flasks, pipetted the following from stock standards B (1000 mg/L) M12471 and Si (1000 mg/L) M12007 and brought up to volume using milli-Q H_2O. *50 ug/L std.* - **0.05 mL** of each *200 ug/L std.* - **0.2 mL** of each *1000 ug/L std.* -**1.0 mL** of each, also used for Continuing Calibration Verification *2000 ug/L std.* - **2.0 mL** of each *10,000 ug/L std.* -**10 mL** of each		

		Instrument:	ICP 6000
Standard Log #:	M12560	Standard:	B&Si CCV
Analyst:	MDS	Concentrations:	1000 ug/L (B, Si)
Prep Date:	07/15/2015	Expiration Date:	11/08/2015
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** B (1000 mg/L) M12471 and **1.0 mL** Si (1000 mg/L) M12007 and brought up to volume using milli-Q H_2O.		

		Instrument:	ICP 6000
Standard Log #:	M12561	Standard:	B & Si ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (B,Si)
Prep Date:	07/15/2015	Expiration Date:	11/08/2015
Prep:	Into a 100 mL volumetric flask, pipetted **10 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M12529, **0.05 mL** of B (1000 µg/mL) M12471, **0.05 mL** of Si (1000 µg/mL) M12007 and **3 mL** of Fe (10,000 mg/L) M12489 and brought up to volume using Milli-Q H_2O.		

Standard ID#:	M12558	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Custum Assurance Standard
Date Received:	07/13/2015	Lot #:	9-105WL
Expiration Date (if any):	07/30/2016	Catalog #:	XCTWI-5-500

Standard ID#:	M12548	Vendor:	Alfa Aesar
Analyst:	LJF	Chemical:	Hydroxylamine Sulfate
Date Received:	07/08/15	Lot #:	Z16A019
Expiration Date (if any):	N/A	Catalog #:	88944

Standard ID#:	M12549	Vendor:	MACRON
Analyst:	LJF	Chemical:	Stannous Chloride
Date Received:	07/08/15	Lot #:	0000111217
Expiration Date (if any):	12/09/15	Catalog #:	8176-04

Standard Log #:	M12543	Reagent:	10N NaOH
Analyst:	LJF		
Prep Date:	06/18/15	Expiration Date:	06/18/16
Prep:	Into a 1 L volumetric flask, added **400 g** NaOH M11852 and brought up to volume.		

Standard Log #:	M12544	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	06/18/15	Expiration Date:	06/18/16
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12543. Dilute to 20 L and mix.		

Standard ID#:	M12529	Vendor:	SPEX Certiprep
Analyst:	NAH	Chemical:	Interference-A
Date Received:	06/04/2015	Lot #:	12-101YPX
Expiration Date (if any):	06/30/2016	Catelog #:	INT-A1

Standard ID#:	M12530	Vendor:	SPEX Certiprep
Analyst:	NAH	Chemical:	Custom Assurance STD (3) Ag,Be,Cd
Date Received:	06/04/2015	Lot #:	30-152CR
Expiration Date (if any):	06/30/2016	Catelog #:	XCTWI-4-500

Standard ID#:	M12531	Vendor:	SPEX Certiprep
Analyst:	NAH	Chemical:	Custom Assurance STD (23)
Date Received:	06/04/2015	Lot #:	30-153CR
Expiration Date (if any):	06/30/2016	Catelog #:	XCTWI-5-500

Standard ID#:	M12532	Vendor:	SPEX Certiprep
Analyst:	NAH	Chemical:	Mercury 1000 mg/L
Date Received:	06/04/2015	Lot #:	CL7-180HGY
Expiration Date (if any):	06/30/2016	Catelog #:	CLHG4-2Y

Standard ID#:	M12533	Vendor:	CPI
Analyst:	NAH	Chemical:	Mn 10000 mg/L
Date Received:	06/04/2015	Lot #:	15E180
Expiration Date (if any):	11/29/2016	Catelog #:	P/N S4400-10M321

Standard ID#:	M12518	Vendor:	Alfa Aesar Specpure
Analyst:	MDS	Chemical:	GFAA Nickel Nitrate Modifier
Date Received:	05/29/2015	Lot #:	785159H
Expiration Date (if any):	11/30/2016	Catelog #:	39043

		Instrument:	GFAA
Standard Log #:	M12519	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	05/29/2015	Expiration Date:	06/01/2016
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M12504 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M12520	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	05/29/2015	Expiration Date:	06/01/2016
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M12504 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M12521	Standard:	ICV/Spike Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	05/29/2015	Expiration Date:	06/01/2016
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M12505 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	CETAC
Standard Log #:	M12507	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	05/27/15	Expiration Date:	02/26/16
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	ICP 6000
Standard Log #:	M12508	Standard:	NaK ICSAB
Analyst:	MDS	Concentrations:	500 mg/L (Al, Ca, Fe, Mg) 100 mg/L (Na, K)
Prep Date:	05/27/2015	Expiration Date:	08/30/2015
Prep:	Into a 250 mL volumetric flask, pipetted **25 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M12164, **2.5 mL** of K (10,000 mg/L) M12474, **2.5 mL** of Na (10,000 mg/L) M12010 and **7.5 mL** of Fe (10,000 mg/L) M12401 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

Standard ID#:	M12504	Vendor:	Inorganic Ventures
Analyst:	MDS	Chemical:	GFAA ICAL/CCV Standard
Date Received:	05/26/2015	Lot #:	J2-MEB581070
Expiration Date (if any):	06/01/2016	Catelog #:	CTI-SPK-1

Standard ID#:	M12505	Vendor:	Inorganic Ventures
Analyst:	MDS	Chemical:	GFAA ICV/Spiking Standard
Date Received:	05/26/2015	Lot #:	J2-MEB581069
Expiration Date (if any):	06/01/2016	Catelog #:	CTI-GFCAL-1

Standard ID#:	M12502	Vendor:	SpexCertiprep
Analyst:	NAH	Chemical:	Custum assurance standard
Date Received:	05-19-2015	Lot #:	30-096CR
Expiration Date (if any):	05-30-2016	Catelog #:	XSPIKE-1-250

Standard Log #:	M12501	Reagent:	Potassium Persulfate Solution
Analyst:	LJF		
Prep Date:	05/14/15	Expiration Date:	11/14/15
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M10987 and brought up to volume.		

#M12488 5-5-15 - Mg 10,000mg/L CPI Lot 15C248 ex 10/2016.

#M12489 5-5-15 - Fe 10,000mg/L CPI Lot 15C290 ex 10/16.

#M12490 5-5-15 Ca 10,000mg/L CPI Lot 15A007 ex 10/16.

#M12491 05/06/15 13F TCLP Extraction Fluid #1: Fill a 2oL carboy w/ 19L D.I. H2O. Add 114ml Glacial Acetic Acid (AB 579) and 128.6ml of 1N NaOH (#M12797). Dilute to 20L w/ D.I. H2O and mix. pH = 4.93 ± 0.05

EXP: 05/06/16

#M12492 05/06/15 13F SPLP Extraction Fluid #2 west: Fill a 20L carboy with D.I. H2O and adjust pH to 5.00 ± 0.05 with (#M12457) 60/40 HNO3, H2SO4 mix w/v mix.

EXP: 05/06/16

#M12493 05/11/15 13F	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10 0ug/L Hg
#M12494 05/11/15 13F	Hg Alt Source Working Std: (0 2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M12495 05/11/15 13F	Hg ICV / LCSW (0.2% HNO3, HCl)	3 0ml of 100ug/L Hg (#M12494) into 100ml = 3.0ug/L Hg
#M12496 05/11/15 13F	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M12497 05/11/15 13F	Hg MRL (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M 12494) into 100ml = 0 2ug/L Hg
#M12498 05/11/15 13F	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M12499 05/11/15 13F	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M 12729 in 70 mL HCl (AB: 553) Bring up to volume with D I. Water.

#M12468 4/22/15 MDS

		Instrument:	ICP 6000
Standard Log #:	M12468	Standard:	Na,K ICVLL
Analyst:	MDS	Concentrations:	3 mg/L (Na,K)
Prep Date:	04/22/2015	Expiration Date:	11/8/2015
Prep:	Into a 500 mL volumetric flask, pipetted 0.15 mL of Na (10,000 µg/mL) M12010 and 0.15 mL K (10,000 µg/mL) M12294 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

#M12469 4/22/15 MDS

		Instrument:	ICP 6000
Standard Log #:	M12469	Standard:	Na,K MRL
Analyst:	MDS	Concentrations:	1 mg/L (Na,K)
Prep Date:	04/22/2015	Expiration Date:	04/29/2016
Prep:	Into a 500 mL volumetric flask, pipetted 0.5 mL of Na (1000 µg/mL) M12296 and 0.5 mL K (1000 µg/mL) M12295 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

M12470 ZT Cr 10,000 mg/L CPI 4-24-15 lot # 13D123 exp oct/2016

M12471 ZT Boron 1000 mg/L CPI 4-24-15 lot # 15D007 exp oct/2016

M12472 ZT Cu 10,000 mg/L CPI lot # 15B087 exp oct/2016

M12473 ZT Ba 1000 mg/L CPI lot # 15C142 exp oct/2016

M12474 ZT K 10,000 mg/L CPI lot # 15D114 exp oct/2016

#M12475 04/24/15 MDS

Standard Log #:	M12475	Instrument:	GFAA
Analyst:	MDS	Reagent:	Pd/Mg Matrix Modifier
Prep Date:	04/24/2015	Expiration Date:	08/07/2015
Prep:	Into a 50 mL volumetric flask, partially filled with milli-Q H_2O, pipetted 15 mL Pd Modifier M12158 and 10 mL Mg (10,000 mg/L) M12314 and brought up to volume.		

#M12459 04/20/15 SF	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M12460 04/20/15 SF	Hg All Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M12461 04/20/15 SF	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M12460) into 100ml = 3.0ug/L Hg
#M12462 04/20/15SF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M12463 04/20/15SF	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M12460) into 100ml = 0.2ug/L Hg
#M12464 04/20/15SF	Hg Aqua Regia Reagent.	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M12465 04/20/15SF	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M12299) in 70 mL HCl (AB: 553) Bring up to volume with D.I. Water

#M12466 04/22/15SF NaCl Hydroxylamine Sulfate Reagent: Dissolve 60g NaCl (#M11799) and 60g hydroxylamine Sulfate (#M12096) in 500ml of Milli-Q H_2O.
Exp: 10/22/15

#M12467
04/22/15
MDS

		Instrument:	ICP 6000
Standard Log #:	M12467	Standard:	Na & K ICAL
Analyst:	MDS	Concentrations:	0.5, 1, 5, 10, 50, 100, and 200 mg/L (Na,K)
Prep Date:	04/22/2015	Expiration Date:	04/29/2016
Prep:	Into seven, 200 mL volumetric flasks, pipetted the following from Na (1000 µg/mL) M12296 and K (1000 µg/mL) M12295 and brought up to volume using milli-Q H_2O. (2% HNO_3) *0.5 mg/L std.* - 0.1 mL of each *1.0 mg/L std.* - 0.2 mL of each *5.0 mg/L std.* - 1.0 mL of each *10 mg/L std* - 2.0 mL of each *50 mg/L std.* - 10 mL of each *100 mg/L std.* -20 mL of each, also used for Continuing Calibration Verification *200 mg/L std.* - 40 mL of each		

#M12453 04/07/15 ISF
LOQ Check
3050 QSM DOD

3050 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
K	2640	M12294	10000	13.2
Na	960	M12010	10000	4.8

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expires: 6-Nov

#M12454 04/08/15 ISF
LOQ check
3050 QSM DOD

3050 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
B	52	M11763	1000	2.6
Si	192	M12007	1000	9.6

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expires: 13-May

M12455 4/8/15 JH Environmental Express Y, 10,000mg/L lot# 1418108.
exp prior 10/15.

#M12456 04/14/15 ISF potassium permanganate Soln: 50g potassium permanganate (#M11285) dissolve into 1000mL of D.I. H2O.
Exp: 10/14/15

#M12457 04/15/15 ISF Splp Ext. Fluid Acid mixture: Into a 2L vol. flask, add 12g H_2SO_4 (AB.598) and 8g conc. HNO_3 (AB.596). Bring up to volume with D.I. H_2O.
Exp: 04/15/16

#M12458 04/16/15 ISF SPLP Extraction Fluid Insert #2: Fill a 2 gal carboy with D.I. H_2O and adjust pH to 5.00 ± 0.05 with #M12457 60:40 HNO_3, H_2SO_4 mix w/v mix.
Exp: 04/16/16

#M12449 04/07/15 13F
LOQ Check
3010 QSM DoD

3010 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following.

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
B	16	M11763	1000	0.8
Se	200	M12007	1000	10

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expires: 13-May

#M12450 04/07/15 13F
LOQ Check
3050 QSM DoD

3050 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
Li	14.4	M11998	1000	0.72
Sn	20	M11996	1000	1
Sr	3.2	M11999	1000	0.16
Ti	9.6	M12003	1000	0.48
W	24	M12001	1000	1.2

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expires: 8-Nov

#M12451 04/07/15 13F
LOQ Check
3050 QSM DoD

3050 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
Ag	4	M11908	1000	0.2
Al	9.6	M12312	10000	0.048
As	32	M12315	1000	1.6
Ba	2	M11768	1000	0.1
Be	1.6	M12006	1000	0.08
Ca	56	M12310	10000	0.28
Cd	1.6	M12002	1000	0.08
Co	9.6	M1200	1000	0.48
Cr	5.6	M11767	10000	0.028
Cu	16	M11764	10000	0.08
Fe	72	M1231	10000	0.36
Mg	32	M12314	10000	0.16
Mn	6	M11829	10000	0.03
Mo	9.6	M12008	1000	0.48
Ni	4.8	M12004	1000	0.24
Pb	10	M12313	10000	0.05
Sb	32	M11909	1000	1.6
Se	16	M11911	1000	0.8
Tl	19	M11997	1000	0.95
V	3.2	M12009	1000	0.16
Zn	12	M12005	10000	0.06

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard

Expires: 13-May

#M12452 04/07/15 13F
LOQ Check
3050 QSM DoD

3050 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
S	240	M11679	10000	1.2

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working

#M12445 04/06/15 L3F
LOQ Check
3010 GSM DoD

3010 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
Li	10	M11998	1000	0.5
Sn	10	M11988	1000	0.5
Sr	2	M11999	1000	0.1
Te	8	M12003	1000	0.4
W	36	M12163	1000	1.8

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expires: 8-Nov

#M12446 04/06/15 L3F
LOQ Check
3010 GSM DoD

3010 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
K	500	M12294	10000	2.5
Na	600	M12010	10000	3

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expires: 8-Nov

List 2 MRL/ICVLL Base SPIKE PREPARATION 50x

#M12395 02/23/15 MOS

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	MRL (ug/L)	ICVLL (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) pipet into 1	Expired Date
Li	20	60	M11998	1000	1	11/08/2015
W	100	300	M12163	1000	5	02/06/2016
Ti	10	30	M12003	1000	0.5	11/08/2015
Sr	10	30	M11999	1000	0.5	11/08/2015
Sn	20	60	M11996	1000	1	11/08/2015

0.5% HNO3
0.5% HCl

Pipette 10 mL into a 500 mL volumetric flask to create a [redacted] working MRL std. or 1 mL into a 50 mL digestion tube for a digested MRL working standard. Pipette 30 mL into 500mL for ICVLL Working

List 2 MRL

#M12396 02/23/15 MOS

Into a 500 mL volumetric flask, pipetted 10 mL of #M12395 and brought to volume with milli-Q H20.
Exp. 11/08/2015 0.5% HNO3, 0.5% HCl

List 2 ICVLL

#M12397 02/23/15 MOS

Into a 500 mL volumetric flask, pipetted 30 mL of #M12395 and brought to volume with milli-Q H20.
Exp. 11/08/2015 0.5% HNO3, 0.5% HCl

#M12398 02/23/15 SF NaCl Hydroxylamine sulfate Reagent: Dissolve 60g NaCl (#M11799) and 60g hydroxylamine sulfate (#M11998) in 500mL of milli-Q H2O.
Exp: 02/23/15

#M12399 02/24/15 SF Potassium permanganate Soln: 50g potassium permanganate (#M11785) dissolve into 1000mL of D.I. H2O.
Exp: 08/24/15

#M12400 2-25-15 Al 10,000 mg/L CPI Lot# HK253 ex 7/2016

#M12401 2-25-15 Fe 10,000mg/L CPI Lot# H5165 7/2016

#M12402 02/26/15 SF Stannous Chloride (Amaxim) Lot# 0000096553

#M12403 02/26/15 SF Sodium Chloride (Fisher) Lot# 145475

#M12404 03/04/15 SF TCLP Extraction Fluid #1: Fill a 2qt carboy w/ 1.92 D.I. H2O. Add 11.4mL Glacial Acetic Acid (AB579) and 13.2mL of 10N NaOH (#M12392). Dilute to 2qt w/ D.I. H2O and mix.
pH=4.93±0.05

#M12405 03/04/15 SF TCLP Extraction Fluid #2: Fill a 2qt Carboy w/ 1.9L D.I. H2O. Add 11.4mL Glacial Acetic Acid (AB579) and 13.2mL of 10N NaOH (#M12392). Dilute to 2qt w/ D.I. H2O and mix.
pH=4.93±0.05

#M12383 01/19/15 SF TCLP Extraction Fluid #1: Fill a 20L carboy W/19L D.I. H2O. Add 11.4mL Glacial Acetic Acid (AB: 57) and 128.6mL of 1N NaOH (AB: 1000). Dilute to 20L w/D.I. H2O and mix.
pH=4.93 ± 0.05

#M12384 01/19/15 SF	Hg Working Stds. (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5 0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M12385 01/19/15 SF	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M12386 01/19/15 SF	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M12385) into 100ml = 3.0ug/L Hg
#M12387 01/19/15 SF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3 0ug/L Hg
#M12388 01/19/15 SF	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M12385) into 100ml = 0.2ug/L Hg
#M12389 01/19/15 SF	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M12390 01/19/15 SF	Stannous Chloride Reagent	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M12294) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

ICAP Working Standards List 2

.5% HNO3 .5%HCL

#M12391 02/23/15 MMS

Standard name	Pipetted the following respectively:
1	0.01mL of #M12316 and 0.001mL #M12001 into 1L = 1 ug/L
10	0.10mL of #M12316 and 0.01mL #M12001 into 1L = 10 ug/L
100	1mL of #M12316 and 0.1mL #M12001 into 1L = 100 ug/L
1000	2 mL of #M12316 and 0.2 mL #M12001 into 200 mL = 1000 ug/L
10000	20mL of #M12316 and 2mL #M12001 into 200mL = 10000 ug/L

Brought up to mark with milli-Q H20 Exp. 11/08/2015

#M12392 02/23/15 MMS — Continuing Calibration Standard (CCV)

Into a 200mL volumetric flask pipetted 2mL of #M12316 and 0.2mL #M12001 = 1000 ug/L
Brought up to mark with milli-Q H20 Exp. 11/08/2015 0.5% HNO3, 0.5% HCl

#M12393 02/23/15 MMS — Initial Calibration Standard (ICV) List 2

Into a 1 liter volumetric flask pipetted 1mL of #M12003, M11999, M11996, M11998, M12163
Brought up to mark with milli-Q H20 Exp. 11/08/2015 0.5% HNO3, 0.5% HCl

#M12394 02/23/15 MMS — ICASB List 2

Into a 200 mL volumetric flask, pipetted 20 mL Interferants A #M12164, 6 mL Fe (10,000 µg/mL) #M12311, and 0.1 mL of 1000mg/L Ti, Sr, Sn, Li, and W #M12003, M11999, M11996, M11998, and M12001 respectively.
Brought up to mark with milli-Q H20 Exp. 08/30/2015 0.5% HNO3, 0.5% HCl

#M12378 2-10-15 K 1000mg/L CEI Lot# 14L175 exp 7/16.

Standard Log #:	M12379	Standard:	GFAA Instrument Check
Analyst:	MDS	Final Concentration:	10 µg/L As 6 µg/L Pb 22 µg/L Tl 24 µg/L Sb, Se 0 8 µg/L Ag
Prep Date:	02/17/2015	Expiration Date:	09/16/2015

#M12379 mds 02/17/15

Into six, 100 mL volumetric flasks, add the following and bring up to volume with milli-Q H_2O.

Element	Volume Pipetted (mL)	Standard Conc. (µg/mL)	Standard ID	New Conc. (µg/L)
As	1	1000	M12315	10,000
Pb	0.1	10,000	M12313	10,000
Tl	1	1000	M11997	10,000
Se	1	1000	M11911	10,000
Sb	1	1000	M11909	10,000
Ag	0.1	1000	M11908	1000

Into a 1 L volumetric flask, add the following and bring up to volume with Milli-Q H20. (1% HNO3)

Element	Volume Pipetted (mL)	Standard Conc. (µg/L)	Final Conc. (µg/L)
As	1	10,000	10
Pb	0.6	10,000	6
Tl	2.2	10,000	22
Se	2.4	10,000	24
Sb	2.4	10,000	24
Ag	0.8	1000	0 8

#M12380 - Custom Assurance Std - Spex CertiPrep
2-17-15 mds

#M12381 02/18/15 SF TCLP Extraction Fluid #1: Fill a 2 L carboy w/ 1.92 L D.I. H2O. Add 11.4 mL Glacial Acetic Acid (AB539) and 128 mL of 1.0 N NaOH (M12392). Dilute to 2 L w/ D.I. H2O and mix. pH = 4.93 ± 0.05
Exp: 02/17/16

#M12382 02/18/15 SF TCLP Extraction Fluid #1: Fill a 2 L carboy w/ 1.92 L D.I. H2O. Add 11.4 mL Glacial Acetic Acid (AB539) and 128 mL of 1.0 N NaOH (M12392). Dilute to 2 L w/ D.I. H2O and mix. pH = 4.93 ± 0.05
Exp: 02/17/16

#M12364 02/04/15 LSF	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg into 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M12365 02/04/15 LSF	Hg All Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M12366 02/04/15 LSF	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M12365) into 100ml = 3.0ug/L Hg
#M12367 02/04/15 LSF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M12368 02/04/15 LSF	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M12365) into 100ml = 0.2ug/L Hg
#M12369 02/04/15 LSF	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M12370 02/04/15 LSF	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11995 in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12371 2-5-15 JA Sulfur 10,000mg/L SPC Science lot# S1407117.006 Exp 4/16.

#M12372 02/05/15 LSF TCLP Extraction Fluid #1: Fill a 20L carboy w/ 19L D.I. H2O. Add 114ml Glacial Acetic Acid (AB: 579) and 128.6 mL of 10N NaOH (#M11788). Dilute to 20L w/ D.I. H2O and mix. pH=4.93±0.05
Exp: 02/05/16

#M12373 02/05/15 LSF TCLP Extraction Fluid #1: Fill a 20L carboy w/ 19L D.I. H2O. Add 114ml Glacial Acetic Acid (AB: 579) and 128.6 mL of 10N NaOH (#M11788). Dilute to 20L w/ D.I. H2O and mix. pH=4.93±0.05
Exp: 02/05/16

#M12374 2/5/15 Custom Assurance STD 100ug/ml 23 elements 8-9% HNO3 2% HCl Exp 1/16

#M12375 02/10/15 LSF 10N NaOH: Into a 1L flask, add 400g NaOH (#M11852) and bring up to volume with D.I. H2O.
Exp: 08/10/15

#M12376 02/10/15 LSF Potassium permanganate Soln: 50g potassium permanganate (#M11785) dissolve into 1000 mL of D.I. H2O.
Exp: 08/10/15

#M12377 2-10-15 Na 1000mg/L CPI lot# 142083 Exp 7/16.

#M12352 01/20/15 (3F Potassium permanganate Solns: 50g potassium permanganate (#M1128) dissolve into 1,000mL of D.I. H2O
Exp: 07/20/15

#M12353 01-22-15 MMS S ICAL - Into 4, 100 mL vol. Flasks, pipetted the following and brought up to volume with milli-Q H2O. exp. 01-30-16
0.01mL S (10,000ug/mL) #M12350 = 1000ug/L S
0.1mL S (10,000ug/mL) # M12350 = 10,000 ug/L S
Used as CCV → 1.0mL S (10,000ug/mL) # M12350 = 100,000 ug/L S
10 mL S (10,000ug/mL) # M12350 = 1000K ug/L S

#M12354 01-22-15 MMS S ICV - Into a 100mL vol. flask, pipetted 1.0mL S(10,000ug/mL) #M10828 and brought to volume with milli-Q H2O. exp. 01-30-15

#M12355 01/22/15 5F Hg Working Stds: (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg
1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg
2.0ml of 100ug/L Hg into 100ml = 2 0ug/L Hg
4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg
5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg
10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg

#M12356 01/27/15 5F Hg Alt Source Working Std: (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg
1.0ml of 10mg/L into 100ml = 100ug/L Hg

#M12357 01/27/15 5F Hg ICV / LCSW (0.2% HNO3, HCl)
3.0ml of 100ug/L Hg (#M12356) into 100ml = 3.0ug/L Hg

#M12358 01/27/15 3F Hg CCV (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg

#M12359 01/27/15 3F Hg MRL: (0.2% HNO3, HCl)
0.2ml of 100ug/L Hg (#M12356) into 100ml = 0.2ug/L Hg

#M12360 01/27/15 3F Hg Aqua Regia Reagent:
"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)

#M12361 01/27/15 3F Stannous Chloride Reagent:
Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M1925) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12362 01/27/15 5F 10% Hydroxylamine Sulfate Reagent: Dissolve 100g NaCl (#M1799) and 100g hydroxylamine Sulfate (#M1798) in 500mL of Milli-Q H2O.
Exp: 07/27/15

#M12363 01/30/15 5F TCLP Extraction Fluid #1: Fill a 20L carboy w/ 14L D.I. H2O. Add 11.5mL Glacial Acetic Acid (AB: 579) and 128.6mL of 10N NaOH (#M12792). Dilute to 20L w/ D.I. H2O and mix. pH = 4.93 ± 0.05
Exp: 01/30/16 01/30/15 5F

#M12340 1-9-15 JY
5% HCl
5% HNO3

3050 MDL Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	MDL (ug/L)	Sts ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
K	500	#M12294	10000	2.5
Na	500	#M12010	10000	2.5

Of the Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

EXPIRES 11/15

#M12341 01-14-15 MS GFAA Lot/ICA Check Water Working Std. (Ag Only) - Into a 100mL vol. Flask, pipetted 0.1mL Ag (1000ug/mL) #M11098 and brought up to volume using milli-Q H2O. exp. 04-6-15

#M12342 01-14-15 MS GFAA Lot/ICA Water Spiking Solution (Ag Only) - Into a 1L vol. Flask, pipetted 10mL #M12341 and brought up to volume using milli-Q H2O (1% HNO3) exp. 04-6-15

#M12343 01/19/15 SF Hg Working Stds: (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg
1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg
2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg
4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg
5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg
10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg

#M12344 01/19/15 SF Hg Alt Source Working Std: (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg
1.0ml of 10mg/L into 100ml = 100ug/L Hg

#M12345 01/19/15 SF Hg ICV / LCSW (0.2% HNO3, HCl)
3.0ml of 100ug/L Hg (#M12344) into 100ml = 3.0ug/L Hg

#M12346 01/19/15 SF Hg CCV (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg

#M12347 01/19/15 SF Hg MRL: (0.2% HNO3, HCl)
0.2ml of 100ug/L Hg (#M12344) into 100ml = 0.2ug/L Hg

#M12348 01/19/15 SF Hg Aqua Regia Reagent. "Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)

#M12349 01/19/15 SF Stannous Chloride Reagent: Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M1995) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12350 1-19-15 JY Spex Certiprep S. 10,000 mg/L Lot # AH15-855Y exp 1/16

#M12351 01/19/15 SF TCLP Extraction Fluid #1: Fill a 20L carboy w/ 19L D.I. H2O. Add 11.4mL Glacial Acetic Acid (AB: 539) and 17.6mL of 10N NaOH (#M12292) Dilute to 20L w/ D.I. H2O and mix. pH=4.93 ± 0.05
Exp: 01/19/16
01/19/15 SF

#M12310 12-9-14 JS 10,000 mg/L Ca CPI Lot# 14K204 ex 6/16

#M12311 12-9-14 JS 10,000 mg/L Fe CPI Lot # 145165 ex 6/16

#M12312 12-9-14 JS 10,000 mg/L Al CPI Lot # 14H211 ex 6/16

#M12313 12-9-14 JS 10,000 mg/L Pb CPI Lot # 140135 ex 6/16

#M12314 12-9-14 JS 10,000 mg/L Mg CPI Lot # 14K161 ex 6/16

#M12315 12-9-14 JS 1000 mg/L As CPI Lot # 131194 ex 6/16

#M12316 12-9-14 JS Custom Assurance Std CPEx Centiprep Lot 27-185CR ex 12/15

#M12317 12-09-14 JMS GFAA Se Spike (10ug/mL) - Into a 100mL vol. Flask, pipetted 1.0mL Se (1000mg/mL) #M11911 & brought to volume with DI H_2O. (3% HNO_3) Exp. 09/18/15

#M12318 12/09/14 JSF TCLP Extraction Fluid #1: Fill a 7oL carboy w/ 14L D.I. H_2O. Add 114mL Glacial Acetic Acid (AB5719) and 128.6mL of 10N NaOH (#M12792) Dilute to 7oL w/ D.I. H_2O and mix. Exp: 12/09/15 pH: 4.93 ± 0.05

#M12319 12/12/14 JSF potassium permanganate Soln: 50g potassium permanganate (#M11785) dissolve into 1000mL of D.I. H_2O. Exp: 06/12/15

#M12320 JS 12-15-14 Custom Assurance Std Spex Centiprep Lot 27-232CR XCTWST-1-500

#M12321 JS 12-15-14 Custom Assurance Std Spex Centiprep Lot 27-231CR XSpike-1-250

#M12322 12/15/14 JSF TCLP Extraction Fluid #1: Fill a 7oL Carboy w/ 14L D.I. H_2O. Add 114mL Glacial Acetic Acid (AB5719) and 128.6mL of 10N NaOH (#M12792) Dilute to 7oL with D.I. H_2O and mix. Exp: 12/15/15 pH: 4.93 ± 0.05

#M12323 12-22-14 JMS GFAA Pd/Mg Matrix Modifier - Into a 50mL vol. flask, pipetted 15mL of Pd modifier #M12158 + 10mL of Mg (1000mg/mL) #M12113 & brought up to volume using milli-Q H_2O. (2% HNO_3) exp. 8/7/15

#M12295 D 11-21-14 K 1000mg/mL CPI Lot 141165 Exp 4/16

#M12296 D 11-21-14 Na 1000mg/L CPI Lot 141167 Exp 4/16

#M12297 11/24/N13F Potassium permanganate Soln: 56g potassium permanganate (#M11285) dissolved Exp: 05/21/15 into 1000mL of D.I. H2O.

#M12298 11/24/N13F Stannous Chloride (Macron) Lot# 0000082282

#M12299 11-25-14 D ICV 1 As + Pb. Add 1 Liter vol flask pipet 5mL #M11912, 0.5mL #M11682 Bring up to mark w/ DI H2O.

#M12300 11/25/N13F Stannous Chloride (Macron) Lot# 0000090643

#M12301 12/02/N13F TCLP Extraction Fluid #1: Fill a 20L Carboy w/ 19L D.I. H2O. Add 114mL Glacial Acetic Acid (AB: 57) and 128.6mL of 10N NaOH (#M12292). Dilute to 20L with D.I. H2O and mix. pH = 4.93 ± 0.05. Exp: 12/02/15

#M12302 12/05/N13F Hg Working Stds: (0.2% HNO3, HCl)
- 1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
- 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
- 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg
- 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg
- 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg
- 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg
- 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg
- 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg

#M12303 12/05/14 SF Hg Alt Source Working Std: (0.2% HNO3, HCl)
- 1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg
- 1.0ml of 10mg/L into 100ml = 100ug/L Hg

#M12304 12/05/14 SF Hg ICV / LCSW (0.2% HNO3, HCl)
- 3.0ml of 100ug/L Hg (#M12303) into 100ml = 3.0ug/L Hg

#M12305 12/05/14 SF Hg CCV (0.2% HNO3, HCl)
- 1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
- 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
- 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg

#M12306 12/05/14 SF Hg MRL: (0.2% HNO3, HCl)
- 0.2ml of 100ug/L Hg (#M12303) into 100ml = 0.2ug/L Hg

#M12307 12/05/14 SF Hg Aqua Regia Reagent: "Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)

#M12308 12/05/14 SF Stannous Chloride Reagent: Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11995) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12309 12/08/14 SF NaCl Hydroxylamine Sulfate Reagent: Dissolve 1kg NaCl (#M11999) and 1kg hydroxylamine sulfate (#M11998) in 500mL of milli-q H2O. Exp: 06/9/15

ICASS List 2

#M12282
11-13-14 [illegible]

Into a 200 mL volumetric flask, pipetted 20 mL Interferents A #M12082 and 0.1 mL of 1000mg/L Ti, Sr, Sn, Li, and W #M12003, M11999, M11996, M11998, and M12004 respectively. Brought up to mark with milli-Q H20 Exp. 06/30/2015

#M12283 Yttrium 10,000 ug/mL Environmental Express Lot#1418108
11-14-14

#M12284 11/14/14 ISF	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M12285 11/14/14 ISF	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M12286 11/14/14 ISF	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M 12285) into 100ml = 3.0ug/L Hg
#M12287 11/14/14 ISF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M12288 11/14/14 ISF	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M 12285) into 100ml = 0.2ug/L Hg
#M12289 11/14/14 ISF	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M12290 11/14/14 ISF	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11995) in 70 mL HCl (AB: 553). Bring up to volume with D I Water.

#M12291 11/15/14 ISF Acid Hydroxylamine Sulfate Reagent: Dissolve 60g acid (#M11799) and 60g hydroxylamine sulfate (#M11992) in 500ml of milli-Q H2O
Exp: 05/15/15

#M12292 11/20/14 ISF 10N NaOH: Into a 1L flask add 400g NaOH (#M11145) and bring up to volume with D.I. H2O.
Exp: 05/20/15

#M12293 11/20/14 ISF TCLP Extraction Fluid #1: Fill a 2L carboy w/ 19L D.I. H2O. Add 114ml Glacial Acetic Acid (AB, 574) and 128.6ml of 10N NaOH (#M12292) Dilute to 20L with D.I. H2O and mix pH = 4.93 ± 0.05
Exp: 11/20/15

M12294 11-21-14 K 10,000 ug/mL CPI Lot 14623 exp 4/29/16

11/04/14SF

#M12271 TCLP Extraction Fluid #1: Fill a 1L carboy w/ 1912 D.I. H2O. Add 11.4mL Glacial Acetic Acid (AB: 579) and 128mL 1.0N NaOH (#M11955). Dilute to 2.0L with D.I. H2O and mix. pH = 4.93 ± 0.05
Exp: 05/11/15
11/04/14SF

#M12272 11/05/14SF	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M12273 11/05/14SF	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M12274 11/05/14SF	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M12273) into 100ml = 3.0ug/L Hg
#M12275 11/05/14SF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M12276 11/05/14SF	Hg MRL (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M12273) into 100ml = 0.2ug/L Hg
#M12277 11/05/14SF	Hg Aqua Regia Reagent.	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M12276 11/05/14SF	Stannous Chloride Reagent:	Into a 1000mL volumetric flask, dissolve 100g Stannous Chloride (#M11985) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12277 11/07/14SF Potassium permanganate (Fisher) lot#: 138740A

#M12278 11/13/14SF potassium permanganate soln: 50g potassium permanganate (#M11285) dissolve into 1000mL of D.I. H2O.
Exp: 05/13/15

ICAP Working Standards List 2

#M12279 .5% HNO3 .5%HCL
11-13-14 JMD

Standard name	Pipetted the following respectively:
1	0.01mL of #M12165 and 0.001mL #M12001 into 1L = 1 ug/L
10	0.10mL of #M12165 and 0.01mL #M12001 into 1L = 10 ug/L
100	1mL of #M12165 and 0.1mL #M12001 into 1L = 100 ug/L
1000	2mL of #M12165 and 0.2mL #M12001 into 200mL = 1000 ug/L
10000	20mL of #M12165 and 2mL #M12001 into 200mL = 10000 ug/L

Brought up to mark with milli-Q H20 Exp. 09/30/2015

#M12280 Continuing Calibration Standard (CCV)
11-13-14 JMD

into a 200mL volumetric flask pipetted 2mL of #M12165 and 0.2mL #M12001 = 1000 ug/L
Brought up to mark with milli-Q H20 Exp. 09/30/2015

#M12281 Initial Calibration Standard (ICV) List 2
11-13-14 JMD

Into a 1 liter volumetric flask pipetted 1mL of #M12003, M11999, M11996, M11998 and M12163
Brought up to mark with milli-Q H20 Exp. 11/08/2015

#M12258 10/28/14 SF potassium permanganate 5% in 50g potassium permanganate (#M11285) dissolve into 1,000ml of D.I. H_2O.
Exp: 04/27/15

#M12259 10/27/14 SF Stannous Chloride (MaCron) lot#0000087461

M12260 10/28/14 ICV/LCS boron and silicon

Into a one liter volmetric flask pipet 10ml of #M12165 and 1.0 ml #M11919

Bring up to mark with DI H2O

#M12261 10/28/14 SF	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M12262 10/28/14 SF	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M12263 10/28/14 SF	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M12262) into 100ml = 3.0ug/L Hg
#M12264 10/28/14 SF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M12265 10/28/14 SF	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M12262) into 100ml = 0.2ug/L Hg
#M12266 10/28/14 SF	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M12267 10/28/14 SF	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11285) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12268 10/29/14 SF potassium permanganate 5% in 50g potassium permanganate (#M11285) dissolve into 1,000ml of D.I. H_2O.
Exp: 04/29/15

#M12269 10/29/14 SF NaCl Hydroxylamine sulfate Reagent: Dissolve 60g NaCl (#M11798) and 60g hydroxylamine sulfate (#M11793) in 500ml of milli-Q H_2O.
Exp: 04/29/14

#M12270 11/04/14 SF Sodium Chloride (Fisher) lot#142463

#M12210 10/02/14SF TCLP Extraction Fluid #1: Fill/10/01/14SF into a 20L carboy w/ 19L DI H2O. Add 11.4mL Glacial Acetic Acid (#MA5599) and 128.6mL 1N NaOH (#M11955). Dilute to 20L with DI H2O and mix. pH = 4.93 ± 0.05
Exp: 10/02/15

#M12211 10/6/14 Custom Assurance Std Spex Certiprep Lot # 26-201CR ex 9/15

#M12212 10/6/14 Potassium 10,000 CPI Lot# 146213 exp 3/16

#M12213 10/6/14 Arsenic 10,000 CPI Lot# 132089 exp 3/16

#M12214 10/06/14SF	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M12215 10/06/14SF	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M12216 10/06/14SF	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M12215) into 100ml = 3.0ug/L Hg
#M12217 10/06/14SF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M12218 10/06/14SF	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M12215) into 100ml = 0.2ug/L Hg
#M12219 10/06/14SF	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M12220 10/06/14SF	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M1285) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12221 10/06/14SF Potassium Permanganate Soln: 50g Potassium permanganate (#M11285) dissolve into 1000mL of DI H2O.
Exp: 04/06/15

#M12222 10/6/14 MOS GFAA Low/Low Check Water Working Std (Ag Only) - Into a 100mL vol. Flask, pipetted 0.1mL Ag (1000ug/mL) #M11908 and brought up to volume using milli-Q H2O. (1% HNO3) exp. 09/16/15

R M12223 10/6/14 MOS GFAA Low/Low Water Spiking Soln (Ag only) - Into a 1L vol. Flask, pipetted 1mL #M12222 and brought up to volume using milli-Q H2O (1% HNO3) exp. 09/15/15

~~#M12149 08/28/14SF Stannous Chloride 08/28/14SF~~

#M12179 9-4-15 Hg 1000 ug/mL CPI Lot# 14F110.

#M12180 09/04/14SF	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M12181 09/04/14SF	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M12182 09/04/14SF	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M12181) into 100ml = 3.0ug/L Hg
#M12183 09/04/14SF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M12184 09/04/14SF	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M12181) into 100ml = 0.2ug/L Hg
#M12185 09/04/14SF	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M12186 09/04/14SF	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M[illegible]) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12185 09/05/14SF TCLP Extraction Fluid #1: Fill a 20l carboy w/19L DI H2O. Add 114ml Glacial Acetic Acid (AB:579) and 128.6ml 1N NaOH (#M11955). Dilute to 20L w/ DI H2O and mix. pH = 4.93 ± 0.05

Exp: 09/05/15

#M12186 9-9-14 StablCal Standard 200 ntu turbidity Hach Lot #A4216 exp 8/16

ZH

#M12187 9-9-14 Turbity Working Stds → into 3 Hach Vials →

~~pipet 1-5 ml 9-9-14~~

~~1 mls → 9 mls DI~~ 9-9-14

1 ml #M12186 → 9 mls DI H_2O = 20 ntu

5 mls M12186 → 5 mls DI H_2O = 100 ntu

10 ml #M12186 → 0 ml DI H_2O = 200 ntu

#M12157 7005
08-06-14

ICAP Working Standards Boron & Silicon

Standard name	Into a 1L volumetric flask, pipetted the following respectively:
50	0.05mL of #M11763 and 0.05mL #M12007 = 50 ug/L
200	0.2mL of #M11763 and 0.2mL #M12007 = 100 ug/L
1000	1.0mL of #M11763 and 1.0mL #M12007 = 1000 ug/L
2000	2.0mL of #M11763 and 2.0mL #M12007 = 1000 ug/L
10000	10.0mL of #M11763 and 10.0mL #M12007 = 10000 ug/L

Expires: 05/13/2015

Continuing Calibration Standard (CCV)

Into a 1L volumetric flask, pipetted 1.0mL of #M11763 and 1.0mL #M12007 = 1000 ug/L
Brought up to volume with DI H20. Expires 05/13/2015

#M12158 7005 08/11/14: 1% Pd GFAA matrix modifier Environmental Express Lot# 1421912
Expires: 08/01/15

#M12159 7005 08/11/14: 1% Nickel Nitrate GFAA matrix modifier Alfa Aesar Lot# 41-55398TD

#M12160 08/12/14 15F Friscolyt (Mettler Toledo) Lot# 17-134C

#M12161 08/12/14 13F TCLP Extraction Fluid #1: Into a 7oL Carboy w/ 19L D.I. H2O. Add 114mL Glacial Acetic Acid (AB579) and 128.6mL 10N NaOH (#M11955). Dilute to 7oL with D.I. H2O and mix pH = 4.93 ± 0.05
Exp: 08/12/15

#M12162 8-13-14 Potassium 1000 mg/L CPI Lot# 14F193 ex 2/16

#M12163 8-13-14 Tungsten Std. CPI Lot# 14F230 ex 2/16

#M12164 8-13-14 Interference A Spex Certiprep Lot# 11-384PX ex 8/15

#M12165 8-13-14 Custom Assurance Std Spex Certiprep Lot# 7-93WL ex 8/15

#M12134 MW
07-21-14

Working Standards for Sodium and Potassium - Into seven, 200 mL volumetric flasks, pipetted the following from #M11719 and #M11722 and brought up to volume using milli-Q H_2O. (2% HNO_3)

0.5 mg/L std - 0.1 mL of each
1.0 mg/L std - 0.2 mL of each
5.0 mg/L std - 1.0 mL of each
10.0 mg/L std - 2.0 mL of each
50.0 mg/L std -10 mL of each
100 mg/L std - 20 mL of each, used for Continuing Calibration Standard (CCV)
200 mg/L std - 40 mL of each
Expires: 04/24/15

#M12135 MWS
07-21-14

Initial Calibration Standard (ICV) - Into a 250 mL volumetric flask, pipetted 2.5 mL of #M12010 and #M12011 and brought up to volume using milli-Q H_2O. (2% HNO_3)
Expires: 11/08/2015

#M12136 MWS
07-21-14

ICAP 6000 ICSAB Standard for Sodium and Potassium – Into a 250 mL volumetric flask, pipetted 25 mL of #M11776 and 2.5 mL of each #M12010 & #M12011 and brought to volume using milli-Q H_2O. (2% HNO_3) 1.5mL of #M11815
Expires: 12/30/14

#M12137 MWS
07-22-14

TCLP Extraction Fluid #1 – Into a 20L Carboy, added 11.4mL Glacial Acetic acid #AB586 + 128.6mL 10N NaOH #M12086 + brought to volume w/ DI H_2O. Mix. pH = 4.93 ± 0.05

#M12138 07/30/14 SF — Hg Working Stds: (0.2% HNO3, HCl)

1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg
1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg
2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg
4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg
5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg
10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg

#M12139 07/30/14 SF — Hg Alt Source Working Std: (0.2% HNO3, HCl)

1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg
1.0ml of 10mg/L into 100ml = 100ug/L Hg

#M12140 07/30/14 SF — Hg ICV / LCSW (0.2% HNO3, HCl)

3.0ml of 100ug/L Hg (#M12139) into 100ml = 3.0ug/L Hg

#M12141 07/30/14 SF — Hg CCV (0.2% HNO3, HCl)

1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg

#M12105 07/08/14 ISF — Hg Working Stds: (0.2% HNO3, HCl)

1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg
1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg
2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg
4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg
5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg
10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg

#M12106 07/08/14 ISF — Hg Alt Source Working Std: (0.2% HNO3, HCl)

1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg
1.0ml of 10mg/L into 100ml = 100ug/L Hg

#M12107 07/08/14 ISF — Hg ICV / LCSW (0.2% HNO3, HCl)

3.0ml of 100ug/L Hg (#M12106) into 100ml = 3.0ug/L Hg

#M12108 07/08/14 ISF — Hg CCV (0.2% HNO3, HCl)

1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg

#M12109 07/08/14 ISF — Hg MRL: (0.2% HNO3, HCl)

0.2ml of 100ug/L Hg (#M12106) into 100ml = 0.2ug/L Hg

#M12110 07/08/14 ISF — Hg Aqua Regia Reagent:

"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)

#M12111 07/08/14 ISF — Stannous Chloride Reagent:

Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M4995) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12112 7-10-14 Ca 10,000 mg/L CPI Lot # 14D176 exp 1/16
D

#M12113 7-10-14 Mg 10,000 mg/L CPI Lot # 14F190 exp 1/16

#M12114 09/11/14 ISF — Hg Working Stds: (0.2% HNO3, HCl)

1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg
1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg
2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg
4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg
5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg
10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg

#M12115 09/11/14 ISF — Hg Alt Source Working Std: (0.2% HNO3, HCl)

1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg
1.0ml of 10mg/L into 100ml = 100ug/L Hg

#M12116 09/11/14 ISF — Hg ICV / LCSW (0.2% HNO3, HCl)

3.0ml of 100ug/L Hg (#M12115) into 100ml = 3.0ug/L Hg

#M12117 09/11/14 ISF — Hg CCV (0.2% HNO3, HCl)

1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg

#M12118 09/11/14 ISF — Hg MRL: (0.2% HNO3, HCl)

0.2ml of 100ug/L Hg (#M12115) into 100ml = 0.2ug/L Hg

#M12119 09/11/14 ISF — Hg Aqua Regia Reagent:

"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)

#M12120 09/11/14 ISF — Stannous Chloride Reagent:

Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M4995) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12079 06/18/14SF NaCl Hydroxylamine sulfate Reagent: Dissolve 6g NaCl (#M11799) and 6g hydroxylamine sulfate (#M11998) in 500mL of milli-Q H2O
Exp: 12/18/14

ICAP Working Standards W Only

.5% HNO3 .5%HCL

#M12080 06/18/14 YMS

Standard name — Pipetted the following respectively:

100	0.1mL #M12001 into 1L = 100 ug/L
1000 M12080	1mL #M12001 into 1L = 1000 ug/L
10000	10mL #M12001 into 1L = 10000 ug/L

Bring up to mark with milli-Q H20 Exp. 11/08/15

Continuing Calibration Standard (CCV) M12086
Into a 1L volumetric flask pipetted 1mL #M12001 = 1000 ug/L
Bring up to mark with milli-Q H20 Exp. 11/08/15

#M12081 06/18/14 YMS

Initial Calibration Standard (ICV) W Only M12081
Into a 1 liter volumetric flask pipetted 1mL of #M11385
Bring up to mark with milli-Q H20 Exp. ~~04/23/15~~ 04/20/14
YMS 06/18/14

#M12082 6-23-14 JD Spex Custiprep ICV-A Lot # 11-38YPX exp 6/15

#M12083 JD 6-23-14 Spex Certiprep Cust. Assurance Std Ca Hardness + Na exp 6/15

#M12084 JD 6-23-14 TCLP Extraction fluid into 20 liter carboy, Add 114mL Glacial acetic Acid (AB-558) + 128.6 mls 10N NaOH #M11955 Dilute up to 20L with DI H2O + mix pH=4.93±.05

#M12085 JD 6-23-14 TCLP Extraction fluid into 20 liter carboy add 114mL Glacial acetic Acid (AB-558), + 128.6 mls 10N NaOH #M11955 Dilute up to 20L with DI H2O + mix ph=4.93±.05

#M12086 JD 6-23-14 10N NaOH into 1 Liter vol dissolve 400g Sodium Hydroxide #M11145 Bring up to mark w/ DI H2O exp 6-23-15.

#M12087 (SF 06/25/14SF) Potassium permanganate Soln: 50g potassium permanganate (#M11285) dissolve into 1,000mL of D.I. H2O.
Exp 12/25/14

#M12002 05/13/14 I5F Cadmium 1,000mg/L CPI Lot#14A402 Exp:11/08/15

#M12003 05/13/14 I5F Titanium 1,000mg/L CPI Lot#13H001 Exp: 11/08/15

#M12004 05/13/14 I5F Nickel 1,000mg/L CPI Lot#14D214 Exp:11/08/15

#M12005 05/13/14 I5F Zinc ~~1,000mg/L~~ 10,000 05/13/14 I5F mg/L CPI Lot#14A199 Exp:11/08/15

#M12006 05/13/14 I5F Beryllium 1,000mg/L CPI Lot#14D241 Exp: 11/08/15

#M12007 05/13/14 I5F Silicon 1,000mg/L CPI Lot#13L019 Exp:11/08/15

#M12008 05/13/14 I5F Molybdenum 1,000mg/L CPI Lot#14B183 Exp:11/08/15

#M12009 05/13/14 I5F Vanadium 1,000mg/L CPI Lot#14A167 Exp:11/08/15

#M12010 05/13/14 I5F Sodium 10,000mg/L CPI Lot#14B243 Exp:11/08/15

#M12011 05/13/14 I5F Potassium 10,000mg/L CPI Lot#14C131 Exp:11/08/15

#M12012 05/14/14 I5F Potassium permanganate soln: 50g potassium permanganate (#M11285) Exp: 11/14/14 dissolve into 1,000mL of D.I. H2O.

#M12013 05/14/14 I5F — Hg Working Stds: (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg
1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg
2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg
4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg
5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg
10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg

#M12014 05/14/14 I5F — Hg Alt Source Working Std: (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg
1.0ml of 10mg/L into 100ml = 100ug/L Hg

#M12015 05/14/14 I5F — Hg ICV / LCSW (0.2% HNO3, HCl)
3.0ml of 100ug/L Hg (#M12014) into 100ml = 3.0ug/L Hg

#M12016 05/14/14 I5F — Hg CCV (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg

#M12017 05/14/14 I5F — Hg MRL: (0.2% HNO3, HCl)
0.2ml of 100ug/L Hg (#M12014) into 100ml = 0.2ug/L Hg

#M12018 05/14/14 I5F — Hg Aqua Regia Reagent:
"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)

#M12019 05/14/14 I5F — Stannous Chloride Reagent:
Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11~~249~~) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M11986 05/08/14 SF NaCl Hydroxylamine Sulfate Reagent: Dissolve into 1kg NaCl (#M11979) and 1kg hydroxylamine sulfate (#M11998) in 500mL Milli-Q H2O.
Exp: 11/08/14

#M11987 05/09/14 SF	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M11988 05/09/14 SF	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M11989 05/09/14 SF	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M11988) into 100ml = 3.0ug/L Hg
#M11990 05/09/14 SF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M11991 05/09/14 SF	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M11988) into 100ml = 0.2ug/L Hg
#M11992 05/09/14 SF	Hg Aqua Regia Reagent	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M11993 05/09/14 SF	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11999) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M11994 05/12/14 SF TCLP Extraction Fluid #1: Fill a 7L carboy w/ 11.2L D.I. H2O. Add 114mL Glacial Acetic Acid (AB.579) and 128.6mL 10N NaOH (#M11955). Dilute to 7L with D.I. H2O and mix. pH = 4.93 ± 0.05
Exp: 05/12/15

#M11995 05/13/14 SF Stannous Chloride (Macron) lot #0000076357 Exp: 02/14/15

#M11996 05/13/14 SF Tin 1,000 mg/L CPI lot# 13H238 Exp: 11/08/15

#M11997 05/13/14 SF Thallium 1,000mg/L CPI lot# 13I105 Exp: 11/08/15

#M11998 05/13/14 SF Lithium 1,000 mg/L CPI lot# 14E049 Exp: 11/08/15

#M11999 05/13/14 SF Strontium 1,000 mg/L CPI lot# 14C002 Exp: 11/08/15

#M12000 05/13/14 SF Cobalt 1,000mg/L CPI lot# 14D005 Exp: 11/08/15

#M12001 05/13/14 SF Tungsten 1,000mg/L CPI lot# 13H199 Exp: 11/08/15

#M11917 4-2-14 5 ICV(Cu) std 100 ml vol flask pipet from M11679 conc = 100,000 ug/L = 100,000 ug/L 5 ml 5/15

#M11918 04/02/14/15F Potassium Permanganate soln: 50g potassium permanganate (#M11285) dissolve into 1 liter of D.I. H2O. Exp 10/02/14 04/02/14/15F

M11919 4-2-14 Si 1000 ug/L Std Fisher Lot # 141902 ex 3/16

M11920 4-2-14 Amco Clear Turbidity Std 20 nts ex Lot# C467460 ex 3/15

#M11921 04/03/14/15F Potassium persulfate: 50g potassium persulfate (#M10987) dissolve into 1000 ml of D.I. H2O. Exp 10/03/14 04/03/14/15F

#M11922 04/04/14/15F	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M11923 04/04/14/15F	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M11924 04/04/14/15F	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M11923) into 100ml = 3.0ug/L Hg
#M11925 04/04/14/15F	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M11926 04/04/14/15F	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M 11923) into 100ml = 0.2ug/L Hg
#M11927 04/04/14/15F	Hg Aqua Regia Reagent	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M11928 04/04/14/15F	Stannous Chloride Reagent	into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11770) in 70 mL HCl (AB. 553). Bring up to volume with D.I. Water.

#M11929 04/10/14/15F 2 lacl Hydroxylamine Sulfate Reagent: Dissolve into 600 ml (#M11999) water (a) hydroxylamine Sulfate (#M11798) in 500 ml (#M11999) Exp 10/10/14

#M11930 04/10/14/15F #M11945F	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M11931 04/10/14/15F	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg

INORGANIC
CLP FORMS
DOCUMENTS

CT LABORATORIES
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INORGANIC ANALYSIS DATA SHEET

Sample Description

041316R1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	118236
% Solids:		Lab Sample ID:	708699
Analytical Method:	EPA 9056A	Date Received:	04/14/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	124894	Analysis Date/Time	04/15/2016 02:50
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	IC0582A	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	2.0	U	1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.15	U	0.080	0.15	0.40	0.40
14808-79-8	Sulfate	2.5	U	1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

041316R1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	118236
% Solids:		Lab Sample ID:	708698
Analytical Method:	EPA 9060A	Date Received:	04/14/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	124879	Analysis Date/Time	04/14/2016 21:10
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL W34137	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	118236
% Solids:		Lab Sample ID:	708708
Analytical Method:	EPA 9056A	Date Received:	04/14/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	124894	Analysis Date/Time	04/15/2016 03:32
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	IC0582A	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	8.9		1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.18	J	0.080	0.15	0.40	0.40
14808-79-8	Sulfate	63		1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	118236
% Solids:		Lab Sample ID:	708707
Analytical Method:	EPA 9060A	Date Received:	04/14/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	124879	Analysis Date/Time	04/14/2016 22:17
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL W34137	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	3.3		0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	118236
% Solids:		Lab Sample ID:	708697
Analytical Method:	EPA 9056A	Date Received:	04/14/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	124894	Analysis Date/Time	04/15/2016 02:29
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	IC0582A	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	4.5		1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	1.5		0.080	0.15	0.40	0.40

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INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	118236
% Solids:		Lab Sample ID:	708697
Analytical Method:	EPA 9056A	Date Received:	04/14/2016
Dilution Factor:	2.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	124894	Analysis Date/Time	04/15/2016 04:14
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	IC0582A	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
14808-79-8	Sulfate	110		2.6	5.0	10	10

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INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	118236
% Solids:		Lab Sample ID:	708696
Analytical Method:	EPA 9060A	Date Received:	04/14/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	124879	Analysis Date/Time	04/14/2016 20:59
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL W34137	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW4

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	118236
% Solids:		Lab Sample ID:	708701
Analytical Method:	EPA 9056A	Date Received:	04/14/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	124894	Analysis Date/Time	04/15/2016 03:11
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	IC0582A	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	3.8	J	1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.46		0.080	0.15	0.40	0.40
14808-79-8	Sulfate	36		1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW4

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	118236
% Solids:		Lab Sample ID:	708700
Analytical Method:	EPA 9060A	Date Received:	04/14/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	124879	Analysis Date/Time	04/14/2016 22:03
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL W34137	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	0.57	J	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	118236
% Solids:		Lab Sample ID:	708269
Analytical Method:	EPA 9056A	Date Received:	04/13/2016
Dilution Factor:	3.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	124864	Analysis Date/Time	04/14/2016 08:36
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	IC0582A	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
14808-79-8	Sulfate	140		3.9	7.5	15	15

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INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	118236
% Solids:		Lab Sample ID:	707515
Analytical Method:	EPA 9060A	Date Received:	04/13/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	124879	Analysis Date/Time	04/14/2016 15:14
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL W34137	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.8	J	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	118236
% Solids:		Lab Sample ID:	708269
Analytical Method:	EPA 9056A	Date Received:	04/13/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	124864	Analysis Date/Time	04/13/2016 23:54
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	IC0582A	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	11		1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	3.7		0.080	0.15	0.40	0.40

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INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	118236
% Solids:		Lab Sample ID:	708695
Analytical Method:	EPA 9056A	Date Received:	04/14/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	124894	Analysis Date/Time	04/15/2016 02:08
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	IC0582A	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	4.3		1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	1.7		0.080	0.15	0.40	0.40
14808-79-8	Sulfate	56		1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	118236
% Solids:		Lab Sample ID:	708694
Analytical Method:	EPA 9060A	Date Received:	04/14/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	124879	Analysis Date/Time	04/14/2016 20:46
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL W34137	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	118236
% Solids:		Lab Sample ID:	707514
Analytical Method:	EPA 9060A	Date Received:	04/13/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	124879	Analysis Date/Time	04/14/2016 15:01
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL W34137	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	118236
% Solids:		Lab Sample ID:	708268
Analytical Method:	EPA 9056A	Date Received:	04/13/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	124864	Analysis Date/Time	04/13/2016 23:33
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	IC0582A	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	2.5	J	1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.81		0.080	0.15	0.40	0.40
14808-79-8	Sulfate	6.2		1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	118236
% Solids:		Lab Sample ID:	708267
Analytical Method:	EPA 9056A	Date Received:	04/13/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	124864	Analysis Date/Time	04/15/2016 10:02
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	IC0582A	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers		DL	LOD	LOQ	RL
16887-00-6	Chloride	2.5	J	M	1.1	2.0	4.0	4.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	118236
% Solids:		Lab Sample ID:	707513
Analytical Method:	EPA 9060A	Date Received:	04/13/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	124879	Analysis Date/Time	04/14/2016 14:05
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL W34137	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	J	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	118236
% Solids:		Lab Sample ID:	708267
Analytical Method:	EPA 9056A	Date Received:	04/13/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	124864	Analysis Date/Time	04/13/2016 23:12
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	IC0582A	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
14797-55-8	Nitrate Nitrogen	6.3		0.080	0.15	0.40	0.40
14808-79-8	Sulfate	28		1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	118236
% Solids:		Lab Sample ID:	708711
Analytical Method:	EPA 410.4	Date Received:	04/14/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	125013	Analysis Date/Time	04/19/2016 09:00
Analytical Prep Batch #:	56824	Prep. Date/Time:	04/18/2016 13:00
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
COD	COD	46	J	15	35	75	75

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	118236
% Solids:		Lab Sample ID:	708711
Analytical Method:	EPA 9040C	Date Received:	04/14/2016
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	124948	Analysis Date/Time	04/15/2016 11:30
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	S.U.

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
PH	pH	7.27					

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	118236
% Solids:		Lab Sample ID:	708692
Analytical Method:	EPA 9060A	Date Received:	04/14/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	124879	Analysis Date/Time	04/14/2016 20:35
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL W34137	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	118236
% Solids:		Lab Sample ID:	708693
Analytical Method:	EPA 9056A	Date Received:	04/14/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	124894	Analysis Date/Time	04/14/2016 23:42
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	IC0582A	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers		DL	LOD	LOQ	RL
16887-00-6	Chloride	6.0		M	1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.38	J	M	0.080	0.15	0.40	0.40
14808-79-8	Sulfate	2.5	U		1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	118236
% Solids:		Lab Sample ID:	707512
Analytical Method:	EPA 9060A	Date Received:	04/13/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	124879	Analysis Date/Time	04/14/2016 13:50
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL W34137	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	0.98	J	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	118236
% Solids:		Lab Sample ID:	708266
Analytical Method:	EPA 9056A	Date Received:	04/13/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	124864	Analysis Date/Time	04/13/2016 22:52
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	IC0582A	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	2.1	J	1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.13	J	0.080	0.15	0.40	0.40
14808-79-8	Sulfate	20		1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW04

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	118236
% Solids:		Lab Sample ID:	708710
Analytical Method:	EPA 9056A	Date Received:	04/14/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	124894	Analysis Date/Time	04/15/2016 03:53
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	IC0582A	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	5.3		1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.39	J	0.080	0.15	0.40	0.40
14808-79-8	Sulfate	48		1.3	2.5	5.0	5.0

CT LABORATORIES
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1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW04

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	118236
% Solids:		Lab Sample ID:	708709
Analytical Method:	EPA 9060A	Date Received:	04/14/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	124879	Analysis Date/Time	04/14/2016 22:32
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL W34137	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.0	J	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49TM01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	118236
% Solids:		Lab Sample ID:	708270
Analytical Method:	EPA 9056A	Date Received:	04/13/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	124864	Analysis Date/Time	04/14/2016 00:15
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	IC0582A	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	11		1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	3.7		0.080	0.15	0.40	0.40

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49TM01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	118236
% Solids:		Lab Sample ID:	708270
Analytical Method:	EPA 9056A	Date Received:	04/13/2016
Dilution Factor:	3.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	124864	Analysis Date/Time	04/14/2016 08:57
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	IC0582A	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
14808-79-8	Sulfate	150		3.9	7.5	15	15

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49TM01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	118236
% Solids:		Lab Sample ID:	707516
Analytical Method:	EPA 9060A	Date Received:	04/13/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	124879	Analysis Date/Time	04/14/2016 15:27
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL W34137	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.1	J	0.50	1.5	3.0	3.0

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1

INORGANIC ANALYSIS DATA SHEET

Sample Description

50MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	118236
% Solids:		Lab Sample ID:	707495
Analytical Method:	EPA 9060A	Date Received:	04/13/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	124879	Analysis Date/Time	04/14/2016 13:35
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL W34137	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.2	J	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

50MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	118236
% Solids:		Lab Sample ID:	708265
Analytical Method:	EPA 9056A	Date Received:	04/13/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	124864	Analysis Date/Time	04/13/2016 22:31
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	IC0582A	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	9.1		1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	2.8		0.080	0.15	0.40	0.40
14808-79-8	Sulfate	64		1.3	2.5	5.0	5.0

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Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 124864

Lab Sample ID: 710068

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	3/25/16	17:45	15.00	14.92	99	90	110
Nitrate Nitrogen	3/25/16	17:45	3.500	3.510	100	90	110
Sulfate	3/25/16	17:45	25.00	24.94	100	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 125013 Lab Sample ID: 713829

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
COD	4/13/16 09:00	400.0	412.0	103	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 124879 Lab Sample ID: 709824

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	4/21/14	16:23	50.00	52.04	104	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 124864 Lab Sample ID: 708633

ICAL Calibration #: IC0582A Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	4/13/16	20:04	15.00	15.25	102	90	110
Nitrate Nitrogen	4/13/16	20:04	3.500	3.549	101	90	110
Sulfate	4/13/16	20:04	25.00	25.82	103	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 124864 Lab Sample ID: 708636

ICAL Calibration #: IC0582A Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	4/14/16	00:36	15.00	15.23	102	90	110
Nitrate Nitrogen	4/14/16	00:36	3.500	3.552	101	90	110
Sulfate	4/14/16	00:36	25.00	26.13	105	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 124864 Lab Sample ID: 708641

ICAL Calibration #: IC0582A Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	4/13/16	15:53	15.00	15.23	102	90	110
Nitrate Nitrogen	4/13/16	15:53	3.500	3.548	101	90	110
Sulfate	4/13/16	15:53	25.00	25.88	104	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 124864 Lab Sample ID: 708645

ICAL Calibration #: IC0582A Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	4/14/16	05:50	15.00	15.25	102	90	110
Nitrate Nitrogen	4/14/16	05:50	3.500	3.536	101	90	110
Sulfate	4/14/16	05:50	25.00	26.02	104	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 124864 Lab Sample ID: 709218

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	4/14/16	10:20	15.00	15.20	101	90	110
Nitrate Nitrogen	4/14/16	10:20	3.500	3.541	101	90	110
Sulfate	4/14/16	10:20	25.00	25.69	103	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 124879 Lab Sample ID: 709288

ICAL Calibration #: ICAL W34137 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	4/14/16	12:50	50.00	51.09	102	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 124879 Lab Sample ID: 709294

ICAL Calibration #: ICAL W34137 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	4/14/16	15:50	50.00	48.79	98	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 124879 Lab Sample ID: 709296

ICAL Calibration #: ICAL W34137 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	4/14/16 18:29	50.00	48.93	98	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 124879 Lab Sample ID: 709299

ICAL Calibration #: ICAL W34137 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	4/14/16	21:30	50.00	50.14	100	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 124879 Lab Sample ID: 709301

ICAL Calibration #: ICAL W34137 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	4/14/16	22:47	50.00	51.46	103	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 124894 Lab Sample ID: 709387

ICAL Calibration #: IC0582A Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	4/14/16	19:31	15.00	15.43	103	90	110
Nitrate Nitrogen	4/14/16	19:31	3.500	3.540	101	90	110
Sulfate	4/14/16	19:31	25.00	25.73	103	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 124894 Lab Sample ID: 709391

ICAL Calibration #: IC0582A Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	4/15/16	04:34	15.00	14.44	96	90	110
Nitrate Nitrogen	4/15/16	04:34	3.500	3.360	96	90	110
Sulfate	4/15/16	04:34	25.00	24.54	98	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 124894 Lab Sample ID: 709395

ICAL Calibration #: IC0582A Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	4/14/16	14:52	15.00	14.99	100	90	110
Nitrate Nitrogen	4/14/16	14:52	3.500	3.511	100	90	110
Sulfate	4/14/16	14:52	25.00	25.41	102	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 124894 Lab Sample ID: 709398

ICAL Calibration #: IC0582A Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	4/15/16	00:03	15.00	15.18	101	90	110
Nitrate Nitrogen	4/15/16	00:03	3.500	3.518	101	90	110
Sulfate	4/15/16	00:03	25.00	25.52	102	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 124864 Lab Sample ID: 709832

ICAL Calibration #: IC0582A Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	4/15/16	11:25	15.00	15.14	101	90	110
Nitrate Nitrogen	4/15/16	11:25	3.500	3.545	101	90	110
Sulfate	4/15/16	11:25	25.00	25.71	103	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 124864 Lab Sample ID: 709837

ICAL Calibration #: IC0582A Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	4/15/16	07:14	15.00	15.15	101	90	110
Nitrate Nitrogen	4/15/16	07:14	3.500	3.532	101	90	110
Sulfate	4/15/16	07:14	25.00	25.58	102	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 125013 Lab Sample ID: 713824

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
COD	4/19/16 09:00	400.0	415.0	104	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 125013 Lab Sample ID: 713825

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
COD	4/19/16 09:00	400.0	413.0	103	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 125013 Lab Sample ID: 713827

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
COD	4/19/16 09:00	400.0	409.0	102	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 124879 Lab Sample ID: 709825

Analytical Prep Batch #: Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	04/21/2014 16:37	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 125013

Lab Sample ID: 713830

Analytical Prep Batch #:

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
COD	04/13/2016 09:00	1.000			35

** Detection Limit only reported if value was less than the control limit.

***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 124864 Lab Sample ID: 710069

Analytical Prep Batch #: Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	03/25/2016 18:06	0	U	1.1	2.0
Nitrate Nitrogen	03/25/2016 18:06	0	U	0.08	0.20
Sulfate	03/25/2016 18:06	0.6780	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 124864 Lab Sample ID: 708635

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: IC0582A Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	04/14/2016 06:32	0.2914	U	1.1	2.0
Nitrate Nitrogen	04/14/2016 06:32	0	U	0.08	0.20
Sulfate	04/14/2016 06:32	0.7179	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 124864 Lab Sample ID: 708638

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: IC0582A Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	04/13/2016 20:46	0.2630	U	1.1	2.0
Nitrate Nitrogen	04/13/2016 20:46	0	U	0.08	0.20
Sulfate	04/13/2016 20:46	0.6897	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 124864 Lab Sample ID: 708647

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: IC0582A Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	04/14/2016 01:18	0.2669	U	1.1	2.0
Nitrate Nitrogen	04/14/2016 01:18	0	U	0.08	0.20
Sulfate	04/14/2016 01:18	0.7147	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 124864 Lab Sample ID: 709131

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: IC0582A Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	04/14/2016 11:02	0.2759	U	1.1	2.0
Nitrate Nitrogen	04/14/2016 11:02	0	U	0.08	0.20
Sulfate	04/14/2016 11:02	0.7159	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 124879

Lab Sample ID: 709295

Analytical Prep Batch # 0

Preparation Date/Time:

ICAL Calibration #: ICAL W34137

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	04/14/2016 16:04	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 124879 Lab Sample ID: 709300

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: ICAL W34137 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	04/14/2016 21:44	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 124879 Lab Sample ID: 709302

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: ICAL W34137 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	04/14/2016 23:02	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 124894 Lab Sample ID: 709389

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: IC0582A Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	04/14/2016 20:12	0.3627	U	1.1	2.0
Nitrate Nitrogen	04/14/2016 20:12	0	U	0.08	0.20
Sulfate	04/14/2016 20:12	0.7241	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 124894 Lab Sample ID: 709393

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: IC0582A Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	04/15/2016 00:44	0.2875	U	1.1	2.0
Nitrate Nitrogen	04/15/2016 00:44	0	U	0.08	0.20
Sulfate	04/15/2016 00:44	0.6998	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 124894 Lab Sample ID: 709401

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: IC0582A Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	04/15/2016 05:16	0.2764	U	1.1	2.0
Nitrate Nitrogen	04/15/2016 05:16	0	U	0.08	0.20
Sulfate	04/15/2016 05:16	0.7147	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 124879 Lab Sample ID: 709823

Analytical Prep Batch #: Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	04/14/2016 18:59	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 124864 Lab Sample ID: 709835

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: IC0582A Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	04/15/2016 11:46	0.2657	U	1.1	2.0
Nitrate Nitrogen	04/15/2016 11:46	0	U	0.08	0.20
Sulfate	04/15/2016 11:46	0.7022	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 125013 Lab Sample ID: 713826

Analytical Prep Batch #: Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
COD	04/19/2016 09:00	0			35

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 125013 Lab Sample ID: 713828

Analytical Prep Batch #: Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
COD	04/19/2016 09:00	0			35

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 124864 Lab Sample ID: 710091

Analytical Prep Batch #: Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	04/15/2016 07:56	0.2672	U	1.1	2.0
Nitrate Nitrogen	04/15/2016 07:56	0	U	0.08	0.20
Sulfate	04/15/2016 07:56	0.6977	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 124864 Lab Sample ID: 708643

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: IC0582A Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	04/13/2016 16:35	0.2664	U	1.1	2.0
Nitrate Nitrogen	04/13/2016 16:35	0	U	0.08	0.20
Sulfate	04/13/2016 16:35	0.6803	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 124879 Lab Sample ID: 709290

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: ICAL W34137 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	04/14/2016 13:21	0.2200	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 124894 Lab Sample ID: 709397

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: IC0582A Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	04/14/2016 16:02	0.2661	U	1.1	2.0
Nitrate Nitrogen	04/14/2016 16:02	0	U	0.08	0.20
Sulfate	04/14/2016 16:02	0.7000	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118236

Analytical Run #: 125013 Lab Sample ID: 710209

Analytical Prep Batch # 56824 Preparation Date/Time: 04/18/2016 13:00

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total COD	04/19/2016 09:00	0	U	15	35

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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5A

SPIKE SAMPLE RECOVERY

Sample Description

48MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	118236
% Solids for Sample:		Concentration Units:	mg/L
Sample No	709292	Parent Sample No.:	707513
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	124879	ICAL Calibration #:	ICAL W34137

Analysis Type *Initial Analysis* Analysis Date: ----- 04/14/2016 Analysis Time: -------- 14:34

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Organic Carbon	85-111	49.4		1.5	J	50.0	96		TOC

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5A

SPIKE SAMPLE RECOVERY

Sample Description

49MW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	118236
% Solids for Sample:		Concentration Units:	mg/L
Sample No	709392	Parent Sample No.:	708693
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	124894	ICAL Calibration #:	IC0582A

Analysis Type *Initial Analysis* Analysis Date: ----- 04/15/2016 Analysis Time: -------- 01:26

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Chloride	87-111	13.7		6.0		8.00	96		
Nitrate Nitrogen	88-111	2.23		0.38	J	2.00	92		
Sulfate	87-112	8.60		BDL	U	8.00	108		

BDL = analyte concentration was below detection limit

CT LABORATORIES
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5A

SPIKE SAMPLE RECOVERY

Sample Description

48MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	118236
% Solids for Sample:		Concentration Units:	mg/L
Sample No	710089	Parent Sample No.:	708267
Analytical Prep Batch #		Analytical Preparation Date/Time:	
Analytical Run #:	124864	ICAL Calibration #:	

Analysis Type	*Initial Analysis*	Analysis Date: -----	04/15/2016	Analysis Time: --------	10:44

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Chloride	87-111	11.9		2.5	J	8.00	118		IC	*FAIL*
Nitrate Nitrogen	88-111	8.21		6.3		2.00	96		IC	
Sulfate	87-112	35.4		28		8.00	92		IC	

BDL = analyte concentration was below detection limit

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5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description: **48MW3**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	118236
% Solids for Sample:		Concentration Units:	mg/L
Sample No	709293	Parent Sample No.:	709292
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	124879	ICAL Calibration #:	ICAL W34137

Analysis Type *Initial Analysis* Analysis Date: ----- 04/14/2016 Analysis Time: -------- 14:47

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Organic Carbon	85-111	50.6		1.5	J	50.0	98		TOC

BDL = analyte concentration was below detection limit

CT LABORATORIES
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5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description: **48MW3**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	118236
% Solids for Sample:		Concentration Units:	mg/L
Sample No	710090	Parent Sample No.:	710089
Analytical Prep Batch #		Analytical Preparation Date/Time:	
Analytical Run #:	124864	ICAL Calibration #:	

Analysis Type: *Initial Analysis* Analysis Date: ----- 04/15/2016 Analysis Time: -------- 11:05

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Chloride	87-111	11.3		2.5	J	8.00	110		IC
Nitrate Nitrogen	88-111	8.20		6.3		2.00	95		IC
Sulfate	87-112	35.3		28		8.00	91		IC

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description

49MW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	118236
% Solids for Sample:		Concentration Units:	mg/L
Sample No	710374	Parent Sample No.:	709392
Analytical Prep Batch #		Analytical Preparation Date/Time:	
Analytical Run #:	124894	ICAL Calibration #:	

Analysis Type	*Initial Analysis*	Analysis Date: -----	04/15/2016	Analysis Time: --------	01:47

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Chloride	87-111	12.8		6.0		8.00	85		IC	*FAIL*
Nitrate Nitrogen	88-111	2.07		0.38	J	2.00	84		IC	*FAIL*
Sulfate	87-112	7.81		BDL	U	8.00	98		IC	

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

6

DUPLICATES

Sample Description

48MW3

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID

SDG No.: 118236

% Solid for Sample:

Concentration Units: mg/L

Analytical Prep Batch # 1

Analytical Preparation Date/Time 0

Analytical Run #: 124864

ICAL Calibration #: IC0582A

Sample #: 708640

Parent Sample #: 708267

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Nitrate Nitrogen	04/14/2016	01:39	10	6.3		6.30		0		
Sulfate	04/14/2016	01:39	10	28		27.6		1		

CT LABORATORIES
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6

DUPLICATES

Sample Description

48MW3

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID

SDG No.: 118236

% Solid for Sample:

Concentration Units: mg/L

Analytical Prep Batch # 2

Analytical Preparation Date/Time 0

Analytical Run #: 124864

ICAL Calibration #: IC0582A

Sample #: 708640

Parent Sample #: 708267

ReRun *Re-Analysis #1*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Chloride	04/15/2016	10:23	10	2.5	J	2.50	J	0		

CT LABORATORIES
delivering more than data from your environmental analyses

6

DUPLICATES

Sample Description

48MW3

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID

SDG No.: 118236

% Solid for Sample:

Concentration Units: mg/L

Analytical Prep Batch # 1

Analytical Preparation Date/Time 0

Analytical Run #: 124879

ICAL Calibration #: ICAL W34137

Sample #: 709291

Parent Sample #: 707513

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M	
Total Organic Carbon	04/14/2016	14:20	20	1.5	J	1.03	J	37		TOC	*FAIL*

CT LABORATORIES
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6

DUPLICATES

Sample Description

49MW01

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 118236
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch # 1
Analytical Preparation Date/Time 0
Analytical Run #: 124894
ICAL Calibration #: IC0582A
Sample #: 709394
Parent Sample #: 708693

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Chloride	04/15/2016	01:05	10	6.0		6.12		2		
Nitrate Nitrogen	04/15/2016	01:05	10	0.38	J	0.375	J	1		
Sulfate	04/15/2016	01:05	10	1.3	U	1.3	U	0		

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6

DUPLICATES

Sample Description

49ADW01

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID

SDG No.: 118236

% Solid for Sample:

Concentration Units: S.U.

Analytical Prep Batch # 1

Analytical Preparation Date/Time

Analytical Run #: 124948

ICAL Calibration #:

Sample #: 713879

Parent Sample #: 708711

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
pH	04/15/2016	11:30	1	7.27		7.29		0		ELEC

CT LABORATORIES
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6A

MATRIX SPIKE DUPLICATES

Sample Description: **48MW3**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 118236
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
Analytical Run #: 124879
ICAL Calibration #: ICAL W34137
Sample #: 709293
Parent Sample #: 709292

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Total Organic Carbon	04/14/2016	14:47	20	49.4		50.6		2		TOC

CT LABORATORIES
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6A

MATRIX SPIKE DUPLICATES

Sample Description: **48MW3**

Lab Name: CT Laboratories | Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID | SDG No.: 118236

% Solid for Sample: | Concentration Units: mg/L

Analytical Prep Batch # | Analytical Preparation Date/Time

Analytical Run #: 124864 | ICAL Calibration #:

Sample #: 710090 | Parent Sample #: 710089

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Chloride	04/15/2016	11:05	15	11.9		11.3		6		IC
Nitrate Nitrogen	04/15/2016	11:05	15	8.21		8.20		0		IC
Sulfate	04/15/2016	11:05	15	35.4		35.3		0		IC

CT LABORATORIES
delivering more than data from your environmental analyses

6A

MATRIX SPIKE DUPLICATES

Sample Description: **49MW01**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 118236
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch #:
Analytical Preparation Date/Time:
Analytical Run #: 124894
ICAL Calibration #:
Sample #: 710374
Parent Sample #: 709392

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Chloride	04/15/2016	01:47	15	13.7		12.8		6		IC
Nitrate Nitrogen	04/15/2016	01:47	15	2.23		2.07		8		IC
Sulfate	04/15/2016	01:47	15	8.60		7.81		10		IC

CT LABORATORIES
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7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 118236

Concentration Units: mg/L

Analytical Run #: 124864 Sample No.:#: 708644

Analytical Prep Batch #: 0 Preparation Date/Time:

ICAL Calibration #: IC0582A

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Chloride	04/13/2016 16:14	87-111	15.32		15.00	102		
Nitrate Nitrogen	04/13/2016 16:14	88-111	3.461		3.500	99		
Sulfate	04/13/2016 16:14	87-112	25.03		25.00	100		

CT LABORATORIES
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7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 118236

Concentration Units: mg/L

Analytical Run #: 124879 Sample No.:#: 709289

Analytical Prep Batch #: 0 Preparation Date/Time:

ICAL Calibration #: ICAL W34137

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Total Organic Carbon	04/14/2016 13:05	85-111	55.46		50.00	111		TOC

CT LABORATORIES
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7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 118236

Concentration Units: mg/L

Analytical Run #: 124894 Sample No.:#: 709399

Analytical Prep Batch #: 0 Preparation Date/Time:

ICAL Calibration #: IC0582A

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Chloride	04/14/2016 15:41	87-111	15.60		15.00	104		
Nitrate Nitrogen	04/14/2016 15:41	88-111	3.522		3.500	101		
Sulfate	04/14/2016 15:41	87-112	25.39		25.00	102		

CT LABORATORIES
delivering more than data from your environmental analyses

7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 118236

Concentration Units: mg/L

Analytical Run #: 125013 Sample No.:#: 710210

Analytical Prep Batch #: 56824 Preparation Date/Time: 04/18/2016 13:00

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
COD	04/19/2016 09:00	90-110	389.0		400.0	97		SP

INORGANICS
RAW DATA
DOCUMENTS

Sample table - 032516 - IC0582A

	Method	Ident	Sample type	Position	Injections	Status	Dilution	Info 1	Info 2	Info 4	Value 1	Value 2
1	IC0582A	Std 1	Standard 1	150	1	READY 0 / 1	1		No i-Dilution		1	84
2	IC0582A	Std 2	Standard 2	2	1	READY 0 / 1	1		No i-Dilution		100	85
3	IC0582A	Std 3	Standard 3	2	1	READY 0 / 1	1		No i-Dilution		40	86
4	IC0582A	Std 4	Standard 4	2	1	READY 0 / 1	1		No i-Dilution		20	87
5	IC0582A	Std 5	Standard 5	2	1	READY 0 / 1	1		No i-Dilution		10	88
6	IC0582A	Std 6	Standard 6	2	1	READY 0 / 1	1		No i-Dilution		5	89
7	IC0582A	Std 7	Standard 7	2	1	READY 0 / 1	1		No i-Dilution		2	90
8	IC0582A	Std 8	Standard 8	3	1	READY 0 / 1	1		No i-Dilution		1	91
9	IC0582A	ICV	Check standard 2	4	1	READY 0 / 1	1		No i-Dilution		1	92
10	IC0582A	ICB	Sample	150	1	READY 0 / 1	1		(02) No i-Di...		1	93

Calibration Concentrations

Analyte	ICV (mg/L)
Fluoride	3.50
Chloride	15.00
Nitrite	3.50
Bromide	3.50
Nitrate	3.50
Sulfate	25.00

Instrument:	Metrohm (3)
Cal. File:	IC0505
ICV:	IC0587
Analyst:	JJF
Date:	03/25/2016

Sample data

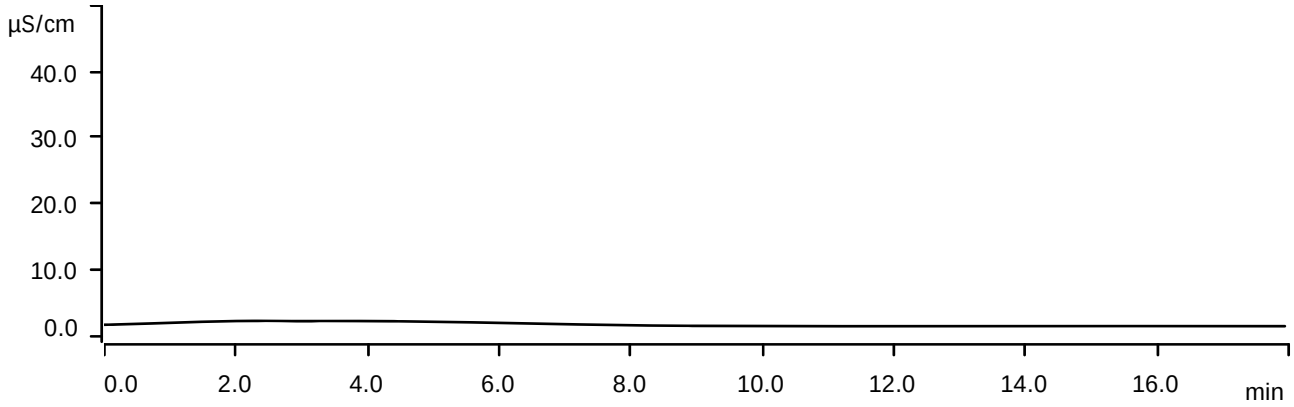
Ident	Std 1	
Determination start	2016-03-25 14:59:40 UTC-5	
Method	IC0582A	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	7.22	MPa
Temperature	-----	°C

(04) Anion Dilution Factor **1.00**

Anions



Sample data

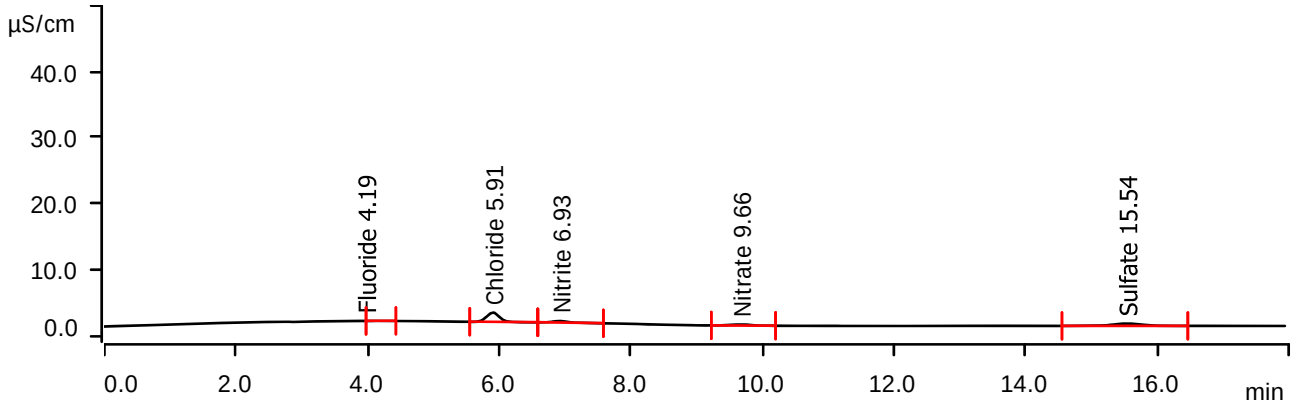
Ident	Std 2	
Determination start	2016-03-25 15:20:33 UTC-5	
Method	IC0582A	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	7.38	MPa
Temperature	-----	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.187	0.0094	0.047	0.126	Fluoride
2	5.908	0.3258	1.431	1.202	Chloride
3	6.925	0.0684	0.246	0.116	Nitrite
4	9.663	0.0576	0.165	0.188	Nitrate
5	15.540	0.1819	0.351	1.423	Sulfate

Sample data

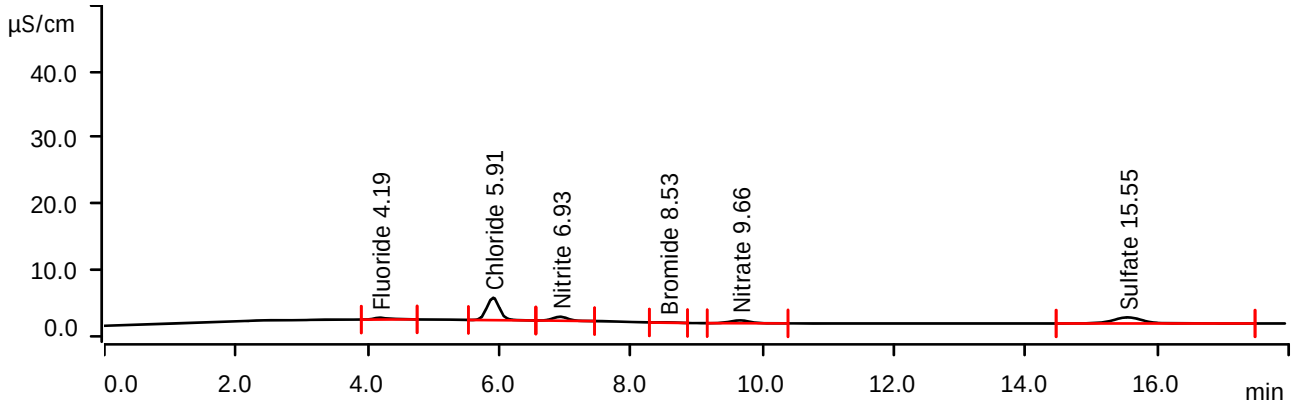
Ident	Std 3	
Determination start	2016-03-25 15:41:12 UTC-5	
Method	IC0582A	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	7.33	MPa
Temperature	-----	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.185	0.0722	0.281	0.256	Fluoride
2	5.910	0.7658	3.389	2.513	Chloride
3	6.930	0.1620	0.610	0.245	Nitrite
4	8.525	0.0169	0.059	0.369	Bromide
5	9.660	0.1536	0.439	0.302	Nitrate
6	15.547	0.4865	0.914	2.739	Sulfate

Sample data

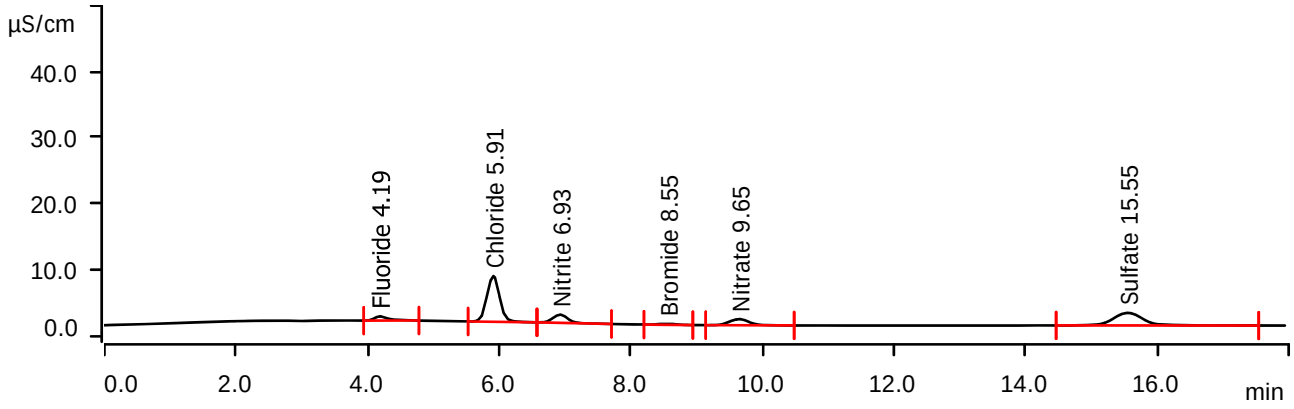
Ident . . . . . Std 4
Determination start 2016-03-25 16:01:51 UTC-5
Method IC0582A
Operator . . . . . JJF

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 18.0 min
Integration . . . . . Automatically
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 7.22 MPa
Temperature . . . . . ----- °C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.187	0.1604	0.651	0.437	Fluoride
2	5.912	1.5654	6.937	4.896	Chloride
3	6.930	0.3256	1.248	0.471	Nitrite
4	8.547	0.0447	0.149	0.591	Bromide
5	9.650	0.3228	0.931	0.503	Nitrate
6	15.550	1.0125	1.911	5.011	Sulfate

Sample data

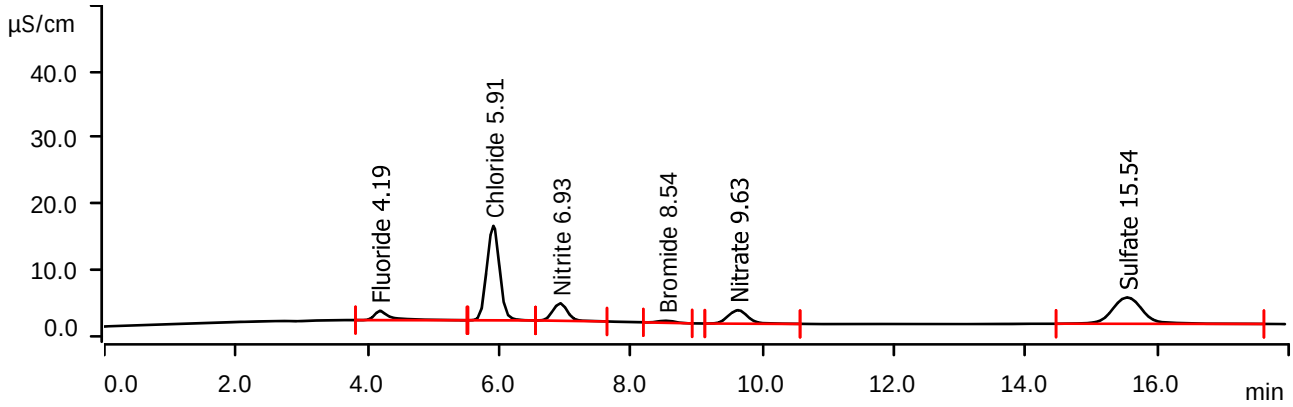
Ident . . . . . Std 5
Determination start 2016-03-25 16:22:31 UTC-5
Method IC0582A
Operator . . . . . JJF

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 18.0 min
Integration . . . . . Automatically
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 7.33 MPa
Temperature . . . . . ----- °C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.187	0.4151	1.419	0.962	Fluoride
2	5.912	3.2473	14.332	9.909	Chloride
3	6.928	0.6962	2.652	0.984	Nitrite
4	8.535	0.0920	0.311	0.969	Bromide
5	9.630	0.7022	2.040	0.955	Nitrate
6	15.542	2.1442	4.004	9.901	Sulfate

Sample data

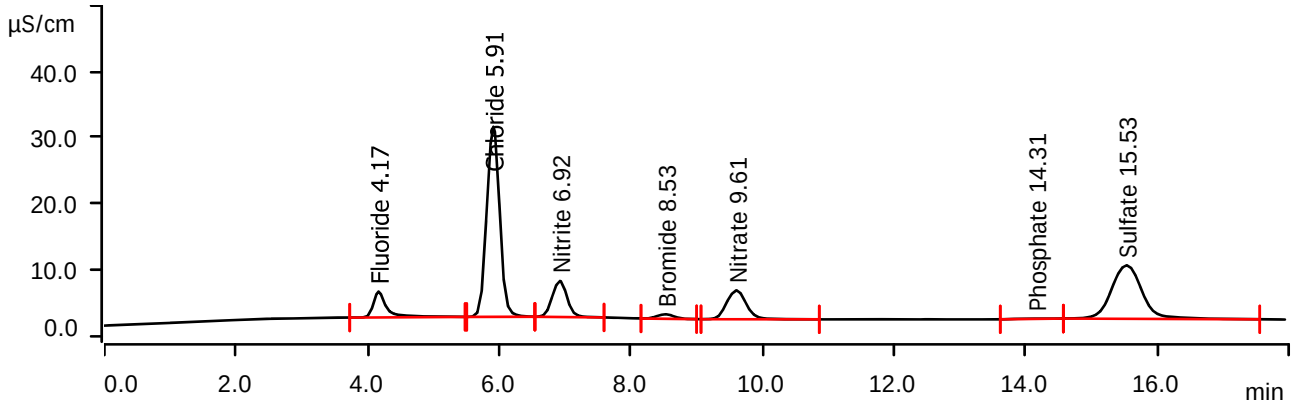
Ident . . . . . Std 6
Determination start 2016-03-25 16:43:10 UTC-5
Method IC0582A
Operator . . . . . JJF

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 18.0 min
Integration . . . . . Automatically
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 7.33 MPa
Temperature . . . . . ----- °C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.168	0.9262	3.906	2.015	Fluoride
2	5.912	6.6187	28.832	19.957	Chloride
3	6.922	1.4349	5.457	2.005	Nitrite
4	8.528	0.2043	0.682	1.865	Bromide
5	9.607	1.5126	4.379	1.919	Nitrate
6	14.308	0.0256	0.039	2.450	Phosphate
7	15.530	4.3872	8.122	19.591	Sulfate

Sample data

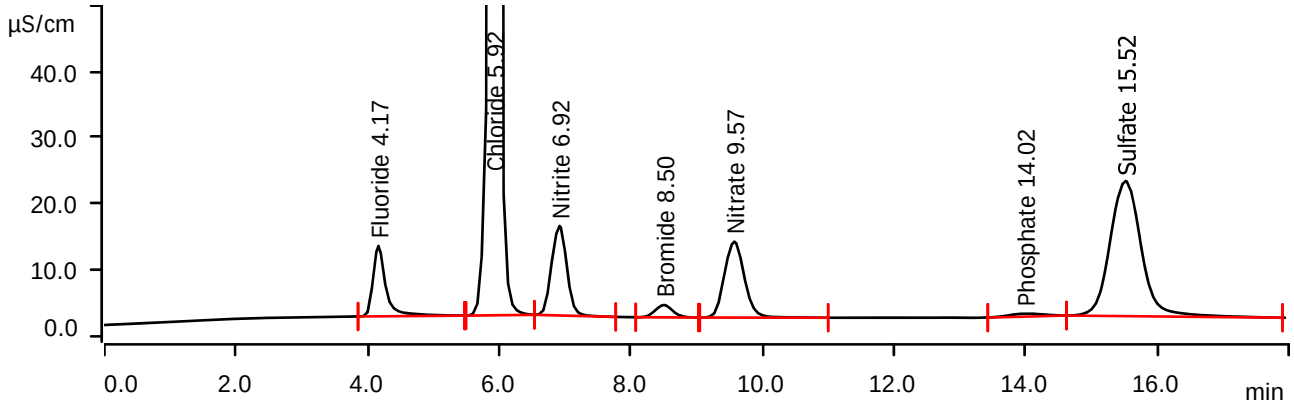
Ident . . . . . Std 7
Determination start 2016-03-25 17:03:48 UTC-5
Method IC0582A
Operator . . . . . JJF

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 18.0 min
Integration . . . . . Automatically
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 7.38 MPa
Temperature . . . . . ----- °C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.165	2.4249	10.670	5.101	Fluoride
2	5.922	16.7015	70.680	50.006	Chloride
3	6.917	3.6407	13.569	5.054	Nitrite
4	8.503	0.5804	1.886	4.867	Bromide
5	9.572	4.0438	11.525	4.929	Nitrate
6	14.015	0.2658	0.462	4.280	Phosphate
7	15.517	11.3116	20.506	49.508	Sulfate

Sample data

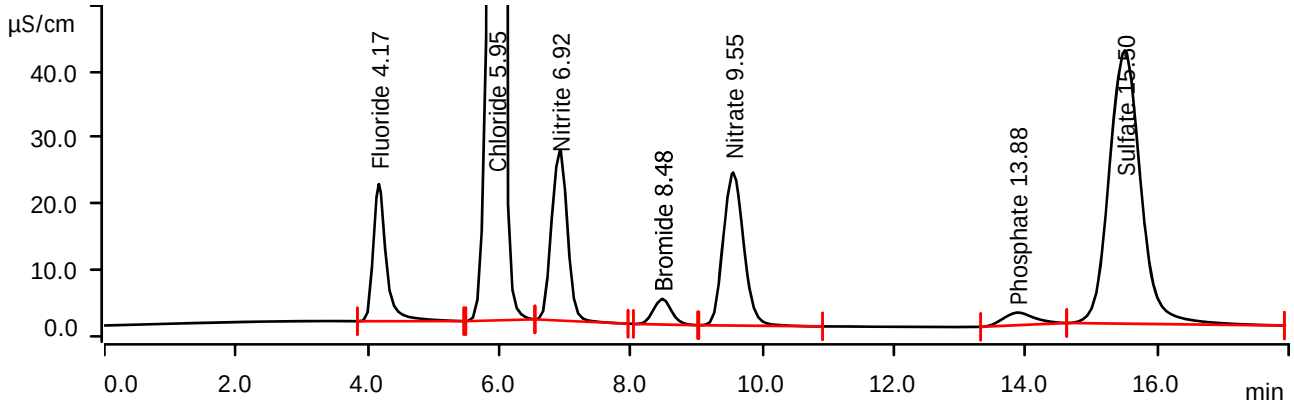
Ident	Std 8	
Determination start	2016-03-25 17:24:27 UTC-5	
Method	IC0582A	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	7.33	MPa
Temperature	-----	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.172	4.7812	20.809	9.953	Fluoride
2	5.952	33.4821	136.702	100.018	Chloride
3	6.922	7.2001	25.900	9.975	Nitrite
4	8.480	1.2348	3.879	10.089	Bromide
5	9.553	8.3525	23.222	10.054	Nitrate
6	13.882	1.0526	1.914	10.270	Phosphate
7	15.503	23.0740	41.475	100.327	Sulfate

Sample data

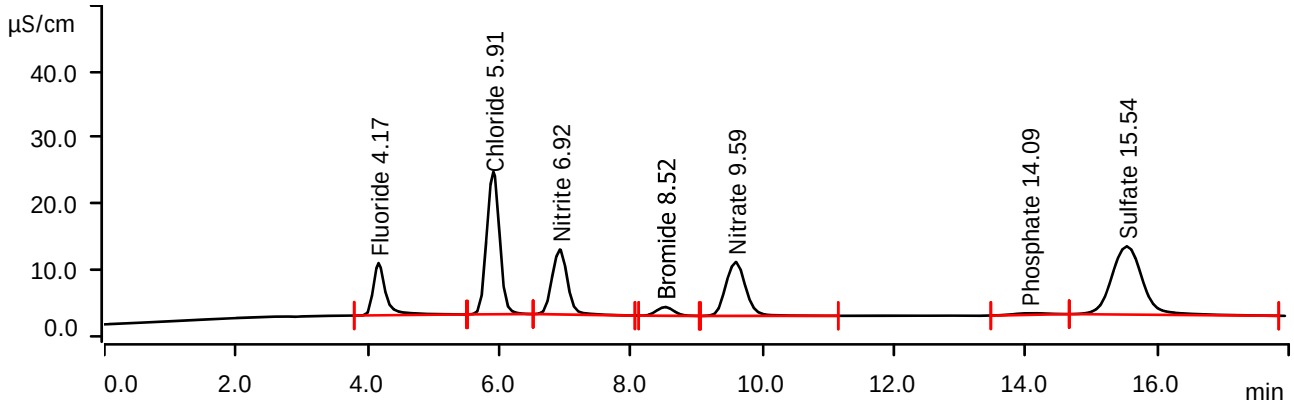
Ident ICV
Determination start 2016-03-25 17:45:22 UTC-5
Method IC0582A
Operator . . . . . JJF

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 18.0 min
Integration . . . . . Automatically
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 7.38 MPa
Temperature . . . . . ----- °C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.167	1.7700	7.921	3.752	Fluoride
2	5.912	4.9292	21.625	14.921	Chloride
3	6.923	2.6847	9.845	3.733	Nitrite
4	8.523	0.4064	1.326	3.478	Bromide
5	9.593	2.8506	8.167	3.510	Nitrate
6	14.093	0.1498	0.251	3.396	Phosphate
7	15.535	5.6254	10.359	24.941	Sulfate

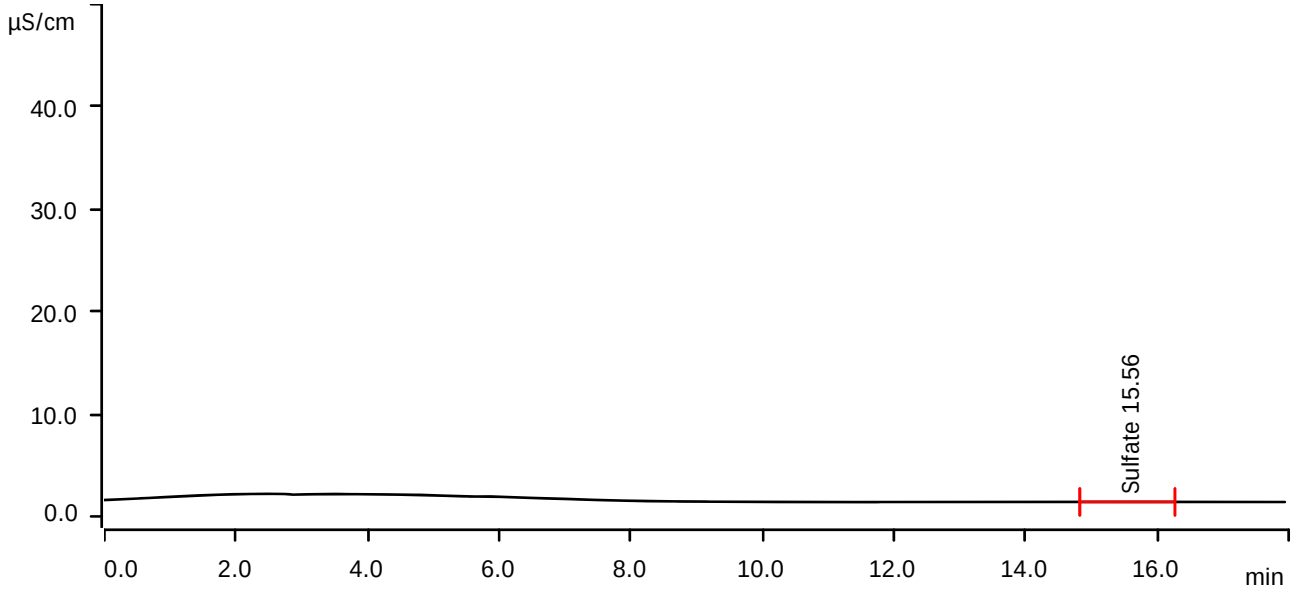
Sample data

Ident	ICB
Sample type	Sample
Determination start	2016-03-25 18:06:16 UTC-5
Method	IC0582A
Operator	JJF

Anions

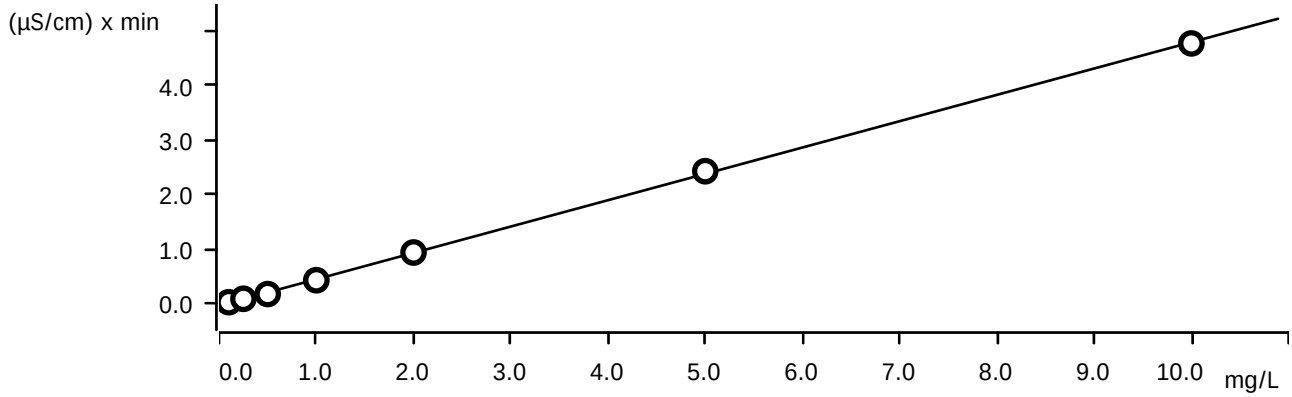
Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	7.33	MPa
Temperature	-----	°C

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	15.562	0.0095	0.018	0.678	Sulfate

Fluoride (Anions)



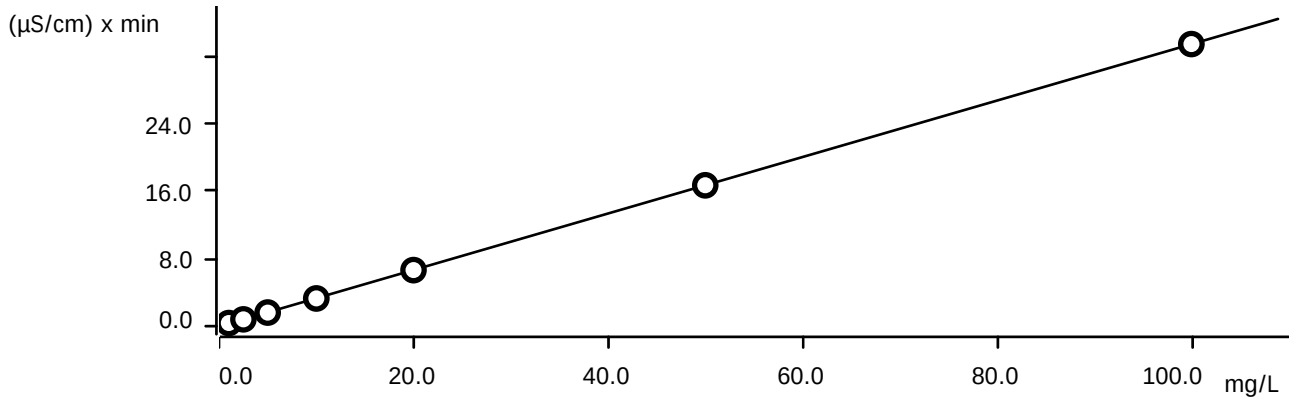
Function: . . . . . *A = - 0.0519984 + 0.0242798× Q*

Relative standard deviation . . . . . *2.363425 %*

Correlation coefficient *0.999883*

Sample type	Index	Conc.	Volume	Dilution	Sample amount	Area	Ident	Date
Standard 1	1	0.0000	20.0	1.0	1.0	n. d.	Std 1	2016-03-25 14:59:40 UTC-5
Standard 2	1	0.1000	20.0	1.0	1.0	0.0094	Std 2	2016-03-25 15:20:33 UTC-5
Standard 3	1	0.2500	20.0	1.0	1.0	0.0722	Std 3	2016-03-25 15:41:12 UTC-5
Standard 4	1	0.5000	20.0	1.0	1.0	0.1604	Std 4	2016-03-25 16:01:51 UTC-5
Standard 5	1	1.0000	20.0	1.0	1.0	0.4151	Std 5	2016-03-25 16:22:31 UTC-5
Standard 6	1	2.0000	20.0	1.0	1.0	0.9262	Std 6	2016-03-25 16:43:10 UTC-5
Standard 7	1	5.0000	20.0	1.0	1.0	2.4249	Std 7	2016-03-25 17:03:48 UTC-5
Standard 8	1	10.0000	20.0	1.0	1.0	4.7812	Std 8	2016-03-25 17:24:27 UTC-5

Chloride (Anions)



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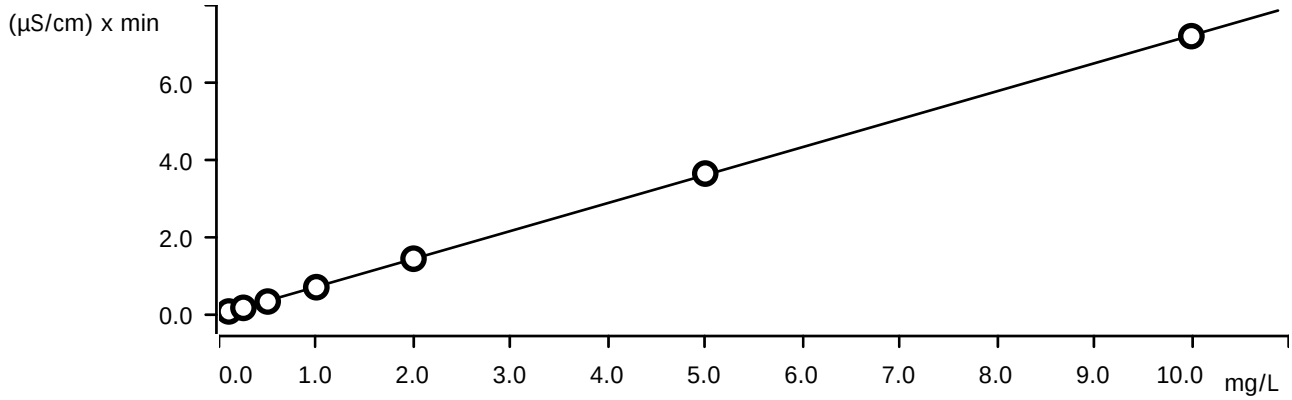
Function: . . . . . *A = - 0.0774251 + 0.0167768× Q*

Relative standard deviation . . . . . *0.417635 %*

Correlation coefficient *0.999996*

Sample type	Index	Conc.	Volume	Dilution	Sample amount	Area	Ident	Date
Standard 1	1	0.0000	20.0	1.0	1.0	n. d.	Std 1	2016-03-25 14:59:40 UTC-5
Standard 2	1	1.0000	20.0	1.0	1.0	0.3258	Std 2	2016-03-25 15:20:33 UTC-5
Standard 3	1	2.5000	20.0	1.0	1.0	0.7658	Std 3	2016-03-25 15:41:12 UTC-5
Standard 4	1	5.0000	20.0	1.0	1.0	1.5654	Std 4	2016-03-25 16:01:51 UTC-5
Standard 5	1	10.0000	20.0	1.0	1.0	3.2473	Std 5	2016-03-25 16:22:31 UTC-5
Standard 6	1	20.0000	20.0	1.0	1.0	6.6187	Std 6	2016-03-25 16:43:10 UTC-5
Standard 7	1	50.0000	20.0	1.0	1.0	16.7015	Std 7	2016-03-25 17:03:48 UTC-5
Standard 8	1	100.0000	20.0	1.0	1.0	33.4821	Std 8	2016-03-25 17:24:27 UTC-5

Nitrite (Anions)



Function: . . . . . *A = - 0.0153310 + 0.0361679× Q*

Relative standard deviation . . . . . *1.177968 %*

Correlation coefficient *0.999969*

Sample type	Index	Conc.	Volume	Dilution	Sample amount	Area	Ident	Date
Standard 1	1	0.0000	20.0	1.0	1.0	n. d.	Std 1	2016-03-25 14:59:40 UTC-5
Standard 2	1	0.1000	20.0	1.0	1.0	0.0684	Std 2	2016-03-25 15:20:33 UTC-5
Standard 3	1	0.2500	20.0	1.0	1.0	0.1620	Std 3	2016-03-25 15:41:12 UTC-5
Standard 4	1	0.5000	20.0	1.0	1.0	0.3256	Std 4	2016-03-25 16:01:51 UTC-5
Standard 5	1	1.0000	20.0	1.0	1.0	0.6962	Std 5	2016-03-25 16:22:31 UTC-5
Standard 6	1	2.0000	20.0	1.0	1.0	1.4349	Std 6	2016-03-25 16:43:10 UTC-5
Standard 7	1	5.0000	20.0	1.0	1.0	3.6407	Std 7	2016-03-25 17:03:48 UTC-5
Standard 8	1	10.0000	20.0	1.0	1.0	7.2001	Std 8	2016-03-25 17:24:27 UTC-5

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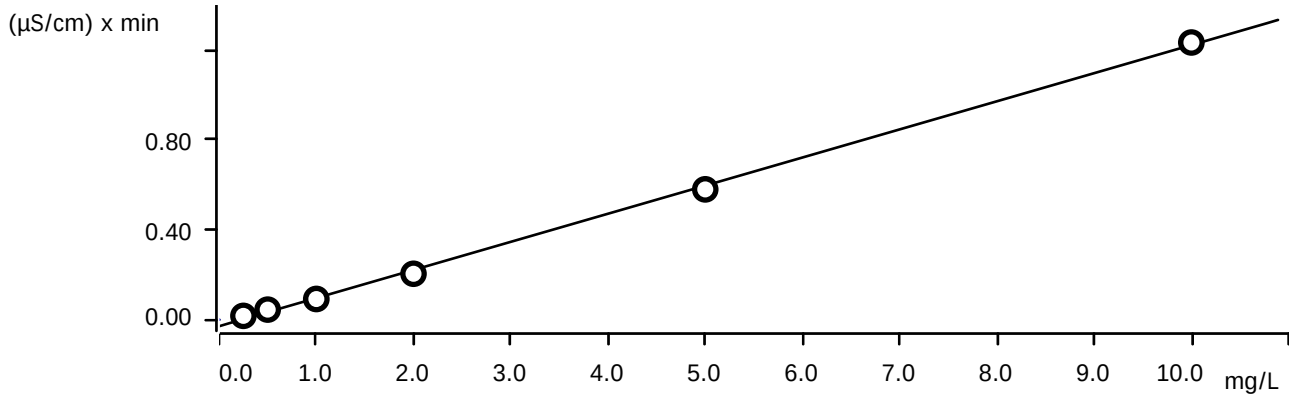
Bromide (Anions)



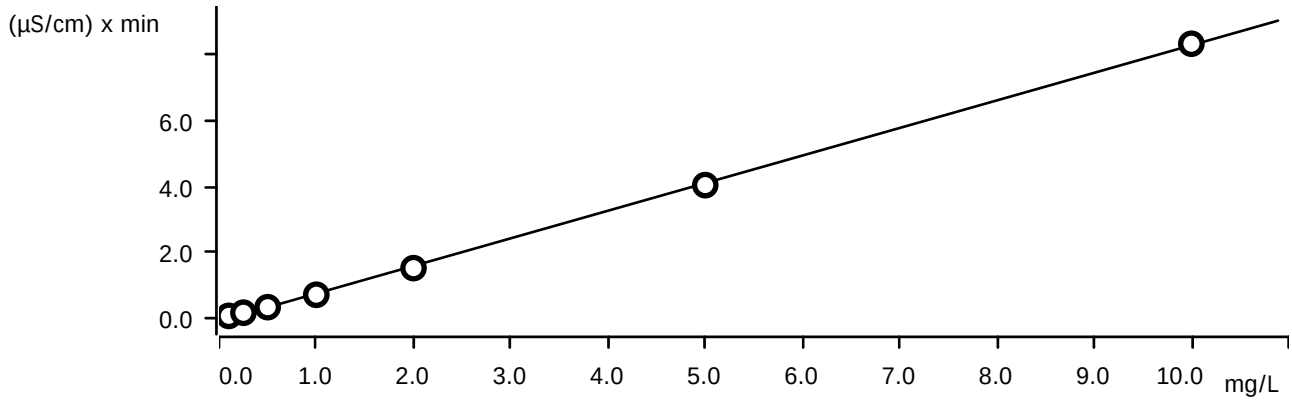
Function: . . . . . *A = - 0.0293702 + 6.26476E-3× Q*

Relative standard deviation . . . . . *4.489130 %*

Correlation coefficient *0.999531*

Sample type	Index	Conc.	Volume	Dilution	Sample amount	Area	Ident	Date
Standard 1	1	0.0000	20.0	1.0	1.0	n. d.	Std 1	2016-03-25 14:59:40 UTC-5
Standard 2	1	0.1000	20.0	1.0	1.0	n. d.	Std 2	2016-03-25 15:20:33 UTC-5
Standard 3	1	0.2500	20.0	1.0	1.0	0.0169	Std 3	2016-03-25 15:41:12 UTC-5
Standard 4	1	0.5000	20.0	1.0	1.0	0.0447	Std 4	2016-03-25 16:01:51 UTC-5
Standard 5	1	1.0000	20.0	1.0	1.0	0.0920	Std 5	2016-03-25 16:22:31 UTC-5
Standard 6	1	2.0000	20.0	1.0	1.0	0.2043	Std 6	2016-03-25 16:43:10 UTC-5
Standard 7	1	5.0000	20.0	1.0	1.0	0.5804	Std 7	2016-03-25 17:03:48 UTC-5
Standard 8	1	10.0000	20.0	1.0	1.0	1.2348	Std 8	2016-03-25 17:24:27 UTC-5

Nitrate (Anions)



Function: . . . . . *A = - 0.100480 + 0.0420385× Q*

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Relative standard deviation . . . . . *2.859421 %*

Correlation coefficient *0.999830*

Sample type	Index	Conc.	Volume	Dilution	Sample amount	Area	Ident	Date
Standard 1	1	0.0000	20.0	1.0	1.0	n. d.	Std 1	2016-03-25 14:59:40 UTC-5
Standard 2	1	0.1000	20.0	1.0	1.0	0.0576	Std 2	2016-03-25 15:20:33 UTC-5
Standard 3	1	0.2500	20.0	1.0	1.0	0.1536	Std 3	2016-03-25 15:41:12 UTC-5
Standard 4	1	0.5000	20.0	1.0	1.0	0.3228	Std 4	2016-03-25 16:01:51 UTC-5
Standard 5	1	1.0000	20.0	1.0	1.0	0.7022	Std 5	2016-03-25 16:22:31 UTC-5
Standard 6	1	2.0000	20.0	1.0	1.0	1.5126	Std 6	2016-03-25 16:43:10 UTC-5
Standard 7	1	5.0000	20.0	1.0	1.0	4.0438	Std 7	2016-03-25 17:03:48 UTC-5
Standard 8	1	10.0000	20.0	1.0	1.0	8.3525	Std 8	2016-03-25 17:24:27 UTC-5

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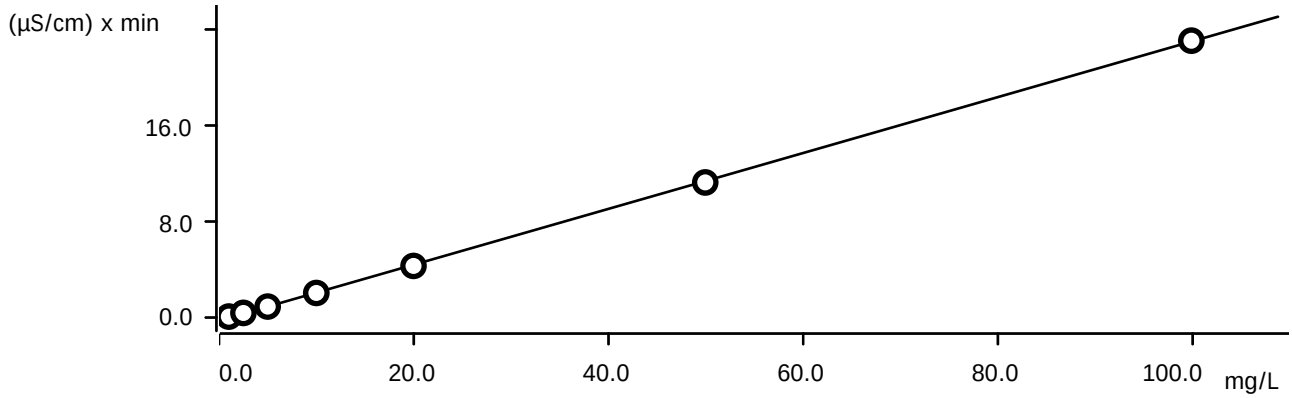
Phosphate (Anions)

Sulfate (Anions)



Function: . . . . . *A = - 0.147424 + 0.0115729× Q*

Relative standard deviation . . . . . *1.484200 %*

Correlation coefficient *0.999952*

Sample type	Index	Conc.	Volume	Dilution	Sample amount	Area	Ident	Date
Standard 1	1	0.0000	20.0	1.0	1.0	n. d.	Std 1	2016-03-25 14:59:40 UTC-5
Standard 2	1	1.0000	20.0	1.0	1.0	0.1819	Std 2	2016-03-25 15:20:33 UTC-5
Standard 3	1	2.5000	20.0	1.0	1.0	0.4865	Std 3	2016-03-25 15:41:12 UTC-5
Standard 4	1	5.0000	20.0	1.0	1.0	1.0125	Std 4	2016-03-25 16:01:51 UTC-5
Standard 5	1	10.0000	20.0	1.0	1.0	2.1442	Std 5	2016-03-25 16:22:31 UTC-5
Standard 6	1	20.0000	20.0	1.0	1.0	4.3872	Std 6	2016-03-25 16:43:10 UTC-5
Standard 7	1	50.0000	20.0	1.0	1.0	11.3116	Std 7	2016-03-25 17:03:48 UTC-5
Standard 8	1	100.0000	20.0	1.0	1.0	23.0740	Std 8	2016-03-25 17:24:27 UTC-5

RJ05/02/2016

Sample table - 041316 - 124798 124829 124852

	Method	Ident	Sample type	Position	Injections	Status	Dilution	Info 1	Info 2	Info 4	Value 1	Value 2
1	IC0582A	CCV IC0600 IC0599	Check standard 1	149	1	FINISHED ...	1	(01) Reset ...			1	84
2	IC0582A	LCSW IC0584 IC0585	Check standard 2	1	1	FINISHED ...	1		(02) No i-Di...		1	84
13	IC0582A	CCV	Check standard 1	149	1	FINISHED ...	1	Auto CCV			1	84
14	IC0582A	CCB	Sample	150	1	FINISHED ...	1	Auto CCB			1	84
19	IC0582A	708265	Sample	13	1	FINISHED ...	1		(01) i-Diluti...		1	84
20	IC0582A	708266	Sample	14	1	FINISHED ...	1		(01) i-Diluti...		1	84
21	IC0582A	708267	Sample	15	1	FINISHED ...	1		(01) i-Diluti...		1	84
22	IC0582A	708268	Sample	16	1	FINISHED ...	1		(01) i-Diluti...		1	84
23	IC0582A	708269	Sample	17	1	FINISHED ...	1		(01) i-Diluti...		1	84
24	IC0582A	708270	Sample	18	1	FINISHED ...	1		(01) i-Diluti...		1	84
25	IC0582A	CCV	Check standard 1	149	1	FINISHED ...	1	Auto CCV			1	84

Sample table - 041316 - 124798 124829 124852

	Method	Ident	Sample type	Position	Injections	Status	Dilution	Info 1	Info 2	Info 4	Value 1	Value 2
26	IC0582A	CCB	Sample	150	1	FINISHED ...	1	Auto CCB			1	84
27	IC0582A	DUP708267	Sample	19	1	FINISHED ...	1		(01) i-Diluti...		1	84
28	IC0582A	MSW708267	Sample	20	1	FINISHED ...	1				1	84
29	IC0582A	MSDW708267	Sample	21	1	FINISHED ...	1				1	84
38	IC0582A	CCV	Check standard 1	149	1	FINISHED ...	1	Auto CCV			1	84
39	IC0582A	CCB	Sample	150	1	FINISHED ...	1	Auto CCB			1	84

Sample data

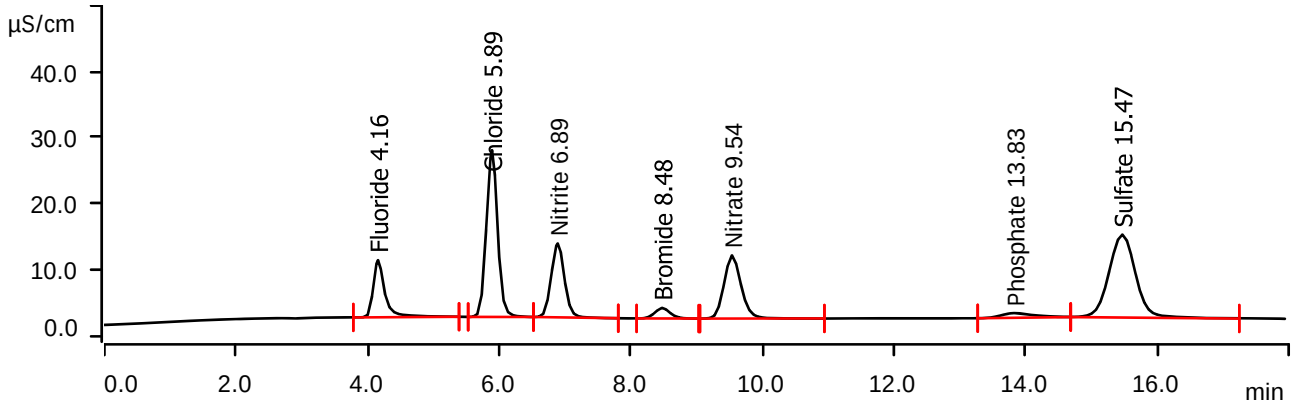
Ident	CCV IC0600 IC0599
Determination start	2016-04-13 15:53:18 UTC-5
Method	IC0582A
Operator	JJF

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	7.61	MPa
Temperature	-----	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.160	1.7900	8.656	3.793	Fluoride
2	5.890	5.0315	25.289	15.226	Chloride
3	6.888	2.6160	11.203	3.638	Nitrite
4	8.477	0.4352	1.601	3.708	Bromide
5	9.537	2.8827	9.571	3.548	Nitrate
6	13.832	0.3928	0.703	5.246	Phosphate
7	15.465	5.8420	12.548	25.877	Sulfate

Sample data

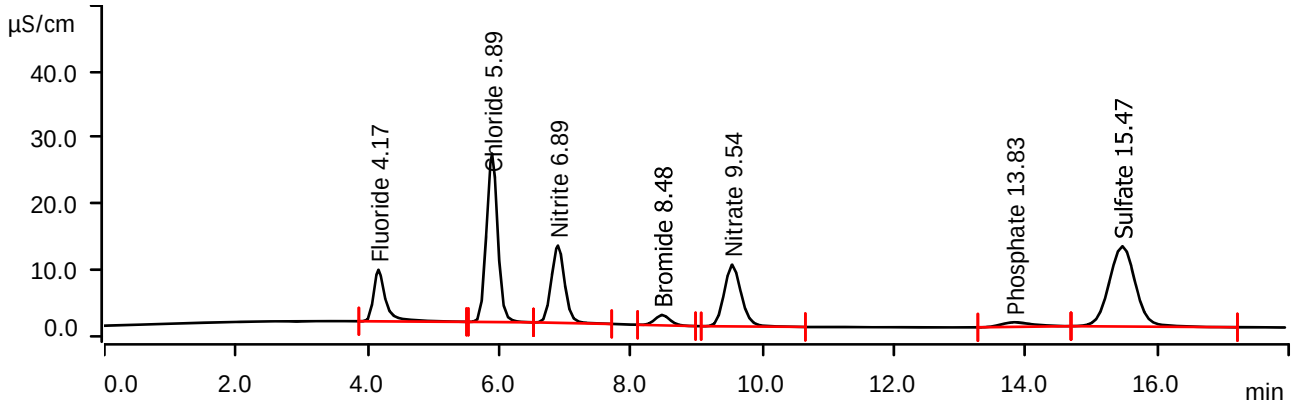
Ident	LCSW IC0584 IC0585	
Determination start	2016-04-13 16:14:12 UTC-5	
Method	IC0582A	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	7.61	MPa
Temperature	-----	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.165	1.6705	7.824	3.547	Fluoride
2	5.892	5.0633	25.544	15.321	Chloride
3	6.892	2.7502	11.715	3.823	Nitrite
4	8.475	0.4235	1.579	3.615	Bromide
5	9.540	2.8092	9.358	3.461	Nitrate
6	13.828	0.3894	0.702	5.220	Phosphate
7	15.467	5.6460	12.175	25.030	Sulfate

Sample data

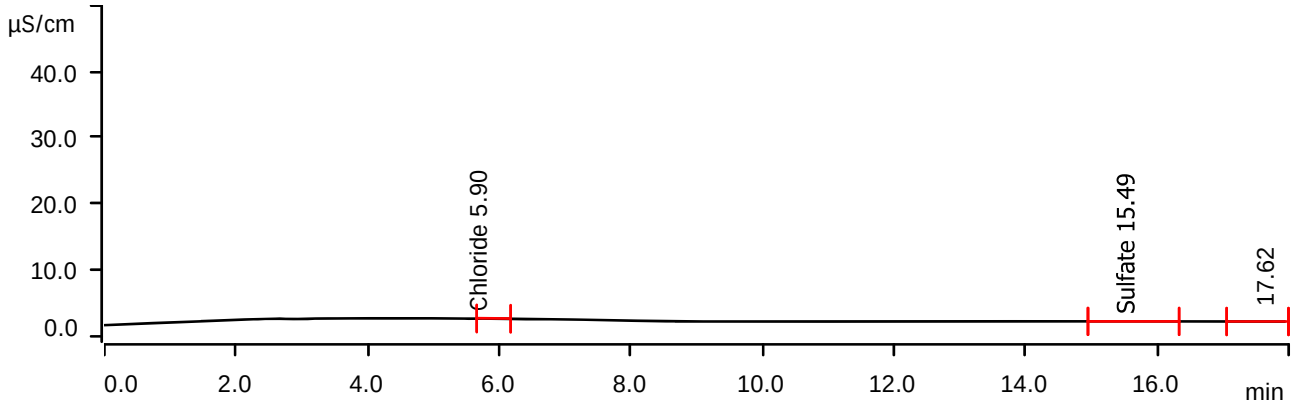
Ident	MBW	
Determination start	2016-04-13 16:35:10 UTC-5	
Method	IC0582A	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Manual	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	7.38	MPa
Temperature	-----	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	5.898	0.0120	0.063	0.266	Chloride
2	15.493	0.0101	0.022	0.681	Sulfate
3	17.620	0.0118	0.027	invalid	

RJ 04/18/2016

Sample data

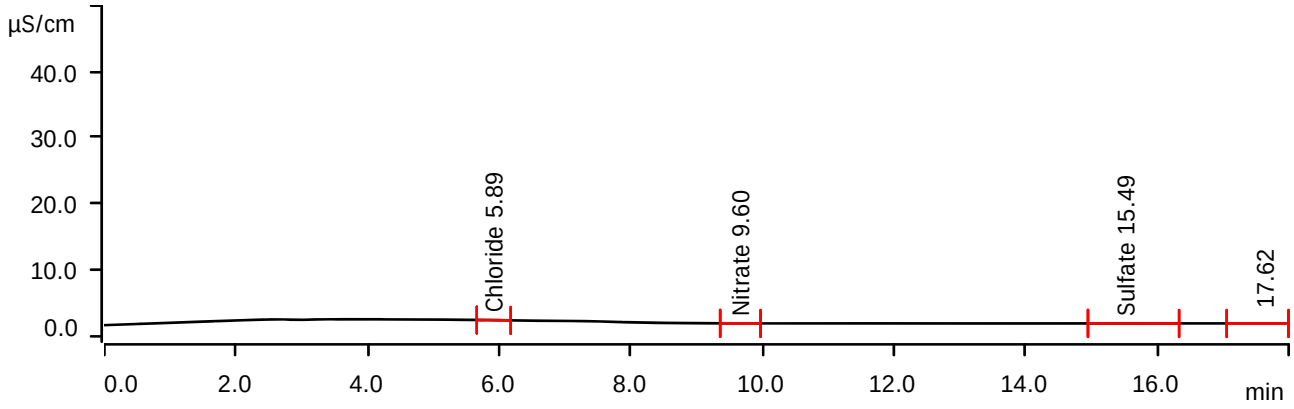
Ident	MBW	
Determination start	2016-04-13 16:35:10 UTC-5	
Method	IC0582A	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	7.38	MPa
Temperature	-----	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	5.887	0.0120	0.062	0.266	Chloride
2	9.600	0.0023	0.008	0.122	Nitrate
3	15.493	0.0100	0.022	0.680	Sulfate
4	17.620	0.0118	0.027	invalid	

Sample data

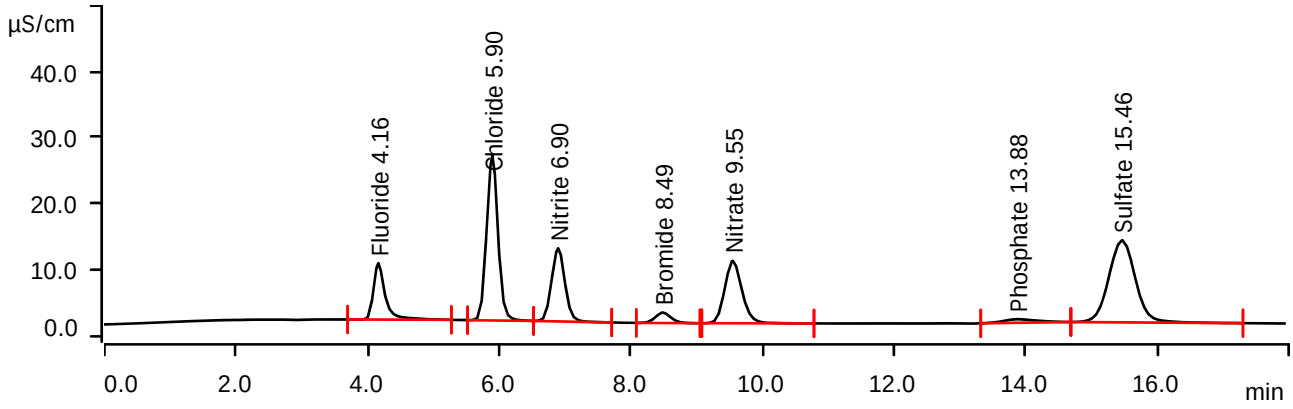
Ident CCV
Determination start 2016-04-13 20:04:29 UTC-5
Method IC0582A
Operator . . . . . JJF

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 18.0 min
Integration . . . . . Automatically
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 7.55 MPa
Temperature . . . . . ----- °C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.163	1.7703	8.557	3.753	Fluoride
2	5.895	5.0384	25.025	15.247	Chloride
3	6.895	2.6113	11.081	3.631	Nitrite
4	8.487	0.4364	1.590	3.718	Bromide
5	9.550	2.8833	9.478	3.549	Nitrate
6	13.880	0.3180	0.550	4.677	Phosphate
7	15.460	5.8288	12.453	25.820	Sulfate

Sample data

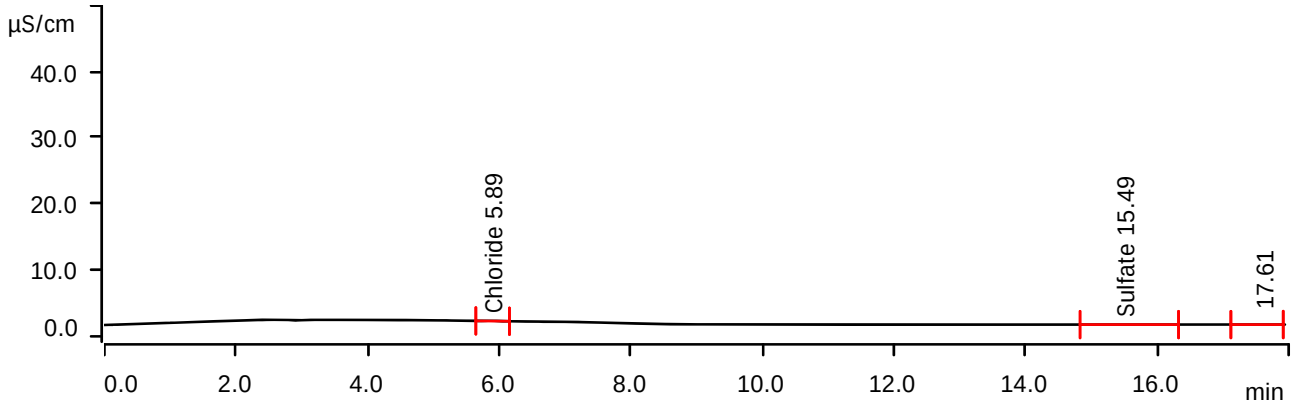
Ident	CCB	
Determination start	2016-04-13 20:46:23 UTC-5	
Method	IC0582A	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Manual	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	7.50	MPa
Temperature	-----	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	5.890	0.0108	0.056	0.263	Chloride
2	15.488	0.0115	0.025	0.687	Sulfate
3	17.608	0.0054	0.013	invalid	

RJ 04/18/2016

Sample data

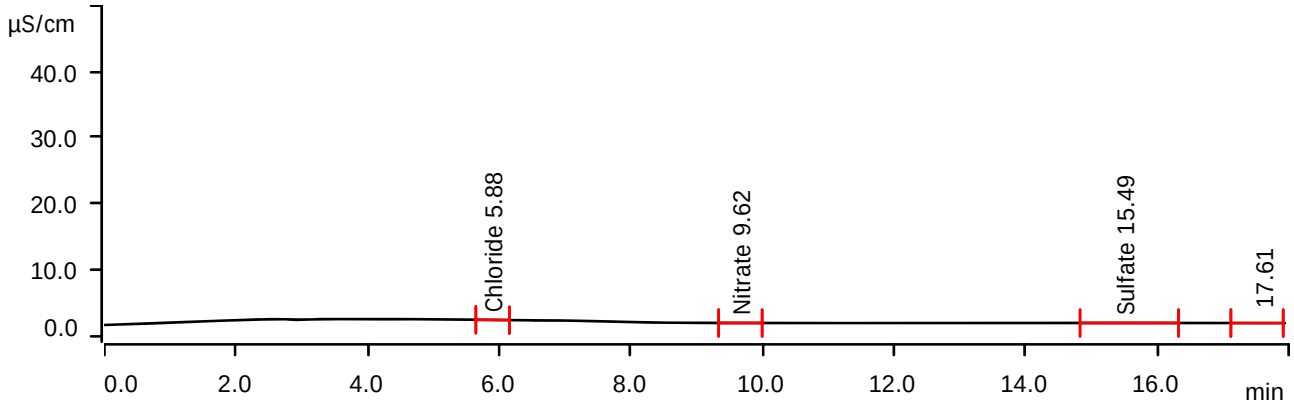
Ident	CCB	
Determination start	2016-04-13 20:46:23 UTC-5	
Method	IC0582A	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	7.50	MPa
Temperature	-----	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	5.878	0.0108	0.055	0.263	Chloride
2	9.620	0.0029	0.010	0.123	Nitrate
3	15.488	0.0122	0.026	0.690	Sulfate
4	17.608	0.0055	0.014	invalid	

Sample data

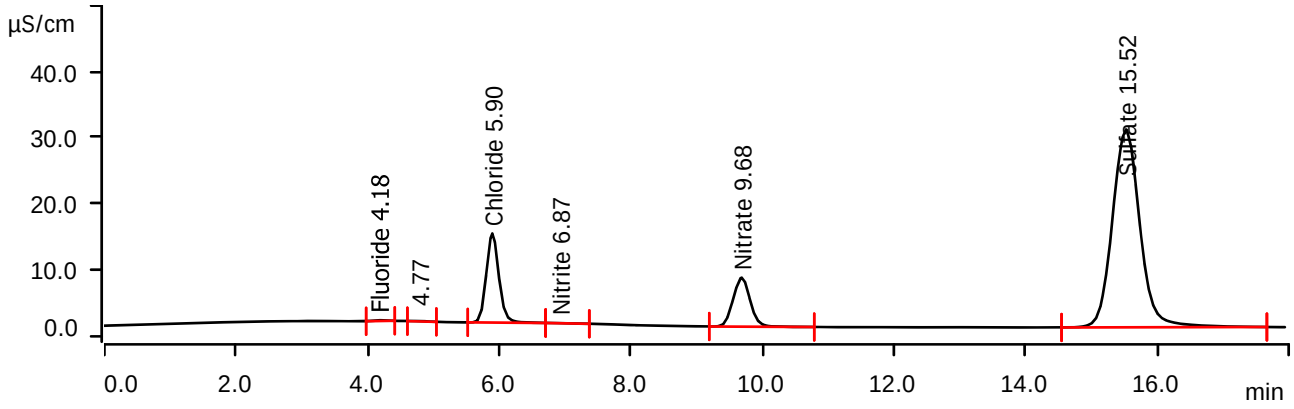
Ident 708265
Determination start 2016-04-13 22:31:08 UTC-5
Method IC0582A
Operator . . . . . JJF

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 18.0 min
Integration . . . . . Automatically
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 7.61 MPa
Temperature . . . . . ----- °C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.182	0.0255	0.127	0.160	Fluoride
2	4.765	0.0145	0.076	invalid	
3	5.895	2.9920	13.514	9.148	Chloride
4	6.870	0.0111	0.038	0.037	Nitrite
5	9.683	2.2284	7.437	2.770	Nitrate
6	15.522	14.5743	30.018	63.605	Sulfate

Sample data

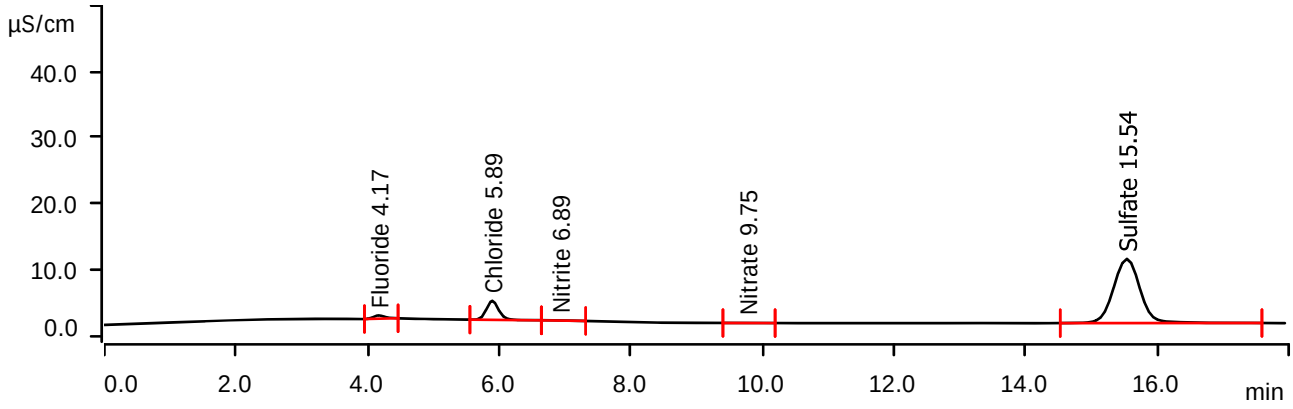
Ident 708266
Determination start 2016-04-13 22:52:03 UTC-5
Method IC0582A
Operator . . . . . JJF

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 18.0 min
Integration . . . . . Automatically
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 7.61 MPa
Temperature . . . . . ----- °C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.167	0.1001	0.499	0.313	Fluoride
2	5.893	0.6336	2.891	2.119	Chloride
3	6.890	0.0117	0.040	0.037	Nitrite
4	9.750	0.0119	0.039	0.134	Nitrate
5	15.535	4.5507	9.730	20.298	Sulfate

Sample data

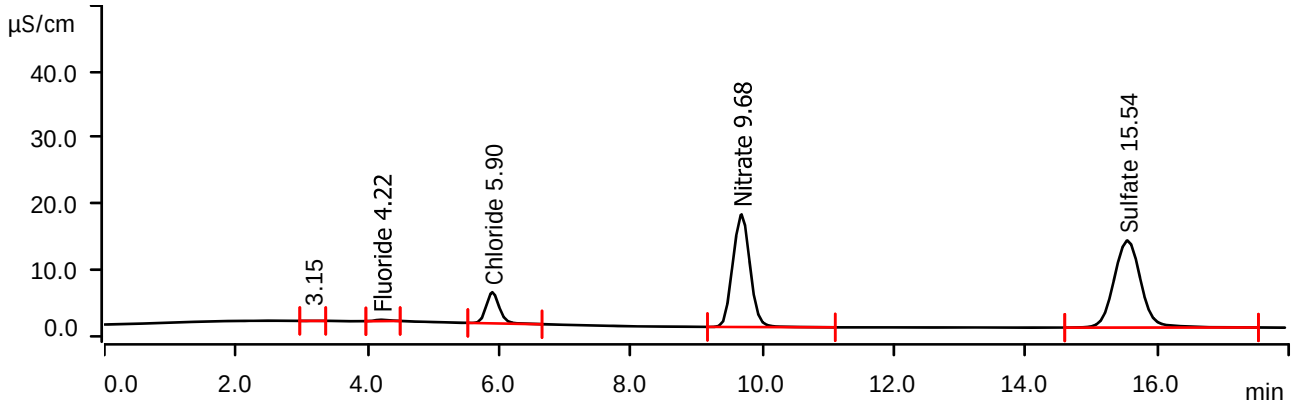
Ident 708267
Determination start 2016-04-13 23:12:57 UTC-5
Method IC0582A
Operator . . . . . JJF

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 18.0 min
Integration . . . . . Automatically
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 7.61 MPa
Temperature . . . . . ----- °C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	3.145	0.0012	0.006	invalid	
2	4.217	0.0539	0.212	0.218	Fluoride
3	5.895	1.0861	4.723	3.468	Chloride
4	9.682	5.1984	17.086	6.302	Nitrate
5	15.543	6.2514	13.211	27.646	Sulfate

Sample data

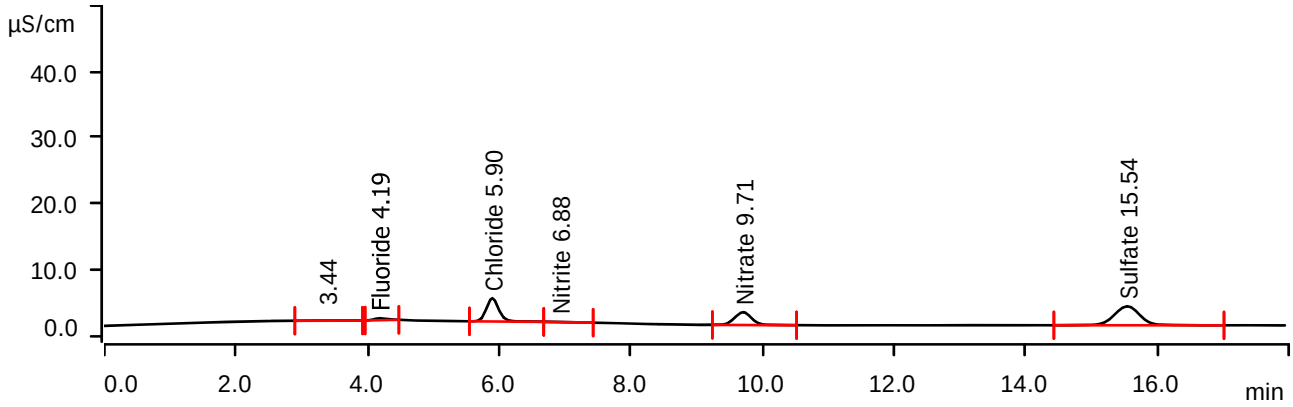
Ident 708268
Determination start 2016-04-13 23:33:51 UTC-5
Method IC0582A
Operator . . . . . JJF

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 18.0 min
Integration . . . . . Automatically
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 7.78 MPa
Temperature . . . . . ----- °C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	3.440	0.0205	0.032	invalid	
2	4.185	0.0684	0.305	0.248	Fluoride
3	5.895	0.7748	3.538	2.540	Chloride
4	6.880	0.0112	0.038	0.037	Nitrite
5	9.708	0.5844	1.957	0.815	Nitrate
6	15.540	1.2965	2.888	6.239	Sulfate

Sample data

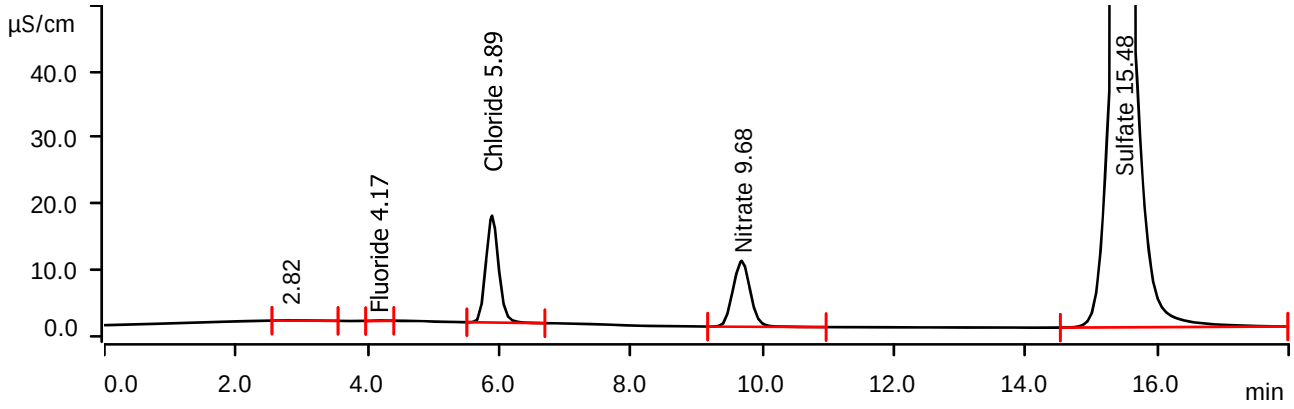
Ident	708269	
Determination start	2016-04-13 23:54:44 UTC-5	
Method	IC0582A	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	7.61	MPa
Temperature	-----	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	2.815	0.0259	0.059	invalid	
2	4.165	0.0162	0.087	0.140	Fluoride
3	5.890	3.6595	16.214	11.137	Chloride
4	9.683	3.0460	9.992	3.742	Nitrate
5	15.477	33.8793	68.226	147.011	Sulfate

Sample data

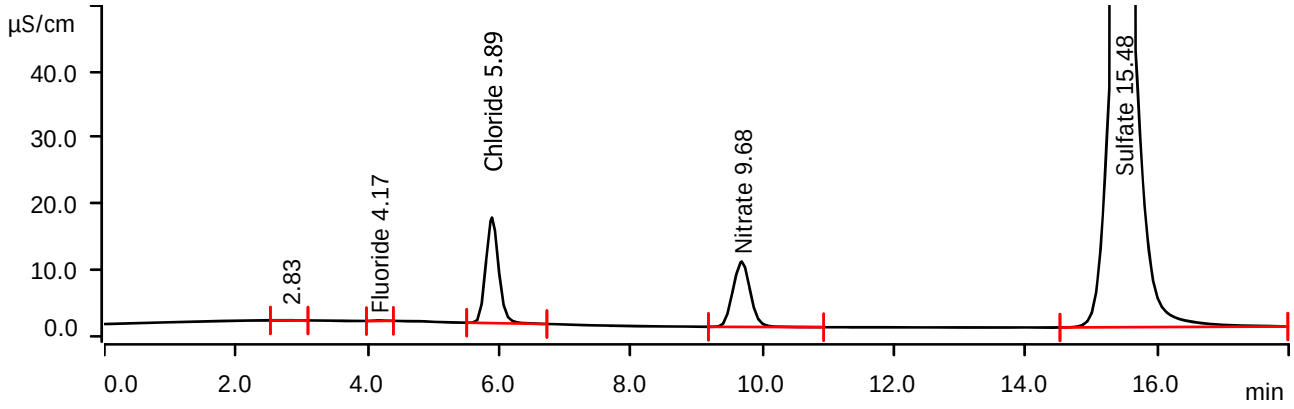
Ident	708270	
Determination start	2016-04-14 00:15:39 UTC-5	
Method	IC0582A	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	7.55	MPa
Temperature	-----	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	2.825	0.0059	0.028	invalid	
2	4.170	0.0146	0.079	0.137	Fluoride
3	5.890	3.6286	16.013	11.045	Chloride
4	9.683	3.0287	9.917	3.722	Nitrate
5	15.478	34.1433	68.593	148.151	Sulfate

Sample data

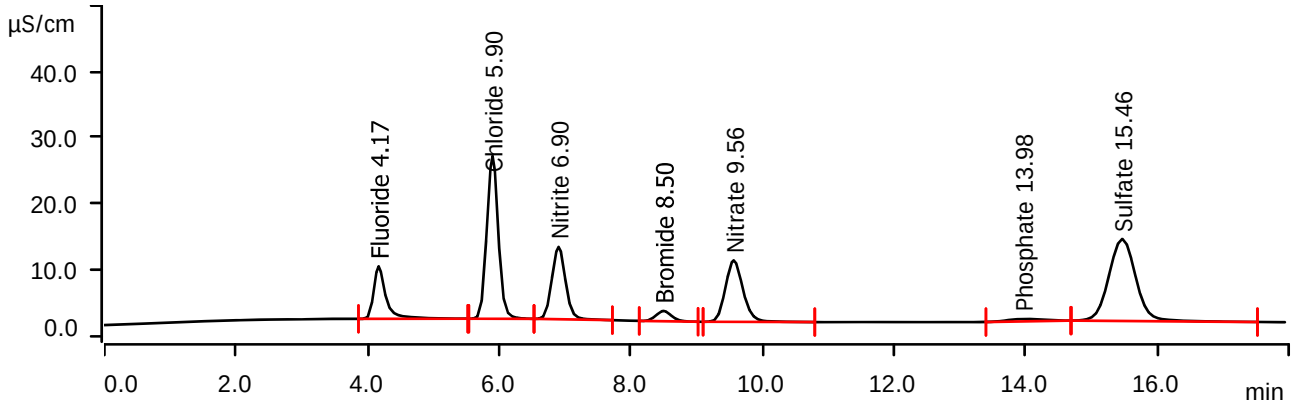
Ident	CCV	
Determination start	2016-04-14 00:36:34 UTC-5	
Method	IC0582A	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	7.55	MPa
Temperature	-----	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.168	1.7182	7.959	3.645	Fluoride
2	5.898	5.0339	24.718	15.233	Chloride
3	6.902	2.6436	10.970	3.676	Nitrite
4	8.495	0.4301	1.569	3.667	Bromide
5	9.562	2.8858	9.336	3.552	Nitrate
6	13.978	0.2253	0.376	3.971	Phosphate
7	15.463	5.9016	12.435	26.135	Sulfate

Sample data

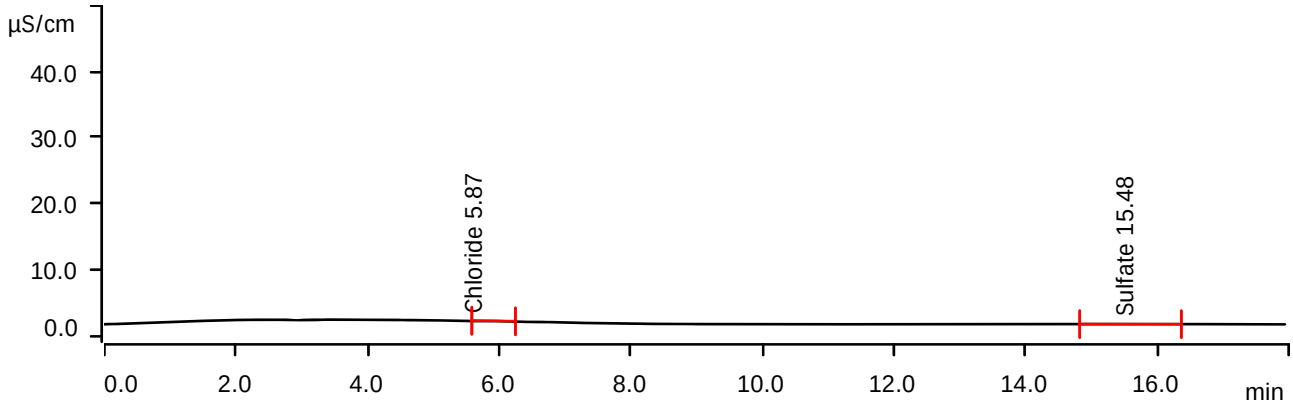
Ident	CCB	
Determination start	2016-04-14 01:18:31 UTC-5	
Method	IC0582A	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	7.55	MPa
Temperature	-----	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	5.868	0.0121	0.052	0.267	Chloride
2	15.477	0.0180	0.037	0.715	Sulfate

Sample data

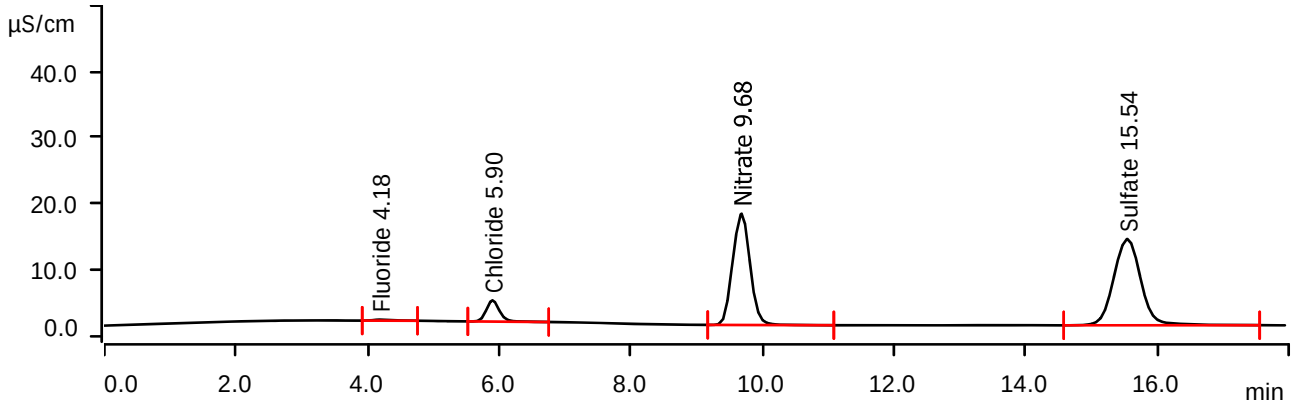
Ident DUP708267
Determination start 2016-04-14 01:39:26 UTC-5
Method IC0582A
Operator . . . . . JJF

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 18.0 min
Integration . . . . . Automatically
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 7.61 MPa
Temperature . . . . . ----- °C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.182	0.0486	0.161	0.207	Fluoride
2	5.898	0.7452	3.229	2.452	Chloride
3	9.682	5.1943	16.889	6.298	Nitrate
4	15.542	6.2321	13.086	27.563	Sulfate

Sample data

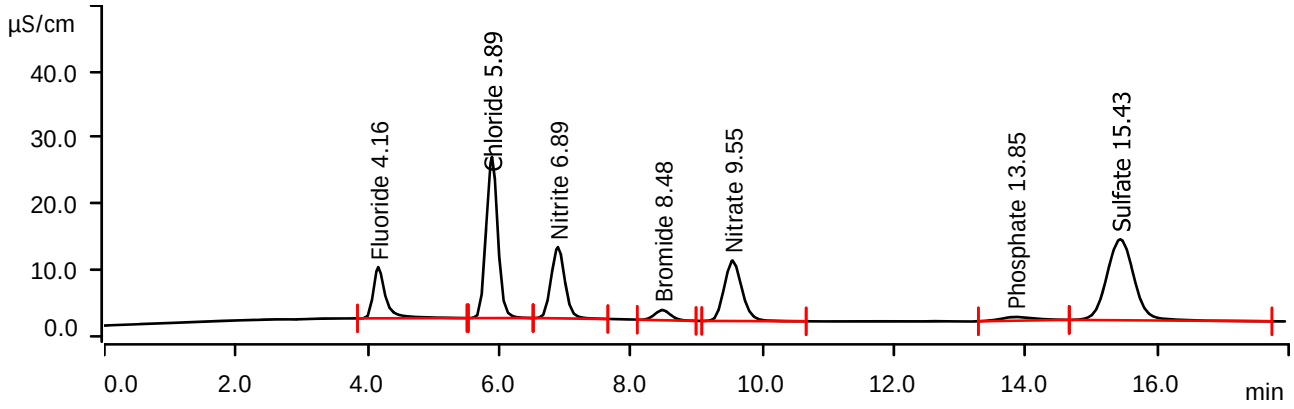
Ident	CCV	
Determination start	2016-04-14 05:50:46 UTC-5	
Method	IC0582A	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	7.78	MPa
Temperature	-----	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.162	1.7007	7.770	3.609	Fluoride
2	5.890	5.0408	24.464	15.254	Chloride
3	6.892	2.6298	10.812	3.657	Nitrite
4	8.480	0.4325	1.553	3.686	Bromide
5	9.545	2.8721	9.190	3.536	Nitrate
6	13.852	0.3341	0.570	4.800	Phosphate
7	15.433	5.8757	12.292	26.023	Sulfate

Sample data

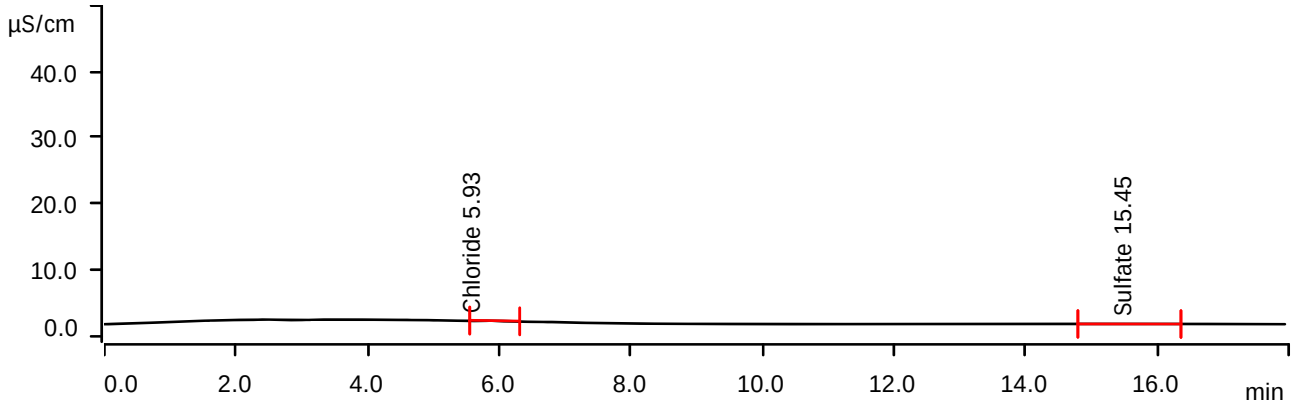
Ident	CCB	
Determination start	2016-04-14 06:32:24 UTC-5	
Method	IC0582A	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Manual	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	7.55	MPa
Temperature	-----	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	5.932	0.0204	0.072	0.291	Chloride
2	15.450	0.0187	0.039	0.718	Sulfate

RJ 04/18/2016

Sample data

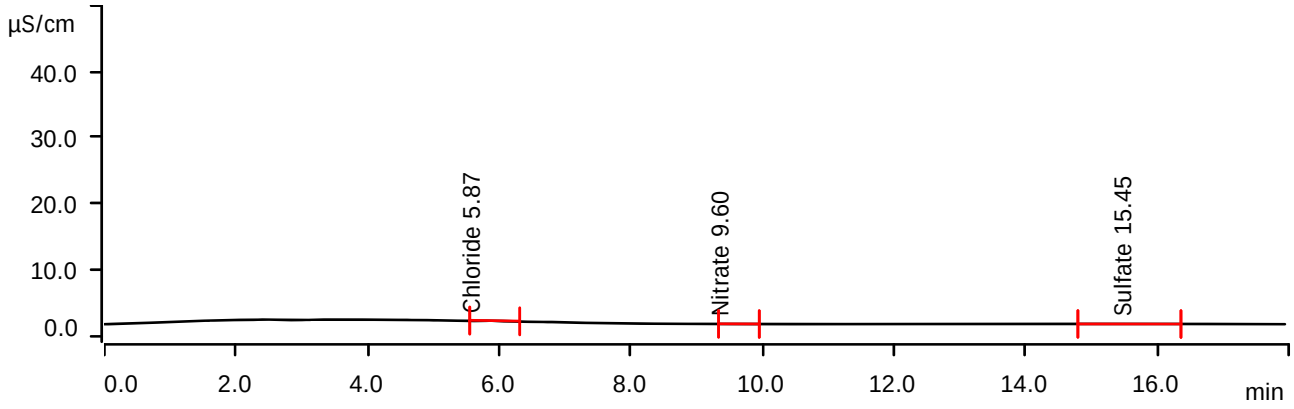
Ident	CCB	
Determination start	2016-04-14 06:32:24 UTC-5	
Method	IC0582A	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	7.55	MPa
Temperature	-----	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	5.867	0.0204	0.087	0.291	Chloride
2	9.603	0.0035	0.012	0.124	Nitrate
3	15.450	0.0187	0.039	0.718	Sulfate

Sample data

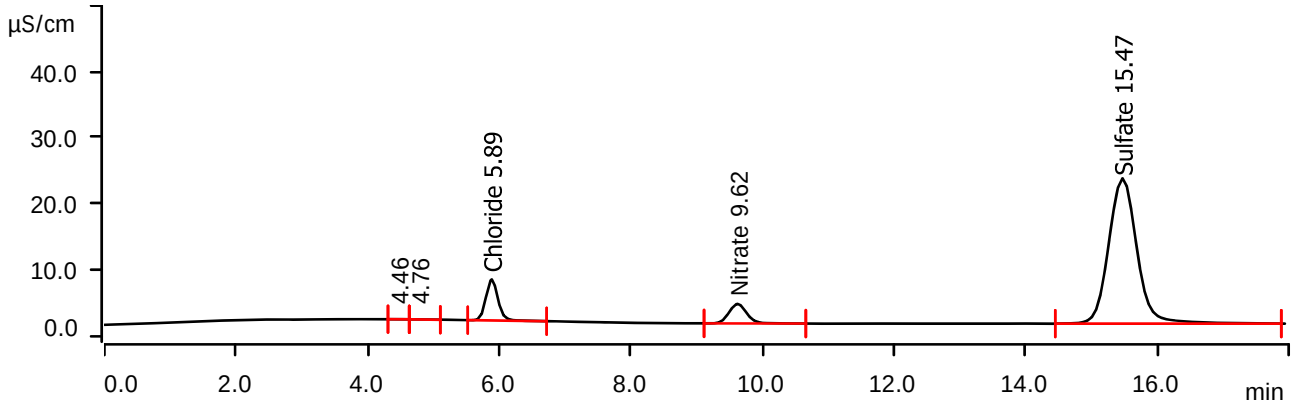
Ident 708269
Determination start 2016-04-14 08:36:43 UTC-5
Method IC0582A
Operator . . . . . JJF

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 18.0 min
Integration . . . . . Automatically
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 7.67 MPa
Temperature . . . . . ----- °C

(04) Anion Dilution Factor **3.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.455	0.0025	0.015	invalid	
2	4.757	0.0050	0.026	invalid	
3	5.887	1.3223	6.221	4.172	Chloride
4	9.622	0.9229	2.960	1.217	Nitrate
5	15.470	10.9711	22.031	48.037	Sulfate

Sample data

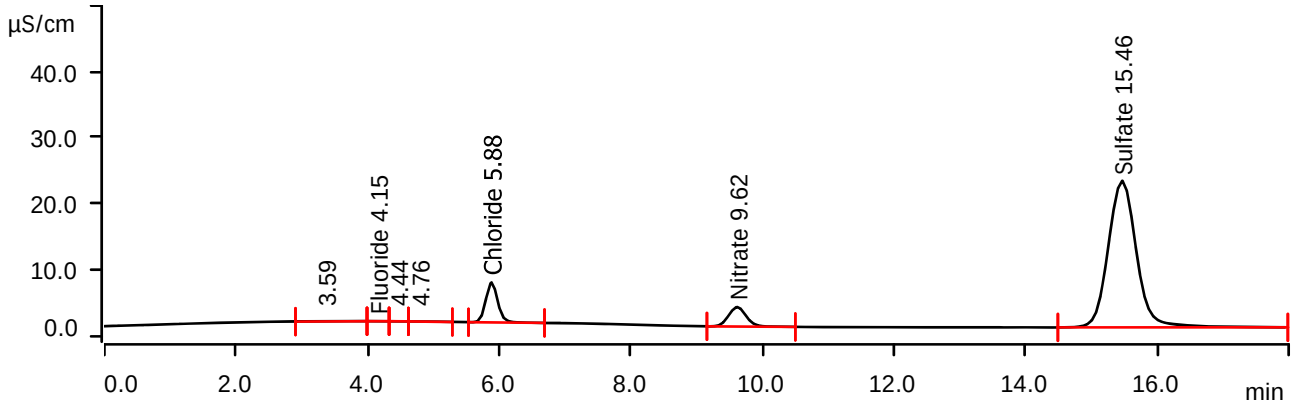
Ident 708270
Determination start 2016-04-14 08:57:23 UTC-5
Method IC0582A
Operator . . . . . JJF

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 18.0 min
Integration . . . . . Automatically
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 7.61 MPa
Temperature . . . . . ----- °C

(04) Anion Dilution Factor **3.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	3.587	0.0329	0.042	invalid	
2	4.150	0.0023	0.014	0.112	Fluoride
3	4.438	0.0022	0.013	invalid	
4	4.760	0.0072	0.031	invalid	
5	5.883	1.2810	6.062	4.049	Chloride
6	9.615	0.9193	2.958	1.213	Nitrate
7	15.463	11.0768	22.239	48.494	Sulfate

Sample data

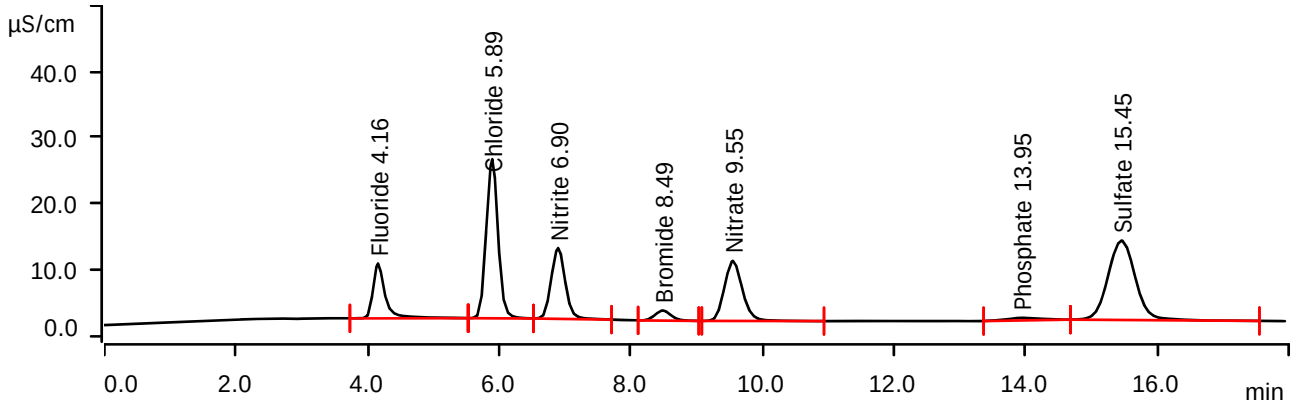
Ident CCV
Determination start 2016-04-14 10:20:40 UTC-5
Method IC0582A
Operator . . . . . JJF

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 18.0 min
Integration . . . . . Automatically
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 7.61 MPa
Temperature . . . . . ----- °C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.158	1.7672	8.302	3.746	Fluoride
2	5.893	5.0232	24.119	15.202	Chloride
3	6.895	2.6469	10.713	3.680	Nitrite
4	8.485	0.4318	1.538	3.681	Bromide
5	9.550	2.8764	9.105	3.541	Nitrate
6	13.950	0.2355	0.388	4.049	Phosphate
7	15.453	5.7986	12.055	25.690	Sulfate

Sample data

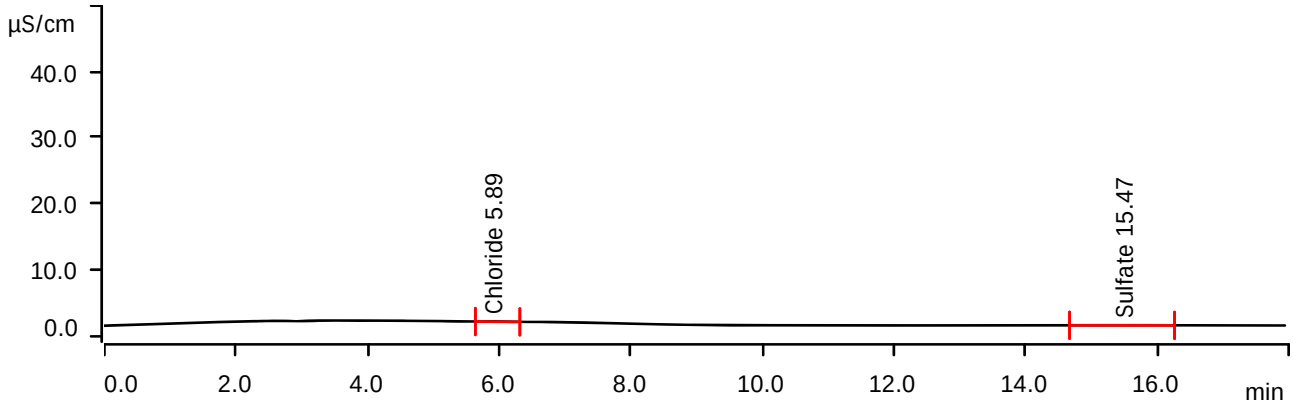
Ident	CCB	
Determination start	2016-04-14 11:02:31 UTC-5	
Method	IC0582A	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	7.61	MPa
Temperature	-----	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	5.885	0.0152	0.074	0.276	Chloride
2	15.467	0.0183	0.036	0.716	Sulfate

Sample table - 041516 - 124909 124910

	Method	Ident	Sample type	Position	Injections	Status	Dilution	Info 1	Info 2	Info 4	Value 1	Value 2
1	IC0582A	CCV IC0600 IC0599	Check standard 1	149	1	FINISHED ...	1	(01) Reset ...			1	84
2	IC0582A	MBW	Sample	150	1	FINISHED ...	1		(02) No i-Di...		1	84
3	IC0582A	708267	Sample	29	1	FINISHED ...	1		(04) i-Diluti...		1	84
4	IC0582A	DUP708267	Sample	29	1	FINISHED ...	1		(04) i-Diluti...		1	84
5	IC0582A	MSW708267	Sample	30	1	FINISHED ...	1		(04) i-Diluti...		1	84
6	IC0582A	MSDW708267	Sample	31	1	FINISHED ...	1		(04) i-Diluti...		1	84
7	IC0582A	CCV	Check standard 1	149	1	FINISHED ...	1	Auto CCV			1	84
8	IC0582A	CCB	Sample	150	1	FINISHED ...	1	Auto CCB			1	84

Sample data

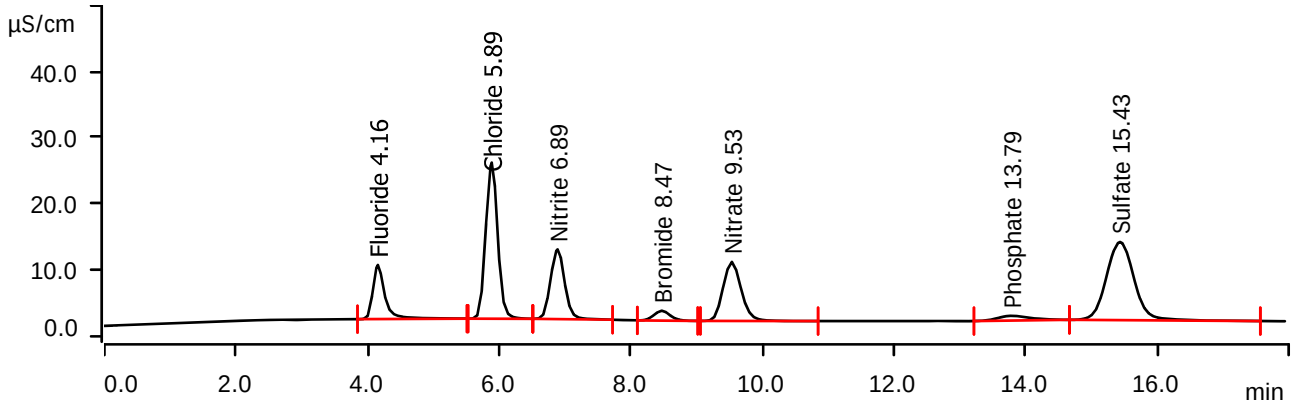
Ident	CCV IC0600 IC0599 Repeated	
Determination start	2016-04-15 07:14:46 UTC-5	
Method	IC0582A	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	7.61	MPa
Temperature	-----	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.157	1.7556	8.212	3.722	Fluoride
2	5.887	5.0047	23.683	15.146	Chloride
3	6.887	2.6383	10.567	3.668	Nitrite
4	8.472	0.4281	1.500	3.651	Bromide
5	9.533	2.8691	8.961	3.532	Nitrate
6	13.788	0.4171	0.727	5.432	Phosphate
7	15.430	5.7728	11.858	25.578	Sulfate

Sample data

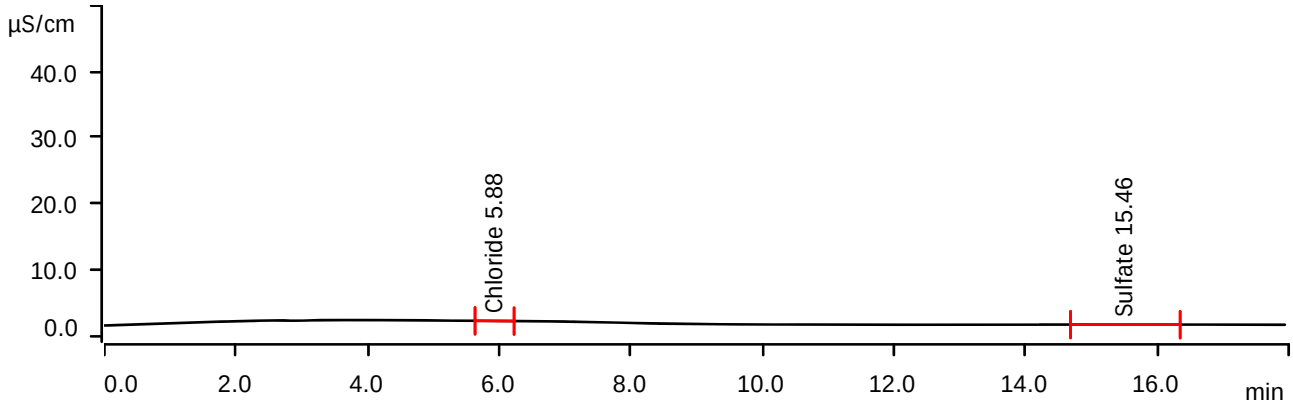
Ident	MBW
Determination start	2016-04-15 07:56:40 UTC-5
Method	IC0582A
Operator	JJF

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	7.67	MPa
Temperature	-----	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	5.882	0.0122	0.059	0.267	Chloride
2	15.462	0.0141	0.028	0.698	Sulfate

Sample data

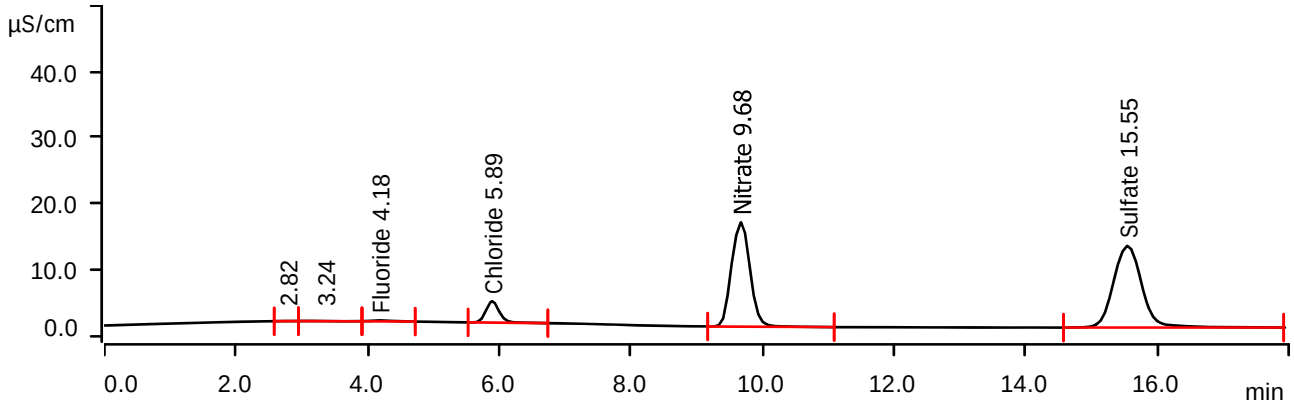
Ident 708267
Determination start 2016-04-15 10:02:13 UTC-5
Method IC0582A
Operator . . . . . JJF

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 18.0 min
Integration . . . . . Automatically
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 7.50 MPa
Temperature . . . . . ----- °C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	2.820	0.0025	0.012	invalid	
2	3.242	0.0089	0.013	invalid	
3	4.180	0.0459	0.153	0.202	Fluoride
4	5.893	0.7668	3.252	2.516	Chloride
5	9.675	5.1477	15.810	6.242	Nitrate
6	15.545	6.1757	12.376	27.319	Sulfate

Sample data

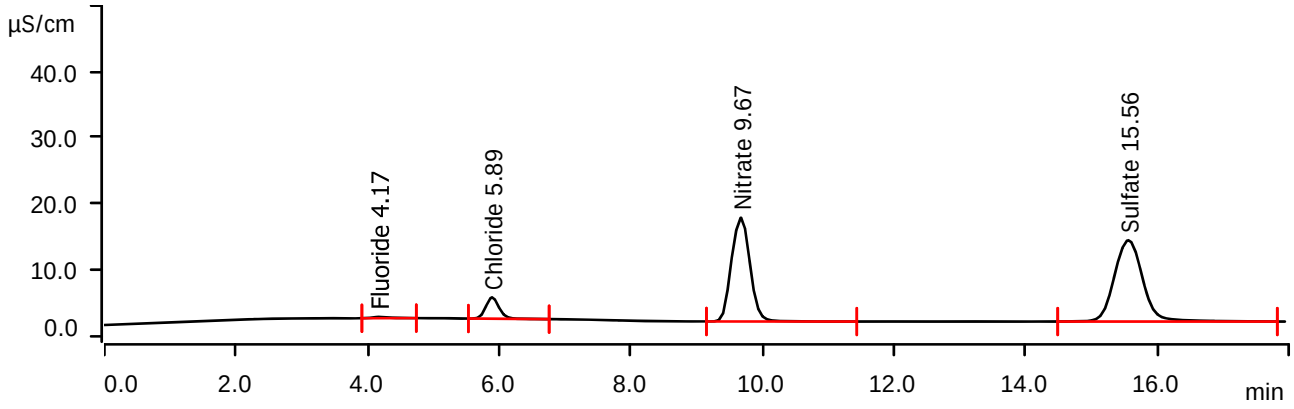
Ident	DUP708267	
Determination start	2016-04-15 10:23:14 UTC-5	
Method	IC0582A	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	7.61	MPa
Temperature	-----	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.172	0.0513	0.190	0.213	Fluoride
2	5.892	0.7617	3.250	2.501	Chloride
3	9.673	5.1443	15.732	6.238	Nitrate
4	15.558	6.1667	12.324	27.280	Sulfate

Sample data

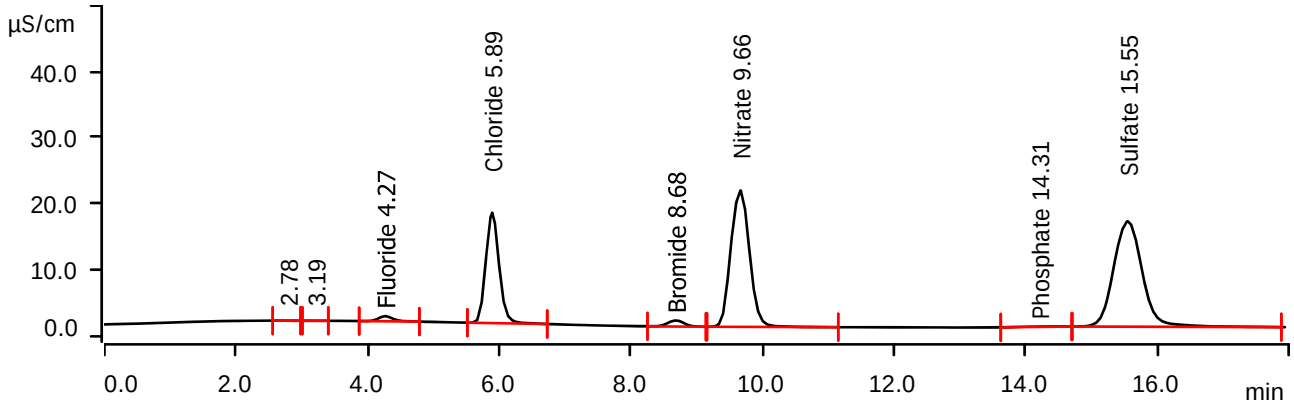
Ident MSW708267
Determination start 2016-04-15 10:44:07 UTC-5
Method IC0582A
Operator . . . . . JJF

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 18.0 min
Integration . . . . . Automatically
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 7.61 MPa
Temperature . . . . . ----- °C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	2.780	0.0022	0.012	invalid	
2	3.188	0.0013	0.006	invalid	
3	4.268	0.2018	0.800	0.523	Fluoride
4	5.893	3.9277	16.750	11.936	Chloride
5	8.682	0.2640	0.917	2.342	Bromide
6	9.663	6.8040	20.692	8.212	Nitrate
7	14.313	0.0436	0.068	2.587	Phosphate
8	15.550	8.0470	15.987	35.404	Sulfate

Sample data

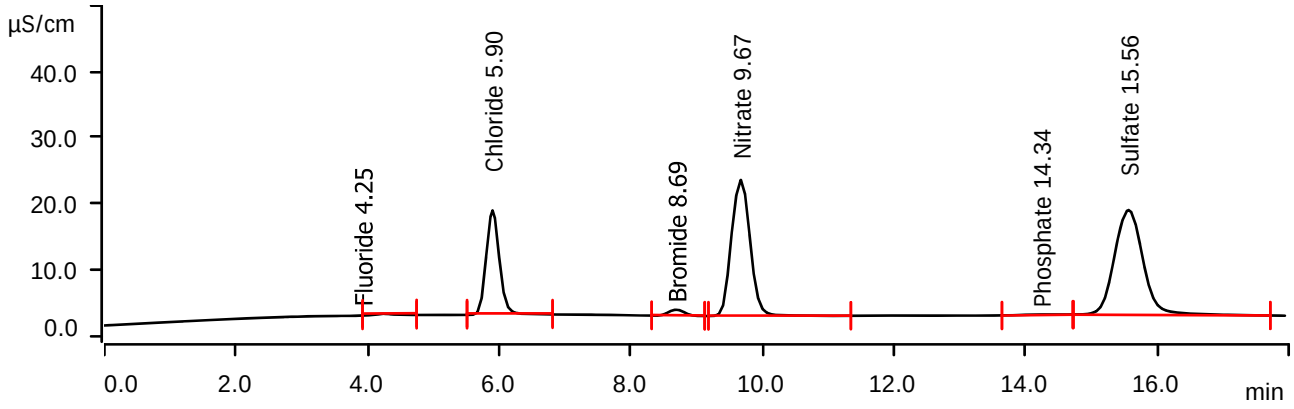
Ident MSDW708267
Determination start 2016-04-15 11:05:01 UTC-5
Method IC0582A
Operator . . . . . JJF

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 18.0 min
Integration . . . . . Automatically
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 7.50 MPa
Temperature . . . . . ----- °C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.248	0.0698	0.232	0.251	Fluoride
2	5.898	3.6983	15.815	11.253	Chloride
3	8.688	0.2618	0.920	2.324	Bromide
4	9.672	6.7897	20.622	8.195	Nitrate
5	14.343	0.0437	0.066	2.588	Phosphate
6	15.560	8.0160	15.885	35.270	Sulfate

Sample data

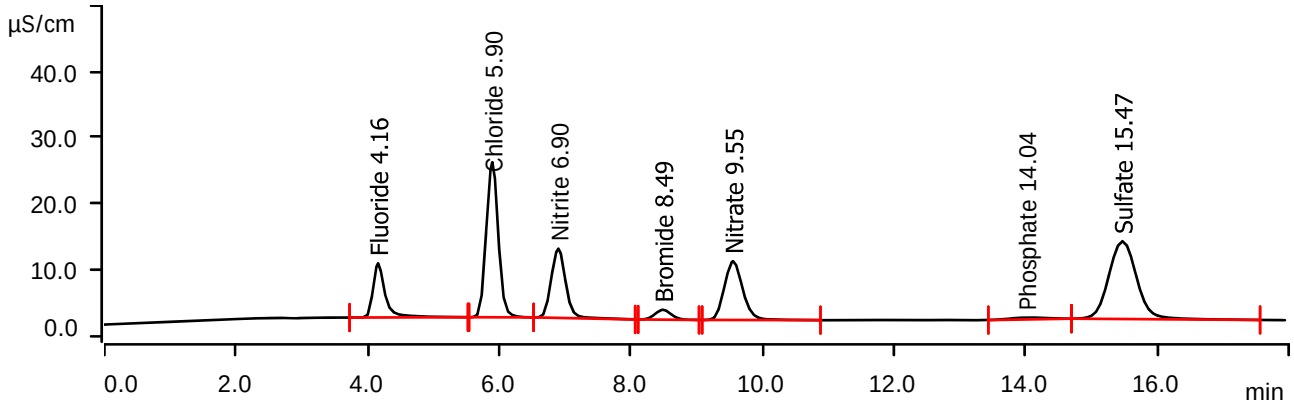
Ident CCV
Determination start 2016-04-15 11:25:55 UTC-5
Method IC0582A
Operator . . . . . JJF

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 18.0 min
Integration . . . . . Automatically
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 7.55 MPa
Temperature . . . . . ----- °C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.160	1.7645	8.212	3.741	Fluoride
2	5.895	5.0031	23.534	15.142	Chloride
3	6.898	2.6738	10.501	3.718	Nitrite
4	8.488	0.4323	1.509	3.685	Bromide
5	9.553	2.8799	8.919	3.545	Nitrate
6	14.043	0.1783	0.286	3.613	Phosphate
7	15.468	5.8043	11.800	25.714	Sulfate

Sample data

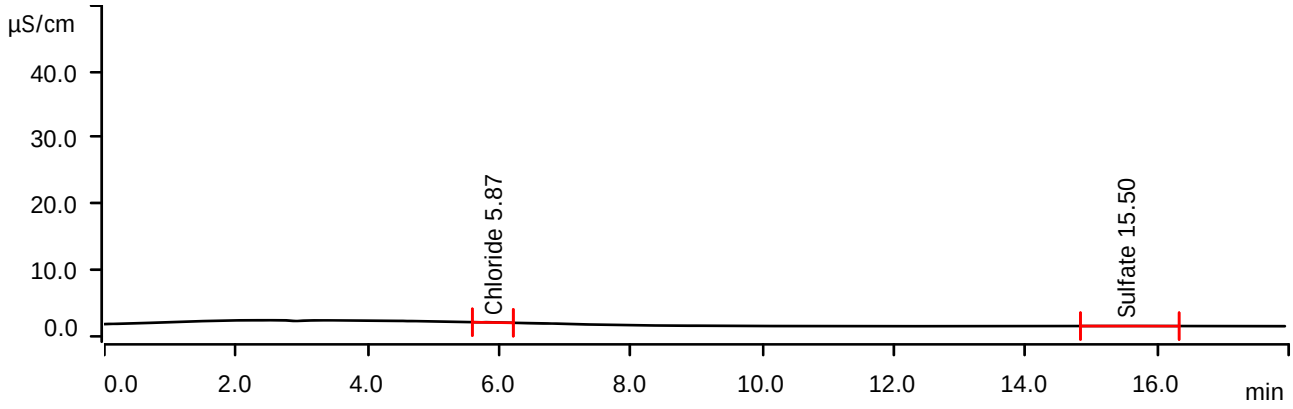
Ident	CCB	
Determination start	2016-04-15 11:46:54 UTC-5	
Method	IC0582A	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	7.55	MPa
Temperature	-----	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	5.865	0.0117	0.051	0.266	Chloride
2	15.502	0.0151	0.031	0.702	Sulfate

Sample table - 041416 - 124894 124895

	Method	Ident	Sample type	Position	Injections	Status	Dilution	Info 1	Info 2	Info 4	Value 1	Value 2
1	IC0582A	CCV IC0600 IC0599	Check standard 1	149	1	FINISHED ...	1	(01) Reset ...			1	84
2	IC0582A	LCSW IC0584 IC0585	Check standard 2	1	1	FINISHED ...	1		(02) No i-Di...		1	84
3	IC0582A	MBW	Sample	150	1	FINISHED ...	1		(02) No i-Di...		1	84
13	IC0582A	CCV	Check standard 1	149	1	FINISHED ...	1	Auto CCV			1	84
14	IC0582A	CCB	Sample	150	1	FINISHED ...	1	Auto CCB			1	84
24	IC0582A	708693	Sample	17	1	FINISHED ...	1		(01) i-Diluti...		1	84
25	IC0582A	CCV	Check standard 1	149	1	FINISHED ...	1	Auto CCV			1	84

Sample table - 041416 - 124894 124895

	Method	Ident	Sample type	Position	Injections	Status	Dilution	Info 1	Info 2	Info 4	Value 1	Value 2
26	IC0582A	CCB	Sample	150	1	FINISHED ...	1	Auto CCB			1	84
27	IC0582A	DUP708693	Sample	18	1	FINISHED ...	1		(01) i-Diluti...		1	84
28	IC0582A	MSW708693	Sample	19	1	FINISHED ...	1		(02) No i-Di...		1	84
29	IC0582A	MSDW708693	Sample	20	1	FINISHED ...	1		(02) No i-Di...		1	84
30	IC0582A	708695	Sample	21	1	FINISHED ...	1		(01) i-Diluti...		1	84
31	IC0582A	708697	Sample	22	1	FINISHED ...	1		(01) i-Diluti...		1	84
32	IC0582A	708699	Sample	23	1	FINISHED ...	1		(01) i-Diluti...		1	84
33	IC0582A	708701	Sample	24	1	FINISHED ...	1		(01) i-Diluti...		1	84
34	IC0582A	708708	Sample	25	1	FINISHED ...	1		(01) i-Diluti...		1	84
35	IC0582A	708710	Sample	26	1	FINISHED ...	1		(01) i-Diluti...		1	84
36	IC0582A	708697	Sample	22	1	FINISHED ...	1.0	Intelligent ...			2.0	84
37	IC0582A	CCV	Check standard 1	149	1	FINISHED ...	1	Auto CCV			1	84
38	IC0582A	CCB	Sample	150	1	FINISHED ...	1	Auto CCB			1	84

Sample data

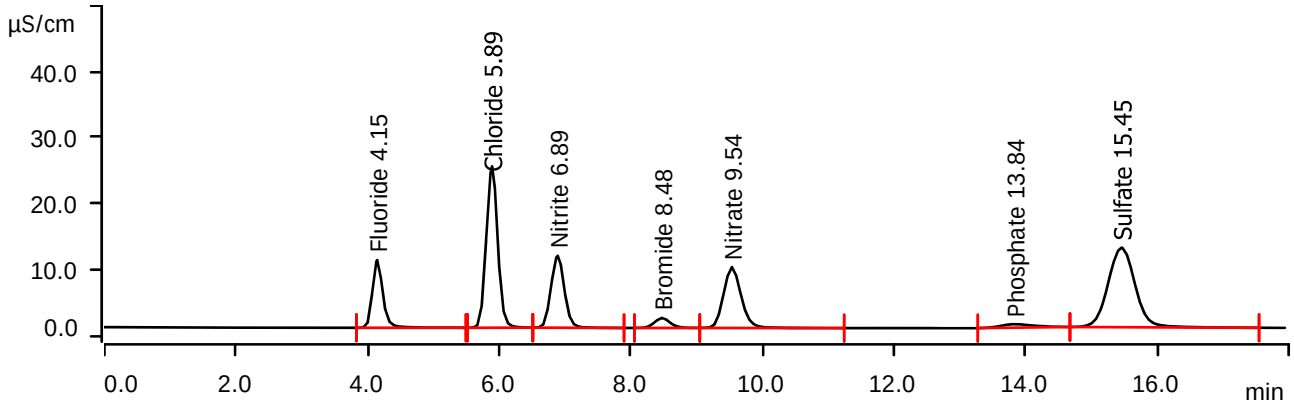
Ident	CCV IC0600 IC0599	
Determination start	2016-04-14 14:52:14 UTC-5	
Method	IC0582A	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	7.50	MPa
Temperature	-----	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.147	1.8955	10.267	4.011	Fluoride
2	5.892	4.9529	24.483	14.992	Chloride
3	6.888	2.5731	10.923	3.578	Nitrite
4	8.475	0.4153	1.506	3.549	Bromide
5	9.535	2.8517	9.228	3.511	Nitrate
6	13.838	0.3119	0.538	4.631	Phosphate
7	15.453	5.7341	12.070	25.411	Sulfate

Sample data

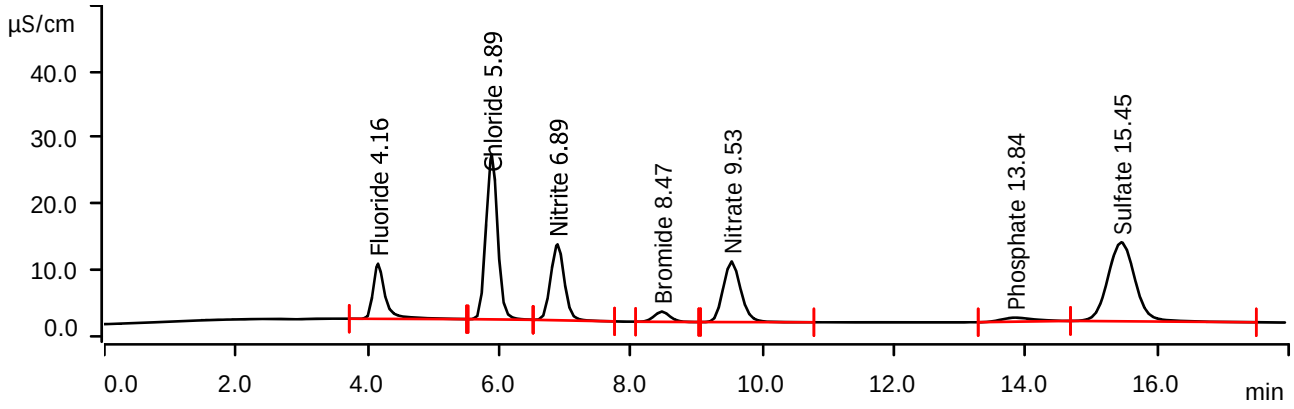
Ident	LCSW IC0584 IC0585	
Determination start	2016-04-14 15:41:11 UTC-5	
Method	IC0582A	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	7.44	MPa
Temperature	-----	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.158	1.7842	8.363	3.781	Fluoride
2	5.887	5.1564	25.019	15.598	Chloride
3	6.885	2.7767	11.506	3.860	Nitrite
4	8.470	0.4381	1.564	3.731	Bromide
5	9.530	2.8604	9.194	3.522	Nitrate
6	13.843	0.3567	0.617	4.971	Phosphate
7	15.450	5.7296	11.988	25.391	Sulfate

Sample data

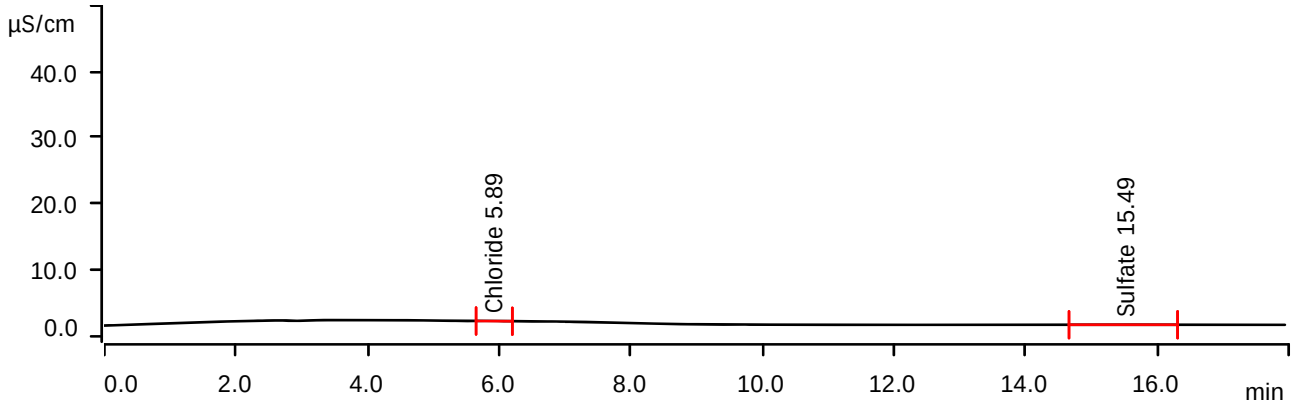
Ident	MBW	
Determination start	2016-04-14 16:02:09 UTC-5	
Method	IC0582A	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	7.44	MPa
Temperature	-----	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	5.885	0.0119	0.059	0.266	Chloride
2	15.492	0.0146	0.029	0.700	Sulfate

Sample data

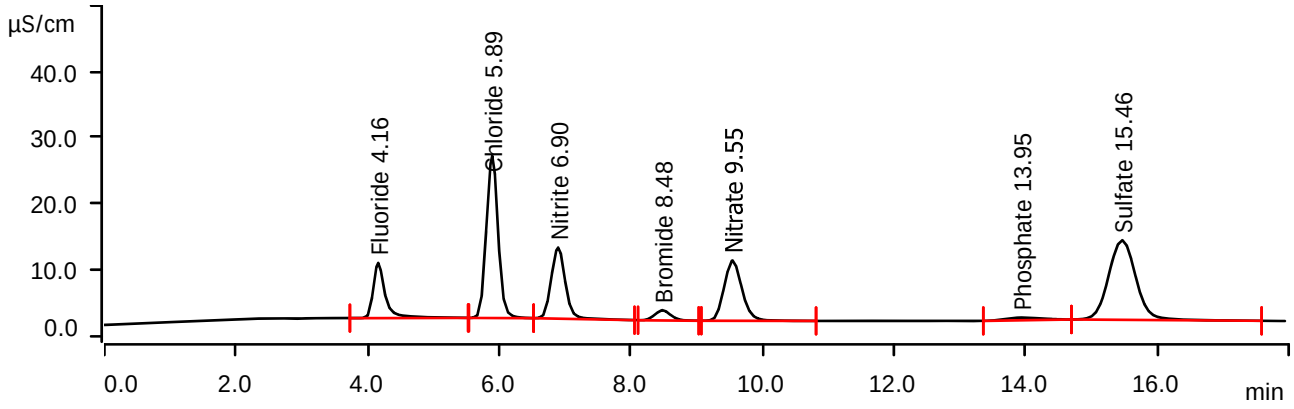
Ident	CCV	
Determination start	2016-04-14 19:31:04 UTC-5	
Method	IC0582A	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	7.50	MPa
Temperature	-----	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.162	1.7731	8.360	3.758	Fluoride
2	5.893	5.1013	24.618	15.434	Chloride
3	6.895	2.6779	10.781	3.723	Nitrite
4	8.482	0.4333	1.545	3.692	Bromide
5	9.545	2.8761	9.141	3.540	Nitrate
6	13.947	0.2497	0.409	4.157	Phosphate
7	15.463	5.8088	12.075	25.733	Sulfate

Sample data

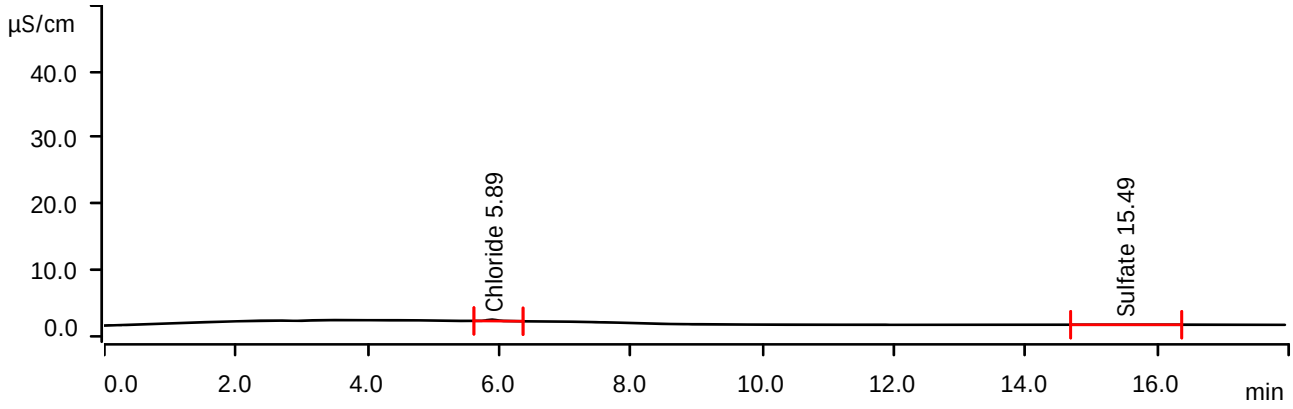
Ident	CCB	
Determination start	2016-04-14 20:12:56 UTC-5	
Method	IC0582A	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	7.55	MPa
Temperature	-----	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	5.893	0.0443	0.213	0.363	Chloride
2	15.493	0.0202	0.039	0.724	Sulfate

Sample data

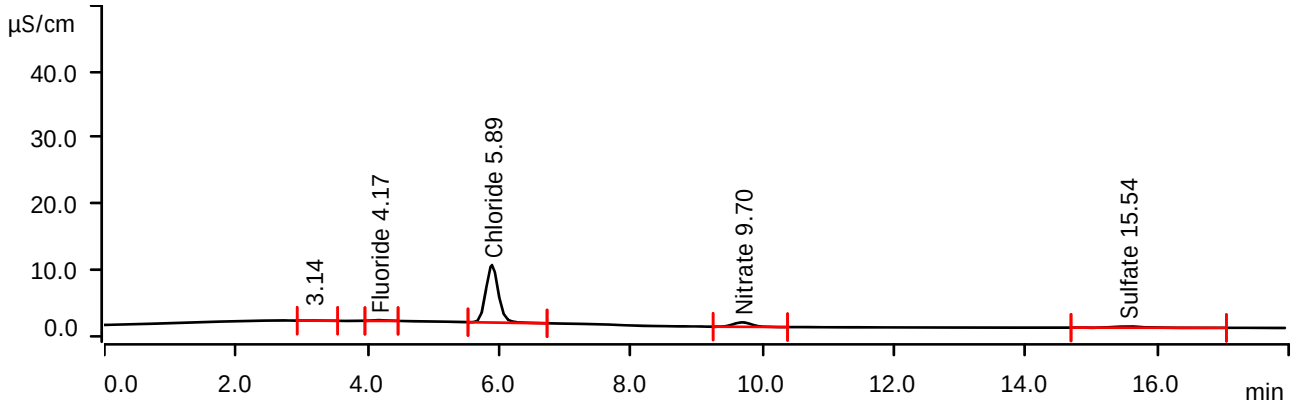
Ident 708693
Determination start 2016-04-14 23:42:06 UTC-5
Method IC0582A
Operator . . . . . JJF

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 18.0 min
Integration . . . . . Automatically
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 7.44 MPa
Temperature . . . . . ----- °C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	3.143	0.0049	0.014	invalid	
2	4.170	0.0252	0.120	0.159	Fluoride
3	5.890	1.9253	8.710	5.969	Chloride
4	9.697	0.2164	0.684	0.377	Nitrate
5	15.542	0.0924	0.192	1.036	Sulfate

Sample data

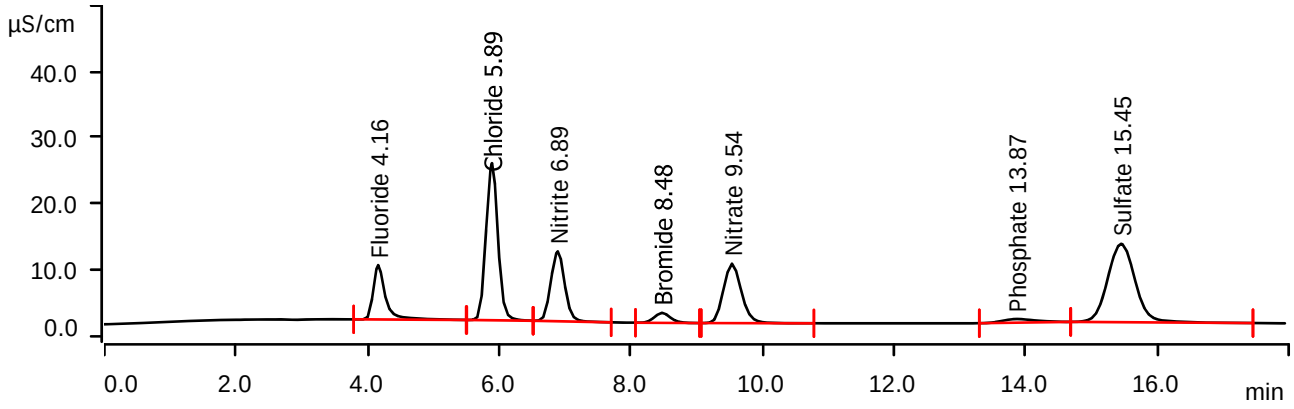
Ident	CCV	
Determination start	2016-04-15 00:03:00 UTC-5	
Method	IC0582A	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	7.55	MPa
Temperature	-----	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.162	1.7767	8.250	3.766	Fluoride
2	5.890	5.0153	23.839	15.178	Chloride
3	6.888	2.5967	10.595	3.611	Nitrite
4	8.475	0.4318	1.516	3.681	Bromide
5	9.537	2.8571	9.002	3.518	Nitrate
6	13.865	0.3268	0.556	4.744	Phosphate
7	15.448	5.7587	11.895	25.517	Sulfate

Sample data

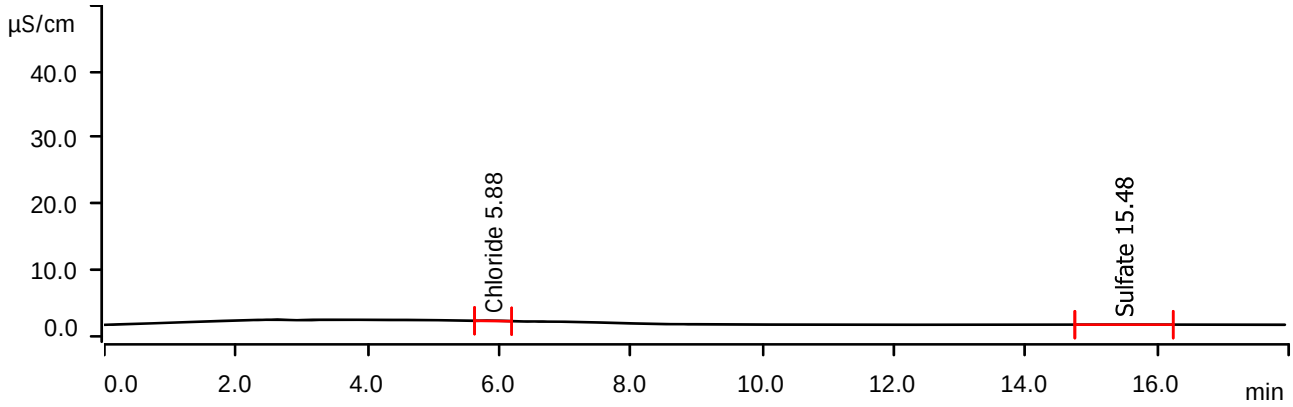
Ident	CCB	
Determination start	2016-04-15 00:44:58 UTC-5	
Method	IC0582A	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	7.55	MPa
Temperature	-----	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	5.880	0.0191	0.093	0.288	Chloride
2	15.478	0.0145	0.030	0.700	Sulfate

Sample data

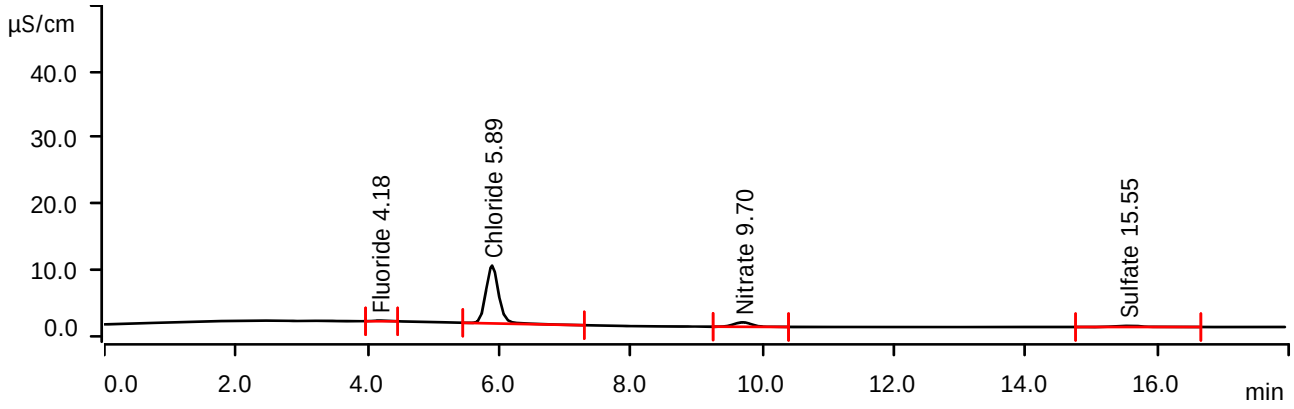
Ident DUP708693
Determination start 2016-04-15 01:05:53 UTC-5
Method IC0582A
Operator . . . . . JJF

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 18.0 min
Integration . . . . . Automatically
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 7.55 MPa
Temperature . . . . . ----- °C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.182	0.0245	0.113	0.158	Fluoride
2	5.892	1.9756	8.756	6.119	Chloride
3	9.703	0.2149	0.677	0.375	Nitrate
4	15.548	0.0831	0.174	0.996	Sulfate

Sample data

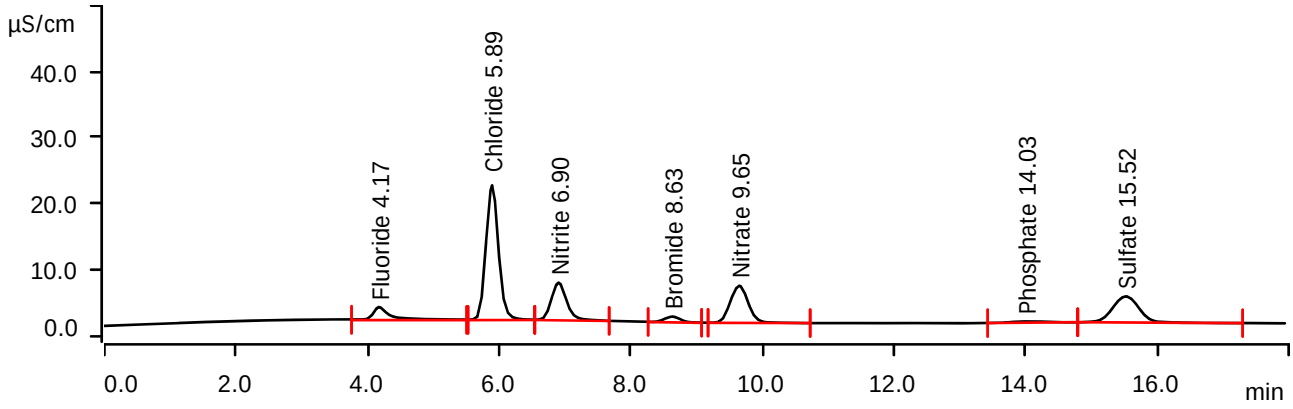
Ident	MSW708693	
Determination start	2016-04-15 01:26:55 UTC-5	
Method	IC0582A	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	7.55	MPa
Temperature	-----	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.173	0.5258	1.896	1.190	Fluoride
2	5.892	4.5116	20.376	13.677	Chloride
3	6.902	1.5138	5.687	2.114	Nitrite
4	8.628	0.2323	0.848	2.089	Bromide
5	9.648	1.7734	5.628	2.229	Nitrate
6	14.030	0.1319	0.204	3.260	Phosphate
7	15.520	1.8423	3.969	8.596	Sulfate

Sample data

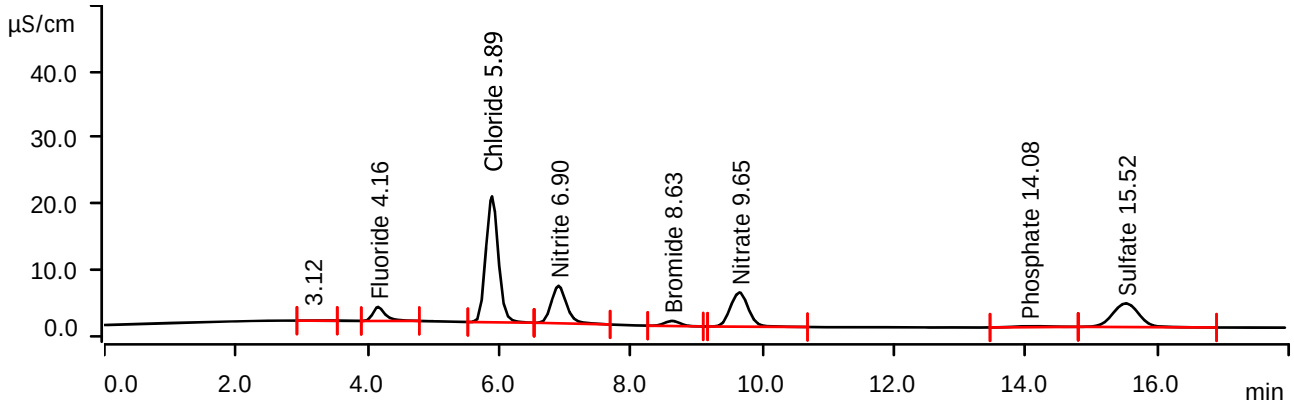
Ident	MSDW708693	
Determination start	2016-04-15 01:47:49 UTC-5	
Method	IC0582A	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	7.55	MPa
Temperature	-----	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	3.120	0.0042	0.011	invalid	
2	4.158	0.4672	2.127	1.069	Fluoride
3	5.890	4.2255	19.100	12.824	Chloride
4	6.902	1.5245	5.681	2.129	Nitrite
5	8.627	0.2141	0.773	1.943	Bromide
6	9.650	1.6363	5.192	2.066	Nitrate
7	14.078	0.0966	0.147	2.991	Phosphate
8	15.518	1.6590	3.600	7.805	Sulfate

Sample data

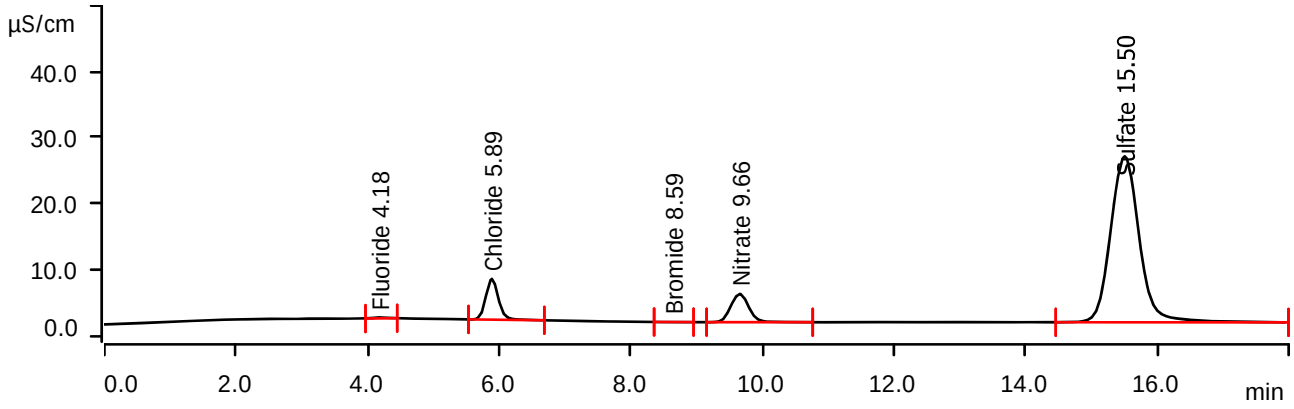
Ident	708695	
Determination start	2016-04-15 02:08:44 UTC-5	
Method	IC0582A	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	7.61	MPa
Temperature	-----	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.180	0.0323	0.154	0.174	Fluoride
2	5.888	1.3722	6.184	4.320	Chloride
3	8.593	0.0038	0.013	0.264	Bromide
4	9.655	1.3585	4.284	1.735	Nitrate
5	15.502	12.7609	25.189	55.770	Sulfate

Sample data

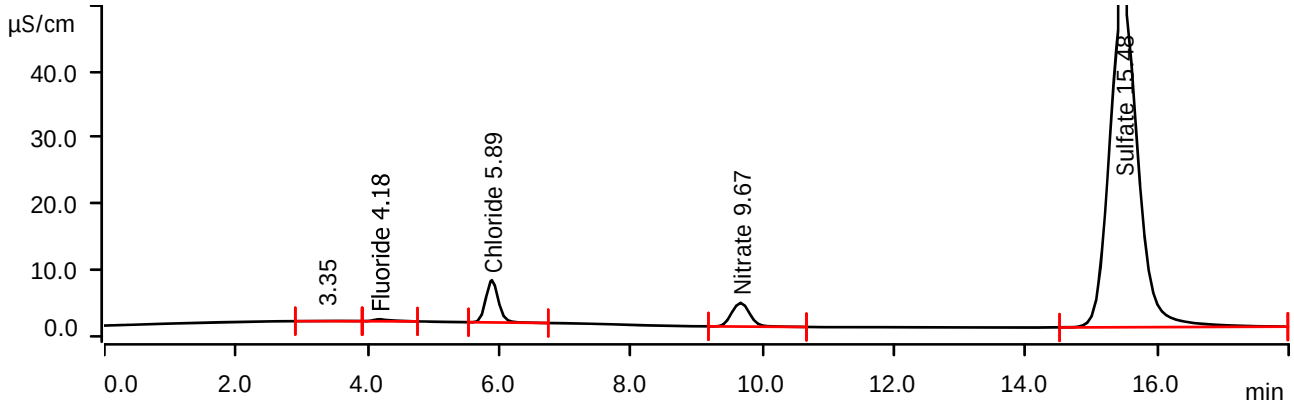
Ident 708697
Determination start 2016-04-15 02:29:39 UTC-5
Method IC0582A
Operator . . . . . JJF

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 18.0 min
Integration . . . . . Automatically
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 7.55 MPa
Temperature . . . . . ----- °C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	3.345	0.0163	0.027	invalid	
2	4.177	0.0832	0.300	0.278	Fluoride
3	5.888	1.4275	6.409	4.485	Chloride
4	9.668	1.1498	3.601	1.487	Nitrate
5	15.482	25.1363	49.155	109.237	Sulfate

Sample data

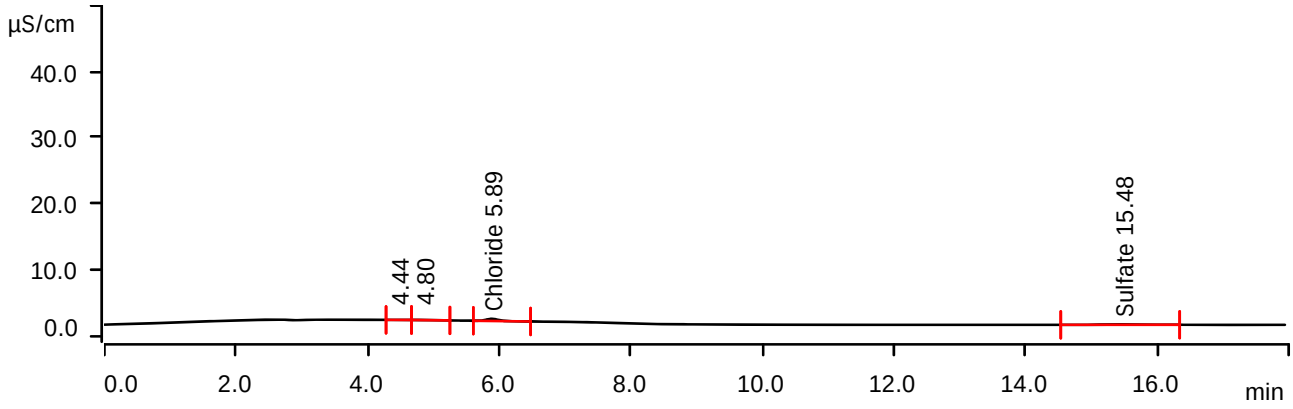
Ident 708699
Determination start 2016-04-15 02:50:33 UTC-5
Method IC0582A
Operator . . . . . JJF

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 18.0 min
Integration . . . . . Automatically
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 7.50 MPa
Temperature . . . . . ----- °C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.442	0.0017	0.008	invalid	
2	4.798	0.0045	0.015	invalid	
3	5.887	0.0689	0.328	0.436	Chloride
4	15.477	0.0407	0.084	0.813	Sulfate

Sample data

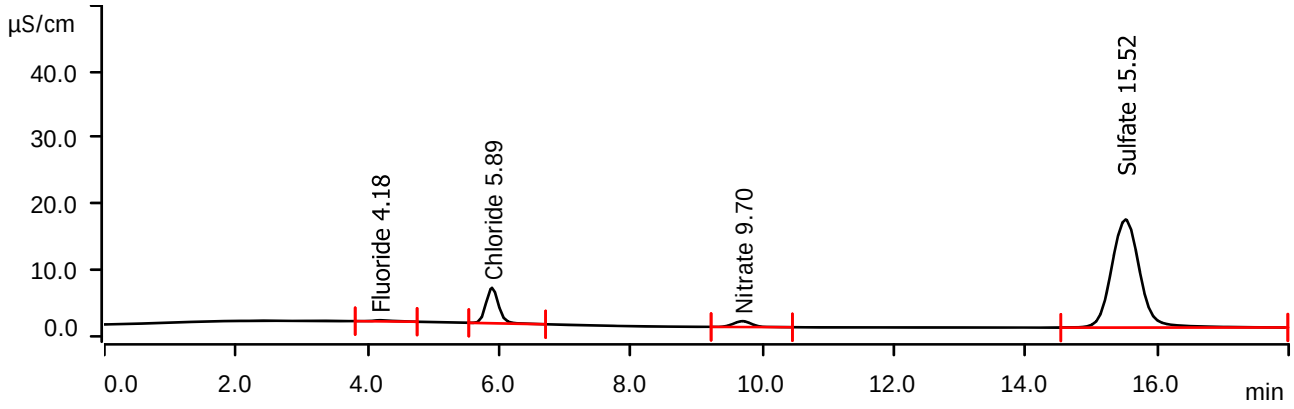
Ident 708701
Determination start 2016-04-15 03:11:28 UTC-5
Method IC0582A
Operator . . . . . JJF

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 18.0 min
Integration . . . . . Automatically
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 7.55 MPa
Temperature . . . . . ----- °C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.178	0.0485	0.170	0.207	Fluoride
2	5.890	1.1936	5.377	3.788	Chloride
3	9.697	0.2849	0.893	0.458	Nitrate
4	15.515	8.1715	16.393	35.942	Sulfate

Sample data

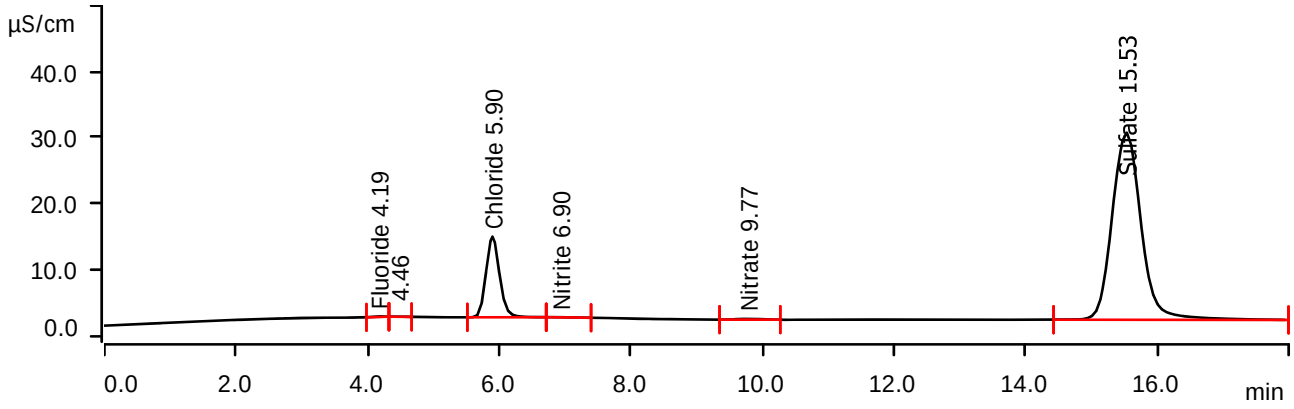
Ident 708708
Determination start 2016-04-15 03:32:22 UTC-5
Method IC0582A
Operator . . . . . JJF

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 18.0 min
Integration . . . . . Automatically
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 7.61 MPa
Temperature . . . . . ----- °C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.188	0.0138	0.076	0.135	Fluoride
2	4.458	0.0068	0.038	invalid	
3	5.897	2.9159	12.236	8.921	Chloride
4	6.895	0.0098	0.033	0.035	Nitrite
5	9.772	0.0487	0.148	0.177	Nitrate
6	15.528	14.5089	28.383	63.322	Sulfate

Sample data

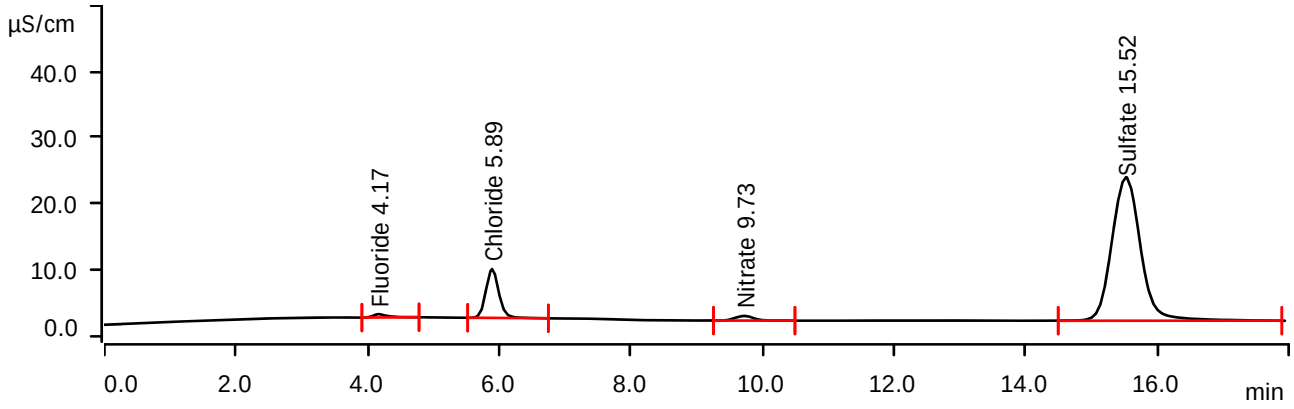
Ident	708710	
Determination start	2016-04-15 03:53:17 UTC-5	
Method	IC0582A	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	7.50	MPa
Temperature	-----	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.167	0.1273	0.515	0.369	Fluoride
2	5.892	1.6870	7.418	5.258	Chloride
3	9.725	0.2303	0.712	0.393	Nitrate
4	15.520	11.0059	21.780	48.187	Sulfate

Sample data

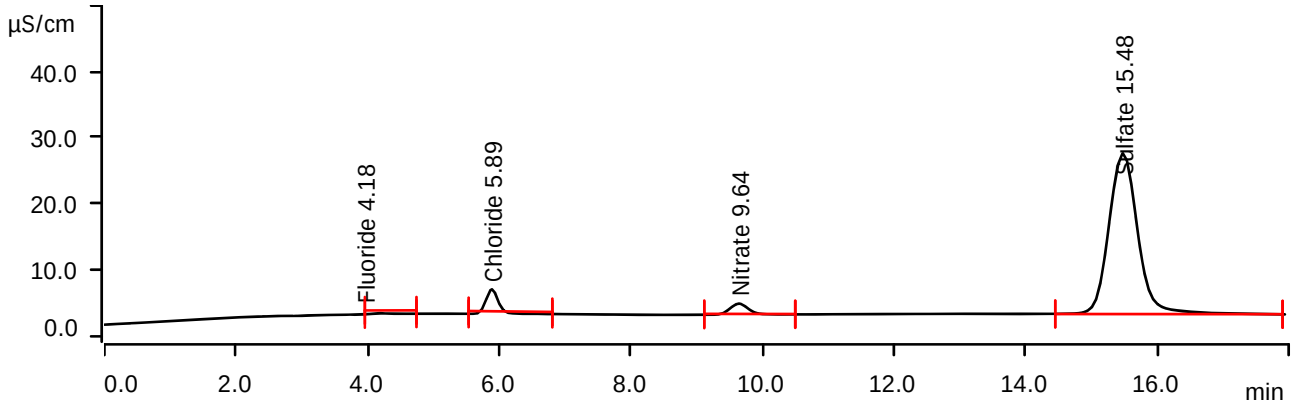
Ident 708697
Determination start 2016-04-15 04:14:11 UTC-5
Method IC0582A
Operator . . . . . JJF

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 18.0 min
Integration . . . . . Automatically
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 7.50 MPa
Temperature . . . . . ----- °C

(04) Anion Dilution Factor **2.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.182	0.0411	0.150	0.192	Fluoride
2	5.888	0.8121	3.727	2.651	Chloride
3	9.642	0.5334	1.667	0.754	Nitrate
4	15.475	12.3867	24.359	54.153	Sulfate

Sample data

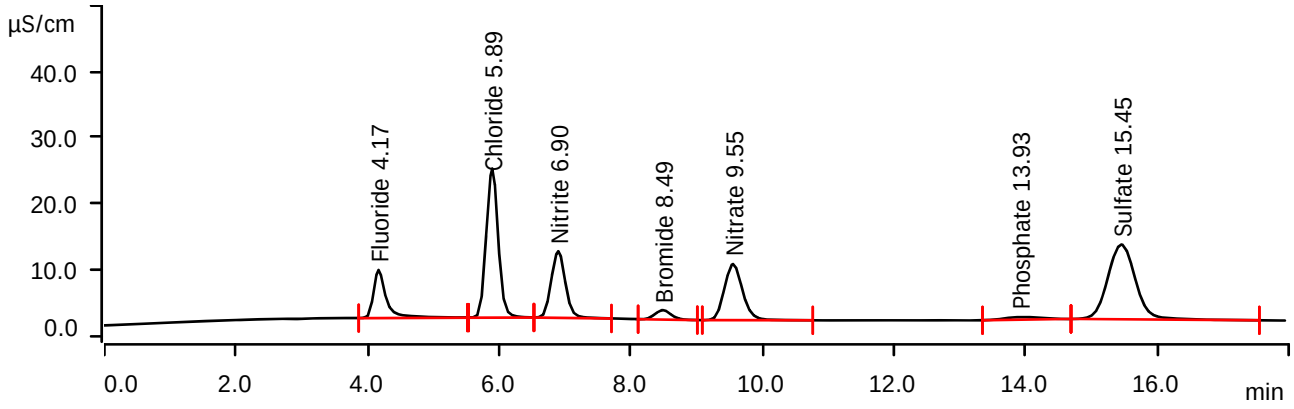
Ident CCV
Determination start 2016-04-15 04:34:51 UTC-5
Method IC0582A
Operator . . . . . JJF

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 18.0 min
Integration . . . . . Automatically
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 7.55 MPa
Temperature . . . . . ----- °C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.167	1.6162	7.268	3.435	Fluoride
2	5.893	4.7685	22.600	14.442	Chloride
3	6.897	2.5072	10.094	3.487	Nitrite
4	8.485	0.4050	1.431	3.467	Bromide
5	9.552	2.7246	8.520	3.360	Nitrate
6	13.928	0.2576	0.423	4.217	Phosphate
7	15.452	5.5335	11.349	24.544	Sulfate

Sample data

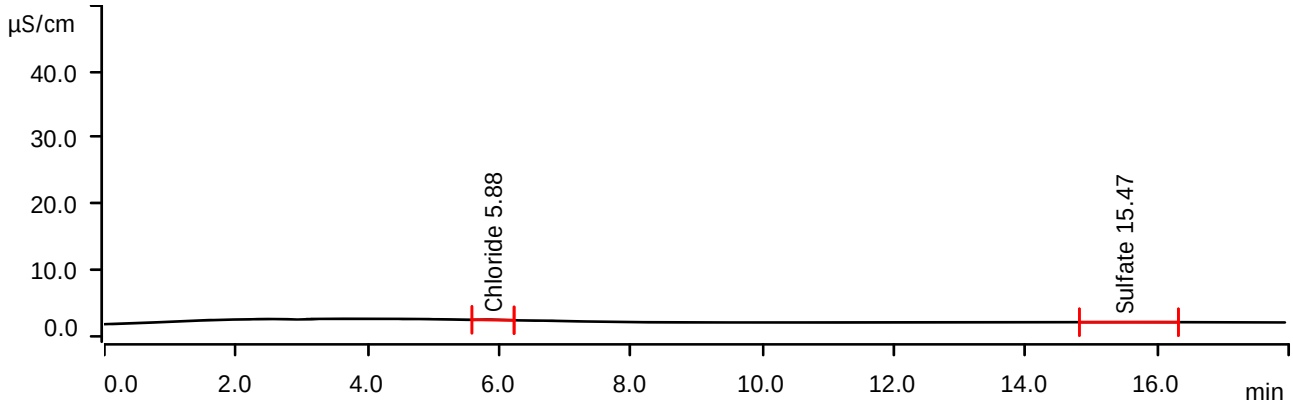
Ident	CCB	
Determination start	2016-04-15 05:16:44 UTC-5	
Method	IC0582A	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	7.61	MPa
Temperature	-----	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	5.875	0.0153	0.069	0.276	Chloride
2	15.468	0.0180	0.035	0.715	Sulfate

FWC11-02

Chemical Oxygen Demand (COD)

Analyst: MER Run 125013 Date: 04/18/2016

Calib. Std. W38786 CCV Std. W38787 ICV/LCS Std. W38788

Vial #	Spec #	Sample #	D.F.	BATCH	RESULTS
1	47	CCV			415
39	48	LCSW			389
40	49	MBW			Ø
41	50	708711			46
42	51	708770			MER 4/19/16 ~~15~~ 24
43	52	DUP708770			28
44	53	MSW708770			166
45	54	MSDW708770			162
46	55	708774			15
47	56	708775			14
48	57	708776			24
49	58	708777			27
50	59	708778			37
1	60	CCV			413
3	61	CCB			Ø
51	62	708779			10
52	63	708780			14
53	64	708781			38
54	65	708782			13
55	66	708783			24
56	67	708785			10
57	68	709262			3
58					
59					
60					
1	69	CCV			409
3	70	CCB			Ø

Spiking. Std. Ref: W38785

Spike Preparation

Spike Conc.: 2000

Matrix = Liquids

Spike Vol.: 0.2

Silver Sulfate: W37960

Sample Vol.: 2.5

Digestion Soln: W36944

Final Spike Value.: 148.2

47
415.
48
389.
49
-3.
50
46.
51
24.
52
28.
53
166.
54
162.
55
15.
56
14.
57
24.
58
27.
59
37.
60
413.
61
0.
62
10.
63
14.
64
38.
65
13.
66
24.
67
10.
68
3.
69
409.
70
0.

COD ICAL W38786 TEST 30
4/13/16

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INTERCEPT{32}{32}{32}{32}-0.000{13}{10}
CORR{32}COEFF{32}{32}{32}0.9997{13}{10}
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{13}{10}

ICV W38788
412.

ICB
1.

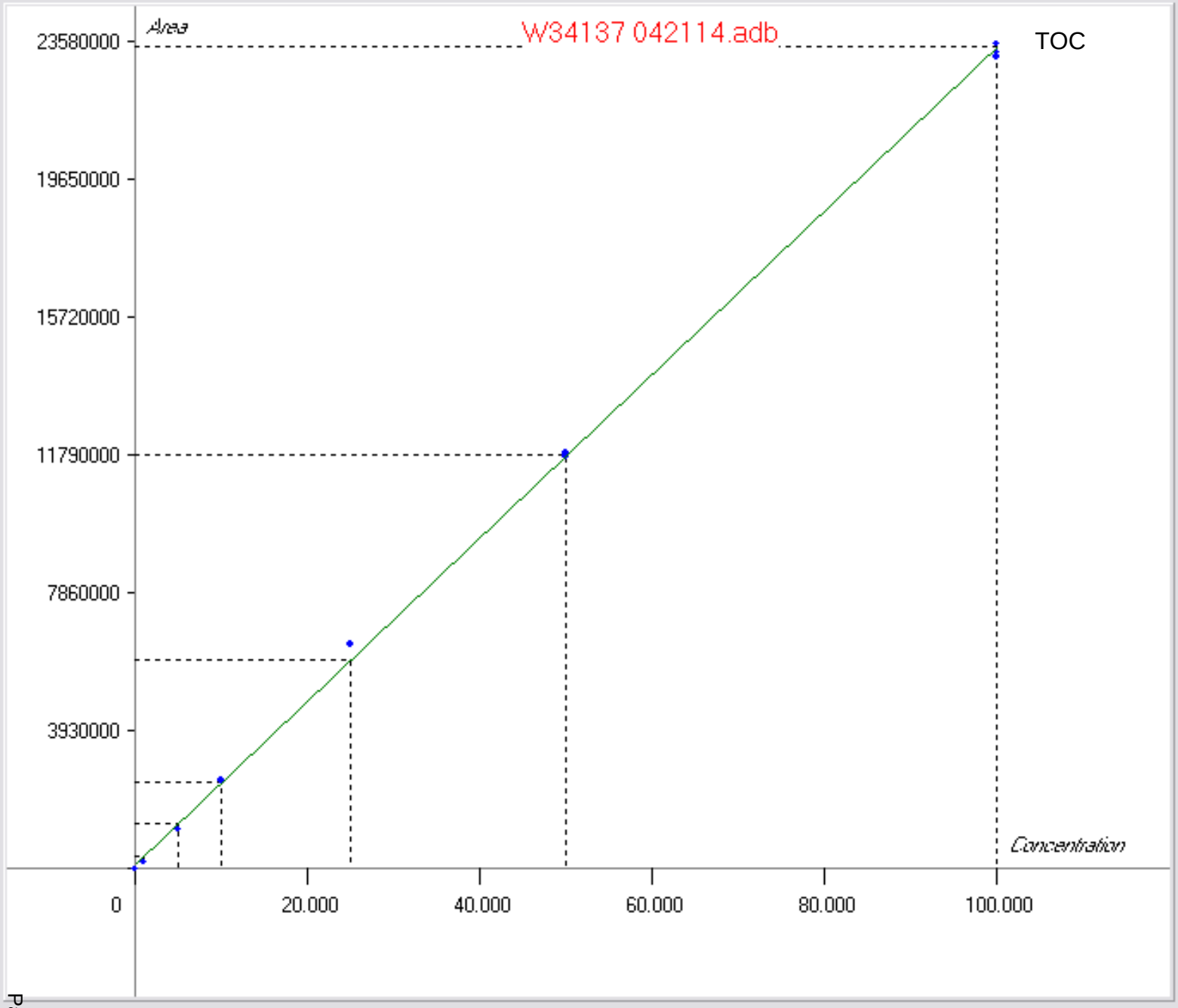
pH Bench Sheet

Date: 04/15/2016 Analyst: MER

Instrument: *Mettler Toledo Seven Easy* LIMS#: 124948

Time: 11:30 Slope (%): 99 %

	SAMPLE#	MATRIX	pH	TEMP (°C)	COMMENTS:
1	708711	GW	7.27	4.3	
2	DUP708711	GW	7.29	4.8	
3	709262	GW	7.19	16.9	
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					



Cursor Position

Concentration	Area
118.800 mg/l	786000

A2	0
A1	232983
A0	143764
Correlation	0.99963
Order	1
Volume	100 µl
Conc.	100.00
Area	23572615

Confidence Intervals 95%

Detection/Determination 95%

Conc.	Area	Sel.
0	0	☑
0	0	☑
0	0	☑
0	0	☑
1	235597	☑
1	223532	☑
1	230608	☑
1	226967	☑

• Used Value
• Ignored Value

CurveNo:1 CurveType:TC

<-- --> Print... Exit

04/24/2014

Analysis Name W34137 042114.adb

Template Name CURVE TEMP.tdb
Method Name N / A
Operator MDS

Date Monday, April 21, 2014
Time 13:55

Start Oven Temp. 757 °C
Start Cooler Temp. 2 °C

Version 2.55 Release
Info ICAL - W34137
ICV - W34138

Element	Integration Time	Samples	Extra Samples	Max. CV
Carbon	60 s	4	1	10 %
SampleTime	240 s			

No	Type	FileName	Date/Time	Max. Area	Max Conc.	Order	Correlation	Volume	Sel.
1	TC	This Analysis	Apr 21 2014, 13:55	23572615	100	1	0.99963	100 µl	Yes
	A2: 0		*A1: 232982.714758512*		*A0: 143764.497303468*				

Inj. Order	Position	Type	Identification		Dilution Factor
1	1	Unknown	BLANK		1 x

	Injection Type	Conc.	Area	CV	Inj. Volume
	TC	**0.00**	**0**	**0.00**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 21 2014 14:06:18	0.72	311300	1	759	2	-	-
2	4 21 2014 14:09:41	0.00	0	0	758	2	-	Yes
3	4 21 2014 14:13:42	0.00	0	0	758	2	-	Yes
4	4 21 2014 14:17:43	0.00	0	0	758	2	-	Yes
5	4 21 2014 14:21:44	0.00	0	0	758	2	-	Yes

Inj. Order	Position	Type	Identification		Dilution Factor
2	2	Unknown	BLANK		1 x

	Injection Type	Conc.	Area	CV	Inj. Volume
	TC	**0.00**	**0**	**0.00**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 21 2014 14:26:35	0.00	0	0	759	2	-	Yes
2	4 21 2014 14:31:13	0.00	0	0	758	2	-	Yes
3	4 21 2014 14:35:14	0.00	0	0	758	2	-	Yes
4	4 21 2014 14:39:15	0.00	0	0	757	2	-	Yes

Inj. Order	Position	Type	Identification		Dilution Factor
3	S1	Standard	TC Std	0.00 mg/l	1 x

	Injection Type	Conc.	Area	CV	Inj. Volume
	TC	**0.00**	**0**	**0.00**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 21 2014 14:44:06	0.00	0	1	757	2	-	Yes
2	4 21 2014 14:48:42	0.00	0	1	757	2	-	Yes
3	4 21 2014 14:52:43	0.00	0	1	756	2	-	Yes
4	4 21 2014 14:56:44	0.00	0	1	756	2	-	Yes

Inj. Order	Position	Type	Identification		Dilution Factor
4	S2	Standard	TC Std	1.00 mg/l	1 x

	Injection Type	Conc.	Area	CV	Inj. Volume
	TC	**0.37**	**229176**	**2.25**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 21 2014 15:01:38	0.39	235597	1	756	2	-	Yes
2	4 21 2014 15:04:49	0.34	223532	1	755	2	-	Yes
3	4 21 2014 15:07:19	0.37	230608	1	755	2	-	Yes
4	4 21 2014 15:09:52	0.36	226967	1	755	2	-	Yes

Inj. Order	Position	Type	Identification		Dilution Factor
5	S3	Standard	TC Std.	5.00 mg/l	1 x

	Injection Type	Conc.	Area	CV	Inj. Volume
	TC	**4.34**	**1155835**	**0.30**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 21 2014 15:13:15	4.35	1157893	1	755	2	-	Yes
2	4 21 2014 15:16:41	4.36	1158734	1	755	2	-	Yes
3	4 21 2014 15:19:30	4.34	1155751	1	754	2	-	Yes
4	4 21 2014 15:22:15	4.32	1150964	1	754	2	-	Yes

6 S4 Standard TC Std. 10.00 mg/l 1 x

	TC	**10.34**	**2551892**	**0.66**		**100 µl**	

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 21 2014 15:25:57	10.33	2550563	1	754	2	-	Yes
2	4 21 2014 15:29:32	10.44	2575084	1	753	2	-	Yes
3	4 21 2014 15:32:33	10.32	2547199	1	754	2	-	Yes
4	4 21 2014 15:35:33	10.26	2534724	1	754	2	-	Yes

7 S5 Standard TC Std. 25.00 mg/l 1 x

	TC	**26.93**	**6418556**	**0.35**		**100 µl**	

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 21 2014 15:39:23	26.89	6407700	1	754	2	-	Yes
2	4 21 2014 15:43:09	26.95	6422983	1	753	2	-	Yes
3	4 21 2014 15:46:13	27.06	6447788	1	753	2	-	Yes
4	4 21 2014 15:49:25	26.83	6395756	1	753	2	-	Yes

8 S6 Standard TC Std. 50.00 mg/l 1 x

	TC	**50.23**	**11846743**	**0.45**		**100 µl**	

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 21 2014 15:53:23	50.34	11871890	1	754	2	-	Yes
2	4 21 2014 15:57:15	50.50	11908449	1	753	2	-	Yes
3	4 21 2014 16:00:39	49.99	11789844	1	753	2	-	Yes
4	4 21 2014 16:03:51	50.10	11816789	1	753	2	-	Yes

9 S7 Standard TC Std. 100.00 mg/l 1 x

	TC	**99.41**	**23303846**	**0.82**		**100 µl**	

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 21 2014 16:07:59	98.71	23142453	1	754	2	-	Yes
2	4 21 2014 16:12:05	99.37	23295974	1	754	2	-	Yes
3	4 21 2014 16:15:29	98.98	23204343	1	755	2	-	Yes
4	4 21 2014 16:18:52	100.56	23572615	1	754	2	-	Yes

10 S8 Unknown ICV - 50.00 mg/L 1 x

	TC	**52.04**	**12268743**	**0.56**		**100 µl**	

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 21 2014 16:23:14	52.37	12344487	1	755	2	-	Yes
2	4 21 2014 16:27:09	52.00	12257775	1	754	2	-	Yes
3	4 21 2014 16:30:28	51.66	12180211	1	754	2	-	Yes
4	4 21 2014 16:33:44	52.14	12292500	1	753	2	-	Yes

11 S9 Unknown ICB 1 x

	TC	**0.00**	**0**	**0.00**		**100 µl**	

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 21 2014 16:37:57	0	0	0	753	2	-	Yes
2	4 21 2014 16:42:35	0	0	0	753	2	-	Yes
3	4 21 2014 16:46:37	0	0	0	754	2	-	Yes
4	4 21 2014 16:50:39	0	0	0	754	2	-	Yes

Analysis Name 041416 - 124879 124880 124881.adb

Template Name 041416 - 124879 124880 124881.tdb
Method Name N / A
Operator JJF

Date Thursday, April 14, 2016
Time 11:53

Start Oven Temp. 757 °C
Start Cooler Temp. 2 °C

Version 2.55 Release
Info ICAL W34137 SPIKE TOC0011
CCV TOC0080
LCSW TOC0081

Element	Integration Time	Samples	Extra Samples	Max. CV
Carbon	60 s	4	1	10 %
SampleTime	240 s			

No	Type	FileName	Date/Time	Max. Area	Max Conc.	Order	Correlation	Volume	Sel.
1	TC	W34137 042114	Apr 21 2014, 13:55	23572615	100	1	0.99963	100 µl	Yes
	A2: 0		*A1: 232982.714758512*		*A0: 143764.497303468*				

Inj. Order	Position	Type	Identification	Dilution Factor
1	1	Unknown	RINSE	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**0.59**	**280086**	**71.52**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 14 2016 12:04:25	39.25	9287291	1	756	2	-	-
2	4 14 2016 12:09:03	1.86	577640	1	755	2	-	Yes
3	4 14 2016 12:12:00	0.32	218688	1	754	2	-	Yes
4	4 14 2016 12:14:44	0.04	152379	1	754	2	-	Yes
5	4 14 2016 12:17:20	0.12	171640	1	754	2	-	Yes

Inj. Order	Position	Type	Identification	Dilution Factor
2	2	Unknown	RINSE	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**ZERO !**	**175295**	**41.20**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 14 2016 12:20:49	ZERO !	106834	1	754	2	-	Yes
2	4 14 2016 12:23:48	0.24	200325	1	753	2	-	Yes
3	4 14 2016 12:26:25	ZERO !	128495	1	753	2	-	Yes
4	4 14 2016 12:28:50	0	0	0	753	2	-	-
5	4 14 2016 12:32:52	0.52	265529	1	755	2	-	Yes

Inj. Order	Position	Type	Identification	Dilution Factor
3	3	Unknown	RINSE	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**0.20**	**188884**	**17.98**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 14 2016 12:36:17	0.68	302947	1	755	2	-	-
2	4 14 2016 12:39:38	0.07	160994	1	754	2	-	Yes
3	4 14 2016 12:42:02	0.16	180080	1	753	2	-	Yes
4	4 14 2016 12:44:31	0.41	238318	1	753	2	-	Yes
5	4 14 2016 12:47:04	0.14	176144	1	753	2	-	Yes

Inj. Order	Position	Type	Identification	Dilution Factor
4	S1	Unknown	CCV	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**51.09**	**12046963**	**0.62**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 14 2016 12:50:30	51.40	12118476	1	754	2	-	Yes
2	4 14 2016 12:54:41	50.68	11952026	1	754	2	-	Yes
3	4 14 2016 12:58:01	51.00	12026459	1	754	2	-	Yes
4	4 14 2016 13:01:23	51.28	12090894	1	754	2	-	Yes

5	S5	Unknown	LCSW					1 x	
		TC	**55.46**	**13064690**		**1.08**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	4 14 2016 13:05:43	56.12	13218463	1	754	2	-	Yes
	2	4 14 2016 13:09:58	54.71	12889691	1	754	2	-	Yes
	3	4 14 2016 13:13:25	55.73	13128704	1	754	2	-	Yes
	4	4 14 2016 13:16:51	55.28	13021905	1	754	2	-	Yes
6	S8	Unknown	MBW					1 x	
		TC	**0.22**	**194845**		**5.42**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	4 14 2016 13:21:03	0.82	335904	1	754	2	-	-
	2	4 14 2016 13:24:27	0.27	207088	1	753	2	-	Yes
	3	4 14 2016 13:27:06	0.21	192736	1	753	2	-	Yes
	4	4 14 2016 13:29:38	0.23	197794	1	752	2	-	Yes
	5	4 14 2016 13:32:14	0.16	181764	1	753	2	-	Yes
7	4	Unknown	707495					1 x	
		TC	**1.20**	**422230**		**8.74**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	4 14 2016 13:35:38	2.17	650345	1	753	2	-	-
	2	4 14 2016 13:39:19	1.42	473651	1	753	2	-	Yes
	3	4 14 2016 13:42:11	1.08	395007	1	753	2	-	Yes
	4	4 14 2016 13:44:46	1.20	424359	1	753	2	-	Yes
	5	4 14 2016 13:47:29	1.08	395904	1	753	2	-	Yes
8	5	Unknown	707512					1 x	
		TC	**0.98**	**371640**		**3.93**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	4 14 2016 13:50:56	1.39	468520	1	754	2	-	-
	2	4 14 2016 13:54:16	1.01	379039	1	753	2	-	Yes
	3	4 14 2016 13:56:49	0.97	369782	1	753	2	-	Yes
	4	4 14 2016 13:59:20	0.89	352028	1	753	2	-	Yes
	5	4 14 2016 14:01:50	1.04	385711	1	753	2	-	Yes
9	6	Unknown	707513					1 x	
		TC	**1.47**	**486379**		**2.00**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	4 14 2016 14:05:20	2.29	677013	1	754	2	-	-
	2	4 14 2016 14:08:57	1.48	489173	1	753	2	-	Yes
	3	4 14 2016 14:11:28	1.52	498789	1	753	2	-	Yes
	4	4 14 2016 14:14:02	1.43	476824	1	752	2	-	Yes
	5	4 14 2016 14:16:42	1.45	480733	1	753	2	-	Yes
10	7	Unknown	DUP707513					1 x	
		TC	**1.03**	**382367**		**6.50**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	4 14 2016 14:20:07	1.69	537744	1	753	2	-	-
	2	4 14 2016 14:23:23	1.18	419595	1	753	2	-	Yes
	3	4 14 2016 14:25:52	0.98	371600	1	752	2	-	Yes
	4	4 14 2016 14:28:17	0.97	368789	1	752	2	-	Yes
	5	4 14 2016 14:30:44	0.97	369486	1	753	2	-	Yes
11	8	Unknown	MSW707513					1 x	
		TC	**49.39**	**11650616**		**0.55**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	4 14 2016 14:34:00	49.60	11699838	1	753	2	-	Yes
	2	4 14 2016 14:37:51	49.27	11623342	1	753	2	-	Yes
	3	4 14 2016 14:40:56	49.63	11706069	1	753	2	-	Yes
	4	4 14 2016 14:44:02	49.06	11573218	1	753	2	-	Yes
12	9	Unknown	MSDW707513					1 x	

		TC	**50.62**	**11936485**	**0.71**			**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	4 14 2016 14:47:54	51.16	12062264	1	753	2	-	Yes
	2	4 14 2016 14:51:34	50.48	11903745	1	753	2	-	Yes
	3	4 14 2016 14:54:38	50.44	11894273	1	752	2	-	Yes
	4	4 14 2016 14:57:38	50.40	11885659	1	753	2	-	Yes
13	10	Unknown	707514				1 x		
		TC	**0.14**	**177153**	**8.95**			**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	4 14 2016 15:01:45	0.48	254527	1	754	2	-	-
	2	4 14 2016 15:04:49	0.23	197551	1	752	2	-	Yes
	3	4 14 2016 15:07:07	0.15	179686	1	752	2	-	Yes
	4	4 14 2016 15:09:18	0.12	171518	1	751	2	-	Yes
	5	4 14 2016 15:11:25	0.07	159858	1	751	2	-	Yes
14	11	Unknown	707515				1 x		
		TC	**1.82**	**566979**	**8.04**			**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	4 14 2016 15:14:24	2.36	693187	1	752	2	-	-
	2	4 14 2016 15:17:37	2.05	620369	1	752	2	-	Yes
	3	4 14 2016 15:20:02	1.66	530960	1	751	2	-	Yes
	4	4 14 2016 15:22:22	1.91	589394	1	751	2	-	Yes
	5	4 14 2016 15:24:45	1.65	527195	1	752	2	-	Yes
15	12	Unknown	707516				1 x		
		TC	**1.12**	**405899**	**5.62**			**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	4 14 2016 15:27:53	1.25	434587	1	752	2	-	Yes
	2	4 14 2016 15:30:49	1.07	394200	1	752	2	-	Yes
	3	4 14 2016 15:33:03	1.02	382258	1	752	2	-	Yes
	4	4 14 2016 15:35:16	1.15	412551	1	751	2	-	Yes

29	S1	Unknown	CCV				1 x		
		TC	**48.93**	**11544192**	**0.91**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	4 14 2016 18:29:41	48.31	11399883	1	752	2	-	Yes
	2	4 14 2016 18:33:41	49.20	11606018	1	753	2	-	Yes
	3	4 14 2016 18:36:56	48.89	11534947	1	753	2	-	Yes
	4	4 14 2016 18:40:07	49.33	11635923	1	753	2	-	Yes

31	S8	Unknown	MBW				1 x		
		TC	**0.10**	**130816**	**68.41**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	4 14 2016 18:59:08	0.22	195806	1	754	2	-	Yes
	2	4 14 2016 19:02:19	0	0	0	753	2	-	Yes
	3	4 14 2016 19:06:21	0.02	147541	1	753	2	-	Yes
	4	4 14 2016 19:08:43	0	0	0	753	2	-	-
	5	4 14 2016 19:12:44	0.16	179920	1	753	2	-	Yes

38	30	Unknown	708692					1 x	
		TC	**0.38**	**231333**		**8.98**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	4 14 2016 20:35:52	0.47	252984	1	754	2	-	Yes
	2	4 14 2016 20:38:47	0.39	235172	1	752	2	-	Yes
	3	4 14 2016 20:40:59	0.39	234191	1	752	2	-	Yes
	4	4 14 2016 20:43:10	0.25	202986	1	752	2	-	Yes
39	31	Unknown	708694					1 x	
		TC	**ZERO !**	**124967**		**9.20**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	4 14 2016 20:46:59	0.06	157046	1	753	2	-	-
	2	4 14 2016 20:49:53	ZERO !	127015	1	753	2	-	Yes
	3	4 14 2016 20:52:01	ZERO !	140100	1	752	2	-	Yes
	4	4 14 2016 20:54:11	ZERO !	113565	1	752	2	-	Yes
	5	4 14 2016 20:56:14	ZERO !	119190	1	751	2	-	Yes
40	32	Unknown	708696					1 x	
		TC	**0.39**	**233440**		**4.67**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	4 14 2016 20:59:14	0.45	248236	1	752	2	-	Yes
	2	4 14 2016 21:02:11	0.34	222058	1	751	2	-	Yes
	3	4 14 2016 21:04:26	0.38	232690	1	751	2	-	Yes
	4	4 14 2016 21:06:42	0.37	230777	1	750	2	-	Yes
41	33	Unknown	708698					1 x	
		TC	**0.00**	**0**		**0.00**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.

1	4 14 2016 21:10:23	0	0	0	752	2	-	Yes
2	4 14 2016 21:15:00	0	0	0	753	2	-	Yes
3	4 14 2016 21:19:02	ZERO !	86116	1	753	2	-	-
4	4 14 2016 21:21:15	0	0	0	751	2	-	Yes
5	4 14 2016 21:25:17	0	0	0	752	2	-	Yes

---

42 S2 Unknown CCV 1 x

TC **50.14** **11825296** **0.69** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 14 2016 21:30:13	50.32	11866583	1	753	2	-	Yes
2	4 14 2016 21:34:18	50.40	11886882	1	752	2	-	Yes
3	4 14 2016 21:37:36	50.20	11840631	1	752	2	-	Yes
4	4 14 2016 21:40:51	49.63	11707089	1	752	2	-	Yes

---

43 S9 Unknown CCB 1 x

TC **ZERO !** **53930** **115.82** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 14 2016 21:44:54	ZERO !	101896	1	752	2	-	Yes
2	4 14 2016 21:48:13	0	0	0	752	2	-	Yes
3	4 14 2016 21:52:16	ZERO !	113826	1	752	2	-	Yes
4	4 14 2016 21:54:35	0	0	0	751	2	-	Yes
5	4 14 2016 21:58:37	0	0	0	753	2	-	-

---

44 34 Unknown 708700 1 x

TC **0.57** **275830** **19.82** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 14 2016 22:03:33	0.80	330610	1	753	2	-	Yes
2	4 14 2016 22:06:44	0.24	200444	1	752	2	-	Yes
3	4 14 2016 22:09:04	0.64	291902	1	751	2	-	Yes
4	4 14 2016 22:11:33	0.59	280367	1	751	2	-	Yes
5	4 14 2016 22:14:05	0.02	147544	1	751	2	-	-

---

45 35 Unknown 708707 1 x

TC **3.25** **902056** **3.48** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 14 2016 22:17:14	4.19	1120494	1	753	2	-	-
2	4 14 2016 22:20:45	3.26	903229	1	753	2	-	Yes
3	4 14 2016 22:23:24	3.44	946079	1	753	2	-	Yes
4	4 14 2016 22:26:09	3.16	879503	1	752	2	-	Yes
5	4 14 2016 22:28:47	3.16	879414	1	752	2	-	Yes

---

46 36 Unknown 708709 1 x

TC **1.04** **385908** **7.19** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 14 2016 22:32:24	1.75	552621	1	753	2	-	-
2	4 14 2016 22:36:01	1.04	386200	1	753	2	-	Yes
3	4 14 2016 22:38:39	1.21	424738	1	753	2	-	Yes
4	4 14 2016 22:41:15	0.97	370479	1	752	2	-	Yes
5	4 14 2016 22:43:45	0.94	362216	1	751	2	-	Yes

---

47 S2 Unknown CCV 1 x

TC **51.46** **12133466** **0.30** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 14 2016 22:47:08	51.39	12116458	1	752	2	-	Yes
2	4 14 2016 22:51:13	51.58	12162118	1	752	2	-	Yes
3	4 14 2016 22:54:36	51.27	12089538	1	753	2	-	Yes
4	4 14 2016 22:57:55	51.60	12165753	1	752	2	-	Yes

---

48 S9 Unknown CCB 1 x

TC **ZERO !** **133882** **25.62** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 14 2016 23:02:12	0.95	366036	1	753	2	-	-
2	4 14 2016 23:05:42	0.14	177307	1	752	2	-	Yes
3	4 14 2016 23:08:16	ZERO !	120483	1	751	2	-	Yes
4	4 14 2016 23:10:36	ZERO !	141368	1	751	2	-	Yes
5	4 14 2016 23:13:05	ZERO !	96372	1	751	2	-	Yes

---

49 139 Unknown RINSE 1 x

TC **0.45** **248061** **14.36** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 14 2016 23:16:17	0.82	335283	1	752	2	-	-
2	4 14 2016 23:19:39	0.32	217503	1	752	2	-	Yes
3	4 14 2016 23:22:06	0.50	260849	1	752	2	-	Yes
4	4 14 2016 23:24:36	0.64	292663	1	752	2	-	Yes
5	4 14 2016 23:27:18	0.33	221231	1	752	2	-	Yes

---

50 140 Unknown RINSE 1 x

TC **0.45** **248088** **5.41** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 14 2016 23:30:40	0.74	317110	1	753	2	-	-
2	4 14 2016 23:34:15	0.49	257112	1	753	2	-	Yes
3	4 14 2016 23:36:50	0.40	236291	1	752	2	-	Yes
4	4 14 2016 23:39:27	0.40	236894	1	752	2	-	Yes
5	4 14 2016 23:41:55	0.51	262056	1	752	2	-	Yes

---

51 141 Unknown RINSE 1 x

TC **0.53** **266692** **6.71** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 14 2016 23:45:26	0.87	346886	1	754	2	-	-
2	4 14 2016 23:48:55	0.49	257317	1	754	2	-	Yes
3	4 14 2016 23:51:27	0.46	250179	1	753	2	-	Yes
4	4 14 2016 23:54:03	0.63	291130	1	752	2	-	Yes
5	4 14 2016 23:56:35	0.53	268145	1	752	2	-	Yes

INORGANICS
LOGBOOK
DOCUMENTS

WANIONS IC QSM 5.0 Analytical Run
124864 on 04/18/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	710068						WANIONS IC QSM 5.0				
		Sulfate		ICV							
		Chloride		ICV							
		Nitrate Nitrogen		ICV							
	710069						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		ICB							
		Chloride		ICB							
		Sulfate		ICB							
	708641						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCV				0			
		Chloride		CCV				0			
		Sulfate		CCV				0			
	708644						WANIONS IC QSM 5.0				
		Chloride		LCSW				0			
		Nitrate Nitrogen		LCSW				0			
		Sulfate		LCSW				0			
	708643						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		MBW				0			
		Chloride		MBW				0			
		Sulfate		MBW				0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
124864 on 04/18/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	708633							WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCV				0			
		Chloride			CCV				0			
		Sulfate			CCV				0			
	708638							WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCB				0			
		Chloride			CCB				0			
		Sulfate			CCB				0			
118236	708265		04/12/2016	0910		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
118236	708266		04/12/2016	1115		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
118236	708267		04/12/2016	1240		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Sulfate										
		Chloride										
		Nitrate Nitrogen										

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
124864 on 04/18/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
118236	708268		04/12/2016	1435		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Sulfate										
		Nitrate Nitrogen										
118236	708269		04/12/2016	1620		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
118236	708270		04/12/2016	1620		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
	708636							WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCV				0			
		Chloride			CCV				0			
		Sulfate			CCV				0			
	708647							WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCB				0			
		Chloride			CCB				0			
		Sulfate			CCB				0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
124864 on 04/18/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	708640		04/12/2016 1240				ANIONS IC QSM 5.0				
		Sulfate		DUP 708267				0			
		Chloride		DUP 708267				0			
		Nitrate Nitrogen		DUP 708267				0			
	708645						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCV				0			
		Chloride		CCV				0			
		Sulfate		CCV				0			
	708635						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCB				0			
		Chloride		CCB				0			
		Sulfate		CCB				0			
118236	708269		04/12/2016 1620		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride	***RERUN***								
		Nitrate Nitrogen	***RERUN***								
		Sulfate	***RERUN***								
118236	708270		04/12/2016 1620		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride	***RERUN***								
		Nitrate Nitrogen	***RERUN***								
		Sulfate	***RERUN***								

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
124864 on 04/18/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	709218						WANIONS IC QSM 5.0				
		Chloride		CCV							
		Sulfate		CCV							
		Nitrate Nitrogen		CCV							
	709131						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCB				0			
		Chloride		CCB				0			
		Sulfate		CCB				0			
	709837						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCV				0			
		Chloride		CCV				0			
		Sulfate		CCV				0			
	710091						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCB							
		Chloride		CCB							
		Sulfate		CCB							
118236	708267		04/12/2016 1240		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Sulfate	***RERUN***								
		Chloride	***RERUN***								
		Nitrate Nitrogen	***RERUN***								

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
124864 on 04/18/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	708640		04/12/2016 1240				ANIONS IC QSM 5.0				
		Sulfate	***RERUN***	DUP 708267				0			
		Chloride	***RERUN***	DUP 708267				0			
		Nitrate Nitrogen	***RERUN***	DUP 708267				0			
	710089		04/12/2016 1240				ANIONS IC QSM 5.0				
		Nitrate Nitrogen		MSW 708267							
		Chloride		MSW 708267							
		Sulfate		MSW 708267							
	710090		04/12/2016 1240				ANIONS IC QSM 5.0				
		Nitrate Nitrogen		MSDW 710089							
		Chloride		MSDW 710089							
		Sulfate		MSDW 710089							
	709832						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCV				0			
		Chloride		CCV				0			
		Sulfate		CCV				0			
	709835						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCB				0			
		Chloride		CCB				0			
		Sulfate		CCB				0			

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Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

FWC37-03 Data Review Checklist

LIMS RUN# 124798 124852 124864		Method: Anions by Ion Chromatography 300.0/9056	Independent Data Review Checklist		
Analysis Date	Analyst / Data Interpreter	Independent Reviewer	Date of Review	Approved (Yes/No)	Instrument
04/14/2016	JJF	RLD	04/18/2016	Yes	Metrohm-System 3

Instructions: Complete one checklist per *analytical sequence* . Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement:	Acceptance	Analyst Review		Independent Review		Comments:
	Criteria	Yes	No	Yes	No	(indicate reference to an attachment if necessary)
1. Were the samples analyzed within hold time?	28 days for Cl, F, SO_4;14 days for preserved NO_2+NO_3; 48 hours for O.Phos, and unpreserved NO_2 and NO_3	Yes		Yes		If no: Qualify date with an "H" flag.
2. Was the calibration performed using the required number of standards?	Minimum three plus a blank	Yes		Yes		If no: reacalibrate instrument minimum of 3 standaard + a blank.
3. Is the standard prep log number noted on the analytical report bench sheet?	---	Yes		Yes		If no: document all standards used.
4. Was the correlation coefficient acceptable?	≥ .995	Yes		Yes		If no: Reacalibrate instrument
5. Were the ICV and ICB run immediately after the calibration check standard?	---	Yes		Yes		If no: Analyze an ICV and ICB prior to sample analyses.
6. Was the ICV recovery acceptable?	90 – 110 % or contract/program specific	Yes		Yes		If no: reanalyze ICV or recalibrate if necessary.
7. Was the ICB result acceptable?	< LOD or contract/program specific	Yes		Yes		If no: reanalyze blank. Instrument must be confirmed free from contamination prior to sample analyses.
8. Were the CCV's and the CCB's analyzed at the required frequency?	1 / 10 samples or contract/program specific	Yes		Yes		If no: outliers should be reanalyzed with QC samples anlayzed at the proper frequency.
9. Were the CCV recoveries acceptable?	90 – 110 % or contract/program specific	Yes		Yes		If no: reanalyze affected data with acceptable CCV results.
10. Were the CCB results acceptable?	< LOD or program/project specific	Yes		Yes		If no: reanalyze affected sample if possible; otherwise sample detects must be qualified with a "B" flag.
11. Was the MB analyzed at the required frequency?	1 / 20 samples or contract/program specific	Yes		Yes		If no: affected sample must be reanalyzed including the MB.
12. Were the MB results acceptable?	< LOD or contract/program specific	Yes		Yes		If no: reanalyze affected samples with an acceptable MB if possible. If sample result is >20x the result detected in the blank results can be reported without qualificaton. If sample result is <20x the MB result and the MB was not reanalyzed, sample result must be qualified with a "B" flag.

13. Was a LCS run at the required frequency?	1 / 20 samples or contract/program specific	Yes		Yes		If no: affected sample must be reanalyzed including the LCS.
14. Was the LCS recovery acceptable?	Within in-house or contract/program specific limits	Yes		Yes		If no: affected sample should be reanalyzed with accecptable LCS recoveries if possible. Detects reported with an LCS failure must be qualified with a "Q" flag. Nondetected analytes reported with a low LCS recovery must also be qualified with a "Q" flag.
15. Was the LCS used before the indicated expiration date?	---	Yes		Yes		If no: samples should be reanalyed with non expired standards.
16. Were the MS and MSD (when required) prepared at the required frequency?	1per 20 samples per matrix or contract/program specific	Yes		Yes		If no: analyze a MS and MSD (if needed) to be included with the sample data.
17. Were the MS and MSD (when required) recoveries acceptable?	Within In-house or contract/program specific limits		No		No	If no: qualify parent sample results with an "M" flag if recoveries were low. If recoveries were high then qualify any affected detects in the parent sample.
18. Was the RPD between the MS and MSD (when required) acceptable?	Within in house or contract/program specific limits	Yes		Yes		If no: qualify the parent sample result with a "Y" flag.
19. Was a sample duplicate prepared at the required frequency?	Contract/program specific or 1 per 20 samples (1 / 10 for SDWA samples)	Yes		Yes		If no: analyze one of the sample from the batch as a duplicate.
20. Was the duplicate within precision limits?	Within in-house or contract/program specific limits	Yes		Yes		If no: qualify the parent sample result with a "Y" flag.
21. Were all chromatograms checked to ensure accurate peak identification?	---	Yes		Yes		If no: review the IC data to ensure proper retention times and peak identification.
22. Are all samples on the job lists accounted for?	---	Yes		Yes		If no: include and analzye missing sample with another batch.
23. Were non-matrix related nonconformities (if applicable) documented in the NCR spreadsheet?	---	Yes		Yes		If no: Enter nonconformities into the NCR spreadsheet before data review/validation..

WANIONS IC QSM 5.0 Analytical Run
124894 on 05/02/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	709395						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCV				0			
		Chloride		CCV				0			
		Sulfate		CCV				0			
	709399						WANIONS IC QSM 5.0				
		Chloride		LCSW				0			
		Nitrate Nitrogen		LCSW				0			
		Sulfate		LCSW				0			
	709397						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		MBW				0			
		Chloride		MBW				0			
		Sulfate		MBW				0			
	709387						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCV				0			
		Chloride		CCV				0			
		Sulfate		CCV				0			
	709389						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCB				0			
		Chloride		CCB				0			
		Sulfate		CCB				0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
124894 on 05/02/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
118280	708693		04/13/2016	0850			BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride											
		Nitrate Nitrogen											
		Sulfate											
	709398								WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCV					0			
		Chloride			CCV					0			
		Sulfate			CCV					0			
	709393								WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCB					0			
		Chloride			CCB					0			
		Sulfate			CCB					0			
	709394		04/13/2016	0850					ANIONS IC QSM 5.0				
		Nitrate Nitrogen			DUP	708693				0			
		Chloride			DUP	708693				0			
		Sulfate			DUP	708693				0			
	709392		04/13/2016	0850					ANIONS IC QSM 5.0				
		Nitrate Nitrogen			MSW	708693				0			
		Chloride			MSW	708693				0			
		Sulfate			MSW	708693				0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
124894 on 05/02/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	710374		04/13/2016	0850				ANIONS IC QSM 5.0				
		Nitrate Nitrogen			MSDW 709392							
		Chloride			MSDW 709392							
		Sulfate			MSDW 709392							
118280	708695		04/13/2016	1000		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
118280	708697		04/13/2016	1217		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
118280	708699		04/13/2016	1025		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
118280	708701		04/13/2016	1317		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
124894 on 05/02/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
118280	708708		04/13/2016	1410		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
118280	708710		04/13/2016	1525		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
118280	708697		04/13/2016	1217		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride	***RERUN***									
		Nitrate Nitrogen	***RERUN***									
		Sulfate	***RERUN***									
	709391							WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCV				0			
		Chloride			CCV				0			
		Sulfate			CCV				0			
	709401							WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCB				0			
		Chloride			CCB				0			
		Sulfate			CCB				0			

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Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

FWC37-03 Data Review Checklist

LIMS RUN# 124894 124895	Method: Anions by Ion Chromatography 300.0/9056		Independent Data Review Checklist		
Analysis Date	Analyst / Data Interpreter	Independent Reviewer	Date of Review	Approved (Yes/No)	Instrument
04/14/2016	JJF	RLD	04/20/2016	Yes	Metrohm-System 3

Instructions: Complete one checklist per *analytical sequence* . Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement:	Acceptance	Analyst Review		Independent Review		Comments:
	Criteria	Yes	No	Yes	No	(indicate reference to an attachment if necessary)
1. Were the samples analyzed within hold time?	28 days for Cl, F, SO_4;14 days for preserved NO_2+NO_3; 48 hours for O.Phos, and unpreserved NO_2 and NO_3	Yes		Yes		If no: Qualify date with an "H" flag.
2. Was the calibration performed using the required number of standards?	Minimum three plus a blank	Yes		Yes		If no: reacalibrate instrument minimum of 3 standaard + a blank.
3. Is the standard prep log number noted on the analytical report bench sheet?	---	Yes		Yes		If no: document all standards used.
4. Was the correlation coefficient acceptable?	≥ .995	Yes		Yes		If no: Reacalibrate instrument
5. Were the ICV and ICB run immediately after the calibration check standard?	---	Yes		Yes		If no: Analyze an ICV and ICB prior to sample analyses.
6. Was the ICV recovery acceptable?	90 – 110 % or contract/program specific	Yes		Yes		If no: reanalyze ICV or recalibrate if necessary.
7. Was the ICB result acceptable?	< LOD or contract/program specific	Yes		Yes		If no: reanalyze blank. Instrument must be confirmed free from contamination prior to sample analyses.
8. Were the CCV's and the CCB's analyzed at the required frequency?	1 / 10 samples or contract/program specific	Yes		Yes		If no: outliers should be reanalyzed with QC samples anlayzed at the proper frequency.
9. Were the CCV recoveries acceptable?	90 – 110 % or contract/program specific	Yes		Yes		If no: reanalyze affected data with acceptable CCV results.
10. Were the CCB results acceptable?	< LOD or program/project specific	Yes		Yes		If no: reanalyze affected sample if possible; otherwise sample detects must be qualified with a "B" flag.
11. Was the MB analyzed at the required frequency?	1 / 20 samples or contract/program specific	Yes		Yes		If no: affected sample must be reanalyzed including the MB.
12. Were the MB results acceptable?	< LOD or contract/program specific	Yes		Yes		If no: reanalyze affected samples with an acceptable MB if possible. If sample result is >20x the result detected in the blank results can be reported without qualificaton. If sample result is <20x the MB result and the MB was not reanalyzed, sample result must be qualified with a "B" flag.

13. Was a LCS run at the required frequency?	1 / 20 samples or contract/program specific	Yes		Yes		If no: affected sample must be reanalyzed including the LCS.
14. Was the LCS recovery acceptable?	Within in-house or contract/program specific limits	Yes		Yes		If no: affected sample should be reanalyzed with acceeptable LCS recoveries if possible. Detects reported with an LCS failure must be qualified with a "Q" flag. Nondetected analytes reported with a low LCS recovery must also be qualified with a "Q" flag.
15. Was the LCS used before the indicated expiration date?	---	Yes		Yes		If no: samples should be reanalyed with non expired standards.
16. Were the MS and MSD (when required) prepared at the required frequency?	1per 20 samples per matrix or contract/program specific	Yes		Yes		If no: analyze a MS and MSD (if needed) to be included with the sample data.
17. Were the MS and MSD (when required) recoveries acceptable?	Within In-house or contract/program specific limits		No		No	If no: qualify parent sample results with an "M" flag if recoveries were low. If recoveries were high then qualify any affected detects in the parent sample.
18. Was the RPD between the MS and MSD (when required) acceptable?	Within in house or contract/program specific limits	Yes		Yes		If no: qualify the parent sample result with a "Y" flag.
19. Was a sample duplicate prepared at the required frequency?	Contract/program specific or 1 per 20 samples (1 / 10 for SDWA samples)	Yes		Yes		If no: analyze one of the sample from the batch as a duplicate.
20. Was the duplicate within precision limits?	Within in-house or contract/program specific limits		No		No	If no: qualify the parent sample result with a "Y" flag.
21. Were all chromatograms checked to ensure accurate peak identification?	---	Yes		Yes		If no: review the IC data to ensure proper retention times and peak identification.
22. Are all samples on the job lists accounted for?	---	Yes		Yes		If no: include and analzye missing sample with another batch.
23. Were non-matrix related nonconformities (if applicable) documented in the NCR spreadsheet?	---	Yes		Yes		If no: Enter nonconformities into the NCR spreadsheet before data review/validation..

Metrohm Run Log - System 3													
Start Date	Start Time	End Date	End Time	Analyst	Lims Run #(s)	Calibration ID#	Data File	Spike ID's	Total Cond.	Pressure (Mpa)	Flow (mL/min)	Comments	Reviewed/Date
02/12/16	10:07	02/12/16	14:18	JJF	123293	IC0515	021216-RUN#	IC0528 IC0529	1.19	7.8	0.7		
02/16/16	11:35	02/16/16	20:10	JJF			021616-chlorite chlorate	N/A	13.99	9.1	0.7	Column IC0557	
02/17/16	14:05	02/17/16	19:06	JJF		IC0558	IC0558	N/A	13.85	9	0.7		
02/23/16	10:02	02/23/16	15:20	JJF	123471	IC0505	022316-RUN#	IC0560 IC0561	1.98	7.9	0.7		
02/24/16	12:39	02/25/16	04:31	JJF	123490	IC0505 NO2IC0520	022416-RUN#	IC0560 IC0561	1.81	8	0.7		
02/25/16	10:05	02/25/16	15:05	JJF	RR123490	IC0505	022516-RUN#	IC0560 IC0561	1.69	8.4	0.7		
02/26/16	11:18	02/26/16	17:21	JJF	123544	IC0505 NO2IC0520	022616-RUN#	IC0560 IC0561	1.31	8.2	0.7		
03/01/16	14:16	03/01/16	18:55	AGK	123601	IC0505	030116 - 123601	IC0560 IC0561	1.89	8.2	0.7		
03/02/16	14:18	03/02/16	19:18	AGK	123634 123638	IC0505	030216 - RUN #	IC0560 IC0561	1.76	8.3	0.7		
03/03/16	12:26	03/04/16	17:04	AGK	123671 123672 123673 123676	IC0505 NO2ICO520	030316-RUN#	IC0560 IC0561	1.38	8.4	0.7		
03/07/16	10:29	03/08/16	16:05	JJF	123750	IC0505	030716-RUN#	IC0560 IC0561	1.34	8.2	0.7		
03/09/16	10:57	03/10/16	05:43	JJF	123793 123794	IC0505 NO2 IC0520	030916-RUN#	IC0560 IC0561	1.85	8.5	0.7		
03/11/16	9:15	03/12/16	10:16	JJF	123862 123894 123908	IC0505	031116-RUN#	IC0560 IC0561	1.35	8.2	0.7		
03/14/16	10:13	03/15/16	03:58	JJF	123930	IC0505	031416-RUN#	IC0560 IC0561	1.53	8.3	0.7		
03/15/16	10:49	03/16/16	00:25	JJF/AMA	123993 124007	IC0505	031516-RUN#	IC0560 IC0561	1.74	8.2	0.7		
03/16/16	11:56	03/17/16	08:13	JJF	124028 124025	IC0505	031616-RUN#	IC0560 IC0561	1.2	8.1	0.7		
03/17/16	11:42	03/17/16	16:04	JJF	124057	IC0505	031716-RUN#	IC0560 IC0561	1.32	8.2	0.7		
03/18/16	9:37	03/18/16	16:12	JJF	124091	IC0505	031816-RUN#	IC0560 IC0561	1.7	7.5	0.7	CHANGED FILTER AND FRIT ON GUARD COLUMN	
03/23/16	14:11	03/23/16	17:38	JJF			032316-IC0582		1.76	7.5	0.7	CLEANED COLUMN 3/21/2016 REPLACE COLUMN	
03/25/16	14:59	03/25/16	18:06	JJF		IC0582A	032516-IC0582A		1.25	7.3	0.7	COLUMN W33943	
03/28/16	11:07	03/29/16	05:32	JJF	124297 124331	LL IC0527	032816-RUN#	IC0588	1.1	7.2	0.7	COLUMN IC0525	
03/30/16	11:15	03/31/16	11:24	JJF	124361 124369 NO2 IC0591	IC0582A	033016-RUN#	IC0579 IC0580	1.28	7.4	0.7		
03/31/16	12:14	04/01/16	00:51	JJF	NO2 IC0591 124420 124423	IC0582A NO2 IC0591	033116-RUN#	IC0579 IC0580	1.25	7.4	0.7		
04/01/16	13:00	04/01/16	23:43	AGK	124460 124461 124940	IC0582A NO2 IC0591	040116-RUN#	IC0579 IC0580	1.27	7.4	0.7		
04/04/16	12:04	04/05/16	05:54	JJF	124486 124500	LL IC0527	040416-RUN#	IC0592	1.83	7.5	0.7	RERUN ELUENT MIXED UP WRONG	
04/05/16	9:39	04/06/16	03:58	JJF	124486 124500	LL IC0527	040516-RUN#	IC0592	1.85	7.8	0.7	COLUMN IC0525	
04/06/16	10:46	04/08/16	06:21	JJF	124584 124590 124591 124567 124586 124652 124657	IC0582A	040616-RUN#	IC0579 IC0580	1.76	7.6	0.7	COLUMN W33943	
04/08/16	8:31	04/09/16	07:23	JJF	124585 124678	IC0582A	040816-RUN#	IC0579 IC0580	1.47	7.7	0.7		
04/11/16	9:09	04/12/16	11:43	JJF	RR124585 124728 124752	IC0582A	041116-RUN#	IC0579 IC0580	1.77	7.6	0.7		
04/12/16	13:25	04/13/16	13:35	JJF	124785	LL IC0527	041216-RUN#	IC0592	1.23	7.4	0.7		
04/13/16	15:53	04/14/16	14:08	JJF	124798 124852 124864	IC0582A	041316-RUN#	IC0579 IC0580	1.24	7.5	0.7		
04/14/16	14:52	04/15/16	05:16	JJF	124894 124895	IC0582A	041416-RUN#	IC0579 IC0580	1.21	7.5	0.7		

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Author: JFAUST on: 02.05.2016 15:36:35
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Standard Log #:	IC0621	Standard:	IC Calibration Mid Level Cl & SO4
Analyst:	JJF	Concentrations:	10mg/L - SO_4, Cl
Prep Date:	04/21/2016	Expiration Date (48 hours):	04/23/2016
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL of each Sulfate (1000mg/L) CCV Stock Std. (1), and Chloride (1000mg/L) CCV Stock Std. (2) and brought to volume with Milli-Q water. (1) IC0606 (2) IC0576		

Standard Log #:	IC0622	Standard:	IC CCV Mid Level
Analyst:	JJF	Concentrations:	3.0 mg/L - Cl 5.0 mg/L - SO_4
Prep Date:	04/21/2016	Expiration Date (1 Month):	05/21/2016
Prep:	Into a 100 mL volumetric flask, pipetted 0.30 mL of 1,000 mg/L Chloride CCV Stock Std. (1) and 0.50 mL of 1,000 mg/L Sulfate CCV Stock Std. (2) and brought to volume with Milli-Q DI H20. (1) IC0576 (2) IC0606		

Standard Log #:	IC0623	Standard:	IC Mid Level LCS
Analyst:	JJF	Concentrations:	0.70 mg/L F, NO_2, Br, NO_3, $P0_4$, 3.0 mg/L Cl, 5.0 mg/L SO_4
Prep Date:	04/21/2016	Expiration Date (48 hours):	05/21/2016
Prep:	Into a 100 ml volumetric flask pipette 10ml Mixed LCS (7mg/L F, NO_3, PO_4, Br & 50 mg/L SO_4 & 30 mg/L Cl) IC608 and 10 mL Nitrite LCS (7 mg/L NO_2) IC609 and dilute to		

Standard Log #:	IC0624	Standard:	IC LOD-LOQ2
Analyst:	JJF	Concentrations:	
Prep Date:	04/21/2016	Expiration Date (48 hours):	04/23/2016

Prep:

LOD Check:
Into a 100mL Volumetric flask pipetted the following, then brought to volume with Milli-Q DI water.

Fluoride	0.010	mL	IC0395	Nitrate	0.015	mL	IC0403
Chloride	0.200	mL	IC0576	Phosphate	0.025	mL	IC0486
Nitrite	0.020	mL	IC0396	Sulfate	0.250	mL	IC0606
Bromide	0.020	mL	IC0597				

LOQ Check:
Into a 100mL Volumetric flask pipetted the following, then brought to volume with Milli-Q DI water.

Fluoride	0.030	mL	IC0395	Nitrate	0.040	mL	IC0403
Chloride	0.400	mL	IC0576	Phosphate	0.050	mL	IC0486
Nitrite	0.040	mL	IC0396	Sulfate	0.500	mL	IC0606
Bromide	0.050	mL	IC0597				

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Author: JFAUST on: 21.04.2016 08:17:42
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Standard Log #:	IC0608	Standard:	IC LCSW/ICV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	04/19/2016	Expiration Date (1 Month):	05/19/2016
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) IC0391 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0609	Standard:	IC LCSW/ICV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L
Prep Date:	04/19/2016	Expiration Date (1 Month):	05/19/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL 1000 mg/L Nitrite W37105 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0610	Standard/Reagent:	PT Bromide
Analyst:	JJF	Final Concentration:	
Prep Date:	04-19-2016	Expiration Date:	04-21-2016
Prep:	Into a 100 mL volumetric pipette 0.50 ml (887- conc.) and dilute to 100 mL with Milli-Q water.		

Standard Log #:	IC0611	Standard/Reagent:	PT Simple Nutrients
Analyst:	JJF	Final Concentration:	
Prep Date:	04/19/2016	Expiration Date:	04/21/2016
Prep:	Into a 100 mL volumetric pipette 0.50 mL (584-conc.) and dilute to 100 mL with Milli-Q water.		

Standard Log #:	IC0612	Standard/Reagent:	PT Nitrite
Analyst:	JJF	Final Concentration:	
Prep Date:	04/19/2016	Expiration Date:	04/21/2016
Prep:	Into a 100 mL volumetric pipette 0.50 mL (888-conc.) and dilute to 100 mL with Milli-Q water.		

Standard Log #:	IC0613	Standard/Reagent:	PT Nitrite DW
Analyst:	JJF	Final Concentration:	
Prep Date:	04/19/2016	Expiration Date:	04/21/2016
Prep:	Into a 100 mL volumetric pipette 0.50 mL (594-conc.) and dilute to 100 mL with Milli-Q water.		

Standard Log #:	IC0614	Standard:	IC Cal Nitrite Metrohm
Analyst:	JJF	Concentrations:	10.0mg/L Nitrite
Prep Date:	04/19/2016	Expiration Date (48 Hours):	04/21/2016
Prep:	Into a 100 mL volumetric flask pipetted 1.0 mL of Nitrite (1000 mg/L) IC0396 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0615	Standard:	IC CCV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	04/19/2016	Expiration Date (1 Month):	05/19/2016
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride IC00395, Phosphate IC0486, Bromide IC0597, and Nitrate IC0403, 15 ml 1000 mg/L Chloride IC0576, and 25 ml 1000 mg/L Sulfate IC0606 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0616	Standard:	IC Spike Mixed
Analyst:	JJF	Concentrations:	64 mg/L - Br, NO_3, PO_4 256 mg/L - Cl, SO_4
Prep Date:	04/19/2016	Expiration Date (1 Month):	05/19/2016
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Bromide IC0597, Nitrate IC0403, and Phosphate IC0486 and 25.6 mL 1000 mg/L Chloride IC0576 and Sulfate IC0606 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0617	Standard:	IC CCV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - NO_2
Prep Date:	04/19/2016	Expiration Date (1 Month):	05/19/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. IC0396 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0618	Standard:	IC Spike Nitrite & Fluorid
Analyst:	JJF	Concentrations:	32 mg/L - Fluoride 64 mg/L - Nitrite
Prep Date:	04/19/2016	Expiration Date (1 Month):	05/19/2016
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite IC0396 and 3.2 mL 1000 mg/L Fluoride IC0395 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0619	Standard:	IC Calibration Metrohm
Analyst:	jjf	Concentrations:	10mg/L - NO_2, NO_3, PO_4, Br, F 100mg/L - SO_4, Cl
Prep Date:	04/19/2016	Expiration Date (48 hours):	04/21/2016
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) IC0395, Nitrite (1000mg/L) IC0396, Bromide (1000mg/L) IC0597, Nitrate (1000mg/L) IC0413, Phosphate (1000mg/L) IC0486, and 10 mL each of Sulfate (1000mg/L) IC0606, and Chloride (1000mg/L) IC0576.		

Standard Log #:	IC0620	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	04/19/2016	Expiration Date (1 Year):	04/19/2017
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

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Author: JFAUST on: 20.04.2016 12:21:20
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Standard Log #:	IC0605	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	04/18/2016	Expiration Date (1 Year):	04/18/2017
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0606	Standard/Reagent:	Sulfate Standard
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	04/18/2016	Expiration Date:	04/18/2017
Prep:	Sulfate IC Standard AccuSPEC Lot #S160114034 Catalog # 250-220-701		

Standard Log #:	IC0607	Standard:	IC Calibration Metrohm
Analyst:	JJF	Concentrations:	10mg/L - NO_2, NO_3, PO_4, Br, F 100mg/L - SO_4, Cl
Prep Date:	04/18/2016	Expiration Date (48 hours):	04/20/2016
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) IC0395, Nitrite (1000mg/L) IC0396, Bromide (1000mg/L) IC0597, Nitrate (1000mg/L) IC0403, Phosphate (1000mg/L) IC0486, and 10 mL each of Sulfate (1000mg/L) IC0419, and Chloride (1000mg/L) IC0576.		

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Author: jfaust on: 13.04.2016 11:38:10
Witness: akurth on: 18.04.2016 10:10:30
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Standard Log #:	IC0600	Standard:	IC CCV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	04/07/2016	Expiration Date (1 Month):	05/07/2016
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride IC0395, Phosphate IC0486, Bromide IC0597, and Nitrate IC0403, 15 ml 1000 mg/L Chloride IC0576, and 25 ml 1000 mg/L Sulfate IC0419 and brought to volume with Milli-Q DI H_20.		

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Author: jfaust on: 13.04.2016 11:37:52
Witness: akurth on: 18.04.2016 10:10:19
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Standard Log #:	IC0594	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	04/06/2016	Expiration Date (1 Year):	04/06/2017
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0141 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0595	Standard:	IC Suppressor Regen Metrohm
Analyst:	JJF	Concentrations:	0.1 M Sulfuric Acid
Prep Date:	04/06/2016	Expiration Date (6 months):	10/06/2016
Prep:	Into a 1L volumetric flask, pipetted 5.6mL of Sulfuric Acid W38211 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0596	Standard:	IC ICAL Mixed Std. Dionex
Analyst:	JJF	Concentrations:	50mg/L - NO_2, NO_3, PO_4, Br, F
Prep Date:	04/06/2016	Expiration Date (48 Hours):	04/08/2016
Prep:	Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite IC0396, Fluoride IC0395, Bromide IC0597, Nitrate IC0403, and Phosphate IC0486 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0597	Standard/Reagent:	Bromide IC Standard
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	04/06/2016	Expiration Date:	04/06/2017
Prep:	AccuSPEC Bromide IC Standard Cat # 250-220-235. Lot # S150707009		

Standard Log #:	IC0598	Standard:	IC_Calibration_Dionex_C
Analyst:	JJF	Concentrations:	N/A
Prep Date:	04/06/2016	Expiration Date (48 hours):	04/08/2016

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Mixed Std (50mg/L) IC0596	0	0.2	0.6	1.0	2.0	4.0	10.0	14.0	20.0
Chloride (1000mg/L) IC0576	0	0.05	0.075	0.1	0.5	1.0	2.0	3.0	4.0
Sulfate (1000mg/L) IC0419	0	0.05	0.075	0.1	0.5	1.0	3.0	5.0	7.0

Standard Log #:	IC0599	Standard:	IC CCV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - NO_2
Prep Date:	04/06/2016	Expiration Date (1 Month):	05/06/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. IC0396 and brought to volume with Milli-Q DI H_20.		

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Author: JFAUST on: 05.04.2016 11:21:24
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Standard Log #:	IC0592	Standard:	IC Low Level Spike
Analyst:	JJF	Concentrations:	30 mg/L
Prep Date:	04/04/2016	Expiration Date (1 Month):	05/04/2016
Prep:	Into a 100 ml volumetric flask pipette 3.0 ml of Phosphate (1000mg/L) IC0486 and fill to volume with Milli-Q H_2O.		

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Standard Log #:	IC0591	Standard/Reagent:	Nitrite Calibration STD.
Analyst:	JJF	Final Concentration:	10 mg/L
Prep Date:	03/31/2016	Expiration Date:	04/02/2016
Prep:	Into a 100 mL volumetric add 1 mL nitrite standard IC0396 and dilute to 100 mL with Milli-Q water.		

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Standard Log #:	IC0584	Standard:	IC LCSW/ICV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	03/28/2016	Expiration Date (1 Month):	04/28/2016
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) IC0391 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0585	Standard:	IC LCSW/ICV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L
Prep Date:	03/28/2016	Expiration Date (1 Month):	04/28/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL 1000 mg/L Nitrite W37105 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0586	Standard:	IC Low Level o-Phos CC\
Analyst:	JJF	Concentrations:	0.1mg/L Phosphate
Prep Date:	03/28/2016	Expiration Date (1 month):	04/28/2016
Prep:	Into a 200 ml volumetric flask pipette 0.02ml Phosphate(1000mg/L) IC0486 and fill to volume with Milli Q H_2O.		

Standard Log #:	IC0587	Standard:	IC Low Level LCS-ICV
Analyst:	JJF	Concentrations:	0.1mg/L Phosphate
Prep Date:	03/28/2016	Expiration Date (1 Month):	04/28/2016
Prep:	Into a 100 ml volumetric flask pipette 0.01 ml of Phosphate (1000mg/L) IC0516 and fill to volume with Milli-Q H_2O.		

Standard Log #:	IC0588	Standard:	IC Low Level Spike
Analyst:	JJF	Concentrations:	30 mg/L
Prep Date:	03/28/2016	Expiration Date (1 Month):	04/28/2016
Prep:	Into a 100 ml volumetric flask pipette 3.0 ml of Phosphate (1000mg/L) IC0486 and fill to volume with Milli-Q H_2O.		

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Author: JFAUST on: 28.03.2016 08:07:36
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Standard Log #:	IC0582	Standard:	IC Calibration Metrohm
Analyst:	JJF	Concentrations:	10mg/L - NO_2, NO_3, PO_4, Br, F 100mg/L - SO_4, Cl
Prep Date:	03/23/2016	Expiration Date (48 hours):	03/25/2016
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) IC0395, Nitrite (1000mg/L) IC0396, Bromide (1000mg/L) IC0178, Nitrate (1000mg/L) IC0403, Phosphate (1000mg/L) IC0486, and 10 mL each of Sulfate (1000mg/L) IC0419, and Chloride (1000mg/L) IC0576.		

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Author: JFAUST on: 23.03.2016 11:56:06
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Project: Unassigned
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Standard Log #:	IC0579	Standard:	IC Spike Mixed
Analyst:	JJF	Concentrations:	64 mg/L - Br, NO_3, PO_4 256 mg/L - Cl, SO_4
Prep Date:	03/21/2016	Expiration Date (1 Month):	04/07/16 for Br only. Oth
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Bromide IC0178, Nitrate IC0403, and Phosphate IC0486 and 25.6 mL 1000 mg/L Chloride IC0576 and Sulfate IC0419 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0580	Standard:	IC Spike Nitrite & Fluoride
Analyst:	JJF	Concentrations:	32 mg/L - Fluoride 64 mg/L - Nitrite
Prep Date:	03/21/2016	Expiration Date (1 Month):	04/21/2016
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite IC0396 and 3.2 mL 1000 mg/L Fluoride IC0395 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0581	Standard:	IC Eluent Dionex
Analyst:	JJF	Concentrations:	3.5 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	03/21/2016	Expiration Date (1 Year):	03/21/2017
Prep:	Into a 10L carboy, pipetted 20mL of Dionex eluent concentrate IC0400 and brought to volume with Milli-Q DI H_20.		

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Author: JFAUST on: 21.03.2016 17:27:05
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Standard Log #:	IC0576	Standard/Reagent:	Chloride IC stock Standard
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	03/16/2016	Expiration Date:	03/16/2017
Prep:	AccuSPEC IC Standard Chloride @ 1000 mg/L Lot #S150923021 Catalog #250-220-37x		

Standard Log #:	IC0577	Standard:	IC CCV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	03/16/2016	Expiration Date (1 Month):	04/06/16 for Br 4/16/201
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride IC0395, Phosphate IC0486, Bromide IC0178, and Nitrate IC0403, 15 ml 1000 mg/L Chloride IC0576, and 25 ml 1000 mg/L Sulfate IC0419 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0578	Standard:	IC CCV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - NO_2
Prep Date:	03/16/2016	Expiration Date (1 Month):	04/16/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. IC0396 and brought to volume with Milli-Q DI H_20.		

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NOTEBOOK VIEW: LTN_LPVO3_02_IC_Default, NOTEBOOK: LPVO3_02_IC, PAGE: 70
Page is Locked
Author: jfaust on: 09.03.2016 11:32:34
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Project: Unassigned
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Standard Log #:	IC0568	Standard:	IC LCSW/ICV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	02/25/2016	Expiration Date (1 Month):	03/25/2016
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) IC0391 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0569	Standard:	IC LCSW/ICV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L
Prep Date:	02/25/2016	Expiration Date (1 Month):	03/25/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL 1000 mg/L Nitrite W37105 and brought to volume with Milli-Q DI H_20.		

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NOTEBOOK VIEW: LTN_LPVO3_02_IC_Default, NOTEBOOK: LPVO3_02_IC, PAGE: 67
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Author: JFAUST on: 22.02.2016 13:03:38
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Project: Unassigned
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Standard Log #:	IC0560	Standard:	IC Spike Nitrite & Fluoride
Analyst:	JJF	Concentrations:	32 mg/L - Fluoride 64 mg/L - Nitrite
Prep Date:	02/19/2016	Expiration Date (1 Month):	03/19/2016
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite IC0396 and 3.2 mL 1000 mg/L Fluoride IC0395 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0561	Standard:	IC Spike Mixed
Analyst:	JJF	Concentrations:	64 mg/L - Br, NO_3, PO_4 256 mg/L - Cl, SO_4
Prep Date:	02/19/2016	Expiration Date (1 Month):	03/19/2016
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Bromide IC0178, Nitrate IC0403, and Phosphate IC0486 and 25.6 mL 1000 mg/L Chloride IC0287 and Sulfate IC0419 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0562	Standard:	IC CCV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	02/19/2016	Expiration Date (1 Month):	03/19/2016
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride IC0395, Phosphate IC0486, Bromide IC0178, and Nitrate IC0403, 15 ml 1000 mg/L Chloride IC0287, and 25 ml 1000 mg/L Sulfate IC0419 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0563	Standard:	IC CCV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - NO_2
Prep Date:	02/19/2016	Expiration Date (1 Month):	03/19/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. IC0396 and brought to volume with Milli-Q DI H_20.		

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Author: JFAUST on: 22.02.2016 13:03:31
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Standard Log #:	IC0558	Standard/Reagent:	Calibration Oxyhalides and r
Analyst:	JJF	Final Concentration:	10mg/L - NO2, NO3, PO4, E
Prep Date:	02/17/2016	Expiration Date:	02/19/2016
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) (1), Nitrite (1000mg/L) (2), Bromide (1000mg/L) (3), Nitrate (1000mg/L) (4), Phosphate (1000mg/L) (5), Chlorite (1000 mg/L), (6) Chlorate (1000 mg/L) (7) and 10 mL each of Sulfate (1000mg/L) (8), and Chloride (1000mg/L) (9).		

Standard Log #:	IC0559	Standard/Reagent:	Eluent for ASupp 7 Column
Analyst:	JJF	Final Concentration:	3.6 mmoles/L Sodium Carbo
Prep Date:	02/17/2016	Expiration Date:	02/17/2017
Prep:	Into a 2 liter volumetric flask add 0.763 grams Sodium Carbonate (W38024) and dilute to 2 liters with Milli-Q- DI water.		

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Author: jfaust on: 17.02.2016 16:07:38
Page is not Witnessed
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Standard Log #:	IC0556	Standard/Reagent:	Eluent for Chlorite and Chlor
Analyst:	JJF	Final Concentration:	3.6 mmol/L Sodium Carbona
Prep Date:	02/15/2016	Expiration Date:	02/15/2017
Prep:	Into a 2 Liter volumetric add 0.763 grams Sodium carbonate (W38024) and dilute to 2 Liters with Milli-Q DI water.		

Standard Log #:	IC0557	Standard/Reagent:	Metrosep A Column fro IC
Analyst:	JJF	Final Concentration:	N/A
Prep Date:	02/15/2016	Expiration Date:	N/A
Prep:	Metrohm Metrosep A Supp 7 - 250/4.0 (6.1006.630) Serial # 9310042		

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Standard Log #:	IC0554	Standard:	IC Eluent Dionex
Analyst:	JJF	Concentrations:	3.5 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	02/12/2016	Expiration Date (1 Year):	02/12/2017
Prep:	Into a 10L carboy, pipetted 20mL of Dionex eluent concentrate IC0400 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0555	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	02/12/2016	Expiration Date (1 Year):	02/12/2017
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0141 and brought to volume with Milli-Q Di water.		

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Author: jfaust on: 09.02.2016 08:05:39
Witness: akurth on: 10.02.2016 13:50:48
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Standard Log #:	IC0553	Standard:	IC Suppressor Regen Metrohm
Analyst:	JJF	Concentrations:	0.1 M Sulfuric Acid
Prep Date:	02/08/2016	Expiration Date (6 months):	08/08/2016
Prep:	Into a 1L volumetric flask, pipetted 5.6mL of Sulfuric Acid W38211 and brought to volume with Milli-Q Di water.		

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Author: JFAUST on: 08.02.2016 10:39:43
Witness: akurth on: 10.02.2016 13:50:33
Project: Unassigned
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Standard Log #:	IC0551	Standard/Reagent:	IC MID LEVEL CCV
Analyst:	JJF	Final Concentration:	3 mg/l Cl AND 5 mg/L SO4
Prep Date:	02/03/2016	Expiration Date:	03/03/2016
Prep:	Into a 100 mL volumetric add 0.30 mL Chloride Std @1000 mg/L (IC 0287) and 0.50 mL Sulfate Std @ 1000 mg/L (IC0419) and dilute to 100 mL with Milli-Q DI water.		

Standard Log #:	IC0552	Standard:	IC Calibration Mid Level
Analyst:	JJF	Concentrations:	1.0mg/L - NO_2, NO_3, PO_4, Br, F 10mg/L - SO_4, Cl
Prep Date:	02/03/2016	Expiration Date (48 Hours):	03/05/2016
Prep:	Into a 100 mL volumetric flask pipetted .1 mL of 1000 mg/L Nitrite IC, Fluoride IC, Bromide IC, Nitrate IC, and Phosphate IC and 1mL of Sulfate IC0419 and Chloride IC0287 and brought to volume with Milli-Q DI H_20.		

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Author: JFAUST on: 03.02.2016 10:47:50
Witness: akurth on: 10.02.2016 13:49:46
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Standard Log #:	IC0550	Standard:	IC LCSW/ICV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L
Prep Date:	02/01/2016	Expiration Date (1 Month):	03/01/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL 1000 mg/L Nitrite W37105 and brought to volume with Milli-Q DI H_20.		

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Author: jfaust on: 29.01.2016 10:48:07
Witness: akurth on: 10.02.2016 13:48:19
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Standard Log #:	IC0543	Standard:	IC LCSW/ICV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	01/26/2016	Expiration Date (1 Month):	02/26/2016
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) IC0391 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0544	Standard:	IC Mid Level LCS
Analyst:	JJF	Concentrations:	0.70 mg/L F, NO_2, Br, NO_3, $P0_4$, 3.0 mg/L Cl, 5.0 mg/L SO_4
Prep Date:	01/26/2016	Expiration Date (48 hours):	01/28/2016
Prep:	Into a 100 ml volumetric flask pipette 10ml Mixed LCS (7mg/L F, NO_3, PO_4, Br & 50 mg/L SO_4 & 30 mg/L Cl) IC0543 and 10 mL Nitrite LCS (7 mg/L NO_2) IC0496 and dilute to		

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Standard Log #:	IC0535	Standard:	IC Mid Level LCS
Analyst:	JJF	Concentrations:	0.70 mg/L F, NO_2, Br, NO_3, $P0_4$, 3.0 mg/L Cl, 5.0 mg/L SO_4
Prep Date:	01/21/2016	Expiration Date (48 hours):	01/23/2016
Prep:	Into a 100 ml volumetric flask pipette 10ml Mixed LCS (7mg/L F, NO_3, PO_4, Br & 50 mg/L SO_4 & 30 mg/L Cl) IC0495 and 10 mL Nitrite LCS (7 mg/L NO_2) IC0496 and dilute to		

Standard Log #:	IC0536	Standard:	IC CCV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	01/21/2016	Expiration Date (1 Month):	02/21/2016
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride IC0395, Phosphate IC0486, Bromide IC0178, and Nitrate IC0403, 15 ml 1000 mg/L Chloride IC0287, and 25 ml 1000 mg/L Sulfate IC0419 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0537	Standard:	IC CCV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - NO_2
Prep Date:	01/21/2016	Expiration Date (1 Month):	02/21/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. IC0396 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0538	Standard:	IC Mid Level CCV
Analyst:	JJF	Concentrations:	0.70 mg/L F, NO_2, Br, NO_3, $P0_4$, 3.0 mg/L Cl, 5.0 mg/L SO_4
Prep Date:	01/21/2016	Expiration Date (48 hours):	02/21/2016
Prep:	Into a 100 ml volumetric flask pipette 10ml Mixed CCV (7mg/L F, NO_3, PO_4, Br & 50 mg/L SO_4 & 30 mg/L Cl) IC0536 and 10 mL Nitrite CCV (7 mg/L NO_2) IC0537 and dilute to		

Standard Log #:	IC0539	Standard/Reagent:	Cl & SO4 Working Std.
Analyst:	JJF	Final Concentration:	100 mg/L
Prep Date:	01/21/2016	Expiration Date:	01/23/2016
Prep:	Into a 25 mL volumetric add 2.5 mL Chloride (IC0287) and 2.5 mL SO4 (IC0419) and dilute to 25 mL with Milli-Q water.		

Standard Log #:	IC0540	Standard/Reagent:	ML MDL STANDARDS
Analyst:	JJF	Final Concentration:	0.30 mg/L
Prep Date:	01/21/2016	Expiration Date:	01/23/2016
Prep:	Into 8 100 mL volumetric flasks pipette 0.30 mL (IC0539) Chloride and Sulfate working standard and bring to volume with Milli-Q water.		

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Author: jfaust on: 19.01.2016 08:33:08
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Standard Log #:	IC0526	Standard:	IC LL o-Phos Working Std.
Analyst:	JJF	Concentrations:	50mg/L Phosphate
Prep Date:	01/18/2016	Expiration Date (48 hours):	01/20/2016
Prep:	Into a 100 ml volumetric flask pipette 5ml Phosphate(1000mg/L) IC0486 and fill to volume with Milli Q H_2O.		

Standard Log #:	IC0527	Standard/Reagent:	LL o-Phos Calibration Std.
Analyst:	JJF	Final Concentration:	0.40 mg/L
Prep Date:	01/18/2016	Expiration Date:	01/20/2016
Prep:	Into a 50 mL volumetric pipette 0.40 mL of (IC0526) LL o-Phos working standard and dilute to 50 mL with Milli-Q water.		

Standard Log #:	IC0528	Standard:	IC Spike Mixed
Analyst:	JJF	Concentrations:	64 mg/L - Br, NO_3, PO_4 256 mg/L - Cl, SO_4
Prep Date:	01/18/2016	Expiration Date (1 Month):	02/18/2016
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Bromide IC0178, Nitrate IC0403, and Phosphate IC0486 and 25.6 mL 1000 mg/L Chloride IC0287 and Sulfate IC0419 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0529	Standard:	IC Spike Nitrite & Fluorid
Analyst:	JJF	Concentrations:	32 mg/L - Fluoride 64 mg/L - Nitrite
Prep Date:	01/18/2016	Expiration Date (1 Month):	02/18/2016
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite IC0396 and 3.2 mL 1000 mg/L Fluoride IC0395 and brought to volume with Milli-Q DI H_20.		

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Author: jfaust on: 21.01.2016 13:38:19
Witness: akurth on: 10.02.2016 13:39:21
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Standard Log #:	IC0524	Standard/Reagent:	COLUMN STORAGE SOLU
Analyst:	JJF	Final Concentration:	10 mm/L NA2CO3
Prep Date:	01/14/2016	Expiration Date:	01/14/2017
Prep:	Into a 250 mL volumetric add 0.265 grams Na2CO3 (IC0145) and dilute to 250 mL with Milli-Q water.		

Standard Log #:	IC0525	Standard/Reagent:	METROHM COLUMN
Analyst:	JJF	Final Concentration:	ASUPP 5-150/4.0
Prep Date:	01/14/2016	Expiration Date:	
Prep:	Metrosep A Supp 5- 150/4.0 Column Catalog # 6.1006.520 Serial #5150615076		

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Standard Log #:	IC0512	Standard:	IC Cal Nitrite WS Dionex
Analyst:	JJF	Concentrations:	50mg/L Nitrite
Prep Date:	01/12/2016	Expiration Date (48 Hours):	01/14/2016
Prep:	Into a 100 mL volumetric flasks pipetted 5.0 mL of Nitrite (1000 mg/L) IC0396 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0513	Standard:	IC Cal Nitrite Dionex
Analyst:	JJF	Concentrations:	N/A
Prep Date:	01/12/2016	Expiration Date (48 Hours):	01/14/2016
Prep:	Into 6 separate 100 mL volumetric flasks pipetted 0, 0.2, 1.0, 2.0, 4.0, 10.0 mL of Nitrite working standard (50 mg/L) IC0512 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0514	Standard:	IC LL o-Phos Working Std.
Analyst:	JJF	Concentrations:	50mg/L Phosphate
Prep Date:	01/12/2016	Expiration Date (48 hours):	01/12/2016
Prep:	Into a 100 ml volumetric flask pipette 5ml Phosphate(1000mg/L) IC0486 and fill to volume with Milli Q H_2O.		

Standard Log #:	IC0515	Standard/Reagent:	IC LLo-Phos Calibration Std.
Analyst:	JJF	Final Concentration:	0.40 mg/L
Prep Date:	01/12/2016	Expiration Date:	01/14/2016
Prep:	Into a 50 mL volumetric pipette 0.40 mL Phosphate working Standard (50 mg/L) IC0514 and dilute to 50 mL with Milli-Q water.		

Standard Log #:	IC0516	Standard/Reagent:	Phosphate Standard Secon
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	01/12/2016	Expiration Date:	11/30/2016
Prep:	SPEX CertiPrep 1000 mg/L Phosphate Anion Standard Lot# 3-103PO4P-2Y Catalog # AS-PO4P9-2Y		

Standard Log #:	IC0517	Standard:	IC Low Level LCS-ICV
Analyst:	JJF	Concentrations:	0.1mg/L Phosphate
Prep Date:	01/12/2016	Expiration Date (1 Month):	02/12/2016
Prep:	Into a 100 ml volumetric flask pipette 0.01 ml of Phosphate (1000mg/L) IC0516 and fill to volume with Milli-Q H_2O.		

Standard Log #:	IC0518	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	1/12/2016	Expiration Date (1 Year):	01/12/2017
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0141 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0519	Standard:	IC Low Level o-Phos CC
Analyst:	JJF	Concentrations:	0.1mg/L Phosphate
Prep Date:	1/12/2016	Expiration Date (1 month):	2/12/2016
Prep:	Into a 200 ml volumetric flask pipette 0.02ml Phosphate(1000mg/L) IC0486 and fill to volume with Milli Q H_2O.		

Standard Log #:	IC0520	Standard:	IC Cal Nitrite Metrohm
Analyst:	JJF	Concentrations:	10.0mg/L Nitrite
Prep Date:	1/12/2016	Expiration Date (48 Hours):	1/14/2016
Prep:	Into a 100 mL volumetric flask pipetted 1.0 mL of Nitrite (1000 mg/L) IC0396 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0521	Standard/Reagent:	LL o-Phos LOQ STD
Analyst:	JJF	Final Concentration:	0.02 mg/L
Prep Date:	01/12/2016	Expiration Date:	01/14/2016
Prep:	Into a 100 mL volumetric pipette 0.04 mL working std (IC0514) @ 50 mg/L and dilute to 100 mL with Milli-Q water.		

Standard Log #:	IC0515	Standard/Reagent:	IC LLo-Phos Calibration Std.
Analyst:	JJF	Final Concentration:	0.40 mg/L
Prep Date:	01/12/2016	Expiration Date:	01/14/2016
Prep:	Into a 50 mL volumetric pipette 0.40 mL Phosphate working Standard (50 mg/L) IC0514 and dilute to 50 mL with Milli-Q water.		

Standard Log #:	IC0516	Standard/Reagent:	Phosphate Standard Secon
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	01/12/2016	Expiration Date:	11/30/2016
Prep:	SPEX CertiPrep 1000 mg/L Phosphate Anion Standard Lot# 3-103PO4P-2Y Catalog # AS-PO4P9-2Y		

Standard Log #:	IC0517	Standard:	IC Low Level LCS-ICV
Analyst:	JJF	Concentrations:	0.1mg/L Phosphate
Prep Date:	01/12/2016	Expiration Date (1 Month):	02/12/2016
Prep:	Into a 100 ml volumetric flask pipette 0.01 ml of Phosphate (1000mg/L) IC0516 and fill to volume with Milli-Q H_2O.		

Standard Log #:	IC0518	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	1/12/2016	Expiration Date (1 Year):	01/12/2017
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0141 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0519	Standard:	IC Low Level o-Phos CC\
Analyst:	JJF	Concentrations:	0.1mg/L Phosphate
Prep Date:	1/12/2016	Expiration Date (1 month):	2/12/2016
Prep:	Into a 200 ml volumetric flask pipette 0.02ml Phosphate(1000mg/L) IC0486 and fill to volume with Milli Q H_2O.		

Standard Log #:	IC0520	Standard:	IC Cal Nitrite Metrohm
Analyst:	JJF	Concentrations:	10.0mg/L Nitrite
Prep Date:	1/12/2016	Expiration Date (48 Hours):	1/14/2016
Prep:	Into a 100 mL volumetric flask pipetted 1.0 mL of Nitrite (1000 mg/L) IC0396 and brought to volume with Milli-Q DI H_20.		

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Standard Log #:	IC0504	Standard:	IC LOD-LOQ2
Analyst:	JJF	Concentrations:	
Prep Date:	01/08/2016	Expiration Date (48 hours):	01/10/2016

Prep:

LOD Check:
Into a 100mL Volumetric flask pipetted the following, then brought to volume with Milli-Q DI water.

Fluoride	0.010	mL	IC0395	Nitrate	0.015	mL	IC0403
Chloride	0.200	mL	IC	Phosphate	0.025	mL	IC0486
Nitrite	0.020	mL	IC0396	Sulfate	0.250	mL	IC
Bromide	0.020	mL	IC0178				

LOQ Check:
Into a 100mL Volumetric flask pipetted the following, then brought to volume with Milli-Q DI water.

Fluoride	0.030	mL	IC0395	Nitrate	0.040	mL	IC0403
Chloride	0.400	mL	IC	Phosphate	0.050	mL	IC0486
Nitrite	0.040	mL	IC0396	Sulfate	0.500	mL	IC
Bromide	0.050	mL	IC0178				

Standard Log #:	IC0505	Standard:	IC Calibration Metrohm
Analyst:	JJF	Concentrations:	10mg/L - NO_2, NO_3, PO_4, Br, F 100mg/L - SO_4, Cl
Prep Date:	01/08/2016	Expiration Date (48 hours):	01/10/2016

Prep:

Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) IC0395, Nitrite (1000mg/L) IC0396, Bromide (1000mg/L) IC0178, Nitrate (1000mg/L) IC0403, Phosphate (1000mg/L) IC0486, and 10 mL each of Sulfate (1000mg/L) IC, and Chloride (1000mg/L) IC.

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LPVO3-02
IC Prep Logbook
Logbook Created: 08/13/2015
NOTEBOOK VIEW: LTN_LPVO3_02_IC_Default, NOTEBOOK: LPVO3_02_IC, PAGE: 42
Page is Locked
Author: jfaust on: 08.01.2016 10:38:58
Page is not Witnessed
Project: Unassigned
Page Title: 123115

Standard Log #:	IC0495	Standard:	IC LCSW/ICV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	12/31/2015	Expiration Date (1 Month):	1/31/2016
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) IC0391 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0496	Standard:	IC LCSW/ICV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L
Prep Date:	12/31/2015	Expiration Date (1 Month):	1/31/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL 1000 mg/L Nitrite W37105 and brought to volume with Milli-Q DI H_20.		

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LPVO3-02
IC Prep Logbook
Logbook Created: 08/13/2015
NOTEBOOK VIEW: LTN_LPVO3_02_IC_Default, NOTEBOOK: LPVO3_02_IC, PAGE: 36
Page is Locked
Author: JFAUST on: 17.12.2015 09:55:14
Page is not Witnessed
Project: Unassigned
Page Title: 121515

Standard Log #:	IC0484	Standard:	IC Spike Mixed
Analyst:	JJF	Concentrations:	64 mg/L - Br, NO_3, PO_4 256 mg/L - Cl, SO_4
Prep Date:	12/15/2015	Expiration Date (1 Month):	1/15/2016
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Bromide IC0178, Nitrate IC0403, and Phosphate IC0486 and 25.6 mL 1000 mg/L Chloride IC0287 and Sulfate IC0419 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0485	Standard:	IC Spike Nitrite & Fluorid
Analyst:	JJF	Concentrations:	32 mg/L - Fluoride 64 mg/L - Nitrite
Prep Date:	12/15/2015	Expiration Date (1 Month):	1/15/2016
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite IC0396 and 3.2 mL 1000 mg/L Fluoride IC0395 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0486	Standard/Reagent:	IC PHOSPHATE STANDAR
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	12/15/2015	Expiration Date:	12/15/2016
Prep:	AccuSPEC IC Standard Phosphate as Phosphorus 1000 mg/L Lot #S151013001 Cat # 250-220-61x		

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LPVO3-02
IC Prep Logbook
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NOTEBOOK VIEW: LTN_LPVO3_02_IC_Default, NOTEBOOK: LPVO3_02_IC, PAGE: 33
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Page is not Witnessed
Project: Unassigned
Page Title: 120115

Standard Log #:	IC0474	Standard:	IC ICAL Mixed Std. Dionex
Analyst:	JJF	Concentrations:	50mg/L - NO_2, NO_3, PO_4, Br, F
Prep Date:	12/01/2015	Expiration Date (48 Hours):	12/03/2015
Prep:	Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite IC0396, Fluoride IC0395, Bromide IC0178, Nitrate IC0403, and Phosphate IC0001 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0475	Standard:	IC_Calibration_Dionex_C
Analyst:	JJF	Concentrations:	N/A
Prep Date:	12/01/2015	Expiration Date (48 hours):	12/03/2015

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Mixed Std (50mg/L) IC0474	0	0.2	0.6	1.0	2.0	4.0	10.0	14.0	20.0
Chloride (1000mg/L) IC0287	0	0.05	0.075	0.1	0.5	1.0	2.0	3.0	4.0
Sulfate (1000mg/L) IC0419	0	0.05	0.075	0.1	0.5	1.0	3.0	5.0	7.0

Standard Log #:	IC0476	Standard:	IC Suppressor Regen Metrohm
Analyst:		Concentrations:	0.1 M Sulfuric Acid

Standard Log #:	IC0472	Reagent:	Dionex IonPac AS14 Colum
Analyst:	JJF	Final Concentration:	
Prep Date:	11/30/2015	Expiration Date:	
Prep:	Thermo Scientific Dionex Ion Pac AS14 Column 4 x250 mm Lot # 014-11-185		

Standard Log #:	IC0473	Reagent:	Dionex Guard Column
Analyst:	JJF	Final Concentration:	
Prep Date:	11/30/2015	Expiration Date:	
Prep:	Thermo Scientific Dionex IonPac AG14 4 x 50 mm Lot# 014-11-086		

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		Month):	
Prep:	Into a 100 mL volumetric flask pipette 1mL TPhos ICV/LCS stock (1000mg/L) W36090 and fill to volume with LL H_2SO_4 diluent W37554 .		

		Month):	
Prep:	Into a 50 mL volumetric flask pipette 1mL TPhos ICV/LCS working (10mg/L) W38021 and fill to volume with TMG H_2SO_4 diluent W37554 .		

Standard Log #:	W38023	Reagent:	TPHOS LL ICAL
Analyst:	LJS	Concentration:	500 µg/L
Prep Date:	11/30/15	Expiration Date (1 month):	12/30/15
Prep:	Into a 100 mL volumetric flask pipette 5 mL LL TPhos ICal/ CCV working (10 mg/L) W38018 and fill to volume with LL H_2SO_4 diluent W37554		

Standard ID#:	W38024	Vendor:	VWR
Analyst:	LJS	Chemical:	SODIUM CARBONATE ANHYDROUS
Date Received:	11/30/15	Lot #:	1205C104
Expiration Date (if any):	N/A	Catalog #:	0585-500G

Standard Log #:	W38025	Reagent:	COD SPIKE/ LCS STK
Analyst:	LJS	Concentration:	2000 mg/L
Prep Date:	11/30/15	Expiration Date (3 Months):	2/30/16
Prep:	Into a 500mL volumetric flask dissolve 0.85g Potassium Hydrogen Phthalate (KHP) W34207 and fill to volume with DI H_2O.		

Standard Log #:	W38026	Standard:	COD LCS
Analyst:	LJS	Concentration:	400MG/L
Prep Date:	11/30/15	Expiration Date (3 Months):	2/30/15
Prep:	Into a 250mL volumetric flask, pipette 50mL of 2000mg/L COD Spike/LCS Stock (1) and fill to volume with DI water. (1) W38025		

LPVO3-02
IC Prep Logbook
Logbook Created: 08/13/2015
NOTEBOOK VIEW: LTN_LPVO3_02_IC_Default, NOTEBOOK: LPVO3_02_IC, PAGE: 26
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Project: Unassigned
Page Title: 111015

Standard Log #:	IC0452	Standard:	IC Cal Nitrite Metrohm
Analyst:	JJF	Concentrations:	10.0mg/L Nitrite
Prep Date:	11/10/2015	Expiration Date (48 Hours):	11/13/2015
Prep:	Into a 100 mL volumetric flask pipetted 1.0 mL of Nitrite (1000 mg/L) IC0396 and brought to volume with Milli-Q DI H_20.		

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LPVO3-02
IC Prep Logbook
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NOTEBOOK VIEW: LTN_LPVO3_02_IC_Default, NOTEBOOK: LPVO3_02_IC, PAGE: 16
Page is Unlocked
Page is not Witnessed
Project: Unassigned
Page Title: N/A

Standard Log #:	IC0417	Standard:	IC CCV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	10/15/2015	Expiration Date (1 Month):	11/15/2015
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride 0395, Phosphate IC0001, Bromide IC0178, and Nitrate IC0403, 15 ml 1000 mg/L Chloride IC0287, and 25 ml 1000 mg/L Sulfate IC and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0418	Standard:	IC CCV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - NO_2
Prep Date:	10/15/2015	Expiration Date (1 Month):	11/15/2015
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. IC0396 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0419	Standard/Reagent:	SULFATE STANDARD
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	10/15/2015	Expiration Date:	10/15/2016
Prep:	AccuSPEC Sulfate Standard for Ion Chromatography Lot # S150115013 Catalog #250-220-70x		

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LPVO3-02
IC Prep Logbook
Logbook Created: 08/13/2015
NOTEBOOK VIEW: LTN_LPVO3_02_IC_Default, NOTEBOOK: LPVO3_02_IC, PAGE: 10
Page is Locked
Author: JFAUST on: 12.10.2015 08:32:53
Page is not Witnessed
Project: Unassigned
Page Title: 092215

Standard Log #:	IC0401	Standard:	IC CCV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	09/22/2015	Expiration Date (1 Month):	10/22/2015
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride IC0395, Phosphate IC0001, Bromide IC0178, and Nitrate IC, 15 ml 1000 mg/L Chloride IC0287, and 25 ml 1000 mg/L Sulfate IC0186 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0402	Standard:	IC CCV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - NO_2
Prep Date:	09/22/2015	Expiration Date (1 Month):	10/22/2015
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. IC0396 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0403	Standard/Reagent:	NO3 STANDARD
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	09/22/2015	Expiration Date:	9/22/2016
Prep:	Accu SPEC Nitrate Standard for Ion Chromatography Cat #250-220-521 Lot # S150804004		

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Standard Log #:	IC0400	Standard:	IC Eluent Conc. Dionex
Analyst:	JJF	Concentrations:	1.75 M Sodium Carbonate 0.5 M Sodium Bicarbonate
Prep Date:	09/15/2015	Expiration Date (1 Year):	09/15/2016
Prep:	Into a 2L volumetric flask, dissolved 371g of Sodium Carbonate IC0145 and 84.0g of Sodium Bicarbonate W25134 and brought to volume with Milli-Q DI H_2O. (500x concentrate)		

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LPVO3-02
IC Prep Logbook
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NOTEBOOK VIEW: LTN_LPVO3_02_IC_Default, NOTEBOOK: LPVO3_02_IC, PAGE: 8
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Project: Unassigned
Page Title: 090915

Standard Log #:	IC0395	Standard/Reagent:	Fluoride Std
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	09/09/2015	Expiration Date:	09/09/2016
Prep:	AccuSPEC IC Standard @ 1000 ug/ml Lot # S150818016 Catalog # 250-220-40x		

Standard Log #:	IC0396	Standard/Reagent:	Nitrite Std
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	09/09/2015	Expiration Date:	09/09/2016
Prep:	AccuSPEC IC Standard @ 1000 ug/ml Lot # S150410003 Catalog # 250-220-55x		

Standard Log #:	IC0397	Standard:	IC Spike Mixed
Analyst:	JJF	Concentrations:	64 mg/L - Br, NO_3, PO_4 256 mg/L - Cl, SO_4
Prep Date:	09/09/2015	Expiration Date (1 Month):	10/09/2015
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Bromide IC0178, Nitrate W35940, and Phosphate IC0001 and 25.6 mL 1000 mg/L Chloride IC0287 and Sulfate IC0186 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0391	Standard/Reagent:	Custom Ion Standard
Analyst:	JJF	Final Concentration:	1250 mg/L SO4, 750mg/L C
Prep Date:	08/31/2015	Expiration Date:	08/30/2016
Prep:	Cat# VCTI-3-500 Lot# 7-60-JKS		

LPVO3-01
IC Prep Logbook
Notebook Created: 01/12/2015
NOTEBOOK VIEW: LTN_IC_Logbook_01_Default, NOTEBOOK: IC_Logbook_01, PAGE: 94
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Page is not Witnessed
Project: Unassigned
Page Title: 072415

Standard Log #:	IC0310	Standard:	IC LL o-Phos Working Std.
Analyst:	JJF	Concentrations:	50mg/L Phosphate
Prep Date:	07/24/2015	Expiration Date (48 hours):	07/26/2015
Prep:	Into a 100 ml volumetric flask pipette 5ml Phosphate(1000mg/L) IC0001 and fill to volume with Milli Q H_2O.		

Standard Log #:	IC0311	Standard:	IC LL Phosphate Cal
Analyst:	JJF	Concentrations:	NA
Prep Date:	07/24/2015	Expiration Date (48 hours):	07/26/2015
Prep:	Into 8 separate 100 ml volumetric flasks pipette 0, 0.01, 0.02, 0.04, 0.06, 0.1, 0.2, and 0.4ml LL Ophos ICal Working (50mg/L) IC0310 and fill to volume with Milli-Q H_2O.		

Standard Log #:	IC0312	Standard/Reagent:	IC Chlorate Standard
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	07/24/2015	Expiration Date:	07/24/2016
Prep:	Accu SPEC Chlorate Standard @ 990 or - 10 mg/L Lot # S141009020 Catalog # 250-220-355		

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Standard ID#:	IC0300	Vendor:	SPEX CertiPrep
Analyst:	JJF	Chemical:	Chlorite Anion Standard 1000 ug/mL
Date Received:	07/21/2015	Lot #:	3-114CLO2-2Y
Expiration Date (if any):	1/30/2016	Catalog #:	AS-CLO29-2Y

Standard Log #:	IC0301	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	07/21/2015	Expiration Date (1 Year):	07/21/2016
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0141 and brought to volume with Milli-Q Di water.		

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Standard Log #:	IC0286	Standard:	IC CCV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - NO_2
Prep Date:	07/09/2015	Expiration Date (1 Month):	08/09/2015
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. W35415 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0287	Standard/Reagent:	ANIONS CHLORIDE STD
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	07/09/2015	Expiration Date:	07/09/2016
Prep:	ACCU SPEC Chloride Standard Lot #S141030011 Catalog # 250-220-371		

Standard Log #:	IC0288	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	07/09/2015	Expiration Date (1 Year):	07/09/2016
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0141 and brought to volume with Milli-Q Di water.		

Standard ID#:	W37105	Vendor:	SPEX
Analyst:	LJS	Chemical:	NITRITE-NITROGEN 1000UG/ML ST
Date Received:	MAY 2015	Lot #:	3-106N02N-2Y
Expiration Date (if any):	05-30-2016	Catalog #:	AS-N02N9-2Y

Standard Log #:	W37106	Standard:	CR6 WATER ICAL
Analyst:	MER	Concentration:	200 µg/L
Prep Date:	6/22/15	Expiration Date (1 Year):	10/28/15
Prep:	Into a 250mL volumetric flask pipette 5mL Ical/CCV working (10mg/L) W35703 and fill to volume with DI H_2O.		

Standard Log #:	W37107	Standard:	CR6 WATER LCS/ICV
Analyst:	MER	Concentration:	100 µg/L
Prep Date:	6/22/15	Expiration Date (1 Year):	10/28/15
Prep:	Into a 250mL volumetric flask pipette 2.5mL LCS/ICV working (10mg/L) W35700 and fill to volume with DI H_2O.		

Standard Log #:	IC0214	Standard/Reagent:	Metrsep A Supp 10- Column
Analyst:	JJF	Final Concentration:	
Prep Date:	04/24/2015	Expiration Date:	
Prep:	Metrohm Metrosep A Supp 10 -250/ 2.0 Column Catalog # 6.1020.230 Column S/N: 0016.3025		

Standard Log #:	IC0215	Standard/Reagent:	Metrosep A Guard Column
Analyst:	JJF	Final Concentration:	
Prep Date:	04/24/2015	Expiration Date:	
Prep:	Metrohm Metrosep A sup 10 Guard column 6.1020.600		

Standard Log #:	IC0178	Standard/Reagent:	Bromide IC Standard
Analyst:	JJF	Final Concentration:	1000mg/L
Prep Date:	04/06/2015	Expiration Date:	4/06/2016
Prep:	AccuSPEC IC Standard Lot #S141117006 Catalog # 250-220-235		

LPVO3-01
IC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_IC_Logbook_01_Default, NOTEBOOK: IC_Logbook_01, PAGE: 38
Page is Locked
Author: jfaust on: 04.03.2015 11:18:04
Witness: akurth on: 10.03.2015 10:28:34
Project: Unassigned
Page Title: N/A

Standard Log #:	IC0139	Standard:	IC Spike Nitrite & Fluorid
Analyst:	JJF	Concentrations:	32 mg/L - Fluoride 64 mg/L - Nitrite
Prep Date:	03/03/2015	Expiration Date (1 Month):	04/03/2015
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite W35415 and 3.2 mL 1000 mg/L Fluoride W35388 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0140	Standard:	IC Spike Mixed
Analyst:	JJF	Concentrations:	64 mg/L - Br, NO_3, PO_4 256 mg/L - Cl, SO_4
Prep Date:	03/03/2015	Expiration Date (1 Month):	04/03/2015
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Bromide W34057, Nitrate W35940, and Phosphate IC0001 and 25.6 mL 1000 mg/L Chloride IC0057 and Sulfate W35941 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0141	Standard:	IC Eluent Conc. Metrohm
Analyst:	JJF	Concentrations:	0.64M Sodium Carbonate 0.20M Sodium Bicarbonate
Prep Date:	03/03/2015	Expiration Date (1 Year):	03/03/2016
Prep:	Into a 1L volumetric flask, dissolved 67.8g of Sodium Carbonate W35065 and 16.8g of Sodium Bicarbonate W25134 and brought to volume with Milli-Q DI water. (200x concentrate)		

Standard Log #:	IC0142	Standard/Reagent:	10x ELUENT

LPVO3-01
IC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_IC_Logbook_01_Default, NOTEBOOK: IC_Logbook_01, PAGE: 39
Page is Locked
Author: JFAUST on: 06.03.2015 08:54:02
Witness: akurth on: 10.03.2015 10:28:46
Project: Unassigned
Page Title: 030415

Standard Log #:	IC0145	Standard/Reagent:	Sodium Carbonate Anhydrou
Analyst:	JJF	Final Concentration:	
Prep Date:	03/04/2015	Expiration Date:	02/28/2018
Prep:	JT Baker ACS reagent 500 grams Batch # 0000054491 CAS # 497-19-8 Catalog # 3602-01		

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W 5536 Fisher Ammonium Sulfate (A702-500)
AGC CAS 7783-20-2 LOT # 135994A
9/15/14 Opened 09/15/14

W 3506 Sodium Carbonate, Anhydrous Powder 500g 3602-01 JT Baker
W 3556 Batch# 0000071361 Retest Date 1/27/2021

CKS 7/30/17

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Read and Understood By

8/9/17 CKS
Signed Date Signed Date

W33940	IC Colum A-Supp-5 150/4.0			
Agil 03-24-14	Metrohm	CAT #	6.1006.520	Gel # 130520
W33941	IC Column A-Supp 10 - 250/4.0			
Agil 03-24-14	Metrohm	CAT #	6.1020.030	SN 0077.5035
W33942	IC Column A Supp 5- 150/4.0			
Agil 03-24-14	Metrohm	CAT #	6.1006.520	Gel # 130930
W33943	IC Column A-Supp 5 150/4.0			
Agil 03-24-14	Metrohm	CAT #	6.1006.520	Gel # 130625

3/28/14 CG

Signed Date Signed Date

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PROJECT

Notebook No. ____ ____
Continued From Page ____

11-23-14 Fisher Cat # DPS-25 exp: 11-23-15

W251354 CES 11/23/14 Sodium Bicarbonate Fisher Cat # S233-500 lot # 164706 exp 11/23/15

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Read and Understood By

Signed Date Signed Date

WCOD QSM Analytical Run
125013 on 04/25/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
118280	708711		04/13/2016 1550		BERING SEA ENVIRONMENTAL	RADFORD AAP	COD QSM		GW	**4**	
		49ADW01						56824			
118287	708770		04/13/2016 1145		BLUESTONE ENVIRONMENTAL GROUP	APG-SW	COD QSM		GW	**4**	
		APG-SW-PW11-041316						56824			
118287	708774		04/13/2016 1130		BLUESTONE ENVIRONMENTAL GROUP	APG-SW	COD QSM		GW	**4**	
		APG-SW-PW12-041316						56824			
118287	708775		04/13/2016 1420		BLUESTONE ENVIRONMENTAL GROUP	APG-SW	COD QSM		GW	**4**	
		APG-SW-PW16-041316						56824			
118287	708776		04/13/2016 1250		BLUESTONE ENVIRONMENTAL GROUP	APG-SW	COD QSM		GW	**4**	
		APG-SW-PW19-041316						56824			
118287	708777		04/13/2016 1340		BLUESTONE ENVIRONMENTAL GROUP	APG-SW	COD QSM		GW	**4**	
		APG-SW-PW20-041316						56824			
118287	708778		04/13/2016 1250		BLUESTONE ENVIRONMENTAL GROUP	APG-SW	COD QSM		GW	**4**	
		APG-SW-PW19D-041316						56824			
118287	708779		04/13/2016 0900		BLUESTONE ENVIRONMENTAL GROUP	APG-SW	COD QSM		GW	**4**	
		APG-SW-WW04R-041316						56824			
118287	708780		04/13/2016 0730		BLUESTONE ENVIRONMENTAL GROUP	APG-SW	COD QSM		GW	**4**	
		APG-SW-WW05-041316						56824			
118287	708781		04/13/2016 1000		BLUESTONE ENVIRONMENTAL GROUP	APG-SW	COD QSM		GW	**4**	
		APG-SW-WW09-041316						56824			
118287	708782		04/13/2016 0915		BLUESTONE ENVIRONMENTAL GROUP	APG-SW	COD QSM		GW	**4**	
		APG-SW-WW10-041316						56824			
118287	708783		04/13/2016 0810		BLUESTONE ENVIRONMENTAL GROUP	APG-SW	COD QSM		GW	**4**	
		APG-SW-WW11R-041316						56824			
118287	708785		04/13/2016 0810		BLUESTONE ENVIRONMENTAL GROUP	APG-SW	COD QSM		GW	**4**	
		APG-SW-WW11RD-041316						56824			
118319	709262		04/14/2016 1630		BERING SEA ENVIRONMENTAL	RADFORD AAP	COD QSM		GW	**4**	
		54ADW01						56824			
	710209						COD QSM				
				MBW				56824			
	710210						COD QSM				
				LCSW				56824			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WCOD QSM Analytical Run
125013 on 04/25/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME	QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	710211		04/13/2016 1145					COD QSM				
		APG-SW-PW11-041316		DUP	708770				56824			
	710212		04/13/2016 1145					COD QSM				
		APG-SW-PW11-041316		MSW	708770				56824			
	710213		04/13/2016 1145					COD QSM				
		APG-SW-PW11-041316		MSDW	710212				56824			
	713824							WCOD QSM				
				CCV								
	713825							WCOD QSM				
				CCV								
	713826							WCOD QSM				
				CCB								
	713827							WCOD QSM				
				CCV								
	713828							WCOD QSM				
				CCB								
	713829							WCOD QSM				
				ICV								
	713830							WCOD QSM				
				ICB								

26 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

PREP WORKSHEET 2
on 04/25/2016

Prep Batch: **56824**

Prepped By: _____

Date Prepped: _____

Date Entered: _____

Folder #	Order	QC Type	Link	Test	Client Company Name	Client Sample Description	Matrix	Sample Date / Time		Due Date	SDG Level
	710209	MBW	0	COD QSM			LIQUID				
	710210	LCSW	0	COD QSM			LIQUID				
118280	708711			COD QSM	BERING SEA ENVIRONMENT	49ADW01	GROUND WATER	4/13/16	1550	4/26/16	4
118287	708770			COD QSM	BLUESTONE ENVIRONMENT	APG-SW-PW11-041316	GROUND WATER	4/13/16	1145	4/26/16	4
	708774			COD QSM	BLUESTONE ENVIRONMENT	APG-SW-PW12-041316	GROUND WATER	4/13/16	1130	4/26/16	4
	708775			COD QSM	BLUESTONE ENVIRONMENT	APG-SW-PW16-041316	GROUND WATER	4/13/16	1420	4/26/16	4
	708776			COD QSM	BLUESTONE ENVIRONMENT	APG-SW-PW19-041316	GROUND WATER	4/13/16	1250	4/26/16	4
	708777			COD QSM	BLUESTONE ENVIRONMENT	APG-SW-PW20-041316	GROUND WATER	4/13/16	1340	4/26/16	4
	708778			COD QSM	BLUESTONE ENVIRONMENT	APG-SW-PW19D-041316	GROUND WATER	4/13/16	1250	4/26/16	4
	708779			COD QSM	BLUESTONE ENVIRONMENT	APG-SW-WW04R-041316	GROUND WATER	4/13/16	0900	4/26/16	4
	708780			COD QSM	BLUESTONE ENVIRONMENT	APG-SW-WW05-041316	GROUND WATER	4/13/16	0730	4/26/16	4
	708781			COD QSM	BLUESTONE ENVIRONMENT	APG-SW-WW09-041316	GROUND WATER	4/13/16	1000	4/26/16	4
	708782			COD QSM	BLUESTONE ENVIRONMENT	APG-SW-WW10-041316	GROUND WATER	4/13/16	0915	4/26/16	4
	708783			COD QSM	BLUESTONE ENVIRONMENT	APG-SW-WW11R-041316	GROUND WATER	4/13/16	0810	4/26/16	4
	708785			COD QSM	BLUESTONE ENVIRONMENT	APG-SW-WW11RD-041316	GROUND WATER	4/13/16	0810	4/26/16	4
118319	709262			COD QSM	BERING SEA ENVIRONMENT	54ADW01	GROUND WATER	4/14/16	1630	4/27/16	4
	710211	DUP	708770	COD QSM		APG-SW-PW11-041316	GROUND WATER	4/13/16	1145		

Distibution:

C:\LIMSREPS\PREPWRKSHT2.RPT

PREP WORKSHEET 2
on 04/25/2016

Folder #	Order	QC Type	Link	Test	Client Company Name	Client Sample Description	Matrix	Sample Date / Time	Due Date	SDG Level
	710212	MSW	708770	COD QSM		APG-SW-PW11-041316	GROUND WATER	4/13/16 1145		
	710213	MSDW	710212	COD QSM		APG-SW-PW11-041316	GROUND WATER	4/13/16 1145		

Control Spike/Control Spike Dup Reference Number:_____ Methanol Supplier/Lot #:_____

Notes:_____

PREP WORKSHEET 2
on 04/18/2016

Prep Batch: 56824

Date Prepped: 4/18/16

Prepped By: MEK

Date Entered:

CCV 1 D.F.

Folder #	Order	QC Type	Link	Test		Client Company Name	Client Sample Description	Matrix	Sample Date / Time		Due Date	SDG Level
	710209	MBW	040	COD QSM	1			LIQUID				
	710210	LCSW	039	COD QSM	1			LIQUID				
118285	708711	41		COD QSM	1	BERING SEA ENVIRONMENT	49ADW01	GROUND WATER	4/13/16	1550	4/26/16	4
118287	* 708770	42, 43 (DUP)	44 (MS)	45 (MSD) COD QSM	1	BLUESTONE ENVIRONMENT	APG-SW-PW11-041316	GROUND WATER	4/13/16	1145	4/26/16	4
	708774	46		COD QSM	1	BLUESTONE ENVIRONMENT	APG-SW-PW12-041316	GROUND WATER	4/13/16	1130	4/26/16	4
	708775	47		COD QSM	1	BLUESTONE ENVIRONMENT	APG-SW-PW16-041316	GROUND WATER	4/13/16	1420	4/26/16	4
	708776	48		COD QSM	1	BLUESTONE ENVIRONMENT	APG-SW-PW19-041316	GROUND WATER	4/13/16	1250	4/26/16	4
	708777	49		COD QSM	1	BLUESTONE ENVIRONMENT	APG-SW-PW20-041316	GROUND WATER	4/13/16	1340	4/26/16	4
	708778	50		COD QSM	1	BLUESTONE ENVIRONMENT	APG-SW-PW19D-041316	GROUND WATER	4/13/16	1250	4/26/16	4
	708779	51		COD QSM	1	BLUESTONE ENVIRONMENT	APG-SW-WW04R-041316	GROUND WATER	4/13/16	0900	4/26/16	4
	708780	52		COD QSM	1	BLUESTONE ENVIRONMENT	APG-SW-WW05-041316	GROUND WATER	4/13/16	0730	4/26/16	4
	708781	53		COD QSM	1	BLUESTONE ENVIRONMENT	APG-SW-WW09-041316	GROUND WATER	4/13/16	1000	4/26/16	4
	708782	54		COD QSM	1	BLUESTONE ENVIRONMENT	APG-SW-WW10-041316	GROUND WATER	4/13/16	0915	4/26/16	4
	708783	55		COD QSM	1	BLUESTONE ENVIRONMENT	APG-SW-WW11R-041316	GROUND WATER	4/13/16	0810	4/26/16	4
	708785	56		COD QSM	1	BLUESTONE ENVIRONMENT	APG-SW-WW11RD-041316	GROUND WATER	4/13/16	0810	4/26/16	4
118319	709262	57		COD QSM	1	BERING SEA ENVIRONMENT	54ADW01	GROUND WATER	4/14/16	1630	4/27/16	4
	710211	DUP	708770	COD QSM			APG-SW-PW11-041316	GROUND WATER	4/13/16	1145		

PREP WORKSHEET 2
on 04/18/2016

Folder #	Order	QC Type	Link	Test	Client Company Name	Client Sample Description	Matrix	Sample Date / Time		Due Date	SDG Level
	710212	MSW	708770	COD-QSM		APG-SW-PW11-041316	GROUND WATER	4/13/16	1145		
	710213	MSDW	710212	COD-QSM		APG-SW-PW11-041316	GROUND WATER	4/13/16	1145		

Control Spike/Control Spike Dup Reference Number:_____ Methanol Supplier/Lot #:_____

Notes:_____

COD Data Validation Checklist

LIMS #: 125013	Method: Chemical Oxygen Demand EPA 410.4			
Analysis Date	Analyst / Data Interpreter	Independent Reviewer	Date of Review	Approved
4/19/16	MER	[illegible]	4/25/16	(Yes) ... No

Instructions: Complete one checklist per *analytical run*. Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement:	Acceptance Criteria	Analyst Review		Independent Review		Comments: (indicate reference to an attachment if necessary)
		Yes	No	Yes	No	
1. Does a digestion sheet accompany the data package?	---	X		X		
2. Does the digestion sheet include all reagent and standard prep log numbers?	---	X		X		
3. Was a Method Blank prepared at the required frequency?	1per 20 samples or at contract/program specific frequencies	X		X		
4. Was the method blank within acceptance criteria?	< RL or client/project specific	X		X		
5. Was an LCS prepared at the required frequency?	1per 20 samples or at contract/program specific frequencies	X		X		
6. Was the LCS used before the indicated expiration date?	---	X		X		
7. Did the LCS meet the acceptance criteria?	Within in-house or client/project specific limits	X		X		
8. Was an MS and MSD prepared at the required frequency?	1per 10 per batch or at contract/program specific frequencies	X		X		
9. Did the MS/MSD's meet the acceptance criteria?	Within in-house or contract/program specific limits	X		X		
10. Did the MS/MSD's meet the RPD criteria?	Within in-house or contract/program specific limits	X		X		
11. Was a Duplicate prepared at the required frequency?	1per 10 per batch or at contract/program specific frequencies	X		X		
12. Did the Duplicate meet the RPD criteria?	Within in-house or contract/program specific limits	X		X		
13. Were the samples digested within hold time?	28 days	X		X		
14. Are all samples on the job lists accounted for?	---	X		X		

PROJECT _____ Notebook No. _____

Continued From Page _____

W18817 mwl 4-18-08 TOC Std. Prep Stock Std. 1000mg/L Into a 100mL Vol. dissolved 0.2128g Potassium Hydrogen Phthalate W16594 + brought to Vol. w/mQ DI H_2O exp 10-18-08

W18818 mwl 4-18-08 TOC LCS/PCV Stock Std 1000mg/L Into a 100mL Vol. dissolved 0.2128g Potassium Hydrogen Phthalate W16592 + brought to Vol. w/ mQ DI H_2O exp 10-18-08

W18819 (A+B) KMB 4-18-08 Baker Potassium Dichromate Cat # 3098-01 Lot # E18990 (2-bottles, A+B) Monthly

W18820 KMB 4-18-08 Spex Certiprep Custom Ion Std 1250 mg/L SO_4^-, 750 mg/L Cl and 175 mg/L Cat # VCIWI-3-500 Lot # 38-81AS exp 04/2009

W18821 KMB 4-18-08 Spex Certiprep NO_2^- Std 1000 mg/L Cat # AS-NO2W9-2Y Lot # 1+8 NO2W-2 exp. 4-15-2009

W18822 mwl 4-18-08 Pyridine Std Into a 500mL Vol. dissolved 7.5g Barbituric acid W17815 + Refluxed 2.5mL HCl W18494 + Volumetrically added 32.5mL Pyridine W17409 + brought to Vol. w/DI H_2O exp 4-25-08

W18823 mwl 4-18-08 Chloramines T Into a 500mL Vol. dissolved 2g W17811 + brought to Vol. w/DI H_2O exp 4-18-08

W18824 CES 4-21-08 NH_3 LCS Into a 200mL Vol. pipetted 1mL W18721 + filled to Vol. w/DI H_2O.

W18825 KMB 4-21-08 1% N Hypochlorite - Into a 500mL vol. pipetted 30mL Bleach W18141 and brought to Vol. w/DI H_2O. exp 4-22-08

W18826 KMB 4-21-08 0.8M NaOH - Into a 1L Vol. dissolved 32g NaOH W18384 and brought to Vol. w/DI H_2O exp. 5-21-08

W18827 KMB 4-21-08 Na Nitroprusside/Na Salicylate - Into a 1L vol. dissolved 150g Salicylate W17871 and 1g Nitroprusside W18547 and brought to Vol. w/DI H_2O. exp. 5-21-08

Continued on Page

Read and Understood By

RS 4/23/08

Signed Date

PROJECT _____ Notebook No. _____ 31

Continued From Page _____

W33266 GES 1/7/14 — Sodium hypochlorite soln - Fisher cat# SS290-4 lot # 133012 exp 7/2014

W33267 GES 1/14/14 — NH3 IL Hypo dilution Into a 500mL vol. volumetric flask combine 30mL W33266 & filled to vol. w/ DI H2O exp 1/8/14

W33268 BJS 1/7/14 — TKN MDL ✓: (0.46mg/L) Into a 100mL vol flask pipetted 0.46mL NH3/TKN 1000mg/L Stock W33266 & filled to volume w/ DI. Then pipetted 20mL into TKN + DI.

W33269 BMS 01/07/14 — Potassium Hydrogen Phthalate (KHP): Agros Organics Catalog #: 142406 (000, Lot#: A0317291 (Received 06/24/13)

W33270 AGK 01/07/14 — TOCW ICAL/CCV stock (1000mg/L): Into a 100mL vol, dissolved 0.2128g KHP (W 33269) and brought to volume w/ milli-Q H_2O Exp: 07/07/14

W33271 AGK 01/07/14 — TOCW ICV/LCS stock (1000mg/L) Into a 100mL vol, dissolved 0.2128g KHP (W 29079) and brought to volume w/ milli-Q H_2O Exp: 07/07/14

W33272 AGK 01/07/14 — TOCW CCV Sto: Into a 100mL vol pipetted 5.0mL of W33270 and brought to volume with Milli-Q H_2O Exp: 02-07-14

W33273 AGK 01/07/14 — TOCW LCS Sto: Into a 100mL vol pipetted 5.0mL of W33271 and brought to volume w/ milli-Q H_2O Exp: 02-07-14

W33274 AGK 01/07/14 — TOCW Ical Std 7, 50mL vol, pipetted 0.05, 0.25, 0.5, 1.25, 2.5, and 5.0mL of W33270 and brought to volume with milli-Q H_2O Exp: 02/07/14

Continued on Page _____

Read and Understood By

1/9/14 CMS
Signed — Date — Signed — Date

Notebook No. _____ 41

PROJECT _____ Continued From Page _____

W34206 MER 4/28/14 KHP Buffer (pH 3.1)

Into a large beaker dissolve 2.5g potassium hydrogen phthalate (KHP) W 29079 + W34207 in 450 ml CO_2-free DI water. Add 42.5ml of 0.1 M HCL W 33112 and adjust pH to 3.1+ 0.05.

EXP (one week): 5/5/14

W34207 MER 4/28/14 Potassium Hydrogen Phthalate (KHP) - Fisher Scientific Cat # P243-100 Lot-# 132808

W34208 MER 04-28-14 IC ICAL Mixed Standard (50 mg/L):

Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite W32990, Fluoride W32406., Bromide W34057, Nitrate W33225, and Phosphate W32479 and brought to volume with Milli-Q DI H_2O.

EXP (48 Hours):04/30/14

W34209 MER 04-28-14 IC ICAL

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_2O.

	1	2	3	4	5	6	7	8
mLs Mixed Std 50mg/L W34208	0	0.2	1.0	2.0	4.0	10.0	14.0	28.0
mLs Chloride 1000mg/L W34199	0	0.05	0.1	0.5	1.0	2.0	3.0	4.0
mLs Sulfate 1000mg/L W33537	0	0.05	0.1	0.5	1.0	3.0	5.0	7.0

EXP (48 Hours):04/30/14

W34210 4/28/14 Cyanide In-Line Phosphate Buffer

Into a 1L volumetric flask, dissolve 97 g potassium dihydrogen phosphate monobasic W ~~32406~~ W33932 and fill to volume with DI H_2O. Exp. (One month): 5/28/14

W34211 4/28/14 Sodium Salicylate-Nitroprusside Color Reagent

Into a 1L volumetric flask dissolved 150g sodium salicylate W 34212 and 1g sodium nitroprusside W 33031 and brought to volume with DI H_2O.

EXP(1 month): 5/28/14

W34212 4/28/14 Sodium Salicylate - Alfa Aesar - cat # A17056 Lot # J03Z041

W34213 4/28/14 0.8M Sodium Hydroxide

Into a 1L volumetric flask dissolved 32g NaOH W 33021 and brought to volume with DI H_2O. EXP(1 month): 5/28/14

Read and Understood By

5/9/14 MS

Signed Date Signed Date

Notebook No. _____ 69

PROJECT _____ Continued From Page _____

W34448 MER 5/23/14

TKN/ TPHOS Cupric ICal using 250mg/L working W 34447 and brought to volume with diluent W 34265 Exp (one month) 6/23/14

	mL 250mg/L working	Final volume (mL)	True Value (mg/L)	Corrected Value (mg/L)
A	8	100	20	21.0
B	3.2	50	16	16.8
C	10	250	10	10.5
D	0.8	50	4	4.2
E	0.4	50	2	2.1
F	0.2	50	1	1.05
G	0.04	50	0.2	0.21
H	0	50	0	0

W34449 Phosphate Standard 1000mg/L CCV/ICAL AGK 5/23/14
AccuSpec Lot # 514641008 Exp: 05-23-15

W34450 MER 5/23/14

Potassium Dichromate Digestion Solution W19633 W34451 MER 5/23/14
Into a 2L volumetric flask dissolve 66.6g mercuric sulfate W 29723 in about 500mL DI H_2O. Volumetrically add 334mL H_2SO_4 W 34363 and dissolve 20.42g potassium dichromate W 188194 then fill to volume with DI H_2O.
Exp (one year): 5/23/15

W34451 MER 5/23/14
Mercury (II) sulfate Acros Organics Code# 41365 1000
Lot # A0330723 CAS: 7783-35-9

W34452 MER 5/23/14

TKN/ TPHOS Cupric Diluent
Into a 1L volumetric flask volumetrically add ~~800~~ 400 mL cupric digestion solution W 34424 and fill to volume with DI H_2O. Exp (one month): 6/23/14 MER 5/23/14

W34453 GS 5/24/14

Cr^{+6} ICal (200mg/L)
Into a 250mL volumetric flask pipette 5mL Ical/CCV working (10.0 mg/L) W ~~33802~~ W34460 and fill to volume with DI H_2O. Exp. ~~(one year)~~: 5/24/15 GS 5/24/14

W34454 GS 5/24/14

Cr^{+6} CCV (100µg/L)
Into a 250mL volumetric flask pipette 2.5mL Ical/CCV working (10mg/L) W ~~33802~~ W34460 and fill to volume with DI H_2O. Exp. ~~(one year)~~: 5/24/15 GS 5/24/14

W34455 GS 5/24/14

Cr^{+6} ICV/LCS (100µg/L)
Into a 250mL volumetric flask pipette 2.5mL ICV/LCS working (10mg/L) W 34462 and fill to volume with DI H_2O. Exp. (one year): 5/24/15

Continued on Page

Read and Understood By

5/31/14 GS
Signed Date Signed Date

WetChem Logbook 3
02/04/2015
NOTEBOOK VIEW: LTN_WetChem_3_Default, NOTEBOOK: WetChem_3, PAGE: 54
Page is Locked
Author: mradske on: 27.05.2015 17:17:54
Page is not Witnessed
Project: Unassigned
Page Title: 042815

Standard Log #:	W36769	Reagent:	NO2 NO3 BUFFER
Analyst:	MER		
Prep Date:	4/28/15	Expiration Date (1 Month):	5/28/15
Prep:	Into a 1 L volumetric flask dissolve 85g ammonium chloride W31507 and 1g EDTA W35251 and fill to volume with DI H_2O and degas. Adjust pH to 8.5 with 15 N NaOH W34485		

Standard Log #:	W36770	Reagent:	CN SOLID BUFFER
Analyst:	MER		
Prep Date:	4/28/15	Expiration Date (1 Month):	5/28/15
Prep:	Into a 500 mL volumetric flask dissolved 48.5 g potassium phosphate monobasic W35758 and brought to volume with DI H_2O.		

Standard ID#:	W36771	Vendor:	MACRON
Analyst:	LJS	Chemical:	SULFURIC ACID
Date Received:	N/A	Lot #:	91540
Expiration Date (if any):	9/9/19	Catalog #:	5557-46

1

Ct Laboratories LLC

WetChem Logbook 3

02/04/2015

NOTEBOOK VIEW: LTN_WetChem_3_Default, NOTEBOOK: WetChem_3, PAGE: 62
Page is Locked
Author: mradske on: 27.05.2015 17:21:36
Page is not Witnessed
Project: Unassigned
Page Title: 051115

Standard Log #:	W36859	Reagent:	COD ICAL/CCV STK
Analyst:	LJS	Concentration:	1000 mg/L
Prep Date:	5/11/15	Expiration Date (3 Months):	8/11/15
Prep:	Into a 500mL volumetric flask dissolve 0.425g Potassium Hydrogen Phthalate W33269 and fill to volume with DI H_2O.		

Standard Log #:	W36860	Reagent:	COD SPIKE/ LCS STK
Analyst:	LJS	Concentration:	2000 mg/L
Prep Date:	5/11/15	Expiration Date (3 Months):	8/11/15
Prep:	Into a 500mL volumetric flask dissolve 0.85g Potassium Hydrogen Phthalate (KHP) W34207 and fill to volume with DI H_2O.		

Standard Log #:	W36861	Standard:	COD CCV
Analyst:	LJS	Concentration:	400 mg/L
Prep Date:	5/11/15	Expiration Date (3 Months):	8/11/15
Prep:	Into a 250mL volumetric flask volumetrically added 100ml ICal/CCV Stock (1000mg/L) W36859 and fill to volume with DI H_2O.		

Standard Log #:	W36862	Standard:	COD LCS
Analyst:	LJS	Concentration:	400 mg/L
Prep Date:	5/11/15	Expiration Date (3 Months):	8/11/15
Prep:	Into a 250mL volumetric flask, pipette 50mL of 2000mg/L COD Spike/LCS Stock (1) and fill to volume with DI water. (1) W36860		

Standard Log #:	W36863	Reagent:	H2SO4/ AG SULFATE
Analyst:	LJS		
Prep Date:	5/11/15	Expiration Date (1Year):	5/11/16
Prep:	Into a new 2.5 L sulfuric acid W36864 dissolve 25g silver sulfate W36865 .		

Standard ID#:	W36864	Vendor:	FISHER
Analyst:	LJS	Chemical:	SULFURIC ACID
Date Received:	N/A	Lot #:	150268
Expiration Date (if any):	N/A	Catalog #:	7664-93-9

Standard ID#:	W36865	Vendor:	FISHER
Analyst:	LJS	Chemical:	SILVER SULFATE
Date Received:	N/A	Lot #:	150577
Expiration Date (if any):	N/A	Catalog #:	190-25

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Ct Laboratories LLC

WetChem Logbook 3

02/04/2015

NOTEBOOK VIEW: LTN_WetChem_3_Default, NOTEBOOK: WetChem_3, PAGE: 73
Page is Locked
Author: mradske on: 27.05.2015 17:25:41
Page is not Witnessed
Project: Unassigned
Page Title: 052715

Standard Log #:	W36944	Reagent:	DICHROMATE DIG
Analyst:	MER		
Prep Date:	5/27/15	Expiration Date (1Year):	5/27/16
Prep:	Into a 2L volumetric flask dissolve 66.6g mercuric sulfate W34451 in about 500mL DI H_2O. Volumetrically add 334mL H_2SO_4 W36771 and dissolve 20.42g potassium dichromate W18819A then fill to volume with DI H_2O.		

Standard Log #:	W36945	Reagent:	COD ICAL
Analyst:	MER		
Prep Date:	5/27/15	Expiration Date (3 Months):	8/27/15
Prep:	Use ICal/CCV Stock (1000mg/L) W36859 and fill to a final volume of 100 mL with DI H_2O.		

	ICal Stock (mLs)	True Value (mg/L)
A	0	0
B	1	10
C	2.5	25
D	5	50
E	10	100
F	50	500
G	75	750

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Ct Laboratories LLC

LPWC-04
WetChem Prep Logbook
Logbook Created 07/07/15

NOTEBOOK VIEW: LTN_WetChem_4_Default, NOTEBOOK: WetChem_4, PAGE: 29
Page is Locked
Author: mradske on: 18.08.2015 14:29:04
Witness: lsilvers on: 19.08.2015 16:05:38
Project: Unassigned
Page Title: 081715

Standard Log #:	W37432	Reagent:	COD ICAL/CCV STK
Analyst:	MER	Concentration:	1000 mg/L
Prep Date:	8/17/15	Expiration Date (3 Months):	11/17/15
Prep:	Into a 500mL volumetric flask dissolve 0.425g Potassium Hydrogen Phthalate W33269 and fill to volume with DI H_2O.		

Standard Log #:	W37433	Standard:	COD CCV
Analyst:	MER	Concentration:	400 mg/L
Prep Date:	8/17/15	Expiration Date (3 Months):	11/17/15
Prep:	Into a 250mL volumetric flask volumetrically added 100ml ICal/CCV Stock (1000mg/L) W37432 and fill to volume with DI H_2O.		

Standard Log #:	W37434	Reagent:	COD SPIKE/ LCS STK
Analyst:	MER	Concentration:	2000 mg/L
Prep Date:	8/17/15	Expiration Date (3 Months):	11/17/15
Prep:	Into a 500mL volumetric flask dissolve 0.85g Potassium Hydrogen Phthalate (KHP) W34207 and fill to volume with DI H_2O.		

Standard Log #:	W37435	Standard:	COD LCS
Analyst:	MER	Concentration:	400 mg/L
Prep Date:	8/17/15	Expiration Date (3 Months):	11/17/15
Prep:	Into a 250mL volumetric flask, pipette 50mL of 2000mg/L COD Spike/LCS Stock (1) and fill to volume with DI water. (1) W37434		

1

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LPWC-04
WetChem Prep Logbook
Logbook Created 07/07/15

NOTEBOOK VIEW: LTN_WetChem_4_Default, NOTEBOOK: WetChem_4, PAGE: 30
Page is Locked
Author: mradske on: 19.08.2015 09:20:23
Witness: lsilvers on: 19.08.2015 16:05:57
Project: Unassigned
Page Title: 081815

Standard Log #:	W37443	Reagent:	COD ICAL
Analyst:	MER		
Prep Date:	8/18/15	Expiration Date (3 Months):	11/18/15

Prep:

Use ICal/CCV Stock (1000mg/L) W37432 and fill to a final volume of 100 mL with DI H_2O.

	ICal Stock (mLs)	True Value (mg/L)
A	0	0
B	1	10
C	2.5	25
D	5	50
E	10	100
F	50	500
G	75	750

LPWC-04
WetChem Prep Logbook
Logbook Created 07/07/15

NOTEBOOK VIEW: LTN_WetChem_4_Default, NOTEBOOK: WetChem_4, PAGE: 93
Page is Locked
Author: mradske on: 17.11.2015 10:07:56
Witness: LSILVERS on: 18.11.2015 10:27:36
Project: Unassigned
Page Title: 111615

Standard Log #:	W37960	Reagent:	H2SO4/ AG SULFATE
Analyst:	MER		
Prep Date:	11/16/15	Expiration Date (1Year):	11/16/16
Prep:	Into a new 2.5 L sulfuric acid W37961 dissolve 25g silver sulfate W37840 .		

1

CT Laboratories, LLC

LPWC-04
WetChem Prep Logbook
Logbook Created 07/07/15

NOTEBOOK VIEW: LTN_WetChem_4_Default, NOTEBOOK: WetChem_4, PAGE: 100
Page is Locked
Author: LSILVERS on: 01.12.2015 12:44:27
Page is not Witnessed
Project: Unassigned
Page Title: 113015

Standard ID#:	W38024	Vendor:	VWR
Analyst:	LJS	Chemical:	SODIUM CARBONATE ANHYDROUS
Date Received:	11/30/15	Lot #:	1205C104
Expiration Date (if any):	N/A	Catalog #:	0585-500G

Standard Log #:	W38025	Reagent:	COD SPIKE/ LCS STK
Analyst:	LJS	Concentration:	2000 mg/L
Prep Date:	11/30/15	Expiration Date (3 Months):	2/30/16
Prep:	Into a 500mL volumetric flask dissolve 0.85g Potassium Hydrogen Phthalate (KHP) W34207 and fill to volume with DI H_2O.		

Standard Log #:	W38026	Standard:	COD LCS
Analyst:	LJS	Concentration:	400MG/L

Prep Date:	11/30/15	Expiration Date (3 Months):	2/30/15
Prep:	Into a 250mL volumetric flask, pipette 50mL of 2000mg/L COD Spike/LCS Stock (1) and fill to volume with DI water. (1) W38025		

Standard Log #:	W38027	Reagent:	COD ICAL/CCV STK
Analyst:	LJS	Concentration:	1000 mg/L
Prep Date:	11/30/15	Expiration Date (3 Months):	2/30/15
Prep:	Into a 500mL volumetric flask dissolve 0.425g Potassium Hydrogen Phthalate W33269 and fill to volume with DI H_2O.		

Standard Log #:	W38028	Standard:	COD CCV
Analyst:	LJS	Concentration:	400 mg/L
Prep Date:	11/30/15	Expiration Date (3 Months):	2/30/15
Prep:	Into a 250mL volumetric flask volumetrically added 100ml ICal/CCV Stock (1000mg/L) W38027 and fill to volume with DI H_2O.		

LPWC01_05
WetChem Prep Logbook
Logbook Created: 11/25/15
NOTEBOOK VIEW: LTN_LPWC01_5_Default, NOTEBOOK: LPWC01_5, PAGE: 68
Page is Locked
Author: mradske on: 11.03.2016 11:12:51
Witness: lsilvers on: 25.03.2016 12:48:10
Project: Unassigned
Page Title: 031016

Standard Log #:	W38580	Reagent:	COD ICAL/CCV STK
Analyst:	LJS	Concentration:	1000 mg/L
Prep Date:	3/10/16	Expiration Date (3 Months):	6/10/16
Prep:	Into a 500mL volumetric flask dissolve 0.425g Potassium Hydrogen Phthalate W33269 and fill to volume with DI H_2O.		

Standard Log #:	W38581	Reagent:	COD ICAL
Analyst:	LJS		
Prep Date:	3/10/16	Expiration Date (3 Months):	6/10/16

Prep:

Use ICal/CCV Stock (1000mg/L) W38580 and fill to a final volume of 100 mL with DI H_2O.

	ICal Stock (mLs)	True Value (mg/L)
A	0	0
B	1	10
C	2.5	25
D	5	50
E	10	100
F	50	500
G	75	750

Standard Log #:	W38582	Reagent:	COD SPIKE/ LCS STK
Analyst:	LJS	Concentration:	2000 mg/L
Prep Date:	3/10/16	Expiration Date (3 Months):	6/10/16

Prep:

Into a 500mL volumetric flask dissolve 0.85g Potassium Hydrogen Phthalate (KHP) W34207 and fill to volume with DI H_2O.

Standard Log #:	W38583	Standard:	COD LCS
Analyst:	LJS	Concentration:	400 mg/L
Prep Date:	3/10/16	Expiration Date (3 Months):	6/10/16
Prep:	Into a 250mL volumetric flask pipette 50mL COD SPIKE/LCS Stock (2000mg/L) W38582 and fill to volume with DI H_2O.		

Standard Log #:	W38584	Standard:	COD CCV
Analyst:	LJS	Concentration:	400 mg/L
Prep Date:	3/10/16	Expiration Date (3 Months):	6/10/16
Prep:	Into a 250mL volumetric flask volumetrically added 100ml ICal/CCV Stock (1000mg/L) W38580 and fill to volume with DI H_2O.		

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CT Laboratories, LLC

LPWC01_05
WetChem Prep Logbook
Logbook Created: 11/25/15
NOTEBOOK VIEW: LTN_LPWC01_5_Default, NOTEBOOK: LPWC01_5, PAGE: 91
Page is Locked
Author: LSILVERS on: 15.04.2016 13:35:24
Page is not Witnessed
Project: Unassigned
Page Title: 041316

Standard Log #:	W38784	Reagent:	COD ICAL/CCV STK
Analyst:	MER	Concentration:	1000 mg/L
Prep Date:	4/13/16	Expiration Date (3 Months):	7/13/16
Prep:	Into a 500mL volumetric flask dissolve 0.425g Potassium Hydrogen Phthalate W33269 and fill to volume with DI H_2O.		

Standard Log #:	W38785	Reagent:	COD SPIKE/ LCS STK
Analyst:	MER	Concentration:	2000 mg/L
Prep Date:	4/13/16	Expiration Date (3 Months):	7/13/16
Prep:	Into a 500mL volumetric flask dissolve 0.85g Potassium Hydrogen Phthalate (KHP) W34207 and fill to volume with DI H_2O.		

Standard Log #:	W38786	Reagent:	COD ICAL
Analyst:	MER		
Prep Date:	4/13/16	Expiration Date (3 Months):	7/13/16

Prep:

Use ICal/CCV Stock (1000mg/L) W38784 and fill to a final volume of 100 mL with DI H_2O.

	ICal Stock (mLs)	True Value (mg/L)
A	0	0
B	1	10
C	2.5	25
D	5	50
E	10	100
F	50	500
G	75	750

Standard Log #:	W38787	Standard:	COD CCV
Analyst:	MER	Concentration:	400 mg/L
Prep Date:	4/13/16	Expiration Date (3 Months):	7/13/16

Prep:

Into a 250mL volumetric flask volumetrically added 100ml ICal/CCV Stock (1000mg/L) W38784 and fill to volume with DI H_2O.

Standard Log #:	W38788	Standard:	COD LCS
Analyst:	MER	Concentration:	400 mg/L
Prep Date:	4/13/16	Expiration Date (3 Months):	7/13/16

Prep:

Into a 250mL volumetric flask, pipette 50mL of 2000mg/L COD Spike/LCS Stock (1) and fill to volume with DI water.

(1) W38785

1

Spec. 401 Accuracy Check / Maintenance Logbook

	*Acceptance Range: +/- 2 nm			
Date/Time	529 nm	742 nm	Analyst	Comments or Performed Maintenance:
4/6/16 1200	530	741	VJS	
4/13/16 1718	529	741	MER	
4/19/16 0900	530	741	MER	
4/29/16 1100	530	741	VJS	

*If values obtained are not within Acceptance Range, correct and document the problem then re-check the accuracy.

Reviewed By:_____

Spec. 401 Instrument Run Logbook

Milton Roy Spectronic 401

Time					Spectrophotometer	
Date	Start	End	Analyst	Analytes/Test	Cal. Std. ID #	Comments:
12/22/15	1530	1630	VTS	COD	Test 23	122166,167,168,169
12/30/15	1350	1402	MER	COD	Test 23	122331
1/6/16	1600	1620	VTS	COD	Test 23	122440,1
1/13/16	1145	1200	VTS	COD	Test 23	122597
1/19/16	1410	1447	MER	COD	Test 23	122771, 772, 773, 774, 775
1/19/16	1645	1712	MER	HexCr+6 Soils	Test 28	122777
1/26/16	1510	1520	MER	COD	Test 23	122945
2/1/16	1440	1515	VTS	HexCr+6 Soils	Test 29	123071, 123072
2/2/16	1515	1525	VTS	COD	Test 23	123120
2/9/16	1250	1330	MER	COD	Test 23	123210
2/16/16	1300	1308	MER	COD	Test 23	123325
2/16/16	1600	1615	VTS	Chlor A	—	123342
2/18/16	1415	1440	VTS	HexCr+6 Soils	Test 24	123391
2/29/16	1000	1010	VTS	COD	Test 23	123504
3/11/16	1115	1130	VTS	COD	Test 23	123874
3/18/16	0950	1015	MER	COD	Test 23	124054, 55
3/29/16	0930	1030	VTS	COD	Test 23	124306,08,09,10
4/4/16	1500	1530	CES	COD	Test 23	124310
4/6/16	1530	1550	VTS	COD	Test 23	
4/13/16	1720	1738	MER	COD	Test 30	124818, 819
4/19/16	0900	0936	MER	COD	Test 30	125011, 13, 14, 15

Reviewed By: 4/29/16 VTS

WPH Analytical Run
124948 on 04/25/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
118280	708711		04/13/2016	1550		BERING SEA ENVIRONMENTAL	RADFORD AAP	PH		GW	**4**	
		49ADW01										
118319	709262		04/14/2016	1630		BERING SEA ENVIRONMENTAL	RADFORD AAP	PH		GW	**4**	
		54ADW01										
	713879		04/13/2016	1550				PH				
		49ADW01			DUP 708711							

3 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

FWC20,21-01
Data Validation Checklist

CT Laboratories

LIMS #: 124948	Method: pH EPA 150.1			
Analysis Date	Analyst / Data Interpreter	Independent Reviewer	Date of Review	Approved
4/15/16	MER	CES	4/20/16	(Yes) ... No

Instructions: Complete one checklist per *analytical run*. Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement:	Acceptance Criteria	Analyst Review		Independent Review		Comments: (indicate reference to an attachment if necessary)
		Yes	No	Yes	No	
1. Was the calibration slope recorded on the bench sheet?	--	X		X		
2. Were duplicates analyzed at the appropriate frequency?	1 every 20 samples of the same matrix	X		X		
3. Were the duplicates within acceptable limits?	Differ by ≤0.10 pH units	X		X		
4. Are all samples on the job lists accounted for?	--	X		X		

WetChem Logbook 3

02/04/2015

NOTEBOOK VIEW: LTN_WetChem_3_Default, NOTEBOOK: WetChem_3, PAGE: 16
Page is Unlocked
Page is not Witnessed
Project: Unassigned
Page Title: 022615

Standard ID#:	W36459	Vendor:	MG SCIENTIFIC
Analyst:	MER	Chemical:	PH 7 BUFFER
Date Received:	11/8/14	Lot #:	4408476
Expiration Date (if any):	08/2016	Catalog #:	1551-1

Standard Log #:	W36460	Standard:	RESIDUAL CL LCS
Analyst:	MER	Concentration:	1mg/L
Prep Date:	2/26/15	Expiration Date (2 Years):	2/26/17
Prep:	Into a 100 mL volumetric flask, pipette 0.1mL potassium permanganate stock (1000 mg/L) W33725 and fill to volume with DI H_2O.		

Standard Log #:	W36461	Standard:	TKN/TPHOS Spiking Solution
Analyst:	MER	Concentration:	200mg/L NH_3 as N and PO_4^{-3} as P
Prep Date:	2/26/15	Expiration Date (1 month):	3/26/15
Prep:	Into a 100mL volumetric flask, pipetted 20mL of TPHOS ICV/LCS Stock Standard (1000mg/L) W36090 and 20mL NH_3/TKN ICV/LCS Stock Standard (1000mg/L) W35823 and brought to volume with DI H_2O.		

Ct Laboratories LLC

WetChem Logbook 3

02/04/2015

NOTEBOOK VIEW: LTN_WetChem_3_Default, NOTEBOOK: WetChem_3, PAGE: 77
Page is Locked
Author: mradske on: 03.06.2015 09:18:44
Page is not Witnessed
Project: Unassigned
Page Title: 060215

Standard Log #:	W36993	Standard:	LCS/ICV Working
Analyst:	MML	Concentration:	10 mg/L
Prep Date:	6/2/15	Expiration Date (1 Week):	6/9/15
Prep:	Into a 100 mL volumetric flask pipette 1 mL CN LCS/ICV stock (1000mg/L) W36845 and fill to volume with 0.25N NaOH W36990 .		

Standard Log #:	W36994	Standard:	CN SOLID LCS/ICV
Analyst:	MML	Concentration:	50 pg/L
Prep Date:	6/2/15	Expiration Date (1 Week):	6/9/15
Prep:	Into a 200 mL volumetric flask pipetted 1 mL CN LCS/ICV **WORKING STD** 10,000 µg/L W36993 and brought to volume with 0.25 M NaOH W36990		

Standard ID#:	W36995	Vendor:	RICCA
Analyst:	MER	Chemical:	PH 4 BUFFER
Date Received:	5/29/15	Lot #:	4505426
Expiration Date (if any):	5/31/17	Catalog #:	1501-1

1

Ct Laboratories LLC

LPWC01_05
WetChem Prep Logbook
Logbook Created: 11/25/15

NOTEBOOK VIEW: LTN_LPWC01_5_Default, NOTEBOOK: LPWC01_5, PAGE: 1
Page is Locked
Author: mradske on: 02.12.2015 15:41:32
Witness: lsilvers on: 03.12.2015 20:23:30
Project: Unassigned
Page Title: 120115

Standard ID#:	W38037	Vendor:	RICCA
Analyst:	MER	Chemical:	PH 10 BUFFER
Date Received:	11/24/15	Lot #:	2509915
Expiration Date (if any):	MAR 2017	Catalog #:	1601-1CT

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CT Laboratories, LLC

Daily pH Calibration & Maintenance Logbook

	pH Buffer Reference ID #			----3 Point Calibration----					
Date	Analyst	pH 7	pH 4	pH 10	1st Buffer	2nd Buffer	3rd Buffer	Slope %	Temp. °C	Comments / Maintenance Performed (if any)
3/14/16	SAW	W36459	W36995	W38037	7.03	4.00	10.08	100%	18.0	
3/22/16	SAW	W36459	W36995	W38037	7.04	4.00	10.09	100%	17.1	
3/28/16	SAW	W36459	W36995	W38037	7.03	4.00	10.10	100%	16.9	
3/30/16	SAW	W36459	W36995	W38037	7.03	4.00	10.08	100%	18.1	
4/5/16	SAW	W36459	W36995	W38037	7.03	4.00	10.09	100%	17.2	
4/12/16	SAW	W36459	W36995	W38037	7.03	4.00	10.10	99%	16.9	
4/15/16	HER	W36459	W36995	W38037	7.03	4.00	10.09	100%	17.9	
4/20/16	SAW	W36459	W36995	W38037	7.03	4.00	10.08	100%	18.4	
4/28/16	SAW	W36459	W36995	W38037	7.03	4.00	10.09	100%	17.3	

Reviewed By:_____

Mettler Toledo (Easy Seven) Instrument Run Logbook

Date/Init.	Start Time	End Time	Test (Analyte)	Sample Run # (s) / Prep Batch # (s)	Comments:
1/29/16 MER	1315	1410	~~NOT USED~~ pH	123040, 41, 42	
2/1/16 JF	1300	1400	Conductivity	123071, 072	
2/2/16 LTS	1000	1005	pH	123108	
2/3/16 GES	1632	1645	pH	123145	
2/5/16 LTS	1530	16:00	pH	123176, 77	
2/11/16 SRT	11:20	13:00	pH	123257	
2/16/16 MER	11:45	11:50	pH	123340	
2/18/16 LTS	11:00	11:30	~~LTS 2/18/16~~ pH QC16	123391	
2/19/16 MER	13:00	13:50	pH	123426, 427	
2/24/16 GES	~~1120~~ 1107	~~1130~~ 1147	pH	123488	
2/26/16 LTS	1100	1200	pH	123541	
3/1/16 GES	1200	1300	Acidity	123592	
3/4/16 SAW	1325	1550	pH	123711, 12, 13	
3/7/16 SAW	1050	1215	pH	123732	Replaced probe
3/14/16 SAW	11:00	13:10	pH	123943, 44, 45, 46	
3/22/16 SAW	13:45	14:15	pH	124172	
3/28/16 SAW	14:40	14:50	pH	124326	
3/30/16 SAW	10:10	10:45	pH	124357, 59	
4/5/16 SAW	10:10	11:10	pH	124509, 10	
4/12/16 SAW	14:45	15:50	pH	124790, 91	
4/15/16 MER	11:30	13:25	pH	124948, 949, 951	

Reviewed By:_____

WORGANIC CARBON QSM 5.0 Analytical Run
124879 on 04/19/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	709824								WORGANIC CARBON QSM 5.0				
					ICV								
	709825								WORGANIC CARBON QSM 5.0				
					ICB								
	709288								WORGANIC CARBON QSM 5.0				
					CCV					0			
	709289								WORGANIC CARBON QSM 5.0				
					LCSW					0			
	709290								WORGANIC CARBON QSM 5.0				
					MBW					0			
118236	707495		04/12/2016	0910			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	**4**	
		50MW02											
118236	707512		04/12/2016	1115			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	**4**	
		49MW02											
118236	707513		04/12/2016	1240			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	**4**	
		48MW3			Designated MS/MSD								
	709291		04/12/2016	1240					ORGAN CARBON T QSM 5.0				
		48MW3			DUP	707513				0			
	709292		04/12/2016	1240					ORGAN CARBON T QSM 5.0				
		48MW3			MSW	707513				0			
	709293		04/12/2016	1240					ORGAN CARBON T QSM 5.0				
		48MW3			MSDW	709292				0			
118236	707514		04/12/2016	1435			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	**4**	
		48MW2											
118236	707515		04/12/2016	1620			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	**4**	
		48MW06											
118236	707516		04/12/2016	1620			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	**4**	
		49TM01											
	709294								WORGANIC CARBON QSM 5.0				
					CCV					0			
	709295								WORGANIC CARBON QSM 5.0				
					CCB					0			
	709296								WORGANIC CARBON QSM 5.0				
					CCV					0			
	709823								WORGANIC CARBON QSM 5.0				
					CCB								
118280	708692		04/13/2016	0850			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	**4**	
		49MW01											

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WORGANIC CARBON QSM 5.0 Analytical Run
124879 on 04/19/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
118280	708694		04/13/2016	1000		BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	**4**	
		48MW1										
118280	708696		04/13/2016	1217		BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	**4**	
		13MW3										
118280	708698		04/13/2016	1025		BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	**4**	
		041316R1										
	709299							WORGANIC CARBON QSM 5.0				
					CCV				0			
	709300							WORGANIC CARBON QSM 5.0				
					CCB				0			
118280	708700		04/13/2016	1317		BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	**4**	
		13MW4										
118280	708707		04/13/2016	1410		BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	**4**	
		13MW2										
118280	708709		04/13/2016	1525		BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	**4**	
		49MW04										
	709301							WORGANIC CARBON QSM 5.0				
					CCV				0			
	709302							WORGANIC CARBON QSM 5.0				
					CCB				0			

29 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

FWC39-01 Data Review Checklist

		Method: Total Organic Carbon Method 415.1/9060		Independent Data Review Checklist		
LIMS Run #(s)	**Analysis Date**	**Interpreter**		**Independent Reviewer**	**Date of Review**	**Approved? (Yes or No)**
124879 124880 124881	04/14/2016	JJF		RLD	04/19/2016	Yes

Instructions: Complete one checklist per *analytical sequence* . Enter the appropriate response for each question.
Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

		Analyst Review		**Independent Review**		**Comments:**
		Yes	No	Yes	No	(indicate reference to an attachment if necessary)
1. Were the samples preserved prior to analysis and analyzed within hold time?	pH <2, 28 days or program/project specific	Yes		Yes		If No: Qualify data analyzed after hold time (H).
2. Was the calibration curve performed using the required number of standards?	3 standards and a blank	Yes		Yes		If No: Recalibrate using required number of standards.
3. Was the correlation coefficient acceptable?	r ≥ .995	Yes		Yes		If No: Recalibrate.
4. Were the ICV and ICB analyzed?	---	Yes		Yes		If No: Analyze ICV and ICB prior to any sample analyses.
5. Was the ICV result acceptable?	90 – 110 % Rec. or contract/program specific	Yes		Yes		If No: Reanalyze, if NO after second analysis, address problem and recalibrate.
6. Was the ICB result acceptable?	< LOD or contract/program specific	Yes		Yes		If No: address possible contamination and reanalyze.
7. Was an LCS & MB run with each batch of samples?	One each per analytical batch or contract/program specific frequency.	Yes		Yes		If No: Reanalyze affected samples with appropriate QC.
8. Was the LCS recovery acceptable?	In-house derived or contract/program specific limits.	Yes		Yes		If No: Reanalyze affected samples with an acceptable LCS when possible, otherwise qualify affected samples (Q).
9. Were the MB results acceptable?	< LOD or project/ program specific (<1/2 RL for DOD-QSM).	Yes		Yes		If No: Reanalyze affected samples with acceptable MB when possible, otherwise qualify affected samples (B).
10. Were the CCV's analyzed at the required frequency?	Beginning, after every 10 sample, & at the end of a sequence.	Yes		Yes		If No: Reanalyze affected samples with appropriate CCV intervals.
11. Were the CCB's analyzed at the required frequency?	After each CCV (unless MB analyzed after CCV)	Yes		Yes		If No: Reanalyze affected samples with appropriate CCB intervals.
12. Were the CCV recoveries acceptable?	90 – 110 % Rec. or project/ program specific	Yes		Yes		If No: Reanalyze affected samples.
13. Were the CCB results acceptable?	< LOD or project/ program specific	Yes		Yes		If No: Reanalyze affected samples with acceptable CCB when possible, otherwise qualify affected samples (B).

14. Were all positive results that were reported within the calibration curve?	---	Yes		Yes		If No: Dilute sample and reanalyze.
15. Was an MS and MSD analyzed at the required frequency?	1 / 20 of the same matrix or project/ program specific	Yes		Yes		If No: Prepare and analyze the matrix spikes.
16. Were the MS and MSD recoveries acceptable?	In-house derived or project/ program specific limits	Yes		Yes		If No: Qualify the affected parent sample result (M).
17. Was the RPD between the MS and MSD acceptable?	In-house derived or project/ program specific limits	Yes		Yes		If No: Qualify the affected parent sample result (Y).
18. Was a Duplicate analyzed at the required frequency?	1 per 20 of the same matrix or contract/program specific	Yes		Yes		If No: Analyze the duplicate for appropriate sample.
19. Was the RPD between the Duplicate (if valid) and the sample acceptable?	In-house derived or project/ program specific limits (QSM samples, duplicate only valid when sample result ≥5x the LOQ)		No		No	If No: Qualify the affected parent sample result (Y). Invalid = no qualifier.
20. Are all samples on the job lists accounted for?	---	Yes		Yes		If No: Analyze samples that were missed.
21. Is the standards prep log numbers noted on the analytical report?	---	Yes		Yes		If No: Document the standards used for calibration and analysis.
22. Were post analysis corrections addressed and/or the Audit Trail function turned on (if available)?	Correction should be initialed, dated, and reason given. Audit trail must be on (if available)	Yes		Yes		If No: Initial, date, and state reason for any changes or corrections.
23. Were non-matrix related nonconformities (if applicable) documented in the NCR spreadsheet?	---	Yes		Yes		If No: Enter nonconformity information into the NCR spreadsheet before data review/validation.

TOC Instrument Run Logbook

Start Date	Start Time	End Date	End Time	Analyst	LIMs Run #	Matrix (S or W)	Calibration ID #	COMMENTS
02/08/16	11:58	02/08/16	14:06	JJF	TOC0064	W	TOC0064	
02/09/16	14:11	02/09/16	17:19	JJF	020916-MDL	W	TOC0064	
02/11/16	10:08	02/11/16	11:53	JJF	021116-MDL CHK	W	TOC0064	
02/26/16	15:21	02/26/16	20:30	JJF	123529	W	TOC0064	
03/04/16	10:20	03/04/16	14:10	AMA/MDS	123686, 123687	S	W35182	
03/09/16	13:47	03/09/16	22:06	JJF	123725	W	W34137	
03/10/16	11:17	03/10/16	15:35	AMA	123766	W	W34137	
03/17/16	11:50	03/17/16	16:35	JJF	124050	W	W34137	
03/22/16	08:56	03/22/16	12:40	AMA	124138	W	W34137	
03/29/16	10:39	03/29/16	17:59	JJF	RR123725 / 124354	W	W34137	
03/30/16	13:02	03/30/16	17:17	JJF	124362	S	W35183	
03/31/16	11:53	03/31/16	12:40	JJF	RR124362	S	W35183	
04/12/16	10:34	04/13/16	07:56	AMA	124763, 124764, 124765, 124767, 124770, 124771	W	W34137	
04/13/16	15:12	04/14/16	06:19	AMA	124767, 124770, 124771	W	W34137	
04/14/16	12:50	04/14/16	23:02	JJF	124879, 124880, 124881	W	W34137	
04/15/16	12:04	04/15/16	16:12	JJF	124869, 124871, 124878	S	~~W~~ TOC0061	
04/25/16	10:68	04/26/16	~~22:02~~ 02:44 JJF	JJF	125179	W	~~TOC0061~~ ~~W3 W34137~~ JJF TOC0064	
04/26/16	10:06	04/26/16	22:02	JJF	125180 125181 125187	W	W34137	

Reviewed By: _____

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Project: Unassigned
Page Title: 050216

Standard Log #:	TOC0092	Standard:	TOCW Ical.
Analyst:	JJF		
Prep Date:	05/02/2016	Expiration Date (1 Month):	06/02/2016

Prep:

Into seven 50mL volumetric flasks, pipetted the following amounts of TOCW Ical/CCV Stock Std. (1000mg/L) TOC0049 and brought to volume with Milli-Q H_20:

Level	ICal Stock (mL)	True Value (µg/L)
1	0	0
2	0.05	1
3	0.25	5
4	0.5	10
5	1.25	25
6	2.5	50
7	5.0	100

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Project: Unassigned
Page Title: 042816

Standard Log #:	TOC0089	Standard:	TOCW LCS Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	04/28/2016	Expiration Date (1 Month):	05/28/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0086 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0090	Standard:	TOCW LOD Check
Analyst:	JJF	Concentration:	1.5 mg/L
Prep Date:	04/28/2016	Expiration Date (1 Month):	05/28/2016
Prep:	Into a 100 mL volumetric flask, pipetted 0.15mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0091	Standard:	TOCW LOQ Check
Analyst:	JJF	Concentration:	3.0 mg/L
Prep Date:	04/28/2016	Expiration Date (1 Month):	05/28/2016
Prep:	Into a 100 mL volumetric flask, pipetted 0.30mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

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NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 52
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Author: jfaust on: 28.04.2016 09:46:26
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Project: Unassigned
Page Title: 042616

Standard Log #:	TOC0086	Standard/Reagent:	TOC STD STOCK LCS/ICV
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	04/26/2016	Expiration Date:	02/2018
Prep:	AccuSPEC TOC standard lot#S160202020 cat # 250-250-051		

Standard Log #:	TOC0087	Standard:	TOCW LCS Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	04/26/2016	Expiration Date (1 Month):	05/26/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0086 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0088	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	04/26/2016	Expiration Date (1 Month):	05/26/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

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NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 50
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Author: JFAUST on: 20.04.2016 08:29:42
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Project: Unassigned
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Standard Log #:	TOC0081	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	04/14/2016	Expiration Date (1 Month):	05/14/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0082	Standard:	TOCW LCS Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	04/14/2016	Expiration Date (1 Month):	05/14/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0011 and brought to volume with Milli-Q DI H_2O.		

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Author: AAnstett on: 30.03.2016 16:30:06
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Project: Unassigned
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Standard Log #:	TOC0080	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	03/29/2016	Expiration Date (1 Month):	04/29/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

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Page Title: N/A

Standard Log #:	TOC0079	Standard:	TOCW LCS Std.
Analyst:	AMA	Concentration:	50 mg/L
Prep Date:	03/22/2016	Expiration Date (1 Month):	04/22/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0011 and brought to volume with Milli-Q DI H_2O.		

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Project: Unassigned
Page Title: 031716

Standard Log #:	TOC0078	Standard:	TOCW LCS Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	03/17/2016	Expiration Date (1 Month):	04/17/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0011 and brought to volume with Milli-Q DI H_2O.		

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Standard Log #:	TOC0075	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	03/09/2016	Expiration Date (1 Month):	04/09/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0076	Standard:	TOCW LCS Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	03/09/2016	Expiration Date (1 Month):	04/09/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0011 and brought to volume with Milli-Q DI H_2O.		

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Author: JFAUST on: 12.02.2016 08:30:14
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Project: Unassigned
Page Title: 020916

Standard Log #:	TOC0066	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	02/09/2016	Expiration Date (1 Month):	03/09/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0067	Standard:	TOCW LCS Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	02/09/2016	Expiration Date (1 Month):	03/09/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0011 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0068	Standard/Reagent:	TOC MDL WATER
Analyst:	JJF	Final Concentration:	1.5 mg/L
Prep Date:	02/09/2016	Expiration Date:	02/11/2016
Prep:	Into 8 100 mL volumetric flasks pipette 0.15 mL TOC ccv Stock standard @1000 mg/L and dilute to 100 mL with Milli-Q DI water.		

Standard Log #:	TOC0069	Standard:	TOCW LOD Check
Analyst:	JJF	Concentration:	1.5 mg/L
Prep Date:	02/09/2016	Expiration Date (1 Month):	03/09/2016
Prep:	Into a 100 mL volumetric flask, pipetted 0.15mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0070	Standard:	TOCW LOQ Check
Analyst:	JJF	Concentration:	3.0 mg/L
Prep Date:	02/09/2016	Expiration Date (1 Month):	03/09/2016
Prep:	Into a 100 mL volumetric flask, pipetted 0.30mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

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NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 41
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Author: JFAUST on: 09.02.2016 14:52:01
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Project: Unassigned
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Standard Log #:	TOC0064	Standard:	TOCW Ical.
Analyst:	JJF		
Prep Date:	02/08/2016	Expiration Date (1 Month):	03/08/2016

Prep:

Into seven 50mL volumetric flasks, pipetted the following amounts of TOCW Ical/CCV Stock Std. (1000mg/L) TOC0049 and brought to volume with Milli-Q H_20:

Level	ICal Stock (mL)	True Value (µg/L)
1	0	0
2	0.05	1
3	0.25	5
4	0.5	10
5	1.25	25
6	2.5	50
7	5.0	100

Standard Log #:	TOC0065	Standard/Reagent:	TOC MDL STD WATER
Analyst:	JJF	Final Concentration:	1 mg/L
Prep Date:	02/08/2016	Expiration Date:	02/10/2016
Prep:	Into 8 100 mL volumetric flasks add 0.10 mL (TOC 0049) @ 1000 mg/L and dilute to 100 mL with Milli-Q water.		

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Author: jfaust on: 25.01.2016 10:48:11
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Project: Unassigned
Page Title: 012216

Standard Log #:	TOC0058	Standard:	TOCW Ical.
Analyst:	JJF		
Prep Date:	01/22/2016	Expiration Date (1 Month):	02/22/2016

Prep:

Into seven 50mL volumetric flasks, pipetted the following amounts of TOCW Ical/CCV Stock Std. (1000mg/L) TOC and brought to volume with Milli-Q H_20:

Level	ICal Stock (mL)	True Value (µg/L)
1	0	0
2	0.05	1
3	0.25	5
4	0.5	10
5	1.25	25
6	2.5	50
7	5.0	100

Standard Log #:	TOC0059	Standard:	TOCW LCS Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	01/22/2016	Expiration Date (1 Month):	02/22/2016

Prep:

Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0011 and brought to volume with Milli-Q DI H_2O.

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Project: Unassigned
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Standard Log #:	TOC0057	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	01/20/2016	Expiration Date (1 Month):	02/20/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

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Project: Unassigned
Page Title: 011916

Standard Log #:	TOC0055	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	01/19/2016	Expiration Date (1 Month):	02/19/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0056	Standard:	TOCW LCS Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	01/19/2016	Expiration Date (1 Month):	02/19/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0011 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0057	Standard/Reagent:	TOCW MDL STUDY
Analyst:	JJF	Final Concentration:	1 mg/L
Prep Date:	01/19/2016	Expiration Date:	01/21/2016
Prep:	Into 8 100 mL volumetric flasks add 0.10 mL TOC CCV Standard (TOC0049) @ 1000 mg/L and dilute to 100 mL with Milli-Q water.		

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Standard Log #:	TOC0050	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	12/16/2015	Expiration Date (1 Month):	1/16/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0051	Standard:	TOCW LCS Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	12/16/2015	Expiration Date (1 Month):	1/16/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0011 and brought to volume with Milli-Q DI H_2O.		

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NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 31
Page is Locked
Author: JFAUST on: 16.12.2015 15:27:30
Page is not Witnessed
Project: Unassigned
Page Title: 120215

Standard Log #:	TOC0049	Standard/Reagent:	TOC STANDARD
Analyst:	JJF	Final Concentration:	1002 mg/L
Prep Date:	12/02/2015	Expiration Date:	09/30/2017
Prep:	TOC STANDARD lot # CM-4449 Catalog # IQC-106		

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TOC Logbook 01

01/12/2015

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Project: Unassigned
Page Title: 031715

Standard ID#:	TOC0011	Vendor:	SCP Science
Analyst:	BMS	Chemical:	TOCW LCS Stock Std. (1000mg/L)
Date Received:	03/17/2015	Lot #:	S150304004
Expiration Date (if any):	03/2017	Catalog #:	250-250-05x

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W34137 TOCW ICAL Into seven 50mL vol. Flasks, pipetted 0, 0.05, 0.25, 0.50, 1.25, 2.50 and 5.0 mL of 1000 mg/L ICAL/CCV Stock (W34125) and brought to volume with milli-Q H_2O. Exp. 05/21/14
mms 04/21/14

W34138 TOCW ICV Into a 50mL vol. Flask, pipetted 2.50 mL of 1000mg/L ICV/LCS Stock std (W34126) and brought to volume with milli-Q H_2O. Exp. 05/21/14
mms 04/21/14

Read and Understood By

4/22/14 cz

Signed Date Signed Date

W34123 MS 04/17/14 — TOC/W LCV Std (50mg/L) – Into a 100mL vol Flask, pipetted 5.0 mL of ~~W33870~~ W34125 mes 04/18/14 exp. 05/18/14 & brought to volume with milli-Q H_2O

W34124 MS 04/17/14 — TOC/W LCS Std (50mg/L) – Into a 100mL vol Flask, pipetted 5.0 mL of ~~W33871~~ W34126 mes 04/18/14 exp 05/18/14 & brought to volume with milli-Q H_2O

W34125 BMS 04/18/14 — TOC/W ICal/CCV Stock Std. (1000 mg/L): Into a 100 mL vol. dissolved 0.2128g of KHP (W33269) and brought to volume with Milli Q H_2O. Exp. 10/18/14.

W34126 BMS 04/18/14 — TOC/W ICV/LCS Stock Std. (1000 mg/L): Into a 100mL vol, dissolved 0.2128g of KHP (W29879) and brought to volume with Milli Q H_2O. Exp 10/18/14.

Continued on Page

Read and Understood By

4/19/14 03*

Signed Date Signed Date

W33266 GES 1/7/14 — Sodium hypochlorite soln - Fisher cat # SS290-4 lot # 133912 exp 7/2014

W33267 GES 1/7/14 — NH_3 TL Hypochlorite: Into a 500mL vol volumetrically cylinder 30mL W33266 & filled to mark w/ DI H_2O exp 1/8/14

W33268 DJS 1/7/14 — TKN MDL ✓: (0.46mg/L) Into a 100mL vol flask pipetted 0.46mL NH_3/TKN 1000mg/L Stock W32416 + filled to volume w/ DI. Then pipetted 20mL into TKN tube.

W33269 Bons 01/07/14 — Potassium Hydrogen Phthalate (KHP): Agros Organics Catelog #: 424061000, Lot#: A0317291 (Received 06/24/13)

W33270 AGK 01/07/14 — TOCW ICAL/ICV stock (1000mg/L): Into a 100mL vol, dissolved 0.2128g KHP (W33269) and brought to volume w/ milli-Q H_2O Exp: 07/07/14

W33271 01/07/14 AGK — TOCW ICV/LCS stock (1000mg/L) Into a 100mL vol, dissolved 0.2128g KHP (W29079) and brought to volume w/ milli-Q H_2O Exp: 07/07/14

W33272 AGK 01/07/14 AGK — TOCW CCV Sto: Into a 100mL vol pipetted 5.0mL of W33270 and Brought to Volume with Milli-Q H_2O Exp: 02-07-14

W33273 01/07/14 AGK — TOCW LCS Sto: Into a 100mL vol pipetted 5.0mL of W33271 and brought to volume w/ milli-Q H_2O Exp: 02-07-14

W33274 01/07/14 AGK — TOCW Ical: Into 7 50mL vol, pipetted 0.005, 0.25, 0.5, 1.25, 2.5, and 5.0mL of W33270 and brought to volume with milli-Q H_2O Exp: 02/07/14

Continued on Page

Read and Understood By

Signed | Date | Signed | Date

CHAIN OF CUSTODY,
PM CONFIRMATION
AND
SAMPLE CONDITION FORMS
DOCUMENTS

Rev 8/2014

CHAIN OF CUSTODY

Page 1 of 1

Company: BSEN
Project Contact: S. JULIA LIU
Telephone: 757-256-6281
Project Name: RAAP
Project #: 313010-001
Location: RADFORD, VA
Sampled By: SJL

Folder = 118236
Company: BERING SEA ENVIRON
Project: RADFORD AAP
Logged By: PM PM PM

1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Program:
RCRA SDWA NPDES
Other

BSN-1255

Report To:
EMAIL: SLIU@BSENN.COM
Company: BSEN
Address: 615 E. 82ND AVE #200 ANCHORAGE, AK 99518

Invoice To:*
EMAIL: SAME
Company:
Address:

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

Client Special Instructions
LAB MUST FILTER

Matrix:
GW - groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Collection Date	Collection Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? (Y/N)	VOC METHANE/ETHANE/ ETHENE	TOC	NITRATE/SULFATE/ CHLORIDE	Total # Containers	Designated MS/MSD	CT Lab ID # (Lab use only)
4/12/16	0910	GW	GRAB		50MW02	N	X	X	X	6		707495/708265
	1115				49MW02	N	X	X	X	6		707512/708266
	1240				48MW3	N	X	X	X	18	X	707513/708267
	1435				48MW2	N	X	X	X	6		707514/708268
	1620				48MW06	N	X	X	X	6		707515/708269
	1620				49TM01	N	X	X	X	6		707516/708270
	1630				04121 6T1	N	X			2		707517

Fill in Spaces with Bottles per Test

Turnaround Time
(Normal) RUSH*
Date Needed: _____
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

Relinquished By:	Date/Time	Received By:	Date/Time
S. Liu	1730 /4/12/16		
Received by:	Date/Time	Received for Laboratory by:	Date/Time
			4-13-16 1114

Lab Use Only
Ice Present (Yes) No
Temp 1.1 IR Gun # 14
Cooler # 5113 4-13-16 1024 BNT

CT Laboratories Terms and Conditions

Where a purchaser (Client) placed an order for laboratory consulting or sampling services from CT Laboratories (CTL), CTL shall provide the ordered services pursuant to these Terms and Conditions, and the related Quotation, or as agreed in a negotiated contract. In the absence of a written agreement to the contrary, the Order constitutes an acceptance by the Client of CTL's offer to do business under these Terms and Conditions, and an agreement to be bound by these Terms and Conditions. No contrary or additional terms and conditions expressed on a Client's document shall be deemed to become a part of the contract created upon acceptance of these Terms and Conditions, unless accepted by CTL in advance of the start of the project and in writing.

1. ORDERS AND RECEIPT OF SAMPLES (Sample Acceptance Policy)

1.1 The Client may place the Order (i.e., specify a Scope of Work) either by submitting a purchase order to CTL in writing, by telephone (confirmed in writing) or by negotiated contract. Whichever option the Client selects for placing the Order, the Order shall not be valid unless it contains sufficient specification to enable CTL to carry out the Client's requirements. It is the policy of CT Laboratories that samples not meeting the acceptance criteria, outlined in the NELAC standards and Section 5.8.3.2 of the DOD QSM, will not be accepted by the laboratory or will be qualified on the final report. All samples submitted to the laboratory must: (1) be accompanied by proper, full and complete documentation, including sample identification, location, date and time of collection, the collector's name, type of preservation (if any), type of sample, any special comments concerning the sample and other additional pertinent fields on the chain-of-custody. In the absence of any of the required information, the laboratory will attempt to contact the client to obtain the information; if unable to obtain the necessary information, the final report will be qualified. (2) be labeled appropriately with a unique sample identification written with indelible ink on water resistant labels. If the laboratory cannot determine the identity of a sample, it will be rejected and the client will be contacted for further instructions or resampling. (3) be in an appropriate sample container. If the container is inappropriate, the client will be contacted for further instructions or resampling. If analysis is possible, the final report will be qualified. CT Laboratories can provide a sampling guide containing approved containers and preservations for analytical methods requested. (4) adhere to specified holding times. If samples are received with less than ½ the holding time remaining for the requested test, CT Laboratories will make its best effort to analyze the samples and notify the client. If holding times are exceeded, the final report will be qualified. (5) contain adequate sample volume to perform the necessary testing. If sufficient volume is not present, the sample will be rejected and the client will be contacted for further instructions or resampling. If samples show signs of damage, contamination or inadequate preservation, the client will be notified. If analysis can be performed, the final report will be qualified. If not, the samples will be rejected and the client notified for further instructions or resampling.

1.2 CT Laboratories must be supplied with complete written disclosure of the known or suspected presence of any hazardous substances, as defined by applicable federal or state law. Where any samples which were not accompanied by the required disclosure, cause interruptions in the lab's ability to process work due to contamination of instruments or work areas, the Client will be responsible for the costs of clean up and recovery.

1.3 Prior to Sample Acceptance, the entire risk of loss or damage to samples remains with the Client. In no event will CTL have any responsibility or liability for the action or inaction of any carrier shipping or delivering any sample to or from CTL's premises. Client is responsible to assure that any sample containing any hazardous substance which is to be delivered to CTL's premises will be packaged, labeled, transported and delivered properly and in accordance with applicable laws.

2. PAYMENT TERMS

2.1 Services performed by CTL will be in accordance with prices quoted and later confirmed in writing or as stated in the Price Schedule. Invoices may be submitted to Client upon completion of any sample delivery group. Payment in advance is required for all Clients except those whose credit has been established with CTL. For Clients with approved credit, payment terms are net 30 days from the date of invoice by CTL. All overdue payments are subject to an additional interest and service charge of one and one-half percent (1.5%) (or the maximum rate permissible by law, whichever is lesser) per month or portion thereof from the due date until the date of payment. All fees are charged or billed directly to the Client. The billing of a third party will not be accepted without a statement, signed by the third party that acknowledges and accepts payment responsibility. CTL may suspend work and withhold delivery of data under this order at any time in the event Client fails to make timely payment of its invoices. Client shall be responsible for all costs and expenses of collection including reasonable attorney's fees. CTL reserves the right to refuse to proceed with work at any time based upon an unfavorable Client credit report.

3. CHANGE ORDERS, TERMINATION

3.1 Changes to the Scope of Work, price, or result delivery date may be initiated by CTL after Sample Acceptance due to any condition which conflicts with analytical, QA or other protocols warranted in these Terms and Conditions. CTL will not proceed with such changes until an agreement with the Client is reached on the amount of any cost, schedule change or technical change to the Scope of Work, and such agreement is documented in writing.

3.2 Changes to the Scope of Work, including but not limited to increasing or decreasing the work, changing test and analyses specification or acceleration in the performance of the work may be initiated by the Client after sample acceptance. Such a change will be documented in writing and may result in a change in cost and turnaround time commitment. CTL's acceptance of such changes is contingent upon technical feasibility and operational capacity.

3.3 Suspension or termination of all or any part of the work may be initiated by the Client. CTL will be compensated consistent with Section 2 of these Terms and Conditions. CTL will complete all work in progress and be paid in full for all work completed.

4. WARRANTIES AND LIABILITY

4.1 Where applicable, CTL will use analytical methodologies which are in substantial conformity with published test methods. CTL has implemented these methods in its Laboratory Quality Manuals and referenced Standard Operating Procedures and where the nature or composition of the sample requires it, CTL reserves the right to deviate from these methodologies as necessary or appropriate, based on the reasonable judgment of CTL, which deviations, if any, will be made on a basis consistent with recognized standards of the industry and/or CTL's Laboratory Quality Manuals. Client may request that CTL perform according to a mutually agreed Quality Assurance Project Plan (QAPP). In the event that samples arrive prior to agreement on a QAPP, CTL will proceed with analyses under its standard Quality Manuals then in effect, and CTL will not be responsible for any resampling or other charges if work must be repeated to comply with a subsequently finalized QAPP.

4.2 CTL shall start preparation and/or analysis within holding times provided that Sample Acceptance occurs within 48 hours of sampling or 1/2 of the holding time for the test, whichever is less. Where resolution of inconsistencies leading to Sample Acceptance does not occur within this period, CTL will use its best efforts to meet holding times and will proceed with the work provided that, in CTL's judgment, the chain-of-custody or definition of the Scope of Work provide sufficient guidance. Reanalysis of samples to comply with CTL's Quality Manuals will be deemed to have met holding times provided the initial analysis was performed within the applicable holding time. Where reanalysis demonstrates that sample matrix interference is the cause of failure to meet any Quality Manual requirements, the warranty will be deemed to have been met.

4.3 CTL warrants that it possesses and maintains all licenses and certifications which are required to perform services under these Terms and Conditions provided that such requirements are specified in writing to CTL prior to Sample Acceptance. CTL will notify the Client in writing of any decertification or revocation of any license, or notice of either, which affects work in progress.

4.4 The warranty obligations set forth in Sections 4.1, 4.2 and 4.3 are the sole and exclusive warranties given by CTL in connection with any services performed by CTL or any Results generated from such services, and CTL gives and makes NO OTHER REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. No representative of CTL is authorized to give or make any other representation or warranty or modify this warranty in any way.

4.5 Client's sole and exclusive remedy for the breach of warranty in connection with any services performed by CTL will be limited to repeating any services performed, contingent on the Client providing, at the request of CTL and at the Client's expense, additional sample(s) if necessary. Any reanalysis requested by the Client generating Results consistent with the original Results will be at the Client's expense. If resampling is necessary, CTL's liability for resampling costs will be limited to actual cost or one hundred or one hundred fifty dollars ($150) per sample, whichever is less.

4.6 CTL's liability for any and all causes of action arising hereunder, whether based in contract, tort, warranty, negligence or otherwise, shall be limited to the lesser amount of compensation for the services performed or $100,000. All claims, including those for negligence, shall be deemed waived unless suit thereon is filed within one year after CTL's completion of the services. Under no circumstances, whether arising in contract, tort (including negligence), or otherwise, shall CTL be responsible for loss of use, loss of profits or for any special, indirect, incidental or consequential damages occasioned by the services performed or by application or use of the reports prepared.

4.7 In no event shall CTL have any responsibility or liability to the Client for any failure or delay in performance by CTL which results, directly or indirectly, in whole or in part, from any cause or circumstance beyond the reasonable control of CTL. Such causes and circumstances shall include, but not be limited to, acts of God, acts of Client, acts or orders of any governmental authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, equipment breakdown, matrix interference or unknown highly contaminated samples that impact instrument operation, unavailability of supplies from usual suppliers, difficulties or delays in transportation, mail or delivery services, or any other cause beyond CTL's reasonable control.

5. RESULTS, WORK PRODUCT

5.1 Data or information provided to CTL or generated by services performed under this agreement shall only become the property of the Client upon receipt in full by CTL of payment for the whole Order. Ownership of any analytical method, QA/QC protocols, software programs or equipment developed by CTL for performance of work will be retained by CTL, and Client shall not disclose such information to any third party.

5.2 Data and sample materials provided by Client or at Client's request, and the result obtained by CTL shall be held in confidence (unless such information is generally available to the public or is in the public domain or Client has failed to pay CTL for all services rendered or is otherwise in breach of these Terms and Conditions), subject to any disclosure required by law or legal process.

5.3 Should the Results delivered by CTL be used by the Client or Client's client, even though subsequently determined not to meet the warranties described in these Terms and Conditions, then the compensation will be adjusted based upon mutual agreement. In no case shall the Client unreasonably withhold CTL's right to independently defend its data.

5.4 CTL reserves the right to subcontract services ordered by the Client to another laboratory or laboratories, if, in CTL's sole judgment, it is reasonably necessary, appropriate or advisable to do so, and with the Client's permission. CTL will in no way be liable for any subcontracted services and all applicable warranties, guarantees and insurance are those of the subcontracted laboratory.

5.5 CTL shall dispose of the Client's samples 30 days after the analytical report is issued, unless instructed to store them for an alternate period of time or to return such samples to the Client, in a manner consistent with U.S. Environmental Protection Agency regulations or other applicable Federal, state or local requirements. Any samples for projects that are canceled or not accepted, or for which return was requested, will be returned to the Client at their own expense. CTL reserves the right to return to the Client any sample or unused portion of a sample that is not within CTL's permitted capability or the capabilities of CTL's designated waste disposal vendor(s).

5.6 Unless a different time period is agreed to in any order under these Terms and Conditions, CTL agrees to retain all records for five (5) years.

5.7 In the event that CTL is required to respond to legal process related to services for Client, Client agrees to reimburse CTL for hourly charges for personnel involved in the response and attorney fees reasonably incurred in obtaining advice concerning the response, preparation to testify, and appearances related to the legal process, travel and all reasonable expenses associated with the litigation.

6. INSURANCE

6.1 CTL shall maintain in force during the performance of services under these Terms and Conditions, Workers' Compensation and Employer's Liability insurance in accordance with the laws of the states having jurisdiction over CTL's employees who are engaged in the performance of the work. CTL shall also maintain during such period, Comprehensive General and Contractual Liability (limit of $2,000,000 per occurrence/ aggregate), Comprehensive Automobile Liability, owned and hired, ($1,000,000 combined single limit), and Professional/Pollution Liability Insurance (limit of $5,000,000 per occurrence/aggregate). Any Client required changes to these limits or conditions may result in a change in cost to the Client.

7. AUDIT

7.1 Upon prior notice to CTL, the Client may audit and inspect CTL's records and accounts covering reimbursable costs related to work done for the Client, for a period of one (1) year after completion of the work. The purpose of any such audit shall be only for verification of such costs, and CTL shall not be required to provide access to cost records where prices are expressed as fixed fees or published unit prices.

Cooler Receipt Form

Ice Present (YES) NO

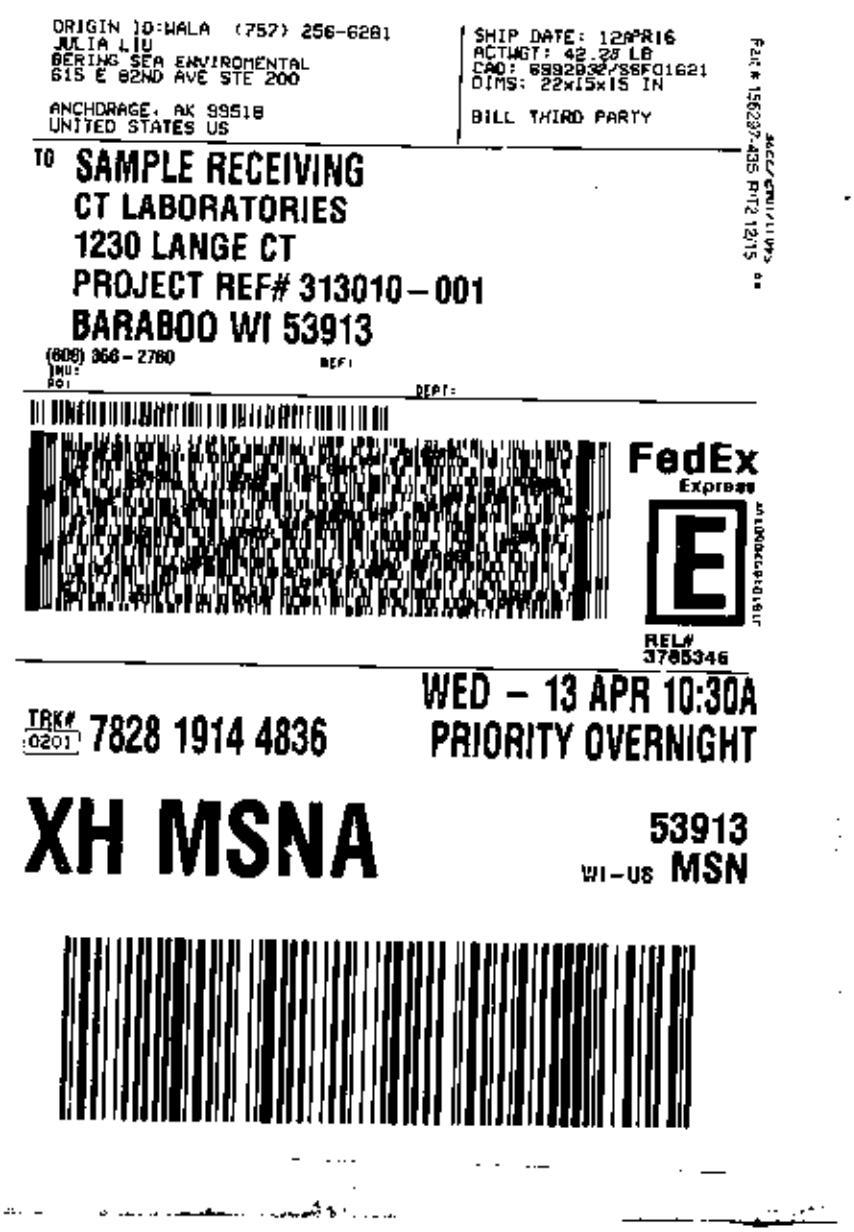
Temperature 1.1

IR Gun # 14

Initials BVA

Date 4-13-16 Time 1024

Cooler #: 5113



Folder #: 118236

PM LOGIN CONFIRMATION

Contract #: 2842

Company: BERING SEA ENVIRONMENTAL **Project:** RADFORD AAP **Proj #:** 313010-001

Project Phase: **PO Number:** BSN-1255 **Invoice #:** 118774

Project Manager: *BMS* **Date Received:** 04/13/16 **Log Date:** 04/13/2016

Report To: S. JULIA LIU CC: Invoice To :JULIA CC: SLIU@BSENV.COM

Phone: 757-256-6281: Fax: Phone: Fax:

Rep. E-Mail SLIU@BSENV.COM EMail:

Collected By: Arrival Temperature: 1.1 oC

Collector's Phone: 757-256-6281

SAMPLE #: 707495 DESCR: 50MW02 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED: 04/12/2016 Time: 0910**

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*		04/25/2016		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)					04/25/2016		Logged
			Ethane						
			Ethene						
			Methane						
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)					04/25/2016		Logged

SAMPLE #: 707512 DESCR: 49MW02 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED: 04/12/2016 Time: 1115**

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*		04/25/2016		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)					04/25/2016		Logged
			Ethane						

C:\LIMSREPS\CONFIRMATION.RPT

Folder #: 118236 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 707512 **DESCR:** 49MW02 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 04/12/2016 **Time:** 1115

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
			Ethene						
			Methane						
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)					04/25/2016		Logged

SAMPLE #: 707513 **DESCR:** 48MW3 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 04/12/2016 **Time:** 1240

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			***Y*** ***DESIGNATED MATRIX SPIKE***		04/25/2016		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)			***DESIGNATED MATRIX SPIKE***		04/25/2016		Logged
			Ethane						
			Ethene						
			Methane						
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)			***DESIGNATED MATRIX SPIKE***		04/25/2016		Logged

SAMPLE #: 707514 **DESCR:** 48MW2 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 04/12/2016 **Time:** 1435

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			***Y***		04/25/2016		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)					04/25/2016		Logged
			Ethane						
			Ethene						
			Methane						
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)					04/25/2016		Logged

Folder #: 118236 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 707515 **DESCR:** 48MW06 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 04/12/2016 **Time:** 1620

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*		04/25/2016		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)					04/25/2016		Logged
			Ethane						
			Ethene						
			Methane						
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)					04/25/2016		Logged

SAMPLE #: 707516 **DESCR:** 49TM01 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 04/12/2016 **Time:** 1620

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*		04/25/2016		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)					04/25/2016		Logged
			Ethane						
			Ethene						
			Methane						
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)					04/25/2016		Logged

SAMPLE #: 707517 **DESCR:** 041216T1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / TRIP BLANK **SAMPLED:** 04/12/2016 **Time:** 1630

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	04/26/2016	04/25/2016		Logged

SAMPLE #: 708265 **DESCR:** 50MW02 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 04/12/2016 **Time:** 0910

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)					04/25/2016		Logged

Folder #: 118236 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 708265 **DESCR:** 50MW02 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 04/12/2016 **Time:** 0910

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1227	ANIONS IC QSM 5.0	(EPA 9056A)				04/14/2016	04/25/2016		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 708266 **DESCR:** 49MW02 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 04/12/2016 **Time:** 1115

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)					04/25/2016		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)				04/14/2016	04/25/2016		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 708267 **DESCR:** 48MW3 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 04/12/2016 **Time:** 1240

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)					04/25/2016		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)				04/14/2016	04/25/2016		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 708268 **DESCR:** 48MW2 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 04/12/2016 **Time:** 1435

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS

Folder #: 118236 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 708268 **DESCR:** 48MW2 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 04/12/2016 **Time:** 1435

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)					04/25/2016		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)				04/14/2016	04/25/2016		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 708269 **DESCR:** 48MW06 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 04/12/2016 **Time:** 1620

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)					04/25/2016		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)				04/14/2016	04/25/2016		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 708270 **DESCR:** 49TM01 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 04/12/2016 **Time:** 1620

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)					04/25/2016		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)				04/14/2016	04/25/2016		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

Folder #: 118236 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

Invoice Number: 118774 **Preliminary Invoice Estimate:** $ 1,015.00

Item	Matrix	Quantity	Price	Expedited TAT Surcharge	Total
ANIONS IC QSM 5.0 Chloride	GROUND WATER	6	$ 10.00	0.00	$ 60.00
ANIONS IC QSM 5.0 Nitrate Nitrogen	GROUND WATER	6	$ 10.00	0.00	$ 60.00
ANIONS IC QSM 5.0 Sulfate	GROUND WATER	6	$ 10.00	0.00	$ 60.00
FILTRATION, SAMPLE	GROUND WATER	6	$ 10.00	0.00	$ 60.00
METH,ETH,ETHE QSM 5.0 Ethane	GROUND WATER	6	$ 0.00	0.00	$ 0.00
METH,ETH,ETHE QSM 5.0 Ethene	GROUND WATER	6	$ 0.00	0.00	$ 0.00
METH,ETH,ETHE QSM 5.0 Methane	GROUND WATER	6	$ 40.00	0.00	$ 240.00
ORGAN CARBON T QSM 5.0	GROUND WATER	6	$ 25.00	0.00	$ 150.00
VOC 8260 QSM 5.0	GROUND WATER	6	$ 55.00	0.00	$ 330.00
VOC 8260 QSM 5.0	TRIP BLANK	1	$ 55.00	0.00	$ 55.00
Temporary Fuel Surcharge on lab supplies and services (if applicable):					$ 0.00

Bottle Information

Container	# Containers	Tests
H2SO4 PL	**8**	TOC
UNPRES PL	**20**	Anions
VOA HCL	**34**	GAS,VOC

CT LABORATORIES
delivering more than data from your environmental analyses

Sample Condition Report

Folder #: 118236
Client: BERING SEA ENVIRONMENTAL

Print Date / Time: 04/13/2016 11:13
Received Date / Time / By: 04/13/2016 1024 BNA

Project Name: RADFORD AAP
Project Phase:

Log-In Date / Time / By: 04/13/2016 1114 BNA
Project #: 313010-001 PM: BMS

Coolers: 5113
Custody Seals Present : **Y**

Temperature: 1.1 C On Ice: **Y**
COC Present:? **Y** Complete? **Y**

Seal Intact? **Y**
Ship Method: FEDEX PRIORITY OVERNIGHT
Adequate Packaging: **Y**

Numbers: SIGNED AND DATED
Tracking Number: 782819144836
Temp Blank Enclosed? **Y**

Notes: THE SAMPLES WERE RECEIVED IN GOOD CONDITION ON ICE.

ONE CUSTODY SEAL WAS PRESENT AND INTACT, DATED 04/12/2016 AND SIGNED.

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
707495 50MW02				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type (*UNPRES PL*) = 1			
707495 50MW02				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type (*VOA HCL*) = 4			
707495 50MW02				
	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type (*H2SO4 PL*) = 1			

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
707512 49MW02				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type (*UNPRES PL*) = 1			
707512 49MW02				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type (*VOA HCL*) = 4			
707512 49MW02				
	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type (*H2SO4 PL*) = 1			

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
707513 48MW3				
	UNPRES PL	1	/	Anions
	UNPRES PL	1	/	Anions
	UNPRES PL	1	/	Anions
	Total # of Containers of Type	**(*UNPRES PL*) = 3**		
707513 48MW3				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type	**(*VOA HCL*) = 12**		
707513 48MW3				
	H2SO4 PL	1	Y /	TOC
	H2SO4 PL	1	Y /	TOC
	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type	**(*H2SO4 PL*) = 3**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
707514 48MW2				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type	**(*UNPRES PL*) = 1**		
707514 48MW2				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type	**(*VOA HCL*) = 4**		
707514 48MW2				
	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type	**(*H2SO4 PL*) = 1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
707515 48MW06				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type	**(*UNPRES PL*) = 1**		
707515 48MW06				
	VOA HCL	1	/	GAS,VOC

VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC

Total # of Containers of Type (*VOA HCL*) = 4

707515 48MW06

H2SO4 PL	1	Y	/	TOC

Total # of Containers of Type (*H2SO4 PL*) = 1

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

---

707516 49TM01

UNPRES PL	1		/	Anions

Total # of Containers of Type (*UNPRES PL*) = 1

707516 49TM01

VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC

Total # of Containers of Type (*VOA HCL*) = 4

707516 49TM01

H2SO4 PL	1	Y	/	TOC

Total # of Containers of Type (*H2SO4 PL*) = 1

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

---

707517 041216T1

VOA HCL	1		/	VOC
VOA HCL	1		/	VOC

Total # of Containers of Type (*VOA HCL*) = 2

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

---

708265 50MW02

UNPRES PL	1		/	Anions
UNPRES PL	1		/	Anions

Total # of Containers of Type (*UNPRES PL*) = 2

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

---

708266 49MW02

UNPRES PL	1		/	Anions
UNPRES PL	1		/	Anions

Total # of Containers of Type (*UNPRES PL*) = 2

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

---

708267 48MW3

UNPRES PL	1		/	Anions
UNPRES PL	1		/	Anions

Total # of Containers of Type (*UNPRES PL*) = 2

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
708268 48MW2				
	UNPRES PL	1	/	Anions
	UNPRES PL	1	/	Anions
	Total # of Containers of Type		**(*UNPRES PL*) = 2**	

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
708269 48MW06				
	UNPRES PL	1	/	Anions
	UNPRES PL	1	/	Anions
	Total # of Containers of Type		**(*UNPRES PL*) = 2**	

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
708270 49TM01				
	UNPRES PL	1	/	Anions
	UNPRES PL	1	/	Anions
	Total # of Containers of Type		**(*UNPRES PL*) = 2**	

Condition Code	*Condition Description*
1	Sample Received OK

Rev 8/2014

CHAIN OF CUSTODY

Page 1 of 1

Company: BSEN
Project Contact: S. JULIA LIU
Telephone: (757) 256-6281
Project Name: RAAP
Project #: 313010-001
Location: RADFORD, VA
Sampled By: SJL / PJW

CT Folder # 118280
Company: BERING SEA ENVIRON
Project: RADFORD AAP
Logged By: PJS PM TAT

1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Program:
ISM RCRA SDWA NPDES
Solid Waste Other _____

PO # BSN-1255

Report To:
EMAIL: SLIU@BSENV.COM
Company: BSEN
Address: 615 E. 82ND AVE. #200
ANCHORAGE, AK 99518

Invoice To:*
EMAIL:
Company:
Address:

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

Client Special Instructions

LAB MUST FILTER

Matrix:
GW - groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Turnaround Time
Normal RUSH*
Date Needed: _____
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

Collection Date	Collection Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	ANALYSES REQUESTED: VOC	METHANE/ETHANE/ETHENE	TOC	NITRATE/SULFATE/CHLORIDE	pH	COD	TAL METALS	Total # Containers	Designated MS/MSD	CT Lab ID # (Lab use only)
							Fill in Spaces with Bottles per Test										
4/13/16	0850	GW	GRAB		49MW01	N	X	X	X	X				6		708692/693
	1000				48MW1	N	X	X	X	X				6		708694/695
	1217				13MW3	N	X	X	X	X				6		708696/697
	1025				041316R1	N	X	X	X	X				6		708698/699
	1317				13MW4	N	X	X	X	X				6		708700/701
	1410				13MW2	N	X	X	X	X				6		708707/708
	1525				49MW04	N	X	X	X	X				6		708709/710
	1550				49ADW01	N					X	X	X	3		708 711
	1690				041316T1	N	X							2		708713

Relinquished by:	Date/Time	Received By:	Date/Time
	1630 4/13/16		
Received by:	Date/Time	Received for Laboratory by:	Date/Time
			4/14/16 1100

Lab Use Only
Ice Present (Yes) No
Temp 0.8 IR Gun # 14
Cooler # 5128

4/14/16 DFS for BVA

CT Laboratories Terms and Conditions

Where supurchaser (Client) places an order for laboratory, consulting or sampling services from CT Laboratories (CTL), CTL shall provide the ordered services pursuant to these Terms and Conditions, and the related Quotation, or as agreed in a negotiated contract. In the absence of a written agreement to the contrary, the Order constitutes an acceptance by the Client of CTL's offer to do business under these Terms and Conditions, and an agreement to be bound by these Terms and Conditions. No contrary or additional terms and conditions expressed in a Client's document shall be deemed to become a part of the contract created upon acceptance of these Terms and Conditions, unless accepted by CTL in advance of the start of the project and in writing.

1. ORDERS AND RECEIPT OF SAMPLES (Sample Acceptance Policy)

1.1 The Client may place the Order (i.e., specify a Scope of Work) either by submitting a purchase order to CTL in writing, by telephone (confirmed in writing) or by negotiated contract. Whichever option the Client selects for placing the Order, the Order shall not be valid unless it contains sufficient specification to enable CTL to carry out the Client's requirements. It is the policy of CT Laboratories that samples not meeting the acceptance criteria, outlined in the IHELAC standards and Section 5.8.3.2 of the DOD QSM, will not be accepted by the laboratory or will be qualified on the final report. All samples submitted to the laboratory must: (1) be accompanied by proper, full and complete documentation, including sample identification, location, date and time of collection, the collector's name, type of preservation (if any), type of sample, any special comments concerning the sample and any additional pertinent details on the chain-of-custody. In the absence of any of the required information, the laboratory will attempt to contact the client to obtain the information, if unable to obtain the necessary information, the final report will be qualified. (2) be labeled appropriately with a unique sample identification written with indelible ink on water resistant labels. If the laboratory cannot determine the identity of a sample, it will be rejected and the client will be contacted for further instructions or resampling. (3) be in an appropriate sample container. If the container is inappropriate, the client will be contacted for further instructions or resampling. If analysis is possible, the final report will be qualified. CT Laboratories can provide a sampling guide containing approved containers and preservations for analytical methods requested. (4) adhere to specified holding times. If samples are received with less than ½ the holding time remaining for the requested test, CT Laboratories will make its best effort to analyze the samples and notify the client. If holding times are exceeded, the final report will be qualified. (5) contain adequate sample volume to perform the necessary testing. If sufficient volume is not present, the sample will be rejected and the client will be contacted for further instructions or resampling. If samples show signs of damage, contamination or inadequate preservation, the client will be notified. If analysis carries performed, the final report will be qualified. If not, the samples will be rejected and the client contacted for further instructions or resampling.

1.2 CT Laboratories must be supplied with complete written disclosure of the known or suspected presence of any hazardous substances, as defined by applicable federal or state law. Where any samples which were not accompanied by the required disclosure, cause disruptions in the lab's ability to process work due to contamination of instruments or work areas, the Client will be responsible for the costs of clean up and recovery.

1.3 Prior to Sample Acceptance, the entire risk of loss or damage to samples remains with the Client. In no event will CTL have any responsibility or liability for the action or inaction of any carrier shipping or delivering any sample to or from CTL's premises. Client is responsible to assure that any sample containing any hazardous substance which is to be delivered to CTL's premises will be packaged, labelled, transported and delivered properly and in accordance with applicable laws.

2. PAYMENT TERMS

2.1 Services performed by CTL will be in accordance with prices quoted and later confirmed in writing or as stated in the Price Schedule. Invoices may be submitted to Client upon completion of any sample delivery group. Payment in advance is required for all Clients except those whose credit has been established with CTL. For Clients with approved credit, payment terms are net 30 days from the date of invoice by CTL. All overdue payments are subject to an additional interest and service charge of one and one-half percent (1.5%) (or the maximum rate permissible by law, whichever is lesser) per month or portion thereof from the due date until the date of payment. All fees are charged or billed directly to the Client. The billing of a third party will not be accepted without a statement, signed by the third party that acknowledges and accepts payment responsibility. CTL may suspend work and withhold delivery of data under this order at any time in the event Client fails to make timely payment of its invoices. Client shall be responsible for all costs and expenses of collection including reasonable attorney's fees. CTL reserves the right to refuse to proceed with work at any time based upon an unfavorable Client credit report.

3. CHANGE ORDERS, TERMINATION

3.1 Changes to the Scope of Work, price, or result/ delivery date may be initiated by CTL after Sample Acceptance due to any condition which conflicts with analytical, QA or other protocols warranted in these Terms and Conditions. CTL will not proceed with such changes until an agreement with the Client is reached on the amount of any cost, schedule change or technical change to the Scope of Work, and such agreement is documented in writing.

3.2 Changes to the Scope of Work, including but not limited to increasing or decreasing the work, changing test and analyses specification or cancellation in the performance of the work may be initiated by the Client after sample acceptance. Such a change will be documented in writing and may result in a change in cost and turnaround time commitment. CTL's acceptance of such changes is contingent upon technical feasibility and operational capability.

3.3 Suspension or termination of all or any part of the work may be initiated by the Client. CTL will be compensated consistent with Section 2 of these Terms and Conditions. CTL will complete its work in progress and be paid in full for all work completed.

4. WARRANTIES AND LIABILITY

4.1 Where applicable, CTL will use analytical methodologies which are in substantial conformity with published test methods. CTL has implemented these methods in its Laboratory Quality Manuals and referenced Standard Operating Procedures and where the nature or composition of the sample requires it, CTL reserves the right to deviate from these methodologies as necessary or appropriate, based on the reasonable judgment of CTL, which deviations, if any, will be made on a basis consistent with recognized standards of the industry and/or CTL's Laboratory Quality Manuals. Client may request that CTL perform according to a mutually agreed Quality Assurance Project Plan (QAPP). In the event that samples arrive prior to agreement on a QAPP, CTL will proceed with analysis under its standard Quality Manuals then in effect, and CTL will not be responsible for any resampling or other charges if work must be repeated to comply with a subsequently finalized QAPP.

4.2 CTL shall start preparation and/or analysis within holding times provided that Sample Acceptance occurs within 48 hours of sampling or 1/2 of the holding time for the test, whichever is less. Where resolution of inconsistences leading to Sample Acceptance does not occur within this period, CTL will use its best efforts to meet holding times and will proceed with the work, provided that, in CTL's judgment, the chain-of-custody or definition of the Scope of Work provide sufficient guidance. Reanalysis of samples to comply with CTL's Quality Manuals will be deemed to have met holding times provided the initial analysis was performed within the applicable holding time. Where reanalysis demonstrates that sample matrix interference is the cause of failure to meet any Quality Manual requirements, the warranty will be deemed to have been met.

4.3 CTL warrants that it possesses and maintains all licenses and certifications which are required to perform services under these Terms and Conditions provided that such requirements are specified in writing to CTL prior to Sample Acceptance. CTL will notify the Client in writing of any decertification or revocation of any license, or notice of either, which affects work in progress.

4.4 The warranty obligations set forth in Sections 4.1, 4.2 and 4.3 are the sole and exclusive warranties given by CTL in connection with any services performed by CTL or any Results generated from such services and CTL gives and makes NO OTHER REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. No representative of CTL is authorized to give or make any other representations or warranty or modify this warranty in any way.

4.5 Client's sole and exclusive remedy for the breach of warranty in connection with any services performed by CTL, will be limited to repeating any services performed, contingent on the Client's providing, at the request of CTL and at the Client's expense, additional sample(s) if necessary. Any reanalysis requested by the Client generating Results consistent with the original Results will be at the Client's expense. If resampling is necessary, CTL's liability for resampling costs will be limited to actual cost or one hundred or one hundred fifty dollars ($150) per sample, whichever is less.

4.6 CTL's liability for any and all causes of action arising hereunder, whether based in contract, tort, warranty, negligence or otherwise, shall be limited to the lesser amount of compensation for the services performed or $100.00). All claims, including those for negligence, shall be deemed waived unless such thereon is filed within one year after CTL's completion of the services. Under no circumstances, whether arising in contract, tort (including negligence), or otherwise, shall CTL be responsible for loss of profits or savings, or for any special, indirect, incidental or consequential damages occasioned by the services performed or by application or use of the reports prepared.

4.7 In no event shall CTL have any responsibility or liability to the Client for any failure or delay in performance by CTL which results directly or indirectly, in whole or in part, from any causes or circumstances beyond the reasonable control of CTL. Such causes and circumstances shall include, but not be limited to, acts of God, acts of Client, acts or orders of any governmental authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, equipment breakdown, material interference or unknown highly contaminated samples that impact/instrument operation, unavailability of supplies from usual suppliers, difficulties or delays in transportation, mail or delivery services, or any other cause beyond CTL's reasonable control.

5. RESULTS, WORK PRODUCT

5.1 Data or information provided to CTL or generated by services performed under this agreement shall only become the property of the Client upon receipt in full by CTL of payment for the whole Order. Ownership of any analytical method, QA/QC protocols, software programs or equipment developed by CTL for performance of work will be retained by CTL, and Client shall not disclose such information to any third party.

5.2 Data and sample materials provided by Client or at Client's request, and the result obtained by CTL shall be held in confidence (unless such information is generally available to the public or is in the public domain or Client has failed to pay CTL for all services rendered or is otherwise in breach of these Terms and Conditions), subject to any disclosure required by law or legal process.

5.3 Should the Results delivered by CTL be used by the Client or Client's client, even though subsequently determined not to meet the warranties described in these Terms and Conditions, then the compensation will be adjusted based upon mutual agreement. In no case shall the Client unreasonably withhold CTL's right to independently defend its data.

5.4 CTL reserves the right to subcontract services ordered by the Client to another laboratory or laboratories, if, in CTL's sole judgment, it is reasonably necessary, appropriate or advisable to do so, and with the Client's permission. CTL will in no way be liable for any subcontracted services and all applicable warranties, guarantees and insurance are those of the subcontracted laboratory.

5.5 CTL shall dispose of the Client's samples 30 days after the analytical report is issued, unless instructed to store them for an alternate period of time or to return such samples to the Client, in a manner consistent with U.S. Environmental Protection Agency regulations or other applicable Federal, state or local requirements. Any samples for projects that are canceled or not accepted, or for which return was requested, will be returned to the Client at their own expense. CTL reserves the right to return to the Client any sample or unused portion of a sample that is not within CTL's permitted capability or the capabilities of CTL's designated waste disposal vendor(s).

5.6 Unless a different time period is agreed to in any order under these Terms and Conditions, CTL agrees to retain all records for five (5) years.

5.7 In the event that CTL is required to respond to legal process related to services for Client, Client agrees to reimburse CTL for hourly charges for personnel involved in the response and attorney fees reasonably incurred in obtaining advice concerning the response, preparation to testify, and appearances related to the legal process, travel and all reasonable expenses associated with the litigation.

6. INSURANCE

6.1 CTL shall maintain in force during the performance of services under these Terms and Conditions, Workers' Compensation and Employer's Liability insurance in accordance with the laws of the states having jurisdiction over CTL's employees who are engaged in the performance of the work. CTL shall also maintain during such period, Comprehensive General and Contractual Liability (limit of $2,000,000 per occurrence/ aggregate), Comprehensive Automobile Liability, owned and hired, ($1,000,000 combined single limit), and Professional/Pollution Liability Insurance (limit of $5,000,000 per occurrence/aggregate). Any Client required changes to these limits or conditions may result in a change in cost to the Client.

7. AUDIT

7.1 Upon prior notice to CTL, the Client may audit and inspect CTL's records and accounts covering reimbursable costs related to work done for the Client, for a period of one (1) year after completion of the work. The purpose of any such audit shall be only for verification of such costs, and CTL shall not be required to provide access to cost records where prices are expressed as fixed fees or published unit prices.

Cooler Receipt Form

Ice Present (YES) NO

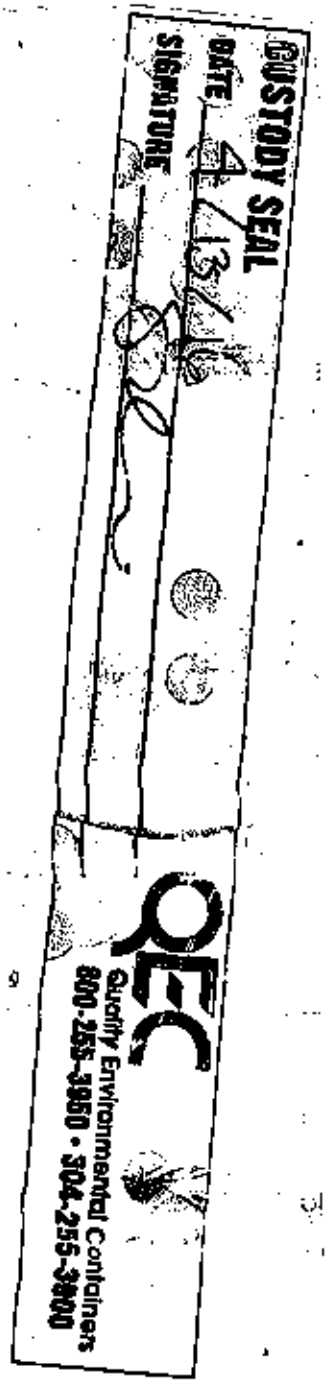
Temperature 0.8

IR Gun # 14

Initials BMA

Date 4-14-16 Time 1045

Cooler #: 5128



ORIGIN ID:WALA (757) 258-6281
JULIA LIU
615 E 82ND AVE STE 200
ANCHORAGE, AK 99518
UNITED STATES US

SHIP DATE: 13APR16
ACTWGT: 45.70 LB
CAD: 8982892/SSFO1621
DIMS: 21x15x15 IN
BILL THI

10 CT LABORATORIES

1230 LANGE CT

BARABOO WI 53913

(608) 356-2760 REF:

INV:
PO:
DEPT:

FedEx Express

THU - 14 APR 10:30A
PRIORITY OVERNIGHT

TRK# 0201 7828 2868 8307

XH MSNA

53913
WI-US MSN

Folder #: 118280

PM LOGIN CONFIRMATION

Contract #: 2842

Company: BERING SEA ENVIRONMENTAL **Project:** RADFORD AAP **Proj #:** 313010-001

Project Phase: **PO Number:** BSN-1255 **Invoice #:** 118818

Project Manager: *BMS* **Date Received:** 04/14/16 **Log Date:** 04/14/2016

Report To: S. JULIA LIU CC: Invoice To :JULIA CC: SLIU@BSENV.COM

Phone: 757-256-6281: Fax: Phone: Fax:

Rep. E-Mail SLIU@BSENV.COM EMail:

Collected By: Arrival Temperature: 0.8 oC

Collector's Phone: 757-256-6281

SAMPLE #: 708692 DESCR: 49MW01 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED: 04/13/2016 Time: 0850**

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	04/27/2016	04/26/2016		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				04/27/2016	04/26/2016		NeedPrep
			Ethane						
			Ethene						
			Methane						
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)				05/11/2016	04/26/2016		Logged

SAMPLE #: 708693 DESCR: 49MW01 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED: 04/13/2016 Time: 0850**

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)					04/26/2016		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)				04/15/2016	04/26/2016		Logged
			Chloride						

Folder #: 118280 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 708693 **DESCR:** 49MW01 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 04/13/2016 **Time:** 0850

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 708694 **DESCR:** 48MW1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 04/13/2016 **Time:** 1000

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	04/27/2016	04/26/2016		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				04/27/2016	04/26/2016		NeedPrep
			Ethane						
			Ethene						
			Methane						
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)				05/11/2016	04/26/2016		Logged

SAMPLE #: 708695 **DESCR:** 48MW1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 04/13/2016 **Time:** 1000

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)					04/26/2016		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)				04/15/2016	04/26/2016		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 708696 **DESCR:** 13MW3 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 04/13/2016 **Time:** 1217

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	04/27/2016	04/26/2016		Logged

Folder #: 118280 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 708696 **DESCR:** 13MW3 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 04/13/2016 **Time:** 1217

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				04/27/2016	04/26/2016		NeedPrep
			Ethane						
			Ethene						
			Methane						
1230	ORGAN CARBON T QSM 5.(	EPA 9060A)				05/11/2016	04/26/2016		Logged

SAMPLE #: 708697 **DESCR:** 13MW3 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 04/13/2016 **Time:** 1217

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)					04/26/2016		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)				04/15/2016	04/26/2016		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 708698 **DESCR:** 041316R1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 04/13/2016 **Time:** 1025

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	04/27/2016	04/26/2016		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				04/27/2016	04/26/2016		NeedPrep
			Ethane						
			Ethene						
			Methane						
1230	ORGAN CARBON T QSM 5.(	EPA 9060A)				05/11/2016	04/26/2016		Logged

Folder #: 118280 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 708699 **DESCR:** 041316R1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 04/13/2016 **Time:** 1025

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)					04/26/2016		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)				04/15/2016	04/26/2016		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 708700 **DESCR:** 13MW4 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 04/13/2016 **Time:** 1317

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	04/27/2016	04/26/2016		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				04/27/2016	04/26/2016		NeedPrep
			Ethane						
			Ethene						
			Methane						
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)				05/11/2016	04/26/2016		Logged

SAMPLE #: 708701 **DESCR:** 13MW4 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 04/13/2016 **Time:** 1317

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)					04/26/2016		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)				04/15/2016	04/26/2016		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

Folder #: 118280 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 708707 **DESCR:** 13MW2 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 04/13/2016 **Time:** 1410

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	04/27/2016	04/26/2016		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				04/27/2016	04/26/2016		NeedPrep
			Ethane						
			Ethene						
			Methane						
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)				05/11/2016	04/26/2016		Logged

SAMPLE #: 708708 **DESCR:** 13MW2 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 04/13/2016 **Time:** 1410

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)					04/26/2016		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)				04/15/2016	04/26/2016		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 708709 **DESCR:** 49MW04 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 04/13/2016 **Time:** 1525

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	04/27/2016	04/26/2016		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				04/27/2016	04/26/2016		NeedPrep
			Ethane						
			Ethene						
			Methane						
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)				05/11/2016	04/26/2016		Logged

Folder #: 118280 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 708710 **DESCR:** 49MW04 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 04/13/2016 **Time:** 1525

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)					04/26/2016		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)				04/15/2016	04/26/2016		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 708711 **DESCR:** 49ADW01 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 04/13/2016 **Time:** 1550

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
203	PH	(EPA 9040C)					04/26/2016		Logged
989	COD QSM	(EPA 410.4)				05/11/2016	04/26/2016		NeedPrep
1183	ICP K TOTAL QSM 5.0	(EPA 6010C)				10/10/2016	04/26/2016		NeedPrep
1190	ICP NA TOTAL QSM 5.0	(EPA 6010C)				10/10/2016	04/26/2016		NeedPrep
1200	ICP TOTAL QSM 5.0	(EPA 6010C)				10/10/2016	04/26/2016		NeedPrep
			Total Aluminum						
			Total Antimony						
			Total Arsenic						
			Total Barium						
			Total Beryllium						
			Total Cadmium						
			Total Calcium						
			Total Chromium						
			Total Cobalt						
			Total Copper						
			Total Iron						
			Total Lead						
			Total Magnesium						

Folder #: 118280 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 708711 **DESCR:** 49ADW01 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 04/13/2016 **Time:** 1550

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
			Total Manganese						
			Total Nickel						
			Total Selenium						
			Total Silver						
			Total Thallium						
			Total Vanadium						
			Total Zinc						
1208	MERCURY TOTAL QSM 5.0	(EPA 7470A)				05/11/2016	04/26/2016		NeedPrep

SAMPLE #: 708713 **DESCR:** 041316T1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / TRIP BLANK **SAMPLED:** 04/13/2016 **Time:** 1600

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	04/27/2016	04/26/2016		Logged

Folder #: 118280 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

Invoice Number: 118818 **Preliminary Invoice Estimate:** $ 1,298.00

Item	Matrix	Quantity	Price	Expedited TAT Surcharge	Total
ANIONS IC QSM 5.0 Chloride	GROUND WATER	7	$ 10.00	0.00	$ 70.00
ANIONS IC QSM 5.0 Nitrate Nitrogen	GROUND WATER	7	$ 10.00	0.00	$ 70.00
ANIONS IC QSM 5.0 Sulfate	GROUND WATER	7	$ 10.00	0.00	$ 70.00
COD QSM	GROUND WATER	1	$ 18.00	0.00	$ 18.00
FILTRATION, SAMPLE	GROUND WATER	7	$ 10.00	0.00	$ 70.00
ICP K TOTAL QSM 5.0	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP NA TOTAL QSM 5.0	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Aluminum	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Antimony	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Arsenic	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Barium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Beryllium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Cadmium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Calcium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Chromium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Cobalt	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Copper	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Iron	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Lead	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Magnesium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Manganese	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Nickel	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Selenium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Silver	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Thallium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Vanadium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Zinc	GROUND WATER	1	$ 3.25	0.00	$ 3.25
MERCURY TOTAL QSM 5.0	GROUND WATER	1	$ 23.50	0.00	$ 23.50
METH,ETH,ETHE QSM 5.0 Ethane	GROUND WATER	7	$ 0.00	0.00	$ 0.00

METH,ETH,ETHE QSM 5.0 Ethene	GROUND WATER	7	$ 0.00	0.00	$ 0.00
METH,ETH,ETHE QSM 5.0 Methane	GROUND WATER	7	$ 40.00	0.00	$ 280.00
ORGAN CARBON T QSM 5.0	GROUND WATER	7	$ 25.00	0.00	$ 175.00
PH	GROUND WATER	1	$ 10.00	0.00	$ 10.00
VOC 8260 QSM 5.0	GROUND WATER	7	$ 55.00	0.00	$ 385.00
VOC 8260 QSM 5.0	TRIP BLANK	1	$ 55.00	0.00	$ 55.00
Temporary Fuel Surcharge on lab supplies and services (if applicable):					$ 0.00

Bottle Information

Container	# Containers	Tests
H2SO4 PL	**8**	COD
HNO3	**1**	HG,ICP,K,NA
UNPRES PL	**15**	Anions
VOA HCL	**30**	GAS,VOC

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Sample Condition Report

Folder #: 118280
Client: BERING SEA ENVIRONMENTAL

Print Date / Time: 04/14/2016 11:01
Received Date / Time / By: 04/14/2016 1045 BNA

Project Name: RADFORD AAP
Project Phase:

Log-In Date / Time / By: 04/14/2016 1100 JLS
Project #: 313010-001 PM: BMS

Coolers: 5128
Custody Seals Present : **Y**

Temperature: 0.8 C On Ice: **Y**
COC Present:? **Y** Complete? **Y**

Seal Intact? **Y**
Ship Method: FEDEX EXPRESS
Adequate Packaging: **Y**

Numbers: DATED AND SIGNED
Tracking Number: 782828688307
Temp Blank Enclosed? **Y**

Notes: THE SAMPLES WERE RECEIVED IN GOOD CONDITION ON ICE.

ONE CUSTODY SEAL WAS PRESENT AND INTACT UPON RECEIPT, DATED 4/13/16 AND SIGNED.

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
708692 49MW01				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type	**(*VOA HCL*) = 4**		
708692 49MW01				
	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type	**(*H2SO4 PL*) = 1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
708693 49MW01				
	UNPRES PL	1	/	Anions
	UNPRES PL	1	/	Anions
	Total # of Containers of Type	**(*UNPRES PL*) = 2**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
708694 48MW1				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type	**(*VOA HCL*) = 3**		
708694 48MW1				
	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type	**(*H2SO4 PL*) = 1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
708694 48MW1				
	VOA HCL	1	/	VOC,GAS
	Total # of Containers of Type (*VOA HCL*) = 1			
708695 48MW1				
	UNPRES PL	1	/	Anions
	UNPRES PL	1	/	Anions
	Total # of Containers of Type (*UNPRES PL*) = 2			
708696 13MW3				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type (*VOA HCL*) = 4			
708696 13MW3				
	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type (*H2SO4 PL*) = 1			
708697 13MW3				
	UNPRES PL	1	/	Anions
	UNPRES PL	1	/	Anions
	Total # of Containers of Type (*UNPRES PL*) = 2			
708698 041316R1				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type (*VOA HCL*) = 4			
708698 041316R1				
	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type (*H2SO4 PL*) = 1			
708699 041316R1				
	UNPRES PL	1	/	Anions
	UNPRES PL	1	/	Anions
	Total # of Containers of Type (*UNPRES PL*) = 2			

708700 13MW4

VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC

Total # of Containers of Type (*VOA HCL*) = 4

708700 13MW4

H2SO4 PL	1	Y	/	TOC

Total # of Containers of Type (*H2SO4 PL*) = 1

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

708701 13MW4

UNPRES PL	1		/	Anions
UNPRES PL	1		/	Anions

Total # of Containers of Type (*UNPRES PL*) = 2

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

708707 13MW2

VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC

Total # of Containers of Type (*VOA HCL*) = 4

708707 13MW2

H2SO4 PL	1	Y	/	TOC

Total # of Containers of Type (*H2SO4 PL*) = 1

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

708708 13MW2

UNPRES PL	1		/	Anions
UNPRES PL	1		/	Anions

Total # of Containers of Type (*UNPRES PL*) = 2

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

708709 49MW04

VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC

Total # of Containers of Type (*VOA HCL*) = 4

708709 49MW04

H2SO4 PL	1	Y	/	TOC

Total # of Containers of Type (*H2SO4 PL*) = 1

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
708710 49MW04				
	UNPRES PL	1	/	Anions
	UNPRES PL	1	/	Anions
	Total # of Containers of Type	**(*UNPRES PL*) = 2**		
708711 49ADW01				
	H2SO4 PL	1	Y /	COD
	Total # of Containers of Type	**(*H2SO4 PL*) = 1**		
708711 49ADW01				
	HNO3	1	Y /	HG,ICP,K,NA
	Total # of Containers of Type	**(*HNO3*) = 1**		
708711 49ADW01				
	UNPRES PL	1	/	pH
	Total # of Containers of Type	**(*UNPRES PL*) = 1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
708713 041316T1				
	VOA HCL	1	/	VOC
	VOA HCL	1	/	VOC
	Total # of Containers of Type	**(*VOA HCL*) = 2**		

Condition Code	*Condition Description*
1	Sample Received OK

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ANALYTICAL RESULTS FOR:

S JULIA LIU
BERING SEA ENVIRONMENTAL
615 E 82ND AVENUE, #200
ANCHORAGE, AL 99518

PROJECT SITE:	RAAP, RADFORD, VA
PROJECT #:	313010-001
SDG:	118319
PREPARED:	May 12, 2016
DOCUMENT PAGES:	1222

The data contained in the following report have been reviewed by the appropriate CT Laboratories' LLC staff members. In addition, CT Laboratories LLC certifies that to the best of our knowledge that the analyses reported herein are true, complete and correct within the limits of the methods employed and that they follow the applicable requirements as specified by the project plan, state-specific, NELAC or DOD QSM requirements. The estimated uncertainty of measurement is only available upon request. The reported results relate only to the tested samples. This report shall not be reproduced, except in full, without written approval of CT Laboratories LLC.

APPROVED BY: Brett Szymanski
PROJECT MANAGER

Certifications: IL (NELAP 002413), KS (NELAP E-10368), KY (0023), NC (674), WI (157066030), DOD ELAP (A2LA 3806.01), VA (7608), MD (344), LA (NELAP 115843), ISO17025 (A2LA 3806.01, GA EDP Stipulation (Accreditor: LA NELAP, ACC#: E971111, Scope: Non-potable water solid and chemical materials, biological tissue, Effective: 12/10/2014, Expires: annually)

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Case Narrative

Client: Bering Sea Environmental
Project: RAAP, Radford, VA
Sample Receipt Date(s): 04/15/2016
SDG #: 118319

Seven water samples were received for a variety of analyses, including: explosives, metals, TOC/TIC, anions, COD, pH, chlorate/chlorite, and perchlorate. The chlorite/chlorate analyses were sub-contracted to Europhins Eaton Analytical, South Bend, IN. The perchlorate and RDX breakdown products (MDX/DNX/TNX) analyses were sub-contracted to SGS Accutest-Southeast, Orlando, FL. The assigned sample ID number, date sampled, and date received are indicated in the attached Project Summary. The samples were received intact and at a temperature within method specified acceptance limits. A breakdown of sample receipt information can be found on the Sample Condition Report located in the last section of the data package and any exceptions are noted below. The analyses were performed following DOD QSM 5.

Manual integrations may have been performed on the data provided with this package. If manual integrations were performed, a Reason #(s) was included on the raw data that corresponds to the "Index Key for Manual Integration Rationale." The raw data includes a "Before" and "After" manual integration illustration. The manual integrations were initialed and dated by the analyst, as well as, by the person reviewing the data.

Sample Analysis and Quality Control

Explosives Analysis:

The samples were analyzed using US EPA Method 8330B (explosives). All samples were analyzed within the holding time. The following summaries of quality control procedures are included:

Surrogate Recovery Data
Matrix Spike/Matrix Spike Duplicate Recovery Data
Laboratory Control Spike Data
Method Blank Data
Initial Calibration Summary
Calibration Check Summary
Analysis Run Log
Prep Log
Chromatograms

All analysis results met the method specified quality control criteria with the following exceptions:

Explosives (8330B) Water Analysis

Analytical Run # 125220

On the primary analysis, surrogate recoveries were high in the Method Blank (MB) and samples 709257, 709260, and 709272 but the confirmation analysis of each of these had surrogate recoveries within acceptable QC limits. This could be due to some type of contaminant co-elution on the primary analysis that does not occur on the confirmation analysis. The surrogate values were reported from the primary analysis and the sample surrogate value was qualified with an "S" flag.

Sample 709222, its Matrix Spike (MS), and Matrix spike Duplicate (MSD) had low surrogate recovery on the primary analysis due to a large neighboring peak interfering with surrogate quantitation. The confirmation analysis result was within the acceptable QC range for the parent sample. The primary result was reported and qualified with an "S" flag.

Samples 709274 and 709276 had high surrogate recoveries on both the primary and confirmation analyses. The primary results were reported and qualified with an "S" flag.

Metals Analysis:

The samples were analyzed using US EPA Methods 6010C (ICP) and 7470A (Hg). All samples were analyzed within the holding time. The following summaries of quality control procedures are included:

Initial and Continuing Calibration Verification
Blanks Summary
ICP Interference Check Data
Spike Sample Recovery
Duplicates Data
Laboratory Control Sample Data
Analysis Run Log

All analysis results met the method specified quality control criteria with the following exceptions:

ICP Metals (6010C) Water Analysis

Continuing Calibration Verification (CCV) standards were analyzed at two levels (CCV1 & CCV2) with potentially differing wavelengths. Data associated with CCV's were evaluated based on the concentration of the element in the samples and compared to the appropriate CCV level/wavelength.

Some samples may have been analyzed and/or reanalyzed diluted to obtain results for all target analytes within the calibration range of the instrument.

<u>Analytical Run # 125061</u>

Copper and silver were detected in the MB greater than the Method Detection Limit (MDL) but less than ½ the Reporting Limit (RL). Affected samples were reported and qualified with a "B" flag when the MB raw results were greater than $1/10^{th}$ of the sample raw results.

Calcium was detected in the MB above the MDL and greater than ½ the RL. The samples were reported and not reanalyzed because the MB result was less than $1/10^{th}$ of the sample results.

The Serial Dilution (L) for sample # 709262 was not applicable for multiple elements because the parent sample raw results were less than 50 times the Limit of Quantitation (LOQ). A Post Digestion Spike (PDS) was analyzed and was unacceptable for barium. The parent sample was reported and qualified with an "M" flag for barium.

The L for sample # 709262 was not acceptable for calcium and magnesium because the results exceeded the Relative Percent Difference (RPD) limit. A PDS was analyzed and was unacceptable for magnesium. The parent sample was reported and qualified with an "M" flag for magnesium.

The Duplicate (DUP) for sample # 709262 was not applicable for multiple elements because the parent sample results were less than five times the LOQ. A MSD was analyzed to demonstrate precision and was acceptable. The parent sample was reported and not qualified.

The MS or MSD for sample # 709262 exceeded the recovery limit for barium, cadmium, and iron. A PDS was analyzed and was unacceptable for barium. The parent sample was reported and qualified with an "M" flag for barium.

ICP Sodium and Potassium (6010C) Water Analysis

Analytical Run # 125062

The L for sample # 709262 was not applicable for sodium and potassium because the parent sample raw results were less than 50 times the LOQ. A PDS was analyzed and was acceptable. The parent sample was reported and not qualified.

The DUP for sample # 709262 was not applicable for potassium because the parent sample result was less than five times the LOQ. An MSD was not analyzed because there was an insufficient volume of sample.

CVAA Mercury (7470A) Water Analysis

Analytical Run # 124999

The DUP for sample # 709262 was not applicable for mercury because the parent sample result was less than five times the LOQ. An MSD was analyzed to demonstrate precision and was acceptable. The parent sample was reported and not qualified.

Inorganic Analysis:

The samples were analyzed using US EPA Methods 9060A (TOC & TIC), 9040C (pH), 410.4 (COD) and 9056A (anions). All samples were analyzed within the holding time. The following summaries of quality control procedures are included:

Duplicate Analysis Data
Laboratory Control Spike Data
Method Blank Data
Initial Calibration Summary
Calibration Check Summary
Analysis Run Log
Prep Log

All analysis results met the method specified quality control criteria with the following exceptions:

Some samples may have been analyzed and/or reanalyzed diluted to obtain results for all target analytes within the calibration range of the instrument.

Anions (9056A) Water Analysis

Analytical Run # 124941

The MS for sample # 709223 had a low recovery for sulfate. The parent sample result for this analyte was qualified with and "M" flag.

Chemical Oxygen Demand (COD) (410.4) Analysis

Analytical Run # 125013

The sample DUP, MS, and MSD were analyzed on a sample from a different SDG. All analysis results for this SDG met the method/project specified quality control criteria.

Filtration Analysis

Analytical Run # 125039

The filtration was completed successfully prior to sample analyses.

pH (9040C) Analysis

Analytical Run # 124948

Sample DUP was analyzed under COC 118280. All analysis results for this SDG met the method/project specified quality control criteria.

Total Inorganic Carbon (TIC) (9060A) Analysis

Analytical Run # 125705

All analysis results for this SDG met the method/project specified quality control criteria.

Total Organic Carbon (TOC) (9060A) Analysis

Analytical Run # 125181

All analysis results for this SDG met the method/project specified quality control criteria.

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Data Qualifiers

Code	Description
A	Analyte averaged calibration criteria within acceptable limits.
B	Analyte detected in associated Method Blank.
C	Toxicity present in BOD sample.
D	Diluted Out.
E	Safe, No Total Coliform detected.
F	Unsafe, Total Coliform detected, no E. Coli detected.
G	Unsafe, Total Coliform detected and E. Coli detected.
H	Holding time exceeded.
J	Estimated value.
L	Significant peaks were detected outside the chromatographic window.
M	Matrix spike and/or Matrix Spike Duplicate recovery outside acceptance limits.
N	Insufficient BOD oxygen depletion.
O	Complete BOD oxygen depletion.
P	Concentration of analyte differs more than 40% between primary and confirmation analysis.
Q	Laboratory Control Sample outside acceptance limits.
R	See Narrative at end of report.
S	Surrogate standard recovery outside acceptance limits due to apparent matrix effects.
T	Sample received with improper preservation or temperature.
U	Analyte concentration was not above the detection level.
V	Raised Quantitation or Reporting Limit due to limited sample amount or dilution for matrix background interference.
W	Sample amount received was below program minimum.
X	Analyte exceeded calibration range.
Y	Replicate/Duplicate precision outside acceptance limits.
Z	Calibration criteria exceeded.

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MANUAL INTEGRATION REASON CODES

CTLaboratories has identified four general cases with valid reasons supporting the use of manual integration techniques. These codes are used on chromatograms in this data package to document the reasons for manual integrations per CTLaboratories' SOP SS-10 current revision.

#1: **Data system failed to select the correct peak or missed the peak entirely.**
In some cases the chromatography system selects and integrates the "wrong peak". In this case the analyst must correct the selection and force the system to integrate the proper peak. In other instances the system may miss the peak completely. In this case the analyst manually integrated the peak

#2: **Data System Splits the Peak Incorrectly or Integrates a False Peak as a Rider Peak.**
This phenomenon is common at low concentrations where the signal to noise ratio is low. A single compound (peak) is incorrectly split into multiple peaks or integrated as a main peak with one or more rider peaks resulting in low or high area counts for the target compound.

#3: Improperly Integrated Isomers and/or coeluting compounds.
For when the system fails to distinguish coeluting compounds and or isomers. The integration areas and concentrations may be inaccurate, and they must be corrected by manual integration. Prime examples are compounds that are unresolved and integrated improperly when present at low concentrations in standards or samples.

#4: System Established Incorrect Baseline.
There are numerous situations in chromatography where the system establishes the baseline incorrectly. Some baseline errors will be obvious to the analyst and may be corrected via manual procedures.

#5: Miscellaneous.
Some situations involving integration errors may require in-depth review and technical judgment. These cases should be brought to the attention of the group supervisor. If the form of manual integration is not clearly covered by these four cases, then review and approval by the group supervisor or the *QA/QC* Supervisor will be required.

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www.ctlaboratories.com

Sample Delivery Group

118319

BERING SEA ENVIRONMENTAL
S. JULIA LIU
615 E 82ND AVE
#200
ANCHORAGE, AK 99518

Project Name: RADFORD AAP
Project #: 313010-001

CT Sample #	Folder #	Client Sample #	Sample Description	Matrix	Date Sampled	Date Received
709222	118319		54MW12	GROUND WATER	04/14/2016	04/15/2016
709223	118319		54MW12	GROUND WATER	04/14/2016	04/15/2016
709257	118319		54MW10	GROUND WATER	04/14/2016	04/15/2016
709258	118319		54MW10	GROUND WATER	04/14/2016	04/15/2016
709260	118319		041416R1	GROUND WATER	04/14/2016	04/15/2016
709261	118319		041416R1	GROUND WATER	04/14/2016	04/15/2016
709262	118319		54ADW01	GROUND WATER	04/14/2016	04/15/2016
709272	118319		54MW1	GROUND WATER	04/14/2016	04/15/2016
709273	118319		54MW1	GROUND WATER	04/14/2016	04/15/2016
709274	118319		54TM1	GROUND WATER	04/14/2016	04/15/2016
709275	118319		54TM1	GROUND WATER	04/14/2016	04/15/2016
709276	118319		54MW13	GROUND WATER	04/14/2016	04/15/2016
709277	118319		54MW13	GROUND WATER	04/14/2016	04/15/2016

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QC Batch Cross Reference Summary

BERING SEA ENVIRONMENTAL
S. JULIA LIU
615 E 82ND AVE
#200
ANCHORAGE, AK 99518

Project Name:	RADFORD AAP
Project #:	313010-001
Report Date:	05/12/2016
Date Received:	04/15/2016
SDG #:	118319

Inorganic Parameters

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
709262	pH	EPA 9040C	GROUND WATER		124948

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
709223	Sample Filtration	SOP #FO-10	GROUND WATER		125039
709258	Sample Filtration	SOP #FO-10	GROUND WATER		125039
709261	Sample Filtration	SOP #FO-10	GROUND WATER		125039
709273	Sample Filtration	SOP #FO-10	GROUND WATER		125039
709275	Sample Filtration	SOP #FO-10	GROUND WATER		125039
709277	Sample Filtration	SOP #FO-10	GROUND WATER		125039

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
709222	Carbon , Total Inorganic and Orga	EPA 9060A	GROUND WATER		125705
709257	Carbon , Total Inorganic and Orga	EPA 9060A	GROUND WATER		125705
709260	Carbon , Total Inorganic and Orga	EPA 9060A	GROUND WATER		125705
709272	Carbon , Total Inorganic and Orga	EPA 9060A	GROUND WATER		125705
709274	Carbon , Total Inorganic and Orga	EPA 9060A	GROUND WATER		125705
709276	Carbon , Total Inorganic and Orga	EPA 9060A	GROUND WATER		125705

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
709262	COD QSM	EPA 410.4	GROUND WATER	56824	125013

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
709223	Anions QSM 5.0	EPA 9056A	GROUND WATER		124941
709258	Anions QSM 5.0	EPA 9056A	GROUND WATER		124941
709261	Anions QSM 5.0	EPA 9056A	GROUND WATER		124941
709273	Anions QSM 5.0	EPA 9056A	GROUND WATER		124941
709275	Anions QSM 5.0	EPA 9056A	GROUND WATER		124941
709277	Anions QSM 5.0	EPA 9056A	GROUND WATER		124941

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #

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Project Name: RADFORD AAP
Project #: 313010-001
SDG #: 118319

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
709222	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		125181
709257	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		125181
709260	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		125181
709272	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		125181
709274	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		125181
709276	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		125181

Metal Parameters

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
709262	Potassium, Total QSM 5.0	EPA 6010C	GROUND WATER	56829	125062

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
709262	Sodium, Total QSM 5.0	EPA 6010C	GROUND WATER	56829	125062

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
709262	ICP Metals, Total QSM 5.0	EPA 6010C	GROUND WATER	56829	125061

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
709262	Mercury, Total QSM	EPA 7470A	GROUND WATER	56795	124999

Organic Parameters

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
709222	Explosives by 8330	EPA 8330B	GROUND WATER	56852	125220
709257	Explosives by 8330	EPA 8330B	GROUND WATER	56852	125220
709260	Explosives by 8330	EPA 8330B	GROUND WATER	56852	125220
709272	Explosives by 8330	EPA 8330B	GROUND WATER	56852	125220
709274	Explosives by 8330	EPA 8330B	GROUND WATER	56852	125220
709276	Explosives by 8330	EPA 8330B	GROUND WATER	56852	125220

NITROAROMATICS ANALYSIS
QUALITY CONTROL SUMMARY
DOCUMENTS

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EXPLOSIVES ANALYSIS

Sample Description: **041416R1**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	118319
Sample wt/vol:	0.910 (g/L)	CTL Sample ID:	709260
% Solids:		Date Received:	04/15/2016
Conc. Extract Vol:	5.0 (mL)	Date/Time Prepared:	04/20/2016 / 16:30
Analytical Method:	EPA 8330B	Analytical Prep Batch #	56852
Analytical Run #:	125220	Dilution Factor:	1.00
Date & Time Analyzed:	04/25/2016 / 21:35	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	040616expic-pri	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
99-35-4	1,3,5-Trinitrobenzene	0.33	U	0.13	0.33	0.44	0.44
99-65-0	1,3-Dinitrobenzene	0.33	U	0.11	0.33	0.55	0.55
118-96-7	2,4,6-Trinitrotoluene	0.33	U	0.12	0.33	1.1	1.1
121-14-2	2,4-Dinitrotoluene	0.33	U	0.16	0.33	1.1	1.1
606-20-2	2,6-Dinitrotoluene	0.33	U	0.13	0.33	0.55	0.55
35572-78-2	2-Amino-4,6-dinitrotoluene	0.33	U	0.13	0.33	0.55	0.55
88-72-2	2-Nitrotoluene	0.44	U	0.22	0.44	2.2	2.2
618-87-1	3,5-Dinitroaniline	0.33	U	0.13	0.33	0.55	0.55
99-08-1	3-Nitrotoluene	0.33	U	0.13	0.33	2.2	2.2
19406-51-0	4-Amino-2,6-dinitrotoluene	0.33	U	0.15	0.33	0.55	0.55
99-99-0	4-Nitrotoluene	0.33	U	0.12	0.33	2.2	2.2
2691-41-0	HMX	0.33	U	0.14	0.33	0.55	0.55
98-95-3	Nitrobenzene	0.33	U	0.12	0.33	0.55	0.55
55-63-0	Nitroglycerin	2.2	U	1.2	2.2	4.4	4.4
78-11-5	PETN	3.3	U	1.6	3.3	6.6	6.6
121-82-4	RDX	0.98		0.099	0.33	0.55	0.55
479-45-8	Tetryl	0.33	U	0.12	0.33	0.55	0.55

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EXPLOSIVES ANALYSIS

Sample Description

54MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	118319
Sample wt/vol:	0.940 (g/L)	CTL Sample ID:	709272
% Solids:		Date Received:	04/15/2016
Conc. Extract Vol:	5.0 (mL)	Date/Time Prepared:	04/20/2016 / 16:30
Analytical Method:	EPA 8330B	Analytical Prep Batch #	56852
Analytical Run #:	125220	Dilution Factor:	1.00
Date & Time Analyzed:	04/25/2016 / 21:53	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	040616expic-pri	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
99-35-4	1,3,5-Trinitrobenzene	0.32	U	0.12	0.32	0.43	0.43
99-65-0	1,3-Dinitrobenzene	0.32	U	0.11	0.32	0.53	0.53
118-96-7	2,4,6-Trinitrotoluene	0.32	U	0.12	0.32	1.1	1.1
121-14-2	2,4-Dinitrotoluene	0.32	U	0.16	0.32	1.1	1.1
606-20-2	2,6-Dinitrotoluene	0.32	U	0.13	0.32	0.53	0.53
35572-78-2	2-Amino-4,6-dinitrotoluene	0.32	U	0.13	0.32	0.53	0.53
88-72-2	2-Nitrotoluene	0.43	U	0.21	0.43	2.1	2.1
618-87-1	3,5-Dinitroaniline	0.32	U	0.12	0.32	0.53	0.53
99-08-1	3-Nitrotoluene	0.32	U	0.12	0.32	2.1	2.1
19406-51-0	4-Amino-2,6-dinitrotoluene	0.32	U	0.15	0.32	0.53	0.53
99-99-0	4-Nitrotoluene	0.32	U	0.12	0.32	2.1	2.1
2691-41-0	HMX	0.32	U	0.13	0.32	0.53	0.53
98-95-3	Nitrobenzene	0.32	U	0.12	0.32	0.53	0.53
55-63-0	Nitroglycerin	2.1	U	1.2	2.1	4.3	4.3
78-11-5	PETN	3.2	U	1.6	3.2	6.4	6.4
121-82-4	RDX	0.32	U	0.096	0.32	0.53	0.53
479-45-8	Tetryl	0.32	U	0.11	0.32	0.53	0.53

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EXPLOSIVES ANALYSIS

Sample Description

54MW10

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	118319
Sample wt/vol:	0.950 (g/L)	CTL Sample ID:	709257
% Solids:		Date Received:	04/15/2016
Conc. Extract Vol:	5.0 (mL)	Date/Time Prepared:	04/20/2016 / 16:30
Analytical Method:	EPA 8330B	Analytical Prep Batch #	56852
Analytical Run #:	125220	Dilution Factor:	1.00
Date & Time Analyzed:	04/25/2016 / 21:17	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	040616expic-pri	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
99-35-4	1,3,5-Trinitrobenzene	0.53		0.12	0.32	0.42	0.42
99-65-0	1,3-Dinitrobenzene	0.32	U	0.11	0.32	0.53	0.53
118-96-7	2,4,6-Trinitrotoluene	2.7		0.12	0.32	1.1	1.1
121-14-2	2,4-Dinitrotoluene	0.32	U	0.16	0.32	1.1	1.1
606-20-2	2,6-Dinitrotoluene	0.32	U	0.13	0.32	0.53	0.53
35572-78-2	2-Amino-4,6-dinitrotoluene	0.42	J	0.13	0.32	0.53	0.53
88-72-2	2-Nitrotoluene	0.42	U	0.21	0.42	2.1	2.1
618-87-1	3,5-Dinitroaniline	0.20	J	0.12	0.32	0.53	0.53
99-08-1	3-Nitrotoluene	0.32	U	0.12	0.32	2.1	2.1
19406-51-0	4-Amino-2,6-dinitrotoluene	0.49	J	0.15	0.32	0.53	0.53
99-99-0	4-Nitrotoluene	0.32	U	0.12	0.32	2.1	2.1
2691-41-0	HMX	0.64		0.13	0.32	0.53	0.53
98-95-3	Nitrobenzene	0.32	U	0.12	0.32	0.53	0.53
55-63-0	Nitroglycerin	2.1	U	1.2	2.1	4.2	4.2
78-11-5	PETN	3.2	U	1.6	3.2	6.3	6.3
121-82-4	RDX	1.8		0.095	0.32	0.53	0.53
479-45-8	Tetryl	0.32	U	0.11	0.32	0.53	0.53

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EXPLOSIVES ANALYSIS

Sample Description

54MW12

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	118319
Sample wt/vol:	0.970 (g/L)	CTL Sample ID:	709222
% Solids:		Date Received:	04/15/2016
Conc. Extract Vol:	5.0 (mL)	Date/Time Prepared:	04/20/2016 / 16:30
Analytical Method:	EPA 8330B	Analytical Prep Batch #	56852
Analytical Run #:	125220	Dilution Factor:	1.00
Date & Time Analyzed:	04/25/2016 / 20:22	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	040616expic-pri	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
99-35-4	1,3,5-Trinitrobenzene	18		0.12	0.31	0.41	0.41
99-65-0	1,3-Dinitrobenzene	0.31	U	0.10	0.31	0.52	0.52
118-96-7	2,4,6-Trinitrotoluene	11		0.11	0.31	1.0	1.0
121-14-2	2,4-Dinitrotoluene	0.31	U	0.15	0.31	1.0	1.0
606-20-2	2,6-Dinitrotoluene	0.31	U	0.12	0.31	0.52	0.52
35572-78-2	2-Amino-4,6-dinitrotoluene	4.3		0.12	0.31	0.52	0.52
88-72-2	2-Nitrotoluene	0.41	U	0.21	0.41	2.1	2.1
618-87-1	3,5-Dinitroaniline	0.43	J	0.12	0.31	0.52	0.52
99-08-1	3-Nitrotoluene	0.31	U	0.12	0.31	2.1	2.1
19406-51-0	4-Amino-2,6-dinitrotoluene	2.7		0.14	0.31	0.52	0.52
99-99-0	4-Nitrotoluene	0.31	U	0.11	0.31	2.1	2.1
2691-41-0	HMX	14		0.13	0.31	0.52	0.52
98-95-3	Nitrobenzene	0.31	U	0.11	0.31	0.52	0.52
55-63-0	Nitroglycerin	2.1	U	1.1	2.1	4.1	4.1
78-11-5	PETN	3.1	U	1.5	3.1	6.2	6.2
121-82-4	RDX	2.5		0.093	0.31	0.52	0.52
479-45-8	Tetryl	0.31	U	0.11	0.31	0.52	0.52

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EXPLOSIVES ANALYSIS

Sample Description

54MW13

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	118319
Sample wt/vol:	0.990 (g/L)	CTL Sample ID:	709276
% Solids:		Date Received:	04/15/2016
Conc. Extract Vol:	5.0 (mL)	Date/Time Prepared:	04/20/2016 / 16:30
Analytical Method:	EPA 8330B	Analytical Prep Batch #	56852
Analytical Run #:	125220	Dilution Factor:	1.00
Date & Time Analyzed:	04/25/2016 / 22:30	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	040616expic-pri	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
99-35-4	1,3,5-Trinitrobenzene	0.60		0.12	0.30	0.40	0.40
99-65-0	1,3-Dinitrobenzene	0.30	U	0.10	0.30	0.51	0.51
118-96-7	2,4,6-Trinitrotoluene	0.79	J	0.11	0.30	1.0	1.0
121-14-2	2,4-Dinitrotoluene	0.30	U	0.15	0.30	1.0	1.0
606-20-2	2,6-Dinitrotoluene	0.30	U	0.12	0.30	0.51	0.51
35572-78-2	2-Amino-4,6-dinitrotoluene	0.25	J	0.12	0.30	0.51	0.51
88-72-2	2-Nitrotoluene	0.40	U	0.20	0.40	2.0	2.0
618-87-1	3,5-Dinitroaniline	0.30	J	0.12	0.30	0.51	0.51
99-08-1	3-Nitrotoluene	0.30	U	0.12	0.30	2.0	2.0
19406-51-0	4-Amino-2,6-dinitrotoluene	0.23	J	0.14	0.30	0.51	0.51
99-99-0	4-Nitrotoluene	0.30	U	0.11	0.30	2.0	2.0
2691-41-0	HMX	0.49	J	0.13	0.30	0.51	0.51
98-95-3	Nitrobenzene	0.30	U	0.11	0.30	0.51	0.51
55-63-0	Nitroglycerin	2.0	U	1.1	2.0	4.0	4.0
78-11-5	PETN	3.0	U	1.5	3.0	6.1	6.1
121-82-4	RDX	0.17	J	0.091	0.30	0.51	0.51
479-45-8	Tetryl	0.30	U	0.11	0.30	0.51	0.51

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1B

EXPLOSIVES ANALYSIS

Sample Description

54TM1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	118319
Sample wt/vol:	0.950 (g/L)	CTL Sample ID:	709274
% Solids:		Date Received:	04/15/2016
Conc. Extract Vol:	5.0 (mL)	Date/Time Prepared:	04/20/2016 / 16:30
Analytical Method:	EPA 8330B	Analytical Prep Batch #	56852
Analytical Run #:	125220	Dilution Factor:	1.00
Date & Time Analyzed:	04/25/2016 / 22:12	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	040616expic-pri	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
99-35-4	1,3,5-Trinitrobenzene	0.32	U	0.12	0.32	0.42	0.42
99-65-0	1,3-Dinitrobenzene	0.32	U	0.11	0.32	0.53	0.53
118-96-7	2,4,6-Trinitrotoluene	0.32	U	0.12	0.32	1.1	1.1
121-14-2	2,4-Dinitrotoluene	0.32	U	0.16	0.32	1.1	1.1
606-20-2	2,6-Dinitrotoluene	0.32	U	0.13	0.32	0.53	0.53
35572-78-2	2-Amino-4,6-dinitrotoluene	0.32	U	0.13	0.32	0.53	0.53
88-72-2	2-Nitrotoluene	0.42	U	0.21	0.42	2.1	2.1
618-87-1	3,5-Dinitroaniline	0.32	U	0.12	0.32	0.53	0.53
99-08-1	3-Nitrotoluene	0.32	U	0.12	0.32	2.1	2.1
19406-51-0	4-Amino-2,6-dinitrotoluene	0.32	U	0.15	0.32	0.53	0.53
99-99-0	4-Nitrotoluene	0.32	U	0.12	0.32	2.1	2.1
2691-41-0	HMX	0.32	U	0.13	0.32	0.53	0.53
98-95-3	Nitrobenzene	0.32	U	0.12	0.32	0.53	0.53
55-63-0	Nitroglycerin	2.1	U	1.2	2.1	4.2	4.2
78-11-5	PETN	3.2	U	1.6	3.2	6.3	6.3
121-82-4	RDX	0.32	U	0.095	0.32	0.53	0.53
479-45-8	Tetryl	0.32	U	0.11	0.32	0.53	0.53

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Sample Description

METHOD BLANK

1B-2

EXPLOSIVES ANALYSIS (MB or CCB)

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:		SDG No.:	118319
Sample wt/vol:	1.000 (g/L)	CTL Sample ID:	711140
% Solids:		Date Received:	04/15/2016
Conc. Extract Vol:	5.0 (mL)	Date/Time Prepared:	04/20/2016 / 16:30
Analytical Method:	EPA 8330B	Analytical Prep Batch #	56852
Analytical Run #:	125220	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	040616expic-pri	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
99-35-4	1,3,5-Trinitrobenzene	04/25/2016	19:45	0.23	U	0.23	0.80	***0.40***
99-65-0	1,3-Dinitrobenzene	04/25/2016	19:45	0.20	U	0.20	1.00	***0.50***
118-96-7	2,4,6-Trinitrotoluene	04/25/2016	19:45	0.22	U	0.22	2.00	***1.00***
121-14-2	2,4-Dinitrotoluene	04/25/2016	19:45	0.3	U	0.3	2.0	***1.00***
606-20-2	2,6-Dinitrotoluene	04/25/2016	19:45	0.24	U	0.24	1.00	***0.50***
35572-78-2	2-Amino-4,6-dinitrotoluene	04/25/2016	19:45	0.24	U	0.24	1.00	***0.50***
88-72-2	2-Nitrotoluene	04/25/2016	19:45	0.4	U	0.4	4.0	***2.0***
618-87-1	3,5-Dinitroaniline	04/25/2016	19:45	0.23	U	0.23	1.00	***0.50***
99-08-1	3-Nitrotoluene	04/25/2016	19:45	0.23	U	0.23	4.00	***2.00***
19406-51-0	4-Amino-2,6-dinitrotoluene	04/25/2016	19:45	0.28	U	0.28	1.00	***0.50***
99-99-0	4-Nitrotoluene	04/25/2016	19:45	0.22	U	0.22	4.00	***2.00***
2691-41-0	HMX	04/25/2016	19:45	0.25	U	0.25	1.00	***0.50***
98-95-3	Nitrobenzene	04/25/2016	19:45	0.22	U	0.22	1.00	***0.50***
55-63-0	Nitroglycerin	04/25/2016	19:45	2.2	U	2.2	8.0	***4.0***
78-11-5	PETN	04/25/2016	19:45	3	U	3	12	***6***
121-82-4	RDX	04/25/2016	19:45	0.18	U	0.18	1.00	***0.50***
479-45-8	Tetryl	04/25/2016	19:45	0.21	U	0.21	1.00	***0.50***

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2G-2

WATER EXPLOSIVES SYSTEM MONITORING COMPOUND RECOVERY

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Analytical Method:	EPA 8330B	SDG:	118319
Analytical Run #:	125220	ICAL Calibration #:	040616expic-pri

CTLab #	709222				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2-Dinitrobenzene	100	72	83	119	*FAIL*
CTLab #	**709257**				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2-Dinitrobenzene	100	148	83	119	*FAIL*
CTLab #	**709260**				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2-Dinitrobenzene	100	141	83	119	*FAIL*
CTLab #	**709272**				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2-Dinitrobenzene	100	131	83	119	*FAIL*
CTLab #	**709274**				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2-Dinitrobenzene	100	282	83	119	*FAIL*
CTLab #	**709276**				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2-Dinitrobenzene	100	233	83	119	*FAIL*
CTLab #	**711140**	Sample Type:		Method Blank	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2-Dinitrobenzene		137	83	119	*FAIL*
CTLab #	**711141**	Sample Type:		Lab Control Spike	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2-Dinitrobenzene	100	108	83	119	
CTLab #	**711143**	Sample Type:		Matrix Spike	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2-Dinitrobenzene	100	80.0	83	119	*FAIL*
CTLab #	**711144**	Sample Type:		Matrix Spike Duplicate	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2-Dinitrobenzene	100	77.1	83	119	*FAIL*

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3G

WATER EXPLOSIVES MATRIX SPIKE RECOVERY

Sample Description: **54MW12**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: GROUND WATER
SDG No.: 118319
Analytical Method: EPA 8330B
Concentration Units: ug/L
Analytical Run #: 125220
Sample No.: 711143
Parent Sample No.: 709222
Analytical Prep Batch #: 56852
Analytical Preparation Date/Time: 04/20/2016 16:30
ICAL Calibration #: 040616expic-pri

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
1,3,5-Trinitrobenzene	04/25/2016	20:40	73-125	21.9	18	5.10	76
1,3-Dinitrobenzene	04/25/2016	20:40	78-120	5.06	BDL	5.10	99
2,4,6-Trinitrotoluene	04/25/2016	20:40	71-123	15.8	11	5.10	94
2,4-Dinitrotoluene	04/25/2016	20:40	78-120	5.14	BDL	5.10	101
2,6-Dinitrotoluene	04/25/2016	20:40	77-127	5.36	BDL	5.10	105
2-Amino-4,6-dinitrotoluene	04/25/2016	20:40	79-120	9.12	4.3	5.10	95
2-Nitrotoluene	04/25/2016	20:40	70-127	4.71	BDL	5.10	92
3,5-Dinitroaniline	04/25/2016	20:40	71-117	6.10	0.43	5.10	111
3-Nitrotoluene	04/25/2016	20:40	73-125	4.59	BDL	5.10	90
4-Amino-2,6-dinitrotoluene	04/25/2016	20:40	76-125	8.35	2.7	5.10	111
4-Nitrotoluene	04/25/2016	20:40	71-127	4.70	BDL	5.10	92
HMX	04/25/2016	20:40	65-135	19.6	14	5.10	110
Nitrobenzene	04/25/2016	20:40	65-134	4.21	BDL	5.10	83
Nitroglycerin	04/25/2016	20:40	74-127	10.5	BDL	10.2	103
PETN	04/25/2016	20:40	73-127	9.87	BDL	10.2	97
RDX	04/25/2016	20:40	68-130	7.46	2.5	5.10	97
Tetryl	04/25/2016	20:40	64-128	4.12	BDL	5.10	81

Spike Recovery: 0 out of 17 outside QC limits

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3G

Sample Description

WATER EXPLOSIVES MATRIX SPIKE DUPLICATE RECOVERY

54MW12

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: GROUND WATER SDG No.: 118319

Analytical Method: EPA 8330B Concentration Units: ug/L

Analytical Run #: 125220 Sample No.: 711144 Parent Sample No.: 711143

Analytical Prep Batch #: 56852 Analytical Preparation Date/Time: 04/20/2016 16:30

ICAL Calibration #: 040616expic-pri

Analyte	Analysis Date/Time		Spike Result	Spike Amount	%R	%RPD	Control Limits (%R)	Control Limits (%RPD)
1,3,5-Trinitrobenzene	04/25/2016	20:59	22.3	5.26	82	1	73-125	20
1,3-Dinitrobenzene	04/25/2016	20:59	5.35	5.26	102	2	78-120	20
2,4,6-Trinitrotoluene	04/25/2016	20:59	16.0	5.26	95	2	71-123	20
2,4-Dinitrotoluene	04/25/2016	20:59	5.27	5.26	100	0	78-120	20
2,6-Dinitrotoluene	04/25/2016	20:59	5.67	5.26	108	2	77-127	20
2-Amino-4,6-dinitrotoluene	04/25/2016	20:59	9.44	5.26	98	0	79-120	20
2-Nitrotoluene	04/25/2016	20:59	4.99	5.26	95	3	70-127	20
3,5-Dinitroaniline	04/25/2016	20:59	6.41	5.26	114	2	71-117	20
3-Nitrotoluene	04/25/2016	20:59	4.87	5.26	93	3	73-125	20
4-Amino-2,6-dinitrotoluene	04/25/2016	20:59	8.68	5.26	114	1	76-125	20
4-Nitrotoluene	04/25/2016	20:59	4.99	5.26	95	3	71-127	20
HMX	04/25/2016	20:59	20.9	5.26	131	3	65-135	20
Nitrobenzene	04/25/2016	20:59	4.46	5.26	85	3	65-134	20
Nitroglycerin	04/25/2016	20:59	10.8	10.5	103	0	74-127	20
PETN	04/25/2016	20:59	10.1	10.5	96	1	73-127	20
RDX	04/25/2016	20:59	7.51	5.26	95	2	68-130	20
Tetryl	04/25/2016	20:59	4.34	5.26	83	2	64-128	20

RPD or Spike Recovery: 0 out of 17 outside QC limits

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3G

Sample Description

LCS

WATER EXPLOSIVES LAB CONTROL SAMPLE

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Sample No.: 711141

SDG No.: 118319

Analytical Method: EPA 8330B

Concentration Units: ug/L

Analytical Run #: 125220 Sample No.: 711141 Parent Sample No.: 0

Analytical Prep Batch #: 56852 Analytical Preparation Date/Time: 04/20/2016 16:30

ICAL Calibration #: 040616expic-pri

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
1,3,5-Trinitrobenzene	04/25/2016	20:04	73-125	4.70		5.00	94
1,3-Dinitrobenzene	04/25/2016	20:04	78-120	4.97		5.00	99
2,4,6-Trinitrotoluene	04/25/2016	20:04	71-123	4.58		5.00	92
2,4-Dinitrotoluene	04/25/2016	20:04	78-120	4.85		5.00	97
2,6-Dinitrotoluene	04/25/2016	20:04	77-127	5.04		5.00	101
2-Amino-4,6-dinitrotoluene	04/25/2016	20:04	79-120	4.79		5.00	96
2-Nitrotoluene	04/25/2016	20:04	70-127	4.45		5.00	89
3,5-Dinitroaniline	04/25/2016	20:04	71-117	5.64		5.00	113
3-Nitrotoluene	04/25/2016	20:04	73-125	4.35		5.00	87
4-Amino-2,6-dinitrotoluene	04/25/2016	20:04	76-125	5.36		5.00	107
4-Nitrotoluene	04/25/2016	20:04	71-127	4.53		5.00	91
HMX	04/25/2016	20:04	65-135	4.52		5.00	90
Nitrobenzene	04/25/2016	20:04	65-134	4.07		5.00	81
Nitroglycerin	04/25/2016	20:04	74-127	10.1		10.0	101
PETN	04/25/2016	20:04	73-127	9.69		10.0	97
RDX	04/25/2016	20:04	68-130	4.90		5.00	98
Tetryl	04/25/2016	20:04	64-128	4.46		5.00	89

Spike Recovery: 0 out of 17 outside limits

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4B-1

EXPLOSIVES METHOD BLANK SUMMARY

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Sample ID:	711140	SDG No.:	118319
Matrix:	LIQUID	Date Extracted:	04/20/2016
Date Analyzed:	04/25/2016	Time Analyzed:	19:45
Analytical Method:	EPA 8330B	Extraction Method:	SW3535
Analytical Run #:	125220	Extraction Batch #:	56852
		ICAL Calibration #:	040616expic-pri

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES AND QC:

SEQUENCE	SAMPLE DESCRIPTION	SAMPLE ID	DATE/TIME ANALYZED	CALIBRATION # ID
1	MBW	711140	04/25/2016 19:45	040616expic-pri
2	LCSW	711141	04/25/2016 20:04	040616expic-pri
3	54MW12	709222	04/25/2016 20:22	040616expic-pri
4	54MW12MSW	711143	04/25/2016 20:40	040616expic-pri
5	54MW12MSDW	711144	04/25/2016 20:59	040616expic-pri
6	54MW10	709257	04/25/2016 21:17	040616expic-pri
7	041416R1	709260	04/25/2016 21:35	040616expic-pri
8	54MW1	709272	04/25/2016 21:53	040616expic-pri
9	54TM1	709274	04/25/2016 22:12	040616expic-pri
10	54MW13	709276	04/25/2016 22:30	040616expic-pri

CT LABORATORIES
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CHANNEL A/B (FRONT/BACK) DETECTOR/COLUMN RPD

EXPLOSIVES ANALYSIS

Sample Description: **041416R1**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	118319
Analytical Method:	EPA 8330B	CTL Sample ID:	709260
Analytical Run #:	125220	Date/Time Prepared:	04/20/2016 / 16:30
Date & Time Analyzed:	04/25/2016 / 21:35	Analytical Prep Batch #:	56852
Date & Time Analyzed #2:	04/26/2016 / 23:43	Concentration Units:	ug/mL
ICAL Calibration #:	040616expic-pri		

Analyte	Column/Detector #1	Column/Detector #2	%RPD	Qualifiers
1,3,5-Trinitrobenzene	NA	NA	NA	
1,3-Dinitrobenzene	NA	NA	NA	
2,4,6-Trinitrotoluene	NA	NA	NA	
2,4-Dinitrotoluene	NA	NA	NA	
2,6-Dinitrotoluene	NA	NA	NA	
2-Amino-4,6-dinitrotoluene	NA	NA	NA	
2-Nitrotoluene	NA	NA	NA	
3,5-Dinitroaniline	NA	NA	NA	
3-Nitrotoluene	NA	NA	NA	
4-Amino-2,6-dinitrotoluene	NA	NA	NA	
4-Nitrotoluene	NA	NA	NA	
HMX	NA	NA	NA	
Nitrobenzene	NA	NA	NA	
Nitroglycerin	NA	NA	NA	
PETN	NA	NA	NA	
RDX	0.0891	0.0889	0.22	
Tetryl	NA	NA	NA	

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CHANNEL A/B (FRONT/BACK) DETECTOR/COLUMN RPD

EXPLOSIVES ANALYSIS

Sample Description

54MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	118319
Analytical Method:	EPA 8330B	CTL Sample ID:	709272
Analytical Run #:	125220	Date/Time Prepared:	04/20/2016 / 16:30
Date & Time Analyzed:	04/25/2016 / 21:53	Analytical Prep Batch #:	56852
Date & Time Analyzed #2:	04/27/2016 / 00:20	Concentration Units:	ug/mL
ICAL Calibration #:	040616expic-pri		

Analyte	Column/Detector #1	Column/Detector #2	%RPD	Qualifiers
1,3,5-Trinitrobenzene	NA	NA	NA	
1,3-Dinitrobenzene	NA	NA	NA	
2,4,6-Trinitrotoluene	NA	NA	NA	
2,4-Dinitrotoluene	NA	NA	NA	
2,6-Dinitrotoluene	NA	NA	NA	
2-Amino-4,6-dinitrotoluene	NA	NA	NA	
2-Nitrotoluene	NA	NA	NA	
3,5-Dinitroaniline	NA	NA	NA	
3-Nitrotoluene	NA	NA	NA	
4-Amino-2,6-dinitrotoluene	NA	NA	NA	
4-Nitrotoluene	NA	NA	NA	
HMX	NA	NA	NA	
Nitrobenzene	NA	NA	NA	
Nitroglycerin	NA	NA	NA	
PETN	NA	NA	NA	
RDX	NA	NA	NA	
Tetryl	NA	NA	NA	

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CHANNEL A/B (FRONT/BACK) DETECTOR/COLUMN RPD

EXPLOSIVES ANALYSIS

Sample Description

54MW10

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	118319
Analytical Method:	EPA 8330B	CTL Sample ID:	709257
Analytical Run #:	125220	Date/Time Prepared:	04/20/2016 / 16:30
Date & Time Analyzed:	04/25/2016 / 21:17	Analytical Prep Batch #:	56852
Date & Time Analyzed #2:	04/26/2016 / 23:06	Concentration Units:	ug/mL
ICAL Calibration #:	040616expic-pri		

Analyte	Column/Detector #1	Column/Detector #2	%RPD	Qualifiers
1,3,5-Trinitrobenzene	0.0506	0.0397	24	
1,3-Dinitrobenzene	NA	NA	NA	
2,4,6-Trinitrotoluene	0.2556	0.2197	15	
2,4-Dinitrotoluene	NA	NA	NA	
2,6-Dinitrotoluene	NA	NA	NA	
2-Amino-4,6-dinitrotoluene	0.0401	0.0371	7.8	
2-Nitrotoluene	NA	NA	NA	
3,5-Dinitroaniline	0.0194	0.0169	14	
3-Nitrotoluene	NA	NA	NA	
4-Amino-2,6-dinitrotoluene	0.0461	0.0547	17	
4-Nitrotoluene	NA	NA	NA	
HMX	0.0608	0.0727	18	
Nitrobenzene	NA	NA	NA	
Nitroglycerin	NA	NA	NA	
PETN	NA	NA	NA	
RDX	0.1668	0.1324	23	
Tetryl	NA	NA	NA	

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CHANNEL A/B (FRONT/BACK) DETECTOR/COLUMN RPD

EXPLOSIVES ANALYSIS

Sample Description

54MW12

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	118319
Analytical Method:	EPA 8330B	CTL Sample ID:	709222
Analytical Run #:	125220	Date/Time Prepared:	04/20/2016 / 16:30
Date & Time Analyzed:	04/25/2016 / 20:22	Analytical Prep Batch #:	56852
Date & Time Analyzed #2:	04/26/2016 / 22:28	Concentration Units:	ug/mL
ICAL Calibration #:	040616expic-pri		

Analyte	Column/Detector #1	Column/Detector #2	%RPD	Qualifiers
1,3,5-Trinitrobenzene	1.6994	2.0061	17	
1,3-Dinitrobenzene	NA	NA	NA	
2,4,6-Trinitrotoluene	1.0788	0.7727	33	
2,4-Dinitrotoluene	NA	NA	NA	
2,6-Dinitrotoluene	NA	NA	NA	
2-Amino-4,6-dinitrotoluene	0.4142	0.4354	5.0	
2-Nitrotoluene	NA	NA	NA	
3,5-Dinitroaniline	0.0416	0.0482	15	
3-Nitrotoluene	NA	NA	NA	
4-Amino-2,6-dinitrotoluene	0.2634	0.2400	9.3	
4-Nitrotoluene	NA	NA	NA	
HMX	1.3378	1.3066	2.4	
Nitrobenzene	NA	NA	NA	
Nitroglycerin	NA	NA	NA	
PETN	NA	NA	NA	
RDX	0.2394	0.2725	13	
Tetryl	NA	NA	NA	

CT LABORATORIES
delivering more than data from your environmental analyses

CHANNEL A/B (FRONT/BACK) DETECTOR/COLUMN RPD

EXPLOSIVES ANALYSIS

Sample Description

54MW13

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	118319
Analytical Method:	EPA 8330B	CTL Sample ID:	709276
Analytical Run #:	125220	Date/Time Prepared:	04/20/2016 / 16:30
Date & Time Analyzed:	04/25/2016 / 22:30	Analytical Prep Batch #:	56852
Date & Time Analyzed #2:	04/27/2016 / 01:35	Concentration Units:	ug/mL
ICAL Calibration #:	040616expic-pri		

Analyte	Column/Detector #1	Column/Detector #2	%RPD	Qualifiers
1,3,5-Trinitrobenzene	0.0592	0.0410	36	
1,3-Dinitrobenzene	NA	NA	NA	
2,4,6-Trinitrotoluene	0.0787	0.0712	10	
2,4-Dinitrotoluene	NA	NA	NA	
2,6-Dinitrotoluene	NA	NA	NA	
2-Amino-4,6-dinitrotoluene	0.0250	0.0298	18	
2-Nitrotoluene	NA	NA	NA	
3,5-Dinitroaniline	0.0296	0.0278	6.3	
3-Nitrotoluene	NA	NA	NA	
4-Amino-2,6-dinitrotoluene	0.0231	0.0268	15	
4-Nitrotoluene	NA	NA	NA	
HMX	0.0490	0.0431	13	
Nitrobenzene	NA	NA	NA	
Nitroglycerin	NA	NA	NA	
PETN	NA	NA	NA	
RDX	0.0170	0.0216	24	
Tetryl	NA	NA	NA	

CT LABORATORIES
delivering more than data from your environmental analyses

CHANNEL A/B (FRONT/BACK) DETECTOR/COLUMN RPD

EXPLOSIVES ANALYSIS

Sample Description

54TM1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	118319
Analytical Method:	EPA 8330B	CTL Sample ID:	709274
Analytical Run #:	125220	Date/Time Prepared:	04/20/2016 / 16:30
Date & Time Analyzed:	04/25/2016 / 22:12	Analytical Prep Batch #:	56852
Date & Time Analyzed #2:	04/27/2016 / 00:57	Concentration Units:	ug/mL
ICAL Calibration #:	040616expic-pri		

Analyte	Column/Detector #1	Column/Detector #2	%RPD	Qualifiers
1,3,5-Trinitrobenzene	NA	NA	NA	
1,3-Dinitrobenzene	NA	NA	NA	
2,4,6-Trinitrotoluene	NA	NA	NA	
2,4-Dinitrotoluene	NA	NA	NA	
2,6-Dinitrotoluene	NA	NA	NA	
2-Amino-4,6-dinitrotoluene	NA	NA	NA	
2-Nitrotoluene	NA	NA	NA	
3,5-Dinitroaniline	NA	NA	NA	
3-Nitrotoluene	NA	NA	NA	
4-Amino-2,6-dinitrotoluene	NA	NA	NA	
4-Nitrotoluene	NA	NA	NA	
HMX	NA	NA	NA	
Nitrobenzene	NA	NA	NA	
Nitroglycerin	NA	NA	NA	
PETN	NA	NA	NA	
RDX	NA	NA	NA	
Tetryl	NA	NA	NA	

NITROAROMATICS ANALYSIS
SAMPLE DATA
DOCUMENTS

After Manual Integration

RED

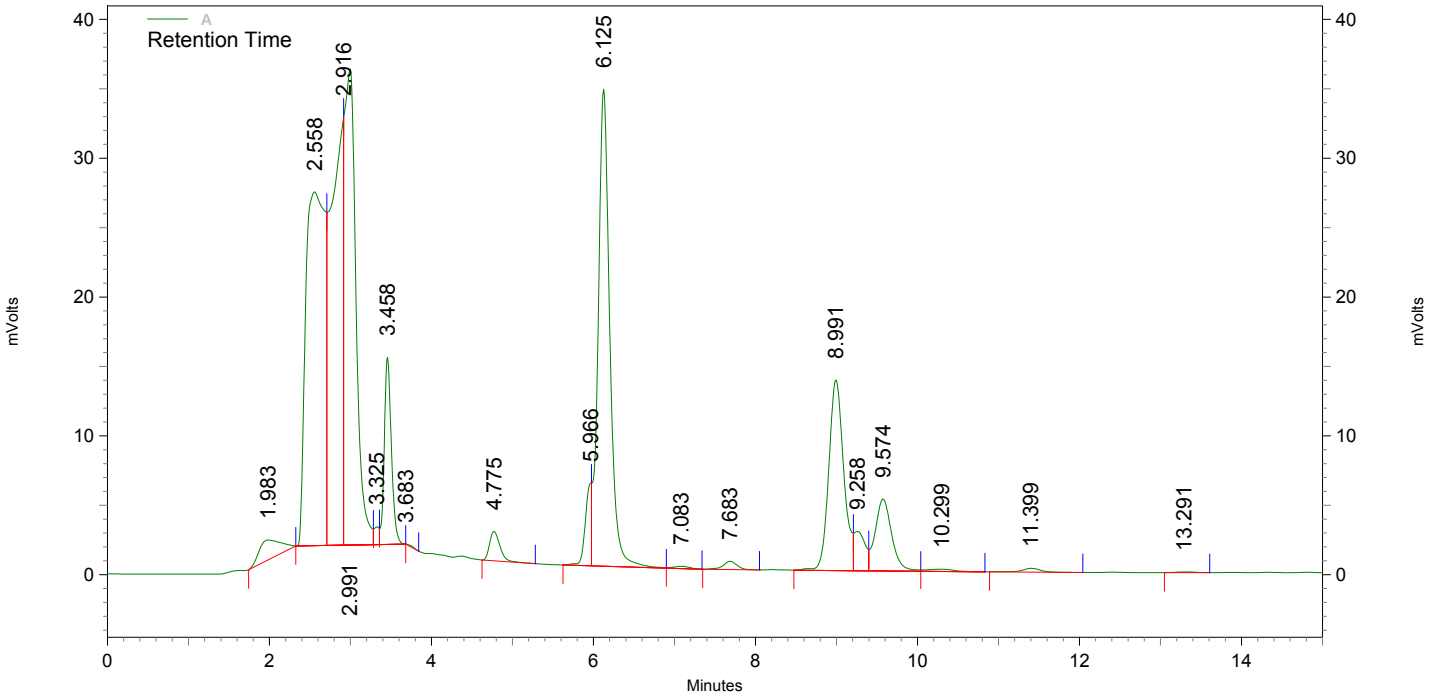
4/28/2016

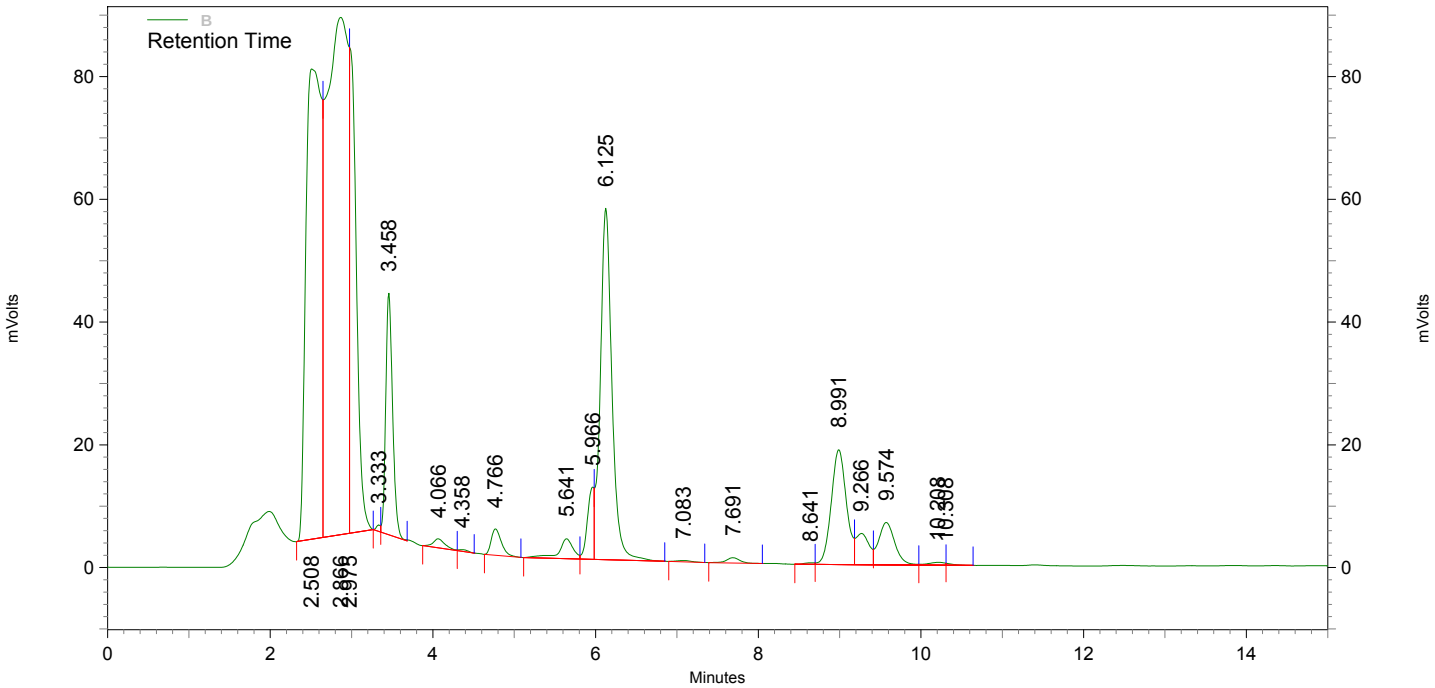
Explosives - 8330

File: C:\Instarch\HPLC 2\Data\042516exp-primary\011.dat
User ID: RED
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\041916exp-primary.met
Sample ID: 125220,709222,
Acquired: 04/25/2016 20:22:25
Data Summary: Reason #3, #4 applies to data. RED 4/26/2016

JJY

4/28/2016





File: C:\Instarch\HPLC 2\Data\042516exp-primary\011.dat
User ID: RED
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\041916exp-primary.met
Sample ID: 125220,709222,
Acquired: 04/25/2016 20:22:25
Data Summary: Reason #3, #4 applies to data. RED 4/26/2016

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX	3.458	82684	**1.3378**
RDX	4.775	18821	**0.2394**
12-DNB (SSTD)	5.966	29909	**71.9396**
135-TNB	6.125	343633	**1.6994**
13-DNB	7.083	2192	**0.0073**
TETRYL			**0.0000 BDL**
35-DNA	7.683	7145	**0.0416**
NB			**0.0000 BDL**
246-TNT	8.991	176259	**1.0788**
4-AM-26-DNT	9.258	27340	**0.2634**
2-AM-46-DNT	9.574	73305	**0.4142**
2-NT			**0.0000 BDL**
4-NT			**0.0000 BDL**
3-NT	13.291	857	**0.0060**

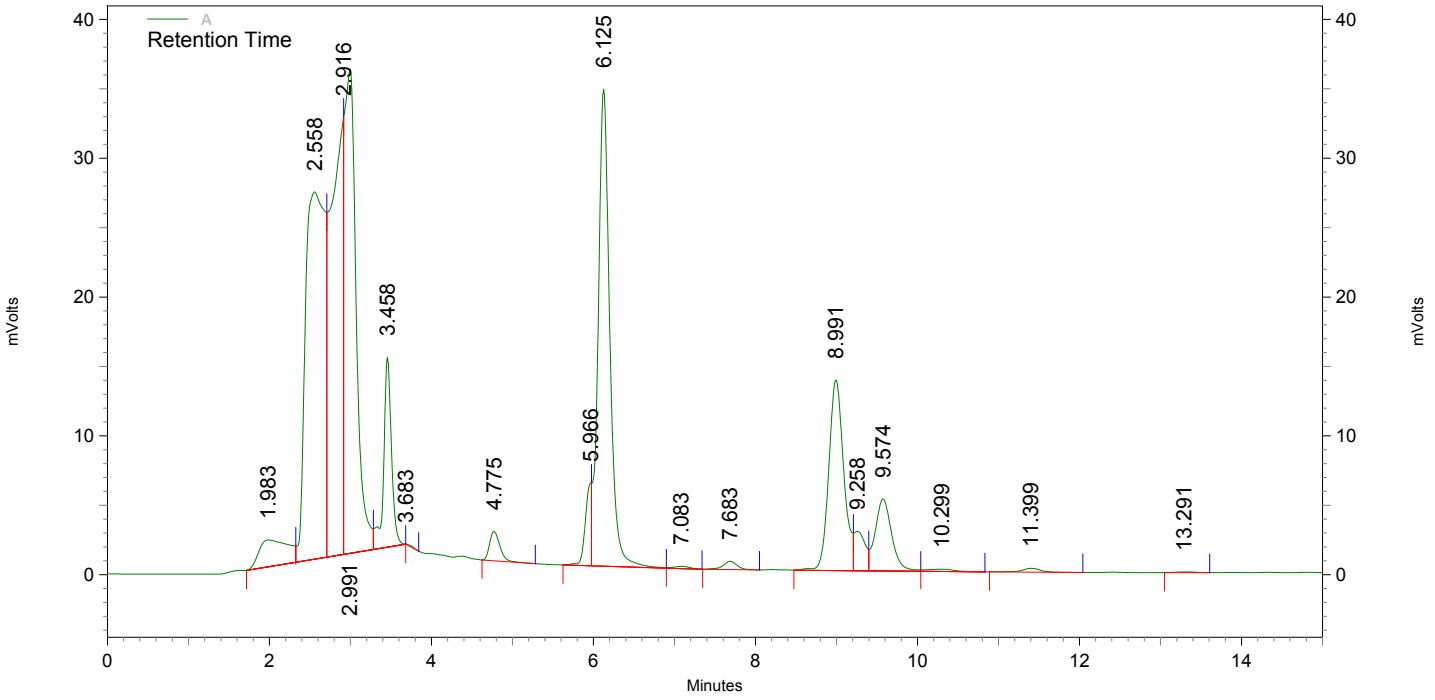
B Results

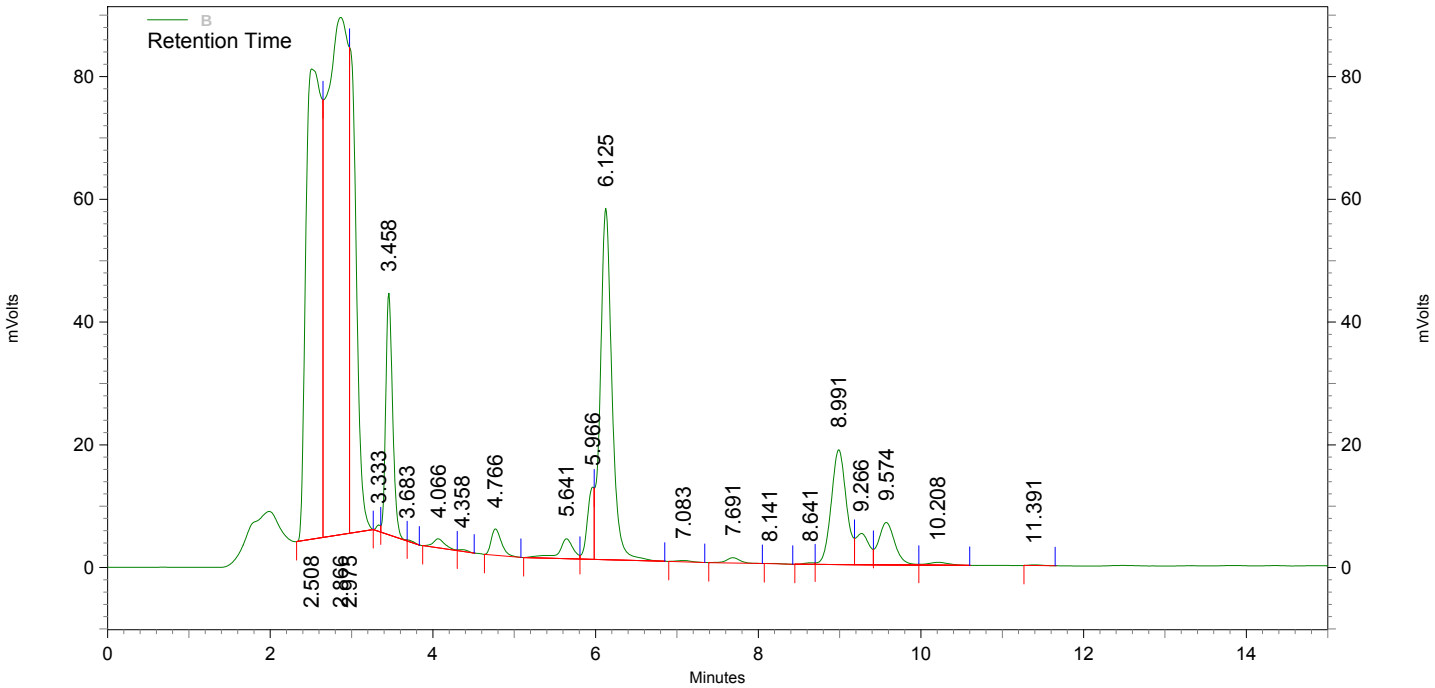
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG	8.641	2322	**0.0362**
26-DNT	10.208	6461	**0.0398**
24-DNT	10.308	1882	**0.0139**
PETN			**0.0000 BDL**

Before Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\042516exp-primary\011.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\042516exp-primary.met
Sample ID: 125220,709222,
Acquired: 04/25/2016 20:22:25
Data Summary: Reason #3, #4 applies to data. RED 4/26/2016





File: C:\Instarch\HPLC 2\Data\042516exp-primary\011.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\042516exp-primary.met
Sample ID: 125220,709222,
Acquired: 04/25/2016 20:22:25
Data Summary: Reason #3, #4 applies to data. RED 4/26/2016

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX	3.458	92345	**1.4958**
RDX	4.775	18821	**0.2394**
12-DNB (SSTD)	5.966	29909	**71.9396**
135-TNB	6.125	343633	**1.6994**
13-DNB	7.083	2192	**0.0073**
TETRYL			**0.0000 BDL**
35-DNA	7.683	7145	**0.0416**
NB			**0.0000 BDL**
246-TNT	8.991	176259	**1.0788**
4-AM-26-DNT	9.258	27340	**0.2634**
2-AM-46-DNT	9.574	73305	**0.4142**
2-NT			**0.0000 BDL**
4-NT			**0.0000 BDL**
3-NT			**0.0000 BDL**

B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG	8.641	2325	**0.0362**
26-DNT	10.208	8459	**0.0518**
24-DNT			**0.0000 BDL**
PETN			**0.0000 BDL**

After Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\042516exp-primary\014.dat
User ID: RED
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\041916exp-primary.met
Sample ID: 125220,709257,
Acquired: 04/25/2016 21:17:18
Data Summary: Reason #2, #3, #4 applies to data. RED 4/26/2016

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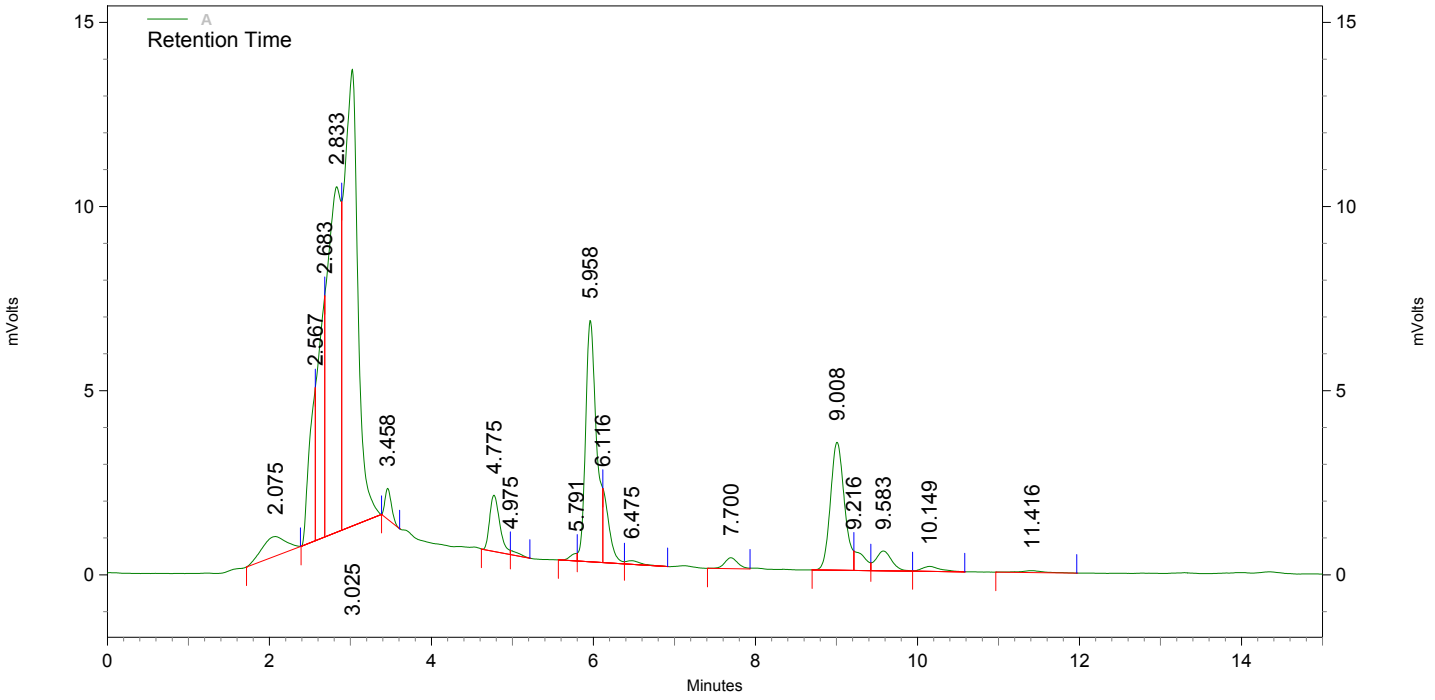
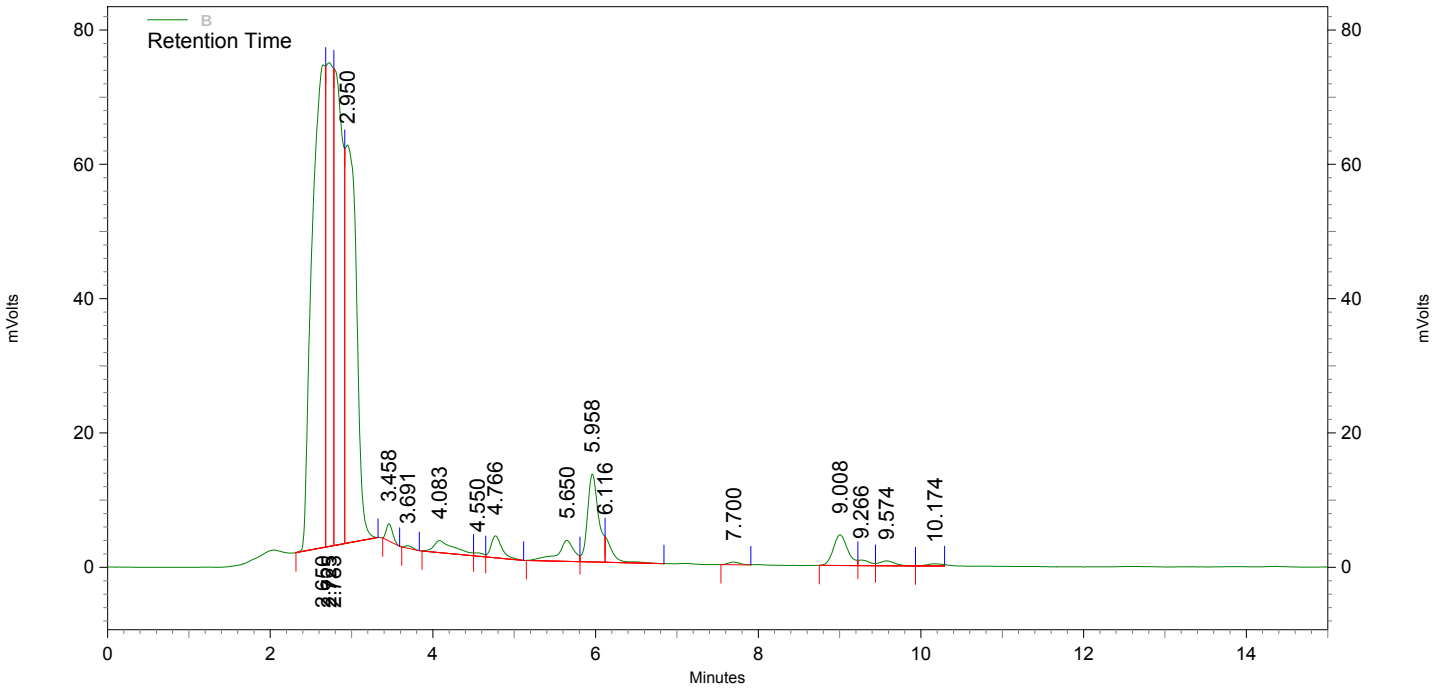
4/28/2016





File: C:\Instarch\HPLC 2\Data\042516exp-primary\014.dat
User ID: RED
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\041916exp-primary.met
Sample ID: 125220,709257,
Acquired: 04/25/2016 21:17:18
Data Summary: Reason #2, #3, #4 applies to data. RED 4/26/2016

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX	3.458	4598	**0.0608**
RDX	4.775	13155	**0.1668**
12-DNB (SSTD)	5.958	61484	**147.9169**
135-TNB	6.116	10635	**0.0506**
13-DNB			**0.0000 BDL**
TETRYL			**0.0000 BDL**
35-DNA	7.700	3337	**0.0194**
NB			**0.0000 BDL**
246-TNT	9.008	41762	**0.2556**
4-AM-26-DNT	9.216	4829	**0.0461**
2-AM-46-DNT	9.583	7371	**0.0401**
2-NT			**0.0000 BDL**
4-NT			**0.0000 BDL**
3-NT			**0.0000 BDL**

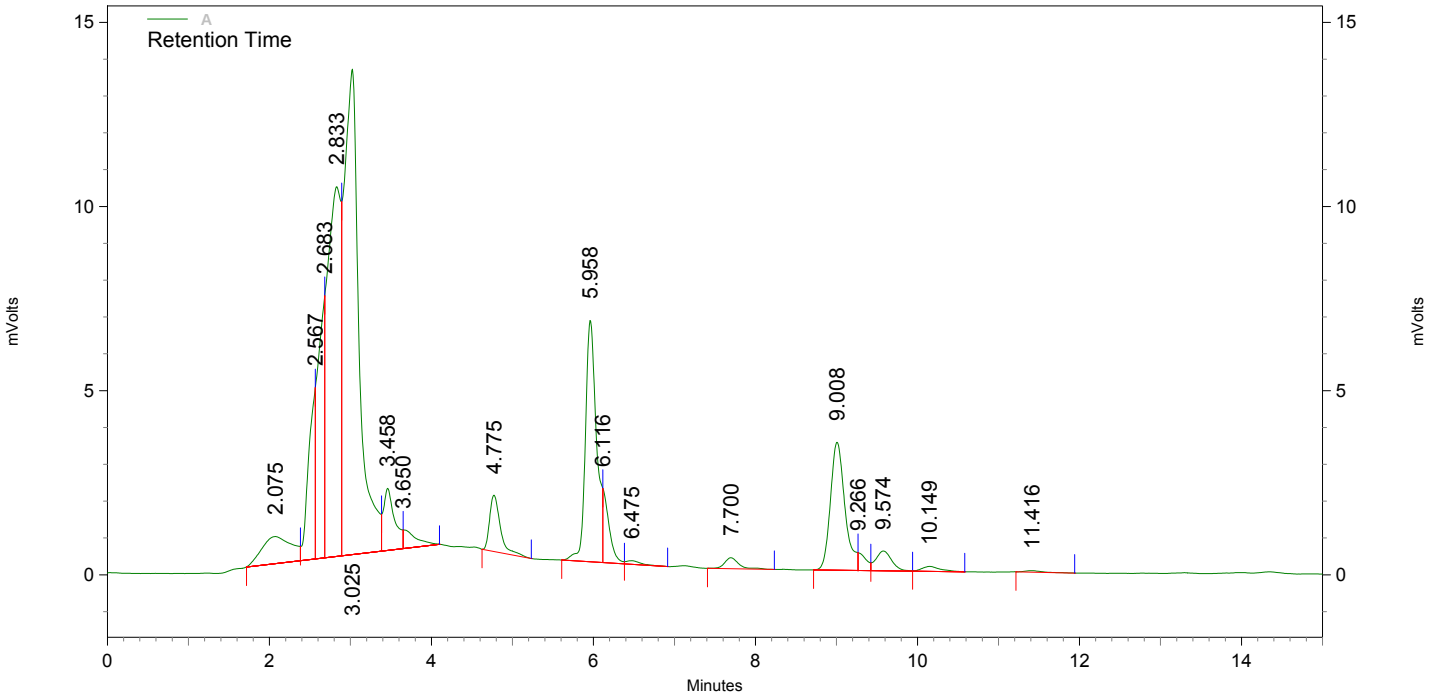
B Results

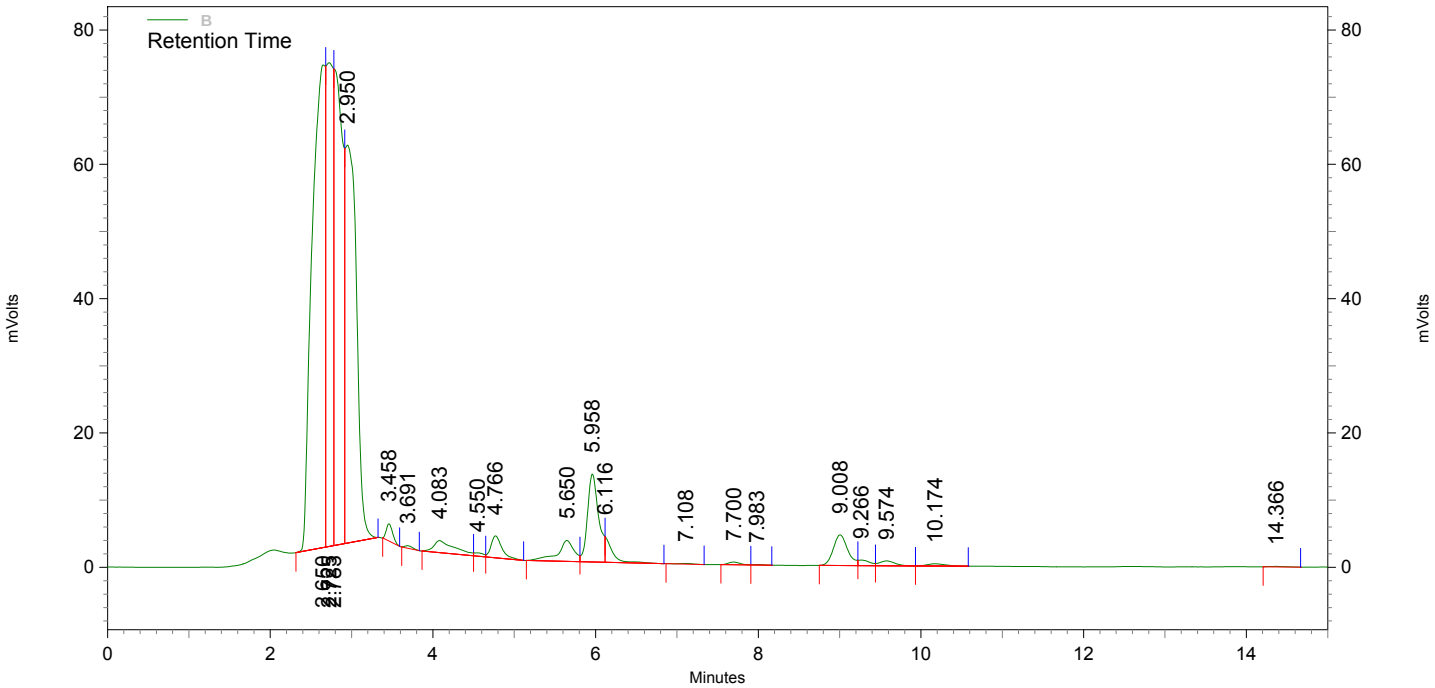
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG			**0.0000 BDL**
26-DNT	10.174	4202	**0.0263**
24-DNT			**0.0000 BDL**
PETN			**0.0000 BDL**

Before Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\042516exp-primary\014.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\042516exp-primary.met
Sample ID: 125220,709257,
Acquired: 04/25/2016 21:17:18
Data Summary: Reason #2, #3, #4 applies to data. RED 4/26/2016





File: C:\Instarch\HPLC 2\Data\042516exp-primary\014.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\042516exp-primary.met
Sample ID: 125220,709257,
Acquired: 04/25/2016 21:17:18
Data Summary: Reason #2, #3, #4 applies to data. RED 4/26/2016

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX	3.458	16309	**0.2523**
RDX	4.775	14010	**0.1778**
12-DNB (SSTD)	5.958	62561	**150.5085**
135-TNB	6.116	10605	**0.0505**
13-DNB			**0.0000 BDL**
TETRYL			**0.0000 BDL**
35-DNA	7.700	3639	**0.0212**
NB			**0.0000 BDL**
246-TNT	9.008	43196	**0.2644**
4-AM-26-DNT	9.266	3310	**0.0314**
2-AM-46-DNT	9.574	7334	**0.0399**
2-NT			**0.0000 BDL**
4-NT			**0.0000 BDL**
3-NT			**0.0000 BDL**

B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG			**0.0000 BDL**
26-DNT	10.174	5260	**0.0326**
24-DNT			**0.0000 BDL**
PETN	14.366	1020	**0.0134**

After Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\042516exp-primary\015.dat
User ID: RED
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\041916exp-primary.met
Sample ID: 125220,709260,
Acquired: 04/25/2016 21:35:36
Data Summary: Reason #3, #4 applies to data. RED 4/26/2016

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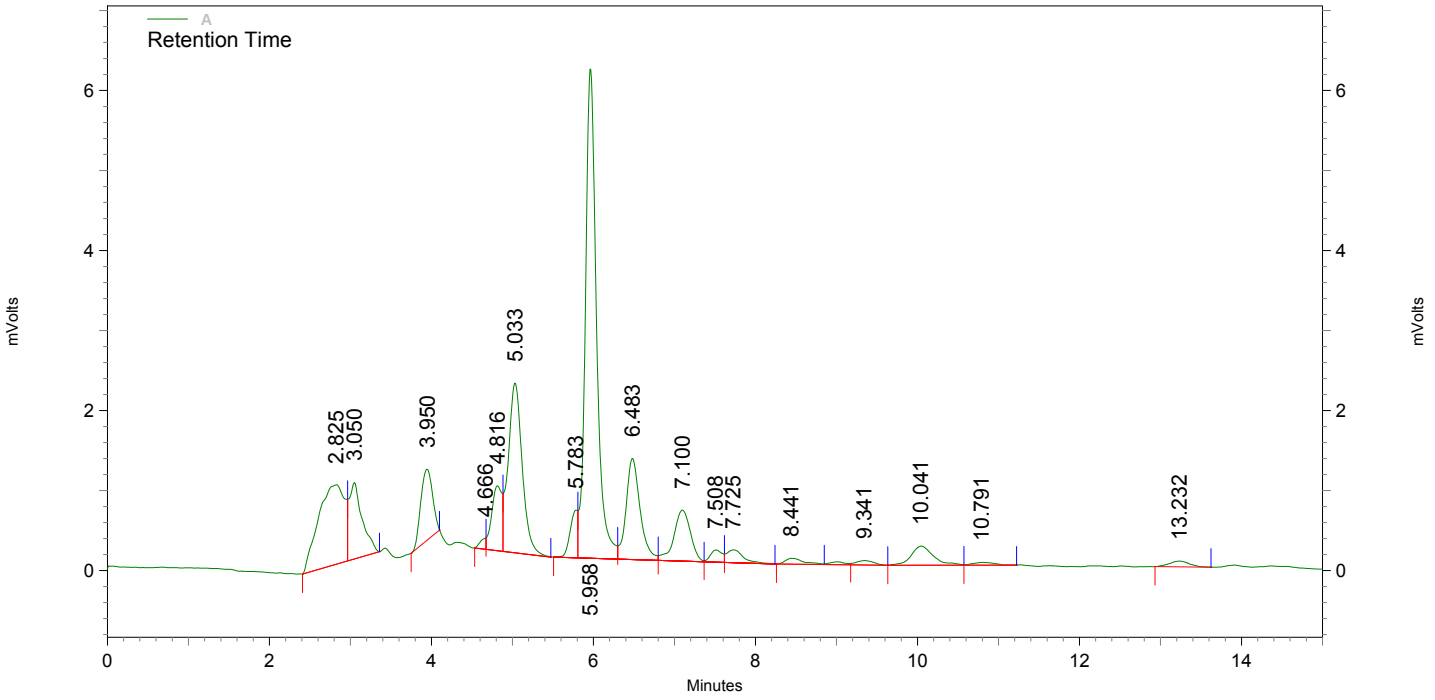
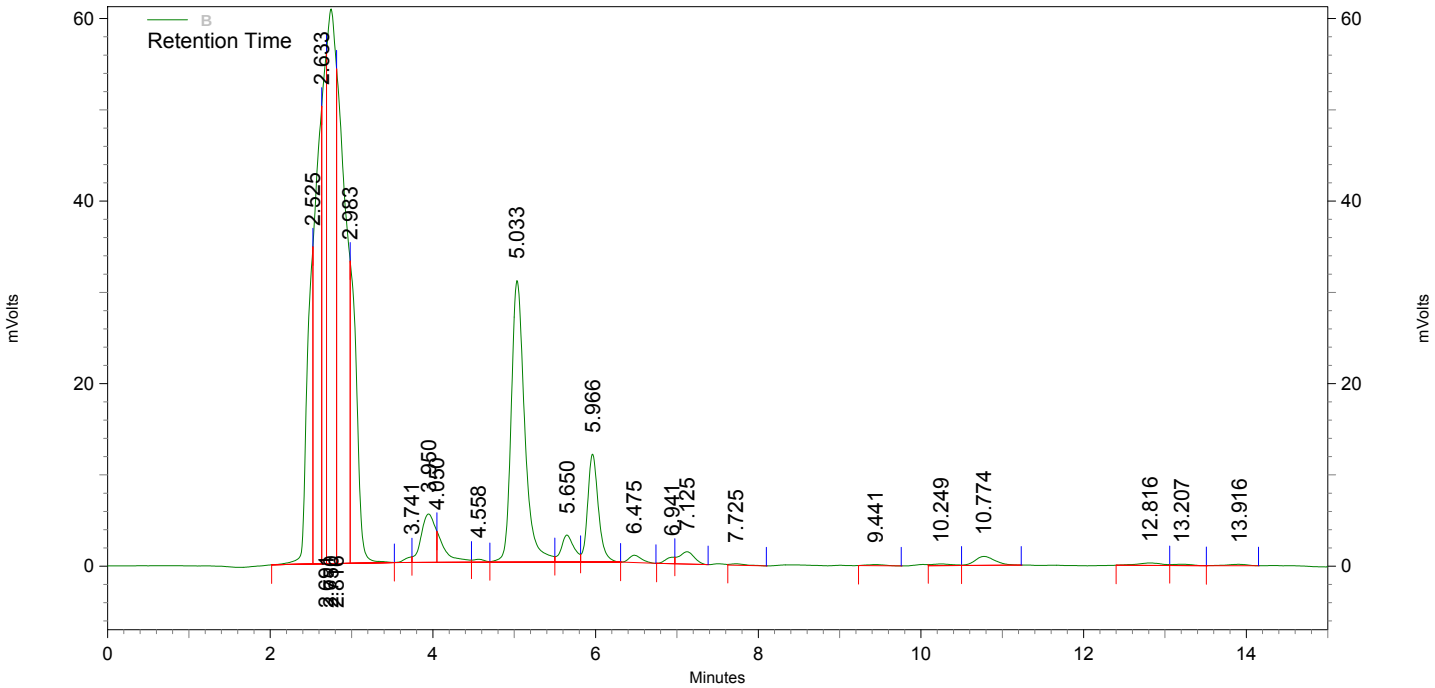
4/28/2016





File: C:\Instarch\HPLC 2\Data\042516exp-primary\015.dat
User ID: RED
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\041916exp-primary.met
Sample ID: 125220,709260,
Acquired: 04/25/2016 21:35:36
Data Summary: Reason #3, #4 applies to data. RED 4/26/2016

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX			**0.0000 BDL**
RDX	4.816	7082	**0.0891**
12-DNB (SSTD)	5.958	58566	**140.8955**
135-TNB			**0.0000 BDL**
13-DNB	7.100	9038	**0.0375**
TETRYL	7.508	1503	**0.0089**
35-DNA	7.725	2273	**0.0132**
NB			**0.0000 BDL**
246-TNT			**0.0000 BDL**
4-AM-26-DNT	9.341	820	**0.0074**
2-AM-46-DNT			**0.0000 BDL**
2-NT			**0.0000 BDL**
4-NT			**0.0000 BDL**
3-NT	13.232	1261	**0.0096**

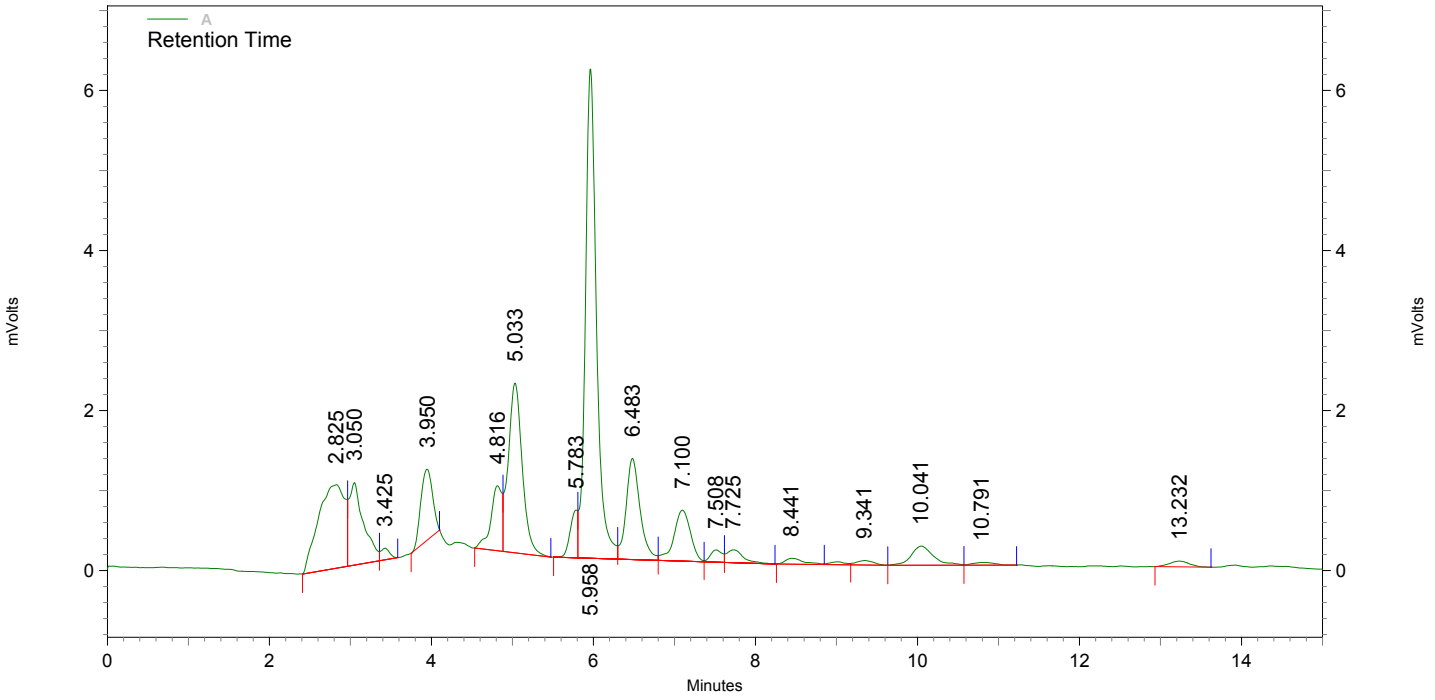
B Results

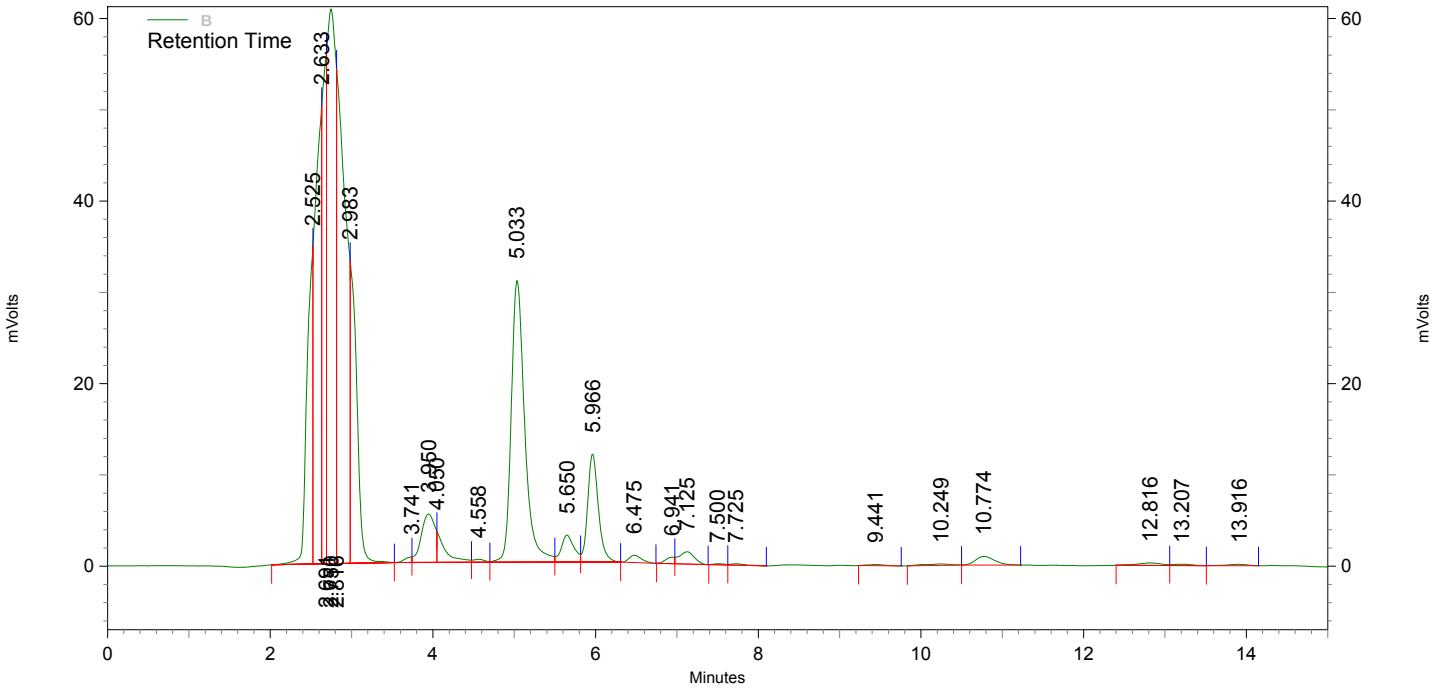
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG			**0.0000 BDL**
26-DNT			**0.0000 BDL**
24-DNT	10.249	3111	**0.0207**
PETN	13.916	2459	**0.0326**

Before Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\042516exp-primary\015.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\042516exp-primary.met
Sample ID: 125220,709260,
Acquired: 04/25/2016 21:35:36
Data Summary: Reason #3, #4 applies to data. RED 4/26/2016





File: C:\Instarch\HPLC 2\Data\042516exp-primary\015.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\042516exp-primary.met
Sample ID: 125220,709260,
Acquired: 04/25/2016 21:35:36
Data Summary: Reason #3, #4 applies to data. RED 4/26/2016

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX	3.425	1088	**0.0034**
RDX	4.816	7754	**0.0977**
12-DNB (SSTD)	5.958	58566	**140.8955**
135-TNB			**0.0000 BDL**
13-DNB	7.100	9038	**0.0375**
TETRYL	7.508	1503	**0.0089**
35-DNA	7.725	2273	**0.0132**
NB			**0.0000 BDL**
246-TNT			**0.0000 BDL**
4-AM-26-DNT	9.341	820	**0.0074**
2-AM-46-DNT			**0.0000 BDL**
2-NT			**0.0000 BDL**
4-NT			**0.0000 BDL**
3-NT			**0.0000 BDL**

B Results

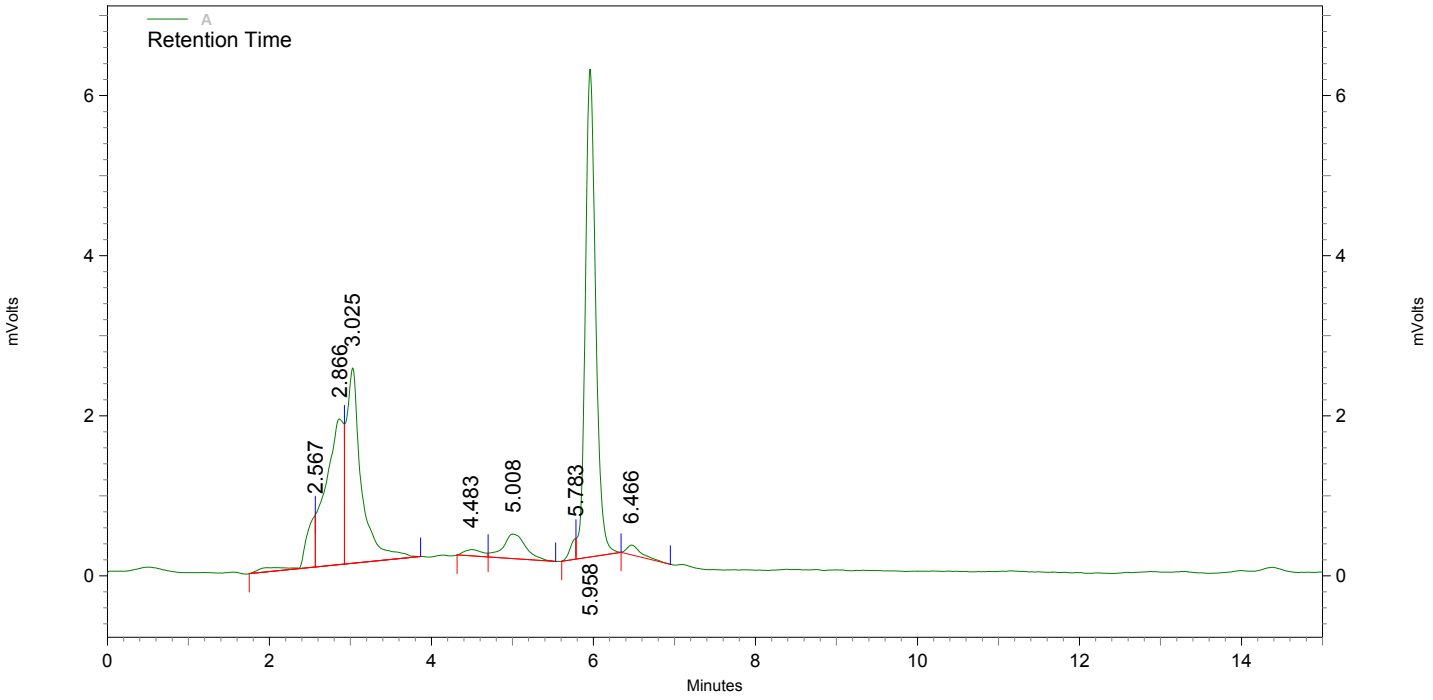
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG			**0.0000 BDL**
26-DNT			**0.0000 BDL**
24-DNT	10.249	3518	**0.0230**
PETN			**0.0000 BDL**

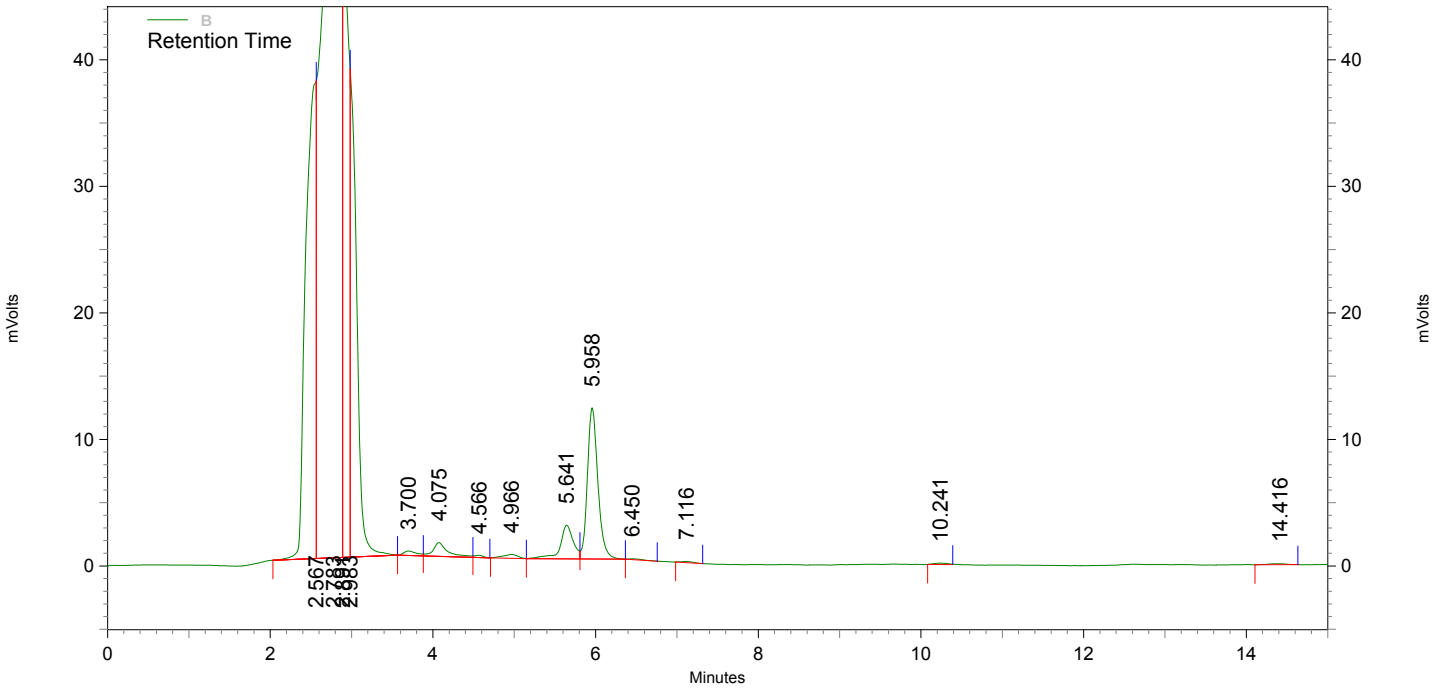
After Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\042516exp-primary\016.dat
User ID: RED
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\041916exp-primary.met
Sample ID: 125220,709272,
Acquired: 04/25/2016 21:53:53
Data Summary: Reason #3, #4 applies to data. RED 4/26/2016

JJY
4/28/2016





File: C:\Instarch\HPLC 2\Data\042516exp-primary\016.dat
User ID: RED
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\041916exp-primary.met
Sample ID: 125220,709272,
Acquired: 04/25/2016 21:53:53
Data Summary: Reason #3, #4 applies to data. RED 4/26/2016

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX			**0.0000 BDL**
RDX			**0.0000 BDL**
12-DNB (SSTD)	5.958	54578	**131.2993**
135-TNB			**0.0000 BDL**
13-DNB			**0.0000 BDL**
TETRYL			**0.0000 BDL**
35-DNA			**0.0000 BDL**
NB			**0.0000 BDL**
246-TNT			**0.0000 BDL**
4-AM-26-DNT			**0.0000 BDL**
2-AM-46-DNT			**0.0000 BDL**
2-NT			**0.0000 BDL**
4-NT			**0.0000 BDL**
3-NT			**0.0000 BDL**

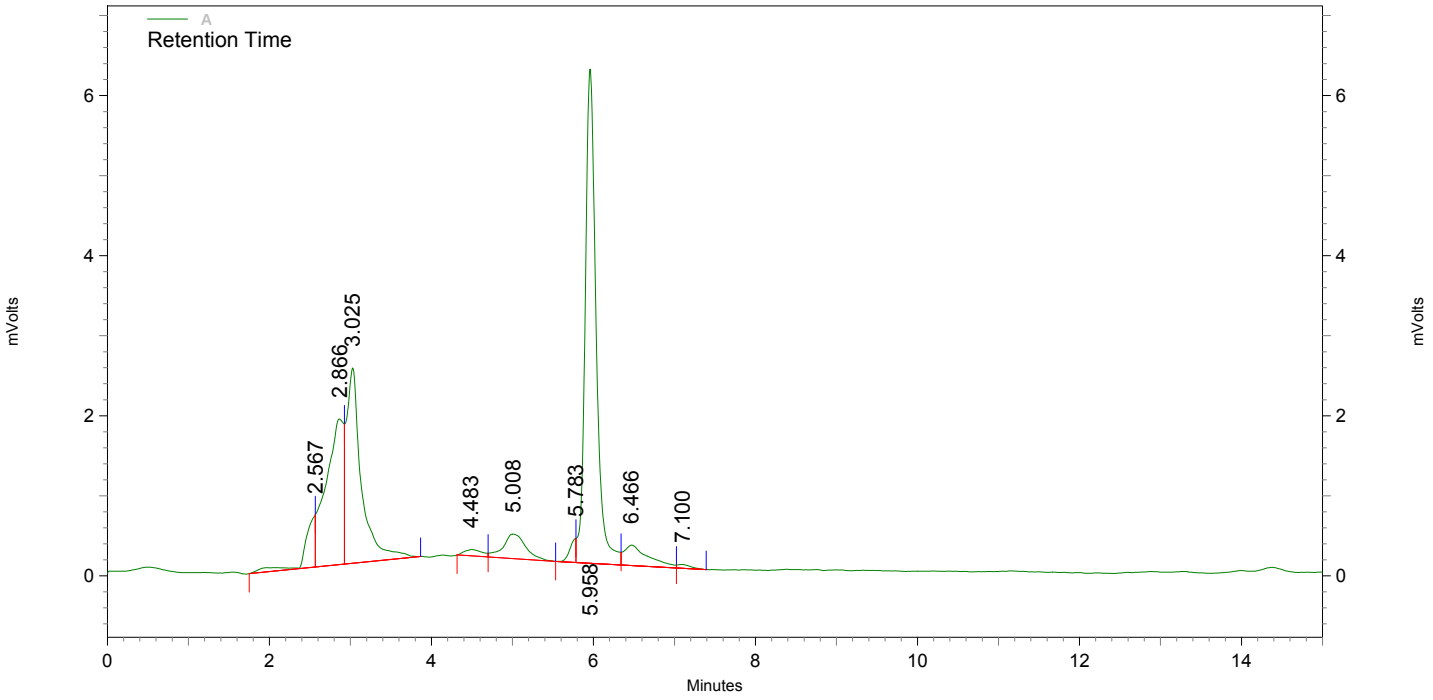
B Results

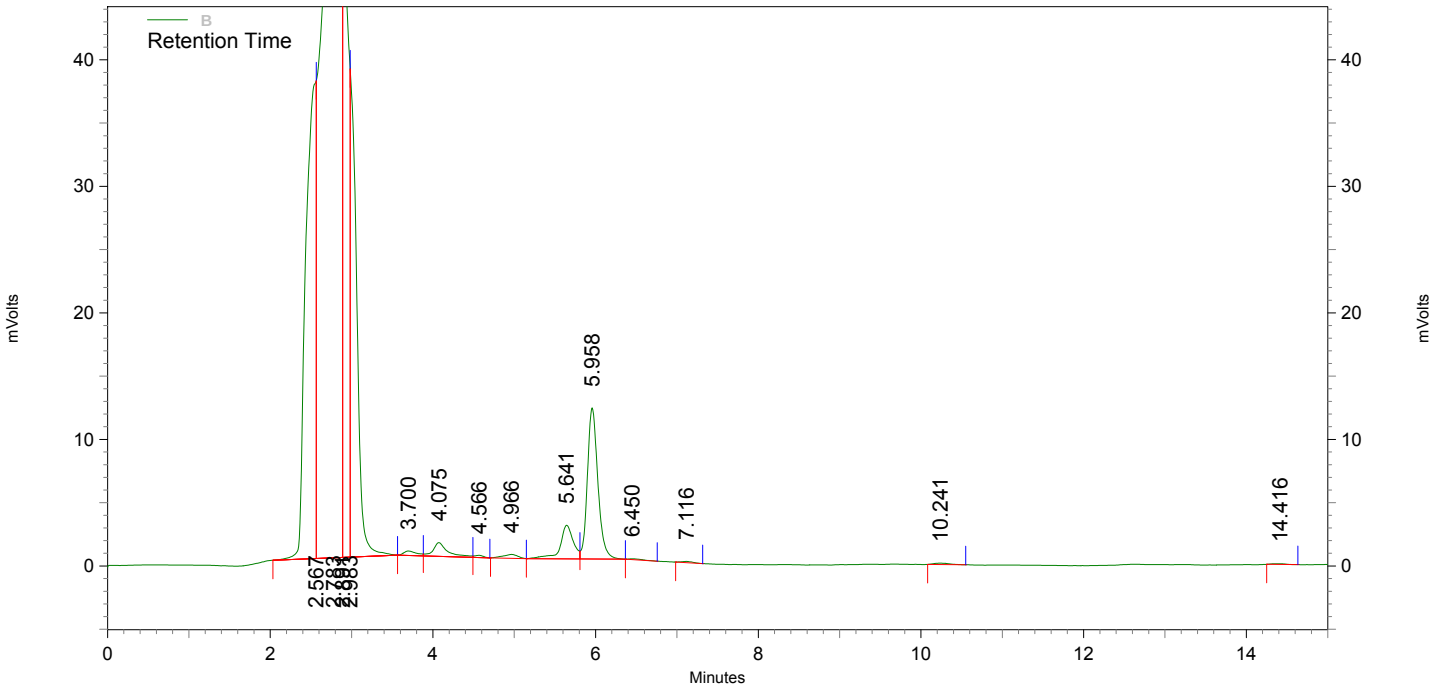
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG			**0.0000 BDL**
26-DNT			**0.0000 BDL**
24-DNT	10.241	1299	**0.0106**
PETN	14.416	1209	**0.0159**

Before Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\042516exp-primary\016.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\042516exp-primary.met
Sample ID: 125220,709272,
Acquired: 04/25/2016 21:53:53
Data Summary: Reason #3, #4 applies to data. RED 4/26/2016





File: C:\Instarch\HPLC 2\Data\042516exp-primary\016.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\042516exp-primary.met
Sample ID: 125220,709272,
Acquired: 04/25/2016 21:53:53
Data Summary: Reason #3, #4 applies to data. RED 4/26/2016

A Results

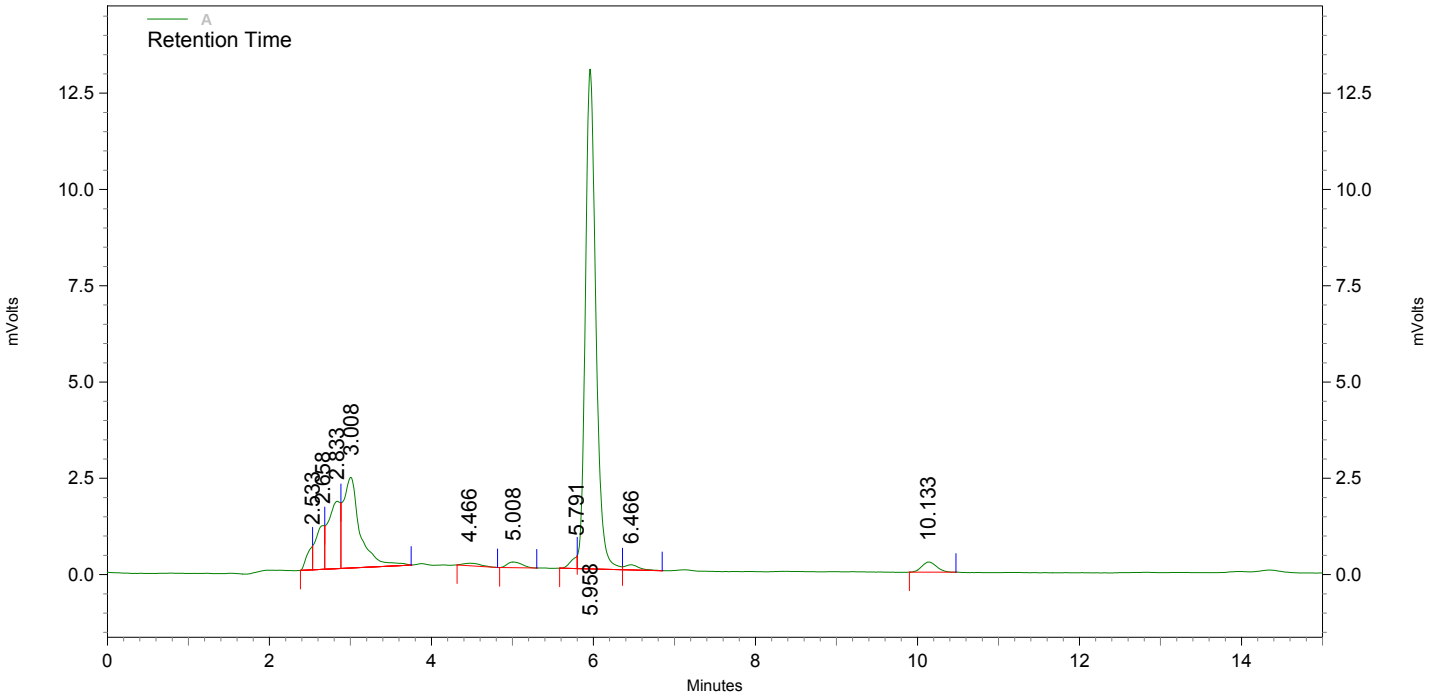
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX			**0.0000 BDL**
RDX			**0.0000 BDL**
12-DNB (SSTD)	5.958	57954	**139.4229**
135-TNB			**0.0000 BDL**
13-DNB	7.100	548	**0.0000**
TETRYL			**0.0000 BDL**
35-DNA			**0.0000 BDL**
NB			**0.0000 BDL**
246-TNT			**0.0000 BDL**
4-AM-26-DNT			**0.0000 BDL**
2-AM-46-DNT			**0.0000 BDL**
2-NT			**0.0000 BDL**
4-NT			**0.0000 BDL**
3-NT			**0.0000 BDL**

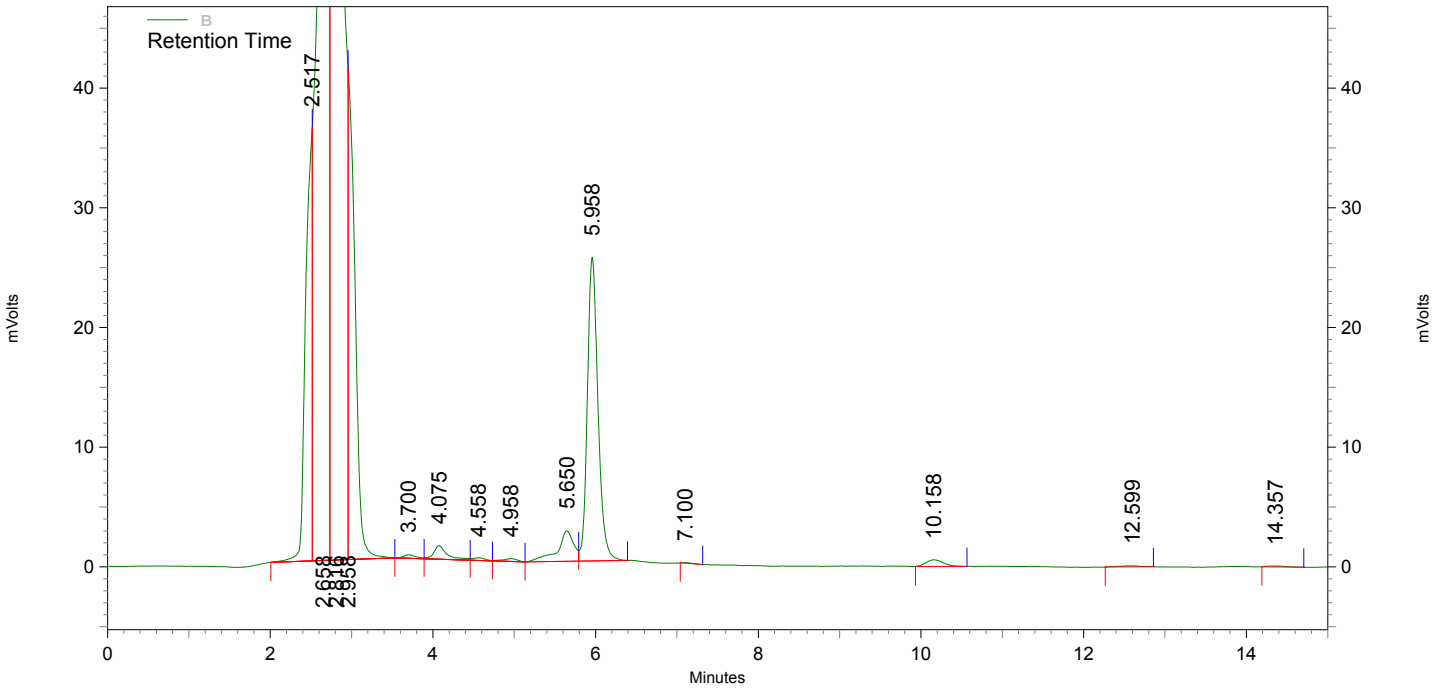
B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG			**0.0000 BDL**
26-DNT			**0.0000 BDL**
24-DNT	10.241	1474	**0.0116**
PETN	14.416	665	**0.0087**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\042516exp-primary\017.dat
User ID: RED
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\041916exp-primary.met
Sample ID: 125220,709274,
Acquired: 04/25/2016 22:12:11
Data Summary: {Data Description}





File: C:\Instarch\HPLC 2\Data\042516exp-primary\017.dat
User ID: RED
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\041916exp-primary.met
Sample ID: 125220,709274,
Acquired: 04/25/2016 22:12:11
Data Summary: {Data Description}

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX			**0.0000 BDL**
RDX			**0.0000 BDL**
12-DNB (SSTD)	5.958	117210	**282.0076**
135-TNB			**0.0000 BDL**
13-DNB			**0.0000 BDL**
TETRYL			**0.0000 BDL**
35-DNA			**0.0000 BDL**
NB			**0.0000 BDL**
246-TNT			**0.0000 BDL**
4-AM-26-DNT			**0.0000 BDL**
2-AM-46-DNT			**0.0000 BDL**
2-NT			**0.0000 BDL**
4-NT			**0.0000 BDL**
3-NT			**0.0000 BDL**

B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG			**0.0000 BDL**
26-DNT	10.158	8235	**0.0504**
24-DNT			**0.0000 BDL**
PETN	14.357	1158	**0.0153**

After Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\042516exp-primary\018.dat
User ID: RED
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\041916exp-primary.met
Sample ID: 125220,709276,
Acquired: 04/25/2016 22:30:28
Data Summary: Reason #3, #4 applies to data. RED 4/26/2016

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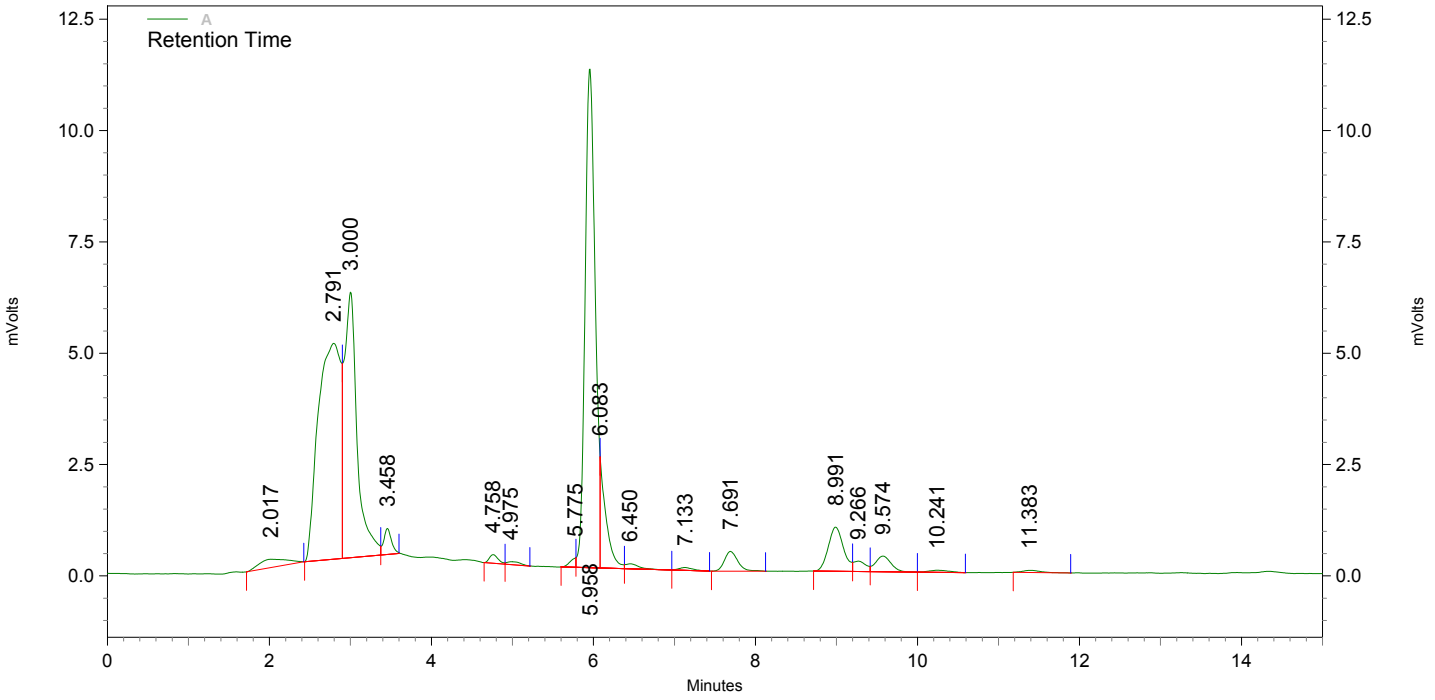
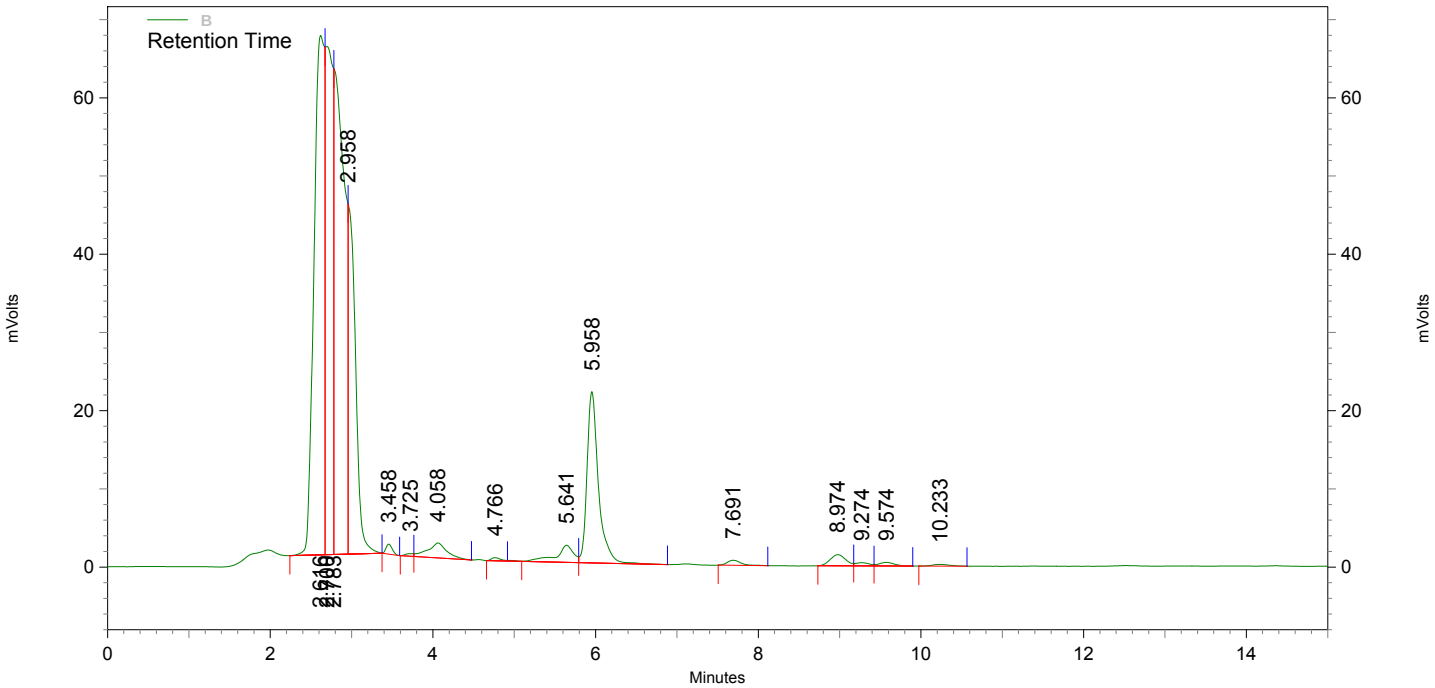




File: C:\Instarch\HPLC 2\Data\042516exp-primary\018.dat
User ID: RED
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\041916exp-primary.met
Sample ID: 125220,709276,
Acquired: 04/25/2016 22:30:28
Data Summary: Reason #3, #4 applies to data. RED 4/26/2016

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX	3.458	3875	**0.0490**
RDX	4.758	1452	**0.0170**
12-DNB (SSTD)	5.958	96801	**232.8984**
135-TNB	6.083	12365	**0.0592**
13-DNB	7.133	763	**0.0010**
TETRYL			**0.0000 BDL**
35-DNA	7.691	5093	**0.0296**
NB			**0.0000 BDL**
246-TNT	8.991	12856	**0.0787**
4-AM-26-DNT	9.266	2446	**0.0231**
2-AM-46-DNT	9.574	4721	**0.0250**
2-NT			**0.0000 BDL**
4-NT			**0.0000 BDL**
3-NT			**0.0000 BDL**

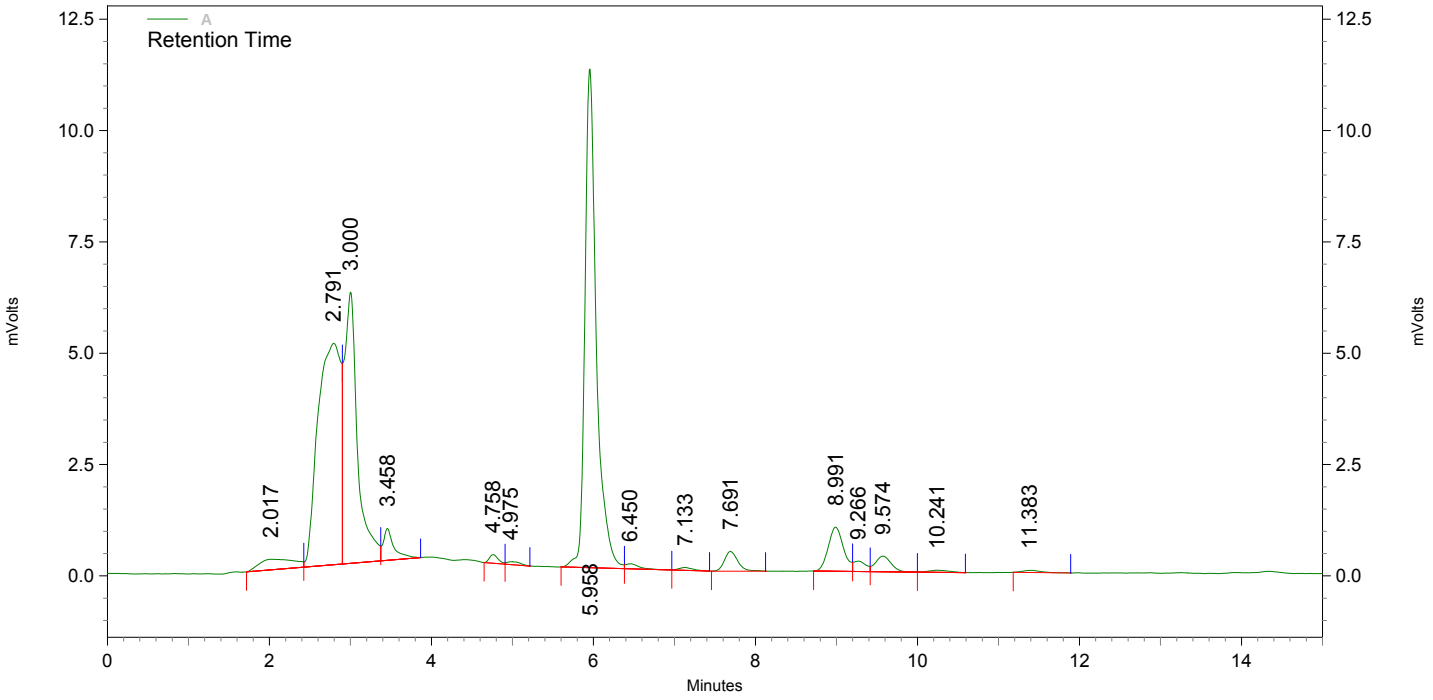
B Results

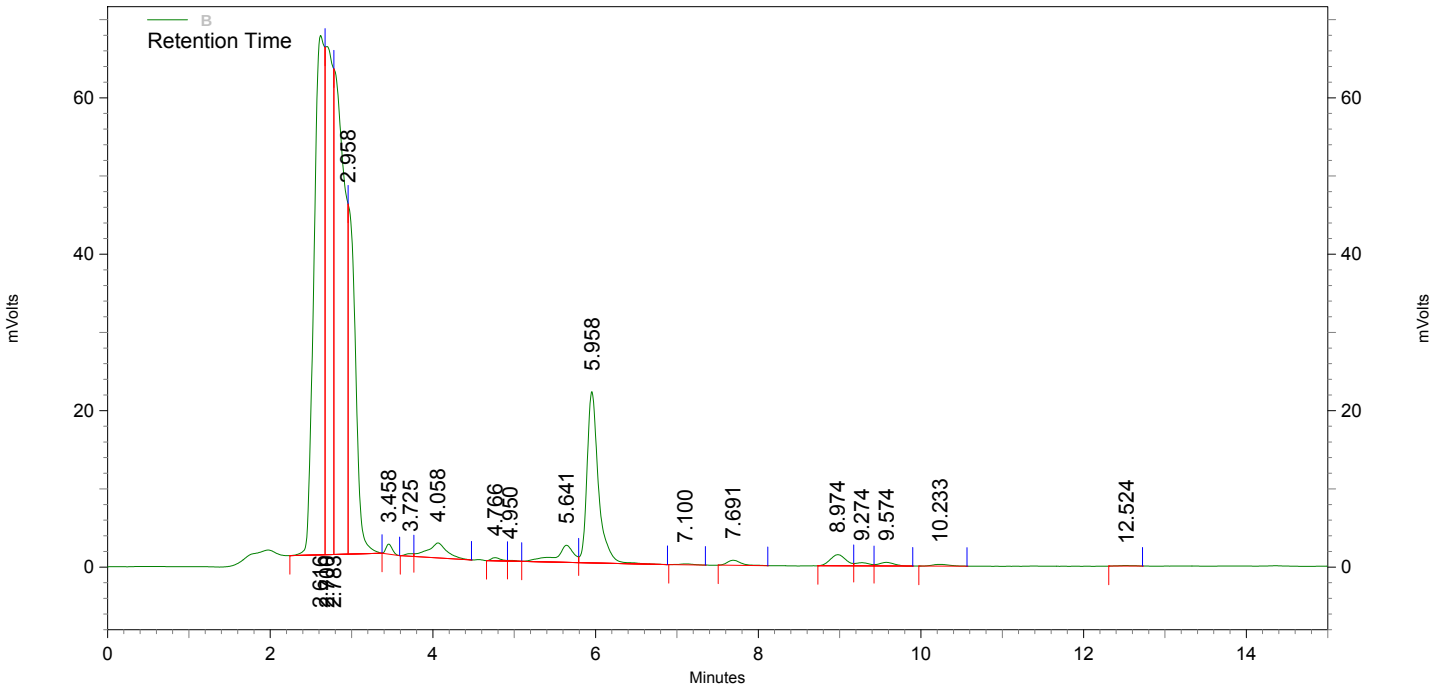
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG			**0.0000 BDL**
26-DNT			**0.0000 BDL**
24-DNT	10.233	3275	**0.0216**
PETN			**0.0000 BDL**

Before Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\042516exp-primary\018.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\042516exp-primary.met
Sample ID: 125220,709276,
Acquired: 04/25/2016 22:30:28
Data Summary: Reason #3, #4 applies to data. RED 4/26/2016





File: C:\Instarch\HPLC 2\Data\042516exp-primary\018.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\042516exp-primary.met
Sample ID: 125220,709276,
Acquired: 04/25/2016 22:30:28
Data Summary: Reason #3, #4 applies to data. RED 4/26/2016

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX	3.458	6533	**0.0924**
RDX	4.758	1452	**0.0170**
12-DNB (SSTD)	5.958	110194	**265.1253**
135-TNB			**0.0000 BDL**
13-DNB	7.133	763	**0.0010**
TETRYL			**0.0000 BDL**
35-DNA	7.691	5093	**0.0296**
NB			**0.0000 BDL**
246-TNT	8.991	12856	**0.0787**
4-AM-26-DNT	9.266	2446	**0.0231**
2-AM-46-DNT	9.574	4721	**0.0250**
2-NT			**0.0000 BDL**
4-NT			**0.0000 BDL**
3-NT			**0.0000 BDL**

B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG			**0.0000 BDL**
26-DNT			**0.0000 BDL**
24-DNT	10.233	3275	**0.0216**
PETN			**0.0000 BDL**

NITROAROMATICS ANALYSIS
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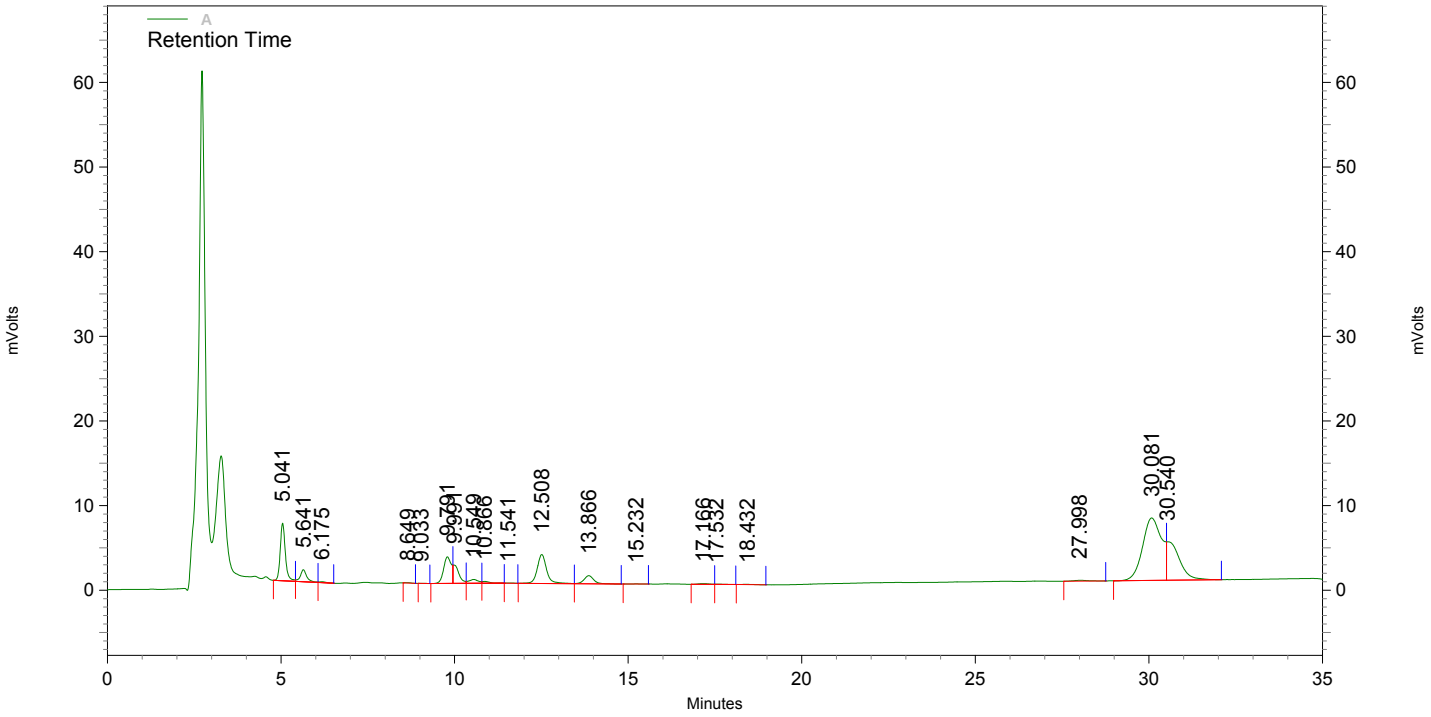
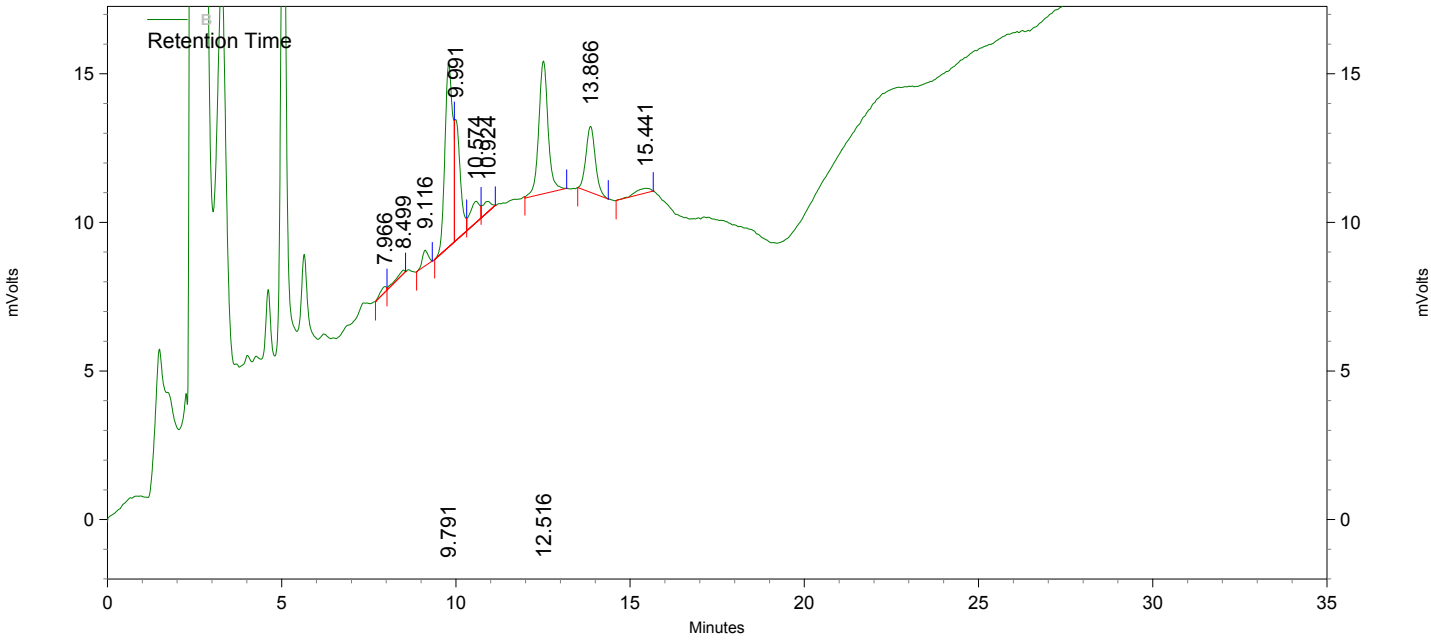
Explosives - 8330

File: C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\018.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\042616EXPIC-CONFIRM\042616EXPIC-CONFIRM.met
Sample ID: 125220,709222,
Acquired: 04/26/2016 22:28:44
Data Summary: {Data Description}





125220,709222,

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm	5.041	69587	**1.3066**
RDX-confirm	5.641	18401	**0.2725**
NB-confirm	9.033	208	**0.0013**
12-DNB (SSTD)-confirm	9.791	48242	**117.4316**
4-AM-26-DNT-conf.	9.991	25958	**0.2400**
3,5-DNA-confirm	10.549	8568	**0.0482**
2-NT-confirm			**0.0000 BDL**
2-AM-46-DNT-conf.	12.508	64265	**0.4354**
3-NT-confirm			**0.0000 BDL**
4-NT-confirm			**0.0000 BDL**
26-DNT-confirm			**0.0000 BDL**
13-DNB-confirm			**0.0000 BDL**
TETRYL-confirm			**0.0000 BDL**
24-DNT-confirm			**0.0000 BDL**
135-TNB-confirm	30.081	282745	**2.0061**
246-TNT-confirm	30.540	118613	**0.7727**

B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm	7.966	2584	**0.0059**
PETN-confirm	13.866	41416	**0.6015**

After Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\019.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\042616EXPIC-CONFIRM\042616EXPIC-CONFIRM.met
Sample ID: 125220,709257,
Acquired: 04/26/2016 23:06:05
Data Summary: Reason #3, #4 applies to data. RED 04/27/2016

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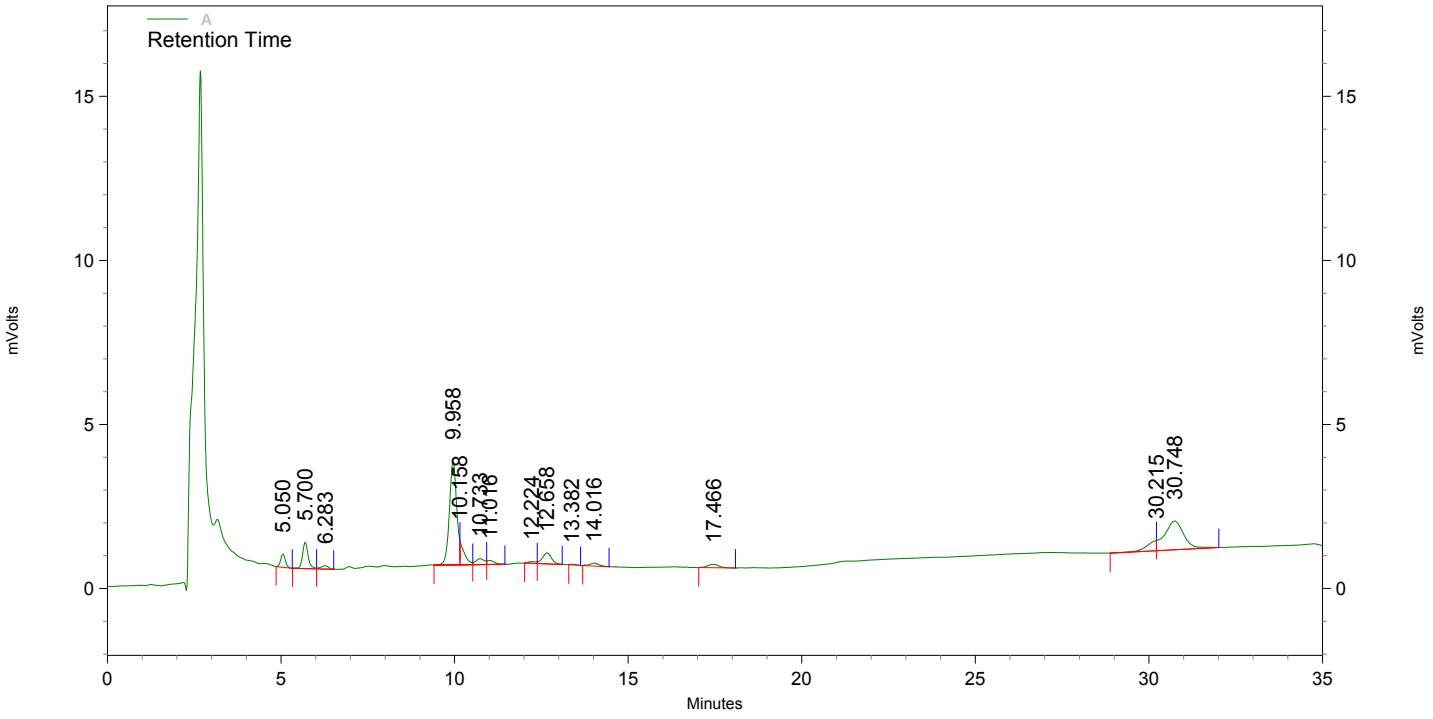
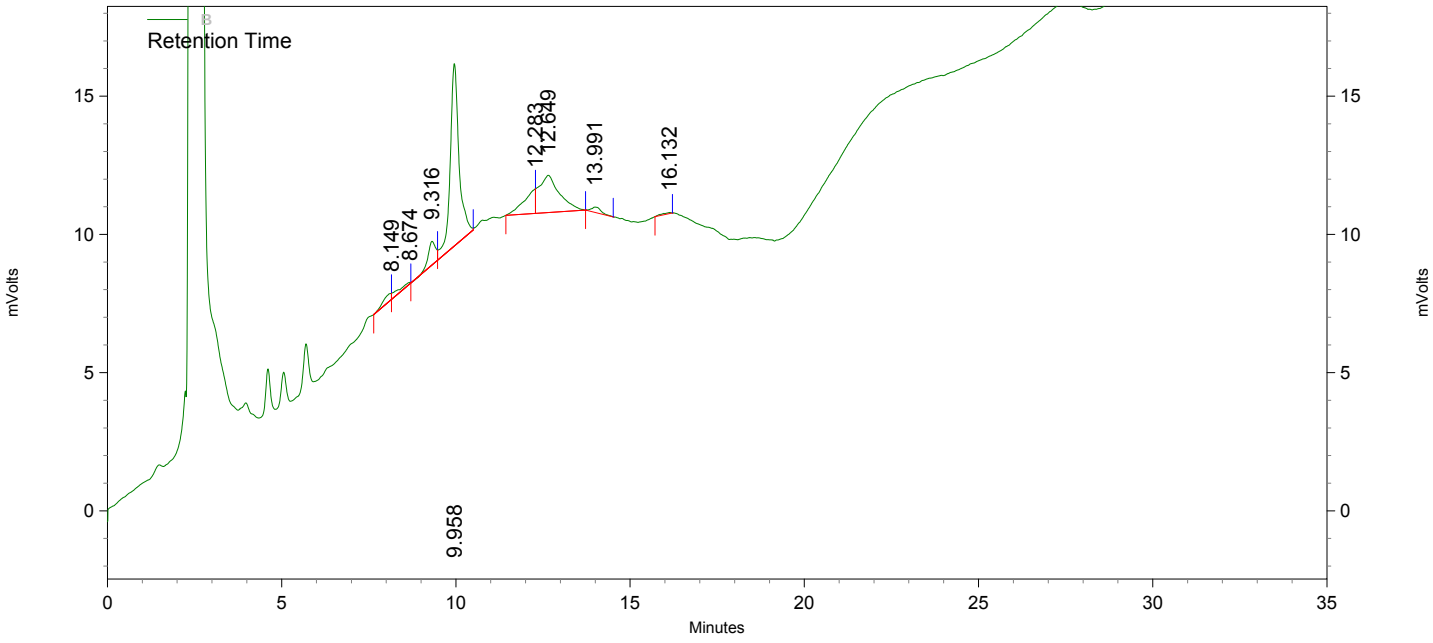




125220,709257,

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm	5.050	3767	**0.0727**
RDX-confirm	5.700	8947	**0.1324**
NB-confirm			**0.0000 BDL**
12-DNB (SSTD)-confirm	9.958	46078	**112.1700**
4-AM-26-DNT-conf.	10.158	6127	**0.0547**
3,5-DNA-confirm	10.733	3139	**0.0169**
2-NT-confirm			**0.0000 BDL**
2-AM-46-DNT-conf.	12.658	6161	**0.0371**
3-NT-confirm	13.382	266	**0.0034**
4-NT-confirm			**0.0000 BDL**
26-DNT-confirm			**0.0000 BDL**
13-DNB-confirm			**0.0000 BDL**
TETRYL-confirm			**0.0000 BDL**
24-DNT-confirm			**0.0000 BDL**
135-TNB-confirm	30.215	5757	**0.0397**
246-TNT-confirm	30.748	33922	**0.2197**

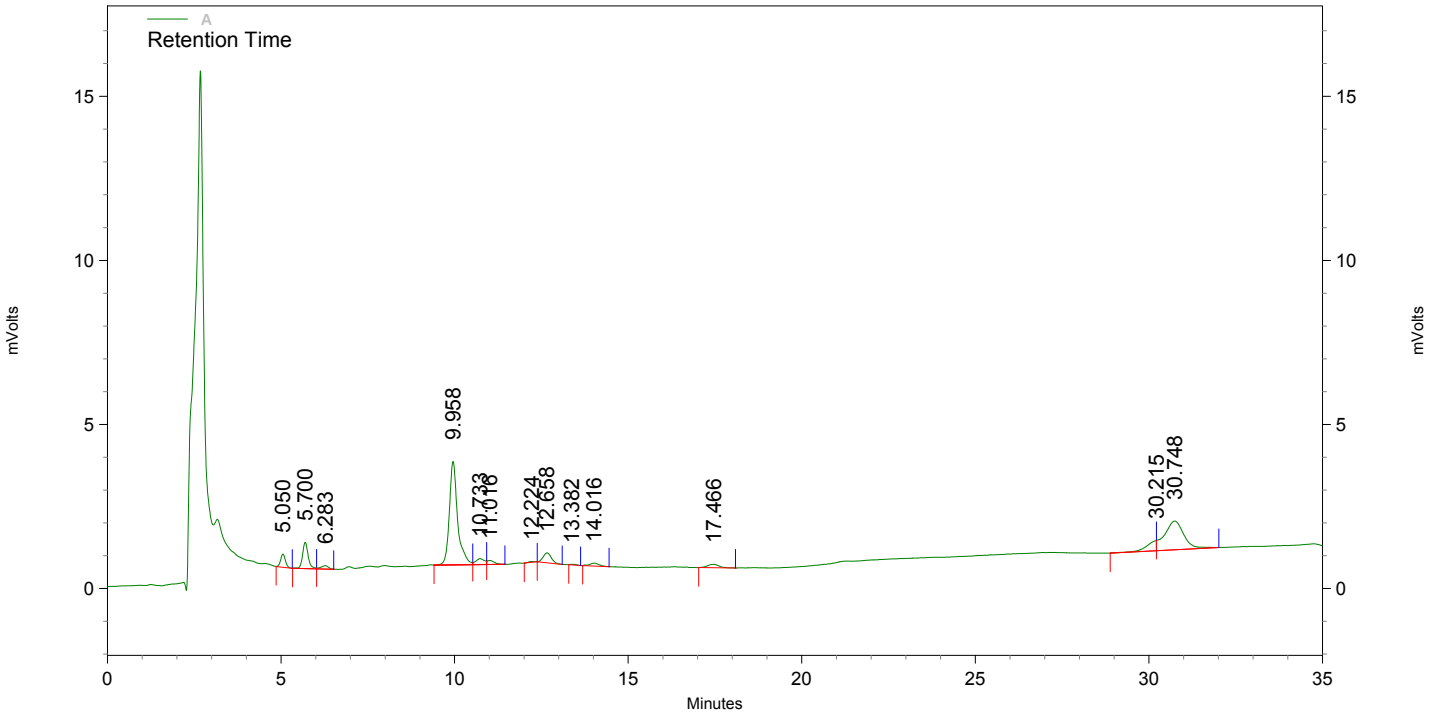
B Results

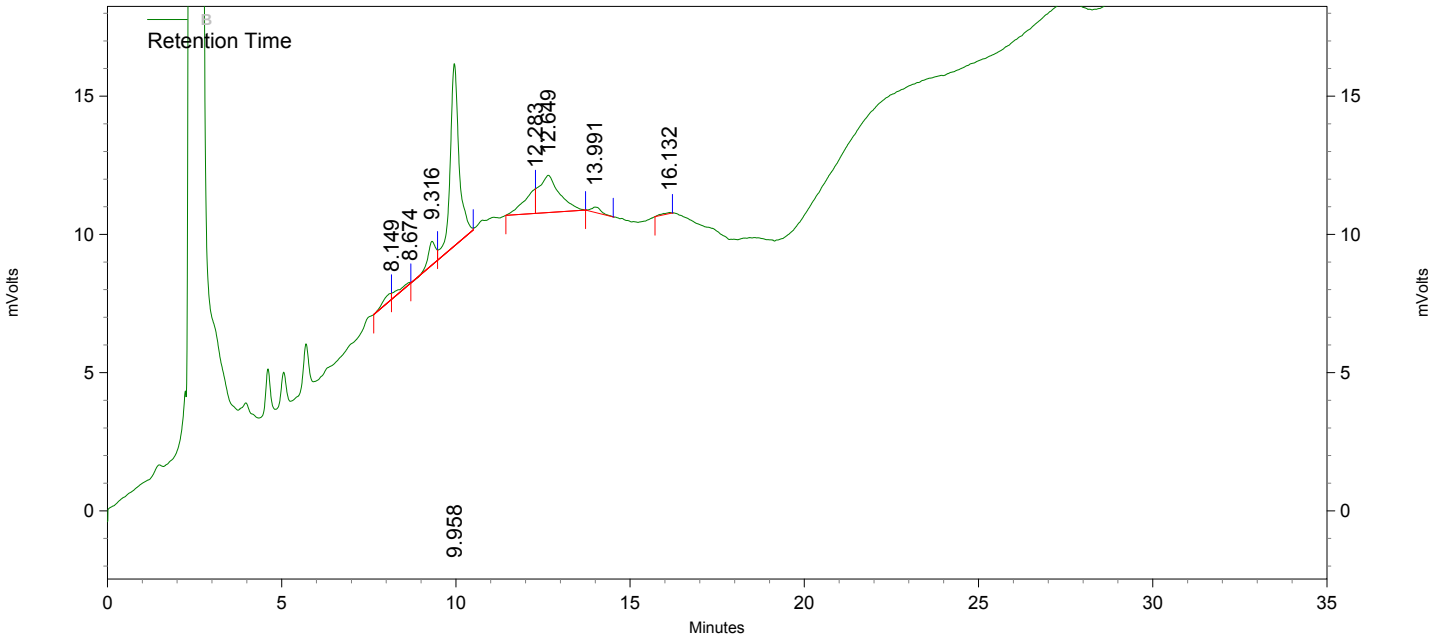
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm	8.149	4577	**0.0376**
PETN-confirm	13.991	3767	**0.0000**

Before Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\019.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\042616EXPIC-CONFIRM\042616EXPIC-CONFIRM.met
Sample ID: 125220,709257,
Acquired: 04/26/2016 23:06:05
Data Summary: Reason #3, #4 applies to data. RED 04/27/2016





125220,709257,

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm	5.050	3767	**0.0727**
RDX-confirm	5.700	8947	**0.1324**
NB-confirm			**0.0000 BDL**
12-DNB (SSTD)-confirm	9.958	52205	**127.0674**
4-AM-26-DNT-conf.			**0.0000 BDL**
3,5-DNA-confirm	10.733	3139	**0.0169**
2-NT-confirm			**0.0000 BDL**
2-AM-46-DNT-conf.	12.658	5024	**0.0293**
3-NT-confirm	13.382	266	**0.0034**
4-NT-confirm			**0.0000 BDL**
26-DNT-confirm			**0.0000 BDL**
13-DNB-confirm			**0.0000 BDL**
TETRYL-confirm			**0.0000 BDL**
24-DNT-confirm			**0.0000 BDL**
135-TNB-confirm	30.215	5757	**0.0397**
246-TNT-confirm	30.748	33922	**0.2197**

B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm	8.149	4577	**0.0376**
PETN-confirm	13.991	3767	**0.0000**

After Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\020.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\042616EXPIC-CONFIRM\042616EXPIC-CONFIRM.met
Sample ID: 125220,709260,
Acquired: 04/26/2016 23:43:23
Data Summary: Reason #3, #4 applies to data. RED 04/27/2016

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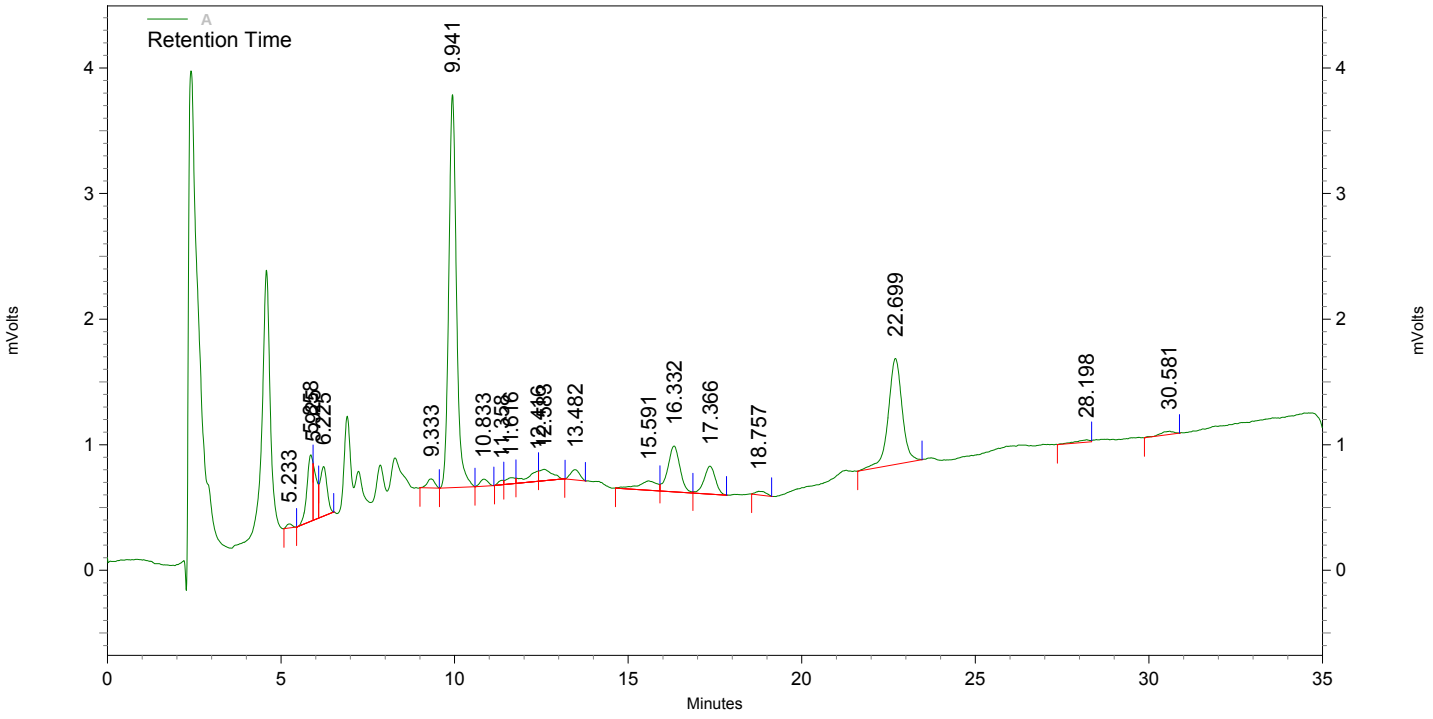
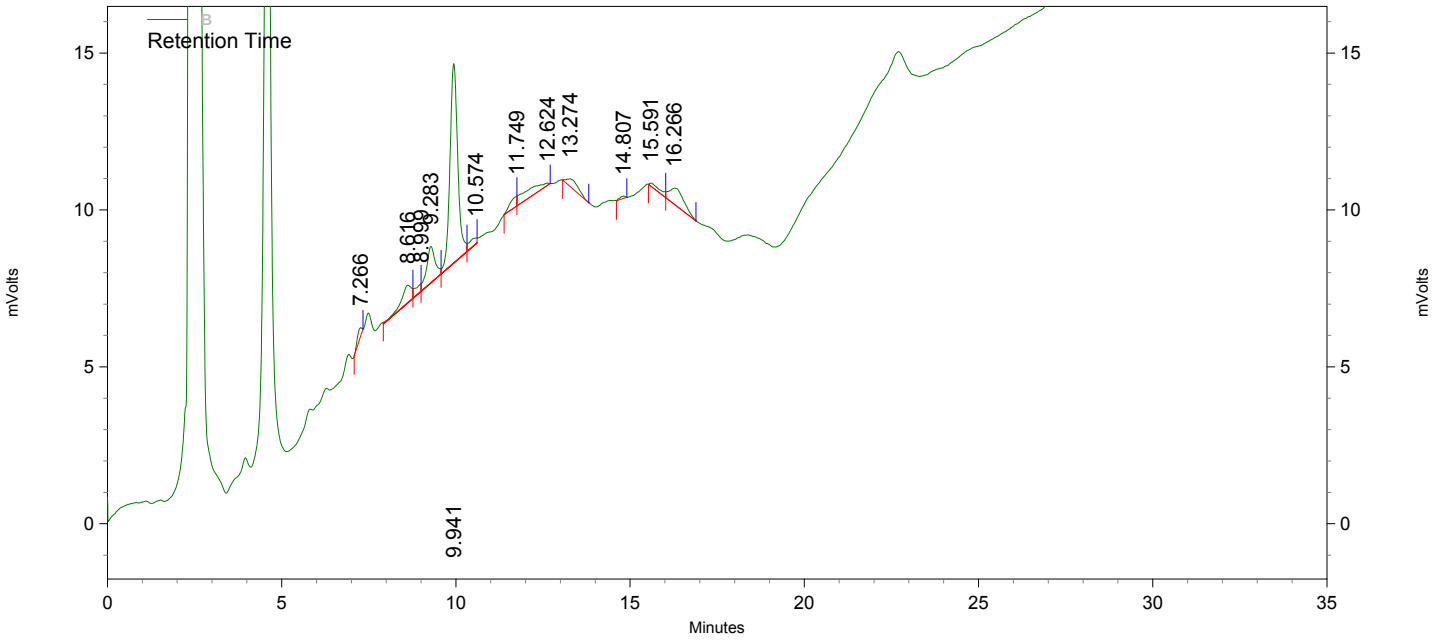




125220,709260,

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm	5.233	366	**0.0089**
RDX-confirm	5.858	6014	**0.0889**
NB-confirm	9.333	1098	**0.0075**
12-DNB (SSTD)-confirm	9.941	48066	**117.0037**
4-AM-26-DNT-conf.			**0.0000 BDL**
3,5-DNA-confirm	10.833	884	**0.0039**
2-NT-confirm	11.616	897	**0.0085**
2-AM-46-DNT-conf.	12.583	2310	**0.0107**
3-NT-confirm	13.482	1488	**0.0151**
4-NT-confirm			**0.0000 BDL**
26-DNT-confirm	16.332	8845	**0.1303**
13-DNB-confirm			**0.0000 BDL**
TETRYL-confirm	22.699	23285	**0.1997**
24-DNT-confirm			**0.0000 BDL**
135-TNB-confirm			**0.0000 BDL**
246-TNT-confirm	30.581	716	**0.0028**

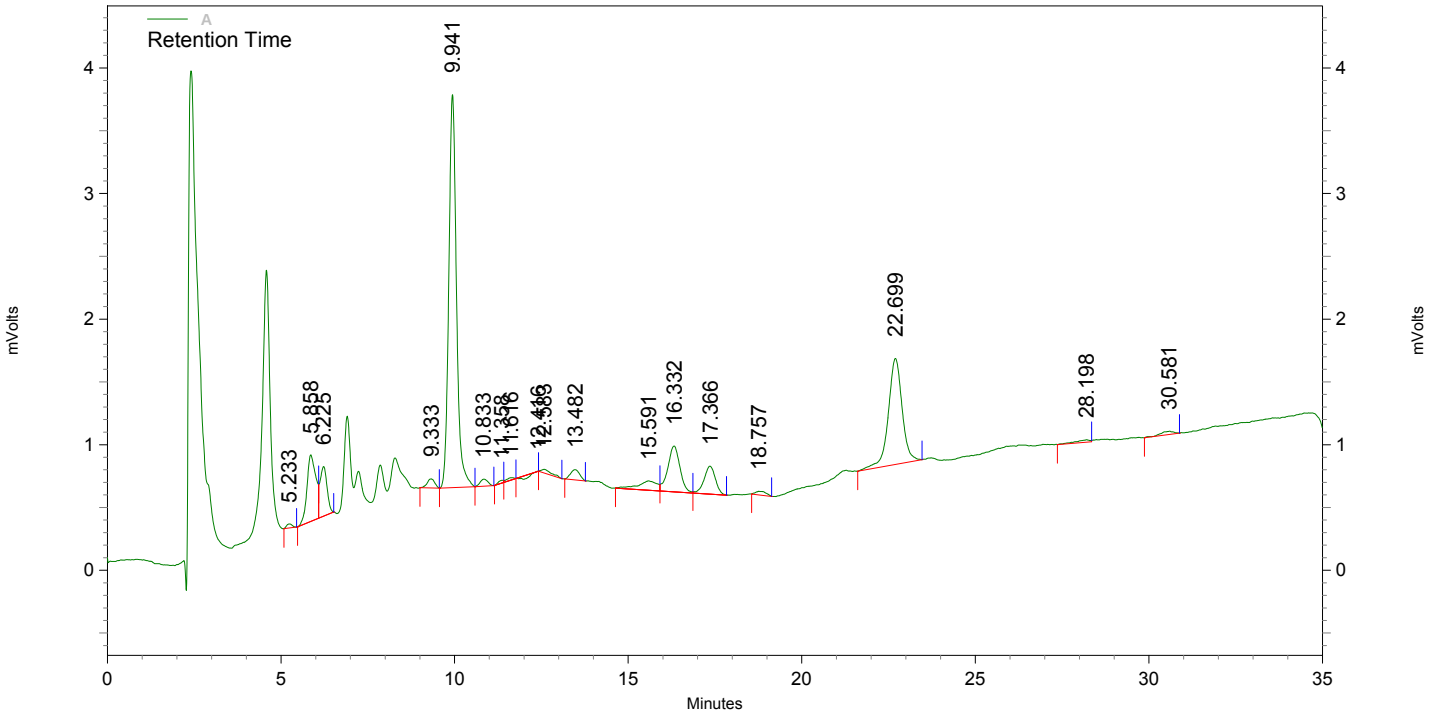
B Results

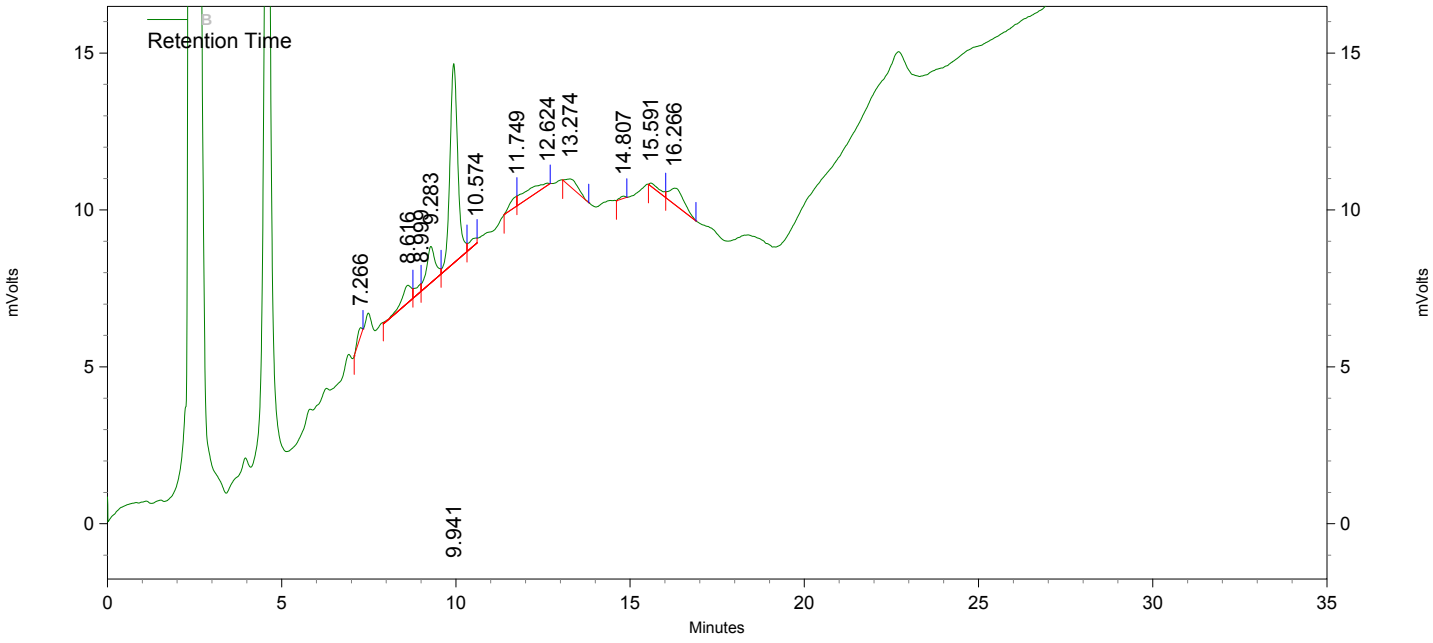
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm			**0.0000 BDL**
PETN-confirm			**0.0000 BDL**

Before Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\020.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\042616EXPIC-CONFIRM\042616EXPIC-CONFIRM.met
Sample ID: 125220,709260,
Acquired: 04/26/2016 23:43:23
Data Summary: Reason #3, #4 applies to data. RED 04/27/2016





125220,709260,

A Results

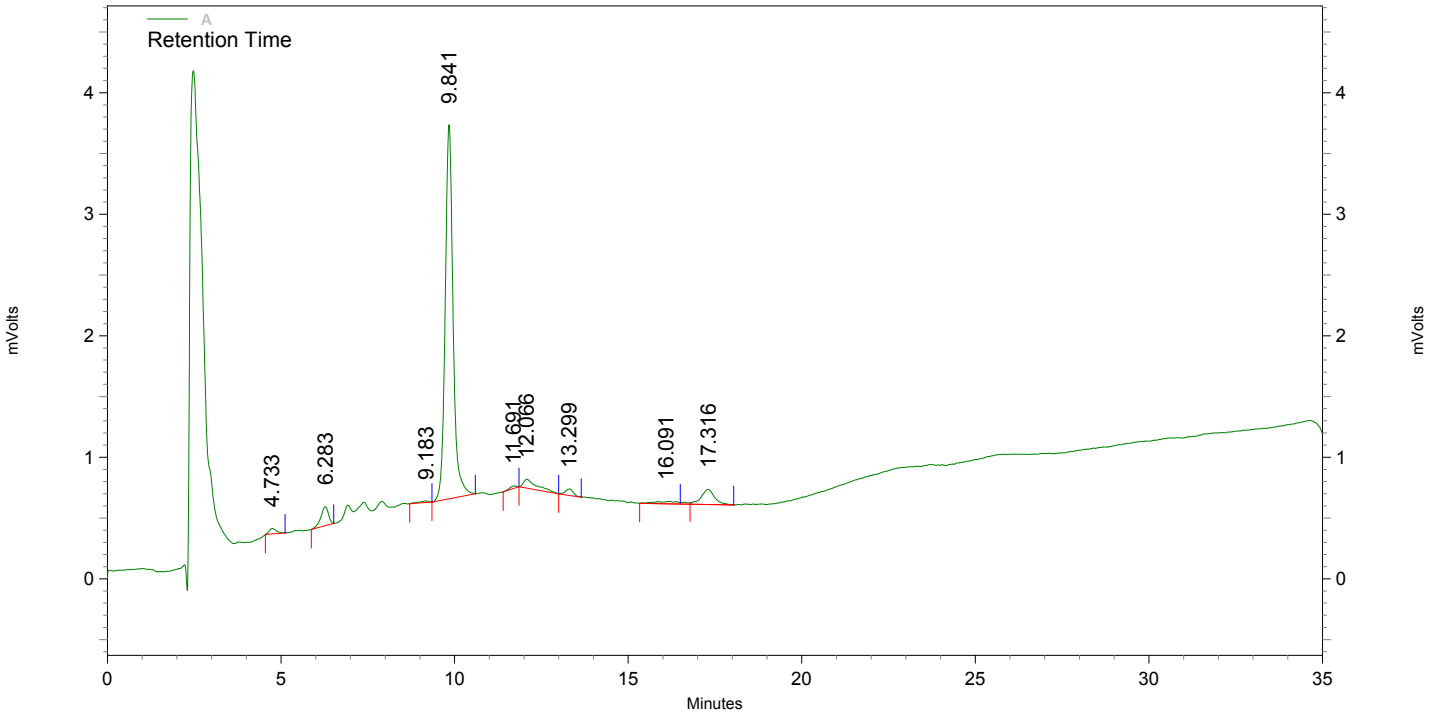
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm	5.233	366	**0.0089**
RDX-confirm	5.858	9320	**0.1379**
NB-confirm	9.333	1098	**0.0075**
12-DNB (SSTD)-confirm	9.941	48066	**117.0037**
4-AM-26-DNT-conf.			**0.0000 BDL**
3,5-DNA-confirm	10.833	884	**0.0039**
2-NT-confirm	11.616	309	**0.0019**
2-AM-46-DNT-conf.	12.583	630	**0.0000**
3-NT-confirm	13.482	1488	**0.0151**
4-NT-confirm			**0.0000 BDL**
26-DNT-confirm	16.332	8845	**0.1303**
13-DNB-confirm			**0.0000 BDL**
TETRYL-confirm	22.699	23285	**0.1997**
24-DNT-confirm			**0.0000 BDL**
135-TNB-confirm			**0.0000 BDL**
246-TNT-confirm	30.581	716	**0.0028**

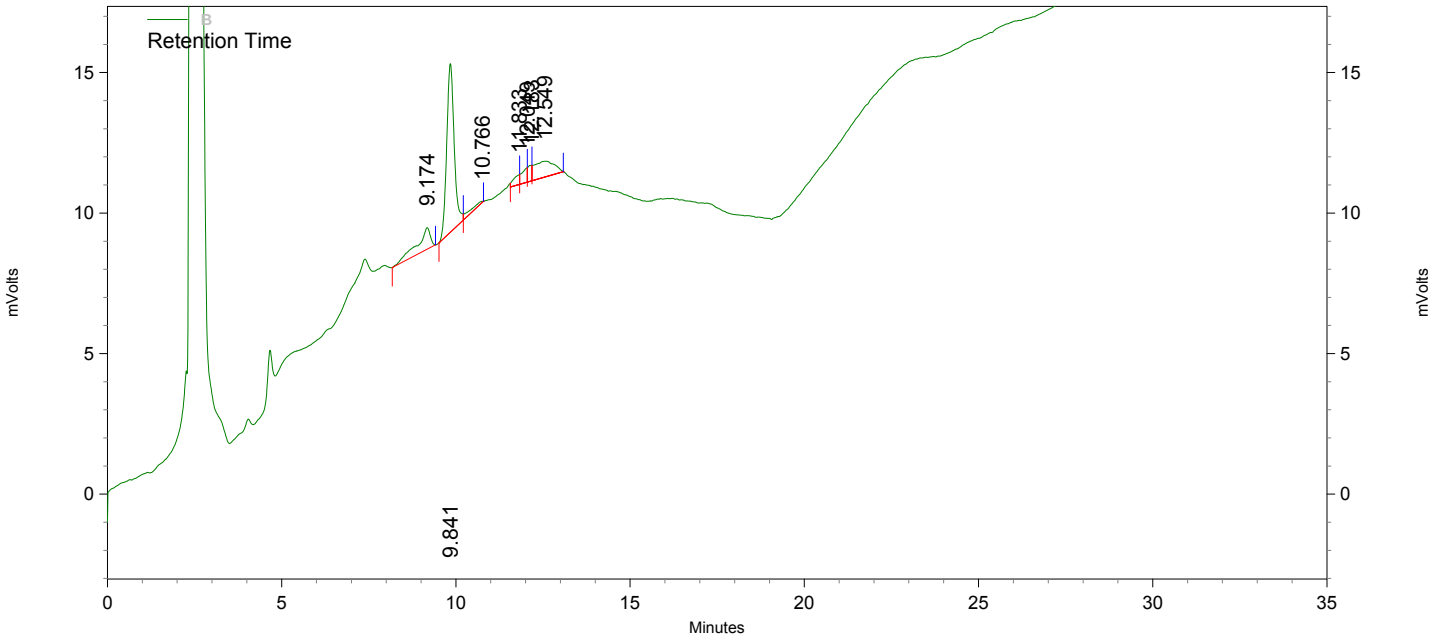
B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm			**0.0000 BDL**
PETN-confirm			**0.0000 BDL**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\021.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\042616EXPIC-CONFIRM\042616EXPIC-CONFIRM.met
Sample ID: 125220,709272,
Acquired: 04/27/2016 00:20:41
Data Summary: {Data Description}





125220,709272,

A Results

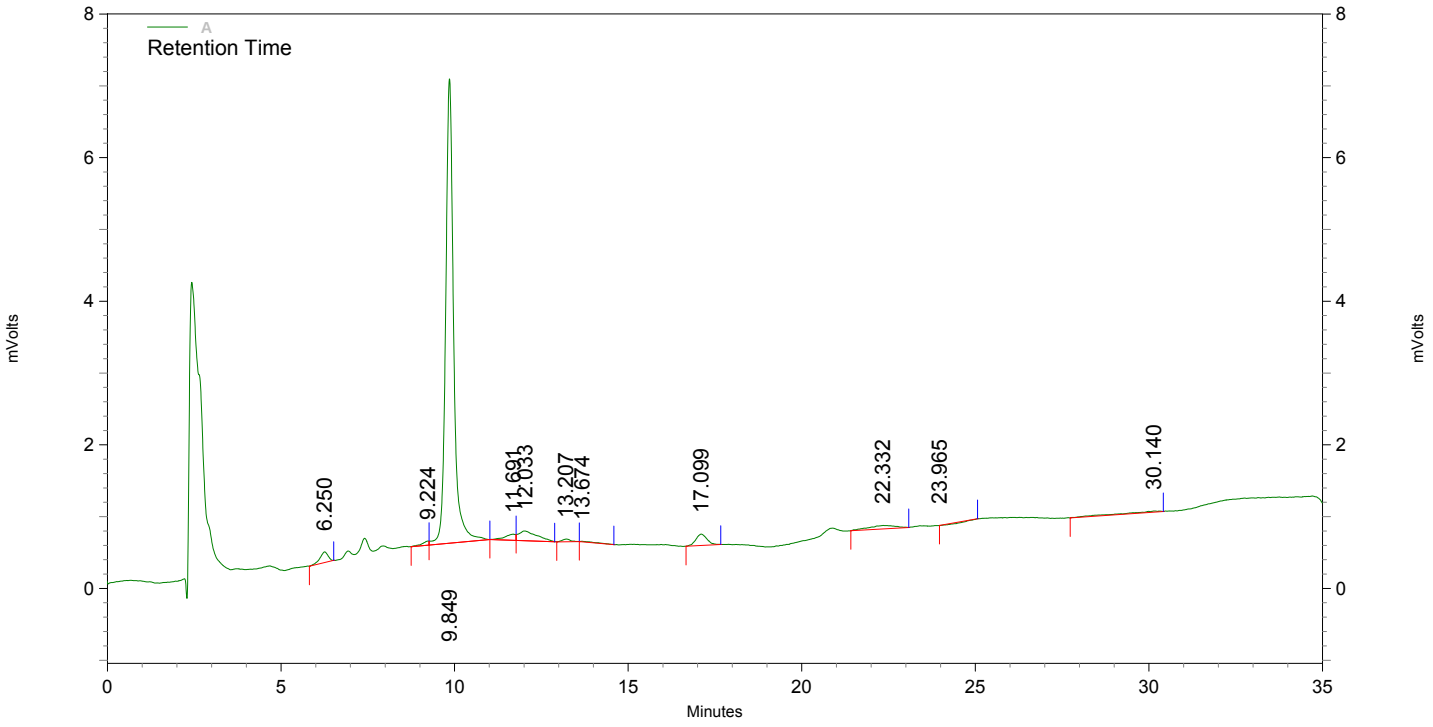
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm			**0.0000 BDL**
RDX-confirm			**0.0000 BDL**
NB-confirm	9.183	245	**0.0016**
12-DNB (SSTD)-confirm	9.841	48249	**117.4486**
4-AM-26-DNT-conf.			**0.0000 BDL**
3,5-DNA-confirm			**0.0000 BDL**
2-NT-confirm	11.691	292	**0.0017**
2-AM-46-DNT-conf.			**0.0000 BDL**
3-NT-confirm	13.299	872	**0.0092**
4-NT-confirm			**0.0000 BDL**
26-DNT-confirm	16.091	846	**0.0126**
13-DNB-confirm			**0.0000 BDL**
TETRYL-confirm			**0.0000 BDL**
24-DNT-confirm			**0.0000 BDL**
135-TNB-confirm			**0.0000 BDL**
246-TNT-confirm			**0.0000 BDL**

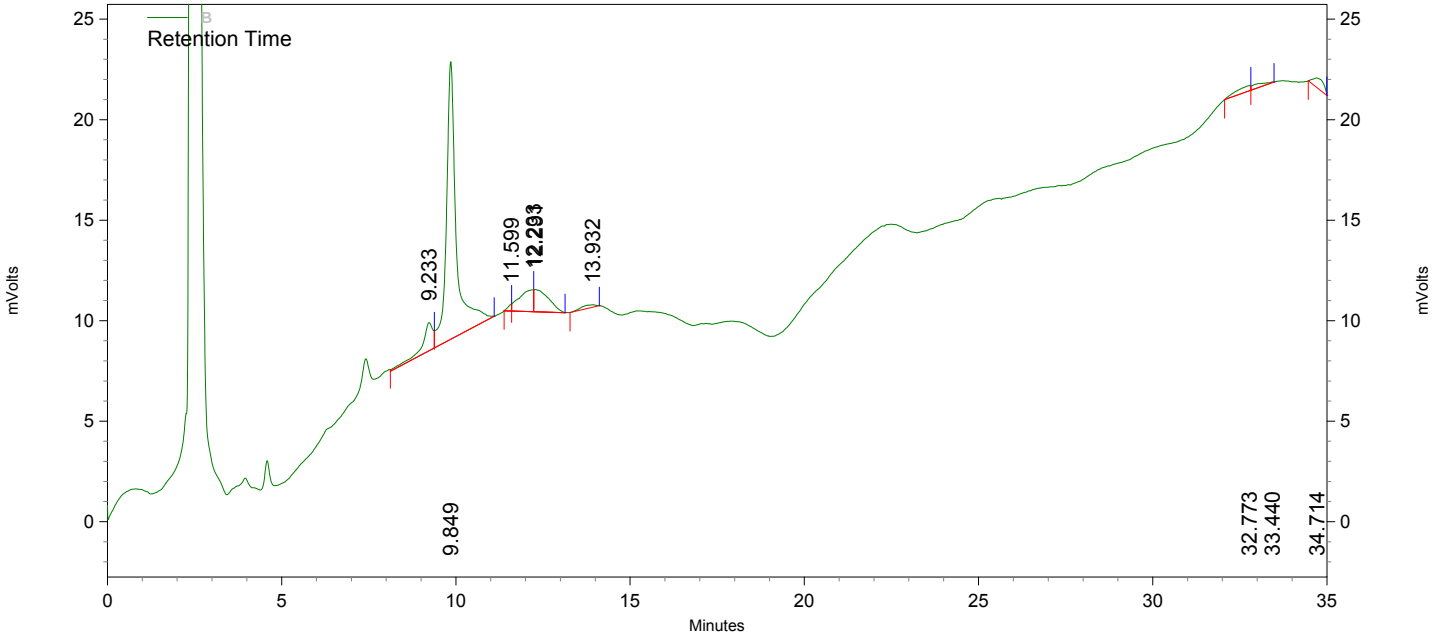
B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm			**0.0000 BDL**
PETN-confirm			**0.0000 BDL**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\022.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\042616EXPIC-CONFIRM\042616EXPIC-CONFIRM.met
Sample ID: 125220,709274,
Acquired: 04/27/2016 00:57:59
Data Summary: {Data Description}





125220,709274,

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm			**0.0000 BDL**
RDX-confirm			**0.0000 BDL**
NB-confirm	9.224	794	**0.0054**
12-DNB (SSTD)-confirm	9.849	102497	**249.3493**
4-AM-26-DNT-conf.			**0.0000 BDL**
3,5-DNA-confirm			**0.0000 BDL**
2-NT-confirm	11.691	1813	**0.0189**
2-AM-46-DNT-conf.			**0.0000 BDL**
3-NT-confirm	13.674	287	**0.0036**
4-NT-confirm			**0.0000 BDL**
26-DNT-confirm			**0.0000 BDL**
13-DNB-confirm			**0.0000 BDL**
TETRYL-confirm	22.332	2636	**0.0233**
24-DNT-confirm			**0.0000 BDL**
135-TNB-confirm	30.140	1494	**0.0094**
246-TNT-confirm			**0.0000 BDL**

B Results

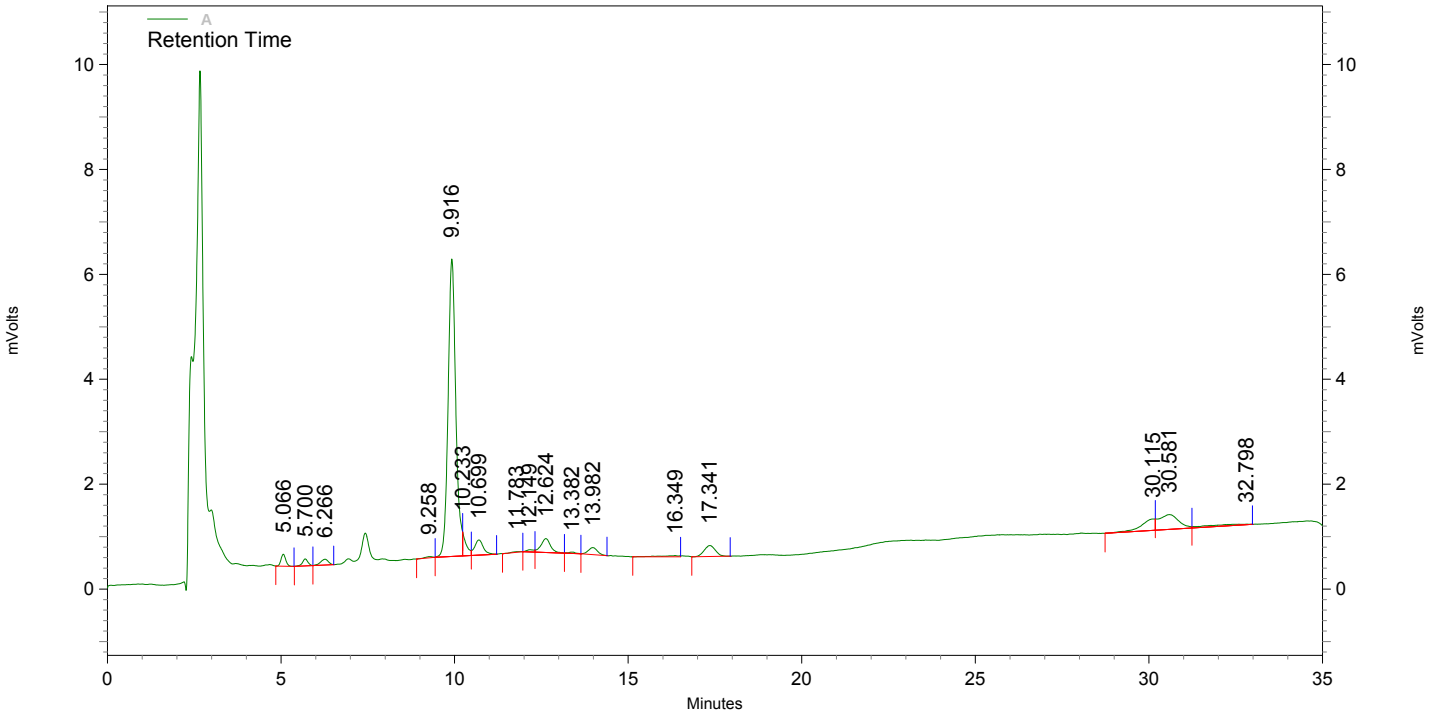
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm			**0.0000 BDL**
PETN-confirm	13.932	4430	**0.0000**

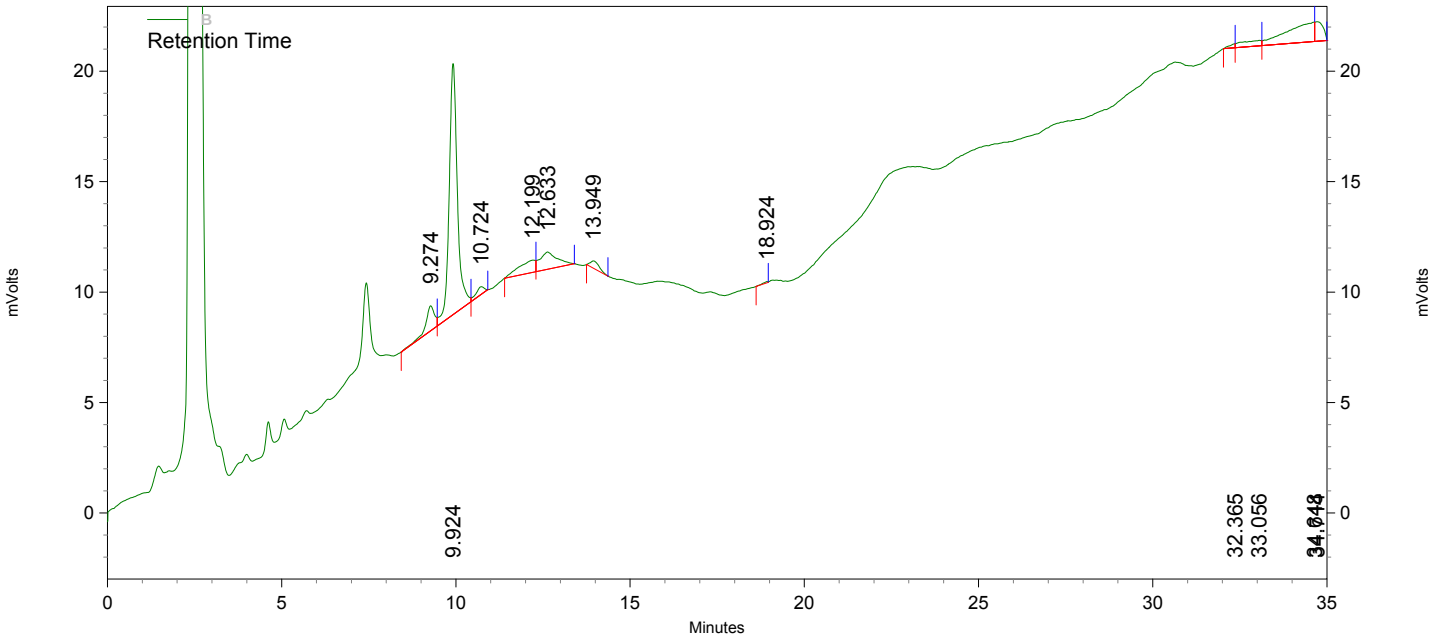
After Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\023.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\042616EXPIC-CONFIRM\042616EXPIC-CONFIRM.met
Sample ID: 125220,709276,
Acquired: 04/27/2016 01:35:16
Data Summary: Reason #3, #4 applies to data. RED 04/27/2016

JJY
4/28/2016





125220,709276,

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm	5.066	2190	**0.0431**
RDX-confirm	5.700	1475	**0.0216**
NB-confirm	9.258	344	**0.0023**
12-DNB (SSTD)-confirm	9.916	87197	**212.1483**
4-AM-26-DNT-conf.	10.233	3146	**0.0268**
3,5-DNA-confirm	10.699	5026	**0.0278**
2-NT-confirm	11.783	231	**0.0010**
2-AM-46-DNT-conf.	12.624	5094	**0.0298**
3-NT-confirm	13.382	363	**0.0043**
4-NT-confirm			**0.0000 BDL**
26-DNT-confirm	16.349	931	**0.0138**
13-DNB-confirm			**0.0000 BDL**
TETRYL-confirm			**0.0000 BDL**
24-DNT-confirm			**0.0000 BDL**
135-TNB-confirm	30.115	5940	**0.0410**
246-TNT-confirm	30.581	11181	**0.0712**

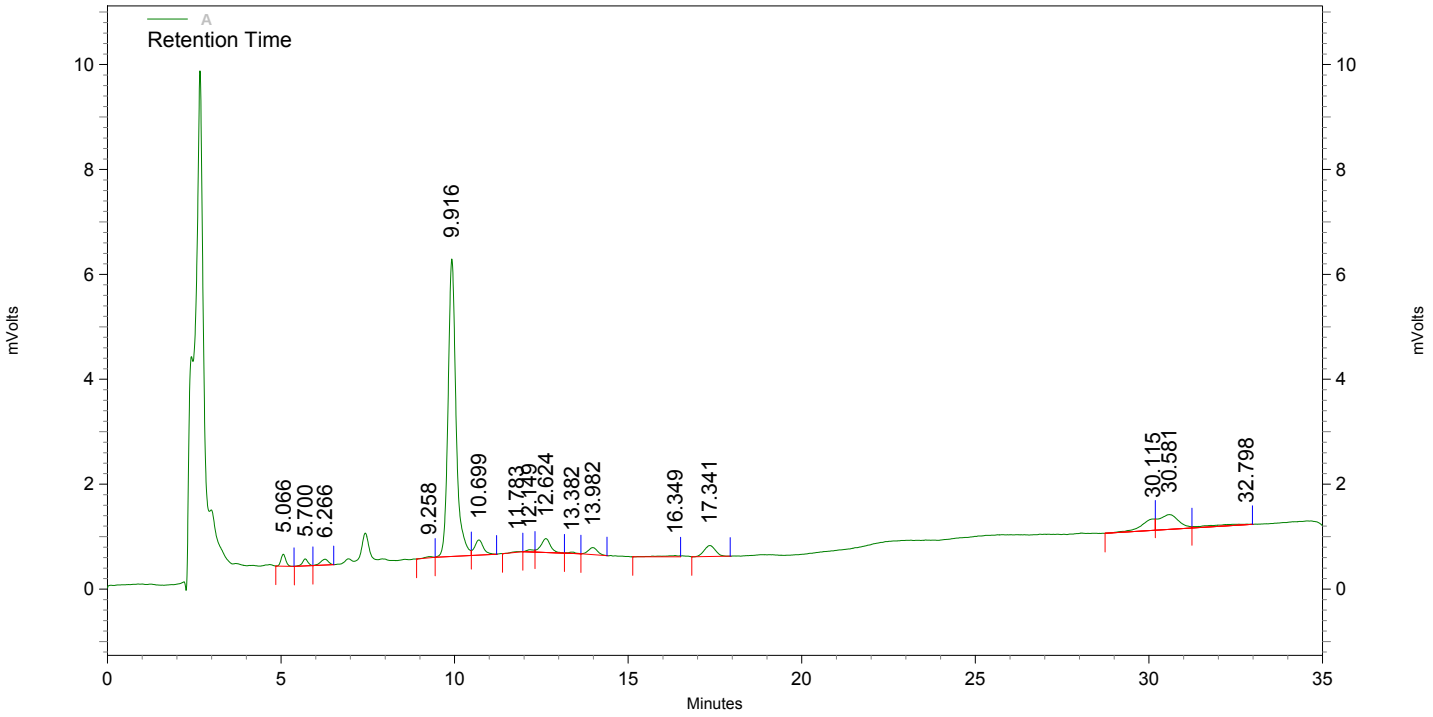
B Results

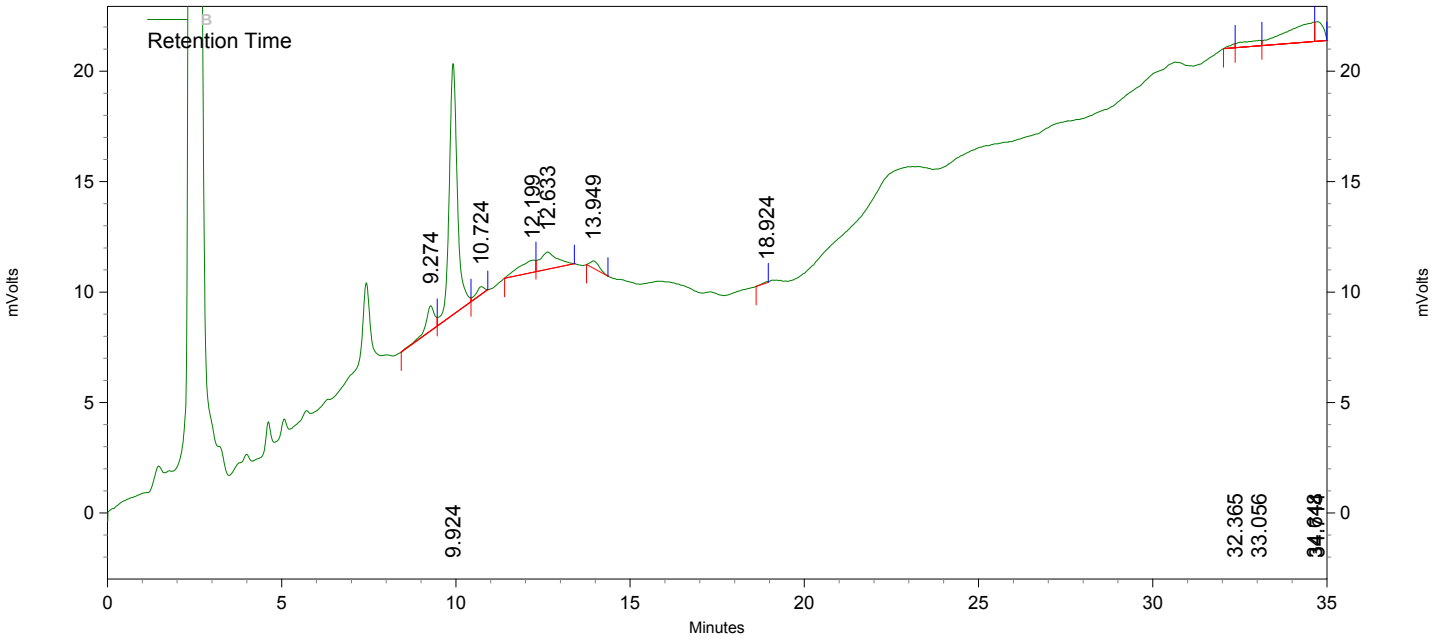
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm			**0.0000 BDL**
PETN-confirm	13.949	6266	**0.0161**

Before Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\023.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\042616EXPIC-CONFIRM\042616EXPIC-CONFIRM.met
Sample ID: 125220,709276,
Acquired: 04/27/2016 01:35:16
Data Summary: Reason #3, #4 applies to data. RED 04/27/2016





125220,709276,

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm	5.066	2190	**0.0431**
RDX-confirm	5.700	1475	**0.0216**
NB-confirm	9.258	344	**0.0023**
12-DNB (SSTD)-confirm	9.916	90343	**219.7976**
4-AM-26-DNT-conf.			**0.0000 BDL**
3,5-DNA-confirm	10.699	5026	**0.0278**
2-NT-confirm	11.783	231	**0.0010**
2-AM-46-DNT-conf.	12.624	5094	**0.0298**
3-NT-confirm	13.382	363	**0.0043**
4-NT-confirm			**0.0000 BDL**
26-DNT-confirm	16.349	931	**0.0138**
13-DNB-confirm			**0.0000 BDL**
TETRYL-confirm			**0.0000 BDL**
24-DNT-confirm			**0.0000 BDL**
135-TNB-confirm	30.115	5940	**0.0410**
246-TNT-confirm	30.581	11181	**0.0712**

B Results

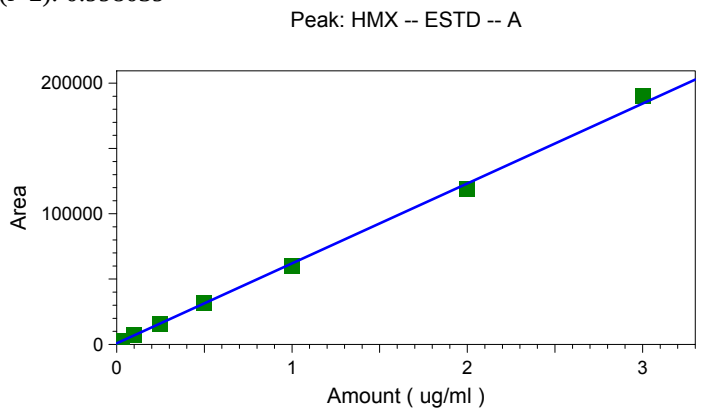
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm			**0.0000 BDL**
PETN-confirm	13.949	6266	**0.0161**

NITROAROMATICS ANALYSIS
INITIAL CALIBRATION
DOCUMENTS

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\040616expic-primary.met
Print Time: Apr 07, 2016 14:10:53
User: red
Instrument: HPLC 2 (Offline)

HMX (A)
Average RF: 67749.0 RF StDev: 11598.3 RF %RSD: 17.1195
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 61148.8x + 881.128
Goodness of fit (r^2): 0.998039



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.03	0.1	0.25	0.5	1
Area	2767	7247	15618	31907	60225
RF	92233.33333 33333	72470	62472	63814	60225
Last Area Residual	-0.000840696	-0.0041046	0.00899982	-0.00738317	0.029517
Rep StDev					
Rep %RSD					
Rep 1 Area	2767	7247	15618	31907	60225
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\040616expic-primary\002.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\003.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\004.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\005.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\006.dat
Rep 1 Sample ID	8330 Pt 1 EXP 5718	8330 Pt 2 EXP 5719	8330 Pt 3 EXP 5720	8330 Pt 4 EXP 5721	8330 Pt 5 EXP 5722
Rep 1 Calib. Time	Apr 06, 2016 14:09:51	Apr 06, 2016 14:10:00	Apr 06, 2016 14:10:10	Apr 06, 2016 14:10:20	Apr 06, 2016 14:28:02

Level 6	Level 7

Calibration Report

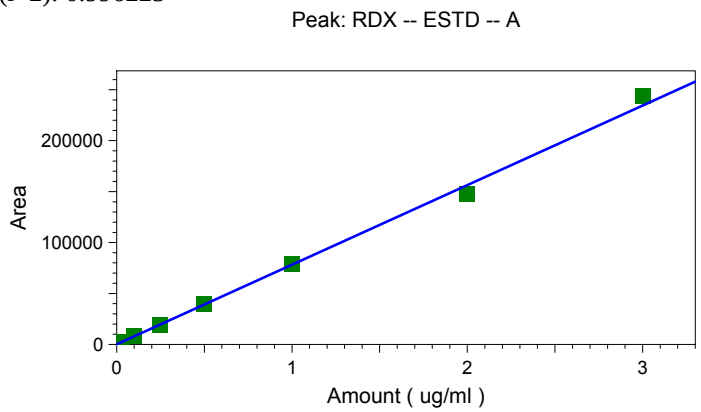
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\040616expic-primary.met
Print Time: Apr 07, 2016 14:10:53
User: red
Instrument: HPLC 2 (Offline)

Amount	2	3
Area	119111	190420
RF	59555.5	63473.3333333333
Last Area		
Residual	0.0665218	-0.0996336
Rep StDev		
Rep %RSD		
Rep 1 Area	119111	190420
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\040616expic-primary\007.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\008.dat
Rep 1 Sample ID	8330 Pt 6 EXP 5723	8330 Pt 7 EXP 5724
Rep 1 Calib. Time	Apr 06, 2016 14:43:27	Apr 06, 2016 15:14:27

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\040616expic-primary.met
Print Time: Apr 07, 2016 14:10:57
User: red
Instrument: HPLC 2 (Offline)

RDX (A)
Average RF: 79170.6 RF StDev: 4290.95 RF %RSD: 5.41988
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 78097.1x + 126.935
Goodness of fit (r^2): 0.996225



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.03	0.1	0.25	0.5	1
Area	2602	7877	18790	39956	78639
RF	86733.33333 33333	78770	75160	79912	78639
Last Area Residual	-0.00169215	0.000763727	0.0110274	-0.00999418	-0.00531348
Rep StDev					
Rep %RSD					
Rep 1 Area	2602	7877	18790	39956	78639
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\040616expic-primary\002.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\003.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\004.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\005.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\006.dat
Rep 1 Sample ID	8330 Pt 1 EXP 5718	8330 Pt 2 EXP 5719	8330 Pt 3 EXP 5720	8330 Pt 4 EXP 5721	8330 Pt 5 EXP 5722
Rep 1 Calib. Time	Apr 06, 2016 14:09:51	Apr 06, 2016 14:10:00	Apr 06, 2016 14:10:10	Apr 06, 2016 14:10:20	Apr 06, 2016 14:28:02

Level 6	Level 7

Calibration Report

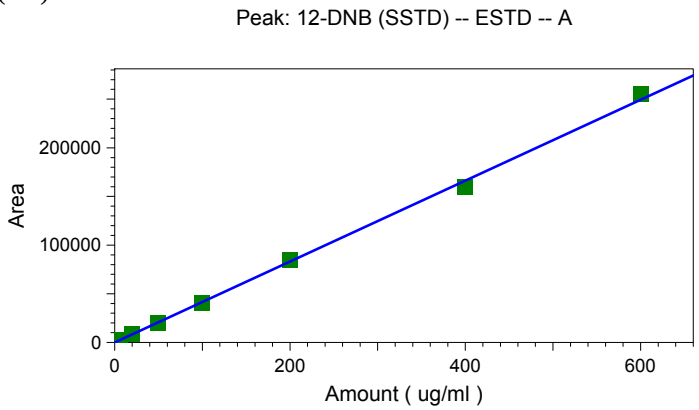
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\040616expic-primary.met
Print Time: Apr 07, 2016 14:10:57
User: red
Instrument: HPLC 2 (Offline)

Amount	2	3
Area	147163	244195
RF	73581.5	81398.3333333333
Last Area		
Residual	0.117266	-0.125187
Rep StDev		
Rep %RSD		
Rep 1 Area	147163	244195
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\040616expic-primary\007.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\008.dat
Rep 1 Sample ID	8330 Pt 6 EXP 5723	8330 Pt 7 EXP 5724
Rep 1 Calib. Time	Apr 06, 2016 14:43:27	Apr 06, 2016 15:14:27

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\040616expic-primary.met
Print Time: Apr 07, 2016 14:11:03
User: red
Instrument: HPLC 2 (Offline)

12-DNB (SSTD) (A)
Average RF: 416.420 RF StDev: 14.1445 RF %RSD: 3.39670
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 415.584x + 12.0340
Goodness of fit (r^2): 0.998455



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	6	20	50	100	200
Area	2628	8340	20149	40551	85045
RF	438	417	402.98	405.51	425.225
Last Area					
Residual	-0.294668	-0.0391677	1.54543	2.45312	-4.61057
Rep StDev					
Rep %RSD					
Rep 1 Area	2628	8340	20149	40551	85045
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\040616expic-primary\002.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\003.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\004.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\005.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\006.dat
Rep 1 Sample ID	8330 Pt 1 EXP 5718	8330 Pt 2 EXP 5719	8330 Pt 3 EXP 5720	8330 Pt 4 EXP 5721	8330 Pt 5 EXP 5722
Rep 1 Calib. Time	Apr 06, 2016 14:09:51	Apr 06, 2016 14:10:00	Apr 06, 2016 14:10:10	Apr 06, 2016 14:10:20	Apr 06, 2016 14:28:02

	Level 6	Level 7
Amount	400	600

Calibration Report

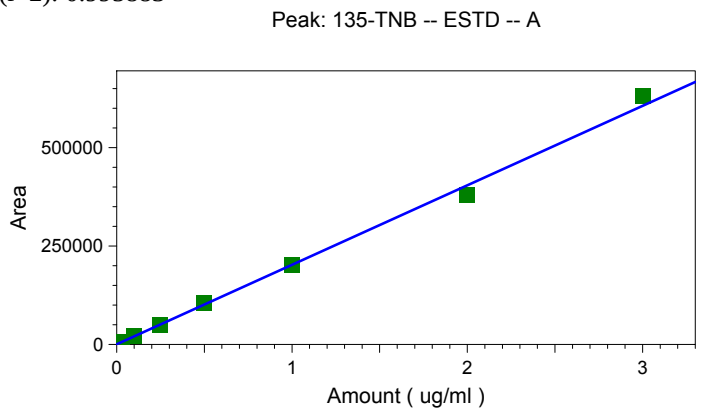
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\040616expic-primary.met
Print Time: Apr 07, 2016 14:11:03
User: red
Instrument: HPLC 2 (Offline)

Area	160066	255637
RF	400.165	426.061666666667
Last Area		
Residual	14.8702	-15.0976
Rep StDev		
Rep %RSD		
Rep 1 Area	160066	255637
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\040616expic-primary\007.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\008.dat
Rep 1 Sample ID	8330 Pt 6 EXP 5723	8330 Pt 7 EXP 5724
Rep 1 Calib. Time	Apr 06, 2016 14:43:27	Apr 06, 2016 15:14:27

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\040616expic-primary.met
Print Time: Apr 07, 2016 14:11:06
User: red
Instrument: HPLC 2 (Offline)

135-TNB (A)
Average RF: 205295. RF StDev: 11027.4 RF %RSD: 5.37147
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 201968.x + 405.629
Goodness of fit (r^2): 0.995883



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.03	0.1	0.25	0.5	1
Area	6675	20538	48728	105881	202169
RF	222500	205380	194912	211762	202169
Last Area					
Residual	-0.00104139	0.000319074	0.0107426	-0.0222377	0.00101387
Rep StDev					
Rep %RSD					
Rep 1 Area	6675	20538	48728	105881	202169
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\040616expic-primary\002.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\003.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\004.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\005.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\006.dat
Rep 1 Sample ID	8330 Pt 1 EXP 5718	8330 Pt 2 EXP 5719	8330 Pt 3 EXP 5720	8330 Pt 4 EXP 5721	8330 Pt 5 EXP 5722
Rep 1 Calib. Time	Apr 06, 2016 14:09:51	Apr 06, 2016 14:10:00	Apr 06, 2016 14:10:10	Apr 06, 2016 14:10:20	Apr 06, 2016 14:28:02

	Level 6	Level 7
Amount	2	3

Calibration Report

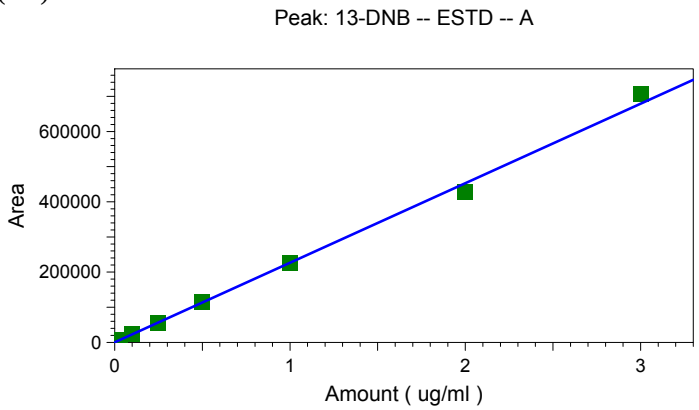
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\040616expic-primary.met
Print Time: Apr 07, 2016 14:11:06
User: red
Instrument: HPLC 2 (Offline)

Area	379287	632104
RF	189643.5	210701.333333333
Last Area Residual	0.124054	-0.127713
Rep StDev		
Rep %RSD		
Rep 1 Area	379287	632104
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\040616expic-primary\007.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\008.dat
Rep 1 Sample ID	8330 Pt 6 EXP 5723	8330 Pt 7 EXP 5724
Rep 1 Calib. Time	Apr 06, 2016 14:43:27	Apr 06, 2016 15:14:27

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\040616expic-primary.met
Print Time: Apr 07, 2016 14:11:11
User: red
Instrument: HPLC 2 (Offline)

13-DNB (A)
Average RF: 230550. RF StDev: 12508.6 RF %RSD: 5.42552
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 226220.x + 546.113
Goodness of fit (r^2): 0.996227



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.03	0.1	0.25	0.5	1
Area	7597	23187	55338	115435	227396
RF	253233.3333 33333	231870	221352	230870	227396
Last Area Residual	-0.00116824	-8.3373e-005	0.00779408	-0.00786294	-0.00278325
Rep StDev					
Rep %RSD					
Rep 1 Area	7597	23187	55338	115435	227396
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\040616expic-primary\002.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\003.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\004.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\005.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\006.dat
Rep 1 Sample ID	8330 Pt 1 EXP 5718	8330 Pt 2 EXP 5719	8330 Pt 3 EXP 5720	8330 Pt 4 EXP 5721	8330 Pt 5 EXP 5722
Rep 1 Calib. Time	Apr 06, 2016 14:09:51	Apr 06, 2016 14:10:00	Apr 06, 2016 14:10:10	Apr 06, 2016 14:10:20	Apr 06, 2016 14:28:02

Level 6	Level 7

Calibration Report

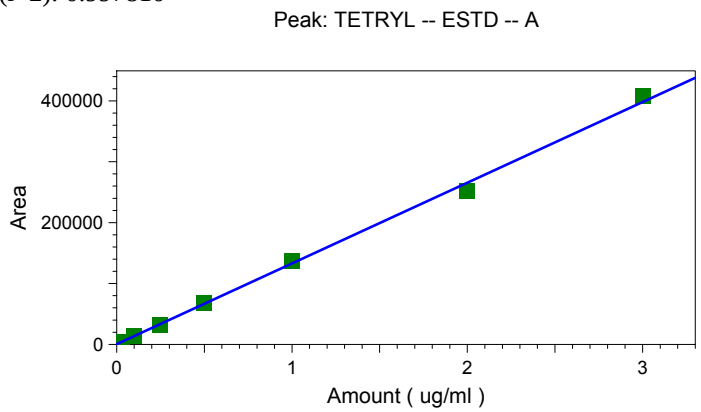
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\040616expic-primary.met
Print Time: Apr 07, 2016 14:11:11
User: red
Instrument: HPLC 2 (Offline)

Amount	2	3
Area	426494	707655
RF	213247	235885
Last Area		
Residual	0.11711	-0.125754
Rep StDev		
Rep %RSD		
Rep 1 Area	426494	707655
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\040616expic-primary\007.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\008.dat
Rep 1 Sample ID	8330 Pt 6 EXP 5723	8330 Pt 7 EXP 5724
Rep 1 Calib. Time	Apr 06, 2016 14:43:27	Apr 06, 2016 15:14:27

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\040616expic-primary.met
Print Time: Apr 07, 2016 14:11:14
User: red
Instrument: HPLC 2 (Offline)

TETRYL (A)
Average RF: 135211. RF StDev: 7088.20 RF %RSD: 5.24233
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 132612.x + 329.056
Goodness of fit (r^2): 0.997810



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.03	0.1	0.25	0.5	1
Area	4408	13693	31638	68627	136322
RF	146933.3333 33333	136930	126552	137254	136322
Last Area Residual	-0.000758516	-0.000774875	0.0139054	-0.0150214	-0.025496
Rep StDev					
Rep %RSD					
Rep 1 Area	4408	13693	31638	68627	136322
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\040616expic-primary\002.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\003.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\004.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\005.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\006.dat
Rep 1 Sample ID	8330 Pt 1 EXP 5718	8330 Pt 2 EXP 5719	8330 Pt 3 EXP 5720	8330 Pt 4 EXP 5721	8330 Pt 5 EXP 5722
Rep 1 Calib. Time	Apr 06, 2016 14:09:51	Apr 06, 2016 14:10:00	Apr 06, 2016 14:10:10	Apr 06, 2016 14:10:20	Apr 06, 2016 14:28:02

Level 6	Level 7

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\040616expic-primary.met
Print Time: Apr 07, 2016 14:11:14
User: red
Instrument: HPLC 2 (Offline)

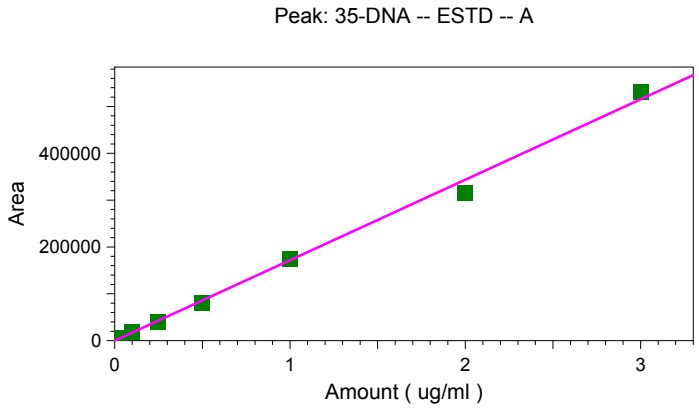
Amount	2	3
Area	252565	408607
RF	126282.5	136202.333333333
Last Area		
Residual	0.0979384	-0.0787437
Rep StDev		
Rep %RSD		
Rep 1 Area	252565	408607
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\040616expic-primary\007.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\008.dat
Rep 1 Sample ID	8330 Pt 6 EXP 5723	8330 Pt 7 EXP 5724
Rep 1 Calib. Time	Apr 06, 2016 14:43:27	Apr 06, 2016 15:14:27

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\040616expic-primary.met
Print Time: Apr 07, 2016 14:11:19
User: red
Instrument: HPLC 2 (Offline)

35-DNA (A)
Average RF: 171853. RF StDev: 13148.5 RF %RSD: 7.65102
Scaling: None LSQ Weighting: None Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Average RF

Average Slope: 171853.



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.03	0.1	0.25	0.5	1
Area	5840	17697	40106	80654	175173
RF	194666.6666 66667	176970	160424	161308	175173
Last Area					
Residual	-0.00398259	-0.00297773	0.0166257	0.0306794	-0.0193207
Rep StDev					
Rep %RSD					
Rep 1 Area	5840	17697	40106	80654	175173
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\040616expic-primary\002.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\003.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\004.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\005.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\006.dat
Rep 1 Sample ID	8330 Pt 1 EXP 5718	8330 Pt 2 EXP 5719	8330 Pt 3 EXP 5720	8330 Pt 4 EXP 5721	8330 Pt 5 EXP 5722
Rep 1 Calib. Time	Apr 06, 2016 14:09:51	Apr 06, 2016 14:10:00	Apr 06, 2016 14:10:10	Apr 06, 2016 14:10:20	Apr 06, 2016 14:28:02

Calibration Report

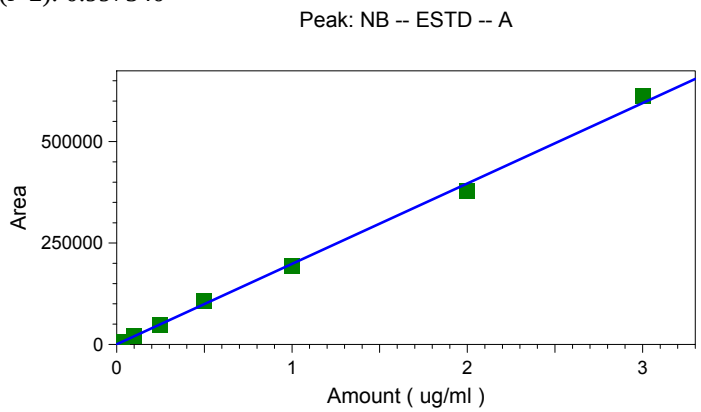
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\040616expic-primary.met
Print Time: Apr 07, 2016 14:11:19
User: red
Instrument: HPLC 2 (Offline)

	Level 6	Level 7
Amount	2	3
Area	314691	531245
RF	157345.5	177081.666666667
Last Area Residual	0.168833	-0.0912813
Rep StDev		
Rep %RSD		
Rep 1 Area	314691	531245
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\040616expic-primary\007.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\008.dat
Rep 1 Sample ID	8330 Pt 6 EXP 5723	8330 Pt 7 EXP 5724
Rep 1 Calib. Time	Apr 06, 2016 14:43:27	Apr 06, 2016 15:14:27

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\040616expic-primary.met
Print Time: Apr 07, 2016 14:11:24
User: red
Instrument: HPLC 2 (Offline)

NB (A)
Average RF: 201767. RF StDev: 10481.7 RF %RSD: 5.19498
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 198164.x + 446.710
Goodness of fit (r^2): 0.997540



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.03	0.1	0.25	0.5	1
Area	6433	20041	48554	108116	192982
RF	214433.3333 33333	200410	194216	216232	192982
Last Area					
Residual	-0.000208745	0.00112091	0.00723514	-0.0433339	0.028405
Rep StDev					
Rep %RSD					
Rep 1 Area	6433	20041	48554	108116	192982
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\040616expic-primary\002.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\003.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\004.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\005.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\006.dat
Rep 1 Sample ID	8330 Pt 1 EXP 5718	8330 Pt 2 EXP 5719	8330 Pt 3 EXP 5720	8330 Pt 4 EXP 5721	8330 Pt 5 EXP 5722
Rep 1 Calib. Time	Apr 06, 2016 14:09:51	Apr 06, 2016 14:10:00	Apr 06, 2016 14:10:10	Apr 06, 2016 14:10:20	Apr 06, 2016 14:28:02

	Level 6	Level 7

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\040616expic-primary.met
Print Time: Apr 07, 2016 14:11:24
User: red
Instrument: HPLC 2 (Offline)

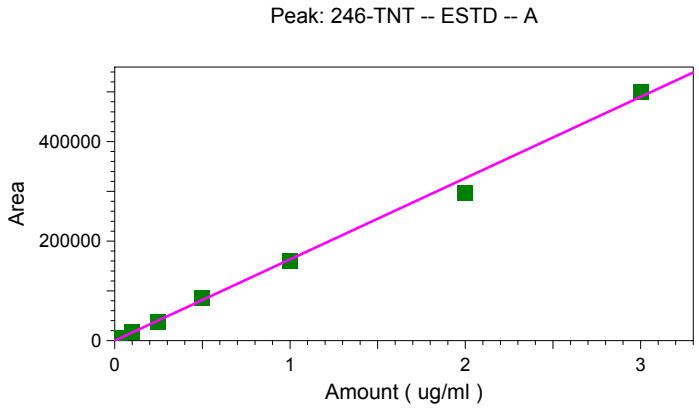
Amount	2	3
Area	379333	613279
RF	189666.5	204426.333333333
Last Area		
Residual	0.0880179	-0.0925489
Rep StDev		
Rep %RSD		
Rep 1 Area	379333	613279
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\040616expic-primary\007.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\008.dat
Rep 1 Sample ID	8330 Pt 6 EXP 5723	8330 Pt 7 EXP 5724
Rep 1 Calib. Time	Apr 06, 2016 14:43:27	Apr 06, 2016 15:14:27

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\040616expic-primary.met
Print Time: Apr 07, 2016 14:11:29
User: red
Instrument: HPLC 2 (Offline)

246-TNT (A)
Average RF: 163381. RF StDev: 10743.5 RF %RSD: 6.57572
Scaling: None LSQ Weighting: None Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Average RF

Average Slope: 163381.



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.03	0.1	0.25	0.5	1
Area	5362	16372	38236	86568	160353
RF	178733.3333 33333	163720	152944	173136	160353
Last Area Residual	-0.00281891	-0.000207242	0.0159709	-0.0298522	0.0185358
Rep StDev					
Rep %RSD					
Rep 1 Area	5362	16372	38236	86568	160353
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\040616expic-primary\002.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\003.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\004.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\005.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\006.dat
Rep 1 Sample ID	8330 Pt 1 EXP 5718	8330 Pt 2 EXP 5719	8330 Pt 3 EXP 5720	8330 Pt 4 EXP 5721	8330 Pt 5 EXP 5722
Rep 1 Calib. Time	Apr 06, 2016 14:09:51	Apr 06, 2016 14:10:00	Apr 06, 2016 14:10:10	Apr 06, 2016 14:10:20	Apr 06, 2016 14:28:02

Calibration Report

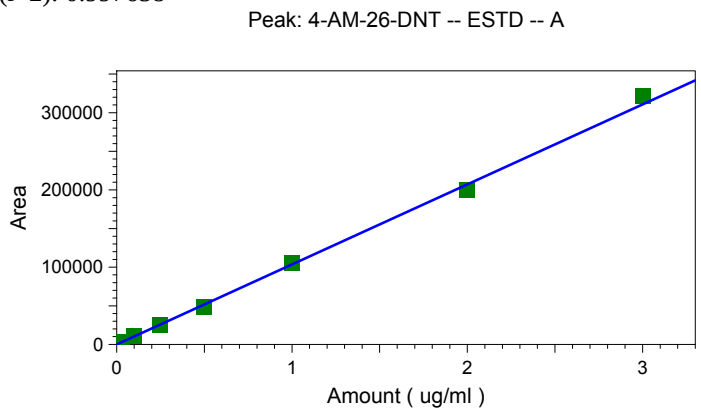
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\040616expic-primary.met
Print Time: Apr 07, 2016 14:11:29
User: red
Instrument: HPLC 2 (Offline)

	Level 6	Level 7
Amount	2	3
Area	296251	499974
RF	148125.5	166658
Last Area		
Residual	0.186752	-0.0601647
Rep StDev		
Rep %RSD		
Rep 1 Area	296251	499974
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\040616expic-primary\007.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\008.dat
Rep 1 Sample ID	8330 Pt 6 EXP 5723	8330 Pt 7 EXP 5724
Rep 1 Calib. Time	Apr 06, 2016 14:43:27	Apr 06, 2016 15:14:27

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\040616expic-primary.met
Print Time: Apr 07, 2016 14:11:34
User: red
Instrument: HPLC 2 (Offline)

4-AM-26-DNT (A)
Average RF: 104310. RF StDev: 6733.73 RF %RSD: 6.45550
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 103576.x + 54.8310
Goodness of fit (r^2): 0.997658



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.03	0.1	0.25	0.5	1
Area	3500	10511	25048	47882	105109
RF	116666.6666 66667	105110	100192	95764	105109
Last Area Residual	-0.0032622	-0.000951573	0.0086975	0.0382412	-0.0142705
Rep StDev					
Rep %RSD					
Rep 1 Area	3500	10511	25048	47882	105109
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\040616expic-primary\002.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\003.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\004.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\005.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\006.dat
Rep 1 Sample ID	8330 Pt 1 EXP 5718	8330 Pt 2 EXP 5719	8330 Pt 3 EXP 5720	8330 Pt 4 EXP 5721	8330 Pt 5 EXP 5722
Rep 1 Calib. Time	Apr 06, 2016 14:09:51	Apr 06, 2016 14:10:00	Apr 06, 2016 14:10:10	Apr 06, 2016 14:10:20	Apr 06, 2016 14:28:02

Level 6	Level 7

Calibration Report

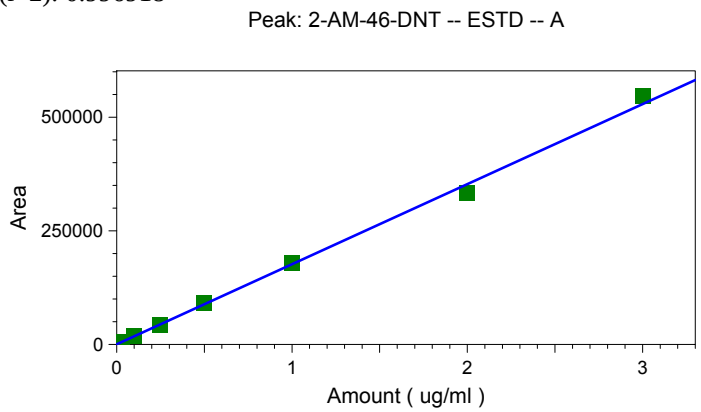
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\040616expic-primary.met
Print Time: Apr 07, 2016 14:11:34
User: red
Instrument: HPLC 2 (Offline)

Amount	2	3
Area	199943	322068
RF	99971.5	107356
Last Area		
Residual	0.0701321	-0.108953
Rep StDev		
Rep %RSD		
Rep 1 Area	199943	322068
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\040616expic-primary\007.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\008.dat
Rep 1 Sample ID	8330 Pt 6 EXP 5723	8330 Pt 7 EXP 5724
Rep 1 Calib. Time	Apr 06, 2016 14:43:27	Apr 06, 2016 15:14:27

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\040616expic-primary.met
Print Time: Apr 07, 2016 14:11:38
User: red
Instrument: HPLC 2 (Offline)

2-AM-46-DNT (A)
Average RF: 178718. RF StDev: 8083.31 RF %RSD: 4.52295
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 176244.x + 308.020
Goodness of fit (r^2): 0.996918



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.03	0.1	0.25	0.5	1
Area	5738	17845	42809	91338	178352
RF	191266.6666 66667	178450	171236	182676	178352
Last Area Residual	-0.00080947	0.000495946	0.00885131	-0.0165001	-0.0102137
Rep StDev					
Rep %RSD					
Rep 1 Area	5738	17845	42809	91338	178352
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\040616expic-primary\002.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\003.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\004.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\005.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\006.dat
Rep 1 Sample ID	8330 Pt 1 EXP 5718	8330 Pt 2 EXP 5719	8330 Pt 3 EXP 5720	8330 Pt 4 EXP 5721	8330 Pt 5 EXP 5722
Rep 1 Calib. Time	Apr 06, 2016 14:09:51	Apr 06, 2016 14:10:00	Apr 06, 2016 14:10:10	Apr 06, 2016 14:10:20	Apr 06, 2016 14:28:02

Level 6	Level 7

Calibration Report

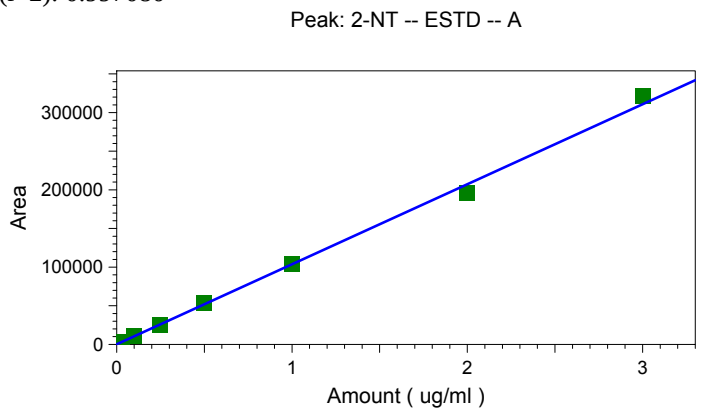
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\040616expic-primary.met
Print Time: Apr 07, 2016 14:11:38
User: red
Instrument: HPLC 2 (Offline)

Amount	2	3
Area	333075	547520
RF	166537.5	182506.666666667
Last Area		
Residual	0.111895	-0.104857
Rep StDev		
Rep %RSD		
Rep 1 Area	333075	547520
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\040616expic-primary\007.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\008.dat
Rep 1 Sample ID	8330 Pt 6 EXP 5723	8330 Pt 7 EXP 5724
Rep 1 Calib. Time	Apr 06, 2016 14:43:27	Apr 06, 2016 15:14:27

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\040616expic-primary.met
Print Time: Apr 07, 2016 14:11:42
User: red
Instrument: HPLC 2 (Offline)

2-NT (A)
Average RF: 105436. RF StDev: 5545.43 RF %RSD: 5.25953
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 103493.x + 245.644
Goodness of fit (r^2): 0.997080



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.03	0.1	0.25	0.5	1
Area	3454	10684	24984	53221	104211
RF	115133.3333 33333	106840	99936	106442	104211
Last Area Residual	-0.00100075	-0.000860656	0.0109655	-0.0118746	-0.00456565
Rep StDev					
Rep %RSD					
Rep 1 Area	3454	10684	24984	53221	104211
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\040616expic-primary\002.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\003.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\004.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\005.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\006.dat
Rep 1 Sample ID	8330 Pt 1 EXP 5718	8330 Pt 2 EXP 5719	8330 Pt 3 EXP 5720	8330 Pt 4 EXP 5721	8330 Pt 5 EXP 5722
Rep 1 Calib. Time	Apr 06, 2016 14:09:51	Apr 06, 2016 14:10:00	Apr 06, 2016 14:10:10	Apr 06, 2016 14:10:20	Apr 06, 2016 14:28:02

Level 6	Level 7

Calibration Report

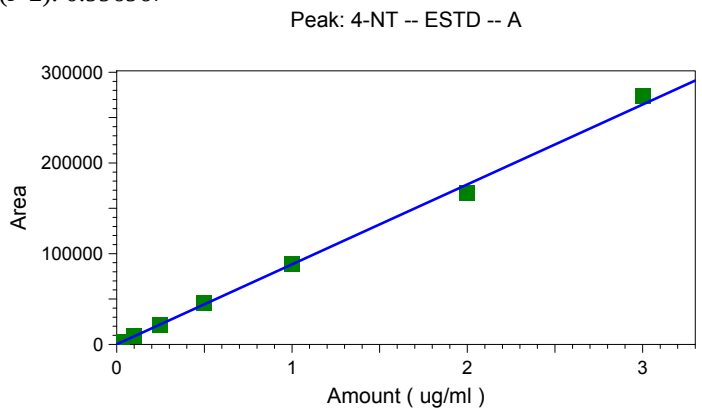
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\040616expic-primary.met
Print Time: Apr 07, 2016 14:11:42
User: red
Instrument: HPLC 2 (Offline)

Amount	2	3
Area	196406	321858
RF	98203	107286
Last Area		
Residual	0.1046	-0.107581
Rep StDev		
Rep %RSD		
Rep 1 Area	196406	321858
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\040616expic-primary\007.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\008.dat
Rep 1 Sample ID	8330 Pt 6 EXP 5723	8330 Pt 7 EXP 5724
Rep 1 Calib. Time	Apr 06, 2016 14:43:27	Apr 06, 2016 15:14:27

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\040616expic-primary.met
Print Time: Apr 07, 2016 14:11:45
User: red
Instrument: HPLC 2 (Offline)

4-NT (A)
Average RF: 89651.6 RF StDev: 4514.97 RF %RSD: 5.03613
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 88070.4x + 200.250
Goodness of fit (r^2): 0.996967



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.03	0.1	0.25	0.5	1
Area	2916	9140	21304	45198	88408
RF	97200	91400	85216	90396	88408
Last Area Residual	-0.000836135	-0.0015069	0.0103763	-0.0109295	-0.00155992
Rep StDev					
Rep %RSD					
Rep 1 Area	2916	9140	21304	45198	88408
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\040616expic-primary\002.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\003.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\004.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\005.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\006.dat
Rep 1 Sample ID	8330 Pt 1 EXP 5718	8330 Pt 2 EXP 5719	8330 Pt 3 EXP 5720	8330 Pt 4 EXP 5721	8330 Pt 5 EXP 5722
Rep 1 Calib. Time	Apr 06, 2016 14:09:51	Apr 06, 2016 14:10:00	Apr 06, 2016 14:10:10	Apr 06, 2016 14:10:20	Apr 06, 2016 14:28:02

	Level 6	Level 7
Amount	2	3

Calibration Report

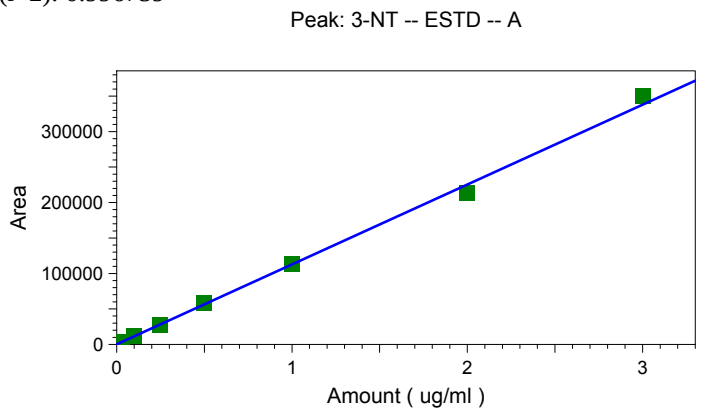
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\040616expic-primary.met
Print Time: Apr 07, 2016 14:11:45
User: red
Instrument: HPLC 2 (Offline)

Area	167069	274220
RF	83534.5	91406.6666666667
Last Area		
Residual	0.105279	-0.111373
Rep StDev		
Rep %RSD		
Rep 1 Area	167069	274220
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\040616expic-primary\007.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\008.dat
Rep 1 Sample ID	8330 Pt 6 EXP 5723	8330 Pt 7 EXP 5724
Rep 1 Calib. Time	Apr 06, 2016 14:43:27	Apr 06, 2016 15:14:27

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\040616expic-primary.met
Print Time: Apr 07, 2016 14:11:49
User: red
Instrument: HPLC 2 (Offline)

3-NT (A)
Average RF: 114011. RF StDev: 4807.58 RF %RSD: 4.21677
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 112543.x + 182.793
Goodness of fit (r^2): 0.996759



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.03	0.1	0.25	0.5	1
Area	3588	11740	27250	57989	112786
RF	119600	117400	109000	115978	112786
Last Area Residual	-0.000256984	-0.00269162	0.00949419	-0.0136373	-0.000536376
Rep StDev					
Rep %RSD					
Rep 1 Area	3588	11740	27250	57989	112786
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\040616expic-primary\002.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\003.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\004.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\005.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\006.dat
Rep 1 Sample ID	8330 Pt 1 EXP 5718	8330 Pt 2 EXP 5719	8330 Pt 3 EXP 5720	8330 Pt 4 EXP 5721	8330 Pt 5 EXP 5722
Rep 1 Calib. Time	Apr 06, 2016 14:09:51	Apr 06, 2016 14:10:00	Apr 06, 2016 14:10:10	Apr 06, 2016 14:10:20	Apr 06, 2016 14:28:02

	Level 6	Level 7
Amount	2	3

Calibration Report

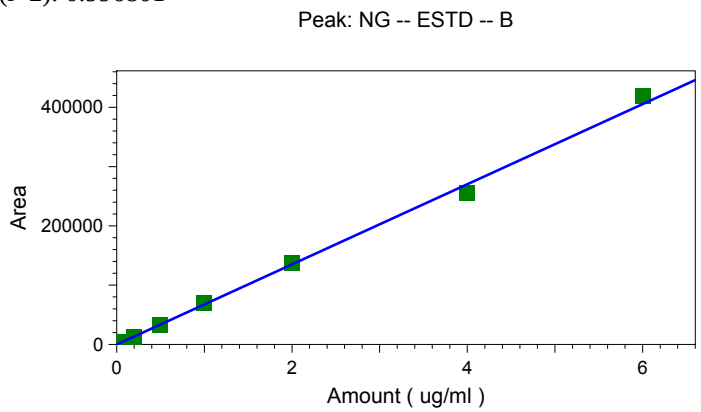
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\040616expic-primary.met
Print Time: Apr 07, 2016 14:11:49
User: red
Instrument: HPLC 2 (Offline)

Area	212884	350616
RF	106442	116872
Last Area		
Residual	0.110042	-0.113776
Rep StDev		
Rep %RSD		
Rep 1 Area	212884	350616
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\040616expic-primary\007.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\008.dat
Rep 1 Sample ID	8330 Pt 6 EXP 5723	8330 Pt 7 EXP 5724
Rep 1 Calib. Time	Apr 06, 2016 14:43:27	Apr 06, 2016 15:14:27

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\040616expic-primary.met
Print Time: 04/20/2016 13:20:43
User: red
Instrument: HPLC 2 (Offline)

NG (B)
Average RF: 67191.6 RF StDev: 2375.55 RF %RSD: 3.53548
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 67563.9x - 122.048
Goodness of fit (r^2): 0.996801



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.06	0.2	0.5	1	2
Area	4061	13294	32326	69410	137057
RF	67683.33333 33333	66470	64652	69410	68528.5
Last Area Residual	-0.00191249	0.00143164	0.0197426	-0.0291306	-0.0303609
Rep StDev					
Rep %RSD					
Rep 1 Area	4061	13294	32326	69410	137057
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\040616expic-primary\002.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\003.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\004.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\005.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\006.dat
Rep 1 Sample ID	8330 Pt 1 EXP 5718	8330 Pt 2 EXP 5719	8330 Pt 3 EXP 5720	8330 Pt 4 EXP 5721	8330 Pt 5 EXP 5722
Rep 1 Calib. Time	04/20/2016 13:20:02	04/06/2016 14:10:00	04/06/2016 14:10:10	04/06/2016 14:10:20	04/06/2016 14:28:02

	Level 6	Level 7

Calibration Report

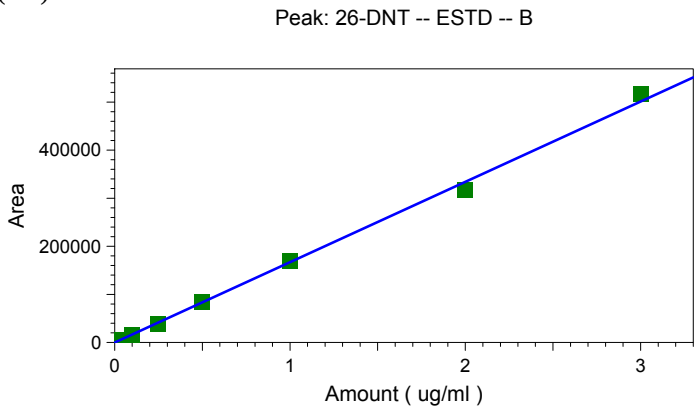
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\040616expic-primary.met
Print Time: 04/20/2016 13:20:43
User: red
Instrument: HPLC 2 (Offline)

Amount	4	6
Area	254663	419589
RF	63665.75	69931.5
Last Area		
Residual	0.228975	-0.212063
Rep StDev		
Rep %RSD		
Rep 1 Area	254663	419589
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\040616expic-primary\007.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\008.dat
Rep 1 Sample ID	8330 Pt 6 EXP 5723	8330 Pt 7 EXP 5724
Rep 1 Calib. Time	04/06/2016 14:43:27	04/06/2016 15:14:27

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\040616expic-primary.met
Print Time: 04/20/2016 13:21:13
User: red
Instrument: HPLC 2 (Offline)

26-DNT (B)
Average RF: 166008. RF StDev: 7271.50 RF %RSD: 4.38021
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 167108.x - 192.163
Goodness of fit (r^2): 0.997316



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.03	0.1	0.25	0.5	1
Area	5218	16009	39197	84958	170426
RF	173933.3333 33333	160090	156788	169916	170426
Last Area Residual	-0.00237531	0.00304956	0.0142887	-0.00955266	-0.0210073
Rep StDev					
Rep %RSD					
Rep 1 Area	5218	16009	39197	84958	170426
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\040616expic-primary\002.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\003.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\004.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\005.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\006.dat
Rep 1 Sample ID	8330 Pt 1 EXP 5718	8330 Pt 2 EXP 5719	8330 Pt 3 EXP 5720	8330 Pt 4 EXP 5721	8330 Pt 5 EXP 5722
Rep 1 Calib. Time	04/20/2016 13:20:02	04/06/2016 14:10:00	04/06/2016 14:10:10	04/06/2016 14:10:20	04/06/2016 14:28:02

Level 6	Level 7

Calibration Report

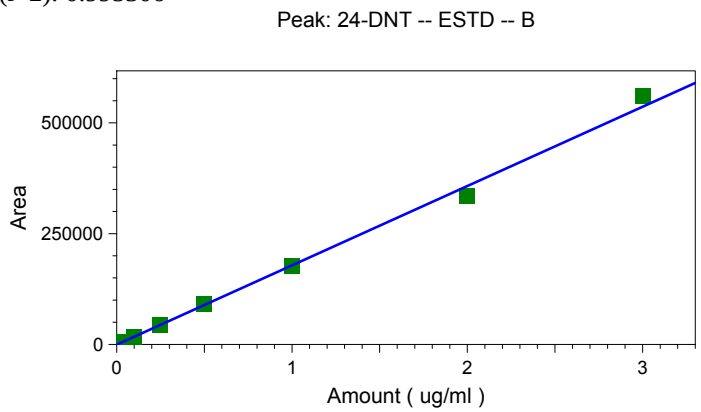
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\040616expic-primary.met
Print Time: 04/20/2016 13:21:13
User: red
Instrument: HPLC 2 (Offline)

Amount	2	3
Area	316831	517459
RF	158415.5	172486.333333333
Last Area		
Residual	0.102881	-0.0977102
Rep StDev		
Rep %RSD		
Rep 1 Area	316831	517459
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\040616expic-primary\007.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\008.dat
Rep 1 Sample ID	8330 Pt 6 EXP 5723	8330 Pt 7 EXP 5724
Rep 1 Calib. Time	04/06/2016 14:43:27	04/06/2016 15:14:27

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\040616expic-primary.met
Print Time: 04/20/2016 13:21:20
User: red
Instrument: HPLC 2 (Offline)

24-DNT (B)
Average RF: 174757. RF StDev: 8671.09 RF %RSD: 4.96180
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 178973.x - 597.331
Goodness of fit (r^2): 0.995306



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.03	0.1	0.25	0.5	1
Area	4849	17284	43749	90950	177849
RF	161633.3333 33333	172840	174996	181900	177849
Last Area Residual	-0.000430964	8.9416e-005	0.00221823	-0.0115138	0.00294465
Rep StDev					
Rep %RSD					
Rep 1 Area	4849	17284	43749	90950	177849
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\040616expic-primary\002.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\003.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\004.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\005.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\006.dat
Rep 1 Sample ID	8330 Pt 1 EXP 5718	8330 Pt 2 EXP 5719	8330 Pt 3 EXP 5720	8330 Pt 4 EXP 5721	8330 Pt 5 EXP 5722
Rep 1 Calib. Time	04/20/2016 13:20:02	04/06/2016 14:10:00	04/06/2016 14:10:10	04/06/2016 14:10:20	04/06/2016 14:28:02

Level 6	Level 7

Calibration Report

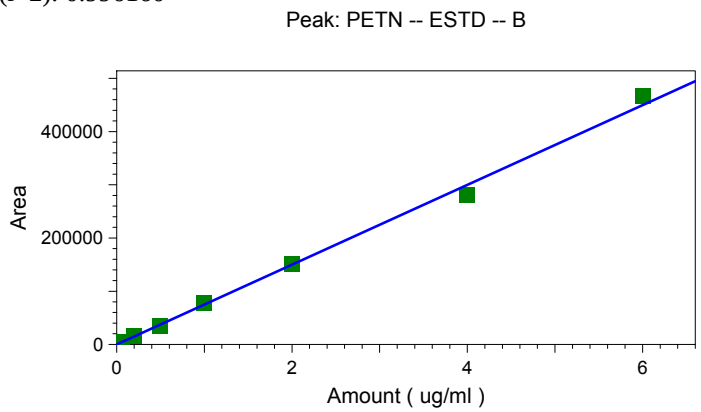
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\040616expic-primary.met
Print Time: 04/20/2016 13:21:20
User: red
Instrument: HPLC 2 (Offline)

Amount	2	3
Area	333872	561429
RF	166936	187143
Last Area		
Residual	0.131178	-0.14028
Rep StDev		
Rep %RSD		
Rep 1 Area	333872	561429
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\040616expic-primary\007.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\008.dat
Rep 1 Sample ID	8330 Pt 6 EXP 5723	8330 Pt 7 EXP 5724
Rep 1 Calib. Time	04/06/2016 14:43:27	04/06/2016 15:14:27

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\040616expic-primary.met
Print Time: 04/20/2016 13:21:27
User: red
Instrument: HPLC 2 (Offline)

PETN (B)
Average RF: 75137.5 RF StDev: 3674.22 RF %RSD: 4.88999
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 74929.1x + 14.3926
Goodness of fit (r^2): 0.996160



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.06	0.2	0.5	1	2
Area	4456	16003	35257	77022	151834
RF	74266.66666 66667	80015	70514	77022	75917
Last Area Residual	0.000722544	-0.0133831	0.029654	-0.0277394	-0.0261764
Rep StDev					
Rep %RSD					
Rep 1 Area	4456	16003	35257	77022	151834
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\040616expic-primary\002.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\003.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\004.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\005.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\006.dat
Rep 1 Sample ID	8330 Pt 1 EXP 5718	8330 Pt 2 EXP 5719	8330 Pt 3 EXP 5720	8330 Pt 4 EXP 5721	8330 Pt 5 EXP 5722
Rep 1 Calib. Time	04/20/2016 13:20:02	04/06/2016 14:10:00	04/06/2016 14:10:10	04/06/2016 14:10:20	04/06/2016 14:28:02

Level 6	Level 7

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\040616expic-primary.met
Print Time: 04/20/2016 13:21:27
User: red
Instrument: HPLC 2 (Offline)

Amount	4	6
Area	281272	467461
RF	70318	77910.1666666667
Last Area		
Residual	0.246351	-0.238518
Rep StDev		
Rep %RSD		
Rep 1 Area	281272	467461
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\040616expic-primary\007.dat	C:\Instarch\HPLC 2\Data\040616expic-primary\008.dat
Rep 1 Sample ID	8330 Pt 6 EXP 5723	8330 Pt 7 EXP 5724
Rep 1 Calib. Time	04/06/2016 14:43:27	04/06/2016 15:14:27

QC Check Standard Report

Sequence : C:\Instarch\HPLC 2\Sequences\8330A_B\040616expic-primary.seq
User : red
Printed : 04/20/2016 13:22:03

File	Sample ID	Acquired
C:\Instarch\HPLC 2\Data\040616expic-primary\002.dat	8330 Pt 1 EXP 5718	04/20/2016 13:22:03

A

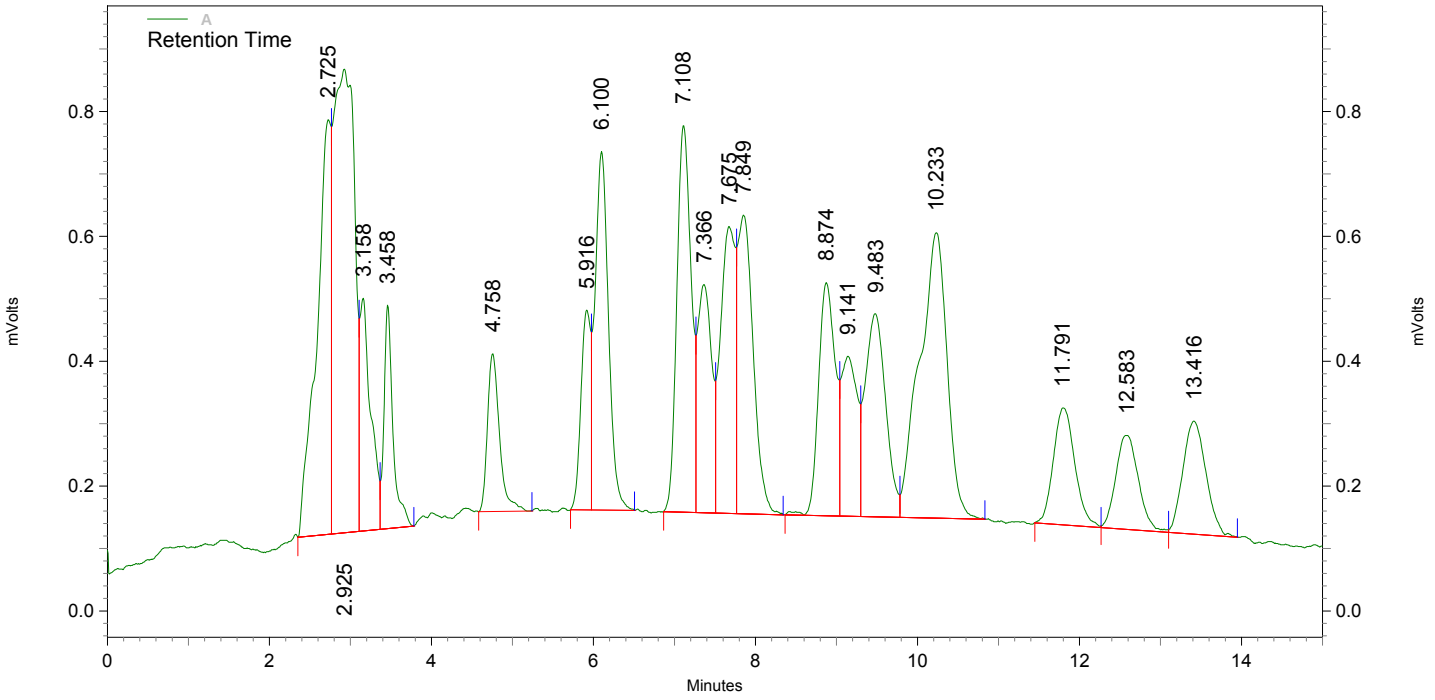
Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
HMX	0.030	0.031	2.802	20.000	Passed
RDX	0.030	0.032	5.641	20.000	Passed
12-DNB (SSTD)	6.000	6.295	4.911	20.000	Passed
135-TNB	0.030	0.031	3.471	20.000	Passed
13-DNB	0.030	0.031	3.894	20.000	Passed
TETRYL	0.030	0.031	2.528	20.000	Passed
35-DNA	0.030	0.034	13.275	20.000	Passed
NB	0.030	0.030	0.696	20.000	Passed
246-TNT	0.030	0.033	9.396	20.000	Passed
4-AM-26-DNT	0.030	0.033	10.874	20.000	Passed
2-AM-46-DNT	0.030	0.031	2.698	20.000	Passed
2-NT	0.030	0.031	3.336	20.000	Passed
4-NT	0.030	0.031	2.787	20.000	Passed
3-NT	0.030	0.030	0.857	20.000	Passed

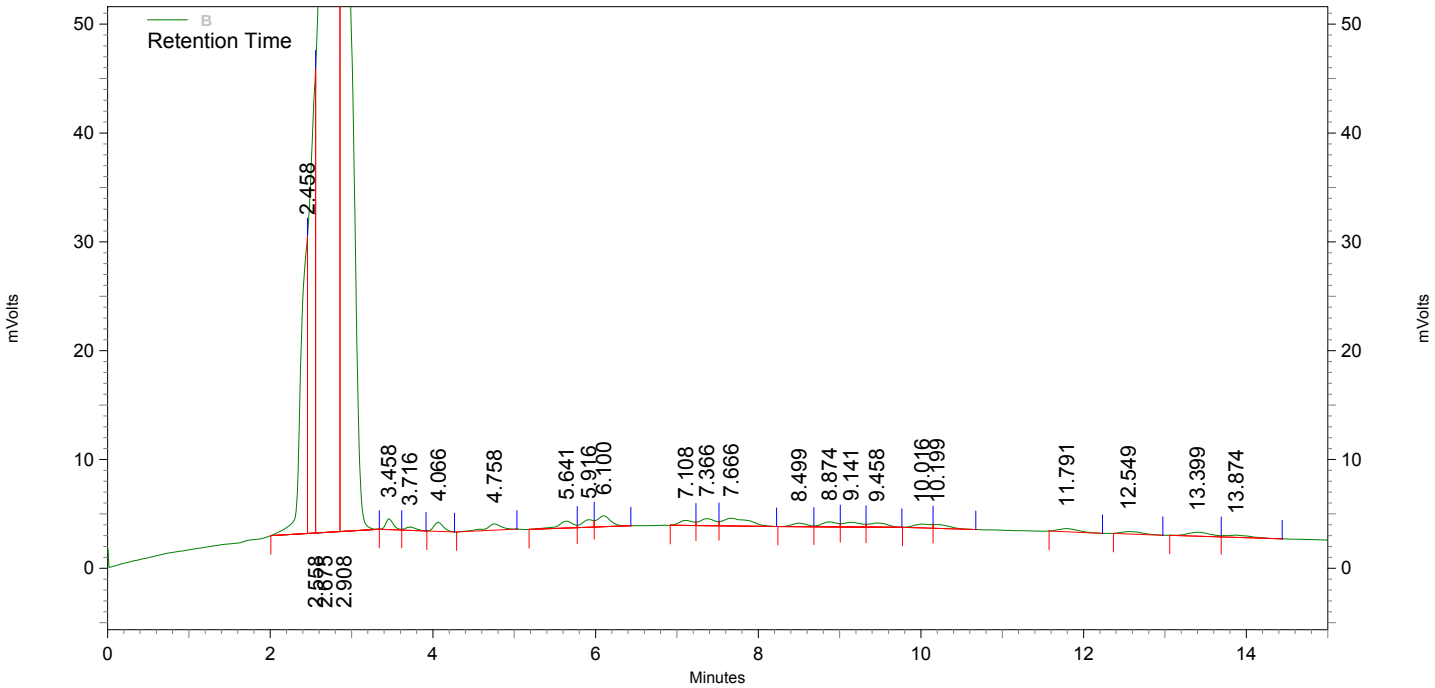
B

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
NG	0.060	0.062	3.187	20.000	Passed
26-DNT	0.030	0.032	7.918	20.000	Passed
24-DNT	0.030	0.030	1.437	20.000	Passed
PETN	0.060	0.059	1.204	20.000	Passed

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\040616expic-primary\002.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\040616expic-primary.met
Sample ID: 8330 Pt 1 EXP 5718
Acquired: 04/06/2016 12:56:15
Data Summary: {Data Description}





File: C:\Instarch\HPLC 2\Data\040616expic-primary\002.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\040616expic-primary.met
Sample ID: 8330 Pt 1 EXP 5718
Acquired: 04/06/2016 12:56:15
Data Summary: {Data Description}

A Results

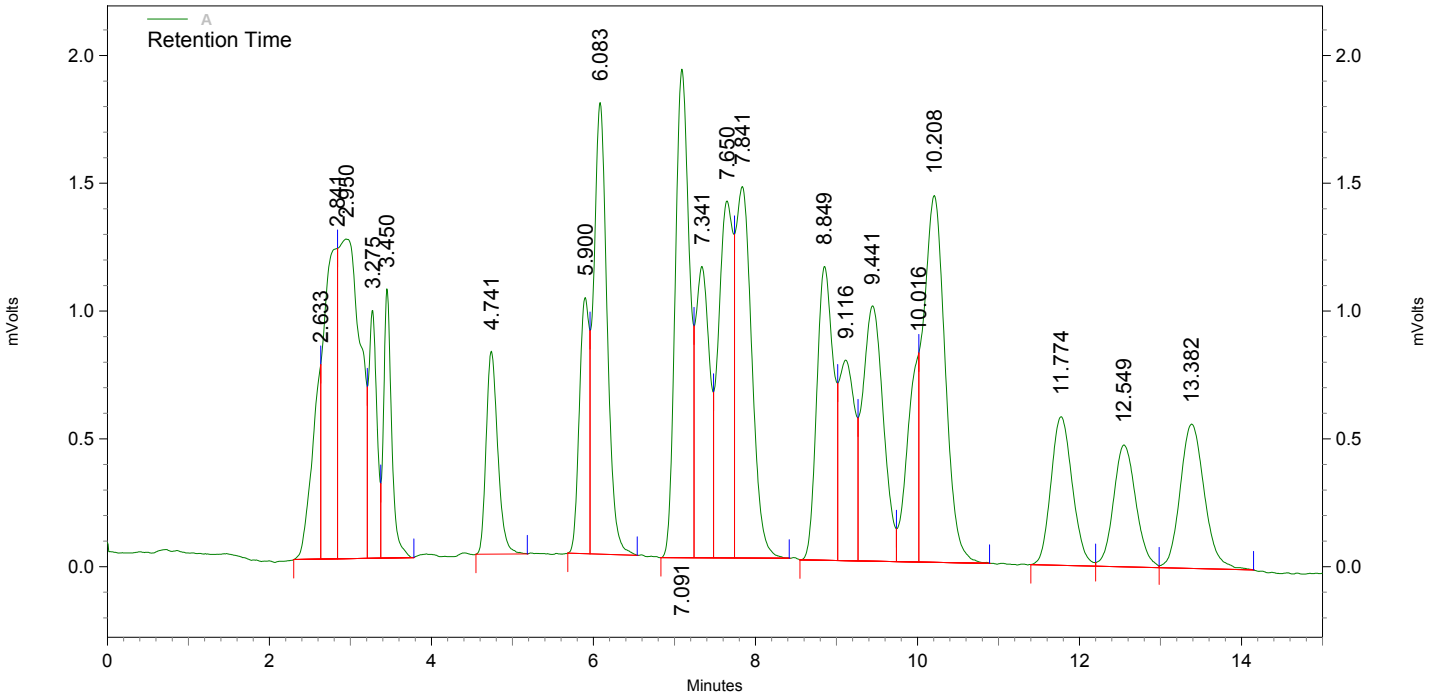
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX	3.458	2767	**0.0308**
RDX	4.758	2602	**0.0317**
12-DNB (SSTD)	5.916	2628	**6.2947**
135-TNB	6.100	6675	**0.0310**
13-DNB	7.108	7597	**0.0312**
TETRYL	7.366	4408	**0.0308**
35-DNA	7.675	5840	**0.0340**
NB	7.849	6433	**0.0302**
246-TNT	8.874	5362	**0.0328**
4-AM-26-DNT	9.141	3500	**0.0333**
2-AM-46-DNT	9.483	5738	**0.0308**
2-NT	11.791	3454	**0.0310**
4-NT	12.583	2916	**0.0308**
3-NT	13.416	3588	**0.0303**

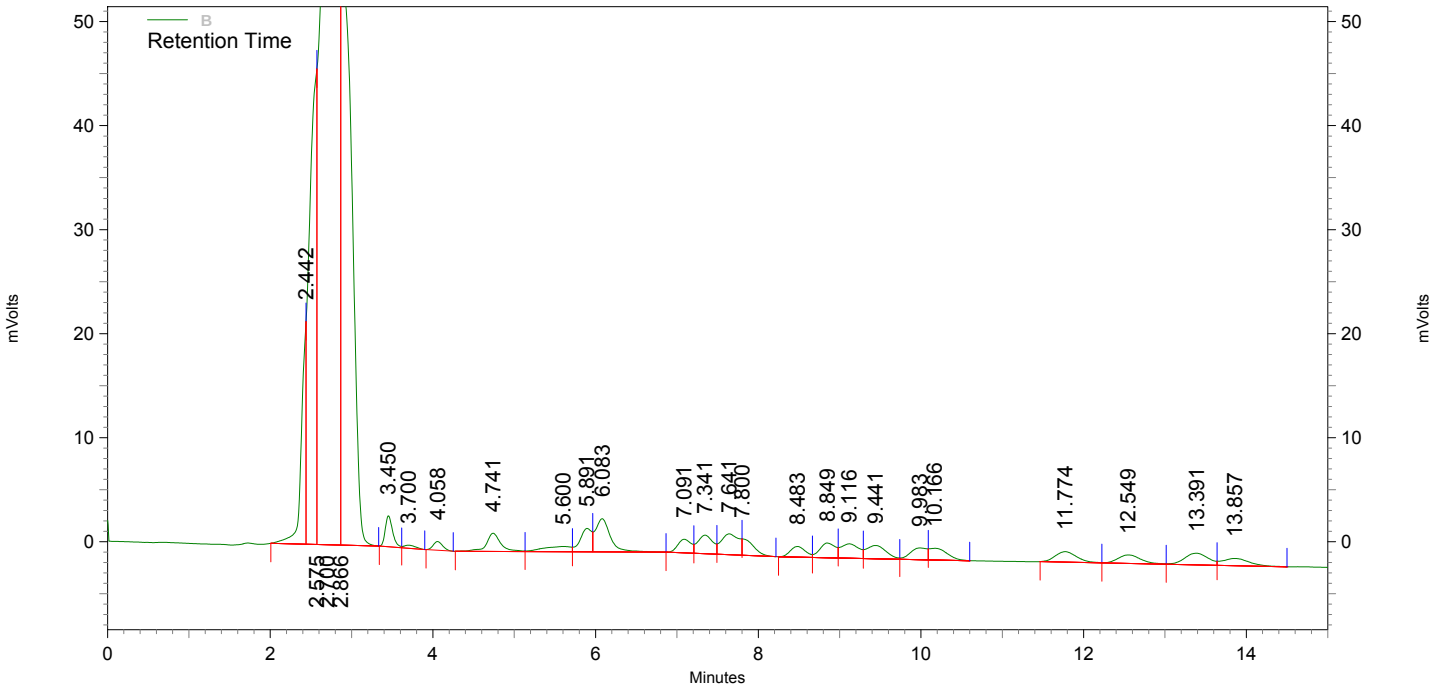
B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG	8.499	4061	**0.0619**
26-DNT	10.016	5218	**0.0324**
24-DNT	10.199	4849	**0.0304**
PETN	13.874	4456	**0.0593**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\040616expic-primary\003.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\040616expic-primary.met
Sample ID: 8330 Pt 2 EXP 5719
Acquired: Apr 06, 2016 13:14:33
Data Summary: {Data Description}





File: C:\Instarch\HPLC 2\Data\040616expic-primary\003.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\040616expic-primary.met
Sample ID: 8330 Pt 2 EXP 5719
Acquired: Apr 06, 2016 13:14:33
Data Summary: {Data Description}

A Results

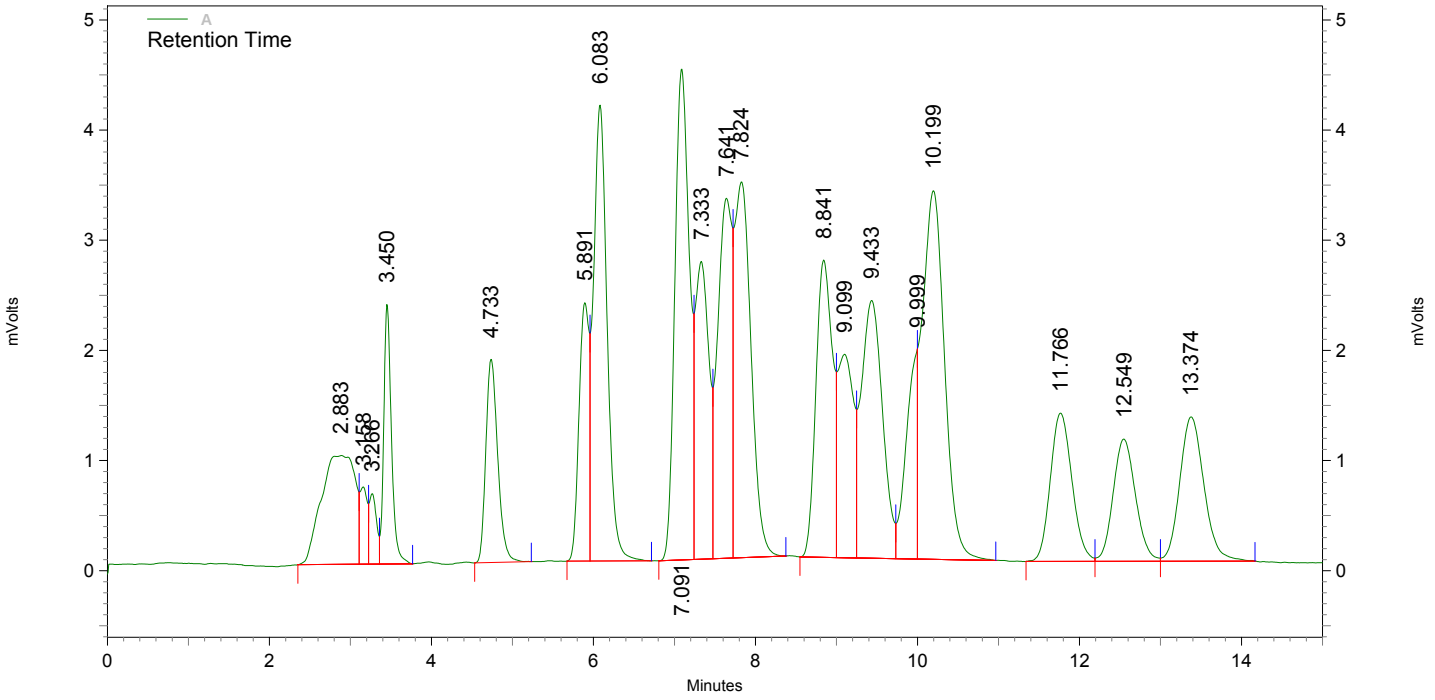
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX	3.450	7247	**0.1000 CAL**
RDX	4.741	7877	**0.1000 CAL**
12-DNB (SSTD)	5.900	8340	**20.0000 CAL**
135-TNB	6.083	20538	**0.1000 CAL**
13-DNB	7.091	23187	**0.1000 CAL**
TETRYL	7.341	13693	**0.1000 CAL**
35-DNA	7.650	17697	**0.1000 CAL**
NB	7.841	20041	**0.1000 CAL**
246-TNT	8.849	16372	**0.1000 CAL**
4-AM-26-DNT	9.116	10511	**0.1000 CAL**
2-AM-46-DNT	9.441	17845	**0.1000 CAL**
2-NT	11.774	10684	**0.1000 CAL**
4-NT	12.549	9140	**0.1000 CAL**
3-NT	13.382	11740	**0.1000 CAL**

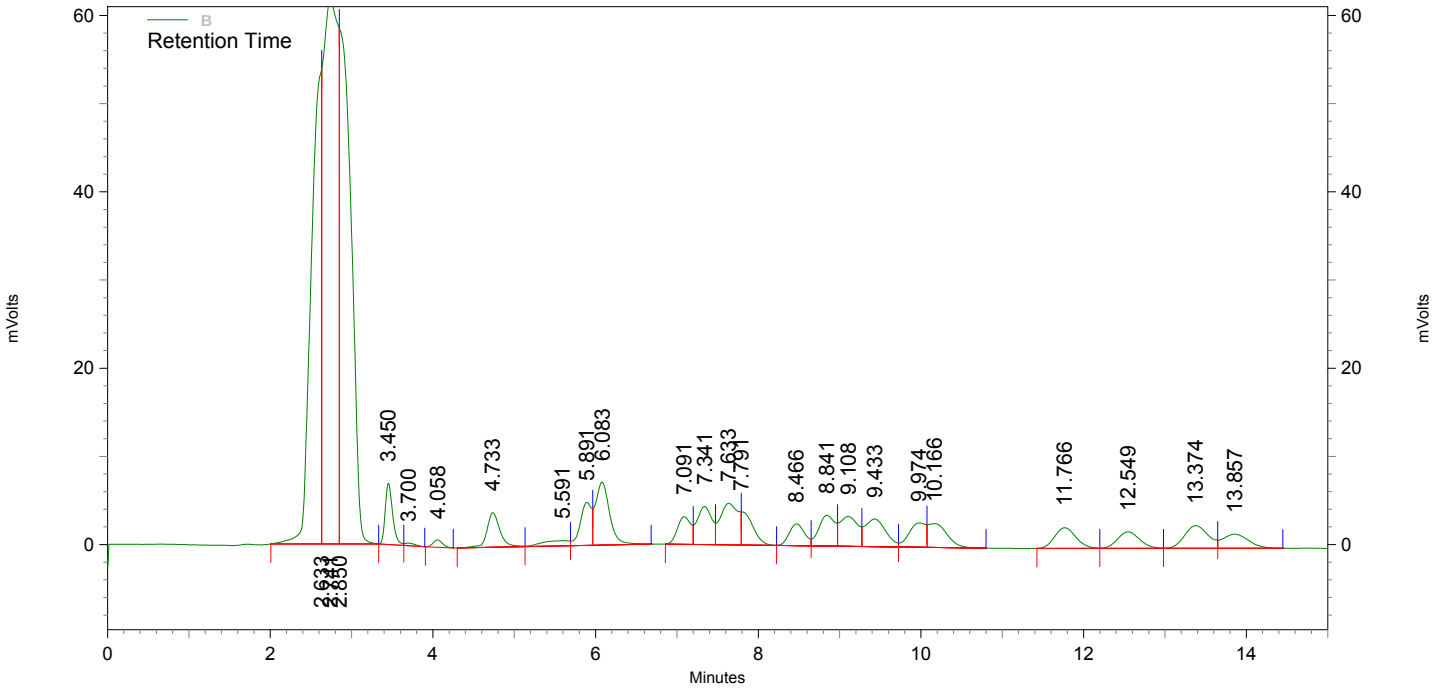
B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG	8.483	13294	**0.2000 CAL**
26-DNT	9.983	16009	**0.1000 CAL**
24-DNT	10.166	17284	**0.1000 CAL**
PETN	13.857	16003	**0.2000 CAL**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\040616expic-primary\004.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\040616expic-primary.met
Sample ID: 8330 Pt 3 EXP 5720
Acquired: Apr 06, 2016 13:32:52
Data Summary: {Data Description}





File: C:\Instarch\HPLC 2\Data\040616expic-primary\004.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\040616expic-primary.met
Sample ID: 8330 Pt 3 EXP 5720
Acquired: Apr 06, 2016 13:32:52
Data Summary: {Data Description}

A Results

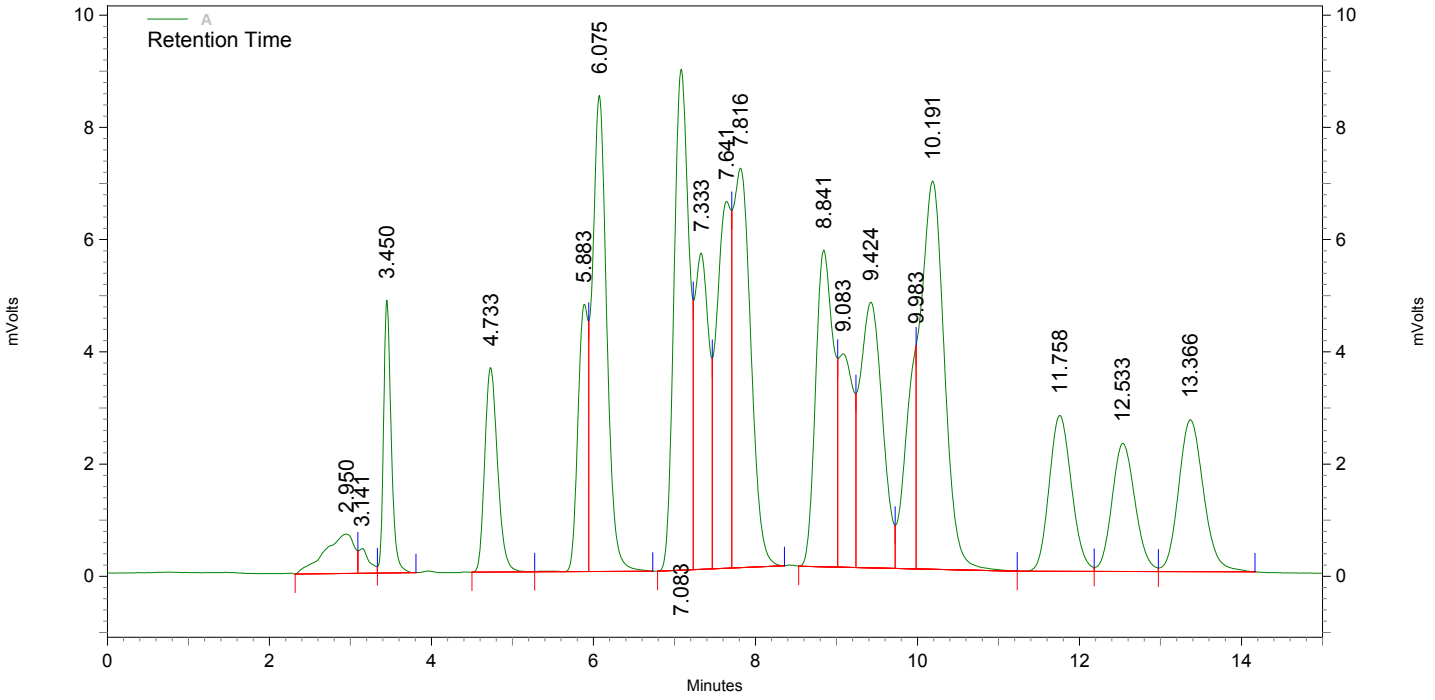
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX	3.450	15618	**0.2500 CAL**
RDX	4.733	18790	**0.2500 CAL**
12-DNB (SSTD)	5.891	20149	**50.0000 CAL**
135-TNB	6.083	48728	**0.2500 CAL**
13-DNB	7.091	55338	**0.2500 CAL**
TETRYL	7.333	31638	**0.2500 CAL**
35-DNA	7.641	40106	**0.2500 CAL**
NB	7.824	48554	**0.2500 CAL**
246-TNT	8.841	38236	**0.2500 CAL**
4-AM-26-DNT	9.099	25048	**0.2500 CAL**
2-AM-46-DNT	9.433	42809	**0.2500 CAL**
2-NT	11.766	24984	**0.2500 CAL**
4-NT	12.549	21304	**0.2500 CAL**
3-NT	13.374	27250	**0.2500 CAL**

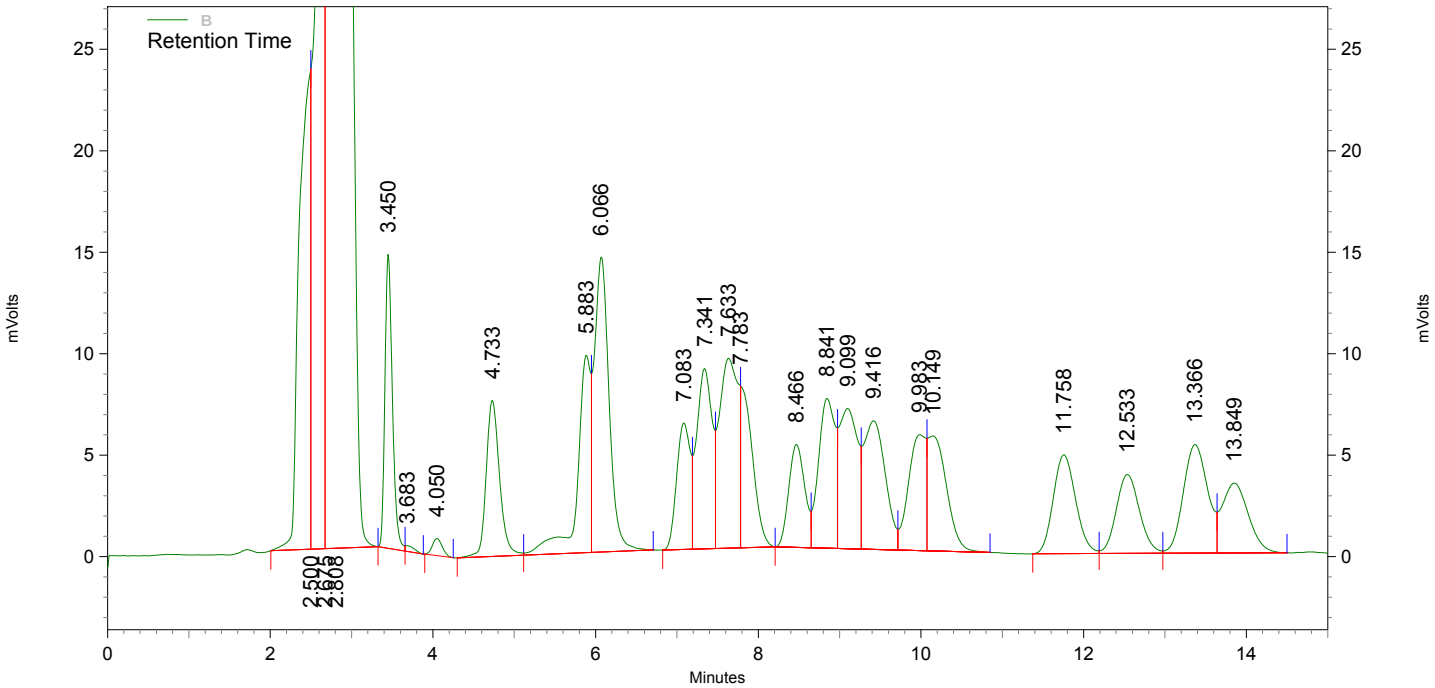
B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG	8.466	32326	**0.5000 CAL**
26-DNT	9.974	39197	**0.2500 CAL**
24-DNT	10.166	43749	**0.2500 CAL**
PETN	13.857	35257	**0.5000 CAL**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\040616expic-primary\005.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\040616expic-primary.met
Sample ID: 8330 Pt 4 EXP 5721
Acquired: Apr 06, 2016 13:51:09
Data Summary: {Data Description}





File: C:\Instarch\HPLC 2\Data\040616expic-primary\005.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\040616expic-primary.met
Sample ID: 8330 Pt 4 EXP 5721
Acquired: Apr 06, 2016 13:51:09
Data Summary: {Data Description}

A Results

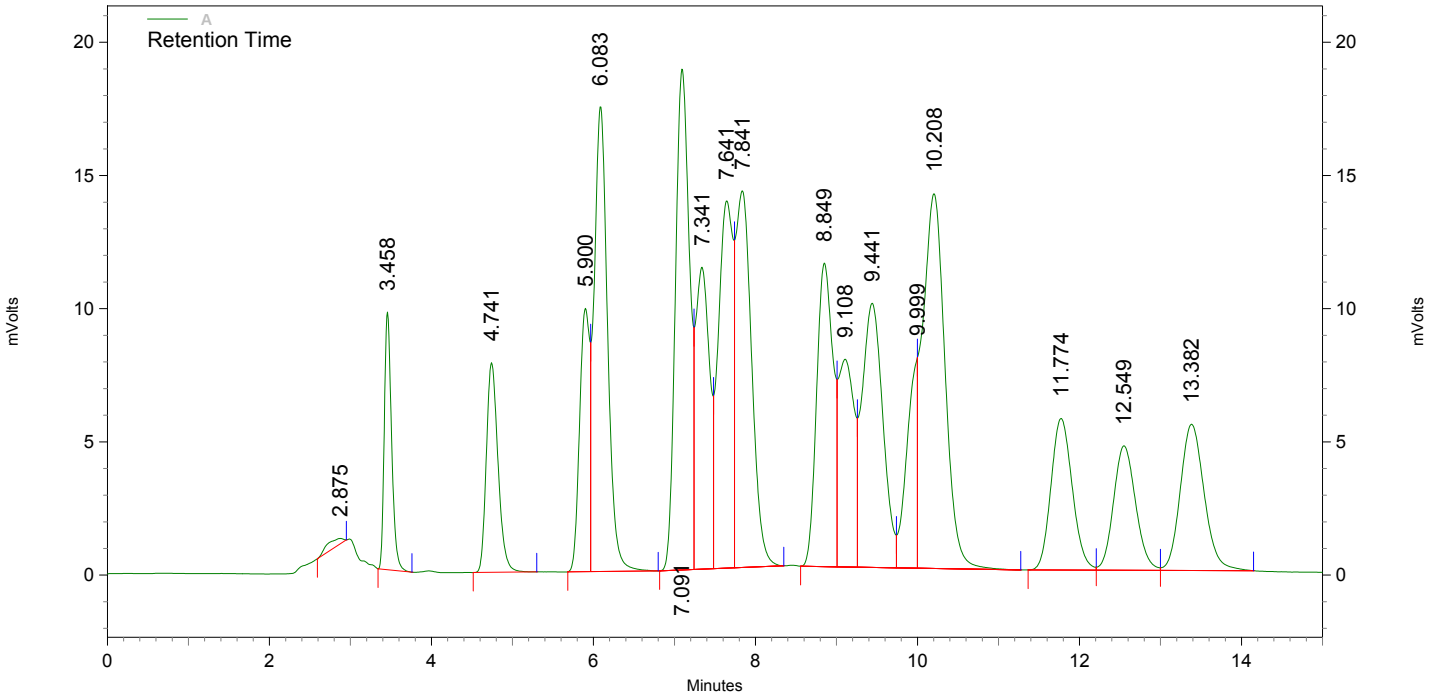
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX	3.450	31907	**0.5000 CAL**
RDX	4.733	39956	**0.5000 CAL**
12-DNB (SSTD)	5.883	40551	**100.0000 CAL**
135-TNB	6.075	105881	**0.5000 CAL**
13-DNB	7.083	115435	**0.5000 CAL**
TETRYL	7.333	68627	**0.5000 CAL**
35-DNA	7.641	80654	**0.5000 CAL**
NB	7.816	108116	**0.5000 CAL**
246-TNT	8.841	86568	**0.5000 CAL**
4-AM-26-DNT	9.083	47882	**0.5000 CAL**
2-AM-46-DNT	9.424	91338	**0.5000 CAL**
2-NT	11.758	53221	**0.5000 CAL**
4-NT	12.533	45198	**0.5000 CAL**
3-NT	13.366	57989	**0.5000 CAL**

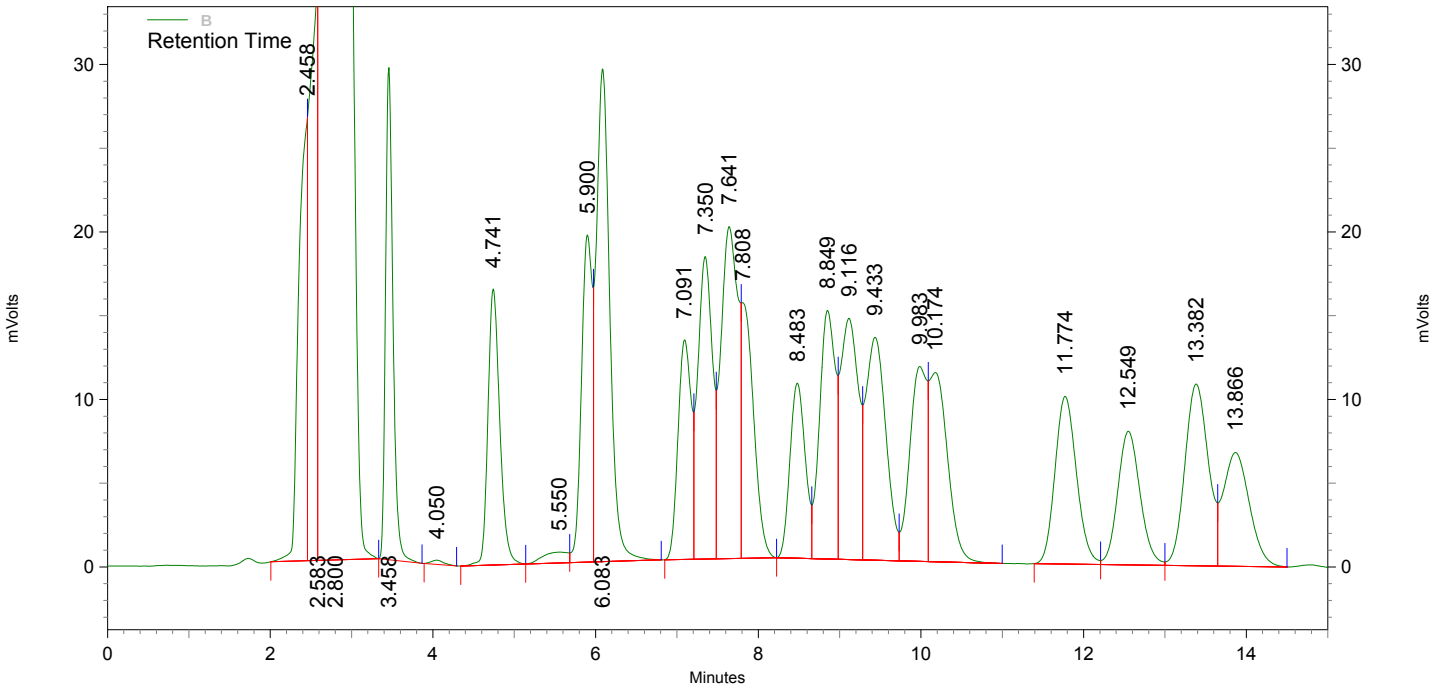
B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG	8.466	69410	**1.0000 CAL**
26-DNT	9.983	84958	**0.5000 CAL**
24-DNT	10.149	90950	**0.5000 CAL**
PETN	13.849	77022	**1.0000 CAL**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\040616expic-primary\006.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\040616expic-primary.met
Sample ID: 8330 Pt 5 EXP 5722
Acquired: Apr 06, 2016 14:09:27
Data Summary: {Data Description}





File: C:\Instarch\HPLC 2\Data\040616expic-primary\006.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\040616expic-primary.met
Sample ID: 8330 Pt 5 EXP 5722
Acquired: Apr 06, 2016 14:09:27
Data Summary: {Data Description}

A Results

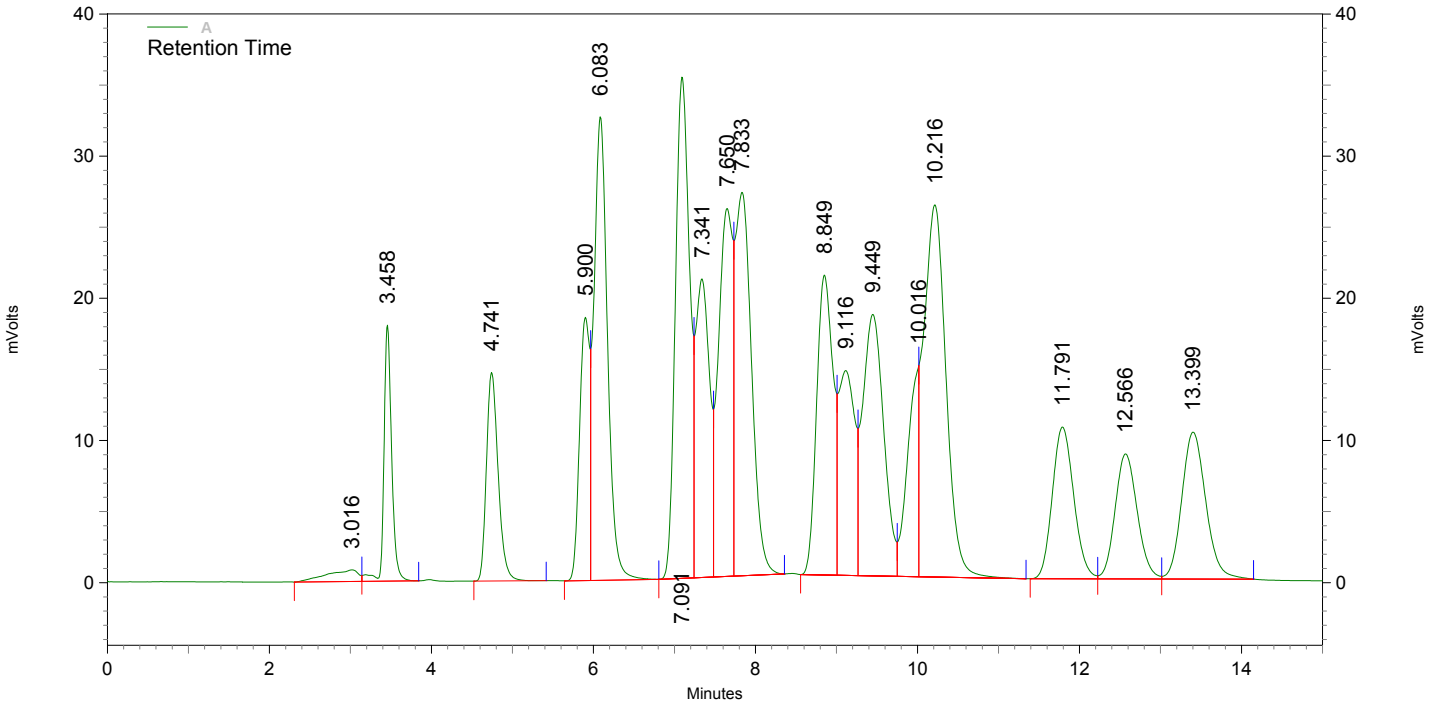
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX	3.458	60225	**1.0000 CAL**
RDX	4.741	78639	**1.0000 CAL**
12-DNB (SSTD)	5.900	85045	**200.0000 CAL**
135-TNB	6.083	202169	**1.0000 CAL**
13-DNB	7.091	227396	**1.0000 CAL**
TETRYL	7.341	136322	**1.0000 CAL**
35-DNA	7.641	175173	**1.0000 CAL**
NB	7.841	192982	**1.0000 CAL**
246-TNT	8.849	160353	**1.0000 CAL**
4-AM-26-DNT	9.108	105109	**1.0000 CAL**
2-AM-46-DNT	9.441	178352	**1.0000 CAL**
2-NT	11.774	104211	**1.0000 CAL**
4-NT	12.549	88408	**1.0000 CAL**
3-NT	13.382	112786	**1.0000 CAL**

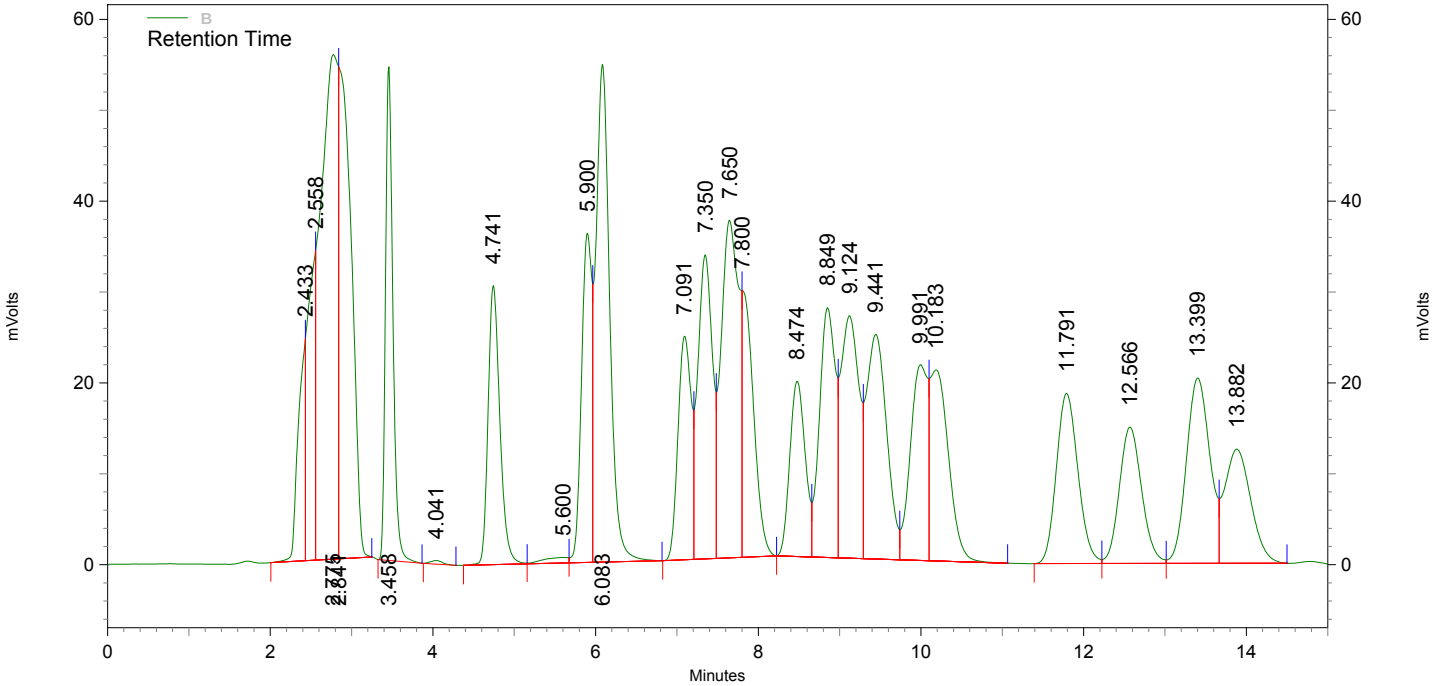
B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG	8.483	137057	**2.0000 CAL**
26-DNT	9.983	170426	**1.0000 CAL**
24-DNT	10.174	177849	**1.0000 CAL**
PETN	13.866	151834	**2.0000 CAL**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\040616expic-primary\007.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\040616expic-primary.met
Sample ID: 8330 Pt 6 EXP 5723
Acquired: Apr 06, 2016 14:27:45
Data Summary: {Data Description}





File: C:\Instarch\HPLC 2\Data\040616expic-primary\007.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\040616expic-primary.met
Sample ID: 8330 Pt 6 EXP 5723
Acquired: Apr 06, 2016 14:27:45
Data Summary: {Data Description}

A Results

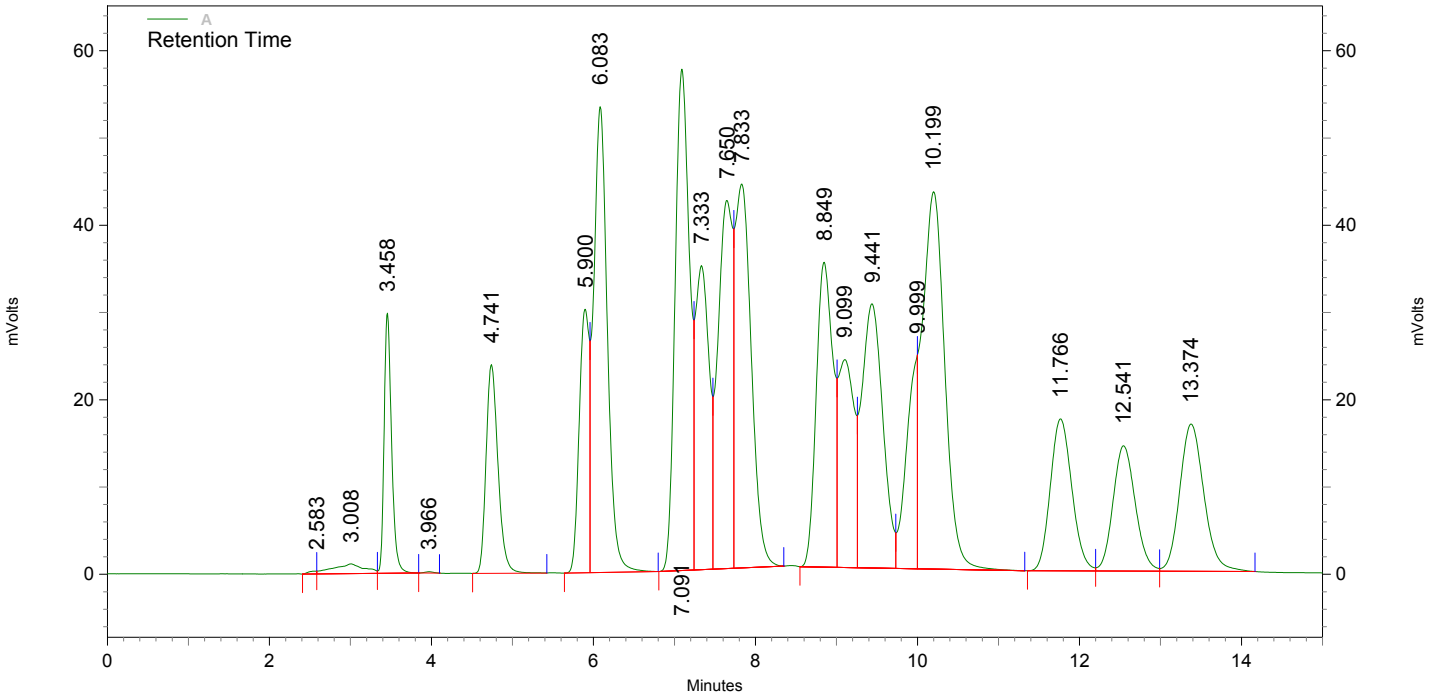
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX	3.458	119111	**2.0000 CAL**
RDX	4.741	147163	**2.0000 CAL**
12-DNB (SSTD)	5.900	160066	**400.0000 CAL**
135-TNB	6.083	379287	**2.0000 CAL**
13-DNB	7.091	426494	**2.0000 CAL**
TETRYL	7.341	252565	**2.0000 CAL**
35-DNA	7.650	314691	**2.0000 CAL**
NB	7.833	379333	**2.0000 CAL**
246-TNT	8.849	296251	**2.0000 CAL**
4-AM-26-DNT	9.116	199943	**2.0000 CAL**
2-AM-46-DNT	9.449	333075	**2.0000 CAL**
2-NT	11.791	196406	**2.0000 CAL**
4-NT	12.566	167069	**2.0000 CAL**
3-NT	13.399	212884	**2.0000 CAL**

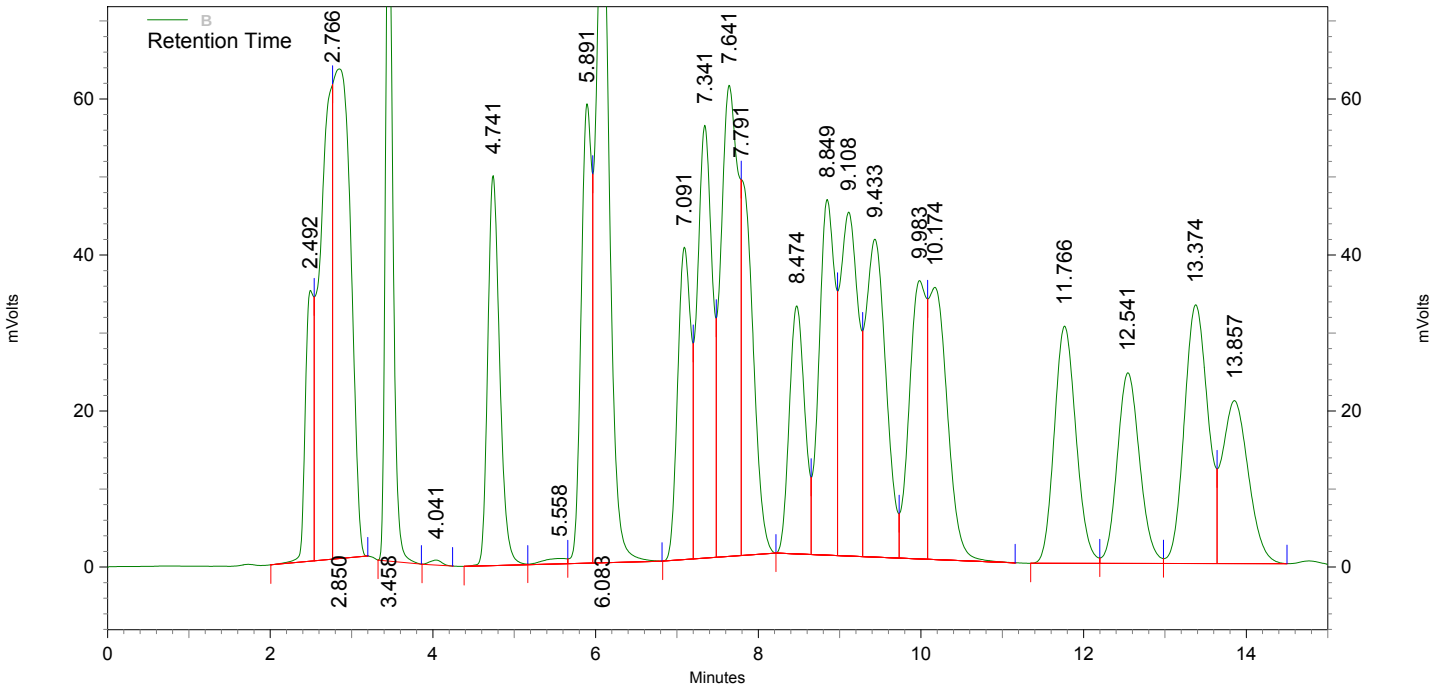
B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG	8.474	254663	**4.0000 CAL**
26-DNT	9.991	316831	**2.0000 CAL**
24-DNT	10.183	333872	**2.0000 CAL**
PETN	13.882	281272	**4.0000 CAL**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\040616expic-primary\008.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\040616expic-primary.met
Sample ID: 8330 Pt 7 EXP 5724
Acquired: Apr 06, 2016 14:46:04
Data Summary: {Data Description}





File: C:\Instarch\HPLC 2\Data\040616expic-primary\008.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\040616expic-primary.met
Sample ID: 8330 Pt 7 EXP 5724
Acquired: Apr 06, 2016 14:46:04
Data Summary: {Data Description}

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX	3.458	190420	**3.0000 CAL**
RDX	4.741	244195	**3.0000 CAL**
12-DNB (SSTD)	5.900	255637	**600.0000 CAL**
135-TNB	6.083	632104	**3.0000 CAL**
13-DNB	7.091	707655	**3.0000 CAL**
TETRYL	7.333	408607	**3.0000 CAL**
35-DNA	7.650	531245	**3.0000 CAL**
NB	7.833	613279	**3.0000 CAL**
246-TNT	8.849	499974	**3.0000 CAL**
4-AM-26-DNT	9.099	322068	**3.0000 CAL**
2-AM-46-DNT	9.441	547520	**3.0000 CAL**
2-NT	11.766	321858	**3.0000 CAL**
4-NT	12.541	274220	**3.0000 CAL**
3-NT	13.374	350616	**3.0000 CAL**

B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG	8.474	419589	**6.0000 CAL**
26-DNT	9.983	517459	**3.0000 CAL**
24-DNT	10.174	561429	**3.0000 CAL**
PETN	13.857	467461	**6.0000 CAL**

QC Check Standard Report

Sequence : C:\Instarch\HPLC 2\Sequences\8330A_B\040616expic-primary.seq
User : red
Printed : Apr 07, 2016 14:07:02

File	Sample ID	Acquired
C:\Instarch\HPLC 2\Data\040616expic-primary\009.dat	8330 ICV EXP 5725	Apr 07, 2016 14:07:01

A

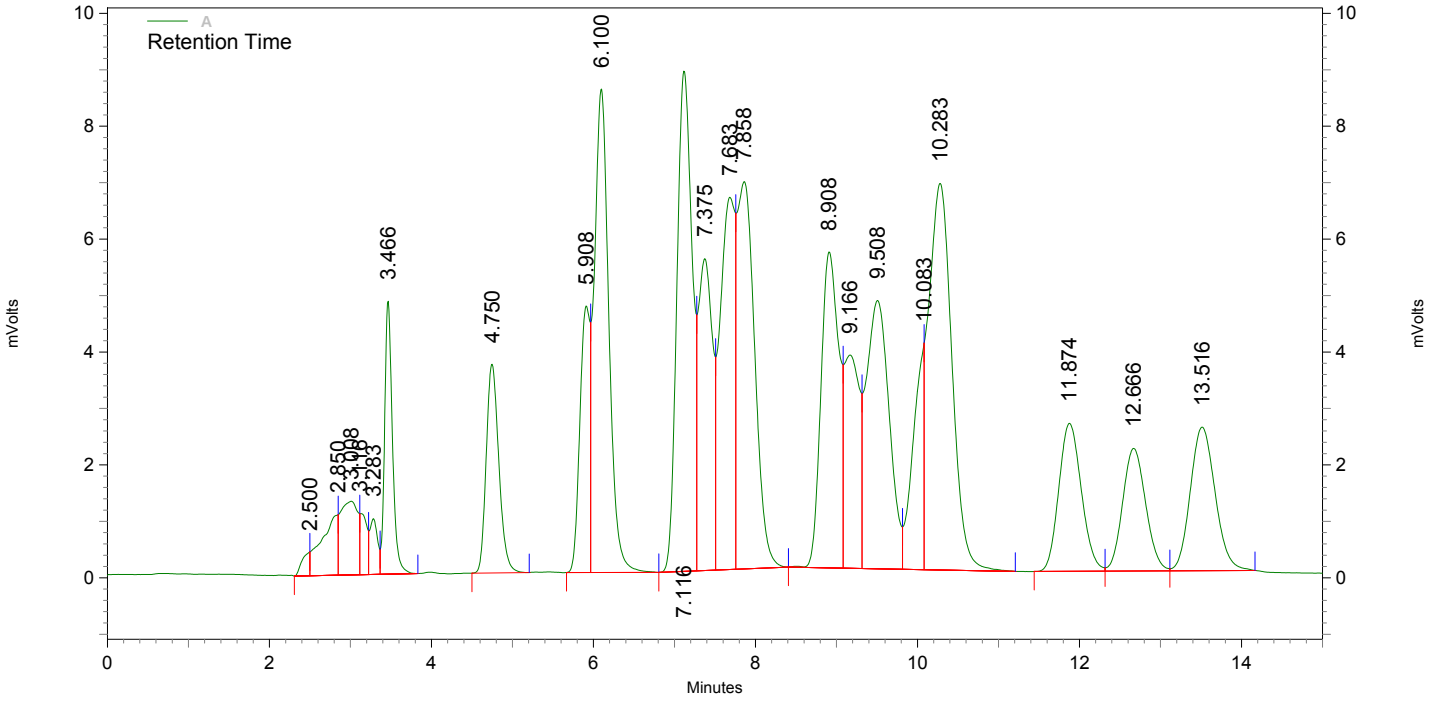
Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
HMX	0.500	0.514	2.798	20.000	Passed
RDX	0.500	0.510	1.930	20.000	Passed
12-DNB (SSTD)	100.000	97.585	2.415	20.000	Passed
135-TNB	0.500	0.530	6.022	20.000	Passed
13-DNB	0.500	0.509	1.887	20.000	Passed
TETRYL	0.500	0.506	1.193	20.000	Passed
35-DNA	0.500	0.489	2.188	20.000	Passed
NB	0.500	0.523	4.587	20.000	Passed
246-TNT	0.500	0.526	5.160	20.000	Passed
4-AM-26-DNT	0.500	0.478	4.362	20.000	Passed
2-AM-46-DNT	0.500	0.531	6.163	20.000	Passed
2-NT	0.500	0.488	2.433	20.000	Passed
4-NT	0.500	0.486	2.862	20.000	Passed
3-NT	0.500	0.481	3.867	20.000	Passed

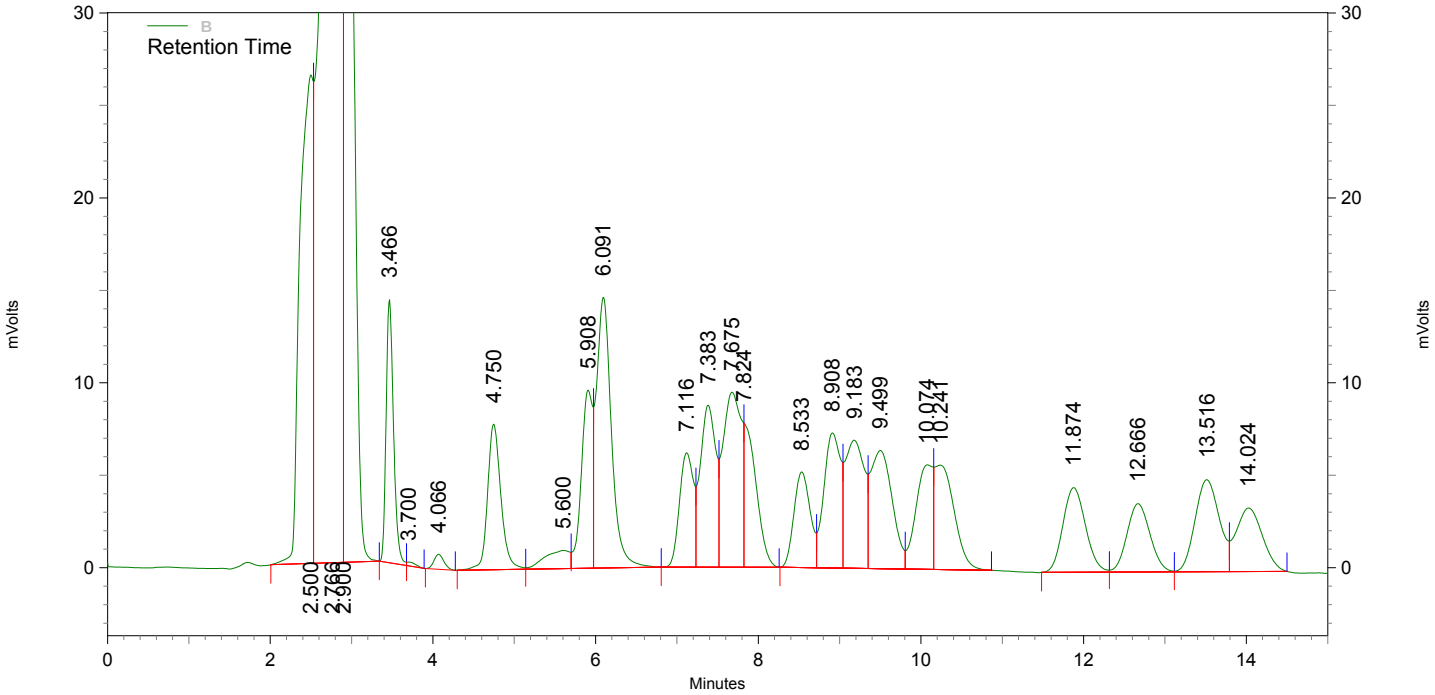
B

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
NG	1.000	1.066	6.640	20.000	Passed
26-DNT	0.500	0.486	2.822	20.000	Passed
24-DNT	0.500	0.529	5.823	20.000	Passed
PETN	1.000	1.032	3.162	20.000	Passed

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\040616expic-primary\009.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\040616expic-primary.met
Sample ID: 8330 ICV EXP 5725
Acquired: Apr 06, 2016 15:21:46
Data Summary: {Data Description}





File: C:\Instarch\HPLC 2\Data\040616expic-primary\009.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\040616expic-primary.met
Sample ID: 8330 ICV EXP 5725
Acquired: Apr 06, 2016 15:21:46
Data Summary: {Data Description}

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX	3.466	32311	**0.5140**
RDX	4.750	39929	**0.5096**
12-DNB (SSTD)	5.908	40567	**97.5854**
135-TNB	6.100	107471	**0.5301**
13-DNB	7.116	115791	**0.5094**
TETRYL	7.375	67426	**0.5060**
35-DNA	7.683	84046	**0.4891**
NB	7.858	104074	**0.5229**
246-TNT	8.908	85906	**0.5258**
4-AM-26-DNT	9.166	49584	**0.4782**
2-AM-46-DNT	9.508	93861	**0.5308**
2-NT	11.874	50733	**0.4878**
4-NT	12.666	42975	**0.4857**
3-NT	13.516	54278	**0.4807**

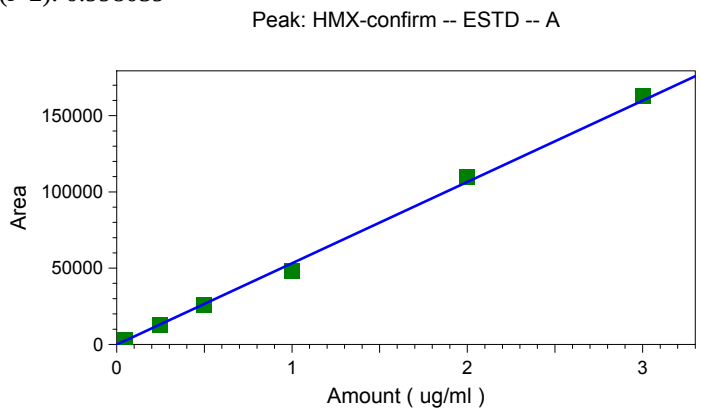
B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG	8.533	72074	**1.0664**
26-DNT	10.074	81643	**0.4859**
24-DNT	10.241	94472	**0.5291**
PETN	14.024	77313	**1.0316**

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\042616EXPIC-CONFIRM\042616EXPIC-CONFIRM.met
Print Time: Apr 27, 2016 13:23:27
User: red
Instrument: HPLC 2 (Offline)

HMX-confirm (A)
Average RF: 51547.2 RF StDev: 5496.18 RF %RSD: 10.6624
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 53343.0x - 110.814
Goodness of fit (r^2): 0.998059



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.01	0.05	0.25	0.5	1
Area	416	2936	12660	26207	48279
RF	41600	58720	50640	52414	48279
Last Area Residual	0.000124024	-0.00711745	0.0105905	0.00663007	0.0928548
Rep StDev					
Rep %RSD					
Rep 1 Area	416	2936	12660	26207	48279
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\002.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\003.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\004.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\005.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\006.dat
Rep 1 Sample ID	8330 Pt 1 EXP 5756	8330 Pt 2 EXP 5757	8330 Pt 3 EXP 5758	8330 Pt 4 EXP 5759	8330 Pt 5 EXP 5760
Rep 1 Calib. Time	04/26/2016 16:53:11	04/26/2016 14:10:50	04/26/2016 15:39:35	04/26/2016 15:41:25	04/26/2016 16:17:01

Level 6	Level 7

Calibration Report

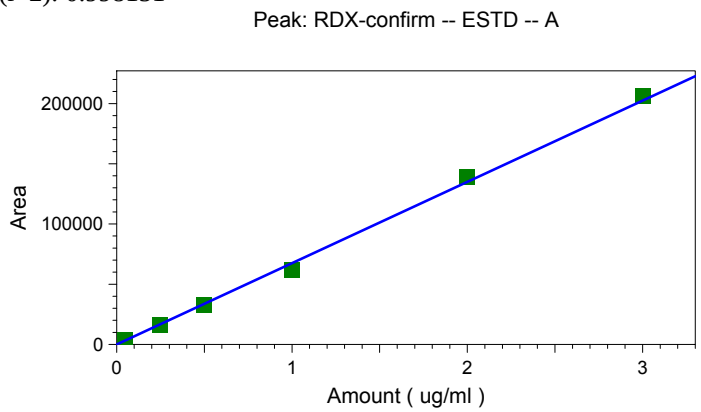
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\042616EXPIC-CONFIRM\042616EXPIC-CONFIRM.met
Print Time: Apr 27, 2016 13:23:27
User: red
Instrument: HPLC 2 (Offline)

Amount	2	3
Area	109613	163113
RF	54806.5	54371
Last Area		
Residual	-0.0569501	-0.059894
Rep StDev		
Rep %RSD		
Rep 1 Area	109613	163113
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\007.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\008.dat
Rep 1 Sample ID	8330 Pt 6 EXP 5761	8330 Pt 7 EXP 5762
Rep 1 Calib. Time	04/26/2016 16:17:55	04/26/2016 16:50:59

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\042616EXPIC-CONFIRM\042616EXPIC-CONFIRM.met
Print Time: Apr 27, 2016 13:23:30
User: red
Instrument: HPLC 2 (Offline)

RDX-confirm (A)
Average RF: 67992.9 RF StDev: 4262.02 RF %RSD: 6.26833
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 67460.5x + 17.7761
Goodness of fit (r^2): 0.998151



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.01	0.05	0.25	0.5	1
Area	740	3581	16146	32956	61584
RF	74000	71620	64584	65912	61584
Last Area Residual	-0.000705884	-0.00281944	0.0109233	0.0117404	0.0873733
Rep StDev					
Rep %RSD					
Rep 1 Area	740	3581	16146	32956	61584
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\002.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\003.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\004.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\005.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\006.dat
Rep 1 Sample ID	8330 Pt 1 EXP 5756	8330 Pt 2 EXP 5757	8330 Pt 3 EXP 5758	8330 Pt 4 EXP 5759	8330 Pt 5 EXP 5760
Rep 1 Calib. Time	04/26/2016 16:53:11	04/26/2016 14:10:50	04/26/2016 15:39:35	04/26/2016 15:41:25	04/26/2016 16:17:01

Level 6	Level 7

Calibration Report

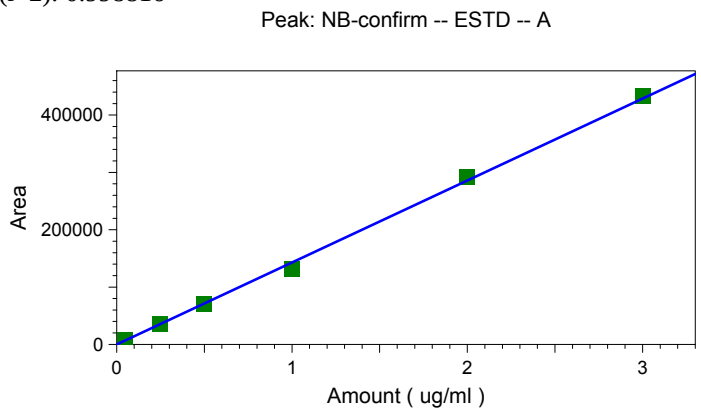
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\042616EXPIC-CONFIRM\042616EXPIC-CONFIRM.met
Print Time: Apr 27, 2016 13:23:30
User: red
Instrument: HPLC 2 (Offline)

Amount	2	3
Area	138814	206530
RF	69407	68843.3333333333
Last Area		
Residual	-0.0574453	-0.0612332
Rep StDev		
Rep %RSD		
Rep 1 Area	138814	206530
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\007.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\008.dat
Rep 1 Sample ID	8330 Pt 6 EXP 5761	8330 Pt 7 EXP 5762
Rep 1 Calib. Time	04/26/2016 16:17:55	04/26/2016 16:50:59

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\042616EXPIC-CONFIRM\042616EXPIC-CONFIRM.met
Print Time: Apr 27, 2016 13:23:36
User: red
Instrument: HPLC 2 (Offline)

NB-confirm (A)
Average RF: 144050. RF StDev: 12228.1 RF %RSD: 8.48877
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 142853.x + 19.9971
Goodness of fit (r^2): 0.998816



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.01	0.05	0.25	0.5	1
Area	1330	8442	35759	70206	132178
RF	133000	168840	143036	140412	132178
Last Area Residual	0.000829699	-0.00895582	-0.000180679	0.00868294	0.0748657
Rep StDev					
Rep %RSD					
Rep 1 Area	1330	8442	35759	70206	132178
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\002.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\003.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\004.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\005.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\006.dat
Rep 1 Sample ID	8330 Pt 1 EXP 5756	8330 Pt 2 EXP 5757	8330 Pt 3 EXP 5758	8330 Pt 4 EXP 5759	8330 Pt 5 EXP 5760
Rep 1 Calib. Time	04/26/2016 16:53:11	04/26/2016 14:10:50	04/26/2016 15:39:35	04/26/2016 15:41:25	04/26/2016 16:17:01

Level 6	Level 7

Calibration Report

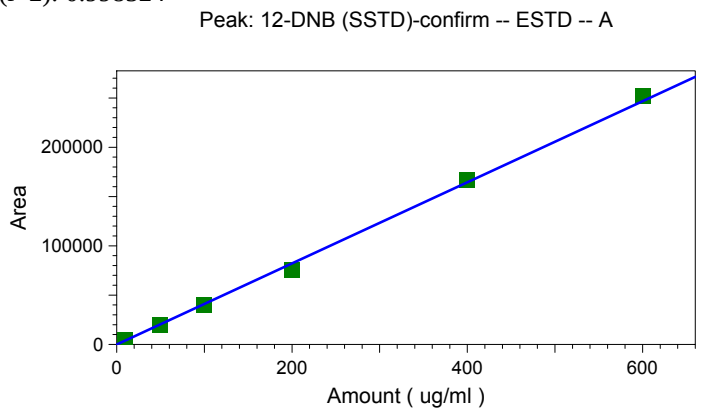
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\042616EXPIC-CONFIRM\042616EXPIC-CONFIRM.met
Print Time: Apr 27, 2016 13:23:36
User: red
Instrument: HPLC 2 (Offline)

Amount	2	3
Area	292572	433795
RF	146286	144598.333333333
Last Area		
Residual	-0.0479267	-0.036518
Rep StDev		
Rep %RSD		
Rep 1 Area	292572	433795
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\007.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\008.dat
Rep 1 Sample ID	8330 Pt 6 EXP 5761	8330 Pt 7 EXP 5762
Rep 1 Calib. Time	04/26/2016 16:17:55	04/26/2016 16:50:59

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\042616EXPIC-CONFIRM\042616EXPIC-CONFIRM.met
Print Time: Apr 27, 2016 13:23:40
User: red
Instrument: HPLC 2 (Offline)

12-DNB (SSTD)-confirm (A)
Average RF: 406.858 RF StDev: 17.5693 RF %RSD: 4.31830
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 411.279x - 55.1516
Goodness of fit (r^2): 0.998524



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	2	10	50	100	200
Area	796	4313	19895	40374	75776
RF	398	431.3	397.9	403.74	378.88
Last Area Residual	-0.0695233	-0.620895	1.49242	1.69898	15.6212
Rep StDev					
Rep %RSD					
Rep 1 Area	796	4313	19895	40374	75776
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\002.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\003.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\004.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\005.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\006.dat
Rep 1 Sample ID	8330 Pt 1 EXP 5756	8330 Pt 2 EXP 5757	8330 Pt 3 EXP 5758	8330 Pt 4 EXP 5759	8330 Pt 5 EXP 5760
Rep 1 Calib. Time	04/26/2016 16:53:11	04/26/2016 14:10:50	04/26/2016 15:39:35	04/26/2016 15:41:25	04/26/2016 16:17:01

Level 6	Level 7

Calibration Report

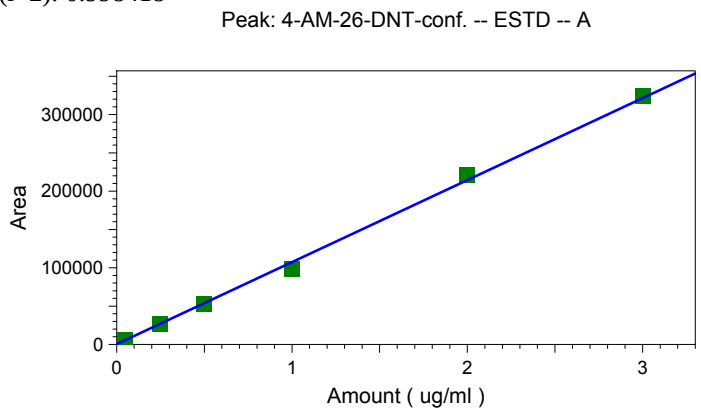
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\042616EXPIC-CONFIRM\042616EXPIC-CONFIRM.met
Print Time: Apr 27, 2016 13:23:40
User: red
Instrument: HPLC 2 (Offline)

Amount	400	600
Area	167065	252314
RF	417.6625	420.523333333333
Last Area		
Residual	-6.34248	-13.6202
Rep StDev		
Rep %RSD		
Rep 1 Area	167065	252314
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\007.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\008.dat
Rep 1 Sample ID	8330 Pt 6 EXP 5761	8330 Pt 7 EXP 5762
Rep 1 Calib. Time	04/26/2016 16:17:55	04/26/2016 16:50:59

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\042616EXPIC-CONFIRM\042616EXPIC-CONFIRM.met
Print Time: Apr 27, 2016 13:23:43
User: red
Instrument: HPLC 2 (Offline)

4-AM-26-DNT-conf. (A)
Average RF: 112255. RF StDev: 11004.3 RF %RSD: 9.80294
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 107020.x + 274.056
Goodness of fit (r^2): 0.998418



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.01	0.05	0.25	0.5	1
Area	1313	6113	27154	53330	98110
RF	131300	122260	108616	106660	98110
Last Area Residual	0.000292062	-0.00455937	-0.00116747	0.00424274	0.0858163
Rep StDev					
Rep %RSD					
Rep 1 Area	1313	6113	27154	53330	98110
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\002.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\003.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\004.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\005.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\006.dat
Rep 1 Sample ID	8330 Pt 1 EXP 5756	8330 Pt 2 EXP 5757	8330 Pt 3 EXP 5758	8330 Pt 4 EXP 5759	8330 Pt 5 EXP 5760
Rep 1 Calib. Time	04/26/2016 16:53:11	04/26/2016 14:10:50	04/26/2016 15:39:35	04/26/2016 15:41:25	04/26/2016 16:17:01

Level 6	Level 7

Calibration Report

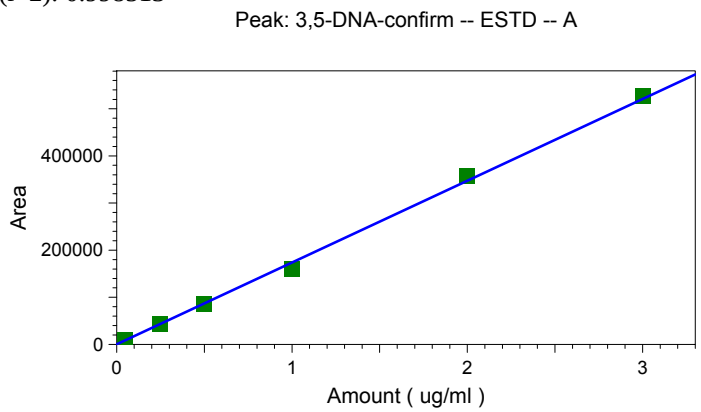
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\042616EXPIC-CONFIRM\042616EXPIC-CONFIRM.met
Print Time: Apr 27, 2016 13:23:43
User: red
Instrument: HPLC 2 (Offline)

Amount	2	3
Area	221298	324563
RF	110649	108187.666666667
Last Area		
Residual	-0.0652582	-0.0301713
Rep StDev		
Rep %RSD		
Rep 1 Area	221298	324563
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\007.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\008.dat
Rep 1 Sample ID	8330 Pt 6 EXP 5761	8330 Pt 7 EXP 5762
Rep 1 Calib. Time	04/26/2016 16:17:55	04/26/2016 16:50:59

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\042616EXPIC-CONFIRM\042616EXPIC-CONFIRM.met
Print Time: Apr 27, 2016 13:23:46
User: red
Instrument: HPLC 2 (Offline)

3,5-DNA-confirm (A)
Average RF: 177886. RF StDev: 12862.8 RF %RSD: 7.23091
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 173496.x + 209.853
Goodness of fit (r^2): 0.998513



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.01	0.05	0.25	0.5	1
Area	1874	9993	43056	86127	159135
RF	187400	199860	172224	172254	159135
Last Area Residual	0.000408163	-0.00638826	0.00304267	0.00478933	0.0839846
Rep StDev					
Rep %RSD					
Rep 1 Area	1874	9993	43056	86127	159135
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\002.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\003.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\004.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\005.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\006.dat
Rep 1 Sample ID	8330 Pt 1 EXP 5756	8330 Pt 2 EXP 5757	8330 Pt 3 EXP 5758	8330 Pt 4 EXP 5759	8330 Pt 5 EXP 5760
Rep 1 Calib. Time	04/26/2016 16:53:11	04/26/2016 14:10:50	04/26/2016 15:39:35	04/26/2016 15:41:25	04/26/2016 16:17:01

Level 6	Level 7

Calibration Report

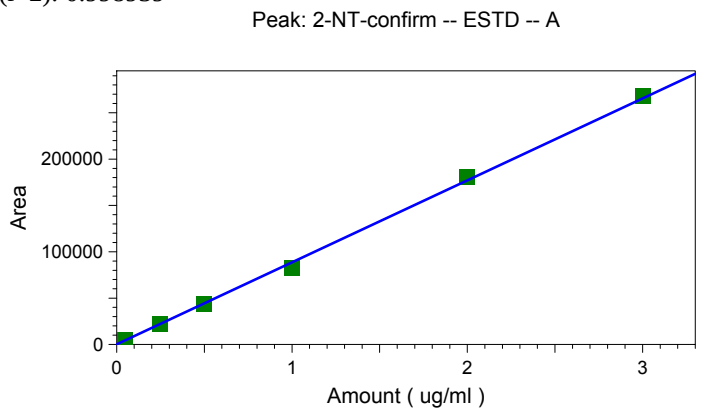
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\042616EXPIC-CONFIRM\042616EXPIC-CONFIRM.met
Print Time: Apr 27, 2016 13:23:46
User: red
Instrument: HPLC 2 (Offline)

Amount	2	3
Area	356749	527871
RF	178374.5	175957
Last Area		
Residual	-0.0550262	-0.041342
Rep StDev		
Rep %RSD		
Rep 1 Area	356749	527871
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\007.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\008.dat
Rep 1 Sample ID	8330 Pt 6 EXP 5761	8330 Pt 7 EXP 5762
Rep 1 Calib. Time	04/26/2016 16:17:55	04/26/2016 16:50:59

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\042616EXPIC-CONFIRM\042616EXPIC-CONFIRM.met
Print Time: Apr 27, 2016 13:23:50
User: red
Instrument: HPLC 2 (Offline)

2-NT-confirm (A)
Average RF: 91396.6 RF StDev: 7368.18 RF %RSD: 8.06176
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 88453.6x + 142.297
Goodness of fit (r^2): 0.998939



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.01	0.05	0.25	0.5	1
Area	947	5292	22267	44023	82174
RF	94700	105840	89068	88046	82174
Last Area Residual	0.000902548	-0.00821923	-0.000127662	0.00391299	0.0726023
Rep StDev					
Rep %RSD					
Rep 1 Area	947	5292	22267	44023	82174
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\002.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\003.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\004.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\005.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\006.dat
Rep 1 Sample ID	8330 Pt 1 EXP 5756	8330 Pt 2 EXP 5757	8330 Pt 3 EXP 5758	8330 Pt 4 EXP 5759	8330 Pt 5 EXP 5760
Rep 1 Calib. Time	04/26/2016 16:53:11	04/26/2016 14:10:50	04/26/2016 15:39:35	04/26/2016 15:41:25	04/26/2016 16:17:01

Level 6	Level 7

Calibration Report

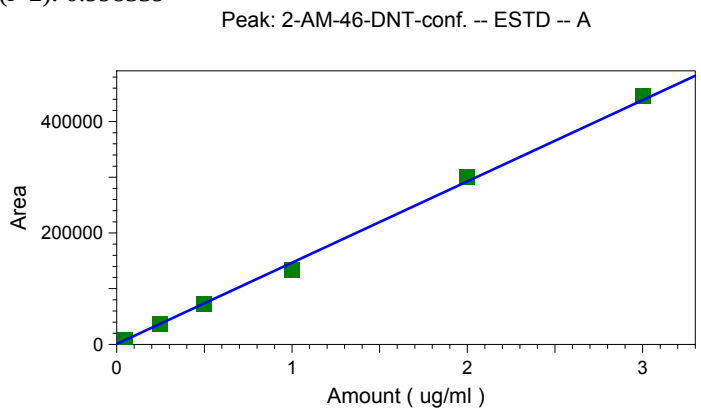
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\042616EXPIC-CONFIRM\042616EXPIC-CONFIRM.met
Print Time: Apr 27, 2016 13:23:50
User: red
Instrument: HPLC 2 (Offline)

Amount	2	3
Area	180912	268477
RF	90456	89492.3333333333
Last Area		
Residual	-0.043666	-0.0336196
Rep StDev		
Rep %RSD		
Rep 1 Area	180912	268477
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\007.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\008.dat
Rep 1 Sample ID	8330 Pt 6 EXP 5761	8330 Pt 7 EXP 5762
Rep 1 Calib. Time	04/26/2016 16:17:55	04/26/2016 16:50:59

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\042616EXPIC-CONFIRM\042616EXPIC-CONFIRM.met
Print Time: Apr 27, 2016 13:23:53
User: red
Instrument: HPLC 2 (Offline)

2-AM-46-DNT-conf. (A)
Average RF: 160200. RF StDev: 31658.1 RF %RSD: 19.7616
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 145912.x + 741.539
Goodness of fit (r^2): 0.998339



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.01	0.05	0.25	0.5	1
Area	2282	8412	36879	72296	133969
RF	228200	168240	147516	144592	133969
Last Area Residual	-0.000557492	-0.00256923	0.00233318	0.00960402	0.0869303
Rep StDev					
Rep %RSD					
Rep 1 Area	2282	8412	36879	72296	133969
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\002.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\003.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\004.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\005.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\006.dat
Rep 1 Sample ID	8330 Pt 1 EXP 5756	8330 Pt 2 EXP 5757	8330 Pt 3 EXP 5758	8330 Pt 4 EXP 5759	8330 Pt 5 EXP 5760
Rep 1 Calib. Time	04/26/2016 16:53:11	04/26/2016 14:10:50	04/26/2016 15:39:35	04/26/2016 15:41:25	04/26/2016 16:17:01

Level 6	Level 7

Calibration Report

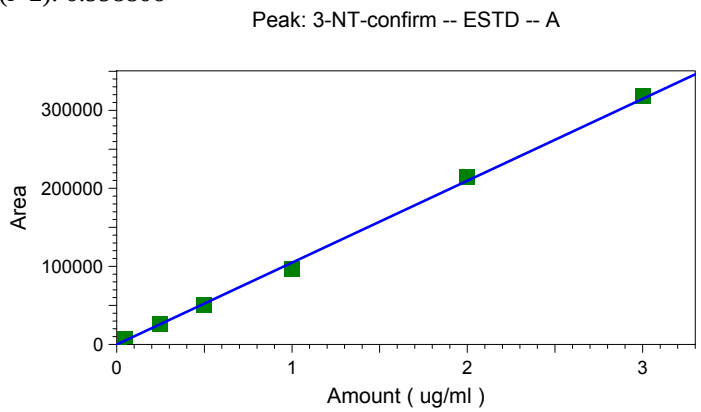
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\042616EXPIC-CONFIRM\042616EXPIC-CONFIRM.met
Print Time: Apr 27, 2016 13:23:53
User: red
Instrument: HPLC 2 (Offline)

Amount	2	3
Area	300114	446481
RF	150057	148827
Last Area		
Residual	-0.0517386	-0.0548597
Rep StDev		
Rep %RSD		
Rep 1 Area	300114	446481
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\007.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\008.dat
Rep 1 Sample ID	8330 Pt 6 EXP 5761	8330 Pt 7 EXP 5762
Rep 1 Calib. Time	04/26/2016 16:17:55	04/26/2016 16:50:59

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\042616EXPIC-CONFIRM\042616EXPIC-CONFIRM.met
Print Time: Apr 27, 2016 13:23:56
User: red
Instrument: HPLC 2 (Offline)

3-NT-confirm (A)
Average RF: 104480. RF StDev: 13563.1 RF %RSD: 12.9815
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 104888.x - 90.6692
Goodness of fit (r^2): 0.998806



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.01	0.05	0.25	0.5	1
Area	834	6426	26805	51050	96827
RF	83400	128520	107220	102100	96827
Last Area Residual	0.00118425	-0.0121296	-0.00642192	0.0124275	0.0759919
Rep StDev					
Rep %RSD					
Rep 1 Area	834	6426	26805	51050	96827
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\002.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\003.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\004.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\005.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\006.dat
Rep 1 Sample ID	8330 Pt 1 EXP 5756	8330 Pt 2 EXP 5757	8330 Pt 3 EXP 5758	8330 Pt 4 EXP 5759	8330 Pt 5 EXP 5760
Rep 1 Calib. Time	04/26/2016 16:53:11	04/26/2016 14:10:50	04/26/2016 15:39:35	04/26/2016 15:41:25	04/26/2016 16:17:01

Level 6	Level 7

Calibration Report

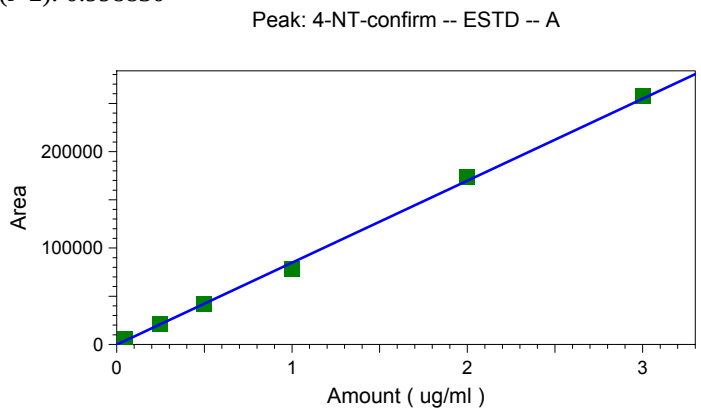
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\042616EXPIC-CONFIRM\042616EXPIC-CONFIRM.met
Print Time: Apr 27, 2016 13:23:56
User: red
Instrument: HPLC 2 (Offline)

Amount	2	3
Area	214104	318731
RF	107052	106243.666666667
Last Area		
Residual	-0.0421209	-0.0396293
Rep StDev		
Rep %RSD		
Rep 1 Area	214104	318731
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\007.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\008.dat
Rep 1 Sample ID	8330 Pt 6 EXP 5761	8330 Pt 7 EXP 5762
Rep 1 Calib. Time	04/26/2016 16:17:55	04/26/2016 16:50:59

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\042616EXPIC-CONFIRM\042616EXPIC-CONFIRM.met
Print Time: Apr 27, 2016 13:23:59
User: red
Instrument: HPLC 2 (Offline)

4-NT-confirm (A)
Average RF: 83529.8 RF StDev: 18522.3 RF %RSD: 22.1745
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 84989.7x - 215.254
Goodness of fit (r^2): 0.998830



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.01	0.05	0.25	0.5	1
Area	516	5755	20969	41547	78408
RF	51600	115100	83876	83094	78408
Last Area Residual	0.00139597	-0.0202468	0.000743144	0.00861955	0.0749079
Rep StDev					
Rep %RSD					
Rep 1 Area	516	5755	20969	41547	78408
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\002.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\003.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\004.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\005.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\006.dat
Rep 1 Sample ID	8330 Pt 1 EXP 5756	8330 Pt 2 EXP 5757	8330 Pt 3 EXP 5758	8330 Pt 4 EXP 5759	8330 Pt 5 EXP 5760
Rep 1 Calib. Time	04/26/2016 16:53:11	04/26/2016 14:10:50	04/26/2016 15:39:35	04/26/2016 15:41:25	04/26/2016 16:17:01

Level 6	Level 7

Calibration Report

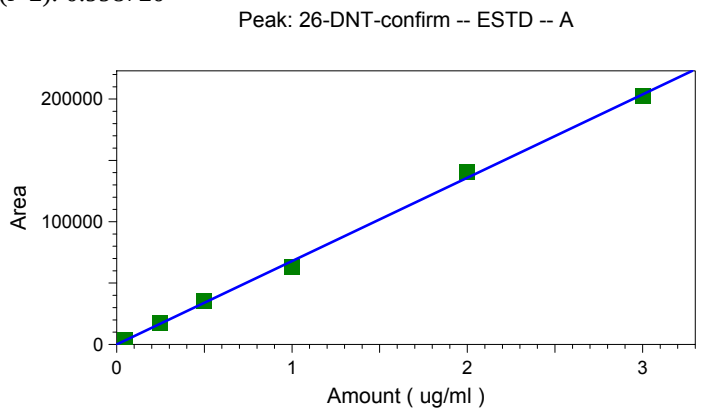
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\042616EXPIC-CONFIRM\042616EXPIC-CONFIRM.met
Print Time: Apr 27, 2016 13:23:59
User: red
Instrument: HPLC 2 (Offline)

Amount	2	3
Area	173260	258001
RF	86630	86000.3333333333
Last Area		
Residual	-0.0411338	-0.0382081
Rep StDev		
Rep %RSD		
Rep 1 Area	173260	258001
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\007.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\008.dat
Rep 1 Sample ID	8330 Pt 6 EXP 5761	8330 Pt 7 EXP 5762
Rep 1 Calib. Time	04/26/2016 16:17:55	04/26/2016 16:50:59

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\042616EXPIC-CONFIRM\042616EXPIC-CONFIRM.met
Print Time: Apr 27, 2016 13:24:02
User: red
Instrument: HPLC 2 (Offline)

26-DNT-confirm (A)
Average RF: 67862.3 RF StDev: 2595.89 RF %RSD: 3.82523
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 67936.4x - 8.67414
Goodness of fit (r^2): 0.998720



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.01	0.05	0.25	0.5	1
Area	661	3381	17492	35142	63248
RF	66100	67620	69968	70284	63248
Last Area Residual	0.000142627	0.000105163	-0.0076039	-0.0174058	0.0688835
Rep StDev					
Rep %RSD					
Rep 1 Area	661	3381	17492	35142	63248
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\002.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\003.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\004.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\005.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\006.dat
Rep 1 Sample ID	8330 Pt 1 EXP 5756	8330 Pt 2 EXP 5757	8330 Pt 3 EXP 5758	8330 Pt 4 EXP 5759	8330 Pt 5 EXP 5760
Rep 1 Calib. Time	04/26/2016 16:53:11	04/26/2016 14:10:50	04/26/2016 15:39:35	04/26/2016 15:41:25	04/26/2016 16:17:01

Level 6	Level 7

Calibration Report

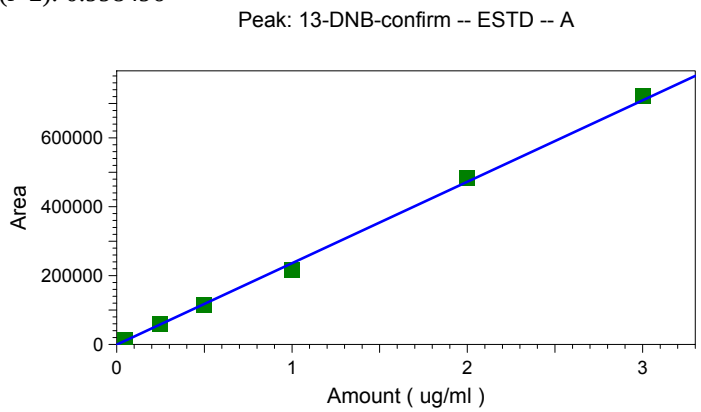
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\042616EXPIC-CONFIRM\042616EXPIC-CONFIRM.met
Print Time: Apr 27, 2016 13:24:02
User: red
Instrument: HPLC 2 (Offline)

Amount	2	3
Area	140458	202761
RF	70229	67587
Last Area		
Residual	-0.0676211	0.0153002
Rep StDev		
Rep %RSD		
Rep 1 Area	140458	202761
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\007.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\008.dat
Rep 1 Sample ID	8330 Pt 6 EXP 5761	8330 Pt 7 EXP 5762
Rep 1 Calib. Time	04/26/2016 16:17:55	04/26/2016 16:50:59

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\042616EXPIC-CONFIRM\042616EXPIC-CONFIRM.met
Print Time: Apr 27, 2016 13:24:06
User: red
Instrument: HPLC 2 (Offline)

13-DNB-confirm (A)
Average RF: 223713. RF StDev: 28130.9 RF %RSD: 12.5745
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 236705.x - 730.986
Goodness of fit (r^2): 0.998496



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.01	0.05	0.25	0.5	1
Area	1630	11879	59051	115555	216032
RF	163000	237580	236204	231110	216032
Last Area					
Residual	2.56212e-005	-0.00327299	-0.00255896	0.00873048	0.0842487
Rep StDev					
Rep %RSD					
Rep 1 Area	1630	11879	59051	115555	216032
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\002.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\003.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\004.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\005.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\006.dat
Rep 1 Sample ID	8330 Pt 1 EXP 5756	8330 Pt 2 EXP 5757	8330 Pt 3 EXP 5758	8330 Pt 4 EXP 5759	8330 Pt 5 EXP 5760
Rep 1 Calib. Time	04/26/2016 16:53:11	04/26/2016 14:10:50	04/26/2016 15:39:35	04/26/2016 15:41:25	04/26/2016 16:17:01

Level 6	Level 7

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\042616EXPIC-CONFIRM\042616EXPIC-CONFIRM.met
Print Time: Apr 27, 2016 13:24:06
User: red
Instrument: HPLC 2 (Offline)

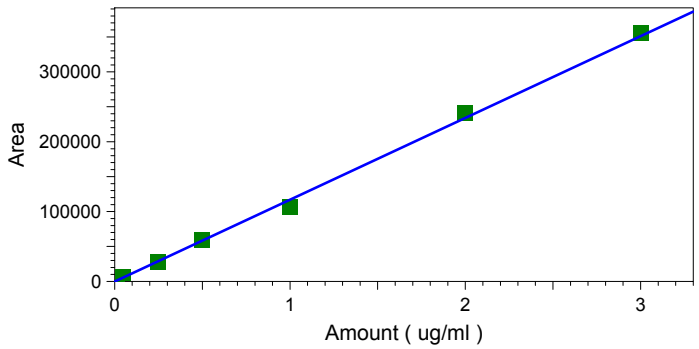
Amount	2	3
Area	482253	722819
RF	241126.5	240939.666666667
Last Area		
Residual	-0.0404463	-0.0567574
Rep StDev		
Rep %RSD		
Rep 1 Area	482253	722819
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\007.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\008.dat
Rep 1 Sample ID	8330 Pt 6 EXP 5761	8330 Pt 7 EXP 5762
Rep 1 Calib. Time	04/26/2016 16:17:55	04/26/2016 16:50:59

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\042616EXPIC-CONFIRM\042616EXPIC-CONFIRM.met
Print Time: Apr 27, 2016 13:24:08
User: red
Instrument: HPLC 2 (Offline)

TETRYL-confirm (A)
Average RF: 115551. RF StDev: 4866.06 RF %RSD: 4.21120
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 117059.x - 94.1000
Goodness of fit (r^2): 0.998295

Peak: TETRYL-confirm -- ESTD -- A



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.01	0.05	0.25	0.5	1
Area	1180	5769	27905	58912	106651
RF	118000	115380	111620	117824	106651
Last Area Residual	-0.000884288	-8.6861e-005	0.0108113	-0.00407299	0.0881058
Rep StDev					
Rep %RSD					
Rep 1 Area	1180	5769	27905	58912	106651
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\002.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\003.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\004.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\005.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\006.dat
Rep 1 Sample ID	8330 Pt 1 EXP 5756	8330 Pt 2 EXP 5757	8330 Pt 3 EXP 5758	8330 Pt 4 EXP 5759	8330 Pt 5 EXP 5760
Rep 1 Calib. Time	04/26/2016 16:53:11	04/26/2016 14:10:50	04/26/2016 15:39:35	04/26/2016 15:41:25	04/26/2016 16:17:01

Level 6	Level 7

Calibration Report

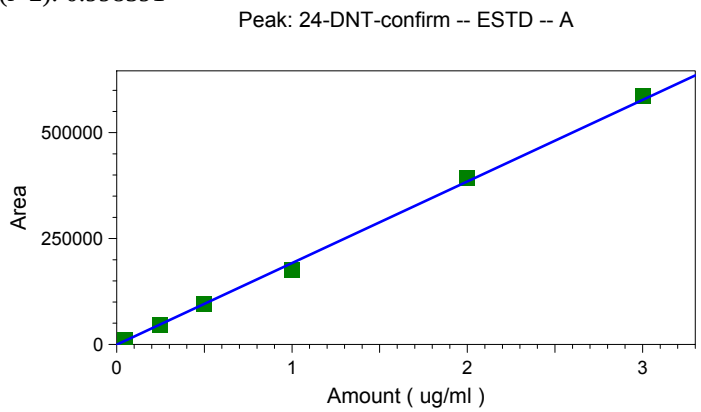
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\042616EXPIC-CONFIRM\042616EXPIC-CONFIRM.met
Print Time: Apr 27, 2016 13:24:08
User: red
Instrument: HPLC 2 (Offline)

Amount	2	3
Area	241361	356094
RF	120680.5	118698
Last Area		
Residual	-0.0626849	-0.0428176
Rep StDev		
Rep %RSD		
Rep 1 Area	241361	356094
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\007.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\008.dat
Rep 1 Sample ID	8330 Pt 6 EXP 5761	8330 Pt 7 EXP 5762
Rep 1 Calib. Time	04/26/2016 16:17:55	04/26/2016 16:50:59

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\042616EXPIC-CONFIRM\042616EXPIC-CONFIRM.met
Print Time: Apr 27, 2016 13:24:11
User: red
Instrument: HPLC 2 (Offline)

24-DNT-confirm (A)
Average RF: 185103. RF StDev: 23282.3 RF %RSD: 12.5781
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 192629.x - 469.241
Goodness of fit (r^2): 0.998591



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.01	0.05	0.25	0.5	1
Area	1391	10671	46226	94451	176806
RF	139100	213420	184904	188902	176806
Last Area Residual	0.000342868	-0.00783271	0.00758943	0.00723736	0.0797051
Rep StDev					
Rep %RSD					
Rep 1 Area	1391	10671	46226	94451	176806
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\002.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\003.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\004.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\005.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\006.dat
Rep 1 Sample ID	8330 Pt 1 EXP 5756	8330 Pt 2 EXP 5757	8330 Pt 3 EXP 5758	8330 Pt 4 EXP 5759	8330 Pt 5 EXP 5760
Rep 1 Calib. Time	04/26/2016 16:53:11	04/26/2016 14:10:50	04/26/2016 15:39:35	04/26/2016 15:41:25	04/26/2016 16:17:01

Level 6	Level 7

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\042616EXPIC-CONFIRM\042616EXPIC-CONFIRM.met
Print Time: Apr 27, 2016 13:24:11
User: red
Instrument: HPLC 2 (Offline)

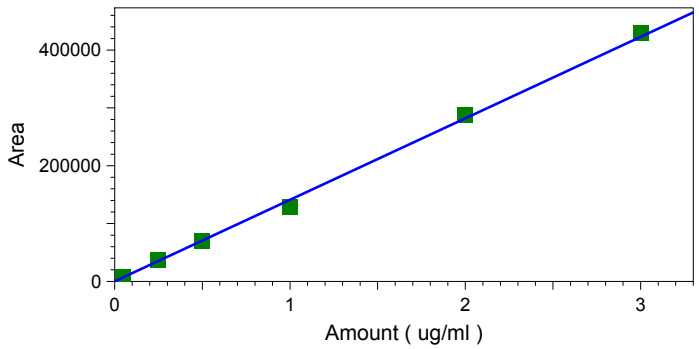
Amount	2	3
Area	393608	587346
RF	196804	195782
Last Area		
Residual	-0.0457864	-0.051545
Rep StDev		
Rep %RSD		
Rep 1 Area	393608	587346
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\007.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\008.dat
Rep 1 Sample ID	8330 Pt 6 EXP 5761	8330 Pt 7 EXP 5762
Rep 1 Calib. Time	04/26/2016 16:17:55	04/26/2016 16:50:59

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\042616EXPIC-CONFIRM\042616EXPIC-CONFIRM.met
Print Time: Apr 27, 2016 13:24:15
User: red
Instrument: HPLC 2 (Offline)

135-TNB-confirm (A)
Average RF: 144245. RF StDev: 8881.22 RF %RSD: 6.15703
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 140858.x + 169.276
Goodness of fit (r^2): 0.998368

Peak: 135-TNB-confirm -- ESTD -- A



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.01	0.05	0.25	0.5	1
Area	1540	7720	36314	70304	128124
RF	154000	154400	145256	140608	128124
Last Area Residual	0.000268745	-0.00360525	-0.00660412	0.0020889	0.0916044
Rep StDev					
Rep %RSD					
Rep 1 Area	1540	7720	36314	70304	128124
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\002.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\003.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\004.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\005.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\006.dat
Rep 1 Sample ID	8330 Pt 1 EXP 5756	8330 Pt 2 EXP 5757	8330 Pt 3 EXP 5758	8330 Pt 4 EXP 5759	8330 Pt 5 EXP 5760
Rep 1 Calib. Time	04/26/2016 16:53:11	04/26/2016 14:10:50	04/26/2016 15:39:35	04/26/2016 15:41:25	04/26/2016 16:17:01

Level 6	Level 7

Calibration Report

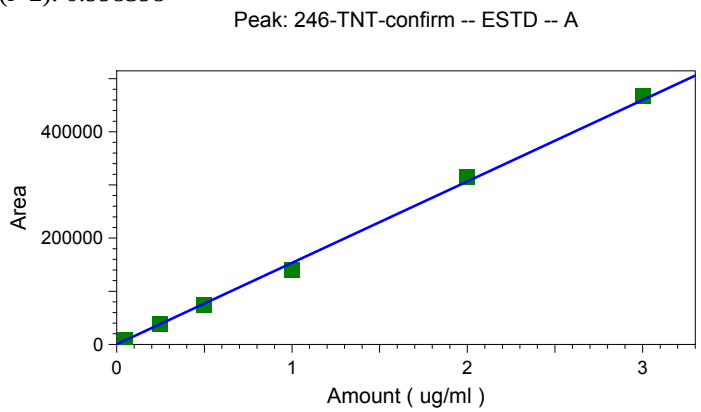
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\042616EXPIC-CONFIRM\042616EXPIC-CONFIRM.met
Print Time: Apr 27, 2016 13:24:15
User: red
Instrument: HPLC 2 (Offline)

Amount	2	3
Area	287896	430141
RF	143948	143380.333333333
Last Area		
Residual	-0.0426733	-0.0525206
Rep StDev		
Rep %RSD		
Rep 1 Area	287896	430141
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\007.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\008.dat
Rep 1 Sample ID	8330 Pt 6 EXP 5761	8330 Pt 7 EXP 5762
Rep 1 Calib. Time	04/26/2016 16:17:55	04/26/2016 16:50:59

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\042616EXPIC-CONFIRM\042616EXPIC-CONFIRM.met
Print Time: Apr 27, 2016 13:24:17
User: red
Instrument: HPLC 2 (Offline)

246-TNT-confirm (A)
Average RF: 159144. RF StDev: 19550.4 RF %RSD: 12.2848
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 153132.x + 280.588
Goodness of fit (r^2): 0.998398



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.01	0.05	0.25	0.5	1
Area	2015	7845	37924	74787	140855
RF	201500	156900	151696	149574	140855
Last Area Residual	-0.00132628	0.000601895	0.00417612	0.0134486	0.0820028
Rep StDev					
Rep %RSD					
Rep 1 Area	2015	7845	37924	74787	140855
Rep 1 User	red	red	red	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\002.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\003.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\004.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\005.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\006.dat
Rep 1 Sample ID	8330 Pt 1 EXP 5756	8330 Pt 2 EXP 5757	8330 Pt 3 EXP 5758	8330 Pt 4 EXP 5759	8330 Pt 5 EXP 5760
Rep 1 Calib. Time	04/26/2016 16:53:11	04/26/2016 14:10:50	04/26/2016 15:39:35	04/26/2016 15:41:25	04/26/2016 16:17:01

Level 6	Level 7

Calibration Report

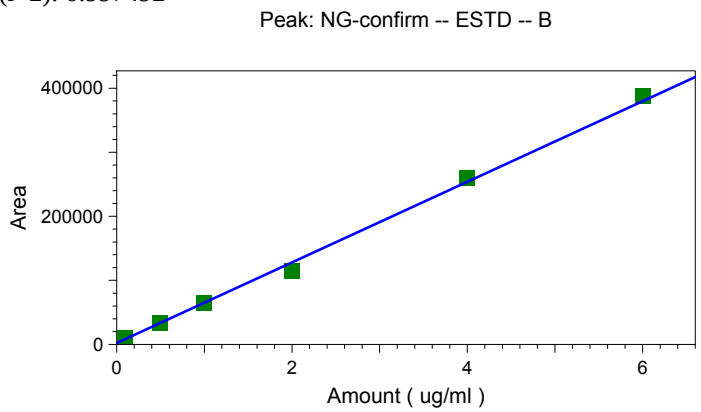
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\042616EXPIC-CONFIRM\042616EXPIC-CONFIRM.met
Print Time: Apr 27, 2016 13:24:17
User: red
Instrument: HPLC 2 (Offline)

Amount	2	3
Area	314987	467959
RF	157493.5	155986.333333333
Last Area		
Residual	-0.0551365	-0.0540941
Rep StDev		
Rep %RSD		
Rep 1 Area	314987	467959
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\007.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\008.dat
Rep 1 Sample ID	8330 Pt 6 EXP 5761	8330 Pt 7 EXP 5762
Rep 1 Calib. Time	04/26/2016 16:17:55	04/26/2016 16:50:59

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\042616EXPIC-CONFIRM\042616EXPIC-CONFIRM.met
Print Time: Apr 27, 2016 13:24:25
User: red
Instrument: HPLC 2 (Offline)

NG-confirm (B)
Average RF: 68627.9 RF StDev: 12811.7 RF %RSD: 18.6684
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 62897.8x + 2213.17
Goodness of fit (r^2): 0.997492



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.02	0.1	0.5	1	2
Area		9407	32855	64599	115321
RF		94070	65710	64599	57660.5
Last Area Residual	N/A	-0.0143734	0.0128314	0.00813966	0.20172
Rep StDev					
Rep %RSD					
Rep 1 Area		9407	32855	64599	115321
Rep 1 User		red	red	red	red
Rep 1 Data File		C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\003.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\004.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\005.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\006.dat
Rep 1 Sample ID		8330 Pt 2 EXP 5757	8330 Pt 3 EXP 5758	8330 Pt 4 EXP 5759	8330 Pt 5 EXP 5760
Rep 1 Calib. Time		04/26/2016 14:10:50	04/26/2016 15:39:35	04/26/2016 15:41:25	04/26/2016 16:17:01

	Level 6	Level 7
Amount	4	6

Calibration Report

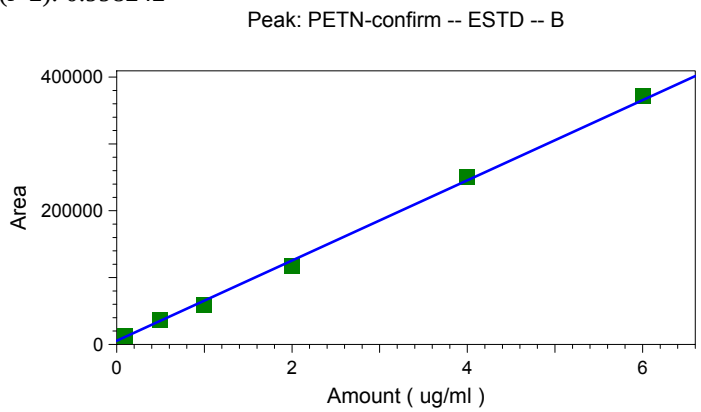
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\042616EXPIC-CONFIRM\042616EXPIC-CONFIRM.met
Print Time: Apr 27, 2016 13:24:25
User: red
Instrument: HPLC 2 (Offline)

Area	260019	388340
RF	65004.75	64723.3333333333
Last Area Residual	-0.0988053	-0.138956
Rep StDev		
Rep %RSD		
Rep 1 Area	260019	388340
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\007.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\008.dat
Rep 1 Sample ID	8330 Pt 6 EXP 5761	8330 Pt 7 EXP 5762
Rep 1 Calib. Time	04/26/2016 16:17:55	04/26/2016 16:50:59

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\042616EXPIC-CONFIRM\042616EXPIC-CONFIRM.met
Print Time: Apr 27, 2016 13:24:30
User: red
Instrument: HPLC 2 (Offline)

PETN-confirm (B)
Average RF: 73238.9 RF StDev: 24486.9 RF %RSD: 33.4342
Scaling: None LSQ Weighting: 1/Response Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 60043.8x + 5301.47
Goodness of fit (r^2): 0.998242



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	0.02	0.1	0.5	1	2
Area		12192	37103	59786	117374
RF		121920	74206	59786	58687
Last Area Residual	N/A	-0.0147584	-0.0296386	0.0925874	0.133488
Rep StDev					
Rep %RSD					
Rep 1 Area		12192	37103	59786	117374
Rep 1 User		red	red	red	red
Rep 1 Data File		C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\003.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\004.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\005.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\006.dat
Rep 1 Sample ID		8330 Pt 2 EXP 5757	8330 Pt 3 EXP 5758	8330 Pt 4 EXP 5759	8330 Pt 5 EXP 5760
Rep 1 Calib. Time		04/26/2016 14:10:50	04/26/2016 15:39:35	04/26/2016 15:41:25	04/26/2016 16:17:01

	Level 6	Level 7
Amount	4	6

Calibration Report

Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\042616EXPIC-CONFIRM\042616EXPIC-CONFIRM.met
Print Time: Apr 27, 2016 13:24:30
User: red
Instrument: HPLC 2 (Offline)

Area	251185	372228
RF	62796.25	62038
Last Area		
Residual	-0.0950671	-0.110978
Rep StDev		
Rep %RSD		
Rep 1 Area	251185	372228
Rep 1 User	red	red
Rep 1 Data File	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\007.dat	C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\008.dat
Rep 1 Sample ID	8330 Pt 6 EXP 5761	8330 Pt 7 EXP 5762
Rep 1 Calib. Time	04/26/2016 16:17:55	04/26/2016 16:50:59

QC Check Standard Report

Sequence : C:\Instarch\HPLC 2\Sequences\8330A_B\042616EXPIC-CONFIRM.seq
User : red
Printed : Apr 27, 2016 13:20:40

File	Sample ID	Acquired
C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\002.dat	8330 Pt 1 EXP 5756	Apr 27, 2016 13:20:40

A

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
HMX-confirm	0.010	0.010	1.240	20.000	Passed
RDX-confirm	0.010	0.011	7.059	20.000	Passed
NB-confirm	0.010	0.009	8.297	20.000	Passed
12-DNB (SSTD)-confirm	2.000	2.070	3.476	20.000	Passed
4-AM-26-DNT-conf.	0.010	0.010	2.921	20.000	Passed
3,5-DNA-confirm	0.010	0.010	4.082	20.000	Passed
2-NT-confirm	0.010	0.009	9.025	20.000	Passed
2-AM-46-DNT-conf.	0.010	0.011	5.575	20.000	Passed
3-NT-confirm	0.010	0.009	11.843	20.000	Passed
4-NT-confirm	0.010	0.009	13.960	20.000	Passed
26-DNT-confirm	0.010	0.010	1.426	20.000	Passed
13-DNB-confirm	0.010	0.010	0.256	20.000	Passed
TETRYL-confirm	0.010	0.011	8.843	20.000	Passed
24-DNT-confirm	0.010	0.010	3.429	20.000	Passed
135-TNB-confirm	0.010	0.010	2.687	20.000	Passed
246-TNT-confirm	0.010	0.011	13.263	20.000	Passed

B

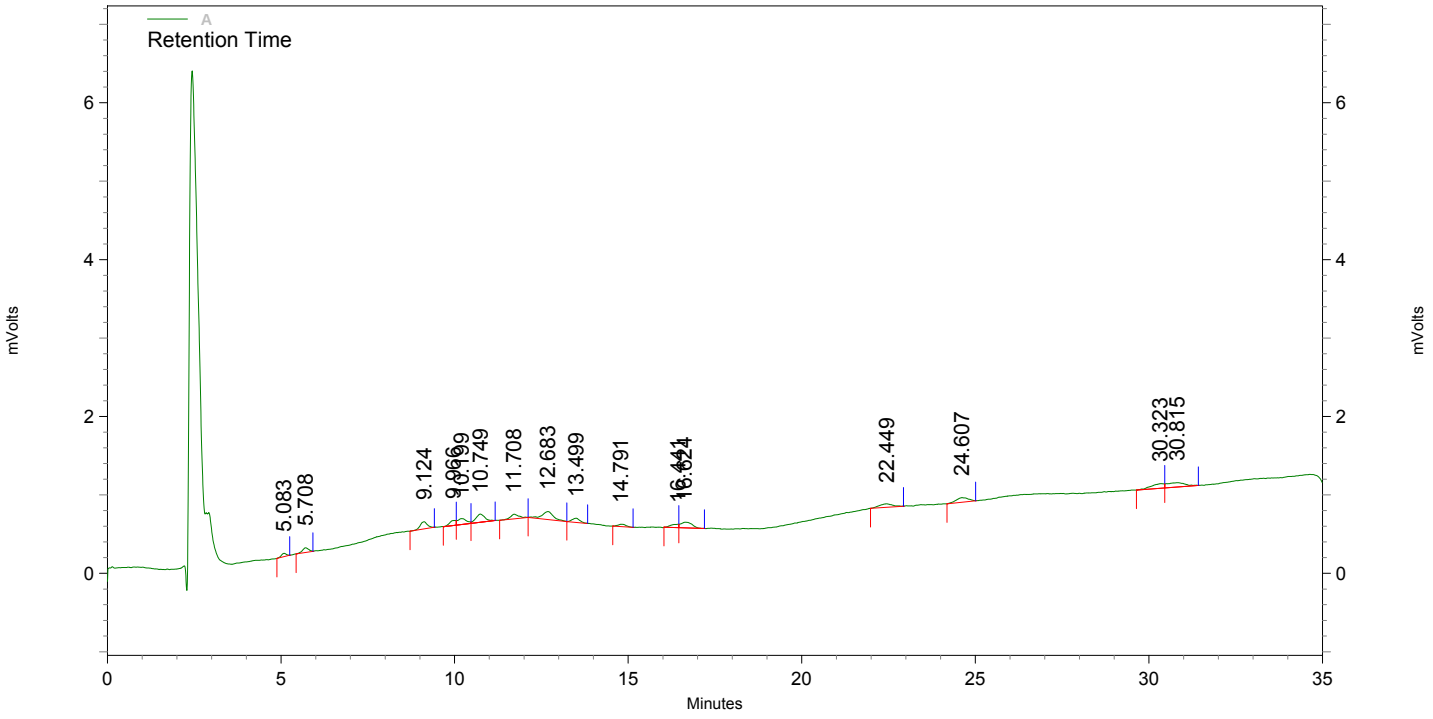
Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
NG-confirm	0.000	0.000	0.000	0.000	Passed
PETN-confirm	0.000	0.000	0.000	0.000	Passed

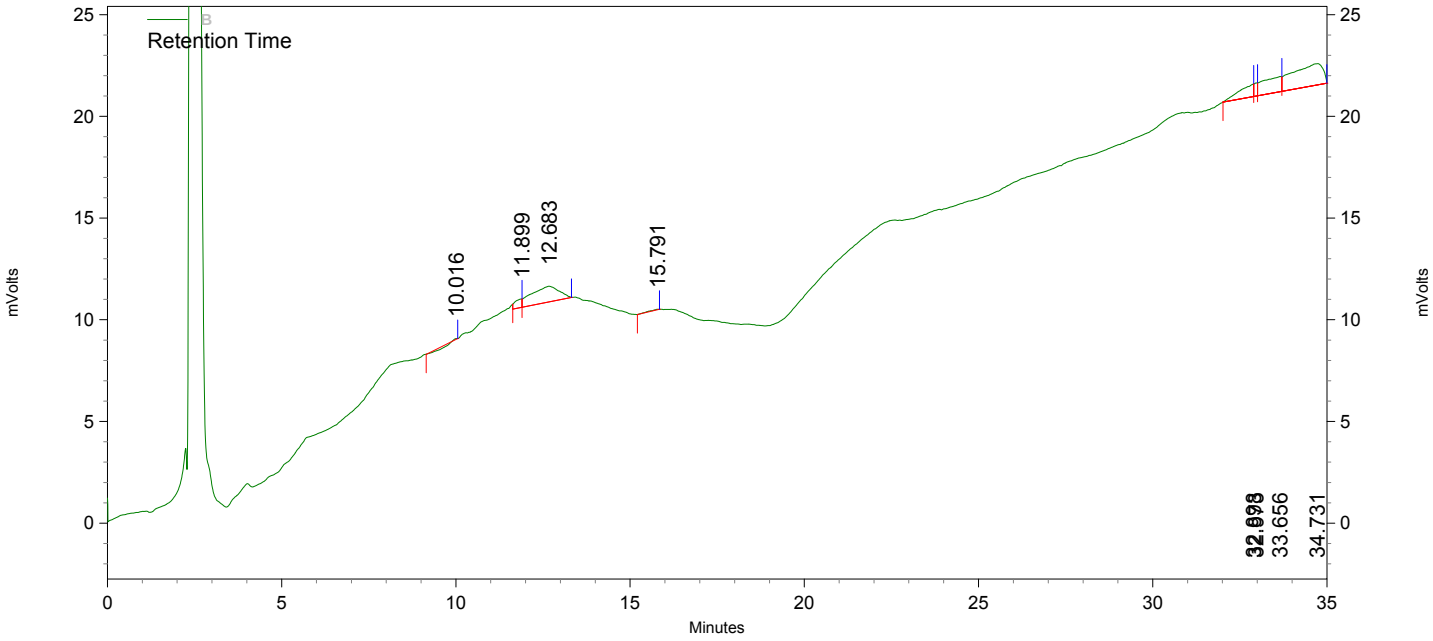
After Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\002.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\042616EXPIC-CONFIRM\042616EXPIC-CONFIRM.met
Sample ID: 8330 Pt 1 EXP 5756
Acquired: 04/26/2016 12:31:54
Data Summary: Reason #3, #4 applies to data. RED 4/26/2016

JJY
4/28/2016





8330 Pt 1 EXP 5756

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm	5.083	416	**0.0099**
RDX-confirm	5.708	740	**0.0107**
NB-confirm	9.124	1330	**0.0092**
12-DNB (SSTD)-confirm	9.966	796	**2.0695**
4-AM-26-DNT-conf.	10.199	1313	**0.0097**
3,5-DNA-confirm	10.749	1874	**0.0096**
2-NT-confirm	11.708	947	**0.0091**
2-AM-46-DNT-conf.	12.683	2282	**0.0106**
3-NT-confirm	13.499	834	**0.0088**
4-NT-confirm	14.791	516	**0.0086**
26-DNT-confirm	16.441	661	**0.0099**
13-DNB-confirm	16.624	1630	**0.0100**
TETRYL-confirm	22.449	1180	**0.0109**
24-DNT-confirm	24.607	1391	**0.0097**
135-TNB-confirm	30.323	1540	**0.0097**
246-TNT-confirm	30.815	2015	**0.0113**

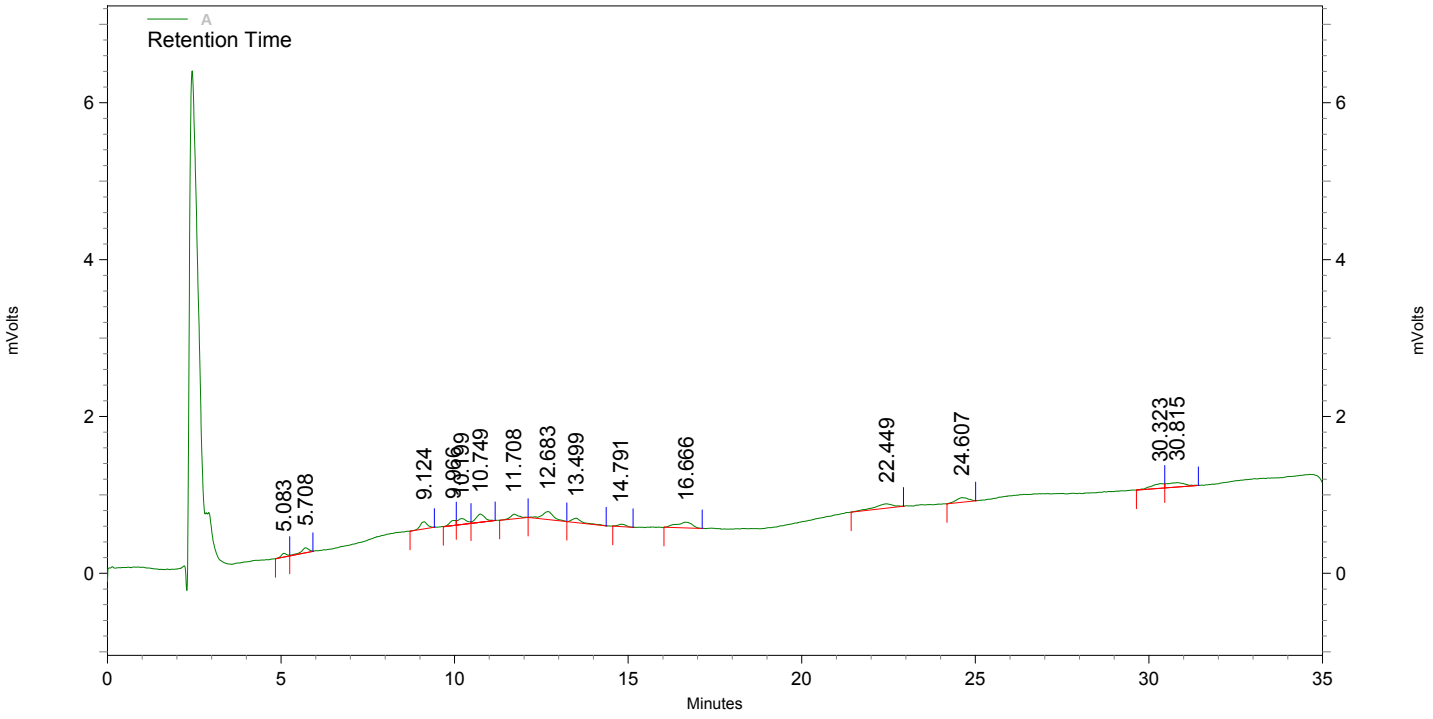
B Results

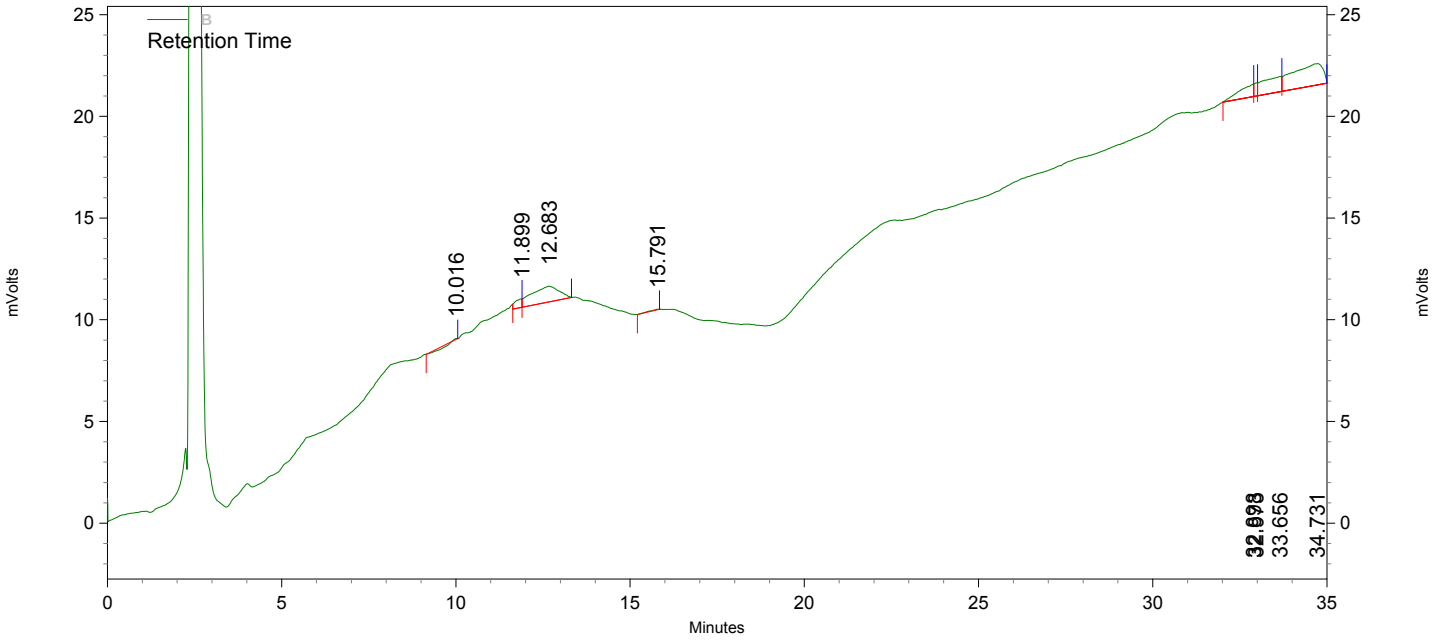
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm			**0.0000 BDL**
PETN-confirm			**0.0000 BDL**

Before Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\002.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\042616EXPIC-CONFIRM\042616EXPIC-CONFIRM.met
Sample ID: 8330 Pt 1 EXP 5756
Acquired: 04/26/2016 12:31:54
Data Summary: Reason #3, #4 applies to data. RED 4/26/2016





8330 Pt 1 EXP 5756

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm	5.083	530	**0.0102**
RDX-confirm	5.708	965	**0.0117**
NB-confirm	9.124	1330	**0.0092**
12-DNB (SSTD)-confirm	9.966	796	**2.0695**
4-AM-26-DNT-conf.	10.199	1313	**0.0097**
3,5-DNA-confirm	10.749	1874	**0.0096**
2-NT-confirm	11.708	947	**0.0091**
2-AM-46-DNT-conf.	12.683	2282	**0.0106**
3-NT-confirm	13.499	1057	**0.0109**
4-NT-confirm	14.791	516	**0.0086**
26-DNT-confirm			**0.0000 BDL**
13-DNB-confirm	16.666	2351	**0.0130**
TETRYL-confirm	22.449	2064	**0.0184**
24-DNT-confirm	24.607	1391	**0.0097**
135-TNB-confirm	30.323	1540	**0.0097**
246-TNT-confirm	30.815	2015	**0.0113**

B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm			**0.0000 BDL**
PETN-confirm			**0.0000 BDL**

QC Check Standard Report

Sequence : C:\Instarch\HPLC 2\Sequences\8330A_B\042616EXPIC-CONFIRM.seq
User : red
Printed : Apr 27, 2016 13:23:16

File	Sample ID	Acquired
C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\003.dat	8330 Pt 2 EXP 5757	Apr 27, 2016 13:23:16

A

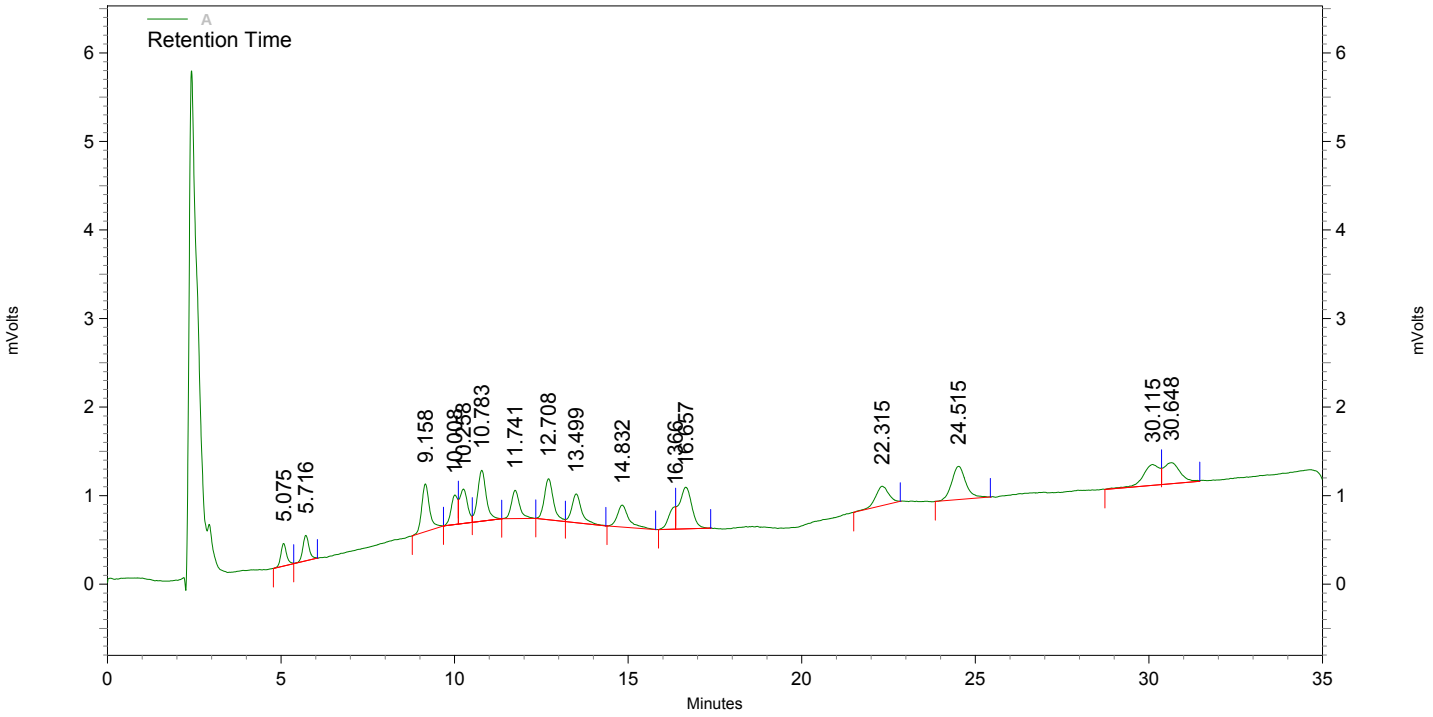
Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
HMX-confirm	0.000	0.057	0.000	0.000	Passed
RDX-confirm	0.000	0.053	0.000	0.000	Passed
NB-confirm	0.000	0.059	0.000	0.000	Passed
12-DNB (SSTD)-confirm	0.000	10.621	0.000	0.000	Passed
4-AM-26-DNT-conf.	0.000	0.055	0.000	0.000	Passed
3,5-DNA-confirm	0.000	0.056	0.000	0.000	Passed
2-NT-confirm	0.000	0.058	0.000	0.000	Passed
2-AM-46-DNT-conf.	0.000	0.053	0.000	0.000	Passed
3-NT-confirm	0.000	0.062	0.000	0.000	Passed
4-NT-confirm	0.000	0.070	0.000	0.000	Passed
26-DNT-confirm	0.000	0.050	0.000	0.000	Passed
13-DNB-confirm	0.000	0.053	0.000	0.000	Passed
TETRYL-confirm	0.000	0.050	0.000	0.000	Passed
24-DNT-confirm	0.000	0.058	0.000	0.000	Passed
135-TNB-confirm	0.000	0.054	0.000	0.000	Passed
246-TNT-confirm	0.000	0.049	0.000	0.000	Passed

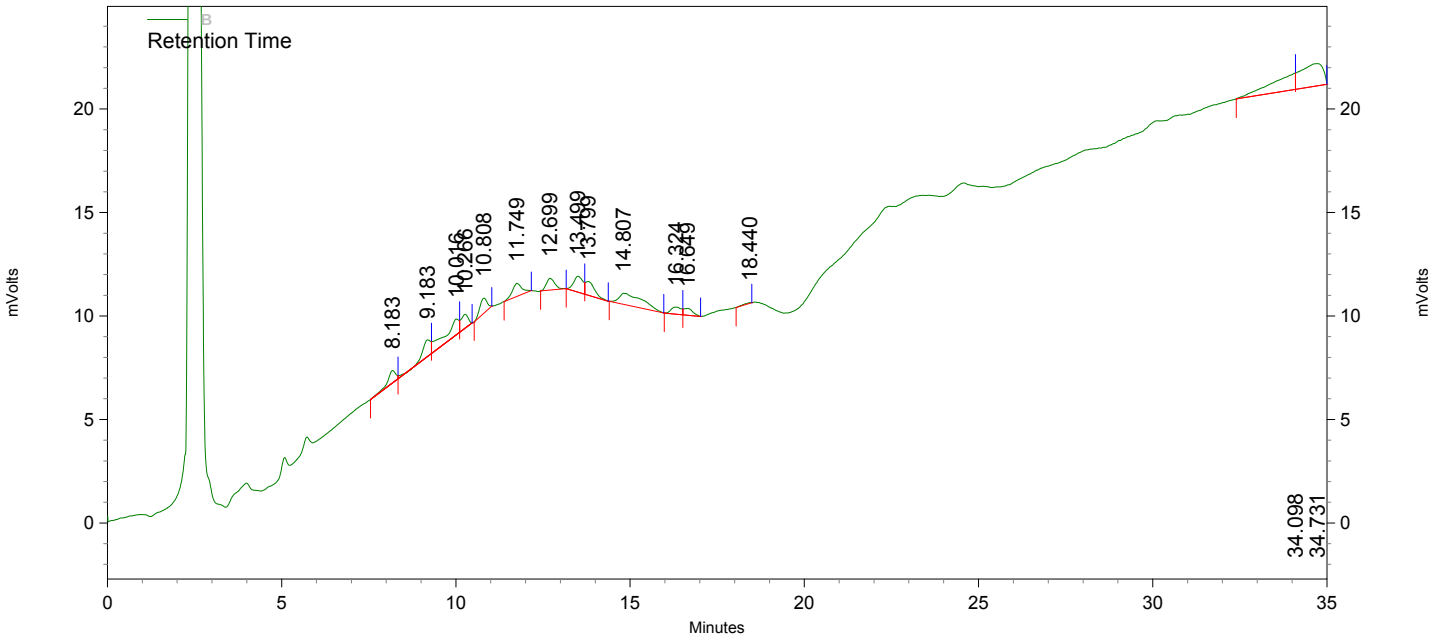
B

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
NG-confirm	0.100	0.114	14.373	20.000	Passed
PETN-confirm	0.100	0.115	14.758	20.000	Passed

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\003.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\042616EXPIC-CONFIRM\042616EXPIC-CONFIRM.met
Sample ID: 8330 Pt 2 EXP 5757
Acquired: 04/26/2016 13:09:12
Data Summary: {Data Description}





8330 Pt 2 EXP 5757

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm	5.075	2936	**0.0571**
RDX-confirm	5.716	3581	**0.0528**
NB-confirm	9.158	8442	**0.0590**
12-DNB (SSTD)-confirm	10.008	4313	**10.6209**
4-AM-26-DNT-conf.	10.258	6113	**0.0546**
3,5-DNA-confirm	10.783	9993	**0.0564**
2-NT-confirm	11.741	5292	**0.0582**
2-AM-46-DNT-conf.	12.708	8412	**0.0526**
3-NT-confirm	13.499	6426	**0.0621**
4-NT-confirm	14.832	5755	**0.0702**
26-DNT-confirm	16.366	3381	**0.0499**
13-DNB-confirm	16.657	11879	**0.0533**
TETRYL-confirm	22.315	5769	**0.0501**
24-DNT-confirm	24.515	10671	**0.0578**
135-TNB-confirm	30.115	7720	**0.0536**
246-TNT-confirm	30.648	7845	**0.0494**

B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm	8.183	9407	**0.1144**
PETN-confirm	13.799	12192	**0.1148**

After Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\004.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\042616EXPIC-CONFIRM\042616EXPIC-CONFIRM.met
Sample ID: 8330 Pt 3 EXP 5758
Acquired: 04/26/2016 13:46:30
Data Summary: Reason #4 applies to data. RED 4/26/2016

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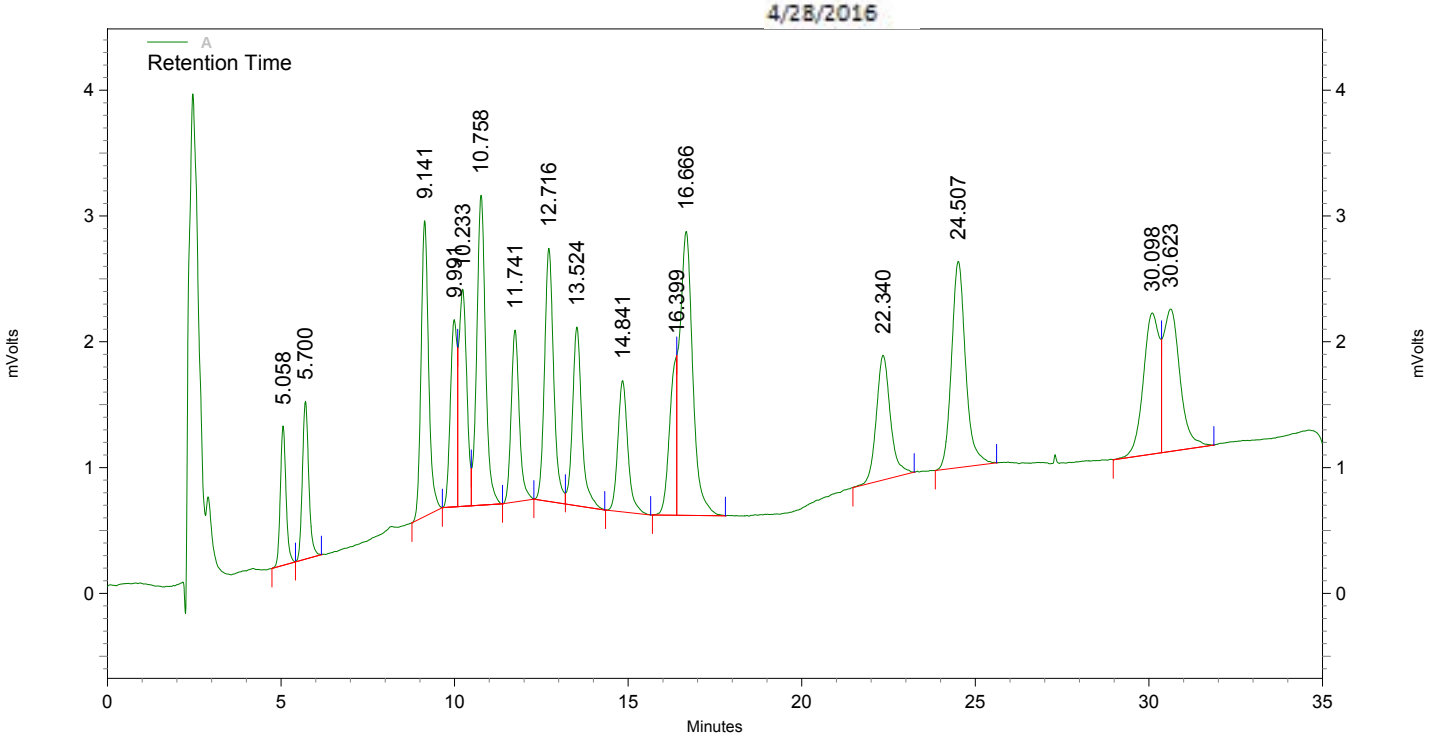
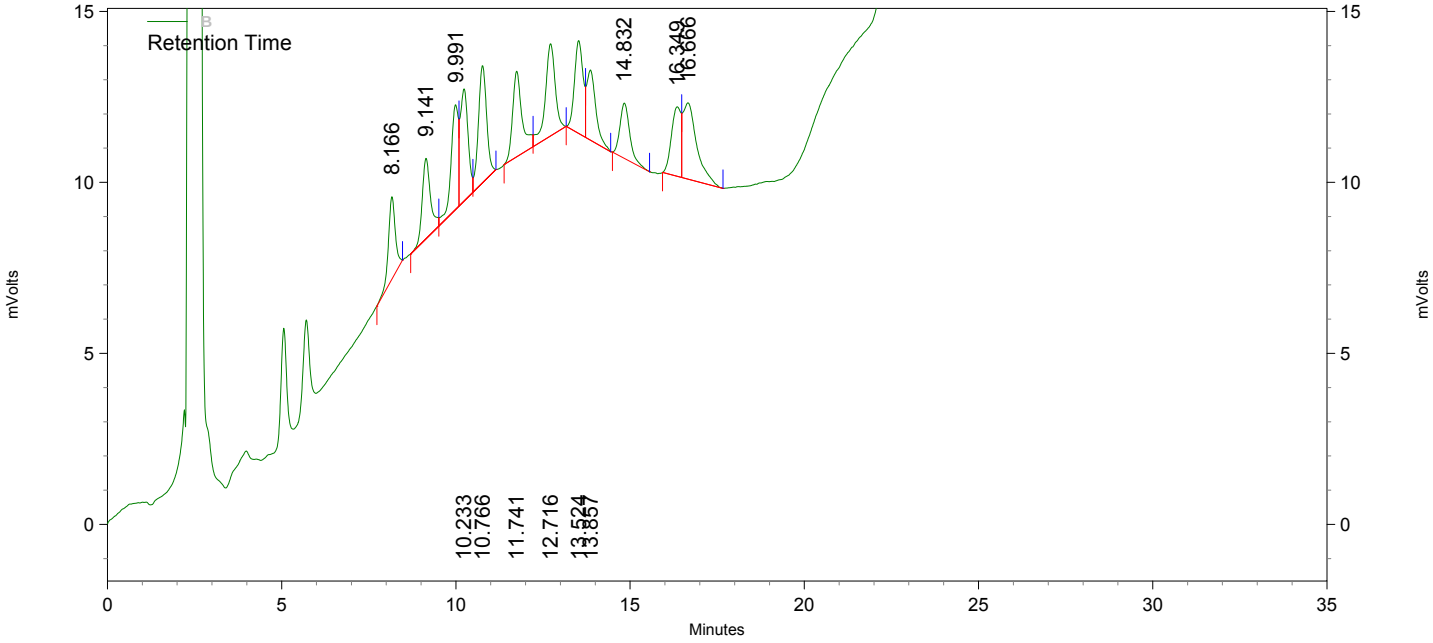
4/28/2016





8330 Pt 3 EXP 5758

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm	5.058	12660	**0.2500 CAL**
RDX-confirm	5.700	16146	**0.2500 CAL**
NB-confirm	9.141	35759	**0.2500 CAL**
12-DNB (SSTD)-confirm	9.991	19895	**50.0000 CAL**
4-AM-26-DNT-conf.	10.233	27154	**0.2500 CAL**
3,5-DNA-confirm	10.758	43056	**0.2500 CAL**
2-NT-confirm	11.741	22267	**0.2500 CAL**
2-AM-46-DNT-conf.	12.716	36879	**0.2500 CAL**
3-NT-confirm	13.524	26805	**0.2500 CAL**
4-NT-confirm	14.841	20969	**0.2500 CAL**
26-DNT-confirm	16.399	17492	**0.2500 CAL**
13-DNB-confirm	16.666	59051	**0.2500 CAL**
TETRYL-confirm	22.340	27905	**0.2500 CAL**
24-DNT-confirm	24.507	46226	**0.2500 CAL**
135-TNB-confirm	30.098	36314	**0.2500 CAL**
246-TNT-confirm	30.623	37924	**0.2500 CAL**

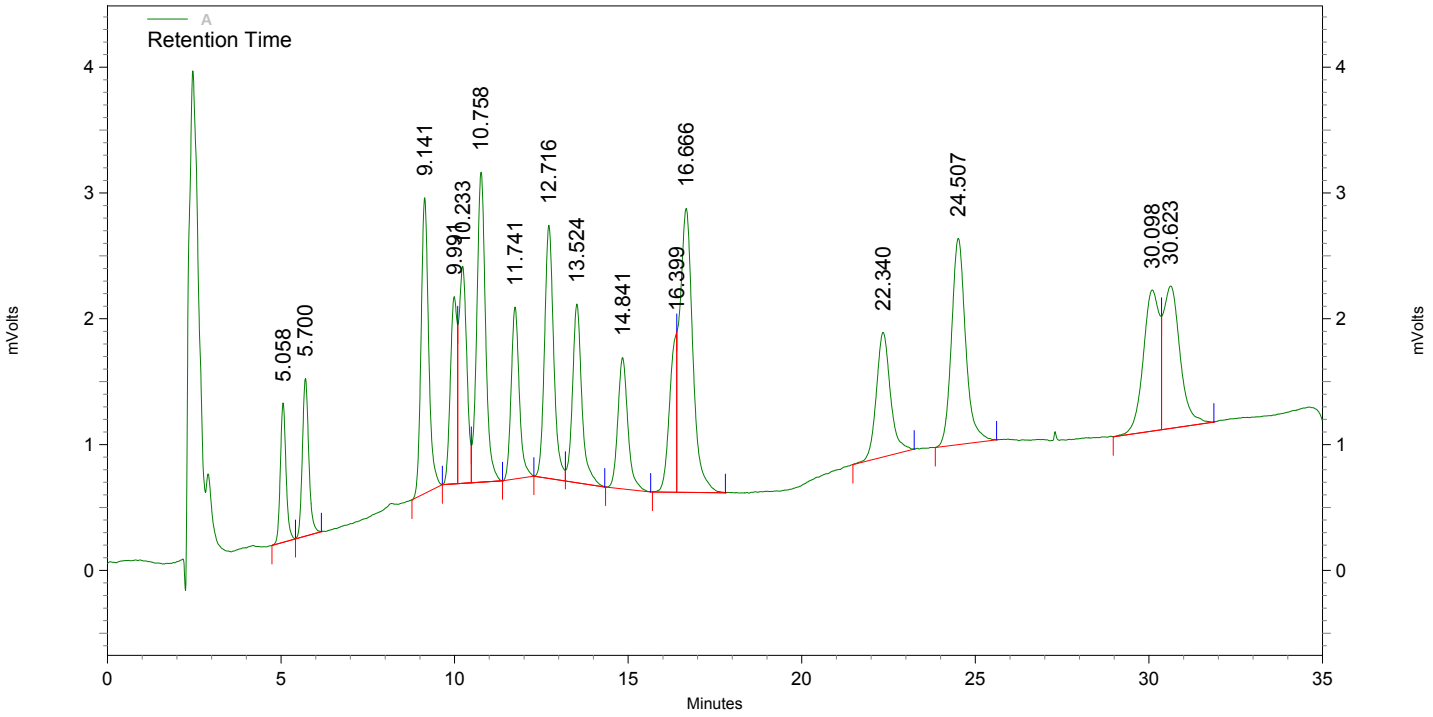
B Results

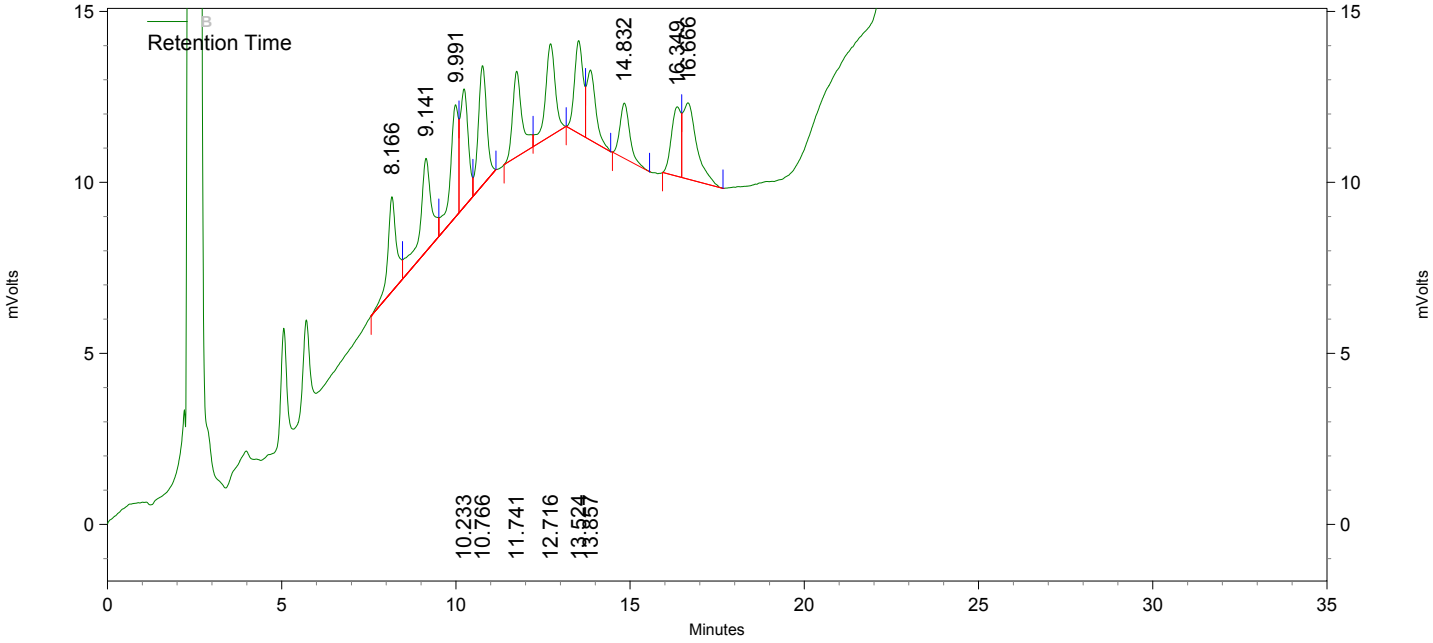
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm	8.166	32855	**0.5000 CAL**
PETN-confirm	13.857	37103	**0.5000 CAL**

Before Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\004.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\042616EXPIC-CONFIRM\042616EXPIC-CONFIRM.met
Sample ID: 8330 Pt 3 EXP 5758
Acquired: 04/26/2016 13:46:30
Data Summary: Reason #4 applies to data. RED 4/26/2016





8330 Pt 3 EXP 5758

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm	5.058	12660	**0.2500 CAL**
RDX-confirm	5.700	16146	**0.2500 CAL**
NB-confirm	9.141	35759	**0.2500 CAL**
12-DNB (SSTD)-confirm	9.991	19895	**50.0000 CAL**
4-AM-26-DNT-conf.	10.233	27154	**0.2500 CAL**
3,5-DNA-confirm	10.758	43056	**0.2500 CAL**
2-NT-confirm	11.741	22267	**0.2500 CAL**
2-AM-46-DNT-conf.	12.716	36879	**0.2500 CAL**
3-NT-confirm	13.524	26805	**0.2500 CAL**
4-NT-confirm	14.841	20969	**0.2500 CAL**
26-DNT-confirm	16.399	17492	**0.2500 CAL**
13-DNB-confirm	16.666	59051	**0.2500 CAL**
TETRYL-confirm	22.340	27905	**0.2500 CAL**
24-DNT-confirm	24.507	46226	**0.2500 CAL**
135-TNB-confirm	30.098	36314	**0.2500 CAL**
246-TNT-confirm	30.623	37924	**0.2500 CAL**

B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm	8.166	47389	**0.5000 CAL**
PETN-confirm	13.857	37103	**0.5000 CAL**

After Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\005.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\042616EXPIC-CONFIRM\042616EXPIC-CONFIRM.met
Sample ID: 8330 Pt 4 EXP 5759
Acquired: 04/26/2016 14:23:49
Data Summary: Reason #4 applies to data. RED 4/26/2016

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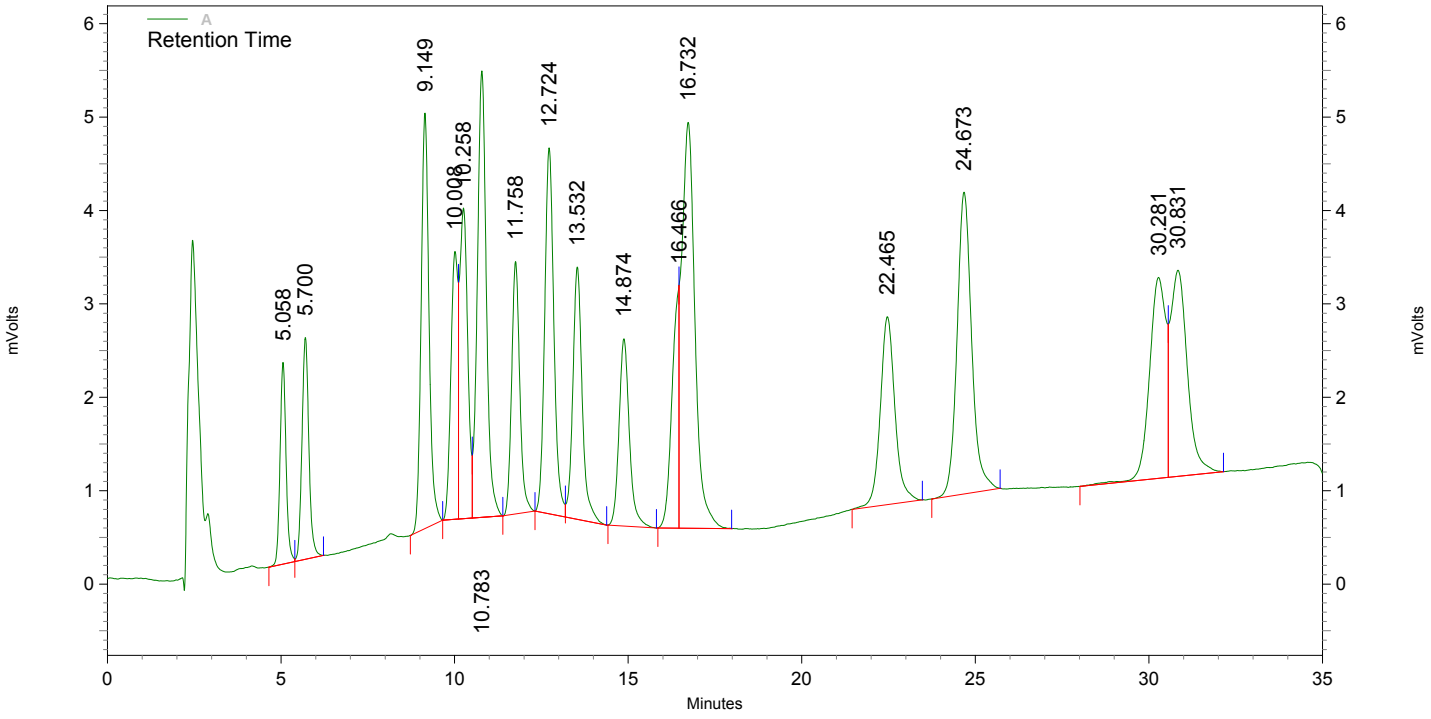
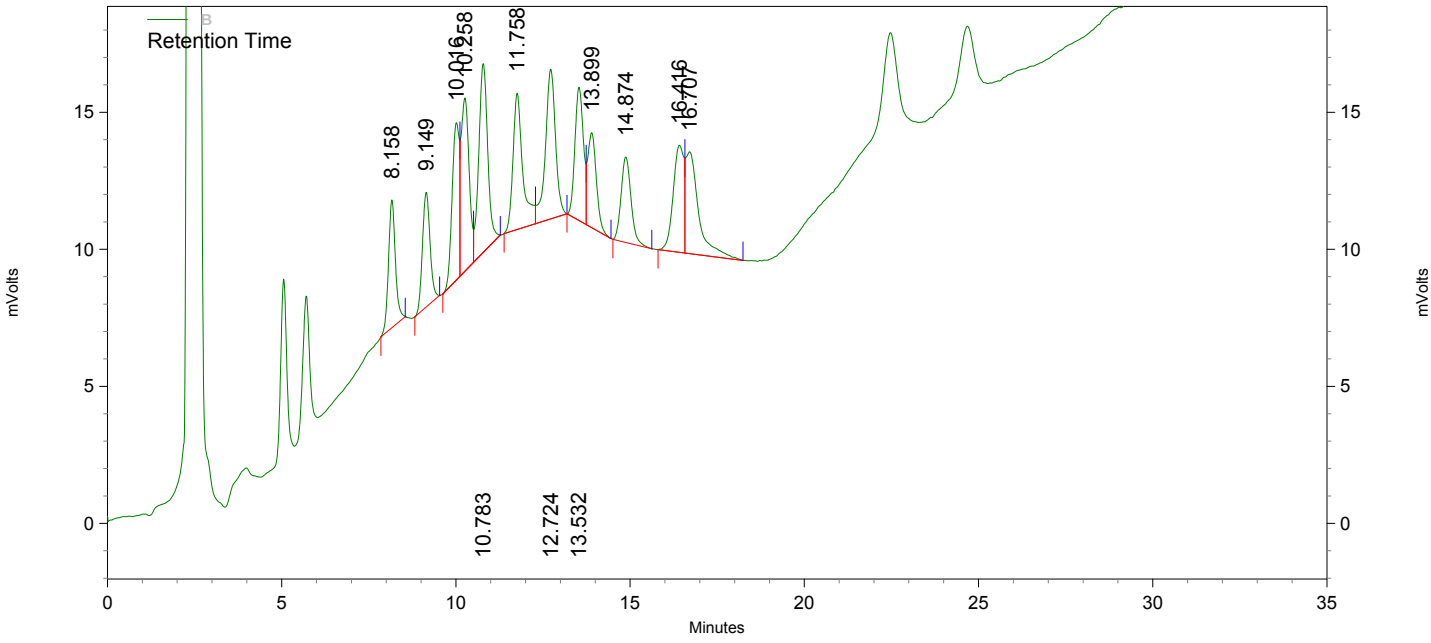
4/28/2016





8330 Pt 4 EXP 5759

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm	5.058	26207	**0.5000 CAL**
RDX-confirm	5.700	32956	**0.5000 CAL**
NB-confirm	9.149	70206	**0.5000 CAL**
12-DNB (SSTD)-confirm	10.008	40374	**100.0000 CAL**
4-AM-26-DNT-conf.	10.258	53330	**0.5000 CAL**
3,5-DNA-confirm	10.783	86127	**0.5000 CAL**
2-NT-confirm	11.758	44023	**0.5000 CAL**
2-AM-46-DNT-conf.	12.724	72296	**0.5000 CAL**
3-NT-confirm	13.532	51050	**0.5000 CAL**
4-NT-confirm	14.874	41547	**0.5000 CAL**
26-DNT-confirm	16.466	35142	**0.5000 CAL**
13-DNB-confirm	16.732	115555	**0.5000 CAL**
TETRYL-confirm	22.465	58912	**0.5000 CAL**
24-DNT-confirm	24.673	94451	**0.5000 CAL**
135-TNB-confirm	30.281	70304	**0.5000 CAL**
246-TNT-confirm	30.831	74787	**0.5000 CAL**

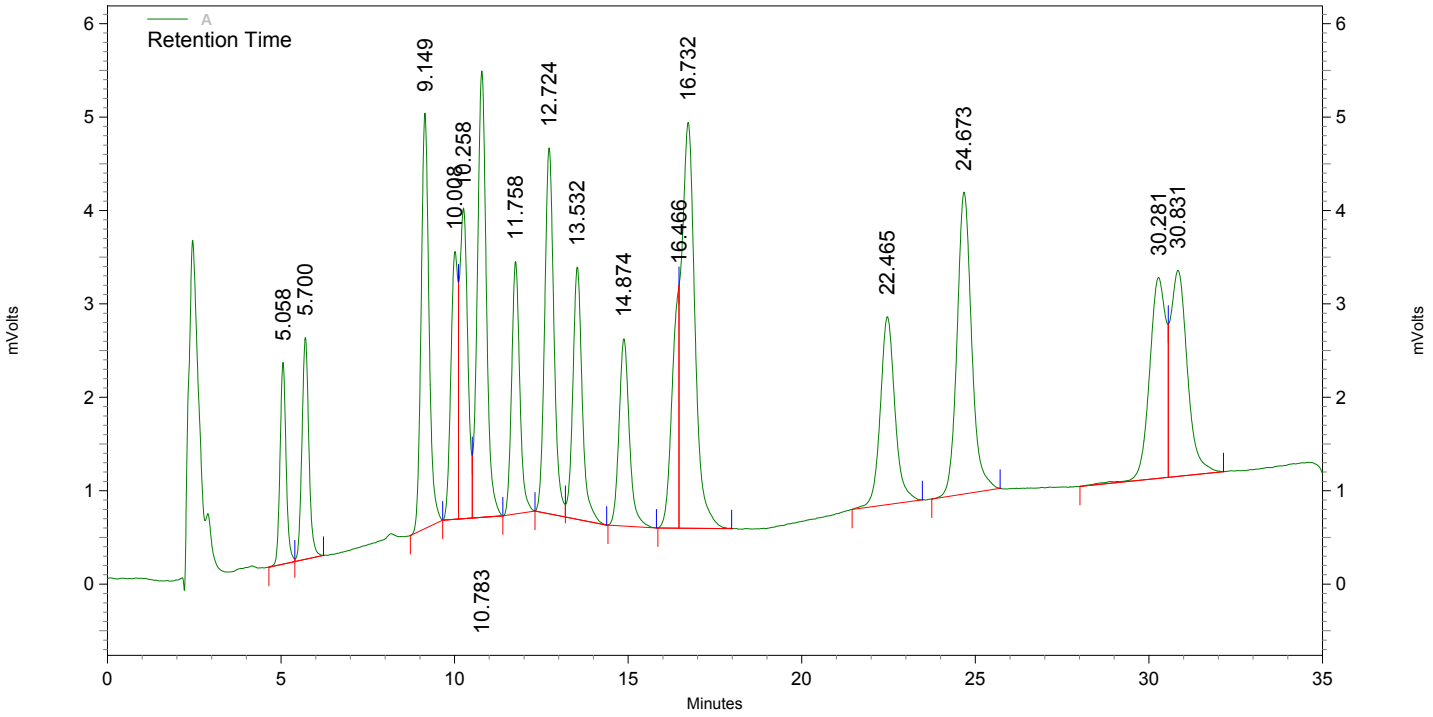
B Results

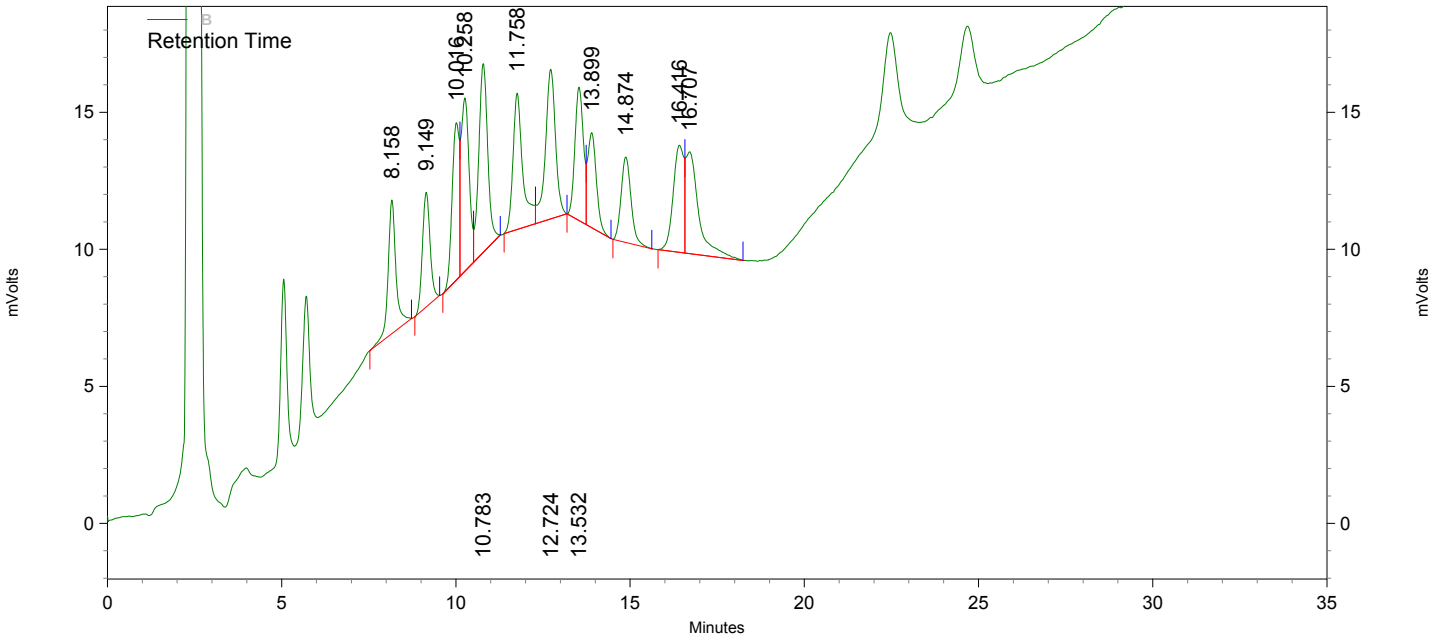
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm	8.158	64599	**1.0000 CAL**
PETN-confirm	13.899	59786	**1.0000 CAL**

Before Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\005.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\042616EXPIC-CONFIRM\042616EXPIC-CONFIRM.met
Sample ID: 8330 Pt 4 EXP 5759
Acquired: 04/26/2016 14:23:49
Data Summary: Reason #4 applies to data. RED 4/26/2016





8330 Pt 4 EXP 5759

A Results

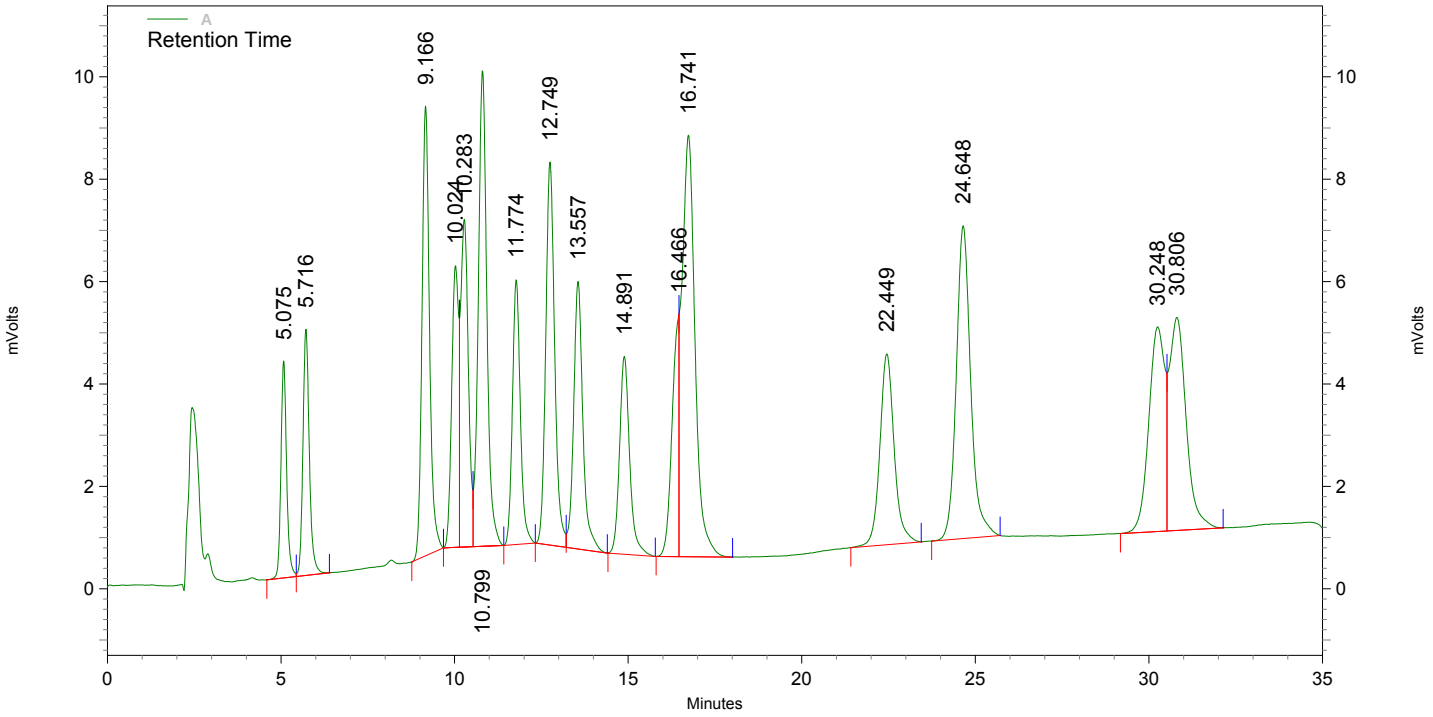
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm	5.058	26207	**0.5254**
RDX-confirm	5.700	32956	**0.5207**
NB-confirm	9.149	70206	**0.5144**
12-DNB (SSTD)-confirm	10.008	40374	**103.7639**
4-AM-26-DNT-conf.	10.258	53330	**0.5221**
3,5-DNA-confirm	10.783	86127	**0.5218**
2-NT-confirm	11.758	44023	**0.5175**
2-AM-46-DNT-conf.	12.724	72296	**0.5197**
3-NT-confirm	13.532	51050	**0.5097**
4-NT-confirm	14.874	41547	**0.5130**
26-DNT-confirm	16.466	35142	**0.5321**
13-DNB-confirm	16.732	115555	**0.5177**
TETRYL-confirm	22.465	58912	**0.5344**
24-DNT-confirm	24.673	94451	**0.5194**
135-TNB-confirm	30.281	70304	**0.5244**
246-TNT-confirm	30.831	74787	**0.5162**

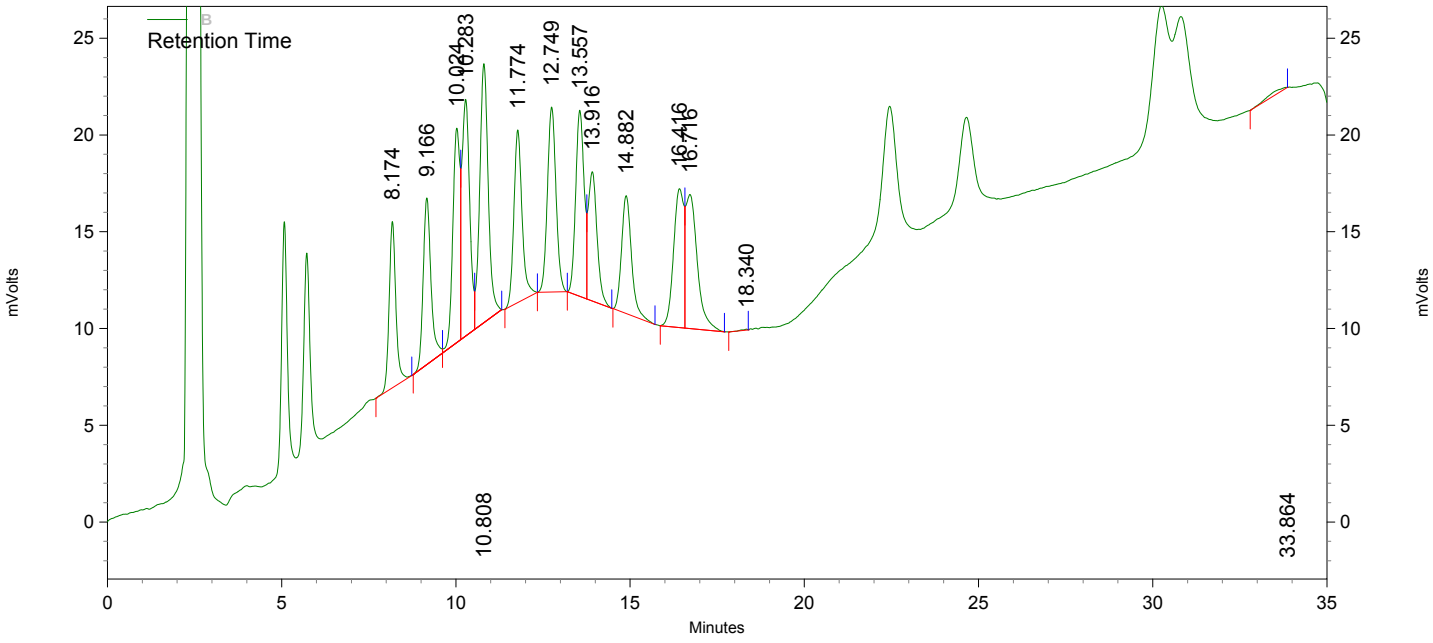
B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm	8.158	76078	**1.2222**
PETN-confirm	13.899	59786	**0.9590**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\006.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\042616EXPIC-CONFIRM\042616EXPIC-CONFIRM.met
Sample ID: 8330 Pt 5 EXP 5760
Acquired: 04/26/2016 15:01:06
Data Summary: {Data Description}





8330 Pt 5 EXP 5760

A Results

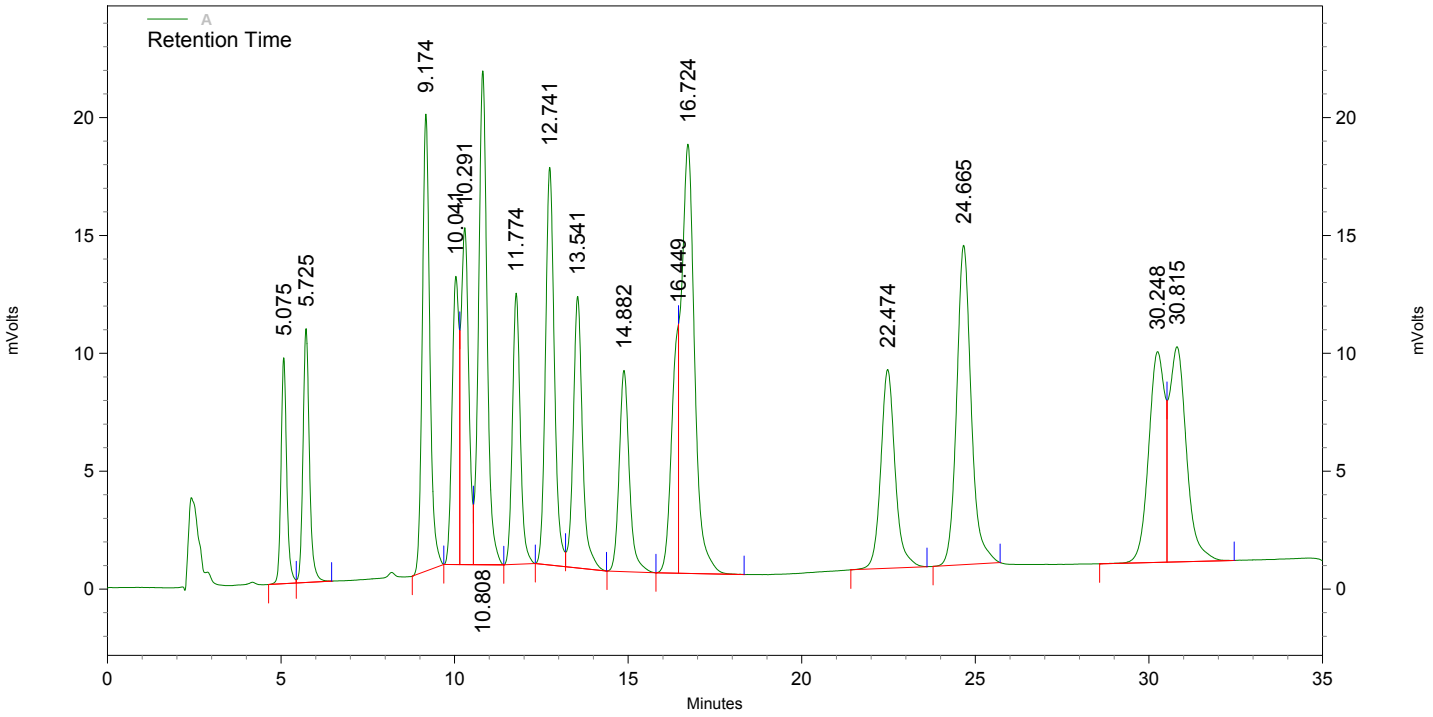
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm	5.075	48279	**1.0000 CAL**
RDX-confirm	5.716	61584	**1.0000 CAL**
NB-confirm	9.166	132178	**1.0000 CAL**
12-DNB (SSTD)-confirm	10.024	75776	**200.0000 CAL**
4-AM-26-DNT-conf.	10.283	98110	**1.0000 CAL**
3,5-DNA-confirm	10.799	159135	**1.0000 CAL**
2-NT-confirm	11.774	82174	**1.0000 CAL**
2-AM-46-DNT-conf.	12.749	133969	**1.0000 CAL**
3-NT-confirm	13.557	96827	**1.0000 CAL**
4-NT-confirm	14.891	78408	**1.0000 CAL**
26-DNT-confirm	16.466	63248	**1.0000 CAL**
13-DNB-confirm	16.741	216032	**1.0000 CAL**
TETRYL-confirm	22.449	106651	**1.0000 CAL**
24-DNT-confirm	24.648	176806	**1.0000 CAL**
135-TNB-confirm	30.248	128124	**1.0000 CAL**
246-TNT-confirm	30.806	140855	**1.0000 CAL**

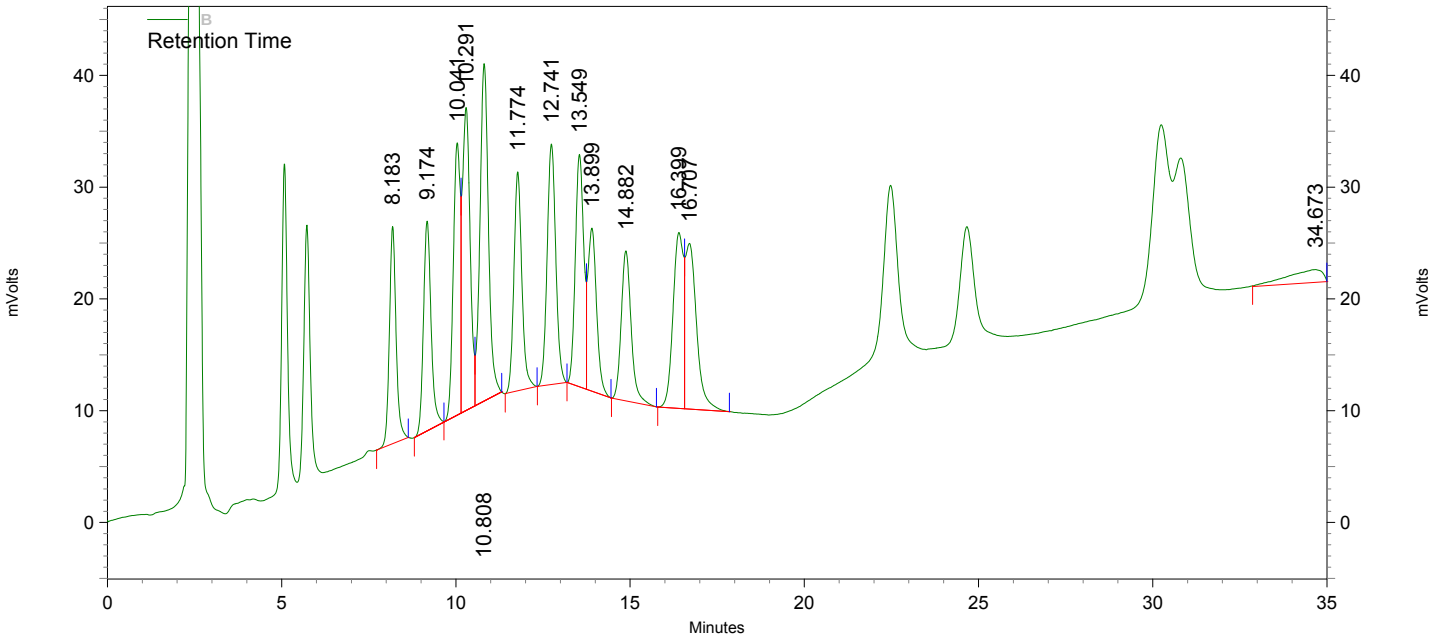
B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm	8.174	115321	**2.0000 CAL**
PETN-confirm	13.916	117374	**2.0000 CAL**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\007.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\042616EXPIC-CONFIRM\042616EXPIC-CONFIRM.met
Sample ID: 8330 Pt 6 EXP 5761
Acquired: 04/26/2016 15:38:25
Data Summary: {Data Description}





8330 Pt 6 EXP 5761

A Results

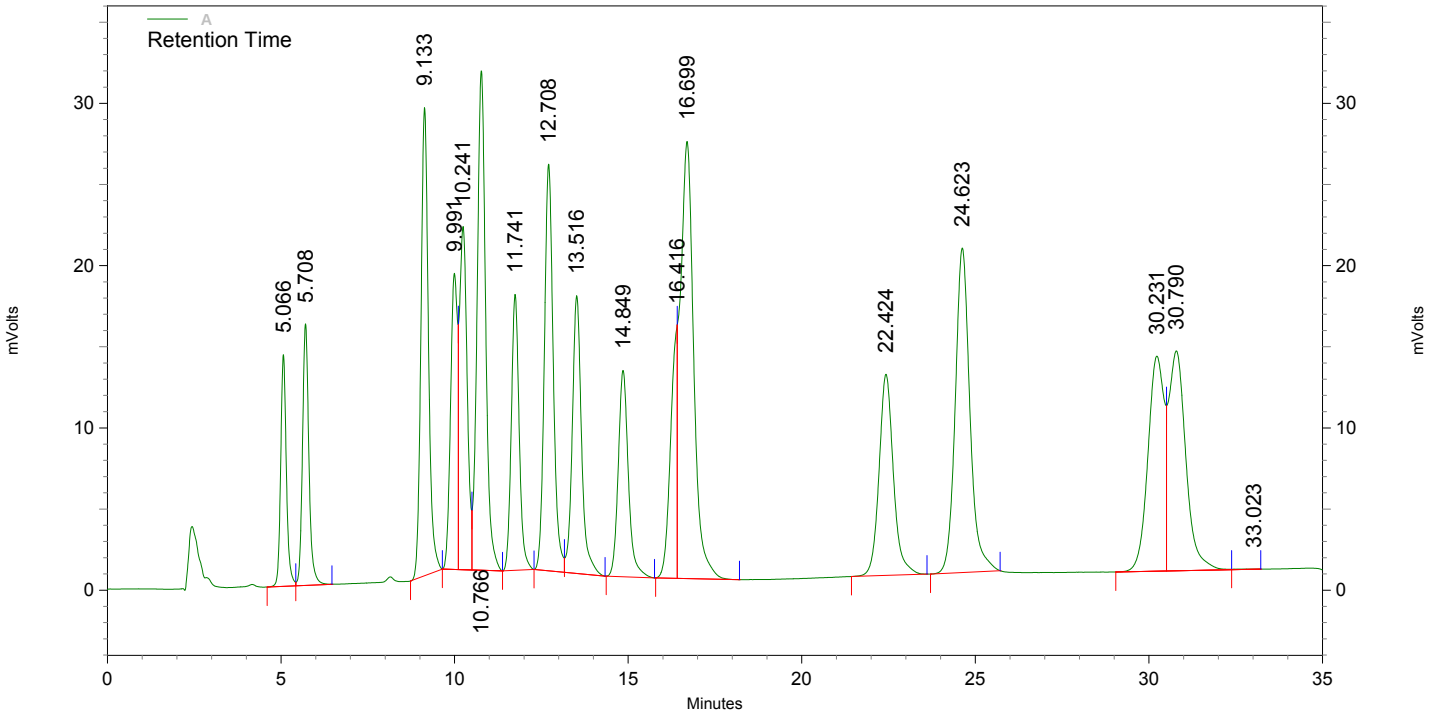
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm	5.075	109613	**2.0000 CAL**
RDX-confirm	5.725	138814	**2.0000 CAL**
NB-confirm	9.174	292572	**2.0000 CAL**
12-DNB (SSTD)-confirm	10.041	167065	**400.0000 CAL**
4-AM-26-DNT-conf.	10.291	221298	**2.0000 CAL**
3,5-DNA-confirm	10.808	356749	**2.0000 CAL**
2-NT-confirm	11.774	180912	**2.0000 CAL**
2-AM-46-DNT-conf.	12.741	300114	**2.0000 CAL**
3-NT-confirm	13.541	214104	**2.0000 CAL**
4-NT-confirm	14.882	173260	**2.0000 CAL**
26-DNT-confirm	16.449	140458	**2.0000 CAL**
13-DNB-confirm	16.724	482253	**2.0000 CAL**
TETRYL-confirm	22.474	241361	**2.0000 CAL**
24-DNT-confirm	24.665	393608	**2.0000 CAL**
135-TNB-confirm	30.248	287896	**2.0000 CAL**
246-TNT-confirm	30.815	314987	**2.0000 CAL**

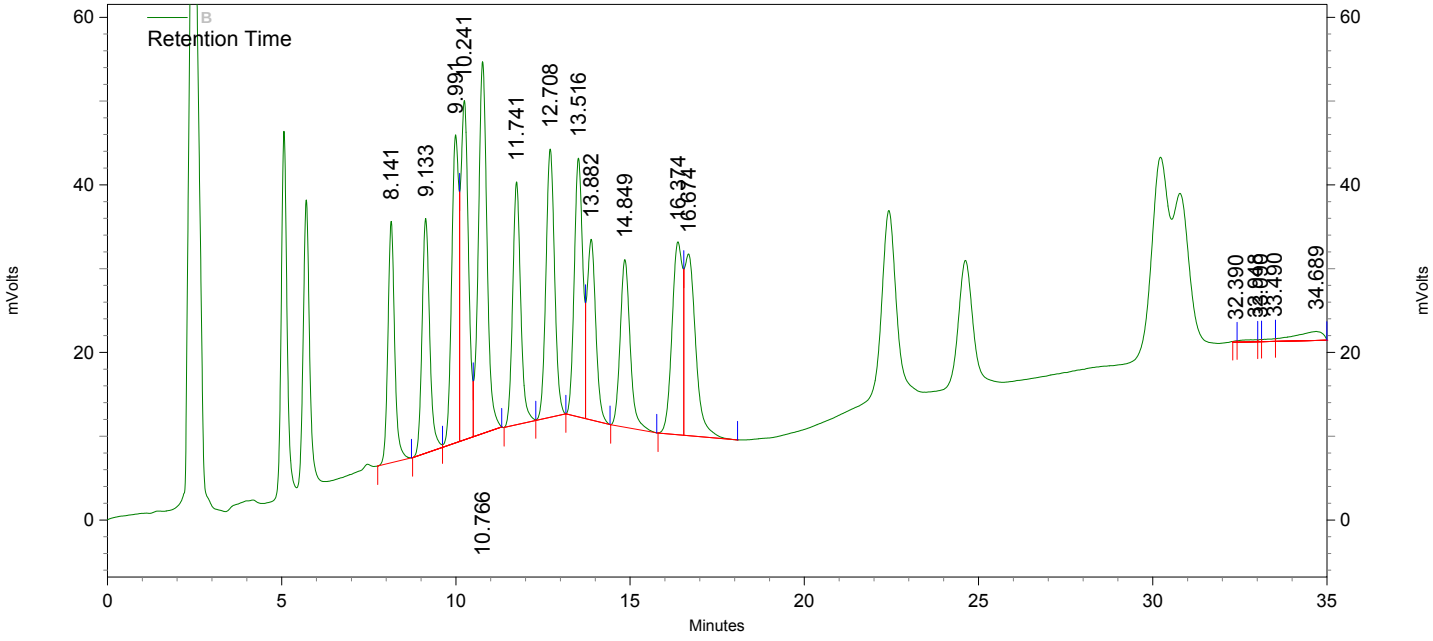
B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm	8.183	260019	**4.0000 CAL**
PETN-confirm	13.899	251185	**4.0000 CAL**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\008.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\042616EXPIC-CONFIRM\042616EXPIC-CONFIRM.met
Sample ID: 8330 Pt 7 EXP 5762
Acquired: 04/26/2016 16:15:43
Data Summary: {Data Description}





8330 Pt 7 EXP 5762

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm	5.066	163113	**3.0000 CAL**
RDX-confirm	5.708	206530	**3.0000 CAL**
NB-confirm	9.133	433795	**3.0000 CAL**
12-DNB (SSTD)-confirm	9.991	252314	**600.0000 CAL**
4-AM-26-DNT-conf.	10.241	324563	**3.0000 CAL**
3,5-DNA-confirm	10.766	527871	**3.0000 CAL**
2-NT-confirm	11.741	268477	**3.0000 CAL**
2-AM-46-DNT-conf.	12.708	446481	**3.0000 CAL**
3-NT-confirm	13.516	318731	**3.0000 CAL**
4-NT-confirm	14.849	258001	**3.0000 CAL**
26-DNT-confirm	16.416	202761	**3.0000 CAL**
13-DNB-confirm	16.699	722819	**3.0000 CAL**
TETRYL-confirm	22.424	356094	**3.0000 CAL**
24-DNT-confirm	24.623	587346	**3.0000 CAL**
135-TNB-confirm	30.231	430141	**3.0000 CAL**
246-TNT-confirm	30.790	467959	**3.0000 CAL**

B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm	8.141	388340	**6.0000 CAL**
PETN-confirm	13.882	372228	**6.0000 CAL**

QC Check Standard Report

Sequence : C:\Instarch\HPLC 2\Sequences\8330A_B\042616EXPIC-CONFIRM.seq
User : red
Printed : Apr 27, 2016 13:21:18

File	Sample ID	Acquired
C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\009.dat	8330 ICV EXP 5763	Apr 27, 2016 13:21:18

A

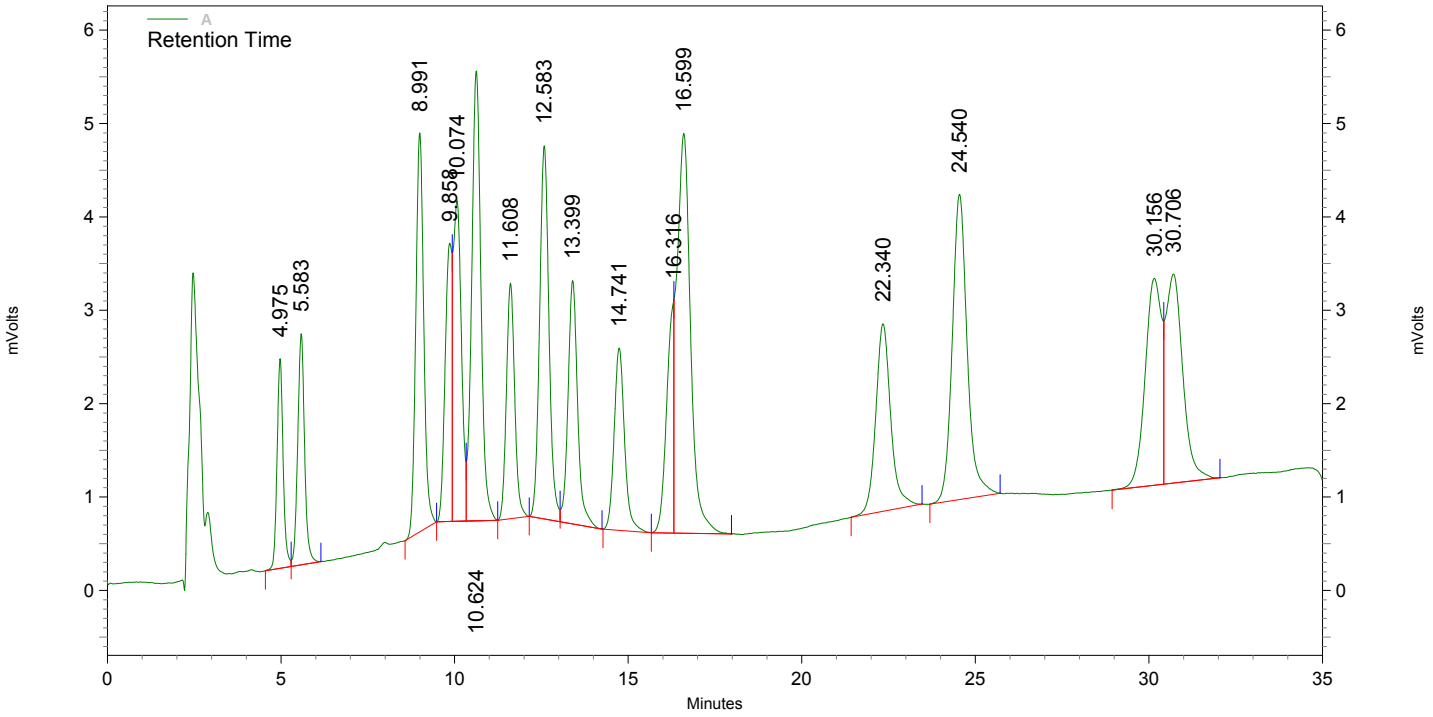
Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
HMX-confirm	0.500	0.513	2.600	20.000	Passed
RDX-confirm	0.500	0.508	1.604	20.000	Passed
NB-confirm	0.500	0.473	5.332	20.000	Passed
12-DNB (SSTD)-confirm	100.000	96.424	3.576	20.000	Passed
4-AM-26-DNT-conf.	0.500	0.528	5.698	20.000	Passed
3,5-DNA-confirm	0.500	0.511	2.223	20.000	Passed
2-NT-confirm	0.500	0.470	6.060	20.000	Passed
2-AM-46-DNT-conf.	0.500	0.509	1.890	20.000	Passed
3-NT-confirm	0.500	0.477	4.678	20.000	Passed
4-NT-confirm	0.500	0.481	3.802	20.000	Passed
26-DNT-confirm	0.500	0.508	1.512	20.000	Passed
13-DNB-confirm	0.500	0.500	0.038	20.000	Passed
TETRYL-confirm	0.500	0.516	3.166	20.000	Passed
24-DNT-confirm	0.500	0.510	2.059	20.000	Passed
135-TNB-confirm	0.500	0.518	3.647	20.000	Passed
246-TNT-confirm	0.500	0.497	0.697	20.000	Passed

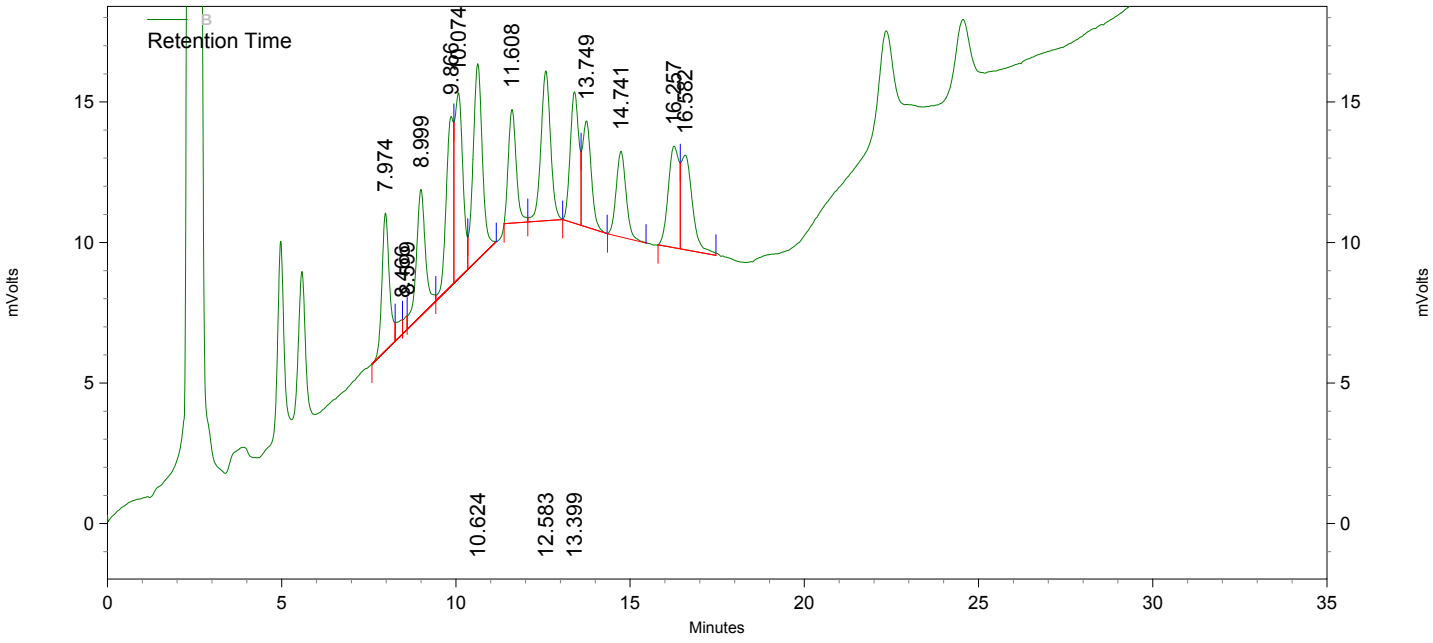
B

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
NG-confirm	1.000	1.109	10.878	20.000	Passed
PETN-confirm	1.000	1.019	1.880	20.000	Passed

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\009.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\042616EXPIC-CONFIRM\042616EXPIC-CONFIRM.met
Sample ID: 8330 ICV EXP 5763
Acquired: 04/26/2016 16:53:04
Data Summary: {Data Description}





8330 ICV EXP 5763

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm	4.975	27254	**0.5130**
RDX-confirm	5.583	34289	**0.5080**
NB-confirm	8.991	67638	**0.4733**
12-DNB (SSTD)-confirm	9.858	39602	**96.4240**
4-AM-26-DNT-conf.	10.074	56833	**0.5285**
3,5-DNA-confirm	10.624	88886	**0.5111**
2-NT-confirm	11.608	41689	**0.4697**
2-AM-46-DNT-conf.	12.583	75076	**0.5094**
3-NT-confirm	13.399	49900	**0.4766**
4-NT-confirm	14.741	40664	**0.4810**
26-DNT-confirm	16.316	34473	**0.5076**
13-DNB-confirm	16.599	117667	**0.5002**
TETRYL-confirm	22.340	60288	**0.5158**
24-DNT-confirm	24.540	97828	**0.5103**
135-TNB-confirm	30.156	73167	**0.5182**
246-TNT-confirm	30.706	76313	**0.4965**

B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm	7.974	71953	**1.1088**
PETN-confirm	13.749	66474	**1.0188**

NITROAROMATICS ANALYSIS
CONTINUING CALIBRATION
DOCUMENTS

QC Check Standard Report

Sequence : C:\Instarch\HPLC 2\Sequences\8330A_B\042516exp-primary.seq
User : RED
Printed : Apr 27, 2016 13:28:00

File	Sample ID	Acquired
C:\Instarch\HPLC 2\Data\042516exp-primary\008.dat	8330 CCV EXP 5755	Apr 27, 2016 13:27:59

A

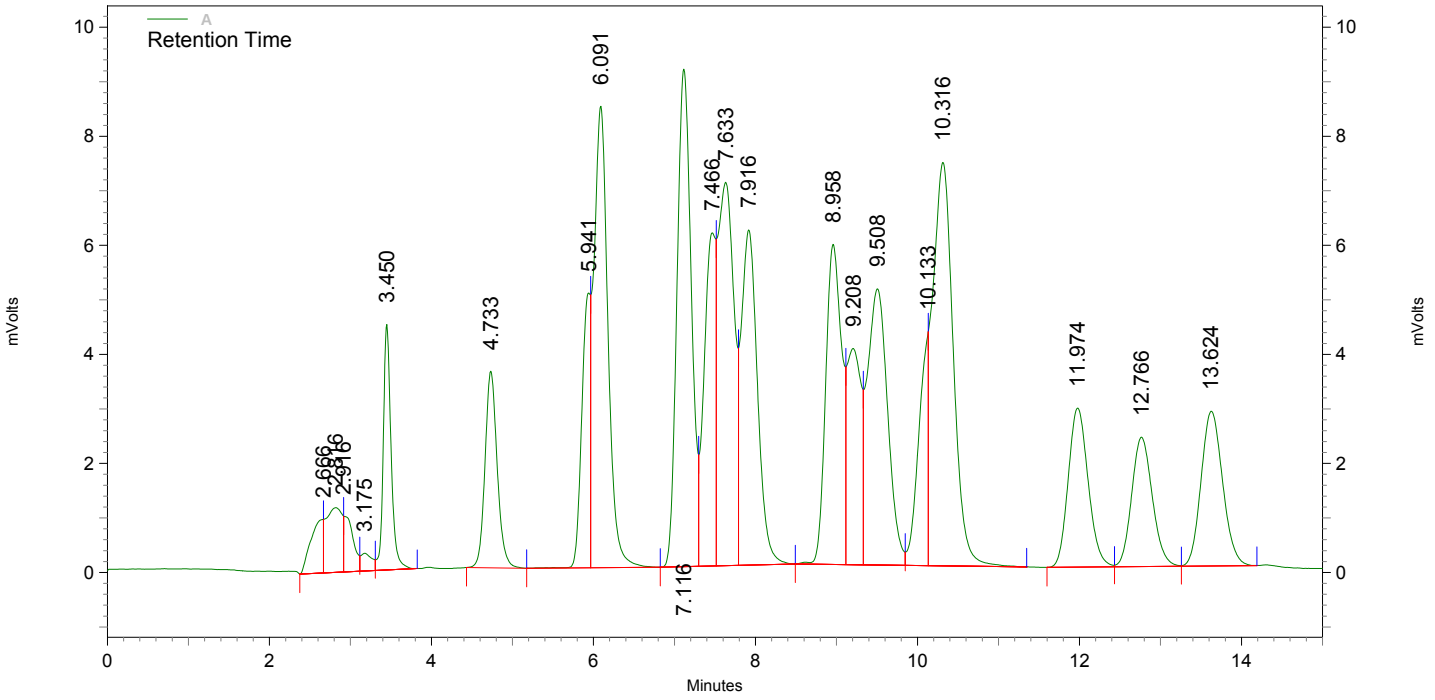
Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
HMX	0.500	0.480	4.087	20.000	Passed
RDX	0.500	0.480	4.050	20.000	Passed
12-DNB (SSTD)	100.000	88.040	11.960	20.000	Passed
135-TNB	0.500	0.510	1.983	20.000	Passed
13-DNB	0.500	0.492	1.511	20.000	Passed
TETRYL	0.500	0.451	9.871	20.000	Passed
35-DNA	0.500	0.569	13.797	20.000	Passed
NB	0.500	0.430	13.974	20.000	Passed
246-TNT	0.500	0.495	1.065	20.000	Passed
4-AM-26-DNT	0.500	0.462	7.527	20.000	Passed
2-AM-46-DNT	0.500	0.500	0.051	20.000	Passed
2-NT	0.500	0.480	4.027	20.000	Passed
4-NT	0.500	0.476	4.879	20.000	Passed
3-NT	0.500	0.464	7.235	20.000	Passed

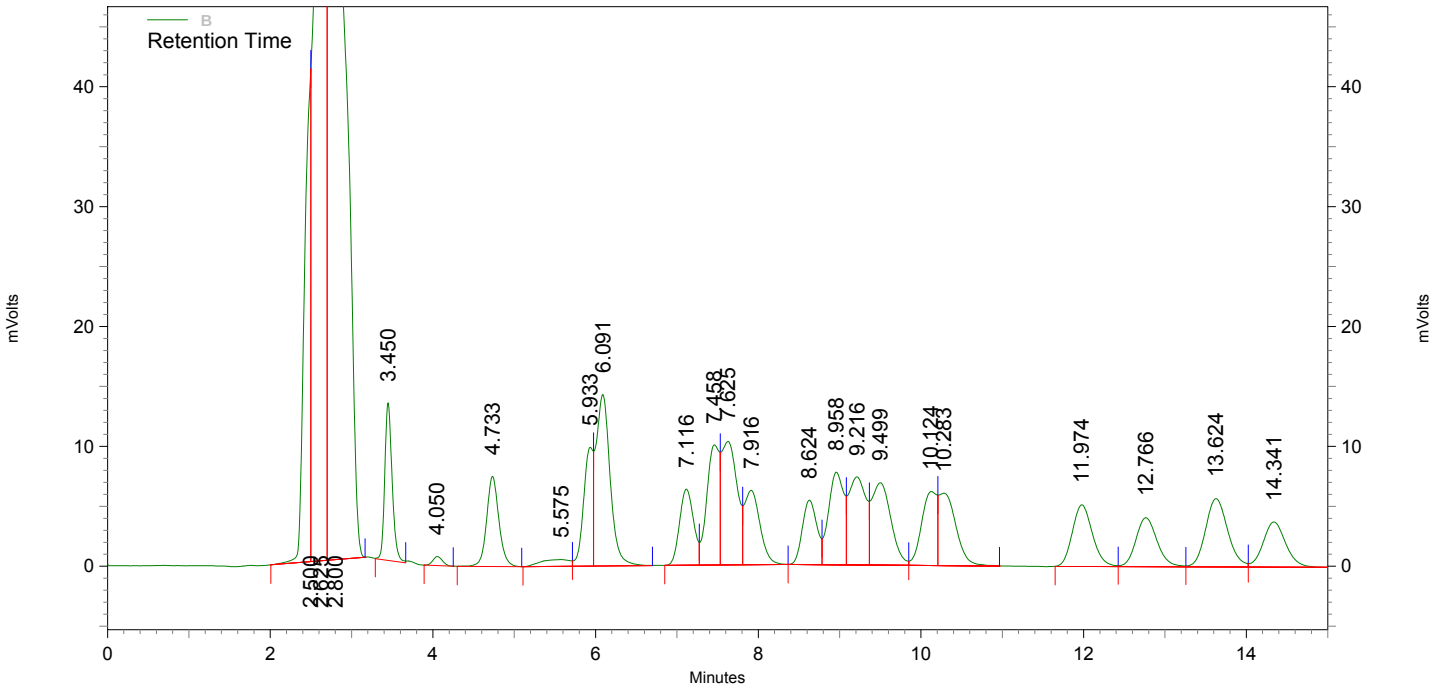
B

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
NG	1.000	0.989	1.079	20.000	Passed
26-DNT	0.500	0.478	4.451	20.000	Passed
24-DNT	0.500	0.502	0.432	20.000	Passed
PETN	1.000	0.971	2.901	20.000	Passed

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\042516exp-primary\008.dat
User ID: RED
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\041916exp-primary.met
Sample ID: 8330 CCV EXP 5755
Acquired: 04/25/2016 19:27:28
Data Summary: {Data Description}





File: C:\Instarch\HPLC 2\Data\042516exp-primary\008.dat
User ID: RED
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\041916exp-primary.met
Sample ID: 8330 CCV EXP 5755
Acquired: 04/25/2016 19:27:28
Data Summary: {Data Description}

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX	3.450	30206	**0.4796**
RDX	4.733	37594	**0.4797**
12-DNB (SSTD)	5.941	36600	**88.0398**
135-TNB	6.091	103392	**0.5099**
13-DNB	7.116	111947	**0.4924**
TETRYL	7.466	60090	**0.4506**
35-DNA	7.633	97782	**0.5690**
NB	7.916	85683	**0.4301**
246-TNT	8.958	80821	**0.4947**
4-AM-26-DNT	9.208	47945	**0.4624**
2-AM-46-DNT	9.508	88475	**0.5003**
2-NT	11.974	49908	**0.4799**
4-NT	12.766	42087	**0.4756**
3-NT	13.624	52383	**0.4638**

B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG	8.624	66713	**0.9892**
26-DNT	10.124	79643	**0.4777**
24-DNT	10.283	89276	**0.5022**
PETN	14.341	72770	**0.9710**

QC Check Standard Report

Sequence : C:\Instarch\HPLC 2\Sequences\8330A_B\042516exp-primary.seq
User : RED
Printed : Apr 27, 2016 13:28:59

File	Sample ID	Acquired
C:\Instarch\HPLC 2\Data\042516exp-primary\019.dat	8330 CCV EXP 5755	Apr 27, 2016 13:28:59

A

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
HMX	0.500	0.518	3.557	20.000	Passed
RDX	0.500	0.518	3.546	20.000	Passed
12-DNB (SSTD)	100.000	93.711	6.289	20.000	Passed
135-TNB	0.500	0.561	12.228	20.000	Passed
13-DNB	0.500	0.527	5.443	20.000	Passed
TETRYL	0.500	0.488	2.347	20.000	Passed
35-DNA	0.500	0.597	19.405	20.000	Passed
NB	0.500	0.462	7.626	20.000	Passed
246-TNT	0.500	0.525	4.974	20.000	Passed
4-AM-26-DNT	0.500	0.509	1.788	20.000	Passed
2-AM-46-DNT	0.500	0.530	6.035	20.000	Passed
2-NT	0.500	0.502	0.352	20.000	Passed
4-NT	0.500	0.499	0.214	20.000	Passed
3-NT	0.500	0.480	3.915	20.000	Passed

B

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
NG	1.000	1.058	5.811	20.000	Passed
26-DNT	0.500	0.520	4.072	20.000	Passed
24-DNT	0.500	0.511	2.246	20.000	Passed
PETN	1.000	1.016	1.622	20.000	Passed

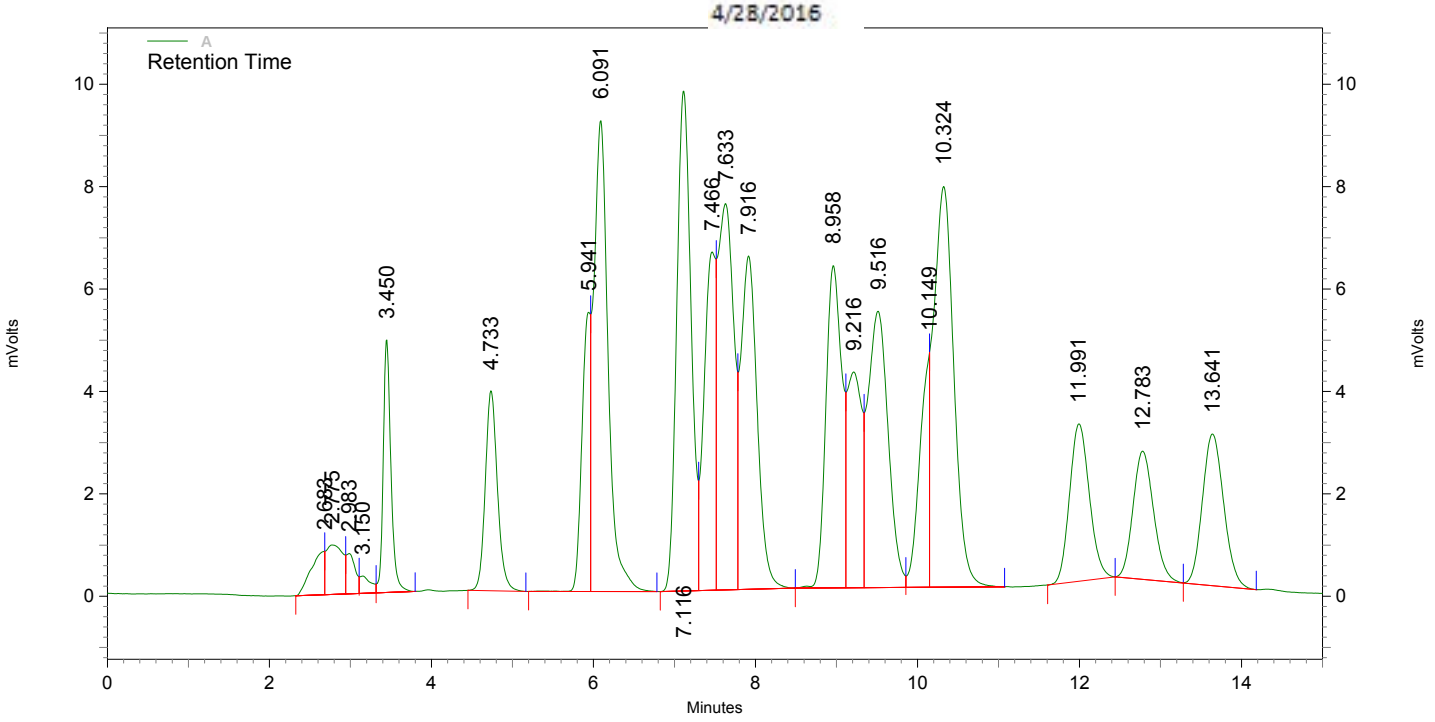
After Manual Integration

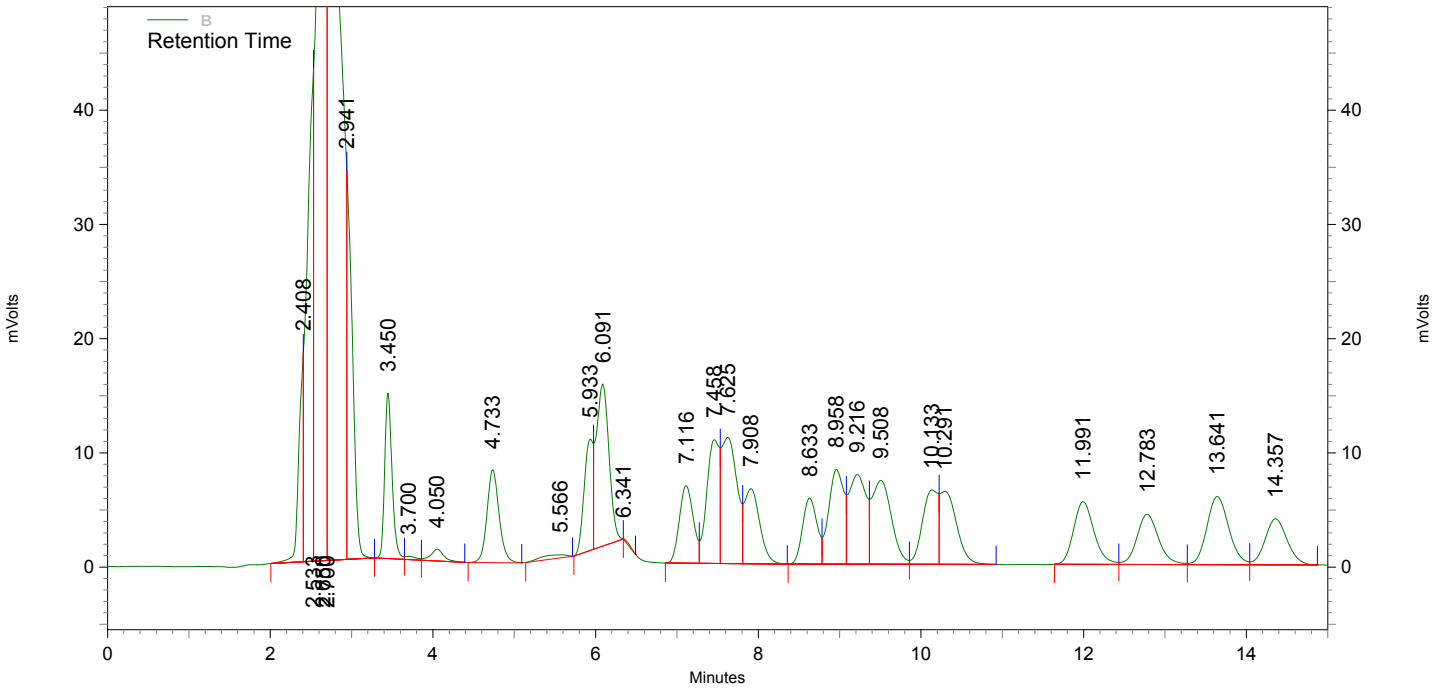
Explosives - 8330

File: C:\Instarch\HPLC 2\Data\042516exp-primary\019.dat
User ID: RED
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\041916exp-primary.met
Sample ID: 8330 CCV EXP 5755
Acquired: 04/25/2016 22:48:49

JJY
4/28/2016

Data Summary: Reason #4 applies to data. RED 4/26/2016





File: C:\Instarch\HPLC 2\Data\042516exp-primary\019.dat
User ID: RED
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\041916exp-primary.met
Sample ID: 8330 CCV EXP 5755
Acquired: 04/25/2016 22:48:49
Data Summary: Reason #4 applies to data. RED 4/26/2016

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX	3.450	32543	**0.5178**
RDX	4.733	40560	**0.5177**
12-DNB (SSTD)	5.941	38957	**93.7113**
135-TNB	6.091	113738	**0.5611**
13-DNB	7.116	119813	**0.5272**
TETRYL	7.466	65079	**0.4883**
35-DNA	7.633	102600	**0.5970**
NB	7.916	91973	**0.4619**
246-TNT	8.958	85754	**0.5249**
4-AM-26-DNT	9.216	52769	**0.5089**
2-AM-46-DNT	9.516	93748	**0.5302**
2-NT	11.991	52174	**0.5018**
4-NT	12.783	44141	**0.4989**
3-NT	13.641	54251	**0.4804**

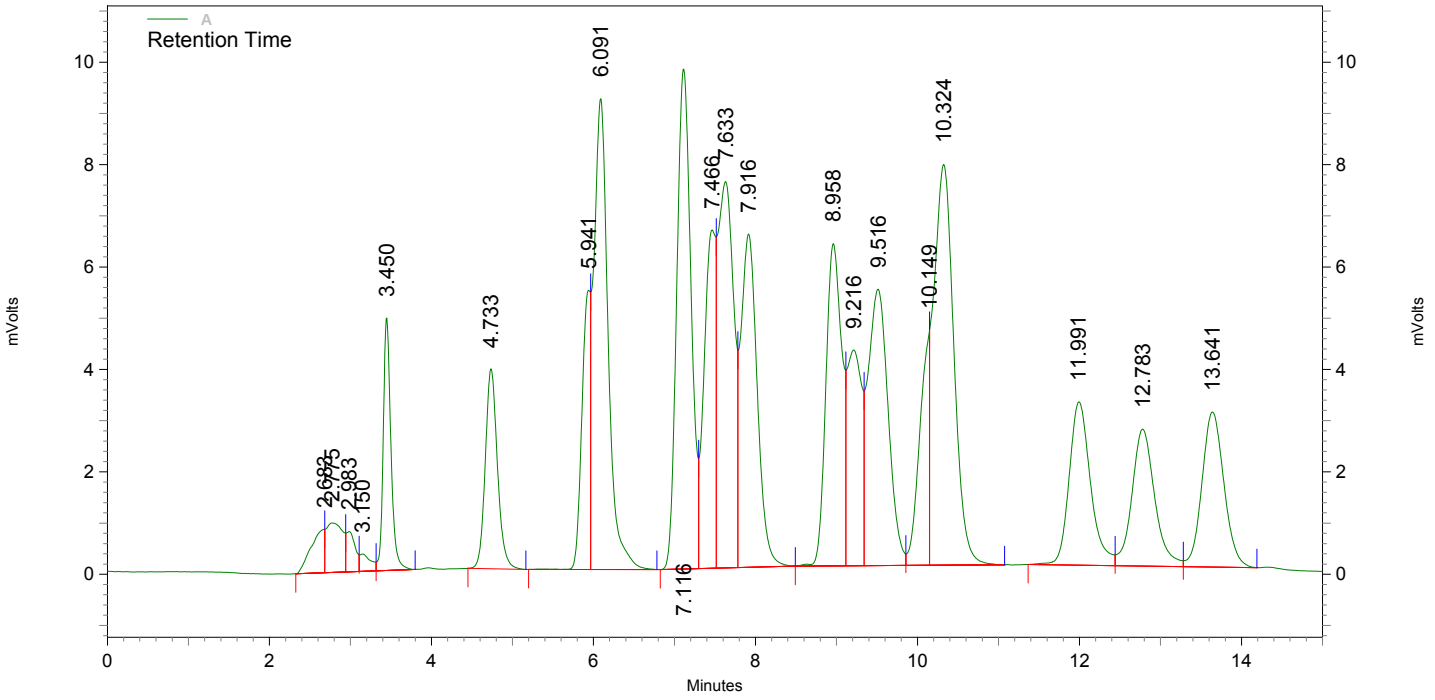
B Results

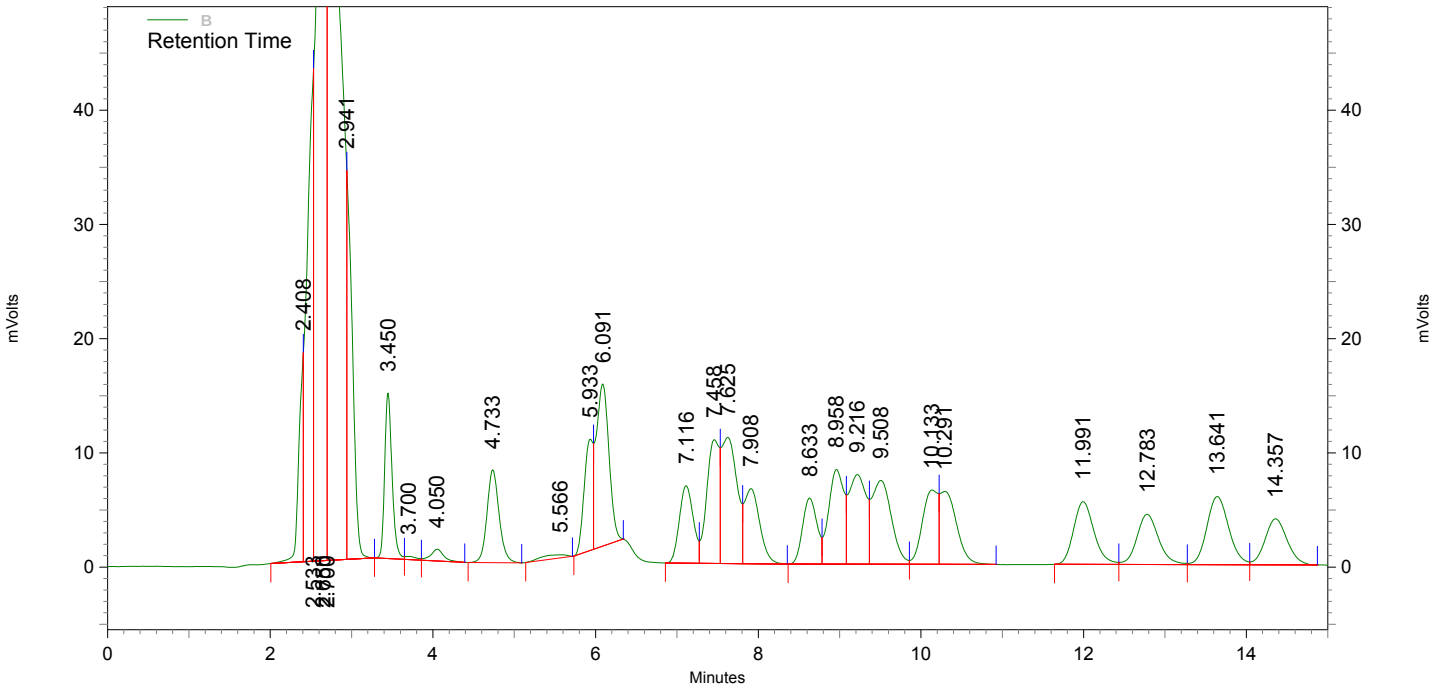
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG	8.633	71368	**1.0581**
26-DNT	10.133	86764	**0.5204**
24-DNT	10.291	90899	**0.5112**
PETN	14.357	76159	**1.0162**

Before Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\042516exp-primary\019.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\042516exp-primary.met
Sample ID: 8330 CCV EXP 5755
Acquired: 04/25/2016 22:48:49
Data Summary: Reason #4 applies to data. RED 4/26/2016





File: C:\Instarch\HPLC 2\Data\042516exp-primary\019.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\042516exp-primary.met
Sample ID: 8330 CCV EXP 5755
Acquired: 04/25/2016 22:48:49
Data Summary: Reason #4 applies to data. RED 4/26/2016

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX	3.450	32543	**0.5178**
RDX	4.733	40560	**0.5177**
12-DNB (SSTD)	5.941	38957	**93.7113**
135-TNB	6.091	113738	**0.5611**
13-DNB	7.116	119813	**0.5272**
TETRYL	7.466	65079	**0.4883**
35-DNA	7.633	102600	**0.5970**
NB	7.916	91973	**0.4619**
246-TNT	8.958	85754	**0.5249**
4-AM-26-DNT	9.216	52769	**0.5089**
2-AM-46-DNT	9.516	93748	**0.5302**
2-NT	11.991	58490	**0.5628**
4-NT	12.783	52259	**0.5911**
3-NT	13.641	57238	**0.5070**

B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG	8.633	71368	**1.0581**
26-DNT	10.133	86764	**0.5204**
24-DNT	10.291	90899	**0.5112**
PETN	14.357	76159	**1.0162**

QC Check Standard Report

Sequence : C:\Instarch\HPLC 2\Sequences\8330A_B\042616EXPIC-CONFIRM.seq
User : red
Printed : Apr 27, 2016 13:21:58

File	Sample ID	Acquired
C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\016.dat	8330 CCV EXP 5759	Apr 27, 2016 13:21:58

A

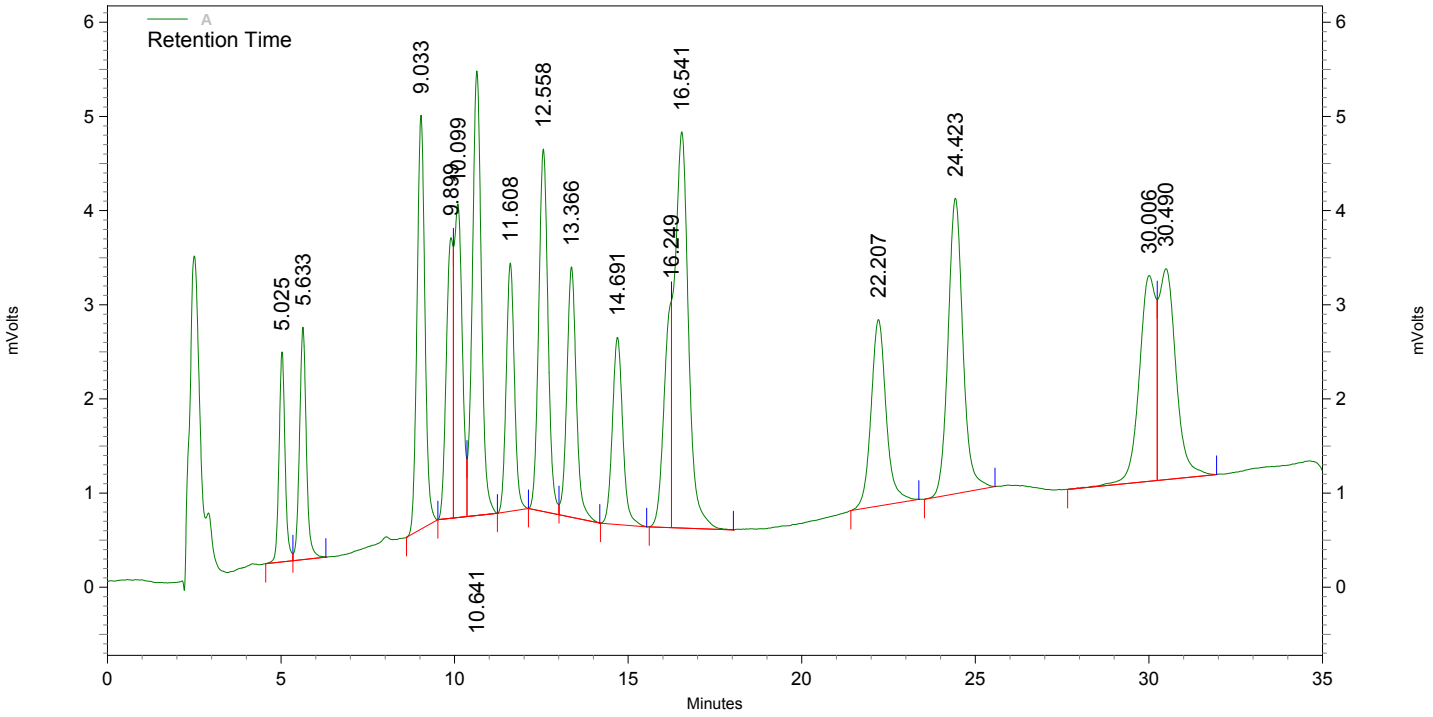
Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
HMX-confirm	0.500	0.507	1.336	20.000	Passed
RDX-confirm	0.500	0.505	0.928	20.000	Passed
NB-confirm	0.500	0.483	3.334	20.000	Passed
12-DNB (SSTD)-confirm	100.000	96.507	3.493	20.000	Passed
4-AM-26-DNT-conf.	0.500	0.501	0.192	20.000	Passed
3,5-DNA-confirm	0.500	0.489	2.235	20.000	Passed
2-NT-confirm	0.500	0.484	3.225	20.000	Passed
2-AM-46-DNT-conf.	0.500	0.485	3.082	20.000	Passed
3-NT-confirm	0.500	0.480	3.921	20.000	Passed
4-NT-confirm	0.500	0.489	2.284	20.000	Passed
26-DNT-confirm	0.500	0.516	3.225	20.000	Passed
13-DNB-confirm	0.500	0.492	1.683	20.000	Passed
TETRYL-confirm	0.500	0.513	2.643	20.000	Passed
24-DNT-confirm	0.500	0.486	2.713	20.000	Passed
135-TNB-confirm	0.500	0.507	1.449	20.000	Passed
246-TNT-confirm	0.500	0.502	0.408	20.000	Passed

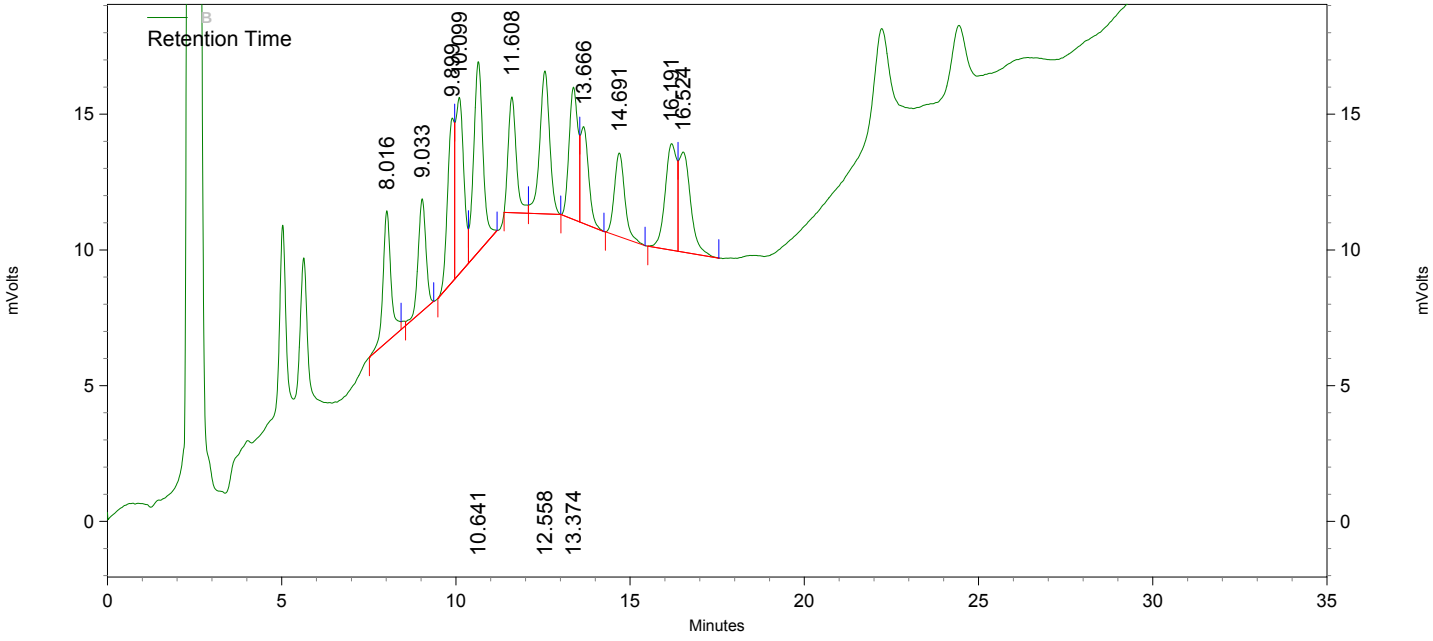
B

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
NG-confirm	1.000	1.172	17.169	20.000	Passed
PETN-confirm	1.000	0.880	11.990	20.000	Passed

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\016.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\042616EXPIC-CONFIRM\042616EXPIC-CONFIRM.met
Sample ID: 8330 CCV EXP 5759
Acquired: 04/26/2016 21:14:09
Data Summary: {Data Description}





8330 CCV EXP 5759

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm	5.025	26917	**0.5067**
RDX-confirm	5.633	34061	**0.5046**
NB-confirm	9.033	69065	**0.4833**
12-DNB (SSTD)-confirm	9.899	39636	**96.5066**
4-AM-26-DNT-conf.	10.099	53887	**0.5010**
3,5-DNA-confirm	10.641	85019	**0.4888**
2-NT-confirm	11.608	42943	**0.4839**
2-AM-46-DNT-conf.	12.558	71449	**0.4846**
3-NT-confirm	13.366	50297	**0.4804**
4-NT-confirm	14.691	41309	**0.4886**
26-DNT-confirm	16.249	35055	**0.5161**
13-DNB-confirm	16.541	115630	**0.4916**
TETRYL-confirm	22.207	59982	**0.5132**
24-DNT-confirm	24.423	93232	**0.4864**
135-TNB-confirm	30.006	71619	**0.5072**
246-TNT-confirm	30.490	77159	**0.5020**

B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm	8.016	75910	**1.1717**
PETN-confirm	13.666	58146	**0.8801**

QC Check Standard Report

Sequence : C:\Instarch\HPLC 2\Sequences\8330A_B\042616EXPIC-CONFIRM.seq
User : red
Printed : Apr 27, 2016 13:22:36

File	Sample ID	Acquired
C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\024.dat	8330 CCV EXP 5759	Apr 27, 2016 13:22:36

A

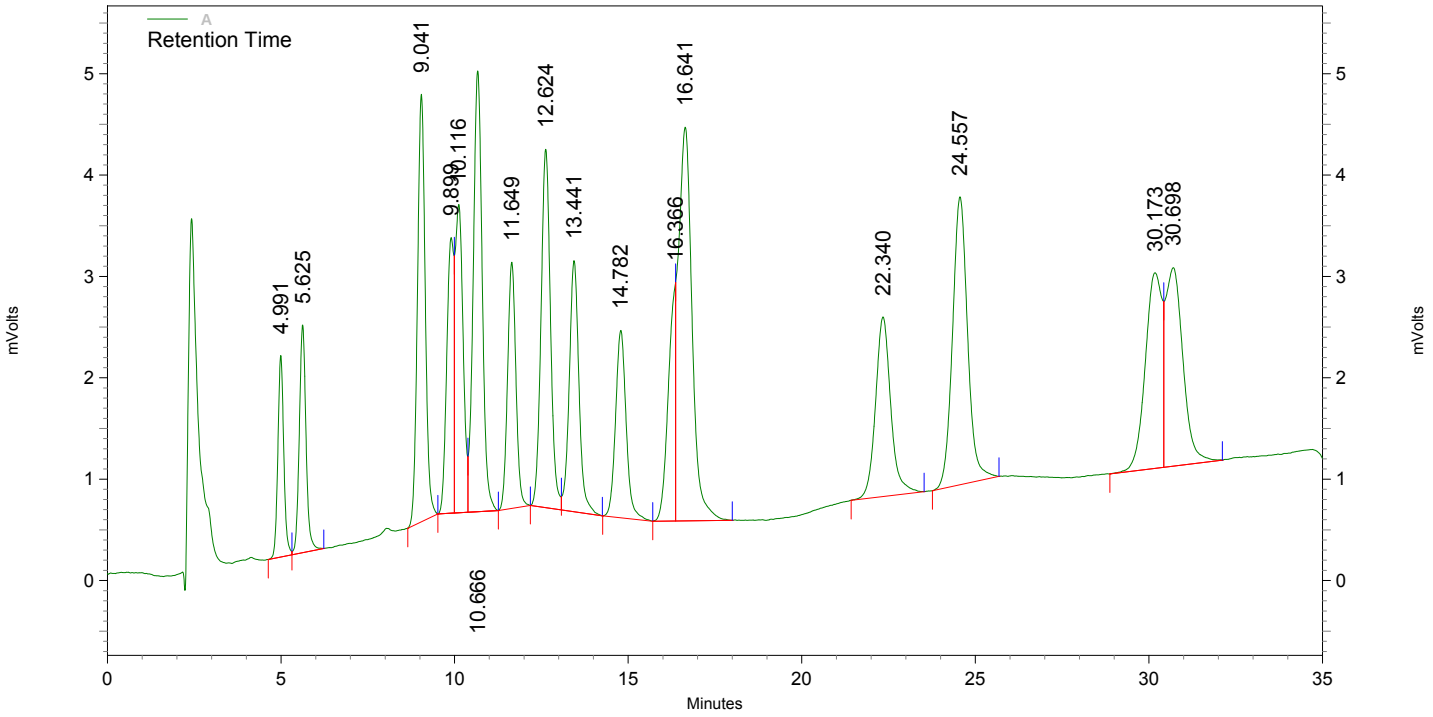
Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
HMX-confirm	0.500	0.441	11.775	20.000	Passed
RDX-confirm	0.500	0.450	9.964	20.000	Passed
NB-confirm	0.500	0.459	8.226	20.000	Passed
12-DNB (SSTD)-confirm	100.000	92.055	7.945	20.000	Passed
4-AM-26-DNT-conf.	0.500	0.452	9.604	20.000	Passed
3,5-DNA-confirm	0.500	0.449	10.175	20.000	Passed
2-NT-confirm	0.500	0.455	8.968	20.000	Passed
2-AM-46-DNT-conf.	0.500	0.454	9.122	20.000	Passed
3-NT-confirm	0.500	0.459	8.168	20.000	Passed
4-NT-confirm	0.500	0.463	7.303	20.000	Passed
26-DNT-confirm	0.500	0.484	3.160	20.000	Passed
13-DNB-confirm	0.500	0.455	8.913	20.000	Passed
TETRYL-confirm	0.500	0.463	7.313	20.000	Passed
24-DNT-confirm	0.500	0.448	10.302	20.000	Passed
135-TNB-confirm	0.500	0.459	8.199	20.000	Passed
246-TNT-confirm	0.500	0.444	11.235	20.000	Passed

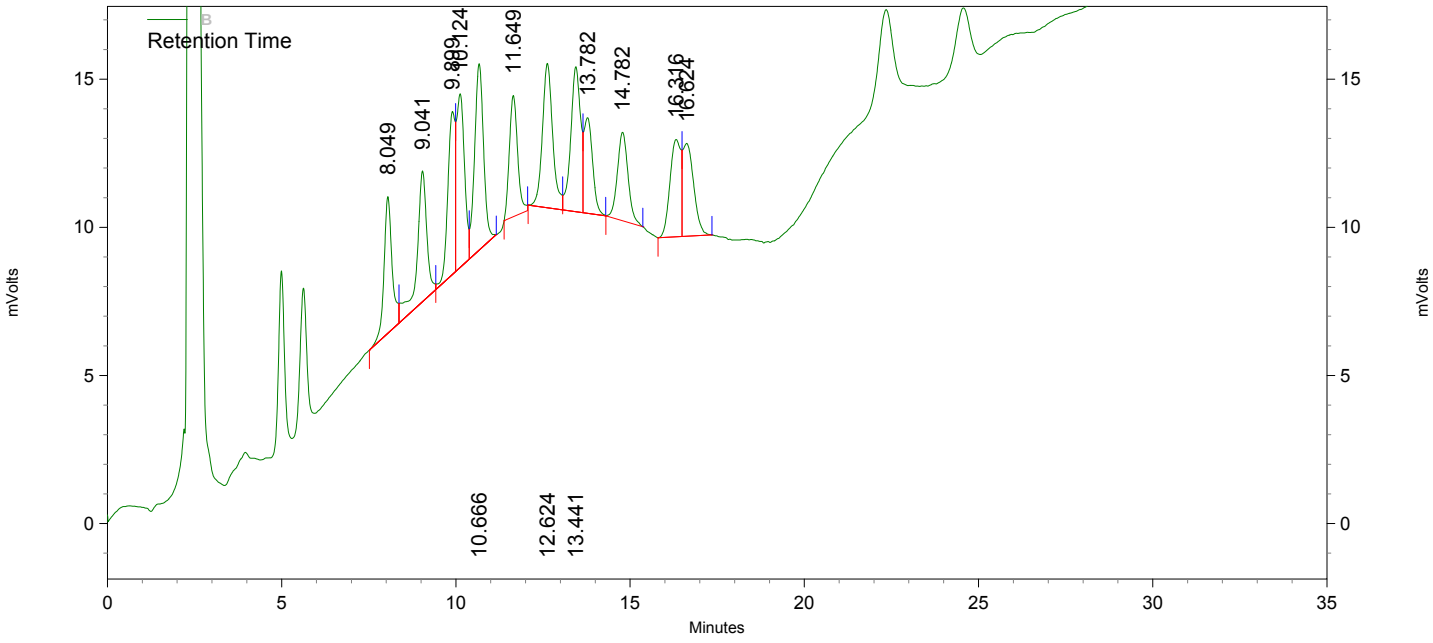
B

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
NG-confirm	1.000	1.134	13.387	20.000	Passed
PETN-confirm	1.000	0.845	15.481	20.000	Passed

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\024.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\042616EXPIC-CONFIRM\042616EXPIC-CONFIRM.met
Sample ID: 8330 CCV EXP 5759
Acquired: 04/27/2016 02:12:33
Data Summary: {Data Description}





8330 CCV EXP 5759

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm	4.991	23420	**0.4411**
RDX-confirm	5.625	30387	**0.4502**
NB-confirm	9.041	65571	**0.4589**
12-DNB (SSTD)-confirm	9.899	37805	**92.0547**
4-AM-26-DNT-conf.	10.116	48645	**0.4520**
3,5-DNA-confirm	10.666	78131	**0.4491**
2-NT-confirm	11.649	40403	**0.4552**
2-AM-46-DNT-conf.	12.624	67042	**0.4544**
3-NT-confirm	13.441	48070	**0.4592**
4-NT-confirm	14.782	39176	**0.4635**
26-DNT-confirm	16.366	32886	**0.4842**
13-DNB-confirm	16.641	107073	**0.4554**
TETRYL-confirm	22.340	54155	**0.4634**
24-DNT-confirm	24.557	85923	**0.4485**
135-TNB-confirm	30.173	64824	**0.4590**
246-TNT-confirm	30.698	68244	**0.4438**

B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm	8.049	73531	**1.1339**
PETN-confirm	13.782	56050	**0.8452**

NITROAROMATICS ANALYSIS
QUALITY CONTROL
DOCUMENTS

After Manual Integration

RED

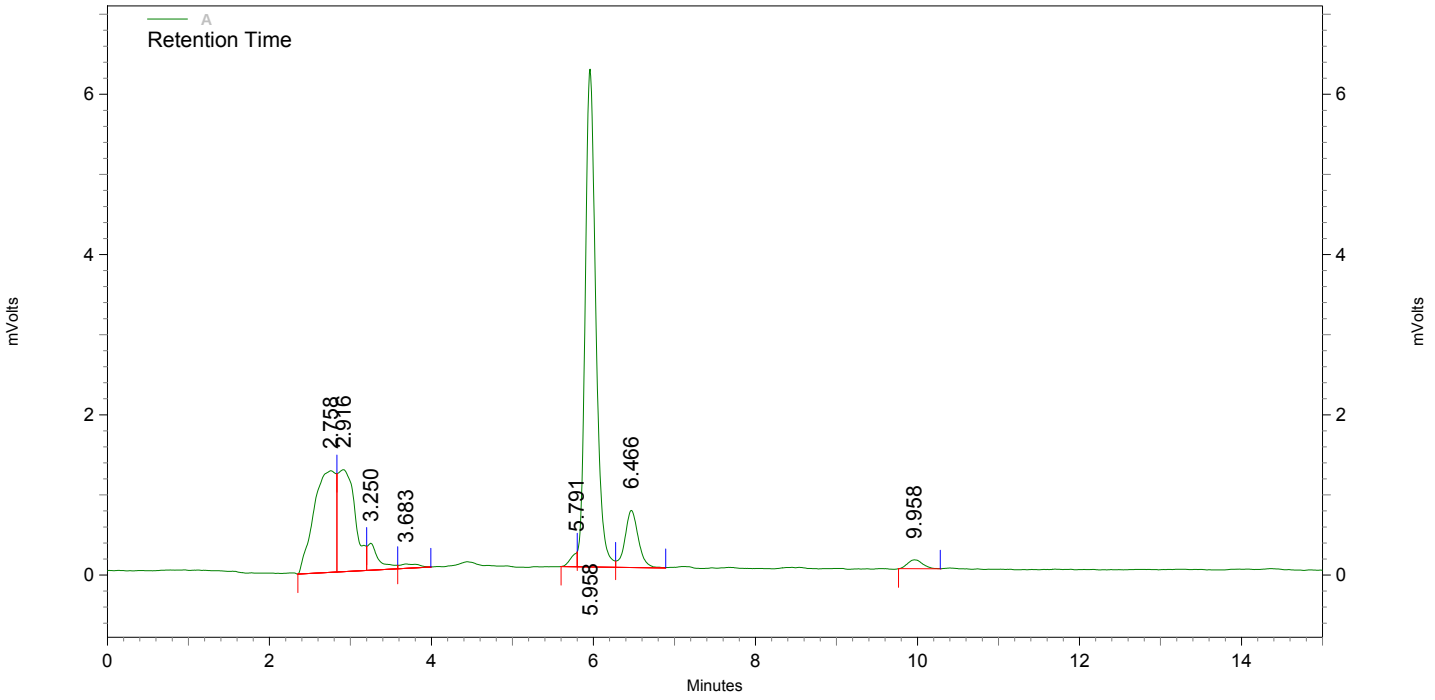
4/28/2016

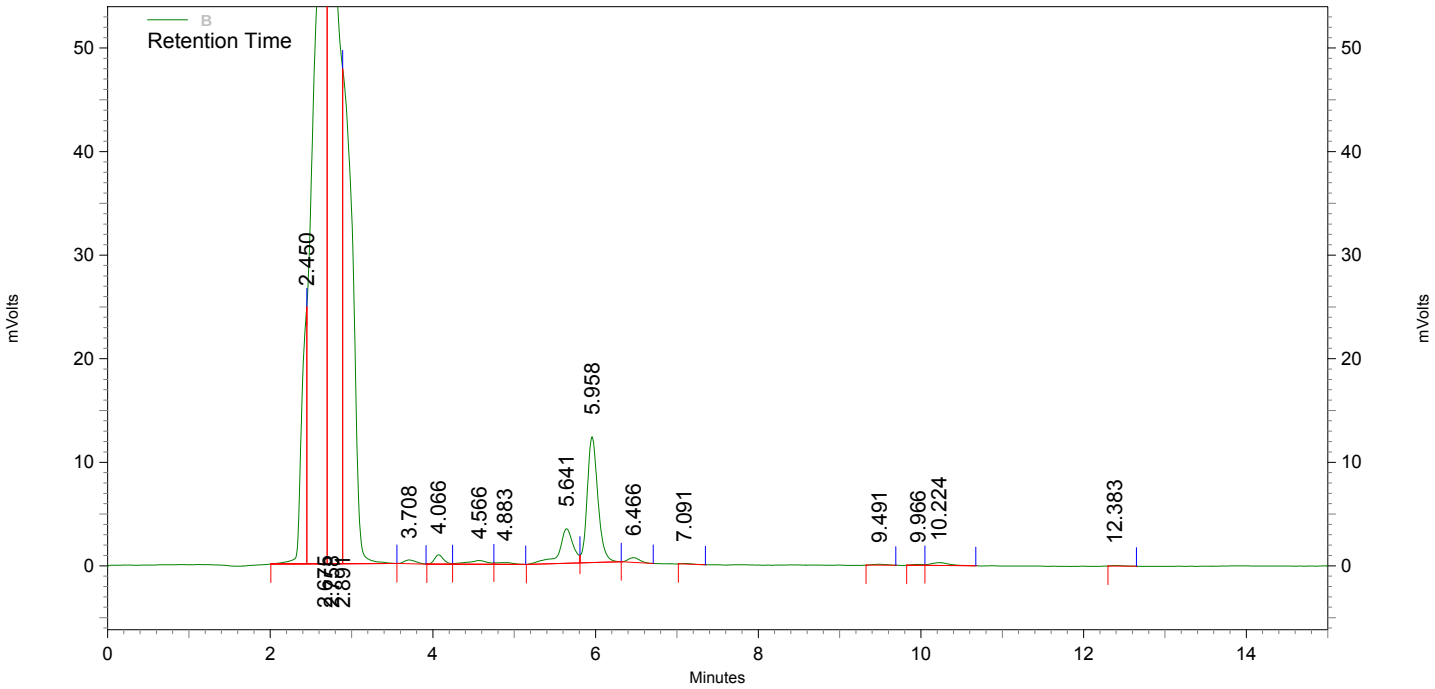
Explosives - 8330

File: C:\Instarch\HPLC 2\Data\042516exp-primary\009.dat
User ID: RED
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\041916exp-primary.met
Sample ID: 125220,MBW,
Acquired: 04/25/2016 19:45:49
Data Summary: Reason #3 applies to data. RED 4/26/2016

JJY

4/28/2016





File: C:\Instarch\HPLC 2\Data\042516exp-primary\009.dat
User ID: RED
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\041916exp-primary.met
Sample ID: 125220,MBW,
Acquired: 04/25/2016 19:45:49
Data Summary: Reason #3 applies to data. RED 4/26/2016

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX			**0.0000 BDL**
RDX			**0.0000 BDL**
12-DNB (SSTD)	5.958	56757	**136.5426**
135-TNB			**0.0000 BDL**
13-DNB			**0.0000 BDL**
TETRYL			**0.0000 BDL**
35-DNA			**0.0000 BDL**
NB			**0.0000 BDL**
246-TNT			**0.0000 BDL**
4-AM-26-DNT			**0.0000 BDL**
2-AM-46-DNT			**0.0000 BDL**
2-NT			**0.0000 BDL**
4-NT			**0.0000 BDL**
3-NT			**0.0000 BDL**

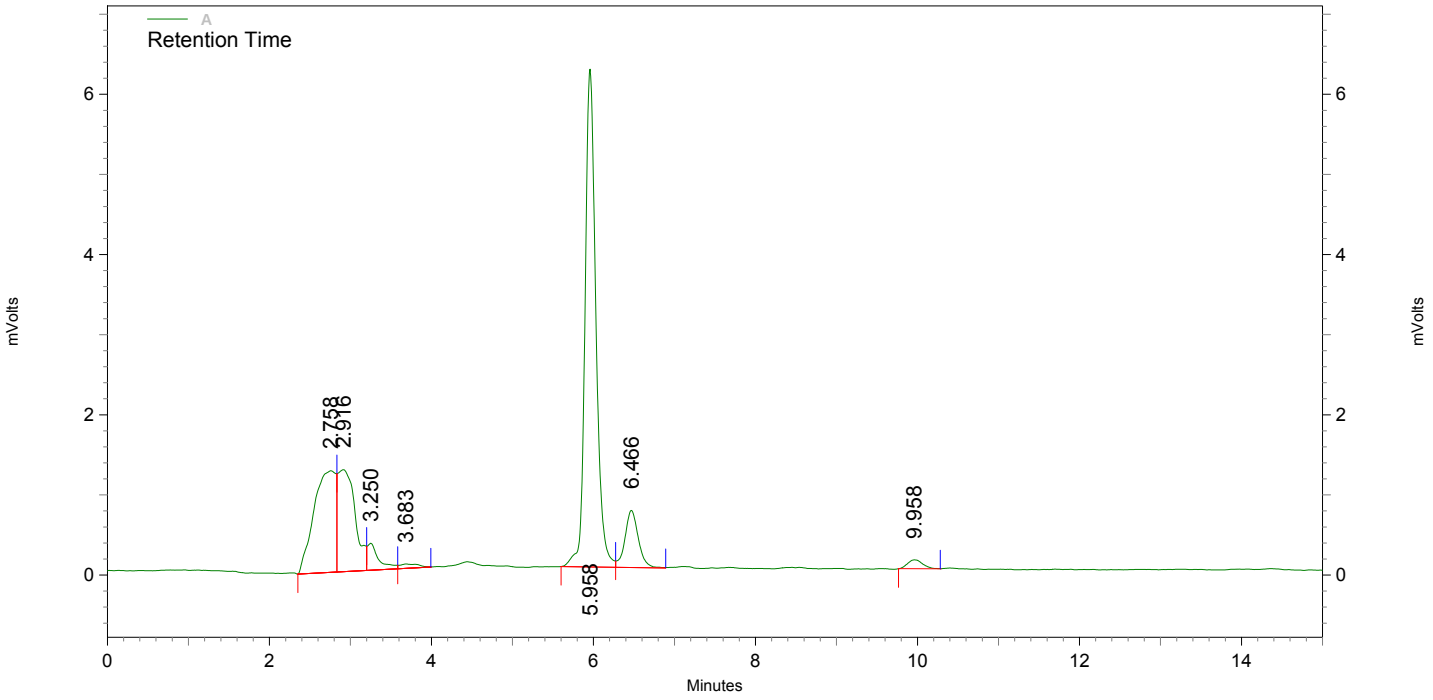
B Results

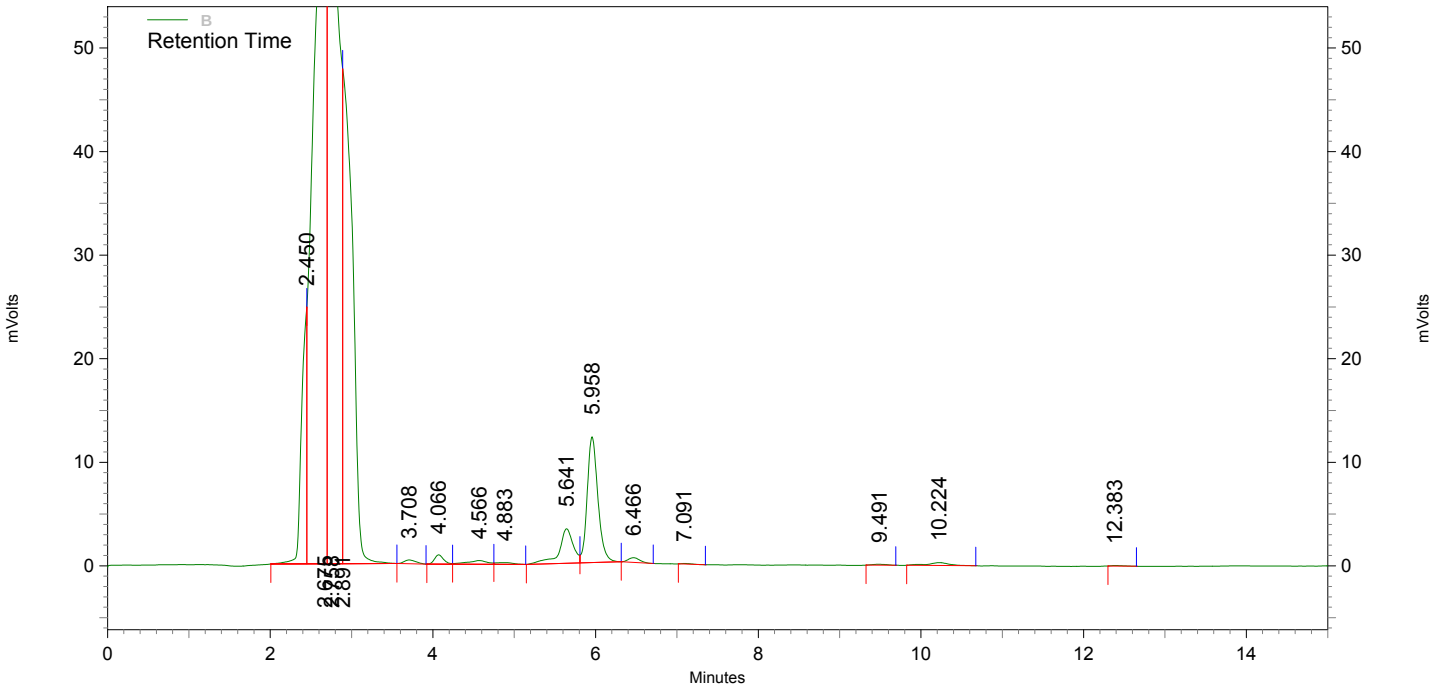
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG			**0.0000 BDL**
26-DNT	10.224	4093	**0.0256**
24-DNT			**0.0000 BDL**
PETN			**0.0000 BDL**

Before Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\042516exp-primary\009.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\042516exp-primary.met
Sample ID: 125220,MBW,
Acquired: 04/25/2016 19:45:49
Data Summary: Reason #3 applies to data. RED 4/26/2016





File: C:\Instarch\HPLC 2\Data\042516exp-primary\009.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\042516exp-primary.met
Sample ID: 125220,MBW,
Acquired: 04/25/2016 19:45:49
Data Summary: Reason #3 applies to data. RED 4/26/2016

A Results

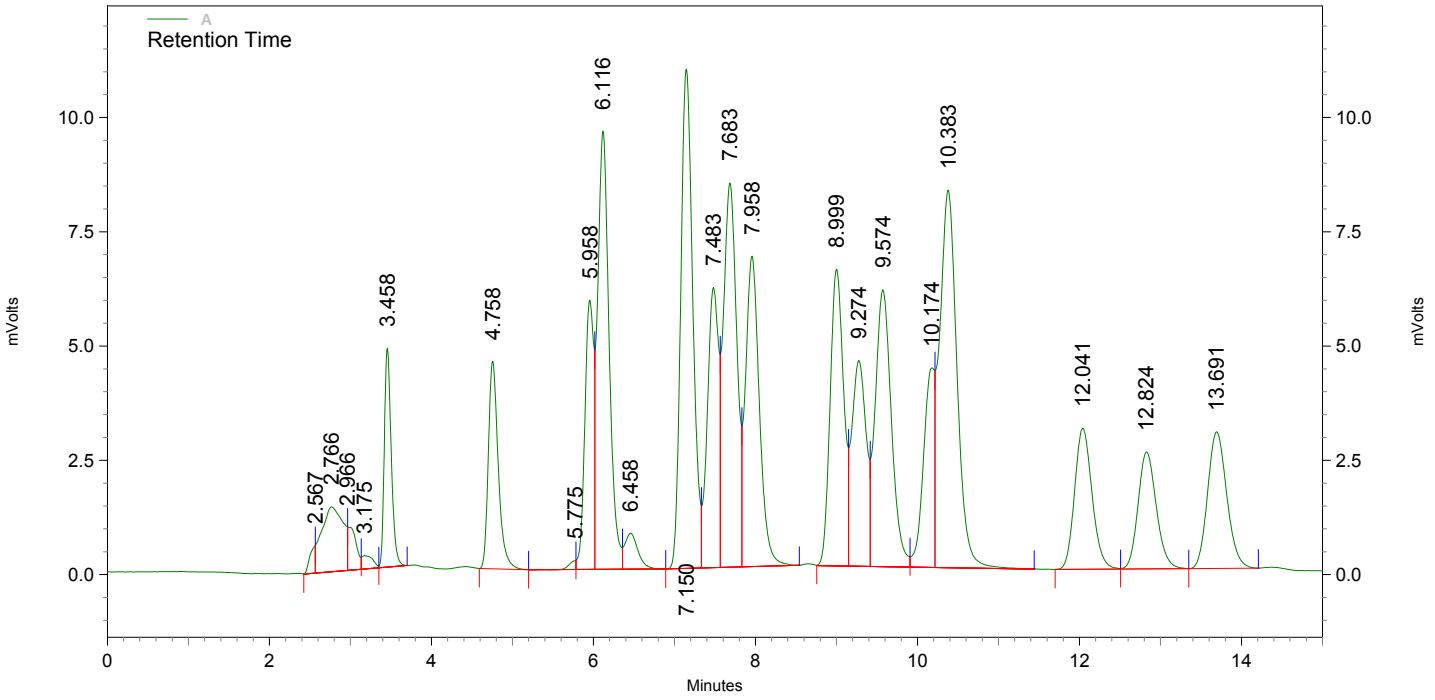
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX			**0.0000 BDL**
RDX			**0.0000 BDL**
12-DNB (SSTD)	5.958	57711	**138.8381**
135-TNB			**0.0000 BDL**
13-DNB			**0.0000 BDL**
TETRYL			**0.0000 BDL**
35-DNA			**0.0000 BDL**
NB			**0.0000 BDL**
246-TNT			**0.0000 BDL**
4-AM-26-DNT			**0.0000 BDL**
2-AM-46-DNT			**0.0000 BDL**
2-NT			**0.0000 BDL**
4-NT			**0.0000 BDL**
3-NT			**0.0000 BDL**

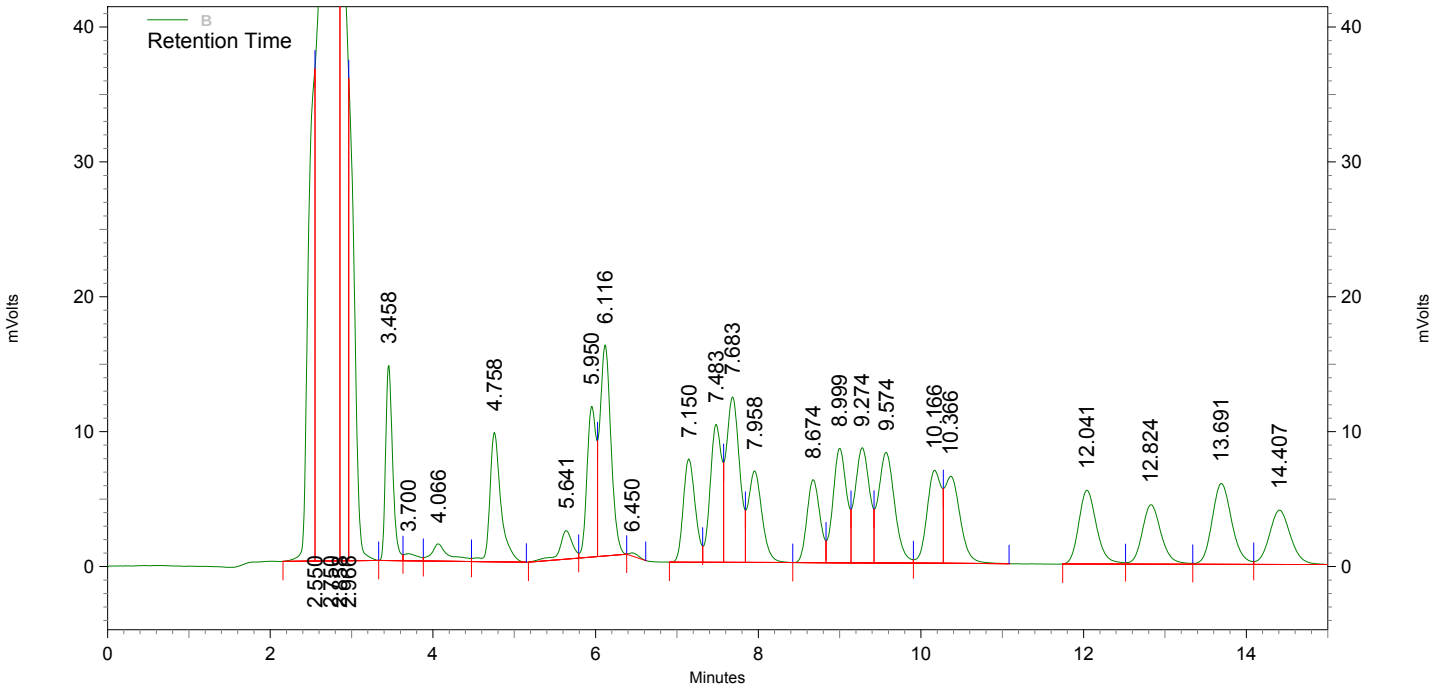
B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG			**0.0000 BDL**
26-DNT	10.224	4977	**0.0309**
24-DNT			**0.0000 BDL**
PETN			**0.0000 BDL**

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\042516exp-primary\010.dat
User ID: RED
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\041916exp-primary.met
Sample ID: 125220,LCSW,
Acquired: 04/25/2016 20:04:07
Data Summary: {Data Description}





File: C:\Instarch\HPLC 2\Data\042516exp-primary\010.dat
User ID: RED
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\041916exp-primary.met
Sample ID: 125220,LCSW,
Acquired: 04/25/2016 20:04:07
Data Summary: {Data Description}

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX	3.458	28515	**0.4519**
RDX	4.758	38408	**0.4902**
12-DNB (SSTD)	5.958	44746	**107.6411**
135-TNB	6.116	95286	**0.4698**
13-DNB	7.150	112951	**0.4969**
TETRYL	7.483	59448	**0.4458**
35-DNA	7.683	96868	**0.5637**
NB	7.958	81054	**0.4068**
246-TNT	8.999	74829	**0.4580**
4-AM-26-DNT	9.274	55543	**0.5357**
2-AM-46-DNT	9.574	84633	**0.4785**
2-NT	12.041	46246	**0.4445**
4-NT	12.824	40086	**0.4529**
3-NT	13.691	49130	**0.4349**

B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG	8.674	68192	**1.0111**
26-DNT	10.166	83944	**0.5035**
24-DNT	10.366	86231	**0.4851**
PETN	14.407	72584	**0.9685**

After Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\042516exp-primary\012.dat
User ID: RED
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\041916exp-primary.met
Sample ID: 125220,MSW709222,
Acquired: 04/25/2016 20:40:43
Data Summary: Reason #3 applies to data. RED 4/26/2016

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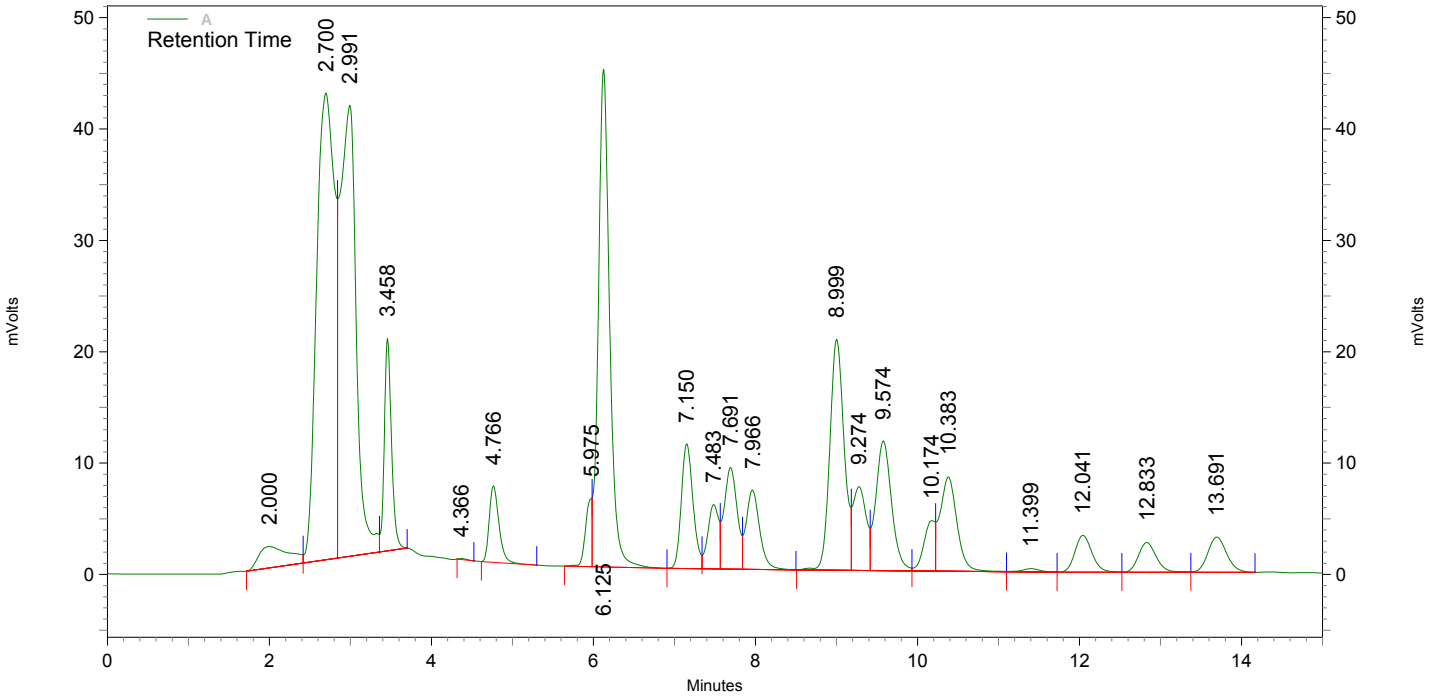
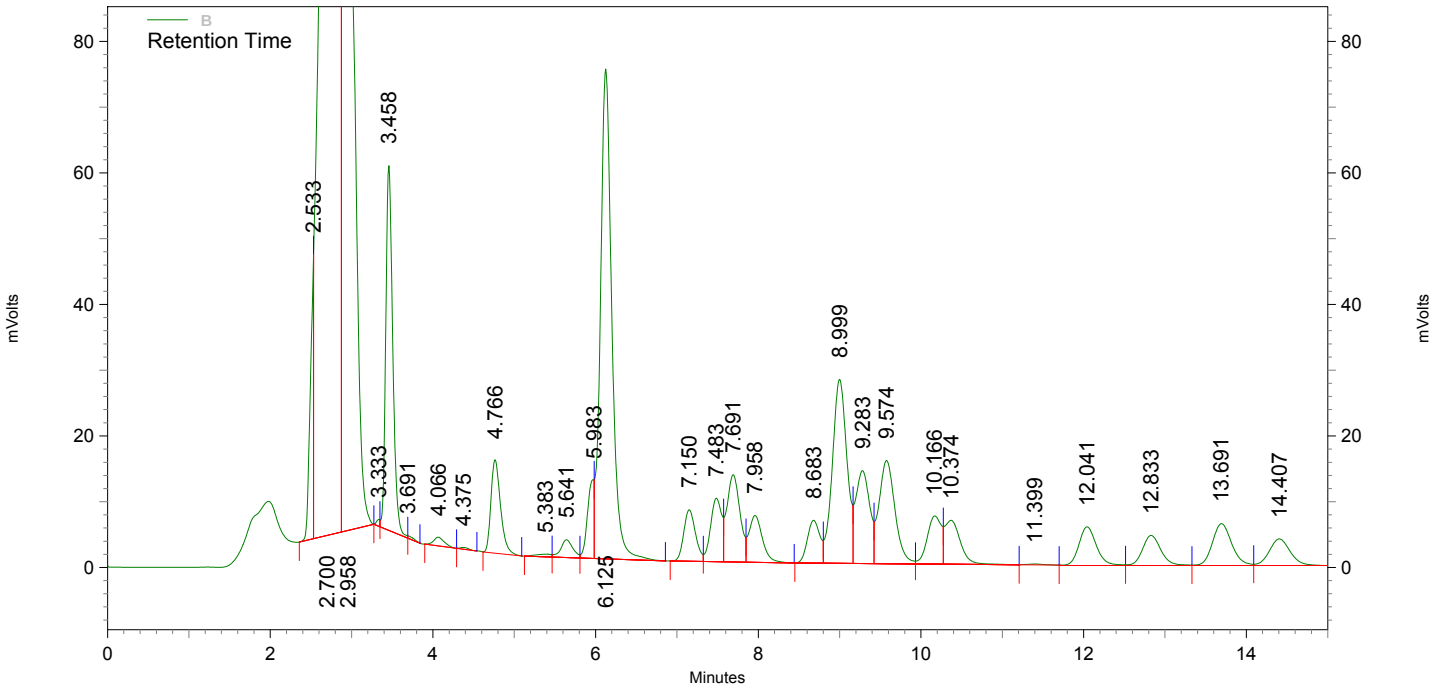
4/28/2016





File: C:\Instarch\HPLC 2\Data\042516exp-primary\012.dat
User ID: RED
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\041916exp-primary.met
Sample ID: 125220,MSW709222,
Acquired: 04/25/2016 20:40:43
Data Summary: Reason #3 applies to data. RED 4/26/2016

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX	3.458	118054	**1.9162**
RDX	4.766	57196	**0.7307**
12-DNB (SSTD)	5.975	33262	**80.0077**
135-TNB	6.125	433051	**2.1421**
13-DNB	7.150	112787	**0.4962**
TETRYL	7.483	53872	**0.4038**
35-DNA	7.691	102706	**0.5976**
NB	7.966	82181	**0.4125**
246-TNT	8.999	253766	**1.5532**
4-AM-26-DNT	9.274	84824	**0.8184**
2-AM-46-DNT	9.574	157879	**0.8941**
2-NT	12.041	48023	**0.4616**
4-NT	12.833	40744	**0.4604**
3-NT	13.691	50862	**0.4503**

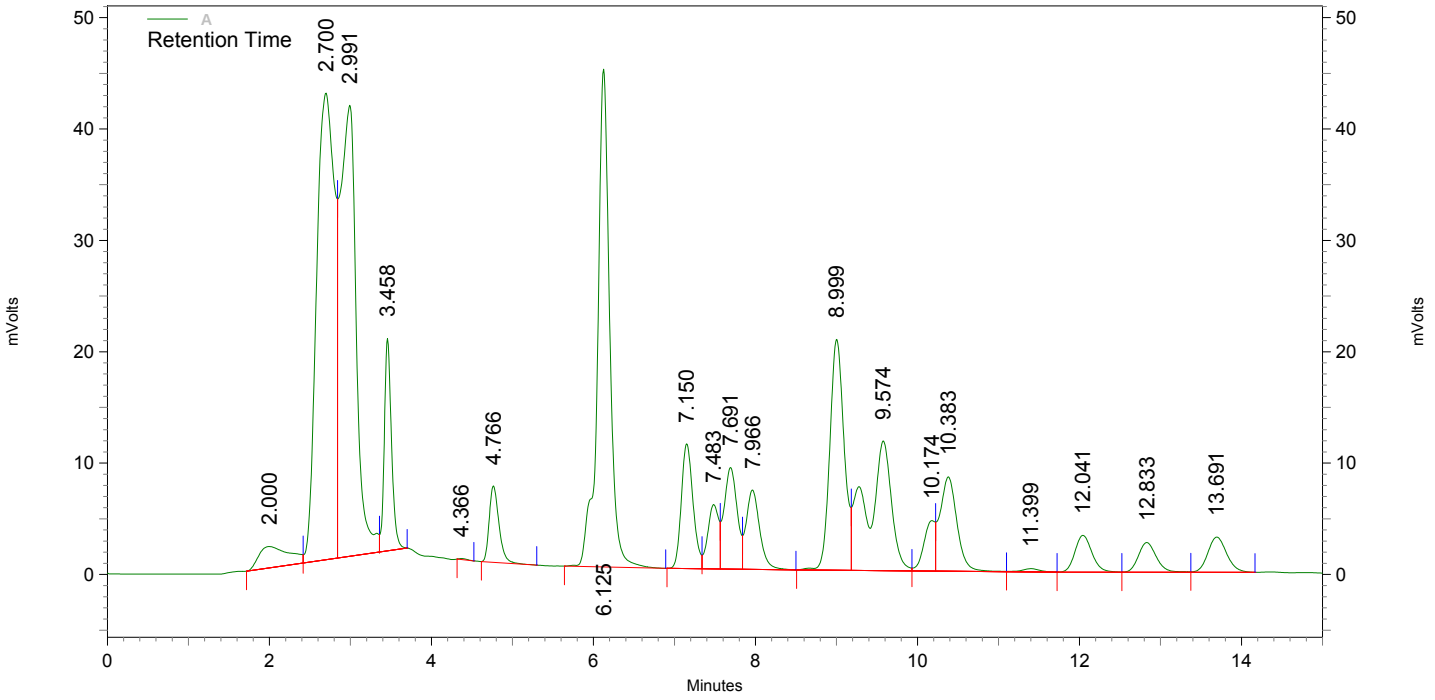
B Results

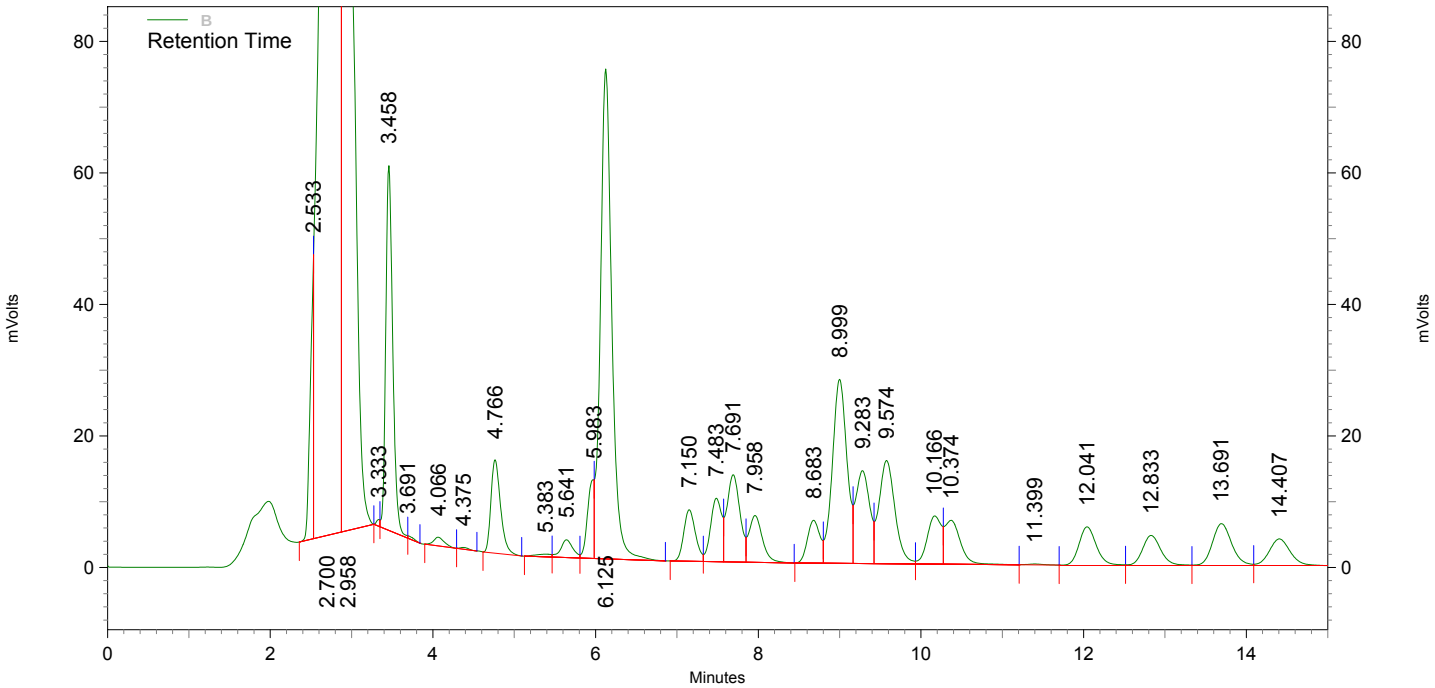
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG	8.683	69222	**1.0263**
26-DNT	10.166	87641	**0.5256**
24-DNT	10.374	89502	**0.5034**
PETN	14.407	72523	**0.9677**

Before Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\042516exp-primary\012.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\042516exp-primary.met
Sample ID: 125220,MSW709222,
Acquired: 04/25/2016 20:40:43
Data Summary: Reason #3 applies to data. RED 4/26/2016





File: C:\Instarch\HPLC 2\Data\042516exp-primary\012.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\042516exp-primary.met
Sample ID: 125220,MSW709222,
Acquired: 04/25/2016 20:40:43
Data Summary: Reason #3 applies to data. RED 4/26/2016

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX	3.458	118054	**1.9162**
RDX	4.766	57196	**0.7307**
12-DNB (SSTD)			**0.0000 BDL**
135-TNB	6.125	466411	**2.3073**
13-DNB	7.150	112787	**0.4962**
TETRYL	7.483	53872	**0.4038**
35-DNA	7.691	102706	**0.5976**
NB	7.966	82181	**0.4125**
246-TNT	8.999	253766	**1.5532**
4-AM-26-DNT			**0.0000 BDL**
2-AM-46-DNT	9.574	242702	**1.3753**
2-NT	12.041	48023	**0.4616**
4-NT	12.833	40744	**0.4604**
3-NT	13.691	50862	**0.4503**

B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG	8.683	69222	**1.0263**
26-DNT	10.166	87641	**0.5256**
24-DNT	10.374	89502	**0.5034**
PETN	14.407	72523	**0.9677**

After Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\042516exp-primary\013.dat
User ID: RED
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\041916exp-primary.met
Sample ID: 125220,MSDW709222,
Acquired: 04/25/2016 20:59:01
Data Summary: Reason #3 applies to data. RED 4/26/2016

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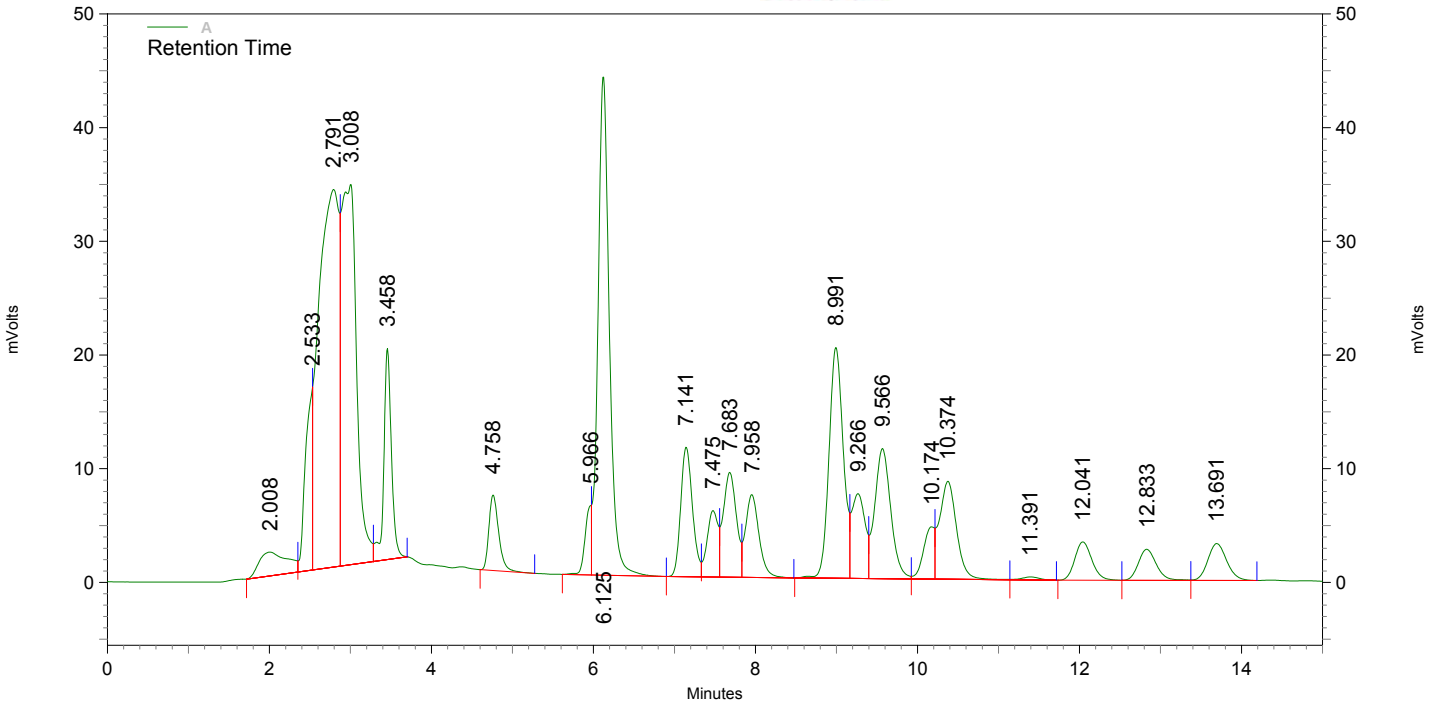
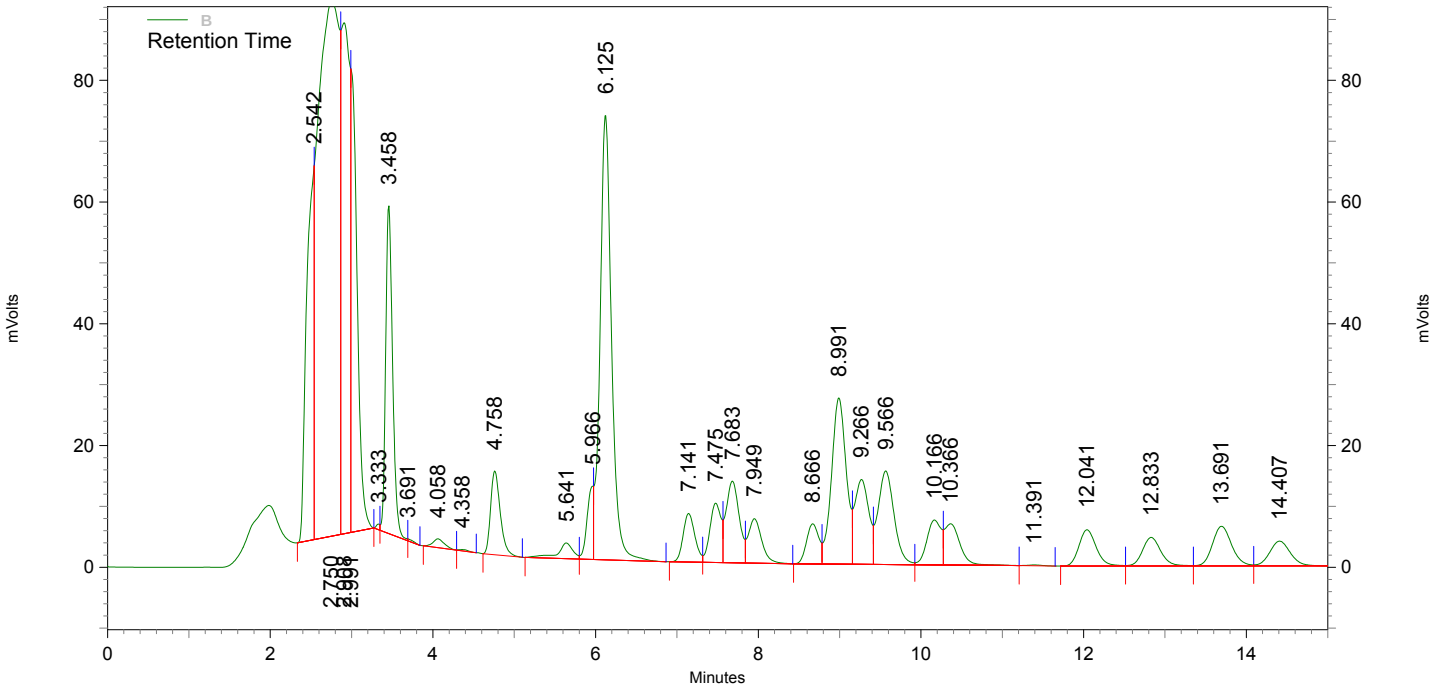
4/28/2016





File: C:\Instarch\HPLC 2\Data\042516exp-primary\013.dat
User ID: RED
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\041916exp-primary.met
Sample ID: 125220,MSDW709222,
Acquired: 04/25/2016 20:59:01
Data Summary: Reason #3 applies to data. RED 4/26/2016

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX	3.458	122055	**1.9816**
RDX	4.758	55865	**0.7137**
12-DNB (SSTD)	5.966	32059	**77.1130**
135-TNB	6.125	428592	**2.1201**
13-DNB	7.141	115495	**0.5081**
TETRYL	7.475	54983	**0.4121**
35-DNA	7.683	104619	**0.6088**
NB	7.958	84419	**0.4238**
246-TNT	8.991	248188	**1.5191**
4-AM-26-DNT	9.266	85502	**0.8250**
2-AM-46-DNT	9.566	158421	**0.8971**
2-NT	12.041	49307	**0.4741**
4-NT	12.833	41922	**0.4737**
3-NT	13.691	52284	**0.4629**

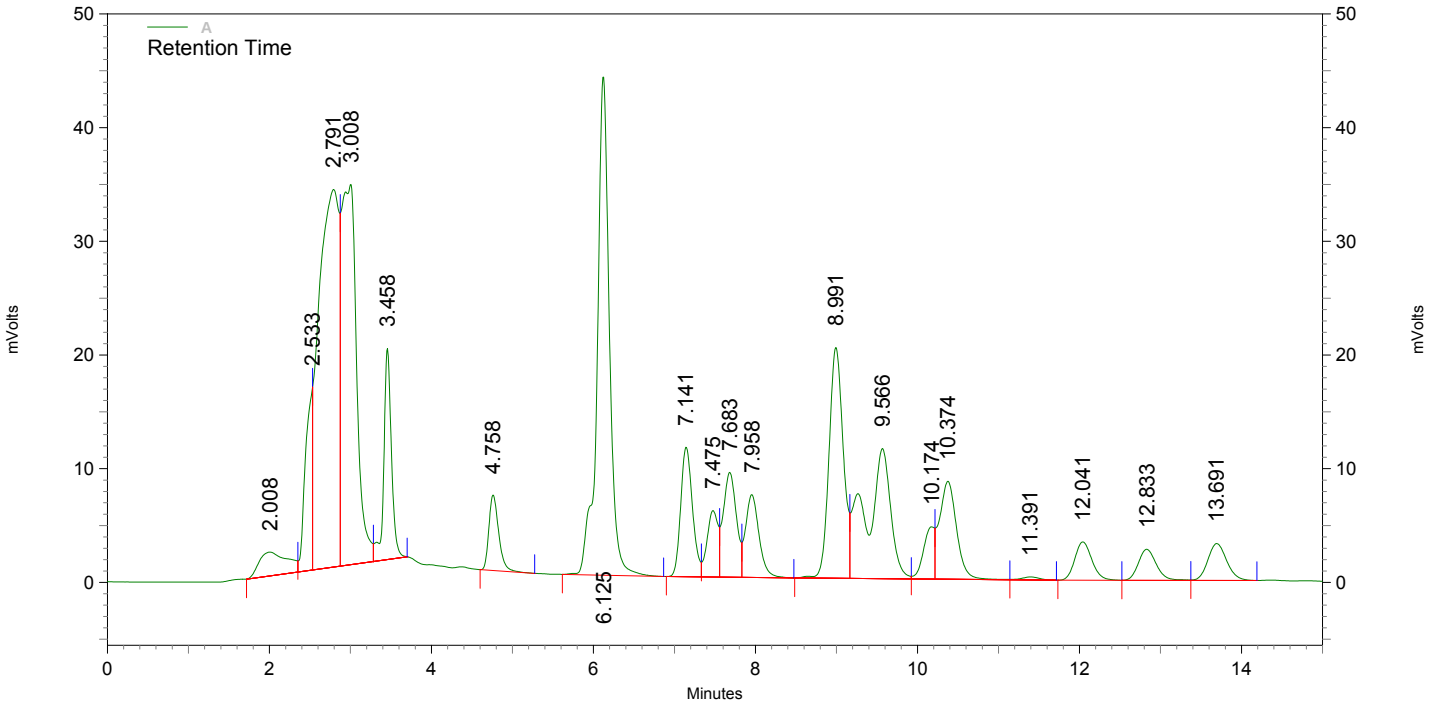
B Results

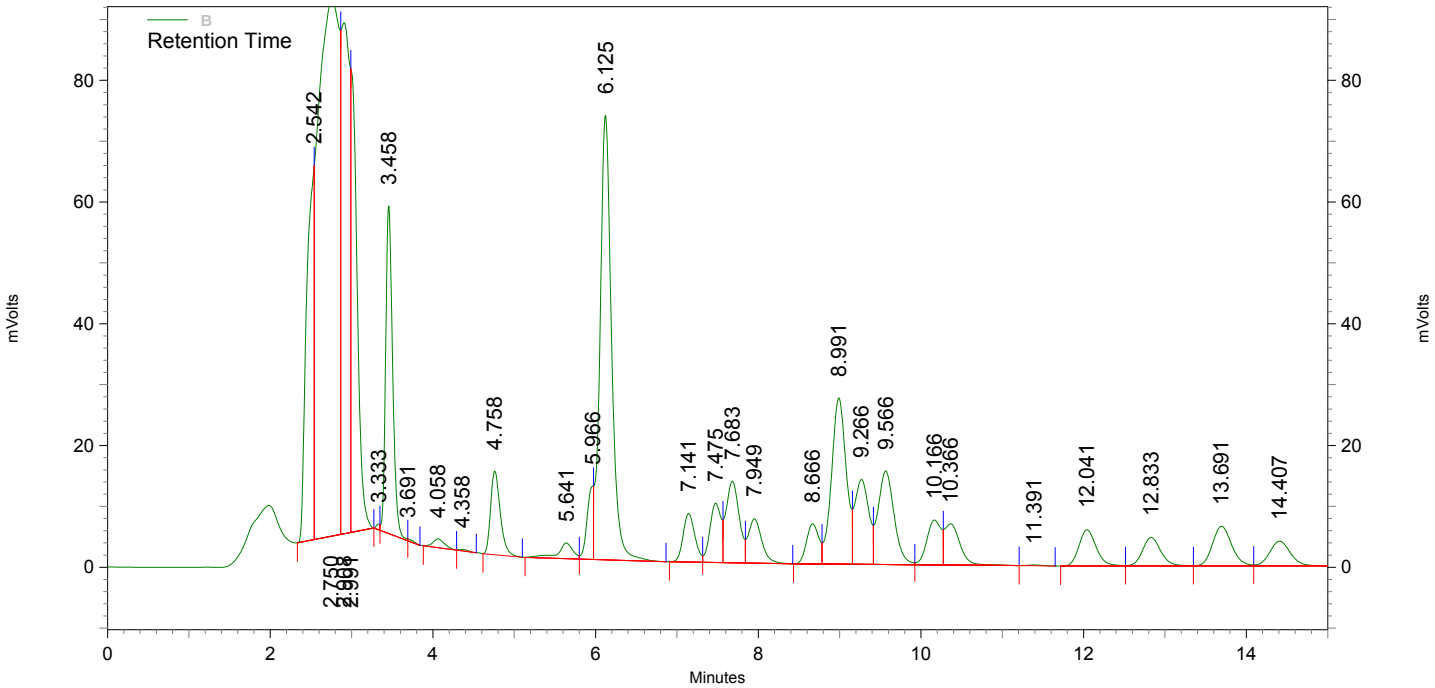
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG	8.666	69075	**1.0242**
26-DNT	10.166	89764	**0.5383**
24-DNT	10.366	89073	**0.5010**
PETN	14.407	72011	**0.9609**

Before Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\042516exp-primary\013.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\042516exp-primary.met
Sample ID: 125220,MSDW709222,
Acquired: 04/25/2016 20:59:01
Data Summary: Reason #3 applies to data. RED 4/26/2016





File: C:\Instarch\HPLC 2\Data\042516exp-primary\013.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\primary\040616expic-primary\042516exp-primary.met
Sample ID: 125220,MSDW709222,
Acquired: 04/25/2016 20:59:01
Data Summary: Reason #3 applies to data. RED 4/26/2016

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX	3.458	122055	**1.9816**
RDX	4.758	55865	**0.7137**
12-DNB (SSTD)			**0.0000 BDL**
135-TNB	6.125	460762	**2.2794**
13-DNB	7.141	115495	**0.5081**
TETRYL	7.475	54983	**0.4121**
35-DNA	7.683	104619	**0.6088**
NB	7.958	84419	**0.4238**
246-TNT	8.991	248188	**1.5191**
4-AM-26-DNT			**0.0000 BDL**
2-AM-46-DNT	9.566	243923	**1.3823**
2-NT	12.041	49307	**0.4741**
4-NT	12.833	41922	**0.4737**
3-NT	13.691	52284	**0.4629**

B Results

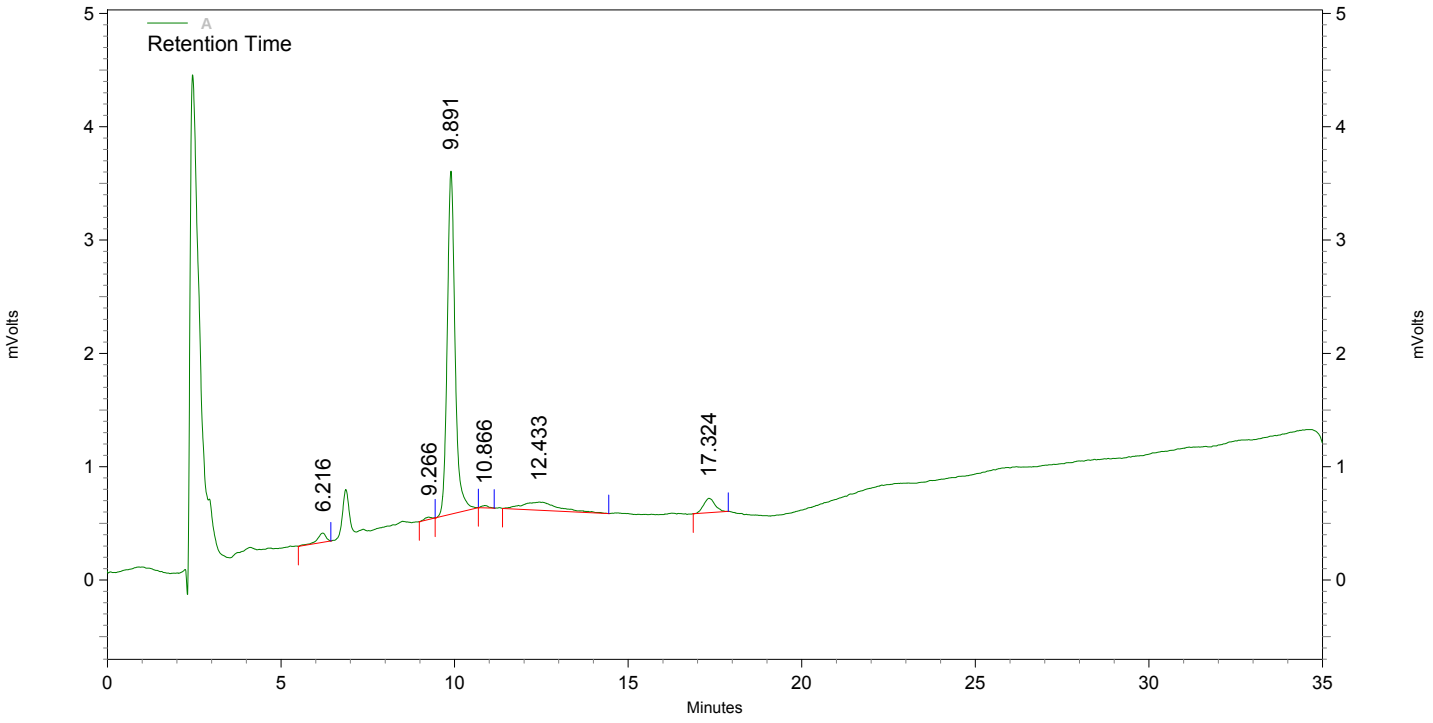
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG	8.666	69075	**1.0242**
26-DNT	10.166	89764	**0.5383**
24-DNT	10.366	89073	**0.5010**
PETN	14.407	72011	**0.9609**

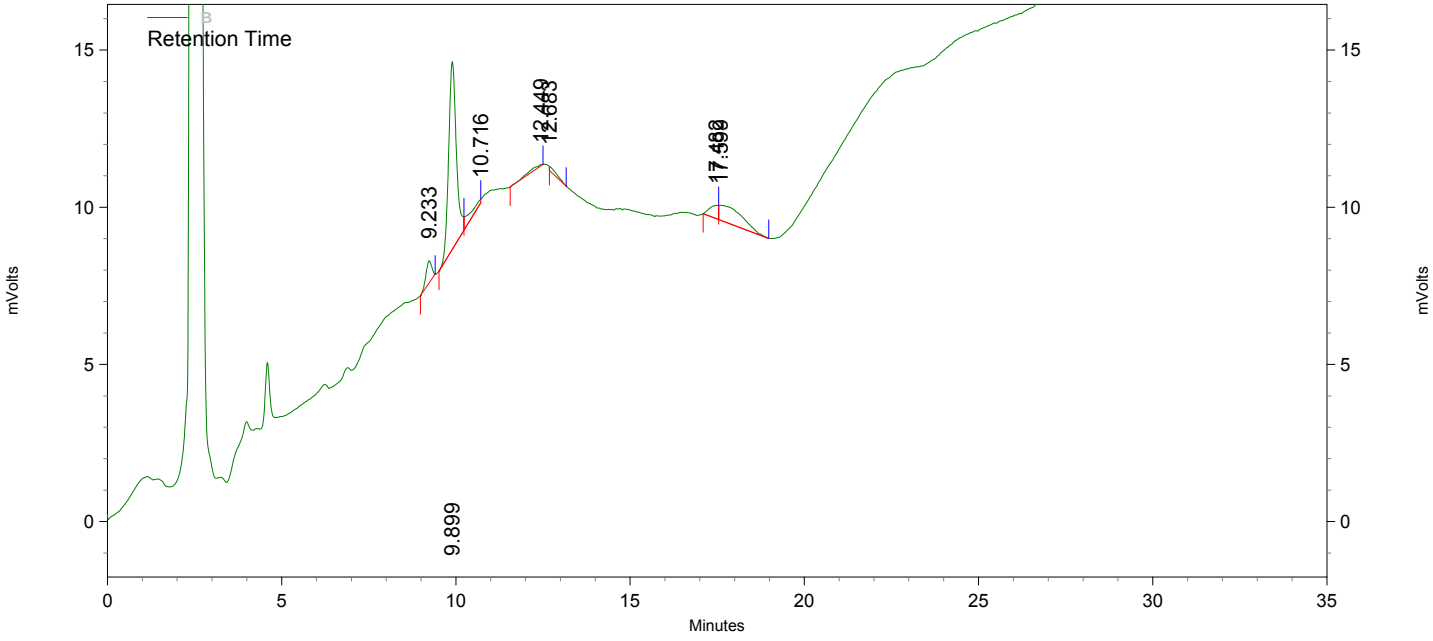
After Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\017.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\042616EXPIC-CONFIRM\042616EXPIC-CONFIRM.met
Sample ID: 125220,MBW,
Acquired: 04/26/2016 21:51:26
Data Summary: Reason #4 applies to data. RED 4/27/2016

JJY
4/28/2016





125220,MBW,

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm			**0.0000 BDL**
RDX-confirm			**0.0000 BDL**
NB-confirm	9.266	299	**0.0020**
12-DNB (SSTD)-confirm	9.891	47388	**115.3551**
4-AM-26-DNT-conf.			**0.0000 BDL**
3,5-DNA-confirm	10.866	283	**0.0004**
2-NT-confirm			**0.0000 BDL**
2-AM-46-DNT-conf.			**0.0000 BDL**
3-NT-confirm			**0.0000 BDL**
4-NT-confirm			**0.0000 BDL**
26-DNT-confirm			**0.0000 BDL**
13-DNB-confirm			**0.0000 BDL**
TETRYL-confirm			**0.0000 BDL**
24-DNT-confirm			**0.0000 BDL**
135-TNB-confirm			**0.0000 BDL**
246-TNT-confirm			**0.0000 BDL**

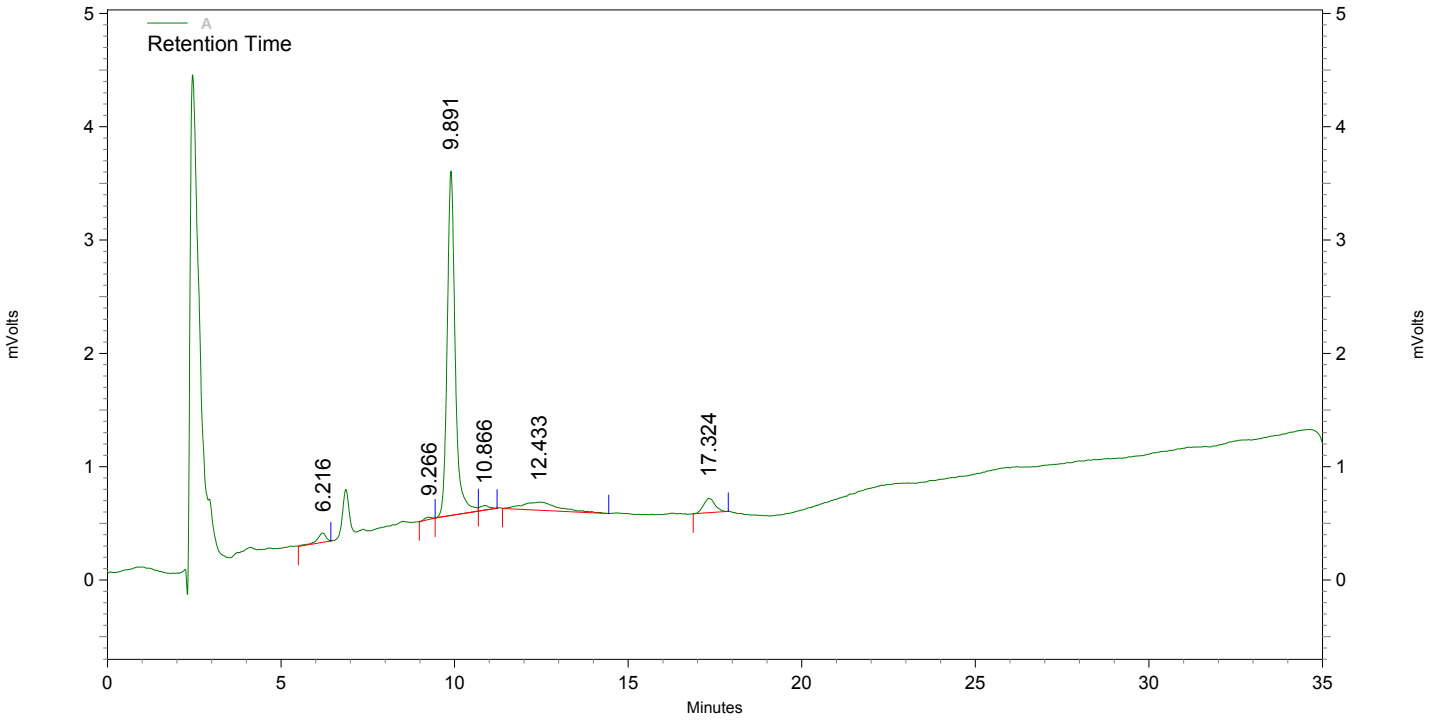
B Results

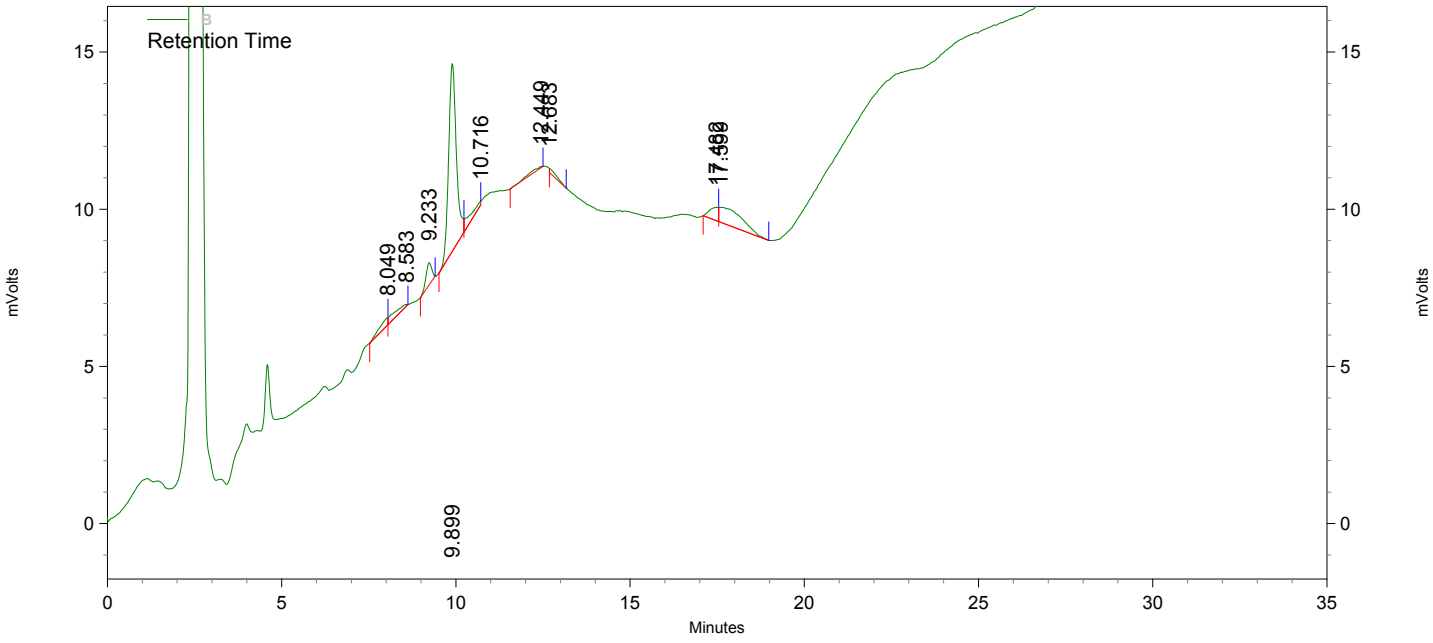
Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm			**0.0000 BDL**
PETN-confirm			**0.0000 BDL**

Before Manual Integration

Explosives - 8330

File: C:\Instarch\HPLC 2\Data\042616EXPIC-CONFIRM\017.dat
User ID: red
Method: C:\Instarch\HPLC 2\Methods\8330A_B\confirmation\042616EXPIC-CONFIRM\042616EXPIC-CONFIRM.met
Sample ID: 125220,MBW,
Acquired: 04/26/2016 21:51:26
Data Summary: Reason #4 applies to data. RED 4/27/2016





125220,MBW,

A Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
HMX-confirm			**0.0000 BDL**
RDX-confirm			**0.0000 BDL**
NB-confirm	9.266	299	**0.0020**
12-DNB (SSTD)-confirm	9.891	48521	**118.1100**
4-AM-26-DNT-conf.			**0.0000 BDL**
3,5-DNA-confirm	10.866	770	**0.0032**
2-NT-confirm			**0.0000 BDL**
2-AM-46-DNT-conf.			**0.0000 BDL**
3-NT-confirm			**0.0000 BDL**
4-NT-confirm			**0.0000 BDL**
26-DNT-confirm			**0.0000 BDL**
13-DNB-confirm			**0.0000 BDL**
TETRYL-confirm			**0.0000 BDL**
24-DNT-confirm			**0.0000 BDL**
135-TNB-confirm			**0.0000 BDL**
246-TNT-confirm			**0.0000 BDL**

B Results

Name	*Retention Time*	*Area*	*concentration (ug/ml)*
NG-confirm	8.049	4595	**0.0379**
PETN-confirm			**0.0000 BDL**

NITROAROMATICS ANALYSIS
LOGBOOK
DOCUMENTS

S 8330B EXPLOSIVES QSM Analytical Run
125220 on 04/22/2016

RED

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: 4/28/2016

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
118319	709222		04/14/2016 1512		BERING SEA ENVIRONMENTAL	RADFORD AAP	8330B EXPLOSIVES QSM 5		GW	4	
		54MW12		Designated MS/MSD				56852			
118319	709257		04/14/2016 1320		BERING SEA ENVIRONMENTAL	RADFORD AAP	8330B EXPLOSIVES QSM 5		GW	4	
		54MW10						56852			
118319	709260		04/14/2016 1357		BERING SEA ENVIRONMENTAL	RADFORD AAP	8330B EXPLOSIVES QSM 5		GW	4	
		041416R1						56852			
118319	709272		04/14/2016 0849		BERING SEA ENVIRONMENTAL	RADFORD AAP	8330B EXPLOSIVES QSM 5		GW	4	
		54MW1						56852			
118319	709274		04/14/2016 0849		BERING SEA ENVIRONMENTAL	RADFORD AAP	8330B EXPLOSIVES QSM 5		GW	4	
		54TM1						56852			
118319	709276		04/14/2016 1050		BERING SEA ENVIRONMENTAL	RADFORD AAP	8330B EXPLOSIVES QSM 5		GW	4	
		54MW13						56852			
	711140						8330B EXPLOSIVES QSM 5				
				MBW				56852			
	711141						8330B EXPLOSIVES QSM 5				
				LCSW				56852			
	711143		04/14/2016 1512				8330B EXPLOSIVES QSM 5				
		54MW12		MSW 709222				56852			
	711144		04/14/2016 1512				8330B EXPLOSIVES QSM 5				
		54MW12		MSDW 711143				56852			

10 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

PREP WORKSHEET
on 04/22/2016

Prep Batch **56,852** Date Prepped: 04/20/2016 Prepped By RED

Folder #	Order	QC Type	Link	Test	Matrix	Volume	Weight	Initial Volume	SDG Level	Notes
	711140	MBW		8330B EXPLOSIVES	LIQUID	5.0		1.000		
	711141	LCSW		8330B EXPLOSIVES	LIQUID	5.0		1.000		
118319	709222	*		8330B EXPLOSIVES	GROUND WATER	5.0		0.970	4	
	709257			8330B EXPLOSIVES	GROUND WATER	5.0		0.950	4	
	709260			8330B EXPLOSIVES	GROUND WATER	5.0		0.910	4	
	709272			8330B EXPLOSIVES	GROUND WATER	5.0		0.940	4	
	709274			8330B EXPLOSIVES	GROUND WATER	5.0		0.950	4	
	709276			8330B EXPLOSIVES	GROUND WATER	5.0		0.990	4	
	711143	MSW	709222	8330B EXPLOSIVES	GROUND WATER	5.0		0.980		
	711144	MSDW	711143	8330B EXPLOSIVES	GROUND WATER	5.0		0.950		

Notes:_____

Explosives or Nitroguanidine Prep Bench Sheet

(SOP Reference #'s SV009 & SV010)

8330A,8330B, or 8330M >>

Prep Batch #:	56852
Prep Method:	3535/8330B
Analyst:	RED
Date:	04/20/2016
Start Time:	16:30
End Date:	04/25/2016
End Time:	14:00

Matrix: Water
Balance Used: na

GPC By: na
GPC Date: na

Reagent:	Lot #
Methylene Chloride	na
Acetonitrile	55265
Methanol	na
0.1% Formic Acid	EXP 5628

Concentrated By: na
Concentration Date: na

Diluted By: RED
Dilution Date: 04/25/2016

8330A = Explosives (liquids/solids)
8330B = Explosives (liquids/solids)
8330M = Nitroguanidine (liquids/solids)

Sample ID #	Comments		(Solids) Sample Weight (g)	(Liquids) Sample Volume (L)	Extract Volume (ml)	Diluted (Yes/No)	Dilution Volume (ml)
711140	(MB)			1.000	5.0	yes	10.0
711141	(LCS)			1.000	5.0	yes	10.0
709222				0.970	5.0	yes	10.0
709257				0.950	5.0	yes	10.0
709260				0.910	5.0	yes	10.0
709272				0.940	5.0	yes	10.0
709274				0.950	5.0	yes	10.0
709276				0.990	5.0	yes	10.0
	LOD1 20 uL spike			1.000	1.0	yes	2.0
	LOQ1 40 uL spike			1.000	1.0	yes	2.0
	LOQ2 80 uL spike			1.000	1.0	yes	2.0
	LOQ3 160 uL spike			1.000	1.0	yes	2.0
	(Dup)						
	(Trip)						
711143	(MS)	Parent Sample		0.980	5.0	yes	10.0
711144	(MSD)	709222		0.950	5.0	yes	10.0

MB=Method Blank, LCS=Laboratory Control Sample, Dup=Duplicate, Trip=Triplicate, MS=Matrix Spike & MSD=Matrix Spike Duplicate

MS/MSD/ LCS Spike Amount (ml): 0.5
Spike Concentration (ug/mL): 10/20
Spike Reference #: EXP 5687

Surrogate Spike Amount (ml): 0.5
Surrogate Spike Conc. (ug/mL): 10
Surrogate Spike Reference #: EXP 5708

Relinquished to: RED
Date: 04/25/2016

Reviewed By: JJY
Date: 04/27/2016

Table 5

8330B Analysis Data Review Checklist

Analytical Run #: 125220	**Independent Reviewer: JJY**
Sequence Date: 4/25/2016; 4/26/2016	**Date of Review: 4/27/2016**
Analyst/Data Interpreter: RED	**Approval: yes**

Instructions: Complete one checklist per *analytical run* . Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirements:	Acceptance Criteria	Analyst Review		Independent Review		Comments (indicate reference to an attachment if necessary)
		Yes	No	Yes	No	
1. INITIAL CALIBRATION (ICAL)						
a. Was the Explosive initial calibration performed using a minimum of five varying standard concentration levels?	Lowest standard at or near MRL	X		X		
b. Is the variation between calibration response factors for all concentration levels <15% RSD, is r^2 >.990, or r > 0.995 for the regression line?		X		X		
c. Was each ICAL uniquely identified (i.e. Standard Number)?	RSD<15%, r^2>0.990, or r>0.995	X		X		
d. Was an initial calibration blank (ICB) analyzed?		X		X		
2. INITIAL CALIBRATION VERIFICATION (ICV)						
a. Was there a second source ICV for all target analytes analyzed after the initial calibration and prior to analysis of any samples?	Second source	X		X		
b. Were the recoveries for the ICV between 85-115% (80-120% for QSM).	% Recovery	X		X		
c. Was the ICV uniquely identified (i.e. Standard Number)?		X		X		
3. CONTINUING CALIBRATION VERIFICATION (CCV)						
a. Were CCVs analyzed at the beginning of the sequence, after every 12 hours or every 20 samples (which ever comes first)(every 10 samples for QSM) and at the end of the analytical run?		X		X		
b. Were the recoveries for the CCVs within program limits?	%Recovery	X		X		
c. Was each CCV uniquely identified (i.e. Standard Number)?		X		X		

Additional Comments:

Table 5

8330B Analysis Data Review Checklist

Requirements:	Acceptance Criteria	Analyst		Independent		Comments (indicate reference to an attachment if necessary)
		Yes	No	Yes	No	
4. BLANKS						
a. Was a method blank (MB) analyzed prior to the analysis of samples?		X		X		
b. Was the MB result less than ½ the reporting limit (RL) or 5% of the sample amount (QSM: less than 1/2 the RL and <10% of the sample amount)?		X		X		
c. Was a MB prepped and analyzed at a frequency of one per Prep Batch?	Batch ≤20 samples	X		X		
5. LABORATORY CONTROL SAMPLE (LCS)						
a. Was a LCS analyzed at a frequency of one per Prep Batch?	Batch ≤20 samples	X		X		
b. Were the LCS recoveries in each LCS within the acceptance criteria?	Per Program	X		X		
6. MATRIX SPIKES						
a. Was a matrix spiked (MS) sample analyzed at a frequency one per Prep Batch?	Batch ≤20 samples	X		X		
b. Were MS recoveries in each MS within the acceptance criteria?	Per Program	X		X		
7. MATRIX SPIKE DUPLICATE						
a. Was a duplicate matrix spike sample analyzed at a frequency one per Prep Batch?	Batch <20 samples	X		X		
b. Were MSD within the acceptance criteria?	Per Program	X		X		
c. Is the relative percent difference (RPD) between a matrix spike (MS) and its duplicate (MSD) within the acceptance criteria?	Per Program QSM: 30% RPD	X		X		

Additional Comments:

Table 5

8330B Analysis Data Review Checklist

Requirements:	Acceptance Criteria	Analyst		Independent		Comments (indicate reference to an attachment if necessary)
		Yes	No	Yes	No	
8. SAMPLES (INCLUDING BLANKS, STANDARDS, AND QC SAMPLES)						
a. Are chromatogram characteristics, including peak shapes and areas, consistent with those of the CCV?		X		X		
b. Are surrogate recoveries for all samples, blanks, standards, and QC samples within acceptance criteria?			X		X	See Below
c. Were all samples having analytes detected in amounts exceeding the calibration range diluted and reanalyzed?		X		X		
d. Were all samples extracted within holding times and analyzed within 40 days of extracting?	Analysis within 40 days of extraction	X		X		
e. Was there a acetonitrile:H2O injection preformed prior to sample analysis?		X		X		
f. If any analytes were detected in the soil grinding blanks, were the associated samples B-flagged?	< 1/2 RL	N/A		N/A		water samples
g. Was the batch soil triplicate RSD within acceptance criteria?	<20%	N/A		N/A		water samples
9. RECORDS AND REPORTING						
a. Are Run, Prep Batch and Extraction sheets, Summary sheets, Sequence file, initial and rerun raw and process data present in the PDF file?		X		X		
b. Are all chromatograms dated and initialed?		X		X		
c. Are reported results whose amounts exceeded the acceptance criteria flagged with an appropriate qualifier and, if needed, a NCR completed?		X		X		
d. Do all values, dilution factors and qualifiers listed on the raw reports match the LIMS data?		X		X		
e. Is the ICAL method referenced on the Raw Data?		X		X		

Additional Comments:

On the primary analysis, surrogate recoveries were high in the method blank and samples 709257, 709260, and 709272 but the confirmation analysis of each of these had surrogate recoveries within acceptable QC limits. This could be due to some type of contaminant co-elution on the primary analysis that does not occur on the confirmation analysis. The surrogate values were reported from the primary analysis and the sample surrogate value was qualified with an "S".

Sample 709222, its matrix spike (MS), and matrix spike duplicate (MSD) had low surrogate recovery on the primary analysis due to a large neighboring peak interfering with surrogate quantitation. The confirmation analysis result was within the acceptable QC range for the parent sample. The primary result was reported and qualified with an "S".

Samples 709274 and 709276 had high surrogate recoveries on both the primary and confirmation analyses. The primary results were reported and qualified with an "S".

Summary Report

Instrument I... **HPLC 2 (Offline)**
Data Path: **C:\Instarch\HPLC 2\Sequences\8330A_B\040616expic-primary.seq**
User ID: **red**
Printed Date: **Apr 06, 2016 11:30:01**

Run Number	Sample ID	Data Filename	Method Filename	Analysis Date	Data Description
1	1:1 ACN:EXP 5628	001.dat	040616expic-primary...	Apr 06, 2016 11:14:41	
2	8330 Pt 1 EXP 5718	002.dat	040616expic-primary...	Apr 06, 2016 12:56:15	
3	8330 Pt 2 EXP 5719	003.dat	040616expic-primary...	Apr 06, 2016 13:14:33	
4	8330 Pt 3 EXP 5720	004.dat	040616expic-primary...	Apr 06, 2016 13:32:52	
5	8330 Pt 4 EXP 5721	005.dat	040616expic-primary...	Apr 06, 2016 13:51:09	
6	8330 Pt 5 EXP 5722	006.dat	040616expic-primary...	Apr 06, 2016 14:09:27	
7	8330 Pt 6 EXP 5723	007.dat	040616expic-primary...	Apr 06, 2016 14:27:45	
8	8330 Pt 7 EXP 5724	008.dat	040616expic-primary...	Apr 06, 2016 14:46:04	
9	8330 ICV EXP 5725	009.dat	040616expic-primary...	Apr 06, 2016 15:21:46	
10	8330 CCV EXP 5721	010.dat	040616expic-primary...	Apr 06, 2016 15:40:03	
11	8330A/B Water MDL MB	011.dat	040616expic-primary...	Apr 06, 2016 15:58:22	
12	8330A/B Water MDL 1	012.dat	040616expic-primary...	Apr 06, 2016 16:16:39	Reason #3, #4 applies to ...
13	8330A/B Water MDL 2	013.dat	040616expic-primary...	Apr 06, 2016 16:34:58	****high recoveries; re-...
14	8330A/B Water MDL 3	014.dat	040616expic-primary...	Apr 06, 2016 16:53:15	Reason #4 applies to dat...
15	8330A/B Water MDL 4	015.dat	040616expic-primary...	Apr 06, 2016 17:11:32	Reason #4 applies to dat...
16	8330A/B Water MDL 5	016.dat	040616expic-primary...	Apr 06, 2016 17:29:49	Reason #3 applies to dat...
17	8330A/B Water MDL 6	017.dat	040616expic-primary...	Apr 06, 2016 17:48:07	Reason #3, #4 applies to ...
18	8330A/B Water MDL 7	018.dat	040616expic-primary...	Apr 06, 2016 18:06:25	Reason #3, #4 applies to ...
19	8330A/B Water MDL 8	019.dat	040616expic-primary...	Apr 06, 2016 18:24:45	Reason #4 applies to dat...
20	8330 CCV EXP 5721	020.dat	040616expic-primary...	Apr 06, 2016 18:43:04	
21	124338,MBS,	021.dat	040616expic-primary...	Apr 06, 2016 19:01:22	
22	124338,LOD,,200ul	022.dat	040616expic-primary...	Apr 06, 2016 19:19:40	
23	124338,LOQ1,,300ul	023.dat	040616expic-primary...	Apr 06, 2016 19:37:56	
24	124338,LOQ2,,500ul	024.dat	040616expic-primary...	Apr 06, 2016 19:56:14	
25	124338,LOQ3,,600ul	025.dat	040616expic-primary...	Apr 06, 2016 20:14:31	
26	124338,LOQ4,,1000ul	026.dat	040616expic-primary...	Apr 06, 2016 20:32:49	
27	124339,MBW,	027.dat	040616expic-primary...	Apr 06, 2016 20:51:07	
28	124339,LOD1,,30ul	028.dat	040616expic-primary...	Apr 06, 2016 21:09:24	Some kind of contamina...
29	124339,LOD2,,150ul	029.dat	040616expic-primary...	Apr 06, 2016 21:27:45	
30	124339,LOQ1,,40ul	030.dat	040616expic-primary...	Apr 06, 2016 21:46:03	Some kind of contamina...
31	8330 CCV EXP 5721	031.dat	040616expic-primary...	Apr 06, 2016 22:04:22	
32	124339,LOQ2,,50ul	032.dat	040616expic-primary...	Apr 06, 2016 22:22:39	Some kind of contamina...
33	124339,LOQ3,,100ul	033.dat	040616expic-primary...	Apr 06, 2016 22:40:56	Some kind of contamina...
34	124339.LOQ4,,200ul	034.dat	040616expic-primary...	Apr 06, 2016 22:59:13	
35	124339,LOQ5,,300ul	035.dat	040616expic-primary...	Apr 06, 2016 23:17:30	
36	8330 CCV EXP 5721	036.dat	040616expic-primary...	Apr 06, 2016 23:35:47	
37	8330A/B Water MDL 2	037.dat	040616expic-primary...	Apr 07, 2016 10:06:36	
38	8330 CCV EXP 5721	038.dat	040616expic-primary...	Apr 07, 2016 10:24:53	
39	124339,LOD1,,30ul	039.dat	040616expic-primary...	Apr 07, 2016 11:26:19	Reason #3, #4 applies to ...
40	124339,LOQ1,,40ul	040.dat	040616expic-primary...	Apr 07, 2016 11:44:36	
41	124339,LOQ2,,50ul	041.dat	040616expic-primary...	Apr 07, 2016 12:02:54	
42	124339,LOQ3,,100ul	042.dat	040616expic-primary...	Apr 07, 2016 12:21:10	
43	8330 CCV EXP 5721	043.dat	040616expic-primary...	Apr 07, 2016 12:39:27	

Summary Report

Instrument I... **HPLC 2**
Data Path: **C:\Instarch\HPLC 2\Sequences\8330A_B\042516exp-primary.seq**
User ID: **RED**
Printed Date: **04/25/2016 16:27:02**

Run Number	Sample ID	Data Filename	Method Filename	Analysis Date	Data Description
1	1:1 ACN:EXP 5628	001.dat	041916exp-primary....	04/25/2016 16:12:00	
2	8330 CCV EXP 5755	002.dat	042516exp-primary....	04/25/2016 17:37:39	
3	MBW	003.dat	042516exp-primary....	04/25/2016 17:55:57	Reason #3, #4 applies to ...
4	LOD check 0.02 ug/L	004.dat	042516exp-primary....	04/25/2016 18:14:15	Reason #3, #4 applies to ...
5	LOD/LOQ check 0.04 ug/L	005.dat	042516exp-primary....	04/25/2016 18:32:34	Reason #3, #4 applies to ...
6	LOD/LOQ check 0.08/0.16 ...	006.dat	042516exp-primary....	04/25/2016 18:50:51	Reason #3, #4 applies to ...
7	LOD/LOQ check 0.16/0.32 ...	007.dat	042516exp-primary....	04/25/2016 19:09:10	Reason #3, #4 applies to ...
8	8330 CCV EXP 5755	008.dat	042516exp-primary....	04/25/2016 19:27:28	
9	125220,MBW,	009.dat	042516exp-primary....	04/25/2016 19:45:49	Reason #3 applies to dat...
10	125220,LCSW,	010.dat	042516exp-primary....	04/25/2016 20:04:07	
11	125220,709222,	011.dat	041916exp-primary....	04/25/2016 20:22:25	Reason #3, #4 applies to ...
12	125220,MSW709222,	012.dat	042516exp-primary....	04/25/2016 20:40:43	Reason #3 applies to dat...
13	125220,MSDW709222,	013.dat	042516exp-primary....	04/25/2016 20:59:01	Reason #3 applies to dat...
14	125220,709257,	014.dat	041916exp-primary....	04/25/2016 21:17:18	Reason #2, #3, #4 applie...
15	125220,709260,	015.dat	041916exp-primary....	04/25/2016 21:35:36	Reason #3, #4 applies to ...
16	125220,709272,	016.dat	042516exp-primary....	04/25/2016 21:53:53	Reason #3, #4 applies to ...
17	125220,709274,	017.dat	042516exp-primary....	04/25/2016 22:12:11	
18	125220,709276,	018.dat	041916exp-primary....	04/25/2016 22:30:28	Reason #3, #4 applies to ...
19	8330 CCV EXP 5755	019.dat	042516exp-primary....	04/25/2016 22:48:49	Reason #4 applies to dat...

Summary Report

Instrument I... **HPLC 2 (Offline)**
Data Path: **C:\Instarch\HPLC 2\Sequences\8330A_B\042616EXPIC-CONFIRM.seq**
User ID: **red**
Printed Date: **04/26/2016 12:29:38**

Run Number	Sample ID	Data Filename	Method Filename	Analysis Date	Data Description
1	1:1 ACN:EXP 5628	001.dat	042616EXPIC-CON...	04/26/2016 11:54:37	
2	8330 Pt 1 EXP 5756	002.dat	042616EXPIC-CON...	04/26/2016 12:31:54	Reason #3, #4 applies to ...
3	8330 Pt 2 EXP 5757	003.dat	042616EXPIC-CON...	04/26/2016 13:09:12	
4	8330 Pt 3 EXP 5758	004.dat	042616EXPIC-CON...	04/26/2016 13:46:30	Reason #4 applies to dat...
5	8330 Pt 4 EXP 5759	005.dat	042616EXPIC-CON...	04/26/2016 14:23:49	Reason #4 applies to dat...
6	8330 Pt 5 EXP 5760	006.dat	042616EXPIC-CON...	04/26/2016 15:01:06	
7	8330 Pt 6 EXP 5761	007.dat	042616EXPIC-CON...	04/26/2016 15:38:25	
8	8330 Pt 7 EXP 5762	008.dat	042616EXPIC-CON...	04/26/2016 16:15:43	
9	8330 ICV EXP 5763	009.dat	042616EXPIC-CON...	04/26/2016 16:53:04	
10	8330 CCV EXP 5759	010.dat	042616EXPIC-CON...	04/26/2016 17:30:22	
11	MBW	011.dat	042616EXPIC-CON...	04/26/2016 18:07:41	Reasn #4 applies to data....
12	LOD check 0.02 ug/L	012.dat	042616EXPIC-CON...	04/26/2016 18:44:59	Reasn #3, #4 applies to d...
13	LOD/LOQ check 0.04 ug/L	013.dat	042616EXPIC-CON...	04/26/2016 19:22:17	Reasn #3, #4 applies to d...
14	LOD/LOQ check 0.08/0.16 ...	014.dat	042616EXPIC-CON...	04/26/2016 19:59:33	Reasn #3, #4 applies to d...
15	LOD/LOQ check 0.16/0.32 ...	015.dat	042616EXPIC-CON...	04/26/2016 20:36:51	Reason #4 applies to dat...
16	8330 CCV EXP 5759	016.dat	042616EXPIC-CON...	04/26/2016 21:14:09	
17	125220,MBW,	017.dat	042616EXPIC-CON...	04/26/2016 21:51:26	Reason #4 applies to dat...
18	125220,709222,	018.dat	042616EXPIC-CON...	04/26/2016 22:28:44	
19	125220,709257,	019.dat	042616EXPIC-CON...	04/26/2016 23:06:05	Reason #3, #4 applies to ...
20	125220,709260,	020.dat	042616EXPIC-CON...	04/26/2016 23:43:23	Reason #3, #4 applies to ...
21	125220,709272,	021.dat	042616EXPIC-CON...	04/27/2016 00:20:41	
22	125220,709274,	022.dat	042616EXPIC-CON...	04/27/2016 00:57:59	
23	125220,709276,	023.dat	042616EXPIC-CON...	04/27/2016 01:35:16	Reason #3, #4 applies to ...
24	8330 CCV EXP 5759	024.dat	042616EXPIC-CON...	04/27/2016 02:12:33	

EXP Logbook 01

01/19/2015

NOTEBOOK VIEW: LTN_EXP_Logbook01_Default, NOTEBOOK: EXP_Logbook01, PAGE: 55
Page is Locked
Author: rduranceau on: 02.11.2015 13:16:43
Page is not Witnessed
Project: Unassigned
Page Title: 110215

Standard ID:	EXP 5628	Standard Description:	0.1% formic acid in H2O; 4 mL formic acid added to 4 L Millipore water
Analyst:	RED	Solvent: Manufacturer Lot	Millipore H2O and 99%formic acid sigma lot 04817JE
Prep Date:	11/2/2015	Expiration Date:	5/2/2016

Standard ID #	Standard Description	Solvent / Lot #	Prep Date	Expiration Date	Analyst
EXP 5629	8330 CCV Std.	1:1 ACN: 0.1% formic acid in H_2O EXP 5628 / Lot # Macron 61650	11/2/2015	11/3/2015	RED
Standards Used		**Prep**		**Final Concentration**	
(1) 10 ug/mL (20 ug/mL NG/PETN) 8330 Spike Std. EXP 5586		0.500 mL of (1) into 10 mL of 1:1 ACN: 0.1% formic acid in H_2O.		0.50 ug/mL (1.00 ug/mL NG/PETN)	

1

CT Laboratories LLC

EXP Logbook 01

01/19/2015

NOTEBOOK VIEW: LTN_EXP_Logbook01_Default, NOTEBOOK: EXP_Logbook01, PAGE: 58
Page is Locked
Author: rduranceau on: 30.11.2015 16:05:19
Page is not Witnessed
Project: Unassigned
Page Title: 111315

Standard Number	Standard Description	Solvent Manufacturer Lot	Analyst	Prep Date	Expiration Date
EXP 5632	8330 Intermediate 2nd Source	ACN, Macron lot 61650	RED	11/13/2015	5/13/2016

STD Parent ID	Parent Concentration	Units	Standard Volume (ml)	Final Volume (ml)	Final Concentration (ug/ml)
8330 Mix S3335	1000	ug/mL	0.100	10.0	10.0
3,5-dinitroaniline S3336	1000	ug/mL	0.100	10.0	10.0
Surrogate S3298C	1000	ug/mL	0.100	10.0	10.0
Nitroglycerin S3419	1000	ug/mL	0.200	10.0	20.0
PETN S3420	1000	ug/mL	0.200	10.0	20.0

EXP Logbook 01

01/19/2015

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Author: rduranceau on: 18.02.2016 14:34:54
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Standard ID #	Standard Description	Solvent / Lot #	Prep Date	Expiration Date	Analyst
EXP 5687	8330 Spike Std.	ACN / Lot # Macron 61650	02/18/2016	08/18/2016	RED

Stock Standards Used	Prep	Final Concentration
(1) 8330 Calibration Mix (1000 ug/mL) S3418 (2) 3,5-Dinitroaniline Standard (1,000 ug/mL) S3302 (3) 1,2-Dintrobenzene Standard (1,000 ug/mL) S3334A (4) Trinitroglycerin Standard (1,000 ug/mL) S3333B (5) PETN Standard (1,000 ug/mL) S3331B	0.50 mL each of (1), (2), and (3) and 1.00 mL of (4) and (5) were added to acetonitrile and brought to volume in a 50 mL volumetric flask.	10.0 ug/mL (20.0 ug/mL NG/PETN)

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EXP Logbook 01

01/19/2015

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Author: rduranceau on: 28.03.2016 10:45:22
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Standard Number	Standard Description	Solvent Manufacturer Lot	Analyst	Prep Date	Expiration Date
EXP 5708	8330 Surr.	ACN; EMD lot 55279	RED	03/28/2016	08/19/2016

STD Parent ID	Parent Concentration	Units	Standard Volume (ml)	Final Volume (ml)	Final Concentration (ug/ml)	
S3334A	1000	ug/mL	0.250	25.00	10.00	Calc

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EXP Logbook 01

01/19/2015

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Author: rduranceau on: 05.04.2016 16:30:33
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Calibration:	Explosives Initial Calibration	Solvent / Lot #	Prep Date	Expiration Date	Analyst
		1:1 ACN: 0.1% formic acid in H_2O EXP 5628 / Lot 55279 (EMD)	04/06/2016	04/07/2016	RED

Standard ID #	Standard Description	Prep	Final Concentration
EXP 5718	8330 Calibration Pt. 1	Added 0.003 mL of 10 ug/mL (20 ug/mL NG/PETN) 8330 Custom Mix Std. EXP 5687 into 1.0 mL of 1:1 ACN: 0.1% formic acid in H_2O.	0.03 ug/mL (0.06 ug/mL NG/PETN)
EXP 5719	8330 Calibration Pt. 2	Added 0.010 mL of 10 ug/mL (20 ug/mL NG/PETN) 8330 Custom Mix Std. EXP 5687 into 1.0 mL of 1:1 ACN: 0.1% formic acid in H_2O.	0.10 ug/mL (0.20 ug/mL NG/PETN)
EXP 5720	8330 Calibration Pt. 3	Added 0.025 mL of 10 ug/mL (20 ug/mL NG/PETN) 8330 Custom Mix Std. EXP 5687 into 1.0 mL of 1:1 ACN: 0.1% formic acid in H_2O.	0.25 ug/mL (0.50 ug/mL NG/PETN)
EXP 5721	8330 Calibration Pt. 4 (CCV)	Added 0.500 mL of 10 ug/mL (20 ug/mL NG/PETN) 8330 Custom Mix Std. EXP 5687 into 10.0 mL of 1:1 ACN: 0.1% formic acid in H_2O.	0.50 ug/mL (1.00 ug/mL NG/PETN)
EXP 5722	8330 Calibration Pt. 5	Added 0.100 mL of 10 ug/mL (20 ug/mL NG/PETN) 8330 Custom Mix Std. EXP 5687 into 1.0 mL of 1:1 ACN: 0.1% formic acid in H_2O.	1.00 ug/mL (2.00 ug/mL NG/PETN)
EXP 5723	8330 Calibration Pt. 6	Added 0.200 mL of 10 ug/mL (20 ug/mL NG/PETN) 8330 Custom Mix Std. EXP 5687 into 1.0 mL of 1:1 ACN: 0.1% formic acid in H_2O.	2.00 ug/mL (4.00 ug/mL NG/PETN)
EXP 5724	8330 Calibration Pt. 7	Added 0.300 mL of 10 ug/mL (20 ug/mL NG/PETN) 8330 Custom Mix Std. EXP 5687 into 1.0 mL of 1:1 ACN: 0.1% formic acid in H_2O.	3.00 ug/mL (6.00 ug/mL NG/PETN)

EXP 5725	8330 ICV (Second Source)	Added 0.050 mL of 10 ug/mL (20 ug/mL NG/PETN) 8330 Custom Mix Std. EXP 5632 into 1.0 mL of 1:1 ACN: 0.1% formic acid in H_2O.	0.50 ug/mL (1.00 ug/mL NG/PETN)

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EXP Logbook 01

01/19/2015

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Standard Number	Standard Description	Solvent Manufacturer Lot	Analyst	Prep Date	Expiration Date
EXP 5735	8330 Spike Intermediate	ACN; EMD lot 55279	RED	04/11/2016	08/18/2016

STD Parent ID	Parent Concentration	Units	Standard Volume (ml)	Final Volume (ml)	Final Concentration (ug/ml)
EXP 5687	10.0/20.0	ug/mL	1.00	10.00	1.0/2.0

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EXP Logbook 01

01/19/2015

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Author: rduranceau on: 25.04.2016 15:29:01
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Project: Unassigned
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Standard ID #	Standard Description	Solvent / Lot #	Prep Date	Expiration Date	Analyst
EXP 5755	8330 CCV Std.	1:1 ACN: 0.1% formic acid in H_2O EXP 5628 / Lot # EMD 55265	04/25/2016	04/26/2016	RED

Standards Used	Prep	Final Concentration
(1) 10 ug/mL (20 ug/mL NG/PETN) 8330 Spike Std. EXP 5687	0.500 mL of (1) into 10 mL of 1:1 ACN: 0.1% formic acid in H_2O.	0.50 ug/mL (1.00 ug/mL NG/PETN)

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EXP Logbook 01

01/19/2015

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Author: rduranceau on: 26.04.2016 11:18:39
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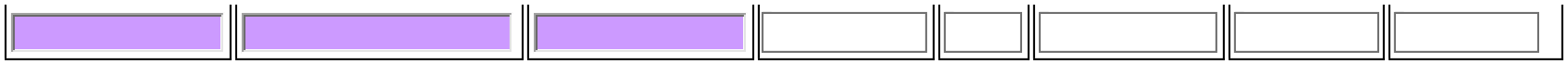
	Initial Calibration	Solvent Manufacturer Lot	Analyst	Prep Date	Expiration Date
	8330 ICAL	1:1 ACN:0.1% FORMIC ACID EMD LOG 55265:EXP 5628	RED	04/26/2016	04/27/2016

Standard Number	Standard Description	Parent ID	Parent Concentration	Units	Standard Volume (ml)	Final Volume (ml)	Final Concentration (ug/ml)
EXP 5756	ICAL 1	EXP 5735	1.0/2.0	ug/mL	0.010	1.0	0.01/0.02
EXP 5757	ICAL 2	EXP 5687	10.0/20.0	ug/mL	0.005	1.0	0.05/0.10
EXP 5758	ICAL 3	EXP 5687	10.0/20.0	ug/mL	0.025	1.0	0.25/0.50
EXP 5759	ICAL 4 (CCV)	EXP 5687	10.0/20.0	ug/mL	0.500	10.0	0.50/1.00
EXP 5760	ICAL 5	EXP 5687	10.0/20.0	ug/mL	0.100	1.0	1.00/2.00
EXP 5761	ICAL 6	EXP 5687	10.0/20.0	ug/mL	0.200	1.0	2.00/4.00
EXP 5762	ICAL 7	EXP 5687	10.0/20.0	ug/mL	0.300	1.0	3.00/6.00
EXP 5763	ICV	EXP 5632	10.0/20.0	ug/mL	0.050	1.0	0.50/1.00



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CT Laboratories LLC

METALS
CLP FORMS
DOCUMENTS

CT LABORATORIES
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1

INORGANIC ANALYSIS DATA SHEET

Sample Description

54ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	118319
% Solids:		Lab Sample ID:	709262
Analytical Method:	EPA 7470A	Date Received:	04/15/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	124999	Analysis Date/Time	04/19/2016 09:46
Analytical Prep Batch #:	56795	Prep. Date/Time:	04/18/2016 07:00
ICAL Calibration #:	04192016	Concentration Units:	ug/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7439-97-6	Total Mercury	0.060	U	0.030	0.060	0.12	0.12

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	118319
% Solids:		Lab Sample ID:	709262
Analytical Method:	EPA 6010C	Date Received:	04/15/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	125061	Analysis Date/Time	04/20/2016 12:25
Analytical Prep Batch #:	56829	Prep. Date/Time:	04/19/2016 07:00
ICAL Calibration #:		Concentration Units:	ug/L

CAS #	Analyte	Concentration	Qualifiers		DL	LOD	LOQ	RL
7429-90-5	Total Aluminum	18	U		6.0	18	36	36
7440-36-0	Total Antimony	6.0	U		2.0	6.0	12	12
7440-38-2	Total Arsenic	12	U		4.0	12	24	24
7440-39-3	Total Barium	54.4		M	0.29	0.90	1.8	1.8
7440-41-7	Total Beryllium	0.30	U		0.10	0.30	0.60	0.60
7440-43-9	Total Cadmium	1.0	U		0.30	1.0	2.0	2.0
7440-70-2	Total Calcium	75200			17	50	100	100
7440-47-3	Total Chromium	2.4	J		0.60	2.0	4.0	4.0
7440-48-4	Total Cobalt	2.0	U		0.70	2.0	4.0	4.0
7440-50-8	Total Copper	3.1	J	B	1.2	3.5	7.0	7.0
7439-89-6	Total Iron	21.9	J		16	50	100	100
7439-92-1	Total Lead	2.8	J		1.4	2.0	4.0	4.0
7439-95-4	Total Magnesium	32200		M	6.0	20	40	40
7439-96-5	Total Manganese	12.5			0.70	2.0	4.0	4.0
7440-02-0	Total Nickel	3.0	U		1.0	3.0	6.0	6.0
7782-49-2	Total Selenium	6.5	U		2.2	6.5	13	13
7440-22-4	Total Silver	1.3	J	B	0.70	2.0	4.0	4.0
7440-28-0	Total Thallium	7.5	U		2.5	7.5	15	15
7440-62-2	Total Vanadium	2.5	U		0.80	2.5	5.0	5.0
7440-66-6	Total Zinc	6.0	J		1.6	5.0	10	10

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	118319
% Solids:		Lab Sample ID:	709262
Analytical Method:	EPA 6010C	Date Received:	04/15/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	125062	Analysis Date/Time	04/21/2016 12:44
Analytical Prep Batch #:	56829	Prep. Date/Time:	04/19/2016 07:00
ICAL Calibration #:		Concentration Units:	ug/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7440-09-7	Total Potassium	1030		90	250	500	500
7440-23-5	Total Sodium	4770		100	300	600	600

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Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118319

Analytical Run #: 124999 Lab Sample ID: 710587

ICAL Calibration #: 04192016 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Mercury	4/19/16	08:36	3.00	3.14	105	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118319

Analytical Run #: 125062 Lab Sample ID: 712648

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	4/21/16	11:42	100000	97600	98	90	110
Sodium	4/21/16	11:42	100000	105000	105	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

LLQC

2A-1

LOWER LIMIT OF QUANTITATION CHECK (LLQC)

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118319

Analytical Run #: 125062

Lab Sample ID: 712649

ICAL Calibration #:

Concentration Units:

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	4/21/16	11:45	3000	3000	100	80	120
Sodium	4/21/16	11:45	3000	3010	100	80	120

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118319

Analytical Run #: 125061 Lab Sample ID: 713860

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	4/20/16	09:55	12000	12700	106	90	110
Antimony	4/20/16	09:55	500.0	532.0	106	90	110
Arsenic	4/20/16	09:55	2000	2100	105	90	110
Barium	4/20/16	09:55	2000	2140	107	90	110
Beryllium	4/20/16	09:55	50.00	50.60	101	90	110
Cadmium	4/20/16	09:55	50.00	51.00	102	90	110
Calcium	4/20/16	09:55	10000	10800	108	90	110
Chromium	4/20/16	09:55	200.0	208.0	104	90	110
Cobalt	4/20/16	09:55	500.0	522.0	104	90	110
Copper	4/20/16	09:55	250.0	261.0	104	90	110
Iron	4/20/16	09:55	5000	5180	104	90	110
Lead	4/20/16	09:55	500.0	525.0	105	90	110
Magnesium	4/20/16	09:55	10000	11000	110	90	110
Manganese	4/20/16	09:55	500.0	523.0	105	90	110
Nickel	4/20/16	09:55	500.0	518.0	104	90	110
Selenium	4/20/16	09:55	2000	2000	100	90	110
Silver	4/20/16	09:55	50.00	51.40	103	90	110
Thallium	4/20/16	09:55	2000	2150	108	90	110
Vanadium	4/20/16	09:55	500.0	510.0	102	90	110
Zinc	4/20/16	09:55	500.0	520.0	104	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

LLQC

2A-1

LOWER LIMIT OF QUANTITATION CHECK (LLQC)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118319

Analytical Run #: 125061 Lab Sample ID: 713861

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	4/20/16	10:01	1200	1100	92	80	120
Antimony	4/20/16	10:01	60.00	57.80	96	80	120
Arsenic	4/20/16	10:01	60.00	56.60	94	80	120
Barium	4/20/16	10:01	30.00	27.50	92	80	120
Beryllium	4/20/16	10:01	12.00	11.10	92	80	120
Cadmium	4/20/16	10:01	15.00	14.20	95	80	120
Calcium	4/20/16	10:01	1500	1400	93	80	120
Chromium	4/20/16	10:01	30.00	28.60	95	80	120
Cobalt	4/20/16	10:01	30.00	27.20	91	80	120
Copper	4/20/16	10:01	30.00	31.20	104	80	120
Iron	4/20/16	10:01	900.0	816.0	91	80	120
Lead	4/20/16	10:01	30.00	31.40	105	80	120
Magnesium	4/20/16	10:01	1500	1380	92	80	120
Manganese	4/20/16	10:01	30.00	29.10	97	80	120
Nickel	4/20/16	10:01	30.00	26.00	87	80	120
Selenium	4/20/16	10:01	60.00	62.00	103	80	120
Silver	4/20/16	10:01	60.00	50.40	84	80	120
Thallium	4/20/16	10:01	60.00	58.40	97	80	120
Vanadium	4/20/16	10:01	30.00	26.40	88	80	120
Zinc	4/20/16	10:01	30.00	31.50	105	80	120

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118319

Analytical Run #: 125061 Lab Sample ID: 713865

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Silver	4/20/16 10:40	10.00	10.80	108	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118319

Analytical Run #: 124999 Lab Sample ID: 710591

ICAL Calibration #: 04192016 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Mercury	4/19/16 09:27	3.00	3.05	102	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118319

Analytical Run #: 124999 Lab Sample ID: 710594

ICAL Calibration #: 04192016 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Mercury	4/19/16	09:52	3.00	3.12	104	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118319

Analytical Run #: 124999 Lab Sample ID: 710597

ICAL Calibration #: 04192016 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Mercury	4/19/16 10:18	3.00	3.05	102	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118319

Analytical Run #: 125062 Lab Sample ID: 712654

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	4/21/16	12:27	100000	94800	95	90	110
Sodium	4/21/16	12:27	100000	103000	103	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118319

Analytical Run #: 125062 Lab Sample ID: 712658

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	4/21/16	13:01	100000	97100	97	90	110
Sodium	4/21/16	13:01	100000	99900	100	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

CCV High Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118319

Analytical Run #: 125061 Lab Sample ID: 713866

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	4/20/16	11:47	5000	4790	96	90	110
Antimony	4/20/16	11:47	5000	4780	96	90	110
Arsenic	4/20/16	11:47	5000	4760	95	90	110
Barium	4/20/16	11:47	5000	5080	102	90	110
Beryllium	4/20/16	11:47	500.0	498.0	100	90	110
Cadmium	4/20/16	11:47	500.0	488.0	98	90	110
Calcium	4/20/16	11:47	5000	4990	100	90	110
Chromium	4/20/16	11:47	5000	4940	99	90	110
Cobalt	4/20/16	11:47	5000	4620	92	90	110
Copper	4/20/16	11:47	5000	4680	94	90	110
Iron	4/20/16	11:47	5000	4890	98	90	110
Lead	4/20/16	11:47	5000	4720	94	90	110
Magnesium	4/20/16	11:47	5000	4960	99	90	110
Manganese	4/20/16	11:47	5000	4860	97	90	110
Nickel	4/20/16	11:47	5000	4640	93	90	110
Selenium	4/20/16	11:47	5000	4730	95	90	110
Silver	4/20/16	11:47	500.0	452.0	90	90	110
Thallium	4/20/16	11:47	5000	4850	97	90	110
Vanadium	4/20/16	11:47	5000	4780	96	90	110
Zinc	4/20/16	11:47	5000	4650	93	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV Low Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118319

Analytical Run #: 125061 Lab Sample ID: 713867

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	4/20/16	11:53	500.0	485.0	97	90	110
Antimony	4/20/16	11:53	500.0	475.0	95	90	110
Arsenic	4/20/16	11:53	500.0	476.0	95	90	110
Barium	4/20/16	11:53	500.0	461.0	92	90	110
Beryllium	4/20/16	11:53	50.00	46.70	93	90	110
Cadmium	4/20/16	11:53	50.00	49.40	99	90	110
Calcium	4/20/16	11:53	500.0	491.0	98	90	110
Chromium	4/20/16	11:53	500.0	464.0	93	90	110
Cobalt	4/20/16	11:53	500.0	462.0	92	90	110
Copper	4/20/16	11:53	500.0	464.0	93	90	110
Iron	4/20/16	11:53	500.0	458.0	92	90	110
Lead	4/20/16	11:53	500.0	474.0	95	90	110
Magnesium	4/20/16	11:53	500.0	454.0	91	90	110
Manganese	4/20/16	11:53	500.0	467.0	93	90	110
Nickel	4/20/16	11:53	500.0	465.0	93	90	110
Selenium	4/20/16	11:53	500.0	477.0	95	90	110
Silver	4/20/16	11:53	50.00	48.60	97	90	110
Thallium	4/20/16	11:53	500.0	491.0	98	90	110
Vanadium	4/20/16	11:53	500.0	456.0	91	90	110
Zinc	4/20/16	11:53	500.0	497.0	99	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

CCV High Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118319

Analytical Run #: 125061 Lab Sample ID: 713871

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	4/20/16	13:11	5000	4550	91	90	110
Antimony	4/20/16	13:11	5000	4590	92	90	110
Arsenic	4/20/16	13:11	5000	4580	92	90	110
Barium	4/20/16	13:11	5000	4810	96	90	110
Beryllium	4/20/16	13:11	500.0	474.0	95	90	110
Cadmium	4/20/16	13:11	500.0	468.0	94	90	110
Calcium	4/20/16	13:11	5000	4690	94	90	110
Chromium	4/20/16	13:11	5000	4700	94	90	110
Cobalt	4/20/16	13:11	5000	4490	90	90	110
Copper	4/20/16	13:11	5000	4480	90	90	110
Iron	4/20/16	13:11	5000	4620	92	90	110
Lead	4/20/16	13:11	5000	4540	91	90	110
Magnesium	4/20/16	13:11	5000	4710	94	90	110
Manganese	4/20/16	13:11	5000	4620	92	90	110
Nickel	4/20/16	13:11	5000	4510	90	90	110
Selenium	4/20/16	13:11	5000	4560	91	90	110
Silver	4/20/16	13:11	500.0	448.0	90	90	110
Thallium	4/20/16	13:11	5000	4670	93	90	110
Vanadium	4/20/16	13:11	5000	4550	91	90	110
Zinc	4/20/16	13:11	5000	4500	90	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

CCV Low Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118319

Analytical Run #: 125061 Lab Sample ID: 713872

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	4/20/16	13:17	500.0	484.0	97	90	110
Antimony	4/20/16	13:17	500.0	469.0	94	90	110
Arsenic	4/20/16	13:17	500.0	468.0	94	90	110
Barium	4/20/16	13:17	500.0	456.0	91	90	110
Beryllium	4/20/16	13:17	50.00	46.20	92	90	110
Cadmium	4/20/16	13:17	50.00	49.00	98	90	110
Calcium	4/20/16	13:17	500.0	481.0	96	90	110
Chromium	4/20/16	13:17	500.0	456.0	91	90	110
Cobalt	4/20/16	13:17	500.0	459.0	92	90	110
Copper	4/20/16	13:17	500.0	461.0	92	90	110
Iron	4/20/16	13:17	500.0	456.0	91	90	110
Lead	4/20/16	13:17	500.0	469.0	94	90	110
Magnesium	4/20/16	13:17	500.0	448.0	90	90	110
Manganese	4/20/16	13:17	500.0	460.0	92	90	110
Nickel	4/20/16	13:17	500.0	459.0	92	90	110
Selenium	4/20/16	13:17	500.0	479.0	96	90	110
Silver	4/20/16	13:17	50.00	47.80	96	90	110
Thallium	4/20/16	13:17	500.0	487.0	97	90	110
Vanadium	4/20/16	13:17	500.0	451.0	90	90	110
Zinc	4/20/16	13:17	500.0	492.0	98	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

MRL

2B

MRL STANDARD CHECK

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118319

Analytical Run #: 125062 Lab Sample ID: 712651

ICAL Calibration #: Concentration Units:

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	4/21/16	11:51	1000	988.0	99	70	130
Sodium	4/21/16	11:51	1000	1010	101	70	130

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118319

Analytical Run #: 124999 Lab Sample ID: 710588

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: 04192016 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Mercury	04/19/2016 08:38	0	U	0.03	0.06

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118319

Analytical Run #: 125062 Lab Sample ID: 712650

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Potassium	04/21/2016 11:48	114.0		90	250
Sodium	04/21/2016 11:48	32.00	U	100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118319

Analytical Run #: 125061 Lab Sample ID: 713862

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Aluminum	04/20/2016 10:14	-0.555	U	6	18
Antimony	04/20/2016 10:14	0.745	U	2.0	6.0
Arsenic	04/20/2016 10:14	1.82	U	4	12
Barium	04/20/2016 10:14	-0.133	U	0.29	0.90
Beryllium	04/20/2016 10:14	0.0320	U	0.10	0.30
Cadmium	04/20/2016 10:14	-0.0500	U	0.3	1.0
Calcium	04/20/2016 10:14	4.11	U	17	50
Chromium	04/20/2016 10:14	0.123	U	0.6	2.0
Cobalt	04/20/2016 10:14	0.261	U	0.7	2.0
Copper	04/20/2016 10:14	2.66		1.2	3.5
Iron	04/20/2016 10:14	1.35	U	16	50
Lead	04/20/2016 10:14	0.845	U	1.4	2.0
Magnesium	04/20/2016 10:14	-3.44	U	6	20
Manganese	04/20/2016 10:14	-0.101	U	0.7	2.0
Nickel	04/20/2016 10:14	-1.48	U	1.0	3.0
Selenium	04/20/2016 10:14	-0.663	U	2.2	6.5
Silver	04/20/2016 10:14	1.53		0.7	2.0
Thallium	04/20/2016 10:14	-2.21	U	2.5	7.5
Vanadium	04/20/2016 10:14	0.0650	U	0.8	2.5
Zinc	04/20/2016 10:14	0.417	U	1.6	4.0

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118319

Analytical Run #: 124999 Lab Sample ID: 710592

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: 04192016 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Mercury	04/19/2016 09:29	0	U	0.03	0.06

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118319

Analytical Run #: 124999 Lab Sample ID: 710595

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: 04192016 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Mercury	04/19/2016 09:54	0	U	0.03	0.06

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118319

Analytical Run #: 124999 Lab Sample ID: 710598

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: 04192016 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Mercury	04/19/2016 10:20	0	U	0.03	0.06

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118319

Analytical Run #: 125062 Lab Sample ID: 712655

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Potassium	04/21/2016 12:30	121.0		90	250
Sodium	04/21/2016 12:30	85.00	U	100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118319

Analytical Run #: 125062 Lab Sample ID: 712659

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Potassium	04/21/2016 13:04	107.0		90	250
Sodium	04/21/2016 13:04	74.00	U	100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118319

Analytical Run #: 125061 Lab Sample ID: 713868

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Aluminum	04/20/2016 11:59	-2.09	U	6	18
Antimony	04/20/2016 11:59	0.699	U	2.0	6.0
Arsenic	04/20/2016 11:59	0.0250	U	4	12
Barium	04/20/2016 11:59	0.185	U	0.29	0.90
Beryllium	04/20/2016 11:59	0.0280	U	0.10	0.30
Cadmium	04/20/2016 11:59	-0.0700	U	0.3	1.0
Calcium	04/20/2016 11:59	3.88	U	17	50
Chromium	04/20/2016 11:59	0.0610	U	0.6	2.0
Cobalt	04/20/2016 11:59	0.332	U	0.7	2.0
Copper	04/20/2016 11:59	2.93		1.2	3.5
Iron	04/20/2016 11:59	6.20	U	16	50
Lead	04/20/2016 11:59	-0.837	U	1.4	2.0
Magnesium	04/20/2016 11:59	-3.92	U	6	20
Manganese	04/20/2016 11:59	0.0220	U	0.7	2.0
Nickel	04/20/2016 11:59	-1.64	U	1.0	3.0
Selenium	04/20/2016 11:59	-0.151	U	2.2	6.5
Silver	04/20/2016 11:59	1.08		0.7	2.0
Thallium	04/20/2016 11:59	0.355	U	2.5	7.5
Vanadium	04/20/2016 11:59	0.00100	U	0.8	2.5
Zinc	04/20/2016 11:59	0.358	U	1.6	5.0

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118319

Analytical Run #: 125061 Lab Sample ID: 713873

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Aluminum	04/20/2016 13:23	-3.46	U	6	18
Antimony	04/20/2016 13:23	-1.75	U	2.0	6.0
Arsenic	04/20/2016 13:23	-0.379	U	4	12
Barium	04/20/2016 13:23	0.0740	U	0.29	0.90
Beryllium	04/20/2016 13:23	-0.00900	U	0.10	0.30
Cadmium	04/20/2016 13:23	0.103	U	0.3	1.0
Calcium	04/20/2016 13:23	4.07	U	17	50
Chromium	04/20/2016 13:23	0.180	U	0.6	2.0
Cobalt	04/20/2016 13:23	0.252	U	0.7	2.0
Copper	04/20/2016 13:23	2.74		1.2	3.5
Iron	04/20/2016 13:23	2.05	U	16	50
Lead	04/20/2016 13:23	1.05	U	1.4	2.0
Magnesium	04/20/2016 13:23	-3.70	U	6	20
Manganese	04/20/2016 13:23	0.0850	U	0.7	2.0
Nickel	04/20/2016 13:23	-1.33	U	1.0	3.0
Selenium	04/20/2016 13:23	-1.30	U	2.2	6.5
Silver	04/20/2016 13:23	0.945		0.7	2.0
Thallium	04/20/2016 13:23	-0.353	U	2.5	7.5
Vanadium	04/20/2016 13:23	0.0950	U	0.8	2.5
Zinc	04/20/2016 13:23	0.349	U	1.6	5.0

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118319

Analytical Run #: 124999 Lab Sample ID: 709937

Analytical Prep Batch # 56795 Preparation Date/Time: 04/18/2016 07:00

ICAL Calibration #: 04192016 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Mercury	04/19/2016 09:44	0	U	0.03	0.06

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118319

Analytical Run #: 125061 Lab Sample ID: 710419

Analytical Prep Batch # 56829 Preparation Date/Time: 04/19/2016 07:00

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit	
Total Aluminum	04/20/2016 12:18	-2.52	U	6	18	
Total Antimony	04/20/2016 12:18	-2.47	U	2.0	6.0	
Total Arsenic	04/20/2016 12:18	2.30	U	4	12	
Total Barium	04/20/2016 12:18	-0.326	U	0.29	0.90	
Total Beryllium	04/20/2016 12:18	-0.00700	U	0.10	0.30	
Total Cadmium	04/20/2016 12:18	-0.109	U	0.3	1.0	
Total Calcium	04/20/2016 12:18	54.50		17	50	FAIL
Total Chromium	04/20/2016 12:18	0.331	U	0.6	2.0	
Total Cobalt	04/20/2016 12:18	0.141	U	0.7	2.0	
Total Copper	04/20/2016 12:18	2.78		1.2	3.5	FAIL
Total Iron	04/20/2016 12:18	5.82	U	16	50	
Total Lead	04/20/2016 12:18	0.557	U	1.4	2.0	
Total Magnesium	04/20/2016 12:18	-3.76	U	6	20	
Total Manganese	04/20/2016 12:18	0.0750	U	0.7	2.0	
Total Nickel	04/20/2016 12:18	-1.59	U	1.0	3.0	
Total Selenium	04/20/2016 12:18	1.26	U	2.2	6.5	
Total Silver	04/20/2016 12:18	1.01		0.7	2.0	FAIL
Total Thallium	04/20/2016 12:18	-2.18	U	2.5	7.5	
Total Vanadium	04/20/2016 12:18	-0.0530	U	0.8	2.5	
Total Zinc	04/20/2016 12:18	1.02	U	1.6	5.0	

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118319

Analytical Run #: 125062 Lab Sample ID: 710419

Analytical Prep Batch # 56829 Preparation Date/Time: 04/19/2016 07:00

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Potassium	04/21/2016 12:42	32.00	U	90	250
Total Sodium	04/21/2016 12:42	70.00	U	100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118319

Analytical Run #: 125062 Lab Sample ID: 710419

Analytical Prep Batch # 56829 Preparation Date/Time: 04/19/2016 07:00

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Potassium	04/21/2016 12:42	32.00	U	90	250
Total Sodium	04/21/2016 12:42	70.00	U	100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

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Sample No:

4-1

ICP INTERFERENCE CHECK SAMPLE (SOL. A)

ICSA

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
ICP ID Number: TJA 6000
SDG No.: 118319
ICS Source: SPEX

Analytical Run #: 125062
Lab Sample ID: 712652
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	04/21/2016 11:53	500000	499000	100	80	120
Calcium	04/21/2016 11:53	500000	501000	100	80	120
Iron	04/21/2016 11:53	500000	500000	100	80	120
Magnesium	04/21/2016 11:53	500000	496000	99	80	120
Potassium	04/21/2016 11:53	0	2.00		-170	170
Sodium	04/21/2016 11:53	0	0		-140	140

CT LABORATORIES
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Sample No:

4-1

ICP INTERFERENCE CHECK SAMPLE (SOL. A)

ICSA

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
ICP ID Number: TJA 6000
SDG No.: 118319
ICS Source: SPEX

Analytical Run #: 125061
Lab Sample ID: 713863
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	04/20/2016 10:27	500000	556000	111	80	120
Antimony	04/20/2016 10:27	0	-0.00200		-5	5
Arsenic	04/20/2016 10:27	0	-0.434		-6	6
Barium	04/20/2016 10:27	0	0		-0.7	0.7
Beryllium	04/20/2016 10:27	0	0.0850		-0.29	0.29
Cadmium	04/20/2016 10:27	0	-0.00100		-0.26	0.26
Calcium	04/20/2016 10:27	500000	505000	101	80	120
Chromium	04/20/2016 10:27	0	0		-1.9	1.9
Cobalt	04/20/2016 10:27	0	-0.941		-1.2	1.2
Copper	04/20/2016 10:27	0	0		-4	4
Iron	04/20/2016 10:27	500000	543000	109	80	120
Lead	04/20/2016 10:27	0	0		-1.5	1.5
Magnesium	04/20/2016 10:27	500000	573000	115	80	120
Manganese	04/20/2016 10:27	0	-0.0990		-1.6	1.6
Nickel	04/20/2016 10:27	0	0.00100		-2.3	2.3
Selenium	04/20/2016 10:27	0	0.0270		-12	12
Silver	04/20/2016 10:27	0	-0.162		-2.0	2.0
Thallium	04/20/2016 10:27	0	0		-5	5
Vanadium	04/20/2016 10:27	0	0.0800		-1.7	1.7
Zinc	04/20/2016 10:27	0	-0.00200		-2.4	2.4

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Sample No:

4-2

ICP INTERFERENCE CHECK SAMPLE (SOL. AB)

ICSAB

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
ICP ID Number: TJA 6000
SDG No.: 118319
ICS Source: SPEX, Ultra

Analytical Run #: 125062
Lab Sample ID: 712653
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	04/21/2016 11:57	500000	495000	99	80	120
Calcium	04/21/2016 11:57	500000	482000	96	80	120
Iron	04/21/2016 11:57	500000	491000	98	80	120
Magnesium	04/21/2016 11:57	500000	483000	97	80	120
Potassium	04/21/2016 11:57	100000	98800	99	80	120
Sodium	04/21/2016 11:57	100000	109000	109	80	120

CT LABORATORIES
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Sample No:

4-2

ICP INTERFERENCE CHECK SAMPLE (SOL. AB)

ICSAB

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
ICP ID Number: TJA 6000
SDG No.: 118319
ICS Source: SPEX, Ultra

Analytical Run #: 125061
Lab Sample ID: 713864
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	04/20/2016 10:33	500000	580000	116	80	120
Antimony	04/20/2016 10:33	500.0	522.0	104	80	120
Arsenic	04/20/2016 10:33	500.0	536.0	107	80	120
Barium	04/20/2016 10:33	500.0	408.0	82	80	120
Beryllium	04/20/2016 10:33	500.0	484.0	97	80	120
Cadmium	04/20/2016 10:33	500.0	445.0	89	80	120
Calcium	04/20/2016 10:33	500000	521000	104	80	120
Chromium	04/20/2016 10:33	500.0	477.0	95	80	120
Cobalt	04/20/2016 10:33	500.0	461.0	92	80	120
Copper	04/20/2016 10:33	500.0	489.0	98	80	120
Iron	04/20/2016 10:33	500000	523000	105	80	120
Lead	04/20/2016 10:33	500.0	441.0	88	80	120
Magnesium	04/20/2016 10:33	500000	594000	119	80	120
Manganese	04/20/2016 10:33	500.0	500.0	100	80	120
Nickel	04/20/2016 10:33	500.0	442.0	88	80	120
Selenium	04/20/2016 10:33	500.0	415.0	83	80	120
Silver	04/20/2016 10:33	500.0	475.0	95	80	120
Thallium	04/20/2016 10:33	500.0	428.0	86	80	120
Vanadium	04/20/2016 10:33	500.0	488.0	98	80	120
Zinc	04/20/2016 10:33	500.0	532.0	106	80	120

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5A

SPIKE SAMPLE RECOVERY

Sample Description

54ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	118319
% Solids for Sample:		Concentration Units:	ug/L
Sample No	709940	Parent Sample No.:	709262
Analytical Prep Batch #	56795	Analytical Preparation Date/Time:	04/18/2016 07:00
Analytical Run #:	124999	ICAL Calibration #:	04192016

Analysis Type *Initial Analysis* Analysis Date: ----- 04/19/2016 Analysis Time: -------- 09:57

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Mercury	82-119	1.9		BDL	U	2.0	95		CV

BDL = analyte concentration was below detection limit

CT LABORATORIES
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5A

SPIKE SAMPLE RECOVERY

Sample Description: **54ADW01**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 118319
% Solids for Sample:
Concentration Units: ug/L
Sample No: 710422
Parent Sample No.: 709262
Analytical Prep Batch #: 56829
Analytical Preparation Date/Time: 04/19/2016 07:00
Analytical Run #: 125061
ICAL Calibration #:

Analysis Type: *Initial Analysis* Analysis Date: ----- 04/20/2016 Analysis Time: -------- 12:46

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Total Aluminum	86-115	737		BDL	U	800	92		P	
Total Antimony	88-113	194		BDL	U	200	97		P	
Total Arsenic	87-113	791		BDL	U	800	99		P	
Total Barium	88-113	878		54.4		800	103		P	
Total Beryllium	89-112	18.4		BDL	U	20.0	92		P	
Total Cadmium	88-113	17.4		BDL	U	20.0	87		P	*FAIL*
Total Calcium	87-113	252000		75200		200000	88		P	
Total Chromium	90-113	74.1		2.4	J	80.0	90		P	
Total Cobalt	89-114	179		BDL	U	200	90		P	
Total Copper	86-114	92.9		3.1	J	100	90		P	
Total Iron	87-115	363		21.9	J	400	85		P	*FAIL*
Total Lead	86-113	179		2.8	J	200	88		P	
Total Magnesium	85-113	128000		32200		100000	96		P	
Total Manganese	90-114	196		12.5		200	92		P	
Total Nickel	88-113	176		BDL	U	200	88		P	
Total Selenium	83-114	750		BDL	U	800	94		P	
Total Silver	84-115	18.3		1.3	J	20.0	85		P	
Total Thallium	85-114	714		BDL	U	800	89		P	
Total Vanadium	90-111	185		BDL	U	200	92		P	
Total Zinc	87-115	207		6.0	J	200	100		P	

BDL = analyte concentration was below detection limit

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5A

SPIKE SAMPLE RECOVERY

Sample Description

54ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	118319
% Solids for Sample:		Concentration Units:	ug/L
Sample No	710422	Parent Sample No.:	709262
Analytical Prep Batch #	56829	Analytical Preparation Date/Time:	04/19/2016 07:00
Analytical Run #:	125062	ICAL Calibration #:	

Analysis Type *Initial Analysis* Analysis Date: ----- 04/21/2016 Analysis Time: -------- 12:53

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Potassium	86-114	91200		1030		100000	90		P
Total Sodium	87-115	104000		4770		100000	99		P

BDL = analyte concentration was below detection limit

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5B

POST DIGESTION SPIKE SAMPLE RECOVERY

Sample Description

54ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	118319
% Solids for Sample:		Concentration Units:	ug/L
Sample No	712657	Parent Sample No.:	709262
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	125062	ICAL Calibration #:	

Analysis Type *Initial Analysis* Analysis Date: ----- 04/21/2016 Analysis Time: -------- 12:55

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Potassium	80-120.	105000		1030		100000	104		P
Sodium	80-120.	116000		4770		100000	111		P

BDL = analyte concentration was below detection limit

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5B

POST DIGESTION SPIKE SAMPLE RECOVERY

Sample Description: **54ADW01**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 118319
% Solids for Sample:
Concentration Units: ug/L
Sample No: 713870
Parent Sample No.: 709262
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
Analytical Run #: 125061
ICAL Calibration #:

Analysis Type: *Initial Analysis* Analysis Date: ----- 04/20/2016 Analysis Time: -------- 12:59

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Aluminum	80-120	4640		BDL	U	4000	116		P	
Antimony	80-120	1080		BDL	U	1000	108		P	
Arsenic	80-120	4360		BDL	U	4000	109		P	
Barium	80-120	5020		54.4		4000	124		P	*FAIL*
Beryllium	80-120	100		BDL	U	100	100		P	
Cadmium	80-120	95.9		BDL	U	100	96		P	
Calcium	80-120	526000		75200		400000	113		P	
Chromium	80-120	396		2.4	J	400	98		P	
Cobalt	80-120	958		BDL	U	1000	96		P	
Copper	80-120	484		3.1	J	500	96		P	
Iron	80-120	2130		21.9	J	2000	105		P	
Lead	80-120	955		2.8	J	1000	95		P	
Magnesium	80-120	282000		32200		200000	125		P	*FAIL*
Manganese	80-120	859		12.5		1000	85		P	
Nickel	80-120	929		BDL	U	1000	93		P	
Selenium	80-120	4090		BDL	U	4000	102		P	
Silver	80-120	96.4		1.3	J	100	95		P	
Thallium	80-120	3770		BDL	U	4000	94		P	
Vanadium	80-120	1170		BDL	U	1000	117		P	

BDL = analyte concentration was below detection limit

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5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description: **54ADW01**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	118319
% Solids for Sample:		Concentration Units:	ug/L
Sample No	709941	Parent Sample No.:	709940
Analytical Prep Batch #	56795	Analytical Preparation Date/Time:	04/18/2016 07:00
Analytical Run #:	124999	ICAL Calibration #:	04192016

Analysis Type: *Initial Analysis* Analysis Date: ----- 04/19/2016 Analysis Time: -------- 09:59

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Mercury	82-119	1.9		BDL	U	2.0	95		CV

BDL = analyte concentration was below detection limit

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5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description: **54ADW01**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	118319
% Solids for Sample:		Concentration Units:	ug/L
Sample No	710423	Parent Sample No.:	710422
Analytical Prep Batch #	56829	Analytical Preparation Date/Time:	04/19/2016 07:00
Analytical Run #:	125061	ICAL Calibration #:	

Analysis Type: *Initial Analysis* Analysis Date: ----- 04/20/2016 Analysis Time: -------- 12:52

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Total Aluminum	86-115	813		BDL	U	800	102		P	
Total Antimony	88-113	215		BDL	U	200	108		P	
Total Arsenic	87-113	865		BDL	U	800	108		P	
Total Barium	88-113	963		54.4		800	114		P	*FAIL*
Total Beryllium	89-112	20.0		BDL	U	20.0	100		P	
Total Cadmium	88-113	19.6		BDL	U	20.0	98		P	
Total Calcium	87-113	278000		75200		200000	101		P	
Total Chromium	90-113	81.6		2.4	J	80.0	99		P	
Total Cobalt	89-114	197		BDL	U	200	98		P	
Total Copper	86-114	102		3.1	J	100	99		P	
Total Iron	87-115	408		21.9	J	400	97		P	
Total Lead	86-113	197		2.8	J	200	97		P	
Total Magnesium	85-113	141000		32200		100000	109		P	
Total Manganese	90-114	214		12.5		200	101		P	
Total Nickel	88-113	191		BDL	U	200	96		P	
Total Selenium	83-114	836		BDL	U	800	104		P	
Total Silver	84-115	19.3		1.3	J	20.0	90		P	
Total Thallium	85-114	780		BDL	U	800	98		P	
Total Vanadium	90-111	202		BDL	U	200	101		P	
Total Zinc	87-115	226		6.0	J	200	110		P	

BDL = analyte concentration was below detection limit

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DUPLICATES

Sample Description

54ADW01

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID

SDG No.: 118319

% Solid for Sample:

Concentration Units: ug/L

Analytical Prep Batch # 1

Analytical Preparation Date/Time 56795

Analytical Run #: 124999

ICAL Calibration #: 04192016

Sample #: 709939

Parent Sample #: 709262

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Total Mercury	04/19/2016	09:50	20	0.030	U	0.030	U	0		CV

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DUPLICATES

Sample Description

54ADW01

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID

SDG No.: 118319

% Solid for Sample:

Concentration Units: ug/L

Analytical Prep Batch # 1

Analytical Preparation Date/Time 56829

Analytical Run #: 125061

ICAL Calibration #:

Sample #: 710421

Parent Sample #: 709262

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M	
Total Aluminum	04/20/2016	12:39	20	6.0	U	6.0	U	0		P	
Total Antimony	04/20/2016	12:39	20	2.0	U	2.0	U	0		P	
Total Arsenic	04/20/2016	12:39	20	4.0	U	4.0	U	0		P	
Total Barium	04/20/2016	12:39	20	54.4		53.6		1		P	
Total Beryllium	04/20/2016	12:39	20	0.10	U	0.10	U	0		P	
Total Cadmium	04/20/2016	12:39	20	0.30	U	0.30	U	0		P	
Total Calcium	04/20/2016	12:39	20	75200		75800		1		P	
Total Chromium	04/20/2016	12:39	20	2.4	J	2.9	J	19		P	
Total Cobalt	04/20/2016	12:39	20	0.70	U	0.70	U	0		P	
Total Copper	04/20/2016	12:39	20	3.1	J	3.5	J	12		P	
Total Iron	04/20/2016	12:39	20	21.9	J	26.6	J	19		P	
Total Lead	04/20/2016	12:39	20	2.8	J	1.7	J	49		P	*FAIL*
Total Magnesium	04/20/2016	12:39	20	32200		32300		0		P	
Total Manganese	04/20/2016	12:39	20	12.5		14.7		16		P	
Total Nickel	04/20/2016	12:39	20	1.0	U	1.0	U	0		P	
Total Selenium	04/20/2016	12:39	20	2.2	U	2.2	U	0		P	
Total Silver	04/20/2016	12:39	20	1.3	J	1.0	J	26		P	*FAIL*
Total Thallium	04/20/2016	12:39	20	2.5	U	2.5	U	0		P	
Total Vanadium	04/20/2016	12:39	20	0.80	U	0.80	U	0		P	
Total Zinc	04/20/2016	12:39	20	6.0	J	6.3	J	5		P	

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DUPLICATES

Sample Description

54ADW01

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID

SDG No.: 118319

% Solid for Sample:

Concentration Units: ug/L

Analytical Prep Batch # 1

Analytical Preparation Date/Time 56829

Analytical Run #: 125062

ICAL Calibration #:

Sample #: 710421

Parent Sample #: 709262

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Total Potassium	04/21/2016	12:50	20	1030		926		11		P
Total Sodium	04/21/2016	12:50	20	4770		4860		2		P

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6A

MATRIX SPIKE DUPLICATES

Sample Description: **54ADW01**

Lab Name: CT Laboratories | Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID | SDG No.: 118319

% Solid for Sample: | Concentration Units: ug/L

Analytical Prep Batch #: 56795 | Analytical Preparation Date/Time: 04/18/2016 07:00

Analytical Run #: 124999 | ICAL Calibration #: 04192016

Sample #: 709941 | Parent Sample #: 709940

Analysis Type: *Initial Analysis*

Analyte	Analysis Date/Tim	RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Total Mercury	04/19/2016 09:59	20	1.9		1.9		1		CV

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6A

MATRIX SPIKE DUPLICATES

Sample Description: **54ADW01**

Lab Name: CT Laboratories | Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID | SDG No.: 118319

% Solid for Sample: | Concentration Units: ug/L

Analytical Prep Batch #: 56829 | Analytical Preparation Date/Time: 04/19/2016 07:00

Analytical Run #: 125061 | ICAL Calibration #:

Sample #: 710423 | Parent Sample #: 710422

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Total Aluminum	04/20/2016	12:52	20	737		813		10		P
Total Antimony	04/20/2016	12:52	20	194		215		10		P
Total Arsenic	04/20/2016	12:52	20	791		865		9		P
Total Barium	04/20/2016	12:52	20	878		963		9		P
Total Beryllium	04/20/2016	12:52	20	18.4		20.0		8		P
Total Cadmium	04/20/2016	12:52	20	17.4		19.6		12		P
Total Calcium	04/20/2016	12:52	20	252000		278000		10		P
Total Chromium	04/20/2016	12:52	20	74.1		81.6		10		P
Total Cobalt	04/20/2016	12:52	20	179		197		10		P
Total Copper	04/20/2016	12:52	20	92.9		102		9		P
Total Iron	04/20/2016	12:52	20	363		408		12		P
Total Lead	04/20/2016	12:52	20	179		197		10		P
Total Magnesium	04/20/2016	12:52	20	128000		141000		10		P
Total Manganese	04/20/2016	12:52	20	196		214		9		P
Total Nickel	04/20/2016	12:52	20	176		191		8		P
Total Selenium	04/20/2016	12:52	20	750		836		11		P
Total Silver	04/20/2016	12:52	20	18.3		19.3		5		P
Total Thallium	04/20/2016	12:52	20	714		780		9		P
Total Vanadium	04/20/2016	12:52	20	185		202		9		P
Total Zinc	04/20/2016	12:52	20	207		226		9		P

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Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 118319

Concentration Units: ug/L

Analytical Run #: 124999 Sample No.:#: 709938

Analytical Prep Batch #: 56795 Preparation Date/Time: 04/18/2016 07:00

ICAL Calibration #: 04192016

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Total Mercury	04/19/2016 09:42	82-119	2.66		3.00	89		CV

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Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 118319

Concentration Units: ug/L

Analytical Run #: 125061 Sample No.:#: 710420

Analytical Prep Batch #: 56829 Preparation Date/Time: 04/19/2016 07:00

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Total Aluminum	04/20/2016 12:12	86-115	781.0		800.0	98		P
Total Antimony	04/20/2016 12:12	88-113	207.0		200.0	104		P
Total Arsenic	04/20/2016 12:12	87-113	841.0		800.0	105		P
Total Barium	04/20/2016 12:12	88-113	869.0		800.0	109		P
Total Beryllium	04/20/2016 12:12	89-112	19.00		20.00	95		P
Total Cadmium	04/20/2016 12:12	88-113	19.10		20.00	96		P
Total Calcium	04/20/2016 12:12	87-113	198000		200000	99		P
Total Chromium	04/20/2016 12:12	90-113	75.50		80.00	94		P
Total Cobalt	04/20/2016 12:12	89-114	190.0		200.0	95		P
Total Copper	04/20/2016 12:12	86-114	97.60		100.0	98		P
Total Iron	04/20/2016 12:12	87-115	382.0		400.0	96		P
Total Lead	04/20/2016 12:12	86-113	192.0		200.0	96		P
Total Magnesium	04/20/2016 12:12	85-113	104000		100000	104		P
Total Manganese	04/20/2016 12:12	90-114	198.0		200.0	99		P
Total Nickel	04/20/2016 12:12	88-113	184.0		200.0	92		P
Total Selenium	04/20/2016 12:12	83-114	833.0		800.0	104		P
Total Silver	04/20/2016 12:12	84-115	19.10		20.00	96		P
Total Thallium	04/20/2016 12:12	85-114	768.0		800.0	96		P
Total Vanadium	04/20/2016 12:12	90-111	194.0		200.0	97		P
Total Zinc	04/20/2016 12:12	87-115	212.0		200.0	106		P

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Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 118319

Concentration Units: ug/L

Analytical Run #: 125062 Sample No.:#: 710420

Analytical Prep Batch #: 56829 Preparation Date/Time: 04/19/2016 07:00

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Total Potassium	04/21/2016 12:39	86-114	91200		100000	91		P
Total Sodium	04/21/2016 12:39	87-115	99500		100000	100		P

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ICP SERIAL DILUTION

Sample Description

54ADW01

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID SDG No.: 118319

Concentration Units: ug/L

Sample No.: 712656 Parent Sample No.: 709262

LIMS Run #: 125062 ICAL Calibration #:.:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Initial Sample Result (I)	C (I)	Serial Dilution Result (S)	C (S)	% Diff.	Q	M	
Potassium	04/21/2016 12:47	1.03	U	450	U	100		P	*INVALID*
Sodium	04/21/2016 12:47	4.77	U	500	U	100		P	*INVALID*

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ICP SERIAL DILUTION

Sample Description

54ADW01

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID SDG No.: 118319

Concentration Units: ug/L

Sample No.: 713869 Parent Sample No.: 709262

LIMS Run #: 125061 ICAL Calibration #:.:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Initial Sample Result (I)	C (I)	Serial Dilution Result (S)	C (S)	% Diff.	Q	M	
Aluminum	04/20/2016 12:32	BDL	U	30	U	0		P	*INVALID*
Antimony	04/20/2016 12:32	BDL	U	10	U	0		P	*INVALID*
Arsenic	04/20/2016 12:32	BDL	U	20	U	0		P	*INVALID*
Barium	04/20/2016 12:32	54.4		51.5		5		P	*INVALID*
Beryllium	04/20/2016 12:32	BDL	U	0.5	U	0		P	*INVALID*
Cadmium	04/20/2016 12:32	BDL	U	1.5	U	0		P	*INVALID*
Calcium	04/20/2016 12:32	75200.		120000		60		P	*FAIL*
Chromium	04/20/2016 12:32	2.44	U	3.61	J	48		P	*INVALID*
Cobalt	04/20/2016 12:32	BDL	U	3.5	U	0		P	*INVALID*
Copper	04/20/2016 12:32	3.13	U	16.2	J	418		P	*INVALID*
Iron	04/20/2016 12:32	21.9	U	80	U	100		P	*INVALID*
Lead	04/20/2016 12:32	2.79	U	8.65	J	210		P	*INVALID*
Magnesium	04/20/2016 12:32	32200.		39150		22		P	*FAIL*
Manganese	04/20/2016 12:32	12.5	J	15.75	J	26		P	*INVALID*
Nickel	04/20/2016 12:32	BDL	U	5	U	0		P	*INVALID*
Selenium	04/20/2016 12:32	BDL	U	11	U	0		P	*INVALID*
Silver	04/20/2016 12:32	1.33	U	4.265	J	221		P	*INVALID*
Thallium	04/20/2016 12:32	BDL	U	12.5	U	0		P	*INVALID*
Vanadium	04/20/2016 12:32	BDL	U	4	U	0		P	*INVALID*
Zinc	04/20/2016 12:32	6.02	U	8.15	J	35		P	*INVALID*

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METHOD DETECTION LIMITS (ANNUALLY)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118319

Matrix: LIQUID

Analyte	Wavelength (nm)	Background	CRDL (ug/L)	MDL (ug/L)	M
Total Mercury	253.7			0.03	CV

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METHOD DETECTION LIMITS (ANNUALLY)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

ICP ID Number: TJA SDG No.: 118319

Matrix: LIQUID

Analyte	Wavelength (nm)	Background	CRDL (ug/L)	MDL (ug/L)	M
Total Aluminum	167.0			6	P
Total Antimony	217.5			2.0	P
Total Arsenic	193.7			4	P
Total Barium	455.4			0.29	P
Total Beryllium	313.041			0.10	P
Total Cadmium	226.502			0.3	P
Total Calcium	393.3			17	P
Total Chromium	267.716			0.6	P
Total Cobalt	228.616			0.7	P
Total Copper	327.3			1.2	P
Total Iron	259.9			16	P
Total Lead	220.35			1.4	P
Total Magnesium	279.5			6	P
Total Manganese	257.61			0.7	P
Total Nickel	231.604			1.0	P
Total Potassium	766.491			90	P
Total Selenium	196.02			2.2	P
Total Silver	328.068			0.7	P
Total Sodium	589.5			100	P
Total Thallium	190.864			2.5	P
Total Vanadium	292.402			0.8	P
Total Zinc	213.856			1.6	P

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ICP INTERELEMENT CORRECTION FACTORS (ANNUAL)
ICP ID NUMBER: TA ICAP6000 / ICAP6500

Element, Wavelength and Order	Use?	# IECs	IEC	k1
Ag 328.068 {103}	☒	1	Fe	0.000006
Al 308.215 {109}	☒	None		
Al 309.271 {109}	☒	None		
Al 396.152 { 85}	☒	None		
Al 167.079 {502}	☒	1	Fe	0.000627
As 193.759 {474}	☒	3	Fe	-0.000324
			Mo	0.000000
			Co	0.000000
As 189.042 {479}	☒	1	Fe	0.000027
Ba 455.403 { 74}	☒	1	Fe	-0.000000
Ba 493.409 { 68}	☒	1	Fe	0.000106
Be 313.042 {108}	☒	1	Fe	0.000000
Be 234.861 {144}	☒	1	Fe	0.000101
Ca 315.887 {107}	☒	None		
Ca 317.933 {106}	☒	None		
Ca 393.366 { 86}	☒	None		
Ca 396.847 { 85}	☒	None		
Cd 226.502 {449}	☒	2	Fe	0.000381
			Ag	0.049000
Cd 228.802 {447}	☒	1	Fe	0.000100
Co 228.616 {447}	☒	6	Ti	-0.002110
			Mo	-0.001300
			Cr	-0.000235
			Ba	0.000315
			Ni	0.000000
			Fe	0.000017
Co 238.892 {141}	☒	1	Fe	0.000242
Cr 267.716 {126}	☒	1	Fe	0.000010
Cr 283.563 {119}	☒	1	Fe	0.000949
Cu 224.700 {450}	☒	2	Fe	0.000062
			Ag	-0.050000
Cu 324.754 {104}	☒	1	Fe	0.000200
Cu 327.396 {103}	☒	1	Fe	-0.000016
Fe 234.349 {144}	☒	None		
Fe 239.562 {141}	☒	None		
Fe 259.940 {130}	☒	None		
Mg 202.582 {466}	☒	None		
Mg 279.079 {121}	☒	None		
Mg 280.270 {120}	☒	None		
Mn 257.610 {131}	☒	1	Al	-0.000055
Mn 259.373 {130}	☒	1	Mg	0.001246
Mo 203.844 {465}	☒	1	Fe	-0.000027
Mo 202.030 {467}	☒	1	Fe	-0.000020
Mo 204.598 {465}	☒	1	Fe	-0.000100

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ICP INTERELEMENT CORRECTION FACTORS (ANNUAL)
ICP ID NUMBER: TA ICAP6000 / ICAP6500

Element, Wavelength and Order	Use?	# IECs	IEC	k1
Ni 221.647 (452)	☒	1	Ca	0.000022
Ni 231.604 (445)	☒	4	Fe	0.000117
			Co	-0.050000
			Ag	-0.050000
			Mo	-0.000200
Pb 216.999 (455)	☒	2	Al	0.000478
			Na	0.000000
Pb 220.353 (153)	☒	1	Fe	0.000024
Pb 220.353 (453)	☒	9	Fe	0.000071
			Si	0.000940
			Ti	0.000640
			Cu	0.000370
			Ni	0.000109
			Al	0.000000
			Co	-0.000149
			Mn	0.000074
			Ti	0.000004
Sb 206.833 (463)	☒	1	Fe	0.000032
Sb 217.581 (455)	☒	1	Fe	-0.000048
Se 196.090 (172)	☒	1	Fe	-0.000205
Se 196.090 (472)	☒	1	Fe	0.000022
Se 206.279 (463)	☒	1	Fe	0.001119
Tl 276.787 (122)	☒	1	Mg	0.006492
Tl 190.856 (477)	☒	10	Ti	0.000050
			Al	-0.000002
			V	0.000586
			Mn	0.000398
			Mo	-0.000120
			Be	-0.000013
			Fe	-0.000033
			Sr	-0.000027
			Co	0.000016
			Cr	0.000251
V 290.882 (116)	☒	1	Fe	0.000170
V 292.402 (115)	☒	1	Fe	0.000041
Zn 206.200 (463)	☒	1	Fe	0.000173
Zn 213.856 (458)	☒	1	Fe	0.000380
Y 360.073 (94)*	☒	None		
Na 330.298 (102)	☒	1	Fe	0.000991
Si 251.611 (134)	☒	1	Fe	-0.000042
Ti 334.941 (101)	☒	1	Fe	0.000050
Ti 337.280 (100)	☒	1	Fe	0.000006
Sr 407.771 (83)	☒	1	Fe	0.000039
Sr 421.552 (80)	☒	1	Fe	0.000039

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ICP INTERELEMENT CORRECTION FACTORS (ANNUAL)
ICP ID NUMBER: TA ICAP6000 / ICAP6500

Element, Wavelength and Order	Use?	# IECs	IEC	k1
Sn 189.989 {477}	☒	1	Fe	0.000011
Sn 283.999 {119}	☒	1	Fe	-0.003092
B 249.678 {135}	☒	1	Fe	-0.000918
B 249.773 {135}	☒	1	Fe	0.000199
Li 670.784 { 50}	☒	1	Fe	0.000029
K 766.490 { 44}	☒	1	Fe	0.006630

Element, Wavelength and Order	Use?	# IECs	IEC	k1
K 766.490 { 44}	☒	1	Fe	0.000178
Na 330.237 {102}	☒	1	Fe	-0.004289
Na 589.592 { 57}	☒	1	Fe	0.000173
Y 360.073 { 94}	☒	None		
Y 320.332 {105}*	☒	None		
Al 308.215 {109}	☒	1	Fe	0.000000
Al 396.152 { 85}	☒	None		
Mg 285.213 {118}	☒	None		
Ca 317.933 {106}	☒	None		
Fe 234.349 {144}	☒	None		

ICP LINEAR RANGES (QUARTERLY)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

ICP ID Number: TA SDG No.: 118319

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	M
Aluminum	15.00	1000000	P
Antimony	15.00	10000	P
Arsenic	15.00	10000	P
Barium	15.00	10000	P
Beryllium	15.00	1000	P
Boron	15.00	1000	P
Cadmium	15.00	1000	P
Calcium	15.00	1000000	P
Chromium	15.00	100000	P
Cobalt	15.00	10000	P
Copper	15.00	100000	P
Iron	15.00	1000000	P
Lead	15.00	100000	P
Lithium	15.00	10000	P
Magnesium	15.00	1000000	P
Manganese	15.00	100000	P
Molybdenum	15.00	10000	P
Nickel	15.00	10000	P
Potassium	15.00	200000	P
Selenium	15.00	10000	P
Silicon	15.00	1000	P
Silver	15.00	100	P
Sodium	15.00	200000	P
Strontium	15.00	10000	P
Thallium	15.00	10000	P
Tin	15.00	10000	P
Titanium	15.00	1000	P
Tungsten	15.00	10000	P
Vanadium	15.00	10000	P
Zinc	15.00	100000	P

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PREPARATION LOG

Lab Name: CT Laboratories

Project: BERING SEA ENVIRONMENTAL-RADFORD AAP

Method: EPA 7470A

SDG No.: 118319

Preparation Batch #: 56795

Preparation Date/Time: 04/18/2016 / 07:00

Lab Sample #	QC Type	Sample Description	Matrix	**Weight (g for solid/soil) or Volume (mL for liquid/aqueous)**
709262	Normal Sample	54ADW01	GROUND WATER	25.0
709937	Method Blank		LIQUID	25.0
709938	Lab Control Spike		LIQUID	25.0
709939	Lab Duplicate	54ADW01	GROUND WATER	25.0
709940	Matrix Spike	54ADW01	GROUND WATER	25.0
709941	Matrix Spike Duplicate	54ADW01	GROUND WATER	25.0

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PREPARATION LOG

Lab Name: CT Laboratories

Project: BERING SEA ENVIRONMENTAL-RADFORD AAP

Method: EPA 3010A

SDG No.: 118319

Preparation Batch #: 56829

Preparation Date/Time: 04/19/2016 / 07:00

Lab Sample #	QC Type	Sample Description	Matrix	**Weight (g for solid/soil) or Volume (mL for liquid/aqueous)**
709262	Normal Sample	54ADW01	GROUND WATER	50.0
710419	Method Blank		LIQUID	50.0
710420	Lab Control Spike		LIQUID	50.0
710421	Lab Duplicate	54ADW01	GROUND WATER	50.0
710422	Matrix Spike	54ADW01	GROUND WATER	50.0
710423	Matrix Spike Duplicate	54ADW01	GROUND WATER	50.0

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ANALYSIS RUN LOG

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Lab Code: CTL

SDG No.: 118319

Instrument ID Number: CETAC

Method Number: CV

Start & End Date: 04/19/2016 to 04/19/2016

Analytical Run #: 124999

Sample Number	Analysis or QC Type	DF	Analysis Date/ Time	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Mo	Li	Ni	K	Se	Si	Ag	Na	Sr	Tl	Sn	W	V	Zn
710587	ICV	1.00	4/19 08:36																X													
710588	ICB	1.00	4/19 08:38																X													
710591	CCV	1.00	4/19 09:27																X													
710592	CCB	1.00	4/19 09:29																X													
709938	LCSW	1.00	4/19 09:42																X													
709937	MBW	1.00	4/19 09:44																X													
709262	Initial	1.00	4/19 09:46																X													
709939	DUP	1.00	4/19 09:50																X													
710594	CCV	1.00	4/19 09:52																X													
710595	CCB	1.00	4/19 09:54																X													
709940	MSW	1.00	4/19 09:57																X													
709941	MSDW	1.00	4/19 09:59																X													
710597	CCV	1.00	4/19 10:18																X													
710598	CCB	1.00	4/19 10:20																X													

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ANALYSIS RUN LOG

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Lab Code: CTL

SDG No.: 118319

Instrument ID Number: TJA

Method Number: P

Start & End Date: 04/20/2016 to 04/20/2016

Analytical Run #: 125061

Sample Number	Analysis or QC Type	DF	Analysis Date/ Time	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Mo	Li	Ni	K	Se	Si	Ag	Na	Sr	Tl	Sn	W	V	Zn
713860	ICV	1.00	4/20 09:55	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
713861	ICVLL	1.00	4/20 10:01	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
713862	ICB	1.00	4/20 10:14	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
713863	ICSA	1.00	4/20 10:27	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
713864	ICSAB	1.00	4/20 10:33	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
713865	ICV	1.00	4/20 10:40																							X							
713866	CCV1	1.00	4/20 11:47	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
713867	CCV2	1.00	4/20 11:53	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
713868	CCB	1.00	4/20 11:59	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
710420	LCSW	1.00	4/20 12:12	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
710419	MBW	1.00	4/20 12:18	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
709262	Initial	1.00	4/20 12:25	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
713869	L	5	4/20 12:32	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
710421	DUP	1.00	4/20 12:39	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
710422	MSW	1.00	4/20 12:46	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
710423	MSDW	1.00	4/20 12:52	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
713870	PDSW	1.00	4/20 12:59	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
713871	CCV1	1.00	4/20 13:11	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
713872	CCV2	1.00	4/20 13:17	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
713873	CCB	1.00	4/20 13:23	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X

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14

ANALYSIS RUN LOG

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Lab Code: CTL
SDG No.: 118319

Instrument ID Number: TJA
Method Number: P

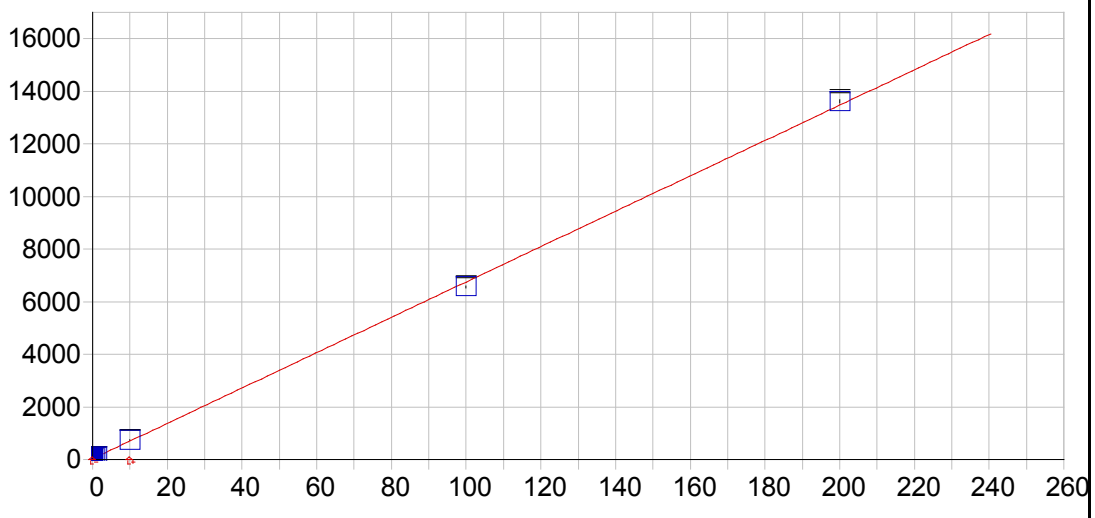
Start & End Date: 04/21/2016 to 04/21/2016
Analytical Run #: 125062

Sample Number	Analysis or QC Type	DF	Analysis Date/ Time	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Mo	Li	Ni	K	Se	Si	Ag	Na	Sr	Tl	Sn	W	V	Zn
712648	ICV	1.00	4/21 11:42																				X				X					
712649	ICVLL	1.00	4/21 11:45																				X				X					
712650	ICB	1.00	4/21 11:48																				X				X					
712651	MRL	1.00	4/21 11:51																				X				X					
712652	ICSA	1.00	4/21 11:53	X							X				X		X						X				X					
712653	ICSAB	1.00	4/21 11:57	X							X				X		X						X				X					
712654	CCV	1.00	4/21 12:27																				X				X					
712655	CCB	1.00	4/21 12:30																				X				X					
710420	LCSW	1.00	4/21 12:39																				X				X					
710419	MBW	1.00	4/21 12:42																				X				X					
709262	Initial	1.00	4/21 12:44																				X				X					
712656	L	5	4/21 12:47																				X				X					
710421	DUP	1.00	4/21 12:50																				X				X					
710422	MSW	1.00	4/21 12:53																				X				X					
712657	PDSW	1.00	4/21 12:55																				X				X					
712658	CCV	1.00	4/21 13:01																				X				X					
712659	CCB	1.00	4/21 13:04																				X				X					

METALS
RAW DATA
DOCUMENTS

	Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)	Correlation	Std Error of Est	Predicted MDL	Predicted MQL
	K 766.490 { 44}	04/22/2016 08:57:15	04/21/2016 11:39:30	Linear	1/Conc	30.627849	67.202460	0.000000	1.000000	0.999797	0.654819	0.082609	0.275365
	Na 330.237 {102}	04/22/2016 08:57:15	04/21/2016 11:39:30	Curvilin	None	0.000099	0.000046	0.000000	1.000000	0.999934	0.000090	1.943014	6.476713
	Na 589.592 { 57}	04/22/2016 08:57:15	04/21/2016 11:39:30	Linear	1/Conc	0.000304	0.025209	0.000000	1.000000	0.999795	0.000252	0.011284	0.037614
	Y 360.073 { 94}	04/22/2016 08:57:15	04/21/2016 11:20:12	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000
	Y 320.332 {105}*	04/22/2016 08:57:15	04/21/2016 11:20:12	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000
	Al 308.215 {109}	04/22/2016 08:57:15	04/21/2016 11:42:44	Linear	1/Conc	0.002699	0.000010	0.000000	1.000000	1.000000	0.000000	-1.000000	-1.000000
	Al 396.152 { 85}	04/22/2016 08:57:15	04/21/2016 11:42:44	Linear	1/Conc	0.000050	0.008372	0.000000	1.000000	1.000000	0.000000	0.014612	0.048708
	Mg 285.213 {118}	04/22/2016 08:57:15	04/21/2016 11:42:44	Linear	None	0.000685	0.032190	0.000000	1.000000	1.000000	0.000000	0.001845	0.006149
	Ca 317.933 {106}	04/22/2016 08:57:15	04/21/2016 11:42:44	Linear	None	0.029573	0.008611	0.000000	1.000000	1.000000	0.000000	0.007119	0.023729
	Fe 234.349 {144}	04/22/2016 08:57:15	04/21/2016 11:42:44	Linear	None	0.000230	0.002149	0.000000	1.000000	1.000000	0.000000	0.009881	0.032937

	Element, Wavelength and Order	Status	Reslope		QC Norm	
			Slope	Y-int	Slope factor	Offset
	K 766.490 { 44}	OK.	1.000000	0.000000	1	0
	Na 330.237 {102}	Warnin	1.000000	0.000000	1	0
	Na 589.592 { 57}	OK.	1.000000	0.000000	1	0
	Y 360.073 { 94}	Warnin	1.000000	0.000000	1	0
	Y 320.332 {105}*	Warnin	1.000000	0.000000	1	0
	Al 308.215 {109}	OK.	1.000000	0.000000	1	0
	Al 396.152 { 85}	OK.	1.000000	0.000000	1	0
	Mg 285.213 {118}	OK.	1.000000	0.000000	1	0
	Ca 317.933 {106}	OK.	1.000000	0.000000	1	0
	Fe 234.349 {144}	OK.	1.000000	0.000000	1	0

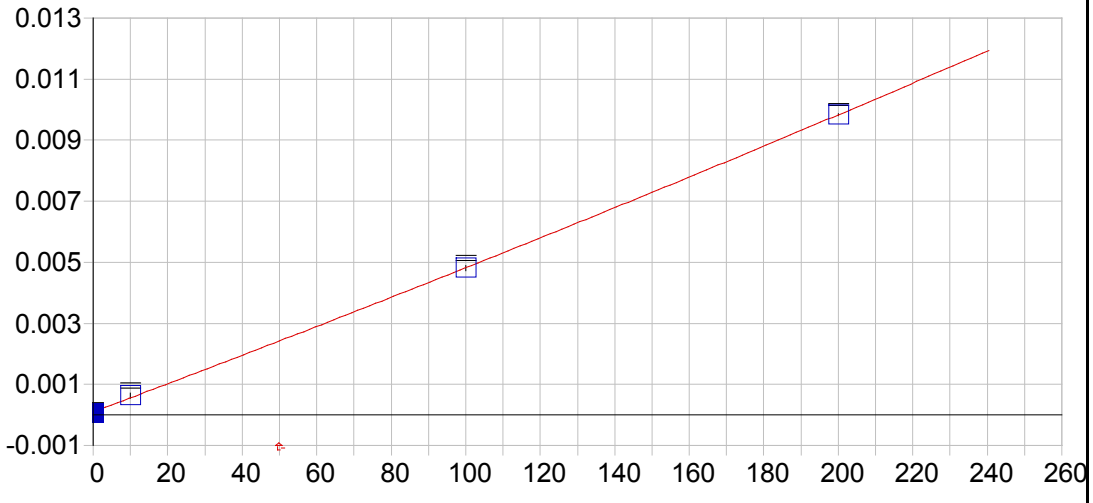


K 766.490 { 44}

Date of Fit:	04/22/2016 08:57:15	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	30.627849	Re-Slope:	1.000000
A1 (Gain):	67.202460	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999797	Status:	OK.
Std Error of Est:	0.654819		
Predicted MDL:	0.082609		
Predicted MQL:	0.275365		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00007	.000	.000	30.623	7.05	1
CalibStd-1.0	1.0000	1.0548	.055	5.48	101.51	1.65	1
CalibStd-10.0	10.000	10.513	.513	5.13	737.14	4.05	1
CalibStd-0.5	.50000	.52286	.023	4.57	65.765	4.73	1
CalibStd-200	200.00	202.13	2.13	1.06	13614.	62.1	1
CalibStd-100	100.00	97.283	-2.72	-2.72	6568.3	38.9	1

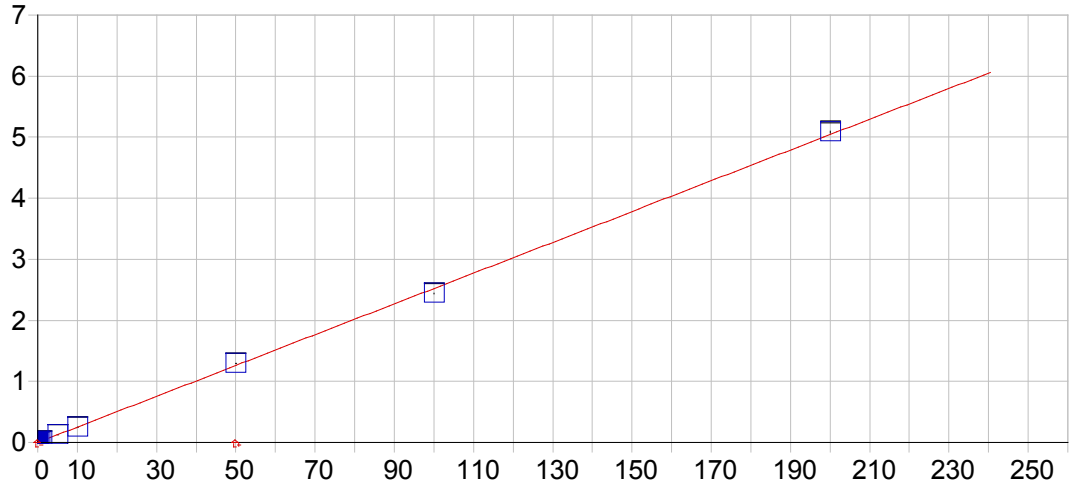


Na 330.237 {102}

Date of Fit:	04/22/2016 08:57:15	Type of Fit:	Curvilinear	Weighting:	None

A0 (Offset):	0.000099	Re-Slope:	1.000000
A1 (Gain):	0.000046	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999934	Status:	Warning
Std Error of Est:	0.000090		
Predicted MDL:	1.943014		
Predicted MQL:	6.476713		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-1.2715	-1.27	.000	.00004	.000	1
CalibStd-200	200.00	200.06	.059	.030	.00983	.000	1
CalibStd-10.0	10.000	11.477	1.48	14.8	.00063	.000	1
CalibStd-100	100.00	99.734	-.266	-.266	.00481	.000	1

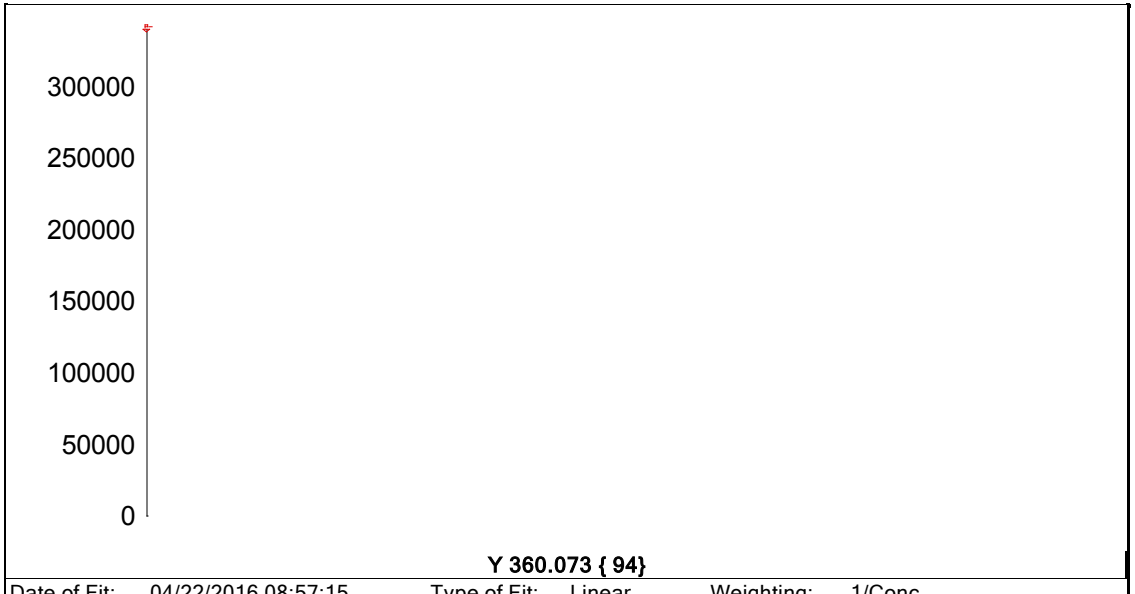


Na 589.592 { 57}

Date of Fit:	04/22/2016 08:57:15	Type of Fit:	Linear	Weighting:	1/Conc

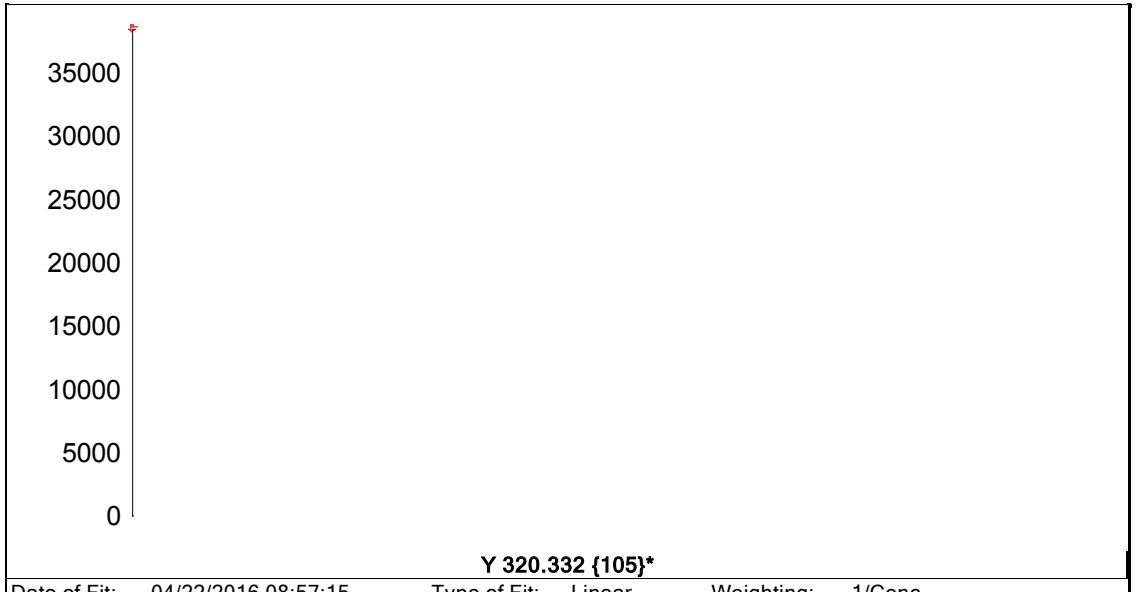
A0 (Offset):	0.000304	Re-Slope:	1.000000
A1 (Gain):	0.025209	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999795	Status:	OK.
Std Error of Est:	0.000252		
Predicted MDL:	0.011284		
Predicted MQL:	0.037614		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00001	.000	.000	.00030	.000	1
CalibStd-0.5	.50000	.49675	-.003	-.650	.01283	.000	1
CalibStd-1.0	1.0000	.97560	-.024	-2.44	.02490	.000	1
CalibStd-5.0	5.0000	4.9264	-.074	-1.47	.12449	.000	1
CalibStd-10.0	10.000	10.112	.112	1.12	.25522	.000	1
CalibStd-50	50.000	51.359	1.36	2.72	1.2950	.003	1
CalibStd-100	100.00	96.909	-3.09	-3.09	2.4433	.005	1
CalibStd-200	200.00	201.72	1.72	.861	5.0855	.015	1



Date of Fit:	04/22/2016 08:57:15	Type of Fit:	Linear	Weighting:	1/Conc	
A0 (Offset):	0.000000		Re-Slope:	1.000000		
A1 (Gain):	0.000000		Y-int:	0.000000		
A2 (Curvature):	0.000000					
n (Exponent):	1.000000					
Correlation:	0.000000		Status:	Warning	Zero Gain	
Std Error of Est:	0.000000					
Predicted MDL:	n/a					
Predicted MQL:	n/a					

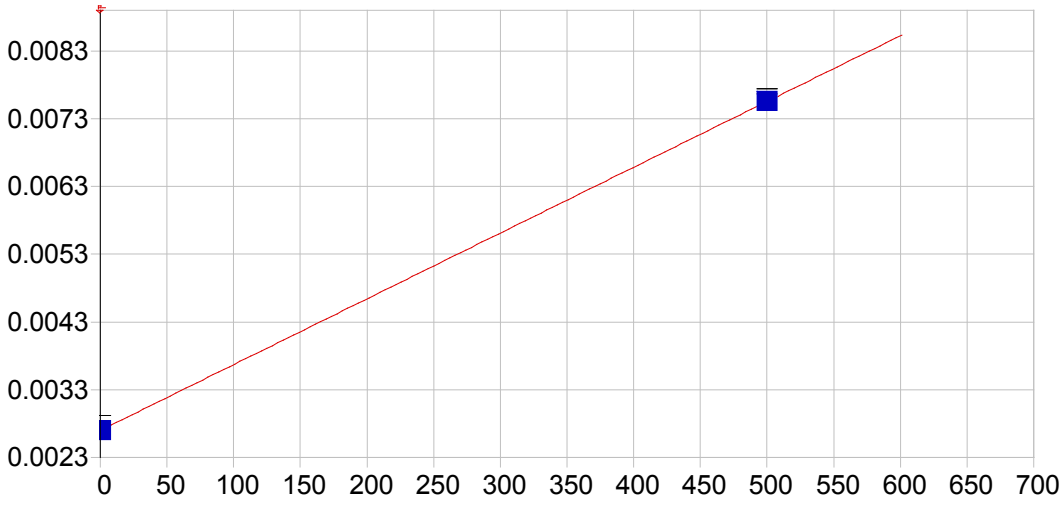
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	318390.	2010.	1



Y 320.332 {105}*

Date of Fit:	04/22/2016 08:57:15	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.000000		Re-Slope:	1.000000	
A1 (Gain):	0.000000		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.000000		Status:	Warning	Zero Gain
Std Error of Est:	0.000000				
Predicted MDL:	n/a				
Predicted MQL:	n/a				

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	36160.	138.	1

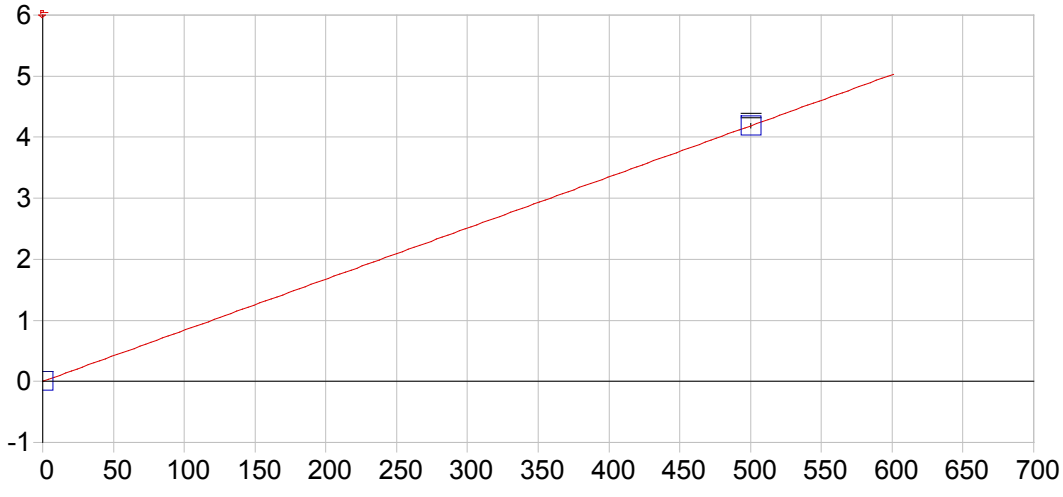


Al 308.215 {109}

Date of Fit:	04/22/2016 08:57:15	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.002699	Re-Slope:	1.000000
A1 (Gain):	0.000010	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00270	.000	1
CalibStd-500	500.00	500.00	.000	.000	.00755	.000	1

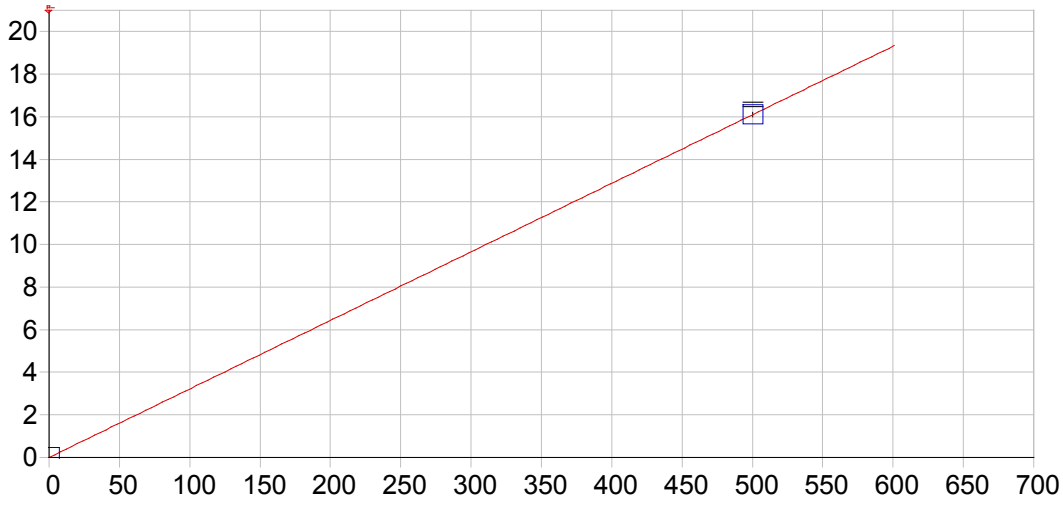


Al 396.152 { 85}

Date of Fit:	04/22/2016 08:57:15	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000050	Re-Slope:	1.000000
A1 (Gain):	0.008372	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.014612		
Predicted MQL:	0.048708		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00005	.000	1
CalibStd-500	500.00	500.00	.000	.000	4.1858	.035	1

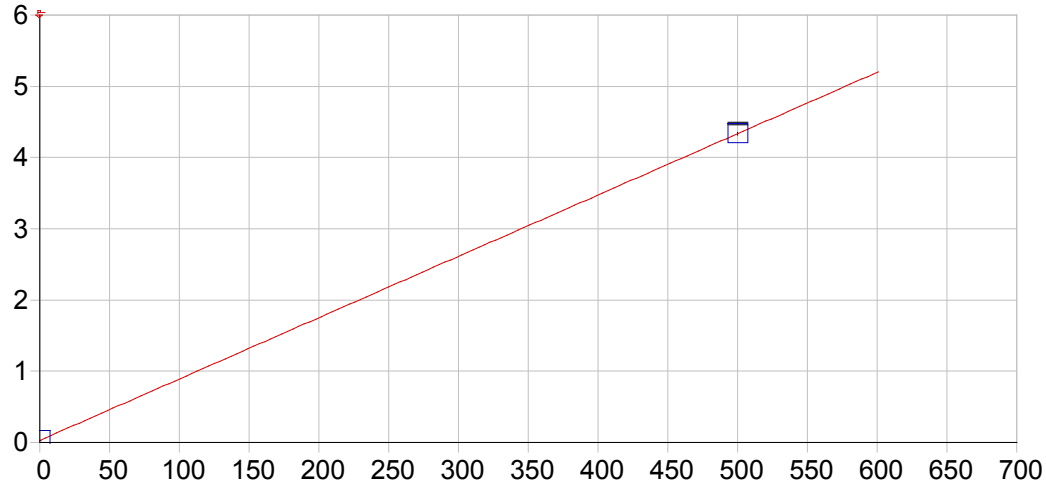


Mg 285.213 {118}

Date of Fit:	04/22/2016 08:57:15	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000685	Re-Slope:	1.000000
A1 (Gain):	0.032190	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.001845		
Predicted MQL:	0.006149		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00068	.000	1
CalibStd-500	500.00	500.00	.000	.000	16.096	.109	1

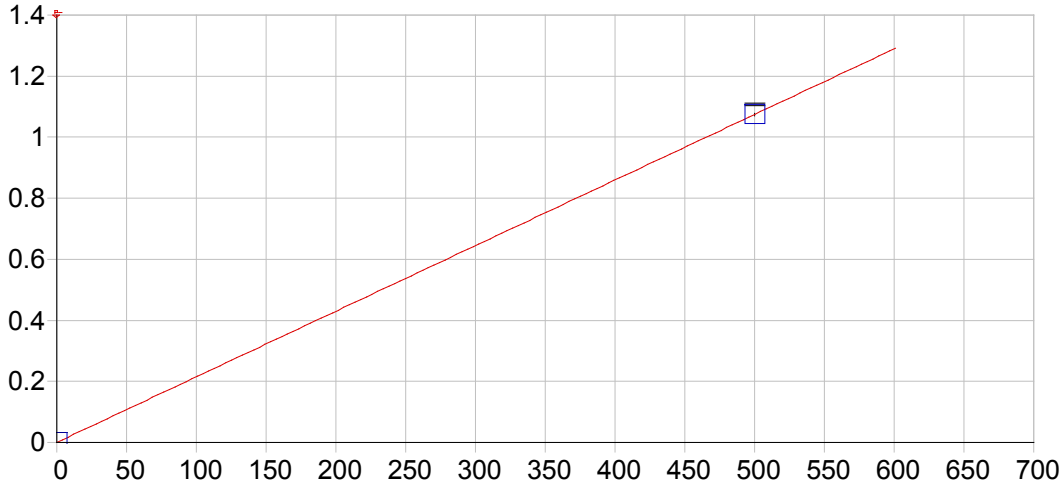


Ca 317.933 {106}

Date of Fit:	04/22/2016 08:57:15	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.029573	Re-Slope:	1.000000
A1 (Gain):	0.008611	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.007119		
Predicted MQL:	0.023729		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.02957	.000	1
CalibStd-500	500.00	500.00	.000	.000	4.3349	.016	1



Fe 234.349 {144}

Date of Fit:	04/22/2016 08:57:15	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000230	Re-Slope:	1.000000
A1 (Gain):	0.002149	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.009881		
Predicted MQL:	0.032937		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00023	.000	1
CalibStd-500	500.00	500.00	.000	.000	1.0745	.005	1

Sample Name: Blank Acquired: 04/21/2016 11:17:17 Type: Cal
Method: Sodium and Potassium 1(v723) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**30.6**	**.000**	**.000**	**.000**	**.001**	**.030**	**.000**
Stddev	7.0	.000	.000	.000	.000	.000	.000
%RSD	23.0	115.	99.5	110.	4.23	.126	13.4

Int. Std.	Y_3203
Units	Cts/S
Avg	**36160.**
Stddev	138.
%RSD	.38216

Sample Name: CalibStd-0.5 Acquired: 04/21/2016 11:20:15 Type: Cal
Method: Sodium and Potassium 1(v723) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895
Units	Cts/S	Cts/S
Avg	**65.8**	**.013**
Stddev	4.7	.000
%RSD	7.19	.226

Int. Std.	Y_3203
Units	Cts/S
Avg	**36108.**
Stddev	137.
%RSD	.38065

Sample Name: CalibStd-1.0 Acquired: 04/21/2016 11:23:01 Type: Cal
Method: Sodium and Potassium 1(v723) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895
Units	Cts/S	Cts/S
Avg	**102.**	**.025**
Stddev	2.	.000
%RSD	1.62	.598

Int. Std.	Y_3203
Units	Cts/S
Avg	**35861.**
Stddev	42.
%RSD	.11825

Sample Name: CalibStd-5.0 Acquired: 04/21/2016 11:25:46 Type: Cal
Method: Sodium and Potassium 1(v723) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Na5895
Units	Cts/S
Avg	.124
Stddev	.000
%RSD	.336

Int. Std.	Y_3203
Units	Cts/S
Avg	35791.
Stddev	110.
%RSD	.30819

Sample Name: CalibStd-10.0 Acquired: 04/21/2016 11:28:31 Type: Cal
Method: Sodium and Potassium 1(v723) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Na5895
Units	Cts/S	Cts/S	Cts/S
Avg	**737.**	**.001**	**.255**
Stddev	4.	.000	.000
%RSD	.549	14.4	.185

Int. Std.	Y_3203
Units	Cts/S
Avg	**36027.**
Stddev	75.
%RSD	.20774

Sample Name: CalibStd-50 Acquired: 04/21/2016 11:31:17 Type: Cal
Method: Sodium and Potassium 1(v723) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Na5895
Units	Cts/S
Avg	**1.30**
Stddev	.00
%RSD	.259

Int. Std.	Y_3203
Units	Cts/S
Avg	**35937.**
Stddev	107.
%RSD	.29825

Sample Name: CalibStd-100 Acquired: 04/21/2016 11:34:03 Type: Cal
Method: Sodium and Potassium 1(v723) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Na5895
Units	Cts/S	Cts/S	Cts/S
Avg	**6570.**	**.005**	**2.44**
Stddev	39.	.000	.01
%RSD	.592	1.77	.214

Int. Std.	Y_3203
Units	Cts/S
Avg	**35801.**
Stddev	83.
%RSD	.23127

Sample Name: CalibStd-200 Acquired: 04/21/2016 11:36:48 Type: Cal
Method: Sodium and Potassium 1(v723) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Na5895
Units	Cts/S	Cts/S	Cts/S
Avg	**13600.**	**.010**	**5.09**
Stddev	62.	.000	.01
%RSD	.456	.279	.292

Int. Std.	Y_3203
Units	Cts/S
Avg	**35790.**
Stddev	190.
%RSD	.53221

Sample Name: CalibStd-500 Acquired: 04/21/2016 11:39:33 Type: Cal
Method: Sodium and Potassium 1(v723) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Mg2852	Ca3179	Fe2343
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**4.19**	**16.1**	**4.33**	**1.07**
Stddev	.04	.1	.02	.01
%RSD	.832	.677	.364	.425

Int. Std.	Y_3203
Units	Cts/S
Avg	**34099.**
Stddev	217.
%RSD	.63757

Sample Name: icv Acquired: 04/21/2016 11:42:47 Type: QC
Method: Sodium and Potassium 1(v723) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**97.6**	**105.**	**.085**	**.066**	**.086**	**.165**
Stddev	.2	2.	.003	.002	.011	.050
%RSD	.212	1.47	3.17	2.62	12.6	30.5
#1	97.9	103.	.088	.067	.077	.230
#2	97.6	105.	.084	.065	.079	.178
#3	97.5	107.	.087	.068	.088	.135
#4	97.4	104.	.083	.065	.101	.117
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**35412.**
Stddev	128.
%RSD	.36005
#1	35482.
#2	35533.
#3	35390.
#4	35242.

Sample Name: ICVLL Acquired: 04/21/2016 11:45:32 Type: QC
Method: Sodium and Potassium 1(v723) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**3.00**	**3.01**	**-.013**	**-.004**	**.039**	**-.035**
Stddev	.06	.01	.017	.003	.007	.003
%RSD	1.95	.466	136.	73.9	19.0	9.21
#1	2.99	3.03	-.012	-.001	.044	-.033
#2	3.05	3.00	-.029	-.005	.045	-.034
#3	2.92	3.02	.011	-.002	.039	-.040
#4	3.04	3.01	-.021	-.008	.029	-.033
Check ?	Chk Pass	Chk Pass	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**35612.**
Stddev	59.
%RSD	.16673
#1	35692.
#2	35620.
#3	35582.
#4	35555.

Sample Name: icb Acquired: 04/21/2016 11:48:17 Type: QC
Method: Sodium and Potassium 1(v723) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.114**	**.032**	**-.029**	**-.017**	**.024**	**-.044**
Stddev	.045	.011	.009	.001	.019	.008
%RSD	39.1	33.4	31.0	6.68	77.1	17.4
#1	.113	.033	-.042	-.017	.036	-.038
#2	.052	.029	-.023	-.017	.003	-.044
#3	.151	.046	-.023	-.016	.043	-.038
#4	.140	.021	-.027	-.019	.015	-.054
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**35526.**
Stddev	30.
%RSD	.08489
#1	35536.
#2	35523.
#3	35487.
#4	35559.

Sample Name: mrl Acquired: 04/21/2016 11:51:01 Type: QC
Method: Sodium and Potassium 1(v723) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.988**	**1.01**	**-.027**	**-.019**	**-.003**	**-.075**
Stddev	.063	.01	.004	.001	.018	.009
%RSD	6.42	1.05	13.5	4.63	516.	11.9
#1	1.03	1.01	-.030	-.019	-.008	-.069
#2	1.01	1.02	-.030	-.020	-.026	-.067
#3	.895	1.00	-.025	-.020	.013	-.082
#4	1.02	1.00	-.023	-.018	.007	-.084
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**35793.**
Stddev	78.
%RSD	.21780
#1	35707.
#2	35751.
#3	35879.
#4	35834.

Sample Name: icsa Acquired: 04/21/2016 11:53:47 Type: QC
Method: Sodium and Potassium 1(v723) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.002**	**.000**	**499.**	**496.**	**501.**	**500.**
Stddev	.091	.012	2.	4.	2.	1.
%RSD	5310.	51e15	.440	.785	.410	.102
#1	.088	-.013	499.	494.	498.	501.
#2	-.127	-.007	498.	497.	500.	500.
#3	.013	.007	502.	501.	503.	500.
#4	.033	.013	497.	492.	501.	500.
Check ?	Chk Pass	Chk Pass	None	None	None	None
High Limit						
Low Limit						

Int. Std.	Y_3203
Units	Cts/S
Avg	**33940.**
Stddev	99.
%RSD	.29244
#1	33971.
#2	33943.
#3	33805.
#4	34042.

Sample Name: icsab Acquired: 04/21/2016 11:57:02 Type: QC
Method: Sodium and Potassium 1(v723) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**98.8**	**109.**	**495.**	**483.**	**482.**	**491.**
Stddev	.7	1.	2.	6.	1.	2.
%RSD	.685	1.14	.325	1.23	.237	.385
#1	99.0	109.	493.	488.	483.	493.
#2	98.7	108.	496.	477.	482.	490.
#3	99.5	109.	496.	479.	481.	489.
#4	97.9	111.	495.	488.	484.	491.
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**34374.**
Stddev	134.
%RSD	.39018
#1	34302.
#2	34483.
#3	34490.
#4	34221.

Sample Name: ccv Acquired: 04/21/2016 12:27:56 Type: QC
Method: Sodium and Potassium 1(v723) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**94.8**	**103.**	**-.026**	**-.008**	**.023**	**-.075**
Stddev	.7	1.	.012	.001	.016	.006
%RSD	.781	.707	46.5	8.15	69.8	8.11
#1	94.0	104.	-.013	-.008	.023	-.084
#2	94.9	103.	-.022	-.008	.010	-.076
#3	95.7	103.	-.027	-.007	.046	-.070
#4	94.6	103.	-.042	-.008	.014	-.071
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**35035.**
Stddev	186.
%RSD	.53196
#1	34813.
#2	35169.
#3	35208.
#4	34951.

Sample Name: ccb Acquired: 04/21/2016 12:30:42 Type: QC
Method: Sodium and Potassium 1(v723) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.121**	**.085**	**-.035**	**-.018**	**.007**	**-.085**
Stddev	.095	.006	.010	.002	.006	.005
%RSD	78.6	6.61	29.7	11.0	81.7	5.61
#1	.008	.081	-.022	-.018	.012	-.082
#2	.090	.091	-.045	-.020	.002	-.091
#3	.153	.080	-.041	-.016	.012	-.080
#4	.232	.089	-.030	-.019	.002	-.085
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**35507.**
Stddev	182.
%RSD	.51122
#1	35282.
#2	35497.
#3	35522.
#4	35726.

Sample Name: lcsw56829 Acquired: 04/21/2016 12:39:20 Type: Unk
Method: Sodium and Potassium 1(v723) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**91.2**	**99.5**	**.777**	**98.3**	**184.**	**.325**
Stddev	.4	1.2	.020	.1	.	.010
%RSD	.426	1.18	2.52	.150	.256	3.21
#1	91.5	99.9	.764	98.2	184.	.328
#2	91.6	101.	.800	98.2	184.	.309
#3	91.1	98.0	.786	98.6	185.	.330
#4	90.8	99.3	.758	98.3	185.	.331

Int. Std.	Y_3203
Units	Cts/S
Avg	**34904.**
Stddev	63.
%RSD	.18174
#1	34886.
#2	34996.
#3	34883.
#4	34850.

Sample Name: mbw56829 Acquired: 04/21/2016 12:42:04 Type: Unk
Method: Sodium and Potassium 1(v723) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.032**	**.070**	**-.031**	**-.016**	**-.003**	**-.081**
Stddev	.036	.009	.007	.001	.011	.012
%RSD	112.	12.9	23.9	4.72	342.	14.3
#1	.061	.076	-.038	-.017	-.006	-.064
#2	.056	.058	-.034	-.016	-.018	-.085
#3	-.017	.078	-.022	-.015	.004	-.086
#4	.028	.068	-.028	-.016	.007	-.090

Int. Std.	Y_3203
Units	Cts/S
Avg	**35856.**
Stddev	189.
%RSD	.52839
#1	36094.
#2	35746.
#3	35668.
#4	35916.

Sample Name: 709262 Acquired: 04/21/2016 12:44:49 Type: Unk
Method: Sodium and Potassium 1(v723) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**1.03**	**4.77**	**.013**	**31.4**	**71.5**	**-.069**
Stddev	.07	.01	.008	.1	.2	.016
%RSD	7.15	.323	61.5	.386	.314	22.6
#1	.929	4.79	.005	31.5	71.3	-.053
#2	1.02	4.76	.011	31.5	71.6	-.067
#3	1.10	4.77	.013	31.3	71.7	-.065
#4	1.07	4.76	.024	31.2	71.2	-.090

Int. Std.	Y_3203
Units	Cts/S
Avg	**35153.**
Stddev	156.
%RSD	.44236
#1	35169.
#2	35052.
#3	35024.
#4	35366.

Sample Name: I709262 Acquired: 04/21/2016 12:47:34 Type: Unk
Method: Sodium and Potassium 1(v723) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.285**	**.955**	**-.016**	**6.44**	**14.6**	**-.083**
Stddev	.031	.005	.012	.03	.0	.004
%RSD	10.7	.500	75.3	.509	.098	5.07
#1	.256	.953	-.024	6.49	14.7	-.086
#2	.278	.951	-.001	6.43	14.6	-.076
#3	.328	.962	-.012	6.43	14.6	-.084
#4	.278	.955	-.027	6.43	14.6	-.084

Int. Std.	Y_3203
Units	Cts/S
Avg	**35623.**
Stddev	185.
%RSD	.51833
#1	35835.
#2	35463.
#3	35720.
#4	35474.

Sample Name: dup709262 Acquired: 04/21/2016 12:50:18 Type: Unk
Method: Sodium and Potassium 1(v723) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.926**	**4.86**	**.013**	**31.9**	**71.9**	**-.057**
Stddev	.071	.01	.012	.0	.2	.007
%RSD	7.66	.236	98.0	.087	.256	12.6
#1	.921	4.87	-.002	31.8	71.6	-.060
#2	.980	4.84	.029	31.9	71.8	-.063
#3	.976	4.86	.011	31.8	72.0	-.057
#4	.828	4.86	.013	31.9	72.0	-.047

Int. Std.	Y_3203
Units	Cts/S
Avg	**35272.**
Stddev	127.
%RSD	.36119
#1	35374.
#2	35157.
#3	35389.
#4	35166.

Sample Name: msw709262 Acquired: 04/21/2016 12:53:02 Type: Unk
Method: Sodium and Potassium 1(v723) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**91.2**	**104.**	**.817**	**130.**	**255.**	**.353**
Stddev	.5	2.	.027	.	1.	.009
%RSD	.530	1.83	3.32	.185	.205	2.68
#1	90.6	102.	.850	131.	255.	.347
#2	91.5	104.	.797	130.	255.	.359
#3	91.2	105.	.827	131.	256.	.342
#4	91.7	107.	.792	130.	254.	.362

Int. Std.	Y_3203
Units	Cts/S
Avg	**34287.**
Stddev	154.
%RSD	.44983
#1	34116.
#2	34302.
#3	34243.
#4	34487.

Sample Name: pdsw709262 Acquired: 04/21/2016 12:55:47 Type: Unk
Method: Sodium and Potassium 1(v723) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**105.**	**116.**	**.006**	**30.2**	**69.1**	**-.059**
Stddev	2.	2.	.021	.1	.1	.010
%RSD	2.14	1.61	378.	.253	.182	17.2
#1	107.	118.	-.001	30.2	69.0	-.070
#2	105.	116.	.004	30.2	69.3	-.048
#3	105.	114.	.035	30.2	69.1	-.066
#4	102.	114.	-.015	30.1	69.1	-.053

Int. Std.	Y_3203
Units	Cts/S
Avg	**35110.**
Stddev	120.
%RSD	.34148
#1	35183.
#2	34932.
#3	35182.
#4	35141.

Sample Name: ccv Acquired: 04/21/2016 13:01:17 Type: QC
Method: Sodium and Potassium 1(v723) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**97.1**	**99.9**	**-.026**	**-.005**	**.021**	**-.088**
Stddev	.3	.8	.012	.001	.009	.002
%RSD	.288	.758	44.4	27.0	46.3	2.46
#1	97.2	100.	-.030	-.004	.013	-.090
#2	97.5	98.9	-.017	-.007	.020	-.087
#3	96.9	101.	-.041	-.005	.015	-.085
#4	96.9	99.8	-.016	-.005	.034	-.090
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**35377.**
Stddev	106.
%RSD	.30017
#1	35269.
#2	35523.
#3	35360.
#4	35356.

Sample Name: ccb Acquired: 04/21/2016 13:04:03 Type: QC
Method: Sodium and Potassium 1(v723) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.107**	**.074**	**-.030**	**-.018**	**-.009**	**-.083**
Stddev	.064	.015	.015	.001	.017	.011
%RSD	59.8	20.1	49.9	6.77	188.	12.8
#1	.052	.072	-.041	-.019	.014	-.090
#2	.053	.054	-.011	-.018	-.013	-.069
#3	.148	.081	-.041	-.018	-.029	-.092
#4	.175	.088	-.025	-.016	-.009	-.082
Check ?	None	None	None	None	None	None
Value						
Range						

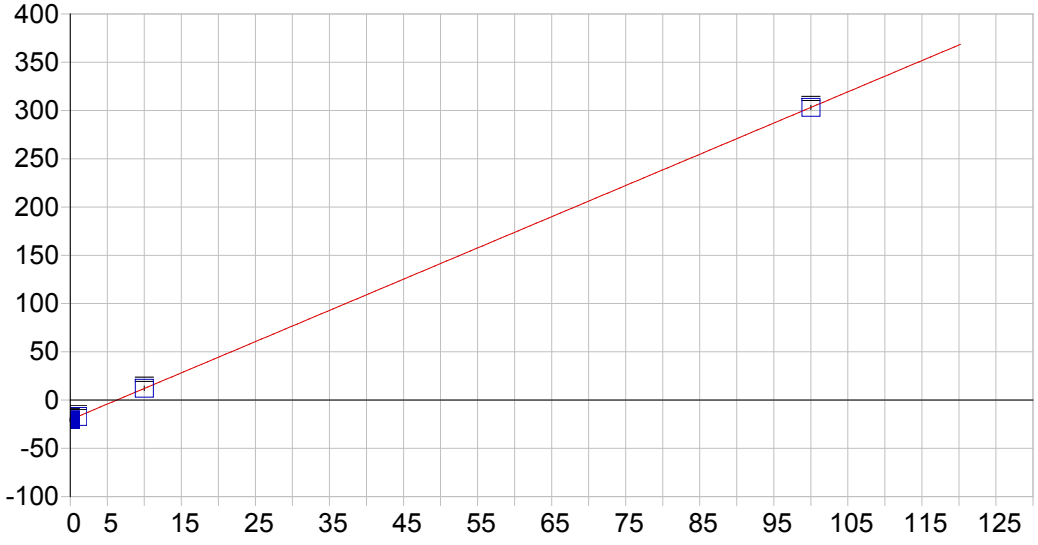
Int. Std.	Y_3203
Units	Cts/S
Avg	**35431.**
Stddev	85.
%RSD	.24071
#1	35458.
#2	35540.
#3	35372.
#4	35355.

Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)	Correlation	Std Error of Est	Predicted MDL	Predicted MQL	Status	Resl Slope
Ag 328.068 {103}	04/25/2016 12:35:28	04/20/2016 09:10:22	Linear	None	-20.323444	3.234695	0.000000	1.000000	1.000000	0.132000	0.957076	3.190254	OK.	1.000000
Al 309.271 {109}	04/25/2016 12:35:28	04/20/2016 09:35:10	Curvilin	None	0.000227	0.000001	0.000000	1.000000	1.000000	0.000025	17.083180	56.943933	OK.	1.000000
Al 396.152 { 85}	04/25/2016 12:35:28	04/20/2016 09:48:35	Full Fit	1/Var	-0.000077	0.000003	0.000000	0.980000	0.999506	0.000147	6.583096	21.943654	OK.	1.000000
Al 167.079 {502}	04/25/2016 12:35:28	04/20/2016 09:16:11	Linear	1/Conc	0.000065	0.000012	0.000000	1.000000	0.999051	0.000002	1.238886	4.129619	OK.	1.000000
As 193.759 {474}	04/25/2016 12:35:28	04/20/2016 09:22:05	Linear	1/Conc	-0.000016	0.000007	0.000000	1.000000	0.999958	0.000001	3.669641	12.232137	OK.	1.000000
As 189.042 {479}	04/25/2016 12:35:28	04/20/2016 09:22:05	Linear	1/Var	0.000002	0.000002	0.000000	1.000000	0.999999	0.000011	9.952347	33.174488	OK.	1.000000
Ba 233.527 {445}	04/25/2016 12:35:28	04/20/2016 09:16:12	Linear	1/Conc	0.000000	0.000001	0.000000	1.000000	0.999662	0.000000	0.302603	1.008677	OK.	1.000000
Ba 455.403 { 74}	04/25/2016 12:35:28	04/20/2016 09:22:05	Linear	1/Var	0.000009	0.000005	0.000000	1.000000	0.996423	0.000010	0.371775	1.239248	OK.	1.000000
Ba 493.409 { 68}	04/25/2016 12:35:28	04/20/2016 09:22:05	Linear	None	0.001157	0.000003	0.000000	1.000000	0.999990	0.000088	0.974477	3.248255	OK.	1.000000
Be 313.042 {108}	04/25/2016 12:35:28	04/20/2016 09:16:12	Linear	1/Conc	-0.000040	0.000059	0.000000	1.000000	0.999925	0.000000	0.032373	0.107909	OK.	1.000000
Be 234.861 {144}	04/25/2016 12:35:28	04/20/2016 09:16:12	Linear	1/Var	-0.000000	0.000001	0.000000	1.000000	0.999835	0.000001	0.603477	2.011590	OK.	1.000000
Ca 315.887 {107}	04/25/2016 12:35:28	04/20/2016 09:48:35	Curvilin	1/Var	0.000052	0.000000	0.000000	1.000000	0.999443	0.000034	10.524976	35.083254	OK.	1.000000
Ca 317.933 {106}	04/25/2016 12:35:28	04/20/2016 09:48:35	Full Fit	1/Var	0.003544	0.000002	0.000000	0.960000	0.999814	0.000191	2.948619	9.828729	OK.	1.000000
Ca 393.366 { 86}	04/25/2016 12:35:28	04/20/2016 09:16:12	Linear	1/Var	-0.000037	0.000018	0.000000	1.000000	0.998260	0.000044	0.067248	0.224161	OK.	1.000000
Ca 396.847 { 85}	04/25/2016 12:35:28	04/20/2016 09:22:05	Linear	1/Conc	0.000642	0.000112	0.000000	1.000000	0.999972	0.000039	0.115635	0.385451	OK.	1.000000
Cd 226.502 {449}	04/25/2016 12:35:28	04/20/2016 09:16:12	Linear	1/Conc	0.000020	0.000235	0.000000	1.000000	0.999657	0.000005	0.201197	0.670657	OK.	1.000000
Cd 228.802 {447}	04/25/2016 12:35:28	04/20/2016 09:16:12	Linear	1/Conc	0.000055	0.000297	0.000000	1.000000	0.999961	0.000002	0.185802	0.619340	OK.	1.000000
Co 228.616 {447}	04/25/2016 12:35:28	04/20/2016 09:22:05	Linear	1/Conc	-0.000053	0.000141	0.000000	1.000000	0.999959	0.000005	0.380096	1.266987	OK.	1.000000
Co 238.892 {141}	04/25/2016 12:35:28	04/20/2016 09:22:05	Linear	None	0.000014	0.000002	0.000000	1.000000	0.999997	0.000025	0.864724	2.882412	OK.	1.000000
Cr 205.560 {464}	04/25/2016 12:35:28	04/20/2016 09:28:33	Linear	1/Var	-0.000104	0.000140	0.000000	1.000000	0.996920	0.000590	0.227046	0.756820	OK.	1.000000
Cr 267.716 {126}	04/25/2016 12:35:28	04/20/2016 09:22:05	Linear	1/Conc	-0.000002	0.000004	0.000000	1.000000	0.999941	0.000000	0.607862	2.026205	OK.	1.000000
Cu 224.700 {450}	04/25/2016 12:35:28	04/20/2016 09:22:05	Linear	1/Var	-0.000274	0.000057	0.000000	1.000000	0.999517	0.000138	0.842034	2.806779	OK.	1.000000
Cu 324.754 {104}	04/25/2016 12:35:28	04/20/2016 09:28:33	Curvilin	1/Conc	0.000039	0.000000	0.000000	1.000000	0.999975	0.000000	3.421606	11.405353	OK.	1.000000
Cu 327.396 {103}	04/25/2016 12:35:28	04/20/2016 09:28:33	Curvilin	1/Conc	-0.000065	0.000003	-0.000000	1.000000	0.999974	0.000001	4.219338	14.064459	OK.	1.000000
Fe 234.349 {144}	04/25/2016 12:35:28	04/20/2016 09:48:35	Full Fit	1/Var	0.000010	0.000001	0.000000	0.960000	0.999590	0.000016	1.394115	4.647051	OK.	1.000000
Fe 239.562 {140}	04/25/2016 12:35:28	04/20/2016 09:48:35	Full Fit	1/Var	0.000000	0.000000	0.000000	0.980000	0.999755	0.000005	4.283343	14.277809	OK.	1.000000
Fe 259.940 {129}	04/25/2016 12:35:28	04/20/2016 09:48:35	Full Fit	1/Var	0.000005	0.000002	0.000000	0.970000	0.999800	0.000046	2.741656	9.138854	OK.	1.000000
Mg 202.582 {466}	04/25/2016 12:35:28	04/20/2016 09:48:35	Linear	1/Conc	-0.000004	0.000011	0.000000	1.000000	0.999100	0.000738	3.074710	10.249032	OK.	1.000000
Mg 279.079 {121}	04/25/2016 12:35:28	04/20/2016 09:48:35	Full Fit	1/Var	-0.000001	0.000000	0.000000	0.990000	0.999776	0.000016	37.235261	124.117535	OK.	1.000000
Mg 280.270 {120}	04/25/2016 12:35:28	04/20/2016 09:22:05	Curvilin	1/Conc	0.000264	0.000027	-0.000000	1.000000	0.999896	0.000014	0.038983	0.129945	OK.	1.000000
Mn 257.610 {131}	04/25/2016 12:35:28	04/20/2016 09:22:05	Curvilin	1/Conc	0.000002	0.000013	-0.000000	1.000000	0.999940	0.000001	0.083129	0.277096	OK.	1.000000
Mn 259.373 {130}	04/25/2016 12:35:28	04/20/2016 09:28:33	Linear	1/Var	0.000011	0.000009	0.000000	1.000000	0.998192	0.000091	0.624827	2.082757	OK.	1.000000
Mo 202.030 {466}	04/25/2016 12:35:28	04/20/2016 09:16:12	Linear	1/Conc	0.000036	0.000075	0.000000	1.000000	0.999241	0.000008	0.393368	1.311225	OK.	1.000000
Mo 204.598 {464}	04/25/2016 12:35:28	04/20/2016 09:22:05	Curvilin	1/Conc	-0.000000	0.000001	0.000000	1.000000	0.999957	0.000000	0.651397	2.171325	Warnin	1.000000
Mo 204.598 {465}	04/25/2016 12:35:28	04/20/2016 09:22:05	Linear	1/Conc	-0.000000	0.000000	0.000000	1.000000	0.999949	0.000000	0.867547	2.891824	OK.	1.000000
Ni 221.647 {452}	04/25/2016 12:35:28	04/20/2016 09:22:05	Linear	1/Var	0.000002	0.000002	0.000000	1.000000	0.999992	0.000001	0.436020	1.453399	OK.	1.000000
Ni 231.604 {445}	04/25/2016 12:35:28	04/20/2016 09:22:05	Linear	1/Conc	-0.000000	0.000002	0.000000	1.000000	0.999872	0.000000	0.450544	1.501812	OK.	1.000000
Pb 216.999 {455}	04/25/2016 12:35:28	04/20/2016 09:28:33	Curvilin	1/Var	-0.000018	0.000013	-0.000000	1.000000	0.999990	0.000054	3.689404	12.298015	OK.	1.000000
Pb 220.353 {453}	04/25/2016 12:35:28	04/20/2016 09:22:05	Linear	1/Conc	-0.000022	0.000025	0.000000	1.000000	0.999972	0.000002	2.492195	8.307318	OK.	1.000000
Pb 220.353 {153}	04/25/2016 12:35:28	04/20/2016 09:28:33	Linear	1/Conc	0.000064	0.000015	0.000000	1.000000	0.999108	0.000085	5.417676	18.058919	OK.	1.000000
Sb 206.833 {463}	04/25/2016 12:35:28	04/20/2016 09:22:06	Linear	1/Conc	-0.000063	0.000020	0.000000	1.000000	0.999903	0.000004	1.905308	6.351026	OK.	1.000000
Sb 217.581 {455}	04/25/2016 12:35:28	04/20/2016 09:22:06	Linear	1/Conc	-0.000010	0.000021	0.000000	1.000000	0.999949	0.000002	2.038680	6.795599	OK.	1.000000
Se 196.090 {472}	04/25/2016 12:35:28	04/20/2016 09:22:06	Linear	1/Conc	0.000031	0.000008	0.000000	1.000000	0.999908	0.000001	3.599220	11.997402	OK.	1.000000
Se 206.279 {463}	04/25/2016 12:35:28	04/20/2016 09:22:06	Linear	1/Conc	0.000049	0.000001	0.000000	1.000000	0.999883	0.000001	28.201687	94.005623	OK.	1.000000
Se 196.090 {471}	04/25/2016 12:35:28	04/20/2016 09:22:06	Linear	1/Conc	0.000028	0.000007	0.000000	1.000000	0.999882	0.000001	4.422280	14.740933	OK.	1.000000
Tl 190.856 {476}	04/25/2016 12:35:28	04/20/2016 09:22:06	Linear	1/Conc	0.000042	0.000019	0.000000	1.000000	0.999886	0.000004	1.990289	6.634298	OK.	1.000000

Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)	Correlation	Std Error of Est	Predicted MDL	Predicted MQL	Status	Resl Slope
Tl 190.856 {477}	04/25/2016 12:35:28	04/20/2016 09:22:06	Linear	1/Conc	-0.000054	0.000005	0.000000	1.000000	0.999778	0.000002	5.527762	18.425874	OK.	1.000000
V 290.882 {116}	04/25/2016 12:35:28	04/20/2016 09:22:06	Linear	1/Conc	0.000002	0.000000	0.000000	1.000000	0.999836	0.000000	3.486916	11.623053	OK.	1.000000
V 292.402 {115}	04/25/2016 12:35:28	04/20/2016 09:22:06	Linear	1/Conc	0.000005	0.000006	0.000000	1.000000	0.999927	0.000001	0.496997	1.656656	OK.	1.000000
Zn 206.200 {463}	04/25/2016 12:35:28	04/20/2016 09:28:33	Curvilin	1/Var	0.000041	0.000154	-0.000000	1.000000	1.000000	0.000003	0.265643	0.885477	OK.	1.000000
Zn 213.856 {458}	04/25/2016 12:35:28	04/20/2016 09:22:06	Linear	1/Var	-0.000000	0.000002	0.000000	1.000000	0.998798	0.000004	0.182735	0.609115	OK.	1.000000
Y 324.228 {104}*	04/25/2016 12:35:28	04/20/2016 08:18:56	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000
Y 371.030 { 91}*	04/25/2016 12:35:28	04/20/2016 08:18:56	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000
Y 224.306 {451}*	04/25/2016 12:35:28	04/20/2016 08:18:56	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000
Na 588.995 { 57}	04/25/2016 12:35:28	04/20/2016 09:35:11	Linear	1/Conc	0.000557	0.000001	0.000000	1.000000	0.995227	0.000070	3.967538	13.225125	OK.	1.000000
Si 251.611 {134}	04/25/2016 12:35:28	04/20/2016 09:35:11	Linear	1/Conc	0.000021	0.000000	0.000000	1.000000	0.954655	0.000020	15.850168	52.833894	OK.	1.000000
Ti 334.941 {101}	04/25/2016 12:35:28	04/20/2016 09:22:06	Linear	1/Conc	0.000002	0.000007	0.000000	1.000000	0.999940	0.000001	1.254231	4.180770	OK.	1.000000
Sr 407.771 { 83}	04/25/2016 12:35:28	04/20/2016 09:22:06	Linear	1/Conc	-0.000053	0.000123	0.000000	1.000000	0.999991	0.000002	0.115125	0.383750	OK.	1.000000
Sn 189.989 {478}	04/25/2016 12:35:28	04/20/2016 09:22:06	Linear	1/Var	-0.000003	0.000007	0.000000	1.000000	0.999982	0.000033	3.023156	10.077188	OK.	1.000000
B 249.678 {135}	04/25/2016 12:35:28	04/20/2016 09:22:06	Linear	1/Conc	0.000001	0.000001	0.000000	1.000000	0.999962	0.000000	1.409581	4.698604	OK.	1.000000
B 249.773 {135}	04/25/2016 12:35:28	04/20/2016 09:22:06	Linear	1/Conc	0.000006	0.000004	0.000000	1.000000	0.999979	0.000000	0.534879	1.782929	OK.	1.000000
Li 670.784 { 50}	04/25/2016 12:35:28	04/20/2016 09:22:06	Linear	1/Var	-0.000140	0.000049	0.000000	1.000000	0.999887	0.000127	0.973262	3.244207	OK.	1.000000
K 766.490 { 44}	04/25/2016 12:35:28	04/20/2016 09:35:11	Linear	1/Conc	0.000076	0.000002	0.000000	1.000000	0.995063	0.000084	28.781646	95.938821	OK.	1.000000
P 213.618 {457}	04/25/2016 12:35:28	04/20/2016 09:35:11	Linear	1/Conc	-0.000001	0.000000	0.000000	1.000000	0.994699	0.000004	6.246724	20.822412	OK.	1.000000
S 182.034 {485}	04/25/2016 12:35:28	04/20/2016 09:48:35	Linear	1/Conc	0.000011	0.000006	0.000000	1.000000	0.999201	0.000337	4.134267	13.780892	OK.	1.000000
W 239.709 {140}	04/25/2016 12:35:28	04/20/2016 09:35:11	Curvilin	1/Var	0.000000	-0.000000	0.000000	1.000000	1.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000

Element, Wavelength and Order	ope	QC Norm	
	Y-int	Slope factor	Offset
Ag 328.068 {103}	0.000000	1	0
Al 309.271 {109}	0.000000	1	0
Al 396.152 { 85}	0.000000	1	0
Al 167.079 {502}	0.000000	1	0
As 193.759 {474}	0.000000	1	0
As 189.042 {479}	0.000000	1	0
Ba 233.527 {445}	0.000000	1	0
Ba 455.403 { 74}	0.000000	1	0
Ba 493.409 { 68}	0.000000	1	0
Be 313.042 {108}	0.000000	1	0
Be 234.861 {144}	0.000000	1	0
Ca 315.887 {107}	0.000000	1	0
Ca 317.933 {106}	0.000000	1	0
Ca 393.366 { 86}	0.000000	1	0
Ca 396.847 { 85}	0.000000	1	0
Cd 226.502 {449}	0.000000	1	0
Cd 228.802 {447}	0.000000	1	0
Co 228.616 {447}	0.000000	1	0
Co 238.892 {141}	0.000000	1	0
Cr 205.560 {464}	0.000000	1	0
Cr 267.716 {126}	0.000000	1	0
Cu 224.700 {450}	0.000000	1	0
Cu 324.754 {104}	0.000000	1	0
Cu 327.396 {103}	0.000000	1	0
Fe 234.349 {144}	0.000000	1	0
Fe 239.562 {140}	0.000000	1	0
Fe 259.940 {129}	0.000000	1	0
Mg 202.582 {466}	0.000000	1	0
Mg 279.079 {121}	0.000000	1	0
Mg 280.270 {120}	0.000000	1	0
Mn 257.610 {131}	0.000000	1	0
Mn 259.373 {130}	0.000000	1	0
Mo 202.030 {466}	0.000000	1	0
Mo 204.598 {464}	0.000000	1	0
Mo 204.598 {465}	0.000000	1	0
Ni 221.647 {452}	0.000000	1	0
Ni 231.604 {445}	0.000000	1	0
Pb 216.999 {455}	0.000000	1	0
Pb 220.353 {453}	0.000000	1	0
Pb 220.353 {153}	0.000000	1	0
Sb 206.833 {463}	0.000000	1	0
Sb 217.581 {455}	0.000000	1	0
Se 196.090 {472}	0.000000	1	0
Se 206.279 {463}	0.000000	1	0
Se 196.090 {471}	0.000000	1	0
Tl 190.856 {476}	0.000000	1	0

Element, Wavelength and Order	ope	QC Norm	
	Y-int	Slope factor	Offset
Tl 190.856 {477}	0.000000	1	0
V 290.882 {116}	0.000000	1	0
V 292.402 {115}	0.000000	1	0
Zn 206.200 {463}	0.000000	1	0
Zn 213.856 {458}	0.000000	1	0
Y 324.228 {104}*	0.000000	1	0
Y 371.030 { 91}*	0.000000	1	0
Y 224.306 {451}*	0.000000	1	0
Na 588.995 { 57}	0.000000	1	0
Si 251.611 {134}	0.000000	1	0
Ti 334.941 {101}	0.000000	1	0
Sr 407.771 { 83}	0.000000	1	0
Sn 189.989 {478}	0.000000	1	0
B 249.678 {135}	0.000000	1	0
B 249.773 {135}	0.000000	1	0
Li 670.784 { 50}	0.000000	1	0
K 766.490 { 44}	0.000000	1	0
P 213.618 {457}	0.000000	1	0
S 182.034 {485}	0.000000	1	0
W 239.709 {140}	0.000000	1	0

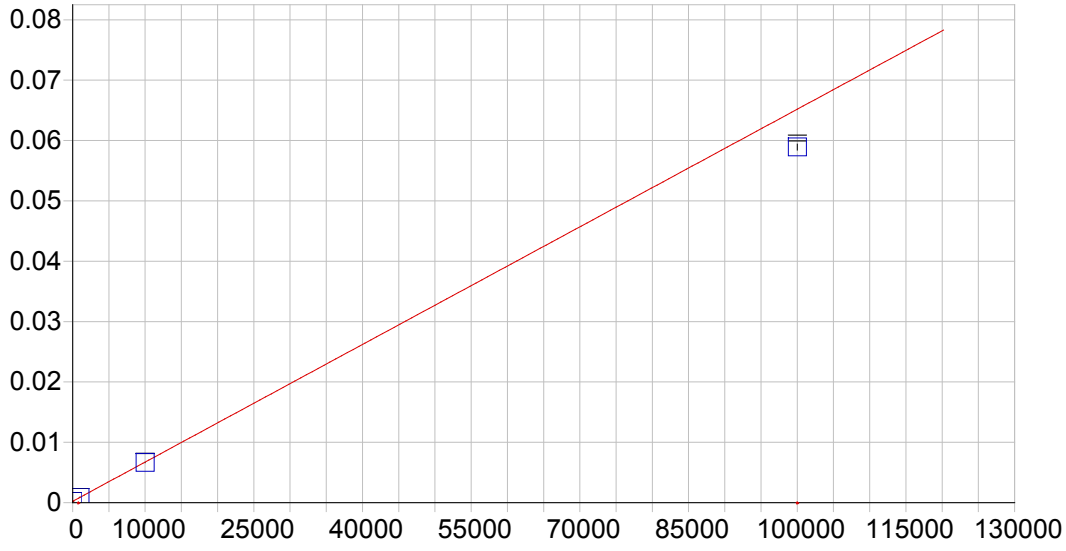


Ag 328.068 {103}

Date of Fit:	04/25/2016 12:35:28	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	-20.323444	Re-Slope:	1.000000
A1 (Gain):	3.234695	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.132000		
Predicted MDL:	0.957076		
Predicted MQL:	3.190254		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.03912	-.039	.000	-20.450	1.85	1
CalStd5=10	10.000	10.042	.042	.422	12.160	2.23	1
CalStd8=100	100.00	99.996	-.004	-.004	303.13	2.10	1
CalStd3=1	1.0000	1.0012	.001	.116	-17.085	2.23	1

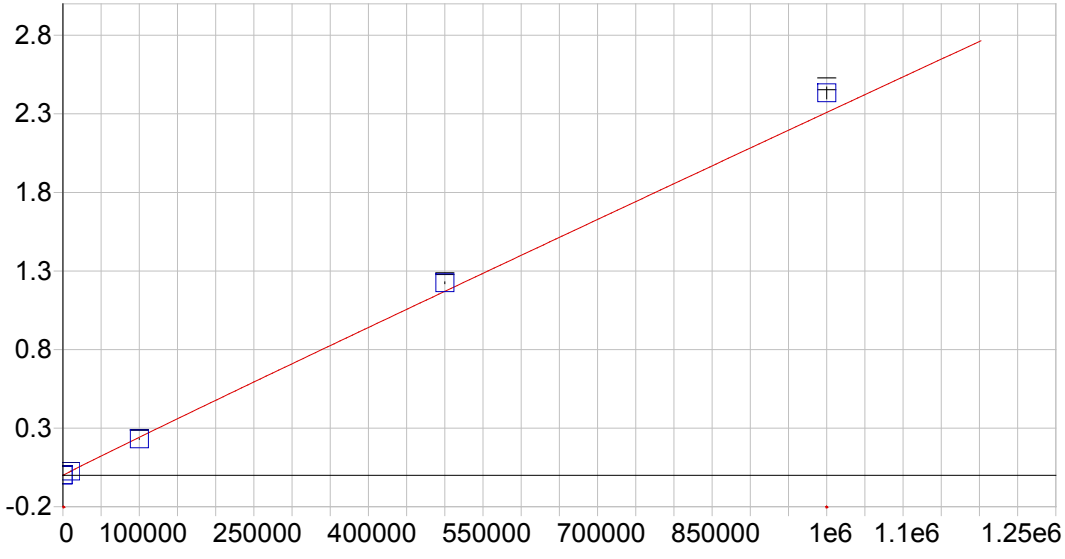


Al 309.271 {109}

Date of Fit:	04/25/2016 12:35:28	Type of Fit:	Curvilinear	Weighting:	None

A0 (Offset):	0.000227	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000025		
Predicted MDL:	17.083180		
Predicted MQL:	56.943933		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-25.352	-25.4	.000	.00021	.000	1
CalStd10=10	10000.	9900.3	-99.7	-.997	.00666	.000	1
CalStd9=100	1000.0	1027.5	27.5	2.75	.00089	.000	1
CalStd12-100	100000.	90342.	-9660.	-9.66	.05891	.000	1

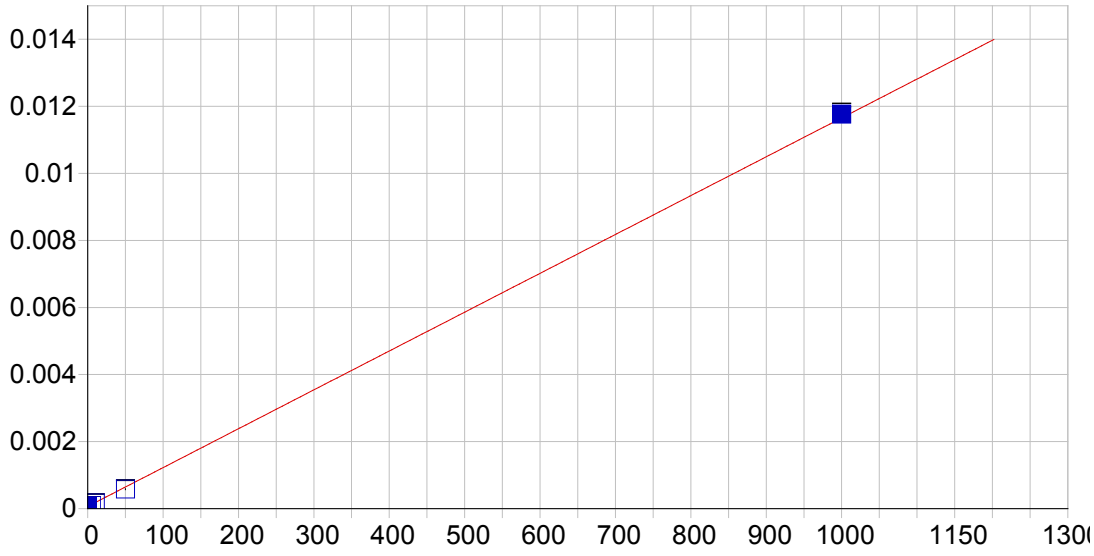


Al 396.152 { 85}

Date of Fit:	04/25/2016 12:35:28	Type of Fit:	Full Fit	Weighting:	1/Var

A0 (Offset):	-0.000077	Re-Slope:	1.000000
A1 (Gain):	0.000003	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	0.980000		
Correlation:	0.999506	Status:	OK.
Std Error of Est:	0.000147		
Predicted MDL:	6.583096		
Predicted MQL:	21.943654		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	28.363	28.4	.000	.00000	.000	1
CalStd14-100	1000000.	1054900.	54900.	5.49	2.4331	.038	1
CalStd13=50	500000.	523740.	23700.	4.75	1.2250	.006	1
CalStd10=10	10000.	10340.	340.	3.40	.02608	.000	1
CalStd12-100	100000.	95535.	-4460.	-4.46	.23112	.002	1
CalStd9=100	1000.0	995.36	-4.64	-.464	.00256	.000	1

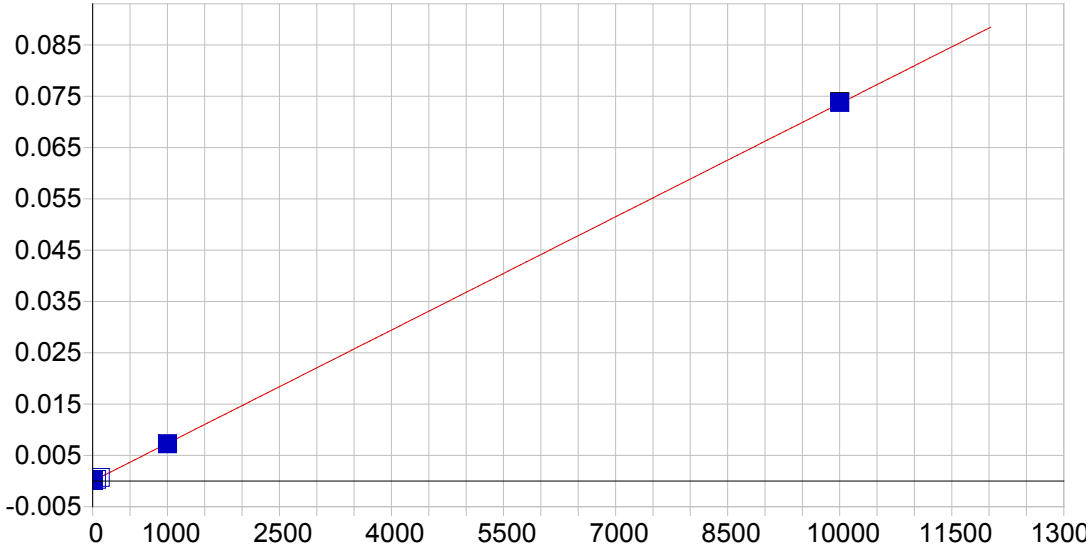


Al 167.079 {502}

Date of Fit:	04/25/2016 12:35:28	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000065	Re-Slope:	1.000000
A1 (Gain):	0.000012	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999051	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	1.238886		
Predicted MQL:	4.129619		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00359	.004	.000	.00007	.000	1
CalStd9=100	1000.0	1009.4	9.40	.940	.01177	.000	1
CalStd5=10	10.000	8.5363	-1.46	-14.6	.00016	.000	1
CalStd4=5	5.0000	2.6591	-2.34	-46.8	.00010	.000	1
CalStd7=50	50.000	44.404	-5.60	-11.2	.00058	.000	1

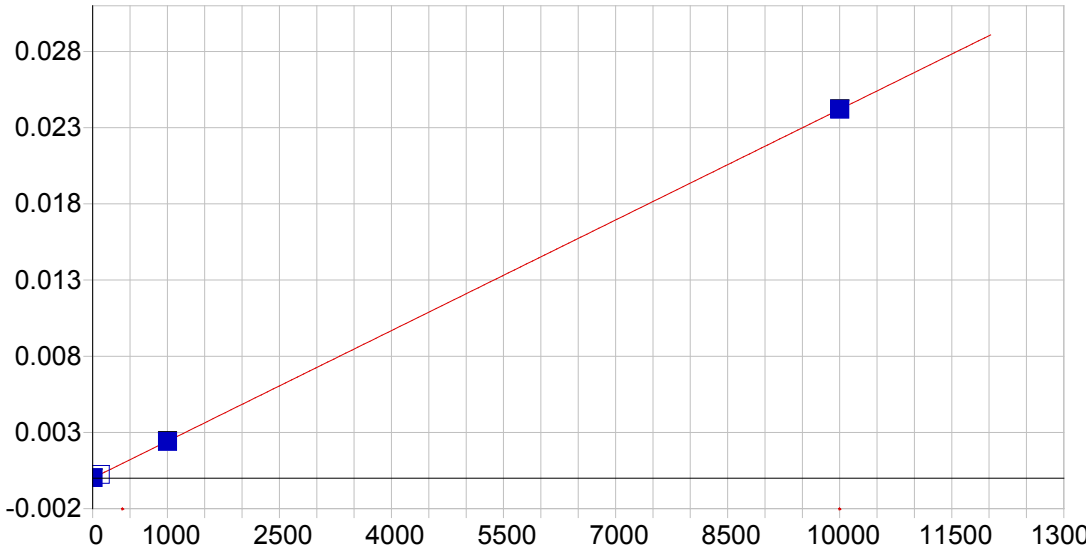


As 193.759 {474}

Date of Fit:	04/25/2016 12:35:28	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000016	Re-Slope:	1.000000
A1 (Gain):	0.000007	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999958	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	3.669641		
Predicted MQL:	12.232137		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00204	.002	.000	-.00002	.000	1
CalStd9=100	1000.0	984.46	-15.5	-1.55	.00723	.000	1
CalStd7=50	50.000	45.552	-4.45	-8.90	.00032	.000	1
CalStd5=10	10.000	9.4335	-.566	-5.66	.00005	.000	1
CalStd8=100	100.00	95.425	-4.57	-4.57	.00069	.000	1
CalStd10=10	10000.	10025.	25.1	.251	.07375	.000	1

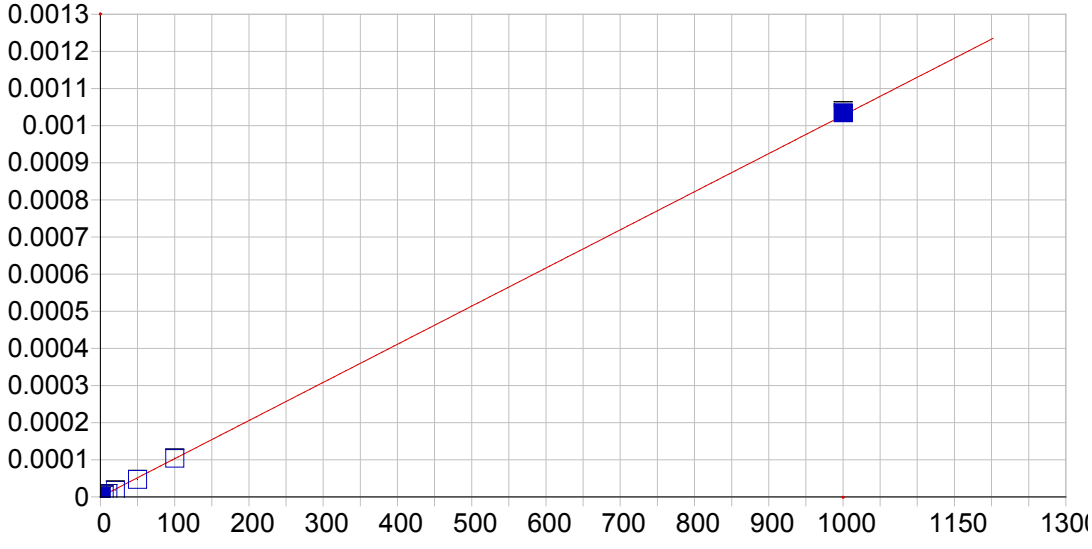


As 189.042 {479}

Date of Fit:	04/25/2016 12:35:28	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999999	Status:	OK.
Std Error of Est:	0.000011		
Predicted MDL:	9.952347		
Predicted MQL:	33.174488		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	5.4891	5.49	.000	.00002	.000	1
CalStd9=100	1000.0	991.65	-8.35	-.835	.00240	.000	1
CalStd10=10	10000.	10000.	.473	.005	.02420	.000	1
CalStd8=100	100.00	98.812	-1.19	-1.19	.00024	.000	1
CalStd4=5	5.0000	3.0674	-1.93	-38.7	.00001	.000	1

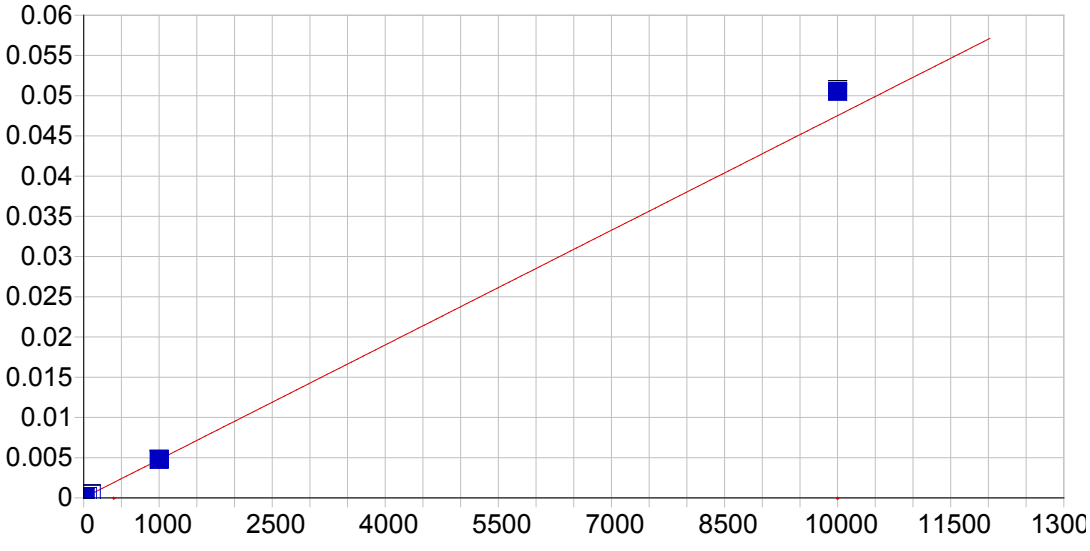


Ba 233.527 {445}

Date of Fit: 04/25/2016 12:35:28 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999662	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.302603		
Predicted MQL:	1.008677		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00014	.000	.000	.00000	.000	1
CalStd7=50	50.000	45.512	-4.49	-8.98	.00005	.000	1
CalStd5=10	10.000	9.6441	-.356	-3.56	.00001	.000	1
CalStd6=20	20.000	17.539	-2.46	-12.3	.00002	.000	1
CalStd8=100	100.00	100.87	.873	.873	.00010	.000	1
CalStd4=5	5.0000	4.7596	-.240	-4.81	.00001	.000	1
CalStd9=100	1000.0	1006.5	6.53	.653	.00103	.000	1
CalStd3=1	1.0000	1.1462	.146	14.6	.00000	.000	1

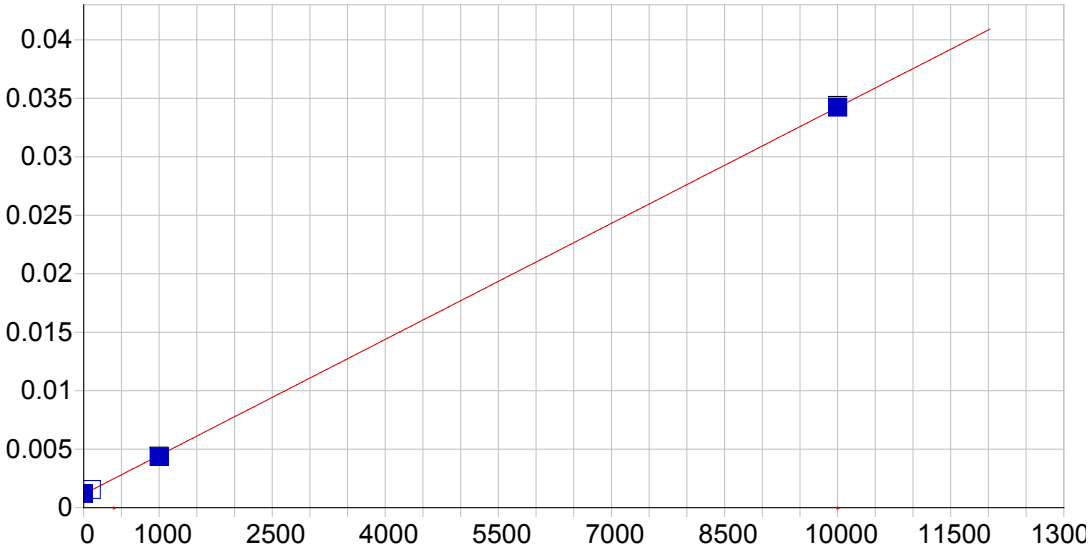


Ba 455.403 { 74}

Date of Fit:	04/25/2016 12:35:28	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000009	Re-Slope:	1.000000
A1 (Gain):	0.000005	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.996423	Status:	OK.
Std Error of Est:	0.000010		
Predicted MDL:	0.371775		
Predicted MQL:	1.239248		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	1.1407	1.14	.000	.00001	.000	1
CalStd7=50	50.000	44.631	-5.37	-10.7	.00022	.000	1
CalStd5=10	10.000	9.8476	-.152	-1.52	.00006	.000	1
CalStd6=20	20.000	17.727	-2.27	-11.4	.00009	.000	1
CalStd8=100	100.00	97.711	-2.29	-2.29	.00047	.000	1
CalStd4=5	5.0000	5.6976	.698	14.0	.00004	.000	1
CalStd9=100	1000.0	997.53	-2.47	-.247	.00475	.000	1
CalStd3=1	1.0000	2.0177	1.02	102.	.00002	.000	1
CalStd10=10	10000.	10629.	629.	6.29	.05053	.000	1

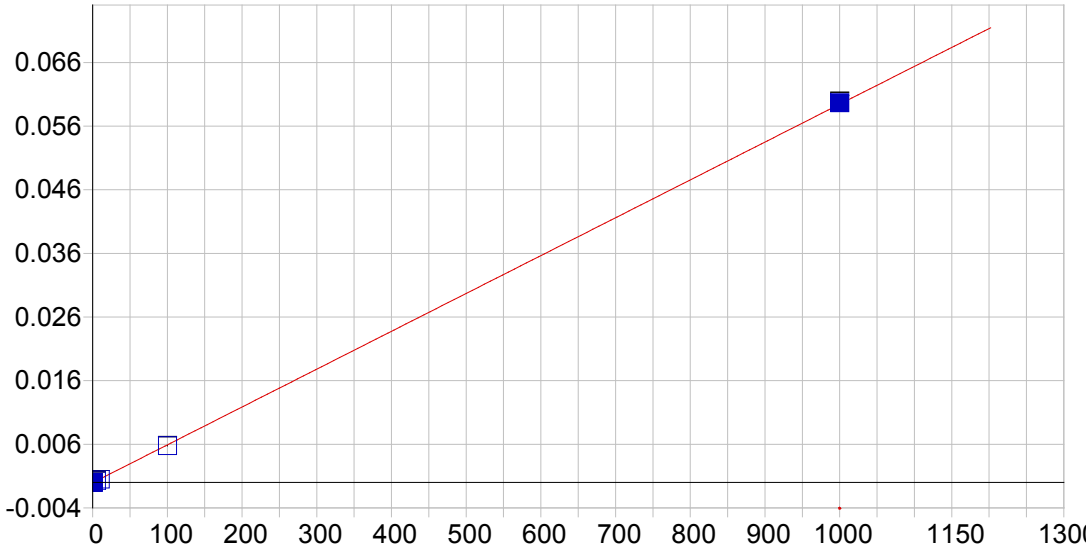


Ba 493.409 { 68}

Date of Fit:	04/25/2016 12:35:28	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.001157	Re-Slope:	1.000000
A1 (Gain):	0.000003	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999990	Status:	OK.
Std Error of Est:	0.000088		
Predicted MDL:	0.974477		
Predicted MQL:	3.248255		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	14.269	14.3	.000	.00120	.000	1
CalStd9=100	1000.0	968.41	-31.6	-3.16	.00436	.000	1
CalStd8=100	100.00	114.30	14.3	14.3	.00153	.000	1
CalStd10=10	10000.	10003.	3.02	.030	.03426	.000	1

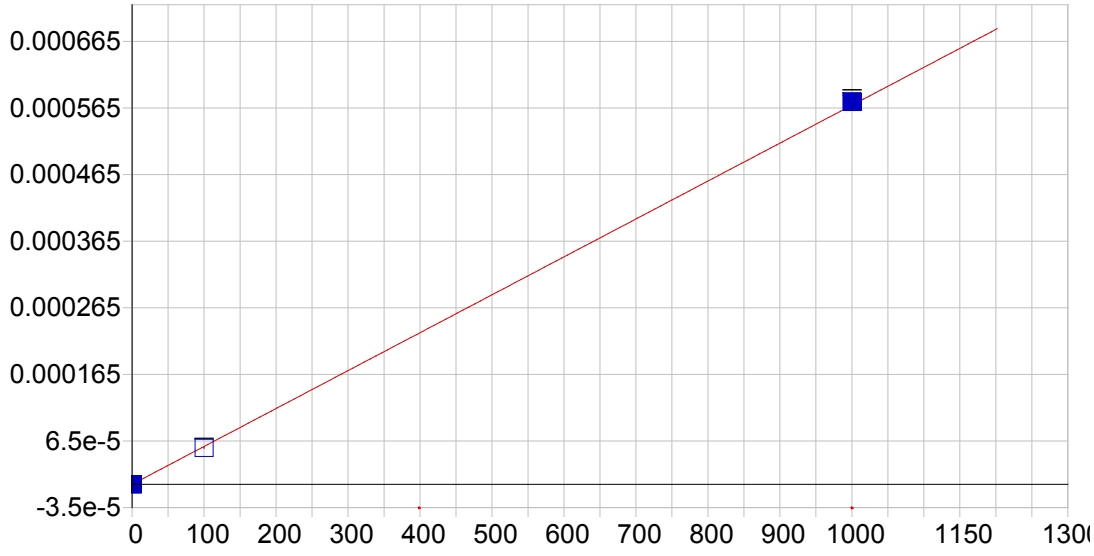


Be 313.042 {108}

Date of Fit:	04/25/2016 12:35:28	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000040	Re-Slope:	1.000000
A1 (Gain):	0.000059	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999925	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.032373		
Predicted MQL:	0.107909		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00006	.000	.000	-.00004	.000	1
CalStd5=10	10.000	9.2354	-.765	-7.65	.00051	.000	1
CalStd8=100	100.00	97.635	-2.36	-2.36	.00577	.000	1
CalStd2=0.5	.50000	.48355	-.016	-3.29	-.00001	.000	1
CalStd4=5	5.0000	4.5559	-.444	-8.88	.00023	.000	1
CalStd1=0.25	.25000	.24866	-.001	-.535	-.00002	.000	1
CalStd9=100	1000.0	1003.6	3.62	.362	.05966	.000	1
CalStd3=1	1.0000	.97400	-.026	-2.60	.00002	.000	1

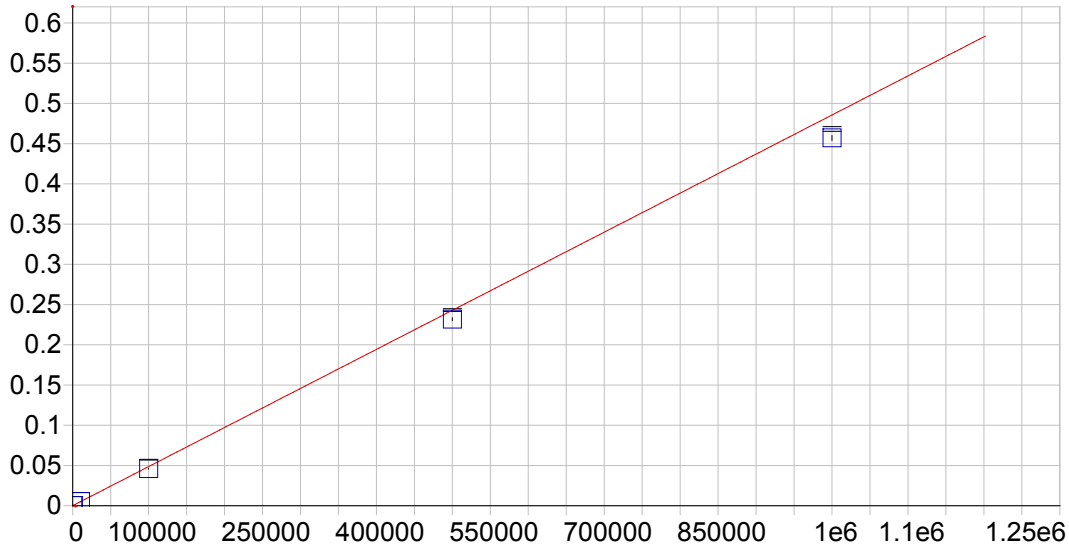


Be 234.861 {144}

Date of Fit:	04/25/2016 12:35:28	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999835	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.603477		
Predicted MQL:	2.011590		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.23939	.239	.000	.00000	.000	1
CalStd9=100	1000.0	1009.4	9.39	.939	.00057	.000	1
CalStd8=100	100.00	96.765	-3.23	-3.23	.00005	.000	1

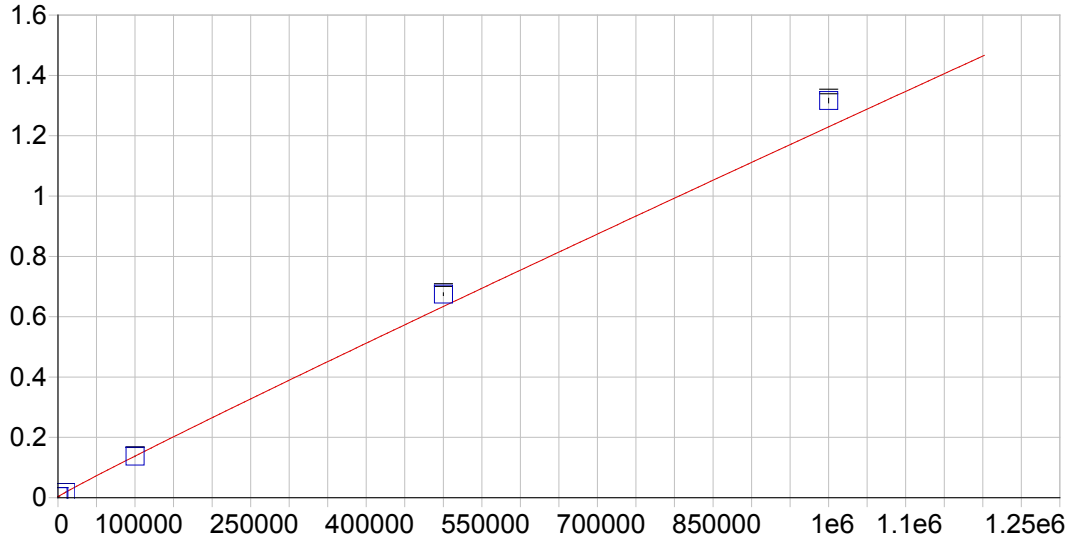


Ca 315.887 {107}

Date of Fit:	04/25/2016 12:35:28	Type of Fit:	Curvilinear	Weighting:	1/Var

A0 (Offset):	0.000052	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999443	Status:	OK.
Std Error of Est:	0.000034		
Predicted MDL:	10.524976		
Predicted MQL:	35.083254		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-30.200	-30.2	.000	.00004	.000	1
CalStd10=10	10000.	10143.	143.	1.43	.00498	.000	1
CalStd13=50	500000.	477190.	-22800.	-4.56	.23174	.002	1
CalStd14-100	1000000.	941030.	-59000.	-5.90	.45695	.003	1
CalStd9=100	1000.0	1036.9	36.9	3.69	.00056	.000	1
CalStd12-100	100000.	94587.	-5410.	-5.41	.04598	.000	1

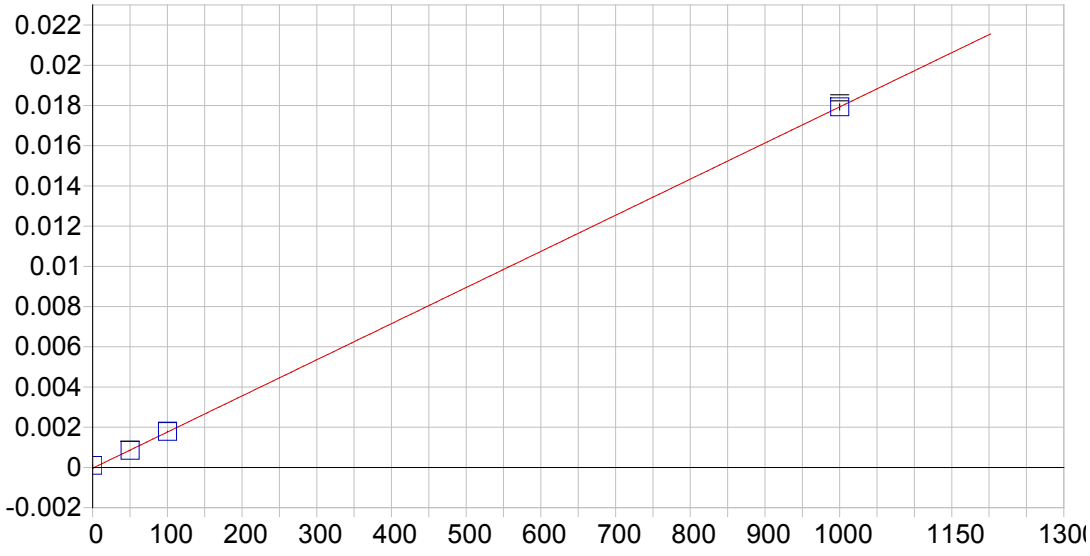


Ca 317.933 {106}

Date of Fit: 04/25/2016 12:35:28 Type of Fit: Full Fit Weighting: 1/Var

A0 (Offset):	0.003544	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	0.960000		
Correlation:	0.999814	Status:	OK.
Std Error of Est:	0.000191		
Predicted MDL:	2.948619		
Predicted MQL:	9.828729		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00342	.000	1
CalStd10=10	10000.	9903.1	-96.9	-.969	.01815	.000	1
CalStd13=50	500000.	533940.	33900.	6.79	.67475	.005	1
CalStd14-100	1000000.	1074100.	74100.	7.41	1.3166	.008	1
CalStd9=100	1000.0	1028.4	28.4	2.84	.00520	.000	1
CalStd12-100	100000.	99546.	-454.	-.454	.13738	.001	1

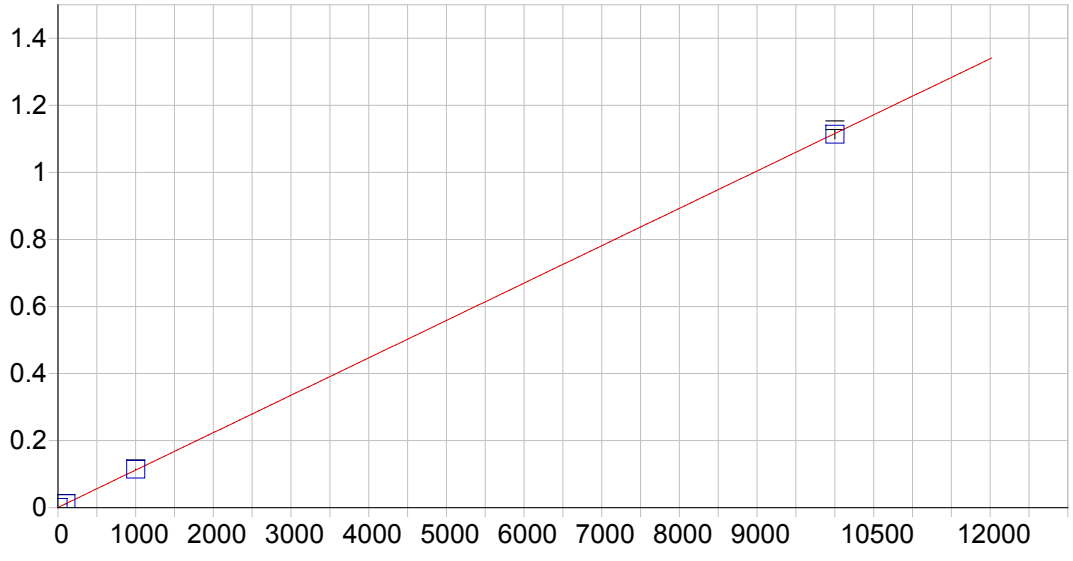


Ca 393.366 { 86}

Date of Fit:	04/25/2016 12:35:28	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-0.000037	Re-Slope:	1.000000
A1 (Gain):	0.000018	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998260	Status:	OK.
Std Error of Est:	0.000044		
Predicted MDL:	0.067248		
Predicted MQL:	0.224161		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	7.7173	7.72	.000	.00010	.000	1
CalStd7=50	50.000	49.293	-.707	-1.41	.00085	.000	1
CalStd9=100	1000.0	999.92	-.079	-.008	.01793	.000	1
CalStd8=100	100.00	101.70	1.70	1.70	.00179	.000	1

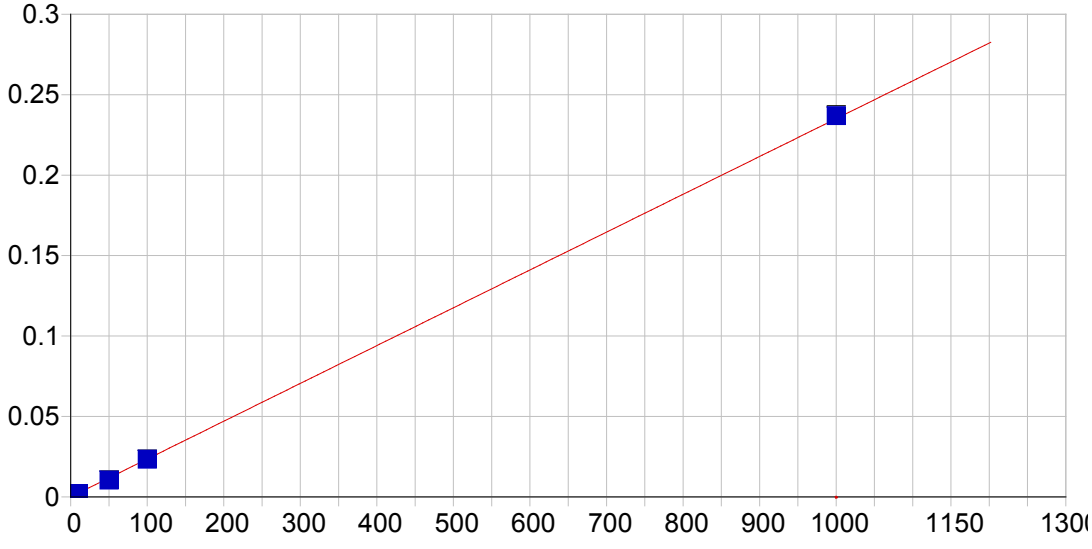


Ca 396.847 { 85}

Date of Fit:	04/25/2016 12:35:28	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000642	Re-Slope:	1.000000
A1 (Gain):	0.000112	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999972	Status:	OK.
Std Error of Est:	0.000039		
Predicted MDL:	0.115635		
Predicted MQL:	0.385451		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00039	.000	.000	.00064	.000	1
CalStd10=10	10000.	9979.7	-20.3	-.203	1.1136	.013	1
CalStd8=100	100.00	97.533	-2.47	-2.47	.01152	.000	1
CalStd9=100	1000.0	1022.8	22.8	2.28	.11471	.000	1

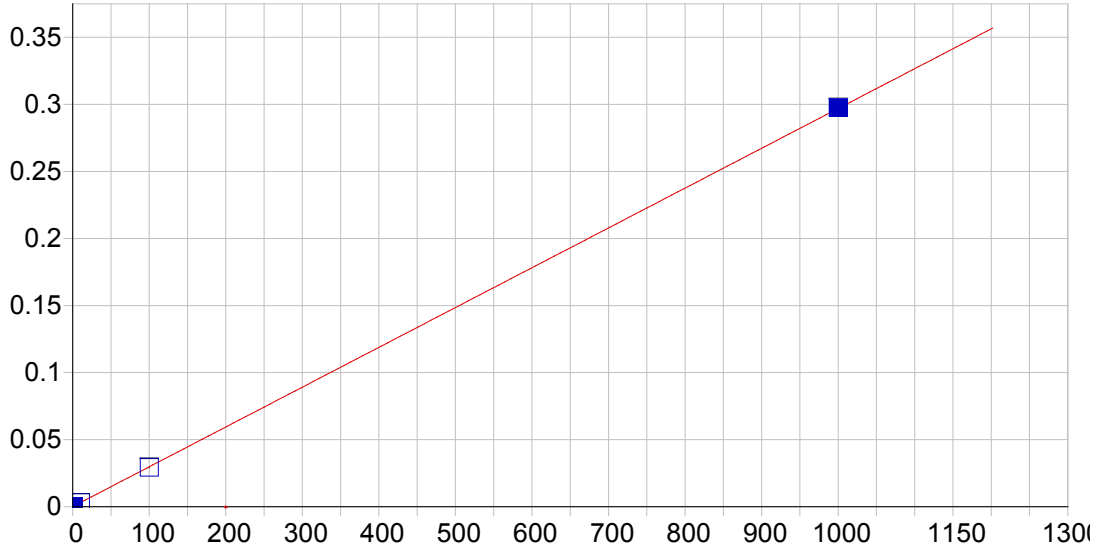


Cd 226.502 {449}

Date of Fit: 04/25/2016 12:35:28 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	0.000020	Re-Slope:	1.000000
A1 (Gain):	0.000235	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999657	Status:	OK.
Std Error of Est:	0.000005		
Predicted MDL:	0.201197		
Predicted MQL:	0.670657		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00016	.000	.000	.00002	.000	1
CalStd7=50	50.000	44.290	-5.71	-11.4	.01043	.000	1
CalStd3=1	1.0000	1.0547	.055	5.47	.00027	.000	1
CalStd2=0.5	.50000	.44605	-.054	-10.8	.00013	.000	1
CalStd4=5	5.0000	4.5877	-.412	-8.25	.00110	.000	1
CalStd8=100	100.00	99.140	-.860	-.860	.02333	.000	1
CalStd5=10	10.000	9.3606	-.639	-6.39	.00222	.000	1
CalStd9=100	1000.0	1007.6	7.62	.762	.23693	.000	1

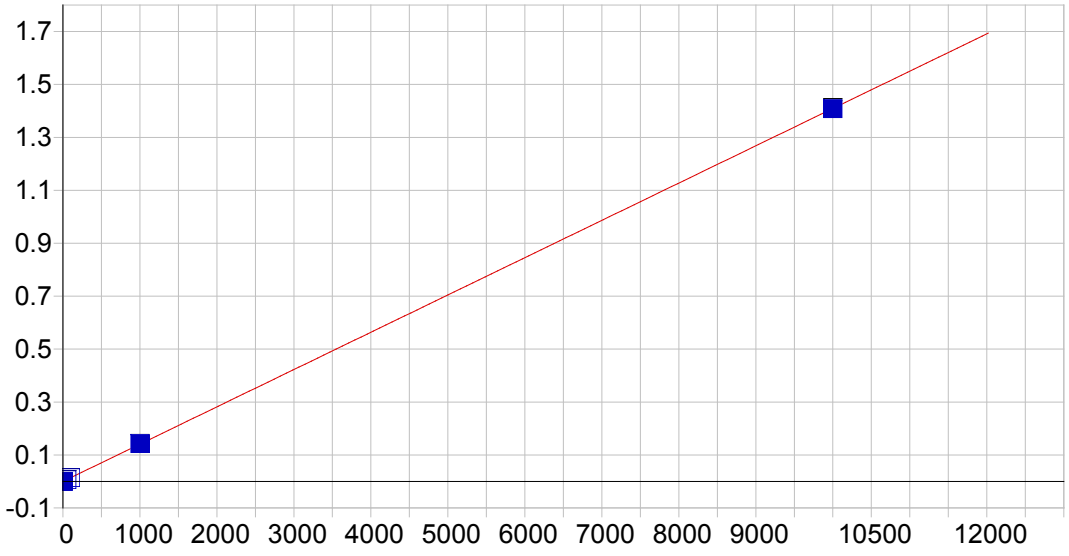


Cd 228.802 {447}

Date of Fit: 04/25/2016 12:35:28 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	0.000055	Re-Slope:	1.000000
A1 (Gain):	0.000297	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999961	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	0.185802		
Predicted MQL:	0.619340		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00008	.000	.000	.00005	.000	1
CalStd9=100	1000.0	1002.0	1.98	.198	.29761	.000	1
CalStd8=100	100.00	98.516	-1.48	-1.48	.02931	.000	1
CalStd2=0.5	.50000	.60239	.102	20.5	.00023	.000	1
CalStd3=1	1.0000	1.0246	.025	2.46	.00036	.000	1
CalStd5=10	10.000	9.3782	-.622	-6.22	.00284	.000	1

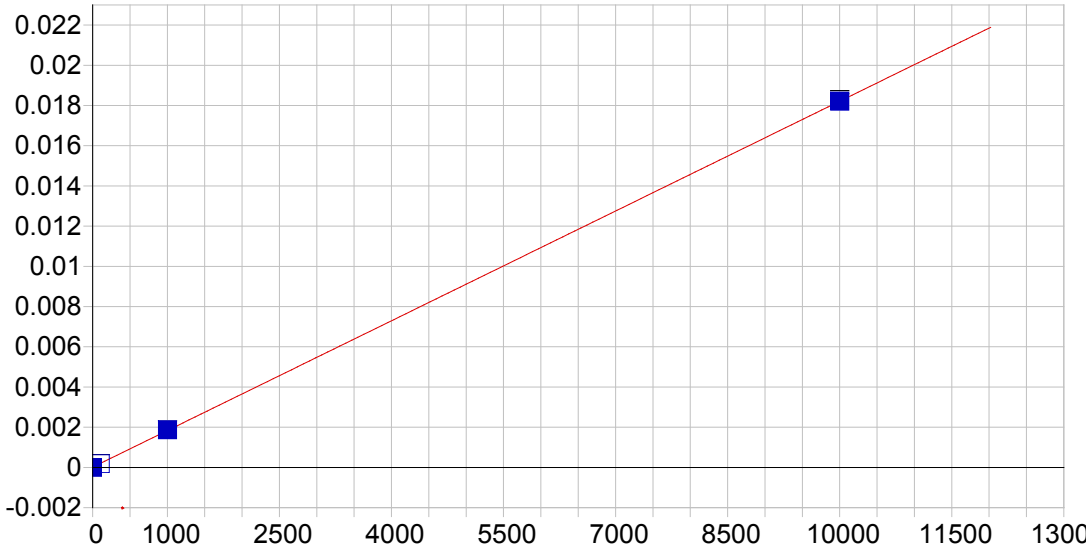


Co 228.616 {447}

Date of Fit:	04/25/2016 12:35:28	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000053	Re-Slope:	1.000000
A1 (Gain):	0.000141	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999959	Status:	OK.
Std Error of Est:	0.000005		
Predicted MDL:	0.380096		
Predicted MQL:	1.266987		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00029	.000	.000	-.00005	.000	1
CalStd7=50	50.000	44.733	-5.27	-10.5	.00625	.000	1
CalStd5=10	10.000	9.8139	-.186	-1.86	.00133	.000	1
CalStd4=5	5.0000	5.1766	.177	3.53	.00068	.000	1
CalStd8=100	100.00	98.288	-1.71	-1.71	.01380	.000	1
CalStd9=100	1000.0	1012.8	12.8	1.28	.14268	.000	1
CalStd3=1	1.0000	1.3868	.387	38.7	.00014	.000	1
CalStd10=10	10000.	9993.8	-6.21	-.062	1.4083	.004	1

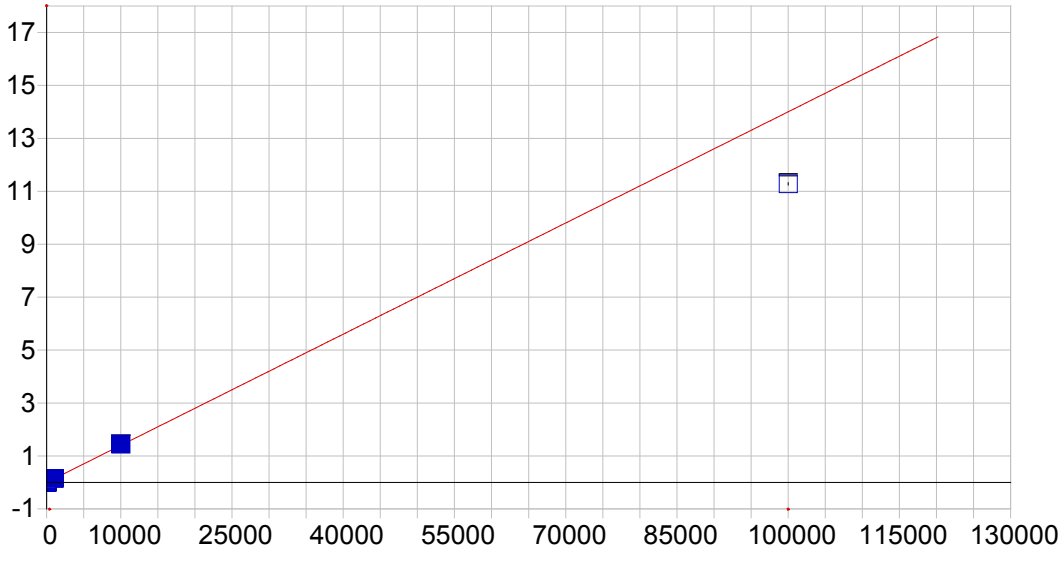


Co 238.892 {141}

Date of Fit:	04/25/2016 12:35:28	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000014	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999997	Status:	OK.
Std Error of Est:	0.000025		
Predicted MDL:	0.864724		
Predicted MQL:	2.882412		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-7.3631	-7.36	.000	.00000	.000	1
CalStd9=100	1000.0	1016.6	16.6	1.66	.00186	.000	1
CalStd10=10	10000.	9998.4	-1.59	-.016	.01821	.000	1
CalStd8=100	100.00	92.314	-7.69	-7.69	.00018	.000	1

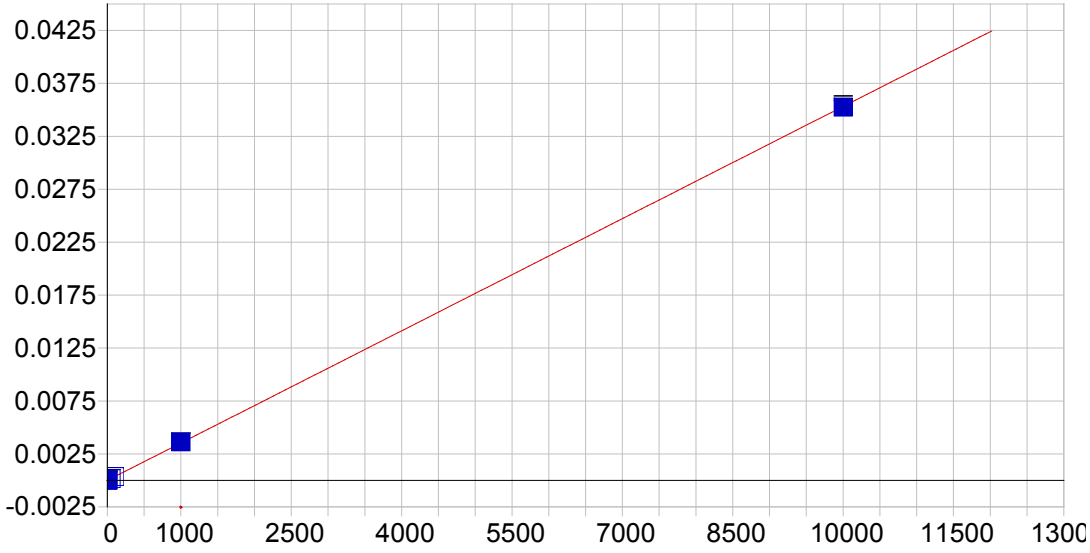


Cr 205.560 {464}

Date of Fit:	04/25/2016 12:35:28	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-0.000104	Re-Slope:	1.000000
A1 (Gain):	0.000140	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.996920	Status:	OK.
Std Error of Est:	0.000590		
Predicted MDL:	0.227046		
Predicted MQL:	0.756820		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.22158	.222	.000	-.00007	.000	1
CalStd5=10	10.000	9.8703	-.130	-1.30	.00128	.000	1
CalStd7=50	50.000	45.540	-4.46	-8.92	.00627	.000	1
CalStd9=100	1000.0	1039.8	39.8	3.98	.14550	.000	1
CalStd8=100	100.00	100.59	.591	.591	.01398	.000	1
CalStd4=5	5.0000	5.0175	.018	.350	.00060	.000	1
CalStd3=1	1.0000	1.5743	.574	57.4	.00012	.000	1
CalStd11-100	100000.	80561.	-19400.	-19.4	11.281	.044	1
CalStd10=10	10000.	10317.	317.	3.17	1.4446	.002	1

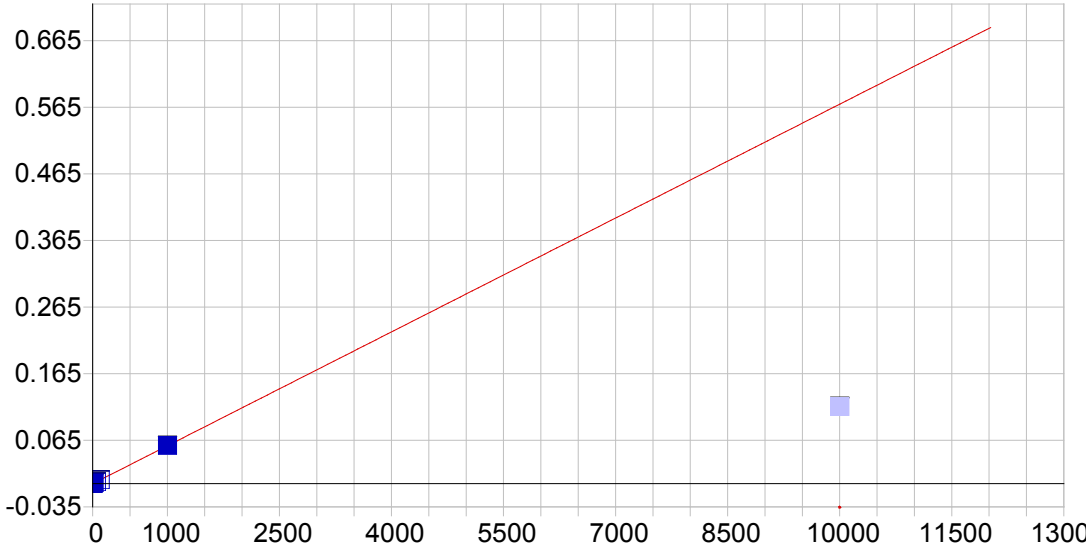


Cr 267.716 {126}

Date of Fit: 04/25/2016 12:35:28 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	-0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000004	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999941	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.607862		
Predicted MQL:	2.026205		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00105	.001	.000	.00000	.000	1
CalStd5=10	10.000	9.5016	-.498	-4.98	.00003	.000	1
CalStd7=50	50.000	44.672	-5.33	-10.7	.00016	.000	1
CalStd9=100	1000.0	1025.8	25.8	2.58	.00362	.000	1
CalStd8=100	100.00	99.179	-.821	-.821	.00035	.000	1
CalStd4=5	5.0000	4.6512	-.349	-6.98	.00001	.000	1
CalStd10=10	10000.	9981.2	-18.8	-.188	.03525	.000	1

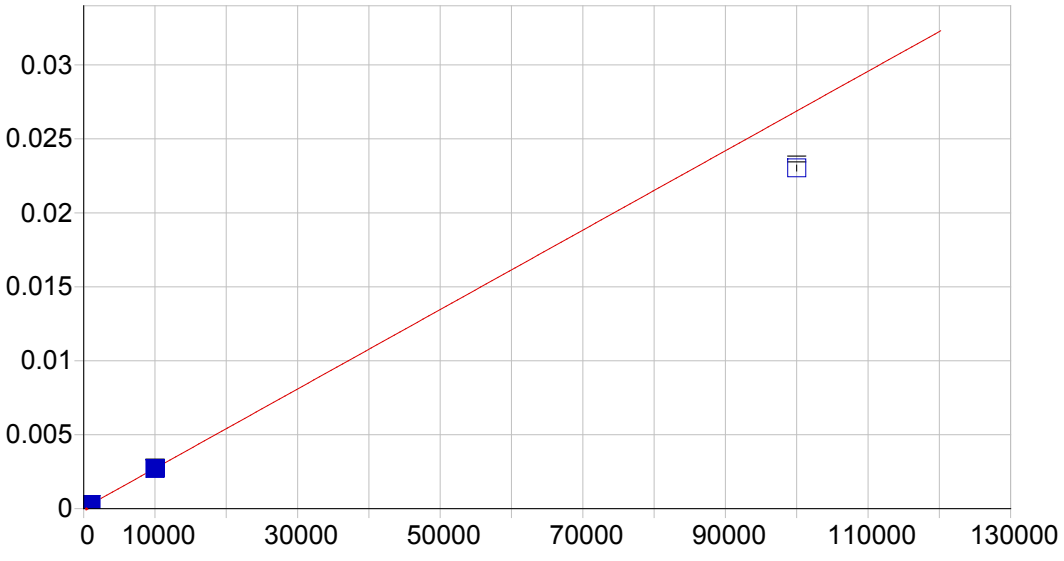


Cu 224.700 {450}

Date of Fit:	04/25/2016 12:35:28	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-0.000274	Re-Slope:	1.000000
A1 (Gain):	0.000057	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999517	Status:	OK.
Std Error of Est:	0.000138		
Predicted MDL:	0.842034		
Predicted MQL:	2.806779		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	2.9470	2.95	.000	-.00011	.000	1
CalStd9=100	1000.0	1007.5	7.47	.747	.05714	.000	1
CalStd7=50	50.000	46.558	-3.44	-6.88	.00238	.000	1
CalStd8=100	100.00	99.798	-.202	-.202	.00541	.000	1
CalStd5=10	10.000	12.529	2.53	25.3	.00044	.000	1
CalStd10=10	10000.	2032.1	-7970.	-79.7	.11554	.000	0
CalStd4=5	5.0000	7.0970	2.10	41.9	.00013	.000	1
CalStd6=20	20.000	19.936	-.064	-.322	.00086	.000	1
CalStd3=1	1.0000	4.3044	3.30	330.	-.00003	.000	1

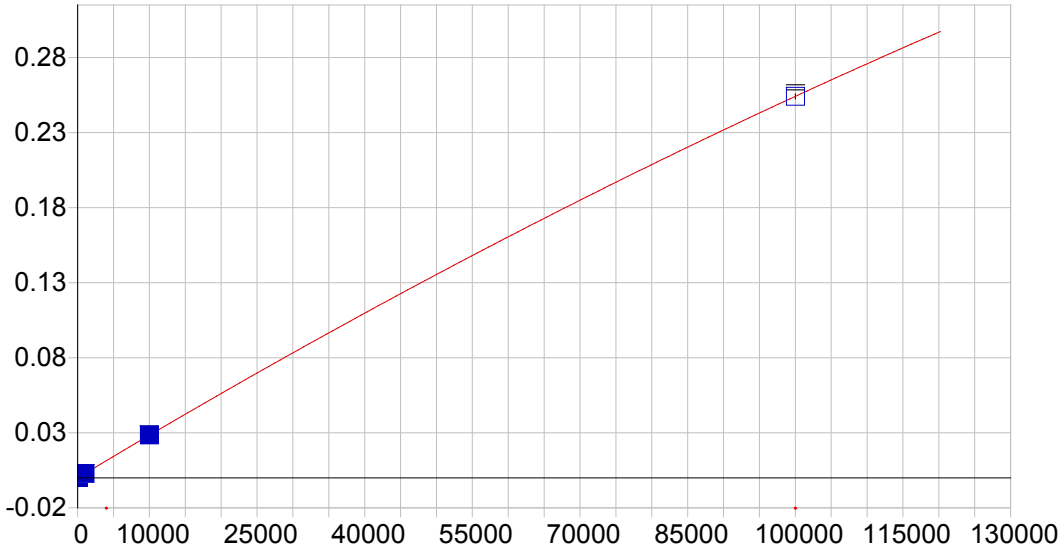


Cu 324.754 {104}

Date of Fit:	04/25/2016 12:35:28	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	0.000039	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999975	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	3.421606		
Predicted MQL:	11.405353		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.01219	.012	.000	.00004	.000	1
CalStd9=100	1000.0	942.69	-57.3	-5.73	.00029	.000	1
CalStd8=100	100.00	92.693	-7.31	-7.31	.00006	.000	1
CalStd10=10	10000.	9926.0	-74.0	-.740	.00270	.000	1
CalStd11-100	100000.	85640.	-14400.	-14.4	.02303	.000	1

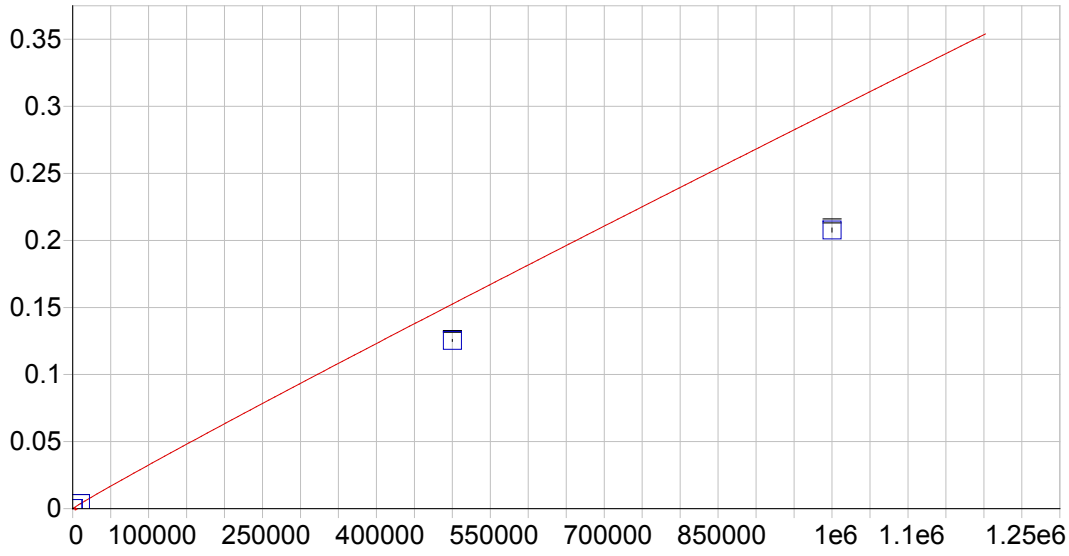


Cu 327.396 {103}

Date of Fit: 04/25/2016 12:35:28 Type of Fit: Curvilinear Weighting: 1/Conc

A0 (Offset):	-0.000065	Re-Slope:	1.000000
A1 (Gain):	0.000003	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999974	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	4.219338		
Predicted MQL:	14.064459		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.01171	.012	.000	-.00007	.000	1
CalStd6=20	20.000	13.778	-6.22	-31.1	-.00003	.000	1
CalStd7=50	50.000	40.469	-9.53	-19.1	.00005	.000	1
CalStd8=100	100.00	92.245	-7.75	-7.75	.00020	.000	1
CalStd9=100	1000.0	990.07	-9.93	-.993	.00278	.000	1
CalStd10=10	10000.	10038.	37.9	.379	.02849	.000	1
CalStd11-100	100000.	99995.	-4.68	-.005	.25411	.002	1

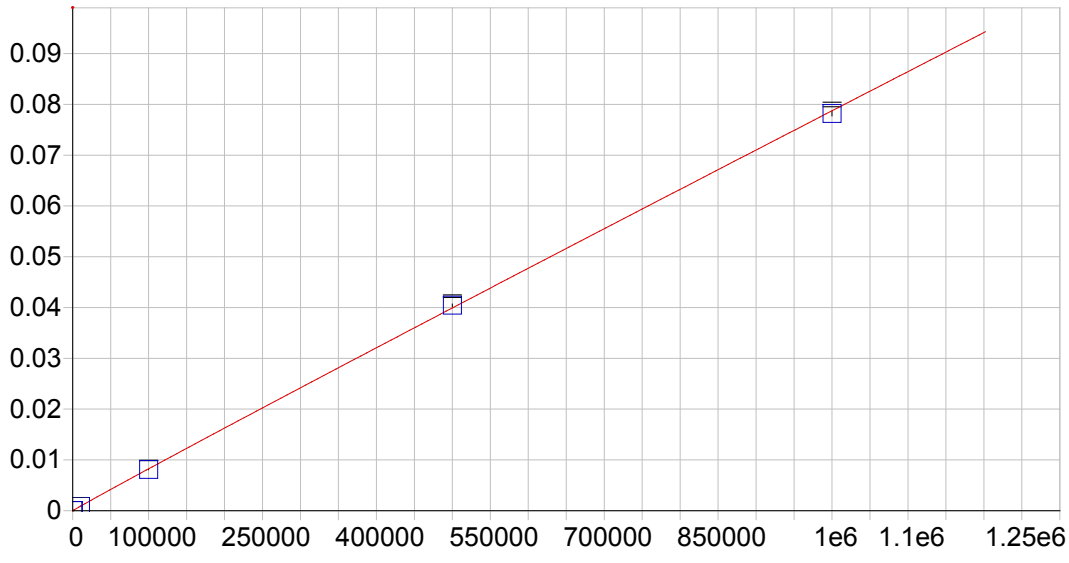


Fe 234.349 {144}

Date of Fit:	04/25/2016 12:35:28	Type of Fit:	Full Fit	Weighting:	1/Var

A0 (Offset):	0.000010	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	0.960000		
Correlation:	0.999590	Status:	OK.
Std Error of Est:	0.000016		
Predicted MDL:	1.394115		
Predicted MQL:	4.647051		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	1.7990	1.80	.000	.00001	.000	1
CalStd10=10	10000.	10323.	323.	3.23	.00369	.000	1
CalStd13=50	500000.	407740.	-92300.	-18.5	.12541	.001	1
CalStd14-100	1000000.	689830.	-310000.	-31.0	.20775	.001	1
CalStd9=100	1000.0	961.56	-38.4	-3.84	.00039	.000	1

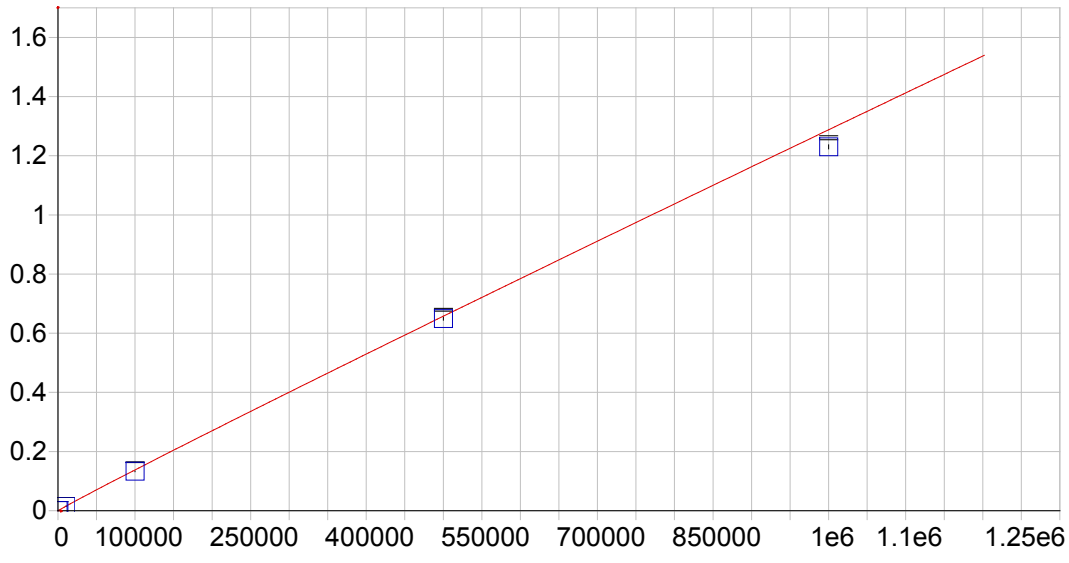


Fe 239.562 {140}

Date of Fit: 04/25/2016 12:35:28 Type of Fit: Full Fit Weighting: 1/Var

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	0.980000		
Correlation:	0.999755	Status:	OK.
Std Error of Est:	0.000005		
Predicted MDL:	4.283343		
Predicted MQL:	14.277809		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	6.5960	6.60	.000	.00000	.000	1
CalStd10=10	10000.	10577.	577.	5.77	.00091	.000	1
CalStd13=50	500000.	506470.	6470.	1.29	.04042	.000	1
CalStd14-100	1000000.	992890.	-7110.	-.711	.07819	.000	1
CalStd9=100	1000.0	989.96	-10.0	-1.00	.00009	.000	1
CalStd12-100	100000.	98221.	-1780.	-1.78	.00810	.000	1

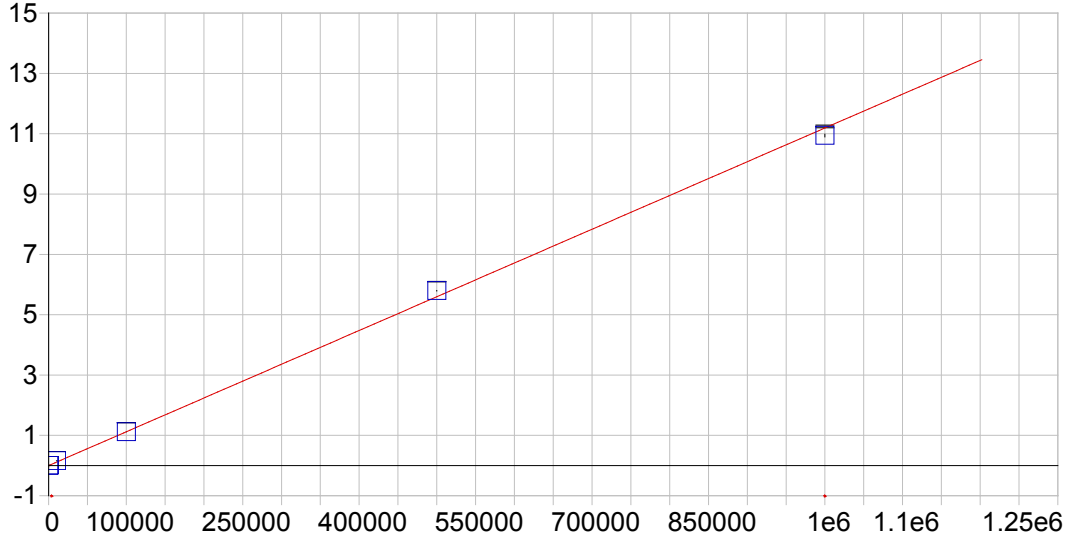


Fe 259.940 {129}

Date of Fit:	04/25/2016 12:35:28	Type of Fit:	Full Fit	Weighting:	1/Var

A0 (Offset):	0.000005	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	0.970000		
Correlation:	0.999800	Status:	OK.
Std Error of Est:	0.000046		
Predicted MDL:	2.741656		
Predicted MQL:	9.138854		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	2.8602	2.86	.000	.00001	.000	1
CalStd10=10	10000.	10182.	182.	1.82	.01505	.000	1
CalStd13=50	500000.	493280.	-6720.	-1.34	.64885	.005	1
CalStd14-100	1000000.	953630.	-46400.	-4.64	1.2298	.007	1
CalStd9=100	1000.0	972.26	-27.7	-2.77	.00155	.000	1
CalStd12-100	100000.	96328.	-3670.	-3.67	.13307	.001	1

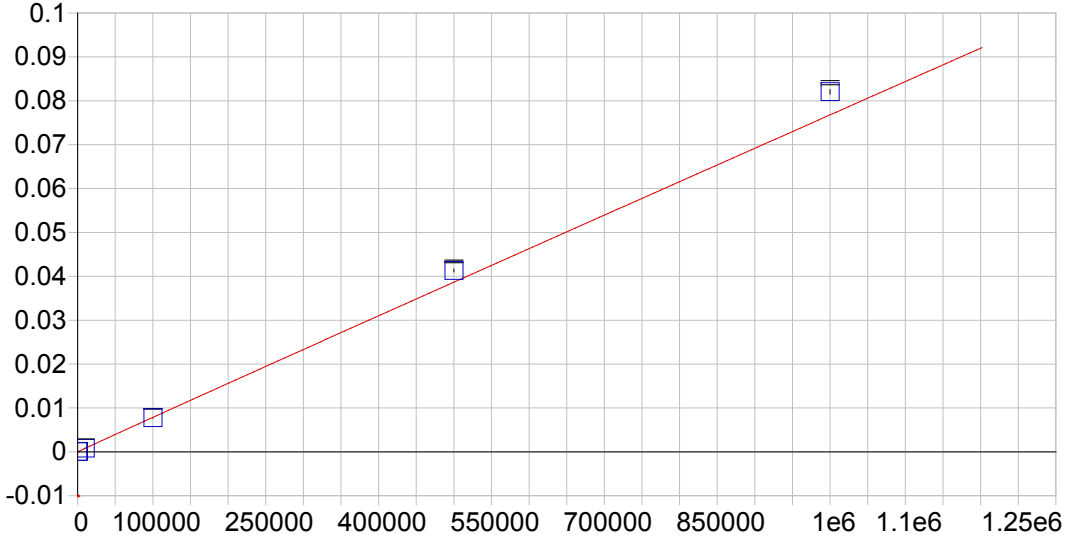


Mg 202.582 {466}

Date of Fit:	04/25/2016 12:35:28	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000004	Re-Slope:	1.000000
A1 (Gain):	0.000011	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999100	Status:	OK.
Std Error of Est:	0.000738		
Predicted MDL:	3.074710		
Predicted MQL:	10.249032		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.84239	-.842	.000	-.00001	.000	1
CalStd13=50	500000.	517900.	17900.	3.58	5.7961	.007	1
CalStd10=10	10000.	13970.	3970.	39.7	.15634	.000	1
CalStd14-100	1000000.	977670.	-22300.	-2.23	10.941	.044	1
CalStd12-100	100000.	100030.	28.8	.029	1.1195	.001	1
CalStd9=100	1000.0	1431.7	432.	43.2	.01602	.000	1

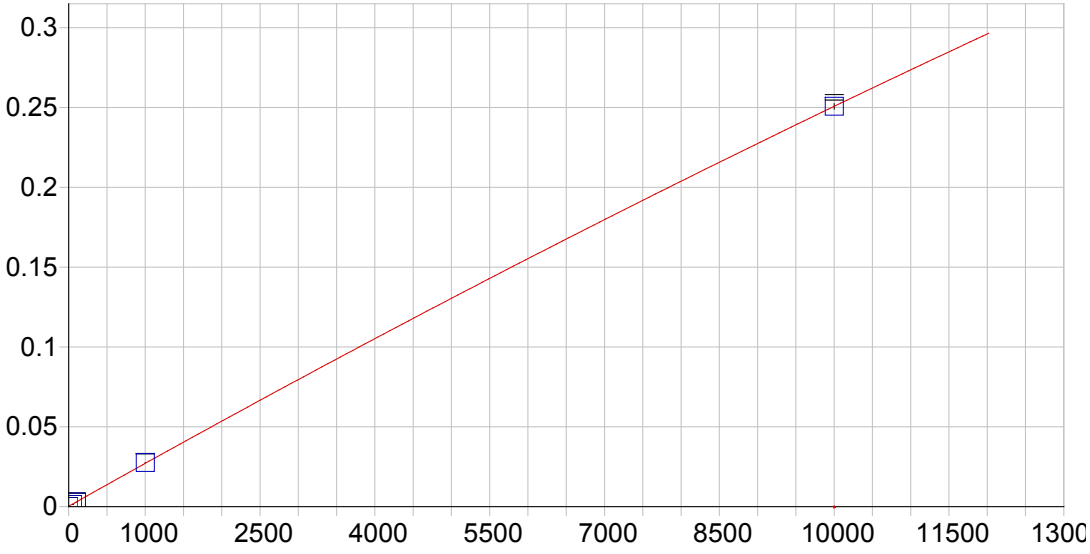


Mg 279.079 {121}

Date of Fit: 04/25/2016 12:35:28 Type of Fit: Full Fit Weighting: 1/Var

A0 (Offset):	-0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	0.990000		
Correlation:	0.999776	Status:	OK.
Std Error of Est:	0.000016		
Predicted MDL:	37.235261		
Predicted MQL:	124.117535		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00000	.000	1
CalStd13=50	500000.	534840.	34800.	6.97	.04133	.000	1
CalStd10=10	10000.	10425.	425.	4.25	.00084	.000	1
CalStd14-100	1000000.	1069400.	69400.	6.94	.08207	.000	1
CalStd12-100	100000.	98625.	-1370.	-1.37	.00775	.000	1
CalStd9=100	1000.0	1024.3	24.3	2.43	.00008	.000	1

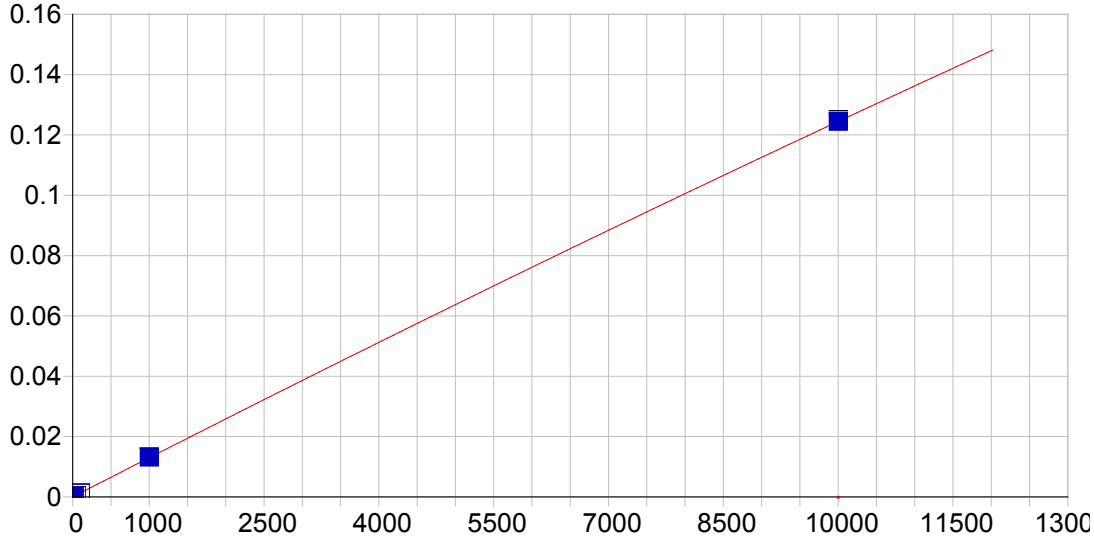


Mg 280.270 {120}

Date of Fit:	04/25/2016 12:35:28	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	0.000264	Re-Slope:	1.000000
A1 (Gain):	0.000027	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999896	Status:	OK.
Std Error of Est:	0.000014		
Predicted MDL:	0.038983		
Predicted MQL:	0.129945		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.01039	.010	.000	.00026	.000	1
CalStd9=100	1000.0	1014.9	14.9	1.49	.02750	.000	1
CalStd10=10	10000.	9998.4	-1.61	-.016	.25072	.002	1
CalStd8=100	100.00	95.722	-4.28	-4.28	.00285	.000	1
CalStd7=50	50.000	41.011	-8.99	-18.0	.00137	.000	1

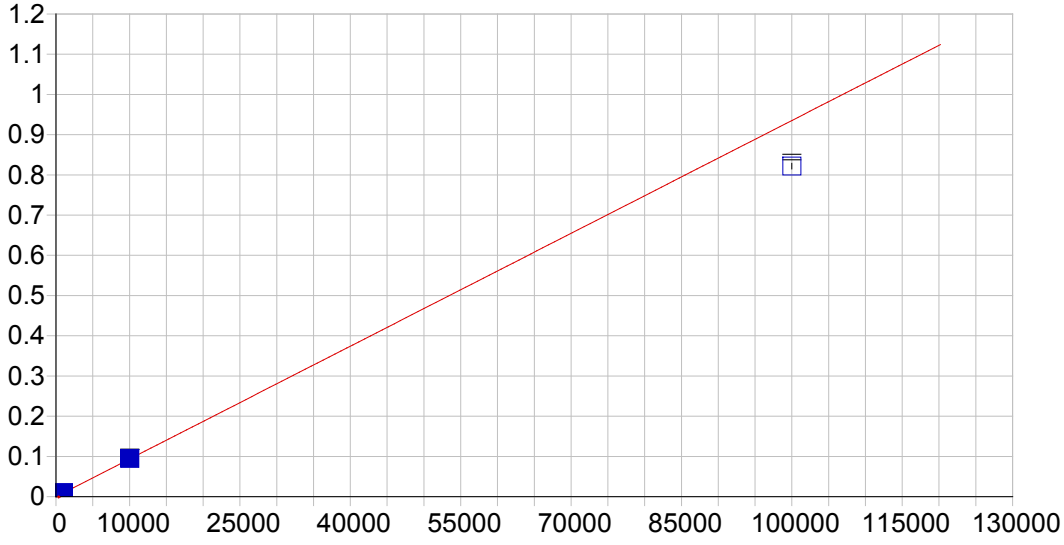


Mn 257.610 {131}

Date of Fit: 04/25/2016 12:35:28 Type of Fit: Curvilinear Weighting: 1/Conc

A0 (Offset):	0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000013	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999940	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.083129		
Predicted MQL:	0.277096		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00203	.002	.000	.00000	.000	1
CalStd5=10	10.000	9.3843	-.616	-6.16	.00012	.000	1
CalStd7=50	50.000	44.501	-5.50	-11.0	.00058	.000	1
CalStd6=20	20.000	17.163	-2.84	-14.2	.00023	.000	1
CalStd8=100	100.00	98.938	-1.06	-1.06	.00129	.000	1
CalStd4=5	5.0000	4.5312	-.469	-9.38	.00006	.000	1
CalStd9=100	1000.0	1011.7	11.7	1.17	.01314	.000	1
CalStd10=10	10000.	9998.8	-1.23	-.012	.12446	.001	1

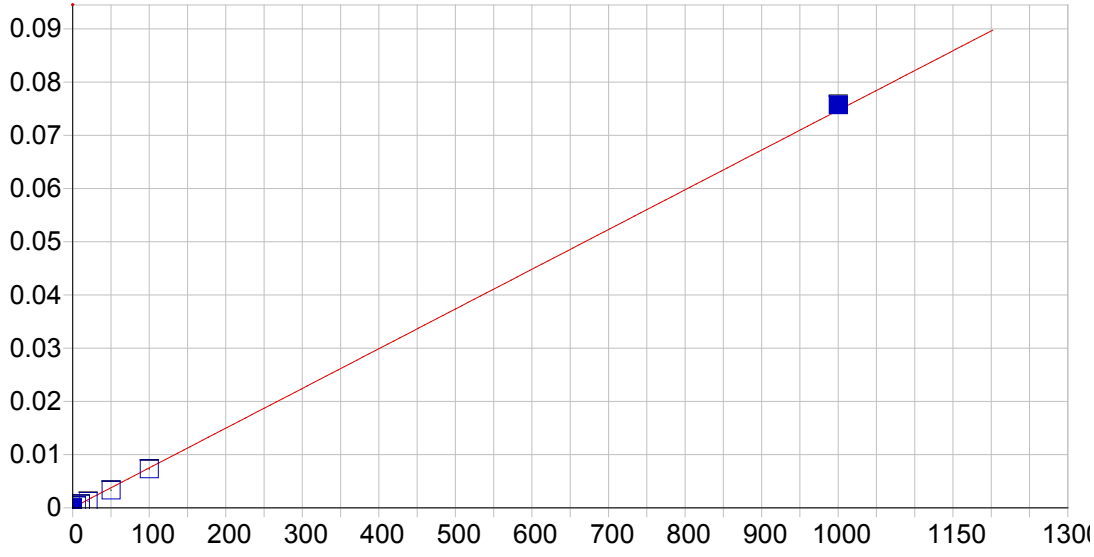


Mn 259.373 {130}

Date of Fit:	04/25/2016 12:35:28	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000011	Re-Slope:	1.000000
A1 (Gain):	0.000009	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998192	Status:	OK.
Std Error of Est:	0.000091		
Predicted MDL:	0.624827		
Predicted MQL:	2.082757		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.20783	-.208	.000	.00001	.000	1
CalStd10=10	10000.	10139.	139.	1.39	.09493	.000	1
CalStd11-100	100000.	87860.	-12100.	-12.1	.82173	.007	1
CalStd9=100	1000.0	1050.5	50.5	5.05	.00984	.000	1

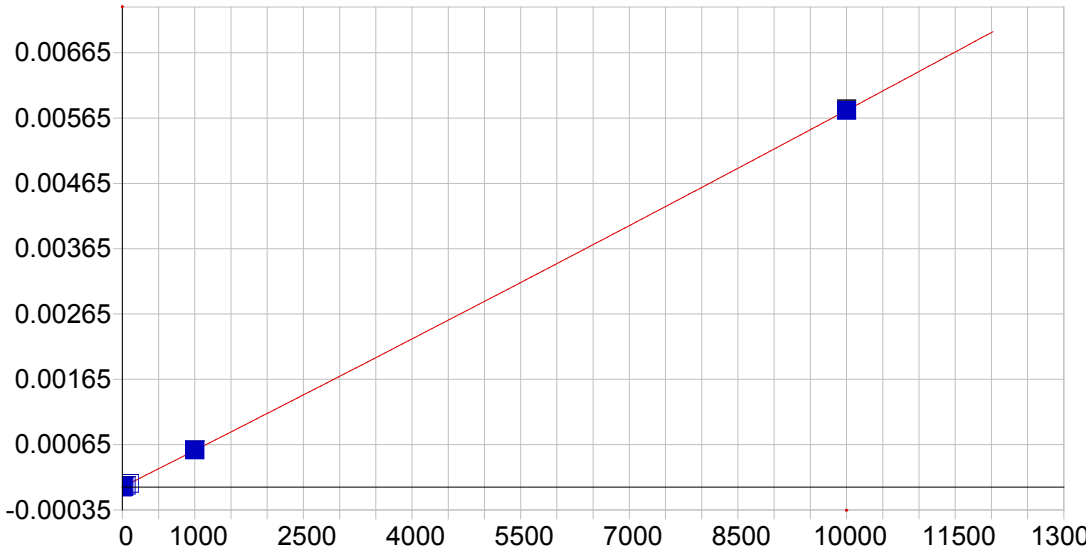


Mo 202.030 {466}

Date of Fit: 04/25/2016 12:35:28 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	0.000036	Re-Slope:	1.000000
A1 (Gain):	0.000075	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999241	Status:	OK.
Std Error of Est:	0.000008		
Predicted MDL:	0.393368		
Predicted MQL:	1.311225		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00246	.002	.000	.00004	.000	1
CalStd7=50	50.000	44.149	-5.85	-11.7	.00333	.000	1
CalStd6=20	20.000	16.116	-3.88	-19.4	.00124	.000	1
CalStd5=10	10.000	9.0940	-.906	-9.06	.00072	.000	1
CalStd8=100	100.00	97.466	-2.53	-2.53	.00731	.000	1
CalStd4=5	5.0000	4.6067	-.393	-7.87	.00038	.000	1
CalStd9=100	1000.0	1013.6	13.6	1.36	.07571	.000	1

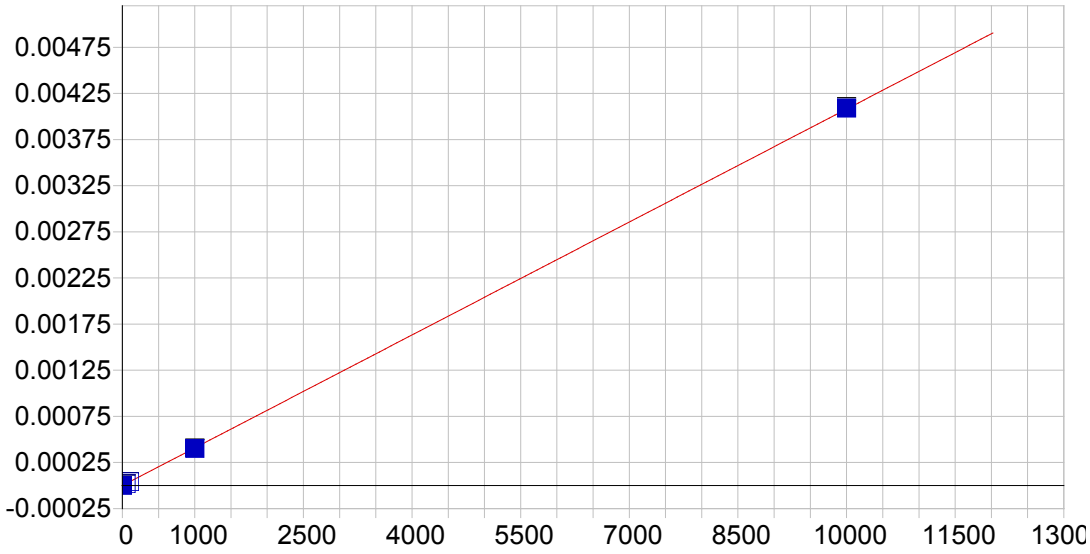


Mo 204.598 {464}

Date of Fit:	04/25/2016 12:35:28	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	-0.000000	Re-Slope:	1.000000	
A1 (Gain):	0.000001	Y-int:	0.000000	
A2 (Curvature):	0.000000			
n (Exponent):	1.000000			
Correlation:	0.999957	Status:	Warning	Positive Curvature
Std Error of Est:	0.000000			
Predicted MDL:	0.651397			
Predicted MQL:	2.171325			

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00127	.001	.000	.00000	.000	1
CalStd7=50	50.000	44.889	-5.11	-10.2	.00003	.000	1
CalStd6=20	20.000	17.176	-2.82	-14.1	.00001	.000	1
CalStd5=10	10.000	9.6203	-.380	-3.80	.00001	.000	1
CalStd8=100	100.00	100.27	.269	.269	.00006	.000	1
CalStd4=5	5.0000	5.0758	.076	1.52	.00000	.000	1
CalStd9=100	1000.0	1008.8	8.77	.877	.00057	.000	1
CalStd10=10	10000.	9999.2	-.806	-.008	.00577	.000	1

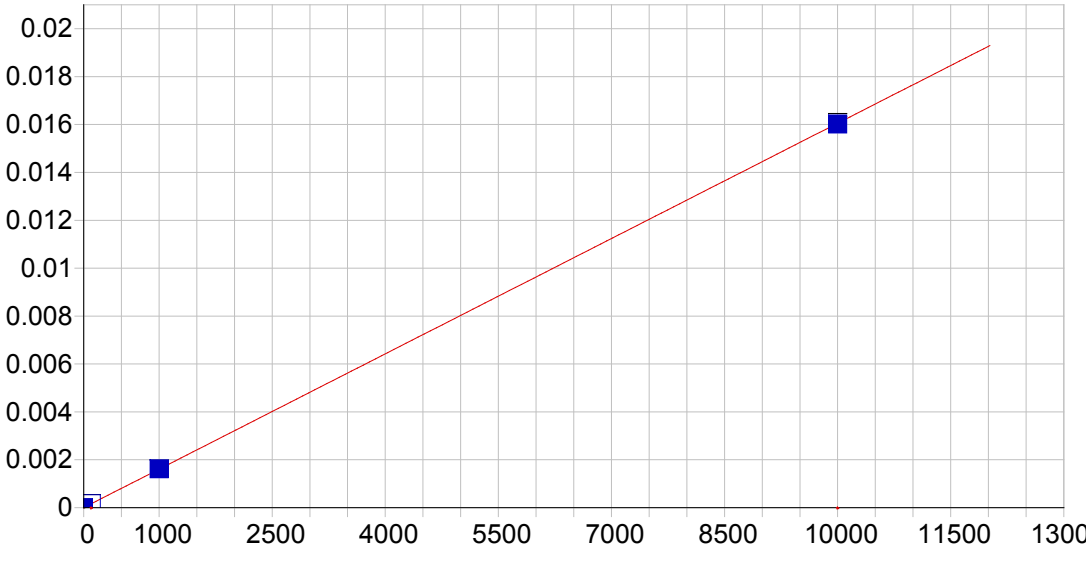


Mo 204.598 {465}

Date of Fit:	04/25/2016 12:35:28	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999949	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.867547		
Predicted MQL:	2.891824		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00789	.008	.000	.00000	.000	1
CalStd9=100	1000.0	983.64	-16.4	-1.64	.00040	.000	1
CalStd10=10	10000.	10025.	24.6	.246	.00409	.000	1
CalStd7=50	50.000	43.848	-6.15	-12.3	.00002	.000	1
CalStd8=100	100.00	97.912	-2.09	-2.09	.00004	.000	1

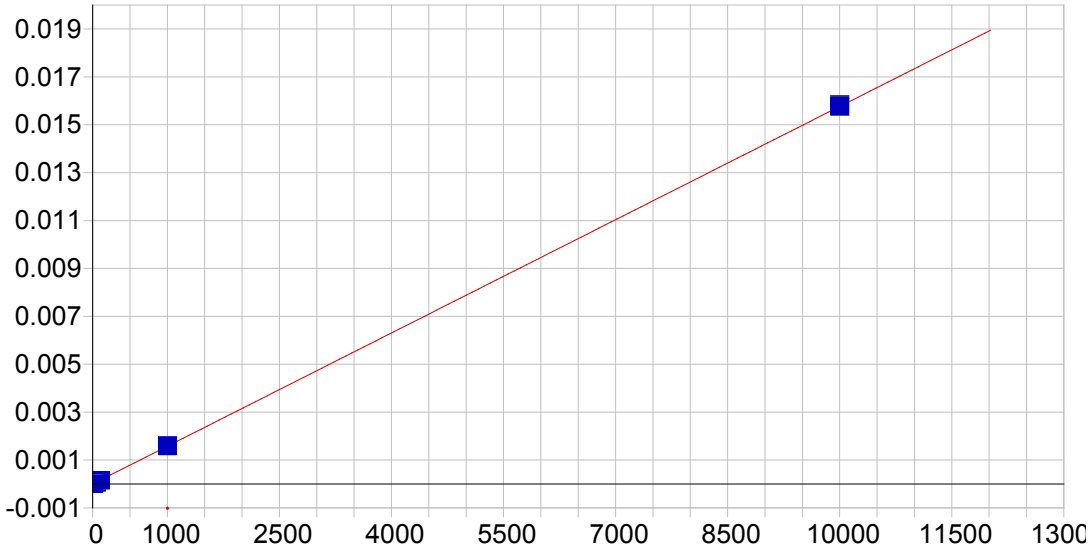


Ni 221.647 {452}

Date of Fit:	04/25/2016 12:35:28	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999992	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.436020		
Predicted MQL:	1.453399		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00140	-.001	.000	.00000	.000	1
CalStd10=10	10000.	9976.0	-24.0	-.240	.01602	.000	1
CalStd8=100	100.00	99.874	-.126	-.126	.00016	.000	1
CalStd9=100	1000.0	1007.3	7.30	.730	.00162	.000	1

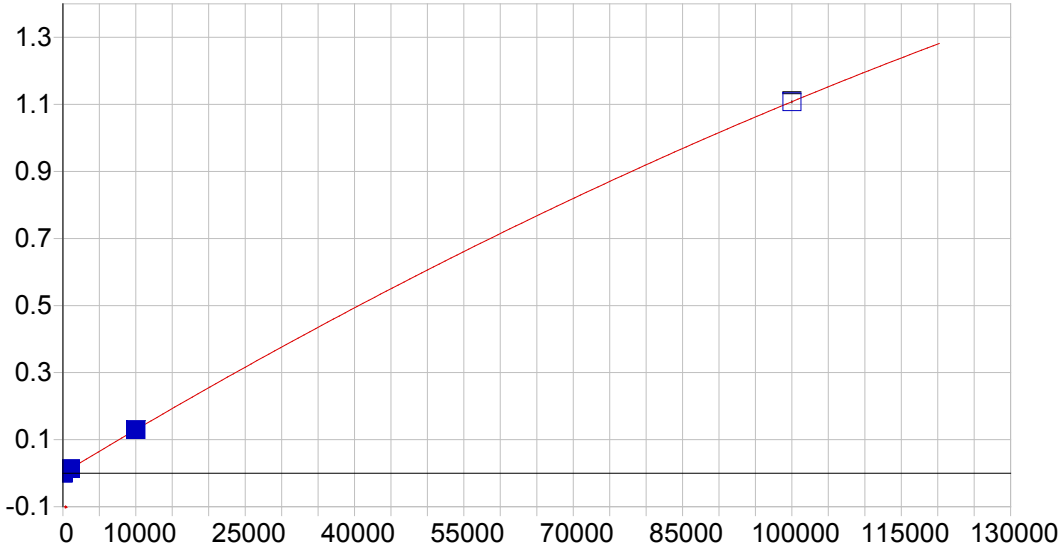


Ni 231.604 {445}

Date of Fit:	04/25/2016 12:35:28	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999872	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.450544		
Predicted MQL:	1.501812		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00174	.002	.000	.00000	.000	1
CalStd7=50	50.000	43.842	-6.16	-12.3	.00007	.000	1
CalStd5=10	10.000	8.4084	-1.59	-15.9	.00001	.000	1
CalStd8=100	100.00	99.675	-.325	-.325	.00016	.000	1
CalStd4=5	5.0000	3.3908	-1.61	-32.2	.00001	.000	1
CalStd9=100	1000.0	1006.1	6.12	.612	.00159	.000	1
CalStd3=1	1.0000	-.13662	-1.14	-114.	.00000	.000	1
CalStd10=10	10000.	10005.	4.70	.047	.01577	.000	1

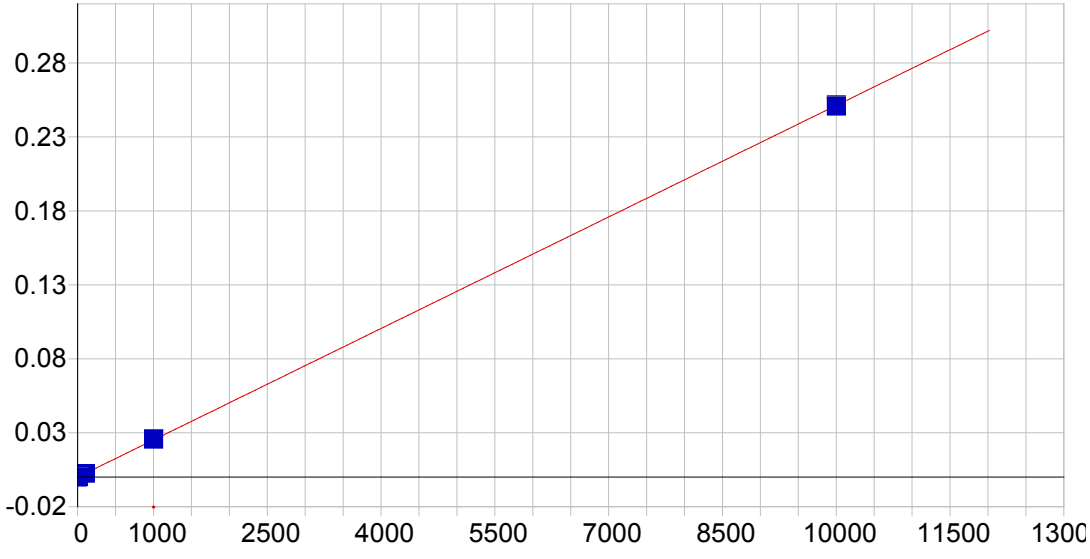


Pb 216.999 {455}

Date of Fit: 04/25/2016 12:35:28 Type of Fit: Curvilinear Weighting: 1/Var

A0 (Offset):	-0.000018	Re-Slope:	1.000000
A1 (Gain):	0.000013	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999990	Status:	OK.
Std Error of Est:	0.000054		
Predicted MDL:	3.689404		
Predicted MQL:	12.298015		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.46334	-.463	.000	-.00002	.000	1
CalStd9=100	1000.0	991.69	-8.31	-.831	.01300	.000	1
CalStd10=10	10000.	10019.	19.4	.194	.12963	.000	1
CalStd11-100	100000.	99967.	-33.1	-.033	1.1078	.003	1
CalStd8=100	100.00	96.675	-3.33	-3.33	.00125	.000	1
CalStd5=10	10.000	12.137	2.14	21.4	.00014	.000	1

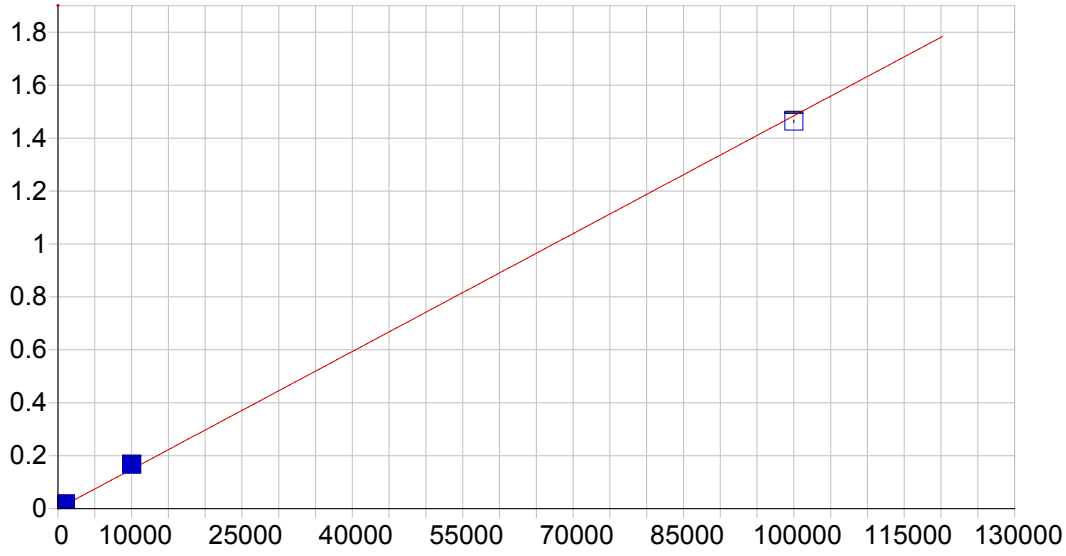


Pb 220.353 {453}

Date of Fit: 04/25/2016 12:35:28 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	-0.000022	Re-Slope:	1.000000
A1 (Gain):	0.000025	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999972	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	2.492195		
Predicted MQL:	8.307318		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00151	-.002	.000	-.00002	.000	1
CalStd5=10	10.000	11.033	1.03	10.3	.00026	.000	1
CalStd8=100	100.00	100.45	.447	.447	.00250	.000	1
CalStd4=5	5.0000	5.8943	.894	17.9	.00013	.000	1
CalStd9=100	1000.0	1017.9	17.9	1.79	.02556	.000	1
CalStd10=10	10000.	9979.7	-20.3	-.203	.25078	.001	1

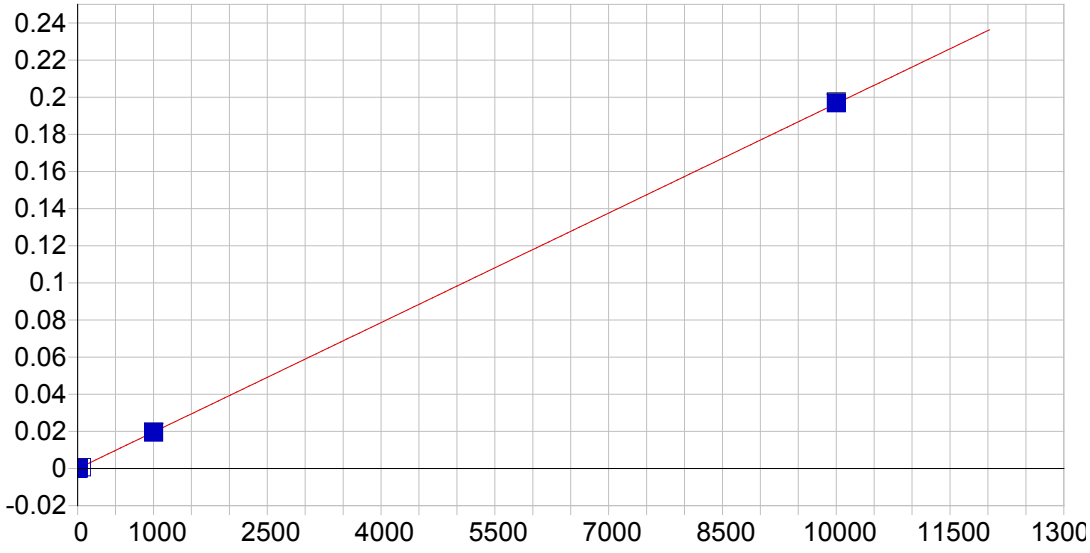


Pb 220.353 {153}

Date of Fit:	04/25/2016 12:35:28	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000064	Re-Slope:	1.000000
A1 (Gain):	0.000015	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999108	Status:	OK.
Std Error of Est:	0.000085		
Predicted MDL:	5.417676		
Predicted MQL:	18.058919		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.03659	-.037	.000	.00006	.000	1
CalStd9=100	1000.0	1174.0	174.	17.4	.01749	.000	1
CalStd10=10	10000.	11216.	1220.	12.2	.16654	.001	1
CalStd8=100	100.00	108.42	8.42	8.42	.00167	.000	1
CalStd11-100	100000.	98601.	-1400.	-1.40	1.4635	.004	1

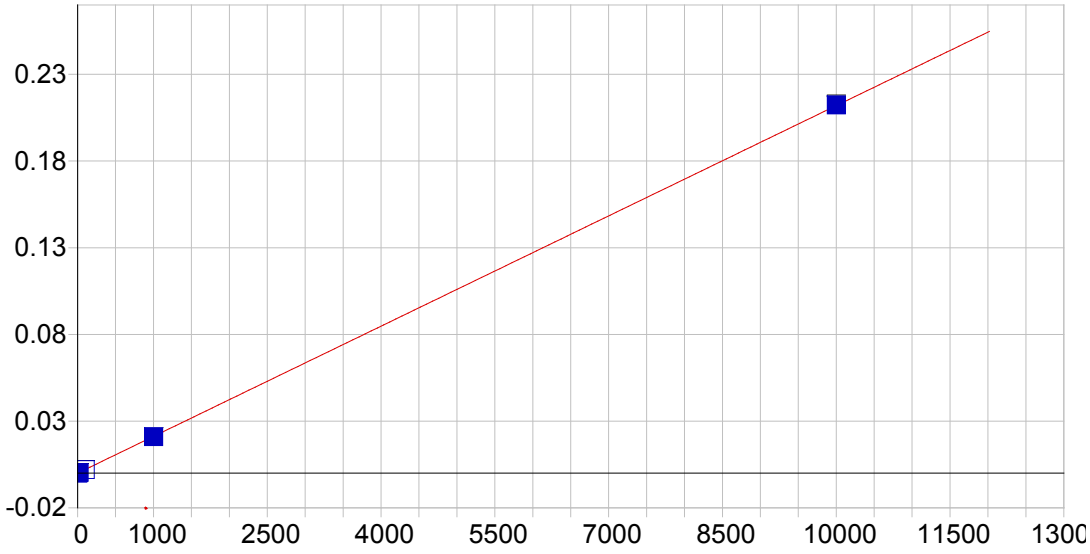


Sb 206.833 {463}

Date of Fit:	04/25/2016 12:35:28	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000063	Re-Slope:	1.000000
A1 (Gain):	0.000020	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999903	Status:	OK.
Std Error of Est:	0.000004		
Predicted MDL:	1.905308		
Predicted MQL:	6.351026		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00466	.005	.000	-.00006	.000	1
CalStd9=100	1000.0	993.55	-6.45	-.645	.01947	.000	1
CalStd5=10	10.000	6.8585	-3.14	-31.4	.00007	.000	1
CalStd7=50	50.000	42.630	-7.37	-14.7	.00078	.000	1
CalStd10=10	10000.	10017.	17.0	.170	.19691	.000	1

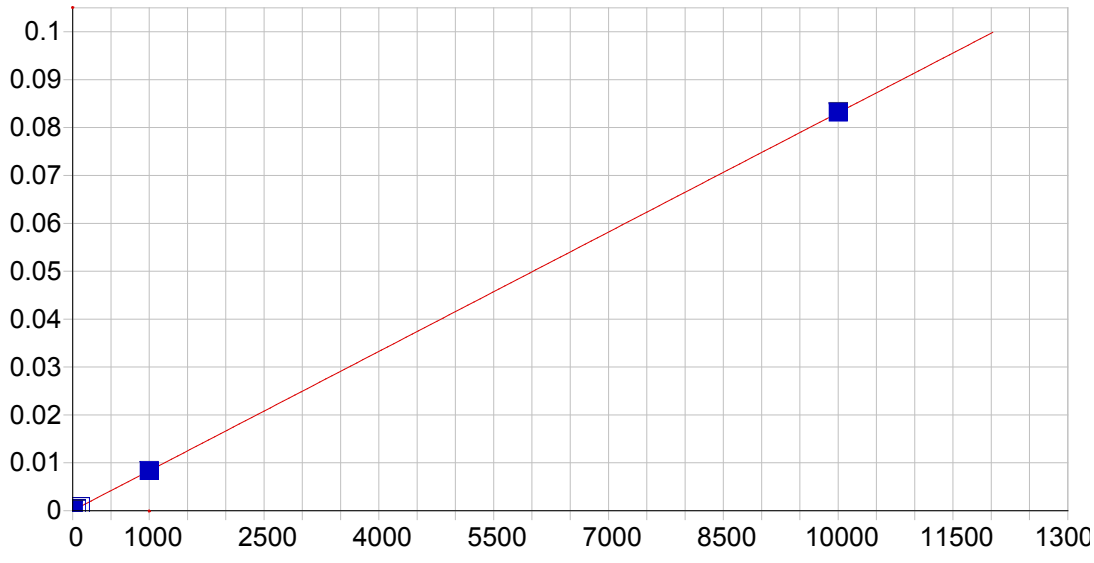


Sb 217.581 {455}

Date of Fit: 04/25/2016 12:35:28 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	-0.000010	Re-Slope:	1.000000
A1 (Gain):	0.000021	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999949	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	2.038680		
Predicted MQL:	6.795599		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00268	.003	.000	-.00001	.000	1
CalStd9=100	1000.0	992.14	-7.86	-.786	.02102	.000	1
CalStd6=20	20.000	17.256	-2.74	-13.7	.00036	.000	1
CalStd5=10	10.000	9.0563	-.944	-9.44	.00018	.000	1
CalStd8=100	100.00	94.942	-5.06	-5.06	.00200	.000	1
CalStd4=5	5.0000	3.7583	-1.24	-24.8	.00007	.000	1
CalStd10=10	10000.	10018.	17.9	.179	.21230	.000	1

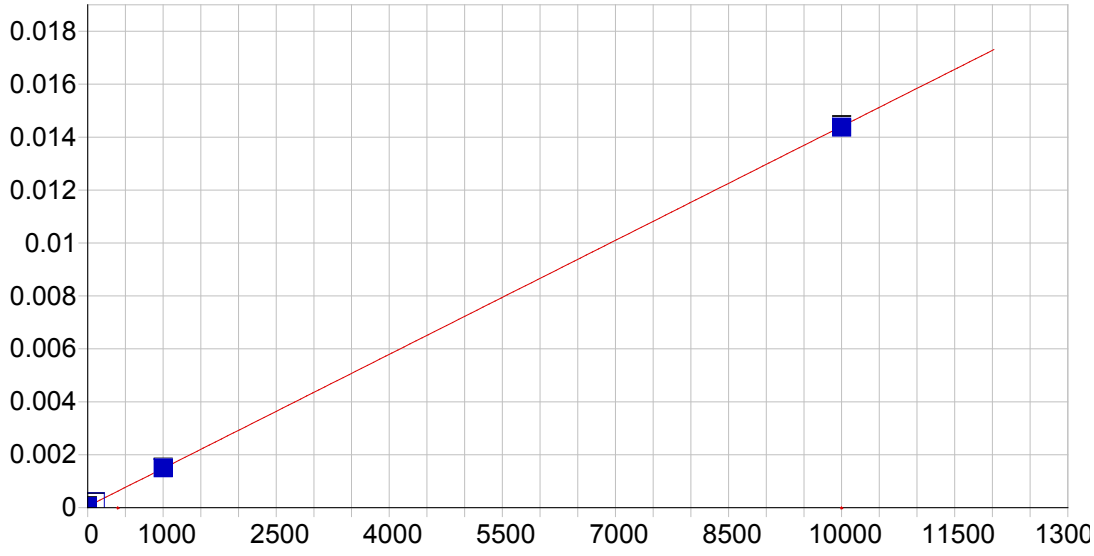


Se 196.090 {472}

Date of Fit:	04/25/2016 12:35:28	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000031	Re-Slope:	1.000000
A1 (Gain):	0.000008	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999908	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	3.599220		
Predicted MQL:	11.997402		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00372	.004	.000	.00003	.000	1
CalStd7=50	50.000	41.030	-8.97	-17.9	.00037	.000	1
CalStd9=100	1000.0	1000.5	.509	.051	.00834	.000	1
CalStd5=10	10.000	8.4891	-1.51	-15.1	.00010	.000	1
CalStd8=100	100.00	95.644	-4.36	-4.36	.00083	.000	1
CalStd10=10	10000.	10014.	14.3	.143	.08321	.000	1

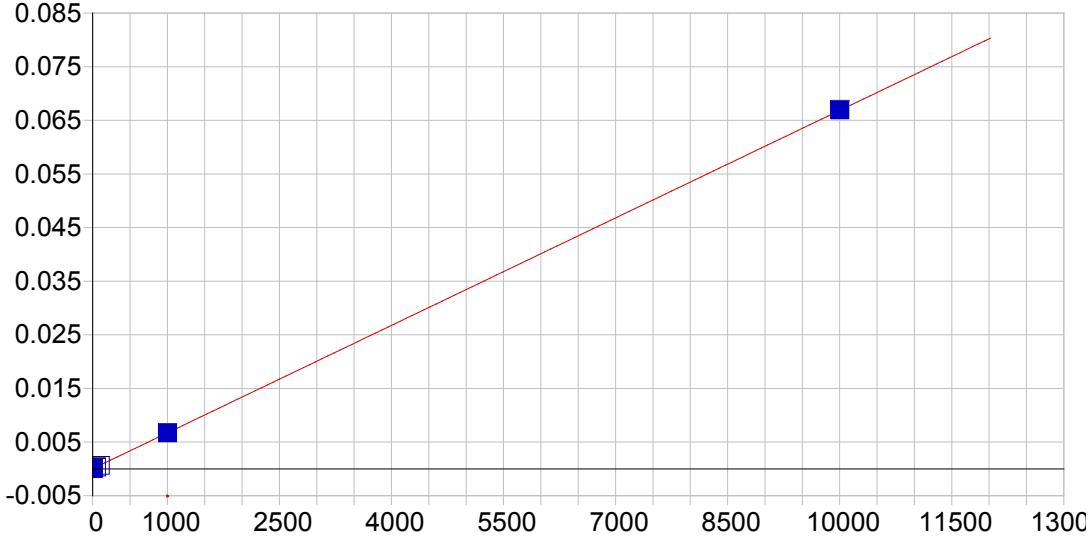


Se 206.279 {463}

Date of Fit:	04/25/2016 12:35:28	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000049	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999883	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	28.201687		
Predicted MQL:	94.005623		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.01634	-.016	.000	.00005	.000	1
CalStd9=100	1000.0	1011.3	11.3	1.13	.00150	.000	1
CalStd10=10	10000.	9973.2	-26.8	-.268	.01439	.000	1
CalStd8=100	100.00	115.47	15.5	15.5	.00021	.000	1

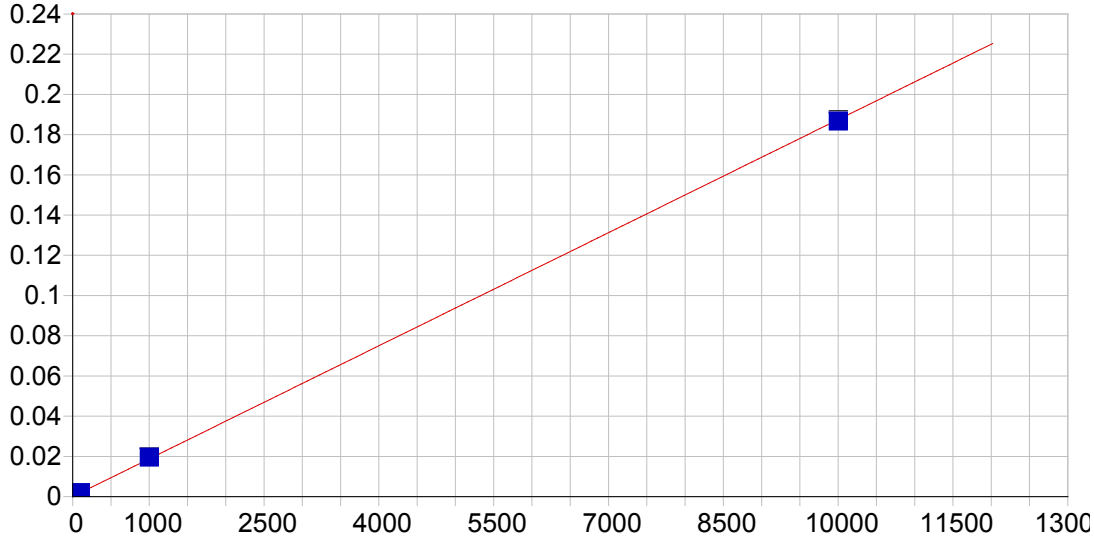


Se 196.090 {471}

Date of Fit:	04/25/2016 12:35:28	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000028	Re-Slope:	1.000000
A1 (Gain):	0.000007	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999882	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	4.422280		
Predicted MQL:	14.740933		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00552	.006	.000	.00003	.000	1
CalStd7=50	50.000	42.854	-7.15	-14.3	.00031	.000	1
CalStd9=100	1000.0	1001.3	1.30	.130	.00672	.000	1
CalStd5=10	10.000	6.4238	-3.58	-35.8	.00007	.000	1
CalStd8=100	100.00	94.544	-5.46	-5.46	.00066	.000	1
CalStd10=10	10000.	10015.	14.9	.149	.06693	.000	1

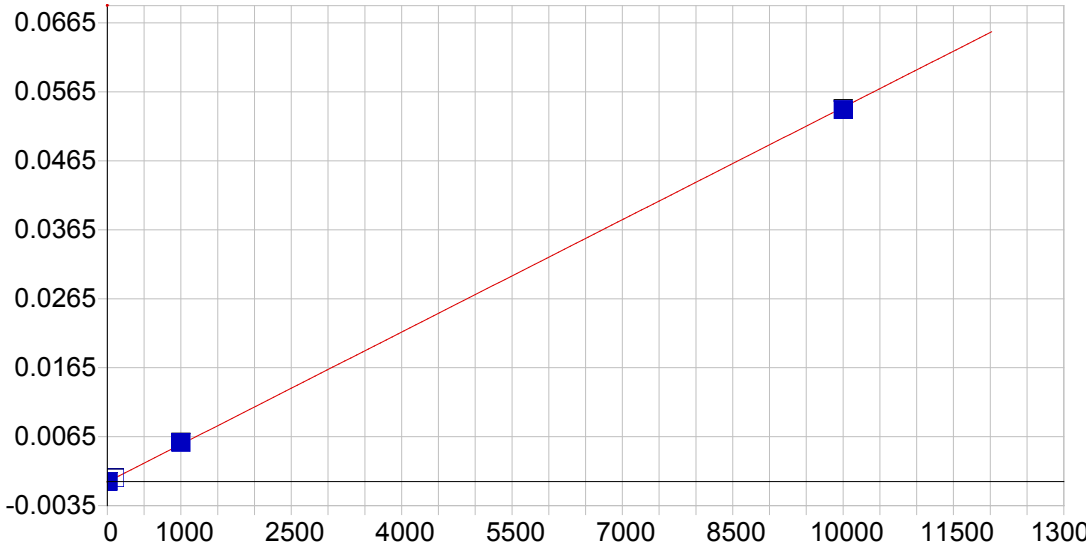


Tl 190.856 {476}

Date of Fit:	04/25/2016 12:35:28	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000042	Re-Slope:	1.000000
A1 (Gain):	0.000019	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999886	Status:	OK.
Std Error of Est:	0.000004		
Predicted MDL:	1.990289		
Predicted MQL:	6.634298		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00144	.001	.000	.00004	.000	1
CalStd9=100	1000.0	1043.8	43.8	4.38	.01962	.000	1
CalStd8=100	100.00	101.70	1.70	1.70	.00195	.000	1
CalStd5=10	10.000	7.9988	-2.00	-20.0	.00019	.000	1
CalStd10=10	10000.	9956.5	-43.5	-.435	.18684	.000	1

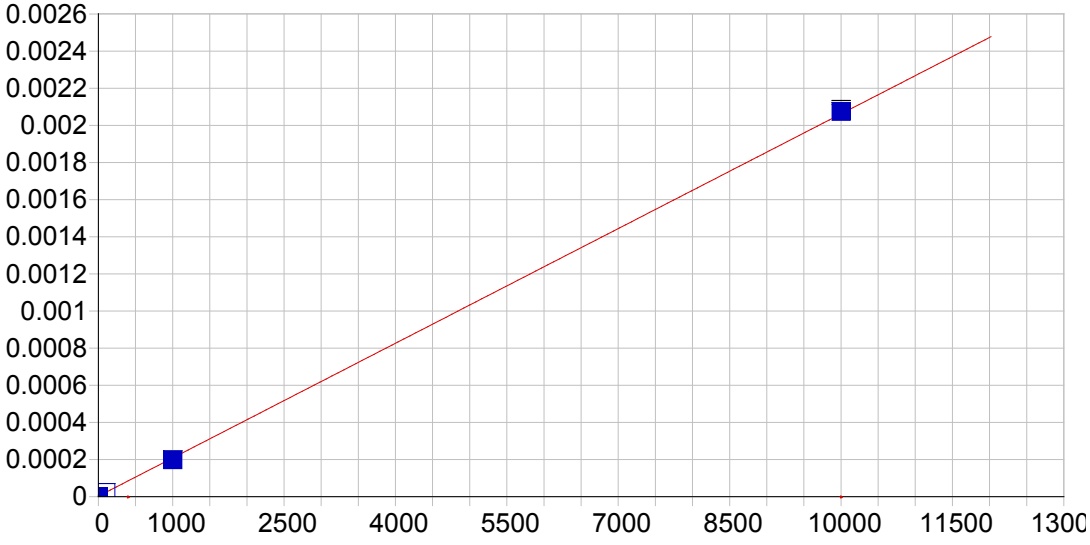


Tl 190.856 {477}

Date of Fit: 04/25/2016 12:35:28 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	-0.000054	Re-Slope:	1.000000
A1 (Gain):	0.000005	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999778	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	5.527762		
Predicted MQL:	18.425874		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00506	-.005	.000	-.00005	.000	1
CalStd9=100	1000.0	1051.1	51.1	5.11	.00565	.000	1
CalStd8=100	100.00	105.10	5.10	5.10	.00052	.000	1
CalStd5=10	10.000	14.103	4.10	41.0	.00002	.000	1
CalStd10=10	10000.	9939.7	-60.3	-.603	.05391	.000	1

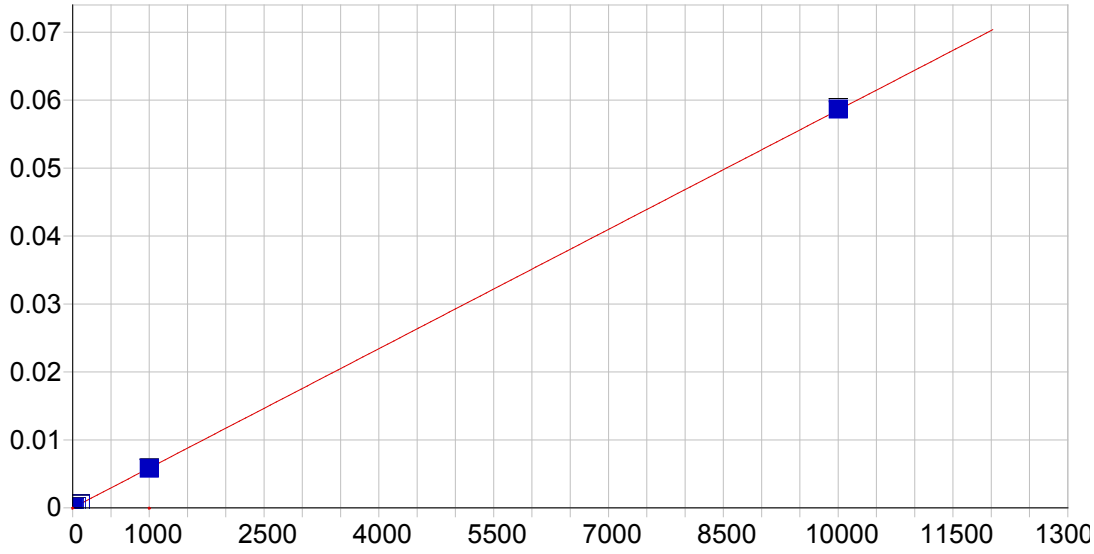


V 290.882 {116}

Date of Fit:	04/25/2016 12:35:28	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999836	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	3.486916		
Predicted MQL:	11.623053		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.01274	.013	.000	.00000	.000	1
CalStd9=100	1000.0	948.81	-51.2	-5.12	.00020	.000	1
CalStd10=10	10000.	10059.	59.4	.594	.00207	.000	1
CalStd8=100	100.00	91.785	-8.21	-8.21	.00002	.000	1

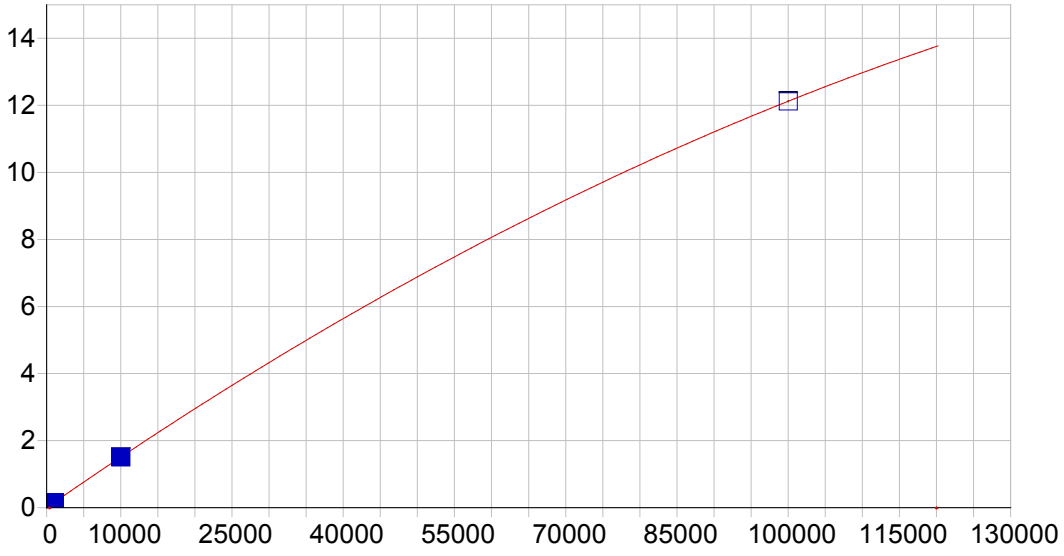


V 292.402 {115}

Date of Fit: 04/25/2016 12:35:28 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	0.000005	Re-Slope:	1.000000
A1 (Gain):	0.000006	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999927	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.496997		
Predicted MQL:	1.656656		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00400	.004	.000	.00001	.000	1
CalStd7=50	50.000	43.898	-6.10	-12.2	.00026	.000	1
CalStd9=100	1000.0	992.21	-7.79	-.779	.00581	.000	1
CalStd6=20	20.000	16.742	-3.26	-16.3	.00010	.000	1
CalStd5=10	10.000	9.3567	-.643	-6.43	.00006	.000	1
CalStd8=100	100.00	95.528	-4.47	-4.47	.00056	.000	1
CalStd10=10	10000.	10022.	22.3	.223	.05867	.000	1

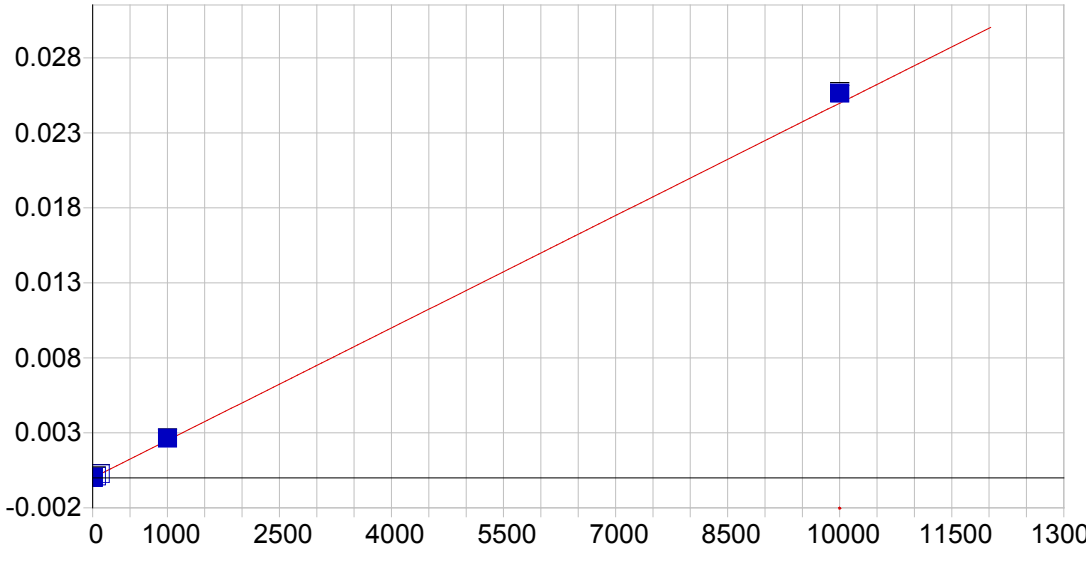


Zn 206.200 {463}

Date of Fit: 04/25/2016 12:35:28 Type of Fit: Curvilinear Weighting: 1/Var

A0 (Offset):	0.000041	Re-Slope:	1.000000
A1 (Gain):	0.000154	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000003		
Predicted MDL:	0.265643		
Predicted MQL:	0.885477		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
CalStd10=10	10000.	10003.	3.27	.033	1.5086	.004	1
Blank	.00000	.00018	.000	.000	.00004	.000	1
CalStd9=100	1000.0	999.81	-.185	-.019	.15378	.000	1
CalStd11-100	100000.	99999.	-1.19	-.001	12.123	.020	1

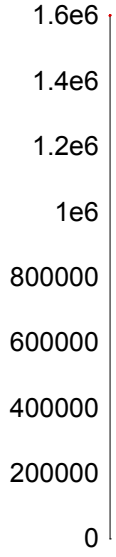


Zn 213.856 {458}

Date of Fit: 04/25/2016 12:35:28 Type of Fit: Linear Weighting: 1/Var

A0 (Offset):	-0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998798	Status:	OK.
Std Error of Est:	0.000004		
Predicted MDL:	0.182735		
Predicted MQL:	0.609115		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.52878	.529	.000	.00000	.000	1
CalStd8=100	100.00	105.64	5.64	5.64	.00026	.000	1
CalStd7=50	50.000	47.874	-2.13	-4.25	.00012	.000	1
CalStd5=10	10.000	10.734	.734	7.34	.00003	.000	1
CalStd9=100	1000.0	1057.4	57.4	5.74	.00264	.000	1
CalStd4=5	5.0000	5.3912	.391	7.82	.00001	.000	1
CalStd10=10	10000.	10266.	266.	2.66	.02565	.000	1

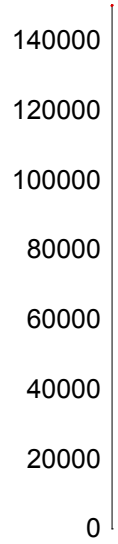


Y 324.228 {104}*

Date of Fit:	04/25/2016 12:35:28	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.000000	Status:	Warning Zero Gain
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	1449900.	16400.	1



Y 371.030 { 91}*

Date of Fit:	04/25/2016 12:35:28	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.000000	Status:	Warning Zero Gain
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

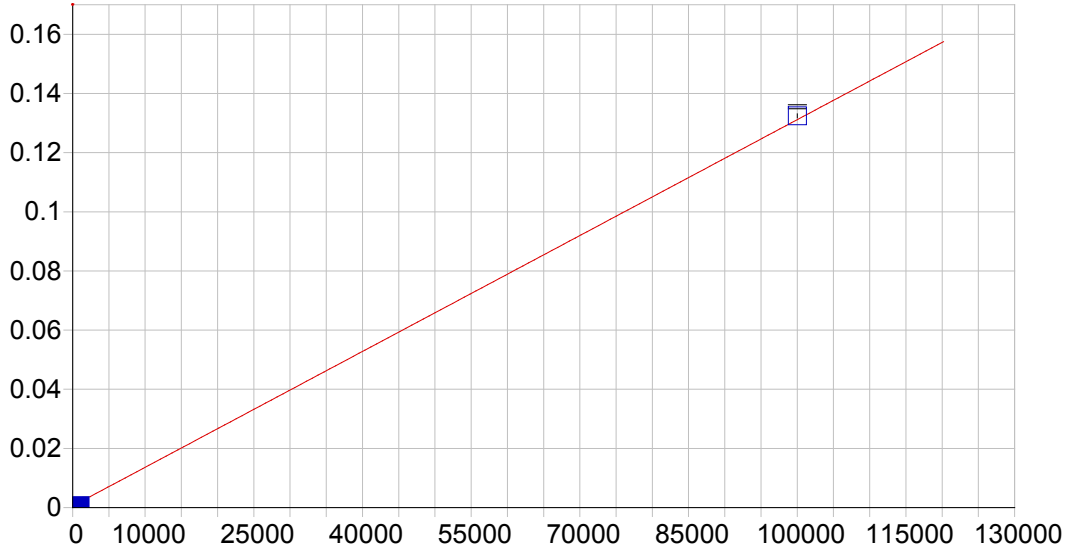
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	135860.	511.	1

Y 224.306 {451}*

Date of Fit:	04/25/2016 12:35:28	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.000000	Status:	Warning Zero Gain
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	16437.	75.3	1

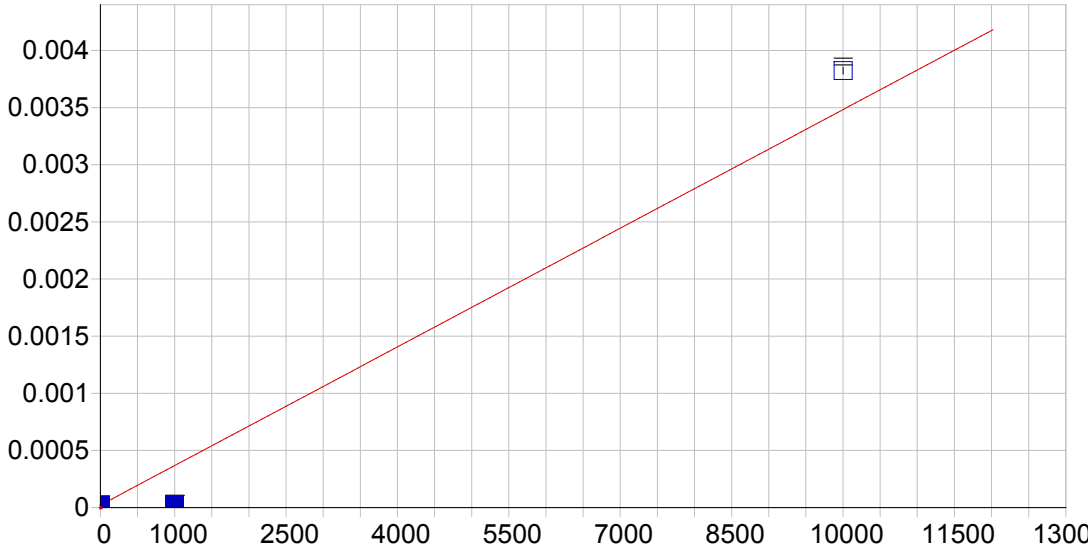


Na 588.995 { 57}

Date of Fit:	04/25/2016 12:35:28	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000557	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.995227	Status:	OK.
Std Error of Est:	0.000070		
Predicted MDL:	3.967538		
Predicted MQL:	13.225125		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.97031	.970	.000	.00056	.000	1
CalStd9=100	1000.0	19.893	-980.	-98.0	.00058	.000	1
CalStd12-100	100000.	100980.	980.	.980	.13242	.001	1

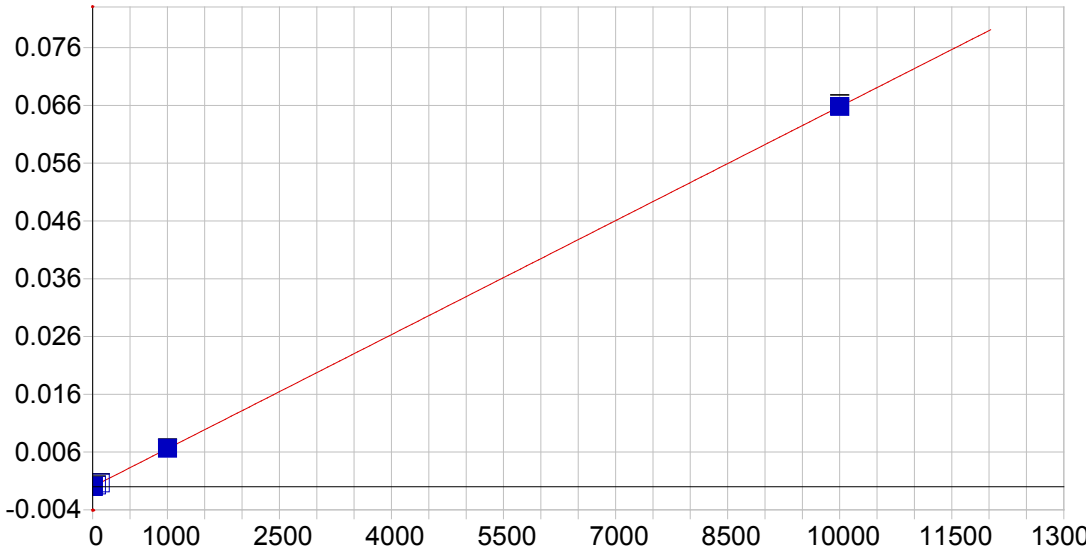


Si 251.611 {134}

Date of Fit:	04/25/2016 12:35:28	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000021	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.954655	Status:	OK.
Std Error of Est:	0.000020		
Predicted MDL:	15.850168		
Predicted MQL:	52.833894		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.88708	.887	.000	.00002	.000	1
CalStd9=100	1000.0	14.364	-986.	-98.6	.00003	.000	1
CalStd12-100	10000.	10986.	986.	9.86	.00382	.000	1

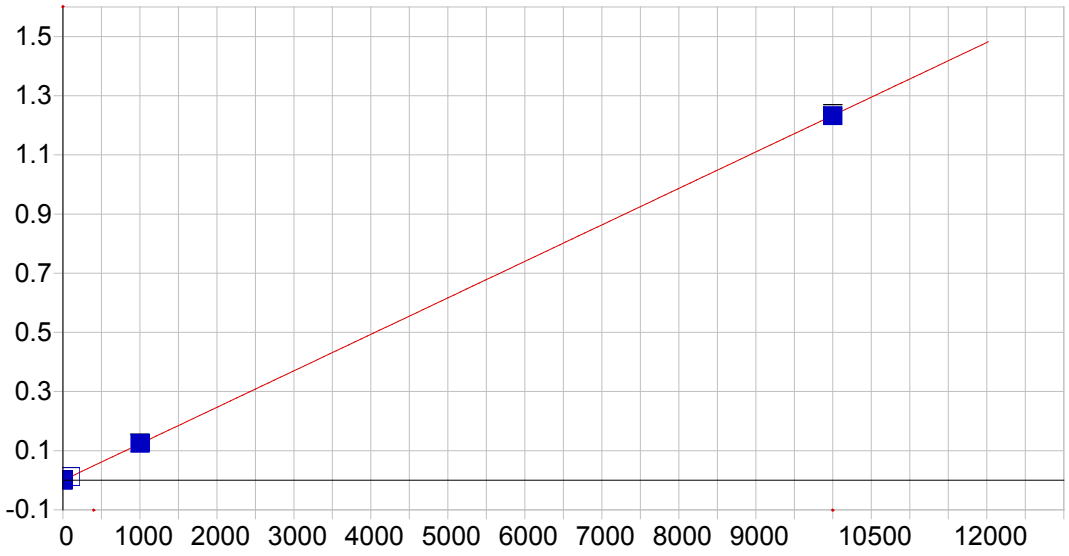


Ti 334.941 {101}

Date of Fit:	04/25/2016 12:35:28	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000007	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999940	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	1.254231		
Predicted MQL:	4.180770		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00223	.002	.000	.00000	.000	1
CalStd5=10	10.000	8.8178	-1.18	-11.8	.00006	.000	1
CalStd8=100	100.00	96.998	-3.00	-3.00	.00064	.000	1
CalStd9=100	1000.0	1010.3	10.3	1.03	.00665	.000	1
CalStd10=10	10000.	10001.	1.28	.013	.06582	.000	1
CalStd7=50	50.000	43.524	-6.48	-13.0	.00029	.000	1
CalStd4=5	5.0000	4.1084	-.892	-17.8	.00003	.000	1

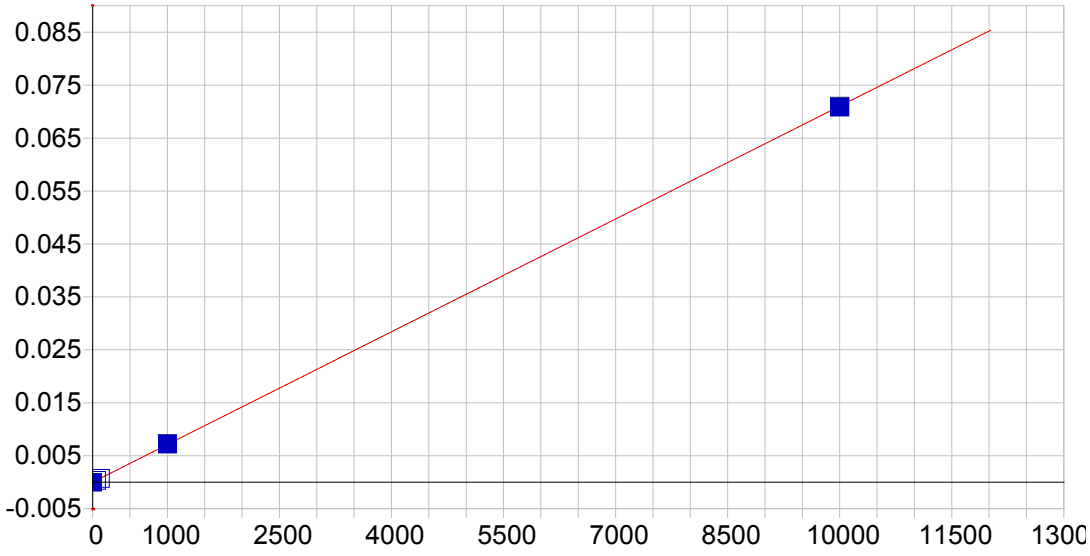


Sr 407.771 { 83}

Date of Fit: 04/25/2016 12:35:28 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	-0.000053	Re-Slope:	1.000000
A1 (Gain):	0.000123	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999991	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	0.115125		
Predicted MQL:	0.383750		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00010	.000	.000	-.00005	.000	1
CalStd3=1	1.0000	1.0416	.042	4.16	.00008	.000	1
CalStd4=5	5.0000	4.6012	-.399	-7.98	.00051	.000	1
CalStd5=10	10.000	9.3532	-.647	-6.47	.00110	.000	1
CalStd8=100	100.00	99.004	-.996	-.996	.01216	.000	1
CalStd9=100	1000.0	1010.6	10.6	1.06	.12460	.001	1
CalStd10=10	10000.	9991.3	-8.65	-.087	1.2323	.007	1

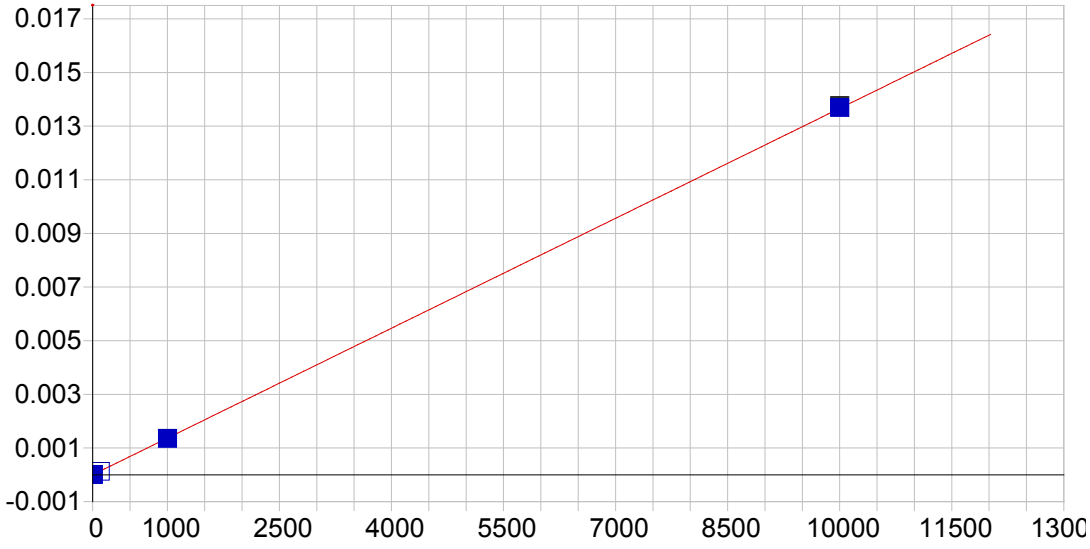


Sn 189.989 {478}

Date of Fit:	04/25/2016 12:35:28	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-0.000003	Re-Slope:	1.000000
A1 (Gain):	0.000007	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999982	Status:	OK.
Std Error of Est:	0.000033		
Predicted MDL:	3.023156		
Predicted MQL:	10.077188		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.62732	-.627	.000	-.00001	.000	1
CalStd10=10	10000.	9973.9	-26.1	-.261	.07085	.000	1
CalStd9=100	1000.0	1012.4	12.4	1.24	.00719	.000	1
CalStd8=100	100.00	99.478	-.522	-.522	.00070	.000	1
CalStd7=50	50.000	48.025	-1.97	-3.95	.00034	.000	1

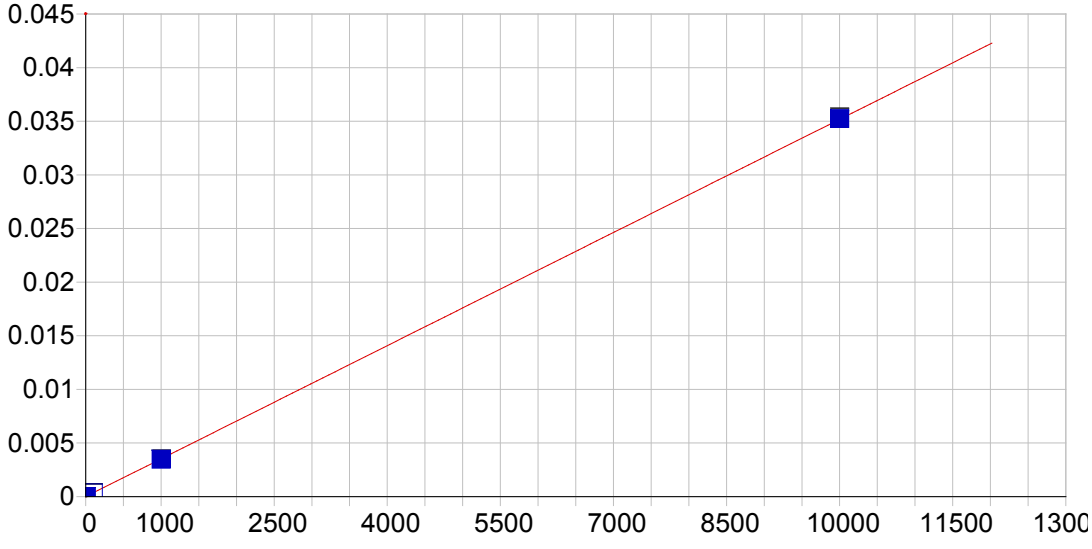


B 249.678 {135}

Date of Fit:	04/25/2016 12:35:28	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999962	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	1.409581		
Predicted MQL:	4.698604		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00239	.002	.000	.00000	.000	1
CalStd8=100	100.00	93.976	-6.02	-6.02	.00013	.000	1
CalStd5=10	10.000	8.3236	-1.68	-16.8	.00001	.000	1
CalStd9=100	1000.0	987.09	-12.9	-1.29	.00135	.000	1
CalStd10=10	10000.	10021.	20.6	.206	.01369	.000	1

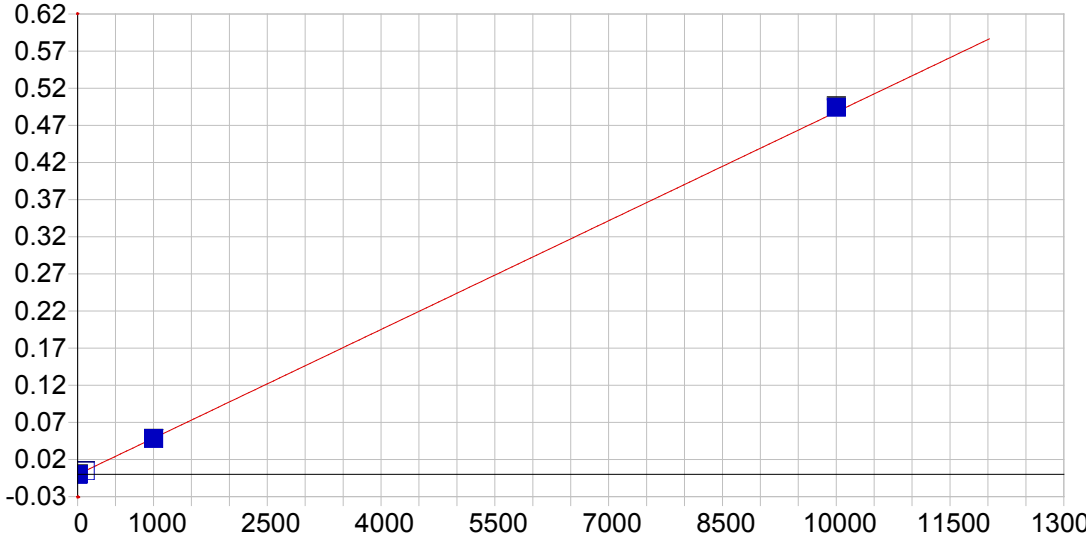


B 249.773 {135}

Date of Fit:	04/25/2016 12:35:28	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000006	Re-Slope:	1.000000
A1 (Gain):	0.000004	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999979	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.534879		
Predicted MQL:	1.782929		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00159	.002	.000	.00001	.000	1
CalStd8=100	100.00	95.617	-4.38	-4.38	.00034	.000	1
CalStd5=10	10.000	8.9505	-1.05	-10.5	.00004	.000	1
CalStd9=100	1000.0	988.26	-11.7	-1.17	.00348	.000	1
CalStd10=10	10000.	10017.	17.2	.172	.03526	.000	1

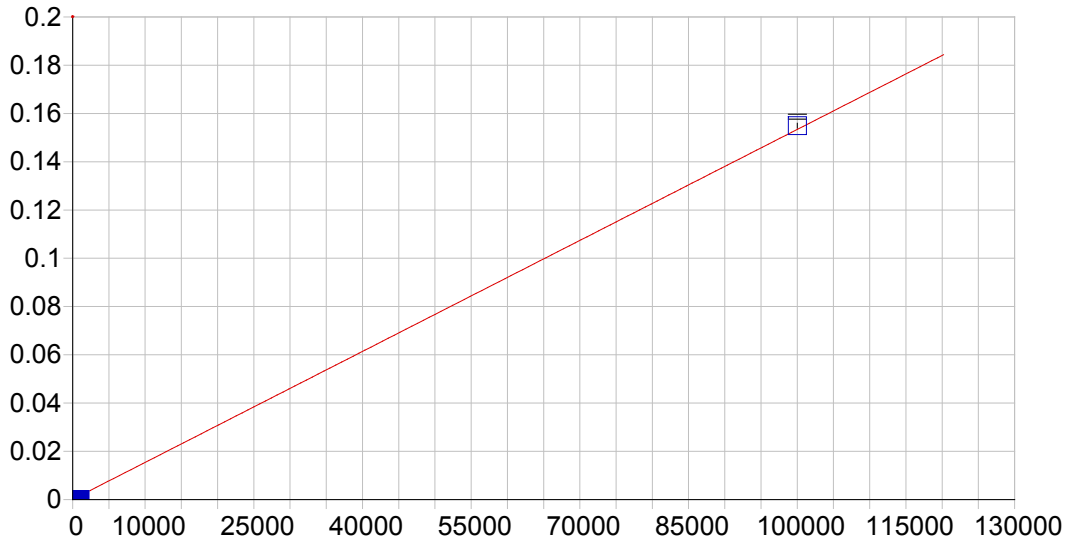


Li 670.784 { 50}

Date of Fit:	04/25/2016 12:35:28	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-0.000140	Re-Slope:	1.000000
A1 (Gain):	0.000049	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999887	Status:	OK.
Std Error of Est:	0.000127		
Predicted MDL:	0.973262		
Predicted MQL:	3.244207		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	1.1293	1.13	.000	-.00009	.000	1
CalStd5=10	10.000	10.203	.203	2.03	.00036	.000	1
CalStd8=100	100.00	97.532	-2.47	-2.47	.00462	.000	1
CalStd9=100	1000.0	988.33	-11.7	-1.17	.04811	.000	1
CalStd10=10	10000.	10126.	126.	1.26	.49419	.002	1

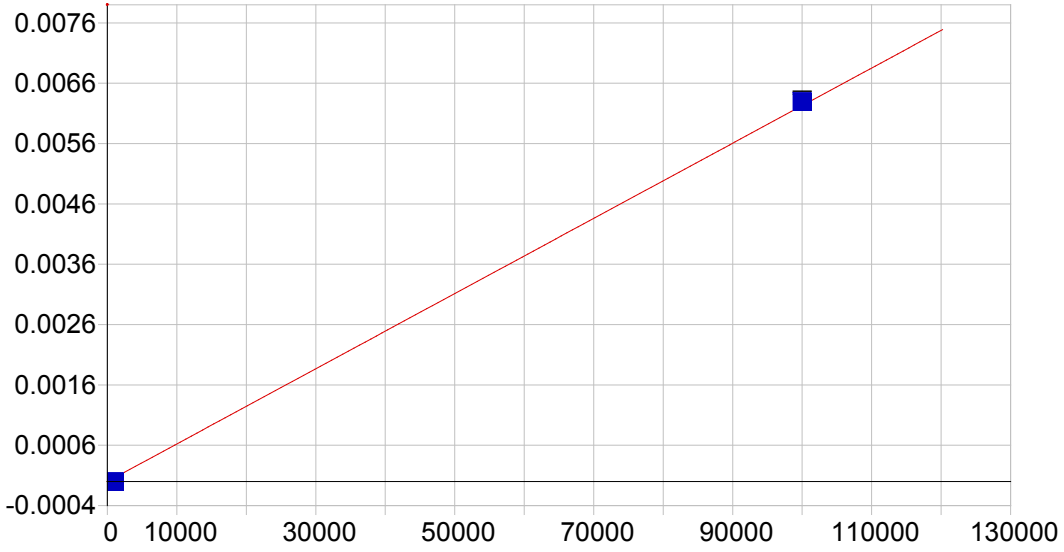


K 766.490 { 44}

Date of Fit:	04/25/2016 12:35:28	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000076	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.995063	Status:	OK.
Std Error of Est:	0.000084		
Predicted MDL:	28.781646		
Predicted MQL:	95.938821		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.98689	.987	.000	.00008	.000	1
CalStd9=100	1000.0	3.1423	-997.	-99.7	.00008	.000	1
CalStd12-100	100000.	101000.	996.	.996	.15492	.001	1

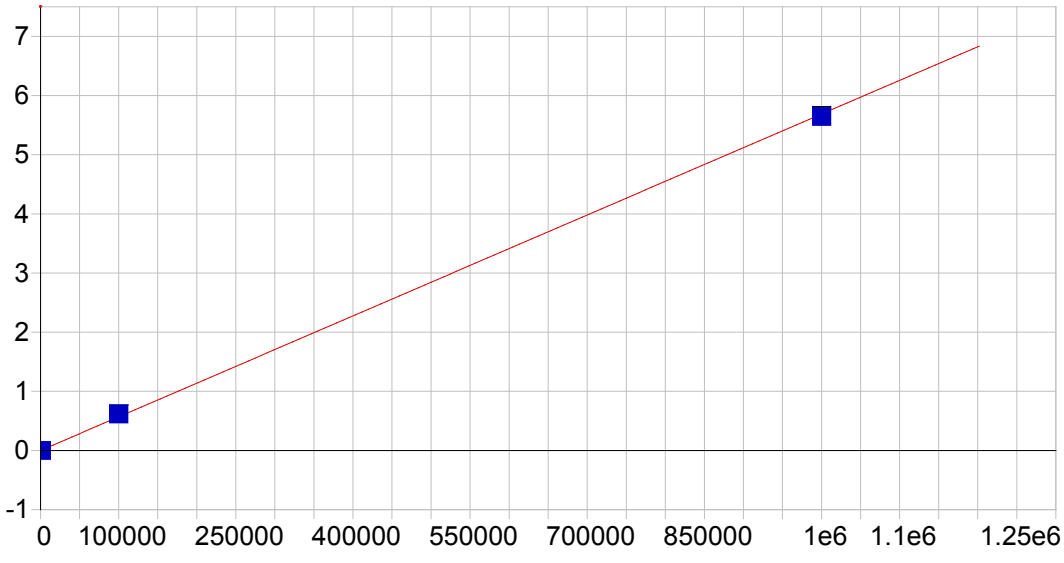


P 213.618 {457}

Date of Fit:	04/25/2016 12:35:28	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.994699	Status:	OK.
Std Error of Est:	0.000004		
Predicted MDL:	6.246724		
Predicted MQL:	20.822412		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	1.0229	1.02	.000	.00000	.000	1
CalStd9=100	1000.0	-33.188	-1030.	-103.	.00000	.000	1
CalStd12-100	100000.	101030.	1030.	1.03	.00629	.000	1

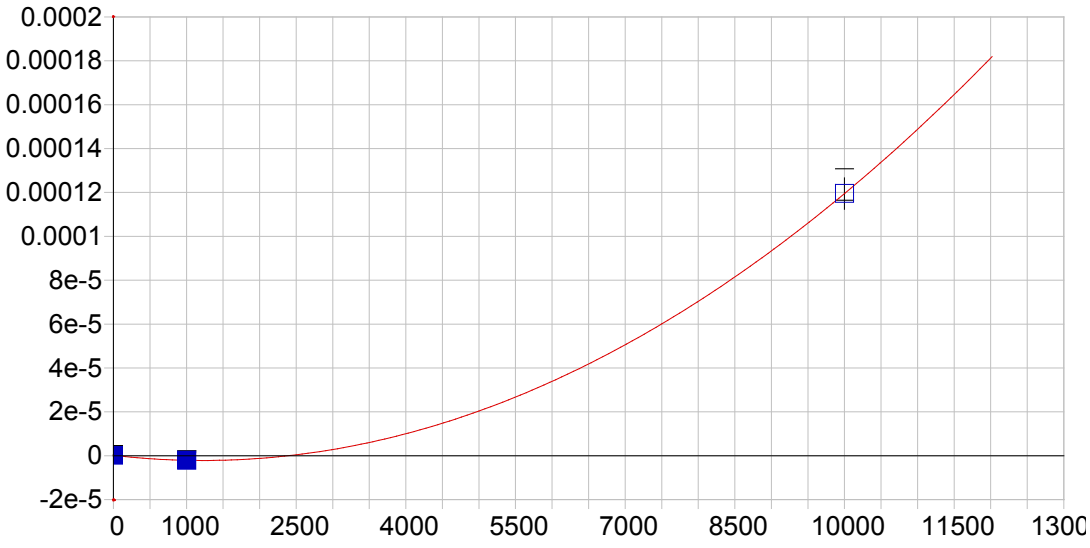


S 182.034 {485}

Date of Fit:	04/25/2016 12:35:28	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000011	Re-Slope:	1.000000
A1 (Gain):	0.000006	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999201	Status:	OK.
Std Error of Est:	0.000337		
Predicted MDL:	4.134267		
Predicted MQL:	13.780892		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.92175	.922	.000	.00002	.000	1
CalStd12-100	100000.	108410.	8410.	8.41	.61634	.001	1
CalStd14-100	1000000.	992590.	-7410.	-.741	5.6430	.015	1
CalStd9=100	1000.0	1.5848	-998.	-99.8	.00002	.000	1



W 239.709 {140}

Date of Fit:	04/25/2016 12:35:28	Type of Fit:	Curvilinear	Weighting:	1/Var

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	-0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	Warning Positive Curvature
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00000	.000	1
CalStd9=100	1000.0	1000.00	.000	.000	.00000	.000	1
CalStd12-100	10000.	-7561.5	-17600.	-176.	.00012	.000	1

Sample Name: Blank Acquired: 04/20/2016 08:12:33 Type: Cal
Method: DOD Calibration Updated 060614(v1415) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	Al1670	As1937	As1890	Ba2335	Ba4554	Be3130	Be2348	Ca3158	Ca3933	Cd2265
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**-20.5**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	1.9	.000	.000	.00	.000	.000	.000	.00	.000	.000	.000	.000
%RSD	9.06	766.	17.7	56.4	132.	70.3	4.72	2.55	1070.	8.15	16.9	63.9

Elem	Cd2288	Co2286	Cr2055	Cr2677	Cu2247	Cu3247	Fe2343	Fe2395	Fe2599	Mg2790	Mg2802	Mn2576
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	.000	.00	.00	.00	.00	.000	.000	.000	.000	.00	.000	.000
%RSD	58.8	54.7	21.8	106.	37.3	1.95	7.64	73.0	33.8	135.	16.1	44.0

Elem	Mn2593	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se2062	Se1960	Tl1908	V_2908
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	.000	.00	.000	.00	.00	.00	.00	.00	.000	.000	.000	.000
%RSD	38.0	143.	18.5	237.	99.9	64.8	27.0	148.	26.3	121.	25.9	11.9

Elem	V_2924	Zn2062	Zn2138
Units	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**
Stddev	.000	.000	.000
%RSD	56.3	26.1	53.2

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1449900.**	**135860.**	**16437.**
Stddev	16350.	511.	75.
%RSD	1.1277	.37643	.45805

Sample Name: CalStd1=0.25 Acquired: 04/20/2016 08:18:59 Type: Cal
Method: DOD Calibration Updated 060614(v1415) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Be3130
Units	Cts/S
Avg	**.000**
Stddev	.00
%RSD	4.36

Int. Std.	Y_3242
Units	Cts/S
Avg	**1437400.**
Stddev	4198.
%RSD	.29203

Sample Name: CalStd2=0.5 Acquired: 04/20/2016 08:25:35 Type: Cal
Method: DOD Calibration Updated 060614(v1415) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Be3130	Cd2265	Cd2288
Units	Cts/S	Cts/S	Cts/S
Avg	.000	.000	.000
Stddev	.00	.000	.000
%RSD	14.0	33.0	35.3

Int. Std.	Y_3242	Y_2243
Units	Cts/S	Cts/S
Avg	1436400.	16728.
Stddev	8013.	52.
%RSD	.55789	.31177

Sample Name: CalStd3=1 Acquired: 04/20/2016 08:32:03 Type: Cal
Method: DOD Calibration Updated 060614(v1415) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Ba2335	Ba4554	Be3130	Cd2265	Cd2288	Co2286	Cr2055	Cu2247	Ni2316
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**-17.1**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	2.2	.000	.000	.000	.000	.000	.000	.000	.00	.00
%RSD	13.0	23.6	4.67	6.34	13.0	11.9	33.8	28.8	158.	173.

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1378700.**	**126720.**	**16024.**
Stddev	4236.	239.	14.
%RSD	.30724	.18827	.08685

Sample Name: CalStd4=5 Acquired: 04/20/2016 08:38:32 Type: Cal
Method: DOD Calibration Updated 060614(v1415) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al1670	As1890	Ba2335	Ba4554	Be3130	Cd2265	Co2286	Cr2055	Cr2677	Cu2247	Mn2576	Mo2045
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.000**	**.001**	**.001**	**.001**	**.000**	**.000**	**.000**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	10.5	217.	6.68	1.80	1.08	5.44	5.43	3.01	5.62	42.2	1.75	6.06

Elem	Ni2316	Pb2203	Sb2175	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**
Stddev	.000	.000	.000	.000
%RSD	10.3	60.6	47.1	2.05

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1441500.**	**132190.**	**16712.**
Stddev	5574.	150.	88.
%RSD	.38666	.11312	.52627

Sample Name: CalStd5=10 Acquired: 04/20/2016 08:45:01 Type: Cal
Method: DOD Calibration Updated 060614(v1415) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Ba4554	Be3130	Cd2265	Cd2288	Co2286	Cr2055	Cr2677	Cu2247
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**12.2**	**.000**	**.000**	**.000**	**.000**	**.001**	**.002**	**.003**	**.001**	**.001**	**.000**	**.000**
Stddev	2.2	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	18.3	6.03	59.2	3.41	2.46	.522	2.27	1.29	2.95	.831	4.23	7.39

Elem	Mn2576	Mo2045	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	1.37	3.46	2.41	12.1	24.1	47.1	9.07	10.3	12.2	4.33	1.41

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1440700.**	**132390.**	**16733.**
Stddev	7631.	641.	61.
%RSD	.52969	.48401	.36667

Sample Name: CalStd6=20 Acquired: 04/20/2016 08:51:27 Type: Cal
Method: DOD Calibration Updated 060614(v1415) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ba2335	Ba4554	Cu2247	Mn2576	Mo2045	Sb2175	V_2924
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.001**	**.000**	**.000**	**.000**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000
%RSD	.681	.782	1.67	.859	2.46	6.88	1.31

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1427400.**	**131590.**	**16680.**
Stddev	5308.	483.	42.
%RSD	.37186	.36697	.25037

Sample Name: CalStd7=50 Acquired: 04/20/2016 08:57:51 Type: Cal
Method: DOD Calibration Updated 060614(v1415) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al1670	As1937	Ba2335	Ba4554	Ca3933	Cd2265	Co2286	Cr2055	Cr2677	Cu2247	Mg2802	Mn2576
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.001**	**.000**	**.000**	**.000**	**.001**	**.010**	**.006**	**.006**	**.000**	**.002**	**.001**	**.001**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	2.11	4.03	.549	1.19	.433	.900	.249	1.12	2.01	.974	.463	.233

Elem	Mo2045	Ni2316	Sb2068	Se1960	V_2924	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.001**	**.000**	**.000**	**.000**
Stddev	.000	.000	.000	.000	.000	.000
%RSD	.831	.982	2.95	9.69	.529	.321

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1452300.**	**133430.**	**16819.**
Stddev	3858.	342.	47.
%RSD	.26562	.25643	.27746

Sample Name: CalStd8=100 Acquired: 04/20/2016 09:04:10 Type: Cal
Method: DOD Calibration Updated 060614(v1415) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	As1937	As1890	Ba2335	Ba4554	Be3130	Be2348	Ca3933	Cd2265	Cd2288	Co2286	Cr2055
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**303.**	**.001**	**.000**	**.000**	**.000**	**.006**	**.000**	**.002**	**.023**	**.029**	**.014**	**.014**
Stddev	2.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	.692	4.51	6.49	.735	.911	.683	1.42	.450	.351	.554	.581	.450

Elem	Cr2677	Cu2247	Cu3247	Mg2802	Mn2576	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2175	Se2062
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.005**	**.000**	**.003**	**.001**	**.000**	**.000**	**.000**	**.001**	**.003**	**.002**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	1.41	.816	1.80	.921	.745	1.36	1.04	.707	2.23	1.77	.510	12.3

Elem	Se1960	Tl1908	V_2908	V_2924	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.001**	**.002**	**.000**	**.001**	**.000**
Stddev	.000	.000	.000	.000	.000
%RSD	2.48	2.12	1.71	.585	.733

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1400000.**	**128080.**	**16247.**
Stddev	4840.	415.	83.
%RSD	.34568	.32386	.51116

Sample Name: CalStd9=1000 Acquired: 04/20/2016 09:10:27 Type: Cal
Method: DOD Calibration Updated 060614(v1415) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Al1670	As1937	As1890	Ba2335	Ba4554	Be3130	Be2348	Ca3158	Ca3933	Cd2265	Cd2288
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.003**	**.012**	**.007**	**.002**	**.001**	**.005**	**.060**	**.001**	**.001**	**.018**	**.237**	**.298**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	.349	.444	.260	1.81	.561	.889	.418	.734	.620	.854	.181	.069

Elem	Co2286	Cr2055	Cr2677	Cu2247	Cu3247	Fe2343	Fe2395	Fe2599	Mg2790	Mg2802	Mn2576	Mn2593
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.143**	**.146**	**.004**	**.057**	**.000**	**.000**	**.000**	**.002**	**.000**	**.028**	**.013**	**.010**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	.173	.215	.581	.272	.952	.776	.665	.594	5.75	.557	.464	.550

Elem	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se2062	Se1960	Tl1908	V_2908	V_2924
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.001**	**.002**	**.002**	**.013**	**.026**	**.019**	**.021**	**.002**	**.007**	**.020**	**.000**	**.006**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	.576	.663	.647	.449	.426	.225	.280	1.44	.497	.403	.556	.673

Elem	Zn2062	Zn2138
Units	Cts/S	Cts/S
Avg	**.154**	**.003**
Stddev	.000	.000
%RSD	.210	.654

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1362300.**	**125500.**	**15340.**
Stddev	5439.	644.	34.
%RSD	.39922	.51307	.22294

Sample Name: CalStd10=10000 Acquired: 04/20/2016 09:16:16 Type: Cal
Method: DOD Calibration Updated 060614(v1415) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	As1937	As1890	Ba4554	Ca3158	Co2286	Cr2055	Cr2677	Cu2247	Cu3247	Fe2343	Fe2395
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.026**	**.074**	**.024**	**.051**	**.005**	**1.41**	**1.44**	**.035**	*****	**.003**	**.004**	**.001**
Stddev	.000	.000	.000	.000	.000	.00	.00	.000	-----	.000	.000	.000
%RSD	.527	.146	.128	.438	.681	.257	.153	.600	-----	.723	.555	.897

Elem	Fe2599	Mg2790	Mg2802	Mn2576	Mn2593	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.015**	**.001**	**.251**	**.124**	**.095**	**.006**	**.016**	**.016**	**.130**	**.251**	**.197**	**.212**
Stddev	.000	.000	.002	.001	.000	.000	.000	.000	.000	.001	.000	.000
%RSD	.380	1.59	.668	.477	.445	.313	.398	.335	.191	.290	.214	.190

Elem	Se2062	Se1960	Tl1908	V_2908	V_2924	Zn2062	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.014**	**.067**	**.187**	**.002**	**.059**	**1.51**	**.026**
Stddev	.000	.000	.000	.000	.000	.00	.000
%RSD	.529	.106	.254	.527	.387	.266	.367

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1301900.**	**128050.**	**14873.**
Stddev	5798.	258.	35.
%RSD	.44531	.20142	.23279

Sample Name: CalStd11-100k Acquired: 04/20/2016 09:22:10 Type: Cal
Method: DOD Calibration Updated 060614(v1415) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Cr2055	Cu3247	Mn2593	Pb2169	Zn2062
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**11.3**	**.023**	**.822**	**1.11**	**12.1**
Stddev	.0	.000	.007	.00	.0
%RSD	.388	.883	.849	.256	.162

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1397000.**	**133630.**	**15917.**
Stddev	6702.	448.	58.
%RSD	.47973	.33541	.36398

Sample Name: CalStd12-100000 Acquired: 04/20/2016 09:28:37 Type: Cal
Method: DOD Calibration Updated 060614(v1415) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Ca3158	Fe2395	Fe2599	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.231**	**.046**	**.008**	**.133**	**.008**
Stddev	.002	.000	.000	.001	.000
%RSD	.773	.727	.527	.776	.703

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1334200.**	**130640.**	**15020.**
Stddev	3957.	168.	25.
%RSD	.29661	.12889	.16469

Sample Name: CalStd13=500000 Acquired: 04/20/2016 09:35:15 Type: Cal
Method: DOD Calibration Updated 060614(v1415) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Ca3158	Fe2343	Fe2395	Fe2599	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**1.22**	**.232**	**.125**	**.040**	**.649**	**.041**
Stddev	.01	.002	.001	.000	.005	.000
%RSD	.482	.702	.560	.626	.694	.736

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1230500.**	**124860.**	**13824.**
Stddev	2864.	524.	32.
%RSD	.23274	.41940	.23333

Sample Name: CalStd14-1000k Acquired: 04/20/2016 09:41:56 Type: Cal
Method: DOD Calibration Updated 060614(v1415) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Ca3158	Fe2343	Fe2395	Fe2599	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**2.43**	**.457**	**.208**	**.078**	**1.23**	**.082**
Stddev	.04	.003	.001	.000	.01	.000
%RSD	1.55	.627	.699	.577	.550	.575

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1144800.**	**117810.**	**12811.**
Stddev	1080.	153.	44.
%RSD	.09437	.13017	.34729

Sample Name: icv Acquired: 04/20/2016 09:55:01 Type: QC
Method: DOD Calibration Updated 060614(v1415) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba4554	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2247	Fe2343	Mg2790
Avg	**51.4**	**12700.**	**2100.**	**2140.**	**50.6**	**10800.**	**51.0**	**522.**	**208.**	**261.**	**5180.**	**11000.**
Stddev	.4	63.	7.	7.	.3	124.	.3	2.	1.	1.	39.	119.
%RSD	.703	.498	.320	.309	.648	1.15	.629	.375	.300	.352	.746	1.08
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se2062	Tl1908	V_2924	Zn2062
Avg	**523.**	**520.**	**518.**	**525.**	**532.**	**2000.**	**2150.**	**510.**	**520.**
Stddev	3.	4.	5.	4.	2.	42.	9.	4.	2.
%RSD	.569	.841	.946	.699	.343	2.09	.417	.702	.329
Check ?	None	None	None	None	None	None	None	None	None
Value									
Range									

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1346100.**	**125240.**	**15235.**
Stddev	7103.	436.	35.
%RSD	.52767	.34809	.23220

Sample Name: ICVLL Acquired: 04/20/2016 10:01:24 Type: QC
Method: DOD Calibration Updated 060614(v1415) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	Al1670	As1937	Ba2335	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu2247	Fe2395
Avg	**50.4**	**1100.**	**1150.**	**56.6**	**27.5**	**11.1**	**1400.**	**14.2**	**27.2**	**28.6**	**31.2**	**853.**
Stddev	.8	9.	5.	1.5	.2	.1	8.	.1	.4	.6	.5	7.
%RSD	1.54	.859	.464	2.60	.682	.567	.556	1.05	1.42	2.16	1.62	.796
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Fe2599	Mg2790	Mg2802	Mn2576	Mo2045	Ni2316	Pb2203	Sb2068	Sb2175	Se1960	Tl1908	V_2924
Avg	**816.**	**1460.**	**1380.**	**29.1**	**28.1**	**26.0**	**31.4**	**54.7**	**57.8**	**62.0**	**58.4**	**26.4**
Stddev	8.	14.	10.	.1	.4	.4	1.6	1.5	1.6	5.9	1.7	.1
%RSD	.957	.919	.748	.485	1.25	1.50	4.96	2.73	2.73	9.49	2.95	.204
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Zn2138
Avg	**31.5**
Stddev	.5
%RSD	1.47
Check ?	Chk Pass
Value	
Range	

Sample Name: ICVLL Acquired: 04/20/2016 10:01:24 Type: QC
Method: DOD Calibration Updated 060614(v1415) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1403800.**	**131310.**	**15840.**
Stddev	8466.	170.	42.
%RSD	.60312	.12915	.26409

Sample Name: icb Acquired: 04/20/2016 10:14:12 Type: QC
Method: DOD Calibration Updated 060614(v1415) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu2247	Fe2395	Fe2599
Avg	**1.53**	**-.555**	**1.82**	**-.133**	**.032**	**4.11**	**-.050**	**.261**	**.123**	**2.66**	**8.76**	**1.35**
Stddev	.47	.675	2.52	.165	.012	.24	.160	.112	.627	.36	4.37	1.33
%RSD	30.4	122.	138.	124.	37.1	5.86	323.	43.1	509.	13.7	49.9	98.5
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Mg2802	Mn2576	Mo2045	Ni2316	Pb2203	Sb2068	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**-3.44**	**-.101**	**.794**	**-1.48**	**.845**	**-2.10**	**.745**	**-.663**	**-2.21**	**.065**	**.417**
Stddev	.09	.037	.207	.28	3.56	1.53	.217	3.04	.57	.275	.166
%RSD	2.50	36.4	26.0	19.0	422.	72.8	29.2	459.	25.9	423.	39.8
Check ?	None	None	None	None	None	None	None	None	None	None	None
Value											
Range											

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1385400.**	**127490.**	**15600.**
Stddev	6481.	785.	32.
%RSD	.46779	.61537	.20677

Sample Name: icsa Acquired: 04/20/2016 10:27:05 Type: QC
Method: DOD Calibration Updated 060614(v1415) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2247	Fe2343
Avg	**-.162**	**556000.**	**-.434**	**.000**	**.085**	**505000.**	**-.001**	**-.941**	**.000**	**.000**	**438000.**
Stddev	.532	3380.	4.28	.474	.032	2660.	1.79	.529	.61	1.49	19300.
%RSD	327.	.607	986.	52e6	37.2	.527	145000.	56.2	12e6	541000.	4.39
Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None
High Limit											
Low Limit											

Elem	Fe2395	Mg2790	Mn2576	Mo2045	Ni2316	Pb2203	Sb2068	Sb2175	Se1960	Tl1908	V_2924
Avg	**543000.**	**573000.**	**-.099**	**.001**	**.001**	**.000**	**-.002**	**-.002**	**.027**	**.000**	**.080**
Stddev	26500.	2930.	.948	1.48	1.25	2.89	4.20	4.23	10.7	4.05	.469
%RSD	4.89	.511	960.	155000.	95400.	7180000.	235000.	181000.	39600.	884000.	586.
Check ?	None	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit											
Low Limit											

Elem	Zn2138
Avg	**-.002**
Stddev	.582
%RSD	24500.
Check ?	Chk Pass
High Limit	
Low Limit	

Sample Name: icsa Acquired: 04/20/2016 10:27:05 Type: QC
Method: DOD Calibration Updated 060614(v1415) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1190900.**	**122020.**	**13730.**
Stddev	49318.	778.	29.
%RSD	4.1412	.63756	.21377

Sample Name: icsab Acquired: 04/20/2016 10:33:47 Type: QC
Method: DOD Calibration Updated 060614(v1415) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	As1890	Ba2335	Ba4554	Be3130	Be2348	Ca3158	Cd2265	Cd2288
Avg	**475.**	**580000.**	**536.**	**557.**	**482.**	**408.**	**484.**	**564.**	**521000.**	**470.**	**445.**
Stddev	1.	9200.	10.	14.	2.	5.	3.	2.	8450.	1.	1.
%RSD	.286	1.59	1.93	2.49	.516	1.17	.638	.404	1.62	.311	.305
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Elem	Co2286	Cr2055	Cr2677	Cu2247	Cu3247	Fe2343	Fe2395	Mg2790	Mn2576	Mn2593	Mo2045
Avg	**461.**	**510.**	**477.**	**452.**	**489.**	**425000.**	**523000.**	**594000.**	**471.**	**500.**	**495.**
Stddev	1.	1.	4.	.	5.	5840.	4170.	9260.	3.	12.	2.
%RSD	.141	.105	.782	.100	1.11	1.37	.797	1.56	.677	2.33	.483
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Elem	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se2062	Se1960	Tl1908	V_2908	V_2924
Avg	**458.**	**442.**	**501.**	**441.**	**520.**	**522.**	**415.**	**498.**	**428.**	**441.**	**488.**
Stddev	4.	3.	11.	3.	2.	2.	80.	6.	5.	4.	5.
%RSD	.777	.583	2.23	.608	.430	.362	19.3	1.23	1.09	.835	.983
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Sample Name: icsab Acquired: 04/20/2016 10:33:47 Type: QC
Method: DOD Calibration Updated 060614(v1415) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Zn2062	Zn2138
Avg	**488.**	**532.**
Stddev	1.	3.
%RSD	.223	.540
Check ?	Chk Pass	Chk Pass
Value		
Range		

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1216700.**	**122600.**	**13512.**
Stddev	6712.	992.	44.
%RSD	.55165	.80882	.32666

Sample Name: ICV LL ag Acquired: 04/20/2016 10:40:57 Type: Unk
Method: DOD Calibration Updated 060614(v1415) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu2247	Fe2395	Fe2599
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**10.8**	**3.67**	**3.15**	**.118**	**.023**	**9.52**	**-.140**	**.371**	**-.084**	**3.18**	**580.**	**557.**
Stddev	1.1	2.93	1.17	.309	.030	5.20	.137	.125	.251	.53	654.	642.
%RSD	9.99	80.0	37.0	262.	132.	54.6	97.6	33.7	297.	16.7	113.	115.

Elem	Mg2802	Mn2576	Mo2045	Ni2316	Pb2203	Sb2068	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-2.85**	**-.010**	**.415**	**-1.19**	**1.55**	**-2.88**	**-2.00**	**2.23**	**.096**	**-.281**	**.860**
Stddev	.07	.058	.558	.36	.91	.95	1.99	5.98	1.45	.539	.193
%RSD	2.28	565.	135.	30.0	58.5	33.0	99.5	268.	1510.	192.	22.5

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1363400.**	**128840.**	**15434.**
Stddev	9327.	165.	45.
%RSD	.68407	.12839	.29463

Sample Name: ccv1 Acquired: 04/20/2016 11:47:37 Type: QC
Method: DOD Calibration Updated 060614(v1415) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be2348	Ca3158	Cd2288	Co2286	Cr2055	Cu3247	Fe2343	Mg2790
Avg	**452.**	**4790.**	**4760.**	**5080.**	**498.**	**4990.**	**488.**	**4620.**	**4940.**	**4680.**	**4890.**	**4960.**
Stddev	2.	45.	18.	59.	7.	87.	2.	13.	16.	56.	43.	26.
%RSD	.363	.940	.385	1.15	1.47	1.75	.320	.288	.328	1.20	.886	.521
Check ?	None	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Mn2593	Mo2045	Ni2216	Pb2169	Sb2068	Se2062	Tl1908	V_2908	Zn2062
Avg	**4860.**	**4710.**	**4640.**	**4720.**	**4780.**	**4730.**	**4850.**	**4780.**	**4650.**
Stddev	28.	34.	31.	13.	4.	29.	7.	61.	10.
%RSD	.570	.723	.660	.268	.084	.621	.145	1.27	.205
Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass
Value									
Range									

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1306600.**	**126160.**	**14721.**
Stddev	8995.	520.	19.
%RSD	.68842	.41243	.12767

Sample Name: ccv2 Acquired: 04/20/2016 11:53:11 Type: QC
Method: DOD Calibration Updated 060614(v1415) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2802
Avg	**48.6**	**485.**	**476.**	**461.**	**46.7**	**491.**	**49.4**	**462.**	**464.**	**464.**	**458.**	**454.**
Stddev	.6	2.	4.	3.	.3	4.	.2	2.	3.	2.	4.	3.
%RSD	1.28	.366	.809	.640	.699	.819	.394	.378	.667	.346	.832	.589
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se2062	Tl1908	V_2924	Zn2138
Avg	**467.**	**468.**	**465.**	**474.**	**475.**	**477.**	**491.**	**456.**	**497.**
Stddev	2.	3.	2.	4.	4.	13.	5.	3.	4.
%RSD	.528	.738	.515	.860	.746	2.64	1.05	.568	.756
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1332000.**	**126570.**	**14933.**
Stddev	6561.	409.	28.
%RSD	.49255	.32305	.18761

Sample Name: ccb Acquired: 04/20/2016 11:59:15 Type: QC
Method: DOD Calibration Updated 060614(v1415) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu2247	Fe2395	Fe2599
Avg	**1.08**	**-2.09**	**.025**	**.185**	**.028**	**3.88**	**-.070**	**.332**	**.061**	**2.93**	**9.23**	**6.20**
Stddev	.54	1.35	3.68	.092	.021	.77	.102	.193	.834	.71	1.69	3.03
%RSD	50.3	64.4	14900.	49.6	73.7	19.9	146.	58.2	1360.	24.2	18.3	48.9
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Mg2802	Mn2576	Mo2045	Ni2316	Pb2203	Sb2068	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**-3.92**	**.022**	**.894**	**-1.64**	**-.837**	**-1.81**	**.699**	**-.151**	**.355**	**.001**	**.358**
Stddev	.06	.109	.280	.44	8.94	.42	1.01	2.12	1.64	.264	.144
%RSD	1.39	502.	31.3	26.9	1070.	23.4	144.	1400.	463.	24600.	40.1
Check ?	None	None	None	None	None	None	None	None	None	None	None
Value											
Range											

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1331500.**	**127050.**	**15037.**
Stddev	3666.	383.	32.
%RSD	.27533	.30164	.21589

Sample Name: lcsw56829 Acquired: 04/20/2016 12:12:01 Type: Unk
Method: DOD Calibration Updated 060614(v1415) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	As1890	Ba2335	Ba4554	Be3130	Ca3158	Cd2265	Co2286	Cr2677
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**19.1**	**781.**	**841.**	**840.**	**753.**	**869.**	**19.0**	**198000.**	**19.1**	**190.**	**75.5**
Stddev	1.0	5.	4.	7.	4.	3.	.1	984.	.2	1.	.5
%RSD	5.32	.592	.423	.867	.556	.334	.540	.498	.793	.689	.702

Elem	Cu2247	Fe2395	Fe2599	Mg2790	Mn2576	Mo2045	Ni2216	Ni2316	Pb2203	Sb2068	Sb2175
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**97.6**	**421.**	**382.**	**104000.**	**198.**	**.557**	**190.**	**184.**	**192.**	**206.**	**207.**
Stddev	1.1	12.	7.	488.	2.	.418	1.	1.	3.	1.	3.
%RSD	1.11	2.94	1.82	.470	.911	75.1	.566	.452	1.66	.636	1.29

Elem	Se2062	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**833.**	**826.**	**768.**	**194.**	**212.**
Stddev	39.	5.	5.	2.	1.
%RSD	4.64	.577	.700	1.13	.622

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1244100.**	**123000.**	**13814.**
Stddev	4628.	270.	71.
%RSD	.37202	.21916	.51122

Sample Name: mbw56829 Acquired: 04/20/2016 12:18:56 Type: Unk
Method: DOD Calibration Updated 060614(v1415) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu2247	Fe2395	Fe2599
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**1.01**	**-2.52**	**2.30**	**-.326**	**-.007**	**54.5**	**-.109**	**.141**	**.331**	**2.78**	**10.1**	**5.82**
Stddev	.95	.95	4.91	.194	.023	74.2	.223	.284	.143	.69	1.9	4.06
%RSD	93.6	37.7	213.	59.6	334.	136.	204.	202.	43.2	24.9	18.8	69.8

Elem	Mg2802	Mn2576	Mo2045	Ni2316	Pb2203	Sb2068	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-3.76**	**.075**	**.236**	**-1.59**	**.557**	**-2.17**	**-2.47**	**1.26**	**-2.18**	**-.053**	**1.02**
Stddev	.06	.030	.416	.37	1.59	.76	1.12	2.23	1.98	.115	.09
%RSD	1.58	40.2	176.	23.4	286.	34.9	45.3	177.	91.1	216.	8.91

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1323700.**	**125570.**	**14729.**
Stddev	9026.	381.	78.
%RSD	.68185	.30329	.53008

Sample Name: 709262 Acquired: 04/20/2016 12:25:34 Type: Unk
Method: DOD Calibration Updated 060614(v1415) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2247	Fe2395	Fe2599
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**1.33**	**1.85**	**2.84**	**54.4**	**-.028**	**75200.**	**-.039**	**.132**	**2.44**	**3.13**	**29.5**	**21.9**
Stddev	.83	.56	5.88	.1	.026	358.	.179	.253	.90	.72	5.0	.7
%RSD	62.3	30.0	207.	.195	91.0	.475	455.	192.	36.8	23.1	16.9	3.33

Elem	Mg2790	Mn2576	Mo2045	Ni2316	Pb2203	Sb2068	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**32200.**	**12.5**	**6.62**	**-.656**	**2.79**	**-1.95**	**-.369**	**-.752**	**-1.31**	**-.363**	**6.02**
Stddev	187.	.1	.51	.297	2.95	1.19	3.05	.665	2.00	.184	.11
%RSD	.579	.801	7.67	45.3	106.	60.9	827.	88.4	153.	50.8	1.81

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1294200.**	**125990.**	**14642.**
Stddev	2056.	373.	77.
%RSD	.15886	.29584	.52498

Sample Name: I709262 Acquired: 04/20/2016 12:32:24 Type: Unk
Method: DOD Calibration Updated 060614(v1415) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2247	Fe2395	Fe2599
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**.853**	**-1.75**	**1.61**	**10.3**	**.013**	**24000.**	**.066**	**.361**	**.722**	**3.24**	**9.53**	**5.58**
Stddev	.558	.37	1.05	1.0	.034	1000.	.089	.184	.478	.67	3.17	3.43
%RSD	65.4	21.3	65.1	10.0	254.	4.16	134.	51.1	66.2	20.8	33.2	61.4

Elem	Mg2790	Mg2802	Mn2576	Mo2045	Ni2316	Pb2203	Sb2068	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**10000.**	**7830.**	**3.15**	**.966**	**-.636**	**1.73**	**-2.55**	**1.15**	**-.995**	**.642**	**-.159**	**1.63**
Stddev	414.	583.	.19	.206	.349	2.39	1.30	1.36	5.87	2.00	.398	.30
%RSD	4.15	7.45	5.91	21.3	54.8	138.	51.0	118.	590.	312.	250.	18.5

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1363900.**	**128370.**	**15407.**
Stddev	3654.	368.	56.
%RSD	.26793	.28675	.36050

Sample Name: dup709262 Acquired: 04/20/2016 12:39:18 Type: Unk
Method: DOD Calibration Updated 060614(v1415) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2247	Fe2395	Fe2599
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**1.02**	**2.91**	**1.02**	**53.6**	**-.003**	**75800.**	**-.044**	**.305**	**2.93**	**3.46**	**36.1**	**26.6**
Stddev	.48	.75	2.40	.7	.027	1100.	.172	.114	.15	.32	2.6	2.7
%RSD	47.5	25.9	235.	1.31	803.	1.45	393.	37.4	5.15	9.34	7.26	10.2

Elem	Mg2790	Mn2576	Mo2045	Ni2316	Pb2203	Sb2068	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**32300.**	**14.7**	**5.91**	**-.510**	**1.66**	**-1.76**	**-.674**	**1.06**	**-1.84**	**-.153**	**6.29**
Stddev	550.	.2	.52	.214	1.83	1.20	1.89	4.28	1.73	.550	.23
%RSD	1.70	1.19	8.81	42.0	110.	68.4	281.	405.	93.7	360.	3.64

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1302600.**	**125740.**	**14348.**
Stddev	9689.	756.	62.
%RSD	.74385	.60127	.43159

Sample Name: msw709262 Acquired: 04/20/2016 12:46:25 Type: Unk
Method: DOD Calibration Updated 060614(v1415) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	As1890	Ba2335	Ba4554	Be3130	Ca3158	Cd2265	Co2286	Cr2677
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**18.3**	**737.**	**791.**	**795.**	**770.**	**878.**	**18.4**	**252000.**	**17.4**	**179.**	**74.1**
Stddev	.2	2.	2.	5.	5.	3.	.1	1610.	.2	1.	.7
%RSD	1.27	.268	.298	.567	.616	.391	.356	.639	1.35	.293	.882

Elem	Cu2247	Fe2395	Fe2599	Mg2790	Mn2576	Mo2045	Ni2216	Ni2316	Pb2203	Sb2068	Sb2175
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**92.9**	**401.**	**363.**	**128000.**	**196.**	**5.83**	**187.**	**176.**	**179.**	**193.**	**194.**
Stddev	1.2	8.	6.	882.	1.	.20	1.	1.	3.	2.	3.
%RSD	1.33	1.95	1.53	.691	.626	3.42	.658	.764	1.76	1.07	1.39

Elem	Se2062	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**750.**	**771.**	**714.**	**185.**	**207.**
Stddev	20.	7.	2.	2.	1.
%RSD	2.63	.869	.232	.829	.421

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1260000.**	**126420.**	**14282.**
Stddev	4196.	424.	86.
%RSD	.33305	.33520	.59979

Sample Name: msdw709262 Acquired: 04/20/2016 12:52:48 Type: Unk
Method: DOD Calibration Updated 060614(v1415) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	As1890	Ba2335	Ba4554	Be3130	Ca3158	Cd2265	Co2286	Cr2677
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**19.3**	**813.**	**865.**	**869.**	**841.**	**963.**	**20.0**	**278000.**	**19.6**	**197.**	**81.6**
Stddev	.9	3.	2.	7.	7.	13.	.3	2540.	.2	1.	.9
%RSD	4.91	.323	.192	.855	.774	1.31	1.25	.915	.868	.378	1.10

Elem	Cu2247	Fe2395	Fe2599	Mg2790	Mn2576	Mo2045	Ni2216	Ni2316	Pb2203	Sb2068	Sb2175
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**102.**	**449.**	**408.**	**141000.**	**214.**	**6.38**	**204.**	**191.**	**197.**	**212.**	**215.**
Stddev	1.	15.	2.	1580.	2.	.40	2.	2.	2.	2.	2.
%RSD	.653	3.33	.452	1.11	1.03	6.29	.886	.859	1.04	.896	.849

Elem	Se2062	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**836.**	**846.**	**780.**	**202.**	**226.**
Stddev	25.	4.	3.	2.	2.
%RSD	2.93	.420	.378	.950	1.08

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1220000.**	**121960.**	**13628.**
Stddev	8183.	241.	23.
%RSD	.67076	.19736	.17059

Sample Name: pdsw709262 Acquired: 04/20/2016 12:59:10 Type: Unk
Method: DOD Calibration Updated 060614(v1415) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	As1890	Ba4554	Be3130	Ca3158	Cd2265	Co2286	Cr2055	Cr2677
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**96.4**	**4640.**	**4360.**	**4310.**	**5020.**	**100.**	**526000.**	**95.9**	**958.**	**414.**	**396.**
Stddev	2.3	101.	18.	41.	79.	1.	10900.	.6	4.	3.	4.
%RSD	2.42	2.17	.411	.949	1.57	1.07	2.08	.599	.384	.614	.999

Elem	Cu2247	Cu3247	Fe2395	Fe2599	Mg2790	Mn2576	Mn2593	Mo2045	Ni2216	Ni2316	Pb2169
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**484.**	**610.**	**2310.**	**2130.**	**282000.**	**1010.**	**859.**	**5.68**	**949.**	**929.**	**1030.**
Stddev	2.	10.	34.	44.	6770.	10.	21.	.70	9.	8.	4.
%RSD	.499	1.64	1.49	2.06	2.40	.986	2.43	12.2	.945	.877	.393

Elem	Pb2203	Sb2068	Se2062	Tl1908	V_2908	Zn2062	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**955.**	**1080.**	**4090.**	**3770.**	**1170.**	**947.**	**1090.**
Stddev	6.	8.	41.	19.	19.	4.	9.
%RSD	.650	.742	.999	.502	1.60	.472	.845

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1210700.**	**122970.**	**13431.**
Stddev	7564.	1007.	54.
%RSD	.62472	.81889	.40221

Sample Name: ccv1 Acquired: 04/20/2016 13:11:55 Type: QC
Method: DOD Calibration Updated 060614(v1415) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1890	Ba4554	Be2348	Ca3158	Cd2288	Co2286	Cr2055	Cu3247	Fe2343	Mg2790
Avg	**448.**	**4550.**	**4580.**	**4810.**	**474.**	**4690.**	**468.**	**4490.**	**4700.**	F **4480.**	**4620.**	**4710.**
Stddev	3.	39.	5.	36.	5.	27.	1.	10.	16.	24.	17.	88.
%RSD	.574	.852	.119	.751	1.09	.578	.174	.215	.347	.542	.368	1.86
Check ?	None	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Fail	Chk Pass	Chk Pass
Value										5000.		
Range										-10.4%		

Elem	Mn2593	Mo2045	Ni2216	Pb2169	Sb2068	Se2062	Tl1908	V_2908	Zn2062
Avg	**4620.**	**4590.**	**4510.**	**4540.**	**4590.**	**4560.**	**4670.**	**4550.**	**4500.**
Stddev	39.	13.	18.	17.	7.	48.	8.	38.	13.
%RSD	.849	.290	.396	.363	.146	1.04	.175	.833	.291
Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass
Value									
Range									

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1350000.**	**131220.**	**15350.**
Stddev	3373.	63.	27.
%RSD	.24985	.04769	.17416

Sample Name: ccv2 Acquired: 04/20/2016 13:17:43 Type: QC
Method: DOD Calibration Updated 060614(v1415) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2802
Avg	**47.8**	**484.**	**468.**	**456.**	**46.2**	**481.**	**49.0**	**459.**	**456.**	**461.**	**456.**	F **448.**
Stddev	.6	2.	6.	5.	.3	3.	.2	.	2.	2.	6.	3.
%RSD	1.35	.355	1.26	1.11	.553	.560	.311	.048	.452	.365	1.42	.607
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail
Value												500.
Range												-10.4%

Elem	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**460.**	**462.**	**459.**	**469.**	**469.**	**479.**	**487.**	**451.**	**492.**
Stddev	3.	4.	4.	3.	2.	2.	4.	3.	4.
%RSD	.668	.888	.973	.712	.375	.370	.764	.562	.879
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1358300.**	**127390.**	**15174.**
Stddev	7909.	794.	45.
%RSD	.58230	.62291	.29631

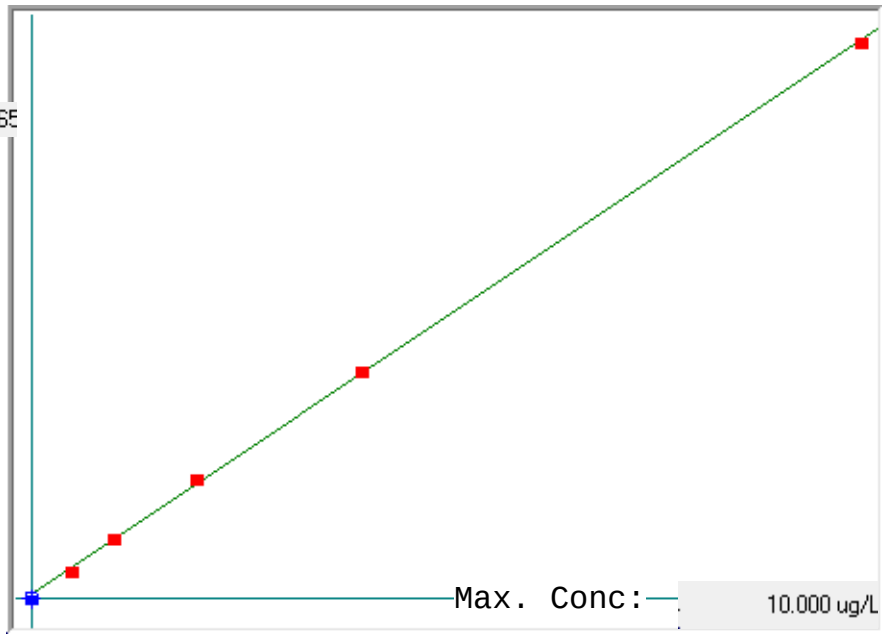
Sample Name: ccb Acquired: 04/20/2016 13:23:43 Type: QC
Method: DOD Calibration Updated 060614(v1415) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2802
Avg	**.945**	**-3.46**	**-.379**	**.074**	**-.009**	**4.07**	**.103**	**.252**	**.180**	**2.74**	**2.05**	**-3.70**
Stddev	.709	1.00	4.52	.150	.016	.73	.267	.161	.292	1.20	1.96	.02
%RSD	75.0	29.0	1190.	203.	181.	17.9	259.	63.9	162.	43.8	95.7	.575
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Mn2576	Mo2045	Ni2316	Pb2203	Sb2068	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**.085**	**1.18**	**-1.33**	**1.05**	**-1.13**	**-1.75**	**-1.30**	**-.353**	**.095**	**.349**
Stddev	.009	.56	.39	1.81	1.49	1.79	5.69	1.17	.209	.067
%RSD	10.5	47.4	29.3	173.	132.	102.	439.	333.	219.	19.3
Check ?	None	None	None	None	None	None	None	None	None	None
Value										
Range										

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1286400.**	**123310.**	**14986.**
Stddev	6698.	589.	366.
%RSD	.52067	.47794	2.4393

CVAA water



A= 0.0000e+000

B= 2.5777e-004

C= -6.4143e-002

Rho= 0.9998066

Accept= Accepted

Accepted Date=

04/19/16 08:33

Std ID	Conc.	Calc.	Dev.	Mean	SD or %RSD	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
Calibration Blank	0.000	-0.063	-0.063	3	1.247	5	2	4		
0.5	0.500	0.424	-0.076	1892	2.0 %	1841	1902	1933		
1.0	1.000	1.020	0.020	4205	1.9 %	4103	4213	4301		
2.0	2.000	2.107	0.107	8421	1.9 %	8217	8450	8598		
4.0	4.000	4.059	0.059	15993	2.3 %	15525	16015	16441		
10.0	10.000	9.954	-0.046	38865	2.7 %	37486	39035	40075		

Sample ID	Date	Element	Units	Extended ID	LT Mean Conc
Calibration Blank	19 Apr 2016 08:20:27	Hg	ug/L		3.6667
0.5	19 Apr 2016 08:22:33	Hg	ug/L		1892.0000
1.0	19 Apr 2016 08:24:42	Hg	ug/L		4205.6667
2.0	19 Apr 2016 08:26:50	Hg	ug/L		8421.6667
4.0	19 Apr 2016 08:28:58	Hg	ug/L		15993.6667
10.0	19 Apr 2016 08:31:06	Hg	ug/L		38865.3333
ICV	19 Apr 2016 08:36:21	Hg	ug/L		3.1388
ICB	19 Apr 2016 08:38:28	Hg	ug/L		-0.1577
709933 LCSW56794	19 Apr 2016 08:40:35	Hg	ug/L		2.8679
709932 MBW56794	19 Apr 2016 08:42:41	Hg	ug/L		-0.1642
709360	19 Apr 2016 08:44:49	Hg	ug/L		-0.0621
L709360	19 Apr 2016 08:46:56	Hg	ug/L		-0.0622
DUP709360	19 Apr 2016 08:49:02	Hg	ug/L		-0.0584
MSW709360	19 Apr 2016 08:51:09	Hg	ug/L		1.8006
MSDW709360	19 Apr 2016 08:53:15	Hg	ug/L		1.8399
PDSW709360	19 Apr 2016 08:55:23	Hg	ug/L		2.0479
709894 LCSW56786	19 Apr 2016 08:57:31	Hg	ug/L		2.6567
709893 MBW56786	19 Apr 2016 08:59:39	Hg	ug/L		-0.1640
CCV	19 Apr 2016 09:01:48	Hg	ug/L		3.0953
CCB	19 Apr 2016 09:03:54	Hg	ug/L		-0.1454
707397	19 Apr 2016 09:06:01	Hg	ug/L		0.2499
707446	19 Apr 2016 09:08:09	Hg	ug/L		0.0276
MSW707446	19 Apr 2016 09:10:17	Hg	ug/L		1.6744
MSDW707446	19 Apr 2016 09:12:24	Hg	ug/L		1.6044
PDSW707446	19 Apr 2016 09:14:32	Hg	ug/L		1.8108
709943 LCSW56796	19 Apr 2016 09:16:40	Hg	ug/L		2.8087
709942 MBW56796	19 Apr 2016 09:18:48	Hg	ug/L		-0.1670
709467	19 Apr 2016 09:20:56	Hg	ug/L		-0.0473
709468	19 Apr 2016 09:23:03	Hg	ug/L		-0.0640
L709468	19 Apr 2016 09:25:09	Hg	ug/L		-0.0648
CCV	19 Apr 2016 09:27:16	Hg	ug/L		3.0546
CCB	19 Apr 2016 09:29:22	Hg	ug/L		-0.1411
DUP709468	19 Apr 2016 09:31:30	Hg	ug/L		-0.0635
MSW709468	19 Apr 2016 09:33:37	Hg	ug/L		1.9730
MSDW709468	19 Apr 2016 09:35:44	Hg	ug/L		1.9182
PDSW709468	19 Apr 2016 09:37:53	Hg	ug/L		2.1152
709469	19 Apr 2016 09:40:02	Hg	ug/L		-0.1343
709938 LCSW56795	19 Apr 2016 09:42:10	Hg	ug/L		2.6582
709937 MBW56795	19 Apr 2016 09:44:17	Hg	ug/L		-0.1587
709262	19 Apr 2016 09:46:25	Hg	ug/L		-0.0678
L709262	19 Apr 2016 09:48:32	Hg	ug/L		-0.0607
DUP709262	19 Apr 2016 09:50:39	Hg	ug/L		-0.0623
CCV	19 Apr 2016 09:52:46	Hg	ug/L		3.1249
CCB	19 Apr 2016 09:54:52	Hg	ug/L		-0.1442
MSW709262	19 Apr 2016 09:57:00	Hg	ug/L		1.8652
MSDW709262	19 Apr 2016 09:59:07	Hg	ug/L		1.8871
PDSW709262	19 Apr 2016 10:01:15	Hg	ug/L		3.4353
709928 LCSW56793	19 Apr 2016 10:03:23	Hg	ug/L		2.7749
709927 MBW56793	19 Apr 2016 10:05:32	Hg	ug/L		-0.1709
708863	19 Apr 2016 10:07:41	Hg	ug/L		-0.0673
708898	19 Apr 2016 10:09:49	Hg	ug/L		-0.0504
L708898	19 Apr 2016 10:11:56	Hg	ug/L		-0.0600
DUP708898	19 Apr 2016 10:14:04	Hg	ug/L		-0.0474
MSW708898	19 Apr 2016 10:16:11	Hg	ug/L		1.9574
CCV	19 Apr 2016 10:18:18	Hg	ug/L		3.0463
CCB	19 Apr 2016 10:20:25	Hg	ug/L		-0.1526
MSDW708898	19 Apr 2016 10:22:33	Hg	ug/L		1.9706
PDSW708898	19 Apr 2016 10:24:40	Hg	ug/L		2.0914
709948 LCSW56797	19 Apr 2016 10:26:48	Hg	ug/L		2.8751
709947 MBW56797	19 Apr 2016 10:28:56	Hg	ug/L		-0.1741
708953	19 Apr 2016 10:31:05	Hg	ug/L		-0.0704
709861	19 Apr 2016 10:33:12	Hg	ug/L		-0.0675
MSW709861	19 Apr 2016 10:35:19	Hg	ug/L		1.8102
MSDW709861	19 Apr 2016 10:37:27	Hg	ug/L		1.7556
PDSW709861	19 Apr 2016 10:39:36	Hg	ug/L		1.7255

041916WA PDF

Method: CVAA water Operator: Admin Date of Analysis: 19 Apr 2016 07:39:07

Sample ID	Date	Element	Units	Extended ID	LT Mean Conc
CCV	19 Apr 2016 10:41:44	Hg	ug/L		3.0197
CCB	19 Apr 2016 10:43:51	Hg	ug/L		-0.1552

METALS
LOGBOOK
DOCUMENTS

MICP WATER QSM Analytical Run
125061 on 05/02/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	713860								MICP WATER QSM				
					ICV					0			
	713861								MICP WATER QSM				
					ICVLL					0			
	713862								MICP WATER QSM				
					ICB					0			
	713863								MICP WATER QSM				
					ICSA					0			
	713864								MICP WATER QSM				
					ICSAB					0			
	713865								MICP WATER QSM				
					ICV					0			
	713866								MICP WATER QSM				
					CCV1					0			
	713867								MICP WATER QSM				
					CCV2					0			
	713868								MICP WATER QSM				
					CCB					0			
	710420								ICP TOTAL QSM 5.0				
					LCSW					56829			
	710419								ICP TOTAL QSM 5.0				
					MBW					56829			
118319	709262		04/14/2016	1630			BERING SEA ENVIRONMENTAL	RADFORD AAP	ICP TOTAL QSM 5.0		GW	**4**	
		54ADW01								56829			
	713869								ICP TOTAL QSM 5.0				
					L	709262				0			
	710421		04/14/2016	1630					ICP TOTAL QSM 5.0				
		54ADW01			DUP	709262				56829			
	710422		04/14/2016	1630					ICP TOTAL QSM 5.0				
		54ADW01			MSW	709262				56829			
	710423		04/14/2016	1630					ICP TOTAL QSM 5.0				
		54ADW01			MSDW	710422				56829			
	713870								ICP TOTAL QSM 5.0				
					PDSW	709262				0			
	713871								MICP WATER QSM				
					CCV1					0			
	713872								MICP WATER QSM				
					CCV2					0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

MICP WATER QSM Analytical Run
125061 on 05/02/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	713873						MICP WATER QSM				
				CCB				0			

20 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

MICP WATER QSM K&Na Analytical Run
125062 on 05/02/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	712648								MICP WATER QSM K&Na				
					ICV					0			
	712649								MICP WATER QSM K&Na				
					ICVLL					0			
	712650								MICP WATER QSM K&Na				
					ICB					0			
	712651								MICP WATER QSM K&Na				
					MRL					0			
	712652								MICP WATER QSM K&Na				
					ICSA					0			
	712653								MICP WATER QSM K&Na				
					ICSAB					0			
	712654								MICP WATER QSM K&Na				
					CCV					0			
	712655								MICP WATER QSM K&Na				
					CCB					0			
	710420								ICP K TOTAL QSM 5.0				
					LCSW					56829			
	710420								ICP NA TOTAL QSM 5.0				
					LCSW					56829			
	710419								ICP K TOTAL QSM 5.0				
					MBW					56829			
	710419								ICP NA TOTAL QSM 5.0				
					MBW					56829			
118319	709262		04/14/2016	1630			BERING SEA ENVIRONMENTAL	RADFORD AAP	ICP K TOTAL QSM 5.0		GW	**4**	
		54ADW01								56829			
118319	709262		04/14/2016	1630			BERING SEA ENVIRONMENTAL	RADFORD AAP	ICP NA TOTAL QSM 5.0		GW	**4**	
		54ADW01								56829			
	712656								ICP K TOTAL QSM 5.0				
					L	709262				0			
	712656								ICP NA TOTAL QSM 5.0				
					L	709262				0			
	710421		04/14/2016	1630					ICP K TOTAL QSM 5.0				
		54ADW01			DUP	709262				56829			
	710421		04/14/2016	1630					ICP NA TOTAL QSM 5.0				
		54ADW01			DUP	709262				56829			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

MICP WATER QSM K&Na Analytical Run
125062 on 05/02/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME	QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	710422		04/14/2016 1630					ICP K TOTAL QSM 5.0				
		54ADW01		MSW	709262				56829			
	710422		04/14/2016 1630					ICP NA TOTAL QSM 5.0				
		54ADW01		MSW	709262				56829			
	712657							ICP K TOTAL QSM 5.0				
				PDSW	709262				0			
	712657							ICP NA TOTAL QSM 5.0				
				PDSW	709262				0			
	712658							MICP WATER QSM K&Na				
				CCV					0			
	712659							MICP WATER QSM K&Na				
				CCB					0			

24 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

MERCURY QSM 5.0 Analytical Run
124999 on 05/02/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	710587								MERCURY QSM 5.0				
					ICV					0			
	710588								MERCURY QSM 5.0				
					ICB					0			
	710591								MERCURY QSM 5.0				
					CCV					0			
	710592								MERCURY QSM 5.0				
					CCB					0			
	709938								MERCURY TOTAL QSM 5.0				
					LCSW					56795			
	709937								MERCURY TOTAL QSM 5.0				
					MBW					56795			
118319	709262		04/14/2016	1630			BERING SEA ENVIRONMENTAL	RADFORD AAP	MERCURY TOTAL QSM 5.0		GW	4	
		54ADW01								56795			
	709939		04/14/2016	1630					MERCURY TOTAL QSM 5.0				
		54ADW01			DUP	709262				56795			
	710594								MERCURY QSM 5.0				
					CCV					0			
	710595								MERCURY QSM 5.0				
					CCB					0			
	709940		04/14/2016	1630					MERCURY TOTAL QSM 5.0				
		54ADW01			MSW	709262				56795			
	709941		04/14/2016	1630					MERCURY TOTAL QSM 5.0				
		54ADW01			MSDW	709940				56795			
	710597								MERCURY QSM 5.0				
					CCV					0			
	710598								MERCURY QSM 5.0				
					CCB					0			

14 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

PREP WORKSHEET
on 05/02/2016

Prep Batch **56,829** Date Prepped: 04/19/2016 Prepped By LJF

Folder #	Order	QC Type	Link	Test	Matrix	Volume	Weight	Initial Volume	SDG Level	Notes
	710419	MBW		ICP K TOTAL QSM 5.0	LIQUID	50		50.0		
	710419	MBW		ICP NA TOTAL QSM 5.0	LIQUID	50		50.0		
	710419	MBW		ICP TOTAL QSM 5.0	LIQUID	50		50.0		
	710420	LCSW		ICP K TOTAL QSM 5.0	LIQUID	50		50.0		
	710420	LCSW		ICP NA TOTAL QSM 5.0	LIQUID	50		50.0		
	710420	LCSW		ICP TOTAL QSM 5.0	LIQUID	50		50.0		
118319	709262			ICP NA TOTAL QSM 5.0	GROUND WATER	50		50.0	4	
	709262			ICP K TOTAL QSM 5.0	GROUND WATER	50		50.0	4	
	709262			ICP TOTAL QSM 5.0	GROUND WATER	50		50.0	4	
	710421	DUP	709262	ICP K TOTAL QSM 5.0	GROUND WATER	50		50.0		
	710421	DUP	709262	ICP NA TOTAL QSM 5.0	GROUND WATER	50		50.0		
	710421	DUP	709262	ICP TOTAL QSM 5.0	GROUND WATER	50		50.0		
	710422	MSW	709262	ICP K TOTAL QSM 5.0	GROUND WATER	50		50.0		
	710422	MSW	709262	ICP NA TOTAL QSM 5.0	GROUND WATER	50		50.0		
	710422	MSW	709262	ICP TOTAL QSM 5.0	GROUND WATER	50		50.0		
	710423	MSDW	710422	ICP TOTAL QSM 5.0	GROUND WATER	50		50.0		

PREP WORKSHEET
on 05/02/2016

Notes:_____

PREP WORKSHEET
on 05/02/2016

Prep Batch **56,795** Date Prepped: 04/18/2016 Prepped By LJF

Folder #	Order	QC Type	Link	Test	Matrix	Volume	Weight	Initial Volume	SDG Level	Notes
	709937	MBW		MERCURY TOTAL QSM	LIQUID	25		25.0		
	709938	LCSW		MERCURY TOTAL QSM	LIQUID	25		25.0		
118319	709262			MERCURY TOTAL QSM	GROUND WATER	25		25.0	4	
	709939	DUP	709262	MERCURY TOTAL QSM	GROUND WATER	25		25.0		
	709940	MSW	709262	MERCURY TOTAL QSM	GROUND WATER	25		25.0		
	709941	MSDW	709940	MERCURY TOTAL QSM	GROUND WATER	25		25.0		

Notes:_____

Metals Digestion Bench Sheet

(Prep Methods 3010, 3020, 3005, & 3050)

Program: QSM

*Matrix: GW

3010= ICP Liquids
3020= GFAA Liquids
3005= Sb Liquids
3050= ICP/GFAA Solids
7060/7740= GFAA, As & Se Liquids

Prep Batch #:	56829
Prep Method:	3010
Analyst:	LJF
Date:	04/19/2016
Start Time:	07:00

Prep Analyst: LJF

Balance ID:

End Date: 04/19/2016

End Time: 12:00

Digestion Tube Lot #: J233685-6560

Block Used: A

Cell Position for Temp. Check: C-6

Initial-DigestionTemp (ºC): 93.4

Final-Digestion Temp (ºC): 93.4

Reagent:	Ref. #
Nitric Acid:	AB.617
Hydrochloric Acid:	AB.615
Hydrogen Peroxide:	

Sample ID			(Solids) Sample Weight (g)	(Liquids) Sample Volume (ml)	Final Volume (ml)
710419	(MB)			50.0	50
710420	(LCS)			50.0	50
709262				50.0	50
	Comments:				50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
710421	(DUP) if applicable			50.0	50
710422	(MS)	Parent Sample		50.0	50
710423	(MSD)	709262		50.0	50
Leave >>	(DUP) if applicable				50
blank	(MS)	Parent Sample			50
if N/A	(MSD)				50

MB=Method Blank, LCS=Laboratory Control Sample, DUP=Duplicate, MS=Matrix Spike & MSD=Matrix Spike Duplicate

*Matrix: Soil, Sludge, Waste, GW=Groundwater, WW=Wastewater, Tissue, TLCP, SPLP, ASTM or other.

MS/MSD Spike Amount (ml)	Spike Ref. #
0.2	M12773
0.5	M12744
0.5	M12768

LCS Spike Amount (ml)	Spike Ref. #
0.2	M12773
0.5	M12744
0.5	M12768

Reviewed By/Date:

FMT12-03

Mercury Digestion Bench Sheet

(Prep Methods 7470A & 7471A)

CCV ID: M12823
ICV/LCSW ID: M12822

*Matrix: GW
Balance ID:

7470A= Hg Liquids
7471A= Hg Solids

Prep Batch #:	56795
Prep Method:	7470A
Analyst:	LJF
Date:	04/18/2016
Start Time:	07:00

End Date: 04/18/2016
End Time: 09:00

Reagent:	Ref. #
HNO3:	AB.617
H2SO4:	AB.605
NaCl/Hydrox.SO4:	M12818
KMnO4:	M12827
K2S2O8:	M12774
Aqua-Regia:	M12825

Digestion Tube Lot #: 2116018
Block Used: B
Cell Position for Temp. Check: A-1
Initial-DigestionTemp (ºC): 91.8
Final-Digestion Temp (ºC): 91.8
Additional KMnO4 added (ml):
Aqua Regia added (ml)
Calibration Stds: M12820

Sample ID			(Solids) Sample Weight (g)	(Liquids) Sample Volume (ml)	Final Volume (ml)
709937	(MB)			25.0	25
709938	(LCS)			25.0	25
709262				25.0	25
	Comments:				25
					25
					25
					25
					25
					25
					25
					25
					25
					25
					25
					25
					25
					25
					25
					25
					25
					25
					25
					25
					25
709939	(DUP) if applicable			25.0	25
709940	(MS)	Parent Sample		25.0	25
709941	(MSD)	709262		25.0	25
Leave >>	(DUP) if applicable				25
blank	(MS)	Parent Sample			25
	(MSD)				25
	(DUP) if applicable				25
	(MS)	Parent Sample			25
if N/A	(MSD)				25

MB=Method Blank, LCS=Laboratory Control Sample, DUP=Duplicate, MS=Matrix Spike & MSD=Matrix Spike Duplicate
*Matrix: Soil, Sludge, Waste, GW=Groundwater, WW=Wastewater, Tissue, TLCP, SPLP, ASTM or other.

A: Spike Amount (ml)	Spike Conc. (ug/L)	Spike Ref. #
0.5	100ug/L	M12821

B: Spike Amount (ml)	Spike Conc. (ug/L)	Spike Ref. #

Reviewed By/Date:

ICAP 6000/6500 Data Review Checklist	Analysis Date: 4-20-16	Data File: 042016R5	Date of review: 04/26/16
Cal Std ID: 042005 LIMS #: 125041	Analyst: JK	Reviewer: JMS	Approved? (Yes) No
Is Audit Trail turned on or Manual Manipulations addressed? Yes / No (If no, any manual manipulations must be initialed, dated, and reason(s) stated for change)			

QC Parameters : 6010 / 200.8 / OSM / Other	YES	NO	YES	NO	Comments:
1) Calibration linearity: r > 0.995 / r > 0.998	✓		✓		
2) ICV: (90-110%) / 95-105%	✓		✓		
2) ICVLL: 70-130% / (80-120%)	✓		✓		
3) ICB: < 3X IDL / (<LOD) / <LOQ	✓		✓		
4) ICSA: < ABS LOD	✓		✓		
5) ICSAB: 80-120%	✓		✓		
6) MRL: 70-130% / 80-120%					
7) MDL Check: >LOD					
8) CCV1/CCB1 (CCV: 90-110%)	✓		✓		
9) CCV2/CCB2 (CCB: < 3X IDL / <LOD / <LOQ)					
10) CCV3/CCB3					
11) CCV4/CCB4					
12) CCV5/CCB5					

Preparation Batch Parameters	YES	NO	YES	NO	Comments:
Prep Batch ID#: 510829 Dig. Meth. 3010	✓		✓		
LCS: - generated limits or project specific limits	✓		✓		
MB: <LOD or ≤ ½ RL	✓	✓	✓	✓	"B" Cu, Ag >LOD <½ RL, Ca >LOD 10X Lab Portable. Dup invalid Cl to Mg mat'l PDS fail Ba, Mg ↓
Spiked samples in batch:					
a) 700262 matrix = DW	✓	✓	✓	✓	
b) matrix =					
c) matrix =					
PDS: ±15% / (20%) / 25% Sample#: a			✓	✓	
Prep Batch ID#: Dig. Meth.					
LCS: - generated limits or project specific limits					
MB: <LOD or ≤ ½ RL					
Spiked samples in batch:					
a) matrix =					
b) matrix =					
c) matrix =					
PDS: ±15% / 20% / 25% Sample#:					
Prep Batch ID#: Dig. Meth.					
LCS: - generated limits or project specific limits					
MB: <LOD or ≤ ½ RL					
Spiked samples in batch:					
a) matrix =					
b) matrix =					
c) matrix =					
PDS: ±15% / 20% / 25% Sample#:					
Prep Batch ID#: Dig. Meth.					
LCS: - generated limits or project specific limits					
MB: <LOD or ≤ ½ RL					
Spiked samples in batch:					
a) matrix =					
b) matrix =					
c) matrix =					
PDS: ±15% / 20% / 25% Sample#:					

iCAP 6000 / 6500 Data Review Checklist	Analysis Date: 04/21/16	Data File: NAK042116v723	Date of review: 4-22-16
Cal Std ID: M12704 LIMS #: 125062	Analyst: KMS	Reviewer:	Approved? Yes / No
Is Audit Trail turned on or Manual Manipulations addressed? Yes / No (If no, any manual manipulations must be initialed, dated, and reason(s) stated for change)			

QC Parameters : 6010 / 200.7 / QSM / Other	YES	NO	YES	NO	Comments:
1) Calibration linearity: r ≥ 0.995 / r > 0.998	✓		✓		
2) ICV: 90-110% / 95-105%	✓		/		
2) ICVLL: 70-130% / 80-120%	✓		/		
3) ICB: < 3X IDL / <LOD / <LOQ	✓		/		
4) ICSA: < ABS LOD	✓		/		
5) ICSAB: 80-120%	✓		/		
6) MRL: 70-130% / 80-120%	✓		/		
7) MDL Check: >LOD					
8) CCV1/CCB1 (CCV: 90-110%)	✓		/		
9) CCV2/CCB2 (CCB: < 3X IDL / <LOD / <LOQ)					
10) CCV3/CCB3					
11) CCV4/CCB4					
12) CCV5/CCB5					

Preparation Batch Parameters	YES	NO	YES	NO	Comments:
Prep Batch ID#: 51829 Dig. Meth. 3010	✓		/		
LCS - generated limits or project specific limits	✓		/		
MB - <LOD or ≤ ½ RL	✓		/		
Spiked samples in batch:					
a) 709262 matrix = low	✓	✓	/	/	Linvalid Not enough sample for MSD
b) matrix =					Duplinvalid K
c) matrix =					
PDS: ±15% / 20% / 25% Sample#: a	✓		/		
Prep Batch ID#: Dig. Meth.					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a) matrix =					
b) matrix =					
c) matrix =					
PDS: ±15% / 20% / 25% Sample#:					
Prep Batch ID#: Dig. Meth.					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a) matrix =					
b) matrix =					
c) matrix =					
PDS: ±15% / 20% / 25% Sample#:					
Prep Batch ID#: Dig. Meth.					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a) matrix =					
b) matrix =					
c) matrix =					
PDS: ±15% / 20% / 25% Sample#:					

FORM # FMTSOP1
Rev. #: 1.0
Effective Date: 03/14/2014
Page 1 of 1

GFAA / FLAA (CVAA) Data Review checklist		Method: 200.9	7000 series AA	245.1 & 245.2	245.7	(470a) 7471a
Instrumentation:	THERMO M SERIES AA		CETAC Hg ANALYZER			
Analysis Date: 04/19/16	Data File: 04191600		Date Review: 4-19-16	Analyte: Hg		
Cal Std ID: M18320	LIMS #: 124999	Analyst: SF	Reviewer:	Approved? (Yes) No		
Is Audit Trail turned on or Manual Manipulations addressed? (Yes) / No (If no, any manual manipulations must be initialed, dated, and reason(s) stated for change)						

Calibration Parameters -	YES	NO	YES	NO	Comments:
1) Calibration linearity - r > 0.995	✓		✓		
2) ICV: 90-110% 95-105%	✓		✓		
2) ICVLL: 70-130% 80-120%					
3) ICB: <IDL / (<LOD) / <LOQ / <½ RL	✓		✓		
6) MRL: 70-130%					
7) CCV1/CCB1- (CCV: 90-110% / 80-120%)	✓		✓		
8) CCV2/CCB2 (CCB: <IDL / <LOD / <LOQ / <½ RL)					
9) CCV3/CCB3					
10) CCV4/CCB4					
11) CCV5/CCB5					

Preparation Batch Parameters	YES	NO	YES	NO	Comments:
Prep Batch ID#: 56995 Dig. Meth. 7470A	✓		✓		
LCS - generated limits or project specific limits	✓		✓		
MB - <LOD / <2.2X LOD / ≤ ½RL	✓		✓		
Spiked samples in batch:					
a) 308162 matrix = GW	✓		✓		
b) matrix =					
c) matrix =					
d) matrix =					
e) matrix =					
PDS: ±15% (20%) 25% Sample# 308162	✓		✓		PDS N/A LCS N/A
MSA Performed? Yes No					
Prep Batch ID#: Dig. Meth.					
LCS - generated limits or project specific limits					
MB - <LOD / <2.2X LOD / ≤ ½RL					
Spiked samples in batch:					
a) matrix =					
b) matrix =					
c) matrix =					
d) matrix =					
e) matrix =					
PDS: ±15% / 20% / 25% Sample#					
MSA Performed? Yes No					
Prep Batch ID#: Dig. Meth.					
LCS - generated limits or project specific limits					
MB - <LOD / <2.2X LOD / ≤ ½RL					
Spiked samples in batch:					
a) matrix =					
b) matrix =					
c) matrix =					
d) matrix =					
e) matrix =					
PDS: ±15% / 20% / 25% Sample#					
MSA Performed? Yes No					

CT Laboratories Instrument Run Log

Instrument ID: ICP 6000 (See Journal for Wavelength Check)

Date	Time Start	Time End	Analyst	Method	LDMS# or Sample #	Sequence I.D.	Cal. Std. ID	Comments	Pressure (KPa)
04/14/16	0940	1607	MDS	NaK	124737, 124781, 124930	NaK041416	M12704	v716, v717	320
04/15/16	0853	1102	MDS	NaK	124830, 124831	NaK041516	M12704	v718	320
04/18/16	0812	1603	MDS	NaK	124926, 124966, 124967, 124968, 124969, 124916, 124915, 124914, 124987, 124911	NaK041816	M12704	v720, v721	320
04/21/16	1107	1452	MDS	NaK	125006, 125007, 125011, 125084, 125086, 125062, 125064	NaK042116	M12704	v723, v724	320
04/22/16	1406	1810	MDS	NaK	125105, 125241, 125240, 125261	NaK042216	M12704	~~v725~~ v726	320

Checked by: _____ Verified by: _____

CT Laboratories Instrument Run Log

Instrument ID: ICP 6500

Date	Time Start/End	Analyst	Analytes	LIMS run or Samples Analyzed	Sequence ID	Cal Std ID	Neb Pressure	Comments
4-8-16	0743/1400	[redacted]	DOD Cal u	124675, 124678, 124676, 124647, 124680	040816	M12705	270	V1374, V1376
4-11-16	0752/2200	[redacted]	DOD cal u	124693, 124732, 124683, 124733, 124736, 124721, 124709, 124702, 124719	041116	M12705	270	V1378, V1379
4-12-16	0752/1490	[redacted]	DOD Cal u	124749, 124778, 124791, 124795, 124736, 124745, 124740, 124741, 124759, 124749	041216	M12705	270	V1381, V1382, V1383, V1384, V1385, V1386, V1387, V1388, V1389, V1390, V1391, V1392, V1393, V1394, V1395
4-13-16	0957/1859	[redacted]	DOD Cal u	124783, 124784, 124782	041316	M12705	270	V1396, V1397
4-14-16	1032/2346	[redacted]	DOD Cal u	124833, 124855, 124883, 124886, 124935	041416	M12705	270	V1398, V1402, V1403, V1404, V1405, V1406, V1407
4-15-16	1108/2237	[redacted]	DOD Cal u	124945, 124947, 124913, 124850, 124912	041516	M12705	270	V1401, V1408, V1409, V1410, V1412
4-18-16	0844/2138	[redacted]	DOD Cal u	124963, 124964, 124926, 125004, 124962, 124965, 124988, 125001	041816	M12705	260	V1417
4-19-16	1007/1642	[redacted]	DOD Cal u	LOD LOQ PT	041916	M12705	260	V1413, V1414, V1415, V1416
4-20-16	0812/1550	[redacted]	DOD Cal u	125085, 125112, 125100, 125061, 125083, 125107, 125099, 125065	042016	M12705	260	V1411
4-22-16	0840/1410	[redacted]	DOD Cal u	125237	042216	M12705	260	V1418, V1419
4-25-16	0840/1911	[redacted]	DOD Cal u	125283, 125284, 125287, 125099	042516	M12705	330	V1421
4-26-16	0818/1608	[redacted]	DOD Cal u		042616	M12705	330	V1422
4-28-16	1615/0813	[redacted]	DOD Cal u		042816	M12705	330	
4-27-16	/	/	DOD Cal u		042716	M12705	330	

CT Laboratories

Mercury Analyzer Instrument Run Log

Instrument ID: ~~Cetac M-6000A~~ 12/15/15 SF Teledyne Hydra II

Analysis Date	Start Time	End Time	Analyst	LIMS Run # (s)	Method File ID #	Cal. Std. ID #	Lamp Current (mA)	Analysis Tube Lot #	Comments
04/14/16	11:45	12:42	SF	~~04/15/16SF 04/15/16SF 04/15/16SF~~ ~~124806, 124809, 124828, 124810~~	04141600a	M17810	22.86	250774	Sncl2: M17826
04/18/16	08:56	11:29	SF	124803, 124806, 124810 ~~124822~~ 04/18/16SF	04181600a	~~M17818~~ M17820	22.86	750774	Sncl2: ~~M17826~~ 04/18/16SF
04/19/16	08:20	10:43	SF	125000 125002, 124999, 124995, 125001	04191600a	M17820	22.86	750774	Sncl2: M17826
04/19/16	10:55	12:17	SF	125026, 124822	04191650	M17820	22.86	250774	Sncl2: M17826

Reviewed By/Date: _____

Type	Date/Time	Message	User name	Application	Sequence Name
	04/18/2016 14:59:24	Running ccv (14)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 15:02:11	Running ccb (15)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 15:04:59	Running dup707927 (111)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 15:07:48	Running msw707927 (112)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 15:10:34	Running msdw707927 (113)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 15:13:21	Running pdsw707927 (114)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 15:16:09	Running blank (115)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 15:18:58	Running mbs56738 (116)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 15:21:48	Running mss707881 (117)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 15:24:31	Running msds707881 (118)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 15:27:14	Running msw708817 (119)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 15:30:01	Running msdw708817 (120)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 15:32:47	Running ccv (14)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 15:35:34	Running ccb (15)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 15:38:22	Running pdsw708817 (121)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 15:41:10	Running 708863 (122)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 15:43:57	Running l708863 (123)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 15:46:47	Running dup708863 (124)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 15:49:34	Running msw708863 (125)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 15:52:21	Running msdw708863 (126)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 15:55:08	Running pdsw708863 (127)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 15:57:55	Running 708898 (128)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 16:00:42	Running ccv (14)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 16:03:29	Running ccb (15)	MDS	Analyst	S_Sodium and Potas
	04/18/2016 16:06:16	Plasma extinguished successfully	MDS	Analyst	
	04/18/2016 16:06:17	Plasma off	MDS	iTEVA Control Center	
	04/18/2016 16:06:18	Autosampler Run Completed	MDS	Analyst	S_Sodium and Potas
	04/20/2016 19:47:27		MDS	iTEVA Control Center	
	04/21/2016 08:31:14	iTEVA loaded	MDS	iTEVA Control Center	
	04/21/2016 08:34:17	iTEVA loaded	MDS	iTEVA Control Center	
	04/21/2016 08:35:07	iTEVA loaded	MDS	iTEVA Control Center	
	04/21/2016 08:37:04	iTEVA loaded	MDS	iTEVA Control Center	
	04/21/2016 08:37:22	Connected to instrument 20070314	MDS	iTEVA Control Center	
	04/21/2016 08:39:30	Plasma On	MDS	iTEVA Control Center	
	04/21/2016 08:39:35	Plasma ignition successful	MDS	Analyst	
	04/21/2016 08:40:14	D33534 - Debug:Wavelength check : x = -0.340, y =-0.388	MDS	Analyst	
	04/21/2016 11:16:56	Sequence Started	MDS	Analyst	S_Sodium and Potas
	04/21/2016 11:16:56	Autosampler Run Started	MDS	Analyst	
	04/21/2016 11:17:17	Running Blank (1)	MDS	Analyst	S_Sodium and Potas
	04/21/2016 11:20:15	Running CalibStd-0.5 (2)	MDS	Analyst	S_Sodium and Potas
	04/21/2016 11:23:01	Running CalibStd-1.0 (3)	MDS	Analyst	S_Sodium and Potas
	04/21/2016 11:25:46	Running CalibStd-5.0 (4)	MDS	Analyst	S_Sodium and Potas
	04/21/2016 11:28:31	Running CalibStd-10.0 (5)	MDS	Analyst	S_Sodium and Potas
	04/21/2016 11:31:17	Running CalibStd-50 (6)	MDS	Analyst	S_Sodium and Potas
	04/21/2016 11:34:03	Running CalibStd-100 (7)	MDS	Analyst	S_Sodium and Potas
	04/21/2016 11:36:48	Running CalibStd-200 (8)	MDS	Analyst	S_Sodium and Potas
	04/21/2016 11:39:33	Running CalibStd-500 (9)	MDS	Analyst	S_Sodium and Potas
	04/21/2016 11:42:47	Running icv (10)	MDS	Analyst	S_Sodium and Potas
	04/21/2016 11:45:32	Running ICVLL (17)	MDS	Analyst	S_Sodium and Potas
	04/21/2016 11:48:17	Running icb (11)	MDS	Analyst	S_Sodium and Potas
	04/21/2016 11:51:01	Running mrl (16)	MDS	Analyst	S_Sodium and Potas
	04/21/2016 11:53:47	Running icsa (12)	MDS	Analyst	S_Sodium and Potas

Type	Date/Time	Message	User name	Application	Sequence Name
	04/21/2016 11:57:02	Running icsab (13)	MDS	Analyst	S_Sodium and Potas
	04/21/2016 12:00:15	Running mbs56843 (1)	MDS	Analyst	S_Sodium and Potas
	04/21/2016 12:03:00	Running 707144 (2)	MDS	Analyst	S_Sodium and Potas
	04/21/2016 12:05:45	Running lqcks (3)	MDS	Analyst	S_Sodium and Potas
	04/21/2016 12:08:30	Running lcsw (4)	MDS	Analyst	S_Sodium and Potas
	04/21/2016 12:11:15	Running mbw (5)	MDS	Analyst	S_Sodium and Potas
	04/21/2016 12:14:00	Running 710685 (6)	MDS	Analyst	S_Sodium and Potas
	04/21/2016 12:16:44	Running 710687 (7)	MDS	Analyst	S_Sodium and Potas
	04/21/2016 12:19:29	Running msw710687 (8)	MDS	Analyst	S_Sodium and Potas
	04/21/2016 12:22:14	Running msdw710687 (9)	MDS	Analyst	S_Sodium and Potas
	04/21/2016 12:24:59	Running 710958 (10)	MDS	Analyst	S_Sodium and Potas
	04/21/2016 12:27:56	Running ccv (14)	MDS	Analyst	S_Sodium and Potas
	04/21/2016 12:30:42	Running ccb (15)	MDS	Analyst	S_Sodium and Potas
	04/21/2016 12:33:27	Running msw710958 (11)	MDS	Analyst	S_Sodium and Potas
	04/21/2016 12:36:24	Running msdw710958 (12)	MDS	Analyst	S_Sodium and Potas
	04/21/2016 12:39:20	Running lcsw56829 (13)	MDS	Analyst	S_Sodium and Potas
	04/21/2016 12:42:04	Running mbw56829 (14)	MDS	Analyst	S_Sodium and Potas
	04/21/2016 12:44:49	Running 709262 (15)	MDS	Analyst	S_Sodium and Potas
	04/21/2016 12:47:34	Running l709262 (16)	MDS	Analyst	S_Sodium and Potas
	04/21/2016 12:50:18	Running dup709262 (17)	MDS	Analyst	S_Sodium and Potas
	04/21/2016 12:53:02	Running msw709262 (18)	MDS	Analyst	S_Sodium and Potas
	04/21/2016 12:55:47	Running pdsw709262 (19)	MDS	Analyst	S_Sodium and Potas
	04/21/2016 12:58:32	Running lcsw56827 (20)	MDS	Analyst	S_Sodium and Potas
	04/21/2016 13:01:17	Running ccv (14)	MDS	Analyst	S_Sodium and Potas
	04/21/2016 13:04:03	Running ccb (15)	MDS	Analyst	S_Sodium and Potas
	04/21/2016 13:06:48	Running mbw56827 (21)	MDS	Analyst	S_Sodium and Potas
	04/21/2016 13:09:34	Running 709405 (22)	MDS	Analyst	S_Sodium and Potas
	04/21/2016 13:12:20	Running 709410 (23)	MDS	Analyst	S_Sodium and Potas
	04/21/2016 13:15:06	Running msw709410 (24)	MDS	Analyst	S_Sodium and Potas
	04/21/2016 13:18:01	Running msdw709410 (25)	MDS	Analyst	S_Sodium and Potas
	04/21/2016 13:20:55	Running pdsw709410 (26)	MDS	Analyst	S_Sodium and Potas
	04/21/2016 13:23:40	Running 709411 (27)	MDS	Analyst	S_Sodium and Potas
	04/21/2016 13:26:27	Running lcsw56813 (28)	MDS	Analyst	S_Sodium and Potas
	04/21/2016 13:29:12	Running mbw56813 (29)	MDS	Analyst	S_Sodium and Potas
	04/21/2016 13:31:58	Running 709467 (30)	MDS	Analyst	S_Sodium and Potas
	04/21/2016 13:34:41	Running ccv (14)	MDS	Analyst	S_Sodium and Potas
	04/21/2016 13:37:26	Running ccb (15)	MDS	Analyst	S_Sodium and Potas
	04/21/2016 13:40:11	Running 709468 (31)	MDS	Analyst	S_Sodium and Potas
	04/21/2016 13:42:54	Running 709469 (32)	MDS	Analyst	S_Sodium and Potas
	04/21/2016 13:45:37	Running l709469 (33)	MDS	Analyst	S_Sodium and Potas
	04/21/2016 13:48:21	Running dup709469 (34)	MDS	Analyst	S_Sodium and Potas
	04/21/2016 13:51:05	Running msw709469 (35)	MDS	Analyst	S_Sodium and Potas
	04/21/2016 13:54:01	Running msdw709469 (36)	MDS	Analyst	S_Sodium and Potas
	04/21/2016 13:56:56	Running pdsw709469 (37)	MDS	Analyst	S_Sodium and Potas
	04/21/2016 13:59:51	Running lcsw56812 (38)	MDS	Analyst	S_Sodium and Potas
	04/21/2016 14:02:36	Running mbw56812 (39)	MDS	Analyst	S_Sodium and Potas
	04/21/2016 14:05:21	Running 709360 (40)	MDS	Analyst	S_Sodium and Potas
	04/21/2016 14:08:07	Running ccv (14)	MDS	Analyst	S_Sodium and Potas
	04/21/2016 14:10:52	Running ccb (15)	MDS	Analyst	S_Sodium and Potas
	04/21/2016 14:13:37	Running l709360 (41)	MDS	Analyst	S_Sodium and Potas
	04/21/2016 14:16:23	Running dup709360 (42)	MDS	Analyst	S_Sodium and Potas
	04/21/2016 14:19:07	Running msw709360 (43)	MDS	Analyst	S_Sodium and Potas

Type	Date/Time	Message	User name	Application	Sequence Name
	04/19/2016 14:02:16	Running LOD s (11)	NAH	Analyst	S_DOD Calibration
	04/19/2016 14:03:00	Closing will close the method and all associated samples.	NAH	Analyst	
	04/19/2016 14:08:46	Running LOQ s (12)	NAH	Analyst	S_DOD Calibration
	04/19/2016 14:09:28	Closing will close the method and all associated samples.	NAH	Analyst	
	04/19/2016 14:15:22	Running mbs 3050 (13)	NAH	Analyst	S_DOD Calibration
	04/19/2016 14:17:37	Closing will close the method and all associated samples.	NAH	Analyst	
	04/19/2016 14:21:46	Running LOD dod (14)	NAH	Analyst	S_DOD Calibration
	04/19/2016 14:28:14	Running LOQ dod (15)	NAH	Analyst	S_DOD Calibration
	04/19/2016 14:34:43	Running LOD L2 (16)	NAH	Analyst	S_DOD Calibration
	04/19/2016 14:41:11	Running LOQ L2 (17)	NAH	Analyst	S_DOD Calibration
	04/19/2016 14:47:39	Running LOD nak (18)	NAH	Analyst	S_DOD Calibration
	04/19/2016 14:54:08	Running LOQ nak (19)	NAH	Analyst	S_DOD Calibration
	04/19/2016 15:00:33	Running LOD b si (20)	NAH	Analyst	S_DOD Calibration
	04/19/2016 15:07:01	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	04/19/2016 15:12:31	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	04/19/2016 15:18:30	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	04/19/2016 15:24:59	Running LOQ b si (21)	NAH	Analyst	S_DOD Calibration
	04/19/2016 15:31:29	Running LOD s (22)	NAH	Analyst	S_DOD Calibration
	04/19/2016 15:37:58	Running LOQ s (23)	NAH	Analyst	S_DOD Calibration
	04/19/2016 15:44:28	Running 708263 si (24)	NAH	Analyst	S_DOD Calibration
	04/19/2016 15:50:57	Running 708259 (25)	NAH	Analyst	S_DOD Calibration
	04/19/2016 15:57:24	Running 708261 (26)	NAH	Analyst	S_DOD Calibration
	04/19/2016 16:04:17	Running l708261 (27)	NAH	Analyst	S_DOD Calibration
	04/19/2016 16:10:50	Running dup708261 (28)	NAH	Analyst	S_DOD Calibration
	04/19/2016 16:17:43	Running msw708261 (29)	NAH	Analyst	S_DOD Calibration
	04/19/2016 16:24:30	Running 708379 (30)	NAH	Analyst	S_DOD Calibration
	04/19/2016 16:30:56	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	04/19/2016 16:36:26	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	04/19/2016 16:42:25	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	04/19/2016 16:48:54	Running 708262 (31)	NAH	Analyst	S_DOD Calibration
	04/19/2016 16:54:49	Running L708262 (32)	NAH	Analyst	S_DOD Calibration
	04/19/2016 17:01:00	Running dup708262 (33)	NAH	Analyst	S_DOD Calibration
	04/19/2016 17:06:56	Running msw708262 (34)	NAH	Analyst	S_DOD Calibration
	04/19/2016 17:12:40	Running MRL (24)	NAH	Analyst	S_DOD Calibration
	04/19/2016 17:19:04	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	04/19/2016 17:24:34	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	04/19/2016 17:30:33	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	04/19/2016 17:37:03	Plasma off	NAH	iTEVA Control Center	
	04/19/2016 17:37:03	Plasma extinguished successfully	NAH	Analyst	
	04/19/2016 17:37:05	Autosampler Run Completed	NAH	Analyst	S_DOD Calibration
	04/20/2016 06:36:28	Plasma On	NAH	iTEVA Control Center	
	04/20/2016 06:36:34	Plasma ignition successful	NAH	Analyst	
	04/20/2016 06:37:13	D33534 - Debug:Wavelength check : x = 1.720, y =1.492	NAH	Analyst	
	04/20/2016 07:53:38	Autosampler Run Started	NAH	Analyst	
	04/20/2016 07:53:38	Sequence Started	NAH	Analyst	S_DOD Calibration
	04/20/2016 07:53:58	Running Blank (1)	NAH	Analyst	S_DOD Calibration
	04/20/2016 08:00:38	Running CalStd1=0.25 (2)	NAH	Analyst	S_DOD Calibration
	04/20/2016 08:07:05	Running CalStd2=0.5 (3)	NAH	Analyst	S_DOD Calibration
	04/20/2016 08:07:41	Autosampler Run Completed	NAH	Analyst	S_DOD Calibration
	04/20/2016 08:12:13	Sequence Started	NAH	Analyst	S_DOD Calibration
	04/20/2016 08:12:13	Autosampler Run Started	NAH	Analyst	
	04/20/2016 08:12:33	Running Blank (1)	NAH	Analyst	S_DOD Calibration
	04/20/2016 08:18:59	Running CalStd1=0.25 (2)	NAH	Analyst	S_DOD Calibration

Type	Date/Time	Message	User name	Application	Sequence Name
	04/20/2016 08:19:28	Closing will close the method and all associated samples.	NAH	Analyst	
	04/20/2016 08:25:35	Running CalStd2=0.5 (3)	NAH	Analyst	S_DOD Calibration
	04/20/2016 08:32:03	Running CalStd3=1 (4)	NAH	Analyst	S_DOD Calibration
	04/20/2016 08:38:32	Running CalStd4=5 (5)	NAH	Analyst	S_DOD Calibration
	04/20/2016 08:45:01	Running CalStd5=10 (6)	NAH	Analyst	S_DOD Calibration
	04/20/2016 08:51:27	Running CalStd6=20 (7)	NAH	Analyst	S_DOD Calibration
	04/20/2016 08:57:51	Running CalStd7=50 (8)	NAH	Analyst	S_DOD Calibration
	04/20/2016 09:04:10	Running CalStd8=100 (9)	NAH	Analyst	S_DOD Calibration
	04/20/2016 09:10:27	Running CalStd9=1000 (10)	NAH	Analyst	S_DOD Calibration
	04/20/2016 09:16:16	Running CalStd10=10000 (11)	NAH	Analyst	S_DOD Calibration
	04/20/2016 09:22:10	Running CalStd11-100k (12)	NAH	Analyst	S_DOD Calibration
	04/20/2016 09:28:37	Running CalStd12-100000 (13)	NAH	Analyst	S_DOD Calibration
	04/20/2016 09:35:15	Running CalStd13=500000 (14)	NAH	Analyst	S_DOD Calibration
	04/20/2016 09:41:56	Running CalStd14-1000k (15)	NAH	Analyst	S_DOD Calibration
	04/20/2016 09:48:38	Running blkrinse (22)	NAH	Analyst	S_DOD Calibration
	04/20/2016 09:55:01	Running icv (16)	NAH	Analyst	S_DOD Calibration
	04/20/2016 10:01:24	Running ICVLL (25)	NAH	Analyst	S_DOD Calibration
	04/20/2016 10:07:44	Running icb (17)	NAH	Analyst	S_DOD Calibration
	04/20/2016 10:14:12	Running icb (17)	NAH	Analyst	S_DOD Calibration
	04/20/2016 10:20:41	Running MRL (24)	NAH	Analyst	S_DOD Calibration
	04/20/2016 10:27:05	Running icsa (20)	NAH	Analyst	S_DOD Calibration
	04/20/2016 10:33:47	Running icsab (21)	NAH	Analyst	S_DOD Calibration
	04/20/2016 10:40:57	Running ICV LL ag (1)	NAH	Analyst	S_DOD Calibration
	04/20/2016 10:47:25	Running 710353 (2)	NAH	Analyst	S_DOD Calibration
	04/20/2016 10:54:20	Running 710355 (3)	NAH	Analyst	S_DOD Calibration
	04/20/2016 11:01:12	Running 710356 (4)	NAH	Analyst	S_DOD Calibration
	04/20/2016 11:08:05	Running msw710356 (5)	NAH	Analyst	S_DOD Calibration
	04/20/2016 11:14:22	Running msdw710356 (6)	NAH	Analyst	S_DOD Calibration
	04/20/2016 11:20:39	Running 710680 (7)	NAH	Analyst	S_DOD Calibration
	04/20/2016 11:27:34	Running 710685 (8)	NAH	Analyst	S_DOD Calibration
	04/20/2016 11:34:28	Running 710687 (9)	NAH	Analyst	S_DOD Calibration
	04/20/2016 11:41:21	Running msw710687 (10)	NAH	Analyst	S_DOD Calibration
	04/20/2016 11:47:37	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	04/20/2016 11:53:11	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	04/20/2016 11:59:15	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	04/20/2016 12:00:20	Closing will close the method and all associated samples.	NAH	Analyst	
	04/20/2016 12:05:40	Closing will close the method and all associated samples.	NAH	Analyst	
	04/20/2016 12:05:45	Running msdw710687 (11)	NAH	Analyst	S_DOD Calibration
	04/20/2016 12:12:01	Running lcsw56829 (12)	NAH	Analyst	S_DOD Calibration
	04/20/2016 12:18:56	Running mbw56829 (13)	NAH	Analyst	S_DOD Calibration
	04/20/2016 12:25:34	Running 709262 (14)	NAH	Analyst	S_DOD Calibration
	04/20/2016 12:32:24	Running l709262 (15)	NAH	Analyst	S_DOD Calibration
	04/20/2016 12:39:18	Running dup709262 (16)	NAH	Analyst	S_DOD Calibration
	04/20/2016 12:46:25	Running msw709262 (17)	NAH	Analyst	S_DOD Calibration
	04/20/2016 12:52:48	Running msdw709262 (18)	NAH	Analyst	S_DOD Calibration
	04/20/2016 12:59:10	Running pdsw709262 (19)	NAH	Analyst	S_DOD Calibration
	04/20/2016 13:05:24	Running lcsw56827 (20)	NAH	Analyst	S_DOD Calibration
	04/20/2016 13:11:55	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	04/20/2016 13:17:43	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	04/20/2016 13:23:42	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	04/20/2016 13:30:12	Running mbw56827 (21)	NAH	Analyst	S_DOD Calibration
	04/20/2016 13:36:41	Running 709422 (22)	NAH	Analyst	S_DOD Calibration
	04/20/2016 13:43:15	Running msw709422 (23)	NAH	Analyst	S_DOD Calibration

Standard Log #:	M12840	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3050 S Spiking Solution
Prep Date:	04/19/2016	Expiration Date:	10/2016

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
S	240	M12770	10000	1.2

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M12839	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3010 S Spiking Solution
Prep Date:	04/19/2016	Expiration Date:	10/2016

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
S	200	M12770	10000	1.0

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M12838	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3050 B&Si Spiking Solution
Prep Date:	04/19/2016	Expiration Date:	10/2016

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
B	52	M12471	1000	2.6
Si	192	M12675	1000	9.6

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M12837	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3010 B&Si Spiking Solution
Prep Date:	04/19/2016	Expiration Date:	10/2016

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
B	16	M12471	1000	0.8
Si	200	M12675	1000	10

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M12836	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3050 k&na Spiking Solution
Prep Date:	04/19/2016	Expiration Date:	10/2016

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
K	2640	M12744	10000	13.2
Na	960	M12679	10000	4.8

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M12835	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3010 k&na Spiking Solution
Prep Date:	04/19/2016	Expiration Date:	10/2016

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
K	500	M12744	10000	2.5
Na	600	M12679	10000	3

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M12834	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3050 L2 Spiking Solution
Prep Date:	04/19/2016	Expiration Date:	10/2016

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
Li	14.4	M12672	1000	0.72
Sn	20	M12669	1000	1
Sr	3.2	M12670	1000	0.16
Ti	9.6	M12671	1000	0.48
W	24	M12673	1000	1.2

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M12833	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3010 L2 Spiking Solution
Prep Date:	04/19/2016	Expiration Date:	10/2016

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
Li	10	M12672	1000	0.5
Sn	10	M12669	1000	0.5
Sr	2	M12670	1000	0.1
Ti	8	M12671	1000	0.8
W	36	M12673	1000	1.8

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M12832	Instrument:	ICP 6500
Analyst:	NAH	Standard:	LOQ 3050 DOD Metals Spiking S
Prep Date:	0419/2016	Expiration Date:	10/2016

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3, 5% HCl)

Analyte	MDL Conc. (ug/L)	Std. ID #	Std Conc	Volume (mL) pipetted into 1 L
Ag	4	M12599	1000	0.2
Al	9.6	M12713	**10000**	0.048
As	32	M12315	1000	1.6
Ba	2	M12473	1000	0.1
Be	1.6	M12667	1000	0.08
Ca	56	M12716	**10000**	0.28
Cd	1.6	M12674	1000	0.08
Co	9.6	M12678	1000	0.48
Cr	5.6	M12470	**10000**	0.028
Cu	16	M12472	**10000**	0.08
Fe	72	M12745	**10000**	0.36
Mg	32	M12715	**10000**	0.16
Mn	6	M12733	**10000**	0.03
Mo	9.6	M12677	1000	0.48
Ni	4.8	M12681	1000	0.24
Pb	10	M12313	**10000**	0.05
Sb	32	M12602	1000	1.6
Se	16	M12600	1000	0.8
Tl	19	M12668	1000	0.95
V	3.2	M12676	1000	0.16
Zn	12	M12680	**10000**	0.06

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M12831	Instrument:	ICP 6500
Analyst:	NAH	Standard:	LOQ 3010 DOD Metals Spiking S
Prep Date:	04/19/2016	Expiration Date:	10/2016

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3, 5% HCl)

Analyte	MDL Conc. (ug/L)	Std. ID #	Std Conc	Volume (mL) pipetted into 1 L
Ag	4	M12599	1000	0.2
Al	36	M12713	**10000**	0.18
As	24	M12315	1000	1.2
Ba	1.8	M12473	1000	0.09
Be	0.6	M12667	1000	0.03
Ca	100	M12716	**10000**	0.5
Cd	2.0	M12674	1000	0.1
Co	4	M12678	1000	0.2
Cr	4	M12470	**10000**	0.02
Cu	7	M12472	**10000**	0.035
Fe	100	M12745	**10000**	0.5
Mg	40	M12715	**10000**	0.2
Mn	4	M12533	**10000**	0.02
Mo	7	M12677	1000	0.35
Ni	6	M12681	1000	0.2
Pb	4	M12313	**10000**	0.02
Sb	12	M12602	1000	0.6
Se	13	M12600	1000	0.65
Tl	20	M12668	1000	0.75
V	5	M12676	1000	0.25
Zn	10	M12680	**10000**	0.05

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M12830	Reagent:	Potassium Persulfate Solution
Analyst:	LJF		
Prep Date:	041916	Expiration Date:	101916
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M11748 and brought up to volume.		

Standard Log #:	M12827	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	041816	Expiration Date:	101816
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

Standard ID#:	M12828	Vendor:	Environmental Express
Analyst:	NAH	Chemical:	Yttrium 10,000 ug/mL
Date Received:	04/18/2016	Lot #:	1518025
Expiration Date (if any):	10/14/2017	Catalog #:	hp10m67-1

Standard ID#:	M12829	Vendor:	CPI
Analyst:	NAH	Chemical:	Yttrium 10,000 ug/mL
Date Received:	04/18/2016	Lot #:	16a118
Expiration Date (if any):	10/12/2017	Catalog #:	4400-10m671

		Instrument:	CETAC
Standard Log #:	M12823	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	041816	Expiration Date:	063016
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12788 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M12824	Standard:	Hg MRL
Analyst:	LJF	Concentration:	0.2 ug/L Hg
Prep Date:	041816	Expiration Date:	063016
Prep:	Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12825	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	041816	Expiration Date:	010118
Prep:	Carefully mixed **3** parts HCl AB.618 with **1** part HNO_3 AB.617 in a hood.		

		Instrument:	CETAC
Standard Log #:	M12826	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	041816	Expiration Date:	101816
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.618 and dissolved **100 g** Stannous chloride M12802 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M12820	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	041816	Expiration Date:	081817
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12788 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M12821	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	041816	Expiration Date:	063016
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M12532 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M12822	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	041816	Expiration Date:	063016
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

Standard ID#:	M12819	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Std
Date Received:	04/12/2016	Lot #:	36-051CR
Expiration Date (if any):	4/30/2017	Catalog #:	XSPIKE-1-250

		Instrument:	CETAC
Standard Log #:	M12816	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	04/01/16	Expiration Date:	02/26/17
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.615 and dissolved **100 g** Stannous chloride M12789 and brought up to volume.		

Standard Log #:	M12817	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	04/01/16	Expiration Date:	10/01/16
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

Standard Log #:	M12818	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	04/01/16	Expiration Date:	10/01/16
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M12403 and **60 g** hydroxylamine sulfate M12610 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M12813	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	04/01/16	Expiration Date:	08/18/17
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12788 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M12814	Standard:	Hg MRL
Analyst:	LJF	Concentration:	0.2 ug/L Hg
Prep Date:	04/01/16	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12815	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	04/01/16	Expiration Date:	10/01/17
Prep:	Carefully mixed **3** parts HCl AB.615 with **1** part HNO_3 AB.614 in a hood.		

		Instrument:	CETAC
Standard Log #:	M12810	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	04/01/16	Expiration Date:	08/18/17
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12788 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M12811	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	04/01/16	Expiration Date:	06/30/16
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M12532 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M12812	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	04/01/16	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

Standard Log #:	M12809	Instrument:	ICP 6500
Analyst:	MDS	Standard:	MDL 21 Metals Spiking Solution
Prep Date:	03/22/2016	Expiration Date:	06/02/2016

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3, 5% HCl)

Analyte	MDL Conc. (ug/L)	Std. ID #	Std Conc	Volume (mL) pipetted into 1 L
Ag	5	M12599	1000	0.25
Al	10	M12713	**10000**	0.05
As	20	M12315	1000	1
Ba	2	M12473	1000	0.1
Be	0.5	M12667	1000	0.025
Ca	50	M12716	**10000**	0.25
Cd	0.5	M12674	1000	0.025
Co	2.5	M12678	1000	0.125
Cr	50	M12470	**10000**	0.25
Cu	10	M12472	**10000**	0.05
Fe	40	M12714	**10000**	0.2
Mg	25	M12715	**10000**	0.125
Mn	5	M12533	**10000**	0.025
Mo	2.5	M12677	1000	0.125
Ni	5	M12681	1000	0.25
Pb	10	M12313	**10000**	0.05
Sb	20	M12602	1000	1
Se	20	M12600	1000	1
Tl	20	M12668	1000	1
V	5	M12676	1000	0.25
Zn	5	M12680	**10000**	0.025

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M12808	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	03/17/16	Expiration Date:	03/17/17
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.534 and **128.6 mL** 10N NaOH M12645. Dilute to 20 L and mix.		

		Instrument:	GFAA
Standard Log #:	M12805	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	03/15/2016	Expiration Date:	06/01/2016
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M12504 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M12806	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	03/15/2016	Expiration Date:	06/01/2016
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M12504 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M12807	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	03/15/2016	Expiration Date:	06/01/2016
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M12505 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

Standard ID#:	M12802	Vendor:	LabChem
Analyst:	LJF	Chemical:	STANNOUS CHLORIDE
Date Received:	03/09/16	Lot #:	F053-07
Expiration Date (if any):		Catalog #:	LC251701

Standard Log #:	M12803	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	03/09/16	Expiration Date:	09/09/17
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

Standard ID#:	M12804	Vendor:	CPI
Analyst:	NAH	Chemical:	Arsenic 10,000 mg/L
Date Received:	03/09/16	Lot #:	14A276
Expiration Date (if any):	09/03/17	Catalog #:	S4400-10M31

		Instrument:	ICP 6000
Standard Log #:	M12800	Standard:	L2 ICV
Analyst:	MDS	Concentrations:	1000 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	03/08/2016	Expiration Date:	04/15/2017
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of the following and brought up to volume using milli-Q H_2O. (0.5% HNO_3, 0.5% HCl) Li (1000 µg/mL) M12672 Sn (1000 µg/mL) M12669 Sr (1000 µg/mL) M12670 Ti (1000 µg/mL) M12671 W (1000 µg/mL) M12784		

		Instrument:	ICP 6000
Standard Log #:	M12801	Standard:	List 2 MRL/ICVLL Prep Solution
Analyst:	MDS	Concentrations:	5000 µg/L (W) 1000 µg/L (Li, Sn) 500 µg/L (Ti, Sr)
Prep Date:	03/08/2016	Expiration Date:	04/15/2017

Prep:

Analyte	MRL/ICVLL Conc. (µg/L)	Standard ID	Std. Conc. (µg/mL)	Volume (mL) Pipetted into 1 L	Expiration Date
Li	20/60	M12672	1000	1	04/15/2017
W	100/300	M12784	1000	5	08/11/2017
Ti	10/30	M12671	1000	0.5	04/15/2017
Sr	10/30	M12670	1000	0.5	04/15/2017
Sn	20/60	M12669	1000	1	04/15/2017

Pipette **10 mL** into a 500 mL volumetric flask to create a working MRL std. or **1 mL** into a 50 mL digestion tube for a digested MRL standard. Pipette **30 mL** into 500 mL for a working ICVLL std. or **3 mL** into a 50 mL digestion tube for a digested ICVLL standard.

(0.5% HNO_3, 0.5% HCl)

Standard Log #:	M12798	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	03/07/16	Expiration Date:	03/07/17
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12645. Dilute to 20 L and mix.		

Standard Log #:	M12799	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	03/07/16	Expiration Date:	03/07/17
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12645. Dilute to 20 L and mix.		

Standard Log #:	M12797	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	02/29/16	Expiration Date:	08/29/16
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M12403 and **60 g** hydroxylamine sulfate M12548 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M12793	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	02/26/16	Expiration Date:	08/18/17
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12788 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M12794	Standard:	Hg MRL
Analyst:	LJF	Concentration:	0.2 ug/L Hg
Prep Date:	02/26/16	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12795	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	02/26/16	Expiration Date:	10/01/17
Prep:	Carefully mixed **3** parts HCl AB.615 with **1** part HNO_3 AB.614 in a hood.		

		Instrument:	CETAC
Standard Log #:	M12796	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	02/26/16	Expiration Date:	02/26/17
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.615 and dissolved **100 g** Stannous chloride M12789 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M12790	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	02/26/16	Expiration Date:	08/18/17
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12788 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M12791	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	02/26/16	Expiration Date:	06/30/16
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M12532 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M12792	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	02/26/16	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

Standard ID#:	M12787	Vendor:	CPI
Analyst:	NAH	Chemical:	Yttrium 10,000 mg/L
Date Received:	02/24/2016	Lot #:	16A118
Expiration Date (if any):	08/18/2017	Catalog #:	4400-10M671

Standard ID#:	M12788	Vendor:	CPI
Analyst:	NAH	Chemical:	Mercury 1000 mg/L
Date Received:	02/24/2016	Lot #:	15J139
Expiration Date (if any):	08/18/2017	Catalog #:	S4400-1000331

Standard ID#:	M12789	Vendor:	LabChem
Analyst:	LJF	Chemical:	STANNOUS CHLORIDE
Date Received:	02/24/16	Lot #:	F053-07
Expiration Date (if any):		Catalog #:	LC251701

Standard Log #:	M12786	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	02/22/16	Expiration Date:	02/22/17
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12645. Dilute to 20 L and mix.		

Standard Log #:	M12785	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	02/18/16	Expiration Date:	02/18/17
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12645. Dilute to 20 L and mix.		

Standard Log #:	M12783	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	02/16/16	Expiration Date:	08/16/16
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

Standard ID#:	M12784	Vendor:	CPI
Analyst:	NAH	Chemical:	Tungsten
Date Received:	02/16/2016	Lot #:	15k204
Expiration Date (if any):	08/11/2017	Catalog #:	S4400-1000633

		Instrument:	CETAC
Standard Log #:	M12780	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	02/15/16	Expiration Date:	10/01/17
Prep:	Carefully mixed **3** parts HCl AB.615 with **1** part HNO_3 AB.614 in a hood.		

		Instrument:	CETAC
Standard Log #:	M12781	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	02/15/16	Expiration Date:	08/12/16
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.615 and dissolved **100 g** Stannous chloride M12731 and brought up to volume.		

Standard ID#:	M12782	Vendor:	ALFA AESAR
Analyst:	LJF	Chemical:	TIN CHLORIDE DIH
Date Received:	02/11/16	Lot #:	W03B012
Expiration Date (if any):		Catalog #:	11536

		Instrument:	CETAC
Standard Log #:	M12777	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	02/15/16	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12778	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	02/15/16	Expiration Date:	02/26/16
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M12779	Standard:	Hg MRL
Analyst:	LJF	Concentration:	0.2 ug/L Hg
Prep Date:	02/15/16	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

Standard Log #:	M12774	Reagent:	Potassium Persulfate Solution
Analyst:	LJF		
Prep Date:	02/15/16	Expiration Date:	08/15/16
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M12774 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M12775	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	02/15/16	Expiration Date:	02/26/16
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M12776	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	02/15/16	Expiration Date:	06/30/16
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M12532 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M12773	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Custom Assurance std-spike
Date Received:	02/12/16	Lot #:	35-054CR
Expiration Date (if any):	02/28/2016	Catalog #:	XSPIKE-1-250

Standard ID#:	M12770	Vendor:	SPEX CertiPrep
Analyst:	MDS	Chemical:	Sulfur 10,000 µg/mL
Date Received:	02/09/2016	Lot #:	AJ16-45SY
Expiration Date (if any):	02/28/2017	Catalog #:	PLS9-3Y

		Instrument:	ICP 6000
Standard Log #:	M12771	Standard:	Sulfur ICAL
Analyst:	MDS	Concentrations:	1000 10,000 100,000 1000K µg/L (S)
Prep Date:	02/09/2016	Expiration Date:	02/28/2017
Prep:	Into four, 100 mL volumetric flasks, pipetted the following from stock standard S (10,000 µg/mL) M12770 and brought up to volume using milli-Q H_2O. *1000 ug/L std.* - **0.01 mL** *10,000 ug/L std.* - **0.1 mL** *100,000 ug/L std.* -**1.0 mL**, also used as the CCV *1000K ug/L std.* - **10 mL**		

		Instrument:	ICP 6000
Standard Log #:	M12772	Standard:	Sulfur ICV
Analyst:	MDS	Concentrations:	100,000 µg/L (S)
Prep Date:	02/09/2016	Expiration Date:	08/13/2016
Prep:	Into a 100 mL volumetric flask, pipetted **1.0 mL** of S (10,000 µg/mL) M12371 and brought up to volume using Milli-Q H_2O.		

Standard ID#:	M12769	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	02/08/2016	Lot #:	11-035WL
Expiration Date (if any):	02/28/2017	Catalog #:	XCTWI-5-500

		Instrument:	ICP 6000
Standard Log #:	M12766	Standard:	List 2 ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	02/04/2016	Expiration Date:	12/30/2016
Prep:	Into a 200 mL volumetric flask, pipetted **20 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M12733, **6 mL** of Fe (10,000 mg/L) M12714, **0.1 mL** of Li (1000 µg/mL) M12672, **0.1 mL** of Sn (1000 µg/mL) M12669, **0.1 mL** of Sr (1000 µg/mL) M12670, **0.1 mL** of Ti (1000 µg/mL) M12671, and **0.1 mL** of W (1000 µg/mL) M12673 and brought up to volume using Milli-Q H_2O. (0.5% HNO_3, 0.5% HCl)		

		Instrument:	ICP 6000
Standard Log #:	M12767	Standard:	List 2 MRL/ICVLL Prep Solution
Analyst:	MDS	Concentrations:	5000 µg/L (W) 1000 µg/L (Li, Sn) 500 µg/L (Ti, Sr)
Prep Date:	02/04/2016	Expiration Date:	02/06/2016

Prep:

Analyte	MRL/ICVLL Conc. (µg/L)	Standard ID	Std. Conc. (µg/mL)	Volume (mL) Pipetted into 1 L	Expiration Date
Li	20/60	M12672	1000	1	04/15/2017
W	100/300	M12163	1000	5	02/06/2016
Ti	10/30	M12671	1000	0.5	04/15/2017
Sr	10/30	M12670	1000	0.5	04/15/2017
Sn	20/60	M12669	1000	1	04/15/2017

Pipette **10 mL** into a 500 mL volumetric flask to create a working MRL std. or **1 mL** into a 50 mL digestion tube for a digested MRL standard. Pipette **30 mL** into 500 mL for a working ICVLL std. or **3 mL** into a 50 mL digestion tube for a digested ICVLL standard.

(0.5% HNO_3, 0.5% HCl)

Standard ID#:	M12768	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Custum Assurance Std Ca,Mg,Na
Date Received:	02/04/2016	Lot #:	11-022WL
Expiration Date (if any):	01/30/2017	Catalog #:	XTTWI-1-500

		Instrument:	ICP
Standard Log #:	M12764	Standard:	L2 ICAL
Analyst:	MDS	Concentrations:	1 (µg/L) 10 (µg/L) 100 (µg/L) 1000 (µg/L) 10,000 (µg/L)
Prep Date:	02/04/2016	Expiration Date:	11/30/2016
Prep:	Standard Conc. (ug/L) — Pipette the following: 1 — **0.01 mL** of Custom Assurance Standard XCTWI-5-500 M12703 and **0.001 mL** W (1000 µg/mL) M12673 into 1L = *1 µg/L* 10 — **0.10 mL** of Custom Assurance Standard XCTWI-5-500 M12703 and **0.01 mL** W (1000 µg/mL) M12673 into 1L = *10 µg/L* 100 — **1 mL** of Custom Assurance Standard XCTWI-5-500 M12703 and **0.1 mL** W (1000 µg/mL) M12673 into 1L = *100 µg/L* 1000 (CCV) — **2 mL** of Custom Assurance Standard XCTWI-5-500 M12703 and **0.2 mL** W (1000 µg/mL) M12673 into 200mL = *1000 µg/L* 10000 — **20 mL** of Custom Assurance Standard XCTWI-5-500 M12703 and **2 mL** W (1000 µg/mL) M12673 into 200mL = *10000 µg/L*		

		Instrument:	ICP 6000
Standard Log #:	M12765	Standard:	L2 ICV
Analyst:	MDS	Concentrations:	1000 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	02/04/2016	Expiration Date:	02/06/2016
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of the following and brought up to volume using milli-Q H_2O. (0.5% HNO_3, 0.5% HCl) Li (1000 µg/mL) M12672 Sn (1000 µg/mL) M12669 Sr (1000 µg/mL) M12670 Ti (1000 µg/mL) M12671 W (1000 µg/mL) M12163		

Standard Log #:	M12763	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	02/03/16	Expiration Date:	08/03/16
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M12403 and **60 g** hydroxylamine sulfate M12548 and brought up to volume.		

Standard Log #:	M12762	Reagent:	Potassium Persulfate Solution
Analyst:	LJF		
Prep Date:	01/29/16	Expiration Date:	07/29/16
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M11748 and brought up to volume.		

Standard Log #:	M12761	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	01/28/16	Expiration Date:	07/28/16
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

Standard Log #:	M12760	Instrument:	GFAA
Analyst:	MDS	Standard:	MDL Spiking Solution
Prep Date:	01/25/2016	Expiration Date:	06/02/2016

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (2% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
Ag	0.2	M12599	1000	0.01
As	2	M12315	1000	0.1
Pb	2	M12313	10000	0.01
Sb	2	M12602	1000	0.1
Se	2	M12600	1000	0.1
Tl	2	M12668	1000	0.1

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

		Instrument:	CETAC
Standard Log #:	M12757	Standard:	Hg MRL
Analyst:	LJF	Concentration:	0.2 ug/L Hg
Prep Date:	01/19/16	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12758	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	01/19/16	Expiration Date:	09/01/17
Prep:	Carefully mixed **3** parts HCl AB.611 with **1** part HNO_3 AB.609 in a hood.		

		Instrument:	CETAC
Standard Log #:	M12759	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	01/19/16	Expiration Date:	08/12/16
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.611 and dissolved **100 g** Stannous chloride M12731 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M12755	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	01/19/16	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12756	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	01/19/16	Expiration Date:	02/26/16
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

Standard Log #:	M12752	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	01/19/16	Expiration Date:	01/19/17
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12645. Dilute to 20 L and mix.		

		Instrument:	CETAC
Standard Log #:	M12753	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	01/19/16	Expiration Date:	02/26/16
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M12754	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	01/19/16	Expiration Date:	06/30/16
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M12532 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard Log #:	M12751	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	011116	Expiration Date:	071116
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M12403 and **60 g** hydroxylamine sulfate M12548 and brought up to volume.		

		Instrument:	GFAA
Standard Log #:	M12750	Standard:	LODW/LOQW Spiking Sol'n
Analyst:	MDS	Concentrations:	150 ug/L (Sb) 100 ug/L (As) 200 ug/L (Se) 45 ug/L (Pb) 40 ug/L (Tl)
Prep Date:	01/05/2016	Expiration Date:	06/02/2016
Prep:	Into a 100 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. **1.5 mL** of Sb (1000 mg/L) M12602 **1.0 mL** of As (1000 mg/L) M12315 **2.0 mL** of Se (1000 mg/L) M12600 **0.045 mL** of Pb (10,000 mg/L) M12313 **0.4 mL** of Tl (1000 mg/L) M12668 From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (*3 ug/L* Sb, *2 ug/L* As, *4 ug/L* Se, *0.9 ug/L* Pb, *0.8 ug/L* Tl) and **2 mL** spiking solution for LOQ (*6 ug/L* Sb, *4 ug/L* As, *8 ug/L* Se, *1.8 ug/L* Pb, *1.6 ug/L* Tl)		

Standard Log #:	M12748	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	010516	Expiration Date:	070516
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

		Instrument:	GFAA
Standard Log #:	M12749	Standard:	LODS/LOQS Spiking Sol'n
Analyst:	MDS	Concentrations:	60 ug/L (Sb) 160 ug/L (As,Se) 40 ug/L (Pb) 50 ug/L (Tl)
Prep Date:	01/05/2016	Expiration Date:	06/02/2016
Prep:	Into a 200 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. **1.2 mL** of Sb (1000 mg/L) M12602 **3.2 mL** of As (1000 mg/L) M12315 **3.2 mL** of Se (1000 mg/L) M12600 **0.08 mL** of Pb (10,000 mg/L) M12313 **1.0 mL** of Tl (1000 mg/L) M12668 From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (1.2 *ug/L* Sb, *3.2 ug/L* As, *3.2 ug/L* Se, *0.8 ug/L* Pb, *1 ug/L* Tl) and **2 mL** spiking solution for LOQ (2.4 *ug/L* Sb, *6.4 ug/L* As, *6.4 ug/L* Se, *1.6 ug/L* Pb, *2 ug/L* Tl)		

Standard Log #:	M12747	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	123015	Expiration Date:	123016
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12645. Dilute to 20 L and mix.		

		Instrument:	ICP 6000
Standard Log #:	M12744b	Standard:	B&Si ICAL
Analyst:	MDS	Concentrations:	50, 200, 1000, 2000 and 10,000 ug/L (B, Si)
Prep Date:	12/21/2015	Expiration Date:	10/15/2016
Prep:	Into five, 1 L volumetric flasks, pipetted the following from stock standards B (1000 mg/L) M12471 and Si (1000 mg/L) M12601 and brought up to volume using milli-Q H_2O. *50 ug/L std.* - **0.05 mL** of each *200 ug/L std.* - **0.2 mL** of each *1000 ug/L std.* -**1.0 mL** of each, also used for Continuing Calibration Verification *2000 ug/L std.* - **2.0 mL** of each *10,000 ug/L std.* -**10 mL** of each		

		Instrument:	ICP 6000
Standard Log #:	M12745b	Standard:	B & Si ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (B,Si)
Prep Date:	12/22/2015	Expiration Date:	06/30/2016
Prep:	Into a 100 mL volumetric flask, pipetted **10 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M12529, **0.05 mL** of B (1000 µg/mL) M12471, **0.05 mL** of Si (1000 µg/mL) M12601 and **3 mL** of Fe (10,000 mg/L) M12714 and brought up to volume using Milli-Q H_2O.		

Standard Log #:	M12746b	Instrument:	GFAA
Analyst:	MDS	Reagent:	Pd/Mg Matrix Modifier
Prep Date:	12/22/2015	Expiration Date:	05/18/2017
Prep:	Into a 50 mL volumetric flask, partially filled with milli-Q H_2O, pipetted **15 mL** Pd Modifier M12584 and **10 mL** Mg (10,000 mg/L) M12715 and brought up to volume.		

Standard ID#:	M12744	Vendor:	CPI
Analyst:	NAH	Chemical:	potassium 10,000 mg/L
Date Received:	12/21/2015	Lot #:	15L015
Expiration Date (if any):	06/08/2017	Catalog #:	4400-10M411

Standard ID#:	M12745	Vendor:	CPI
Analyst:	NAH	Chemical:	iron 10,000 mg/L
Date Received:	12/21/2015	Lot #:	15H243
Expiration Date (if any):	06/08/2017	Catalog #:	4400-10M261

Standard ID#:	M12746	Vendor:	CPI
Analyst:	NAH	Chemical:	Y 10,000 mg/L
Date Received:	12/21/2015	Lot #:	15E153
Expiration Date (if any):	06/08/2017	Catalog #:	4400-10M671

		Instrument:	CETAC
Standard Log #:	M12740	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	12/21/15	Expiration Date:	02/26/16
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M12741	Standard:	Hg MRL
Analyst:	LJF	Concentration:	0.2 ug/L Hg
Prep Date:	12/21/15	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12742	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	12/21/15	Expiration Date:	09/01/17
Prep:	Carefully mixed **3** parts HCl AB.611 with **1** part HNO_3 AB.609 in a hood.		

		Instrument:	CETAC
Standard Log #:	M12743	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	12/21/15	Expiration Date:	08/12/16
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.611 and dissolved **100 g** Stannous chloride M12731 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M12737	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	12/21/15	Expiration Date:	02/26/16
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M12738	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	12/21/15	Expiration Date:	06/30/16
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M12532 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M12739	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	12/21/15	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

Standard Log #:	M12734	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	121715	Expiration Date:	121716
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12645. Dilute to 20 L and mix.		

Standard Log #:	M12735	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	121715	Expiration Date:	061716
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M12403 and **60 g** hydroxylamine sulfate M12548 and brought up to volume.		

Standard Log #:	M12736	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	121715	Expiration Date:	121716
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12645. Dilute to 20 L and mix.		

Standard Log #:	M12730	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	12/14/15	Expiration Date:	06/14/16
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

Standard ID#:	M12731	Vendor:	MACRON
Analyst:	LJF	Chemical:	STANNOUS CHLORIDE
Date Received:	12/10/15	Lot #:	0000119473
Expiration Date (if any):	08/12/16	Catalog #:	8176-04

Standard ID#:	M12732	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	12-14-2015	Lot #:	34-008CR
Expiration Date (if any):	12-30-2016	Catalog #:	XSPIKE-1-250

Standard ID#:	M12733	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Interference A
Date Received:	12-14-2015	Lot #:	12-165YPX
Expiration Date (if any):	12-30-2016	Catalog #:	INT-A1

		Instrument:	ICP 6000
Standard Log #:	M12729	Standard:	Na,K MRL
Analyst:	MDS	Concentrations:	1 mg/L (Na,K)
Prep Date:	12/07/2015	Expiration Date:	06/03/2015
Prep:	Into a 500 mL volumetric flask, pipetted **0.5 mL** of Na (1000 µg/mL) M12377 and **0.5 mL** K (1000 µg/mL) M12378 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

Standard Log #:	M12725	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	120415	Expiration Date:	060416
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M12403 and **60 g** hydroxylamine sulfate M12548 and brought up to volume.		

Standard Log #:	M12726	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	120415	Expiration Date:	060416
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

		Instrument:	ICP
Standard Log #:	M12727	Standard:	As Pb ICV1
Analyst:	MDS	Concentrations:	5000 ug/L (As,Pb)
Prep Date:	12/04/2015	Expiration Date:	03/26/2016
Prep:	Into a 1 L volumetric flask, pipetted **0.5 mL** of As (10,000 mg/L) M12213 and **0.5 mL** Pb (10,000 mg/L) M12313 and brought to volume with Milli-Q H_2O. (2% HNO_3, 2% HCl)		

Standard Log #:	M12728	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	120415	Expiration Date:	120416
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12645. Dilute to 20 L and mix.		

		Instrument:	CETAC
Standard Log #:	M12721	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	120215	Expiration Date:	022616
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M12722	Standard:	Hg MRL
Analyst:	LJF	Concentration:	0.2 ug/L Hg
Prep Date:	120215	Expiration Date:	063016
Prep:	Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12723	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	120215	Expiration Date:	040117
Prep:	Carefully mixed **3** parts HCl AB.607 with **1** part HNO_3 AB.609 in a hood.		

		Instrument:	CETAC
Standard Log #:	M12724	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	120215	Expiration Date:	120915
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.607 and dissolved **100 g** Stannous chloride M12549 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M12718	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	120215	Expiration Date:	022616
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M12719	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	120215	Expiration Date:	063016
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M12532 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M12720	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	120215	Expiration Date:	063016
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	ICP 6500
Standard Log #:	M12717	Standard:	ICV Std.
Analyst:	NAH	Concentrations:	**12,000 mg/L** Al **10,000 mg/L** Ca, Mg **5000 mg/L** Fe **2000 mg/L** As, Ba, Se, Tl **500 mg/L** B, Co, Li, Mn, Mo, Ni, Pb, Sb, Sn, Sr, Ti, V, Zn **250 mg/L** Cu **200 mg/L** Cr **50 mg/L** Ag, Be, Cd
Prep Date:	12-01-2015	Expiration Date:	06-16
Prep:	Into a 1 L volumetric flask, pipetted the following and brought up to volume with milli-Q H_2O. **10 mL** Custom Assurance Standard #18 ((200 mg/L Al, As, Ba, Se, Tl) (100 mg/L Fe) (50 mg/L Co, Mn, Ni, Pb, Sb, V, Zn) (25 mg/L Cu) (20 mg/L Cr) (5 mg/L Ag, Be, Cd)) M12653, **2 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M12529, **0.5 mL** Mo (1000 mg/L) M12677, **0.5 mL** B (1000 mg/L) M12471, **0.5 mL** Sr (1000 mg/L) M12670, **0.5 mL** Li (1000 mg/L) M12672, **0.5 mL** Sn (1000 mg/L) M12669 and **0.5 mL** Ti (1000 mg/L) M12671.		

Standard ID#:	M12713	Vendor:	CPI
Analyst:	NAH	Chemical:	Al 10,000 mg/L
Date Received:	12/01/2015	Lot #:	15I132
Expiration Date (if any):	05/18/2017	Catalog #:	p/n 4400-10m11

Standard ID#:	M12714	Vendor:	CPI
Analyst:	NAH	Chemical:	Fe 10,000 mg/L
Date Received:	12/01/2015	Lot #:	15H243
Expiration Date (if any):	05/18/2017	Catalog #:	p/n 4400-10m261

Standard ID#:	M12715	Vendor:	CPI
Analyst:	NAH	Chemical:	Mg 10,000 mg/L
Date Received:	12-01-2015	Lot #:	15G077
Expiration Date (if any):	5-18-2015	Catalog #:	p/n 4400-10m311

Standard ID#:	M12716	Vendor:	CPI
Analyst:	NAH	Chemical:	Ca 10,000 mg/L
Date Received:	12-01-2015	Lot #:	15k045
Expiration Date (if any):	5-18-2015	Catalog #:	p/n 4400-10m91

		Instrument:	ICP 6500
Standard Log #:	M12710	Standard:	ICVLL
Analyst:	NAH	Concentrations:	12 ug/L: Be. 15 ug/L: Cd. 30 ug/L: Ag, Ba, Co, Cr, Cu, Mn, Mo. Ni, Pb, V, Zn, Sr, and Ti. 60 ug/L: Sb, As, Se, Tl, Li, Sn and B. 150 ug/L: W. 300 ug/L: Si. 900 ug/L: Fe. 1200 ug/L Al. 1500 ug/L: S, Ca and Mg. 3000 ug/L: K and Na.
Prep Date:	12/01/2015	Expiration Date:	06/2016
Prep:	Into a 500 mL volumetric flask, pipetted 30 **mL** of MRL Base STD M12709 and brought to volume with Milli-Q H_2O. (5% HNO_3 & 5% HCL)		

		Instrument:	ICP 6500
Standard Log #:	M12711	Standard:	ICSA
Analyst:	NAH	Concentrations:	**500,000 ug/L** Al, Ca, Fe, Mg
Prep Date:	12/01/2015	Expiration Date:	06/2016
Prep:	Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M12529 and **15 mL** Fe (10000 mg/L) M12603 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M12712	Standard:	ICSAB
Analyst:	NAH	Concentrations:	**500,000 ug/L** Al, Ca, Fe, Mg **500 ug/L** Ag, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Tl, V, Zn
Prep Date:	12/01/2015	Expiration Date:	06/2016
Prep:	Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M12529, **15 mL** Fe (10,000 mg/L) M12603, **2.5 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M12530 and **2.5 mL** Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12558 and brought up to volume with milli-Q H_2O.		

MRL BASE STD M12709

Analyst NAH

Prep Date 12-01-2015

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	(ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L	Expiration Date
Ag	20	M12599	1000	1	-
Al	400	M12605	10000	2	-
Ba	10	M12473	1000	0.5	-
Be	4	M12667	1000	0.2	-
Cd	5	M12674	1000	0.25	-
Co	10	M12678	1000	0.5	-
Cr	10	M12470	10000	0.05	-
Cu	10	M12472	10000	0.05	-
Mg	500	M12606	10000	2.5	-
Mn	10	M12533	10000	0.05	-
Mo	10	M12677	1000	0.5	---
Ni	10	M12681	1000	0.5	--
Pb	10	M12313	10000	0.05	--
Sb	20	M12602	1000	1	--
V	10	M12676	1000	0.5	--
Zn	10	M12680	10000	0.05	--
K	1000	M12608	10000	5	--
Na	1000	M12607	10000	5	--
As	20	M12315	1000	1	--
Ca	500	M12604	10000	2.5	--
Fe	300	M12603	10000	1.5	--
Se	20	M12600	1000	1	--
Tl	20	M12668	1000	1	--
Si	100	M12601	1000	5	--
B	20	M12471	1000	1	--
Li	20	M12672	1000	1	--
W	50	M12673	1000	2.5	--
Ti	10	M12671	1000	0.5	--
Sr	10	M12670	1000	0.5	--
Sn	50	M12669	1000	2.5	--
S	300	M12371	10000	1.5	-

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expiration Date: 10/2016

		Instrument:	ICP 6500
Standard Log #:	M12706	Standard:	CCV1
Analyst:	NAH	Concentrations:	**5000 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn **500 µg/L** Ag, Be, Cd
Prep Date:	12/01/2015	Expiration Date:	06/2016
Prep:	Into a 1 L volumetric flask, pipetted **50 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12558 and **5.0 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M12530 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M12707	Standard:	CCV2
Analyst:	NAH	Concentrations:	**500 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn **50 µg/L** Ag, Be, Cd
Prep Date:	12/01/2015	Expiration Date:	06/2016
Prep:	Into a 1 L volumetric flask, pipetted **5 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12558 and **0.5 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M12830 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M12708	Standard:	DOD MRL
Analyst:	NAH	Concentrations:	4 ug/L: Be. 5 ug/L: Cd. 10 ug/L: Ag, Ba, Co, Cr, Cu, Mn, Mo. Ni, Pb, V, Zn, Sr, and Ti. 20 ug/L: Sb, As, Se, Tl, Li, Sn and B. 50 ug/L: W. 100 ug/L: Si. 300 ug/L: Fe. 400 ug/L Al. 500 ug/L: S, Ca and Mg. 1000 ug/L: K and Na.
Prep Date:	12/01/2015	Expiration Date:	06/2016
Prep:	Into a 500 mL volumetric flask, pipetted **10 mL** of MRL Base STD M12709 and brought to volume with Milli-Q H_2O. (5% HNO_3 & 5% HCL)		

		Instrument:	ICP 6000
Standard Log #:	M12704	Standard:	Na & K ICAL
Analyst:	MDS	Concentrations:	0.5, 1, 5, 10, 50, 100, and 200 mg/L (Na,K)
Prep Date:	12/01/2015	Expiration Date:	07/03/2016
Prep:	Into seven, 200 mL volumetric flasks, pipetted the following from Na (1000 µg/mL) M12377 and K (1000 µg/mL) M12378 and brought up to volume using milli-Q H_2O. (2% HNO_3) *0.5 mg/L std.* - **0.1 mL** of each *1.0 mg/L std.* - **0.2 mL** of each *5.0 mg/L std.* - **1.0 mL** of each *10 mg/L std.* - **2.0 mL** of each *50 mg/L std.* - **10 mL** of each *100 mg/L std.* -**20 mL** of each, also used for Continuing Calibration Verification *200 mg/L std.* - **40 mL** of each		

		Instrument:	ICP 6500
Standard Log #:	M12705	Standard:	ICAL
Analyst:	NAH	Concentrations:	0.25, 0.5, 1, 5, 10, 20, 50, 100, 1000, 10,000, 100k, 100,000, 500,000 and 1000k (ug/L)
Prep Date:	12/01/2015	Expiration Date:	06/2016
Prep:	Using 1 L volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (5% HNO_3, 5% HCl) *1000 ug/L Std.* - **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12558, **10 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M12530 and **1 mL** of Si (1000 mg/L) M12601. *0.25 ug/L Std.* - **0.25 mL** of the 1000 ug/L Std. *0.5 ug/L Std.* - **0.5 mL** of the 1000 ug/L Std. *1 ug/L Std.* - **1 mL** of the 1000 ug/L Std. *5 ug/L Std.* - **5 mL** of the 1000 ug/L Std. *10 ug/L Std.* - **10 mL** of the 1000 ug/L Std. *20 ug/L Std.* - **20 mL** of the 1000 ug/L Std. *50 ug/L Std.* - **50 mL** of the 1000 ug/L Std. *100 ug/L Std.* - **1 mL** of Custom Assurance Std. (CAS) #23 and **1 mL** of CAS #3 *10,000 ug/L Std.* - **100 mL** CAS #23, **100 mL** CAS #3 and **1 mL** of K (10,000 mg/L) M12609. *100k ug/L Std.* - **10 mL** of Cu (10,000 mg/L) M12472, **10 mL** of Mn (10,000 mg/L) M12533, **10 mL** of Cr (10,000 mg/L) M12470, **10 mL** Pb (10,000 mg/L) M12313, **10 mL** of Zn (10,000 mg/L) M12680 and **10 mL** of Na (10,000 mg/L) M12679. *100,000 ug/L Std.* - **10 mL** of Mg (10,000 mg/L) M12606, **10 mL** of Fe (10,000 mg/L) M12603, **10 mL** of Ca (10,000 mg/L) M12490 and **10 mL** Al (10,000 mg/L) M12605. *500,000 ug/L Std.* - **50 mL** of Mg (10,000 mg/L), **50 mL** of Fe (10,000 mg/L), **50 mL** of Ca (10,000 mg/L) and **50 mL** of Al (10,000 mg/L) *1000k ug/L Std.* - **100 mL** of Mg (10,000 mg/L), **100 mL** of Fe (10,000 mg/L), **100 mL** of Ca (10,000 mg/L) and **100 mL** of Al (10,000 mg/L)		

		Instrument:	ICP 6000
Standard Log #:	M12701	Standard:	W ICAL and CCV
Analyst:	MDS	Concentrations:	100, 1000, and 10,000 µg/L (W)
Prep Date:	11/23/15	Expiration Date:	04/15/17
Prep:	Into four, 1 L volumetric flasks, pipetted the following from W (1000 µg/mL) M12673 and brought up to volume using milli-Q H_2O. (0.5% HNO_3, 0.5% HCl) *100 µg/L std.* - **0.1 mL** *1000 µg/L std.* - **1.0 mL** - also used for Continuing Calibration Verification *10,000 µg/L std.* - **10 mL**		

		Instrument:	ICP 6000
Standard Log #:	M12702	Standard:	W ICV
Analyst:	MDS	Concentrations:	1000 µg/L (W)
Prep Date:	11/23/15	Expiration Date:	02/06/16
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of W (1000 µg/mL) M12163 and brought up to volume using milli-Q H_2O. (0.5% HNO_3, 0.5% HCl)		

Standard ID#:	M12703	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custum Assurance Standard
Date Received:	11/19/2015	Lot #:	33-195CR
Expiration Date (if any):	11/30/2016	Catalog #:	XCTWI-5-500

Standard Log #:	M12700	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	11/20/15	Expiration Date:	11/20/16
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12645. Dilute to 20 L and mix.		

Standard Log #:	M12699	Standard:	GFAA Instrument Check
Analyst:	MDS	Final Concentration:	10 µg/L As 6 µg/L Pb 22 µg/L Tl 24 µg/L Sb, Se 0.8 µg/L Ag
Prep Date:	11/12/15	Expiration Date:	06/02/16

Into six, 100 mL volumetric flasks, add the following and bring up to volume with milli-Q H_2O.

Element	Volume Pipetted (mL)	Standard Conc. (µg/mL)	Standard ID	New Conc. (µg/L)
As	1	1000	M12315	10,000
Pb	0.1	10,000	M12313	10,000
Tl	1	1000	M12668	10,000
Se	1	1000	M12600	10,000
Sb	1	1000	M12602	10,000
Ag	0.1	1000	M12599	1000

Into a 1 L volumetric flask, add the following and bring up to volume with Milli-Q H_20. (1% HNO_3)

Element	Volume Pipetted (mL)	Standard Conc. (µg/L)	New Conc. (µg/L)
As	1	10,000	10
Pb	0.6	10,000	6
Tl	2.2	10,000	22
Se	2.4	10,000	24
Sb	2.4	10,000	24
Ag	0.8	1000	0.8

		Instrument:	ICP 6000
Standard Log #:	M12695	Standard:	NaK ICV
Analyst:	MDS	Concentrations:	100 mg/L (Na, K)
Prep Date:	11/11/15	Expiration Date:	02/12/17
Prep:	Into a 250 mL volumetric flask, pipetted **2.5 mL** of K (10,000 mg/L) M12609 and Na (10,000 mg/L) M12679 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M12696	Standard:	Na,K ICVLL
Analyst:	MDS	Concentrations:	3 mg/L (Na,K)
Prep Date:	11/11/15	Expiration Date:	02/12/17
Prep:	Into a 500 mL volumetric flask, pipetted **0.15 mL** of Na (10,000 µg/mL) M12679 and **0.15 mL** K (10,000 µg/mL) M12609 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M12697	Standard:	NaK ICSAB
Analyst:	MDS	Concentrations:	500 mg/L (Al, Ca, Fe, Mg) 100 mg/L (Na, K)
Prep Date:	11/11/15	Expiration Date:	06/30/16
Prep:	Into a 250 mL volumetric flask, pipetted **25 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M12529, **2.5 mL** of K (10,000 mg/L) M12609, **2.5 mL** of Na (10,000 mg/L) M12679 and **7.5 mL** of Fe (10,000 mg/L) M12603 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

Standard Log #:	M12698	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	11/11/15	Expiration Date:	05/11/16
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M12403 and **60 g** hydroxylamine sulfate M12548 and brought up to volume.		

		Instrument:	GFAA
Standard Log #:	M12693	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	11/02/2015	Expiration Date:	06/01/2016
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M12505 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M12694	Standard:	List 2 ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	11/02/2015	Expiration Date:	02/06/2016
Prep:	Into a 200 mL volumetric flask, pipetted **20 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M12529, **6 mL** of Fe (10,000 mg/L) M12603, **0.1 mL** of Li (1000 µg/mL) M12672, **0.1 mL** of Sn (1000 µg/mL) M12669, **0.1 mL** of Sr (1000 µg/mL) M12670, **0.1 mL** of Ti (1000 µg/mL) M12671, and **0.1 mL** of W (1000 µg/mL) M12163 and brought up to volume using Milli-Q H_2O. (0.5% HNO_3, 0.5% HCl)		

Standard ID#:	M12690	Vendor:	MACRON
Analyst:	LJF	Chemical:	STANNOUS CHLORIDE
Date Received:	11/02/15	Lot #:	0000119473
Expiration Date (if any):	08/12/16	Catalog #:	8176-04

		Instrument:	GFAA
Standard Log #:	M12691	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	11/02/2015	Expiration Date:	06/01/2016
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M12504 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M12692	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	11/02/2015	Expiration Date:	06/01/2016
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M12504 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	CETAC
Standard Log #:	M12688	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	10/27/15	Expiration Date:	08/12/16
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.607 and dissolved **100 g** Stannous chloride M12649 and brought up to volume.		

Standard Log #:	M12689	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	10/27/15	Expiration Date:	04/27/16
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M12270 and **60 g** hydroxylamine sulfate M12548 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M12685	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	10/27/15	Expiration Date:	02/26/16
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M12686	Standard:	Hg MRL
Analyst:	LJF	Concentration:	0.2 ug/L Hg
Prep Date:	10/27/15	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12687	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	10/27/15	Expiration Date:	06/30/15
Prep:	Carefully mixed **3** parts HCl AB.607 with **1** part HNO_3 AB.606 in a hood.		

		Instrument:	CETAC
Standard Log #:	M12682	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	10/27/15	Expiration Date:	02/26/16
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M12683	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	10/27/15	Expiration Date:	02/26/16
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M12684	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	10/27/15	Expiration Date:	02/26/16
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

Standard ID#:	M12677	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Mo 1000 ug/L
Date Received:	10/21/15	Lot #:	15G130
Expiration Date (if any):	04/15/17	Catalog #:	S4400-1000343

Standard ID#:	M12678	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Co 1000 ug/L
Date Received:	10/21/15	Lot #:	15I020
Expiration Date (if any):	04/15/17	Catalog #:	S4400-1000131

Standard ID#:	M12679	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Na 10,000 ug/L
Date Received:	10/21/15	Lot #:	15I102
Expiration Date (if any):	04/15/17	Catalog #:	4400-10M521

Standard ID#:	M12680	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Zn 10,000 ug/L
Date Received:	10/21/15	Lot #:	15H234
Expiration Date (if any):	04/15/17	Catalog #:	S4400-10M681

Standard ID#:	M12681	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Ni 1000 ug/L
Date Received:	10/21/15	Lot #:	15G129
Expiration Date (if any):	04/15/17	Catalog #:	S4400-1000361

Standard ID#:	M12672	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Li 1000ug/L
Date Received:	10/21/15	Lot #:	15I044
Expiration Date (if any):	04/15/17	Catalog #:	S4400-1000291

Standard ID#:	M12673	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	W 1000ug/L
Date Received:	10/21/15	Lot #:	15F057
Expiration Date (if any):	04/15/17	Catalog #:	S4400-100633

Standard ID#:	M12674	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Cd 1000ug/L
Date Received:	10/21/15	Lot #:	15G138
Expiration Date (if any):	04/15/17	Catalog #:	S4400-100081

Standard ID#:	M12675	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Si 1000 ug/L
Date Received:	10/21/15	Lot #:	15H045
Expiration Date (if any):	04/15/17	Catalog #:	S4400-1000504F

Standard ID#:	M12676	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	V 1000 ug/L
Date Received:	10/21/15	Lot #:	15H133
Expiration Date (if any):	04/15/17	Catalog #:	S4400-1000651

Standard ID#:	M12667	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Be 1000ug/L
Date Received:	10/21/15	Lot #:	15I030
Expiration Date (if any):	04/15/17	Catalog #:	S4400-100051

Standard ID#:	M12668	Vendor:	CPI INERNATIONAL
Analyst:	LJF	Chemical:	Tl 1000ug/L
Date Received:	10/21/15	Lot #:	15F051
Expiration Date (if any):	04/15/17	Catalog #:	S4400-1000581

Standard ID#:	M12669	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Sn 1000ug/L
Date Received:	10/21/15	Lot #:	15H126
Expiration Date (if any):	04/15/17	Catalog #:	S4400-1000613

Standard ID#:	M12670	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Sr 1000ug/L
Date Received:	10/21/15	Lot #:	15F052
Expiration Date (if any):	04/15/17	Catalog #:	S4400-1000531

Standard ID#:	M12671	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Tl 100ug/L
Date Received:	10/21/15	Lot #:	15G013
Expiration Date (if any):	04/15/17	Catalog #:	S4400-1000623

		Instrument:	ICP 6000
Standard Log #:	M12666	Standard:	B&Si ICV
Analyst:	MDS	Concentrations:	1000 ug/L (B, Si)
Prep Date:	10/21/2015	Expiration Date:	03/2016
Prep:	Into a 1 L volumetric flask, pipetted **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, **B**, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12558 and **1.0 mL** Si (1000 mg/L) M11919 and brought up to volume using milli-Q H_2O.		

		Instrument:	CETAC
Standard Log #:	M12662	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	10/16/15	Expiration Date:	02/26/16
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M12663	Standard:	Hg MRL
Analyst:	LJF	Concentration:	0.2 ug/L Hg
Prep Date:	10/16/15	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12664	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	10/16/15	Expiration Date:	07/01/17
Prep:	Carefully mixed **3** parts HCl AB.607 with **1** part HNO_3 AB.606 in a hood.		

		Instrument:	CETAC
Standard Log #:	M12665	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	10/16/15	Expiration Date:	08/12/16
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.607 and dissolved **100 g** Stannous chloride M12649 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M12659	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	10/16/15	Expiration Date:	02/26/16
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M12660	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	10/16/15	Expiration Date:	06/30/16
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M12532 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M12661	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	10/16/15	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	GFAA
Standard Log #:	M12657	Standard:	LODS/LOQS Spiking Sol'n
Analyst:	MDS	Concentrations:	60 ug/L (Sb) 160 ug/L (As,Se) 40 ug/L (Pb) 50 ug/L (Tl)
Prep Date:	10/12/2015	Expiration Date:	11/08/2015
Prep:	Into a 200 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. **1.2 mL** of Sb (1000 mg/L) M12602 **3.2 mL** of As (1000 mg/L) M12315 **3.2 mL** of Se (1000 mg/L) M12600 **0.08 mL** of Pb (10,000 mg/L) M12313 **1.0 mL** of Tl (1000 mg/L) M11997 From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (1.2 *ug/L* Sb, *3.2 ug/L* As, *3.2 ug/L* Se, *0.8 ug/L* Pb, *1 ug/L* Tl) and **2 mL** spiking solution for LOQ (2.4 *ug/L* Sb, *6.4 ug/L* As, *6.4 ug/L* Se, *1.6 ug/L* Pb, *2 ug/L* Tl)		

		Instrument:	GFAA
Standard Log #:	M12658	Standard:	LODW/LOQW Spiking Sol'n
Analyst:	MDS	Concentrations:	150 ug/L (Sb) 100 ug/L (As) 200 ug/L (Se) 45 ug/L (Pb) 40 ug/L (Tl)
Prep Date:	10/12/2015	Expiration Date:	11/08/2015
Prep:	Into a 100 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. **1.5 mL** of Sb (1000 mg/L) M12602 **1.0 mL** of As (1000 mg/L) M12315 **2.0 mL** of Se (1000 mg/L) M12600 **0.045 mL** of Pb (10,000 mg/L) M12313 **0.4 mL** of Tl (1000 mg/L) M11997 From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (*3 ug/L* Sb, *2 ug/L* As, *4 ug/L* Se, *0.9 ug/L* Pb, *0.8 ug/L* Tl) and **2 mL** spiking solution for LOQ (*6 ug/L* Sb, *4 ug/L* As, *8 ug/L* Se, *1.8 ug/L* Pb, *1.6 ug/L* Tl)		

		Instrument:	GFAA
Standard Log #:	M12655	Standard:	LODW/LOQW Ag Spiking Sol'n
Analyst:	MDS	Concentrations:	10 ug/L (Ag)
Prep Date:	10/12/2015	Expiration Date:	02/10/2017
Prep:	Into a 100 mL volumetric flask, pipetted **0.1 mL** of Ag (1000mg/L) M12599 and brought to volume with Milli-Q H_2O to make a 1000 ug/L Ag std. Into a 1 L volumetric flask, pipetted **10 mL** of Ag (*1000 ug/L*) std. and brought to volume with Milli-Q H_2O. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (*0.2 ug/L*) and **2 mL** spiking solution for LOQ (*0.4 ug/L*)		

		Instrument:	GFAA
Standard Log #:	M12656	Standard:	LODS/LOQS Ag Spiking Sol'n
Analyst:	MDS	Concentration:	6 ug/L (Ag)
Prep Date:	10/12/2015	Expiration Date:	02/10/2017
Prep:	Into a 200 mL volumetric flask, pipetted **0.12 mL** of Ag (1000 mg/L) M12599 and brought up to volume with Milli-Q H_2O. From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **2 mL** spiking solution into 50 mL H_2O for LOD *(0.24 ug/L)* and **4 mL** spiking solution for LOQ *(0.48 ug/L)*		

Standard ID#:	M12652	Vendor:	SIGMA-ALDRICH
Analyst:	LJF	Chemical:	POTASSIUM PERSULFATE
Date Received:	10/09/2015	Lot #:	MKBV6966V
Expiration Date (if any):	10/09/2016	Catalog #:	216224

Standard ID#:	M12653	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	10/09/2015	Lot #:	33-28CR
Expiration Date (if any):	10/30/2016	Catalog #:	XSPIKE-1-250

Standard ID#:	M12654	Vendor:	AMCO Clear
Analyst:	NAH	Chemical:	turbidity standard 2.0 ntu
Date Received:	10/09/2015	Lot #:	C580865
Expiration Date (if any):	10/30/2016	Catalog #:	8008

Standard Log #:	M12651	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	10/08/15	Expiration Date:	10/08/16
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12645. Dilute to 20 L and mix.		

Standard Log #:	M12650	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	10/07/15	Expiration Date:	10/07/16
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12645. Dilute to 20 L and mix.		

Standard Log #:	M12648	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	10/02/15	Expiration Date:	10/02/16
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12645. Dilute to 20 L and mix.		

Standard ID#:	M12649	Vendor:	MACRON
Analyst:	LJF	Chemical:	STANNOUS CHLORIDE
Date Received:	10/02/15	Lot #:	119473
Expiration Date (if any):	08/12/16	Catalog #:	8176-04

Standard Log #:	M12646	Reagent:	Potassium Persulfate Solution
Analyst:	LJF		
Prep Date:	10/01/15	Expiration Date:	04/01/16
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M11748 and brought up to volume.		

Standard Log #:	M12647	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	10/01/15	Expiration Date:	04/01/16
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

Standard Log #:	M12645	Reagent:	10N NaOH
Analyst:	LJF		
Prep Date:	09/29/15	Expiration Date:	09/29/16
Prep:	Into a 1 L volumetric flask, added **400 g** NaOH M12543 and brought up to volume.		

Standard Log #:	M12644	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	09/28/15	Expiration Date:	09/28/16
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12543. Dilute to 20 L and mix.		

Standard Log #:	M12641	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	MDS	pH:	4.93 ± 0.05
Prep Date:	09/24/2015	Expiration Date:	06/18/2016
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12543. Dilute to 20 L and mix.		

Standard Log #:	M12642	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	MDS	pH:	4.93 ± 0.05
Prep Date:	09/24/2015	Expiration Date:	06/18/2016
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12543. Dilute to 20 L and mix.		

Standard Log #:	M12643	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	09/24/15	Expiration Date:	03/24/16
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M12270 and **60 g** hydroxylamine sulfate M12548 and brought up to volume.		

Standard Log #:	M12638	Standard:	GFAA Instrument Check
Analyst:	MDS	Final Concentration:	10 µg/L As 6 µg/L Pb 22 µg/L Tl 24 µg/L Sb, Se 0.8 µg/L Ag
Prep Date:	09/22/2015	Expiration Date:	11/08/2015

Into six, 100 mL volumetric flasks, add the following and bring up to volume with milli-Q H_2O.

Element	Volume Pipetted (mL)	Standard Conc. (µg/mL)	Standard ID	New Conc. (µg/L)
As	1	1000	M12315	10,000
Pb	0.1	10,000	M12313	10,000
Tl	1	1000	M11997	10,000
Se	1	1000	M12600	10,000
Sb	1	1000	M12602	10,000
Ag	0.1	1000	M12599	1000

Into a 1 L volumetric flask, add the following and bring up to volume with Milli-Q H_20. (1% HNO_3)

Element	Volume Pipetted (mL)	Standard Conc. (µg/L)	New Conc. (µg/L)
As	1	10,000	10
Pb	0.6	10,000	6
Tl	2.2	10,000	22
Se	2.4	10,000	24
Sb	2.4	10,000	24
Ag	0.8	1000	0.8

		Instrument:	GFAA
Standard Log #:	M12639	Standard:	As Spiking Solution
Analyst:	MDS	Concentration:	10 ug/mL (As)
Prep Date:	09/22/2015	Expiration Date:	06/02/2016
Prep:	Into a 100 mL volumetric flask, pipetted **1.0 mL** of As (1000 mg/L) M12315 and brought to volume with Milli-Q DI H_2O. (3% HNO_3) *Pipette **0.075 mL** of spiking solution into 50 mL DI or sample for a final spike concentration of 15 ug/L		

		Instrument:	GFAA
Standard Log #:	M12640	Standard:	As/Se Spiking Solution
Analyst:	MDS	Concentration:	10 ug/mL (As,Se)
Prep Date:	09/22/2015	Expiration Date:	06/02/2016
Prep:	Into a 100 mL volumetric flask, pipetted **1.0 mL** of As (1000 mg/L) M12315 and **1.0 mL** of Se (1000 mg/L) M12600 and brought to volume with Milli-Q DI H_2O. (3% HNO_3) *Pipette **0.075 mL** of spiking solution into 50 mL DI or sample for a final spike concentration of 15 ug/L		

		Instrument:	CETAC
Standard Log #:	M12636	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	09/18/15	Expiration Date:	12/09/15
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.604 and dissolved **100 g** Stannous chloride M12549 and brought up to volume.		

Standard Log #:	M12637	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	09/18/15	Expiration Date:	03/18/16
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M12633	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	09/18/15	Expiration Date:	02/26/15
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M12634	Standard:	Hg MRL
Analyst:	LJF	Concentration:	0.2 ug/L Hg
Prep Date:	09/18/15	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12635	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	09/18/15	Expiration Date:	04/01/17
Prep:	Carefully mixed **3** parts HCl AB.604 with **1** part HNO_3 AB.603 in a hood.		

		Instrument:	CETAC
Standard Log #:	M12630	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	09/18/15	Expiration Date:	02/26/15
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M12631	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	09/18/15	Expiration Date:	06/30/16
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M12532 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M12632	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	09/18/15	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

Standard Log #:	M12628	Reagent:	10N NaOH
Analyst:	LJF		
Prep Date:	09/16/15	Expiration Date:	09/16/16
Prep:	Into a 1 L volumetric flask, added **400 g** NaOH M11852 and brought up to volume.		

Standard ID#:	M12629	Vendor:	GR ACS
Analyst:	LJF	Chemical:	SODIUM CHLORIDE
Date Received:	09/16/15	Lot #:	x131a
Expiration Date (if any):		Catalog #:	C710L50

		Instrument:	Hach 2100 turbidity meter
Standard Log #:	M12627	Standard:	Turbity ICAL
Analyst:	NAH	Concentrations:	20, 100, 200 ntu
Prep Date:	9/11/2015	Expiration Date:	08/2016
Prep:	Using the hach vials , pipet the following: *20 ntu Std.* = **1 ml** M12186 and 9 mls DI H20. *100 ntu Std.* = **5 mls** M12186 and 5 mls DI H20. *200 ntu Std.* = ***10 mls*** M12186 *and* 0 mls DI H20.		

Standard Log #:	M12626	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	09/10/15	Expiration Date:	09/10/16
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.577 and **128.6 mL** 10N NaOH M12543. Dilute to 20 L and mix.		

Standard Log #:	M12625	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	09/09/15	Expiration Date:	09/09/16
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.577 and **128.6 mL** 10N NaOH M12543. Dilute to 20 L and mix.		

		Instrument:	CETAC
Standard Log #:	M12622	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	09/03/15	Expiration Date:	12/09/15
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.604 and dissolved **100 g** Stannous chloride M12549 and brought up to volume.		

Standard Log #:	M12623	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	09/03/15	Expiration Date:	03/03/16
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M12270 and **60 g** hydroxylamine sulfate M11798 and brought up to volume.		

Standard Log #:	M12624	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	09/03/15	Expiration Date:	03/03/16
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M12619	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	09/03/15	Expiration Date:	02/26/15
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M12620	Standard:	Hg MRL
Analyst:	LJF	Concentration:	0.2 ug/L Hg
Prep Date:	09/03/15	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12621	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	09/03/15	Expiration Date:	04/01/17
Prep:	Carefully mixed **3** parts HCl AB.604 with **1** part HNO_3 AB.603 in a hood.		

		Instrument:	CETAC
Standard Log #:	M12616	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	09/03/15	Expiration Date:	02/26/15
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M12617	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	09/03/15	Expiration Date:	06/30/16
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M12532 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M12618	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	09/03/15	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

Standard ID#:	M12615	Vendor:	SPEX Certiprep
Analyst:	NAH	Chemical:	Custum Assurance Standard
Date Received:	09/01/2015	Lot #:	32-105CR
Expiration Date (if any):	09/20/2015	Catalog #:	XSPIKE-1-250

		Instrument:	ICP 6000
Standard Log #:	M12614	Standard:	NaK ICSAB
Analyst:	MDS	Concentrations:	500 mg/L (Al, Ca, Fe, Mg) 100 mg/L (Na, K)
Prep Date:	08/31/15	Expiration Date:	11/08/15
Prep:	Into a 250 mL volumetric flask, pipetted **25 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M12529, **2.5 mL** of K (10,000 mg/L) M12474, **2.5 mL** of Na (10,000 mg/L) M12010 and **7.5 mL** of Fe (10,000 mg/L) M12489 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

Standard Log #:	M12613	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	08/27/15	Expiration Date:	08/27/16
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12543. Dilute to 20 L and mix.		

Standard ID#:	M12612	Vendor:	CPI
Analyst:	NAH	Chemical:	Yttrium 10000 ug/mL
Date Received:	08/27/15	Lot #:	15E153
Expiration Date (if any):	02/20/17	Catalog #:	4400-10M671

Standard Log #:	M12611	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	08/24/15	Expiration Date:	08/24/16
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12543. Dilute to 20 L and mix.		

Standard ID#:	M12607	Vendor:	CPI
Analyst:	NAH	Chemical:	SODIUM 1000ug/mL
Date Received:	08/19/2015	Lot #:	15F159
Expiration Date (if any):	02/12/2017	Catalog #:	4400-1000521

Standard ID#:	M12608	Vendor:	CPI
Analyst:	NAH	Chemical:	POTASSIUM 1000ug/mL
Date Received:	08/19/2015	Lot #:	15E009
Expiration Date (if any):	02/12/2017	Catalog #:	4400-1000411

Standard ID#:	M12609	Vendor:	CPI
Analyst:	NAH	Chemical:	POTASSIUM 10000ug/mL
Date Received:	08/19/2015	Lot #:	15E086
Expiration Date (if any):	02/12/2017	Catalog #:	4400-10M411

Standard ID#:	M12610	Vendor:	ALFA AESAR
Analyst:	LJF	Chemical:	HYDROXYLAMINE SULFATE
Date Received:	08/20/15	Lot #:	Z16A019
Expiration Date (if any):		Catalog #:	88944

Standard ID#:	M12602	Vendor:	CPI
Analyst:	NAH	Chemical:	ANTIMONY 1000 ug/ml
Date Received:	08-14-2015	Lot #:	15D168
Expiration Date (if any):	02-10-2017	Catalog #:	S4400-100023

Standard ID#:	M12603	Vendor:	CPI
Analyst:	NAH	Chemical:	IRON 10000 ug/ml
Date Received:	08-14-2015	Lot #:	15C057
Expiration Date (if any):	02-10-2017	Catalog #:	4400-10M261

Standard ID#:	M12604	Vendor:	CPI
Analyst:	NAH	Chemical:	CALCIUM 10000 ug/ml
Date Received:	08-14-2015	Lot #:	15G076
Expiration Date (if any):	02-10-2017	Catalog #:	4400-10M91

Standard ID#:	M12605	Vendor:	CPI
Analyst:	NAH	Chemical:	ALUMINUM 10000 ug/ml
Date Received:	08-14-2015	Lot #:	15E015
Expiration Date (if any):	02-10-2017	Catalog #:	4400-10M11

Standard ID#:	M12606	Vendor:	CPI
Analyst:	NAH	Chemical:	MAGNESIUM 10000 ug/ml
Date Received:	08-14-2015	Lot #:	15G077
Expiration Date (if any):	02-10-2015	Catalog #:	4400-10M311

Standard ID#:	M12599	Vendor:	CPI
Analyst:	NAH	Chemical:	SILVER 1000 ug/ml
Date Received:	8-14-2015	Lot #:	15H040
Expiration Date (if any):	02-10-2017	Catalog #:	S4400-1000511

Standard ID#:	M12600	Vendor:	CPI
Analyst:	NAH	Chemical:	SELENIUM 1000 ug/ml
Date Received:	08-14-2015	Lot #:	15E095
Expiration Date (if any):	2-10-2017	Catalog #:	S4400-1000491

Standard ID#:	M12601	Vendor:	CPI
Analyst:	NAH	Chemical:	SILICON 1000 ug/ml
Date Received:	08-14-2015	Lot #:	15F050
Expiration Date (if any):	02-10-2017	Catalog #:	S4400-1000504F

		Instrument:	CETAC
Standard Log #:	M12596	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	08/13/15	Expiration Date:	02/26/16
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M12597	Standard:	Hg MRL
Analyst:	LJF	Concentration:	0.2 ug/L Hg
Prep Date:	08/13/15	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12598	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	08/13/15	Expiration Date:	04/01/17
Prep:	Carefully mixed **3** parts HCl AB.604 with **1** part HNO_3 AB.603 in a hood.		

		Instrument:	CETAC
Standard Log #:	M12599a	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	08/13/15	Expiration Date:	12/09/15
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.604 and dissolved **100 g** Stannous chloride M12549 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M12593	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	08/13/15	Expiration Date:	02/26/15
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M12594	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	08/13/15	Expiration Date:	06/30/16
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M12532 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M12595	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	08/13/15	Expiration Date:	06/30/15
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

Standard Log #:	M12588	Instrument:	GFAA
Analyst:	MDS	Reagent:	Pd/Mg Matrix Modifier
Prep Date:	08/10/15	Expiration Date:	10/23/16
Prep:	Into a 50 mL volumetric flask, partially filled with milli-Q H_2O, pipetted **15 mL** Pd Modifier M12584 and **10 mL** Mg (10,000 mg/L) M12488 and brought up to volume.		

		Instrument:	ICP 6500
Standard Log #:	M12586	Standard:	ICSA
Analyst:	NAH	Concentrations:	**500,000 ug/L** Al, Ca, Fe, Mg
Prep Date:	08/05/15	Expiration Date:	07/16
Prep:	Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M12529 and **15 mL** Fe (10000 mg/L) M12489 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M12587	Standard:	ICSAB
Analyst:	NAH	Concentrations:	**500,000 ug/L** Al, Ca, Fe, Mg **500 ug/L** Ag, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Tl, V, Zn
Prep Date:	08/05/15	Expiration Date:	07/16
Prep:	Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M12529 , **15 mL** Fe (10,000 mg/L) M12489 , **2.5 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M12530 and **2.5 mL** Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12558 and brought up to volume with milli-Q H_2O.		

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Standard ID#:	M12584	Vendor:	Environmental Express
Analyst:	MDS	Chemical:	GFAA Pd Matrix Modifier
Date Received:	08/05/15	Lot #:	1421912
Expiration Date (if any):	07/31/17	Catalog #:	HP1900-100

		Instrument:	ICP 6500
Standard Log #:	M12585	Standard:	ICV Std.
Analyst:	NAH	Concentrations:	**12,000 mg/L** Al **10,000 mg/L** Ca, Mg **5000 mg/L** Fe **2000 mg/L** As, Ba, Se, Tl **500 mg/L** B, Co, Li, Mn, Mo, Ni, Pb, Sb, Sn, Sr, Ti, V, Zn **250 mg/L** Cu **200 mg/L** Cr **50 mg/L** Ag, Be, Cd
Prep Date:	08/05/15	Expiration Date:	11/15
Prep:	Into a 1 L volumetric flask, pipetted the following and brought up to volume with milli-Q H_2O. **10 mL** Custom Assurance Standard #18 ((200 mg/L Al, As, Ba, Se, Tl) (100 mg/L Fe) (50 mg/L Co, Mn, Ni, Pb, Sb, V, Zn) (25 mg/L Cu) (20 mg/L Cr) (5 mg/L Ag, Be, Cd)) M12574, **2 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M12529, **0.5 mL** Mo (1000 mg/L) M12008, **0.5 mL** B (1000 mg/L) M12471, **0.5 mL** Sr (1000 mg/L) M11999, **0.5 mL** Li (1000 mg/L) M11998, **0.5 mL** Sn (1000 mg/L) M11996 and **0.5 mL** Ti (1000 mg/L) M12003.		

		Instrument:	ICP 6500
Standard Log #:	M12582	Standard:	CCV1
Analyst:	NAH	Concentrations:	**5000 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn **500 µg/L** Ag, Be, Cd
Prep Date:	08/03/15	Expiration Date:	7/30/16
Prep:	Into a 1 L volumetric flask, pipetted **50 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12558 and **5.0 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M12530 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M12583	Standard:	CCV2
Analyst:	NAH	Concentrations:	**500 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn **50 µg/L** Ag, Be, Cd
Prep Date:	08/03/2015	Expiration Date:	7/30/16
Prep:	Into a 1 L volumetric flask, pipetted **5 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12558 and **0.5 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M12530 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M12581	Standard:	ICAL
Analyst:	NAH	Concentrations:	0.25, 0.5, 1, 5, 10, 20, 50, 100, 1000, 10,000, 100k, 100,000, 500,000 and 1000k (ug/L)
Prep Date:	08/03/15	Expiration Date:	11/2015

Prep:

Using 1 L volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O.
(5% HNO_3, 5% HCl)
1000 ug/L Std. - **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12558, **10 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M12530 and **1 mL** of Si (1000 mg/L) M11919.
0.25 ug/L Std. - **0.25 mL** of the 1000 ug/L Std.
0.5 ug/L Std. - **0.5 mL** of the 1000 ug/L Std.
1 ug/L Std. - **1 mL** of the 1000 ug/L Std.
5 ug/L Std. - **5 mL** of the 1000 ug/L Std.
10 ug/L Std. - **10 mL** of the 1000 ug/L Std.
20 ug/L Std. - **20 mL** of the 1000 ug/L Std.
50 ug/L Std. - **50 mL** of the 1000 ug/L Std.
100 ug/L Std. - **1 mL** of Custom Assurance Std. (CAS) #23 and **1 mL** of CAS #3
10,000 ug/L Std. - **100 mL** CAS #23, **100 mL** CAS #3 and **1 mL** of K (10,000 mg/L) M12474.
100k ug/L Std. - **10 mL** of Cu (10,000 mg/L) M12472, **10 mL** of Mn (10,000 mg/L) M12533, **10 mL** of Cr (10,000 mg/L) M12470, **10 mL** Pb (10,000 mg/L) M12313, **10 mL** of Zn (10,000 mg/L) M12005 and **10 mL** of Na (10,000 mg/L) M12010.
100,000 ug/L Std. - **10 mL** of Mg (10,000 mg/L) M12488, **10 mL** of Fe (10,000 mg/L) M12489, **10 mL** of Ca (10,000 mg/L) M12490 and **10 mL** Al (10,000 mg/L) M12400.
500,000 ug/L Std. - **50 mL** of Mg (10,000 mg/L), **50 mL** of Fe (10,000 mg/L), **50 mL** of Ca (10,000 mg/L) and **50 mL** of Al (10,000 mg/L)
1000k ug/L Std. - **100 mL** of Mg (10,000 mg/L), **100 mL** of Fe (10,000 mg/L), **100 mL** of Ca (10,000 mg/L) and **100 mL** of Al (10,000 mg/L)

Standard Log #:	M12579	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	07/24/15	Expiration Date:	01/24/16
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M11285 and brought up to volume.		

		Instrument:	GFAA
Standard Log #:	M12576	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	07/23/2015	Expiration Date:	06/01/2016
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M12504 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M12577	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	07/23/2015	Expiration Date:	06/01/2016
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M12504 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M12578	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	07/23/2015	Expiration Date:	06/01/2016
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M12505 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

Standard ID#:	M12574	Vendor:	SpexCertiprep
Analyst:	NAH	Chemical:	Custum Assurance Std
Date Received:	07/21/2015	Lot #:	31-138CR
Expiration Date (if any):	07/30/2016	Catalog #:	XSPIKE-1-500

Standard ID#:	M12575	Vendor:	SpexCertiprep
Analyst:	NAH	Chemical:	Custum Assurance Std
Date Received:	07/21/2015	Lot #:	07-30-2016
Expiration Date (if any):	07/30/2015	Catalog #:	XCTWI-1-500

		Instrument:	ICP 6000
Standard Log #:	M12559	Standard:	B&Si ICAL
Analyst:	MDS	Concentrations:	50, 200, 1000, 2000 and 10,000 ug/L (B, Si)
Prep Date:	07/15/2015	Expiration Date:	11/08/2015
Prep:	Into five, 1 L volumetric flasks, pipetted the following from stock standards B (1000 mg/L) M12471 and Si (1000 mg/L) M12007 and brought up to volume using milli-Q H_2O. *50 ug/L std.* - **0.05 mL** of each *200 ug/L std.* - **0.2 mL** of each *1000 ug/L std.* -**1.0 mL** of each, also used for Continuing Calibration Verification *2000 ug/L std.* - **2.0 mL** of each *10,000 ug/L std.* -**10 mL** of each		

		Instrument:	ICP 6000
Standard Log #:	M12560	Standard:	B&Si CCV
Analyst:	MDS	Concentrations:	1000 ug/L (B, Si)
Prep Date:	07/15/2015	Expiration Date:	11/08/2015
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** B (1000 mg/L) M12471 and **1.0 mL** Si (1000 mg/L) M12007 and brought up to volume using milli-Q H_2O.		

		Instrument:	ICP 6000
Standard Log #:	M12561	Standard:	B & Si ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (B,Si)
Prep Date:	07/15/2015	Expiration Date:	11/08/2015
Prep:	Into a 100 mL volumetric flask, pipetted **10 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M12529, **0.05 mL** of B (1000 µg/mL) M12471, **0.05 mL** of Si (1000 µg/mL) M12007 and **3 mL** of Fe (10,000 mg/L) M12489 and brought up to volume using Milli-Q H_2O.		

Standard ID#:	M12558	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Custum Assurance Standard
Date Received:	07/13/2015	Lot #:	9-105WL
Expiration Date (if any):	07/30/2016	Catalog #:	XCTWI-5-500

Standard ID#:	M12548	Vendor:	Alfa Aesar
Analyst:	LJF	Chemical:	Hydroxylamine Sulfate
Date Received:	07/08/15	Lot #:	Z16A019
Expiration Date (if any):	N/A	Catalog #:	88944

Standard ID#:	M12549	Vendor:	MACRON
Analyst:	LJF	Chemical:	Stannous Chloride
Date Received:	07/08/15	Lot #:	0000111217
Expiration Date (if any):	12/09/15	Catalog #:	8176-04

Standard Log #:	M12543	Reagent:	10N NaOH
Analyst:	LJF		
Prep Date:	06/18/15	Expiration Date:	06/18/16
Prep:	Into a 1 L volumetric flask, added **400 g** NaOH M11852 and brought up to volume.		

Standard Log #:	M12544	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	06/18/15	Expiration Date:	06/18/16
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12543. Dilute to 20 L and mix.		

Standard ID#:	M12529	Vendor:	SPEX Certiprep
Analyst:	NAH	Chemical:	Interference-A
Date Received:	06/04/2015	Lot #:	12-101YPX
Expiration Date (if any):	06/30/2016	Catelog #:	INT-A1

Standard ID#:	M12530	Vendor:	SPEX Certiprep
Analyst:	NAH	Chemical:	Custom Assurance STD (3) Ag,Be,Cd
Date Received:	06/04/2015	Lot #:	30-152CR
Expiration Date (if any):	06/30/2016	Catelog #:	XCTWI-4-500

Standard ID#:	M12531	Vendor:	SPEX Certiprep
Analyst:	NAH	Chemical:	Custom Assurance STD (23)
Date Received:	06/04/2015	Lot #:	30-153CR
Expiration Date (if any):	06/30/2016	Catelog #:	XCTWI-5-500

Standard ID#:	M12532	Vendor:	SPEX Certiprep
Analyst:	NAH	Chemical:	Mercury 1000 mg/L
Date Received:	06/04/2015	Lot #:	CL7-180HGY
Expiration Date (if any):	06/30/2016	Catelog #:	CLHG4-2Y

Standard ID#:	M12533	Vendor:	CPI
Analyst:	NAH	Chemical:	Mn 10000 mg/L
Date Received:	06/04/2015	Lot #:	15E180
Expiration Date (if any):	11/29/2016	Catelog #:	P/N S4400-10M321

Standard ID#:	M12518	Vendor:	Alfa Aesar Specpure
Analyst:	MDS	Chemical:	GFAA Nickel Nitrate Modifier
Date Received:	05/29/2015	Lot #:	785159H
Expiration Date (if any):	11/30/2016	Catelog #:	39043

		Instrument:	GFAA
Standard Log #:	M12519	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	05/29/2015	Expiration Date:	06/01/2016
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M12504 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M12520	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	05/29/2015	Expiration Date:	06/01/2016
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M12504 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M12521	Standard:	ICV/Spike Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	05/29/2015	Expiration Date:	06/01/2016
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M12505 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	CETAC
Standard Log #:	M12507	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	05/27/15	Expiration Date:	02/26/16
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	ICP 6000
Standard Log #:	M12508	Standard:	NaK ICSAB
Analyst:	MDS	Concentrations:	500 mg/L (Al, Ca, Fe, Mg) 100 mg/L (Na, K)
Prep Date:	05/27/2015	Expiration Date:	08/30/2015
Prep:	Into a 250 mL volumetric flask, pipetted **25 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M12164, **2.5 mL** of K (10,000 mg/L) M12474, **2.5 mL** of Na (10,000 mg/L) M12010 and **7.5 mL** of Fe (10,000 mg/L) M12401 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

Standard ID#:	M12504	Vendor:	Inorganic Ventures
Analyst:	MDS	Chemical:	GFAA ICAL/CCV Standard
Date Received:	05/26/2015	Lot #:	J2-MEB581070
Expiration Date (if any):	06/01/2016	Catelog #:	CTI-SPK-1

Standard ID#:	M12505	Vendor:	Inorganic Ventures
Analyst:	MDS	Chemical:	GFAA ICV/Spiking Standard
Date Received:	05/26/2015	Lot #:	J2-MEB581069
Expiration Date (if any):	06/01/2016	Catelog #:	CTI-GFCAL-1

Standard ID#:	M12502	Vendor:	SpexCertiprep
Analyst:	NAH	Chemical:	Custum assurance standard
Date Received:	05-19-2015	Lot #:	30-096CR
Expiration Date (if any):	05-30-2016	Catelog #:	XSPIKE-1-250

Standard Log #:	M12501	Reagent:	Potassium Persulfate Solution
Analyst:	LJF		
Prep Date:	05/14/15	Expiration Date:	11/14/15
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M10987 and brought up to volume.		

#M12488 5-5-15 - Mg 10,000mg/L CPI Lot 15C248 ex 10/2016.

#M12489 5-5-15 - Fe 10,000mg/L CPI Lot 15C290 ex 10/16.

#M12490 5-5-15 Ca 10,000mg/L CPI Lot 15A007 ex 10/16.

#M12491 05/06/15 13F TCLP Extraction Fluid #1: Fill a 20L carboy w/ 19L D.I. H2O. Add 114ml Glacial Acetic Acid (AB 579) and 128.6ml of 10N NaOH (#M12797). Dilute to 20L w/ D.I. H2O and mix. pH = 4.93 ± 0.05

EXP: 05/06/16

#M12492 05/06/15 13F SPLP Extraction Fluid #2 west: Fill a 20L carboy with D.I. H2O and adjust pH to 5.00 ± 0.05 with (#M12457) 60/40 HNO3, H2SO4 mix w/w mix.

EXP: 05/06/16

#M12493 05/11/15 13F	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10 0ug/L Hg
#M12494 05/11/15 13F	Hg Alt Source Working Std: (0 2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M12495 05/11/15 13F	Hg ICV / LCSW (0.2% HNO3, HCl)	3 0ml of 100ug/L Hg (#M12494) into 100ml = 3.0ug/L Hg
#M12496 05/11/15 13F	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M12497 05/11/15 13F	Hg MRL (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M 12494) into 100ml = 0 2ug/L Hg
#M12498 05/11/15 13F	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M12499 05/11/15 13F	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M 12729 in 70 mL HCl (AB: 553) Bring up to volume with D I. Water.

#M12468 4/22/15 MDS

		Instrument:	ICP 6000
Standard Log #:	M12468	Standard:	Na,K ICVLL
Analyst:	MDS	Concentrations:	3 mg/L (Na,K)
Prep Date:	04/22/2015	Expiration Date:	11/8/2015
Prep:	Into a 500 mL volumetric flask, pipetted 0.15 mL of Na (10,000 µg/mL) M12010 and 0.15 mL K (10,000 µg/mL) M12294 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

#M12469 4/22/15 MDS

		Instrument:	ICP 6000
Standard Log #:	M12469	Standard:	Na,K MRL
Analyst:	MDS	Concentrations:	1 mg/L (Na,K)
Prep Date:	04/22/2015	Expiration Date:	04/29/2016
Prep:	Into a 500 mL volumetric flask, pipetted 0.5 mL of Na (1000 µg/mL) M12296 and 0.5 mL K (1000 µg/mL) M12295 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

M12470 ✗ Cr 10,000 mg/L CPI lot # 13D123 exp oct/2016 4-24-15

M12471 ✗ Boron 1000 mg/L CPI lot # 15D007 exp oct/2016 4-24-15

M12472 ✗ Cu 10,000 mg/L CPI lot # 15B087 exp oct/2016

M12473 ✗ Ba 1000 mg/L CPI lot # 15C142 exp oct/2016

M12474 ✗ K 10,000 mg/L CPI lot # 15D114 exp oct/2016

#M12475 04/24/15 MDS

Standard Log #:	M12475	Instrument:	GFAA
Analyst:	MDS	Reagent:	Pd/Mg Matrix Modifier
Prep Date:	04/24/2015	Expiration Date:	08/07/2015
Prep:	Into a 50 mL volumetric flask, partially filled with milli-Q H_2O, pipetted 15 mL Pd Modifier M12158 and 10 mL Mg (10,000 mg/L) M12314 and brought up to volume.		

#M12459 04/20/15 SF	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M12460 04/20/15 SF	Hg All Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M12461 04/20/15 SF	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M12460) into 100ml = 3.0ug/L Hg
#M12462 04/20/15SF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M12463 04/20/15SF	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M12460) into 100ml = 0.2ug/L Hg
#M12464 04/20/15SF	Hg Aqua Regia Reagent.	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M12465 04/20/15SF	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M12299) in 70 mL HCl (AB: 553) Bring up to volume with D.I. Water

#M12466 04/22/15SF NaCl Hydroxylamine Sulfate Reagent: Dissolve 60g NaCl (#M11799) and 60g hydroxylamine Sulfate (#M12096) in 500ml of Milli-Q H_2O.
Exp: 10/22/15

#M12467
04/22/15
MDS

		Instrument:	ICP 6000
Standard Log #:	M12467	Standard:	Na & K ICAL
Analyst:	MDS	Concentrations:	0.5, 1, 5, 10, 50, 100, and 200 mg/L (Na,K)
Prep Date:	04/22/2015	Expiration Date:	04/29/2016
Prep:	Into seven, 200 mL volumetric flasks, pipetted the following from Na (1000 µg/mL) M12296 and K (1000 µg/mL) M12295 and brought up to volume using milli-Q H_2O. (2% HNO_3) *0.5 mg/L std.* - 0.1 mL of each *1.0 mg/L std.* - 0.2 mL of each *5.0 mg/L std.* - 1.0 mL of each *10 mg/L std* - 2.0 mL of each *50 mg/L std.* - 10 mL of each *100 mg/L std.* -20 mL of each, also used for Continuing Calibration Verification *200 mg/L std.* - 40 mL of each		

#M12453 04/07/15 ISF
LOQ Check
3050 QSM DOD

3050 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
K	2640	M12294	10000	13.2
Na	960	M12010	10000	4.8

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expires: 6-Nov

#M12454 04/08/15 ISF
LOQ check
3050 QSM DOD

3050 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
B	52	M11763	1000	2.6
Si	192	M12007	1000	9.6

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expires: 13-May

M12455 4/8/15 JH Environmental Express Y, 10,000mg/L lot# 1418108. exp date 10/15.

#M12456 04/14/15 ISF potassium permanganate Soln: 50g potassium permanganate (#M11285) dissolve into 1000mL of D.I. H_2O.
Exp: 10/14/15

#M12457 04/15/15 ISF SPLP Ext. Fluid Acid mixture: Into a 2L vol. flask, add 12g H_2SO_4 (AB.598) and 8g conc. HNO_3 (AB.596). Bring up to volume with D.I. H_2O.
Exp: 04/15/16

#M12458 04/16/15 ISF SPLP Extraction Fluid Insert #2: Fill a 2 gal carboy with D.I. H_2O and adjust pH to 5.00 ± 0.05 with #M12457 60:40 HNO_3, H_2SO_4 mix w/v mix.
Exp: 04/16/16

#M12449 04/07/15 13F
LOQ Check
3010 QSM DoD

3010 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following.

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
B	16	M11763	1000	0.8
Se	200	M12007	1000	10

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expires: 13-May

#M12450 04/07/15 13F
LOQ Check
3050 QSM DoD

3050 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
Li	14.4	M11998	1000	0.72
Sn	20	M11996	1000	1
Sr	3.2	M11999	1000	0.16
Ti	9.6	M12003	1000	0.48
W	24	M12001	1000	1.2

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expires: 8-Nov

#M12451 04/07/15 13F
LOQ Check
3050 QSM DoD

3050 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
Ag	4	M11908	1000	0.2
Al	9.6	M12312	10000	0.048
As	32	M12315	1000	1.6
Ba	2	M11768	1000	0.1
Be	1.6	M12006	1000	0.08
Ca	56	M12310	10000	0.28
Cd	1.6	M12002	1000	0.08
Co	9.6	M1200	1000	0.48
Cr	5.6	M11767	10000	0.028
Cu	16	M11764	10000	0.08
Fe	72	M1231	10000	0.36
Mg	32	M12314	10000	0.16
Mn	6	M11829	10000	0.03
Mo	9.6	M12008	1000	0.48
Ni	4.8	M12004	1000	0.24
Pb	10	M12313	10000	0.05
Sb	32	M11909	1000	1.6
Se	16	M11911	1000	0.8
Tl	19	M11997	1000	0.95
V	3.2	M12009	1000	0.16
Zn	12	M12005	10000	0.06

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard

Expires: 13-May

#M12452 04/07/15 13F
LOQ Check
3050 QSM DoD

3050 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
S	240	M11679	10000	1.2

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working

#M12445 04/06/15 L3F
LOQ Check
3010 GSM DoD

3010 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
Li	10	M11998	1000	0.5
Sn	10	M11988	1000	0.5
Sr	2	M11999	1000	0.1
Te	8	M12003	1000	0.4
W	36	M12163	1000	1.8

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expires: 8-Nov

#M12446 04/06/15 L3F
LOQ Check
3010 GSM DoD

3010 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
K	500	M12294	10000	2.5
Na	600	M12010	10000	3

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expires: 8-Nov

List 2 MRL/ICVLL Base SPIKE PREPARATION 50x

#M12395 02/23/15 MOS

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	MRL (ug/L)	ICVLL (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) pipet into 1	Expired Date
Li	20	60	M11998	1000	1	11/08/2015
W	100	300	M12163	1000	5	02/06/2016
Ti	10	30	M12003	1000	0.5	11/08/2015
Sr	10	30	M11999	1000	0.5	11/08/2015
Sn	20	60	M11996	1000	1	11/08/2015

0.5% HNO3
0.5% HCl

Pipette 10 mL into a 500 mL volumetric flask to create a [redacted] working MRL std. or 1 mL into a 50 mL digestion tube for a digested MRL working standard. Pipette 30 mL into 500mL for ICVLL Working

List 2 MRL

#M12396 02/23/15 MOS

Into a 500 mL volumetric flask, pipetted 10 mL of #M12395 and brought to volume with milli-Q H20.
Exp. 11/08/2015 0.5% HNO3, 0.5% HCl

List 2 ICVLL

#M12397 02/23/15 MOS

Into a 500 mL volumetric flask, pipetted 30 mL of #M12395 and brought to volume with milli-Q H20.
Exp. 11/08/2015 0.5% HNO3, 0.5% HCl

#M12398 02/23/15 SF NaCl Hydroxylamine sulfate Reagent: Dissolve 60g NaCl (#M11799) and 60g hydroxylamine sulfate (#M11998) in 500mL of milli-Q H2O.
Exp: 02/23/15

#M12399 02/24/15 SF Potassium permanganate Soln: 50g potassium permanganate (#M11785) dissolve into 1000mL of D.I. H2O.
Exp: 08/24/15

#M12400 2-25-15 Al 10,000 mg/L CPI Lot# HK253 ex 7/2016

#M12401 2-25-15 Fe 10,000 mg/L CPI Lot# H5165 7/2016

#M12402 02/26/15 SF Stannous Chloride (Amarium) Lot# 0000096553

#M12403 02/26/15 SF Sodium Chloride (Fisher) Lot# 145475

#M12404 03/04/15 SF TCLP Extraction Fluid #1: Fill a 2qt carboy w/ 1.92 D.I. H2O. Add 11.4mL Glacial Acetic Acid (AB579) and 13.2mL of 10N NaOH (#M12392). Dilute to 2qt w/ D.I. H2O and mix.
pH=4.93±0.05

#M12405 03/04/15 SF TCLP Extraction Fluid #2: Fill a 2qt Carboy w/ 1.9L D.I. H2O. Add 11.4mL Glacial Acetic Acid (AB579) and 13.2mL of 10N NaOH (#M12392). Dilute to 2qt w/ D.I. H2O and mix.
pH=4.93±0.05

#M12383 01/19/15 SF TCLP Extraction Fluid #1: Fill a 20L carboy W/19L D.I. H2O. Add 11.4mL Glacial Acetic Acid (AB: 57) and 128.6mL of 1N NaOH (AB: 1000). Dilute to 20L w/D.I. H2O and mix.
pH=4.93 ± 0.05

#M12384 01/19/15 SF	Hg Working Stds. (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5 0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M12385 01/19/15 SF	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M12386 01/19/15 SF	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M12385) into 100ml = 3.0ug/L Hg
#M12387 01/19/15 SF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3 0ug/L Hg
#M12388 01/19/15 SF	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M12385) into 100ml = 0.2ug/L Hg
#M12389 01/19/15 SF	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M12390 01/19/15 SF	Stannous Chloride Reagent	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M12294) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

ICAP Working Standards List 2

.5% HNO3 .5%HCL

#M12391 02/23/15 MMS

Standard name	Pipetted the following respectively:
1	0.01mL of #M12316 and 0.001mL #M12001 into 1L = 1 ug/L
10	0.10mL of #M12316 and 0.01mL #M12001 into 1L = 10 ug/L
100	1mL of #M12316 and 0.1mL #M12001 into 1L = 100 ug/L
1000	2 mL of #M12316 and 0.2 mL #M12001 into 200 mL = 1000 ug/L
10000	20mL of #M12316 and 2mL #M12001 into 200mL = 10000 ug/L

Brought up to mark with milli-Q H20 Exp. 11/08/2015

#M12392 02/23/15 MMS — Continuing Calibration Standard (CCV)

Into a 200mL volumetric flask pipetted 2mL of #M12316 and 0.2mL #M12001 = 1000 ug/L
Brought up to mark with milli-Q H20 Exp. 11/08/2015 0.5% HNO3, 0.5% HCl

#M12393 02/23/15 MMS — Initial Calibration Standard (ICV) List 2

Into a 1 liter volumetric flask pipetted 1mL of #M12003, M11999, M11996, M11998, M12163
Brought up to mark with milli-Q H20 Exp. 11/08/2015 0.5% HNO3, 0.5% HCl

#M12394 02/23/15 MMS — ICASB List 2

Into a 200 mL volumetric flask, pipetted 20 mL Interferants A #M12164, 6 mL Fe (10,000 µg/mL) #M12311, and 0.1 mL of 1000mg/L Ti, Sr, Sn, Li, and W #M12003, M11999, M11996, M11998, and M12001 respectively.
Brought up to mark with milli-Q H20 Exp. 08/30/2015 0.5% HNO3, 0.5% HCl

#M12378 2-10-15 K 1000mg/L CLI Lot# 141175 exp 7/16.

Standard Log #:	M12379	Standard:	GFAA Instrument Check
Analyst:	MDS	Final Concentration:	10 µg/L As 6 µg/L Pb 22 µg/L Tl 24 µg/L Sb, Se 0 8 µg/L Ag
Prep Date:	02/17/2015	Expiration Date:	09/16/2015

#M12379 mds 02/17/15

Into six, 100 mL volumetric flasks, add the following and bring up to volume with milli-Q H_2O.

Element	Volume Pipetted (mL)	Standard Conc. (µg/mL)	Standard ID	New Conc. (µg/L)
As	1	1000	M12315	10,000
Pb	0.1	10,000	M12313	10,000
Tl	1	1000	M11997	10,000
Se	1	1000	M11911	10,000
Sb	1	1000	M11909	10,000
Ag	0.1	1000	M11908	1000

Into a 1 L volumetric flask, add the following and bring up to volume with Milli-Q H20. (1% HNO3)

Element	Volume Pipetted (mL)	Standard Conc. (µg/L)	Final Conc. (µg/L)
As	1	10,000	10
Pb	0.6	10,000	6
Tl	2.2	10,000	22
Se	2.4	10,000	24
Sb	2.4	10,000	24
Ag	0.8	1000	0 8

#M12380 - Custom Assurance Std - Spex CertiPrep 2-17-15 mds

#M12381 02/18/15 SF TCLP Extraction Fluid #1: Fill a 2 L carboy w/ 1.92 L D.I. H2O. Add 11.4 mL Glacial Acetic Acid (AB539) and 128 mL of 1.0 N NaOH (M12392). Dilute to 2 L w/ D.I. H2O and mix. pH = 4.93 ± 0.05 Exp: 02/17/16

#M12382 02/18/15 SF TCLP Extraction Fluid #1: Fill a 2 L carboy w/ 1.92 L D.I. H2O. Add 11.4 mL Glacial Acetic Acid (AB539) and 128 mL of 1.0 N NaOH (M12392). Dilute to 2 L w/ D.I. H2O and mix. pH = 4.93 ± 0.05 Exp: 02/17/16

#M12364 02/04/15 LSF	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg into 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M12365 02/04/15 LSF	Hg All Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M12366 02/04/15 LSF	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M12365) into 100ml = 3.0ug/L Hg
#M12367 02/04/15 LSF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M12368 02/04/15 LSF	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M12365) into 100ml = 0.2ug/L Hg
#M12369 02/04/15 LSF	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M12370 02/04/15 LSF	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11995 in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12371 2-5-15 JA Sulfur 10,000mg/L SPC Science lot# S1407117.006 Exp 4/16.

#M12372 02/05/15 LSF TCLP Extraction Fluid #1: Fill a 20L carboy w/ 19L D.I. H2O. Add 114ml Glacial Acetic Acid (AB: 579) and 128.6 mL of 10N NaOH (#M11788). Dilute to 20L w/ D.I. H2O and mix. pH=4.93±0.05
Exp: 02/05/16

#M12373 02/05/15 LSF TCLP Extraction Fluid #1: Fill a 20L carboy w/ 19L D.I. H2O. Add 114ml Glacial Acetic Acid (AB: 579) and 128.6 mL of 10N NaOH (#M11788). Dilute to 20L w/ D.I. H2O and mix. pH=4.93±0.05
Exp: 02/05/16

#M12374 2/5/15 Custom Assurance STD 100ug/ml 23 elements 8-9% HNO3 2% HCl Exp 1/16

#M12375 02/10/15 LSF 10N NaOH: Into a 1L flask, add 400g NaOH (#M11852) and bring up to volume with D.I. H2O.
Exp: 08/10/15

#M12376 02/10/15 LSF Potassium permanganate Soln: 50g potassium permanganate (#M11785) dissolve into 1000 mL of D.I. H2O.
Exp: 08/10/15

#M12377 2-10-15 Na 1000mg/L CPI lot# 142083 Exp 7/16.

#M12352 01/20/15 (3F Potassium permanganate Solns: 50g potassium permanganate (#M1128) dissolve into 1,000mL of D.I. H2O
Exp: 07/20/15

#M12353 01-22-15 MMS S ICAL - Into 4, 100 ml vol. Flasks, pipetted the following and brought up to volume with milli-Q H2O. exp. 01-30-16
0.01 mL S (10,000ug/mL) # M12350 = 1000ug/L S
0.1 mL S (10,000ug/mL) # M12350 = 10,000 ug/L S
Used as CCV → 1.0 mL S (10,000ug/mL) # M12350 = 100,000 ug/L S
10 mL S (10,000ug/mL) # M12350 = 1000K ug/L S

#M12354 01-22-15 MMS S ICV - Into a 100mL vol. flask, pipetted 1.0mL S(10,000ug/mL) #M10828 and brought to volume with milli-Q H2O. exp. 01-30-15

#M12355 01/24/15 (5F Hg Working Stds: (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg
1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg
2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg
4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg
5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg
10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg

#M12356 01/27/15 (5F Hg Alt Source Working Std: (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg
1.0ml of 10mg/L into 100ml = 100ug/L Hg

#M12357 01/27/15 (5F Hg ICV / LCSW (0.2% HNO3, HCl)
3.0ml of 100ug/L Hg (#M12356) into 100ml = 3.0ug/L Hg

#M12358 01/27/15 (3F Hg CCV (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg

#M12359 01/27/15 (3F Hg MRL: (0.2% HNO3, HCl)
0.2ml of 100ug/L Hg (#M12356) into 100ml = 0.2ug/L Hg

#M12360 01/27/15 (3F Hg Aqua Regia Reagent: "Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)

#M12361 01/27/15 (3F Stannous Chloride Reagent: Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M1925) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12362 01/27/15 (5F 10%wt Hydroxylamine Sulfate Reagent: Dissolve 100g NaCl (#M1799) and 100g hydroxylamine Sulfate (#M1798) in 500mL of Milli-Q H2O.
Exp: 07/27/15

#M12363 01/30/15 (5F TCLP Extraction Fluid #1: Fill a 20L carboy w/ 14L D.I. H2O. Add 11.4mL Glacial Acetic Acid (AB: 579) and 128.6mL of 10N NaOH (#M12792). Dilute to 20L w/ D.I. H2O and mix. pH = 4.93 ± 0.05 01/30/15 (5F

#M12340 1-9-15 JY
5% HCl
5% HNO3

3050 MDL Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	MDL (ug/L)	Sts ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
K	500	#M12294	10000	2.5
Na	500	#M12010	10000	2.5

Of the Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

EXPIRES 11/15

#M12341 01-14-15 MS GFAA Lot/ICA Check Water Working Std. (Ag Only) - Into a 100mL vol. Flask, pipetted 0.1mL Ag (1000ug/mL) #M11098 and brought up to volume using milli-Q H2O. exp. 04-6-15

#M12342 01-14-15 MS GFAA Lot/ICA Water Spiking Solution (Ag Only) - Into a 1L vol. Flask, pipetted 10mL #M12341 and brought up to volume using milli-Q H2O (1% HNO3) exp. 04-6-15

#M12343 01/19/15 SF Hg Working Stds: (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg
1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg
2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg
4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg
5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg
10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg

#M12344 01/19/15 SF Hg Alt Source Working Std: (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg
1.0ml of 10mg/L into 100ml = 100ug/L Hg

#M12345 01/19/15 SF Hg ICV / LCSW (0.2% HNO3, HCl)
3.0ml of 100ug/L Hg (#M12344) into 100ml = 3.0ug/L Hg

#M12346 01/19/15 SF Hg CCV (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg

#M12347 01/19/15 SF Hg MRL: (0.2% HNO3, HCl)
0.2ml of 100ug/L Hg (#M12344) into 100ml = 0.2ug/L Hg

#M12348 01/19/15 SF Hg Aqua Regia Reagent. "Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)

#M12349 01/19/15 SF Stannous Chloride Reagent: Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M1995) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12350 1-19-15 JY Spex Certiprep S. 10,000 mg/L Lot # AH15-855Y exp 1/16

#M12351 01/19/15 SF TCLP Extraction Fluid #1: Fill a 20L carboy w/ 19L D.I. H2O. Add 11.4mL Glacial Acetic Acid (AB: 539) and 17.6mL of 10N NaOH (#M12292) Dilute to 20L w/ D.I. H2O and mix. pH=4.93 ± 0.05
Exp: 01/19/16
01/19/15 SF

#M12310 12-9-14 JS 10,000 mg/L Ca CPI Lot# 14K204 ex 6/16

#M12311 12-9-14 JS 10,000 mg/L Fe CPI Lot # 145165 ex 6/16

#M12312 12-9-14 JS 10,000 mg/L Al CPI Lot # 14H211 ex 6/16

#M12313 12-9-14 JS 10,000 mg/L Pb CPI Lot # 140135 ex 6/16

#M12314 12-9-14 JS 10,000 mg/L Mg CPI Lot # 14K161 ex 6/16

#M12315 12-9-14 JS 1000 mg/L As CPI Lot # 131194 ex 6/16

#M12316 12-9-14 JS Custom Assurance Std CPEx Centiprep Lot 27-185CR ex 12/15

#M12317 12-09-14 JMS GFAA Se Spike (10ug/mL) - Into a 100mL vol. Flask, pipetted 1.0mL Se (1000mg/mL) #M11911 & brought to volume with DI H_2O. (3% HNO_3) Exp. 09/18/15

#M12318 12/09/14 JSF TCLP Extraction Fluid #1: Fill a 7oL carboy w/ 14L D.I. H_2O. Add 114mL Glacial Acetic Acid (AB5719) and 128.6mL of 10N NaOH (#M12792) Dilute to 7oL w/ D.I. H_2O and mix. Exp: 12/09/15 pH: 4.93 ± 0.05

#M12319 12/12/14 JSF potassium permanganate Soln: 50g potassium permanganate (#M11785) dissolve into 1000mL of D.I. H_2O. Exp: 06/12/15

#M12320 JS 12-15-14 Custom Assurance Std Spex Centiprep Lot 27-232CR XCTWST-1-500

#M12321 JS 12-15-14 Custom Assurance Std Spex Centiprep Lot 27-231CR XSpike-1-250

#M12322 12/15/14 JSF TCLP Extraction Fluid #1: Fill a 7oL Carboy w/ 14L D.I. H_2O. Add 114mL Glacial Acetic Acid (AB5719) and 128.6mL of 10N NaOH (#M12792) Dilute to 7oL with D.I. H_2O and mix. Exp: 12/15/15 pH: 4.93 ± 0.05

#M12323 12-22-14 JMS GFAA Pd/Mg Matrix Modifier - Into a 50mL vol. flask, pipetted 15mL of Pd modifier #M12158 + 10mL of Mg (1000mg/mL) #M12113 & brought up to volume using milli-Q H_2O. (2% HNO_3) exp. 8/7/15

#M12295 D 11-24-14 K 1000mg/mL CPI Lot 141165 Exp 4/16

#M12296 D 11-21-14 Na 1000 mg/L CPI Lot 141167 Exp 4/16

#M12297 11/24/N13F Potassium permanganate Soln: 56g potassium permanganate (#M11285) dissolved Exp: 05/21/15 into 1000mL of D.I. H2O.

#M12298 11/24/N13F Stannous Chloride (Macron) Lot# 0000082282

#M12299 11-25-14 D ICV 1 As + Pb. Soln 1 Liter vol flask prep 5mL #M11912, 0.5mL #M11682 Bring up to mark w/ DI H2O.

#M12300 11/25/N13F Stannous Chloride (Macron) Lot# 0000090643

#M12301 12/02/N13F TCLP Extraction Fluid #1: Fill a 20L carboy w/ 19L D.I. H2O. Add 114mL Glacial Acetic Acid (AB: 57) and 128.6mL of 1N NaOH (#M12292). Dilute to 20L with D.I. H2O and mix. pH = 4.93 ± 0.05. Exp: 12/02/15

#M12302 12/05/N13F Hg Working Stds: (0.2% HNO3, HCl)
- 1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
- 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
- 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg
- 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg
- 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg
- 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg
- 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg
- 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg

#M12303 12/05/14 ISF Hg Alt Source Working Std: (0.2% HNO3, HCl)
- 1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg
- 1.0ml of 10mg/L into 100ml = 100ug/L Hg

#M12304 12/05/14 ISF Hg ICV / LCSW (0.2% HNO3, HCl)
- 3.0ml of 100ug/L Hg (#M12303) into 100ml = 3.0ug/L Hg

#M12305 12/05/14 ISF Hg CCV (0.2% HNO3, HCl)
- 1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
- 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
- 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg

#M12306 12/05/14 ISF Hg MRL: (0.2% HNO3, HCl)
- 0.2ml of 100ug/L Hg (#M12303) into 100ml = 0.2ug/L Hg

#M12307 12/05/14 ISF Hg Aqua Regia Reagent: "Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)

#M12308 12/05/14 ISF Stannous Chloride Reagent: Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11995) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12309 12/08/14 ISF NaCl Hydroxylamine Sulfate Reagent: Dissolve 1kg NaCl (#M11999) and 1kg hydroxylamine sulfate (#M11998) in 500mL of milli-q H2O. Exp: 06/8/15

ICASS List 2

#M12282
11-13-14 [illegible]

Into a 200 mL volumetric flask, pipetted 20 mL Interferents A #M12082 and 0.1 mL of 1000mg/L Ti, Sr, Sn, Li, and W #M12003, M11999, M11996, M11998, and M12004 respectively. Brought up to mark with milli-Q H20 Exp. 06/30/2015

#M12283 Yttrium 10,000 ug/mL Environmental Express Lot#1418108
11-14-14

#M12284 11/14/14 ISF	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M12285 11/14/14 ISF	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M12286 11/14/14 ISF	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M 12285) into 100ml = 3.0ug/L Hg
#M12287 11/14/14 ISF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M12288 11/14/14 ISF	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M 12285) into 100ml = 0.2ug/L Hg
#M12289 11/14/14 ISF	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M12290 11/14/14 ISF	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11995) in 70 mL HCl (AB: 553). Bring up to volume with D I Water.

#M12291 11/15/14 ISF Acid Hydroxylamine Sulfate Reagent: Dissolve 60g acid (#M11799) and 60g hydroxylamine sulfate (#M11992) in 500ml of milli-Q H2O
Exp: 05/15/15

#M12292 11/20/14 ISF 10N NaOH: Into a 1L flask add 400g NaOH (#M11145) and bring up to volume with D.I. H2O.
Exp: 05/20/15

#M12293 11/20/14 ISF TCLP Extraction Fluid #1: Fill a 2L carboy w/ 19L D.I. H2O. Add 114ml Glacial Acetic Acid (AB, 574) and 128.6ml of 10N NaOH (#M12292) Dilute to 20L with D.I. H2O and mix pH = 4.93 ± 0.05
Exp: 11/20/15

M12294 11-21-14 K 10,000 ug/mL CPI Lot 14623 exp 4/29/16

11/04/14SF

#M12271 TCLP Extraction Fluid #1: Fill a 1L carboy w/ 1912 D.I. H2O. Add 11.4mL Glacial Acetic Acid (AB: 579) and 128mL 1.0N NaOH (#M11955). Dilute to 2.0L with D.I. H2O and mix. pH = 4.93 ± 0.05

Exp: 05/11/15

11/04/14SF

#M12272 11/05/14SF	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M12273 11/05/14SF	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M12274 11/05/14SF	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M12273) into 100ml = 3.0ug/L Hg
#M12275 11/05/14SF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M12276 11/05/14SF	Hg MRL (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M12273) into 100ml = 0.2ug/L Hg
#M12277 11/05/14SF	Hg Aqua Regia Reagent.	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M12278 11/05/14SF	Stannous Chloride Reagent:	Into a 1000mL volumetric flask, dissolve 100g Stannous Chloride (#M11985) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12279 11/07/14SF Potassium permanganate (Fisher) lot#: 138790A

#M12280 11/13/14SF potassium permanganate soln: 50g potassium permanganate (#M11285) dissolve into 1000mL of D.I. H2O.

Exp: 05/13/15

ICAP Working Standards List 2

#M12279 11-13-14 JMD

.5% HNO3 .5%HCL

Standard name	Pipetted the following respectively:
1	0.01mL of #M12165 and 0.001mL #M12001 into 1L = 1 ug/L
10	0.10mL of #M12165 and 0.01mL #M12001 into 1L = 10 ug/L
100	1mL of #M12165 and 0.1mL #M12001 into 1L = 100 ug/L
1000	2mL of #M12165 and 0.2mL #M12001 into 200mL = 1000 ug/L
10000	20mL of #M12165 and 2mL #M12001 into 200mL = 10000 ug/L

Brought up to mark with milli-Q H20 Exp. 09/30/2015

9 #M12280 11-13-14 JMD

Continuing Calibration Standard (CCV)

into a 200mL volumetric flask pipetted 2mL of #M12165 and 0.2mL #M12001 = 1000 ug/L

Brought up to mark with milli-Q H20 Exp. 09/30/2015

#M12281 11-13-14 JMD

Initial Calibration Standard (ICV) List 2

Into a 1 liter volumetric flask pipetted 1mL of #M12003, M11999, M11996, M11998 and M12163

Brought up to mark with milli-Q H20 Exp. 11/08/2015

#M12258 10/28/14 SF potassium permanganate 5% in 50g potassium permanganate (#M11285) dissolve into 1,000ml of D.I. H_2O.
Exp: 04/27/15

#M12259 10/27/14 SF Stannous Chloride (MaCron) lot#0000087461

M12260 10/28/14 ICV/LCS boron and silicon

Into a one liter volmetric flask pipet 10ml of #M12165 and 1.0 ml #M11919

Bring up to mark with DI H2O

#M12261 10/28/14 SF	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M12262 10/28/14 SF	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M12263 10/28/14 SF	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M12262) into 100ml = 3.0ug/L Hg
#M12264 10/28/14 SF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M12265 10/28/14 SF	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M12262) into 100ml = 0.2ug/L Hg
#M12266 10/28/14 SF	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M12267 10/28/14 SF	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11285) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12268 10/29/14 SF potassium permanganate 5% in 50g potassium permanganate (#M11285) dissolve into 1,000ml of D.I. H_2O.
Exp: 04/29/15

#M12269 10/29/14 SF NaCl Hydroxylamine sulfate Reagent: Dissolve 60g NaCl (#M11798) and 60g hydroxylamine sulfate (#M11793) in 500ml of milli-Q H_2O.
Exp: 04/29/14

#M12270 11/04/14 SF Sodium Chloride (Fisher) lot#142463

#M12210 10/02/14SF TCLP Extraction Fluid #1: Fill/10/01/14SF into a 20L carboy w/ 19L DI H2O. Add 11.4mL Glacial Acetic Acid (#MA5599) and 128.6mL 1N NaOH (#M11955). Dilute to 20L with DI H2O and mix. pH = 4.93 ± 0.05
Exp: 10/02/15

#M12211 10/6/14 Custom Assurance Std Spex Certiprep Lot # 26-201CR ex 9/15

#M12212 10/6/14 Potassium 10,000 CPI Lot# 146213 exp 3/16

#M12213 10/6/14 Arsenic 10,000 CPI Lot# 132089 exp 3/16

#M12214 10/06/14SF	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M12215 10/06/14SF	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M12216 10/06/14SF	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M12215) into 100ml = 3.0ug/L Hg
#M12217 10/06/14SF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M12218 10/06/14SF	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M12215) into 100ml = 0.2ug/L Hg
#M12219 10/06/14SF	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M12220 10/06/14SF	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M1285) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12221 10/06/14SF Potassium Permanganate Soln: 50g Potassium permanganate (#M11285) dissolve into 1000mL of DI H2O.
Exp: 04/06/15

#M12222 10/6/14 MOS GFAA Low/Low Check Water Working Std (Ag Only) - Into a 100mL vol. Flask, pipetted 0.1mL Ag (1000ug/mL) #M11908 and brought up to volume using milli-Q H2O. (1% HNO3) exp. 09/16/15

R M12223 10/6/14 MOS GFAA Low/Low Water Spiking Soln (Ag only) - Into a 1L vol. Flask, pipetted 1mL #M12222 and brought up to volume using milli-Q H2O (1% HNO3) exp. 09/15/15

~~#M12149 08/28/14 SF — Stannous Chloride 10% — 8/28/14 SF~~

#M12179 9-4-15 Hg 1000 ug/mL CPI Lot# 14F110.

#M12180 09/04/14 SF	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M12181 09/04/14 SF	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M12182 09/04/14 SF	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M12181) into 100ml = 3.0ug/L Hg
#M12183 09/04/14 SF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M12184 09/04/14 SF	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M12181) into 100ml = 0.2ug/L Hg
#M12185 09/04/14 SF	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M12186 09/04/14 SF	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M[illegible]) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12185 09/05/14 SF TCLP Extraction Fluid #1: Fill a 20l carboy w/19L DI H2O. Add 114ml Glacial Acetic Acid (AB:579) and 128.6ml 1N NaOH (#M11955). Dilute to 20L w/ DI H2O and mix. pH = 4.93 ± 0.05

Exp: 09/05/15

#M12186 9-9-14 StablCal Standard 200 ntu turbidity Hach Lot #A4216 exp 8/16

#M12187 9-9-14 Turbidity Working Stds → into 3 Hach Vials →

~~pipet 1-5 — 9-9-14~~

~~1mls → 9mls DI — 9-9-14~~

1 ml #M12186 → 9mls DI H_2O = 20 ntu

5 mls M12186 → 5 mls DI H_2O = 100 ntu

10 ml #M12186 → 0 ml DI H_2O = 200 ntu

#M12157 TMS 08-06-14

ICAP Working Standards Boron & Silicon

Standard name	Into a 1L volumetric flask, pipetted the following respectively:
50	0.05mL of #M11763 and 0.05mL #M12007 = 50 ug/L
200	0.2mL of #M11763 and 0.2mL #M12007 = 100 ug/L
1000	1.0mL of #M11763 and 1.0mL #M12007 = 1000 ug/L
2000	2.0mL of #M11763 and 2.0mL #M12007 = 1000 ug/L
10000	10.0mL of #M11763 and 10.0mL #M12007 = 10000 ug/L

Expires: 05/13/2015

Continuing Calibration Standard (CCV)

Into a 1L volumetric flask, pipetted 1.0mL of #M11763 and 1.0mL #M12007 = 1000 ug/L
Brought up to volume with DI H20. Expires 05/13/2015

#M12158 TMS 08/11/14: 1% Pd GFAA matrix modifier Environmental Express Lot# 1421912
Expires: 08/01/15

#M12159 TMS 08/11/14: 1% Nickel Nitrate GFAA matrix modifier Alfa Aesar Lot# 41-55398TD

#M12160 08/12/14 15F Friscolyt (Mettler Toledo) Lot# 17-134C

#M12161 08/12/14 13F TCLP Extraction Fluid #1: In a 7al Carboy w/ 19L D.I. H2O. Add 114mL Glacial Acetic Acid (AB579) and 128.6mL 10N NaOH (#M11955). Dilute to 7al with DI H2O and mix pH = 4.93 ± 0.05
Exp: 08/12/15

#M12162 8-13-14 Potassium 1000 mg/L CPI Lot# 14F193 ex 2/16

#M12163 8-13-14 Tungsten Std. CPI Lot# 14F230 ex 2/16

#M12164 8-13-14 Interference A Spex Certiprep Lot# 11-384PX ex 8/15

#M12165 8-13-14 Custom Assurance Std Spex Certiprep Lot# 7-93WL ex 8/15

#M12134 MW
07-21-14

Working Standards for Sodium and Potassium - Into seven, 200 mL volumetric flasks, pipetted the following from #M11719 and #M11722 and brought up to volume using milli-Q H_2O. (2% HNO_3)

0.5 mg/L std - 0.1 mL of each
1.0 mg/L std - 0.2 mL of each
5.0 mg/L std - 1.0 mL of each
10.0 mg/L std - 2.0 mL of each
50.0 mg/L std -10 mL of each
100 mg/L std - 20 mL of each, used for Continuing Calibration Standard (CCV)
200 mg/L std - 40 mL of each
Expires: 04/24/15

#M12135 MWS
07-21-14

Initial Calibration Standard (ICV) - Into a 250 mL volumetric flask, pipetted 2.5 mL of #M12010 and #M12011 and brought up to volume using milli-Q H_2O. (2% HNO_3)
Expires: 11/08/2015

#M12136 MWS
07-21-14

ICAP 6000 ICSAB Standard for Sodium and Potassium – Into a 250 mL volumetric flask, pipetted 25 mL of #M11776 and 2.5 mL of each #M12010 & #M12011 and brought to volume using milli-Q H_2O. (2% HNO_3) 1.5mL of #M11815
Expires: 12/30/14

#M12137 MWS
07-22-14

TCLP Extraction Fluid #1 – Into a 20L Carboy, added 11.4mL Glacial Acetic acid #AB586 + 128.6mL 10N NaOH #M12086 + brought to volume w/ DI H_2O. Mix. pH = 4.93 ± 0.05

#M12138 07/30/14 SF — Hg Working Stds: (0.2% HNO3, HCl)

1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg
1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg
2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg
4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg
5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg
10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg

#M12139 07/30/14 SF — Hg Alt Source Working Std: (0.2% HNO3, HCl)

1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg
1.0ml of 10mg/L into 100ml = 100ug/L Hg

#M12140 07/30/14 SF — Hg ICV / LCSW (0.2% HNO3, HCl)

3.0ml of 100ug/L Hg (#M12139) into 100ml = 3.0ug/L Hg

#M12141 07/30/14 SF — Hg CCV (0.2% HNO3, HCl)

1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg

#M12105 07/08/14 ISF — Hg Working Stds: (0.2% HNO3, HCl)

1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg
1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg
2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg
4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg
5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg
10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg

#M12106 07/08/14 ISF — Hg Alt Source Working Std: (0.2% HNO3, HCl)

1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg
1.0ml of 10mg/L into 100ml = 100ug/L Hg

#M12107 07/08/14 ISF — Hg ICV / LCSW (0.2% HNO3, HCl)

3.0ml of 100ug/L Hg (#M12106) into 100ml = 3.0ug/L Hg

#M12108 07/08/14 ISF — Hg CCV (0.2% HNO3, HCl)

1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg

#M12109 07/08/14 ISF — Hg MRL: (0.2% HNO3, HCl)

0.2ml of 100ug/L Hg (#M12106) into 100ml = 0.2ug/L Hg

#M12110 07/08/14 ISF — Hg Aqua Regia Reagent:

"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)

#M12111 07/08/14 ISF — Stannous Chloride Reagent:

Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M4995) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12112 7-10-14 Ca 10,000 mg/L CPI Lot # 14D176 exp 1/16
D

#M12113 7-10-14 Mg 10,000 mg/L CPI Lot # 14F190 exp 1/16

#M12114 09/11/14 ISF — Hg Working Stds: (0.2% HNO3, HCl)

1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg
1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg
2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg
4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg
5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg
10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg

#M12115 09/11/14 ISF — Hg Alt Source Working Std: (0.2% HNO3, HCl)

1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg
1.0ml of 10mg/L into 100ml = 100ug/L Hg

#M12116 09/11/14 ISF — Hg ICV / LCSW (0.2% HNO3, HCl)

3.0ml of 100ug/L Hg (#M12115) into 100ml = 3.0ug/L Hg

#M12117 09/11/14 ISF — Hg CCV (0.2% HNO3, HCl)

1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg

#M12118 09/11/14 ISF — Hg MRL: (0.2% HNO3, HCl)

0.2ml of 100ug/L Hg (#M12115) into 100ml = 0.2ug/L Hg

#M12119 09/11/14 ISF — Hg Aqua Regia Reagent:

"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)

#M12120 09/11/14 ISF — Stannous Chloride Reagent:

Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M4995) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12079 06/18/14 SF NaCl Hydroxylamine sulfate Reagent: Dissolve 6g NaCl (#M11799) and 6g hydroxylamine sulfate (#M11998) in 500mL of milli-Q H2O
Exp: 12/18/14

ICAP Working Standards W Only

.5% HNO3 .5%HCL

#M12080 06/19/14 YMS

Standard name — Pipetted the following respectively:

100	0.1mL #M12001 into 1L = 100 ug/L
1000 M12080	1mL #M12001 into 1L = 1000 ug/L
10000	10mL #M12001 into 1L = 10000 ug/L

Bring up to mark with milli-Q H20 Exp. 11/08/15

Continuing Calibration Standard (CCV) M12086
Into a 1L volumetric flask pipetted 1mL #M12001 = 1000 ug/L
Bring up to mark with milli-Q H20 Exp. 11/08/15

#M12081 06/19/14 YMS

Initial Calibration Standard (ICV) W Only M12081
Into a 1 liter volumetric flask pipetted 1mL of #M11385
Bring up to mark with milli-Q H20 Exp. ~~04/23/15~~ 04/20/14
YMS 06/19/14

#M12082 6-23-14 JN Spex Certiprep ICNT-A Lot # 11-38YPX exp 6/15

#M12083 6-23-14 JN Spex Certiprep Cust. Assurance Std T Hardness + Na exp 6/15

#M12084 6-23-14 TCLP Extraction fluid into 20 liter carboy, Add 114mL Glacial acetic Acid (AB-5786) + 128.6 mls 10N NaOH #M11955 Dilute up to 20L with DI H2O + mix pH=4.93±.05

#M12085 6-23-14 TCLP Extraction fluid into 20 liter carboy add 114mL Glacial acetic Acid (AB-5786), + 128.6 mls 10N NaOH #M11955 Dilute up to 20L with DI H2O + mix ph=4.93±.05

#M12086 6-23-14 10N NaOH into 1 Liter vol dissolve 400g Sodium Hydroxide #M11145 Bring up to mark w/ DI H2O exp 6-23-15.

#M12087 (SF 06/25/14) Potassium permanganate Soln: 50g potassium permanganate (#M11285) dissolve into 1,000mL of D.I. H2O.
Exp 12/25/14

#M12002 05/13/14 I5F Cadmium 1,000mg/L CPI Lot#14A402 Exp:11/08/15

#M12003 05/13/14 I5F Titanium 1,000mg/L CPI Lot#13H001 Exp: 11/08/15

#M12004 05/13/14 I5F Nickel 1,000mg/L CPI Lot#14D214 Exp:11/08/15

#M12005 05/13/14 I5F Zinc ~~1,000mg/L~~ 10,000 05/13/14 I5F mg/L CPI Lot#14A199 Exp:11/08/15

#M12006 05/13/14 I5F Beryllium 1,000mg/L CPI Lot#14D241 Exp: 11/08/15

#M12007 05/13/14 I5F Silicon 1,000mg/L CPI Lot#13L019 Exp:11/08/15

#M12008 05/13/14 I5F Molybdenum 1,000mg/L CPI Lot#14B183 Exp:11/08/15

#M12009 05/13/14 I5F Vanadium 1,000mg/L CPI Lot#14A167 Exp:11/08/15

#M12010 05/13/14 I5F Sodium 10,000mg/L CPI Lot#14B243 Exp:11/08/15

#M12011 05/13/14 I5F Potassium 10,000mg/L CPI Lot#14C131 Exp:11/08/15

#M12012 05/14/14 I5F Potassium permanganate soln: 50g potassium permanganate (#M11285) Exp: 11/14/14 dissolve into 1,000mL of D.I. H2O.

#M12013 05/14/14 I5F — Hg Working Stds: (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg
1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg
2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg
4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg
5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg
10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg

#M12014 05/14/14 I5F — Hg Alt Source Working Std: (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg
1.0ml of 10mg/L into 100ml = 100ug/L Hg

#M12015 05/14/14 I5F — Hg ICV / LCSW (0.2% HNO3, HCl)
3.0ml of 100ug/L Hg (#M12014) into 100ml = 3.0ug/L Hg

#M12016 05/14/14 I5F — Hg CCV (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg

#M12017 05/14/14 I5F — Hg MRL: (0.2% HNO3, HCl)
0.2ml of 100ug/L Hg (#M12014) into 100ml = 0.2ug/L Hg

#M12018 05/14/14 I5F — Hg Aqua Regia Reagent:
"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)

#M12019 05/14/14 I5F — Stannous Chloride Reagent:
Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11~~249~~) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M11986 05/08/14 ISF NaCl Hydroxylamine Sulfate Reagent: Dissolve into 1kg NaCl (#M11499) and 1kg Hydroxylamine Sulfate (#M11998) in 500mL Milli-Q H2O.
Exp: 11/08/14

#M11987 05/09/14 ISF	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M11988 05/09/14 ISF	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M11989 05/09/14 ISF	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M11988) into 100ml = 3.0ug/L Hg
#M11990 05/09/14 ISF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M11991 05/09/14 ISF	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M11988) into 100ml = 0.2ug/L Hg
#M11992 05/09/14 ISF	Hg Aqua Regia Reagent	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M11993 05/09/14 ISF	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11999) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M11994 05/12/14 ISF TCLP Extraction Fluid #1: Fill a 7L carboy w/ 11.2L D.I. H2O. Add 114mL Glacial Acetic Acid (AB.579) and 128.6mL 10N NaOH (#M11955). Dilute to 7L with D.I. H2O and mix. pH = 4.93 ± 0.05
Exp: 05/12/15

#M11995 05/13/14 ISF Stannous Chloride (Macron) lot #0000076357 Exp: 02/14/15

#M11996 05/13/14 ISF Tin 1,000 mg/L CPI lot# 13H238 Exp: 11/08/15

#M11997 05/13/14 ISF Thallium 1,000mg/L CPI lot# 13I105 Exp: 11/08/15

#M11998 05/13/14 ISF Lithium 1,000 mg/L CPI lot# 14E049 Exp: 11/08/15

#M11999 05/13/14 ISF Strontium 1,000 mg/L CPI lot# 14C002 Exp: 11/08/15

#M12000 05/13/14 ISF Cobalt 1,000mg/L CPI lot# 14D005 Exp: 11/08/15

#M12001 05/13/14 ISF Tungsten 1,000mg/L CPI lot# 13H199 Exp: 11/08/15

#M11917 4-2-14 5 ICV(Ag) ext 100 ml vol flask pipet from M11679 Conc = 100,000 = 100,000 ug/L 5 ml 5/15

#M11918 04/02/14(5F) Potassium Permanganate soln: 50g potassium permanganate (#M11285) dissolve into 1 L of D.I. H2O. Exp 10/02/14 04/02/14(5F)

M11919 4-2-14 Si 1000 mg/L Std Fisher Lot # 141902 ex 3/16

M11920 4-2-14 Anco Clear Turbidity Std 20 nts ex Lot# C467460 ex 3/15

#M11921 04/03/14(5F) Potassium persulfate: 50g potassium persulfate (#M10987) dissolve into 1000 ml of D.I. H2O. Exp 10/03/14 04/03/14(5F)

#M11922 04/04/14(5F)	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M11923 04/04/14(5F)	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M11924 04/04/14(5F)	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M11923) into 100ml = 3.0ug/L Hg
#M11925 04/04/14(5F)	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M11926 04/04/14(5F)	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M 11923) into 100ml = 0.2ug/L Hg
#M11927 04/04/14(5F)	Hg Aqua Regia Reagent	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M11928 04/04/14(5F)	Stannous Chloride Reagent	into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11770) in 70 mL HCl (AB. 553). Bring up to volume with D.I. Water.

#M11929 04/04/14(5F) 2 N HCl Hydroxylamine Sulfate Reagent: Dissolve into 600 ml (#M11999) acid (#M11998) to 500 ml Exp 10/04/14

#M11930 04/04/14(5F) #M11945F	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M11931 04/04/14(5F)	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg

INORGANIC
CLP FORMS
DOCUMENTS

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INORGANIC ANALYSIS DATA SHEET

Sample Description

041416R1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	118319
% Solids:		Lab Sample ID:	709261
Analytical Method:	EPA 9056A	Date Received:	04/15/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	124941	Analysis Date/Time	04/15/2016 14:55
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	IC0582A	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	2.0	U	1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.15	U	0.080	0.15	0.40	0.40
14808-79-8	Sulfate	2.5	U	1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

041416R1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	118319
% Solids:		Lab Sample ID:	709260
Analytical Method:	EPA 9060A	Date Received:	04/15/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	125181	Analysis Date/Time	04/26/2016 16:26
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL W34137	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	0.78	J	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

041416R1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	118319
% Solids:		Lab Sample ID:	709260
Analytical Method:	EPA 9060A	Date Received:	04/15/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	125705	Analysis Date/Time	05/04/2016 17:41
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL TOC0092A	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TIC	Total Inorganic Carbon	1.5	U	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	118319
% Solids:		Lab Sample ID:	709262
Analytical Method:	EPA 410.4	Date Received:	04/15/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	125013	Analysis Date/Time	04/19/2016 09:00
Analytical Prep Batch #:	56824	Prep. Date/Time:	04/18/2016 13:00
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
COD	COD	35	U	15	35	75	75

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	118319
% Solids:		Lab Sample ID:	709262
Analytical Method:	EPA 9040C	Date Received:	04/15/2016
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	124948	Analysis Date/Time	04/15/2016 11:30
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	S.U.

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
PH	pH	7.19					

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	118319
% Solids:		Lab Sample ID:	709273
Analytical Method:	EPA 9056A	Date Received:	04/15/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	124941	Analysis Date/Time	04/15/2016 13:52
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	IC0582A	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	2.4	J	1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.14	J	0.080	0.15	0.40	0.40
14808-79-8	Sulfate	29		1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	118319
% Solids:		Lab Sample ID:	709272
Analytical Method:	EPA 9060A	Date Received:	04/15/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	125181	Analysis Date/Time	04/26/2016 16:41
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL W34137	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	4.2		0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	118319
% Solids:		Lab Sample ID:	709272
Analytical Method:	EPA 9060A	Date Received:	04/15/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	125705	Analysis Date/Time	05/04/2016 17:54
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL TOC0092A	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TIC	Total Inorganic Carbon	51		0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW10

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	118319
% Solids:		Lab Sample ID:	709258
Analytical Method:	EPA 9056A	Date Received:	04/15/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	124941	Analysis Date/Time	04/15/2016 13:31
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	IC0582A	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	4.4		1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.18	J	0.080	0.15	0.40	0.40
14808-79-8	Sulfate	83		1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW10

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	118319
% Solids:		Lab Sample ID:	709257
Analytical Method:	EPA 9060A	Date Received:	04/15/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	125181	Analysis Date/Time	04/26/2016 15:46
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL W34137	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	8.9		0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW10

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	118319
% Solids:		Lab Sample ID:	709257
Analytical Method:	EPA 9060A	Date Received:	04/15/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	125705	Analysis Date/Time	05/04/2016 17:26
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL TOC0092A	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TIC	Total Inorganic Carbon	56		0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW12

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	118319
% Solids:		Lab Sample ID:	709223
Analytical Method:	EPA 9056A	Date Received:	04/15/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	124941	Analysis Date/Time	04/15/2016 12:07
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	IC0582A	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	4.3		1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	1.3		0.080	0.15	0.40	0.40
14808-79-8	Sulfate	27	M	1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW12

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	118319
% Solids:		Lab Sample ID:	709222
Analytical Method:	EPA 9060A	Date Received:	04/15/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	125181	Analysis Date/Time	04/26/2016 14:52
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL W34137	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	6.8		0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW12

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	118319
% Solids:		Lab Sample ID:	709222
Analytical Method:	EPA 9060A	Date Received:	04/15/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	125705	Analysis Date/Time	05/04/2016 17:12
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL TOC0092A	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TIC	Total Inorganic Carbon	39		0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW13

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	118319
% Solids:		Lab Sample ID:	709277
Analytical Method:	EPA 9056A	Date Received:	04/15/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	124941	Analysis Date/Time	04/15/2016 14:34
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	1.6	J	1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.43		0.080	0.15	0.40	0.40
14808-79-8	Sulfate	19		1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW13

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	118319
% Solids:		Lab Sample ID:	709276
Analytical Method:	EPA 9060A	Date Received:	04/15/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	125181	Analysis Date/Time	04/26/2016 17:09
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL W34137	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	0.68	J	0.50	1.5	3.0	3.0

CT LABORATORIES
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1

INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW13

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	118319
% Solids:		Lab Sample ID:	709276
Analytical Method:	EPA 9060A	Date Received:	04/15/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	125705	Analysis Date/Time	05/04/2016 18:23
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL TOC0092A	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TIC	Total Inorganic Carbon	27		0.50	1.5	3.0	3.0
TOC	Total Organic Carbon	0.68	J	0.50	1.5	3.0	3.0

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1

INORGANIC ANALYSIS DATA SHEET

Sample Description

54TM1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	118319
% Solids:		Lab Sample ID:	709275
Analytical Method:	EPA 9056A	Date Received:	04/15/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	124941	Analysis Date/Time	04/15/2016 14:13
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	IC0582A	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	2.3	J	1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.14	J	0.080	0.15	0.40	0.40
14808-79-8	Sulfate	26		1.3	2.5	5.0	5.0

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1

INORGANIC ANALYSIS DATA SHEET

Sample Description

54TM1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	118319
% Solids:		Lab Sample ID:	709274
Analytical Method:	EPA 9060A	Date Received:	04/15/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	125181	Analysis Date/Time	04/26/2016 16:55
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL W34137	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	4.0		0.50	1.5	3.0	3.0

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1

INORGANIC ANALYSIS DATA SHEET

Sample Description

54TM1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	118319
% Solids:		Lab Sample ID:	709274
Analytical Method:	EPA 9060A	Date Received:	04/15/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	125705	Analysis Date/Time	05/04/2016 18:08
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL TOC0092A	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TIC	Total Inorganic Carbon	51		0.50	1.5	3.0	3.0

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Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118319

Analytical Run #: 125013 Lab Sample ID: 713829

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
COD	4/13/16 09:00	400.0	412.0	103	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118319

Analytical Run #: 125181 Lab Sample ID: 715210

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	4/21/14	16:23	50.00	52.37	105	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118319

Analytical Run #: 125705 Lab Sample ID: 719770

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Inorganic Carbon	5/2/16 18:07	50.00	51.21	102	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118319

Analytical Run #: 124941 Lab Sample ID: 709839

ICAL Calibration #: IC0582A Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	4/15/16	11:25	15.00	15.14	101	90	110
Nitrate Nitrogen	4/15/16	11:25	3.500	3.545	101	90	110
Sulfate	4/15/16	11:25	25.00	25.71	103	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118319

Analytical Run #: 124941 Lab Sample ID: 709978

ICAL Calibration #: IC0582A Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	4/15/16	15:37	15.00	15.26	102	90	110
Nitrate Nitrogen	4/15/16	15:37	3.500	3.564	102	90	110
Sulfate	4/15/16	15:37	25.00	25.79	103	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118319

Analytical Run #: 124941 Lab Sample ID: 709979

ICAL Calibration #: IC0582A Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	4/15/16	06:46	15.00	14.71	98	90	110
Nitrate Nitrogen	4/15/16	06:46	3.500	3.440	98	90	110
Sulfate	4/15/16	06:46	25.00	24.90	100	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118319

Analytical Run #: 125013

Lab Sample ID: 713824

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
COD	4/19/16 09:00	400.0	415.0	104	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118319

Analytical Run #: 125013 Lab Sample ID: 713825

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
COD	4/19/16 09:00	400.0	413.0	103	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118319

Analytical Run #: 125013 Lab Sample ID: 713827

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
COD	4/19/16 09:00	400.0	409.0	102	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118319

Analytical Run #: 125181 Lab Sample ID: 715077

ICAL Calibration #: ICAL W34137 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	4/26/16	10:22	50.00	54.96	110	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118319

Analytical Run #: 125181 Lab Sample ID: 715080

ICAL Calibration #: ICAL W34137 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	4/26/16	13:13	50.00	51.39	103	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118319

Analytical Run #: 125181 Lab Sample ID: 715085

ICAL Calibration #: ICAL W34137 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	4/26/16	15:57	50.00	52.98	106	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118319

Analytical Run #: 125181 Lab Sample ID: 715087

ICAL Calibration #: ICAL W34137 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	4/26/16	18:41	50.00	52.81	106	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118319

Analytical Run #: 125705 Lab Sample ID: 719517

ICAL Calibration #: ICAL TOC0092A Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Inorganic Carbon	5/4/16	12:47	50.00	53.88	108	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118319

Analytical Run #: 125705 Lab Sample ID: 719520

ICAL Calibration #: ICAL TOC0092A Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Inorganic Carbon	5/4/16 16:00	50.00	54.02	108	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118319

Analytical Run #: 125705 Lab Sample ID: 719523

ICAL Calibration #: ICAL TOC0092A Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Inorganic Carbon	5/4/16	18:50	50.00	53.08	106	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118319

Analytical Run #: 125705 Lab Sample ID: 719527

ICAL Calibration #: ICAL TOC0092A Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Inorganic Carbon	5/4/16 19:48	50.00	52.77	106	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118319

Analytical Run #: 125013

Lab Sample ID: 713830

Analytical Prep Batch #:

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
COD	04/13/2016 09:00	1.000			35

** Detection Limit only reported if value was less than the control limit.

***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118319

Analytical Run #: 125181 Lab Sample ID: 715211

Analytical Prep Batch #: Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	04/21/2014 16:37	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118319

Analytical Run #: 125705

Lab Sample ID: 719772

Analytical Prep Batch #:

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Inorganic Carbon	05/02/2016 18:21	0.2900	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118319

Analytical Run #: 124941 Lab Sample ID: 709840

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: IC0582A Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	04/15/2016 11:46	0.2657	U	1.1	2.0
Nitrate Nitrogen	04/15/2016 11:46	0	U	0.08	0.20
Sulfate	04/15/2016 11:46	0.7022	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118319

Analytical Run #: 125013 Lab Sample ID: 713826

Analytical Prep Batch #: Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
COD	04/19/2016 09:00	0			35

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118319

Analytical Run #: 125013

Lab Sample ID: 713828

Analytical Prep Batch #:

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
COD	04/19/2016 09:00	0			35

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118319

Analytical Run #: 125181 Lab Sample ID: 715081

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: ICAL W34137 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	04/26/2016 13:28	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118319

Analytical Run #: 125181 Lab Sample ID: 715086

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: ICAL W34137 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	04/26/2016 16:13	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118319

Analytical Run #: 125181 Lab Sample ID: 715092

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: ICAL W34137 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	04/26/2016 19:12	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118319

Analytical Run #: 125705 Lab Sample ID: 719521

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: ICAL TOC0092A Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Inorganic Carbon	05/04/2016 16:14	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118319

Analytical Run #: 125705

Lab Sample ID: 719524

Analytical Prep Batch # 0

Preparation Date/Time:

ICAL Calibration #: ICAL TOC0092A

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Inorganic Carbon	05/04/2016 19:05	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118319

Analytical Run #: 125705 Lab Sample ID: 719528

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: ICAL TOC0092A Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Inorganic Carbon	05/04/2016 20:04	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118319

Analytical Run #: 124941 Lab Sample ID: 710354

Analytical Prep Batch #: Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	04/15/2016 16:39	0.2580	U	1.1	2.0
Nitrate Nitrogen	04/15/2016 16:39	0	U	0.08	0.20
Sulfate	04/15/2016 16:39	0.6930	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118319

Analytical Run #: 124941 Lab Sample ID: 709844

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: IC0582A Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	04/15/2016 07:56	0.2672	U	1.1	2.0
Nitrate Nitrogen	04/15/2016 07:56	0	U	0.08	0.20
Sulfate	04/15/2016 07:56	0.6977	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118319

Analytical Run #: 125013 Lab Sample ID: 710209

Analytical Prep Batch # 56824 Preparation Date/Time: 04/18/2016 13:00

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total COD	04/19/2016 09:00	0	U	15	35

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118319

Analytical Run #: 125181 Lab Sample ID: 715079

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: ICAL W34137 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	04/26/2016 10:52	0.3800	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 118319

Analytical Run #: 125705 Lab Sample ID: 719519

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: ICAL TOC0092A Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Inorganic Carbon	05/04/2016 13:17	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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5A

SPIKE SAMPLE RECOVERY

Sample Description

54MW12

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	118319
% Solids for Sample:		Concentration Units:	mg/L
Sample No	709842	Parent Sample No.:	709223
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	124941	ICAL Calibration #:	IC0582A

Analysis Type	*Initial Analysis*	Analysis Date: -----	04/15/2016	Analysis Time: --------	12:49

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Chloride	87-111	12.5		4.3		8.00	102			
Nitrate Nitrogen	88-111	3.09		1.3		2.00	90			
Sulfate	87-112	33.7		27		8.00	84			*FAIL*

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5A

SPIKE SAMPLE RECOVERY

Sample Description

54MW12

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	118319
% Solids for Sample:		Concentration Units:	mg/L
Sample No	715083	Parent Sample No.:	709222
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	125181	ICAL Calibration #:	ICAL W34137

Analysis Type *Initial Analysis* Analysis Date: ----- 04/26/2016 Analysis Time: -------- 15:18

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Organic Carbon	85-111	53.9		6.8		50.0	94		TOC

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description

54MW12

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	118319
% Solids for Sample:		Concentration Units:	mg/L
Sample No	709846	Parent Sample No.:	709842
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	124941	ICAL Calibration #:	IC0582A

Analysis Type *Initial Analysis* Analysis Date: ----- 04/15/2016 Analysis Time: -------- 13:10

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Chloride	87-111	12.7		4.3		8.00	105		
Nitrate Nitrogen	88-111	3.31		1.3		2.00	100		
Sulfate	87-112	34.5		27		8.00	94		

BDL = analyte concentration was below detection limit

CT LABORATORIES
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5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description: **54MW12**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	118319
% Solids for Sample:		Concentration Units:	mg/L
Sample No	715084	Parent Sample No.:	715083
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	125181	ICAL Calibration #:	ICAL W34137

Analysis Type *Initial Analysis* Analysis Date: ----- 04/26/2016 Analysis Time: -------- 15:32

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Organic Carbon	85-111	52.2		6.8		50.0	91		TOC

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

6

DUPLICATES

Sample Description

54MW12

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 118319
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch # 1
Analytical Preparation Date/Time 0
Analytical Run #: 124941
ICAL Calibration #: IC0582A
Sample #: 709841
Parent Sample #: 709223

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Chloride	04/15/2016	12:28	10	4.3		4.29		0		
Nitrate Nitrogen	04/15/2016	12:28	10	1.3		1.29		1		
Sulfate	04/15/2016	12:28	10	27		26.7		1		

CT LABORATORIES
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6

DUPLICATES

Sample Description

54MW12

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 118319
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch # 1
Analytical Preparation Date/Time 0
Analytical Run #: 125181
ICAL Calibration #: ICAL W34137
Sample #: 715082
Parent Sample #: 709222

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Total Organic Carbon	04/26/2016	15:04	20	6.8		6.26		8		TOC

CT LABORATORIES
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6

DUPLICATES

Sample Description

041416R1

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID

SDG No.: 118319

% Solid for Sample:

Concentration Units: mg/L

Analytical Prep Batch # 1

Analytical Preparation Date/Time 0

Analytical Run #: 125705

ICAL Calibration #: ICAL TOC0092A

Sample #: 719522

Parent Sample #: 709260

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Total Inorganic Carbon	05/04/2016	18:36	20	0.50	U	0.50	U	0		TOC

CT LABORATORIES
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6A

MATRIX SPIKE DUPLICATES

Sample Description: **54MW12**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 118319
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
Analytical Run #: 124941
ICAL Calibration #: IC0582A
Sample #: 709846
Parent Sample #: 709842

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Chloride	04/15/2016	13:10	15	12.5		12.7		1		
Nitrate Nitrogen	04/15/2016	13:10	15	3.09		3.31		7		
Sulfate	04/15/2016	13:10	15	33.7		34.5		2		

CT LABORATORIES
delivering more than data from your environmental analyses

6A

MATRIX SPIKE DUPLICATES

Sample Description: **54MW12**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 118319
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
Analytical Run #: 125181
ICAL Calibration #: ICAL W34137
Sample #: 715084
Parent Sample #: 715083

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Total Organic Carbon	04/26/2016	15:32	20	53.9		52.2		3		TOC

CT LABORATORIES
delivering more than data from your environmental analyses

7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 118319

Concentration Units: mg/L

Analytical Run #: 124941 Sample No.:#: 709845

Analytical Prep Batch #: 0 Preparation Date/Time:

ICAL Calibration #: IC0582A

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Chloride	04/15/2016 07:35	87-111	15.10		15.00	101		
Nitrate Nitrogen	04/15/2016 07:35	88-111	3.436		3.500	98		
Sulfate	04/15/2016 07:35	87-112	24.74		25.00	99		

CT LABORATORIES
delivering more than data from your environmental analyses

7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 118319

Concentration Units: mg/L

Analytical Run #: 125013 Sample No.:#: 710210

Analytical Prep Batch #: 56824 Preparation Date/Time: 04/18/2016 13:00

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
COD	04/19/2016 09:00	90-110	389.0		400.0	97		SP

CT LABORATORIES
delivering more than data from your environmental analyses

7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 118319

Concentration Units: mg/L

Analytical Run #: 125181 Sample No.:#: 715078

Analytical Prep Batch #: 0 Preparation Date/Time:

ICAL Calibration #: ICAL W34137

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Total Organic Carbon	04/26/2016 10:37	85-111	53.22		50.00	106		TOC

CT LABORATORIES
delivering more than data from your environmental analyses

7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 118319

Concentration Units: mg/L

Analytical Run #: 125705 Sample No.:#: 719518

Analytical Prep Batch #: 0 Preparation Date/Time:

ICAL Calibration #: ICAL TOC0092A

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Total Inorganic Carbon	05/04/2016 13:02	85-111	52.10		50.00	104		TOC

INORGANICS
RAW DATA
DOCUMENTS

Sample table - 032516 - IC0582A

	Method	Ident	Sample type	Position	Injections	Status	Dilution	Info 1	Info 2	Info 4	Value 1	Value 2
1	IC0582A	Std 1	Standard 1	150	1	READY 0 / 1	1		No i-Dilution		1	84
2	IC0582A	Std 2	Standard 2	2	1	READY 0 / 1	1		No i-Dilution		100	85
3	IC0582A	Std 3	Standard 3	2	1	READY 0 / 1	1		No i-Dilution		40	86
4	IC0582A	Std 4	Standard 4	2	1	READY 0 / 1	1		No i-Dilution		20	87
5	IC0582A	Std 5	Standard 5	2	1	READY 0 / 1	1		No i-Dilution		10	88
6	IC0582A	Std 6	Standard 6	2	1	READY 0 / 1	1		No i-Dilution		5	89
7	IC0582A	Std 7	Standard 7	2	1	READY 0 / 1	1		No i-Dilution		2	90
8	IC0582A	Std 8	Standard 8	3	1	READY 0 / 1	1		No i-Dilution		1	91
9	IC0582A	ICV	Check standard 2	4	1	READY 0 / 1	1		No i-Dilution		1	92
10	IC0582A	ICB	Sample	150	1	READY 0 / 1	1		(02) No i-Di...		1	93

Calibration Concentrations

Analyte	ICV (mg/L)
Fluoride	3.50
Chloride	15.00
Nitrite	3.50
Bromide	3.50
Nitrate	3.50
Sulfate	25.00

Instrument:	Metrohm (3)
Cal. File:	IC0505
ICV:	IC0587
Analyst:	JJF
Date:	03/25/2016

Sample data

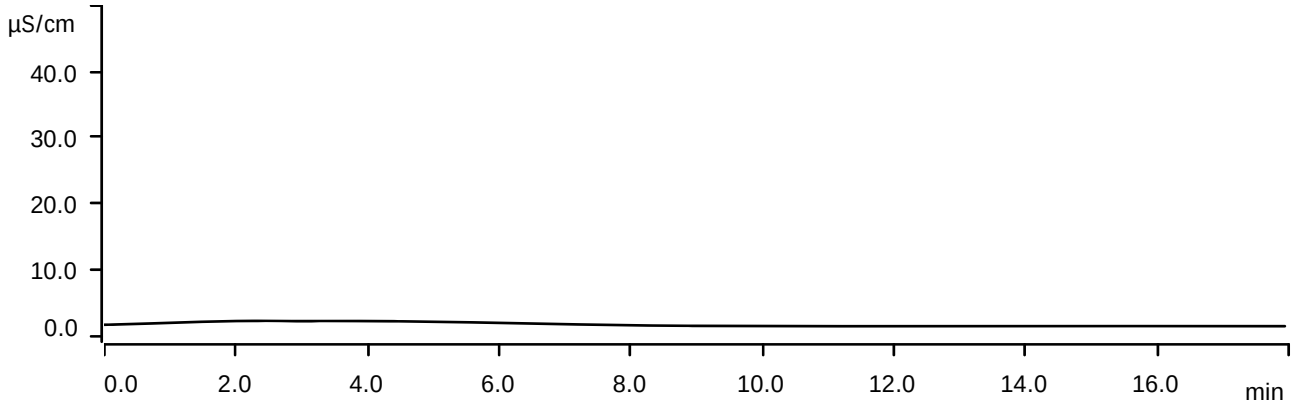
Ident	Std 1	
Determination start	2016-03-25 14:59:40 UTC-5	
Method	IC0582A	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	7.22	MPa
Temperature	-----	°C

(04) Anion Dilution Factor **1.00**

Anions



Sample data

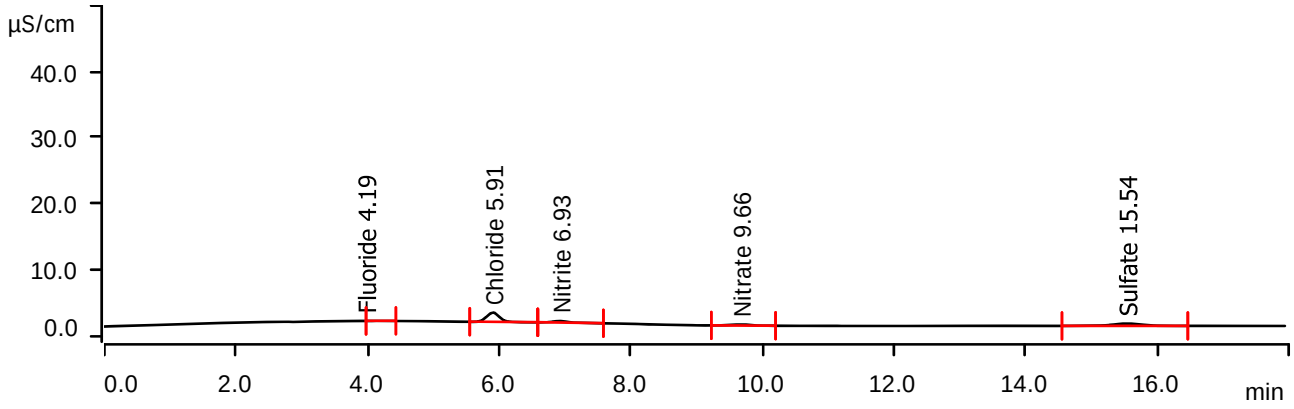
Ident	Std 2	
Determination start	2016-03-25 15:20:33 UTC-5	
Method	IC0582A	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	7.38	MPa
Temperature	-----	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.187	0.0094	0.047	0.126	Fluoride
2	5.908	0.3258	1.431	1.202	Chloride
3	6.925	0.0684	0.246	0.116	Nitrite
4	9.663	0.0576	0.165	0.188	Nitrate
5	15.540	0.1819	0.351	1.423	Sulfate

Sample data

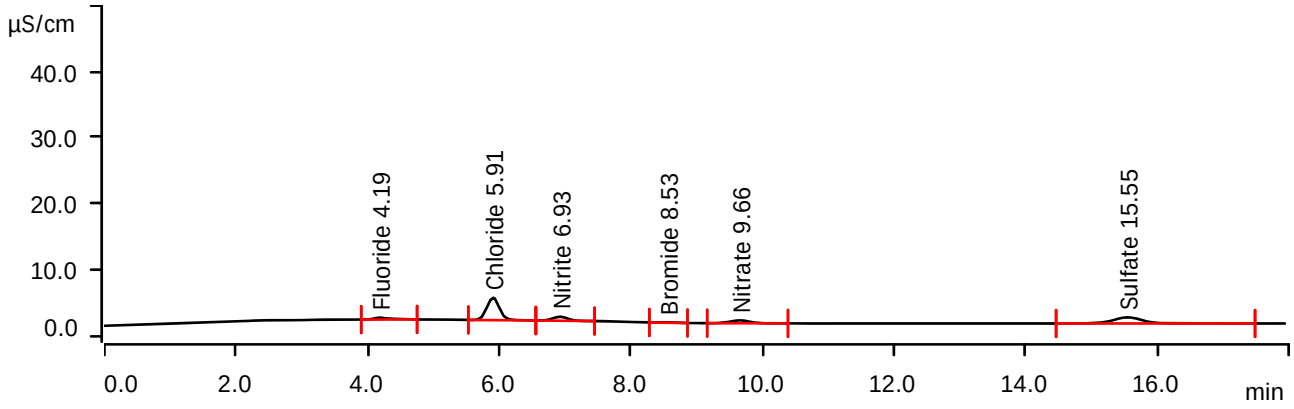
Ident . . . . . Std 3
Determination start 2016-03-25 15:41:12 UTC-5
Method IC0582A
Operator . . . . . JJF

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 18.0 min
Integration . . . . . Automatically
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 7.33 MPa
Temperature . . . . . ----- °C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.185	0.0722	0.281	0.256	Fluoride
2	5.910	0.7658	3.389	2.513	Chloride
3	6.930	0.1620	0.610	0.245	Nitrite
4	8.525	0.0169	0.059	0.369	Bromide
5	9.660	0.1536	0.439	0.302	Nitrate
6	15.547	0.4865	0.914	2.739	Sulfate

Sample data

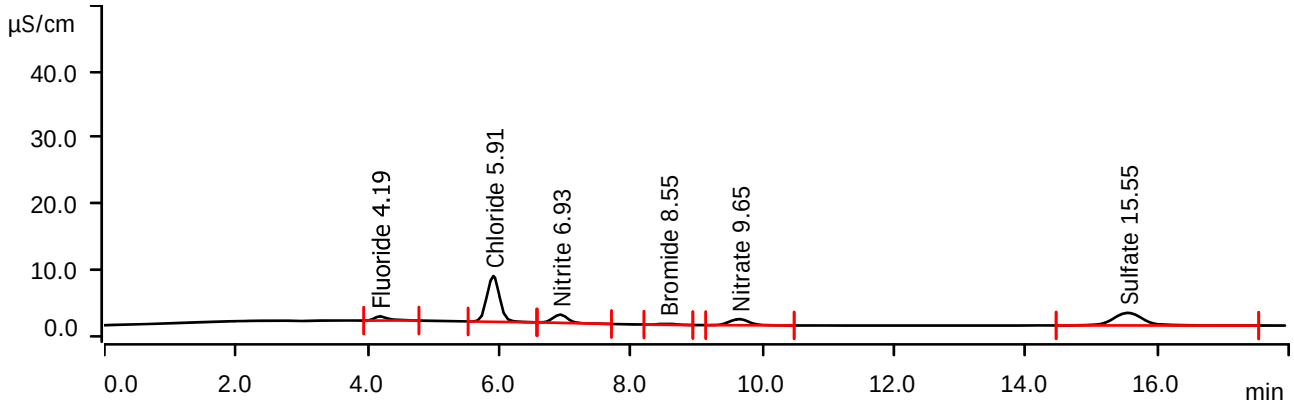
Ident . . . . . Std 4
Determination start 2016-03-25 16:01:51 UTC-5
Method IC0582A
Operator . . . . . JJF

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 18.0 min
Integration . . . . . Automatically
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 7.22 MPa
Temperature . . . . . ----- °C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.187	0.1604	0.651	0.437	Fluoride
2	5.912	1.5654	6.937	4.896	Chloride
3	6.930	0.3256	1.248	0.471	Nitrite
4	8.547	0.0447	0.149	0.591	Bromide
5	9.650	0.3228	0.931	0.503	Nitrate
6	15.550	1.0125	1.911	5.011	Sulfate

Sample data

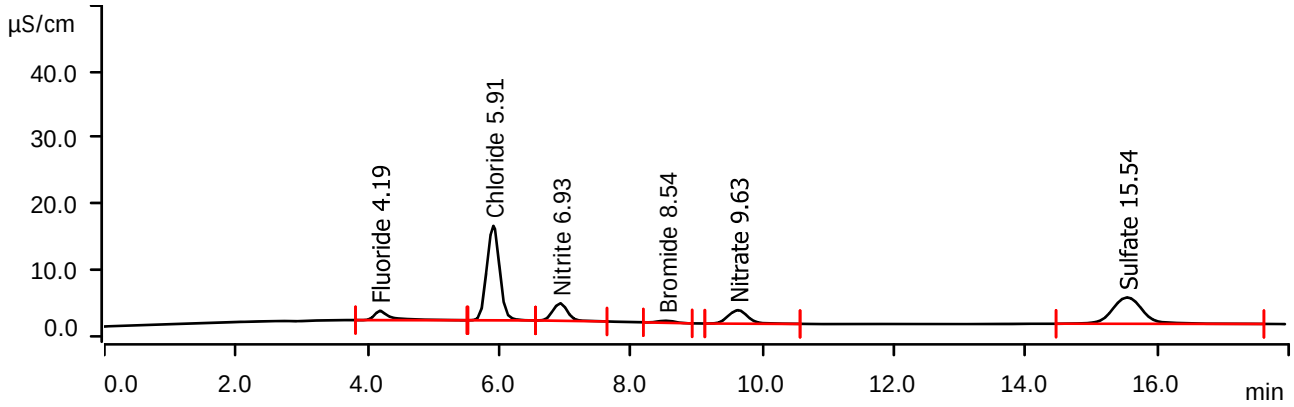
Ident . . . . . Std 5
Determination start 2016-03-25 16:22:31 UTC-5
Method IC0582A
Operator . . . . . JJF

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 18.0 min
Integration . . . . . Automatically
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 7.33 MPa
Temperature . . . . . ----- °C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.187	0.4151	1.419	0.962	Fluoride
2	5.912	3.2473	14.332	9.909	Chloride
3	6.928	0.6962	2.652	0.984	Nitrite
4	8.535	0.0920	0.311	0.969	Bromide
5	9.630	0.7022	2.040	0.955	Nitrate
6	15.542	2.1442	4.004	9.901	Sulfate

Sample data

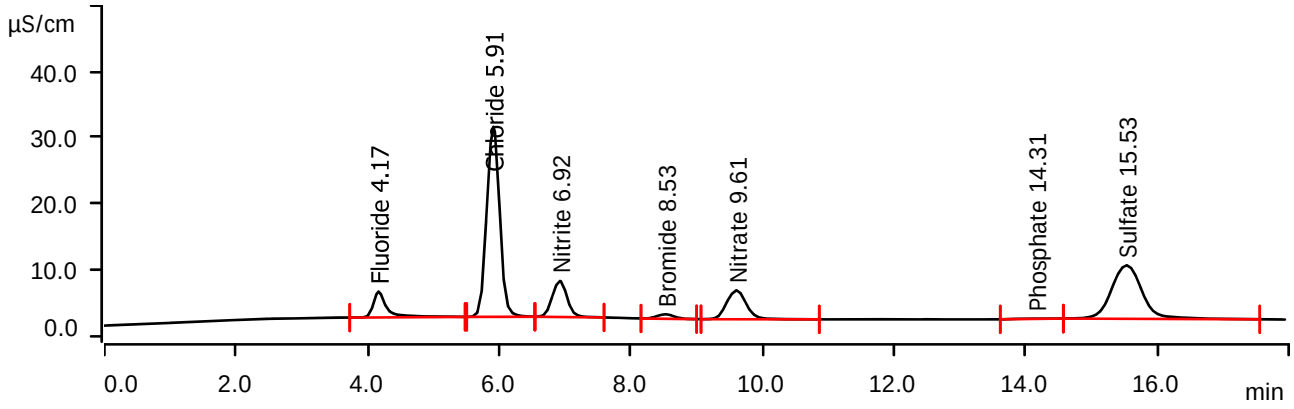
Ident . . . . . Std 6
Determination start 2016-03-25 16:43:10 UTC-5
Method IC0582A
Operator . . . . . JJF

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 18.0 min
Integration . . . . . Automatically
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 7.33 MPa
Temperature . . . . . ----- °C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.168	0.9262	3.906	2.015	Fluoride
2	5.912	6.6187	28.832	19.957	Chloride
3	6.922	1.4349	5.457	2.005	Nitrite
4	8.528	0.2043	0.682	1.865	Bromide
5	9.607	1.5126	4.379	1.919	Nitrate
6	14.308	0.0256	0.039	2.450	Phosphate
7	15.530	4.3872	8.122	19.591	Sulfate

Sample data

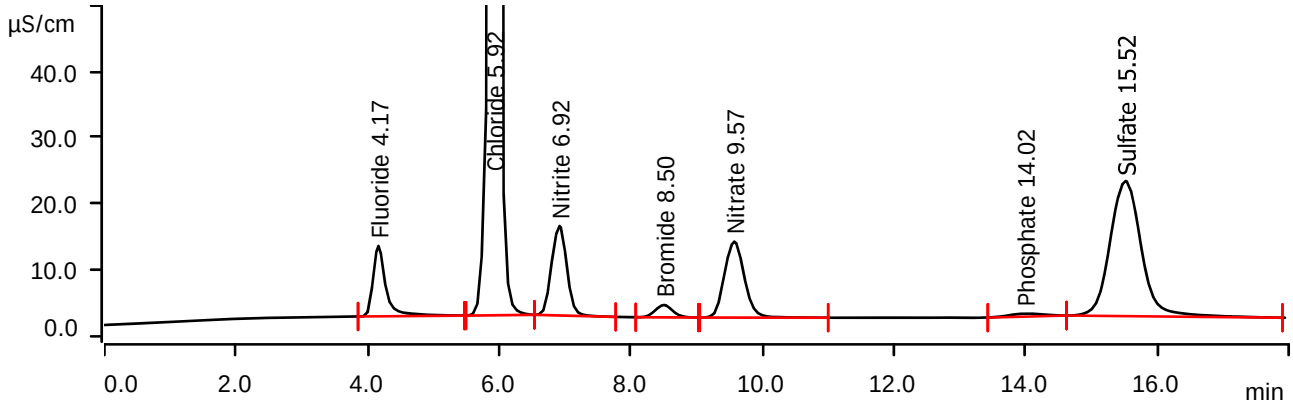
Ident . . . . . Std 7
Determination start 2016-03-25 17:03:48 UTC-5
Method IC0582A
Operator . . . . . JJF

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 18.0 min
Integration . . . . . Automatically
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 7.38 MPa
Temperature . . . . . ----- °C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.165	2.4249	10.670	5.101	Fluoride
2	5.922	16.7015	70.680	50.006	Chloride
3	6.917	3.6407	13.569	5.054	Nitrite
4	8.503	0.5804	1.886	4.867	Bromide
5	9.572	4.0438	11.525	4.929	Nitrate
6	14.015	0.2658	0.462	4.280	Phosphate
7	15.517	11.3116	20.506	49.508	Sulfate

Sample data

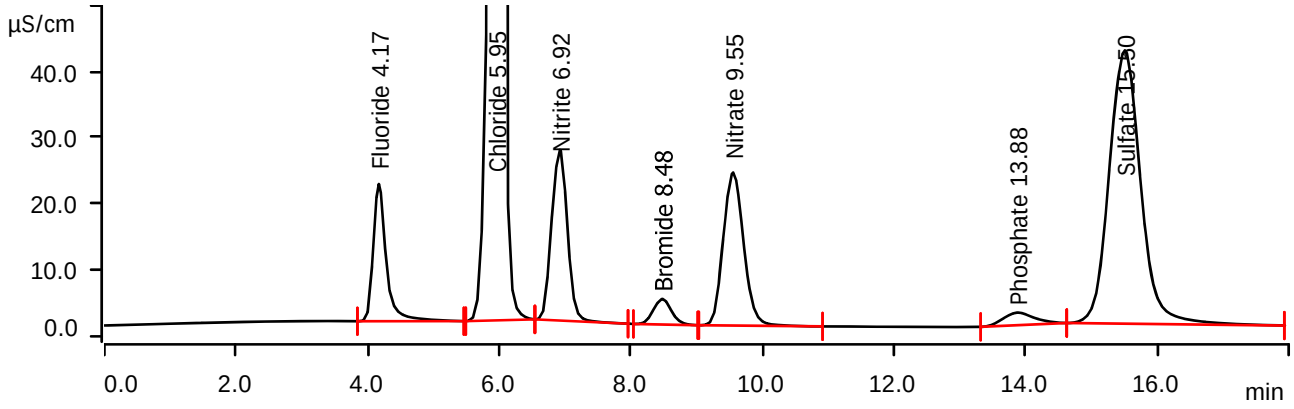
Ident	Std 8	
Determination start	2016-03-25 17:24:27 UTC-5	
Method	IC0582A	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	7.33	MPa
Temperature	-----	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.172	4.7812	20.809	9.953	Fluoride
2	5.952	33.4821	136.702	100.018	Chloride
3	6.922	7.2001	25.900	9.975	Nitrite
4	8.480	1.2348	3.879	10.089	Bromide
5	9.553	8.3525	23.222	10.054	Nitrate
6	13.882	1.0526	1.914	10.270	Phosphate
7	15.503	23.0740	41.475	100.327	Sulfate

Sample data

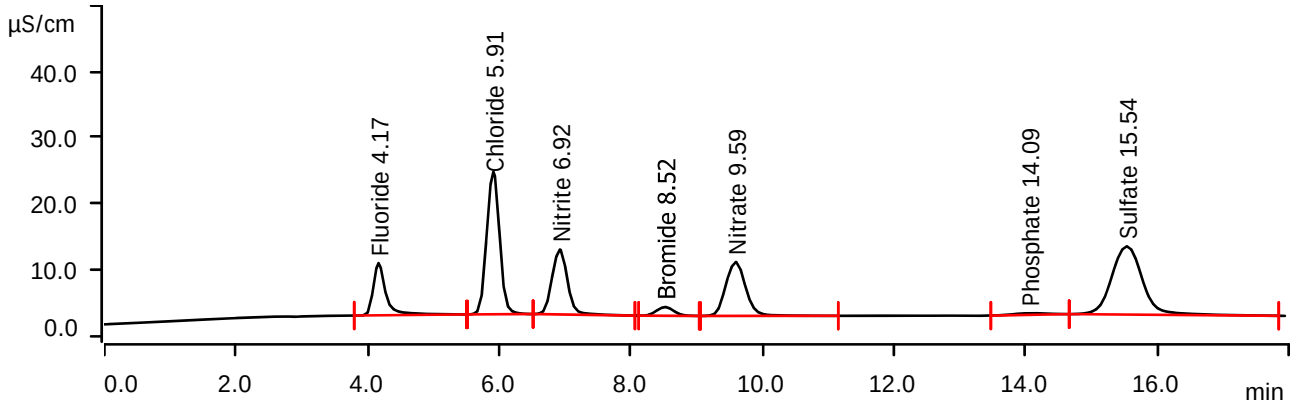
Ident ICV
Determination start 2016-03-25 17:45:22 UTC-5
Method IC0582A
Operator . . . . . JJF

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 18.0 min
Integration . . . . . Automatically
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 7.38 MPa
Temperature . . . . . ----- °C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.167	1.7700	7.921	3.752	Fluoride
2	5.912	4.9292	21.625	14.921	Chloride
3	6.923	2.6847	9.845	3.733	Nitrite
4	8.523	0.4064	1.326	3.478	Bromide
5	9.593	2.8506	8.167	3.510	Nitrate
6	14.093	0.1498	0.251	3.396	Phosphate
7	15.535	5.6254	10.359	24.941	Sulfate

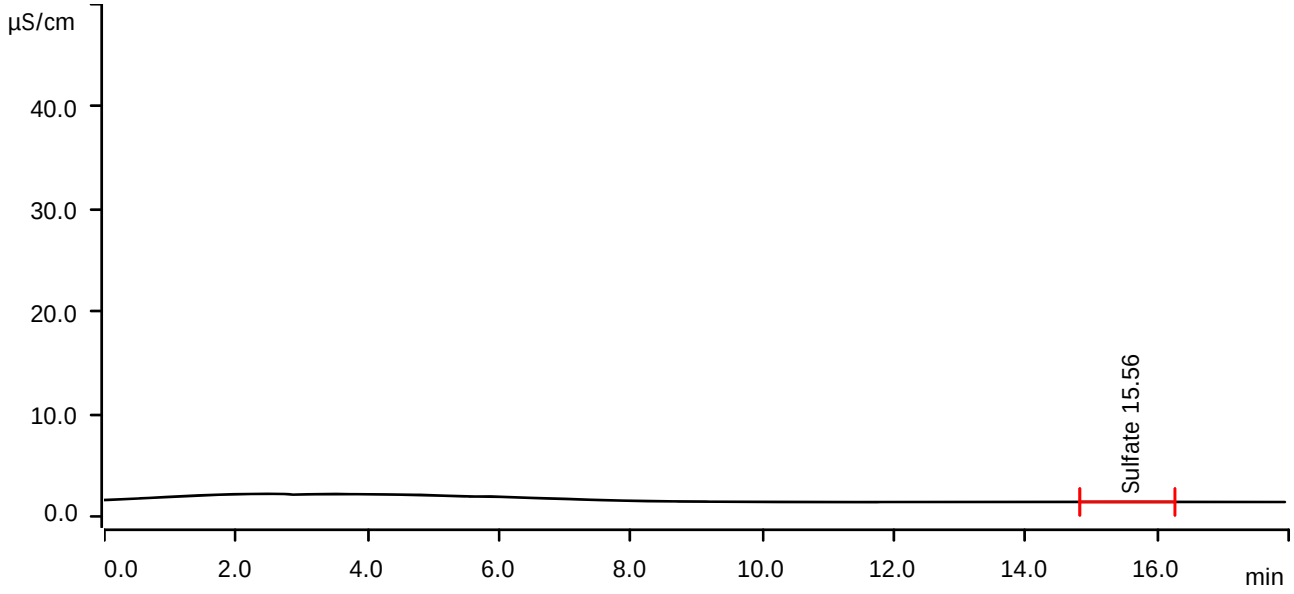
Sample data

Ident	ICB
Sample type	Sample
Determination start	2016-03-25 18:06:16 UTC-5
Method	IC0582A
Operator	JJF

Anions

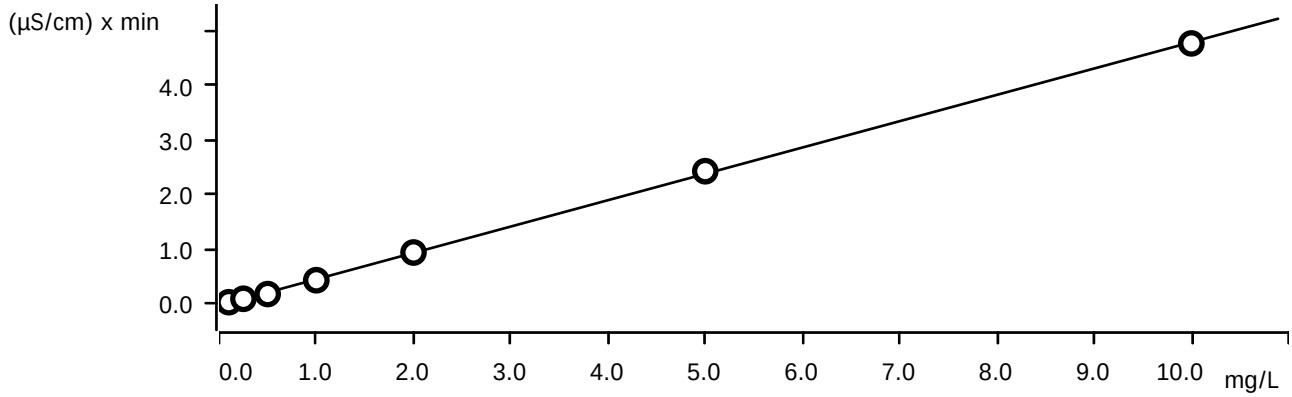
Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	7.33	MPa
Temperature	-----	°C

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	15.562	0.0095	0.018	0.678	Sulfate

Fluoride (Anions)



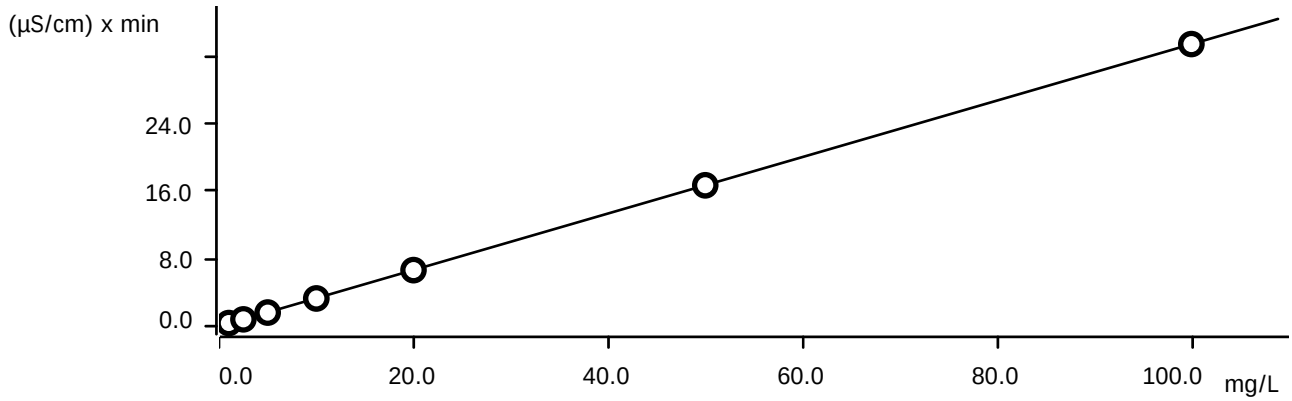
Function: . . . . . *A = - 0.0519984 + 0.0242798× Q*

Relative standard deviation . . . . . *2.363425 %*

Correlation coefficient *0.999883*

Sample type	Index	Conc.	Volume	Dilution	Sample amount	Area	Ident	Date
Standard 1	1	0.0000	20.0	1.0	1.0	n. d.	Std 1	2016-03-25 14:59:40 UTC-5
Standard 2	1	0.1000	20.0	1.0	1.0	0.0094	Std 2	2016-03-25 15:20:33 UTC-5
Standard 3	1	0.2500	20.0	1.0	1.0	0.0722	Std 3	2016-03-25 15:41:12 UTC-5
Standard 4	1	0.5000	20.0	1.0	1.0	0.1604	Std 4	2016-03-25 16:01:51 UTC-5
Standard 5	1	1.0000	20.0	1.0	1.0	0.4151	Std 5	2016-03-25 16:22:31 UTC-5
Standard 6	1	2.0000	20.0	1.0	1.0	0.9262	Std 6	2016-03-25 16:43:10 UTC-5
Standard 7	1	5.0000	20.0	1.0	1.0	2.4249	Std 7	2016-03-25 17:03:48 UTC-5
Standard 8	1	10.0000	20.0	1.0	1.0	4.7812	Std 8	2016-03-25 17:24:27 UTC-5

Chloride (Anions)



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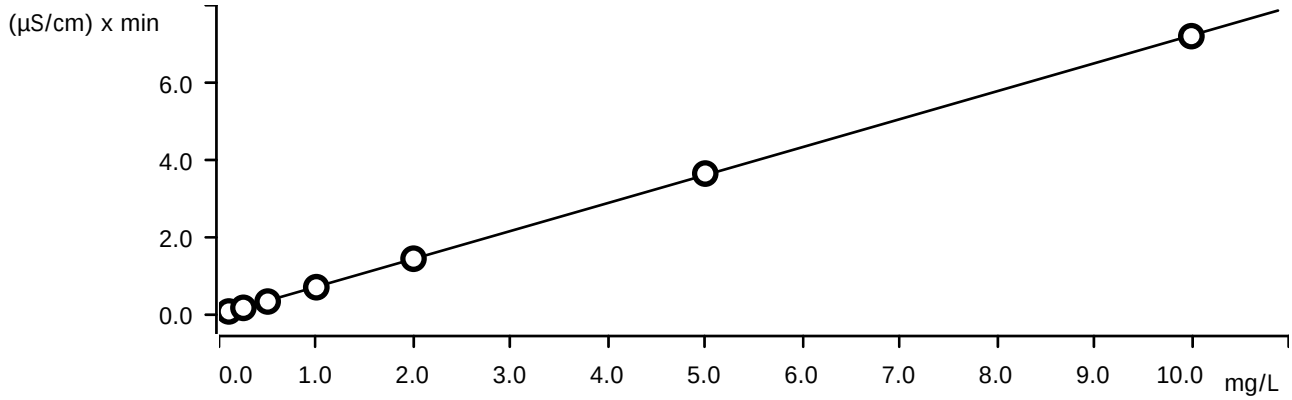
Function: . . . . . *A = - 0.0774251 + 0.0167768× Q*

Relative standard deviation . . . . . *0.417635 %*

Correlation coefficient *0.999996*

Sample type	Index	Conc.	Volume	Dilution	Sample amount	Area	Ident	Date
Standard 1	1	0.0000	20.0	1.0	1.0	n. d.	Std 1	2016-03-25 14:59:40 UTC-5
Standard 2	1	1.0000	20.0	1.0	1.0	0.3258	Std 2	2016-03-25 15:20:33 UTC-5
Standard 3	1	2.5000	20.0	1.0	1.0	0.7658	Std 3	2016-03-25 15:41:12 UTC-5
Standard 4	1	5.0000	20.0	1.0	1.0	1.5654	Std 4	2016-03-25 16:01:51 UTC-5
Standard 5	1	10.0000	20.0	1.0	1.0	3.2473	Std 5	2016-03-25 16:22:31 UTC-5
Standard 6	1	20.0000	20.0	1.0	1.0	6.6187	Std 6	2016-03-25 16:43:10 UTC-5
Standard 7	1	50.0000	20.0	1.0	1.0	16.7015	Std 7	2016-03-25 17:03:48 UTC-5
Standard 8	1	100.0000	20.0	1.0	1.0	33.4821	Std 8	2016-03-25 17:24:27 UTC-5

Nitrite (Anions)



Function: . . . . . *A = - 0.0153310 + 0.0361679× Q*

Relative standard deviation . . . . . *1.177968 %*

Correlation coefficient *0.999969*

Sample type	Index	Conc.	Volume	Dilution	Sample amount	Area	Ident	Date
Standard 1	1	0.0000	20.0	1.0	1.0	n. d.	Std 1	2016-03-25 14:59:40 UTC-5
Standard 2	1	0.1000	20.0	1.0	1.0	0.0684	Std 2	2016-03-25 15:20:33 UTC-5
Standard 3	1	0.2500	20.0	1.0	1.0	0.1620	Std 3	2016-03-25 15:41:12 UTC-5
Standard 4	1	0.5000	20.0	1.0	1.0	0.3256	Std 4	2016-03-25 16:01:51 UTC-5
Standard 5	1	1.0000	20.0	1.0	1.0	0.6962	Std 5	2016-03-25 16:22:31 UTC-5
Standard 6	1	2.0000	20.0	1.0	1.0	1.4349	Std 6	2016-03-25 16:43:10 UTC-5
Standard 7	1	5.0000	20.0	1.0	1.0	3.6407	Std 7	2016-03-25 17:03:48 UTC-5
Standard 8	1	10.0000	20.0	1.0	1.0	7.2001	Std 8	2016-03-25 17:24:27 UTC-5

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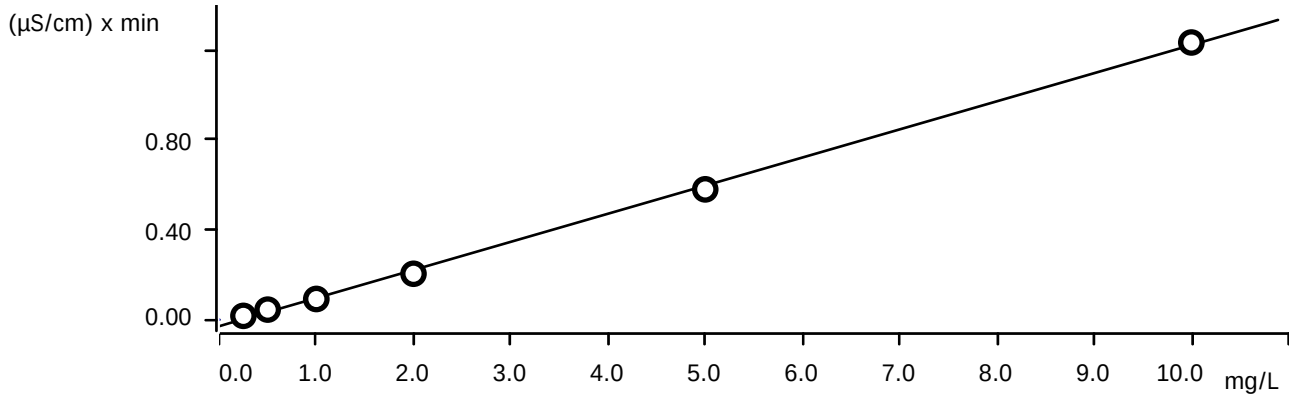
Bromide (Anions)



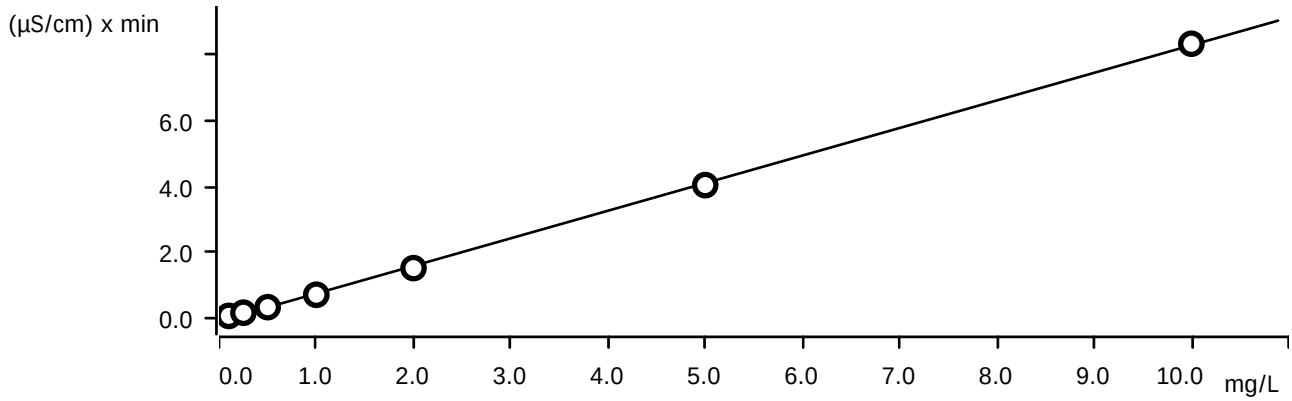
Function: . . . . . *A = - 0.0293702 + 6.26476E-3× Q*

Relative standard deviation . . . . . *4.489130 %*

Correlation coefficient *0.999531*

Sample type	Index	Conc.	Volume	Dilution	Sample amount	Area	Ident	Date
Standard 1	1	0.0000	20.0	1.0	1.0	n. d.	Std 1	2016-03-25 14:59:40 UTC-5
Standard 2	1	0.1000	20.0	1.0	1.0	n. d.	Std 2	2016-03-25 15:20:33 UTC-5
Standard 3	1	0.2500	20.0	1.0	1.0	0.0169	Std 3	2016-03-25 15:41:12 UTC-5
Standard 4	1	0.5000	20.0	1.0	1.0	0.0447	Std 4	2016-03-25 16:01:51 UTC-5
Standard 5	1	1.0000	20.0	1.0	1.0	0.0920	Std 5	2016-03-25 16:22:31 UTC-5
Standard 6	1	2.0000	20.0	1.0	1.0	0.2043	Std 6	2016-03-25 16:43:10 UTC-5
Standard 7	1	5.0000	20.0	1.0	1.0	0.5804	Std 7	2016-03-25 17:03:48 UTC-5
Standard 8	1	10.0000	20.0	1.0	1.0	1.2348	Std 8	2016-03-25 17:24:27 UTC-5

Nitrate (Anions)



Function: . . . . . *A = - 0.100480 + 0.0420385× Q*

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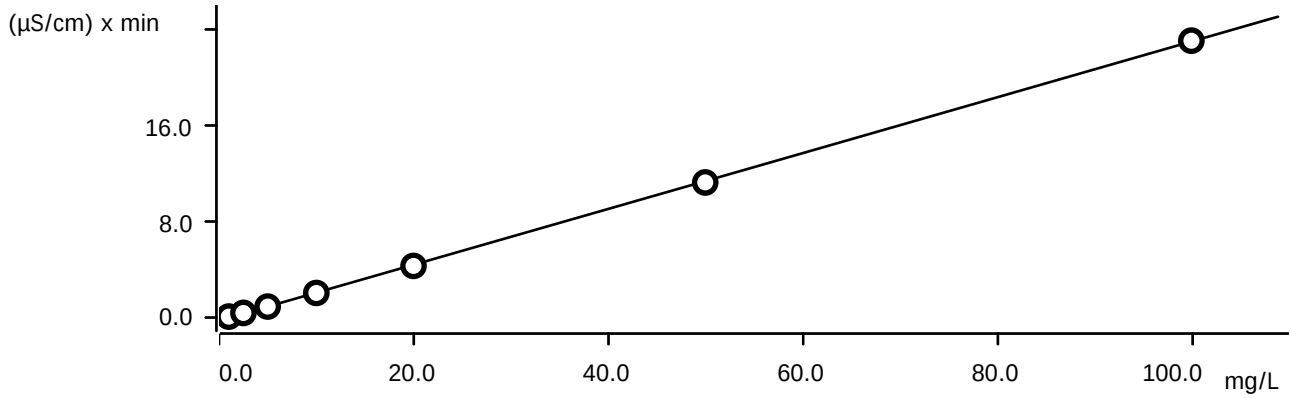
Relative standard deviation . . . . . *2.859421 %*

Correlation coefficient *0.999830*

Sample type	Index	Conc.	Volume	Dilution	Sample amount	Area	Ident	Date
Standard 1	1	0.0000	20.0	1.0	1.0	n. d.	Std 1	2016-03-25 14:59:40 UTC-5
Standard 2	1	0.1000	20.0	1.0	1.0	0.0576	Std 2	2016-03-25 15:20:33 UTC-5
Standard 3	1	0.2500	20.0	1.0	1.0	0.1536	Std 3	2016-03-25 15:41:12 UTC-5
Standard 4	1	0.5000	20.0	1.0	1.0	0.3228	Std 4	2016-03-25 16:01:51 UTC-5
Standard 5	1	1.0000	20.0	1.0	1.0	0.7022	Std 5	2016-03-25 16:22:31 UTC-5
Standard 6	1	2.0000	20.0	1.0	1.0	1.5126	Std 6	2016-03-25 16:43:10 UTC-5
Standard 7	1	5.0000	20.0	1.0	1.0	4.0438	Std 7	2016-03-25 17:03:48 UTC-5
Standard 8	1	10.0000	20.0	1.0	1.0	8.3525	Std 8	2016-03-25 17:24:27 UTC-5

RJ 05/02/2016

Sulfate (Anions)



Function: . . . . . *A = - 0.147424 + 0.0115729× Q*

Relative standard deviation . . . . . *1.484200 %*

Correlation coefficient *0.999952*

Sample type	Index	Conc.	Volume	Dilution	Sample amount	Area	Ident	Date
Standard 1	1	0.0000	20.0	1.0	1.0	n. d.	Std 1	2016-03-25 14:59:40 UTC-5
Standard 2	1	1.0000	20.0	1.0	1.0	0.1819	Std 2	2016-03-25 15:20:33 UTC-5
Standard 3	1	2.5000	20.0	1.0	1.0	0.4865	Std 3	2016-03-25 15:41:12 UTC-5
Standard 4	1	5.0000	20.0	1.0	1.0	1.0125	Std 4	2016-03-25 16:01:51 UTC-5
Standard 5	1	10.0000	20.0	1.0	1.0	2.1442	Std 5	2016-03-25 16:22:31 UTC-5
Standard 6	1	20.0000	20.0	1.0	1.0	4.3872	Std 6	2016-03-25 16:43:10 UTC-5
Standard 7	1	50.0000	20.0	1.0	1.0	11.3116	Std 7	2016-03-25 17:03:48 UTC-5
Standard 8	1	100.0000	20.0	1.0	1.0	23.0740	Std 8	2016-03-25 17:24:27 UTC-5

RJ05/02/2016

Sample table - 041516 - 124909 124910 124941

	Method	Ident	Sample type	Position	Injections	Status	Dilution	Info 1	Info 2	Info 4	Value 1	Value 2
1	IC0582A	CCV IC0600 IC0599	Check standard 1	149	1	READY 0 / 1	1	(01) Reset ...			1	84
2	IC0582A	LCSW IC0584 IC0585	Check standard 2	1	1	READY 0 / 1	1		(02) No i-Di...		1	84
3	IC0582A	MBW	Sample	150	1	READY 0 / 1	1		(02) No i-Di...		1	84
10	IC0582A	CCV	Check standard 1	149	1	READY 0 / 1	1	Auto CCV			1	84
11	IC0582A	CCB	Sample	150	1	READY 0 / 1	1	Auto CCB			1	84
12	IC0582A	709223	Sample	32	1	READY 0 / 1	1		(01) i-Diluti...		1	84
13	IC0582A	DUP709223	Sample	32	1	READY 0 / 1	1		(01) i-Diluti...		1	84
14	IC0582A	MSW709223	Sample	33	1	READY 0 / 1	1		(02) No i-Di...		1	84
15	IC0582A	MSDW709223	Sample	34	1	READY 0 / 1	1		(02) No i-Di...		1	84
16	IC0582A	709258	Sample	35	1	READY 0 / 1	1		(01) i-Diluti...		1	84
17	IC0582A	709273	Sample	36	1	READY 0 / 1	1		(01) i-Diluti...		1	84
18	IC0582A	709275	Sample	37	1	READY 0 / 1	1		(01) i-Diluti...		1	84
19	IC0582A	709277	Sample	38	1	READY 0 / 1	1		(01) i-Diluti...		1	84
22	IC0582A	CCV	Check standard 1	149	1	READY 0 / 1	1	Auto CCV			1	84
24	IC0582A	MBW	Sample	150	1	READY 0 / 1	1		(02) No i-Di...		1	84

Sample data

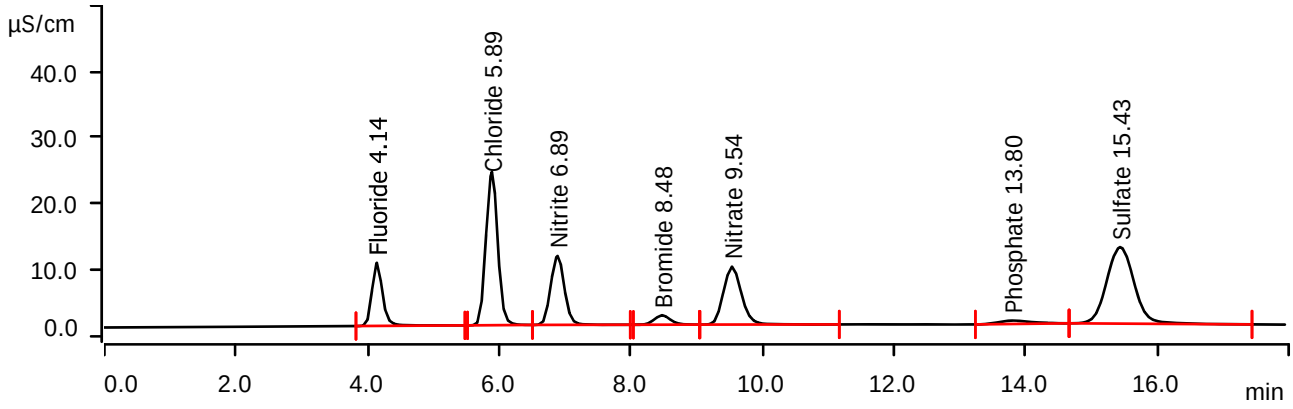
Ident	CCV IC0600 IC0599	
Determination start	2016-04-15 06:46:42 UTC-5	
Method	IC0582A	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	7.67	MPa
Temperature	-----	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.142	1.7977	9.568	3.809	Fluoride
2	5.888	4.8567	23.285	14.705	Chloride
3	6.887	2.5318	10.458	3.521	Nitrite
4	8.477	0.4084	1.432	3.494	Bromide
5	9.537	2.7918	8.775	3.440	Nitrate
6	13.803	0.3064	0.525	4.589	Phosphate
7	15.432	5.6168	11.607	24.904	Sulfate

Sample data

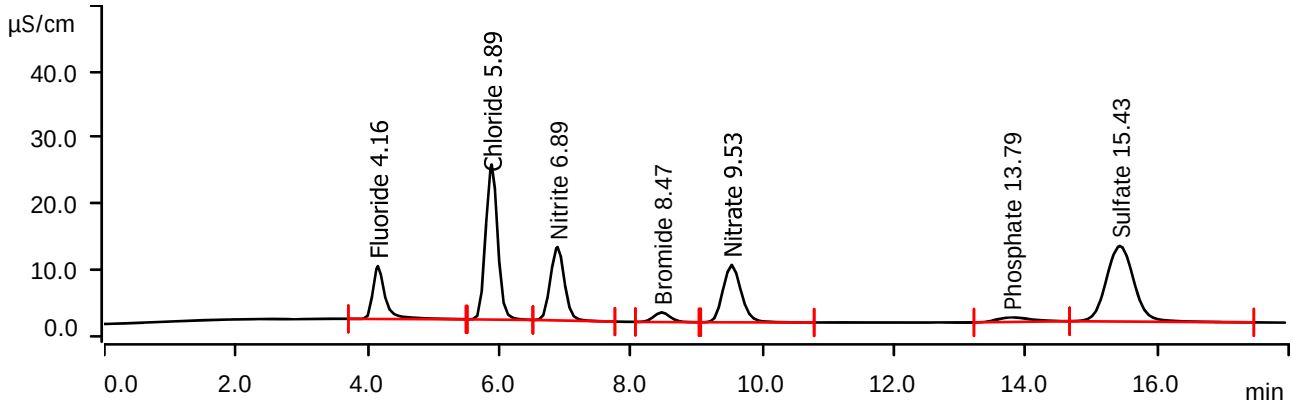
Ident	LCSW IC0584 IC0585	
Determination start	2016-04-15 07:35:41 UTC-5	
Method	IC0582A	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	7.61	MPa
Temperature	-----	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.157	1.7411	8.022	3.693	Fluoride
2	5.885	4.9908	23.516	15.105	Chloride
3	6.885	2.7623	11.133	3.840	Nitrite
4	8.470	0.4257	1.478	3.632	Bromide
5	9.532	2.7887	8.708	3.436	Nitrate
6	13.788	0.4087	0.709	5.367	Phosphate
7	15.428	5.5790	11.471	24.741	Sulfate

Sample data

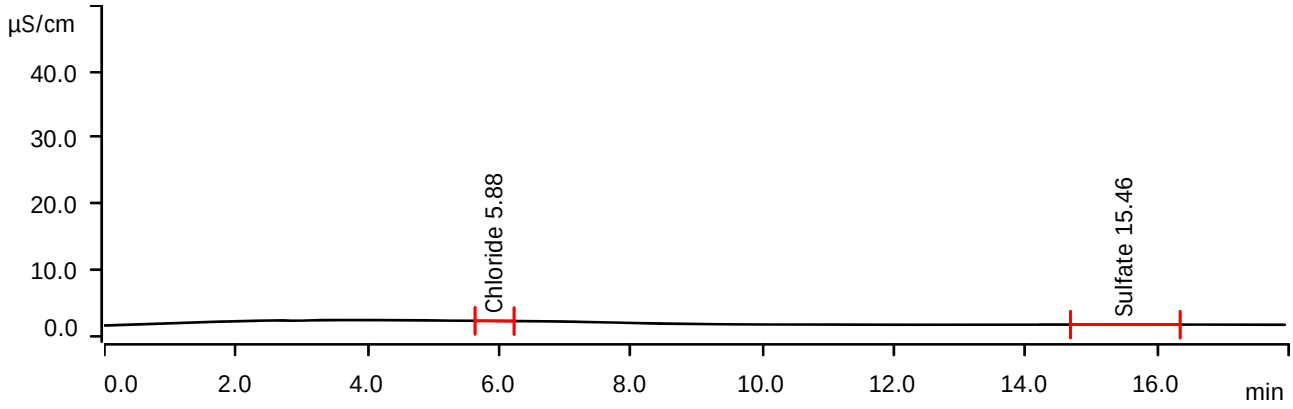
Ident	MBW	
Determination start	2016-04-15 07:56:40 UTC-5	
Method	IC0582A	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	7.67	MPa
Temperature	-----	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	5.882	0.0122	0.059	0.267	Chloride
2	15.462	0.0141	0.028	0.698	Sulfate

Sample data

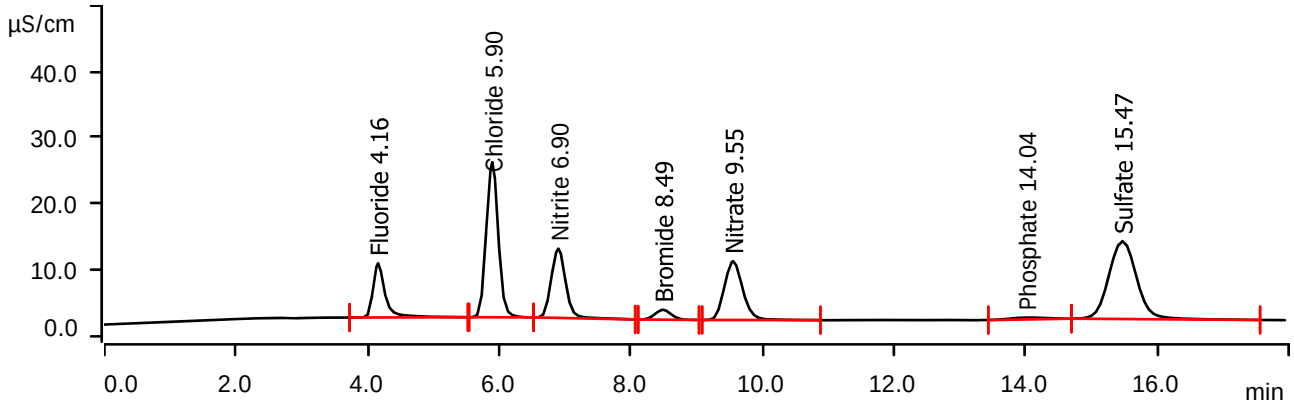
Ident	CCV	
Determination start	2016-04-15 11:25:55 UTC-5	
Method	IC0582A	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	7.55	MPa
Temperature	-----	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.160	1.7645	8.212	3.741	Fluoride
2	5.895	5.0031	23.534	15.142	Chloride
3	6.898	2.6738	10.501	3.718	Nitrite
4	8.488	0.4323	1.509	3.685	Bromide
5	9.553	2.8799	8.919	3.545	Nitrate
6	14.043	0.1783	0.286	3.613	Phosphate
7	15.468	5.8043	11.800	25.714	Sulfate

Sample data

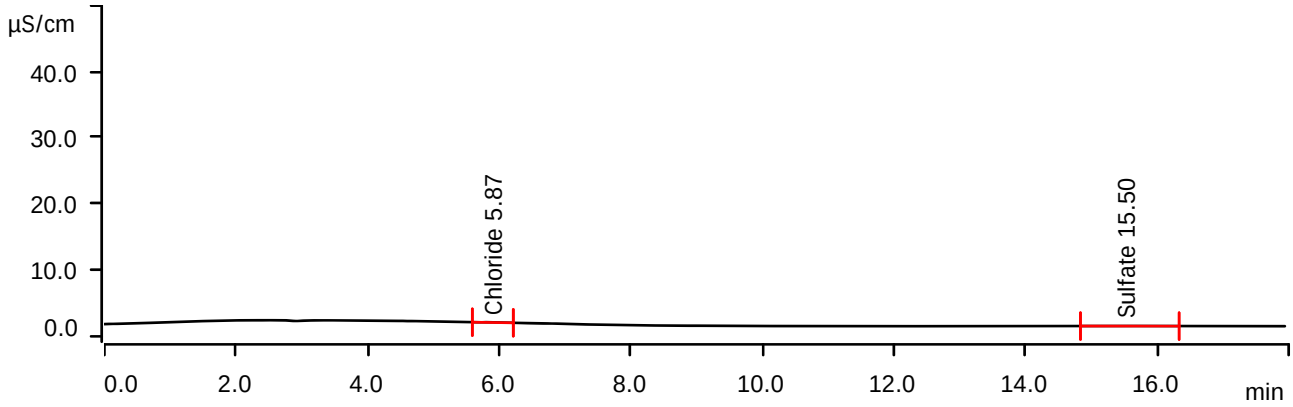
Ident	CCB	
Determination start	2016-04-15 11:46:54 UTC-5	
Method	IC0582A	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	7.55	MPa
Temperature	-----	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	5.865	0.0117	0.051	0.266	Chloride
2	15.502	0.0151	0.031	0.702	Sulfate

Sample data

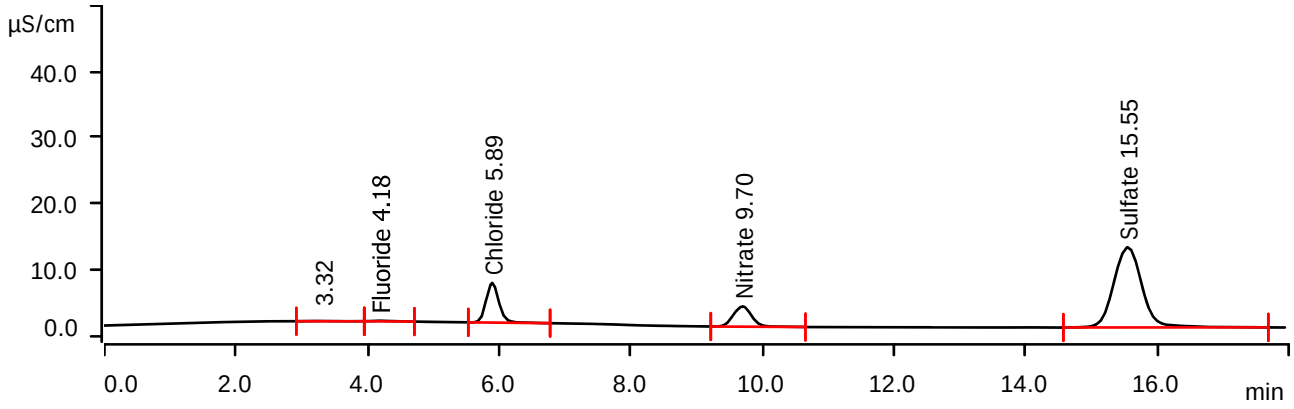
Ident	709223
Determination start	2016-04-15 12:07:50 UTC-5
Method	IC0582A
Operator	JJF

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	7.55	MPa
Temperature	-----	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	3.318	0.0179	0.029	invalid	
2	4.183	0.0280	0.089	0.165	Fluoride
3	5.893	1.3582	6.017	4.279	Chloride
4	9.700	0.9863	3.072	1.293	Nitrate
5	15.547	6.0343	12.168	26.708	Sulfate

Sample data

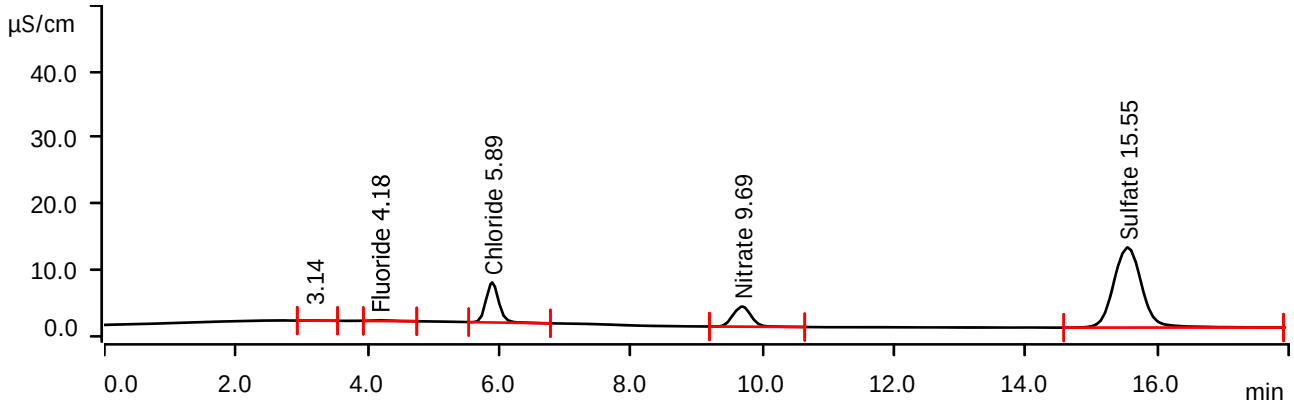
Ident DUP709223
Determination start 2016-04-15 12:28:49 UTC-5
Method IC0582A
Operator . . . . . JJF

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 18.0 min
Integration . . . . . Automatically
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 7.50 MPa
Temperature . . . . . ----- °C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	3.138	0.0046	0.013	invalid	
2	4.177	0.0322	0.113	0.173	Fluoride
3	5.893	1.3618	6.069	4.289	Chloride
4	9.693	0.9836	3.063	1.289	Nitrate
5	15.547	6.0360	12.153	26.715	Sulfate

Sample data

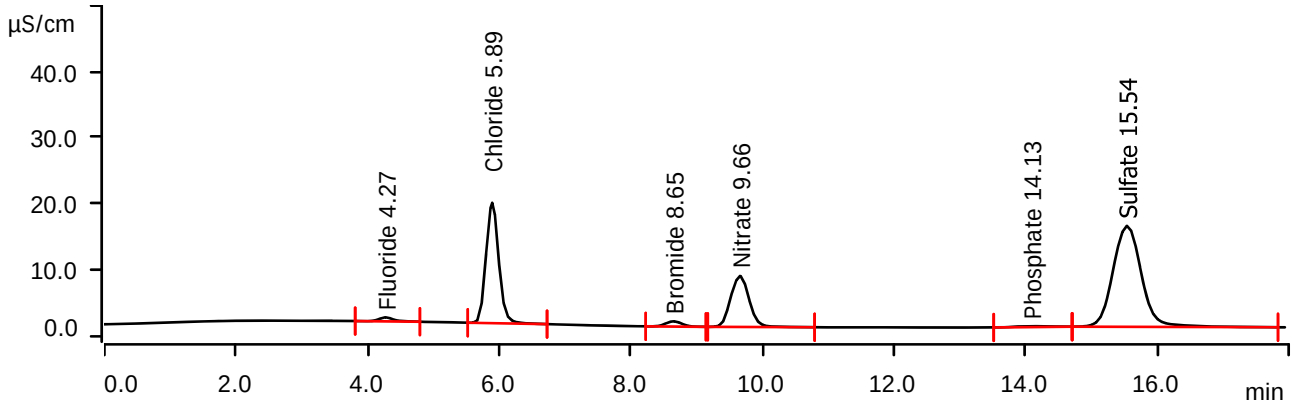
Ident	MSW709223	
Determination start	2016-04-15 12:49:43 UTC-5	
Method	IC0582A	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	7.55	MPa
Temperature	-----	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.273	0.1504	0.614	0.417	Fluoride
2	5.893	4.1091	18.260	12.477	Chloride
3	8.648	0.2264	0.790	2.041	Bromide
4	9.658	2.4987	7.728	3.091	Nitrate
5	14.128	0.0786	0.129	2.854	Phosphate
6	15.537	7.6536	15.312	33.704	Sulfate

Sample data

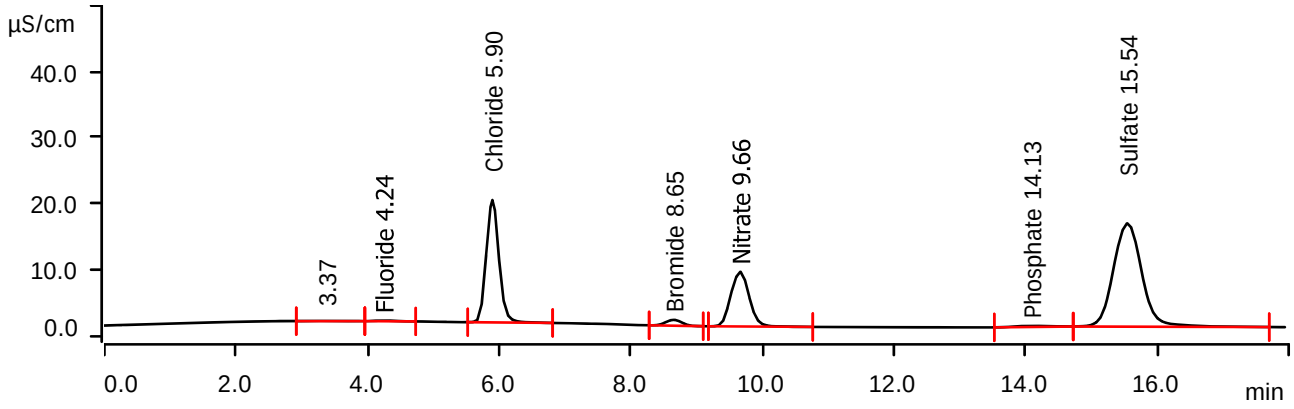
Ident	MSDW709223	
Determination start	2016-04-15 13:10:38 UTC-5	
Method	IC0582A	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	7.50	MPa
Temperature	-----	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	3.372	0.0195	0.031	invalid	
2	4.235	0.0364	0.116	0.182	Fluoride
3	5.897	4.1689	18.562	12.655	Chloride
4	8.648	0.2511	0.889	2.238	Bromide
5	9.660	2.6847	8.287	3.313	Nitrate
6	14.130	0.0936	0.153	2.969	Phosphate
7	15.543	7.8332	15.661	34.480	Sulfate

Sample data

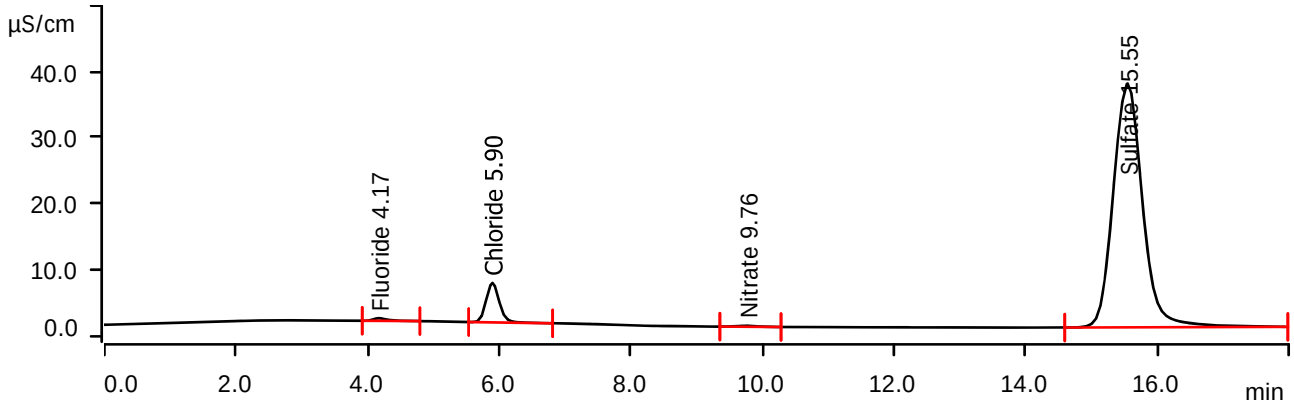
Ident 709258
Determination start 2016-04-15 13:31:32 UTC-5
Method IC0582A
Operator . . . . . JJF

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 18.0 min
Integration . . . . . Automatically
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 7.50 MPa
Temperature . . . . . ----- °C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.170	0.1034	0.412	0.320	Fluoride
2	5.897	1.3828	5.974	4.352	Chloride
3	9.758	0.0508	0.153	0.180	Nitrate
4	15.547	19.0809	36.997	83.075	Sulfate

Sample data

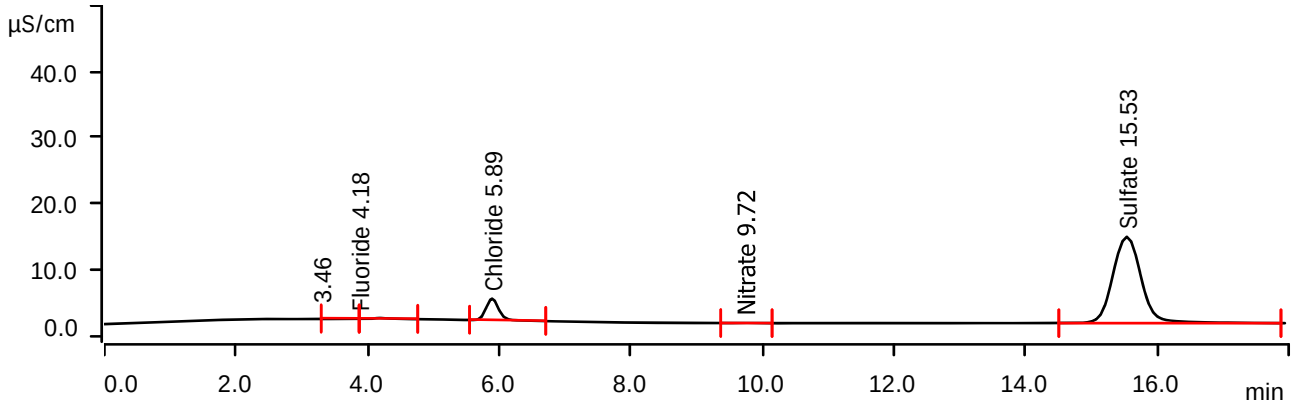
Ident	709273	
Determination start	2016-04-15 13:52:27 UTC-5	
Method	IC0582A	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	7.50	MPa
Temperature	-----	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	3.462	0.0031	0.009	invalid	
2	4.182	0.0436	0.150	0.197	Fluoride
3	5.893	0.7404	3.284	2.437	Chloride
4	9.718	0.0175	0.054	0.140	Nitrate
5	15.533	6.5589	13.089	28.974	Sulfate

Sample data

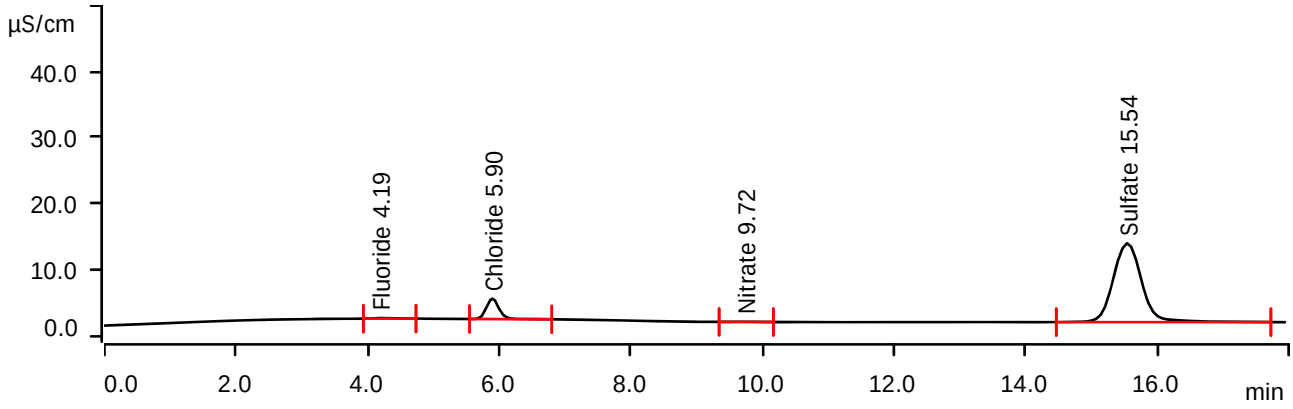
Ident 709275
Determination start 2016-04-15 14:13:21 UTC-5
Method IC0582A
Operator . . . . . JJF

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 18.0 min
Integration . . . . . Automatically
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 7.55 MPa
Temperature . . . . . ----- °C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.187	0.0337	0.111	0.177	Fluoride
2	5.897	0.6943	3.104	2.300	Chloride
3	9.717	0.0167	0.051	0.139	Nitrate
4	15.542	5.9631	11.935	26.400	Sulfate

Sample data

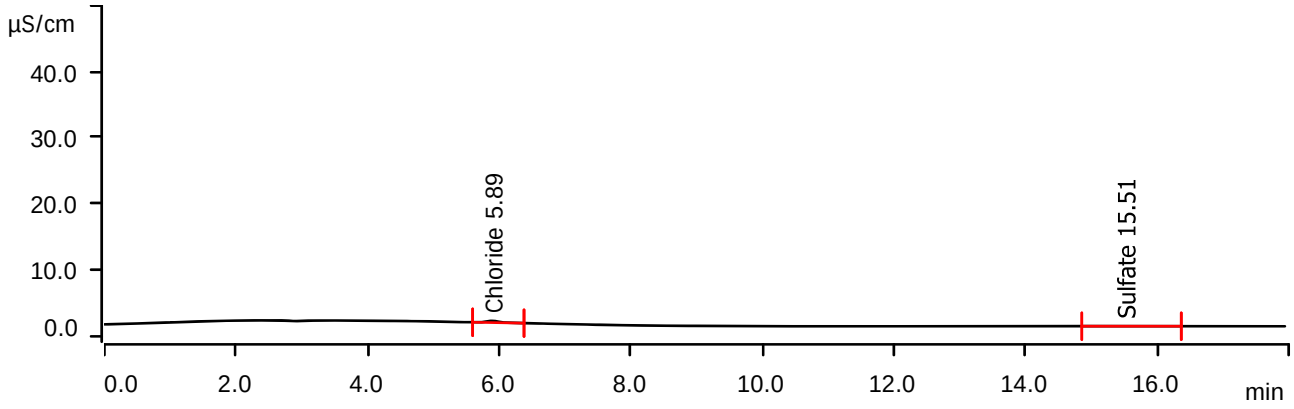
Ident	709261	
Determination start	2016-04-15 14:55:11 UTC-5	
Method	IC0582A	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	7.55	MPa
Temperature	-----	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	5.893	0.0603	0.273	0.410	Chloride
2	15.508	0.0150	0.031	0.702	Sulfate

Sample data

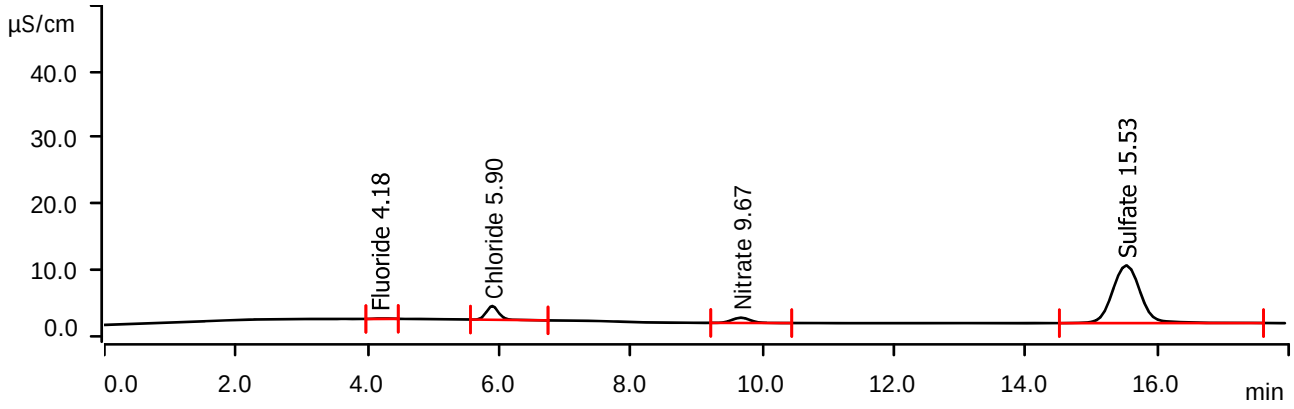
Ident 709277
Determination start 2016-04-15 14:34:16 UTC-5
Method IC0582A
Operator . . . . . JJF

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 18.0 min
Integration . . . . . Automatically
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 7.50 MPa
Temperature . . . . . ----- °C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.182	0.0163	0.080	0.141	Fluoride
2	5.895	0.4535	2.083	1.582	Chloride
3	9.673	0.2577	0.794	0.426	Nitrate
4	15.525	4.2944	8.744	19.191	Sulfate

Sample data

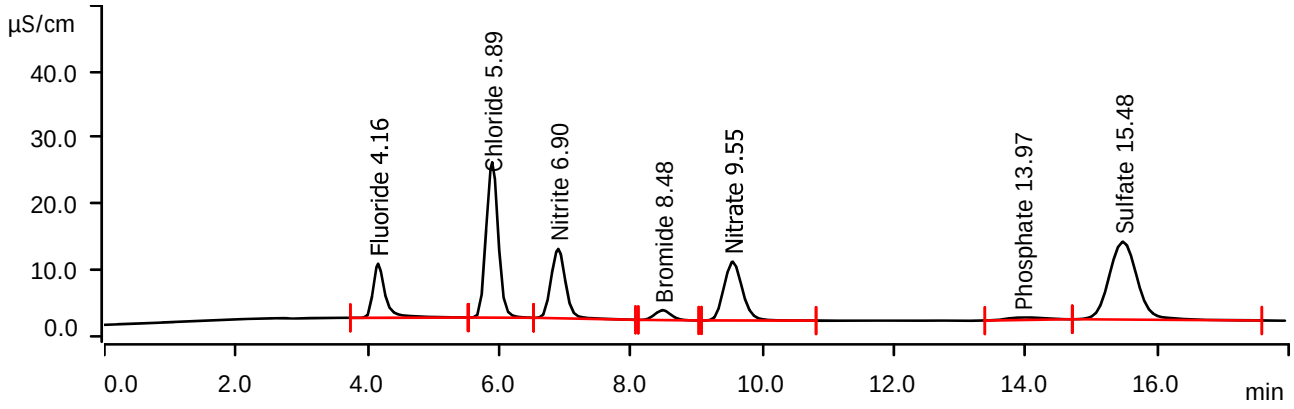
Ident	CCV	
Determination start	2016-04-15 15:37:00 UTC-5	
Method	IC0582A	
Operator	JJF	

Anions

Data source	Conductivity detector 1 (881 Compact IC pro 1)	
Channel	Conductivity	
Recording time	18.0	min
Integration	Automatically	
Eluent composition	not defined	
Flow	0.700	mL/min
Pressure	7.61	MPa
Temperature	-----	°C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.160	1.7732	8.190	3.759	Fluoride
2	5.893	5.0424	23.581	15.258	Chloride
3	6.897	2.6909	10.524	3.741	Nitrite
4	8.483	0.4344	1.509	3.701	Bromide
5	9.548	2.8963	8.926	3.564	Nitrate
6	13.967	0.2427	0.398	4.104	Phosphate
7	15.475	5.8211	11.803	25.787	Sulfate

Sample data

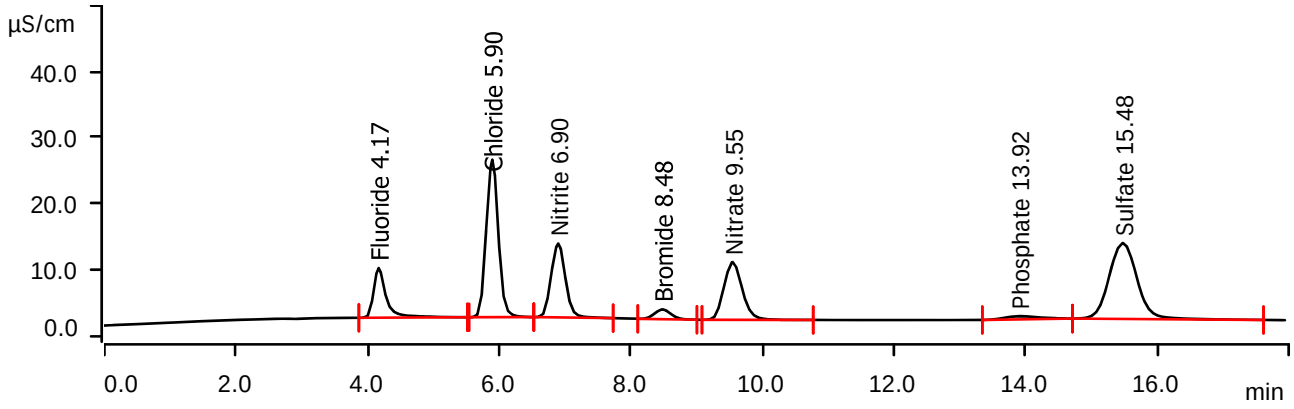
Ident . . . . . LCSW IC0584 IC0585
Determination start 2016-04-15 16:18:51 UTC-5
Method IC0582A
Operator . . . . . JJF

Anions

Data source . . . . . Conductivity detector 1 (881 Compact IC pro 1)
Channel . . . . . Conductivity
Recording time . . . . . 18.0 min
Integration . . . . . Automatically
Eluent composition . . . . . not defined
Flow . . . . . 0.700 mL/min
Pressure . . . . . 7.44 MPa
Temperature . . . . . ----- °C

(04) Anion Dilution Factor **1.00**

Anions



Peak number	Retention time min	Area (µS/cm) x min	Height µS/cm	Concentration mg/L	Component name
1	4.168	1.6788	7.527	3.564	Fluoride
2	5.895	5.1057	23.891	15.447	Chloride
3	6.897	2.8211	11.207	3.921	Nitrite
4	8.482	0.4275	1.490	3.646	Bromide
5	9.547	2.8353	8.755	3.492	Nitrate
6	13.918	0.2984	0.493	4.528	Phosphate
7	15.475	5.6755	11.506	25.158	Sulfate

COD ICAL W38786 TEST 30
4/13/16

LINEAR{32}CURVE{32}FIT{13}{10}
NOT{32}THROUGH{32}0{13}{10}
{13}{10}
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STD{32}{32}{32}ABS{32}{32}{32}{32}{32}{32}CONC{32}{32}{32}{32}{32}{32}{32}{32}CONC{3
2}{32}{32}{32}ERROR{13}{10}
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INTERCEPT{32}{32}{32}{32}-0.000{13}{10}
CORR{32}COEFF{32}{32}{32}0.9997{13}{10}
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ICV W38788
412.

ICB
1.

47
415.
48
389.
49
-3.
50
46.
51
24.
52
28.
53
166.
54
162.
55
15.
56
14.
57
24.
58
27.
59
37.
60
413.
61
0.
62
10.
63
14.
64
38.
65
13.
66
24.
67
10.
68
3.
69
409.
70
0.

FWC11-02

Chemical Oxygen Demand (COD)

Analyst: MER Run 125013 Date: 04/18/2016

Calib. Std. W38786 CCV Std. W38787 ICV/LCS Std. W38788

Vial #	Spec #	Sample #	D.F.	BATCH	RESULTS
1	47	CCV			415
39	48	LCSW			389
40	49	MBW			Ø
41	50	708711			46
42	51	708770			MER 4/19/16 ~~15~~ 24
43	52	DUP708770			28
44	53	MSW708770			166
45	54	MSDW708770			162
46	55	708774			15
47	56	708775			14
48	57	708776			24
49	58	708777			27
50	59	708778			37
1	60	CCV			413
3	61	CCB			Ø
51	62	708779			10
52	63	708780			14
53	64	708781			38
54	65	708782			13
55	66	708783			24
56	67	708785			10
57	68	709262			3
58					
59					
60					
1	69	CCV			409
3	70	CCB			Ø

Spiking. Std. Ref: W38785

Spike Preparation

Spike Conc.: 2000

Matrix = Liquids

Spike Vol.: 0.2

Silver Sulfate: W37960

Sample Vol.: 2.5

Digestion Soln: W36944

Final Spike Value.: 148.2

pH Bench Sheet

Date: 04/15/2016 Analyst: MER

Instrument: *Mettler Toledo Seven Easy* LIMS#: 124948

Time: 1130 Slope (%): 99 %

	SAMPLE#	MATRIX	pH	TEMP (°C)	COMMENTS:
1	708711	GW	7.27	4.3	
2	DUP708711	GW	7.29	4.8	
3	709262	GW	7.19	16.9	
4					
5					
6					
7					
8					
9					
10					
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12					
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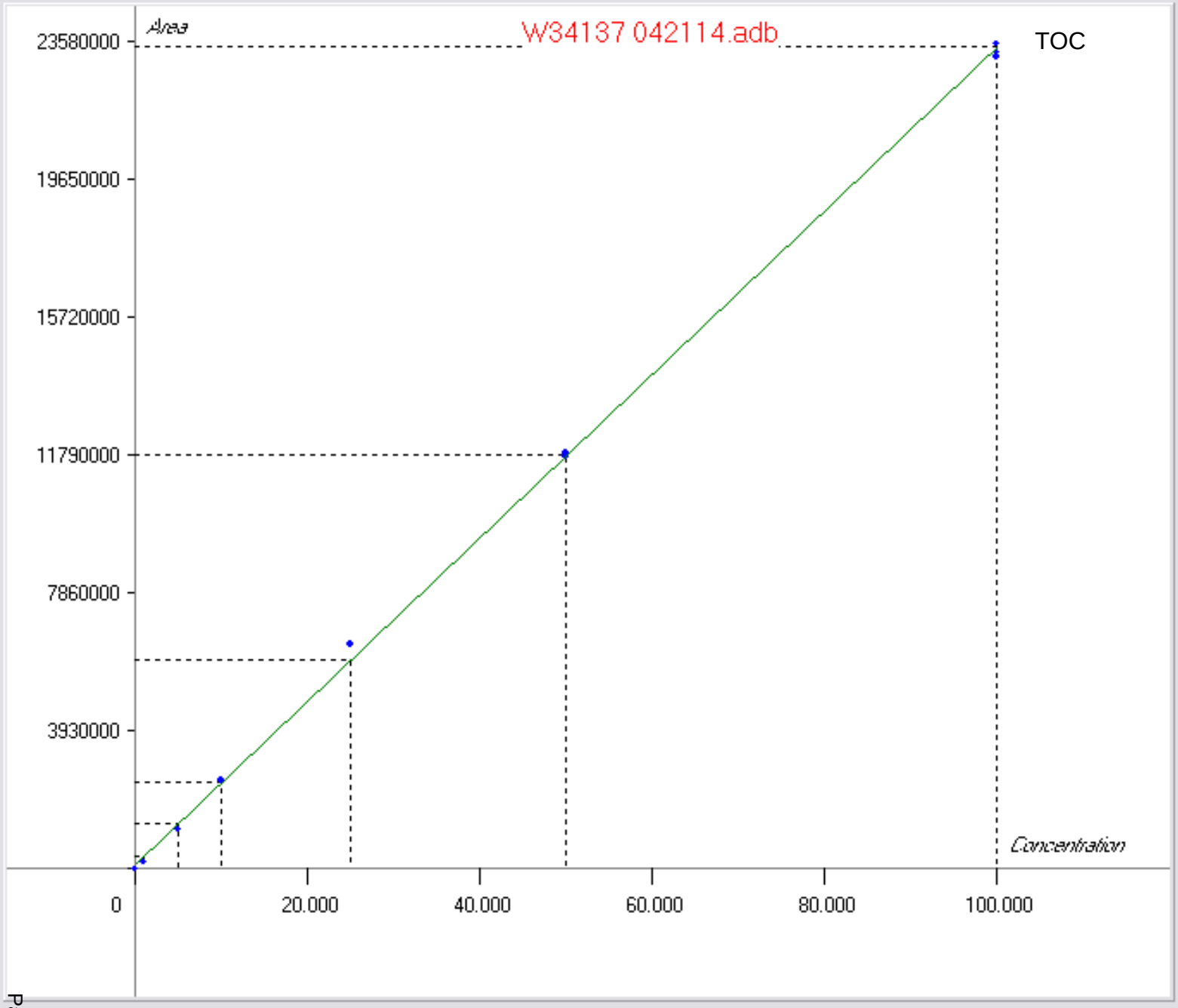
23					
24					



Cursor Position

Concentration	Area
118.800 mg/l	786000

A2	0
A1	232983
A0	143764
Correlation	0.99963
Order	1
Volume	100 µl
Conc.	100.00
Area	23572615

Confidence Intervals 95%

Detection/Determination 95%

Conc.	Area	Sel.
0	0	☑
0	0	☑
0	0	☑
0	0	☑
1	235597	☑
1	223532	☑
1	230608	☑
1	226967	☑

Used Value
Ignored Value

CurveNo:1 CurveType:TC

<-- --> Print... Exit

Page 742

04/24/2014

Analysis Name W34137 042114.adb

Template Name CURVE TEMP.tdb
Method Name N / A
Operator MDS

Date Monday, April 21, 2014
Time 13:55

Start Oven Temp. 757 °C
Start Cooler Temp. 2 °C

Version 2.55 Release
Info ICAL - W34137
ICV - W34138

Element	Integration Time	Samples	Extra Samples	Max. CV
Carbon	60 s	4	1	10 %
SampleTime	240 s			

No	Type	FileName	Date/Time	Max. Area	Max Conc.	Order	Correlation	Volume	Sel.
1	TC	This Analysis	Apr 21 2014, 13:55	23572615	100	1	0.99963	100 µl	Yes
	A2: 0		*A1: 232982.714758512*		*A0: 143764.497303468*				

Inj. Order	Position	Type	Identification		Dilution Factor
1	1	Unknown	BLANK		1 x

	Injection Type	Conc.	Area	CV	Inj. Volume
	TC	**0.00**	**0**	**0.00**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 21 2014 14:06:18	0.72	311300	1	759	2	-	-
2	4 21 2014 14:09:41	0.00	0	0	758	2	-	Yes
3	4 21 2014 14:13:42	0.00	0	0	758	2	-	Yes
4	4 21 2014 14:17:43	0.00	0	0	758	2	-	Yes
5	4 21 2014 14:21:44	0.00	0	0	758	2	-	Yes

Inj. Order	Position	Type	Identification		Dilution Factor
2	2	Unknown	BLANK		1 x

	Injection Type	Conc.	Area	CV	Inj. Volume
	TC	**0.00**	**0**	**0.00**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 21 2014 14:26:35	0.00	0	0	759	2	-	Yes
2	4 21 2014 14:31:13	0.00	0	0	758	2	-	Yes
3	4 21 2014 14:35:14	0.00	0	0	758	2	-	Yes
4	4 21 2014 14:39:15	0.00	0	0	757	2	-	Yes

Inj. Order	Position	Type	Identification		Dilution Factor
3	S1	Standard	TC Std	0.00 mg/l	1 x

	Injection Type	Conc.	Area	CV	Inj. Volume
	TC	**0.00**	**0**	**0.00**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 21 2014 14:44:06	0.00	0	1	757	2	-	Yes
2	4 21 2014 14:48:42	0.00	0	1	757	2	-	Yes
3	4 21 2014 14:52:43	0.00	0	1	756	2	-	Yes
4	4 21 2014 14:56:44	0.00	0	1	756	2	-	Yes

Inj. Order	Position	Type	Identification		Dilution Factor
4	S2	Standard	TC Std	1.00 mg/l	1 x

	Injection Type	Conc.	Area	CV	Inj. Volume
	TC	**0.37**	**229176**	**2.25**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 21 2014 15:01:38	0.39	235597	1	756	2	-	Yes
2	4 21 2014 15:04:49	0.34	223532	1	755	2	-	Yes
3	4 21 2014 15:07:19	0.37	230608	1	755	2	-	Yes
4	4 21 2014 15:09:52	0.36	226967	1	755	2	-	Yes

Inj. Order	Position	Type	Identification		Dilution Factor
5	S3	Standard	TC Std.	5.00 mg/l	1 x

	Injection Type	Conc.	Area	CV	Inj. Volume
	TC	**4.34**	**1155835**	**0.30**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 21 2014 15:13:15	4.35	1157893	1	755	2	-	Yes
2	4 21 2014 15:16:41	4.36	1158734	1	755	2	-	Yes
3	4 21 2014 15:19:30	4.34	1155751	1	754	2	-	Yes
4	4 21 2014 15:22:15	4.32	1150964	1	754	2	-	Yes

6 S4 Standard TC Std. 10.00 mg/l 1 x

	TC	**10.34**	**2551892**	**0.66**		**100 µl**	

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 21 2014 15:25:57	10.33	2550563	1	754	2	-	Yes
2	4 21 2014 15:29:32	10.44	2575084	1	753	2	-	Yes
3	4 21 2014 15:32:33	10.32	2547199	1	754	2	-	Yes
4	4 21 2014 15:35:33	10.26	2534724	1	754	2	-	Yes

7 S5 Standard TC Std. 25.00 mg/l 1 x

	TC	**26.93**	**6418556**	**0.35**		**100 µl**	

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 21 2014 15:39:23	26.89	6407700	1	754	2	-	Yes
2	4 21 2014 15:43:09	26.95	6422983	1	753	2	-	Yes
3	4 21 2014 15:46:13	27.06	6447788	1	753	2	-	Yes
4	4 21 2014 15:49:25	26.83	6395756	1	753	2	-	Yes

8 S6 Standard TC Std. 50.00 mg/l 1 x

	TC	**50.23**	**11846743**	**0.45**		**100 µl**	

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 21 2014 15:53:23	50.34	11871890	1	754	2	-	Yes
2	4 21 2014 15:57:15	50.50	11908449	1	753	2	-	Yes
3	4 21 2014 16:00:39	49.99	11789844	1	753	2	-	Yes
4	4 21 2014 16:03:51	50.10	11816789	1	753	2	-	Yes

9 S7 Standard TC Std. 100.00 mg/l 1 x

	TC	**99.41**	**23303846**	**0.82**		**100 µl**	

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 21 2014 16:07:59	98.71	23142453	1	754	2	-	Yes
2	4 21 2014 16:12:05	99.37	23295974	1	754	2	-	Yes
3	4 21 2014 16:15:29	98.98	23204343	1	755	2	-	Yes
4	4 21 2014 16:18:52	100.56	23572615	1	754	2	-	Yes

10 S8 Unknown ICV - 50.00 mg/L 1 x

	TC	**52.04**	**12268743**	**0.56**		**100 µl**	

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 21 2014 16:23:14	52.37	12344487	1	755	2	-	Yes
2	4 21 2014 16:27:09	52.00	12257775	1	754	2	-	Yes
3	4 21 2014 16:30:28	51.66	12180211	1	754	2	-	Yes
4	4 21 2014 16:33:44	52.14	12292500	1	753	2	-	Yes

11 S9 Unknown ICB 1 x

	TC	**0.00**	**0**	**0.00**		**100 µl**	

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 21 2014 16:37:57	0	0	0	753	2	-	Yes
2	4 21 2014 16:42:35	0	0	0	753	2	-	Yes
3	4 21 2014 16:46:37	0	0	0	754	2	-	Yes
4	4 21 2014 16:50:39	0	0	0	754	2	-	Yes

Analysis Name 042616 - 125180 125181 125187 125182 125186.adb

Template Name 042616 - 125180-82 125186 125187.tdb
Method Name N / A
Operator JJF

Date Tuesday, April 26, 2016
Time 9:55

Start Oven Temp. 755 °C
Start Cooler Temp. 2 °C

Version 2.55 Release
Info ICAL W34137 SPIKE TOC0011
CCV TOC0088
LCSW TOC0087

Element	Integration Time	Samples	Extra Samples	Max. CV
Carbon	60 s	4	1	10 %

SampleTime 240 s

No	Type	FileName	Date/Time	Max. Area	Max Conc.	Order	Correlation	Volume	Sel.
1	TC	W34137 042114	Apr 21 2014, 13:55	23572615	100	1	0.99963	100 µl	Yes
	A2: 0		*A1: 232982.714758512*		*A0: 143764.497303468*				

Inj. Order	Position	Type	Identification	Dilution Factor
1	1	Unknown	BLANK	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**0.84**	**339521**	**38.67**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 26 2016 10:06:22	11.33	2784040	1	757	2	-	-
2	4 26 2016 10:11:00	1.62	520521	1	756	2	-	Yes
3	4 26 2016 10:13:44	0.88	349508	1	756	2	-	Yes
4	4 26 2016 10:16:21	0.51	261698	1	756	2	-	Yes
5	4 26 2016 10:18:58	0.35	226357	1	756	2	-	Yes

Inj. Order	Position	Type	Identification	Dilution Factor
2	S1	Unknown	CCV	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**54.96**	**12948507**	**0.65**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 26 2016 10:22:21	55.39	13048268	1	757	2	-	Yes
2	4 26 2016 10:26:21	54.50	12842362	1	758	2	-	Yes
3	4 26 2016 10:29:40	54.96	12948355	1	758	2	-	Yes
4	4 26 2016 10:33:01	54.99	12955044	1	759	2	-	Yes

Inj. Order	Position	Type	Identification	Dilution Factor
3	S5	Unknown	LCSW	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**53.22**	**12542554**	**0.90**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 26 2016 10:37:21	53.90	12701195	1	760	2	-	Yes
2	4 26 2016 10:41:37	52.81	12447232	1	760	2	-	Yes
3	4 26 2016 10:45:00	52.96	12481586	1	759	2	-	Yes
4	4 26 2016 10:48:30	53.21	12540204	1	759	2	-	Yes

Inj. Order	Position	Type	Identification	Dilution Factor
4	S7	Unknown	MBW	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**0.38**	**233115**	**14.01**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 26 2016 10:52:52	1.32	451206	1	760	2	-	-
2	4 26 2016 10:56:17	0.58	278845	1	758	2	-	Yes
3	4 26 2016 10:58:53	0.27	206855	1	757	2	-	Yes
4	4 26 2016 11:01:25	0.30	212645	1	757	2	-	Yes
5	4 26 2016 11:03:54	0.39	234115	1	756	2	-	Yes

5	2	Unknown	711617					1 x	
		TC	**8.04**	**2016157**		**5.69**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	4 26 2016 11:07:22	8.77	2186705	1	758	2	-	Yes
	2	4 26 2016 11:11:01	7.88	1979341	1	757	2	-	Yes
	3	4 26 2016 11:13:53	7.73	1945073	1	756	2	-	Yes
	4	4 26 2016 11:16:39	7.77	1953511	1	756	2	-	Yes
6	3	Unknown	711619					1 x	
		TC	**8.53**	**2131046**		**5.57**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	4 26 2016 11:20:19	9.26	2301583	1	757	2	-	Yes
	2	4 26 2016 11:23:55	8.49	2122377	1	756	2	-	Yes
	3	4 26 2016 11:26:46	8.16	2045295	1	756	2	-	Yes
	4	4 26 2016 11:29:33	8.20	2054932	1	756	2	-	Yes
7	4	Unknown	711625					1 x	
		TC	**10.92**	**2689195**		**4.72**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	4 26 2016 11:33:08	11.70	2868890	1	756	2	-	Yes
	2	4 26 2016 11:36:39	10.88	2678468	1	755	2	-	Yes
	3	4 26 2016 11:39:26	10.68	2633047	1	754	2	-	Yes
	4	4 26 2016 11:42:15	10.44	2576378	1	754	2	-	Yes
8	5	Unknown	711626					1 x	
		TC	**9.81**	**2428717**		**6.47**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	4 26 2016 11:45:55	10.78	2656156	1	755	2	-	Yes
	2	4 26 2016 11:49:24	9.44	2343594	1	755	2	-	Yes
	3	4 26 2016 11:52:05	9.72	2407247	1	754	2	-	Yes
	4	4 26 2016 11:54:51	9.29	2307872	1	754	2	-	Yes
9	6	Unknown	708820					1 x	
		TC	**5.83**	**1503527**		**2.41**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	4 26 2016 11:58:26	7.54	1901451	1	755	2	-	-
	2	4 26 2016 12:01:42	6.02	1546708	1	754	2	-	Yes
	3	4 26 2016 12:04:12	5.91	1520188	1	753	2	-	Yes
	4	4 26 2016 12:06:42	5.72	1476962	1	753	2	-	Yes
	5	4 26 2016 12:09:11	5.69	1470250	1	753	2	-	Yes
10	7	Unknown	708826					1 x	
		TC	**0.24**	**199912**		**38.17**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	4 26 2016 12:12:29	0.73	313412	1	755	2	-	Yes
	2	4 26 2016 12:15:22	0.06	158202	1	753	2	-	Yes
	3	4 26 2016 12:17:25	0.90	354580	1	752	2	-	-
	4	4 26 2016 12:19:36	0.14	175589	1	752	2	-	Yes
	5	4 26 2016 12:21:43	0.04	152445	1	753	2	-	Yes
11	8	Unknown	709464					1 x	
		TC	**29.25**	**6959046**		**42.03**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	4 26 2016 12:24:41	ZERO !	29452	1	754	2	-	-
	2	4 26 2016 12:26:07	48.07	11342845	1	751	2	-	Yes
	3	4 26 2016 12:28:49	22.33	5345798	1	753	2	-	Yes
	4	4 26 2016 12:31:32	22.96	5493977	1	754	2	-	Yes
	5	4 26 2016 12:34:15	23.65	5653564	1	754	2	-	Yes
12	9	Unknown	709467					1 x	
		TC	**10.75**	**2647545**		**7.00**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	4 26 2016 12:37:46	11.81	2896072	1	755	2	-	Yes

2	4 26 2016 12:41:03	10.89	2681301	1	755	2	-	Yes
3	4 26 2016 12:43:39	10.18	2516581	1	754	2	-	Yes
4	4 26 2016 12:46:14	10.10	2496227	1	754	2	-	Yes

13 10 Unknown 709468 1 x

TC **10.38** **2561333** **5.78** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 26 2016 12:49:38	11.28	2772017	1	755	2	-	Yes
2	4 26 2016 12:52:55	10.33	2550479	1	754	2	-	Yes
3	4 26 2016 12:55:31	10.05	2486203	1	753	2	-	Yes
4	4 26 2016 12:58:04	9.84	2436636	1	753	2	-	Yes

14 11 Unknown 709469 1 x

TC **7.13** **1805100** **7.74** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 26 2016 13:01:27	7.86	1974766	1	755	2	-	Yes
2	4 26 2016 13:04:42	7.28	1838848	1	753	2	-	Yes
3	4 26 2016 13:07:14	6.97	1766694	1	753	2	-	Yes
4	4 26 2016 13:09:46	6.42	1640094	1	753	2	-	Yes

15 S1 Unknown CCV 1 x

TC **51.39** **12116407** **1.51** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 26 2016 13:13:07	50.21	11842619	1	754	2	-	Yes
2	4 26 2016 13:17:02	51.76	12201876	1	755	2	-	Yes
3	4 26 2016 13:20:37	51.84	12221408	1	755	2	-	Yes
4	4 26 2016 13:24:02	51.75	12199726	1	755	2	-	Yes

16 S7 Unknown CCB 1 x

TC **ZERO !** **130904** **92.84** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 26 2016 13:28:14	0.29	211612	1	755	2	-	Yes
2	4 26 2016 13:31:01	0	0	0	753	2	-	Yes
3	4 26 2016 13:35:03	0.48	254488	1	754	2	-	Yes
4	4 26 2016 13:37:21	ZERO !	57519	1	752	2	-	Yes
5	4 26 2016 13:39:34	0	0	0	752	2	-	-

17 12 Unknown 709471 1 x

TC **4.04** **1085914** **4.26** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 26 2016 13:44:28	5.32	1383347	1	755	2	-	-
2	4 26 2016 13:47:45	4.33	1153296	1	754	2	-	Yes
3	4 26 2016 13:50:15	3.92	1056098	1	752	2	-	Yes
4	4 26 2016 13:52:47	4.01	1079188	1	752	2	-	Yes
5	4 26 2016 13:55:20	3.91	1055077	1	752	2	-	Yes

18 13 Unknown DUP709471 1 x

TC **2.38** **698254** **7.41** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 26 2016 13:58:43	3.17	883129	1	754	2	-	-
2	4 26 2016 14:01:53	2.57	741568	1	753	2	-	Yes
3	4 26 2016 14:04:19	2.31	680877	1	752	2	-	Yes
4	4 26 2016 14:06:43	2.55	737801	1	752	2	-	Yes
5	4 26 2016 14:09:08	2.10	632771	1	752	2	-	Yes

19 14 Unknown MSW709471 1 x

TC **51.78** **12207901** **0.31** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 26 2016 14:12:22	51.88	12231041	1	754	2	-	Yes
2	4 26 2016 14:16:14	51.55	12153011	1	754	2	-	Yes
3	4 26 2016 14:19:17	51.88	12231784	1	754	2	-	Yes
4	4 26 2016 14:22:30	51.82	12215769	1	754	2	-	Yes

20 15 Unknown MSDW709471 1 x

		TC	**51.27**	**12088692**	**1.56**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	4 26 2016 14:26:29	52.14	12291670	1	755	2	-	Yes
	2	4 26 2016 14:30:15	51.16	12062974	1	754	2	-	Yes
	3	4 26 2016 14:33:22	51.56	12157013	1	754	2	-	Yes
	4	4 26 2016 14:36:30	50.22	11843114	1	754	2	-	Yes

21	16	Unknown	710852				1 x		
		TC	**15.58**	**3773927**	**5.95**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	4 26 2016 14:40:27	17.01	4107962	1	755	2	-	Yes
	2	4 26 2016 14:43:46	15.28	3703598	1	754	2	-	Yes
	3	4 26 2016 14:46:25	14.98	3634914	1	753	2	-	Yes
	4	4 26 2016 14:49:02	15.05	3649235	1	753	2	-	Yes

22	17	Unknown	709222				1 x		
		TC	**6.82**	**1733550**	**5.53**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	4 26 2016 14:52:31	7.38	1862519	1	754	2	-	Yes
	2	4 26 2016 14:55:43	6.83	1735019	1	753	2	-	Yes
	3	4 26 2016 14:58:15	6.69	1703219	1	752	2	-	Yes
	4	4 26 2016 15:00:46	6.39	1633445	1	752	2	-	Yes

23	18	Unknown	DUP709222				1 x		
		TC	**6.26**	**1601867**	**0.68**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	4 26 2016 15:04:08	7.86	1975778	1	753	2	-	-
	2	4 26 2016 15:07:20	6.31	1613065	1	752	2	-	Yes
	3	4 26 2016 15:09:50	6.20	1588477	1	752	2	-	Yes
	4	4 26 2016 15:12:21	6.29	1608161	1	751	2	-	Yes
	5	4 26 2016 15:14:51	6.24	1597768	1	752	2	-	Yes

24	19	Unknown	MSW709222				1 x		
		TC	**53.86**	**12691732**	**0.52**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	4 26 2016 15:18:13	53.64	12640841	1	753	2	-	Yes
	2	4 26 2016 15:22:07	53.64	12640482	1	754	2	-	Yes
	3	4 26 2016 15:25:08	54.23	12779551	1	753	2	-	Yes
	4	4 26 2016 15:28:14	53.92	12706056	1	754	2	-	Yes

25	20	Unknown	MSDW709222				1 x		
		TC	**52.16**	**12294998**	**0.82**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	4 26 2016 15:32:13	52.52	12379844	1	754	2	-	Yes
	2	4 26 2016 15:36:00	52.53	12383369	1	754	2	-	Yes
	3	4 26 2016 15:39:04	51.73	12196242	1	754	2	-	Yes
	4	4 26 2016 15:42:16	51.84	12220537	1	754	2	-	Yes

26	21	Unknown	709257				1 x		
		TC	**8.85**	**2205856**	**9.76**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	4 26 2016 15:46:13	10.21	2522837	1	755	2	-	Yes
	2	4 26 2016 15:49:33	8.38	2097196	1	753	2	-	Yes
	3	4 26 2016 15:52:04	8.19	2051743	1	752	2	-	Yes
	4	4 26 2016 15:54:30	8.62	2151651	1	753	2	-	Yes

27	S1	Unknown	CCV				1 x		
		TC	**52.98**	**12487905**	**0.41**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	4 26 2016 15:57:54	53.07	12508847	1	753	2	-	Yes
	2	4 26 2016 16:02:01	52.78	12440680	1	754	2	-	Yes
	3	4 26 2016 16:05:28	52.83	12452328	1	753	2	-	Yes
	4	4 26 2016 16:08:50	53.25	12549765	1	753	2	-	Yes

28	S7	Unknown	CCB				1 x		
		TC	**ZERO !**	**148108**		**31.24**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	4 26 2016 16:13:06	0.60	284561	1	754	2	-	-
	2	4 26 2016 16:16:15	0.31	215929	1	753	2	-	Yes
	3	4 26 2016 16:19:06	ZERO !	119937	1	753	2	-	Yes
	4	4 26 2016 16:21:17	ZERO !	139300	1	752	2	-	Yes
	5	4 26 2016 16:23:27	ZERO !	117268	1	751	2	-	Yes

29	22	Unknown	709260				1 x		
		TC	**0.78**	**326004**		**10.77**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	4 26 2016 16:26:33	1.67	532461	1	753	2	-	-
	2	4 26 2016 16:30:04	0.83	337650	1	753	2	-	Yes
	3	4 26 2016 16:32:50	0.83	336535	1	753	2	-	Yes
	4	4 26 2016 16:35:42	0.91	354969	1	753	2	-	Yes
	5	4 26 2016 16:38:35	0.56	274864	1	753	2	-	Yes

30	23	Unknown	709272				1 x		
		TC	**4.24**	**1131723**		**1.58**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	4 26 2016 16:41:50	6.03	1549136	1	754	2	-	-
	2	4 26 2016 16:45:20	4.33	1153337	1	754	2	-	Yes
	3	4 26 2016 16:47:35	4.26	1135881	1	752	2	-	Yes
	4	4 26 2016 16:50:05	4.22	1127346	1	752	2	-	Yes
	5	4 26 2016 16:52:30	4.15	1110331	1	752	2	-	Yes

31	24	Unknown	709274				1 x		
		TC	**4.00**	**1075417**		**2.55**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	4 26 2016 16:55:52	5.49	1422307	1	753	2	-	-
	2	4 26 2016 16:59:07	4.11	1100783	1	752	2	-	Yes
	3	4 26 2016 17:01:32	3.84	1038204	1	752	2	-	Yes
	4	4 26 2016 17:03:58	4.06	1090429	1	752	2	-	Yes
	5	4 26 2016 17:06:26	3.99	1072253	1	752	2	-	Yes

32	25	Unknown	709276				1 x		
		TC	**0.68**	**303235**		**9.38**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	4 26 2016 17:09:49	1.20	423167	1	753	2	-	-
	2	4 26 2016 17:12:51	0.85	342889	1	752	2	-	Yes
	3	4 26 2016 17:15:07	0.63	291607	1	751	2	-	Yes
	4	4 26 2016 17:17:21	0.68	302006	1	751	2	-	Yes
	5	4 26 2016 17:19:35	0.57	276440	1	751	2	-	Yes

33	26	Unknown	711991				1 x		
		TC	**2.46**	**718063**		**2.84**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	4 26 2016 17:22:41	3.48	954073	1	753	2	-	-
	2	4 26 2016 17:25:51	2.41	705499	1	753	2	-	Yes
	3	4 26 2016 17:28:12	2.59	747735	1	752	2	-	Yes
	4	4 26 2016 17:30:34	2.45	715117	1	752	2	-	Yes
	5	4 26 2016 17:32:56	2.40	703901	1	752	2	-	Yes

34	27	Unknown	DUP711991				1 x		
		TC	**3.25**	**901283**		**3.31**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	4 26 2016 17:36:13	4.46	1183779	1	754	2	-	-
	2	4 26 2016 17:39:23	3.19	887563	1	752	2	-	Yes
	3	4 26 2016 17:41:45	3.44	945709	1	752	2	-	Yes
	4	4 26 2016 17:44:10	3.20	889884	1	752	2	-	Yes
	5	4 26 2016 17:46:33	3.17	881978	1	752	2	-	Yes

35	28	Unknown	MSW711991			1 x		
	TC		**52.45**	**12363427**	**1.01**		**100 µl**	
Sample	Inj. Time		Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 26 2016 17:49:52		53.05	12503592	1	754	2	-	Yes
2	4 26 2016 17:53:16		52.35	12339255	1	754	2	-	Yes
3	4 26 2016 17:56:16		51.77	12205780	1	754	2	-	Yes
4	4 26 2016 17:59:14		52.63	12405083	1	754	2	-	Yes

36	29	Unknown	MSDW711991			1 x		
	TC		**45.27**	**10691484**	**0.92**		**100 µl**	
Sample	Inj. Time		Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 26 2016 18:02:57		45.73	10797521	1	755	2	-	Yes
2	4 26 2016 18:06:48		44.87	10597912	1	755	2	-	Yes
3	4 26 2016 18:09:44		44.96	10617516	1	754	2	-	Yes
4	4 26 2016 18:12:44		45.54	10752989	1	754	2	-	Yes

37	30	Unknown	711998			1 x		
	TC		**1.44**	**478491**	**2.07**		**100 µl**	
Sample	Inj. Time		Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 26 2016 18:16:38		2.23	664373	1	754	2	-	-
2	4 26 2016 18:19:44		1.49	490547	1	753	2	-	Yes
3	4 26 2016 18:22:05		1.44	479982	1	752	2	-	Yes
4	4 26 2016 18:24:23		1.38	466431	1	752	2	-	Yes
5	4 26 2016 18:26:41		1.43	477004	1	752	2	-	Yes

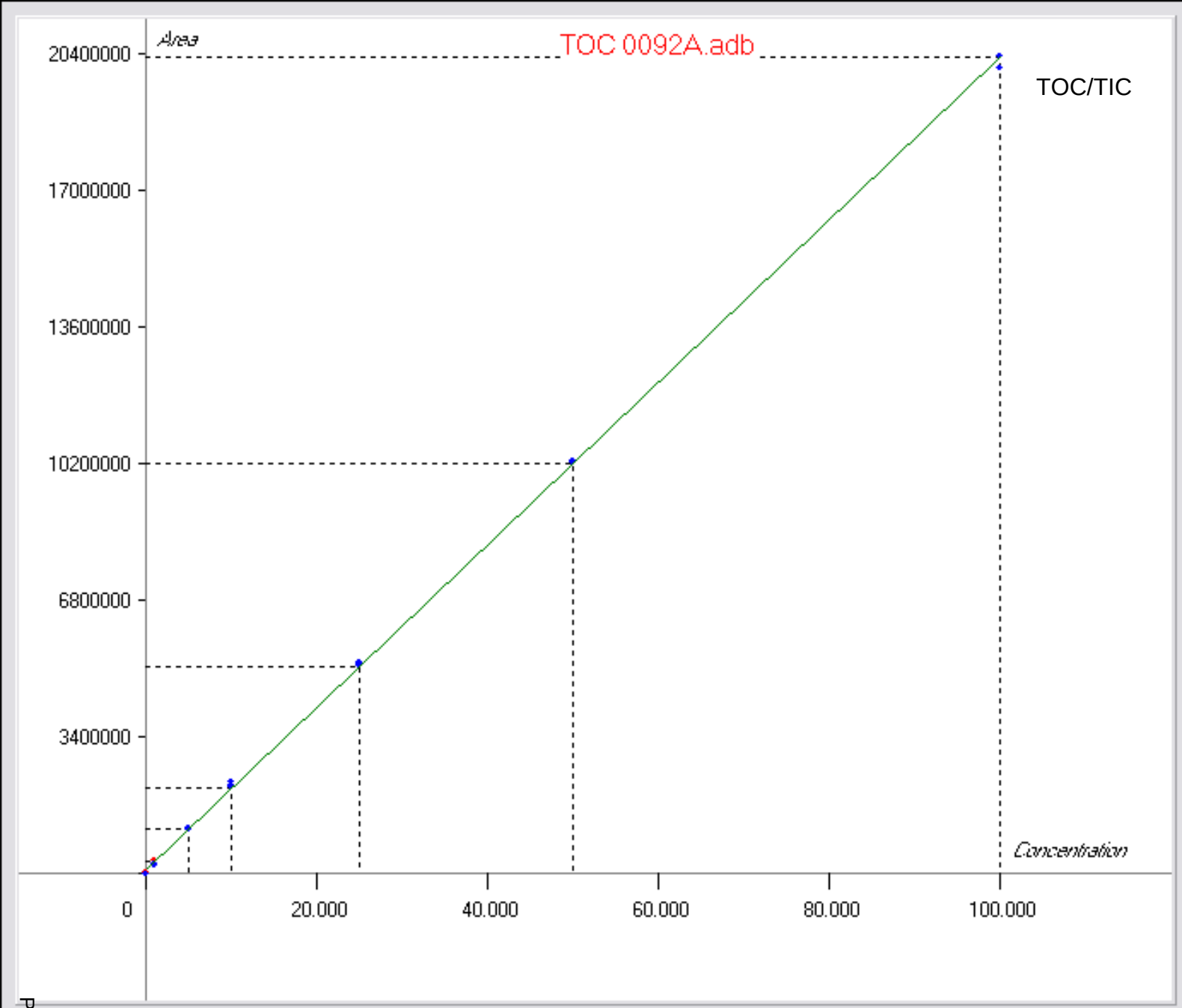
38	31	Unknown	712002			1 x		
	TC		**3.01**	**845537**	**9.77**		**100 µl**	
Sample	Inj. Time		Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 26 2016 18:29:54		3.54	968591	1	753	2	-	Yes
2	4 26 2016 18:33:03		2.84	806538	1	753	2	-	Yes
3	4 26 2016 18:35:27		2.88	815044	1	752	2	-	Yes
4	4 26 2016 18:37:51		2.78	791976	1	752	2	-	Yes

39	S2	Unknown	CCV			1 x		
	TC		**52.81**	**12448470**	**1.37**		**100 µl**	
Sample	Inj. Time		Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 26 2016 18:41:08		51.83	12218664	1	754	2	-	Yes
2	4 26 2016 18:45:45		53.28	12557015	1	755	2	-	Yes
3	4 26 2016 18:49:08		53.45	12597351	1	754	2	-	Yes
4	4 26 2016 18:52:33		52.70	12420852	1	754	2	-	Yes

40	S5	Unknown	LCSW			1 x		
	TC		**52.41**	**12353865**	**0.22**		**100 µl**	
Sample	Inj. Time		Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 26 2016 18:57:28		52.43	12358933	1	755	2	-	Yes
2	4 26 2016 19:01:34		52.29	12325341	1	754	2	-	Yes
3	4 26 2016 19:04:55		52.36	12342122	1	754	2	-	Yes
4	4 26 2016 19:08:18		52.56	12389065	1	754	2	-	Yes

41	S8	Unknown	MBW			1 x		
	TC		**ZERO !**	**130635**	**39.33**		**100 µl**	
Sample	Inj. Time		Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	4 26 2016 19:12:33		1.83	569056	1	755	2	-	-
2	4 26 2016 19:16:33		0.27	206634	1	754	2	-	Yes
3	4 26 2016 19:18:43		ZERO !	105369	1	752	2	-	Yes
4	4 26 2016 19:21:00		ZERO !	94798	1	752	2	-	Yes
5	4 26 2016 19:23:10		ZERO !	115739	1	752	2	-	Yes

42	32	Unknown	712015			1 x		
	TC		**3.53**	**965439**	**5.50**		**100 µl**	
Sample	Inj. Time		Conc.	Area	Curve	Oven	Cooler	Edited	Sel.



Cursor Position

Concentration	Area
83.600 mg/l	-3060000

A2	0
A1	202300
A0	123265
Correlation	0.99991
Order	1
Volume	100 µl
Conc.	100.00
Area	20385142

Confidence Intervals 95%

Detection/Determination 95%

Conc.	Area	Sel.
0	67055	☐
0	6502	☑
0	15479	☑
0	13498	☑
0	10812	☑
1	355611	☐
1	256541	☑
1	249342	☑

• Used Value
• Ignored Value

CurveNo:1 CurveType:TC

<-- --> Print... Exit

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05/05/2016

Analysis Name TOC 0092A.adb

Template Name CURVE TEMP.tdb
Method Name N / A
Operator JJF

Date Monday, May 2, 2016
Time 15:47

Start Oven Temp. 756 °C
Start Cooler Temp. 2 °C

Version 2.55 Release
Info ICAL TOC0092
ICV TOC0089

Element	Integration Time	Samples	Extra Samples	Max. CV
Carbon	60 s	4	1	10 %
SampleTime	240 s			

No	Type	FileName	Date/Time	Max. Area	Max Conc.	Order	Correlation	Volume	Sel.
1	TC	This Analysis	May 2 2016, 15:47	20385142	100	1	0.99991	100 µl	Yes
	A2: 0		*A1: 202299.598736584*		*A0: 123264.913044638*				

Inj. Order	Position	Type	Identification	Dilution Factor
1	1	Unknown	BLANK	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**ZERO !**	**74051**	**84.37**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 2 2016 15:58:37	2.80	689752	1	761	2	-	-
2	5 2 2016 16:02:41	0.00	0	0	761	2	-	Yes
3	5 2 2016 16:06:43	ZERO !	121725	1	762	2	-	Yes
4	5 2 2016 16:09:13	0.03	129696	1	761	2	-	Yes
5	5 2 2016 16:13:04	ZERO !	44784	1	762	2	-	Yes

Inj. Order	Position	Type	Identification	Dilution Factor
2	2	Unknown	BLANK	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**ZERO !**	**20752**	**59.27**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 2 2016 16:16:34	ZERO !	36830	1	762	2	-	Yes
2	5 2 2016 16:17:40	ZERO !	73204	1	763	2	-	-
3	5 2 2016 16:19:56	ZERO !	23805	1	760	2	-	Yes
4	5 2 2016 16:22:45	ZERO !	9954	1	761	2	-	Yes
5	5 2 2016 16:25:39	ZERO !	12421	1	762	2	-	Yes

Inj. Order	Position	Type	Identification	Dilution Factor
3	S1	Standard	TC Std 0.00 mg/l	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**ZERO !**	**11572**	**33.56**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 2 2016 16:29:33	ZERO !	67055	1	762	2	-	-
2	5 2 2016 16:32:56	ZERO !	6502	1	761	2	-	Yes
3	5 2 2016 16:36:03	ZERO !	15479	1	761	2	-	Yes
4	5 2 2016 16:39:01	ZERO !	13498	1	761	2	-	Yes
5	5 2 2016 16:41:59	ZERO !	10812	1	761	2	-	Yes

Inj. Order	Position	Type	Identification	Dilution Factor
4	S2	Standard	TC Std 1.00 mg/l	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**0.68**	**261045**	**4.26**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 2 2016 16:45:43	1.15	355611	1	761	2	-	-
2	5 2 2016 16:48:46	0.66	256541	1	760	2	-	Yes
3	5 2 2016 16:51:01	0.62	249342	1	759	2	-	Yes
4	5 2 2016 16:53:17	0.69	262751	1	758	2	-	Yes
5	5 2 2016 16:55:31	0.75	275546	1	758	2	-	Yes

5 S3 Standard TC Std. 5.00 mg/l 1 x

	TC	5.05	1145745	1.97		100 µl		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 2 2016 16:58:52	5.18	1171891	1	759	2	-	Yes
2	5 2 2016 17:02:02	4.95	1125467	1	758	2	-	Yes
3	5 2 2016 17:04:49	4.97	1128514	1	758	2	-	Yes
4	5 2 2016 17:07:40	5.11	1157109	1	758	2	-	Yes

6 S4 Standard TC Std. 10.00 mg/l 1 x

	TC	10.47	2240681	2.39		100 µl		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 2 2016 17:11:19	10.86	2320542	1	758	2	-	Yes
2	5 2 2016 17:14:55	10.31	2208918	1	758	2	-	Yes
3	5 2 2016 17:17:46	10.38	2223049	1	757	2	-	Yes
4	5 2 2016 17:20:40	10.32	2210215	1	757	2	-	Yes

7 S5 Standard TC Std. 25.00 mg/l 1 x

	TC	25.34	5250145	0.93		100 µl		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 2 2016 17:24:28	25.63	5308682	1	757	2	-	Yes
2	5 2 2016 17:28:13	25.23	5227580	1	757	2	-	Yes
3	5 2 2016 17:31:18	25.43	5267780	1	757	2	-	Yes
4	5 2 2016 17:34:22	25.08	5196538	1	757	2	-	Yes

8 S6 Standard TC Std. 50.00 mg/l 1 x

	TC	50.28	10294470	0.15		100 µl		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 2 2016 17:38:19	50.21	10279869	1	756	2	-	Yes
2	5 2 2016 17:42:17	50.36	10310763	1	756	2	-	Yes
3	5 2 2016 17:45:32	50.22	10281823	1	756	2	-	Yes
4	5 2 2016 17:48:42	50.33	10305425	1	756	2	-	Yes

9 S7 Standard TC Std. 100.00 mg/l 1 x

	TC	99.73	20298418	0.77		100 µl		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 2 2016 17:52:45	100.02	20357592	1	756	2	-	Yes
2	5 2 2016 17:56:37	98.58	20066104	1	756	2	-	Yes
3	5 2 2016 17:59:45	100.16	20385142	1	755	2	-	Yes
4	5 2 2016 18:02:41	100.16	20384837	1	755	2	-	Yes

10 S8 Unknown ICV - 50.00 mg/L 1 x

	TC	51.21	10483878	0.72		100 µl		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 2 2016 18:07:08	51.67	10575523	1	755	2	-	Yes
2	5 2 2016 18:10:58	50.76	10392416	1	755	2	-	Yes
3	5 2 2016 18:14:12	51.17	10474795	1	755	2	-	Yes
4	5 2 2016 18:17:32	51.26	10492781	1	754	2	-	Yes

11 S9 Unknown ICB 1 x

	TC	0.29	182348	2.43		100 µl		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 2 2016 18:21:43	0.70	264811	1	755	2	-	-
2	5 2 2016 18:24:53	0.32	187637	1	753	2	-	Yes
3	5 2 2016 18:27:13	0.26	176792	1	753	2	-	Yes
4	5 2 2016 18:29:34	0.29	182491	1	753	2	-	Yes
5	5 2 2016 18:31:58	0.29	182473	1	753	2	-	Yes

Analysis Name 050416 - RR125452 125661 125662 125182.adb

Template Name 050416 - RR125452 125661 125662 125182.tdb
Method Name N / A
Operator JJF

Date Wednesday, May 4, 2016
Time 12:16

Start Oven Temp. 755 °C
Start Cooler Temp. 2 °C

Version 2.55 Release
Info ICAL TOC0092A SPIKE TOC0086
CCV TOC0095
LCSW TOC0088

Element	Integration Time	Samples	Extra Samples	Max. CV
Carbon	60 s	4	1	10 %

SampleTime 240 s

No	Type	FileName	Date/Time	Max. Area	Max Conc.	Order	Correlation	Volume	Sel.
1	TC	TOC 0092A	May 2 2016, 15:47	20385142	100	1	0.99991	100 µl	Yes
	A2: 0		*A1: 202299.598736584*		*A0: 123264.913044638*				

Inj. Order	Position	Type	Identification	Dilution Factor
1	1	Unknown	BLANK	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**ZERO !**	**420093**	**184.08**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 4 2016 12:27:29	7.19	1577817	1	755	2	-	Yes
2	5 4 2016 12:31:34	ZERO !	102558	1	753	2	-	Yes
3	5 4 2016 12:34:10	0	0	0	752	2	-	Yes
4	5 4 2016 12:38:12	0	0	0	753	2	-	Yes
5	5 4 2016 12:42:13	0	0	0	752	2	-	-

2	S1	Unknown	CCV	1 x

TC	53.88	11024106	0.29	100 µl

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 4 2016 12:47:03	53.69	10984413	1	753	2	-	Yes
2	5 4 2016 12:51:20	53.86	11019534	1	753	2	-	Yes
3	5 4 2016 12:54:36	54.08	11063451	1	753	2	-	Yes
4	5 4 2016 12:57:59	53.91	11029029	1	753	2	-	Yes

3	S5	Unknown	LCSW	1 x

TC	52.10	10663379	1.30	100 µl

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 4 2016 13:02:14	53.05	10855679	1	753	2	-	Yes
2	5 4 2016 13:06:20	51.84	10610567	1	752	2	-	Yes
3	5 4 2016 13:09:39	51.44	10529468	1	753	2	-	Yes
4	5 4 2016 13:12:50	52.07	10657805	1	752	2	-	Yes

4	S7	Unknown	MBW	1 x

TC	0.00	0	0.00	100 µl

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 4 2016 13:17:05	0.19	161588	1	753	2	-	-
2	5 4 2016 13:20:15	0	0	0	752	2	-	Yes
3	5 4 2016 13:24:16	0	0	0	753	2	-	Yes
4	5 4 2016 13:28:17	0	0	0	753	2	-	Yes
5	5 4 2016 13:32:18	0	0	0	753	2	-	Yes

15	S1	Unknown	CCV					1 x	
		TC	**54.02**	**11051791**		**0.77**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	5 4 2016 16:00:06	54.04	11054867	1	753	2	-	Yes
	2	5 4 2016 16:04:08	53.47	10941078	1	753	2	-	Yes
	3	5 4 2016 16:07:27	54.07	11061656	1	752	2	-	Yes
	4	5 4 2016 16:10:49	54.50	11149563	1	752	2	-	Yes
16	S7	Unknown	CCB					1 x	
		TC	**ZERO !**	**87206**		**8.64**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	5 4 2016 16:14:57	0.32	187006	1	753	2	-	-
	2	5 4 2016 16:18:11	ZERO !	96536	1	752	2	-	Yes
	3	5 4 2016 16:20:31	ZERO !	90100	1	751	2	-	Yes
	4	5 4 2016 16:22:51	ZERO !	80974	1	751	2	-	Yes
	5	5 4 2016 16:25:11	ZERO !	81215	1	751	2	-	Yes

20	14	Unknown	709222					1 x	
		TC	**45.58**	**9343832**		**1.22**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	5 4 2016 17:12:04	46.38	9506742	1	751	2	-	Yes

2	5 4 2016 17:15:53	45.53	9334234	1	752	2	-	Yes
3	5 4 2016 17:18:57	45.29	9285646	1	752	2	-	Yes
4	5 4 2016 17:22:13	45.11	9248706	1	752	2	-	Yes

21	15	Unknown	709257			1 x
	TC	**64.96**	**13263788**	**0.71**		**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 4 2016 17:26:13	65.53	13379159	1	753	2	-	Yes
2	5 4 2016 17:30:07	65.03	13279491	1	752	2	-	Yes
3	5 4 2016 17:33:37	64.87	13245942	1	752	2	-	Yes
4	5 4 2016 17:36:56	64.40	13150561	1	752	2	-	Yes

22	16	Unknown	709260			1 x
	TC	**0.24**	**171558**	**1.33**		**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 4 2016 17:41:02	0.64	253448	1	752	2	-	-
2	5 4 2016 17:44:11	0.25	174461	1	752	2	-	Yes
3	5 4 2016 17:46:33	0.23	169098	1	751	2	-	Yes
4	5 4 2016 17:48:57	0.23	170600	1	751	2	-	Yes
5	5 4 2016 17:51:24	0.24	172073	1	751	2	-	Yes

23	17	Unknown	709272			1 x
	TC	**54.81**	**11210683**	**0.49**		**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 4 2016 17:54:39	55.21	11291769	1	752	2	-	Yes
2	5 4 2016 17:58:27	54.69	11186225	1	752	2	-	Yes
3	5 4 2016 18:01:35	54.73	11194520	1	753	2	-	Yes
4	5 4 2016 18:04:40	54.61	11170220	1	752	2	-	Yes

24	18	Unknown	709274			1 x
	TC	**55.31**	**11311800**	**0.56**		**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 4 2016 18:08:45	55.64	11379023	1	753	2	-	Yes
2	5 4 2016 18:12:34	55.26	11302775	1	753	2	-	Yes
3	5 4 2016 18:15:37	55.02	11253602	1	753	2	-	Yes
4	5 4 2016 18:18:51	54.99	11246819	1	752	2	S	-

25	19	Unknown	709276			1 x
	TC	**27.32**	**5651632**	**0.79**		**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 4 2016 18:23:00	27.66	5718665	1	753	2	-	Yes
2	5 4 2016 18:26:36	27.24	5634760	1	753	2	-	Yes
3	5 4 2016 18:29:36	27.19	5624675	1	752	2	-	Yes
4	5 4 2016 18:32:38	27.21	5628431	1	752	2	-	Yes

26	20	Unknown	DUP709260			1 x
	TC	**0.14**	**152482**	**4.72**		**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 4 2016 18:36:42	0.59	242436	1	752	2	-	-
2	5 4 2016 18:39:49	0.15	154549	1	752	2	-	Yes
3	5 4 2016 18:42:11	0.12	148185	1	752	2	-	Yes
4	5 4 2016 18:44:38	0.19	161672	1	752	2	-	Yes
5	5 4 2016 18:47:04	0.11	145523	1	752	2	-	Yes

27	S1	Unknown	CCV			1 x
	TC	**53.08**	**10860517**	**1.20**		**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 4 2016 18:50:17	54.01	11048558	1	753	2	-	Yes
2	5 4 2016 18:54:25	52.97	10838138	1	753	2	-	Yes
3	5 4 2016 18:57:41	52.79	10803065	1	752	2	-	Yes
4	5 4 2016 19:01:02	52.54	10752307	1	752	2	-	Yes

28	S7	Unknown	CCB	1 x

		TC	**ZERO !**	**178415**		**28.19**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	5 4 2016 19:05:19	0.49	222039	1	753	2	-	Yes
	2	5 4 2016 19:08:45	ZERO !	118346	1	753	2	-	Yes
	3	5 4 2016 19:11:09	ZERO !	117191	1	752	2	-	-
	4	5 4 2016 19:13:30	0.47	217790	1	752	2	-	Yes
	5	5 4 2016 19:16:02	0.16	155485	1	754	2	-	Yes

29	21	Unknown	MSW709260	1 x

		TC	**49.13**	**10061102**		**0.60**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	5 4 2016 19:19:19	49.03	10041124	1	754	2	-	Yes
	2	5 4 2016 19:23:24	48.88	10010750	1	753	2	-	Yes
	3	5 4 2016 19:26:45	49.04	10043328	1	753	2	-	Yes
	4	5 4 2016 19:30:01	49.56	10149209	1	752	2	-	Yes

30	22	Unknown	MSDW709260	1 x

		TC	**49.52**	**10142238**		**0.28**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	5 4 2016 19:34:10	49.73	10184576	1	753	2	-	Yes
	2	5 4 2016 19:38:04	49.49	10134188	1	753	2	-	Yes
	3	5 4 2016 19:41:30	49.43	10123360	1	753	2	-	Yes
	4	5 4 2016 19:44:46	49.45	10126828	1	753	2	-	Yes

31	S1	Unknown	CCV	1 x

		TC	**52.77**	**10798193**		**1.29**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	5 4 2016 19:48:53	53.72	10990096	1	753	2	-	Yes
	2	5 4 2016 19:53:06	52.82	10808309	1	754	2	-	Yes
	3	5 4 2016 19:56:33	52.39	10721017	1	753	2	-	Yes
	4	5 4 2016 19:59:56	52.15	10673352	1	754	2	-	Yes

32	S8	Unknown	CCB	1 x

		TC	**ZERO !**	**90344**		**13.38**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	5 4 2016 20:04:00	0.36	195744	1	753	2	-	-
	2	5 4 2016 20:07:23	ZERO !	89096	1	752	2	-	Yes
	3	5 4 2016 20:09:47	ZERO !	97558	1	752	2	-	Yes
	4	5 4 2016 20:12:11	ZERO !	73810	1	752	2	-	Yes
	5	5 4 2016 20:14:35	ZERO !	100913	1	751	2	-	Yes

	1	5 4 2016 20:45:15	0.38	199594	1	752	2	-	-

INORGANICS
LOGBOOK
DOCUMENTS

WANIONS IC QSM 5.0 Analytical Run
124941 on 04/18/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	709979						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCV				0			
		Chloride		CCV				0			
		Sulfate		CCV				0			
	709845						WANIONS IC QSM 5.0				
		Chloride		LCSW				0			
		Nitrate Nitrogen		LCSW				0			
		Sulfate		LCSW				0			
	709844						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		MBW				0			
		Chloride		MBW				0			
		Sulfate		MBW				0			
	709839						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCV				0			
		Chloride		CCV				0			
		Sulfate		CCV				0			
	709840						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCB				0			
		Chloride		CCB				0			
		Sulfate		CCB				0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
124941 on 04/18/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
118319	709223		04/14/2016	1512		BERING SEA ENVIRONMENTAL		RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride			*								
		Nitrate Nitrogen			*								
		Sulfate			*								
	709841		04/14/2016	1512					ANIONS IC QSM 5.0				
		Nitrate Nitrogen			DUP	709223				0			
		Chloride			DUP	709223				0			
		Sulfate			DUP	709223				0			
	709842		04/14/2016	1512					ANIONS IC QSM 5.0				
		Nitrate Nitrogen			MSW	709223				0			
		Chloride			MSW	709223				0			
		Sulfate			MSW	709223				0			
	709846		04/14/2016	1512					ANIONS IC QSM 5.0				
		Nitrate Nitrogen			MSDW	709842				0			
		Chloride			MSDW	709842				0			
		Sulfate			MSDW	709842				0			
118319	709258		04/14/2016	1320		BERING SEA ENVIRONMENTAL		RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride											
		Nitrate Nitrogen											
		Sulfate											

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
124941 on 04/18/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
118319	709273		04/14/2016	0849		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
118319	709275		04/14/2016	0849		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
118319	709277		04/14/2016	1050		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
118319	709261		04/14/2016	1357		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
	709978							WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCV				0			
		Chloride			CCV				0			
		Sulfate			CCV				0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
124941 on 04/18/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	710354						WANIONS IC QSM 5.0				
		Sulfate		CCB							
		Chloride		CCB							
		Nitrate Nitrogen		CCB							

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Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

FWC37-03 Data Review Checklist

LIMS RUN# 124909 124910 124941		Method: Anions by Ion Chromatography 300.0/9056	Independent Data Review Checklist		
Analysis Date	Analyst / Data Interpreter	Independent Reviewer	Date of Review	Approved (Yes/No)	Instrument
04/15/2016	JJF	RLD	04/18/2016	Yes	Metrohm-System 3

Instructions: Complete one checklist per *analytical sequence* . Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement:	Acceptance	Analyst Review		Independent Review		Comments:
	Criteria	Yes	No	Yes	No	(indicate reference to an attachment if necessary)
1. Were the samples analyzed within hold time?	28 days for Cl, F, SO_4;14 days for preserved NO_2+NO_3; 48 hours for O.Phos, and unpreserved NO_2 and NO_3	Yes		Yes		If no: Qualify date with an "H" flag.
2. Was the calibration performed using the required number of standards?	Minimum three plus a blank	Yes		Yes		If no: reacalibrate instrument minimum of 3 standaard + a blank.
3. Is the standard prep log number noted on the analytical report bench sheet?	---	Yes		Yes		If no: document all standards used.
4. Was the correlation coefficient acceptable?	≥ .995	Yes		Yes		If no: Reacalibrate instrument
5. Were the ICV and ICB run immediately after the calibration check standard?	---	Yes		Yes		If no: Analyze an ICV and ICB prior to sample analyses.
6. Was the ICV recovery acceptable?	90 – 110 % or contract/program specific	Yes		Yes		If no: reanalyze ICV or recalibrate if necessary.
7. Was the ICB result acceptable?	< LOD or contract/program specific	Yes		Yes		If no: reanalyze blank. Instrument must be confirmed free from contamination prior to sample analyses.
8. Were the CCV's and the CCB's analyzed at the required frequency?	1 / 10 samples or contract/program specific	Yes		Yes		If no: outliers should be reanalyzed with QC samples anlayzed at the proper frequency.
9. Were the CCV recoveries acceptable?	90 – 110 % or contract/program specific	Yes		Yes		If no: reanalyze affected data with acceptable CCV results.
10. Were the CCB results acceptable?	< LOD or program/project specific	Yes		Yes		If no: reanalyze affected sample if possible; otherwise sample detects must be qualified with a "B" flag.
11. Was the MB analyzed at the required frequency?	1 / 20 samples or contract/program specific	Yes		Yes		If no: affected sample must be reanalyzed including the MB.
12. Were the MB results acceptable?	< LOD or contract/program specific	Yes		Yes		If no: reanalyze affected samples with an acceptable MB if possible. If sample result is >20x the result detected in the blank results can be reported without qualificaton. If sample result is <20x the MB result and the MB was not reanalyzed, sample result must be qualified with a "B" flag.

13. Was a LCS run at the required frequency?	1 / 20 samples or contract/program specific	Yes		Yes		If no: affected sample must be reanalyzed including the LCS.
14. Was the LCS recovery acceptable?	Within in-house or contract/program specific limits	Yes		Yes		If no: affected sample should be reanalyzed with accecptable LCS recoveries if possible. Detects reported with an LCS failure must be qualified with a "Q" flag. Nondetected analytes reported with a low LCS recovery must also be qualified with a "Q" flag.
15. Was the LCS used before the indicated expiration date?	---	Yes		Yes		If no: samples should be reanalyed with non expired standards.
16. Were the MS and MSD (when required) prepared at the required frequency?	1per 20 samples per matrix or contract/program specific	Yes		Yes		If no: analyze a MS and MSD (if needed) to be included with the sample data.
17. Were the MS and MSD (when required) recoveries acceptable?	Within In-house or contract/program specific limits		No		No	If no: qualify parent sample results with an "M" flag if recoveries were low. If recoveries were high then qualify any affected detects in the parent sample.
18. Was the RPD between the MS and MSD (when required) acceptable?	Within in house or contract/program specific limits	Yes		Yes		If no: qualify the parent sample result with a "Y" flag.
19. Was a sample duplicate prepared at the required frequency?	Contract/program specific or 1 per 20 samples (1 / 10 for SDWA samples)	Yes		Yes		If no: analyze one of the sample from the batch as a duplicate.
20. Was the duplicate within precision limits?	Within in-house or contract/program specific limits	Yes		Yes		If no: qualify the parent sample result with a "Y" flag.
21. Were all chromatograms checked to ensure accurate peak identification?	---	Yes		Yes		If no: review the IC data to ensure proper retention times and peak identification.
22. Are all samples on the job lists accounted for?	---	Yes		Yes		If no: include and analzye missing sample with another batch.
23. Were non-matrix related nonconformities (if applicable) documented in the NCR spreadsheet?	---	Yes		Yes		If no: Enter nonconformities into the NCR spreadsheet before data review/validation..

Metrohm Run Log - System 3

Start Date	Start Time	End Date	End Time	Analyst	Lims Run #(s)	Calibration ID#	Data File	Spike ID's	Total Cond.	Pressure (Mpa)	Flow (mL/min)	Comments	Reviewed/Date
04/15/16	6:46	04/16/16	03:07	JJF	124909 124910 124941	IC0582A	041516-RUN#	IC0579 IC0580	1.19	7.6	0.7		
04/18/16	13:56	04/18/16	18:34	JJF		IC0607	IC0607		1.25	7.6	0.7	COLUMN IC0525	
04/19/16	16:42	04/20/16	13:32	JJF	125049 125053 125055 125087 125090 125054	IC0619 NO2 IC0614	041916-RUN# IC0619 NO2 IC0614	IC0616 IC0618	1.39	7.7	0.7	COLUMN IC0525	
04/20/16	14:39	04/21/16	07:34	JJF	125129 125130	IC0619 LL IC0527	042016-RUN#	IC0616 IC0618 IC0592	1.38	7.8	0.7		
04/21/16	8:10	04/22/16	22:10	JJF	125165 125197 125198 125262	ML IC0621	ML IC0621 042116-RUN#	IC0616 IC0618	1.35	8.3	0.7		
04/25/16	12:05	04/26/15	13:38	JJF	125214 125263 125050	IC0619 ML IC0527	042516-RUN#	IC0616 IC0618	1.62	7.9	0.7		
04/26/16	14:32	04/27/16	13:20	JJF	125394 125395 125409	IC0619 NO2 IC0614	042616-RUN#	IC0616 IC0618	1.64	7.9	0.7		
04/27/16	15:05	04/27/16	23:55	JJF	125442	IC0619	042716-RUN#	IC0616 IC0618	1.59	8.2	0.7		
04/29/16	7:58	04/30/16	01:03	JJF	125493 125475	IC0619	042916-RUN#	IC0616 IC0618	1.9	7.5	0.7	CHANGED RP GUARD FILTER	
05/02/16	12:09	05/02/16	20:43	JJF	125422 125577	IC0619	050216-RUN#	IC0616 IC0618	2.01	7.8	0.7		
05/03/16	14:15	05/03/16	23:40	JJF	125660	IC0619	050316-RUN#	IC0616 IC0618	1.51	8	0.7		
05/04/16	9:37	05/05/16	03:22	JJF	RR125660 125631 IC0636	IC0636	IC0636 050416-RUN#	IC0616 IC0618	1.41	7.8	0.7		
05/05/16				JJF		IC0636	050516-RUN#	IC0616 IC0618	1.39	7.7	0.7		

LPVO3-02
IC Prep Logbook
Logbook Created: 08/13/2015
NOTEBOOK VIEW: LTN_LPVO3_02_IC_Default, NOTEBOOK: LPVO3_02_IC, PAGE: 90
Page is Locked
Author: JFAUST on: 02.05.2016 15:36:35
Page is not Witnessed
Project: Unassigned
Page Title: 042116

Standard Log #:	IC0621	Standard:	IC Calibration Mid Level Cl & SO4
Analyst:	JJF	Concentrations:	10mg/L - SO_4, Cl
Prep Date:	04/21/2016	Expiration Date (48 hours):	04/23/2016
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL of each Sulfate (1000mg/L) CCV Stock Std. (1), and Chloride (1000mg/L) CCV Stock Std. (2) and brought to volume with Milli-Q water. (1) IC0606 (2) IC0576		

Standard Log #:	IC0622	Standard:	IC CCV Mid Level
Analyst:	JJF	Concentrations:	3.0 mg/L - Cl 5.0 mg/L - SO_4
Prep Date:	04/21/2016	Expiration Date (1 Month):	05/21/2016
Prep:	Into a 100 mL volumetric flask, pipetted 0.30 mL of 1,000 mg/L Chloride CCV Stock Std. (1) and 0.50 mL of 1,000 mg/L Sulfate CCV Stock Std. (2) and brought to volume with Milli-Q DI H20. (1) IC0576 (2) IC0606		

Standard Log #:	IC0623	Standard:	IC Mid Level LCS
Analyst:	JJF	Concentrations:	0.70 mg/L F, NO_2, Br, NO_3, $P0_4$, 3.0 mg/L Cl, 5.0 mg/L SO_4
Prep Date:	04/21/2016	Expiration Date (48 hours):	05/21/2016
Prep:	Into a 100 ml volumetric flask pipette 10ml Mixed LCS (7mg/L F, NO_3, PO_4, Br & 50 mg/L SO_4 & 30 mg/L Cl) IC608 and 10 mL Nitrite LCS (7 mg/L NO_2) IC609 and dilute to		

Standard Log #:	IC0624	Standard:	IC LOD-LOQ2
Analyst:	JJF	Concentrations:	
Prep Date:	04/21/2016	Expiration Date (48 hours):	04/23/2016

Prep:

LOD Check:
Into a 100mL Volumetric flask pipetted the following, then brought to volume with Milli-Q DI water.

Fluoride	0.010	mL	IC0395	Nitrate	0.015	mL	IC0403
Chloride	0.200	mL	IC0576	Phosphate	0.025	mL	IC0486
Nitrite	0.020	mL	IC0396	Sulfate	0.250	mL	IC0606
Bromide	0.020	mL	IC0597				

LOQ Check:
Into a 100mL Volumetric flask pipetted the following, then brought to volume with Milli-Q DI water.

Fluoride	0.030	mL	IC0395	Nitrate	0.040	mL	IC0403
Chloride	0.400	mL	IC0576	Phosphate	0.050	mL	IC0486
Nitrite	0.040	mL	IC0396	Sulfate	0.500	mL	IC0606
Bromide	0.050	mL	IC0597				

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CT Laboratories, LLC

LPVO3-02
IC Prep Logbook
Logbook Created: 08/13/2015
NOTEBOOK VIEW: LTN_LPVO3_02_IC_Default, NOTEBOOK: LPVO3_02_IC, PAGE: 89
Page is Locked
Author: JFAUST on: 21.04.2016 08:17:42
Page is not Witnessed
Project: Unassigned
Page Title: 041916

Standard Log #:	IC0608	Standard:	IC LCSW/ICV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	04/19/2016	Expiration Date (1 Month):	05/19/2016
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) IC0391 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0609	Standard:	IC LCSW/ICV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L
Prep Date:	04/19/2016	Expiration Date (1 Month):	05/19/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL 1000 mg/L Nitrite W37105 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0610	Standard/Reagent:	PT Bromide
Analyst:	JJF	Final Concentration:	
Prep Date:	04-19-2016	Expiration Date:	04-21-2016
Prep:	Into a 100 mL volumetric pipette 0.50 ml (887- conc.) and dilute to 100 mL with Milli-Q water.		

Standard Log #:	IC0611	Standard/Reagent:	PT Simple Nutrients
Analyst:	JJF	Final Concentration:	
Prep Date:	04/19/2016	Expiration Date:	04/21/2016
Prep:	Into a 100 mL volumetric pipette 0.50 mL (584-conc.) and dilute to 100 mL with Milli-Q water.		

Standard Log #:	IC0612	Standard/Reagent:	PT Nitrite
Analyst:	JJF	Final Concentration:	
Prep Date:	04/19/2016	Expiration Date:	04/21/2016
Prep:	Into a 100 mL volumetric pipette 0.50 mL (888-conc.) and dilute to 100 mL with Milli-Q water.		

Standard Log #:	IC0613	Standard/Reagent:	PT Nitrite DW
Analyst:	JJF	Final Concentration:	
Prep Date:	04/19/2016	Expiration Date:	04/21/2016
Prep:	Into a 100 mL volumetric pipette 0.50 mL (594-conc.) and dilute to 100 mL with Milli-Q water.		

Standard Log #:	IC0614	Standard:	IC Cal Nitrite Metrohm
Analyst:	JJF	Concentrations:	10.0mg/L Nitrite
Prep Date:	04/19/2016	Expiration Date (48 Hours):	04/21/2016
Prep:	Into a 100 mL volumetric flask pipetted 1.0 mL of Nitrite (1000 mg/L) IC0396 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0615	Standard:	IC CCV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	04/19/2016	Expiration Date (1 Month):	05/19/2016
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride IC00395, Phosphate IC0486, Bromide IC0597, and Nitrate IC0403, 15 ml 1000 mg/L Chloride IC0576, and 25 ml 1000 mg/L Sulfate IC0606 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0616	Standard:	IC Spike Mixed
Analyst:	JJF	Concentrations:	64 mg/L - Br, NO_3, PO_4 256 mg/L - Cl, SO_4
Prep Date:	04/19/2016	Expiration Date (1 Month):	05/19/2016
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Bromide IC0597, Nitrate IC0403, and Phosphate IC0486 and 25.6 mL 1000 mg/L Chloride IC0576 and Sulfate IC0606 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0617	Standard:	IC CCV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - NO_2
Prep Date:	04/19/2016	Expiration Date (1 Month):	05/19/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. IC0396 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0618	Standard:	IC Spike Nitrite & Fluorid
Analyst:	JJF	Concentrations:	32 mg/L - Fluoride 64 mg/L - Nitrite
Prep Date:	04/19/2016	Expiration Date (1 Month):	05/19/2016
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite IC0396 and 3.2 mL 1000 mg/L Fluoride IC0395 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0619	Standard:	IC Calibration Metrohm
Analyst:	jjf	Concentrations:	10mg/L - NO_2, NO_3, PO_4, Br, F 100mg/L - SO_4, Cl
Prep Date:	04/19/2016	Expiration Date (48 hours):	04/21/2016
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) IC0395, Nitrite (1000mg/L) IC0396, Bromide (1000mg/L) IC0597, Nitrate (1000mg/L) IC0413, Phosphate (1000mg/L) IC0486, and 10 mL each of Sulfate (1000mg/L) IC0606, and Chloride (1000mg/L) IC0576.		

Standard Log #:	IC0620	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	04/19/2016	Expiration Date (1 Year):	04/19/2017
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

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NOTEBOOK VIEW: LTN_LPVO3_02_IC_Default, NOTEBOOK: LPVO3_02_IC, PAGE: 88
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Author: JFAUST on: 20.04.2016 12:21:20
Page is not Witnessed
Project: Unassigned
Page Title: 041816

Standard Log #:	IC0605	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	04/18/2016	Expiration Date (1 Year):	04/18/2017
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0606	Standard/Reagent:	Sulfate Standard
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	04/18/2016	Expiration Date:	04/18/2017
Prep:	Sulfate IC Standard AccuSPEC Lot #S160114034 Catalog # 250-220-701		

Standard Log #:	IC0607	Standard:	IC Calibration Metrohm
Analyst:	JJF	Concentrations:	10mg/L - NO_2, NO_3, PO_4, Br, F 100mg/L - SO_4, Cl
Prep Date:	04/18/2016	Expiration Date (48 hours):	04/20/2016
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) IC0395, Nitrite (1000mg/L) IC0396, Bromide (1000mg/L) IC0597, Nitrate (1000mg/L) IC0403, Phosphate (1000mg/L) IC0486, and 10 mL each of Sulfate (1000mg/L) IC0419, and Chloride (1000mg/L) IC0576.		

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NOTEBOOK VIEW: LTN_LPVO3_02_IC_Default, NOTEBOOK: LPVO3_02_IC, PAGE: 85
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Author: jfaust on: 13.04.2016 11:38:10
Witness: akurth on: 18.04.2016 10:10:30
Project: Unassigned
Page Title: 040716

Standard Log #:	IC0600	Standard:	IC CCV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	04/07/2016	Expiration Date (1 Month):	05/07/2016
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride IC0395, Phosphate IC0486, Bromide IC0597, and Nitrate IC0403, 15 ml 1000 mg/L Chloride IC0576, and 25 ml 1000 mg/L Sulfate IC0419 and brought to volume with Milli-Q DI H_20.		

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NOTEBOOK VIEW: LTN_LPVO3_02_IC_Default, NOTEBOOK: LPVO3_02_IC, PAGE: 84
Page is Locked
Author: jfaust on: 13.04.2016 11:37:52
Witness: akurth on: 18.04.2016 10:10:19
Project: Unassigned
Page Title: 040616

Standard Log #:	IC0594	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	04/06/2016	Expiration Date (1 Year):	04/06/2017
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0141 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0595	Standard:	IC Suppressor Regen Metrohm
Analyst:	JJF	Concentrations:	0.1 M Sulfuric Acid
Prep Date:	04/06/2016	Expiration Date (6 months):	10/06/2016
Prep:	Into a 1L volumetric flask, pipetted 5.6mL of Sulfuric Acid W38211 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0596	Standard:	IC ICAL Mixed Std. Dionex
Analyst:	JJF	Concentrations:	50mg/L - NO_2, NO_3, PO_4, Br, F
Prep Date:	04/06/2016	Expiration Date (48 Hours):	04/08/2016
Prep:	Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite IC0396, Fluoride IC0395, Bromide IC0597, Nitrate IC0403, and Phosphate IC0486 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0597	Standard/Reagent:	Bromide IC Standard
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	04/06/2016	Expiration Date:	04/06/2017
Prep:	AccuSPEC Bromide IC Standard Cat # 250-220-235. Lot # S150707009		

Standard Log #:	IC0598	Standard:	IC_Calibration_Dionex_C
Analyst:	JJF	Concentrations:	N/A
Prep Date:	04/06/2016	Expiration Date (48 hours):	04/08/2016

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Mixed Std (50mg/L) IC0596	0	0.2	0.6	1.0	2.0	4.0	10.0	14.0	20.0
Chloride (1000mg/L) IC0576	0	0.05	0.075	0.1	0.5	1.0	2.0	3.0	4.0
Sulfate (1000mg/L) IC0419	0	0.05	0.075	0.1	0.5	1.0	3.0	5.0	7.0

Standard Log #:	IC0599	Standard:	IC CCV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - NO_2
Prep Date:	04/06/2016	Expiration Date (1 Month):	05/06/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. IC0396 and brought to volume with Milli-Q DI H_20.		

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NOTEBOOK VIEW: LTN_LPVO3_02_IC_Default, NOTEBOOK: LPVO3_02_IC, PAGE: 82
Page is Locked
Author: JFAUST on: 05.04.2016 11:21:24
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Project: Unassigned
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Standard Log #:	IC0592	Standard:	IC Low Level Spike
Analyst:	JJF	Concentrations:	30 mg/L
Prep Date:	04/04/2016	Expiration Date (1 Month):	05/04/2016
Prep:	Into a 100 ml volumetric flask pipette 3.0 ml of Phosphate (1000mg/L) IC0486 and fill to volume with Milli-Q H_2O.		

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NOTEBOOK VIEW: LTN_LPVO3_02_IC_Default, NOTEBOOK: LPVO3_02_IC, PAGE: 81
Page is Locked
Author: JFAUST on: 05.04.2016 11:21:14
Page is not Witnessed
Project: Unassigned
Page Title: 033116

Standard Log #:	IC0591	Standard/Reagent:	Nitrite Calibration STD.
Analyst:	JJF	Final Concentration:	10 mg/L
Prep Date:	03/31/2016	Expiration Date:	04/02/2016
Prep:	Into a 100 mL volumetric add 1 mL nitrite standard IC0396 and dilute to 100 mL with Milli-Q water.		

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NOTEBOOK VIEW: LTN_LPVO3_02_IC_Default, NOTEBOOK: LPVO3_02_IC, PAGE: 79
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Page is not Witnessed
Project: Unassigned
Page Title: 032816

Standard Log #:	IC0584	Standard:	IC LCSW/ICV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	03/28/2016	Expiration Date (1 Month):	04/28/2016
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) IC0391 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0585	Standard:	IC LCSW/ICV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L
Prep Date:	03/28/2016	Expiration Date (1 Month):	04/28/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL 1000 mg/L Nitrite W37105 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0586	Standard:	IC Low Level o-Phos CC\
Analyst:	JJF	Concentrations:	0.1mg/L Phosphate
Prep Date:	03/28/2016	Expiration Date (1 month):	04/28/2016
Prep:	Into a 200 ml volumetric flask pipette 0.02ml Phosphate(1000mg/L) IC0486 and fill to volume with Milli Q H_2O.		

Standard Log #:	IC0587	Standard:	IC Low Level LCS-ICV
Analyst:	JJF	Concentrations:	0.1mg/L Phosphate
Prep Date:	03/28/2016	Expiration Date (1 Month):	04/28/2016
Prep:	Into a 100 ml volumetric flask pipette 0.01 ml of Phosphate (1000mg/L) IC0516 and fill to volume with Milli-Q H_2O.		

Standard Log #:	IC0588	Standard:	IC Low Level Spike
Analyst:	JJF	Concentrations:	30 mg/L
Prep Date:	03/28/2016	Expiration Date (1 Month):	04/28/2016
Prep:	Into a 100 ml volumetric flask pipette 3.0 ml of Phosphate (1000mg/L) IC0486 and fill to volume with Milli-Q H_2O.		

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NOTEBOOK VIEW: LTN_LPVO3_02_IC_Default, NOTEBOOK: LPVO3_02_IC, PAGE: 77
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Author: JFAUST on: 28.03.2016 08:07:36
Page is not Witnessed
Project: Unassigned
Page Title: 032316

Standard Log #:	IC0582	Standard:	IC Calibration Metrohm
Analyst:	JJF	Concentrations:	10mg/L - NO_2, NO_3, PO_4, Br, F 100mg/L - SO_4, Cl
Prep Date:	03/23/2016	Expiration Date (48 hours):	03/25/2016
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) IC0395, Nitrite (1000mg/L) IC0396, Bromide (1000mg/L) IC0178, Nitrate (1000mg/L) IC0403, Phosphate (1000mg/L) IC0486, and 10 mL each of Sulfate (1000mg/L) IC0419, and Chloride (1000mg/L) IC0576.		

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Author: JFAUST on: 23.03.2016 11:56:06
Page is not Witnessed
Project: Unassigned
Page Title: 032116

Standard Log #:	IC0579	Standard:	IC Spike Mixed
Analyst:	JJF	Concentrations:	64 mg/L - Br, NO_3, PO_4 256 mg/L - Cl, SO_4
Prep Date:	03/21/2016	Expiration Date (1 Month):	04/07/16 for Br only. Oth
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Bromide IC0178, Nitrate IC0403, and Phosphate IC0486 and 25.6 mL 1000 mg/L Chloride IC0576 and Sulfate IC0419 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0580	Standard:	IC Spike Nitrite & Fluoride
Analyst:	JJF	Concentrations:	32 mg/L - Fluoride 64 mg/L - Nitrite
Prep Date:	03/21/2016	Expiration Date (1 Month):	04/21/2016
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite IC0396 and 3.2 mL 1000 mg/L Fluoride IC0395 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0581	Standard:	IC Eluent Dionex
Analyst:	JJF	Concentrations:	3.5 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	03/21/2016	Expiration Date (1 Year):	03/21/2017
Prep:	Into a 10L carboy, pipetted 20mL of Dionex eluent concentrate IC0400 and brought to volume with Milli-Q DI H_20.		

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Author: JFAUST on: 21.03.2016 17:27:05
Page is not Witnessed
Project: Unassigned
Page Title: 031616

Standard Log #:	IC0576	Standard/Reagent:	Chloride IC stock Standard
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	03/16/2016	Expiration Date:	03/16/2017
Prep:	AccuSPEC IC Standard Chloride @ 1000 mg/L Lot #S150923021 Catalog #250-220-37x		

Standard Log #:	IC0577	Standard:	IC CCV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	03/16/2016	Expiration Date (1 Month):	04/06/16 for Br 4/16/201
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride IC0395, Phosphate IC0486, Bromide IC0178, and Nitrate IC0403, 15 ml 1000 mg/L Chloride IC0576, and 25 ml 1000 mg/L Sulfate IC0419 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0578	Standard:	IC CCV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - NO_2
Prep Date:	03/16/2016	Expiration Date (1 Month):	04/16/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. IC0396 and brought to volume with Milli-Q DI H_20.		

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NOTEBOOK VIEW: LTN_LPVO3_02_IC_Default, NOTEBOOK: LPVO3_02_IC, PAGE: 70
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Author: jfaust on: 09.03.2016 11:32:34
Page is not Witnessed
Project: Unassigned
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Standard Log #:	IC0568	Standard:	IC LCSW/ICV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	02/25/2016	Expiration Date (1 Month):	03/25/2016
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) IC0391 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0569	Standard:	IC LCSW/ICV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L
Prep Date:	02/25/2016	Expiration Date (1 Month):	03/25/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL 1000 mg/L Nitrite W37105 and brought to volume with Milli-Q DI H_20.		

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Author: JFAUST on: 22.02.2016 13:03:38
Page is not Witnessed
Project: Unassigned
Page Title: 021916

Standard Log #:	IC0560	Standard:	IC Spike Nitrite & Fluoride
Analyst:	JJF	Concentrations:	32 mg/L - Fluoride 64 mg/L - Nitrite
Prep Date:	02/19/2016	Expiration Date (1 Month):	03/19/2016
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite IC0396 and 3.2 mL 1000 mg/L Fluoride IC0395 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0561	Standard:	IC Spike Mixed
Analyst:	JJF	Concentrations:	64 mg/L - Br, NO_3, PO_4 256 mg/L - Cl, SO_4
Prep Date:	02/19/2016	Expiration Date (1 Month):	03/19/2016
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Bromide IC0178, Nitrate IC0403, and Phosphate IC0486 and 25.6 mL 1000 mg/L Chloride IC0287 and Sulfate IC0419 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0562	Standard:	IC CCV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	02/19/2016	Expiration Date (1 Month):	03/19/2016
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride IC0395, Phosphate IC0486, Bromide IC0178, and Nitrate IC0403, 15 ml 1000 mg/L Chloride IC0287, and 25 ml 1000 mg/L Sulfate IC0419 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0563	Standard:	IC CCV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - NO_2
Prep Date:	02/19/2016	Expiration Date (1 Month):	03/19/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. IC0396 and brought to volume with Milli-Q DI H_20.		

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NOTEBOOK VIEW: LTN_LPVO3_02_IC_Default, NOTEBOOK: LPVO3_02_IC, PAGE: 66
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Author: JFAUST on: 22.02.2016 13:03:31
Page is not Witnessed
Project: Unassigned
Page Title: 021716

Standard Log #:	IC0558	Standard/Reagent:	Calibration Oxyhalides and r
Analyst:	JJF	Final Concentration:	10mg/L - NO2, NO3, PO4, E
Prep Date:	02/17/2016	Expiration Date:	02/19/2016
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) (1), Nitrite (1000mg/L) (2), Bromide (1000mg/L) (3), Nitrate (1000mg/L) (4), Phosphate (1000mg/L) (5), Chlorite (1000 mg/L), (6) Chlorate (1000 mg/L) (7) and 10 mL each of Sulfate (1000mg/L) (8), and Chloride (1000mg/L) (9).		

Standard Log #:	IC0559	Standard/Reagent:	Eluent for ASupp 7 Column
Analyst:	JJF	Final Concentration:	3.6 mmoles/L Sodium Carbo
Prep Date:	02/17/2016	Expiration Date:	02/17/2017
Prep:	Into a 2 liter volumetric flask add 0.763 grams Sodium Carbonate (W38024) and dilute to 2 liters with Milli-Q- DI water.		

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NOTEBOOK VIEW: LTN_LPVO3_02_IC_Default, NOTEBOOK: LPVO3_02_IC, PAGE: 65
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Author: jfaust on: 17.02.2016 16:07:38
Page is not Witnessed
Project: Unassigned
Page Title: 021516

Standard Log #:	IC0556	Standard/Reagent:	Eluent for Chlorite and Chlor
Analyst:	JJF	Final Concentration:	3.6 mmol/L Sodium Carbona
Prep Date:	02/15/2016	Expiration Date:	02/15/2017
Prep:	Into a 2 Liter volumetric add 0.763 grams Sodium carbonate (W38024) and dilute to 2 Liters with Milli-Q DI water.		

Standard Log #:	IC0557	Standard/Reagent:	Metrosep A Column fro IC
Analyst:	JJF	Final Concentration:	N/A
Prep Date:	02/15/2016	Expiration Date:	N/A
Prep:	Metrohm Metrosep A Supp 7 - 250/4.0 (6.1006.630) Serial # 9310042		

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Page is not Witnessed
Project: Unassigned
Page Title: 021216

Standard Log #:	IC0554	Standard:	IC Eluent Dionex
Analyst:	JJF	Concentrations:	3.5 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	02/12/2016	Expiration Date (1 Year):	02/12/2017
Prep:	Into a 10L carboy, pipetted 20mL of Dionex eluent concentrate IC0400 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0555	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	02/12/2016	Expiration Date (1 Year):	02/12/2017
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0141 and brought to volume with Milli-Q Di water.		

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NOTEBOOK VIEW: LTN_LPVO3_02_IC_Default, NOTEBOOK: LPVO3_02_IC, PAGE: 63
Page is Locked
Author: jfaust on: 09.02.2016 08:05:39
Witness: akurth on: 10.02.2016 13:50:48
Project: Unassigned
Page Title: 020816

Standard Log #:	IC0553	Standard:	IC Suppressor Regen Metrohm
Analyst:	JJF	Concentrations:	0.1 M Sulfuric Acid
Prep Date:	02/08/2016	Expiration Date (6 months):	08/08/2016
Prep:	Into a 1L volumetric flask, pipetted 5.6mL of Sulfuric Acid W38211 and brought to volume with Milli-Q Di water.		

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NOTEBOOK VIEW: LTN_LPVO3_02_IC_Default, NOTEBOOK: LPVO3_02_IC, PAGE: 62
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Author: JFAUST on: 08.02.2016 10:39:43
Witness: akurth on: 10.02.2016 13:50:33
Project: Unassigned
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Standard Log #:	IC0551	Standard/Reagent:	IC MID LEVEL CCV
Analyst:	JJF	Final Concentration:	3 mg/l Cl AND 5 mg/L SO4
Prep Date:	02/03/2016	Expiration Date:	03/03/2016
Prep:	Into a 100 mL volumetric add 0.30 mL Chloride Std @1000 mg/L (IC 0287) and 0.50 mL Sulfate Std @ 1000 mg/L (IC0419) and dilute to 100 mL with Milli-Q DI water.		

Standard Log #:	IC0552	Standard:	IC Calibration Mid Level
Analyst:	JJF	Concentrations:	1.0mg/L - NO_2, NO_3, PO_4, Br, F 10mg/L - SO_4, Cl
Prep Date:	02/03/2016	Expiration Date (48 Hours):	03/05/2016
Prep:	Into a 100 mL volumetric flask pipetted .1 mL of 1000 mg/L Nitrite IC, Fluoride IC, Bromide IC, Nitrate IC, and Phosphate IC and 1mL of Sulfate IC0419 and Chloride IC0287 and brought to volume with Milli-Q DI H_20.		

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Page is Locked
Author: JFAUST on: 03.02.2016 10:47:50
Witness: akurth on: 10.02.2016 13:49:46
Project: Unassigned
Page Title: 020116

Standard Log #:	IC0550	Standard:	IC LCSW/ICV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L
Prep Date:	02/01/2016	Expiration Date (1 Month):	03/01/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL 1000 mg/L Nitrite W37105 and brought to volume with Milli-Q DI H_20.		

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NOTEBOOK VIEW: LTN_LPVO3_02_IC_Default, NOTEBOOK: LPVO3_02_IC, PAGE: 58
Page is Locked
Author: jfaust on: 29.01.2016 10:48:07
Witness: akurth on: 10.02.2016 13:48:19
Project: Unassigned
Page Title: 012616

Standard Log #:	IC0543	Standard:	IC LCSW/ICV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	01/26/2016	Expiration Date (1 Month):	02/26/2016
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) IC0391 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0544	Standard:	IC Mid Level LCS
Analyst:	JJF	Concentrations:	0.70 mg/L F, NO_2, Br, NO_3, $P0_4$, 3.0 mg/L Cl, 5.0 mg/L SO_4
Prep Date:	01/26/2016	Expiration Date (48 hours):	01/28/2016
Prep:	Into a 100 ml volumetric flask pipette 10ml Mixed LCS (7mg/L F, NO_3, PO_4, Br & 50 mg/L SO_4 & 30 mg/L Cl) IC0543 and 10 mL Nitrite LCS (7 mg/L NO_2) IC0496 and dilute to		

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Standard Log #:	IC0535	Standard:	IC Mid Level LCS
Analyst:	JJF	Concentrations:	0.70 mg/L F, NO_2, Br, NO_3, $P0_4$, 3.0 mg/L Cl, 5.0 mg/L SO_4
Prep Date:	01/21/2016	Expiration Date (48 hours):	01/23/2016
Prep:	Into a 100 ml volumetric flask pipette 10ml Mixed LCS (7mg/L F, NO_3, PO_4, Br & 50 mg/L SO_4 & 30 mg/L Cl) IC0495 and 10 mL Nitrite LCS (7 mg/L NO_2) IC0496 and dilute to		

Standard Log #:	IC0536	Standard:	IC CCV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	01/21/2016	Expiration Date (1 Month):	02/21/2016
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride IC0395, Phosphate IC0486, Bromide IC0178, and Nitrate IC0403, 15 ml 1000 mg/L Chloride IC0287, and 25 ml 1000 mg/L Sulfate IC0419 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0537	Standard:	IC CCV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - NO_2
Prep Date:	01/21/2016	Expiration Date (1 Month):	02/21/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. IC0396 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0538	Standard:	IC Mid Level CCV
Analyst:	JJF	Concentrations:	0.70 mg/L F, NO_2, Br, NO_3, $P0_4$, 3.0 mg/L Cl, 5.0 mg/L SO_4
Prep Date:	01/21/2016	Expiration Date (48 hours):	02/21/2016
Prep:	Into a 100 ml volumetric flask pipette 10ml Mixed CCV (7mg/L F, NO_3, PO_4, Br & 50 mg/L SO_4 & 30 mg/L Cl) IC0536 and 10 mL Nitrite CCV (7 mg/L NO_2) IC0537 and dilute to		

Standard Log #:	IC0539	Standard/Reagent:	Cl & SO4 Working Std.
Analyst:	JJF	Final Concentration:	100 mg/L
Prep Date:	01/21/2016	Expiration Date:	01/23/2016
Prep:	Into a 25 mL volumetric add 2.5 mL Chloride (IC0287) and 2.5 mL SO4 (IC0419) and dilute to 25 mL with Milli-Q water.		

Standard Log #:	IC0540	Standard/Reagent:	ML MDL STANDARDS
Analyst:	JJF	Final Concentration:	0.30 mg/L
Prep Date:	01/21/2016	Expiration Date:	01/23/2016
Prep:	Into 8 100 mL volumetric flasks pipette 0.30 mL (IC0539) Chloride and Sulfate working standard and bring to volume with Milli-Q water.		

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Author: jfaust on: 19.01.2016 08:33:08
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Project: Unassigned
Page Title: 011816

Standard Log #:	IC0526	Standard:	IC LL o-Phos Working Std.
Analyst:	JJF	Concentrations:	50mg/L Phosphate
Prep Date:	01/18/2016	Expiration Date (48 hours):	01/20/2016
Prep:	Into a 100 ml volumetric flask pipette 5ml Phosphate(1000mg/L) IC0486 and fill to volume with Milli Q H_2O.		

Standard Log #:	IC0527	Standard/Reagent:	LL o-Phos Calibration Std.
Analyst:	JJF	Final Concentration:	0.40 mg/L
Prep Date:	01/18/2016	Expiration Date:	01/20/2016
Prep:	Into a 50 mL volumetric pipette 0.40 mL of (IC0526) LL o-Phos working standard and dilute to 50 mL with Milli-Q water.		

Standard Log #:	IC0528	Standard:	IC Spike Mixed
Analyst:	JJF	Concentrations:	64 mg/L - Br, NO_3, PO_4 256 mg/L - Cl, SO_4
Prep Date:	01/18/2016	Expiration Date (1 Month):	02/18/2016
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Bromide IC0178, Nitrate IC0403, and Phosphate IC0486 and 25.6 mL 1000 mg/L Chloride IC0287 and Sulfate IC0419 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0529	Standard:	IC Spike Nitrite & Fluorid
Analyst:	JJF	Concentrations:	32 mg/L - Fluoride 64 mg/L - Nitrite
Prep Date:	01/18/2016	Expiration Date (1 Month):	02/18/2016
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite IC0396 and 3.2 mL 1000 mg/L Fluoride IC0395 and brought to volume with Milli-Q DI H_20.		

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Author: jfaust on: 21.01.2016 13:38:19
Witness: akurth on: 10.02.2016 13:39:21
Project: Unassigned
Page Title: 011416

Standard Log #:	IC0524	Standard/Reagent:	COLUMN STORAGE SOLU
Analyst:	JJF	Final Concentration:	10 mm/L NA2CO3
Prep Date:	01/14/2016	Expiration Date:	01/14/2017
Prep:	Into a 250 mL volumetric add 0.265 grams Na2CO3 (IC0145) and dilute to 250 mL with Milli-Q water.		

Standard Log #:	IC0525	Standard/Reagent:	METROHM COLUMN
Analyst:	JJF	Final Concentration:	ASUPP 5-150/4.0
Prep Date:	01/14/2016	Expiration Date:	
Prep:	Metrosep A Supp 5- 150/4.0 Column Catalog # 6.1006.520 Serial #5150615076		

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Project: Unassigned
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Standard Log #:	IC0512	Standard:	IC Cal Nitrite WS Dionex
Analyst:	JJF	Concentrations:	50mg/L Nitrite
Prep Date:	01/12/2016	Expiration Date (48 Hours):	01/14/2016
Prep:	Into a 100 mL volumetric flasks pipetted 5.0 mL of Nitrite (1000 mg/L) IC0396 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0513	Standard:	IC Cal Nitrite Dionex
Analyst:	JJF	Concentrations:	N/A
Prep Date:	01/12/2016	Expiration Date (48 Hours):	01/14/2016
Prep:	Into 6 separate 100 mL volumetric flasks pipetted 0, 0.2, 1.0, 2.0, 4.0, 10.0 mL of Nitrite working standard (50 mg/L) IC0512 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0514	Standard:	IC LL o-Phos Working Std.
Analyst:	JJF	Concentrations:	50mg/L Phosphate
Prep Date:	01/12/2016	Expiration Date (48 hours):	01/12/2016
Prep:	Into a 100 ml volumetric flask pipette 5ml Phosphate(1000mg/L) IC0486 and fill to volume with Milli Q H_2O.		

Standard Log #:	IC0515	Standard/Reagent:	IC LLo-Phos Calibration Std.
Analyst:	JJF	Final Concentration:	0.40 mg/L
Prep Date:	01/12/2016	Expiration Date:	01/14/2016
Prep:	Into a 50 mL volumetric pipette 0.40 mL Phosphate working Standard (50 mg/L) IC0514 and dilute to 50 mL with Milli-Q water.		

Standard Log #:	IC0516	Standard/Reagent:	Phosphate Standard Second
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	01/12/2016	Expiration Date:	11/30/2016
Prep:	SPEX CertiPrep 1000 mg/L Phosphate Anion Standard Lot# 3-103PO4P-2Y Catalog # AS-PO4P9-2Y		

Standard Log #:	IC0517	Standard:	IC Low Level LCS-ICV
Analyst:	JJF	Concentrations:	0.1mg/L Phosphate
Prep Date:	01/12/2016	Expiration Date (1 Month):	02/12/2016
Prep:	Into a 100 ml volumetric flask pipette 0.01 ml of Phosphate (1000mg/L) IC0516 and fill to volume with Milli-Q H_2O.		

Standard Log #:	IC0518	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	1/12/2016	Expiration Date (1 Year):	01/12/2017
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0141 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0519	Standard:	IC Low Level o-Phos CC
Analyst:	JJF	Concentrations:	0.1mg/L Phosphate
Prep Date:	1/12/2016	Expiration Date (1 month):	2/12/2016
Prep:	Into a 200 ml volumetric flask pipette 0.02ml Phosphate(1000mg/L) IC0486 and fill to volume with Milli Q H_2O.		

Standard Log #:	IC0520	Standard:	IC Cal Nitrite Metrohm
Analyst:	JJF	Concentrations:	10.0mg/L Nitrite
Prep Date:	1/12/2016	Expiration Date (48 Hours):	1/14/2016
Prep:	Into a 100 mL volumetric flask pipetted 1.0 mL of Nitrite (1000 mg/L) IC0396 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0521	Standard/Reagent:	LL o-Phos LOQ STD
Analyst:	JJF	Final Concentration:	0.02 mg/L
Prep Date:	01/12/2016	Expiration Date:	01/14/2016
Prep:	Into a 100 mL volumetric pipette 0.04 mL working std (IC0514) @ 50 mg/L and dilute to 100 mL with Milli-Q water.		

Standard Log #:	IC0515	Standard/Reagent:	IC LLo-Phos Calibration Std.
Analyst:	JJF	Final Concentration:	0.40 mg/L
Prep Date:	01/12/2016	Expiration Date:	01/14/2016
Prep:	Into a 50 mL volumetric pipette 0.40 mL Phosphate working Standard (50 mg/L) IC0514 and dilute to 50 mL with Milli-Q water.		

Standard Log #:	IC0516	Standard/Reagent:	Phosphate Standard Second
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	01/12/2016	Expiration Date:	11/30/2016
Prep:	SPEX CertiPrep 1000 mg/L Phosphate Anion Standard Lot# 3-103PO4P-2Y Catalog # AS-PO4P9-2Y		

Standard Log #:	IC0517	Standard:	IC Low Level LCS-ICV
Analyst:	JJF	Concentrations:	0.1mg/L Phosphate
Prep Date:	01/12/2016	Expiration Date (1 Month):	02/12/2016
Prep:	Into a 100 ml volumetric flask pipette 0.01 ml of Phosphate (1000mg/L) IC0516 and fill to volume with Milli-Q H_2O.		

Standard Log #:	IC0518	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	1/12/2016	Expiration Date (1 Year):	01/12/2017
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0141 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0519	Standard:	IC Low Level o-Phos CC\
Analyst:	JJF	Concentrations:	0.1mg/L Phosphate
Prep Date:	1/12/2016	Expiration Date (1 month):	2/12/2016
Prep:	Into a 200 ml volumetric flask pipette 0.02ml Phosphate(1000mg/L) IC0486 and fill to volume with Milli Q H_2O.		

Standard Log #:	IC0520	Standard:	IC Cal Nitrite Metrohm
Analyst:	JJF	Concentrations:	10.0mg/L Nitrite
Prep Date:	1/12/2016	Expiration Date (48 Hours):	1/14/2016
Prep:	Into a 100 mL volumetric flask pipetted 1.0 mL of Nitrite (1000 mg/L) IC0396 and brought to volume with Milli-Q DI H_20.		

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Standard Log #:	IC0504	Standard:	IC LOD-LOQ2
Analyst:	JJF	Concentrations:	
Prep Date:	01/08/2016	Expiration Date (48 hours):	01/10/2016

Prep:

LOD Check:
Into a 100mL Volumetric flask pipetted the following, then brought to volume with Milli-Q DI water.

Fluoride	0.010	mL	IC0395	Nitrate	0.015	mL	IC0403
Chloride	0.200	mL	IC	Phosphate	0.025	mL	IC0486
Nitrite	0.020	mL	IC0396	Sulfate	0.250	mL	IC
Bromide	0.020	mL	IC0178				

LOQ Check:
Into a 100mL Volumetric flask pipetted the following, then brought to volume with Milli-Q DI water.

Fluoride	0.030	mL	IC0395	Nitrate	0.040	mL	IC0403
Chloride	0.400	mL	IC	Phosphate	0.050	mL	IC0486
Nitrite	0.040	mL	IC0396	Sulfate	0.500	mL	IC
Bromide	0.050	mL	IC0178				

Standard Log #:	IC0505	Standard:	IC Calibration Metrohm
Analyst:	JJF	Concentrations:	10mg/L - NO_2, NO_3, PO_4, Br, F 100mg/L - SO_4, Cl
Prep Date:	01/08/2016	Expiration Date (48 hours):	01/10/2016

Prep:

Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) IC0395, Nitrite (1000mg/L) IC0396, Bromide (1000mg/L) IC0178, Nitrate (1000mg/L) IC0403, Phosphate (1000mg/L) IC0486, and 10 mL each of Sulfate (1000mg/L) IC, and Chloride (1000mg/L) IC.

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Author: jfaust on: 08.01.2016 10:38:58
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Project: Unassigned
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Standard Log #:	IC0495	Standard:	IC LCSW/ICV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	12/31/2015	Expiration Date (1 Month):	1/31/2016
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) IC0391 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0496	Standard:	IC LCSW/ICV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L
Prep Date:	12/31/2015	Expiration Date (1 Month):	1/31/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL 1000 mg/L Nitrite W37105 and brought to volume with Milli-Q DI H_20.		

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Author: JFAUST on: 17.12.2015 09:55:14
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Standard Log #:	IC0484	Standard:	IC Spike Mixed
Analyst:	JJF	Concentrations:	64 mg/L - Br, NO_3, PO_4 256 mg/L - Cl, SO_4
Prep Date:	12/15/2015	Expiration Date (1 Month):	1/15/2016
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Bromide IC0178, Nitrate IC0403, and Phosphate IC0486 and 25.6 mL 1000 mg/L Chloride IC0287 and Sulfate IC0419 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0485	Standard:	IC Spike Nitrite & Fluorid
Analyst:	JJF	Concentrations:	32 mg/L - Fluoride 64 mg/L - Nitrite
Prep Date:	12/15/2015	Expiration Date (1 Month):	1/15/2016
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite IC0396 and 3.2 mL 1000 mg/L Fluoride IC0395 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0486	Standard/Reagent:	IC PHOSPHATE STANDAR
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	12/15/2015	Expiration Date:	12/15/2016
Prep:	AccuSPEC IC Standard Phosphate as Phosphorus 1000 mg/L Lot #S151013001 Cat # 250-220-61x		

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Standard Log #:	IC0474	Standard:	IC ICAL Mixed Std. Dionex
Analyst:	JJF	Concentrations:	50mg/L - NO_2, NO_3, PO_4, Br, F
Prep Date:	12/01/2015	Expiration Date (48 Hours):	12/03/2015
Prep:	Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite IC0396, Fluoride IC0395, Bromide IC0178, Nitrate IC0403, and Phosphate IC0001 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0475	Standard:	IC_Calibration_Dionex_C
Analyst:	JJF	Concentrations:	N/A
Prep Date:	12/01/2015	Expiration Date (48 hours):	12/03/2015

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Mixed Std (50mg/L) IC0474	0	0.2	0.6	1.0	2.0	4.0	10.0	14.0	20.0
Chloride (1000mg/L) IC0287	0	0.05	0.075	0.1	0.5	1.0	2.0	3.0	4.0
Sulfate (1000mg/L) IC0419	0	0.05	0.075	0.1	0.5	1.0	3.0	5.0	7.0

Standard Log #:	IC0476	Standard:	IC Suppressor Regen Metrohm
Analyst:		Concentrations:	0.1 M Sulfuric Acid

Standard Log #:	IC0472	Reagent:	Dionex IonPac AS14 Colum
Analyst:	JJF	Final Concentration:	
Prep Date:	11/30/2015	Expiration Date:	
Prep:	Thermo Scientific Dionex Ion Pac AS14 Column 4 x250 mm Lot # 014-11-185		

Standard Log #:	IC0473	Reagent:	Dionex Guard Column
Analyst:	JJF	Final Concentration:	
Prep Date:	11/30/2015	Expiration Date:	
Prep:	Thermo Scientific Dionex IonPac AG14 4 x 50 mm Lot# 014-11-086		

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		Month):	
Prep:	Into a 100 mL volumetric flask pipette 1mL TPhos ICV/LCS stock (1000mg/L) W36090 and fill to volume with LL H_2SO_4 diluent W37554 .		

		Month):	
Prep:	Into a 50 mL volumetric flask pipette 1mL TPhos ICV/LCS working (10mg/L) W38021 and fill to volume with TMG H_2SO_4 diluent W37554 .		

Standard Log #:	W38023	Reagent:	TPHOS LL ICAL
Analyst:	LJS	Concentration:	500 µg/L
Prep Date:	11/30/15	Expiration Date (1 month):	12/30/15
Prep:	Into a 100 mL volumetric flask pipette 5 mL LL TPhos ICal/ CCV working (10 mg/L) W38018 and fill to volume with LL H_2SO_4 diluent W37554		

Standard ID#:	W38024	Vendor:	VWR
Analyst:	LJS	Chemical:	SODIUM CARBONATE ANHYDROUS
Date Received:	11/30/15	Lot #:	1205C104
Expiration Date (if any):	N/A	Catalog #:	0585-500G

Standard Log #:	W38025	Reagent:	COD SPIKE/ LCS STK
Analyst:	LJS	Concentration:	2000 mg/L
Prep Date:	11/30/15	Expiration Date (3 Months):	2/30/16
Prep:	Into a 500mL volumetric flask dissolve 0.85g Potassium Hydrogen Phthalate (KHP) W34207 and fill to volume with DI H_2O.		

Standard Log #:	W38026	Standard:	COD LCS
Analyst:	LJS	Concentration:	400MG/L
Prep Date:	11/30/15	Expiration Date (3 Months):	2/30/15
Prep:	Into a 250mL volumetric flask, pipette 50mL of 2000mg/L COD Spike/LCS Stock (1) and fill to volume with DI water. (1) W38025		

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Standard Log #:	IC0452	Standard:	IC Cal Nitrite Metrohm
Analyst:	JJF	Concentrations:	10.0mg/L Nitrite
Prep Date:	11/10/2015	Expiration Date (48 Hours):	11/13/2015
Prep:	Into a 100 mL volumetric flask pipetted 1.0 mL of Nitrite (1000 mg/L) IC0396 and brought to volume with Milli-Q DI H_20.		

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Project: Unassigned
Page Title: N/A

Standard Log #:	IC0417	Standard:	IC CCV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	10/15/2015	Expiration Date (1 Month):	11/15/2015
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride 0395, Phosphate IC0001, Bromide IC0178, and Nitrate IC0403, 15 ml 1000 mg/L Chloride IC0287, and 25 ml 1000 mg/L Sulfate IC and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0418	Standard:	IC CCV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - NO_2
Prep Date:	10/15/2015	Expiration Date (1 Month):	11/15/2015
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. IC0396 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0419	Standard/Reagent:	SULFATE STANDARD
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	10/15/2015	Expiration Date:	10/15/2016
Prep:	AccuSPEC Sulfate Standard for Ion Chromatography Lot # S150115013 Catalog #250-220-70x		

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CT Laboratories, LLC

LPVO3-02
IC Prep Logbook
Logbook Created: 08/13/2015
NOTEBOOK VIEW: LTN_LPVO3_02_IC_Default, NOTEBOOK: LPVO3_02_IC, PAGE: 10
Page is Locked
Author: JFAUST on: 12.10.2015 08:32:53
Page is not Witnessed
Project: Unassigned
Page Title: 092215

Standard Log #:	IC0401	Standard:	IC CCV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	09/22/2015	Expiration Date (1 Month):	10/22/2015
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride IC0395, Phosphate IC0001, Bromide IC0178, and Nitrate IC, 15 ml 1000 mg/L Chloride IC0287, and 25 ml 1000 mg/L Sulfate IC0186 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0402	Standard:	IC CCV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - NO_2
Prep Date:	09/22/2015	Expiration Date (1 Month):	10/22/2015
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. IC0396 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0403	Standard/Reagent:	NO3 STANDARD
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	09/22/2015	Expiration Date:	9/22/2016
Prep:	Accu SPEC Nitrate Standard for Ion Chromatography Cat #250-220-521 Lot # S150804004		

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Standard Log #:	IC0400	Standard:	IC Eluent Conc. Dionex
Analyst:	JJF	Concentrations:	1.75 M Sodium Carbonate 0.5 M Sodium Bicarbonate
Prep Date:	09/15/2015	Expiration Date (1 Year):	09/15/2016
Prep:	Into a 2L volumetric flask, dissolved 371g of Sodium Carbonate IC0145 and 84.0g of Sodium Bicarbonate W25134 and brought to volume with Milli-Q DI H_2O. (500x concentrate)		

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CT Laboratories, LLC

LPVO3-02
IC Prep Logbook
Logbook Created: 08/13/2015
NOTEBOOK VIEW: LTN_LPVO3_02_IC_Default, NOTEBOOK: LPVO3_02_IC, PAGE: 8
Page is Unlocked
Page is not Witnessed
Project: Unassigned
Page Title: 090915

Standard Log #:	IC0395	Standard/Reagent:	Fluoride Std
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	09/09/2015	Expiration Date:	09/09/2016
Prep:	AccuSPEC IC Standard @ 1000 ug/ml Lot # S150818016 Catalog # 250-220-40x		

Standard Log #:	IC0396	Standard/Reagent:	Nitrite Std
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	09/09/2015	Expiration Date:	09/09/2016
Prep:	AccuSPEC IC Standard @ 1000 ug/ml Lot # S150410003 Catalog # 250-220-55x		

Standard Log #:	IC0397	Standard:	IC Spike Mixed
Analyst:	JJF	Concentrations:	64 mg/L - Br, NO_3, PO_4 256 mg/L - Cl, SO_4
Prep Date:	09/09/2015	Expiration Date (1 Month):	10/09/2015
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Bromide IC0178, Nitrate W35940, and Phosphate IC0001 and 25.6 mL 1000 mg/L Chloride IC0287 and Sulfate IC0186 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0391	Standard/Reagent:	Custom Ion Standard
Analyst:	JJF	Final Concentration:	1250 mg/L SO4, 750mg/L C
Prep Date:	08/31/2015	Expiration Date:	08/30/2016
Prep:	Cat# VCTI-3-500 Lot# 7-60-JKS		

LPVO3-01
IC Prep Logbook
Notebook Created: 01/12/2015
NOTEBOOK VIEW: LTN_IC_Logbook_01_Default, NOTEBOOK: IC_Logbook_01, PAGE: 94
Page is Unlocked
Page is not Witnessed
Project: Unassigned
Page Title: 072415

Standard Log #:	IC0310	Standard:	IC LL o-Phos Working Std.
Analyst:	JJF	Concentrations:	50mg/L Phosphate
Prep Date:	07/24/2015	Expiration Date (48 hours):	07/26/2015
Prep:	Into a 100 ml volumetric flask pipette 5ml Phosphate(1000mg/L) IC0001 and fill to volume with Milli Q H_2O.		

Standard Log #:	IC0311	Standard:	IC LL Phosphate Cal
Analyst:	JJF	Concentrations:	NA
Prep Date:	07/24/2015	Expiration Date (48 hours):	07/26/2015
Prep:	Into 8 separate 100 ml volumetric flasks pipette 0, 0.01, 0.02, 0.04, 0.06, 0.1, 0.2, and 0.4ml LL Ophos ICal Working (50mg/L) IC0310 and fill to volume with Milli-Q H_2O.		

Standard Log #:	IC0312	Standard/Reagent:	IC Chlorate Standard
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	07/24/2015	Expiration Date:	07/24/2016
Prep:	Accu SPEC Chlorate Standard @ 990 or - 10 mg/L Lot # S141009020 Catalog # 250-220-355		

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Standard ID#:	IC0300	Vendor:	SPEX CertiPrep
Analyst:	JJF	Chemical:	Chlorite Anion Standard 1000 ug/mL
Date Received:	07/21/2015	Lot #:	3-114CLO2-2Y
Expiration Date (if any):	1/30/2016	Catalog #:	AS-CLO29-2Y

Standard Log #:	IC0301	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	07/21/2015	Expiration Date (1 Year):	07/21/2016
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0141 and brought to volume with Milli-Q Di water.		

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Standard Log #:	IC0286	Standard:	IC CCV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - NO_2
Prep Date:	07/09/2015	Expiration Date (1 Month):	08/09/2015
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. W35415 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0287	Standard/Reagent:	ANIONS CHLORIDE STD
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	07/09/2015	Expiration Date:	07/09/2016
Prep:	ACCU SPEC Chloride Standard Lot #S141030011 Catalog # 250-220-371		

Standard Log #:	IC0288	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	07/09/2015	Expiration Date (1 Year):	07/09/2016
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0141 and brought to volume with Milli-Q Di water.		

Standard ID#:	W37105	Vendor:	SPEX
Analyst:	LJS	Chemical:	NITRITE-NITROGEN 1000UG/ML ST
Date Received:	MAY 2015	Lot #:	3-106N02N-2Y
Expiration Date (if any):	05-30-2016	Catalog #:	AS-N02N9-2Y

Standard Log #:	W37106	Standard:	CR6 WATER ICAL
Analyst:	MER	Concentration:	200 µg/L
Prep Date:	6/22/15	Expiration Date (1 Year):	10/28/15
Prep:	Into a 250mL volumetric flask pipette 5mL Ical/CCV working (10mg/L) W35703 and fill to volume with DI H_2O.		

Standard Log #:	W37107	Standard:	CR6 WATER LCS/ICV
Analyst:	MER	Concentration:	100 µg/L
Prep Date:	6/22/15	Expiration Date (1 Year):	10/28/15
Prep:	Into a 250mL volumetric flask pipette 2.5mL LCS/ICV working (10mg/L) W35700 and fill to volume with DI H_2O.		

Standard Log #:	IC0214	Standard/Reagent:	Metrsep A Supp 10- Column
Analyst:	JJF	Final Concentration:	
Prep Date:	04/24/2015	Expiration Date:	
Prep:	Metrohm Metrosep A Supp 10 -250/ 2.0 Column Catalog # 6.1020.230 Column S/N: 0016.3025		

Standard Log #:	IC0215	Standard/Reagent:	Metrosep A Guard Column
Analyst:	JJF	Final Concentration:	
Prep Date:	04/24/2015	Expiration Date:	
Prep:	Metrohm Metrosep A sup 10 Guard column 6.1020.600		

Standard Log #:	IC0178	Standard/Reagent:	Bromide IC Standard
Analyst:	JJF	Final Concentration:	1000mg/L
Prep Date:	04/06/2015	Expiration Date:	4/06/2016
Prep:	AccuSPEC IC Standard Lot #S141117006 Catalog # 250-220-235		

LPVO3-01
IC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_IC_Logbook_01_Default, NOTEBOOK: IC_Logbook_01, PAGE: 38
Page is Locked
Author: jfaust on: 04.03.2015 11:18:04
Witness: akurth on: 10.03.2015 10:28:34
Project: Unassigned
Page Title: N/A

Standard Log #:	IC0139	Standard:	IC Spike Nitrite & Fluorid
Analyst:	JJF	Concentrations:	32 mg/L - Fluoride 64 mg/L - Nitrite
Prep Date:	03/03/2015	Expiration Date (1 Month):	04/03/2015
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite W35415 and 3.2 mL 1000 mg/L Fluoride W35388 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0140	Standard:	IC Spike Mixed
Analyst:	JJF	Concentrations:	64 mg/L - Br, NO_3, PO_4 256 mg/L - Cl, SO_4
Prep Date:	03/03/2015	Expiration Date (1 Month):	04/03/2015
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Bromide W34057, Nitrate W35940, and Phosphate IC0001 and 25.6 mL 1000 mg/L Chloride IC0057 and Sulfate W35941 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0141	Standard:	IC Eluent Conc. Metrohm
Analyst:	JJF	Concentrations:	0.64M Sodium Carbonate 0.20M Sodium Bicarbonate
Prep Date:	03/03/2015	Expiration Date (1 Year):	03/03/2016
Prep:	Into a 1L volumetric flask, dissolved 67.8g of Sodium Carbonate W35065 and 16.8g of Sodium Bicarbonate W25134 and brought to volume with Milli-Q DI water. (200x concentrate)		

Standard Log #:	IC0142	Standard/Reagent:	10x ELUENT

LPVO3-01
IC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_IC_Logbook_01_Default, NOTEBOOK: IC_Logbook_01, PAGE: 39
Page is Locked
Author: JFAUST on: 06.03.2015 08:54:02
Witness: akurth on: 10.03.2015 10:28:46
Project: Unassigned
Page Title: 030415

Standard Log #:	IC0145	Standard/Reagent:	Sodium Carbonate Anhydrou
Analyst:	JJF	Final Concentration:	
Prep Date:	03/04/2015	Expiration Date:	02/28/2018
Prep:	JT Baker ACS reagent 500 grams Batch # 0000054491 CAS # 497-19-8 Catalog # 3602-01		

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W 5536 Fisher Ammonium Sulfate (A702-500)
AGC CAS 7783-20-2 LOT # 135994A
9/15/14 Opened 09/15/14

W 3506 Sodium Carbonate, Anhydrous Powder 500g 3602-01 JT Baker
W 3556 Batch# 0000071361 Retest Date 1/27/2021

CKS 7/30/17

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Read and Understood By

8/9/17 CKS
Signed Date Signed Date

W33940	IC Colum A-Supp-5 150/4.0			
AGH 03-24-14	Metrohm	CAT #	6.1006.520	Gel # 130520
W33941	IC Column A-Supp 10 - 250/4.0			
AGH 03-24-14	Metrohm	CAT #	6.1020.030	SN 0077.5035
W33942	IC Column A Supp 5- 150/4.0			
AGH 03-24-14	Metrohm	CAT #	6.1006.520	GEL # 130930
W33943	IC Column A-Supp 5 150/4.0			
AGH 03-24-14	Metrohm	CAT #	6.1006.520	GEL # 130625

3/28/14 CG

Signed Date Signed Date

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PROJECT

Notebook No. ____ ____
Continued From Page ____

#251354 CES	Sodium Bicarbonate	Fisher	Cat#	S233500	lot #
11/23/14	1047906 exp 11/23/15				

Continued on Page

Read and Understood By

Signed	Date	Signed	Date

WCOD QSM Analytical Run
125013 on 04/25/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
118280	708711		04/13/2016 1550		BERING SEA ENVIRONMENTAL	RADFORD AAP	COD QSM		GW	4	
		49ADW01						56824			
118287	708770		04/13/2016 1145		BLUESTONE ENVIRONMENTAL GROUP	APG-SW	COD QSM		GW	4	
		APG-SW-PW11-041316						56824			
118287	708774		04/13/2016 1130		BLUESTONE ENVIRONMENTAL GROUP	APG-SW	COD QSM		GW	4	
		APG-SW-PW12-041316						56824			
118287	708775		04/13/2016 1420		BLUESTONE ENVIRONMENTAL GROUP	APG-SW	COD QSM		GW	4	
		APG-SW-PW16-041316						56824			
118287	708776		04/13/2016 1250		BLUESTONE ENVIRONMENTAL GROUP	APG-SW	COD QSM		GW	4	
		APG-SW-PW19-041316						56824			
118287	708777		04/13/2016 1340		BLUESTONE ENVIRONMENTAL GROUP	APG-SW	COD QSM		GW	4	
		APG-SW-PW20-041316						56824			
118287	708778		04/13/2016 1250		BLUESTONE ENVIRONMENTAL GROUP	APG-SW	COD QSM		GW	4	
		APG-SW-PW19D-041316						56824			
118287	708779		04/13/2016 0900		BLUESTONE ENVIRONMENTAL GROUP	APG-SW	COD QSM		GW	4	
		APG-SW-WW04R-041316						56824			
118287	708780		04/13/2016 0730		BLUESTONE ENVIRONMENTAL GROUP	APG-SW	COD QSM		GW	4	
		APG-SW-WW05-041316						56824			
118287	708781		04/13/2016 1000		BLUESTONE ENVIRONMENTAL GROUP	APG-SW	COD QSM		GW	4	
		APG-SW-WW09-041316						56824			
118287	708782		04/13/2016 0915		BLUESTONE ENVIRONMENTAL GROUP	APG-SW	COD QSM		GW	4	
		APG-SW-WW10-041316						56824			
118287	708783		04/13/2016 0810		BLUESTONE ENVIRONMENTAL GROUP	APG-SW	COD QSM		GW	4	
		APG-SW-WW11R-041316						56824			
118287	708785		04/13/2016 0810		BLUESTONE ENVIRONMENTAL GROUP	APG-SW	COD QSM		GW	4	
		APG-SW-WW11RD-041316						56824			
118319	709262		04/14/2016 1630		BERING SEA ENVIRONMENTAL	RADFORD AAP	COD QSM		GW	4	
		54ADW01						56824			
	710209						COD QSM				
				MBW				56824			
	710210						COD QSM				
				LCSW				56824			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WCOD QSM Analytical Run
125013 on 04/25/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME	QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	710211		04/13/2016 1145					COD QSM				
		APG-SW-PW11-041316		DUP	708770				56824			
	710212		04/13/2016 1145					COD QSM				
		APG-SW-PW11-041316		MSW	708770				56824			
	710213		04/13/2016 1145					COD QSM				
		APG-SW-PW11-041316		MSDW	710212				56824			
	713824							WCOD QSM				
				CCV								
	713825							WCOD QSM				
				CCV								
	713826							WCOD QSM				
				CCB								
	713827							WCOD QSM				
				CCV								
	713828							WCOD QSM				
				CCB								
	713829							WCOD QSM				
				ICV								
	713830							WCOD QSM				
				ICB								

26 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

PREP WORKSHEET 2
on 04/25/2016

Prep Batch: **56824**

Prepped By: _____

Date Prepped: _____

Date Entered: _____

Folder #	Order	QC Type	Link	Test	Client Company Name	Client Sample Description	Matrix	Sample Date / Time		Due Date	SDG Level
	710209	MBW	0	COD QSM			LIQUID				
	710210	LCSW	0	COD QSM			LIQUID				
118280	708711			COD QSM	BERING SEA ENVIRONMENT	49ADW01	GROUND WATER	4/13/16	1550	4/26/16	4
118287	708770			COD QSM	BLUESTONE ENVIRONMENT	APG-SW-PW11-041316	GROUND WATER	4/13/16	1145	4/26/16	4
	708774			COD QSM	BLUESTONE ENVIRONMENT	APG-SW-PW12-041316	GROUND WATER	4/13/16	1130	4/26/16	4
	708775			COD QSM	BLUESTONE ENVIRONMENT	APG-SW-PW16-041316	GROUND WATER	4/13/16	1420	4/26/16	4
	708776			COD QSM	BLUESTONE ENVIRONMENT	APG-SW-PW19-041316	GROUND WATER	4/13/16	1250	4/26/16	4
	708777			COD QSM	BLUESTONE ENVIRONMENT	APG-SW-PW20-041316	GROUND WATER	4/13/16	1340	4/26/16	4
	708778			COD QSM	BLUESTONE ENVIRONMENT	APG-SW-PW19D-041316	GROUND WATER	4/13/16	1250	4/26/16	4
	708779			COD QSM	BLUESTONE ENVIRONMENT	APG-SW-WW04R-041316	GROUND WATER	4/13/16	0900	4/26/16	4
	708780			COD QSM	BLUESTONE ENVIRONMENT	APG-SW-WW05-041316	GROUND WATER	4/13/16	0730	4/26/16	4
	708781			COD QSM	BLUESTONE ENVIRONMENT	APG-SW-WW09-041316	GROUND WATER	4/13/16	1000	4/26/16	4
	708782			COD QSM	BLUESTONE ENVIRONMENT	APG-SW-WW10-041316	GROUND WATER	4/13/16	0915	4/26/16	4
	708783			COD QSM	BLUESTONE ENVIRONMENT	APG-SW-WW11R-041316	GROUND WATER	4/13/16	0810	4/26/16	4
	708785			COD QSM	BLUESTONE ENVIRONMENT	APG-SW-WW11RD-041316	GROUND WATER	4/13/16	0810	4/26/16	4
118319	709262			COD QSM	BERING SEA ENVIRONMENT	54ADW01	GROUND WATER	4/14/16	1630	4/27/16	4
	710211	DUP	708770	COD QSM		APG-SW-PW11-041316	GROUND WATER	4/13/16	1145		

Distibution:

C:\LIMSREPS\PREPWRKSHT2.RPT

PREP WORKSHEET 2
on 04/25/2016

Folder #	Order	QC Type	Link	Test	Client Company Name	Client Sample Description	Matrix	Sample Date / Time	Due Date	SDG Level
	710212	MSW	708770	COD QSM		APG-SW-PW11-041316	GROUND WATER	4/13/16 1145		
	710213	MSDW	710212	COD QSM		APG-SW-PW11-041316	GROUND WATER	4/13/16 1145		

Control Spike/Control Spike Dup Reference Number:_____ Methanol Supplier/Lot #:_____

Notes:_____

PREP WORKSHEET 2
on 04/18/2016

Prep Batch: 56824
Date Prepped: 4/18/16

Prepped By: MEK
Date Entered:

CCV 1 D.F.

Folder #	Order	QC Type	Link	Test		Client Company Name	Client Sample Description	Matrix	Sample Date / Time	Due Date	SDG Level
	710209	MBW	040	COD QSM	1			LIQUID			
	710210	LCSW	039	COD QSM	1			LIQUID			
118280	708711	41		COD QSM	1	BERING SEA ENVIRONMENT	49ADW01	GROUND WATER	4/13/16 1550	4/26/16	4
118287	* 708770	42, 43 (DUP)	44 (MS)	45 (MSD) COD QSM	1	BLUESTONE ENVIRONMENT	APG-SW-PW11-041316	GROUND WATER	4/13/16 1145	4/26/16	4
	708774	46		COD QSM	1	BLUESTONE ENVIRONMENT	APG-SW-PW12-041316	GROUND WATER	4/13/16 1130	4/26/16	4
	708775	47		COD QSM	1	BLUESTONE ENVIRONMENT	APG-SW-PW16-041316	GROUND WATER	4/13/16 1420	4/26/16	4
	708776	48		COD QSM	1	BLUESTONE ENVIRONMENT	APG-SW-PW19-041316	GROUND WATER	4/13/16 1250	4/26/16	4
	708777	49		COD QSM	1	BLUESTONE ENVIRONMENT	APG-SW-PW20-041316	GROUND WATER	4/13/16 1340	4/26/16	4
	708778	50		COD QSM	1	BLUESTONE ENVIRONMENT	APG-SW-PW19D-041316	GROUND WATER	4/13/16 1250	4/26/16	4
	708779	51		COD QSM	1	BLUESTONE ENVIRONMENT	APG-SW-WW04R-041316	GROUND WATER	4/13/16 0900	4/26/16	4
	708780	52		COD QSM	1	BLUESTONE ENVIRONMENT	APG-SW-WW05-041316	GROUND WATER	4/13/16 0730	4/26/16	4
	708781	53		COD QSM	1	BLUESTONE ENVIRONMENT	APG-SW-WW09-041316	GROUND WATER	4/13/16 1000	4/26/16	4
	708782	54		COD QSM	1	BLUESTONE ENVIRONMENT	APG-SW-WW10-041316	GROUND WATER	4/13/16 0915	4/26/16	4
	708783	55		COD QSM	1	BLUESTONE ENVIRONMENT	APG-SW-WW11R-041316	GROUND WATER	4/13/16 0810	4/26/16	4
	708785	56		COD QSM	1	BLUESTONE ENVIRONMENT	APG-SW-WW11RD-041316	GROUND WATER	4/13/16 0810	4/26/16	4
118319	709262	57		COD QSM	1	BERING SEA ENVIRONMENT	54ADW01	GROUND WATER	4/14/16 1630	4/27/16	4
	710211	DUP	708770	COD QSM			APG-SW-PW11-041316	GROUND WATER	4/13/16 1145		

Distribution:

C:\LIMSREPS\PREPWRKSHT2.RPT

PREP WORKSHEET 2
on 04/18/2016

Folder #	Order	QC Type	Link	Test	Client Company Name	Client Sample Description	Matrix	Sample Date / Time	Due Date	SDG Level
	710212	MSW	708770	COD-QSM		APG-SW-PW11-041316	GROUND WATER	4/13/16 1145		
	710213	MSDW	710212	COD-QSM		APG-SW-PW11-041316	GROUND WATER	4/13/16 1145		

Control Spike/Control Spike Dup Reference Number:_____ Methanol Supplier/Lot #:_____

Notes:_____

COD Data Validation Checklist

LIMS #: 125013	Method: Chemical Oxygen Demand EPA 410.4			
Analysis Date	Analyst / Data Interpreter	Independent Reviewer	Date of Review	Approved
4/19/16	MER	[illegible]	4/25/16	(Yes) ... No

Instructions: Complete one checklist per *analytical run*. Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement:	Acceptance Criteria	Analyst Review		Independent Review		Comments: (indicate reference to an attachment if necessary)
		Yes	No	Yes	No	
1. Does a digestion sheet accompany the data package?	---	X		X		
2. Does the digestion sheet include all reagent and standard prep log numbers?	---	X		X		
3. Was a Method Blank prepared at the required frequency?	1per 20 samples or at contract/program specific frequencies	X		X		
4. Was the method blank within acceptance criteria?	< RL or client/project specific	X		X		
5. Was an LCS prepared at the required frequency?	1per 20 samples or at contract/program specific frequencies	X		X		
6. Was the LCS used before the indicated expiration date?	---	X		X		
7. Did the LCS meet the acceptance criteria?	Within in-house or client/project specific limits	X		X		
8. Was an MS and MSD prepared at the required frequency?	1per 10 per batch or at contract/program specific frequencies	X		X		
9. Did the MS/MSD's meet the acceptance criteria?	Within in-house or contract/program specific limits	X		X		
10. Did the MS/MSD's meet the RPD criteria?	Within in-house or contract/program specific limits	X		X		
11. Was a Duplicate prepared at the required frequency?	1per 10 per batch or at contract/program specific frequencies	X		X		
12. Did the Duplicate meet the RPD criteria?	Within in-house or contract/program specific limits	X		X		
13. Were the samples digested within hold time?	28 days	X		X		
14. Are all samples on the job lists accounted for?	---	X		X		

Spec. 401 Accuracy Check / Maintenance Logbook

	*Acceptance Range: +/- 2 nm			
Date/Time	529 nm	742 nm	Analyst	Comments or Performed Maintenance:
4/6/16 1200	530	741	VJS	
4/13/16 1718	529	741	MER	
4/19/16 0900	530	741	MER	
4/29/16 1100	530	741	VJS	

*If values obtained are not within Acceptance Range, correct and document the problem then re-check the accuracy.

Reviewed By:_____

Spec. 401 Instrument Run Logbook

Milton Roy Spectronic 401

Time					Spectrophotometer	
Date	Start	End	Analyst	Analytes/Test	Cal. Std. ID #	Comments:
12/22/15	1530	1630	VTS	COD	Test 23	122166,167,168,169
12/30/15	1350	1402	MER	COD	Test 23	122331
1/6/16	1600	1620	VTS	COD	Test 23	122440,1
1/13/16	1145	1200	VTS	COD	Test 23	122597
1/19/16	1410	1447	MER	COD	Test 23	122771, 772, 773, 774, 775
1/19/16	1645	1712	MER	HexCr+6 Soils	Test 28	122777
1/26/16	1510	1520	MER	COD	Test 23	122945
2/1/16	1440	1515	VTS	HexCr+6 Soils	Test 29	123071, 123072
2/2/16	1515	1525	VTS	COD	Test 23	123120
2/9/16	1250	1330	MER	COD	Test 23	123210
2/16/16	1300	1308	MER	COD	Test 23	123325
2/16/16	1600	1615	VTS	Chlor A	—	123342
2/18/16	1415	1440	VTS	HexCr+6 Soils	Test 24	123391
2/29/16	1600	1610	VTS	COD	Test 23	123504
3/11/16	1115	1130	VTS	COD	Test 23	123874
3/18/16	0950	1015	MER	COD	Test 23	124054, 55
3/29/16	0930	1030	VTS	COD	Test 23	124306,08,09,10
4/4/16	1500	1530	CES	COD	Test 23	124310
4/6/16	1530	1550	VTS	COD	Test 23	
4/13/16	1720	1738	MER	COD	Test 30	124818, 819
4/19/16	0900	0936	MER	COD	Test 30	125011, 13, 14, 15

Reviewed By: 4/29/16 VTS

PROJECT

Notebook No.

Continued From Page

W18817 mwl 4-18-08 TOC Std. Prep Stock Std. 1000mg/L into a 100mL Vol. dissolved 0.2128g Potassium Hydrogen Phthalate W16594 + brought to Vol. w/milliQ H_2O exp 10-18-08

W18818 mwl 4-18-08 TOC LCS/PCV Stock Std 1000mg/L into a 100mL Vol. dissolved 0.2128g Potassium Hydrogen Phthalate W16592 + brought to Vol. w/ milliQ H_2O exp 10-18-08

W18819 (A+B) KMB 4-18-08 Baker Potassium Dichromate Cat # 3098-01 Lot # E18990 (2-bottles, A+B) Mercury

W18820 KMB 4-18-08 Spex Certiprep Custom Ion Std 1250 mg/L SO_4^-, 750 mg/L Cl and 175 mg/L Cat # VCIWI-3-500 Lot # 38-81AS exp 04/2009

W18821 KMB 4-18-08 Spex Certiprep NO_2^- Std 1000 mg/L Cat # AS-NO2W9-2Y Lot # 1+8 NO2W-2 exp. 4-15-2009

W18822 mwl 4-18-08 Nitrite Std 500mL Vol. dissolved 2.5g Barbituric acid W17815 + Reflux 2.5mL HCl W18494 + volumetrically added 32.5mL Pyridine W17709 + brought to Vol. w/DI H_2O exp 4-25-08

W18823 mwl 4-17-08 Chloramines T into a 500mL Vol. dissolved 2g W17811 + brought to Vol. w/DI H_2O exp 4-17-08

W18824 CES 4-21-08 NH_3 LCS. Into a 200mL Vol. pipetted 1mL W18721 + filled to Vol. w/DI H_2O.

W18825 KMB 4-21-08 1% N Hypochlorite - Into a 500mL vol. pipetted 30mL Bleach W18411 and brought to Vol. w/DI H_2O. exp 4-22-08

W18826 KMB 4-21-08 0.8M NaOH - Into a 1L Vol. dissolved 32g NaOH W18384 and brought to Vol. w/DI H_2O exp. 5-21-08

W18827 KMB 4-21-08 Na Nitroprusside/Na Salicylate - Into a 1L vol. dissolved 150g Salicylate W17871 and 1g Nitroprusside W18547 and brought to Vol. w/DI H_2O. exp. 5-21-08

Continued on Page

Read and Understood By

RS 4/23/08

Signed Date

PROJECT _____ Notebook No. _____ 31

Continued From Page _____

W33266 GES 1/7/14 — Sodium hypochlorite soln - Fisher cat# SS290-4 lot # 133012 exp 7/2014

W33267 GES 1/7/14 — NH3 IL Hypo dilution: Into a 500mL vol. volumetric flask combined 30mL W33266 & filled to vol. w/ DI H2O exp 1/8/14

W33268 BJS 1/7/14 — TKN MDL ✓: (0.46mg/L) Into a 100mL vol flask pipetted 0.46mL NH3/TKN 1000mg/L Stock W33267 & filled to volume w/ DI. Then pipetted 20mL into TKN + DI.

W33269 BMS 01/07/14 — Potassium Hydrogen Phthalate (KHP): Agros Organics Catalog #: 142406 (000, Lot#: A0317291 (Received 06/24/13)

W33270 AGK 01/07/14 — TOCW ICAL/CCV stock (1000mg/L): Into a 100mL vol, dissolved 0.2128g KHP (W33269) and brought to volume w/ milli-Q H_2O Exp: 07/07/14

W33271 AGK 01/07/14 — TOCW ICV/LCS stock (1000mg/L) Into a 100mL vol, dissolved 0.2128g KHP (lot 29079) and brought to volume w/ milli-Q H_2O Exp: 07/07/14

W33272 AGK 01/07/14 — TOCW CCV Sto: Into a 100mL vol pipetted 5.0mL of W33270 and brought to volume with Milli-Q H_2O Exp: 02-07-14

W33273 AGK 01/07/14 — TOCW LCS Sto: Into a 100mL vol pipetted 5.0mL of W33271 and brought to volume w/ milli-Q H_2O Exp: 02-07-14

W33274 AGK 01/07/14 — TOCW Ical Std: Into 7 50mL vol, pipetted 0.05, 0.25, 0.5, 1.25, 2.5, and 5.0mL of W33270 and brought to volume with milli-Q H_2O Exp: 02/07/14

Continued on Page _____

Read and Understood By

1/9/14 CMS

Signed — Date — Signed — Date

W34206 MER 4/28/14 KHP Buffer (pH 3.1)

Into a large beaker dissolve 2.5g potassium hydrogen phthalate (KHP) W 29079 + W34207 in 450 ml CO_2-free DI water. Add 42.5ml of 0.1 M HCL W 33112 and adjust pH to 3.1+ 0.05.

EXP (one week): 5/5/14

W34207 MER 4/28/14 Potassium Hydrogen Phthalate (KHP) - Fisher Scientific Cat # P243-100 Lot-# 132808

W34208 MER 04-28-14 IC ICAL Mixed Standard (50 mg/L):

Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite W32990, Fluoride W32406., Bromide W34057, Nitrate W33225, and Phosphate W32479 and brought to volume with Milli-Q DI H_2O.

EXP (48 Hours):04/30/14

W34209 MER 04-28-14 IC ICAL

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_2O.

	1	2	3	4	5	6	7	8
mLs Mixed Std 50mg/L W34208	0	0.2	1.0	2.0	4.0	10.0	14.0	28.0
mLs Chloride 1000mg/L W34199	0	0.05	0.1	0.5	1.0	2.0	3.0	4.0
mLs Sulfate 1000mg/L W33537	0	0.05	0.1	0.5	1.0	3.0	5.0	7.0

EXP (48 Hours):04/30/14

W34210 4/28/14 Cyanide In-Line Phosphate Buffer

Into a 1L volumetric flask, dissolve 97 g potassium dihydrogen phosphate monobasic W ~~32406~~ W33932 and fill to volume with DI H_2O. Exp. (One month): 5/28/14

W34211 4/28/14 Sodium Salicylate-Nitroprusside Color Reagent

Into a 1L volumetric flask dissolved 150g sodium salicylate W 34212 and 1g sodium nitroprusside W 33031 and brought to volume with DI H_2O.

EXP(1 month): 5/28/14

W34212 4/28/14 Sodium Salicylate - Alfa Aesar - cat # A17056 Lot # J03Z041

W34213 4/28/14 0.8M Sodium Hydroxide

Into a 1L volumetric flask dissolved 32g NaOH W 33021 and brought to volume with DI H_2O. EXP(1 month): 5/28/14

Read and Understood By

5/9/14 MS

Signed Date Signed Date

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W34448 MER 5/23/14

TKN/ TPHOS Cupric ICal using 250mg/L working W 34447 and brought to volume with diluent W 34265 Exp (one month) 6/23/14

	mL 250mg/L working	Final volume (mL)	True Value (mg/L)	Corrected Value (mg/L)
A	8	100	20	21.0
B	3.2	50	16	16.8
C	10	250	10	10.5
D	0.8	50	4	4.2
E	0.4	50	2	2.1
F	0.2	50	1	1.05
G	0.04	50	0.2	0.21
H	0	50	0	0

W34449 Phosphate Standard 1000mg/L CCV/ICAL AGK 5/23/14
AccuSpec Lot # 514641008 Exp: 05-23-15

W34450 MER 5/23/14

Potassium Dichromate Digestion Solution W19633 W34451 MER 5/23/14
Into a 2L volumetric flask dissolve 66.6g mercuric sulfate W 29723 in about 500mL DI H_2O. Volumetrically add 334mL H_2SO_4 W 34363 and dissolve 20.42g potassium dichromate W 188194 then fill to volume with DI H_2O.
Exp (one year): 5/23/15

W34451 MER 5/23/14
Mercury (II) sulfate Acros Organics Code# 41365 1000
Lot # A0330723 CAS: 7783-35-9

W34452 MER 5/23/14

TKN/ TPHOS Cupric Diluent
Into a 1L volumetric flask volumetrically add ~~800~~ 400 mL cupric digestion solution W 34424 and fill to volume with DI H_2O. Exp (one month): 6/23/14 MER 5/23/14

W34453 GS 5/24/14

Cr^{+6} ICal (200mg/L)
Into a 250mL volumetric flask pipette 5mL Ical/CCV working (10.0 mg/L) W ~~33802~~ W34460 and fill to volume with DI H_2O. Exp. ~~(one year)~~: 5/24/15 GS 5/24/14

W34454 GS 5/24/14

Cr^{+6} CCV (100µg/L)
Into a 250mL volumetric flask pipette 2.5mL Ical/CCV working (10mg/L) W ~~33802~~ W34460 and fill to volume with DI H_2O. Exp. ~~(one year)~~: 5/24/15 GS 5/24/14

W34455 GS 5/24/14

Cr^{+6} ICV/LCS (100µg/L)
Into a 250mL volumetric flask pipette 2.5mL ICV/LCS working (10mg/L) W 34462 and fill to volume with DI H_2O. Exp. (one year): 5/24/15

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5/31/14 GS
Signed Date Signed Date

WetChem Logbook 3
02/04/2015
NOTEBOOK VIEW: LTN_WetChem_3_Default, NOTEBOOK: WetChem_3, PAGE: 54
Page is Locked
Author: mradske on: 27.05.2015 17:17:54
Page is not Witnessed
Project: Unassigned
Page Title: 042815

Standard Log #:	W36769	Reagent:	NO2 NO3 BUFFER
Analyst:	MER		
Prep Date:	4/28/15	Expiration Date (1 Month):	5/28/15
Prep:	Into a 1 L volumetric flask dissolve 85g ammonium chloride W31507 and 1g EDTA W35251 and fill to volume with DI H_2O and degas. Adjust pH to 8.5 with 15 N NaOH W34485		

Standard Log #:	W36770	Reagent:	CN SOLID BUFFER
Analyst:	MER		
Prep Date:	4/28/15	Expiration Date (1 Month):	5/28/15
Prep:	Into a 500 mL volumetric flask dissolved 48.5 g potassium phosphate monobasic W35758 and brought to volume with DI H_2O.		

Standard ID#:	W36771	Vendor:	MACRON
Analyst:	LJS	Chemical:	SULFURIC ACID
Date Received:	N/A	Lot #:	91540
Expiration Date (if any):	9/9/19	Catalog #:	5557-46

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WetChem Logbook 3

02/04/2015

NOTEBOOK VIEW: LTN_WetChem_3_Default, NOTEBOOK: WetChem_3, PAGE: 62
Page is Locked
Author: mradske on: 27.05.2015 17:21:36
Page is not Witnessed
Project: Unassigned
Page Title: 051115

Standard Log #:	W36859	Reagent:	COD ICAL/CCV STK
Analyst:	LJS	Concentration:	1000 mg/L
Prep Date:	5/11/15	Expiration Date (3 Months):	8/11/15
Prep:	Into a 500mL volumetric flask dissolve 0.425g Potassium Hydrogen Phthalate W33269 and fill to volume with DI H_2O.		

Standard Log #:	W36860	Reagent:	COD SPIKE/ LCS STK
Analyst:	LJS	Concentration:	2000 mg/L
Prep Date:	5/11/15	Expiration Date (3 Months):	8/11/15
Prep:	Into a 500mL volumetric flask dissolve 0.85g Potassium Hydrogen Phthalate (KHP) W34207 and fill to volume with DI H_2O.		

Standard Log #:	W36861	Standard:	COD CCV
Analyst:	LJS	Concentration:	400 mg/L
Prep Date:	5/11/15	Expiration Date (3 Months):	8/11/15
Prep:	Into a 250mL volumetric flask volumetrically added 100ml ICal/CCV Stock (1000mg/L) W36859 and fill to volume with DI H_2O.		

Standard Log #:	W36862	Standard:	COD LCS
Analyst:	LJS	Concentration:	400 mg/L
Prep Date:	5/11/15	Expiration Date (3 Months):	8/11/15
Prep:	Into a 250mL volumetric flask, pipette 50mL of 2000mg/L COD Spike/LCS Stock (1) and fill to volume with DI water. (1) W36860		

Standard Log #:	W36863	Reagent:	H2SO4/ AG SULFATE
Analyst:	LJS		
Prep Date:	5/11/15	Expiration Date (1Year):	5/11/16
Prep:	Into a new 2.5 L sulfuric acid W36864 dissolve 25g silver sulfate W36865 .		

Standard ID#:	W36864	Vendor:	FISHER
Analyst:	LJS	Chemical:	SULFURIC ACID
Date Received:	N/A	Lot #:	150268
Expiration Date (if any):	N/A	Catalog #:	7664-93-9

Standard ID#:	W36865	Vendor:	FISHER
Analyst:	LJS	Chemical:	SILVER SULFATE
Date Received:	N/A	Lot #:	150577
Expiration Date (if any):	N/A	Catalog #:	190-25

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WetChem Logbook 3

02/04/2015

NOTEBOOK VIEW: LTN_WetChem_3_Default, NOTEBOOK: WetChem_3, PAGE: 73
Page is Locked
Author: mradske on: 27.05.2015 17:25:41
Page is not Witnessed
Project: Unassigned
Page Title: 052715

Standard Log #:	W36944	Reagent:	DICHROMATE DIG
Analyst:	MER		
Prep Date:	5/27/15	Expiration Date (1Year):	5/27/16
Prep:	Into a 2L volumetric flask dissolve 66.6g mercuric sulfate W34451 in about 500mL DI H_2O. Volumetrically add 334mL H_2SO_4 W36771 and dissolve 20.42g potassium dichromate W18819A then fill to volume with DI H_2O.		

Standard Log #:	W36945	Reagent:	COD ICAL
Analyst:	MER		
Prep Date:	5/27/15	Expiration Date (3 Months):	8/27/15
Prep:	Use ICal/CCV Stock (1000mg/L) W36859 and fill to a final volume of 100 mL with DI H_2O.		

	ICal Stock (mLs)	True Value (mg/L)
A	0	0
B	1	10
C	2.5	25
D	5	50
E	10	100
F	50	500
G	75	750

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LPWC-04
WetChem Prep Logbook
Logbook Created 07/07/15

NOTEBOOK VIEW: LTN_WetChem_4_Default, NOTEBOOK: WetChem_4, PAGE: 29
Page is Locked
Author: mradske on: 18.08.2015 14:29:04
Witness: lsilvers on: 19.08.2015 16:05:38
Project: Unassigned
Page Title: 081715

Standard Log #:	W37432	Reagent:	COD ICAL/CCV STK
Analyst:	MER	Concentration:	1000 mg/L
Prep Date:	8/17/15	Expiration Date (3 Months):	11/17/15
Prep:	Into a 500mL volumetric flask dissolve 0.425g Potassium Hydrogen Phthalate W33269 and fill to volume with DI H_2O.		

Standard Log #:	W37433	Standard:	COD CCV
Analyst:	MER	Concentration:	400 mg/L
Prep Date:	8/17/15	Expiration Date (3 Months):	11/17/15
Prep:	Into a 250mL volumetric flask volumetrically added 100ml ICal/CCV Stock (1000mg/L) W37432 and fill to volume with DI H_2O.		

Standard Log #:	W37434	Reagent:	COD SPIKE/ LCS STK
Analyst:	MER	Concentration:	2000 mg/L
Prep Date:	8/17/15	Expiration Date (3 Months):	11/17/15
Prep:	Into a 500mL volumetric flask dissolve 0.85g Potassium Hydrogen Phthalate (KHP) W34207 and fill to volume with DI H_2O.		

Standard Log #:	W37435	Standard:	COD LCS
Analyst:	MER	Concentration:	400 mg/L
Prep Date:	8/17/15	Expiration Date (3 Months):	11/17/15
Prep:	Into a 250mL volumetric flask, pipette 50mL of 2000mg/L COD Spike/LCS Stock (1) and fill to volume with DI water. (1) W37434		

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LPWC-04
WetChem Prep Logbook
Logbook Created 07/07/15

NOTEBOOK VIEW: LTN_WetChem_4_Default, NOTEBOOK: WetChem_4, PAGE: 30
Page is Locked
Author: mradske on: 19.08.2015 09:20:23
Witness: lsilvers on: 19.08.2015 16:05:57
Project: Unassigned
Page Title: 081815

Standard Log #:	W37443	Reagent:	COD ICAL
Analyst:	MER		
Prep Date:	8/18/15	Expiration Date (3 Months):	11/18/15

Prep:

Use ICal/CCV Stock (1000mg/L) W37432 and fill to a final volume of 100 mL with DI H_2O.

	ICal Stock (mLs)	True Value (mg/L)
A	0	0
B	1	10
C	2.5	25
D	5	50
E	10	100
F	50	500
G	75	750

LPWC-04
WetChem Prep Logbook
Logbook Created 07/07/15

NOTEBOOK VIEW: LTN_WetChem_4_Default, NOTEBOOK: WetChem_4, PAGE: 93
Page is Locked
Author: mradske on: 17.11.2015 10:07:56
Witness: LSILVERS on: 18.11.2015 10:27:36
Project: Unassigned
Page Title: 111615

Standard Log #:	W37960	Reagent:	H2SO4/ AG SULFATE
Analyst:	MER		
Prep Date:	11/16/15	Expiration Date (1Year):	11/16/16
Prep:	Into a new 2.5 L sulfuric acid W37961 dissolve 25g silver sulfate W37840 .		

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LPWC-04
WetChem Prep Logbook
Logbook Created 07/07/15

NOTEBOOK VIEW: LTN_WetChem_4_Default, NOTEBOOK: WetChem_4, PAGE: 100
Page is Locked
Author: LSILVERS on: 01.12.2015 12:44:27
Page is not Witnessed
Project: Unassigned
Page Title: 113015

Standard ID#:	W38024	Vendor:	VWR
Analyst:	LJS	Chemical:	SODIUM CARBONATE ANHYDROUS
Date Received:	11/30/15	Lot #:	1205C104
Expiration Date (if any):	N/A	Catalog #:	0585-500G

Standard Log #:	W38025	Reagent:	COD SPIKE/ LCS STK
Analyst:	LJS	Concentration:	2000 mg/L
Prep Date:	11/30/15	Expiration Date (3 Months):	2/30/16
Prep:	Into a 500mL volumetric flask dissolve 0.85g Potassium Hydrogen Phthalate (KHP) W34207 and fill to volume with DI H_2O.		

Standard Log #:	W38026	Standard:	COD LCS
Analyst:	LJS	Concentration:	400MG/L

Prep Date:	11/30/15	Expiration Date (3 Months):	2/30/15
Prep:	Into a 250mL volumetric flask, pipette 50mL of 2000mg/L COD Spike/LCS Stock (1) and fill to volume with DI water. (1) W38025		

Standard Log #:	W38027	Reagent:	COD ICAL/CCV STK
Analyst:	LJS	Concentration:	1000 mg/L
Prep Date:	11/30/15	Expiration Date (3 Months):	2/30/15
Prep:	Into a 500mL volumetric flask dissolve 0.425g Potassium Hydrogen Phthalate W33269 and fill to volume with DI H_2O.		

Standard Log #:	W38028	Standard:	COD CCV
Analyst:	LJS	Concentration:	400 mg/L
Prep Date:	11/30/15	Expiration Date (3 Months):	2/30/15
Prep:	Into a 250mL volumetric flask volumetrically added 100ml ICal/CCV Stock (1000mg/L) W38027 and fill to volume with DI H_2O.		

LPWC01_05
WetChem Prep Logbook
Logbook Created: 11/25/15
NOTEBOOK VIEW: LTN_LPWC01_5_Default, NOTEBOOK: LPWC01_5, PAGE: 68
Page is Locked
Author: mradske on: 11.03.2016 11:12:51
Witness: lsilvers on: 25.03.2016 12:48:10
Project: Unassigned
Page Title: 031016

Standard Log #:	W38580	Reagent:	COD ICAL/CCV STK
Analyst:	LJS	Concentration:	1000 mg/L
Prep Date:	3/10/16	Expiration Date (3 Months):	6/10/16
Prep:	Into a 500mL volumetric flask dissolve 0.425g Potassium Hydrogen Phthalate W33269 and fill to volume with DI H_2O.		

Standard Log #:	W38581	Reagent:	COD ICAL
Analyst:	LJS		
Prep Date:	3/10/16	Expiration Date (3 Months):	6/10/16

Prep:

Use ICal/CCV Stock (1000mg/L) W38580 and fill to a final volume of 100 mL with DI H_2O.

	ICal Stock (mLs)	True Value (mg/L)
A	0	0
B	1	10
C	2.5	25
D	5	50
E	10	100
F	50	500
G	75	750

Standard Log #:	W38582	Reagent:	COD SPIKE/ LCS STK
Analyst:	LJS	Concentration:	2000 mg/L
Prep Date:	3/10/16	Expiration Date (3 Months):	6/10/16

Prep:

Into a 500mL volumetric flask dissolve 0.85g Potassium Hydrogen Phthalate (KHP) W34207 and fill to volume with DI H_2O.

Standard Log #:	W38583	Standard:	COD LCS
Analyst:	LJS	Concentration:	400 mg/L
Prep Date:	3/10/16	Expiration Date (3 Months):	6/10/16
Prep:	Into a 250mL volumetric flask pipette 50mL COD SPIKE/LCS Stock (2000mg/L) W38582 and fill to volume with DI H_2O.		

Standard Log #:	W38584	Standard:	COD CCV
Analyst:	LJS	Concentration:	400 mg/L
Prep Date:	3/10/16	Expiration Date (3 Months):	6/10/16
Prep:	Into a 250mL volumetric flask volumetrically added 100ml ICal/CCV Stock (1000mg/L) W38580 and fill to volume with DI H_2O.		

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LPWC01_05
WetChem Prep Logbook
Logbook Created: 11/25/15
NOTEBOOK VIEW: LTN_LPWC01_5_Default, NOTEBOOK: LPWC01_5, PAGE: 91
Page is Locked
Author: LSILVERS on: 15.04.2016 13:35:24
Page is not Witnessed
Project: Unassigned
Page Title: 041316

Standard Log #:	W38784	Reagent:	COD ICAL/CCV STK
Analyst:	MER	Concentration:	1000 mg/L
Prep Date:	4/13/16	Expiration Date (3 Months):	7/13/16
Prep:	Into a 500mL volumetric flask dissolve 0.425g Potassium Hydrogen Phthalate W33269 and fill to volume with DI H_2O.		

Standard Log #:	W38785	Reagent:	COD SPIKE/ LCS STK
Analyst:	MER	Concentration:	2000 mg/L
Prep Date:	4/13/16	Expiration Date (3 Months):	7/13/16
Prep:	Into a 500mL volumetric flask dissolve 0.85g Potassium Hydrogen Phthalate (KHP) W34207 and fill to volume with DI H_2O.		

Standard Log #:	W38786	Reagent:	COD ICAL
Analyst:	MER		
Prep Date:	4/13/16	Expiration Date (3 Months):	7/13/16

Prep:

Use ICal/CCV Stock (1000mg/L) W38784 and fill to a final volume of 100 mL with DI H_2O.

	ICal Stock (mLs)	True Value (mg/L)
A	0	0
B	1	10
C	2.5	25
D	5	50
E	10	100
F	50	500
G	75	750

Standard Log #:	W38787	Standard:	COD CCV
Analyst:	MER	Concentration:	400 mg/L
Prep Date:	4/13/16	Expiration Date (3 Months):	7/13/16

Prep:

Into a 250mL volumetric flask volumetrically added 100ml ICal/CCV Stock (1000mg/L) W38784 and fill to volume with DI H_2O.

Standard Log #:	W38788	Standard:	COD LCS
Analyst:	MER	Concentration:	400 mg/L
Prep Date:	4/13/16	Expiration Date (3 Months):	7/13/16

Prep:

Into a 250mL volumetric flask, pipette 50mL of 2000mg/L COD Spike/LCS Stock (1) and fill to volume with DI water.

(1) W38785

1

WFILTRATION,SAMP Analytical Run
125039 on 04/20/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
118319	709223	54MW12	04/14/2016 1512	Designated MS/MSD	BERING SEA ENVIRONMENTAL	RADFORD AAP	FILTRATION, SAMPLE		GW	4	
118319	709258	54MW10	04/14/2016 1320		BERING SEA ENVIRONMENTAL	RADFORD AAP	FILTRATION, SAMPLE		GW	4	
118319	709261	041416R1	04/14/2016 1357		BERING SEA ENVIRONMENTAL	RADFORD AAP	FILTRATION, SAMPLE		GW	4	
118319	709273	54MW1	04/14/2016 0849		BERING SEA ENVIRONMENTAL	RADFORD AAP	FILTRATION, SAMPLE		GW	4	
118319	709275	54TM1	04/14/2016 0849		BERING SEA ENVIRONMENTAL	RADFORD AAP	FILTRATION, SAMPLE		GW	4	
118319	709277	54MW13	04/14/2016 1050		BERING SEA ENVIRONMENTAL	RADFORD AAP	FILTRATION, SAMPLE		GW	4	

6 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WPH Analytical Run
124948 on 04/25/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
118280	708711		04/13/2016	1550		BERING SEA ENVIRONMENTAL	RADFORD AAP	PH		GW	**4**	
		49ADW01										
118319	709262		04/14/2016	1630		BERING SEA ENVIRONMENTAL	RADFORD AAP	PH		GW	**4**	
		54ADW01										
	713879		04/13/2016	1550				PH				
		49ADW01			DUP 708711							

3 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

FWC20,21-01
Data Validation Checklist

CT Laboratories

LIMS #: 124948	Method: pH EPA 150.1			
Analysis Date	Analyst / Data Interpreter	Independent Reviewer	Date of Review	Approved
4/15/16	MER	CES	4/20/16	(Yes) ... No

Instructions: Complete one checklist per *analytical run*. Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement:	Acceptance Criteria	Analyst Review		Independent Review		Comments: (indicate reference to an attachment if necessary)
		Yes	No	Yes	No	
1. Was the calibration slope recorded on the bench sheet?	--	X		X		
2. Were duplicates analyzed at the appropriate frequency?	1 every 20 samples of the same matrix	X		X		
3. Were the duplicates within acceptable limits?	Differ by ≤0.10 pH units	X		X		
4. Are all samples on the job lists accounted for?	--	X		X		

Daily pH Calibration & Maintenance Logbook

	pH Buffer Reference ID #			----3 Point Calibration----					
Date	Analyst	pH 7	pH 4	pH 10	1st Buffer	2nd Buffer	3rd Buffer	Slope %	Temp. °C	Comments / Maintenance Performed (if any)
3/14/16	SAW	W36459	W36995	W38037	7.03	4.00	10.08	100%	18.0	
3/22/16	SAW	W36459	W36995	W38037	7.04	4.00	10.09	100%	17.1	
3/28/16	SAW	W36459	W36995	W38037	7.03	4.00	10.10	100%	16.9	
3/30/16	SAW	W36459	W36995	W38037	7.03	4.00	10.08	100%	18.1	
4/5/16	SAW	W36459	W36995	W38037	7.03	4.00	10.09	100%	17.2	
4/12/16	SAW	W36459	W36995	W38037	7.03	4.00	10.10	99%	16.9	
4/15/16	HER	W36459	W36995	W38037	7.03	4.00	10.09	100%	17.9	
4/20/16	SAW	W36459	W36995	W38037	7.03	4.00	10.08	100%	18.4	
4/28/16	SAW	W36459	W36995	W38037	7.03	4.00	10.09	100%	17.3	

Reviewed By:_____

Mettler Toledo (Easy Seven) Instrument Run Logbook

Date/Init.	Start Time	End Time	Test (Analyte)	Sample Run # (s) / Prep Batch # (s)	Comments:
1/29/16 MER	1315	1410	~~NOT USED~~ pH	123040, 41, 42	
2/1/16 JF	1300	1400	Conductivity	123071, 072	
2/2/16 LTS	1000	1005	pH	123108	
2/3/16 GES	1632	1645	pH	123145	
2/5/16 LTS	1530	16:00	pH	123176, 77	
2/11/16 SRT	11:20	13:00	pH	123257	
2/16/16 MER	11:45	11:50	pH	123340	
2/18/16 LTS	11:00	11:30	~~LTS 2/18/16~~ pH QC16	123391	
2/19/16 MER	13:00	13:50	pH	123426, 427	
2/24/16 GES	~~1120~~ 1107	~~1130~~ 1147	pH	123488	
2/26/16 LTS	1100	1200	pH	123541	
3/1/16 GES	1200	1300	Acidity	123592	
3/4/16 SAW	1325	1550	pH	123711, 12, 13	
3/7/16 SAW	1050	1215	pH	123732	Replaced probe
3/14/16 SAW	11:00	13:10	pH	123943, 44, 45, 46	
3/22/16 SAW	13:45	14:15	pH	124172	
3/28/16 SAW	14:40	14:50	pH	124326	
3/30/16 SAW	10:10	10:45	pH	124357, 59	
4/5/16 SAW	10:10	11:10	pH	124509, 10	
4/12/16 SAW	14:45	15:50	pH	124790, 91	
4/15/16 MER	11:30	13:25	pH	124948, 949, 951	

Reviewed By:_____

WetChem Logbook 3

02/04/2015

NOTEBOOK VIEW: LTN_WetChem_3_Default, NOTEBOOK: WetChem_3, PAGE: 16
Page is Unlocked
Page is not Witnessed
Project: Unassigned
Page Title: 022615

Standard ID#:	W36459	Vendor:	MG SCIENTIFIC
Analyst:	MER	Chemical:	PH 7 BUFFER
Date Received:	11/8/14	Lot #:	4408476
Expiration Date (if any):	08/2016	Catalog #:	1551-1

Standard Log #:	W36460	Standard:	RESIDUAL CL LCS
Analyst:	MER	Concentration:	1mg/L
Prep Date:	2/26/15	Expiration Date (2 Years):	2/26/17
Prep:	Into a 100 mL volumetric flask, pipette 0.1mL potassium permanganate stock (1000 mg/L) W33725 and fill to volume with DI H_2O.		

Standard Log #:	W36461	Standard:	TKN/TPHOS Spiking Solution
Analyst:	MER	Concentration:	200mg/L NH_3 as N and PO_4^{-3} as P
Prep Date:	2/26/15	Expiration Date (1 month):	3/26/15
Prep:	Into a 100mL volumetric flask, pipetted 20mL of TPHOS ICV/LCS Stock Standard (1000mg/L) W36090 and 20mL NH_3/TKN ICV/LCS Stock Standard (1000mg/L) W35823 and brought to volume with DI H_2O.		

Ct Laboratories LLC

WetChem Logbook 3

02/04/2015

NOTEBOOK VIEW: LTN_WetChem_3_Default, NOTEBOOK: WetChem_3, PAGE: 77
Page is Locked
Author: mradske on: 03.06.2015 09:18:44
Page is not Witnessed
Project: Unassigned
Page Title: 060215

Standard Log #:	W36993	Standard:	LCS/ICV Working
Analyst:	MML	Concentration:	10 mg/L
Prep Date:	6/2/15	Expiration Date (1 Week):	6/9/15
Prep:	Into a 100 mL volumetric flask pipette 1 mL CN LCS/ICV stock (1000mg/L) W36845 and fill to volume with 0.25N NaOH W36990 .		

Standard Log #:	W36994	Standard:	CN SOLID LCS/ICV
Analyst:	MML	Concentration:	50 pg/L
Prep Date:	6/2/15	Expiration Date (1 Week):	6/9/15
Prep:	Into a 200 mL volumetric flask pipetted 1 mL CN LCS/ICV **WORKING STD** 10,000 µg/L W36993 and brought to volume with 0.25 M NaOH W36990		

Standard ID#:	W36995	Vendor:	RICCA
Analyst:	MER	Chemical:	PH 4 BUFFER
Date Received:	5/29/15	Lot #:	4505426
Expiration Date (if any):	5/31/17	Catalog #:	1501-1

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Ct Laboratories LLC

LPWC01_05
WetChem Prep Logbook
Logbook Created: 11/25/15
NOTEBOOK VIEW: LTN_LPWC01_5_Default, NOTEBOOK: LPWC01_5, PAGE: 1
Page is Locked
Author: mradske on: 02.12.2015 15:41:32
Witness: lsilvers on: 03.12.2015 20:23:30
Project: Unassigned
Page Title: 120115

Standard ID#:	W38037	Vendor:	RICCA
Analyst:	MER	Chemical:	PH 10 BUFFER
Date Received:	11/24/15	Lot #:	2509915
Expiration Date (if any):	MAR 2017	Catalog #:	1601-1CT

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CT Laboratories, LLC

WORGANIC CARBON QSM 5.0 Analytical Run
125181 on 04/27/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	715210								WORGANIC CARBON QSM 5.0				
					ICV								
	715211								WORGANIC CARBON QSM 5.0				
					ICB								
	715077								WORGANIC CARBON QSM 5.0				
					CCV					0			
	715078								WORGANIC CARBON QSM 5.0				
					LCSW					0			
	715079								WORGANIC CARBON QSM 5.0				
					MBW					0			
	715080								WORGANIC CARBON QSM 5.0				
					CCV					0			
	715081								WORGANIC CARBON QSM 5.0				
					CCB					0			
118319	709222		04/14/2016	1512			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	**4**	
		54MW12			Designated MS/MSD								
	715082		04/14/2016	1512					ORGAN CARBON T QSM 5.0				
		54MW12			DUP	709222				0			
	715083		04/14/2016	1512					ORGAN CARBON T QSM 5.0				
		54MW12			MSW	709222				0			
	715084		04/14/2016	1512					ORGAN CARBON T QSM 5.0				
		54MW12			MSDW	715083				0			
118319	709257		04/14/2016	1320			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	**4**	
		54MW10											
	715085								WORGANIC CARBON QSM 5.0				
					CCV					0			
	715086								WORGANIC CARBON QSM 5.0				
					CCB					0			
118319	709260		04/14/2016	1357			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	**4**	
		041416R1											
118319	709272		04/14/2016	0849			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	**4**	
		54MW1											
118319	709274		04/14/2016	0849			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	**4**	
		54TM1											
118319	709276		04/14/2016	1050			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	**4**	
		54MW13											
	715087								WORGANIC CARBON QSM 5.0				
					CCV					0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WORGANIC CARBON QSM 5.0 Analytical Run
125181 on 04/27/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	715092						WORGANIC CARBON QSM 5.0				
				CCB				0			

20 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

FWC39-01 Data Review Checklist

	Method: Total Organic Carbon Method 415.1/9060		Independent Data Review Checklist		
LIMS Run #(s)	**Analysis Date**	**Interpreter**	**Independent Reviewer**	**Date of Review**	**Approved? (Yes or No)**
125180 125181	04/26/2016	04/27/2016	RLD	04/27/2016	Yes

Instructions: Complete one checklist per *analytical sequence* . Enter the appropriate response for each question.
Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

		Analyst Review		**Independent Review**		**Comments:**
		Yes	No	Yes	No	(indicate reference to an attachment if necessary)
1. Were the samples preserved prior to analysis and analyzed within hold time?	pH <2, 28 days or program/project specific	Yes		Yes		If No: Qualify data analyzed after hold time (H).
2. Was the calibration curve performed using the required number of standards?	3 standards and a blank	Yes		Yes		If No: Recalibrate using required number of standards.
3. Was the correlation coefficient acceptable?	r ≥ .995	Yes		Yes		If No: Recalibrate.
4. Were the ICV and ICB analyzed?	---	Yes		Yes		If No: Analyze ICV and ICB prior to any sample analyses.
5. Was the ICV result acceptable?	90 – 110 % Rec. or contract/program specific	Yes		Yes		If No: Reanalyze, if NO after second analysis, address problem and recalibrate.
6. Was the ICB result acceptable?	< LOD or contract/program specific	Yes		Yes		If No: address possible contamination and reanalyze.
7. Was an LCS & MB run with each batch of samples?	One each per analytical batch or contract/program specific frequency.	Yes		Yes		If No: Reanalyze affected samples with appropriate QC.
8. Was the LCS recovery acceptable?	In-house derived or contract/program specific limits.	Yes		Yes		If No: Reanalyze affected samples with an acceptable LCS when possible, otherwise qualify affected samples (Q).
9. Were the MB results acceptable?	< LOD or project/ program specific (<1/2 RL for DOD-QSM).	Yes		Yes		If No: Reanalyze affected samples with acceptable MB when possible, otherwise qualify affected samples (B).
10. Were the CCV's analyzed at the required frequency?	Beginning, after every 10 sample, & at the end of a sequence.	Yes		Yes		If No: Reanalyze affected samples with appropriate CCV intervals.
11. Were the CCB's analyzed at the required frequency?	After each CCV (unless MB analyzed after CCV)	Yes		Yes		If No: Reanalyze affected samples with appropriate CCB intervals.
12. Were the CCV recoveries acceptable?	90 – 110 % Rec. or project/ program specific	Yes		Yes		If No: Reanalyze affected samples.
13. Were the CCB results acceptable?	< LOD or project/ program specific	Yes		Yes		If No: Reanalyze affected samples with acceptable CCB when possible, otherwise qualify affected samples (B).

14. Were all positive results that were reported within the calibration curve?	---	Yes		Yes		If No: Dilute sample and reanalyze.
15. Was an MS and MSD analyzed at the required frequency?	1 / 20 of the same matrix or project/ program specific	Yes		Yes		If No: Prepare and analyze the matrix spikes.
16. Were the MS and MSD recoveries acceptable?	In-house derived or project/ program specific limits	Yes		Yes		If No: Qualify the affected parent sample result (M).
17. Was the RPD between the MS and MSD acceptable?	In-house derived or project/ program specific limits	Yes		Yes		If No: Qualify the affected parent sample result (Y).
18. Was a Duplicate analyzed at the required frequency?	1 per 20 of the same matrix or contract/program specific	Yes		Yes		If No: Analyze the duplicate for appropriate sample.
19. Was the RPD between the Duplicate (if valid) and the sample acceptable?	In-house derived or project/ program specific limits (QSM samples, duplicate only valid when sample result ≥5x the LOQ)	Yes		Yes		If No: Qualify the affected parent sample result (Y).
20. Are all samples on the job lists accounted for?	---	Yes		Yes		If No: Analyze samples that were missed.
21. Is the standards prep log numbers noted on the analytical report?	---	Yes		Yes		If No: Document the standards used for calibration and analysis.
22. Were post analysis corrections addressed and/or the Audit Trail function turned on (if available)?	Correction should be initialed, dated, and reason given. Audit trail must be on (if available)	Yes		Yes		If No: Initial, date, and state reason for any changes or corrections.
23. Were non-matrix related nonconformities (if applicable) documented in the NCR spreadsheet?	---	Yes		Yes		If No: Enter nonconformity information into the NCR spreadsheet before data review/validation.

TOC Instrument Run Logbook

Start Date	Start Time	End Date	End Time	Analyst	LIMs Run #	Matrix (S or W)	Calibration ID #	COMMENTS
02/08/16	11:58	02/08/16	14:06	JJF	TOC0064	W	TOC0064	
02/09/16	14:11	02/09/16	17:19	JJF	020916-MDL	W	TOC0064	
02/11/16	10:08	02/11/16	11:53	JJF	021116-MDL CHK	W	TOC0064	
02/26/16	15:21	02/26/16	20:30	JJF	123529	W	TOC0064	
03/04/16	10:20	03/04/16	14:10	AMA/MDS	123686, 123687	S	W35182	
03/09/16	13:47	03/09/16	22:06	JJF	123725	W	W34137	
03/10/16	11:17	03/10/16	15:35	AMA	123766	W	W34137	
03/17/16	11:50	03/17/16	16:35	JJF	124050	W	W34137	
03/22/16	08:56	03/22/16	12:40	AMA	124138	W	W34137	
03/29/16	10:39	03/29/16	17:59	JJF	RR123725 / 124354	W	W34137	
03/30/16	13:02	03/30/16	17:17	JJF	124362	S	W35183	
03/31/16	11:53	03/31/16	12:40	JJF	RR124362	S	W35183	
04/12/16	10:34	04/13/16	07:56	AMA	124763, 124764, 124765, 124767, 124770, 124771	W	W34137	
04/13/16	15:12	04/14/16	06:19	AMA	124767, 124770, 124771	W	W34137	
04/14/16	12:50	04/14/16	23:02	JJF	124879, 124880, 124881	W	W34137	
04/15/16	12:04	04/15/16	16:12	JJF	124869, 124871, 124878	S	~~W~~ TOC0061	
04/25/16	10:66	04/26/16	~~22:02~~ 02:44 JJF	JJF	125179	W	~~TOC0061~~ ~~W3 W34137~~ JJF TOC0064	
04/26/16	10:06	04/26/16	22:02	JJF	125180 125181 125187	W	W34137	

Reviewed By: _____

W CARBON, INORG & ORG Analytical Run
125705 on 05/05/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	719770								W CARBON, INORG & ORG				
					ICV								
	719772								W CARBON, INORG & ORG				
					ICB								
	719517								W CARBON, INORG & ORG				
					CCV					0			
	719518								W CARBON, INORG & ORG				
					LCSW					0			
	719519								W CARBON, INORG & ORG				
					MBW					0			
	719520								W CARBON, INORG & ORG				
					CCV					0			
	719521								W CARBON, INORG & ORG				
					CCB					0			
118319	709222		04/14/2016	1512			BERING SEA ENVIRONMENTAL	RADFORD AAP	CARBON, INORG & ORG		GW		4
		54MW12			Designated MS/MSD								
118319	709257		04/14/2016	1320			BERING SEA ENVIRONMENTAL	RADFORD AAP	CARBON, INORG & ORG		GW		4
		54MW10											
118319	709260		04/14/2016	1357			BERING SEA ENVIRONMENTAL	RADFORD AAP	CARBON, INORG & ORG		GW		4
		041416R1											
118319	709272		04/14/2016	0849			BERING SEA ENVIRONMENTAL	RADFORD AAP	CARBON, INORG & ORG		GW		4
		54MW1											
118319	709274		04/14/2016	0849			BERING SEA ENVIRONMENTAL	RADFORD AAP	CARBON, INORG & ORG		GW		4
		54TM1											
118319	709276		04/14/2016	1050			BERING SEA ENVIRONMENTAL	RADFORD AAP	CARBON, INORG & ORG		GW		4
		54MW13											
	719522		04/14/2016	1357					CARBON, INORG & ORG				
		041416R1			DUP	709260				0			
	719523								W CARBON, INORG & ORG				
					CCV					0			
	719524								W CARBON, INORG & ORG				
					CCB					0			
	719525		04/14/2016	1357					CARBON, INORG & ORG				
		041416R1			MSW	709260				0			
	719526		04/14/2016	1357					CARBON, INORG & ORG				
		041416R1			MSDW	719525				0			
	719527								W CARBON, INORG & ORG				
					CCV					0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

W CARBON, INORG & ORG Analytical Run
125705 on 05/05/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	719528						W CARBON, INORG & ORG				
				CCB				0			
20	SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC										

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

FWC39-01 Data Review Checklist

		Method: Total Organic Carbon Method 415.1/9060		Independent Data Review Checklist	
LIMS Run #(s)	**Analysis Date**	**Interpreter**	**Independent Reviewer**	**Date of Review**	**Approved? (Yes or No)**
125182 125662 125705	05/04/2016	JJF	RLD	05/05/2016	Yes

Instructions: Complete one checklist per *analytical sequence* . Enter the appropriate response for each question.
Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

		Analyst Review		**Independent Review**		**Comments:**
		Yes	No	Yes	No	(indicate reference to an attachment if necessary)
1. Were the samples preserved prior to analysis and analyzed within hold time?	pH <2, 28 days or program/project specific	Yes		Yes		If No: Qualify data analyzed after hold time (H).
2. Was the calibration curve performed using the required number of standards?	3 standards and a blank	Yes		Yes		If No: Recalibrate using required number of standards.
3. Was the correlation coefficient acceptable?	r ≥ .995	Yes		Yes		If No: Recalibrate.
4. Were the ICV and ICB analyzed?	---	Yes		Yes		If No: Analyze ICV and ICB prior to any sample analyses.
5. Was the ICV result acceptable?	90 – 110 % Rec. or contract/program specific	Yes		Yes		If No: Reanalyze, if NO after second analysis, address problem and recalibrate.
6. Was the ICB result acceptable?	< LOD or contract/program specific	Yes		Yes		If No: address possible contamination and reanalyze.
7. Was an LCS & MB run with each batch of samples?	One each per analytical batch or contract/program specific frequency.	Yes		Yes		If No: Reanalyze affected samples with appropriate QC.
8. Was the LCS recovery acceptable?	In-house derived or contract/program specific limits.	Yes		Yes		If No: Reanalyze affected samples with an acceptable LCS when possible, otherwise qualify affected samples (Q).
9. Were the MB results acceptable?	< LOD or project/ program specific (<1/2 RL for DOD-QSM).	Yes		Yes		If No: Reanalyze affected samples with acceptable MB when possible, otherwise qualify affected samples (B).
10. Were the CCV's analyzed at the required frequency?	Beginning, after every 10 sample, & at the end of a sequence.	Yes		Yes		If No: Reanalyze affected samples with appropriate CCV intervals.
11. Were the CCB's analyzed at the required frequency?	After each CCV (unless MB analyzed after CCV)	Yes		Yes		If No: Reanalyze affected samples with appropriate CCB intervals.
12. Were the CCV recoveries acceptable?	90 – 110 % Rec. or project/ program specific	Yes		Yes		If No: Reanalyze affected samples.
13. Were the CCB results acceptable?	< LOD or project/ program specific	Yes		Yes		If No: Reanalyze affected samples with acceptable CCB when possible, otherwise qualify affected samples (B).

14. Were all positive results that were reported within the calibration curve?	---	Yes		Yes		If No: Dilute sample and reanalyze.
15. Was an MS and MSD analyzed at the required frequency?	1 / 20 of the same matrix or project/ program specific	Yes		Yes		If No: Prepare and analyze the matrix spikes.
16. Were the MS and MSD recoveries acceptable?	In-house derived or project/ program specific limits	Yes		Yes		If No: Qualify the affected parent sample result (M).
17. Was the RPD between the MS and MSD acceptable?	In-house derived or project/ program specific limits	Yes		Yes		If No: Qualify the affected parent sample result (Y).
18. Was a Duplicate analyzed at the required frequency?	1 per 20 of the same matrix or contract/program specific	Yes		Yes		If No: Analyze the duplicate for appropriate sample.
19. Was the RPD between the Duplicate (if valid) and the sample acceptable?	In-house derived or project/ program specific limits (QSM samples, duplicate only valid when sample result ≥5x the LOQ)	Yes		Yes		If No: Qualify the affected parent sample result (Y).
20. Are all samples on the job lists accounted for?	---	Yes		Yes		If No: Analyze samples that were missed.
21. Is the standards prep log numbers noted on the analytical report?	---	Yes		Yes		If No: Document the standards used for calibration and analysis.
22. Were post analysis corrections addressed and/or the Audit Trail function turned on (if available)?	Correction should be initialed, dated, and reason given. Audit trail must be on (if available)	Yes		Yes		If No: Initial, date, and state reason for any changes or corrections.
23. Were non-matrix related nonconformities (if applicable) documented in the NCR spreadsheet?	---	Yes		Yes		If No: Enter nonconformity information into the NCR spreadsheet before data review/validation.

TOC Instrument Run Logbook

Start Date	Start Time	End Date	End Time	Analyst	LIMs Run #	Matrix (S or W)	Calibration ID #	COMMENTS
04/28/16	10:36	04/28/16	17:35	JJF	RR125187 125182 125186 125452	W	W34137	Rerun blanks & CCVs failed
04/29/16	10:25	04/29/16	16:30	JJF	125510 125511	S	W35132	
05/02/16	16:29	05/02/16	18:21	JJF	TOC0092A	W	TOC0092A	
05/03/16	15:46	05/03/16	23:09	JJF	RR 125187 125452	W	TOC0092A	blanks + CCV failed at end of run
05/04/16	12:47	05/04/16	20:04	JJF	RR125452 125705 125182 125662	W	TOC0092A	

Reviewed By: _____

LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 54
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Project: Unassigned
Page Title: 050216

Standard Log #:	TOC0092	Standard:	TOCW Ical.
Analyst:	JJF		
Prep Date:	05/02/2016	Expiration Date (1 Month):	06/02/2016

Prep:

Into seven 50mL volumetric flasks, pipetted the following amounts of TOCW Ical/CCV Stock Std. (1000mg/L) TOC0049 and brought to volume with Milli-Q H_20:

Level	ICal Stock (mL)	True Value (µg/L)
1	0	0
2	0.05	1
3	0.25	5
4	0.5	10
5	1.25	25
6	2.5	50
7	5.0	100

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 53
Page is Unlocked
Page is not Witnessed
Project: Unassigned
Page Title: 042816

Standard Log #:	TOC0089	Standard:	TOCW LCS Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	04/28/2016	Expiration Date (1 Month):	05/28/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0086 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0090	Standard:	TOCW LOD Check
Analyst:	JJF	Concentration:	1.5 mg/L
Prep Date:	04/28/2016	Expiration Date (1 Month):	05/28/2016
Prep:	Into a 100 mL volumetric flask, pipetted 0.15mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0091	Standard:	TOCW LOQ Check
Analyst:	JJF	Concentration:	3.0 mg/L
Prep Date:	04/28/2016	Expiration Date (1 Month):	05/28/2016
Prep:	Into a 100 mL volumetric flask, pipetted 0.30mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 52
Page is Locked
Author: jfaust on: 28.04.2016 09:46:26
Page is not Witnessed
Project: Unassigned
Page Title: 042616

Standard Log #:	TOC0086	Standard/Reagent:	TOC STD STOCK LCS/ICV
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	04/26/2016	Expiration Date:	02/2018
Prep:	AccuSPEC TOC standard lot#S160202020 cat # 250-250-051		

Standard Log #:	TOC0087	Standard:	TOCW LCS Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	04/26/2016	Expiration Date (1 Month):	05/26/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0086 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0088	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	04/26/2016	Expiration Date (1 Month):	05/26/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

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NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 50
Page is Locked
Author: JFAUST on: 20.04.2016 08:29:42
Page is not Witnessed
Project: Unassigned
Page Title: 041416

Standard Log #:	TOC0081	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	04/14/2016	Expiration Date (1 Month):	05/14/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0082	Standard:	TOCW LCS Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	04/14/2016	Expiration Date (1 Month):	05/14/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0011 and brought to volume with Milli-Q DI H_2O.		

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NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 49
Page is Locked
Author: AAnstett on: 30.03.2016 16:30:06
Page is not Witnessed
Project: Unassigned
Page Title: 032916

Standard Log #:	TOC0080	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	03/29/2016	Expiration Date (1 Month):	04/29/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

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Project: Unassigned
Page Title: N/A

Standard Log #:	TOC0079	Standard:	TOCW LCS Std.
Analyst:	AMA	Concentration:	50 mg/L
Prep Date:	03/22/2016	Expiration Date (1 Month):	04/22/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0011 and brought to volume with Milli-Q DI H_2O.		

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Page is not Witnessed
Project: Unassigned
Page Title: 031716

Standard Log #:	TOC0078	Standard:	TOCW LCS Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	03/17/2016	Expiration Date (1 Month):	04/17/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0011 and brought to volume with Milli-Q DI H_2O.		

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Notebook Created: 01/12/2015

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Project: Unassigned
Page Title: 030916

Standard Log #:	TOC0075	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	03/09/2016	Expiration Date (1 Month):	04/09/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0076	Standard:	TOCW LCS Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	03/09/2016	Expiration Date (1 Month):	04/09/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0011 and brought to volume with Milli-Q DI H_2O.		

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 42
Page is Locked
Author: JFAUST on: 12.02.2016 08:30:14
Page is not Witnessed
Project: Unassigned
Page Title: 020916

Standard Log #:	TOC0066	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	02/09/2016	Expiration Date (1 Month):	03/09/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0067	Standard:	TOCW LCS Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	02/09/2016	Expiration Date (1 Month):	03/09/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0011 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0068	Standard/Reagent:	TOC MDL WATER
Analyst:	JJF	Final Concentration:	1.5 mg/L
Prep Date:	02/09/2016	Expiration Date:	02/11/2016
Prep:	Into 8 100 mL volumetric flasks pipette 0.15 mL TOC ccv Stock standard @1000 mg/L and dilute to 100 mL with Milli-Q DI water.		

Standard Log #:	TOC0069	Standard:	TOCW LOD Check
Analyst:	JJF	Concentration:	1.5 mg/L
Prep Date:	02/09/2016	Expiration Date (1 Month):	03/09/2016
Prep:	Into a 100 mL volumetric flask, pipetted 0.15mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0070	Standard:	TOCW LOQ Check
Analyst:	JJF	Concentration:	3.0 mg/L
Prep Date:	02/09/2016	Expiration Date (1 Month):	03/09/2016
Prep:	Into a 100 mL volumetric flask, pipetted 0.30mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

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NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 41
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Author: JFAUST on: 09.02.2016 14:52:01
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Project: Unassigned
Page Title: 020816

Standard Log #:	TOC0064	Standard:	TOCW Ical.
Analyst:	JJF		
Prep Date:	02/08/2016	Expiration Date (1 Month):	03/08/2016

Prep:

Into seven 50mL volumetric flasks, pipetted the following amounts of TOCW Ical/CCV Stock Std. (1000mg/L) TOC0049 and brought to volume with Milli-Q H_20:

Level	ICal Stock (mL)	True Value (µg/L)
1	0	0
2	0.05	1
3	0.25	5
4	0.5	10
5	1.25	25
6	2.5	50
7	5.0	100

Standard Log #:	TOC0065	Standard/Reagent:	TOC MDL STD WATER
Analyst:	JJF	Final Concentration:	1 mg/L
Prep Date:	02/08/2016	Expiration Date:	02/10/2016
Prep:	Into 8 100 mL volumetric flasks add 0.10 mL (TOC 0049) @ 1000 mg/L and dilute to 100 mL with Milli-Q water.		

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NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 37
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Author: jfaust on: 25.01.2016 10:48:11
Page is not Witnessed
Project: Unassigned
Page Title: 012216

Standard Log #:	TOC0058	Standard:	TOCW Ical.
Analyst:	JJF		
Prep Date:	01/22/2016	Expiration Date (1 Month):	02/22/2016

Prep:

Into seven 50mL volumetric flasks, pipetted the following amounts of TOCW Ical/CCV Stock Std. (1000mg/L) TOC and brought to volume with Milli-Q H_20:

Level	ICal Stock (mL)	True Value (µg/L)
1	0	0
2	0.05	1
3	0.25	5
4	0.5	10
5	1.25	25
6	2.5	50
7	5.0	100

Standard Log #:	TOC0059	Standard:	TOCW LCS Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	01/22/2016	Expiration Date (1 Month):	02/22/2016

Prep:

Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0011 and brought to volume with Milli-Q DI H_2O.

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NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 36
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Project: Unassigned
Page Title: 012016

Standard Log #:	TOC0057	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	01/20/2016	Expiration Date (1 Month):	02/20/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

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NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 35
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Project: Unassigned
Page Title: 011916

Standard Log #:	TOC0055	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	01/19/2016	Expiration Date (1 Month):	02/19/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0056	Standard:	TOCW LCS Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	01/19/2016	Expiration Date (1 Month):	02/19/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0011 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0057	Standard/Reagent:	TOCW MDL STUDY
Analyst:	JJF	Final Concentration:	1 mg/L
Prep Date:	01/19/2016	Expiration Date:	01/21/2016
Prep:	Into 8 100 mL volumetric flasks add 0.10 mL TOC CCV Standard (TOC0049) @ 1000 mg/L and dilute to 100 mL with Milli-Q water.		

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 32
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Project: Unassigned
Page Title: 121615

Standard Log #:	TOC0050	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	12/16/2015	Expiration Date (1 Month):	1/16/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0051	Standard:	TOCW LCS Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	12/16/2015	Expiration Date (1 Month):	1/16/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0011 and brought to volume with Milli-Q DI H_2O.		

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 31
Page is Locked
Author: JFAUST on: 16.12.2015 15:27:30
Page is not Witnessed
Project: Unassigned
Page Title: 120215

Standard Log #:	TOC0049	Standard/Reagent:	TOC STANDARD
Analyst:	JJF	Final Concentration:	1002 mg/L
Prep Date:	12/02/2015	Expiration Date:	09/30/2017
Prep:	TOC STANDARD lot # CM-4449 Catalog # IQC-106		

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TOC Logbook 01

01/12/2015

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Project: Unassigned
Page Title: 031715

Standard ID#:	TOC0011	Vendor:	SCP Science
Analyst:	BMS	Chemical:	TOCW LCS Stock Std. (1000mg/L)
Date Received:	03/17/2015	Lot #:	S150304004
Expiration Date (if any):	03/2017	Catalog #:	250-250-05x

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W34137 TOCW ICAL Into seven 50mL vol. Flasks, pipetted 0, 0.05, 0.25, 0.50, 1.25, 2.50 and 5.0 mL of 1000 mg/L ICAL/LCV Stock (W34125) and brought to volume with milli-Q H_2O. Exp. 05/21/14
mms 04/21/14

W34138 TOCW ICV Into a 50mL vol. Flask, pipetted 2.50 mL of 1000mg/L ICV/LCS Stock std (W34126) and brought to volume with milli-Q H_2O. Exp. 05/21/14
mms 04/21/14

Read and Understood By

4/22/14 cz

Signed Date Signed Date

Notebook No. _____ 31

PROJECT _____ Continued From Page _____

W34123 MS 04/18/14 — TOC/W LCV Std (50mg/L) - Into a 100mL vol Flask, pipetted 5.0 mL of ~~W33870~~ W34125 mes 04/18/14 exp. 05/18/14 & brought to volume with milli-Q H_2O

W34124 MS 04/18/14 — TOC/W LCS Std (50mg/L) - Into a 100mL vol Flask, pipetted 5.0 mL of ~~W33871~~ W34126 mes 04/18/14 exp 05/18/14 & brought to volume with milli-Q H_2O

W34125 BMS — TOC/W ICal/CCV Stock Std. (1000 mg/L): Into a 100 mL vol. dissolved 0.2128g of KHP (W33269) 04/18/14 and brought to volume with Milli Q H_2O. Exp. 10/18/14.

W34126 BMS — TOC/W ICV/LCS Stock Std. (1000 mg/L): Into a 100mL vol, dissolved 0.2128g of KHP (W33879) 04/18/14 and brought to volume with Milli Q H_2O. Exp 10/18/14.

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4/19/14 03*

Signed — Date — Signed — Date

W33266 GES 1/7/14 — Sodium hypochlorite soln - Fisher cat # SS290-4 lot # 133012 exp 7/2014

W33267 GES 1/7/14 — NH_3 TL Hypochlorite: Into a 500mL vol volumetrically cylinder 30mL W33266 & filled to mark w/ DI H_2O exp 1/8/14

W33268 DJS 1/7/14 — TKN MDL ✓: (0.46mg/L) Into a 100mL vol flask pipetted 0.46mL NH_3/TKN 1000mg/L Stock W32416 + filled to volume w/ DI. Then pipetted 20mL into TKN tube

W33269 Bons 01/07/14 — Potassium Hydrogen Phthalate (KHP): Agros Organics Catelog #: 424061000, Lot#: A0317291 (Received 06/24/13)

W33270 AGK 01/07/14 — TOCW ICAL/ICV stock (1000mg/L): Into a 100mL vol, dissolved 0.2128g KHP (W 33269) and brought to volume w/ milli-Q H_2O Exp: 07/07/14

W33271 01/07/14 AGK — TOCW ICV/LCS stock (1000mg/L) Into a 100mL vol, dissolved 0.2128g KHP (W 29079) and brought to volume w/ milli-Q H_2O Exp: 07/07/14

W33272 AGK 01/07/14 — TOCW CCV Sto: Into a 100mL vol pipetted 5.0mL of W33270 and Brought to Volume with Milli-Q H_2O Exp: 02-07-14

W33273 01/07/14 AGK — TOCW LCS Sto: Into a 100mL vol pipetted 5.0mL of W33271 and brought to volume w/ milli-Q H_2O Exp: 02-07-14

W33274 01/07/14 AGK — TOCW Ical: Into 7 50mL vol, pipetted 0.005, 0.25, 0.5, 1.25, 2.5, and 5.0mL of W33270 and brought to volume with milli-Q H_2O Exp: 02/07/14

Continued on Page

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Signed | Date | Signed | Date

SUBCONTRACTED ANALYSIS DOCUMENTS

SGS ACCUTEST IS PART OF SGS, THE WORLD'S LEADING INSPECTION, VERIFICATION, TESTING AND CERTIFICATION COMPANY.

e-Hardcopy 2.0
Automated Report

Technical Report for

CT Laboratories

Radford AAP; VA

SGS Accutest Job Number: FA33221

Sampling Date: 04/14/16

Report to:

CT Laboratories
1230 Lange Court
Baraboo, WI 53913
bszymanski@ctlaboratories.com

ATTN: Brett Szymanski

Total number of pages in report: **216**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Norm Farmer
Technical Director

Client Service contact: Heather Wandrey 407-425-6700

Certifications: FL (E83510), LA (03051), KS (E-10327), IA (366), IL (200063), NC (573), NJ (FL002), SC (96038001) DoD ELAP (L-A-B L2229), CA (2937), TX (T104704404), PA (68-03573), VA (460177), AK, AR, GA, KY, MA, NV, OK, UT, WA

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Test results relate only to samples analyzed.

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May 10, 2016

Ms. Ceress Berwanger
CT Laboratories
1230 Lange Ct.
Baraboo, WI 53913

RE: Accutest job FA33221 Reissue

Dear Ms. Berwanger,

The final report for job number FA33221 has been edited to reflect the following corrections. These edits have been incorporated into the revised report.

The report has been revised to only report Breakdowns for explosives.

Accutest apologizes for any inconvenience this may have caused. Please feel free to contact us if we can be of further assistance.

Sincerely,

SGS Accutest - Orlando

Florida ♦ 4405 Vineland Road ♦ Suite C-15 ♦ Orlando, FL 32811 ♦ tel: 407 425-6700 ♦ fax: 407 425-0707 ♦ htpp:/www.accutest.com

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Sample Summary

CT Laboratories

Radford AAP; VA

Job No: FA33221

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
FA33221-1	04/14/16	15:12	CTL	04/19/16	AQ	Ground Water	709222/54MW12
FA33221-1D	04/14/16	15:12	CTL	04/19/16	AQ	Water Dup/MSD	709222/54MW12
FA33221-1S	04/14/16	15:12	CTL	04/19/16	AQ	Water Matrix Spike	709222/54MW12
FA33221-2	04/14/16	13:20	CTL	04/19/16	AQ	Ground Water	709257/54MW10
FA33221-3	04/14/16	13:57	CTL	04/19/16	AQ	Ground Water	709260/041416R1
FA33221-4	04/14/16	08:49	CTL	04/19/16	AQ	Ground Water	709272/54MW1
FA33221-5	04/14/16	08:49	CTL	04/19/16	AQ	Ground Water	709274/54TM1
FA33221-6	04/14/16	10:50	CTL	04/19/16	AQ	Ground Water	709276/54MW13

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: CT Laboratories **Job No:** FA33221

Site: Radford AAP; VA **Report Date:** 5/2/2016 11:06:15 AM

6 Sample(s) were collected on 04/14/2016 and were received at SGS Accutest Southeast (SASE) on 04/19/2016 properly preserved, at 4 Deg. C and intact. These Samples received an SASE job number of FA33221. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Extractables by GCMS By Method SW846 6850

Matrix: AQ **Batch ID:** OP60173

All samples were extracted within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) FA33221-1MSD, FA33221-1MS were used as the QC samples indicated.

Matrix Spike Recovery(s) for Perchlorate are outside control limits. Outside control limits due to high level in sample relative to spike amount. % RPD was within control limits in MS/MSD.

Extractables by GC By Method SW846 8330B

Matrix: AQ **Batch ID:** OP60153

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) FA33221-1MS, FA33221-1MSD were used as the QC samples indicated.

Matrix Spike/Matrix Spike Duplicate Recovery(s) for DNX are outside control limits. Probable cause is due to matrix interference. % RPD was within control limits in MS/MSD.

FA33221-1: All hits confirmed by reanalysis on a dissimilar column.

FA33221-1: Confirmation run.

FA33221-1 for DNX: Associated MS/MSD outside of control limits.

FA33221-2: All hits confirmed by reanalysis on a dissimilar column.

FA33221-2: Confirmation run.

FA33221-6: All hits confirmed by reanalysis on a dissimilar column.

FA33221-6: Confirmation run.

SGS Accutest (SASE) certifies that this report meets the project requirements for analytical data produced for the samples as received at SASE and as stated on the COC. SASE certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the SASE Quality Manual except as noted above. This report is to be used in its entirety. SASE is not responsible for any assumptions of data quality if partial data packages are used.

Narrative prepared by:

_____ Date: May 2, 2016

Kim Benham, Client Services (signature on file)

Narrative revised by:

_____ Date: May 10, 2016

Kim Benham, Client Services (signature on file)

Manual Integration Summary

Lab Sample ID	Analysis Type	File ID	Manual
GBB1436-IC1436	GCSEMI	BB050844.D	2,4,6-Trinitrotoluene, 3,4-Dinitrotoluene, HMX, m-Nitrotoluene, MNX, Nitroglycerine, o-Nitrotoluene, PETN, Tetryl, TNX
GBB1436-IC1436	GCSEMI	BB050845.D	3,4-Dinitrotoluene, HMX, Nitroglycerine, PETN, TNX
GBB1436-IC1436	GCSEMI	BB050846.D	3,4-Dinitrotoluene, HMX, Nitroglycerine, PETN, TNX
GBB1436-IC1436	GCSEMI	BB050847.D	HMX, Nitroglycerine, PETN, TNX
GBB1436-IC1436	GCSEMI	BB050849.D	HMX, Nitroglycerine, PETN, TNX
GBB1436-IC1436	GCSEMI	BB050850.D	PETN
GBB1436-ICC1436	GCSEMI	BB050848.D	HMX, Nitroglycerine, PETN, TNX
GBB1436-ICV1436	GCSEMI	BB050851.D	Nitroglycerine, PETN
GBB1437-CC1436	GCSEMI	BB050877.D	Nitroglycerine, PETN
GBB1437-CC1436	GCSEMI	BB050888.D	PETN
GBB1437-CC1436	GCSEMI	BB050900.D	PETN
GBB1437-CC1436	GCSEMI	BB050912.D	PETN
GBB1437-CC1436	GCSEMI	BB050922.D	PETN
GBB1437-ECC1436	GCSEMI	BB050934.D	PETN
GBB1438-CC1436	GCSEMI	BB050936.D	HMX, Nitroglycerine, PETN, TNX
GBB1438-CC1436	GCSEMI	BB050947.D	HMX, Nitroglycerine, PETN, TNX
GBB1438-ECC1436	GCSEMI	BB050956.D	HMX, PETN, TNX
GBB1439-CC1436	GCSEMI	BB050958.D	PETN
GBB1439-CC1436	GCSEMI	BB050969.D	PETN
GBB1439-ECC1436	GCSEMI	BB050974.D	PETN
GBB1440-CC1436	GCSEMI	BB050976.D	PETN
GBB1440-ECC1436	GCSEMI	BB050979.D	PETN
GBB1441-CC1436	GCSEMI	BB050981.D	PETN
GBB1441-ECC1436	GCSEMI	BB050992.D	PETN
GBB1442-CC1436	GCSEMI	BB050999.D	PETN
GBB1442-CC1436	GCSEMI	BB051010.D	Nitroglycerine, PETN
GBB1442-ECC1436	GCSEMI	BB051018.D	PETN
GBB1443-CC1436	GCSEMI	BB051020.D	Nitroglycerine, PETN
GBB1443-CC1436	GCSEMI	BB051031.D	Nitroglycerine, PETN
GBB1443-ECC1436	GCSEMI	BB051037.D	PETN
GBB1444-CC1436	GCSEMI	BB051039.D	HMX, PETN, TNX
GBB1444-CC1436	GCSEMI	BB051048.D	1,3,5-Trinitrobenzene, 1,3-Dinitrobenzene, 3,5-Dinitroaniline, Nitroglycerine, PETN
GBB1444-CC1436	GCSEMI	BB051057.D	Nitroglycerine, PETN
GBB1444-ECC1436	GCSEMI	BB051069.D	PETN, Tetryl
GBB1445-CC1436	GCSEMI	BB051071.D	4-amino-2,6-Dinitrotoluene, HMX, PETN, TNX
GBB1445-CC1436	GCSEMI	BB051082.D	HMX, PETN, TNX
GPP1993-CC1993	GCSEMI	PP379507.D	PETN
GPP1993-CC1993	GCSEMI	PP379517.D	PETN
GPP1993-ECC1993	GCSEMI	PP379528.D	2-amino-4,6-Dinitrotoluene, 3,4-Dinitrotoluene, 3,5-Dinitroaniline, 4-amino-2,6-Dinitrotoluene, p-Nitrotoluene, PETN
GPP1993-IC1993	GCSEMI	PP379490.D	2,6-Dinitrotoluene, 2-amino-4,6-Dinitrotoluene, 3,4-Dinitrotoluene, 3,5-Dinitroaniline, 4-amino-2,6-Dinitrotoluene, DNX, HMX, m-Nitrotoluene, Nitrobenzene, o-Nitrotoluene, p-Nitrotoluene, PETN, Tetryl, TNX
GPP1993-IC1993	GCSEMI	PP379491.D	2-amino-4,6-Dinitrotoluene, 3,4-Dinitrotoluene, 4-amino-2,6-Dinitrotoluene, HMX, Nitroglycerine, PETN, TNX
GPP1993-IC1993	GCSEMI	PP379492.D	3,4-Dinitrotoluene, DNX, Nitroglycerine, PETN, RDX, Tetryl
GPP1993-IC1993	GCSEMI	PP379493.D	PETN, RDX
GPP1993-IC1993	GCSEMI	PP379495.D	PETN
GPP1993-IC1993	GCSEMI	PP379496.D	PETN
GPP1993-ICC1993	GCSEMI	PP379494.D	PETN
GPP1993-ICV1993	GCSEMI	PP379497.D	PETN
GPP1994-CC1993	GCSEMI	PP379530.D	4-amino-2,6-Dinitrotoluene, p-Nitrotoluene, PETN
GPP1994-ECC1993	GCSEMI	PP379540.D	4-amino-2,6-Dinitrotoluene, p-Nitrotoluene, PETN
GPP1995-CC1993	GCSEMI	PP379542.D	PETN

Manual Integration Summary

Lab Sample ID	Analysis Type	File ID	Manual
GPP1995-ECC1993	GCSEMI	PP379545.D	3,5-Dinitroaniline, o-Nitrotoluene, PETN
GPP1996-CC1993	GCSEMI	PP379548.D	3,5-Dinitroaniline, o-Nitrotoluene, PETN
GPP1996-CC1993	GCSEMI	PP379556.D	3,5-Dinitroaniline, o-Nitrotoluene, PETN
GPP1996-ECC1993	GCSEMI	PP379562.D	PETN
GPP1997-CC1993	GCSEMI	PP379566.D	PETN
GPP1997-CC1993	GCSEMI	PP379577.D	PETN
GPP1997-ECC1993	GCSEMI	PP379589.D	PETN
GPP1998-CC1993	GCSEMI	PP379591.D	2,6-Dinitrotoluene, 3,4-Dinitrotoluene, 3,5-Dinitroaniline, o-Nitrotoluene, PETN
GPP1998-ECC1993	GCSEMI	PP379602.D	4-amino-2,6-Dinitrotoluene, p-Nitrotoluene, PETN
OP60153-BS	GCSEMI	BB051059.D	Nitroglycerine, PETN
OP60153-MS	GCSEMI	BB051062.D	1,3,5-Trinitrobenzene, 2,6-Dinitrotoluene, DNX, HMX, MNX, PETN, RDX, TNX
OP60153-MSD	GCSEMI	BB051063.D	1,3,5-Trinitrobenzene, 2,6-Dinitrotoluene, DNX, HMX, PETN, RDX, Tetryl, TNX

62 Manual Integrations were found for FA33221

Summary of Hits

Job Number: FA33221
Account: CT Laboratories
Project: Radford AAP; VA
Collected: 04/14/16

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
FA33221-1	**709222/54MW12**					
Perchlorate		1.2	0.20	0.10	ug/l	SW846 6850
FA33221-2	**709257/54MW10**					
Perchlorate		0.082 J	0.20	0.10	ug/l	SW846 6850
FA33221-3	**709260/041416R1**					
No hits reported in this sample.						
FA33221-4	**709272/54MW1**					
No hits reported in this sample.						
FA33221-5	**709274/54TM1**					
No hits reported in this sample.						
FA33221-6	**709276/54MW13**					
Perchlorate		0.18 J	0.20	0.10	ug/l	SW846 6850

Sample Results

Report of Analysis

SGS Accutest

Report of Analysis

Client Sample ID:	709222/54MW12		
Lab Sample ID:	FA33221-1	**Date Sampled:**	04/14/16
Matrix:	AQ - Ground Water	**Date Received:**	04/19/16
Method:	SW846 6850 SW846 6850	**Percent Solids:**	n/a
Project:	Radford AAP; VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q20603.D	1	04/22/16	NAF	04/22/16	OP60173	SQ615
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	1.2	0.20	0.10	0.050	ug/l	

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation DL = Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	709222/54MW12		
Lab Sample ID:	FA33221-1	**Date Sampled:**	04/14/16
Matrix:	AQ - Ground Water	**Date Received:**	04/19/16
Method:	SW846 8330B SW846 3535A	**Percent Solids:**	n/a
Project:	Radford AAP; VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	BB051061.D	1	04/22/16	KL	04/21/16	OP60153	GBB1444
Run #2 [b]	PP379552.D	1	04/25/16	KL	04/21/16	OP60153	GPP1996

	Initial Volume	Final Volume
Run #1	1000 ml	10.0 ml
Run #2	1000 ml	10.0 ml

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
	DNX [c]	0.10 U	0.20	0.10	0.080	ug/l	
	MNX	0.10 U	0.20	0.10	0.080	ug/l	
	TNX	0.10 U	0.20	0.10	0.080	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
610-39-9	3,4-Dinitrotoluene	107%	114%	70-136%

(a) All hits confirmed by reanalysis on a dissimilar column.
(b) Confirmation run.
(c) Associated MS/MSD outside of control limits.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	709257/54MW10		
Lab Sample ID:	FA33221-2	**Date Sampled:**	04/14/16
Matrix:	AQ - Ground Water	**Date Received:**	04/19/16
Method:	SW846 6850 SW846 6850	**Percent Solids:**	n/a
Project:	Radford AAP; VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q20606.D	1	04/22/16	NAF	04/22/16	OP60173	SQ615
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	0.082	0.20	0.10	0.050	ug/l	J

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation DL = Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID: 709257/54MW10
Lab Sample ID: FA33221-2
Matrix: AQ - Ground Water
Method: SW846 8330B SW846 3535A
Project: Radford AAP; VA

Date Sampled: 04/14/16
Date Received: 04/19/16
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	BB051064.D	1	04/22/16	KL	04/21/16	OP60153	GBB1444
Run #2 [b]	PP379553.D	1	04/25/16	KL	04/21/16	OP60153	GPP1996

	Initial Volume	Final Volume
Run #1	990 ml	10.0 ml
Run #2	990 ml	10.0 ml

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
	DNX	0.10 U	0.20	0.10	0.081	ug/l	
	MNX	0.10 U	0.20	0.10	0.081	ug/l	
	TNX	0.10 U	0.20	0.10	0.081	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
610-39-9	3,4-Dinitrotoluene	96%	105%	70-136%

(a) All hits confirmed by reanalysis on a dissimilar column.
(b) Confirmation run.

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation DL = Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID: 709260/041416R1
Lab Sample ID: FA33221-3
Matrix: AQ - Ground Water
Method: SW846 6850 SW846 6850
Project: Radford AAP; VA

Date Sampled: 04/14/16
Date Received: 04/19/16
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q20607.D	1	04/22/16	NAF	04/22/16	OP60173	SQ615
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	0.10 U	0.20	0.10	0.050	ug/l	

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation DL = Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID: 709260/041416R1
Lab Sample ID: FA33221-3
Matrix: AQ - Ground Water
Method: SW846 8330B SW846 3535A
Project: Radford AAP; VA

Date Sampled: 04/14/16
Date Received: 04/19/16
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BB051065.D	1	04/22/16	KL	04/21/16	OP60153	GBB1444
Run #2							

	Initial Volume	Final Volume
Run #1	990 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
	DNX	0.10 U	0.20	0.10	0.081	ug/l	
	MNX	0.10 U	0.20	0.10	0.081	ug/l	
	TNX	0.10 U	0.20	0.10	0.081	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
610-39-9	3,4-Dinitrotoluene	99%		70-136%

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation DL = Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	709272/54MW1		
Lab Sample ID:	FA33221-4	**Date Sampled:**	04/14/16
Matrix:	AQ - Ground Water	**Date Received:**	04/19/16
Method:	SW846 6850 SW846 6850	**Percent Solids:**	n/a
Project:	Radford AAP; VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q20608.D	1	04/22/16	NAF	04/22/16	OP60173	SQ615
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	0.10 U	0.20	0.10	0.050	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID: 709272/54MW1
Lab Sample ID: FA33221-4
Matrix: AQ - Ground Water
Method: SW846 8330B SW846 3535A
Project: Radford AAP; VA

Date Sampled: 04/14/16
Date Received: 04/19/16
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BB051066.D	1	04/22/16	KL	04/21/16	OP60153	GBB1444
Run #2							

	Initial Volume	Final Volume
Run #1	960 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
	DNX	0.10 U	0.21	0.10	0.083	ug/l	
	MNX	0.10 U	0.21	0.10	0.083	ug/l	
	TNX	0.10 U	0.21	0.10	0.083	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
610-39-9	3,4-Dinitrotoluene	100%		70-136%

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation DL = Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID: 709274/54TM1
Lab Sample ID: FA33221-5
Matrix: AQ - Ground Water
Method: SW846 6850 SW846 6850
Project: Radford AAP; VA

Date Sampled: 04/14/16
Date Received: 04/19/16
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q20609.D	1	04/22/16	NAF	04/22/16	OP60173	SQ615
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	0.10 U	0.20	0.10	0.050	ug/l	

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation DL = Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID: 709274/54TM1
Lab Sample ID: FA33221-5
Matrix: AQ - Ground Water
Method: SW846 8330B SW846 3535A
Project: Radford AAP; VA

Date Sampled: 04/14/16
Date Received: 04/19/16
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BB051067.D	1	04/22/16	KL	04/21/16	OP60153	GBB1444
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
	DNX	0.10 U	0.20	0.10	0.080	ug/l	
	MNX	0.10 U	0.20	0.10	0.080	ug/l	
	TNX	0.10 U	0.20	0.10	0.080	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
610-39-9	3,4-Dinitrotoluene	95%		70-136%

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation DL = Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID: 709276/54MW13
Lab Sample ID: FA33221-6
Matrix: AQ - Ground Water
Method: SW846 6850 SW846 6850
Project: Radford AAP; VA

Date Sampled: 04/14/16
Date Received: 04/19/16
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q20610.D	1	04/22/16	NAF	04/22/16	OP60173	SQ615
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	0.18	0.20	0.10	0.050	ug/l	J

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation DL = Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID: 709276/54MW13
Lab Sample ID: FA33221-6
Matrix: AQ - Ground Water
Method: SW846 8330B SW846 3535A
Project: Radford AAP; VA

Date Sampled: 04/14/16
Date Received: 04/19/16
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	BB051068.D	1	04/22/16	KL	04/21/16	OP60153	GBB1444
Run #2 [b]	PP379555.D	1	04/25/16	KL	04/21/16	OP60153	GPP1996

	Initial Volume	Final Volume
Run #1	1000 ml	10.0 ml
Run #2	1000 ml	10.0 ml

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
	DNX	0.10 U	0.20	0.10	0.080	ug/l	
	MNX	0.10 U	0.20	0.10	0.080	ug/l	
	TNX	0.10 U	0.20	0.10	0.080	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
610-39-9	3,4-Dinitrotoluene	101%	110%	70-136%

(a) All hits confirmed by reanalysis on a dissimilar column.
(b) Confirmation run.

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation DL = Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

5

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5 Limits

CT LABORATORIES

1230 Lange Court • Baraboo, WI 53913 • 608-356-2760
www.ctlaboratories.com

Sub-Contract Laboratory Chain-of-Custody and Purchase Order **FA33221**

PURCHASE ORDER # 116319 ACCTST FL *The PO# must appear on all invoice and reports!*

Upon Receipt of Samples, please verify that samples were received in acceptable condition then sign this form and fax to (608)356-2766 or email to the project manager. Sample temperature, upon receipt, must be recorded on this document unless thermal preservation is not a method requirement.

Ship to: Accutest Southeast
4405 Vineland Road, Suite C-15
Orlando, FL 32811

Return Invoice and Results to:
CTLaboratories
Brett M Szymanski
1230 Lange Court
Baraboo WI 53913

Data Due: Standard TAT *RUSH TURNAROUND NEEDED? Y or (N) (Circle One)*

Project Name: RADFORD AAP Project State: VA

Analytical/QC Criteria: NONE INDICATED STATE (DOD QSM) NELAP (Circle one) OTHER

Report results as EDD? N (Y) (Circle one and indicate type: Excel) Data Deliverable Package LEVEL: IV

	CTLabs ID#	Sample Date/Time	Matrix	Sample Description	Analyses / Method		Cost
(1)	709222	04/14/2016 1512	GROUND WATER	54MW12 #	MNX/DNX/TNX	8330B	
	709222	04/14/2016 1512	GROUND WATER	54MW12 # > MS/MSD	PERCHLORATE	SW6850	
(2)	709257	04/14/2016 1320	GROUND WATER	54MW10	MNX/DNX/TNX	8330B	
	709257	04/14/2016 1320	GROUND WATER	54MW10	PERCHLORATE	SW6850	
(3)	709260	04/14/2016 1357	GROUND WATER	041416R1	MNX/DNX/TNX	8330B	
	709260	04/14/2016 1357	GROUND WATER	041416R1	PERCHLORATE	SW6850	
(4)	709272	04/14/2016 0849	GROUND WATER	54MW1	MNX/DNX/TNX	8330B	
	709272	04/14/2016 0849	GROUND WATER	54MW1	PERCHLORATE	SW6850	
(5)	709274	04/14/2016 0849	GROUND WATER	54TM1	MNX/DNX/TNX	8330B	
	709274	04/14/2016 0849	GROUND WATER	54TM1	PERCHLORATE	SW6850	
(6)	709276	04/14/2016 1050	GROUND WATER	54MW13	MNX/DNX/TNX	8330B	
	709276	04/14/2016 1050	GROUND WATER	54MW13	PERCHLORATE	SW6850	

Relinquished by: Brett Szymanski Date/Time: 04/15/2016 13:05

Received by: UPS Date/Time: Receipt Temperature (C) 4.0

UPS 4/15/16 1200

5.1 5

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FA33221: Chain of Custody
Page 1 of 3

ACCUTEST LABORATORIES SAMPLE RECEIPT CONFIRMATION

ACCUTEST'S JOB NUMBER: FA33221 CLIENT: CT Labs PROJECT: Redford AAP

DATE/TIME RECEIVED: 4/11/16 1200 (MM/DD/YY 24:00) NUMBER OF COOLERS RECEIVED: 1

METHOD OF DELIVERY: FEDEX [UPS] ACCUTEST COURIER DELIVERY OTHER:

AIRBILL NUMBERS: 1Z 1A3 77E 13 4052 6692

COOLER INFORMATION

- [ ] CUSTODY SEAL NOT PRESENT OR NOT INTACT
- [ ] CHAIN OF CUSTODY NOT RECEIVED (COC)
- [ ] ANALYSIS REQUESTED IS UNCLEAR OR MISSING
- [ ] SAMPLE DATES OR TIMES UNCLEAR OR MISSING
- [ ] TEMPERATURE CRITERIA NOT MET

TRIP BLANK INFORMATION

- [ ] TRIP BLANK PROVIDED
- [X] TRIP BLANK NOT PROVIDED
- [X] TRIP BLANK NOT ON COC
- [ ] TRIP BLANK INTACT
- [ ] TRIP BLANK NOT INTACT
- [ ] RECEIVED WATER TRIP BLANK
- [ ] RECEIVED SOIL TRIP BLANK

MISC. INFORMATION

NUMBER OF ENCORES ? 25-GRAM _____ 5-GRAM _____

NUMBER OF 5035 FIELD KITS ? _____

NUMBER OF LAB FILTERED METALS ? _____

TEMPERATURE INFORMATION

- [ ] IR THERM ID 1 CORR. FACTOR +0.2
- [ ] OBSERVED TEMPS: 3.4
- [ ] CORRECTED TEMPS: 4.0 (USED FOR LIMS)

SAMPLE INFORMATION

- [ ] INCORRECT NUMBER OF CONTAINERS USED
- [ ] SAMPLE RECEIVED IMPROPERLY PRESERVED
- [ ] INSUFFICIENT VOLUME FOR ANALYSIS
- [ ] DATES/TIMES ON COC DO NOT MATCH SAMPLE LABEL
- [ ] ID'S ON COC DO NOT MATCH LABEL
- [ ] VOC VIALS HAVE HEADSPACE (MACRO BUBBLES)
- [ ] BOTTLES RECEIVED BUT ANALYSIS NOT REQUESTED
- [ ] NO BOTTLES RECEIVED FOR ANALYSIS REQUESTED
- [ ] UNCLEAR FILTERING OR COMPOSITING INSTRUCTIONS
- [ ] SAMPLE CONTAINER(S) RECEIVED BROKEN
- [ ] 5035 FIELD KITS NOT RECEIVED WITHIN 48 HOURS
- [ ] BULK VOA SOIL JARS NOT RECEIVED WITHIN 48 HOURS
- [ ] % SOLIDS JAR NOT RECEIVED
- [ ] RESIDUAL CHLORINE PRESENT LOT# _____

(APPLICABLE TO EPA 600 SERIES OR NORTH CAROLINA ORGANICS)

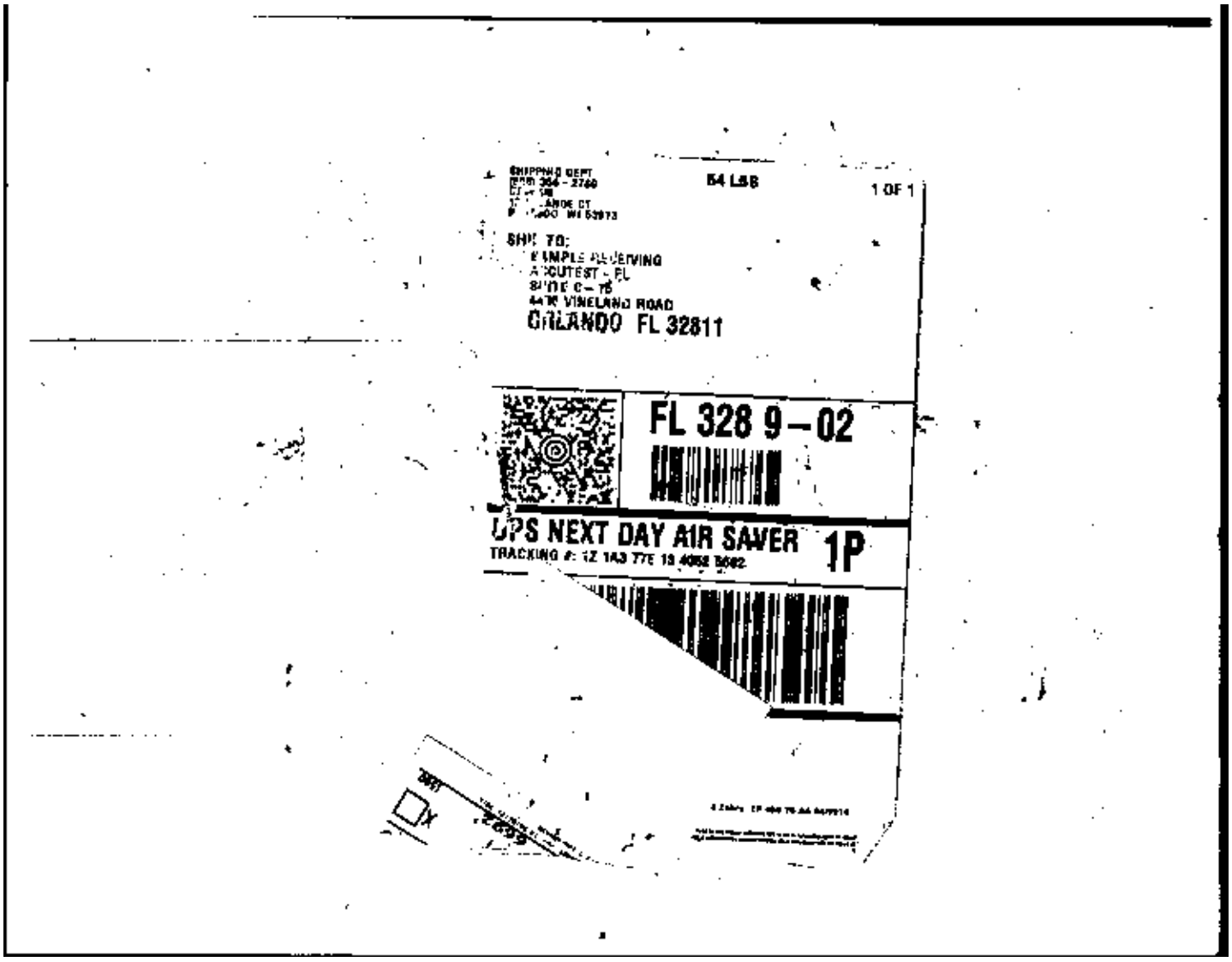
TEST STRIP LOT#s pH 0-3 230315 pH 10-12 219813A OTHER (specify) _____

SUMMARY OF COMMENTS: only 1 amber received for 8330

TECHNICIAN SIGNATURE/DATE: 4/11/16 REVIEWER SIGNATURE/DATE: 4/12/16

NF 11/15 RECEIPTLOG040416.xls

5.1 5



FA33221: Chain of Custody
Page 3 of 3

QC Evaluation: DOD QSM5 Limits

Job Number: FA33221
Account: CT Laboratories
Project: Radford AAP; VA
Collected: 04/14/16

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
OP60173	SW846 6850						
OP60173-BS	14797-73-0	Perchlorate	BSP	REC	95	%	84-119
OP60173-MS	14797-73-0	Perchlorate	MS	REC	50 [a]	%	84-119
OP60173-MSD	14797-73-0	Perchlorate	MSD	REC	100	%	84-119
OP60173-MSD	14797-73-0	Perchlorate	MSD	RPD	7	%	15
OP60153	SW846 8330B						
OP60153-BS		DNX	BSP	REC	92	%	66-119
OP60153-BS		MNX	BSP	REC	102	%	57-132
OP60153-MS		DNX	MS	REC	144	%	66-119
OP60153-MS		MNX	MS	REC	112	%	57-132
OP60153-MSD		DNX	MSD	REC	129	%	66-119
OP60153-MSD		DNX	MSD	RPD	11	%	30
OP60153-MSD		MNX	MSD	REC	103	%	57-132
OP60153-MSD		MNX	MSD	RPD	8	%	30

(a) Outside control limits due to high level in sample relative to spike amount.

* Sample used for QC is not from job FA33221

GC/MS Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Internal Standard Area Summaries
- Initial and Continuing Calibration Summaries

Method Blank Summary

Job Number: FA33221
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP60173-MB	Q20602.D	1	04/22/16	NAF	04/22/16	OP60173	SQ615

The QC reported here applies to the following samples: **Method:** SW846 6850

FA33221-1, FA33221-2, FA33221-3, FA33221-4, FA33221-5, FA33221-6

CAS No.	Compound	Result	RL	MDL	Units	Q
14797-73-0	Perchlorate	ND	0.20	0.050	ug/l	

Blank Spike Summary

Job Number: FA33221
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP60173-BS	Q20601.D	1	04/22/16	NAF	04/22/16	OP60173	SQ615

The QC reported here applies to the following samples: **Method:** SW846 6850

FA33221-1, FA33221-2, FA33221-3, FA33221-4, FA33221-5, FA33221-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
14797-73-0	Perchlorate	0.2	0.19	95	80-120

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA33221
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP60173-MS	Q20604.D	1	04/22/16	NAF	04/22/16	OP60173	SQ615
OP60173-MSD	Q20605.D	1	04/22/16	NAF	04/22/16	OP60173	SQ615
FA33221-1	Q20603.D	1	04/22/16	NAF	04/22/16	OP60173	SQ615

The QC reported here applies to the following samples: **Method:** SW846 6850

FA33221-1, FA33221-2, FA33221-3, FA33221-4, FA33221-5, FA33221-6

CAS No.	Compound	FA33221-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
14797-73-0	Perchlorate	1.2		0.2	1.3	50* [a]	0.2	1.4	100	7	80-120/15

(a) Outside control limits due to high level in sample relative to spike amount.

* = Outside of Control Limits.

Semivolatile Internal Standard Area Summary

Job Number: FA33221
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Check Std:	SQ615-CC610	**Injection Date:**	04/22/16
Lab File ID:	Q20598.D	**Injection Time:**	13:44
Instrument ID:	GCMSQ	**Method:**	SW846 6850

	IS 1 AREA	RT
Initial Cal [a]	16778	2.62
Check Std [b]	18140	2.57
Upper Limit [c]	25167	4.57
Lower Limit [d]	8389	0.57

Lab Sample ID	IS 1 AREA	RT
OP60173-BS	18838	2.58
OP60173-MB	20574	2.58
FA33221-1	16880	2.48
OP60173-MS	16985	2.48
OP60173-MSD	16833	2.49
FA33221-2	16227	2.46
FA33221-3	20550	2.59
FA33221-4	15787	2.48
FA33221-5	16144	2.48
FA33221-6	17408	2.52

IS 1 = Cl18O4 (ISTD)

(a) Initial Cal is: SQ610-ICC610 Q20377.D 04/15/16 10:58. Area is AVERAGE of initial cal points.
(b) Check Std Limit = -50 to + 50% of initial cal area.
(c) Upper Limit = + 50% of initial standard area; Retention time + 2 minutes of check standard.
(d) Lower Limit = -50% of initial standard area; Retention time -2 minutes of check standard.

Initial Calibration Summary

Job Number: FA33221
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: SQ610-ICC610
Lab FileID: Q20377.D

Initial Calibration ReSponse Factors - D:\MassHunter\Data\0415_6850_SQ610\SQ610.batch.bin

Level ID : Calibration File
1 : D:\MassHunter\Data\0415_6850_SQ610\Q20374.d
2 : D:\MassHunter\Data\0415_6850_SQ610\Q20375.d
3 : D:\MassHunter\Data\0415_6850_SQ610\Q20376.d
4 : D:\MassHunter\Data\0415_6850_SQ610\Q20377.d
5 : D:\MassHunter\Data\0415_6850_SQ610\Q20378.d
6 : D:\MassHunter\Data\0415_6850_SQ610\Q20379.d
7 : D:\MassHunter\Data\0415_6850_SQ610\Q20380.d
8 : D:\MassHunter\Data\0415_6850_SQ610\Q20381.d

Compound	1	2	3	4	5	6	7	8	AvgRF	%RSD	r^2
1) Cl18O4	----------ISTD----------										
3) Perchlorate	1.1437	1.1593	1.1992	1.2170	1.2288	1.2696	1.3254	1.3539	1.2371	6.049	0.9999

*(value) - Average RF below (value)

Initial Calibration Verification

Job Number: FA33221
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: SQ610-ICV610
Lab FileID: Q20382.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\0415_6850_SQ610\SQ610.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\0415_6850_SQ610\Q20374.d
2:D:\MassHunter\Data\0415_6850_SQ610\Q20375.d
3:D:\MassHunter\Data\0415_6850_SQ610\Q20376.d
4:D:\MassHunter\Data\0415_6850_SQ610\Q20377.d
5:D:\MassHunter\Data\0415_6850_SQ610\Q20378.d
6:D:\MassHunter\Data\0415_6850_SQ610\Q20379.d
7:D:\MassHunter\Data\0415_6850_SQ610\Q20380.d
8:D:\MassHunter\Data\0415_6850_SQ610\Q20381.d

Data File: Q20382
Type : QC
Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	2.000	1.771	-11.5	88.5

CC Criteria: +/- 15%

Continuing Calibration Summary

Job Number: FA33221
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: SQ615-CC610
Lab FileID: Q20598.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\0422_6850_SQ615\SQ615.batch.bin

Level ID:Calibration File
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2:D:\MassHunter\Data\0415_6850_SQ610\Q20375.d
3:D:\MassHunter\Data\0415_6850_SQ610\Q20376.d
4:D:\MassHunter\Data\0415_6850_SQ610\Q20377.d
5:D:\MassHunter\Data\0415_6850_SQ610\Q20378.d
6:D:\MassHunter\Data\0415_6850_SQ610\Q20379.d
7:D:\MassHunter\Data\0415_6850_SQ610\Q20380.d
8:D:\MassHunter\Data\0415_6850_SQ610\Q20381.d

Data File: Q20598
Type : QC
Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	2.000	2.033	1.6	101.6

CC Criteria: +/- 15%

Continuing Calibration Summary

Job Number: FA33221
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: SQ615-CC610
Lab FileID: Q20599.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\0422_6850_SQ615\SQ615.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\0415_6850_SQ610\Q20374.d
2:D:\MassHunter\Data\0415_6850_SQ610\Q20375.d
3:D:\MassHunter\Data\0415_6850_SQ610\Q20376.d
4:D:\MassHunter\Data\0415_6850_SQ610\Q20377.d
5:D:\MassHunter\Data\0415_6850_SQ610\Q20378.d
6:D:\MassHunter\Data\0415_6850_SQ610\Q20379.d
7:D:\MassHunter\Data\0415_6850_SQ610\Q20380.d
8:D:\MassHunter\Data\0415_6850_SQ610\Q20381.d

Data File: Q20599
Type : QC
Level : 1

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	0.200	0.200	0.1	100.1

CC Criteria: +/- 15%

Continuing Calibration Summary

Job Number: FA33221
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: SQ615-CC610
Lab FileID: Q20611.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\0422_6850_SQ615\SQ615.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\0415_6850_SQ610\Q20374.d
2:D:\MassHunter\Data\0415_6850_SQ610\Q20375.d
3:D:\MassHunter\Data\0415_6850_SQ610\Q20376.d
4:D:\MassHunter\Data\0415_6850_SQ610\Q20377.d
5:D:\MassHunter\Data\0415_6850_SQ610\Q20378.d
6:D:\MassHunter\Data\0415_6850_SQ610\Q20379.d
7:D:\MassHunter\Data\0415_6850_SQ610\Q20380.d
8:D:\MassHunter\Data\0415_6850_SQ610\Q20381.d

Data File: Q20611
Type : QC
Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	2.000	1.913	-4.3	95.7

CC Criteria: +/- 15%

GC/MS Semi-volatiles

Raw Data

Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q20603.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2016-04-22 14:18
Sample Name	:	FA33221-1
Vial	:	Vial 7
Sample Info	:	OP60173,SQ615,10,,,10,1,WATER
Quant Method	:	6850_0415_SQ610.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ615.batch.bin
Last Calib Update	:	2016-04-15 11:37

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	2.481	107.0 -> 89.0	16880	5.000	ng/ml	-0.519	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	2.485	99.0 -> 83.0	5130	1.190	ng/ml	93	2.9
		101.0 -> 85.0	1742				

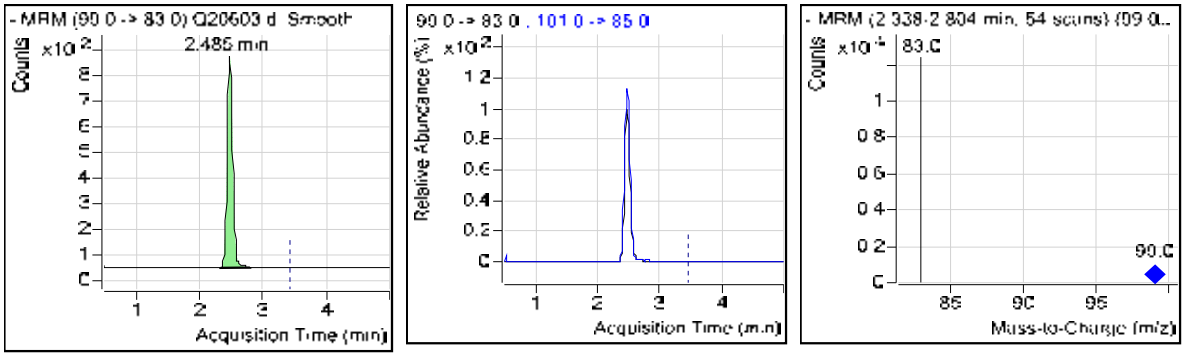
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

SGS ACCUTEST FA33221

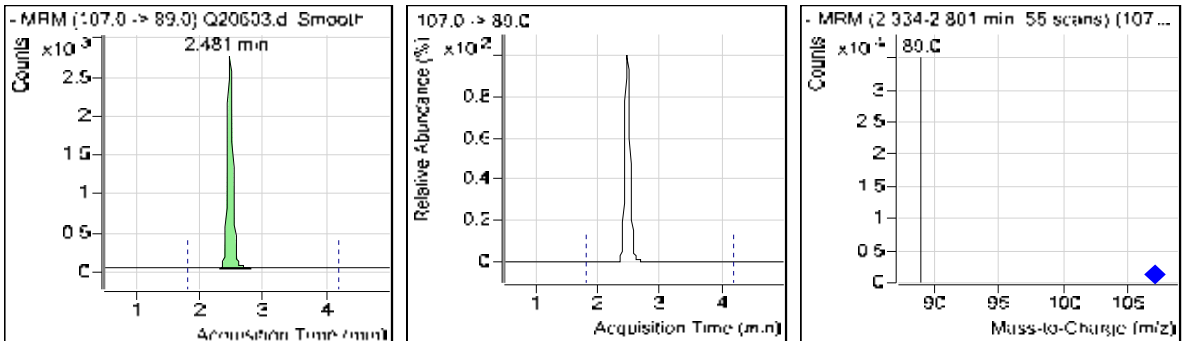
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q20603.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2016-04-22 14:18
Sample Name	:	FA33221-1
Vial	:	Vial 7
Sample Info	:	OP60173,SQ615,10,,,10,1,WATER
Quant Method	:	6850_0415_SQ610.quantmethod.xml
Tune File	:	
Tune Date	:	

Perchlorate



Cl18O4



SGS ACCUTEST FA33221

Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q20606.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2016-04-22 14:35
Sample Name	:	FA33221-2
Vial	:	Vial 10
Sample Info	:	OP60173,SQ615,10,,,10,1,WATER
Quant Method	:	6850_0415_SQ610.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ615.batch.bin
Last Calib Update	:	2016-04-15 11:37

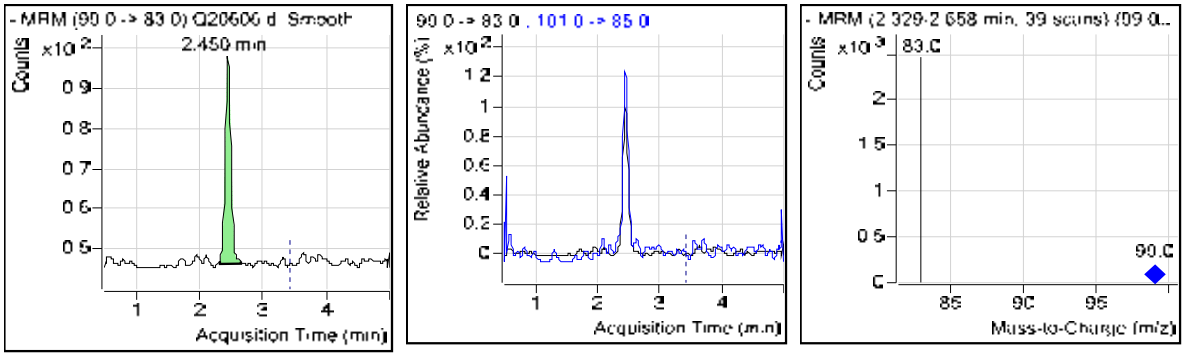
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	2.455	107.0 -> 89.0	16227	5.000	ng/ml	-0.545	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	2.450	99.0 -> 83.0	340	0.082	ng/ml	92	2.9
		101.0 -> 85.0	118				

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

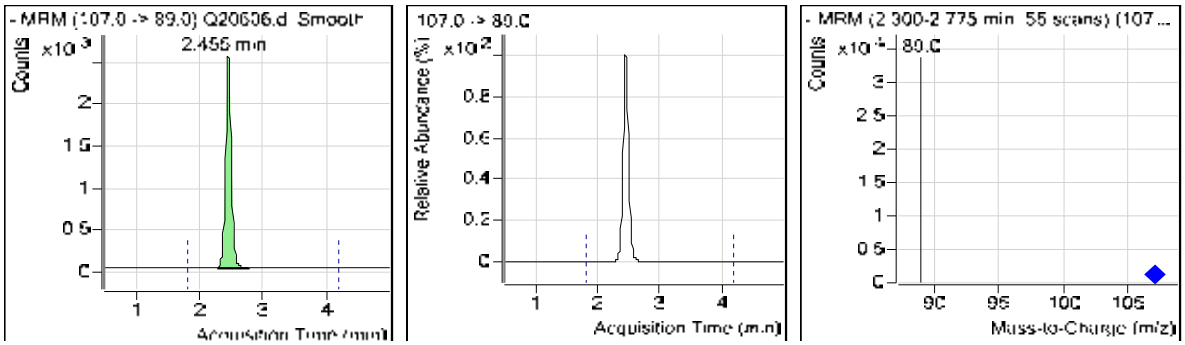
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q20606.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2016-04-22 14:35
Sample Name	:	FA33221-2
Vial	:	Vial 10
Sample Info	:	OP60173,SQ615,10,,,10,1,WATER
Quant Method	:	6850_0415_SQ610.quantmethod.xml
Tune File	:	
Tune Date	:	

Perchlorate



Cl18O4



Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q20607.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2016-04-22 14:41
Sample Name	:	FA33221-3
Vial	:	Vial 11
Sample Info	:	OP60173,SQ615,10,,,10,1,WATER
Quant Method	:	6850_0415_SQ610.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ615.batch.bin
Last Calib Update	:	2016-04-15 11:37

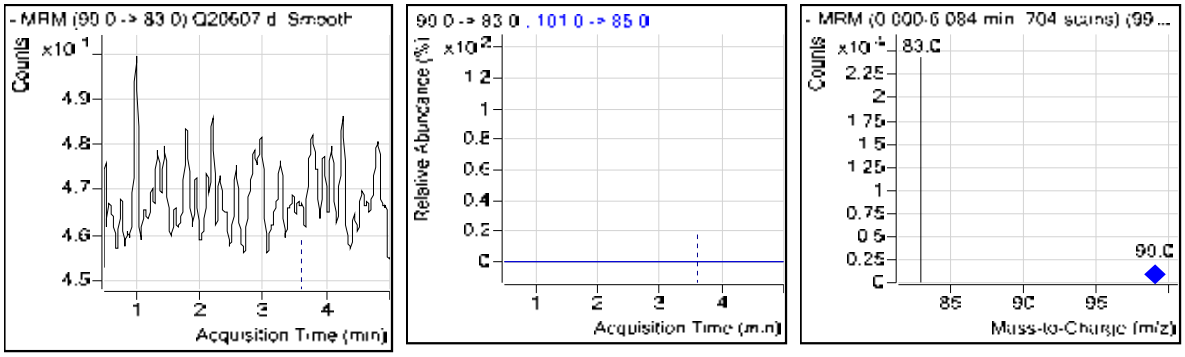
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	2.594	107.0 -> 89.0	20550	5.000	ng/ml	-0.406	
System Monitoring Compounds							
Target Compounds						Qvalue	Q-Ratio

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

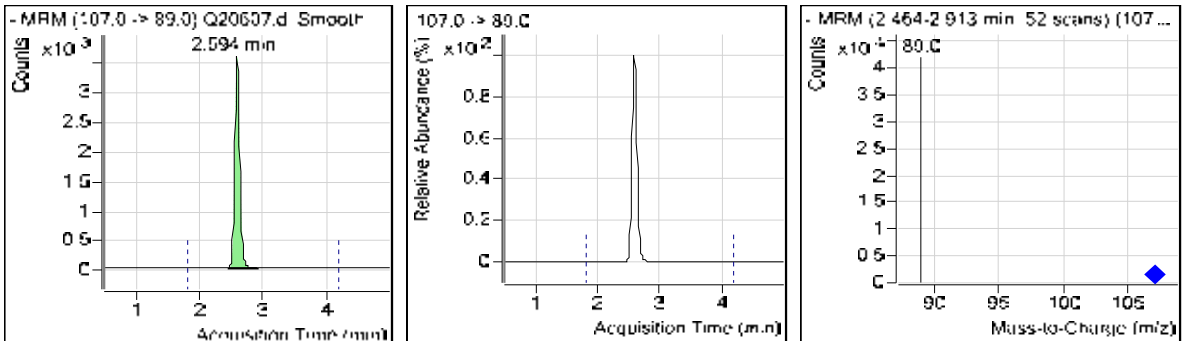
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q20607.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2016-04-22 14:41
Sample Name	:	FA33221-3
Vial	:	Vial 11
Sample Info	:	OP60173,SQ615,10,,,10,1,WATER
Quant Method	:	6850_0415_SQ610.quantmethod.xml
Tune File	:	
Tune Date	:	

Perchlorate



Cl18O4



Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q20608.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2016-04-22 14:47
Sample Name	:	FA33221-4
Vial	:	Vial 12
Sample Info	:	OP60173,SQ615,10,,,10,1,WATER
Quant Method	:	6850_0415_SQ610.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ615.batch.bin
Last Calib Update	:	2016-04-15 11:37

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	2.481	107.0 -> 89.0	15787	5.000	ng/ml	-0.519	
System Monitoring Compounds							
Target Compounds						Qvalue	Q-Ratio

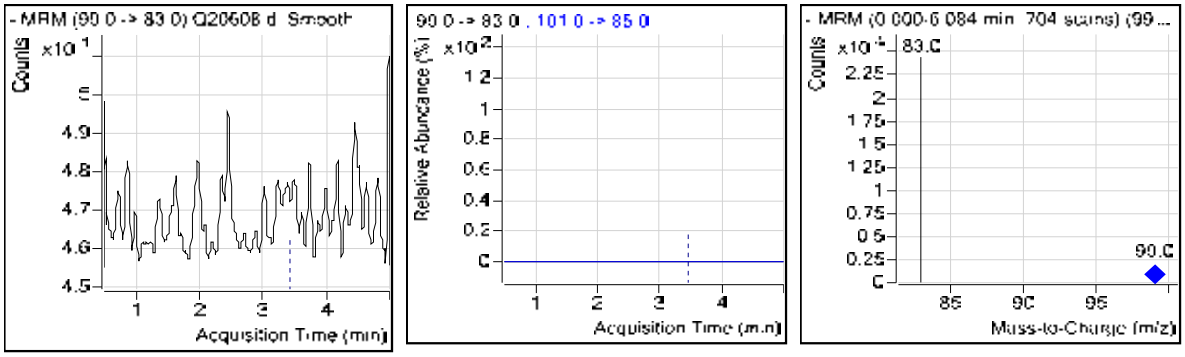
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

SGS ACCUTEST FA33221

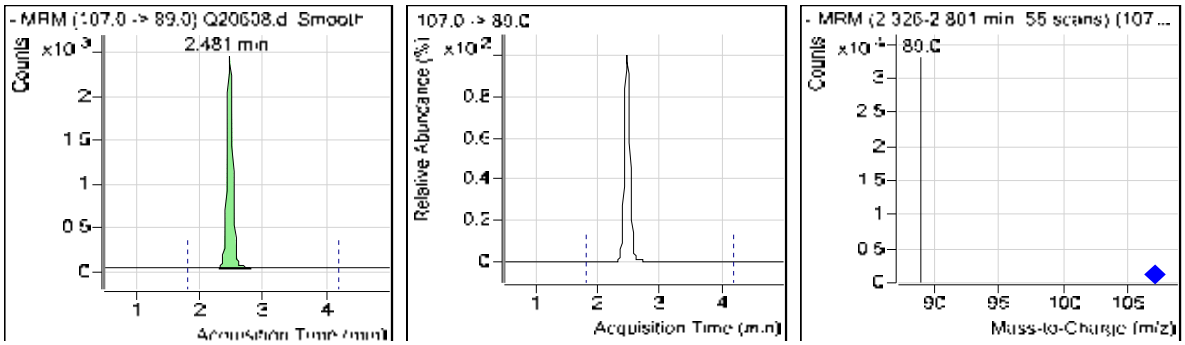
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q20608.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2016-04-22 14:47
Sample Name	:	FA33221-4
Vial	:	Vial 12
Sample Info	:	OP60173,SQ615,10,,,10,1,WATER
Quant Method	:	6850_0415_SQ610.quantmethod.xml
Tune File	:	
Tune Date	:	

Perchlorate



Cl18O4



Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q20609.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2016-04-22 14:53
Sample Name	:	FA33221-5
Vial	:	Vial 13
Sample Info	:	OP60173,SQ615,10,,,10,1,WATER
Quant Method	:	6850_0415_SQ610.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ615.batch.bin
Last Calib Update	:	2016-04-15 11:37

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	2.481	107.0 -> 89.0	16144	5.000	ng/ml	-0.519	
System Monitoring Compounds							
Target Compounds						Qvalue	Q-Ratio

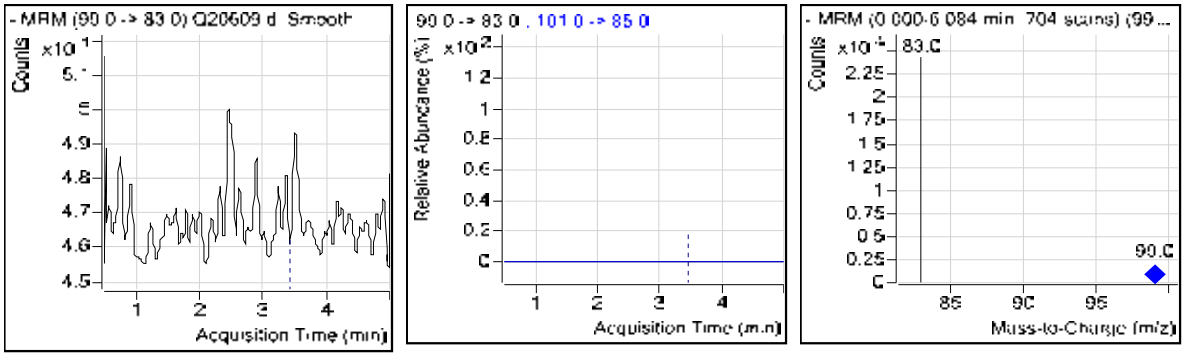
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

SGS ACCUTEST FA33221

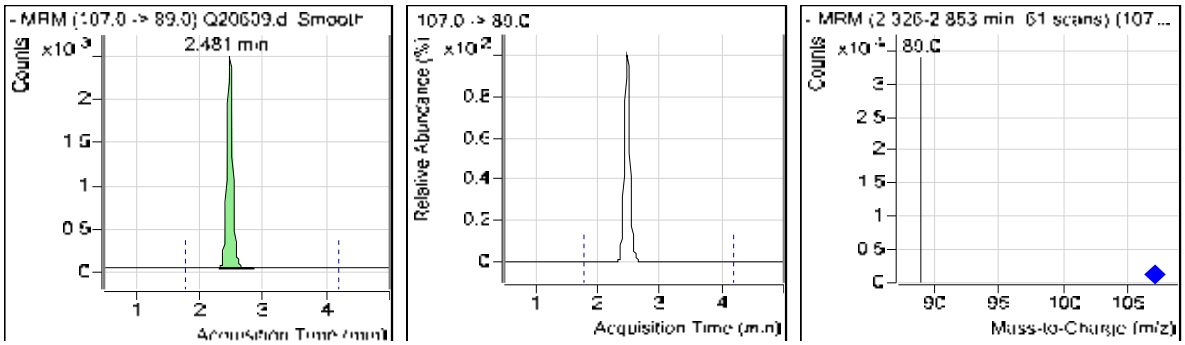
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q20609.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2016-04-22 14:53
Sample Name	:	FA33221-5
Vial	:	Vial 13
Sample Info	:	OP60173,SQ615,10,,,10,1,WATER
Quant Method	:	6850_0415_SQ610.quantmethod.xml
Tune File	:	
Tune Date	:	

Perchlorate



Cl18O4



SGS ACCUTEST FA33221

Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q20610.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2016-04-22 14:58
Sample Name	:	FA33221-6
Vial	:	Vial 14
Sample Info	:	OP60173,SQ615,10,,,10,1,WATER
Quant Method	:	6850_0415_SQ610.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ615.batch.bin
Last Calib Update	:	2016-04-15 11:37

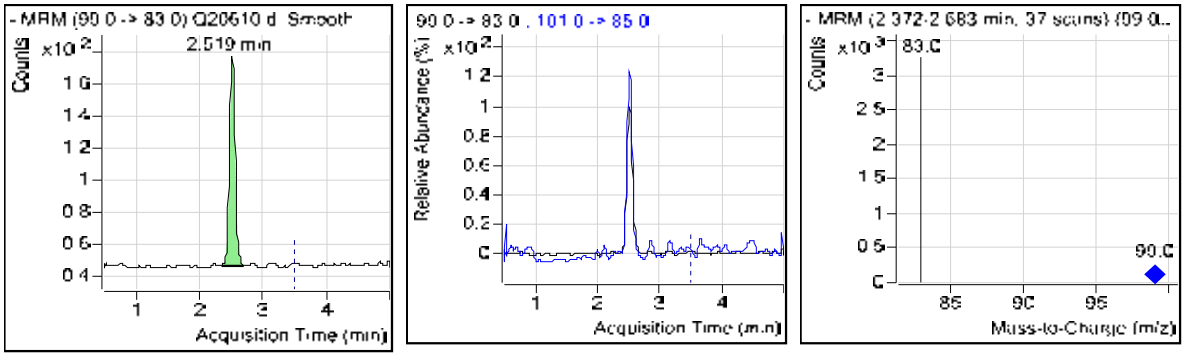
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	2.524	107.0 -> 89.0	17408	5.000	ng/ml	-0.476	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	2.519	99.0 -> 83.0	819	0.184	ng/ml	92	2.9
		101.0 -> 85.0	282				

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

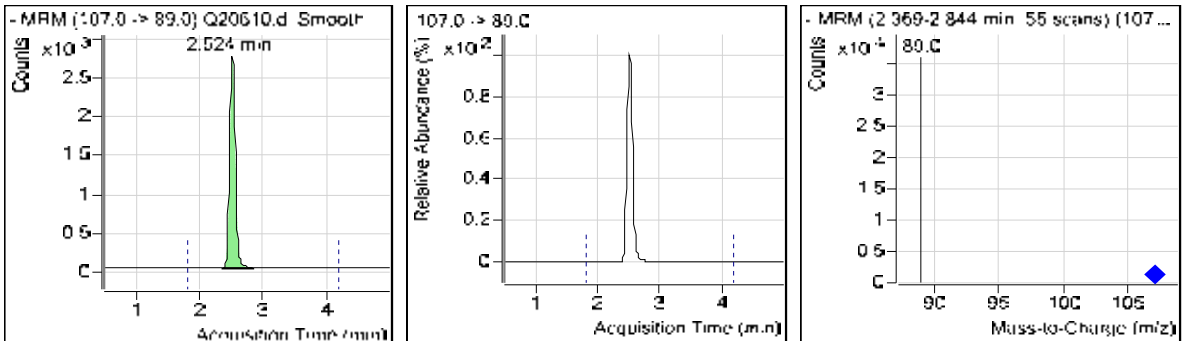
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q20610.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2016-04-22 14:58
Sample Name	:	FA33221-6
Vial	:	Vial 14
Sample Info	:	OP60173,SQ615,10,,,10,1,WATER
Quant Method	:	6850_0415_SQ610.quantmethod.xml
Tune File	:	
Tune Date	:	

Perchlorate



Cl18O4



Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q20602.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2016-04-22 14:12
Sample Name	:	OP60173-MB
Vial	:	Vial 6
Sample Info	:	OP60173,SQ615,10,,,10,1,WATER
Quant Method	:	6850_0415_SQ610.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ615.batch.bin
Last Calib Update	:	2016-04-15 11:37

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	2.585	107.0 -> 89.0	20574	5.000	ng/ml	-0.415	
System Monitoring Compounds							
Target Compounds						Qvalue	Q-Ratio

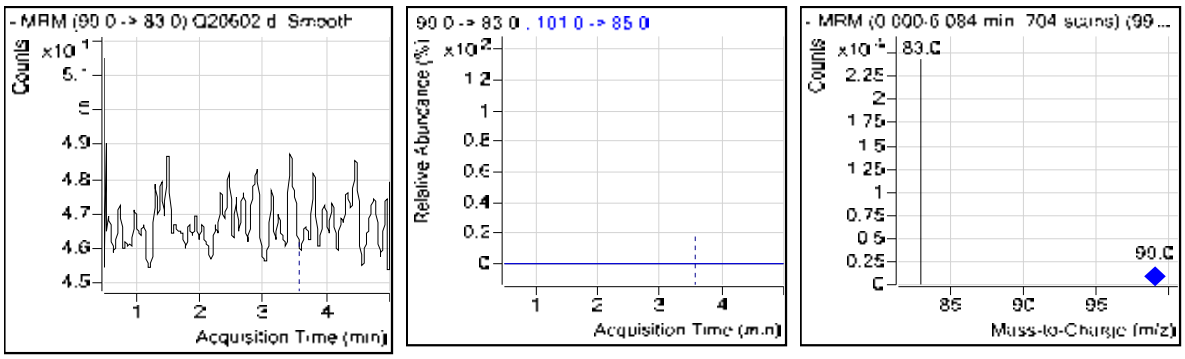
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

SGS ACCUTEST FA33221

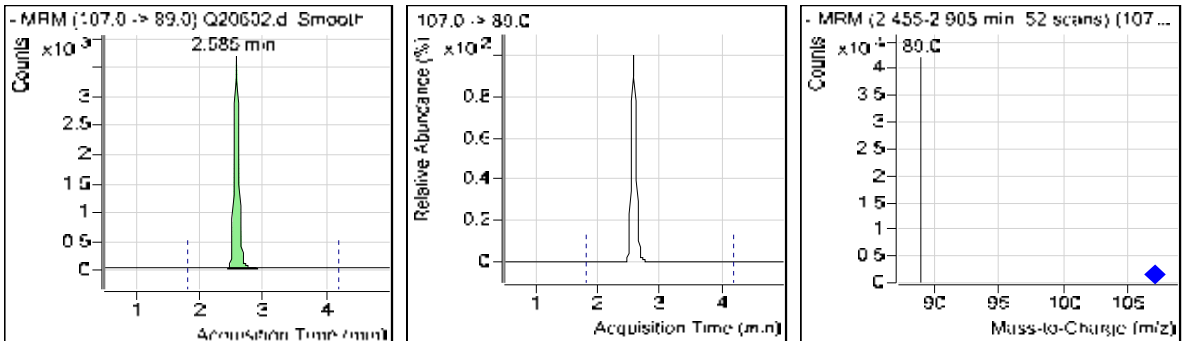
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q20602.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2016-04-22 14:12
Sample Name	:	OP60173-MB
Vial	:	Vial 6
Sample Info	:	OP60173,SQ615,10,,,10,1,WATER
Quant Method	:	6850_0415_SQ610.quantmethod.xml
Tune File	:	
Tune Date	:	

Perchlorate



Cl18O4



SGS ACCUTEST FA33221

Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q20601.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2016-04-22 14:06
Sample Name	:	OP60173-BS
Vial	:	Vial 5
Sample Info	:	OP60173,SQ615,10,,,10,1,WATER
Quant Method	:	6850_0415_SQ610.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ615.batch.bin
Last Calib Update	:	2016-04-15 11:37

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)	Q-Ratio
Internal Standards								
Cl18O4	2.585	107.0 -> 89.0	18838	5.000	ng/ml		-0.415	
System Monitoring Compounds								
Target Compounds							**Qvalue**	**Q-Ratio**
Perchlorate	2.580	99.0 -> 83.0	916	0.191	ng/ml	#	80	2.4
		101.0 -> 85.0	374					

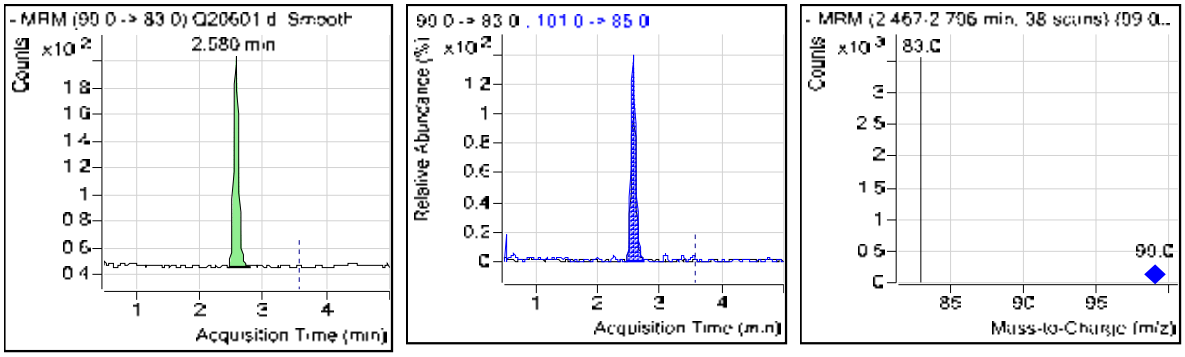
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

SGS ACCUTEST FA33221

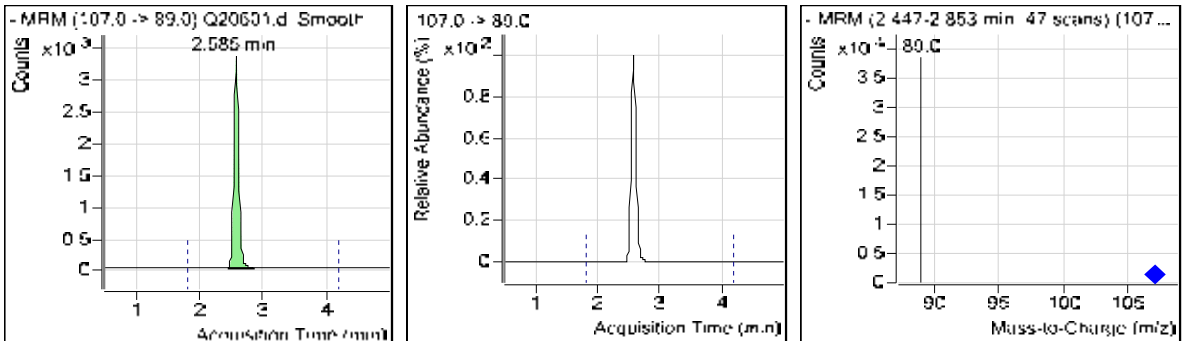
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q20601.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2016-04-22 14:06
Sample Name	:	OP60173-BS
Vial	:	Vial 5
Sample Info	:	OP60173,SQ615,10,,,10,1,WATER
Quant Method	:	6850_0415_SQ610.quantmethod.xml
Tune File	:	
Tune Date	:	

Perchlorate



ClO4



Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q20604.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2016-04-22 14:24
Sample Name	:	OP60173-MS
Vial	:	Vial 8
Sample Info	:	OP60173,SQ615,10,,,10,1,WATER
Quant Method	:	6850_0415_SQ610.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ615.batch.bin
Last Calib Update	:	2016-04-15 11:37

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	2.481	107.0 -> 89.0	16985	5.000	ng/ml	-0.519	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	2.485	99.0 -> 83.0	5768	1.330	ng/ml	88	2.7
		101.0 -> 85.0	2099				

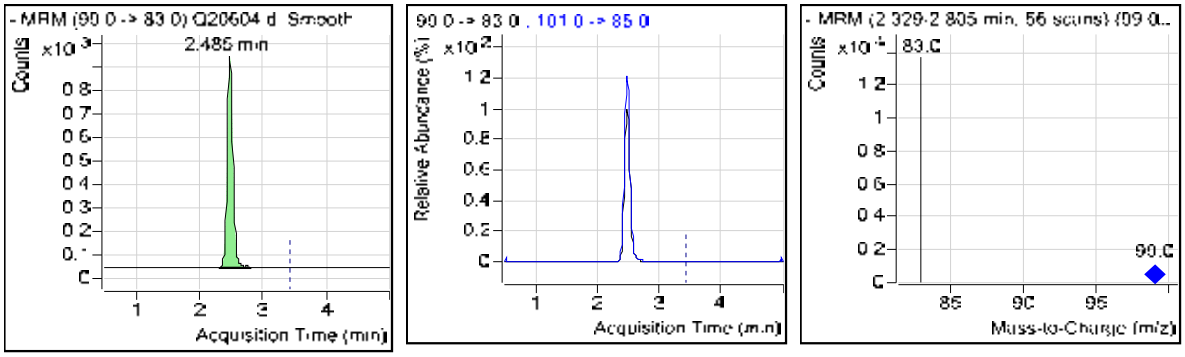
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

SGS ACCUTEST FA33221

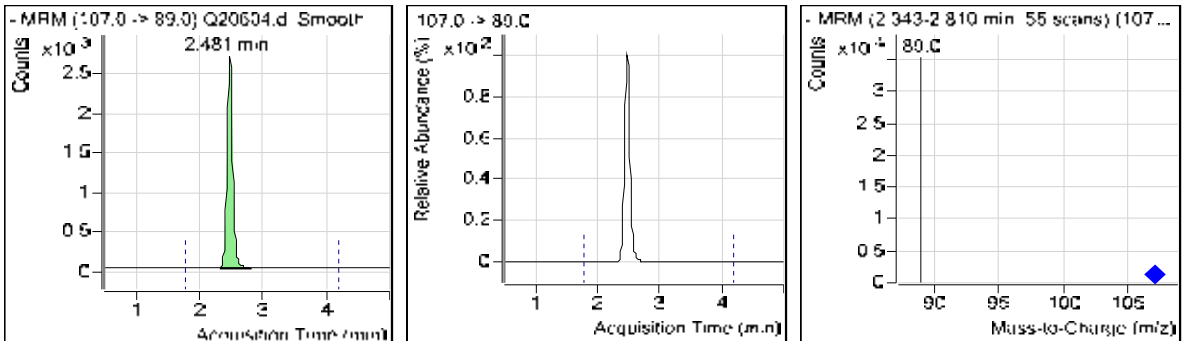
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q20604.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2016-04-22 14:24
Sample Name	:	OP60173-MS
Vial	:	Vial 8
Sample Info	:	OP60173,SQ615,10,,,10,1,WATER
Quant Method	:	6850_0415_SQ610.quantmethod.xml
Tune File	:	
Tune Date	:	

Perchlorate



Cl18O4



SGS ACCUTEST FA33221

Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q20605.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2016-04-22 14:29
Sample Name	:	OP60173-MSD
Vial	:	Vial 9
Sample Info	:	OP60173,SQ615,10,,,10,1,WATER
Quant Method	:	6850_0415_SQ610.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ615.batch.bin
Last Calib Update	:	2016-04-15 11:37

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	2.490	107.0 -> 89.0	16833	5.000	ng/ml	-0.510	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	2.493	99.0 -> 83.0	5819	1.354	ng/ml	91	2.9
		101.0 -> 85.0	2031				

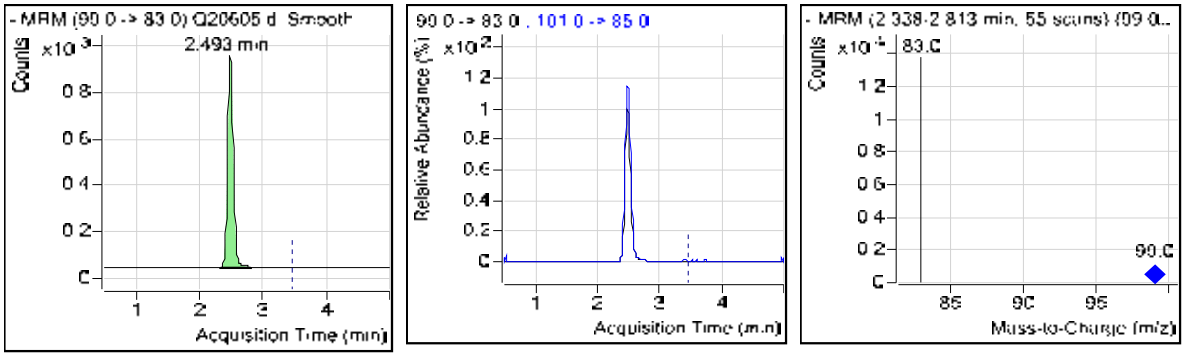
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

SGS ACCUTEST FA33221

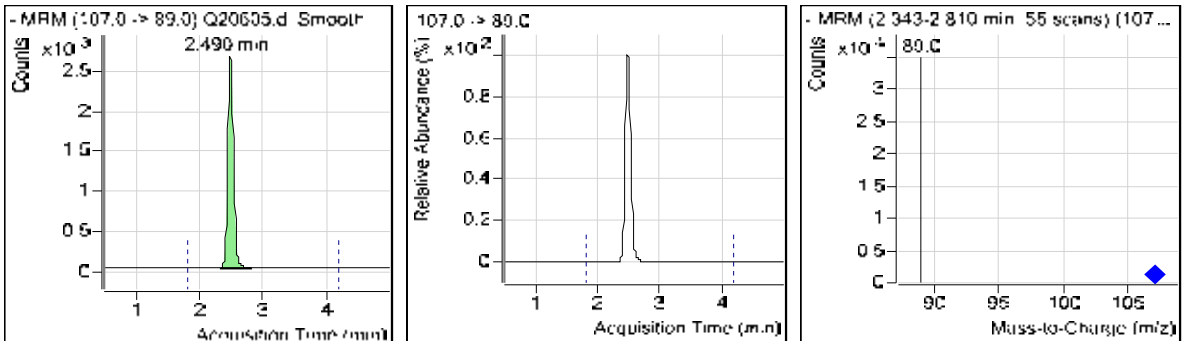
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q20605.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2016-04-22 14:29
Sample Name	:	OP60173-MSD
Vial	:	Vial 9
Sample Info	:	OP60173,SQ615,10,,,10,1,WATER
Quant Method	:	6850_0415_SQ610.quantmethod.xml
Tune File	:	
Tune Date	:	

Perchlorate



Cl18O4



SGS ACCUTEST FA33221

Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q20374.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2016-04-15 10:40
Sample Name	:	IC610-0.2
Vial	:	Vial 2
Sample Info	:	OP60096,SQ610,10,,,10,1,WATER
Quant Method	:	6850_0415_SQ610.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ610.batch.bin
Last Calib Update	:	2016-04-15 13:27

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	2.602	107.0 -> 89.0	19633	5.000	ng/ml	-0.398	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	2.606	99.0 -> 83.0	898	0.179	ng/ml	97	3.2
		101.0 -> 85.0	282				

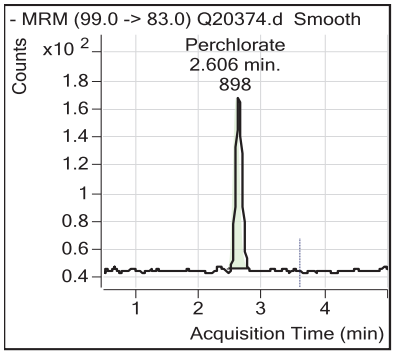
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

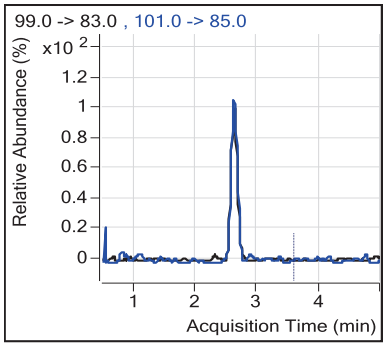
SGS ACCUTEST FA33221

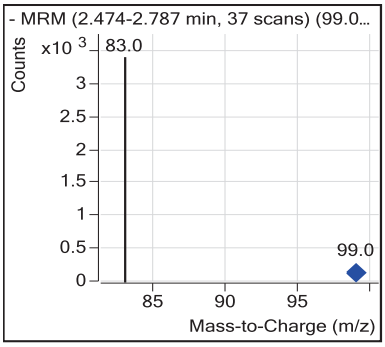
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q20374.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2016-04-15 10:40
Sample Name	:	IC610-0.2
Vial	:	Vial 2
Sample Info	:	OP60096,SQ610,10,,,10,1,WATER
Quant Method	:	6850_0415_SQ610.quantmethod.xml
Tune File	:	
Tune Date	:	

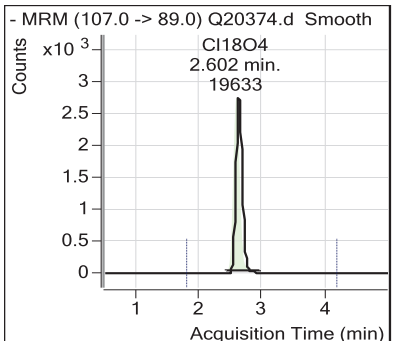
Perchlorate

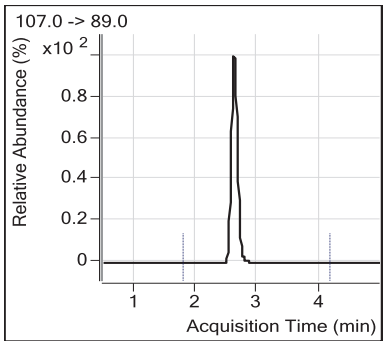


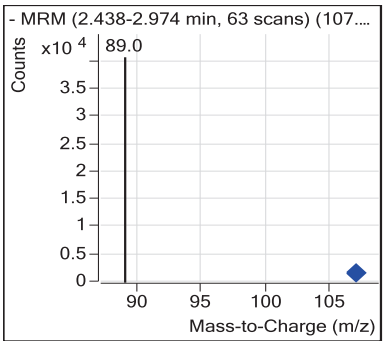




Cl18O4







SGS ACCUTEST FA33221

Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q20375.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2016-04-15 10:46
Sample Name	:	IC610-0.5
Vial	:	Vial 3
Sample Info	:	OP60096,SQ610,10,,,10,1,WATER
Quant Method	:	6850_0415_SQ610.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ610.batch.bin
Last Calib Update	:	2016-04-15 13:27

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	2.611	107.0 -> 89.0	19327	5.000	ng/ml	-0.389	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	2.606	99.0 -> 83.0	2241	0.454	ng/ml	91	2.9
		101.0 -> 85.0	783				

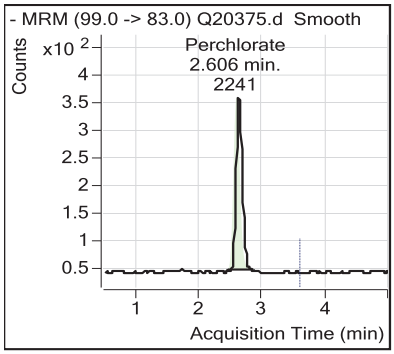
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

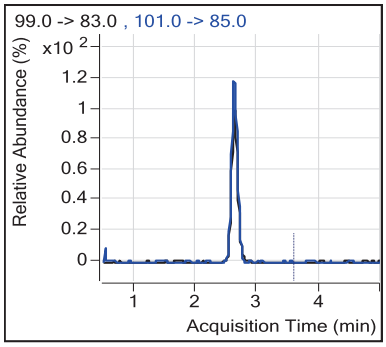
SGS ACCUTEST FA33221

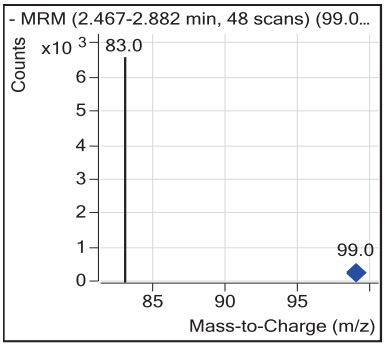
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q20375.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2016-04-15 10:46
Sample Name	:	IC610-0.5
Vial	:	Vial 3
Sample Info	:	OP60096,SQ610,10,,,10,1,WATER
Quant Method	:	6850_0415_SQ610.quantmethod.xml
Tune File	:	
Tune Date	:	

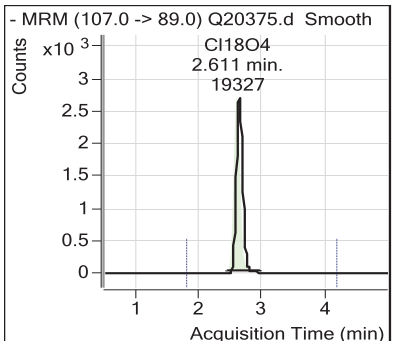
Perchlorate

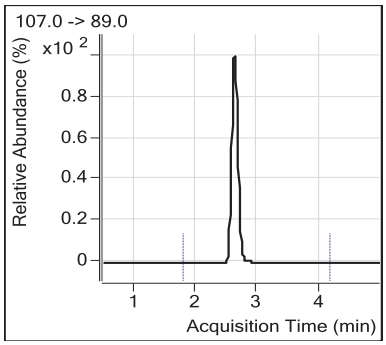


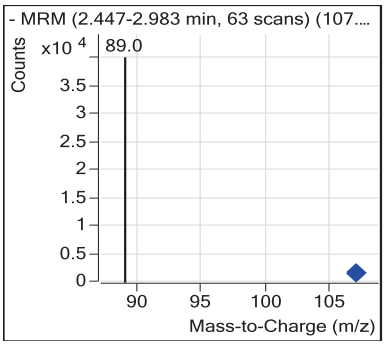




Cl18O4







SGS ACCUTEST FA33221

Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q20376.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2016-04-15 10:52
Sample Name	:	IC610-1.0
Vial	:	Vial 4
Sample Info	:	OP60096,SQ610,10,,,10,1,WATER
Quant Method	:	6850_0415_SQ610.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ610.batch.bin
Last Calib Update	:	2016-04-15 13:27

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	2.620	107.0 -> 89.0	18817	5.000	ng/ml	-0.381	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	2.614	99.0 -> 83.0	4513	0.940	ng/ml	93	3.0
		101.0 -> 85.0	1523				

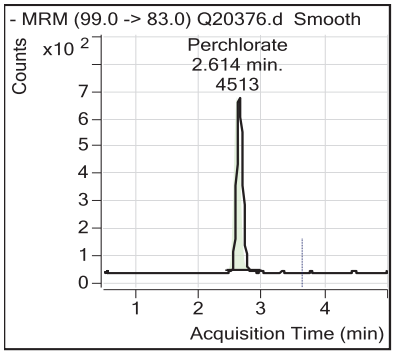
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

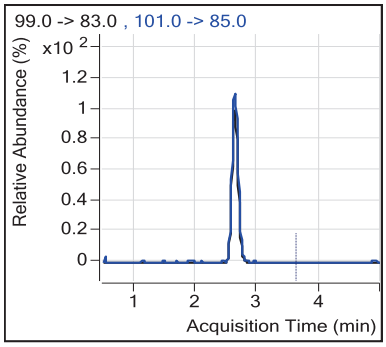
SGS ACCUTEST FA33221

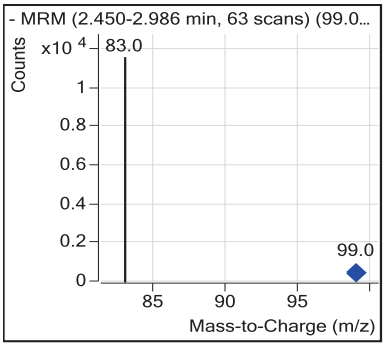
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q20376.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2016-04-15 10:52
Sample Name	:	IC610-1.0
Vial	:	Vial 4
Sample Info	:	OP60096,SQ610,10,,,10,1,WATER
Quant Method	:	6850_0415_SQ610.quantmethod.xml
Tune File	:	
Tune Date	:	

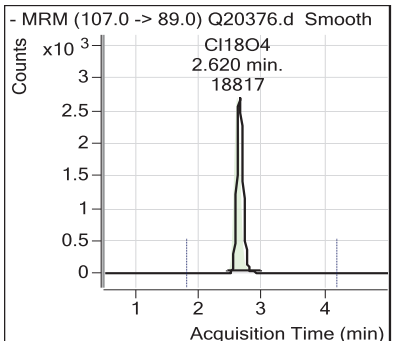
Perchlorate

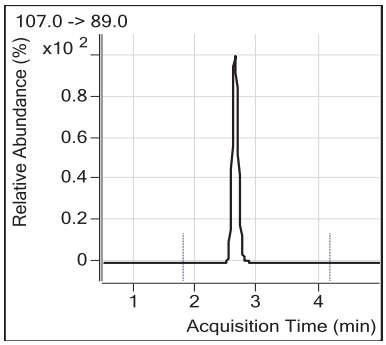


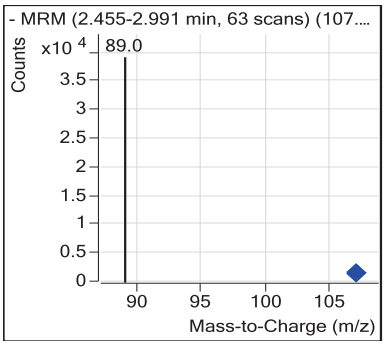




Cl18O4







SGS ACCUTEST FA33221

Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q20377.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2016-04-15 10:58
Sample Name	:	ICC610-2.0
Vial	:	Vial 5
Sample Info	:	OP60096,SQ610,10,,,10,1,WATER
Quant Method	:	6850_0415_SQ610.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ610.batch.bin
Last Calib Update	:	2016-04-15 13:27

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	2.620	107.0 -> 89.0	18364	5.000	ng/ml	-0.381	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	2.623	99.0 -> 83.0	8939	1.905	ng/ml	91	2.8
		101.0 -> 85.0	3137				

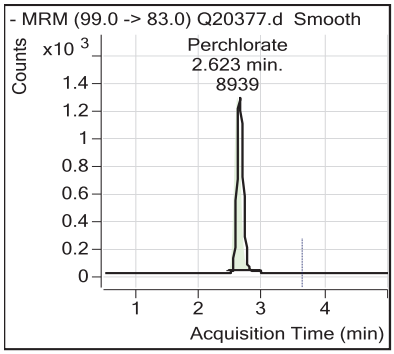
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

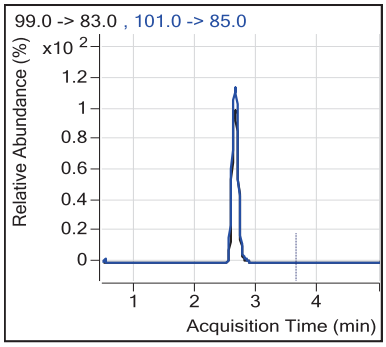
SGS ACCUTEST FA33221

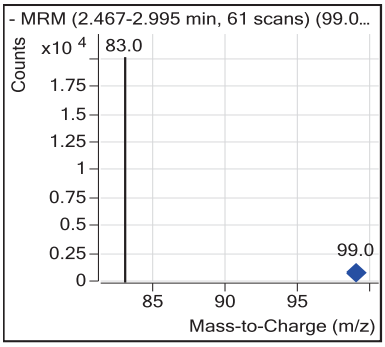
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q20377.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2016-04-15 10:58
Sample Name	:	ICC610-2.0
Vial	:	Vial 5
Sample Info	:	OP60096,SQ610,10,,,10,1,WATER
Quant Method	:	6850_0415_SQ610.quantmethod.xml
Tune File	:	
Tune Date	:	

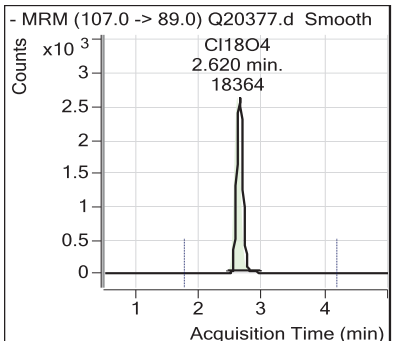
Perchlorate

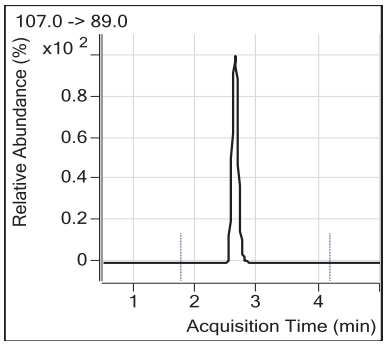


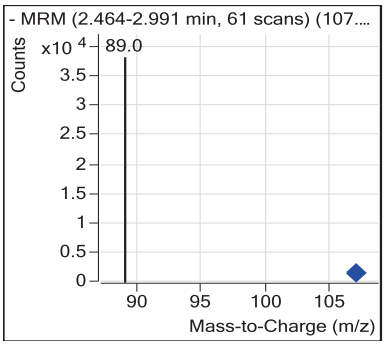




Cl18O4







SGS ACCUTEST FA33221

Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q20378.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2016-04-15 11:03
Sample Name	:	IC610-5.0
Vial	:	Vial 6
Sample Info	:	OP60096,SQ610,10,,,10,1,WATER
Quant Method	:	6850_0415_SQ610.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ610.batch.bin
Last Calib Update	:	2016-04-15 13:27

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	2.620	107.0 -> 89.0	17770	5.000	ng/ml	-0.381	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	2.623	99.0 -> 83.0	21835	4.790	ng/ml	87	2.7
		101.0 -> 85.0	8103				

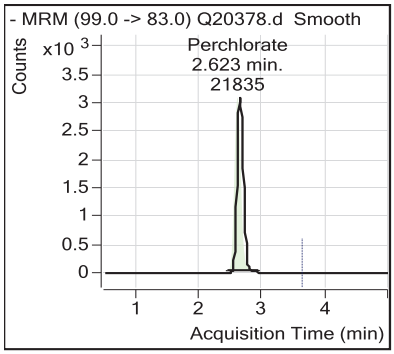
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

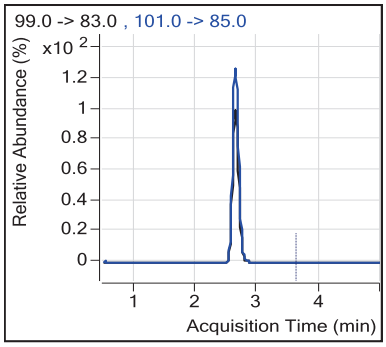
SGS ACCUTEST FA33221

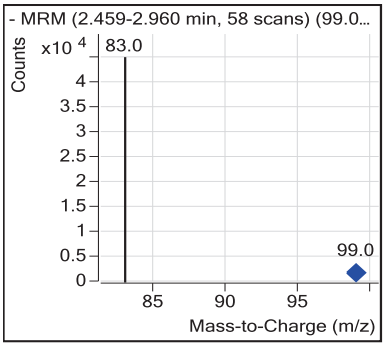
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q20378.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2016-04-15 11:03
Sample Name	:	IC610-5.0
Vial	:	Vial 6
Sample Info	:	OP60096,SQ610,10,,,10,1,WATER
Quant Method	:	6850_0415_SQ610.quantmethod.xml
Tune File	:	
Tune Date	:	

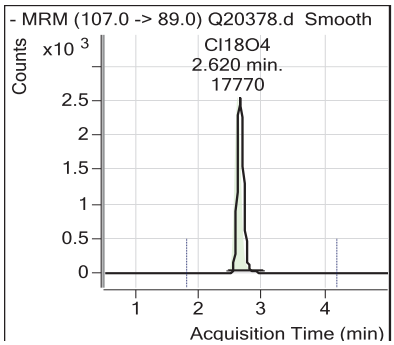
Perchlorate

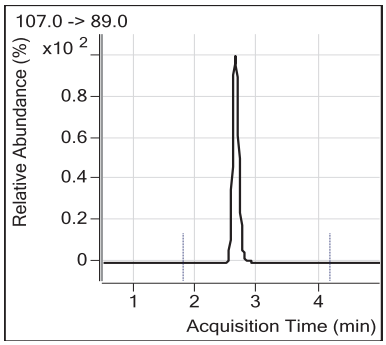


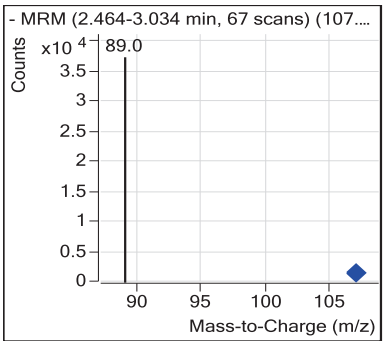




Cl18O4







SGS ACCUTEST FA33221

Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q20379.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2016-04-15 11:09
Sample Name	:	IC610-10
Vial	:	Vial 7
Sample Info	:	OP60096,SQ610,10,,,10,1,WATER
Quant Method	:	6850_0415_SQ610.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ610.batch.bin
Last Calib Update	:	2016-04-15 13:27

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	2.628	107.0 -> 89.0	16272	5.000	ng/ml	-0.372	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	2.632	99.0 -> 83.0	41318	9.837	ng/ml	87	2.7
		101.0 -> 85.0	15225				

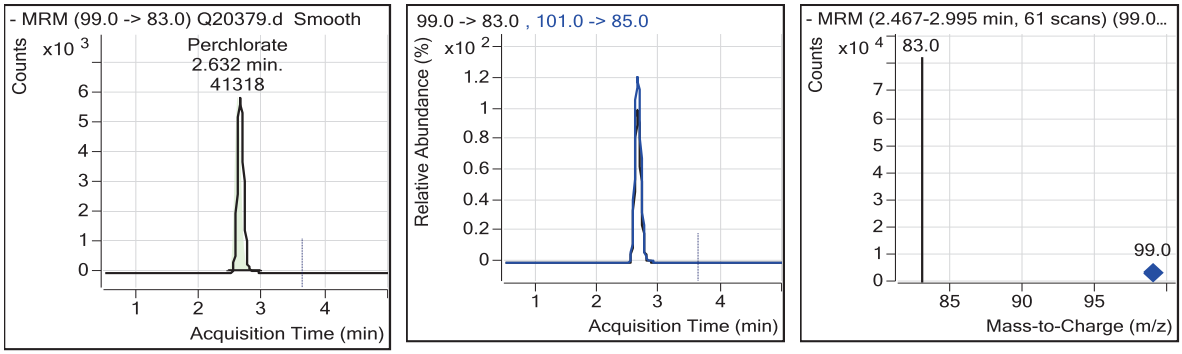
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

SGS ACCUTEST FA33221

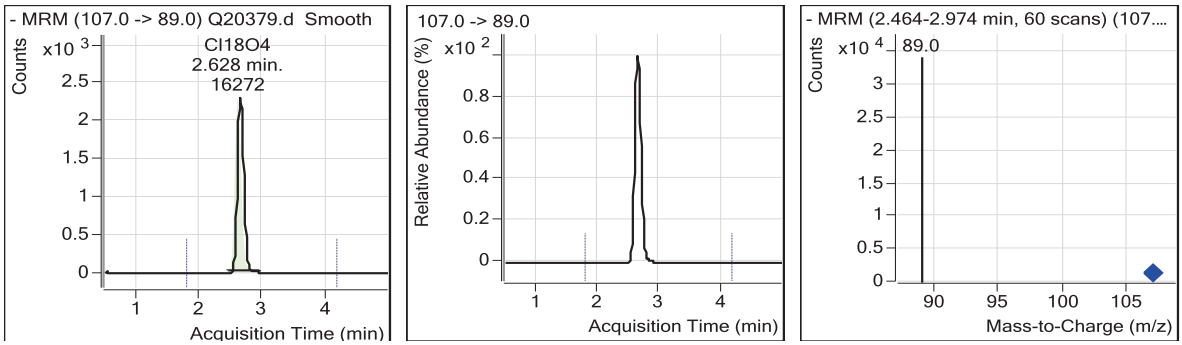
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q20379.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2016-04-15 11:09
Sample Name	:	IC610-10
Vial	:	Vial 7
Sample Info	:	OP60096,SQ610,10,,,10,1,WATER
Quant Method	:	6850_0415_SQ610.quantmethod.xml
Tune File	:	
Tune Date	:	

Perchlorate



Cl18O4



SGS ACCUTEST FA33221

Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q20380.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2016-04-15 11:15
Sample Name	:	IC610-25
Vial	:	Vial 8
Sample Info	:	OP60096,SQ610,10,,,10,1,WATER
Quant Method	:	6850_0415_SQ610.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ610.batch.bin
Last Calib Update	:	2016-04-15 13:27

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	2.628	107.0 -> 89.0	13611	5.000	ng/ml	-0.372	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	2.632	99.0 -> 83.0	90197	25.193	ng/ml	90	2.8
		101.0 -> 85.0	32134				

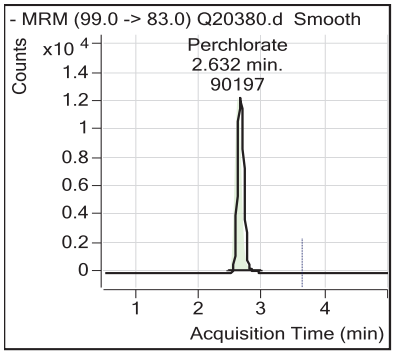
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

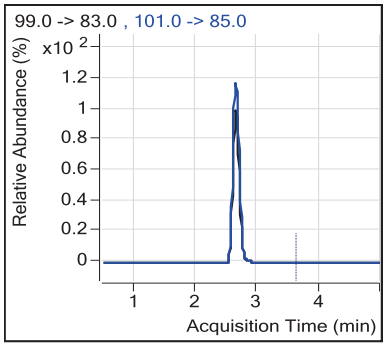
SGS ACCUTEST FA33221

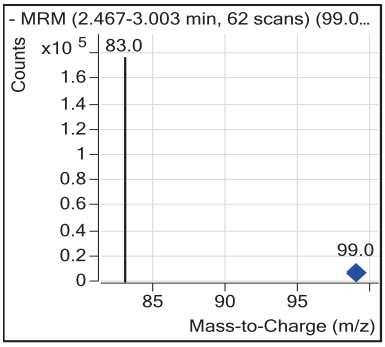
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q20380.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2016-04-15 11:15
Sample Name	:	IC610-25
Vial	:	Vial 8
Sample Info	:	OP60096,SQ610,10,,,10,1,WATER
Quant Method	:	6850_0415_SQ610.quantmethod.xml
Tune File	:	
Tune Date	:	

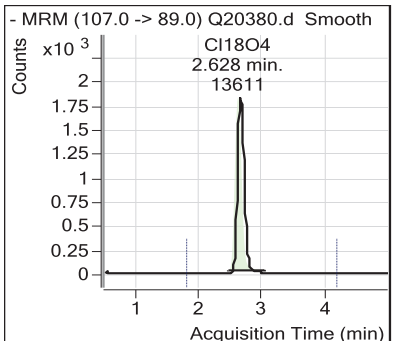
Perchlorate

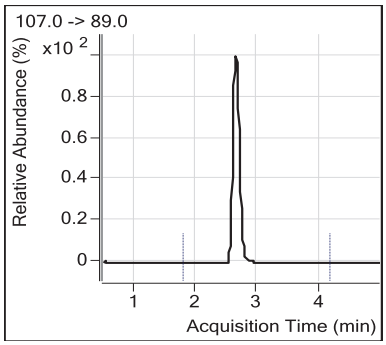


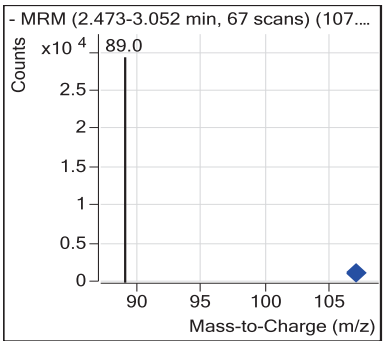




Cl18O4







SGS ACCUTEST FA33221

Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q20381.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2016-04-15 11:21
Sample Name	:	IC610-50
Vial	:	Vial 9
Sample Info	:	OP60096,SQ610,10,,,10,1,WATER
Quant Method	:	6850_0415_SQ610.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ610.batch.bin
Last Calib Update	:	2016-04-15 13:27

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	2.637	107.0 -> 89.0	10433	5.000	ng/ml	-0.363	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	2.632	99.0 -> 83.0	141253	49.962	ng/ml	90	2.8
		101.0 -> 85.0	49914				

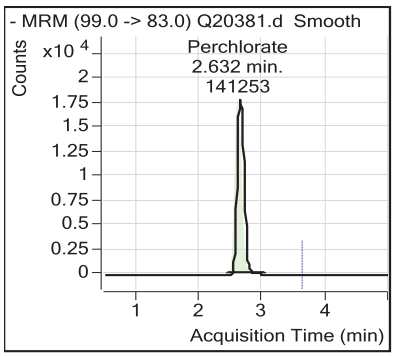
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

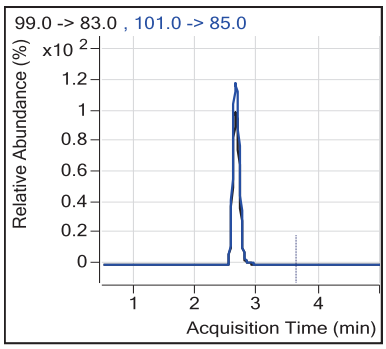
SGS ACCUTEST FA33221

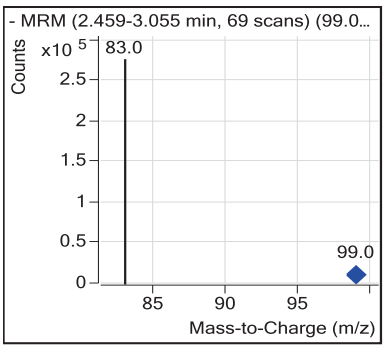
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q20381.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2016-04-15 11:21
Sample Name	:	IC610-50
Vial	:	Vial 9
Sample Info	:	OP60096,SQ610,10,,,10,1,WATER
Quant Method	:	6850_0415_SQ610.quantmethod.xml
Tune File	:	
Tune Date	:	

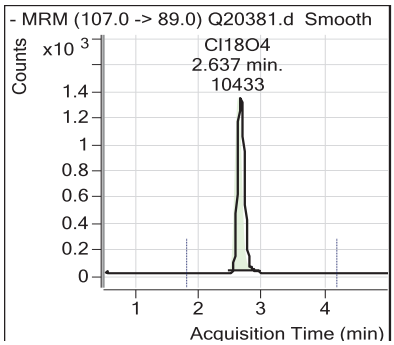
Perchlorate

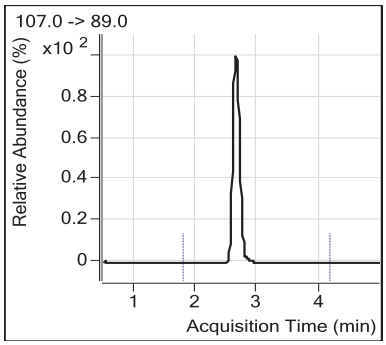


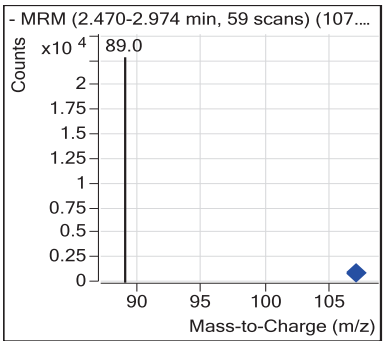




Cl18O4







SGS ACCUTEST FA33221

Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q20382.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2016-04-15 11:28
Sample Name	:	ICV610-2.0
Vial	:	Vial 10
Sample Info	:	OP60096,SQ610,10,,,10,1,WATER
Quant Method	:	6850_0415_SQ610.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ610.batch.bin
Last Calib Update	:	2016-04-15 13:27

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	2.637	107.0 -> 89.0	19369	5.000	ng/ml	-0.363	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	2.640	99.0 -> 83.0	8765	1.771	ng/ml	90	2.8
		101.0 -> 85.0	3095				

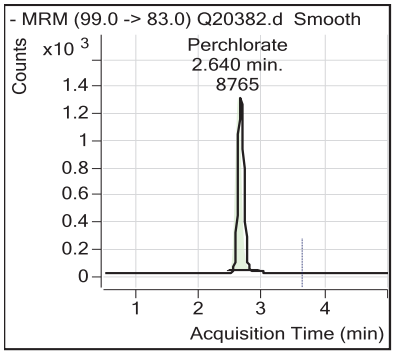
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

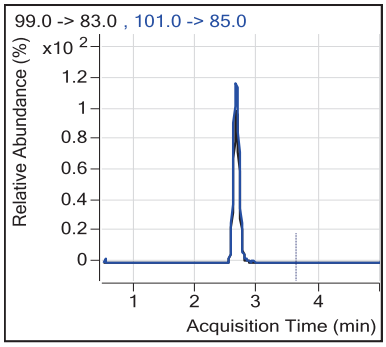
SGS ACCUTEST FA33221

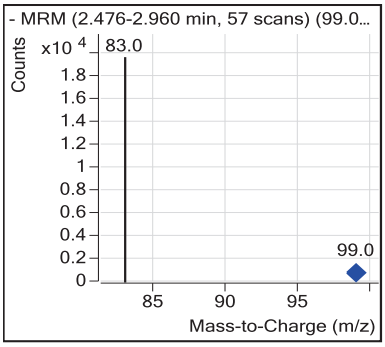
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q20382.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2016-04-15 11:28
Sample Name	:	ICV610-2.0
Vial	:	Vial 10
Sample Info	:	OP60096,SQ610,10,,,10,1,WATER
Quant Method	:	6850_0415_SQ610.quantmethod.xml
Tune File	:	
Tune Date	:	

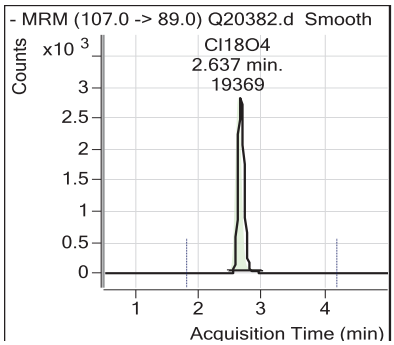
Perchlorate

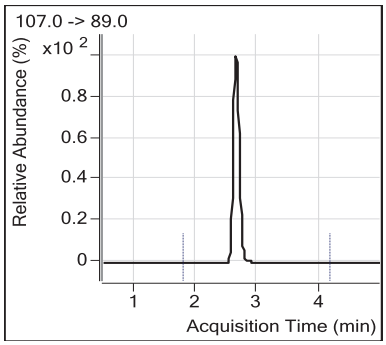


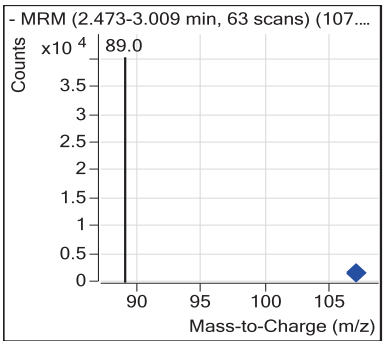




Cl18O4







Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q20598.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2016-04-22 13:44
Sample Name	:	CC610-2.0
Vial	:	Vial 2
Sample Info	:	OP60173,SQ615,10,,,10,1,WATER
Quant Method	:	6850_0415_SQ610.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ615.batch.bin
Last Calib Update	:	2016-04-15 11:37

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	2.568	107.0 -> 89.0	18140	5.000	ng/ml	-0.432	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	2.571	99.0 -> 83.0	9426	2.033	ng/ml	88	2.8
		101.0 -> 85.0	3424				

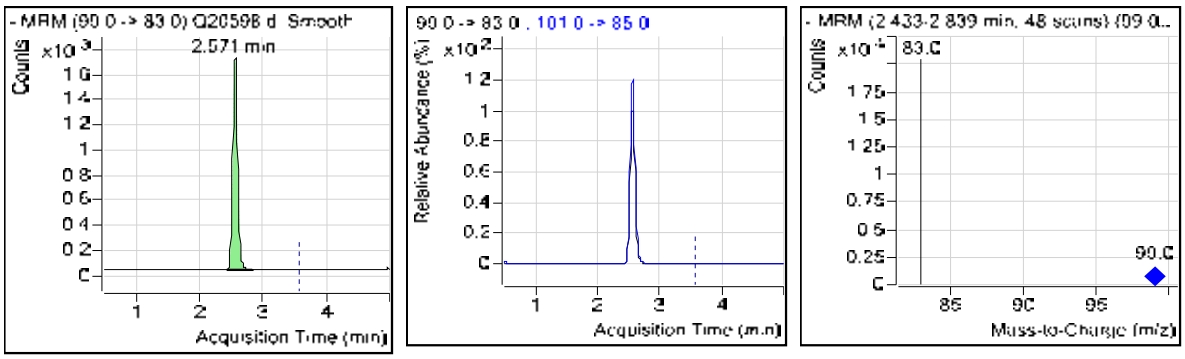
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

SGS ACCUTEST FA33221

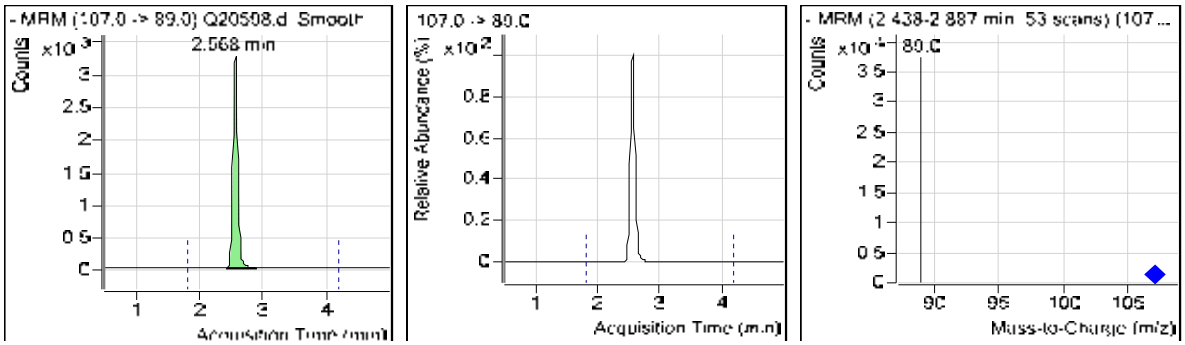
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q20598.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2016-04-22 13:44
Sample Name	:	CC610-2.0
Vial	:	Vial 2
Sample Info	:	OP60173,SQ615,10,,,10,1,WATER
Quant Method	:	6850_0415_SQ610.quantmethod.xml
Tune File	:	
Tune Date	:	

Perchlorate



Cl18O4



Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q20599.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2016-04-22 13:50
Sample Name	:	CC610-0.2
Vial	:	Vial 3
Sample Info	:	OP60173,SQ615,10,,,10,1,WATER
Quant Method	:	6850_0415_SQ610.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ615.batch.bin
Last Calib Update	:	2016-04-15 11:37

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	2.576	107.0 -> 89.0	20073	5.000	ng/ml	-0.424	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	2.580	99.0 -> 83.0	1025	0.200	ng/ml	100	3.3
		101.0 -> 85.0	310				

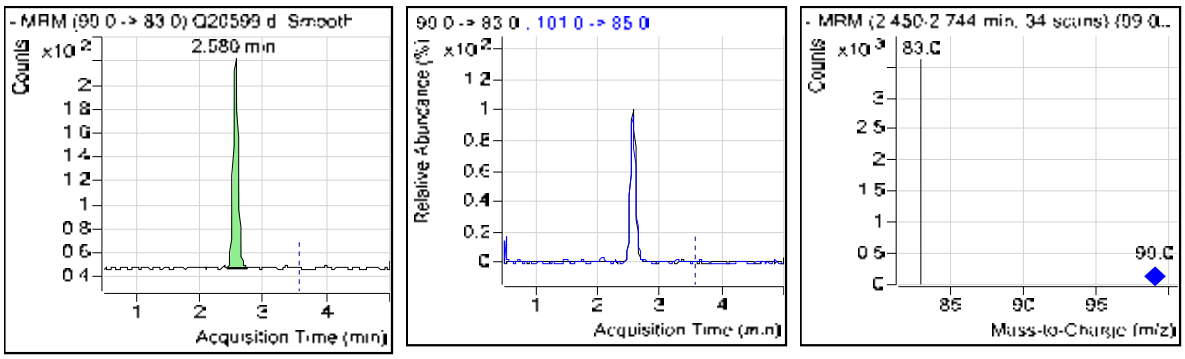
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

SGS ACCUTEST FA33221

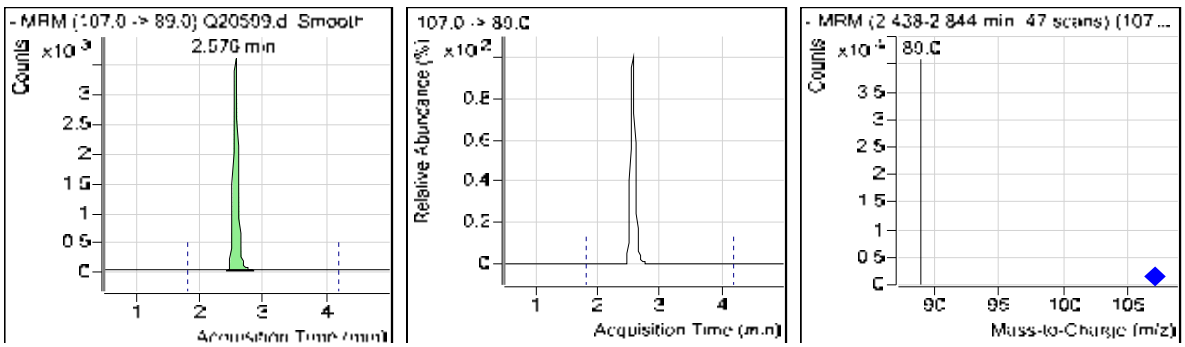
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q20599.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2016-04-22 13:50
Sample Name	:	CC610-0.2
Vial	:	Vial 3
Sample Info	:	OP60173,SQ615,10,,,10,1,WATER
Quant Method	:	6850_0415_SQ610.quantmethod.xml
Tune File	:	
Tune Date	:	

Perchlorate



Cl18O4



Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q20611.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2016-04-22 15:04
Sample Name	:	CC610-2.0
Vial	:	Vial 2
Sample Info	:	OP60173,SQ615,10,,,10,1,WATER
Quant Method	:	6850_0415_SQ610.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ615.batch.bin
Last Calib Update	:	2016-04-15 11:37

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	2.602	107.0 -> 89.0	20559	5.000	ng/ml	-0.398	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	2.606	99.0 -> 83.0	10054	1.913	ng/ml	90	2.8
		101.0 -> 85.0	3563				

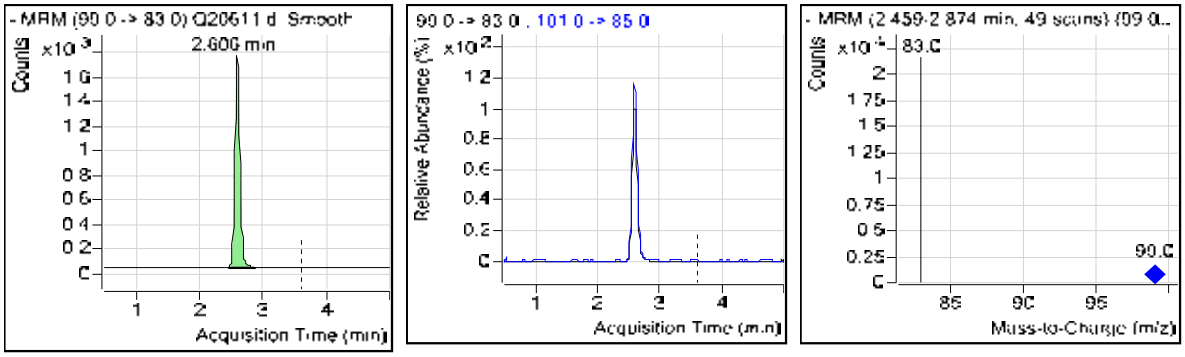
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

SGS ACCUTEST FA33221

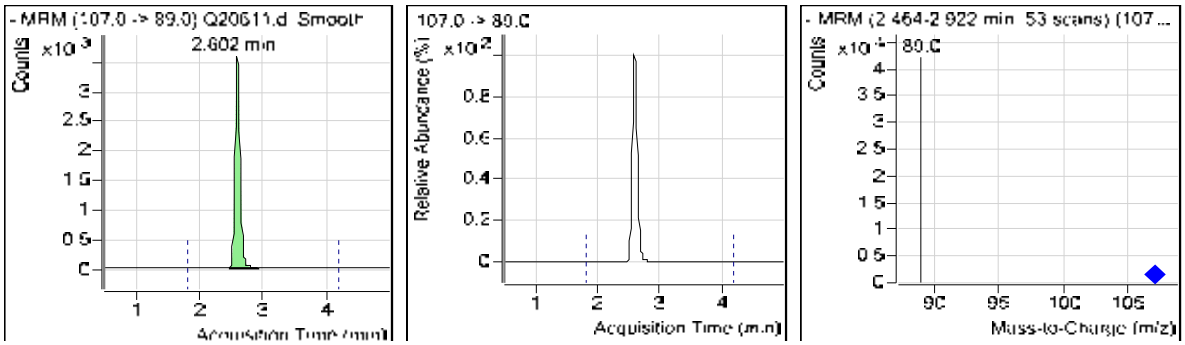
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q20611.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate.m
Acquisition date	:	2016-04-22 15:04
Sample Name	:	CC610-2.0
Vial	:	Vial 2
Sample Info	:	OP60173,SQ615,10,,,10,1,WATER
Quant Method	:	6850_0415_SQ610.quantmethod.xml
Tune File	:	
Tune Date	:	

Perchlorate



Cl18O4



SGS ACCUTEST FA33221

ACCUTEST LABORATORIES SE

DATE:	04-17-16
COLUMN TYPE:	K Prime
AMOUNT INJECTED:	5 ul
INSTRUMENT:	LCMS1-Q
HEAD PRESSURE:	119

LCMS1-Q ANALYSIS LOG

METHODS:	6850
ACQ. METHOD:	Proclorable
PROC. METHOD:	6850 04117 SQ610
CALIB. DATE:	04-17-16
RUN BATCH: SQ	610

ANALYST:	MAS
SOLVENT A LOT #:	5717 158747 / 158647
SOLVENT B LOT #:	5715 158647 / 158747
WATER LOT #:	158747
ISTD Lot #:	7894

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	SCON	ION RATIO	MANUAL INTS RATIONALE, PK #	COMMENTS
Q 20366	1	CCB	6850	—	—	LIQK	—		ND
Q 67	1	CCB					—		ND
Q 68	1	CCB					—		ND
Q 69	1	CCB					—		ND
Q 70	1	CCB					—		ND
Q 71	1	CCB					—		ND
Q 72	1	CCB					—		ND
Q 73	R1	CCB					—		ND Pass going high on curve
Q 74	2	ICL610-0.2		LL630	20ml (5ml)		3.2		✓
Q 75	3	-0.5			50ml 10ml		2.9		✓
Q 76	4	-1.0			100ml 10ml		3.0		✓
Q 77	5	ICCL610 -2.0			200ml (5ml)		2.8		✓
Q 78	6	ICL610 -5.0			500ml 10ml		2.7		✓
Q 79	7	-10			1 ml 10ml		2.7		✓
Q 80	8	-25			2.5ml 10ml		2.8		✓
Q 81	9	-50		↓	5ml 10ml		2.8		✓
Q 82	10	ICV 610-1.0		LL631	20ml 10ml	+	2.8		Pass
Q 83	11	ICS 610-0.2			20ml (5ml)	7NK41TK	2.9		high on remake
Q 84	12	-0.2		↓	↓	+	2.9		Pass
Q 85	12	0160046-BS	↓	OP60046	1X	L10L	2.5		✓

Manual Integration Rationale SOP OA029: MP Missed Peak, OP Overlapping Peak, SP Split Peak, PDB Poorly Defined Baseline SR Baseline Ripple, PII Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

LCMS1 Q log.xls NF rev 10/12

Analyst's Signature:

ACCUTEST LABORATORIES SE

DATE:	04-15-16
COLUMN TYPE:	RTX 5MS
AMOUNT INJECTED:	5 ul
INSTRUMENT:	LCMS1-Q
HEAD PRESSURE:	119

LCMS1-Q ANALYSIS LOG

METHODS:	6610
ACQ. METHOD:	Perchlorate
PROC. METHOD:	6610 0415 SB10
CALIB. DATE:	04-15-16
RUN BATCH:	SQ 610

ANALYST:	NAS
SOLVENT A LOT #:	9515 158943 / 158943
SOLVENT B LOT #:	9515 158963 / 158963
WATER LOT #:	158963
ISTD Lot #:	7664

	DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	SCON	ION RATIO	MANUAL INTS RATIONALE, PK #	COMMENTS
Q	203866	13	QP60086-MB	6610	QP60086	1x	L 10K	—		ND
Q	87	14	FA33007-1					—		ND
Q	88	15	-1					1.9		✓ RA Ion Fail
Q	89	16	-3					—		ND
Q	90	17	-4					—		ND
Q	91	18	QP60086-MS					2.5		✓
Q	92	19	-MSD					2.2		✓ RA Ion Fail
Q	93	19	-MSD					2.3		✓
Q	94	15	FA 33007-2					2.6		✓
Q	95	5	CC610-2.0		LC630	above 10ml		2.7		Poss
Q	96	2	FCC610-0.2		↓	20ml 10ml		2.2		Poss RA Ion Fail
Q	97	1	CCB					—		ND
Q	98	2	ECC610-0.2		LC630	20ml 10ml		2.2		Poss RA Ion Fail
Q	99	2	-0.2		↓	↓	↓	2.6		Poss
Q										
Q										
Q							NAS			
Q							04-15-16			
Q										
Q										

Manual Integration Rationale SOP QA029: MP Missed Peak, OP Overlapping Peak, SP Split Peak, PDB Poorly Defined Baseline, BR Baseline Ripple, PI Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

LCMS1_Q_logs NF rev. 10/12

Analyst's Signature

Instrument Run Log SQ615 page 1 of 2

ACCUTEST LABORATORIES SE

LCMS1-Q ANALYSIS LOG

DATE:	04-22-16
COLUMN TYPE:	Acquity HSS T3
AMOUNT INJECTED:	5 ul
INSTRUMENT:	LCMS1-Q
HEAD PRESSURE:	6000

METHODS:	6810
ACQ. METHOD:	Perchlorate
PROC. METHOD:	6810 04-15 Sub 0
CALIB. DATE:	04-15-16
RUN BATCH:	SQ 615

ANALYST:	NAS
SOLVENT A LOT #:	615-15 1157497/1164497
SOLVENT B LOT #:	615-15 1158457/1158787
WATER LOT #:	1153797
ISTD Lot #:	76-84

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	SCON	ION RATIO	MANUAL INTS RATIONALE, PK #	COMMENTS
Q 20587	1	CCB	6810			210K	-		1.5 ↑ Dirty Flush
Q 88	1	CCB					-		return
Q 89	1	CCB					-		
Q 90	1	CCB					-		
Q 91	2	LCS10 - 2.0		LC630	100ul (5ml)		2.7		
Q 92	3	-0.2		2	20ul (5ml)		2.6		
Q 93	4	ICS610 - 0.2		LC631	20ul (5ml)	210K/21TK			
Q 94	1	CCB				210K	-		ND
Q 95	1	CCB					-		ND
Q 96	1	CCB					-		ND
Q 97	1	CCB					-		ND
Q 98	2	CCS10 - 2.0		LC630	100ul (5ml)		2.8		Pass
Q 99	3	-0.2		2	20ul (5ml)		3.3		Pass
Q 600	4	ICS610 -0.2		LC631	20ul (5ml)	210K/21TK	2.5		Pass
Q 01	5	OP60173 - MS		OP60173	1X	210K	2.4		✓
Q 02	6	-MSD					-		ND
Q 03	7	FA33221-1					2.9		✓
Q 04	8	OP60173 - MS					2.7		✓
Q 05	9	-MSD					2.9		✓
Q 06	10	FA33221-2					2.9	MP	✓

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

LCMS1_Q_log.xls NF rev. 10/12

Analyst's Signature:

SGS ACCUTEST FA33221

ACCUTEST LABORATORIES SE

DATE:	05-23-16
COLUMN TYPE:	Kinetex
AMOUNT INJECTED:	5 ul
INSTRUMENT:	LCMS1-Q
HEAD PRESSURE:	115

LCMS1-Q ANALYSIS LOG

METHODS:	VOC
ACQ. METHOD:	Revelberate
PROC. METHOD:	624 to 0511 1626
CALIB. DATE:	04-12-16
RUN BATCH:	SQ 615

ANALYST:	NAS
SOLVENT A LOT #:	9PIT 173767/173947
SOLVENT B LOT #:	9PIT 173943/173870
WATER LOT #:	173797
ISTD Lot #:	

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	SCON	ION RATIO	MANUAL INTS RATIONALE, PK #	COMMENTS
Q 20607	11	CP33321-3	8260	666073	1	2.0K	-		NB
Q 08	12	-4					-		ND
Q 09	13	-7					-		ND
Q 10	14	-6			✓		2.9		✓
Q 11	2	CC610-2.0		LL630	2mL 10ml		2.8		Pass
Q 12	3	ECC610-0.2		L	2mL 10ml		2.9		Pass
Q 13	1	CCB	✓	—	—	✓	—		ND
Q									
Q									
Q									
Q									
Q									
Q									
Q									
Q									
Q									
Q									
Q									
Q									
Q									
Q									

NAS 05-25-16

Manual Integration Rationale SOP QA029: MP Missed Peak, OP Overlapping Peak, SP Split Peak, PDB Poorly Defined Baseline, BR Baseline Ripple, PII Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

LCMS1_Q_log.ds NF rev. 10/12

Analyst's Signature:

SGS ACCUTEST FA33221

SGS ACCUTEST - ORLANDO

LIQUID SAMPLE PREP REPORT

Date/Time Started: 04-22-16 1030 (mm/dd/yy 24:00)

Date/Time Finished: 04-22-16 1100 (mm/dd/yy 24:00)

Prep Method: 3510C 3580A or Method (circle)

Analytical Method: 6850

Batch#: OP60173 Ext. By: NAS Conc. By: — Vialed By: NAS

Sample ID	Bottle Number	Amount Extracted (ml)	Initial pH	Adjusted pH	Surrogate Amount	Spike Amount	Final Volume (ml)	Comments
OP 60173 - MB		10 ml					10 ml	
OP — BS						20uL		
FA33221-1	#1							MS/MSD
-2								
-3								
-4								
-5								
-6	↓	↓					↓	
					04-22-16 NAS			
OP60173 - MS	2	10 ml				20uL	10ml	FA33221-1
— MSD	3	↓					↓	-1
DUP								

Comments:

Surr. ID: — Conc: — Exp. Date: — Inj. By: — Ver. By —

Spk. ID: L6631 Conc: 100ug/L Exp. Date: 07-01-16 Inj. By: NAS Ver. By NAS

Initial Bath Temp (Therm ID): _____ Exchange Bath/N-Evap Temp (Therm ID): _____

Observed Temp °C: _____ Corr. Temp °C: _____ Observed Temp °C: _____ Corr. Temp °C: _____

CH2Cl2 Lot #: — Hexane Lot #: — Na2SO4 Lot#: —

Acetonitrile Lot #: — Methanol Lot #: — Acetone Lot#: —

Syringe Filter Lot#: 910722 pH Paper #: — Reagent #: —

Copper Lot #: _____ If Sulfur Cleaning is performed in Extractions (3660B)

Relinquished By: _____ Date: 04-22-16

Accepted By: _____ Date: 04-22-16

NF 02/16 extwater 020116.xls

GC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries
- GC Surrogate Retention Time Summaries
- Initial and Continuing Calibration Summaries

Method Blank Summary

Job Number: FA33221
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP60153-MB	BB051060.D	1	04/22/16	KL	04/21/16	OP60153	GBB1444

The QC reported here applies to the following samples: **Method:** SW846 8330B

FA33221-1, FA33221-2, FA33221-3, FA33221-4, FA33221-5, FA33221-6

CAS No.	Compound	Result	RL	MDL	Units	Q
	DNX	ND	0.20	0.080	ug/l	
	MNX	ND	0.20	0.080	ug/l	
	TNX	ND	0.20	0.080	ug/l	

CAS No.	Surrogate Recoveries		Limits
610-39-9	3,4-Dinitrotoluene	99%	70-136%

Method Blank Summary

Job Number: FA33221
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP60153-MB	PP379551.D	1	04/25/16	KL	04/21/16	OP60153	GPP1996

The QC reported here applies to the following samples: **Method:** SW846 8330B

FA33221-1, FA33221-2, FA33221-3, FA33221-4, FA33221-5, FA33221-6

CAS No.	Compound	Result	RL	MDL	Units	Q
	DNX	ND	0.20	0.080	ug/l	
	MNX	ND	0.20	0.080	ug/l	
	TNX	ND	0.20	0.080	ug/l	

CAS No.	Surrogate Recoveries		Limits
610-39-9	3,4-Dinitrotoluene	105%	70-136%

Blank Spike Summary

Job Number: FA33221
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP60153-BS	BB051059.D	1	04/22/16	KL	04/21/16	OP60153	GBB1444

The QC reported here applies to the following samples: **Method:** SW846 8330B

FA33221-1, FA33221-2, FA33221-3, FA33221-4, FA33221-5, FA33221-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
	DNX	5	4.6	92	66-127
	MNX	5	5.1	102	71-137
	TNX	5	5.0	100	60-126

CAS No.	Surrogate Recoveries	BSP	Limits
610-39-9	3,4-Dinitrotoluene	103%	70-136%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA33221
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP60153-MS	BB051062.D	1	04/22/16	KL	04/21/16	OP60153	GBB1444
OP60153-MSD	BB051063.D	1	04/22/16	KL	04/21/16	OP60153	GBB1444
FA33221-1 [a]	BB051061.D	1	04/22/16	KL	04/21/16	OP60153	GBB1444
FA33221-1 [b]	PP379552.D	1	04/25/16	KL	04/21/16	OP60153	GPP1996

The QC reported here applies to the following samples: **Method:** SW846 8330B

FA33221-1, FA33221-2, FA33221-3, FA33221-4, FA33221-5, FA33221-6

CAS No.	Compound	FA33221-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
	DNX	0.20	U	10	14.4	144*	10	12.9	129*	11	66-127/25
	MNX	0.20	U	10	11.2	112	10	10.3	103	8	71-137/20
	TNX	0.20	U	10	12.3	123	10	11.4	114	8	60-126/18

CAS No.	Surrogate Recoveries	MS	MSD	FA33221-1	FA33221-1	Limits
610-39-9	3,4-Dinitrotoluene	104%	105%	107%	114%	70-136%

(a) All hits confirmed by reanalysis on a dissimilar column.
(b) Confirmation run.

* = Outside of Control Limits.

Semivolatile Surrogate Recovery Summary

Job Number: FA33221
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Method: SW846 8330B **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]
FA33221-1	BB051061.D	107
FA33221-1	PP379552.D	114
FA33221-2	PP379553.D	105
FA33221-2	BB051064.D	96
FA33221-3	BB051065.D	99
FA33221-4	BB051066.D	100
FA33221-5	BB051067.D	95
FA33221-6	BB051068.D	101
FA33221-6	PP379555.D	110
OP60153-BS	BB051059.D	103
OP60153-MB	BB051060.D	99
OP60153-MB	PP379551.D	105
OP60153-MS	BB051062.D	104
OP60153-MSD	BB051063.D	105

Surrogate Compounds	Recovery Limits
S1 = 3,4-Dinitrotoluene	70-136%

(a) Recovery from GC signal #1

GC Surrogate Retention Time Summary

Job Number: FA33221
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Check Std:	GBB1444-CC1436	**Injection Date:**	04/22/16
Lab File ID:	BB051057.D	**Injection Time:**	16:13
Instrument ID:	GCBB	**Method:**	SW846 8330B

	S1 [a] RT	S1 [b] RT
Check Std	11.21	11.21

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
OP60153-BS	BB051059.D	04/22/16	17:07		11.22
OP60153-MB	BB051060.D	04/22/16	17:34		11.23
FA33221-1	BB051061.D	04/22/16	18:01		11.23
OP60153-MS	BB051062.D	04/22/16	18:28		11.23
OP60153-MSD	BB051063.D	04/22/16	18:55		11.25
FA33221-2	BB051064.D	04/22/16	19:22		11.25
FA33221-3	BB051065.D	04/22/16	19:49		11.26
FA33221-4	BB051066.D	04/22/16	20:16		11.27
FA33221-5	BB051067.D	04/22/16	20:43		11.27
FA33221-6	BB051068.D	04/22/16	21:10		11.28
GBB1444-ECC1436	BB051069.D	04/22/16	21:37	11.28	11.28

Surrogate Compounds

S1 = 3,4-Dinitrotoluene

(a) Retention time from GC signal #2
(b) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: FA33221
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Check Std:	GPP1996-CC1993	**Injection Date:**	04/25/16
Lab File ID:	PP379548.D	**Injection Time:**	08:50
Instrument ID:	GCPP	**Method:**	SW846 8330B

	S1 [a] **RT**
Check Std	16.45

Lab Sample ID	**Lab File ID**	**Date Analyzed**	**Time Analyzed**	**S1** [a] **RT**
ZZZZZZ	PP379549.D	04/25/16	09:36	16.40
ZZZZZZ	PP379550.D	04/25/16	10:09	16.41
OP60153-MB	PP379551.D	04/25/16	10:43	16.36
FA33221-1	PP379552.D	04/25/16	11:16	16.41
FA33221-2	PP379553.D	04/25/16	11:50	16.25
FA33221-6	PP379555.D	04/25/16	12:57	16.34

Surrogate Compounds

S1 = 3,4-Dinitrotoluene

(a) Retention time from GC signal #1

Initial Calibration Summary

Job Number: FA33221
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1436-ICC1436
Lab FileID: BB050848.D

Response Factor Report G1315B

Method : D:\MSDCHEM\1\METHODS\8330B_0405.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 06 07:43:00 2016
Response via : Initial Calibration

Calibration Files
20 =BB050844.D 50 =BB050845.D 100 =BB050846.D 200 =BB050847.D
500 =BB050848.D 1000=BB050849.D 2000=BB050850.D

	Compound	20	50	100	200	500	1000	2000	Avg		%RSD
1)	TNX	3.068	3.184	3.033	3.065	3.080	3.008	3.314	3.108	E3	3.42
2)	HMX	1.788	1.711	1.690	1.664	1.741	1.756	1.781	1.733	E3	2.68
3)	DNX	3.544	2.993	3.051	3.035	2.912	2.937	3.014	3.069	E3	7.01
4)	MNX	2.292	2.391	2.494	2.380	2.326	2.420	2.444	2.392	E3	2.88
5)	RDX	1.592	1.769	1.775	1.753	1.762	1.778	1.848	1.754	E3	4.44
6)	1,3,5-Trinitroben	4.077	3.957	3.881	3.920	3.888	3.864	4.046	3.948	E3	2.12
7)	1,3-Dinitrobenzen	5.332	5.595	5.153	5.158	5.179	5.112	5.298	5.261	E3	3.19
8)	3,5-Dinitroanilin	4.711	5.292	4.977	4.705	4.694	4.673	4.857	4.844	E3	4.68
9)	Nitrobenzene	3.075	3.272	3.109	3.151	3.102	2.992	3.149	3.121	E3	2.74
10)	Nitroglycerin								0.000		-1.00
11)	Tetryl	2.566	2.988	2.938	2.932	2.882	2.885	3.001	2.885	E3	5.11
12)	2,4,6-Trinitrotol	3.028	3.640	3.564	3.666	3.636	3.635	3.779	3.564	E3	6.87
13)	2-Amino-4,6-Dinit	3.085	3.098	3.170	3.165	3.163	3.172	3.336	3.170	E3	2.59
14)	4-Amino-2,6-Dinit	1.904	2.192	2.109	2.089	2.087	2.099	2.238	2.103	E3	4.99
	---- Linear regr., Force(0,0) ---- Coefficient = 0.9990										
	Response Ratio = 0.00000 + 2203.03348 *A										
15)S	3,4-Dinitrotoluen	2.099	2.044	2.160	2.318	2.330	2.318	2.391	2.237	E3	5.99
16)	2,4-Dinitrotoluen	5.139	4.727	4.571	4.638	4.618	4.569	4.763	4.718	E3	4.24
17)	2,6-Dinitrotoluen	2.672	2.642	2.753	2.727	2.692	2.645	2.750	2.697	E3	1.74
18)	o-Nitrotoluene	2.297	2.201	2.142	2.147	2.134	2.077	2.199	2.171	E3	3.22
19)	p-Nitrotoluene	3.018	3.226	3.285	3.356	3.372	3.320	3.492	3.296	E3	4.48
20)	m-Nitrotoluene	3.401	3.369	3.310	3.263	3.205	3.114	3.262	3.275	E3	2.97
21)	PETN								0.000		-1.00

Signal #2

1)	TNX	4.617	4.694	4.954	4.624	4.637	4.641	4.905	4.724	E3	3.02
2)	HMX	4.555	4.884	5.160	4.892	4.825	4.831	4.950	4.871	E3	3.69
3)	DNX	8.439	5.274	5.863	4.920	4.925	4.653	4.850	5.561	E3	23.91
	---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9996										
	Response Ratio = 0.00000 + 4697.45712 *A + 0.07062 *A^2										
4)	MNX	3.697	3.762	3.665	3.740	3.719	3.731	3.829	3.735	E3	1.39
5)	RDX	3.052	2.904	2.899	2.868	2.883	2.863	2.994	2.923	E3	2.45
6)	1,3,5-Trinitroben	8.350	7.931	7.591	7.578	7.614	7.579	7.917	7.794	E3	3.74
7)	1,3-Dinitrobenzen	3.710	3.761	3.645	3.549	3.615	3.667	3.720	3.667	E3	1.95
8)	3,5-Dinitroanilin	6.845	8.176	8.787	7.814	7.908	7.873	8.240	7.949	E3	7.41
9)	Nitrobenzene	3.347	3.074	2.951	3.010	3.000	2.872	3.019	3.039	E3	4.93
10)	Nitroglycerin	1.090	1.178	1.148	1.119	1.175	1.117	1.215	1.149	E3	3.78
11)	Tetryl	5.336	4.934	4.939	5.179	4.928	5.213	5.143	5.096	E3	3.20
12)	2,4,6-Trinitrotol	4.320	4.252	4.407	4.507	4.505	4.659	4.726	4.482	E3	3.83
13)	2-Amino-4,6-Dinit	4.542	4.669	4.677	4.772	4.850	4.995	5.163	4.810	E3	4.42
	---- Linear regr., Force(0,0) ---- Coefficient = 0.9997										
	Response Ratio = 0.00000 + 5112.51116 *A										
14)	4-Amino-2,6-Dinit	3.867	4.198	3.978	4.404	4.464	4.533	4.754	4.314	E3	7.32

Initial Calibration Summary

Job Number: FA33221
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1436-ICC1436
Lab FileID: BB050848.D

```
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9995
               Response Ratio = 0.00000 + 4694.14061 *A

15)S 3,4-Dinitrotoluen 3.310 3.430 3.694 4.018 4.157 4.207 4.322 3.877 E3  10.33
16)  2,4-Dinitrotoluen 2.849 2.779 2.852 2.925 3.019 3.016 3.139 2.940 E3   4.25
17)  2,6-Dinitrotoluen 2.765 2.992 3.179 3.307 3.466 3.455 3.593 3.251 E3   9.02
18)  o-Nitrotoluene    2.807 2.878 2.834 2.867 2.955 2.868 3.032 2.891 E3   2.66
19)  p-Nitrotoluene    2.422 2.236 2.371 2.471 2.573 2.675 2.885 2.519 E3   8.50
20)  m-Nitrotoluene    2.764 3.477 3.531 3.541 3.766 3.720 3.846 3.521 E3  10.25
21)  PETN              3.698 3.741 3.744 3.650 3.914 4.083 4.067 3.842 E2   4.65
             ---- Linear regr., Force(0,0) ----  Coefficient =  0.9999
               Response Ratio = 0.00000 + 405.86627 *A

---------------------------------------------------------------------------
(#) = Out of Range

          8330B_0405.M        Wed Apr 06 08:34:04 2016
```

Initial Calibration Verification

Job Number: FA33221
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1436-ICV1436
Lab FileID: BB050851.D

Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\1\DATA\0405BPL\BB050851.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\1\DATA\0405BPL\BB050851.D\dad1A.ch
Acq On : 05-Apr-2016, 20:35:09 Operator: kismetl
Sample : icv1436-500 Inst : G1315B
Misc : op59949,GBB1436,2.00,,,20,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : D:\MSDCHEM\1\METHODS\8330B_0405.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 06 07:43:00 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	500.000	497.680	0.5	100	0.00	1.08- 1.68
2	HMX	500.000	557.437	-11.5	111	0.03	1.17- 1.77
3	DNX	500.000	471.611	5.7	99	0.00	1.48- 2.08
4	MNX	500.000	474.681	5.1	98	0.00	2.09- 2.69
5	RDX	500.000	522.668	-4.5	104	0.00	2.61- 3.41
6	1,3,5-Trinitrobenzene	500.000	515.048	-3.0	105	0.00	4.28- 5.08
7	1,3-Dinitrobenzene	500.000	481.303	3.7	98	0.00	5.54- 6.34
8	3,5-Dinitroaniline	500.000	463.565	7.3	96	0.00	5.97- 6.77
9	Nitrobenzene	500.000	520.201	-4.0	105	0.00	7.15- 7.95
10	Nitroglycerin		----------NA----------				
11	Tetryl	500.000	426.345	14.7	85	0.02	8.92- 9.72
12	2,4,6-Trinitrotoluene	500.000	438.936	12.2	86	0.02	9.31-10.11
13	2-Amino-4,6-Dinitrotol	500.000	533.180	-6.6	107	0.02	9.79-10.59
	----------	Amount	Calc.	%Drift	----------		
14	4-Amino-2,6-Dinitrotol	500.000	574.087	-14.8	121	0.01	10.28-11.08
	----------	Amount	Calc.	%Drift	----------		
15 S	3,4-Dinitrotoluene		----------NA----------				
16	2,4-Dinitrotoluene	500.000	505.828	-1.2	103	0.03	11.21-12.01
17	2,6-Dinitrotoluene	500.000	520.640	-4.1	104	0.03	11.70-12.50
18	o-Nitrotoluene	500.000	522.462	-4.5	106	0.02	14.84-15.71
19	p-Nitrotoluene	500.000	520.348	-4.1	102	0.02	15.29-16.29
20	m-Nitrotoluene	500.000	508.158	-1.6	104	0.02	16.21-17.21
21	PETN		----------NA----------				
*****	Signal #2 *****						
1	TNX	500.000	489.049	2.2	100	0.00	1.08- 1.68
2	HMX	500.000	529.791	-6.0	107	0.02	1.18- 1.78
	----------	Amount	Calc.	%Drift	----------		
3	DNX	500.000	496.918	0.6	96	0.00	1.48- 2.08
	----------	Amount	Calc.	%Drift	----------		
4	MNX	500.000	485.252	2.9	97	0.00	2.09- 2.69
5	RDX	500.000	511.042	-2.2	104	0.00	2.60- 3.40
6	1,3,5-Trinitrobenzene	500.000	510.354	-2.1	104	0.00	4.28- 5.08
7	1,3-Dinitrobenzene	500.000	507.194	-1.4	103	0.00	5.54- 6.34
8	3,5-Dinitroaniline	500.000	483.206	3.4	97	0.00	5.97- 6.77
9	Nitrobenzene	500.000	516.661	-3.3	105	0.00	7.14- 7.94

Initial Calibration Verification

Job Number: FA33221
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1436-ICV1436
Lab FileID: BB050851.D

			Amount	Calc.	%Drift			
10		Nitroglycerin	2500.000	2550.120	-2.0	100	0.01	8.66- 9.66
11		Tetryl	500.000	427.642	14.5	88	0.00	8.87- 9.67
12		2,4,6-Trinitrotoluene	500.000	494.716	1.1	98	0.02	9.31-10.11
			Amount	Calc.	%Drift			
13		2-Amino-4,6-Dinitrotol	500.000	544.216	-8.8	115	0.02	9.79-10.59
14		4-Amino-2,6-Dinitrotol	500.000	573.441	-14.7	121	0.02	10.28-11.08
			Amount	Calc.	%Drift			
15	S	3,4-Dinitrotoluene	----------NA----------					
16		2,4-Dinitrotoluene	500.000	538.713	-7.7	105	0.02	11.21-12.01
17		2,6-Dinitrotoluene	500.000	562.881	-12.6	106	0.02	11.70-12.50
18		o-Nitrotoluene	500.000	523.147	-4.6	102	0.02	14.71-15.71
19		p-Nitrotoluene	500.000	512.443	-2.5	100	0.02	15.30-16.30
20		m-Nitrotoluene	500.000	544.218	-8.8	102	0.01	16.22-17.22
			Amount	Calc.	%Drift			
21		PETN	2500.000	8575.412	-243.0#	356	0.00	18.27-19.48

(#) = Out of Range SPCC's out = 0 CCC's out = 0
BB050848.D 8330B_0405.M Wed Apr 06 08:35:07 2016

8.6.2

8

SGS ACCUTEST FA33221

Continuing Calibration Summary

Job Number: FA33221
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1444-CC1436
Lab FileID: BB051057.D

Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\1\DATA\0422BPL\BB051057.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0422BPL\BB051057.D\dad1A.ch
Acq On : 22-Apr-2016, 16:13:35 Operator: kismetl
Sample : cc1436-1000 Inst : G1315B
Misc : op60163,GBB1444,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : D:\MSDCHEM\1\METHODS\8330B_0405.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 22 13:03:44 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	1000.000	1053.979	-5.4	109	0.00	1.10- 1.70
2	HMX	1000.000	990.059	1.0	98	0.00	1.21- 1.81
3	DNX	1000.000	951.645	4.8	99	0.00	1.51- 2.11
4	MNX	1000.000	996.536	0.3	98	0.00	2.14- 2.74
5	RDX	1000.000	1022.976	-2.3	101	0.00	2.67- 3.47
6	1,3,5-Trinitrobenzene	1000.000	991.774	0.8	101	0.01	4.43- 5.23
7	1,3-Dinitrobenzene	1000.000	989.206	1.1	102	0.02	5.67- 6.47
8	3,5-Dinitroaniline	1000.000	985.339	1.5	102	0.01	6.09- 6.89
9	Nitrobenzene	1000.000	981.411	1.9	102	0.03	7.23- 8.03
10	Nitroglycerin	----------	----------NA----------				
11	Tetryl	1000.000	1023.571	-2.4	102	0.03	9.17- 9.97
12	2,4,6-Trinitrotoluene	1000.000	1005.451	-0.5	99	0.04	9.59-10.39
13	2-Amino-4,6-Dinitrotol	1000.000	1016.954	-1.7	102	0.03	10.00-10.80
	----------	Amount	Calc.	%Drift	----------		
14	4-Amino-2,6-Dinitrotol	1000.000	1010.844	-1.1	106	0.03	10.49-11.29
	----------	Amount	Calc.	%Drift	----------		
15 S	3,4-Dinitrotoluene	1000.000	975.115	2.5	94	0.04	10.76-11.56
16	2,4-Dinitrotoluene	1000.000	965.894	3.4	100	0.04	11.46-12.26
17	2,6-Dinitrotoluene	1000.000	971.814	2.8	99	0.04	11.93-12.73
18	o-Nitrotoluene	1000.000	972.739	2.7	102	0.06	14.96-15.84
19	p-Nitrotoluene	1000.000	1010.813	-1.1	100	0.05	15.45-16.45
20	m-Nitrotoluene	1000.000	955.913	4.4	101	0.05	16.33-17.33
21	PETN	----------	----------NA----------				
*****	Signal #2 *****						
1	TNX	1000.000	1021.042	-2.1	104	0.00	1.10- 1.70
2	HMX	1000.000	990.554	0.9	100	0.00	1.22- 1.82
	----------	Amount	Calc.	%Drift	----------		
3	DNX	1000.000	1007.012	-0.7	103	0.00	1.51- 2.11
	----------	Amount	Calc.	%Drift	----------		
4	MNX	1000.000	1010.299	-1.0	101	0.00	2.14- 2.74
5	RDX	1000.000	995.021	0.5	102	0.00	2.67- 3.47
6	1,3,5-Trinitrobenzene	1000.000	987.839	1.2	102	0.01	4.43- 5.23
7	1,3-Dinitrobenzene	1000.000	1032.755	-3.3	103	0.02	5.67- 6.47
8	3,5-Dinitroaniline	1000.000	1019.398	-1.9	103	0.00	6.09- 6.89
9	Nitrobenzene	1000.000	979.872	2.0	104	0.02	7.23- 8.03

Continuing Calibration Summary

Job Number: FA33221
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1444-CC1436
Lab FileID: BB051057.D

			Amount	Calc.	%Drift			
10		Nitroglycerin	5000.000	5467.014	-9.3	112	0.03	8.82- 9.82
11		Tetryl	1000.000	982.923	1.7	96	0.03	9.17- 9.97
12		2,4,6-Trinitrotoluene	1000.000	1012.211	-1.2	97	0.04	9.59-10.39
			Amount	Calc.	%Drift			
13		2-Amino-4,6-Dinitrotol	1000.000	987.548	1.2	101	0.03	10.00-10.80
14		4-Amino-2,6-Dinitrotol	1000.000	1006.740	-0.7	104	0.03	10.49-11.29
			Amount	Calc.	%Drift			
15	S	3,4-Dinitrotoluene	1000.000	1043.455	-4.3	96	0.04	10.76-11.56
16		2,4-Dinitrotoluene	1000.000	1030.791	-3.1	100	0.04	11.46-12.26
17		2,6-Dinitrotoluene	1000.000	1067.676	-6.8	100	0.04	11.93-12.73
18		o-Nitrotoluene	1000.000	1027.367	-2.7	104	0.05	14.84-15.84
19		p-Nitrotoluene	1000.000	1072.562	-7.3	101	0.05	15.46-16.46
20		m-Nitrotoluene	1000.000	1016.418	-1.6	96	0.04	16.33-17.33
			Amount	Calc.	%Drift			
21		PETN	5000.000	5156.388	-3.1	103	0.02	18.42-19.62

(#) = Out of Range SPCC's out = 0 CCC's out = 0
BB050849.D 8330B_0405.M Mon Apr 25 09:09:29 2016

8.6.3

8

Continuing Calibration Summary

Job Number: FA33221
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1444-ECC1436
Lab FileID: BB051069.D

Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\1\DATA\0422BPL\BB051069.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0422BPL\BB051069.D\dad1A.ch
Acq On : 22-Apr-2016, 21:37:11 Operator: kismetl
Sample : ecc1436-1000 Inst : G1315B
Misc : op60163,GBB1444,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : D:\MSDCHEM\1\METHODS\8330B_0405.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 22 13:03:44 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	1000.000	1040.693	-4.1	108	0.01	1.10- 1.70
2	HMX	1000.000	1004.103	-0.4	99	0.01	1.21- 1.81
3	DNX	1000.000	951.325	4.9	99	0.01	1.51- 2.11
4	MNX	1000.000	994.682	0.5	98	0.02	2.14- 2.74
5	RDX	1000.000	1028.708	-2.9	101	0.02	2.67- 3.47
6	1,3,5-Trinitrobenzene	1000.000	990.478	1.0	101	0.04	4.43- 5.23
7	1,3-Dinitrobenzene	1000.000	986.021	1.4	101	0.05	5.67- 6.47
8	3,5-Dinitroaniline	1000.000	979.338	2.1	102	0.04	6.09- 6.89
9	Nitrobenzene	1000.000	977.146	2.3	102	0.07	7.23- 8.03
10	Nitroglycerin	----------	----------NA----------				
11	Tetryl	1000.000	1002.178	-0.2	100	0.09	9.17- 9.97
12	2,4,6-Trinitrotoluene	1000.000	1011.876	-1.2	99	0.10	9.59-10.39
13	2-Amino-4,6-Dinitrotol	1000.000	1030.472	-3.0	103	0.09	10.00-10.80
	----------	Amount	Calc.	%Drift	----------		
14	4-Amino-2,6-Dinitrotol	1000.000	1030.300	-3.0	108	0.10	10.49-11.29
	----------	Amount	Calc.	%Drift	----------		
15 S	3,4-Dinitrotoluene	1000.000	999.175	0.1	96	0.12	10.76-11.56
16	2,4-Dinitrotoluene	1000.000	978.135	2.2	101	0.12	11.46-12.26
17	2,6-Dinitrotoluene	1000.000	997.857	0.2	102	0.12	11.93-12.73
18	o-Nitrotoluene	1000.000	976.772	2.3	102	0.15	14.96-15.84
19	p-Nitrotoluene	1000.000	1021.752	-2.2	101	0.15	15.45-16.45
20	m-Nitrotoluene	1000.000	967.556	3.2	102	0.13	16.33-17.33
21	PETN	----------	----------NA----------				
*****	Signal #2 *****						
1	TNX	1000.000	1023.365	-2.3	104	0.01	1.10- 1.70
2	HMX	1000.000	987.967	1.2	100	0.01	1.22- 1.82
	----------	Amount	Calc.	%Drift	----------		
3	DNX	1000.000	1016.156	-1.6	104	0.01	1.51- 2.11
	----------	Amount	Calc.	%Drift	----------		
4	MNX	1000.000	1015.313	-1.5	102	0.02	2.14- 2.74
5	RDX	1000.000	1005.284	-0.5	103	0.02	2.67- 3.47
6	1,3,5-Trinitrobenzene	1000.000	996.639	0.3	102	0.04	4.43- 5.23
7	1,3-Dinitrobenzene	1000.000	1010.646	-1.1	101	0.05	5.67- 6.47
8	3,5-Dinitroaniline	1000.000	1012.199	-1.2	102	0.04	6.09- 6.89
9	Nitrobenzene	1000.000	967.221	3.3	102	0.07	7.23- 8.03

Continuing Calibration Summary

Job Number: FA33221
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1444-ECC1436
Lab FileID: BB051069.D

			Amount	Calc.	%Drift			
10		Nitroglycerin	5000.000	5384.603	-7.7	111	0.08	8.82- 9.82
11		Tetryl	1000.000	988.370	1.2	97	0.09	9.17- 9.97
12		2,4,6-Trinitrotoluene	1000.000	981.889	1.8	94	0.10	9.59-10.39
			Amount	Calc.	%Drift			
13		2-Amino-4,6-Dinitrotol	1000.000	968.042	3.2	99	0.09	10.00-10.80
14		4-Amino-2,6-Dinitrotol	1000.000	999.307	0.1	103	0.10	10.49-11.29
			Amount	Calc.	%Drift			
15	S	3,4-Dinitrotoluene	1000.000	1039.176	-3.9	96	0.12	10.76-11.56
16		2,4-Dinitrotoluene	1000.000	1038.076	-3.8	101	0.12	11.46-12.26
17		2,6-Dinitrotoluene	1000.000	1077.257	-7.7	101	0.12	11.93-12.73
18		o-Nitrotoluene	1000.000	1005.171	-0.5	101	0.15	14.84-15.84
19		p-Nitrotoluene	1000.000	1077.058	-7.7	101	0.15	15.46-16.46
20		m-Nitrotoluene	1000.000	1051.844	-5.2	100	0.13	16.33-17.33
			Amount	Calc.	%Drift			
21		PETN	5000.000	3918.008	21.6#	78	0.06	18.42-19.62

(#) = Out of Range SPCC's out = 0 CCC's out = 0
BB050849.D 8330B_0405.M Mon Apr 25 09:09:30 2016

8.6.4

8

Initial Calibration Summary

Job Number: FA33221
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP1993-ICC1993
Lab FileID: PP379494.D

Response Factor Report G1315B

Method : C:\MSDCHEM\2\METHODS\8330RP3_0420.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 20 15:21:38 2016
Response via : Initial Calibration

Calibration Files
20 =PP379490.D 50 =PP379491.D 100 =PP379492.D 200 =PP379493.D
500 =PP379494.D 1000=PP379495.D 2000=PP379496.D

	Compound	20	50	100	200	500	1000	2000	Avg		%RSD
1)	TNX	9.051	9.070	9.251	8.789	8.684	8.692	9.094	8.947	E3	2.50
2)	HMX	2.144	2.688	3.000	2.919	2.880	3.019	3.148	2.828	E3	11.79
	---- Quadratic regr., Force(0,0) ---- Coefficient = 1.0000										
	Response Ratio = 0.00000 + 2858.01541 *A + 0.14553 *A^2										
3)	DNX	6.033	7.705	7.178	7.170	7.225	7.532	7.921	7.252	E3	8.41
4)	MNX	5.412	6.048	5.661	5.461	5.549	5.774	6.026	5.704	E3	4.51
5)	1,3,5-Trinitroben	8.666	9.411	9.466	9.198	9.315	9.379	9.876	9.330	E3	3.88
6)	RDX	3.905	4.362	4.342	3.889	4.267	4.311	4.560	4.234	E3	5.85
7)	1,3-Dinitrobenzen	1.459	1.376	1.320	1.316	1.291	1.259	1.323	1.335	E4	4.89
8)	Nitrobenzene	7.776	8.629	7.806	7.733	7.818	8.062	8.250	8.011	E3	4.12
9)	2,4,6-Trinitrotol	8.796	9.288	8.729	8.687	8.775	8.785	9.234	8.899	E3	2.81
10)	Nitroglycerin								0.000		-1.00
11)	Tetryl	6.317	6.460	6.492	6.383	6.606	6.889	7.289	6.634	E3	5.18
12)S	3,4-Dinitrotoluen	4.942	5.576	5.243	5.255	5.285	5.147	5.389	5.262	E3	3.73
13)	2,6-Dinitrotoluen	5.953	6.902	6.158	6.394	6.420	6.275	6.566	6.381	E3	4.75
14)	2,4-Dinitrotoluen	1.069	1.281	1.157	1.179	1.183	1.153	1.210	1.176	E4	5.45
15)	o-Nitrotoluene	5.030	4.681	4.484	4.343	4.590	4.892	4.981	4.714	E3	5.54
16)	3,5-Dinitroanilin	1.031	1.212	1.135	1.095	1.091	1.126	1.186	1.125	E4	5.43
17)	p-Nitrotoluene	3.349	3.771	4.207	4.119	4.120	4.358	4.422	4.049	E3	9.22
18)	4-Amino-2,6-Dinit	6.457	6.149	6.333	5.855	5.953	6.145	6.531	6.203	E3	4.05
19)	m-Nitrotoluene	4.347	4.840	4.878	4.905	4.993	5.344	5.509	4.974	E3	7.56
20)	2-Amino-4,6-Dinit	6.202	8.969	8.590	7.977	8.112	8.332	8.762	8.135	E3	11.33
21)	PETN								0.000		-1.00

Signal #2

1)	TNX	1.337	1.434	1.359	1.298	1.287	1.289	1.348	1.336	E4	3.90
2)	HMX	8.164	9.242	9.086	8.751	8.794	9.213	9.640	8.984	E3	5.22
3)	DNX	1.321	1.353	1.228	1.172	1.141	1.185	1.253	1.236	E4	6.36
4)	MNX	9.465	9.003	8.350	8.208	8.356	8.638	8.952	8.710	E3	5.19
5)	1,3,5-Trinitroben	1.363	1.523	1.524	1.559	1.582	1.609	1.693	1.550	E4	6.53
6)	RDX	7.510	6.753	7.279	7.307	8.223	8.227	8.685	7.712	E3	8.84
7)	1,3-Dinitrobenzen	1.225	1.122	1.055	0.964	0.949	0.925	0.983	1.032	E4	10.56
8)	Nitrobenzene	8.629	9.239	8.106	7.504	7.333	7.785	8.018	8.088	E3	8.18
9)	2,4,6-Trinitrotol	1.450	1.169	1.212	1.111	1.187	1.176	1.207	1.216	E4	8.92
10)	Nitroglycerin	3.239	3.609	3.629	3.482	3.558	3.466	3.582	3.509	E3	3.81
11)	Tetryl	1.228	1.282	1.126	1.070	1.169	1.219	1.252	1.192	E4	6.27
12)S	3,4-Dinitrotoluen	1.175	1.198	1.008	1.008	1.048	1.023	1.058	1.074	E4	7.39
13)	2,6-Dinitrotoluen	8.693	9.380	8.571	9.241	9.586	9.333	9.624	9.204	E3	4.51
14)	2,4-Dinitrotoluen	1.015	1.133	0.834	0.852	0.900	0.857	0.875	0.924	E4	11.92
15)	o-Nitrotoluene	7.731	7.952	7.384	6.471	7.005	7.836	7.812	7.456	E3	7.29
16)	3,5-Dinitroanilin	1.885	1.953	1.873	1.746	1.795	1.877	1.960	1.870	E4	4.16
17)	p-Nitrotoluene	6.843	8.887	7.082	6.501	6.706	7.138	7.239	7.200	E3	10.94
18)	4-Amino-2,6-Dinit	1.351	1.231	1.273	1.161	1.175	1.234	1.295	1.246	E4	5.37
19)	m-Nitrotoluene	5.323	7.048	7.745	8.387	8.533	9.471	9.773	8.040	E3	18.91
	---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9997										

Initial Calibration Summary

Job Number: FA33221
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP1993-ICC1993
Lab FileID: PP379494.D

```
              Response Ratio = 0.00000 + 8698.92252 *A + 0.54745 *A^2

20)  2-Amino-4,6-Dinit 0.400 1.094 1.194 1.019 1.092 1.185 1.252 1.034 E4  28.06
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9998
              Response Ratio = 0.00000 + 10826.27773 *A + 0.85638 *A^2

21)  PETN              0.437 6.766 5.905 5.284 6.270 6.015 6.441 5.303 E2  41.40
            ---- Quadratic regr., Force(0,0) ----  Coefficient =  0.9995
              Response Ratio = 0.00000 + 577.03100 *A + 0.00664 *A^2

--------------------------------------------------------------------------------
(#) = Out of Range

          8330RP3_0420.M        Wed Apr 20 15:22:14 2016
```

Initial Calibration Verification

Job Number: FA33221
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP1993-ICV1993
Lab FileID: PP379497.D

Evaluate Continuing Calibration Report

Signal #1 : P:\DATA\0419RPB\PP379497.D\dad1B.ch Vial: 10
Signal #2 : P:\DATA\0419RPB\PP379497.D\dad1A.ch
Acq On : 19-Apr-2016, 18:37:24 Operator: kismetl
Sample : icv1993-500 Inst : G1315B
Misc : OP60073,GPP1993,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e

Method : C:\MSDCHEM\2\METHODS\8330RP3_0420.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 20 09:01:58 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	500.000	484.455	3.1	100	0.00	3.07- 5.65
	Amount Calc. %Drift						
2	HMX	500.000	571.493	-14.3	117	0.00	5.12- 6.12
	Amount Calc. %Drift						
3	DNX	500.000	520.342	-4.1	104	-0.01	5.30- 6.30
4	MNX	500.000	515.691	-3.1	106	-0.02	6.62- 7.62
5	1,3,5-Trinitrobenzene	500.000	529.357	-5.9	106	-0.01	7.63- 8.63
6	RDX	500.000	541.996	-8.4	108	-0.02	8.14- 9.14
7	1,3-Dinitrobenzene	500.000	453.795	9.2	94	-0.01	10.31-11.31
8	Nitrobenzene	500.000	523.727	-4.7	107	-0.01	11.44-12.44
9	2,4,6-Trinitrotoluene	500.000	468.021	6.4	95	0.00	12.48-13.48
10	Nitroglycerin		----------NA----------				
11	Tetryl	500.000	479.705	4.1	96	-0.02	14.28-15.28
12 S	3,4-Dinitrotoluene		----------NA----------				
13	2,6-Dinitrotoluene	500.000	540.070	-8.0	107	0.00	15.94-16.94
14	2,4-Dinitrotoluene	500.000	513.533	-2.7	102	-0.02	16.76-17.76
15	o-Nitrotoluene	500.000	553.249	-10.6	114	-0.02	18.84-19.84
16	3,5-Dinitroaniline	500.000	508.090	-1.6	105	-0.02	18.35-19.35
17	p-Nitrotoluene	500.000	566.063	-13.2	111	-0.01	20.27-21.27
18	4-Amino-2,6-Dinitrotol	500.000	493.717	1.3	103	-0.01	20.74-21.66
19	m-Nitrotoluene	500.000	561.736	-12.3	112	0.00	22.01-22.93
20	2-Amino-4,6-Dinitrotol	500.000	540.112	-8.0	108	0.00	23.32-24.32
21	PETN		----------NA----------				

***** Signal #2 *****

1	TNX	500.000	481.059	3.8	100	0.00	3.07- 5.65
2	HMX	500.000	571.778	-14.4	117	0.00	5.12- 6.12
3	DNX	500.000	483.743	3.3	105	0.00	5.30- 6.30
4	MNX	500.000	500.489	-0.1	104	-0.01	6.61- 7.61
5	1,3,5-Trinitrobenzene	500.000	537.551	-7.5	105	-0.01	7.63- 8.63
6	RDX	500.000	542.576	-8.5	102	-0.02	8.14- 9.14
7	1,3-Dinitrobenzene	500.000	476.891	4.6	104	-0.01	10.31-11.31
8	Nitrobenzene	500.000	543.303	-8.7	120	-0.01	11.44-12.44
9	2,4,6-Trinitrotoluene	500.000	474.837	5.0	97	0.00	12.48-13.48
10	Nitroglycerin	2500.000	2571.695	-2.9	101	-0.01	13.46-14.46
11	Tetryl	500.000	503.502	-0.7	103	-0.02	14.28-15.28
12 S	3,4-Dinitrotoluene		----------NA----------				
13	2,6-Dinitrotoluene	500.000	601.271	-20.3#	115	0.00	15.94-16.94

Initial Calibration Verification

Job Number: FA33221
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP1993-ICV1993
Lab FileID: PP379497.D

14	2,4-Dinitrotoluene	500.000	512.249	-2.4	105	-0.02	16.76-17.76
15	o-Nitrotoluene	500.000	555.842	-11.2	118	-0.02	18.84-19.84
16	3,5-Dinitroaniline	500.000	514.690	-2.9	107	-0.02	18.35-19.35
17	p-Nitrotoluene	500.000	535.741	-7.1	115	-0.02	20.29-21.29
18	4-Amino-2,6-Dinitrotol	500.000	490.975	1.8	104	0.00	20.74-21.67
		Amount	Calc.	%Drift			
19	m-Nitrotoluene	500.000	550.094	-10.0	116	0.00	22.02-22.93
20	2-Amino-4,6-Dinitrotol	500.000	535.803	-7.2	111	0.00	23.33-24.33
21	PETN	2500.000	13728.541	-449.1#	585	-0.03	24.74-26.74

(#) = Out of Range SPCC's out = 0 CCC's out = 0
PP379494.D 8330RP3_0420.M Wed Apr 20 09:07:48 2016

8.6.6

8

Continuing Calibration Summary

Job Number: FA33221
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP1996-CC1993
Lab FileID: PP379548.D

Evaluate Continuing Calibration Report

Signal #1 : P:\DATA\0425RPB\PP379548.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0425RPB\PP379548.D\dad1A.ch
Acq On : 25-Apr-2016, 08:50:14 Operator: kismetl
Sample : cc1993-1000 Inst : G1315B
Misc : OP60163,GPP1996,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e

Method : C:\MSDCHEM\2\METHODS\8330RP3_0420.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 26 09:50:54 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1		TNX	1000.000	1004.835	-0.5	103	0.00	3.11- 5.69
		----------	Amount	Calc.	%Drift	----------		
2		HMX	1000.000	946.011	5.4	94	0.01	5.22- 6.22
		----------	Amount	Calc.	%Drift	----------		
3		DNX	1000.000	1104.893	-10.5	106	0.01	5.39- 6.39
4		MNX	1000.000	1046.888	-4.7	103	0.04	6.76- 7.76
5		1,3,5-Trinitrobenzene	1000.000	1048.471	-4.8	104	0.01	7.80- 8.80
6		RDX	1000.000	1069.822	-7.0	105	0.04	8.31- 9.31
7		1,3-Dinitrobenzene	1000.000	992.536	0.7	105	0.03	10.48-11.48
8		Nitrobenzene	1000.000	1012.182	-1.2	101	0.02	11.56-12.56
9		2,4,6-Trinitrotoluene	1000.000	1027.844	-2.8	104	0.03	12.79-13.79
10		Nitroglycerin	----------	----------	NA	----------		
11		Tetryl	1000.000	1070.817	-7.1	103	0.09	14.74-15.74
12	S	3,4-Dinitrotoluene	1000.000	983.387	1.7	101	0.08	15.88-16.88
13		2,6-Dinitrotoluene	1000.000	1057.759	-5.8	108	0.05	16.24-17.24
14		2,4-Dinitrotoluene	1000.000	1025.379	-2.5	105	0.06	17.08-18.08
15		o-Nitrotoluene	1000.000	986.542	1.3	95	-0.06	19.05-20.05
16		3,5-Dinitroaniline	1000.000	1077.055	-7.7	108	0.17	18.55-19.55
17		p-Nitrotoluene	1000.000	1078.078	-7.8	100	0.04	20.50-21.50
18		4-Amino-2,6-Dinitrotol	1000.000	1012.141	-1.2	102	0.19	21.07-21.99
19		m-Nitrotoluene	1000.000	1070.535	-7.1	100	0.07	22.24-23.16
20		2-Amino-4,6-Dinitrotol	1000.000	1072.907	-7.3	105	0.17	23.63-24.63
21		PETN	----------	----------	NA	----------		
*****		Signal #2 *****						
1		TNX	1000.000	997.439	0.3	103	0.00	3.11- 5.69
2		HMX	1000.000	1029.557	-3.0	100	0.01	5.22- 6.22
3		DNX	1000.000	1027.595	-2.8	107	0.00	5.39- 6.39
4		MNX	1000.000	1044.865	-4.5	105	0.03	6.76- 7.76
5		1,3,5-Trinitrobenzene	1000.000	1075.736	-7.6	104	0.01	7.80- 8.80
6		RDX	1000.000	1111.607	-11.2	104	0.04	8.31- 9.31
7		1,3-Dinitrobenzene	1000.000	947.562	5.2	106	0.03	10.48-11.48
8		Nitrobenzene	1000.000	970.599	2.9	101	0.02	11.55-12.55
9		2,4,6-Trinitrotoluene	1000.000	980.660	1.9	101	0.03	12.79-13.79
10		Nitroglycerin	5000.000	5037.909	-0.8	102	0.03	13.78-14.78
11		Tetryl	1000.000	1027.435	-2.7	100	0.08	14.75-15.75
12	S	3,4-Dinitrotoluene	1000.000	1000.494	-0.0	105	0.07	15.87-16.87
13		2,6-Dinitrotoluene	1000.000	1020.506	-2.1	101	0.04	16.24-17.24

Continuing Calibration Summary

Job Number: FA33221
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP1996-CC1993
Lab FileID: PP379548.D

		Amount	Calc.	%Drift			
14	2,4-Dinitrotoluene	1000.000	936.388	6.4	101	0.06	17.08-18.08
15	o-Nitrotoluene	1000.000	955.482	4.5	91	-0.05	19.05-20.05
16	3,5-Dinitroaniline	1000.000	1049.973	-5.0	105	0.17	18.55-19.55
17	p-Nitrotoluene	1000.000	1009.325	-0.9	102	0.04	20.50-21.50
18	4-Amino-2,6-Dinitrotol	1000.000	947.039	5.3	96	0.19	21.07-21.99
19	m-Nitrotoluene	1000.000	974.025	2.6	95	0.06	22.26-23.16
20	2-Amino-4,6-Dinitrotol	1000.000	1041.717	-4.2	103	0.17	23.64-24.64
21	PETN	5000.000	6716.346	-34.3#	139	0.03	25.24-27.24

(#) = Out of Range SPCC's out = 0 CCC's out = 0
PP379495.D 8330RP3_0420.M Tue Apr 26 11:51:46 2016

8.6.7

8

Continuing Calibration Summary

Job Number: FA33221
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP1996-CC1993
Lab FileID: PP379556.D

Evaluate Continuing Calibration Report

Signal #1 : P:\DATA\0425RPB\PP379556.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0425RPB\PP379556.D\dad1A.ch
Acq On : 25-Apr-2016, 13:30:37 Operator: kismetl
Sample : cc1993-1000 Inst : G1315B
Misc : OP60163,GPP1996,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e

Method : C:\MSDCHEM\2\METHODS\8330RP3_0420.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 26 09:50:54 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1		TNX	1000.000	987.075	1.3	102	0.00	3.11- 5.69
		Amount	Calc.	%Drift				
2		HMX	1000.000	940.196	6.0	93	0.02	5.22- 6.22
		Amount	Calc.	%Drift				
3		DNX	1000.000	1098.908	-9.9	106	0.01	5.39- 6.39
4		MNX	1000.000	1053.556	-5.4	104	0.03	6.76- 7.76
5		1,3,5-Trinitrobenzene	1000.000	1052.709	-5.3	105	0.02	7.80- 8.80
6		RDX	1000.000	1084.133	-8.4	106	0.03	8.31- 9.31
7		1,3-Dinitrobenzene	1000.000	991.654	0.8	105	0.02	10.48-11.48
8		Nitrobenzene	1000.000	1015.506	-1.6	101	0.02	11.56-12.56
9		2,4,6-Trinitrotoluene	1000.000	1031.704	-3.2	105	0.03	12.79-13.79
10		Nitroglycerin	----------	NA	----------			
11		Tetryl	1000.000	1075.833	-7.6	104	0.03	14.74-15.74
12	S	3,4-Dinitrotoluene	1000.000	979.334	2.1	100	0.02	15.88-16.88
13		2,6-Dinitrotoluene	1000.000	1056.755	-5.7	107	0.00	16.24-17.24
14		2,4-Dinitrotoluene	1000.000	1021.841	-2.2	104	0.01	17.08-18.08
15		o-Nitrotoluene	1000.000	896.772	10.3	86	-0.12	19.05-20.05
16		3,5-Dinitroaniline	1000.000	1079.649	-8.0	108	0.04	18.55-19.55
17		p-Nitrotoluene	1000.000	1073.306	-7.3	100	-0.02	20.50-21.50
18		4-Amino-2,6-Dinitrotol	1000.000	1018.917	-1.9	103	0.02	21.07-21.99
19		m-Nitrotoluene	1000.000	1056.525	-5.7	98	-0.03	22.24-23.16
20		2-Amino-4,6-Dinitrotol	1000.000	1097.065	-9.7	107	0.00	23.63-24.63
21		PETN	----------	NA	----------			

***** Signal #2 *****

1		TNX	1000.000	994.898	0.5	103	0.00	3.11- 5.69
2		HMX	1000.000	1027.520	-2.8	100	0.02	5.22- 6.22
3		DNX	1000.000	1012.065	-1.2	106	0.01	5.39- 6.39
4		MNX	1000.000	1046.961	-4.7	106	0.03	6.76- 7.76
5		1,3,5-Trinitrobenzene	1000.000	1082.237	-8.2	104	0.02	7.80- 8.80
6		RDX	1000.000	1138.475	-13.8	107	0.03	8.31- 9.31
7		1,3-Dinitrobenzene	1000.000	931.970	6.8	104	0.02	10.48-11.48
8		Nitrobenzene	1000.000	962.777	3.7	100	0.02	11.55-12.55
9		2,4,6-Trinitrotoluene	1000.000	976.448	2.4	101	0.03	12.79-13.79
10		Nitroglycerin	5000.000	5020.169	-0.4	102	0.02	13.78-14.78
11		Tetryl	1000.000	1034.492	-3.4	101	0.02	14.75-15.75
12	S	3,4-Dinitrotoluene	1000.000	993.489	0.7	104	0.02	15.87-16.87
13		2,6-Dinitrotoluene	1000.000	1034.820	-3.5	102	0.00	16.24-17.24

Continuing Calibration Summary

Job Number: FA33221
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GPP1996-CC1993
Lab FileID: PP379556.D

		Amount	Calc.	%Drift			
14	2,4-Dinitrotoluene	1000.000	937.938	6.2	101	0.01	17.08-18.08
15	o-Nitrotoluene	1000.000	953.137	4.7	91	-0.13	19.05-20.05
16	3,5-Dinitroaniline	1000.000	1092.198	-9.2	109	0.04	18.55-19.55
17	p-Nitrotoluene	1000.000	1006.806	-0.7	102	-0.02	20.50-21.50
18	4-Amino-2,6-Dinitrotol	1000.000	967.277	3.3	98	0.02	21.07-21.99
19	m-Nitrotoluene	1000.000	954.035	4.6	93	-0.04	22.26-23.16
20	2-Amino-4,6-Dinitrotol	1000.000	1039.269	-3.9	103	0.00	23.64-24.64
21	PETN	5000.000	6775.980	-35.5#	140	-0.04	25.24-27.24

(#) = Out of Range SPCC's out = 0 CCC's out = 0
PP379495.D 8330RP3_0420.M Tue Apr 26 11:51:47 2016

8.6.8

8

GC Semi-volatiles

Raw Data

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/27/16 10:44

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0422BPL\BB051061.D\dad1B.ch Vial: 17
Signal #2 : C:\HPCHEM\1\DATA\0422BPL\BB051061.D\dad1A.ch
Acq On : 22-Apr-2016, 18:01:25 Operator: kismetl
Sample : FA33221-1 Inst : G1315B
Misc : op60153,GBB1444,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 25 06:39:10 2016 Quant Results File: 8330B_0405.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0405.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 22 13:03:44 2016
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.23	11.23	1198896	2150803	535.866	554.778
	Spiked Amount 500.000	Range 70 - 136		Recovery =		107.17%	110.96%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	1.58	1.58	2211899	6504332	1276.363m	1335.278m
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D.	N.D.
5)	RDX	3.11	3.10	299639	408421	170.842m	139.706m
6)	1,3,5-Trinitrobe	4.85	4.85	7480133	14945075	1894.859m	1917.425m
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	3,5-Dinitroanili	6.51	6.51	206427	403338	42.612m	50.741
9)	Nitrobenzene	0.00	0.00	0	0	N.D.	N.D.
10)	Nitroglycerin	0.00	0.00	0	0	N.D.	N.D.
11)	Tetryl	0.00	0.00	0	0	N.D.	N.D.
12)	2,4,6-Trinitroto	10.04	10.04	3633867	4462558	1019.573	995.571
13)	2-Amino-4,6-Dini	10.44	10.44	1462344	2244881	461.327	439.096
14)	4-Amino-2,6-Dini	10.93	10.93	623523	1233908	283.029	262.861
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
21)	PETN	0.00	0.00	0	0	N.D.	N.D.

Page 1005

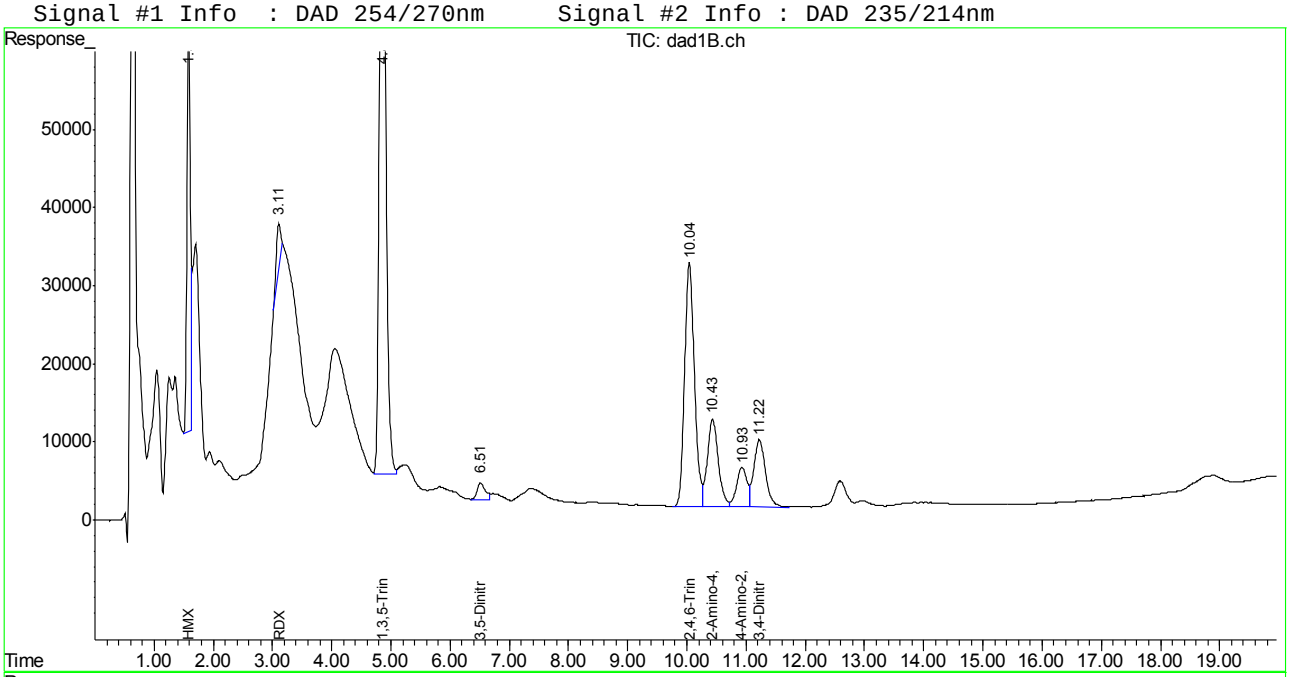
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB051061.D 8330B_0405.M Mon Apr 25 09:11:18 2016 Page 1

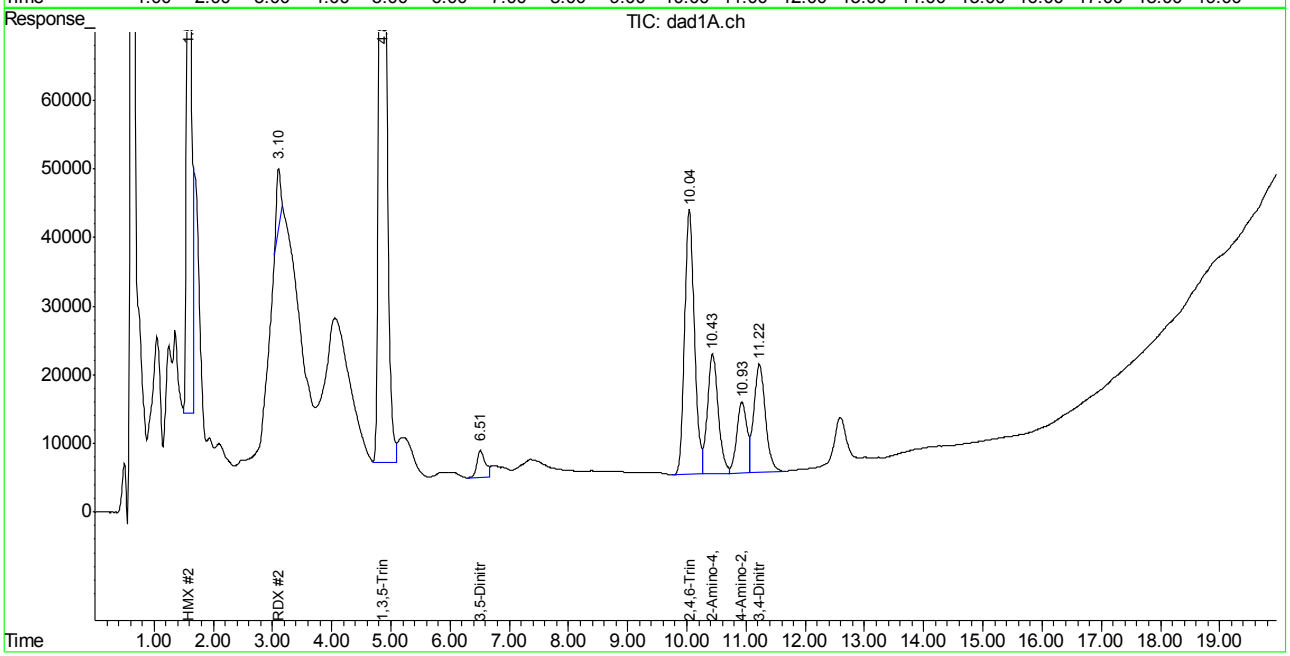
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0422BPL\BB051061.D\dad1B.ch Vial: 17
Signal #2 : C:\HPCHEM\1\DATA\0422BPL\BB051061.D\dad1A.ch
Acq On : 22-Apr-2016, 18:01:25 Operator: kismetl
Sample : FA33221-1 Inst : G1315B
Misc : op60153,GBB1444,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 25 8:11 2016 Quant Results File: 8330B_0405.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0405.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 22 13:03:44 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA33221

Manual Integration Approval Summary

Sample Number: FA33221-1
Lab FileID: BB051061.D
Injection Time: 04/22/16 18:01
Method: SW846 8330B
Analyst approved: 04/26/16 12:11 Kismet Lugo
Supervisor approved: 04/27/16 10:44 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
HMX	2691-41-0	1	1.58	Poor instrument integration
HMX	2691-41-0	2	1.58	Poor instrument integration
RDX	121-82-4	2	3.10	Poor instrument integration
RDX	121-82-4	1	3.11	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	1	4.85	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	2	4.85	Poor instrument integration
3,5-Dinitroaniline	618-87-1	1	6.51	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/27/16 10:45

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0425RPB\PP379552.D\dad1B.ch Vial: 6
Signal #2 : P:\DATA\0425RPB\PP379552.D\dad1A.ch
Acq On : 25-Apr-2016, 11:16:40 Operator: kismetl
Sample : FA33221-1cf Inst : G1315B
Misc : OP60153,GPP1996,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 26 09:51:13 2016 Quant Results File: 8330RP3_0420.RES

Quant Method : C:\MSDCHEM\2...\8330RP3_0420.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 26 09:50:54 2016
Response via : Initial Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	16.41	16.41	3006246	5788580	571.266	539.001
	Spiked Amount 500.000	Range 70 - 136		Recovery =		114.25%	107.80%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	5.73	5.73	5019971	14908645	1622.421m	1659.419m
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	1,3,5-Trinitrobe	8.32	8.32	19013799	32532363	2037.905	2098.298
6)	RDX	8.84	8.84	1033120	1990542	244.022	258.108
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D.	N.D.
8)	Nitrobenzene	0.00	0.00	0	0	N.D.	N.D.
9)	2,4,6-Trinitroto	13.32	13.32	9138245	11898907	1026.876	978.472
10)	Nitroglycerin	0.00	0.00	0	0	N.D.	N.D.
11)	Tetryl	0.00	0.00	0	0	N.D.	N.D.
13)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
14)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
15)	o-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
16)	3,5-Dinitroanili	19.05	19.03	365228	650132	32.459m	34.771m
17)	p-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
18)	4-Amino-2,6-Dini	21.60	21.61	1867761	3672935	301.100	294.814
19)	m-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
20)	2-Amino-4,6-Dini	24.22	24.22	3951059	5220757	485.701	465.118m
21)	PETN	0.00	0.00	0	0	N.D.	N.D.

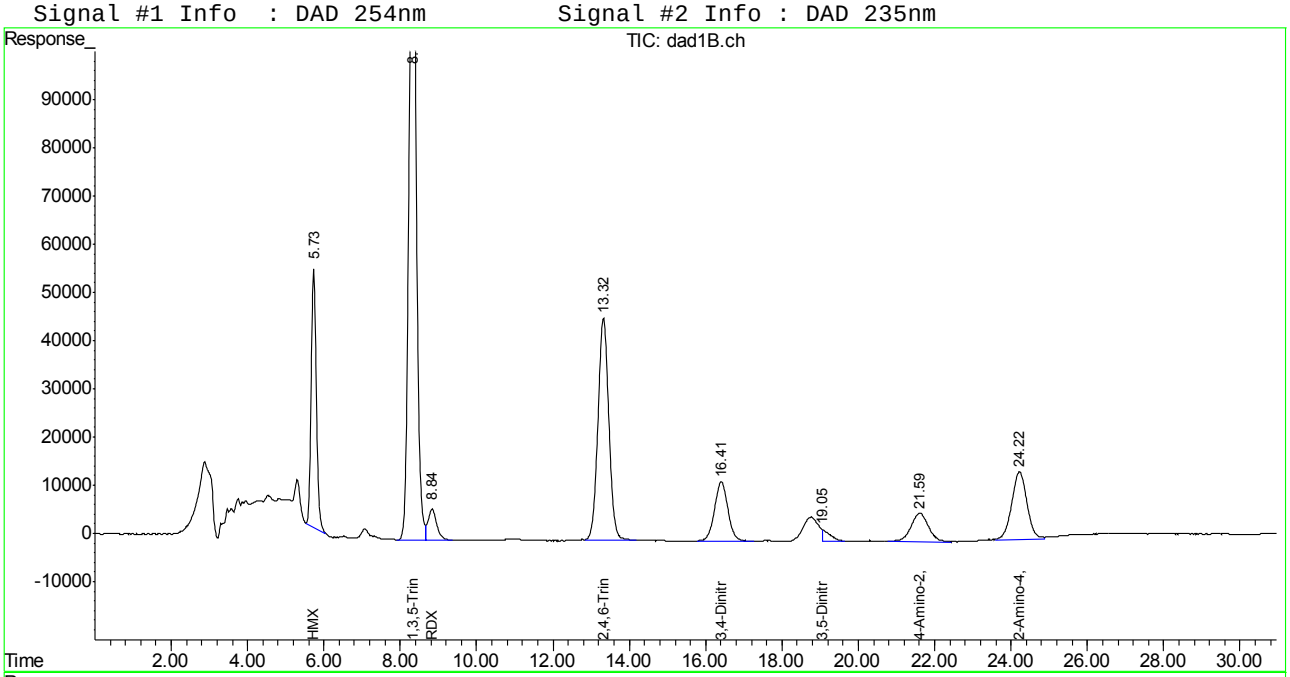
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP379552.D 8330RP3_0420.M Tue Apr 26 11:52:55 2016 Page 1

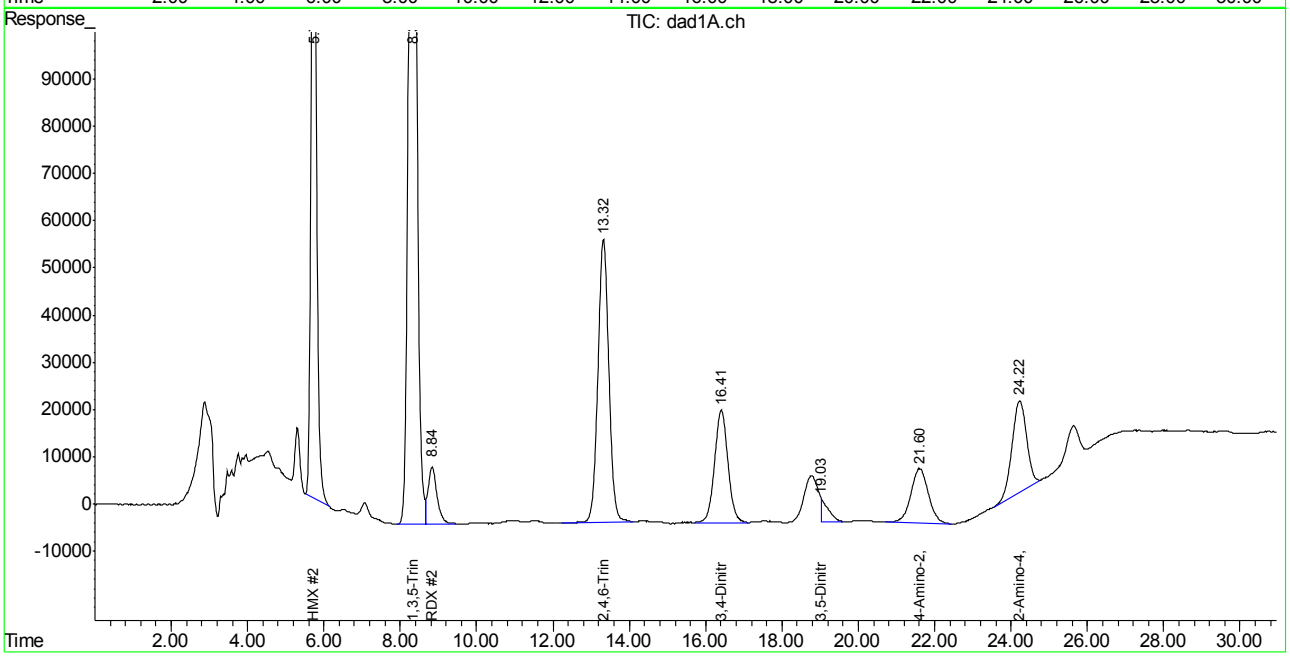
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0425RPB\PP379552.D\dad1B.ch Vial: 6
Signal #2 : P:\DATA\0425RPB\PP379552.D\dad1A.ch
Acq On : 25-Apr-2016, 11:16:40 Operator: kismetl
Sample : FA33221-1cf Inst : G1315B
Misc : OP60153,GPP1996,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 26 11:06 2016 Quant Results File: 8330RP3_0420.RES

Quant Method : C:\MSDCHEM\2...\8330RP3_0420.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 26 09:50:54 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





SGS ACCUTEST FA33221

Manual Integration Approval Summary

Sample Number: FA33221-1
Lab FileID: PP379552.D
Injection Time: 04/25/16 11:16
Method: SW846 8330B
Analyst approved: 04/26/16 12:11 Kismet Lugo
Supervisor approved: 04/27/16 10:45 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
HMX	2691-41-0	1	5.73	Poor instrument integration
HMX	2691-41-0	2	5.73	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	19.03	Poor instrument integration
3,5-Dinitroaniline	618-87-1	1	19.05	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	24.22	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/27/16 10:44

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0422BPL\BB051064.D\dad1B.ch Vial: 20
Signal #2 : C:\HPCHEM\1\DATA\0422BPL\BB051064.D\dad1A.ch
Acq On : 22-Apr-2016, 19:22:23 Operator: kismetl
Sample : FA33221-2 Inst : G1315B
Misc : op60153,GBB1444,990,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 25 06:39:13 2016 Quant Results File: 8330B_0405.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0405.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 22 13:03:44 2016
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.25	11.25	1073607	1942344	479.866	501.008
	Spiked Amount 500.000	Range 70 - 136		Recovery =		95.97%	100.20%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	1.58	1.58	110766	373269	63.917m	76.629m
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	RDX	3.11	3.10	375111	574134	213.873	196.390m
6)	1,3,5-Trinitrobe	4.86	4.86	342015	682755	86.639	87.596
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D.	N.D.
8)	3,5-Dinitroanili	6.51	6.52	84596	133150	17.463m	16.751m
9)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
10)	Nitroglycerin	0.00	0.00	0	0	N.D.	N.D.
11)	Tetryl	0.00	0.00	0	0	N.D.	N.D.
12)	2,4,6-Trinitroto	10.06	10.06	1018249	1260130	285.696	281.128
13)	2-Amino-4,6-Dini	10.46	10.46	136565	213239	43.082	41.709
14)	4-Amino-2,6-Dini	10.97	10.96	72412	140396	32.869	29.909
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

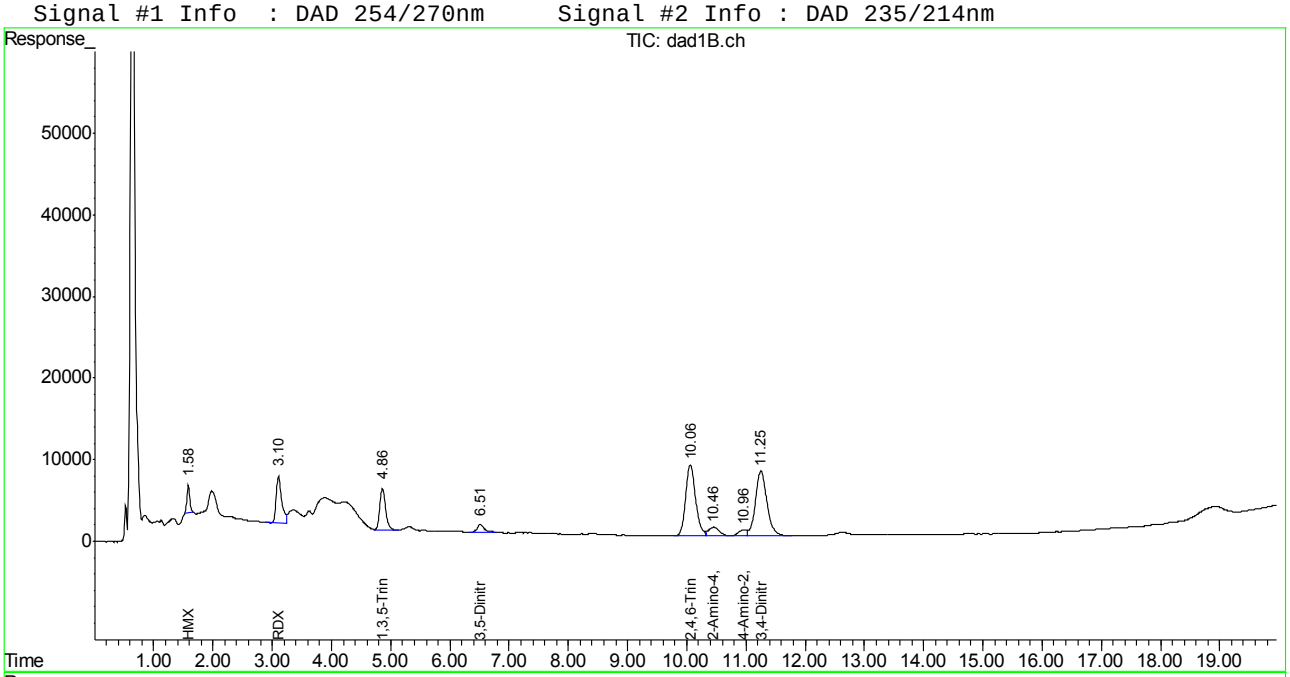
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB051064.D 8330B_0405.M Mon Apr 25 09:11:21 2016 Page 1

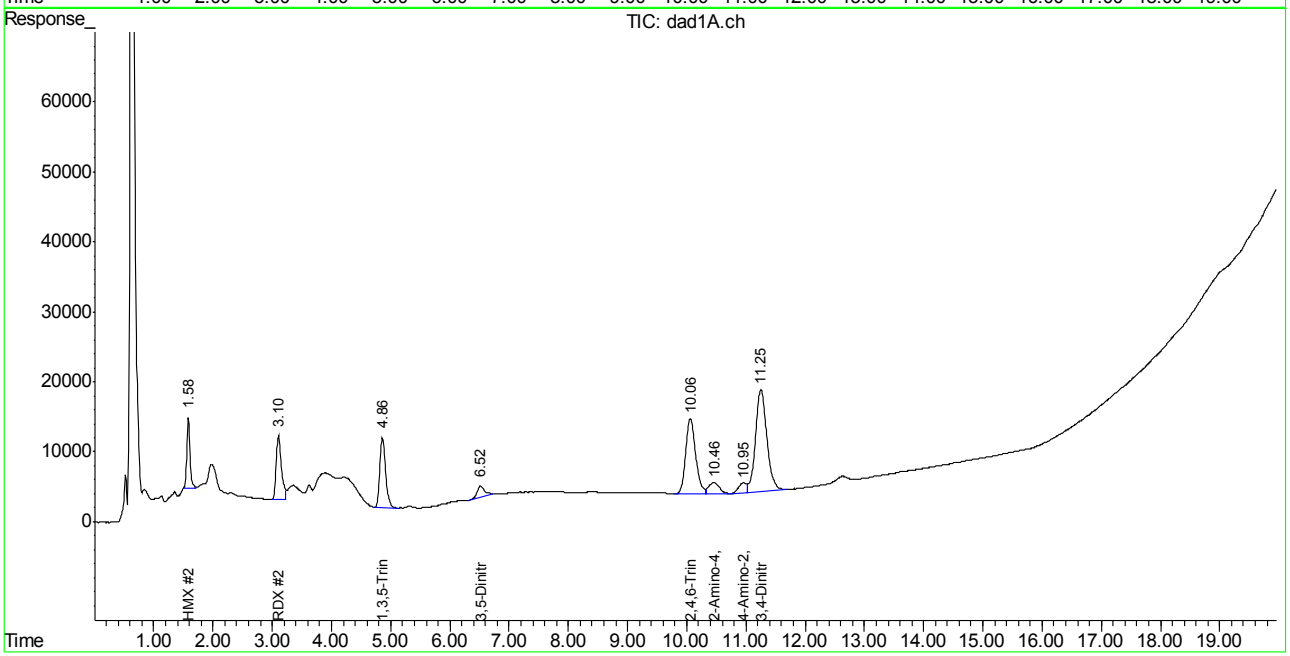
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0422BPL\BB051064.D\dad1B.ch Vial: 20
Signal #2 : C:\HPCHEM\1\DATA\0422BPL\BB051064.D\dad1A.ch
Acq On : 22-Apr-2016, 19:22:23 Operator: kismetl
Sample : FA33221-2 Inst : G1315B
Misc : op60153,GBB1444,990,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 25 8:48 2016 Quant Results File: 8330B_0405.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0405.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 22 13:03:44 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA33221

Manual Integration Approval Summary

Sample Number: FA33221-2
Lab FileID: BB051064.D
Injection Time: 04/22/16 19:22
Method: SW846 8330B
Analyst approved: 04/26/16 12:11 Kismet Lugo
Supervisor approved: 04/27/16 10:44 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
HMX	2691-41-0	1	1.58	Poor instrument integration
HMX	2691-41-0	2	1.58	Poor instrument integration
RDX	121-82-4	2	3.10	Poor instrument integration
3,5-Dinitroaniline	618-87-1	1	6.51	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	6.52	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/27/16 10:45

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0425RPB\PP379553.D\dad1B.ch Vial: 7
Signal #2 : P:\DATA\0425RPB\PP379553.D\dad1A.ch
Acq On : 25-Apr-2016, 11:50:07 Operator: kismetl
Sample : FA33221-2cf Inst : G1315B
Misc : OP60153,GPP1996,990,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 26 09:51:17 2016 Quant Results File: 8330RP3_0420.RES

Quant Method : C:\MSDCHEM\2...\8330RP3_0420.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 26 09:50:54 2016
Response via : Initial Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	16.25	16.25	2749731	5368915	522.522	499.924
	Spiked Amount 500.000	Range 70 - 136		Recovery =		104.50%	99.98%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D.	N.D.
2)	HMX	5.72	5.72	358058	1018510	124.493m	113.366m
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	1,3,5-Trinitrobe	8.30	8.29	888054	1442468	95.182	93.037
6)	RDX	8.79	8.79	793364	1496347	187.392	194.027
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D.	N.D.
8)	Nitrobenzene	0.00	0.00	0	0	N.D.	N.D.
9)	2,4,6-Trinitroto	13.24	13.24	2593990	3352954	291.490	275.720
10)	Nitroglycerin	0.00	0.00	0	0	N.D.	N.D.
11)	Tetryl	0.00	0.00	0	0	N.D.	N.D.
13)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
14)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
15)	o-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
16)	3,5-Dinitroanili	18.96	19.00	164989	285462	14.663m	15.267m
17)	p-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
18)	4-Amino-2,6-Dini	21.38	21.39	306862	509394	49.469	40.887m
19)	m-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
20)	2-Amino-4,6-Dini	24.05	24.15	391471	499720	48.123	45.991m
21)	PETN	0.00	0.00	0	0	N.D.	N.D.

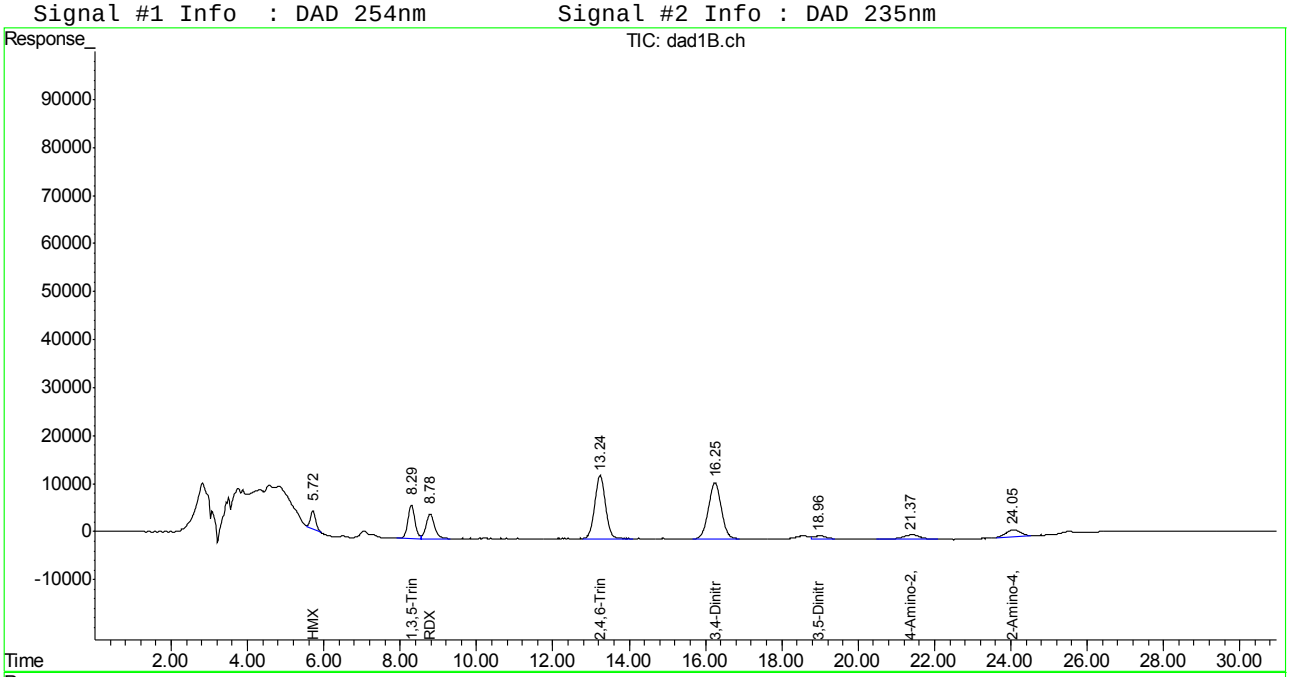
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP379553.D 8330RP3_0420.M Tue Apr 26 11:52:56 2016 Page 1

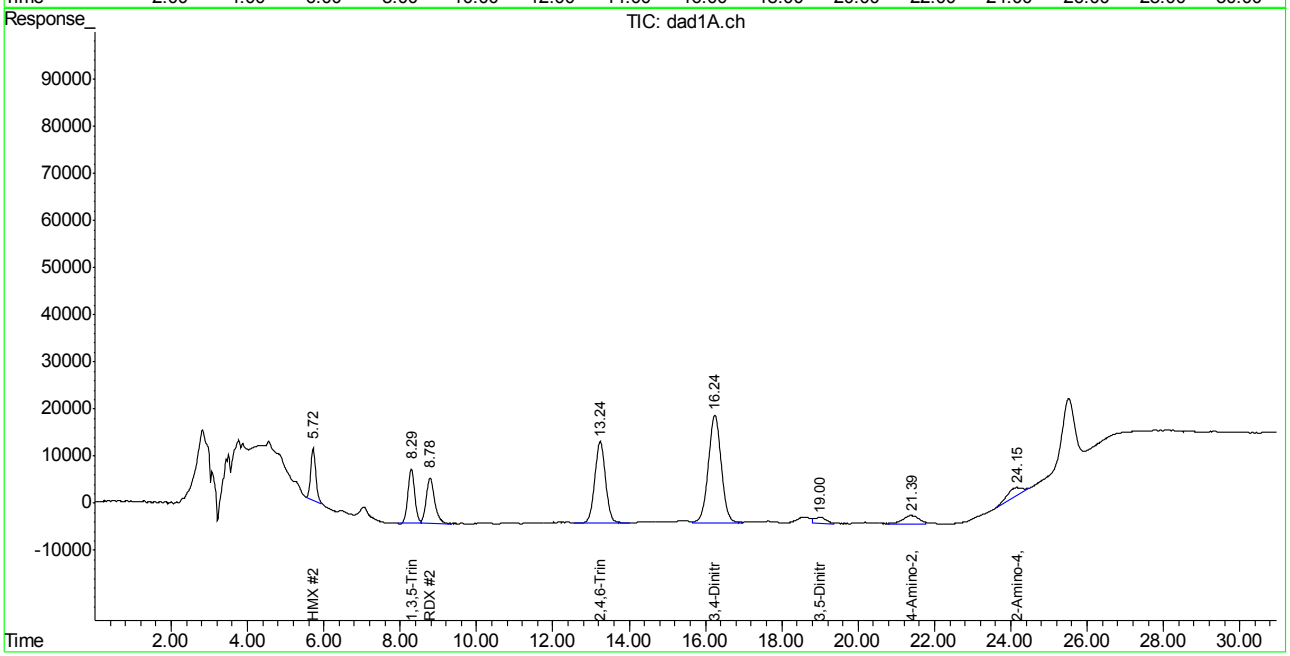
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0425RPB\PP379553.D\dad1B.ch Vial: 7
Signal #2 : P:\DATA\0425RPB\PP379553.D\dad1A.ch
Acq On : 25-Apr-2016, 11:50:07 Operator: kismetl
Sample : FA33221-2cf Inst : G1315B
Misc : OP60153,GPP1996,990,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 26 11:05 2016 Quant Results File: 8330RP3_0420.RES

Quant Method : C:\MSDCHEM\2...\8330RP3_0420.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 26 09:50:54 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





SGS ACCUTEST FA33221

Manual Integration Approval Summary

Sample Number: FA33221-2
Lab FileID: PP379553.D
Injection Time: 04/25/16 11:50
Method: SW846 8330B
Analyst approved: 04/26/16 12:11 Kismet Lugo
Supervisor approved: 04/27/16 10:45 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
HMX	2691-41-0	1	5.72	Poor instrument integration
HMX	2691-41-0	2	5.72	Poor instrument integration
3,5-Dinitroaniline	618-87-1	1	18.96	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	19.00	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	2	21.39	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	24.15	Poor instrument integration

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0422BPL\BB051065.D\dad1B.ch Vial: 21
Signal #2 : C:\HPCHEM\1\DATA\0422BPL\BB051065.D\dad1A.ch
Acq On : 22-Apr-2016, 19:49:22 Operator: kismetl
Sample : FA33221-3 Inst : G1315B
Misc : op60153,GBB1444,990,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 25 06:39:14 2016 Quant Results File: 8330B_0405.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0405.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 22 13:03:44 2016
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.26	11.26	1111152	2016025	496.647	520.014
	Spiked Amount 500.000	Range 70 - 136		Recovery =		99.33%	104.00%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	0.00	0.00	0	0	N.D. d	N.D. d
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	RDX	0.00	0.00	0	0	N.D.	N.D.
6)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D.	N.D.
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
9)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
10)	Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D. d
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
12)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D. d	N.D. d
13)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
14)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

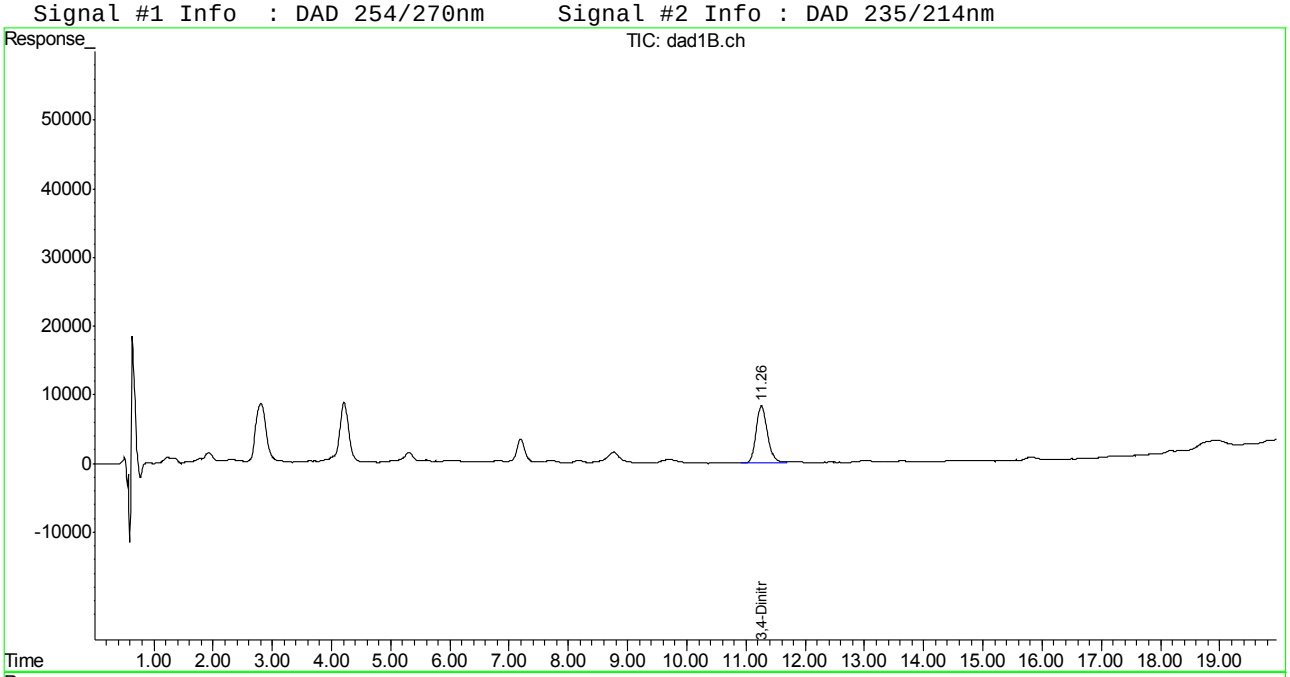
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB051065.D 8330B_0405.M Tue Apr 26 12:13:53 2016 Page 1

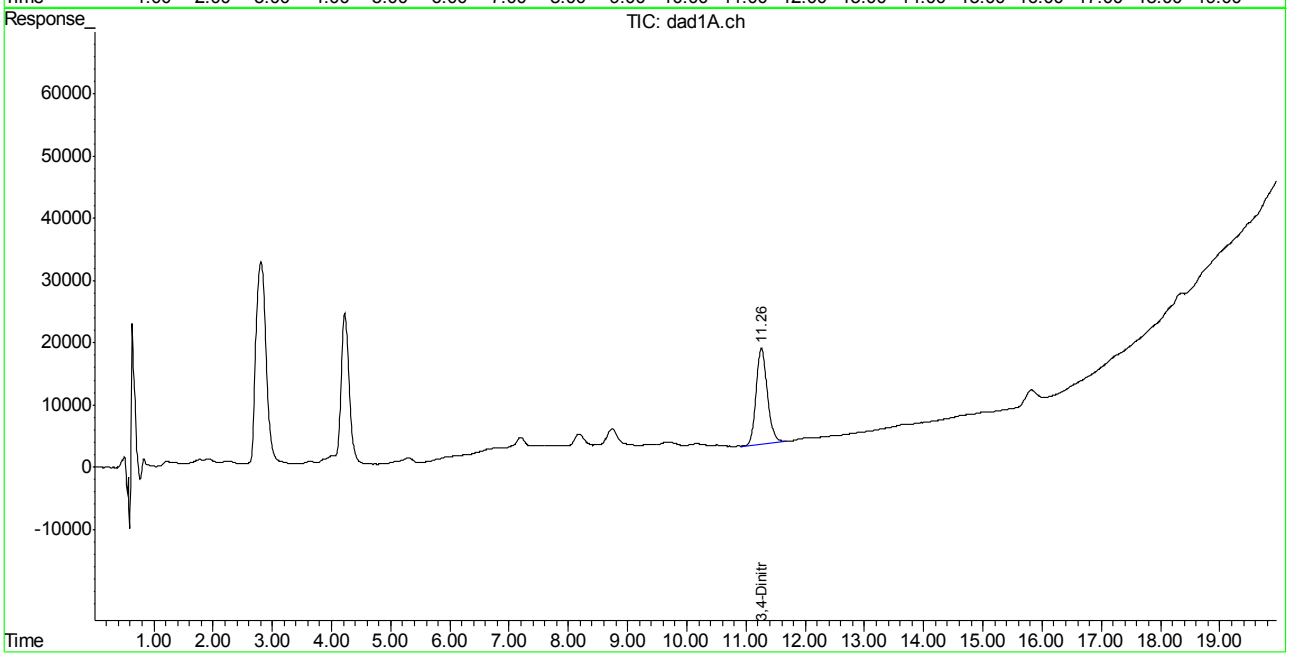
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0422BPL\BB051065.D\dad1B.ch Vial: 21
Signal #2 : C:\HPCHEM\1\DATA\0422BPL\BB051065.D\dad1A.ch
Acq On : 22-Apr-2016, 19:49:22 Operator: kismetl
Sample : FA33221-3 Inst : G1315B
Misc : op60153,GBB1444,990,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 26 12:12 2016 Quant Results File: 8330B_0405.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0405.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 22 13:03:44 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA33221

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0422BPL\BB051066.D\dad1B.ch Vial: 22
Signal #2 : C:\HPCHEM\1\DATA\0422BPL\BB051066.D\dad1A.ch
Acq On : 22-Apr-2016, 20:16:18 Operator: kismetl
Sample : FA33221-4 Inst : G1315B
Misc : op60153,GBB1444,960,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 25 06:39:15 2016 Quant Results File: 8330B_0405.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0405.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 22 13:03:44 2016
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.27	11.27	1118649	2024743	499.999	522.262
	Spiked Amount 500.000	Range 70 - 136		Recovery =		100.00%	104.45%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	0.00	0.00	0	0	N.D. d	N.D. d
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	RDX	0.00	0.00	0	0	N.D. d	N.D. d
6)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D. d	N.D. d
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
9)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
10)	Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D. d
11)	Tetryl	0.00	0.00	0	0	N.D.	N.D.
12)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D.	N.D.
13)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D.	N.D.
14)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D.	N.D.
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

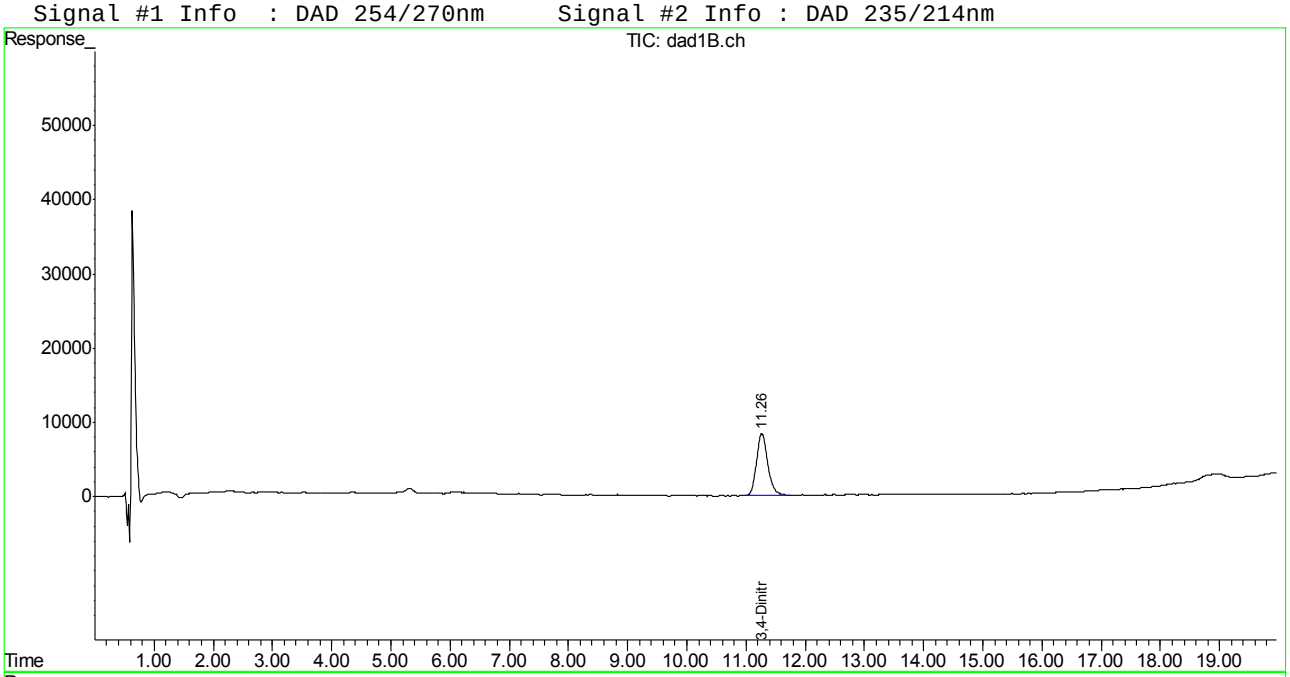
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB051066.D 8330B_0405.M Mon Apr 25 09:11:23 2016 Page 1

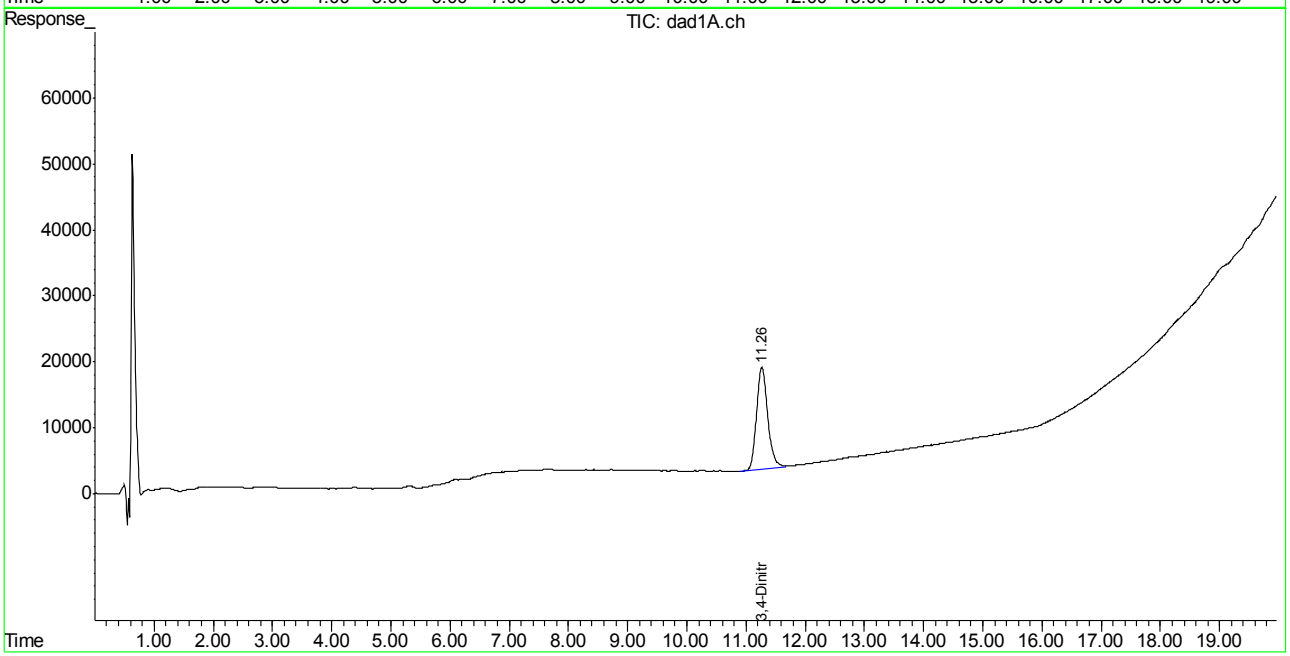
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0422BPL\BB051066.D\dad1B.ch Vial: 22
Signal #2 : C:\HPCHEM\1\DATA\0422BPL\BB051066.D\dad1A.ch
Acq On : 22-Apr-2016, 20:16:18 Operator: kismetl
Sample : FA33221-4 Inst : G1315B
Misc : op60153,GBB1444,960,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 25 9:05 2016 Quant Results File: 8330B_0405.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0405.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 22 13:03:44 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA33221

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0422BPL\BB051067.D\dad1B.ch Vial: 23
Signal #2 : C:\HPCHEM\1\DATA\0422BPL\BB051067.D\dad1A.ch
Acq On : 22-Apr-2016, 20:43:14 Operator: kismetl
Sample : FA33221-5 Inst : G1315B
Misc : op60153,GBB1444,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 25 06:39:16 2016 Quant Results File: 8330B_0405.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0405.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 22 13:03:44 2016
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.27	11.27	1066234	1891912	476.571	488.000
	Spiked Amount 500.000	Range 70 - 136		Recovery =		95.31%	97.60%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	0.00	0.00	0	0	N.D. d	N.D. d
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	RDX	0.00	0.00	0	0	N.D. d	N.D. d
6)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D. d	N.D. d
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
9)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
10)	Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D. d
11)	Tetryl	0.00	0.00	0	0	N.D.	N.D.
12)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D.	N.D.
13)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D.	N.D.
14)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D.	N.D.
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

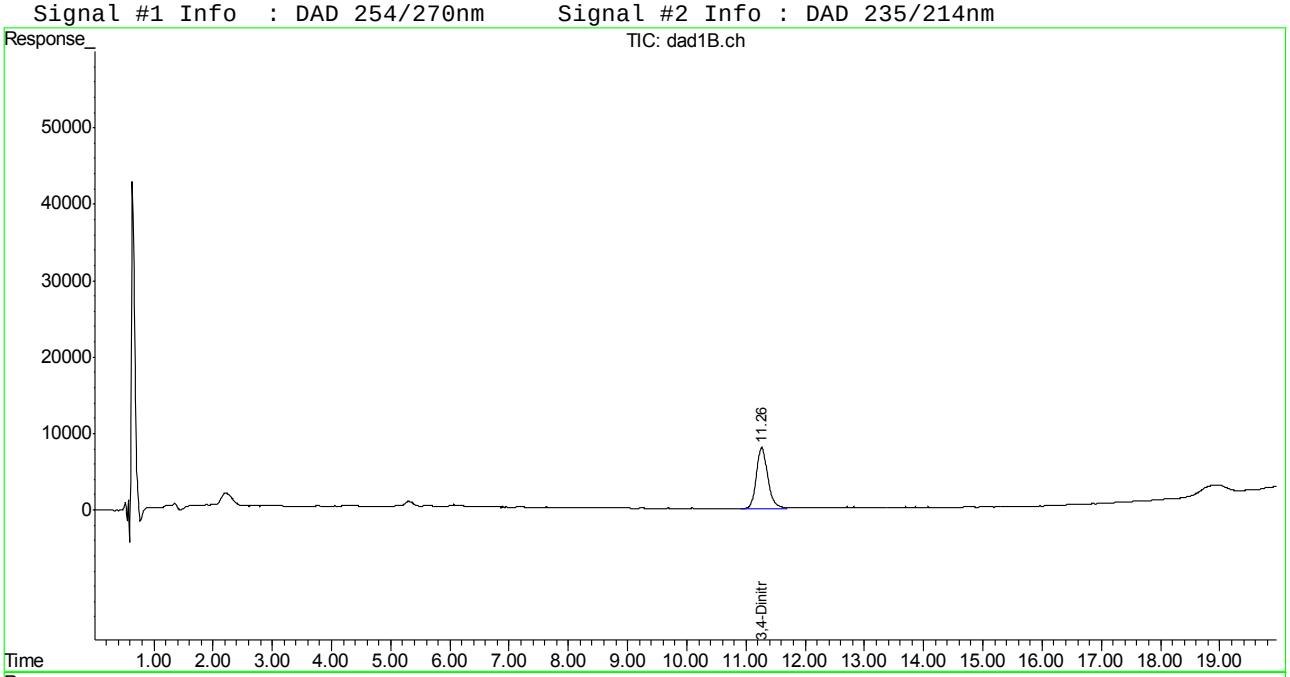
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB051067.D 8330B_0405.M Mon Apr 25 09:11:24 2016 Page 1

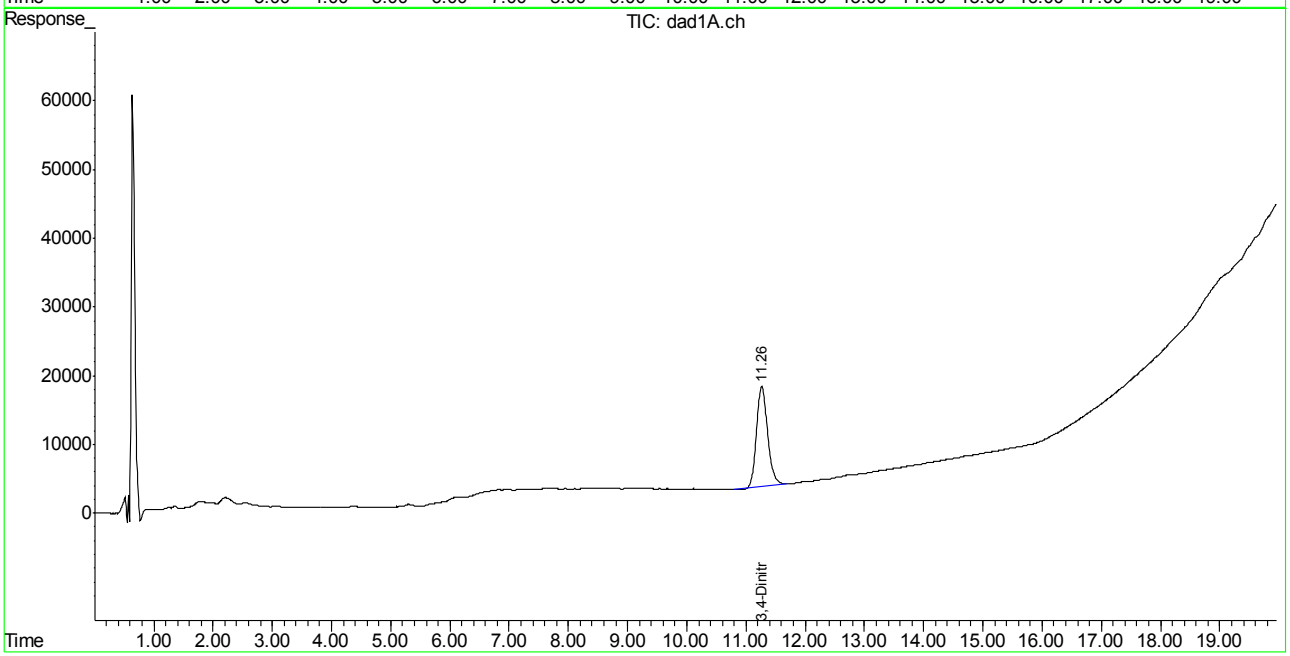
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0422BPL\BB051067.D\dad1B.ch Vial: 23
Signal #2 : C:\HPCHEM\1\DATA\0422BPL\BB051067.D\dad1A.ch
Acq On : 22-Apr-2016, 20:43:14 Operator: kismetl
Sample : FA33221-5 Inst : G1315B
Misc : op60153,GBB1444,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 25 9:06 2016 Quant Results File: 8330B_0405.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0405.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 22 13:03:44 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA33221

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/27/16 10:44

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0422BPL\BB051068.D\dad1B.ch Vial: 24
Signal #2 : C:\HPCHEM\1\DATA\0422BPL\BB051068.D\dad1A.ch
Acq On : 22-Apr-2016, 21:10:10 Operator: kismetl
Sample : FA33221-6 Inst : G1315B
Misc : op60153,GBB1444,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 25 06:39:17 2016 Quant Results File: 8330B_0405.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0405.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 22 13:03:44 2016
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.28	11.28	1133585	2049403	506.674	528.623
	Spiked Amount 500.000	Range 70 - 136		Recovery =		101.33%	105.72%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	1.59	1.59	86985	207808	50.194m	42.661m
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D.	N.D.
5)	RDX	3.11	3.11	43510	67431	24.808	23.066m
6)	1,3,5-Trinitrobe	4.86	4.87	310994	542796	78.781m	69.640m
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	3,5-Dinitroanili	6.53	6.53	113485	189192	23.427m	23.801m
9)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
10)	Nitroglycerin	0.00	0.00	0	0	N.D.	N.D.
11)	Tetryl	0.00	0.00	0	0	N.D.	N.D.
12)	2,4,6-Trinitroto	10.08	10.08	228380	278529	64.078	62.138
13)	2-Amino-4,6-Dini	10.49	10.48	87776	132697	27.691	25.955
14)	4-Amino-2,6-Dini	11.00	10.99	34941	50483	15.860	10.754
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

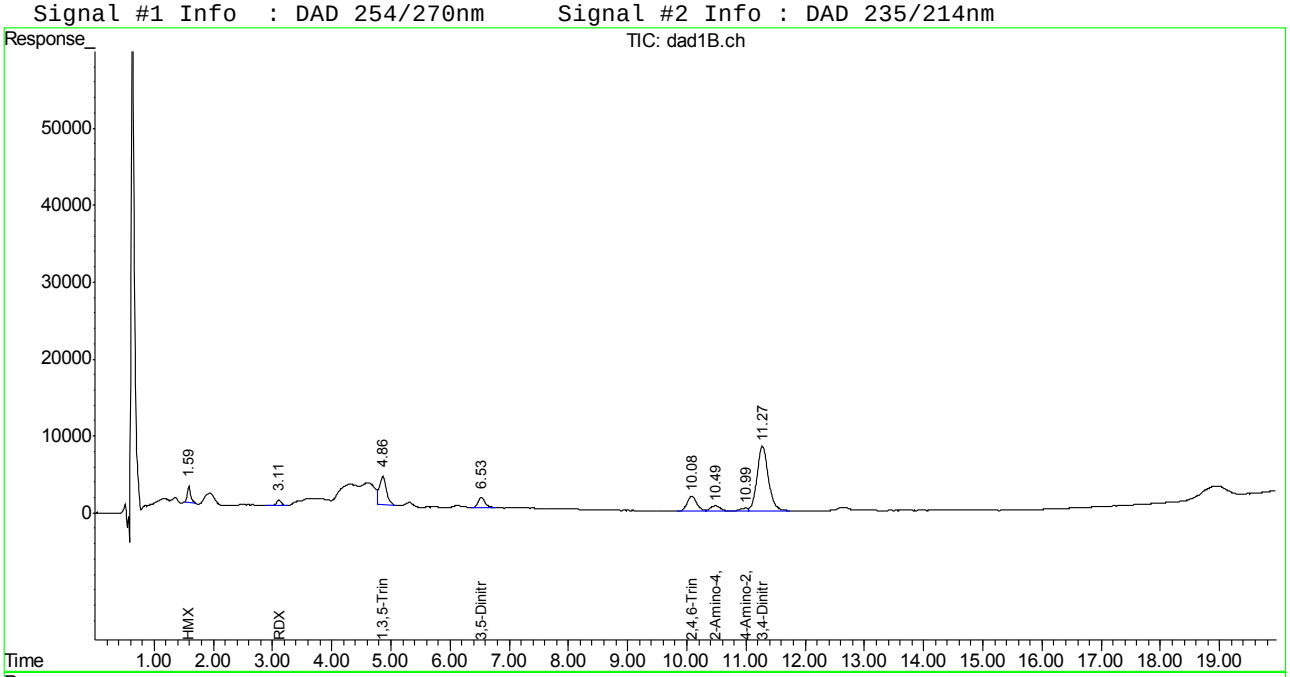
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB051068.D 8330B_0405.M Tue Apr 26 12:16:02 2016 Page 1

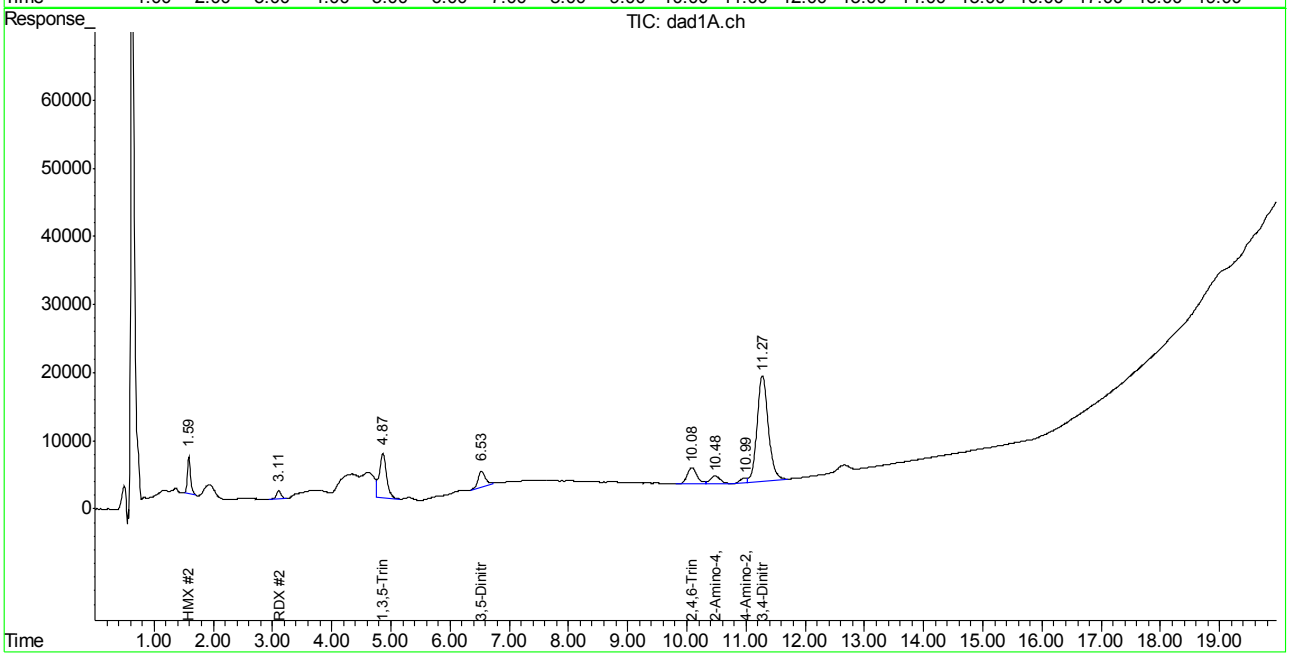
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0422BPL\BB051068.D\dad1B.ch Vial: 24
Signal #2 : C:\HPCHEM\1\DATA\0422BPL\BB051068.D\dad1A.ch
Acq On : 22-Apr-2016, 21:10:10 Operator: kismetl
Sample : FA33221-6 Inst : G1315B
Misc : op60153,GBB1444,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 26 12:15 2016 Quant Results File: 8330B_0405.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0405.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 22 13:03:44 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA33221

Manual Integration Approval Summary

Sample Number: FA33221-6
Lab FileID: BB051068.D
Injection Time: 04/22/16 21:10
Method: SW846 8330B
Analyst approved: 04/26/16 12:16 Kismet Lugo
Supervisor approved: 04/27/16 10:44 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
HMX	2691-41-0	1	1.59	Poor instrument integration
HMX	2691-41-0	2	1.59	Poor instrument integration
RDX	121-82-4	2	3.11	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	1	4.86	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	2	4.87	Poor instrument integration
3,5-Dinitroaniline	618-87-1	1	6.53	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	6.53	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/27/16 10:45

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0425RPB\PP379555.D\dad1B.ch Vial: 9
Signal #2 : P:\DATA\0425RPB\PP379555.D\dad1A.ch
Acq On : 25-Apr-2016, 12:57:07 Operator: kismetl
Sample : FA33221-6cf Inst : G1315B
Misc : OP60153,GPP1996,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 26 09:51:19 2016 Quant Results File: 8330RP3_0420.RES

Quant Method : C:\MSDCHEM\2...\8330RP3_0420.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 26 09:50:54 2016
Response via : Initial Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	16.34	16.34	2895056	5616169	550.137	522.947
	Spiked Amount 500.000	Range 70 - 136		Recovery =		110.03%	104.59%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D.	N.D.
2)	HMX	5.72	5.72	193485	551355	67.467m	61.369m
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	1,3,5-Trinitrobe	8.32	8.32	489217	745696	52.434	48.096m
6)	RDX	8.85	8.83	155415	291468	36.709	37.794
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D.	N.D.
8)	Nitrobenzene	0.00	0.00	0	0	N.D.	N.D.
9)	2,4,6-Trinitroto	13.29	13.29	564551	831075	63.439	68.341
10)	Nitroglycerin	0.00	0.00	0	0	N.D.	N.D.
11)	Tetryl	0.00	0.00	0	0	N.D.	N.D.
13)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
14)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
15)	o-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
16)	3,5-Dinitroanili	19.01	19.06	292078	489273	25.958m	26.168m
17)	p-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
18)	4-Amino-2,6-Dini	21.54	21.51	138013	337782	22.249	27.113
19)	m-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
20)	2-Amino-4,6-Dini	24.17	24.24	251328	234948	30.896m	21.664m
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

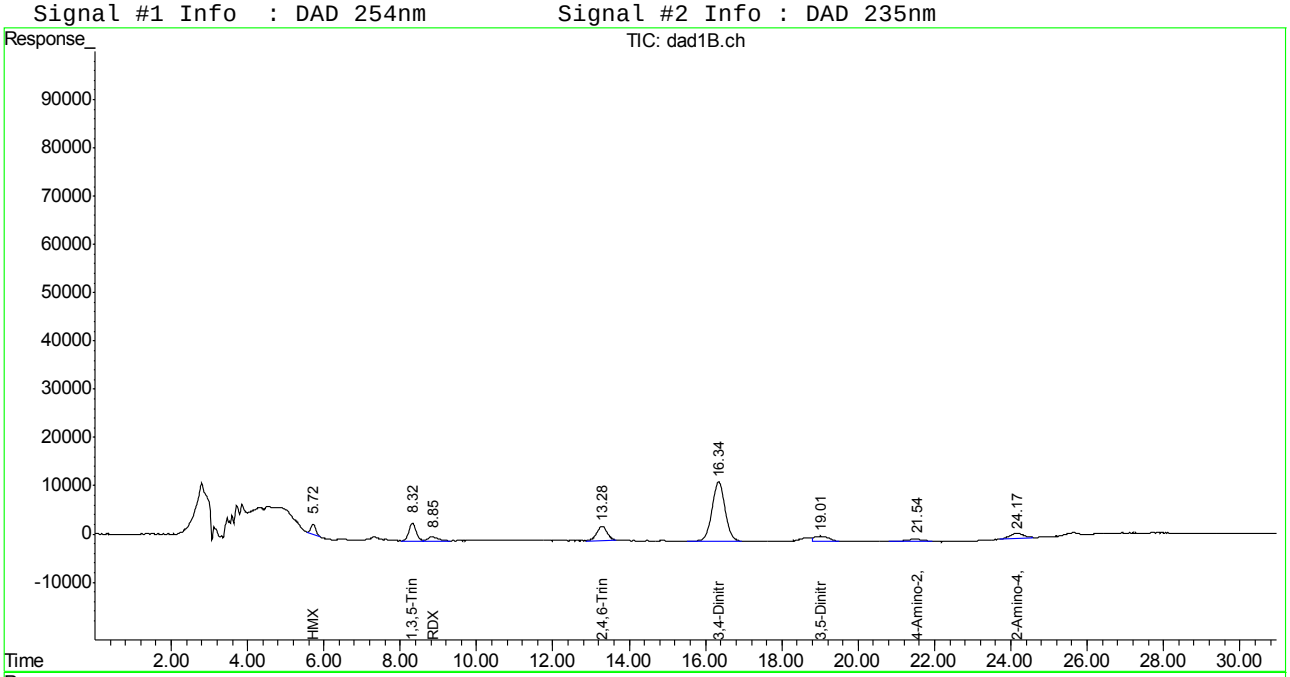
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP379555.D 8330RP3_0420.M Tue Apr 26 11:52:58 2016 Page 1

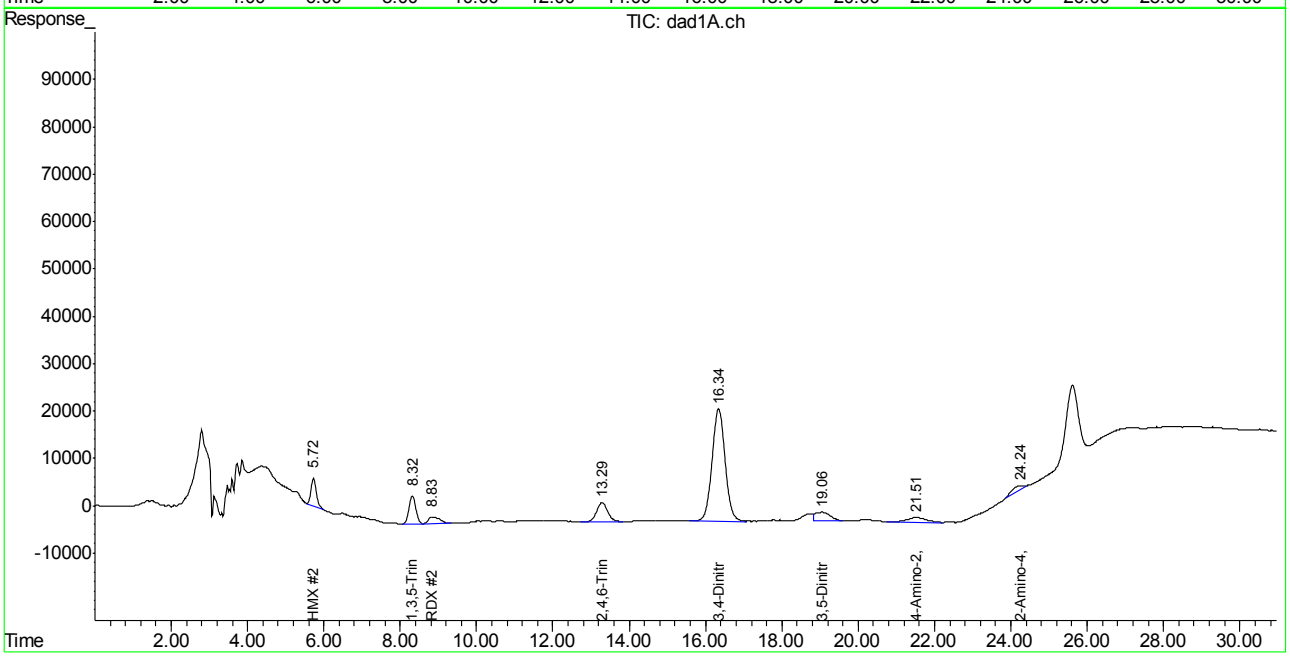
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0425RPB\PP379555.D\dad1B.ch Vial: 9
Signal #2 : P:\DATA\0425RPB\PP379555.D\dad1A.ch
Acq On : 25-Apr-2016, 12:57:07 Operator: kismetl
Sample : FA33221-6cf Inst : G1315B
Misc : OP60153,GPP1996,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 26 11:05 2016 Quant Results File: 8330RP3_0420.RES

Quant Method : C:\MSDCHEM\2...\8330RP3_0420.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 26 09:50:54 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

Sample Number: FA33221-6
Lab FileID: PP379555.D
Injection Time: 04/25/16 12:57
Method: SW846 8330B
Analyst approved: 04/26/16 12:16 Kismet Lugo
Supervisor approved: 04/27/16 10:45 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
HMX	2691-41-0	1	5.72	Poor instrument integration
HMX	2691-41-0	2	5.72	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	2	8.32	Poor instrument integration
3,5-Dinitroaniline	618-87-1	1	19.01	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	19.06	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	1	24.17	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	24.24	Poor instrument integration

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0422BPL\BB051060.D\dad1B.ch Vial: 16
Signal #2 : C:\HPCHEM\1\DATA\0422BPL\BB051060.D\dad1A.ch
Acq On : 22-Apr-2016, 17:34:26 Operator: kismetl
Sample : op60153-mb Inst : G1315B
Misc : op60153,GBB1444,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 25 06:39:09 2016 Quant Results File: 8330B_0405.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0405.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 22 13:03:44 2016
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.23	11.23	1102718	1962834	492.878	506.294
	Spiked Amount 500.000	Range 70 - 136		Recovery =		98.58%	101.26%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	0.00	0.00	0	0	N.D. d	N.D. d
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	RDX	0.00	0.00	0	0	N.D. d	N.D. d
6)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D. d	N.D. d
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
9)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
10)	Nitroglycerin	0.00	0.00	0	0	N.D.	N.D.
11)	Tetryl	0.00	0.00	0	0	N.D.	N.D.
12)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D.	N.D.
13)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D.	N.D.
14)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D.	N.D.
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB051060.D 8330B_0405.M Mon Apr 25 09:21:22 2016 Page 1

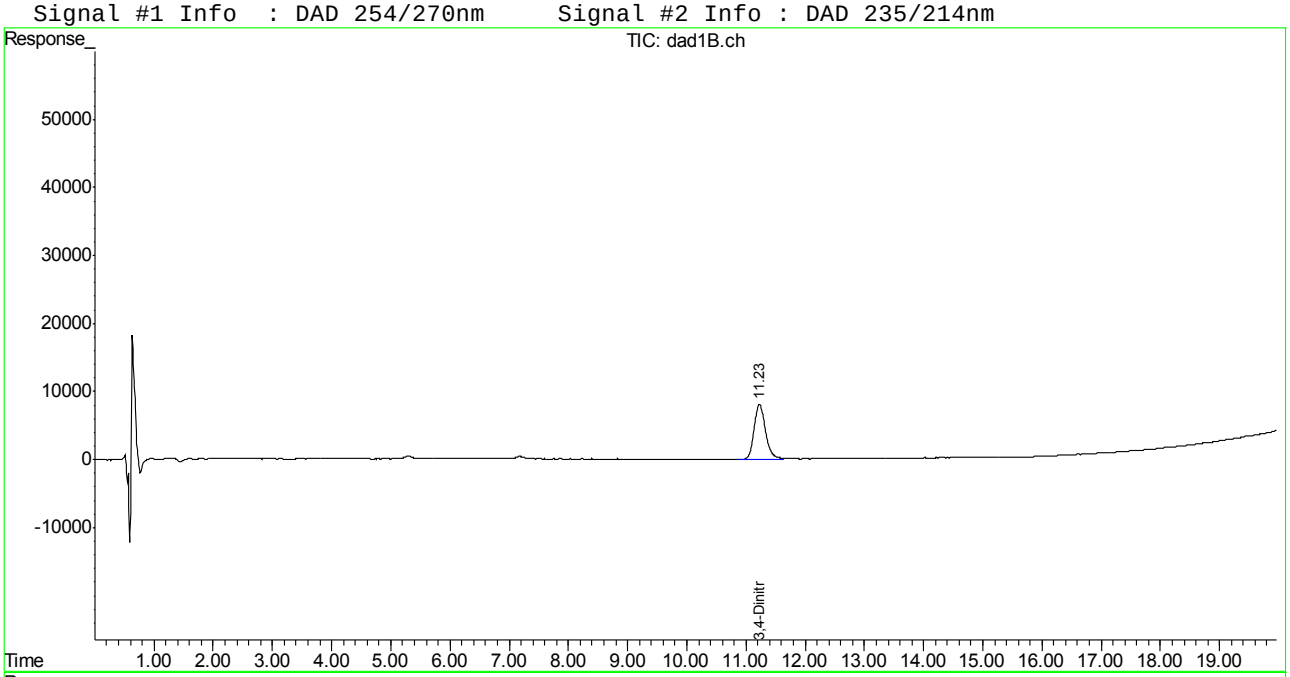
SGS ACCUTEST FA33221

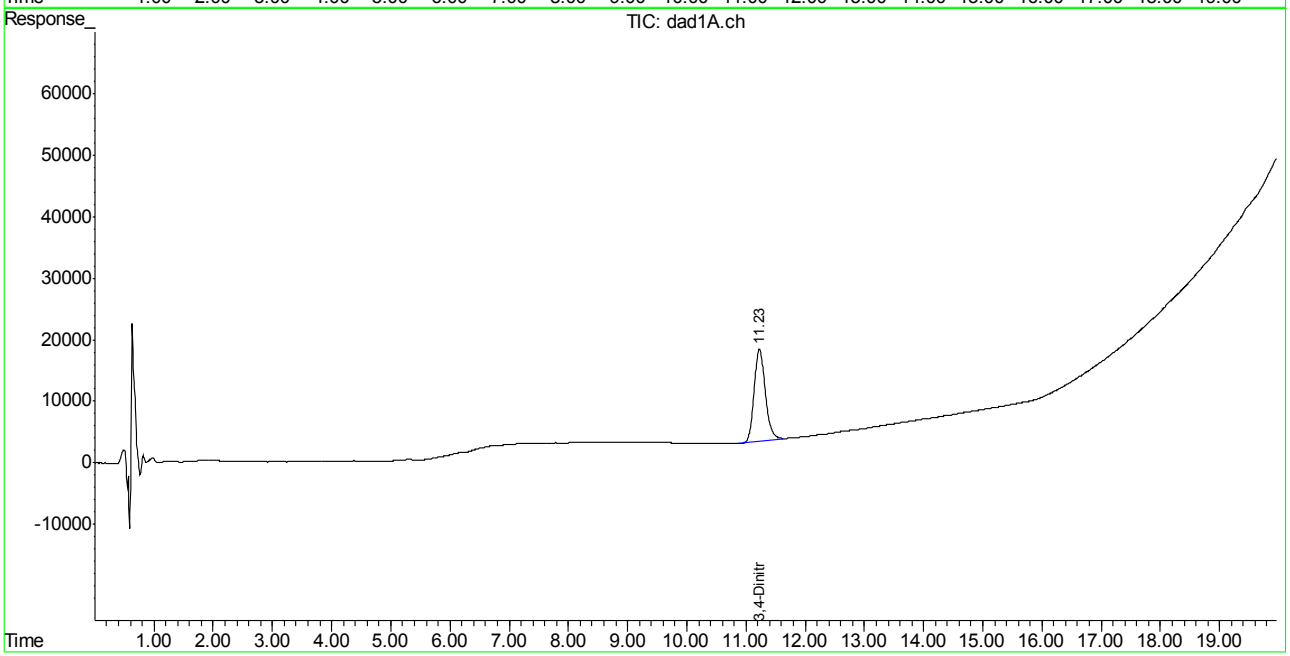
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0422BPL\BB051060.D\dad1B.ch Vial: 16
Signal #2 : C:\HPCHEM\1\DATA\0422BPL\BB051060.D\dad1A.ch
Acq On : 22-Apr-2016, 17:34:26 Operator: kismetl
Sample : op60153-mb Inst : G1315B
Misc : op60153,GBB1444,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 25 8:10 2016 Quant Results File: 8330B_0405.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0405.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 22 13:03:44 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA33221

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0425RPB\PP379551.D\dad1B.ch Vial: 5
Signal #2 : P:\DATA\0425RPB\PP379551.D\dad1A.ch
Acq On : 25-Apr-2016, 10:43:15 Operator: kismetl
Sample : op60153-mb Inst : G1315B
Misc : OP60153,GPP1996,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 26 09:51:12 2016 Quant Results File: 8330RP3_0420.RES

Quant Method : C:\MSDCHEM\2...\8330RP3_0420.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 26 09:50:54 2016
Response via : Initial Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	16.36	16.36	2774677	5481193	527.262	510.379
	Spiked Amount 500.000	Range 70 - 136		Recovery =		105.45%	102.08%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D.	N.D.
2)	HMX	0.00	0.00	0	0	N.D.	N.D.
3)	DNX	0.00	0.00	0	0	N.D.	N.D.
4)	MNX	0.00	0.00	0	0	N.D.	N.D.
5)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D. d	N.D. d
6)	RDX	0.00	0.00	0	0	N.D. d	N.D. d
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	Nitrobenzene	0.00	0.00	0	0	N.D.	N.D.
9)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D.	N.D.
10)	Nitroglycerin	0.00	0.00	0	0	N.D.	N.D.
11)	Tetryl	0.00	0.00	0	0	N.D.	N.D.
13)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
14)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
15)	o-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
16)	3,5-Dinitroanili	0.00	0.00	0	0	N.D.	N.D.
17)	p-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
18)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D.	N.D.
19)	m-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
20)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D.	N.D.
21)	PETN	0.00	0.00	0	0	N.D.	N.D.

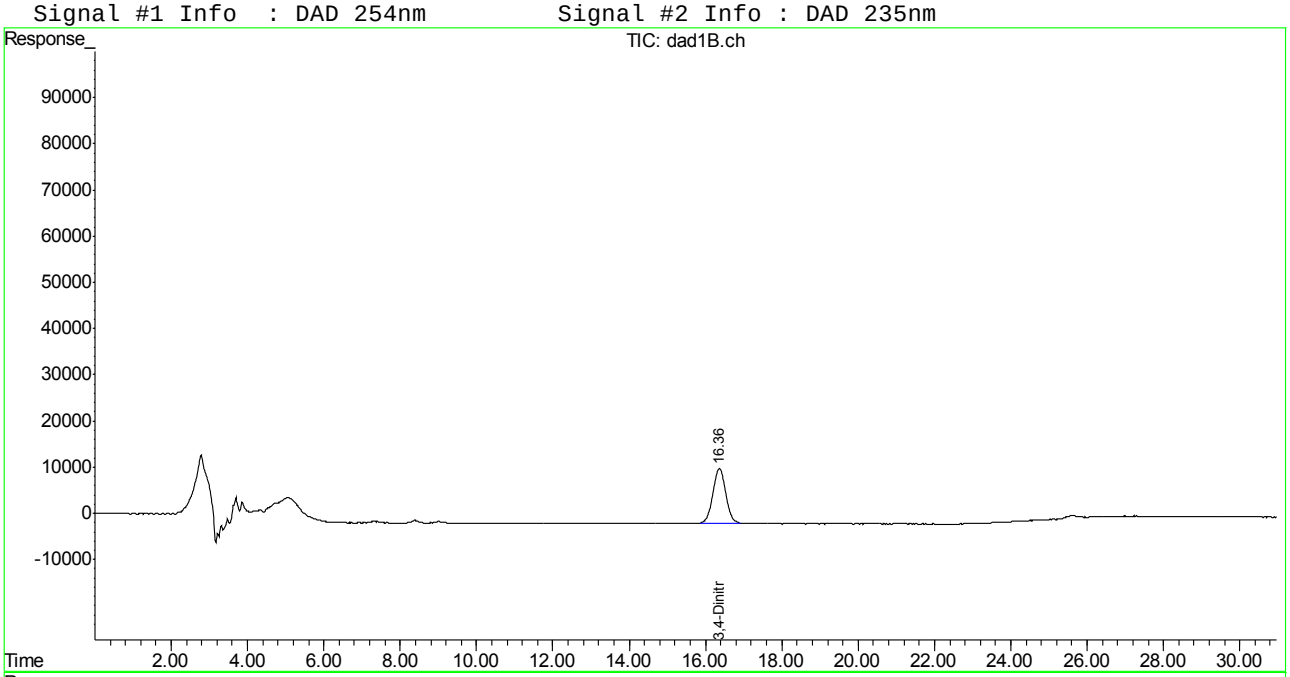
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP379551.D 8330RP3_0420.M Tue Apr 26 11:52:54 2016 Page 1

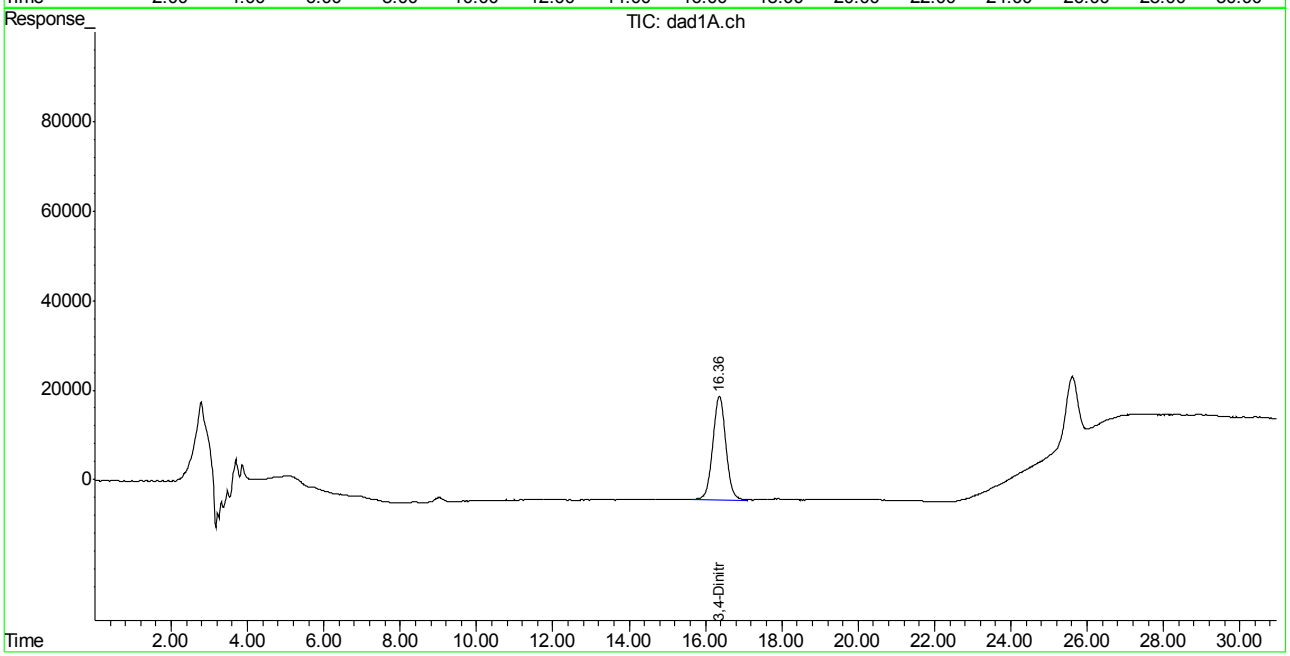
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0425RPB\PP379551.D\dad1B.ch Vial: 5
Signal #2 : P:\DATA\0425RPB\PP379551.D\dad1A.ch
Acq On : 25-Apr-2016, 10:43:15 Operator: kismetl
Sample : op60153-mb Inst : G1315B
Misc : OP60153,GPP1996,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 26 10:41 2016 Quant Results File: 8330RP3_0420.RES

Quant Method : C:\MSDCHEM\2...\8330RP3_0420.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 26 09:50:54 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





SGS ACCUTEST FA33221

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/27/16 10:44

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0422BPL\BB051059.D\dad1B.ch Vial: 15
Signal #2 : C:\HPCHEM\1\DATA\0422BPL\BB051059.D\dad1A.ch
Acq On : 22-Apr-2016, 17:07:34 Operator: kismetl
Sample : op60153-bs Inst : G1315B
Misc : op60153,GBB1444,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 25 06:39:08 2016 Quant Results File: 8330B_0405.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0405.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 22 13:03:44 2016
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.22	11.22	1148876	2083691	513.509	537.467
	Spiked Amount 500.000	Range 70 - 136		Recovery =		102.70%	107.49%
	Target Compounds						
1)	TNX	1.44	1.44	1558236	2482949	501.432	525.548
2)	HMX	1.58	1.58	921390	2631746	531.683	540.273
3)	DNX	1.85	1.85	1425116	2449953	464.310	517.523
4)	MNX	2.47	2.47	1216337	1939255	508.420	519.253
5)	RDX	3.10	3.10	1001454	1626204	570.989	556.265
6)	1,3,5-Trinitrobe	4.85	4.85	2155732	4281381	546.088	549.293
7)	1,3-Dinitrobenze	6.09	6.09	2588740	2001409	492.070	545.818
8)	3,5-Dinitroanili	6.50	6.50	2131341	3784332	439.971	476.080m
9)	Nitrobenzene	7.66	7.66	1644607	1559980	526.879	513.329m
10)	Nitroglycerin	0.00	9.36	0	3127667	N.D.	2722.029m#
11)	Tetryl	9.61	9.61	1568223	2667260	543.650	523.395m
12)	2,4,6-Trinitroto	10.04	10.04	1894523	2432520	531.556	542.681
13)	2-Amino-4,6-Dini	10.43	10.43	1797979	2844875	567.210	556.454
14)	4-Amino-2,6-Dini	10.92	10.92	1194278	2492192	542.106	530.915
16)	2,4-Dinitrotolue	11.91	11.91	2429842	1608390	515.011	547.107
17)	2,6-Dinitrotolue	12.38	12.38	1423362	1886628	527.663	580.326
18)	o-Nitrotoluene	15.40	15.40	1029413	1428516	474.142	494.059m
19)	p-Nitrotoluene	16.01	16.02	1557790	1205599	472.700	478.614
20)	m-Nitrotoluene	16.88	16.88	1465427	1732513	447.495	492.061m
21)	PETN	0.00	19.04	0	3317795	N.D. d	8174.603m

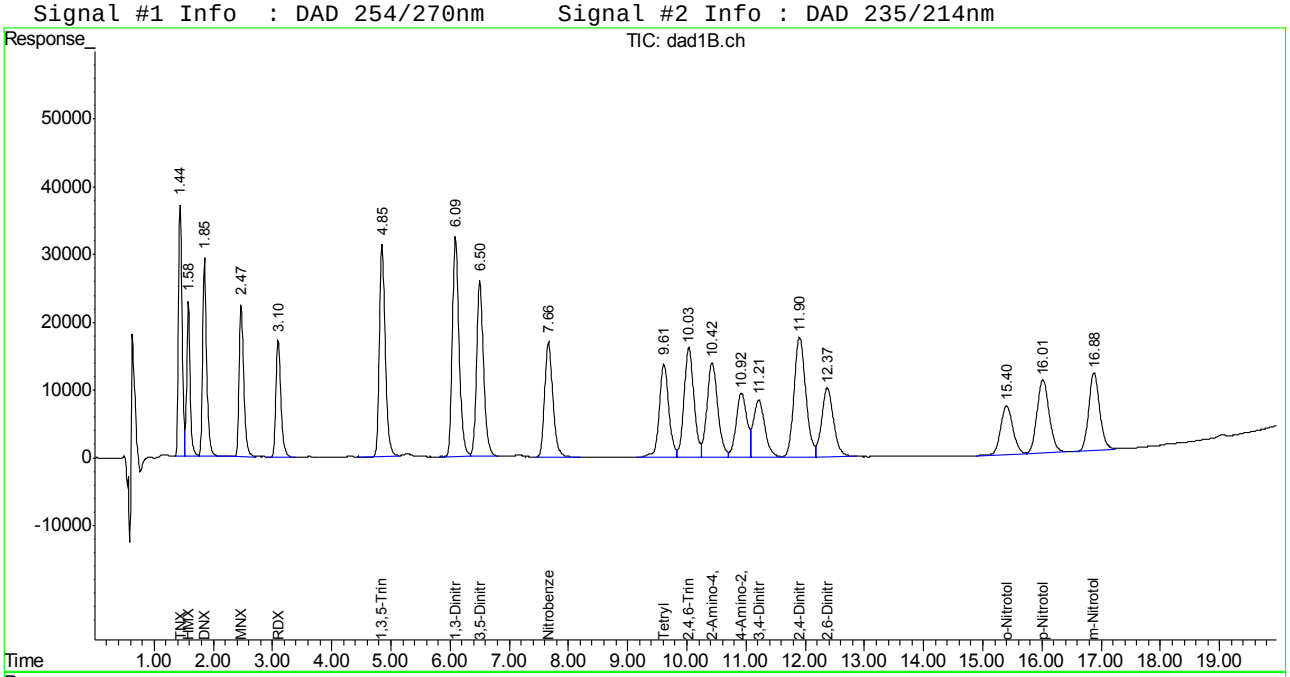
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB051059.D 8330B_0405.M Mon Apr 25 09:21:21 2016 Page 1

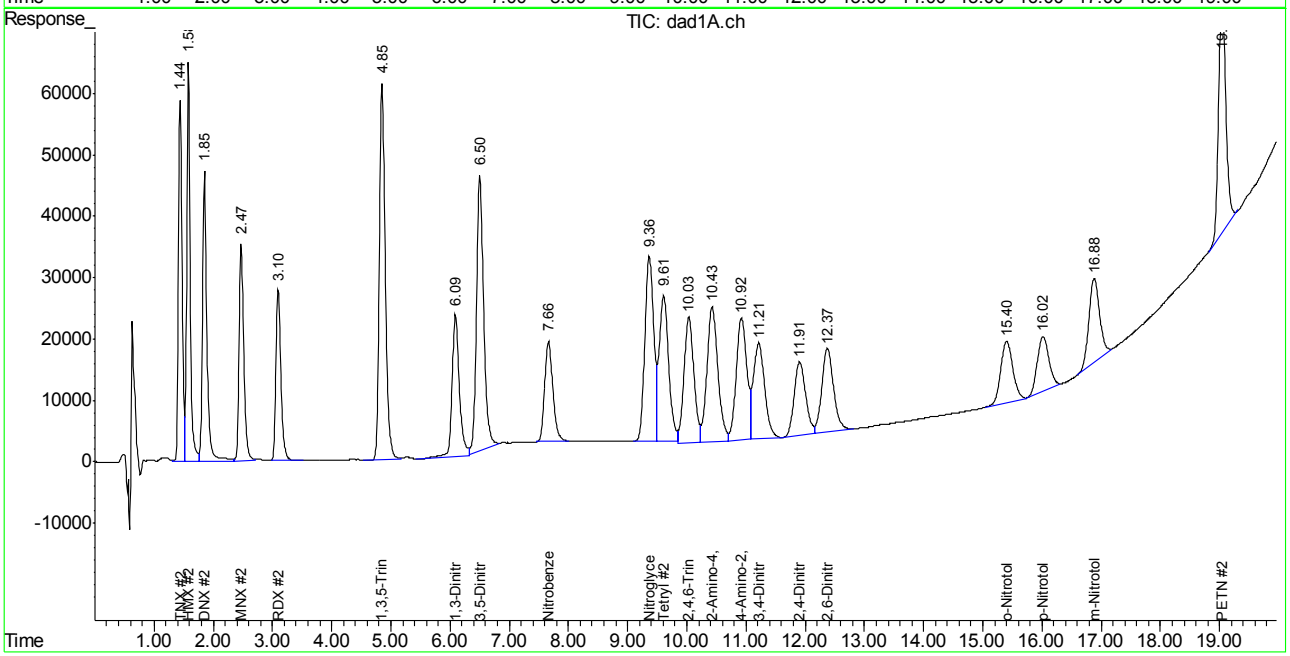
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0422BPL\BB051059.D\dad1B.ch Vial: 15
Signal #2 : C:\HPCHEM\1\DATA\0422BPL\BB051059.D\dad1A.ch
Acq On : 22-Apr-2016, 17:07:34 Operator: kismetl
Sample : op60153-bs Inst : G1315B
Misc : op60153,GBB1444,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 25 8:09 2016 Quant Results File: 8330B_0405.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0405.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 22 13:03:44 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA33221

Manual Integration Approval Summary

Sample Number: OP60153-BS
Lab FileID: BB051059.D
Injection Time: 04/22/16 17:07
Method: SW846 8330B
Analyst approved: 04/25/16 09:47 Kismet Lugo
Supervisor approved: 04/27/16 10:44 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
3,5-Dinitroaniline	618-87-1	2	6.50	Poor instrument integration
Nitrobenzene	98-95-3	2	7.66	Poor instrument integration
Nitroglycerine	55-63-0	2	9.36	Poor instrument integration
Tetryl	479-45-8	2	9.61	Poor instrument integration
o-Nitrotoluene	88-72-2	2	15.40	Poor instrument integration
m-Nitrotoluene	99-08-1	2	16.88	Poor instrument integration
PETN	78-11-5	2	19.04	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/27/16 10:44

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0422BPL\BB051062.D\dad1B.ch Vial: 18
Signal #2 : C:\HPCHEM\1\DATA\0422BPL\BB051062.D\dad1A.ch
Acq On : 22-Apr-2016, 18:28:22 Operator: kismetl
Sample : op60153-ms Inst : G1315B
Misc : op60153,GBB1444,500,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 25 06:39:11 2016 Quant Results File: 8330B_0405.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0405.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 22 13:03:44 2016
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.23	11.23	1159431	2112132	518.227	544.804
	Spiked Amount 500.000	Range 70 - 136		Recovery =		103.65%	108.96%
	Target Compounds						
1)	TNX	1.44	1.44	1907447	2877733	613.806m	609.109m
2)	HMX	1.58	1.58	2132789	5682566	1230.713m	1166.577
3)	DNX	1.85	1.85	2204125	3246534	718.115m	684.091m
4)	MNX	2.47	2.47	1344972	2074853	562.188m	555.560m
5)	RDX	3.10	3.10	1373249	2272346	782.971m	777.286m
6)	1,3,5-Trinitrobe	4.85	4.85	5555373	10884099	1407.281m	1396.410m
7)	1,3-Dinitrobenze	6.10	6.10	2682997	1904260	509.986	519.323
8)	3,5-Dinitroanili	6.51	6.51	2271204	3671060	468.843	461.830m
9)	Nitrobenzene	7.68	7.67	1786603	1735397	572.370	571.051m
10)	Nitroglycerin	0.00	9.38	0	3070401	N.D. d	2672.191
11)	Tetryl	9.63	9.62	1442835	2493494	500.182	489.297
12)	2,4,6-Trinitroto	10.05	10.05	3543919	4357506	994.336	972.134
13)	2-Amino-4,6-Dini	10.44	10.44	2423260	3735924	764.469	730.741
14)	4-Amino-2,6-Dini	10.94	10.94	1458740	3020823	662.150	643.531
16)	2,4-Dinitrotolue	11.92	11.93	2415759	1592467	512.026	541.691
17)	2,6-Dinitrotolue	12.39	12.39	1403917	1717628	520.455m	528.342m
18)	o-Nitrotoluene	15.43	15.43	1104883	1503388	508.903	519.954m
19)	p-Nitrotoluene	16.04	16.04	1677227	1292763	508.942	513.217
20)	m-Nitrotoluene	16.90	16.90	1619314	1864985	494.487	529.685m
21)	PETN	0.00	19.05	0	3493963	N.D. d	8608.657m

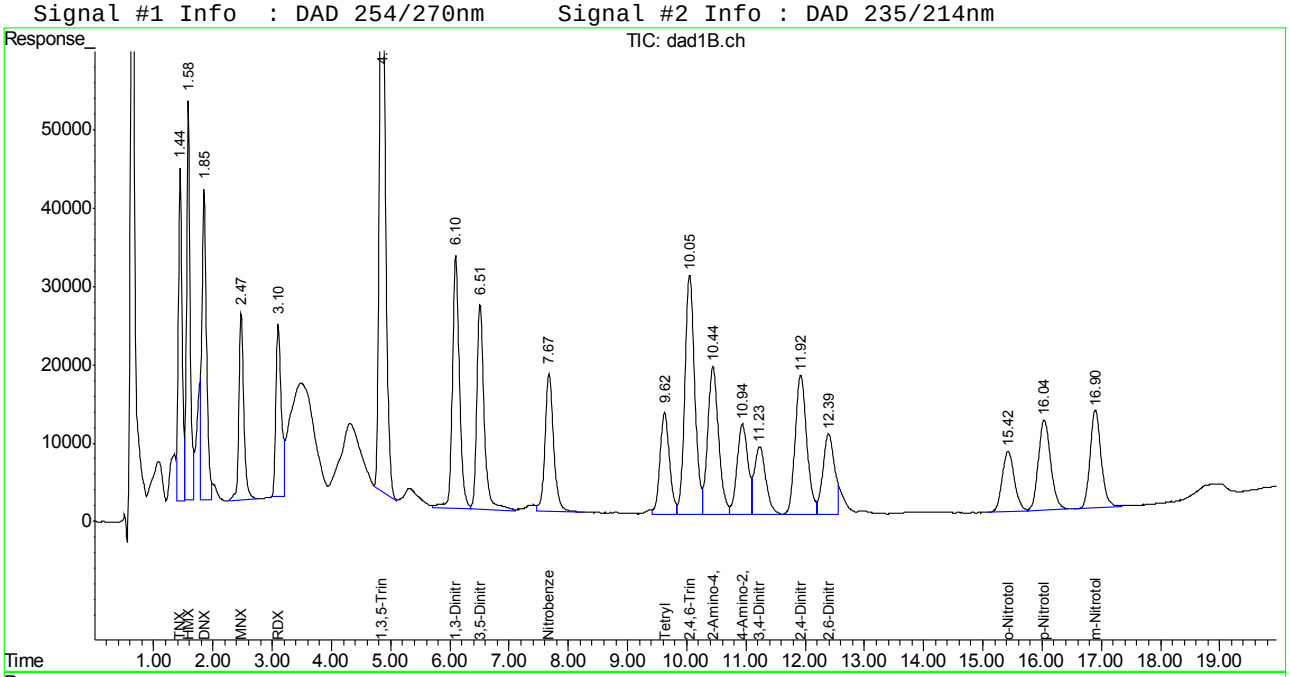
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB051062.D 8330B_0405.M Mon Apr 25 09:21:23 2016 Page 1

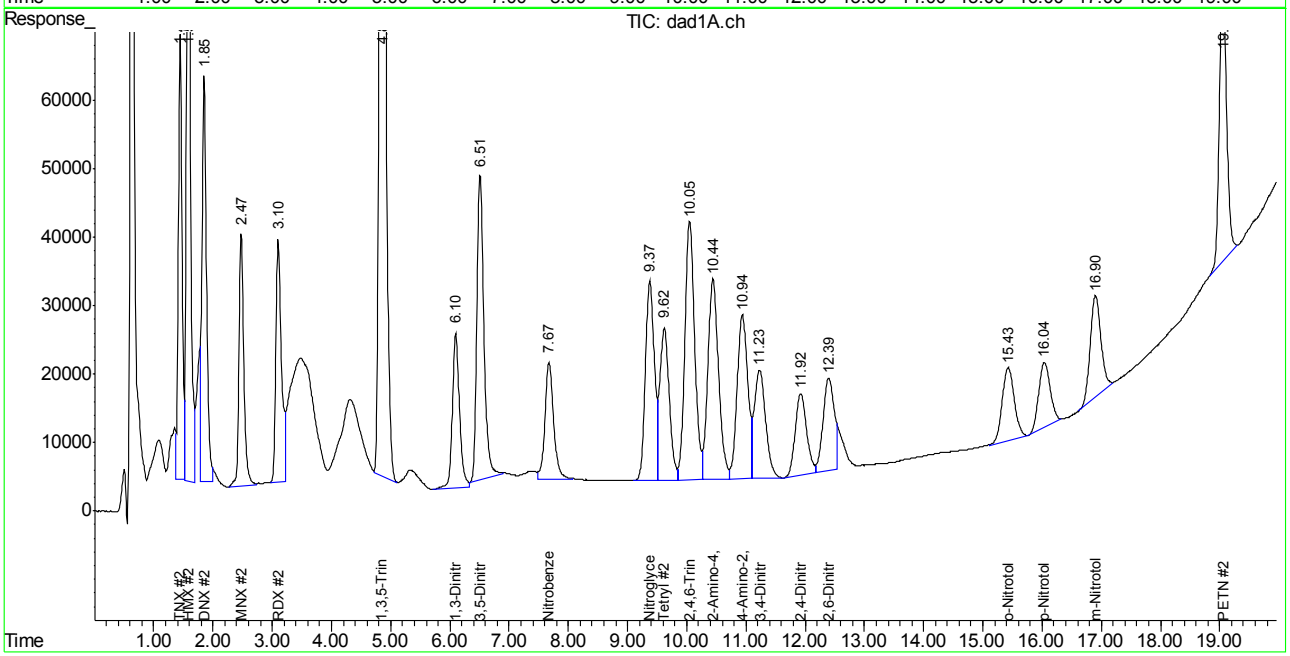
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0422BPL\BB051062.D\dad1B.ch Vial: 18
Signal #2 : C:\HPCHEM\1\DATA\0422BPL\BB051062.D\dad1A.ch
Acq On : 22-Apr-2016, 18:28:22 Operator: kismetl
Sample : op60153-ms Inst : G1315B
Misc : op60153,GBB1444,500,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 25 8:20 2016 Quant Results File: 8330B_0405.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0405.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 22 13:03:44 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA33221

Manual Integration Approval Summary

Sample Number: OP60153-MS
Lab FileID: BB051062.D
Injection Time: 04/22/16 18:28
Method: SW846 8330B
Analyst approved: 04/26/16 12:18 Kismet Lugo
Supervisor approved: 04/27/16 10:44 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	1.44	Overlapping peak
TNX		2	1.44	Overlapping peak
HMX	2691-41-0	1	1.58	Poor instrument integration
DNX		1	1.85	Overlapping peak
DNX		2	1.85	Overlapping peak
MNX		1	2.47	Poor instrument integration
MNX		2	2.47	Poor instrument integration
RDX	121-82-4	1	3.10	Poor instrument integration
RDX	121-82-4	2	3.10	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	1	4.85	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	2	4.85	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	6.51	Poor instrument integration
Nitrobenzene	98-95-3	2	7.67	Poor instrument integration
2,6-Dinitrotoluene	606-20-2	1	12.39	Overlapping peak
2,6-Dinitrotoluene	606-20-2	2	12.39	Overlapping peak
o-Nitrotoluene	88-72-2	2	15.43	Poor instrument integration
m-Nitrotoluene	99-08-1	2	16.90	Poor instrument integration
PETN	78-11-5	2	19.05	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/27/16 10:44

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0422BPL\BB051063.D\dad1B.ch Vial: 19
Signal #2 : C:\HPCHEM\1\DATA\0422BPL\BB051063.D\dad1A.ch
Acq On : 22-Apr-2016, 18:55:22 Operator: kismetl
Sample : op60153-msd Inst : G1315B
Misc : op60153,GBB1444,500,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 25 06:39:12 2016 Quant Results File: 8330B_0405.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0405.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 22 13:03:44 2016
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.25	11.24	1179863	2137792	527.359	551.422
	Spiked Amount 500.000	Range 70 - 136		Recovery =		105.47%	110.28%
	Target Compounds						
1)	TNX	1.44	1.44	1778586	2770728	572.339m	586.460m
2)	HMX	1.58	1.58	2208194	5978696	1274.225m	1227.370m
3)	DNX	1.85	1.85	1981598	3007171	645.615m	634.125m
4)	MNX	2.48	2.48	1230145	1919188	514.191	513.880
5)	RDX	3.10	3.10	1640245	2711355	935.201m	927.455m
6)	1,3,5-Trinitrobe	4.86	4.86	5934222	11563787	1503.250m	1483.612m
7)	1,3-Dinitrobenze	6.10	6.10	2737632	1989210	520.371	542.491
8)	3,5-Dinitroanili	6.52	6.51	2365318	4088247	488.271	514.313m
9)	Nitrobenzene	7.68	7.68	1841478	1776922	589.950	584.716m
10)	Nitroglycerin	0.00	9.39	0	3098028	N.D.	2696.235 #
11)	Tetryl	9.63	9.63	1530928	2664716	530.721m	522.896
12)	2,4,6-Trinitroto	10.06	10.06	3777627	4640122	1059.909	1035.184
13)	2-Amino-4,6-Dini	10.45	10.45	2581862	3978717	814.503	778.231
14)	4-Amino-2,6-Dini	10.95	10.95	1565824	3236824	710.758	689.546
16)	2,4-Dinitrotolue	11.94	11.94	2578951	1717872	546.615	584.348
17)	2,6-Dinitrotolue	12.40	12.41	1464753	1949756	543.007m	599.745m
18)	o-Nitrotoluene	15.44	15.44	1199461	1613148	552.465	557.914m
19)	p-Nitrotoluene	16.05	16.05	1829896	1408712	555.268	559.248
20)	m-Nitrotoluene	16.91	16.91	1749233	2003601	534.160	569.054m
21)	PETN	0.00	19.06	0	3531029	N.D. d	8699.982m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB051063.D 8330B_0405.M Mon Apr 25 09:21:24 2016 Page 1

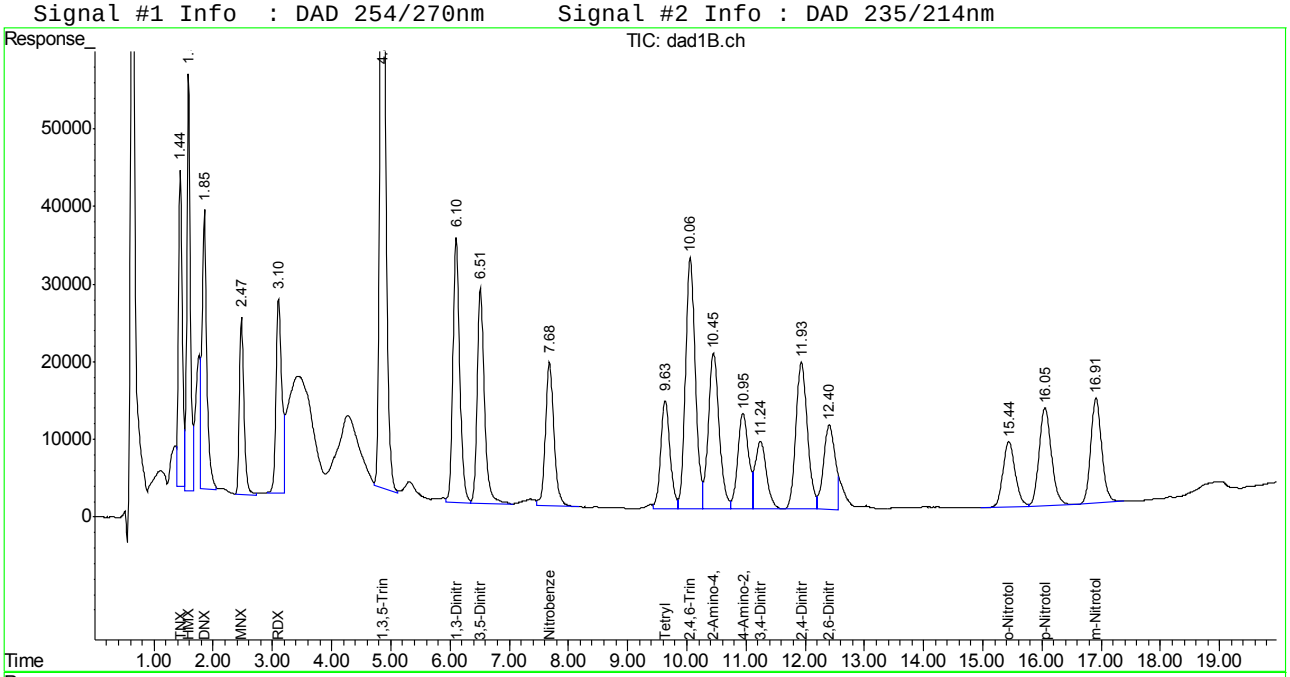
SGS ACCUTEST FA33221

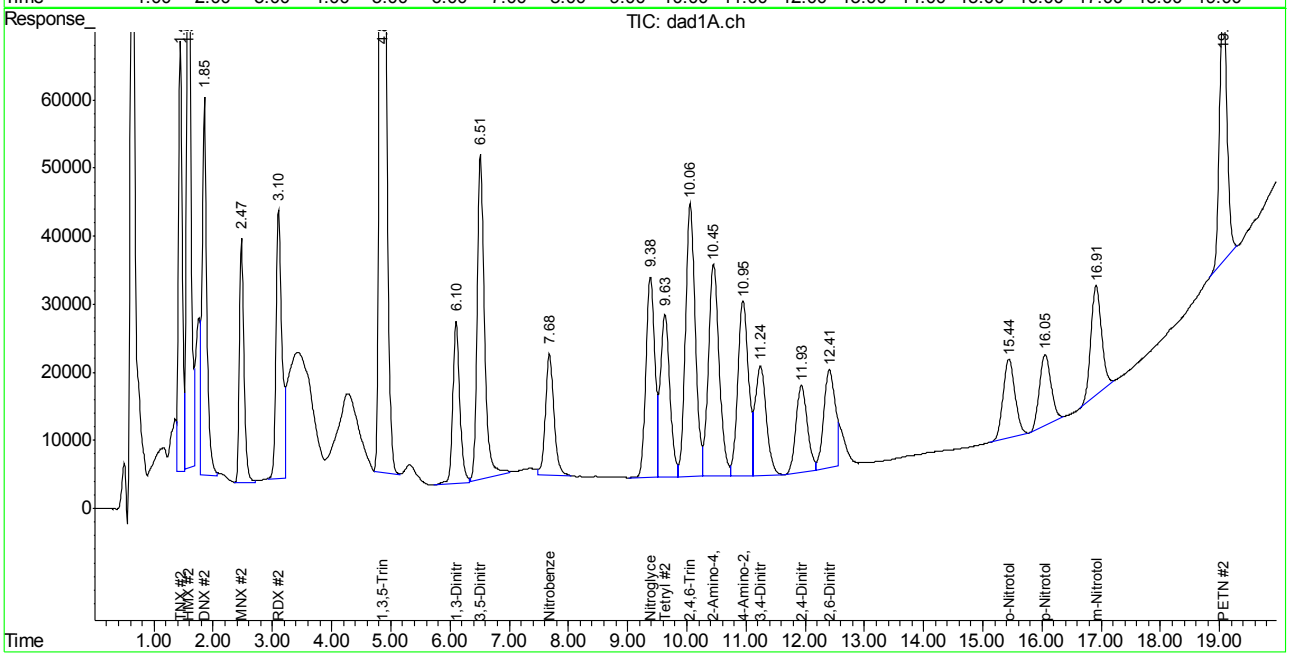
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0422BPL\BB051063.D\dad1B.ch Vial: 19
Signal #2 : C:\HPCHEM\1\DATA\0422BPL\BB051063.D\dad1A.ch
Acq On : 22-Apr-2016, 18:55:22 Operator: kismetl
Sample : op60153-msd Inst : G1315B
Misc : op60153,GBB1444,500,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 25 8:44 2016 Quant Results File: 8330B_0405.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0405.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 22 13:03:44 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA33221

Manual Integration Approval Summary

Sample Number: OP60153-MSD
Lab FileID: BB051063.D
Injection Time: 04/22/16 18:55
Method: SW846 8330B
Analyst approved: 04/26/16 12:18 Kismet Lugo
Supervisor approved: 04/27/16 10:44 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	1.44	Overlapping peak
TNX		2	1.44	Overlapping peak
HMX	2691-41-0	1	1.58	Poor instrument integration
HMX	2691-41-0	2	1.58	Poor instrument integration
DNX		1	1.85	Overlapping peak
DNX		2	1.85	Overlapping peak
RDX	121-82-4	1	3.10	Poor instrument integration
RDX	121-82-4	2	3.10	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	1	4.86	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	2	4.86	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	6.51	Poor instrument integration
Nitrobenzene	98-95-3	2	7.68	Poor instrument integration
Tetryl	479-45-8	1	9.63	Poor instrument integration
2,6-Dinitrotoluene	606-20-2	1	12.40	Overlapping peak
2,6-Dinitrotoluene	606-20-2	2	12.41	Overlapping peak
o-Nitrotoluene	88-72-2	2	15.44	Poor instrument integration
m-Nitrotoluene	99-08-1	2	16.91	Poor instrument integration
PETN	78-11-5	2	19.06	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/06/16 13:27

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0405BPL\BB050844.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0405BPL\BB050844.D\dad1A.ch
Acq On : 05-Apr-2016, 17:26:31 Operator: kismetl
Sample : ic1436-20 Inst : G1315B
Misc : op59949,GBB1436,2.00,,,20,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 06 06:38:18 2016 Quant Results File: 8330B_0401.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0401.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 06 06:38:01 2016
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.90	10.89	41986	66190	17.689	16.947m
Spiked Amount	500.000	Range	69 - 134	Recovery	=	3.54%#	3.39%#
	Target Compounds						
1)	TNX	1.38	1.38	61367	92335	19.359m	19.140m
2)	HMX	1.47	1.47	35755	91105	21.677m	18.890m
3)	DNX	1.78	1.78	70878	168784	23.393	35.953m#
4)	MNX	2.38	2.38	45832	73937	18.959m	19.604m
5)	RDX	3.00	3.00	31843	61045	17.068	20.214
6)	1,3,5-Trinitrobe	4.68	4.68	81542	167007	20.214	21.215
7)	1,3-Dinitrobenze	5.94	5.94	106643	74208	19.662	19.834m
8)	3,5-Dinitroanili	6.37	6.37	94227	136890	19.581	16.441m
9)	Nitrobenzene	7.55	7.55	61503	66947	19.738	22.632m
10)	Nitroglycerin	0.00	9.17	0	108974	N.D. d	87.878m
11)	Tetryl	9.31	9.28	51326	106722	18.239m	23.725m
12)	2,4,6-Trinitroto	9.72	9.72	60566	86394	16.758m	22.281m
13)	2-Amino-4,6-Dini	10.19	10.19	61691	90837	18.993	22.066m
14)	4-Amino-2,6-Dini	10.69	10.68	38079	77343	17.143	18.495m
16)	2,4-Dinitrotolue	11.63	11.65	102787	56980	22.011	20.318m
17)	2,6-Dinitrotolue	12.11	12.14	53444	55307	19.570	16.705
18)	o-Nitrotoluene	15.25	15.25	45948	56144	20.486m	20.984m
19)	p-Nitrotoluene	15.82	15.87	60359	48449	16.694	17.785m
20)	m-Nitrotoluene	16.71	16.74	68013	55282	20.230m	15.574m
21)	PETN	0.00	18.90	0	36979	N.D.	26.807m#

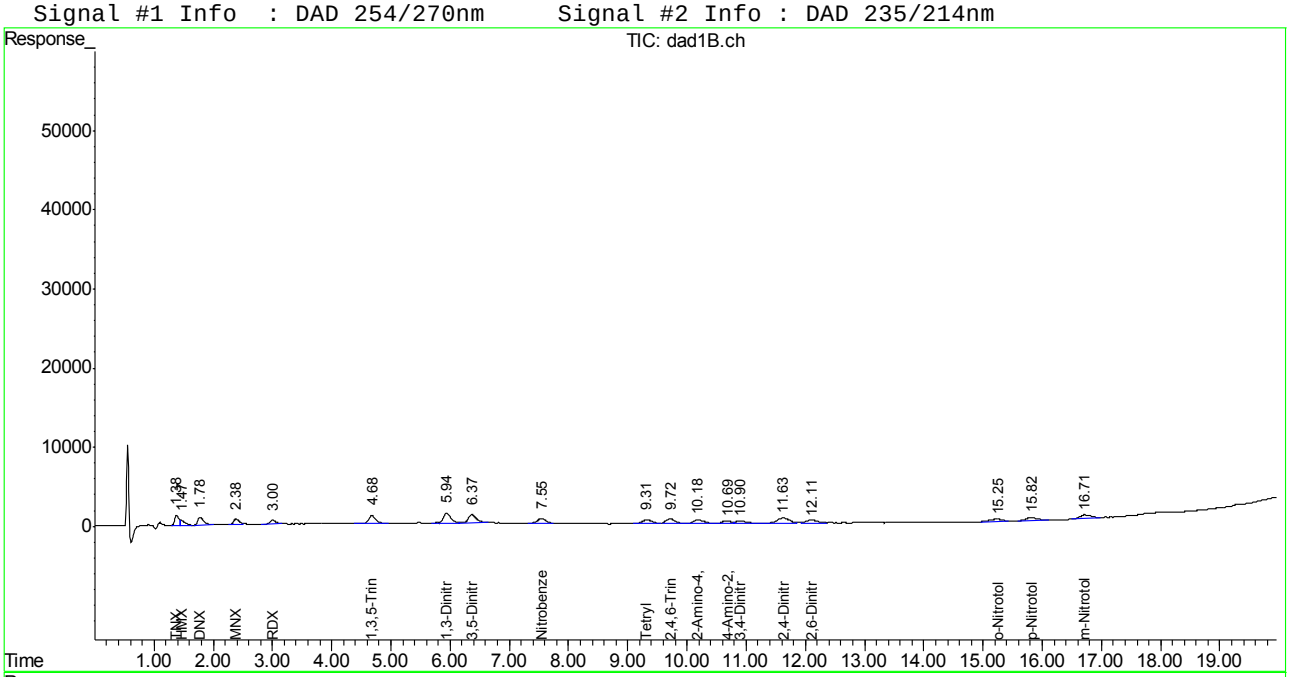
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB050844.D 8330B_0405.M Wed Apr 06 08:36:57 2016 Page 1

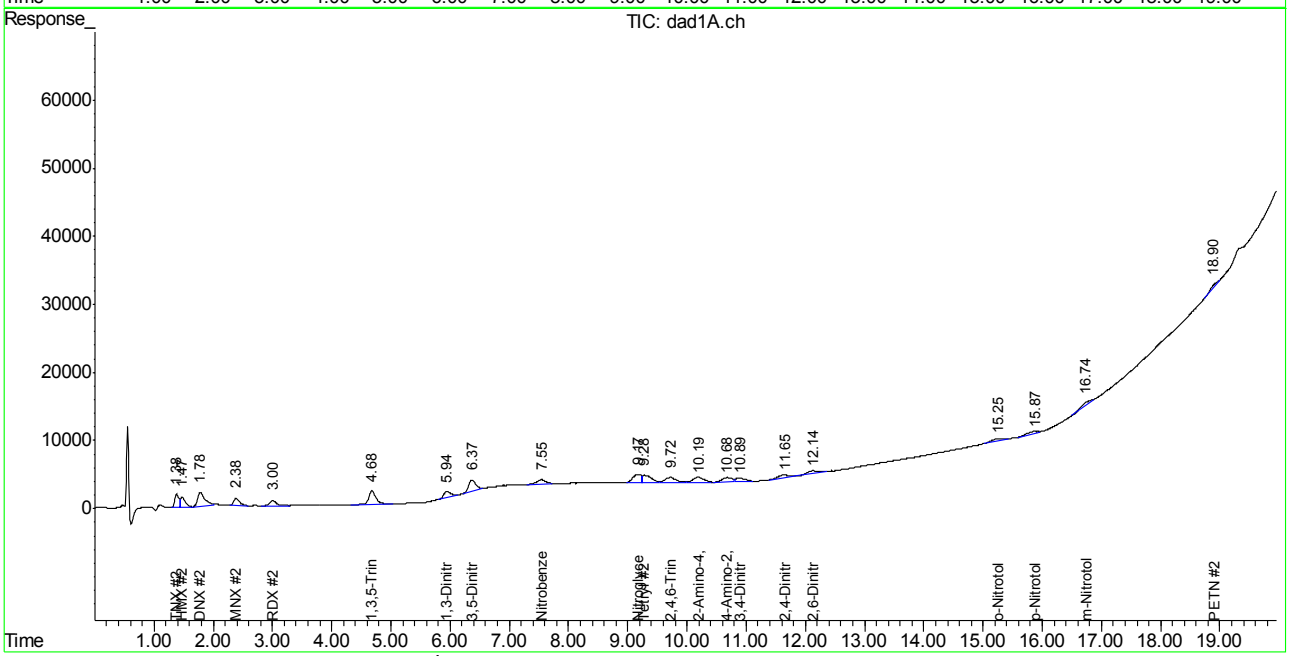
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0405BPL\BB050844.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0405BPL\BB050844.D\dad1A.ch
Acq On : 05-Apr-2016, 17:26:31 Operator: kismetl
Sample : ic1436-20 Inst : G1315B
Misc : op59949,GBB1436,2.00,,,20,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 6 6:46 2016 Quant Results File: 8330B_0401.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0401.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 06 06:38:01 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA33221

Manual Integration Approval Summary

Sample Number: GBB1436-IC1436
Lab FileID: BB050844.D
Injection Time: 04/05/16 17:26
Method: SW846 8330A
Analyst approved: 04/06/16 09:10 Kismet Lugo
Supervisor approved: 04/06/16 13:27 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	1.38	Overlapping peak
TNX		2	1.38	Overlapping peak
HMX	2691-41-0	1	1.47	Overlapping peak
HMX	2691-41-0	2	1.47	Overlapping peak
DNX		2	1.78	Poor instrument integration
MNX		1	2.38	Poor instrument integration
MNX		2	2.38	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	5.94	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	6.37	Poor instrument integration
Nitrobenzene	98-95-3	2	7.55	Poor instrument integration
Nitroglycerine	55-63-0	2	9.17	Overlapping peak
Tetryl	479-45-8	2	9.28	Poor instrument integration
Tetryl	479-45-8	1	9.31	Poor instrument integration
2,4,6-Trinitrotoluene	118-96-7	1	9.72	Poor instrument integration
2,4,6-Trinitrotoluene	118-96-7	2	9.72	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	10.19	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	2	10.68	Poor instrument integration
3,4-Dinitrotoluene	610-39-9	2	10.89	Poor instrument integration
2,4-Dinitrotoluene	121-14-2	2	11.65	Poor instrument integration
o-Nitrotoluene	88-72-2	1	15.25	Poor instrument integration
o-Nitrotoluene	88-72-2	2	15.25	Poor instrument integration
p-Nitrotoluene	99-99-0	2	15.87	Poor instrument integration
m-Nitrotoluene	99-08-1	1	16.71	Poor instrument integration
m-Nitrotoluene	99-08-1	2	16.74	Poor instrument integration
PETN	78-11-5	2	18.90	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/06/16 13:27

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0405BPL\BB050845.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0405BPL\BB050845.D\dad1A.ch
Acq On : 05-Apr-2016, 17:53:28 Operator: kismetl
Sample : ic1436-50 Inst : G1315B
Misc : op59949,GBB1436,2.00,,,20,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 06 06:38:19 2016 Quant Results File: 8330B_0401.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0401.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 06 06:38:01 2016
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.94	10.93	102209	171492	43.062	43.907m
Spiked Amount	500.000	Range	69 - 134	Recovery	=	8.61%#	8.78%#
	Target Compounds						
1)	TNX	1.38	1.39	159221	234714	50.228m	48.655
2)	HMX	1.46	1.48	85530	244211	51.803m	50.637
3)	DNX	1.79	1.79	149625	263693	49.383	56.159m
4)	MNX	2.40	2.40	119554	188087	49.455	49.871
5)	RDX	3.02	3.02	88445	145210	47.406	48.084
6)	1,3,5-Trinitrobe	4.71	4.71	197830	396533	49.041	50.372
7)	1,3-Dinitrobenze	5.97	5.97	279728	188065	51.574	50.265m
8)	3,5-Dinitroanili	6.39	6.39	264622	408807	54.989	49.098m
9)	Nitrobenzene	7.57	7.57	163598	153676	52.502	51.953m
10)	Nitroglycerin	0.00	9.19	0	294536	N.D.	237.518m#
11)	Tetryl	9.36	9.34	149386	246715	53.085	54.846m
12)	2,4,6-Trinitroto	9.75	9.75	182010	212624	50.361	54.836m
13)	2-Amino-4,6-Dini	10.22	10.22	154883	233446	47.685	56.503m
14)	4-Amino-2,6-Dini	10.71	10.71	109608	209912	49.344	50.196m
16)	2,4-Dinitrotolue	11.65	11.65	236354	138927	50.615	49.538m
17)	2,6-Dinitrotolue	12.14	12.14	132114	149595	48.377	45.183m
18)	o-Nitrotoluene	15.26	15.26	110066	143906	49.074	53.669m
19)	p-Nitrotoluene	15.83	15.86	161315	111787	44.617	41.036m
20)	m-Nitrotoluene	16.75	16.78	168454	173871	50.105	48.981m
21)	PETN	0.00	18.95	0	93525	N.D.	67.799m#

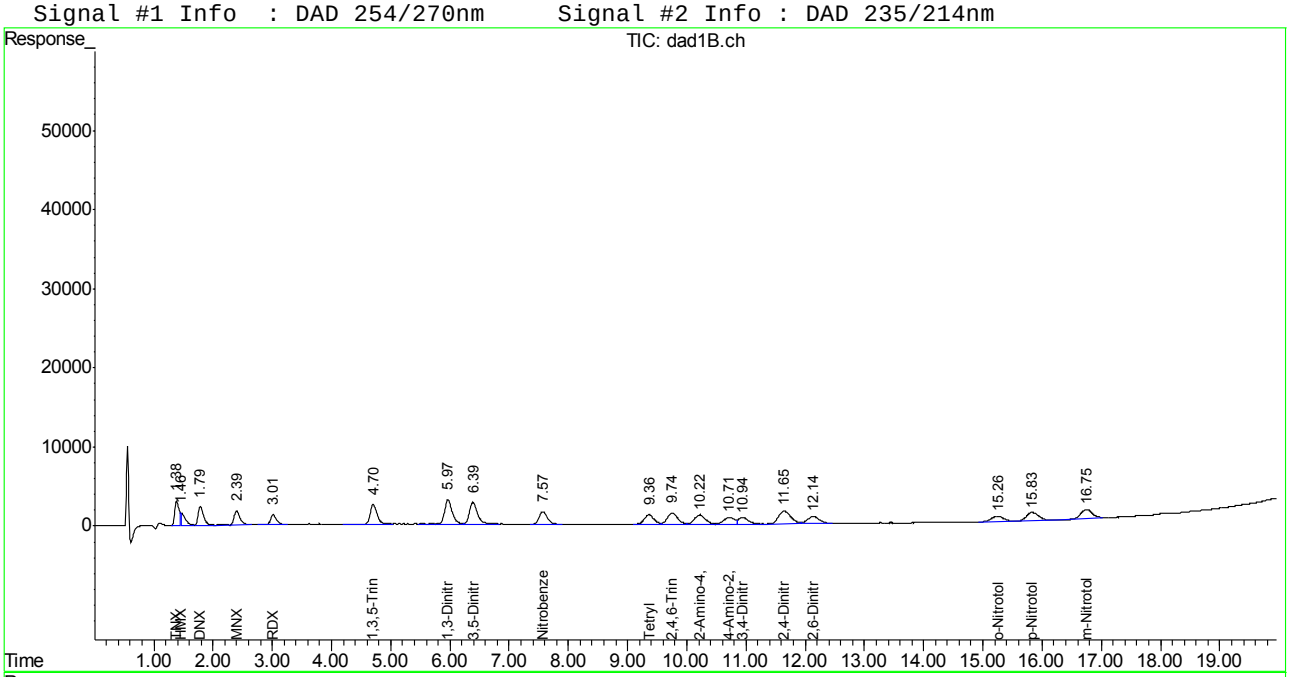
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB050845.D 8330B_0405.M Wed Apr 06 08:36:58 2016 Page 1

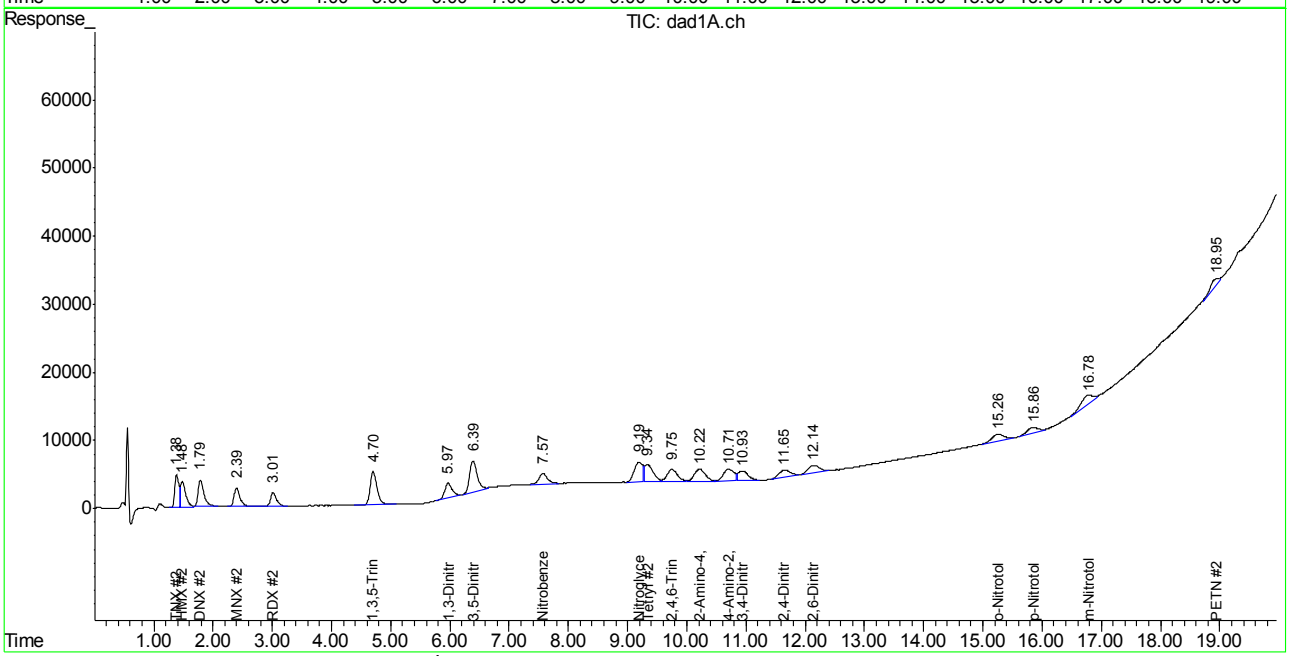
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0405BPL\BB050845.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0405BPL\BB050845.D\dad1A.ch
Acq On : 05-Apr-2016, 17:53:28 Operator: kismetl
Sample : ic1436-50 Inst : G1315B
Misc : op59949,GBB1436,2.00,,,20,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 6 6:50 2016 Quant Results File: 8330B_0401.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0401.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 06 06:38:01 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

Sample Number: GBB1436-IC1436
Lab FileID: BB050845.D
Injection Time: 04/05/16 17:53
Method: SW846 8330A
Analyst approved: 04/06/16 09:10 Kismet Lugo
Supervisor approved: 04/06/16 13:27 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	1.38	Overlapping peak
HMX	2691-41-0	1	1.46	Overlapping peak
DNX		2	1.79	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	5.97	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	6.39	Poor instrument integration
Nitrobenzene	98-95-3	2	7.57	Poor instrument integration
Nitroglycerine	55-63-0	2	9.19	Overlapping peak
Tetryl	479-45-8	2	9.34	Poor instrument integration
2,4,6-Trinitrotoluene	118-96-7	2	9.75	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	10.22	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	2	10.71	Poor instrument integration
3,4-Dinitrotoluene	610-39-9	2	10.93	Poor instrument integration
2,4-Dinitrotoluene	121-14-2	2	11.65	Poor instrument integration
2,6-Dinitrotoluene	606-20-2	2	12.14	Poor instrument integration
o-Nitrotoluene	88-72-2	2	15.26	Poor instrument integration
p-Nitrotoluene	99-99-0	2	15.86	Poor instrument integration
m-Nitrotoluene	99-08-1	2	16.78	Poor instrument integration
PETN	78-11-5	2	18.95	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/06/16 13:27

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0405BPL\BB050846.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\0405BPL\BB050846.D\dad1A.ch
Acq On : 05-Apr-2016, 18:20:26 Operator: kismetl
Sample : ic1436-100 Inst : G1315B
Misc : op59949,GBB1436,2.00,,,20,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 06 06:38:20 2016 Quant Results File: 8330B_0401.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0401.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 06 06:38:01 2016
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.93	10.93	215973	369369	90.993	94.570m
	Spiked Amount 500.000	Range 69 - 134		Recovery =		18.20%#	18.91%#
	Target Compounds						
1)	TNX	1.38	1.39	303350	495354	95.696m	102.684
2)	HMX	1.47	1.48	169042	515991	102.220m	106.990
3)	DNX	1.79	1.78	305085	586317	100.691	124.786m
4)	MNX	2.40	2.39	249376	366538	103.157	97.187m
5)	RDX	3.01	3.01	177527	289880	95.154	95.989m
6)	1,3,5-Trinitrobe	4.70	4.70	388136	759120	96.217	96.431
7)	1,3-Dinitrobenze	5.96	5.96	515342	364524	95.014	97.429m
8)	3,5-Dinitroanili	6.39	6.38	497718	878696	103.427	105.532m
9)	Nitrobenzene	7.57	7.56	310938	295066	99.787	99.752m
10)	Nitroglycerin	0.00	9.18	0	574191	N.D.	463.035m#
11)	Tetryl	9.35	9.31	293819	493911	104.411	109.799m
12)	2,4,6-Trinitroto	9.74	9.74	356352	440706	98.600	113.659m
13)	2-Amino-4,6-Dini	10.21	10.21	317042	467650	97.611	112.524m
14)	4-Amino-2,6-Dini	10.71	10.70	210940	397809	94.962	95.128m
16)	2,4-Dinitrotolue	11.63	11.64	457149	285181	97.897	101.689
17)	2,6-Dinitrotolue	12.12	12.13	275339	317856	100.822	96.003
18)	o-Nitrotoluene	15.24	15.24	214205	283408	95.505	105.334m
19)	p-Nitrotoluene	15.82	15.82	328467	237084	90.849	87.032m
20)	m-Nitrotoluene	16.74	16.75	330991	353129	98.451	99.479m
21)	PETN	0.00	18.90	0	187194	N.D.	135.703m#

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB050846.D 8330B_0405.M Wed Apr 06 08:36:59 2016 Page 1

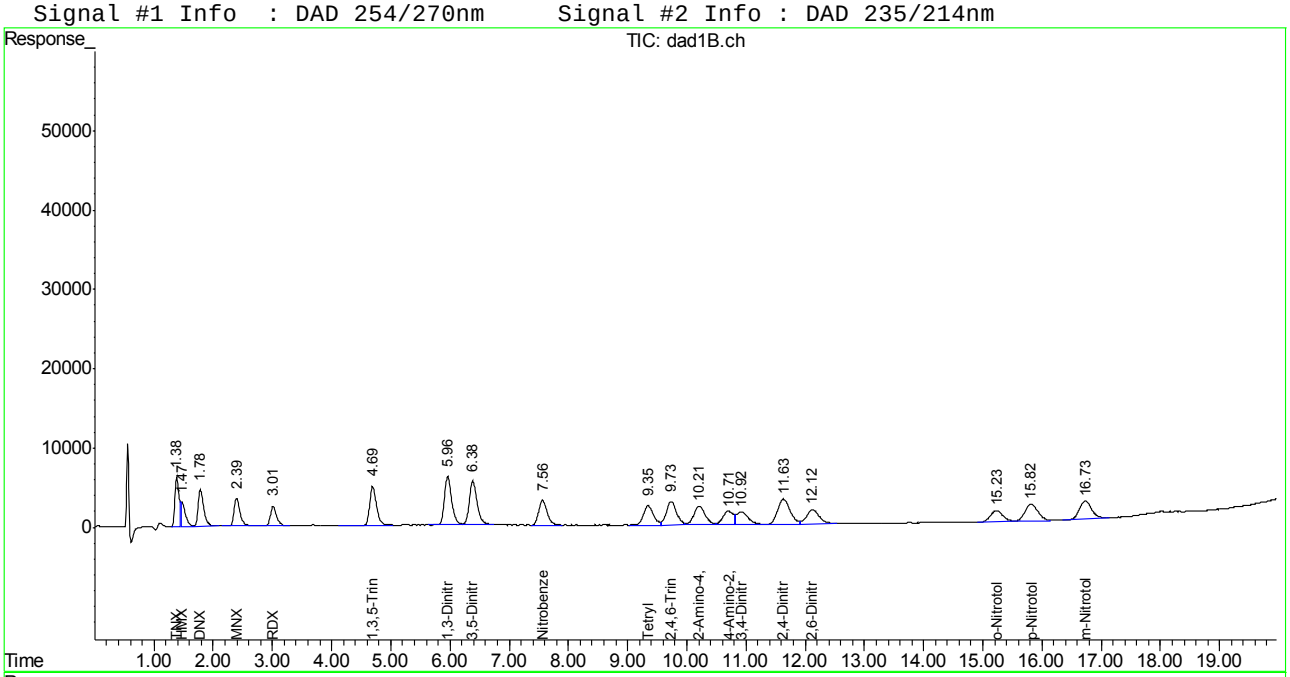
SGS ACCUTEST FA33221

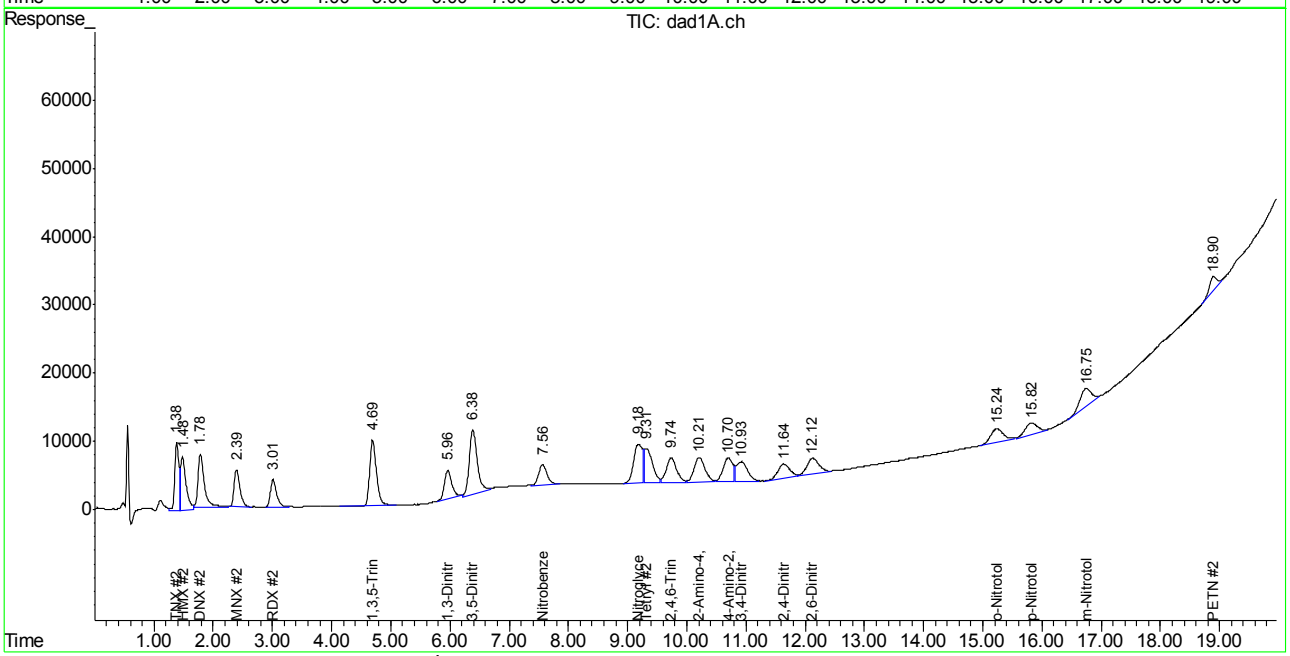
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0405BPL\BB050846.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\0405BPL\BB050846.D\dad1A.ch
Acq On : 05-Apr-2016, 18:20:26 Operator: kismetl
Sample : ic1436-100 Inst : G1315B
Misc : op59949,GBB1436,2.00,,,20,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 6 6:56 2016 Quant Results File: 8330B_0401.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0401.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 06 06:38:01 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA33221

Manual Integration Approval Summary

Sample Number: GBB1436-IC1436
Lab FileID: BB050846.D
Injection Time: 04/05/16 18:20
Method: SW846 8330A
Analyst approved: 04/06/16 09:10 Kismet Lugo
Supervisor approved: 04/06/16 13:27 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	1.38	Overlapping peak
HMX	2691-41-0	1	1.47	Overlapping peak
DNX		2	1.78	Poor instrument integration
MNX		2	2.39	Poor instrument integration
RDX	121-82-4	2	3.01	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	5.96	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	6.38	Poor instrument integration
Nitrobenzene	98-95-3	2	7.56	Poor instrument integration
Nitroglycerine	55-63-0	2	9.18	Overlapping peak
Tetryl	479-45-8	2	9.31	Poor instrument integration
2,4,6-Trinitrotoluene	118-96-7	2	9.74	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	10.21	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	2	10.70	Poor instrument integration
3,4-Dinitrotoluene	610-39-9	2	10.93	Poor instrument integration
o-Nitrotoluene	88-72-2	2	15.24	Poor instrument integration
p-Nitrotoluene	99-99-0	2	15.82	Poor instrument integration
m-Nitrotoluene	99-08-1	2	16.75	Poor instrument integration
PETN	78-11-5	2	18.90	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/06/16 13:27

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0405BPL\BB050847.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\0405BPL\BB050847.D\dad1A.ch
Acq On : 05-Apr-2016, 18:47:24 Operator: kismetl
Sample : ic1436-200 Inst : G1315B
Misc : op59949,GBB1436,2.00,,,20,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 06 06:38:21 2016 Quant Results File: 8330B_0401.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0401.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 06 06:38:01 2016
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.83	10.83	463685	803600	195.358	205.746
	Spiked Amount 500.000	Range 69 - 134		Recovery =		39.07%#	41.15%#
	Target Compounds						
1)	TNX	1.38	1.38	613019	924813	193.386m	191.708
2)	HMX	1.46	1.48	332784	978430	200.607m	202.877
3)	DNX	1.78	1.78	606929	983944	200.312	209.239
4)	MNX	2.38	2.38	476088	747990	196.940	198.328
5)	RDX	2.99	2.99	350624	573597	187.934	189.936
6)	1,3,5-Trinitrobe	4.65	4.65	784012	1515630	194.352	192.531
7)	1,3-Dinitrobenze	5.92	5.92	1031522	709893	190.182	189.738m
8)	3,5-Dinitroanili	6.35	6.34	941087	1562712	195.560	187.682m
9)	Nitrobenzene	7.52	7.52	630214	602036	202.250	203.527m
10)	Nitroglycerin	0.00	9.14	0	1119275	N.D.	902.598m#
11)	Tetryl	9.26	9.20	586397	1035716	208.381	230.245m
12)	2,4,6-Trinitroto	9.65	9.65	733240	901430	202.882	232.481
13)	2-Amino-4,6-Dini	10.14	10.14	633057	954488	194.905	226.941
14)	4-Amino-2,6-Dini	10.63	10.63	417783	880858	188.080	210.640
16)	2,4-Dinitrotolue	11.54	11.54	927658	585058	198.656	208.619
17)	2,6-Dinitrotolue	12.03	12.04	545434	661480	199.725	199.790
18)	o-Nitrotoluene	15.15	15.14	429379	573304	191.441	211.589m
19)	p-Nitrotoluene	15.73	15.73	671286	494119	185.667	181.388
20)	m-Nitrotoluene	16.66	16.66	652562	708237	194.100	199.516m
21)	PETN	0.00	18.84	0	365032	N.D.	264.623m#

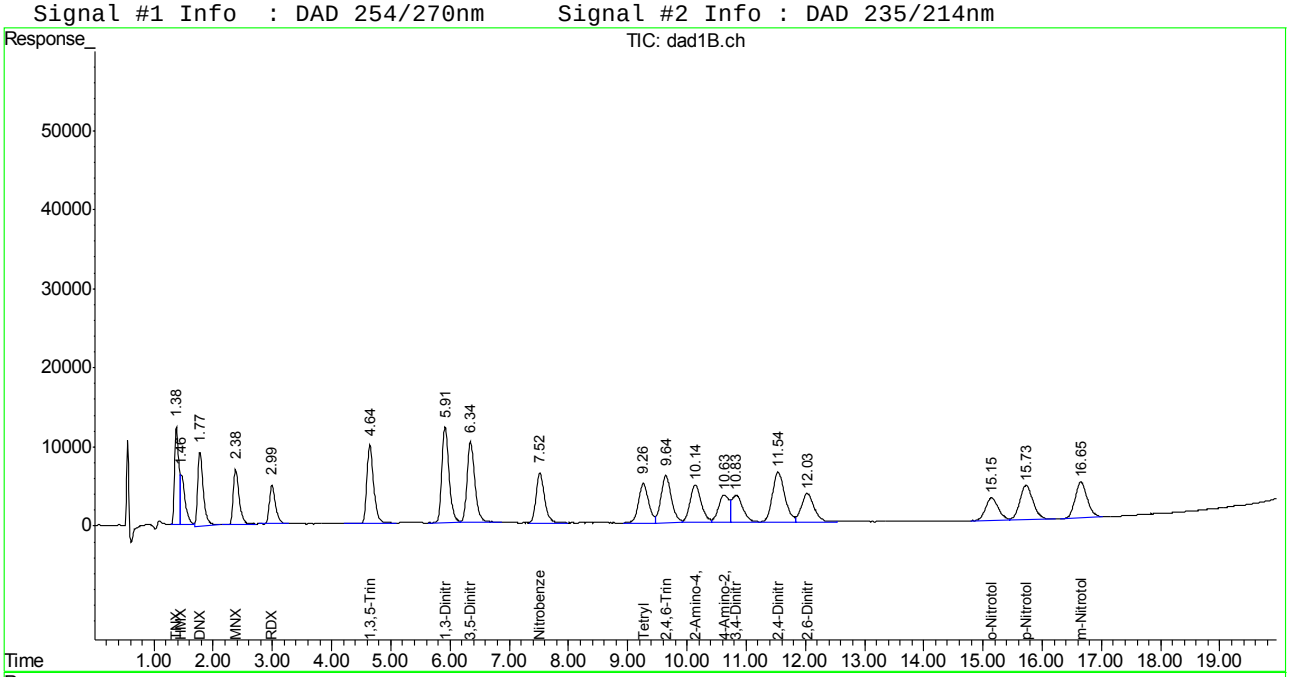
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB050847.D 8330B_0405.M Wed Apr 06 08:37:00 2016 Page 1

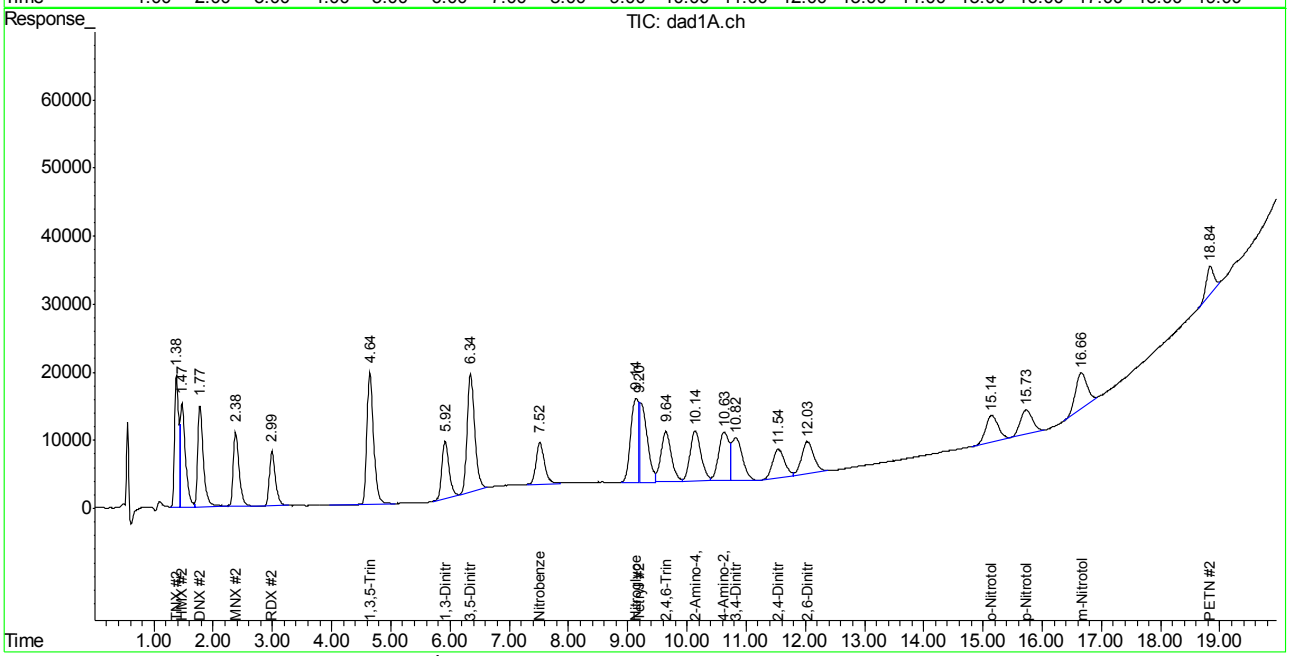
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0405BPL\BB050847.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\0405BPL\BB050847.D\dad1A.ch
Acq On : 05-Apr-2016, 18:47:24 Operator: kismetl
Sample : ic1436-200 Inst : G1315B
Misc : op59949,GBB1436,2.00,,,20,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 6 6:59 2016 Quant Results File: 8330B_0401.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0401.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 06 06:38:01 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

Sample Number: GBB1436-IC1436
Lab FileID: BB050847.D
Injection Time: 04/05/16 18:47
Method: SW846 8330A
Analyst approved: 04/06/16 09:10 Kismet Lugo
Supervisor approved: 04/06/16 13:27 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	1.38	Overlapping peak
HMX	2691-41-0	1	1.46	Overlapping peak
1,3-Dinitrobenzene	99-65-0	2	5.92	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	6.34	Poor instrument integration
Nitrobenzene	98-95-3	2	7.52	Poor instrument integration
Nitroglycerine	55-63-0	2	9.14	Overlapping peak
Tetryl	479-45-8	2	9.20	Poor instrument integration
o-Nitrotoluene	88-72-2	2	15.14	Poor instrument integration
m-Nitrotoluene	99-08-1	2	16.66	Poor instrument integration
PETN	78-11-5	2	18.84	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/06/16 13:27

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0405BPL\BB050848.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\0405BPL\BB050848.D\dad1A.ch
Acq On : 05-Apr-2016, 19:14:20 Operator: kismetl
Sample : icc1436-500 Inst : G1315B
Misc : op59949,GBB1436,2.00,,,20,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 06 06:38:22 2016 Quant Results File: 8330B_0401.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0401.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 06 06:38:01 2016
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.87	10.87	1165188	2078615	490.914	532.189
	Spiked Amount 500.000	Range 69 - 134		Recovery =		98.18%	106.44%
	Target Compounds						
1)	TNX	1.38	1.38	1539835	2318605	485.764m	480.632
2)	HMX	1.47	1.48	870460	2412666	519.459m	500.264
3)	DNX	1.78	1.78	1456031	2462348	480.551	522.033
4)	MNX	2.39	2.39	1162832	1859546	481.019	493.054
5)	RDX	3.00	3.00	881030	1441716	472.231	477.398
6)	1,3,5-Trinitrobe	4.67	4.67	1944227	3806855	481.963	483.587
7)	1,3-Dinitrobenze	5.94	5.94	2589542	1807301	477.435	483.049
8)	3,5-Dinitroanili	6.36	6.36	2346828	3954141	487.677	474.894m
9)	Nitrobenzene	7.54	7.53	1550811	1500006	497.690	507.099m
10)	Nitroglycerin	0.00	9.15	0	2936755	N.D.	2368.238m#
11)	Tetryl	9.30	9.23	1440903	2464003	512.037	547.760m
12)	2,4,6-Trinitroto	9.68	9.68	1818226	2252725	503.089	580.983
13)	2-Amino-4,6-Dini	10.17	10.17	1581389	2424953	486.877	557.458
14)	4-Amino-2,6-Dini	10.66	10.66	1043685	2231870	469.854	533.707
16)	2,4-Dinitrotolue	11.58	11.58	2308865	1509718	494.438	538.332
17)	2,6-Dinitrotolue	12.07	12.08	1346057	1733023	492.893	523.432
18)	o-Nitrotoluene	15.19	15.19	1067106	1477318	475.776	533.911m
19)	p-Nitrotoluene	15.77	15.78	1685874	1286368	466.287	472.217
20)	m-Nitrotoluene	16.70	16.70	1602372	1883116	476.614	530.489m
21)	PETN	0.00	18.86	0	978587	N.D.	709.409m#

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB050848.D 8330B_0405.M Wed Apr 06 08:37:01 2016 Page 1

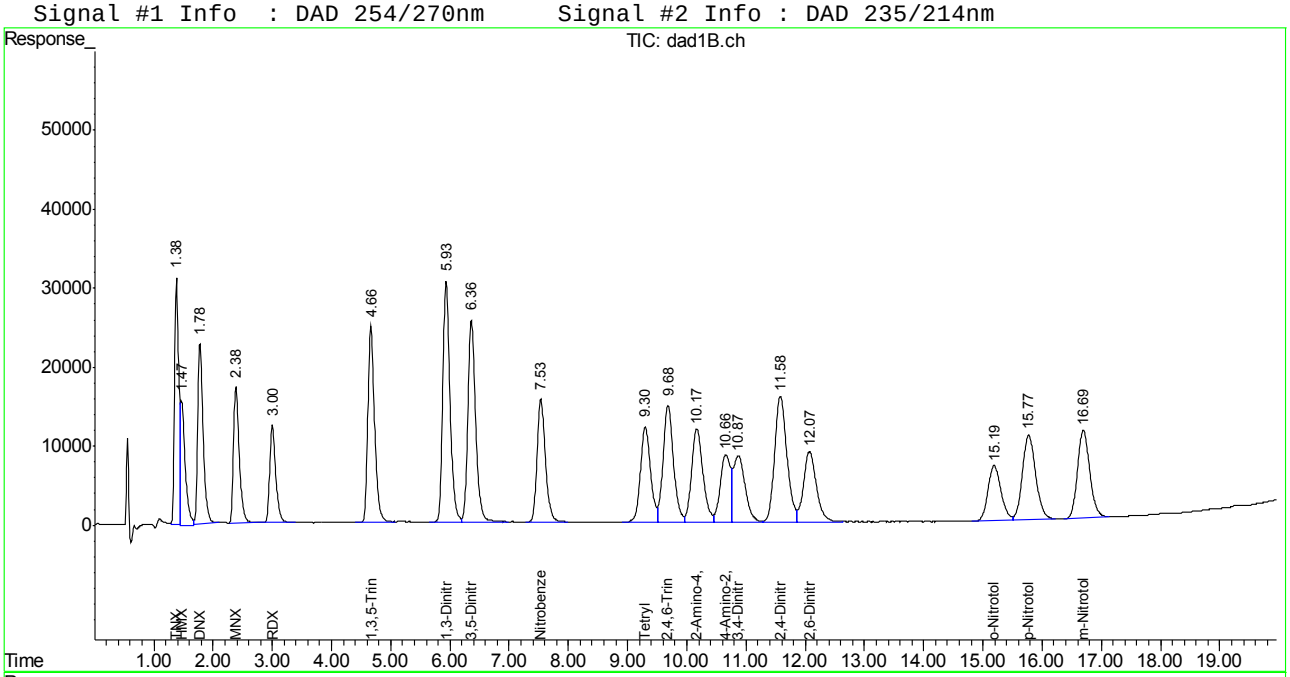
SGS ACCUTEST FA33221

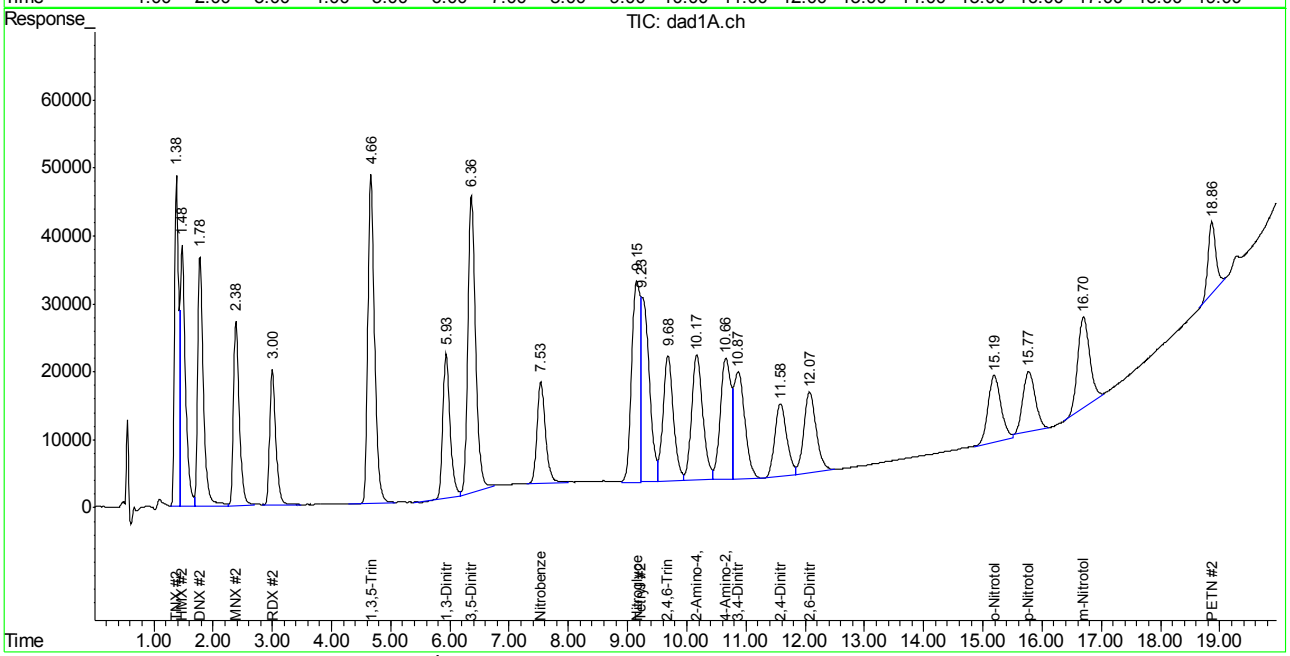
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0405BPL\BB050848.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\0405BPL\BB050848.D\dad1A.ch
Acq On : 05-Apr-2016, 19:14:20 Operator: kismetl
Sample : icc1436-500 Inst : G1315B
Misc : op59949,GBB1436,2.00,,,20,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 6 7:01 2016 Quant Results File: 8330B_0401.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0401.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 06 06:38:01 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA33221

Manual Integration Approval Summary

Sample Number: GBB1436-ICC1436 **Method:** SW846 8330A
Lab FileID: BB050848.D **Analyst approved:** 04/06/16 09:10 Kismet Lugo
Injection Time: 04/05/16 19:14 **Supervisor approved:** 04/06/16 13:27 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	1.38	Overlapping peak
HMX	2691-41-0	1	1.47	Overlapping peak
3,5-Dinitroaniline	618-87-1	2	6.36	Poor instrument integration
Nitrobenzene	98-95-3	2	7.53	Poor instrument integration
Nitroglycerine	55-63-0	2	9.15	Overlapping peak
Tetryl	479-45-8	2	9.23	Poor instrument integration
o-Nitrotoluene	88-72-2	2	15.19	Poor instrument integration
m-Nitrotoluene	99-08-1	2	16.70	Poor instrument integration
PETN	78-11-5	2	18.86	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/06/16 13:27

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0405BPL\BB050849.D\dad1B.ch Vial: 8
Signal #2 : C:\HPCHEM\1\DATA\0405BPL\BB050849.D\dad1A.ch
Acq On : 05-Apr-2016, 19:41:15 Operator: kismetl
Sample : ic1436-1000 Inst : G1315B
Misc : op59949,GBB1436,2.00,,,20,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 06 06:38:23 2016 Quant Results File: 8330B_0401.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0401.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 06 06:38:01 2016
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.87	10.86	2318181	4207426	976.690	1077.229
	Spiked Amount 500.000	Range 69 - 134		Recovery =		195.34%#	215.45%#
	Target Compounds						
1)	TNX	1.38	1.38	3008262	4641031	949.001m	962.055
2)	HMX	1.48	1.49	1756294	4831426	1031.474m	1001.791
3)	DNX	1.78	1.78	2936811	4653343	969.271	982.140
4)	MNX	2.39	2.39	2420444	3731088	1001.246	989.289
5)	RDX	3.00	3.00	1777688	2863313	952.838	948.134
6)	1,3,5-Trinitrobe	4.66	4.66	3863802	7579113	957.815	962.779
7)	1,3-Dinitrobenze	5.93	5.93	5111629	3666574	942.433	979.989
8)	3,5-Dinitroanili	6.36	6.36	4672764	7873057	971.013	945.557m
9)	Nitrobenzene	7.53	7.53	2991868	2871813	960.158	970.859m
10)	Nitroglycerin	0.00	9.15	0	5586973	N.D.	4505.409m#
11)	Tetryl	9.30	9.25	2885321	5212993	1025.323	1158.873m
12)	2,4,6-Trinitroto	9.68	9.68	3634755	4658985	1005.708	1201.564
13)	2-Amino-4,6-Dini	10.17	10.17	3171948	4995103	976.576	1090.089
14)	4-Amino-2,6-Dini	10.66	10.66	2099361	4532926	945.105	1083.958
16)	2,4-Dinitrotolue	11.58	11.58	4569010	3015973	978.443	1075.429
17)	2,6-Dinitrotolue	12.07	12.07	2645078	3455043	968.562	1043.542
18)	o-Nitrotoluene	15.18	15.18	2076762	2867582	925.938	1005.781m
19)	p-Nitrotoluene	15.76	15.76	3319641	2674985	918.162	981.968
20)	m-Nitrotoluene	16.69	16.68	3114460	3720006	926.374	1047.956m
21)	PETN	0.00	18.85	0	2041636	N.D. d	1480.048m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB050849.D 8330B_0405.M Wed Apr 06 08:37:02 2016 Page 1

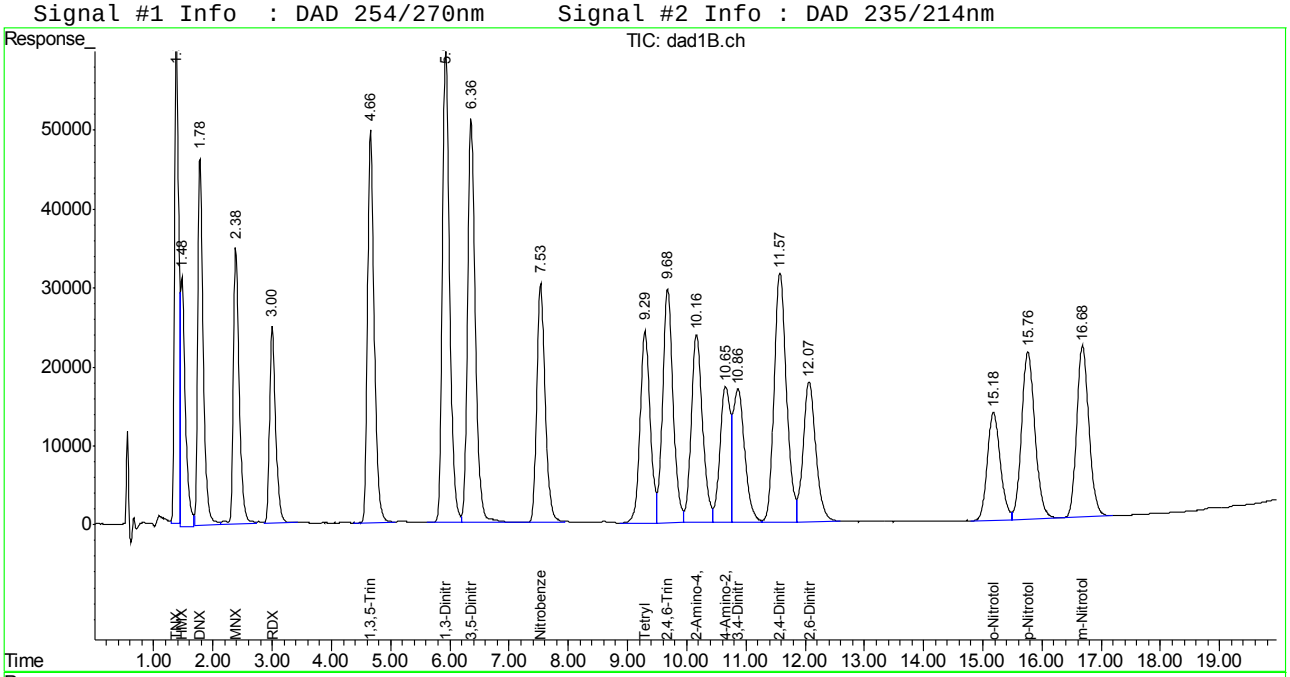
SGS ACCUTEST FA33221

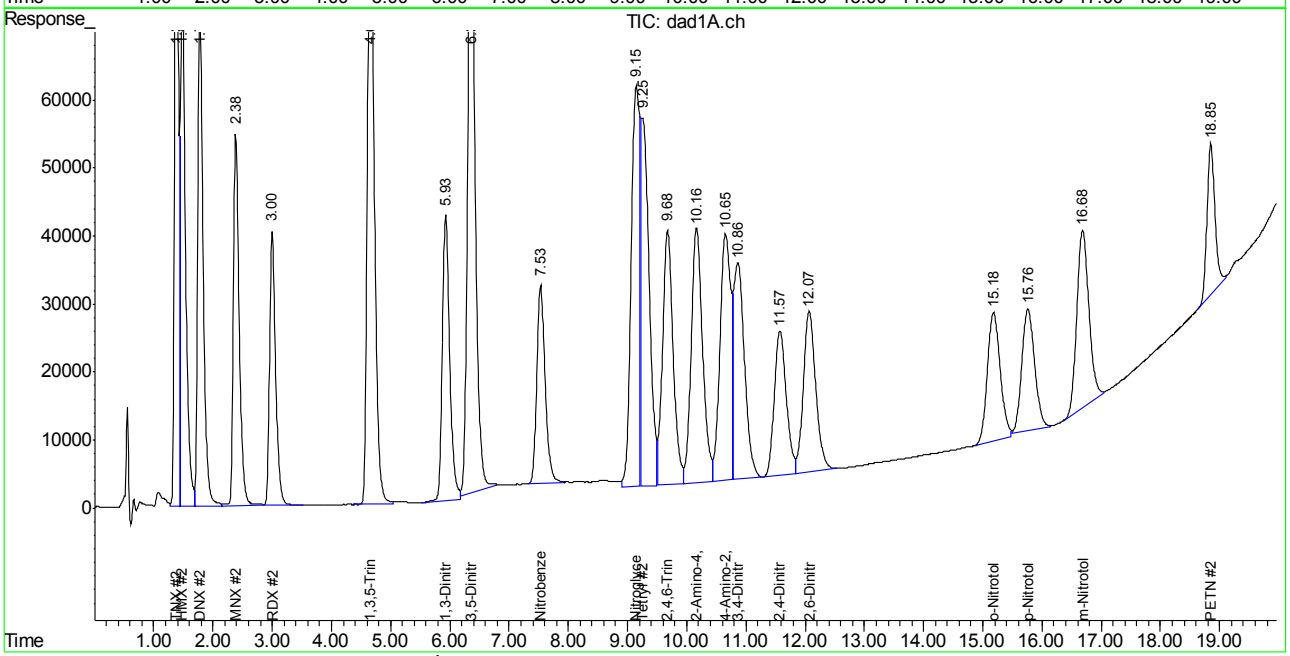
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0405BPL\BB050849.D\dad1B.ch Vial: 8
Signal #2 : C:\HPCHEM\1\DATA\0405BPL\BB050849.D\dad1A.ch
Acq On : 05-Apr-2016, 19:41:15 Operator: kismetl
Sample : ic1436-1000 Inst : G1315B
Misc : op59949,GBB1436,2.00,,,20,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 6 7:04 2016 Quant Results File: 8330B_0401.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0401.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 06 06:38:01 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA33221

Manual Integration Approval Summary

Sample Number: GBB1436-IC1436
Lab FileID: BB050849.D
Injection Time: 04/05/16 19:41
Method: SW846 8330A
Analyst approved: 04/06/16 09:10 Kismet Lugo
Supervisor approved: 04/06/16 13:27 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	1.38	Overlapping peak
HMX	2691-41-0	1	1.48	Overlapping peak
3,5-Dinitroaniline	618-87-1	2	6.36	Poor instrument integration
Nitrobenzene	98-95-3	2	7.53	Poor instrument integration
Nitroglycerine	55-63-0	2	9.15	Overlapping peak
Tetryl	479-45-8	2	9.25	Poor instrument integration
o-Nitrotoluene	88-72-2	2	15.18	Poor instrument integration
m-Nitrotoluene	99-08-1	2	16.68	Poor instrument integration
PETN	78-11-5	2	18.85	Poor instrument integration

BB050850.D

Manual Integrations APPROVED (compounds with "m" flag)

Mike Eger 04/06/16 13:27

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0405BPL\BB050850.D\dad1B.ch Vial: 9
Signal #2 : C:\HPCHEM\1\DATA\0405BPL\BB050850.D\dad1A.ch
Acq On : 05-Apr-2016, 20:08:11 Operator: kismetl
Sample : ic1436-2000 Inst : G1315B
Misc : op59949,GBB1436,2.00,,,20,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 06 06:38:24 2016 Quant Results File: 8330B_0401.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0401.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 06 06:38:01 2016
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	10.96	10.95	4781908	8644791	2014.702	2213.330
	Spiked Amount 500.000	Range 69 - 134		Recovery =		402.94%#	442.67%#
	Target Compounds						
1)	TNX	1.39	1.39	6627428	9809155	2090.720	2033.373
2)	HMX	1.49	1.50	3561826	9899495	2029.167	2052.650
3)	DNX	1.79	1.79	6028878	9699328	1989.782	2026.641
4)	MNX	2.40	2.40	4887477	7657654	2021.764	2030.409
5)	RDX	3.02	3.02	3696163	5988179	1981.138	1982.878
6)	1,3,5-Trinitrobe	4.70	4.70	8091581	15834468	2005.858	2011.462
7)	1,3-Dinitrobenze	5.96	5.96	10595975	7440155	1953.583	1988.579
8)	3,5-Dinitroanili	6.39	6.38	9714248	16480165	2018.647	1979.273m
9)	Nitrobenzene	7.57	7.57	6297710	6038243	2021.078	2041.317m
10)	Nitroglycerin	0.00	9.18	0	12154997	N.D.	9801.950 #
11)	Tetryl	9.37	9.35	6002017	10286848	2132.868	2286.815m
12)	2,4,6-Trinitroto	9.76	9.76	7558633	9452147	2091.414	2437.732
13)	2-Amino-4,6-Dini	10.23	10.23	6672744	10326202	2054.399	2062.604
14)	4-Amino-2,6-Dini	10.72	10.72	4475185	9507851	2014.670	2273.612
16)	2,4-Dinitrotolue	11.66	11.66	9526688	6277236	2040.118	2238.323
17)	2,6-Dinitrotolue	12.15	12.15	5500260	7185031	2014.059	2170.126
18)	o-Nitrotoluene	15.26	15.26	4398141	6063222	1960.939	2001.925m
19)	p-Nitrotoluene	15.84	15.85	6983761	5770424	1931.602	2118.283
20)	m-Nitrotoluene	16.76	16.76	6523002	7692562	1940.220	2167.057
21)	PETN	0.00	18.90	0	4066635	N.D. d	2948.036m

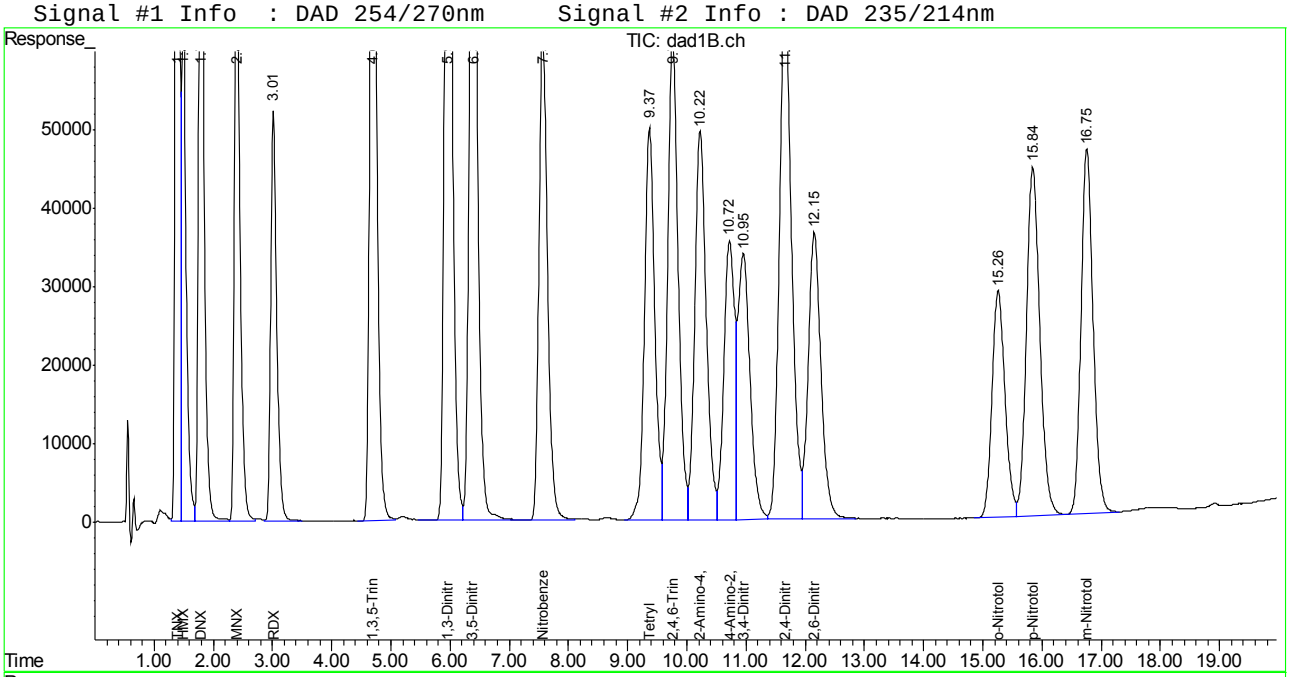
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB050850.D 8330B_0405.M Wed Apr 06 11:40:54 2016 Page 1

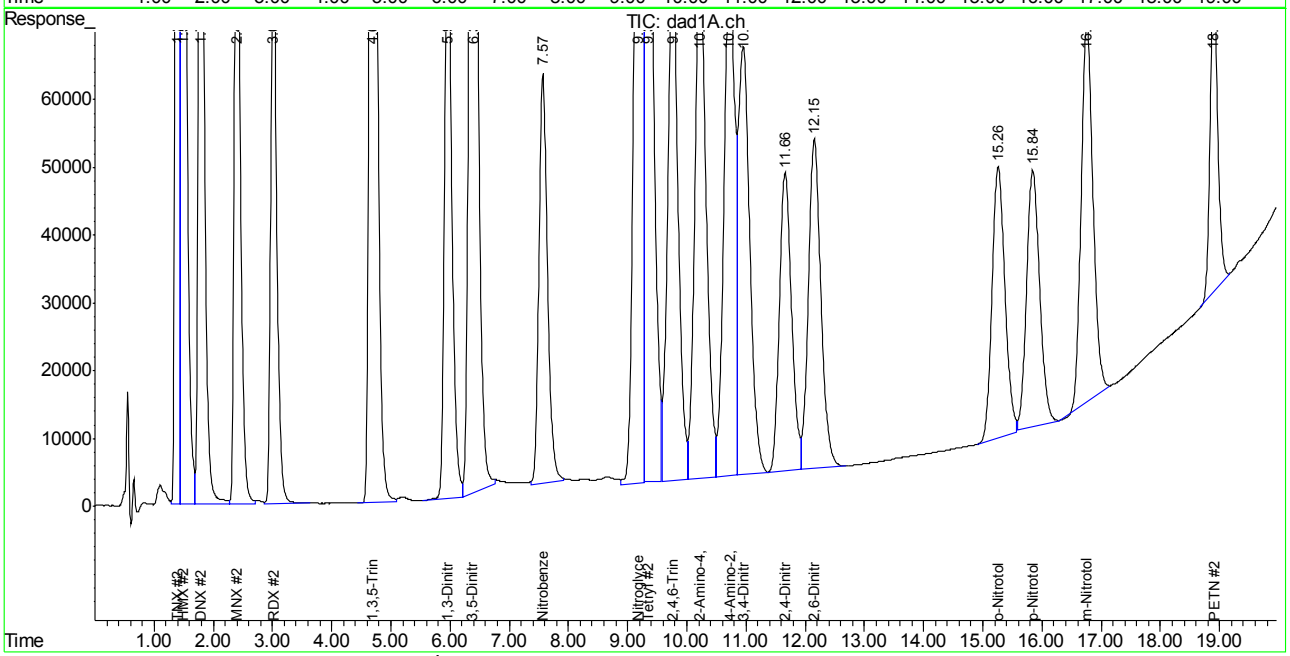
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0405BPL\BB050850.D\dad1B.ch Vial: 9
Signal #2 : C:\HPCHEM\1\DATA\0405BPL\BB050850.D\dad1A.ch
Acq On : 05-Apr-2016, 20:08:11 Operator: kismetl
Sample : ic1436-2000 Inst : G1315B
Misc : op59949,GBB1436,2.00,,,20,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 6 7:06 2016 Quant Results File: 8330B_0401.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0401.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 06 06:38:01 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

Sample Number: GBB1436-IC1436
Lab FileID: BB050850.D
Injection Time: 04/05/16 20:08
Method: SW846 8330A
Analyst approved: 04/06/16 09:10 Kismet Lugo
Supervisor approved: 04/06/16 13:27 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
3,5-Dinitroaniline	618-87-1	2	6.38	Poor instrument integration
Nitrobenzene	98-95-3	2	7.57	Poor instrument integration
Tetryl	479-45-8	2	9.35	Poor instrument integration
o-Nitrotoluene	88-72-2	2	15.26	Poor instrument integration
PETN	78-11-5	2	18.90	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/06/16 13:27

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0405BPL\BB050851.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\1\DATA\0405BPL\BB050851.D\dad1A.ch
Acq On : 05-Apr-2016, 20:35:09 Operator: kismetl
Sample : icv1436-500 Inst : G1315B
Misc : op59949,GBB1436,2.00,,,20,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 06 07:43:12 2016 Quant Results File: 8330B_0405.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0405.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 06 07:41:45 2016
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
Spiked Amount	500.000	Range	69 - 134	Recovery	=	0.00%#	0.00%#
	Target Compounds						
1)	TNX	1.39	1.39	1546577	2310510	497.680	489.049
2)	HMX	1.51	1.51	966022	2580689	557.437	529.791
3)	DNX	1.79	1.79	1447526	2351690	471.611	496.918
4)	MNX	2.40	2.40	1135622	1812272	474.681	485.252
5)	RDX	3.01	3.01	916705	1494000	522.668	511.042
6)	1,3,5-Trinitrobe	4.68	4.68	2033201	3977878	515.048	510.354
7)	1,3-Dinitrobenze	5.95	5.95	2532094	1859782	481.303	507.194
8)	3,5-Dinitroanili	6.38	6.37	2245636	3840977	463.565	483.206m
9)	Nitrobenzene	7.55	7.55	1623764	1570106	520.201	516.661m
10)	Nitroglycerin	0.00	9.18	0	2930140	N.D.	2550.120m#
11)	Tetryl	9.34	9.27	1229842	2179294	426.345	427.642m
12)	2,4,6-Trinitroto	9.73	9.73	1564416	2217523	438.936	494.716
13)	2-Amino-4,6-Dini	10.20	10.20	1690106	2782308	533.180	544.216
14)	4-Amino-2,6-Dini	10.69	10.69	1264732	2691814	574.087	573.441
16)	2,4-Dinitrotolue	11.63	11.63	2386516	1583714	505.828	538.713
17)	2,6-Dinitrotolue	12.12	12.12	1404419	1829913	520.640	562.881
18)	o-Nitrotoluene	15.23	15.23	1134321	1512621	522.462	523.147m
19)	p-Nitrotoluene	15.81	15.81	1714817	1290812	520.348	512.443
20)	m-Nitrotoluene	16.73	16.73	1664084	1916155	508.158	544.218m
21)	PETN	0.00	18.88	0	3480471	N.D. d	8575.412m

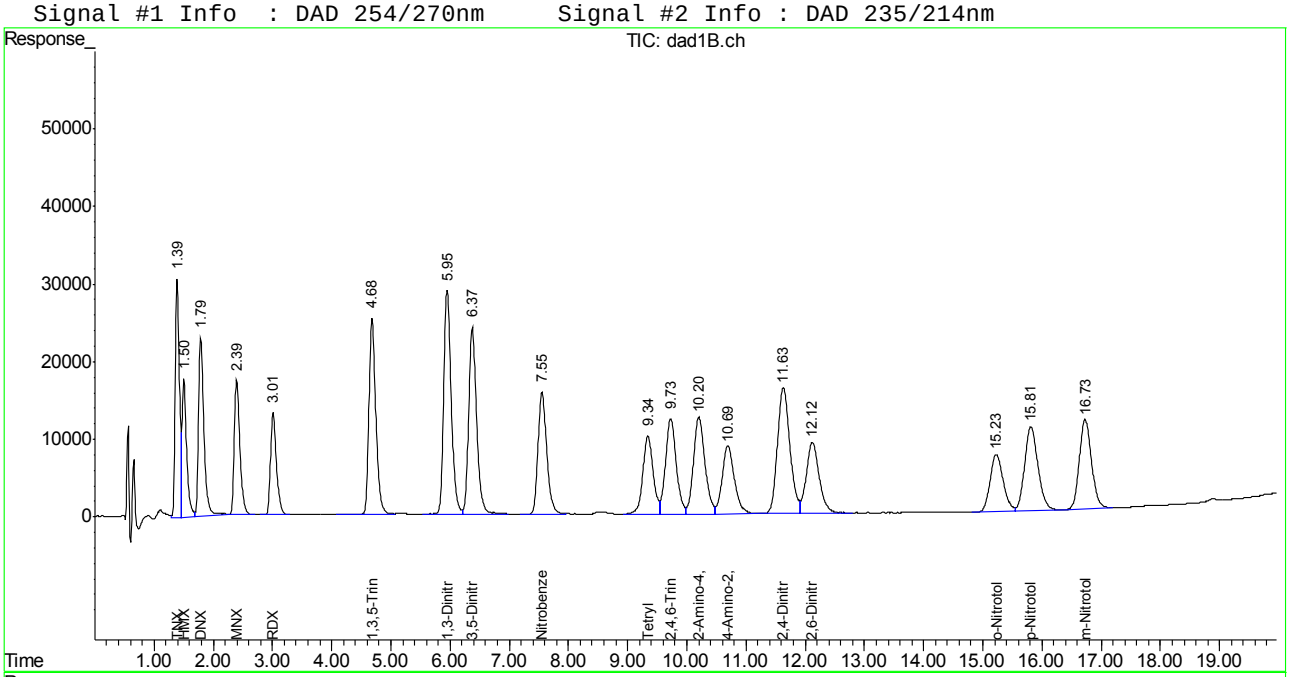
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB050851.D 8330B_0405.M Wed Apr 06 08:36:41 2016 Page 1

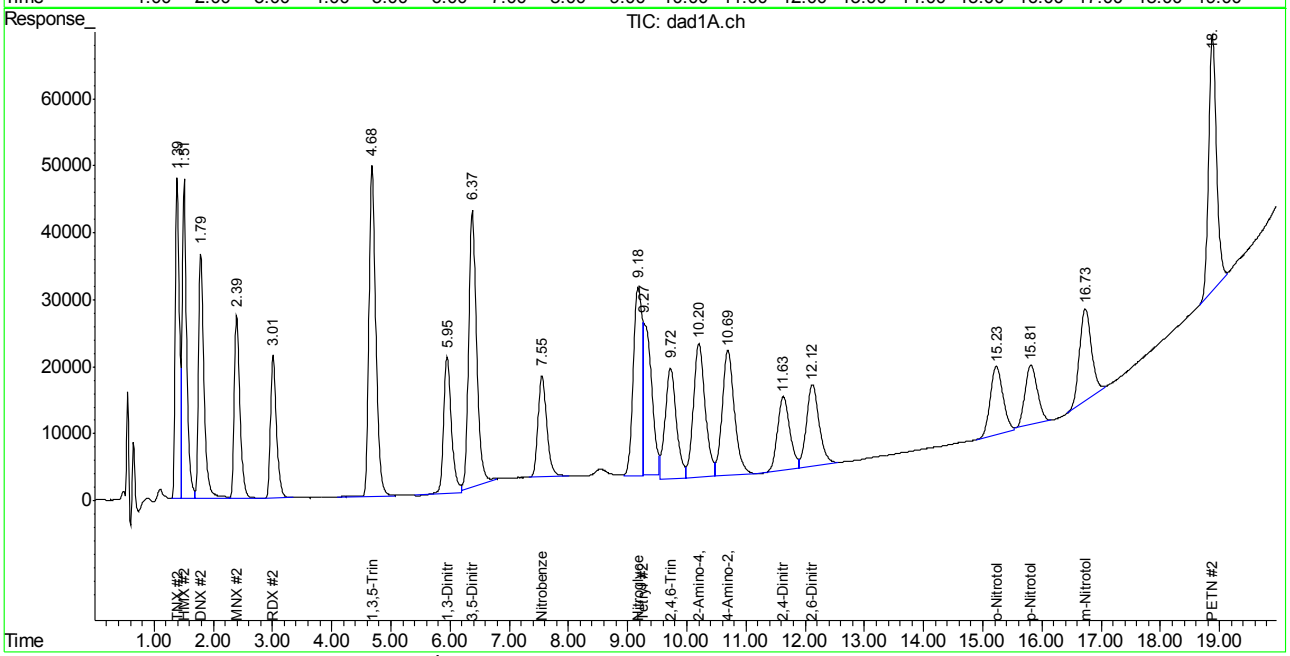
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0405BPL\BB050851.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\1\DATA\0405BPL\BB050851.D\dad1A.ch
Acq On : 05-Apr-2016, 20:35:09 Operator: kismetl
Sample : icv1436-500 Inst : G1315B
Misc : op59949,GBB1436,2.00,,,20,1,soil Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 6 7:45 2016 Quant Results File: 8330B_0405.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0405.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 06 07:41:45 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA33221

Manual Integration Approval Summary

Sample Number: GBB1436-ICV1436 **Method:** SW846 8330A
Lab FileID: BB050851.D **Analyst approved:** 04/06/16 09:10 Kismet Lugo
Injection Time: 04/05/16 20:35 **Supervisor approved:** 04/06/16 13:27 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
3,5-Dinitroaniline	618-87-1	2	6.37	Poor instrument integration
Nitrobenzene	98-95-3	2	7.55	Poor instrument integration
Nitroglycerine	55-63-0	2	9.18	Poor instrument integration
Tetryl	479-45-8	2	9.27	Poor instrument integration
o-Nitrotoluene	88-72-2	2	15.23	Poor instrument integration
m-Nitrotoluene	99-08-1	2	16.73	Poor instrument integration
PETN	78-11-5	2	18.88	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/27/16 10:44

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0422BPL\BB051057.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0422BPL\BB051057.D\dad1A.ch
Acq On : 22-Apr-2016, 16:13:35 Operator: kismetl
Sample : cc1436-1000 Inst : G1315B
Misc : op60163,GBB1444,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 25 06:39:06 2016 Quant Results File: 8330B_0405.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0405.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 22 13:03:44 2016
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.21	11.21	2181630	4045338	975.115	1043.455
Spiked Amount	500.000	Range	70 - 136	Recovery	=	195.02%#	208.69%#
	Target Compounds						
1)	TNX	1.41	1.41	3275318	4823905	1053.979	1021.042
2)	HMX	1.52	1.52	1715742	4825129	990.059	990.554
3)	DNX	1.82	1.82	2920902	4802006	951.645	1007.012
4)	MNX	2.45	2.45	2384102	3773167	996.536	1010.299
5)	RDX	3.07	3.07	1794194	2908881	1022.976	995.021
6)	1,3,5-Trinitrobe	4.84	4.84	3915123	7699559	991.774	987.839
7)	1,3-Dinitrobenze	6.09	6.09	5204134	3786916	989.206	1032.755
8)	3,5-Dinitroanili	6.50	6.50	4773256	8103137	985.339	1019.398m
9)	Nitrobenzene	7.66	7.66	3063392	2977783	981.411	979.872m
10)	Nitroglycerin	0.00	9.34	0	6281710	N.D.	5467.014m#
11)	Tetryl	9.60	9.60	2952613	5009046	1023.571	982.923m
12)	2,4,6-Trinitroto	10.03	10.03	3583534	4537145	1005.451	1012.211
13)	2-Amino-4,6-Dini	10.43	10.43	3223603	5048852	1016.954	987.548
14)	4-Amino-2,6-Dini	10.92	10.92	2226924	4725778	1010.844	1006.740
16)	2,4-Dinitrotolue	11.90	11.90	4557124	3030329	965.894	1030.791
17)	2,6-Dinitrotolue	12.37	12.37	2621451	3470990	971.814	1067.676
18)	o-Nitrotoluene	15.40	15.39	2111920	2970519	972.739	1027.367m
19)	p-Nitrotoluene	16.01	16.01	3331150	2701718	1010.813	1072.562
20)	m-Nitrotoluene	16.87	16.87	3130365	3578740	955.913	1016.418m
21)	PETN	0.00	19.03	0	2092804	N.D.	5156.388m#

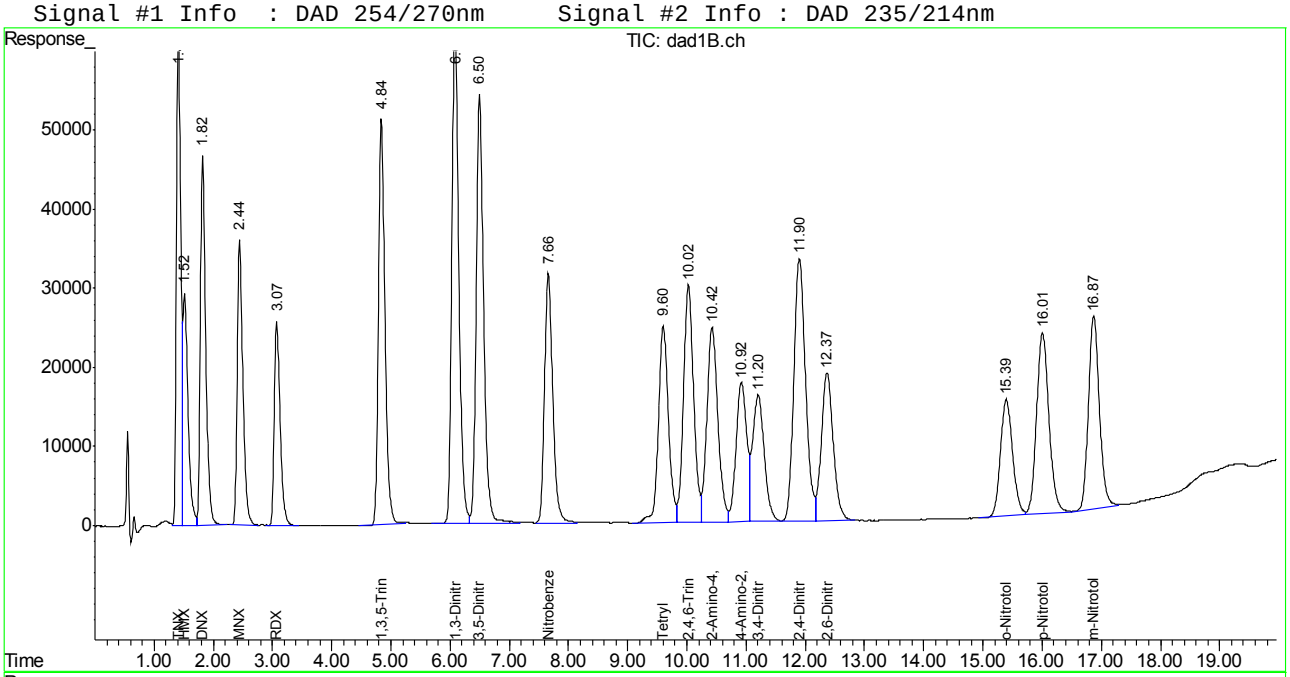
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB051057.D 8330B_0405.M Mon Apr 25 09:11:14 2016 Page 1

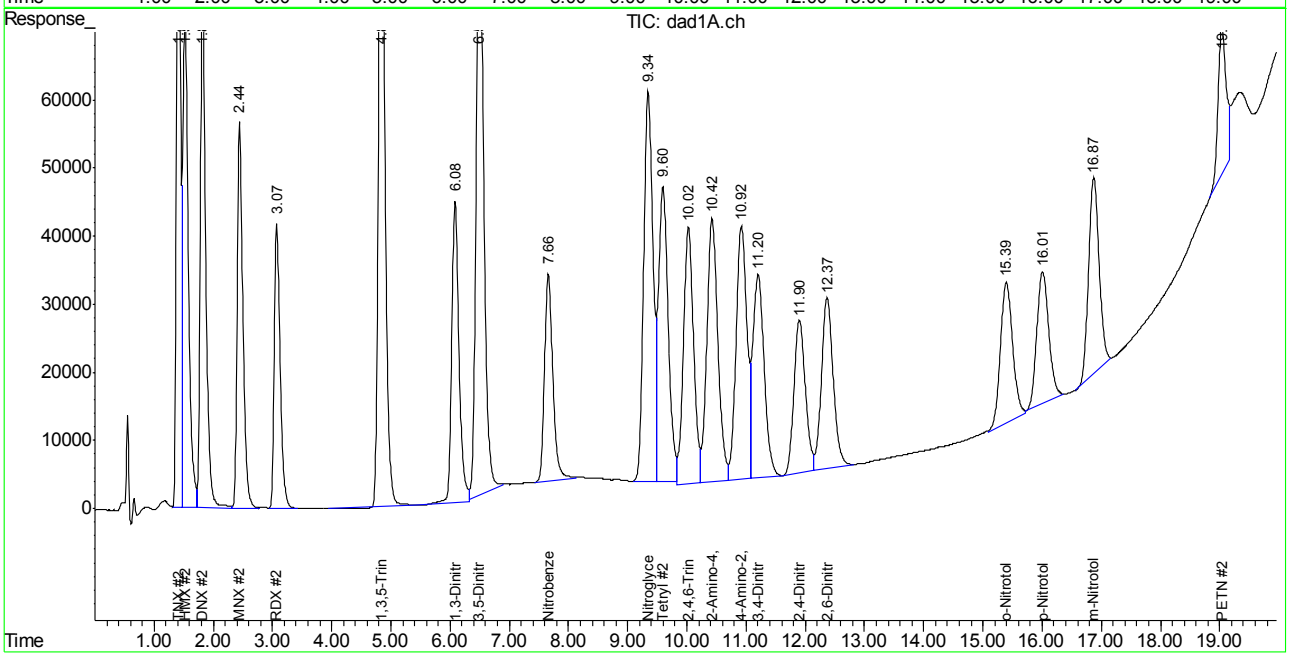
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0422BPL\BB051057.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0422BPL\BB051057.D\dad1A.ch
Acq On : 22-Apr-2016, 16:13:35 Operator: kismetl
Sample : cc1436-1000 Inst : G1315B
Misc : op60163,GBB1444,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 25 6:43 2016 Quant Results File: 8330B_0405.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0405.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 22 13:03:44 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA33221

Manual Integration Approval Summary

Sample Number: GBB1444-CC1436
Lab FileID: BB051057.D
Injection Time: 04/22/16 16:13
Method: SW846 8330A
Analyst approved: 04/25/16 09:47 Kismet Lugo
Supervisor approved: 04/27/16 10:44 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
3,5-Dinitroaniline	618-87-1	2	6.50	Poor instrument integration
Nitrobenzene	98-95-3	2	7.66	Poor instrument integration
Nitroglycerine	55-63-0	2	9.34	Poor instrument integration
Tetryl	479-45-8	2	9.60	Poor instrument integration
o-Nitrotoluene	88-72-2	2	15.39	Poor instrument integration
m-Nitrotoluene	99-08-1	2	16.87	Poor instrument integration
PETN	78-11-5	2	19.03	Missed peak

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/27/16 10:44

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0422BPL\BB051069.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0422BPL\BB051069.D\dad1A.ch
Acq On : 22-Apr-2016, 21:37:11 Operator: kismetl
Sample : ecc1436-1000 Inst : G1315B
Misc : op60163,GBB1444,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 25 06:39:18 2016 Quant Results File: 8330B_0405.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0405.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 22 13:03:44 2016
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	11.28	11.28	2235458	4028751	999.175	1039.176
	Spiked Amount 500.000	Range 70 - 136		Recovery =		199.83%#	207.84%#
	Target Compounds						
1)	TNX	1.42	1.42	3234029	4834882	1040.693	1023.365
2)	HMX	1.52	1.53	1740080	4812531	1004.103	987.967
3)	DNX	1.83	1.83	2919919	4846266	951.325	1016.156
4)	MNX	2.46	2.46	2379667	3791890	994.682	1015.313
5)	RDX	3.09	3.09	1804246	2938884	1028.708	1005.284
6)	1,3,5-Trinitrobe	4.86	4.86	3910006	7768151	990.478	996.639
7)	1,3-Dinitrobenze	6.12	6.12	5187377	3705846	986.021	1010.646
8)	3,5-Dinitroanili	6.53	6.53	4744181	8045916	979.338	1012.199m
9)	Nitrobenzene	7.71	7.70	3050077	2939335	977.146	967.221m
10)	Nitroglycerin	0.00	9.40	0	6187017	N.D.	5384.603 #
11)	Tetryl	9.66	9.66	2890902	5036804	1002.178m	988.370
12)	2,4,6-Trinitroto	10.09	10.09	3606431	4401233	1011.876	981.889
13)	2-Amino-4,6-Dini	10.49	10.49	3266452	4949123	1030.472	968.042
14)	4-Amino-2,6-Dini	10.99	10.99	2269786	4690886	1030.300	999.307
16)	2,4-Dinitrotolue	11.98	11.98	4614877	3051745	978.135	1038.076
17)	2,6-Dinitrotolue	12.45	12.45	2691703	3502137	997.857	1077.257
18)	o-Nitrotoluene	15.49	15.49	2120676	2906342	976.772	1005.171m
19)	p-Nitrotoluene	16.10	16.10	3367201	2713043	1021.752	1077.058
20)	m-Nitrotoluene	16.96	16.95	3168490	3703473	967.556	1051.844m
21)	PETN	0.00	19.08	0	1590187	N.D. d	3918.008m

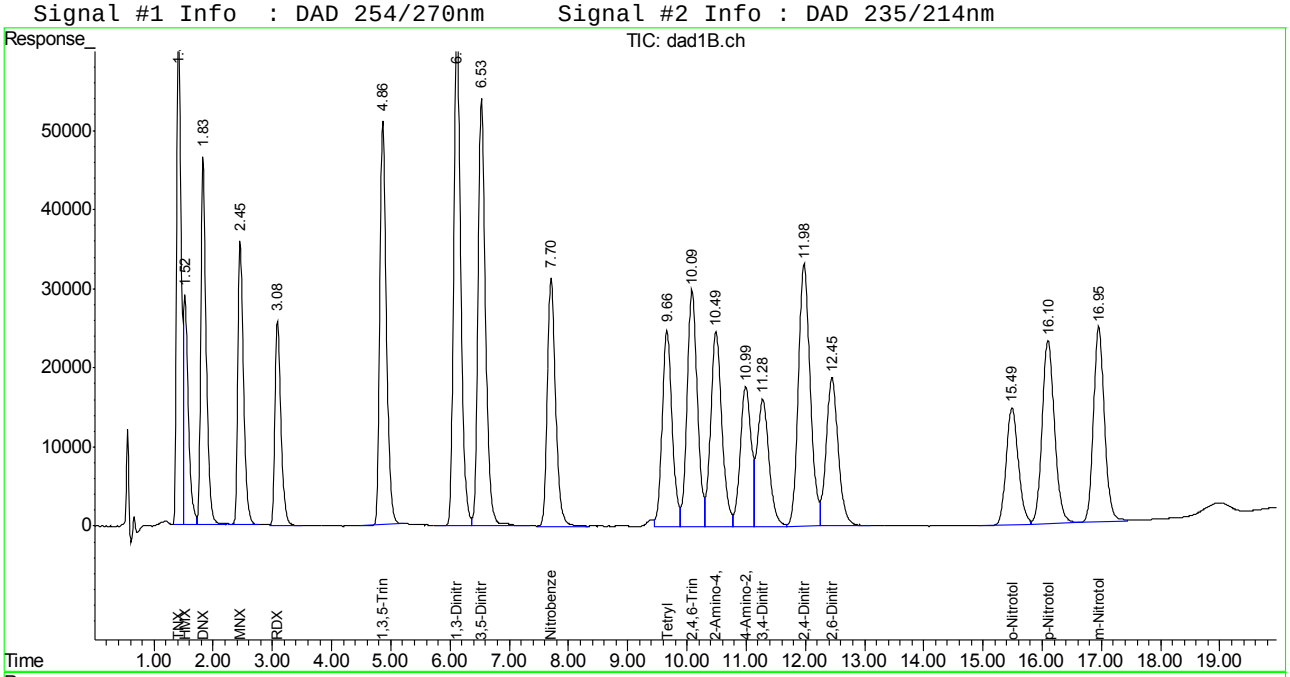
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB051069.D 8330B_0405.M Mon Apr 25 09:11:26 2016 Page 1

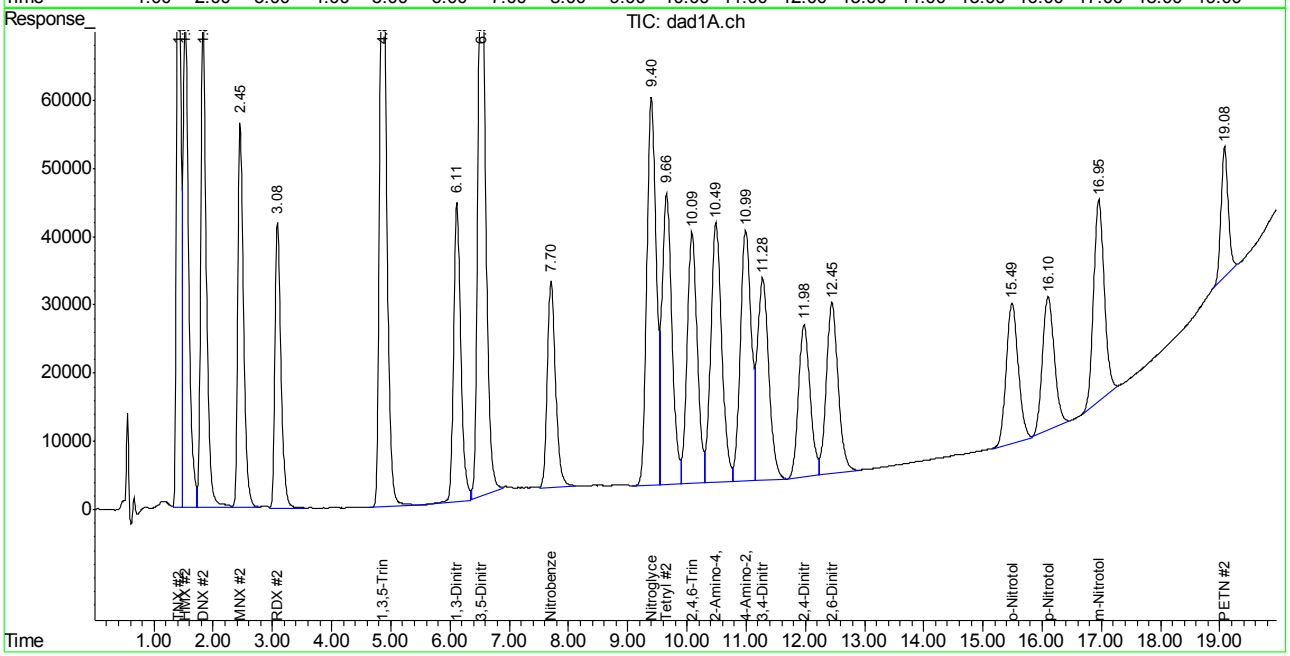
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0422BPL\BB051069.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0422BPL\BB051069.D\dad1A.ch
Acq On : 22-Apr-2016, 21:37:11 Operator: kismetl
Sample : ecc1436-1000 Inst : G1315B
Misc : op60163,GBB1444,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Apr 25 6:40 2016 Quant Results File: 8330B_0405.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0405.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Apr 22 13:03:44 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA33221

Manual Integration Approval Summary

Sample Number: GBB1444-ECC1436 **Method:** SW846 8330A
Lab FileID: BB051069.D **Analyst approved:** 04/25/16 09:47 Kismet Lugo
Injection Time: 04/22/16 21:37 **Supervisor approved:** 04/27/16 10:44 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
3,5-Dinitroaniline	618-87-1	2	6.53	Poor instrument integration
Nitrobenzene	98-95-3	2	7.70	Poor instrument integration
Tetryl	479-45-8	1	9.66	Poor instrument integration
o-Nitrotoluene	88-72-2	2	15.49	Poor instrument integration
m-Nitrotoluene	99-08-1	2	16.95	Poor instrument integration
PETN	78-11-5	2	19.08	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/20/16 15:27

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0419RPB\PP379490.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\0419RPB\PP379490.D\dad1A.ch
Acq On : 19-Apr-2016, 14:43:13 Operator: kismetl
Sample : ic1993-20 Inst : G1315B
Misc : OP60073,GPP1993,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 20 08:19:48 2016 Quant Results File: 8330RP3_0407.RES

Quant Method : C:\MSDCHEM\2...\8330RP3_0407.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 20 08:19:13 2016
Response via : Initial Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	16.00	16.00	98841	234995	22.083m	25.964m
	Spiked Amount 500.000	Range 70 - 136		Recovery =		4.42%#	5.19%#
	Target Compounds						
1)	TNX	5.15	5.15	181013	267499	18.423m	17.904m
2)	HMX	5.62	5.62	42874	163279	16.873m	16.607m
3)	DNX	5.80	5.80	120663	264249	14.012m	16.604m
4)	MNX	7.11	7.11	108242	189309	16.649	20.220m
5)	1,3,5-Trinitrobe	8.13	8.13	173313	272612	16.898	15.995m
6)	RDX	8.62	8.63	78110	150192	16.580	17.511m
7)	1,3-Dinitrobenze	10.81	10.81	291894	244931	21.077	23.686m
8)	Nitrobenzene	11.94	11.94	155527	172579	17.963m	20.160m
9)	2,4,6-Trinitroto	12.99	12.97	175916	290061	18.669	23.039
10)	Nitroglycerin	0.00	13.96	0	323931	N.D.	85.547 #
11)	Tetryl	14.82	14.74	126340	245618	16.659m	18.539
13)	2,6-Dinitrotolue	16.39	16.40	119069	173867	16.624m	15.556m
14)	2,4-Dinitrotolue	17.24	17.23	213855	203068	17.513	20.088m
15)	o-Nitrotoluene	19.30	19.31	100591	154612	17.217m	16.618m
16)	3,5-Dinitroanili	18.92	18.85	206111	376904	18.253m	19.993m
17)	p-Nitrotoluene	20.72	20.92	66981	136865	16.439m	22.577m
18)	4-Amino-2,6-Dini	21.15	21.16	129136	270243	21.727m	29.851m
19)	m-Nitrotoluene	22.48	22.43	86943	106454	15.518m	14.664m
20)	2-Amino-4,6-Dini	23.80	23.80	124036	80076	12.343m	5.600m#
21)	PETN	0.00	25.73	0	4373	N.D. d	6.297m

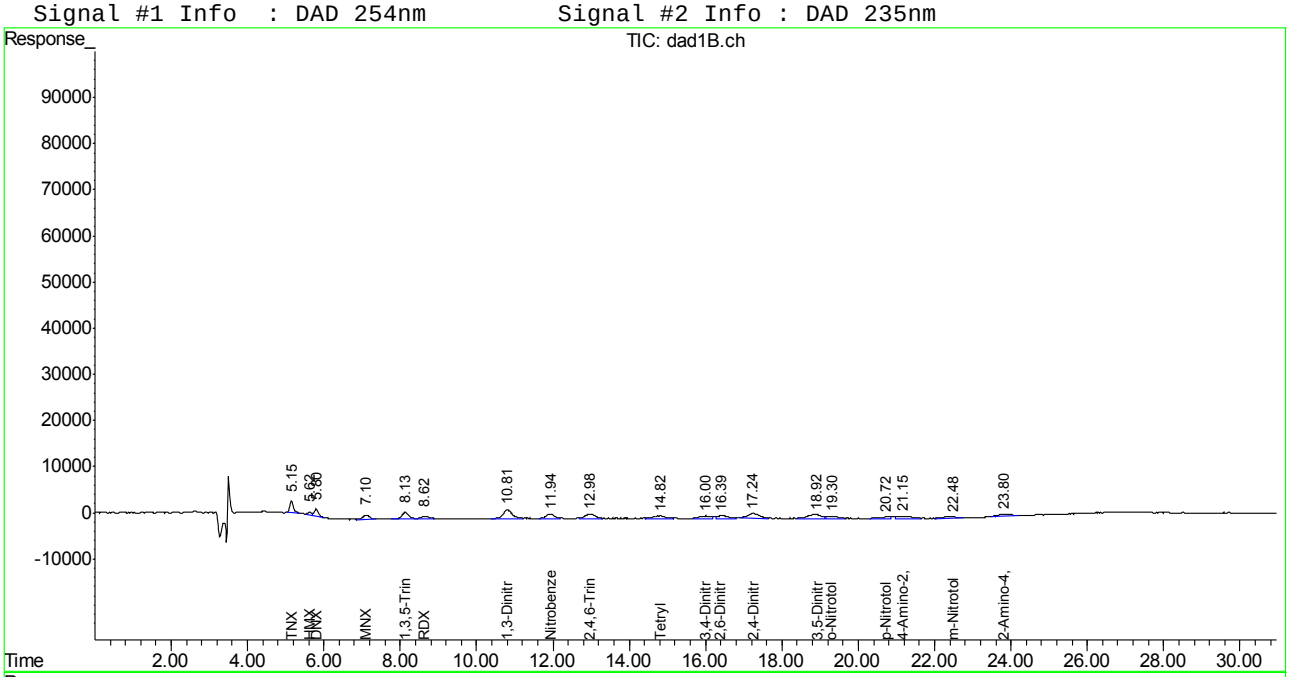
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP379490.D 8330RP3_0420.M Wed Apr 20 09:11:05 2016 Page 1

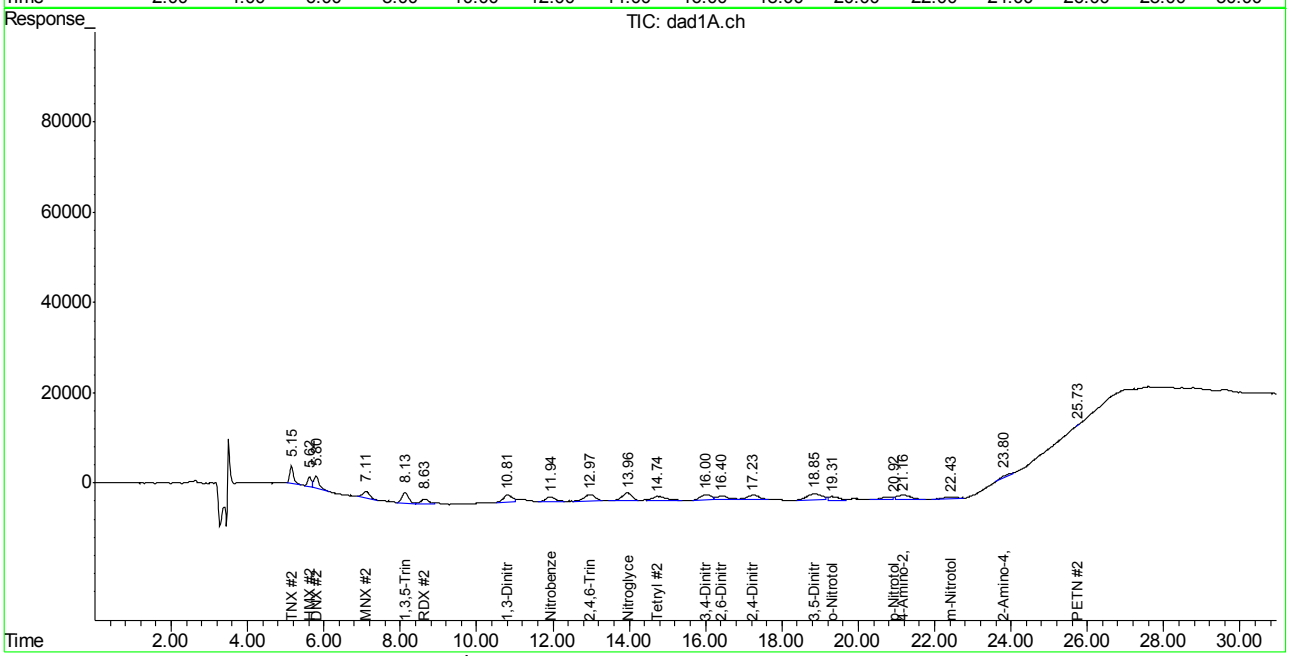
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0419RPB\PP379490.D\dad1B.ch Vial: 3
Signal #2 : P:\DATA\0419RPB\PP379490.D\dad1A.ch
Acq On : 19-Apr-2016, 14:43:13 Operator: kismetl
Sample : ic1993-20 Inst : G1315B
Misc : OP60073,GPP1993,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 20 8:30 2016 Quant Results File: 8330RP3_0407.RES

Quant Method : C:\MSDCHEM\2...\8330RP3_0407.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 20 08:19:13 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





Manual Integration Approval Summary

Sample Number: GPP1993-IC1993
Lab FileID: PP379490.D
Injection Time: 04/19/16 14:43
Method: SW846 8330A
Analyst approved: 04/20/16 11:58 Kismet Lugo
Supervisor approved: 04/20/16 15:27 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	5.15	Poor instrument integration
TNX		2	5.15	Poor instrument integration
HMX	2691-41-0	1	5.62	Poor instrument integration
HMX	2691-41-0	2	5.62	Poor instrument integration
DNX		1	5.80	Poor instrument integration
DNX		2	5.80	Poor instrument integration
MNX		2	7.11	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	2	8.13	Poor instrument integration
RDX	121-82-4	2	8.63	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	10.81	Poor instrument integration
Nitrobenzene	98-95-3	1	11.94	Poor instrument integration
Nitrobenzene	98-95-3	2	11.94	Poor instrument integration
Tetryl	479-45-8	1	14.82	Poor instrument integration
3,4-Dinitrotoluene	610-39-9	1	16.00	Poor instrument integration
3,4-Dinitrotoluene	610-39-9	2	16.00	Poor instrument integration
2,6-Dinitrotoluene	606-20-2	1	16.39	Poor instrument integration
2,6-Dinitrotoluene	606-20-2	2	16.40	Poor instrument integration
2,4-Dinitrotoluene	121-14-2	2	17.23	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	18.85	Poor instrument integration
3,5-Dinitroaniline	618-87-1	1	18.92	Poor instrument integration
o-Nitrotoluene	88-72-2	1	19.30	Missed peak
o-Nitrotoluene	88-72-2	2	19.31	Missed peak
p-Nitrotoluene	99-99-0	1	20.72	Missed peak
p-Nitrotoluene	99-99-0	2	20.92	Missed peak
4-amino-2,6-Dinitrotoluene	19406-51-0	1	21.15	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	2	21.16	Poor instrument integration
m-Nitrotoluene	99-08-1	2	22.43	Poor instrument integration
m-Nitrotoluene	99-08-1	1	22.48	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	1	23.80	Split peak
2-amino-4,6-Dinitrotoluene	35572-78-2	2	23.80	Poor instrument integration
PETN	78-11-5	2	25.73	Missed peak

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/20/16 15:27

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0419RPB\PP379491.D\dad1B.ch Vial: 4
Signal #2 : P:\DATA\0419RPB\PP379491.D\dad1A.ch
Acq On : 19-Apr-2016, 15:16:40 Operator: kismetl
Sample : ic1993-50 Inst : G1315B
Misc : OP60073,GPP1993,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 20 08:19:49 2016 Quant Results File: 8330RP3_0407.RES

Quant Method : C:\MSDCHEM\2...\8330RP3_0407.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 20 08:19:13 2016
Response via : Initial Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	16.02	16.03	278819	598817	62.294	66.163m
Spiked Amount	500.000	Range	70 - 136	Recovery	=	12.46%#	13.23%#
	Target Compounds						
1)	TNX	5.15	5.15	453512	716945	46.156m	47.987m
2)	HMX	5.63	5.63	134384	462081	52.815m	46.998m
3)	DNX	5.81	5.80	385232	676348	44.736	42.499m
4)	MNX	7.13	7.13	302402	450168	46.513	48.083m
5)	1,3,5-Trinitrobe	8.14	8.14	470559	761674	45.881	44.690
6)	RDX	8.66	8.66	218084	337636	46.292	39.366m
7)	1,3-Dinitrobenze	10.82	10.81	687928	561005	49.673	54.251m
8)	Nitrobenzene	11.95	11.94	431466	461937	49.832	53.962m
9)	2,4,6-Trinitroto	13.00	12.99	464376	584565	49.281	46.431m
10)	Nitroglycerin	0.00	13.99	0	902185	N.D. d	238.258m
11)	Tetryl	14.83	14.82	323015	641011	42.592	48.384
13)	2,6-Dinitrotolue	16.45	16.45	345078	469005	48.178	41.962
14)	2,4-Dinitrotolue	17.28	17.27	640726	566682	52.471	56.057m
15)	o-Nitrotoluene	19.32	19.32	234046	397622	40.060	42.736
16)	3,5-Dinitroanili	18.88	18.87	606202	976306	53.686	51.789
17)	p-Nitrotoluene	20.80	20.76	188545	444334	46.274	72.922m#
18)	4-Amino-2,6-Dini	21.21	21.21	307440	615559	51.616m	67.496m
19)	m-Nitrotoluene	22.44	22.47	241976	352386	43.136	48.211
20)	2-Amino-4,6-Dini	23.86	23.94	448444	546897	44.625m	38.273m
21)	PETN	0.00	25.72	0	169155	N.D. d	243.066m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP379491.D 8330RP3_0420.M Wed Apr 20 09:11:06 2016 Page 1

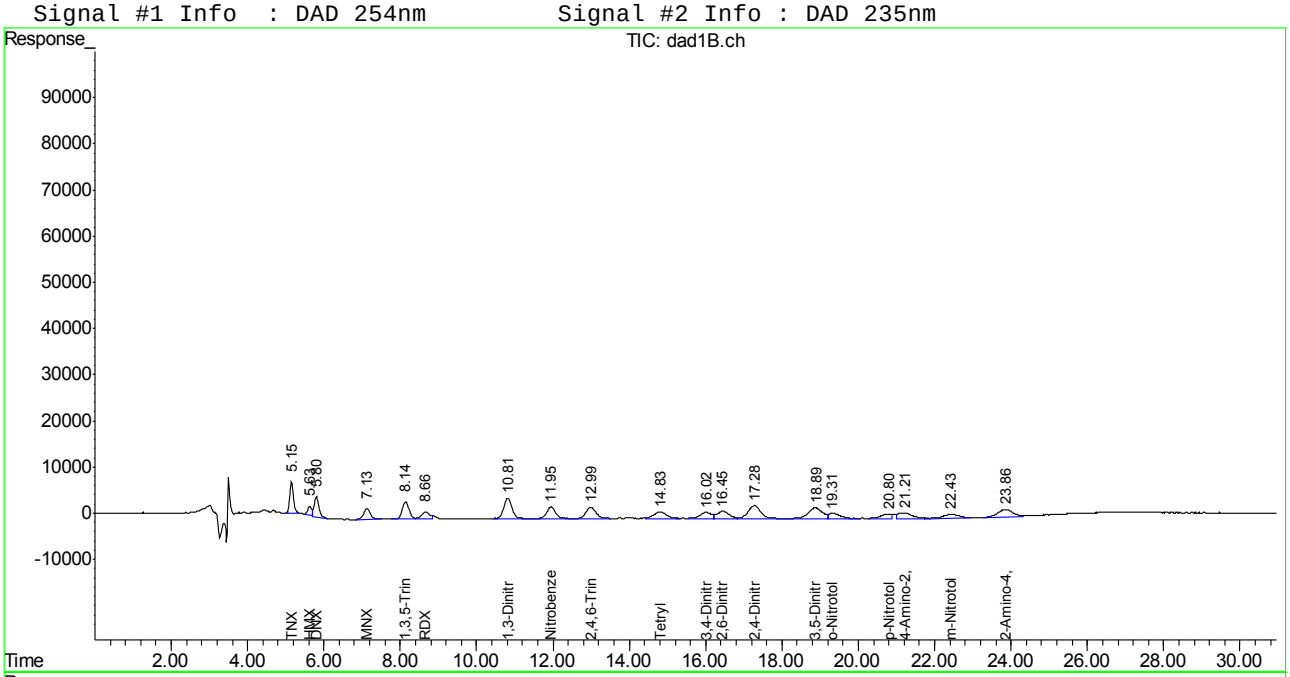
SGS ACCUTEST FA33221

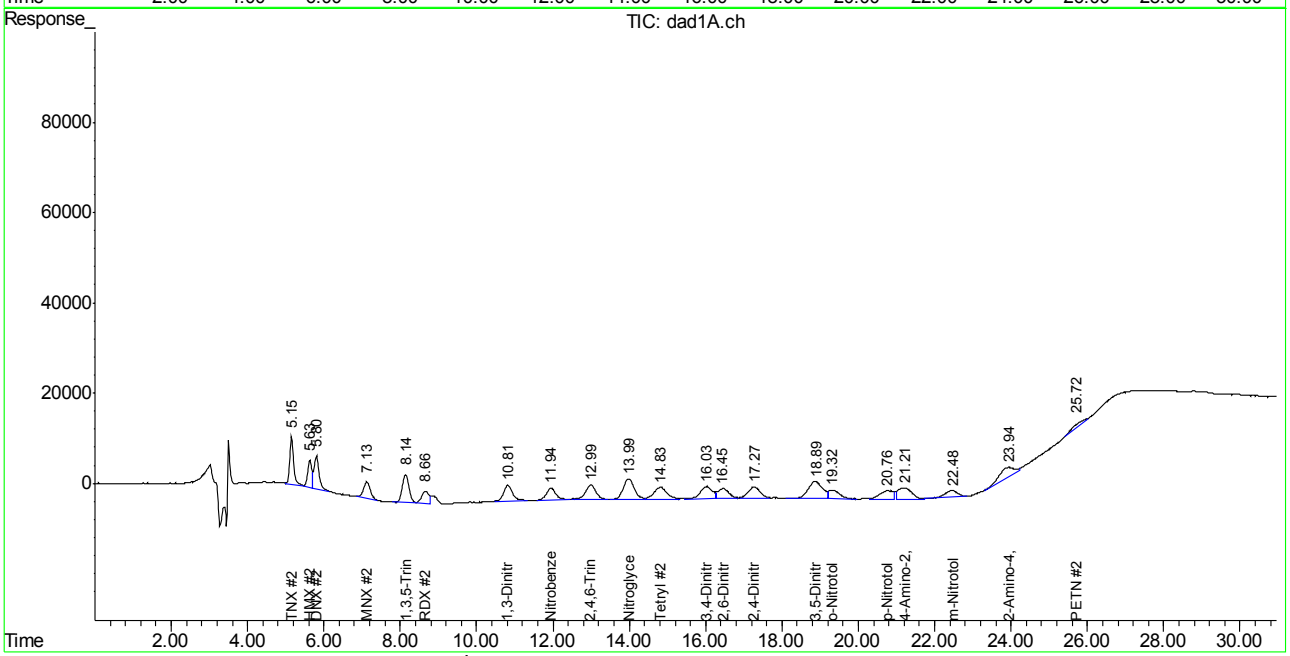
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0419RPB\PP379491.D\dad1B.ch Vial: 4
Signal #2 : P:\DATA\0419RPB\PP379491.D\dad1A.ch
Acq On : 19-Apr-2016, 15:16:40 Operator: kismetl
Sample : ic1993-50 Inst : G1315B
Misc : OP60073,GPP1993,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 20 8:38 2016 Quant Results File: 8330RP3_0407.RES

Quant Method : C:\MSDCHEM\2...\8330RP3_0407.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 20 08:19:13 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





SGS ACCUTEST FA33221

Manual Integration Approval Summary

Sample Number: GPP1993-IC1993
Lab FileID: PP379491.D
Injection Time: 04/19/16 15:16
Method: SW846 8330A
Analyst approved: 04/20/16 11:58 Kismet Lugo
Supervisor approved: 04/20/16 15:27 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	5.15	Poor instrument integration
TNX		2	5.15	Poor instrument integration
HMX	2691-41-0	1	5.63	Poor instrument integration
HMX	2691-41-0	2	5.63	Poor instrument integration
DNX		2	5.80	Poor instrument integration
MNX		2	7.13	Poor instrument integration
RDX	121-82-4	2	8.66	Overlapping peak
1,3-Dinitrobenzene	99-65-0	2	10.81	Poor instrument integration
Nitrobenzene	98-95-3	2	11.94	Poor instrument integration
2,4,6-Trinitrotoluene	118-96-7	2	12.99	Poor instrument integration
Nitroglycerine	55-63-0	2	13.99	Poor instrument integration
3,4-Dinitrotoluene	610-39-9	2	16.03	Poor instrument integration
2,4-Dinitrotoluene	121-14-2	2	17.27	Poor instrument integration
p-Nitrotoluene	99-99-0	2	20.76	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	1	21.21	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	2	21.21	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	1	23.86	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	23.94	Poor instrument integration
PETN	78-11-5	2	25.72	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/20/16 15:27

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0419RPB\PP379492.D\dad1B.ch Vial: 5
Signal #2 : P:\DATA\0419RPB\PP379492.D\dad1A.ch
Acq On : 19-Apr-2016, 15:50:06 Operator: kismetl
Sample : ic1993-100 Inst : G1315B
Misc : OP60073,GPP1993,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 20 08:19:50 2016 Quant Results File: 8330RP3_0407.RES

Quant Method : C:\MSDCHEM\2...\8330RP3_0407.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 20 08:19:13 2016
Response via : Initial Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	16.00	16.00	524328	1007885	117.145	111.360m
	Spiked Amount 500.000	Range 70 - 136		Recovery =		23.43%#	22.27%#
	Target Compounds						
1)	TNX	5.15	5.15	925062	1359050	94.148	90.964
2)	HMX	5.63	5.63	299999	908636	117.618	92.418
3)	DNX	5.80	5.80	717841	1227633	83.361m	77.140m
4)	MNX	7.12	7.11	566078	835024	87.069	89.189m
5)	1,3,5-Trinitrobe	8.14	8.14	946617	1523571	92.297	89.393
6)	RDX	8.65	8.65	434223	727933	92.171m	84.872m
7)	1,3-Dinitrobenze	10.81	10.81	1319619	1055406	95.286	102.061m
8)	Nitrobenzene	11.94	11.94	780633	810627	90.159	94.695m
9)	2,4,6-Trinitroto	12.97	12.97	872912	1211512	92.636	96.228m
10)	Nitroglycerin	0.00	13.96	0	1814479	N.D.	479.186m#
11)	Tetryl	14.77	14.78	649231	1126001	85.606m	84.991m
13)	2,6-Dinitrotolue	16.44	16.44	615833	857065	85.979	76.681m
14)	2,4-Dinitrotolue	17.26	17.26	1156861	834436	94.739	82.543m
15)	o-Nitrotoluene	19.34	19.32	448439	738357	76.756	79.358m
16)	3,5-Dinitroanili	18.85	18.85	1135163	1872785	100.532	99.344m
17)	p-Nitrotoluene	20.74	20.78	420668	708247	103.244	115.731
18)	4-Amino-2,6-Dini	21.16	21.17	633257	1273463	105.910	137.751
19)	m-Nitrotoluene	22.43	22.42	487842	774475	86.803	104.758
20)	2-Amino-4,6-Dini	23.83	23.84	859032	1193932	85.484	83.628m
21)	PETN	0.00	25.89	0	295235	N.D. d	423.525m

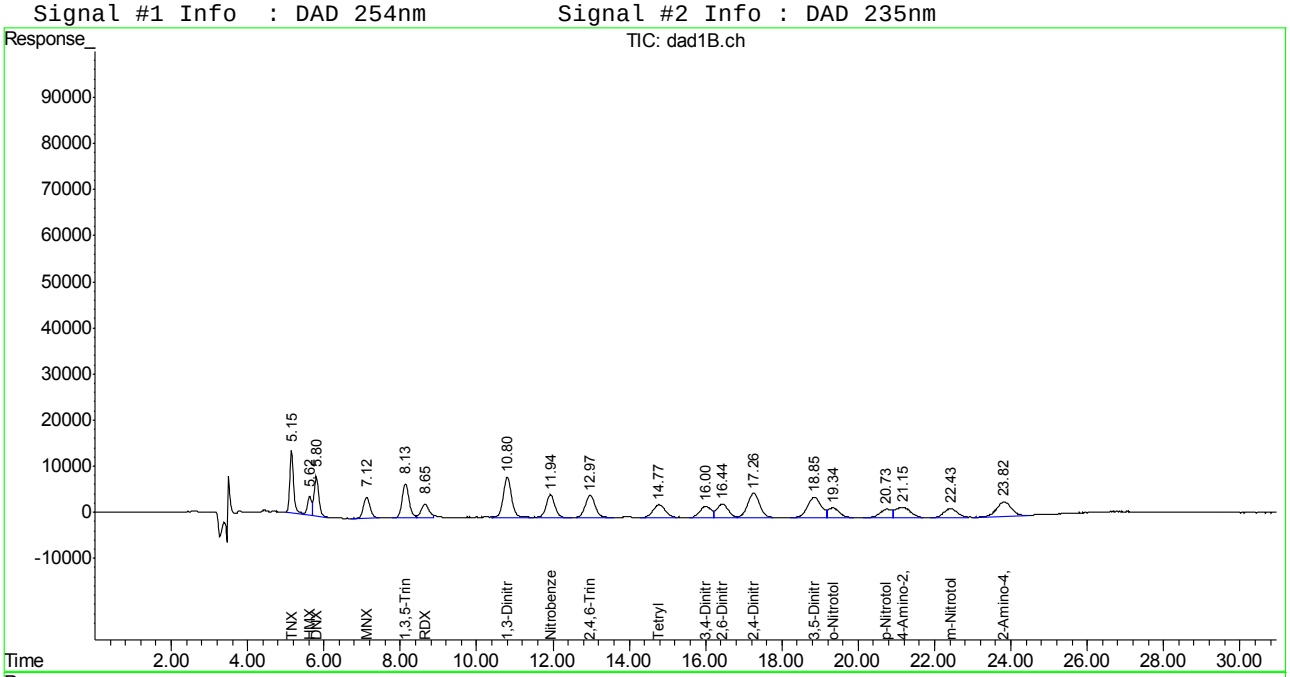
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP379492.D 8330RP3_0420.M Wed Apr 20 09:17:08 2016 Page 1

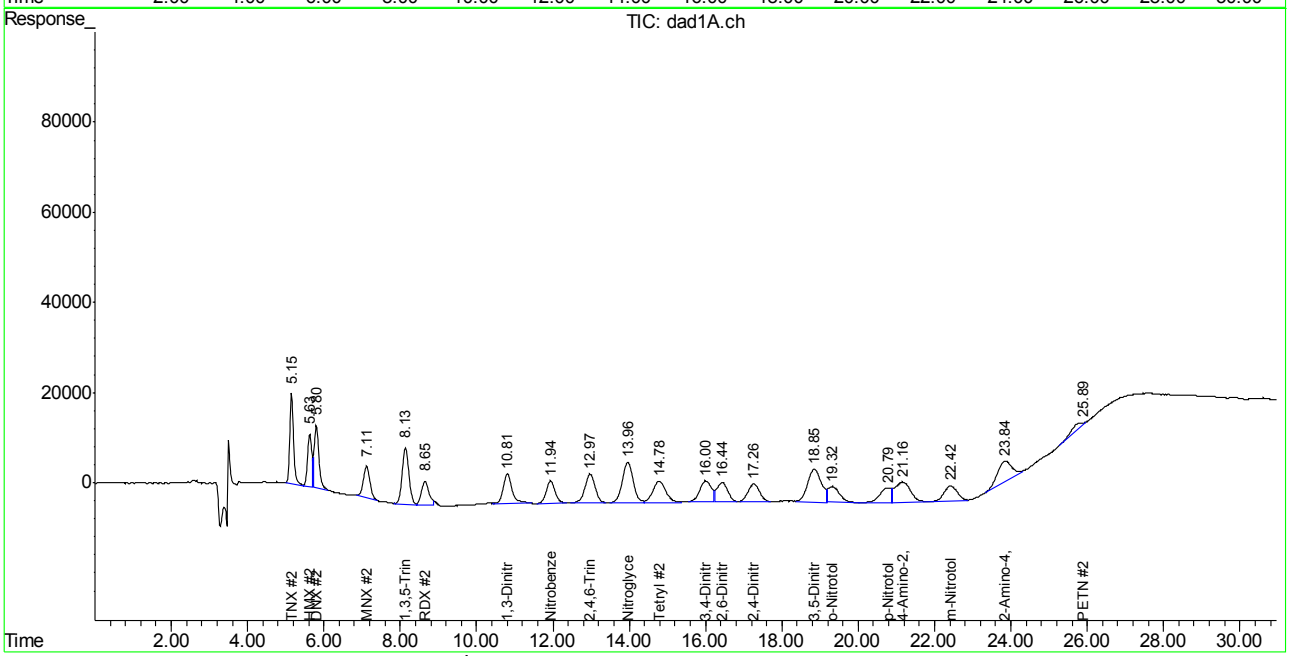
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0419RPB\PP379492.D\dad1B.ch Vial: 5
Signal #2 : P:\DATA\0419RPB\PP379492.D\dad1A.ch
Acq On : 19-Apr-2016, 15:50:06 Operator: kismetl
Sample : ic1993-100 Inst : G1315B
Misc : OP60073,GPP1993,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 20 9:16 2016 Quant Results File: 8330RP3_0407.RES

Quant Method : C:\MSDCHEM\2...\8330RP3_0407.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 20 08:19:13 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





SGS ACCUTEST FA33221

Manual Integration Approval Summary

Sample Number: GPP1993-IC1993
Lab FileID: PP379492.D
Injection Time: 04/19/16 15:50
Method: SW846 8330A
Analyst approved: 04/20/16 11:58 Kismet Lugo
Supervisor approved: 04/20/16 15:27 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
DNX		1	5.80	Poor instrument integration
DNX		2	5.80	Poor instrument integration
MNX		2	7.11	Poor instrument integration
RDX	121-82-4	1	8.65	Overlapping peak
RDX	121-82-4	2	8.65	Overlapping peak
1,3-Dinitrobenzene	99-65-0	2	10.81	Poor instrument integration
Nitrobenzene	98-95-3	2	11.94	Poor instrument integration
2,4,6-Trinitrotoluene	118-96-7	2	12.97	Poor instrument integration
Nitroglycerine	55-63-0	2	13.96	Poor instrument integration
Tetryl	479-45-8	1	14.77	Poor instrument integration
Tetryl	479-45-8	2	14.78	Poor instrument integration
3,4-Dinitrotoluene	610-39-9	2	16.00	Poor instrument integration
2,6-Dinitrotoluene	606-20-2	2	16.44	Poor instrument integration
2,4-Dinitrotoluene	121-14-2	2	17.26	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	18.85	Poor instrument integration
o-Nitrotoluene	88-72-2	2	19.32	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	23.84	Poor instrument integration
PETN	78-11-5	2	25.89	Missed peak

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/20/16 15:27

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0419RPB\PP379493.D\dad1B.ch Vial: 6
Signal #2 : P:\DATA\0419RPB\PP379493.D\dad1A.ch
Acq On : 19-Apr-2016, 16:23:32 Operator: kismetl
Sample : ic1993-200 Inst : G1315B
Misc : OP60073,GPP1993,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 20 08:19:51 2016 Quant Results File: 8330RP3_0407.RES

Quant Method : C:\MSDCHEM\2...\8330RP3_0407.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 20 08:19:13 2016
Response via : Initial Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	15.89	15.89	1050921	2015424	234.796	222.682
	Spiked Amount 500.000	Range 70 - 136		Recovery =		46.96%#	44.54%#
	Target Compounds						
1)	TNX	5.16	5.16	1757713	2595701	178.892	173.736
2)	HMX	5.64	5.64	583788	1750280	227.938	178.022
3)	DNX	5.81	5.81	1434019	2343560	166.528	147.260m
4)	MNX	7.13	7.13	1092134	1641595	167.983	175.339
5)	1,3,5-Trinitrobe	8.16	8.16	1839549	3118336	179.361	182.962
6)	RDX	8.66	8.66	777824	1461361	165.105m	170.384m
7)	1,3-Dinitrobenze	10.81	10.81	2631792	1927439	190.034	186.390
8)	Nitrobenzene	11.91	11.91	1546547	1500878	178.617	175.327
9)	2,4,6-Trinitroto	12.93	12.93	1737476	2222697	184.386	176.545
10)	Nitroglycerin	0.00	13.90	0	3481506	N.D.	919.432 #
11)	Tetryl	14.68	14.69	1276509	2139923	168.318	161.522
13)	2,6-Dinitrotolue	16.36	16.35	1278891	1848236	178.551	165.361
14)	2,4-Dinitrotolue	17.17	17.17	2357981	1704129	193.103	168.574
15)	o-Nitrotoluene	19.22	19.21	868589	1294267	148.669	139.107
16)	3,5-Dinitroanili	18.76	18.75	2190828	3491992	194.023	185.236
17)	p-Nitrotoluene	20.65	20.66	823897	1300265	202.208	210.450
18)	4-Amino-2,6-Dini	21.02	21.02	1171027	2321339	194.633	245.991
19)	m-Nitrotoluene	22.29	22.28	981040	1677416	173.909	221.703
20)	2-Amino-4,6-Dini	23.68	23.70	1595358	2037206	158.757	142.863m
21)	PETN	0.00	25.63	0	528439	N.D. d	755.733m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP379493.D 8330RP3_0420.M Wed Apr 20 09:11:08 2016 Page 1

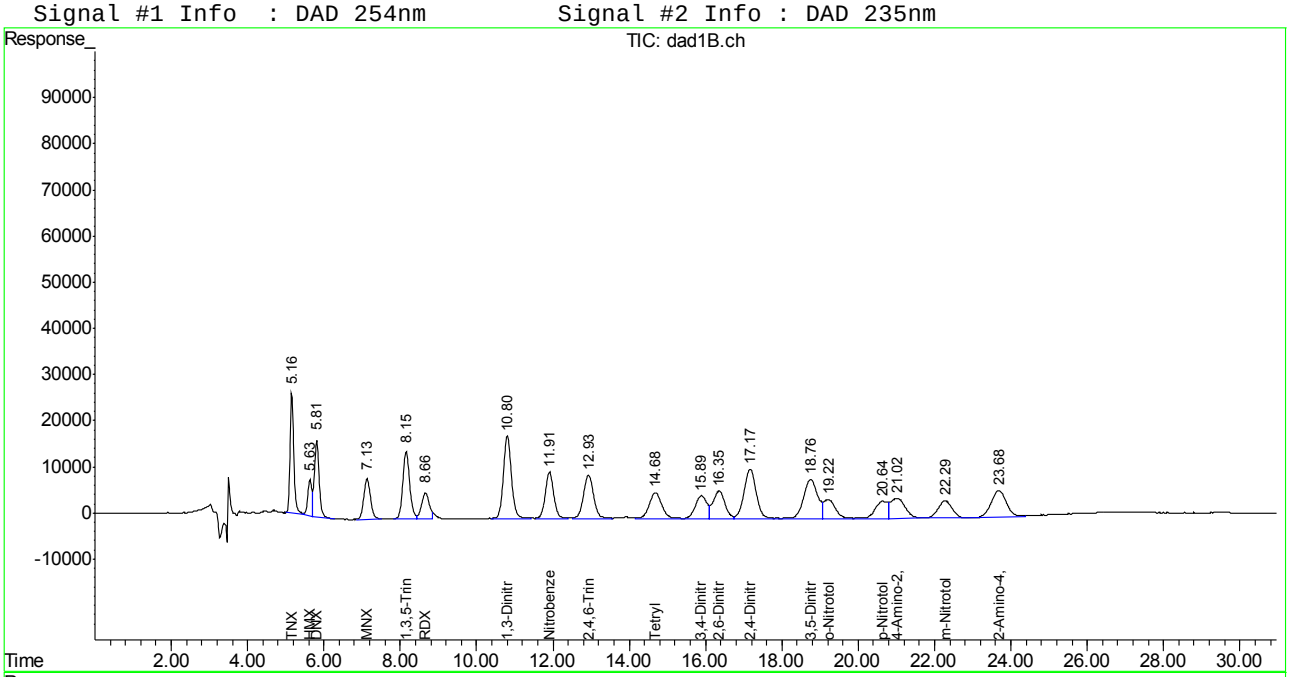
SGS ACCUTEST FA33221

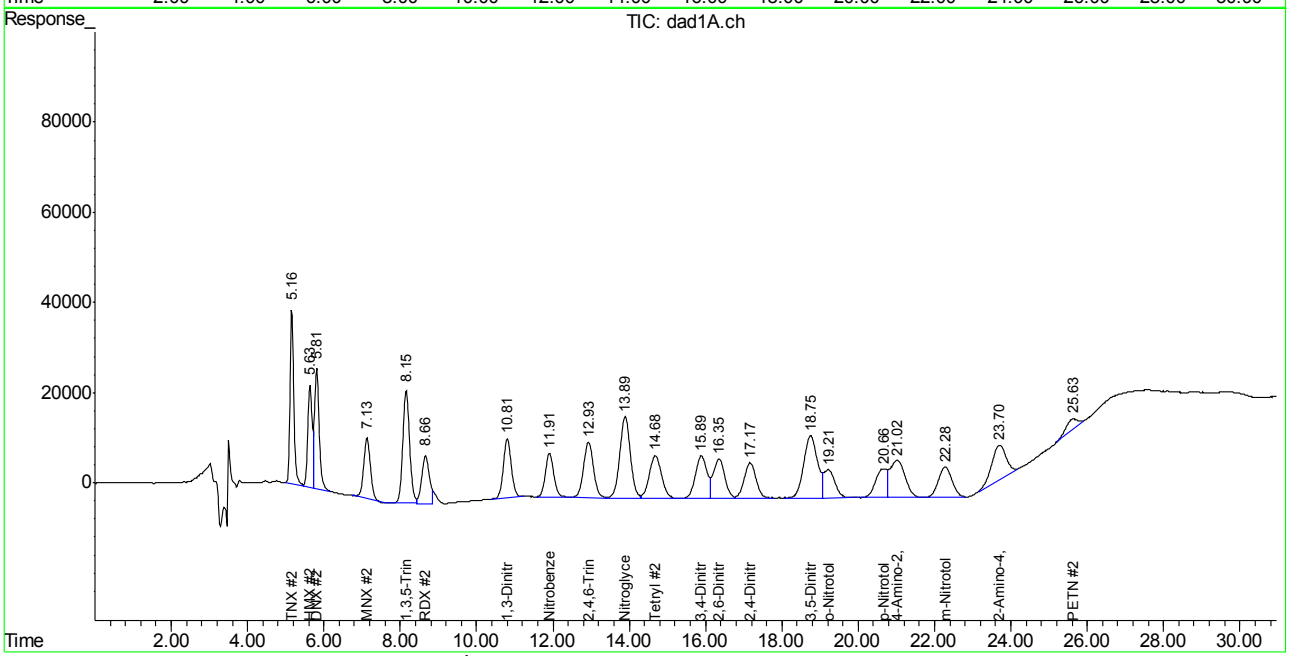
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0419RPB\PP379493.D\dad1B.ch Vial: 6
Signal #2 : P:\DATA\0419RPB\PP379493.D\dad1A.ch
Acq On : 19-Apr-2016, 16:23:32 Operator: kismetl
Sample : ic1993-200 Inst : G1315B
Misc : OP60073,GPP1993,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 20 8:44 2016 Quant Results File: 8330RP3_0407.RES

Quant Method : C:\MSDCHEM\2...\8330RP3_0407.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 20 08:19:13 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





SGS ACCUTEST FA33221

Manual Integration Approval Summary

Sample Number: GPP1993-IC1993
Lab FileID: PP379493.D
Injection Time: 04/19/16 16:23
Method: SW846 8330A
Analyst approved: 04/20/16 11:58 Kismet Lugo
Supervisor approved: 04/20/16 15:27 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
DNX		2	5.81	Poor instrument integration
RDX	121-82-4	1	8.66	Overlapping peak
RDX	121-82-4	2	8.66	Overlapping peak
2-amino-4,6-Dinitrotoluene	35572-78-2	2	23.70	Poor instrument integration
PETN	78-11-5	2	25.63	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/20/16 15:27

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0419RPB\PP379494.D\dad1B.ch Vial: 7
Signal #2 : P:\DATA\0419RPB\PP379494.D\dad1A.ch
Acq On : 19-Apr-2016, 16:56:59 Operator: kismetl
Sample : icc1993-500 Inst : G1315B
Misc : OP60073,GPP1993,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 20 08:54:58 2016 Quant Results File: 8330RP3_0407.RES

Quant Method : C:\MSDCHEM\2...\8330RP3_0407.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 20 08:54:40 2016
Response via : Initial Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	16.02	16.02	2642529	5239872	502.150	487.908
	Spiked Amount 500.000	Range 70 - 136		Recovery =		100.43%	97.58%
	Target Compounds						
1)	TNX	5.15	5.15	4341981	6436386	485.292	481.703
2)	HMX	5.63	5.63	1440055	4396872	491.561	489.397
3)	DNX	5.80	5.80	3612581	5703131	498.141	461.106m
4)	MNX	7.12	7.12	2774316	4178203	486.362	479.676
5)	1,3,5-Trinitrobe	8.14	8.14	4657526	7909307	499.195	510.141
6)	RDX	8.65	8.65	2133341	4111716	503.894	533.155
7)	1,3-Dinitrobenze	10.81	10.81	6456485	4746955	483.675	457.104m
8)	Nitrobenzene	11.94	11.94	3909066	3666600	487.976	453.516m
9)	2,4,6-Trinitroto	12.99	12.99	4387326	5935290	493.009	490.526
10)	Nitroglycerin	0.00	13.97	0	8895423	N.D. d	2534.814
11)	Tetryl	14.79	14.79	3302822	5846711	497.886	490.312
13)	2,6-Dinitrotolue	16.46	16.46	3209831	4792872	503.018	520.730
14)	2,4-Dinitrotolue	17.27	17.27	5913465	4498094	502.837	486.836
15)	o-Nitrotoluene	19.36	19.36	2295150	3502350	486.843	469.747
16)	3,5-Dinitroanili	18.86	18.86	5453968	8975546	484.719	480.037
17)	p-Nitrotoluene	20.80	20.80	2060063	3352975	508.729	465.719
18)	4-Amino-2,6-Dini	21.18	21.18	2976370	5877155	479.817	471.739
19)	m-Nitrotoluene	22.45	22.45	2496330	4266706	501.910	476.215
20)	2-Amino-4,6-Dini	23.84	23.84	4055917	5459915	498.591	484.642m
21)	PETN	0.00	25.74	0	1567624	N.D. d	2625.227m

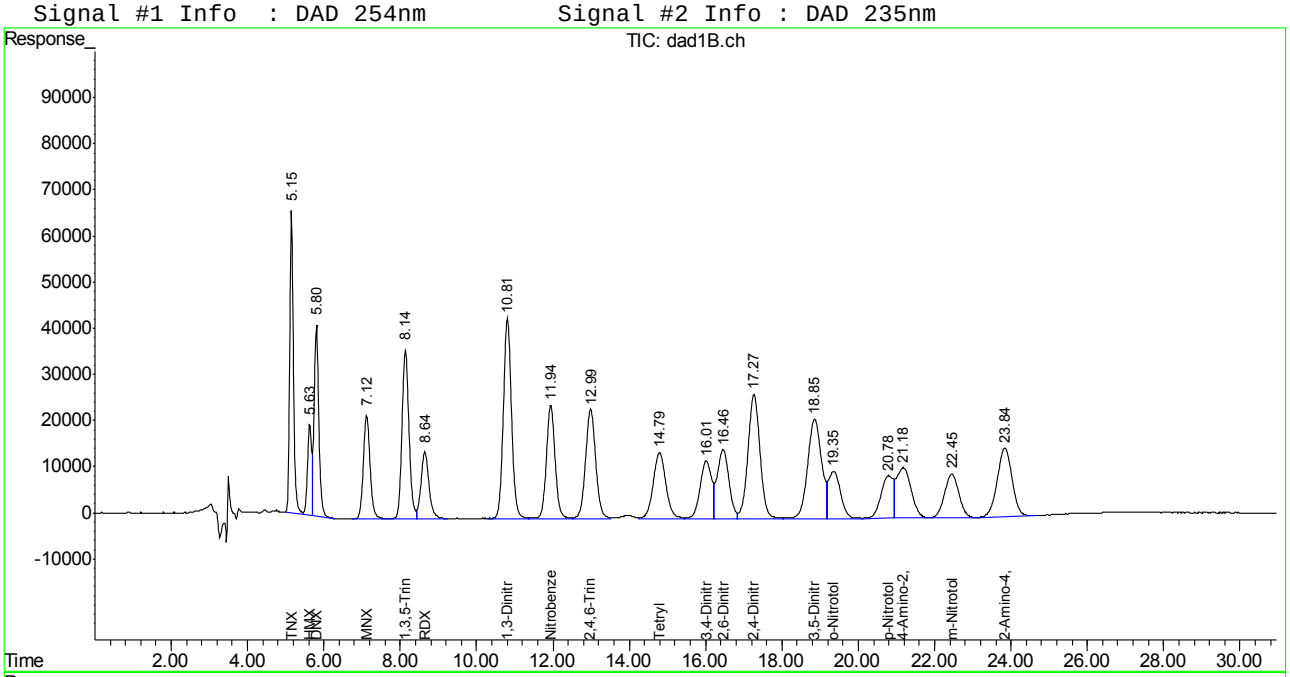
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP379494.D 8330RP3_0420.M Wed Apr 20 09:11:09 2016 Page 1

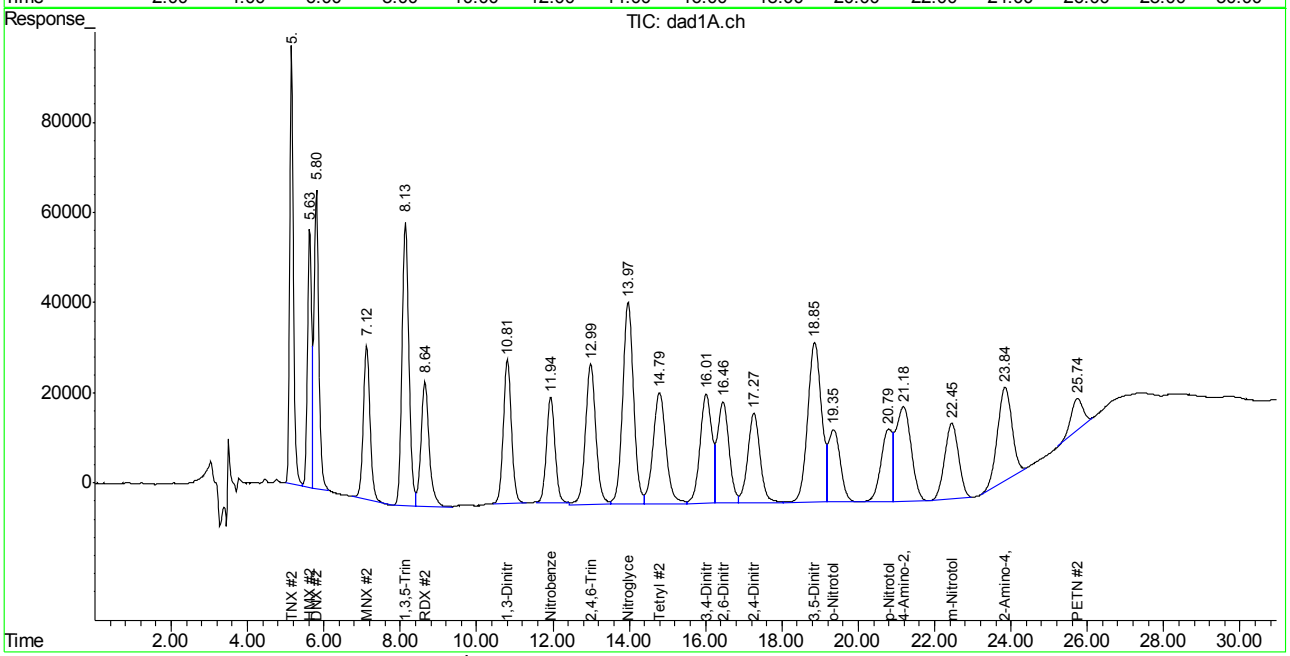
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0419RPB\PP379494.D\dad1B.ch Vial: 7
Signal #2 : P:\DATA\0419RPB\PP379494.D\dad1A.ch
Acq On : 19-Apr-2016, 16:56:59 Operator: kismetl
Sample : icc1993-500 Inst : G1315B
Misc : OP60073,GPP1993,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 20 8:56 2016 Quant Results File: 8330RP3_0407.RES

Quant Method : C:\MSDCHEM\2...\8330RP3_0407.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 20 08:54:40 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





SGS ACCUTEST FA33221

Manual Integration Approval Summary

Sample Number: GPP1993-ICC1993 **Method:** SW846 8330A
Lab FileID: PP379494.D **Analyst approved:** 04/20/16 11:58 Kismet Lugo
Injection Time: 04/19/16 16:56 **Supervisor approved:** 04/20/16 15:27 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
DNX		2	5.80	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	10.81	Poor instrument integration
Nitrobenzene	98-95-3	2	11.94	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	23.84	Poor instrument integration
PETN	78-11-5	2	25.74	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/20/16 15:27

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0419RPB\PP379495.D\dad1B.ch Vial: 8
Signal #2 : P:\DATA\0419RPB\PP379495.D\dad1A.ch
Acq On : 19-Apr-2016, 17:30:28 Operator: kismetl
Sample : ic1993-1000 Inst : G1315B
Misc : OP60073,GPP1993,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 20 08:19:53 2016 Quant Results File: 8330RP3_0407.RES

Quant Method : C:\MSDCHEM\2...\8330RP3_0407.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 20 08:19:13 2016
Response via : Initial Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	16.01	16.01	5147040	10231065	1149.950	1130.418
	Spiked Amount 500.000	Range 70 - 136		Recovery =		229.99%#	226.08%#
	Target Compounds						
1)	TNX	5.15	5.15	8692016	12893082	884.633	862.962
2)	HMX	5.62	5.62	3019267	9212895	1140.029	937.048
3)	DNX	5.80	5.79	7532352	11854158	874.710	744.870m
4)	MNX	7.11	7.11	5773544	8638124	888.039	922.641
5)	1,3,5-Trinitrobe	8.13	8.13	9379068	16085828	914.483	943.804
6)	RDX	8.63	8.63	4311131	8227462	915.104	959.263
7)	1,3-Dinitrobenze	10.81	10.81	12588952	9246971	909.014	894.212m
8)	Nitrobenzene	11.94	11.94	8062077	7785304	931.124	909.452m
9)	2,4,6-Trinitroto	12.99	12.99	8784675	11757503	932.254	933.877
10)	Nitroglycerin	0.00	13.97	0	17332024	N.D. d	4577.218
11)	Tetryl	14.79	14.79	6889493	12193944	908.435	920.404
13)	2,6-Dinitrotolue	16.46	16.46	6274844	9333499	876.055	835.064
14)	2,4-Dinitrotolue	17.27	17.27	11529548	8574974	944.192	848.243
15)	o-Nitrotoluene	19.37	19.36	4891819	7836276	837.293	842.240
16)	3,5-Dinitroanili	18.86	18.86	11259590	18769921	997.166	995.669
17)	p-Nitrotoluene	20.80	20.81	4357702	7138014	1069.504	1064.169
18)	4-Amino-2,6-Dini	21.18	21.18	6144707	12341077	968.737	1122.709
19)	m-Nitrotoluene	22.45	22.45	5343952	9471455	918.114	1073.137
20)	2-Amino-4,6-Dini	23.85	23.85	8331935	11852134	829.125	842.863m
21)	PETN	0.00	25.74	0	3007280	N.D. d	4168.973m

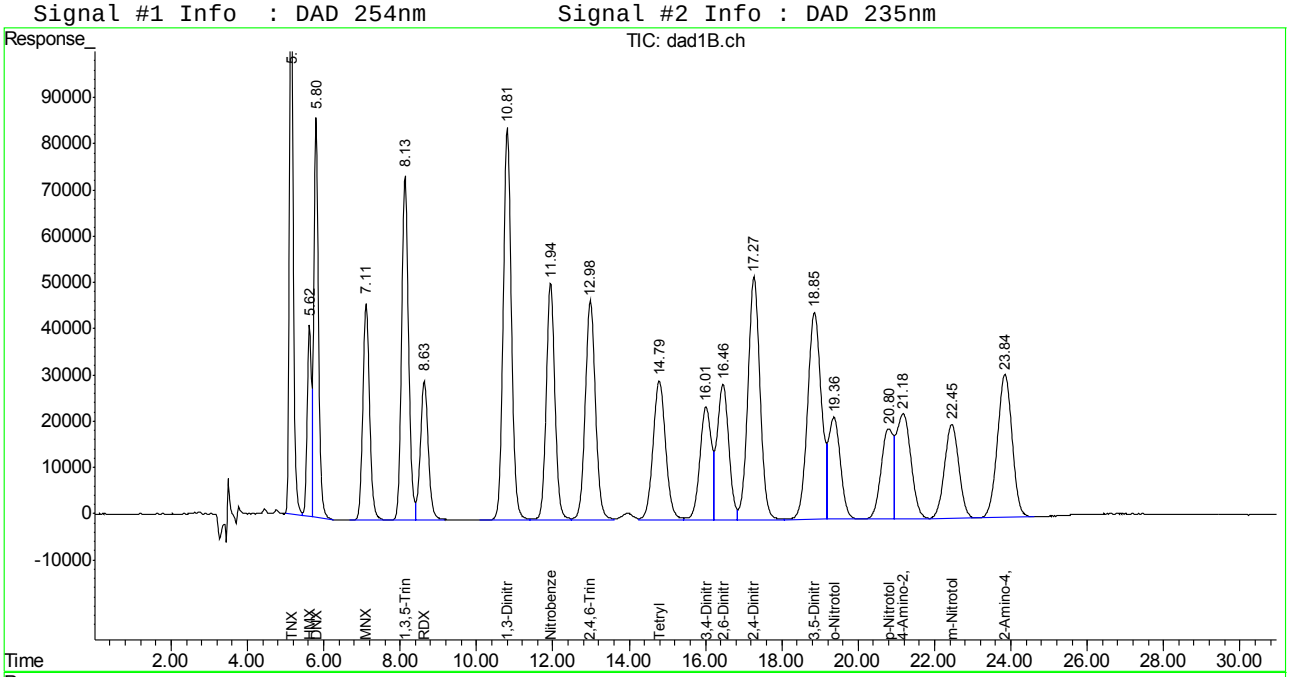
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.

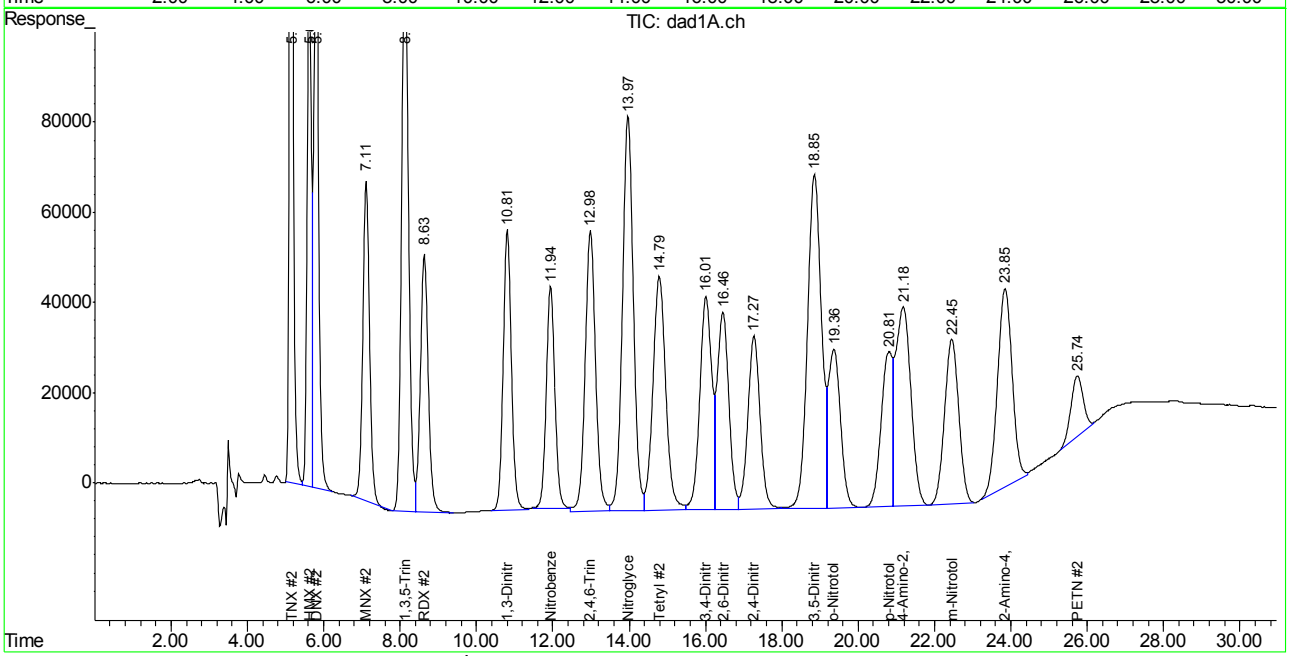
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0419RPB\PP379495.D\dad1B.ch Vial: 8
Signal #2 : P:\DATA\0419RPB\PP379495.D\dad1A.ch
Acq On : 19-Apr-2016, 17:30:28 Operator: kismetl
Sample : ic1993-1000 Inst : G1315B
Misc : OP60073,GPP1993,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 20 8:48 2016 Quant Results File: 8330RP3_0407.RES

Quant Method : C:\MSDCHEM\2...\8330RP3_0407.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 20 08:19:13 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





SGS ACCUTEST FA33221

Manual Integration Approval Summary

Sample Number: GPP1993-IC1993
Lab FileID: PP379495.D
Injection Time: 04/19/16 17:30
Method: SW846 8330A
Analyst approved: 04/20/16 11:58 Kismet Lugo
Supervisor approved: 04/20/16 15:27 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
DNX		2	5.79	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	10.81	Poor instrument integration
Nitrobenzene	98-95-3	2	11.94	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	23.85	Poor instrument integration
PETN	78-11-5	2	25.74	Poor instrument integration

PP379496.D

Manual Integrations APPROVED (compounds with "m" flag)

Mike Eger
04/20/16 15:27

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0419RPB\PP379496.D\dad1B.ch Vial: 9
Signal #2 : P:\DATA\0419RPB\PP379496.D\dad1A.ch
Acq On : 19-Apr-2016, 18:03:56 Operator: kismetl
Sample : ic1993-2000 Inst : G1315B
Misc : OP60073,GPP1993,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 20 08:19:54 2016 Quant Results File: 8330RP3_0407.RES

Quant Method : C:\MSDCHEM\2...\8330RP3_0407.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 20 08:19:13 2016
Response via : Initial Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	16.02	16.01	10777127	21166684	2407.823	2338.682
	Spiked Amount 500.000	Range 70 - 136		Recovery =		481.56%#	467.74%#
	Target Compounds						
1)	TNX	5.15	5.15	18187917	26966734	1851.082	1804.943
2)	HMX	5.62	5.62	6295710	19279640	2282.933	1960.941
3)	DNX	5.79	5.79	15842155	25062338	1839.702	1574.821
4)	MNX	7.10	7.10	12051566	17903427	1853.672	1912.271
5)	1,3,5-Trinitrobe	8.13	8.13	19751284	33866562	1925.799	1987.054
6)	RDX	8.63	8.63	9119338	17369896	1935.720	2025.206
7)	1,3-Dinitrobenze	10.80	10.80	26462744	19652411	1910.802	1900.453
8)	Nitrobenzene	11.93	11.93	16500831	16036140	1905.753	1873.286
9)	2,4,6-Trinitroto	12.98	12.98	18468722	24147772	1959.951	1918.013
10)	Nitroglycerin	0.00	13.96	0	35820196	N.D. d	9459.762
11)	Tetryl	14.79	14.78	14577172	25046409	1922.116	1890.513
13)	2,6-Dinitrotolue	16.46	16.46	13131445	19248796	1833.331	1722.182
14)	2,4-Dinitrotolue	17.28	17.28	24198412	17505967	1981.687	1731.705
15)	o-Nitrotoluene	19.37	19.37	9961138	15623548	1704.968	1679.214
16)	3,5-Dinitroanili	18.87	18.87	23719771	39206325	2100.657	2079.739
17)	p-Nitrotoluene	20.81	20.82	8844212	14478565	2170.620	1988.661
18)	4-Amino-2,6-Dini	21.20	21.20	13062357	25898628	1935.031	2049.493
19)	m-Nitrotoluene	22.46	22.46	11017459	19546246	1824.353	1935.017
20)	2-Amino-4,6-Dini	23.85	23.85	17523502	25047528	1743.794	1816.875m
21)	PETN	0.00	25.73	0	6441064	N.D. d	8588.414m

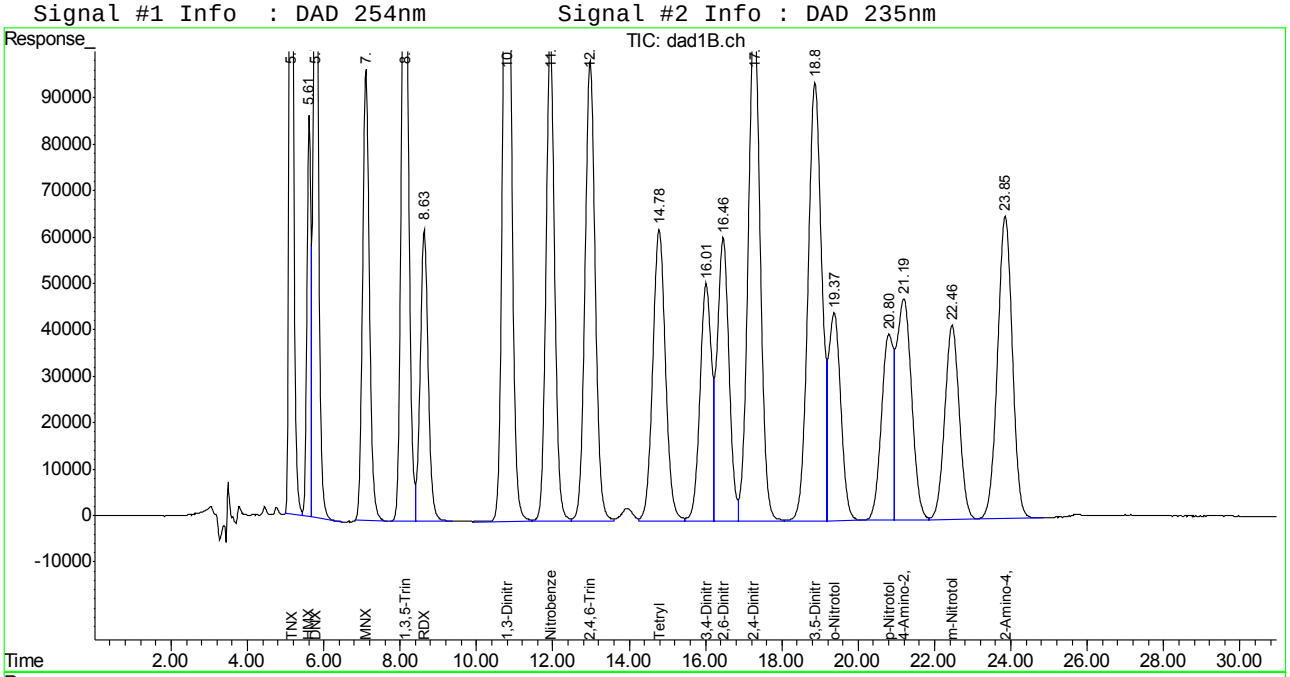
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP379496.D 8330RP3_0420.M Wed Apr 20 09:11:11 2016 Page 1

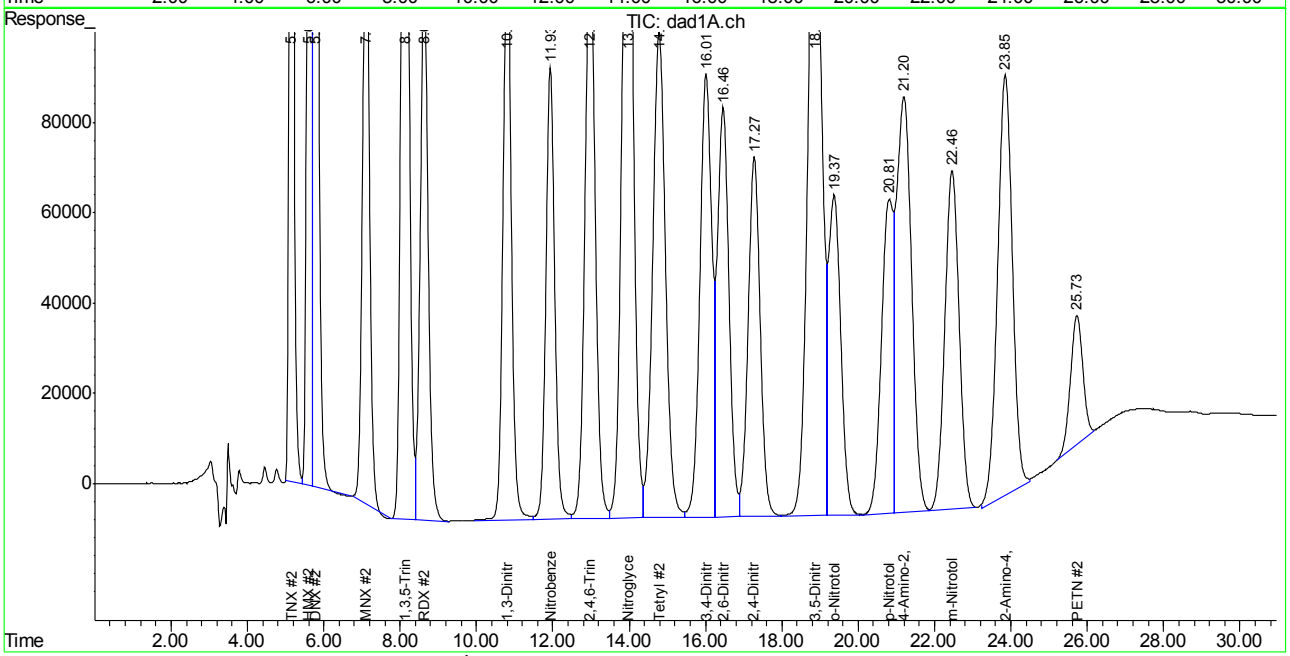
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0419RPB\PP379496.D\dad1B.ch Vial: 9
Signal #2 : P:\DATA\0419RPB\PP379496.D\dad1A.ch
Acq On : 19-Apr-2016, 18:03:56 Operator: kismetl
Sample : ic1993-2000 Inst : G1315B
Misc : OP60073,GPP1993,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 20 8:49 2016 Quant Results File: 8330RP3_0407.RES

Quant Method : C:\MSDCHEM\2...\8330RP3_0407.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 20 08:19:13 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





SGS ACCUTEST FA33221

Manual Integration Approval Summary

Sample Number: GPP1993-IC1993
Lab FileID: PP379496.D
Injection Time: 04/19/16 18:03
Method: SW846 8330A
Analyst approved: 04/20/16 11:58 Kismet Lugo
Supervisor approved: 04/20/16 15:27 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
2-amino-4,6-Dinitrotoluene	35572-78-2	2	23.85	Poor instrument integration
PETN	78-11-5	2	25.73	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/20/16 15:27

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0419RPB\PP379497.D\dad1B.ch Vial: 10
Signal #2 : P:\DATA\0419RPB\PP379497.D\dad1A.ch
Acq On : 19-Apr-2016, 18:37:24 Operator: kismetl
Sample : icv1993-500 Inst : G1315B
Misc : OP60073,GPP1993,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 20 09:05:24 2016 Quant Results File: 8330RP3_0420.RES

Quant Method : C:\MSDCHEM\2...\8330RP3_0420.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 20 09:01:58 2016
Response via : Initial Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
Spiked Amount	500.000	Range	70 - 136	Recovery	=	0.00%#	0.00%#
	Target Compounds						
1)	TNX	5.14	5.14	4334491	6427779	484.455	481.059
2)	HMX	5.62	5.62	1680865	5137001	571.493	571.778
3)	DNX	5.79	5.79	3773587	5979418	520.342	483.743
4)	MNX	7.10	7.10	2941613	4359490	515.691	500.489
5)	1,3,5-Trinitrobe	8.12	8.12	4938937	8334275	529.357	537.551
6)	RDX	8.63	8.63	2294657	4184370	541.996	542.576
7)	1,3-Dinitrobenze	10.79	10.79	6057634	4920492	453.795	476.891
8)	Nitrobenzene	11.92	11.93	4195456	4394157	523.727	543.303
9)	2,4,6-Trinitroto	12.97	12.97	4164952	5774356	468.021	474.837
10)	Nitroglycerin	0.00	13.95	0	9024849	N.D. d	2571.695
11)	Tetryl	14.76	14.76	3182216	6003991	479.705	503.502
13)	2,6-Dinitrotolue	16.43	16.43	3446269	5534181	540.070	601.271
14)	2,4-Dinitrotolue	17.24	17.24	6039251	4732902	513.533	512.249
15)	o-Nitrotoluene	19.32	19.32	2608210	4144258	553.249	555.842
16)	3,5-Dinitroanili	18.83	18.83	5716939	9623471	508.090	514.690
17)	p-Nitrotoluene	20.76	20.77	2292235	3857106	566.063	535.741
18)	4-Amino-2,6-Dini	21.15	21.16	3062590	6116798	493.717	490.975
19)	m-Nitrotoluene	22.43	22.43	2793888	4950887	561.736	550.094
20)	2-Amino-4,6-Dini	23.82	23.83	4393686	6046611	540.112	535.803m
21)	PETN	0.00	25.71	0	9174097	N.D. d	13728.541m

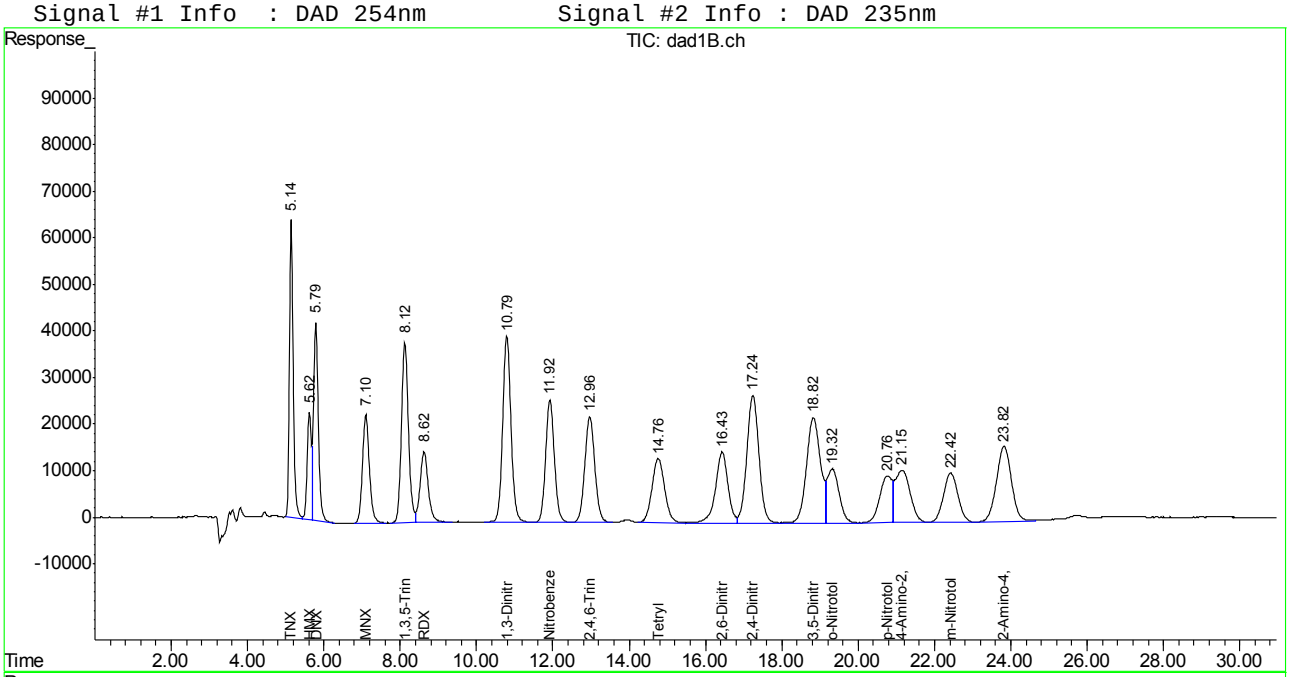
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP379497.D 8330RP3_0420.M Wed Apr 20 09:11:28 2016 Page 1

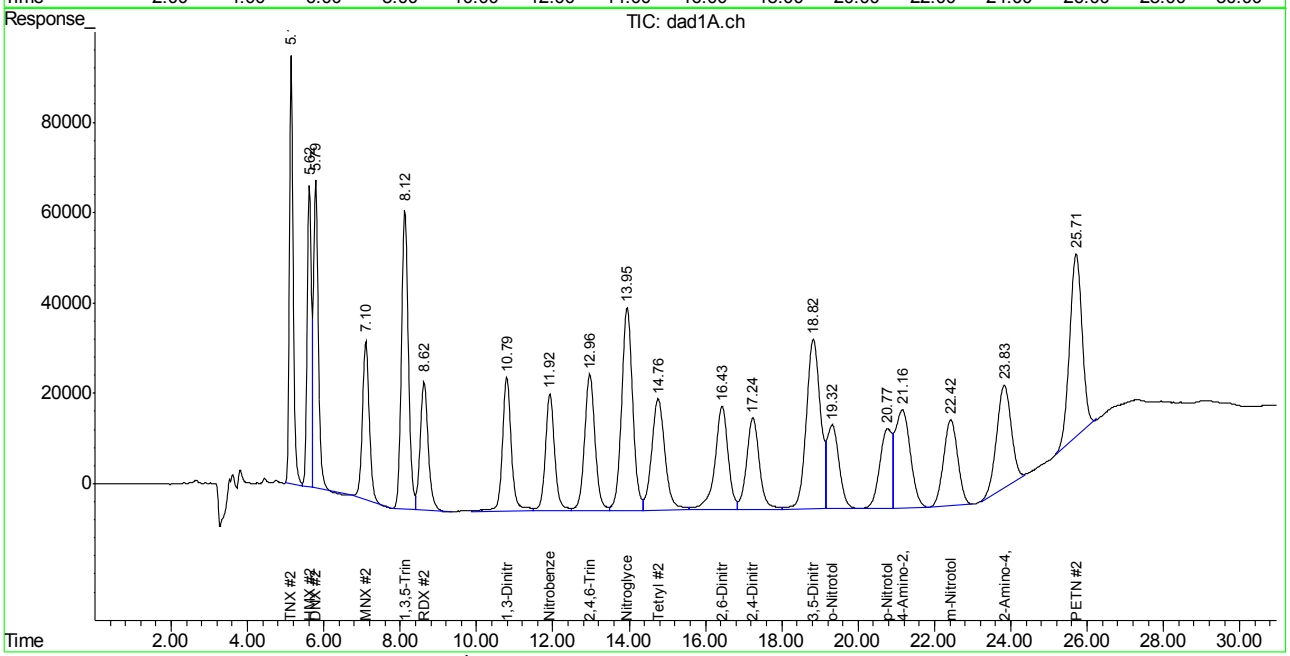
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0419RPB\PP379497.D\dad1B.ch Vial: 10
Signal #2 : P:\DATA\0419RPB\PP379497.D\dad1A.ch
Acq On : 19-Apr-2016, 18:37:24 Operator: kismetl
Sample : icv1993-500 Inst : G1315B
Misc : OP60073,GPP1993,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 20 9:06 2016 Quant Results File: 8330RP3_0420.RES

Quant Method : C:\MSDCHEM\2...\8330RP3_0420.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Apr 20 09:01:58 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





SGS ACCUTEST FA33221

Manual Integration Approval Summary

Sample Number: GPP1993-ICV1993 **Method:** SW846 8330A
Lab FileID: PP379497.D **Analyst approved:** 04/20/16 11:58 Kismet Lugo
Injection Time: 04/19/16 18:37 **Supervisor approved:** 04/20/16 15:27 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
2-amino-4,6-Dinitrotoluene	35572-78-2	2	23.83	Poor instrument integration
PETN	78-11-5	2	25.71	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/27/16 10:45

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0425RPB\PP379548.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0425RPB\PP379548.D\dad1A.ch
Acq On : 25-Apr-2016, 08:50:14 Operator: kismetl
Sample : cc1993-1000 Inst : G1315B
Misc : OP60163,GPP1996,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 26 09:51:09 2016 Quant Results File: 8330RP3_0420.RES

Quant Method : C:\MSDCHEM\2...\8330RP3_0420.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 26 09:50:54 2016
Response via : Initial Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	16.45	16.45	5175002	10744766	983.387	1000.494
	Spiked Amount 500.000	Range 70 - 136		Recovery =		196.68%#	200.10%#
	Target Compounds						
1)	TNX	5.20	5.20	8990405	13327503	1004.835	997.439
2)	HMX	5.73	5.73	2833952	9249805	946.011	1029.557
3)	DNX	5.90	5.90	8012822	12701825	1104.893	1027.595
4)	MNX	7.29	7.29	5971677	9101262	1046.888	1044.865
5)	1,3,5-Trinitrobe	8.31	8.31	9782306	16678396	1048.471	1075.736
6)	RDX	8.85	8.85	4529320	8572761	1069.822	1111.607
7)	1,3-Dinitrobenze	11.01	11.01	13249183	9776813	992.536	947.562
8)	Nitrobenzene	12.08	12.08	8108352	7850061	1012.182	970.599
9)	2,4,6-Trinitroto	13.32	13.32	9146855	11925516	1027.844	980.660
10)	Nitroglycerin	0.00	14.31	0	17679536	N.D. d	5037.909
11)	Tetryl	15.33	15.33	7103474	12251618	1070.817	1027.435
13)	2,6-Dinitrotolue	16.79	16.78	6749718	9392872	1057.759	1020.506
14)	2,4-Dinitrotolue	17.64	17.64	12058669	8651712	1025.379	936.388
15)	o-Nitrotoluene	19.49	19.49	4650911	7123900	986.542m	955.482m
16)	3,5-Dinitroanili	19.22	19.22	12118837	19631994	1077.055m	1049.973m
17)	p-Nitrotoluene	21.04	21.04	4365606	7266703	1078.078	1009.325
18)	4-Amino-2,6-Dini	21.68	21.68	6278441	11798668	1012.141	947.039
19)	m-Nitrotoluene	22.72	22.73	5324484	8992348	1070.535	974.025
20)	2-Amino-4,6-Dini	24.31	24.30	8727838	12207241	1072.907	1041.717m
21)	PETN	0.00	26.27	0	4175268	N.D. d	6716.346m

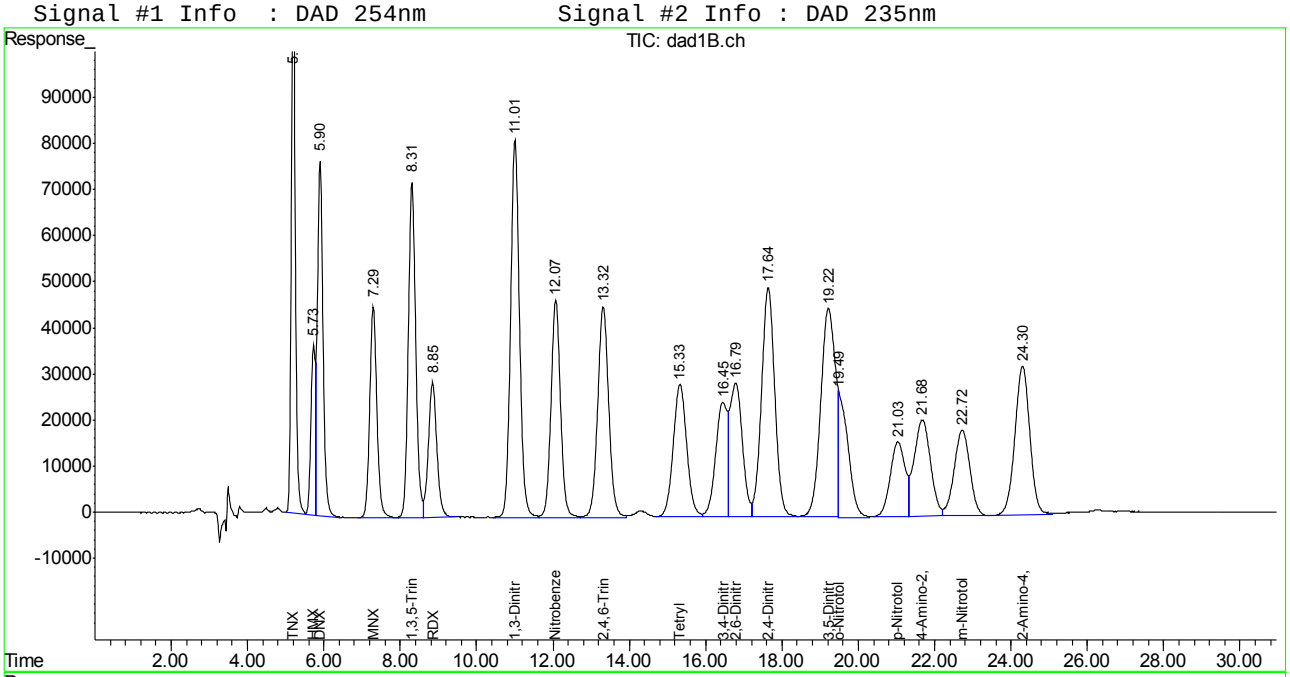
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP379548.D 8330RP3_0420.M Tue Apr 26 11:52:46 2016 Page 1

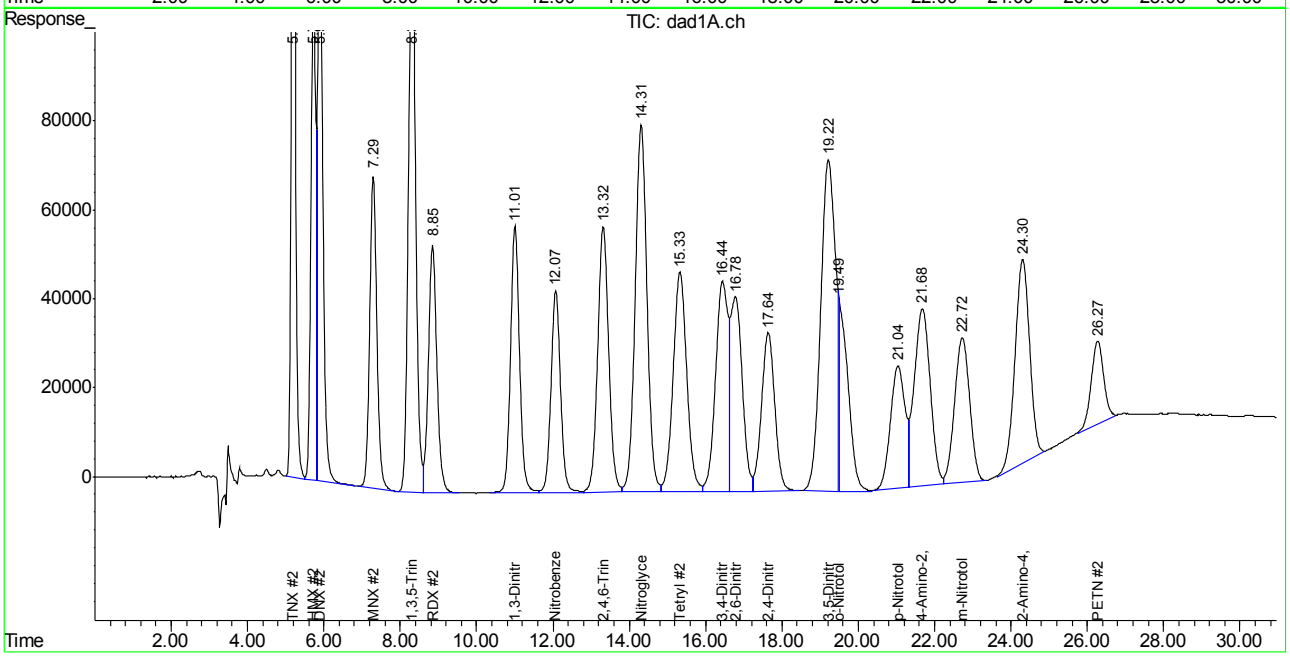
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0425RPB\PP379548.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0425RPB\PP379548.D\dad1A.ch
Acq On : 25-Apr-2016, 08:50:14 Operator: kismetl
Sample : cc1993-1000 Inst : G1315B
Misc : OP60163,GPP1996,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 26 9:55 2016 Quant Results File: 8330RP3_0420.RES

Quant Method : C:\MSDCHEM\2...\8330RP3_0420.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 26 09:50:54 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





SGS ACCUTEST FA33221

Manual Integration Approval Summary

Sample Number: GPP1996-CC1993
Lab FileID: PP379548.D
Injection Time: 04/25/16 08:50
Method: SW846 8330A
Analyst approved: 04/26/16 12:00 Kismet Lugo
Supervisor approved: 04/27/16 10:45 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
3,5-Dinitroaniline	618-87-1	1	19.22	Overlapping peak
3,5-Dinitroaniline	618-87-1	2	19.22	Overlapping peak
o-Nitrotoluene	88-72-2	1	19.49	Missed peak
o-Nitrotoluene	88-72-2	2	19.49	Missed peak
2-amino-4,6-Dinitrotoluene	35572-78-2	2	24.30	Poor instrument integration
PETN	78-11-5	2	26.27	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
04/27/16 10:45

Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0425RPB\PP379556.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0425RPB\PP379556.D\dad1A.ch
Acq On : 25-Apr-2016, 13:30:37 Operator: kismetl
Sample : cc1993-1000 Inst : G1315B
Misc : OP60163,GPP1996,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 26 09:51:20 2016 Quant Results File: 8330RP3_0420.RES

Quant Method : C:\MSDCHEM\2...\8330RP3_0420.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 26 09:50:54 2016
Response via : Initial Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	16.40	16.39	5153676	10669535	979.334	993.489
	Spiked Amount 500.000	Range 70 - 136		Recovery =		195.87%#	198.70%#
	Target Compounds						
1)	TNX	5.20	5.20	8831510	13293553	987.075	994.898
2)	HMX	5.73	5.73	2815739	9231504	940.196	1027.520
3)	DNX	5.91	5.91	7969419	12509863	1098.908	1012.065
4)	MNX	7.29	7.29	6009716	9119520	1053.556	1046.961
5)	1,3,5-Trinitrobe	8.31	8.31	9821854	16779181	1052.709	1082.237
6)	RDX	8.84	8.84	4589910	8779964	1084.133	1138.475
7)	1,3-Dinitrobenze	11.00	11.00	13237412	9615933	991.654	931.970
8)	Nitrobenzene	12.08	12.08	8134982	7786796	1015.506	962.777
9)	2,4,6-Trinitroto	13.32	13.32	9181205	11874291	1031.704	976.448
10)	Nitroglycerin	0.00	14.31	0	17617282	N.D. d	5020.169
11)	Tetryl	15.28	15.27	7136748	12335770	1075.833	1034.492
13)	2,6-Dinitrotolue	16.75	16.74	6743313	9524622	1056.755	1034.820
14)	2,4-Dinitrotolue	17.59	17.59	12017061	8666037	1021.841	937.938
15)	o-Nitrotoluene	19.43	19.42	4227701	7106410	896.772m	953.137m
16)	3,5-Dinitroanili	19.09	19.09	12148018	20421491	1079.649m	1092.198m
17)	p-Nitrotoluene	20.98	20.98	4346280	7248571	1073.306	1006.806
18)	4-Amino-2,6-Dini	21.51	21.51	6320476	12050798	1018.917	967.277
19)	m-Nitrotoluene	22.63	22.63	5254800	8797353	1056.525	954.035
20)	2-Amino-4,6-Dini	24.14	24.14	8924364	12176368	1097.065	1039.269m
21)	PETN	0.00	26.20	0	4215024	N.D. d	6775.980m

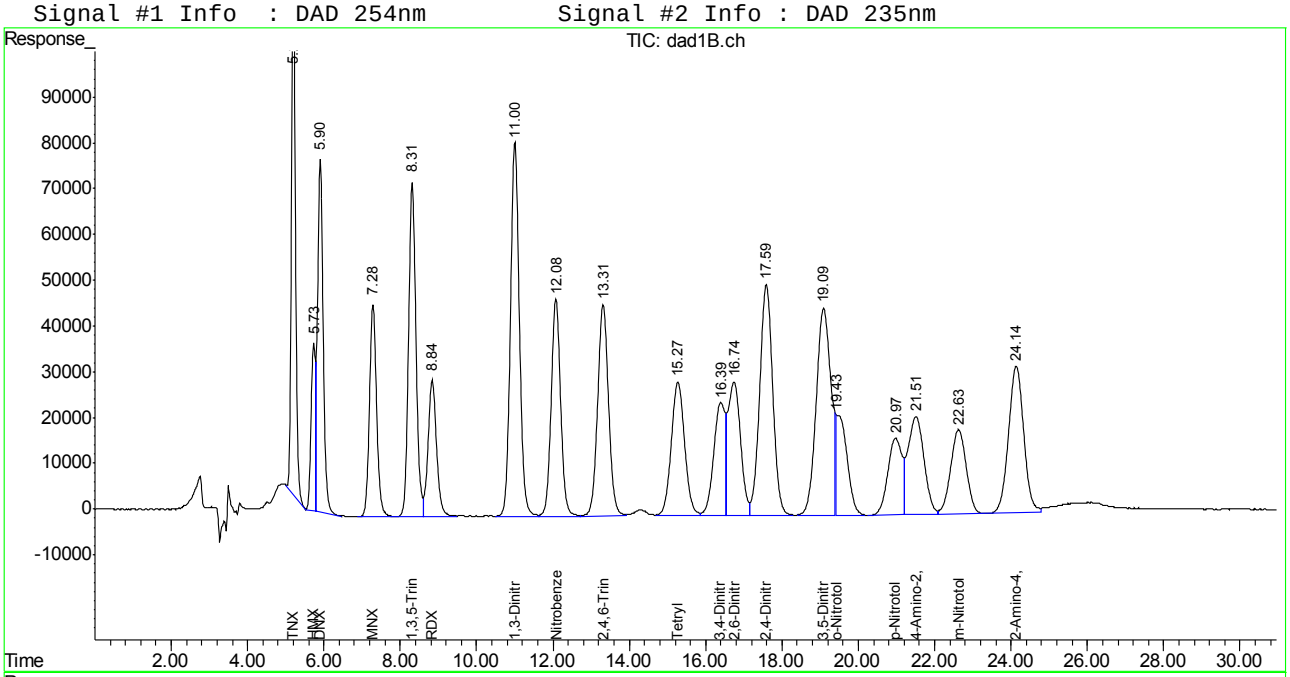
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
PP379556.D 8330RP3_0420.M Tue Apr 26 11:52:59 2016 Page 1

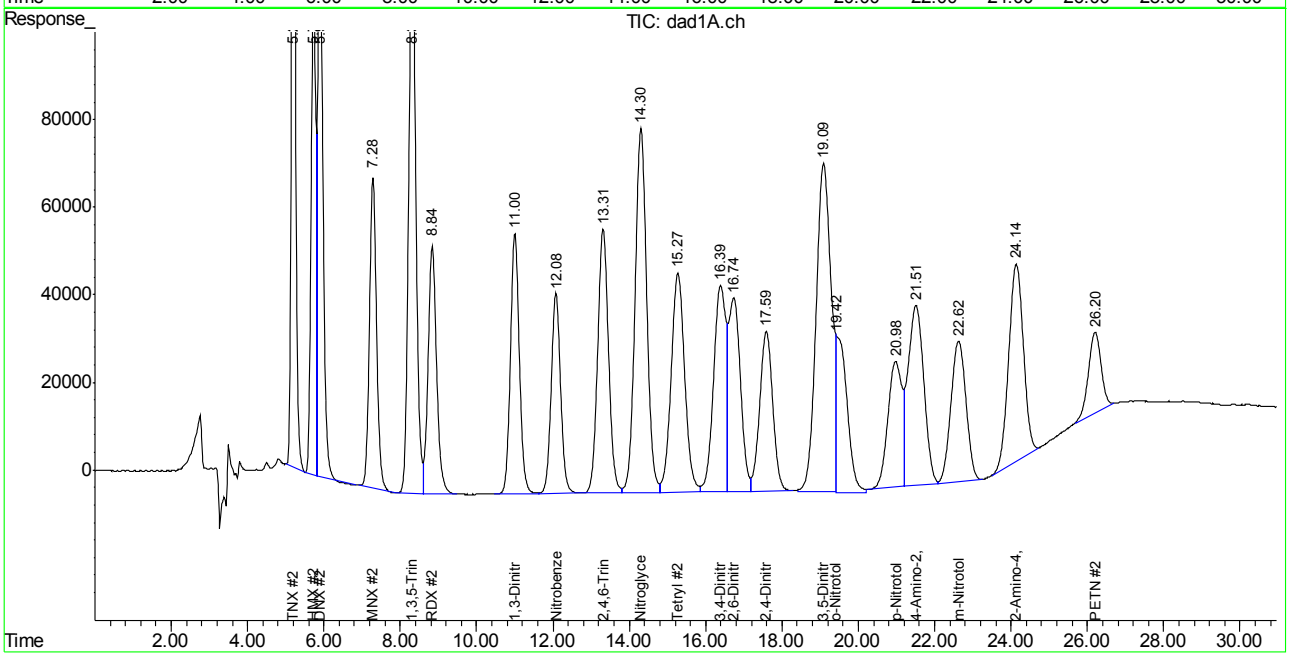
Quantitation Report (QT Reviewed)

Signal #1 : P:\DATA\0425RPB\PP379556.D\dad1B.ch Vial: 2
Signal #2 : P:\DATA\0425RPB\PP379556.D\dad1A.ch
Acq On : 25-Apr-2016, 13:30:37 Operator: kismetl
Sample : cc1993-1000 Inst : G1315B
Misc : OP60163,GPP1996,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Apr 26 9:57 2016 Quant Results File: 8330RP3_0420.RES

Quant Method : C:\MSDCHEM\2...\8330RP3_0420.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Tue Apr 26 09:50:54 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330_RPB.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





SGS ACCUTEST FA33221

Manual Integration Approval Summary

Sample Number: GPP1996-CC1993
Lab FileID: PP379556.D
Injection Time: 04/25/16 13:30
Method: SW846 8330A
Analyst approved: 04/26/16 12:00 Kismet Lugo
Supervisor approved: 04/27/16 10:45 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
3,5-Dinitroaniline	618-87-1	1	19.09	Overlapping peak
3,5-Dinitroaniline	618-87-1	2	19.09	Overlapping peak
o-Nitrotoluene	88-72-2	2	19.42	Missed peak
o-Nitrotoluene	88-72-2	1	19.43	Missed peak
2-amino-4,6-Dinitrotoluene	35572-78-2	2	24.14	Poor instrument integration
PETN	78-11-5	2	26.20	Poor instrument integration

ACCUTEST LABORATORIES SE

DATE:	04/05/16
COLUMN TYPE:	Ext CLP
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC5-BB

HPLC5-BB ANALYSIS LOG

METHODS*:	8330A/B
ACQ. METHOD:	8330B
PROC. METHOD:	8330 – 0331
CALIB. DATE:	03/31/16
RUN BATCH: GBB	1436

ANALYST:	LC
ACETONITRILE LOT #:	3149
MEOH LOT #:	160122
HEAD PRESSURE:	203

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
BB 050841	2	CC1433-1000	8330	LC671	1:1		resolution ALL
BB 42	2	cc1433-1000	↓	↓	↓		✓
BB 43	1	Solvent	—	—	—		ND
BB 44	3	IC1436-20	↓	LC671	501450 50+1450	INX-HMXDP NG-DY PII	✓
BB 45	4	IC1436-50	↓	↓	251405	↓ SI ↓ ↓	✓
BB 46	5	IC1436-100	↓	↓	5011350	↓ ↓ ↓	✓
BB 47	6	IC1436-200	↓	↓	501450	↓	✓
BB 48	7	ICC1436-500	↓	↓	1+3	↓ ↓	✓
BB 49	8	IC1436-1000	↓	↓	1:1	↓	✓
BB 50	9	IC1436-2000	↓	↓	1X	PII	✓ Poor
BB 51	10	ICV1436-500	↓	ES303 ES303 LC665+667	*		RETNT
BB 52	3	CC1436 20	↓	LC671	50 1450		NM
BB 53	11	op59949-lcj	↓	↓	↓		↓
BB 54	12	op59949-lcb	↓	↓	↓		↓
BB 55	13	LA18628-1	↓	↓	↓		↓
BB 56	14	op59949-lcs	↓	↓	↓		↓
BB 57	15	op59949-lcsd	↓	↓	↓		↓
BB 58	16	LA18628-2	↓	↓	↓		↓
BB 59	17	LA18628-3	↓	↓	↓		↓
BB 60	18	LA18628-4	↓	↓	↓		↓

* For NELAC purposes: Method 8332 includes analytes by SOP GC020

Manual Integration Rationale SOP QA029: MP Missed Peak, OP Overlapping Peak, SP Split Peak, PDB Poorly Defined Baseline, BR Baseline Ripple, PII Poor Instrument Integration

All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

hplc5_bb_log.xls NF rev. 06/09

* ES303 20 ml
LC665 25 ml
LC667 25 ml
} +920 ml

Analyst's Signature: Kimut Lyo

ACCUTEST LABORATORIES SE

DATE:	04/05/16
COLUMN TYPE:	Ext C18
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC5-BB

HPLC5-BB ANALYSIS LOG

METHODS*:	8330 A/B
ACQ. METHOD:	8330B
PROC. METHOD:	8330_0331
CALIB. DATE:	03/31/16
RUN BATCH: GBB	1436

ANALYST:	KL
ACETONITRILE LOT #:	3149
MEOH LOT #:	160422
HEAD PRESSURE:	203

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
BB 050861	19	LA 18628-5	8330				KL
BB 62	20	LA 18628-6					
BB 63	47	cc 1436-1000					shifted
BB 64	1	calo					
BB 65	21	LA 18628-7					
BB 66	22	LA 18628-8					
BB 67	23	LA 18628-9					
BB 68	24	LA 18628-10					
BB 69	25	LA 18628-11					
BB 70	26	LA 18628-14					
BB 71	1	solvent					
BB 72	27	LA 18628-15					
BB 73	28	LA 18628-16					
BB 74	29	LA 18628-17					
BB 75	47	ecc 1436-1000					
BB							
BB							
BB							
BB							
BB							

04/06/16 KL

* For NELAC purposes, Method 8332 includes analytes by SOP GC020

Manual Integration Rationale SOP QA029: MP Missed Peak, OP Overlapping Peak, SP Split Peak, PDB Poorly Defined Baseline, BR Baseline Ripple, PI Poor Instrument Integration

All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

hplc5_bb_log.xls NF rev. 08/09

Analyst's Signature: Kristi Ly

ACCUTEST LABORATORIES SE

DATE:	04/22/16
COLUMN TYPE:	Rxt-CLP
AMOUNT INJECTED:	100 ul
INSTRUMENT: HPLC5-BB	

HPLC5-BB ANALYSIS LOG

METHODS*:	8330A/B
ACQ. METHOD:	8330B
PROC. METHOD:	8330 – 0405
CALIB. DATE:	04/05/16
RUN BATCH: GBB	1444

ANALYST:	KL
ACETONITRILE LOT #:	3145
MEOH LOT #:	160422
HEAD PRESSURE:	221

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
BB 051058	1	ccb	8330	—	—		ND
BB 59	15	op60153-bl		op60153	1X	P11	✓
BB 60	16	op60153-MS					ND
BB 61	17	FA33221-1				P11	✓ -3.5
BB 62	18	op60153-MSD				TMX OP DMX OP 2,6DT P11	✓
BB 63	19	op60153-MSD				↓ ↓ ↓ ↓	✓
BB 64	20	FA 33221-2				P11	✓ -3.5
BB 65	21	FA 33221-3				P11	✓
BB 66	22	FA 33221-4					ND
BB 67	23	FA 33221-5					ND
BB 68	24	FA 33221-6		↓	↓	P11	✓
BB 69	2	ecl1436-1000	↓	LC671	1:1	P11	RVD, PETN ↓
BB							
BB							
BB							
BB							
BB							
BB							
BB							
BB							

KL 04/25/16

* For NELAC purposes, Method 8332 includes analytes by SOP GC020

Manual Integration Rationale SOP QA029: MP Missed Peak, OP Overlapping Peak, SP Split Peak, PDB Poorly Defined Baseline, BR Baseline Ripple, PII Poor Instrument Integration

All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

hplc5 bb_log.xls NF rev. 08/09

Analyst's Signature: Kimberly

ACCUTEST LABORATORIES SE

DATE:	04/19/16
COLUMN TYPE:	Bowie HP
AMOUNT INJECTED:	100 ul
INSTRUMENT: HPLC4-PP	

HPLC4-PP ANALYSIS LOG

METHODS*:	8330A-16
ACQ. METHOD:	8330B
PROC. METHOD:	8330LPB-0420
CALIB. DATE:	04/19/16 04/19/16
RUN BATCH: GPP	1993

ANALYST:	IC
ACETONITRILE LOT #:	3149
MEOH LOT #:	160422
HEAD PRESSURE:	127

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	OF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
PP 379482	2	cc1990-1000	8330				✓ DNR, tests
PP 83	2						✓
PP 84	2						✓
PP 85	2						✓
PP 86	2	↓					✓
PP 87	3	ic1993-20					✓
PP 88	4	ic1993-50					✓
PP 89	1	Solvent		—	—		✓ ND
PP 90	3	ic1993-20		LC672	SP+SDP+SDP+SDP	P11 OMP PMP 2A-5P, PETN NF	✓ PETN-
PP 91	4	ic1993-50			10+3SD	P11 NDXOP	✓
PP 92	5	ic1993-100			25+4TS	P11 NDXOP PETN NF	✓
PP 93	6	ic1993-200			50+4SP	P11 ↓	✓
PP 94	7	icc1993-500			1+3	P11	✓
PP 95	8	ic1993-1000			1:1	P11	✓
PP 96	9	ic1993-2000			1X	P11	✓
PP 97	10	icv1993-500		E5303 LC672 E5296 LC665 *			✓ PDOS1 2,6DNT
PP 98	3	cc1993-20		LC672	SP+SDP+SDP+SDP	P11 NF-OP OMP PMP 2A4NT 24DNT NB01	✓ PDOS1 PETN ↓
PP 99	14	DP60073-mb		DP6073	1X		✓ ND
PP 379500	16	FA33028-2cf			↓	NDXOP5	✓ 1,3D HMX DNC
PP 61	17	FA33028-3cf	↓	↓	↓	HMX MP NDXMP	✓ 1,3D

* For NELAC purposes, Method 8332 includes analytes by SOP GC020, Method 610 includes analytes by SOP GC007, and Method 8310 includes analytes by SOP GC018
Manual Integration Rationale SOP QA029: MP Missed Peak, OP Overlapping Peak, SP Split Peak, PDB Poorly Defined Baseline, BR Baseline Ripple, PII Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

hplc4_pp_log.xls NF rev. 08/09

* E5303, E5296, LC665 } + 92a

Page 37 of 100

Analyst's Signature: Kimal Lyo

ACCUTEST LABORATORIES SE

DATE:	04/19/16
COLUMN TYPE:	Bonus RP
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC4-PP

HPLC4-PP ANALYSIS LOG

METHODS*:	8330 A/B
ACQ. METHOD:	8330 B
PROC. METHOD:	8330 1123–0420
CALIB. DATE:	04/19/16
RUN BATCH: GPP	1993

ANALYST:	NL
ACETONITRILE LOT #:	3149
MEOH LOT #:	160422
HEAD PRESSURE:	127

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
PP 379502	18	FA33028-4 ct	8330	OP60073	1x	ND	ND 1,3D, NB
PP 03	19	FA33028-5 ct				ND	ND
PP 04	20	21 FA33010-1 ct				SUM OF 2,6 NP	✓
PP 05	22	FA33010-2 ct					ND ND
PP 06	23	FA33029-2 ct		↓	↓		✓ 1,3 DN PN
PP 07	2	CC1993-1000		LC672	1:1	PII	PETNT, not required
PP 08	1	cclb		—	—		ND
PP 09	24	OP60092-MB		OP60092	1x		ND
PP 10	25	FA33055-2 ct					ND
PP 11	26	FA33094-1 ct				1,3NP 5Z DN OP	✓ 3,5
PP 12	27	FA33094-3 ct			↓	1,3 OP PII DN OP	✓ DNX 3,5 NO Jet
PP 13	28	FA33094-3ct			1+3	↓	✓ TNX 3,5
PP 14	29	FA33094-4 ct			1x		✓
PP 15	30	FA33094-5 ct			↓	RDX OP5I 4A NP 8:0P	✓
PP 16	31	FA33094-5ct		↓	5DH5D	4A NP5I 8 OP5I	✓
PP 17	2	CC1993-1000		LC672	1:1	PII	Pass, PETNT
PP 18	1	cclb		—	—		ND
PP 19	11	FA32966-1 ct		OP60043	1x	PII 2A NP 5Z 4A 8P 1 5I	✓
PP 20	12	FA32966-2 ct		↓	↓	HMX–DNXOP5Z PII	✓
PP 21	13	FA32966-3 ct	↓	↓	↓		✓

* For NELAC purposes, Method 8332 includes analytes by SOP GC020, Method 610 includes analytes by SOP GC007, and Method 8310 includes analytes by SOP GC018
Manual Integration Rationale SOP QA029: MP Missed Peak, OP Overlapping Peak, SP Split Peak, PDB Poorly Defined Baseline, BR Baseline Ripple, PII Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

hplc4_pp_log.xls NF rev. 08/09

Analyst's Signature: Nimet Lyo

ACCUTEST LABORATORIES SE

DATE:	04/19/16
COLUMN TYPE:	Rxbwie C18
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC4-PP

HPLC4-PP ANALYSIS LOG

METHODS*:	8330B/8
ACQ. METHOD:	8330B
PROC. METHOD:	8330 B3 - 0420
CALIB. DATE:	04/19/16
RUN BATCH: GPP	1993

ANALYST:	KL
ACETONITRILE LOT #:	3149
MEOH LOT #:	160422
HEAD PRESSURE:	127

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
PP 379522	32	op60111-mb	8336	op60111	1x		ND
PP 23	33	FA33070-5cf				RDXOP	✓ NG 6th [illegible]
PP 24	34	FA33105-1cf					✓ 1,3 ON
PP 25	35	FA33105-2cf				RDXOP	✓ 1,3
PP 26	36	FA33105-3cf					✓ 1,3
PP 27	37	FA33105-4cf					RDX w/d+1
PP 28	2	ccc1993-1000		LCL672	1:1	PII	PEENL fflags 35 52
PP							SWY, YA, MN, ZA
PP							
PP							
PP							
PP							
PP							
PP							
PP							
PP							
PP							
PP							
PP							
PP							

KL 04/20/16

* For NELAC purposes, Method 8332 includes analytes by SOP GC020, Method 610 includes analytes by SOP GC007, and Method 8310 includes analytes by SOP GC016
Manual Integration Rationale SOP QA029: MP Missed Peak, OP Overlapping Peak, SP Split Peak, PDB Poorly Defined Baseline, BR Baseline Ripple, PII Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

hplc4_pp_log.xls NF rev. 06/09

Analyst's Signature: Kimut Lyo

Instrument Run Log GPP1996 page 1 of 1

ACCUTEST LABORATORIES SE

HPLC4-PP ANALYSIS LOG

DATE:	04/25/16
COLUMN TYPE:	Bonus RP
AMOUNT INJECTED	100. ul
INSTRUMENT:	HPLC4-PP

METHODS*	8330A/B
ACQ. METHOD:	8330B
PROC. METHOD	8330NB3_0420
CALIB. DATE:	04/19/16
RUN BATCH: GPP	1996

ANALYST:	KL
ACETONITRILE LOT #:	3149
MEOH LOT #	160422
HEAD PRESSURE:	150

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
PP 379547	1	solvent	8330	—	—		ND
PP 48	2	cc1993-1000		LC671	1:1	DNP, 3,5DP, P11	Pass PENT, not required
PP 49	3	FA 33140-1 cf		op60163	50+450	P11	✓ ROX[3] 246 4A MP
PP 50	4	FA 33141-3 cf		↓	1x	P11	✓
PP 51	5	op60153-mb		op60133			ND
PP 52	6	FA 33221-1 cf				P11	✓ 3.4
PP 53	7	FA 33221-2 cf				P11	✓
PP 54	8	FA 33221-3 cf					ND PN 1st
PP 55	9	FA 33221-6 cf		↓	↓	P11	✓ DNX
PP 56	2	cc1993-1000		LC671	1:1	DNP, 3,5DP, P11	Pass, PENT
PP 57	10	~~mb~~ op60171-mb		op60171	1x		ND
PP 58	11	FA 33276-3 cf				4AMPS P11	✓
PP 59	12	FA 33276-4 cf				P11	✓
PP 60	13	FA 33276-5 cf				P11	✓
PP 61	14	FA 33276-9 cf		↓	↓	P11	✓
PP 62	2	cc1993-1000	↓	LC671	1:1	P11	Pass, PENT
PP						KL 04/26/16	
PP							
PP							
PP							

KL 04/26/16

* For NELAC purposes, Method 8332 includes analytes by SOP GC020; Method 610 includes analytes by SOP GC007, and Method 8310 includes analytes by SOP GC016
Manual Integration Rationale SOP QA023: MP Missed Peak, OP Overlapping Peak, SP Split Peak, PDB Poorly Defined Baseline, BR Baseline Ripple, PII Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

hplc4_po_log.xls NF rev 08/09

Analyst's Signature: Kimut by

SGS ACCUTEST FA33221
215 of 216
6 9.6.4

SGS ACCUTEST - ORLANDO

SPE LIQUID SAMPLE PREP REPORT

Date/Time Started: 04/21/16 10:00 (mm/dd/yy 24:00)

Date/Time Finished: 04/21/16 15:00 (mm/dd/yy 24:00)

Prep Method: 3535A or Method (circle)

Analytical Method: 8330B

Batch#: OP60153 Ext. By: AA Conc. By: AA Vialed By: AA

Sample ID	Bottle Number	Amount Extracted (ml)	Initial pH	Adjusted pH	Surrogate Amount	Spike Amount	Final Volume (ml)	Comments
OP 60153 MB	X	1000	6	NA	250ul		10.0	
OP 60153 BS	X	1	|	|	|	250+250	|	
FA33221-1	6	1000	|	|	|	|	|	
-2	2	990	|	|	|	|	|	
-3	2	990	|	|	|	|	|	
-4	2	960	|	|	|	|	|	
-5	2	1000	|	|	|	|	|	
-6	2	1000	|	|	|	|	|	
FA33221-1 MS	4	500	6	NA	250ul	250+250	10.0	
MSD	4	500	|	|	|	|	|	
DUP								

Comments:

Surr.1 ID: ES3814 Conc: 20ppm Exp. Date: 05/31/16 Inj. By: AA Ver. By: AA

Surr.2 ID: _____ Conc: _____ Exp. Date: _____ Inj. By: _____ Ver. By: _____

Spk.1 ID: ES597 Conc: 20ppm Exp. Date: 05/31/16 Inj. By: AA Ver. By: AA

Spk.2 ID: 5303 Conc: 25ppm Exp. Date: 05/19/16 Inj. By: AA Ver. By: AA

Initial Bath Temp (Therm ID): _____ Exchange Bath/N-Evap Temp (Therm ID): _____

Observed Temp °C: _____ Corr. Temp °C: _____ Observed Temp °C: _____ Corr. Temp °C: _____

Methanol Lot #: _____ SPE Lot #: 5214-0060 pH Paper #: 226011

Acetonitrile Lot #: 158737 SPE Lot #: — Reagent #: —

Water Lot#: HPLC Syringe Filter Lot#: — Solvent #: —

Relinquished By: AA Date: 04/21/16

Accepted By: Kimat Lyn Date: 04/22/16

NF 02/16 extwater_spe 020116.xls

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LABORATORY REPORT

If you have any questions concerning this report, please do not hesitate to call us at (800) 332-4345 or (574) 233-4777.

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STATE CERTIFICATION LIST

State	Certification	State	Certification
Alabama	40700	Montana	CERT0026
Alaska	IN00035	Nebraska	E87775
Arizona	AZ0432	Nevada	IN00035
Arkansas	IN00035	New Hampshire*	2124
California	2920	New Mexico	IN00035
Colorado	IN035	New Jersey*	IN598
Colorado Radiochemistry	IN035	New York*	11398
Connecticut	PH-0132	North Carolina	18700
Delaware	IN035	North Dakota	R-035
Florida (Primary AB)*	E87775	Ohio	87775
Georgia	929	Oklahoma	D9508
Hawaii	IN035	Oregon*	4074-001
Idaho	IN00035/E87775	Pennsylvania*	68-00466
Illinois*	200001	Puerto Rico	IN00035
Illinois Microbiology	200001	Rhode Island	LAO00343
Indiana Chemistry	C-71-01	South Carolina	95005
Indiana Microbiology	M-76-07	South Dakota	IN00035
Iowa	098	Tennessee	TN02973
Kansas*	E-10233	Texas*	T104704187-15-8
Kentucky	90056	Texas/TCEQ	TX207
Louisiana*	LA160002	Utah*	IN00035
Maine	IN00035	Vermont	VT-8775
Maryland	209	Virginia*	460275
Massachusetts	M-IN035	Washington	C837
Michigan	9926	West Virginia	9927 C
Minnesota*	018-999-338	Wisconsin	999766900
Mississippi	IN035	Wyoming	IN035
Missouri	880		

*NELAP/TNI Recognized Accreditation Bodies

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LABORATORY REPORT

Client: CT Laboratories
Attn: Jodi Serstad
1230 Lange Court
Baraboo, WI 53913

Report #: 361428

Priority: Standard

Status: Final

Project: #118319 EEA-IN / Radford AAP

Samples Submitted: Six groundwater samples and one matrix spike/matrix spike duplicate

Copies to: None

Collected: 04/14/16 By: Client Received: 04/19/16

REPORT SUMMARY

Six groundwater samples and one matrix spike/matrix spike duplicate were submitted for analysis of Method 300.0.

A summary of the detections by sample accompanies this case narrative.

Analytical results were designated as reportable based upon the associated quality control samples. Deviations from method requirements are noted below.

Note: Sample containers were provided by the client.

EPA 300.0

Run 214996

There were no deviations from method requirements in this run.

Run 215046

MS/MSD: Recoveries of chlorite in the MS 3433437 and MSD 3433438 at 250 ug/L were low biased outside the acceptance limits of 90-110% recovery due to matrix interference.

We appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not hesitate to call James Vernon at (574) 233-4777.

Note: The results presented relate only to the samples provided for analysis.

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Dana M. Sosz Reporter — 04/28/2016

Reviewed By Title Date

Jim Vernon ASM — 04/28/2016

Finalized By Title Date

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110 South Hill Street
South Bend, IN 46617
Tel: (574) 233-4777
Fax: (574) 233-8207
1 800 332 4345

Laboratory Report

Client: CT Laboratories

Attn: Jodi Serstad
1230 Lange Court
Baraboo, WI 53913

Report: 361428
Priority: Standard Written
Status: Final
PWS ID: Not Supplied

Sample Information

EEA ID #	Client ID	Method	Collected Date / Time	Collected By:	Received Date / Time
3433436	709222	300.0	04/14/16 15:12	Client	04/19/16 09:45
3433439	709257	300.0	04/14/16 13:20	Client	04/19/16 09:45
3433440	709260	300.0	04/14/16 13:57	Client	04/19/16 09:45
3433441	709272	300.0	04/14/16 08:49	Client	04/19/16 09:45
3433442	709274	300.0	04/14/16 08:49	Client	04/19/16 09:45
3433443	709276	300.0	04/14/16 10:50	Client	04/19/16 09:45

Report Summary

Note: See attached page for additional comments.

PO #118319 EEA-IN / Radford AAP

Note: Sample containers were provided by the client.

Detailed quantitative results are presented on the following pages. The results presented relate only to the samples provided for analysis.

We appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not hesitate to call Jim Vernon at (574) 233-4777.

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Authorized Signature | Title | 04/28/2016 Date

Client Name: CT Laboratories
Report #: 361428

Client Name: CT Laboratories Report #: 361428

Sampling Point: 709222 PWS ID: Not Supplied

General Chemistry									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	EEA ID #
14866-68-3	Chlorate	300.0	---	10	< 10	ug/L	---	04/27/16 12:29	3433436
14998-27-7	Chlorite	300.0	1000 *	10	< 10	ug/L	---	04/27/16 12:29	3433436

Sampling Point: 709257 PWS ID: Not Supplied

General Chemistry									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	EEA ID #
14866-68-3	Chlorate	300.0	---	10	< 10	ug/L	---	04/26/16 04:57	3433439
14998-27-7	Chlorite	300.0	1000 *	10	< 10	ug/L	---	04/26/16 04:57	3433439

Sampling Point: 709260 PWS ID: Not Supplied

General Chemistry									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	EEA ID #
14866-68-3	Chlorate	300.0	---	10	< 10	ug/L	---	04/26/16 05:23	3433440
14998-27-7	Chlorite	300.0	1000 *	10	< 10	ug/L	---	04/26/16 05:23	3433440

Sampling Point: 709272 PWS ID: Not Supplied

General Chemistry									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	EEA ID #
14866-68-3	Chlorate	300.0	---	10	< 10	ug/L	---	04/26/16 05:49	3433441
14998-27-7	Chlorite	300.0	1000 *	10	< 10	ug/L	---	04/26/16 05:49	3433441

Page 1114

Sampling Point: 709274 PWS ID: Not Supplied

General Chemistry									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	EEA ID #
14866-68-3	Chlorate	300.0	---	10	< 10	ug/L	---	04/26/16 06:15	3433442
14998-27-7	Chlorite	300.0	1000 *	10	< 10	ug/L	---	04/26/16 06:15	3433442

Client Name: CT Laboratories Report #: 361428

Sampling Point: 709276 PWS ID: Not Supplied

General Chemistry									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	EEA ID #
14866-68-3	Chlorate	300.0	---	10	< 10	ug/L	---	04/26/16 06:41	3433443
14998-27-7	Chlorite	300.0	1000 *	10	< 10	ug/L	---	04/26/16 06:41	3433443

† EEA has demonstrated it can achieve these report limits in reagent water, but can not document them in all sample matrices.

Reg Limit Type:	MCL	SMCL	AL
Symbol:	*	^	!

Lab Definitions

Continuing Calibration Check Standard (CCC) / Continuing Calibration Verification (CCV) / Initial Calibration Verification Standard (ICV) / Initial Performance Check (IPC) - is a standard containing one or more of the target analytes that is prepared from the same standards used to calibrate the instrument. This standard is used to verify the calibration curve at the beginning of each analytical sequence, and may also be analyzed throughout and at the end of the sequence. The concentration of continuing standards may be varied, when prescribed by the reference method, so that the range of the calibration curve is verified on a regular basis. CCL, CCM, and CCH are the CCC standards at low, mid, and high concentration levels, respectively.

Internal Standards (IS) - are pure compounds with properties similar to the analytes of interest, which are added to field samples or extracts, calibration standards, and quality control standards at a known concentration. They are used to measure the relative responses of the analytes of interest and surrogates in the sample, calibration standard or quality control standard.

Laboratory Duplicate (LD) - is a field sample aliquot taken from the same sample container in the laboratory and analyzed separately using identical procedures. Analysis of laboratory duplicates provides a measure of the precision of the laboratory procedures.

Laboratory Fortified Blank (LFB) / Laboratory Control Sample (LCS) - is an aliquot of reagent water to which known concentrations of the analytes of interest are added. The LFB is analyzed exactly the same as the field samples. LFBs are used to determine whether the method is in control. FBL, FBM, and FBH are the LFB samples at low, mid, and high concentration levels, respectively.

Laboratory Method Blank (LMB) / Laboratory Reagent Blank (LRB) - is a sample of reagent water included in the sample batch analyzed in the same way as the associated field samples. The LMB is used to determine if method analytes or other background contamination have been introduced during the preparation or analytical procedure. The LMB is analyzed exactly the same as the field samples.

Laboratory Trip Blank (LTB) / Field Reagent Blank (FRB) - is a sample of laboratory reagent water placed in a sample container in the laboratory and treated as a field sample, including storage, preservation, and all analytical procedures. The FRB/LTB container follows the collection bottles to and from the collection site, but the FRB/LTB is not opened at any time during the trip. The FRB/LTB is primarily a travel blank used to verify that the samples were not contaminated during shipment.

Matrix Spike Duplicate Sample (MSD) / Laboratory Fortified Sample Matrix Duplicate (LFSMD) - is a sample al6iquot taken from the same field sample source as the Matrix Spike Sample to which known quantities of the analytes of interest are added in the laboratory. The MSD is analyzed exactly the same as the field samples. Analysis of the MSD provides a measure of the precision of the laboratory procedures in a specific matrix. SDL, SDM, and SDH / LFSMDL, LFSMDM, and LFSMDH are the MSD or LFSMD at low, mid, and high concentration levels, respectively.

Matrix Spike Sample (MS) / Laboratory Fortified Sample Matrix (LFSM) - is a sample aliquot taken from field sample source to which known quantities of the analytes of interest are added in the laboratory. The MS is analyzed exactly the same as the field samples. The purpose is to demonstrate recovery of the analytes from a sample matrix to determine if the specific matrix contributes bias to the analytical results. MSL, MSM, and MSH / LFSML, LFSMM, and LFSMH are the MS or LFSM at low, mid, and high concentration levels, respectively.

Quality Control Standard (QCS) / Second Source Calibration Verification (SSCV) - is a solution containing known concentrations of the analytes of interest prepared from a source different from the source of the calibration standards. The solution is obtained from a second manufacturer or lot if the lot can be demonstrated by the manufacturer as prepared independently from other lots. The QCS sample is analyzed using the same procedures as field samples. The QCS is used as a check on the calibration standards used in the method on a routine basis.

Reporting Limit Check (RLC) / Initial Calibration Check Standard (ICCS) - is a procedural standard that is analyzed each day to evaluate instrument performance at or below the minimum reporting limit (MRL).

Surrogate Standard (SS) / Surrogate Analyte (SUR) - is a pure compound with properties similar to the analytes of interest, which is highly unlikely to be found in any field sample, that is added to the field samples, calibration standards, blanks and quality control standards before sample preparation. The SS is used to evaluate the efficiency of the sample preparation process.

CT LABORATORIES
delivering more than data from your environmental analyses

1230 Lange Court • Baraboo, WI 53913 • 608-356-2760
www.ctlaboratories.com

295315
361428

Sub-Contract Laboratory Chain-of-Custody and Purchase Order

PURCHASE ORDER # 118319 EEA-IN *The PO# must appear on all invoice and reports!*

Upon Receipt of Samples, please verify that samples were received in acceptable condition then sign this form and fax to (608)356-2766 or email to the project manager. Sample temperature, upon receipt, must be recorded on this document unless thermal preservation is not a method requirement.

Ship to: **Eurofins Eaton Analytical - IN**
110 South Hill Street
South Bend, IN 46617

Return Invoice and Results to:

CTLaboratories
Brett M Szymanski
1230 Lange Court
Baraboo WI 53913

Date Due: Standard TAT *RUSH TURNAROUND NEEDED? Y or (N) (Circle One)*

Project Name: RADFORD AAP **Project State:**

Analytical/QC Criteria: NONE INDICATED STATE (DOD QSM) NELAP (Circle one) OTHER

Report results as EDD? N (Y) (Circle one and indicate type: Excel) Data Deliverable Package LEVEL: IV

MS = 3433437

CTLabs ID#	Sample Date/Time	Matrix	Sample Description		Analyses / Method		Cost
709222	04/14/2016 1512	GROUND WATER	54MW12 * MS/MSD	S=3433436 MSD=3433438	CHLORATE/CHLORITE	300.1	
709257	04/14/2016 1320	GROUND WATER	54MW10	3433439	CHLORATE/CHLORITE	300.1	
709260	04/14/2016 1357	GROUND WATER	041416R1	440	CHLORATE/CHLORITE	300.1	
709272	04/14/2016 0849	GROUND WATER	54MW1	441	CHLORATE/CHLORITE	300.1	
709274	04/14/2016 0849	GROUND WATER	54TM1	442	CHLORATE/CHLORITE	300.1	
709276	04/14/2016 1050	GROUND WATER	54MW13	443	CHLORATE/CHLORITE	300.1	

Relinquished by: Brett Szymanski Date/Time: 04/18/2016 13:05

Received by: Date/Time: 4-19-16 0945 Receipt Temperature (C) 0.6°C wet

COMMENTS:

Client Provided Sample Container

REPORT ALL SOLIDS ON A DRY WEIGHT BASIS UNLESS OTHERWISE INDICATED

Eurofins Eaton Analytical

Run Log

Run ID: **214996** Method: **300.0**

Type	Sample Id	Sample Site	Matrix	Instrument ID	Analysis Date	Calibration File
ICB	3436457		RW	DT	04/25/2016 15:08	
QCS	3436463		RW	DT	04/25/2016 17:44	
LRB	3436466		RW	DT	04/25/2016 19:01	
LFB	3436467		RW	DT	04/25/2016 19:27	
IPC	3436468		RW	DT	04/26/2016 01:04	
CCB	3436469		RW	DT	04/26/2016 01:30	
FS	3433439	709257	GW	DT	04/26/2016 04:57	
FS	3433440	709260	GW	DT	04/26/2016 05:23	
FS	3433441	709272	GW	DT	04/26/2016 05:49	
FS	3433442	709274	GW	DT	04/26/2016 06:15	
FS	3433443	709276	GW	DT	04/26/2016 06:41	
IPC	3436471		RW	DT	04/26/2016 07:33	
CCB	3436472		RW	DT	04/26/2016 07:59	

QC Summary Report

Sample Type	Analyte	Method	MRL	Client ID	Result Flag	Amount	Target	Units	% Recovery	Recovery Limits	RPD	RPD Limit	Dil Factor	Extracted	Analyzed	EEA ID #
ICB	Chlorate	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	04/25/2016 15:08	3436457
ICB	Chlorite	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	04/25/2016 15:08	3436457
QCS	Chlorate	300.0	10	---		234.9300	250	ug/L	94	90 - 110	---	---	1.0	---	04/25/2016 17:44	3436463
QCS	Chlorite	300.0	10	---		237.8580	250	ug/L	95	90 - 110	---	---	1.0	---	04/25/2016 17:44	3436463
LRB	Chlorate	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	04/25/2016 19:01	3436466
LRB	Chlorite	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	04/25/2016 19:01	3436466
LFB	Chlorate	300.0	10	---		245.7660	250	ug/L	98	90 - 110	---	---	1.0	---	04/25/2016 19:27	3436467
LFB	Chlorite	300.0	10	---		246.3460	250	ug/L	99	90 - 110	---	---	1.0	---	04/25/2016 19:27	3436467
IPC	Chlorate	300.0	10	---		244.3190	250	ug/L	98	90 - 110	---	---	1.0	---	04/26/2016 01:04	3436468
IPC	Chlorite	300.0	10	---		244.3880	250	ug/L	98	90 - 110	---	---	1.0	---	04/26/2016 01:04	3436468
CCB	Chlorate	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	04/26/2016 01:30	3436469
CCB	Chlorite	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	04/26/2016 01:30	3436469
FS	Chlorate	300.0	10	709257	<	10		ug/L	---	---	---	---	1.0	---	04/26/2016 04:57	3433439
FS	Chlorite	300.0	10	709257	<	10		ug/L	---	---	---	---	1.0	---	04/26/2016 04:57	3433439
FS	Chlorate	300.0	10	709260	<	10		ug/L	---	---	---	---	1.0	---	04/26/2016 05:23	3433440
FS	Chlorite	300.0	10	709260	<	10		ug/L	---	---	---	---	1.0	---	04/26/2016 05:23	3433440
FS	Chlorate	300.0	10	709272	<	10		ug/L	---	---	---	---	1.0	---	04/26/2016 05:49	3433441
FS	Chlorite	300.0	10	709272	<	10		ug/L	---	---	---	---	1.0	---	04/26/2016 05:49	3433441
FS	Chlorate	300.0	10	709274	<	10		ug/L	---	---	---	---	1.0	---	04/26/2016 06:15	3433442
FS	Chlorite	300.0	10	709274	<	10		ug/L	---	---	---	---	1.0	---	04/26/2016 06:15	3433442
FS	Chlorate	300.0	10	709276	<	10		ug/L	---	---	---	---	1.0	---	04/26/2016 06:41	3433443
FS	Chlorite	300.0	10	709276	<	10		ug/L	---	---	---	---	1.0	---	04/26/2016 06:41	3433443
IPC	Chlorate	300.0	10	---		239.1400	250	ug/L	96	90 - 110	---	---	1.0	---	04/26/2016 07:33	3436471
IPC	Chlorite	300.0	10	---		239.8600	250	ug/L	96	90 - 110	---	---	1.0	---	04/26/2016 07:33	3436471
CCB	Chlorate	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	04/26/2016 07:59	3436472
CCB	Chlorite	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	04/26/2016 07:59	3436472

Eurofins Eaton Analytical

Run Log

Run ID: **215046** Method: **300.0**

Type	Sample Id	Sample Site	Matrix	Instrument ID	Analysis Date	Calibration File
ICB	3437747		RW	CQ	04/26/2016 12:22	
IPC	3437753		RW	CQ	04/27/2016 10:07	
LRB	3437755		RW	CQ	04/27/2016 11:18	
LFB	3437756		RW	CQ	04/27/2016 11:53	
FS	3433436	709222	GW	CQ	04/27/2016 12:29	
MS	3433437	709222	GW	CQ	04/27/2016 13:04	
MSD	3433438	709222	GW	CQ	04/27/2016 13:40	
IPC	3437757		RW	CQ	04/27/2016 15:26	
CCB	3437758		RW	CQ	04/27/2016 16:02	

QC Summary Report

Sample Type	Analyte	Method	MRL	Client ID	Result Flag	Amount	Target	Units	% Recovery	Recovery Limits	RPD	RPD Limit	Dil Factor	Extracted	Analyzed	EEA ID #
ICB	Chlorate	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	04/26/2016 12:22	3437747
ICB	Chlorite	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	04/26/2016 12:22	3437747
IPC	Chlorate	300.0	10	---		244.2990	250	ug/L	98	90 - 110	---	---	1.0	---	04/27/2016 10:07	3437753
IPC	Chlorite	300.0	10	---		242.1050	250	ug/L	97	90 - 110	---	---	1.0	---	04/27/2016 10:07	3437753
LRB	Chlorate	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	04/27/2016 11:18	3437755
LRB	Chlorite	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	04/27/2016 11:18	3437755
LFB	Chlorate	300.0	10	---		246.2160	250	ug/L	98	90 - 110	---	---	1.0	---	04/27/2016 11:53	3437756
LFB	Chlorite	300.0	10	---		244.8780	250	ug/L	98	90 - 110	---	---	1.0	---	04/27/2016 11:53	3437756
FS	Chlorate	300.0	10	709222	<	10		ug/L	---	---	---	---	1.0	---	04/27/2016 12:29	3433436
FS	Chlorite	300.0	10	709222	<	10		ug/L	---	---	---	---	1.0	---	04/27/2016 12:29	3433436
MS	Chlorate	300.0	10	709222		268.7210	250	ug/L	107	90 - 110	---	---	1.0	---	04/27/2016 13:04	3433437
MS	Chlorite	300.0	10	709222		207.1260	250	ug/L	**83**	90 - 110	---	---	1.0	---	04/27/2016 13:04	3433437
MSD	Chlorate	300.0	10	709222		273.6420	250	ug/L	109	90 - 110	1.8	10	1.0	---	04/27/2016 13:40	3433438
MSD	Chlorite	300.0	10	709222		209.0280	250	ug/L	**84**	90 - 110	0.9	10	1.0	---	04/27/2016 13:40	3433438
IPC	Chlorate	300.0	10	---		244.2160	250	ug/L	98	90 - 110	---	---	1.0	---	04/27/2016 15:26	3437757
IPC	Chlorite	300.0	10	---		241.1390	250	ug/L	96	90 - 110	---	---	1.0	---	04/27/2016 15:26	3437757
CCB	Chlorate	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	04/27/2016 16:02	3437758
CCB	Chlorite	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	04/27/2016 16:02	3437758

Sample Type Key

Type (Abbr.)	Sample Type	Type (Abbr.)	Sample Type
CCB	Continuing Calibration Blank		
FS	Field Sample		
ICB	Initial Calibration Blank		
IPC	Instrument Performance Check		
LFB	Laboratory Fortified Blank		
LRB	Laboratory Reagent Blank		
MS	Matrix Spike		
MSD	Matrix Spike Duplicate		
QCS	Quality Control Sample		

END OF REPORT

Eurofins Eaton Analytical

Method 300.0 B Ion Chromatography Standard / Reagent Preparation Log

Run ID# 214096 Instrument# DT

Stock Name/Part#/Grade	Manufacturer	Lot#	Date Received	Date Opened	Date of Expiration
Chloride Cal Stock / ICCLO21	Inorganic Ventures	H2-CLOX01104MCA	08/05/2015	08/10/2015	08/10/2016
Bromide Cal Stock / ICBR1	Inorganic Ventures	J2-BR01106	08/05/2015	08/10/2015	08/10/2016
Chlorate Cal Stock / ICCLO31	Inorganic Ventures	J2-CLOX01107	08/05/2015	08/10/2015	08/10/2016
ChlorideQC Stock / ICCLO21	Inorganic Ventures	J2-CLOX01108	08/05/2015	08/10/2015	08/10/2016
Bromide QC Stock / ICC-031	Ultra Scientific	CL-4936	07/15/2015	07/21/2015	01/31/2019
Chlorate QC Stock / ICC-011	Ultra Scientific	P01208	07/15/2015	07/21/2015	12/31/2016
EDA / E479-500	Fisher	148201	08/19/2015	08/31/2015	NA
Na2CO3	Fisher	132486	05/17/2013	02/12/2014	na

Working Solution Name	Stock Name, Amounts Used, Final Volume and Concentration
Cal Substock -25	1250 uL of each Cal Stock in 50 mL volume RW= 25.0 mg/L
QC Substock- 25	1250 uL of each Cal Stock in 50 mL volume RW= 25.0 mg/L

Analyst: S. Lovick Prep Date: 04/11/2016 Exp. Date: 05/11/2016

Cal Standard	Br^-, ClO_3^- & ClO_2^- Concentration (µg/L)	10 µg/mL Group B Substock Vol. (µL)	100 µg/mL Group B Substock Vol. (µL)	50 mg/mL EDA Vol (µL)	Final Vol (mL)
1	10	40		100	100
2	20	80		100	100
3	100	400		100	100
4	500	1000		50	50
5	1000	1000		25	25
QCS	100	1000		100	100

Analyst: S. Lovick Prep Date: 04/25/2016 Exp. Date: 05/02/2016

LFB/LFM	250	100		10	10

Analyst: S. Lovick Prep Date: 04/25/2016 Exp. Date: 05/02/2016

EDA solution: 5.6 mL EDA to 100 mL volume RW = 50 mg/mL Prep ID IC46-11a

Analyst: S. Lovick Prep Date: 04/18/2016 Exp. Date: 05/18/2016

Eluent: 2.82g Na2CO3 in 4L volume RW = 9.0mM Prep ID IC46-12a

Analyst: S Lovick Prep Date: 04/21/2016 Exp. Date: 05/21/2016

Comments: Dionex IonPac AG9-HC 2mm s/n 004386 lot#014-11-168 installed 5/18/2015

Dionex AERS 500 2mm s/n 140520C00 installed 07/22/2014

Analyst: _____ Date: APR 26 2016

Technician Review: _____ (signature) Date: 04/26/2016

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RIS 114996

Sample No.	Sample Name	Time	Amount Chlorite CD_1	Amount Bromide CD_1	Amount Chlorate CD_1
1	\ICB\RW\1\	04.25.16 15:08	n.a.	n.a.	n.a.
2	\ICS\RW\1\10	04.25.16 15:34	12.18	10.97	12.15
3	\ICS\RW\1\20	04.25.16 16:00	22.66	21.08	22.02
4	\ICS\RW\1\100	04.25.16 16:26	98.92	97.42	98.20
5	\ICS\RW\1\500	04.25.16 16:52	492.42	500.60	495.01
6	\ICS\RW\1\1000	04.25.16 17:18	1003.82	999.93	1002.61
7	\QCS\RW\1\250	04.25.16 17:44	237.86	235.62	234.93
8	\RLC\RW\1\10	04.25.16 18:09	11.75	11.66	12.49
9	\IPC\RW\1\250	04.25.16 18:35	244.38	242.83	244.03
10	\LRB\RW\1\	04.25.16 19:01	n.a.	n.a.	n.a.
11	\LFB\RW\1\250	04.25.16 19:27	246.35	245.85	245.77
12	3432533\FS\DW\1\	04.25.16 19:53	532.60	7.59	311.60
13	3432535\FS\DW\1\	04.25.16 20:19	501.56	n.a.	383.08
14	3432707\FS\DW\1\	04.25.16 20:45	472.70	6.33	138.46
15	3432762\FS\DW\1\	04.25.16 21:11	n.a.	309.09	n.a.
16	3432762\MS\DW\1\250	04.25.16 21:37	238.76	544.22	243.15
17	3432762\MSD\DW\1\250	04.25.16 22:03	237.59	540.77	239.05
18	3432763\FS\DW\1\	04.25.16 22:29	n.a.	27.52	n.a.
19	3432764\FS\DW\1\	04.25.16 22:54	n.a.	1088.41 >1000	n.a.
20	3432765\FS\DW\1\	04.25.16 23:20	n.a.	282.38	n.a.
21	3432766\FS\DW\1\	04.25.16 23:46	n.a.	32.23	n.a.
22	3433341\FS\DW\1\	04.26.16 00:12	395.37	10.11	148.12
23	3433342\FS\DW\1\	04.26.16 00:38	390.18	5.89	144.45
24	\IPC\RW\1\250	04.26.16 01:04	244.39	243.79	244.32
25	\CCB\RW\1\	04.26.16 01:30	n.a.	n.a.	n.a.
26	3433343\FS\DW\1\	04.26.16 01:56	399.35	7.23	153.45
27	3433343\MS\DW\1\250	04.26.16 02:22	643.80	234.09	375.24
28	3433343\MSD\DW\1\250	04.26.16 02:48	644.70	234.53	375.29
29	3433434\FS\DW\1\	04.26.16 03:14	n.a.	116.17	n.a.
30	3433436\FS\DW\1\	04.26.16 03:39	n.a.	18.21	n.a.
31	3433437\FS\DW\1\ 4/26/16	04.26.16 04:05	n.a.	16.53	n.a.
32	3433438\FS\DW\1\	04.26.16 04:31	n.a.	15.45	n.a.
33	3433439\FS\DW\1\	04.26.16 04:57	n.a.	31.07	n.a.
34	3433440\FS\DW\1\	04.26.16 05:23	n.a.	n.a.	n.a.
35	3433441\FS\DW\1\	04.26.16 05:49	n.a.	13.27	n.a.
36	3433442\FS\DW\1\	04.26.16 06:15	n.a.	13.21	n.a.
37	3433443\FS\DW\1\	04.26.16 06:41	n.a.	10.50	n.a.
38	\NCQ\RW\1\250	04.26.16 07:07	239.76	243.85	238.97
39	\IPC\RW\1\250	04.26.16 07:33	239.86	243.63	239.14
40	\CCB\RW\1\	04.26.16 07:59	n.a.	n.a.	n.a.
	Average:	**42485.982**			**255**
	Rel.Std.Dev:	**0.000 %**			**81.797 %**

Repeat for spike.
4/26/16

Chromeleon (c) Dionex 1996-2006
Version 6.80 SR10 Build 2818 (166959)

Sequence: 042516A
Operator: SBNLab003
Printed: 4/26/2016 9:55:35 AM

Title:
Datasource: SBNLAB003-PC_local
Location: ICS_5000_DT\300B\2016
Timebase: ICS_5000_DT
#Samples: 40
Created: 4/25/2016 11:40:04 AM by SBNLab003
Last Update: 4/26/2016 9:55:32 AM by SBNLab003

No.	Name	Type	Pos.	Inj. Vol.	Program	Method	Status
1	\ICB\RW\1\	Standard	1	50.0	Met300B	Met300B	Finished
2	\ICS\RW\1\10	Standard	2	50.0	Met300B	Met300B	Finished
3	\ICS\RW\1\20	Standard	3	50.0	Met300B	Met300B	Finished
4	\ICS\RW\1\100	Standard	4	50.0	Met300B	Met300B	Finished
5	\ICS\RW\1\500	Standard	5	50.0	Met300B	Met300B	Finished
6	\ICS\RW\1\1000	Standard	6	50.0	Met300B	Met300B	Finished
7	\QCS\RW\1\250	Unknown	7	50.0	Met300B	Met300B	Finished
8	\RLC\RW\1\10	Unknown	8	50.0	Met300B	Met300B	Finished
9	\IPC\RW\1\250	Unknown	9	50.0	Met300B	Met300B	Finished
10	\LRB\RW\1\	Unknown	10	50.0	Met300B	Met300B	Finished
11	\LFB\RW\1\250	Unknown	11	50.0	Met300B	Met300B	Finished
12	3432533\FS\DW\1\	Unknown	12	50.0	Met300B	Met300B	Finished
13	3432535\FS\DW\1\	Unknown	13	50.0	Met300B	Met300B	Finished
14	3432707\FS\DW\1\	Unknown	14	50.0	Met300B	Met300B	Finished
15	3432762\FS\DW\1\	Unknown	15	50.0	Met300B	Met300B	Finished
16	3432762\MS\DW\1\250	Unknown	16	50.0	Met300B	Met300B	Finished
17	3432762\MSD\DW\1\250	Unknown	17	50.0	Met300B	Met300B	Finished
18	3432763\FS\DW\1\	Unknown	18	50.0	Met300B	Met300B	Finished
19	3432764\FS\DW\1\	Unknown	19	50.0	Met300B	Met300B	Finished
20	3432765\FS\DW\1\	Unknown	20	50.0	Met300B	Met300B	Finished
21	3432766\FS\DW\1\	Unknown	21	50.0	Met300B	Met300B	Finished
22	3433341\FS\DW\1\	Unknown	22	50.0	Met300B	Met300B	Finished
23	3433342\FS\DW\1\	Unknown	23	50.0	Met300B	Met300B	Finished
24	\IPC\RW\1\250	Unknown	24	50.0	Met300B	Met300B	Finished
25	\CCB\RW\1\	Unknown	25	50.0	Met300B	Met300B	Finished
26	3433343\FS\DW\1\	Unknown	26	50.0	Met300B	Met300B	Finished
27	3433343\MS\DW\1\250	Unknown	27	50.0	Met300B	Met300B	Finished
28	3433343\MSD\DW\1\250	Unknown	28	50.0	Met300B	Met300B	Finished
29	3433434\FS\DW\1\	Unknown	29	50.0	Met300B	Met300B	Finished
30	3433436\FS\DW\1\	Unknown	30	50.0	Met300B	Met300B	Finished
31	3433437\FS\DW\1\	Unknown	31	50.0	Met300B	Met300B	Finished
32	3433438\FS\DW\1\	Unknown	32	50.0	Met300B	Met300B	Finished
33	3433439\FS\DW\1\	Unknown	33	50.0	Met300B	Met300B	Finished
34	3433440\FS\DW\1\	Unknown	34	50.0	Met300B	Met300B	Finished

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Title:
Datasource: SBNLAB003-PC_local
Location: ICS_5000_DT\300B\2016
Timebase: ICS_5000_DT
#Samples: 40
Created: 4/25/2016 11:40:04 AM by SBNLab003
Last Update: 4/26/2016 9:55:32 AM by SBNLab003

No.	Name	Inj. Date/Time	Weight	Dil. Factor	ISTD Amount	Sample ID	Replicate ID
1	\ICB\RW\1\	4/25/2016 3:08:35 PM	1.0000	1.0000	1.0000		10
2	\ICS\RW\1\10	4/25/2016 3:34:30 PM	1.0000	1.0000	1.0000		10
3	\ICS\RW\1\20	4/25/2016 4:00:24 PM	1.0000	1.0000	1.0000		10
4	\ICS\RW\1\100	4/25/2016 4:26:19 PM	1.0000	1.0000	1.0000		10
5	\ICS\RW\1\500	4/25/2016 4:52:13 PM	1.0000	1.0000	1.0000		10
6	\ICS\RW\1\1000	4/25/2016 5:18:08 PM	1.0000	1.0000	1.0000		10
7	\QCS\RW\1\250	4/25/2016 5:44:03 PM	1.0000	1.0000	1.0000		10
8	\RLC\RW\1\10	4/25/2016 6:09:57 PM	1.0000	1.0000	1.0000		10
9	\IPC\RW\1\250	4/25/2016 6:35:52 PM	1.0000	1.0000	1.0000		10
10	\LRB\RW\1\	4/25/2016 7:01:47 PM	1.0000	1.0000	1.0000		10
11	\LFB\RW\1\250	4/25/2016 7:27:41 PM	1.0000	1.0000	1.0000		10
12	3432533\FS\DW\1\	4/25/2016 7:53:35 PM	1.0000	1.0000	1.0000		10
13	3432535\FS\DW\1\	4/25/2016 8:19:30 PM	1.0000	1.0000	1.0000		10
14	3432707\FS\DW\1\	4/25/2016 8:45:25 PM	1.0000	1.0000	1.0000		10
15	3432762\FS\DW\1\	4/25/2016 9:11:19 PM	1.0000	1.0000	1.0000		10
16	3432762\MS\DW\1\250	4/25/2016 9:37:14 PM	1.0000	1.0000	1.0000		10
17	3432762\MSD\DW\1\250	4/25/2016 10:03:08 PM	1.0000	1.0000	1.0000		10
18	3432763\FS\DW\1\	4/25/2016 10:29:03 PM	1.0000	1.0000	1.0000		10
19	3432764\FS\DW\1\	4/25/2016 10:54:58 PM	1.0000	1.0000	1.0000		10
20	3432765\FS\DW\1\	4/25/2016 11:20:52 PM	1.0000	1.0000	1.0000		10
21	3432766\FS\DW\1\	4/25/2016 11:46:46 PM	1.0000	1.0000	1.0000		10
22	3433341\FS\DW\1\	4/26/2016 12:12:41 AM	1.0000	1.0000	1.0000		10
23	3433342\FS\DW\1\	4/26/2016 12:38:35 AM	1.0000	1.0000	1.0000		10
24	\IPC\RW\1\250	4/26/2016 1:04:29 AM	1.0000	1.0000	1.0000		10
25	\CCB\RW\1\	4/26/2016 1:30:25 AM	1.0000	1.0000	1.0000		10
26	3433343\FS\DW\1\	4/26/2016 1:56:19 AM	1.0000	1.0000	1.0000		10
27	3433343\MS\DW\1\250	4/26/2016 2:22:13 AM	1.0000	1.0000	1.0000		10
28	3433343\MSD\DW\1\250	4/26/2016 2:48:08 AM	1.0000	1.0000	1.0000		10
29	3433434\FS\DW\1\	4/26/2016 3:14:03 AM	1.0000	1.0000	1.0000		10
30	3433436\FS\DW\1\	4/26/2016 3:39:58 AM	1.0000	1.0000	1.0000		10
31	3433437\FS\DW\1\	4/26/2016 4:05:53 AM	1.0000	1.0000	1.0000		10
32	3433438\FS\DW\1\	4/26/2016 4:31:48 AM	1.0000	1.0000	1.0000		10
33	3433439\FS\DW\1\	4/26/2016 4:57:43 AM	1.0000	1.0000	1.0000		10
34	3433440\FS\DW\1\	4/26/2016 5:23:38 AM	1.0000	1.0000	1.0000		10

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Title:
Datasource: SBNLAB003-PC_local
Location: ICS_5000_DT\300B\2016
Timebase: ICS_5000_DT
#Samples: 40
Created: 4/25/2016 11:40:04 AM by SBNLab003
Last Update: 4/26/2016 9:55:32 AM by SBNLab003

No.	Name	Comment
1	\ICB\RW\1\	
2	\ICS\RW\1\10	
3	\ICS\RW\1\20	
4	\ICS\RW\1\100	
5	\ICS\RW\1\500	
6	\ICS\RW\1\1000	
7	\QCS\RW\1\250	
8	\RLC\RW\1\10	
9	\IPC\RW\1\250	
10	\LRB\RW\1\	
11	\LFB\RW\1\250	
12	3432533\FS\DW\1\	
13	3432535\FS\DW\1\	
14	3432707\FS\DW\1\	
15	3432762\FS\DW\1\	
16	3432762\MS\DW\1\250	
17	3432762\MSD\DW\1\250	
18	3432763\FS\DW\1\	
19	3432764\FS\DW\1\	
20	3432765\FS\DW\1\	
21	3432766\FS\DW\1\	
22	3433341\FS\DW\1\	
23	3433342\FS\DW\1\	
24	\IPC\RW\1\250	
25	\CCB\RW\1\	
26	3433343\FS\DW\1\	
27	3433343\MS\DW\1\250	
28	3433343\MSD\DW\1\250	
29	3433434\FS\DW\1\	
30	3433436\FS\DW\1\	
31	3433437\FS\DW\1\	
32	3433438\FS\DW\1\	
33	3433439\FS\DW\1\	
34	3433440\FS\DW\1\	

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Title:
Datasource: SBNLAB003-PC_local
Location: ICS_5000_DT\300B\2016
Timebase: ICS_5000_DT
#Samples: 40
Created: 4/25/2016 11:40:04 AM by SBNLab003
Last Update: 4/26/2016 9:55:32 AM by SBNLab003

No.	Name	Type	Pos.	Inj. Vol.	Program	Method	Status
35	3433441\FS\DW\1\	Unknown	35	50.0	Met300B	Met300B	Finished
36	3433442\FS\DW\1\	Unknown	36	50.0	Met300B	Met300B	Finished
37	3433443\FS\DW\1\	Unknown	37	50.0	Met300B	Met300B	Finished
38	\NCQ\RW\1\250	Unknown	38	50.0	Met300B	Met300B	Finished
39	\IPC\RW\1\250	Unknown	39	50.0	Met300B	Met300B	Finished
40	\CCB\RW\1\	Unknown	40	50.0	Met300B	Met300B	Finished

Chromeleon © Dionex Corporation, Version 6.80 SR10 Build 2818 (166959)

Title:
Datasource: SBNLAB003-PC_local
Location: ICS_5000_DT\300B\2016
Timebase: ICS_5000_DT
#Samples: 40
Created: 4/25/2016 11:40:04 AM by SBNLab003
Last Update: 4/26/2016 9:55:32 AM by SBNLab003

No.	Name	Inj. Date/Time	Weight	Dil. Factor	ISTD Amount	Sample ID	Replicate ID
35	3433441\FS\DW\1\	4/26/2016 5:49:32 AM	1.0000	1.0000	1.0000		10
36	3433442\FS\DW\1\	4/26/2016 6:15:27 AM	1.0000	1.0000	1.0000		10
37	3433443\FS\DW\1\	4/26/2016 6:41:21 AM	1.0000	1.0000	1.0000		10
38	\NCQ\RW\1\250	4/26/2016 7:07:15 AM	1.0000	1.0000	1.0000		10
39	\IPC\RW\1\250	4/26/2016 7:33:10 AM	1.0000	1.0000	1.0000		10
40	\CCB\RW\1\	4/26/2016 7:59:05 AM	1.0000	1.0000	1.0000		10

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Title:
Datasource: SBNLAB003-PC_local
Location: ICS_5000_DT\300B\2016
Timebase: ICS_5000_DT
#Samples: 40
Created: 4/25/2016 11:40:04 AM by SBNLab003
Last Update: 4/26/2016 9:55:32 AM by SBNLab003

No.	Name	Comment
35	3433441\FS\DW\1\	
36	3433442\FS\DW\1\	
37	3433443\FS\DW\1\	
38	\NCQ\RW\1\250	
39	\IPC\RW\1\250	
40	\CCB\RW\1\	

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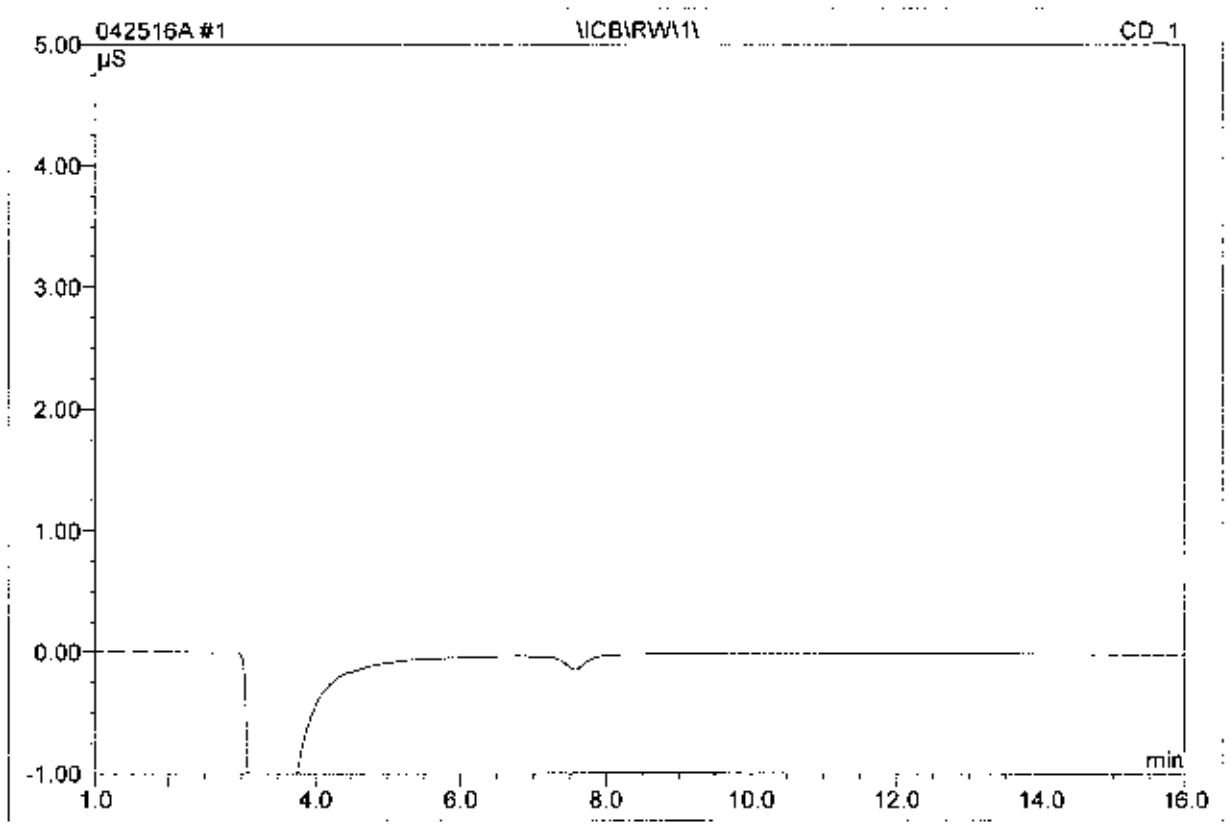
1 \ICB\RW\1\

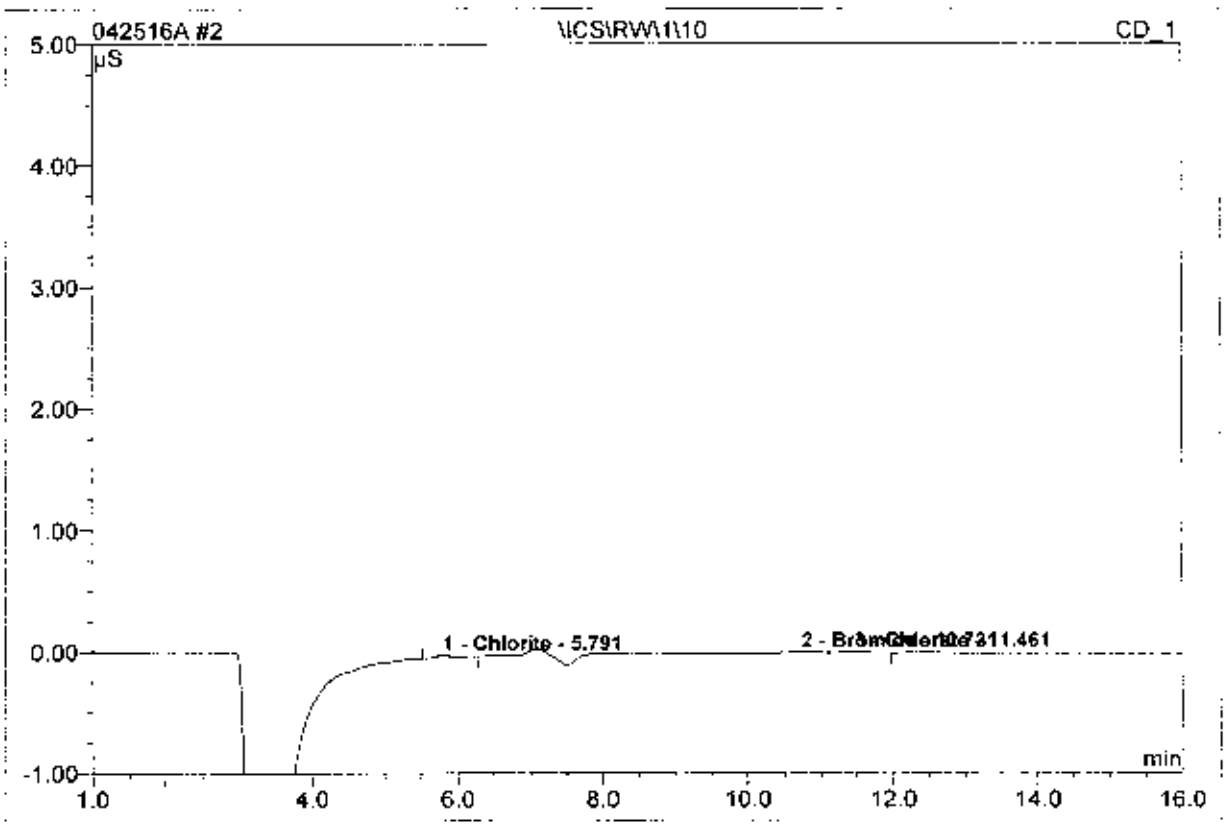
Sample Name:	\ICB\RW\1\	*Injection Volume:*	**50.0**
Vial Number:	**1**	*Channel:*	**CD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Met300B**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Met300B**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/25/2016 15:08**	*Sample Weight:*	**1.0000**
Run Time (min):	**23.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Pressure psi	Height µS	Area µS*min	Amount	Type
Total:			0.000	0.000	0.00	0.000	

2 \\ICS\RW\1\10

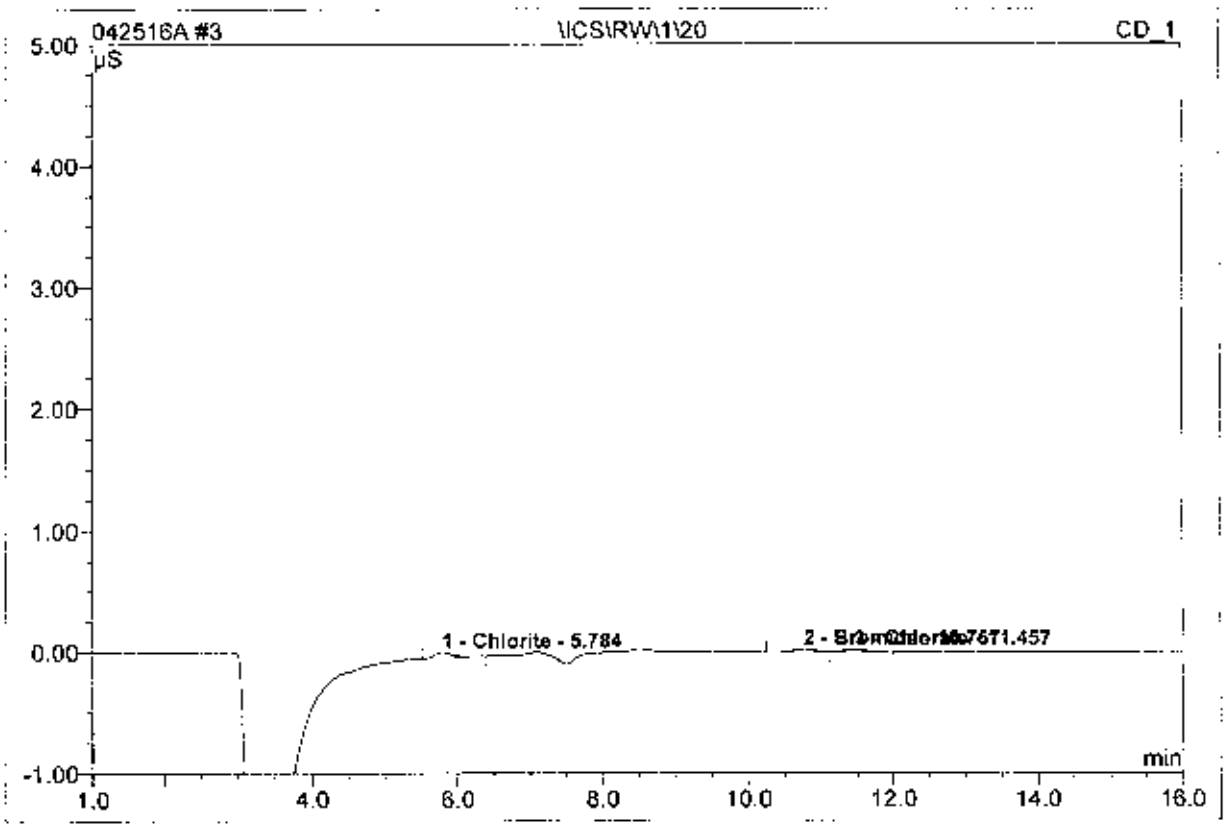
Sample Name:	**\\ICS\RW\1\10**	*Injection Volume:*	**50.0**
Vial Number:	**2**	*Channel:*	**CD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Met300B**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Met300B**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/25/2016 15:34**	*Sample Weight:*	**1.0000**
Run Time (min):	**23.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Pressure psi	Height µS	Area µS*min	Amount	Type
1	5.79	Chlorite	1897.8	0.023	0.006	12.176	BMB
2	10.73	Bromide	1897.8	0.013	0.005	10.974	BM
3	11.46	Chlorate	1897.8	0.012	0.005	12.155	MB
Total:			5693.370	0.049	0.02	35.305	

3 \ICS\RW\1\20

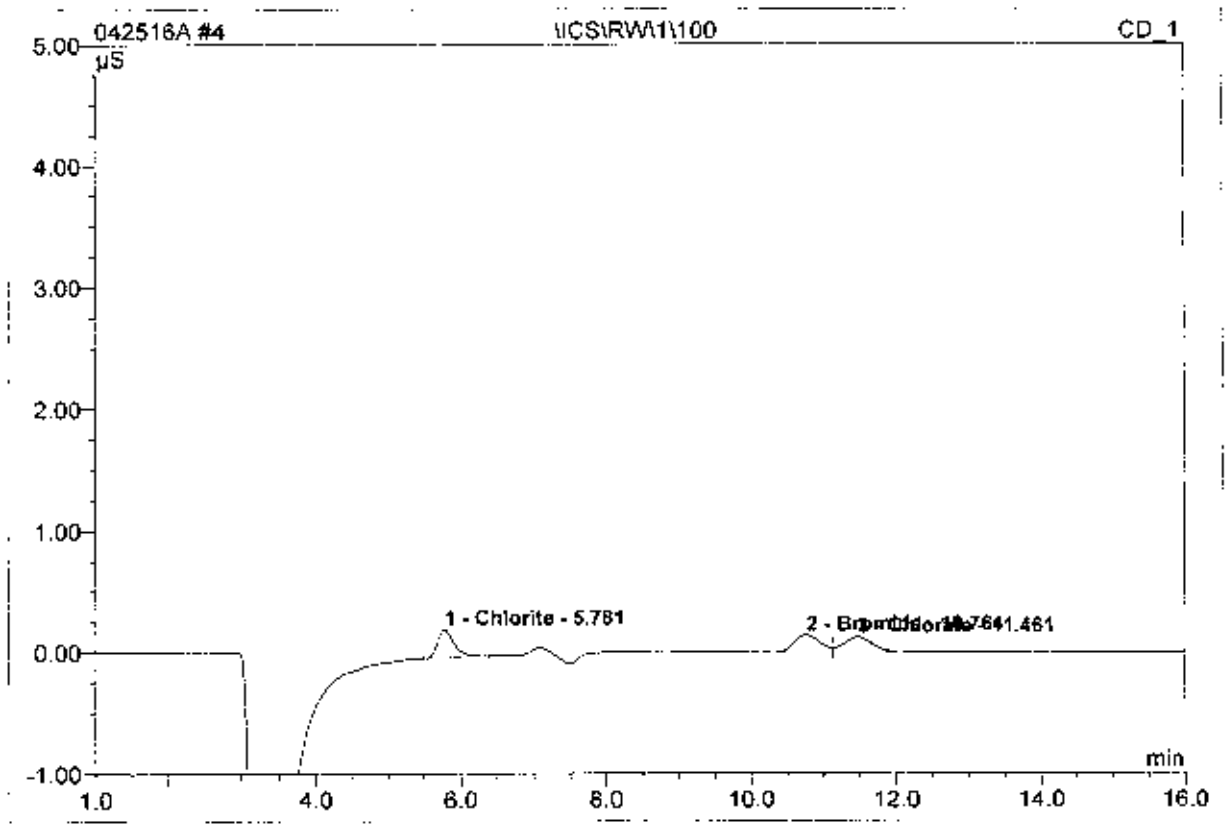
Sample Name:	**\ICS\RW\1\20**	*Injection Volume:*	**50.0**
Vial Number:	**3**	*Channel:*	**CD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Met300B**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Met300B**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/25/2016 16:00**	*Sample Weight:*	**1.0000**
Run Time (min):	**23.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Pressure psi	Height µS	Area µS*min	Amount	Type
1	5.78	Chlorite	1897.5	0.047	0.013	22.664	BMB
2	10.76	Bromide	1897.5	0.028	0.011	21.081	BM
3	11.46	Chlorate	1897.5	0.025	0.011	22.025	MB
Total:			5692.586	0.100	0.03	65.770	

4 \ICS\RW\1\100

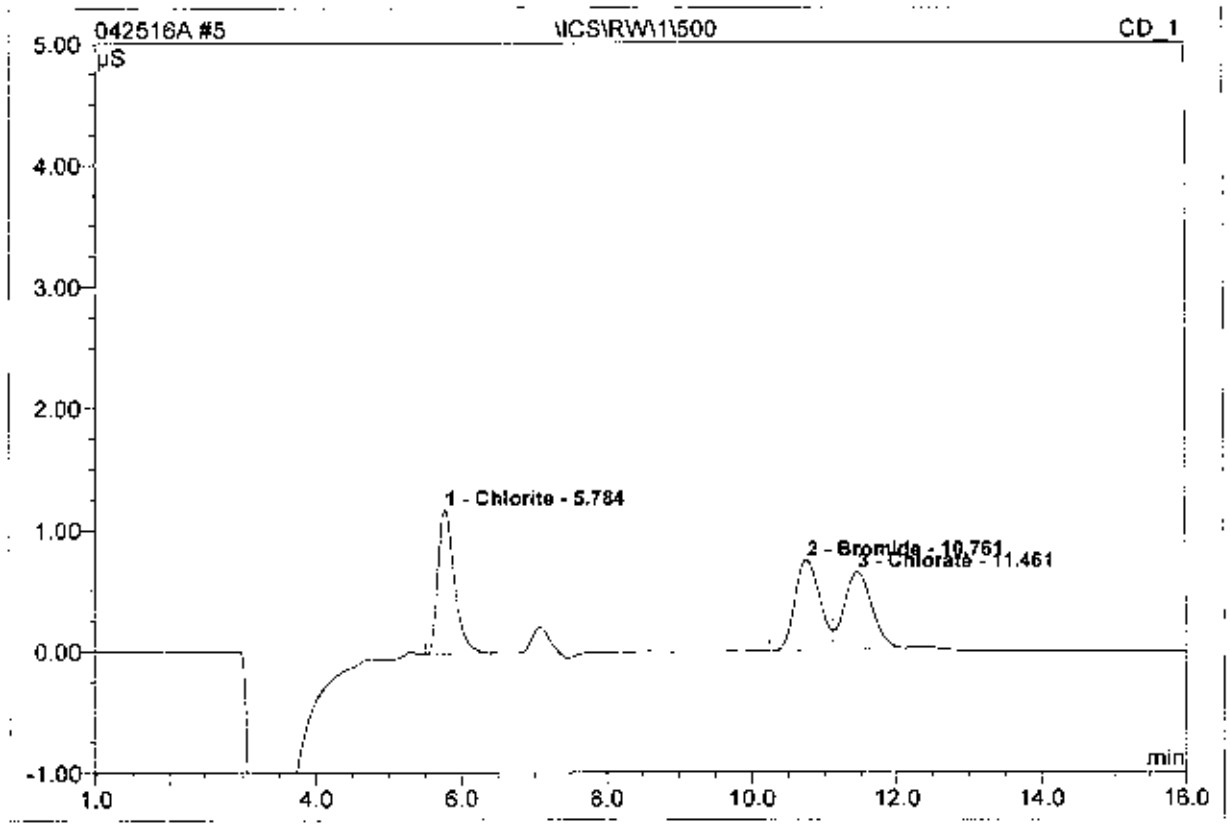
Sample Name:	\ICS\RW\1\100	*Injection Volume:*	50.0
Vial Number:	4	*Channel:*	CD_1
Sample Type:	standard	*Wavelength:*	n.a.
Control Program:	Met300B	*Bandwidth:*	n.a.
Quantif. Method:	Met300B	*Dilution Factor:*	1.0000
Recording Time:	4/25/2016 16:26	*Sample Weight:*	1.0000
Run Time (min):	23.00	*Sample Amount:*	1.0000



No.	Ret.Time min	Peak Name	Pressure psi	Height µS	Area µS*min	Amount	Type
1	5.78	Chlorite	1899.2	0.229	0.061	98.915	BMB
2	10.76	Bromide	1899.2	0.141	0.057	97.421	BM
3	11.46	Chlorate	1899.2	0.122	0.054	98.198	MB
Total:			5697.622	0.491	0.17	294.534	

5 \ICS\RW\1\500

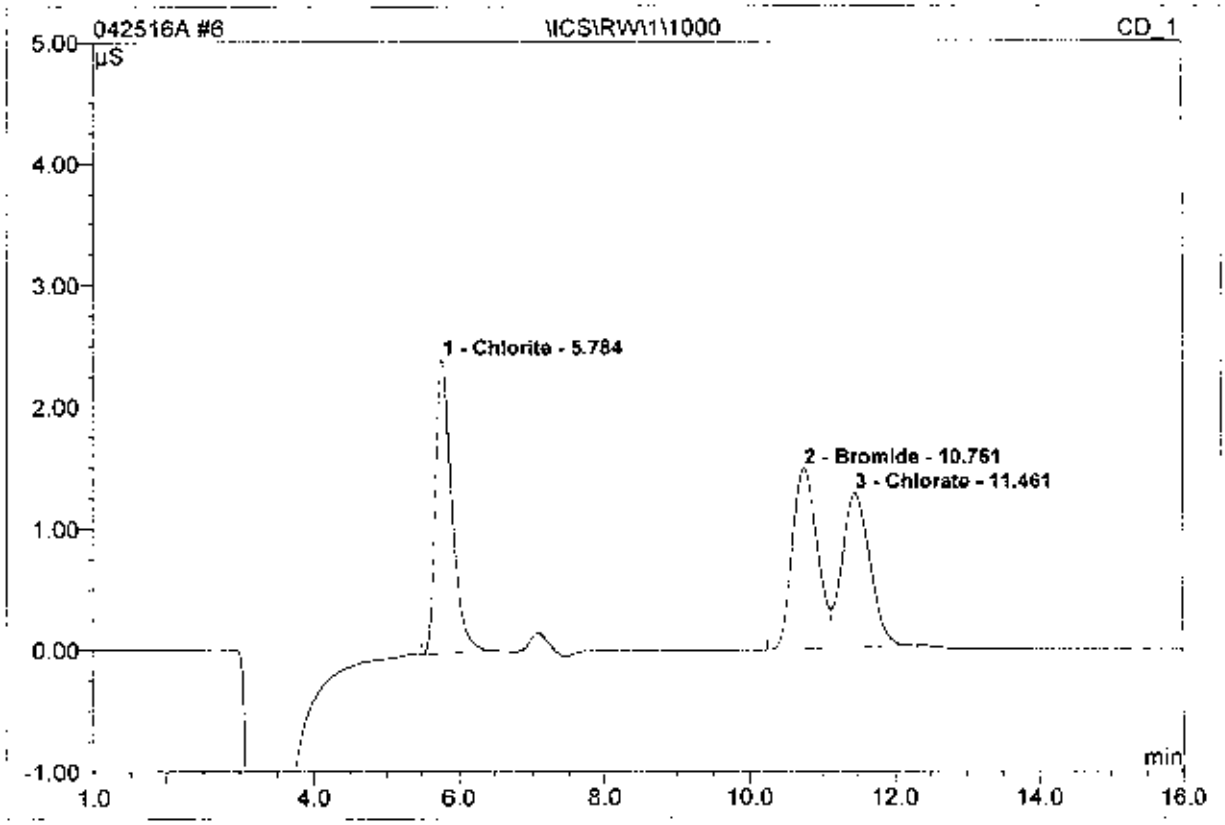
Sample Name:	**\ICS\RW\1\500**	*Injection Volume:*	**50.0**
Vial Number:	**5**	*Channel:*	**CD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Met300B**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Met300B**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/25/2016 16:52**	*Sample Weight:*	**1.0000**
Run Time (min):	**23.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Pressure psi	Height µS	Area µS*min	Amount	Type
1	5.78	Chlorite	1900.5	1.185	0.308	492.423	BMB
2	10.76	Bromide	1900.5	0.741	0.296	500.596	BM
3	11.46	Chlorate	1900.5	0.632	0.279	495.008	MB
Total:			5701.635	2.558	0.88	1488.027	

6 \\ICS\RW\1\1000

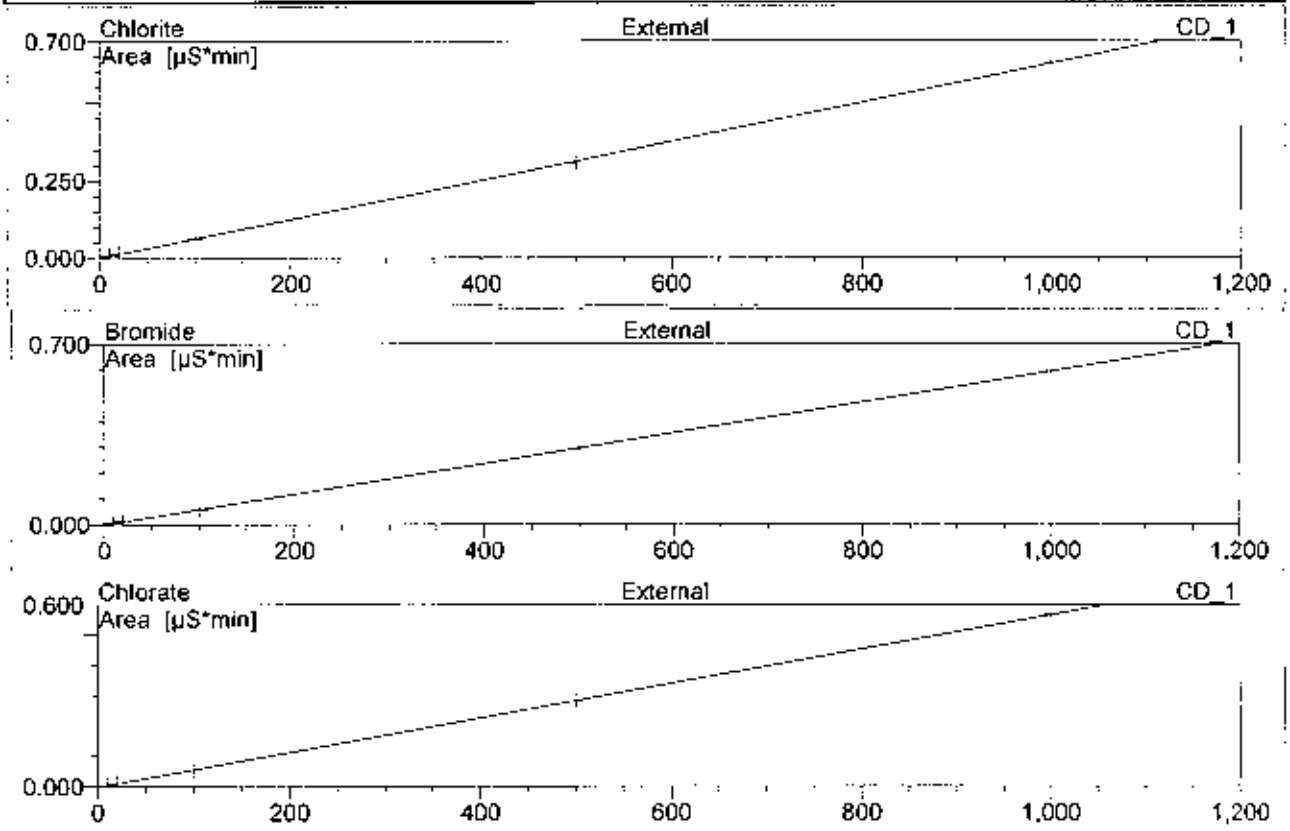
Sample Name:	**\\ICS\RW\1\1000**	*Injection Volume:*	**50.0**
Vial Number:	**6**	*Channel:*	**CD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Met300B**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Met300B**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/25/2016 17:18**	*Sample Weight:*	**1.0000**
Run Time (min):	**23.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Pressure psi	Height µS	Area µS*min	Amount	Type
1	5.78	Chlorite	1900.3	2.415	0.628	1003.822	BMB
2	10.76	Bromide	1900.3	1.483	0.593	999.929	BM
3	11.46	Chlorate	1900.3	1.270	0.568	1002.614	MB
Total:			5700.973	5.168	1.79	3006.365	

6 \ICS\RW\1\1000

Sample Name:	**\ICS\RW\1\1000**	*Injection Volume:*	**50.0**
Vial Number:	**6**	*Channel:*	**CD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**Met300B**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Met300B**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/25/2016 17:18**	*Sample Weight:*	**1.0000**
Run Time (min):	**23.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Cal.Type	Points	Corr.Coeff. %	Offset	Slope	Curve
1	5.78	Chlorite	LOff	5	99.994	-0.0013	0.0006	0.0000
2	10.76	Bromide	LOff	5	99.999	-0.0014	0.0006	0.0000
3	11.46	Chlorate	LOff	5	99.997	-0.0018	0.0006	0.0000
Average:					99.9968	-0.0015	0.0006	0.0000

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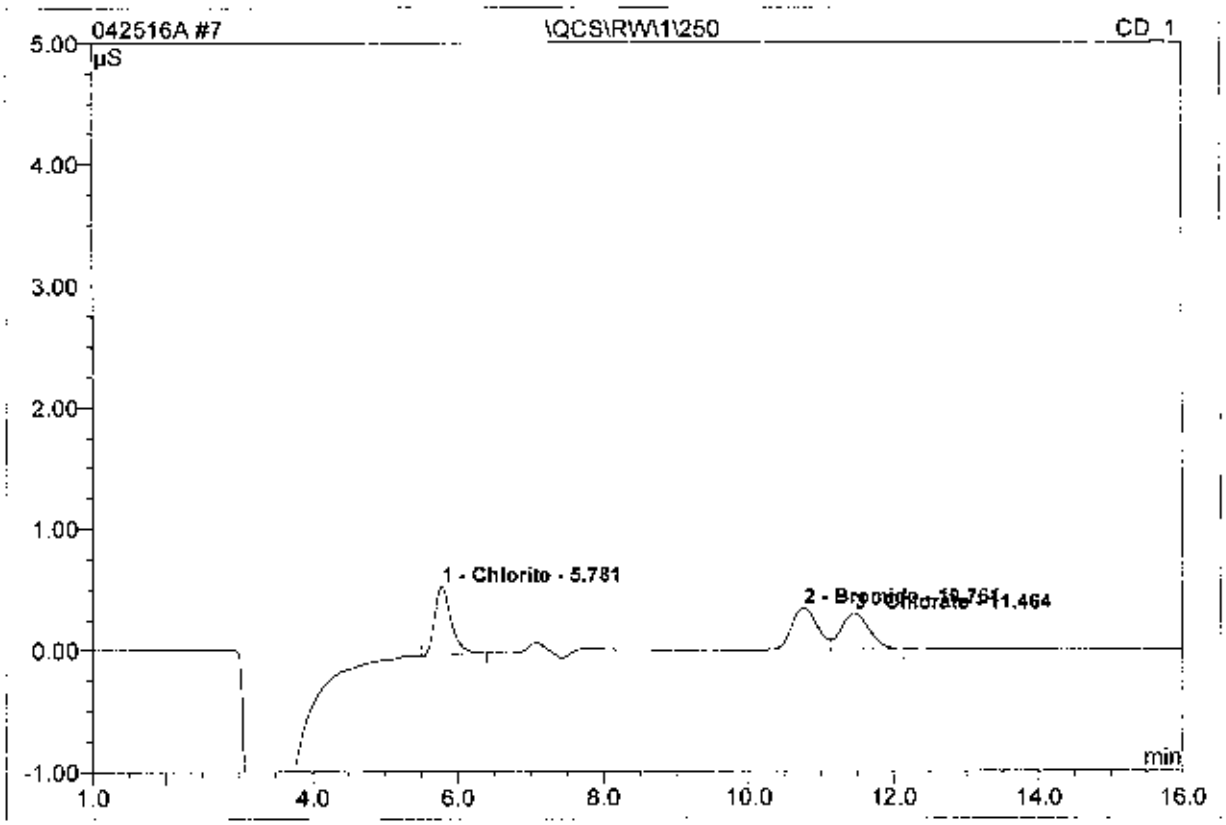
7 \QCS\RW\1\250

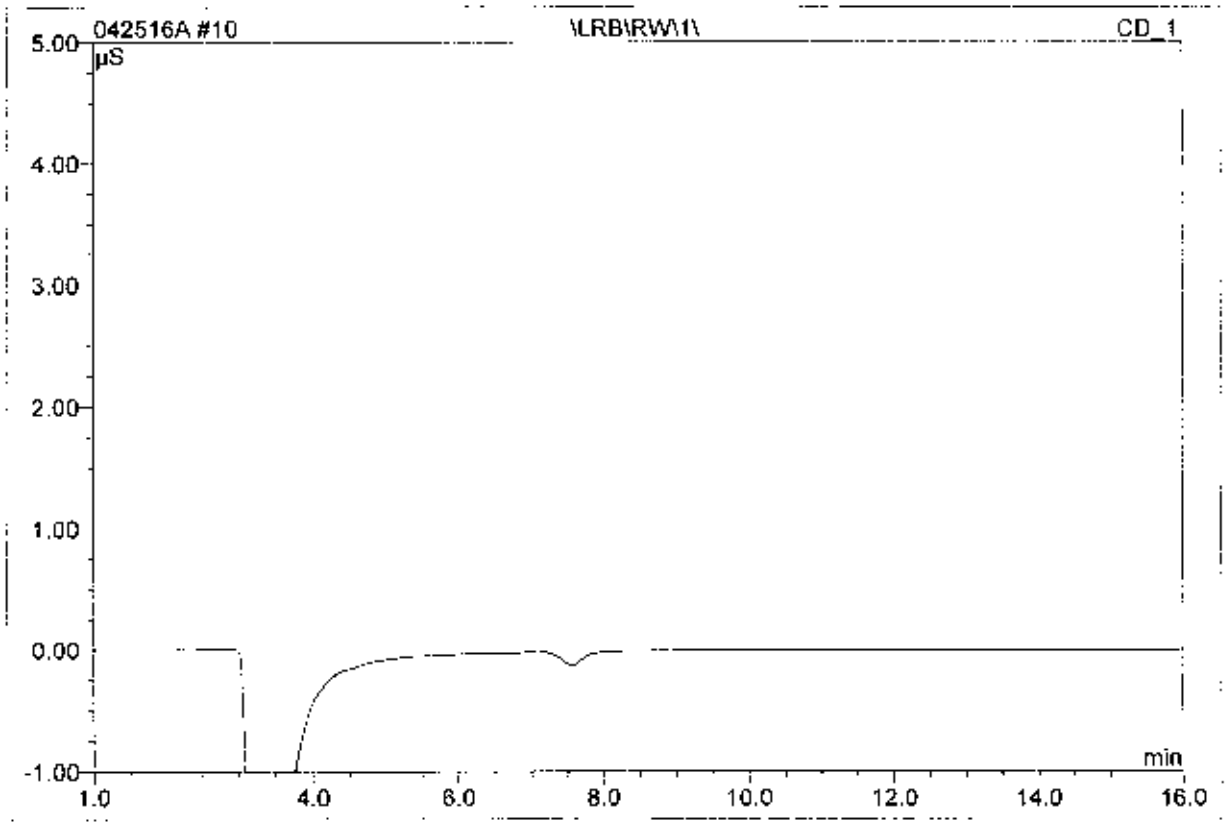
Sample Name:	**\QCS\RW\1\250**	*Injection Volume:*	**50.0**
Vial Number:	**7**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Met300B**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Met300B**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/25/2016 17:44**	*Sample Weight:*	**1.0000**
Run Time (min):	**23.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Pressure psi	Height µS	Area µS*min	Amount	Type
1	5.78	Chlorite	1895.2	0.560	0.148	237.858	BMB
2	10.76	Bromide	1895.2	0.344	0.139	235.617	BM
3	11.46	Chlorate	1895.2	0.296	0.132	234.930	MB
Total:			5685.460	1.200	0.42	708.406	

10 \LRB\RW\1\

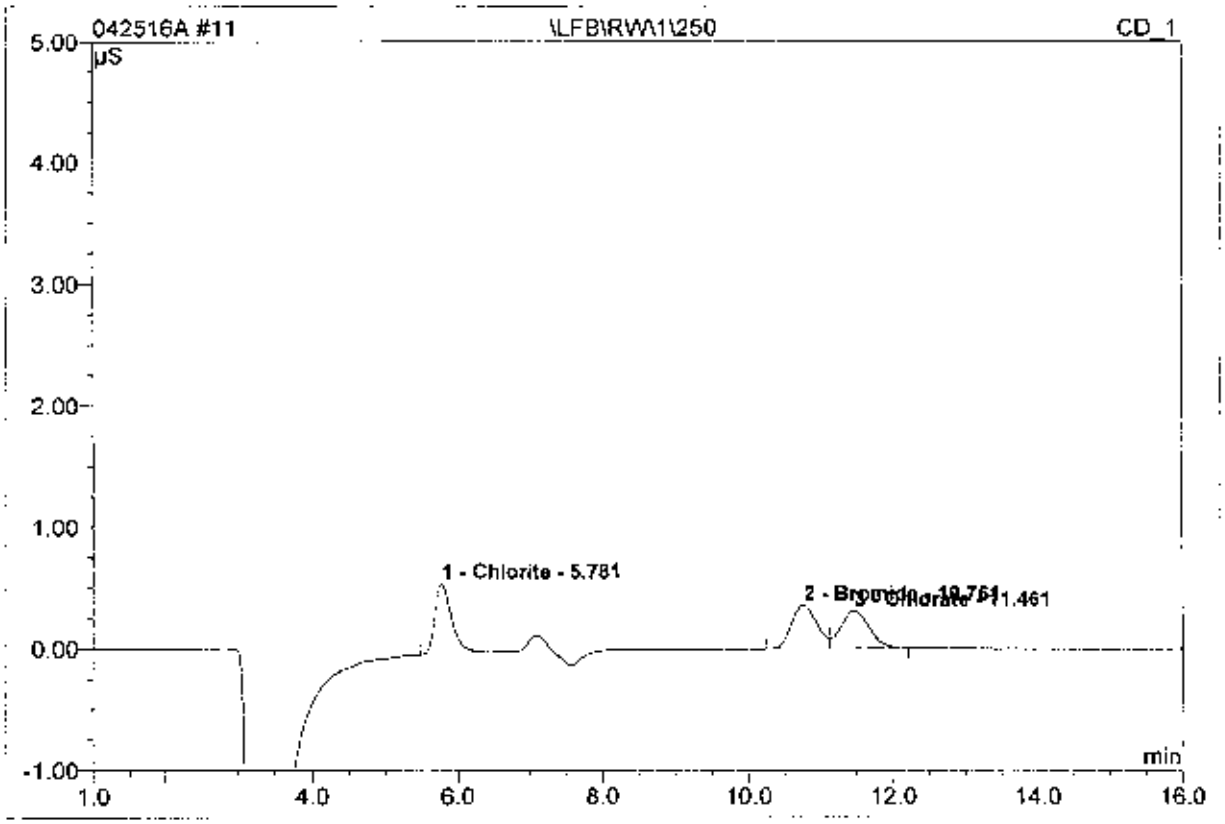
Sample Name:	**\LRB\RW\1**	*Injection Volume:*	**50.0**
Vial Number:	**10**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Met300B**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Met300B**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/25/2016 19:01**	*Sample Weight:*	**1.0000**
Run Time (min):	**23.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Pressure psi	Height µS	Area µS*min	Amount	Type
Total:			0.000	0.000	0.00	0.000	

11 \LFB\RW\1\250

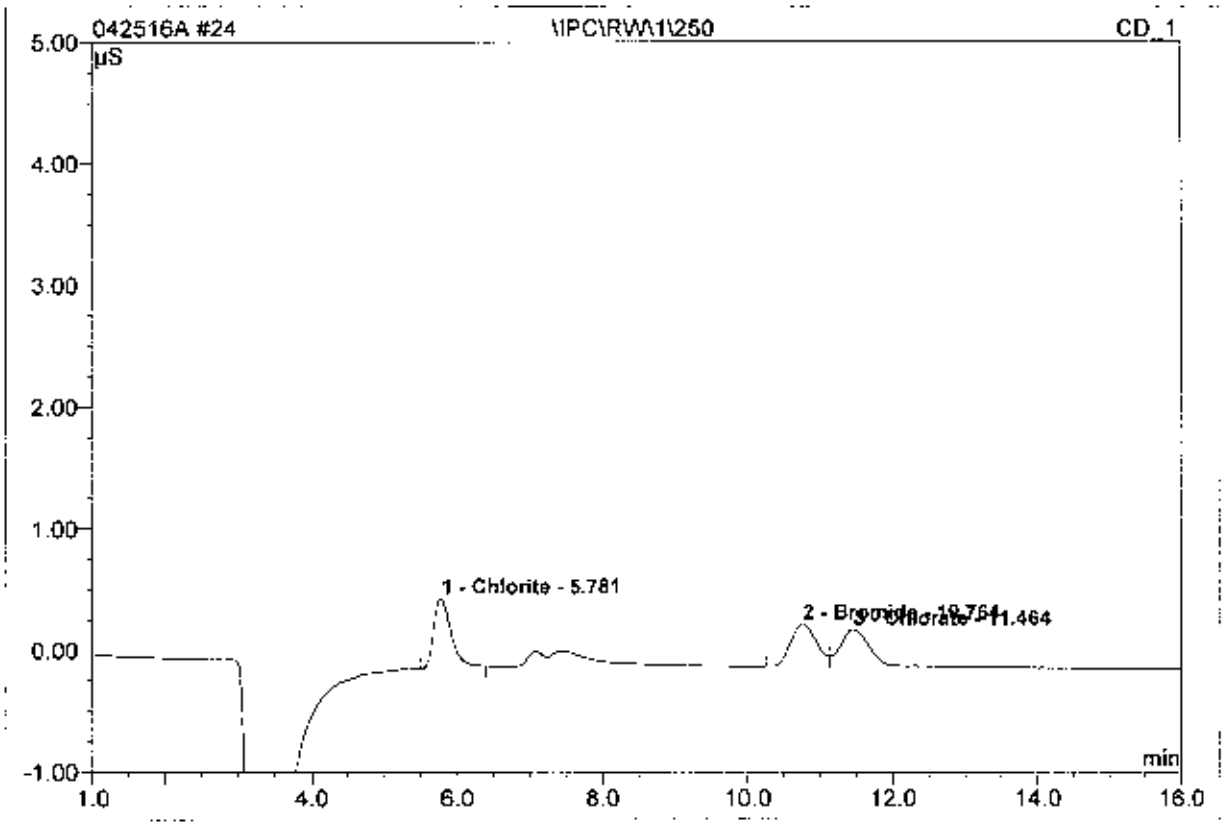
Sample Name:	**\LFB\RW\1\250**	*Injection Volume:*	**50.0**
Vial Number:	**11**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Met300B**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Met300B**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/25/2016 19:27**	*Sample Weight:*	**1.0000**
Run Time (min):	**23.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Pressure psi	Height µS	Area µS*min	Amount	Type
1	5.78	Chlorite	1900.5	0.577	0.153	246.346	BMB
2	10.76	Bromide	1900.5	0.358	0.145	245.853	BM
3	11.46	Chlorate	1900.5	0.308	0.138	245.766	MB
Total:			5701.602	1.243	0.44	737.964	

24 \IPC\RW\1\250

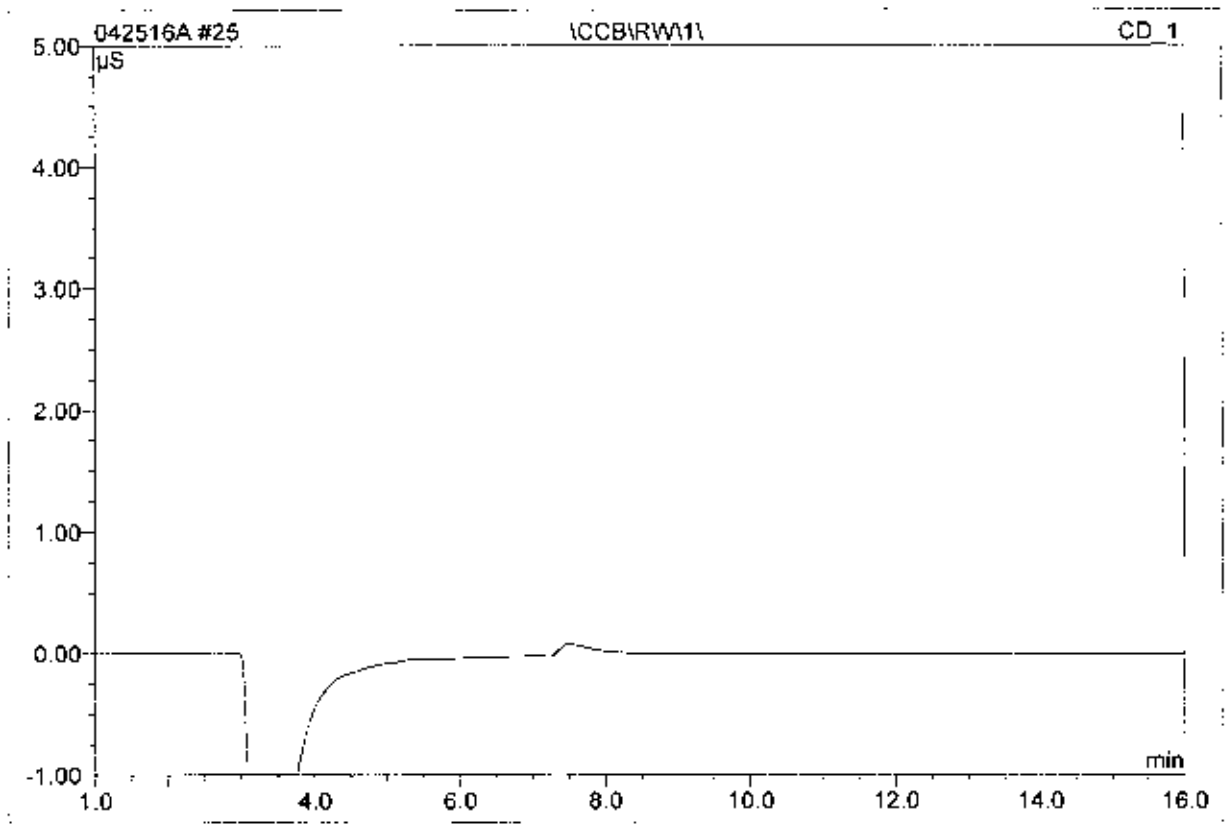
Sample Name:	**\IPC\RW\1\250**	*Injection Volume:*	**50.0**
Vial Number:	**24**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Met300B**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Met300B**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/26/2016 1:04**	*Sample Weight:*	**1.0000**
Run Time (min):	**23.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Pressure psi	Height µS	Area µS*min	Amount	Type
1	5.78	Chlorite	1899.5	0.570	0.152	244.388	BMB
2	10.76	Bromide	1899.5	0.353	0.144	243.789	BM
3	11.46	Chlorate	1899.5	0.303	0.137	244.319	MB
Total:			5698.626	1.227	0.43	732.497	

25 \CCB\RW\1\

Sample Name:	**\CCB\RW\1**	*Injection Volume:*	**50.0**
Vial Number:	**25**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Met300B**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Met300B**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/26/2016 1:30**	*Sample Weight:*	**1.0000**
Run Time (min):	**23.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Pressure psi	Height µS	Area µS*min	Amount	Type
Total:			0.000	0.000	0.00	0.000	

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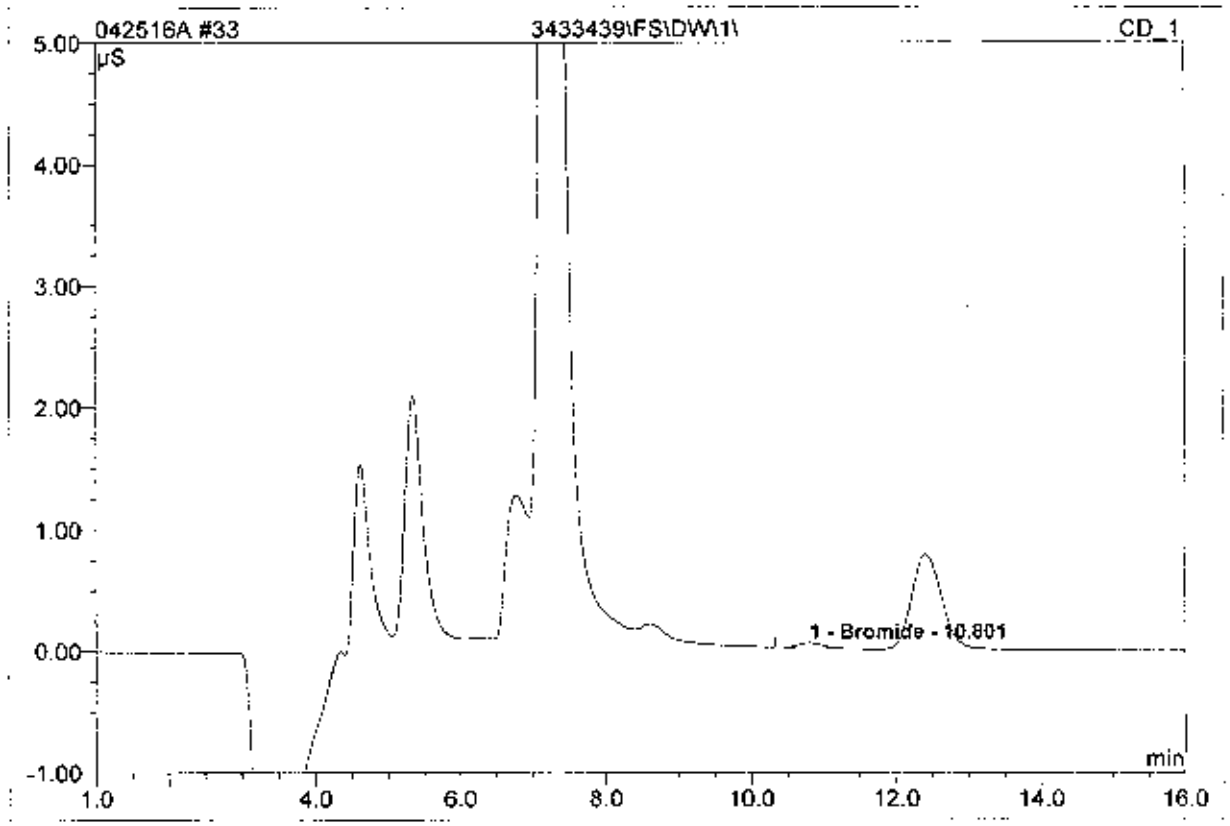
33 3433439\FS\DW\1\

Sample Name:	**3433439\FS\DW\1**	*Injection Volume:*	**50.0**
Vial Number:	**33**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Met300B**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Met300B**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/26/2016 4:57**	*Sample Weight:*	**1.0000**
Run Time (min):	**23.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Pressure psi	Height µS	Area µS*min	Amount	Type
1	10.80	Bromide	1871.3	0.042	0.017	31.070	BMB
Total:			1871.322	0.042	0.02	31.070	

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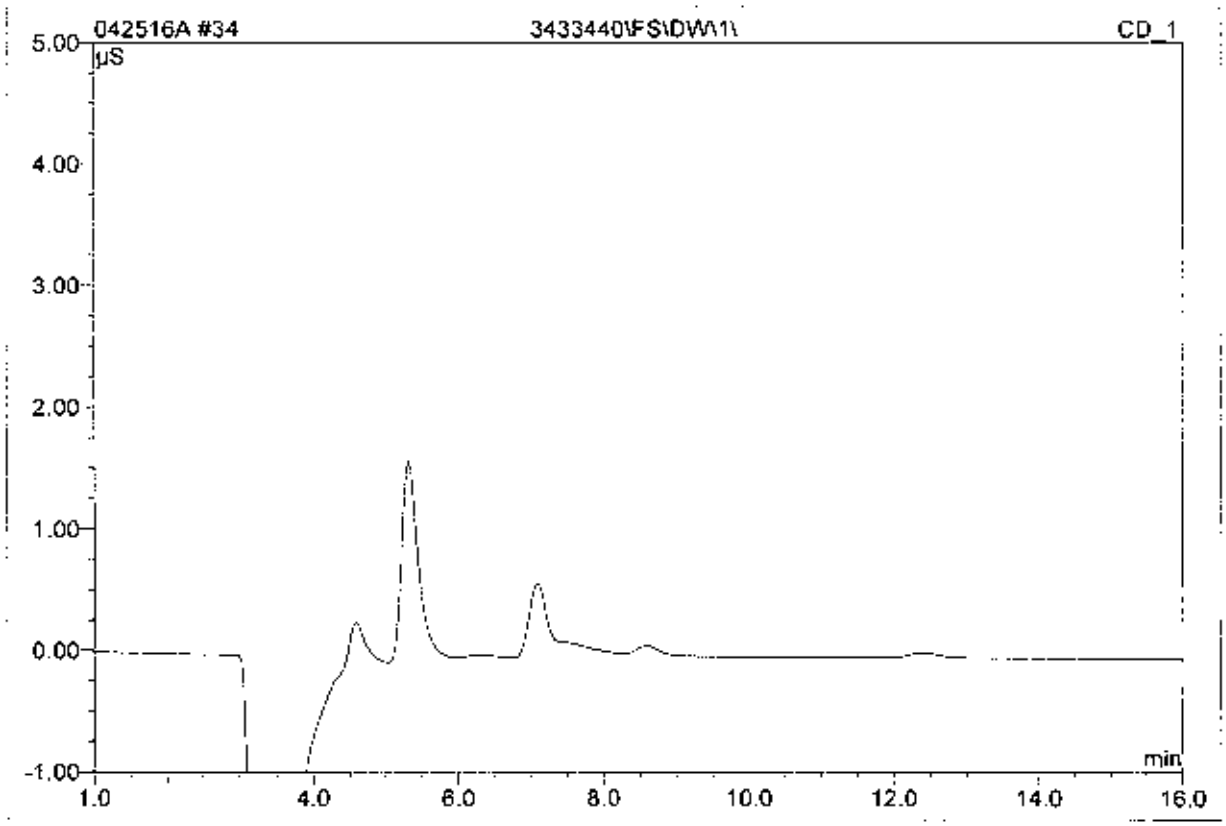
34 3433440\FS\DW\1\

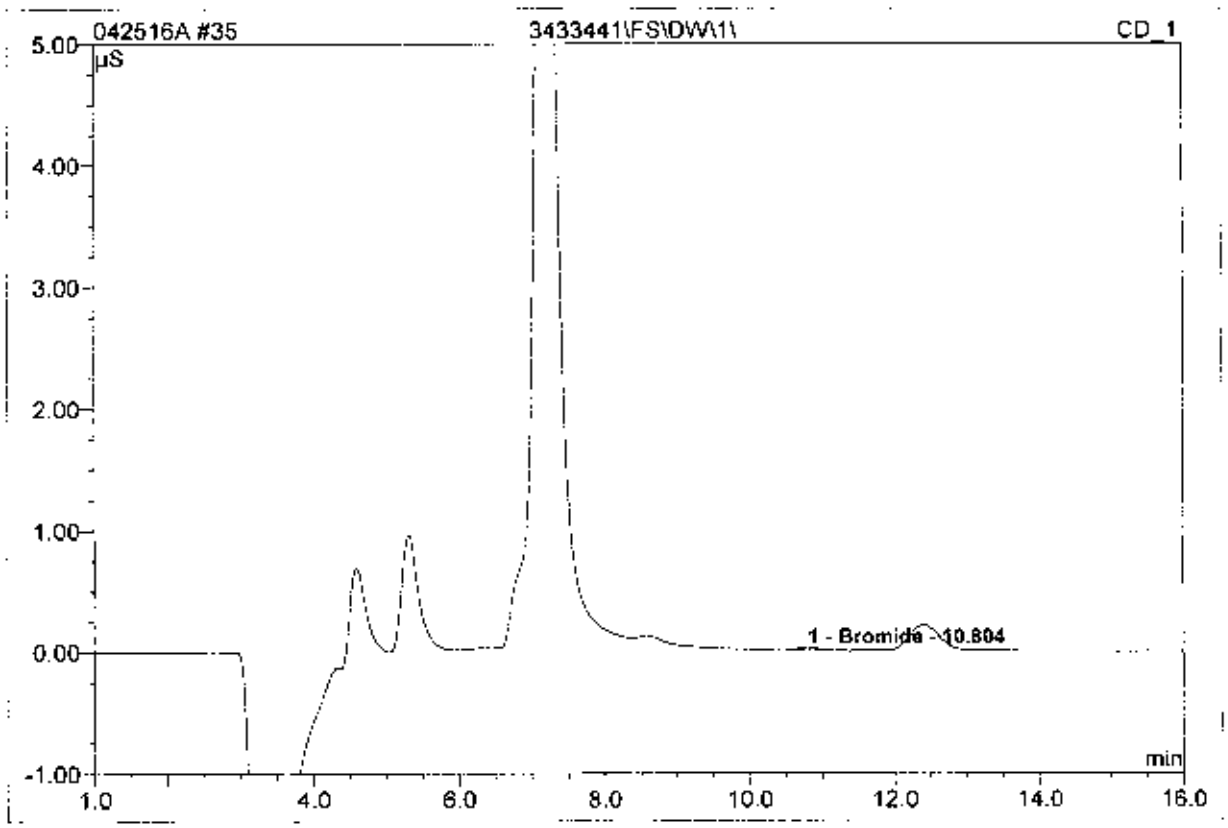
Sample Name:	**3433440\FS\DW\1**	*Injection Volume:*	**50.0**
Vial Number:	**34**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Met300B**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Met300B**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/26/2016 5:23**	*Sample Weight:*	**1.0000**
Run Time (min):	**23.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Pressure psi	Height µS	Area µS*min	Amount	Type
Total:			0.000	0.000	0.00	0.000	

35 3433441\FS\DW\1\

Sample Name:	**3433441\FS\DW\1**	*Injection Volume:*	**50.0**
Vial Number:	**35**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Met300B**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Met300B**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/26/2016 5:49**	*Sample Weight:*	**1.0000**
Run Time (min):	**23.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Pressure psi	Height µS	Area µS*min	Amount	Type
1	10.80	Bromide	1874.1	0.016	0.007	13.272	BMB
Total:			1874.143	0.016	0.01	13.272	

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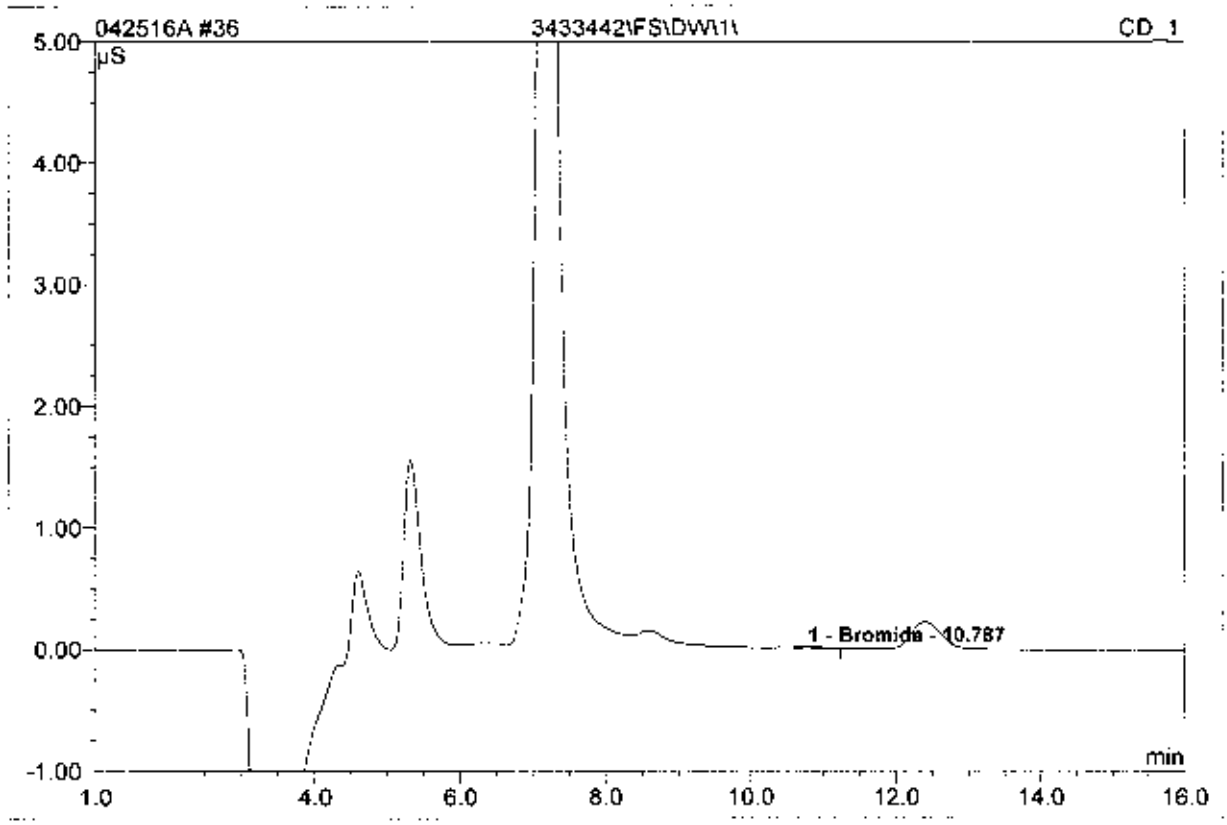
36 3433442\FS\DW\1\

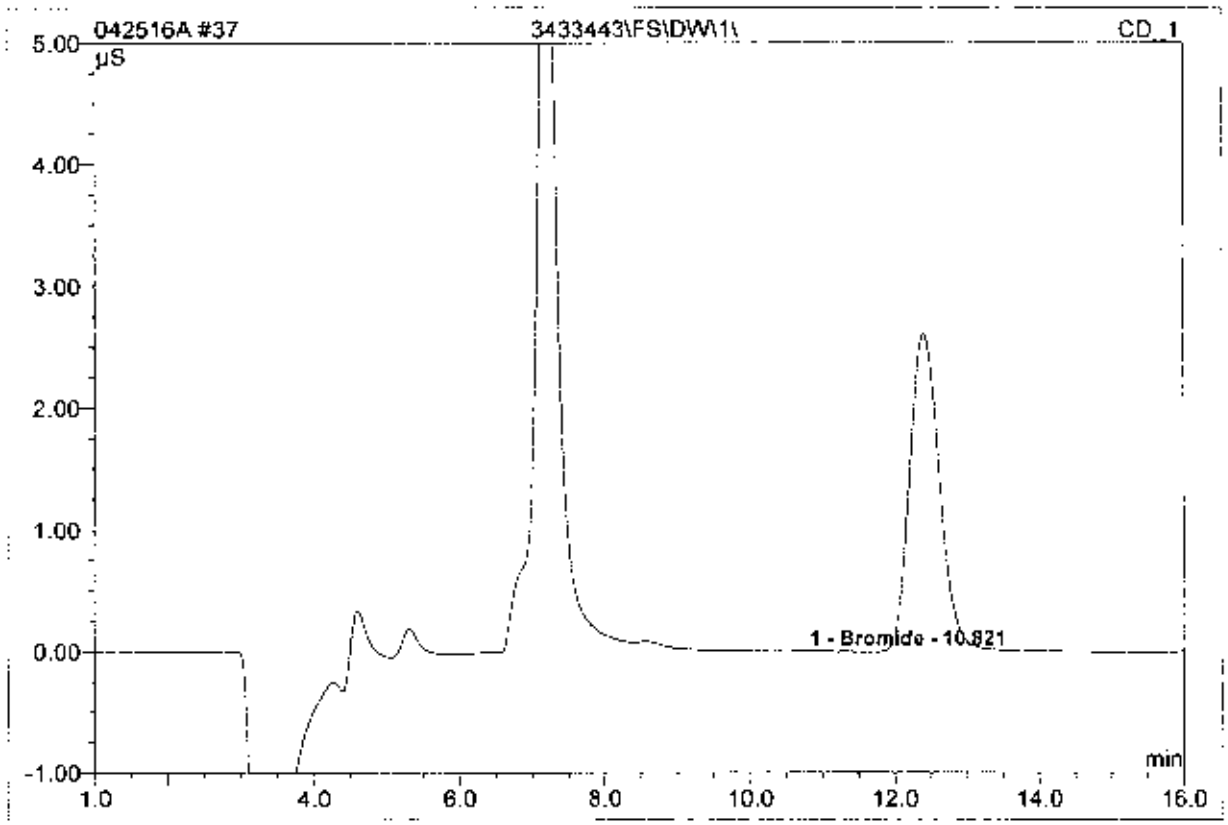
Sample Name:	**3433442\FS\DW\1**	*Injection Volume:*	**50.0**
Vial Number:	**36**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Met300B**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Met300B**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/26/2016 6:15**	*Sample Weight:*	**1.0000**
Run Time (min):	**23.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Pressure psi	Height µS	Area µS*min	Amount	Type
1	10.79	Bromide	1879.6	0.016	0.006	13.205	BMB
Total:			1879.637	0.016	0.01	13.205	

37 3433443\FS\DW\1\

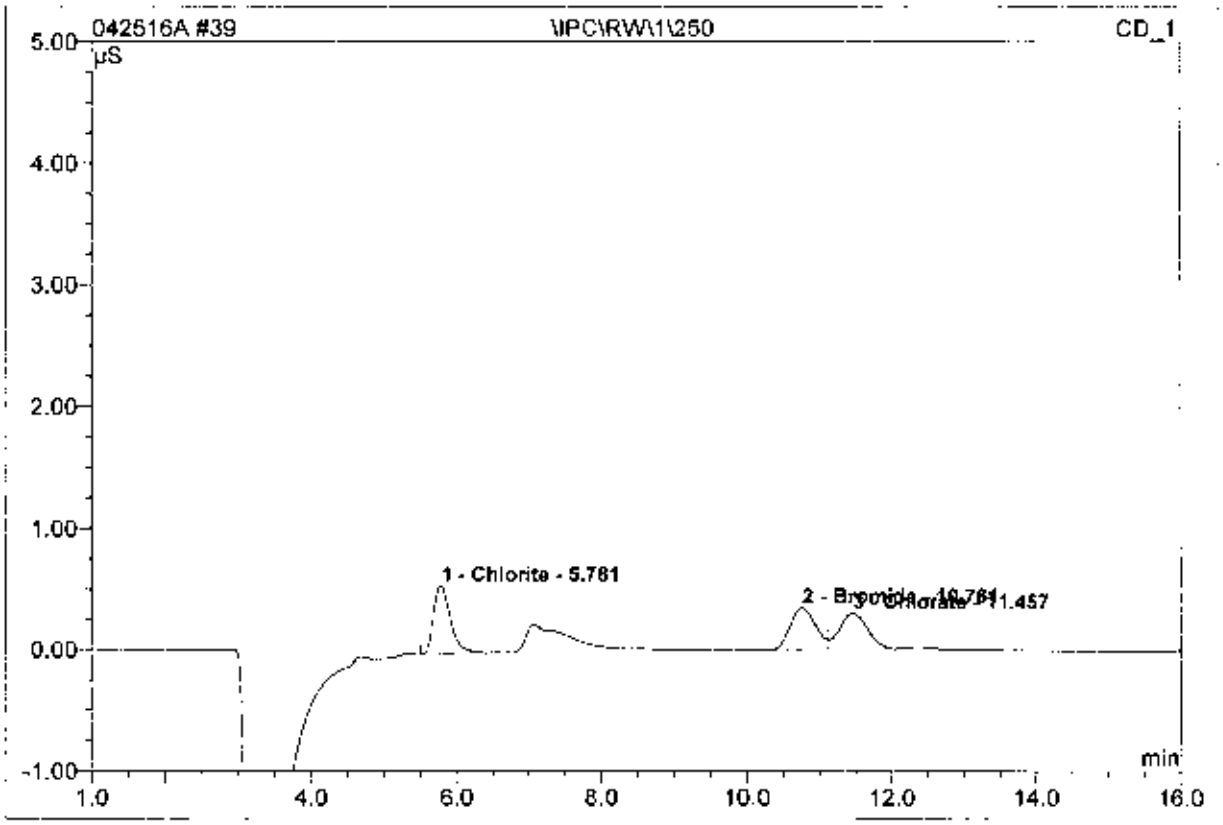
Sample Name:	**3433443\FS\DW\1**	*Injection Volume:*	**50.0**
Vial Number:	**37**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Met300B**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Met300B**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/26/2016 6:41**	*Sample Weight:*	**1.0000**
Run Time (min):	**23.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Pressure psi	Height µS	Area µS*min	Amount	Type
1	10.82	Bromide	1878.9	0.013	0.005	10.504	BMB
Total:			1878.921	0.013	0.00	10.504	

39 \IPC\RW\1\250

Sample Name:	**\IPC\RW\1\250**	*Injection Volume:*	**50.0**
Vial Number:	**39**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Met300B**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Met300B**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/26/2016 7:33**	*Sample Weight:*	**1.0000**
Run Time (min):	**23.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Pressure psi	Height µS	Area µS*min	Amount	Type
1	5.78	Chlorite	1895.0	0.560	0.149	239.860	BMB
2	10.76	Bromide	1895.0	0.350	0.143	243.631	BM
3	11.46	Chlorate	1895.0	0.298	0.134	239.140	MB
Total:			5684.929	1.208	0.43	722.631	

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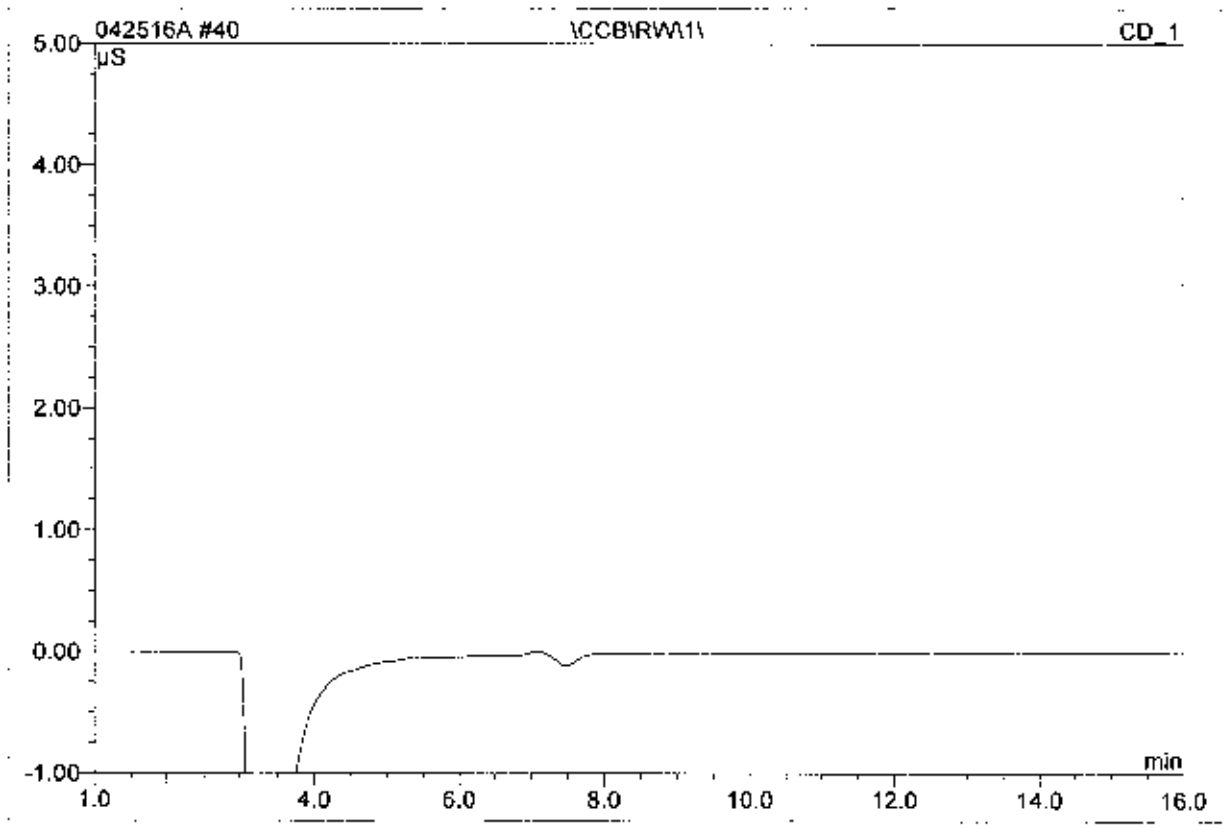
40 \CCB\RW\1\

Sample Name:	**\CCB\RW\1**	*Injection Volume:*	**50.0**
Vial Number:	**40**	*Channel:*	**CD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**Met300B**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Met300B**	*Dilution Factor:*	**1.0000**
Recording Time:	**4/26/2016 7:59**	*Sample Weight:*	**1.0000**
Run Time (min):	**23.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Pressure psi	Height µS	Area µS*min	Amount	Type
Total:			0.000	0.000	0.00	0.000	

Title: 300B
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Timebase: ICS 5000 DT
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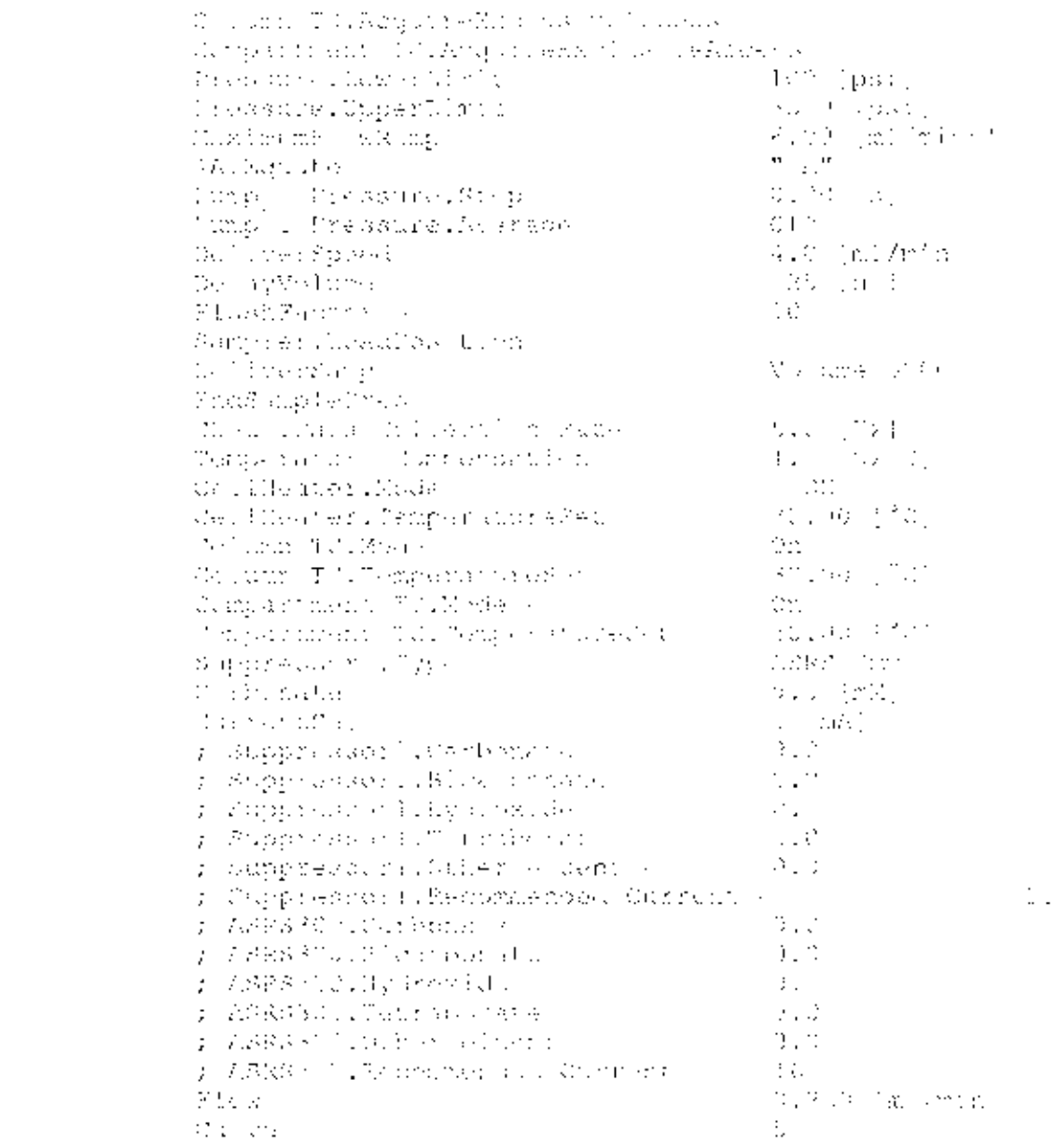
Changed: 4/11/2016 4:38:22 PM by SBNLab003



Title: 300B
Datasource: SBNLAB003-PC_local
Location: ICS_5000_DT\300B\2016\042616A.SEQ
Timebase: ICS_5000_DT
Created: 3/6/2013 4:00:11 PM by SBNLab003
Changed: 4/11/2016 4:38:22 PM by SBNLab003

Program File:	Met300B
Operator:	SBNLab003
Printed:	4/26/2016 9:55:36 AM
Title:	300B
Datasource:	SBNLAB003-PC_local
Location:	ICS_5000_DT\300B\2016\042516A.SEQ
Timebase:	ICS_5000_DT
Created:	3/6/2013 4:00:11 PM by SBNLab003
Changed:	4/11/2016 4:38:22 PM by SBNLab003

No.	Channel	Operation	Parameters

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Title: 300B
Datasource: SBNLAB003-PC_local
Location: ICS_5000_DT\300B\2016\042516A.SEQ
Created: 3/6/2013 4:00:11 PM by SBNLab003
Last Update. 4/26/2016 9:54:50 AM by SBNLab003

Blank Run Subtraction: No Blank Run Subtraction

Detection Table:

No.	Ret. Time [min]	Param. Name	Param. Value	Channel
1	0.000	Minimum Area	0.002 "[Signal]*min"	All Channels
2	0.000	Inhibit Integration	On	All Channels
3	0.000	Peak Slice	2.00 s	All Channels
4	0.000	Sensitivity	0.05 "[Signal]"	All Channels
5	5.400	Inhibit Integration	Off	All Channels
6	6.400	Inhibit Integration	On	All Channels
7	10.250	Inhibit Integration	Off	All Channels
8	12.300	Inhibit Integration	On	All Channels

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Title: 300B
Datasource: SBNLAB003-PC_local
Location: ICS_5000_DT\300B\2D16\042516A.SEQ
Created: 3/6/2013 4:00:11 PM by SBNLab003
Last Update: 4/26/2016 9:54:50 AM by SBNLab003

Peak Table:

Use Recently Detected Retention Times: Off
Peak Retention Time Determination: Absolute
Dead time:
Delay Time of 2'nd Detector: <None>
Delay Time of 3'rd Detector: <None>

No.	Peak Name	Ret.Time	Window	Standard	Int.Type	Cal.Type	Peak Type	Group	Amount \\CB\RW\1\
1	Chlorite	5.780 min	2.500 RF	External	Area	LOff	Auto		0.000000
2	Bromide	10.760 min	5.000 RN	External	Area	LOff	Auto		0.000000
3	Chlorate	11.460 min	5.000 RN	External	Area	LOff	Auto		0.000000

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Title: 300B
Datasource: SBNLAB003-PC_local
Location: ICS_5000_DT\300B\2016\042516A.SEQ
Created: 3/6/2013 4:00:11 PM by SBNLab003
Last Update: 4/26/2016 9:54:50 AM by SBNLab003

Peak Table:

Use Recently Detected Retention Times: Off
Peak Retention Time Determination: Absolute
Dead time:
Delay Time of 2'nd Detector: <None>
Delay Time of 3'rd Detector: <None>

No.	Peak Name	Ret.Time	Amount \ICS\RW\1\10	Amount \ICS\RW\1\20	Amount \ICS\RW\1\100	Amount \ICS\RW\1\500	Amount \ICS\RW\1\1000	Comment
1	Chlorite	5.780 min	10.000000	20.000000	100.000000	500.000000	1000.000000	Autogenerated
2	Bromide	10.760 min	10.000000	20.000000	100.000000	500.000000	1000.000000	Autogenerated
3	Chlorate	11.460 min	10.000000	20.000000	100.000000	500.000000	1000.000000	Autogenerated

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Title: 300B
Datasource: SBNLAB003-PC_local
Location: ICS_5000_DT\300B\2016\D42516A.SEQ
Created: 3/6/2013 4:00:11 PM by SBNLab003
Last Update: 4/26/2016 9:54:50 AM by SBNLab003

Amount Table:

Dimension of Amounts:
Reference volume for amounts: Use inject volume of first standard
Number of Amount Columns: 6
Sample column used for amount column assignment: Sample Name

No.	Peak Name	Ret.Time	Resp.Fact.	Amount \ICB\RW\1\	Amount \ICS\RW\1\10	Amount \ICS\RW\1\20	Amount \ICS\RW\1\100	Amount \ICS\RW\1\500
1	Chlorite	5.780 min	1.000000	0.000000	10.000000	20.000000	100.000000	500.000000
2	Bromide	10.760 min	1.000000	0.000000	10.000000	20.000000	100.000000	500.000000
3	Chlorate	11.460 min	1.000000	0.000000	10.000000	20.000000	100.000000	500.000000

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Title: 300B
Datasource: SBNLAB003-PC_local
Location: ICS_5000_DT\300B\2016\042516A.SEQ
Created: 3/6/2013 4:00:11 PM by SBNLab003
Last Update: 4/26/2016 9:54:50 AM by SBNLab003

Amount Table:

Dimension of Amounts:
Reference volume for amounts: Use inject volume of first standard
Number of Amount Columns: 6
Sample column used for amount column assignment: Sample Name

No.	Peak Name	Ret.Time	Amount \ICS\RW\1\1000	Comment
1	Chlorite	5.780 min	1000.000000	Autogenerated
2	Bromide	10.760 min	1000.000000	Autogenerated
3	Chlorate	11.460 min	1000.000000	Autogenerated

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Title: 300B
Datasource: SBNLAB003-PC_local
Location: ICS_5000_DT\300B\2016\042516A.SEQ
Created: 3/6/2013 4:00:11 PM by SBNLab003
Last Update: 4/26/2016 9:54:50 AM by SBNLab003

Calibration:

Calibration Mode: Total
Auto Recalibrate: On
Curve Fitting Model: Normal
Dual-Column Separate Calibration: Off

No.	Enabled	Name	Smp.No.	Pos.	Inj. Vol.	Weight	ISTD Amount	Dil. Factor
1	☒	*\VCB\RW\1*	*1*	*1*	*50.0*	*1.0000*	*1.0000*	*1.0000*
2	☒	\ICS\RW\1\10	2	2	50.0	1.0000	1.0000	1.0000
3	☒	\ICS\RW\1\20	3	3	50.0	1.0000	1.0000	1.0000
4	☒	\ICS\RW\1\100	4	4	50.0	1.0000	1.0000	1.0000
5	☒	\ICS\RW\1\500	5	5	50.0	1.0000	1.0000	1.0000
6	☒	\ICS\RW\1\1000	6	6	50.0	1.0000	1.0000	1.0000

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Title: 300B

Datasource:	SBNLAB003-PC_local	Created:	3/6/2013 4:00:11 PM by SBNLab003
Location:	ICS_5000_DT\300B\2016\042516A.SEQ	Last Update:	4/26/2016 9:54:50 AM by SBNLab003

Calibration:

Calibration Mode: Total
Auto Recalibrate: On
Curve Fitting Model: Normal
Dual-Column Separate Calibration: Off

No.	Enabled	Name	Inj. Date/Time	Sample Comment	Calib. Comment
1	☒	*\VCB\RW\1*	*4/25/2016 3:08:35 PM*		*Couldn't find the peak in the chromatogram.*
2	☒	\ICS\RW\1\10	4/25/2016 3:34:30 PM		Ok
3	☒	\ICS\RW\1\20	4/25/2016 4:00:24 PM		Ok
4	☒	\ICS\RW\1\100	4/25/2016 4:26:19 PM		Ok
5	☒	\ICS\RW\1\500	4/25/2016 4:52:13 PM		Ok
6	☒	\ICS\RW\1\1000	4/25/2016 5:18:08 PM		Ok

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Title: 300B
Datasource: SBNLAB003-PC_local
Location: ICS_5000_DT\300B\2016\042516A.SEQ
Created: 3/6/2013 4:00:11 PM by SBNLab003
Last Update: 4/26/2016 9:54:50 AM by SBNLab003

System Suitability Test:

No.	Name	Sample Condition	Test Condition	Aggregate	Operator	Value	Rounding
1							

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Title: 300B
Datasource: SBNLAB003-PC_local
Location: ICS_5000_DT\300B\2016\042516A.SEQ
Created: 3/6/2013 4:00:11 PM by SBNLab003
Last Update: 4/26/2016 9:54:50 AM by SBNLab003

System Suitability Test:

No.	Name	Channel	Peak	N.A.	Fail-Action	Result	SST Message
1							

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Eurofins Eaton Analytical

Method 300.0 B Ion Chromatography Standard / Reagent Preparation Log

Run ID# 215046 **Instrument#** CC

Stock Name/Part#/Grade	Manufacturer	Lot#	Date Received	Date Opened	Date of Expiration
Chlorite Cal Stock / ICCLO21	Inorganic Ventures	H2-CLOX01104MCA	08/06/2014	08/10/2015	08/10/2016
Bromide Cal Stock / ICBR1	Inorganic Ventures	J2-BR01106	08/06/2014	08/10/2015	08/10/2016
Chlorate Cal Stock / ICCLO31	Inorganic Ventures	J2-CLOX01107	08/06/2014	08/10/2015	08/10/2016
ChlorateQC Stock / ICCLO21	Inorganic Ventures	J2-CLOX01108	08/06/2014	08/10/2015	08/10/2016
Bromide QC Stock / ICC-031	Ultra Scientific	CL-4936	07/15/2015	07/21/2015	01/31/2019
Chlorate QC Stock / ICC-011	Ultra Scientific	P01208	07/15/2015	07/21/2015	12/31/2016
EDA / E479-500	Fisher	148201	08/19/2015	08/31/2015	NA

Working Solution Name	Stock Name, Amounts Used, Final Volume and Concentration
Cal Substock -25	1250 uL of each Cal Stock in 50 mL volume RW= 25.0 mg/L
Cal Substock -25	1250 uL of each Cal Stock in 50 mL volume RW= 25.0 mg/L

Analyst: S Lovick **Prep Date:** 04/11/2016 **Exp. Date:** 05/11/2016

Cal Standard	Br^-, ClO_3^- & ClO_2^- Concentration (µg/L)	25 mg/L Cal Substock Vol. (µL)	25 mg/L QC Substock Vol. (µL)	50 mg/mL EDA Vol. (µL)	Final Vol. (mL)
1	10	4		10	10
2	20	8		10	10
3	100	40		10	10
4	250	100		10	10
5	500	200		10	10
QCS	250		100	10	10

Analyst: S Lovick **Prep Date:** 04/25/2016 **Exp. Date:** 05/02/2016

LFB	250	100		10	10

Analyst: S Lovick **Prep Date:** 04/27/2016 **Exp. Date:** 05/02/2016

EDA solution	5.6 mL EDA to 100 mL volume RW = 50 mg/mL Prep ID IC46-11a

Analyst: S Lovick **Prep Date:** 04/18/2016 **Exp. Date:** 05/18/2016

Comments: Dionex IonPac AS19-HC 4mm s/n 011629 lot#014-27-049 installed 5/15/2015

EGCIII-E cont Cartridge s/n 150662241012 installed 09/22/2015

Analyst: [signature] **Date:** APR 27 2016

Technician Review: [signature] **Date:** 04/27/2016

(signature)

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Summary

Sequence Details		
Name:	**042716A**	14/Jan/15 14:57:12
Directory	**Instrument Data\CQ\300B\2016**	**Eurofins Eaton Analy**
Data Vault:	**ChromeleonLocal**	27/Apr/16 16:32:23
No. of Injections:	**17**	**us25_usr_sbnlabpcs**
By Component	**Chlorate**	

No.	Injection Name	Inject Time	Area µS*min CD_1 Chlorite	Amount ppb CD_1 Chlorite	Area µS*min CD_1 Chlorate	Amount PPM CD_1 Chlorate	Area µS*min CD_1 Bromide	Amount PPM CD_1 Bromide
1	\ICB\RW\1\	04/26/16 12:22	n.a.	n.a.	0.000	5.590	0.000	5.345
2	\ICS\RW\1\10	04/26/16 12:57	0.009	14.768	0.008	12.607	0.009	12.686
3	\ICS\RW\1\20	04/26/16 13:33	0.019	22.362	0.017	20.754	0.019	20.723
4	\ICS\RW\1\100	04/26/16 14:08	0.120	95.522	0.099	93.211	0.107	93.559
5	\ICS\RW\1\250	04/26/16 14:44	0.323	243.284	0.269	243.126	0.287	242.962
6	\ICS\RW\1\500	04/26/16 15:19	0.682	504.064	0.585	504.712	0.603	504.724
7	\IPC\RW\1\250	04/27/16 10:07	0.322	242.105	0.270	244.299	0.289	244.413
8	\RLC\RW\1\10	04/27/16 10:42	0.009	14.443	0.009	13.167	0.010	13.347
9	\LRB\RW\1\	04/27/16 11:18	n.a.	n.a.	n.a.	n.a.	0.000	5.344
10	\LFB\RW\1\250	04/27/16 11:53	0.325	244.878	0.272	246.216	0.291	246.439
11	3433436\FS\GW\1\	04/27/16 12:29	n.a.	n.a.	0.002	7.204	0.043	40.877
12	3433437\MS\GW\1\250	04/27/16 13:04	0.274	207.126	0.298	268.721	0.359	302.660
13	3433438\MSD\GW\1\250	04/27/16 13:40	0.276	209.028	0.303	273.642	0.366	308.086
14	3433717\FS\DW\5\	04/27/16 14:15	0.124	98.470	0.020	22.957	0.005	9.819
15	3435627\FS\DW\5\	04/27/16 14:51	0.131	103.693	0.011	15.535	0.007	11.265
16	\IPC\RW\1\250	04/27/16 15:26	0.320	241.139	0.270	244.216	0.288	243.952
17	\CCB\RW\1\	04/27/16 16:02	n.a.	n.a.	n.a.	n.a.	0.000	5.344

Detection Settings

Algorithm Chromeleon 6

Ret.Time	Param. Name	Param.Value	Inj. Type	Channel
0.000 [min]	Inhibit Integration	On	Any	All Channels
0.000 [min]	Valley To Valley	On	Any	All Channels
0.000 [min]	Sensitivity	0.0100 [Signal]	Any	All Channels
0.000 [min]	Peak Size	1.75 [s]	Any	All Channels
0.000 [min]	Minimum Area	0.0000 [Signal*min]	Any	All Channels
6.720 [min]	Inhibit Integration	Off	Any	All Channels
8.000 [min]	Inhibit Integration	On	Any	All Channels
11.500 [min]	Inhibit Integration	Off	Any	All Channels
14.600 [min]	Inhibit Integration	On	Any	All Channels

Component Table

Name	Ret.Time	Window	Channel	Eval.Type	Stand.Meth.	Cal.Type
Chlorite	7.135	2.000 RG	All Channels	Area	External	Lin, WithOffset
Chlorate	12.185	3.000 RG	All Channels	Area	External	Lin, WithOffset
Bromide	13.295	2.000 RG	All Channels	Area	External	Lin, WithOffset

Level "01"	Level "02"	Level "03"	Level "04"	Level "05"	Level "06"	Level "07"
0.000000	10.000000	20.000000	100.000000	250.000000	500.000000	1000.000000
0.000000	10.000000	20.000000	100.000000	250.000000	500.000000	1000.000000
0.000000	10.000000	20.000000	100.000000	250.000000	500.000000	1000.000000

Conc.Unit	Factor	Peak Type	Group	Low.Conf.Prob	Up.Conf.Prob	Comment
ppb	1.000000	Autodetect		99.5 %	99.5 %	auto generated
PPM	1.000000	Autodetect		99.5 %	99.5 %	auto generated
PPM	1.000000	Autodetect		99.5 %	99.5 %	auto generated

Charge

Global Calibration Settings

Mode	**Group**
Curve Fitting	**Normal**
Dual-Column Separate Calibration	**No**
Origin of Standards for Fixed Calibration:	

Calibration Table

Enabled	Name	Calib.Comment for "Chlorite"	Level	Dilution	Weight
☑	\ICB\RW\1\	Missing Peak	01	1.0000	1.0000
☑	\ICS\RW\1\10	Ok	02	1.0000	1.0000
☑	\ICS\RW\1\20	Ok	03	1.0000	1.0000
☑	\ICS\RW\1\100	Ok	04	1.0000	1.0000
☑	\ICS\RW\1\250	Ok	05	1.0000	1.0000
☑	\ICS\RW\1\500	Ok	06	1.0000	1.0000

IntStd	Spike Group	Position	Volume	Comment	Instrument Method	Processing Method
1.0000		G8	250.0 [µl]		AS19 4mm	AS19 4mm
1.0000		G2	250.0 [µl]		AS19 4mm	AS19 4mm
1.0000		G3	250.0 [µl]		AS19 4mm	AS19 4mm
1.0000		G4	250.0 [µl]		AS19 4mm	AS19 4mm
1.0000		G5	250.0 [µl]		AS19 4mm	AS19 4mm
1.0000		G6	250.0 [µl]		AS19 4mm	AS19 4mm

Status	Inject Time	Replicate ID	GUID	Re-injections	AutoDilution Ratio
Finished	4/26/2016		1B85A0C1-8E16-	0	0.00
Finished	4/26/2016		30D9134E-492F-	0	0.00
Finished	4/26/2016		523CE60C-	0	0.00
Finished	4/26/2016		C6AAAC48-	0	0.00
Finished	4/26/2016		3557084F-1AC4-	0	0.00
Finished	4/26/2016		3C8A6282-AF79-	0	0.00

Unidentified Peak Group Table

Name	Start Time	End Time	Channel	Eval.Type	Cal.Type	Group	Factor	Comment

Chromatogram Subtraction

No Subtraction

Comment

Amount Interpretation

Reference Inject Volume. **Use inject volume of first standard**

Retention Time Settings

Use absolute greatest signal value

Dead/Delay Time(s)

Dead time

Matrix Correction

Enable matrix correction **No**

System Suitability Test and Intelligent Run Control

Name	Statistics	Eval. Formula	Operator	Ref.Value 1	Ref.Value 2	Channel	Peak	N.A.

Inj.Condition	Pass Actions	Fail Actions	Result	SST Message	Rounding

Name	**AS19 4mm**
Comment	
Description	**Instrument: ICS2000** **Creation Time: 1/14/2015 12:24:40 PM** **Created by EurofinsEatonAnaly**
Run time	**30.000 [min]**
Instrument	**CQ on us25ins87994**

Stage	Time min	Command	Value	Comment
Instrument Setup				
	initial			
		Sampler.AcquireExclusiveAccess		
		Wait	Sampler.Ready, Run=Hold, Timeout=Infinite	
		Sampler.DiverterValve	Position_2	
		Wait	Sampler.Ready, Run=Hold, Timeout=Infinite	
		Sampler.PartialCutVolume	20.0 [µl]	
		Sampler.CycleTime	0 [min]	
		Sampler.InjectMode	PushSeqPartial	
		Sampler.BufferWashFactor	2.000	
		Sampler.WashDispSpeed	20.0 [µl/s]	
		Sampler.InjectWash	BeforeInj	
		Sampler.WashSpeed	20.0 [µl/s]	
		Sampler.WashVolume	500.0 [µl]	
		Sampler.SampleHeight	3.000 [mm]	
		Sampler.WasteSpeed	50.0 [µl/s]	
		Sampler.DispenseDelay	2.0 [s]	
		Sampler.DispSpeed	5.0 [µl/s]	
		Sampler.DrawSpeed	5.0 [µl/s]	
		Sampler.DrawDelay	2.0 [s]	
		Sampler.DilutionMixDispenseSpeed	60.0 [µl/s]	
		Sampler.DilutionMixIterations	3	
		Sampler.DilutionMixSpeed	30.0 [µl/s]	
		Pump_ECD.Pressure.UpperLimit	3000 [psi]	
		Pump_ECD.%A.Equate	"DI Water"	
		Pump_ECD.Pressure.LowerLimit	200 [psi]	
		Pump_ECD.ColumnTemperature.Nominal	30.0 [°C]	
		Pump_ECD.CellTemperature.Nominal	35.0 [°C]	
		Pump_ECD.Data_Collection_Rate	5.0 [Hz]	
		Pump_ECD.Suppressor_Type	AERS_4mm	
		Pump_ECD.Suppressor_Carbonate	0.0 [mM]	
		Pump_ECD.Suppressor_Bicarbonate	0.0 [mM]	
		Pump_ECD.Suppressor_Hydroxide	30.0 [mM]	
		Pump_ECD.Suppressor_Tetraborate	0.0 [mM]	
		Pump_ECD.Suppressor_OtherEluent	0.0 [mN]	
		Pump_ECD.Suppressor_RecommendedCurrent	75 [mA]	
		Pump_ECD.CR_TC	On	
		Sampler.PunctureOffset	0 [mm]	
		Sampler.InjectWash	BeforeInj	
		Pump_ECD.Flow	1.00	
		Pump_ECD.Suppressor_Current	75 [mA]	
		Pump_ECD.EluentGenerator.Curve	5	

		Pump_ECD.EluentGenerator.Concentration	10.00 [mM]
Inject			
	0.000		
		Wait	Sampler.CycleTimeState, Run=Hold, Timeout=Infinite
		Sampler.Inject	
		Sampler.ReleaseExclusiveAccess	
Start Run			
	0.000		
		Pump_ECD.Channel_Pressure.AcqOn	
		Pump_ECD.Autozero	
		Pump_ECD.ECD_1.AcqOn	
		Pump_ECD.ECD_Total.AcqOn	
Run			Duration = 30.000 [min]
	0.000		
	15.000		
		Pump_ECD.EluentGenerator.Concentration	10.00 [mM]
		Pump_ECD.EluentGenerator.Curve	5
	24.000		
		Pump_ECD.EluentGenerator.Concentration	40.00 [mM]
		Pump_ECD.EluentGenerator.Curve	5
	24.500		
		Pump_ECD.EluentGenerator.Concentration	10.00 [mM]
		Pump_ECD.EluentGenerator.Curve	1
Stop Run			
	30.000		
		Pump_ECD.Channel_Pressure.AcqOff	
		Pump_ECD.ECD_1.AcqOff	
		Pump_ECD.ECD_Total.AcqOff	
End			

Sequence Overview

Sequence Details

Name:	**042716A**	*Created On:*	**14/Jan/15 14:57:12**
Directory:	**Instrument Data\CQ\300B\2016**	*Created By:*	**Eurofins Eaton Analy**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**27/Apr/16 16:32:23**
No. of Injections:	**17**	*Updated By:*	**us25_usr_sbnlabpcs**

Injection Details

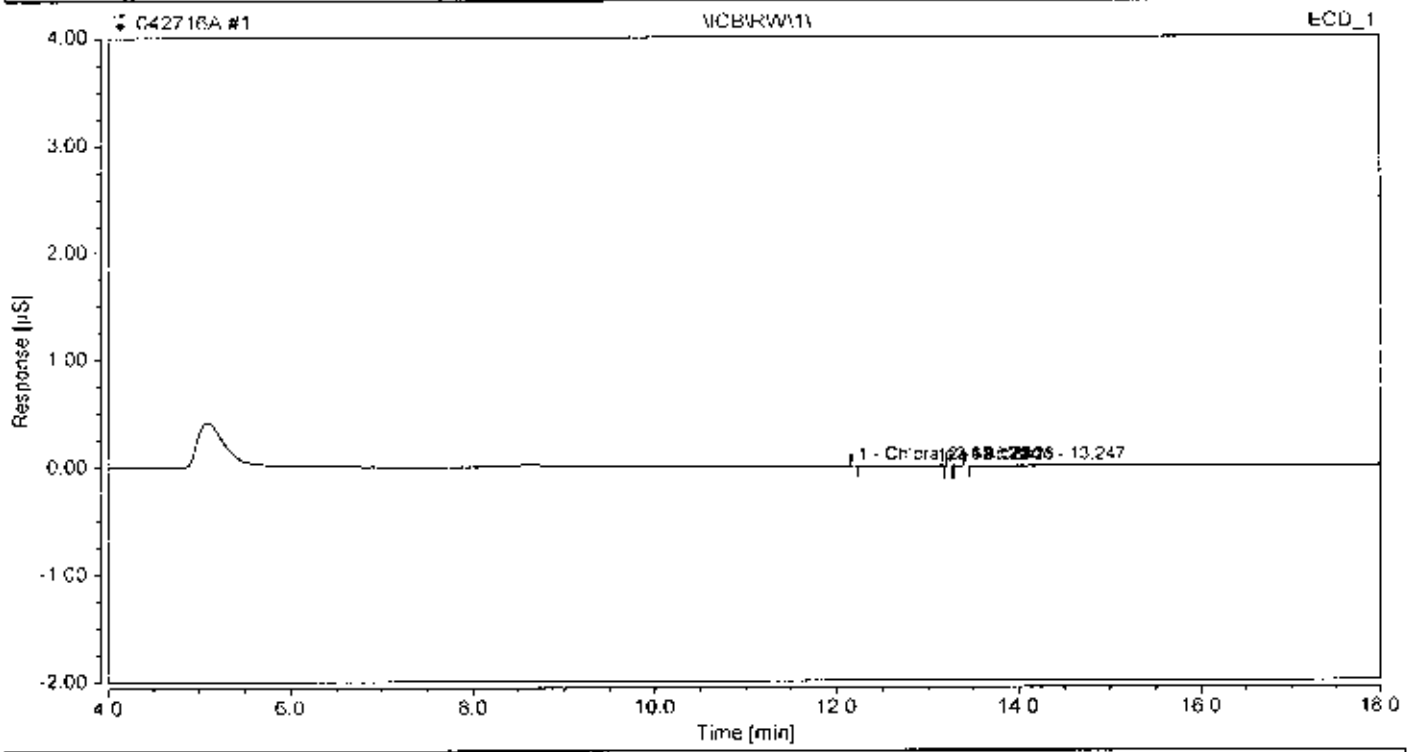
No.	Injection Name	Position	Type	Level	Inject Time	Status
1	\ICB\RW\1\	G8	Calibration Standard	01	26/Apr/16 12:22:13	Finished
2	\ICS\RW\1\10	G2	Calibration Standard	02	26/Apr/16 12:57:44	Finished
3	\ICS\RW\1\20	G3	Calibration Standard	03	26/Apr/16 13:33:14	Finished
4	\ICS\RW\1\100	G4	Calibration Standard	04	26/Apr/16 14:08:45	Finished
5	\ICS\RW\1\250	G5	Calibration Standard	05	26/Apr/16 14:44:15	Finished
6	\ICS\RW\1\500	G6	Calibration Standard	06	26/Apr/16 15:19:46	Finished
7	\IPC\RW\1\250	G5	Unknown		27/Apr/16 10:07:13	Finished
8	\RLC\RW\1\10	GA1	Unknown		27/Apr/16 10:42:44	Finished
9	\LRB\RW\1\	GA2	Unknown		27/Apr/16 11:18:14	Finished
10	\LFB\RW\1\250	GA3	Unknown		27/Apr/16 11:53:48	Finished
11	3433436\FS\GW\1\	GE1	Unknown		27/Apr/16 12:29:18	Finished
12	3433437\MS\GW\1\2	GE2	Unknown		27/Apr/16 13:04:48	Finished
13	3433438\MSD\GW\1\	GE3	Unknown		27/Apr/16 13:40:18	Finished
14	3433717\FS\DW\5\	GE4	Unknown		27/Apr/16 14:15:48	Finished
15	3435627\FS\DW\5\	GE5	Unknown		27/Apr/16 14:51:18	Finished
16	\IPC\RW\1\250	G5	Unknown		27/Apr/16 15:26:49	Finished
17	\CCB\RW\1\	G8	Unknown		27/Apr/16 16:02:20	Finished

Chromatogram and Results

Injection Details

Injection Name:	\ICB\RW\1\	*Run Time (min):*	**30.00**
Vial Number:	**G8**	*Injection Volume*	**250.00**
Injection Type	**Calibration Standard**	*Channel:*	**ECD_1**
Calibration Level:	**01**	*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Apr/16 12:22**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

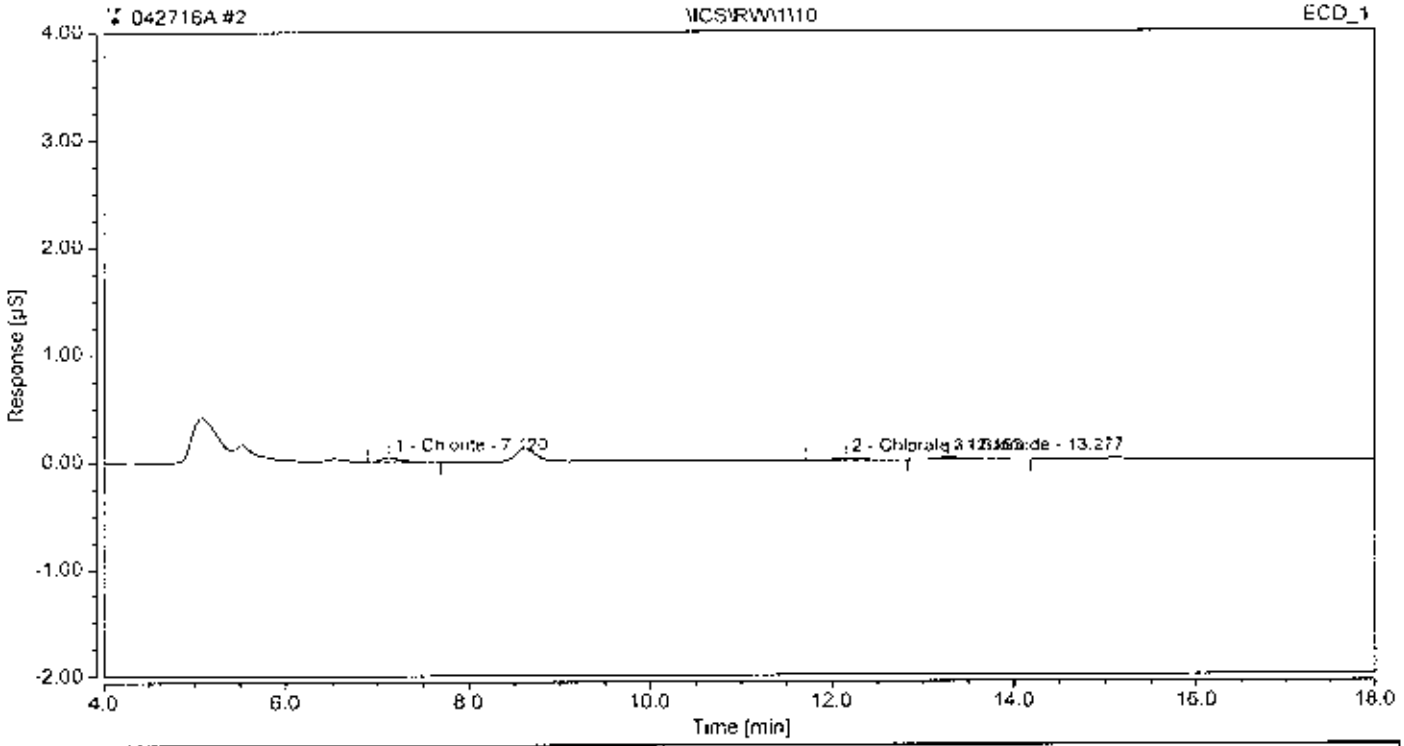
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount PPM
1	Chlorate	12.170	0.000	0.000	43.88	32.37	5.5901
3	Bromide	13.247	0.000	0.000	26.16	28.55	5.3449
Total:			**0.000**	**0.000**	**70.04**	**60.92**	

Chromatogram and Results

Injection Details

Injection Name:	\ICS\RW\1\10	*Run Time (min):*	30.00
Vial Number:	G2	*Injection Volume:*	250.00
Injection Type:	Calibration Standard	*Channel:*	ECD_1
Calibration Level:	02	*Wavelength:*	n.a.
Instrument Method:	AS19 4mm	*Bandwidth:*	n.a.
Processing Method:	AS19 4mm	*Dilution Factor:*	1.0000
Injection Date/Time	26/Apr/16 12:57	*Sample Weight:*	1.0000

Chromatogram



Integration Results

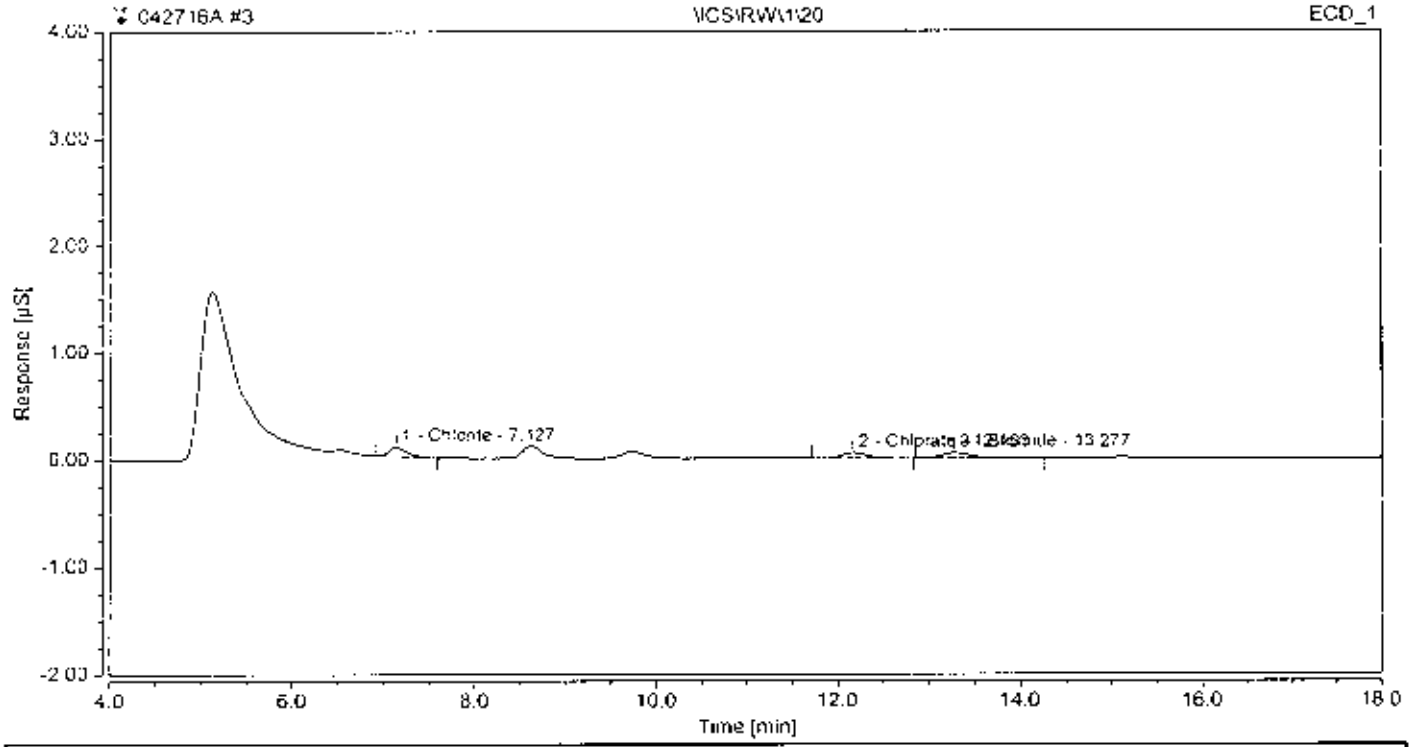
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	7.120	0.009	0.040	35.00	45.97	14.7682
2	Chlorate	12.163	0.008	0.023	30.71	26.74	12.6055
3	Bromide	13.277	0.009	0.024	34.28	27.29	12.6854
Total:			**0.026**	**0.087**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	\\ICS\RW\1\20	*Run Time (min):*	**30.00**
Vial Number:	**G3**	*Injection Volume:*	**250.00**
Injection Type:	**Calibration Standard**	*Channel:*	**ECD_1**
Calibration Level:	**03**	*Wavelength*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor*	**1.0000**
Injection Date/Time:	**26/Apr/16 13:33**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

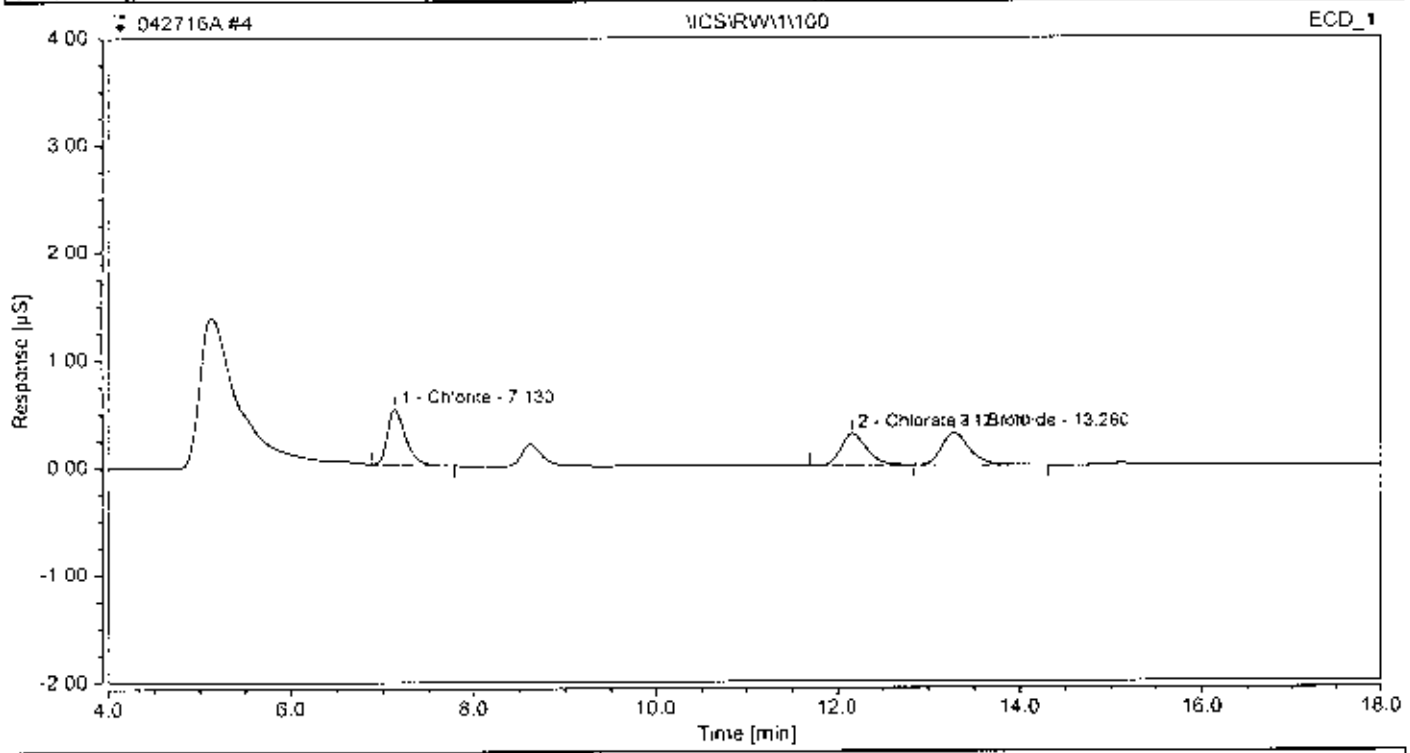
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	7.127	0.019	0.088	35.30	46.31	22.3624
2	Chlorate	12.163	0.017	0.051	31.08	26.80	20.7539
3	Bromide	13.277	0.019	0.051	33.62	26.89	20.7229
Total:			**0.055**	**0.190**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**\ICS\RW\1\100**	*Run Time (min):*	**30.00**
Vial Number:	**G4**	*Injection Volume:*	**250.00**
Injection Type	**Calibration Standard**	*Channel:*	**ECD_1**
Calibration Level	**04**	*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Apr/16 14:08**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

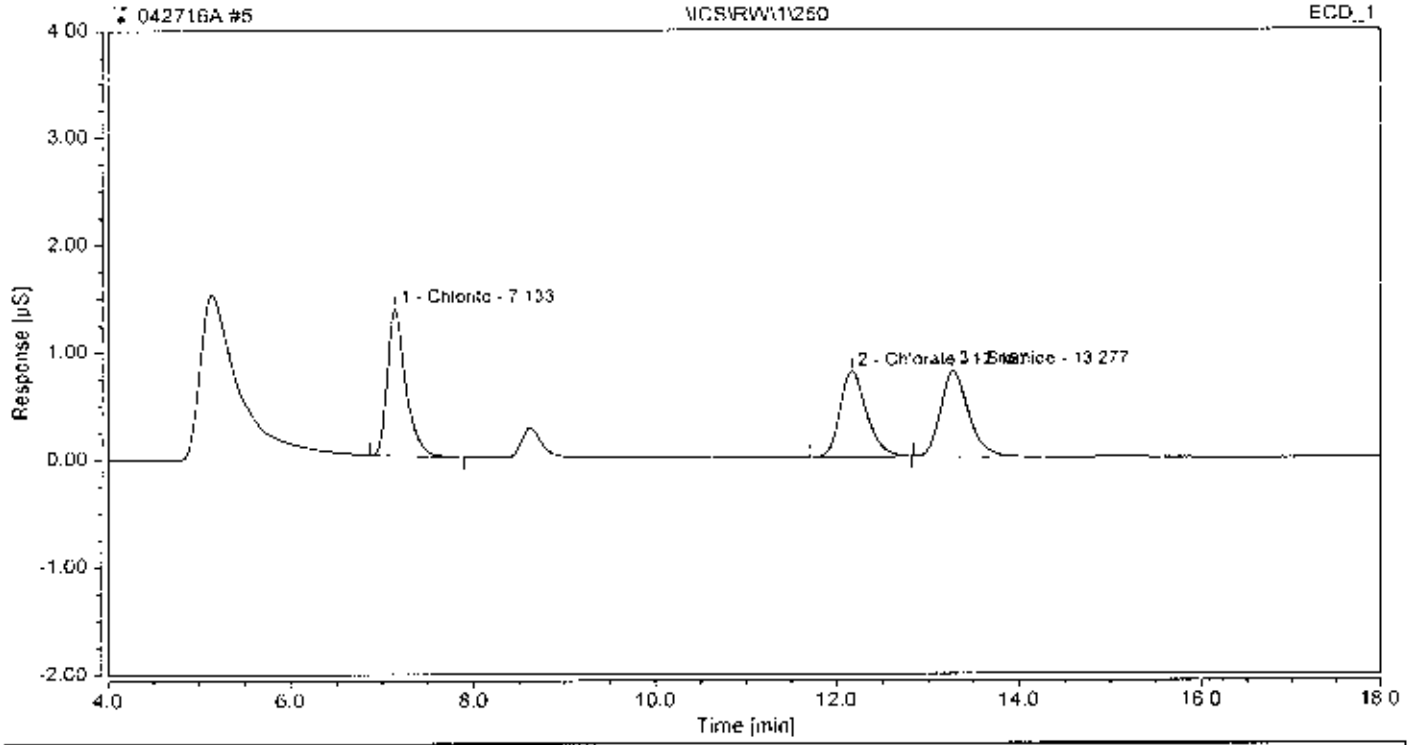
No	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	7.130	0.120	0.519	36.86	46.36	95.5218
2	Chlorate	12.170	0.099	0.299	30.44	26.71	93.2108
3	Bromide	13.280	0.107	0.302	32.70	26.93	93.5591
Total:			**0.326**	**1.120**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**\ICS\RW\1\250**	*Run Time (min):*	**30.00**
Vial Number	**G5**	*Injection Volume:*	**250.00**
Injection Type:	**Calibration Standard**	*Channel:*	**ECD_1**
Calibration Level:	**05**	*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time	**26/Apr/16 14:44**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

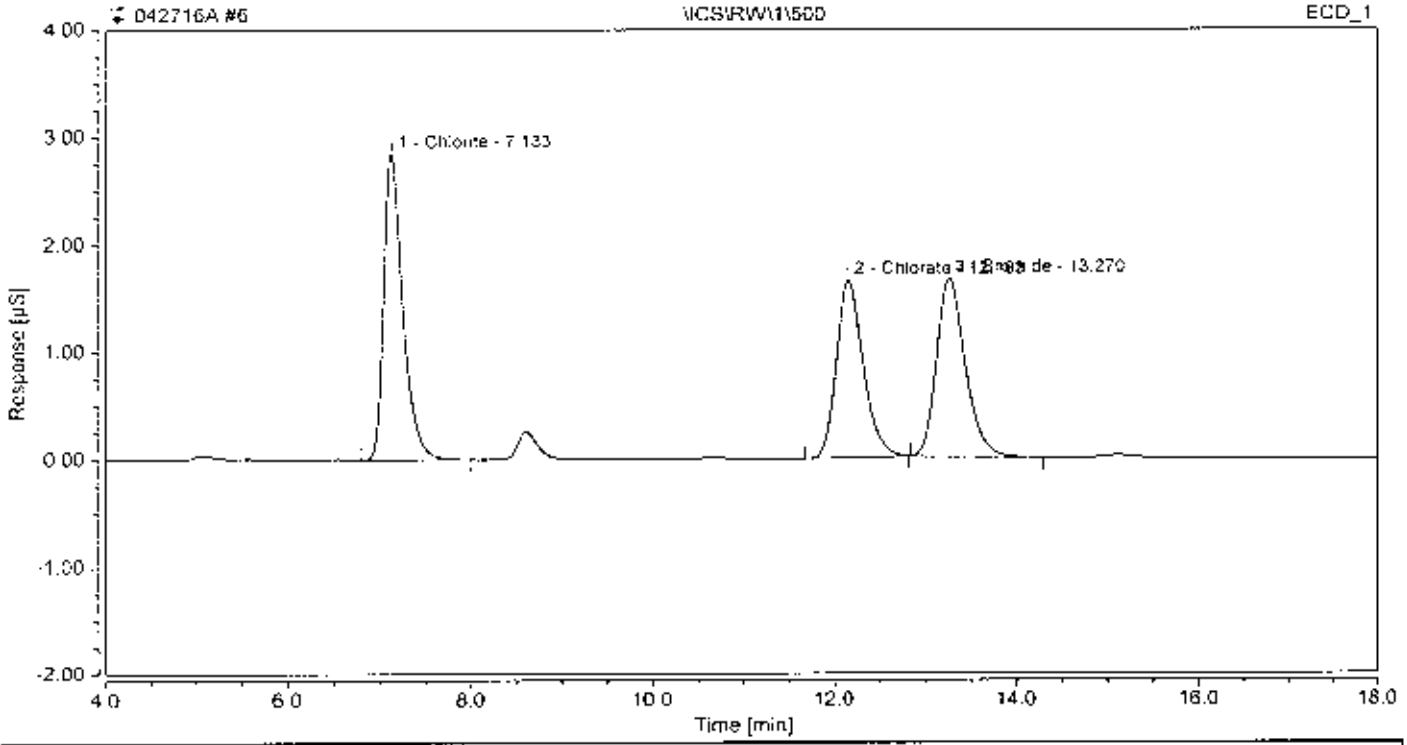
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	7.133	0.323	1.375	36.77	46.08	243.2835
2	Chlorate	12.167	0.269	0.802	30.59	26.86	243.1264
3	Bromide	13.277	0.287	0.808	32.64	27.06	242.9522
Total:			**0.879**	**2.984**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**\ICS\RW\1\500**	*Run Time (min):*	**30.00**
Vial Number:	**G6**	*Injection Volume:*	**250.00**
Injection Type:	**Calibration Standard**	*Channel:*	**ECD_1**
Calibration Level:	**06**	*Wavelength:*	**n.a.**
Instrument Method	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**26/Apr/16 15:19**	*Sample Weight*	**1.0000**

Chromatogram



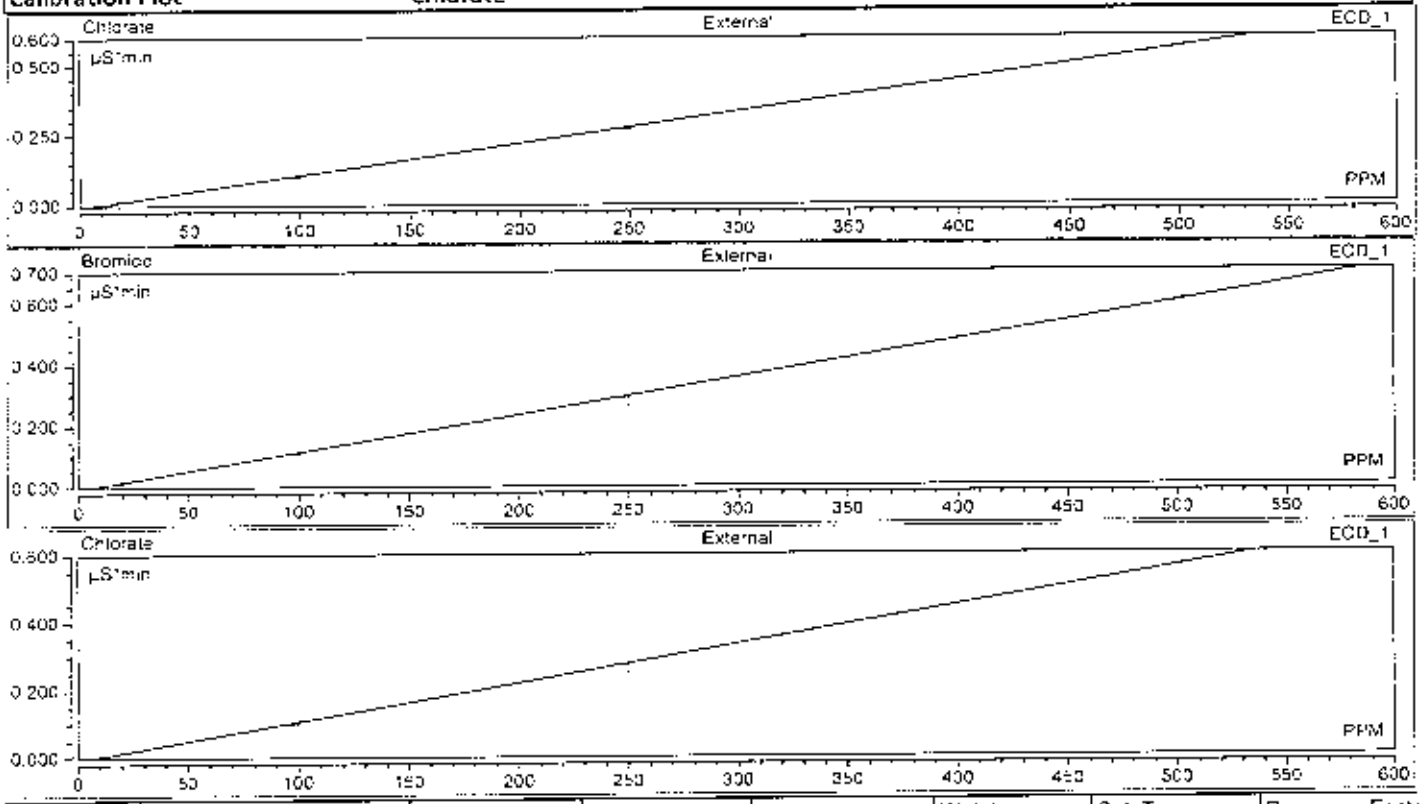
Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	7.133	0.682	2.847	36.86	46.19	504.0640
2	Chlorate	12.163	0.565	1.655	30.54	26.85	504.7124
3	Bromide	13.270	0.603	1.662	32.60	26.96	504.7244
Total:			**1.850**	**6.164**	**100.00**	**100.00**	

Calibration

Calibration Details	Chlorate		
Calibration Type	Lin, WithOffset	*Offset (C0)*	-0.0063
Evaluation Type	Area	*Slope (C1)*	0.0011
Number of Calibration Points	6	*Curve (C2)*	0.0000
Number of disabled Calibration Points	0	*R-Square*	0.9992

Calibration Plot **Chlorate**



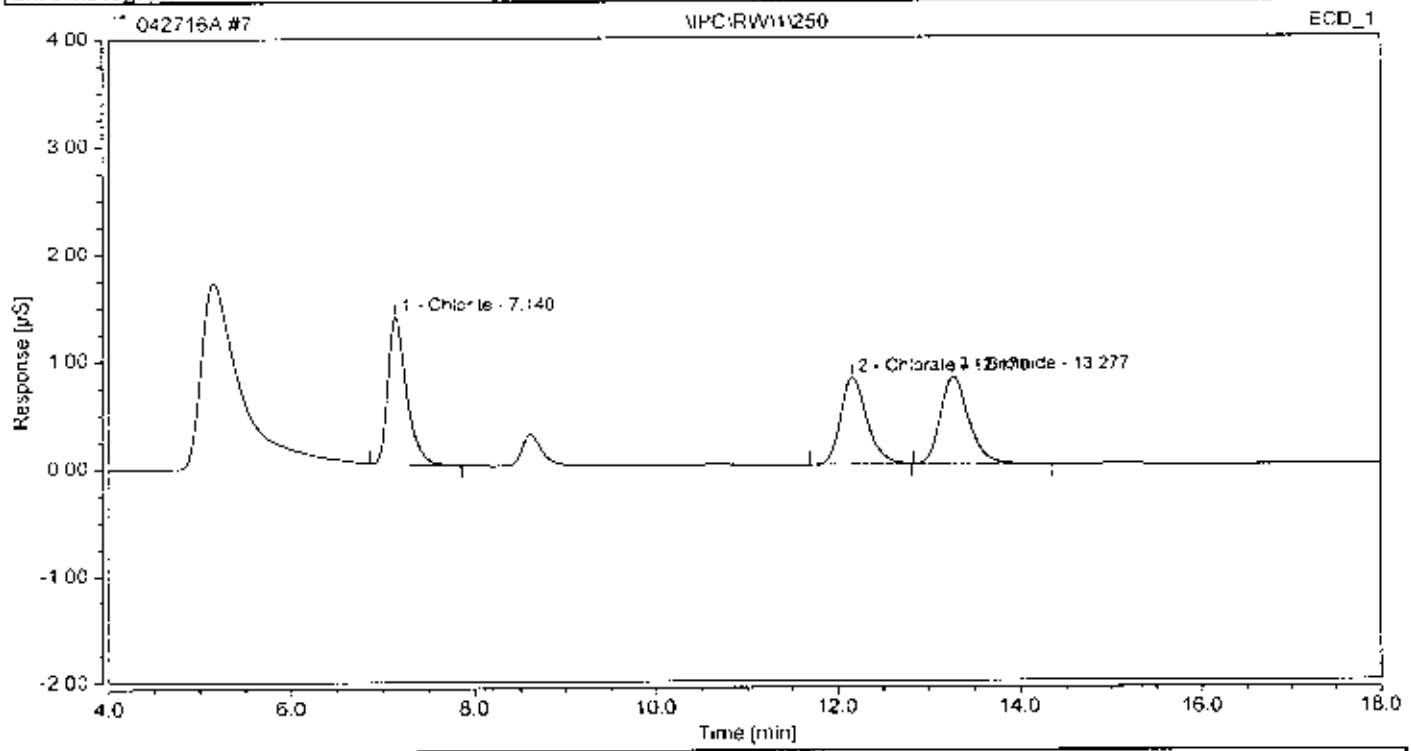
No	Peak Name	Corr.Coeff.	Slope	Offset	Weights	Cal. Type	Response Factor
		%					
1	Chlorite	99.967	727.30	-0.011	No Weighting	Lin, WithOffset	1.0000
2	Chlorate	99.960	883.52	-0.006	No Weighting	Lin, WithOffset	1.0000
3	Bromide	99.961	828.14	-0.006	No Weighting	Lin, WithOffset	1.0000

Chromatogram and Results

Injection Details

Injection Name:	\IPC\RW\1\250	*Run Time (min):*	30.00
Vial Number:	G5	*Injection Volume:*	250.00
Injection Type	Unknown	*Channel:*	ECD_1
Calibration Level:		*Wavelength:*	n.a.
Instrument Method:	AS19 4mm	*Bandwidth:*	n.a.
Processing Method:	AS19 4mm	*Dilution Factor:*	1.0000
Injection Date/Time:	27/Apr/16 10:07	*Sample Weight:*	1.0000

Chromatogram



Integration Results

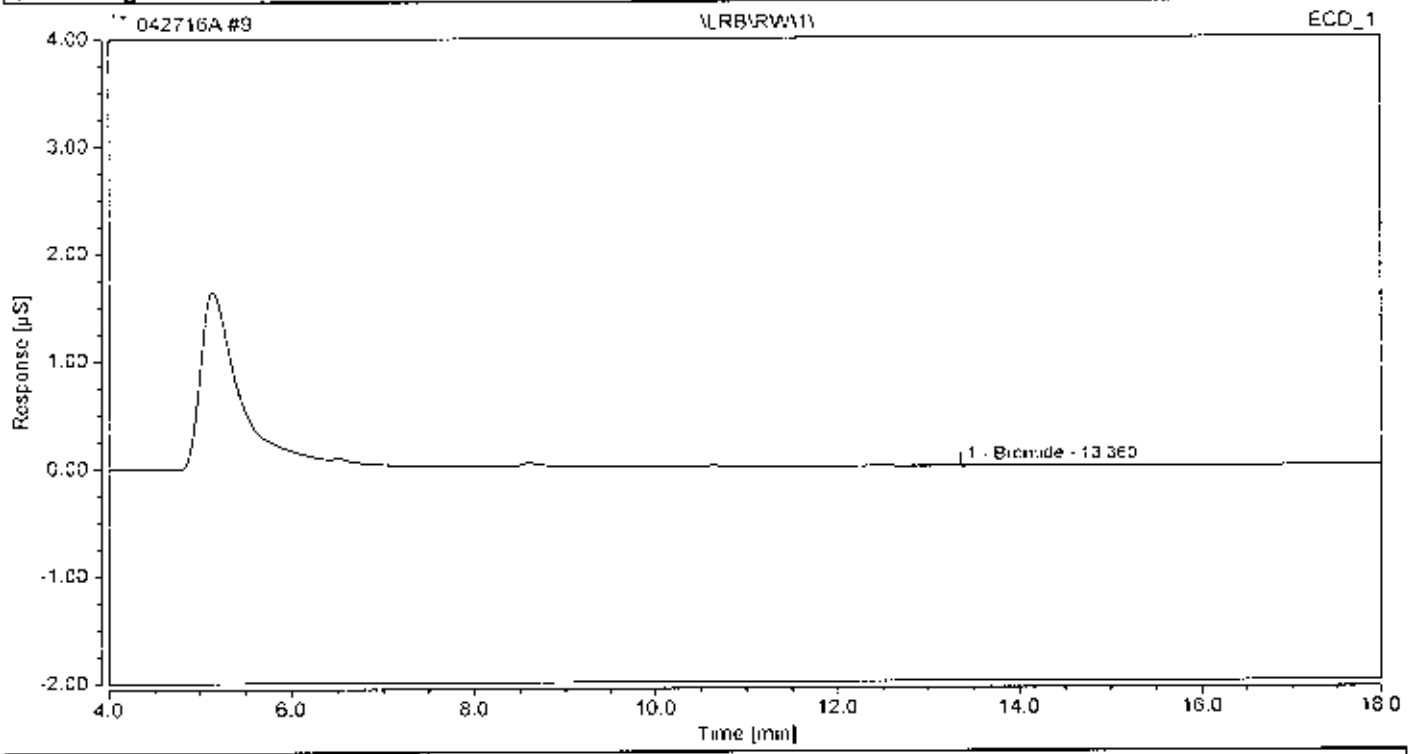
No	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	7.140	0.322	1.366	36.53	45.75	242.1052
2	Chlorate	12.170	0.270	0.806	30.69	27.00	244.2989
3	Bromide	13.277	0.289	0.814	32.79	27.25	244.4128
Total:			**0.880**	**2.986**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**\LRB\RW\1**	*Run Time (min):*	**30.00**
Vial Number:	**GA2**	*Injection Volume:*	**250.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time	**27/Apr/16 11:18**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

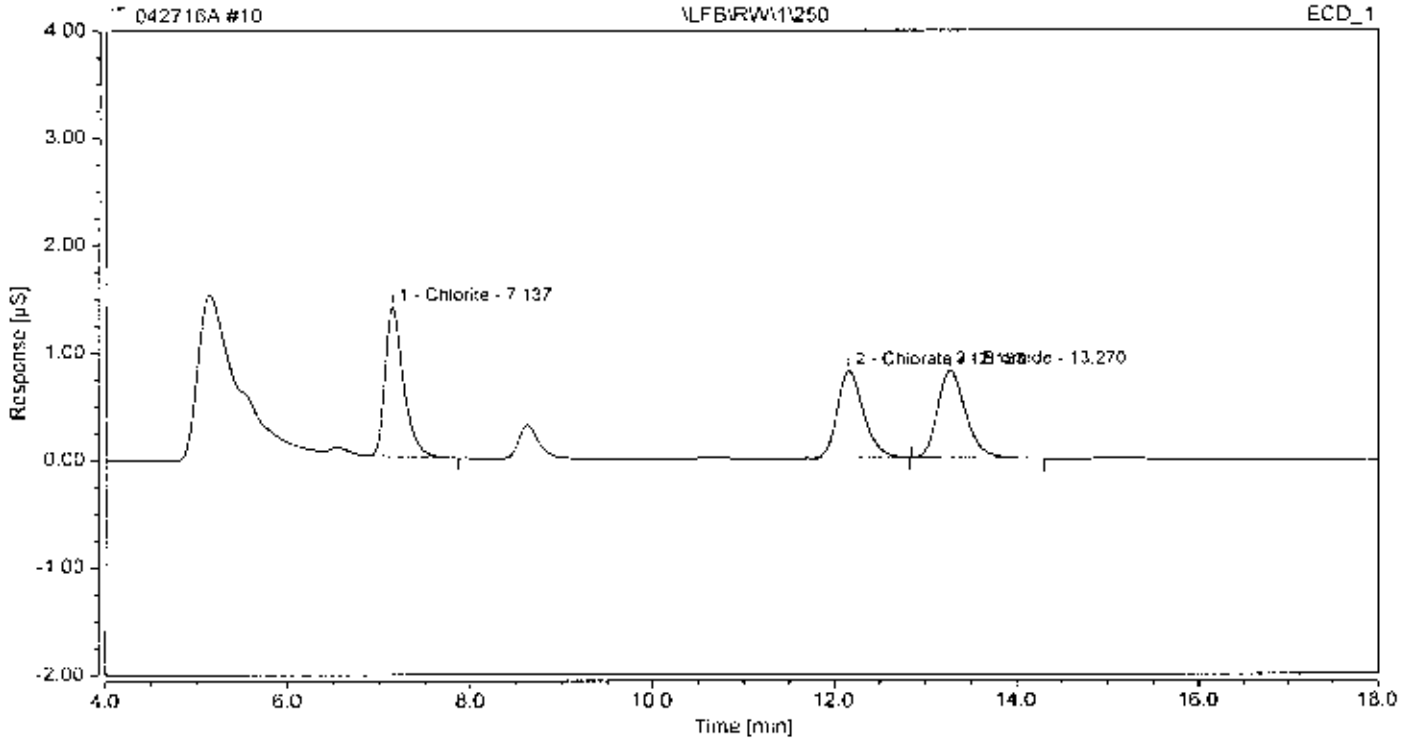
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount PPM
1	Bromide	13.360	0.000	0.000	100.00	100.00	5.3442
Total:			**0.000**	**0.000**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**\LFB\RW\1\250**	*Run Time (min):*	**30.00**
Vial Number:	**GA3**	*Injection Volume:*	**250.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level		*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time	**27/Apr/16 11:53**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

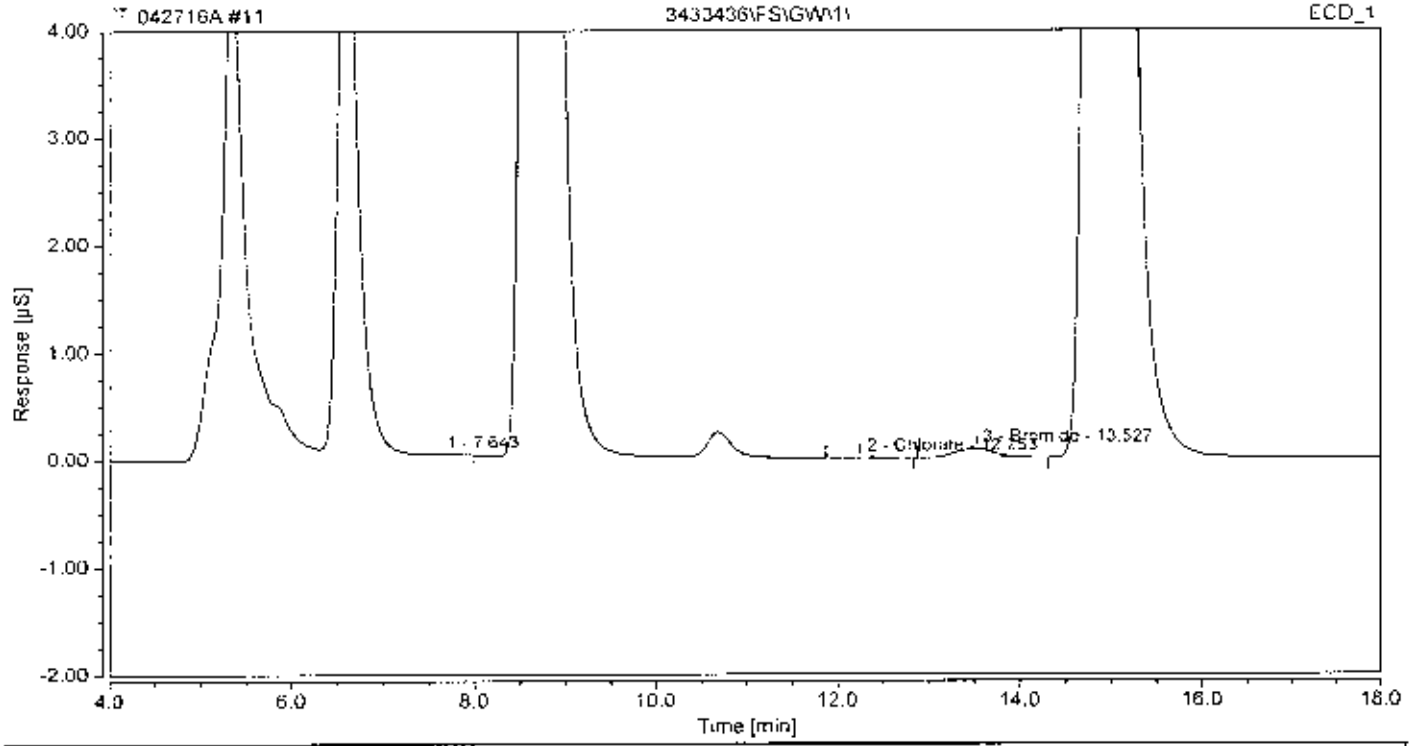
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	7.137	0.325	1.389	36.61	45.99	244.8776
2	Chlorate	12.163	0.272	0.812	30.64	26.90	246.2158
3	Bromide	13.270	0.291	0.819	32.75	27.11	246.4394
Total:			**0.889**	**3.021**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**3433436\FS\GW\1**	*Run Time (min):*	**30.00**
Vial Number:	**GE1**	*Injection Volume:*	**250.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level		*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**27/Apr/16 12:29**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

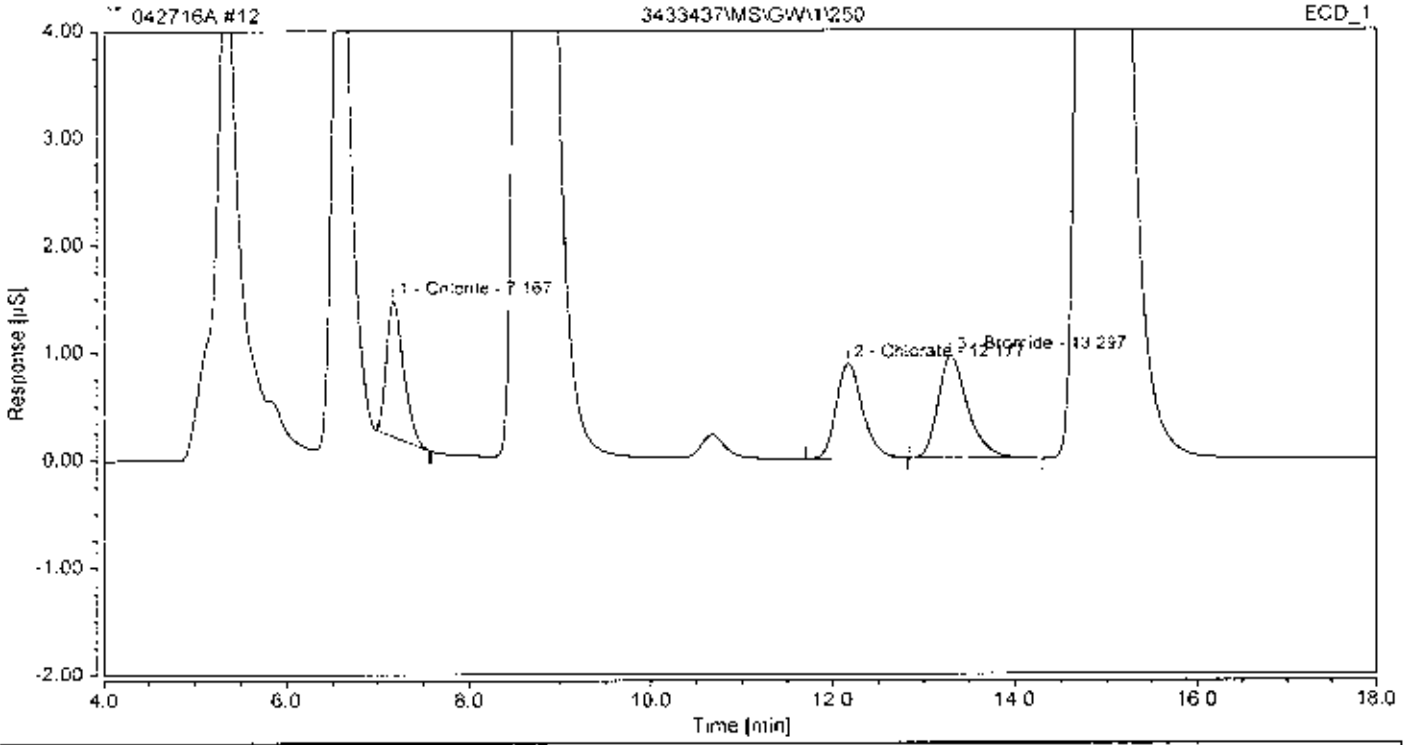
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount PPM
2	Chlorate	12.253	0.002	0.005	3.99	5.05	7.2041
3	Bromide	13.527	0.043	0.088	93.70	92.28	40.8774
Total:			**0.045**	**0.092**	**97.69**	**97.33**	

Chromatogram and Results

Injection Details

Injection Name:	**3433437\MS\GW\1\250**	*Run Time (min):*	**30.00**
Vial Number:	**GE2**	*Injection Volume:*	**250.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**n.a.**
Instrument Method	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor*	**1.0000**
Injection Date/Time:	**27/Apr/16 13:04**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

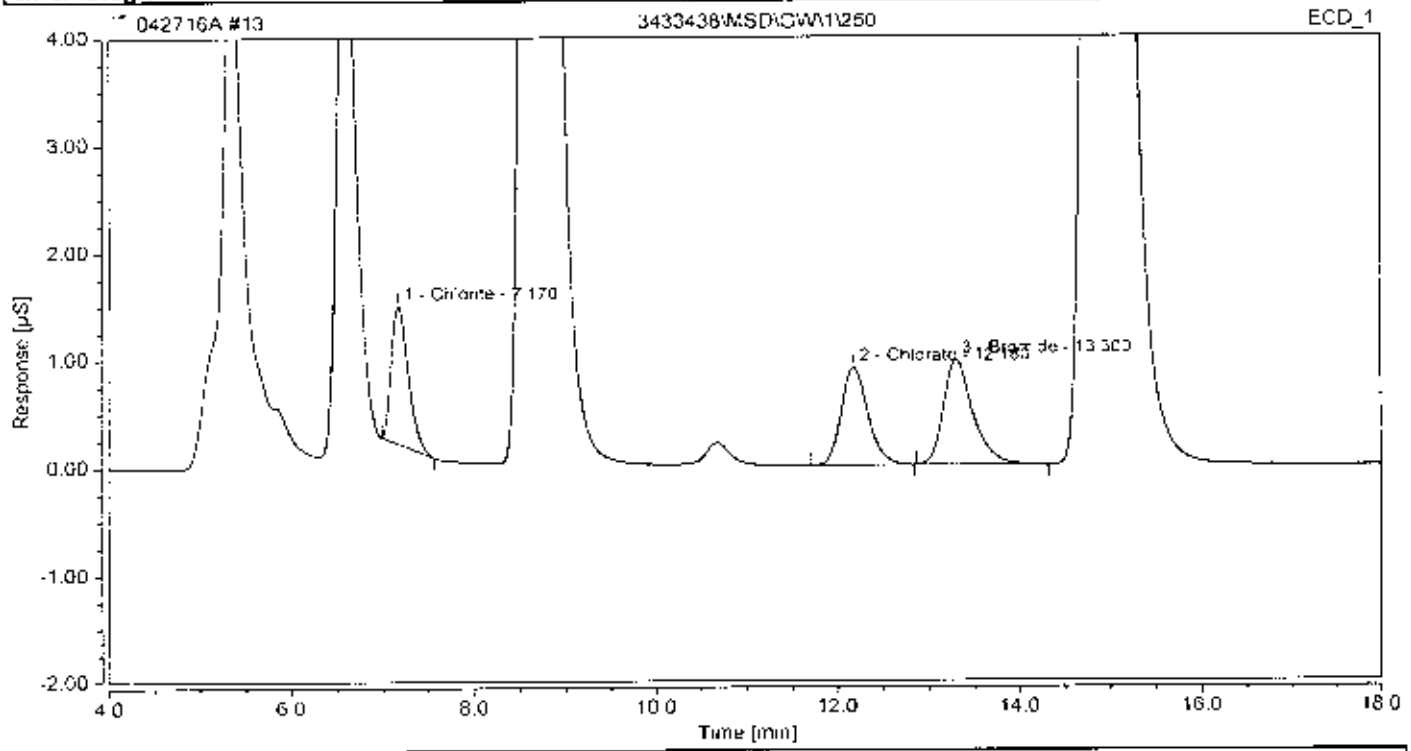
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	7.167	0.274	1.271	29.40	40.76	207.1265
2	Chlorate	12.177	0.298	0.889	32.01	28.49	268.7207
3	Bromide	13.297	0.359	0.959	38.59	30.75	302.6600
Total:			**0.930**	**3.119**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**3433438\MSD\GW\1\250**	*Run Time (min):*	**30.00**
Vial Number:	**GE3**	*Injection Volume:*	**250.00**
Injection Type.	**Unknown**	*Channel.*	**ECD_1**
Calibration Level.		*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method.	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time	**27/Apr/16 13:40**	*Sample Weight.*	**1.0000**

Chromatogram



Integration Results

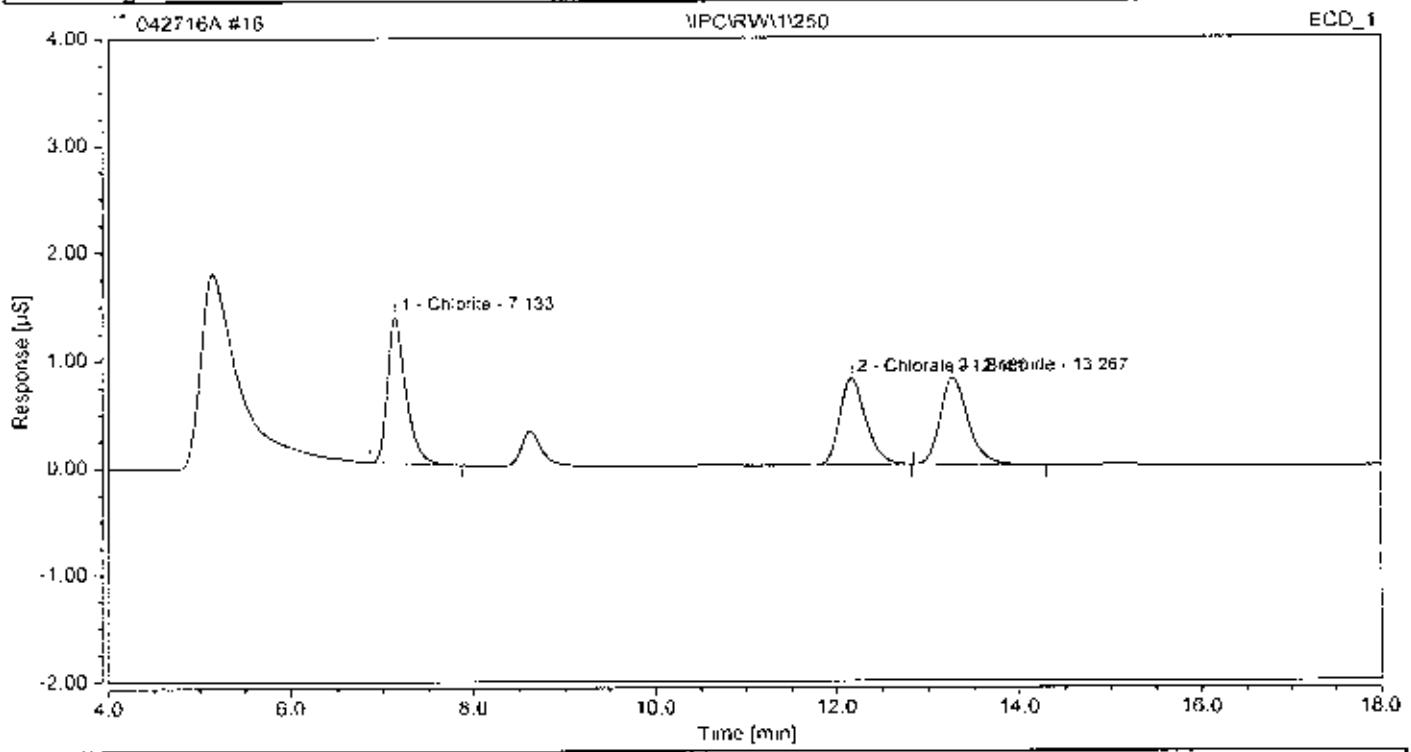
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	7.170	0.276	1.284	29.22	40.58	209.0279
2	Chlorate	12.180	0.303	0.905	32.10	28.62	273.6420
3	Bromide	13.300	0.366	0.974	38.68	30.81	308.0954
Total:			**0.945**	**3.163**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	\IPC\RW\1\250	*Run Time (min):*	30.00
Vial Number:	G5	*Injection Volume:*	250.00
Injection Type:	Unknown	*Channel:*	ECD_1
Calibration Level:		*Wavelength:*	n.a.
Instrument Method:	AS19 4mm	*Bandwidth:*	n.a.
Processing Method	AS19 4mm	*Dilution Factor:*	1.0000
Injection Date/Time:	27/Apr/16 15:26	*Sample Weight:*	1.0000

Chromatogram



Integration Results

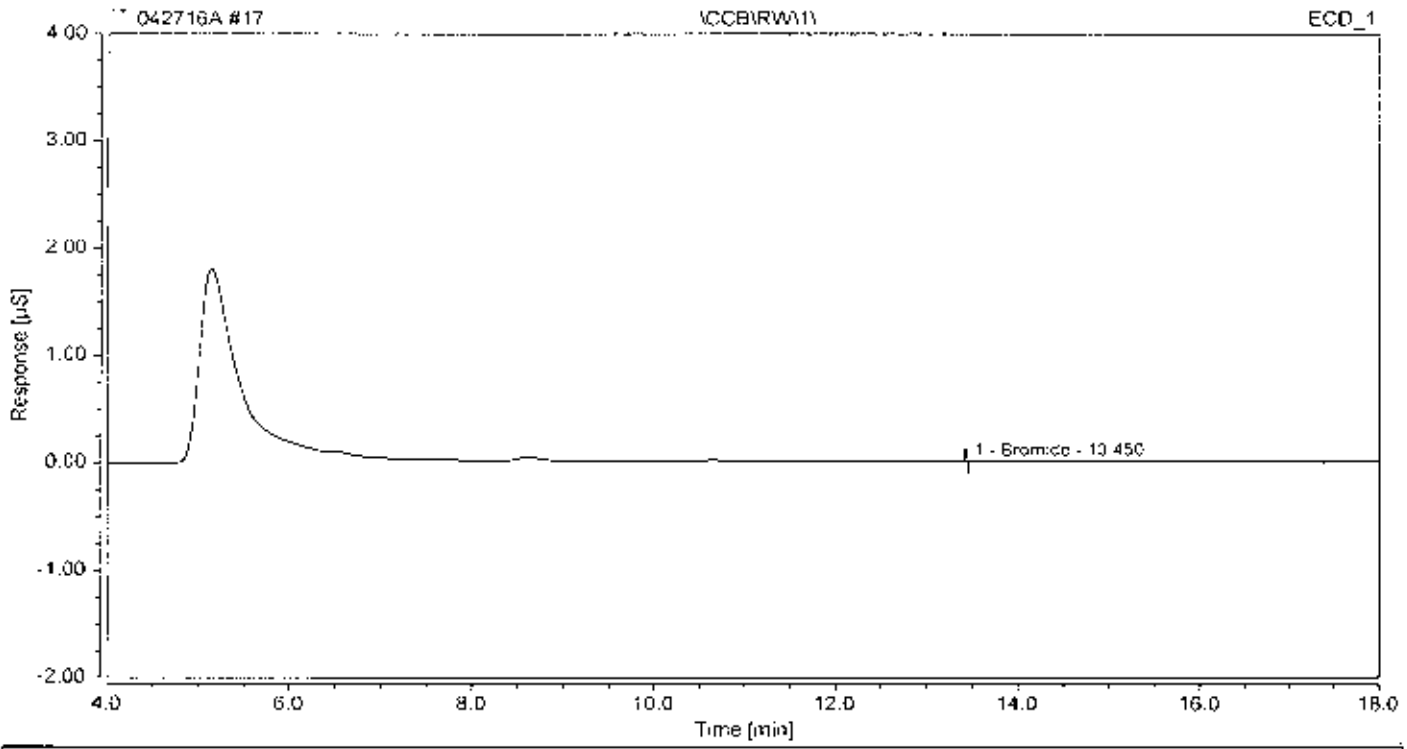
No	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	7.133	0.320	1.366	36.46	45.74	241.1395
2	Chlorate	12.160	0.270	0.808	30.74	27.05	244.2158
3	Bromide	13.267	0.288	0.812	32.80	27.21	243.9524
Total:			**0.879**	**2.986**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	\CCB\RW\1\	*Run Time (min):*	30.00
Vial Number:	G8	*Injection Volume:*	250.00
Injection Type:	Unknown	*Channel:*	ECD_1
Calibration Level:		*Wavelength:*	n.a.
Instrument Method	AS19 4mm	*Bandwidth:*	n.a.
Processing Method:	AS19 4mm	*Dilution Factor:*	1.0000
Injection Date/Time:	27/Apr/16 16:02	*Sample Weight:*	1.0000

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount PPM
1	Bromide	13.450	0.000	0.000	100.00	100.00	5.3443
Total:			**0.000**	**0.000**	**100.00**	**100.00**	

QA - Method Detection Limit Study

Method:	300.0 B	Analyzed by:	Shep Lovick	Approved by: Jon Werbianskyj	2/23/2016
Instrument:	CQ	Prepped by:	Shep Lovick	Comments:	
Units:	ug/L				
Matrix Type:	RW	**Number of months next study due:**	**11**		

Earliest Analysis date	Parameter	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	mean	sd	Calculated MDL	Target concentration
5/6/2015	Chlorite	14.641	11.461	11.289	13.5	7.822	7.049	10.819	10.94014	2.75441	8.657115	10
5/6/2015	Chlorate	15.564	13.849	13.771	14.346	12.765	12.3	12.176	13.53871	1.21749	3.826587	10
5/6/2015	Bromide	15.567	13.551	13.772	13.231	11.781	11.909	12.522	13.19043	1.30341	4.096628	10

Method Detection Limit Study

Method: 300.0 B
Instrument: DT
Units: ug/L
Matrix Type: RW

Analyzed by: Shep Lovick
Prepped by: Shep Lovick

Approved by: Jon Werbianskyj Date: 4/28/2016
Comments: RID Reps are actually SID No.

Number of months next study due: 6

Earliest Analysis date	Parameter	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	mean	sd	Calculated MDL	Target concentration
11/24/2015	Bromide	9.09	12.183	11.92	11.023	10.254	10.608	11.529	10.94386	1.06946	3.361314	10
11/24/2015	Chlorate	14.06	13.163	12.217	11.978	11.712	11.416	11.862	12.344	0.93617	2.942368	10
11/24/2015	Chlorite	9.257	13.186	14.096	11.097	10.354	10.467	13.099	11.65086	1.80523	5.673844	10

CHAIN OF CUSTODY,
PM CONFIRMATION
AND
SAMPLE CONDITION FORMS
DOCUMENTS

Rev 8/2014

CHAIN OF CUSTODY

Page 1 of 1

Company: BSEN
Project Contact: S. JULIA LIU
Telephone: 757-256-6281
Project Name: RAAP
Project #: 313010-8D001
Location: RADFORD, VA
Sampled By: SJL

CT LABORATORIES
1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Folder # 118319
Company: BERING SEA ENVIRON
Project RADFORD AAP
Logged by

Program:
QSM RCRA SDWA NPDES
Solid Waste Other

PO # BSN-1255

Report To: S. JULIA LIU
EMAIL: SLIU@BSEN.COM
Company: BSEN
Address: 615 E. 82ND AVE #200
Invoice To:* ANCHORAGE AK 99518
EMAIL:
Company: SAME
Address:

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

Client Special Instructions

LAB MUST FILTER

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Collection Date	Collection Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	ANALYSES REQUESTED: EXPLOSIVES	MNX/DNX/TNX	TOC	PERCHLORATE	Total # Containers	Designated MS/MSD	CT Lab ID # (Lab use only)
							Fill in Spaces with Bottles per Test						
4/14/16	1512	GW	GRAB		54MW12	N	X	X	X	X	18	X	709222 / 709223

Turnaround Time
Normal RUSH*
Date Needed:
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

Relinquished By:	Date/Time	Received By:	Date/Time
S. Liu	1730 4/14/16		
Received by:	**Date/Time**	**Received for Laboratory by:**	**Date/Time**
			4-15-16 0910

Lab Use Only
Ice Present (Yes) No
Temp 12 IR Gun # 15
Cooler # 5701

CT Laboratories Terms and Conditions

Where a purchaser (Client) places an order for laboratory, consulting or sampling services from CT Laboratories (CTL), CTL shall provide the ordered services pursuant to these Terms and Conditions, and the related Quotation or as agreed in a negotiated contract. In the absence of a written agreement to the contrary, the Order constitutes an acceptance by the Client of CTL's offer to do business under these Terms and Conditions, and an agreement to be bound by these Terms and Conditions. No contrary or additional terms and conditions expressed in a Client's document shall be deemed to become a part of the contract created upon acceptance of these Terms and Conditions, unless accepted by CTL in advance of the start of the project and in writing.

1. ORDERS AND RECEIPT OF SAMPLES (Sample Acceptance Policy)

1.1 The Client may place the Order (that specify a Scope of Work) either by submitting a purchase order to CTL in writing, by telephone (confirmed in writing) or by negotiated contract. Whichever option the Client selects for placing the Order, the Order shall not be valid unless it contains sufficient specification to enable CTL to carry out the Client's requirements. It is the policy of CT Laboratories that samples not meeting the acceptance criteria outlined in the NELAC standards and Section 5.8.3.2 of the DOD-QSM, will not be accepted by the laboratory or will be qualified on the final report. All samples submitted to the laboratory must: (1) be accompanied by proper, full and complete documentation, including sample identification, location, date and time of collection, the collector's name, type of preservation (if any), type of sample, any special comments concerning the sample and any additional pertinent dates on the chain-of-custody. In the absence of any of the required information, the laboratory will attempt to contact the client to obtain the information; if unable to obtain the necessary information, the final report will be qualified. (2) be labeled appropriately with a unique sample identification written with indelible ink on water resistant labels. If the laboratory cannot determine the identity of a sample, it will be rejected and the client will be contacted for further instructions or resampling. (3) be in an appropriate sample container. If the container is inappropriate, the client will be contacted for further instructions or resampling. If analysis is possible, the final report will be qualified. CT Laboratories can provide a sampling guide containing approved containers and preservations for analytical methods requested. (4) adhere to specified holding times. If samples are received with less than ½ the holding time remaining for the requested test, CT Laboratories will make its best effort to analyze the samples and notify the client. If holding times are exceeded, the final report will be qualified. (5) contain adequate sample volume to perform the necessary testing. If sufficient volume is not present, the sample will be rejected and the client will be contacted for further instructions or resampling. If samples show signs of damage, contamination or inadequate preservation, the client will be notified. If analysis can be performed, the final report will be qualified. If not, the samples will be rejected and the client notified for further instructions or resampling.

1.2 CT Laboratories must be supplied with complete written disclosure of the known or suspected presence of any hazardous substances, as defined by applicable federal or state law. Where any samples which were not accompanied by the required disclosure, cause interruptions in the lab's ability to process work due to contamination of instruments or work areas, the Client will be responsible for the costs of clean up and recovery.

1.3 Prior to Sample Acceptance, the entire risk of loss or damage to samples remains with the Client. In no event will CTL have any responsibility or liability for the action or inaction of any carrier shipping or delivering any sample to or from CTL's premises. Client is responsible to assure that any sample containing any hazardous substance which is to be delivered to CTL's premises will be packaged, labeled, transported and delivered properly and in accordance with applicable laws.

2. PAYMENT TERMS

2.1 Services performed by CTL will be in accordance with prices quoted and later confirmed in writing or as stated in the Price Schedule. Invoices may be submitted to Client upon completion of any sample delivery group. Payment in advance is required for all Clients except those whose credit has been established with CTL. For Clients with approved credit, payment terms are net 30 days from the date of invoice by CTL. All overdue payments are subject to an additional interest and service charge of one and one-half percent (1.5%) (or the maximum rate permissible by law, whichever is lesser) per month or portion thereof from the due date until the date of payment. All fees are charged or billed directly to the Client. Billing of a third party will not be accepted without a statement, signed by the third party that acknowledges and accepts payment responsibility. CTL may suspend work and withhold delivery of data under this order at any time in the event Client fails to make timely payment of its invoices. Client shall be responsible for all costs and expenses of collection including reasonable attorney's fees. CTL reserves the right to refuse to proceed with work at any time based upon an unfavorable Client credit report.

3. CHANGE ORDERS, TERMINATION

3.1 Changes to the Scope of Work, price, or result delivery date may be initiated by CTL after Sample Acceptance due to any condition which conflicts with technical, QA or other protocols warranted in these Terms and Conditions. CTL will not proceed with such changes until an agreement with the Client is reached on the amount of any cost, schedule change or technical change to the Scope of Work, and such agreement is documented in writing.

3.2 Changes to the Scope of Work, including but not limited to increasing or decreasing the work, changing test and analysis-specification or acceleration in the performance of the work may be initiated by the Client after sample acceptance. Such a change will be documented in writing and may result in a change in cost and turnaround time commitment. CTL's acceptance of such changes is contingent upon technical feasibility and operational capacity.

3.3 Suspension or termination of all or any part of the work may be initiated by the Client. CTL will be compensated consistent with Section 2 of these Terms and Conditions. CTL will complete all work in progress and be paid in full for all work completed.

4. WARRANTIES AND LIABILITY

4.1 Where applicable, CTL will use analytical methodologies which are in substantial conformity with published test methods. CTL has implemented these methods in its Laboratory Quality Manuals and referenced Standard Operating Procedures and where the nature or composition of the sample requires it, CTL reserves the right to deviate from these methodologies as necessary or appropriate, based on their reasonable judgment of CTL, which deviations, if any, will be made on a basis consistent with recognized standards of the industry and/or CTL's Laboratory Quality Manuals. Client may request that CTL perform according to a mutually agreed Quality Assurance Project Plan (QAPP). In the event that samples arrive prior to agreement on a QAPP, CTL will proceed with analyses under its standard Quality Manuals then in effect, and CTL will not be responsible for any resampling or other charges if work must be repeated to comply with a subsequently finalized QAPP.

4.2 CTL shall start preparation and/or analysis within holding times provided that Sample Acceptance occurs within 48 hours of sampling or 1/2 of the holding time for the test, whichever is less. Where resolution of inconsistencies leading to Sample Acceptance does not occur within this period, CTL will use its best efforts to meet holding times and will proceed with the work provided that, in CTL's judgment, the chain-of-custody or definition of the Scope of Work provide sufficient guidance. Reanalysis of samples to comply with CTL's Quality Manuals will be deemed to have met holding times provided the initial analysis was performed within the applicable holding time. Where reanalysis demonstrates that sample matrix interference is the cause of failure to meet any Quality Manual requirements, the warranty will be deemed to have been met.

4.3 CTL warrants that it possesses and maintains all licenses and certifications which are required to perform services under these Terms and Conditions provided that such requirements are specified in writing to CTL prior to Sample Acceptance. CTL will notify the Client in writing of any decertification or revocation of any license, or notice of either, which affects work in progress.

4.4 The warranty obligations set forth in Sections 4.1, 4.2 and 4.3 are the sole and exclusive warranties given by CTL in connection with any services performed by CTL or any Results generated from such services and CTL gives and makes NO OTHER REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. No representative of CTL is authorized to give or make any other representation or warranty or modify this warranty in any way.

4.5 Client's sole and exclusive remedy for the breach of warranty in connection with any services performed by CTL will be limited to repeating any services performed, contingent on the Client's providing, at the request of CTL and at the Client's expense, additional sample(s) if necessary. Any reanalysis requested by the Client generating Results consistent with the original Results will be at the Client's expense. If resampling is necessary, CTL's liability for resampling costs will be limited to actual cost or one hundred or one hundred fifty dollars ($150) per sample, whichever is less.

4.6 CTL's liability for any and all causes of action arising hereunder, whether based in contract, tort, warranty, negligence or otherwise, shall be limited to the lesser amount of compensation for the services performed or $100,000. All claims, including those for negligence, shall be deemed waived unless suit thereon is filed within one year after CTL's completion of the services. Under no circumstances, whether arising in contract, tort (including negligence), or otherwise, shall CTL be responsible for loss of use, loss of profits, or for any special, indirect, incidental or consequential damages occasioned by the services performed or by application or use of the reports prepared.

4.7 In no event shall CTL have any responsibility or liability to the Client for any failure or delay in performance by CTL which results, directly or indirectly, in whole or in part, from any cause or circumstance beyond the reasonable control of CTL. Such causes and circumstances shall include, but not be limited to, acts of God, acts of Client, acts or orders of any governmental authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, equipment breakdown, matrix interference or unknown highly contaminated samples that impact instrument operation, unavailability of supplies from usual suppliers, difficulties or delays in transportation, mail or delivery services, or any other cause beyond CTL's reasonable control.

5. RESULTS, WORK PRODUCT

5.1 Data or information provided to CTL or generated by services performed under this agreement shall only become the property of the Client upon receipt in full by CTL of payment for the whole Order. Ownership of any analytical method, QA/QC protocols, software programs or equipment developed by CTL for performance of work will be retained by CTL, and Client shall not disclose such information to any third party.

5.2 Data and sample materials provided by Client or at Client's request, and the result obtained by CTL shall be held in confidence (unless such information is generally available to the public or is in the public domain or Client has failed to pay CTL for all services rendered or is otherwise in breach of these Terms and Conditions), subject to any disclosure required by law or legal process.

5.3 Should the Results delivered by CTL be used by the Client or Client's client, even though subsequently determined not to meet the warranties described in these Terms and Conditions, then the compensation will be adjusted based upon mutual agreement. In no case shall the Client unreasonably withhold CTL's right to independently defend its data.

5.4 CTL reserves the right to subcontract services ordered by the Client to another laboratory or laboratories, if, in CTL's sole judgment, it is reasonably necessary, appropriate or advisable to do so, and with the Client's permission. CTL will in no way be liable for any subcontracted services and all applicable warranties, guarantees and insurance are those of the subcontracted laboratory.

5.5 CTL shall dispose of the Client's samples 30 days after the analytical report is issued, unless instructed to store them for an alternate period of time or to return such samples to the Client, in a manner consistent with U.S. Environmental Protection Agency regulations or other applicable Federal, state or local requirements. Any samples for projects that are canceled or not accepted, or for which return was requested, will be returned to the Client at their own expense. CTL reserves the right to return to the Client any sample or unused portion of a sample that is not within CTL's permitted capability or the capabilities of CTL's designated waste disposal vendor(s).

5.6 Unless a different time period is agreed to in any order under these Terms and Conditions, CTL agrees to retain all records for five (5) years.

5.7 In the event that CTL is required to respond to legal process related to services for Client, Client agrees to reimburse CTL for hourly charges for personnel involved in the response and attorney fees reasonably incurred in obtaining advice concerning the response, preparation to testify, and appearances related to the legal process, travel and all reasonable expenses associated with the litigation.

6. INSURANCE

6.1 CTL shall maintain in force during the performance of services under these Terms and Conditions, Workers' Compensation and Employer's Liability insurance in accordance with the laws of the states having jurisdiction over CTL's employees who are engaged in the performance of the work. CTL shall also maintain during such period, Comprehensive General and Contractual Liability (limit of $2,000,000 per occurrence/ aggregate), Comprehensive Automobile Liability, owned and hired, ($1,000,000 combined single limit), and Professional/Pollution Liability insurance (limit of $5,000,000 per occurrence/aggregate). Any Client required changes to these limits or conditions may result in a change in cost to the Client.

7. AUDIT

7.1 Upon prior notice to CTL, the Client may audit and inspect CTL's records and accounts covering reimbursable costs related to work done for the Client, for a period of one (1) year after completion of the work. The purpose of any such audit shall be only for verification of such costs, and CTL shall not be required to provide access to cost records where prices are expressed as fixed fees or published unit prices.

Cooler Receipt Form

Ice Present ~~YES~~ NO

Temperature 1.2

IR Gun # 15

Initials BMA

Date 4-15-16 Time 0830

Cooler #: 5701

CUSTODY SEAL
DATE 04/14/16
SIGNATURE

QEC
Quality Environmental Containers
800-255-3950 • 304-255-3900

CUSTODY SEAL
DATE 04/14/16
SIGNATURE

QEC
Quality Environmental Containers
800-255-3950 • 304-255-3900

ORIGIN ID:WALA (757) 256-6281
JULIA LIU
615 E 82ND AVE STE 200
ANCHORAGE, AK 99518
UNITED STATES US

SHIP DATE: 14APR16
ACTWGT: 44.20 LB
CAD: 6997114/SSFO1621
DIMS: 26x15x15 IN
BILL THIRD PARTY

TO CT LABORATORIES
1230 LANGE COURT
BARABOO WI 53913
(608) 356-2760
REF:
DEPT:

FedEx Express

FRI - 15 APR 9:00A
FIRST OVERNIGHT

TRK# 0201 7828 3854 5368

X1 MSNA

53913
WI-US MSN

Rev 8/2014

CHAIN OF CUSTODY

Page 1 of 1

Company: BSEN
Project Contact: S. JULIA LIU
Telephone: 757-256-6281
Project Name: RAAD
Project #: 31390-001
Location: RADFORD, VA
Sampled By: SJL

CT LABORATORIES

1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Folder # 118319
Company: BERNARD SEA ENVIRON
Project: RADFORD AAP
Logged By: [illegible]

Program:
QSM RCRA SDWA NPDES
Solid Waste Other _____

PO # BSN-1255

Report To: S. JULIA LIU
EMAIL: SLIU@BSENV.COM
Company: BSEN
Address: 615 E. 82ND AVE #200
Invoice To:* ANCHORAGE, AK
EMAIL:
Company: 99518
Address:

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

Client Special Instructions

LAB MUST FILTER

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Collection Date	Collection Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	ANALYSES REQUESTED: EXPLOSIVES (8330 MOD/8095 TNX)	TDC	TNT/NITRATE/SULFITE/CHLORIDE	PERCHLORATE	CHLORATE/CHLORITE	PH	COD	TAL METALS	Total # Containers	Designated MS/MSD	CT Lab ID # (Lab use only)
							Fill in Spaces with Bottles per Test											
4/14/16	1320	GW	GRAB		S4MW10	N	X	X	X	X	X	X				10		709257/709258
↓	1357	↓	↓		041416 R1		X	X	X	X	X	X				10		709260/709261
↓	1630	↓	↓		S4ADW01								X	X	X	3		709262

Turnaround Time
(Normal) RUSH*
Date Needed: _____
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	1730 4/14/16		
Received By:	Date/Time	Received for Laboratory by:	Date/Time
		[signature]	4-15-16 0910

Lab Use Only
Ice Present (Yes) No
Temp 0.8 IR Gun # 15
Cooler # 5137 4-15-16 0830

RJA

CT Laboratories Terms and Conditions

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4.5 Client's sole and exclusive remedy for the breach of warranty in connection with any services performed by CTL will be limited to repeating any services performed, contingent on the Client's providing, at the request of CTL and at the Client's expense, additional sample(s) if necessary. Any reanalysis requested by the Client generating Results consistent with the original Results will be at the Client's expense. If resampling is necessary, CTL's liability for resampling costs will be limited to actual cost or one hundred or one hundred fifty dollars ($150) per sample, whichever is less.

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4.7 In no event shall CTL have any responsibility or liability to the Client for any failure or delay in performance by CTL which results, directly or indirectly, in whole or in part, from any cause or circumstance beyond the reasonable control of CTL. Such causes and circumstances shall include, but not be limited to, acts of God, acts of Client, acts or orders of any governmental authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, equipment breakdown, matrix interference or unknown highly contaminated samples that impact instrument operation, unavailability of supplies from usual suppliers, difficulties or delays in transportation, mail or delivery services, or any other cause beyond CTL's reasonable control.

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5.1 Data or information provided to CTL or generated by services performed under this agreement shall only become the property of the Client upon receipt in full by CTL of payment for the whole Order. Ownership of any analytical method, QA/QC protocols, software programs or equipment developed by CTL for performance of work will be retained by CTL, and Client shall not disclose such information to any third party.

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Cooler Receipt Form

Ice Present (YES) NO

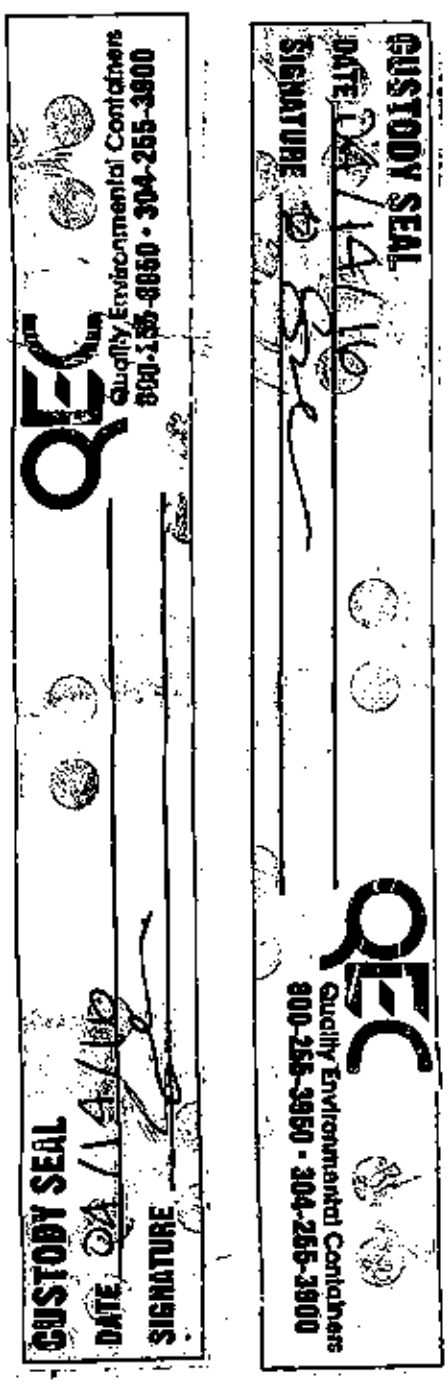
Temperature 0.8

IR Gun # IR 15

Initials BNA

Date 4-15-16 Time 0830

Cooler #: 5137



ORIGIN ID:WALA (757) 256-6281
JULIA LIU
615 E 82ND AVE STE 200
ANCHORAGE, AK 99518
UNITED STATES US

SHIP DATE: 14APR15
ACTWGT: 44.70 LB
CAD: 6987114/SSFD1621
DIMS: 25x13x15 IN
BILL THIRD PARTY

TO CT LABORATORIES
1230 LANGE COURT
BARABOO WI 53913
(608) 356-2760

FedEx Express

FRI - 15 APR 9:00A
FIRST OVERNIGHT

TRK# 0201 7828 3852 4863

X1 MSNA

53913
WI-US MSN

Rev 8/2014

CHAIN OF CUSTODY

Page 1 of 1

Company: BSEN
Project Contact: S. JULIA LIU
Telephone: 757-256-6281
Project Name: RAAP
Project #: 313010-001
Location: RADFORD, VA
Sampled By: SJL

CT LABORATORIES
1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Folder # 118319
Company: BERING SEA ENVIRON
Project: RADFORD AAP
Logged By:

Program:
QSM RCRA SDWA NPDES
Solid Waste Other

PO # BSN-1255

Report To: S. JULIA LIU
EMAIL: SLIU@BSENV.COM
Company: BSEN
Address: 615 E. 82ND AVE #200
Invoice To:* ANCHORAGE, AK 99518
EMAIL:
Company: SAME
Address:

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

Client Special Instructions

LAB MUST FILTER

Matrix:
GW - groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Collection Date	Collection Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	ANALYSES REQUESTED: Explosives (8330)	MNX / DNX / TNX	TOC	TIC / Nitrate / Sulfate / Chloride	Perchlorate / Chlorate / Chloride										Total # Containers	Designated MS/MSD	CT Lab ID # (Lab use only)
							Fill in Spaces with Bottles per Test																	
4/14/16	0839	GW	GRAB		S4MW1	N	X	X	X	X	X	X										6		709272 / 709273
↓	0849	↓	↓		S4TM1	N	X	X	X	X	X	X										6		709274 / 709275
↓	1050	↓	↓		S4MW13	N	X	X	X	X	X	X										6		709276 / 709277

Relinquished By: S. Liu — Date/Time: 1730 4/14/16
Received by: — Date/Time:
Received By: — Date/Time:
Received for Laboratory by: — Date/Time:

Lab Use Only
Ice Present Yes No
Temp 0.8 IR Gun # 15
Cooler # 5564 4-15-16 0830

CT Laboratories Terms and Conditions

Where a purchaser (Client) places an order for laboratory, consulting or sampling services from CT Laboratories (CTL), CTL shall provide the ordered services pursuant to these Terms and Conditions, and the related Quotation, or as agreed in a negotiated contract. In the absence of a written agreement to the contrary, the Order constitutes an acceptance by the Client of CTL's offer to do business under these Terms and Conditions, and an agreement to be bound by these Terms and Conditions. No contrary or additional terms and conditions expressed in a Client's document shall be deemed to become a part of the contract or shall upon acceptance of these Terms and Conditions, unless accepted by CTL in advance of the start of the project and in writing.

1. ORDERS AND RECEIPT OF SAMPLES (Sample Acceptance Policy)

1.1 The Client may place the Order (i.e. specify a Scope of Work) either by submitting a purchase order to CTL in writing, by telephone (confirmed in writing) or by negotiated contract. Whichever option the Client selects for placing the Order, the Order shall not be valid unless it contains sufficient specification to enable CTL to carry out the Client's requirements. It is the policy of CT Laboratories that samples not meeting the acceptance criteria, outlined in the NELAC standards and Section 5.6.3.2 of the DOD QSM, will not be accepted by the laboratory or will be qualified on the final report. All samples submitted to the laboratory and/or: (1) be accompanied by proper, full and complete documentation, including sample identification, location, date and time of collection, the collector's name, type of preservation (if any), type of sample, any special comments concerning the sample and any additional pertinent facts on the chain-of-custody. In the absence of any of the required information, the laboratory will attempt to contact the client to obtain the information if unable to obtain the necessary information, the submission will be qualified. (2) be labeled appropriately with a unique sample identification written with indelible ink on water resistant labels. If the laboratory cannot determine the identity of a sample, it will be rejected and the client will be contacted for further instructions or resampling. (3) be in an appropriate sample container. If the container is inappropriate, the client will be contacted for further instructions or resampling. If analysis is possible, the final report will be qualified. CT Laboratories can provide a sampling guide containing approved containers and preservations for analytical methods requested. (4) adhere to specified holding times. If samples are received with less than ½ the holding time remaining for the requested test, CT Laboratories will make its best effort to analyze the samples and notify the client. If holding times are exceeded, the final report will be qualified. (5) contain adequate sample volume to perform the necessary testing. If sufficient volume is not present, the sample will be rejected and the client will be contacted for further instructions or resampling. If samples show signs of damage, contamination or inadequate preservation, the client will be notified. If analysis can be performed, the final report will be qualified. If not, the samples will be rejected and the client notified for further instructions or resampling.

1.2 CT Laboratories must be supplied with complete written disclosure of the known or suspected presence of any hazardous substances, as defined by applicable federal or state law. Where any samples which were not accompanied by the required disclosure, cause interruptions in the lab's ability to process work due to contamination of instruments or work areas, the Client will be responsible for the costs of clean up and recovery.

1.3 Prior to Sample Acceptance, the entire risk of loss or damage to samples remains with the Client. In no event will CTL have any responsibility or liability for the action or inaction of any carrier shipping or delivering any sample to or from CTL's premises. Client is responsible to ensure that any sample containing any hazardous substance which is to be delivered to CTL's premises will be packaged, labeled, transported and delivered properly and in accordance with applicable laws.

2. PAYMENT TERMS

2.1 Services performed by CTL will be in accordance with prices quoted and later confirmed in writing or as stated in the Price Schedule. Invoices may be submitted to Client upon completion of any sample delivery group. Payment in advance is required for all Clients except those whose credit has been established with CTL. For Clients with approved credit, payment terms are net 30 days from the date of invoice by CTL. All overdue payments are subject to an additional interest and service charge of one and one-half percent (1.5%) (or the maximum rate permissible by law, whichever is lesser) per month or portion thereof from the due date until the date of payment. All fees are charged or billed directly to the Client. The billing of a third party will not be accepted without a statement, signed by the third party that acknowledges and accepts payment responsibility. CTL may suspend work and withhold delivery of data under this order at any time in the event Client fails to make timely payment of its invoices. Client shall be responsible for all costs and expenses of collection including reasonable attorney's fees. CTL reserves the right to refuse to proceed with work at any time based upon an unfavorable Client credit report.

3. CHANGE ORDERS, TERMINATION

3.1 Changes to the Scope of Work, price, or result delivery date may be initiated by CTL after Sample Acceptance due to any condition which conflicts with analytical, QA or other protocols warranted in these Terms and Conditions. CTL will not proceed with such changes until an agreement with the Client is reached on the amount of any cost, schedule change or technical change to the Scope of Work, and such agreement is documented in writing.

3.2 Changes to the Scope of Work, including but not limited to increasing or decreasing the work, changing test and analysis specification or acceleration in the performance of the work may be initiated by the Client after sample acceptance. Such a change will be documented in writing and may result in a change in cost and turnaround time commitment. CTL's acceptance of such changes is contingent upon technical feasibility and operational capability.

3.3 Suspension or termination of all or any part of the work may be initiated by the Client. CTL will be compensated consistent with Section 2 of these Terms and Conditions. CTL will complete all work in progress and be paid in full for all work completed.

4. WARRANTIES AND LIABILITY

4.1 Where applicable, CTL will use analytical methodologies which are in substantial conformity with published test methods. CTL has implemented these methods in its Laboratory Quality Manuals and referenced Standard Operating Procedures and where the nature or composition of the sample requires it, CTL reserves the right to deviate from these methodologies as necessary or appropriate, based on the reasonable judgment of CTL, which deviations, if any, will be made on a basis consistent with recognized standards of the industry and/or CTL's Laboratory Quality Manuals. Client may request that CTL perform according to a mutually agreed Quality Assurance Project Plan (QAPP) in the event that samples arrive prior to agreement on a QAPP, CTL will proceed with analyses under its standard Quality Manuals then in effect, and CTL will not be responsible for any resampling or other charges if work must be repeated to comply with a subsequently finalized QAPP.

4.2 CTL shall start preparation and/or analysis within Holding times provided that Sample Acceptance occurs within 48 hours of sampling or 1/2 of the holding time for the test, whichever is less. Where resolution of inconsistencies leading to Sample Acceptance does not occur within this period, CTL will use its best efforts to meet holding times and will proceed with the work provided that, in CTL's judgment, the chain-of-custody or definition of the Scope of Work provide sufficient guidance. Reanalysis of samples to comply with CTL's Quality Manuals will be deemed to have met holding times provided the initial analysis was performed within the applicable holding time. Where reanalysis demonstrates that sample matrix interference is the cause of failure to meet any Quality Manual requirements, the warranty will be deemed to have been met.

4.3 CTL warrants that it possesses and maintains all licenses and certifications which are required to perform services under these Terms and Conditions provided that such requirements are specified in writing to CTL prior to Sample Acceptance. CTL will notify the Client in writing of any cancellation or revocation of any license, or notice of either, which affects work in progress.

4.4 The warranty obligations set forth in Sections 4.1, 4.2 and 4.3 are the sole and exclusive warranties given by CTL in connection with any services performed by CTL or any Results generated from such services, and CTL gives and makes NO OTHER REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. No representative of CTL is authorized to give or make any other representation or warranty or modify this warranty in any way.

4.5 Client's sole and exclusive remedy for the breach of warranty in connection with any services performed by CTL, will be limited to replacing any services performed, contingent on the Client's providing, at the request of CTL, and at the Client's expense, additional sample(s) if necessary. Any reanalysis requested by the Client generating Results consistent with the original Results will be at the Client's expense. If resampling is necessary, CTL's liability for resampling costs will be limited to actual cost of one hundred or one hundred fifty dollars ($150) per sample, whichever is less.

4.6 CTL's liability for any and all causes of action arising hereunder, whether based in contract, tort, warranty, negligence or otherwise, shall be limited to the lesser amount of compensation for the services performed or $100,000. All claims, including those for negligence, shall be deemed waived unless suit thereon is filed within one year after CTL's completion of the services. Under no circumstances, whether arising in contract, tort (including negligence), or otherwise, shall CTL be responsible for loss of use, loss of profit, or for any special, indirect, incidental or consequential damages occasioned by the services performed or by application or use of the reports prepared.

4.7 In no event shall CTL have any responsibility or liability to the Client for any failure or delay in performance by CTL which results, directly or indirectly, in whole or in part, from any cause or circumstance beyond the reasonable control of CTL. Such causes and circumstances shall include, but not be limited to, acts of God, acts of Client, acts or orders of any governmental authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, equipment breakdown, matrix interference or unknown highly contaminated samples that impact instrument operation, unavailability of supplies from usual suppliers, difficulties or delays in transportation, mail or delivery services, or any other cause beyond CTL's reasonable control.

5. RESULTS, WORK PRODUCT

5.1 Data or information provided to CTL or generated by services performed under this agreement shall only become the property of the Client upon receipt in full by CTL of payment for the whole Order. Ownership of any analytical method, QA/QC protocols, software programs or equipment developed by CTL for performance of work will be retained by CTL, and Client shall not disclose such information to any third party.

5.2 Data and sample materials provided by Client or at Client's request, and the result obtained by CTL shall be held in confidence (unless such information is generally available to the public or is in the public domain or Client has failed to pay CTL for all services rendered or is otherwise in breach of these Terms and Conditions), subject to any disclosure required by law or legal process.

5.3 Should the Results delivered by CTL be used by the Client or Client's client, even though subsequently determined not to meet the warranties described in these Terms and Conditions, then the compensation will be adjusted based upon mutual agreement. In no case shall the Client unreasonably withhold CTL's right to independently defend its data.

5.4 CTL reserves the right to subcontract services ordered by the Client to another laboratory or laboratories, if, in CTL's sole judgment, it is reasonably necessary, appropriate or advisable to do so, and with the Client's permission. CTL will in no way be liable for any subcontracted services and all applicable warranties, guarantees and insurance are those of the subcontracted laboratory.

5.5 CTL shall dispose of the Client's samples 30 days after the analytical report is issued, unless instructed to store them for an alternate period of time or to return such samples to the Client, in a manner consistent with U.S. Environmental Protection Agency regulations or other applicable Federal, state or local requirements. Any samples for projects that are canceled or not accepted, or for which return was requested, will be returned to the Client at their own expense. CTL reserves the right to return to the Client any sample or unused portion of a sample that is not within CTL's permitted capability or the capabilities of CTL's designated waste disposal vendor(s).

5.6 Unless a different time period is agreed to in any order under these Terms and Conditions, CTL agrees to retain all records for five (5) years.

5.7 In the event that CTL is required to respond to legal process related to services for Client, Client agrees to reimburse CTL for hourly charges for personnel involved in the response and attorney fees reasonably incurred in obtaining advice concerning the response, preparation to testify, and appearances related to the legal process, travel and all reasonable expenses associated with the litigation.

6. INSURANCE

6.1 CTL shall maintain in force during the performance of services under these Terms and Conditions, Workers' Compensation and Employer's Liability insurance in accordance with the laws of the states having jurisdiction over CTL's employees who are engaged in the performance of the work. CTL shall also maintain during such period, Comprehensive General and Contractual Liability (limit of $2,000,000 per occurrence/ aggregate), Comprehensive Automobile Liability, owned and hired, ($1,000,000 combined single limit), and Professional/Pollution Liability insurance (limit of $5,000,000 per occurrence/aggregate). Any Client required changes to these limits or conditions may result in a change in cost to the Client.

7. AUDIT

7.1 Upon prior notice to CTL, the Client may audit and inspect CTL's records and accounts covering reimbursable costs related to work done for the Client, for a period of one (1) year after completion of the work. The purpose of any such audit shall be only for verification of such costs, and CTL shall not be required to provide access to cost records where prices are expressed as fixed fees or published unit prices.

Cooler Receipt Form

Ice Present (YES) NO

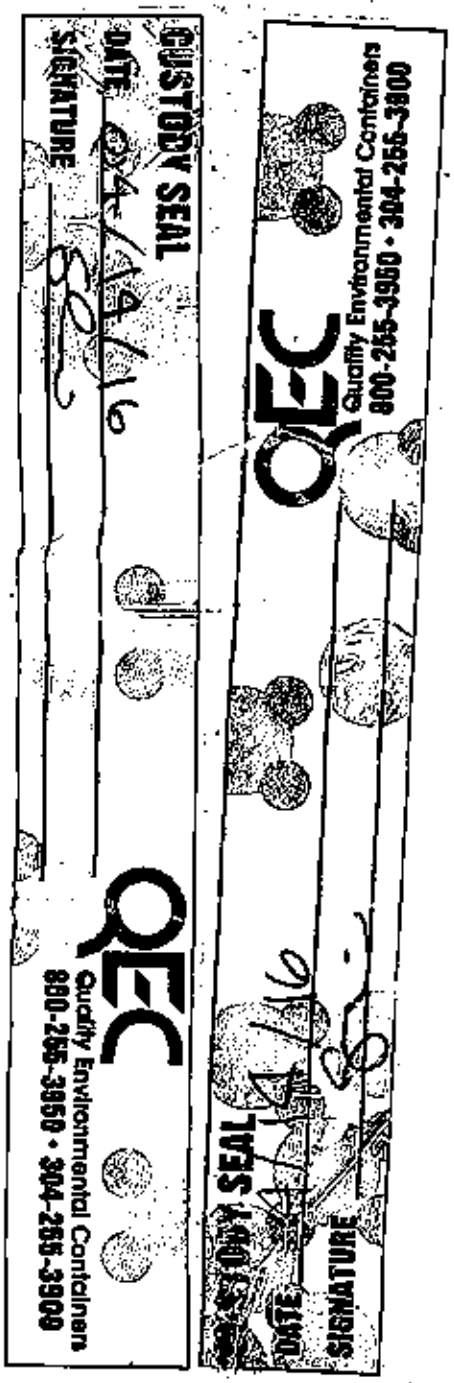
Temperature 0.8

IR Gun # 15

Initials BNA

Date 4-15-16 Time 0830

Cooler #: 5564



Folder #: 118319

PM LOGIN CONFIRMATION

Contract #: 2842

Company: BERING SEA ENVIRONMENTAL **Project:** RADFORD AAP **Proj #:** 313010-001

Project Phase: **PO Number:** BSN-1255 **Invoice #:** 118858

Project Manager: *BMS* **Date Received:** 04/15/16 **Log Date:** 04/15/2016

Report To: S. JULIA LIU CC: Invoice To :JULIA CC: SLIU@BSENV.COM

Phone: 757-256-6281: Fax: Phone: Fax:

Rep. E-Mail SLIU@BSENV.COM EMail:

Collected By: Arrival Temperature: 1.2 oC

Collector's Phone: 757-256-6281

SAMPLE #: 709222 **DESCR: 54MW12** **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED: 04/14/2016** **Time: 1512**

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
759	CARBON, INORG & ORG	(EPA 9060A)			***DESIGNATED MATRIX SPIKE***	04/28/2016	04/27/2016		Logged
878	SUB PERCHLORATE	(SW6850)			***DESIGNATED MATRIX SPIKE***	05/12/2016	04/27/2016		Logged
1230	ORGAN CARBON T QSM 5.(	EPA 9060A)			***DESIGNATED MATRIX SPIKE***	05/12/2016	04/27/2016		Logged
1240	8330B EXPLOSIVES QSM 5	(EPA 8330B)			***DESIGNATED MATRIX SPIKE***		04/27/2016		NeedPrep
1279	SUB CHLORATE/CHLORITE	(300.1)			***DESIGNATED MATRIX SPIKE***		04/27/2016		Logged
1291	SUB MNX/DNX/TNX				***DESIGNATED MATRIX SPIKE***		04/27/2016		Logged

SAMPLE #: 709223 **DESCR: 54MW12** **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED: 04/14/2016** **Time: 1512**

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)			***DESIGNATED MATRIX SPIKE***		04/27/2016		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)			***DESIGNATED MATRIX SPIKE***	04/16/2016	04/27/2016		Logged
			Chloride						

Folder #: 118319 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 709223 **DESCR:** 54MW12 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 04/14/2016 **Time:** 1512

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 709257 **DESCR:** 54MW10 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 04/14/2016 **Time:** 1320

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
759	CARBON, INORG & ORG	(EPA 9060A)				04/28/2016	04/27/2016		Logged
878	SUB PERCHLORATE	(SW6850)				05/12/2016	04/27/2016		Logged
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)				05/12/2016	04/27/2016		Logged
1240	8330B EXPLOSIVES QSM 5	(EPA 8330B)					04/27/2016		NeedPrep
1279	SUB CHLORATE/CHLORITE	(300.1)					04/27/2016		Logged
1291	SUB MNX/DNX/TNX						04/27/2016		Logged

SAMPLE #: 709258 **DESCR:** 54MW10 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 04/14/2016 **Time:** 1320

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)					04/27/2016		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)				04/16/2016	04/27/2016		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 709260 **DESCR:** 041416R1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 04/14/2016 **Time:** 1357

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
759	CARBON, INORG & ORG	(EPA 9060A)				04/28/2016	04/27/2016		Logged
878	SUB PERCHLORATE	(SW6850)				05/12/2016	04/27/2016		Logged

Folder #: 118319 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 709260 **DESCR:** 041416R1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 04/14/2016 **Time:** 1357

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1230	ORGAN CARBON T QSM 5.0	(EPA 9060A)				05/12/2016	04/27/2016		Logged
1240	8330B EXPLOSIVES QSM 5	(EPA 8330B)					04/27/2016		NeedPrep
1279	SUB CHLORATE/CHLORITE	(300.1)					04/27/2016		Logged
1291	SUB MNX/DNX/TNX						04/27/2016		Logged

SAMPLE #: 709261 **DESCR:** 041416R1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 04/14/2016 **Time:** 1357

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)					04/27/2016		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)				04/16/2016	04/27/2016		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 709262 **DESCR:** 54ADW01 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 04/14/2016 **Time:** 1630

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
203	PH	(EPA 9040C)					04/27/2016		Logged
989	COD QSM	(EPA 410.4)					04/27/2016		Logged
1183	ICP K TOTAL QSM 5.0	(EPA 6010C)					04/27/2016		NeedPrep
1190	ICP NA TOTAL QSM 5.0	(EPA 6010C)					04/27/2016		NeedPrep
1200	ICP TOTAL QSM 5.0	(EPA 6010C)					04/27/2016		NeedPrep
			Total Aluminum						
			Total Antimony						
			Total Arsenic						
			Total Barium						
			Total Beryllium						

Folder #: 118319 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 709262 **DESCR:** 54ADW01 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 04/14/2016 **Time:** 1630

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
			Total Cadmium						
			Total Calcium						
			Total Chromium						
			Total Cobalt						
			Total Copper						
			Total Iron						
			Total Lead						
			Total Magnesium						
			Total Manganese						
			Total Nickel						
			Total Selenium						
			Total Silver						
			Total Thallium						
			Total Vanadium						
			Total Zinc						
1208	MERCURY TOTAL QSM 5.0	(EPA 7470A)					04/27/2016		Logged

SAMPLE #: 709272 **DESCR:** 54MW1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 04/14/2016 **Time:** 0849

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
759	CARBON, INORG & ORG	(EPA 9060A)				04/28/2016	04/27/2016		Logged
878	SUB PERCHLORATE	(SW6850)				05/12/2016	04/27/2016		Logged
1230	ORGAN CARBON T QSM 5.0	(EPA 9060A)				05/12/2016	04/27/2016		Logged
1240	8330B EXPLOSIVES QSM 5	(EPA 8330B)					04/27/2016		NeedPrep
1279	SUB CHLORATE/CHLORITE	(300.1)					04/27/2016		Logged
1291	SUB MNX/DNX/TNX						04/27/2016		Logged

Folder #: 118319 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 709273 **DESCR:** 54MW1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 04/14/2016 **Time:** 0849

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)					04/27/2016		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)				04/16/2016	04/27/2016		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 709274 **DESCR:** 54TM1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 04/14/2016 **Time:** 0849

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
759	CARBON, INORG & ORG	(EPA 9060A)				04/28/2016	04/27/2016		Logged
878	SUB PERCHLORATE	(SW6850)				05/12/2016	04/27/2016		Logged
1230	ORGAN CARBON T QSM 5.0	(EPA 9060A)				05/12/2016	04/27/2016		Logged
1240	8330B EXPLOSIVES QSM 5	(EPA 8330B)					04/27/2016		NeedPrep
1279	SUB CHLORATE/CHLORITE	(300.1)					04/27/2016		Logged
1291	SUB MNX/DNX/TNX						04/27/2016		Logged

SAMPLE #: 709275 **DESCR:** 54TM1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 04/14/2016 **Time:** 0849

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)					04/27/2016		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)				04/16/2016	04/27/2016		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

Folder #: 118319 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 709276 **DESCR:** 54MW13 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 04/14/2016 **Time:** 1050

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
759	CARBON, INORG & ORG	(EPA 9060A)				04/28/2016	04/27/2016		Logged
878	SUB PERCHLORATE	(SW6850)				05/12/2016	04/27/2016		Logged
1230	ORGAN CARBON T QSM 5.0	(EPA 9060A)				05/12/2016	04/27/2016		Logged
1240	8330B EXPLOSIVES QSM 5	(EPA 8330B)					04/27/2016		NeedPrep
1279	SUB CHLORATE/CHLORITE	(300.1)					04/27/2016		Logged
1291	SUB MNX/DNX/TNX						04/27/2016		Logged

SAMPLE #: 709277 **DESCR:** 54MW13 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 04/14/2016 **Time:** 1050

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)					04/27/2016		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)				04/16/2016	04/27/2016		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

Folder #: 118319 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

Invoice Number: 118858 **Preliminary Invoice Estimate:** $ 2,877.00

Item	Matrix	Quantity	Price	Expedited TAT Surcharge	Total
8330B EXPLOSIVES QSM 5	GROUND WATER	6	$ 85.00	0.00	$ 510.00
ANIONS IC QSM 5.0 Chloride	GROUND WATER	6	$ 10.00	0.00	$ 60.00
ANIONS IC QSM 5.0 Nitrate Nitrogen	GROUND WATER	6	$ 10.00	0.00	$ 60.00
ANIONS IC QSM 5.0 Sulfate	GROUND WATER	6	$ 10.00	0.00	$ 60.00
CARBON, INORG & ORG	GROUND WATER	6	$ 25.00	0.00	$ 150.00
COD QSM	GROUND WATER	1	$ 18.00	0.00	$ 18.00
FILTRATION, SAMPLE	GROUND WATER	6	$ 10.00	0.00	$ 60.00
ICP K TOTAL QSM 5.0	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP NA TOTAL QSM 5.0	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Aluminum	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Antimony	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Arsenic	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Barium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Beryllium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Cadmium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Calcium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Chromium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Cobalt	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Copper	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Iron	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Lead	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Magnesium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Manganese	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Nickel	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Selenium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Silver	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Thallium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Vanadium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Zinc	GROUND WATER	1	$ 3.25	0.00	$ 3.25

MERCURY TOTAL QSM 5.0	GROUND WATER	1	$ 23.50	0.00	$ 23.50
ORGAN CARBON T QSM 5.0	GROUND WATER	6	$ 25.00	0.00	$ 150.00
PH	GROUND WATER	1	$ 10.00	0.00	$ 10.00
SUB CHLORATE/CHLORITE	GROUND WATER	6	$ 90.00	0.00	$ 540.00
SUB MNX/DNX/TNX	GROUND WATER	6	$ 90.00	0.00	$ 540.00
SUB PERCHLORATE	GROUND WATER	6	$ 104.00	0.00	$ 624.00
Temporary Fuel Surcharge on lab supplies and services (if applicable):					$ 0.00

Bottle Information

Container	# Containers	Tests
AMBER GL	**24**	CARBON
AMBER GL H2SO4	**2**	TOC
H2SO4 PL	**7**	TOC
HNO3	**1**	HG,ICP,K,NA
LABEL ONLY	**8**	Anions
MISC	**8**	CHLORATE/CHLORITE
UNPRES PL	**17**	Anions

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Sample Condition Report

Folder #: 118319
Client: BERING SEA ENVIRONMENTAL

Print Date / Time: 04/15/2016 09:10
Received Date / Time / By: 04/15/2016 0830 BNA

Project Name: RADFORD AAP
Project Phase:

Log-In Date / Time / By: 04/15/2016 0910 BNA
Project #: 313010-001 PM: BMS

Coolers: 5701,5137,5564
Custody Seals Present : **Y**

Temperature: 1.2 C On Ice: **Y**
COC Present:? **Y** Complete? **Y**

Seal Intact? **Y**
Ship Method: FEDEX OVERNIGHT
Adequate Packaging: **Y**

Numbers: SIGNED AND DATED
Tracking Number: 782838545368
Temp Blank Enclosed? **Y**

Notes: THE SAMPLES WERE RECEIVED IN GOOD CONDITION ON ICE.

TWO CUSTODY SEALS WERE PRESENT AND INTACT ON EACH COOLER, ALL DATED 04/14/16 AND SIGNED.

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
709222 54MW12				
	AMBER GL	1	/	CARBON
	AMBER GL	1	/	CARBON
	AMBER GL	1	/	CARBON
	Total # of Containers of Type	**(*AMBER GL*) = 3**		
709222 54MW12				
	MISC	1	/	CHLORATE/CHLORITE
	MISC	1	/	CHLORATE/CHLORITE
	MISC	1	/	CHLORATE/CHLORITE
	Total # of Containers of Type	**(*MISC*) = 3**		
709222 54MW12				
	AMBER GL	1	/	EXPL
	AMBER GL	1	Y /	EXPL
	AMBER GL	1	/	EXPL
	AMBER GL	1	/	EXPL
	AMBER GL	1	/	EXPL
	AMBER GL	1	/	EXPL
	Total # of Containers of Type	**(*AMBER GL*) = 6**		
709222 54MW12				
	UNPRES PL	1	/	Perchlorate
	UNPRES PL	1	/	Perchlorate
	UNPRES PL	1	/	Perchlorate
	Total # of Containers of Type	**(*UNPRES PL*) = 3**		
709222 54MW12				
	AMBER GL H2SO4	1	/	TOC
	AMBER GL H2SO4	1	/	TOC
	Total # of Containers of Type	**(*AMBER GL H2SO4*) = 2**		
709222 54MW12				

		H2SO4 PL	1	Y /	TOC
		Total # of Containers of Type	**(*H2SO4 PL*) = 1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
709223 54MW12				
	LABEL ONLY	1	/	Anions
	LABEL ONLY	1	/	Anions
	LABEL ONLY	1	/	Anions
	Total # of Containers of Type	**(*LABEL ONLY*) = 3**		
709223 54MW12				
	UNPRES PL	1	/	Anions
	UNPRES PL	1	/	Anions
	UNPRES PL	1	/	Anions
	Total # of Containers of Type	**(*UNPRES PL*) = 3**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
709257 54MW10				
	AMBER GL	1	/	CARBON
	Total # of Containers of Type	**(*AMBER GL*) = 1**		
709257 54MW10				
	MISC	1	/	CHLORATE/CHLORITE
	Total # of Containers of Type	**(*MISC*) = 1**		
709257 54MW10				
	AMBER GL	1	/	EXPL
	AMBER GL	1	Y /	EXPL
	Total # of Containers of Type	**(*AMBER GL*) = 2**		
709257 54MW10				
	UNPRES PL	1	/	Perchlorate
	Total # of Containers of Type	**(*UNPRES PL*) = 1**		
709257 54MW10				
	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type	**(*H2SO4 PL*) = 1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
709258 54MW10				
	LABEL ONLY	1	/	Anions
	Total # of Containers of Type	**(*LABEL ONLY*) = 1**		
709258 54MW10				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type	**(*UNPRES PL*) = 1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
709260 041416R1				

		AMBER GL	1	/	CARBON
		Total # of Containers of Type	**(*AMBER GL*) = 1**		

709260	041416R1				
		MISC	1	/	CHLORATE/CHLORITE
		Total # of Containers of Type	**(*MISC*) = 1**		

709260	041416R1				
		AMBER GL	1	/	EXPL
		AMBER GL	1 Y	/	EXPL
		Total # of Containers of Type	**(*AMBER GL*) = 2**		

709260	041416R1				
		UNPRES PL	1	/	Perchlorate
		Total # of Containers of Type	**(*UNPRES PL*) = 1**		

709260	041416R1				
		H2SO4 PL	1 Y	/	TOC
		Total # of Containers of Type	**(*H2SO4 PL*) = 1**		

Sample ID / Description		**Container Type**	**Cond. Code**	**pH OK?/Filtered?**	**Tests**
709261	041416R1				
		LABEL ONLY	1	/	Anions
		Total # of Containers of Type	**(*LABEL ONLY*) = 1**		
709261	041416R1				
		UNPRES PL	1	/	Anions
		Total # of Containers of Type	**(*UNPRES PL*) = 1**		

Sample ID / Description		**Container Type**	**Cond. Code**	**pH OK?/Filtered?**	**Tests**
709262	54ADW01				
		H2SO4 PL	1 Y	/	COD
		Total # of Containers of Type	**(*H2SO4 PL*) = 1**		
709262	54ADW01				
		HNO3	1 Y	/	HG,ICP,K,NA
		Total # of Containers of Type	**(*HNO3*) = 1**		
709262	54ADW01				
		UNPRES PL	1	/	pH
		Total # of Containers of Type	**(*UNPRES PL*) = 1**		

Sample ID / Description		**Container Type**	**Cond. Code**	**pH OK?/Filtered?**	**Tests**
709272	54MW1				
		AMBER GL	1	/	CARBON
		Total # of Containers of Type	**(*AMBER GL*) = 1**		
709272	54MW1				
		MISC	1	/	CHLORATE/CHLORITE

Total # of Containers of Type (*MISC*) = 1

709272 54MW1

AMBER GL	1	/	EXPL
AMBER GL	1	/	EXPL

Total # of Containers of Type (*AMBER GL*) = 2

709272 54MW1

UNPRES PL	1	/	Perchlorate

Total # of Containers of Type (*UNPRES PL*) = 1

709272 54MW1

H2SO4 PL	1	/	TOC

Total # of Containers of Type (*H2SO4 PL*) = 1

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

---

709273 54MW1

LABEL ONLY	1	/	Anions

Total # of Containers of Type (*LABEL ONLY*) = 1

709273 54MW1

UNPRES PL	1	/	Anions

Total # of Containers of Type (*UNPRES PL*) = 1

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

---

709274 54TM1

AMBER GL	1	/	CARBON

Total # of Containers of Type (*AMBER GL*) = 1

709274 54TM1

MISC	1	/	CHLORATE/CHLORITE

Total # of Containers of Type (*MISC*) = 1

709274 54TM1

AMBER GL	1	/	EXPL
AMBER GL	1	/	EXPL

Total # of Containers of Type (*AMBER GL*) = 2

709274 54TM1

UNPRES PL	1	/	Perchlorate

Total # of Containers of Type (*UNPRES PL*) = 1

709274 54TM1

H2SO4 PL	1	/	TOC

Total # of Containers of Type (*H2SO4 PL*) = 1

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

---

709275 54TM1

LABEL ONLY	1	/	Anions

		Total # of Containers of Type	**(*LABEL ONLY*) = 1**		
709275	54TM1				
		UNPRES PL	1	/	Anions
		Total # of Containers of Type	**(*UNPRES PL*) = 1**		

Sample ID / Description		Container Type	Cond. Code	pH OK?/Filtered?	Tests
709276	54MW13				
		AMBER GL	1	/	CARBON
		Total # of Containers of Type	**(*AMBER GL*) = 1**		
709276	54MW13				
		MISC	1	/	CHLORATE/CHLORITE
		Total # of Containers of Type	**(*MISC*) = 1**		
709276	54MW13				
		AMBER GL	1	/	EXPL
		AMBER GL	1	/	EXPL
		Total # of Containers of Type	**(*AMBER GL*) = 2**		
709276	54MW13				
		UNPRES PL	1	/	Perchlorate
		Total # of Containers of Type	**(*UNPRES PL*) = 1**		
709276	54MW13				
		H2SO4 PL	1	/	TOC
		Total # of Containers of Type	**(*H2SO4 PL*) = 1**		

Sample ID / Description		Container Type	Cond. Code	pH OK?/Filtered?	Tests
709277	54MW13				
		LABEL ONLY	1	/	Anions
		Total # of Containers of Type	**(*LABEL ONLY*) = 1**		
709277	54MW13				
		UNPRES PL	1	/	Anions
		Total # of Containers of Type	**(*UNPRES PL*) = 1**		

Condition Code	*Condition Description*
1	Sample Received OK

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ANALYTICAL RESULTS FOR:

S JULIA LIU
BERING SEA ENVIRONMENTAL
615 E 82ND AVENUE, #200
ANCHORAGE, AL 99518

PROJECT SITE:	RAAP, RADFORD, VA
PROJECT #:	313010-001
SDG:	120379
FOLDERS:	(120379, 120408, 120462, 120518)
PREPARED:	August 17, 2016
DOCUMENT PAGES:	2170

The data contained in the following report have been reviewed by the appropriate CT Laboratories' LLC staff members. In addition, CT Laboratories LLC certifies that to the best of our knowledge that the analyses reported herein are true, complete and correct within the limits of the methods employed and that they follow the applicable requirements as specified by the project plan, state-specific, NELAC or DOD QSM requirements. The estimated uncertainty of measurement is only available upon request. The reported results relate only to the tested samples. This report shall not be reproduced, except in full, without written approval of CT Laboratories LLC.

APPROVED BY: Brett Szymanski
PROJECT MANAGER

Certifications: IL (NELAP 002413), KS (NELAP E-10368), KY (0023), NC (674), WI (157066030), DOD ELAP (A2LA 3806.01), VA (7608), MD (344), LA (NELAP 115843), ISO17025 (A2LA 3806.01, GA EDP Stipulation (Accreditor: LA NELAP, ACC#: E971111, Scope: Non-potable water solid and chemical materials, biological tissue, Effective: 12/10/2014, Expires: annually)

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Case Narrative

Client: Bering Sea Environmental
Project: RAAP, Radford, VA
Sample Receipt Date(s): 07/12 through 07/15/2016
SDG #: 120379 (Folders 120379, 120408, 120462, 120518)

Twenty-one water samples were received for a variety of analyses, including: pH, COD, anions, TOC, TIC, metals, dissolved gases, and VOC's. Two trip blanks were included with the VOC analyses. The Chlorate and Chlorite analyses were subcontracted to Eurofins Eaton Analytical, South Bend, IN. The Explosives analyses (which included the RDX breakdown products: MNX/DNX/TNX) were subcontracted to Accutest Southeast, Orlando, FL. The assigned sample ID number, date sampled, and date received are indicated in the attached Project Summary. The samples were received intact and at a temperature within method specified acceptance limits. A breakdown of sample receipt information can be found on the Sample Condition Report located in the last section of the data package and any exceptions are noted below. The analyses were performed following DOD QSM 5.

Manual integrations may have been performed on the data provided with this package. If manual integrations were performed, a Reason #(s) was included on the raw data that corresponds to the "Index Key for Manual Integration Rationale." The raw data includes a "Before" and "After" manual integration illustration. The manual integrations were initialed and dated by the analyst, as well as, by the person reviewing the data.

Sample Analysis and Quality Control

Volatile Analysis:

The samples were analyzed using US EPA Methods 8260C (VOC) and RSK-175 (Dissolved Gases). All samples were analyzed within the holding time. The following summaries of quality control procedures are included:

Surrogate Recovery Data
Matrix Spike/Matrix Spike Duplicate Recovery Data
Laboratory Control Spike Data
Method Blank Data
Initial Calibration Summary
Calibration Check Summary
Analysis Run Log
Prep Log
Chromatograms

All analysis results met the method specified quality control criteria with the following exceptions:

Detailed reports were provided for the 8260 data for all detected compounds, as well as, for those compounds manually integrated (if applicable). Compounds not reported on the form 1's were either not detected or did not meet identification criteria so they were reported as non-detects.

Compounds that may not meet the recommended minimum average response factor (ARF) criteria for 8260C (such as several of the ketones) are analyzed at concentrations 2 to 50 times higher than normal to make up for their lack of response. However, the ARF on the response factor (RF) forms do not reflect this change in concentration. These compounds may be "flagged" on RF forms as a result.

Some samples may have been analyzed and/or reanalyzed diluted to obtain results for all target compounds within the calibration range of the instrument.

VOC (8260C) Water Analysis

Analytical Run # 127773

Level 8 was not used for 4-methyl-2-pentanone, carbon disulfide, 2-hexanone, and ethylbenzene on the initial calibration curve (W062916) due to loss in linearity. Acetone, methylene chloride, 4-methyl-2-pentanone, and 2-hexanone were calibrated using quadratic regression (two ICV's were analyzed for these compounds). ICV1 had a high recovery outside specified criteria for 1,4-dioxane (>20% Dev.). This ICV was reanalyzed for this compound and the results were within specified criteria. Bromomethane was detected in the ICB.

CCV1 had high recoveries outside specified criteria for bromomethane and 1,4-dioxane (>20% Dev.). These compounds were qualified with a "Z" flag on all associated samples.

Analytical Run # 127819

Level 8 was not used for 4-methyl-2-pentanone, 2-hexanone, and ethylbenzene on the initial calibration curve (W071516) due to loss in linearity. Acetone, 4-methyl-2-pentanone, and 2-hexanone were calibrated using quadratic regression (two ICV's were analyzed for these compounds). ICV1 had a high recovery outside specified criteria for bromomethane (>20% Dev.). This ICV was reanalyzed for this compound and the results were within specified criteria. Bromomethane was detected in the ICB.

CCV1 had a high recovery outside specified criteria for bromomethane (>20% Dev.). This compound was qualified with a "Z" flag on all associated samples.

Dissolved Gases (Methane, Ethene, Ethane) Analysis

Analytical Run # 127794

All analytical results for this run met the method/project specified quality control criteria.

Analytical Run # 127980

All analytical results for this run met the method/project specified quality control criteria.

Metals Analysis:

The samples were analyzed using US EPA Methods 6010C (ICP) and 7470A (Hg). All samples were analyzed within the holding time. The following summaries of quality control procedures are included:

Initial and Continuing Calibration Verification
Blanks Summary
ICP Interference Check Data
Spike Sample Recovery
Duplicates Data
Laboratory Control Sample Data
Analysis Run Log

All analysis results met the method specified quality control criteria with the following exceptions:

ICP Metals (6010C) Water Analysis

Continuing Calibration Verification (CCV) standards were analyzed at two levels (CCV1 & CCV2) with potentially differing wavelengths. Data associated with CCV's were evaluated based on the concentration of the element in the samples and compared to the appropriate CCV level/wavelength.

Some samples may have been analyzed and/or reanalyzed diluted to obtain results for all target analytes within the calibration range of the instrument.

There was an insufficient amount of sample to analyze all normal sample QC.

Analytical Run # 127903

The Laboratory Control Sample (LCS) was reanalyzed for arsenic and was acceptable.

Iron, calcium, and silver were detected in the Method Blank (MB) greater than the Method Detection Limit (MDL) but less than ½ the Reporting Limit (RL). Affected samples were reported and qualified with a "B" flag when the MB raw results were greater than $1/10^{th}$ of the sample raw results.

The Serial Dilution (L) for sample # 744978 was not applicable for multiple elements because the parent sample raw results were less than 50 times the Limit of Quantitation (LOQ). A Post Digestion Spike (PDS) was not analyzed because there was insufficient sample. The parent sample was reported and not qualified.

The L for sample # 744978 was not acceptable for calcium and magnesium because the results exceeded the Relative Percent Difference (RPD) limit. A PDS was not analyzed because there was insufficient sample. The parent sample was reported and qualified with an "M" flag for calcium and magnesium.

The Matrix Spike (MS) for sample # 745779 exceeded the recovery limit for arsenic. A PDS was analyzed and was acceptable. The parent sample was reported and not qualified.

ICP Sodium and Potassium (6010C) Water Analysis

Analytical Run # 127901

All analytical results for this run met the method/project specified quality control criteria.

CVAA Mercury (7470A) Water Analysis

Analytical Run # 127945

The MS for sample # 744978 exceeded the recovery limit for mercury. The parent sample was reported and qualified with an "M" flag.

Inorganic Analysis:

The samples were analyzed using US EPA Methods 9060A (TOC, TIC), 9040C (pH), 410.4 (COD) and 9056A (anions). All samples were analyzed within the holding time. The following summaries of quality control procedures are included:

Duplicate Analysis Data
Laboratory Control Spike Data
Method Blank Data
Initial Calibration Summary
Calibration Check Summary
Analysis Run Log
Prep Log

Some samples may have been analyzed and/or reanalyzed diluted to obtain results for all target analytes within the calibration range of the instrument.

Anions (9056A) Water Analysis

Analytical Run # 127720

All analytical results for this run met the method/project specified quality control criteria.

Analytical Run # 127756

The MS for sample # 709223 had a low recovery for sulfate. The parent sample result for this analyte was qualified with and "M" flag.

Analytical Run # 127821

All analytical results for this run met the method/project specified quality control criteria.

Analytical Run # 127866

The MS and the Matrix Spike Duplicate (MSD) for sample # 745777 had low recoveries for chloride and sulfate. The parent sample result for these analytes was qualified with and "M" flag.

Chemical Oxygen Demand (COD) Analysis

Analytical Run 127931

All analytical results for this run met the method/project specified quality control criteria.

Filtration Analysis

Analytical Run #'s 127947, 127948, 127949 & 127950

The filtration was completed successfully prior to sample analyses.

pH (9040C) Water Analysis

Analytical Run # 127894

All analytical results for this run met the method/project specified quality control criteria.

Total Inorganic Carbon (TIC) Analysis

Analytical Run # 127752

All analytical results for this run met the method/project specified quality control criteria.

Analytical Run # 127924

All analytical results for this run met the method/project specified quality control criteria.

Total Organic Carbon (TOC) Analysis

Analytical Run # 127753

All analytical results for this run met the method/project specified quality control criteria.

Analytical Run # 127922

All analytical results for this run met the method/project specified quality control criteria.

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Data Qualifiers

Code	Description
A	Analyte averaged calibration criteria within acceptable limits.
B	Analyte detected in associated Method Blank.
C	Toxicity present in BOD sample.
D	Diluted Out.
E	Safe, No Total Coliform detected.
F	Unsafe, Total Coliform detected, no E. Coli detected.
G	Unsafe, Total Coliform detected and E. Coli detected.
H	Holding time exceeded.
J	Estimated value.
L	Significant peaks were detected outside the chromatographic window.
M	Matrix spike and/or Matrix Spike Duplicate recovery outside acceptance limits.
N	Insufficient BOD oxygen depletion.
O	Complete BOD oxygen depletion.
P	Concentration of analyte differs more than 40% between primary and confirmation analysis.
Q	Laboratory Control Sample outside acceptance limits.
R	See Narrative at end of report.
S	Surrogate standard recovery outside acceptance limits due to apparent matrix effects.
T	Sample received with improper preservation or temperature.
U	Analyte concentration was not above the detection level.
V	Raised Quantitation or Reporting Limit due to limited sample amount or dilution for matrix background interference.
W	Sample amount received was below program minimum.
X	Analyte exceeded calibration range.
Y	Replicate/Duplicate precision outside acceptance limits.
Z	Calibration criteria exceeded.

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MANUAL INTEGRATION REASON CODES

CTLaboratories has identified four general cases with valid reasons supporting the use of manual integration techniques. These codes are used on chromatograms in this data package to document the reasons for manual integrations per CTLaboratories' SOP SS-10 current revision.

#1: **Data system failed to select the correct peak or missed the peak entirely.**
In some cases the chromatography system selects and integrates the "wrong peak". In this case the analyst must correct the selection and force the system to integrate the proper peak. In other instances the system may miss the peak completely. In this case the analyst manually integrated the peak

#2: **Data System Splits the Peak Incorrectly or Integrates a False Peak as a Rider Peak.**
This phenomenon is common at low concentrations where the signal to noise ratio is low. A single compound (peak) is incorrectly split into multiple peaks or integrated as a main peak with one or more rider peaks resulting in low or high area counts for the target compound.

#3: Improperly Integrated Isomers and/or coeluting compounds.
For when the system fails to distinguish coeluting compounds and or isomers. The integration areas and concentrations may be inaccurate, and they must be corrected by manual integration. Prime examples are compounds that are unresolved and integrated improperly when present at low concentrations in standards or samples.

#4: System Established Incorrect Baseline.
There are numerous situations in chromatography where the system establishes the baseline incorrectly. Some baseline errors will be obvious to the analyst and may be corrected via manual procedures.

#5: Miscellaneous.
Some situations involving integration errors may require in-depth review and technical judgment. These cases should be brought to the attention of the group supervisor. If the form of manual integration is not clearly covered by these four cases, then review and approval by the group supervisor or the *QA/QC* Supervisor will be required.

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Sample Delivery Group

120379

BERING SEA ENVIRONMENTAL
S. JULIA LIU
615 E 82ND AVE
#200
ANCHORAGE, AK 99518

Project Name: RADFORD AAP
Project #: 313010-001

CT Sample #	Folder #	Client Sample #	Sample Description	Matrix	Date Sampled	Date Received
743829	120379		54MW12	GROUND WATER	07/11/2016	07/12/2016
743851	120379		54MW1	GROUND WATER	07/11/2016	07/12/2016
743865	120379		54MW12	GROUND WATER	07/11/2016	07/12/2016
743866	120379		54MW1	GROUND WATER	07/11/2016	07/12/2016
743879	120379		54MW10	GROUND WATER	07/11/2016	07/12/2016
743880	120379		54MW10	GROUND WATER	07/11/2016	07/12/2016
743881	120379		54TM10	GROUND WATER	07/11/2016	07/12/2016
743882	120379		54TM10	GROUND WATER	07/11/2016	07/12/2016
743883	120379		071116R1	GROUND WATER	07/11/2016	07/12/2016
743885	120379		071116R1	GROUND WATER	07/11/2016	07/12/2016
744395	120408		48MW6	GROUND WATER	07/12/2016	07/13/2016
744397	120408		48MW6	GROUND WATER	07/12/2016	07/13/2016
744398	120408		49TM01	GROUND WATER	07/12/2016	07/13/2016
744399	120408		49TM01	GROUND WATER	07/12/2016	07/13/2016
744400	120408		48MW1	GROUND WATER	07/12/2016	07/13/2016
744401	120408		48MW1	GROUND WATER	07/12/2016	07/13/2016
744408	120408		49MW01	GROUND WATER	07/12/2016	07/13/2016
744409	120408		49MW01	GROUND WATER	07/12/2016	07/13/2016
744411	120408		50MW02	GROUND WATER	07/12/2016	07/13/2016
744412	120408		50MW02	GROUND WATER	07/12/2016	07/13/2016
744414	120408		49TM02	GROUND WATER	07/12/2016	07/13/2016
744415	120408		49TM02	GROUND WATER	07/12/2016	07/13/2016
744416	120408		071216R1	GROUND WATER	07/12/2016	07/13/2016
744417	120408		071216R1	GROUND WATER	07/12/2016	07/13/2016
744418	120408		13MW3	GROUND WATER	07/12/2016	07/13/2016
744419	120408		13MW3	GROUND WATER	07/12/2016	07/13/2016
744420	120408		13MW4	GROUND WATER	07/12/2016	07/13/2016
744421	120408		13MW4	GROUND WATER	07/12/2016	07/13/2016
744422	120408		071216T1	TRIP BLANK	07/12/2016	07/13/2016
744939	120462		49MW02	GROUND WATER	07/13/2016	07/14/2016
744969	120462		49MW02	GROUND WATER	07/13/2016	07/14/2016
744970	120462		48MW3	GROUND WATER	07/13/2016	07/14/2016

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Sample Delivery Group

120379

BERING SEA ENVIRONMENTAL
S. JULIA LIU
615 E.82ND AVE
#200
ANCHORAGE, AK 99518

Project Name: RADFORD AAP
Project #: 313010-001

CT Sample #	Folder #	Client Sample #	Sample Description	Matrix	Date Sampled	Date Received
744971	120462		48MW3	GROUND WATER	07/13/2016	07/14/2016
744972	120462		48MW2	GROUND WATER	07/13/2016	07/14/2016
744973	120462		48MW2	GROUND WATER	07/13/2016	07/14/2016
744974	120462		13MW2	GROUND WATER	07/13/2016	07/14/2016
744975	120462		13MW2	GROUND WATER	07/13/2016	07/14/2016
744976	120462		49MW04	GROUND WATER	07/13/2016	07/14/2016
744977	120462		49MW04	GROUND WATER	07/13/2016	07/14/2016
744978	120462		49ADW01	GROUND WATER	07/13/2016	07/14/2016
744980	120462		071316T1	TRIP BLANK	07/13/2016	07/14/2016
745769	120518		54MW13	GROUND WATER	07/14/2016	07/15/2016
745777	120518		54MW13	GROUND WATER	07/14/2016	07/15/2016
745779	120518		54ADW01	GROUND WATER	07/14/2016	07/15/2016

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QC Batch Cross Reference Summary

BERING SEA ENVIRONMENTAL
S. JULIA LIU
615 E.82ND AVE
#200
ANCHORAGE, AK 99518

Project Name:	RADFORD AAP
Project #:	313010-001
Report Date:	08/17/2016
Date Received:	07/14/2016
SDG #:	120379

Inorganic Parameters

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
744978	pH	EPA 9040C	GROUND WATER		127894
745779	pH	EPA 9040C	GROUND WATER		127894

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
743865	Sample Filtration	SOP #FO-10	GROUND WATER		127947
743866	Sample Filtration	SOP #FO-10	GROUND WATER		127947
743880	Sample Filtration	SOP #FO-10	GROUND WATER		127947
743882	Sample Filtration	SOP #FO-10	GROUND WATER		127947
743885	Sample Filtration	SOP #FO-10	GROUND WATER		127947
744397	Sample Filtration	SOP #FO-10	GROUND WATER		127948
744399	Sample Filtration	SOP #FO-10	GROUND WATER		127948
744401	Sample Filtration	SOP #FO-10	GROUND WATER		127948
744409	Sample Filtration	SOP #FO-10	GROUND WATER		127948
744412	Sample Filtration	SOP #FO-10	GROUND WATER		127948
744415	Sample Filtration	SOP #FO-10	GROUND WATER		127948
744417	Sample Filtration	SOP #FO-10	GROUND WATER		127948
744419	Sample Filtration	SOP #FO-10	GROUND WATER		127948
744421	Sample Filtration	SOP #FO-10	GROUND WATER		127948
744969	Sample Filtration	SOP #FO-10	GROUND WATER		127949
744971	Sample Filtration	SOP #FO-10	GROUND WATER		127949
744973	Sample Filtration	SOP #FO-10	GROUND WATER		127949
744975	Sample Filtration	SOP #FO-10	GROUND WATER		127949
744977	Sample Filtration	SOP #FO-10	GROUND WATER		127949
745777	Sample Filtration	SOP #FO-10	GROUND WATER		127950

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
745769	Carbon , Total Inorganic and Orga	EPA 9060A	GROUND WATER		127924
743829	Carbon , Total Inorganic and Orga	EPA 9060A	GROUND WATER		127752

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Project Name: RADFORD AAP
Project #: 313010-001
SDG #: 120379

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
743851	Carbon , Total Inorganic and Orga	EPA 9060A	GROUND WATER		127752
743879	Carbon , Total Inorganic and Orga	EPA 9060A	GROUND WATER		127752
743881	Carbon , Total Inorganic and Orga	EPA 9060A	GROUND WATER		127752
743883	Carbon , Total Inorganic and Orga	EPA 9060A	GROUND WATER		127752

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
744978	COD QSM	EPA 410.4	GROUND WATER	58120	127931
745779	COD QSM	EPA 410.4	GROUND WATER	58120	127931

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
743865	Anions QSM 5.0	EPA 9056A	GROUND WATER		127720
743866	Anions QSM 5.0	EPA 9056A	GROUND WATER		127720
743880	Anions QSM 5.0	EPA 9056A	GROUND WATER		127720
743882	Anions QSM 5.0	EPA 9056A	GROUND WATER		127720
743885	Anions QSM 5.0	EPA 9056A	GROUND WATER		127720
744397	Anions QSM 5.0	EPA 9056A	GROUND WATER		127756
744399	Anions QSM 5.0	EPA 9056A	GROUND WATER		127756
744401	Anions QSM 5.0	EPA 9056A	GROUND WATER		127756
744409	Anions QSM 5.0	EPA 9056A	GROUND WATER		127756
744412	Anions QSM 5.0	EPA 9056A	GROUND WATER		127756
744415	Anions QSM 5.0	EPA 9056A	GROUND WATER		127756
744417	Anions QSM 5.0	EPA 9056A	GROUND WATER		127756
744419	Anions QSM 5.0	EPA 9056A	GROUND WATER		127756
744421	Anions QSM 5.0	EPA 9056A	GROUND WATER		127756
744969	Anions QSM 5.0	EPA 9056A	GROUND WATER		127821
744971	Anions QSM 5.0	EPA 9056A	GROUND WATER		127821
744973	Anions QSM 5.0	EPA 9056A	GROUND WATER		127821
744975	Anions QSM 5.0	EPA 9056A	GROUND WATER		127821
744977	Anions QSM 5.0	EPA 9056A	GROUND WATER		127821
745777	Anions QSM 5.0	EPA 9056A	GROUND WATER		127866
743880	Anions QSM 5.0	EPA 9056A	GROUND WATER		127720
743882	Anions QSM 5.0	EPA 9056A	GROUND WATER		127720
744397	Anions QSM 5.0	EPA 9056A	GROUND WATER		127756
744399	Anions QSM 5.0	EPA 9056A	GROUND WATER		127756
744401	Anions QSM 5.0	EPA 9056A	GROUND WATER		127756
744419	Anions QSM 5.0	EPA 9056A	GROUND WATER		127756

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
743829	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		127753
743851	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		127753
743879	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		127753
743881	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		127753
743883	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		127753

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Project Name: RADFORD AAP
Project #: 313010-010
SDG #: 120379

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
744395	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		127753
744398	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		127753
744400	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		127753
744408	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		127753
744411	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		127753
744414	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		127753
744416	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		127753
744418	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		127753
744420	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		127753
744939	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		127922
744970	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		127922
744972	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		127922
744974	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		127922
744976	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		127922
745769	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		127922

Metal Parameters

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
744978	Potassium, Total QSM 5.0	EPA 6010C	GROUND WATER	58100	127901
745779	Potassium, Total QSM 5.0	EPA 6010C	GROUND WATER	58100	127901

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
744978	Sodium, Total QSM 5.0	EPA 6010C	GROUND WATER	58100	127901
745779	Sodium, Total QSM 5.0	EPA 6010C	GROUND WATER	58100	127901

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
744978	ICP Metals, Total QSM 5.0	EPA 6010C	GROUND WATER	58100	127903
745779	ICP Metals, Total QSM 5.0	EPA 6010C	GROUND WATER	58100	127903

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
744978	Mercury, Total QSM	EPA 7470A	GROUND WATER	58118	127945
745779	Mercury, Total QSM	EPA 7470A	GROUND WATER	58118	127945

Organic Parameters

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
744395	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		127773
744398	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		127773

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Project Name: RADFORD AAP
Project #: 313010-010
SDG #: 120379

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
744400	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		127773
744408	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		127773
744411	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		127773
744414	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		127773
744416	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		127773
744418	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		127773
744420	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		127773
744422	VOC's by 8260 QSM 5.0	EPA 8260C	TRIP BLANK		127773
744939	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		127819
744970	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		127819
744972	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		127819
744974	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		127819
744976	VOC's by 8260 QSM 5.0	EPA 8260C	GROUND WATER		127819
744980	VOC's by 8260 QSM 5.0	EPA 8260C	TRIP BLANK		127819

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
744395	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	58069	127794
744398	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	58069	127794
744400	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	58069	127794
744408	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	58069	127794
744411	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	58069	127794
744414	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	58069	127794
744416	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	58069	127794
744418	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	58069	127794
744420	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	58069	127794
744939	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	58146	127980
744970	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	58146	127980
744972	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	58146	127980
744974	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	58146	127980
744976	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	58146	127980

VOLATILE ORGANIC ANALYSIS
QUALITY CONTROL SUMMARY
DOCUMENTS

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1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **071216R1**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	120379
Sample wt/vol:	20.6 (g/mL)	CTL Sample ID:	744416
% Solids:		Date Received:	07/13/2016
Soil Extract Vol:	20.6 (mL)	Date/Time Prepared:	07/15/2016 / 07:00
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	58069
Analytical Run #:	127794	Dilution Factor:	1.00
Date & Time Analyzed:	07/15/2016 / 11:47	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

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1A

VOLATILE ORGANICS ANALYSIS

Sample Description

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	120379
Sample wt/vol:	(g/mL)	CTL Sample ID:	744416
% Solids:		Date Received:	07/13/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	127773	Dilution Factor:	1.00
Date & Time Analyzed:	07/13/2016 / 20:43	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W062916.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0

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1A

VOLATILE ORGANICS ANALYSIS

Sample Description

[redacted]

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	120379
Sample wt/vol:	(g/mL)	CTL Sample ID:	744416
% Solids:		Date Received:	07/13/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	127773	Dilution Factor:	1.00
Date & Time Analyzed:	07/13/2016 / 20:43	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W062916.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	0.50	U	0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.25	U	0.15	0.25	0.50	0.50
[redacted]							
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
[redacted]							
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
[redacted]							
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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1A

VOLATILE ORGANICS ANALYSIS

Sample Description

071216R1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	120379
Sample wt/vol:	(g/mL)	CTL Sample ID:	744416
% Solids:		Date Received:	07/13/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	127773	Dilution Factor:	1.00
Date & Time Analyzed:	07/13/2016 / 20:43	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W062916.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	0.50	U	0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description: **071216T1**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	TRIP BLANK	SDG No.:	120379
Sample wt/vol:	(g/mL)	CTL Sample ID:	744422
% Solids:		Date Received:	07/13/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	127773	Dilution Factor:	1.00
Date & Time Analyzed:	07/13/2016 / 17:18	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W062916.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U Z	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U Z	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

071216T1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	TRIP BLANK	SDG No.:	120379
Sample wt/vol:	(g/mL)	CTL Sample ID:	744422
% Solids:		Date Received:	07/13/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	127773	Dilution Factor:	1.00
Date & Time Analyzed:	07/13/2016 / 17:18	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W062916.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	0.50	U	0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.25	U	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.0	U	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

071216T1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	TRIP BLANK	SDG No.:	120379
Sample wt/vol:	(g/mL)	CTL Sample ID:	744422
% Solids:		Date Received:	07/13/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	127773	Dilution Factor:	1.00
Date & Time Analyzed:	07/13/2016 / 17:18	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W062916.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	0.50	U	0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description: **071316T1**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	TRIP BLANK	SDG No.:	120379
Sample wt/vol:	(g/mL)	CTL Sample ID:	744980
% Solids:		Date Received:	07/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	127819	Dilution Factor:	1.00
Date & Time Analyzed:	07/19/2016 / 18:44	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W071516.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U Z	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

071316T1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	TRIP BLANK	SDG No.:	120379
Sample wt/vol:	(g/mL)	CTL Sample ID:	744980
% Solids:		Date Received:	07/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	127819	Dilution Factor:	1.00
Date & Time Analyzed:	07/19/2016 / 18:44	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W071516.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	0.50	U	0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.25	U	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.0	U	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

071316T1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	TRIP BLANK	SDG No.:	120379
Sample wt/vol:	(g/mL)	CTL Sample ID:	744980
% Solids:		Date Received:	07/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	127819	Dilution Factor:	1.00
Date & Time Analyzed:	07/19/2016 / 18:44	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W071516.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	0.50	U	0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	120379
Sample wt/vol:	20.5 (g/mL)	CTL Sample ID:	744974
% Solids:		Date Received:	07/14/2016
Soil Extract Vol:	20.5 (mL)	Date/Time Prepared:	07/20/2016 / 07:05
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	58146
Analytical Run #:	127980	Dilution Factor:	1.00
Date & Time Analyzed:	07/20/2016 / 10:18	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	120379
Sample wt/vol:	(g/mL)	CTL Sample ID:	744974
% Solids:		Date Received:	07/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	127819	Dilution Factor:	1.00
Date & Time Analyzed:	07/19/2016 / 17:45	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W071516.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	9.9	J	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U Z	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	120379
Sample wt/vol:	(g/mL)	CTL Sample ID:	744974
% Solids:		Date Received:	07/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	127819	Dilution Factor:	1.00
Date & Time Analyzed:	07/19/2016 / 17:45	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W071516.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	0.50	U	0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.25	U	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.0	U	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	120379
Sample wt/vol:	(g/mL)	CTL Sample ID:	744974
% Solids:		Date Received:	07/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	127819	Dilution Factor:	1.00
Date & Time Analyzed:	07/19/2016 / 17:45	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W071516.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	0.50	U	0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	120379
Sample wt/vol:	20.6 (g/mL)	CTL Sample ID:	744418
% Solids:		Date Received:	07/13/2016
Soil Extract Vol:	20.6 (mL)	Date/Time Prepared:	07/15/2016 / 07:00
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	58069
Analytical Run #:	127794	Dilution Factor:	1.00
Date & Time Analyzed:	07/15/2016 / 11:50	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	120379
Sample wt/vol:	(g/mL)	CTL Sample ID:	744418
% Solids:		Date Received:	07/13/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	127773	Dilution Factor:	1.00
Date & Time Analyzed:	07/13/2016 / 21:12	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W062916.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	100	Z	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U Z	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	120379
Sample wt/vol:	(g/mL)	CTL Sample ID:	744418
% Solids:		Date Received:	07/13/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	127773	Dilution Factor:	1.00
Date & Time Analyzed:	07/13/2016 / 21:12	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W062916.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	3.6		0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.58		0.15	0.25	0.50	0.50
74-87-3	Chloromethane	0.69	J	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	120379
Sample wt/vol:	(g/mL)	CTL Sample ID:	744418
% Solids:		Date Received:	07/13/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	127773	Dilution Factor:	1.00
Date & Time Analyzed:	07/13/2016 / 21:12	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W062916.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	0.94	J	0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.21	J	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

13MW4

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	120379
Sample wt/vol:	20.6 (g/mL)	CTL Sample ID:	744420
% Solids:		Date Received:	07/13/2016
Soil Extract Vol:	20.6 (mL)	Date/Time Prepared:	07/15/2016 / 07:00
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	58069
Analytical Run #:	127794	Dilution Factor:	1.00
Date & Time Analyzed:	07/15/2016 / 11:54	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

13MW4

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	120379
Sample wt/vol:	(g/mL)	CTL Sample ID:	744420
% Solids:		Date Received:	07/13/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	127773	Dilution Factor:	1.00
Date & Time Analyzed:	07/13/2016 / 21:41	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W062916.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	76	Z	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U Z	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

13MW4

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	120379
Sample wt/vol:	(g/mL)	CTL Sample ID:	744420
% Solids:		Date Received:	07/13/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	127773	Dilution Factor:	1.00
Date & Time Analyzed:	07/13/2016 / 21:41	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W062916.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	0.50	U	0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.25	U	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	0.48	J	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

13MW4

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	120379
Sample wt/vol:	(g/mL)	CTL Sample ID:	744420
% Solids:		Date Received:	07/13/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	127773	Dilution Factor:	1.00
Date & Time Analyzed:	07/13/2016 / 21:41	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W062916.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	2.1		0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	120379
Sample wt/vol:	20.6 (g/mL)	CTL Sample ID:	744400
% Solids:		Date Received:	07/13/2016
Soil Extract Vol:	20.6 (mL)	Date/Time Prepared:	07/15/2016 / 07:00
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	58069
Analytical Run #:	127794	Dilution Factor:	1.00
Date & Time Analyzed:	07/15/2016 / 11:32	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	120379
Sample wt/vol:	(g/mL)	CTL Sample ID:	744400
% Solids:		Date Received:	07/13/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	127773	Dilution Factor:	1.00
Date & Time Analyzed:	07/13/2016 / 18:46	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W062916.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.54	J	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.98	J	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U Z	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U Z	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	120379
Sample wt/vol:	(g/mL)	CTL Sample ID:	744400
% Solids:		Date Received:	07/13/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	127773	Dilution Factor:	1.00
Date & Time Analyzed:	07/13/2016 / 18:46	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W062916.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	0.50	U	0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	0.80	J	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.25	U	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.0	U	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	1.1		0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.60	J	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	120379
Sample wt/vol:	(g/mL)	CTL Sample ID:	744400
% Solids:		Date Received:	07/13/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	127773	Dilution Factor:	1.00
Date & Time Analyzed:	07/13/2016 / 18:46	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W062916.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	3.3		0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	120379
Sample wt/vol:	20.5 (g/mL)	CTL Sample ID:	744972
% Solids:		Date Received:	07/14/2016
Soil Extract Vol:	20.5 (mL)	Date/Time Prepared:	07/20/2016 / 07:05
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	58146
Analytical Run #:	127980	Dilution Factor:	1.00
Date & Time Analyzed:	07/20/2016 / 09:59	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	120379
Sample wt/vol:	(g/mL)	CTL Sample ID:	744972
% Solids:		Date Received:	07/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	127819	Dilution Factor:	1.00
Date & Time Analyzed:	07/19/2016 / 17:16	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W071516.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	49		5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U Z	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	120379
Sample wt/vol:	(g/mL)	CTL Sample ID:	744972
% Solids:		Date Received:	07/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	127819	Dilution Factor:	1.00
Date & Time Analyzed:	07/19/2016 / 17:16	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W071516.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	38		0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	3.5		0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.0	U	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	120379
Sample wt/vol:	(g/mL)	CTL Sample ID:	744972
% Solids:		Date Received:	07/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	127819	Dilution Factor:	1.00
Date & Time Analyzed:	07/19/2016 / 17:16	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W071516.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	3.9		0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	120379
Sample wt/vol:	20.5 (g/mL)	CTL Sample ID:	744970
% Solids:		Date Received:	07/14/2016
Soil Extract Vol:	20.5 (mL)	Date/Time Prepared:	07/20/2016 / 07:05
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	58146
Analytical Run #:	127980	Dilution Factor:	1.00
Date & Time Analyzed:	07/20/2016 / 09:54	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	120379
Sample wt/vol:	(g/mL)	CTL Sample ID:	744970
% Solids:		Date Received:	07/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	127819	Dilution Factor:	1.00
Date & Time Analyzed:	07/19/2016 / 16:46	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W071516.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	9.0	J	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U Z	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	120379
Sample wt/vol:	(g/mL)	CTL Sample ID:	744970
% Solids:		Date Received:	07/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	127819	Dilution Factor:	1.00
Date & Time Analyzed:	07/19/2016 / 16:46	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W071516.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	64		0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	7.1		0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.0	U	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	120379
Sample wt/vol:	(g/mL)	CTL Sample ID:	744970
% Solids:		Date Received:	07/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	127819	Dilution Factor:	1.00
Date & Time Analyzed:	07/19/2016 / 16:46	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W071516.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	10		0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW6

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	120379
Sample wt/vol:	20.6 (g/mL)	CTL Sample ID:	744395
% Solids:		Date Received:	07/13/2016
Soil Extract Vol:	20.6 (mL)	Date/Time Prepared:	07/15/2016 / 07:00
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	58069
Analytical Run #:	127794	Dilution Factor:	1.00
Date & Time Analyzed:	07/15/2016 / 11:07	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW6

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	120379
Sample wt/vol:	(g/mL)	CTL Sample ID:	744395
% Solids:		Date Received:	07/13/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	127773	Dilution Factor:	1.00
Date & Time Analyzed:	07/13/2016 / 17:47	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W062916.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.57	J	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	2.4		0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U Z	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U Z	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW6

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	120379
Sample wt/vol:	(g/mL)	CTL Sample ID:	744395
% Solids:		Date Received:	07/13/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	127773	Dilution Factor:	1.00
Date & Time Analyzed:	07/13/2016 / 17:47	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W062916.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	0.50	U	0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.25	U	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	15		0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.73	J	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

48MW6

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	120379
Sample wt/vol:	(g/mL)	CTL Sample ID:	744395
% Solids:		Date Received:	07/13/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	127773	Dilution Factor:	1.00
Date & Time Analyzed:	07/13/2016 / 17:47	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W062916.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	0.50	U	0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	120379
Sample wt/vol:	20.6 (g/mL)	CTL Sample ID:	744408
% Solids:		Date Received:	07/13/2016
Soil Extract Vol:	20.6 (mL)	Date/Time Prepared:	07/15/2016 / 07:00
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	58069
Analytical Run #:	127794	Dilution Factor:	1.00
Date & Time Analyzed:	07/15/2016 / 11:36	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	120379
Sample wt/vol:	(g/mL)	CTL Sample ID:	744408
% Solids:		Date Received:	07/13/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	127773	Dilution Factor:	1.00
Date & Time Analyzed:	07/13/2016 / 19:15	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W062916.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	90	Z	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U Z	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	120379
Sample wt/vol:	(g/mL)	CTL Sample ID:	744408
% Solids:		Date Received:	07/13/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	127773	Dilution Factor:	1.00
Date & Time Analyzed:	07/13/2016 / 19:15	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W062916.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	1.8		0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.44	J	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	2.6		0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	0.93	J	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	120379
Sample wt/vol:	(g/mL)	CTL Sample ID:	744408
% Solids:		Date Received:	07/13/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	127773	Dilution Factor:	1.00
Date & Time Analyzed:	07/13/2016 / 19:15	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W062916.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	0.50	U	0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	120379
Sample wt/vol:	20.5 (g/mL)	CTL Sample ID:	744939
% Solids:		Date Received:	07/14/2016
Soil Extract Vol:	20.5 (mL)	Date/Time Prepared:	07/20/2016 / 07:05
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	58146
Analytical Run #:	127980	Dilution Factor:	1.00
Date & Time Analyzed:	07/20/2016 / 09:51	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	120379
Sample wt/vol:	(g/mL)	CTL Sample ID:	744939
% Solids:		Date Received:	07/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	127819	Dilution Factor:	1.00
Date & Time Analyzed:	07/19/2016 / 16:17	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W071516.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	13	U	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U Z	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	120379
Sample wt/vol:	(g/mL)	CTL Sample ID:	744939
% Solids:		Date Received:	07/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	127819	Dilution Factor:	1.00
Date & Time Analyzed:	07/19/2016 / 16:17	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W071516.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	0.50	U	0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.25	U	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	0.52	J	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	120379
Sample wt/vol:	(g/mL)	CTL Sample ID:	744939
% Solids:		Date Received:	07/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	127819	Dilution Factor:	1.00
Date & Time Analyzed:	07/19/2016 / 16:17	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W071516.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	0.50	U	0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW04

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	120379
Sample wt/vol:	20.5 (g/mL)	CTL Sample ID:	744976
% Solids:		Date Received:	07/14/2016
Soil Extract Vol:	20.5 (mL)	Date/Time Prepared:	07/20/2016 / 07:05
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	58146
Analytical Run #:	127980	Dilution Factor:	1.00
Date & Time Analyzed:	07/20/2016 / 10:27	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW04

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	120379
Sample wt/vol:	(g/mL)	CTL Sample ID:	744976
% Solids:		Date Received:	07/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	127819	Dilution Factor:	1.00
Date & Time Analyzed:	07/19/2016 / 18:14	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W071516.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.50	U	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	26		5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U Z	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW04

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	120379
Sample wt/vol:	(g/mL)	CTL Sample ID:	744976
% Solids:		Date Received:	07/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	127819	Dilution Factor:	1.00
Date & Time Analyzed:	07/19/2016 / 18:14	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W071516.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	0.71	J	0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.25	U	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.0	U	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49MW04

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	120379
Sample wt/vol:	(g/mL)	CTL Sample ID:	744976
% Solids:		Date Received:	07/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	127819	Dilution Factor:	1.00
Date & Time Analyzed:	07/19/2016 / 18:14	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W071516.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	0.50	U	0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49TM01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	120379
Sample wt/vol:	20.6 (g/mL)	CTL Sample ID:	744398
% Solids:		Date Received:	07/13/2016
Soil Extract Vol:	20.6 (mL)	Date/Time Prepared:	07/15/2016 / 07:00
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	58069
Analytical Run #:	127794	Dilution Factor:	1.00
Date & Time Analyzed:	07/15/2016 / 11:12	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

49TM01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	120379
Sample wt/vol:	(g/mL)	CTL Sample ID:	744398
% Solids:		Date Received:	07/13/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	127773	Dilution Factor:	1.00
Date & Time Analyzed:	07/13/2016 / 18:16	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W062916.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.36	J	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	2.2		0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	56	Z	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U Z	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49TM01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	120379
Sample wt/vol:	(g/mL)	CTL Sample ID:	744398
% Solids:		Date Received:	07/13/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	127773	Dilution Factor:	1.00
Date & Time Analyzed:	07/13/2016 / 18:16	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W062916.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	0.50	U	0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.1	J	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.25	U	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.0	U	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	3.0		0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.37	J	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49TM01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	120379
Sample wt/vol:	(g/mL)	CTL Sample ID:	744398
% Solids:		Date Received:	07/13/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	127773	Dilution Factor:	1.00
Date & Time Analyzed:	07/13/2016 / 18:16	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W062916.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	2.2		0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49TM02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	120379
Sample wt/vol:	20.6 (g/mL)	CTL Sample ID:	744414
% Solids:		Date Received:	07/13/2016
Soil Extract Vol:	20.6 (mL)	Date/Time Prepared:	07/15/2016 / 07:00
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	58069
Analytical Run #:	127794	Dilution Factor:	1.00
Date & Time Analyzed:	07/15/2016 / 11:43	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.31	J	0.30	0.60	0.70	0.70

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1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49TM02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	120379
Sample wt/vol:	(g/mL)	CTL Sample ID:	744414
% Solids:		Date Received:	07/13/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	127773	Dilution Factor:	1.00
Date & Time Analyzed:	07/13/2016 / 20:14	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W062916.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.24	J	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.41	J	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	55	Z	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U Z	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49TM02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	120379
Sample wt/vol:	(g/mL)	CTL Sample ID:	744414
% Solids:		Date Received:	07/13/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	127773	Dilution Factor:	1.00
Date & Time Analyzed:	07/13/2016 / 20:14	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W062916.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	0.73	J	0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.18	J	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	2.2		0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.48	J	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

49TM02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	120379
Sample wt/vol:	(g/mL)	CTL Sample ID:	744414
% Solids:		Date Received:	07/13/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	127773	Dilution Factor:	1.00
Date & Time Analyzed:	07/13/2016 / 20:14	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W062916.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	1.7		0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

50MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	120379
Sample wt/vol:	20.6 (g/mL)	CTL Sample ID:	744411
% Solids:		Date Received:	07/13/2016
Soil Extract Vol:	20.6 (mL)	Date/Time Prepared:	07/15/2016 / 07:00
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	58069
Analytical Run #:	127794	Dilution Factor:	1.00
Date & Time Analyzed:	07/15/2016 / 11:40	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.43	J	0.30	0.60	0.70	0.70

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VOLATILE ORGANICS ANALYSIS

Sample Description

50MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	120379
Sample wt/vol:	(g/mL)	CTL Sample ID:	744411
% Solids:		Date Received:	07/13/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	127773	Dilution Factor:	1.00
Date & Time Analyzed:	07/13/2016 / 19:45	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W062916.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.25	J	0.21	0.50	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.50	U	0.19	0.50	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.50	U	0.26	0.50	1.0	1.0
75-34-3	1,1-Dichloroethane	0.39	J	0.20	0.50	1.0	1.0
75-35-4	1,1-Dichloroethene	0.50	U	0.24	0.50	1.0	1.0
87-61-6	1,2,3-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.50	U	0.30	0.50	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.50	U	0.40	0.50	1.0	1.0
106-93-4	1,2-Dibromoethane	0.25	U	0.16	0.25	0.50	0.50
95-50-1	1,2-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
107-06-2	1,2-Dichloroethane	0.50	U	0.30	0.50	1.0	1.0
78-87-5	1,2-Dichloropropane	0.50	U	0.22	0.50	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.50	U	0.26	0.50	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.50	U	0.23	0.50	1.0	1.0
123-91-1	1,4-Dioxane	92	Z	5.0	13	25	25
78-93-3	2-Butanone	5.0	U	2.4	5.0	10	10
591-78-6	2-Hexanone	10	U	4.0	10	20	20
108-10-1	4-Methyl-2-pentanone	5.0	U	3.0	5.0	10	10
67-64-1	Acetone	10	U	5.0	10	20	20
71-43-2	Benzene	0.50	U	0.19	0.50	1.0	1.0
74-97-5	Bromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-27-4	Bromodichloromethane	0.50	U	0.20	0.50	1.0	1.0
75-25-2	Bromoform	0.50	U	0.22	0.50	1.0	1.0
74-83-9	Bromomethane	1.0	U Z	0.50	1.0	2.0	2.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

50MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	120379
Sample wt/vol:	(g/mL)	CTL Sample ID:	744411
% Solids:		Date Received:	07/13/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	127773	Dilution Factor:	1.00
Date & Time Analyzed:	07/13/2016 / 19:45	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W062916.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	1.0	U	0.50	1.0	2.0	2.0
56-23-5	Carbon tetrachloride	0.61	J	0.23	0.50	1.0	1.0
108-90-7	Chlorobenzene	0.50	U	0.24	0.50	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.40	1.0	2.0	2.0
67-66-3	Chloroform	0.19	J	0.15	0.25	0.50	0.50
74-87-3	Chloromethane	1.8	J	0.40	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.40	J	0.25	0.50	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
110-82-7	Cyclohexane	0.50	U	0.28	0.50	1.0	1.0
124-48-1	Dibromochloromethane	0.50	U	0.19	0.50	1.0	1.0
75-71-8	Dichlorodifluoromethane	0.50	U	0.26	0.50	1.0	1.0
100-41-4	Ethylbenzene	0.50	U	0.22	0.50	1.0	1.0
76-13-1	Freon 113	1.0	U	0.50	1.0	2.0	2.0
98-82-8	Isopropylbenzene	0.50	U	0.18	0.50	1.0	1.0
179601-23-1	m & p-Xylene	1.0	U	0.50	1.0	2.0	2.0
79-20-9	Methyl Acetate	0.50	U	0.30	0.50	1.0	1.0
1634-04-4	Methyl tert-butyl ether	0.50	U	0.29	0.50	1.0	1.0
108-87-2	Methylcyclohexane	0.50	U	0.23	0.50	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.50	U	0.24	0.50	1.0	1.0
100-42-5	Styrene	0.50	U	0.20	0.50	1.0	1.0
127-18-4	Tetrachloroethene	0.50	U	0.30	0.50	1.0	1.0
108-88-3	Toluene	0.50	U	0.22	0.50	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.50	U	0.25	0.50	1.0	1.0

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VOLATILE ORGANICS ANALYSIS

Sample Description

50MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	GROUND WATER	SDG No.:	120379
Sample wt/vol:	(g/mL)	CTL Sample ID:	744411
% Solids:		Date Received:	07/13/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	127773	Dilution Factor:	1.00
Date & Time Analyzed:	07/13/2016 / 19:45	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W062916.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.50	U	0.19	0.50	1.0	1.0
79-01-6	Trichloroethene	1.7		0.21	0.50	1.0	1.0
75-69-4	Trichlorofluoromethane	0.50	U	0.20	0.50	1.0	1.0
75-01-4	Vinyl chloride	0.50	U	0.18	0.50	1.0	1.0

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1A-2

VOLATILE ORGANICS ANALYSIS (MB or CCB)

Sample Description

METHOD BLANK

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:		SDG No.:	120379
Sample wt/vol:	20.6 (g/mL)	CTL Sample ID:	744736
% Solids:		Date Received:	07/13/2016
Soil Extract Vol:	20.6 (mL)	Date/Time Prepared:	07/15/2016 / 07:00
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	58069
Analytical Run #:	127794	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
74-84-0	Ethane	07/15/2016	10:18	0.4	U	0.4	0.8	***0.4***
74-85-1	Ethene	07/15/2016	10:18	0.5	U	0.5	1.1	***0.6***
74-82-8	Methane	07/15/2016	10:18	0.3	U	0.3	0.7	***0.4***

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1A-2

VOLATILE ORGANICS ANALYSIS (MB or CCB)

Sample Description: **METHOD BLANK**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:		SDG No.:	120379
Sample wt/vol:	(g/mL)	CTL Sample ID:	744760
% Solids:		Date Received:	07/13/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	0
Analytical Run #:	127773	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W062916.	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
71-55-6	1,1,1-Trichloroethane	07/13/2016	16:19	0.21	U	0.21	1.00	***0.50***
79-34-5	1,1,2,2-Tetrachloroethane	07/13/2016	16:19	0.19	U	0.19	1.00	***0.50***
79-00-5	1,1,2-Trichloroethane	07/13/2016	16:19	0.26	U	0.26	1.00	***0.50***
75-34-3	1,1-Dichloroethane	07/13/2016	16:19	0.20	U	0.20	1.00	***0.50***
75-35-4	1,1-Dichloroethene	07/13/2016	16:19	0.24	U	0.24	1.00	***0.50***
87-61-6	1,2,3-Trichlorobenzene	07/13/2016	16:19	0.3	U	0.3	1.0	***0.5***
120-82-1	1,2,4-Trichlorobenzene	07/13/2016	16:19	0.3	U	0.3	1.0	***0.5***
96-12-8	1,2-Dibromo-3-chloropropane	07/13/2016	16:19	0.4	U	0.4	1.0	***0.5***
106-93-4	1,2-Dibromoethane	07/13/2016	16:19	0.16	U	0.16	0.50	***0.25***
95-50-1	1,2-Dichlorobenzene	07/13/2016	16:19	0.23	U	0.23	1.00	***0.50***
107-06-2	1,2-Dichloroethane	07/13/2016	16:19	0.3	U	0.3	1.0	***0.5***
78-87-5	1,2-Dichloropropane	07/13/2016	16:19	0.22	U	0.22	1.00	***0.50***
541-73-1	1,3-Dichlorobenzene	07/13/2016	16:19	0.26	U	0.26	1.00	***0.50***
106-46-7	1,4-Dichlorobenzene	07/13/2016	16:19	0.23	U	0.23	1.00	***0.50***
123-91-1	1,4-Dioxane	07/13/2016	16:19	5	U	5	25	***12.5***
78-93-3	2-Butanone	07/13/2016	16:19	2.4	U	2.4	10.0	***5.0***
591-78-6	2-Hexanone	07/13/2016	16:19	4	U	4	20	***10***
108-10-1	4-Methyl-2-pentanone	07/13/2016	16:19	3	U	3	10	***5***
67-64-1	Acetone	07/13/2016	16:19	5	U	5	20	***10***
71-43-2	Benzene	07/13/2016	16:19	0.19	U	0.19	1.00	***0.50***
74-97-5	Bromochloromethane	07/13/2016	16:19	0.19	U	0.19	1.00	***0.50***
75-27-4	Bromodichloromethane	07/13/2016	16:19	0.20	U	0.20	1.00	***0.50***
75-25-2	Bromoform	07/13/2016	16:19	0.22	U	0.22	1.00	***0.50***

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1A-2

VOLATILE ORGANICS ANALYSIS (MB or CCB)

Sample Description: **METHOD BLANK**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:		SDG No.:	120379
Sample wt/vol:	(g/mL)	CTL Sample ID:	744760
% Solids:		Date Received:	07/13/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	0
Analytical Run #:	127773	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W062916.	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
74-83-9	Bromomethane	07/13/2016	16:19	0.5	U	0.5	1.0	***0.5***
75-15-0	Carbon disulfide	07/13/2016	16:19	0.5	U	0.5	1.0	***0.5***
56-23-5	Carbon tetrachloride	07/13/2016	16:19	0.23	U	0.23	1.00	***0.50***
108-90-7	Chlorobenzene	07/13/2016	16:19	0.24	U	0.24	1.00	***0.50***
75-00-3	Chloroethane	07/13/2016	16:19	0.4	U	0.4	2.0	***1.0***
67-66-3	Chloroform	07/13/2016	16:19	0.15	U	0.15	0.50	***0.25***
74-87-3	Chloromethane	07/13/2016	16:19	0.4	U	0.4	2.0	***1.0***
156-59-2	cis-1,2-Dichloroethene	07/13/2016	16:19	0.25	U	0.25	1.00	***0.50***
10061-01-5	cis-1,3-Dichloropropene	07/13/2016	16:19	0.19	U	0.19	1.00	***0.50***
110-82-7	Cyclohexane	07/13/2016	16:19	0.28	U	0.28	1.00	***0.50***
124-48-1	Dibromochloromethane	07/13/2016	16:19	0.19	U	0.19	1.00	***0.50***
75-71-8	Dichlorodifluoromethane	07/13/2016	16:19	0.26	U	0.26	1.00	***0.50***
100-41-4	Ethylbenzene	07/13/2016	16:19	0.22	U	0.22	1.00	***0.50***
76-13-1	Freon 113	07/13/2016	16:19	0.5	U	0.5	2.0	***1.0***
98-82-8	Isopropylbenzene	07/13/2016	16:19	0.18	U	0.18	1.00	***0.50***
179601-23-1	m & p-Xylene	07/13/2016	16:19	0.5	U	0.5	2.0	***1.0***
79-20-9	Methyl Acetate	07/13/2016	16:19	0.3	U	0.3	1.0	***0.5***
1634-04-4	Methyl tert-butyl ether	07/13/2016	16:19	0.29	U	0.29	1.00	***0.50***
108-87-2	Methylcyclohexane	07/13/2016	16:19	0.23	U	0.23	1.00	***0.50***
75-09-2	Methylene chloride	07/13/2016	16:19	0.4	U	0.4	2.0	***1.0***
95-47-6	o-Xylene	07/13/2016	16:19	0.24	U	0.24	1.00	***0.50***
100-42-5	Styrene	07/13/2016	16:19	0.20	U	0.20	1.00	***0.50***
127-18-4	Tetrachloroethene	07/13/2016	16:19	0.3	U	0.3	1.0	***0.5***

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VOLATILE ORGANICS ANALYSIS (MB or CCB)

Sample Description

METHOD BLANK

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:		SDG No.:	120379
Sample wt/vol:	(g/mL)	CTL Sample ID:	744760
% Solids:		Date Received:	07/13/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	0
Analytical Run #:	127773	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W062916.	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
108-88-3	Toluene	07/13/2016	16:19	0.22	U	0.22	1.00	***0.50***
156-60-5	trans-1,2-Dichloroethene	07/13/2016	16:19	0.25	U	0.25	1.00	***0.50***
10061-02-6	trans-1,3-Dichloropropene	07/13/2016	16:19	0.19	U	0.19	1.00	***0.50***
79-01-6	Trichloroethene	07/13/2016	16:19	0.21	U	0.21	1.00	***0.50***
75-69-4	Trichlorofluoromethane	07/13/2016	16:19	0.20	U	0.20	1.0	***0.5***
75-01-4	Vinyl chloride	07/13/2016	16:19	0.18	U	0.18	1.00	***0.50***

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VOLATILE ORGANICS ANALYSIS (MB or CCB)

Sample Description: **METHOD BLANK**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:		SDG No.:	120379
Sample wt/vol:	(g/mL)	CTL Sample ID:	746957
% Solids:		Date Received:	07/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	0
Analytical Run #:	127819	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W071516.	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
71-55-6	1,1,1-Trichloroethane	07/19/2016	12:40	0.21	U	0.21	1.00	***0.50***
79-34-5	1,1,2,2-Tetrachloroethane	07/19/2016	12:40	0.19	U	0.19	1.00	***0.50***
79-00-5	1,1,2-Trichloroethane	07/19/2016	12:40	0.26	U	0.26	1.00	***0.50***
75-34-3	1,1-Dichloroethane	07/19/2016	12:40	0.20	U	0.20	1.00	***0.50***
75-35-4	1,1-Dichloroethene	07/19/2016	12:40	0.24	U	0.24	1.00	***0.50***
87-61-6	1,2,3-Trichlorobenzene	07/19/2016	12:40	0.3	U	0.3	1.0	***0.5***
120-82-1	1,2,4-Trichlorobenzene	07/19/2016	12:40	0.3	U	0.3	1.0	***0.5***
96-12-8	1,2-Dibromo-3-chloropropane	07/19/2016	12:40	0.4	U	0.4	1.0	***0.5***
106-93-4	1,2-Dibromoethane	07/19/2016	12:40	0.16	U	0.16	0.50	***0.25***
95-50-1	1,2-Dichlorobenzene	07/19/2016	12:40	0.23	U	0.23	1.00	***0.50***
107-06-2	1,2-Dichloroethane	07/19/2016	12:40	0.3	U	0.3	1.0	***0.5***
78-87-5	1,2-Dichloropropane	07/19/2016	12:40	0.22	U	0.22	1.00	***0.50***
541-73-1	1,3-Dichlorobenzene	07/19/2016	12:40	0.26	U	0.26	1.00	***0.50***
106-46-7	1,4-Dichlorobenzene	07/19/2016	12:40	0.23	U	0.23	1.00	***0.50***
123-91-1	1,4-Dioxane	07/19/2016	12:40	5	U	5	25	***12.5***
78-93-3	2-Butanone	07/19/2016	12:40	2.4	U	2.4	10.0	***5.0***
591-78-6	2-Hexanone	07/19/2016	12:40	4	U	4	20	***10***
108-10-1	4-Methyl-2-pentanone	07/19/2016	12:40	3	U	3	10	***5***
67-64-1	Acetone	07/19/2016	12:40	5	U	5	20	***10***
71-43-2	Benzene	07/19/2016	12:40	0.19	U	0.19	1.00	***0.50***
74-97-5	Bromochloromethane	07/19/2016	12:40	0.19	U	0.19	1.00	***0.50***
75-27-4	Bromodichloromethane	07/19/2016	12:40	0.20	U	0.20	1.00	***0.50***
75-25-2	Bromoform	07/19/2016	12:40	0.22	U	0.22	1.00	***0.50***

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VOLATILE ORGANICS ANALYSIS (MB or CCB)

Sample Description: **METHOD BLANK**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:		SDG No.:	120379
Sample wt/vol:	(g/mL)	CTL Sample ID:	746957
% Solids:		Date Received:	07/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	0
Analytical Run #:	127819	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W071516.	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
74-83-9	Bromomethane	07/19/2016	12:40	0.5	U	0.5	1.0	***0.5***
75-15-0	Carbon disulfide	07/19/2016	12:40	0.5	U	0.5	1.0	***0.5***
56-23-5	Carbon tetrachloride	07/19/2016	12:40	0.23	U	0.23	1.00	***0.50***
108-90-7	Chlorobenzene	07/19/2016	12:40	0.24	U	0.24	1.00	***0.50***
75-00-3	Chloroethane	07/19/2016	12:40	0.4	U	0.4	2.0	***1.0***
67-66-3	Chloroform	07/19/2016	12:40	0.15	U	0.15	0.50	***0.25***
74-87-3	Chloromethane	07/19/2016	12:40	0.4	U	0.4	2.0	***1.0***
156-59-2	cis-1,2-Dichloroethene	07/19/2016	12:40	0.25	U	0.25	1.00	***0.50***
10061-01-5	cis-1,3-Dichloropropene	07/19/2016	12:40	0.19	U	0.19	1.00	***0.50***
110-82-7	Cyclohexane	07/19/2016	12:40	0.28	U	0.28	1.00	***0.50***
124-48-1	Dibromochloromethane	07/19/2016	12:40	0.19	U	0.19	1.00	***0.50***
75-71-8	Dichlorodifluoromethane	07/19/2016	12:40	0.26	U	0.26	1.00	***0.50***
100-41-4	Ethylbenzene	07/19/2016	12:40	0.22	U	0.22	1.00	***0.50***
76-13-1	Freon 113	07/19/2016	12:40	0.5	U	0.5	2.0	***1.0***
98-82-8	Isopropylbenzene	07/19/2016	12:40	0.18	U	0.18	1.00	***0.50***
179601-23-1	m & p-Xylene	07/19/2016	12:40	0.5	U	0.5	2.0	***1.0***
79-20-9	Methyl Acetate	07/19/2016	12:40	0.3	U	0.3	1.0	***0.5***
1634-04-4	Methyl tert-butyl ether	07/19/2016	12:40	0.29	U	0.29	1.00	***0.50***
108-87-2	Methylcyclohexane	07/19/2016	12:40	0.23	U	0.23	1.00	***0.50***
75-09-2	Methylene chloride	07/19/2016	12:40	0.4	U	0.4	2.0	***1.0***
95-47-6	o-Xylene	07/19/2016	12:40	0.24	U	0.24	1.00	***0.50***
100-42-5	Styrene	07/19/2016	12:40	0.20	U	0.20	1.00	***0.50***
127-18-4	Tetrachloroethene	07/19/2016	12:40	0.3	U	0.3	1.0	***0.5***

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VOLATILE ORGANICS ANALYSIS (MB or CCB)

Sample Description

METHOD BLANK

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:		SDG No.:	120379
Sample wt/vol:	(g/mL)	CTL Sample ID:	746957
% Solids:		Date Received:	07/14/2016
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	0
Analytical Run #:	127819	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W071516.	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
108-88-3	Toluene	07/19/2016	12:40	0.22	U	0.22	1.00	***0.50***
156-60-5	trans-1,2-Dichloroethene	07/19/2016	12:40	0.25	U	0.25	1.00	***0.50***
10061-02-6	trans-1,3-Dichloropropene	07/19/2016	12:40	0.19	U	0.19	1.00	***0.50***
79-01-6	Trichloroethene	07/19/2016	12:40	0.21	U	0.21	1.00	***0.50***
75-69-4	Trichlorofluoromethane	07/19/2016	12:40	0.20	U	0.20	1.0	***0.5***
75-01-4	Vinyl chloride	07/19/2016	12:40	0.18	U	0.18	1.00	***0.50***

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VOLATILE ORGANICS ANALYSIS (MB or CCB)

Sample Description

METHOD BLANK

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:		SDG No.:	120379
Sample wt/vol:	20.5 (g/mL)	CTL Sample ID:	747051
% Solids:		Date Received:	07/14/2016
Soil Extract Vol:	20.5 (mL)	Date/Time Prepared:	07/20/2016 / 07:05
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	58146
Analytical Run #:	127980	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG020315	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
74-84-0	Ethane	07/20/2016	09:44	0.4	U	0.4	0.8	***0.4***
74-85-1	Ethene	07/20/2016	09:44	0.5	U	0.5	1.1	***0.6***
74-82-8	Methane	07/20/2016	09:44	0.3	U	0.3	0.7	***0.4***

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WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Analytical Method:	EPA 8260C	SDG:	120379
Analytical Run #:	127773	ICAL Calibration #:	W062916.

CTLab #	744395				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	104	81	118	
Bromofluorobenzene	100	90	85	114	
d8-Toluene	100	100	89	112	
Dibromofluoromethane	100	98	80	119	

CTLab #	744398				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	96	81	118	
Bromofluorobenzene	100	100	85	114	
d8-Toluene	100	100	89	112	
Dibromofluoromethane	100	96	80	119	

CTLab #	744400				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	97	81	118	
Bromofluorobenzene	100	99	85	114	
d8-Toluene	100	101	89	112	
Dibromofluoromethane	100	96	80	119	

CTLab #	744408				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	94	81	118	
Bromofluorobenzene	100	96	85	114	
d8-Toluene	100	101	89	112	
Dibromofluoromethane	100	95	80	119	

CTLab #	744411				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	95	81	118	
Bromofluorobenzene	100	96	85	114	
d8-Toluene	100	101	89	112	
Dibromofluoromethane	100	96	80	119	

CTLab #	744414				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	95	81	118	
Bromofluorobenzene	100	93	85	114	
d8-Toluene	100	103	89	112	
Dibromofluoromethane	100	95	80	119	

CT LABORATORIES
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WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: CT Laboratories | Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Analytical Method: EPA 8260C | SDG: 120379

Analytical Run #: 127773 | ICAL Calibration #: W062916.

CTLab #	744416				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	93	81	118	
Bromofluorobenzene	100	97	85	114	
d8-Toluene	100	101	89	112	
Dibromofluoromethane	100	97	80	119	

CTLab #	744418				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	96	81	118	
Bromofluorobenzene	100	97	85	114	
d8-Toluene	100	102	89	112	
Dibromofluoromethane	100	97	80	119	

CTLab #	744420				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	93	81	118	
Bromofluorobenzene	100	95	85	114	
d8-Toluene	100	102	89	112	
Dibromofluoromethane	100	96	80	119	

CTLab #	744422				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	101	81	118	
Bromofluorobenzene	100	102	85	114	
d8-Toluene	100	101	89	112	
Dibromofluoromethane	100	100	80	119	

CTLab #	744670	Sample Type:	Lab Control Spike		
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	98.0	81	118	
Bromofluorobenzene	100	98.0	85	114	
d8-Toluene	100	103	89	112	
Dibromofluoromethane	100	102	80	119	

CTLab #	744674	Sample Type:	Normal Field Sample		
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	98.0	70	120	
Bromofluorobenzene	100	98.0	70	120	
d8-Toluene	100	103	85	120	
Dibromofluoromethane	100	102	85	115	

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WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Analytical Method:	EPA 8260C	SDG:	120379
Analytical Run #:	127773	ICAL Calibration #:	W062916.

CTLab #	744757	Sample Type:	Normal Field Sample		
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	99.0	50	150	
Bromofluorobenzene	100	97.0	50	150	
d8-Toluene	100	103	50	150	
Dibromofluoromethane	100	100	50	150	
CTLab #	**744759**	Sample Type:	Matrix Spike		
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	97.0	81	118	
Bromofluorobenzene	100	95.0	85	114	
d8-Toluene	100	105	89	112	
Dibromofluoromethane	100	97.0	80	119	
CTLab #	**744760**	Sample Type:	Method Blank		
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	101	70	120	
Bromofluorobenzene	100	101	75	120	
d8-Toluene	100	103	85	120	
Dibromofluoromethane	100	99.0	85	115	
CTLab #	**744763**	Sample Type:	Matrix Spike Duplicate		
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	96.0	81	118	
Bromofluorobenzene	100	96.0	85	114	
d8-Toluene	100	102	89	112	
Dibromofluoromethane	100	98.0	80	119	

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WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Analytical Method:	EPA 8260C	SDG:	120379
Analytical Run #:	127819	ICAL Calibration #:	W071516.

CTLab #	744939				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	95	81	118	
Bromofluorobenzene	100	94	85	114	
d8-Toluene	100	102	89	112	
Dibromofluoromethane	100	93	80	119	

CTLab #	744970				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	100	81	118	
Bromofluorobenzene	100	98	85	114	
d8-Toluene	100	101	89	112	
Dibromofluoromethane	100	97	80	119	

CTLab #	744972				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	99	81	118	
Bromofluorobenzene	100	96	85	114	
d8-Toluene	100	101	89	112	
Dibromofluoromethane	100	96	80	119	

CTLab #	744974				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	97	81	118	
Bromofluorobenzene	100	98	85	114	
d8-Toluene	100	100	89	112	
Dibromofluoromethane	100	95	80	119	

CTLab #	744976				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	101	81	118	
Bromofluorobenzene	100	98	85	114	
d8-Toluene	100	101	89	112	
Dibromofluoromethane	100	98	80	119	

CTLab #	744980				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	95	81	118	
Bromofluorobenzene	100	97	85	114	
d8-Toluene	100	99	89	112	
Dibromofluoromethane	100	93	80	119	

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WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Analytical Method:	EPA 8260C	SDG:	120379
Analytical Run #:	127819	ICAL Calibration #:	W071516.

CTLab #	746865	Sample Type:		Lab Control Spike	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	99.0	81	118	
Bromofluorobenzene	100	98.0	85	114	
d8-Toluene	100	100	89	112	
Dibromofluoromethane	100	99.0	80	119	

CTLab #	746870	Sample Type:		Normal Field Sample	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	99.0	70	120	
Bromofluorobenzene	100	98.0	70	120	
d8-Toluene	100	100	85	120	
Dibromofluoromethane	100	99.0	85	115	

CTLab #	746957	Sample Type:		Method Blank	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	100	70	120	
Bromofluorobenzene	100	99.0	75	120	
d8-Toluene	100	102	85	120	
Dibromofluoromethane	100	93.0	85	115	

CTLab #	747079	Sample Type:		Matrix Spike	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	97.0	81	118	
Bromofluorobenzene	100	98.0	85	114	
d8-Toluene	100	102	89	112	
Dibromofluoromethane	100	96.0	80	119	

CTLab #	747083	Sample Type:		Matrix Spike Duplicate	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	96.0	81	118	
Bromofluorobenzene	100	96.0	85	114	
d8-Toluene	100	101	89	112	
Dibromofluoromethane	100	97.0	80	119	

CTLab #	747085	Sample Type:		Normal Field Sample	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	95.0	50	150	
Bromofluorobenzene	100	98.0	50	150	
d8-Toluene	100	99.0	50	150	
Dibromofluoromethane	100	97.0	50	150	

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WATER VOLATILE MATRIX SPIKE RECOVERY

Sample Description: **48MW6**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: GROUND WATER
SDG No.: 120379
Analytical Method: EPA 8260C
Concentration Units: ug/L
Analytical Run #: 127773
Sample No.: 744759
Parent Sample No.: 744395
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
ICAL Calibration #: W062916.

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R	
1,1,1-Trichloroethane	07/14/2016	00:37	74-131	11.6	0.57	10.0	110	
1,1,2,2-Tetrachloroethane	07/14/2016	00:37	71-121	9.04	BDL	10.0	90	
1,1,2-Trichloroethane	07/14/2016	00:37	80-119	10.3	BDL	10.0	103	
1,1-Dichloroethane	07/14/2016	00:37	77-125	14.4	2.4	10.0	120	
1,1-Dichloroethene	07/14/2016	00:37	71-131	12.0	BDL	10.0	120	
1,2,3-Trichlorobenzene	07/14/2016	00:37	69-129	7.66	BDL	10.0	77	
1,2,4-Trichlorobenzene	07/14/2016	00:37	69-130	8.32	BDL	10.0	83	
1,2-Dibromo-3-chloropropane	07/14/2016	00:37	62-128	6.71	BDL	10.0	67	
1,2-Dibromoethane	07/14/2016	00:37	77-121	9.77	BDL	10.0	98	
1,2-Dichlorobenzene	07/14/2016	00:37	80-119	9.55	BDL	10.0	96	
1,2-Dichloroethane	07/14/2016	00:37	73-128	10.7	BDL	10.0	107	
1,2-Dichloropropane	07/14/2016	00:37	78-122	10.7	BDL	10.0	107	
1,3-Dichlorobenzene	07/14/2016	00:37	80-119	9.57	BDL	10.0	96	
1,4-Dichlorobenzene	07/14/2016	00:37	79-118	9.74	BDL	10.0	97	
1,4-Dioxane	07/14/2016	00:37	59-139	752	BDL	500	150	*FAIL*
2-Butanone	07/14/2016	00:37	56-143	105	BDL	100	105	
2-Hexanone	07/14/2016	00:37	57-139	102	BDL	100	102	
4-Methyl-2-pentanone	07/14/2016	00:37	67-130	116	BDL	100	116	
Acetone	07/14/2016	00:37	39-160	98.1	BDL	100	98	
Benzene	07/14/2016	00:37	79-120	11.7	BDL	10.0	117	
Bromochloromethane	07/14/2016	00:37	78-123	10.6	BDL	10.0	106	
Bromodichloromethane	07/14/2016	00:37	79-125	9.68	BDL	10.0	97	
Bromoform	07/14/2016	00:37	66-130	6.29	BDL	10.0	63	*FAIL*
Bromomethane	07/14/2016	00:37	53-141	6.25	BDL	10.0	62	
Carbon disulfide	07/14/2016	00:37	64-133	15.3	BDL	20.0	76	
Carbon tetrachloride	07/14/2016	00:37	72-136	10.7	BDL	10.0	107	
Chlorobenzene	07/14/2016	00:37	82-118	10.5	BDL	10.0	105	
Chloroethane	07/14/2016	00:37	60-138	12.1	BDL	10.0	121	
Chloroform	07/14/2016	00:37	79-124	10.9	BDL	10.0	109	
Chloromethane	07/14/2016	00:37	50-139	17.6	15	10.0	26	*FAIL*
cis-1,2-Dichloroethene	07/14/2016	00:37	78-123	15.7	0.73	10.0	150	*FAIL*

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WATER VOLATILE MATRIX SPIKE RECOVERY

Sample Description: **48MW6**

Lab Name: CT Laboratories | Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: GROUND WATER | SDG No.: 120379

Analytical Method: EPA 8260C | Concentration Units: ug/L

Analytical Run #: 127773 | Sample No.: 744759 | Parent Sample No.: 744395

Analytical Prep Batch #: 0 | Analytical Preparation Date/Time:

ICAL Calibration #: W062916.

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R	
cis-1,3-Dichloropropene	07/14/2016	00:37	75-124	9.49	BDL	10.0	95	
Cyclohexane	07/14/2016	00:37	71-130	11.2	BDL	10.0	112	
Dibromochloromethane	07/14/2016	00:37	74-126	8.64	BDL	10.0	86	
Dichlorodifluoromethane	07/14/2016	00:37	32-152	11.8	BDL	10.0	118	
Ethylbenzene	07/14/2016	00:37	79-121	10.5	BDL	10.0	105	
Freon 113	07/14/2016	00:37	70-136	23.1	BDL	20.0	116	
Isopropylbenzene	07/14/2016	00:37	72-131	10.8	BDL	10.0	108	
m & p-Xylene	07/14/2016	00:37	80-121	21.5	BDL	20.0	108	
Methyl Acetate	07/14/2016	00:37	56-136	10.4	BDL	10.0	104	
Methyl tert-butyl ether	07/14/2016	00:37	71-124	11.0	BDL	10.0	110	
Methylcyclohexane	07/14/2016	00:37	72-132	10.9	BDL	10.0	109	
Methylene chloride	07/14/2016	00:37	74-124	11.3	BDL	10.0	113	
o-Xylene	07/14/2016	00:37	78-122	10.2	BDL	10.0	102	
Styrene	07/14/2016	00:37	78-123	10.0	BDL	10.0	100	
Tetrachloroethene	07/14/2016	00:37	74-129	11.8	BDL	10.0	118	
Toluene	07/14/2016	00:37	80-121	11.6	BDL	10.0	116	
trans-1,2-Dichloroethene	07/14/2016	00:37	75-124	11.3	BDL	10.0	113	
trans-1,3-Dichloropropene	07/14/2016	00:37	73-127	9.23	BDL	10.0	92	
Trichloroethene	07/14/2016	00:37	79-123	14.4	BDL	10.0	144	*FAIL*
Trichlorofluoromethane	07/14/2016	00:37	65-141	11.5	BDL	10.0	115	
Vinyl chloride	07/14/2016	00:37	58-137	12.4	BDL	10.0	124	

Spike Recovery: 5 out of 52 outside QC limits

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WATER VOLATILE MATRIX SPIKE RECOVERY

Sample Description: **49TM01**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: GROUND WATER
SDG No.: 120379
Analytical Method: Mod RSK 175
Concentration Units: ug/L
Analytical Run #: 127794
Sample No.: 744738
Parent Sample No.: 744398
Analytical Prep Batch #: 58069
Analytical Preparation Date/Time: 07/15/2016 07:00
ICAL Calibration #: P4DG020315

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
Ethane	07/15/2016	11:16	74-131	4.38	BDL	4.78	92
Ethene	07/15/2016	11:16	72-133	6.27	BDL	6.79	92
Methane	07/15/2016	11:16	73-125	2.27	BDL	2.29	99

Spike Recovery: 0 out of 3 outside QC limits

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WATER VOLATILE MATRIX SPIKE RECOVERY

Sample Description: **48MW2**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: GROUND WATER
SDG No.: 120379
Analytical Method: EPA 8260C
Concentration Units: ug/L
Analytical Run #: 127819
Sample No.: 747079
Parent Sample No.: 744972
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
ICAL Calibration #: W071516.

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
1,1,1-Trichloroethane	07/19/2016	19:13	74-131	10.1	BDL	10.0	101
1,1,2,2-Tetrachloroethane	07/19/2016	19:13	71-121	9.64	BDL	10.0	96
1,1,2-Trichloroethane	07/19/2016	19:13	80-119	9.37	BDL	10.0	94
1,1-Dichloroethane	07/19/2016	19:13	77-125	10.0	BDL	10.0	100
1,1-Dichloroethene	07/19/2016	19:13	71-131	10.2	BDL	10.0	102
1,2,3-Trichlorobenzene	07/19/2016	19:13	69-129	10.1	BDL	10.0	101
1,2,4-Trichlorobenzene	07/19/2016	19:13	69-130	10.3	BDL	10.0	103
1,2-Dibromo-3-chloropropane	07/19/2016	19:13	62-128	7.57	BDL	10.0	76
1,2-Dibromoethane	07/19/2016	19:13	77-121	9.28	BDL	10.0	93
1,2-Dichlorobenzene	07/19/2016	19:13	80-119	10.2	BDL	10.0	102
1,2-Dichloroethane	07/19/2016	19:13	73-128	9.49	BDL	10.0	95
1,2-Dichloropropane	07/19/2016	19:13	78-122	9.64	BDL	10.0	96
1,3-Dichlorobenzene	07/19/2016	19:13	80-119	10.3	BDL	10.0	103
1,4-Dichlorobenzene	07/19/2016	19:13	79-118	10.3	BDL	10.0	103
1,4-Dioxane	07/19/2016	19:13	59-139	709	49	500	132
2-Butanone	07/19/2016	19:13	56-143	91.6	BDL	100	92
2-Hexanone	07/19/2016	19:13	57-139	95.6	BDL	100	96
4-Methyl-2-pentanone	07/19/2016	19:13	67-130	99.5	BDL	100	100
Acetone	07/19/2016	19:13	39-160	79.4	BDL	100	79
Benzene	07/19/2016	19:13	79-120	10.9	BDL	10.0	109
Bromochloromethane	07/19/2016	19:13	78-123	9.65	BDL	10.0	96
Bromodichloromethane	07/19/2016	19:13	79-125	9.19	BDL	10.0	92
Bromoform	07/19/2016	19:13	66-130	7.96	BDL	10.0	80
Bromomethane	07/19/2016	19:13	53-141	11.5	BDL	10.0	115
Carbon disulfide	07/19/2016	19:13	64-133	21.8	BDL	20.0	109
Carbon tetrachloride	07/19/2016	19:13	72-136	49.1	38	10.0	111
Chlorobenzene	07/19/2016	19:13	82-118	10.5	BDL	10.0	105
Chloroethane	07/19/2016	19:13	60-138	11.0	BDL	10.0	110
Chloroform	07/19/2016	19:13	79-124	13.5	3.5	10.0	100
Chloromethane	07/19/2016	19:13	50-139	9.55	BDL	10.0	96
cis-1,2-Dichloroethene	07/19/2016	19:13	78-123	9.80	BDL	10.0	98

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WATER VOLATILE MATRIX SPIKE RECOVERY

Sample Description: **48MW2**

Lab Name: CT Laboratories | Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: GROUND WATER | SDG No.: 120379

Analytical Method: EPA 8260C | Concentration Units: ug/L

Analytical Run #: 127819 | Sample No.: 747079 | Parent Sample No.: 744972

Analytical Prep Batch #: 0 | Analytical Preparation Date/Time:

ICAL Calibration #: W071516.

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
cis-1,3-Dichloropropene	07/19/2016	19:13	75-124	9.30	BDL	10.0	93
Cyclohexane	07/19/2016	19:13	71-130	10.9	BDL	10.0	109
Dibromochloromethane	07/19/2016	19:13	74-126	8.63	BDL	10.0	86
Dichlorodifluoromethane	07/19/2016	19:13	32-152	10.4	BDL	10.0	104
Ethylbenzene	07/19/2016	19:13	79-121	10.4	BDL	10.0	104
Freon 113	07/19/2016	19:13	70-136	21.0	BDL	20.0	105
Isopropylbenzene	07/19/2016	19:13	72-131	11.1	BDL	10.0	111
m & p-Xylene	07/19/2016	19:13	80-121	22.2	BDL	20.0	111
Methyl Acetate	07/19/2016	19:13	56-136	10.6	BDL	10.0	106
Methyl tert-butyl ether	07/19/2016	19:13	71-124	10.6	BDL	10.0	106
Methylcyclohexane	07/19/2016	19:13	72-132	11.3	BDL	10.0	113
Methylene chloride	07/19/2016	19:13	74-124	9.24	BDL	10.0	92
o-Xylene	07/19/2016	19:13	78-122	10.0	BDL	10.0	100
Styrene	07/19/2016	19:13	78-123	10.2	BDL	10.0	102
Tetrachloroethene	07/19/2016	19:13	74-129	10.3	BDL	10.0	103
Toluene	07/19/2016	19:13	80-121	10.3	BDL	10.0	103
trans-1,2-Dichloroethene	07/19/2016	19:13	75-124	10.1	BDL	10.0	101
trans-1,3-Dichloropropene	07/19/2016	19:13	73-127	8.88	BDL	10.0	89
Trichloroethene	07/19/2016	19:13	79-123	13.6	3.9	10.0	97
Trichlorofluoromethane	07/19/2016	19:13	65-141	9.59	BDL	10.0	96
Vinyl chloride	07/19/2016	19:13	58-137	10.9	BDL	10.0	109

Spike Recovery: 0 out of 52 outside QC limits

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WATER VOLATILE MATRIX SPIKE RECOVERY

Sample Description

48MW2

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: GROUND WATER SDG No.: 120379

Analytical Method: Mod RSK 175 Concentration Units: ug/L

Analytical Run #: 127980 Sample No.: 747053 Parent Sample No.: 744972

Analytical Prep Batch #: 58146 Analytical Preparation Date/Time: 07/20/2016 07:05

ICAL Calibration #: P4DG020315

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
Ethane	07/20/2016	10:04	74-131	4.01	BDL	4.78	84
Ethene	07/20/2016	10:04	72-133	5.73	BDL	6.79	84
Methane	07/20/2016	10:04	73-125	2.09	BDL	2.29	91

Spike Recovery: 0 out of 3 outside QC limits

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WATER VOLATILE MATRIX SPIKE DUPLICATE RECOVERY

Sample Description: **48MW6**

Lab Name: CT Laboratories | Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: GROUND WATER | SDG No.: 120379

Analytical Method: EPA 8260C | Concentration Units: ug/L

Analytical Run #: 127773 | Sample No.: 744763 | Parent Sample No.: 744759

Analytical Prep Batch #: 0 | Analytical Preparation Date/Time:

ICAL Calibration #: W062916.

Analyte	Analysis Date/Time		Spike Result	Spike Amount	%R	%RPD	Control Limits (%R)	Control Limits (%RPD)	
1,1,1-Trichloroethane	07/14/2016	01:06	11.4	10.0	108	1	74-131	20	
1,1,2,2-Tetrachloroethane	07/14/2016	01:06	9.19	10.0	92	2	71-121	20	
1,1,2-Trichloroethane	07/14/2016	01:06	10.1	10.0	101	3	80-119	20	
1,1-Dichloroethane	07/14/2016	01:06	14.1	10.0	117	3	77-125	20	
1,1-Dichloroethene	07/14/2016	01:06	11.8	10.0	118	2	71-131	20	
1,2,3-Trichlorobenzene	07/14/2016	01:06	7.18	10.0	72	6	69-129	20	
1,2,4-Trichlorobenzene	07/14/2016	01:06	8.27	10.0	83	1	69-130	20	
1,2-Dibromo-3-chloropropane	07/14/2016	01:06	6.15	10.0	62	9	62-128	20	
1,2-Dibromoethane	07/14/2016	01:06	9.72	10.0	97	1	77-121	20	
1,2-Dichlorobenzene	07/14/2016	01:06	9.53	10.0	95	0	80-119	20	
1,2-Dichloroethane	07/14/2016	01:06	10.5	10.0	105	2	73-128	20	
1,2-Dichloropropane	07/14/2016	01:06	10.6	10.0	106	1	78-122	20	
1,3-Dichlorobenzene	07/14/2016	01:06	9.68	10.0	97	1	80-119	20	
1,4-Dichlorobenzene	07/14/2016	01:06	9.76	10.0	98	0	79-118	20	
1,4-Dioxane	07/14/2016	01:06	655	500	125	14	59-139	20	
2-Butanone	07/14/2016	01:06	98.5	100	98	6	56-143	20	
2-Hexanone	07/14/2016	01:06	94.7	100	95	7	57-139	20	
4-Methyl-2-pentanone	07/14/2016	01:06	107	100	107	8	67-130	20	
Acetone	07/14/2016	01:06	90.2	100	90	8	39-160	20	
Benzene	07/14/2016	01:06	11.6	10.0	114	0	79-120	20	
Bromochloromethane	07/14/2016	01:06	10.8	10.0	108	1	78-123	20	
Bromodichloromethane	07/14/2016	01:06	9.52	10.0	95	2	79-125	20	
Bromoform	07/14/2016	01:06	6.38	10.0	64	1	66-130	20	*FAIL*
Bromomethane	07/14/2016	01:06	7.35	10.0	74	16	53-141	20	
Carbon disulfide	07/14/2016	01:06	17.5	20.0	88	14	64-133	20	
Carbon tetrachloride	07/14/2016	01:06	11.0	10.0	110	3	72-136	20	
Chlorobenzene	07/14/2016	01:06	10.3	10.0	103	2	82-118	20	
Chloroethane	07/14/2016	01:06	11.5	10.0	115	4	60-138	20	
Chloroform	07/14/2016	01:06	10.6	10.0	106	2	79-124	20	
Chloromethane	07/14/2016	01:06	15.9	10.0	9	10	50-139	20	*FAIL*
cis-1,2-Dichloroethene	07/14/2016	01:06	15.3	10.0	146	2	78-123	20	*FAIL*

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WATER VOLATILE MATRIX SPIKE DUPLICATE RECOVERY

Sample Description: **48MW6**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: GROUND WATER
SDG No.: 120379
Analytical Method: EPA 8260C
Concentration Units: ug/L
Analytical Run #: 127773
Sample No.: 744763
Parent Sample No.: 744759
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
ICAL Calibration #: W062916.

Analyte	Analysis Date/Time		Spike Result	Spike Amount	%R	%RPD	Control Limits (%R)	Control Limits (%RPD)
cis-1,3-Dichloropropene	07/14/2016	01:06	9.55	10.0	96	1	75-124	20
Cyclohexane	07/14/2016	01:06	10.9	10.0	109	2	71-130	20
Dibromochloromethane	07/14/2016	01:06	8.43	10.0	84	2	74-126	20
Dichlorodifluoromethane	07/14/2016	01:06	11.2	10.0	112	6	32-152	20
Ethylbenzene	07/14/2016	01:06	10.2	10.0	102	2	79-121	20
Freon 113	07/14/2016	01:06	24.1	20.0	120	4	70-136	20
Isopropylbenzene	07/14/2016	01:06	10.5	10.0	105	2	72-131	20
m & p-Xylene	07/14/2016	01:06	21.1	20.0	106	2	80-121	20
Methyl Acetate	07/14/2016	01:06	10.7	10.0	107	2	56-136	20
Methyl tert-butyl ether	07/14/2016	01:06	11.0	10.0	110	0	71-124	20
Methylcyclohexane	07/14/2016	01:06	10.7	10.0	107	1	72-132	20
Methylene chloride	07/14/2016	01:06	10.4	10.0	104	8	74-124	20
o-Xylene	07/14/2016	01:06	10.1	10.0	101	1	78-122	20
Styrene	07/14/2016	01:06	9.73	10.0	97	3	78-123	20
Tetrachloroethene	07/14/2016	01:06	11.7	10.0	112	1	74-129	20
Toluene	07/14/2016	01:06	11.3	10.0	113	2	80-121	20
trans-1,2-Dichloroethene	07/14/2016	01:06	11.7	10.0	117	3	75-124	20
trans-1,3-Dichloropropene	07/14/2016	01:06	9.09	10.0	91	2	73-127	20
Trichloroethene	07/14/2016	01:06	14.2	10.0	107	2	79-123	20
Trichlorofluoromethane	07/14/2016	01:06	11.6	10.0	116	0	65-141	20
Vinyl chloride	07/14/2016	01:06	11.5	10.0	115	8	58-137	20

RPD or Spike Recovery: 3 out of 52 outside QC limits

CT LABORATORIES
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3A

Sample Description

WATER VOLATILE MATRIX SPIKE DUPLICATE RECOVERY

49TM01

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: GROUND WATER SDG No.: 120379

Analytical Method: Mod RSK 175 Concentration Units: ug/L

Analytical Run #: 127794 Sample No.: 744739 Parent Sample No.: 744738

Analytical Prep Batch #: 58069 Analytical Preparation Date/Time: 07/15/2016 07:00

ICAL Calibration #: P4DG020315

Analyte	Analysis Date/Time		Spike Result	Spike Amount	%R	%RPD	Control Limits (%R)	Control Limits (%RPD)
Ethane	07/15/2016	11:21	4.55	4.78	95	4	74-131	30
Ethene	07/15/2016	11:21	6.50	6.79	96	4	72-133	30
Methane	07/15/2016	11:21	2.27	2.29	99	0	73-125	30

RPD or Spike Recovery: 0 out of 3 outside QC limits

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3A

WATER VOLATILE MATRIX SPIKE DUPLICATE RECOVERY

Sample Description: **48MW2**

Lab Name: CT Laboratories | Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: GROUND WATER | SDG No.: 120379

Analytical Method: EPA 8260C | Concentration Units: ug/L

Analytical Run #: 127819 | Sample No.: 747083 | Parent Sample No.: 747079

Analytical Prep Batch #: 0 | Analytical Preparation Date/Time:

ICAL Calibration #: W071516.

Analyte	Analysis Date/Time		Spike Result	Spike Amount	%R	%RPD	Control Limits (%R)	Control Limits (%RPD)	
1,1,1-Trichloroethane	07/19/2016	19:42	10.1	10.0	101	0	74-131	20	
1,1,2,2-Tetrachloroethane	07/19/2016	19:42	9.67	10.0	97	0	71-121	20	
1,1,2-Trichloroethane	07/19/2016	19:42	9.63	10.0	96	3	80-119	20	
1,1-Dichloroethane	07/19/2016	19:42	9.92	10.0	99	1	77-125	20	
1,1-Dichloroethene	07/19/2016	19:42	10.3	10.0	103	1	71-131	20	
1,2,3-Trichlorobenzene	07/19/2016	19:42	11.2	10.0	112	10	69-129	20	
1,2,4-Trichlorobenzene	07/19/2016	19:42	10.6	10.0	106	3	69-130	20	
1,2-Dibromo-3-chloropropane	07/19/2016	19:42	8.29	10.0	83	9	62-128	20	
1,2-Dibromoethane	07/19/2016	19:42	9.63	10.0	96	4	77-121	20	
1,2-Dichlorobenzene	07/19/2016	19:42	10.3	10.0	103	1	80-119	20	
1,2-Dichloroethane	07/19/2016	19:42	9.58	10.0	96	1	73-128	20	
1,2-Dichloropropane	07/19/2016	19:42	9.94	10.0	99	3	78-122	20	
1,3-Dichlorobenzene	07/19/2016	19:42	10.4	10.0	104	1	80-119	20	
1,4-Dichlorobenzene	07/19/2016	19:42	10.5	10.0	105	2	79-118	20	
1,4-Dioxane	07/19/2016	19:42	848	500	160	18	59-139	20	*FAIL*
2-Butanone	07/19/2016	19:42	99.1	100	99	8	56-143	20	
2-Hexanone	07/19/2016	19:42	104	100	104	8	57-139	20	
4-Methyl-2-pentanone	07/19/2016	19:42	104	100	104	5	67-130	20	
Acetone	07/19/2016	19:42	87.9	100	88	10	39-160	20	
Benzene	07/19/2016	19:42	10.8	10.0	108	1	79-120	20	
Bromochloromethane	07/19/2016	19:42	9.90	10.0	99	3	78-123	20	
Bromodichloromethane	07/19/2016	19:42	9.50	10.0	95	3	79-125	20	
Bromoform	07/19/2016	19:42	8.16	10.0	82	2	66-130	20	
Bromomethane	07/19/2016	19:42	10.5	10.0	105	9	53-141	20	
Carbon disulfide	07/19/2016	19:42	22.2	20.0	111	2	64-133	20	
Carbon tetrachloride	07/19/2016	19:42	47.6	10.0	96	3	72-136	20	
Chlorobenzene	07/19/2016	19:42	10.6	10.0	106	1	82-118	20	
Chloroethane	07/19/2016	19:42	11.2	10.0	112	2	60-138	20	
Chloroform	07/19/2016	19:42	13.2	10.0	97	2	79-124	20	
Chloromethane	07/19/2016	19:42	9.77	10.0	98	2	50-139	20	
cis-1,2-Dichloroethene	07/19/2016	19:42	9.81	10.0	98	0	78-123	20	

CT LABORATORIES
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3A

Sample Description

WATER VOLATILE MATRIX SPIKE DUPLICATE RECOVERY

48MW2

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: GROUND WATER SDG No.: 120379

Analytical Method: EPA 8260C Concentration Units: ug/L

Analytical Run #: 127819 Sample No.: 747083 Parent Sample No.: 747079

Analytical Prep Batch #: 0 Analytical Preparation Date/Time:

ICAL Calibration #: W071516.

Analyte	Analysis Date/Time		Spike Result	Spike Amount	%R	%RPD	Control Limits (%R)	Control Limits (%RPD)
cis-1,3-Dichloropropene	07/19/2016	19:42	9.38	10.0	94	1	75-124	20
Cyclohexane	07/19/2016	19:42	11.1	10.0	111	2	71-130	20
Dibromochloromethane	07/19/2016	19:42	9.15	10.0	92	6	74-126	20
Dichlorodifluoromethane	07/19/2016	19:42	11.3	10.0	113	8	32-152	20
Ethylbenzene	07/19/2016	19:42	10.7	10.0	107	2	79-121	20
Freon 113	07/19/2016	19:42	21.3	20.0	106	2	70-136	20
Isopropylbenzene	07/19/2016	19:42	11.3	10.0	113	2	72-131	20
m & p-Xylene	07/19/2016	19:42	22.7	20.0	114	2	80-121	20
Methyl Acetate	07/19/2016	19:42	10.9	10.0	109	2	56-136	20
Methyl tert-butyl ether	07/19/2016	19:42	11.1	10.0	111	4	71-124	20
Methylcyclohexane	07/19/2016	19:42	11.4	10.0	114	1	72-132	20
Methylene chloride	07/19/2016	19:42	9.70	10.0	97	5	74-124	20
o-Xylene	07/19/2016	19:42	10.3	10.0	103	2	78-122	20
Styrene	07/19/2016	19:42	10.4	10.0	104	2	78-123	20
Tetrachloroethene	07/19/2016	19:42	10.4	10.0	104	1	74-129	20
Toluene	07/19/2016	19:42	10.6	10.0	106	2	80-121	20
trans-1,2-Dichloroethene	07/19/2016	19:42	10.1	10.0	101	0	75-124	20
trans-1,3-Dichloropropene	07/19/2016	19:42	9.26	10.0	93	4	73-127	20
Trichloroethene	07/19/2016	19:42	13.6	10.0	97	0	79-123	20
Trichlorofluoromethane	07/19/2016	19:42	10.1	10.0	101	5	65-141	20
Vinyl chloride	07/19/2016	19:42	10.7	10.0	107	2	58-137	20

RPD or Spike Recovery: 1 out of 52 outside QC limits

CT LABORATORIES
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3A

Sample Description

WATER VOLATILE MATRIX SPIKE DUPLICATE RECOVERY

48MW2

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: GROUND WATER SDG No.: 120379

Analytical Method: Mod RSK 175 Concentration Units: ug/L

Analytical Run #: 127980 Sample No.: 747054 Parent Sample No.: 747053

Analytical Prep Batch #: 58146 Analytical Preparation Date/Time: 07/20/2016 07:05

ICAL Calibration #: P4DG020315

Analyte	Analysis Date/Time		Spike Result	Spike Amount	%R	%RPD	Control Limits (%R)	Control Limits (%RPD)
Ethane	07/20/2016	10:12	4.38	4.78	92	9	74-131	30
Ethene	07/20/2016	10:12	6.21	6.79	91	8	72-133	30
Methane	07/20/2016	10:12	2.19	2.29	96	5	73-125	30

RPD or Spike Recovery: 0 out of 3 outside QC limits

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Sample Description

WATER VOLATILE LAB CONTROL SAMPLE

LCS

Lab Name: CT Laboratories | Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Sample No.: 744670 | SDG No.: 120379

Analytical Method: EPA 8260C | Concentration Units: ug/L

Sample No.: 744670 | Parent Sample No.: 0

Analytical Prep Batch #: 0 | Analytical Preparation Date/Time:

Analytical Run #: 127773 | ICAL Calibration #: W062916.

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
1,1,1-Trichloroethane	07/13/2016	15:19	74-131	10.9		10.0	109
1,1,2,2-Tetrachloroethane	07/13/2016	15:19	71-121	10.0		10.0	100
1,1,2-Trichloroethane	07/13/2016	15:19	80-119	10.6		10.0	106
1,1-Dichloroethane	07/13/2016	15:19	77-125	10.9		10.0	109
1,1-Dichloroethene	07/13/2016	15:19	71-131	11.0		10.0	110
1,2,3-Trichlorobenzene	07/13/2016	15:19	69-129	8.45		10.0	84
1,2,4-Trichlorobenzene	07/13/2016	15:19	69-130	8.62		10.0	86
1,2-Dibromo-3-chloropropane	07/13/2016	15:19	62-128	9.16		10.0	92
1,2-Dibromoethane	07/13/2016	15:19	77-121	10.4		10.0	104
1,2-Dichlorobenzene	07/13/2016	15:19	80-119	9.67		10.0	97
1,2-Dichloroethane	07/13/2016	15:19	73-128	11.0		10.0	110
1,2-Dichloropropane	07/13/2016	15:19	78-122	11.0		10.0	110
1,3-Dichlorobenzene	07/13/2016	15:19	80-119	9.62		10.0	96
1,4-Dichlorobenzene	07/13/2016	15:19	79-118	9.71		10.0	97
1,4-Dioxane	07/13/2016	15:19	59-139	638		500	128
2-Butanone	07/13/2016	15:19	56-143	113		100	113
2-Hexanone	07/13/2016	15:19	57-139	106		100	106
4-Methyl-2-pentanone	07/13/2016	15:19	67-130	116		100	116
Acetone	07/13/2016	15:19	39-160	97.5		100	98
Benzene	07/13/2016	15:19	79-120	11.3		10.0	113
Bromochloromethane	07/13/2016	15:19	78-123	10.7		10.0	107
Bromodichloromethane	07/13/2016	15:19	79-125	10.7		10.0	107
Bromoform	07/13/2016	15:19	66-130	10.6		10.0	106
Bromomethane	07/13/2016	15:19	53-141	12.1		10.0	121
Carbon disulfide	07/13/2016	15:19	64-133	21.7		20.0	108
Carbon tetrachloride	07/13/2016	15:19	72-136	11.0		10.0	110
Chlorobenzene	07/13/2016	15:19	82-118	10.4		10.0	104
Chloroethane	07/13/2016	15:19	60-138	11.1		10.0	111

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Sample Description

WATER VOLATILE LAB CONTROL SAMPLE

LCS

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Sample No.: 744670
SDG No.: 120379
Analytical Method: EPA 8260C
Concentration Units: ug/L

Sample No.: 744670
Parent Sample No.: 0
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
Analytical Run #: 127773
ICAL Calibration #: W062916.

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
Chloroform	07/13/2016	15:19	79-124	10.8		10.0	108
Chloromethane	07/13/2016	15:19	50-139	10.3		10.0	103
cis-1,2-Dichloroethene	07/13/2016	15:19	78-123	11.0		10.0	110
cis-1,3-Dichloropropene	07/13/2016	15:19	75-124	11.0		10.0	110
Cyclohexane	07/13/2016	15:19	71-130	10.0		10.0	100
Dibromochloromethane	07/13/2016	15:19	74-126	10.6		10.0	106
Dichlorodifluoromethane	07/13/2016	15:19	32-152	10.6		10.0	106
Ethylbenzene	07/13/2016	15:19	79-121	9.99		10.0	100
Freon 113	07/13/2016	15:19	70-136	21.2		20.0	106
Isopropylbenzene	07/13/2016	15:19	72-131	10.3		10.0	103
m & p-Xylene	07/13/2016	15:19	80-121	20.7		20.0	104
Methyl Acetate	07/13/2016	15:19	56-136	11.9		10.0	119
Methyl tert-butyl ether	07/13/2016	15:19	71-124	11.4		10.0	114
Methylcyclohexane	07/13/2016	15:19	72-132	9.75		10.0	98
Methylene chloride	07/13/2016	15:19	74-124	11.3		10.0	113
o-Xylene	07/13/2016	15:19	78-122	9.77		10.0	98
Styrene	07/13/2016	15:19	78-123	10.4		10.0	104
Tetrachloroethene	07/13/2016	15:19	74-129	10.5		10.0	105
Toluene	07/13/2016	15:19	80-121	11.1		10.0	111
trans-1,2-Dichloroethene	07/13/2016	15:19	75-124	11.1		10.0	111
trans-1,3-Dichloropropene	07/13/2016	15:19	73-127	11.4		10.0	114
Trichloroethene	07/13/2016	15:19	79-123	10.4		10.0	104
Trichlorofluoromethane	07/13/2016	15:19	65-141	10.6		10.0	106
Vinyl chloride	07/13/2016	15:19	58-137	11.1		10.0	111

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3A

Sample Description

LCS

WATER VOLATILE LAB CONTROL SAMPLE

Lab Name:	CT Laboratories	Contract	BERING SEA ENVIRONMENTAL-RADFORD AAP
Sample No.:	744670	SDG No.:	120379
Analytical Method:	EPA 8260C	Concentration Units:	ug/L

Spike Recovery: 0 out of 52 outside limits

CT LABORATORIES
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3A

Sample Description

LCS

WATER VOLATILE LAB CONTROL SAMPLE

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Sample No.: 744737
SDG No.: 120379
Analytical Method: Mod RSK 175
Concentration Units: ug/L

Sample No.: 744737
Parent Sample No.: 0
Analytical Prep Batch #: 58069
Analytical Preparation Date/Time: 07/15/2016 07:00
Analytical Run #: 127794
ICAL Calibration #: P4DG020315

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
Ethane	07/15/2016	10:12	74-131	4.26		4.78	89
Ethene	07/15/2016	10:12	72-133	5.63		6.79	83
Methane	07/15/2016	10:12	73-125	2.07		2.29	90

Spike Recovery: 0 out of 3 outside limits

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Sample Description

WATER VOLATILE LAB CONTROL SAMPLE

LCS

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Sample No.: 746865
SDG No.: 120379
Analytical Method: EPA 8260C
Concentration Units: ug/L

Sample No.: 746865
Parent Sample No.: 0
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
Analytical Run #: 127819
ICAL Calibration #: W071516.

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
1,1,1-Trichloroethane	07/19/2016	11:42	74-131	10.3		10.0	103
1,1,2,2-Tetrachloroethane	07/19/2016	11:42	71-121	10.2		10.0	102
1,1,2-Trichloroethane	07/19/2016	11:42	80-119	10.1		10.0	101
1,1-Dichloroethane	07/19/2016	11:42	77-125	10.3		10.0	103
1,1-Dichloroethene	07/19/2016	11:42	71-131	10.2		10.0	102
1,2,3-Trichlorobenzene	07/19/2016	11:42	69-129	11.2		10.0	112
1,2,4-Trichlorobenzene	07/19/2016	11:42	69-130	11.0		10.0	110
1,2-Dibromo-3-chloropropane	07/19/2016	11:42	62-128	9.49		10.0	95
1,2-Dibromoethane	07/19/2016	11:42	77-121	9.92		10.0	99
1,2-Dichlorobenzene	07/19/2016	11:42	80-119	10.6		10.0	106
1,2-Dichloroethane	07/19/2016	11:42	73-128	9.96		10.0	100
1,2-Dichloropropane	07/19/2016	11:42	78-122	10.0		10.0	100
1,3-Dichlorobenzene	07/19/2016	11:42	80-119	10.8		10.0	108
1,4-Dichlorobenzene	07/19/2016	11:42	79-118	10.8		10.0	108
1,4-Dioxane	07/19/2016	11:42	59-139	557		500	111
2-Butanone	07/19/2016	11:42	56-143	100		100	100
2-Hexanone	07/19/2016	11:42	57-139	103		100	103
4-Methyl-2-pentanone	07/19/2016	11:42	67-130	106		100	106
Acetone	07/19/2016	11:42	39-160	96.9		100	97
Benzene	07/19/2016	11:42	79-120	10.9		10.0	109
Bromochloromethane	07/19/2016	11:42	78-123	10.3		10.0	103
Bromodichloromethane	07/19/2016	11:42	79-125	10.1		10.0	101
Bromoform	07/19/2016	11:42	66-130	10.2		10.0	102
Bromomethane	07/19/2016	11:42	53-141	12.8		10.0	128
Carbon disulfide	07/19/2016	11:42	64-133	22.2		20.0	111
Carbon tetrachloride	07/19/2016	11:42	72-136	10.0		10.0	100
Chlorobenzene	07/19/2016	11:42	82-118	10.5		10.0	105
Chloroethane	07/19/2016	11:42	60-138	10.3		10.0	103

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Sample Description

WATER VOLATILE LAB CONTROL SAMPLE

LCS

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Sample No.: 746865
SDG No.: 120379
Analytical Method: EPA 8260C
Concentration Units: ug/L

Sample No.: 746865
Parent Sample No.: 0
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
Analytical Run #: 127819
ICAL Calibration #: W071516.

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
Chloroform	07/19/2016	11:42	79-124	10.0		10.0	100
Chloromethane	07/19/2016	11:42	50-139	9.54		10.0	95
cis-1,2-Dichloroethene	07/19/2016	11:42	78-123	10.4		10.0	104
cis-1,3-Dichloropropene	07/19/2016	11:42	75-124	10.6		10.0	106
Cyclohexane	07/19/2016	11:42	71-130	10.8		10.0	108
Dibromochloromethane	07/19/2016	11:42	74-126	10.1		10.0	101
Dichlorodifluoromethane	07/19/2016	11:42	32-152	10.5		10.0	105
Ethylbenzene	07/19/2016	11:42	79-121	10.5		10.0	105
Freon 113	07/19/2016	11:42	70-136	20.5		20.0	102
Isopropylbenzene	07/19/2016	11:42	72-131	11.2		10.0	112
m & p-Xylene	07/19/2016	11:42	80-121	21.9		20.0	110
Methyl Acetate	07/19/2016	11:42	56-136	10.1		10.0	101
Methyl tert-butyl ether	07/19/2016	11:42	71-124	11.3		10.0	113
Methylcyclohexane	07/19/2016	11:42	72-132	11.1		10.0	111
Methylene chloride	07/19/2016	11:42	74-124	9.90		10.0	99
o-Xylene	07/19/2016	11:42	78-122	10.0		10.0	100
Styrene	07/19/2016	11:42	78-123	10.5		10.0	105
Tetrachloroethene	07/19/2016	11:42	74-129	10.6		10.0	106
Toluene	07/19/2016	11:42	80-121	10.4		10.0	104
trans-1,2-Dichloroethene	07/19/2016	11:42	75-124	9.84		10.0	98
trans-1,3-Dichloropropene	07/19/2016	11:42	73-127	10.1		10.0	101
Trichloroethene	07/19/2016	11:42	79-123	10.3		10.0	103
Trichlorofluoromethane	07/19/2016	11:42	65-141	9.95		10.0	100
Vinyl chloride	07/19/2016	11:42	58-137	10.6		10.0	106

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Sample Description

LCS

WATER VOLATILE LAB CONTROL SAMPLE

Lab Name:	CT Laboratories	Contract	BERING SEA ENVIRONMENTAL-RADFORD AAP
Sample No.:	746865	SDG No.:	120379
Analytical Method:	EPA 8260C	Concentration Units:	ug/L

Spike Recovery: 0 out of 52 outside limits

CT LABORATORIES
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Sample Description

LCS

WATER VOLATILE LAB CONTROL SAMPLE

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Sample No.: 747052
SDG No.: 120379
Analytical Method: Mod RSK 175
Concentration Units: ug/L

Sample No.: 747052
Parent Sample No.: 0
Analytical Prep Batch #: 58146
Analytical Preparation Date/Time: 07/20/2016 07:05
Analytical Run #: 127980
ICAL Calibration #: P4DG020315

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
Ethane	07/20/2016	09:40	74-131	4.23		4.78	88
Ethene	07/20/2016	09:40	72-133	5.97		6.79	88
Methane	07/20/2016	09:40	73-125	2.29		2.29	100

Spike Recovery: 0 out of 3 outside limits

CT LABORATORIES
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4A

VOLATILE METHOD BLANK SUMMARY

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Sample ID:	744736	SDG No.:	120379
Matrix:	LIQUID	Date Extracted:	07/15/2016
Date Analyzed:	07/15/2016	Time Analyzed:	10:18
Analytical Method:	Mod RSK 175	Extraction Method:	METHOD
Analytical Run #:	127794	Extraction Batch #:	58069
		ICAL Calibration #:	P4DG020315

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES AND QC:

SEQUENCE	SAMPLE DESCRIPTION	SAMPLE ID	DATE/TIME ANALYZED	CALIBRATION # ID
1	CCV	745875	07/15/2016 10:09	P4DG020315
2	LCSW	744737	07/15/2016 10:12	P4DG020315
3	MBW	744736	07/15/2016 10:18	P4DG020315
4	48MW6	744395	07/15/2016 11:07	P4DG020315
5	49TM01	744398	07/15/2016 11:12	P4DG020315
6	49TM01MSW	744738	07/15/2016 11:16	P4DG020315
7	49TM01MSDW	744739	07/15/2016 11:21	P4DG020315
8	CCV	745876	07/15/2016 11:24	P4DG020315
9	48MW1	744400	07/15/2016 11:32	P4DG020315
10	49MW01	744408	07/15/2016 11:36	P4DG020315
11	50MW02	744411	07/15/2016 11:40	P4DG020315
12	49TM02	744414	07/15/2016 11:43	P4DG020315
13	071216R1	744416	07/15/2016 11:47	P4DG020315
14	13MW3	744418	07/15/2016 11:50	P4DG020315
15	13MW4	744420	07/15/2016 11:54	P4DG020315
16	CCV	745877	07/15/2016 11:59	P4DG020315

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4A

VOLATILE METHOD BLANK SUMMARY

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Sample ID:	744760	SDG No.:	120379
Matrix:	LIQUID	Date Extracted:	
Date Analyzed:	07/13/2016	Time Analyzed:	16:19
Analytical Method:	EPA 8260C	Extraction Method:	NONE
Analytical Run #:	127773	Extraction Batch #:	0
		ICAL Calibration #:	W062916.

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES AND QC:

SEQUENCE	SAMPLE DESCRIPTION	SAMPLE ID	DATE/TIME ANALYZED	CALIBRATION # ID
1	BFB	744788	07/13/2016 14:34	
2	LCSW	744670	07/13/2016 15:19	W062916.
3	CCV	744674	07/13/2016 15:19	W062916.
4	MBW	744760	07/13/2016 16:19	W062916.
5	071216T1	744422	07/13/2016 17:18	W062916.
6	48MW6	744395	07/13/2016 17:47	W062916.
7	49TM01	744398	07/13/2016 18:16	W062916.
8	48MW1	744400	07/13/2016 18:46	W062916.
9	49MW01	744408	07/13/2016 19:15	W062916.
10	50MW02	744411	07/13/2016 19:45	W062916.
11	49TM02	744414	07/13/2016 20:14	W062916.
12	071216R1	744416	07/13/2016 20:43	W062916.
13	13MW3	744418	07/13/2016 21:12	W062916.
14	13MW4	744420	07/13/2016 21:41	W062916.
15	48MW6MSW	744759	07/14/2016 00:37	W062916.
16	48MW6MSDW	744763	07/14/2016 01:06	W062916.
17	CCVF	744757	07/14/2016 01:35	W062916.

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4A

VOLATILE METHOD BLANK SUMMARY

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Sample ID:	746957	SDG No.:	120379
Matrix:	LIQUID	Date Extracted:	
Date Analyzed:	07/19/2016	Time Analyzed:	12:40
Analytical Method:	EPA 8260C	Extraction Method:	NONE
Analytical Run #:	127819	Extraction Batch #:	0
		ICAL Calibration #:	W071516.

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES AND QC:

SEQUENCE	SAMPLE DESCRIPTION	SAMPLE ID	DATE/TIME ANALYZED	CALIBRATION # ID
1	BFB	747561	07/19/2016 10:55	
2	LCSW	746865	07/19/2016 11:42	W071516.
3	CCV	746870	07/19/2016 11:42	W071516.
4	MBW	746957	07/19/2016 12:40	W071516.
5	49MW02	744939	07/19/2016 16:17	W071516.
6	48MW3	744970	07/19/2016 16:46	W071516.
7	48MW2	744972	07/19/2016 17:16	W071516.
8	13MW2	744974	07/19/2016 17:45	W071516.
9	49MW04	744976	07/19/2016 18:14	W071516.
10	071316T1	744980	07/19/2016 18:44	W071516.
11	48MW2MSW	747079	07/19/2016 19:13	W071516.
12	48MW2MSDW	747083	07/19/2016 19:42	W071516.
13	CCVF	747085	07/19/2016 22:07	W071516.

CT LABORATORIES
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4A

VOLATILE METHOD BLANK SUMMARY

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Sample ID:	747051	SDG No.:	120379
Matrix:	LIQUID	Date Extracted:	07/20/2016
Date Analyzed:	07/20/2016	Time Analyzed:	09:44
Analytical Method:	Mod RSK 175	Extraction Method:	METHOD
Analytical Run #:	127980	Extraction Batch #:	58146
		ICAL Calibration #:	P4DG020315

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES AND QC:

SEQUENCE	SAMPLE DESCRIPTION	SAMPLE ID	DATE/TIME ANALYZED	CALIBRATION # ID
1	CCV	747259	07/20/2016 09:34	P4DG020315
2	LCSW	747052	07/20/2016 09:40	P4DG020315
3	MBW	747051	07/20/2016 09:44	P4DG020315
4	49MW02	744939	07/20/2016 09:51	P4DG020315
5	48MW3	744970	07/20/2016 09:54	P4DG020315
6	48MW2	744972	07/20/2016 09:59	P4DG020315
7	48MW2MSW	747053	07/20/2016 10:04	P4DG020315
8	48MW2MSDW	747054	07/20/2016 10:12	P4DG020315
9	13MW2	744974	07/20/2016 10:18	P4DG020315
10	49MW04	744976	07/20/2016 10:27	P4DG020315
11	CCV	747260	07/20/2016 10:31	P4DG020315

Data File : C:\INSTARCH\Data\JUN2916\BFB1.D Vial: 1
Acq On : 29 Jun 2016 8:43 Operator: AGK-RLD
Sample : BFB Injection Inst : VMS3
Misc : 25 ng Inj. Multiplr: 1.00
Integration File: VOC.P

Method : C:\INSTARCH\METHODS\W062916.M
Title : 8260C Waters Method

Spectrum Information: Average of 4.453 to 4.465 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	16.5	28816	PASS
75	95	30	60	48.9	85224	PASS
95	95	100	100	100.0	174203	PASS
96	95	5	9	6.9	12057	PASS
173	174	0.00	2	0.4	696	PASS
174	95	50	100	90.1	156885	PASS
175	174	5	9	6.9	10871	PASS
176	174	95	101	98.3	154283	PASS
177	176	5	9	6.7	10404	PASS

W062916.M Wed Jul 13 09:30:49 2016

Injection Log Summary Report

Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Start (Tune) File ID : C:\INSTARCH\DATA\JUN2916\BFB1.D
Injection Date : 29 Jun 2016 Log Time Period (hrs) : ALL
Injection Time : 08:43 Total files within period : 16
Sample Directory : C:\INSTARCH\DATA\JUN2916\

Injection Log Summary Table

File ID	Multiplier I	S	T	Sample Name / Misc Info	Date	Time
WCAL1	1.00	1.00	1.00	INITIAL CALIB. PT1 0.50/5.00 ug/L, 5.0 mL Pu	29 Jun 2016	09:57
WCAL2	1.00	1.00	1.00	INITIAL CALIB. PT2 2.00/20.0 ug/L, 5.0 mL Pu	29 Jun 2016	10:26
WCAL3	1.00	1.00	1.00	INITIAL CALIB. PT3 5.00/50.0 ug/L, 5.0 mL Pu	29 Jun 2016	10:55
WCAL4	1.00	1.00	1.00	INITIAL CALIB. PT4 10.00/100 ug/L, 5.0 mL Pu	29 Jun 2016	11:24
WCAL5	1.00	1.00	1.00	INITIAL CALIB. PT5 20.00/200 ug/L, 5.0 mL Pu	29 Jun 2016	11:53
WCAL6	1.00	1.00	1.00	INITIAL CALIB. PT6 30.00/300 ug/L, 5.0 mL Pu	29 Jun 2016	12:22
WCAL7	1.00	1.00	1.00	INITIAL CALIB. PT7 40.00/400 ug/L, 5.0 mL Pu	29 Jun 2016	12:51
WCAL8	1.00	1.00	1.00	INITIAL CALIB. PT8 80.00/800 ug/L, 5.0 mL Pu	29 Jun 2016	13:20
ICV1	1.00	1.00	1.00	INITIAL CALIB. VERIF. 10.00/100 ug/L, 5.0 mL Pu	29 Jun 2016	14:18
ICV2	1.00	1.00	1.00	INITIAL CALIB. VERIF. 30.00/300 ug/L, 5.0 mL Pu	29 Jun 2016	14:48
ICB1	1.00	1.00	1.00	INITIAL CALIB. BLANK 5.0 mL DI H20 Purged + IS	29 Jun 2016	15:46
ICV1R	1.00	1.00	1.00	INITIAL CALIB. VERIF. 10.00/100 ug/L, 5.0 mL Pu	29 Jun 2016	16:15

Data File : C:\INSTARCH\Data\JUL1316\BFB1.D Vial: 1
Acq On : 13 Jul 2016 14:34 Operator: AGK-RLD
Sample : 127775,BFB, Inst : VMS3
Misc : 25 ng Inj. Multiplr: 1.00
Integration File: VOC.P

Method : C:\INSTARCH\METHODS\W062916.M
Title : 8260C Waters Method

Spectrum Information: Average of 4.465 to 4.477 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	17.0	24773	PASS
75	95	30	60	49.6	72149	PASS
95	95	100	100	100.0	145483	PASS
96	95	5	9	7.4	10749	PASS
173	174	0.00	2	0.8	1160	PASS
174	95	50	100	95.4	138837	PASS
175	174	5	9	7.4	10260	PASS
176	174	95	101	99.9	138749	PASS
177	176	5	9	7.0	9672	PASS

W062916.M Thu Jul 14 09:18:07 2016

Injection Log Summary Report

Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Start (Tune) File ID : C:\INSTARCH\DATA\JUL1316\BFB1.D
Injection Date : 13 Jul 2016 Log Time Period (hrs) : ALL
Injection Time : 14:34 Total files within period : 23
Sample Directory : C:\INSTARCH\DATA\JUL1316\

Injection Log Summary Table

File ID	Multiplier I	S	T	Sample Name / Misc Info	Date	Time
CCV-LCS1	1.00	1.00	1.00	127775,LCSW, 10.00/100 ug/L, 5.0 mL Pu	13 Jul 2016	15:19
MB1	1.00	1.00	1.00	127775,MBW, pH<2, 5.0 mL DI H20 Purge	13 Jul 2016	16:19
744422	1.00	1.00	1.00	127773,744422, pH<2, 5.0 mL Purged + IS/	13 Jul 2016	17:18
744395	1.00	1.00	1.00	127773,744395, pH<2, 5.0 mL Purged + IS/	13 Jul 2016	17:47
744398	1.00	1.00	1.00	127773,744398, pH<2, 5.0 mL Purged + IS/	13 Jul 2016	18:16
744400	1.00	1.00	1.00	127773,744400, pH<2, 5.0 mL Purged + IS/	13 Jul 2016	18:46
744408	1.00	1.00	1.00	127773,744408, pH<2, 5.0 mL Purged + IS/	13 Jul 2016	19:15
744411	1.00	1.00	1.00	127773,744411, pH<2, 5.0 mL Purged + IS/	13 Jul 2016	19:45
744414	1.00	1.00	1.00	127773,744414, pH<2, 5.0 mL Purged + IS/	13 Jul 2016	20:14
744416	1.00	1.00	1.00	127773,744416, pH<2, 5.0 mL Purged + IS/	13 Jul 2016	20:43
744418	1.00	1.00	1.00	127773,744418, pH<2, 5.0 mL Purged + IS/	13 Jul 2016	21:12
744420	1.00	1.00	1.00	127773,744420, pH<2, 5.0 mL Purged + IS/	13 Jul 2016	21:41
744395MS	1.00	1.00	1.00	127773,MSW744395, pH<2, 10.0/100 ug/L, 5.0	14 Jul 2016	00:37
744395SD	1.00	1.00	1.00	127773,MSDW744395, pH<2, 10.0/100 ug/L, 5.0	14 Jul 2016	01:06
CCVF1	**1.00**	**1.00**	**1.00**	**127775,CCVF, 10.00/100 ug/L, 5.0 mL Pu**	**14 Jul 2016**	**01:35**

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name : CT Laboratories, LLC Contract :
Project : Site : Location : Group :
Lab File ID (Standard): WCAL4.D Date Analyzed : 29 Jun 2016
Instrument ID : VMS3 Time Analyzed : 11:24
GC Column : DB-624UI ID : VMS3(mm) Heated Purge (Y:N) : N

	IS1		IS2		IS3	
	Area #	RT #	Area #	RT #	Area #	RT #
12 HOUR STD	1502839	7.54	1319713	11.44	862178	14.73
UPPER LIMIT	3005678	8.04	2639426	11.94	1724356	15.23
LOWER LIMIT	751420	7.04	659857	10.94	431089	14.23
File ID Sample						
744395 127773,74	1194730	7.58	1081396	11.47	751063	14.73
744395MS 127773,MS	1190929	7.54	1136994	11.44	781030	14.73
744395SD 127773,MS	1351856	7.54	1256609	11.44	830686	14.73
744398 127773,74	1371998	7.54	1255059	11.44	801067	14.73
744400 127773,74	1403787	7.54	1270493	11.44	808928	14.73
744408 127773,74	1315540	7.54	1207534	11.44	799761	14.73
744411 127773,74	1356531	7.54	1242661	11.44	821020	14.73
744414 127773,74	1265045	7.54	1184806	11.44	792986	14.73
744416 127773,74	1314608	7.54	1214325	11.44	785087	14.73
744418 127773,74	1305367	7.54	1199309	11.44	788674	14.73
744420 127773,74	1295470	7.54	1209532	11.44	792971	14.73
744422 127773,74	1252782	7.59	1182991	11.45	740533	14.73
CCVF1 127775,CC	1350514	7.54	1256136	11.44	836821	14.73
CCV-LCS1 127775,LC	1396270	7.54	1292745	11.44	838928	14.73
MB1 127775,MB	1423486	7.54	1339964	11.44	857709	14.73

IS1 = FLUOROBENZENE**ISTD**
IS2 = d5-CHLOROBENZENE**ISTD**
IS3 = d4-1,4-DICHLOROBENZENE**IS

AREA UPPER LIMIT = 200% of internal standard area
AREA LOWER LIMIT = 50% of internal standard area
RT UPPER LIMIT = 0.5 minutes of internal standard RT
RT LOWER LIMIT = -0.5 minutes of internal standard RT

Column to be used to flag values outside QC limit with an asterisk
* Values outside of contract required QC limits

Data File : L:\INSTARCH\Data\JUL1516\BFB1.D Vial: 1
Acq On : 15 Jul 2016 9:04 am Operator: AGK-RLD
Sample : BFB Injection Inst : VMS3
Misc : 25 ng Inj. Multiplr: 1.00
Integration File: VOC.P

Method : L:\INSTARCH\METHODS\W071516.M
Title : 8260C Waters Method

Spectrum Information: Average of 4.447 to 4.465 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	17.9	17917	PASS
75	95	30	60	47.9	47907	PASS
95	95	100	100	100.0	100000	PASS
96	95	5	9	6.7	6695	PASS
173	174	0.00	2	0.6	498	PASS
174	95	50	100	88.9	88889	PASS
175	174	5	9	6.7	5941	PASS
176	174	95	101	98.9	87930	PASS
177	176	5	9	5.6	4959	PASS

W071516.M Tue Jul 19 14:59:20 2016

Injection Log Summary Report

Method : L:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Start (Tune) File ID : L:\INSTARCH\DATA\JUL1516\BFB1.D
Injection Date : 15 Jul 2016 Log Time Period (hrs) : ALL
Injection Time : 09:04 Total files within period : 24
Sample Directory : L:\INSTARCH\DATA\JUL1516\

Injection Log Summary Table

File ID	Multiplier I	S	T	Sample Name / Misc Info	Date	Time
WCAL1	1.00	1.00	1.00	INITIAL CALIB. PT1 0.50/5.00 ug/L, 5.0 mL Pu	15 Jul 2016	10:17
WCAL2	1.00	1.00	1.00	INITIAL CALIB. PT2 2.00/20.0 ug/L, 5.0 mL Pu	15 Jul 2016	10:45
WCAL3	1.00	1.00	1.00	INITIAL CALIB. PT3 5.00/50.0 ug/L, 5.0 mL Pu	15 Jul 2016	11:14
WCAL4	1.00	1.00	1.00	INITIAL CALIB. PT4 10.00/100 ug/L, 5.0 mL Pu	15 Jul 2016	11:42
WCAL5	1.00	1.00	1.00	INITIAL CALIB. PT5 20.00/200 ug/L, 5.0 mL Pu	15 Jul 2016	12:12
WCAL6	1.00	1.00	1.00	INITIAL CALIB. PT6 30.00/300 ug/L, 5.0 mL Pu	15 Jul 2016	12:41
WCAL7	1.00	1.00	1.00	INITIAL CALIB. PT7 40.00/400 ug/L, 5.0 mL Pu	15 Jul 2016	13:10
WCAL8	1.00	1.00	1.00	INITIAL CALIB. PT8 80.00/800 ug/L, 5.0 mL Pu	15 Jul 2016	13:40
ICV1	1.00	1.00	1.00	INITIAL CALIB. VERIF. 10.00/100 ug/L, 5.0 mL Pu	15 Jul 2016	14:39
ICV2	1.00	1.00	1.00	INITIAL CALIB. VERIF. 30.00/300 ug/L, 5.0 mL Pu	15 Jul 2016	15:08
ICB1	1.00	1.00	1.00	INITIAL CALIB. BLANK 5.0 mL DI H20 Purged + IS	15 Jul 2016	16:07

BFB

Data File : L:\INSTARCH\Data\JUL1816\BFB1.D Vial: 1
Acq On : 18 Jul 2016 10:32 am Operator: AGK-RLD
Sample : 127852,BFB, Inst : VMS3
Misc : 25 ng Inj. Multiplr: 1.00
Integration File: VOC.P

Method : L:\INSTARCH\METHODS\W071516.M
Title : 8260C Waters Method

Spectrum Information: Average of 4.453 to 4.484 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	18.1	30649	PASS
75	95	30	60	51.2	86466	PASS
95	95	100	100	100.0	168906	PASS
96	95	5	9	6.7	11380	PASS
173	174	0.00	2	0.7	1140	PASS
174	95	50	100	96.0	162090	PASS
175	174	5	9	7.3	11822	PASS
176	174	95	101	97.8	158490	PASS
177	176	5	9	6.9	11006	PASS

W071516.M Tue Jul 19 15:46:52 2016

Injection Log Summary Report

Method : L:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Start (Tune) File ID : L:\INSTARCH\DATA\JUL1816\BFB1.D
Injection Date : 18 Jul 2016 Log Time Period (hrs) : ALL
Injection Time : 10:32 Total files within period : 9
Sample Directory : L:\INSTARCH\DATA\JUL1816\

Injection Log Summary Table

File ID	Multiplier I	S	T	Sample Name / Misc Info	Date	Time
ICVR	1.00	1.00	1.00	INITIAL CALIB. VERIF. 10.00/100 ug/L, 5.0 mL Pu	18 Jul 2016	14:47

BFB

Data File : L:\INSTARCH\Data\JUL1916\BFB1.D Vial: 1
Acq On : 19 Jul 2016 10:55 am Operator: AGK-RLD
Sample : 127876,BFB, Inst : VMS3
Misc : 25 ng Inj. Multiplr: 1.00
Integration File: VOC.P

Method : L:\INSTARCH\METHODS\W071516.M
Title : 8260C Waters Method

Spectrum Information: Average of 4.453 to 4.484 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	18.1	30649	PASS
75	95	30	60	51.2	86466	PASS
95	95	100	100	100.0	168906	PASS
96	95	5	9	6.7	11380	PASS
173	174	0.00	2	0.7	1140	PASS
174	95	50	100	96.0	162090	PASS
175	174	5	9	7.3	11822	PASS
176	174	95	101	97.8	158490	PASS
177	176	5	9	6.9	11006	PASS

W071516.M Wed Jul 20 14:58:11 2016

Injection Log Summary Report

Method : L:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Start (Tune) File ID : L:\INSTARCH\DATA\JUL1916\BFB1.D
Injection Date : 19 Jul 2016 Log Time Period (hrs) : ALL
Injection Time : 10:55 Total files within period : 23
Sample Directory : L:\INSTARCH\DATA\JUL1916\

Injection Log Summary Table

File ID	Multiplier I	S	T	Sample Name / Misc Info	Date	Time
CCV-LCS1	1.00	1.00	1.00	127876,LCSW, 10.00/100 ug/L, 5.0 mL Pu	19 Jul 2016	11:42
MB1	1.00	1.00	1.00	127876,MBW, pH<2, 5.0 mL Purged + IS/	19 Jul 2016	12:40
744939	1.00	1.00	1.00	127819,744939, pH<2, 5.0 mL Purged + IS/	19 Jul 2016	16:17
744970	1.00	1.00	1.00	127819,744970, pH<2, 5.0 mL Purged + IS/	19 Jul 2016	16:46
744972	1.00	1.00	1.00	127819,744972, pH<2, 5.0 mL Purged + IS/	19 Jul 2016	17:16
744974	1.00	1.00	1.00	127819,744974, pH<2, 5.0 mL Purged + IS/	19 Jul 2016	17:45
744976	1.00	1.00	1.00	127819,744976, pH<2, 5.0 mL Purged + IS/	19 Jul 2016	18:14
744980	1.00	1.00	1.00	127819,744980, pH<2, 5.0 mL Purged + IS/	19 Jul 2016	18:44
744972MS	1.00	1.00	1.00	127819,MSW744972, pH<2,10.00/100 ug/L, 5.0 mL Pu	19 Jul 2016	19:13
744972SD	1.00	1.00	1.00	127819,MSDW744972, pH<2,10.00/100 ug/L, 5.0 mL Pu	19 Jul 2016	19:42
CCVF1	**1.00**	**1.00**	**1.00**	**127818,CCVF, 10.00/100 ug/L, 5.0 mL Pu**	**19 Jul 2016**	**22:07**

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name : CT Laboratories, LLC Contract :
Project : Site : Location : Group :
Lab File ID (Standard): WCAL4.D Date Analyzed : 15 Jul 2016
Instrument ID : VMS3 Time Analyzed : 11:42 am
GC Column : DB-624UI ID : VMS3(mm) Heated Purge (Y:N) : N

	IS1		IS2		IS3	
	Area #	RT #	Area #	RT #	Area #	RT #
12 HOUR STD	1491478	7.54	1242699	11.44	781388	14.73
UPPER LIMIT	2982956	8.04	2485398	11.94	1562776	15.23
LOWER LIMIT	745739	7.04	621350	10.94	390694	14.23
File ID Sample						
744939 127819,74	1253657	7.54	1068817	11.44	707566	14.73
744970 127819,74	1363504	7.54	1139485	11.44	719080	14.73
744972 127819,74	1319867	7.54	1112639	11.44	702965	14.73
744972MS 127819,MS	1344534	7.54	1130266	11.44	716903	14.73
744972SD 127819,MS	1341116	7.54	1112916	11.44	718433	14.73
744974 127819,74	1362317	7.54	1120287	11.44	700938	14.73
744976 127819,74	1348651	7.54	1129690	11.44	704508	14.73
744980 127819,74	1342340	7.54	1107294	11.44	696360	14.73
CCVF1 127818,CC	1422255	7.54	1172266	11.44	734627	14.73
CCV-LCS1 127876,LC	1388804	7.54	1167528	11.44	730103	14.73
MB1 127876,MB	1327868	7.54	1116434	11.44	699978	14.73

IS1 = FLUOROBENZENE**ISTD**
IS2 = d5-CHLOROBENZENE**ISTD**
IS3 = d4-1,4-DICHLOROBENZENE**IS

AREA UPPER LIMIT = 200% of internal standard area
AREA LOWER LIMIT = 50% of internal standard area
RT UPPER LIMIT = 0.5 minutes of internal standard RT
RT LOWER LIMIT = -0.5 minutes of internal standard RT

Column to be used to flag values outside QC limit with an asterisk
* Values outside of contract required QC limits

VOLATILE ORGANIC ANALYSIS
SAMPLE DATA
DOCUMENTS

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL1316\744422.D Vial: 7
Acq On : 13 Jul 2016 17:18 Operator: AGK-RLD
Sample : 127773,744422, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 13 17:38:48 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 08 13:47:47 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.59	96	1252782	20.00	ug/L	0.05 NA%
68) d5-CHLOROBENZENE**ISTD**	11.45	117	1182991	20.00	ug/L	0.01 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.73	152	740533	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.76	113	328689	19.929	ug/L	0.07
Spiked Amount 20.000	Range 88 - 115		Recovery = 100	%		
45) SURR12DCAd4	7.16	102	91082	20.209	ug/L	0.07
Spiked Amount 20.000	Range 89 - 112		Recovery = 101	%		
61) SURRd8Tolule	9.56	98	1343851	20.240	ug/L	0.02
Spiked Amount 20.000	Range 88 - 115		Recovery = 101	%		
83) SURR4BrFBenz	13.07	95	669532	20.367	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 102	%		
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	0.00	50	0	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	0.00	94	0	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	3.98	58	7312	N.D.		
12) Acrolein	3.61	56	3368	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	4.03	43	4920	Below	Cal #	1
16) Iodomethane	0.00	142	0	N.D.		
17) Carbon Dislf	4.26	76	9304	N.D.		
18) allylchloride	4.33	41	2979	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	4.62	84	3887	Below	Cal #	57
21) tbutylalcohol	0.00	59	0	N.D.		
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	5.41	43	26744	Below	Cal #	66
28) chloroprene	5.44	53	3114	N.D.		
29) Diisopether	5.54	45	14578	0.3126	ug/L #	42
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	0.00	42	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL1316\744422.D Vial: 7
Acq On : 13 Jul 2016 17:18 Operator: AGK-RLD
Sample : 127773,744422, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 13 17:38:48 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 08 13:47:47 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39) Chloroform	0.00	83	0	N.D.	
40) 111trichlota	0.00	97	0	N.D.	
42) Cyclohexane	0.00	56	0	N.D.	
43) Carbtetraclo	0.00	119	0	N.D.	
44) 11dicloprope	0.00	110	0	N.D.	
46) Benzene	7.23	78	4204	N.D.	
47) 12dichlorota	0.00	62	0	N.D.	
48) TAME	0.00	73	0	N.D.	
49) trichloroete	0.00	95	0	N.D.	
50) methylcyclohexane	0.00	83	0	N.D.	
51) 12dicloropra	0.00	63	0	N.D.	
52) 23Dicl1propene	0.00	75	0	N.D.	
53) Dibromometha	0.00	93	0	N.D.	
54) methylmethacrylate	0.00	69	0	N.D.	
55) 14dioxane	8.49	88	2843	7.6579 ug/L #	1
56) Bromodiclrma	0.00	83	0	N.D.	
57) 2Nitropropane	0.00	43	0	N.D.	
58) 2CLEVE	0.00	63	0	N.D.	
59) c13dicloproe	0.00	75	0	N.D.	
60) 4Meth2Pentan	0.00	43	0	N.D.	
62) Toluene	0.00	92	0	N.D.	
63) t13Dicloprop	0.00	75	0	N.D.	
64) ethylmethacrylate	0.00	69	0	N.D.	
65) 112Triclotha	0.00	83	0	N.D.	
66) Tetrachlorte	0.00	166	0	N.D.	
67) 13Diclorpropa	0.00	76	0	N.D.	
69) 2Hexanone	10.51	43	6088	Below Cal #	77
70) Clorodibrmta	0.00	129	0	N.D.	
71) 12Dibrometha	0.00	107	0	N.D.	
72) Chlorobenzen	0.00	112	0	N.D.	
73) 1Clhexane	11.45	91	3342	N.D.	
74) 1112Tetclota	0.00	131	0	N.D.	
75) Ethylbenzene	0.00	91	0	N.D.	
76) m p-Xylene	0.00	106	0	N.D.	
77) o-Xylene	0.00	106	0	N.D.	
78) Styrene	0.00	104	0	N.D.	
79) Bromoform	0.00	173	0	N.D.	
80) Isopropylben	0.00	105	0	N.D.	
81) cyclohexanone	13.06	55	2558	N.D.	
84) Bromobenzene	0.00	156	0	N.D.	
85) 1122Tetrclta	0.00	83	0	N.D.	
86) 123Triclproa	0.00	75	0	N.D.	
87) 14dichloro2butene	0.00	53	0	N.D.	
88) n-Propylbenz	0.00	91	0	N.D.	
89) 2chlorotolue	0.00	91	0	N.D.	
90) 4chlorotolue	0.00	91	0	N.D.	
91) 135Trimebenz	0.00	105	0	N.D.	
92) tbutylbenzen	0.00	119	0	N.D.	
93) 124Trimetben	14.22	105	4199	N.D.	
94) sbutylbenzen	0.00	105	0	N.D.	
95) 13Diclorbenz	0.00	146	0	N.D.	
96) pIsopropylto	0.00	119	0	N.D.	
97) 14dichlorobe	0.00	146	0	N.D.	
98) 12dichlorobe	0.00	146	0	N.D.	
99) nButylbenzen	15.26	91	3191	N.D.	
100) 12dibromo3cl	0.00	157	0	N.D.	
101) 135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL1316\744422.D Vial: 7
Acq On : 13 Jul 2016 17:18 Operator: AGK-RLD
Sample : 127773,744422, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 13 17:38:48 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 08 13:47:47 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	17.86	128	4391	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

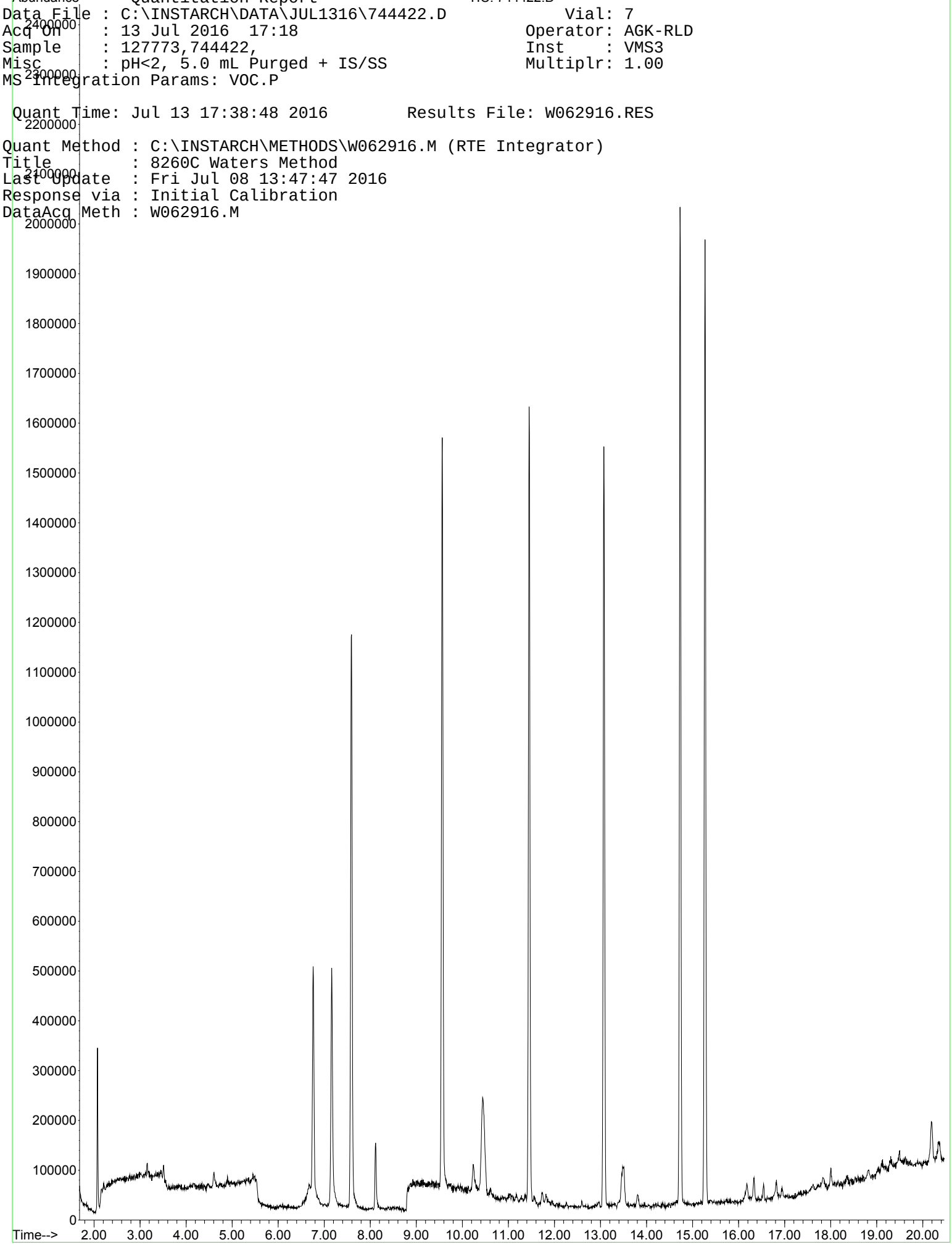
(#) = qualifier out of range (m) = manual integration

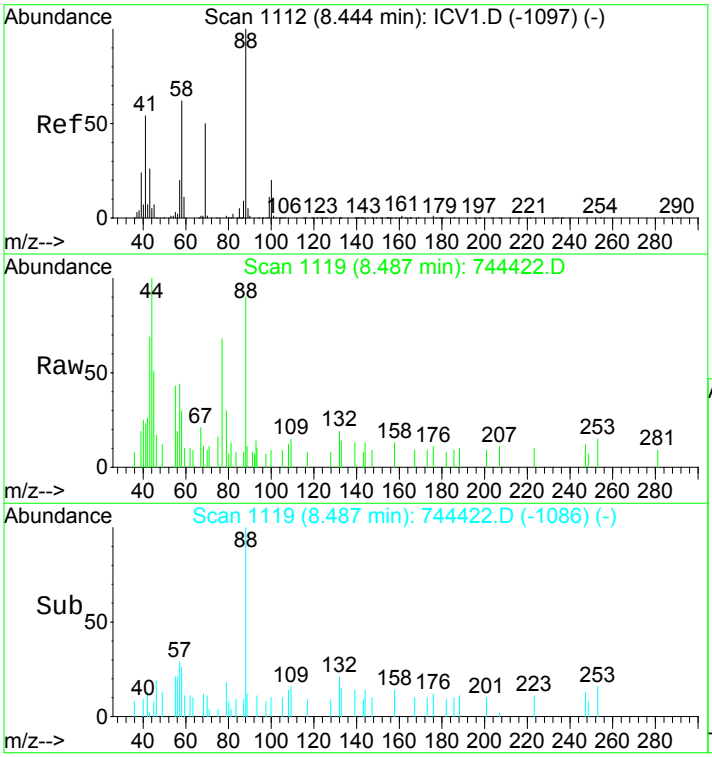
Abundance Quantitation Report TIC: 744422.D

Data File : C:\INSTARCH\DATA\JUL1316\744422.D Vial: 7
Acq On : 13 Jul 2016 17:18 Operator: AGK-RLD
Sample : 127773,744422, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 13 17:38:48 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 08 13:47:47 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M

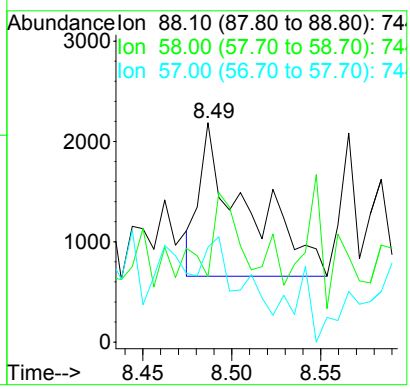




#55
14dioxane
Concen: 7.66 ug/L
RT: 8.49 min Scan# 1119
Delta R.T. 0.05 min
Lab File: 744422.D
Acq: 13 Jul 2016 17:18

Tgt Ion: 88 Resp: 2843

Ion	Ratio	Lower	Upper
88	100		
58	0.0	46.5	86.5#
57	120.3	2.1	42.1#



[redacted]

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL1316\744395.D Vial: 8
Acq On : 13 Jul 2016 17:47 Operator: AGK-RLD
Sample : 127773,744395, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 13 18:08:00 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 08 13:47:47 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.58	96	1194730	20.00	ug/L	0.04 NA%
68) d5-CHLOROBENZENE**ISTD**	11.47	117	1081396	20.00	ug/L	0.03 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.73	152	751063	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.70	113	308279	19.600	ug/L	0.02
Spiked Amount 20.000	Range 88 - 115		Recovery = 98 %			
45) SURR12DCAd4	7.12	102	89601	20.847	ug/L	0.02
Spiked Amount 20.000	Range 89 - 112		Recovery = 104 %			
61) SURRd8Tolule	9.59	98	1263685	19.958	ug/L	0.05
Spiked Amount 20.000	Range 88 - 115		Recovery = 100 %			
83) SURR4BrFBenz	13.08	95	601747	18.048	ug/L	0.01
Spiked Amount 20.000	Range 80 - 125		Recovery = 90 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	2.10	50	324313	14.8976	ug/L	100
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	0.00	94	0	N.D.		
6) Chloroethane	2.82	64	2543	N.D.		
7) Dichloroflmethane	3.14	67	3085	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	3.66	67	11646	0.6851	ug/L #	89
11) propyleneoxide	3.97	58	3942	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	3.92	96	3345	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	0.00	43	0	N.D.		
16) Iodomethane	4.08	142	11004	0.7358	ug/L #	84
17) Carbon Dislf	4.17	76	10833	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	4.55	84	2691	Below Cal	#	3
21) tbutylalcohol	4.76	59	2732	Below Cal	#	1
22) Acrylonitrile	4.68	53	4239	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	5.25	57	2513	N.D.		
26) 11dichlorota	5.40	63	66937	2.3690	ug/L	97
27) Vinylacetate	5.58	43	3209	Below Cal	#	66
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	6.11	77	3964	N.D.		
32) c12dichlorte	6.09	96	12975	0.7271	ug/L	90
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	6.31	67	3084	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	0.00	42	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL1316\744395.D Vial: 8
Acq On : 13 Jul 2016 17:47 Operator: AGK-RLD
Sample : 127773,744395, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 13 18:08:00 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 08 13:47:47 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39) Chloroform	0.00	83	0	N.D.			
40) 111trichlota	6.74	97	14724	0.5730	ug/L		92
42) Cyclohexane	0.00	56	0	N.D.			
43) Carbtetraclo	0.00	119	0	N.D.			
44) 11dicloprope	0.00	110	0	N.D.			
46) Benzene	7.21	78	15445	0.2517	ug/L	#	43
47) 12dichlorota	0.00	62	0	N.D.			
48) TAME	0.00	73	0	N.D.			
49) trichloroete	8.09	95	60024	3.5054	ug/L		97
50) methylcyclohexane	0.00	83	0	N.D.			
51) 12dicloropra	0.00	63	0	N.D.			
52) 23Dicl1propene	0.00	75	0	N.D.			
53) Dibromometha	0.00	93	0	N.D.			
54) methylmethacrylate	0.00	69	0	N.D.			
55) 14dioxane	8.50	88	11261	31.8066	ug/L	#	77
56) Bromodiclrma	0.00	83	0	N.D.			
57) 2Nitropropane	0.00	43	0	N.D.			
58) 2CLEVE	0.00	63	0	N.D.			
59) c13dicloproe	0.00	75	0	N.D.			
60) 4Meth2Pentan	0.00	43	0	N.D.			
62) Toluene	9.69	92	3842	N.D.			
63) t13Dicloprop	0.00	75	0	N.D.			
64) ethylmethacrylate	0.00	69	0	N.D.			
65) 112Triclotha	0.00	83	0	N.D.			
66) Tetrachlorte	10.39	166	10133	0.5067	ug/L		94
67) 13Diclorpropa	0.00	76	0	N.D.			
69) 2Hexanone	10.51	43	2989	Below	Cal	#	50
70) Clorodibrmta	0.00	129	0	N.D.			
71) 12Dibrometha	0.00	107	0	N.D.			
72) Chlorobenzen	0.00	112	0	N.D.			
73) 1Clhexane	11.47	91	3707	N.D.			
74) 1112Tetclota	0.00	131	0	N.D.			
75) Ethylbenzene	0.00	91	0	N.D.			
76) m p-Xylene	0.00	106	0	N.D.			
77) o-Xylene	0.00	106	0	N.D.			
78) Styrene	0.00	104	0	N.D.			
79) Bromoform	0.00	173	0	N.D.			
80) Isopropylben	0.00	105	0	N.D.			
81) cyclohexanone	12.98	55	4319	N.D.			
84) Bromobenzene	0.00	156	0	N.D.			
85) 1122Tetrclta	0.00	83	0	N.D.			
86) 123Triclproa	0.00	75	0	N.D.			
87) 14dichloro2butene	0.00	53	0	N.D.			
88) n-Propylbenz	0.00	91	0	N.D.			
89) 2chlorotolue	0.00	91	0	N.D.			
90) 4chlorotolue	0.00	91	0	N.D.			
91) 135Trimebenz	0.00	105	0	N.D.			
92) tbutylbenzen	0.00	119	0	N.D.			
93) 124Trimetben	14.25	105	3117	N.D.			
94) sbutylbenzen	0.00	105	0	N.D.			
95) 13Diclorbenz	0.00	146	0	N.D.			
96) pIsopropylto	0.00	119	0	N.D.			
97) 14dichlorobe	0.00	146	0	N.D.			
98) 12dichlorobe	0.00	146	0	N.D.			
99) nButylbenzen	0.00	91	0	N.D.			
100) 12dibromo3cl	0.00	157	0	N.D.			
101) 135Trichlorobenzene	0.00	180	0	N.D.			

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL1316\744395.D Vial: 8
Acq On : 13 Jul 2016 17:47 Operator: AGK-RLD
Sample : 127773,744395, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 13 18:08:00 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 08 13:47:47 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	17.86	128	6164	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

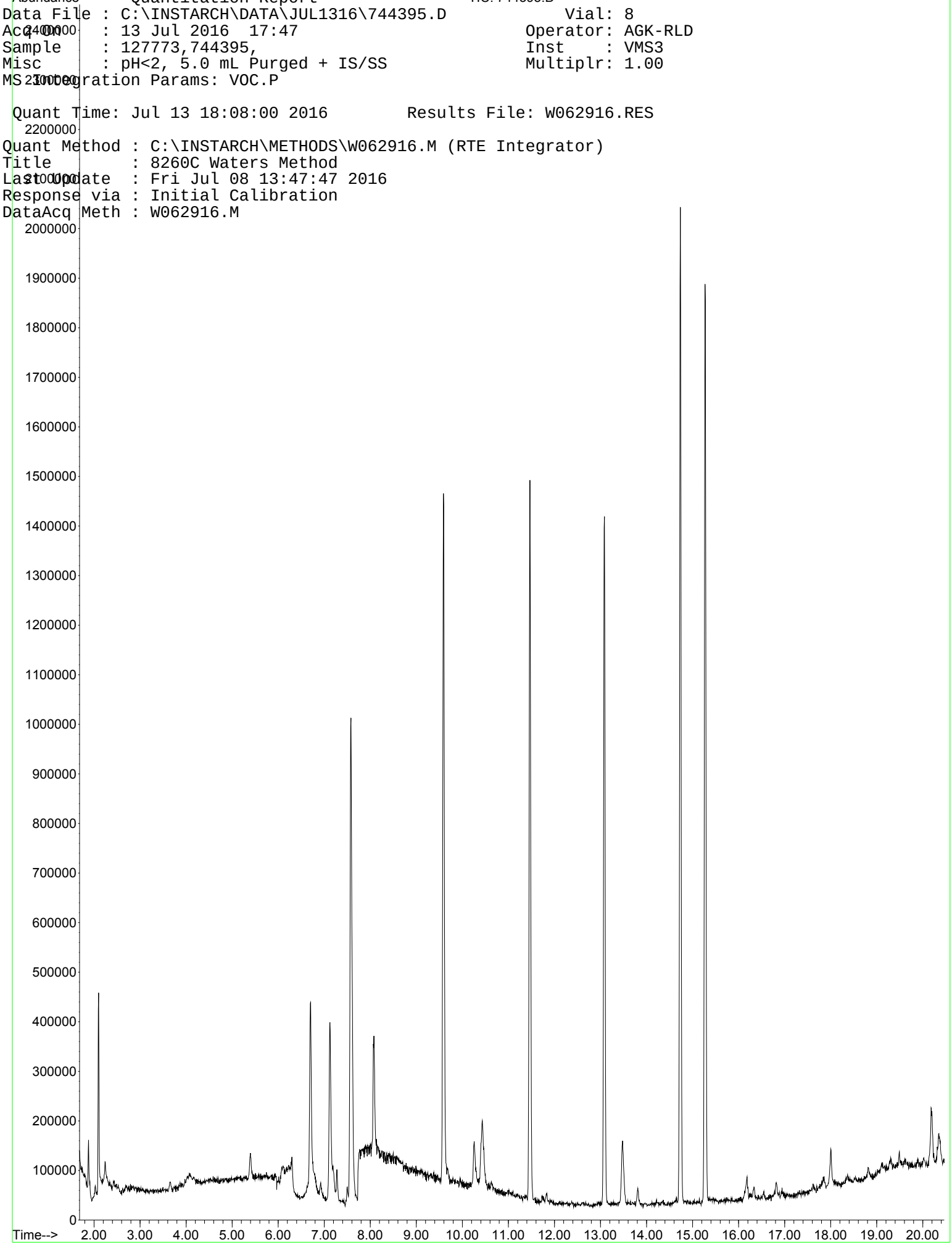
(#) = qualifier out of range (m) = manual integration

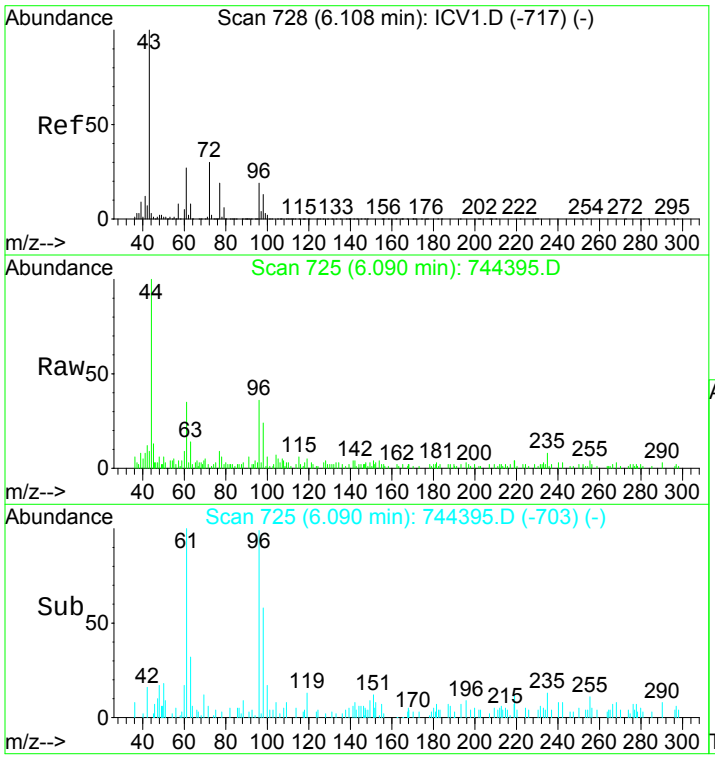
Abundance Quantitation Report TIC: 744395.D

Data File : C:\INSTARCH\DATA\JUL1316\744395.D Vial: 8
Acq On : 13 Jul 2016 17:47 Operator: AGK-RLD
Sample : 127773,744395, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 13 18:08:00 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 08 13:47:47 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M

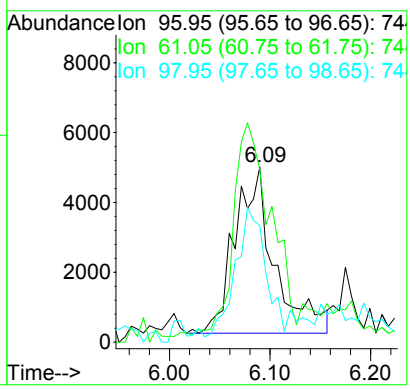


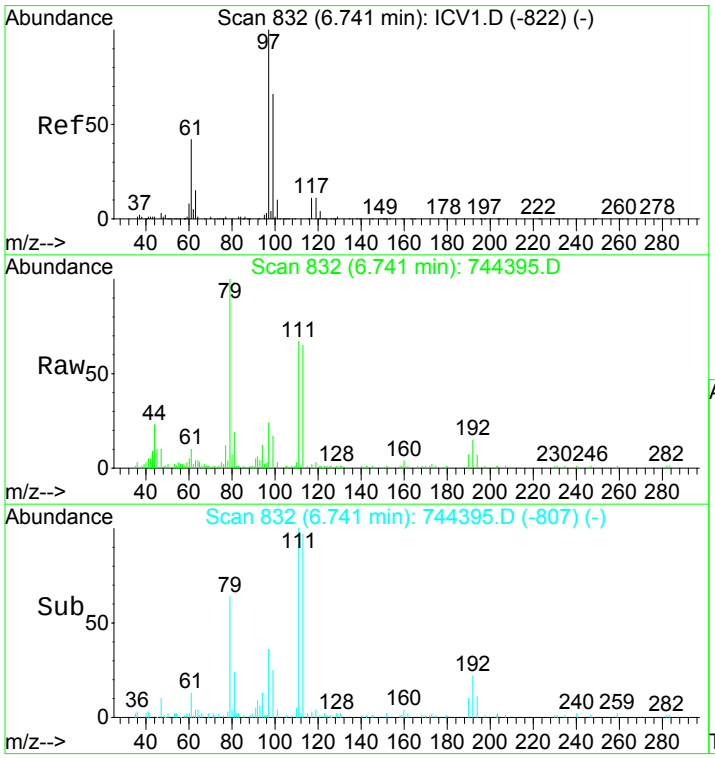


#32
c12dichlorte
Concen: 0.73 ug/L
RT: 6.09 min Scan# 725
Delta R.T. -0.02 min
Lab File: 744395.D
Acq: 13 Jul 2016 17:47

Tgt Ion: 96 Resp: 12975

Ion	Ratio	Lower	Upper
96	100		
61	122.7	120.2	160.2
98	66.3	45.2	85.2

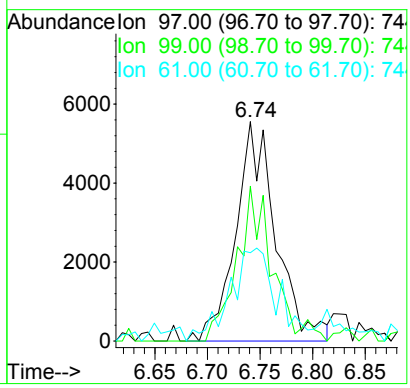


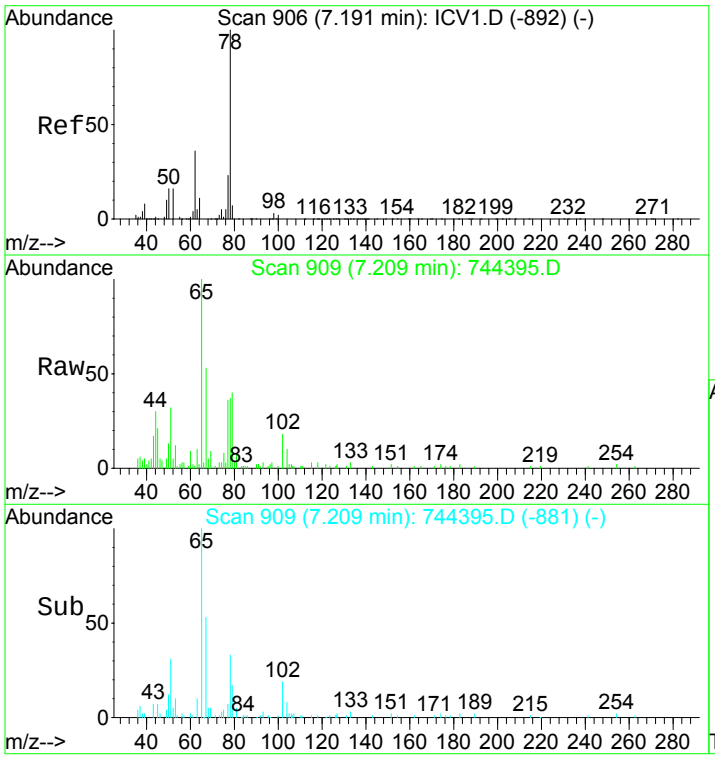


#40
111trichlota
Concen: 0.57 ug/L
RT: 6.74 min Scan# 832
Delta R.T. 0.00 min
Lab File: 744395.D
Acq: 13 Jul 2016 17:47

Tgt Ion: 97 Resp: 14724

Ion	Ratio	Lower	Upper
97	100		
99	62.1	46.1	86.1
61	50.0	21.4	61.4

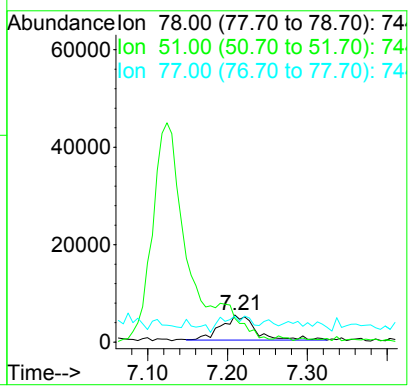




#46
Benzene
Concen: 0.25 ug/L
RT: 7.21 min Scan# 909
Delta R.T. 0.02 min
Lab File: 744395.D
Acq: 13 Jul 2016 17:47

Tgt Ion: 78 Resp: 15445

Ion	Ratio	Lower	Upper
78	100		
51	0.0	0.0	39.0
77	57.5	3.6	43.6#



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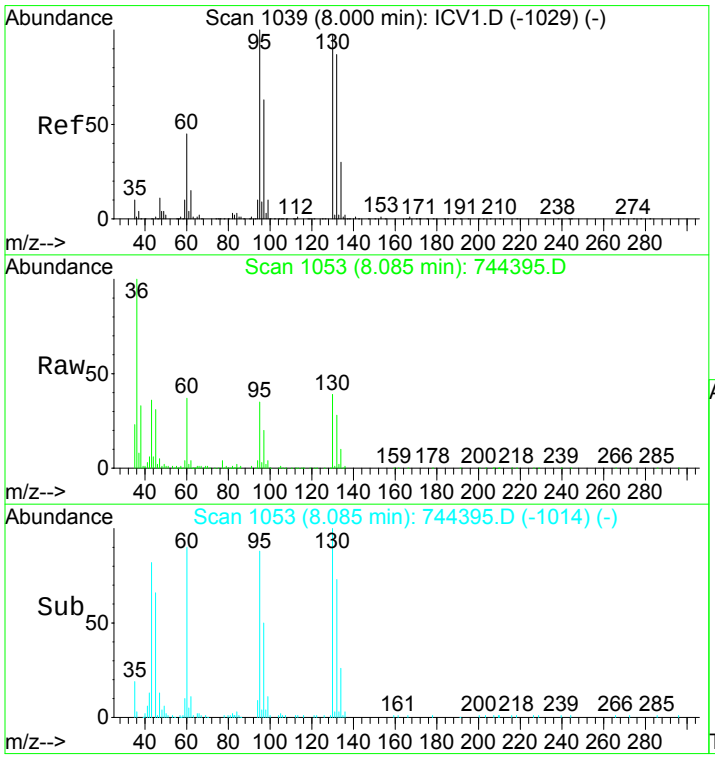
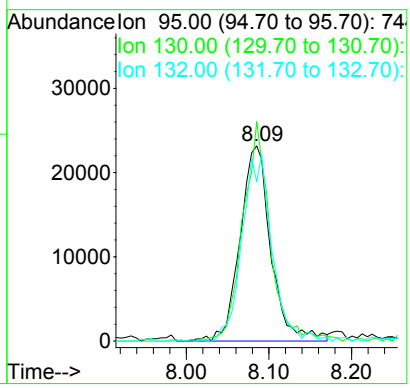


#49
trichloroete
Concen: 3.51 ug/L
RT: 8.09 min Scan# 1053
Delta R.T. 0.09 min
Lab File: 744395.D
Acq: 13 Jul 2016 17:47

Tgt Ion: 95 Resp: 60024

Ion	Ratio	Lower	Upper
95	100		
130	99.4	82.7	122.7
132	92.1	74.7	114.7



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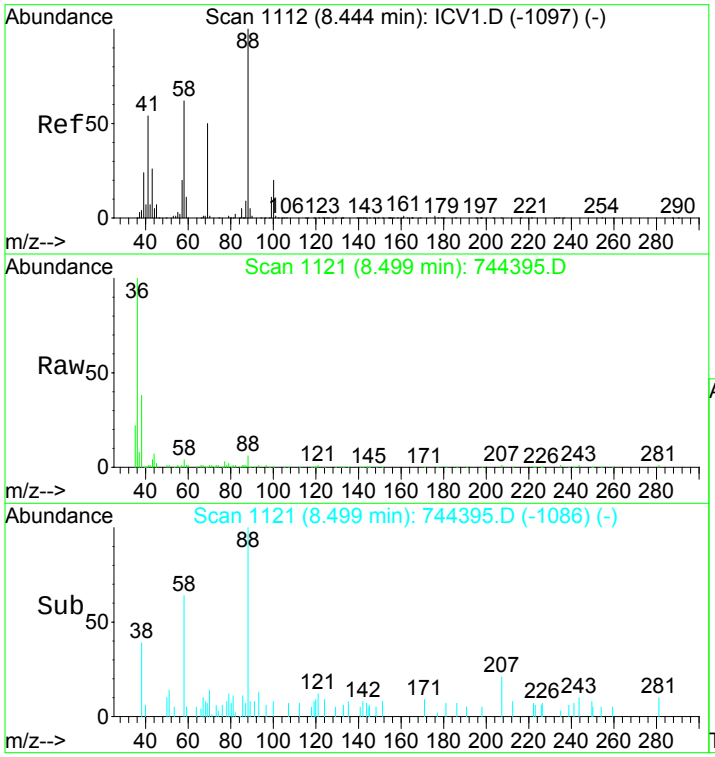
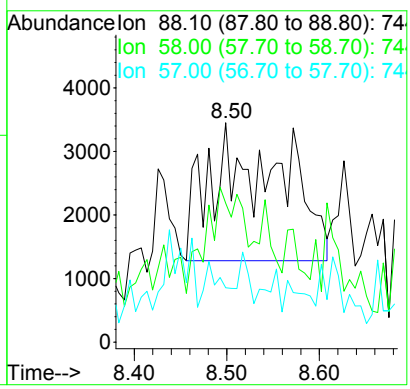


#55
14dioxane
Concen: 31.81 ug/L
RT: 8.50 min Scan# 1121
Delta R.T. 0.06 min
Lab File: 744395.D
Acq: 13 Jul 2016 17:47

Tgt Ion: 88 Resp: 11261

Ion	Ratio	Lower	Upper
88	100		
58	53.9	46.5	86.5
57	0.0	2.1	42.1#



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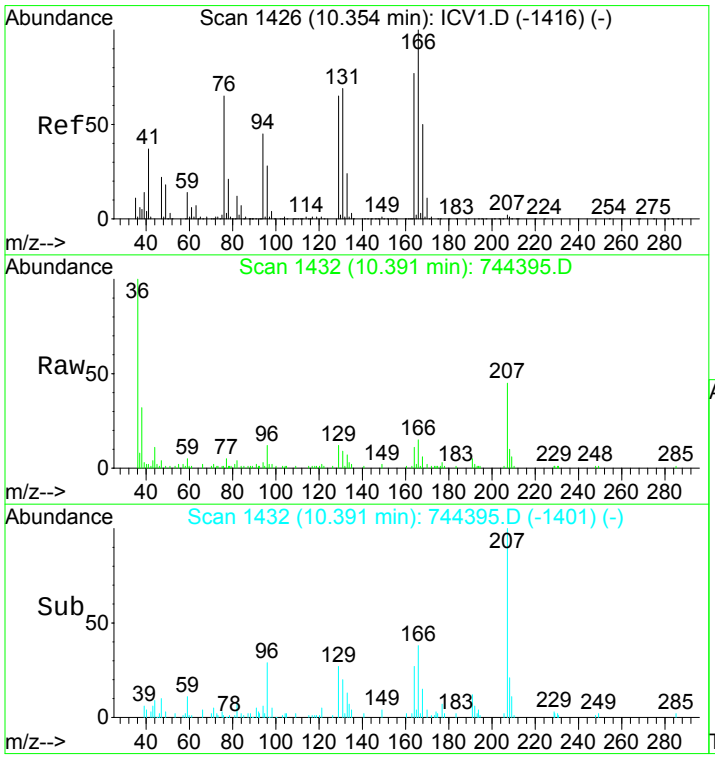
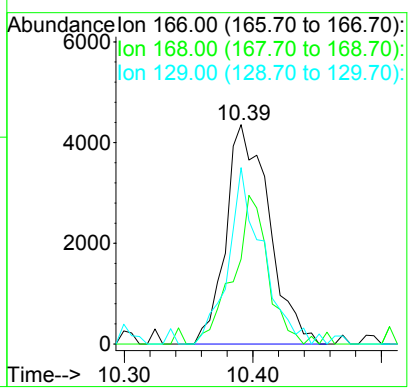


#66
Tetrachlorte
Concen: 0.51 ug/L
RT: 10.39 min Scan# 1432
Delta R.T. 0.04 min
Lab File: 744395.D
Acq: 13 Jul 2016 17:47

Tgt Ion:166 Resp: 10133

Ion	Ratio	Lower	Upper
166	100		
168	53.7	29.7	69.7
129	64.2	48.8	88.8



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Quantitation Report

Data File : C:\INSTARCH\DATA\JUL1316\744398.D Vial: 9
Acq On : 13 Jul 2016 18:16 Operator: AGK-RLD
Sample : 127773,744398, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 13 18:37:12 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 08 13:47:47 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.54	96	1371998	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.44	117	1255059	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.73	152	801067	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.69	113	346707	19.195	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 96 %			
45) SURR12DCAd4	7.09	102	94883	19.223	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 96 %			
61) SURRd8Tolule	9.53	98	1458071	20.052	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100 %			
83) SURR4BrFBenz	13.07	95	708658	19.928	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 100 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	2.00	50	80731	3.2293	ug/L	97
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	2.60	94	2679	N.D.		
6) Chloroethane	2.74	64	17643	1.1249	ug/L #	42
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	3.58	67	10038	0.5142	ug/L	96
11) propyleneoxide	3.92	58	36480	7.3649	ug/L	94
12) Acrolein	3.72	56	4167	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	3.92	43	104096	Below Cal		98
16) Iodomethane	4.02	142	12989	0.7563	ug/L #	80
17) Carbon Dislf	4.11	76	19214	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	4.48	84	3839	Below Cal	#	64
21) tbutylalcohol	4.70	59	5514	Below Cal	#	6
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	5.38	63	71946	2.2173	ug/L	95
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	6.11	96	61525	3.0024	ug/L	93
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	6.47	42	2552	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL1316\744398.D Vial: 9
Acq On : 13 Jul 2016 18:16 Operator: AGK-RLD
Sample : 127773,744398, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 13 18:37:12 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 08 13:47:47 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.		
40)	111trichlota	6.74	97	10738	0.3639	ug/L	89
42)	Cyclohexane	0.00	56	0	N.D.		
43)	Carbtetraclo	0.00	119	0	N.D.		
44)	11dicloprope	0.00	110	0	N.D.		
46)	Benzene	7.19	78	13077	N.D.		
47)	12dichlorota	0.00	62	0	N.D.		
48)	TAME	0.00	73	0	N.D.		
49)	trichloroete	8.00	95	43448	2.2095	ug/L	92
50)	methylcyclohexane	0.00	83	0	N.D.		
51)	12dicloropra	0.00	63	0	N.D.		
52)	23Dicl1propene	0.00	75	0	N.D.		
53)	Dibromometha	0.00	93	0	N.D.		
54)	methylmethacrylate	0.00	69	0	N.D.		
55)	14dioxane	8.45	88	22870	56.2500	ug/L	93
56)	Bromodiclrma	0.00	83	0	N.D.		
57)	2Nitropropane	0.00	43	0	N.D.		
58)	2CLEVE	0.00	63	0	N.D.		
59)	c13dicloproe	0.00	75	0	N.D.		
60)	4Meth2Pentan	0.00	43	0	N.D.		
62)	Toluene	9.62	92	3412	N.D.		
63)	t13Dicloprop	0.00	75	0	N.D.		
64)	ethylmethacrylate	0.00	69	0	N.D.		
65)	112Triclotha	0.00	83	0	N.D.		
66)	Tetrachlorte	10.36	166	8408	0.3661	ug/L	98
67)	13Diclorpropa	0.00	76	0	N.D.		
69)	2Hexanone	10.45	43	3184	Below	Cal #	27
70)	Clorodibrmta	0.00	129	0	N.D.		
71)	12Dibrometha	0.00	107	0	N.D.		
72)	Chlorobenzen	0.00	112	0	N.D.		
73)	1Clhexane	11.44	91	3740	N.D.		
74)	1112Tetclota	0.00	131	0	N.D.		
75)	Ethylbenzene	0.00	91	0	N.D.		
76)	m p-Xylene	11.80	106	2895	N.D.		
77)	o-Xylene	0.00	106	0	N.D.		
78)	Styrene	0.00	104	0	N.D.		
79)	Bromoform	0.00	173	0	N.D.		
80)	Isopropylben	0.00	105	0	N.D.		
81)	cyclohexanone	0.00	55	0	N.D.		
84)	Bromobenzene	0.00	156	0	N.D.		
85)	1122Tetrclta	13.31	83	2632	N.D.		
86)	123Triclproa	0.00	75	0	N.D.		
87)	14dichloro2butene	0.00	53	0	N.D.		
88)	n-Propylbenz	0.00	91	0	N.D.		
89)	2chlorotolue	0.00	91	0	N.D.		
90)	4chlorotolue	0.00	91	0	N.D.		
91)	135Trimebenz	0.00	105	0	N.D.		
92)	tbutylbenzen	0.00	119	0	N.D.		
93)	124Trimetben	14.25	105	2851	N.D.		
94)	sbutylbenzen	0.00	105	0	N.D.		
95)	13Diclorbenz	0.00	146	0	N.D.		
96)	pIsopropylto	0.00	119	0	N.D.		
97)	14dichlorobe	0.00	146	0	N.D.		
98)	12dichlorobe	0.00	146	0	N.D.		
99)	nButylbenzen	15.27	91	3912	N.D.		
100)	12dibromo3cl	0.00	157	0	N.D.		
101)	135Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL1316\744398.D Vial: 9
Acq On : 13 Jul 2016 18:16 Operator: AGK-RLD
Sample : 127773,744398, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 13 18:37:12 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 08 13:47:47 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	17.86	128	3104	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

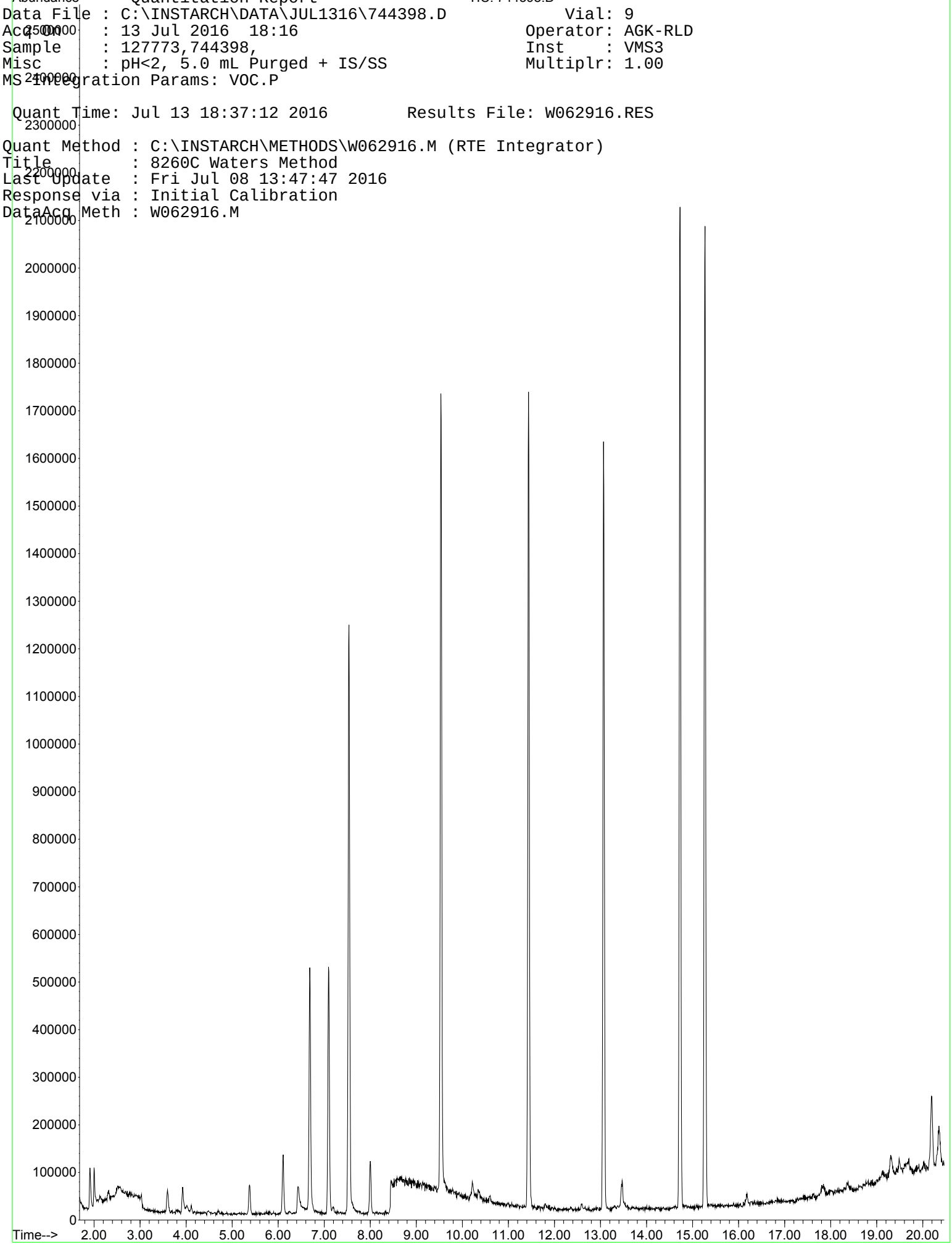
(#) = qualifier out of range (m) = manual integration

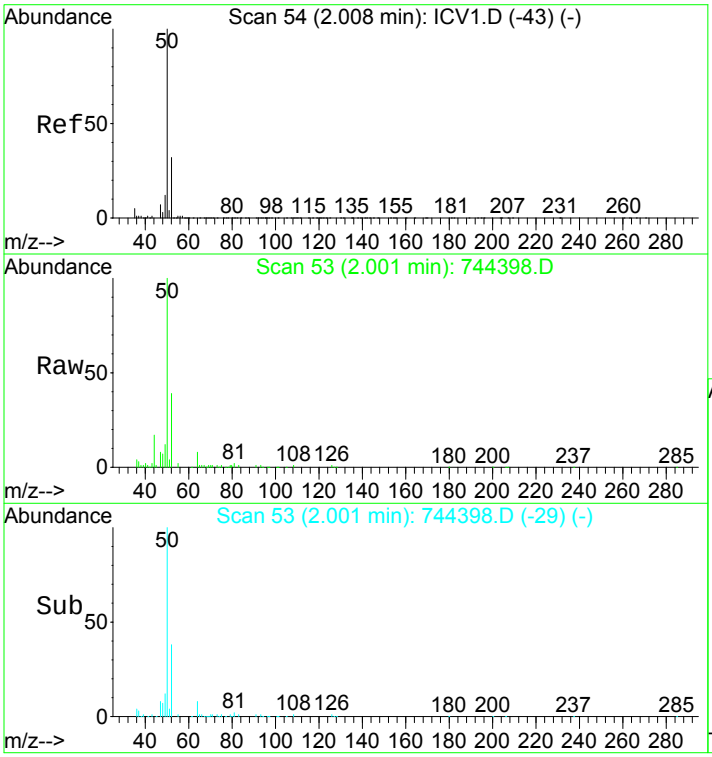
Abundance Quantitation Report TIC: 744398.D

Data File : C:\INSTARCH\DATA\JUL1316\744398.D Vial: 9
Acq On : 13 Jul 2016 18:16 Operator: AGK-RLD
Sample : 127773,744398, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 13 18:37:12 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 08 13:47:47 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M

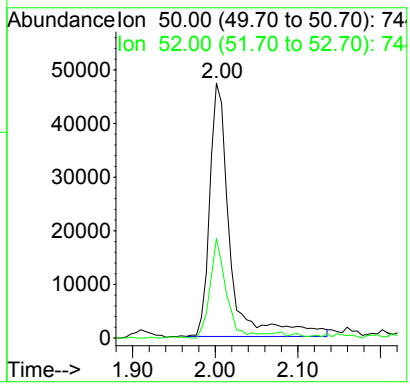


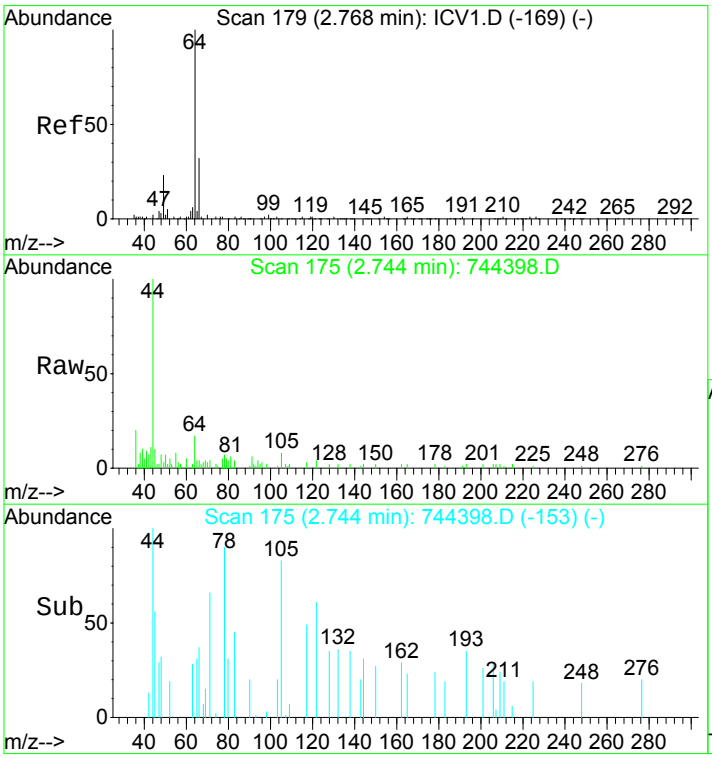


#3
Chloromethan
Concen: 3.23 ug/L
RT: 2.00 min Scan# 53
Delta R.T. -0.01 min
Lab File: 744398.D
Acq: 13 Jul 2016 18:16

Tgt Ion: 50 Resp: 80731

Ion	Ratio	Lower	Upper
50	100		
52	34.9	13.1	53.1

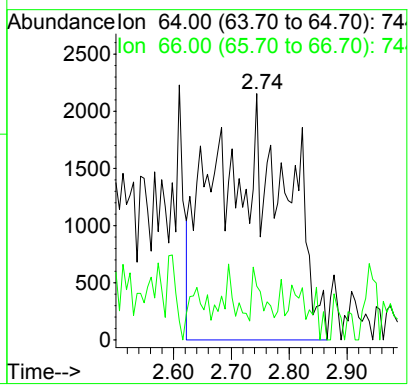




#6
Chloroethane
Concen: 1.12 ug/L
RT: 2.74 min Scan# 175
Delta R.T. -0.02 min
Lab File: 744398.D
Acq: 13 Jul 2016 18:16

Tgt Ion: 64 Resp: 17643

Ion	Ratio	Lower	Upper
64	100		
66	0.0	13.1	53.1#



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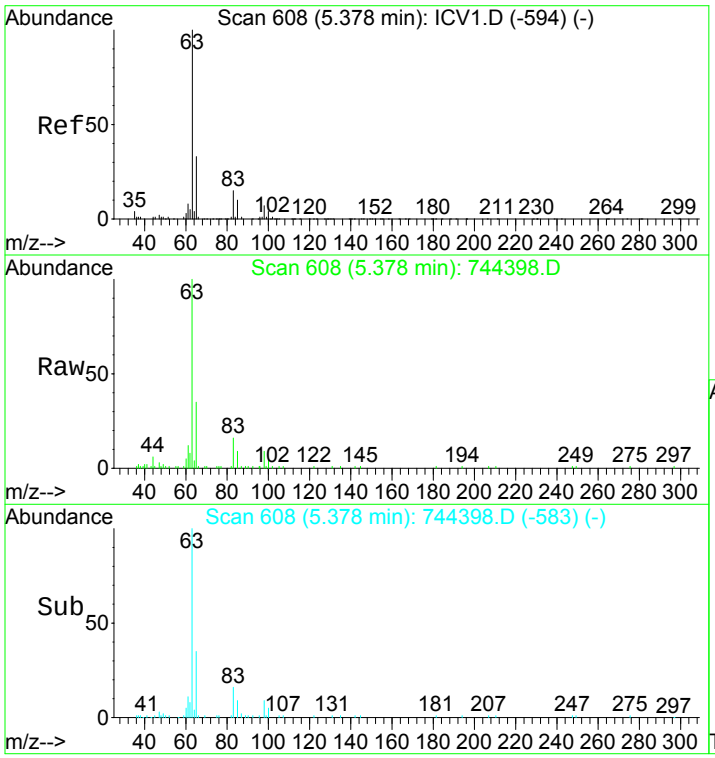
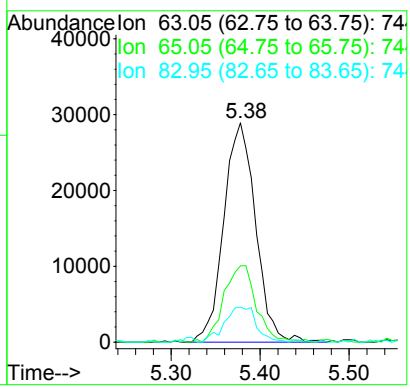
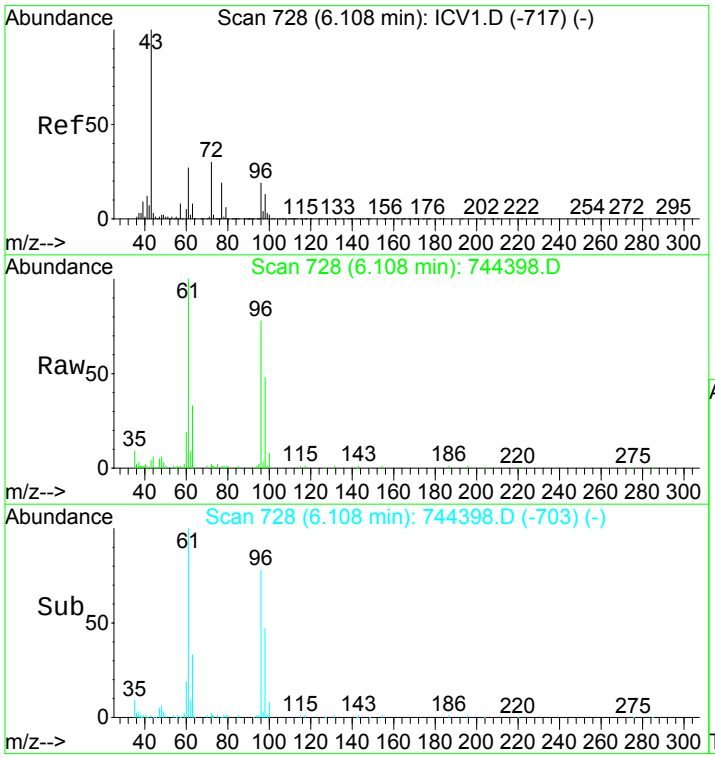


#26
11dichlorota
Concen: 2.22 ug/L
RT: 5.38 min Scan# 608
Delta R.T. -0.00 min
Lab File: 744398.D
Acq: 13 Jul 2016 18:16

Tgt Ion: 63 Resp: 71946

Ion	Ratio	Lower	Upper
63	100		
65	35.5	12.2	52.2
83	16.0	0.0	34.6

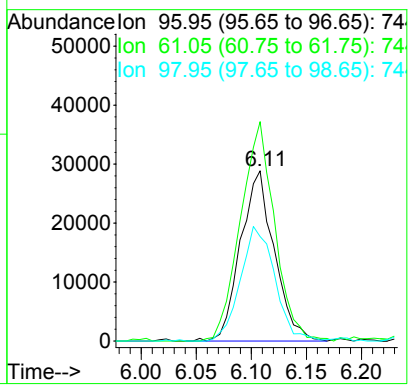


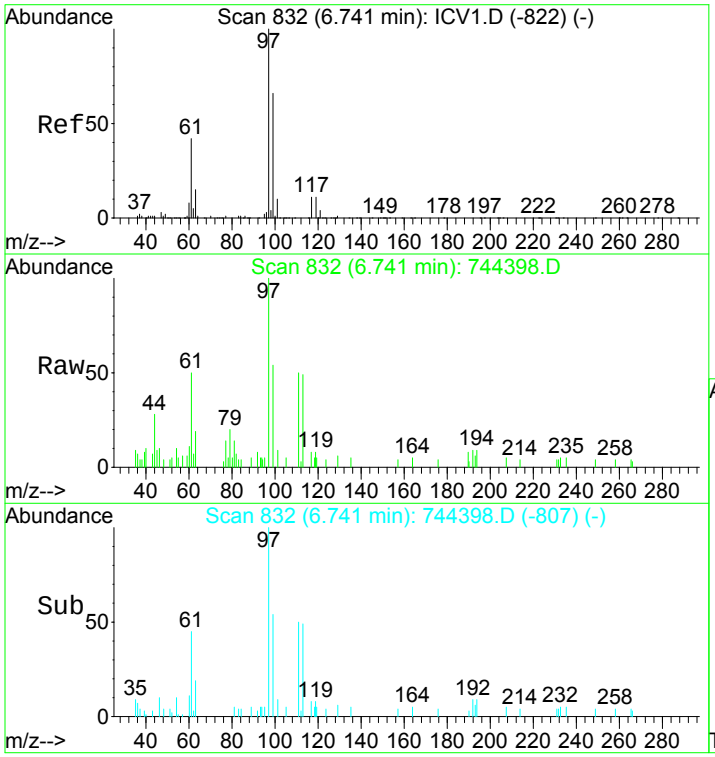


#32
c12dichlorte
Concen: 3.00 ug/L
RT: 6.11 min Scan# 728
Delta R.T. -0.00 min
Lab File: 744398.D
Acq: 13 Jul 2016 18:16

Tgt Ion: 96 Resp: 61525

Ion	Ratio	Lower	Upper
96	100		
61	130.6	120.2	160.2
98	68.7	45.2	85.2

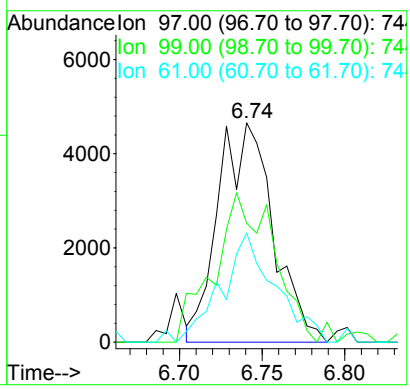


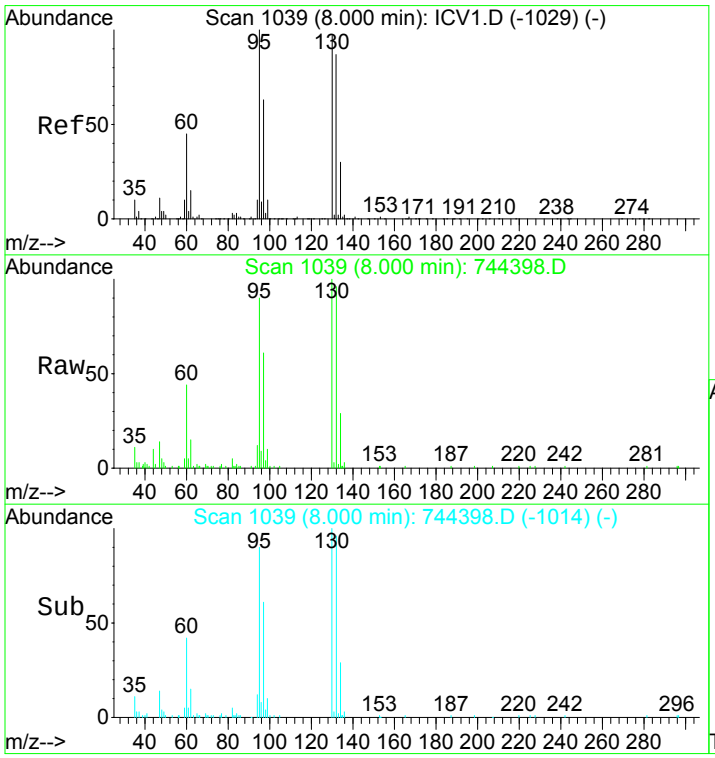


#40
111trichlota
Concen: 0.36 ug/L
RT: 6.74 min Scan# 832
Delta R.T. -0.00 min
Lab File: 744398.D
Acq: 13 Jul 2016 18:16

Tgt Ion: 97 Resp: 10738

Ion	Ratio	Lower	Upper
97	100		
99	74.3	46.1	86.1
61	49.1	21.4	61.4

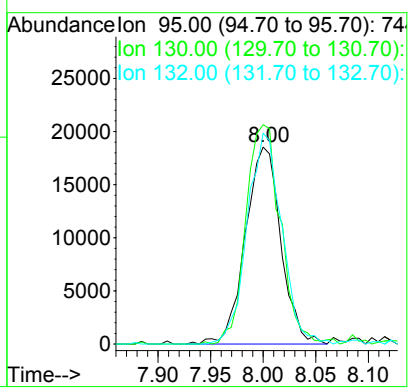


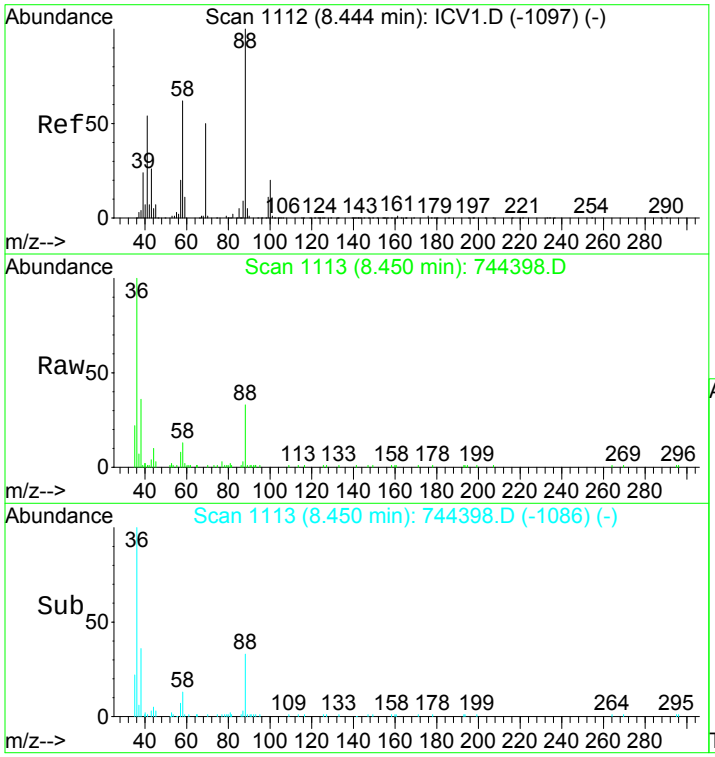


#49
trichloroete
Concen: 2.21 ug/L
RT: 8.00 min Scan# 1039
Delta R.T. -0.00 min
Lab File: 744398.D
Acq: 13 Jul 2016 18:16

Tgt Ion: 95 Resp: 43448

Ion	Ratio	Lower	Upper
95	100		
130	109.2	82.7	122.7
132	104.3	74.7	114.7

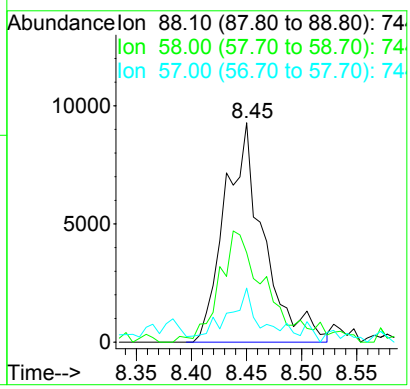


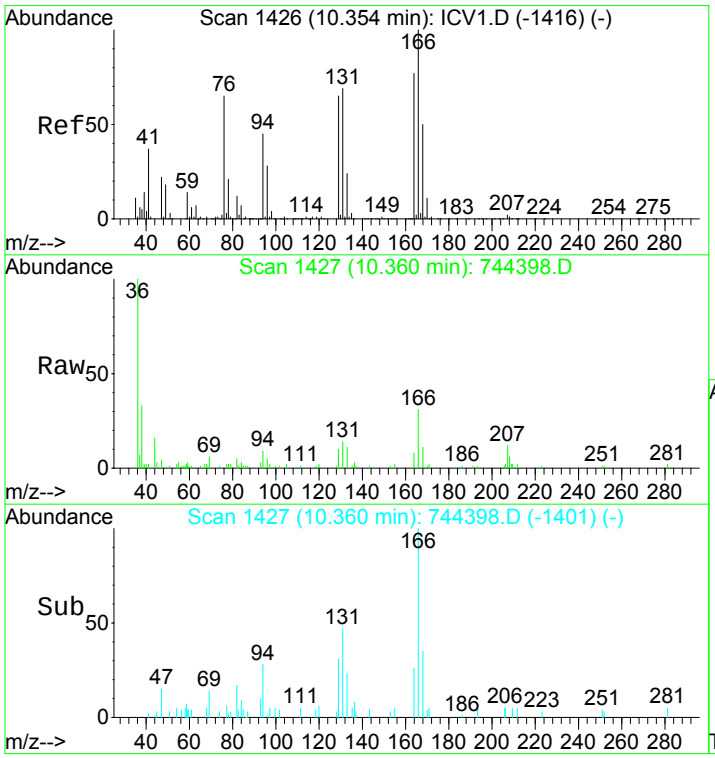


#55
14dioxane
Concen: 56.25 ug/L
RT: 8.45 min Scan# 1113
Delta R.T. 0.01 min
Lab File: 744398.D
Acq: 13 Jul 2016 18:16

Tgt Ion: 88 Resp: 22870

Ion	Ratio	Lower	Upper
88	100		
58	63.3	46.5	86.5
57	14.9	2.1	42.1

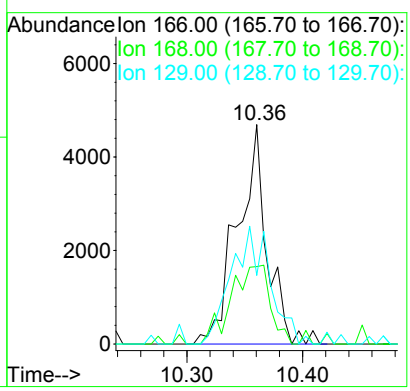




#66
Tetrachlorte
Concen: 0.37 ug/L
RT: 10.36 min Scan# 1427
Delta R.T. 0.01 min
Lab File: 744398.D
Acq: 13 Jul 2016 18:16

Tgt Ion:166 Resp: 8408

Ion	Ratio	Lower	Upper
166	100		
168	47.3	29.7	69.7
129	69.9	48.8	88.8



Quantitation Report

Data File : C:\INSTARCH\DATA\JUL1316\744400.D Vial: 10
Acq On : 13 Jul 2016 18:46 Operator: AGK-RLD
Sample : 127773,744400, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 13 19:06:37 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 08 13:47:47 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.54	96	1403787	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.44	117	1270493	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.73	152	808928	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.69	113	354658	19.191	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 96 %			
45) SURR12DCAd4	7.11	102	97894	19.384	ug/L	0.01
Spiked Amount 20.000	Range 89 - 112		Recovery = 97 %			
61) SURRd8Tolule	9.53	98	1502154	20.191	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101 %			
83) SURR4BrFBenz	13.07	95	708318	19.725	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 99 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	2.00	50	68967	2.6963	ug/L	99
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	2.62	94	2975	N.D.		
6) Chloroethane	2.75	64	12764	0.7954	ug/L #	42
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	3.58	67	7578	0.3794	ug/L #	86
11) propyleneoxide	3.97	58	15952	N.D.		
12) Acrolein	3.74	56	3605	N.D.		
13) 11dichlorthe	3.85	96	3189	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	3.97	43	44163	Below Cal		96
16) Iodomethane	4.02	142	10073	0.5732	ug/L #	85
17) Carbon Dislf	4.11	76	11935	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	0.00	59	0	N.D.		
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	5.37	63	32626	0.9827	ug/L	100
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	6.10	96	23993	1.1443	ug/L	93
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	0.00	42	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL1316\744400.D Vial: 10
Acq On : 13 Jul 2016 18:46 Operator: AGK-RLD
Sample : 127773,744400, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 13 19:06:37 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 08 13:47:47 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	6.75	97	16378	0.5424 ug/L	93
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	0.00	119	0	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	7.18	78	3085	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	8.00	95	67191	3.3396 ug/L	98
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	8.56	88	12910	31.0338 ug/L #	44
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	8.82	43	3306	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	9.61	92	7198	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	10.35	166	14163	0.6028 ug/L	93
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	11.43	91	3929	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	11.65	91	4369	N.D.	
76)	m p-Xylene	11.80	106	5640	N.D.	
77)	o-Xylene	12.34	106	2658	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	12.87	55	2736	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	13.60	105	3067	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	14.25	105	5636	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	15.28	91	2796	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL1316\744400.D Vial: 10
Acq On : 13 Jul 2016 18:46 Operator: AGK-RLD
Sample : 127773,744400, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 13 19:06:37 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 08 13:47:47 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	17.84	128	3917	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

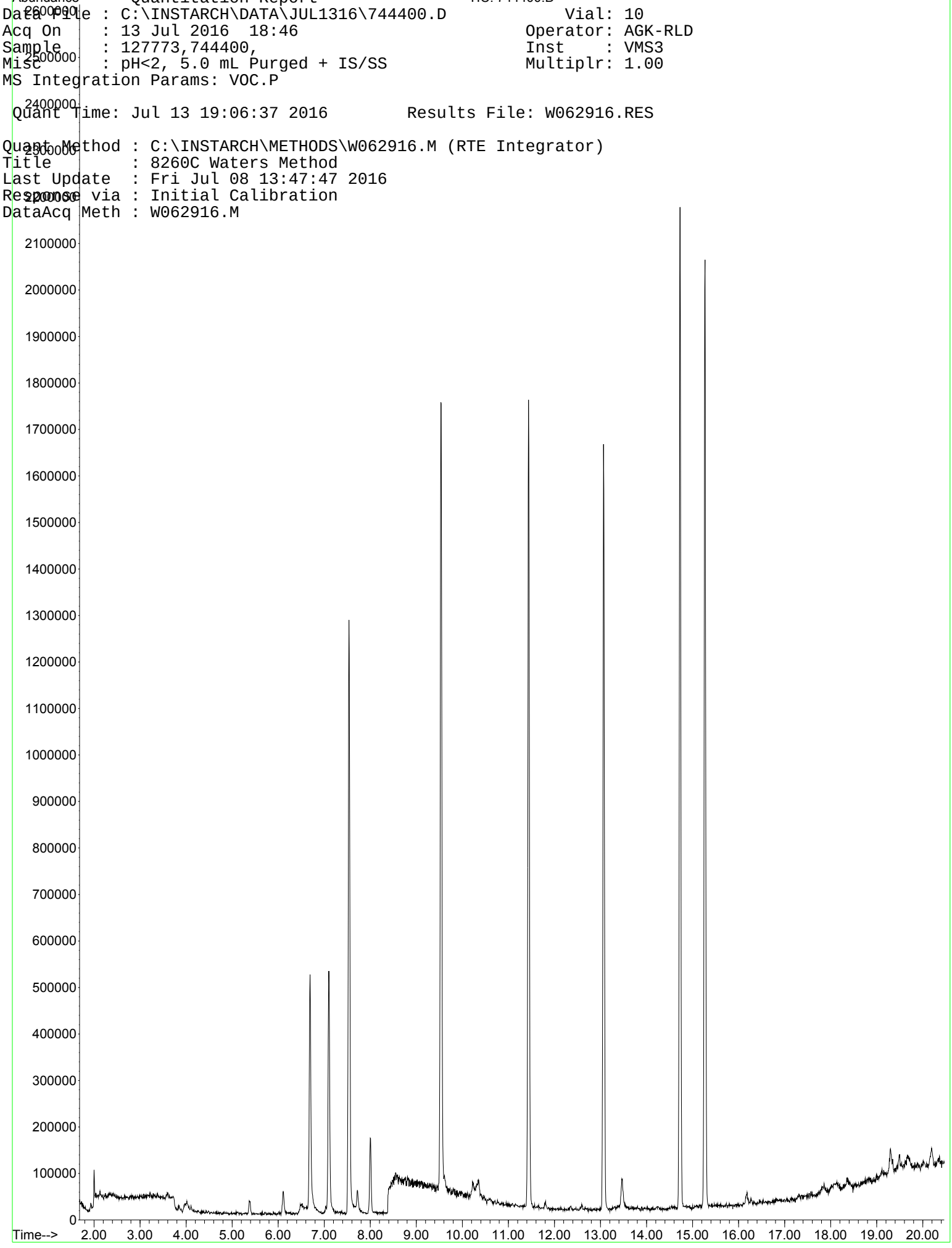
(#) = qualifier out of range (m) = manual integration

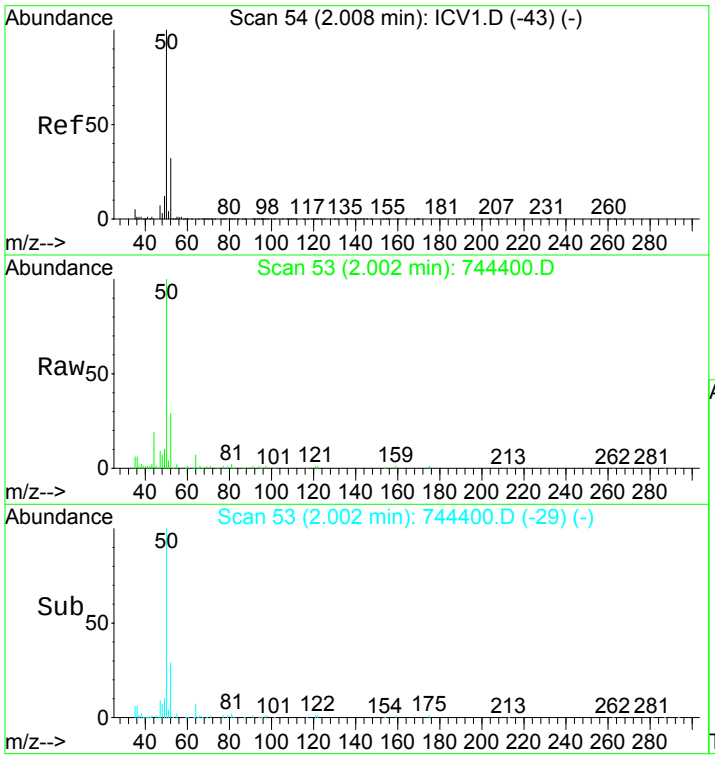
Abundance Quantitation Report TIC: 744400.D

Data File : C:\INSTARCH\DATA\JUL1316\744400.D Vial: 10
Acq On : 13 Jul 2016 18:46 Operator: AGK-RLD
Sample : 127773,744400, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 13 19:06:37 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 08 13:47:47 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M

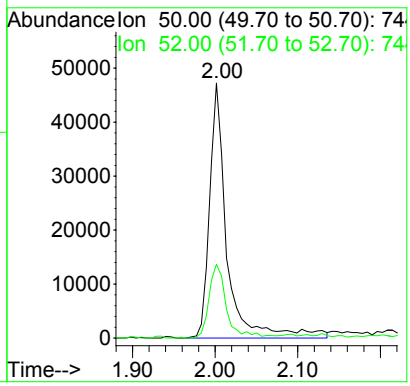


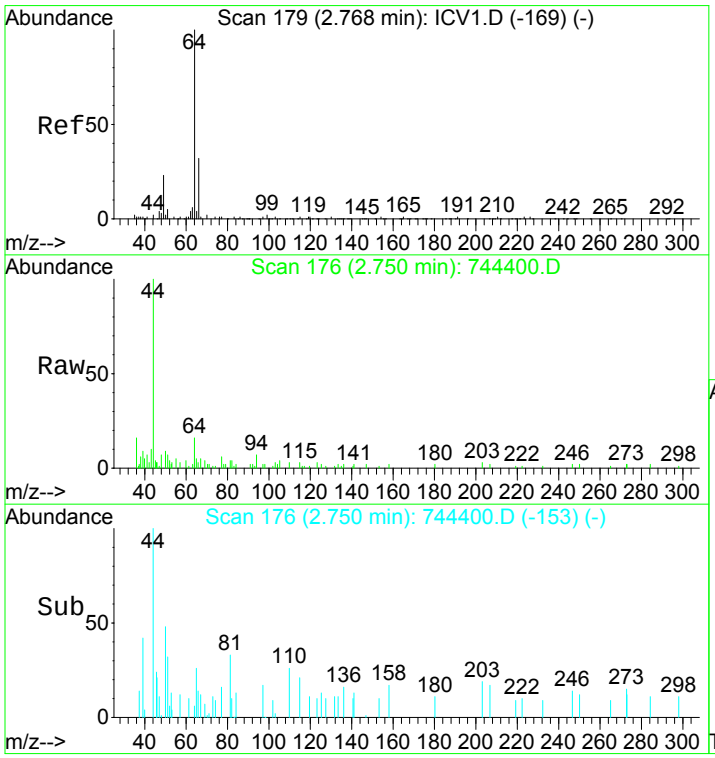


#3
Chloromethan
Concen: 2.70 ug/L
RT: 2.00 min Scan# 53
Delta R.T. -0.01 min
Lab File: 744400.D
Acq: 13 Jul 2016 18:46

Tgt Ion: 50 Resp: 68967

Ion	Ratio	Lower	Upper
50	100		
52	32.3	13.1	53.1

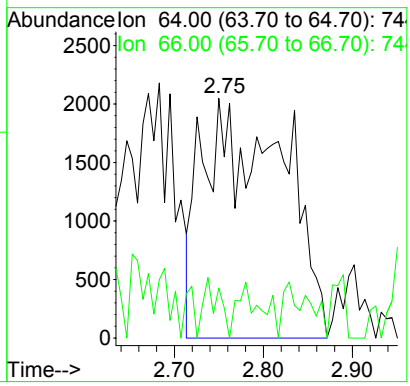


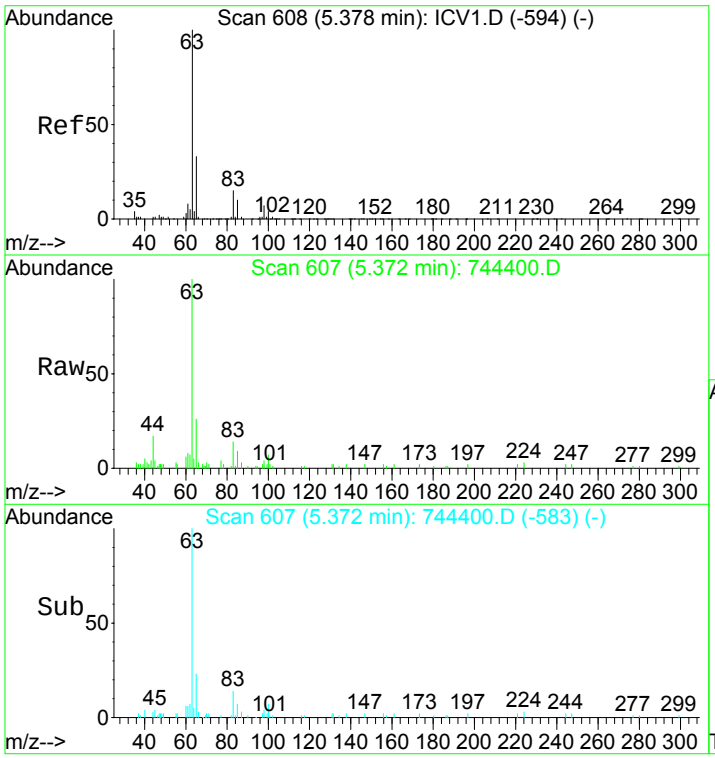


#6
Chloroethane
Concen: 0.80 ug/L
RT: 2.75 min Scan# 176
Delta R.T. -0.01 min
Lab File: 744400.D
Acq: 13 Jul 2016 18:46

Tgt Ion: 64 Resp: 12764

Ion	Ratio	Lower	Upper
64	100		
66	0.0	13.1	53.1#

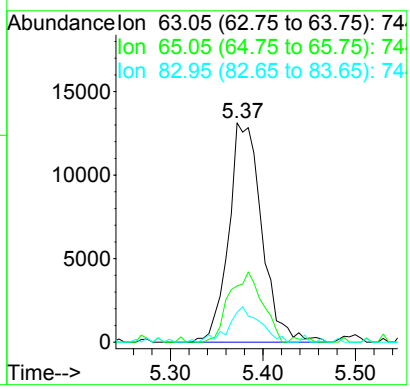


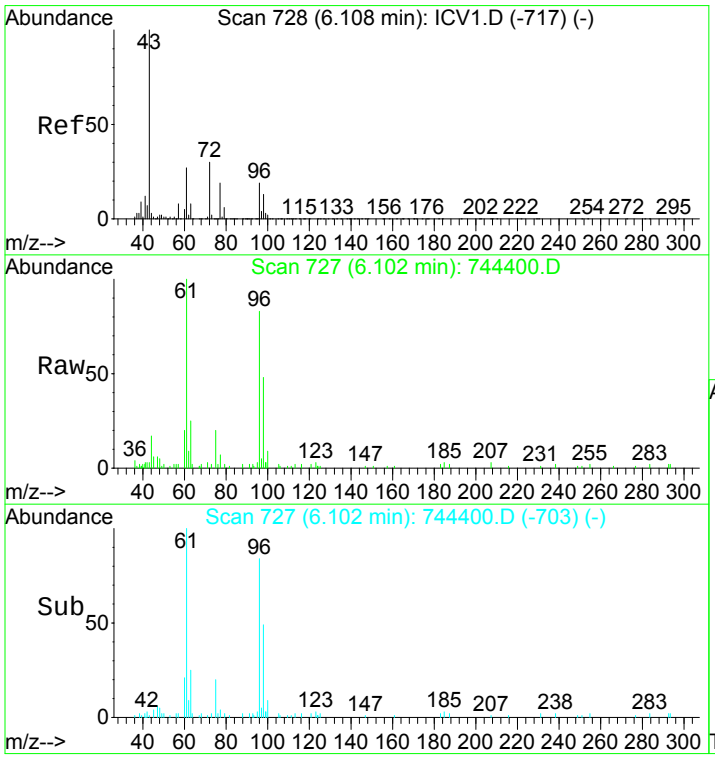


#26
11dichlorota
Concen: 0.98 ug/L
RT: 5.37 min Scan# 607
Delta R.T. -0.01 min
Lab File: 744400.D
Acq: 13 Jul 2016 18:46

Tgt Ion: 63 Resp: 32626

Ion	Ratio	Lower	Upper
63	100		
65	32.1	12.2	52.2
83	15.0	0.0	34.6

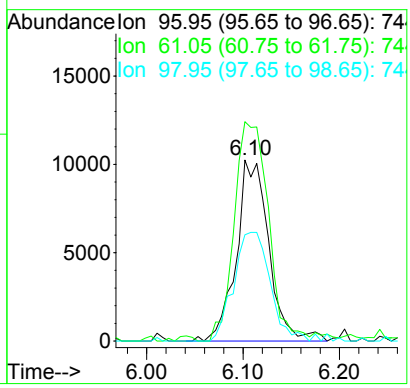


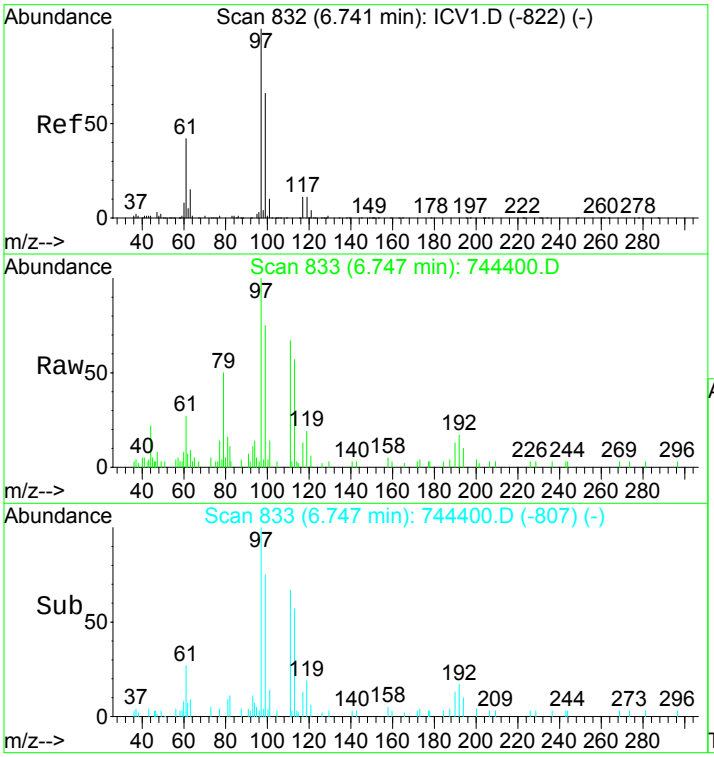


#32
c12dichlorte
Concen: 1.14 ug/L
RT: 6.10 min Scan# 727
Delta R.T. -0.01 min
Lab File: 744400.D
Acq: 13 Jul 2016 18:46

Tgt Ion: 96 Resp: 23993

Ion	Ratio	Lower	Upper
96	100		
61	129.4	120.2	160.2
98	67.1	45.2	85.2

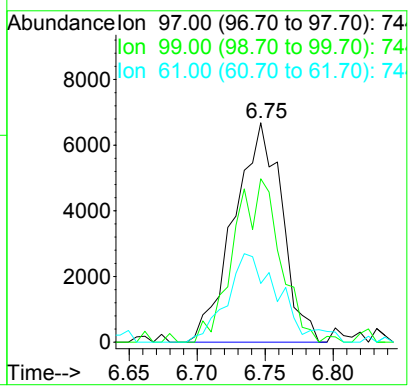


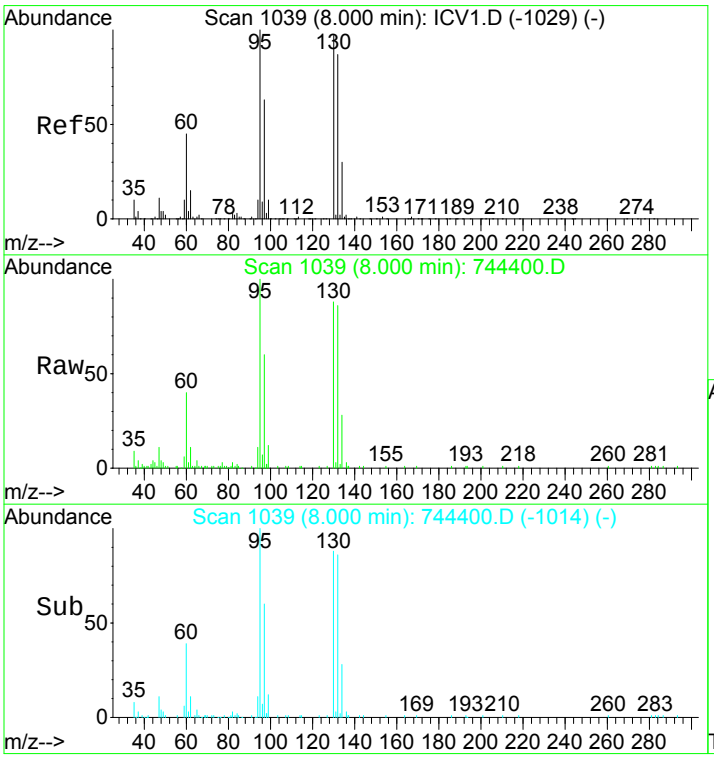


#40
111trichlota
Concen: 0.54 ug/L
RT: 6.75 min Scan# 833
Delta R.T. 0.01 min
Lab File: 744400.D
Acq: 13 Jul 2016 18:46

Tgt Ion: 97 Resp: 16378

Ion	Ratio	Lower	Upper
97	100		
99	72.9	46.1	86.1
61	44.2	21.4	61.4

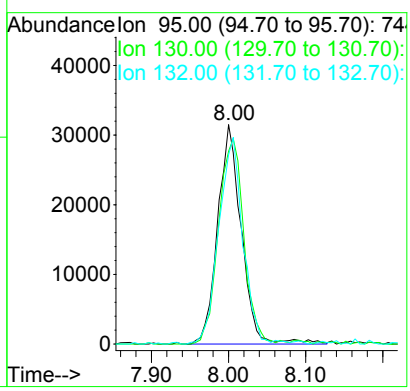


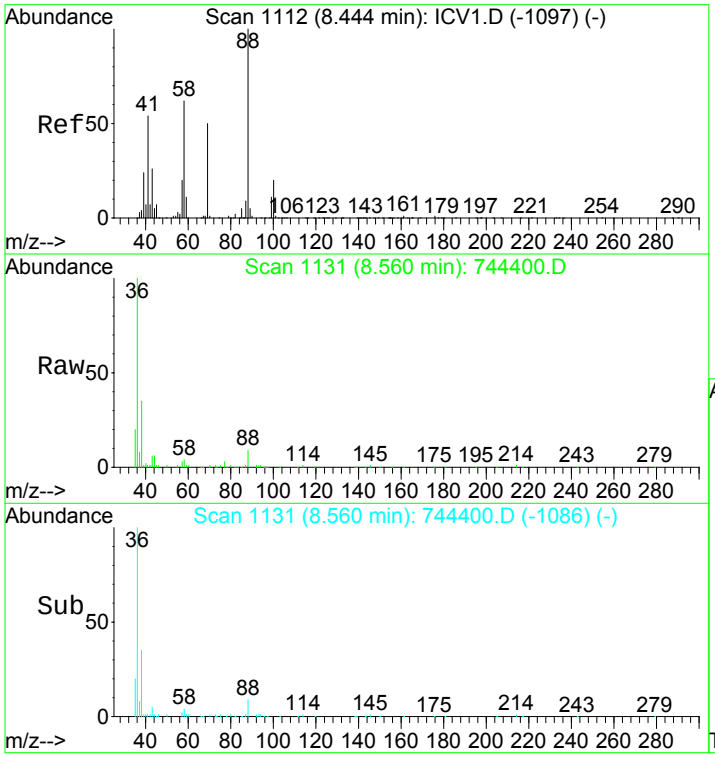


#49
trichloroete
Concen: 3.34 ug/L
RT: 8.00 min Scan# 1039
Delta R.T. 0.00 min
Lab File: 744400.D
Acq: 13 Jul 2016 18:46

Tgt Ion: 95 Resp: 67191

Ion	Ratio	Lower	Upper
95	100		
130	100.0	82.7	122.7
132	96.7	74.7	114.7

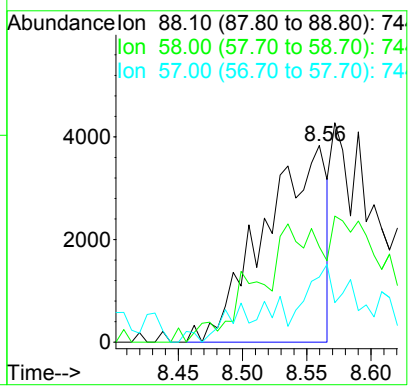


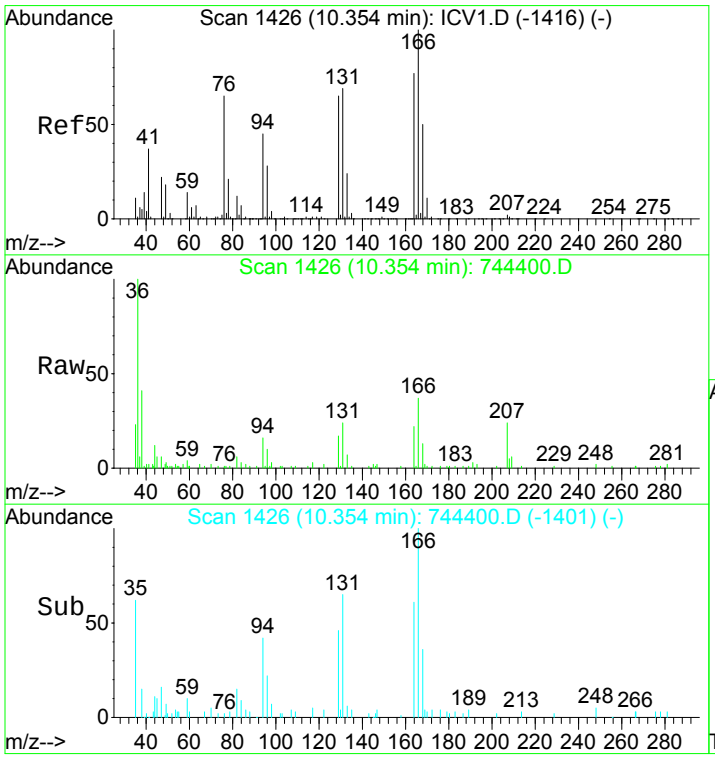


#55
14dioxane
Concen: 31.03 ug/L
RT: 8.56 min Scan# 1131
Delta R.T. 0.12 min
Lab File: 744400.D
Acq: 13 Jul 2016 18:46

Tgt Ion: 88 Resp: 12910

Ion	Ratio	Lower	Upper
88	100		
58	19.4	46.5	86.5#
57	0.0	2.1	42.1#

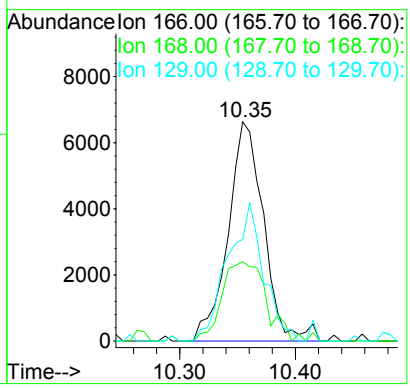




#66
Tetrachlorte
Concen: 0.60 ug/L
RT: 10.35 min Scan# 1426
Delta R.T. 0.00 min
Lab File: 744400.D
Acq: 13 Jul 2016 18:46

Tgt Ion:166 Resp: 14163

Ion	Ratio	Lower	Upper
166	100		
168	45.0	29.7	69.7
129	63.7	48.8	88.8



Quantitation Report

Data File : C:\INSTARCH\DATA\JUL1316\744408.D Vial: 11
Acq On : 13 Jul 2016 19:15 Operator: AGK-RLD
Sample : 127773,744408, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 13 19:35:56 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 08 13:47:47 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.54	96	1315540	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.44	117	1207534	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.73	152	799761	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.69	113	329006	18.997	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 95 %			
45) SURR12DCAd4	7.09	102	88754	18.753	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 94 %			
61) SURRd8Tolule	9.53	98	1403038	20.123	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101 %			
83) SURR4BrFBenz	13.07	95	684497	19.280	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 96 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	2.01	50	61483	2.5649	ug/L	91
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	2.61	94	2693	N.D.		
6) Chloroethane	2.82	64	3478	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	3.58	67	22815	1.2189	ug/L	94
11) propyleneoxide	3.92	58	15350	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	3.89	101	14514	0.9309	ug/L	97
15) Acetone	3.94	43	47592	Below Cal		97
16) Iodomethane	4.02	142	5655	N.D.		
17) Carbon Dislf	4.11	76	13882	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	4.71	59	4638	Below Cal #		54
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	0.00	42	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL1316\744408.D Vial: 11
Acq On : 13 Jul 2016 19:15 Operator: AGK-RLD
Sample : 127773,744408, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 13 19:35:56 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 08 13:47:47 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39) Chloroform	6.50	83	13723	0.4353	ug/L	88
40) 111trichlota	6.75	97	5520	N.D.		
42) Cyclohexane	0.00	56	0	N.D.		
43) Carbtetraclo	6.96	119	41190	1.8323	ug/L	98
44) 11dicloprope	0.00	110	0	N.D.		
46) Benzene	0.00	78	0	N.D.		
47) 12dichlorota	0.00	62	0	N.D.		
48) TAME	0.00	73	0	N.D.		
49) trichloroete	0.00	95	0	N.D.		
50) methylcyclohexane	0.00	83	0	N.D.		
51) 12dicloropra	0.00	63	0	N.D.		
52) 23Dicl1propene	0.00	75	0	N.D.		
53) Dibromometha	0.00	93	0	N.D.		
54) methylmethacrylate	0.00	69	0	N.D.		
55) 14dioxane	8.44	88	34917	89.5659	ug/L	96
56) Bromodiclrma	0.00	83	0	N.D.		
57) 2Nitropropane	0.00	43	0	N.D.		
58) 2CLEVE	0.00	63	0	N.D.		
59) c13dicloproe	0.00	75	0	N.D.		
60) 4Meth2Pentan	0.00	43	0	N.D.		
62) Toluene	9.62	92	6414	N.D.		
63) t13Dicloprop	0.00	75	0	N.D.		
64) ethylmethacrylate	0.00	69	0	N.D.		
65) 112Triclotha	0.00	83	0	N.D.		
66) Tetrachlorte	0.00	166	0	N.D.		
67) 13Diclorpropa	0.00	76	0	N.D.		
69) 2Hexanone	10.46	43	3203	Below	Cal #	27
70) Clorodibrmta	0.00	129	0	N.D.		
71) 12Dibrometha	0.00	107	0	N.D.		
72) Chlorobenzen	0.00	112	0	N.D.		
73) 1Clhexane	11.44	91	3316	N.D.		
74) 1112Tetclota	0.00	131	0	N.D.		
75) Ethylbenzene	11.66	91	4095	N.D.		
76) m p-Xylene	11.80	106	4366	N.D.		
77) o-Xylene	0.00	106	0	N.D.		
78) Styrene	0.00	104	0	N.D.		
79) Bromoform	0.00	173	0	N.D.		
80) Isopropylben	0.00	105	0	N.D.		
81) cyclohexanone	12.95	55	2859	N.D.		
84) Bromobenzene	0.00	156	0	N.D.		
85) 1122Tetrclta	0.00	83	0	N.D.		
86) 123Triclproa	0.00	75	0	N.D.		
87) 14dichloro2butene	0.00	53	0	N.D.		
88) n-Propylbenz	0.00	91	0	N.D.		
89) 2chlorotolue	0.00	91	0	N.D.		
90) 4chlorotolue	0.00	91	0	N.D.		
91) 135Trimebenz	0.00	105	0	N.D.		
92) tbutylbenzen	0.00	119	0	N.D.		
93) 124Trimetben	14.26	105	4128	N.D.		
94) sbutylbenzen	0.00	105	0	N.D.		
95) 13Diclorbenz	0.00	146	0	N.D.		
96) pIsopropylto	0.00	119	0	N.D.		
97) 14dichlorobe	0.00	146	0	N.D.		
98) 12dichlorobe	0.00	146	0	N.D.		
99) nButylbenzen	15.26	91	5001	N.D.		
100) 12dibromo3cl	0.00	157	0	N.D.		
101) 135Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL1316\744408.D Vial: 11
Acq On : 13 Jul 2016 19:15 Operator: AGK-RLD
Sample : 127773,744408, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 13 19:35:56 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 08 13:47:47 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	0.00	128	0	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

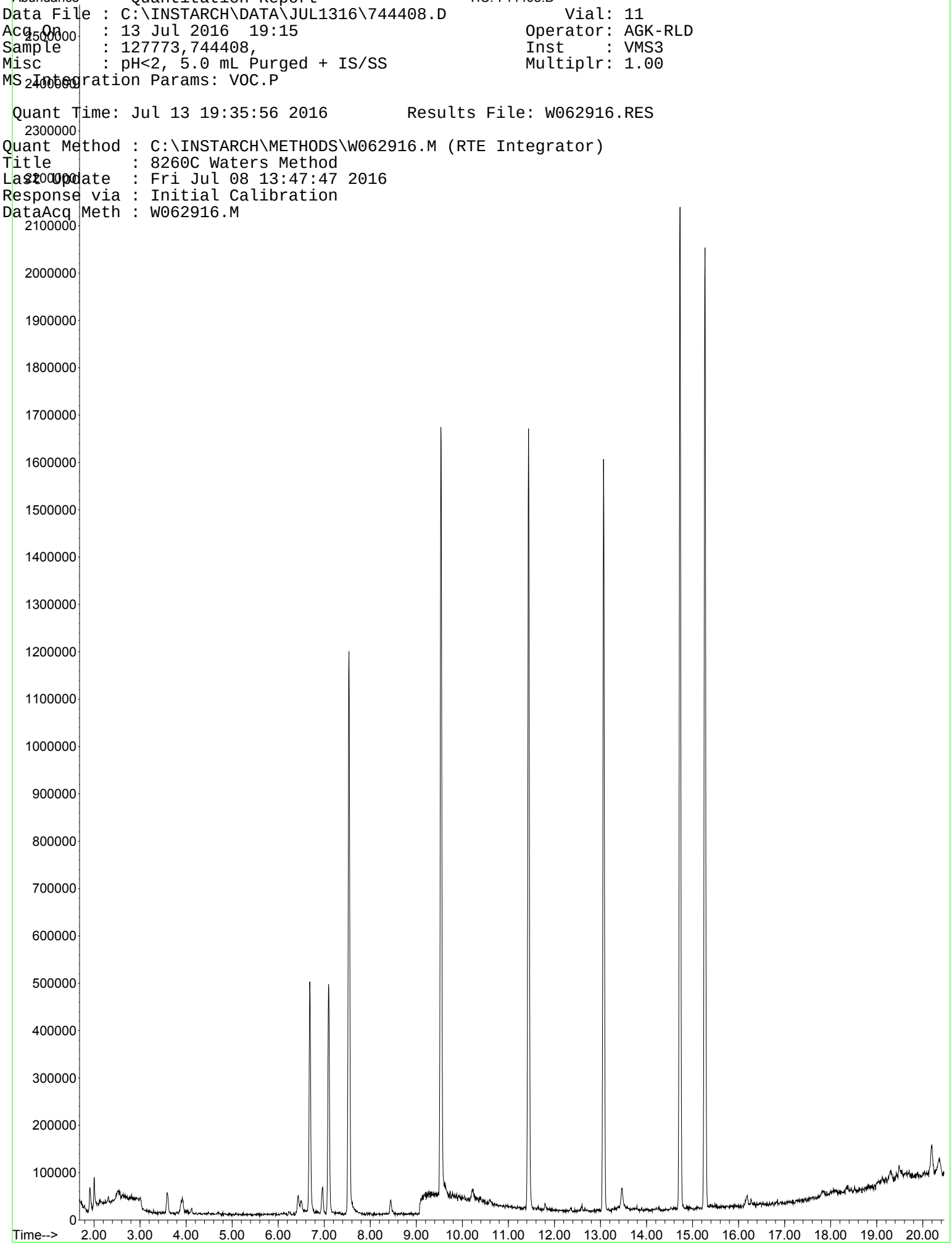
(#) = qualifier out of range (m) = manual integration

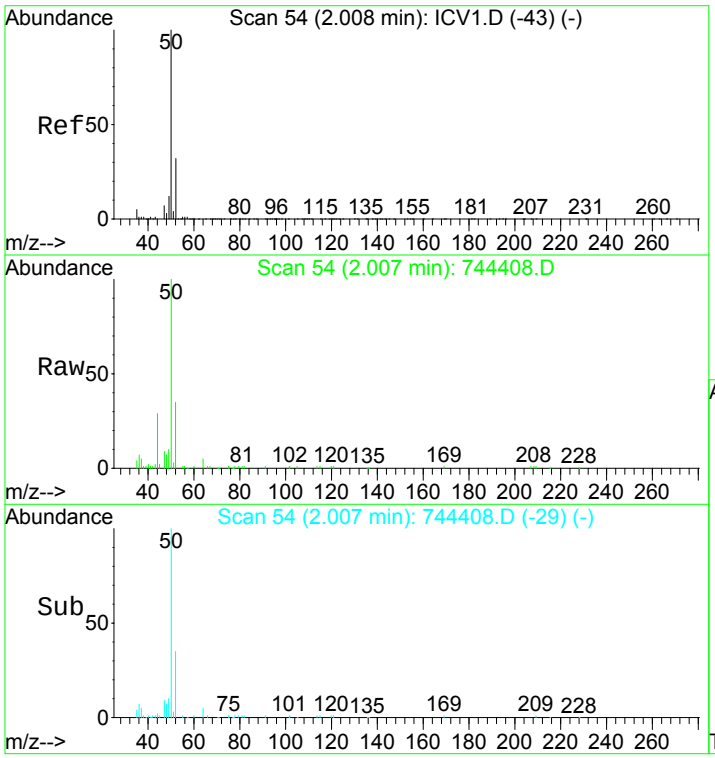
Abundance Quantitation Report TIC: 744408.D

Data File : C:\INSTARCH\DATA\JUL1316\744408.D Vial: 11
Acq On : 13 Jul 2016 19:15 Operator: AGK-RLD
Sample : 127773,744408, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 13 19:35:56 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 08 13:47:47 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M

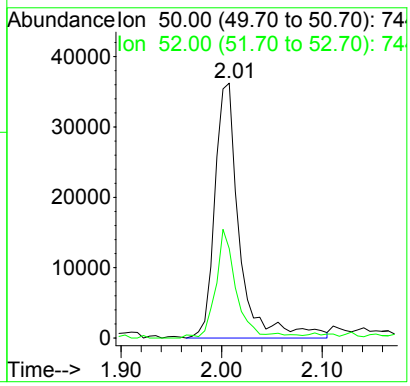


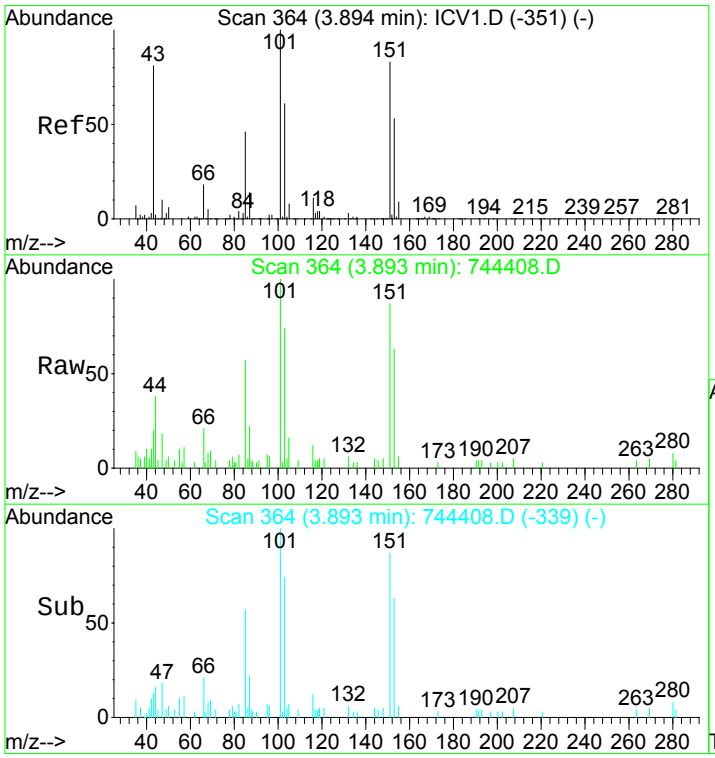


#3
Chloromethan
Concen: 2.56 ug/L
RT: 2.01 min Scan# 54
Delta R.T. -0.00 min
Lab File: 744408.D
Acq: 13 Jul 2016 19:15

Tgt Ion: 50 Resp: 61483

Ion	Ratio	Lower	Upper
50	100		
52	38.2	13.1	53.1

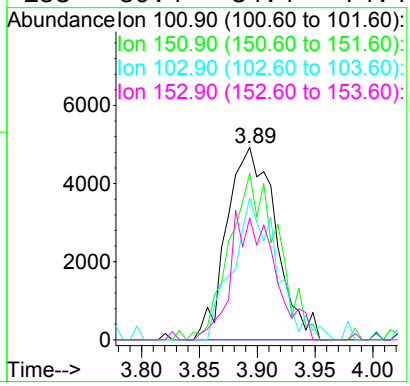


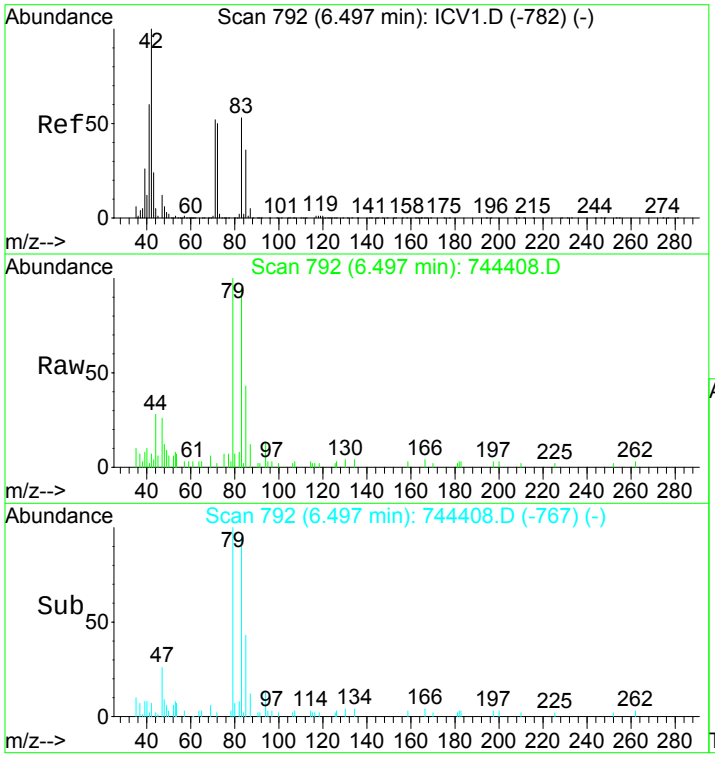


#14
Trichlorotfluoroeth
Concen: 0.93 ug/L
RT: 3.89 min Scan# 364
Delta R.T. -0.00 min
Lab File: 744408.D
Acq: 13 Jul 2016 19:15

Tgt Ion:101 Resp: 14514

Ion	Ratio	Lower	Upper
101	100		
151	85.0	64.7	104.7
103	66.1	43.5	83.5
153	59.4	34.4	74.4

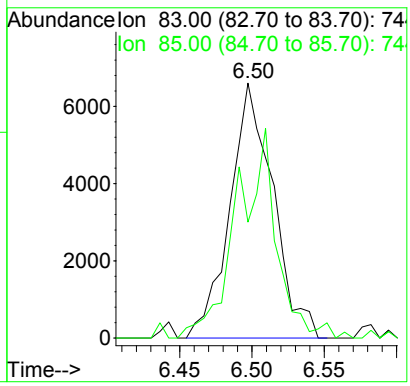


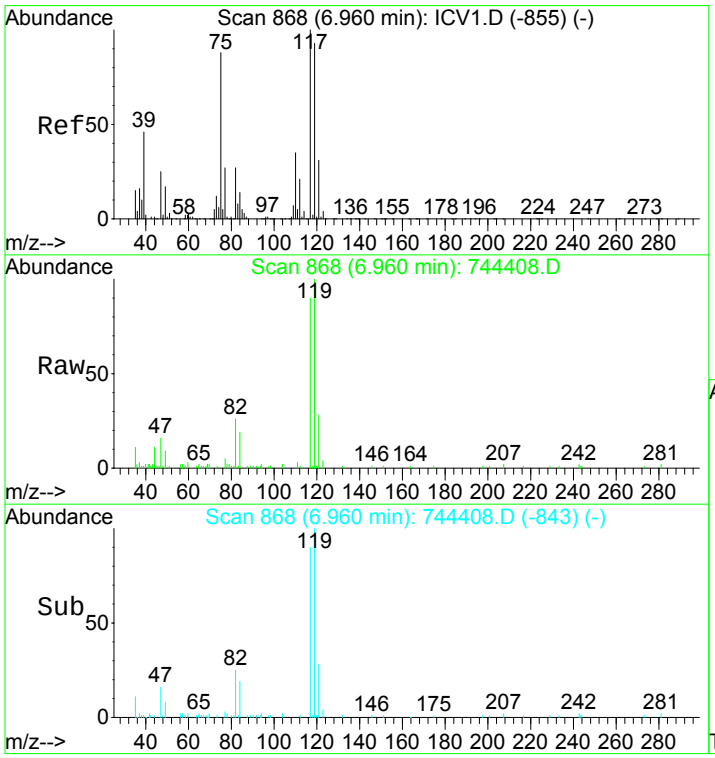


#39
Chloroform
Concen: 0.44 ug/L
RT: 6.50 min Scan# 792
Delta R.T. -0.00 min
Lab File: 744408.D
Acq: 13 Jul 2016 19:15

Tgt Ion: 83 Resp: 13723

Ion	Ratio	Lower	Upper
83	100		
85	76.0	46.5	86.5

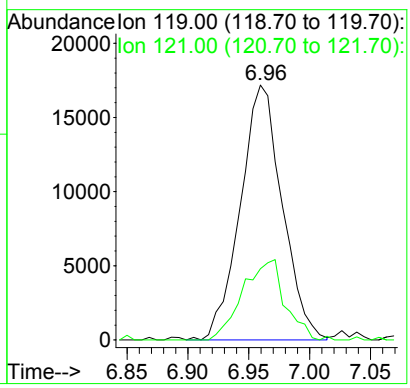


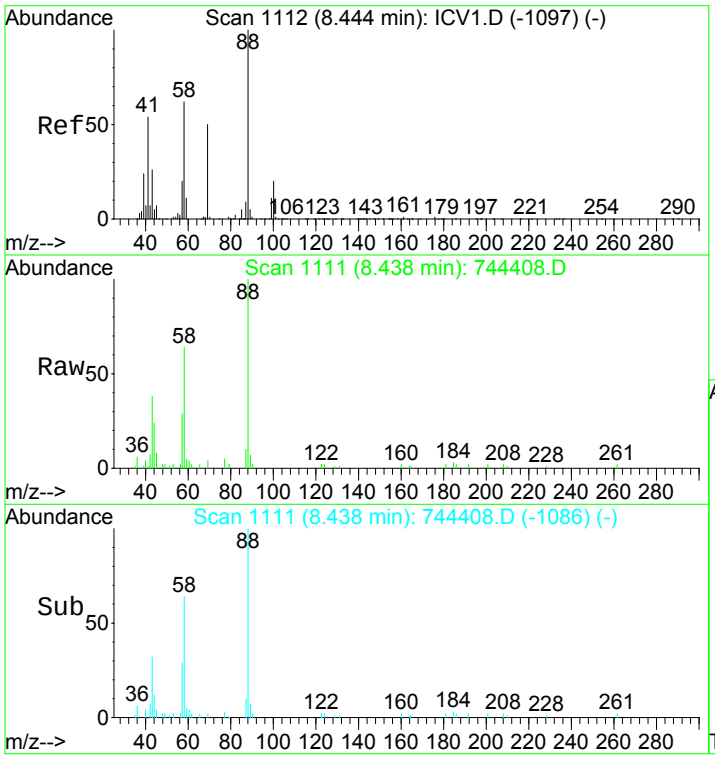


#43
Carbtetraclo
Concen: 1.83 ug/L
RT: 6.96 min Scan# 868
Delta R.T. -0.00 min
Lab File: 744408.D
Acq: 13 Jul 2016 19:15

Tgt Ion:119 Resp: 41190

Ion	Ratio	Lower	Upper
119	100		
121	31.6	10.7	50.7

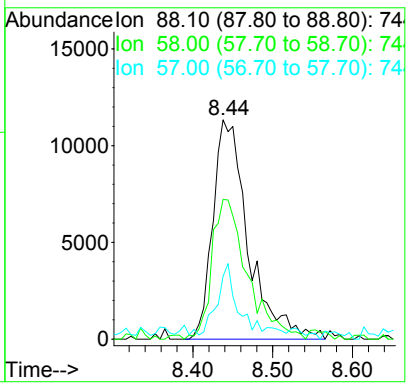




#55
14dioxane
Concen: 89.57 ug/L
RT: 8.44 min Scan# 1111
Delta R.T. -0.00 min
Lab File: 744408.D
Acq: 13 Jul 2016 19:15

Tgt Ion: 88 Resp: 34917

Ion	Ratio	Lower	Upper
88	100		
58	63.6	46.5	86.5
57	19.4	2.1	42.1



Quantitation Report

Data File : C:\INSTARCH\DATA\JUL1316\744411.D Vial: 12
Acq On : 13 Jul 2016 19:45 Operator: AGK-RLD
Sample : 127773,744411, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 13 20:05:50 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 08 13:47:47 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.54	96	1356531	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.44	117	1242661	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.73	152	821020	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.69	113	341514	19.123	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 96 %			
45) SURR12DCAd4	7.10	102	93163	19.090	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 95 %			
61) SURRd8Tolule	9.54	98	1455561	20.246	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101 %			
83) SURR4BrFBenz	13.07	95	702690	19.280	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 96 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	2.00	50	45095	1.8244	ug/L	95
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	0.00	94	0	N.D.		
6) Chloroethane	2.74	64	3279	N.D.		
7) Dichloroflmethane	3.03	67	2527	N.D.		
8) Trichlorofma	3.15	101	3515	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	3.93	58	11464	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	3.93	43	33435	Below Cal		99
16) Iodomethane	4.03	142	3461	N.D.		
17) Carbon Dislf	4.11	76	7378	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	4.71	59	5701	Below Cal #		54
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	5.39	63	12419	0.3871	ug/L #	87
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	6.11	96	8032	0.3964	ug/L	98
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	0.00	42	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL1316\744411.D Vial: 12
Acq On : 13 Jul 2016 19:45 Operator: AGK-RLD
Sample : 127773,744411, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 13 20:05:50 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 08 13:47:47 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39) Chloroform	6.51	83	6167	0.1897 ug/L	97
40) 111trichlota	6.73	97	7304	0.2503 ug/L	91
42) Cyclohexane	0.00	56	0	N.D.	
43) Carbtetraclo	6.95	119	14133	0.6097 ug/L	94
44) 11dicloprope	0.00	110	0	N.D.	
46) Benzene	0.00	78	0	N.D.	
47) 12dichlorota	0.00	62	0	N.D.	
48) TAME	0.00	73	0	N.D.	
49) trichloroete	8.00	95	33679	1.7323 ug/L	99
50) methylcyclohexane	0.00	83	0	N.D.	
51) 12dicloropra	0.00	63	0	N.D.	
52) 23Dicl1propene	0.00	75	0	N.D.	
53) Dibromometha	0.00	93	0	N.D.	
54) methylmethacrylate	0.00	69	0	N.D.	
55) 14dioxane	8.44	88	36944	91.9018 ug/L	99
56) Bromodiclrma	0.00	83	0	N.D.	
57) 2Nitropropane	0.00	43	0	N.D.	
58) 2CLEVE	0.00	63	0	N.D.	
59) c13dicloproe	0.00	75	0	N.D.	
60) 4Meth2Pentan	0.00	43	0	N.D.	
62) Toluene	9.62	92	5680	N.D.	
63) t13Dicloprop	0.00	75	0	N.D.	
64) ethylmethacrylate	0.00	69	0	N.D.	
65) 112Triclotha	0.00	83	0	N.D.	
66) Tetrachlorte	10.35	166	5765	0.2539 ug/L	96
67) 13Diclorpropa	0.00	76	0	N.D.	
69) 2Hexanone	0.00	43	0	N.D.	
70) Clorodibrmta	0.00	129	0	N.D.	
71) 12Dibrometha	0.00	107	0	N.D.	
72) Chlorobenzen	0.00	112	0	N.D.	
73) 1Clhexane	11.44	91	3921	N.D.	
74) 1112Tetclota	0.00	131	0	N.D.	
75) Ethylbenzene	11.64	91	3806	N.D.	
76) m p-Xylene	11.80	106	4664	N.D.	
77) o-Xylene	0.00	106	0	N.D.	
78) Styrene	0.00	104	0	N.D.	
79) Bromoform	0.00	173	0	N.D.	
80) Isopropylben	0.00	105	0	N.D.	
81) cyclohexanone	0.00	55	0	N.D.	
84) Bromobenzene	0.00	156	0	N.D.	
85) 1122Tetrclta	0.00	83	0	N.D.	
86) 123Triclproa	0.00	75	0	N.D.	
87) 14dichloro2butene	0.00	53	0	N.D.	
88) n-Propylbenz	0.00	91	0	N.D.	
89) 2chlorotolue	0.00	91	0	N.D.	
90) 4chlorotolue	0.00	91	0	N.D.	
91) 135Trimebenz	0.00	105	0	N.D.	
92) tbutylbenzen	0.00	119	0	N.D.	
93) 124Trimetben	14.25	105	3738	N.D.	
94) sbutylbenzen	0.00	105	0	N.D.	
95) 13Diclorbenz	0.00	146	0	N.D.	
96) pIsopropylto	0.00	119	0	N.D.	
97) 14dichlorobe	0.00	146	0	N.D.	
98) 12dichlorobe	0.00	146	0	N.D.	
99) nButylbenzen	15.26	91	4639	N.D.	
100) 12dibromo3cl	0.00	157	0	N.D.	
101) 135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL1316\744411.D Vial: 12
Acq On : 13 Jul 2016 19:45 Operator: AGK-RLD
Sample : 127773,744411, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 13 20:05:50 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 08 13:47:47 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	0.00	128	0	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

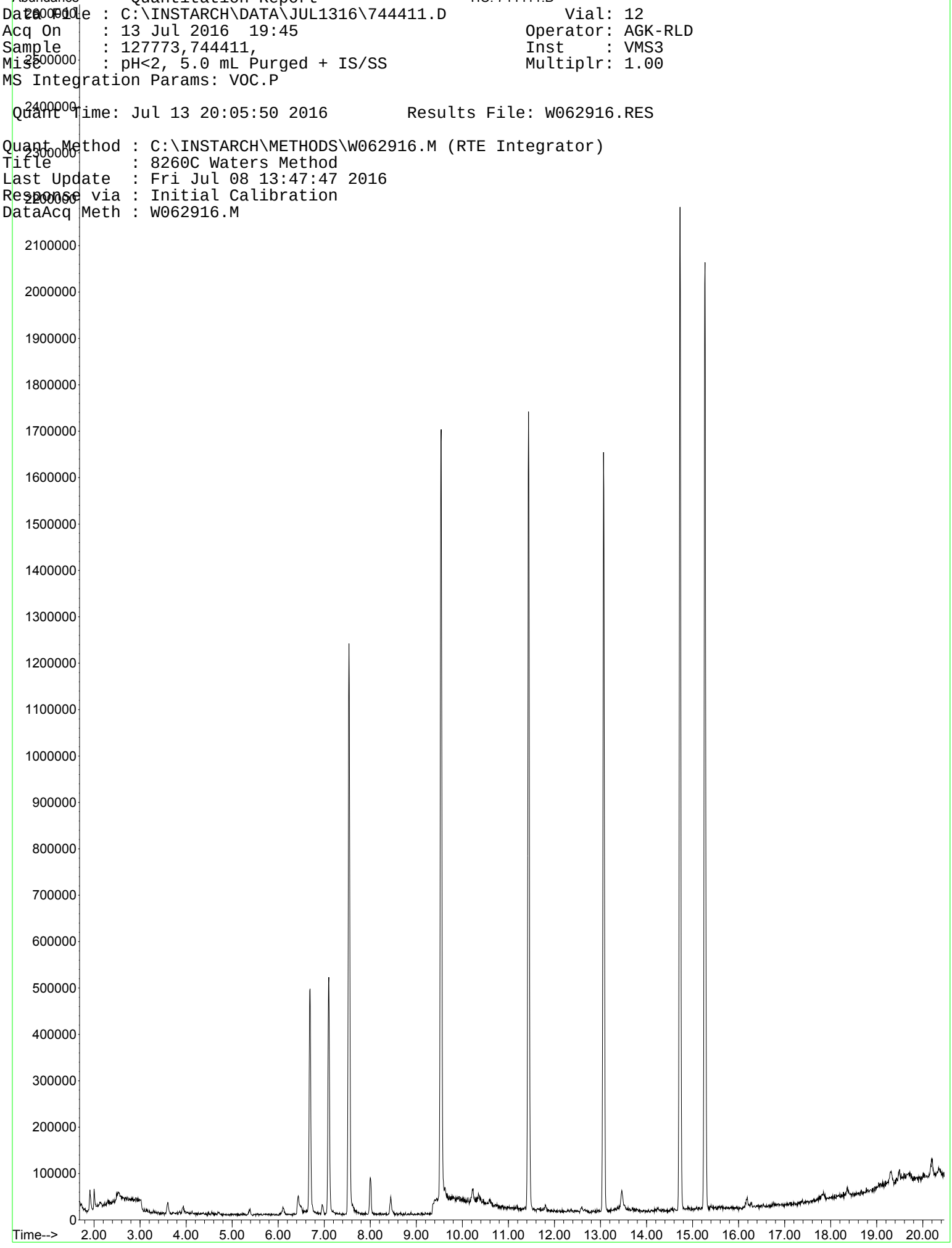
(#) = qualifier out of range (m) = manual integration

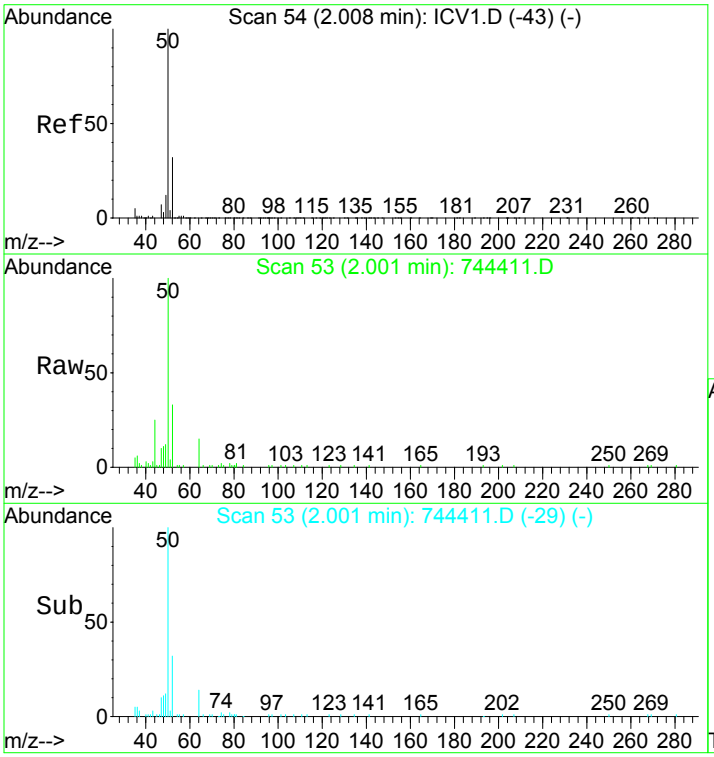
Abundance Quantitation Report TIC: 744411.D

Data File : C:\INSTARCH\DATA\JUL1316\744411.D Vial: 12
Acq On : 13 Jul 2016 19:45 Operator: AGK-RLD
Sample : 127773,744411, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 13 20:05:50 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 08 13:47:47 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M

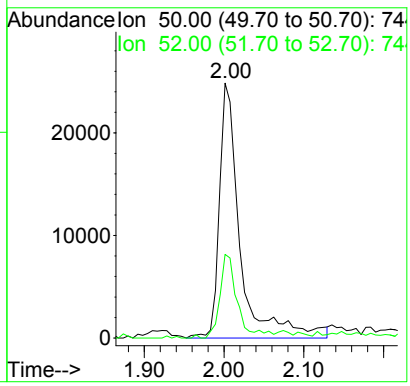


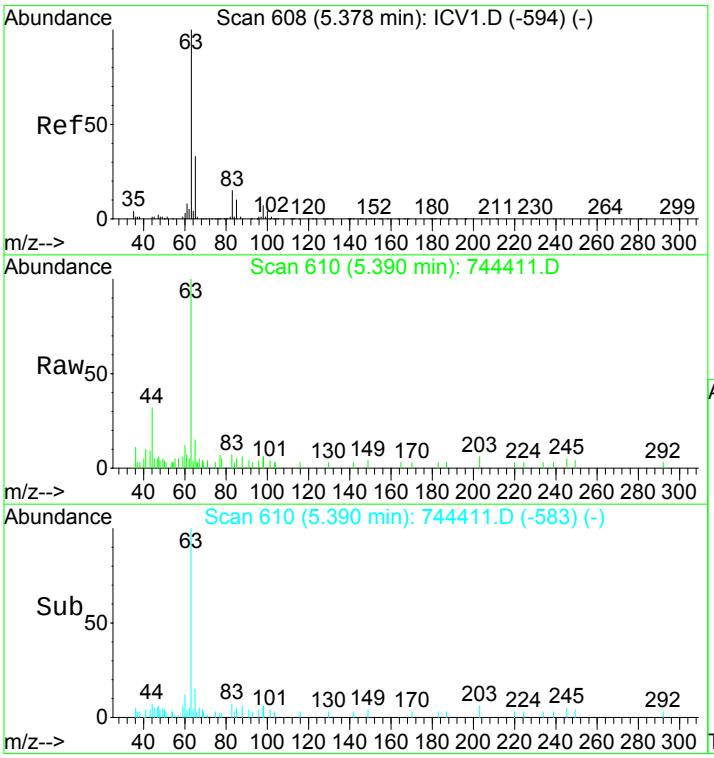


#3
Chloromethan
Concen: 1.82 ug/L
RT: 2.00 min Scan# 53
Delta R.T. -0.01 min
Lab File: 744411.D
Acq: 13 Jul 2016 19:45

Tgt Ion: 50 Resp: 45095

Ion	Ratio	Lower	Upper
50	100		
52	30.5	13.1	53.1

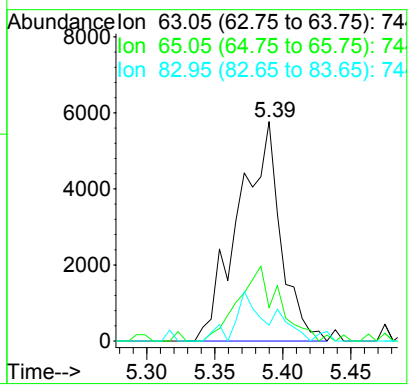


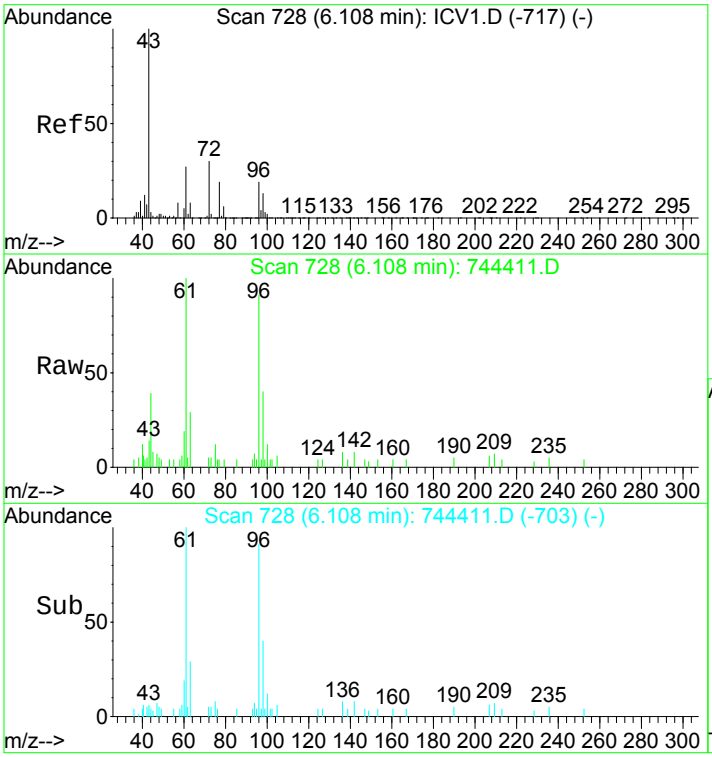


#26
11dichlorota
Concen: 0.39 ug/L
RT: 5.39 min Scan# 610
Delta R.T. 0.01 min
Lab File: 744411.D
Acq: 13 Jul 2016 19:45

Tgt Ion: 63 Resp: 12419

Ion	Ratio	Lower	Upper
63	100		
65	33.5	12.2	52.2
83	0.0	0.0	34.6

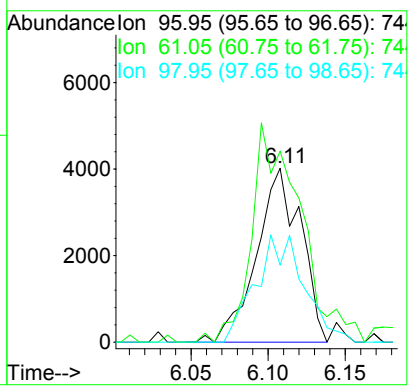


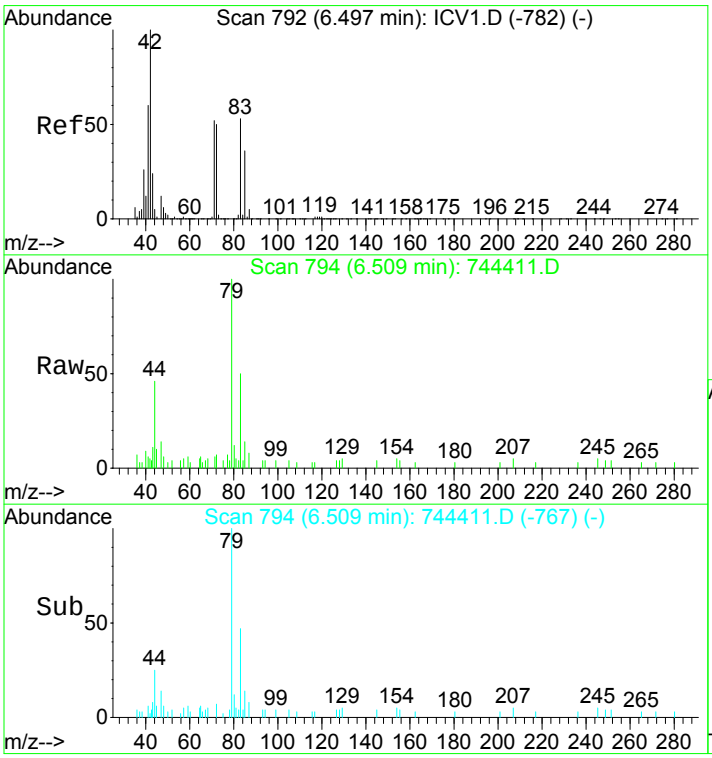


#32
c12dichlorte
Concen: 0.40 ug/L
RT: 6.11 min Scan# 728
Delta R.T. -0.00 min
Lab File: 744411.D
Acq: 13 Jul 2016 19:45

Tgt Ion: 96 Resp: 8032

Ion	Ratio	Lower	Upper
96	100		
61	138.8	120.2	160.2
98	67.5	45.2	85.2

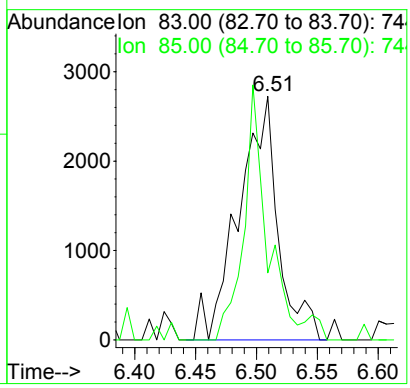


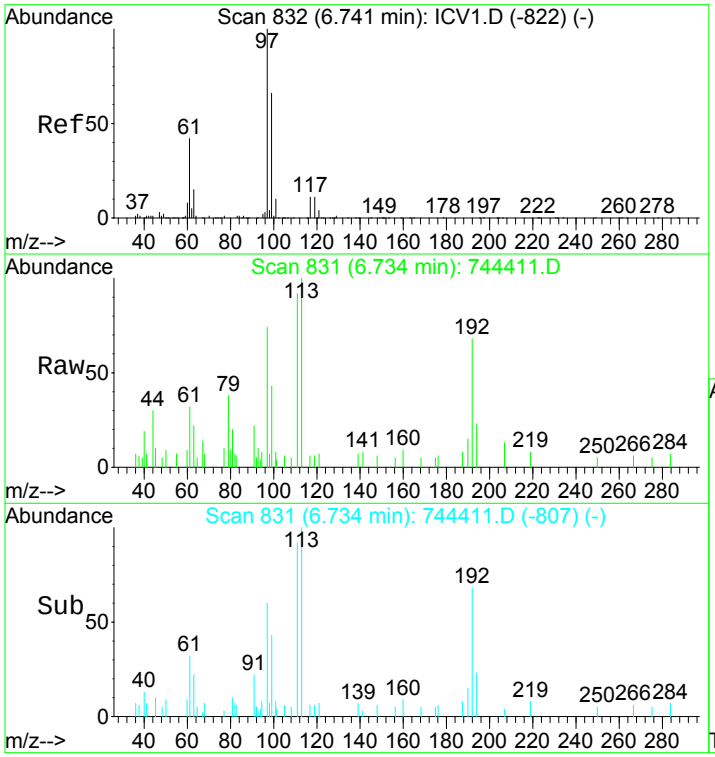


#39
Chloroform
Concen: 0.19 ug/L
RT: 6.51 min Scan# 794
Delta R.T. 0.01 min
Lab File: 744411.D
Acq: 13 Jul 2016 19:45

Tgt Ion: 83 Resp: 6167

Ion	Ratio	Lower	Upper
83	100		
85	64.5	46.5	86.5

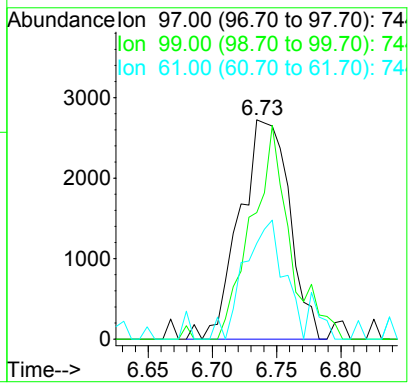


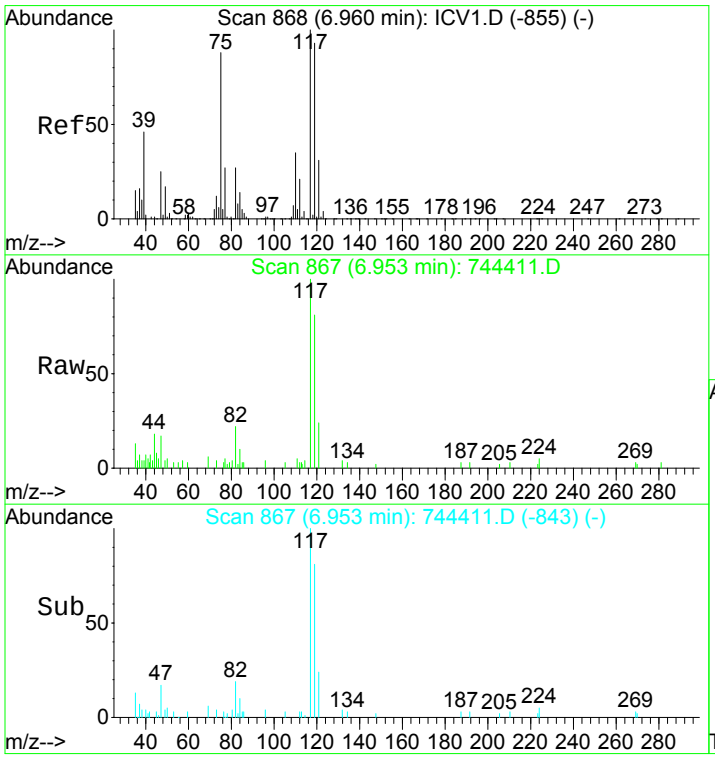


#40
111trichlota
Concen: 0.25 ug/L
RT: 6.73 min Scan# 831
Delta R.T. -0.01 min
Lab File: 744411.D
Acq: 13 Jul 2016 19:45

Tgt Ion: 97 Resp: 7304

Ion	Ratio	Lower	Upper
97	100		
99	75.6	46.1	86.1
61	43.3	21.4	61.4

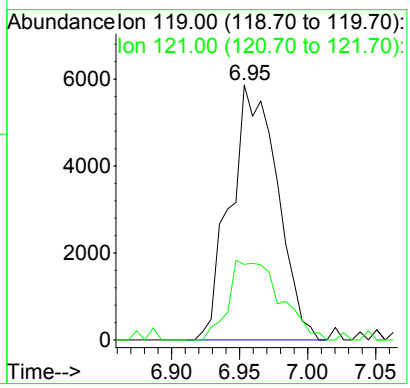


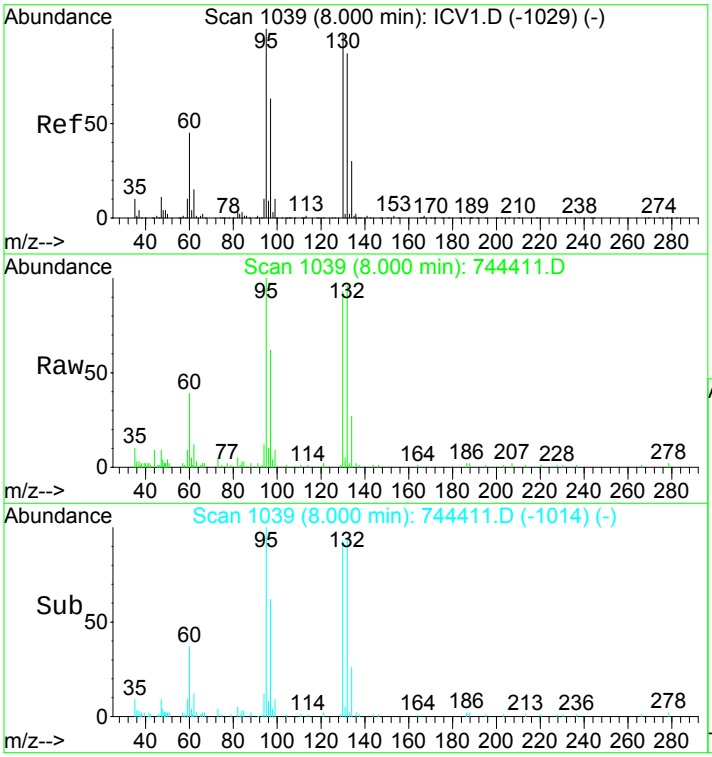


#43
Carbtetraclo
Concen: 0.61 ug/L
RT: 6.95 min Scan# 867
Delta R.T. -0.01 min
Lab File: 744411.D
Acq: 13 Jul 2016 19:45

Tgt Ion:119 Resp: 14133

Ion	Ratio	Lower	Upper
119	100		
121	34.1	10.7	50.7

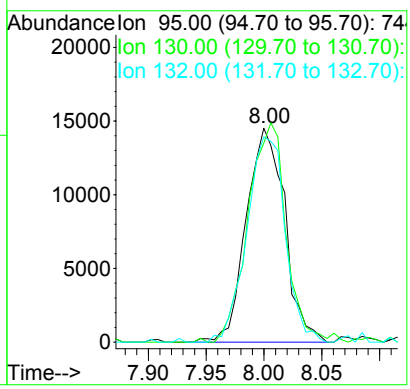


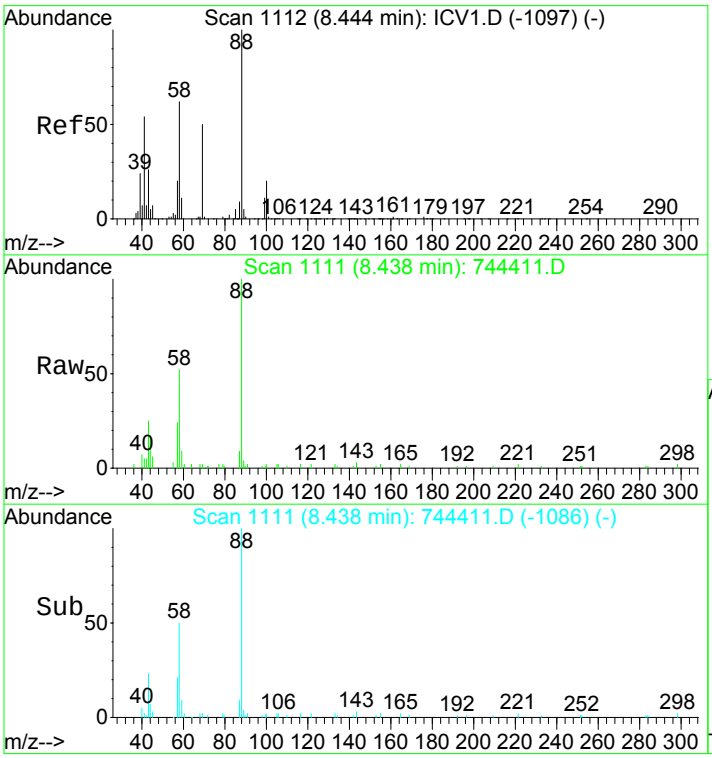


#49
trichloroete
Concen: 1.73 ug/L
RT: 8.00 min Scan# 1039
Delta R.T. -0.00 min
Lab File: 744411.D
Acq: 13 Jul 2016 19:45

Tgt Ion: 95 Resp: 33679

Ion	Ratio	Lower	Upper
95	100		
130	101.2	82.7	122.7
132	95.7	74.7	114.7

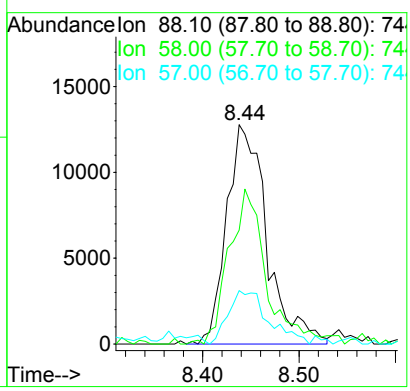


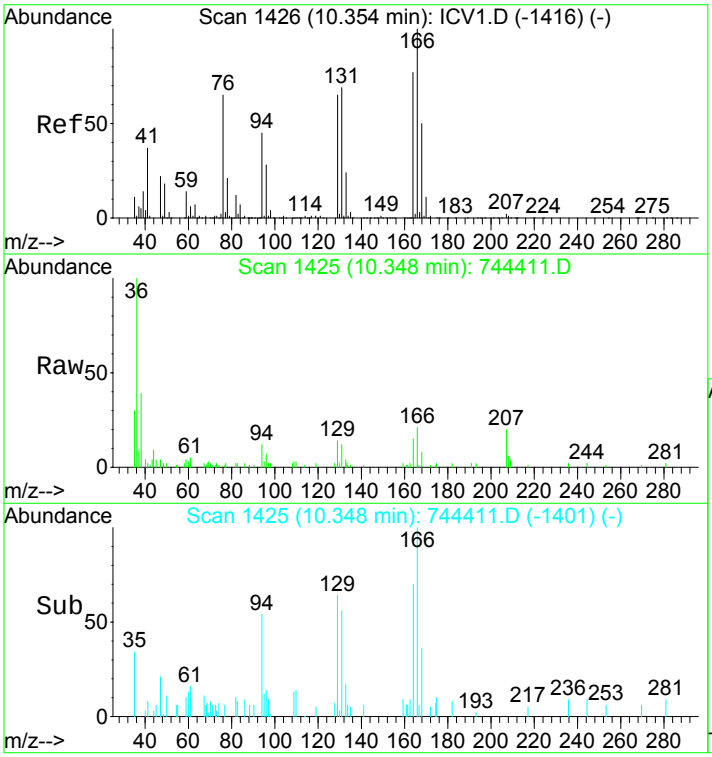


#55
14dioxane
Concen: 91.90 ug/L
RT: 8.44 min Scan# 1111
Delta R.T. -0.00 min
Lab File: 744411.D
Acq: 13 Jul 2016 19:45

Tgt Ion: 88 Resp: 36944

Ion	Ratio	Lower	Upper
88	100		
58	66.5	46.5	86.5
57	24.2	2.1	42.1

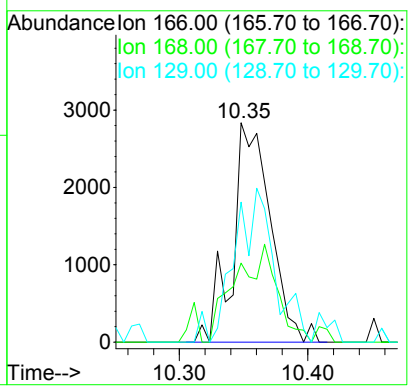




#66
Tetrachlorte
Concen: 0.25 ug/L
RT: 10.35 min Scan# 1425
Delta R.T. -0.01 min
Lab File: 744411.D
Acq: 13 Jul 2016 19:45

Tgt Ion:166 Resp: 5765

Ion	Ratio	Lower	Upper
166	100		
168	49.8	29.7	69.7
129	74.9	48.8	88.8



Quantitation Report

Data File : C:\INSTARCH\DATA\JUL1316\744414.D Vial: 13
Acq On : 13 Jul 2016 20:14 Operator: AGK-RLD
Sample : 127773,744414, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 13 20:34:56 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 08 13:47:47 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.54	96	1265045	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.44	117	1184806	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.73	152	792986	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.69	113	316979	19.033	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 95 %			
45) SURR12DCAd4	7.09	102	86399	18.984	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 95 %			
61) SURRd8Tolule	9.53	98	1375759	20.520	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 103 %			
83) SURR4BrFBenz	13.07	95	654027	18.579	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 93 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	2.01	50	49967	2.1677	ug/L	96
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	2.62	94	2963	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	3.15	101	3275	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	3.59	67	3045	N.D.		
11) propyleneoxide	3.93	58	8320	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	3.93	43	31663	Below Cal		87
16) Iodomethane	4.03	142	5046	N.D.		
17) Carbon Dislf	4.11	76	6493	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	4.70	59	3727	Below Cal #		54
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	5.38	63	12158	0.4064	ug/L #	88
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	6.10	96	8998	0.4762	ug/L #	86
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	0.00	42	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL1316\744414.D Vial: 13
Acq On : 13 Jul 2016 20:14 Operator: AGK-RLD
Sample : 127773,744414, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 13 20:34:56 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 08 13:47:47 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39) Chloroform	6.49	83	5403	0.1782	ug/L	95
40) 111trichlota	6.75	97	6594	0.2423	ug/L	94
42) Cyclohexane	0.00	56	0	N.D.		
43) Carbtetraclo	6.96	119	15800	0.7309	ug/L	95
44) 11dicloprope	0.00	110	0	N.D.		
46) Benzene	0.00	78	0	N.D.		
47) 12dichlorota	0.00	62	0	N.D.		
48) TAME	0.00	73	0	N.D.		
49) trichloroete	7.99	95	31622	1.7441	ug/L	94
50) methylcyclohexane	0.00	83	0	N.D.		
51) 12dicloropra	0.00	63	0	N.D.		
52) 23Dicl1propene	0.00	75	0	N.D.		
53) Dibromometha	0.00	93	0	N.D.		
54) methylmethacrylate	0.00	69	0	N.D.		
55) 14dioxane	8.44	88	20513	54.7184	ug/L	96
56) Bromodiclrma	0.00	83	0	N.D.		
57) 2Nitropropane	0.00	43	0	N.D.		
58) 2CLEVE	0.00	63	0	N.D.		
59) c13dicloproe	0.00	75	0	N.D.		
60) 4Meth2Pentan	0.00	43	0	N.D.		
62) Toluene	9.63	92	5814	N.D.		
63) t13Dicloprop	0.00	75	0	N.D.		
64) ethylmethacrylate	0.00	69	0	N.D.		
65) 112Triclotha	0.00	83	0	N.D.		
66) Tetrachlorte	10.35	166	5858	0.2767	ug/L	96
67) 13Diclorpropa	0.00	76	0	N.D.		
69) 2Hexanone	0.00	43	0	N.D.		
70) Clorodibrmta	0.00	129	0	N.D.		
71) 12Dibrometha	0.00	107	0	N.D.		
72) Chlorobenzen	0.00	112	0	N.D.		
73) 1Clhexane	11.43	91	3694	N.D.		
74) 1112Tetclota	0.00	131	0	N.D.		
75) Ethylbenzene	11.65	91	3949	N.D.		
76) m p-Xylene	11.81	106	3918	N.D.		
77) o-Xylene	0.00	106	0	N.D.		
78) Styrene	0.00	104	0	N.D.		
79) Bromoform	0.00	173	0	N.D.		
80) Isopropylben	0.00	105	0	N.D.		
81) cyclohexanone	0.00	55	0	N.D.		
84) Bromobenzene	0.00	156	0	N.D.		
85) 1122Tetrclta	0.00	83	0	N.D.		
86) 123Triclproa	0.00	75	0	N.D.		
87) 14dichloro2butene	0.00	53	0	N.D.		
88) n-Propylbenz	0.00	91	0	N.D.		
89) 2chlorotolue	0.00	91	0	N.D.		
90) 4chlorotolue	0.00	91	0	N.D.		
91) 135Trimebenz	13.60	105	2592	N.D.		
92) tbutylbenzen	0.00	119	0	N.D.		
93) 124Trimetben	14.25	105	3203	N.D.		
94) sbutylbenzen	0.00	105	0	N.D.		
95) 13Diclorbenz	0.00	146	0	N.D.		
96) pIsopropylto	0.00	119	0	N.D.		
97) 14dichlorobe	0.00	146	0	N.D.		
98) 12dichlorobe	0.00	146	0	N.D.		
99) nButylbenzen	15.27	91	3070	N.D.		
100) 12dibromo3cl	0.00	157	0	N.D.		
101) 135Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL1316\744414.D Vial: 13
Acq On : 13 Jul 2016 20:14 Operator: AGK-RLD
Sample : 127773,744414, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 13 20:34:56 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 08 13:47:47 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	0.00	128	0	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

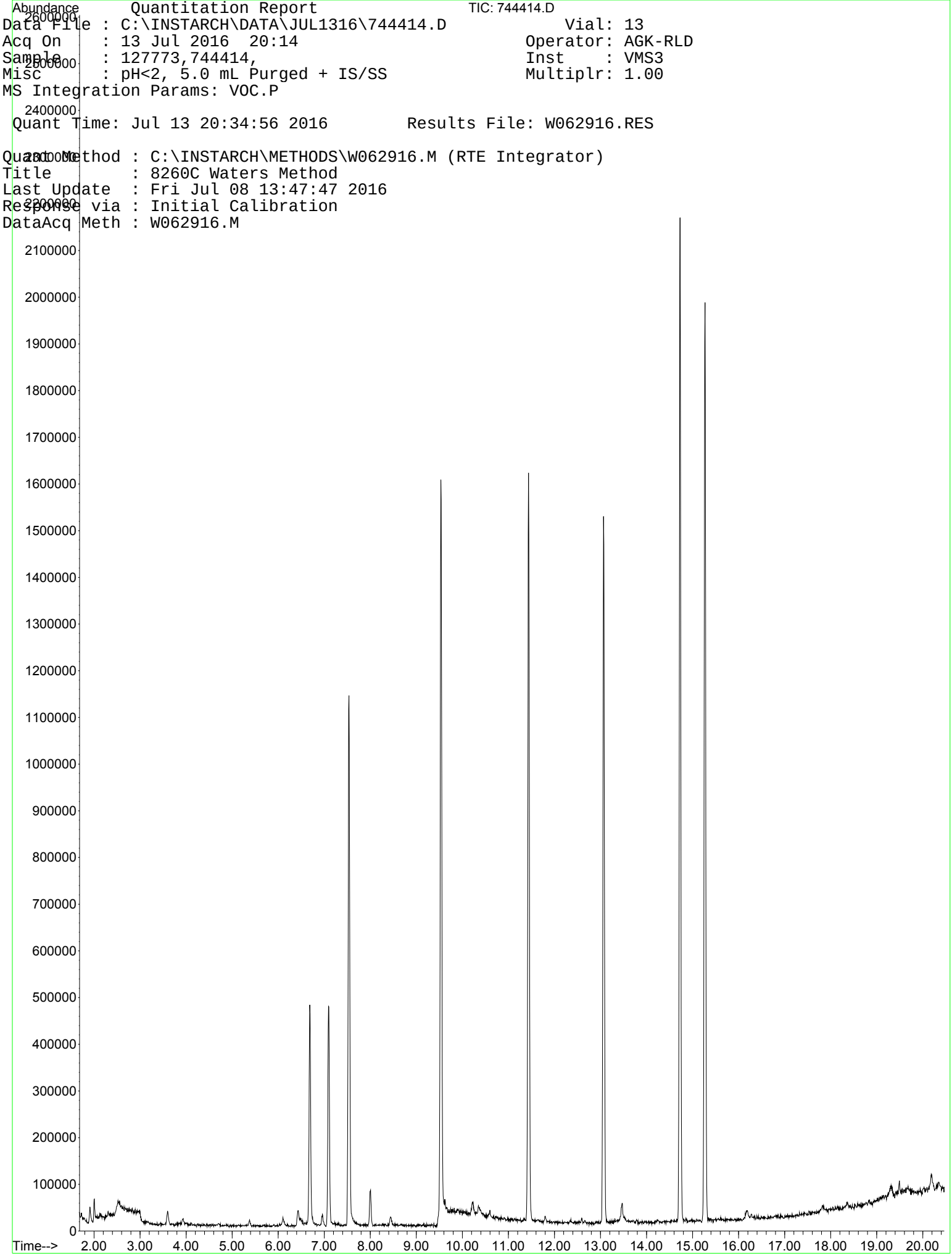
(#) = qualifier out of range (m) = manual integration

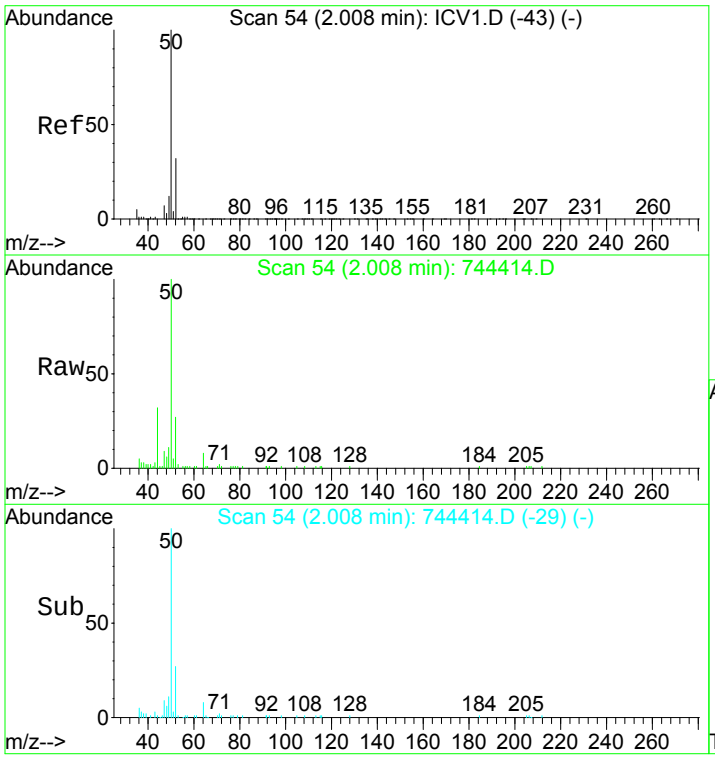
Abundance Quantitation Report TIC: 744414.D

Data File : C:\INSTARCH\DATA\JUL1316\744414.D Vial: 13
Acq On : 13 Jul 2016 20:14 Operator: AGK-RLD
Sample : 127773,744414, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 13 20:34:56 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 08 13:47:47 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M

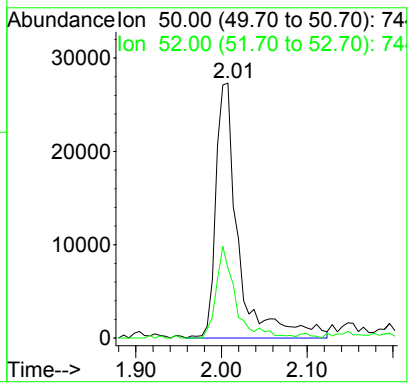


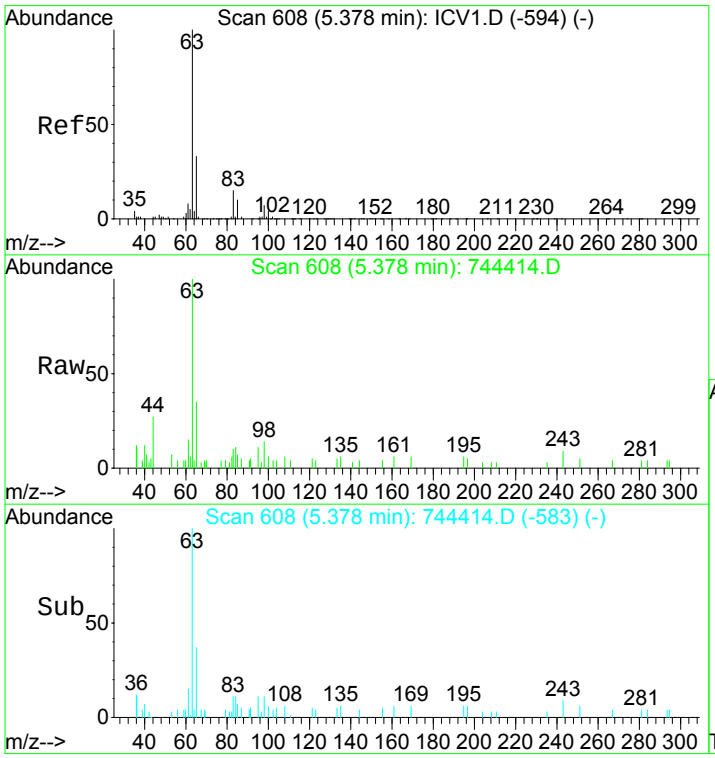


#3
Chloromethan
Concen: 2.17 ug/L
RT: 2.01 min Scan# 54
Delta R.T. -0.00 min
Lab File: 744414.D
Acq: 13 Jul 2016 20:14

Tgt Ion: 50 Resp: 49967

Ion	Ratio	Lower	Upper
50	100		
52	30.8	13.1	53.1

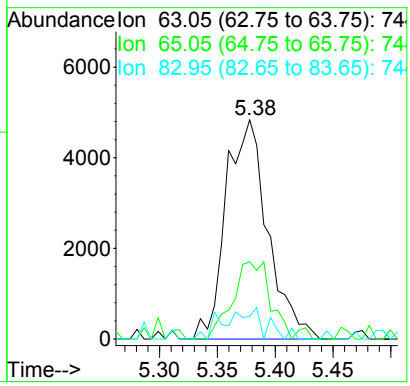


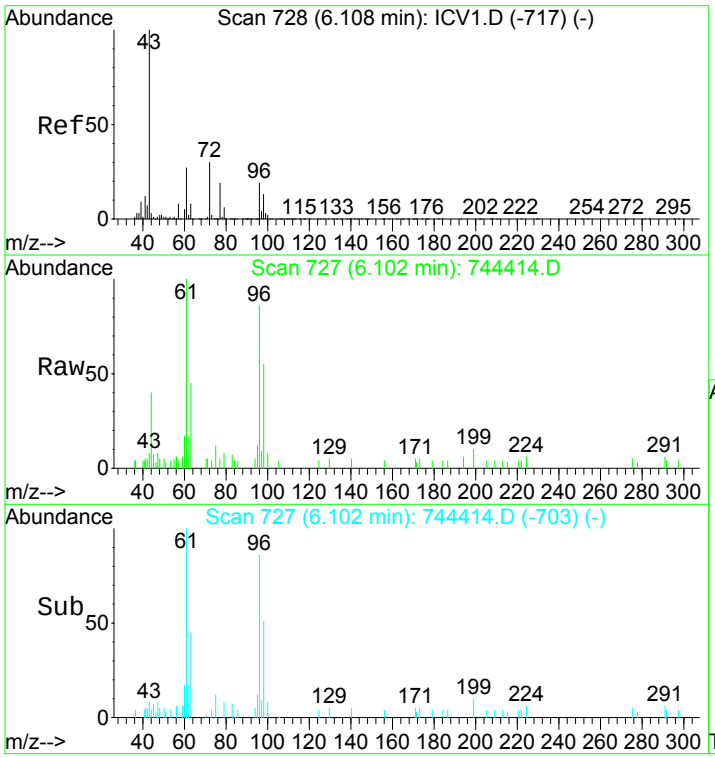


#26
11dichlorota
Concen: 0.41 ug/L
RT: 5.38 min Scan# 608
Delta R.T. -0.00 min
Lab File: 744414.D
Acq: 13 Jul 2016 20:14

Tgt Ion: 63 Resp: 12158

Ion	Ratio	Lower	Upper
63	100		
65	31.7	12.2	52.2
83	0.0	0.0	34.6

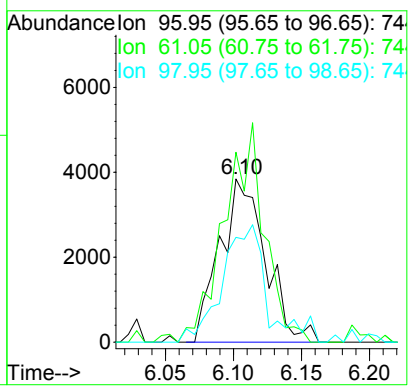


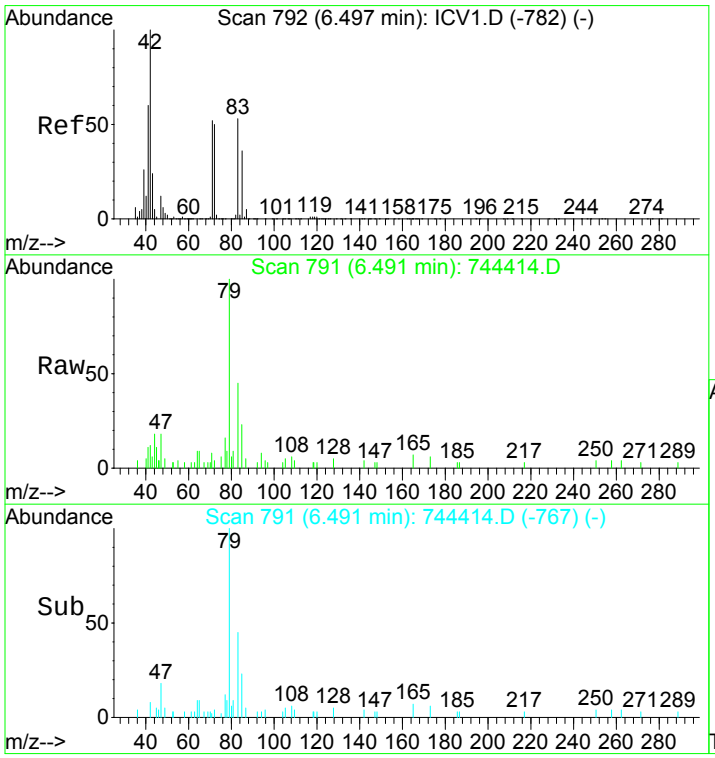


#32
c12dichlorte
Concen: 0.48 ug/L
RT: 6.10 min Scan# 727
Delta R.T. -0.01 min
Lab File: 744414.D
Acq: 13 Jul 2016 20:14

Tgt Ion: 96 Resp: 8998

Ion	Ratio	Lower	Upper
96	100		
61	118.7	120.2	160.2#
98	69.7	45.2	85.2

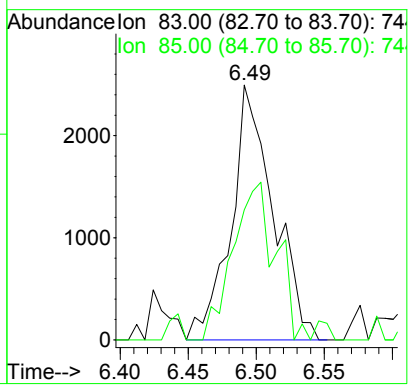


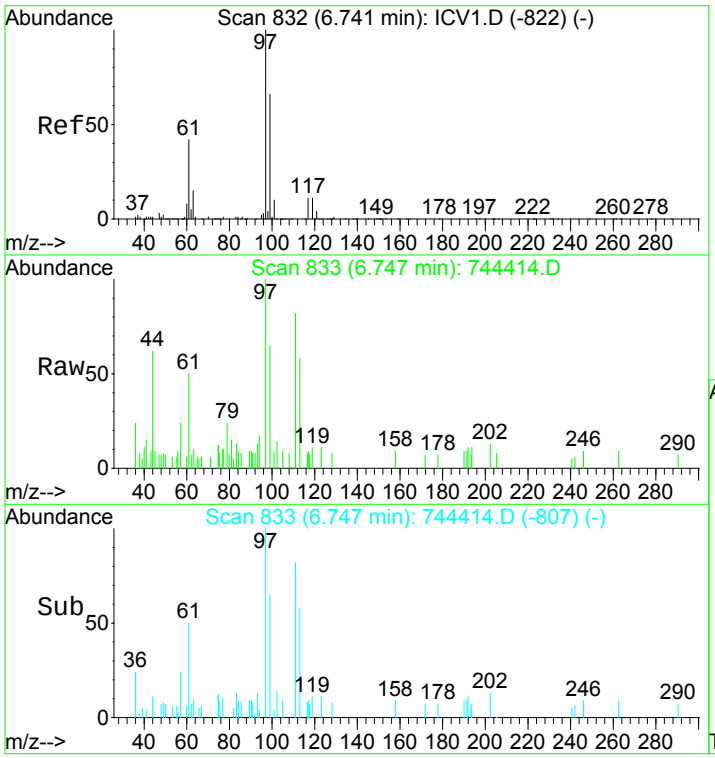


#39
Chloroform
Concen: 0.18 ug/L
RT: 6.49 min Scan# 791
Delta R.T. -0.01 min
Lab File: 744414.D
Acq: 13 Jul 2016 20:14

Tgt Ion: 83 Resp: 5403

Ion	Ratio	Lower	Upper
83	100		
85	62.9	46.5	86.5

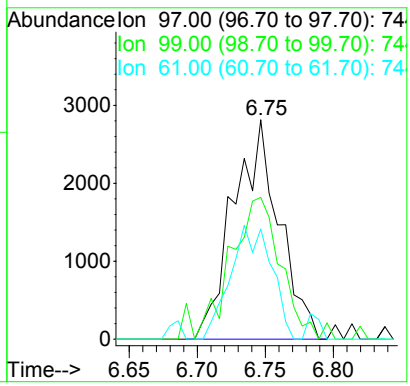


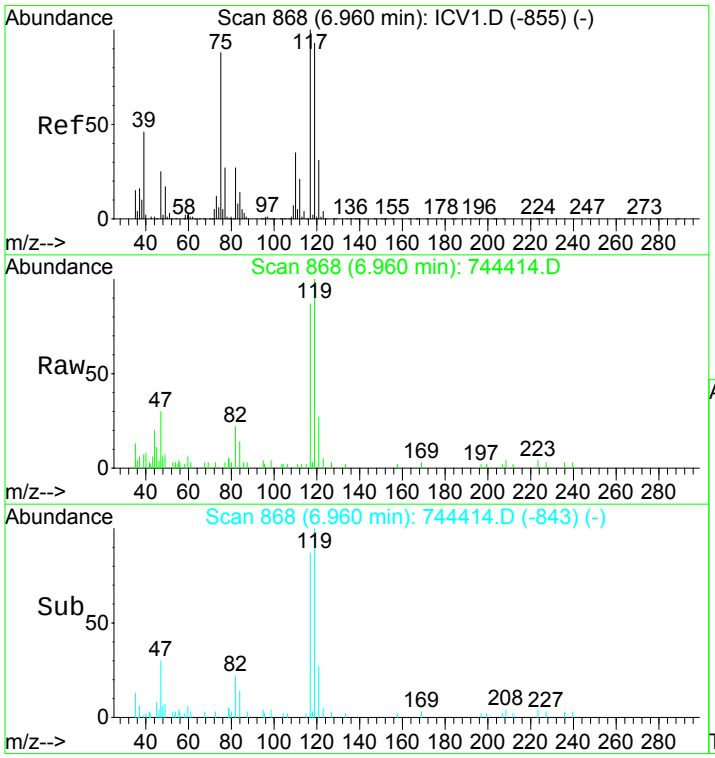


#40
111trichlota
Concen: 0.24 ug/L
RT: 6.75 min Scan# 833
Delta R.T. 0.01 min
Lab File: 744414.D
Acq: 13 Jul 2016 20:14

Tgt Ion: 97 Resp: 6594

Ion	Ratio	Lower	Upper
97	100		
99	70.3	46.1	86.1
61	46.5	21.4	61.4

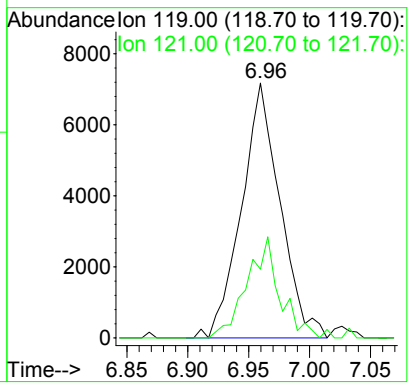


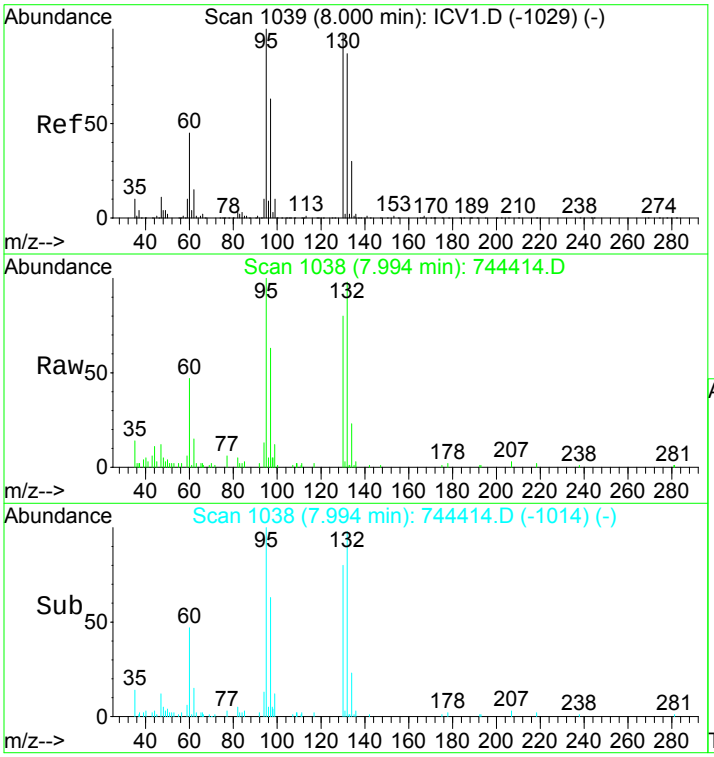


#43
Carbtetraclo
Concen: 0.73 ug/L
RT: 6.96 min Scan# 868
Delta R.T. -0.00 min
Lab File: 744414.D
Acq: 13 Jul 2016 20:14

Tgt Ion:119 Resp: 15800

Ion	Ratio	Lower	Upper
119	100		
121	33.6	10.7	50.7

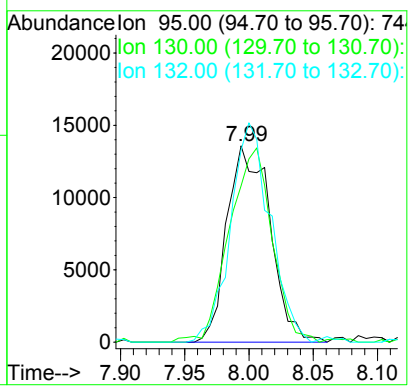


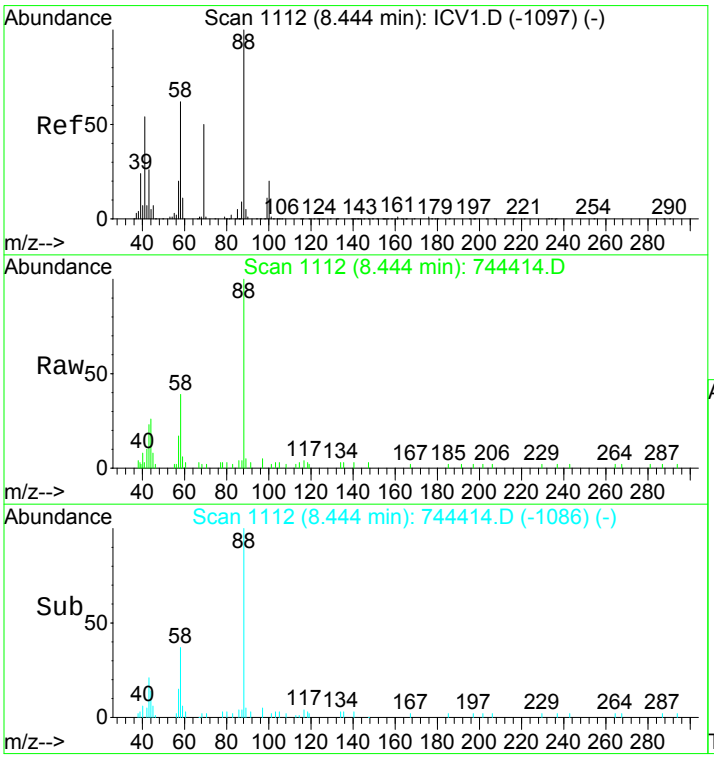


#49
trichloroete
Concen: 1.74 ug/L
RT: 7.99 min Scan# 1038
Delta R.T. -0.01 min
Lab File: 744414.D
Acq: 13 Jul 2016 20:14

Tgt Ion: 95 Resp: 31622

Ion	Ratio	Lower	Upper
95	100		
130	98.4	82.7	122.7
132	103.1	74.7	114.7

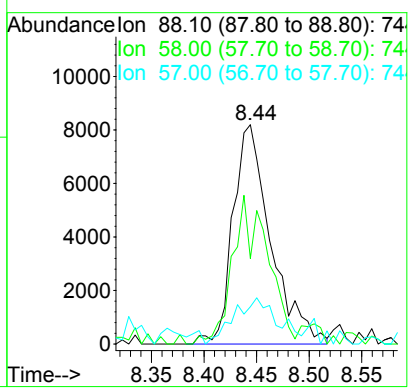


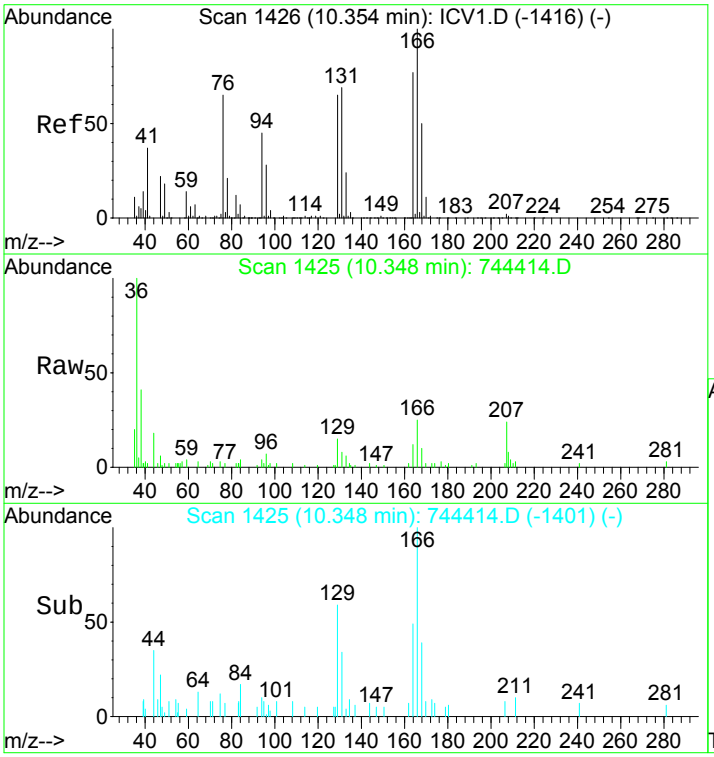


#55
14dioxane
Concen: 54.72 ug/L
RT: 8.44 min Scan# 1112
Delta R.T. 0.01 min
Lab File: 744414.D
Acq: 13 Jul 2016 20:14

Tgt Ion: 88 Resp: 20513

Ion	Ratio	Lower	Upper
88	100		
58	63.0	46.5	86.5
57	24.2	2.1	42.1

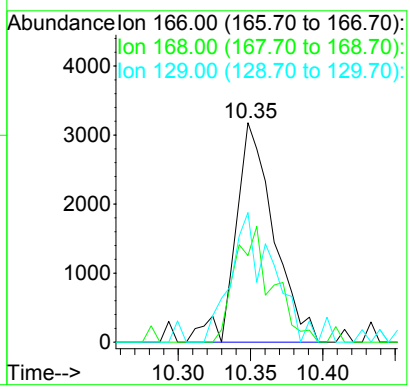




#66
Tetrachlorte
Concen: 0.28 ug/L
RT: 10.35 min Scan# 1425
Delta R.T. -0.01 min
Lab File: 744414.D
Acq: 13 Jul 2016 20:14

Tgt Ion:166 Resp: 5858

Ion	Ratio	Lower	Upper
166	100		
168	51.7	29.7	69.7
129	64.3	48.8	88.8



Quantitation Report

Data File : C:\INSTARCH\DATA\JUL1316\744416.D Vial: 14
Acq On : 13 Jul 2016 20:43 Operator: AGK-RLD
Sample : 127773,744416, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 13 21:03:59 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 08 13:47:47 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.54	96	1314608	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.44	117	1214325	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.73	152	785087	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.69	113	334462	19.326	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 97 %			
45) SURR12DCAd4	7.10	102	87872	18.580	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 93 %			
61) SURRd8Tolule	9.54	98	1413844	20.293	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101 %			
83) SURR4BrFBenz	13.07	95	676629	19.414	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 97 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	2.00	50	23329	0.9739	ug/L	96
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	0.00	94	0	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	3.92	58	24639	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	3.92	43	72260	Below Cal		99
16) Iodomethane	4.03	142	3094	N.D.		
17) Carbon Dislf	4.12	76	6734	N.D.		
18) allylchloride	4.26	41	6601	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	4.48	84	2501	Below Cal	#	69
21) tbutylalcohol	4.70	59	7688	Below Cal	#	54
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	0.00	42	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL1316\744416.D Vial: 14
Acq On : 13 Jul 2016 20:43 Operator: AGK-RLD
Sample : 127773,744416, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 13 21:03:59 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 08 13:47:47 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.		
40)	111trichlota	0.00	97	0	N.D.		
42)	Cyclohexane	0.00	56	0	N.D.		
43)	Carbtetraclo	0.00	119	0	N.D.		
44)	11dicloprope	0.00	110	0	N.D.		
46)	Benzene	7.19	78	4492	N.D.		
47)	12dichlorota	0.00	62	0	N.D.		
48)	TAME	0.00	73	0	N.D.		
49)	trichloroete	0.00	95	0	N.D.		
50)	methylcyclohexane	0.00	83	0	N.D.		
51)	12dicloropra	0.00	63	0	N.D.		
52)	23Dicl1propene	0.00	75	0	N.D.		
53)	Dibromometha	0.00	93	0	N.D.		
54)	methylmethacrylate	0.00	69	0	N.D.		
55)	14dioxane	8.44	88	31643	81.2253	ug/L	96
56)	Bromodiclrma	0.00	83	0	N.D.		
57)	2Nitropropane	0.00	43	0	N.D.		
58)	2CLEVE	0.00	63	0	N.D.		
59)	c13dicloproe	0.00	75	0	N.D.		
60)	4Meth2Pentan	0.00	43	0	N.D.		
62)	Toluene	9.63	92	14461	0.3081	ug/L	94
63)	t13Dicloprop	0.00	75	0	N.D.		
64)	ethylmethacrylate	0.00	69	0	N.D.		
65)	112Triclotha	0.00	83	0	N.D.		
66)	Tetrachlorte	0.00	166	0	N.D.		
67)	13Diclorpropa	0.00	76	0	N.D.		
69)	2Hexanone	10.45	43	3097	Below	Cal #	27
70)	Clorodibrmta	0.00	129	0	N.D.		
71)	12Dibrometha	0.00	107	0	N.D.		
72)	Chlorobenzen	0.00	112	0	N.D.		
73)	1Clhexane	11.44	91	3881	N.D.		
74)	1112Tetclota	0.00	131	0	N.D.		
75)	Ethylbenzene	11.64	91	4976	N.D.		
76)	m p-Xylene	11.81	106	6475	N.D.		
77)	o-Xylene	12.36	106	3770	N.D.		
78)	Styrene	12.36	104	13889	0.2222	ug/L	93
79)	Bromoform	0.00	173	0	N.D.		
80)	Isopropylben	0.00	105	0	N.D.		
81)	cyclohexanone	0.00	55	0	N.D.		
84)	Bromobenzene	0.00	156	0	N.D.		
85)	1122Tetrclta	0.00	83	0	N.D.		
86)	123Triclproa	0.00	75	0	N.D.		
87)	14dichloro2butene	0.00	53	0	N.D.		
88)	n-Propylbenz	0.00	91	0	N.D.		
89)	2chlorotolue	0.00	91	0	N.D.		
90)	4chlorotolue	0.00	91	0	N.D.		
91)	135Trimebenz	0.00	105	0	N.D.		
92)	tbutylbenzen	0.00	119	0	N.D.		
93)	124Trimetben	14.25	105	5958	N.D.		
94)	sbutylbenzen	0.00	105	0	N.D.		
95)	13Diclorbenz	0.00	146	0	N.D.		
96)	pIsopropylto	0.00	119	0	N.D.		
97)	14dichlorobe	0.00	146	0	N.D.		
98)	12dichlorobe	0.00	146	0	N.D.		
99)	nButylbenzen	15.26	91	3896	N.D.		
100)	12dibromo3cl	0.00	157	0	N.D.		
101)	135Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL1316\744416.D Vial: 14
Acq On : 13 Jul 2016 20:43 Operator: AGK-RLD
Sample : 127773,744416, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 13 21:03:59 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 08 13:47:47 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M

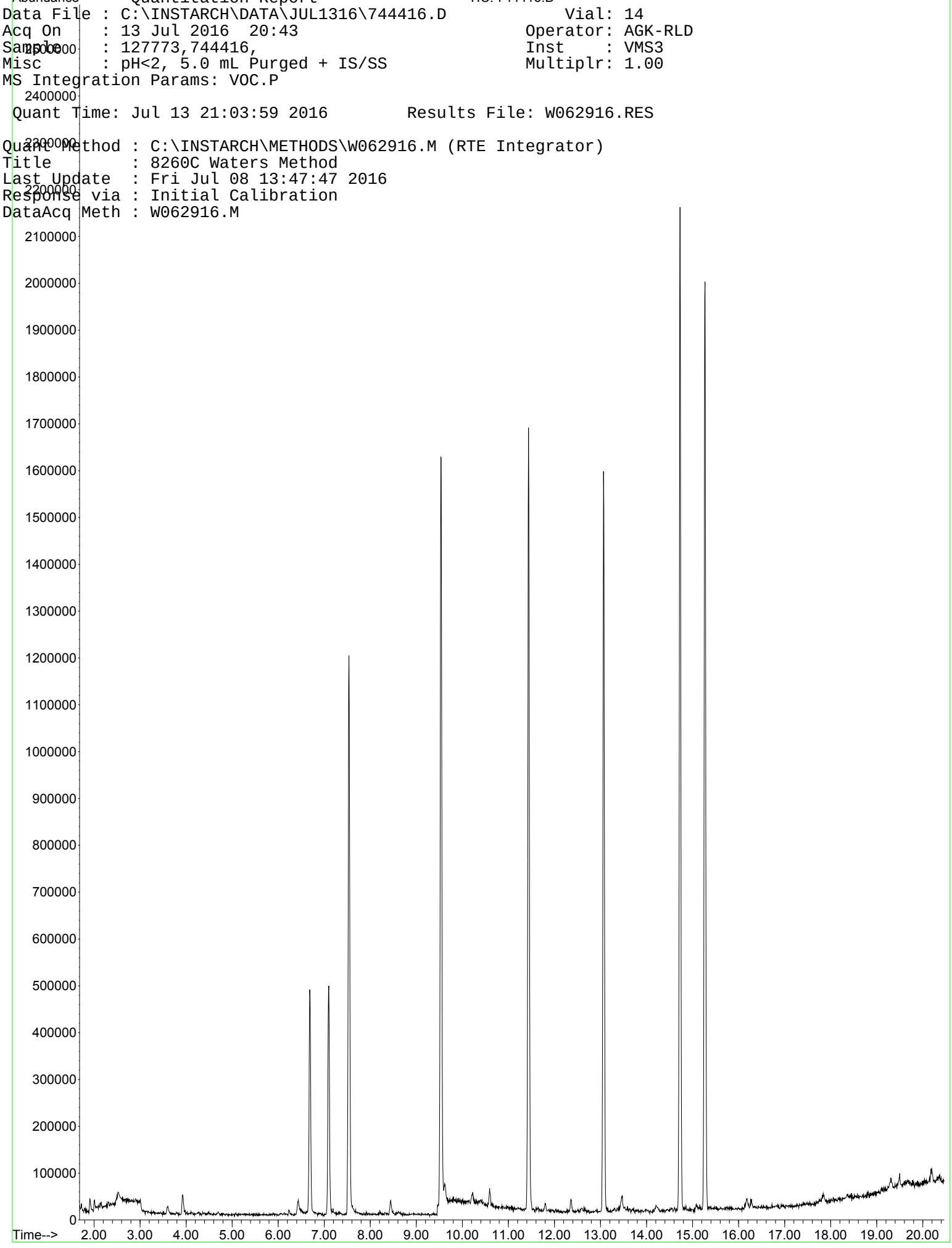
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	17.84	128	9033	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

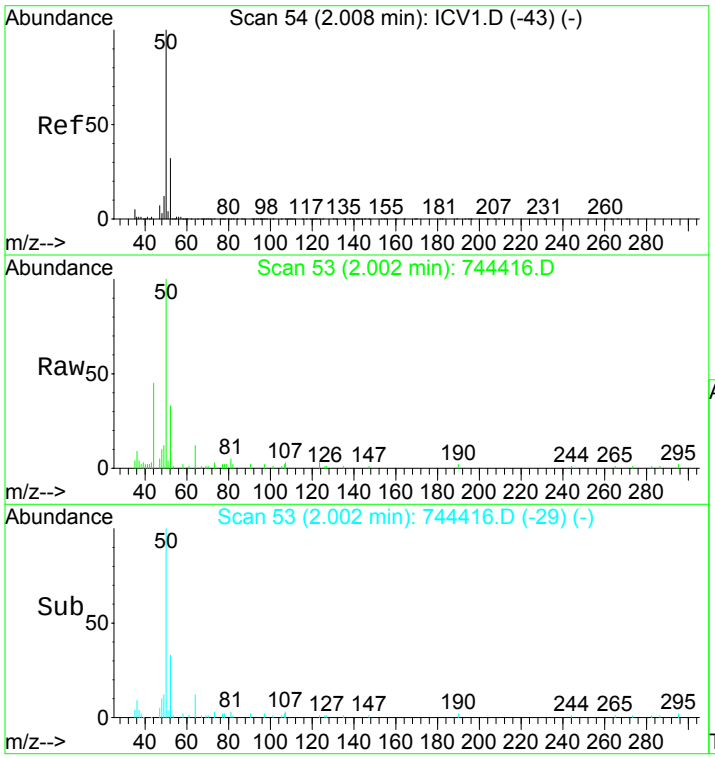
(#) = qualifier out of range (m) = manual integration

Data File : C:\INSTARCH\DATA\JUL1316\744416.D Vial: 14
Acq On : 13 Jul 2016 20:43 Operator: AGK-RLD
Sample : 127773,744416, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 13 21:03:59 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 08 13:47:47 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M

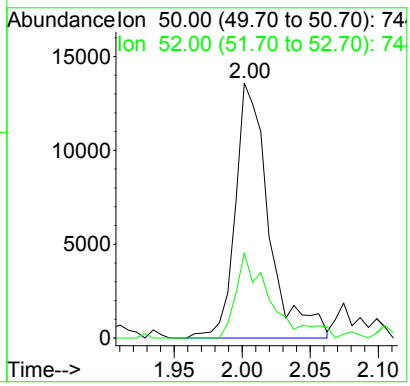


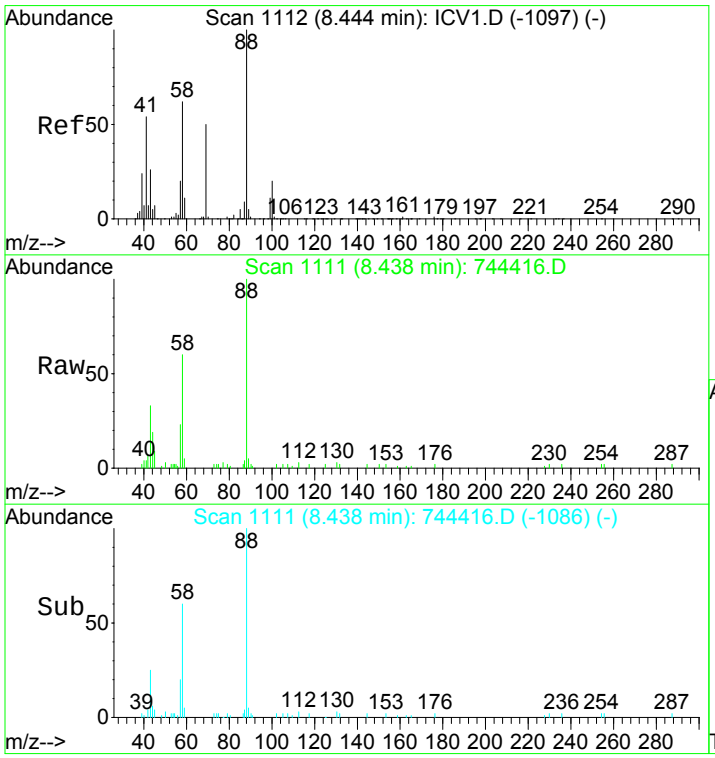


#3
Chloromethan
Concen: 0.97 ug/L
RT: 2.00 min Scan# 53
Delta R.T. -0.01 min
Lab File: 744416.D
Acq: 13 Jul 2016 20:43

Tgt Ion: 50 Resp: 23329

Ion	Ratio	Lower	Upper
50	100		
52	35.2	13.1	53.1

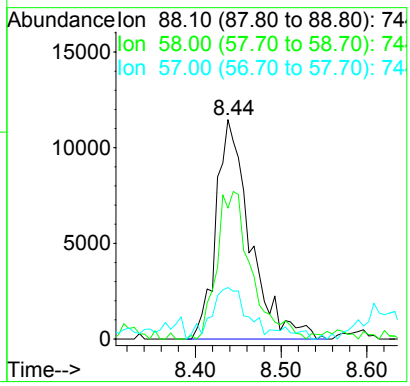


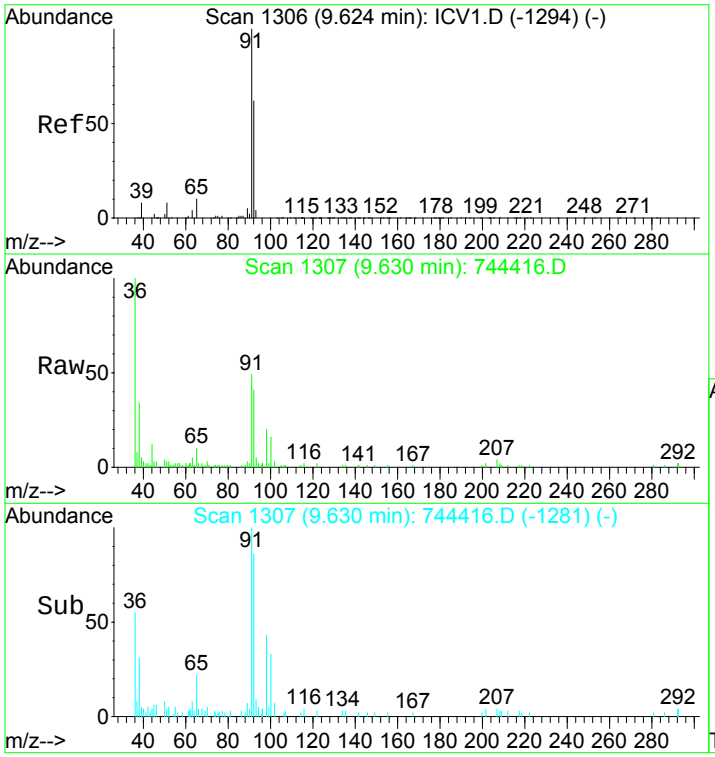


#55
14dioxane
Concen: 81.23 ug/L
RT: 8.44 min Scan# 1111
Delta R.T. -0.00 min
Lab File: 744416.D
Acq: 13 Jul 2016 20:43

Tgt Ion: 88 Resp: 31643

Ion	Ratio	Lower	Upper
88	100		
58	67.6	46.5	86.5
57	27.6	2.1	42.1

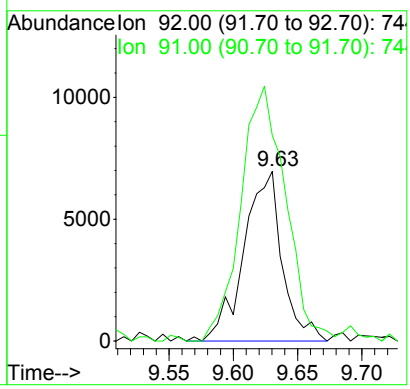


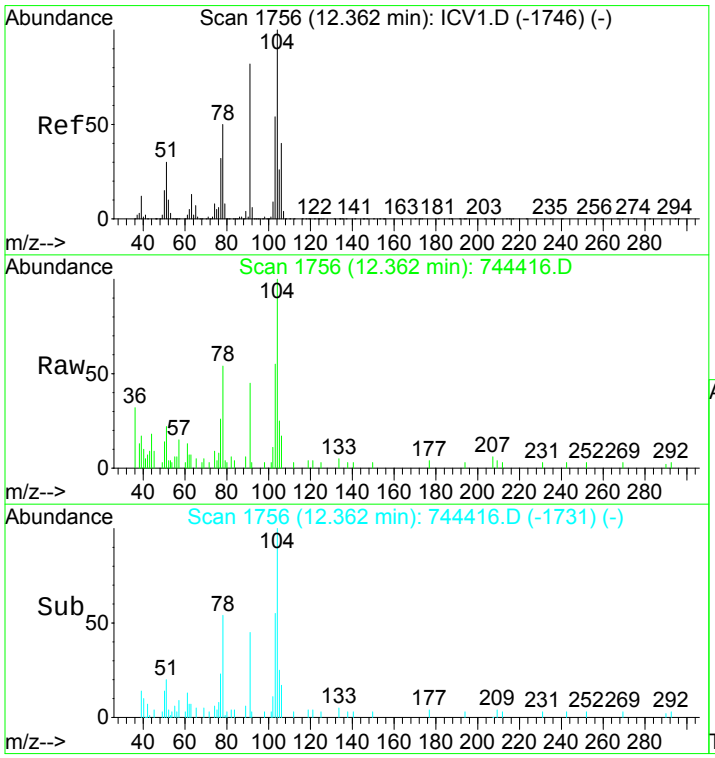


#62
Toluene
Concen: 0.31 ug/L
RT: 9.63 min Scan# 1307
Delta R.T. 0.01 min
Lab File: 744416.D
Acq: 13 Jul 2016 20:43

Tgt Ion: 92 Resp: 14461

Ion	Ratio	Lower	Upper
92	100		
91	175.1	146.5	186.5

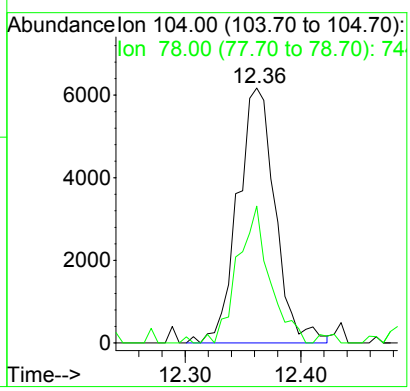




#78
Styrene
Concen: 0.22 ug/L
RT: 12.36 min Scan# 1756
Delta R.T. -0.00 min
Lab File: 744416.D
Acq: 13 Jul 2016 20:43

Tgt Ion:104 Resp: 13889

Ion	Ratio	Lower	Upper
104	100		
78	45.8	30.4	70.4



Quantitation Report

Data File : C:\INSTARCH\DATA\JUL1316\744418.D Vial: 15
Acq On : 13 Jul 2016 21:12 Operator: AGK-RLD
Sample : 127773,744418, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 13 21:33:04 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 08 13:47:47 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.54	96	1305367	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.44	117	1199309	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.73	152	788674	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.69	113	332184	19.330	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 97 %			
45) SURR12DCAd4	7.09	102	89840	19.131	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 96 %			
61) SURRd8Tolule	9.54	98	1412440	20.416	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 102 %			
83) SURR4BrFBenz	13.07	95	680898	19.448	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 97 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	2.01	50	16369	0.6882	ug/L	97
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	0.00	94	0	N.D.		
6) Chloroethane	2.78	64	3596	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	3.14	101	5540	0.2070	ug/L #	86
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	3.92	58	7841	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	3.93	43	25001	Below Cal		96
16) Iodomethane	4.03	142	2634	N.D.		
17) Carbon Dislf	4.11	76	5772	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	4.69	59	3836	Below Cal	#	54
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	5.38	63	3440	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	6.14	72	4162	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	0.00	42	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL1316\744418.D Vial: 15
Acq On : 13 Jul 2016 21:12 Operator: AGK-RLD
Sample : 127773,744418, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 13 21:33:04 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 08 13:47:47 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.50	83	18261	0.5838	ug/L		97
40)	111trichlota	0.00	97	0	N.D.			
42)	Cyclohexane	0.00	56	0	N.D.			
43)	Carbtetraclo	6.96	119	80248	3.5976	ug/L		97
44)	11dicloprope	0.00	110	0	N.D.			
46)	Benzene	0.00	78	0	N.D.			
47)	12dichlorota	0.00	62	0	N.D.			
48)	TAME	0.00	73	0	N.D.			
49)	trichloroete	8.00	95	17584	0.9399	ug/L		99
50)	methylcyclohexane	0.00	83	0	N.D.			
51)	12dicloropra	0.00	63	0	N.D.			
52)	23Dicl1propene	0.00	75	0	N.D.			
53)	Dibromometha	0.00	93	0	N.D.			
54)	methylmethacrylate	0.00	69	0	N.D.			
55)	14dioxane	8.44	88	39047	100.9404	ug/L		93
56)	Bromodiclrma	0.00	83	0	N.D.			
57)	2Nitropropane	0.00	43	0	N.D.			
58)	2CLEVE	0.00	63	0	N.D.			
59)	c13dicloproe	0.00	75	0	N.D.			
60)	4Meth2Pentan	0.00	43	0	N.D.			
62)	Toluene	0.00	92	0	N.D.			
63)	t13Dicloprop	0.00	75	0	N.D.			
64)	ethylmethacrylate	0.00	69	0	N.D.			
65)	112Triclotha	0.00	83	0	N.D.			
66)	Tetrachlorte	0.00	166	0	N.D.			
67)	13Diclorpropa	0.00	76	0	N.D.			
69)	2Hexanone	10.45	43	3491	Below	Cal	#	27
70)	Clorodibrmta	0.00	129	0	N.D.			
71)	12Dibrometha	0.00	107	0	N.D.			
72)	Chlorobenzen	0.00	112	0	N.D.			
73)	1Clhexane	11.44	91	3406	N.D.			
74)	1112Tetclota	0.00	131	0	N.D.			
75)	Ethylbenzene	0.00	91	0	N.D.			
76)	m p-Xylene	0.00	106	0	N.D.			
77)	o-Xylene	0.00	106	0	N.D.			
78)	Styrene	0.00	104	0	N.D.			
79)	Bromoform	0.00	173	0	N.D.			
80)	Isopropylben	0.00	105	0	N.D.			
81)	cyclohexanone	0.00	55	0	N.D.			
84)	Bromobenzene	0.00	156	0	N.D.			
85)	1122Tetrclta	0.00	83	0	N.D.			
86)	123Triclproa	0.00	75	0	N.D.			
87)	14dichloro2butene	0.00	53	0	N.D.			
88)	n-Propylbenz	0.00	91	0	N.D.			
89)	2chlorotolue	0.00	91	0	N.D.			
90)	4chlorotolue	0.00	91	0	N.D.			
91)	135Trimebenz	0.00	105	0	N.D.			
92)	tbutylbenzen	0.00	119	0	N.D.			
93)	124Trimetben	0.00	105	0	N.D.			
94)	sbutylbenzen	0.00	105	0	N.D.			
95)	13Diclorbenz	0.00	146	0	N.D.			
96)	pIsopropylto	0.00	119	0	N.D.			
97)	14dichlorobe	0.00	146	0	N.D.			
98)	12dichlorobe	0.00	146	0	N.D.			
99)	nButylbenzen	15.28	91	3309	N.D.			
100)	12dibromo3cl	0.00	157	0	N.D.			
101)	135Trichlorobenzene	0.00	180	0	N.D.			

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL1316\744418.D Vial: 15
Acq On : 13 Jul 2016 21:12 Operator: AGK-RLD
Sample : 127773,744418, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 13 21:33:04 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 08 13:47:47 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	0.00	128	0	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

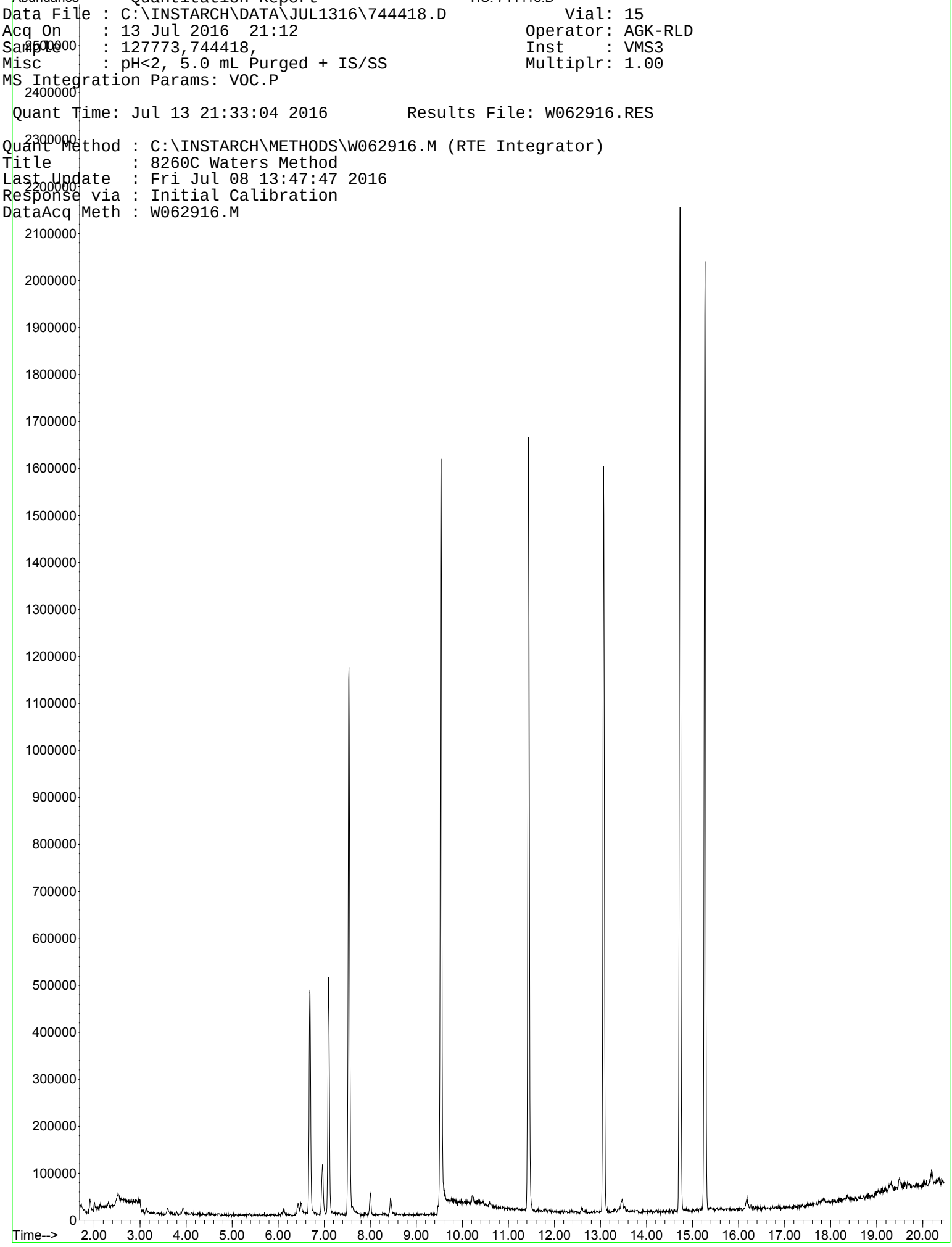
(#) = qualifier out of range (m) = manual integration

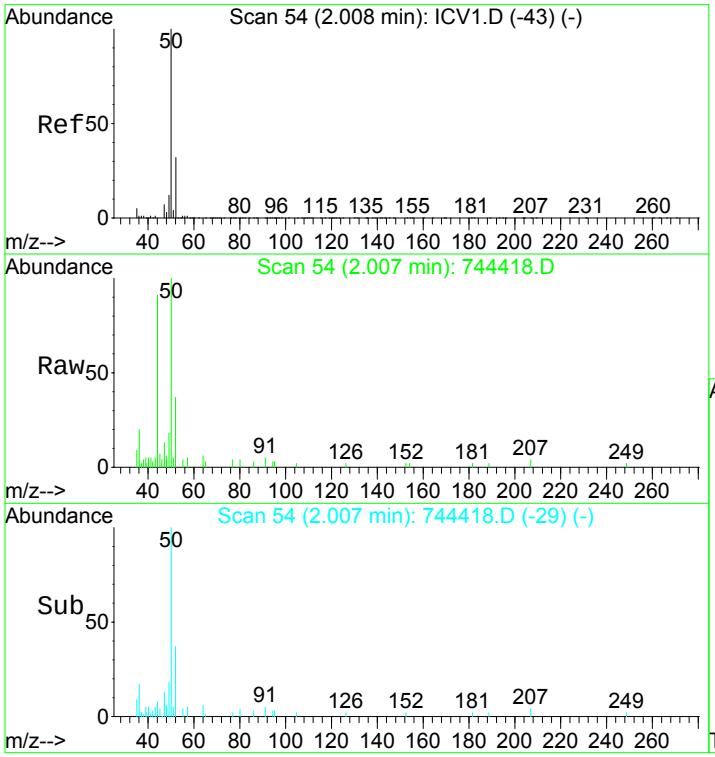
Quantitation Report (TIC: 744418.D)

Data File : C:\INSTARCH\DATA\JUL1316\744418.D Vial: 15
Acq On : 13 Jul 2016 21:12 Operator: AGK-RLD
Sample : 127773,744418, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 13 21:33:04 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 08 13:47:47 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M

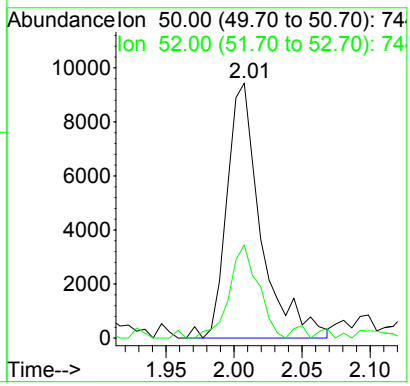


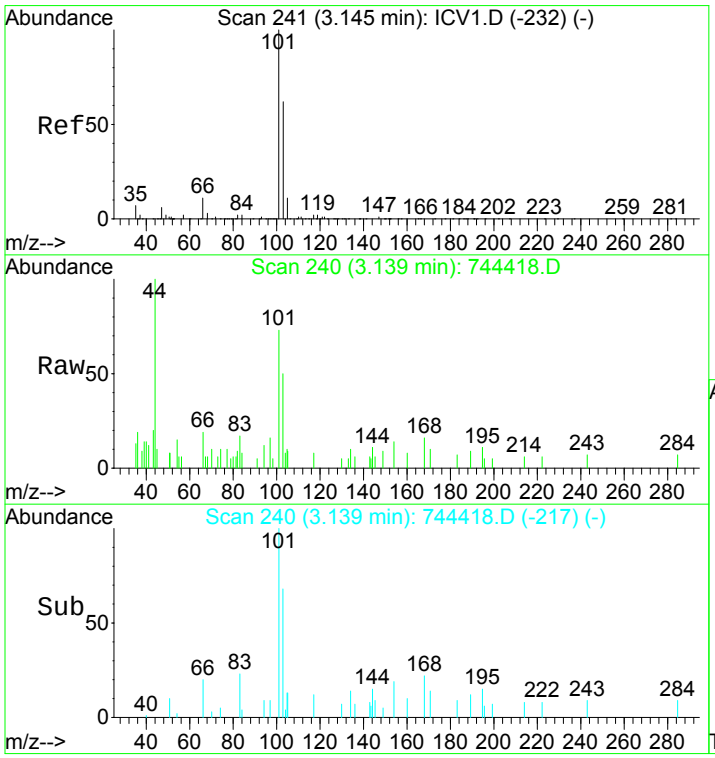


#3
Chloromethan
Concen: 0.69 ug/L
RT: 2.01 min Scan# 54
Delta R.T. -0.00 min
Lab File: 744418.D
Acq: 13 Jul 2016 21:12

Tgt Ion: 50 Resp: 16369

Ion	Ratio	Lower	Upper
50	100		
52	31.2	13.1	53.1

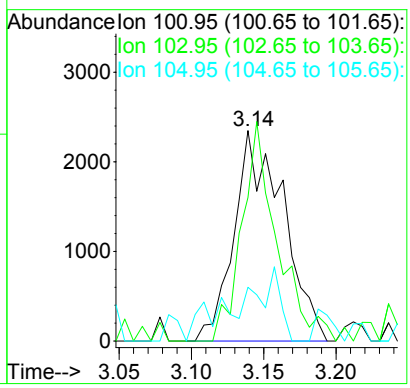


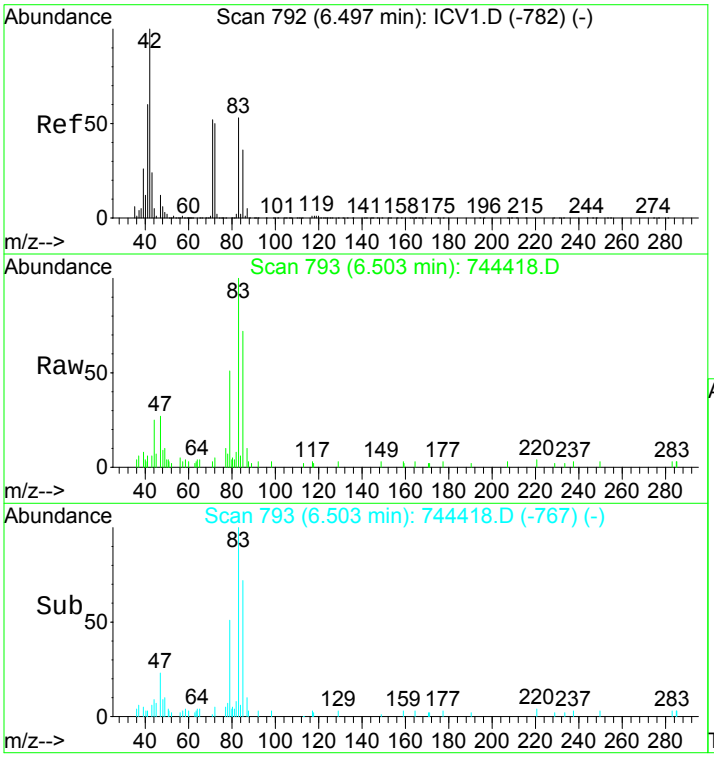


#8
Trichlorofma
Concen: 0.21 ug/L
RT: 3.14 min Scan# 240
Delta R.T. -0.01 min
Lab File: 744418.D
Acq: 13 Jul 2016 21:12

Tgt Ion:101 Resp: 5540

Ion	Ratio	Lower	Upper
101	100		
103	74.8	45.5	85.5
105	0.0	0.0	31.0

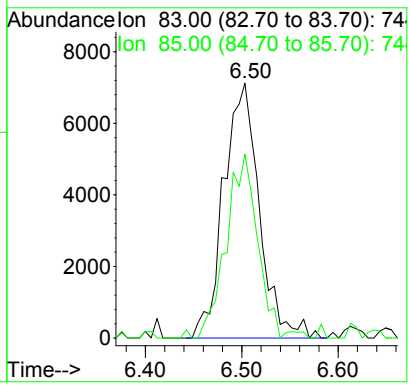


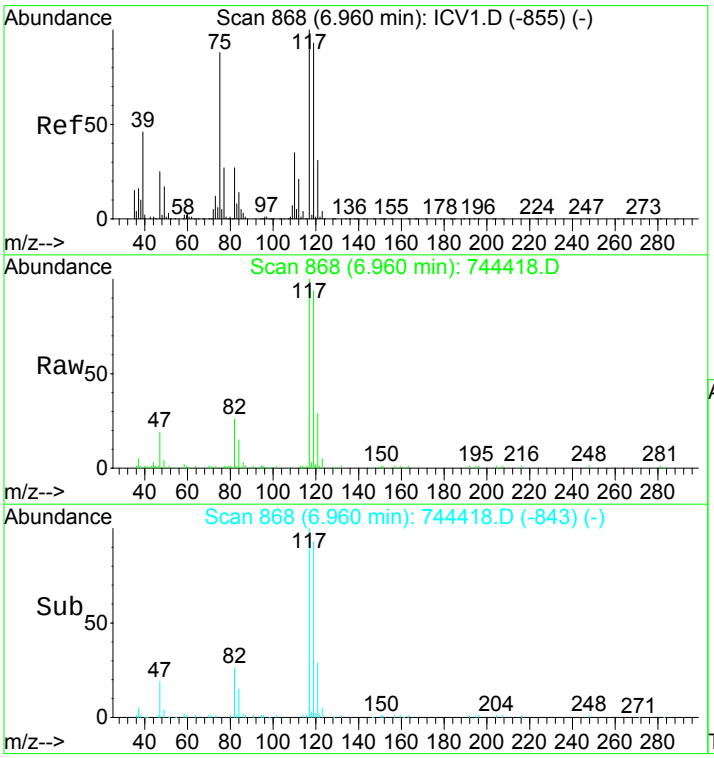


#39
Chloroform
Concen: 0.58 ug/L
RT: 6.50 min Scan# 793
Delta R.T. 0.01 min
Lab File: 744418.D
Acq: 13 Jul 2016 21:12

Tgt Ion: 83 Resp: 18261

Ion	Ratio	Lower	Upper
83	100		
85	64.3	46.5	86.5

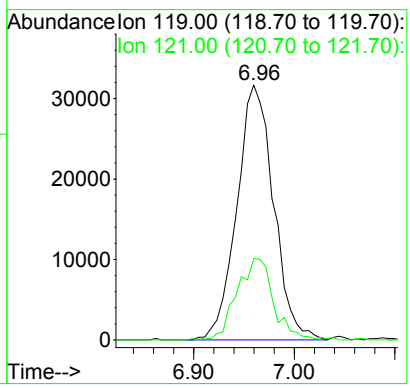


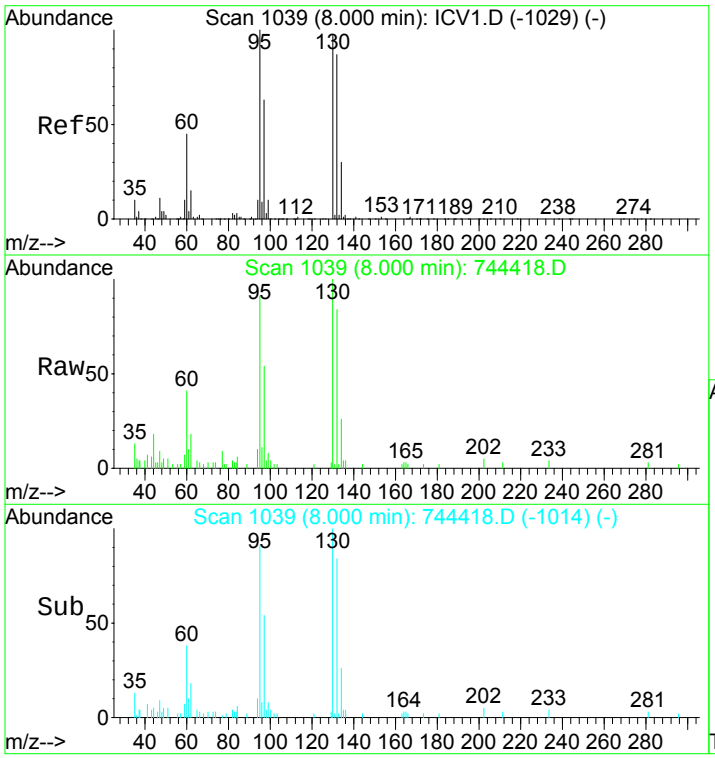


#43
Carbtetraclo
Concen: 3.60 ug/L
RT: 6.96 min Scan# 868
Delta R.T. -0.00 min
Lab File: 744418.D
Acq: 13 Jul 2016 21:12

Tgt Ion:119 Resp: 80248

Ion	Ratio	Lower	Upper
119	100		
121	32.1	10.7	50.7

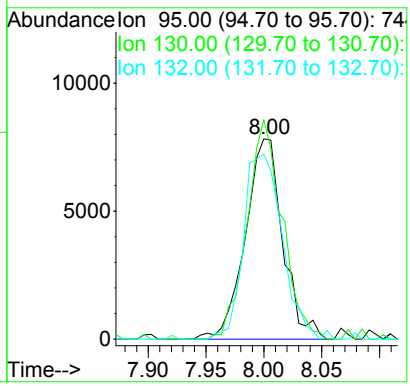


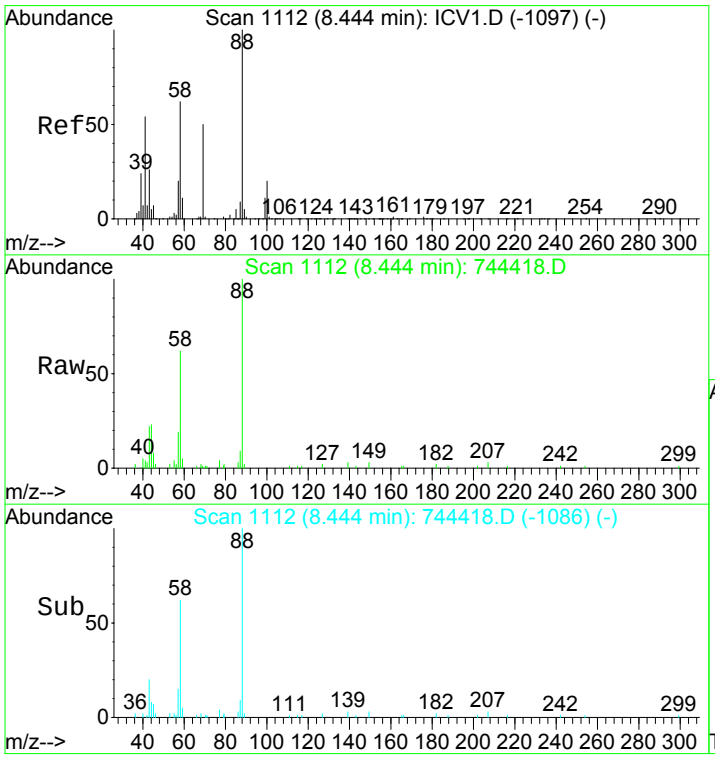


#49
trichloroete
Concen: 0.94 ug/L
RT: 8.00 min Scan# 1039
Delta R.T. -0.00 min
Lab File: 744418.D
Acq: 13 Jul 2016 21:12

Tgt Ion: 95 Resp: 17584

Ion	Ratio	Lower	Upper
95	100		
130	103.1	82.7	122.7
132	96.0	74.7	114.7

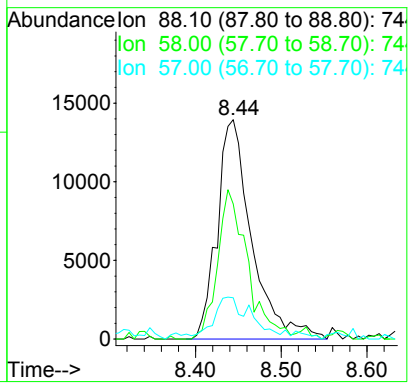




#55
14dioxane
Concen: 100.94 ug/L
RT: 8.44 min Scan# 1112
Delta R.T. 0.01 min
Lab File: 744418.D
Acq: 13 Jul 2016 21:12

Tgt Ion: 88 Resp: 39047

Ion	Ratio	Lower	Upper
88	100		
58	59.4	46.5	86.5
57	22.5	2.1	42.1



Quantitation Report

Data File : C:\INSTARCH\DATA\JUL1316\744420.D Vial: 16
Acq On : 13 Jul 2016 21:41 Operator: AGK-RLD
Sample : 127773,744420, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 13 22:02:23 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 08 13:47:47 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.54	96	1295470	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.44	117	1209532	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.73	152	792971	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.69	113	327173	19.184	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 96 %			
45) SURR12DCAd4	7.09	102	87122	18.694	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 93 %			
61) SURRd8Tolule	9.54	98	1401156	20.408	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 102 %			
83) SURR4BrFBenz	13.07	95	670209	19.039	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 95 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	2.00	50	11376	0.4819	ug/L	99
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	0.00	94	0	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	3.93	58	6415	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	3.94	43	21125	Below	Cal	94
16) Iodomethane	0.00	142	0	N.D.		
17) Carbon Dislf	4.11	76	4909	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	4.69	59	4341	Below	Cal #	54
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	0.00	42	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL1316\744420.D Vial: 16
Acq On : 13 Jul 2016 21:41 Operator: AGK-RLD
Sample : 127773,744420, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 13 22:02:23 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 08 13:47:47 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39) Chloroform	6.51	83	2844	N.D.		
40) 111trichlota	0.00	97	0	N.D.		
42) Cyclohexane	0.00	56	0	N.D.		
43) Carbtetraclo	6.96	119	4284	N.D.		
44) 11dicloprope	0.00	110	0	N.D.		
46) Benzene	0.00	78	0	N.D.		
47) 12dichlorota	0.00	62	0	N.D.		
48) TAME	0.00	73	0	N.D.		
49) trichloroete	8.00	95	39717	2.1391	ug/L	98
50) methylcyclohexane	0.00	83	0	N.D.		
51) 12dicloropra	0.00	63	0	N.D.		
52) 23Dicl1propene	0.00	75	0	N.D.		
53) Dibromometha	0.00	93	0	N.D.		
54) methylmethacrylate	0.00	69	0	N.D.		
55) 14dioxane	8.45	88	29268	76.2387	ug/L	98
56) Bromodiclrma	0.00	83	0	N.D.		
57) 2Nitropropane	0.00	43	0	N.D.		
58) 2CLEVE	0.00	63	0	N.D.		
59) c13dicloproe	0.00	75	0	N.D.		
60) 4Meth2Pentan	0.00	43	0	N.D.		
62) Toluene	0.00	92	0	N.D.		
63) t13Dicloprop	0.00	75	0	N.D.		
64) ethylmethacrylate	0.00	69	0	N.D.		
65) 112Triclotha	0.00	83	0	N.D.		
66) Tetrachlorte	0.00	166	0	N.D.		
67) 13Diclorpropa	0.00	76	0	N.D.		
69) 2Hexanone	0.00	43	0	N.D.		
70) Clorodibrmta	0.00	129	0	N.D.		
71) 12Dibrometha	0.00	107	0	N.D.		
72) Chlorobenzen	0.00	112	0	N.D.		
73) 1Clhexane	11.43	91	3226	N.D.		
74) 1112Tetclota	0.00	131	0	N.D.		
75) Ethylbenzene	0.00	91	0	N.D.		
76) m p-Xylene	0.00	106	0	N.D.		
77) o-Xylene	0.00	106	0	N.D.		
78) Styrene	0.00	104	0	N.D.		
79) Bromoform	0.00	173	0	N.D.		
80) Isopropylben	0.00	105	0	N.D.		
81) cyclohexanone	13.07	55	3047	N.D.		
84) Bromobenzene	0.00	156	0	N.D.		
85) 1122Tetrclta	0.00	83	0	N.D.		
86) 123Triclproa	0.00	75	0	N.D.		
87) 14dichloro2butene	0.00	53	0	N.D.		
88) n-Propylbenz	0.00	91	0	N.D.		
89) 2chlorotolue	0.00	91	0	N.D.		
90) 4chlorotolue	0.00	91	0	N.D.		
91) 135Trimebenz	0.00	105	0	N.D.		
92) tbutylbenzen	0.00	119	0	N.D.		
93) 124Trimetben	0.00	105	0	N.D.		
94) sbutylbenzen	0.00	105	0	N.D.		
95) 13Diclorbenz	0.00	146	0	N.D.		
96) pIsopropylto	0.00	119	0	N.D.		
97) 14dichlorobe	0.00	146	0	N.D.		
98) 12dichlorobe	0.00	146	0	N.D.		
99) nButylbenzen	15.27	91	2771	N.D.		
100) 12dibromo3cl	0.00	157	0	N.D.		
101) 135Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL1316\744420.D Vial: 16
Acq On : 13 Jul 2016 21:41 Operator: AGK-RLD
Sample : 127773,744420, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 13 22:02:23 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 08 13:47:47 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	0.00	128	0	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

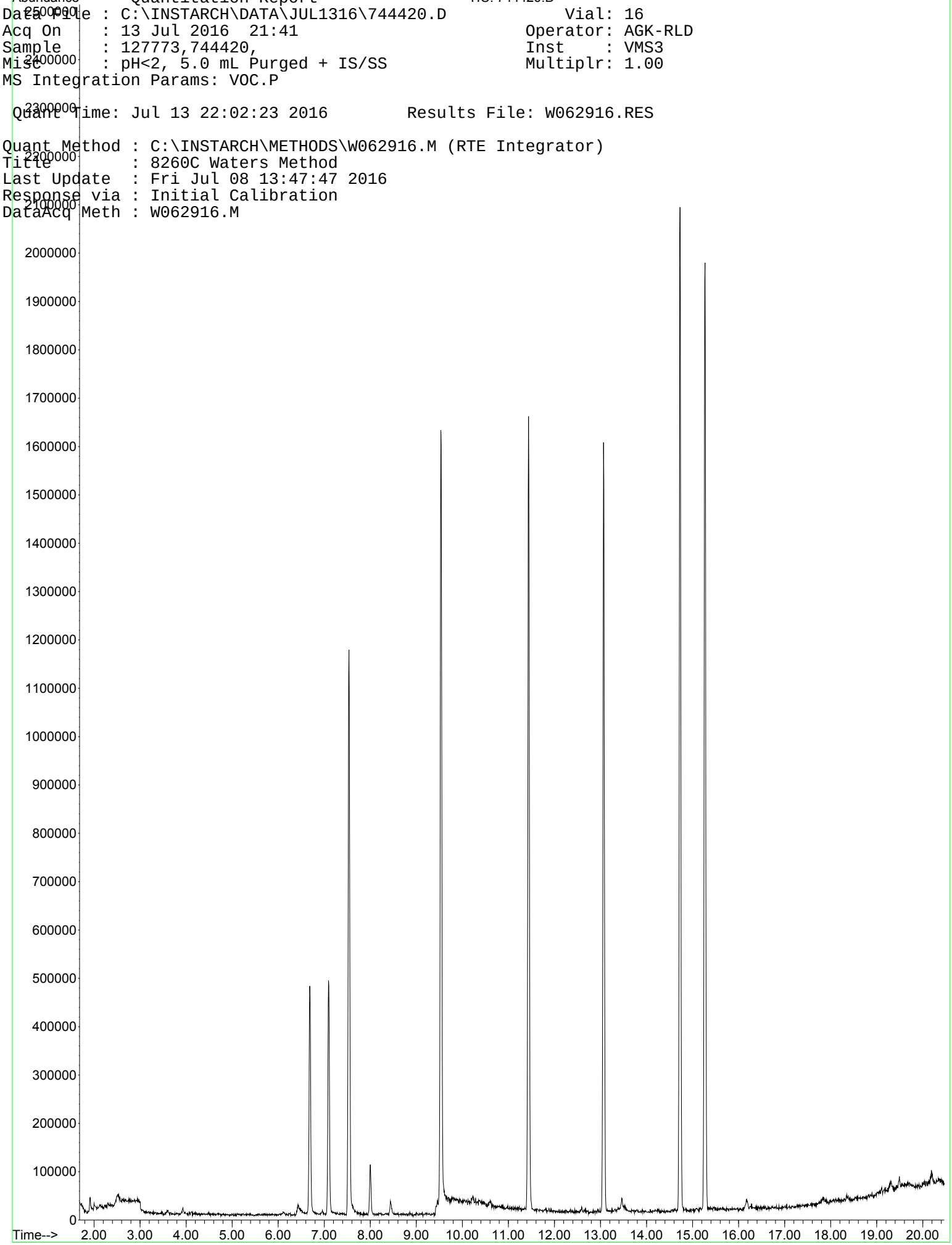
(#) = qualifier out of range (m) = manual integration

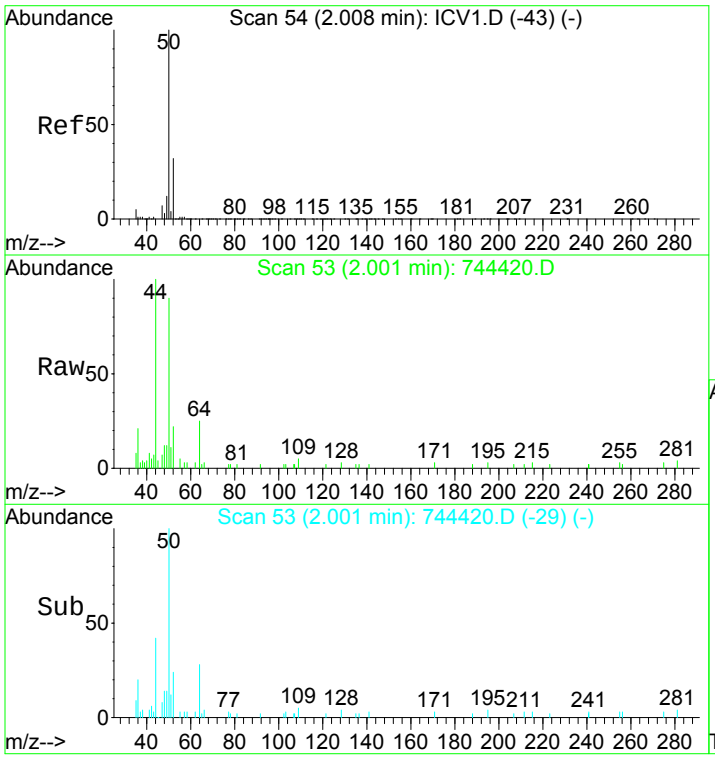
Quantitation Report (TIC: 744420.D)

Data File : C:\INSTARCH\DATA\JUL1316\744420.D Vial: 16
Acq On : 13 Jul 2016 21:41 Operator: AGK-RLD
Sample : 127773,744420, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 13 22:02:23 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 08 13:47:47 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M

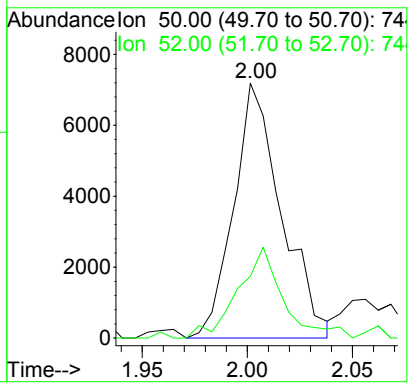


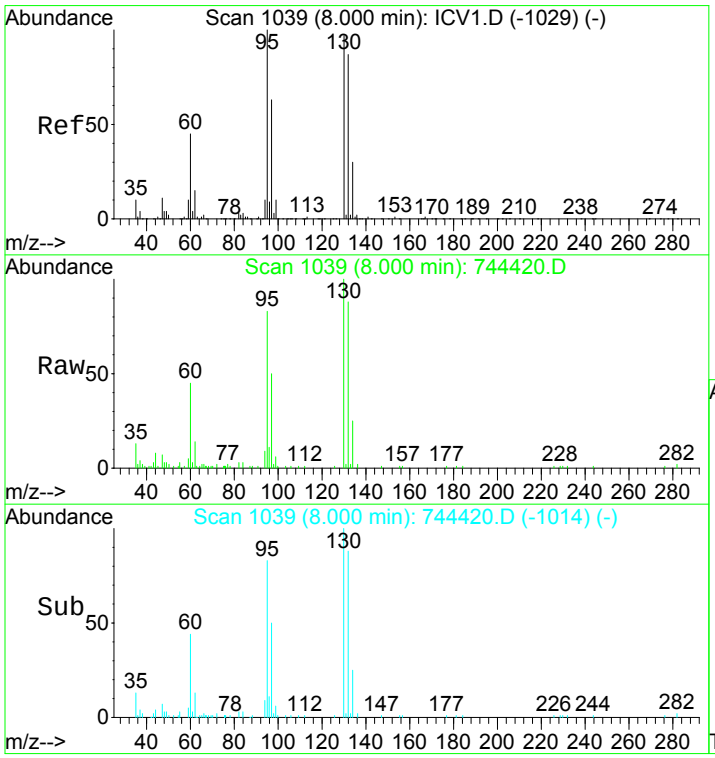


#3
Chloromethan
Concen: 0.48 ug/L
RT: 2.00 min Scan# 53
Delta R.T. -0.01 min
Lab File: 744420.D
Acq: 13 Jul 2016 21:41

Tgt Ion: 50 Resp: 11376

Ion	Ratio	Lower	Upper
50	100		
52	33.5	13.1	53.1

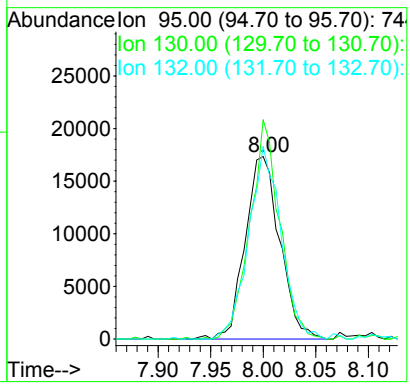


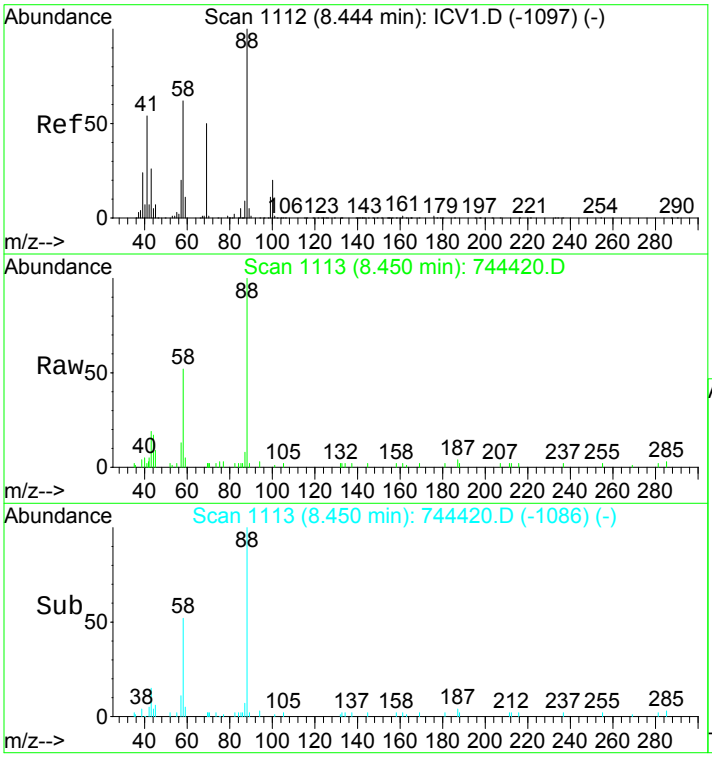


#49
trichloroete
Concen: 2.14 ug/L
RT: 8.00 min Scan# 1039
Delta R.T. -0.00 min
Lab File: 744420.D
Acq: 13 Jul 2016 21:41

Tgt Ion: 95 Resp: 39717

Ion	Ratio	Lower	Upper
95	100		
130	103.3	82.7	122.7
132	99.0	74.7	114.7

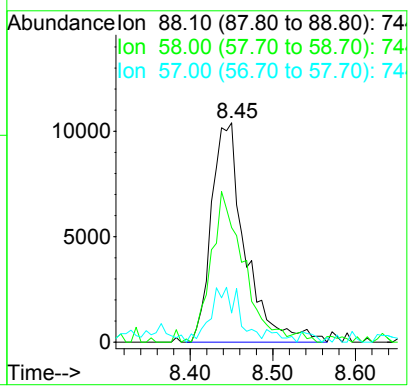




#55
14dioxane
Concen: 76.24 ug/L
RT: 8.45 min Scan# 1113
Delta R.T. 0.01 min
Lab File: 744420.D
Acq: 13 Jul 2016 21:41

Tgt Ion: 88 Resp: 29268

Ion	Ratio	Lower	Upper
88	100		
58	67.7	46.5	86.5
57	21.2	2.1	42.1



Quantitation Report

Data File : L:\INSTARCH\DATA\JUL1916\744939.D Vial: 12
Acq On : 19 Jul 2016 16:17 Operator: AGK-RLD
Sample : 127819,744939, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 19 16:38:05 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Mon Jul 18 10:10:08 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.54	96	1253657	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.44	117	1068817	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.73	152	707566	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.69	113	297893	18.508	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 93 %			
45) SURR12DCAd4	7.09	102	85555	18.972	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 95 %			
61) SURRd8Tolule	9.53	98	1324367	20.314	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 102 %			
83) SURR4BrFBenz	13.07	95	571692	18.772	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 94 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	2.01	50	13427	0.5201	ug/L	96
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	2.60	94	3739	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	3.92	58	4536	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	3.94	43	13697	Below	Cal	95
16) Iodomethane	4.02	142	13239	1.0323	ug/L #	86
17) Carbon Dislf	4.12	76	4860	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	4.70	59	5288	Below	Cal #	54
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	0.00	42	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : L:\INSTARCH\DATA\JUL1916\744939.D Vial: 12
Acq On : 19 Jul 2016 16:17 Operator: AGK-RLD
Sample : 127819,744939, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 19 16:38:05 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Mon Jul 18 10:10:08 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39) Chloroform	0.00	83	0	N.D.		
40) 111trichlota	0.00	97	0	N.D.		
42) Cyclohexane	0.00	56	0	N.D.		
43) Carbtetraclo	0.00	119	0	N.D.		
44) 11dicloprope	0.00	110	0	N.D.		
46) Benzene	0.00	78	0	N.D.		
47) 12dichlorota	0.00	62	0	N.D.		
48) TAME	0.00	73	0	N.D.		
49) trichloroete	0.00	95	0	N.D.		
50) methylcyclohexane	0.00	83	0	N.D.		
51) 12dicloropra	0.00	63	0	N.D.		
52) 23Dicl1propene	0.00	75	0	N.D.		
53) Dibromometha	0.00	93	0	N.D.		
54) methylmethacrylate	0.00	69	0	N.D.		
55) 14dioxane	0.00	88	0	N.D.		
56) Bromodiclrma	0.00	83	0	N.D.		
57) 2Nitropropane	0.00	43	0	N.D.		
58) 2CLEVE	0.00	63	0	N.D.		
59) c13dicloproe	0.00	75	0	N.D.		
60) 4Meth2Pentan	0.00	43	0	N.D.		
62) Toluene	9.62	92	3651	N.D.		
63) t13Dicloprop	0.00	75	0	N.D.		
64) ethylmethacrylate	0.00	69	0	N.D.		
65) 112Triclotha	0.00	83	0	N.D.		
66) Tetrachlorte	0.00	166	0	N.D.		
67) 13Diclorpropa	0.00	76	0	N.D.		
69) 2Hexanone	10.45	43	2596	Below	Cal #	27
70) Clorodibrmta	0.00	129	0	N.D.		
71) 12Dibrometha	0.00	107	0	N.D.		
72) Chlorobenzen	0.00	112	0	N.D.		
73) 1Clhexane	11.44	91	3191	N.D.		
74) 1112Tetclota	0.00	131	0	N.D.		
75) Ethylbenzene	11.64	91	3522	N.D.		
76) m p-Xylene	11.80	106	4629	N.D.		
77) o-Xylene	0.00	106	0	N.D.		
78) Styrene	0.00	104	0	N.D.		
79) Bromoform	0.00	173	0	N.D.		
80) Isopropylben	0.00	105	0	N.D.		
81) cyclohexanone	0.00	55	0	N.D.		
84) Bromobenzene	0.00	156	0	N.D.		
85) 1122Tetrclta	0.00	83	0	N.D.		
86) 123Triclproa	0.00	75	0	N.D.		
87) 14dichloro2butene	0.00	53	0	N.D.		
88) n-Propylbenz	0.00	91	0	N.D.		
89) 2chlorotolue	0.00	91	0	N.D.		
90) 4chlorotolue	0.00	91	0	N.D.		
91) 135Trimebenz	13.63	105	2834	N.D.		
92) tbutylbenzen	0.00	119	0	N.D.		
93) 124Trimetben	14.25	105	3914	N.D.		
94) sbutylbenzen	0.00	105	0	N.D.		
95) 13Diclorbenz	0.00	146	0	N.D.		
96) pIsopropylto	0.00	119	0	N.D.		
97) 14dichlorobe	0.00	146	0	N.D.		
98) 12dichlorobe	0.00	146	0	N.D.		
99) nButylbenzen	0.00	91	0	N.D.		
100) 12dibromo3cl	0.00	157	0	N.D.		
101) 135Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : L:\INSTARCH\DATA\JUL1916\744939.D Vial: 12
Acq On : 19 Jul 2016 16:17 Operator: AGK-RLD
Sample : 127819,744939, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 19 16:38:05 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Mon Jul 18 10:10:08 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102)	124Trichlobe	0.00	180	0	N.D.		
103)	Hexachlorobu	0.00	225	0	N.D.		
104)	Naphthalene	17.86	128	3113	N.D.		
105)	123Trichlben	0.00	180	0	N.D.		

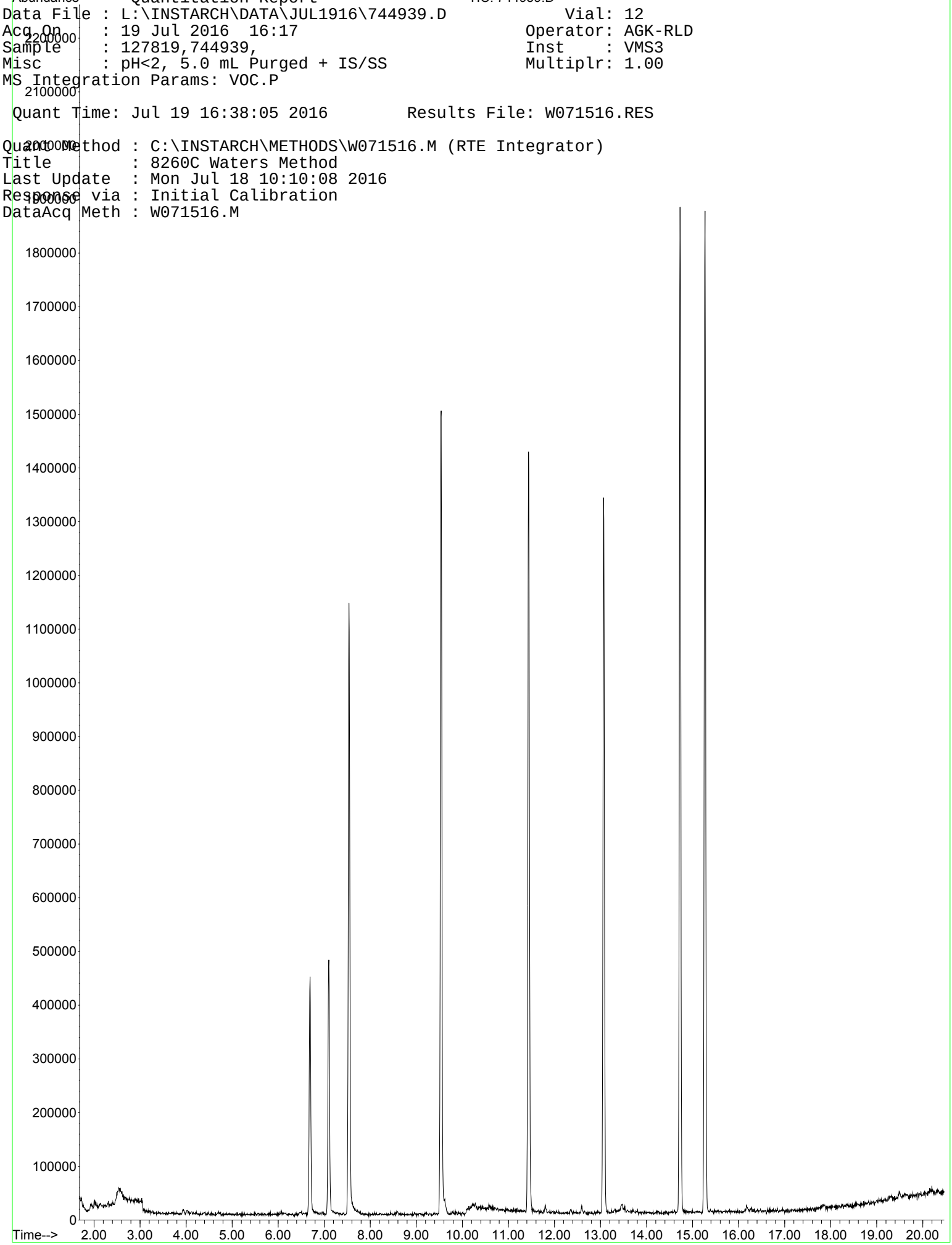
(#) = qualifier out of range (m) = manual integration

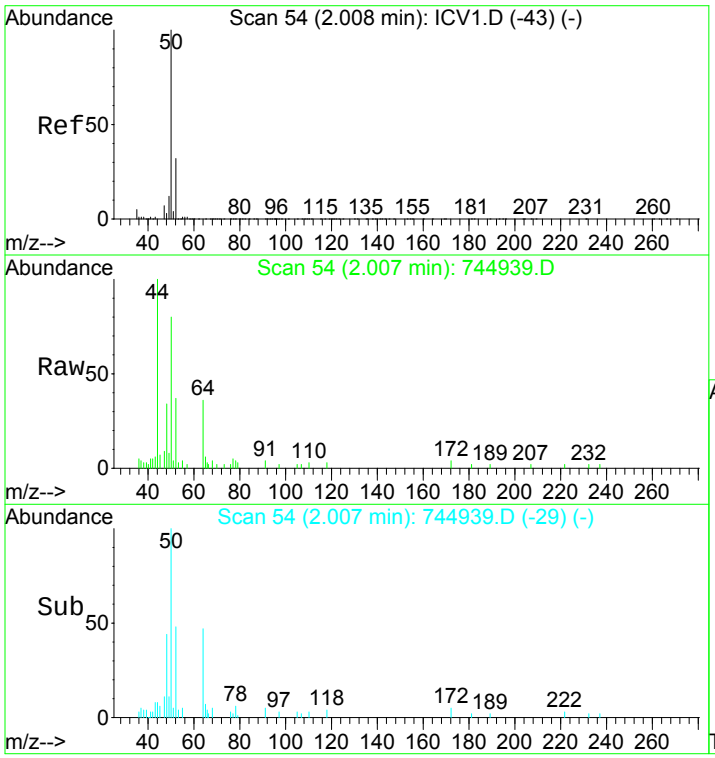
Abundance Quantitation Report TIC: 744939.D

Data File : L:\INSTARCH\DATA\JUL1916\744939.D Vial: 12
Acq On : 19 Jul 2016 16:17 Operator: AGK-RLD
Sample : 127819,744939, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 19 16:38:05 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Mon Jul 18 10:10:08 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M

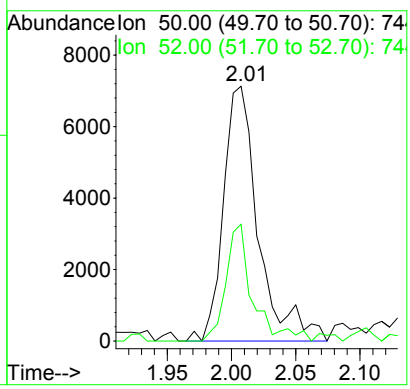




#3
Chloromethan
Concen: 0.52 ug/L
RT: 2.01 min Scan# 54
Delta R.T. -0.00 min
Lab File: 744939.D
Acq: 19 Jul 2016 16:17

Tgt Ion: 50 Resp: 13427

Ion	Ratio	Lower	Upper
50	100		
52	34.8	12.6	52.6



Quantitation Report

Data File : L:\INSTARCH\DATA\JUL1916\744970.D Vial: 13
Acq On : 19 Jul 2016 16:46 Operator: AGK-RLD
Sample : 127819,744970, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 19 17:07:27 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Mon Jul 18 10:10:08 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.54	96	1363504	20.00 ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.44	117	1139485	20.00 ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.73	152	719080	20.00 ug/L	0.00 NA%
System Monitoring Compounds					
41) SURRDibrflma	6.69	113	338743	19.351 ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 97 %		
45) SURR12DCAd4	7.10	102	98159	20.014 ug/L	0.01
Spiked Amount 20.000	Range 89 - 112		Recovery = 100 %		
61) SURRd8Tolule	9.54	98	1429286	20.157 ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101 %		
83) SURR4BrFBenz	13.07	95	605549	19.565 ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 98 %		
Target Compounds					Qvalue
2) Dichlorodi	0.00	85	0	N.D.	
3) Chloromethan	2.00	50	8204	N.D.	
4) VinylChlorid	0.00	62	0	N.D.	
5) Bromomethane	2.60	94	3989	N.D.	
6) Chloroethane	2.76	64	3376	N.D.	
7) Dichloroflmethane	0.00	67	0	N.D.	
8) Trichlorofma	0.00	101	0	N.D.	
9) Ethylether	0.00	59	0	N.D.	
10) dichlorotfluoroethan	0.00	67	0	N.D.	
11) propyleneoxide	3.92	58	3740	N.D.	
12) Acrolein	0.00	56	0	N.D.	
13) 11dichlorthe	0.00	96	0	N.D.	
14) Trichlorotfluoroeth	0.00	101	0	N.D.	
15) Acetone	3.93	43	12576	Below Cal	90
16) Iodomethane	4.03	142	8444	0.6054 ug/L #	43
17) Carbon Dislf	4.12	76	6005	N.D.	
18) allylchloride	0.00	41	0	N.D.	
19) methylacetate	0.00	74	0	N.D.	
20) Methylchlorid	0.00	84	0	N.D.	
21) tbutylalcohol	4.71	59	4845	Below Cal #	54
22) Acrylonitrile	0.00	53	0	N.D.	
23) t12dichlorte	0.00	96	0	N.D.	
24) MtBE	0.00	73	0	N.D.	
25) Hexane	0.00	57	0	N.D.	
26) 11dichlorota	0.00	63	0	N.D.	
27) Vinylacetate	0.00	43	0	N.D.	
28) chloroprene	0.00	53	0	N.D.	
29) Diisopether	0.00	45	0	N.D.	
30) ETBE	0.00	59	0	N.D.	
31) 22dichloropr	0.00	77	0	N.D.	
32) c12dichlorte	0.00	96	0	N.D.	
33) 2Butanone	0.00	72	0	N.D.	
34) propionitrile	0.00	54	0	N.D.	
35) Ethylacetate	0.00	88	0	N.D.	
36) methacrylonitrile	0.00	67	0	N.D.	
37) Bromochlorma	0.00	128	0	N.D.	
38) Tetrahydofur	0.00	42	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : L:\INSTARCH\DATA\JUL1916\744970.D Vial: 13
Acq On : 19 Jul 2016 16:46 Operator: AGK-RLD
Sample : 127819,744970, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 19 17:07:27 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Mon Jul 18 10:10:08 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.50	83	226749	7.1452	ug/L		97
40)	111trichlota	0.00	97	0	N.D.			
42)	Cyclohexane	0.00	56	0	N.D.			
43)	Carbtetraclo	6.97	119	1438810	63.6789	ug/L		97
44)	11dicloprope	0.00	110	0	N.D.			
46)	Benzene	0.00	78	0	N.D.			
47)	12dichlorota	0.00	62	0	N.D.			
48)	TAME	0.00	73	0	N.D.			
49)	trichloroete	8.01	95	193324	10.2250	ug/L		98
50)	methylcyclohexane	0.00	83	0	N.D.			
51)	12dicloropra	0.00	63	0	N.D.			
52)	23Dicl1propene	0.00	75	0	N.D.			
53)	Dibromometha	0.00	93	0	N.D.			
54)	methylmethacrylate	0.00	69	0	N.D.			
55)	14dioxane	8.45	88	3144	9.0248	ug/L	#	27
56)	Bromodiclrma	0.00	83	0	N.D.			
57)	2Nitropropane	0.00	43	0	N.D.			
58)	2CLEVE	0.00	63	0	N.D.			
59)	c13dicloproe	0.00	75	0	N.D.			
60)	4Meth2Pentan	0.00	43	0	N.D.			
62)	Toluene	9.64	92	3369	N.D.			
63)	t13Dicloprop	0.00	75	0	N.D.			
64)	ethylmethacrylate	0.00	69	0	N.D.			
65)	112Triclotha	0.00	83	0	N.D.			
66)	Tetrachlorte	0.00	166	0	N.D.			
67)	13Diclorpropa	0.00	76	0	N.D.			
69)	2Hexanone	0.00	43	0	N.D.			
70)	Clorodibrmta	0.00	129	0	N.D.			
71)	12Dibrometha	0.00	107	0	N.D.			
72)	Chlorobenzen	0.00	112	0	N.D.			
73)	1Clhexane	11.44	91	2823	N.D.			
74)	1112Tetclota	0.00	131	0	N.D.			
75)	Ethylbenzene	11.64	91	3135	N.D.			
76)	m p-Xylene	11.81	106	5235	N.D.			
77)	o-Xylene	0.00	106	0	N.D.			
78)	Styrene	0.00	104	0	N.D.			
79)	Bromoform	0.00	173	0	N.D.			
80)	Isopropylben	0.00	105	0	N.D.			
81)	cyclohexanone	0.00	55	0	N.D.			
84)	Bromobenzene	0.00	156	0	N.D.			
85)	1122Tetrclta	0.00	83	0	N.D.			
86)	123Triclproa	0.00	75	0	N.D.			
87)	14dichloro2butene	0.00	53	0	N.D.			
88)	n-Propylbenz	0.00	91	0	N.D.			
89)	2chlorotolue	0.00	91	0	N.D.			
90)	4chlorotolue	0.00	91	0	N.D.			
91)	135Trimebenz	0.00	105	0	N.D.			
92)	tbutylbenzen	0.00	119	0	N.D.			
93)	124Trimetben	0.00	105	0	N.D.			
94)	sbutylbenzen	0.00	105	0	N.D.			
95)	13Diclorbenz	0.00	146	0	N.D.			
96)	pIsopropylto	0.00	119	0	N.D.			
97)	14dichlorobe	0.00	146	0	N.D.			
98)	12dichlorobe	0.00	146	0	N.D.			
99)	nButylbenzen	15.26	91	3177	N.D.			
100)	12dibromo3cl	0.00	157	0	N.D.			
101)	135Trichlorobenzene	0.00	180	0	N.D.			

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : L:\INSTARCH\DATA\JUL1916\744970.D Vial: 13
Acq On : 19 Jul 2016 16:46 Operator: AGK-RLD
Sample : 127819,744970, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 19 17:07:27 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Mon Jul 18 10:10:08 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	0.00	128	0	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

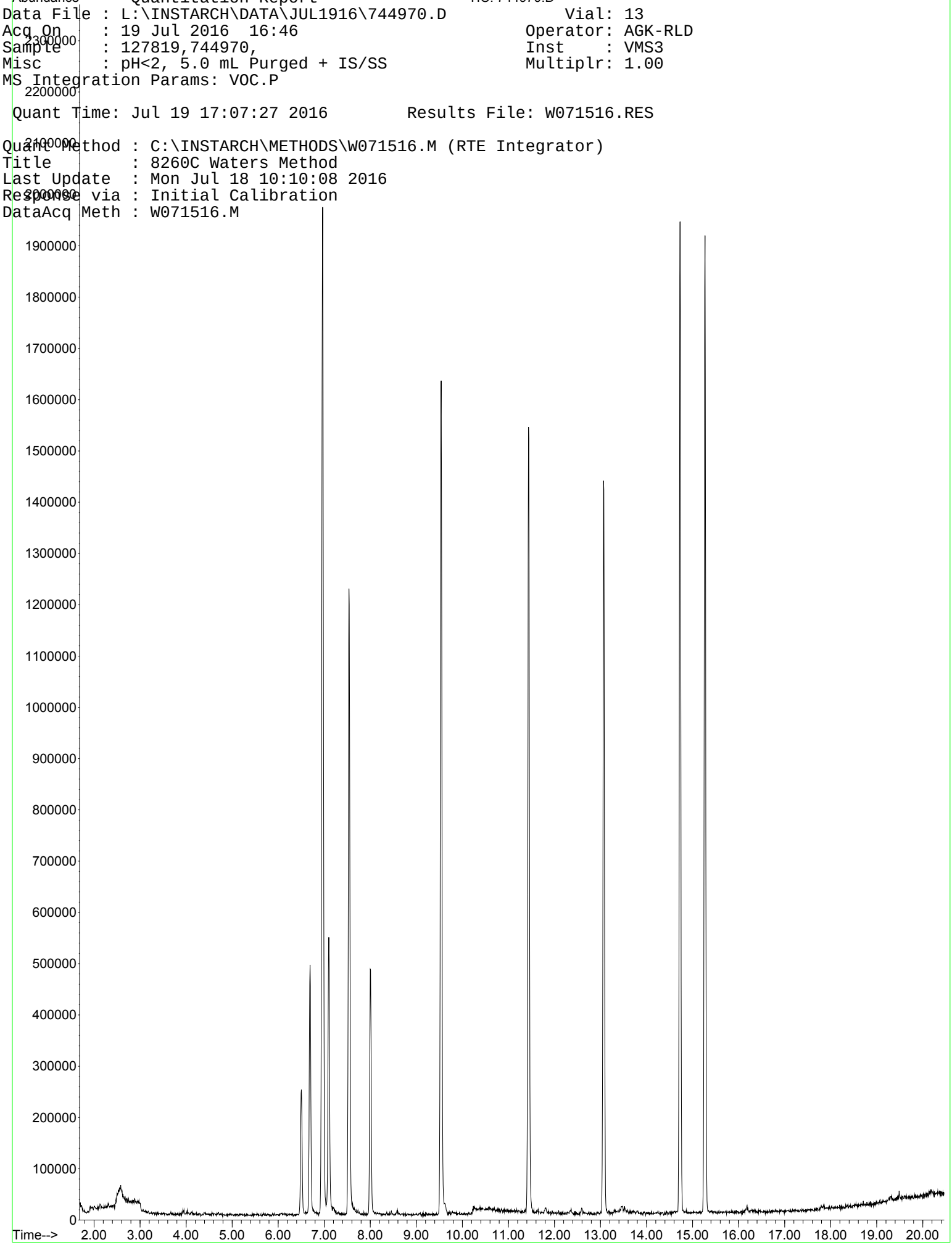
(#) = qualifier out of range (m) = manual integration

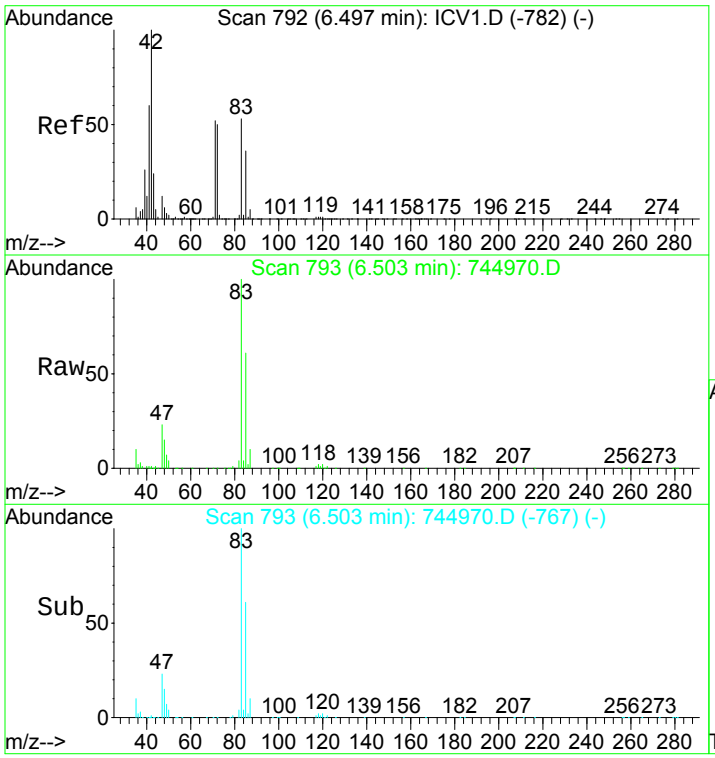
Abundance Quantitation Report TIC: 744970.D

Data File : L:\INSTARCH\DATA\JUL1916\744970.D Vial: 13
Acq On : 19 Jul 2016 16:46 Operator: AGK-RLD
Sample : 127819,744970, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 19 17:07:27 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Mon Jul 18 10:10:08 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M

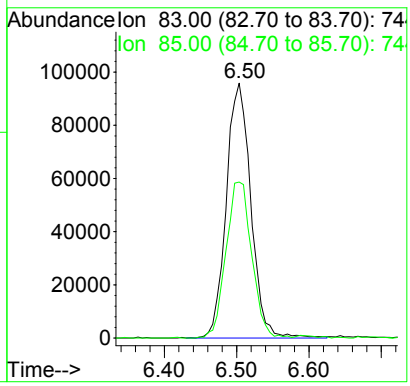


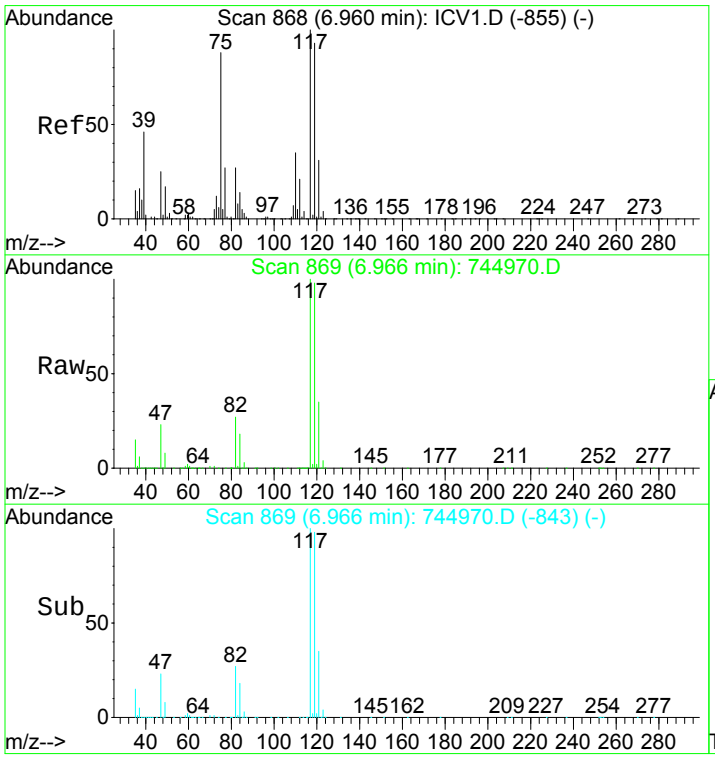


#39
Chloroform
Concen: 7.15 ug/L
RT: 6.50 min Scan# 793
Delta R.T. 0.01 min
Lab File: 744970.D
Acq: 19 Jul 2016 16:46

Tgt Ion: 83 Resp: 226749

Ion	Ratio	Lower	Upper
83	100		
85	63.9	46.0	86.0

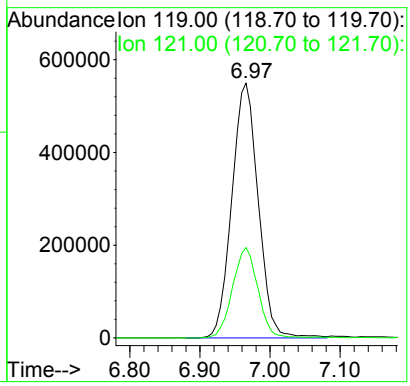


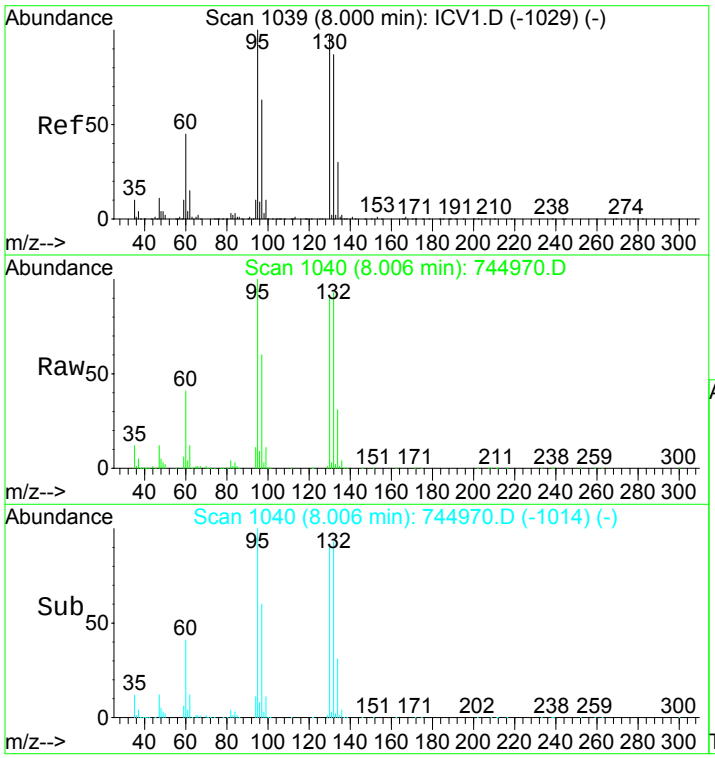


#43
Carbtetraclo
Concen: 63.68 ug/L
RT: 6.97 min Scan# 869
Delta R.T. 0.01 min
Lab File: 744970.D
Acq: 19 Jul 2016 16:46

Tgt Ion:119 Resp: 1438810

Ion	Ratio	Lower	Upper
119	100		
121	34.2	12.3	52.3

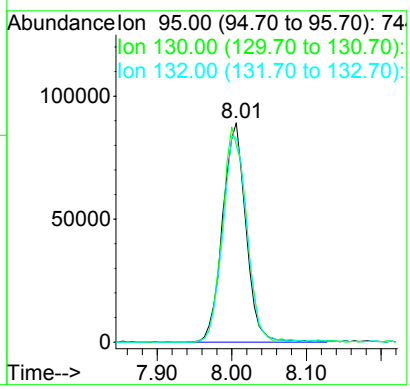


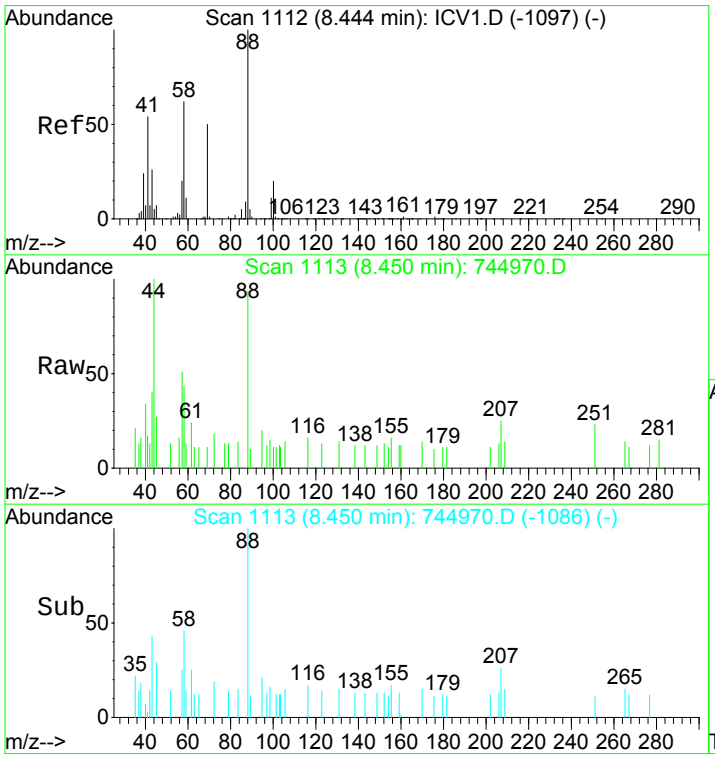


#49
trichloroete
Concen: 10.22 ug/L
RT: 8.01 min Scan# 1040
Delta R.T. 0.01 min
Lab File: 744970.D
Acq: 19 Jul 2016 16:46

Tgt Ion: 95 Resp: 193324

Ion	Ratio	Lower	Upper
95	100		
130	101.9	79.4	119.4
132	98.7	77.9	117.9

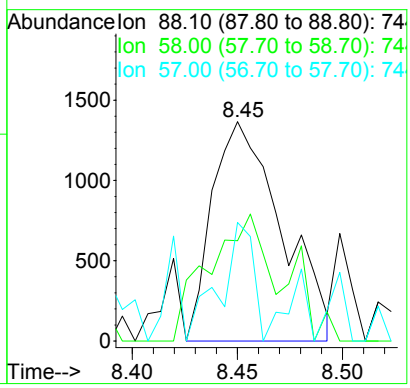




#55
14dioxane
Concen: 9.02 ug/L
RT: 8.45 min Scan# 1113
Delta R.T. 0.01 min
Lab File: 744970.D
Acq: 19 Jul 2016 16:46

Tgt Ion: 88 Resp: 3144

Ion	Ratio	Lower	Upper
88	100		
58	0.0	44.9	84.9#
57	0.0	1.0	41.0#



Quantitation Report

Data File : L:\INSTARCH\DATA\JUL1916\744972.D Vial: 14
Acq On : 19 Jul 2016 17:16 Operator: AGK-RLD
Sample : 127819,744972, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 19 17:36:59 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Mon Jul 18 10:10:08 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.54	96	1319867	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.44	117	1112639	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.73	152	702965	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.69	113	326918	19.293	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 96 %			
45) SURR12DCAd4	7.10	102	94350	19.873	ug/L	0.01
Spiked Amount 20.000	Range 89 - 112		Recovery = 99 %			
61) SURRd8Tolule	9.54	98	1387541	20.215	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101 %			
83) SURR4BrFBenz	13.07	95	581066	19.204	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 96 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	2.01	50	7189	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	2.61	94	3115	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	3.59	67	2985	N.D.		
11) propyleneoxide	3.94	58	3891	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	3.89	101	2533	N.D.		
15) Acetone	3.94	43	9587	Below	Cal	92
16) Iodomethane	4.03	142	7985	0.5914	ug/L #	43
17) Carbon Dislf	4.12	76	5380	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	4.68	59	3623	Below	Cal #	54
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	0.00	42	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : L:\INSTARCH\DATA\JUL1916\744972.D Vial: 14
Acq On : 19 Jul 2016 17:16 Operator: AGK-RLD
Sample : 127819,744972, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 19 17:36:59 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Mon Jul 18 10:10:08 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39) Chloroform	6.50	83	107761	3.5080	ug/L	100
40) 111trichlota	0.00	97	0	N.D.		
42) Cyclohexane	0.00	56	0	N.D.		
43) Carbtetraclo	6.96	119	836297	38.2366	ug/L	98
44) 11dicloprope	0.00	110	0	N.D.		
46) Benzene	0.00	78	0	N.D.		
47) 12dichlorota	0.00	62	0	N.D.		
48) TAME	0.00	73	0	N.D.		
49) trichloroete	8.00	95	71302	3.8959	ug/L	97
50) methylcyclohexane	0.00	83	0	N.D.		
51) 12dicloropra	0.00	63	0	N.D.		
52) 23Dicl1propene	0.00	75	0	N.D.		
53) Dibromometha	0.00	93	0	N.D.		
54) methylmethacrylate	0.00	69	0	N.D.		
55) 14dioxane	8.44	88	16687	49.4833	ug/L	99
56) Bromodiclrma	0.00	83	0	N.D.		
57) 2Nitropropane	0.00	43	0	N.D.		
58) 2CLEVE	0.00	63	0	N.D.		
59) c13dicloproe	0.00	75	0	N.D.		
60) 4Meth2Pentan	0.00	43	0	N.D.		
62) Toluene	9.62	92	5394	N.D.		
63) t13Dicloprop	0.00	75	0	N.D.		
64) ethylmethacrylate	0.00	69	0	N.D.		
65) 112Triclotha	0.00	83	0	N.D.		
66) Tetrachlorte	0.00	166	0	N.D.		
67) 13Diclorpropa	0.00	76	0	N.D.		
69) 2Hexanone	0.00	43	0	N.D.		
70) Clorodibrmta	0.00	129	0	N.D.		
71) 12Dibrometha	0.00	107	0	N.D.		
72) Chlorobenzen	0.00	112	0	N.D.		
73) 1Clhexane	11.44	91	3129	N.D.		
74) 1112Tetclota	0.00	131	0	N.D.		
75) Ethylbenzene	11.64	91	3416	N.D.		
76) m p-Xylene	11.80	106	5918	N.D.		
77) o-Xylene	12.35	106	2800	N.D.		
78) Styrene	0.00	104	0	N.D.		
79) Bromoform	0.00	173	0	N.D.		
80) Isopropylben	0.00	105	0	N.D.		
81) cyclohexanone	0.00	55	0	N.D.		
84) Bromobenzene	0.00	156	0	N.D.		
85) 1122Tetrclta	0.00	83	0	N.D.		
86) 123Triclproa	0.00	75	0	N.D.		
87) 14dichloro2butene	0.00	53	0	N.D.		
88) n-Propylbenz	0.00	91	0	N.D.		
89) 2chlorotolue	0.00	91	0	N.D.		
90) 4chlorotolue	0.00	91	0	N.D.		
91) 135Trimebenz	0.00	105	0	N.D.		
92) tbutylbenzen	0.00	119	0	N.D.		
93) 124Trimetben	14.25	105	3399	N.D.		
94) sbutylbenzen	0.00	105	0	N.D.		
95) 13Diclorbenz	0.00	146	0	N.D.		
96) pIsopropylto	0.00	119	0	N.D.		
97) 14dichlorobe	0.00	146	0	N.D.		
98) 12dichlorobe	0.00	146	0	N.D.		
99) nButylbenzen	0.00	91	0	N.D.		
100) 12dibromo3cl	0.00	157	0	N.D.		
101) 135Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : L:\INSTARCH\DATA\JUL1916\744972.D Vial: 14
Acq On : 19 Jul 2016 17:16 Operator: AGK-RLD
Sample : 127819,744972, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 19 17:36:59 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Mon Jul 18 10:10:08 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	0.00	128	0	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

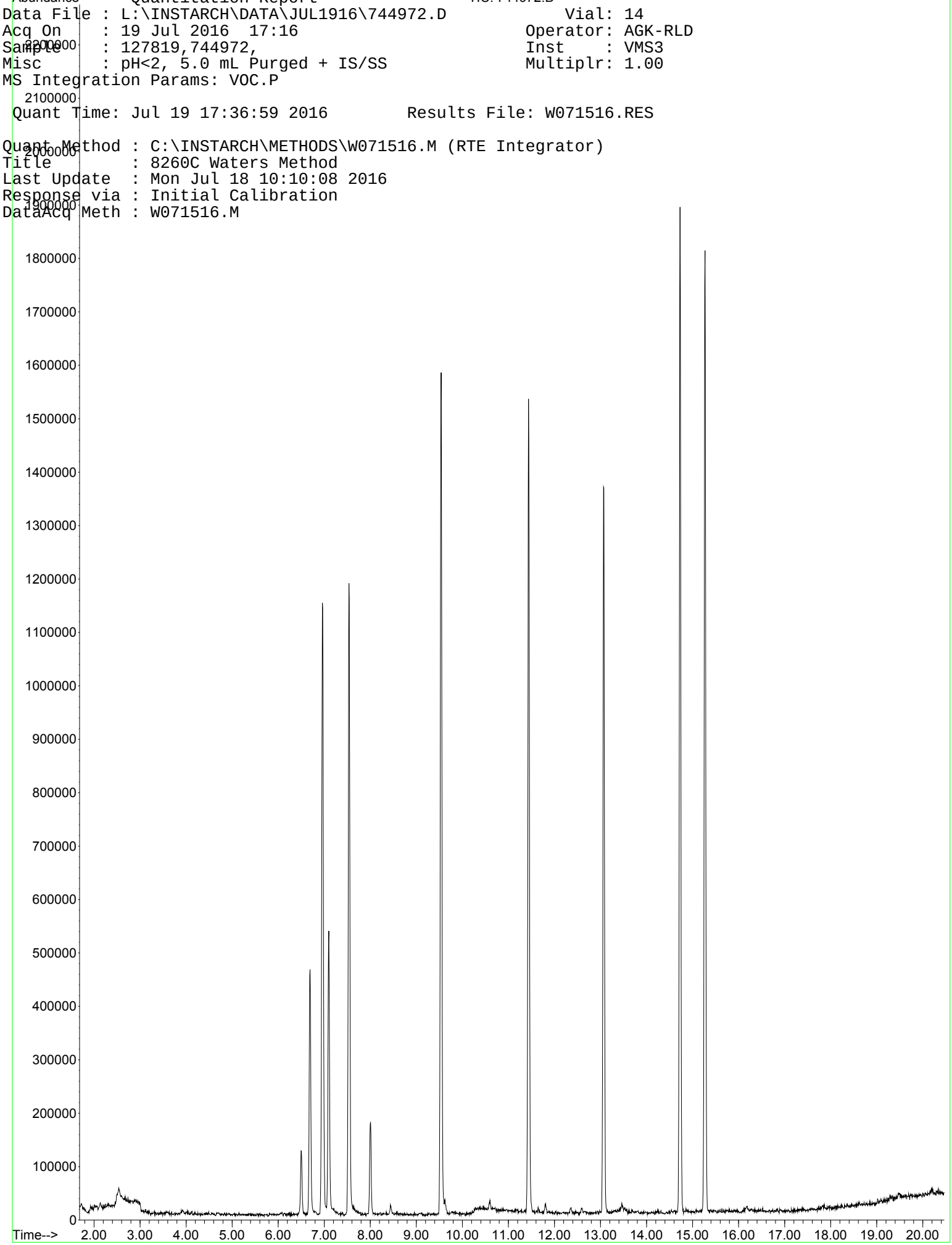
(#) = qualifier out of range (m) = manual integration

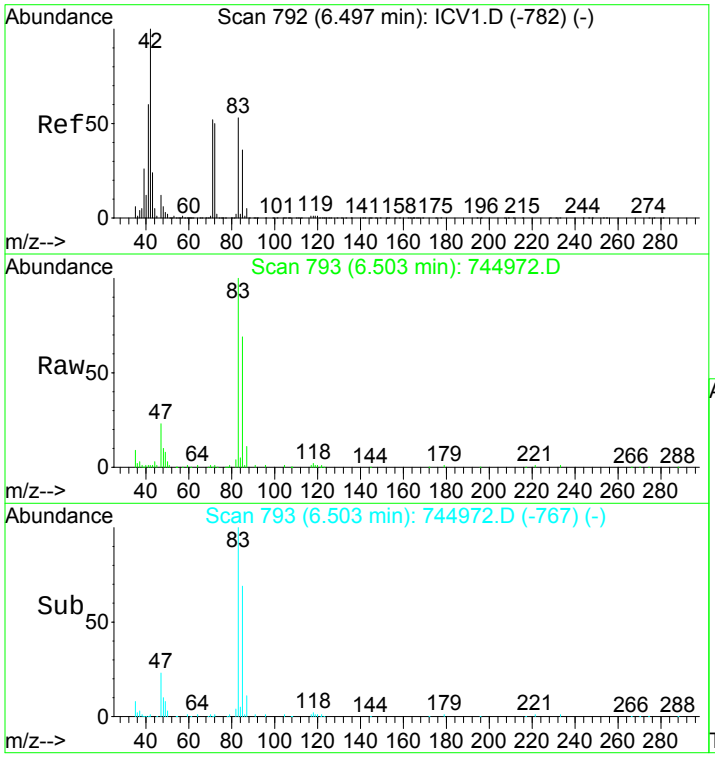
Abundance Quantitation Report TIC: 744972.D

Data File : L:\INSTARCH\DATA\JUL1916\744972.D Vial: 14
Acq On : 19 Jul 2016 17:16 Operator: AGK-RLD
Sample : 127819,744972, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 19 17:36:59 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Mon Jul 18 10:10:08 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M

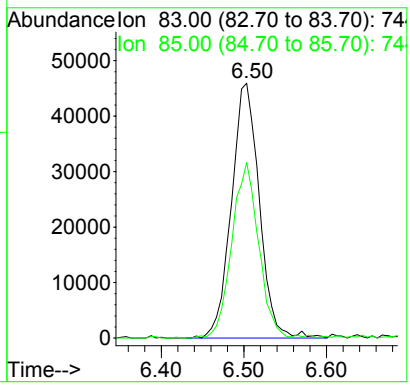


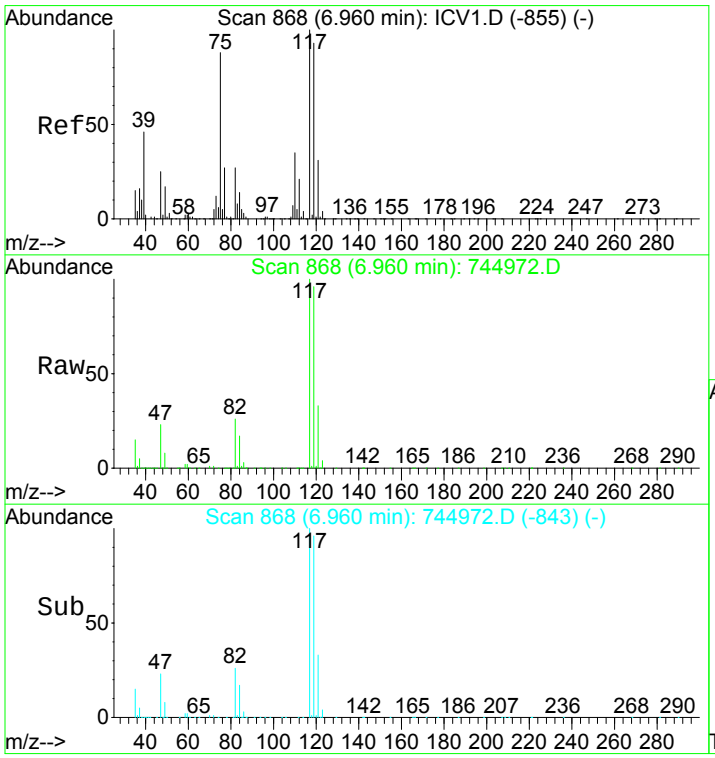


#39
Chloroform
Concen: 3.51 ug/L
RT: 6.50 min Scan# 793
Delta R.T. 0.01 min
Lab File: 744972.D
Acq: 19 Jul 2016 17:16

Tgt Ion: 83 Resp: 107761

Ion	Ratio	Lower	Upper
83	100		
85	65.9	46.0	86.0

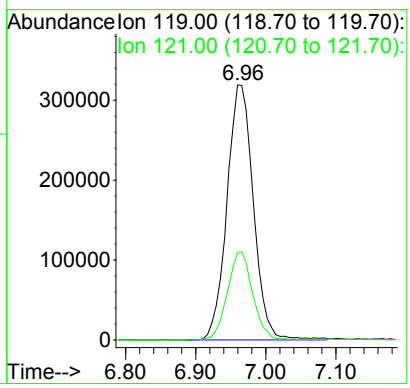


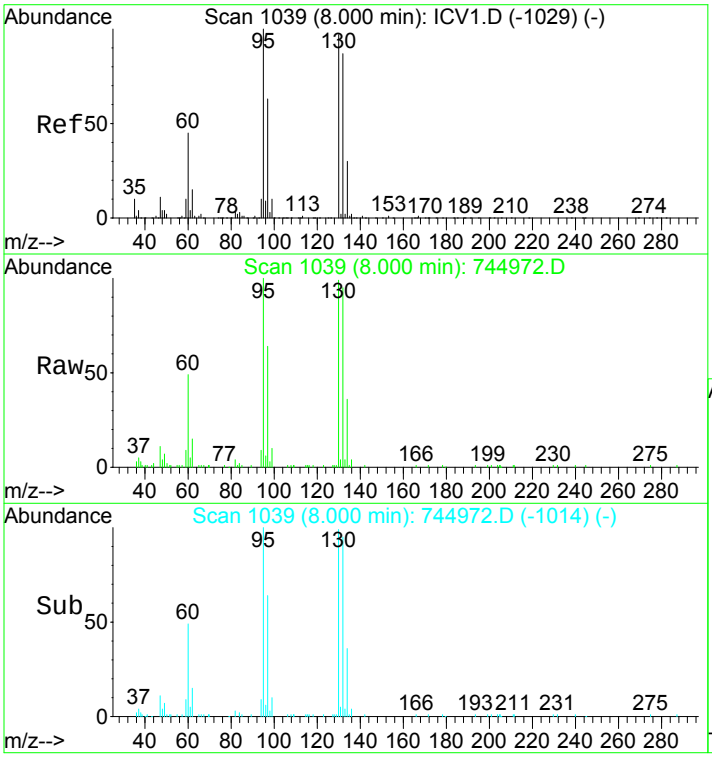


#43
Carbtetraclo
Concen: 38.24 ug/L
RT: 6.96 min Scan# 868
Delta R.T. 0.00 min
Lab File: 744972.D
Acq: 19 Jul 2016 17:16

Tgt Ion:119 Resp: 836297

Ion	Ratio	Lower	Upper
119	100		
121	33.2	12.3	52.3

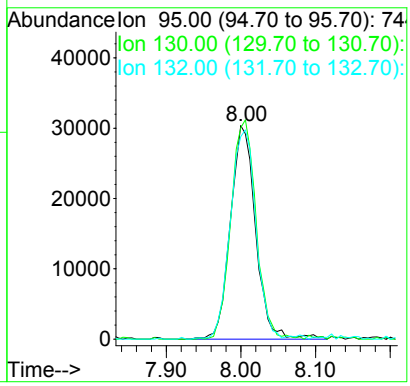


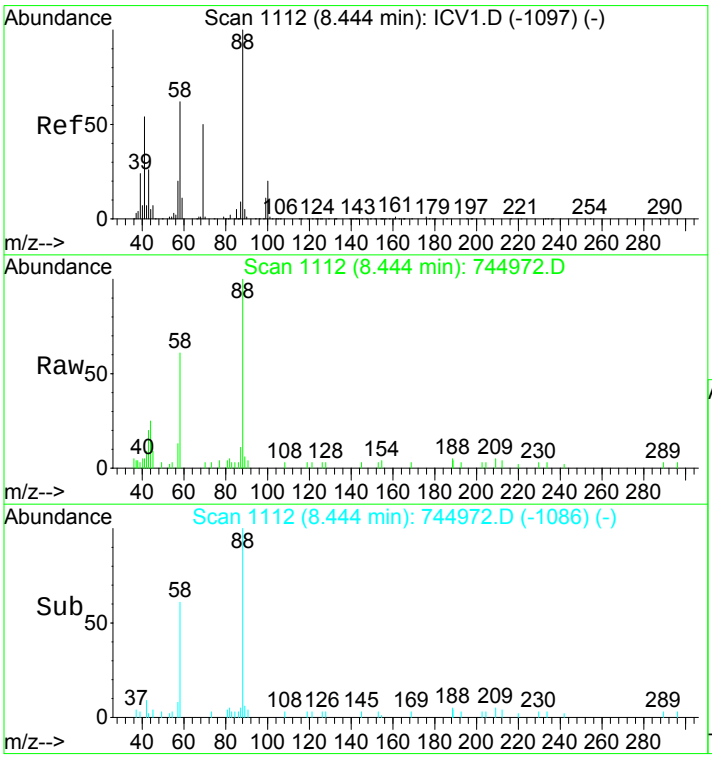


#49
trichloroete
Concen: 3.90 ug/L
RT: 8.00 min Scan# 1039
Delta R.T. -0.00 min
Lab File: 744972.D
Acq: 19 Jul 2016 17:16

Tgt Ion: 95 Resp: 71302

Ion	Ratio	Lower	Upper
95	100		
130	102.6	79.4	119.4
132	99.7	77.9	117.9

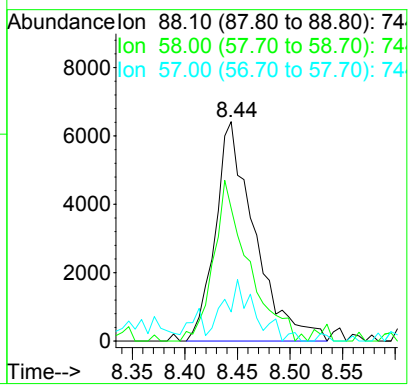




#55
14dioxane
Concen: 49.48 ug/L
RT: 8.44 min Scan# 1112
Delta R.T. 0.01 min
Lab File: 744972.D
Acq: 19 Jul 2016 17:16

Tgt Ion: 88 Resp: 16687

Ion	Ratio	Lower	Upper
88	100		
58	64.9	44.9	84.9
57	22.2	1.0	41.0



Quantitation Report

Data File : L:\INSTARCH\DATA\JUL1916\744974.D Vial: 15
Acq On : 19 Jul 2016 17:45 Operator: AGK-RLD
Sample : 127819,744974, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 19 18:06:27 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Mon Jul 18 10:10:08 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.54	96	1362317	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.44	117	1120287	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.73	152	700938	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.69	113	330916	18.920	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 95 %			
45) SURR12DCAd4	7.10	102	94707	19.327	ug/L	0.01
Spiked Amount 20.000	Range 89 - 112		Recovery = 97 %			
61) SURRd8Tolule	9.54	98	1415996	19.987	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100 %			
83) SURR4BrFBenz	13.07	95	591545	19.607	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 98 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	2.01	50	6140	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	0.00	94	0	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	3.92	58	4493	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	3.92	43	12866	Below	Cal	99
16) Iodomethane	4.02	142	5955	N.D.		
17) Carbon Dislf	4.12	76	3105	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	4.70	59	2760	Below	Cal #	54
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	0.00	42	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : L:\INSTARCH\DATA\JUL1916\744974.D Vial: 15
Acq On : 19 Jul 2016 17:45 Operator: AGK-RLD
Sample : 127819,744974, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 19 18:06:27 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Mon Jul 18 10:10:08 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	0.00	119	0	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	0.00	78	0	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	0.00	95	0	N.D.	
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	8.44	88	3446	9.9003 ug/L #	27
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	0.00	92	0	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	11.45	91	3157	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	0.00	106	0	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	0.00	55	0	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	0.00	105	0	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	15.28	91	2588	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : L:\INSTARCH\DATA\JUL1916\744974.D Vial: 15
Acq On : 19 Jul 2016 17:45 Operator: AGK-RLD
Sample : 127819,744974, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 19 18:06:27 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Mon Jul 18 10:10:08 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	0.00	128	0	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

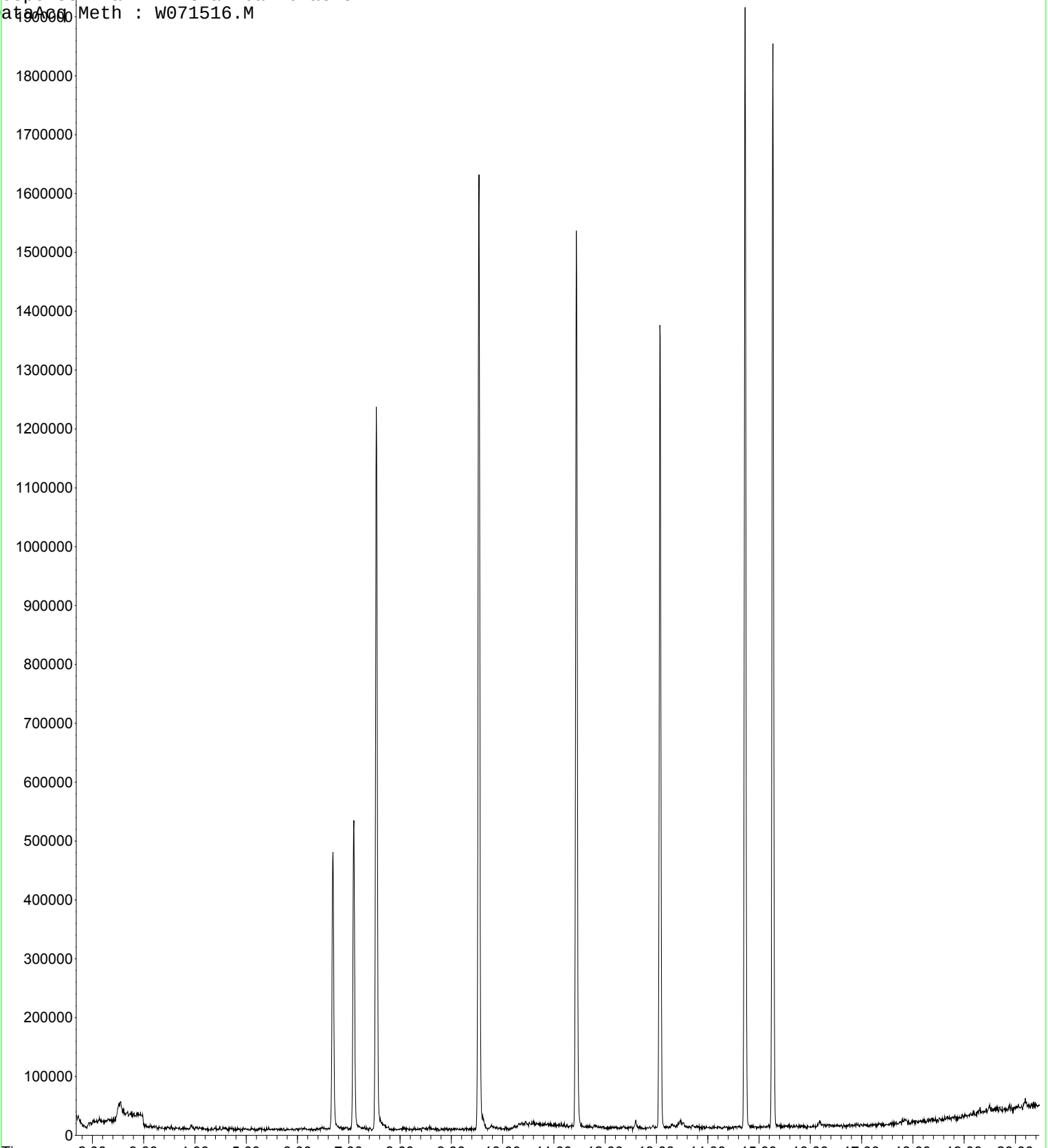
(#) = qualifier out of range (m) = manual integration

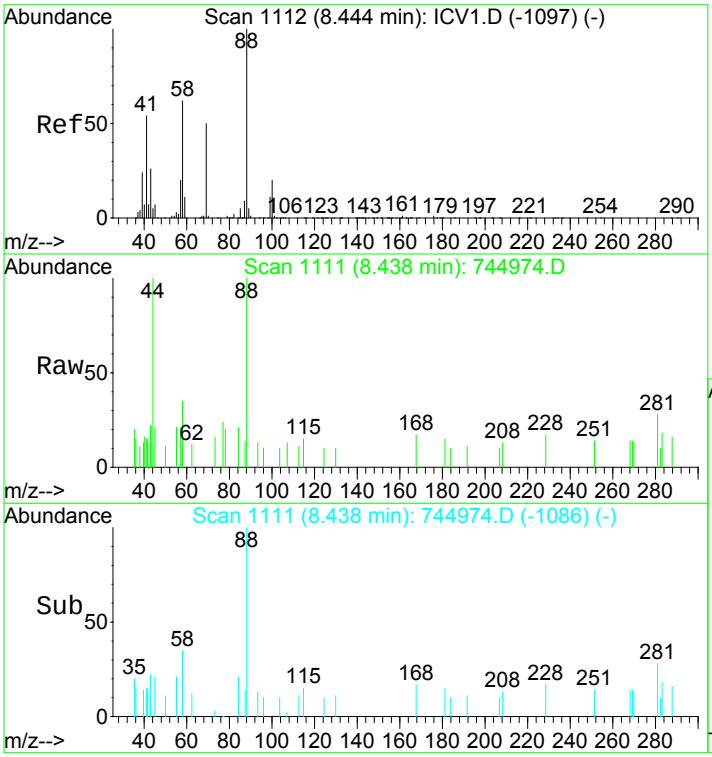
Abundance Quantitation Report TIC: 744974.D

Data File : L:\INSTARCH\DATA\JUL1916\744974.D Vial: 15
Acq On : 19 Jul 2016 17:45 Operator: AGK-RLD
Sample : 127819,744974, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 19 18:06:27 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Mon Jul 18 10:10:08 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M

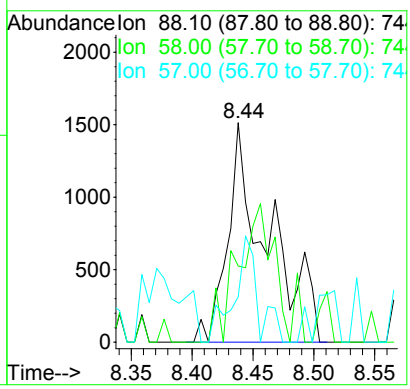




#55
14dioxane
Concen: 9.90 ug/L
RT: 8.44 min Scan# 1111
Delta R.T. -0.00 min
Lab File: 744974.D
Acq: 19 Jul 2016 17:45

Tgt Ion: 88 Resp: 3446

Ion	Ratio	Lower	Upper
88	100		
58	0.0	44.9	84.9#
57	0.0	1.0	41.0#



Quantitation Report

Data File : L:\INSTARCH\DATA\JUL1916\744976.D Vial: 16
Acq On : 19 Jul 2016 18:14 Operator: AGK-RLD
Sample : 127819,744976, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 19 18:35:33 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Mon Jul 18 10:10:08 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.54	96	1348651	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.44	117	1129690	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.73	152	704508	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.69	113	340594	19.671	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 98	%		
45) SURR12DCAd4	7.09	102	97600	20.119	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 101	%		
61) SURRd8Tolule	9.54	98	1418449	20.225	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101	%		
83) SURR4BrFBenz	13.07	95	595702	19.645	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 98	%		
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	2.00	50	7309	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	2.61	94	4106	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	3.93	58	3340	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	3.94	43	10595	Below	Cal	93
16) Iodomethane	4.04	142	4041	N.D.		
17) Carbon Dislf	4.13	76	4146	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	4.70	59	5550	Below	Cal #	54
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	0.00	42	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : L:\INSTARCH\DATA\JUL1916\744976.D Vial: 16
Acq On : 19 Jul 2016 18:14 Operator: AGK-RLD
Sample : 127819,744976, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 19 18:35:33 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Mon Jul 18 10:10:08 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39) Chloroform	6.49	83	2860	N.D.	
40) 111trichlota	0.00	97	0	N.D.	
42) Cyclohexane	0.00	56	0	N.D.	
43) Carbtetraclo	6.97	119	15908	0.7118 ug/L	97
44) 11dicloprope	0.00	110	0	N.D.	
46) Benzene	0.00	78	0	N.D.	
47) 12dichlorota	0.00	62	0	N.D.	
48) TAME	0.00	73	0	N.D.	
49) trichloroete	0.00	95	0	N.D.	
50) methylcyclohexane	0.00	83	0	N.D.	
51) 12dicloropra	0.00	63	0	N.D.	
52) 23Dicl1propene	0.00	75	0	N.D.	
53) Dibromometha	0.00	93	0	N.D.	
54) methylmethacrylate	0.00	69	0	N.D.	
55) 14dioxane	8.44	88	9016	26.1653 ug/L #	73
56) Bromodiclrma	0.00	83	0	N.D.	
57) 2Nitropropane	0.00	43	0	N.D.	
58) 2CLEVE	0.00	63	0	N.D.	
59) c13dicloproe	0.00	75	0	N.D.	
60) 4Meth2Pentan	0.00	43	0	N.D.	
62) Toluene	9.62	92	2781	N.D.	
63) t13Dicloprop	0.00	75	0	N.D.	
64) ethylmethacrylate	0.00	69	0	N.D.	
65) 112Triclotha	0.00	83	0	N.D.	
66) Tetrachlorte	0.00	166	0	N.D.	
67) 13Diclorpropa	0.00	76	0	N.D.	
69) 2Hexanone	0.00	43	0	N.D.	
70) Clorodibrmta	0.00	129	0	N.D.	
71) 12Dibrometha	0.00	107	0	N.D.	
72) Chlorobenzen	0.00	112	0	N.D.	
73) 1Clhexane	11.44	91	2911	N.D.	
74) 1112Tetclota	0.00	131	0	N.D.	
75) Ethylbenzene	11.65	91	2512	N.D.	
76) m p-Xylene	11.80	106	2520	N.D.	
77) o-Xylene	0.00	106	0	N.D.	
78) Styrene	0.00	104	0	N.D.	
79) Bromoform	0.00	173	0	N.D.	
80) Isopropylben	0.00	105	0	N.D.	
81) cyclohexanone	0.00	55	0	N.D.	
84) Bromobenzene	0.00	156	0	N.D.	
85) 1122Tetrclta	0.00	83	0	N.D.	
86) 123Triclproa	0.00	75	0	N.D.	
87) 14dichloro2butene	0.00	53	0	N.D.	
88) n-Propylbenz	0.00	91	0	N.D.	
89) 2chlorotolue	0.00	91	0	N.D.	
90) 4chlorotolue	0.00	91	0	N.D.	
91) 135Trimebenz	0.00	105	0	N.D.	
92) tbutylbenzen	0.00	119	0	N.D.	
93) 124Trimetben	14.24	105	2519	N.D.	
94) sbutylbenzen	0.00	105	0	N.D.	
95) 13Diclorbenz	0.00	146	0	N.D.	
96) pIsopropylto	0.00	119	0	N.D.	
97) 14dichlorobe	0.00	146	0	N.D.	
98) 12dichlorobe	0.00	146	0	N.D.	
99) nButylbenzen	0.00	91	0	N.D.	
100) 12dibromo3cl	0.00	157	0	N.D.	
101) 135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : L:\INSTARCH\DATA\JUL1916\744976.D Vial: 16
Acq On : 19 Jul 2016 18:14 Operator: AGK-RLD
Sample : 127819,744976, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 19 18:35:33 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Mon Jul 18 10:10:08 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	0.00	128	0	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

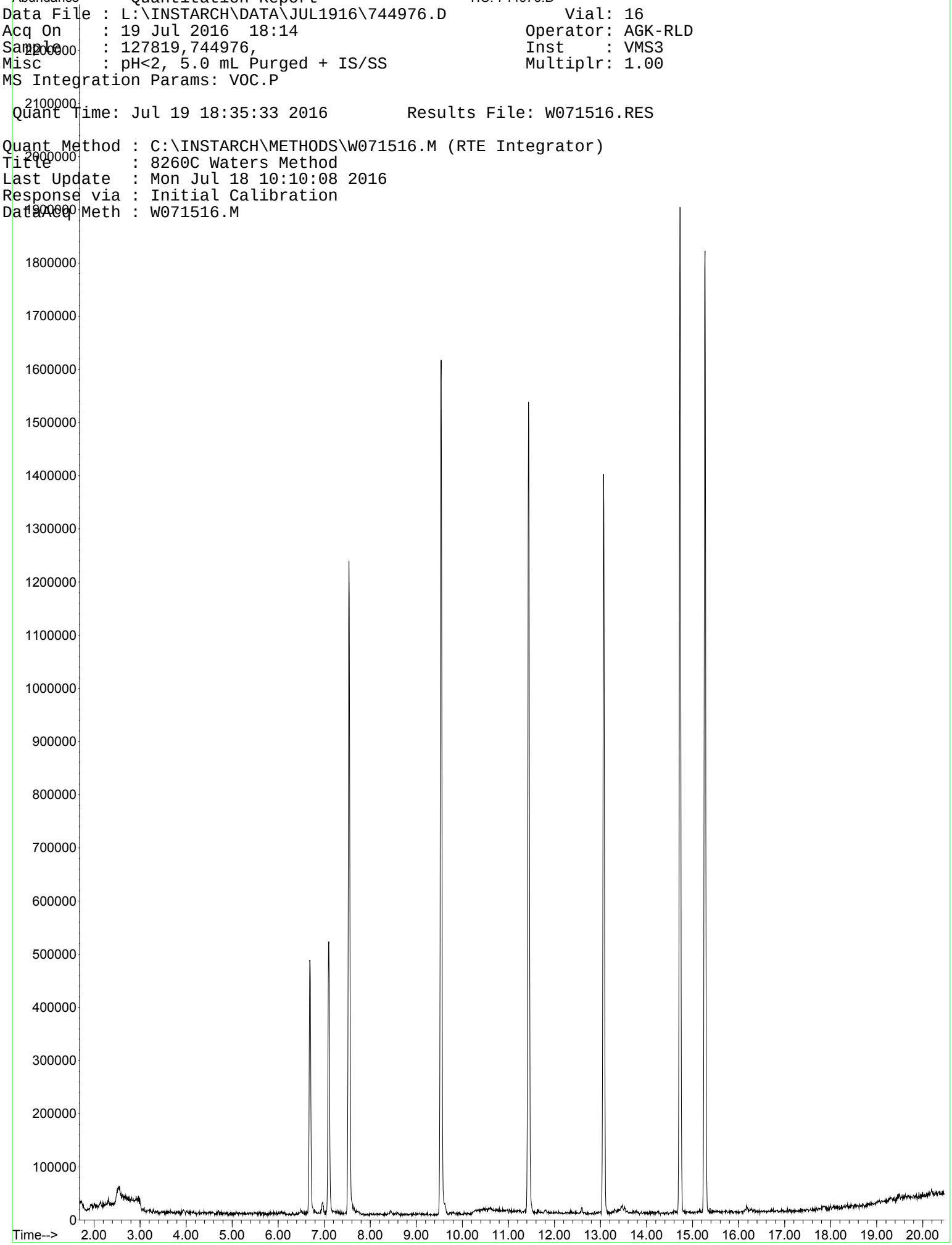
(#) = qualifier out of range (m) = manual integration

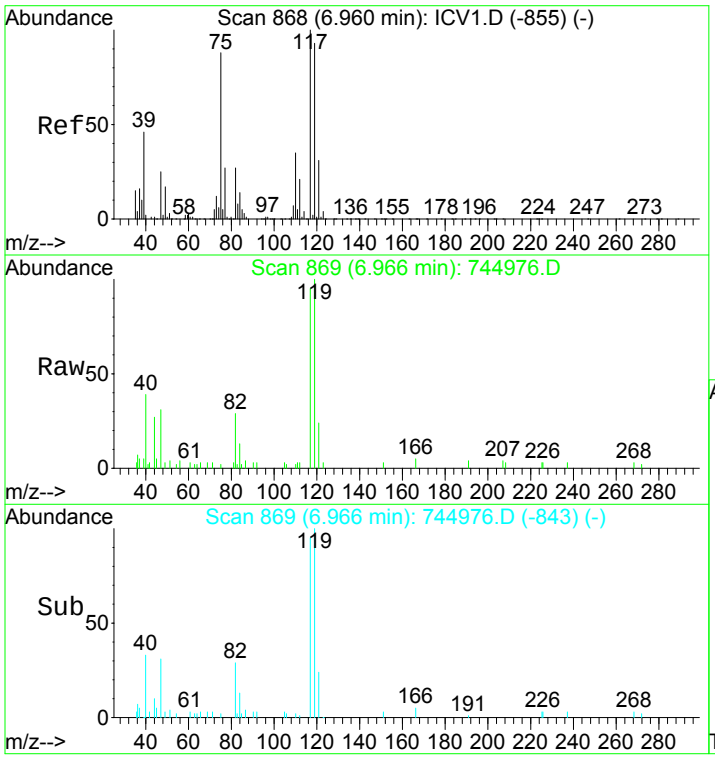
Abundance Quantitation Report TIC: 744976.D

Data File : L:\INSTARCH\DATA\JUL1916\744976.D Vial: 16
Acq On : 19 Jul 2016 18:14 Operator: AGK-RLD
Sample : 127819,744976, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 19 18:35:33 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Mon Jul 18 10:10:08 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M

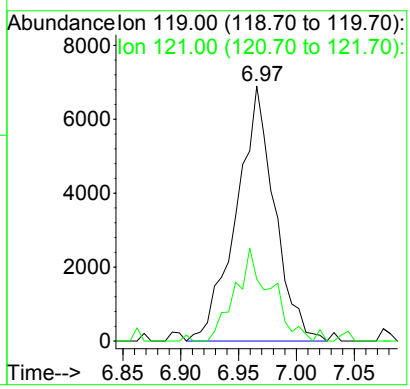


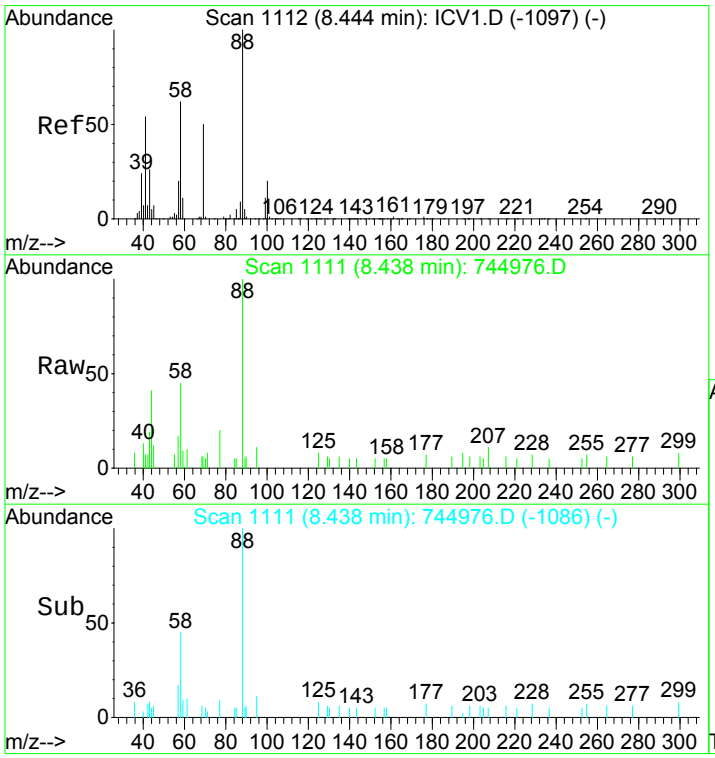


#43
Carbtetraclo
Concen: 0.71 ug/L
RT: 6.97 min Scan# 869
Delta R.T. 0.01 min
Lab File: 744976.D
Acq: 19 Jul 2016 18:14

Tgt Ion:119 Resp: 15908

Ion	Ratio	Lower	Upper
119	100		
121	33.8	12.3	52.3

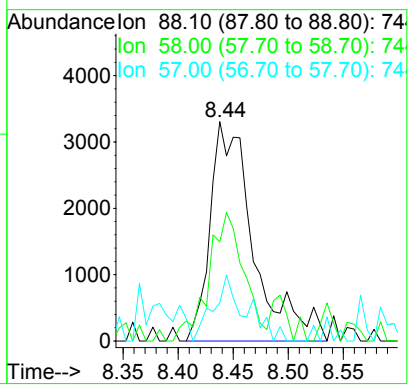




#55
14dioxane
Concen: 26.17 ug/L
RT: 8.44 min Scan# 1111
Delta R.T. 0.00 min
Lab File: 744976.D
Acq: 19 Jul 2016 18:14

Tgt Ion: 88 Resp: 9016

Ion	Ratio	Lower	Upper
88	100		
58	48.0	44.9	84.9
57	0.0	1.0	41.0#



Quantitation Report

Data File : L:\INSTARCH\DATA\JUL1916\744980.D Vial: 17
Acq On : 19 Jul 2016 18:44 Operator: AGK-RLD
Sample : 127819,744980, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 19 19:04:42 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Mon Jul 18 10:10:08 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.54	96	1342340	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.44	117	1107294	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.73	152	696360	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.69	113	320992	18.626	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 93 %			
45) SURR12DCAd4	7.09	102	91782	19.009	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 95 %			
61) SURRd8Tolule	9.53	98	1385456	19.847	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 99 %			
83) SURR4BrFBenz	13.07	95	579877	19.347	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 97 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	2.01	50	7555	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	2.59	94	3649	N.D.		
6) Chloroethane	2.79	64	2701	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	3.92	58	11605	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	3.92	43	32164	Below	Cal	100
16) Iodomethane	4.03	142	7147	0.5205	ug/L #	89
17) Carbon Dislf	4.11	76	3192	N.D.		
18) allylchloride	4.26	41	3714	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	4.70	59	6813	Below	Cal #	57
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	6.50	42	4499	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : L:\INSTARCH\DATA\JUL1916\744980.D Vial: 17
Acq On : 19 Jul 2016 18:44 Operator: AGK-RLD
Sample : 127819,744980, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 19 19:04:42 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Mon Jul 18 10:10:08 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.		
40)	111trichlota	0.00	97	0	N.D.		
42)	Cyclohexane	0.00	56	0	N.D.		
43)	Carbtetraclo	0.00	119	0	N.D.		
44)	11dicloprope	0.00	110	0	N.D.		
46)	Benzene	0.00	78	0	N.D.		
47)	12dichlorota	0.00	62	0	N.D.		
48)	TAME	0.00	73	0	N.D.		
49)	trichloroete	0.00	95	0	N.D.		
50)	methylcyclohexane	0.00	83	0	N.D.		
51)	12dicloropra	0.00	63	0	N.D.		
52)	23Dicl1propene	0.00	75	0	N.D.		
53)	Dibromometha	0.00	93	0	N.D.		
54)	methylmethacrylate	0.00	69	0	N.D.		
55)	14dioxane	8.45	88	15631	45.5759	ug/L	97
56)	Bromodiclrma	0.00	83	0	N.D.		
57)	2Nitropropane	0.00	43	0	N.D.		
58)	2CLEVE	0.00	63	0	N.D.		
59)	c13dicloproe	0.00	75	0	N.D.		
60)	4Meth2Pentan	0.00	43	0	N.D.		
62)	Toluene	0.00	92	0	N.D.		
63)	t13Dicloprop	0.00	75	0	N.D.		
64)	ethylmethacrylate	0.00	69	0	N.D.		
65)	112Triclotha	0.00	83	0	N.D.		
66)	Tetrachlorte	0.00	166	0	N.D.		
67)	13Diclorpropa	0.00	76	0	N.D.		
69)	2Hexanone	0.00	43	0	N.D.		
70)	Clorodibrmta	0.00	129	0	N.D.		
71)	12Dibrometha	0.00	107	0	N.D.		
72)	Chlorobenzen	0.00	112	0	N.D.		
73)	1Clhexane	11.43	91	3630	N.D.		
74)	1112Tetclota	0.00	131	0	N.D.		
75)	Ethylbenzene	0.00	91	0	N.D.		
76)	m p-Xylene	0.00	106	0	N.D.		
77)	o-Xylene	0.00	106	0	N.D.		
78)	Styrene	0.00	104	0	N.D.		
79)	Bromoform	0.00	173	0	N.D.		
80)	Isopropylben	0.00	105	0	N.D.		
81)	cyclohexanone	0.00	55	0	N.D.		
84)	Bromobenzene	0.00	156	0	N.D.		
85)	1122Tetrclta	0.00	83	0	N.D.		
86)	123Triclproa	0.00	75	0	N.D.		
87)	14dichloro2butene	0.00	53	0	N.D.		
88)	n-Propylbenz	0.00	91	0	N.D.		
89)	2chlorotolue	0.00	91	0	N.D.		
90)	4chlorotolue	0.00	91	0	N.D.		
91)	135Trimebenz	0.00	105	0	N.D.		
92)	tbutylbenzen	0.00	119	0	N.D.		
93)	124Trimetben	0.00	105	0	N.D.		
94)	sbutylbenzen	0.00	105	0	N.D.		
95)	13Diclorbenz	0.00	146	0	N.D.		
96)	pIsopropylto	0.00	119	0	N.D.		
97)	14dichlorobe	0.00	146	0	N.D.		
98)	12dichlorobe	0.00	146	0	N.D.		
99)	nButylbenzen	15.27	91	2805	N.D.		
100)	12dibromo3cl	0.00	157	0	N.D.		
101)	135Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : L:\INSTARCH\DATA\JUL1916\744980.D Vial: 17
Acq On : 19 Jul 2016 18:44 Operator: AGK-RLD
Sample : 127819,744980, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 19 19:04:42 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Mon Jul 18 10:10:08 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	0.00	128	0	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

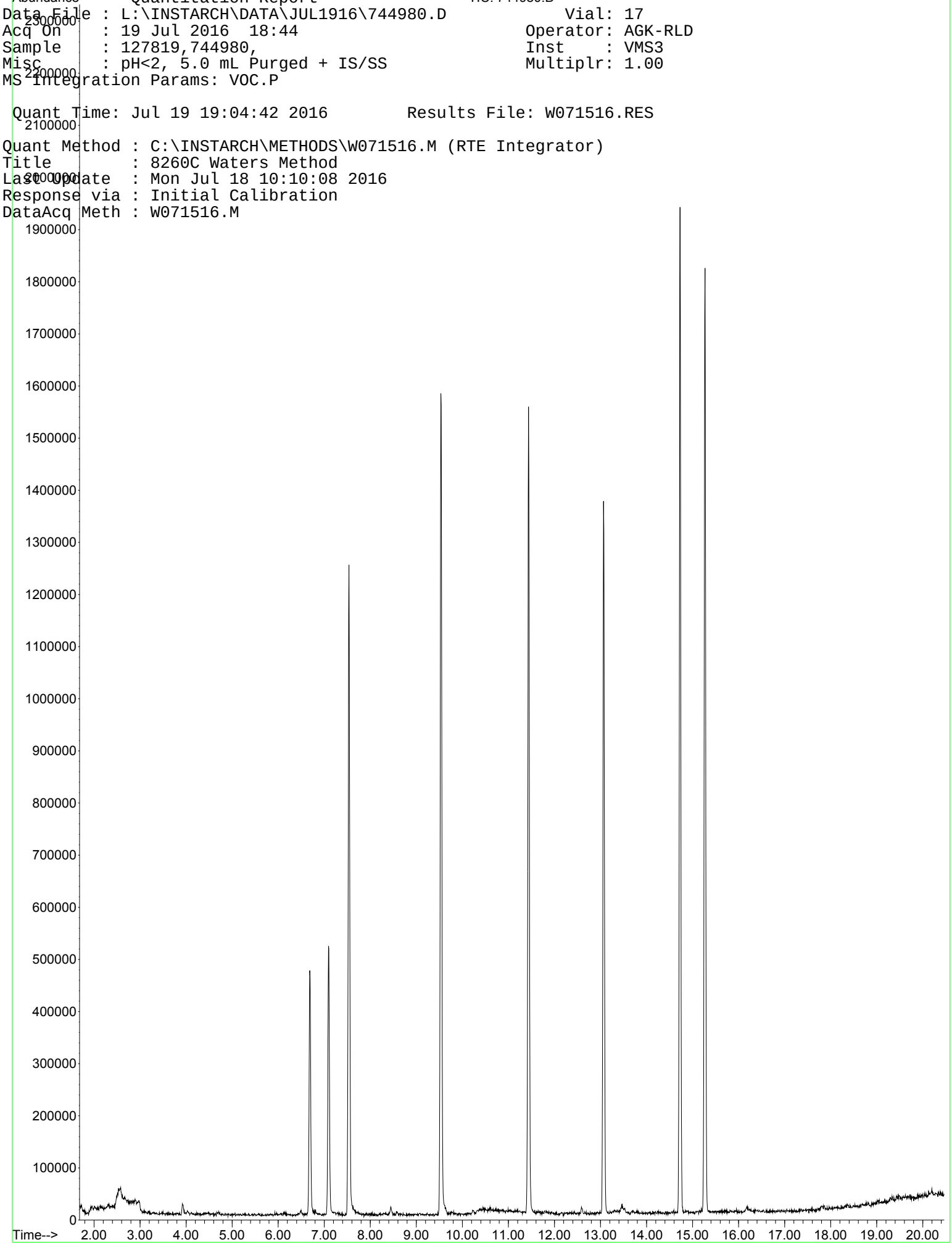
(#) = qualifier out of range (m) = manual integration

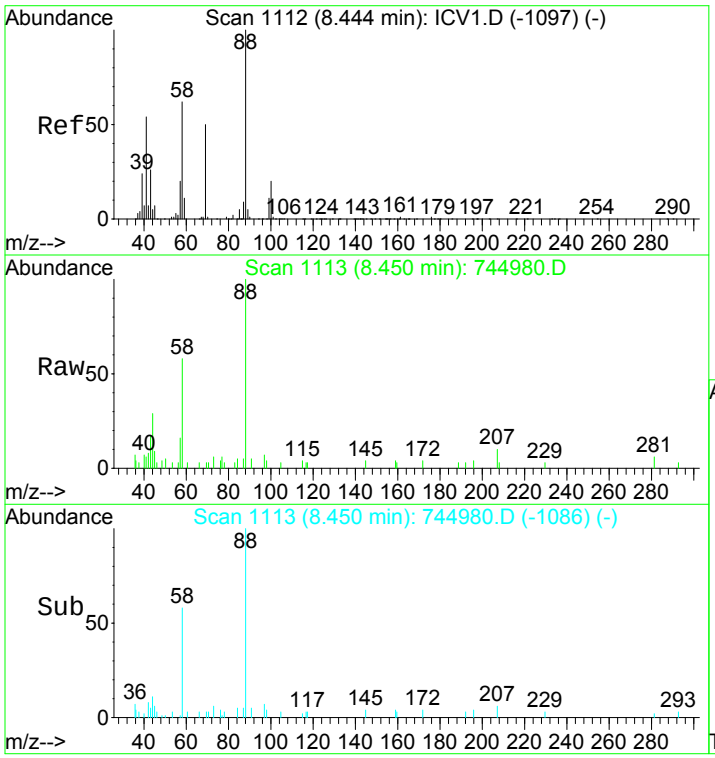
Abundance Quantitation Report TIC: 744980.D

Data File : L:\INSTARCH\DATA\JUL1916\744980.D Vial: 17
Acq On : 19 Jul 2016 18:44 Operator: AGK-RLD
Sample : 127819,744980, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 19 19:04:42 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Mon Jul 18 10:10:08 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M

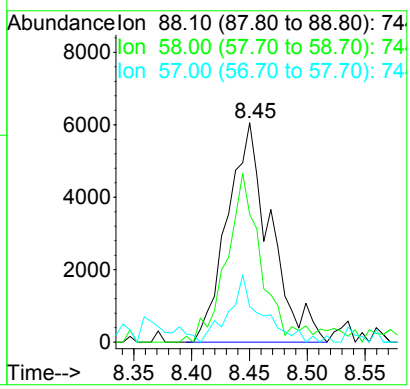




#55
14dioxane
Concen: 45.58 ug/L
RT: 8.45 min Scan# 1113
Delta R.T. 0.01 min
Lab File: 744980.D
Acq: 19 Jul 2016 18:44

Tgt Ion: 88 Resp: 15631

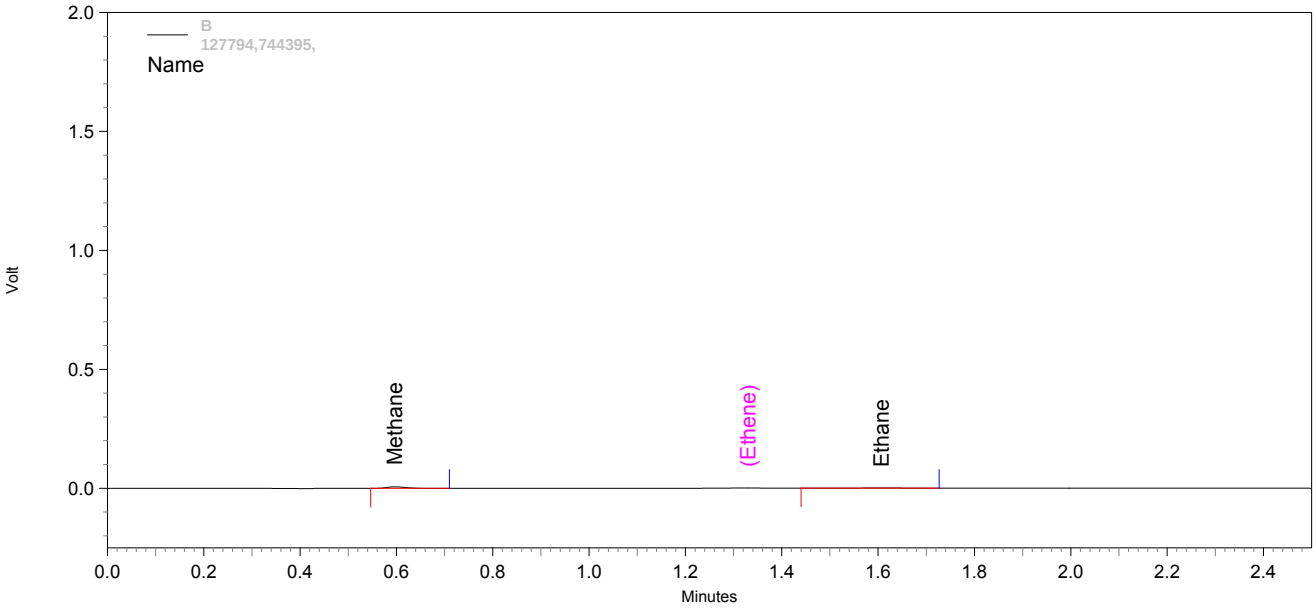
Ion	Ratio	Lower	Upper
88	100		
58	66.5	44.9	84.9
57	23.0	1.0	41.0



Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\071516\032.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 127794,744395,
Acquired: Jul 15, 2016 11:07:06
File Desc. 1.0 mL injection (Methane, Ethene, Ethane)



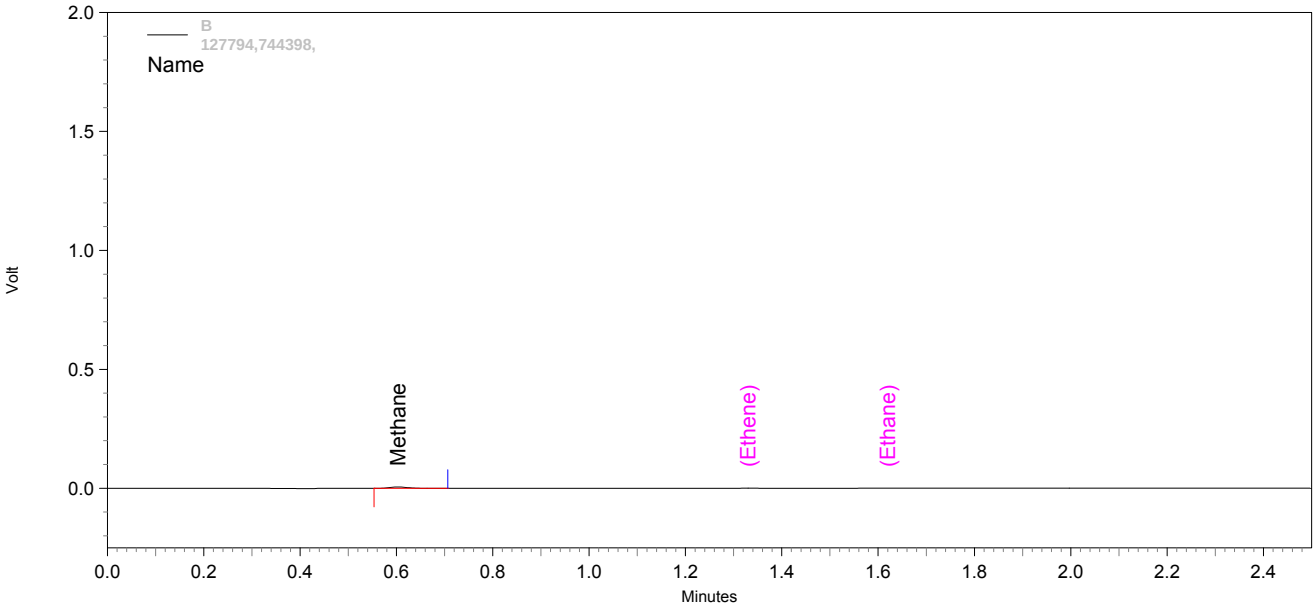
B Results

Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.597	16710	**1.787**
	Ethene			**0.000 BDL**
2	Ethane	1.607	5658	**0.928**
Totals			22368	**2.716**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\071516\033.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 127794,744398,
Acquired: Jul 15, 2016 11:12:46
File Desc. 1.0 mL injection (Methane, Ethene, Ethane)



B Results

Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.603	14648	**1.556**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

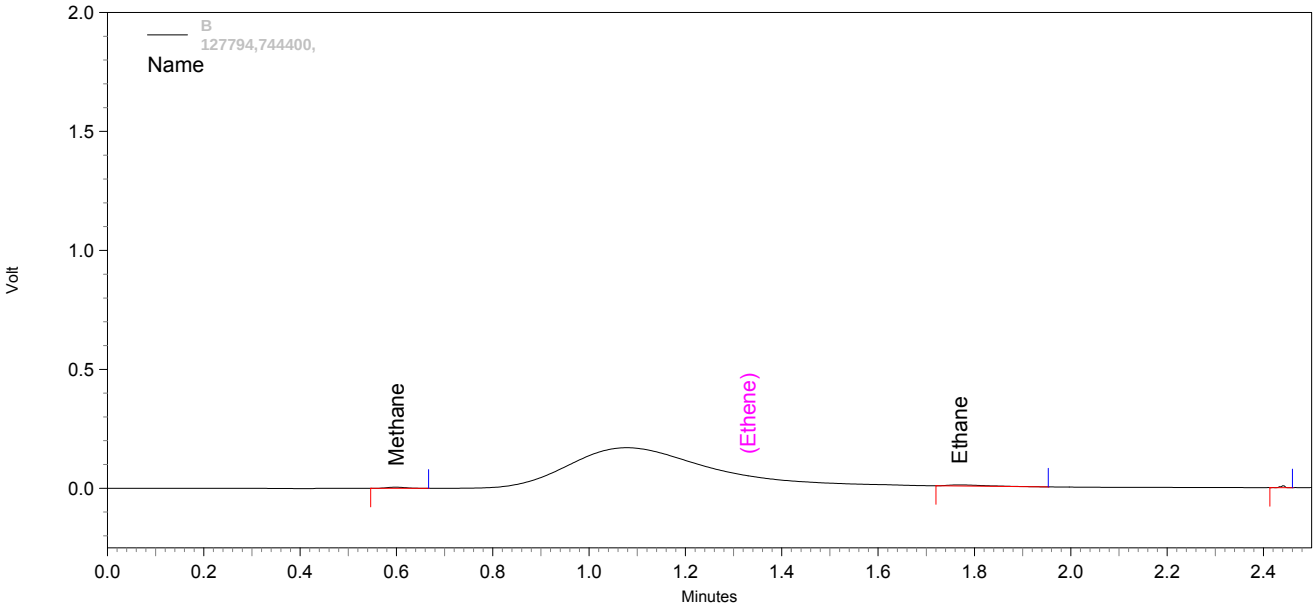
Totals			14648	**1.556**

NOT USED

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\071516\037.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 127794,744400,
Acquired: Jul 15, 2016 11:28:23
File Desc. 1.0 mL injection (Methane, Ethene, Ethane)



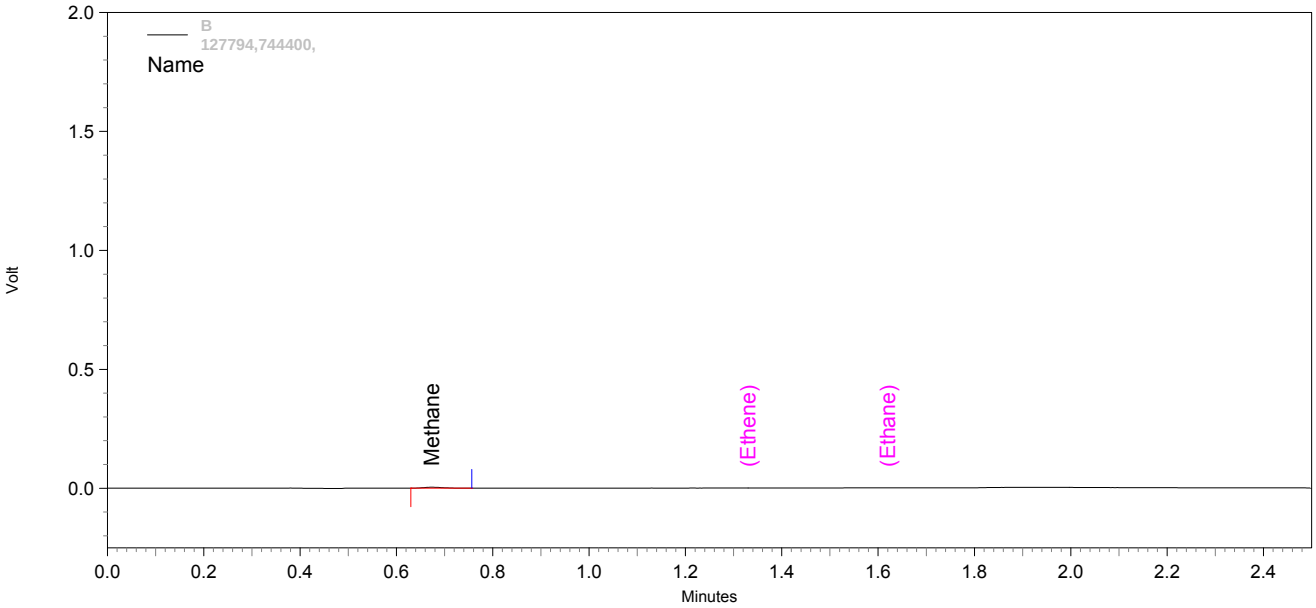
B Results

Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.600	12640	**1.331**
	Ethene			**0.000 BDL**
2	Ethane	1.770	24883	**2.053**
Totals			37523	**3.384**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\071516\038.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 127794,744400,
Acquired: Jul 15, 2016 11:32:07
File Desc. 1.0 mL injection (Methane, Ethene, Ethane)



B Results

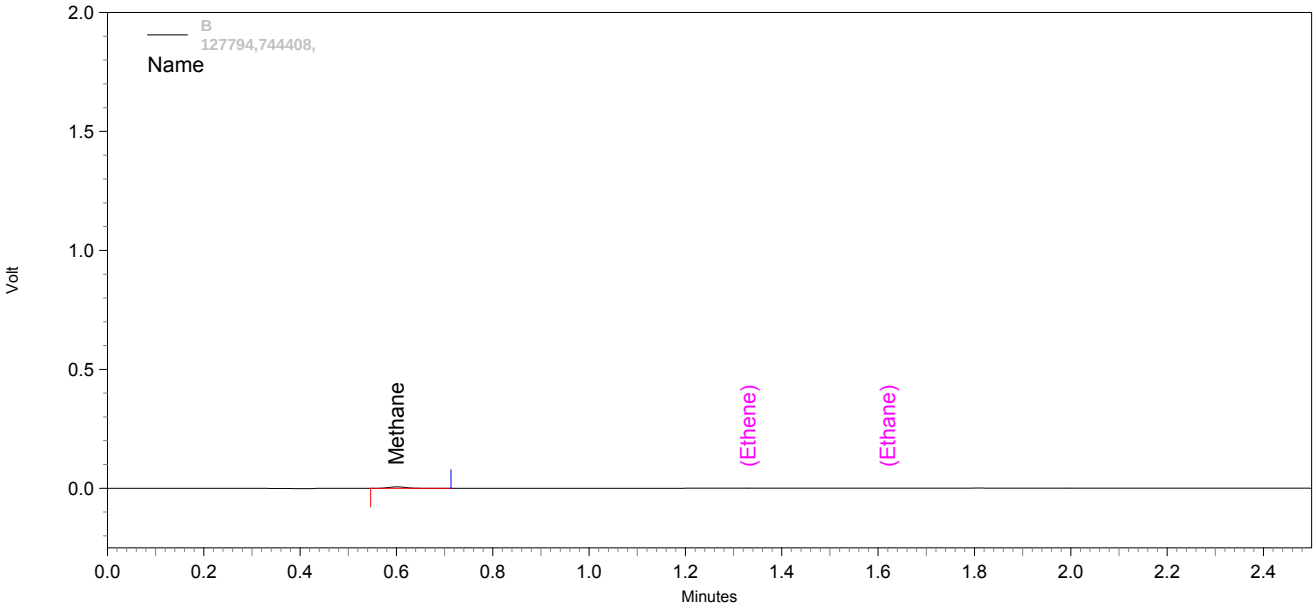
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.673	9995	**1.034**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			9995	**1.034**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\071516\039.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 127794,744408,
Acquired: Jul 15, 2016 11:36:00
File Desc. 1.0 mL injection (Methane, Ethene, Ethane)



B Results

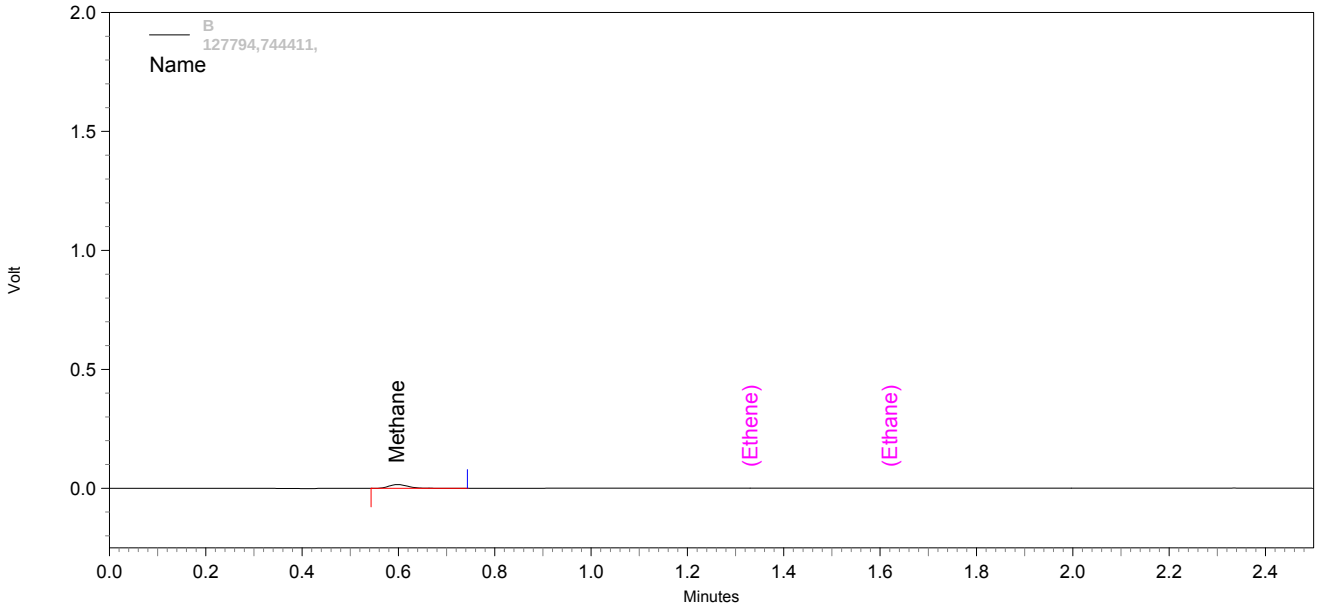
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.600	15957	**1.703**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			15957	**1.703**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\071516\040.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 127794,744411,
Acquired: Jul 15, 2016 11:40:04
File Desc. 1.0 mL injection (Methane, Ethene, Ethane)



B Results

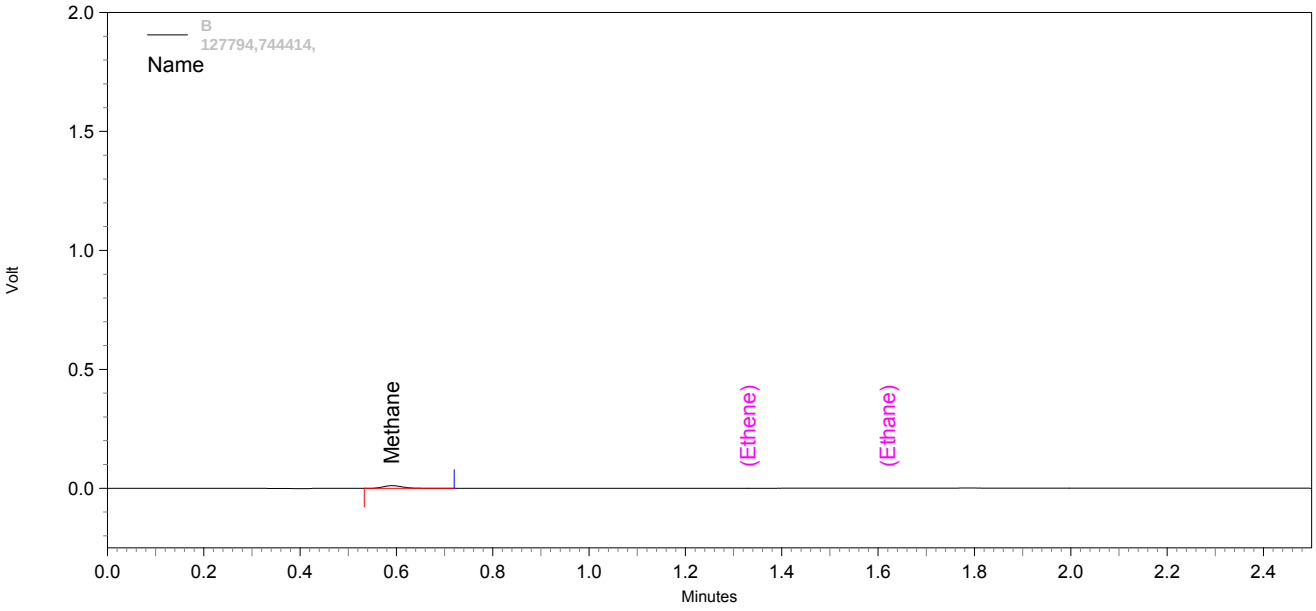
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.597	42625	**4.693**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			42625	**4.693**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\071516\041.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 127794,744414,
Acquired: Jul 15, 2016 11:43:17
File Desc. 1.0 mL injection (Methane, Ethene, Ethane)



B Results

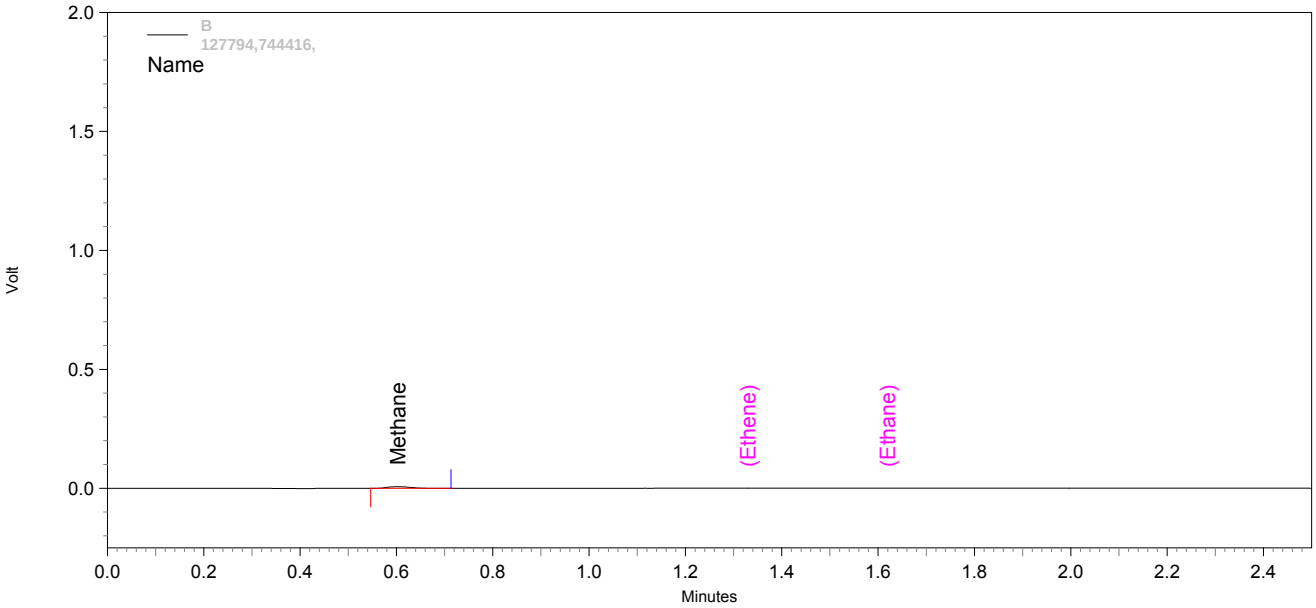
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.590	30781	**3.365**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			30781	**3.365**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\071516\042.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 127794,744416,
Acquired: Jul 15, 2016 11:47:08
File Desc. 1.0 mL injection (Methane, Ethene, Ethane)



B Results

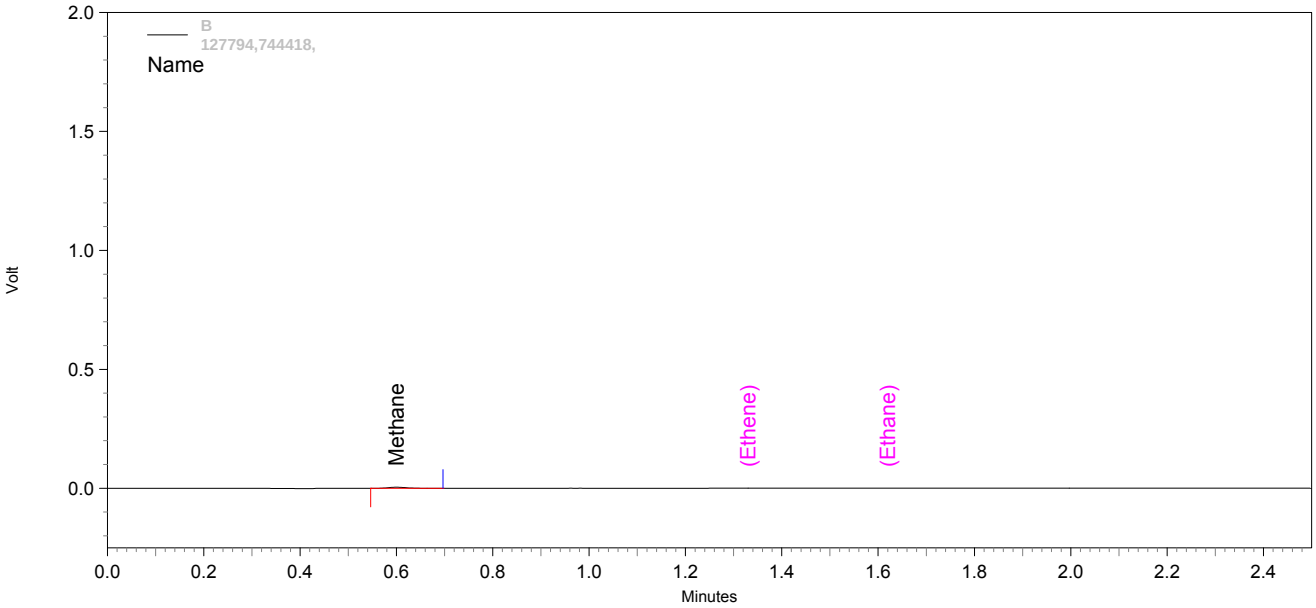
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.603	21963	**2.376**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			21963	**2.376**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\071516\043.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 127794,744418,
Acquired: Jul 15, 2016 11:50:46
File Desc. 1.0 mL injection (Methane, Ethene, Ethane)



B Results

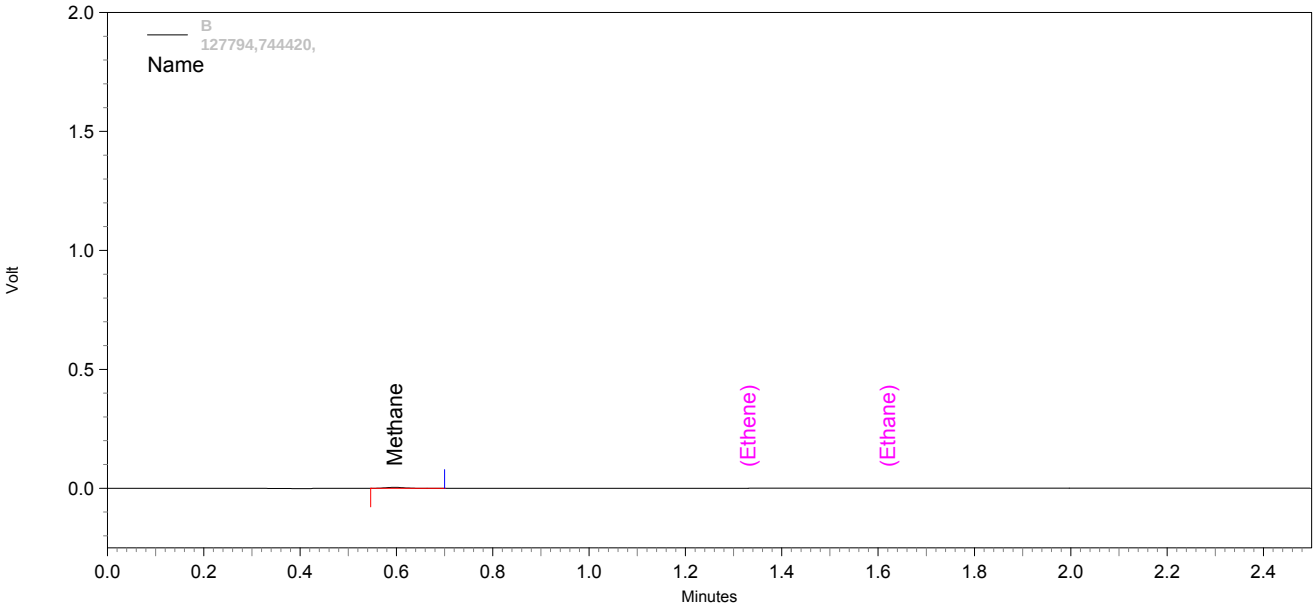
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.600	11704	**1.226**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			11704	**1.226**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\071516\044.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 127794,744420,
Acquired: Jul 15, 2016 11:54:12
File Desc. 1.0 mL injection (Methane, Ethene, Ethane)



B Results

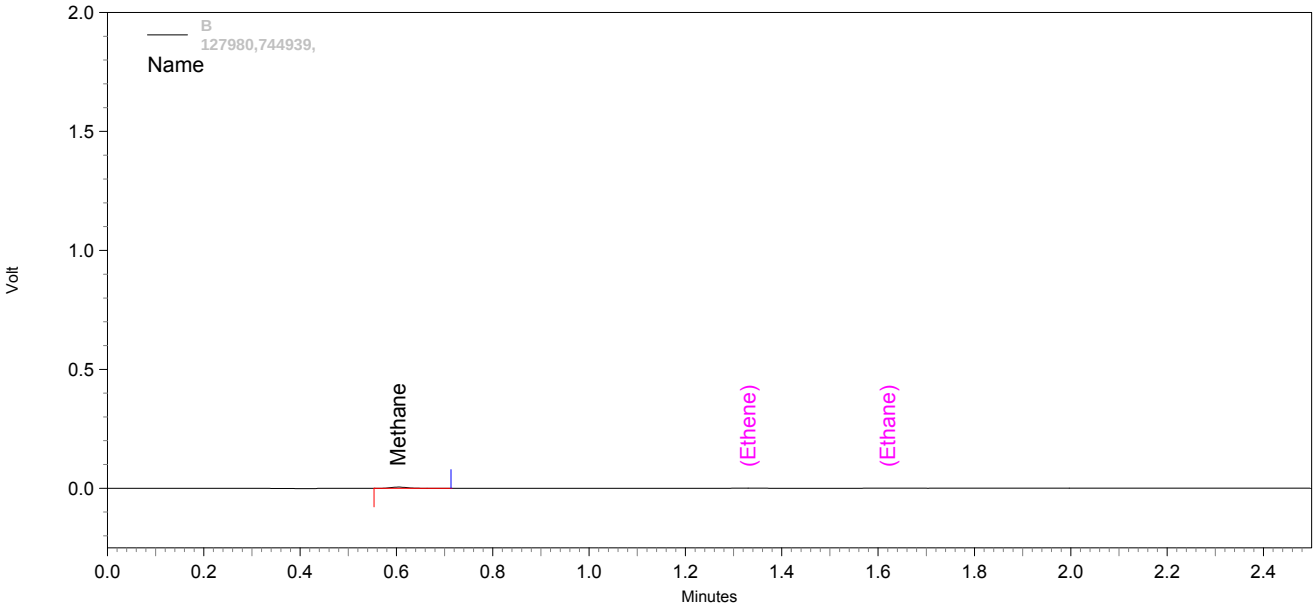
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.597	10580	**1.100**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			10580	**1.100**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\072016\004.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 127980,744939,
Acquired: Jul 20, 2016 09:51:29
File Desc. 1.0 mL injection (Methane, Ethene, Ethane)



B Results

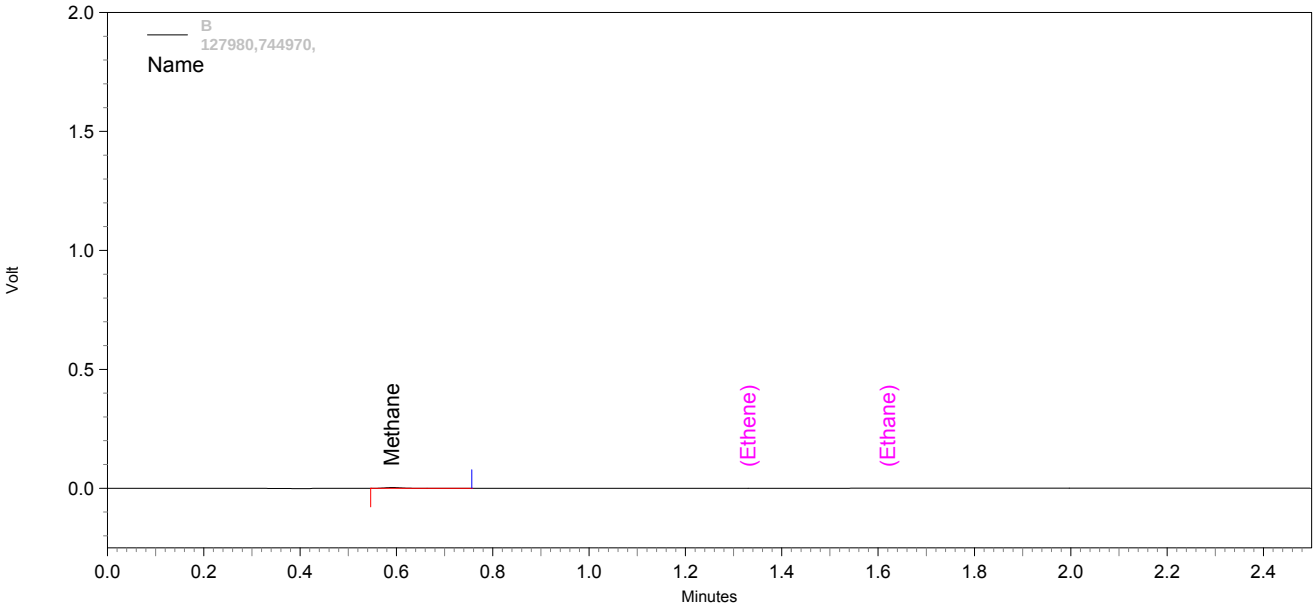
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.603	12438	**1.308**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			12438	**1.308**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\072016\005.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 127980,744970,
Acquired: Jul 20, 2016 09:54:46
File Desc. 1.0 mL injection (Methane, Ethene, Ethane)



B Results

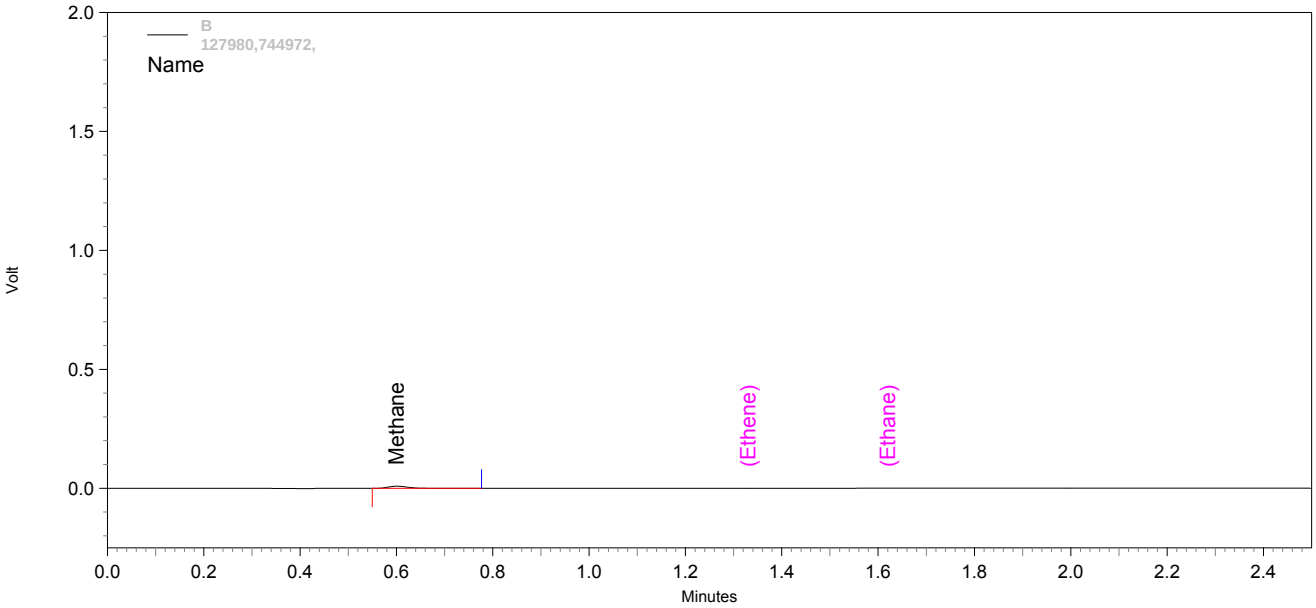
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.590	8126	**0.825**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			8126	**0.825**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\072016\006.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 127980,744972,
Acquired: Jul 20, 2016 09:59:04
File Desc. 1.0 mL injection (Methane, Ethene, Ethane)



B Results

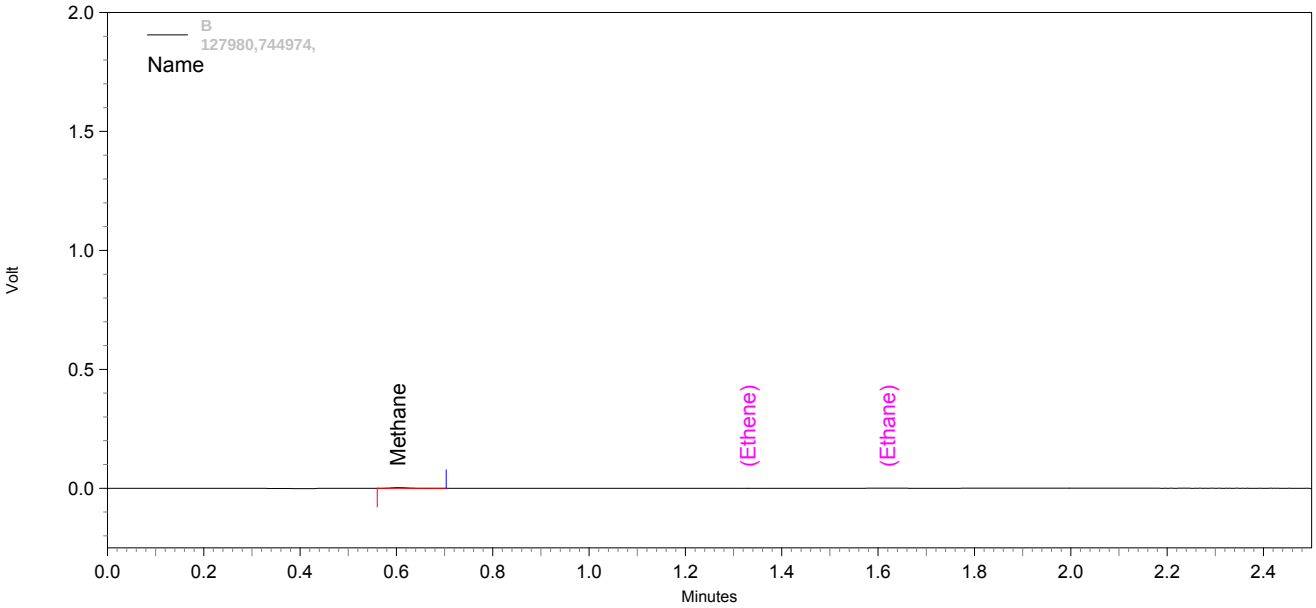
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.600	24825	**2.697**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			24825	**2.697**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\072016\009.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 127980,744974,
Acquired: Jul 20, 2016 10:18:36
File Desc. 1.0 mL injection (Methane, Ethene, Ethane)



B Results

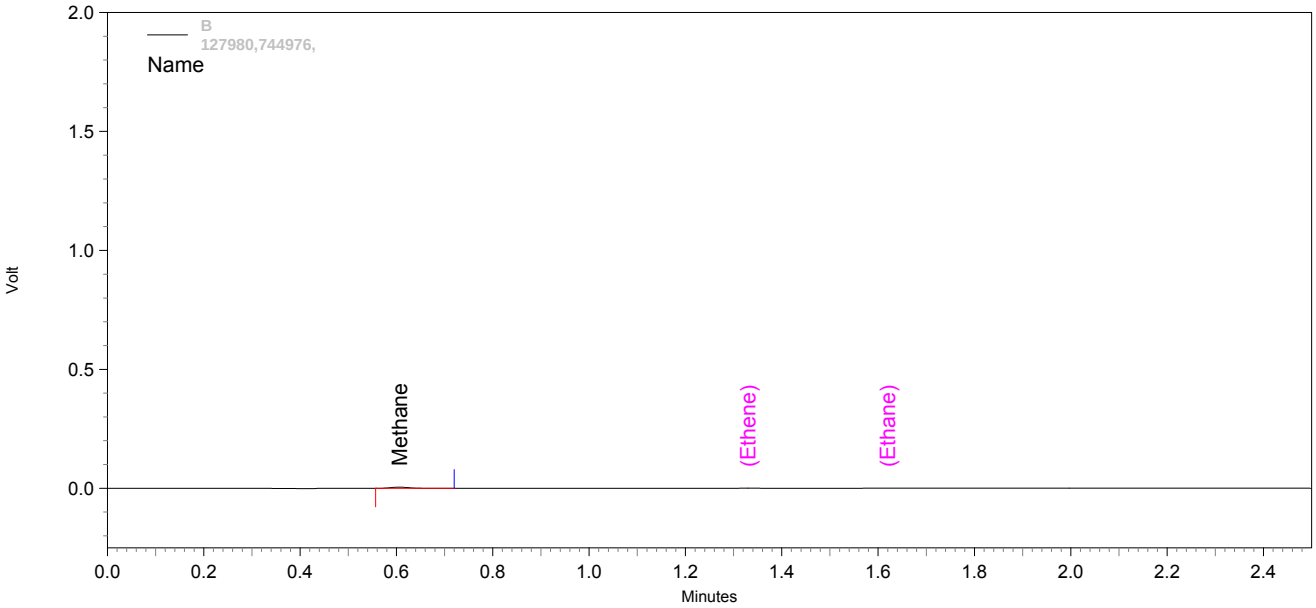
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.603	7195	**0.720**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			7195	**0.720**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\072016\010.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 127980,744976,
Acquired: Jul 20, 2016 10:27:21
File Desc. 1.0 mL injection (Methane, Ethene, Ethane)



B Results

Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.607	13133	**1.386**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			13133	**1.386**

VOLATILE ORGANIC ANALYSIS
INITIAL CALIBRATION
DOCUMENTS

Method Path : C:\INSTARCH\METHODS\
Method File : W062916.M
Title : 8260C Waters Method
Last Update : Fri Jul 08 13:47:47 2016
Response Via : Initial Calibration

RJ 07/13/2016

Calibration Files ug/L
1 0.50/5.0 =WCAL1.D 2 2.0/20.0 =WCAL2.D 3 5.0/50.0 =WCAL3.D
4 10.0/100 =WCAL4.D 5 20.0/200 =WCAL5.D 6 30.0/300 =WCAL6.D
7 40.0/400 =WCAL7.D 8 80.0/800 =WCAL8.D

		Compound	1	2	3	4	5	6	7	8	Avg	%RSD
1)	I	FLUOROBENZENE**ISTD**	----------ISTD----------									
2)	PT	Dichlorodi	0.359	0.400	0.333	0.372	0.343	0.332	0.325	0.344	9.82	
3)	PT	Chloromethan	0.434	0.418	0.371	0.380	0.346	0.335	0.330	0.364	12.48	
4)	PT	VinylChlorid	0.378	0.404	0.385	0.411	0.378	0.366	0.362	0.376	7.20	
5)	PT	Bromomethane	0.171	0.177	0.174	0.164	0.152	0.165	0.174	0.162	11.60	
6)	PT	Chloroethane	0.240	0.246	0.237	0.236	0.227	0.219	0.217	0.229	5.96	
7)	T	Dichloroflmetha	0.543	0.556	0.522	0.542	0.509	0.494	0.491	0.512	7.26	
8)	PT	Trichlorofma	0.399	0.420	0.401	0.426	0.412	0.410	0.411	0.410	2.33	
9)	T	Ethylether	0.224	0.229	0.231	0.229	0.225	0.222	0.219	0.224	2.27	
10)	T	dichlorotfluoro	0.334	0.281	0.289	0.294	0.273	0.274	0.271	0.285	7.90	
11)	T	propyleneoxide	0.086	0.076	0.084	0.075	0.067	0.063	0.068	0.072	13.54	
12)	T	Acrolein	0.106	0.098	0.104	0.103	0.106	0.102	0.099	0.102	3.57	
13)	PT	11dichlorthe	0.237	0.257	0.253	0.276	0.257	0.255	0.252	0.255	4.18	
14)	PT	Trichlorotfluor	0.236	0.244	0.239	0.257	0.237	0.238	0.230	0.237	4.92	
15)	PT	Acetone	0.276	0.236	0.243	0.223	0.184	0.161	0.164	-----		
			0.117									
								Q	A= -0.002 R=0.997			
									B= 0.196			
									C= 0.077			
16)	T	Iodomethane	0.219	0.209	0.220	0.252	0.270	0.289	0.284	0.250	12.33	
			0.260									
17)	PT	Carbon Dislf	0.770	0.772	0.747	0.778	0.701	0.650	0.614	0.719	9.12	
18)	T	allylchloride	0.331	0.368	0.371	0.376	0.350	0.340	0.332	0.343	9.14	
			0.280									
19)	PT	methylacetate	0.158	0.158	0.145	0.144	0.142	0.140	0.142	0.147	4.79	
			0.146									
20)	PT	Methylchlorid	0.524	0.449	0.390	0.349	0.329	0.318	0.311	-----		
			0.295									
								Q	A= -0.008 R=1.000			
									B= 0.322			
									C= 0.013			
21)	T	tbutylalcohol	0.098	0.108	0.105	0.086	0.070	0.059	0.051	-----		
			0.035									
								Q	A= -0.000 R=0.993			
									B= 0.068			
									C= 0.313			
22)	T	Acrylonitrile	0.181	0.192	0.193	0.188	0.177	0.169	0.165	0.175	10.41	
			0.138									

23)	PT	t12dichlorte	0.250	0.264	0.281	0.271	0.271	0.266	0.264	0.266	3.41
			0.259								
24)	PT	MtBE	0.741	0.807	0.822	0.803	0.774	0.764	0.755	0.767	6.14
			0.674								
25)	T	Hexane	0.302	0.338	0.314	0.345	0.319	0.316	0.300	0.313	7.80
			0.267								
26)	PT	11dichlorota	0.496	0.489	0.490	0.492	0.470	0.464	0.450	0.473	4.80
			0.433								
27)	T	Vinylacetate	0.516	0.557	0.496	0.473	0.393	0.325	0.281	-----	
								Q	A= -0.011 R=0.999		
									B= 0.492		
									C= 0.072		
28)	T	chloroprene	0.386	0.427	0.417	0.430	0.401	0.390	0.377	0.395	8.43
			0.328								
29)	T	Diisopether	0.755	0.804	0.838	0.770	0.724	0.710	0.741	0.744	8.99
			0.615								
30)	T	ETBE	0.587	0.637	0.654	0.695	0.681	0.673	0.706	0.655	6.45
			0.607								
31)	T	22dichloropr	0.431	0.405	0.404	0.417	0.384	0.380	0.389	0.398	4.96
			0.373								
32)	PT	c12dichlorte	0.304	0.294	0.306	0.314	0.295	0.293	0.293	0.299	2.86
			0.290								
33)	PT	2Butanone	0.080	0.079	0.084	0.079	0.074	0.071	0.071	0.075#	8.65
			0.064								
34)	T	propionitrile	0.084	0.091	0.092	0.088	0.083	0.080	0.079	0.083	9.40
			0.068								
35)	T	Ethylacetate	0.020	0.023	0.023	0.021	0.023	0.022	0.023	0.022#	4.35
			0.022								
36)	T	methacrylonitri	0.200	0.191	0.188	0.193	0.177	0.180	0.180	0.186	4.59
			0.176								
37)	T	Bromochlorma	0.160	0.155	0.150	0.150	0.142	0.139	0.139	0.146	6.63
			0.131								
38)	T	Tetrahydofur	0.182	0.192	0.185	0.172	0.156	0.144	0.136	0.167	13.05
39)	PT	Chloroform	0.521	0.482	0.499	0.499	0.474	0.466	0.457	0.479	5.59
			0.436								
40)	PT	111trichlota	0.429	0.431	0.418	0.451	0.432	0.435	0.430	0.430	2.53
			0.415								
41)	S	SURRDibrflma	0.264	0.257	0.258	0.264	0.263	0.263	0.265	0.263	1.69
			0.272								
42)	PT	Cyclohexane	0.443	0.467	0.444	0.502	0.460	0.465	0.458	0.458	4.71
			0.429								
43)	PT	Carbtetraclo	0.289	0.344	0.340	0.371	0.344	0.356	0.349	0.342	6.84
			0.341								
44)	T	11dicloprope	0.127	0.139	0.137	0.148	0.137	0.144	0.140	0.139	4.46
			0.142								
45)	S	SURR12DCAd4	0.071	0.070	0.072	0.070	0.072	0.072	0.072	0.072	2.31
			0.076								
46)	PT	Benzene	1.123	1.111	1.124	1.113	1.023	0.987	0.943	1.027	11.39
			0.794								
47)	PT	12dichlorota	0.356	0.386	0.382	0.376	0.369	0.366	0.360	0.369	3.26
			0.354								
48)	T	TAME	0.583	0.580	0.604	0.616	0.629	0.623	0.688	0.612	6.05
			0.575								
49)	PT	trichloroete	0.299	0.284	0.288	0.292	0.285	0.285	0.282	0.287	2.28
			0.278								
50)	PT	methylcyclohexa	0.482	0.510	0.487	0.517	0.495	0.482	0.476	0.486	4.88
			0.439								
51)	PT	12dicloropra	0.258	0.270	0.290	0.283	0.283	0.282	0.282	0.279	3.73
			0.287								
52)	T	23Dicl1propene	0.378	0.444	0.448	0.421	0.418	0.413	0.408	0.416	5.48
			0.399								
53)	T	Dibromometha	0.205	0.188	0.178	0.184	0.176	0.185	0.185	0.186	4.74
			0.190								
54)	T	methylmethacryl	0.363	0.304	0.293	0.295	0.292	0.290	0.291	0.301	8.48
			0.282								
55)	T	14dioxane	0.007	0.007	0.006	0.006	0.005	0.005	0.005	0.006#	14.25
			0.006								
56)	PT	Bromodiclrma	0.384	0.375	0.366	0.372	0.359	0.366	0.364	0.369	2.07

```
                    0.366
57) T   2Nitropropane   0.096 0.112 0.121 0.115 0.115 0.114 0.103 0.108  10.13
                    0.089
58) T   2CLEVE          0.005 0.002 0.001 0.002 0.002 0.002       ----- #

                                                    Q  A=  0.000 R=0.997
                                                       B=  0.002
                                                       C=  0.000
59) PT  c13dicloproe    0.435 0.445 0.450 0.445 0.436 0.437 0.429 0.437   2.20
                    0.420
60) PT  4Meth2Pentan    0.488 0.494 0.478 0.407 0.324 0.267 0.237 -----

                                                    Q  A= -0.009 R=0.996
                                                       B=  0.396
                                                       C=  0.141
61) S   SURRd8Tolule    1.077 1.055 1.059 1.056 1.063 1.054 1.068 1.060   0.85
                    1.048
62) PT  Toluene         0.736 0.787 0.755 0.759 0.712 0.696 0.674 0.714   8.45
                    0.595
63) PT  t13Dicloprop    0.355 0.376 0.388 0.399 0.398 0.391 0.394 0.387   3.85
                    0.394
64) T   ethylmethacryla 0.474 0.493 0.505 0.477 0.440 0.425 0.418 0.448  11.32
                    0.350
65) PT  112Triclotha    0.263 0.241 0.236 0.234 0.225 0.230 0.227 0.236   5.07
                    0.236
66) PT  Tetrachlorte    0.353 0.342 0.330 0.349 0.329 0.330 0.328 0.335   3.61
                    0.317
67) T   13Diclorpropa   0.461 0.474 0.481 0.466 0.459 0.458 0.456 0.462   2.59
                    0.442

68) I   d5-CHLOROBENZENE**IST ----------------ISTD---------------------
69) PT  2Hexanone       0.475 0.512 0.498 0.420 0.331 0.279 0.243 -----

                                                    Q  A= -0.009 R=0.996
                                                       B=  0.411
                                                       C=  0.143
70) PT  Clorodibrmta    0.306 0.315 0.326 0.319 0.318 0.323 0.322 0.320   2.51
                    0.334
71) PT  12Dibrometha    0.308 0.343 0.352 0.348 0.333 0.343 0.339 0.339   4.07
                    0.343
72) PT  Chlorobenzen    0.955 0.954 0.950 0.929 0.867 0.844 0.814 0.878   9.81
                    0.713
73) T   1Clhexane      0.589 0.501 0.483 0.524 0.485 0.483 0.478 0.498   8.77
                    0.440
74) T   1112Tetclota    0.322 0.289 0.318 0.322 0.310 0.317 0.317 0.315   3.59
                    0.325
75) PT  Ethylbenzene    1.735 1.743 1.703 1.705 1.528 1.435 1.345 1.599  10.13

76) PT  m p-Xylene      0.659 0.688 0.682 0.686 0.622 0.596 0.566 0.620  12.67
                    0.461
77) PT  o-Xylene        0.683 0.693 0.680 0.682 0.642 0.630 0.612 0.647   7.21
                    0.557
78) PT  Styrene         1.017 1.107 1.138 1.136 1.047 1.007 0.969 1.030  10.34
                    0.816
79) PT  Bromoform       0.269 0.259 0.276 0.273 0.272 0.281 0.290 0.277   4.28
                    0.296
80) PT  Isopropylben    1.533 1.638 1.610 1.648 1.488 1.395 1.323 1.457  14.55
                    1.018
81) T   cyclohexanone   0.031 0.029 0.031 0.027 0.025 0.025 0.022 0.027# 12.60
                    0.024

82) I   d4-1,4-DICHLOROBENZEN ----------------ISTD---------------------
83) S   SURR4BrFBenz    0.870 0.874 0.900 0.886 0.900 0.892 0.883 0.888   1.31
                    0.898
84) T   Bromobenzene    0.675 0.679 0.746 0.715 0.692 0.688 0.664 0.688   4.60
                    0.643
85) PT  1122Tetrclta    0.962 0.969 1.032 0.936 0.887 0.884 0.870 0.919   7.51
                    0.813
86) T   123Triclproa    0.976 1.008 1.092 1.024 1.003 1.001 0.983 1.007   3.83
                    0.970
```

87)	T	14dichloro2bute	0.123	0.110	0.140	0.135	0.150	0.151	0.157	0.143	14.91
			0.180								
88)	T	n-Propylbenz	3.045	3.166	3.123	3.115	2.779	2.580	2.344	2.879	11.08
89)	T	2chlorotolue	1.961	1.909	1.918	1.878	1.725	1.660	1.564	1.740	12.95
			1.305								
90)	T	4chlorotolue	2.135	2.269	2.226	2.169	1.995	1.884	1.781	1.986	14.14
			1.432								
91)	T	135Trimebenz	2.310	2.226	2.272	2.263	2.079	1.973	1.846	2.055	14.02
			1.467								
92)	T	tbutylbenzen	1.887	1.948	1.963	2.001	1.816	1.752	1.670	1.802	11.34
			1.380								
93)	T	124Trimetben	2.160	2.277	2.334	2.306	2.090	1.980	1.854	2.059	14.13
			1.469								
94)	T	sbutylbenzen	2.758	2.900	2.822	2.882	2.622	2.422	2.244	2.664	9.37
95)	PT	13Diclorbenz	1.298	1.321	1.314	1.299	1.224	1.184	1.140	1.224	8.93
			1.009								
96)	T	pIsopropylto	2.284	2.402	2.334	2.399	2.181	2.047	1.923	2.134	14.41
			1.499								
97)	PT	14dichlorobe	1.299	1.294	1.344	1.304	1.231	1.195	1.148	1.228	8.87
			1.011								
98)	PT	12dichlorobe	1.194	1.264	1.299	1.247	1.158	1.125	1.099	1.170	8.96
			0.976								
99)	T	nButylbenzen	2.108	2.216	2.116	2.195	2.008	1.926	1.799	1.974	13.29
			1.424								
100)	PT	12dibromo3cl	0.271	0.322	0.336	0.315	0.304	0.308	0.309	0.309	6.00
			0.304								
101)	T	135Trichloroben	0.980	0.972	1.021	1.035	0.983	0.960	0.932	0.966	6.20
			0.841								
102)	PT	124Trichlobe	0.780	0.950	0.948	0.911	0.890	0.867	0.850	0.871	7.76
			0.776								
103)	T	Hexachlorobu	0.425	0.463	0.457	0.482	0.473	0.467	0.469	0.461	3.75
			0.452								
104)	T	Naphthalene	2.858	3.020	3.129	2.846	2.524	2.314	2.146	2.691	13.73
105)	T	123Trichlben	0.819	0.856	0.898	0.897	0.831	0.816	0.801	0.831	6.51
			0.733								

Total Average %RSD 7.37

L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range

W062916.M Wed Jul 13 09:43:57 2016

Data File : C:\INSTARCH\Data\JUN2916\BFB1.D Vial: 1
Acq On : 29 Jun 2016 8:43 Operator: AGK-RLD
Sample : BFB Injection Inst : VMS3
Misc : 25 ng Inj. Multiplr: 1.00
Integration File: VOC.P

Method : C:\INSTARCH\METHODS\W062916.M
Title : 8260C Waters Method

Spectrum Information: Average of 4.453 to 4.465 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	16.5	28816	PASS
75	95	30	60	48.9	85224	PASS
95	95	100	100	100.0	174203	PASS
96	95	5	9	6.9	12057	PASS
173	174	0.00	2	0.4	696	PASS
174	95	50	100	90.1	156885	PASS
175	174	5	9	6.9	10871	PASS
176	174	95	101	98.3	154283	PASS
177	176	5	9	6.7	10404	PASS

W062916.M Wed Jul 13 09:30:49 2016

Quantitation Report

Data File : C:\INSTARCH\DATA\JUN2916\WCAL1.D Vial: 4
Acq On : 29 Jun 2016 9:57 Operator: AGK-RLD
Sample : INITIAL CALIB. PT1 Inst : VMS3
Misc : 0.50/5.00 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jun 29 15:17:26 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Jun 29 14:53:36 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.54	96	1489794	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.44	117	1329946	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.73	152	870022	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.69	113	393706	20.020	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100	%		
45) SURR12DCAd4	7.09	102	105967	20.240	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 101	%		
61) SURRd8Tolule	9.54	98	1603955	20.400	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 102	%		
83) SURR4BrFBenz	13.07	95	756800	19.636	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 98	%		
Target Compounds						Qvalue
2) Dichlorodi	1.78	85	13359	0.4819	ug/L	91
3) Chloromethan	2.01	50	16167m	0.5711	ug/L	96
4) VinylChlorid	2.16	62	14064	0.4592	ug/L	69
5) Bromomethane	2.60	94	6375	0.5271	ug/L #	79
6) Chloroethane	2.76	64	8937	0.5074	ug/L	89
7) Dichloroflmethane	3.06	67	20218	0.5009	ug/L #	81
8) Trichlorofma	3.15	101	14862	0.4677	ug/L	93
9) Ethylether	3.59	59	8352	0.4898	ug/L #	66
10) dichlorotfluoroethan	3.59	67	12432	0.5683	ug/L #	86
11) propyleneoxide	3.92	58	32199m	5.7509	ug/L #	93
12) Acrolein	3.70	56	19745	2.5787	ug/L	98
13) 11dichlorthe	3.85	96	8833	0.4290	ug/L	89
14) Trichlorotfluoroeth	3.89	101	17584	0.9180	ug/L	96
15) Acetone	3.92	43	102961m	6.2043	ug/L	97
16) Iodomethane	4.02	142	16322	0.8692	ug/L #	88
17) Carbon Dislf	4.12	76	57336	0.9908	ug/L	100
18) allylchloride	4.34	41	24628	0.8784	ug/L #	79
19) methylacetate	4.40	74	5888	0.5489	ug/L #	39
20) Methylchlorid	4.48	84	19534m	0.7520	ug/L #	97
21) tbutylalcohol	4.69	59	182383	28.3505	ug/L	94
22) Acrylonitrile	4.78	53	33720	2.4061	ug/L	96
23) t12dichlorte	4.87	96	9323	0.4623	ug/L	96
24) MtBE	4.89	73	27590	0.4611	ug/L	84
25) Hexane	5.26	57	22533	0.8763	ug/L	94
26) 11dichlorota	5.38	63	18460	0.5039	ug/L	98
27) Vinylacetate	5.48	43	192154	5.4457	ug/L	92
28) chloroprene	5.51	53	28745	0.8967	ug/L	95
29) Diisopether	5.53	45	28103	0.4898	ug/L	96
30) ETBE	5.98	59	21850	0.4219	ug/L	93
31) 22dichloropr	6.11	77	16040	0.5168	ug/L	89
32) c12dichlorte	6.11	96	11335	0.4839	ug/L	95
33) 2Butanone	6.12	72	29690	5.0306	ug/L	87
34) propionitrile	6.16	54	31406	4.7605	ug/L	93
35) Ethylacetate	6.24	88	3746	2.3605	ug/L #	81
36) methacrylonitrile	6.36	67	14898	1.0384	ug/L	94
37) Bromochlorma	6.39	128	5960	0.5319	ug/L	90
38) Tetrahydofur	6.49	42	67831	5.2850	ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUN2916\WCAL1.D Vial: 4
Acq On : 29 Jun 2016 9:57 Operator: AGK-RLD
Sample : INITIAL CALIB. PT1 Inst : VMS3
Misc : 0.50/5.00 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jun 29 15:17:26 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Jun 29 14:53:36 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39) Chloroform	6.50	83	19390	0.5220 ug/L	100
40) 111trichlota	6.75	97	15973	0.4757 ug/L	97
42) Cyclohexane	6.83	56	16516	0.4424 ug/L	99
43) Carbtetraclo	6.96	119	10779	0.3906 ug/L	98
44) 11dicloprope	6.95	110	4726	0.4291 ug/L #	77
46) Benzene	7.20	78	41818	0.5037 ug/L	87
47) 12dichlorota	7.19	62	13245	0.4724 ug/L #	91
48) TAME	7.37	73	21716	0.4733 ug/L	88
49) trichloroete	8.00	95	11152	0.5131 ug/L	95
50) methylcyclohexane	8.27	83	17953	0.4662 ug/L	95
51) 12dicloropra	8.25	63	9607	0.4550 ug/L #	88
52) 23Dicl1propene	8.32	75	14066	0.4481 ug/L #	75
53) Dibromometha	8.39	93	7625	0.5560 ug/L	94
54) methylmethacrylate	8.43	69	13515	0.6144 ug/L	87
55) 14dioxane	8.44	88	13026	29.7927 ug/L	94
56) Bromodiclrma	8.59	83	14289	0.5158 ug/L #	90
57) 2Nitropropane	8.85	43	35859	4.1692 ug/L	90
58) 2CLEVE	9.02	63	1015m	6.8708 ug/L #	0
59) c13dicloproe	9.17	75	16214	0.4893 ug/L	88
60) 4Meth2Pentan	9.37	43	181940	6.0020 ug/L	91
62) Toluene	9.62	92	27401	0.4850 ug/L	89
63) t13Dicloprop	9.88	75	13212	0.4446 ug/L	84
64) ethylmethacrylate	10.04	69	35292	0.9927 ug/L	95
65) 112Triclotha	10.12	83	9800	0.5620 ug/L	91
66) Tetrachlorte	10.35	166	13137	0.5052 ug/L	92
67) 13Diclorpropa	10.34	76	17154	0.4939 ug/L	99
69) 2Hexanone	10.46	43	157878	5.6510 ug/L	94
70) Clorodibrmta	10.64	129	10186	0.4797 ug/L	96
71) 12Dibrometha	10.79	107	10230	0.4417 ug/L	82
72) Chlorobenzen	11.47	112	31756	0.5143 ug/L #	60
73) 1Clhexane	11.46	91	19592	0.5623 ug/L #	41
74) 1112Tetclota	11.59	131	10690	0.5000 ug/L	93
75) Ethylbenzene	11.64	91	57677	0.5088 ug/L	97
76) m p-Xylene	11.80	106	43808	0.9604 ug/L	94
77) o-Xylene	12.34	106	22709	0.5010 ug/L	99
78) Styrene	12.36	104	33812	0.4476 ug/L	90
79) Bromoform	12.58	173	8958	0.4927 ug/L	90
80) Isopropylben	12.87	105	50985	0.4654 ug/L	98
81) cyclohexanone	12.95	55	20411	11.2454 ug/L	94
84) Bromobenzene	13.28	156	14677	0.4722 ug/L #	81
85) 1122Tetrclta	13.25	83	20933	0.5140 ug/L	93
86) 123Triclproa	13.32	75	21231	0.4765 ug/L	96
87) 14dichloro2butene	13.32	53	2679m	0.4550 ug/L #	18
88) n-Propylbenz	13.45	91	66241	0.4888 ug/L	93
89) 2chlorotolue	13.57	91	42650	0.5219 ug/L	97
90) 4chlorotolue	13.72	91	46431	0.4921 ug/L	99
91) 135Trimebenz	13.72	105	50243	0.5104 ug/L	93
92) tbutylbenzen	14.18	119	41044	0.4714 ug/L	87
93) 124Trimetben	14.25	105	46990	0.4684 ug/L	96
94) sbutylbenzen	14.50	105	59997	0.4786 ug/L	98
95) 13Diclorbenz	14.63	146	28243	0.5000 ug/L	95
96) pIsopropylto	14.72	119	49669	0.4760 ug/L #	99
97) 14dichlorobe	14.76	146	28244	0.4980 ug/L #	63
98) 12dichlorobe	15.29	146	25967	0.4787 ug/L #	66
99) nButylbenzen	15.31	91	45842	0.4790 ug/L	96
100) 12dibromo3cl	16.40	157	5902	0.4302 ug/L #	69
101) 135Trichlorobenzene	16.74	180	21315	0.4736 ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report
Data File : C:\INSTARCH\DATA\JUN2916\WCAL1.D Vial: 4
Acq On : 29 Jun 2016 9:57 Operator: AGK-RLD
Sample : INITIAL CALIB. PT1 Inst : VMS3
Misc : 0.50/5.00 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jun 29 15:17:26 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Jun 29 14:53:36 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M

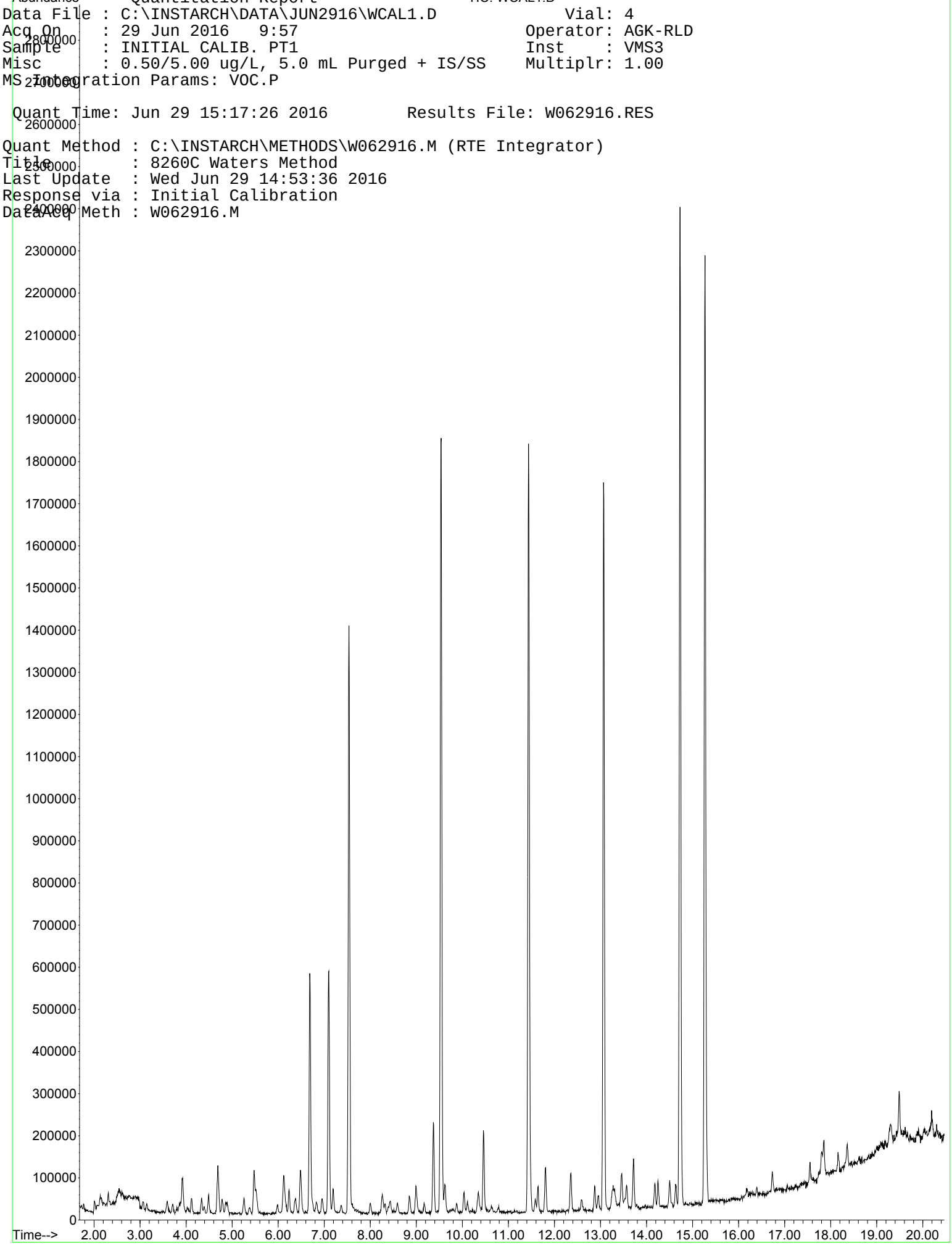
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.55	180	16959	0.4279	ug/L	94
103) Hexachlorobu	17.81	225	9242	0.4406	ug/L	89
104) Naphthalene	17.86	128	62166	0.5021	ug/L	98
105) 123Trichlben	18.17	180	17807	0.4562	ug/L	91

(#) = qualifier out of range (m) = manual integration

Data File : C:\INSTARCH\DATA\JUN2916\WCAL1.D Vial: 4
Acq On : 29 Jun 2016 9:57 Operator: AGK-RLD
Sample : INITIAL CALIB. PT1 Inst : VMS3
Misc : 0.50/5.00 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

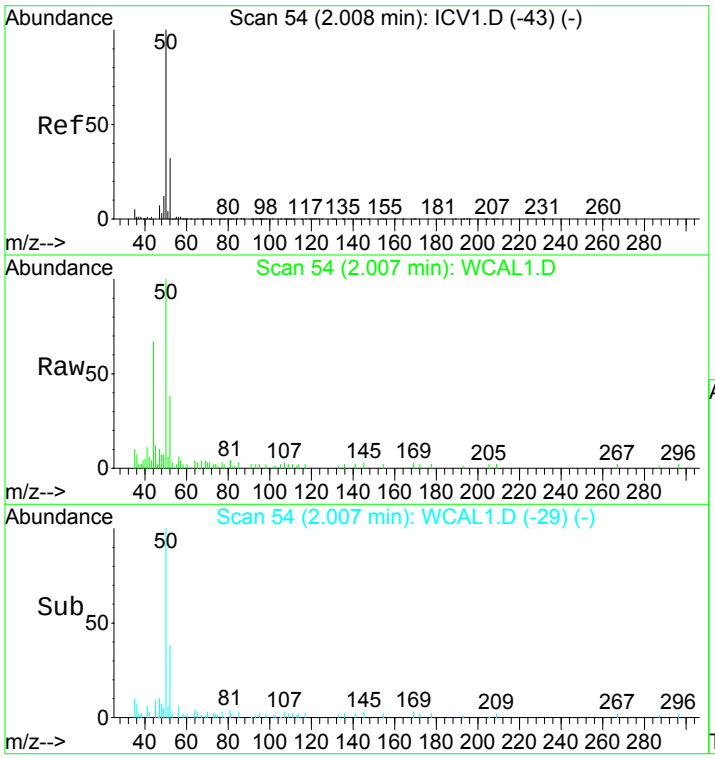
Quant Time: Jun 29 15:17:26 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Jun 29 14:53:36 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M



After Manual Integration

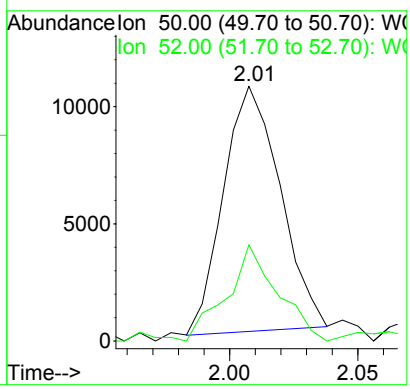
AgK 07/13/16

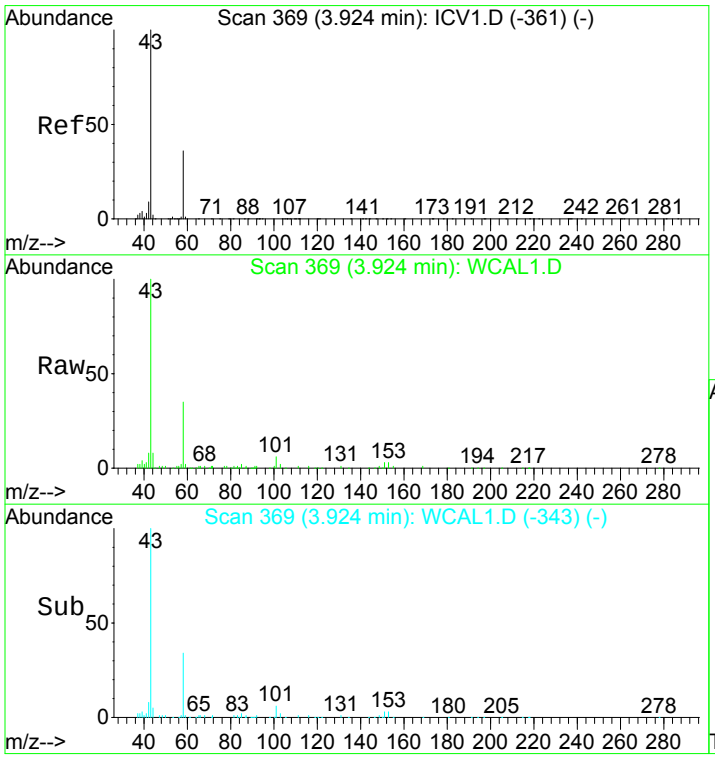


#3
Chloromethan
Concen: 0.57 ug/L m
RT: 2.01 min Scan# 54
Delta R.T. -0.00 min
Lab File: WCAL1.D
Acq: 29 Jun 2016 9:57

Tgt Ion: 50 Resp: 16167

Ion	Ratio	Lower	Upper
50	100		
52	35.3	13.1	53.1

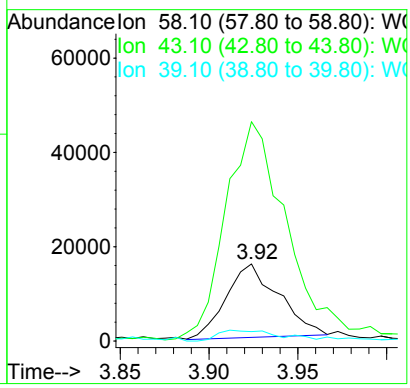




#11
propyleneoxide
Concen: 5.75 ug/L m
RT: 3.92 min Scan# 369
Delta R.T. 0.01 min
Lab File: WCAL1.D
Acq: 29 Jun 2016 9:57

Tgt Ion: 58 Resp: 32199

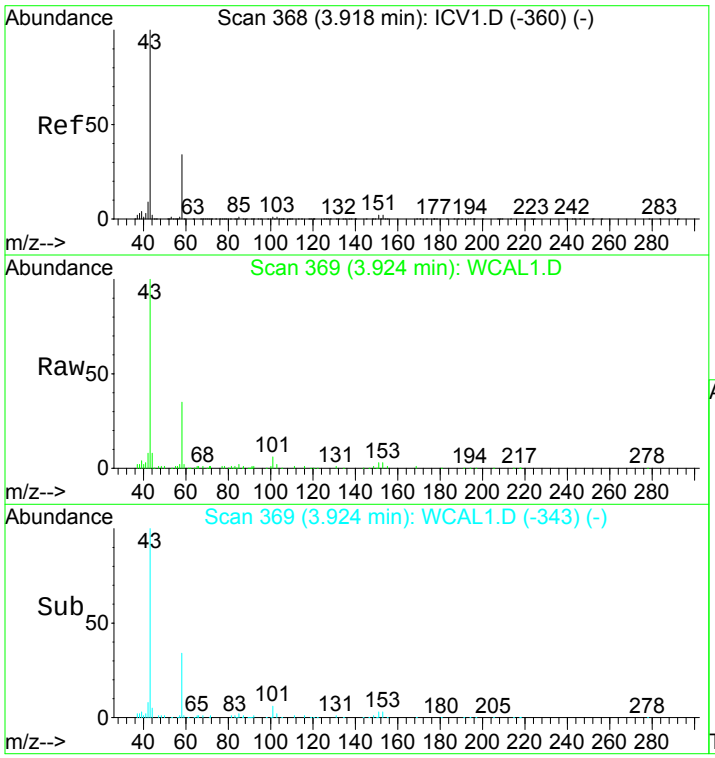
Ion	Ratio	Lower	Upper
58	100		
43	355.7	276.4	316.4#
39	22.7	0.0	32.8



RJ 07/13/2016

After Manual Integration

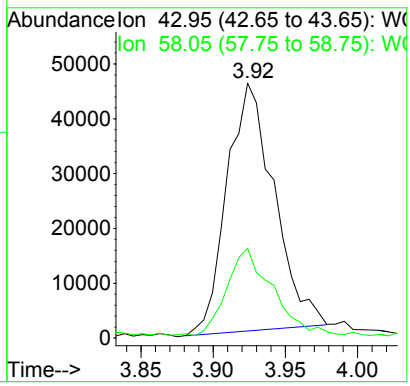
AgK 07/13/16

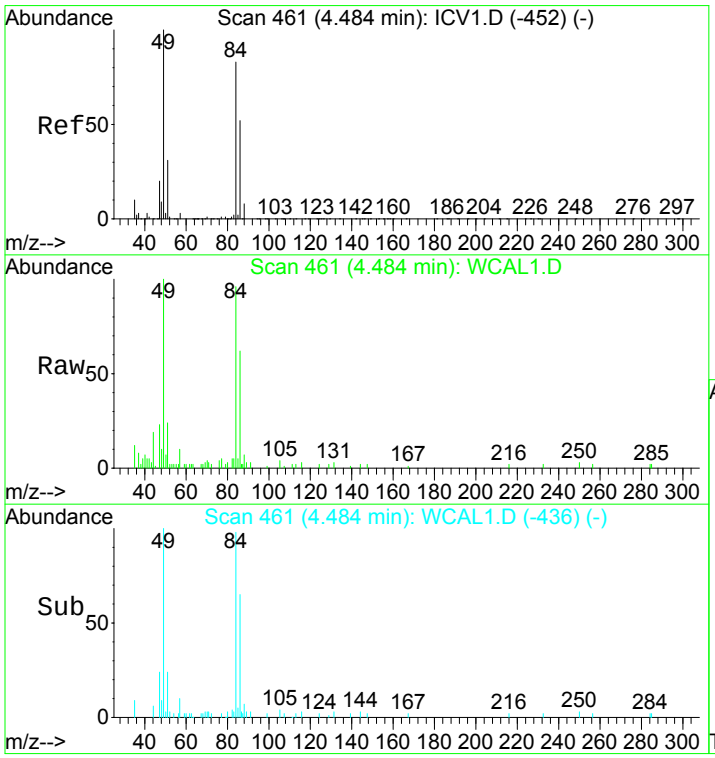


#15
Acetone
Concen: 6.20 ug/L m
RT: 3.92 min Scan# 369
Delta R.T. 0.01 min
Lab File: WCAL1.D
Acq: 29 Jun 2016 9:57

Tgt Ion: 43 Resp: 102961

Ion	Ratio	Lower	Upper
43	100		
58	35.9	13.7	53.7

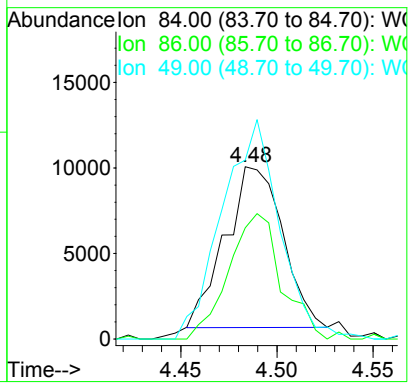




#20
Methylchlorid
Concen: 0.75 ug/L m
RT: 4.48 min Scan# 461
Delta R.T. -0.00 min
Lab File: WCAL1.D
Acq: 29 Jun 2016 9:57

Tgt Ion: 84 Resp: 19534

Ion	Ratio	Lower	Upper
84	100		
86	72.1	45.2	85.2
49	137.0	93.2	133.2#



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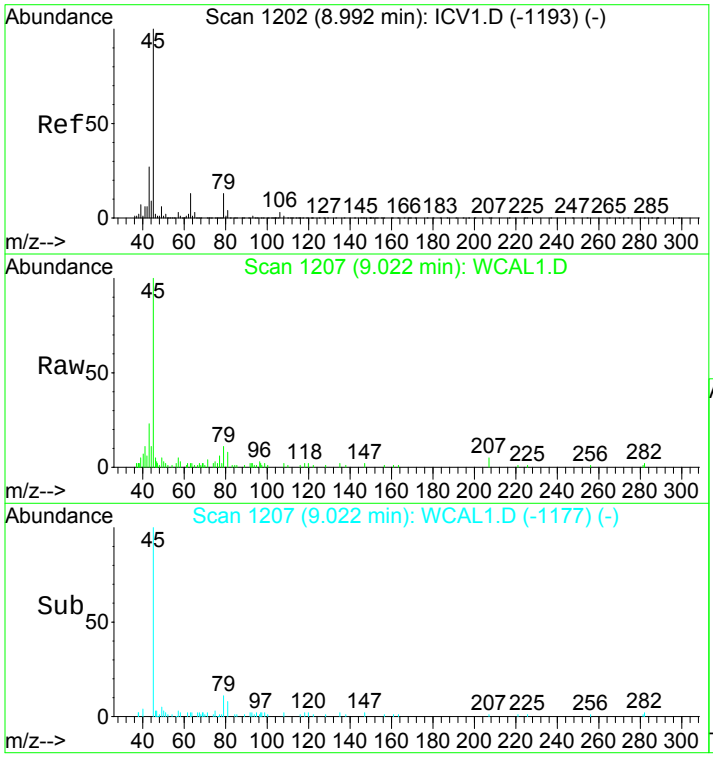
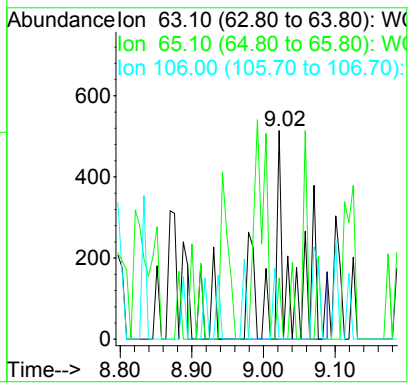
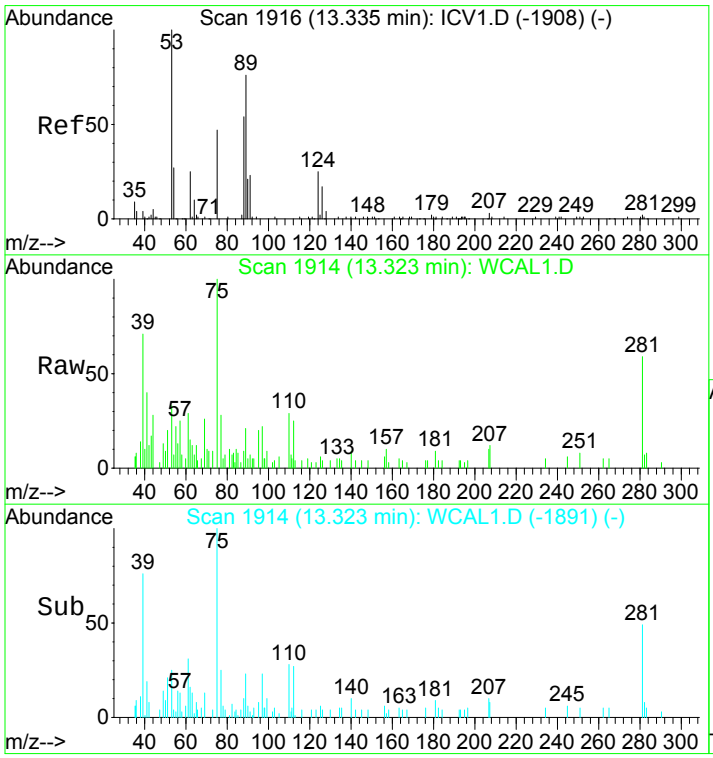


#58
2CLEVE
Concen: 6.87 ug/L m
RT: 9.02 min Scan# 1207
Delta R.T. 0.03 min
Lab File: WCAL1.D
Acq: 29 Jun 2016 9:57

Tgt Ion: 63 Resp: 1015

Ion	Ratio	Lower	Upper
63	100		
65	0.0	44.4	84.4#
106	0.0	0.0	20.0

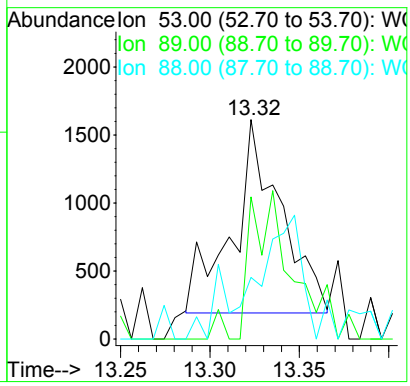




#87
14dichloro2butene
Concen: 0.46 ug/L m
RT: 13.32 min Scan# 1914
Delta R.T. -0.01 min
Lab File: WCAL1.D
Acq: 29 Jun 2016 9:57

Tgt Ion: 53 Resp: 2679

Ion	Ratio	Lower	Upper
53	100		
89	0.0	53.8	93.8#
88	0.0	33.0	73.0#



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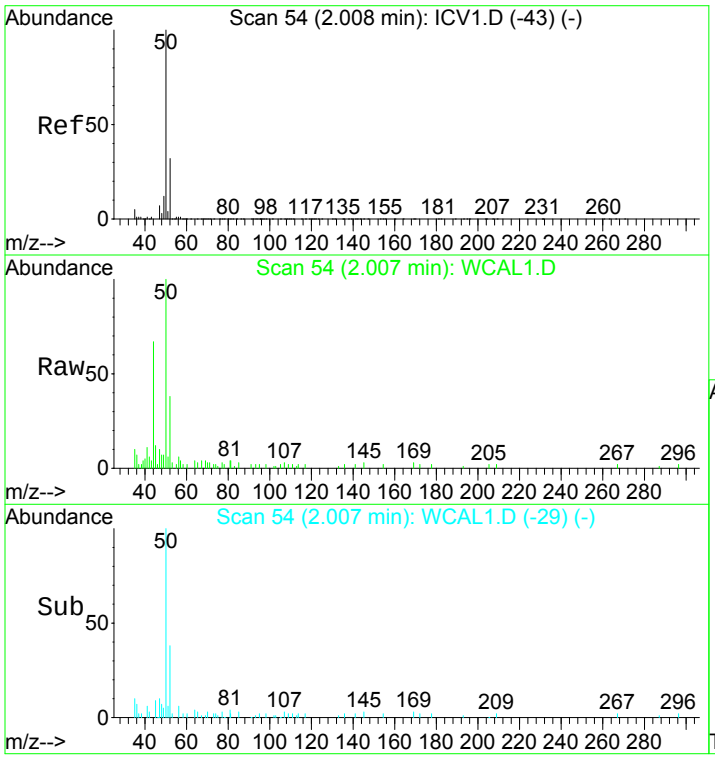
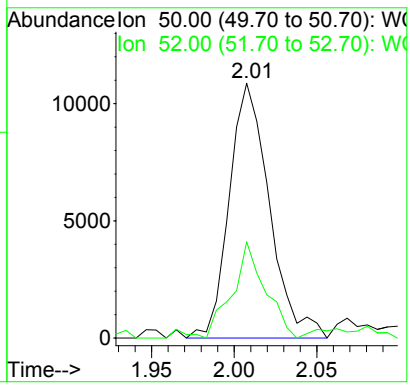


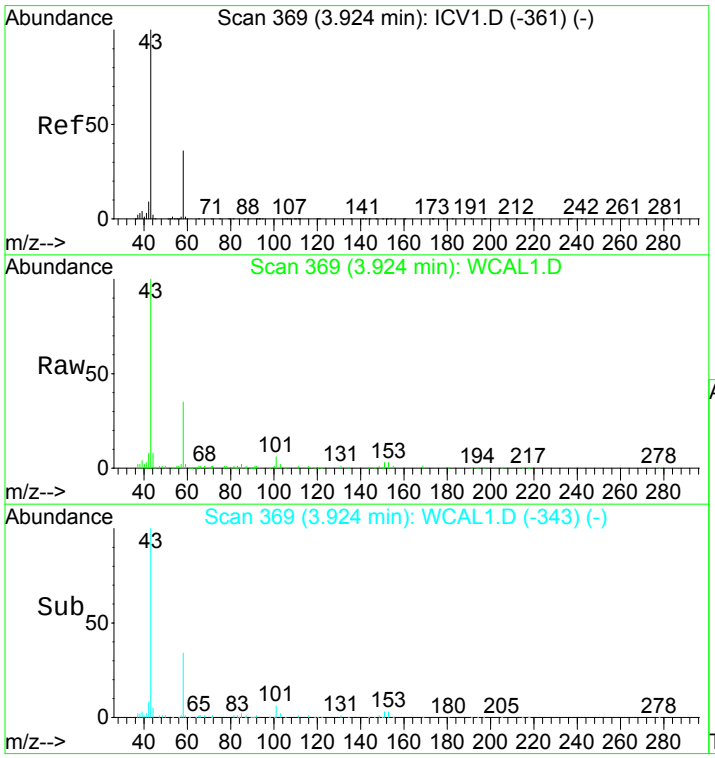
#3
Chloromethan
Concen: 0.68 ug/L
RT: 2.01 min Scan# 54
Delta R.T. -0.00 min
Lab File: WCAL1.D
Acq: 29 Jun 2016 9:57

Tgt Ion: 50 Resp: 18362

Ion	Ratio	Lower	Upper
50	100		
52	31.1	13.1	53.1



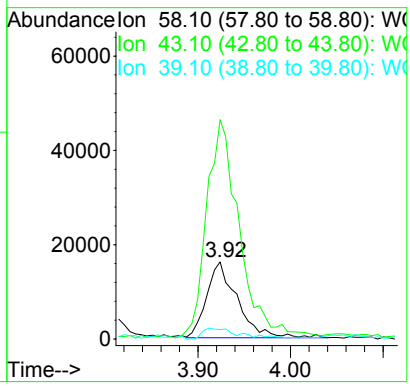
REASON # 2



#11
propyleneoxide
Concen: 6.87 ug/L
RT: 3.92 min Scan# 369
Delta R.T. 0.01 min
Lab File: WCAL1.D
Acq: 29 Jun 2016 9:57

Tgt Ion: 58 Resp: 36937

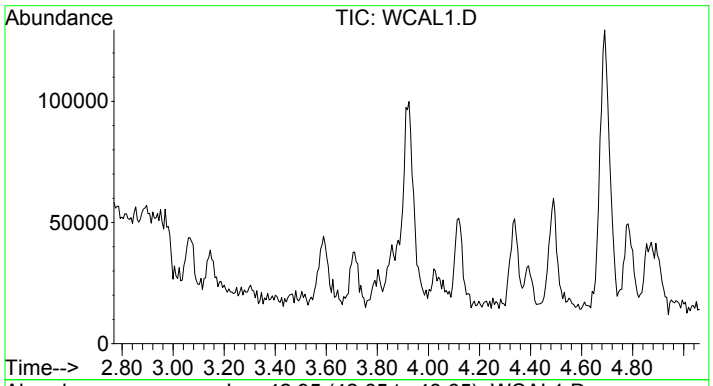
Ion	Ratio	Lower	Upper
58	100		
43	310.1	276.4	316.4
39	19.7	0.0	32.8



REASON # 2

Before Manual Integration

AgK 07/13/16

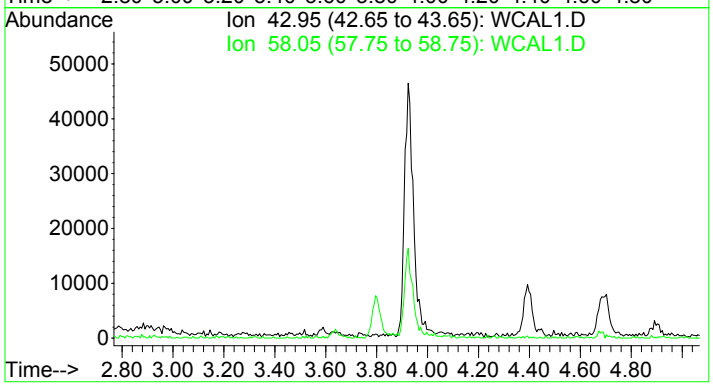


#15
Acetone
Concen: Below Cal
Expected RT: 3.92 min

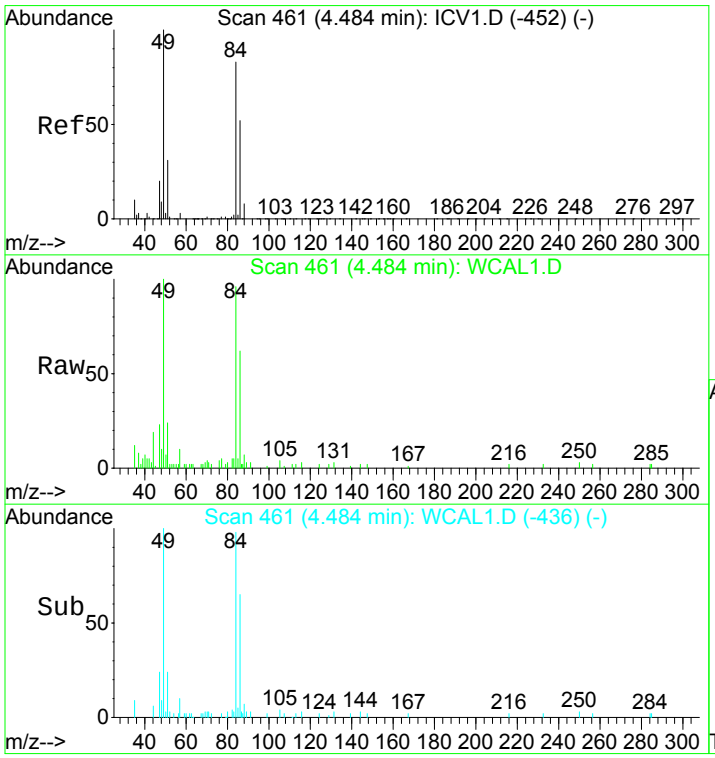
Lab File: WCAL1.D
Acq: 29 Jun 2016 9:57

Tgt Ion: 43

Sig	Exp Ratio
43	100
58	33.7



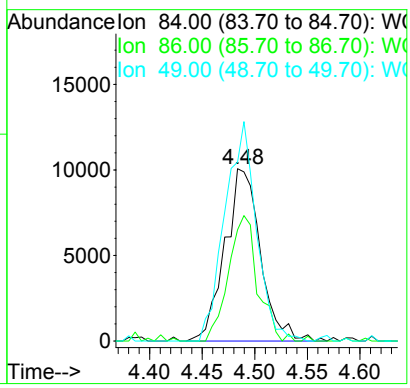
REASON # 1



#20
Methylchlorid
Concen: 0.21 ug/L
RT: 4.48 min Scan# 461
Delta R.T. 0.00 min
Lab File: WCAL1.D
Acq: 29 Jun 2016 9:57

Tgt Ion: 84 Resp: 23610

Ion	Ratio	Lower	Upper
84	100		
86	59.7	45.2	85.2
49	113.4	93.2	133.2



REASON # 2

Before Manual Integration

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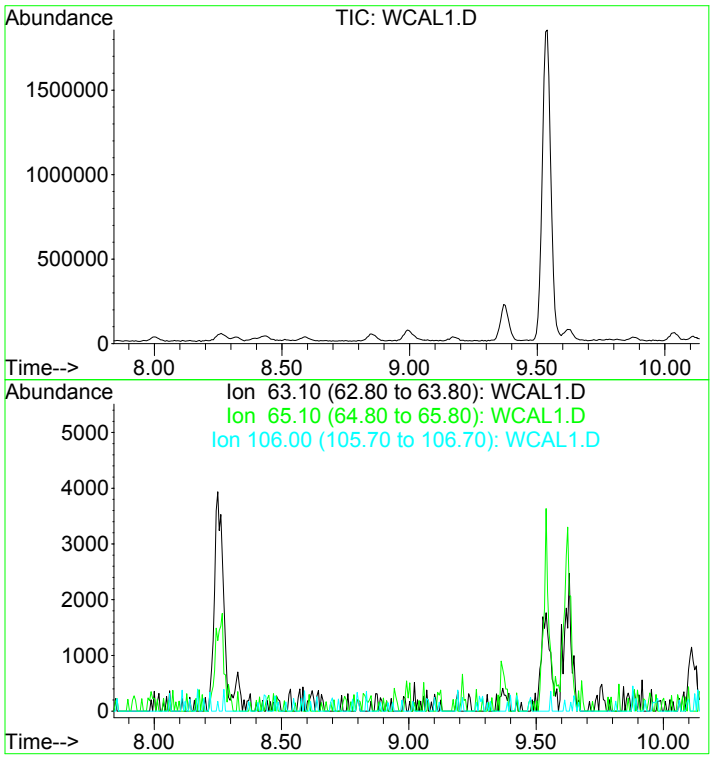


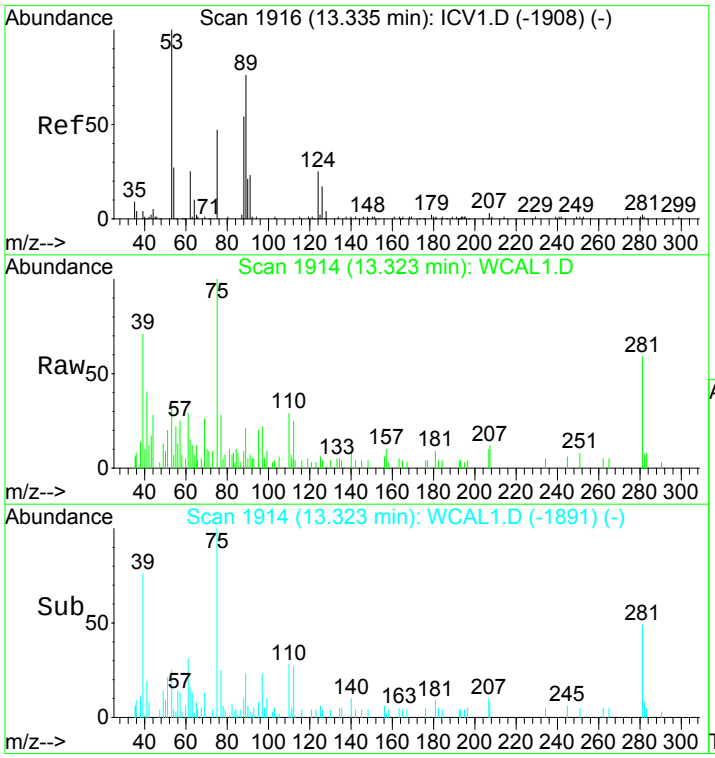
#58
2CLEVE
Concen: N.D.
Expected RT: 8.99 min

Lab File: WCAL1.D
Acq: 29 Jun 2016 9:57

Tgt Ion: 63

Sig	Exp Ratio
63	100
65	64.4
106	0.0

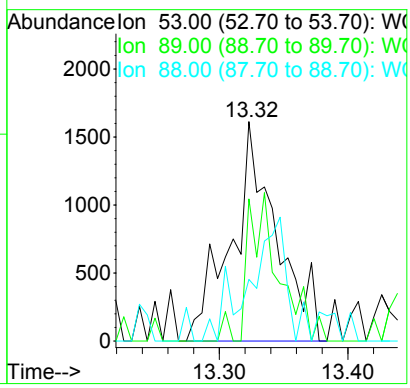
REASON # 1



#87
14dichloro2butene
Concen: 0.63 ug/L
RT: 13.32 min Scan# 1914
Delta R.T. -0.01 min
Lab File: WCAL1.D
Acq: 29 Jun 2016 9:57

Tgt Ion: 53 Resp: 3933

Ion	Ratio	Lower	Upper
53	100		
89	0.0	53.8	93.8#
88	0.0	33.0	73.0#



REASON # 2

Quantitation Report

Data File : C:\INSTARCH\DATA\JUN2916\WCAL2.D Vial: 5
Acq On : 29 Jun 2016 10:26 Operator: AGK-RLD
Sample : INITIAL CALIB. PT2 Inst : VMS3
Misc : 2.00/20.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jun 29 15:17:52 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Jun 29 14:54:14 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.54	96	1466716	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.44	117	1295349	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.73	152	851871	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.69	113	377026	19.464	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 97 %			
45) SURR12DCAd4	7.09	102	103249	19.912	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 100 %			
61) SURRd8Tolule	9.54	98	1547571	19.795	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 99 %			
83) SURR4BrFBenz	13.07	95	744552	19.911	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 100 %			
Target Compounds						Qvalue
2) Dichlorodi	1.78	85	58622	2.1876	ug/L	94
3) Chloromethan	2.01	50	61344	1.9162	ug/L	99
4) VinylChlorid	2.16	62	59202	2.0469	ug/L	86
5) Bromomethane	2.60	94	25980	2.1242	ug/L	86
6) Chloroethane	2.76	64	36106	2.0669	ug/L	95
7) Dichloroflmethane	3.07	67	81518	2.0495	ug/L	96
8) Trichlorofma	3.15	101	61650	2.0365	ug/L	96
9) Ethylether	3.58	59	33656	2.0254	ug/L	98
10) dichlorotfluoroethan	3.60	67	41253	1.7930	ug/L	97
11) propyleneoxide	3.92	58	111384	17.4239	ug/L	93
12) Acrolein	3.70	56	71880	9.3875	ug/L	94
13) 11dichlorthe	3.85	96	37676	2.0006	ug/L	97
14) Trichlorotfluoroeth	3.90	101	71488	3.9530	ug/L	98
15) Acetone	3.92	43	345984	17.7920	ug/L	97
16) Iodomethane	4.03	142	61438	3.5558	ug/L	97
17) Carbon Dislf	4.12	76	226587	3.9955	ug/L	99
18) allylchloride	4.33	41	107993	4.1657	ug/L	99
19) methylacetate	4.39	74	23190	2.0936	ug/L	100
20) Methylchlorid	4.49	84	65844	1.8274	ug/L	98
21) tbutylalcohol	4.68	59	788919	116.7401	ug/L	97
22) Acrylonitrile	4.78	53	140473	10.3761	ug/L	98
23) t12dichlorte	4.86	96	38667	2.0239	ug/L	99
24) MtBE	4.89	73	118330	2.0899	ug/L	98
25) Hexane	5.26	57	99293	4.1808	ug/L	99
26) 11dichlorota	5.38	63	71744	1.9814	ug/L	99
27) Vinylacetate	5.48	43	817101	22.5176	ug/L	95
28) chloroprene	5.51	53	125361	4.1886	ug/L	95
29) Diisopether	5.53	45	117856	2.1079	ug/L	98
30) ETBE	5.99	59	93495	1.9890	ug/L	98
31) 22dichloropr	6.11	77	59460	1.9137	ug/L	95
32) c12dichlorte	6.11	96	43163	1.9022	ug/L	93
33) 2Butanone	6.12	72	116058	19.9131	ug/L	97
34) propionitrile	6.16	54	134014	21.1398	ug/L	99
35) Ethylacetate	6.24	88	16813	11.0700	ug/L	99
36) methacrylonitrile	6.37	67	55960	3.8872	ug/L	98
37) Bromochlorma	6.39	128	22708	1.9948	ug/L	96
38) Tetrahydofur	6.48	42	281300	21.6452	ug/L	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUN2916\WCAL2.D Vial: 5
Acq On : 29 Jun 2016 10:26 Operator: AGK-RLD
Sample : INITIAL CALIB. PT2 Inst : VMS3
Misc : 2.00/20.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jun 29 15:17:52 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Jun 29 14:54:14 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.50	83	70763	1.8933	ug/L		97
40)	111trichlota	6.75	97	63204	1.9594	ug/L		94
42)	Cyclohexane	6.83	56	68498	1.9775	ug/L		95
43)	Carbtetraclo	6.96	119	50477	2.0860	ug/L		100
44)	11dicloprope	6.95	110	20410	2.0259	ug/L		93
46)	Benzene	7.19	78	162879	1.9855	ug/L		97
47)	12dichlorota	7.19	62	56663	2.1110	ug/L		97
48)	TAME	7.37	73	85022	1.9338	ug/L		95
49)	trichloroete	8.01	95	41615	1.9196	ug/L		96
50)	methylcyclohexane	8.26	83	74780	2.0413	ug/L		98
51)	12dicloropra	8.26	63	39530	1.9914	ug/L	#	80
52)	23Dicl1propene	8.31	75	65060	2.2205	ug/L		96
53)	Dibromometha	8.40	93	27601	1.9358	ug/L		96
54)	methylmethacrylate	8.43	69	44647	1.8500	ug/L		98
55)	14dioxane	8.45	88	50299	106.6315	ug/L		95
56)	Bromodiclrma	8.59	83	54993	1.9849	ug/L		96
57)	2Nitropropane	8.85	43	164292	21.1602	ug/L		99
58)	2CLEVE	9.00	63	1348m	9.2685	ug/L	#	0
59)	c13dicloproe	9.17	75	65316	2.0238	ug/L		97
60)	4Meth2Pentan	9.37	43	723909	22.0476	ug/L		93
62)	Toluene	9.62	92	115383	2.1059	ug/L		99
63)	t13Dicloprop	9.88	75	55180	1.9968	ug/L		98
64)	ethylmethacrylate	10.04	69	144518	4.1441	ug/L		99
65)	112Triclotha	10.12	83	35358	1.9393	ug/L		98
66)	Tetrachlorte	10.36	166	50191	1.9503	ug/L		99
67)	13Diclorpropa	10.34	76	69553	2.0465	ug/L		97
69)	2Hexanone	10.46	43	663615	22.8970	ug/L		94
70)	Clorodibrmta	10.64	129	40856	2.0165	ug/L		94
71)	12Dibrometha	10.79	107	44381	2.0893	ug/L		99
72)	Chlorobenzen	11.47	112	123549	2.0254	ug/L		92
73)	1Clhexane	11.46	91	64939	1.8014	ug/L		84
74)	1112Tetclota	11.58	131	37466	1.7992	ug/L		93
75)	Ethylbenzene	11.64	91	225833	2.0275	ug/L		96
76)	m p-Xylene	11.81	106	178311	4.0946	ug/L		92
77)	o-Xylene	12.35	106	89725	2.0304	ug/L		99
78)	Styrene	12.36	104	143442	2.0573	ug/L		98
79)	Bromoform	12.59	173	33518	1.9067	ug/L		97
80)	Isopropylben	12.87	105	212210	2.0600	ug/L		100
81)	cyclohexanone	12.95	55	76303	40.6316	ug/L		98
84)	Bromobenzene	13.27	156	57807	1.9537	ug/L		89
85)	1122Tetrclta	13.25	83	82570	2.0421	ug/L		96
86)	123Triclproa	13.30	75	85834	2.0148	ug/L		96
87)	14dichloro2butene	13.34	53	9395	1.3953	ug/L		96
88)	n-Propylbenz	13.46	91	269661	2.0553	ug/L		97
89)	2chlorotolue	13.57	91	162595	1.9885	ug/L		97
90)	4chlorotolue	13.72	91	193295	2.1089	ug/L		100
91)	135Trimebenz	13.72	105	189650	1.9473	ug/L		99
92)	tbutylbenzen	14.18	119	165973	2.0043	ug/L		98
93)	124Trimetben	14.25	105	193993	2.0394	ug/L		99
94)	sbutylbenzen	14.50	105	247025	2.0565	ug/L		100
95)	13Diclorbenz	14.64	146	112553	2.0350	ug/L		98
96)	pIsopropylto	14.72	119	204652	2.0523	ug/L		100
97)	14dichlorobe	14.76	146	110213	1.9886	ug/L		94
98)	12dichlorobe	15.29	146	107685	2.0717	ug/L		95
99)	nButylbenzen	15.31	91	188746	2.0573	ug/L		97
100)	12dibromo3cl	16.39	157	27409	2.1936	ug/L		95
101)	135Trichlorobenzene	16.74	180	82791	1.9298	ug/L		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUN2916\WCAL2.D Vial: 5
Acq On : 29 Jun 2016 10:26 Operator: AGK-RLD
Sample : INITIAL CALIB. PT2 Inst : VMS3
Misc : 2.00/20.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jun 29 15:17:52 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Jun 29 14:54:14 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.55	180	80932	2.2475	ug/L	93
103) Hexachlorobu	17.80	225	39407	2.0399	ug/L	97
104) Naphthalene	17.85	128	257264	2.1177	ug/L	99
105) 123Trichlben	18.17	180	72894	1.9947	ug/L	91

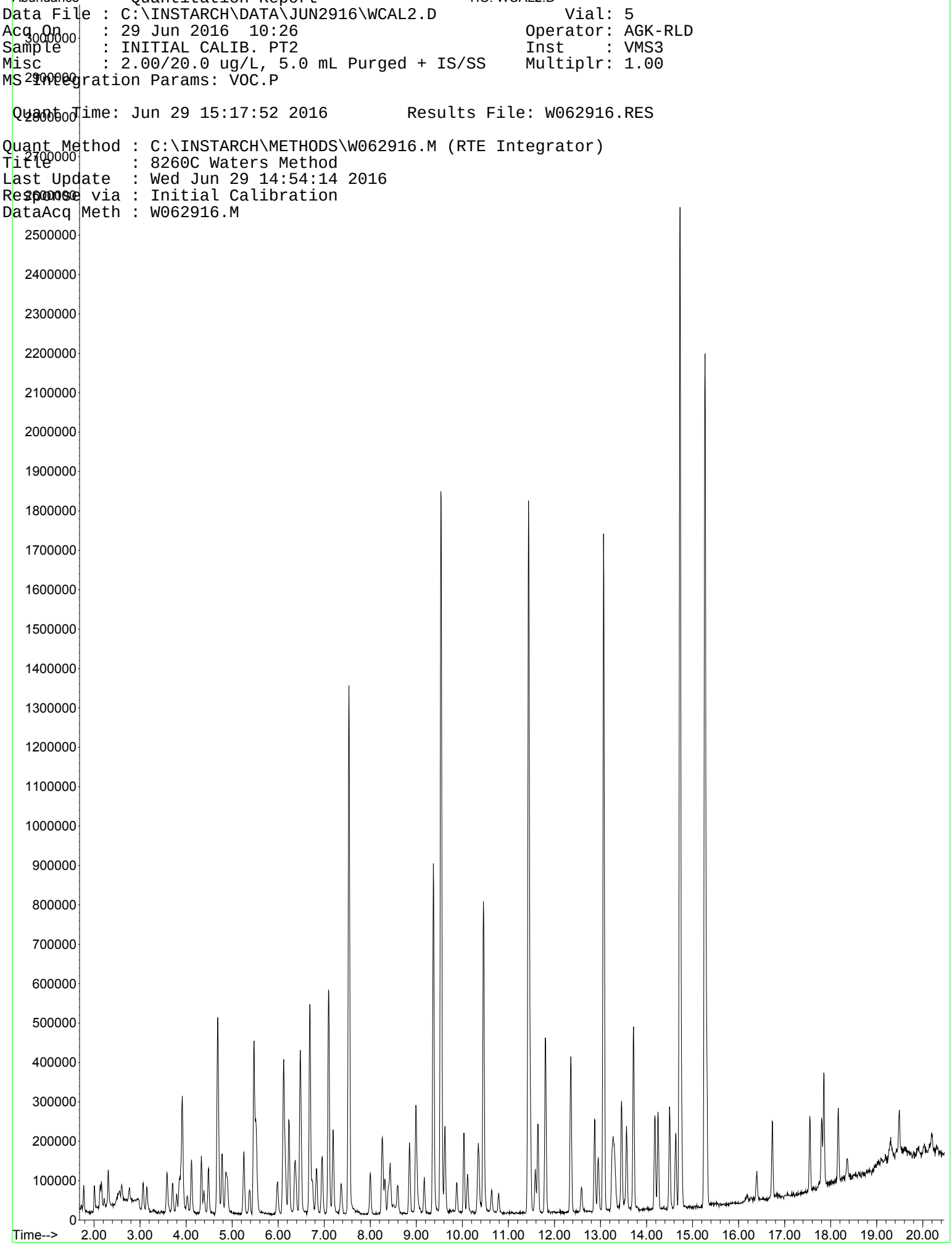
(#) = qualifier out of range (m) = manual integration

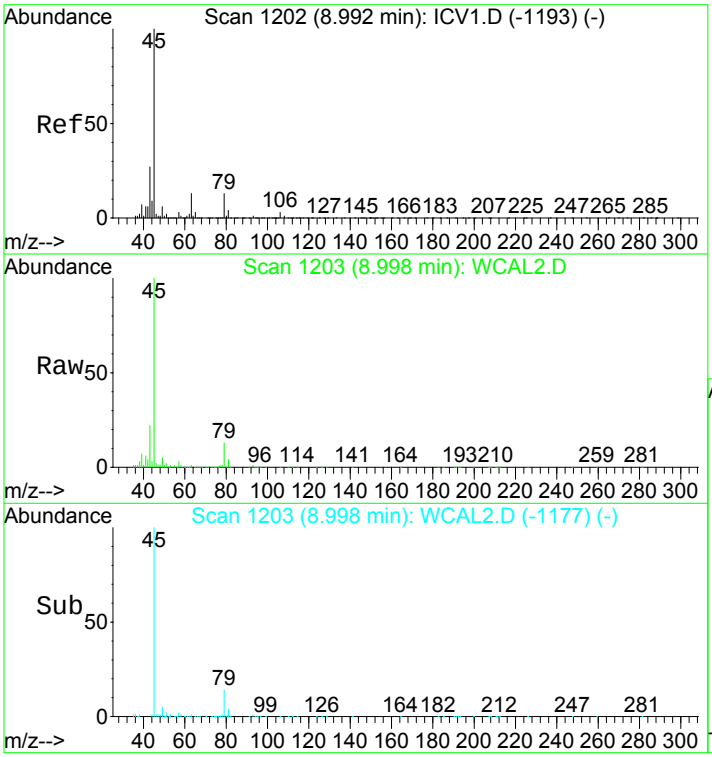
Abundance Quantitation Report TIC: WCAL2.D

Data File : C:\INSTARCH\DATA\JUN2916\WCAL2.D Vial: 5
Acq On : 29 Jun 2016 10:26 Operator: AGK-RLD
Sample : INITIAL CALIB. PT2 Inst : VMS3
Misc : 2.00/20.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jun 29 15:17:52 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Jun 29 14:54:14 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M

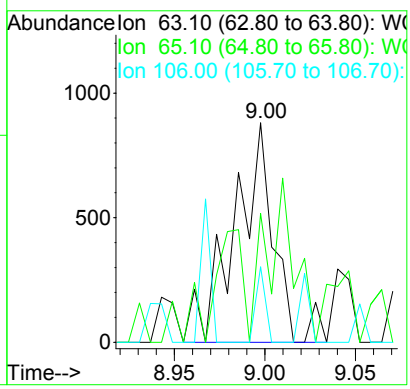




#58
2CLEVE
Concen: 9.27 ug/L m
RT: 9.00 min Scan# 1203
Delta R.T. 0.01 min
Lab File: WCAL2.D
Acq: 29 Jun 2016 10:26

Tgt Ion: 63 Resp: 1348

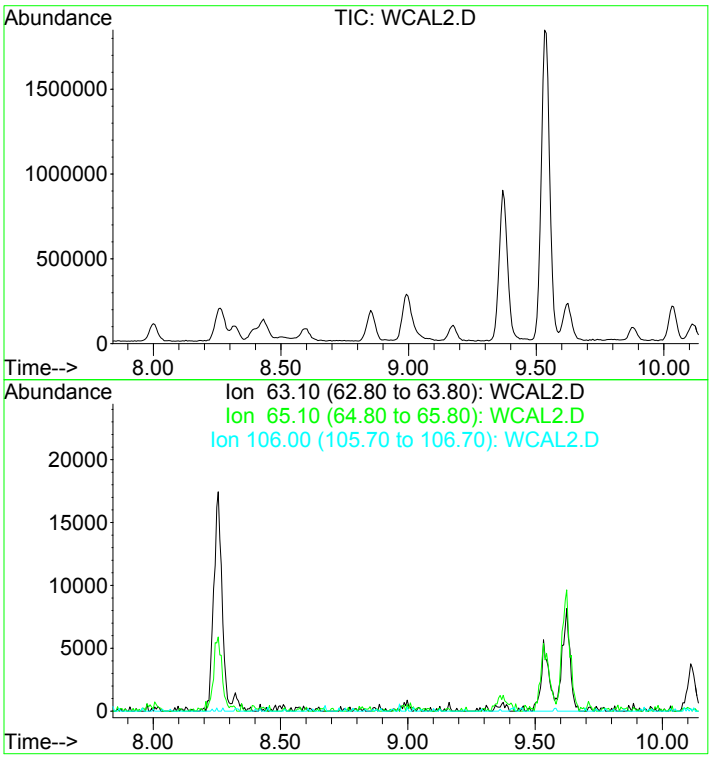
Ion	Ratio	Lower	Upper
63	100		
65	0.0	44.4	84.4#
106	0.0	0.0	20.0



After Manual Integration

07/13/16

07/13/2016



#58
2CLEVE
Concen: N.D.
Expected RT: 8.99 min

Lab File: WCAL2.D
Acq: 29 Jun 2016 10:26

Tgt Ion: 63

Sig	Exp Ratio
63	100
65	64.4
106	0.0

Before Manual Integration

AgK 07/13/16

REASON # 1

Quantitation Report

Data File : C:\INSTARCH\DATA\JUN2916\WCAL3.D Vial: 6
Acq On : 29 Jun 2016 10:55 Operator: AGK-RLD
Sample : INITIAL CALIB. PT3 Inst : VMS3
Misc : 5.00/50.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jun 29 14:54:41 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Jun 29 14:54:33 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.54	96	1538413	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.44	117	1349470	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.73	152	866571	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.69	113	397642	19.748	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 99	%		
45) SURR12DCAd4	7.09	102	110595	20.364	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 102	%		
61) SURRd8Tolule	9.54	98	1629634	19.941	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100	%		
83) SURR4BrFBenz	13.07	95	779762	20.529	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 103	%		
Target Compounds						Qvalue
2) Dichlorodi	1.78	85	127985	4.4154	ug/L	100
3) Chloromethan	2.01	50	142740	4.3112	ug/L	98
4) VinylChlorid	2.16	62	148158	4.8459	ug/L	99
5) Bromomethane	2.60	94	66918	5.1107	ug/L	99
6) Chloroethane	2.77	64	91297	4.9278	ug/L	97
7) Dichloroflmethane	3.07	67	200624	4.7697	ug/L	98
8) Trichlorofma	3.15	101	154394	4.8330	ug/L	99
9) Ethylether	3.58	59	88713	5.0685	ug/L	97
10) dichlorotfluoroethan	3.59	67	111338	4.7786	ug/L	99
11) propyleneoxide	3.92	58	321779	50.1431	ug/L	97
12) Acrolein	3.70	56	200611	25.4993	ug/L	99
13) 11dichlorthe	3.85	96	97394	4.9302	ug/L	97
14) Trichlorotfluoroeth	3.89	101	183736	9.7245	ug/L	98
15) Acetone	3.92	43	932674	47.4740	ug/L	99
16) Iodomethane	4.02	142	168938	9.6802	ug/L	96
17) Carbon Dislf	4.12	76	574443	9.6610	ug/L	99
18) allylchloride	4.33	41	285472	10.3556	ug/L	99
19) methylacetate	4.39	74	55796	4.7287	ug/L	95
20) Methylchlorid	4.48	84	150184	4.0916	ug/L	98
21) tbutylalcohol	4.68	59	2021394	270.1034	ug/L	98
22) Acrylonitrile	4.78	53	371144	25.8135	ug/L	98
23) t12dichlorte	4.86	96	107959	5.3660	ug/L	92
24) MtBE	4.89	73	316058	5.2434	ug/L	98
25) Hexane	5.26	57	241828	9.5636	ug/L	98
26) 11dichlorota	5.38	63	188370	4.9753	ug/L	99
27) Vinylacetate	5.48	43	1908622	48.1269	ug/L	96
28) chloroprene	5.51	53	320840	10.0622	ug/L	97
29) Diisopether	5.54	45	322109	5.3956	ug/L	96
30) ETBE	5.98	59	251459	5.1096	ug/L	97
31) 22dichloropr	6.11	77	155568	4.8432	ug/L	98
32) c12dichlorte	6.11	96	117698	5.0272	ug/L	96
33) 2Butanone	6.12	72	321661	52.6944	ug/L	99
34) propionitrile	6.15	54	352535	52.0299	ug/L	99
35) Ethylacetate	6.24	88	43895	26.6055	ug/L #	87
36) methacrylonitrile	6.36	67	144933	9.6895	ug/L	97
37) Bromochlorma	6.38	128	57764	4.8421	ug/L	98
38) Tetrahydofur	6.48	42	712446	50.8709	ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUN2916\WCAL3.D Vial: 6
Acq On : 29 Jun 2016 10:55 Operator: AGK-RLD
Sample : INITIAL CALIB. PT3 Inst : VMS3
Misc : 5.00/50.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jun 29 14:54:41 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Jun 29 14:54:33 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39) Chloroform	6.50	83	191889	4.9835	ug/L		98
40) 111trichlota	6.75	97	160735	4.7832	ug/L		96
42) Cyclohexane	6.83	56	170626	4.7140	ug/L		97
43) Carbtetraclo	6.96	119	130882	5.0839	ug/L		97
44) 11dicloprope	6.95	110	52573	4.9538	ug/L		98
46) Benzene	7.19	78	432107	5.0341	ug/L		98
47) 12dichlorota	7.19	62	146966	5.1253	ug/L		99
48) TAME	7.37	73	232125	5.0897	ug/L		97
49) trichloroete	8.00	95	110914	4.9441	ug/L		98
50) methylcyclohexane	8.26	83	187271	4.8405	ug/L		99
51) 12dicloropra	8.26	63	111413	5.3587	ug/L		99
52) 23Dicl1propene	8.32	75	172288	5.4074	ug/L		96
53) Dibromometha	8.39	93	68373	4.6214	ug/L		96
54) methylmethacrylate	8.43	69	112725	4.5674	ug/L		96
55) 14dioxane	8.44	88	123754	244.7163	ug/L		97
56) Bromodiclrma	8.59	83	140939	4.8622	ug/L		99
57) 2Nitropropane	8.85	43	464733	55.9838	ug/L		99
58) 2CLEVE	8.99	63	2832	18.5647	ug/L	#	18
59) c13dicloproe	9.17	75	173031	5.0912	ug/L		99
60) 4Meth2Pentan	9.37	43	1838156	51.6130	ug/L		96
62) Toluene	9.62	92	290324	4.9643	ug/L		97
63) t13Dicloprop	9.87	75	149300	5.1536	ug/L		96
64) ethylmethacrylate	10.03	69	388581	10.4974	ug/L		99
65) 112Triclotha	10.11	83	90803	4.7967	ug/L		98
66) Tetrachlorte	10.35	166	126906	4.7407	ug/L		99
67) 13Diclorpropa	10.33	76	184875	5.1464	ug/L		97
69) 2Hexanone	10.46	43	1681504	53.1257	ug/L		98
70) Clorodibrmta	10.63	129	109936	5.1941	ug/L		96
71) 12Dibrometha	10.79	107	118874	5.2930	ug/L		99
72) Chlorobenzen	11.47	112	320500	5.0222	ug/L		99
73) 1Clhexane	11.46	91	163078	4.4909	ug/L		96
74) 1112Tetclota	11.59	131	107164	5.1109	ug/L		99
75) Ethylbenzene	11.64	91	574462	4.9280	ug/L		99
76) m p-Xylene	11.81	106	460009	10.0603	ug/L		98
77) o-Xylene	12.35	106	229314	4.9559	ug/L		99
78) Styrene	12.36	104	383921	5.2355	ug/L		100
79) Bromoform	12.58	173	93133	5.1658	ug/L		99
80) Isopropylben	12.87	105	543304	5.0125	ug/L		99
81) cyclohexanone	12.95	55	211216	107.3972	ug/L		98
84) Bromobenzene	13.28	156	161676	5.4133	ug/L		99
85) 1122Tetrclta	13.25	83	223653	5.3997	ug/L		97
86) 123Triclproa	13.31	75	236547	5.4450	ug/L		99
87) 14dichloro2butene	13.34	53	30382	4.9328	ug/L		90
88) n-Propylbenz	13.46	91	676638	5.0234	ug/L		98
89) 2chlorotolue	13.57	91	415436	5.0042	ug/L		99
90) 4chlorotolue	13.72	91	482311	5.0806	ug/L		100
91) 135Trimebenz	13.71	105	492250	5.0127	ug/L		99
92) tbutylbenzen	14.18	119	425255	5.0446	ug/L		98
93) 124Trimetben	14.25	105	505580	5.1908	ug/L		100
94) sbutylbenzen	14.50	105	611324	4.9563	ug/L		99
95) 13Diclorbenz	14.64	146	284767	5.0320	ug/L		99
96) pIsopropylto	14.72	119	505573	4.9409	ug/L		98
97) 14dichlorobe	14.76	146	291247	5.1757	ug/L		98
98) 12dichlorobe	15.30	146	281510	5.2611	ug/L		97
99) nButylbenzen	15.31	91	458379	4.8651	ug/L		98
100) 12dibromo3cl	16.40	157	72823	5.5503	ug/L		97
101) 135Trichlorobenzene	16.74	180	221294	5.1307	ug/L		100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUN2916\WCAL3.D Vial: 6
Acq On : 29 Jun 2016 10:55 Operator: AGK-RLD
Sample : INITIAL CALIB. PT3 Inst : VMS3
Misc : 5.00/50.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jun 29 14:54:41 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Jun 29 14:54:33 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.54	180	205344	5.3836	ug/L	99
103) Hexachlorobu	17.80	225	99042	5.0066	ug/L	97
104) Naphthalene	17.85	128	677800	5.3792	ug/L	99
105) 123Trichlben	18.17	180	194594	5.2392	ug/L	98

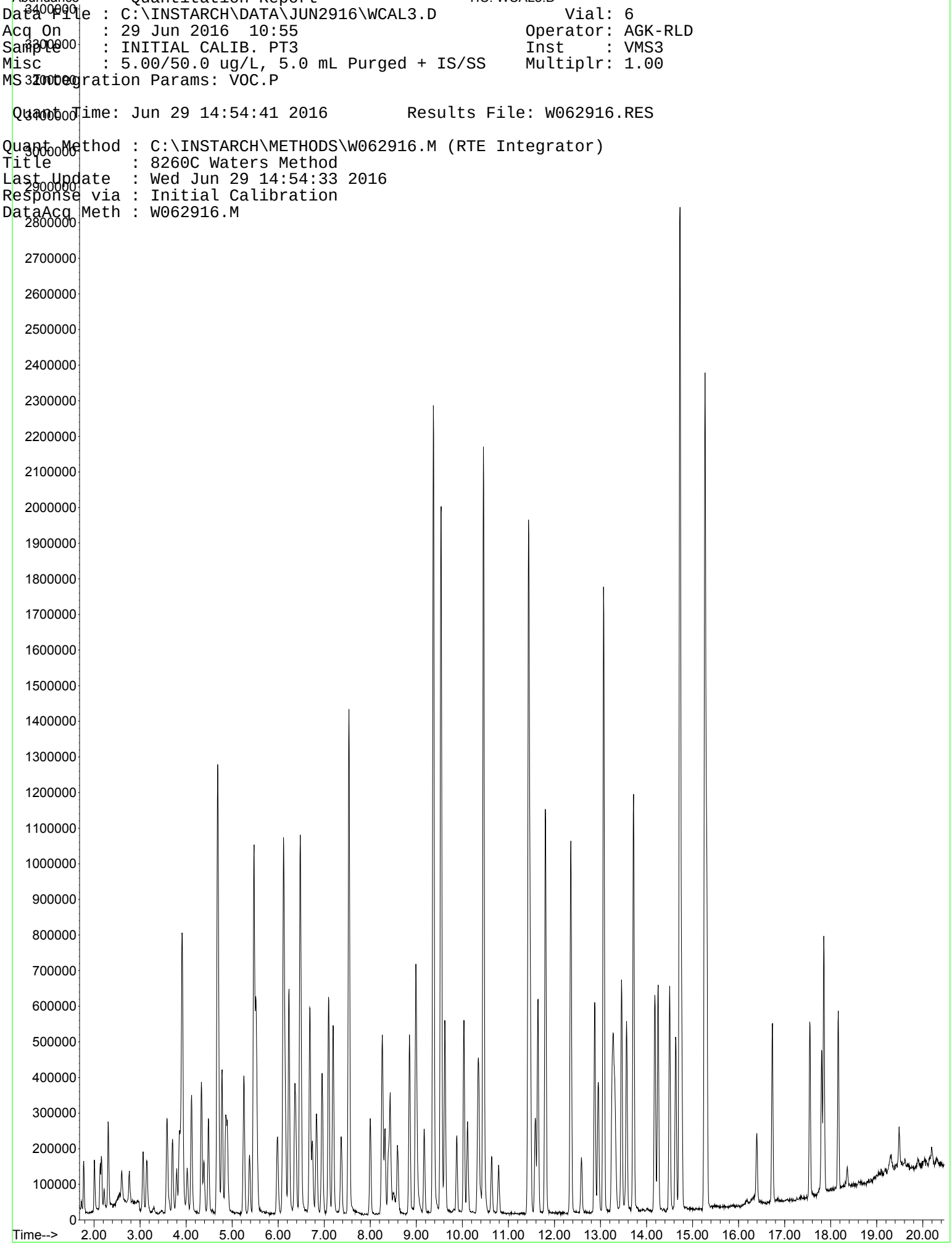
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: WCAL3.D

Data File : C:\INSTARCH\DATA\JUN2916\WCAL3.D Vial: 6
Acq On : 29 Jun 2016 10:55 Operator: AGK-RLD
Sample : INITIAL CALIB. PT3 Inst : VMS3
Misc : 5.00/50.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jun 29 14:54:41 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Jun 29 14:54:33 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M



Quantitation Report

Data File : C:\INSTARCH\DATA\JUN2916\WCAL4.D Vial: 7
Acq On : 29 Jun 2016 11:24 Operator: AGK-RLD
Sample : INITIAL CALIB. PT4 Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jun 29 14:55:02 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Jun 29 14:54:47 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.54	96	1502839	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.44	117	1319713	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.73	152	862178	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.69	113	396756	20.234	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101	%		
45) SURR12DCAd4	7.09	102	105627	19.820	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 99	%		
61) SURRd8Tolule	9.54	98	1586249	19.884	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 99	%		
83) SURR4BrFBenz	13.07	95	763876	20.081	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 100	%		
Target Compounds						Qvalue
2) Dichlorodi	1.78	85	279617	10.1724	ug/L	100
3) Chloromethan	2.01	50	285583	9.1446	ug/L	100
4) VinylChlorid	2.16	62	308958	10.4249	ug/L	100
5) Bromomethane	2.60	94	123519	9.6036	ug/L	100
6) Chloroethane	2.76	64	177671	9.8525	ug/L	100
7) Dichloroflmethane	3.07	67	407170	10.0247	ug/L	100
8) Trichlorofma	3.15	101	320116	10.3442	ug/L	100
9) Ethylether	3.58	59	172014	10.0261	ug/L	100
10) dichlorotfluoroethan	3.59	67	220659	9.8033	ug/L	100
11) propyleneoxide	3.92	58	564801	90.0324	ug/L	100
12) Acrolein	3.70	56	387684	50.1936	ug/L	100
13) 11dichlorthe	3.85	96	207707	10.8010	ug/L	100
14) Trichlorotfluoroeth	3.89	101	386435	21.0819	ug/L	100
15) Acetone	3.92	43	1674031	88.3425	ug/L	100
16) Iodomethane	4.02	142	378846	22.4010	ug/L	100
17) Carbon Dislf	4.12	76	1168752	20.2934	ug/L	100
18) allylchloride	4.33	41	565638	20.8193	ug/L	100
19) methylacetate	4.39	74	108199	9.5160	ug/L	100
20) Methylchlorid	4.48	84	262038	7.6556	ug/L	100
21) tbutylalcohol	4.68	59	3244745	435.0868	ug/L	100
22) Acrylonitrile	4.78	53	705716	49.8398	ug/L	100
23) t12dichlorte	4.85	96	203423	10.1643	ug/L	100
24) MtBE	4.89	73	603653	10.1284	ug/L	100
25) Hexane	5.26	57	518791	21.2341	ug/L	100
26) 11dichlorota	5.38	63	369582	10.0049	ug/L	100
27) Vinylacetate	5.47	43	3555184	92.6354	ug/L	100
28) chloroprene	5.51	53	646718	20.7303	ug/L	100
29) Diisopether	5.53	45	578776	9.7319	ug/L	100
30) ETBE	5.98	59	522440	10.8079	ug/L	100
31) 22dichloropr	6.11	77	313117	10.0576	ug/L	100
32) c12dichlorte	6.11	96	236312	10.3184	ug/L	100
33) 2Butanone	6.12	72	595356	98.5125	ug/L	100
34) propionitrile	6.15	54	663422	99.2237	ug/L	100
35) Ethylacetate	6.24	88	80043	48.8791	ug/L	100
36) methacrylonitrile	6.36	67	289448	19.9641	ug/L	100
37) Bromochlorma	6.39	128	113032	9.7764	ug/L	100
38) Tetrahydofur	6.47	42	1293476	94.1346	ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUN2916\WCAL4.D Vial: 7
Acq On : 29 Jun 2016 11:24 Operator: AGK-RLD
Sample : INITIAL CALIB. PT4 Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jun 29 14:55:02 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Jun 29 14:54:47 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.50	83	374708	9.9700	ug/L		100
40)	111trichlota	6.74	97	338753	10.4324	ug/L		100
42)	Cyclohexane	6.84	56	376837	10.8121	ug/L		100
43)	Carbtetraclo	6.96	119	278411	11.0241	ug/L		100
44)	11dicloprope	6.95	110	111106	10.7418	ug/L		100
46)	Benzene	7.19	78	836697	9.9614	ug/L		100
47)	12dichlorota	7.19	62	282829	10.0341	ug/L		100
48)	TAME	7.37	73	462872	10.3430	ug/L		100
49)	trichloroete	8.00	95	219255	10.0329	ug/L		100
50)	methylcyclohexane	8.27	83	388499	10.3621	ug/L		100
51)	12dicloropra	8.26	63	212972	10.3011	ug/L		100
52)	23Dicl1propene	8.32	75	316655	9.9706	ug/L		100
53)	Dibromometha	8.39	93	138348	9.7571	ug/L		100
54)	methylmethacrylate	8.43	69	221890	9.4068	ug/L		100
55)	14dioxane	8.44	88	220525	448.7689	ug/L		100
56)	Bromodiclrma	8.60	83	279465	9.9379	ug/L		100
57)	2Nitropropane	8.85	43	867625	103.8839	ug/L		100
58)	2CLEVE	8.99	63	7451	57.3859	ug/L	#	100
59)	c13dicloproe	9.17	75	334272	10.0226	ug/L		100
60)	4Meth2Pentan	9.37	43	3056955	87.1641	ug/L		100
62)	Toluene	9.62	92	569969	9.9945	ug/L		100
63)	t13Dicloprop	9.88	75	299754	10.5112	ug/L		100
64)	ethylmethacrylate	10.03	69	717245	19.5912	ug/L		100
65)	112Triclotha	10.11	83	175914	9.6104	ug/L		100
66)	Tetrachlorte	10.35	166	262334	10.1635	ug/L		100
67)	13Diclorpropa	10.34	76	350366	9.9115	ug/L		100
69)	2Hexanone	10.46	43	2772291	88.1850	ug/L		100
70)	Clorodibrmta	10.63	129	210695	10.0812	ug/L		100
71)	12Dibrometha	10.79	107	229801	10.3118	ug/L		100
72)	Chlorobenzen	11.48	112	612685	9.8063	ug/L		100
73)	1Clhexane	11.46	91	345731	9.9899	ug/L		100
74)	1112Tetclota	11.58	131	212147	10.2889	ug/L		100
75)	Ethylbenzene	11.64	91	1124921	9.9034	ug/L		100
76)	m p-Xylene	11.80	106	905280	20.2142	ug/L		100
77)	o-Xylene	12.35	106	449768	9.9615	ug/L		100
78)	Styrene	12.36	104	749646	10.3318	ug/L		100
79)	Bromoform	12.59	173	180412	10.1484	ug/L		100
80)	Isopropylben	12.87	105	1087148	10.2497	ug/L		100
81)	cyclohexanone	12.95	55	360218	183.8897	ug/L		100
84)	Bromobenzene	13.28	156	308021	10.1560	ug/L		100
85)	1122Tetrclta	13.25	83	403563	9.6010	ug/L		100
86)	123Triclproa	13.31	75	441538	9.9930	ug/L		100
87)	14dichloro2butene	13.34	53	58345	9.5532	ug/L		100
88)	n-Propylbenz	13.46	91	1342959	10.0093	ug/L		100
89)	2chlorotolue	13.57	91	809792	9.8021	ug/L		100
90)	4chlorotolue	13.72	91	935076	9.8605	ug/L		100
91)	135Trimebenz	13.72	105	975545	9.9785	ug/L		100
92)	tbutylbenzen	14.18	119	862745	10.2637	ug/L		100
93)	124Trimetben	14.25	105	994123	10.1618	ug/L		100
94)	sbutylbenzen	14.50	105	1242308	10.1455	ug/L		100
95)	13Diclorbenz	14.64	146	559782	9.9262	ug/L		100
96)	pIsopropylto	14.72	119	1034103	10.1877	ug/L		100
97)	14dichlorobe	14.76	146	562087	9.9522	ug/L		100
98)	12dichlorobe	15.29	146	537513	9.9665	ug/L		100
99)	nButylbenzen	15.31	91	946387	10.1644	ug/L		100
100)	12dibromo3cl	16.40	157	135945	10.1351	ug/L		100
101)	135Trichlorobenzene	16.73	180	445965	10.3249	ug/L		100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUN2916\WCAL4.D Vial: 7
Acq On : 29 Jun 2016 11:24 Operator: AGK-RLD
Sample : INITIAL CALIB. PT4 Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jun 29 14:55:02 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Jun 29 14:54:47 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M

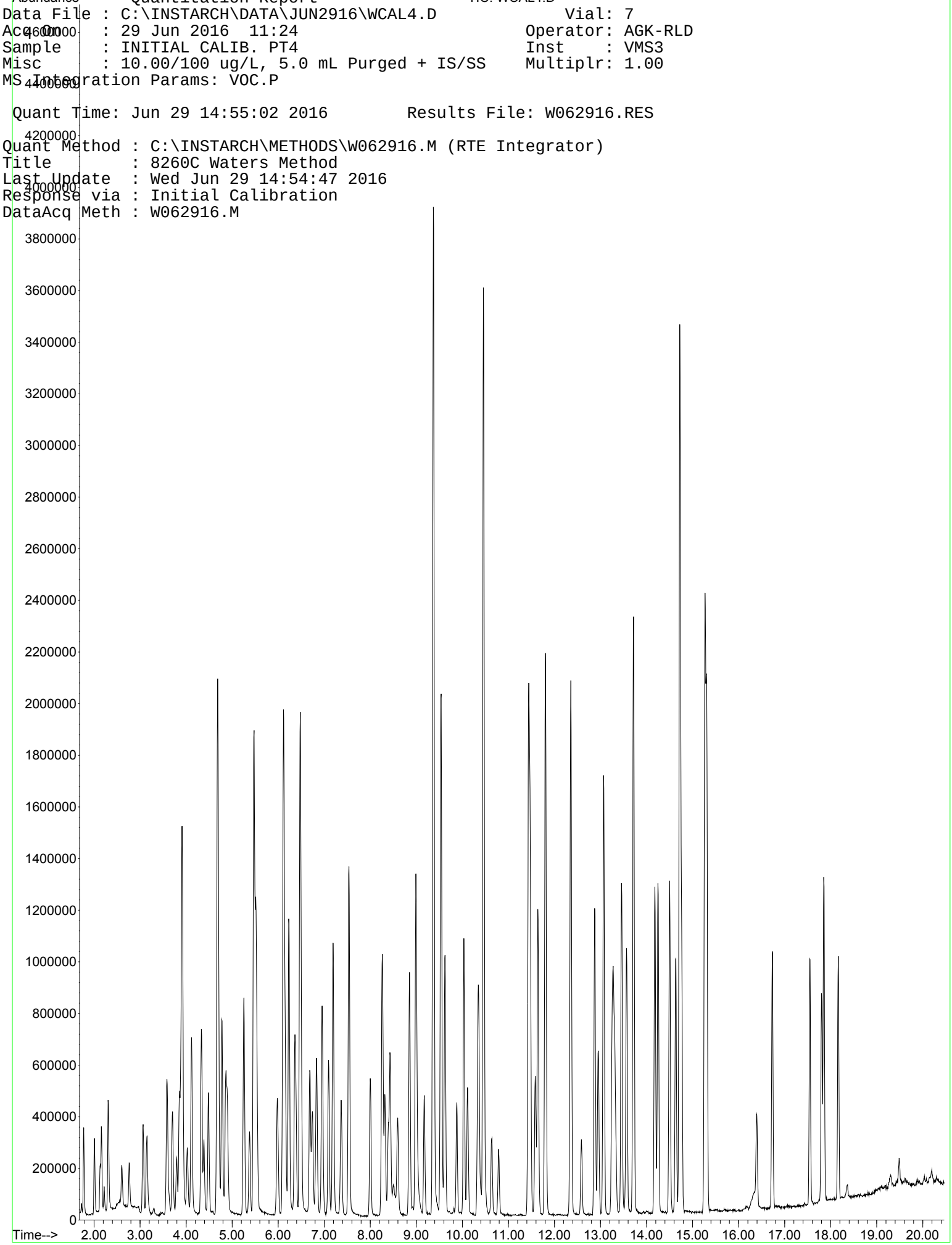
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.55	180	392803	10.1559	ug/L	100
103) Hexachlorobu	17.80	225	207866	10.5578	ug/L	100
104) Naphthalene	17.85	128	1226979	9.6051	ug/L	100
105) 123Trichlben	18.17	180	386791	10.3433	ug/L	100

(#) = qualifier out of range (m) = manual integration

Data File : C:\INSTARCH\DATA\JUN2916\WCAL4.D Vial: 7
Acq On : 29 Jun 2016 11:24 Operator: AGK-RLD
Sample : INITIAL CALIB. PT4 Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jun 29 14:55:02 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Jun 29 14:54:47 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M



Quantitation Report

Data File : C:\INSTARCH\DATA\JUN2916\WCAL5.D Vial: 8
Acq On : 29 Jun 2016 11:53 Operator: AGK-RLD
Sample : INITIAL CALIB. PT5 Inst : VMS3
Misc : 20.00/200 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jun 29 14:55:17 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Jun 29 14:55:11 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.54	96	1525626	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.44	117	1337454	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.73	152	862867	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.69	113	401073	20.149	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101	%		
45) SURR12DCAd4	7.09	102	110317	20.391	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 102	%		
61) SURRd8Tolule	9.54	98	1622368	20.033	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100	%		
83) SURR4BrFBenz	13.07	95	776601	20.399	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 102	%		
Target Compounds						Qvalue
2) Dichlorodi	1.78	85	523291	18.7528	ug/L	98
3) Chloromethan	2.01	50	528492	16.6699	ug/L	100
4) VinylChlorid	2.17	62	577231	19.1860	ug/L	98
5) Bromomethane	2.60	94	231835	17.7041	ug/L	98
6) Chloroethane	2.77	64	345947	18.8975	ug/L	99
7) Dichloroflmethane	3.07	67	775997	18.8200	ug/L	99
8) Trichlorofma	3.15	101	628083	19.9993	ug/L	99
9) Ethylether	3.58	59	342755	19.6796	ug/L	99
10) dichlorotfluoroethan	3.58	67	415747	18.1946	ug/L	98
11) propyleneoxide	3.92	58	1014990	159.3785	ug/L #	90
12) Acrolein	3.70	56	805108	102.5823	ug/L	94
13) 11dichlorthe	3.85	96	391960	20.0778	ug/L	97
14) Trichlorotfluoroeth	3.90	101	722334	38.8183	ug/L	98
15) Acetone	3.92	43	2804726	145.8012	ug/L	96
16) Iodomethane	4.02	142	823272	47.9526	ug/L	98
17) Carbon Dislf	4.12	76	2140056	36.5935	ug/L	99
18) allylchloride	4.33	41	1067852	38.7171	ug/L	98
19) methylacetate	4.39	74	217216	18.8187	ug/L	95
20) Methylchlorid	4.48	84	502513	14.4620	ug/L	98
21) tbutylalcohol	4.68	59	5303950	700.5822	ug/L	94
22) Acrylonitrile	4.78	53	1348634	93.8595	ug/L	97
23) t12dichlorte	4.86	96	413676	20.3612	ug/L	93
24) MtBE	4.89	73	1181561	19.5287	ug/L	99
25) Hexane	5.26	57	972357	39.2040	ug/L	98
26) 11dichlorota	5.38	63	716903	19.1174	ug/L	99
27) Vinylacetate	5.47	43	5991313	153.8234	ug/L	93
28) chloroprene	5.51	53	1223500	38.6331	ug/L	99
29) Diisopether	5.54	45	1103974	18.2857	ug/L	97
30) ETBE	5.99	59	1038275	21.1584	ug/L	97
31) 22dichloropr	6.11	77	585841	18.5368	ug/L	97
32) c12dichlorte	6.11	96	449781	19.3460	ug/L	99
33) 2Butanone	6.12	72	1122872	183.0245	ug/L	99
34) propionitrile	6.16	54	1259593	185.7190	ug/L	99
35) Ethylacetate	6.23	88	173421	104.3195	ug/L #	86
36) methacrylonitrile	6.36	67	540614	36.7309	ug/L	95
37) Bromochlorma	6.39	128	216382	18.4359	ug/L	98
38) Tetrahydofur	6.48	42	2373305	170.1789	ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUN2916\WCAL5.D Vial: 8
Acq On : 29 Jun 2016 11:53 Operator: AGK-RLD
Sample : INITIAL CALIB. PT5 Inst : VMS3
Misc : 20.00/200 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jun 29 14:55:17 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Jun 29 14:55:11 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39) Chloroform	6.50	83	722928	18.9480 ug/L	98
40) 111trichlota	6.74	97	658689	19.9823 ug/L	99
42) Cyclohexane	6.83	56	701206	19.8154 ug/L	99
43) Carbtetraclo	6.96	119	524481	20.4574 ug/L	96
44) 11dicloprope	6.95	110	209717	19.9728 ug/L	100
46) Benzene	7.20	78	1560978	18.3106 ug/L	97
47) 12dichlorota	7.19	62	562951	19.6738 ug/L	99
48) TAME	7.37	73	959176	21.1129 ug/L	99
49) trichloroete	8.00	95	434099	19.5672 ug/L	97
50) methylcyclohexane	8.27	83	755839	19.8587 ug/L	98
51) 12dicloropra	8.26	63	431031	20.5369 ug/L	98
52) 23Dicl1propene	8.32	75	637019	19.7583 ug/L	98
53) Dibromometha	8.40	93	268457	18.6503 ug/L	99
54) methylmethacrylate	8.43	69	446067	18.6282 ug/L	99
55) 14dioxane	8.44	88	390923	783.6471 ug/L	99
56) Bromodiclrma	8.60	83	547599	19.1820 ug/L	99
57) 2Nitropropane	8.85	43	1751948	206.6340 ug/L	100
58) 2CLEVE	8.99	63	16054	121.7975 ug/L #	89
59) c13dicloproe	9.17	75	664966	19.6401 ug/L	98
60) 4Meth2Pentan	9.37	43	4941581	138.8055 ug/L	93
62) Toluene	9.62	92	1086789	18.7724 ug/L	97
63) t13Dicloprop	9.88	75	607700	20.9915 ug/L	98
64) ethylmethacrylate	10.03	69	1343470	36.1482 ug/L	98
65) 112Triclotha	10.11	83	343015	18.4595 ug/L	99
66) Tetrachlorte	10.35	166	502276	19.1689 ug/L	97
67) 13Diclorpropa	10.34	76	699572	19.4946 ug/L	98
69) 2Hexanone	10.46	43	4424891	138.8862 ug/L	94
70) Clorodibrmta	10.64	129	424937	20.0624 ug/L	97
71) 12Dibrometha	10.79	107	444705	19.6904 ug/L	97
72) Chlorobenzen	11.48	112	1159590	18.3136 ug/L	99
73) 1Clhexane	11.46	91	648107	18.4786 ug/L	99
74) 1112Tetclota	11.59	131	414553	19.8388 ug/L	99
75) Ethylbenzene	11.64	91	2043863	17.7547 ug/L	97
76) m p-Xylene	11.81	106	1664907	36.6829 ug/L	94
77) o-Xylene	12.35	106	859194	18.7770 ug/L	96
78) Styrene	12.36	104	1400113	19.0407 ug/L	97
79) Bromoform	12.59	173	364328	20.2221 ug/L	99
80) Isopropylben	12.87	105	1990735	18.5198 ug/L	97
81) cyclohexanone	12.95	55	658737	331.8216 ug/L	99
84) Bromobenzene	13.27	156	597276	19.6775 ug/L	99
85) 1122Tetrclta	13.25	83	765676	18.2014 ug/L	99
86) 123Triclproa	13.31	75	865753	19.5783 ug/L	99
87) 14dichloro2butene	13.34	53	129510	21.1886 ug/L	100
88) n-Propylbenz	13.46	91	2397731	17.8563 ug/L	98
89) 2chlorotolue	13.57	91	1488535	18.0035 ug/L	97
90) 4chlorotolue	13.72	91	1721774	18.1418 ug/L	97
91) 135Trimebenz	13.72	105	1793849	18.3340 ug/L	98
92) tbutylbenzen	14.18	119	1567206	18.6294 ug/L	98
93) 124Trimetben	14.25	105	1803300	18.4183 ug/L	97
94) sbutylbenzen	14.50	105	2262250	18.4603 ug/L	97
95) 13Diclorbenz	14.64	146	1056098	18.7121 ug/L	98
96) pIsopropylto	14.72	119	1881621	18.5225 ug/L	98
97) 14dichlorobe	14.76	146	1061823	18.7854 ug/L	100
98) 12dichlorobe	15.29	146	999026	18.5091 ug/L	99
99) nButylbenzen	15.31	91	1732972	18.6081 ug/L	97
100) 12dibromo3cl	16.39	157	262500	19.5545 ug/L	98
101) 135Trichlorobenzene	16.74	180	848517	19.6290 ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report
Data File : C:\INSTARCH\DATA\JUN2916\WCAL5.D Vial: 8
Acq On : 29 Jun 2016 11:53 Operator: AGK-RLD
Sample : INITIAL CALIB. PT5 Inst : VMS3
Misc : 20.00/200 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jun 29 14:55:17 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Jun 29 14:55:11 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.55	180	767594	19.8303	ug/L	99
103) Hexachlorobu	17.81	225	407840	20.6981	ug/L	99
104) Naphthalene	17.85	128	2178110	17.0372	ug/L	98
105) 123Trichlben	18.17	180	717339	19.1672	ug/L	97

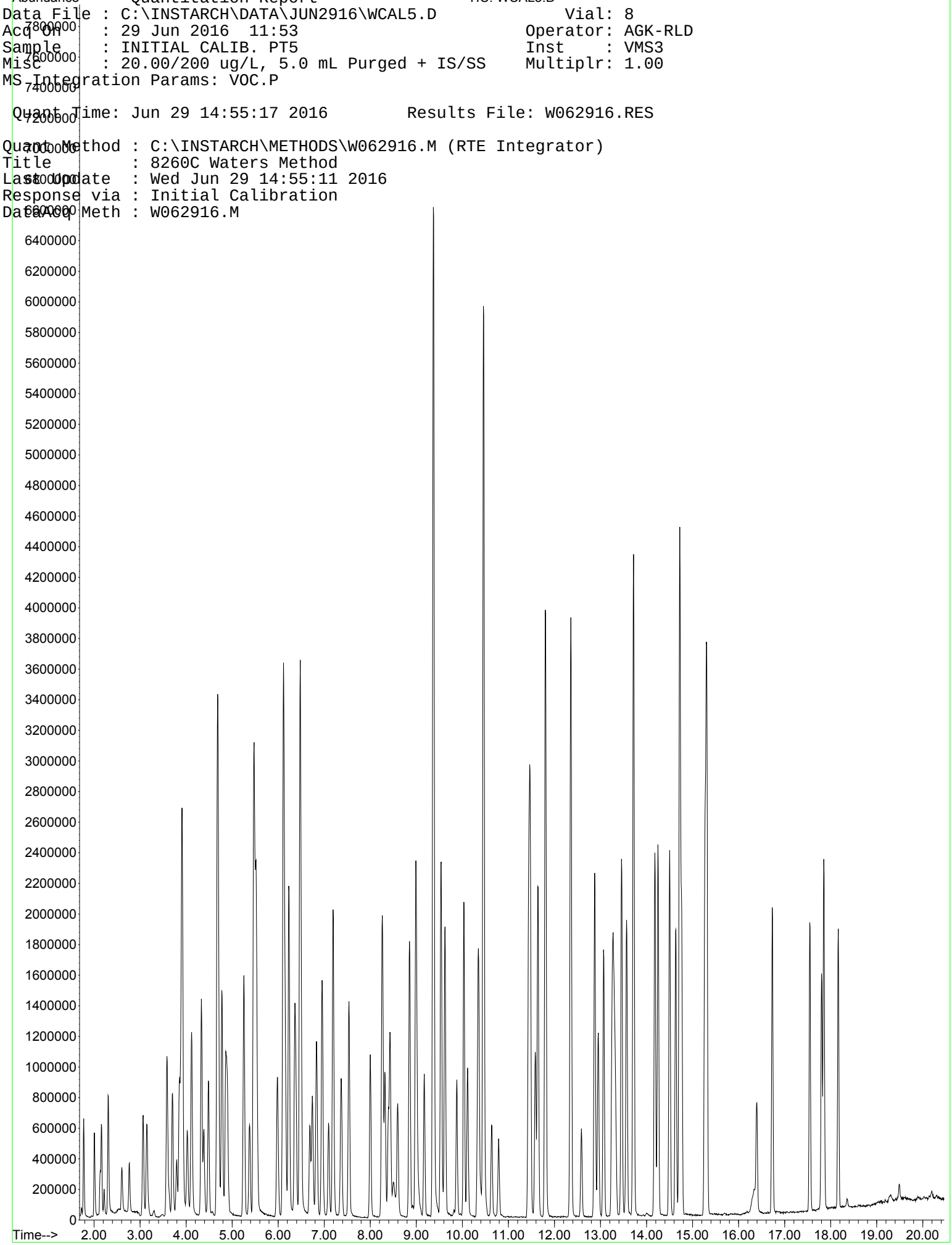
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: WCAL5.D

Data File : C:\INSTARCH\DATA\JUN2916\WCAL5.D Vial: 8
Acq On : 29 Jun 2016 11:53 Operator: AGK-RLD
Sample : INITIAL CALIB. PT5 Inst : VMS3
Misc : 20.00/200 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jun 29 14:55:17 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Jun 29 14:55:11 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M



Quantitation Report

Data File : C:\INSTARCH\DATA\JUN2916\WCAL6.D Vial: 9
Acq On : 29 Jun 2016 12:22 Operator: AGK-RLD
Sample : INITIAL CALIB. PT6 Inst : VMS3
Misc : 30.00/300 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jun 29 14:55:31 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Jun 29 14:55:25 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.54	96	1583371	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.44	117	1374752	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.73	152	882755	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.69	113	416618	20.136	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101	%		
45) SURR12DCAd4	7.09	102	114003	20.224	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 101	%		
61) SURRd8Tolule	9.54	98	1668113	19.840	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 99	%		
83) SURR4BrFBenz	13.07	95	787382	20.136	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 101	%		
Target Compounds						Qvalue
2) Dichlorodi	1.78	85	789164	27.5934	ug/L	99
3) Chloromethan	2.01	50	794684	24.9841	ug/L	99
4) VinylChlorid	2.16	62	868831	28.0534	ug/L	98
5) Bromomethane	2.60	94	391258	29.4653	ug/L	99
6) Chloroethane	2.77	64	519158	27.6295	ug/L	100
7) Dichloroflmethane	3.07	67	1172854	27.7347	ug/L	98
8) Trichlorofma	3.15	101	974389	29.8950	ug/L	100
9) Ethylether	3.58	59	528233	29.3169	ug/L	98
10) dichlorotfluoroethan	3.59	67	650510	27.9348	ug/L	98
11) propyleneoxide	3.92	58	1489373	234.8804	ug/L #	81
12) Acrolein	3.70	56	1216841	148.6210	ug/L	95
13) 11dichlorthe	3.85	96	606100	29.8915	ug/L	99
14) Trichlorotfluoroeth	3.89	101	1128943	58.8043	ug/L	98
15) Acetone	3.91	43	3829695	202.8151	ug/L	91
16) Iodomethane	4.02	142	1371082	74.0053	ug/L	97
17) Carbon Dislf	4.12	76	3089567	51.7848	ug/L	97
18) allylchloride	4.33	41	1613964	56.7473	ug/L	97
19) methylacetate	4.39	74	333460	28.1687	ug/L	100
20) Methylchlorid	4.49	84	754967	22.1625	ug/L	98
21) tbutylalcohol	4.68	59	6987176	945.8998	ug/L	87
22) Acrylonitrile	4.78	53	2009599	136.4349	ug/L	96
23) t12dichlorte	4.86	96	630855	29.8107	ug/L	96
24) MtBE	4.89	73	1813430	29.0158	ug/L	98
25) Hexane	5.26	57	1503072	58.6249	ug/L	97
26) 11dichlorota	5.38	63	1103171	28.5974	ug/L	99
27) Vinylacetate	5.47	43	7722081	200.2775	ug/L	86
28) chloroprene	5.51	53	1851963	56.7325	ug/L	98
29) Diisopether	5.53	45	1687333	27.3986	ug/L	95
30) ETBE	5.98	59	1599205	31.0412	ug/L	97
31) 22dichloropr	6.11	77	902691	27.9293	ug/L	96
32) c12dichlorte	6.11	96	695992	29.0342	ug/L	98
33) 2Butanone	6.12	72	1682158	268.7489	ug/L	97
34) propionitrile	6.15	54	1898835	273.6689	ug/L	97
35) Ethylacetate	6.23	88	263253	151.2749	ug/L #	90
36) methacrylonitrile	6.36	67	853486	56.8020	ug/L	98
37) Bromochlorma	6.39	128	329325	27.4650	ug/L	97
38) Tetrahydofur	6.47	42	3421178	243.6359	ug/L	94

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUN2916\WCAL6.D Vial: 9
Acq On : 29 Jun 2016 12:22 Operator: AGK-RLD
Sample : INITIAL CALIB. PT6 Inst : VMS3
Misc : 30.00/300 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jun 29 14:55:31 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Jun 29 14:55:25 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39) Chloroform	6.50	83	1107311	28.2616	ug/L		99
40) 111trichlota	6.74	97	1033828	30.2243	ug/L		99
42) Cyclohexane	6.83	56	1104496	30.1293	ug/L		98
43) Carbtetraclo	6.96	119	845118	31.6171	ug/L		96
44) 11dicloprope	6.95	110	342859	31.4706	ug/L		98
46) Benzene	7.19	78	2343901	26.9470	ug/L		96
47) 12dichlorota	7.19	62	869440	29.3725	ug/L		100
48) TAME	7.37	73	1480839	31.0611	ug/L		98
49) trichloroete	8.00	95	677074	29.5342	ug/L		98
50) methylcyclohexane	8.27	83	1144950	29.0261	ug/L		100
51) 12dicloropra	8.26	63	670295	30.6078	ug/L		90
52) 23Dicl1propene	8.32	75	981407	29.4011	ug/L		98
53) Dibromometha	8.39	93	438385	29.7463	ug/L		98
54) methylmethacrylate	8.43	69	687801	28.0606	ug/L		98
55) 14dioxane	8.44	88	644235	1300.6184	ug/L		99
56) Bromodiclrma	8.60	83	870455	29.6217	ug/L		99
57) 2Nitropropane	8.85	43	2697901	304.5792	ug/L		99
58) 2CLEVE	8.99	63	25450	173.4390	ug/L	#	93
59) c13dicloproe	9.17	75	1037163	29.6226	ug/L		98
60) 4Meth2Pentan	9.37	43	6351304	183.1021	ug/L		84
62) Toluene	9.62	92	1653517	27.8620	ug/L		93
63) t13Dicloprop	9.88	75	929714	30.6396	ug/L		95
64) ethylmethacrylate	10.03	69	2020853	53.4200	ug/L		97
65) 112Triclotha	10.12	83	546024	28.7558	ug/L		99
66) Tetrachlorte	10.35	166	783214	29.0419	ug/L		98
67) 13Diclorpropa	10.34	76	1087795	29.3558	ug/L		99
69) 2Hexanone	10.46	43	5744845	186.8428	ug/L		88
70) Clorodibrmta	10.64	129	666422	30.5908	ug/L		99
71) 12Dibrometha	10.79	107	707102	30.5538	ug/L		98
72) Chlorobenzen	11.47	112	1741241	27.2125	ug/L		98
73) 1Clhexane	11.46	91	996130	28.0577	ug/L		99
74) 1112Tetclota	11.58	131	654615	30.5264	ug/L		99
75) Ethylbenzene	11.64	91	2959971	25.5898	ug/L		94
76) m p-Xylene	11.80	106	2459143	53.6013	ug/L		86
77) o-Xylene	12.35	106	1298268	27.9446	ug/L		92
78) Styrene	12.36	104	2075641	27.7276	ug/L		96
79) Bromoform	12.59	173	578887	31.1902	ug/L		99
80) Isopropylben	12.87	105	2876442	26.4247	ug/L		95
81) cyclohexanone	12.95	55	1019263	517.1259	ug/L		100
84) Bromobenzene	13.28	156	910417	29.4132	ug/L		98
85) 1122Tetrclta	13.25	83	1171187	27.7123	ug/L		100
86) 123Triclproa	13.30	75	1324917	29.4109	ug/L		99
87) 14dichloro2butene	13.34	53	200309	31.6571	ug/L		97
88) n-Propylbenz	13.46	91	3416897	25.4178	ug/L		93
89) 2chlorotolue	13.57	91	2198581	26.5218	ug/L		95
90) 4chlorotolue	13.72	91	2494451	26.1776	ug/L		94
91) 135Trimebenz	13.72	105	2612213	26.5388	ug/L		95
92) tbutylbenzen	14.18	119	2319466	27.3249	ug/L		97
93) 124Trimetben	14.25	105	2621862	26.5962	ug/L		94
94) sbutylbenzen	14.50	105	3206847	25.9788	ug/L		93
95) 13Diclorbenz	14.64	146	1567243	27.4972	ug/L		97
96) pIsopropylto	14.72	119	2710784	26.4746	ug/L		95
97) 14dichlorobe	14.76	146	1581686	27.6885	ug/L		99
98) 12dichlorobe	15.29	146	1489917	27.3903	ug/L		98
99) nButylbenzen	15.31	91	2549717	27.1390	ug/L		95
100) 12dibromo3cl	16.40	157	408044	29.8447	ug/L		98
101) 135Trichlorobenzene	16.74	180	1271732	28.8636	ug/L		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUN2916\WCAL6.D Vial: 9
Acq On : 29 Jun 2016 12:22 Operator: AGK-RLD
Sample : INITIAL CALIB. PT6 Inst : VMS3
Misc : 30.00/300 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jun 29 14:55:31 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Jun 29 14:55:25 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.55	180	1148412	29.0494	ug/L	100
103) Hexachlorobu	17.81	225	618807	30.4845	ug/L	98
104) Naphthalene	17.85	128	3063924	24.1413	ug/L	96
105) 123Trichlben	18.17	180	1080108	28.4471	ug/L	96

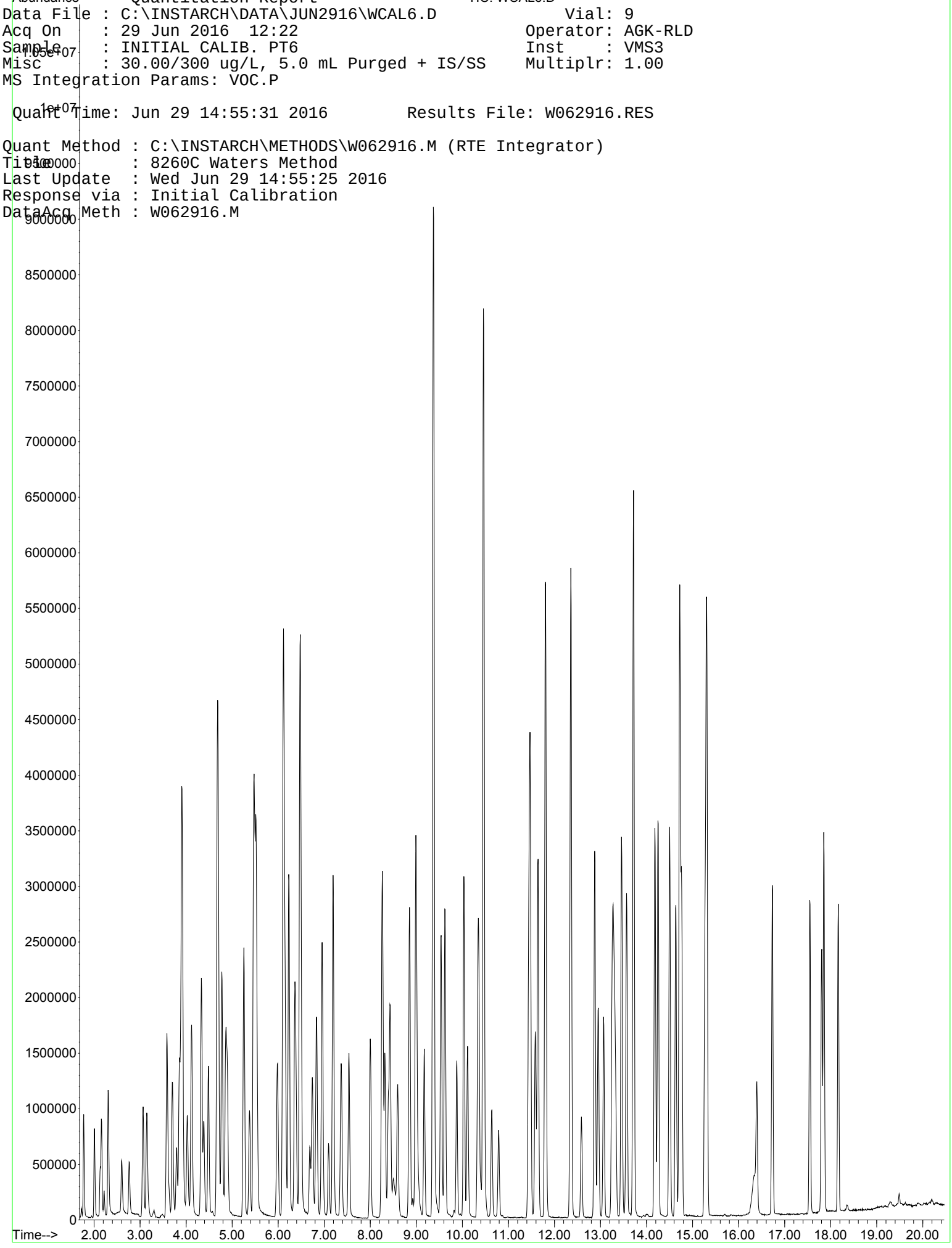
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: WCAL6.D

Data File : C:\INSTARCH\DATA\JUN2916\WCAL6.D Vial: 9
Acq On : 29 Jun 2016 12:22 Operator: AGK-RLD
Sample : INITIAL CALIB. PT6 Inst : VMS3
Misc : 30.00/300 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jun 29 14:55:31 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Jun 29 14:55:25 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M



Quantitation Report

Data File : C:\INSTARCH\DATA\JUN2916\WCAL7.D Vial: 10
Acq On : 29 Jun 2016 12:51 Operator: AGK-RLD
Sample : INITIAL CALIB. PT7 Inst : VMS3
Misc : 40.00/400 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jun 29 14:55:44 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Jun 29 14:55:38 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.54	96	1561180	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.44	117	1379854	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.73	152	897306	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.69	113	413366	20.240	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101	%		
45) SURR12DCAd4	7.09	102	112421	20.189	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 101	%		
61) SURRd8Tolule	9.53	98	1666983	20.136	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101	%		
83) SURR4BrFBenz	13.07	95	792570	19.917	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 100	%		
Target Compounds						Qvalue
2) Dichlorodi	1.78	85	1014305	36.4571	ug/L	99
3) Chloromethan	2.01	50	1030998	33.8167	ug/L	99
4) VinylChlorid	2.16	62	1129667	37.3984	ug/L	97
5) Bromomethane	2.60	94	544276	41.6954	ug/L	98
6) Chloroethane	2.77	64	678406	37.1066	ug/L	99
7) Dichloroflmethane	3.07	67	1531757	37.2049	ug/L	98
8) Trichlorofma	3.15	101	1283896	39.9741	ug/L	100
9) Ethylether	3.58	59	684567	38.6802	ug/L	98
10) dichlorotfluoroethan	3.59	67	845306	37.2432	ug/L	98
11) propyleneoxide	3.92	58	2126820	352.9448	ug/L #	72
12) Acrolein	3.70	56	1545997	191.8009	ug/L	91
13) 11dichlorthe	3.85	96	785687	39.3228	ug/L	99
14) Trichlorotfluoroeth	3.89	101	1438180	76.2299	ug/L	97
15) Acetone	3.92	43	5107652	289.9961	ug/L	86
16) Iodomethane	4.03	142	1774394	93.4984	ug/L	96
17) Carbon Dislf	4.12	76	3831325	66.6514	ug/L	95
18) allylchloride	4.33	41	2070875	74.5207	ug/L	96
19) methylacetate	4.39	74	444186	38.4467	ug/L	98
20) Methylchlorid	4.48	84	971047	30.2269	ug/L	98
21) tbutylalcohol	4.69	59	7987235	1168.6008	ug/L	83
22) Acrylonitrile	4.78	53	2574577	179.9895	ug/L	96
23) t12dichlorte	4.86	96	823270	39.4977	ug/L	94
24) MtBE	4.89	73	2356821	38.4567	ug/L	97
25) Hexane	5.26	57	1873791	74.4072	ug/L	96
26) 11dichlorota	5.38	63	1406215	37.2617	ug/L	98
27) Vinylacetate	5.48	43	8787827	244.7157	ug/L	82
28) chloroprene	5.51	53	2353808	73.8006	ug/L	97
29) Diisopether	5.54	45	2312534	38.6428	ug/L	99
30) ETBE	5.99	59	2203165	43.1227	ug/L	95
31) 22dichloropr	6.11	77	1213813	38.5325	ug/L	94
32) c12dichlorte	6.11	96	913657	38.8647	ug/L	97
33) 2Butanone	6.12	72	2226434	367.1350	ug/L	96
34) propionitrile	6.16	54	2454939	364.1738	ug/L	95
35) Ethylacetate	6.24	88	352953	205.4118	ug/L #	85
36) methacrylonitrile	6.36	67	1126920	76.7477	ug/L	97
37) Bromochlorma	6.39	128	432857	37.1354	ug/L	99
38) Tetrahydofur	6.47	42	4237968	315.9874	ug/L	91

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUN2916\WCAL7.D Vial: 10
Acq On : 29 Jun 2016 12:51 Operator: AGK-RLD
Sample : INITIAL CALIB. PT7 Inst : VMS3
Misc : 40.00/400 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jun 29 14:55:44 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Jun 29 14:55:38 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.50	83	1427373	37.3086	ug/L		99
40)	111trichlota	6.74	97	1343926	39.7990	ug/L		99
42)	Cyclohexane	6.83	56	1431288	39.5703	ug/L		100
43)	Carbtetraclo	6.96	119	1088644	40.9389	ug/L		95
44)	11dicloprope	6.95	110	436517	40.3075	ug/L		97
46)	Benzene	7.19	78	2943485	34.9134	ug/L		94
47)	12dichlorota	7.19	62	1123090	38.6156	ug/L		98
48)	TAME	7.37	73	2149540	45.4602	ug/L		97
49)	trichloroete	8.00	95	879905	39.0283	ug/L		98
50)	methylcyclohexane	8.27	83	1486135	38.4190	ug/L		100
51)	12dicloropra	8.26	63	881983	40.7092	ug/L		91
52)	23Dicl1propene	8.32	75	1273842	38.8335	ug/L		97
53)	Dibromometha	8.39	93	577915	39.8276	ug/L		98
54)	methylmethacrylate	8.43	69	909286	38.0338	ug/L		99
55)	14dioxane	8.44	88	716270	1499.8277	ug/L		100
56)	Bromodiclrma	8.60	83	1136663	39.3133	ug/L		98
57)	2Nitropropane	8.85	43	3203870	365.9110	ug/L		98
58)	2CLEVE	8.99	63	116868	777.3948	ug/L	#	64
59)	c13dicloproe	9.17	75	1339443	38.8813	ug/L		96
60)	4Meth2Pentan	9.37	43	7405678	231.5726	ug/L		78
62)	Toluene	9.62	92	2104643	36.4000	ug/L		91
63)	t13Dicloprop	9.88	75	1231492	41.0162	ug/L		95
64)	ethylmethacrylate	10.03	69	2607486	71.2086	ug/L		97
65)	112Triclotha	10.12	83	709012	38.1338	ug/L		99
66)	Tetrachlorte	10.35	166	1023803	38.7087	ug/L		98
67)	13Diclorpropa	10.34	76	1422626	39.0773	ug/L		98
69)	2Hexanone	10.46	43	6706246	231.8818	ug/L		83
70)	Clorodibrmta	10.64	129	889097	40.5283	ug/L		98
71)	12Dibrometha	10.79	107	935252	40.1393	ug/L		97
72)	Chlorobenzen	11.48	112	2247415	35.5437	ug/L		97
73)	1Clhexane	11.46	91	1320117	37.4500	ug/L		97
74)	1112Tetclota	11.58	131	875202	40.5435	ug/L		99
75)	Ethylbenzene	11.64	91	3712419	32.7794	ug/L		91
76)	m p-Xylene	11.81	106	3125425	69.1004	ug/L	#	81
77)	o-Xylene	12.35	106	1689445	36.6486	ug/L		89
78)	Styrene	12.36	104	2675110	36.0588	ug/L		94
79)	Bromoform	12.59	173	800091	42.6671	ug/L		99
80)	Isopropylben	12.88	105	3650019	34.0842	ug/L		92
81)	cyclohexanone	12.95	55	1223535	633.0416	ug/L		99
84)	Bromobenzene	13.27	156	1191696	38.0001	ug/L		98
85)	1122Tetrclta	13.25	83	1561923	36.8265	ug/L		100
86)	123Triclproa	13.31	75	1764547	38.6613	ug/L		99
87)	14dichloro2butene	13.34	53	281704	43.3994	ug/L		99
88)	n-Propylbenz	13.46	91	4206271	31.5866	ug/L		89
89)	2chlorotolue	13.57	91	2806574	33.9633	ug/L		93
90)	4chlorotolue	13.72	91	3196775	33.7200	ug/L		92
91)	135Trimebenz	13.72	105	3313517	33.7671	ug/L		93
92)	tbutylbenzen	14.18	119	2997298	35.2616	ug/L		94
93)	124Trimetben	14.25	105	3326502	33.8368	ug/L		92
94)	sbutylbenzen	14.50	105	4027048	32.8276	ug/L		90
95)	13Diclorbenz	14.64	146	2045018	35.7956	ug/L		95
96)	pIsopropylto	14.72	119	3450702	33.8168	ug/L		92
97)	14dichlorobe	14.76	146	2060676	35.9502	ug/L		98
98)	12dichlorobe	15.30	146	1971949	36.1887	ug/L		98
99)	nButylbenzen	15.31	91	3228917	34.3571	ug/L		93
100)	12dibromo3cl	16.40	157	554659	39.9449	ug/L		97
101)	135Trichlorobenzene	16.74	180	1672662	37.5849	ug/L		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

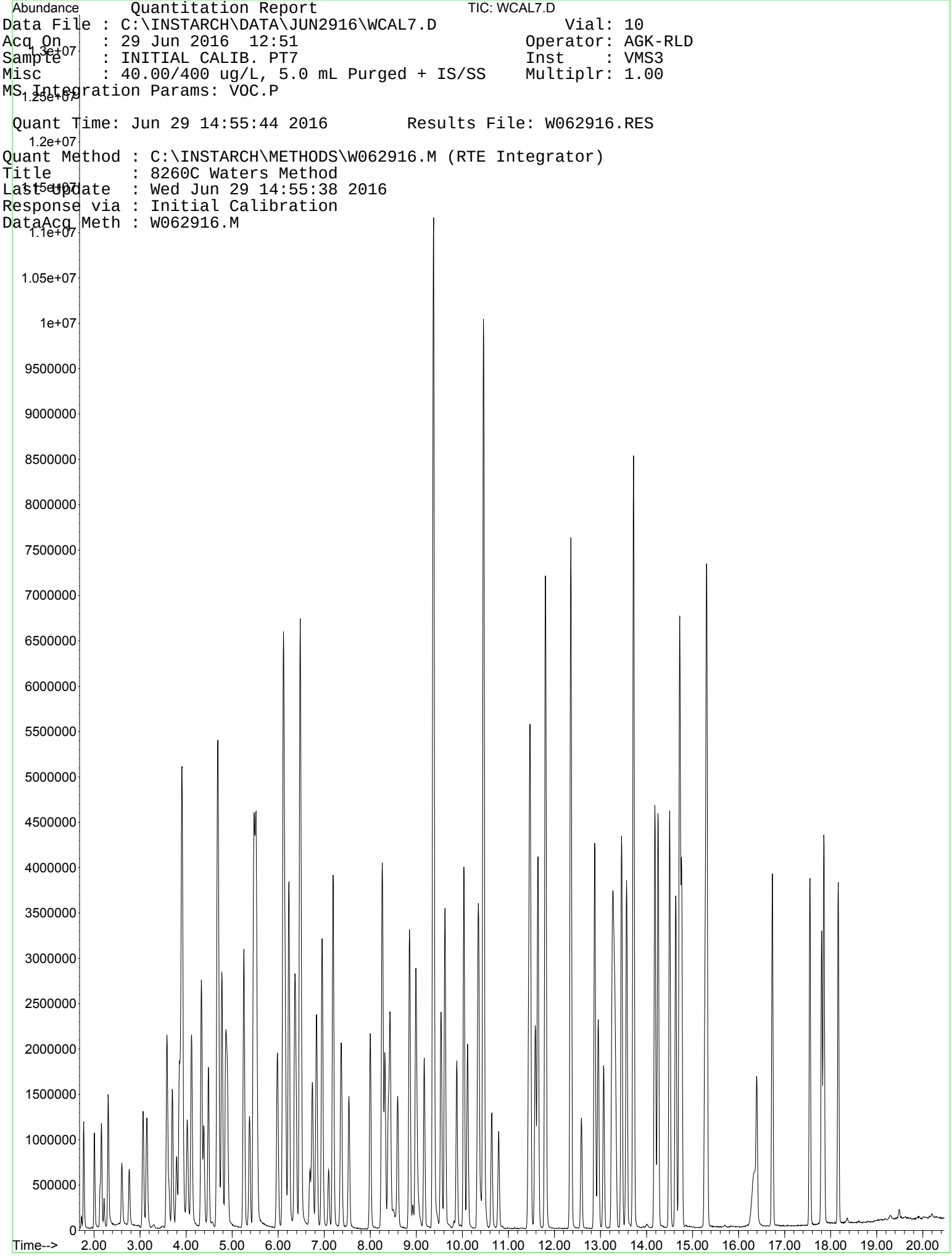
Data File : C:\INSTARCH\DATA\JUN2916\WCAL7.D Vial: 10
Acq On : 29 Jun 2016 12:51 Operator: AGK-RLD
Sample : INITIAL CALIB. PT7 Inst : VMS3
Misc : 40.00/400 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jun 29 14:55:44 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Jun 29 14:55:38 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.55	180	1524781	38.1458	ug/L	99
103) Hexachlorobu	17.81	225	841560	40.6763	ug/L	99
104) Naphthalene	17.85	128	3850602	30.8519	ug/L	93
105) 123Trichlben	18.17	180	1436889	37.5540	ug/L	96

(#) = qualifier out of range (m) = manual integration


Abundance
Quantitation Report
TIC: WCAL7.D
Data File : C:\INSTARCH\DATA\JUN2916\WCAL7.D
Vial: 10
Acq On : 29 Jun 2016 12:51
Operator: AGK-RLD
Sample : INITIAL CALIB. PT7
Inst : VMS3
Misc : 40.00/400 ug/L, 5.0 mL Purged + IS/SS
Multiplr: 1.00
MS Integration Params: VOC.P
Quant Time: Jun 29 14:55:44 2016
Results File: W062916.RES
Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Jun 29 14:55:38 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M
1.3e+07
1.25e+07
1.2e+07
1.15e+07
1.1e+07
1.05e+07
1e+07
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Quantitation Report

Data File : C:\INSTARCH\DATA\JUN2916\WCAL8.D Vial: 11
Acq On : 29 Jun 2016 13:20 Operator: AGK-RLD
Sample : INITIAL CALIB. PT8 Inst : VMS3
Misc : 80.00/800 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jun 29 15:00:57 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Jun 29 15:00:30 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.54	96	1671735	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.44	117	1477111	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.73	152	950307	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.69	113	454374	20.646	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 103	%		
45) SURR12DCAd4	7.09	102	126372	21.012	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 105	%		
61) SURRd8Tolule	9.54	98	1752790	19.783	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 99	%		
83) SURR4BrFBenz	13.07	95	853220	20.225	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 101	%		
Target Compounds						Qvalue
2) Dichlorodi	1.78	85	1919896	66.8068	ug/L	94
3) Chloromethan	2.01	50	2010675	64.7001	ug/L	93
4) VinylChlorid	2.16	62	2164576	68.8886	ug/L	92
5) Bromomethane	2.59	94	802904	59.2141	ug/L	99
6) Chloroethane	2.76	64	1380652	72.2461	ug/L	98
7) Dichloroflmethane	3.06	67	2950030	68.9261	ug/L	94
8) Trichlorofma	3.15	101	2681990	78.2346	ug/L	97
9) Ethylether	3.58	59	1446371	77.0811	ug/L	96
10) dichlorotfluoroethan	3.58	67	1746289	73.4186	ug/L	96
11) propyleneoxide	3.92	58	3949316	640.2633	ug/L #	51
12) Acrolein	3.70	56	3220214	378.2076	ug/L	95
13) 11dichlorthe	3.85	96	1712979	80.2249	ug/L	94
14) Trichlorotfluoroeth	3.89	101	2885577	145.6448	ug/L	96
15) Acetone	3.92	43	7814690	457.6610	ug/L	70
16) Iodomethane	4.02	142	3476015	166.1118	ug/L	93
17) Carbon Dislf	4.11	76	6333990	110.1102	ug/L	86
18) allylchloride	4.33	41	3740056	130.2944	ug/L	91
19) methylacetate	4.39	74	978088	79.5632	ug/L	98
20) Methylchlorid	4.48	84	1970579	61.3342	ug/L	97
21) tbutylalcohol	4.70	59	11579493	1813.3834	ug/L	61
22) Acrylonitrile	4.78	53	4602876	314.2068	ug/L	91
23) t12dichlorte	4.86	96	1730593	77.9595	ug/L	93
24) MtBE	4.89	73	4504534	70.2256	ug/L	92
25) Hexane	5.26	57	3564651	136.3432	ug/L #	92
26) 11dichlorota	5.38	63	2894495	73.2102	ug/L	93
27) Vinylacetate	5.48	43	12313970	365.3483	ug/L	63
28) chloroprene	5.51	53	4386306	133.0005	ug/L	91
29) Diisopether	5.54	45	4110469	66.0610	ug/L	88
30) ETBE	5.98	59	4057021	74.1103	ug/L	90
31) 22dichloropr	6.11	77	2496422	75.0550	ug/L	93
32) c12dichlorte	6.11	96	1940136	77.7021	ug/L	95
33) 2Butanone	6.12	72	4249598	676.7549	ug/L	88
34) propionitrile	6.16	54	4549516	654.9622	ug/L	89
35) Ethylacetate	6.24	88	736627	398.9585	ug/L #	82
36) methacrylonitrile	6.36	67	2359328	152.0072	ug/L	98
37) Bromochlorma	6.39	128	877870	72.0667	ug/L	99
38) Tetrahydofur	6.47	42	6867403	517.8111	ug/L	79

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUN2916\WCAL8.D Vial: 11
Acq On : 29 Jun 2016 13:20 Operator: AGK-RLD
Sample : INITIAL CALIB. PT8 Inst : VMS3
Misc : 80.00/800 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jun 29 15:00:57 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Jun 29 15:00:30 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.50	83	2917098	72.8177	ug/L		96
40)	111trichlota	6.74	97	2777613	77.2492	ug/L		96
42)	Cyclohexane	6.83	56	2870358	74.8980	ug/L		97
43)	Carbtetraclo	6.96	119	2282910	79.9163	ug/L		91
44)	11dicloprope	6.95	110	949567	81.5651	ug/L		92
46)	Benzene	7.19	78	5311128	61.8600	ug/L		85
47)	12dichlorota	7.19	62	2369954	76.8995	ug/L		96
48)	TAME	7.37	73	3844658	75.1282	ug/L		93
49)	trichloroete	8.00	95	1861709	77.7016	ug/L		97
50)	methylcyclohexane	8.27	83	2937147	72.2927	ug/L		97
51)	12dicloropra	8.25	63	1917078	82.1138	ug/L		97
52)	23Dicl1propene	8.32	75	2669071	76.7477	ug/L		92
53)	Dibromometha	8.39	93	1271028	81.6156	ug/L		98
54)	methylmethacrylate	8.43	69	1888972	74.9756	ug/L		95
55)	14dioxane	8.44	88	2045578	4129.1295	ug/L		98
56)	Bromodiclrma	8.60	83	2444632	79.2588	ug/L		96
57)	2Nitropropane	8.86	43	5957093	659.3464	ug/L		92
58)	2CLEVE	8.99	63	81637	332.3695	ug/L		83
59)	c13dicloproe	9.17	75	2809822	76.8986	ug/L		92
60)	4Meth2Pentan	9.37	43	10013510	336.8578	ug/L	#	61
62)	Toluene	9.62	92	3978715	66.6504	ug/L	#	81
63)	t13Dicloprop	9.88	75	2636192	81.4820	ug/L		92
64)	ethylmethacrylate	10.03	69	4675001	124.9231	ug/L		89
65)	112Triclotha	10.12	83	1575605	79.7108	ug/L		97
66)	Tetrachlorte	10.35	166	2120445	75.7827	ug/L		96
67)	13Diclorpropa	10.34	76	2953651	76.4933	ug/L		95
69)	2Hexanone	10.46	43	9058028	337.0015	ug/L	#	70
70)	Clorodibrmta	10.64	129	1973024	83.3553	ug/L		99
71)	12Dibrometha	10.79	107	2026532	81.0549	ug/L		97
72)	Chlorobenzen	11.48	112	4211840	64.9335	ug/L		92
73)	1Clhexane	11.46	91	2600698	70.7081	ug/L		97
74)	1112Tetclota	11.58	131	1921920	82.6207	ug/L		98
75)	Ethylbenzene	11.64	91	6109246	54.1155	ug/L		77
76)	m p-Xylene	11.81	106	5442376	118.8469	ug/L	#	67
77)	o-Xylene	12.35	106	3292881	68.8778	ug/L	#	75
78)	Styrene	12.36	104	4821076	63.3983	ug/L		85
79)	Bromoform	12.59	173	1751616	85.5755	ug/L		97
80)	Isopropylben	12.88	105	6014039	55.9007	ug/L		79
81)	cyclohexanone	12.95	55	2861972	1445.4354	ug/L		95
84)	Bromobenzene	13.28	156	2443490	74.7897	ug/L		96
85)	1122Tetrclta	13.25	83	3090113	70.7341	ug/L		96
86)	123Triclproa	13.31	75	3687788	77.0619	ug/L		100
87)	14dichloro2butene	13.34	53	683581	95.5229	ug/L		96
88)	n-Propylbenz	13.46	91	6593624	50.7211	ug/L		73
89)	2chlorotolue	13.57	91	4958849	59.9807	ug/L		82
90)	4chlorotolue	13.72	91	5444187	57.6782	ug/L		79
91)	135Trimebenz	13.72	105	5577959	57.1363	ug/L		82
92)	tbutylbenzen	14.18	119	5245684	61.2577	ug/L		88
93)	124Trimetben	14.25	105	5583453	57.0781	ug/L		80
94)	sbutylbenzen	14.50	105	6441453	53.3094	ug/L		75
95)	13Diclorbenz	14.64	146	3836507	65.9858	ug/L		90
96)	pIsopropylto	14.72	119	5698350	56.2105	ug/L		80
97)	14dichlorobe	14.76	146	3844167	65.8745	ug/L		92
98)	12dichlorobe	15.30	146	3709206	66.7076	ug/L		93
99)	nButylbenzen	15.31	91	5412954	57.7116	ug/L		83
100)	12dibromo3cl	16.40	157	1155348	78.7544	ug/L		99
101)	135Trichlorobenzene	16.74	180	3196907	69.6795	ug/L		95

(#) = qualifier out of range (m) = manual integration

Quantitation Report
Data File : C:\INSTARCH\DATA\JUN2916\WCAL8.D Vial: 11
Acq On : 29 Jun 2016 13:20 Operator: AGK-RLD
Sample : INITIAL CALIB. PT8 Inst : VMS3
Misc : 80.00/800 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jun 29 15:00:57 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Jun 29 15:00:30 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.55	180	2948018	71.2033	ug/L	98
103) Hexachlorobu	17.81	225	1717968	78.4353	ug/L	98
104) Naphthalene	17.85	128	5959236	49.1722	ug/L	82
105) 123Trichlben	18.17	180	2784812	70.5048	ug/L	94

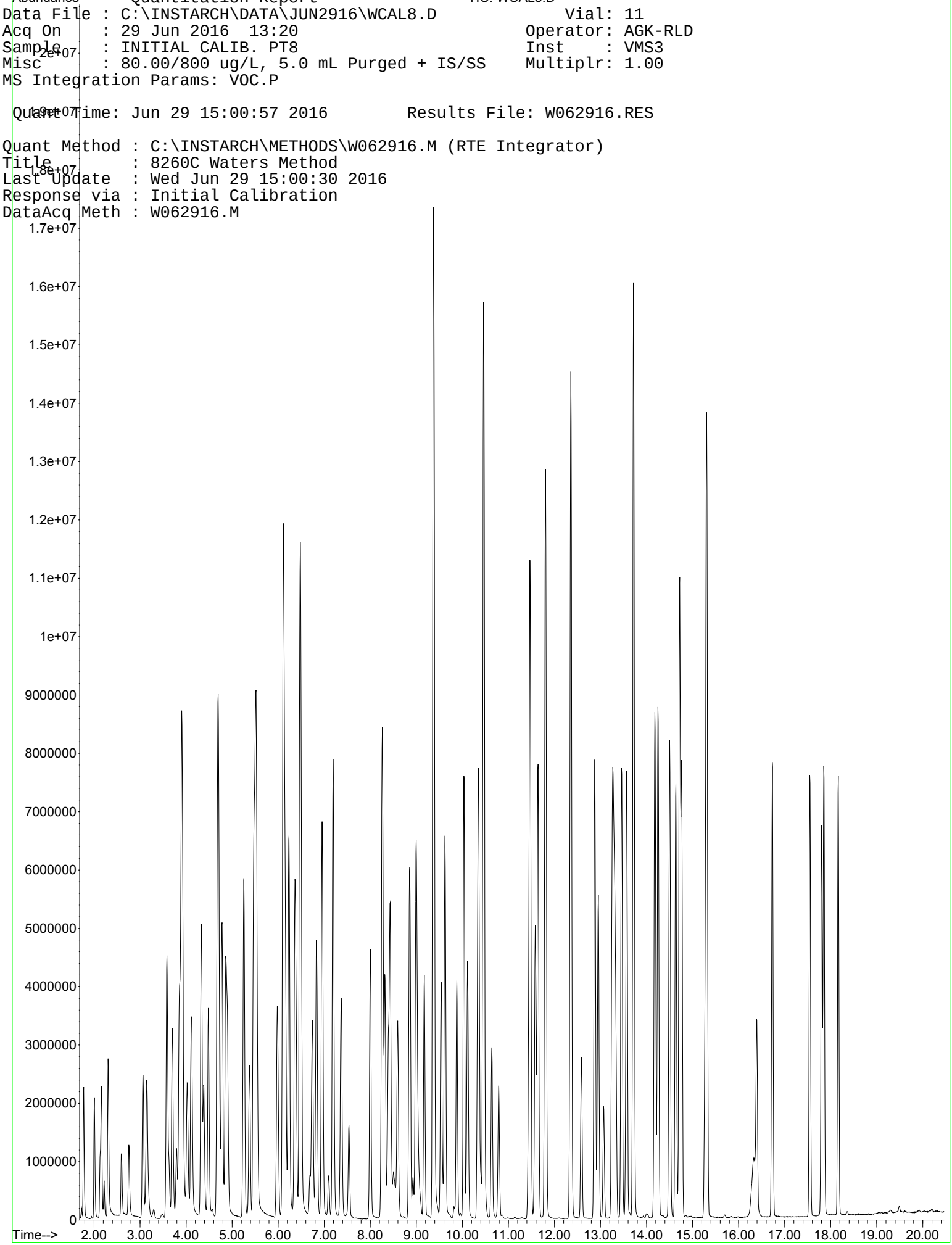
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: WCAL8.D

Data File : C:\INSTARCH\DATA\JUN2916\WCAL8.D Vial: 11
Acq On : 29 Jun 2016 13:20 Operator: AGK-RLD
Sample : INITIAL CALIB. PT8 Inst : VMS3
Misc : 80.00/800 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jun 29 15:00:57 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Jun 29 15:00:30 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M



Evaluate Continuing Calibration Report

Data File : C:\INSTARCH\Data\JUN2916\ICV1.D Vial: 13
Acq On : 29 Jun 2016 14:18 Operator: AGK-RLD
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Jun 29 15:26:16 2016

Quant Method : C:\INSTARCH\METHODS\W062916.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W062916.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	1.0000	1.0000	0.00	105	0.00
2	PT	Dichlorodi	0.3438	0.3505	-1.95	99	0.00
3	PT	Chloromethan	0.3644	0.3701	-1.56	103	0.00
4	PT	VinylChlorid	0.3759	0.3894	-3.59	100	0.00
5	PT	Bromomethane	0.1622	0.1879	-15.84	120	0.00
6	PT	Chloroethane	0.2286	0.2260	1.14	101	0.00
7	T	Dichloroflmethane	0.5120	0.5282	-3.16	103	0.00
8	PT	Trichlorofma	0.4101	0.4005	2.34	99	0.00
9	T	Ethylether	0.2245	0.2224	0.94	102	0.00
10	T	dichlorotfluoroethan	0.2846	0.2617	8.05	94	0.00
11	T	propyleneoxide	0.0722	0.0705	2.35	99	0.00
12	T	Acrolein	0.1019	0.0978	4.02	100	0.00
13	PT	11dichlorthe	0.2554	0.2478	2.98	94	0.00
14	PT	Trichlorotfluoroeth	0.2370	0.2316	2.28	95	0.00
15	PT	Acetone	0.2004	0.2052	-2.40	97	0.00
16	T	Iodomethane	0.2503	0.2356	5.87	98	0.00
17	PT	Carbon Dislf	0.7189	0.7339	-2.09	99	0.00
18	T	allylchloride	0.3434	0.3494	-1.75	98	0.00
19	PT	methylacetate	0.1471	0.1415	3.81	103	0.00
20	PT	Methylchlorid	0.3707	0.3427	7.55	103	0.00
21	T	tbutylalcohol	0.0764	0.0849	-11.13	104	0.00
22	T	Acrylonitrile	0.1753	0.1816	-3.59	102	0.00
23	PT	t12dichlorte	0.2656	0.2558	3.69	99	0.00
24	PT	MtBE	0.7674	0.7876	-2.63	103	0.00
25	T	Hexane	0.3128	0.2940	6.01	90	0.00
26	PT	11dichlorota	0.4730	0.4813	-1.75	103	0.00
27	T	Vinylacetate	0.4345	0.4846	-11.53	108	0.00
28	T	chloroprene	0.3946	0.4042	-2.43	99	0.00
29	T	Diisopether	0.7444	0.8163	-9.66	112	0.00
30	T	ETBE	0.6549	0.6594	-0.69	100	0.00
31	T	22dichloropr	0.3979	0.3686	7.36	93	0.00
32	PT	c12dichlorte	0.2987	0.2954	1.10	99	0.00
33	PT	2Butanone	0.0751	0.0773#	-2.93	103	0.00
34	T	propionitrile	0.0831	0.0890	-7.10	106	0.00
35	T	Ethylacetate	0.0221	0.0211#	4.52	104	0.00
36	T	methacrylonitrile	0.1857	0.1836	1.13	100	0.00
37	T	Bromochlorma	0.1457	0.1460	-0.21	102	0.00
38	T	Tetrahydofur	0.1667	0.1683	-0.96	103	0.00
39	PT	Chloroform	0.4793	0.4708	1.77	99	0.00
40	PT	111trichlota	0.4302	0.4115	4.35	96	0.00
41	S	SURRDibrflma	0.2633	0.2617	0.61	104	0.00
42	PT	Cyclohexane	0.4585	0.4342	5.30	91	0.00
43	PT	Carbtetraclo	0.3418	0.3314	3.04	94	0.00
44	T	11dicloprope	0.1393	0.1375	1.29	98	0.00
45	S	SURR12DCAd4	0.0720	0.0716	0.56	107	0.00
46	PT	Benzene	1.0272	1.0566	-2.86	100	0.00
47	PT	12dichlorota	0.3687	0.3644	1.17	102	0.00
48	T	TAME	0.6122	0.5988	2.19	102	0.00

49	PT	trichloroete	0.2866	0.2769	3.38	100	0.00
50	PT	methylcyclohexane	0.4861	0.4660	4.13	95	0.00
51	PT	12dicloropra	0.2793	0.2803	-0.36	104	0.00
52	T	23Dicl1propene	0.4161	0.4189	-0.67	105	0.00
53	T	Dibromometha	0.1863	0.1841	1.18	105	0.00
54	T	methylmethacrylate	0.3014	0.2903	3.68	104	0.00
55	T	14dioxane	0.0059	0.0077#	-30.51#	138	0.00
56	PT	Bromodiclrma	0.3690	0.3509	4.91	99	0.00
57	T	2Nitropropane	0.1081	0.1208	-11.75	110	0.00
58	T	2CLEVE	0.0025	0.0018#	28.00#	98	0.00
59	PT	c13dicloproe	0.4371	0.4372	-0.02	103	0.00
60	PT	4Meth2Pentan	0.3850	0.3912	-1.61	101	0.00
61	S	SURRd8Tolule	1.0600	1.0581	0.18	106	0.00
62	PT	Toluene	0.7142	0.7354	-2.97	102	0.00
63	PT	t13Dicloprop	0.3871	0.3848	0.59	102	0.00
64	T	ethylmethacrylate	0.4477	0.4639	-3.62	102	0.00
65	PT	112Triclotha	0.2365	0.2249	4.90	101	0.00
66	PT	Tetrachlorte	0.3347	0.3306	1.22	100	0.00
67	T	13Diclorpropa	0.4620	0.4598	0.48	104	0.00
68	I	d5-CHLOROBENZENE**ISTD**	1.0000	1.0000	0.00	104	0.00
69	PT	2Hexanone	0.3940	0.4069	-3.27	101	0.00
70	PT	Clorodibrmta	0.3205	0.3150	1.72	103	0.00
71	PT	12Dibrometha	0.3385	0.3368	0.50	101	0.00
72	PT	Chlorobenzen	0.8783	0.8975	-2.19	101	0.00
73	T	1Clhexane	0.4980	0.4706	5.50	93	0.00
74	T	1112Tetclota	0.3150	0.3156	-0.19	102	0.00
75	PT	Ethylbenzene	1.5992	1.6214	-1.39	99	0.00
76	PT	m p-Xylene	0.6200	0.6581	-6.15	100	0.00
77	PT	o-Xylene	0.6473	0.6554	-1.25	100	0.00
78	PT	Styrene	1.0296	1.0902	-5.89	100	0.00
79	PT	Bromoform	0.2771	0.2568	7.33	98	0.00
80	PT	Isopropylben	1.4567	1.5599	-7.08	99	0.00
81	T	cyclohexanone	0.0268	0.0307	-14.55	117	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	1.0000	1.0000	0.00	104	0.00
83	S	SURR4BrFBenz	0.8878	0.8771	1.21	103	0.00
84	T	Bromobenzene	0.6876	0.7160	-4.13	104	0.00
85	PT	1122Tetrclta	0.9194	0.9166	0.30	101	0.00
86	T	123Triclproa	1.0071	1.0054	0.17	102	0.00
87	T	14dichloro2butene	0.1434	0.1327	7.46	102	0.00
88	T	n-Propylbenz	2.8790	2.9088	-1.04	97	0.00
89	T	2chlorotolue	1.7399	1.7985	-3.37	99	0.00
90	T	4chlorotolue	1.9865	2.0669	-4.05	99	0.00
91	T	135Trimebenz	2.0546	2.1347	-3.90	98	0.00
92	T	tbutylbenzen	1.8022	1.8727	-3.91	97	0.00
93	T	124Trimetben	2.0587	2.1683	-5.32	97	0.00
94	T	sbutylbenzen	2.6642	2.6767	-0.47	96	0.00
95	PT	13Diclorbenz	1.2236	1.2441	-1.68	99	0.00
96	T	pIsopropylto	2.1335	2.2151	-3.82	96	0.00
97	PT	14dichlorobe	1.2281	1.2521	-1.95	99	0.00
98	PT	12dichlorobe	1.1702	1.1801	-0.85	98	0.00
99	T	nButylbenzen	1.9740	2.0210	-2.38	95	0.00
100	PT	12dibromo3cl	0.3087	0.2909	5.77	96	0.00
101	T	135Trichlorobenzene	0.9656	0.9824	-1.74	98	0.00
102	PT	124Trichlobe	0.8714	0.8576	1.58	98	0.00
103	T	Hexachlorobu	0.4610	0.4333	6.01	93	0.00
104	T	Naphthalene	2.6910	2.6958	-0.18	98	0.00
105	T	123Trichlben	0.8313	0.8240	0.88	95	0.00

(#) = Out of Range SPCC's out = 1 CCC's out = 0

W062916.M Wed Jul 13 09:31:31 2016

Evaluate Continuing Calibration Report

Data File : C:\INSTARCH\Data\JUN2916\ICV1.D Vial: 13
Acq On : 29 Jun 2016 14:18 Operator: AGK-RLD
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Jun 29 15:26:16 2016

Quant Method : C:\INSTARCH\METHODS\W062916.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W062916.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	20.0000	20.0000	0.00	105	0.00
2	PT	Dichlorodi	10.0000	10.1956	-1.96	99	0.00
3	PT	Chloromethan	10.0000	10.1566	-1.57	103	0.00
4	PT	VinylChlorid	10.0000	10.3597	-3.60	100	0.00
5	PT	Bromomethane	10.0000	11.5801	-15.80	120	0.00
6	PT	Chloroethane	10.0000	9.8849	1.15	101	0.00
7	T	Dichloroflmethane	10.0000	10.3160	-3.16	103	0.00
8	PT	Trichlorofma	10.0000	9.7659	2.34	99	0.00
9	T	Ethylether	10.0000	9.9063	0.94	102	0.00
10	T	dichlorotfluoroethan	10.0000	9.1978	8.02	94	0.00
11	T	propyleneoxide	100.0000	97.6055	2.39	99	0.00
12	T	Acrolein	50.0000	48.0151	3.97	100	0.00
13	PT	11dichlorthe	10.0000	9.7009	2.99	94	0.00
14	PT	Trichlorotfluoroeth	20.0000	19.5448	2.28	95	0.00
15	PT	Acetone	100.0000	102.0519	-2.05	97	0.00
16	T	Iodomethane	20.0000	18.8179	5.91	98	0.00
17	PT	Carbon Dislf	20.0000	20.4194	-2.10	99	0.00
18	T	allylchloride	20.0000	20.3466	-1.73	98	0.00
19	PT	methylacetate	10.0000	9.6227	3.77	103	0.00
20	PT	Methylchlorid	10.0000	9.9966	0.03	103	0.00
21	T	tbutylalcohol	500.0000	572.6887	-14.54	104	0.00
22	T	Acrylonitrile	50.0000	51.8171	-3.63	102	0.00
23	PT	t12dichlorte	10.0000	9.6305	3.70	99	0.00
24	PT	MtBE	10.0000	10.2638	-2.64	103	0.00
25	T	Hexane	20.0000	18.7999	6.00	90	0.00
26	PT	11dichlorota	10.0000	10.1757	-1.76	103	0.00
27	T	Vinylacetate	100.0000	108.5372	-8.54	108	0.00
28	T	chloroprene	20.0000	20.4909	-2.45	99	0.00
29	T	Diisopether	10.0000	10.9657	-9.66	112	0.00
30	T	ETBE	10.0000	10.0680	-0.68	100	0.00
31	T	22dichloropr	10.0000	9.2621	7.38	93	0.00
32	PT	c12dichlorte	10.0000	9.8899	1.10	99	0.00
33	PT	2Butanone	100.0000	102.9539	-2.95	103	0.00
34	T	propionitrile	100.0000	107.1267	-7.13	106	0.00
35	T	Ethylacetate	50.0000	47.7080	4.58	104	0.00
36	T	methacrylonitrile	20.0000	19.7755	1.12	100	0.00
37	T	Bromochlorma	10.0000	10.0206	-0.21	102	0.00
38	T	Tetrahydofur	100.0000	100.9730	-0.97	103	0.00
39	PT	Chloroform	10.0000	9.8237	1.76	99	0.00
40	PT	111trichlota	10.0000	9.5658	4.34	96	0.00
41	S	SURRDibrflma	20.0000	19.8751	0.62	104	0.00
42	PT	Cyclohexane	10.0000	9.4700	5.30	91	0.00
43	PT	Carbtetraclo	10.0000	9.6959	3.04	94	0.00
44	T	11dicloprope	10.0000	9.8717	1.28	98	0.00
45	S	SURR12DCAd4	20.0000	19.9106	0.45	107	0.00
46	PT	Benzene	10.0000	10.2870	-2.87	100	0.00
47	PT	12dichlorota	10.0000	9.8842	1.16	102	0.00
48	T	TAME	10.0000	9.7806	2.19	102	0.00

49	PT	trichloroete	10.0000	9.6591	3.41	100	0.00
50	PT	methylcyclohexane	10.0000	9.5862	4.14	95	0.00
51	PT	12dicloropra	10.0000	10.0338	-0.34	104	0.00
52	T	23Dicl1propene	10.0000	10.0694	-0.69	105	0.00
53	T	Dibromometha	10.0000	9.8797	1.20	105	0.00
54	T	methylmethacrylate	10.0000	9.6306	3.69	104	0.00
						138	0.00
56	PT	Bromodiclrma	10.0000	9.5092	4.91	99	0.00
57	T	2Nitropropane	100.0000	111.7185	-11.72	110	0.00
58	T	2CLEVE	50.0000	47.3838	5.23	98	0.00
59	PT	c13dicloproe	10.0000	10.0018	-0.02	103	0.00
60	PT	4Meth2Pentan	100.0000	103.0022	-3.00	101	0.00
61	S	SURRd8Tolule	20.0000	19.9650	0.18	106	0.00
62	PT	Toluene	10.0000	10.2979	-2.98	102	0.00
63	PT	t13Dicloprop	10.0000	9.9414	0.59	102	0.00
64	T	ethylmethacrylate	20.0000	20.7226	-3.61	102	0.00
65	PT	112Triclotha	10.0000	9.5107	4.89	101	0.00
66	PT	Tetrachlorte	10.0000	9.8757	1.24	100	0.00
67	T	13Diclorpropa	10.0000	9.9524	0.48	104	0.00
68	I	d5-CHLOROBENZENE**ISTD**	20.0000	20.0000	0.00	104	0.00
69	PT	2Hexanone	100.0000	103.7699	-3.77	101	0.00
70	PT	Clorodibrmta	10.0000	9.8302	1.70	103	0.00
71	PT	12Dibrometha	10.0000	9.9486	0.51	101	0.00
72	PT	Chlorobenzen	10.0000	10.2187	-2.19	101	0.00
73	T	1Clhexane	10.0000	9.4497	5.50	93	0.00
74	T	1112Tetclota	10.0000	10.0216	-0.22	102	0.00
75	PT	Ethylbenzene	10.0000	10.1386	-1.39	99	0.00
76	PT	m p-Xylene	20.0000	21.2270	-6.14	100	0.00
77	PT	o-Xylene	10.0000	10.1248	-1.25	100	0.00
78	PT	Styrene	10.0000	10.5882	-5.88	100	0.00
79	PT	Bromoform	10.0000	9.2665	7.33	98	0.00
80	PT	Isopropylben	10.0000	10.7087	-7.09	99	0.00
81	T	cyclohexanone	200.0000	228.6582	-14.33	117	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	20.0000	20.0000	0.00	104	0.00
83	S	SURR4BrFBenz	20.0000	19.7590	1.20	103	0.00
84	T	Bromobenzene	10.0000	10.4131	-4.13	104	0.00
85	PT	1122Tetrclta	10.0000	9.9693	0.31	101	0.00
86	T	123Triclproa	10.0000	9.9831	0.17	102	0.00
87	T	14dichloro2butene	10.0000	9.2528	7.47	102	0.00
88	T	n-Propylbenz	10.0000	10.1036	-1.04	97	0.00
89	T	2chlorotolue	10.0000	10.3366	-3.37	99	0.00
90	T	4chlorotolue	10.0000	10.4048	-4.05	99	0.00
91	T	135Trimebenz	10.0000	10.3897	-3.90	98	0.00
92	T	tbutylbenzen	10.0000	10.3910	-3.91	97	0.00
93	T	124Trimetben	10.0000	10.5323	-5.32	97	0.00
94	T	sbutylbenzen	10.0000	10.0469	-0.47	96	0.00
95	PT	13Diclorbenz	10.0000	10.1677	-1.68	99	0.00
96	T	pIsopropylto	10.0000	10.3826	-3.83	96	0.00
97	PT	14dichlorobe	10.0000	10.1952	-1.95	99	0.00
98	PT	12dichlorobe	10.0000	10.0840	-0.84	98	0.00
99	T	nButylbenzen	10.0000	10.2382	-2.38	95	0.00
100	PT	12dibromo3cl	10.0000	9.4211	5.79	96	0.00
101	T	135Trichlorobenzene	10.0000	10.1745	-1.75	98	0.00
102	PT	124Trichlobe	10.0000	9.8426	1.57	98	0.00
103	T	Hexachlorobu	10.0000	9.4004	6.00	93	0.00
104	T	Naphthalene	10.0000	10.0179	-0.18	98	0.00
105	T	123Trichlben	10.0000	9.9131	0.87	95	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

W062916.M Wed Jul 13 09:31:52 2016

Quantitation Report

Data File : C:\INSTARCH\Data\JUN2916\ICV1.D Vial: 13
Acq On : 29 Jun 2016 14:18 Operator: AGK-RLD
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

ICV1 reanalyzed for 1,4-dioxane

Quant Time: Jun 29 15:26:16 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Jun 29 15:25:49 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.54	96	1582483	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.44	117	1373065	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.73	152	893320	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.69	113	414063	19.875	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 99	%		
45) SURR12DCAd4	7.09	102	113353	19.911	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 100	%		
61) SURRd8Tolule	9.54	98	1674447	19.965	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100	%		
83) SURR4BrFBenz	13.07	95	783575	19.759	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 99	%		
Target Compounds						Qvalue
2) Dichlorodi	1.78	85	277359	10.1956	ug/L	98
3) Chloromethan	2.01	50	292864	10.1566	ug/L	100
4) VinylChlorid	2.16	62	308136	10.3597	ug/L	98
5) Bromomethane	2.60	94	148636	11.5801	ug/L	99
6) Chloroethane	2.77	64	178819	9.8849	ug/L	100
7) Dichloroflmethane	3.07	67	417950	10.3160	ug/L	99
8) Trichlorofma	3.15	101	316916	9.7659	ug/L	99
9) Ethylether	3.58	59	175960	9.9063	ug/L	97
10) dichlorotfluoroethan	3.59	67	207092	9.1978	ug/L	99
11) propyleneoxide	3.92	58	557633	97.6055	ug/L	97
12) Acrolein	3.70	56	386994	48.0151	ug/L	97
13) 11dichlorthe	3.86	96	196076	9.7009	ug/L	98
14) Trichlorotfluoroeth	3.89	101	366556	19.5448	ug/L	100
15) Acetone	3.92	43	1623532	102.0519	ug/L	99
16) Iodomethane	4.03	142	372755	18.8179	ug/L	99
17) Carbon Dislf	4.12	76	1161426	20.4194	ug/L	100
18) allylchloride	4.33	41	552862	20.3466	ug/L	97
19) methylacetate	4.39	74	111979	9.6227	ug/L	95
20) Methylchlorid	4.48	84	271194	9.9966	ug/L	99
21) tbutylalcohol	4.69	59	3360375	572.6887	ug/L	99
22) Acrylonitrile	4.78	53	718553	51.8171	ug/L	98
23) t12dichlorte	4.86	96	202370	9.6305	ug/L	99
24) MtBE	4.89	73	623209	10.2638	ug/L	99
25) Hexane	5.26	57	465275	18.7999	ug/L	98
26) 11dichlorota	5.38	63	380837	10.1757	ug/L	98
27) Vinylacetate	5.48	43	3834330	108.5372	ug/L	99
28) chloroprene	5.51	53	639703	20.4909	ug/L	99
29) Diisopether	5.54	45	645886	10.9657	ug/L	96
30) ETBE	5.98	59	521725	10.0680	ug/L	98
31) 22dichloropr	6.11	77	291621	9.2621	ug/L	98
32) c12dichlorte	6.11	96	233755	9.8899	ug/L	98
33) 2Butanone	6.12	72	611971	102.9539	ug/L	99
34) propionitrile	6.16	54	704398	107.1267	ug/L	100
35) Ethylacetate	6.23	88	83384	47.7080	ug/L	96
36) methacrylonitrile	6.36	67	290551	19.7755	ug/L	96
37) Bromochlorma	6.39	128	115548	10.0206	ug/L	99
38) Tetrahydofur	6.48	42	1331524	100.9730	ug/L	99

(#) = qualifier out of range (m) = manual integration

RJ 07/13/2016

Quantitation Report

Data File : C:\INSTARCH\Data\JUN2916\ICV1.D Vial: 13
Acq On : 29 Jun 2016 14:18 Operator: AGK-RLD
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jun 29 15:26:16 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Jun 29 15:25:49 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.50	83	372528	9.8237	ug/L		98
40)	111trichlota	6.74	97	325589	9.5658	ug/L		98
42)	Cyclohexane	6.83	56	343548	9.4700	ug/L		97
43)	Carbtetraclo	6.97	119	262187	9.6959	ug/L		95
44)	11dicloprope	6.95	110	108789	9.8717	ug/L		96
46)	Benzene	7.20	78	836057	10.2870	ug/L		99
47)	12dichlorota	7.18	62	288356	9.8842	ug/L		99
48)	TAME	7.37	73	473798	9.7806	ug/L		99
49)	trichloroete	8.00	95	219074	9.6591	ug/L		98
50)	methylcyclohexane	8.27	83	368680	9.5862	ug/L		99
51)	12dicloropra	8.26	63	221748	10.0338	ug/L		91
52)	23Dicl1propene	8.32	75	331489	10.0694	ug/L		100
53)	Dibromometha	8.39	93	145645	9.8797	ug/L		98
54)	methylmethacrylate	8.43	69	229683	9.6306	ug/L		99
55)	14dioxane	8.44	88	304631	649.5984	ug/L		95
56)	Bromodiclrma	8.60	83	277639	9.5092	ug/L		95
57)	2Nitropropane	8.85	43	955471	111.7185	ug/L		99
58)	2CLEVE	8.99	63	7307	47.3838	ug/L	#	96
59)	c13dicloproe	9.17	75	345948	10.0018	ug/L		99
60)	4Meth2Pentan	9.37	43	3095338	103.0022	ug/L		100
62)	Toluene	9.62	92	581918	10.2979	ug/L		99
63)	t13Dicloprop	9.88	75	304464	9.9414	ug/L		98
64)	ethylmethacrylate	10.03	69	734099	20.7226	ug/L		100
65)	112Triclotha	10.11	83	177956	9.5107	ug/L		99
66)	Tetrachlorte	10.35	166	261575	9.8757	ug/L		99
67)	13Diclorpropa	10.34	76	363778	9.9524	ug/L		97
69)	2Hexanone	10.46	43	2793457	103.7699	ug/L		99
70)	Clorodibrmta	10.63	129	216292	9.8302	ug/L		95
71)	12Dibrometha	10.79	107	231214	9.9486	ug/L		97
72)	Chlorobenzen	11.48	112	616136	10.2187	ug/L		99
73)	1Clhexane	11.46	91	323086	9.4497	ug/L		99
74)	1112Tetclota	11.59	131	216701	10.0216	ug/L		98
75)	Ethylbenzene	11.64	91	1113134	10.1386	ug/L		100
76)	m p-Xylene	11.81	106	903583	21.2270	ug/L		98
77)	o-Xylene	12.35	106	449946	10.1248	ug/L		99
78)	Styrene	12.36	104	748454	10.5882	ug/L		99
79)	Bromoform	12.59	173	176312	9.2665	ug/L		97
80)	Isopropylben	12.87	105	1070940	10.7087	ug/L		98
81)	cyclohexanone	12.95	55	420854	228.6582	ug/L		100
84)	Bromobenzene	13.27	156	319809	10.4131	ug/L		97
85)	1122Tetrclta	13.25	83	409406	9.9693	ug/L		97
86)	123Triclproa	13.30	75	449090	9.9831	ug/L		98
87)	14dichloro2butene	13.34	53	59266	9.2528	ug/L		98
88)	n-Propylbenz	13.46	91	1299235	10.1036	ug/L		100
89)	2chlorotolue	13.57	91	803322	10.3366	ug/L		99
90)	4chlorotolue	13.72	91	923209	10.4048	ug/L		99
91)	135Trimebenz	13.72	105	953476	10.3897	ug/L		99
92)	tbutylbenzen	14.18	119	836454	10.3910	ug/L		99
93)	124Trimetben	14.25	105	968503	10.5323	ug/L		99
94)	sbutylbenzen	14.50	105	1195574	10.0469	ug/L		100
95)	13Diclorbenz	14.64	146	555712	10.1677	ug/L		99
96)	pIsopropylto	14.72	119	989418	10.3826	ug/L		100
97)	14dichlorobe	14.76	146	559274	10.1952	ug/L		100
98)	12dichlorobe	15.29	146	527088	10.0840	ug/L		99
99)	nButylbenzen	15.31	91	902693	10.2382	ug/L		98
100)	12dibromo3cl	16.40	157	129922	9.4211	ug/L		97
101)	135Trichlorobenzene	16.73	180	438815	10.1745	ug/L		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\JUN2916\ICV1.D Vial: 13
Acq On : 29 Jun 2016 14:18 Operator: AGK-RLD
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jun 29 15:26:16 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Jun 29 15:25:49 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.55	180	383073	9.8426	ug/L	99
103) Hexachlorobu	17.81	225	193550	9.4004	ug/L	98
104) Naphthalene	17.85	128	1204098	10.0179	ug/L	99
105) 123Trichlben	18.17	180	368070	9.9131	ug/L	97

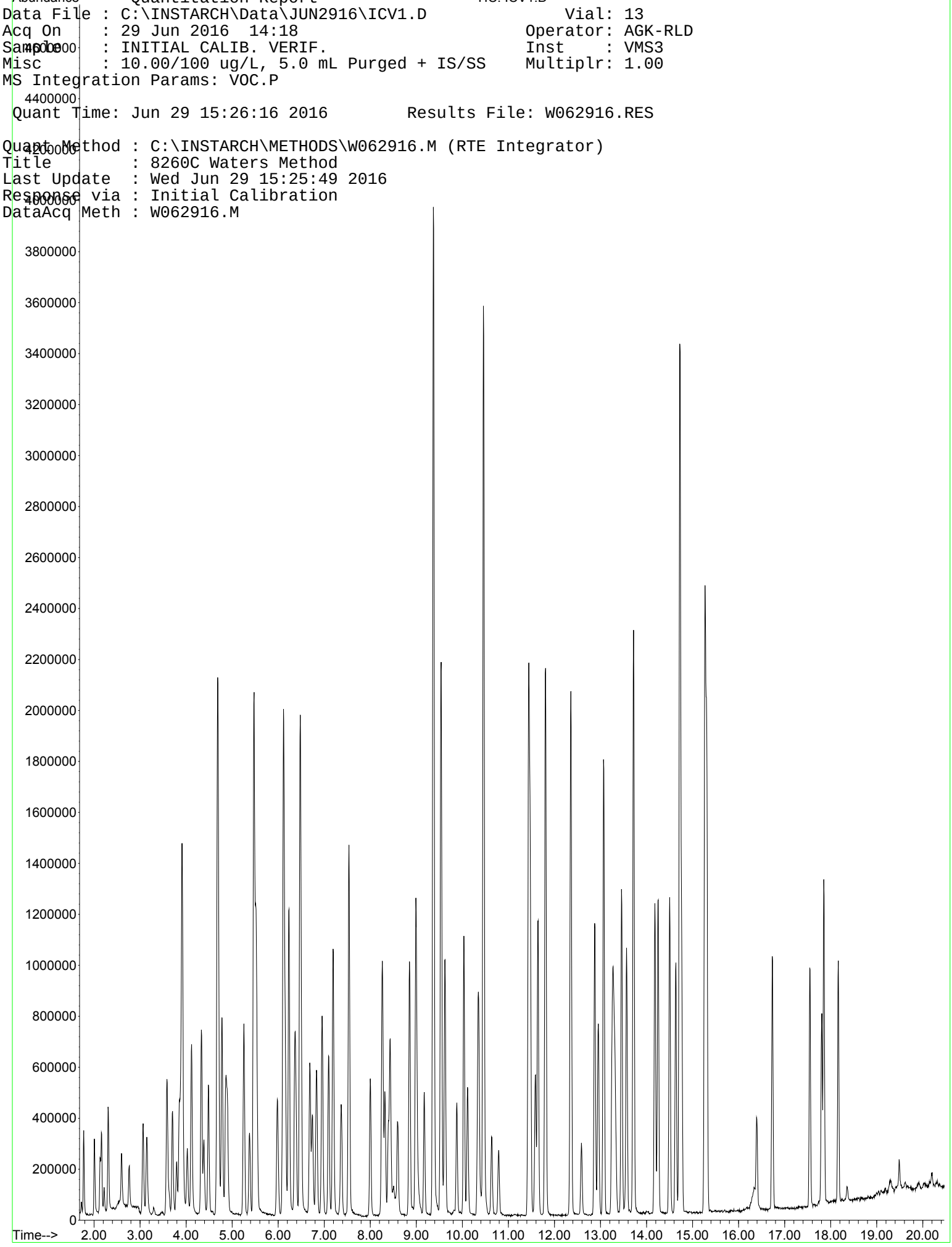
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: ICV1.D

Data File : C:\INSTARCH\Data\JUN2916\ICV1.D Vial: 13
Acq On : 29 Jun 2016 14:18 Operator: AGK-RLD
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jun 29 15:26:16 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Jun 29 15:25:49 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M



Evaluate Continuing Calibration Report

Data File : C:\INSTARCH\Data\JUN2916\ICV2.D Vial: 14
Acq On : 29 Jun 2016 14:48 Operator: AGK-RLD
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 30.00/300 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Jun 29 15:28:57 2016

Quant Method : C:\INSTARCH\METHODS\W062916.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W062916.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	20.0000	20.0000	0.00	93	0.00
2	PT	Dichlorodi	30.0000	30.7081	-2.36	98	0.00
3	PT	Chloromethan	30.0000	26.6823	11.06	90	0.00
4	PT	VinylChlorid	30.0000	29.8329	0.56	95	0.00
5	PT	Bromomethane	30.0000	30.7838	-2.61	94	0.00
6	PT	Chloroethane	30.0000	27.9520	6.83	91	0.00
7	T	Dichloroflmethane	30.0000	30.4751	-1.58	98	0.00
8	PT	Trichlorofma	30.0000	28.2736	5.75	88	0.00
9	T	Ethylether	30.0000	28.8282	3.91	90	0.00
10	T	dichlorotfluoroethan	30.0000	27.2512	9.16	88	0.00
11	T	propyleneoxide	300.0000	305.4607	-1.82	109	0.00
12	T	Acrolein	150.0000	148.8806	0.75	92	0.00
13	PT	11dichlorthe	30.0000	28.6398	4.53	89	0.00
14	PT	Trichlorotfluoroeth	60.0000	57.5194	4.13	89	0.00
15	PT	Acetone	300.0000	343.8372	-14.61	110	0.00
16	T	Iodomethane	60.0000	63.5226	-5.87	85	0.00
17	PT	Carbon Dislf	60.0000	56.2391	6.27	96	0.00
18	T	allylchloride	60.0000	57.5008	4.17	90	0.00
19	PT	methylacetate	30.0000	29.2178	2.61	95	0.00
20	PT	Methylchlorid	30.0000	29.9303	0.23	93	0.00
21	T	tbutylalcohol	1500.0000	1684.9437	-12.33	101	0.00
22	T	Acrylonitrile	150.0000	150.7290	-0.49	97	0.00
23	PT	t12dichlorte	30.0000	28.8455	3.85	89	0.00
24	PT	MtBE	30.0000	29.0364	3.21	90	0.00
25	T	Hexane	60.0000	55.0282	8.29	84	0.00
26	PT	11dichlorota	30.0000	28.4052	5.32	90	0.00
27	T	Vinylacetate	300.0000	214.8814	28.37#	78	0.00
28	T	chloroprene	60.0000	58.2407	2.93	91	0.00
29	T	Diisopether	30.0000	29.9573	0.14	97	0.00
30	T	ETBE	30.0000	29.5977	1.34	89	0.00
31	T	22dichloropr	30.0000	27.2046	9.32	88	0.00
32	PT	c12dichlorte	30.0000	28.7200	4.27	91	0.00
33	PT	2Butanone	300.0000	306.2035	-2.07	101	0.00
34	T	propionitrile	300.0000	306.8774	-2.29	99	0.00
35	T	Ethylacetate	150.0000	152.8966	-1.93	94	0.00
36	T	methacrylonitrile	60.0000	57.9131	3.48	93	0.00
37	T	Bromochlorma	30.0000	28.2519	5.83	92	0.00
38	T	Tetrahydofur	300.0000	268.4066	10.53	96	0.00
39	PT	Chloroform	30.0000	28.2824	5.73	90	0.00
40	PT	111trichlota	30.0000	28.7807	4.06	88	0.00
41	S	SURRDibrflma	20.0000	20.1879	-0.94	94	0.00
42	PT	Cyclohexane	30.0000	29.2300	2.57	89	0.00
43	PT	Carbtetraclo	30.0000	29.5007	1.66	88	0.00
44	T	11dicloprope	30.0000	28.7503	4.17	86	0.00
45	S	SURR12DCAd4	20.0000	19.2676	3.66	90	0.00
46	PT	Benzene	30.0000	27.9842	6.72	90	0.00
47	PT	12dichlorota	30.0000	28.2458	5.85	88	0.00
48	T	TAME	30.0000	28.7987	4.00	88	0.00

49	PT	trichloroete	30.0000	29.7174	0.94	93	0.00
50	PT	methylcyclohexane	30.0000	29.1589	2.80	91	0.00
51	PT	12dicloropra	30.0000	29.2873	2.38	90	0.00
52	T	23Dicl1propene	30.0000	28.5394	4.87	89	0.00
53	T	Dibromometha	30.0000	28.0513	6.50	88	0.00
54	T	methylmethacrylate	30.0000	28.1356	6.21	91	0.00
55	T	14dioxane	1500.0000	1457.1233	2.86	99	0.00
56	PT	Bromodiclrma	30.0000	28.7218	4.26	90	0.00
57	T	2Nitropropane	300.0000	322.4401	-7.48	95	0.00
58	T	2CLEVE	150.0000	144.9430	3.37	90	0.00
59	PT	c13dicloproe	30.0000	28.5082	4.97	88	0.00
60	PT	4Meth2Pentan	300.0000	311.2377	-3.75	98	0.00
61	S	SURRd8Tolule	20.0000	19.9759	0.12	93	0.00
62	PT	Toluene	30.0000	28.5231	4.92	91	0.00
63	PT	t13Dicloprop	30.0000	29.7057	0.98	91	0.00
64	T	ethylmethacrylate	60.0000	57.1692	4.72	93	0.00
65	PT	112Triclotha	30.0000	28.0410	6.53	89	0.00
66	PT	Tetrachlorte	30.0000	28.4492	5.17	90	0.00
67	T	13Diclorpropa	30.0000	28.9856	3.38	91	0.00
68	I	d5-CHLOROBENZENE**ISTD**	20.0000	20.0000	0.00	95	0.00
69	PT	2Hexanone	300.0000	311.3119	-3.77	99	0.00
70	PT	Clorodibrmta	30.0000	28.8512	3.83	90	0.00
71	PT	12Dibrometha	30.0000	29.3893	2.04	92	0.00
72	PT	Chlorobenzen	30.0000	28.1924	6.03	93	0.00
73	T	1Clhexane	30.0000	27.7170	7.61	90	0.00
74	T	1112Tetclota	30.0000	29.3169	2.28	92	0.00
75	PT	Ethylbenzene	30.0000	26.6677	11.11	94	0.00
76	PT	m p-Xylene	60.0000	57.1827	4.70	94	0.00
77	PT	o-Xylene	30.0000	28.8320	3.89	94	0.00
78	PT	Styrene	30.0000	29.2738	2.42	95	0.00
79	PT	Bromoform	30.0000	29.0916	3.03	91	0.00
80	PT	Isopropylben	30.0000	28.7760	4.08	95	0.00
81	T	cyclohexanone	600.0000	600.6998	-0.12	103	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	20.0000	20.0000	0.00	99	0.00
83	S	SURR4BrFBenz	20.0000	19.8157	0.92	97	0.00
84	T	Bromobenzene	30.0000	28.4835	5.06	94	0.00
85	PT	1122Tetrclta	30.0000	26.2444	12.52	90	0.00
86	T	123Triclproa	30.0000	28.6228	4.59	95	0.00
87	T	14dichloro2butene	30.0000	31.2190	-4.06	97	0.00
88	T	n-Propylbenz	30.0000	25.9144	13.62	95	0.00
89	T	2chlorotolue	30.0000	27.5034	8.32	95	0.00
90	T	4chlorotolue	30.0000	27.6836	7.72	96	0.00
91	T	135Trimebenz	30.0000	27.8158	7.28	95	0.00
92	T	tbutylbenzen	30.0000	28.1987	6.00	95	0.00
93	T	124Trimetben	30.0000	28.1970	6.01	96	0.00
94	T	sbutylbenzen	30.0000	26.4274	11.91	95	0.00
95	PT	13Diclorbenz	30.0000	28.4751	5.08	97	0.00
96	T	pIsopropylto	30.0000	28.1578	6.14	96	0.00
97	PT	14dichlorobe	30.0000	28.3512	5.50	96	0.00
98	PT	12dichlorobe	30.0000	28.1030	6.32	96	0.00
99	T	nButylbenzen	30.0000	28.2583	5.81	95	0.00
100	PT	12dibromo3cl	30.0000	29.5956	1.35	97	0.00
101	T	135Trichlorobenzene	30.0000	29.5852	1.38	98	0.00
102	PT	124Trichlobe	30.0000	29.5371	1.54	97	0.00
103	T	Hexachlorobu	30.0000	29.6519	1.16	96	0.00
104	T	Naphthalene	30.0000	26.1226	12.92	100	0.00
105	T	123Trichlben	30.0000	29.1945	2.68	98	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

W062916.M Wed Jul 13 09:34:42 2016

Quantitation Report

Data File : C:\INSTARCH\Data\JUN2916\ICV2.D Vial: 14
Acq On : 29 Jun 2016 14:48 Operator: AGK-RLD
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 30.00/300 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jun 29 15:28:57 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Jun 29 15:25:49 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.54	96	1472317	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.44	117	1303037	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.73	152	869544	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.69	113	391302	20.188	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101	%		
45) SURR12DCAd4	7.10	102	102056	19.268	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 96	%		
61) SURRd8Tolule	9.54	98	1558728	19.976	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100	%		
83) SURR4BrFBenz	13.07	95	764911	19.816	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 99	%		
Target Compounds						Qvalue
2) Dichlorodi	1.78	85	777219	30.7081	ug/L	98
3) Chloromethan	2.01	50	715819	26.6823	ug/L	96
4) VinylChlorid	2.17	62	825570	29.8329	ug/L	96
5) Bromomethane	2.60	94	367617	30.7838	ug/L	100
6) Chloroethane	2.77	64	470453	27.9520	ug/L	100
7) Dichloroflmethane	3.07	67	1148741	30.4751	ug/L	99
8) Trichlorofma	3.15	101	853637	28.2736	ug/L	99
9) Ethylether	3.58	59	476413	28.8282	ug/L	97
10) dichlorotfluoroethan	3.59	67	570860	27.2512	ug/L	98
11) propyleneoxide	3.92	58	1623648	305.4607	ug/L #	81
12) Acrolein	3.70	56	1116417	148.8806	ug/L	96
13) 11dichlorthe	3.85	96	538576	28.6398	ug/L	99
14) Trichlorotfluoroeth	3.89	101	1003659	57.5194	ug/L	98
15) Acetone	3.92	43	4197523	343.8372	ug/L	91
16) Iodomethane	4.03	142	1170694	63.5226	ug/L	98
17) Carbon Dislf	4.12	76	2976109	56.2391	ug/L	97
18) allylchloride	4.33	41	1453650	57.5008	ug/L	96
19) methylacetate	4.39	74	316335	29.2178	ug/L	96
20) Methylchlorid	4.48	84	702065	29.9303	ug/L	99
21) tbutylalcohol	4.69	59	7078903	1684.9437	ug/L	88
22) Acrylonitrile	4.78	53	1944663	150.7290	ug/L	97
23) t12dichlorte	4.86	96	563947	28.8455	ug/L	95
24) MtBE	4.89	73	1640326	29.0364	ug/L	98
25) Hexane	5.26	57	1267077	55.0282	ug/L	98
26) 11dichlorota	5.38	63	989085	28.4052	ug/L	98
27) Vinylacetate	5.48	43	6044221	214.8814	ug/L	95
28) chloroprene	5.51	53	1691633	58.2407	ug/L	98
29) Diisopether	5.54	45	1641657	29.9573	ug/L	99
30) ETBE	5.99	59	1426986	29.5977	ug/L	97
31) 22dichloropr	6.11	77	796919	27.2046	ug/L	95
32) c12dichlorte	6.11	96	631565	28.7200	ug/L	98
33) 2Butanone	6.12	72	1693404	306.2035	ug/L	97
34) propionitrile	6.16	54	1877361	306.8774	ug/L	98
35) Ethylacetate	6.24	88	248629	152.8966	ug/L #	85
36) methacrylonitrile	6.36	67	791653	57.9131	ug/L	97
37) Bromochlorma	6.39	128	303094	28.2519	ug/L	99
38) Tetrahydofur	6.48	42	3293056	268.4066	ug/L	95

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\JUN2916\ICV2.D Vial: 14
Acq On : 29 Jun 2016 14:48 Operator: AGK-RLD
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 30.00/300 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jun 29 15:28:57 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Jun 29 15:25:49 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.50	83	997848	28.2824	ug/L		100
40)	111trichlota	6.74	97	911409	28.7807	ug/L		99
42)	Cyclohexane	6.83	56	986572	29.2300	ug/L		98
43)	Carbtetraclo	6.96	119	742197	29.5007	ug/L		96
44)	11dicloprope	6.95	110	294780	28.7503	ug/L		99
46)	Benzene	7.19	78	2116038	27.9842	ug/L		96
47)	12dichlorota	7.19	62	766663	28.2458	ug/L		98
48)	TAME	7.37	73	1297959	28.7987	ug/L		99
49)	trichloroete	8.00	95	627084	29.7174	ug/L		98
50)	methylcyclohexane	8.27	83	1043365	29.1589	ug/L		98
51)	12dicloropra	8.26	63	602194	29.2873	ug/L		92
52)	23Dicl1propene	8.32	75	874124	28.5394	ug/L		97
53)	Dibromometha	8.39	93	384741	28.0513	ug/L		98
54)	methylmethacrylate	8.43	69	624304	28.1356	ug/L		97
55)	14dioxane	8.44	88	635752	1457.1233	ug/L		99
56)	Bromodiclrma	8.60	83	780209	28.7218	ug/L		98
57)	2Nitropropane	8.85	43	2565687	322.4401	ug/L		99
58)	2CLEVE	8.99	63	22908	144.9430	ug/L	#	89
59)	c13dicloproe	9.17	75	917410	28.5082	ug/L		97
60)	4Meth2Pentan	9.37	43	6251336	311.2377	ug/L		86
62)	Toluene	9.62	92	1499586	28.5231	ug/L		95
63)	t13Dicloprop	9.88	75	846427	29.7057	ug/L		97
64)	ethylmethacrylate	10.04	69	1884236	57.1692	ug/L		98
65)	112Triclotha	10.11	83	488155	28.0410	ug/L		99
66)	Tetrachlorte	10.36	166	701069	28.4492	ug/L		98
67)	13Diclorpropa	10.34	76	985717	28.9856	ug/L		100
69)	2Hexanone	10.46	43	5702189	311.3119	ug/L		88
70)	Clorodibrmta	10.64	129	602430	28.8512	ug/L		98
71)	12Dibrometha	10.79	107	648197	29.3893	ug/L		98
72)	Chlorobenzen	11.48	112	1613168	28.1924	ug/L		99
73)	1Clhexane	11.46	91	899311	27.7170	ug/L		98
74)	1112Tetclota	11.59	131	601600	29.3169	ug/L		99
75)	Ethylbenzene	11.64	91	2778557	26.6677	ug/L		95
76)	m p-Xylene	11.81	106	2309986	57.1827	ug/L		88
77)	o-Xylene	12.35	106	1215946	28.8320	ug/L		93
78)	Styrene	12.36	104	1963764	29.2738	ug/L		96
79)	Bromoform	12.59	173	525292	29.0916	ug/L		100
80)	Isopropylben	12.88	105	2731008	28.7760	ug/L		96
81)	cyclohexanone	12.95	55	1049223	600.6998	ug/L		99
84)	Bromobenzene	13.28	156	851509	28.4835	ug/L		98
85)	1122Tetrclta	13.25	83	1049081	26.2444	ug/L		100
86)	123Triclproa	13.31	75	1253332	28.6228	ug/L		99
87)	14dichloro2butene	13.34	53	194641	31.2190	ug/L		99
88)	n-Propylbenz	13.46	91	3243680	25.9144	ug/L		93
89)	2chlorotolue	13.57	91	2080574	27.5034	ug/L		95
90)	4chlorotolue	13.72	91	2390954	27.6836	ug/L		95
91)	135Trimebenz	13.72	105	2484749	27.8158	ug/L		96
92)	tbutylbenzen	14.18	119	2209516	28.1987	ug/L		96
93)	124Trimetben	14.25	105	2523856	28.1970	ug/L		95
94)	sbutylbenzen	14.50	105	3061141	26.4274	ug/L		94
95)	13Diclorbenz	14.64	146	1514881	28.4751	ug/L		98
96)	pIsopropylto	14.72	119	2611910	28.1578	ug/L		95
97)	14dichlorobe	14.76	146	1513855	28.3512	ug/L		99
98)	12dichlorobe	15.29	146	1429836	28.1030	ug/L		98
99)	nButylbenzen	15.31	91	2425189	28.2583	ug/L		96
100)	12dibromo3cl	16.40	157	397276	29.5956	ug/L		99
101)	135Trichlorobenzene	16.73	180	1242016	29.5852	ug/L		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\JUN2916\ICV2.D Vial: 14
Acq On : 29 Jun 2016 14:48 Operator: AGK-RLD
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 30.00/300 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jun 29 15:28:57 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Jun 29 15:25:49 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.55	180	1118990	29.5371	ug/L	98
103) Hexachlorobu	17.81	225	594269	29.6519	ug/L	98
104) Naphthalene	17.85	128	3056237	26.1226	ug/L	96
105) 123Trichlben	18.17	180	1055131	29.1945	ug/L	96

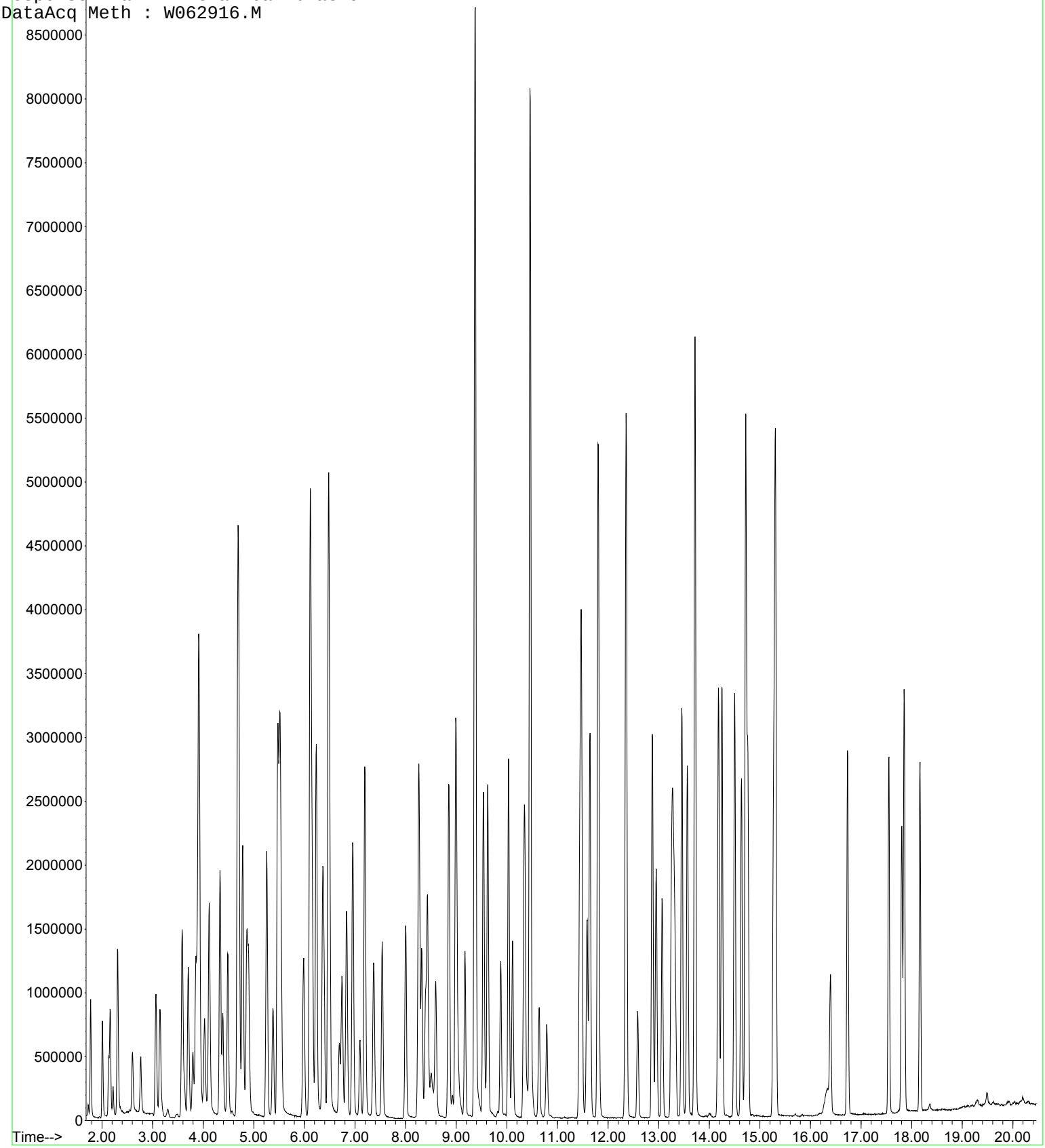
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: ICV2.D

Data File : C:\INSTARCH\Data\JUN2916\ICV2.D Vial: 14
Acq On : 29 Jun 2016 14:48 Operator: AGK-RLD
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 30.00/300 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jun 29 15:28:57 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Jun 29 15:25:49 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M



Quantitation Report

Data File : C:\INSTARCH\Data\JUN2916\ICB1.D Vial: 16
Acq On : 29 Jun 2016 15:46 Operator: AGK-RLD
Sample : [redacted] Inst : VMS3
Misc : 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jun 29 16:06:54 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Jun 29 15:25:49 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.54	96	1355203	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.44	117	1244084	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.73	152	841486	20.00	ug/L	0.00 NA%

System Monitoring Compounds						
41) SURRDibrflma	6.69	113	348151	19.514	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 98	%		
45) SURR12DCAd4	7.10	102	95161	19.518	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 98	%		
61) SURRd8Tolule	9.53	98	1473713	20.519	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 103	%		
83) SURR4BrFBenz	13.07	95	728667	19.506	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 98	%		

Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	2.01	50	9832	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
[redacted]						
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	2.97	67	2892	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	3.92	58	13348	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	3.93	43	42441	Below	Cal	96
[redacted]						
17) Carbon Dislf	4.11	76	10638	N.D.		
18) allylchloride	4.28	41	6596	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	4.48	84	4192	Below	Cal	96
21) tbutylalcohol	4.69	59	16208	Below	Cal	94
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	5.47	43	4740	Below	Cal #	66
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	6.12	72	2925	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	6.48	42	9117	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\JUN2916\ICB1.D Vial: 16
Acq On : 29 Jun 2016 15:46 Operator: AGK-RLD
Sample : INITIAL CALIB. BLANK Inst : VMS3
Misc : 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jun 29 16:06:54 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Jun 29 15:25:49 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	0.00	83	0	N.D.			
40)	111trichlota	0.00	97	0	N.D.			
42)	Cyclohexane	0.00	56	0	N.D.			
43)	Carbtetraclo	0.00	119	0	N.D.			
44)	11dicloprope	0.00	110	0	N.D.			
46)	Benzene	0.00	78	0	N.D.			
47)	12dichlorota	0.00	62	0	N.D.			
48)	TAME	0.00	73	0	N.D.			
49)	trichloroete	0.00	95	0	N.D.			
50)	methylcyclohexane	0.00	83	0	N.D.			
51)	12dicloropra	0.00	63	0	N.D.			
52)	23Dicl1propene	0.00	75	0	N.D.			
53)	Dibromometha	0.00	93	0	N.D.			
54)	methylmethacrylate	0.00	69	0	N.D.			
56)	Bromodiclrma	0.00	83	0	N.D.			
57)	2Nitropropane	0.00	43	0	N.D.			
58)	2CLEVE	0.00	63	0	N.D.			
59)	c13dicloproe	0.00	75	0	N.D.			
60)	4Meth2Pentan	9.37	43	6879	Below	Cal	#	34
62)	Toluene	0.00	92	0	N.D.			
63)	t13Dicloprop	0.00	75	0	N.D.			
64)	ethylmethacrylate	0.00	69	0	N.D.			
65)	112Triclotha	0.00	83	0	N.D.			
66)	Tetrachlorte	0.00	166	0	N.D.			
67)	13Diclorpropa	0.00	76	0	N.D.			
69)	2Hexanone	10.47	43	11225	Below	Cal		81
70)	Clorodibrmta	0.00	129	0	N.D.			
71)	12Dibrometha	0.00	107	0	N.D.			
72)	Chlorobenzen	0.00	112	0	N.D.			
73)	1Clhexane	11.44	91	3922	N.D.			
74)	1112Tetclota	0.00	131	0	N.D.			
75)	Ethylbenzene	0.00	91	0	N.D.			
76)	m p-Xylene	0.00	106	0	N.D.			
77)	o-Xylene	0.00	106	0	N.D.			
78)	Styrene	0.00	104	0	N.D.			
79)	Bromoform	0.00	173	0	N.D.			
80)	Isopropylben	12.88	105	2870	N.D.			
81)	cyclohexanone	12.95	55	10069	N.D.			
84)	Bromobenzene	0.00	156	0	N.D.			
85)	1122Tetrclta	0.00	83	0	N.D.			
86)	123Triclproa	0.00	75	0	N.D.			
87)	14dichloro2butene	0.00	53	0	N.D.			
88)	n-Propylbenz	13.46	91	3143	N.D.			
89)	2chlorotolue	13.57	91	2535	N.D.			
90)	4chlorotolue	13.72	91	3509	N.D.			
91)	135Trimebenz	0.00	105	0	N.D.			
92)	tbutylbenzen	0.00	119	0	N.D.			
93)	124Trimetben	14.25	105	2769	N.D.			
94)	sbutylbenzen	0.00	105	0	N.D.			
95)	13Diclorbenz	0.00	146	0	N.D.			
96)	pIsopropylto	14.70	119	3060	N.D.			
97)	14dichlorobe	14.76	146	3417	N.D.			
98)	12dichlorobe	0.00	146	0	N.D.			
99)	nButylbenzen	15.32	91	4646	N.D.			
100)	12dibromo3cl	0.00	157	0	N.D.			
101)	135Trichlorobenzene	0.00	180	0	N.D.			

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\JUN2916\ICB1.D Vial: 16
Acq On : 29 Jun 2016 15:46 Operator: AGK-RLD
Sample : INITIAL CALIB. BLANK Inst : VMS3
Misc : 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jun 29 16:06:54 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Jun 29 15:25:49 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.53	180	3891	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	17.86	128	17630	N.D.		
105) 123Trichlben	18.16	180	3955	N.D.		

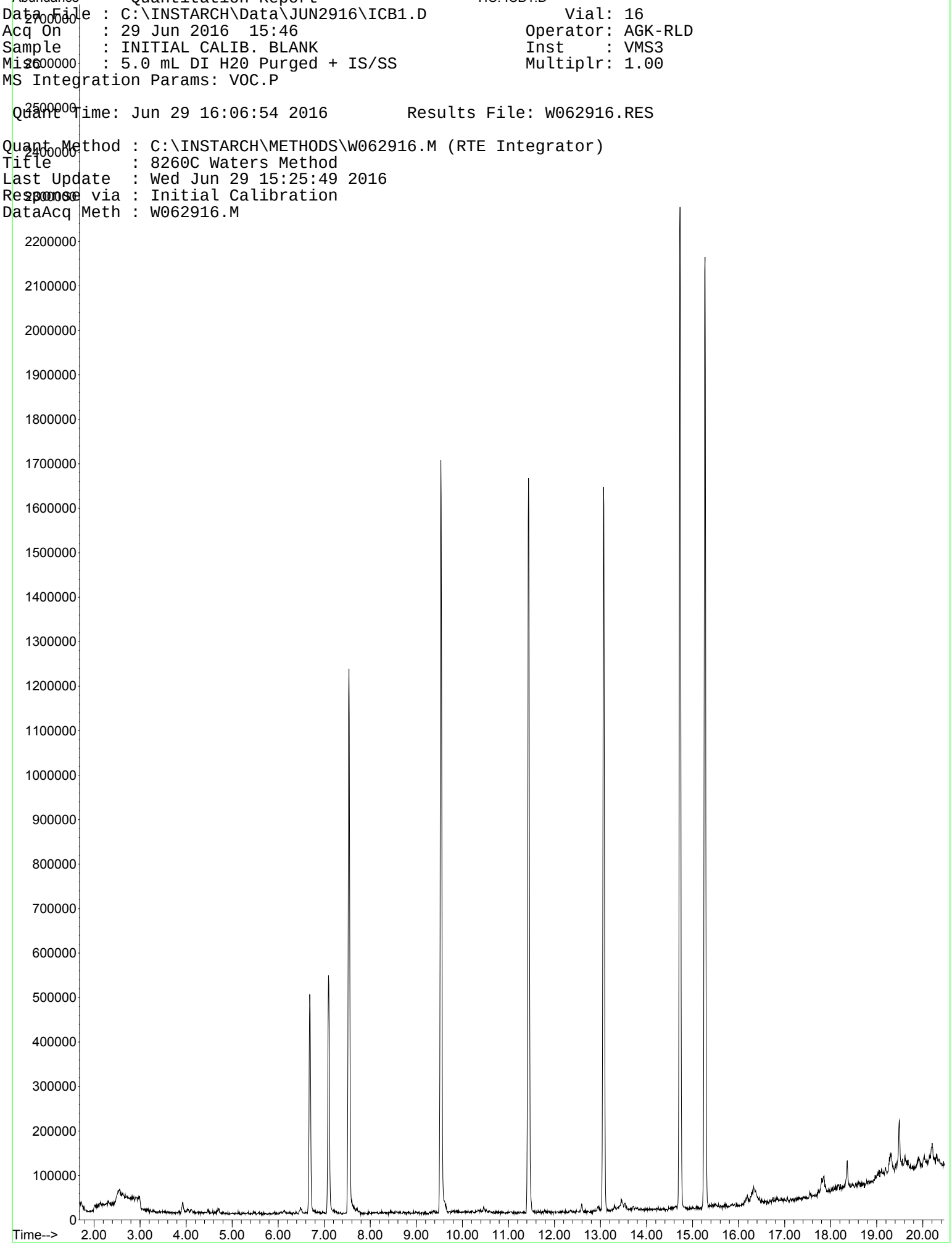
(#) = qualifier out of range (m) = manual integration

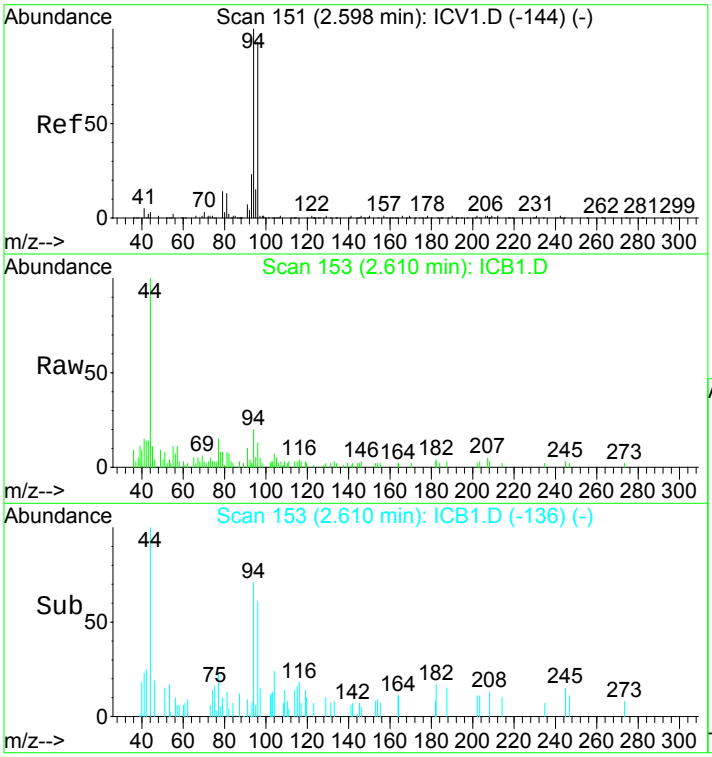
Abundance Quantitation Report TIC: ICB1.D

Data File : C:\INSTARCH\Data\JUN2916\ICB1.D Vial: 16
Acq On : 29 Jun 2016 15:46 Operator: AGK-RLD
Sample : INITIAL CALIB. BLANK Inst : VMS3
Misc : 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jun 29 16:06:54 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Jun 29 15:25:49 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M

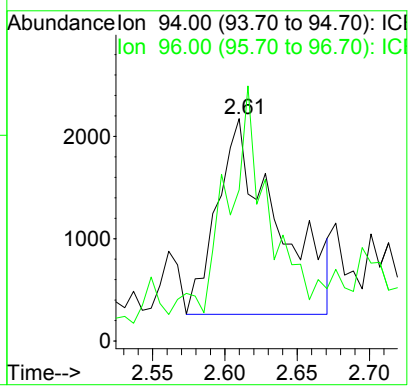


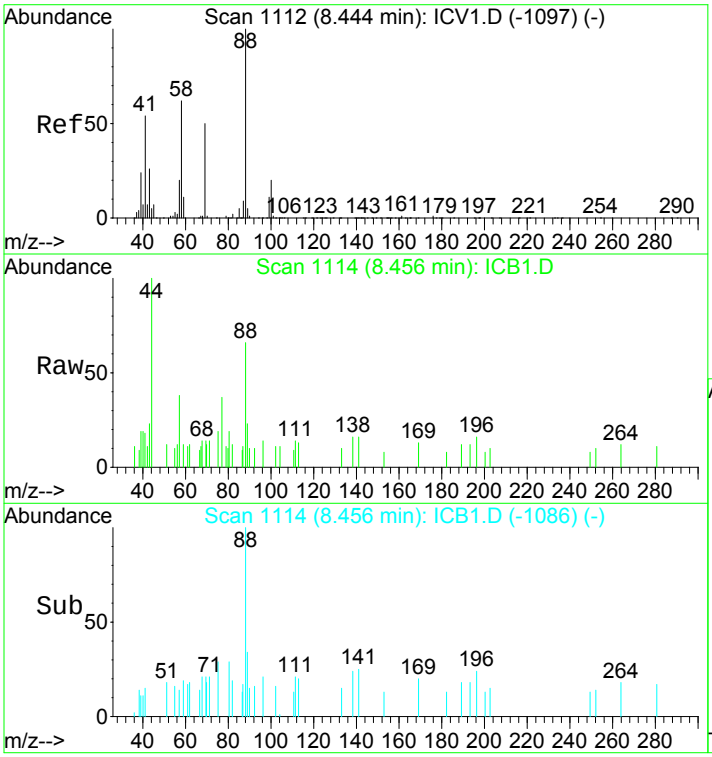


#5
Bromomethane
Concen: 0.50 ug/L
RT: 2.61 min Scan# 153
Delta R.T. 0.01 min
Lab File: ICB1.D
Acq: 29 Jun 2016 15:46

Tgt Ion: 94 Resp: 5505

Ion	Ratio	Lower	Upper
94	100		
96	82.3	73.9	113.9

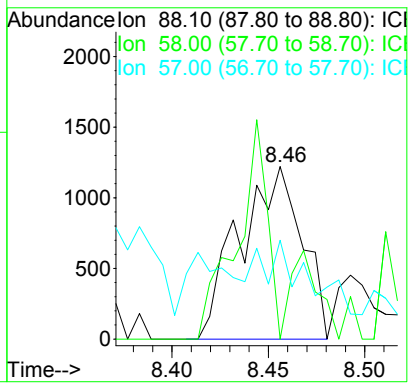




#55
14dioxane
Concen: 6.88 ug/L
RT: 8.46 min Scan# 1114
Delta R.T. 0.02 min
Lab File: ICB1.D
Acq: 29 Jun 2016 15:46

Tgt Ion: 88 Resp: 2762

Ion	Ratio	Lower	Upper
88	100		
58	0.0	46.5	86.5#
57	0.0	2.1	42.1#



Evaluate Continuing Calibration Report

Data File : C:\INSTARCH\Data\JUN2916\ICV1R.D Vial: 17
Acq On : 29 Jun 2016 16:15 Operator: AGK-RLD
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Reanalysis for 1,4-Dioxane

Quant Time: Jun 29 16:35:53 2016

Quant Method : C:\INSTARCH\METHODS\W062916.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W062916.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	1.0000	1.0000	0.00	103	0.00
2	PT	Dichlorodi	0.3438	0.3704	-7.74	103	0.00
3	PT	Chloromethan	0.3644	0.3734	-2.47	102	0.00
4	PT	VinylChlorid	0.3759	0.3935	-4.68	99	0.00
5	PT	Bromomethane	0.1622	0.1986	-22.44#	125	0.00
6	PT	Chloroethane	0.2286	0.2281	0.22	100	0.00
7	T	Dichloroflmethane	0.5120	0.5336	-4.22	102	0.00
8	PT	Trichlorofma	0.4101	0.4278	-4.32	104	0.00
9	T	Ethylether	0.2245	0.2219	1.16	100	0.00
10	T	dichlorotfluoroethan	0.2846	0.2911	-2.28	102	0.00
11	T	propyleneoxide	0.0722	0.0646	10.53	89	0.00
12	T	Acrolein	0.1019	0.0758	25.61#	76	0.00
13	PT	11dichlorthe	0.2554	0.2633	-3.09	98	0.00
14	PT	Trichlorotfluoroeth	0.2370	0.2431	-2.57	98	0.00
15	PT	Acetone	0.2004	0.1865	6.94	87	0.00
16	T	Iodomethane	0.2503	0.2294	8.35	94	0.00
17	PT	Carbon Dislf	0.7189	0.7581	-5.45	101	0.00
18	T	allylchloride	0.3434	0.3579	-4.22	98	0.00
19	PT	methylacetate	0.1471	0.1384	5.91	99	0.00
20	PT	Methylchlorid	0.3707	0.3415	7.88	101	0.00
21	T	tbutylalcohol	0.0764	0.0798	-4.45	95	0.00
22	T	Acrylonitrile	0.1753	0.1737	0.91	96	0.00
23	PT	t12dichlorte	0.2656	0.2751	-3.58	105	0.00
24	PT	MtBE	0.7674	0.7856	-2.37	101	0.00
25	T	Hexane	0.3128	0.3248	-3.84	97	0.00
26	PT	11dichlorota	0.4730	0.4743	-0.27	100	0.00
27	T	Vinylacetate	0.4345	0.4850	-11.62	106	0.00
28	T	chloroprene	0.3946	0.4165	-5.55	100	0.00
29	T	Diisopether	0.7444	0.7605	-2.16	102	0.00
30	T	ETBE	0.6549	0.6964	-6.34	104	0.00
31	T	22dichloropr	0.3979	0.4102	-3.09	102	0.00
32	PT	c12dichlorte	0.2987	0.3076	-2.98	101	0.00
33	PT	2Butanone	0.0751	0.0716#	4.66	93	0.00
34	T	propionitrile	0.0831	0.0839	-0.96	98	0.00
35	T	Ethylacetate	0.0221	0.0216#	2.26	105	0.00
36	T	methacrylonitrile	0.1857	0.1755	5.49	94	0.00
37	T	Bromochlorma	0.1457	0.1409	3.29	97	0.00
38	T	Tetrahydofur	0.1667	0.1624	2.58	98	0.00
39	PT	Chloroform	0.4793	0.4799	-0.13	100	0.00
40	PT	111trichlota	0.4302	0.4327	-0.58	99	0.00
41	S	SURRDibrflma	0.2633	0.2611	0.84	102	0.00
42	PT	Cyclohexane	0.4585	0.4734	-3.25	98	0.00
43	PT	Carbtetraclo	0.3418	0.3469	-1.49	97	0.00
44	T	11dicloprope	0.1393	0.1409	-1.15	99	0.00
45	S	SURR12DCAd4	0.0720	0.0724	-0.56	106	0.00
46	PT	Benzene	1.0272	1.0735	-4.51	100	0.00
47	PT	12dichlorota	0.3687	0.3664	0.62	101	0.00
48	T	TAME	0.6122	0.6368	-4.02	107	0.00

49	PT	trichloroete	0.2866	0.2791	2.62	99	0.00
50	PT	methylcyclohexane	0.4861	0.5074	-4.38	101	0.00
51	PT	12dicloropra	0.2793	0.2803	-0.36	102	0.00
52	T	23Dicl1propene	0.4161	0.4106	1.32	101	0.00
53	T	Dibromometha	0.1863	0.1787	4.08	100	0.00
54	T	methylmethacrylate	0.3014	0.2914	3.32	102	0.00
55	T	14dioxane	0.0059	0.0053#	10.17	94	0.00
56	PT	Bromodiclrma	0.3690	0.3532	4.28	98	0.00
57	T	2Nitropropane	0.1081	0.1126	-4.16	101	0.00
58	T	2CLEVE	0.0025	0.0021#	16.00	111	0.00
59	PT	c13dicloproe	0.4371	0.4379	-0.18	102	0.00
60	PT	4Meth2Pentan	0.3850	0.3929	-2.05	100	0.00
61	S	SURRd8Tolule	1.0600	1.0550	0.47	103	0.00
62	PT	Toluene	0.7142	0.7550	-5.71	103	0.00
63	PT	t13Dicloprop	0.3871	0.3868	0.08	100	0.00
64	T	ethylmethacrylate	0.4477	0.4661	-4.11	101	0.00
65	PT	112Triclotha	0.2365	0.2237	5.41	99	0.00
66	PT	Tetrachlorte	0.3347	0.3431	-2.51	102	0.00
67	T	13Diclorpropa	0.4620	0.4554	1.43	101	0.00
68	I	d5-CHLOROBENZENE**ISTD**	1.0000	1.0000	0.00	104	0.00
69	PT	2Hexanone	0.3940	0.3961	-0.53	98	0.00
70	PT	Clorodibrmta	0.3205	0.3003	6.30	98	0.00
71	PT	12Dibrometha	0.3385	0.3376	0.27	101	0.00
72	PT	Chlorobenzen	0.8783	0.8915	-1.50	100	0.00
73	T	1Clhexane	0.4980	0.4943	0.74	98	0.00
74	T	1112Tetclota	0.3150	0.3054	3.05	99	0.00
75	PT	Ethylbenzene	1.5992	1.6536	-3.40	101	0.00
76	PT	m p-Xylene	0.6200	0.6565	-5.89	99	0.00
77	PT	o-Xylene	0.6473	0.6407	1.02	98	0.00
78	PT	Styrene	1.0296	1.0860	-5.48	99	0.00
79	PT	Bromoform	0.2771	0.2411	12.99	92	0.00
80	PT	Isopropylben	1.4567	1.6008	-9.89	101	0.00
81	T	cyclohexanone	0.0268	0.0243#	9.33	93	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	1.0000	1.0000	0.00	102	0.00
83	S	SURR4BrFBenz	0.8878	0.8860	0.20	102	0.00
84	T	Bromobenzene	0.6876	0.7028	-2.21	101	0.00
85	PT	1122Tetrclta	0.9194	0.9275	-0.88	101	0.00
86	T	123Triclproa	1.0071	0.9787	2.82	98	0.00
87	T	14dichloro2butene	0.1434	0.1142	20.36#	86	0.00
88	T	n-Propylbenz	2.8790	2.9863	-3.73	98	0.00
89	T	2chlorotolue	1.7399	1.8114	-4.11	99	0.00
90	T	4chlorotolue	1.9865	2.1112	-6.28	100	0.00
91	T	135Trimebenz	2.0546	2.2040	-7.27	100	0.00
92	T	tbutylbenzen	1.8022	1.9187	-6.46	98	0.00
93	T	124Trimetben	2.0587	2.2040	-7.06	98	0.00
94	T	sbutylbenzen	2.6642	2.7934	-4.85	99	0.00
95	PT	13Diclorbenz	1.2236	1.2696	-3.76	100	0.00
96	T	pIsopropylto	2.1335	2.2906	-7.36	98	0.00
97	PT	14dichlorobe	1.2281	1.2851	-4.64	101	0.00
98	PT	12dichlorobe	1.1702	1.2240	-4.60	100	0.00
99	T	nButylbenzen	1.9740	2.1101	-6.89	98	0.00
100	PT	12dibromo3cl	0.3087	0.2798	9.36	91	0.00
101	T	135Trichlorobenzene	0.9656	0.9945	-2.99	98	0.00
102	PT	124Trichlobe	0.8714	0.8923	-2.40	100	0.00
103	T	Hexachlorobu	0.4610	0.4786	-3.82	102	0.00
104	T	Naphthalene	2.6910	2.7751	-3.13	100	0.00
105	T	123Trichlben	0.8313	0.8530	-2.61	97	0.00

(#) = Out of Range SPCC's out = 1 CCC's out = 0

W062916.M Wed Jul 13 09:33:22 2016

Quantitation Report

Data File : C:\INSTARCH\Data\JUN2916\ICV1R.D Vial: 17
Acq On : 29 Jun 2016 16:15 Operator: AGK-RLD
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jun 29 16:35:53 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Jun 29 15:25:49 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.54	96	1553766	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.44	117	1371451	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.73	152	881942	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.69	113	405725	19.835	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 99	%		
45) SURR12DCAd4	7.10	102	112448	20.117	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 101	%		
61) SURRd8Tolule	9.54	98	1639179	19.906	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100	%		
83) SURR4BrFBenz	13.07	95	781368	19.958	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 100	%		
Target Compounds						Qvalue
2) Dichlorodi	1.78	85	287719	10.7719	ug/L	97
3) Chloromethan	2.01	50	290122	10.2475	ug/L	100
4) VinylChlorid	2.16	62	305674	10.4668	ug/L	98
5) Bromomethane	2.60	94	154310	12.2444	ug/L	96
6) Chloroethane	2.77	64	177237	9.9785	ug/L	99
7) Dichloroflmethane	3.07	67	414582	10.4220	ug/L	99
8) Trichlorofma	3.15	101	332386	10.4320	ug/L	99
9) Ethylether	3.58	59	172354	9.8826	ug/L	98
10) dichlorotfluoroethan	3.59	67	226159	10.2302	ug/L	98
11) propyleneoxide	3.92	58	501549	89.4113	ug/L	96
12) Acrolein	3.70	56	294358	37.1966	ug/L	92
13) 11dichlorthe	3.85	96	204573	10.3083	ug/L	99
14) Trichlorotfluoroeth	3.90	101	377784	20.5158	ug/L	97
15) Acetone	3.92	43	1448641	91.4525	ug/L	98
16) Iodomethane	4.03	142	356420	18.3258	ug/L	99
17) Carbon Dislf	4.12	76	1177954	21.0928	ug/L	100
18) allylchloride	4.33	41	556092	20.8438	ug/L	98
19) methylacetate	4.39	74	107510	9.4095	ug/L	98
20) Methylchlorid	4.48	84	265324	9.9577	ug/L	98
21) tbutylalcohol	4.68	59	3098519	528.5118	ug/L	100
22) Acrylonitrile	4.78	53	674689	49.5532	ug/L	99
23) t12dichlorte	4.85	96	213687	10.3570	ug/L	95
24) MtBE	4.89	73	610335	10.2375	ug/L	99
25) Hexane	5.26	57	504716	20.7704	ug/L	99
26) 11dichlorota	5.38	63	368442	10.0265	ug/L	98
27) Vinylacetate	5.48	43	3768240	108.6573	ug/L	99
28) chloroprene	5.51	53	647111	21.1113	ug/L	99
29) Diisopether	5.53	45	590791	10.2157	ug/L	98
30) ETBE	5.98	59	541035	10.6336	ug/L	98
31) 22dichloropr	6.11	77	318697	10.3091	ug/L	97
32) c12dichlorte	6.11	96	238975	10.2976	ug/L	99
33) 2Butanone	6.12	72	556094	95.2826	ug/L	99
34) propionitrile	6.15	54	651753	100.9522	ug/L	99
35) Ethylacetate	6.24	88	84089	49.0006	ug/L #	89
36) methacrylonitrile	6.36	67	272756	18.9074	ug/L	96
37) Bromochlorma	6.39	128	109440	9.6664	ug/L	98
38) Tetrahydofur	6.48	42	1261370	97.4209	ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\JUN2916\ICV1R.D Vial: 17
Acq On : 29 Jun 2016 16:15 Operator: AGK-RLD
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jun 29 16:35:53 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Jun 29 15:25:49 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39) Chloroform	6.50	83	372838	10.0135 ug/L	98
40) 111trichlota	6.74	97	336146	10.0585 ug/L	98
42) Cyclohexane	6.83	56	367742	10.3243 ug/L	98
43) Carbtetraclo	6.96	119	269481	10.1498 ug/L	96
44) 11dicloprope	6.95	110	109455	10.1157 ug/L	100
46) Benzene	7.19	78	833949	10.4507 ug/L	99
47) 12dichlorota	7.19	62	284684	9.9387 ug/L	100
48) TAME	7.37	73	494707	10.4010 ug/L	100
49) trichloroete	8.00	95	216791	9.7351 ug/L	97
50) methylcyclohexane	8.27	83	394153	10.4380 ug/L	97
51) 12dicloropra	8.25	63	217773	10.0360 ug/L	100
52) 23Dicl1propene	8.32	75	319023	9.8698 ug/L	99
53) Dibromometha	8.39	93	138862	9.5936 ug/L	98
54) methylmethacrylate	8.43	69	226350	9.6662 ug/L	99
55) 14dioxane	8.44	88	207556	450.7747 ug/L	99
56) Bromodiclrma	8.60	83	274359	9.5705 ug/L	98
57) 2Nitropropane	8.85	43	874963	104.1959 ug/L	99
58) 2CLEVE	8.99	63	8252	54.1726 ug/L #	77
59) c13dicloproe	9.17	75	340190	10.0171 ug/L	99
60) 4Meth2Pentan	9.37	43	3052050	103.5399 ug/L	100
62) Toluene	9.62	92	586569	10.5721 ug/L	97
63) t13Dicloprop	9.88	75	300516	9.9939 ug/L	99
64) ethylmethacrylate	10.03	69	724224	20.8217 ug/L	99
65) 112Triclotha	10.11	83	173785	9.4594 ug/L	99
66) Tetrachlorte	10.35	166	266512	10.2481 ug/L	99
67) 13Diclorpropa	10.34	76	353799	9.8583 ug/L	99
69) 2Hexanone	10.46	43	2716097	100.3921 ug/L	100
70) Clorodibrmta	10.64	129	205940	9.3708 ug/L	96
71) 12Dibrometha	10.79	107	231529	9.9739 ug/L	99
72) Chlorobenzen	11.48	112	611351	10.1513 ug/L	99
73) 1Clhexane	11.46	91	338981	9.9263 ug/L	99
74) 1112Tetclota	11.59	131	209442	9.6973 ug/L	97
75) Ethylbenzene	11.64	91	1133882	10.3398 ug/L	99
76) m p-Xylene	11.81	106	900366	21.1764 ug/L	99
77) o-Xylene	12.35	106	439355	9.8981 ug/L	98
78) Styrene	12.36	104	744695	10.5474 ug/L	100
79) Bromoform	12.59	173	165348	8.7005 ug/L	97
80) Isopropylben	12.87	105	1097740	10.9896 ug/L	99
81) cyclohexanone	12.95	55	333598	181.4636 ug/L	99
84) Bromobenzene	13.28	156	309903	10.2207 ug/L	98
85) 1122Tetrclta	13.25	83	409021	10.0884 ug/L	98
86) 123Triclproa	13.30	75	431576	9.7175 ug/L	99
87) 14dichloro2butene	13.34	53	50357	7.9634 ug/L	95
88) n-Propylbenz	13.46	91	1316891	10.3730 ug/L	99
89) 2chlorotolue	13.57	91	798786	10.4108 ug/L	99
90) 4chlorotolue	13.72	91	930973	10.6277 ug/L	99
91) 135Trimebenz	13.71	105	971900	10.7271 ug/L	99
92) tbutylbenzen	14.18	119	846097	10.6464 ug/L	98
93) 124Trimetben	14.25	105	971881	10.7054 ug/L	99
94) sbutylbenzen	14.50	105	1231795	10.4848 ug/L	99
95) 13Diclorbenz	14.64	146	559836	10.3753 ug/L	99
96) pIsopropylto	14.72	119	1010103	10.7364 ug/L	100
97) 14dichlorobe	14.76	146	566674	10.4634 ug/L	98
98) 12dichlorobe	15.29	146	539729	10.4591 ug/L	99
99) nButylbenzen	15.31	91	930489	10.6897 ug/L	99
100) 12dibromo3cl	16.40	157	123384	9.0624 ug/L	97
101) 135Trichlorobenzene	16.74	180	438554	10.2996 ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\JUN2916\ICV1R.D Vial: 17
Acq On : 29 Jun 2016 16:15 Operator: AGK-RLD
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jun 29 16:35:53 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Jun 29 15:25:49 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.55	180	393481	10.2404	ug/L	100
103) Hexachlorobu	17.81	225	211055	10.3828	ug/L	97
104) Naphthalene	17.85	128	1223734	10.3126	ug/L	99
105) 123Trichlben	18.17	180	376153	10.2615	ug/L	100

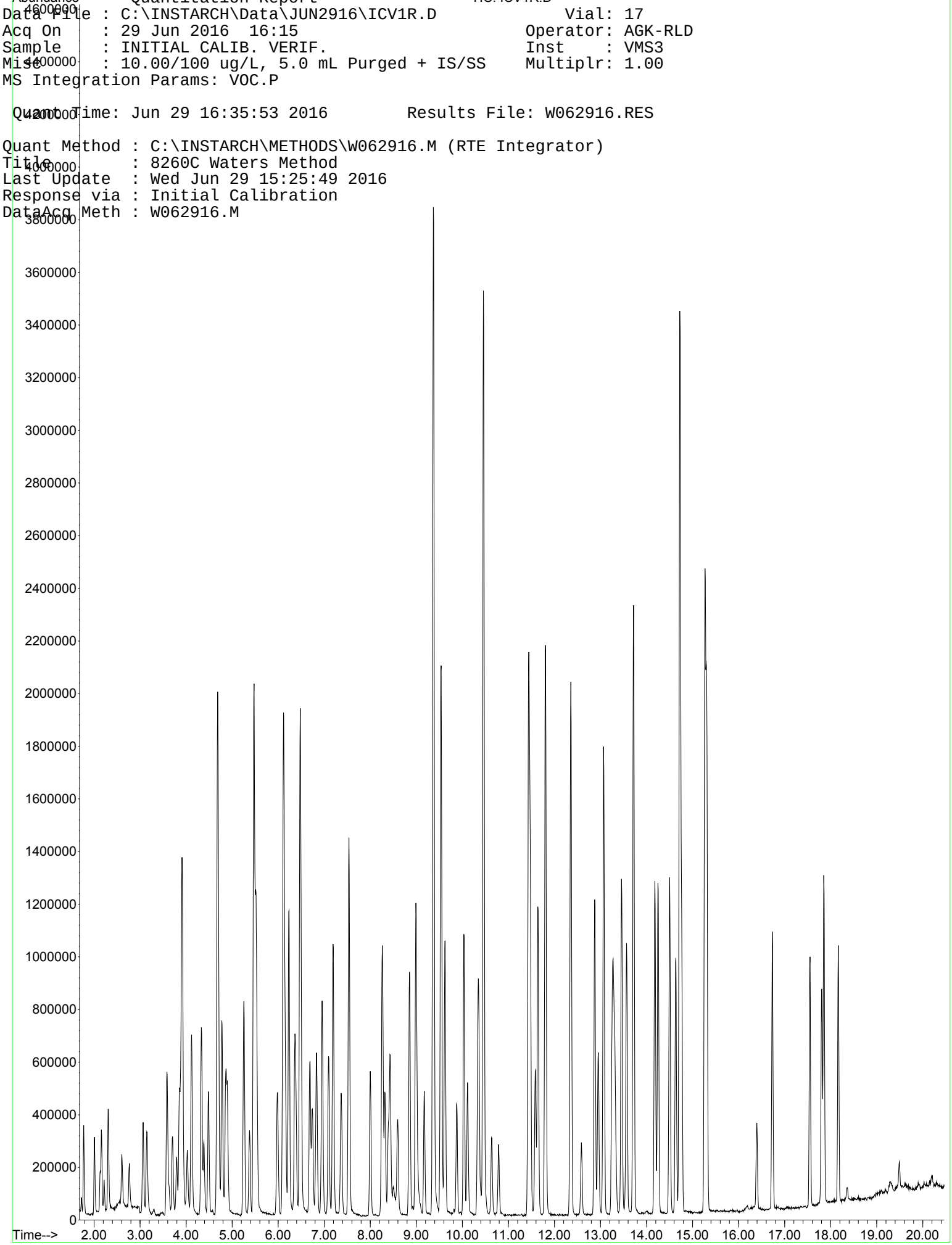
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: ICV1R.D

Data File : C:\INSTARCH\Data\JUN2916\ICV1R.D Vial: 17
Acq On : 29 Jun 2016 16:15 Operator: AGK-RLD
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jun 29 16:35:53 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Jun 29 15:25:49 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M



Method Path : L:\INSTARCH\METHODS\
Method File : W071516.M
Title : 8260C Waters Method
Last Update : Mon Jul 18 10:10:08 2016
Response Via : Initial Calibration

RJ 07/22/2016

Calibration Files ug/L
1 0.50/5.0 =WCAL1.D 2 2.0/20.0 =WCAL2.D 3 5.0/50.0 =WCAL3.D
4 10.0/100 =WCAL4.D 5 20.0/200 =WCAL5.D 6 30.0/300 =WCAL6.D
7 40.0/400 =WCAL7.D 8 80.0/800 =WCAL8.D

		Compound	1	2	3	4	5	6	7	8	Avg	%RSD
1)	I	FLUOROBENZENE**ISTD**	----------ISTD----------									
2)	PT	Dichlorodi	0.344	0.328	0.321	0.317	0.305	0.303	0.291	0.255	0.308	8.77
3)	PT	Chloromethan	0.468	0.456	0.477	0.440	0.414	0.384	0.353	0.304	0.412	14.79
4)	PT	VinylChlorid	0.432	0.365	0.371	0.356	0.351	0.343	0.328	0.293	0.355	11.18
5)	PT	Bromomethane	0.168	0.167	0.130	0.121	0.118	0.130	0.139	0.138	0.139	13.88
6)	PT	Chloroethane	0.199	0.272	0.232	0.228	0.223	0.220	0.212	0.193	0.222	10.83
7)	T	Dichloroflmetha	0.613	0.587	0.544	0.517	0.503	0.478	0.464	0.410	0.514	12.86
8)	PT	Trichlorofma	0.414	0.409	0.398	0.386	0.394	0.392	0.379	0.359	0.391	4.43
9)	T	Ethylether	0.222	0.222	0.195	0.200	0.204	0.202	0.197	0.192	0.204	5.59
10)	T	dichlorotfluoro	0.343	0.295	0.272	0.263	0.264	0.265	0.259	0.242	0.275	11.21
11)	T	propyleneoxide	0.077	0.074	0.077	0.073	0.070	0.066	0.062	0.053	0.069	12.38
12)	T	Acrolein	0.076	0.073	0.079	0.077	0.083	0.082	0.082	0.077	0.079	4.40
13)	PT	11dichlorthe	0.273	0.241	0.248	0.251	0.249	0.248	0.239	0.234	0.248	4.69
14)	PT	Trichlorotfluor	0.267	0.229	0.241	0.233	0.234	0.230	0.222	0.206	0.233	7.42
15)	PT	Acetone	0.245	0.233	0.230	0.205	0.185	0.167	0.149	0.108	-----	
								Q A= -0.002 R=0.999 B= 0.194 C= 0.070				
16)	T	Iodomethane	0.219	0.175	0.168	0.181	0.213	0.230	0.231	0.221	0.205	12.57
17)	PT	Carbon Dislf	0.734	0.690	0.668	0.678	0.663	0.621	0.569	0.447	0.634	14.16
18)	T	allylchloride	0.376	0.336	0.332	0.326	0.330	0.318	0.307	0.262	0.323	9.87
19)	PT	methylacetate	0.153	0.133	0.126	0.124	0.129	0.124	0.129	0.124	0.130	7.40
20)	PT	Methylchlorid	0.388	0.366	0.339	0.312	0.312	0.298	0.290	0.273	0.322	12.24
21)	T	tbutylalcohol	0.084	0.075	0.078	0.074	0.067	0.055	0.049	0.032	-----	
								Q A= -0.000 R=0.995 B= 0.068 C= 0.134				
22)	T	Acrylonitrile	0.185	0.166	0.167	0.166	0.160	0.153	0.149	0.123	0.159	11.31
23)	PT	t12dichlorte	0.317	0.281	0.266	0.273	0.262	0.256	0.252	0.245	0.269	8.39
24)	PT	MtBE	0.655	0.649	0.628	0.679	0.667	0.670	0.666		0.653	3.53

0.611
25) T Hexane 0.377 0.338 0.337 0.327 0.312 0.305 0.289 0.318 11.50
0.255
26) PT 11dichlorota 0.535 0.477 0.457 0.453 0.442 0.437 0.426 0.453 8.91
0.399
27) T Vinylacetate 0.435 0.455 0.464 0.441 0.375 0.318 0.273 -----

Q A= -0.010 R=1.000
B= 0.476
C= 0.016

28) T chloroprene 0.418 0.396 0.407 0.392 0.385 0.378 0.359 0.381 8.66
0.312
29) T Diisopether 0.825 0.743 0.704 0.680 0.677 0.715 0.641 0.694 10.66
0.571
30) T ETBE 0.432 0.427 0.387 0.484 0.494 0.511 0.540 0.476 11.69
0.537
31) T 22dichloropr 0.289 0.394 0.362 0.380 0.354 0.363 0.354 0.355 8.76
0.345
32) PT c12dichlorte 0.334 0.308 0.295 0.289 0.285 0.288 0.282 0.295 6.42
0.274
33) PT 2Butanone 0.083 0.077 0.077 0.071 0.070 0.068 0.065 0.071# 11.31
0.057
34) T propionitrile 0.093 0.080 0.079 0.077 0.078 0.072 0.071 0.076 12.32
0.060
35) T Ethylacetate 0.022 0.020 0.020 0.019 0.021 0.020 0.020 0.020# 3.76
0.020
36) T methacrylonitri 0.195 0.172 0.179 0.170 0.172 0.170 0.170 0.173 5.88
0.160
37) T Bromochlorma 0.189 0.142 0.135 0.139 0.135 0.135 0.127 0.140 14.80
0.120
38) T Tetrahydofur 0.175 0.169 0.165 0.149 0.145 0.132 0.124 0.151 12.74

39) PT Chloroform 0.599 0.469 0.465 0.449 0.445 0.450 0.434 0.465 12.22
0.412
40) PT 111trichlota 0.429 0.403 0.428 0.414 0.409 0.417 0.405 0.412 3.24
0.389
41) S SURRDibrflma 0.248 0.255 0.250 0.254 0.256 0.261 0.264 0.257 2.43
0.265
42) PT Cyclohexane 0.500 0.431 0.433 0.427 0.415 0.416 0.407 0.426 7.99
0.382
43) PT Carbtetraclo 0.344 0.341 0.321 0.329 0.329 0.333 0.332 0.331 2.53
0.321
44) T 11dicloprope 0.164 0.128 0.132 0.138 0.138 0.138 0.135 0.139 7.75
0.137
45) S SURR12DCAd4 0.071 0.070 0.073 0.072 0.070 0.074 0.073 0.072 2.09
0.072
46) PT Benzene 1.039 1.100 1.097 1.041 0.984 0.953 0.902 0.984 11.62
0.757
47) PT 12dichlorota 0.419 0.384 0.362 0.348 0.345 0.349 0.341 0.360 8.12
0.328
48) T TAME 0.220 0.307 0.277 0.391 0.413 0.448 0.495 -----
0.513

Q A= 0.017 R=0.999
B= 0.452
C= -0.027

49) PT trichloroete 0.325 0.276 0.275 0.273 0.271 0.271 0.267 0.277 7.15
0.260
50) PT methylcyclohexa 0.503 0.459 0.455 0.454 0.443 0.443 0.429 0.448 6.76
0.396
51) PT 12dicloropra 0.324 0.278 0.278 0.273 0.267 0.273 0.266 0.278 7.00
0.262
52) T 23Dicl1propene 0.454 0.389 0.398 0.394 0.383 0.392 0.384 0.395 6.37
0.369
53) T Dibromometha 0.198 0.187 0.175 0.170 0.173 0.177 0.172 0.179 5.30
0.175
54) T methylmethacryl 0.321 0.270 0.265 0.261 0.266 0.263 0.261 0.270 7.80
0.254
55) T 14dioxane 0.005 0.005 0.005 0.006 0.006 0.005 0.005 0.005# 11.70
0.005
56) PT Bromodiclrma 0.337 0.333 0.327 0.321 0.336 0.347 0.343 0.335 2.47

0.335
57) T 2Nitropropane 0.060 0.045 0.062 0.068 0.084 0.086 0.091 -----
0.080
Q A= -0.000 R=0.998
B= 0.099
C= -0.073
58) T 2CLEVE 0.003 0.002 0.002 0.001 0.002 0.001 0.001 ----- #
0.002
Q A= 0.000 R=0.999
B= 0.001
C= 0.001
59) PT c13dicloproe 0.430 0.405 0.415 0.403 0.419 0.412 0.405 0.410 3.14
0.387
60) PT 4Meth2Pentan 0.515 0.450 0.442 0.370 0.314 0.266 0.228 -----
Q A= -0.008 R=0.999
B= 0.389
C= 0.091
61) S SURRd8Tolule 1.055 1.046 1.062 1.029 1.040 1.037 1.037 1.040 1.41
1.015
62) PT Toluene 0.883 0.767 0.763 0.692 0.677 0.670 0.636 0.706 13.77
0.562
63) PT t13Dicloprop 0.394 0.334 0.352 0.347 0.363 0.369 0.367 0.361 4.95
0.358
64) T ethylmethacryla 0.544 0.462 0.468 0.428 0.422 0.411 0.389 0.432 14.50
0.331
65) PT 112Triclotha 0.254 0.229 0.226 0.210 0.213 0.219 0.219 0.224 6.17
0.219
66) PT Tetrachlorte 0.356 0.333 0.346 0.331 0.324 0.326 0.318 0.330 4.90
0.303
67) T 13Diclorpropa 0.525 0.470 0.465 0.435 0.436 0.432 0.430 0.450 8.01
0.409
68) I d5-CHLOROBENZENE**IST ----------ISTD----------
69) PT 2Hexanone 0.517 0.469 0.452 0.388 0.339 0.281 0.246 -----
Q A= -0.009 R=0.999
B= 0.413
C= 0.081
70) PT Clorodibrmta 0.328 0.291 0.304 0.300 0.314 0.325 0.327 0.315 4.88
0.333
71) PT 12Dibrometha 0.395 0.337 0.331 0.334 0.346 0.343 0.343 0.346 5.84
0.342
72) PT Chlorobenzen 1.126 0.954 0.927 0.883 0.875 0.843 0.817 0.894 13.09
0.726
73) T 1Clhexane 0.643 0.509 0.484 0.469 0.464 0.459 0.447 0.488 13.78
0.427
74) T 1112Tetclota 0.339 0.319 0.301 0.291 0.308 0.307 0.315 0.313 4.64
0.321
75) PT Ethylbenzene 1.855 1.751 1.707 1.602 1.544 1.443 1.341 1.606 11.19
76) PT m p-Xylene 0.608 0.708 0.687 0.649 0.631 0.597 0.564 0.614 12.25
0.469
77) PT o-Xylene 0.786 0.711 0.661 0.635 0.641 0.627 0.610 0.654 10.45
0.560
78) PT Styrene 1.164 1.137 1.065 1.033 1.031 0.998 0.962 1.027 10.33
0.824
79) PT Bromoform 0.242 0.230 0.233 0.234 0.260 0.267 0.278 0.254 8.71
0.287
80) PT Isopropylben 1.563 1.639 1.590 1.485 1.447 1.367 1.280 1.425 14.03
1.026
81) T cyclohexanone 0.027 0.023 0.023 0.024 0.025 0.022 0.022 0.023# 8.34
0.021
82) I d4-1,4-DICHLOROBENZEN ----------ISTD----------
83) S SURR4BrFBenz 0.856 0.868 0.872 0.864 0.860 0.844 0.868 0.861 1.04
0.855
84) T Bromobenzene 0.805 0.705 0.732 0.706 0.703 0.687 0.688 0.711 6.13
0.659
85) PT 1122Tetrclta 1.033 0.902 0.936 0.909 0.902 0.867 0.881 0.906 6.80

			0.821							
86)	T	123Triclproa	1.090	0.930	0.951	0.908	0.926	0.926	0.951	0.949	6.25
			0.907							
87)	T	14dichloro2bute	0.129	0.069	0.067	0.080	0.092	0.105	0.123	-----	
			0.138							
								Q	A= 0.011	R=0.998
									B= 0.097	
									C= -0.006	
88)	T	n-Propylbenz	3.181	3.177	3.160	2.933	2.751	2.511	2.365	2.868	11.71
89)	T	2chlorotolue	2.038	1.891	1.866	1.745	1.702	1.618	1.571	1.720	12.85
			1.324							
90)	T	4chlorotolue	2.330	2.165	2.188	2.020	1.989	1.863	1.794	1.977	13.71
			1.466							
91)	T	135Trimebenz	2.464	2.263	2.151	2.117	2.008	1.904	1.837	2.030	14.47
			1.496							
92)	T	tbutylbenzen	2.109	1.916	1.872	1.804	1.749	1.656	1.619	1.760	12.78
			1.357							
93)	T	124Trimetben	2.458	2.209	2.239	2.145	2.059	1.938	1.850	2.050	14.15
			1.503							
94)	T	sbutylbenzen	2.632	2.771	2.783	2.602	2.494	2.308	2.191	2.436	14.84
			1.704							
95)	PT	13Diclorbenz	1.415	1.331	1.296	1.239	1.215	1.156	1.157	1.229	9.79
			1.026							
96)	T	pIsopropylto	2.456	2.250	2.262	2.154	2.067	1.951	1.871	2.064	14.24
			1.500							
97)	PT	14dichlorobe	1.425	1.351	1.314	1.246	1.237	1.189	1.170	1.246	9.75
			1.031							
98)	PT	12dichlorobe	1.388	1.274	1.207	1.183	1.154	1.124	1.111	1.179	10.09
			0.986							
99)	T	nButylbenzen	2.247	1.993	2.022	1.894	1.868	1.756	1.711	1.861	13.49
			1.398							
100)	PT	12dibromo3cl	0.266	0.230	0.241	0.250	0.261	0.248	0.263	0.252	4.88
			0.258							
101)	T	135Trichloroben	0.913	0.903	0.857	0.850	0.838	0.817	0.823	0.844	5.92
			0.755							
102)	PT	124Trichlobe	0.860	0.808	0.800	0.786	0.774	0.758	0.763	0.780	6.26
			0.689							
103)	T	Hexachlorobu	0.402	0.356	0.377	0.353	0.370	0.357	0.354	0.365	4.94
			0.348							
104)	T	Naphthalene	2.192	2.146	2.190	2.012	2.006	1.811	1.761	1.938	14.21
			1.388							
105)	T	123Trichlben	0.762	0.674	0.716	0.658	0.676	0.640	0.658	0.673	7.16
			0.603							

Total Average %RSD 8.94

L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range

W071516.M Tue Jul 19 15:15:05 2016

Data File : L:\INSTARCH\Data\JUL1516\BFB1.D Vial: 1
Acq On : 15 Jul 2016 9:04 am Operator: AGK-RLD
Sample : BFB Injection Inst : VMS3
Misc : 25 ng Inj. Multiplr: 1.00
Integration File: VOC.P

Method : L:\INSTARCH\METHODS\W071516.M
Title : 8260C Waters Method

Spectrum Information: Average of 4.447 to 4.465 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	17.9	17917	PASS
75	95	30	60	47.9	47907	PASS
95	95	100	100	100.0	100000	PASS
96	95	5	9	6.7	6695	PASS
173	174	0.00	2	0.6	498	PASS
174	95	50	100	88.9	88889	PASS
175	174	5	9	6.7	5941	PASS
176	174	95	101	98.9	87930	PASS
177	176	5	9	5.6	4959	PASS

W071516.M Tue Jul 19 14:59:20 2016

Quantitation Report

Data File : L:\INSTARCH\DATA\JUL1516\WCAL1.D Vial: 4
Acq On : 15 Jul 2016 10:17 am Operator: AGK-RLD
Sample : INITIAL CALIB. PT1 Inst : VMS3
Misc : 0.50/5.00 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 18 10:08:41 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 15 14:22:42 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.54	96	1430631	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.44	117	1211981	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.73	152	773969	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.69	113	354897	19.322	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 97 %			
45) SURR12DCAd4	7.09	102	101190	19.664	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 98 %			
61) SURRd8Tolule	9.53	98	1509311	20.287	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101 %			
83) SURR4BrFBenz	13.07	95	662445	19.885	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 99 %			
Target Compounds						Qvalue
2) Dichlorodi	1.78	85	12306	0.5589	ug/L	98
3) Chloromethan	2.00	50	16748m	0.5158	ug/L #	96
4) VinylChlorid	2.17	62	15458	0.6092	ug/L #	33
5) Bromomethane	2.60	94	6022m	0.5767	ug/L	88
6) Chloroethane	2.76	64	7122m	0.3973	ug/L #	99
7) Dichloroflmethane	3.06	67	21925	0.5958	ug/L #	78
8) Trichlorofma	3.15	101	14790	0.5284	ug/L #	86
9) Ethylether	3.58	59	7937	0.5431	ug/L #	82
10) dichlorotfluoroethan	3.58	67	12259	0.6222	ug/L	87
11) propyleneoxide	3.92	58	27714m	5.2744	ug/L #	97
12) Acrolein	3.71	56	13663	2.4273	ug/L #	68
13) 11dichlorthe	3.86	96	9747	0.5498	ug/L	93
14) Trichlorotfluoroeth	3.89	101	19082	1.1461	ug/L	96
15) Acetone	3.92	43	87524m	6.1487	ug/L	99
16) Iodomethane	4.02	142	15637	1.0685	ug/L #	87
17) Carbon Dislf	4.11	76	52512	1.1582	ug/L	96
18) allylchloride	4.33	41	26930	1.1641	ug/L	98
19) methylacetate	4.39	74	5456	0.5861	ug/L	81
20) Methylchlorid	4.49	84	13876m	0.5782	ug/L #	93
21) tbutylalcohol	4.70	59	150104	32.6401	ug/L	99
22) Acrylonitrile	4.78	53	33164	2.9196	ug/L	95
23) t12dichlorte	4.86	96	11337	0.5894	ug/L	95
24) MtBE	4.89	73	23427	0.5015	ug/L	93
25) Hexane	5.25	57	26984	1.1880	ug/L	99
26) 11dichlorota	5.38	63	19134	0.5904	ug/L	98
27) Vinylacetate	5.48	43	155418	5.9111	ug/L	94
28) chloroprene	5.51	53	29879	1.0964	ug/L	91
29) Diisopether	5.54	45	29499	0.5938	ug/L	97
30) ETBE	5.99	59	15464	0.4538	ug/L	96
31) 22dichloropr	6.11	77	10325m	0.3742	ug/L	89
32) c12dichlorte	6.11	96	11960	0.5676	ug/L	94
33) 2Butanone	6.12	72	29723	5.8410	ug/L	96
34) propionitrile	6.16	54	33291	6.0957	ug/L	98
35) Ethylacetate	6.24	88	3874	2.6690	ug/L	96
36) methacrylonitrile	6.36	67	13945	1.1243	ug/L	96
37) Bromochlorma	6.39	128	6742	0.6724	ug/L #	77
38) Tetrahydofur	6.48	42	62634m	5.9750	ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : L:\INSTARCH\DATA\JUL1516\WCAL1.D Vial: 4
Acq On : 15 Jul 2016 10:17 am Operator: AGK-RLD
Sample : INITIAL CALIB. PT1 Inst : VMS3
Misc : 0.50/5.00 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 18 10:08:41 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 15 14:22:42 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
39)	Chloroform	6.49	83	21435	0.6438 ug/L		91
40)	111trichlota	6.75	97	15353	0.5212 ug/L		86
42)	Cyclohexane	6.84	56	17889	0.5866 ug/L		98
43)	Carbtetraclo	6.96	119	12321	0.5197 ug/L		90
44)	11dicloprope	6.94	110	5870	0.5909 ug/L	#	86
46)	Benzene	7.19	78	37175m	0.5115 ug/L		90
47)	12dichlorota	7.19	62	15003	0.5834 ug/L	#	91
48)	TAME	7.37	73	7872m	0.2789 ug/L	#	84
49)	trichloroete	7.99	95	11614	0.5854 ug/L		95
50)	methylcyclohexane	8.26	83	17992	0.5617 ug/L		97
51)	12dicloropra	8.26	63	11575	0.5827 ug/L	#	90
52)	23Dicl1propene	8.32	75	16220	0.5737 ug/L		98
53)	Dibromometha	8.39	93	7097	0.5553 ug/L		99
54)	methylmethacrylate	8.43	69	11477	0.5941 ug/L		91
55)	14dioxane	8.45	88	8144	22.2803 ug/L		85
56)	Bromodiclrma	8.60	83	12044	0.5027 ug/L	#	95
57)	2Nitropropane	8.85	43	21366m	4.1774 ug/L		93
58)	2CLEVE	8.99	63	585m	5.1958 ug/L	#	0
59)	c13dicloproe	9.17	75	15395	0.5255 ug/L		98
60)	4Meth2Pentan	9.37	43	184073	7.5449 ug/L		93
62)	Toluene	9.62	92	31589	0.6252 ug/L		95
63)	t13Dicloprop	9.87	75	14104	0.5469 ug/L		82
64)	ethylmethacrylate	10.03	69	38932	1.2598 ug/L		97
65)	112Triclotha	10.11	83	9076	0.5676 ug/L		93
66)	Tetrachlorte	10.35	166	12718	0.5394 ug/L		90
67)	13Diclorpropa	10.33	76	18780	0.5832 ug/L		95
69)	2Hexanone	10.46	43	156660	7.2537 ug/L		95
70)	Clorodibrmta	10.63	129	9952	0.5209 ug/L	#	85
71)	12Dibrometha	10.79	107	11964	0.5701 ug/L		99
72)	Chlorobenzen	11.48	112	34129	0.6299 ug/L	#	69
73)	1Clhexane	11.46	91	19473	0.6590 ug/L	#	56
74)	1112Tetclota	11.58	131	10268	0.5421 ug/L		97
75)	Ethylbenzene	11.64	91	56210m	0.5975 ug/L		99
76)	m p-Xylene	11.81	106	36837m	0.9511 ug/L	#	100
77)	o-Xylene	12.35	106	23803	0.6008 ug/L		96
78)	Styrene	12.36	104	35271	0.5669 ug/L		96
79)	Bromoform	12.59	173	7320	0.4757 ug/L		91
80)	Isopropylben	12.87	105	47366m	0.5413 ug/L		99
81)	cyclohexanone	12.95	55	16204	11.4505 ug/L	#	85
84)	Bromobenzene	13.27	156	15576	0.5664 ug/L		94
85)	1122Tetrclta	13.25	83	19993	0.5700 ug/L		85
86)	123Triclproa	13.31	75	21086	0.5743 ug/L		89
87)	14dichloro2butene	13.34	53	2491m	0.6680 ug/L	#	0
88)	n-Propylbenz	13.45	91	61557m	0.5789 ug/L		96
89)	2chlorotolue	13.56	91	39437	0.5927 ug/L		98
90)	4chlorotolue	13.72	91	45087	0.5893 ug/L		98
91)	135Trimebenz	13.71	105	47678	0.6069 ug/L		95
92)	tbutylbenzen	14.18	119	40811	0.5992 ug/L		98
93)	124Trimetben	14.25	105	47568	0.5995 ug/L		99
94)	sbutylbenzen	14.50	105	50931m	0.5318 ug/L		100
95)	13Diclorbenz	14.63	146	27383	0.5756 ug/L		95
96)	pIsopropylto	14.71	119	47530	0.5951 ug/L	#	98
97)	14dichlorobe	14.76	146	27578	0.5722 ug/L	#	70
98)	12dichlorobe	15.29	146	26863	0.5890 ug/L	#	70
99)	nButylbenzen	15.31	91	43469	0.6035 ug/L		98
100)	12dibromo3cl	16.40	157	5144	0.5272 ug/L		94
101)	135Trichlorobenzene	16.74	180	17661	0.5404 ug/L		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : L:\INSTARCH\DATA\JUL1516\WCAL1.D Vial: 4
Acq On : 15 Jul 2016 10:17 am Operator: AGK-RLD
Sample : INITIAL CALIB. PT1 Inst : VMS3
Misc : 0.50/5.00 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 18 10:08:41 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 15 14:22:42 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.54	180	16641	0.5514	ug/L	97
103) Hexachlorobu	17.81	225	7784	0.5518	ug/L	97
104) Naphthalene	17.85	128	42408m	0.5569	ug/L	99
105) 123Trichlben	18.16	180	14748	0.5659	ug/L	86

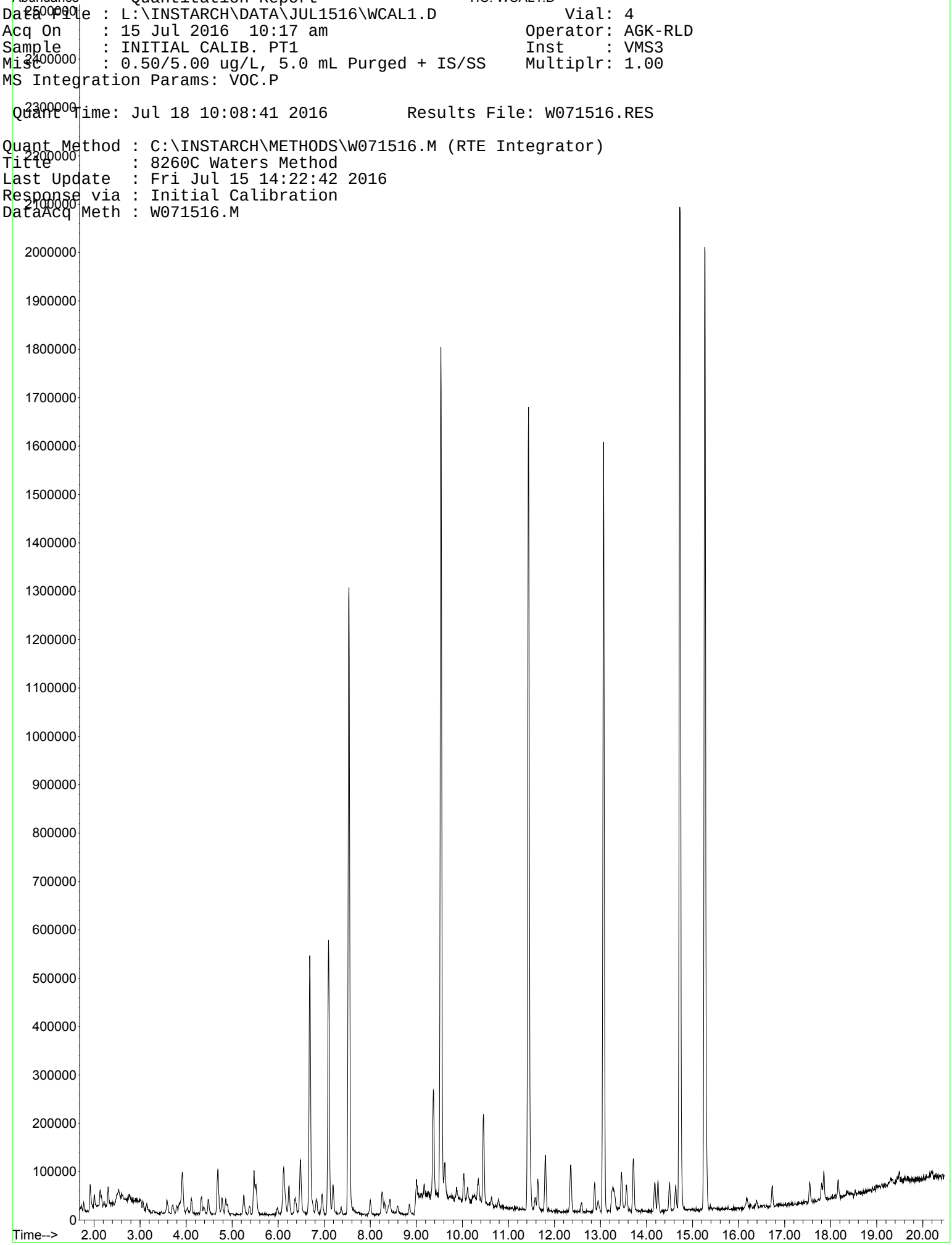
(#) = qualifier out of range (m) = manual integration

Quantitation Report (TIC: WCAL1.D)

Data File : L:\INSTARCH\DATA\JUL1516\WCAL1.D Vial: 4
Acq On : 15 Jul 2016 10:17 am Operator: AGK-RLD
Sample : INITIAL CALIB. PT1 Inst : VMS3
Misc : 0.50/5.00 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

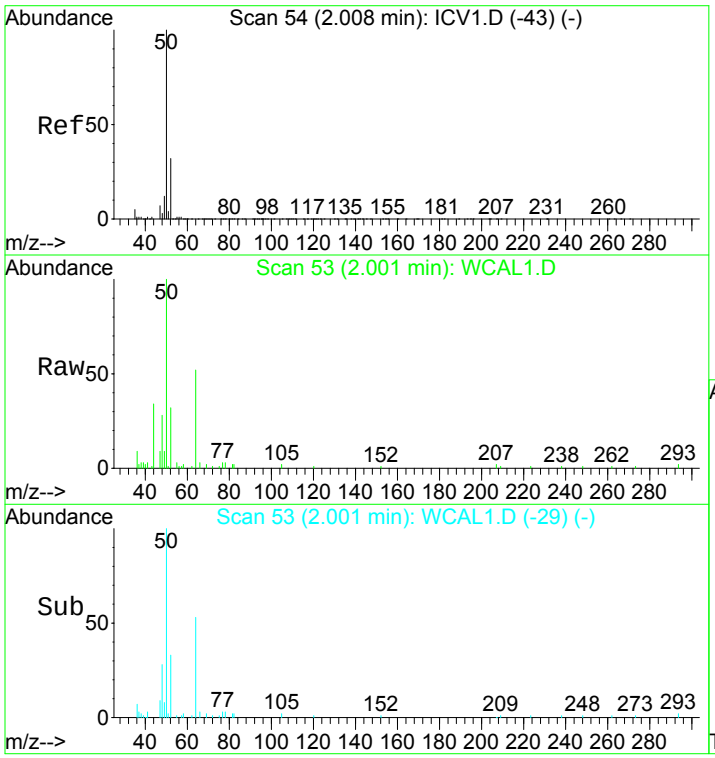
Quant Time: Jul 18 10:08:41 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 15 14:22:42 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M



After Manual Integration

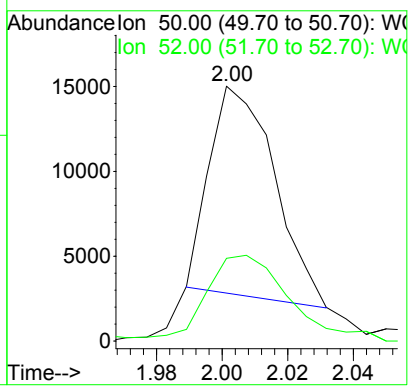
AgK 07/19/16

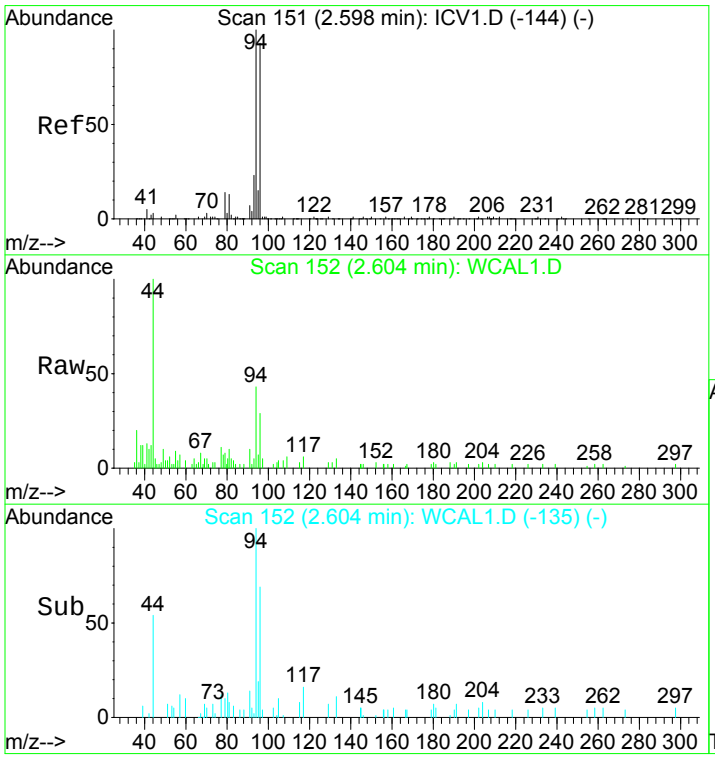


#3
Chloromethan
Concen: 0.52 ug/L m
RT: 2.00 min Scan# 53
Delta R.T. -0.01 min
Lab File: WCAL1.D
Acq: 15 Jul 2016 10:17 am

Tgt Ion: 50 Resp: 16748

Ion	Ratio	Lower	Upper
50	100		
52	54.3	12.6	52.6#

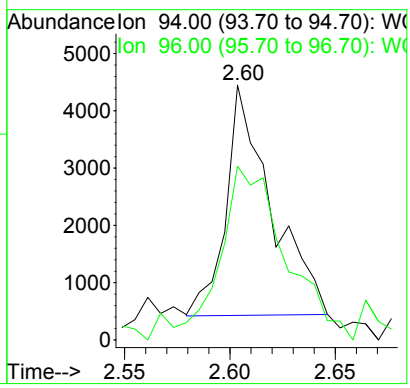




#5
Bromomethane
Concen: 0.58 ug/L m
RT: 2.60 min Scan# 152
Delta R.T. 0.01 min
Lab File: WCAL1.D
Acq: 15 Jul 2016 10:17 am

Tgt Ion: 94 Resp: 6022

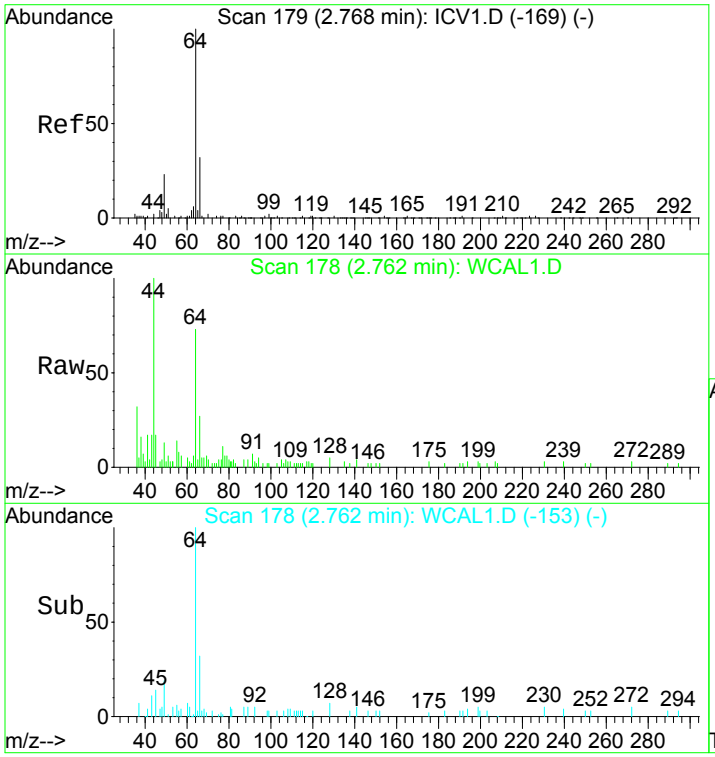
Ion	Ratio	Lower	Upper
94	100		
96	111.5	75.1	115.1



RJ 07/22/2016

After Manual Integration

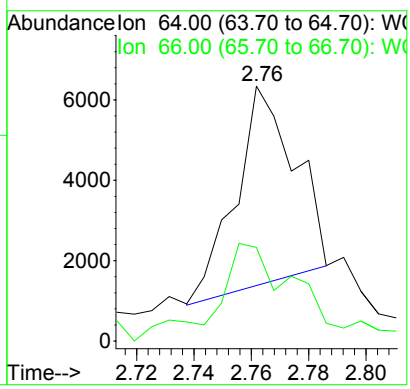
AgK 07/19/16

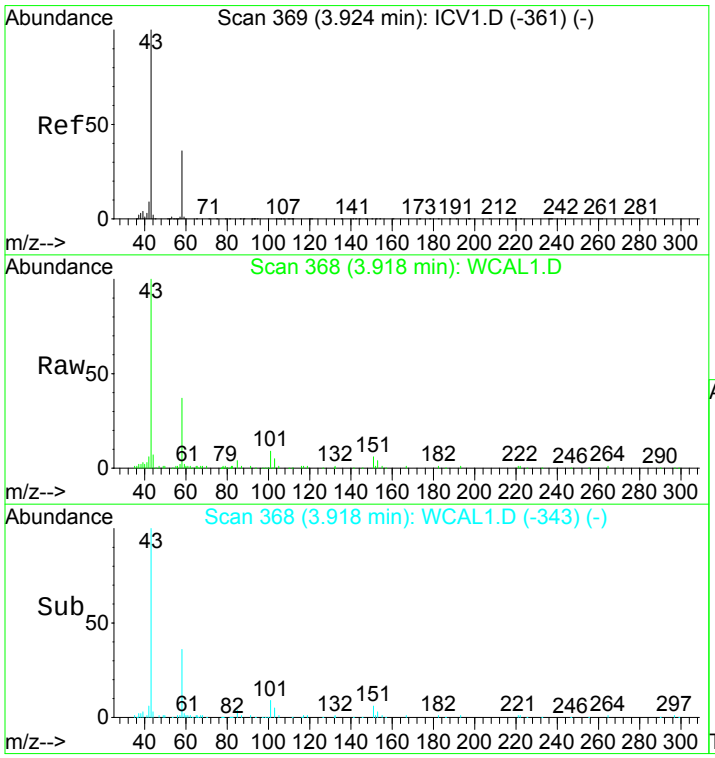


#6
Chloroethane
Concen: 0.40 ug/L m
RT: 2.76 min Scan# 178
Delta R.T. -0.00 min
Lab File: WCAL1.D
Acq: 15 Jul 2016 10:17 am

Tgt Ion: 64 Resp: 7122

Ion	Ratio	Lower	Upper
64	100		
66	69.5	13.2	53.2#

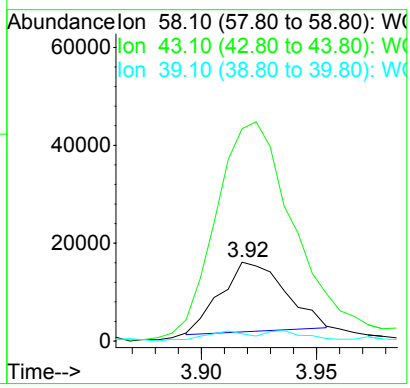




#11
propyleneoxide
Concen: 5.27 ug/L m
RT: 3.92 min Scan# 368
Delta R.T. -0.00 min
Lab File: WCAL1.D
Acq: 15 Jul 2016 10:17 am

Tgt Ion: 58 Resp: 27714

Ion	Ratio	Lower	Upper
58	100		
43	414.5	259.5	299.5#
39	10.1	0.0	33.5



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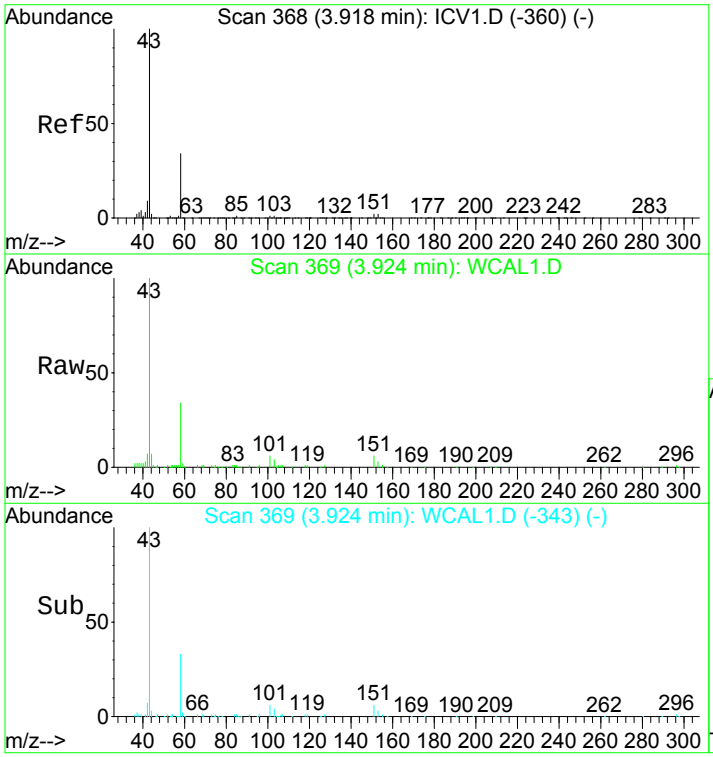
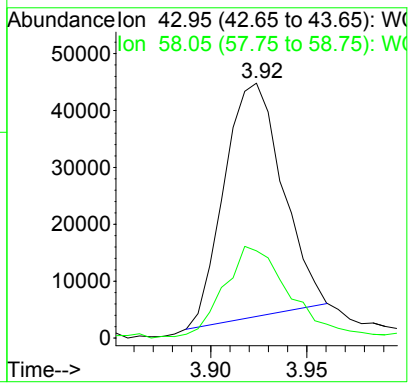
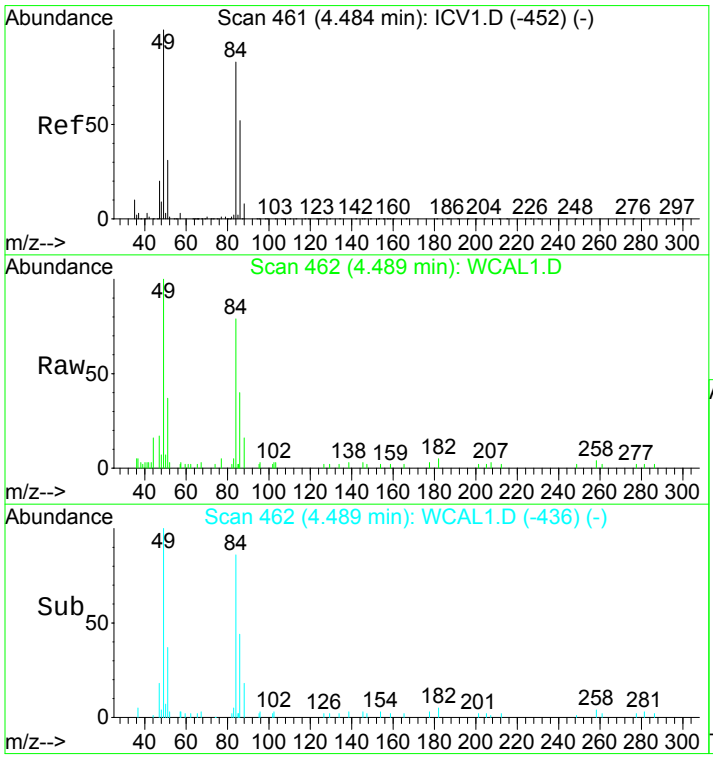


#15
Acetone
Concen: 6.15 ug/L m
RT: 3.92 min Scan# 369
Delta R.T. 0.01 min
Lab File: WCAL1.D
Acq: 15 Jul 2016 10:17 am

Tgt Ion: 43 Resp: 87524

Ion	Ratio	Lower	Upper
43	100		
58	46.3	15.8	55.8

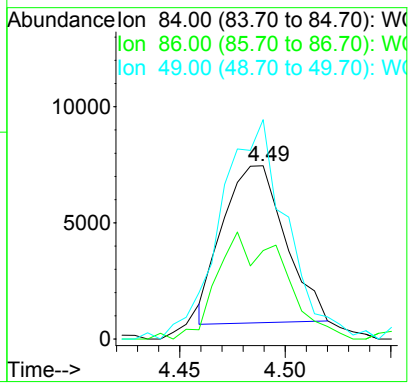




#20
Methylchlorid
Concen: 0.58 ug/L m
RT: 4.49 min Scan# 462
Delta R.T. 0.01 min
Lab File: WCAL1.D
Acq: 15 Jul 2016 10:17 am

Tgt Ion: 84 Resp: 13876

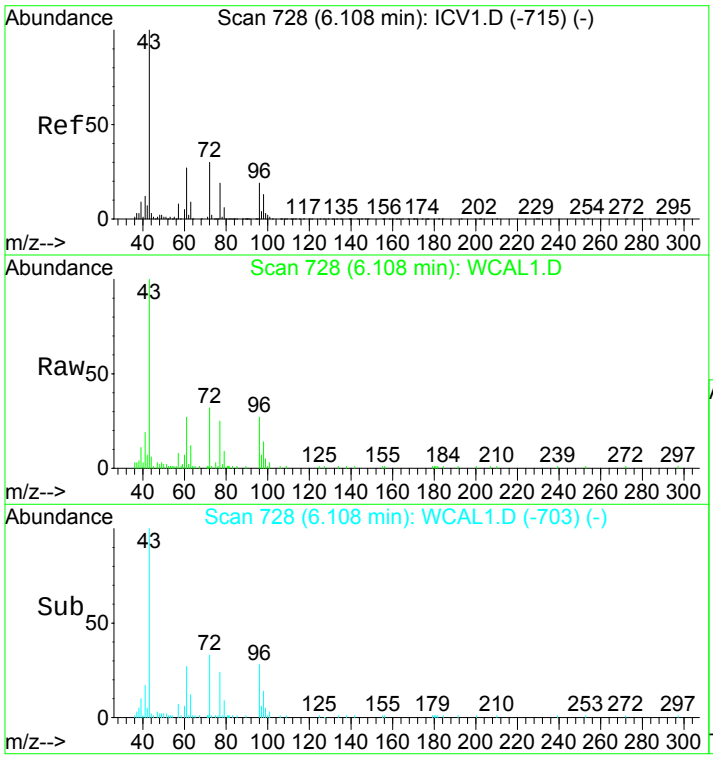
Ion	Ratio	Lower	Upper
84	100		
86	73.2	43.1	83.1
49	148.0	89.5	129.5#



RJ 07/22/2016

After Manual Integration

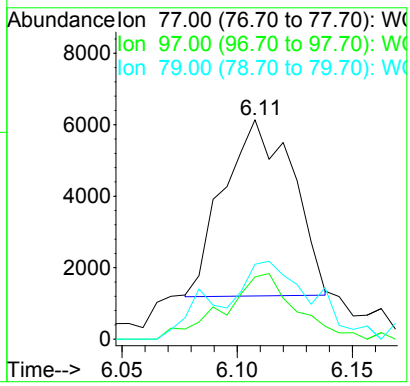
AgK 07/19/16

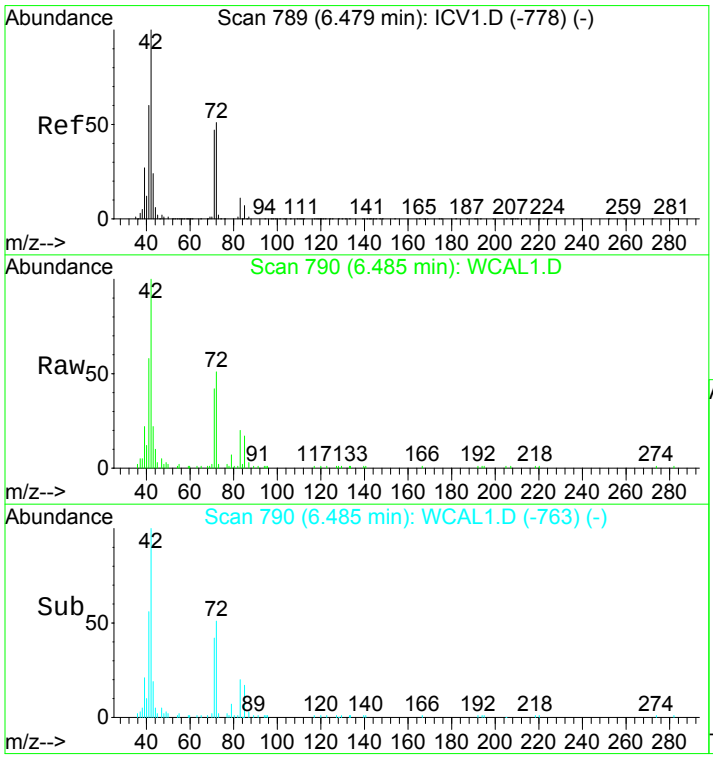


#31
22dichloropr
Concen: 0.37 ug/L m
RT: 6.11 min Scan# 728
Delta R.T. -0.00 min
Lab File: WCAL1.D
Acq: 15 Jul 2016 10:17 am

Tgt Ion: 77 Resp: 10325

Ion	Ratio	Lower	Upper
77	100		
97	38.7	2.7	42.7
79	43.8	13.0	53.0

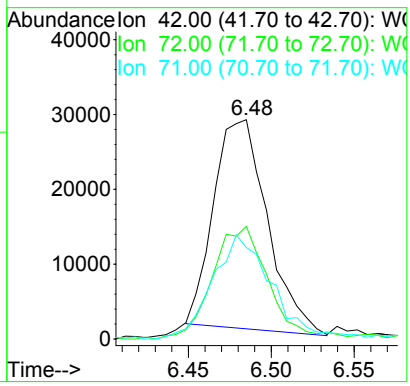




#38
Tetrahydofur
Concen: 5.98 ug/L m
RT: 6.48 min Scan# 790
Delta R.T. 0.01 min
Lab File: WCAL1.D
Acq: 15 Jul 2016 10:17 am

Tgt Ion: 42 Resp: 62634

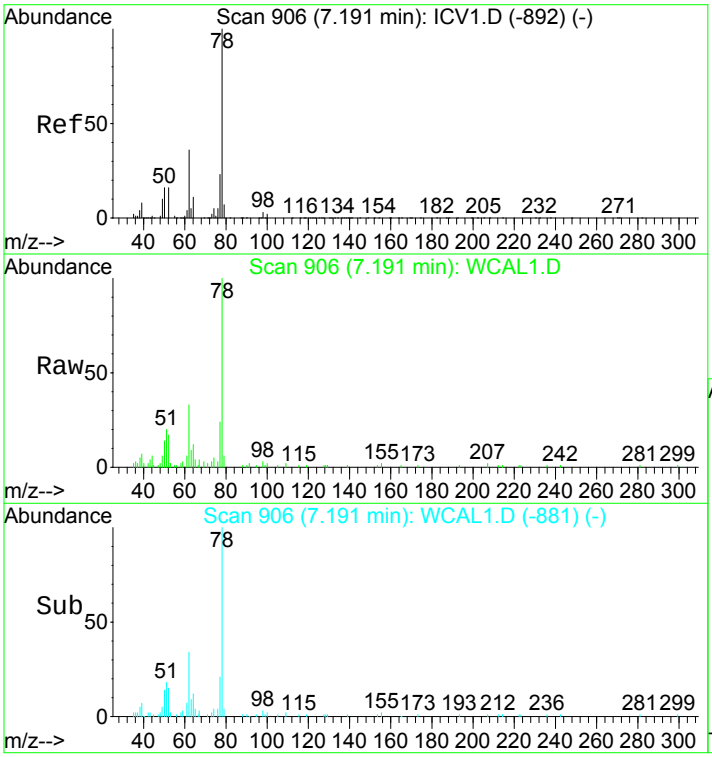
Ion	Ratio	Lower	Upper
42	100		
72	58.0	32.0	72.0
71	56.5	28.6	68.6



RJ 07/22/2016

After Manual Integration

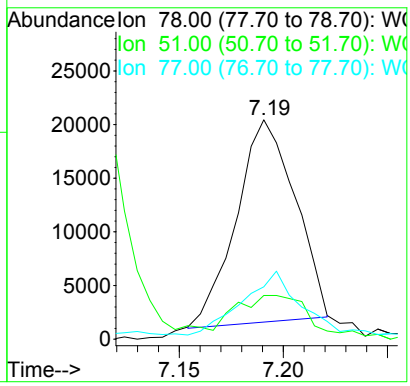
AgK 07/19/16

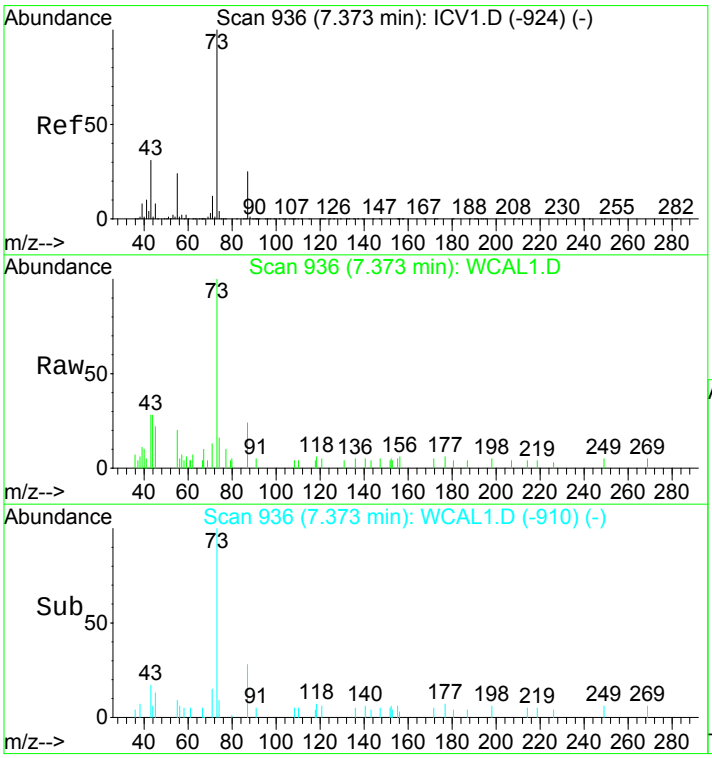


#46
Benzene
Concen: 0.51 ug/L m
RT: 7.19 min Scan# 906
Delta R.T. -0.00 min
Lab File: WCAL1.D
Acq: 15 Jul 2016 10:17 am

Tgt Ion: 78 Resp: 37175

Ion	Ratio	Lower	Upper
78	100		
51	28.3	0.0	38.8
77	36.7	4.2	44.2

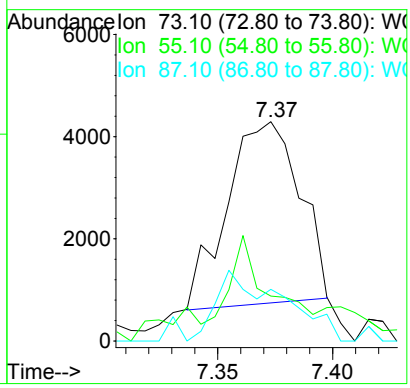




#48
TAME
Concen: 0.28 ug/L m
RT: 7.37 min Scan# 936
Delta R.T. 0.01 min
Lab File: WCAL1.D
Acq: 15 Jul 2016 10:17 am

Tgt Ion: 73 Resp: 7872

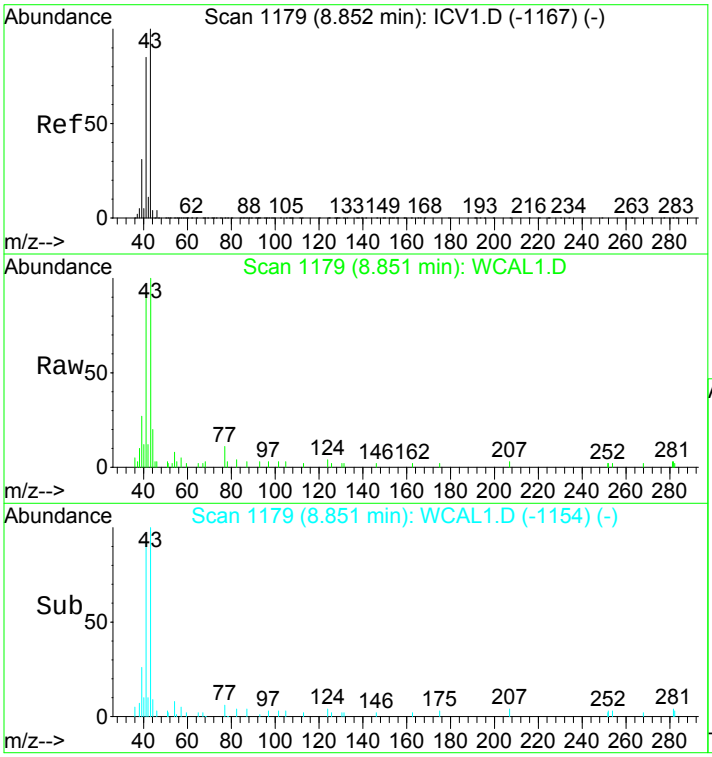
Ion	Ratio	Lower	Upper
73	100		
55	58.4	4.6	44.6#
87	35.3	4.9	44.9



RJ 07/22/2016

After Manual Integration

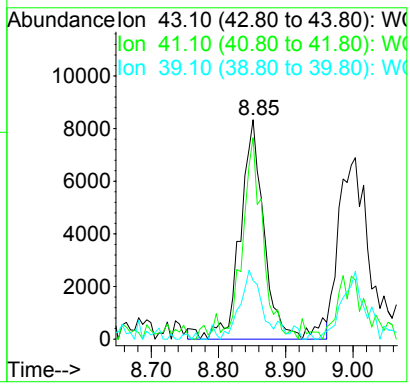
AgK 07/19/16

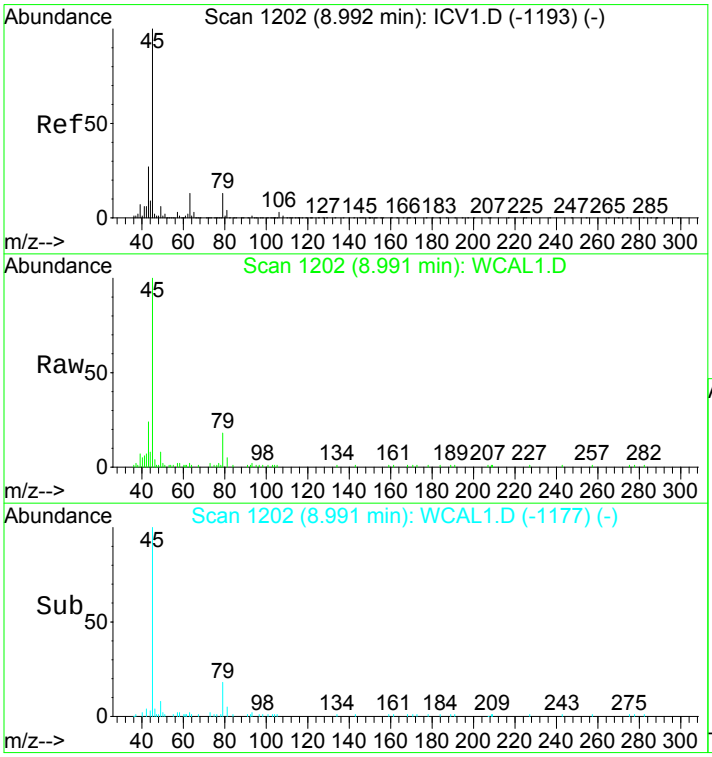


#57
2Nitropropane
Concen: 4.18 ug/L m
RT: 8.85 min Scan# 1179
Delta R.T. -0.00 min
Lab File: WCAL1.D
Acq: 15 Jul 2016 10:17 am

Tgt Ion: 43 Resp: 21366

Ion	Ratio	Lower	Upper
43	100		
41	73.1	66.4	106.4
39	29.2	11.4	51.4

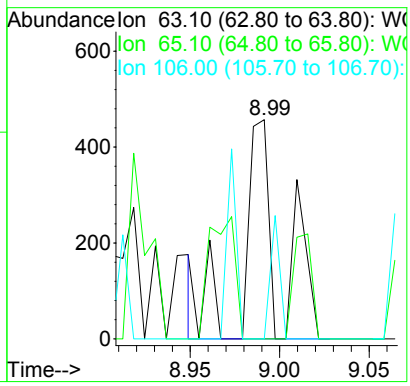




#58
2CLEVE
Concen: 5.20 ug/L m
RT: 8.99 min Scan# 1202
Delta R.T. -0.00 min
Lab File: WCAL1.D
Acq: 15 Jul 2016 10:17 am

Tgt Ion: 63 Resp: 585

Ion	Ratio	Lower	Upper
63	100		
65	0.0	38.3	78.3#
106	0.0	0.0	20.0



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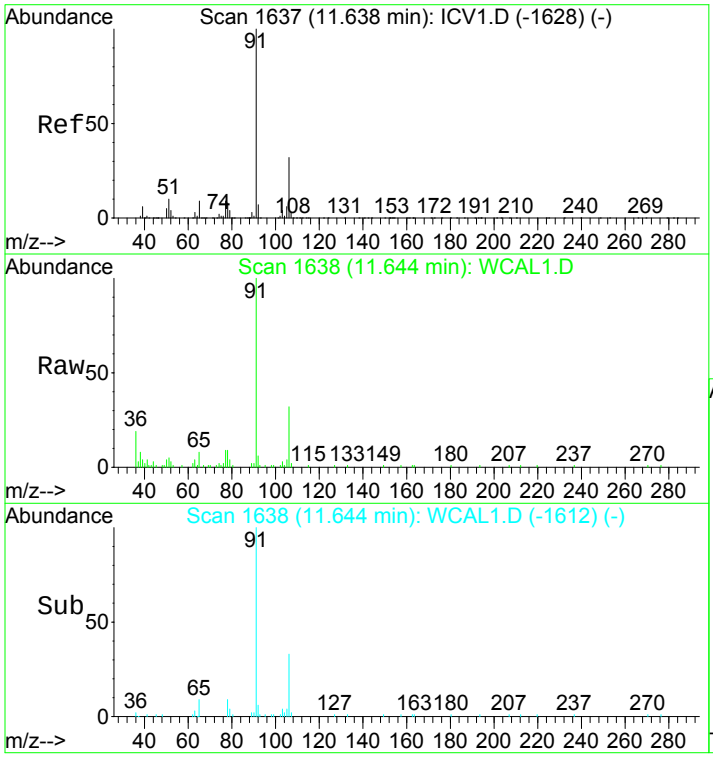
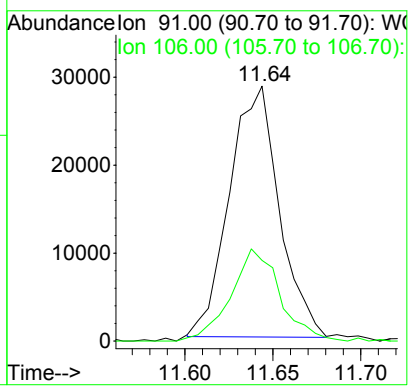
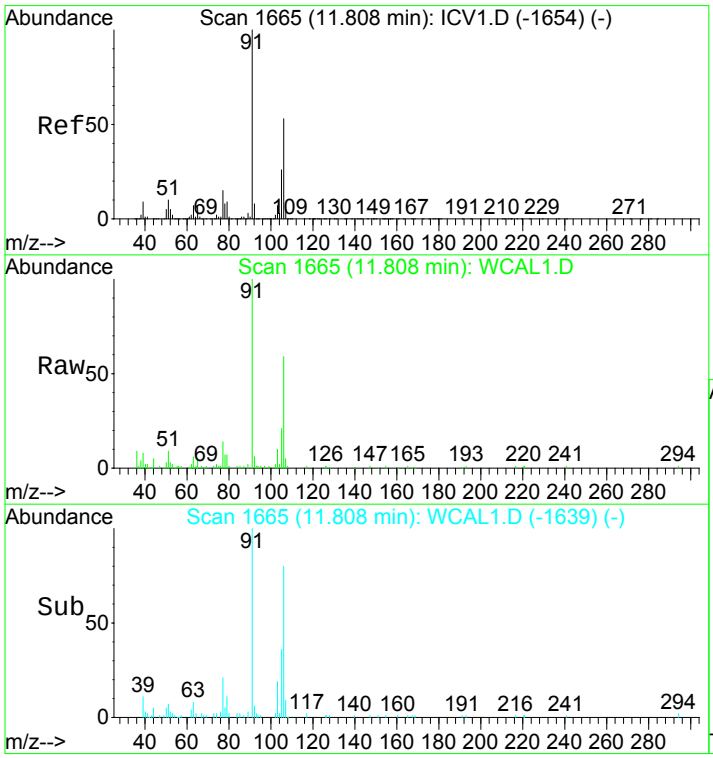


#75
Ethylbenzene
Concen: 0.60 ug/L m
RT: 11.64 min Scan# 1638
Delta R.T. 0.01 min
Lab File: WCAL1.D
Acq: 15 Jul 2016 10:17 am

Tgt Ion: 91 Resp: 56210

Ion	Ratio	Lower	Upper
91	100		
106	36.1	14.5	54.5

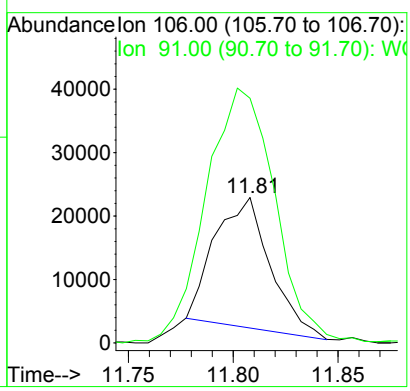




#76
m p-Xylene
Concen: 0.95 ug/L m
RT: 11.81 min Scan# 1665
Delta R.T. 0.01 min
Lab File: WCAL1.D
Acq: 15 Jul 2016 10:17 am

Tgt Ion:106 Resp: 36837

Ion	Ratio	Lower	Upper
106	100		
91	250.3	167.4	207.4#



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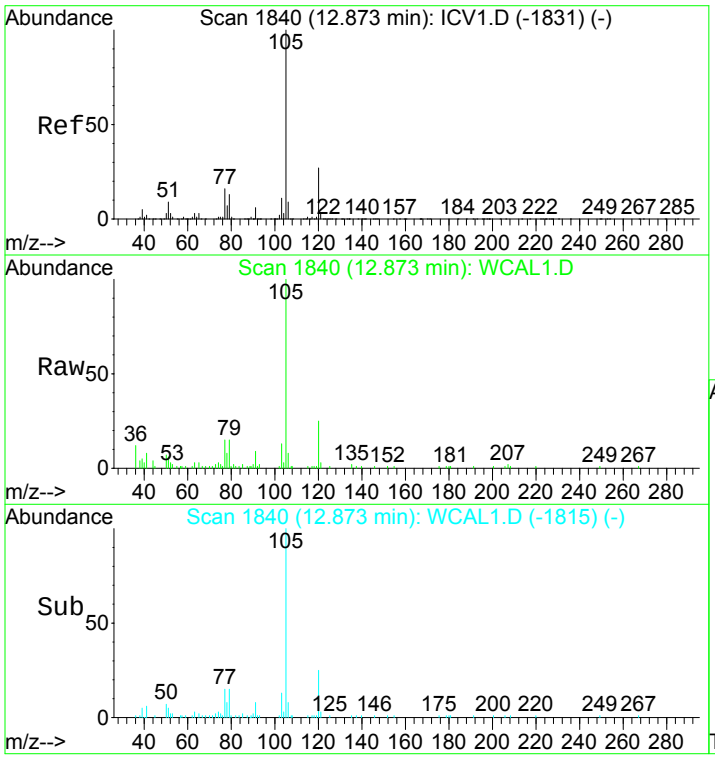
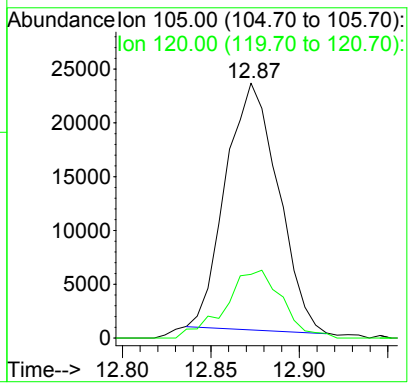
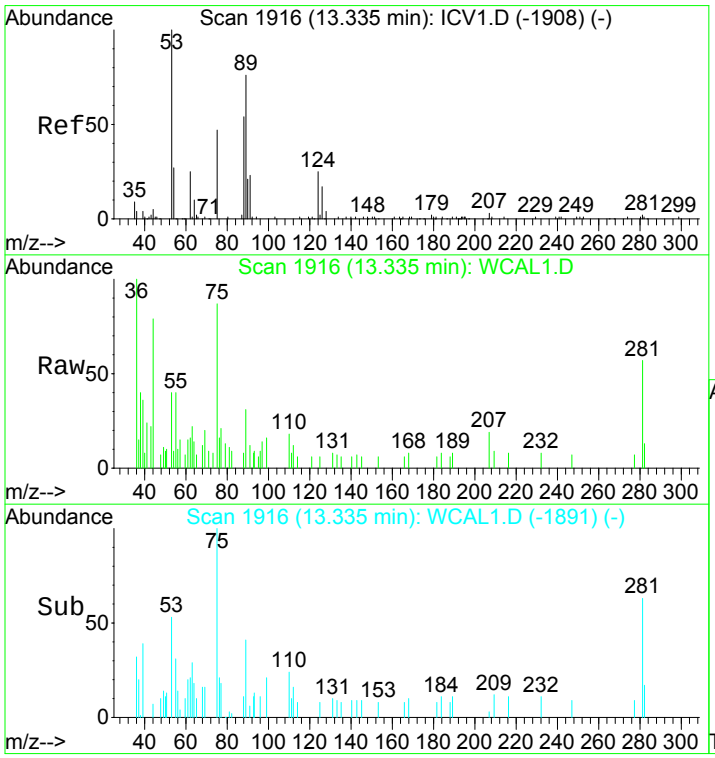


#80
Isopropylben
Concen: 0.54 ug/L m
RT: 12.87 min Scan# 1840
Delta R.T. -0.00 min
Lab File: WCAL1.D
Acq: 15 Jul 2016 10:17 am

Tgt Ion:105 Resp: 47366

Ion	Ratio	Lower	Upper
105	100		
120	29.7	7.4	47.4

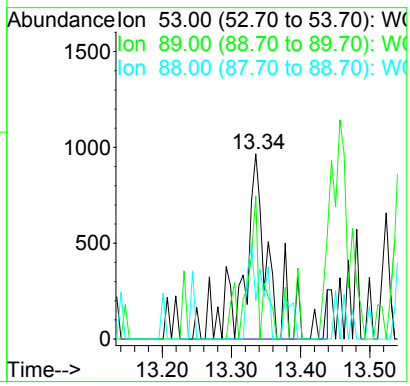




#87
14dichloro2butene
Concen: 0.67 ug/L m
RT: 13.34 min Scan# 1916
Delta R.T. -0.00 min
Lab File: WCAL1.D
Acq: 15 Jul 2016 10:17 am

Tgt Ion: 53 Resp: 2491

Ion	Ratio	Lower	Upper
53	100		
89	0.0	47.8	87.8#
88	0.0	32.6	72.6#



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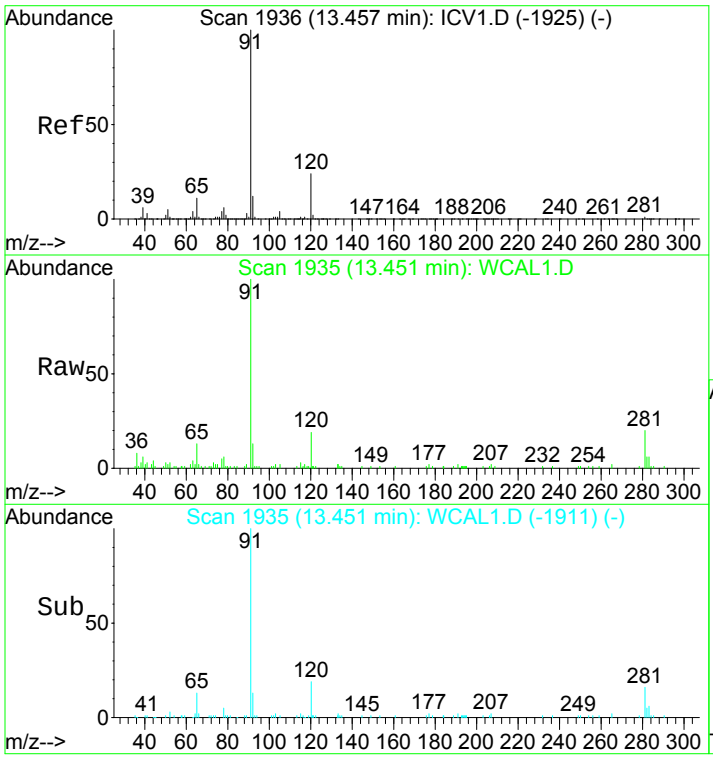
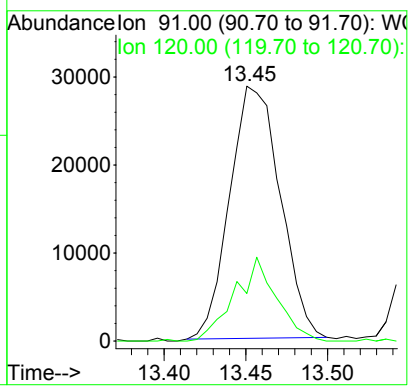
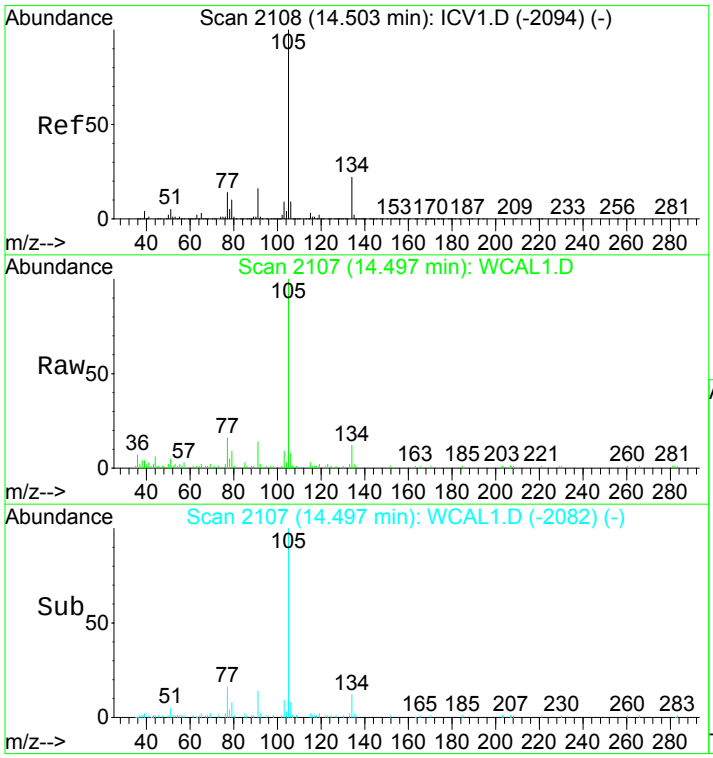


#88
n-Propylbenz
Concen: 0.58 ug/L m
RT: 13.45 min Scan# 1935
Delta R.T. -0.01 min
Lab File: WCAL1.D
Acq: 15 Jul 2016 10:17 am

Tgt Ion: 91 Resp: 61557

Ion	Ratio	Lower	Upper
91	100		
120	27.5	4.6	44.6

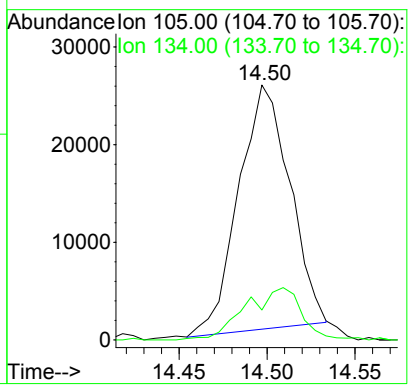




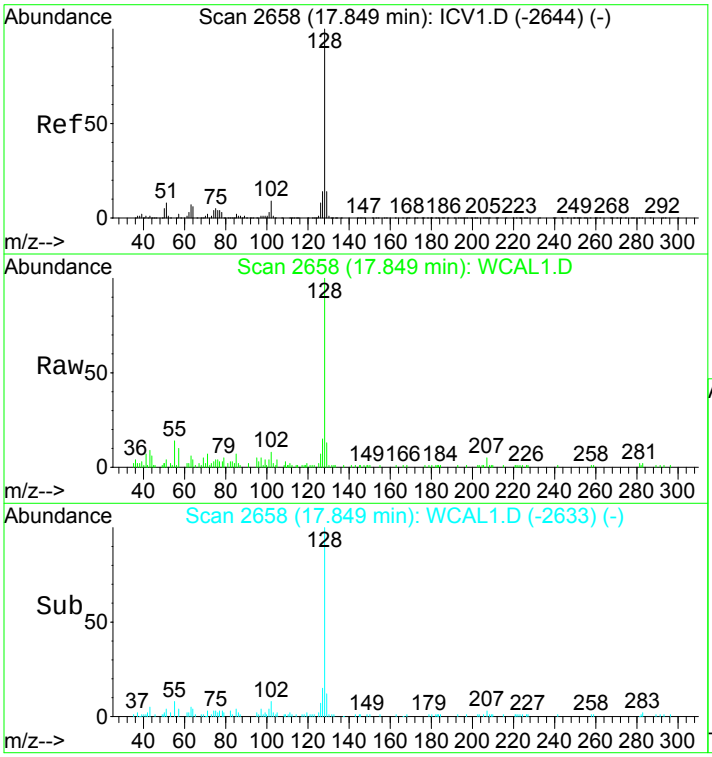
#94
sbutylbenzen
Concen: 0.53 ug/L m
RT: 14.50 min Scan# 2107
Delta R.T. -0.00 min
Lab File: WCAL1.D
Acq: 15 Jul 2016 10:17 am

Tgt Ion:105 Resp: 50931

Ion	Ratio	Lower	Upper
105	100		
134	23.7	1.3	41.3



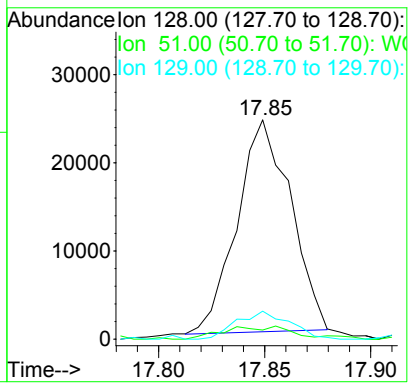
07/22/2016



#104
Naphthalene
Concen: 0.56 ug/L m
RT: 17.85 min Scan# 2658
Delta R.T. -0.00 min
Lab File: WCAL1.D
Acq: 15 Jul 2016 10:17 am

Tgt Ion:128 Resp: 42408

Ion	Ratio	Lower	Upper
128	100		
51	8.3	0.0	26.9
129	13.0	0.0	31.9



After Manual Integration

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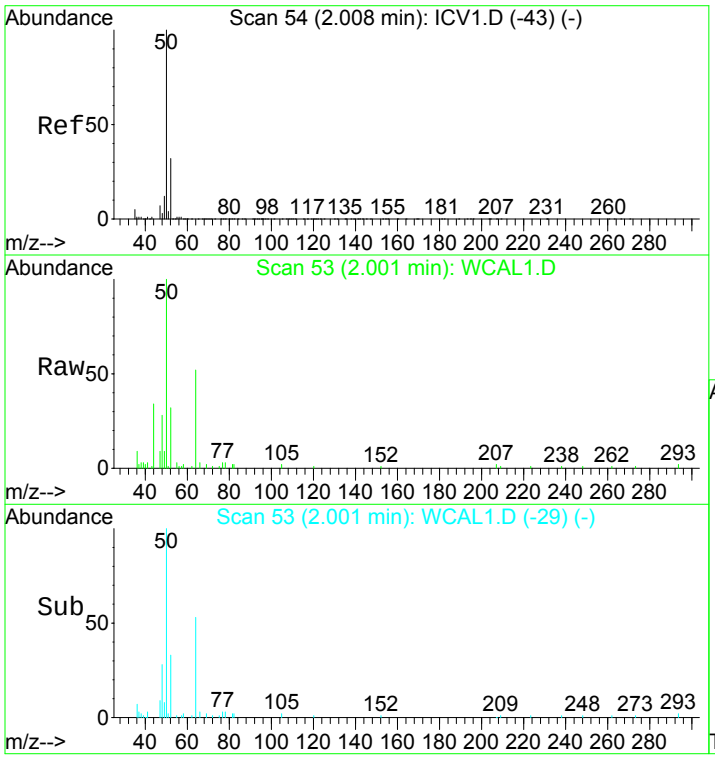
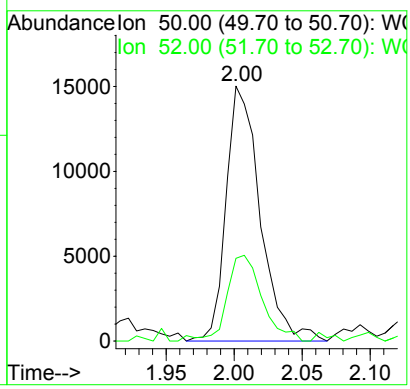


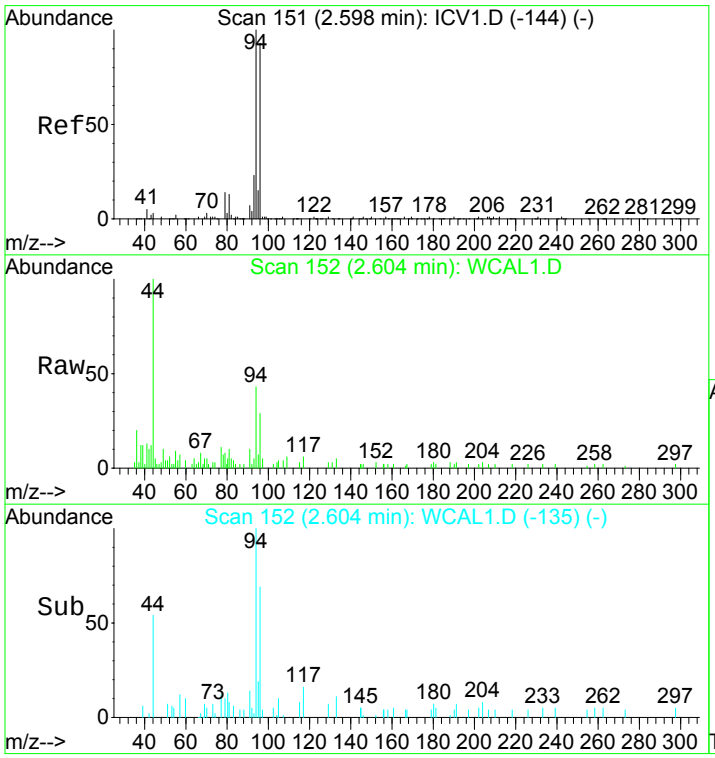
#3
Chloromethan
Concen: 0.89 ug/L
RT: 2.00 min Scan# 53
Delta R.T. -0.01 min
Lab File: WCAL1.D
Acq: 15 Jul 2016 10:17 am

Tgt Ion: 50 Resp: 26131

Ion	Ratio	Lower	Upper
50	100		
52	34.8	12.6	52.6



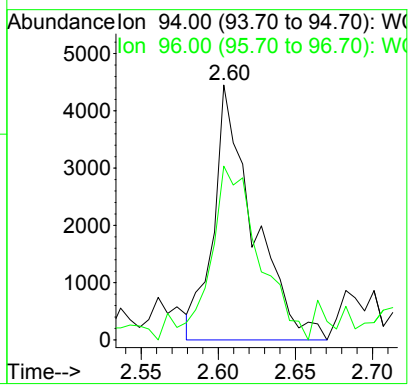
REASON # 2



#5
Bromomethane
Concen: 0.81 ug/L
RT: 2.60 min Scan# 152
Delta R.T. 0.01 min
Lab File: WCAL1.D
Acq: 15 Jul 2016 10:17 am

Tgt Ion: 94 Resp: 8045

Ion	Ratio	Lower	Upper
94	100		
96	83.4	75.1	115.1



REASON # 2

Before Manual Integration

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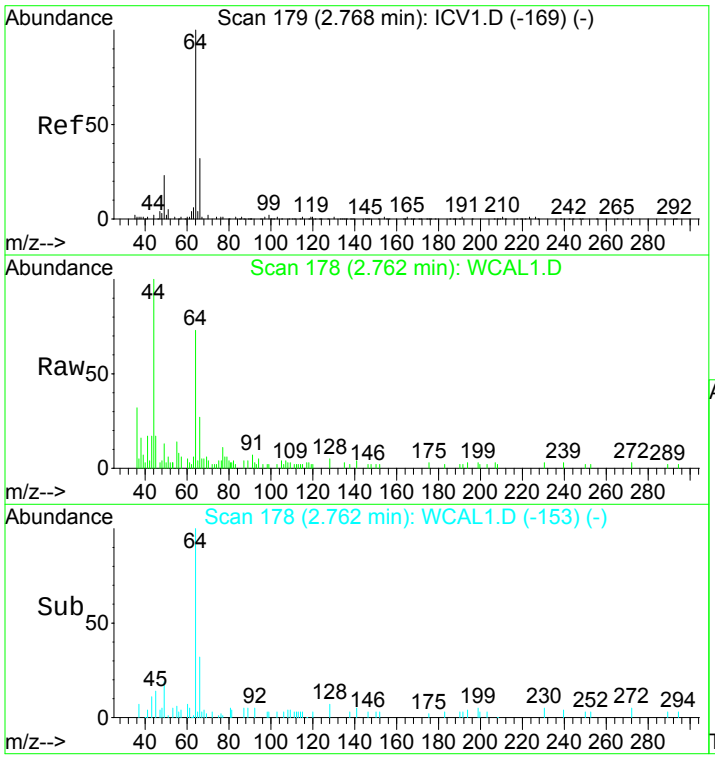
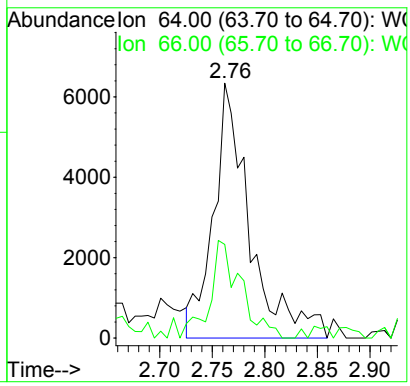


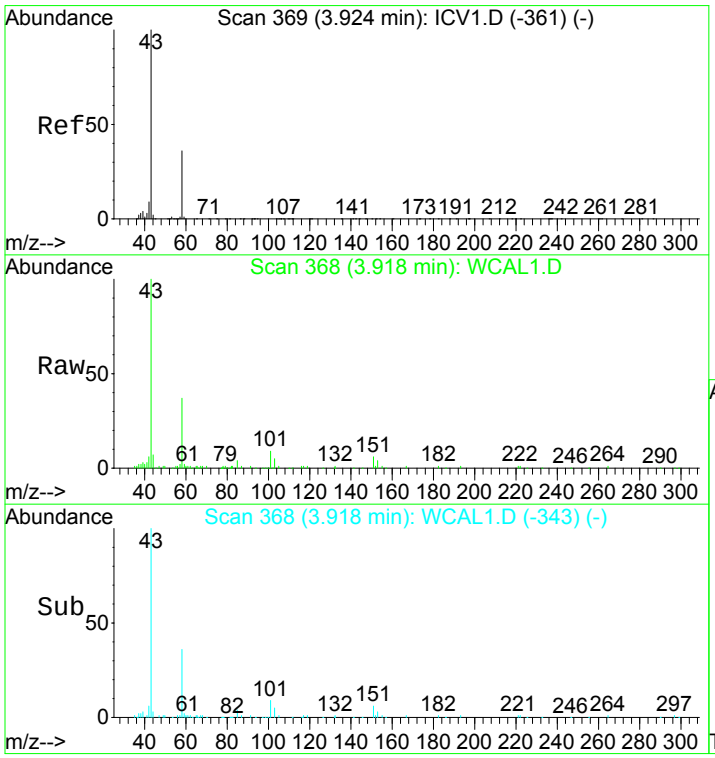
#6
Chloroethane
Concen: 0.96 ug/L
RT: 2.76 min Scan# 178
Delta R.T. -0.00 min
Lab File: WCAL1.D
Acq: 15 Jul 2016 10:17 am

Tgt Ion: 64 Resp: 15209

Ion	Ratio	Lower	Upper
64	100		
66	32.5	13.2	53.2



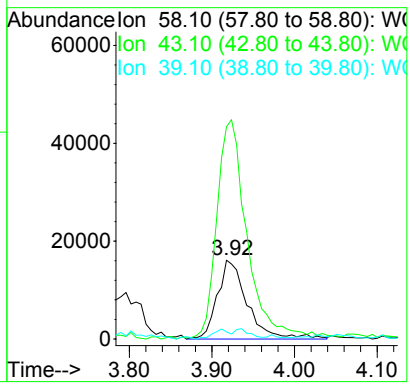
REASON # 2



#11
propyleneoxide
Concen: 8.22 ug/L
RT: 3.92 min Scan# 368
Delta R.T. -0.00 min
Lab File: WCAL1.D
Acq: 15 Jul 2016 10:17 am

Tgt Ion: 58 Resp: 40563

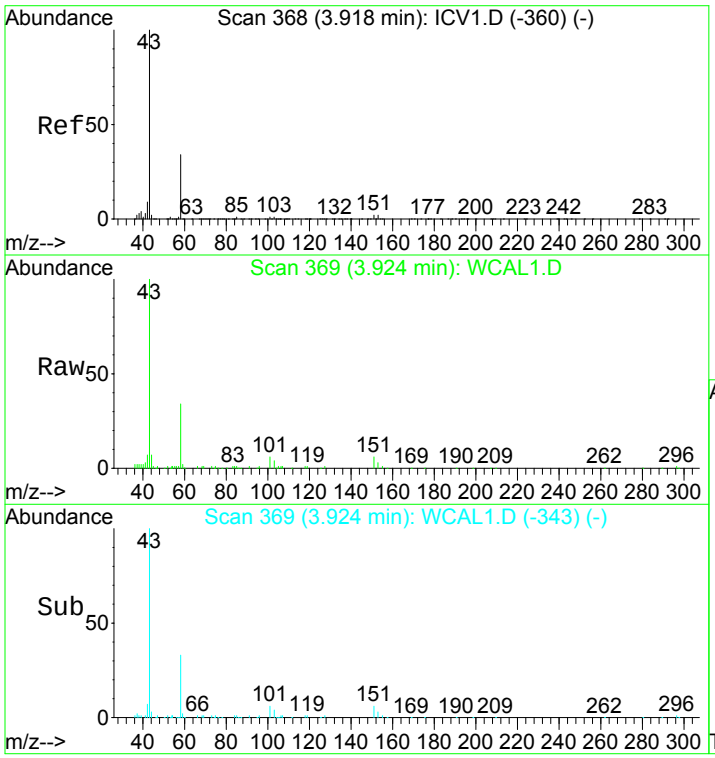
Ion	Ratio	Lower	Upper
58	100		
43	283.2	259.5	299.5
39	6.9	0.0	33.5



REASON # 2

Before Manual Integration

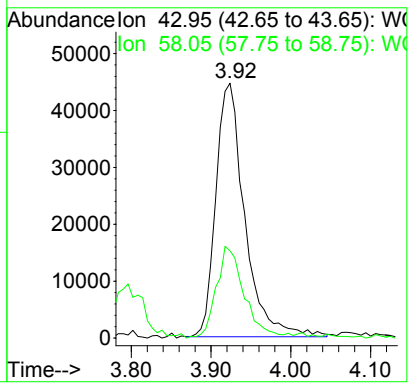
AgK 07/19/16



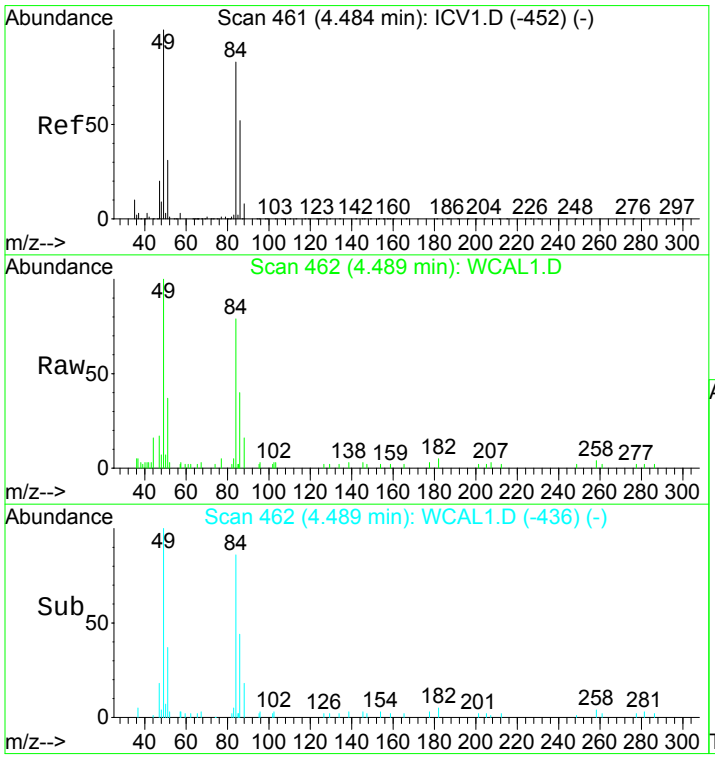
#15
Acetone
Concen: 0.86 ug/L
RT: 3.92 min Scan# 369
Delta R.T. 0.01 min
Lab File: WCAL1.D
Acq: 15 Jul 2016 10:17 am

Tgt Ion: 43 Resp: 112191

Ion	Ratio	Lower	Upper
43	100		
58	36.2	15.8	55.8



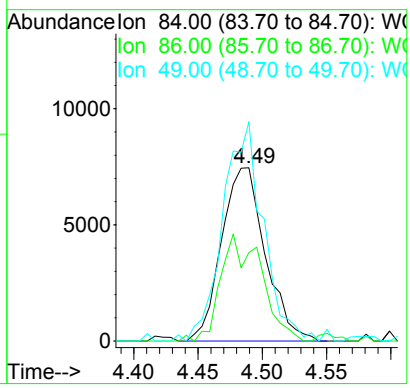
REASON # 2



#20
Methylchlorid
Concen: 0.77 ug/L
RT: 4.49 min Scan# 462
Delta R.T. 0.01 min
Lab File: WCAL1.D
Acq: 15 Jul 2016 10:17 am

Tgt Ion: 84 Resp: 17710

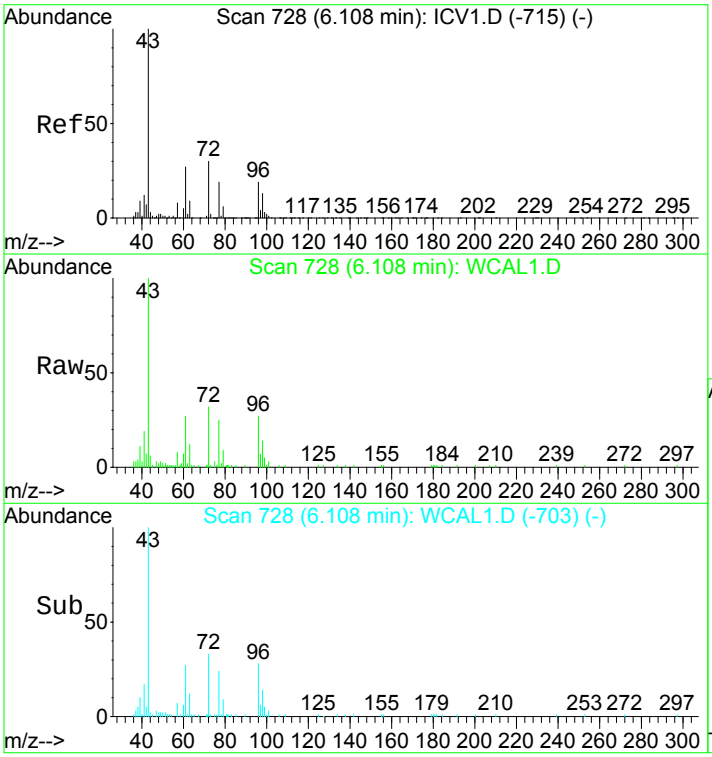
Ion	Ratio	Lower	Upper
84	100		
86	57.4	43.1	83.1
49	115.9	89.5	129.5



REASON # 2

Before Manual Integration

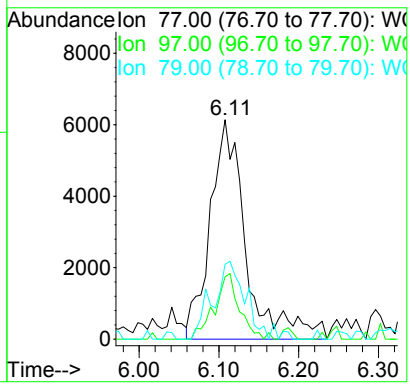
AgK 07/19/16



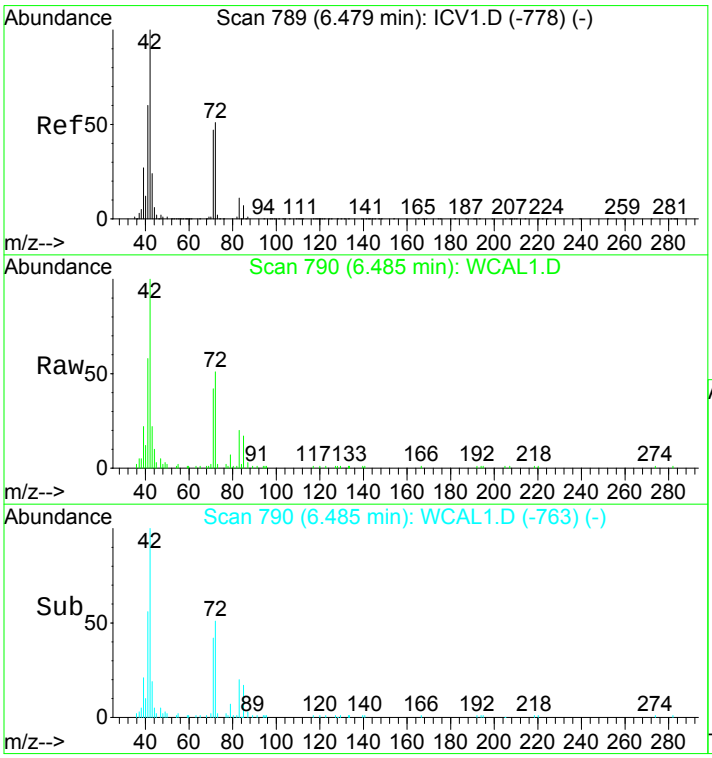
#31
22dichloropr
Concen: 0.75 ug/L
RT: 6.11 min Scan# 728
Delta R.T. -0.00 min
Lab File: WCAL1.D
Acq: 15 Jul 2016 10:17 am

Tgt Ion: 77 Resp: 19117

Ion	Ratio	Lower	Upper
77	100		
97	20.9	2.7	42.7
79	23.6	13.0	53.0



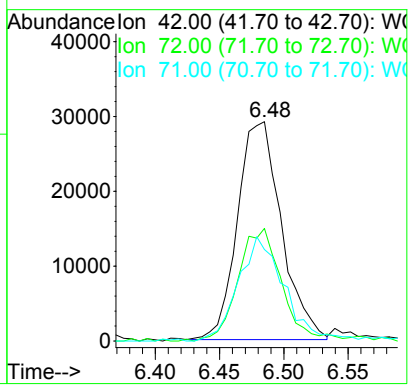
REASON # 2



#38
Tetrahydofur
Concen: 6.42 ug/L
RT: 6.48 min Scan# 790
Delta R.T. 0.01 min
Lab File: WCAL1.D
Acq: 15 Jul 2016 10:17 am

Tgt Ion: 42 Resp: 69420

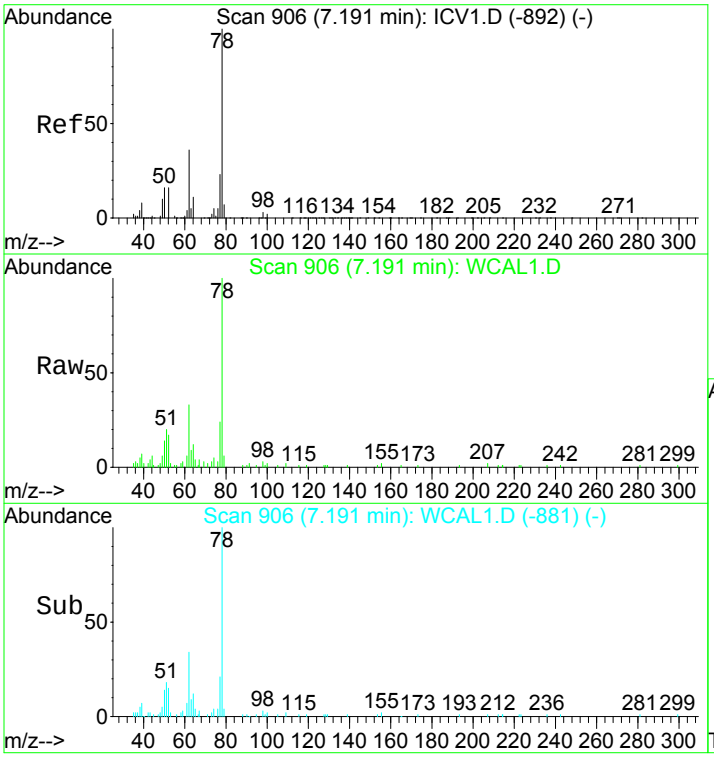
Ion	Ratio	Lower	Upper
42	100		
72	52.4	32.0	72.0
71	51.0	28.6	68.6



REASON # 2

Before Manual Integration

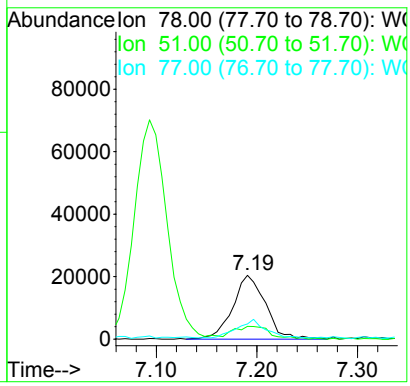
AgK 07/19/16



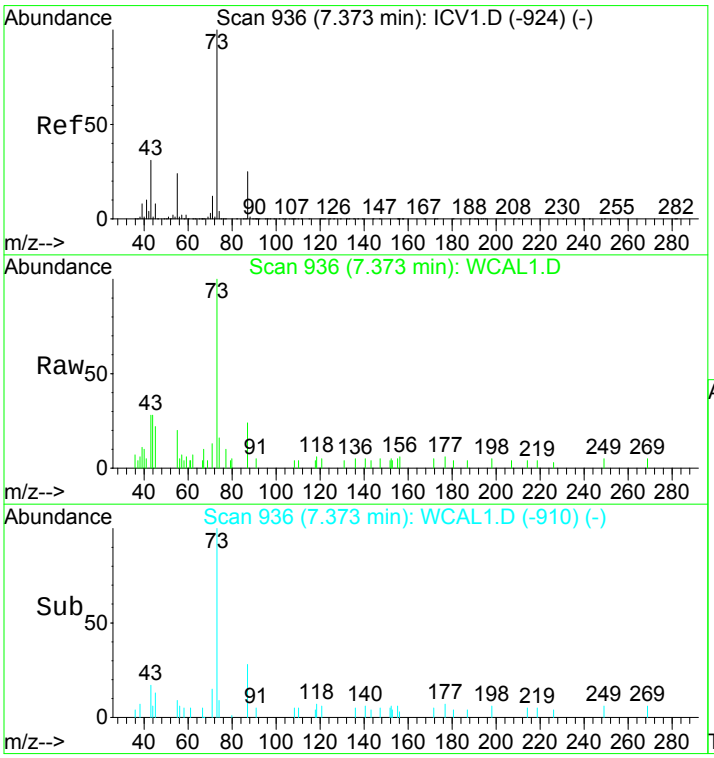
#46
Benzene
Concen: 0.66 ug/L
RT: 7.19 min Scan# 906
Delta R.T. -0.00 min
Lab File: WCAL1.D
Acq: 15 Jul 2016 10:17 am

Tgt Ion: 78 Resp: 46248

Ion	Ratio	Lower	Upper
78	100		
51	22.7	0.0	38.8
77	29.5	4.2	44.2



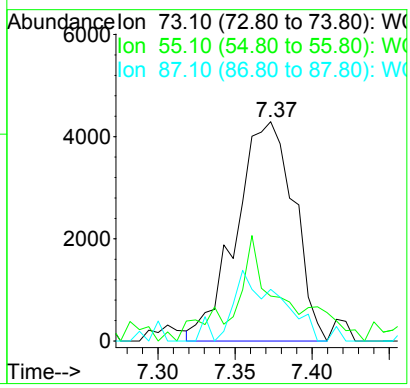
REASON # 2



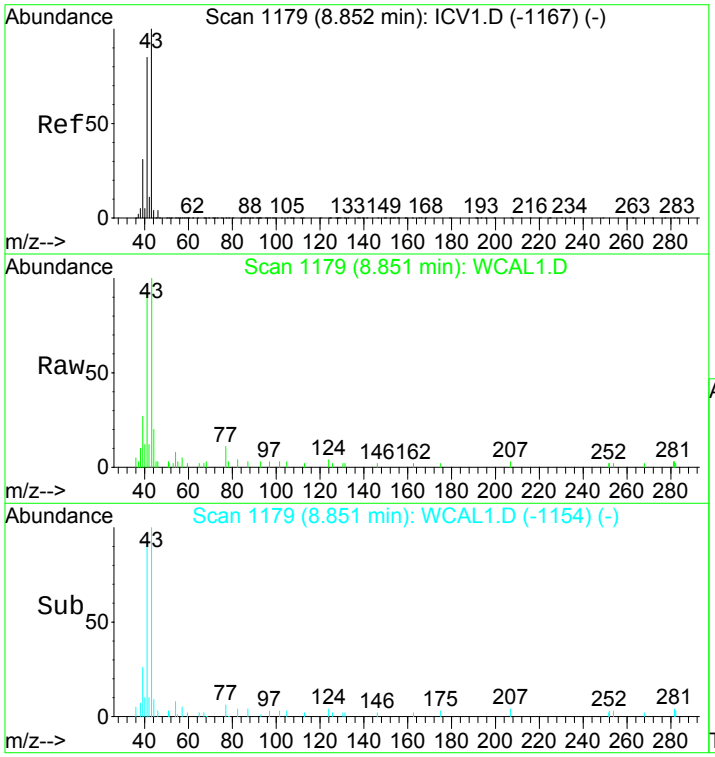
#48
TAME
Concen: 1.56 ug/L
RT: 7.37 min Scan# 936
Delta R.T. 0.01 min
Lab File: WCAL1.D
Acq: 15 Jul 2016 10:17 am

Tgt Ion: 73 Resp: 11186

Ion	Ratio	Lower	Upper
73	100		
55	41.1	4.6	44.6
87	24.8	4.9	44.9



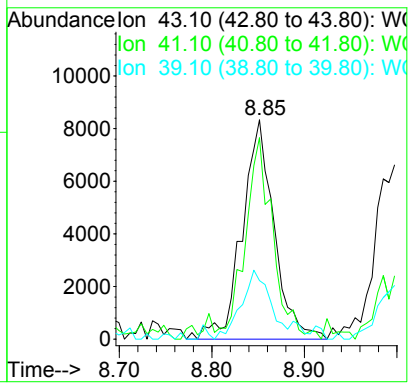
REASON # 2



#57
2Nitropropane
Concen: 17.57 ug/L
RT: 8.85 min Scan# 1179
Delta R.T. 0.00 min
Lab File: WCAL1.D
Acq: 15 Jul 2016 10:17 am

Tgt Ion: 43 Resp: 20023

Ion	Ratio	Lower	Upper
43	100		
41	78.1	66.4	106.4
39	31.2	11.4	51.4



Before Manual Integration

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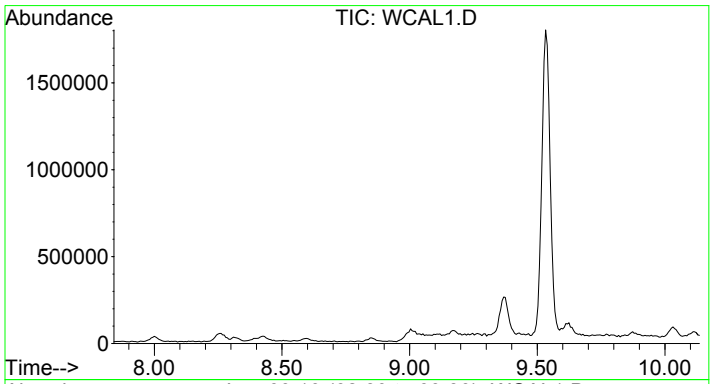
REASON # 2

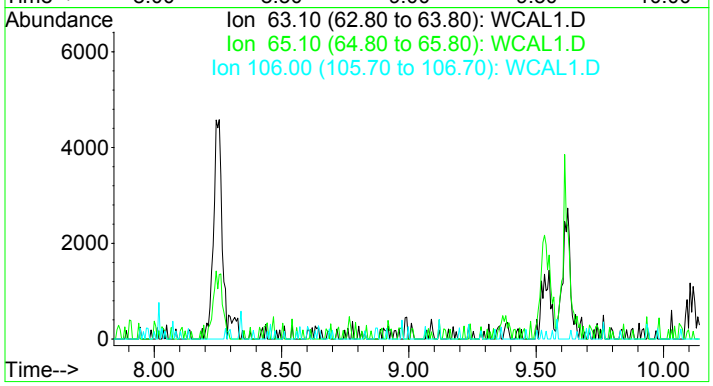


#58
2CLEVE
Concen: N.D.
Expected RT: 8.99 min

Lab File: WCAL1.D
Acq: 15 Jul 2016 10:17 am

Tgt Ion: 63

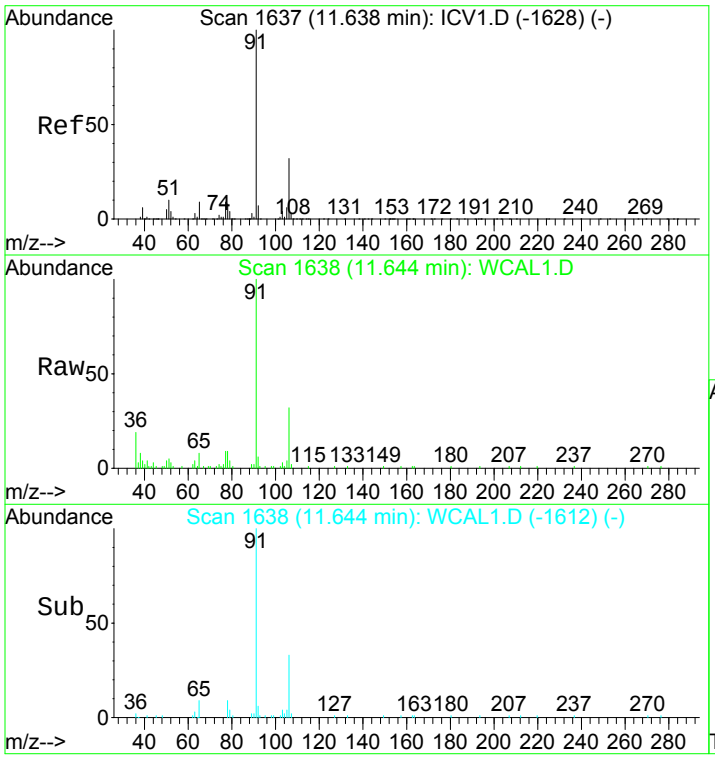
Sig	Exp Ratio
63	100
65	58.3
106	0.0



REASON # 1

Before Manual Integration

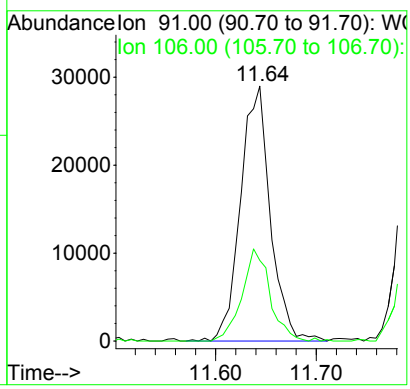
AgK 07/19/16



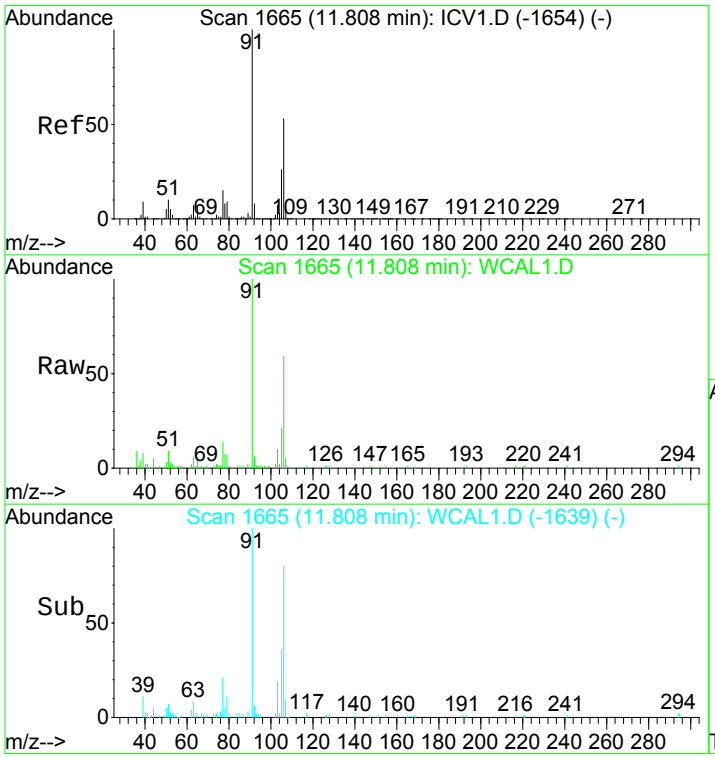
#75
Ethylbenzene
Concen: 0.61 ug/L
RT: 11.64 min Scan# 1638
Delta R.T. 0.01 min
Lab File: WCAL1.D
Acq: 15 Jul 2016 10:17 am

Tgt Ion: 91 Resp: 59663

Ion	Ratio	Lower	Upper
91	100		
106	34.0	14.5	54.5



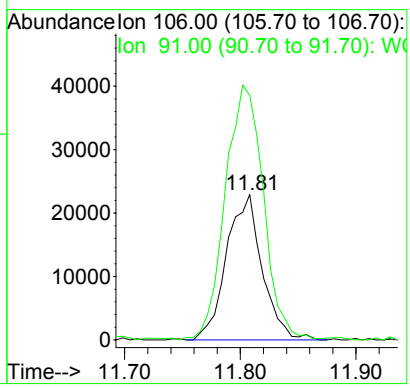
REASON # 2



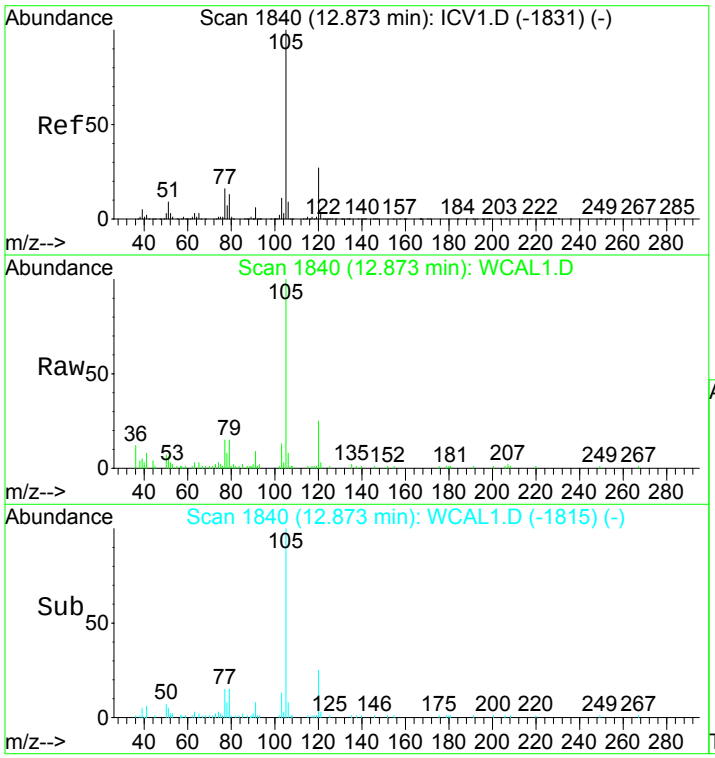
#76
m p-Xylene
Concen: 1.32 ug/L
RT: 11.81 min Scan# 1665
Delta R.T. 0.01 min
Lab File: WCAL1.D
Acq: 15 Jul 2016 10:17 am

Tgt Ion:106 Resp: 49075

Ion	Ratio	Lower	Upper
106	100		
91	187.9	167.4	207.4



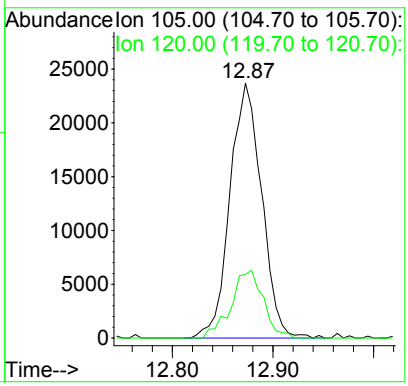
REASON # 2



#80
Isopropylben
Concen: 0.60 ug/L
RT: 12.87 min Scan# 1840
Delta R.T. -0.00 min
Lab File: WCAL1.D
Acq: 15 Jul 2016 10:17 am

Tgt Ion:105 Resp: 52035

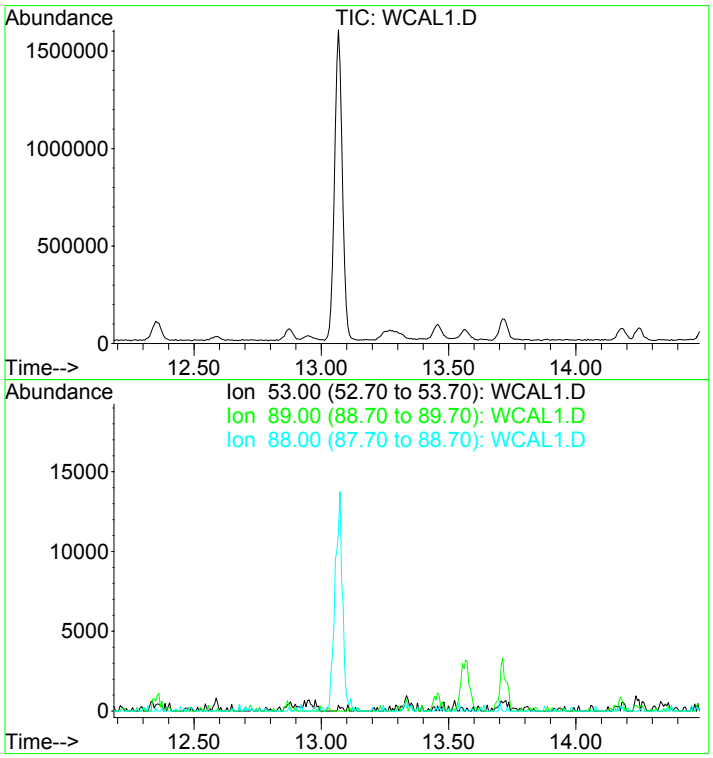
Ion	Ratio	Lower	Upper
105	100		
120	27.0	7.4	47.4



Before Manual Integration

07/19/16

REASON # 2



#87
14dichloro2butene
Concen: N.D.
Expected RT: 13.34 min

Lab File: WCAL1.D
Acq: 15 Jul 2016 10:17 am

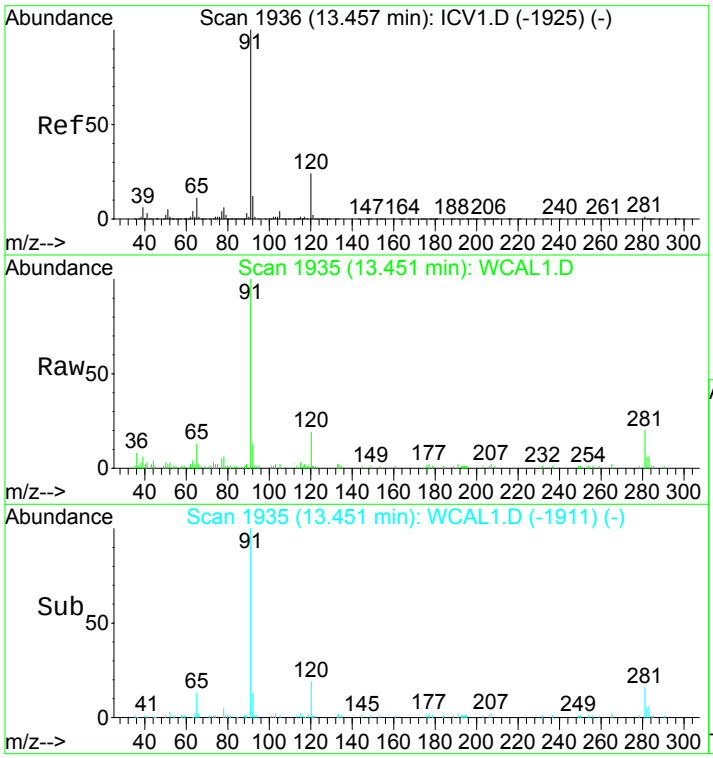
Tgt Ion: 53

Sig	Exp Ratio
53	100
89	67.8
88	52.6

REASON # 1

Before Manual Integration

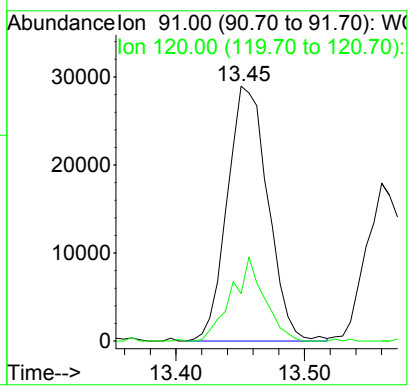
07/19/16



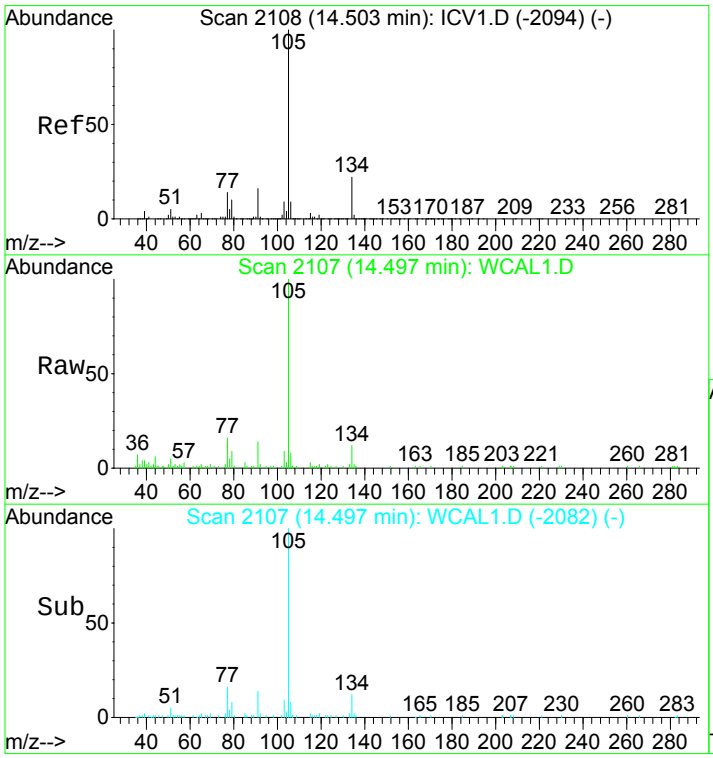
#88
n-Propylbenz
Concen: 0.57 ug/L
RT: 13.45 min Scan# 1935
Delta R.T. -0.01 min
Lab File: WCAL1.D
Acq: 15 Jul 2016 10:17 am

Tgt Ion: 91 Resp: 63669

Ion	Ratio	Lower	Upper
91	100		
120	26.6	4.6	44.6



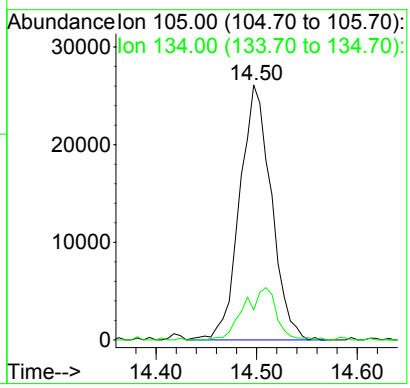
REASON # 2



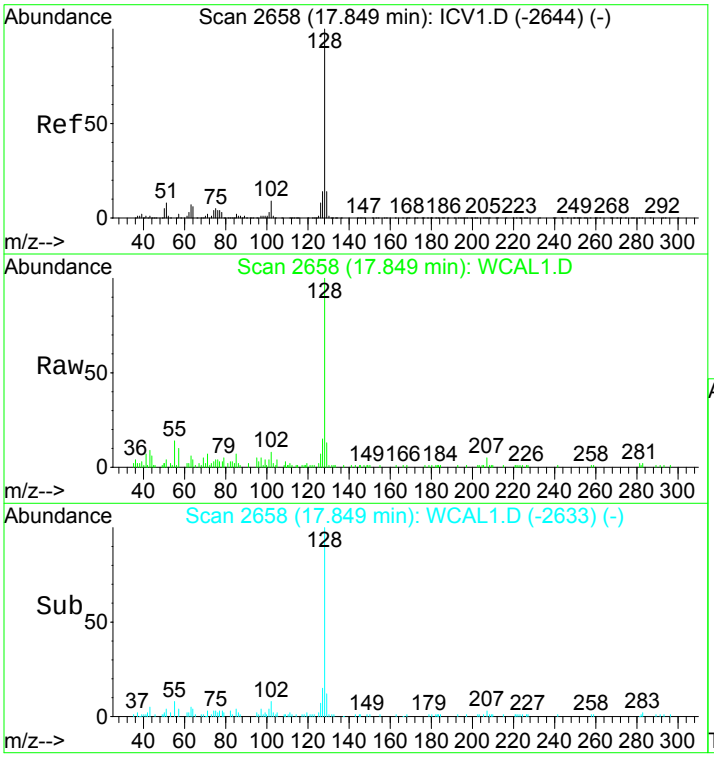
#94
sbutylbenzen
Concen: 0.60 ug/L
RT: 14.50 min Scan# 2107
Delta R.T. -0.00 min
Lab File: WCAL1.D
Acq: 15 Jul 2016 10:17 am

Tgt Ion:105 Resp: 57011

Ion	Ratio	Lower	Upper
105	100		
134	21.2	1.3	41.3



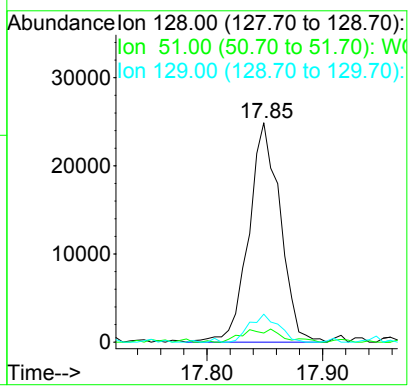
REASON # 2



#104
Naphthalene
Concen: 0.63 ug/L
RT: 17.85 min Scan# 2658
Delta R.T. -0.00 min
Lab File: WCAL1.D
Acq: 15 Jul 2016 10:17 am

Tgt Ion:128 Resp: 47003

Ion	Ratio	Lower	Upper
128	100		
51	7.4	0.0	26.9
129	11.8	0.0	31.9



Before Manual Integration

AgK 07/19/16

REASON # 2

Quantitation Report

Data File : L:\INSTARCH\DATA\JUL1516\WCAL2.D Vial: 5
Acq On : 15 Jul 2016 10:45 am Operator: AGK-RLD
Sample : INITIAL CALIB. PT2 Inst : VMS3
Misc : 2.00/20.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 18 10:08:17 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 15 14:20:59 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.54	96	1438856	20.00 ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.44	117	1207952	20.00 ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.73	152	790749	20.00 ug/L	0.00 NA%
System Monitoring Compounds					
41) SURRDibrflma	6.69	113	367297	20.319 ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 102 %		
45) SURR12DCAd4	7.09	102	100316	19.497 ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 97 %		
61) SURRd8Tolule	9.53	98	1504589	20.069 ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100 %		
83) SURR4BrFBenz	13.07	95	686000	20.182 ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 101 %		
Target Compounds					Qvalue
2) Dichlorodi	1.78	85	47132	1.9834 ug/L	100
3) Chloromethan	2.01	50	65626m	1.5591 ug/L	98
4) VinylChlorid	2.16	62	52506	1.8528 ug/L	82
5) Bromomethane	2.60	94	24079	1.9365 ug/L	91
6) Chloroethane	2.77	64	39115	1.6644 ug/L	100
7) Dichloroflmethane	3.07	67	84390	2.0760 ug/L	97
8) Trichlorofma	3.14	101	58886	2.0477 ug/L	96
9) Ethylether	3.58	59	31910	2.1041 ug/L	95
10) dichlorotfluoroethan	3.60	67	42403	1.9462 ug/L	93
11) propyleneoxide	3.92	58	106172	15.7996 ug/L #	82
12) Acrolein	3.70	56	52721	9.5478 ug/L	86
13) 11dichlorthe	3.86	96	34643	1.8379 ug/L	93
14) Trichlorotfluoroeth	3.89	101	66042	3.6734 ug/L	98
15) Acetone	3.92	43	335273	17.9639 ug/L	93
16) Iodomethane	4.02	142	50287	3.4950 ug/L	95
17) Carbon Dislf	4.11	76	198580	3.9090 ug/L	100
18) allylchloride	4.33	41	96565	3.8207 ug/L	97
19) methylacetate	4.39	74	19139	1.9256 ug/L	96
20) Methylchlorid	4.49	84	52686	1.8144 ug/L	97
21) tbutylalcohol	4.68	59	538640	94.8694 ug/L	98
22) Acrylonitrile	4.78	53	119779	9.4849 ug/L	98
23) t12dichlorte	4.85	96	40402	1.9048 ug/L	96
24) MtBE	4.89	73	93439	1.9477 ug/L	95
25) Hexane	5.26	57	97220	3.8353 ug/L	99
26) 11dichlorota	5.38	63	68605	1.9312 ug/L	98
27) Vinylacetate	5.47	43	654798	20.7826 ug/L	95
28) chloroprene	5.51	53	114045	3.9133 ug/L	98
29) Diisopether	5.53	45	106846	1.9734 ug/L	100
30) ETBE	5.98	59	61436	1.8644 ug/L	97
31) 22dichloropr	6.11	77	56740	1.7258 ug/L	99
32) c12dichlorte	6.11	96	44376	1.9794 ug/L	97
33) 2Butanone	6.12	72	110284	19.8834 ug/L	96
34) propionitrile	6.16	54	115290	18.8218 ug/L	98
35) Ethylacetate	6.24	88	14567	9.9240 ug/L	96
36) methacrylonitrile	6.37	67	49514	3.7738 ug/L	99
37) Bromochlorma	6.38	128	20437	1.7350 ug/L	97
38) Tetrahydofur	6.48	42	242485	19.6375 ug/L	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : L:\INSTARCH\DATA\JUL1516\WCAL2.D Vial: 5
Acq On : 15 Jul 2016 10:45 am Operator: AGK-RLD
Sample : INITIAL CALIB. PT2 Inst : VMS3
Misc : 2.00/20.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 18 10:08:17 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 15 14:20:59 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
39)	Chloroform	6.49	83	67443	1.7882 ug/L		100
40)	111trichlota	6.74	97	57938	1.9102 ug/L		95
42)	Cyclohexane	6.83	56	62076	1.8613 ug/L		97
43)	Carbtetraclo	6.95	119	49090	2.0254 ug/L		97
44)	11dicloprope	6.95	110	18478	1.6996 ug/L	#	85
46)	Benzene	7.19	78	158280	1.8852 ug/L		97
47)	12dichlorota	7.18	62	55245	2.0010 ug/L		98
48)	TAME	7.37	73	44199	1.7455 ug/L		95
49)	trichloroete	7.99	95	39715	1.8467 ug/L		97
50)	methylcyclohexane	8.26	83	66060	1.9180 ug/L		97
51)	12dicloropra	8.24	63	40026	1.8636 ug/L	#	91
52)	23Dicl1propene	8.32	75	56000	1.8377 ug/L		98
53)	Dibromometha	8.40	93	26938	2.0306 ug/L		95
54)	methylmethacrylate	8.43	69	38891	1.8573 ug/L		96
55)	14dioxane	8.43	88	36062	94.0930 ug/L		97
56)	Bromodiclrma	8.59	83	47917	2.0244 ug/L		93
57)	2Nitropropane	8.85	43	64868	14.5478 ug/L		98
58)	2CLEVE	9.00	63	1130m	10.7422 ug/L	#	0
59)	c13dicloproe	9.17	75	58311	1.9441 ug/L		97
60)	4Meth2Pentan	9.37	43	648196	20.3730 ug/L		94
62)	Toluene	9.62	92	110314	1.9464 ug/L		97
63)	t13Dicloprop	9.88	75	48042	1.8019 ug/L		91
64)	ethylmethacrylate	10.04	69	132950	3.7998 ug/L		97
65)	112Triclotha	10.11	83	32991	1.9791 ug/L		93
66)	Tetrachlorte	10.35	166	47914	1.9401 ug/L		97
67)	13Diclorpropa	10.33	76	67655	1.9595 ug/L		96
69)	2Hexanone	10.46	43	566839	20.7391 ug/L		95
70)	Clorodibrmta	10.63	129	35197	1.8547 ug/L		96
71)	12Dibrometha	10.79	107	40757	1.8524 ug/L		96
72)	Chlorobenzen	11.48	112	115285	1.8997 ug/L		90
73)	1Clhexane	11.46	91	61488	1.8323 ug/L		87
74)	1112Tetclota	11.58	131	38530	2.0266 ug/L		94
75)	Ethylbenzene	11.64	91	211486	1.9609 ug/L		96
76)	m p-Xylene	11.80	106	170930	3.8804 ug/L		95
77)	o-Xylene	12.35	106	85849	2.0007 ug/L		98
78)	Styrene	12.36	104	137375	2.0710 ug/L		100
79)	Bromoform	12.59	173	27778	1.9324 ug/L		96
80)	Isopropylben	12.88	105	197969	2.0470 ug/L		100
81)	cyclohexanone	12.94	55	56607	37.1972 ug/L		96
84)	Bromobenzene	13.28	156	55756	1.8663 ug/L		96
85)	1122Tetrclta	13.25	83	71334	1.8583 ug/L		98
86)	123Triclproa	13.30	75	73556	1.8624 ug/L		95
87)	14dichloro2butene	13.32	53	5456	1.7169 ug/L	#	60
88)	n-Propylbenz	13.46	91	251193	2.0418 ug/L		97
89)	2chlorotolue	13.57	91	149537	1.9993 ug/L		96
90)	4chlorotolue	13.72	91	171232	1.9910 ug/L		100
91)	135Trimebenz	13.71	105	178912	1.9755 ug/L		99
92)	tbutylbenzen	14.18	119	151489	1.9584 ug/L		98
93)	124Trimetben	14.25	105	174638	1.9188 ug/L		98
94)	sbutylbenzen	14.50	105	219125	1.9976 ug/L		96
95)	13Diclorbenz	14.64	146	105229	2.0059 ug/L		100
96)	pIsopropylto	14.72	119	177903	1.9519 ug/L		97
97)	14dichlorobe	14.76	146	106836	2.0227 ug/L		95
98)	12dichlorobe	15.29	146	100739	1.9815 ug/L		93
99)	nButylbenzen	15.31	91	157629	1.9256 ug/L		98
100)	12dibromo3cl	16.40	157	18161	1.7818 ug/L		97
101)	135Trichlorobenzene	16.73	180	71413	2.0493 ug/L		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : L:\INSTARCH\DATA\JUL1516\WCAL2.D Vial: 5
Acq On : 15 Jul 2016 10:45 am Operator: AGK-RLD
Sample : INITIAL CALIB. PT2 Inst : VMS3
Misc : 2.00/20.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 18 10:08:17 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 15 14:20:59 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.55	180	63932	1.9650	ug/L	98
103) Hexachlorobu	17.81	225	28125	1.8837	ug/L	97
104) Naphthalene	17.85	128	169664	1.9325	ug/L	98
105) 123Trichlben	18.16	180	53336	1.8999	ug/L	98

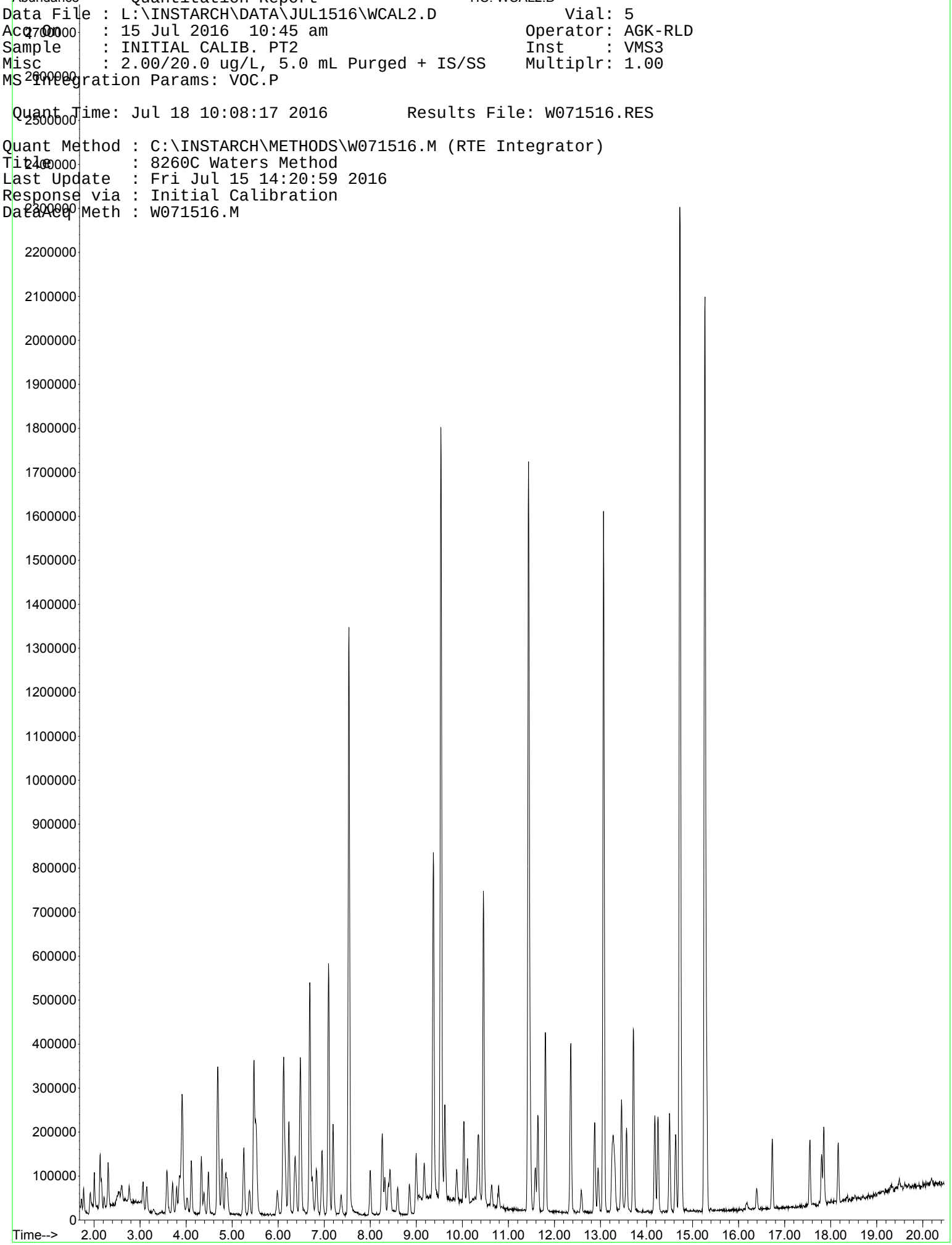
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: WCAL2.D

Data File : L:\INSTARCH\DATA\JUL1516\WCAL2.D Vial: 5
Acq On : 15 Jul 2016 10:45 am Operator: AGK-RLD
Sample : INITIAL CALIB. PT2 Inst : VMS3
Misc : 2.00/20.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

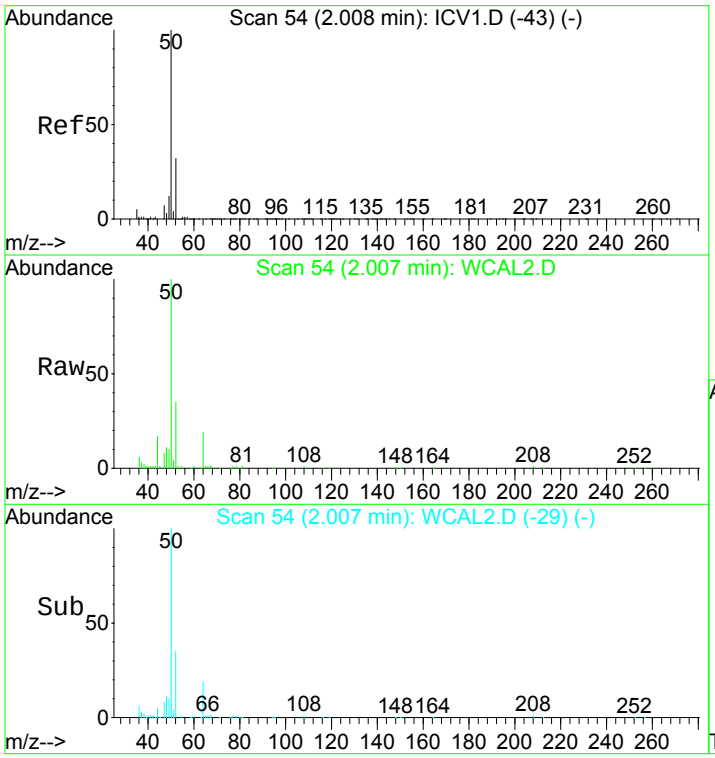
Quant Time: Jul 18 10:08:17 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 15 14:20:59 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M



After Manual Integration

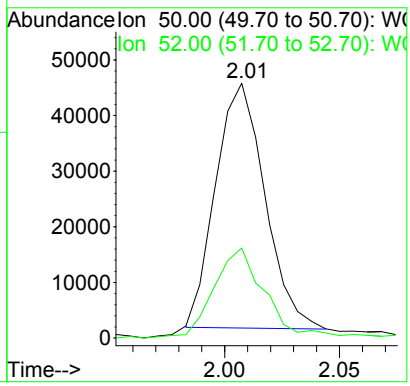
AgK 07/19/16

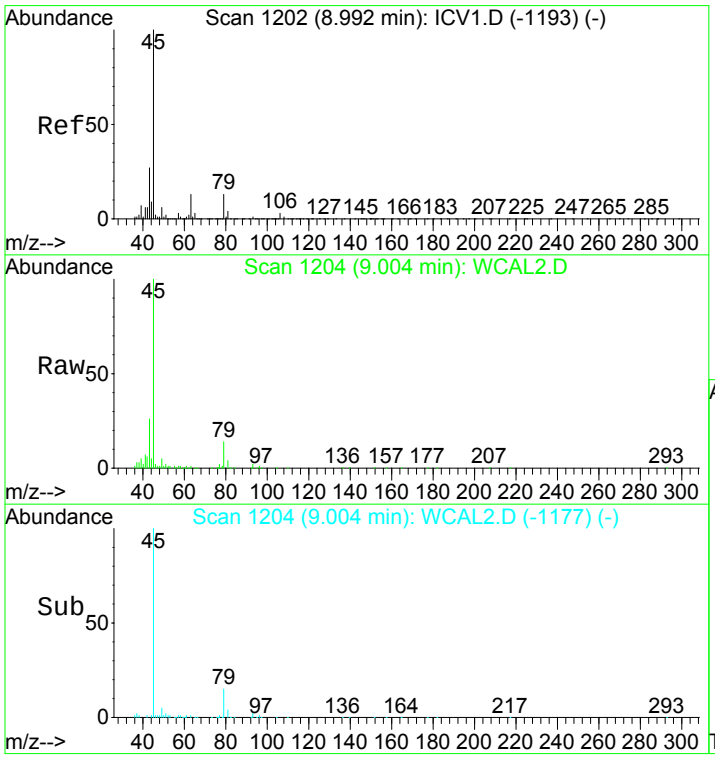


#3
Chloromethan
Concen: 1.56 ug/L m
RT: 2.01 min Scan# 54
Delta R.T. -0.00 min
Lab File: WCAL2.D
Acq: 15 Jul 2016 10:45 am

Tgt Ion: 50 Resp: 65626

Ion	Ratio	Lower	Upper
50	100		
52	39.1	12.6	52.6

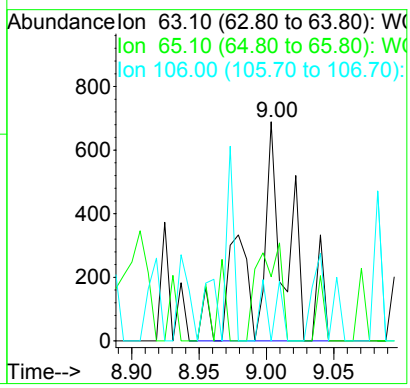




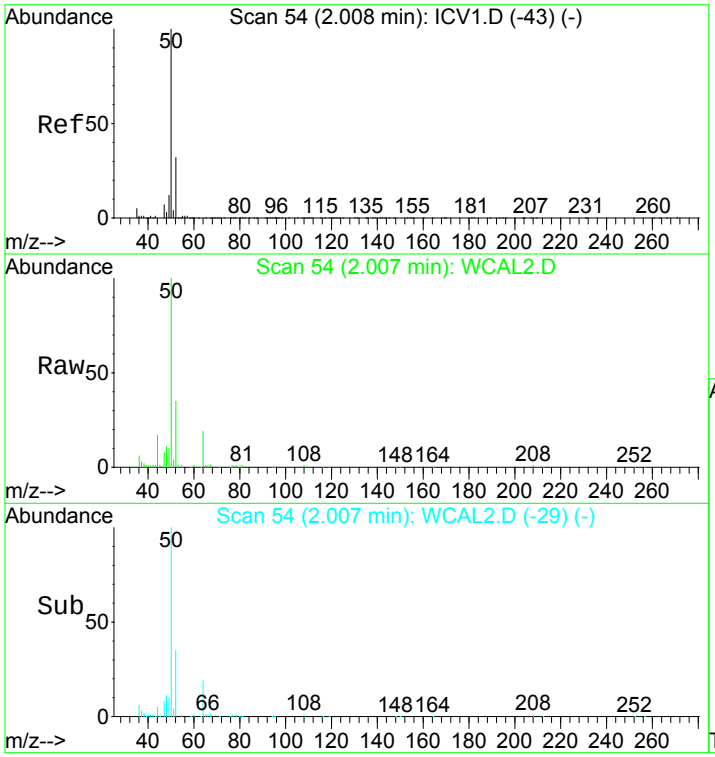
#58
2CLEVE
Concen: 10.74 ug/L m
RT: 9.00 min Scan# 1204
Delta R.T. 0.01 min
Lab File: WCAL2.D
Acq: 15 Jul 2016 10:45 am

Tgt Ion: 63 Resp: 1130

Ion	Ratio	Lower	Upper
63	100		
65	0.0	38.3	78.3#
106	0.0	0.0	20.0



RJ 07/22/2016



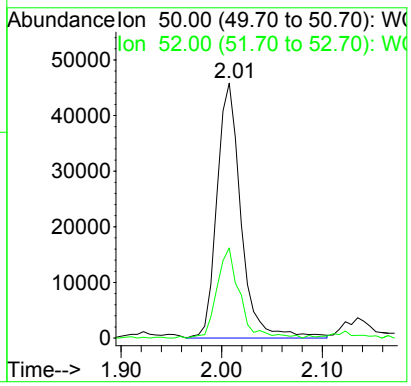
#3
Chloromethan
Concen: 2.58 ug/L
RT: 2.01 min Scan# 54
Delta R.T. -0.00 min
Lab File: WCAL2.D
Acq: 15 Jul 2016 10:45 am

Tgt Ion: 50 Resp: 76336

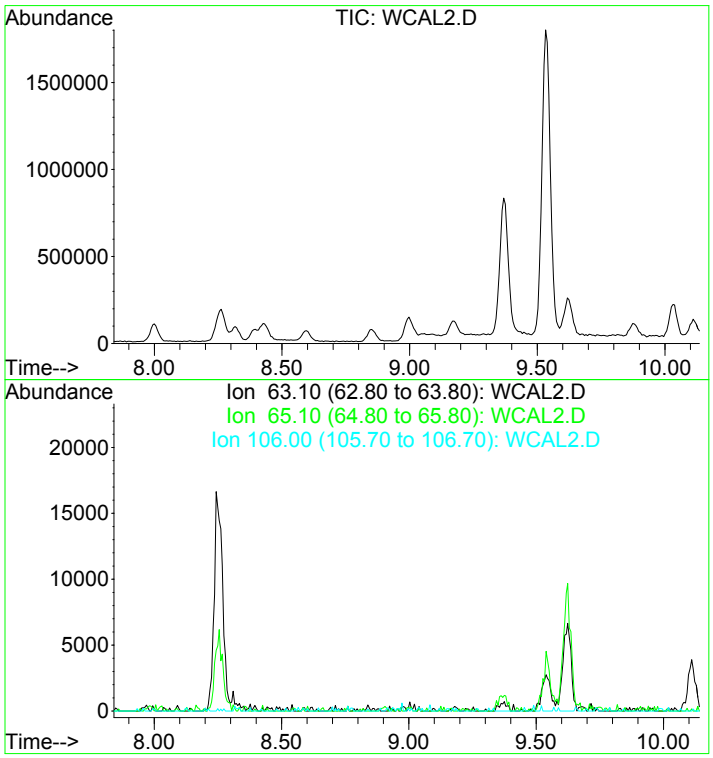
Ion	Ratio	Lower	Upper
50	100		
52	33.6	12.6	52.6

Before Manual Integration

07/19/16



REASON # 2



#58
2CLEVE
Concen: N.D.
Expected RT: 8.99 min

Lab File: WCAL2.D
Acq: 15 Jul 2016 10:45 am

Tgt Ion: 63

Sig	Exp Ratio
63	100
65	58.3
106	0.0

REASON # 1

Quantitation Report

Data File : L:\INSTARCH\DATA\JUL1516\WCAL3.D Vial: 6
Acq On : 15 Jul 2016 11:14 am Operator: AGK-RLD
Sample : INITIAL CALIB. PT3 Inst : VMS3
Misc : 5.00/50.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 15 14:21:17 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 15 14:21:11 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.54	96	1448789	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.44	117	1235901	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.73	152	774659	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.69	113	362466	19.809	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 99 %			
45) SURR12DCAd4	7.10	102	106069	20.647	ug/L	0.01
Spiked Amount 20.000	Range 89 - 112		Recovery = 103 %			
61) SURRd8Tolule	9.53	98	1539201	20.367	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 102 %			
83) SURR4BrFBenz	13.07	95	675627	20.228	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 101 %			
Target Compounds						Qvalue
2) Dichlorodi	1.78	85	116139	4.8673	ug/L	97
3) Chloromethan	2.01	50	172587	4.2027	ug/L	98
4) VinylChlorid	2.16	62	134306	4.8253	ug/L	99
5) Bromomethane	2.60	94	47187	3.8093	ug/L	97
6) Chloroethane	2.77	64	83898	3.7556	ug/L	98
7) Dichloroflmethane	3.06	67	197044	4.7539	ug/L	100
8) Trichlorofma	3.15	101	144089	4.9370	ug/L	99
9) Ethylether	3.58	59	70759	4.5547	ug/L	93
10) dichlorotfluoroethan	3.59	67	98538	4.5324	ug/L	98
11) propyleneoxide	3.92	58	280279	44.5409	ug/L	91
12) Acrolein	3.70	56	143143	26.1395	ug/L	91
13) 11dichlorthe	3.85	96	89728	4.8590	ug/L	97
14) Trichlorotfluoroeth	3.89	101	174698	9.9205	ug/L	98
15) Acetone	3.92	43	834206	45.9496	ug/L	96
16) Iodomethane	4.02	142	121643	8.7653	ug/L	97
17) Carbon Dislf	4.11	76	484052	9.5355	ug/L	100
18) allylchloride	4.33	41	240344	9.5875	ug/L	98
19) methylacetate	4.39	74	45799	4.6338	ug/L	97
20) Methylchlorid	4.48	84	122750	4.3322	ug/L	98
21) tbutylalcohol	4.69	59	1409068	250.7628	ug/L	99
22) Acrylonitrile	4.78	53	302423	24.1992	ug/L	100
23) t12dichlorte	4.86	96	96415	4.5872	ug/L	98
24) MtBE	4.89	73	227427	4.7495	ug/L	98
25) Hexane	5.25	57	243957	9.6910	ug/L	100
26) 11dichlorota	5.38	63	165626	4.6840	ug/L	99
27) Vinylacetate	5.48	43	1681553	52.3224	ug/L	96
28) chloroprene	5.51	53	294719	10.1166	ug/L	97
29) Diisopether	5.53	45	254959	4.6976	ug/L	95
30) ETBE	5.99	59	140023	4.3177	ug/L	97
31) 22dichloropr	6.11	77	131102	4.1498	ug/L	99
32) c12dichlorte	6.10	96	106763	4.7458	ug/L	98
33) 2Butanone	6.12	72	280197	50.2688	ug/L	98
34) propionitrile	6.16	54	286676	47.4117	ug/L	97
35) Ethylacetate	6.24	88	36664	24.8697	ug/L	96
36) methacrylonitrile	6.36	67	129668	10.0037	ug/L	99
37) Bromochlorma	6.38	128	48885	4.3121	ug/L	94
38) Tetrahydofur	6.48	42	597577	48.3548	ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : L:\INSTARCH\DATA\JUL1516\WCAL3.D Vial: 6
Acq On : 15 Jul 2016 11:14 am Operator: AGK-RLD
Sample : INITIAL CALIB. PT3 Inst : VMS3
Misc : 5.00/50.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 15 14:21:17 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 15 14:21:11 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.50	83	168533	4.6004	ug/L		98
40)	111trichlota	6.73	97	154970	5.1515	ug/L		99
42)	Cyclohexane	6.83	56	156793	4.7795	ug/L		97
43)	Carbtetraclo	6.96	119	116387	4.7489	ug/L		98
44)	11dicloprope	6.95	110	47836	4.6000	ug/L		90
46)	Benzene	7.19	78	397398	4.7925	ug/L		98
47)	12dichlorota	7.19	62	131056	4.7135	ug/L		98
48)	TAME	7.37	73	100273	4.1070	ug/L		96
49)	trichloroete	8.00	95	99755	4.7275	ug/L		97
50)	methylcyclohexane	8.26	83	164894	4.8206	ug/L		99
51)	12dicloropra	8.25	63	100783	4.7686	ug/L		97
52)	23Dicl1propene	8.32	75	144156	4.8288	ug/L		99
53)	Dibromometha	8.40	93	63533	4.7322	ug/L		98
54)	methylmethacrylate	8.43	69	95995	4.6638	ug/L		99
55)	14dioxane	8.43	88	86510	228.6771	ug/L		100
56)	Bromodiclrma	8.60	83	118336	4.9450	ug/L		98
57)	2Nitropropane	8.85	43	223624	54.7862	ug/L		98
58)	2CLEVE	8.99	63	3022	28.5312	ug/L	#	22
59)	c13dicloproe	9.17	75	150279	5.0228	ug/L		99
60)	4Meth2Pentan	9.37	43	1600550	49.6521	ug/L		96
62)	Toluene	9.62	92	276327	4.8858	ug/L		98
63)	t13Dicloprop	9.88	75	127593	4.9151	ug/L		96
64)	ethylmethacrylate	10.03	69	339316	9.7948	ug/L		100
65)	112Triclotha	10.12	83	81979	4.9012	ug/L		98
66)	Tetrachlorte	10.35	166	125263	5.0881	ug/L		99
67)	13Diclorpropa	10.33	76	168317	4.8744	ug/L		99
69)	2Hexanone	10.46	43	1396166	49.3191	ug/L		98
70)	Clorodibrmta	10.63	129	93864	4.9543	ug/L		99
71)	12Dibrometha	10.79	107	102366	4.6620	ug/L		97
72)	Chlorobenzen	11.47	112	286506	4.6927	ug/L		99
73)	1Clhexane	11.46	91	149539	4.4807	ug/L		96
74)	1112Tetclota	11.58	131	92939	4.7568	ug/L		97
75)	Ethylbenzene	11.64	91	527298	4.8100	ug/L		97
76)	m p-Xylene	11.80	106	424494	9.5136	ug/L		97
77)	o-Xylene	12.35	106	204253	4.6519	ug/L		99
78)	Styrene	12.36	104	329108	4.7925	ug/L		99
79)	Bromoform	12.59	173	72081	4.9568	ug/L		97
80)	Isopropylben	12.87	105	491288	4.9264	ug/L		100
81)	cyclohexanone	12.95	55	139362	91.6461	ug/L		96
84)	Bromobenzene	13.27	156	141841	4.9568	ug/L		95
85)	1122Tetrclta	13.24	83	181305	4.9378	ug/L		99
86)	123Triclproa	13.30	75	184139	4.8708	ug/L		99
87)	14dichloro2butene	13.34	53	13001	4.4942	ug/L		91
88)	n-Propylbenz	13.46	91	611929	5.0423	ug/L		99
89)	2chlorotolue	13.57	91	361437	4.9333	ug/L		100
90)	4chlorotolue	13.72	91	423784	5.0375	ug/L		98
91)	135Trimebenz	13.71	105	416666	4.7155	ug/L		99
92)	tbutylbenzen	14.18	119	362560	4.8178	ug/L		99
93)	124Trimetben	14.25	105	433689	4.9308	ug/L		100
94)	sbutylbenzen	14.50	105	538971	5.0175	ug/L		98
95)	13Diclorbenz	14.63	146	251077	4.8807	ug/L		96
96)	pIsopropylto	14.72	119	438130	4.9465	ug/L		100
97)	14dichlorobe	14.76	146	254543	4.9008	ug/L		97
98)	12dichlorobe	15.29	146	233808	4.7090	ug/L		96
99)	nButylbenzen	15.31	91	391573	4.9442	ug/L		97
100)	12dibromo3cl	16.39	157	46761	4.8598	ug/L		98
101)	135Trichlorobenzene	16.73	180	165967	4.8220	ug/L		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : L:\INSTARCH\DATA\JUL1516\WCAL3.D Vial: 6
Acq On : 15 Jul 2016 11:14 am Operator: AGK-RLD
Sample : INITIAL CALIB. PT3 Inst : VMS3
Misc : 5.00/50.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 15 14:21:17 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 15 14:21:11 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.54	180	155014	4.8919	ug/L	99
103) Hexachlorobu	17.80	225	72919	5.0837	ug/L	98
104) Naphthalene	17.85	128	424192	4.9881	ug/L	99
105) 123Trichlben	18.17	180	138655	5.1272	ug/L	98

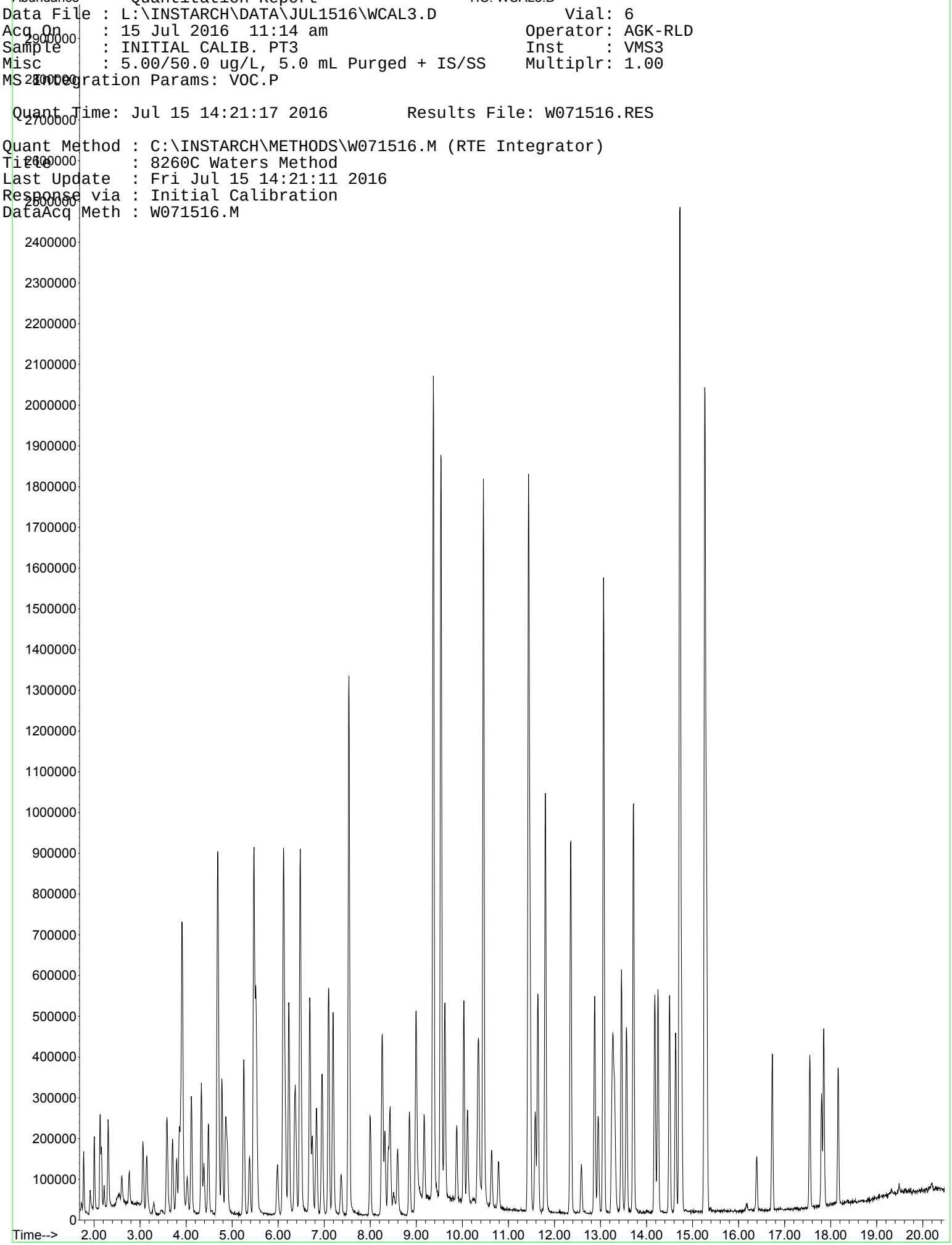
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: WCAL3.D

Data File : L:\INSTARCH\DATA\JUL1516\WCAL3.D Vial: 6
Acq On : 15 Jul 2016 11:14 am Operator: AGK-RLD
Sample : INITIAL CALIB. PT3 Inst : VMS3
Misc : 5.00/50.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 15 14:21:17 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 15 14:21:11 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M



Quantitation Report

Data File : C:\INSTARCH\Data\JUL1516\WCAL4.D Vial: 7
Acq On : 15 Jul 2016 11:42 Operator: AGK-RLD
Sample : INITIAL CALIB. PT4 Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 19 15:09:16 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Mon Jul 18 10:10:08 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.54	96	1491478	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.44	117	1242699	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.73	152	781388	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.69	113	379501	19.819	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 99	%		
45) SURR12DCAd4	7.09	102	107838	20.101	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 101	%		
61) SURRd8Tolule	9.53	98	1534988	19.790	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 99	%		
83) SURR4BrFBenz	13.07	95	674766	20.063	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 100	%		
Target Compounds						Qvalue
2) Dichlorodi	1.78	85	236062	10.2830	ug/L	100
3) Chloromethan	2.01	50	327771	10.6716	ug/L	100
4) VinylChlorid	2.16	62	265182	10.0237	ug/L	100
5) Bromomethane	2.60	94	89144	8.6054	ug/L	100
6) Chloroethane	2.76	64	170091	10.2586	ug/L	100
7) Dichloroflmethane	3.06	67	385506	10.0481	ug/L	100
8) Trichlorofma	3.15	101	287784	9.8617	ug/L	99
9) Ethylether	3.58	59	149127	9.7880	ug/L	100
10) dichlorotfluoroethan	3.58	67	196071	9.5460	ug/L	100
11) propyleneoxide	3.92	58	547371	106.4301	ug/L	100
12) Acrolein	3.70	56	287494	48.9919	ug/L	100
13) 11dichlorthe	3.85	96	187532	10.1465	ug/L	100
14) Trichlorotfluoroeth	3.89	101	347563	20.0243	ug/L	100
15) Acetone	3.92	43	1529997	104.7984	ug/L	100
16) Iodomethane	4.02	142	270533	17.7313	ug/L	100
17) Carbon Dislf	4.11	76	1010941	21.3873	ug/L	100
18) allylchloride	4.33	41	486429	20.1685	ug/L	100
19) methylacetate	4.39	74	92290	9.5097	ug/L	100
20) Methylchlorid	4.48	84	232739	9.6899	ug/L	100
21) tbutylalcohol	4.68	59	2755584	544.0265	ug/L	100
22) Acrylonitrile	4.78	53	617531	52.1466	ug/L	100
23) t12dichlorte	4.85	96	203349	10.1403	ug/L	100
24) MtBE	4.89	73	506116	10.3926	ug/L	100
25) Hexane	5.26	57	488409	20.6250	ug/L	100
26) 11dichlorota	5.38	63	337526	9.9902	ug/L	100
27) Vinylacetate	5.47	43	3291296	103.6433	ug/L	100
28) chloroprene	5.51	53	585358	20.6041	ug/L	100
29) Diisopether	5.54	45	507374	9.7966	ug/L	100
30) ETBE	5.98	59	360721	10.1526	ug/L	100
31) 22dichloropr	6.11	77	283009	10.6908	ug/L	100
32) c12dichlorte	6.11	96	215408	9.8064	ug/L	100
33) 2Butanone	6.12	72	530134	99.9290	ug/L	100
34) propionitrile	6.16	54	575736	101.1180	ug/L	100
35) Ethylacetate	6.23	88	71378	47.1704	ug/L	100
36) methacrylonitrile	6.36	67	253246	19.5840	ug/L	100
37) Bromochlorma	6.39	128	103626	9.9139	ug/L	100
38) Tetrahydofur	6.47	42	1112478	98.6774	ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\JUL1516\WCAL4.D Vial: 7
Acq On : 15 Jul 2016 11:42 Operator: AGK-RLD
Sample : INITIAL CALIB. PT4 Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 19 15:09:16 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Mon Jul 18 10:10:08 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.50	83	334947	9.6491	ug/L		100
40)	111trichlota	6.74	97	308669	10.0504	ug/L		100
42)	Cyclohexane	6.83	56	318429	10.0153	ug/L		100
43)	Carbtetraclo	6.96	119	245577	9.9362	ug/L		100
44)	11dicloprope	6.95	110	103003	9.9456	ug/L		100
46)	Benzene	7.19	78	776264	10.5757	ug/L		100
47)	12dichlorota	7.18	62	259552	9.6805	ug/L		100
48)	TAME	7.37	73	291719	9.6831	ug/L		100
49)	trichloroete	8.00	95	203686	9.8486	ug/L		100
50)	methylcyclohexane	8.27	83	338896	10.1486	ug/L		100
51)	12dicloropra	8.26	63	203924	9.8473	ug/L		100
52)	23Dicl1propene	8.32	75	293554	9.9590	ug/L		100
53)	Dibromometha	8.39	93	127042	9.5349	ug/L		100
54)	methylmethacrylate	8.43	69	194815	9.6733	ug/L		100
55)	14dioxane	8.44	88	227468	596.9177	ug/L		100
56)	Bromodiclrma	8.59	83	239587	9.5928	ug/L		100
57)	2Nitropropane	8.85	43	506915	84.7849	ug/L		100
58)	2CLEVE	8.99	63	5452	53.6063	ug/L	#	100
59)	c13dicloproe	9.17	75	300819	9.8490	ug/L		100
60)	4Meth2Pentan	9.37	43	2757981	101.3599	ug/L		100
62)	Toluene	9.62	92	516306	9.8021	ug/L		100
63)	t13Dicloprop	9.88	75	258655	9.6207	ug/L		100
64)	ethylmethacrylate	10.03	69	638968	19.8335	ug/L		100
65)	112Triclotha	10.11	83	156345	9.3783	ug/L		100
66)	Tetrachlorte	10.35	166	246817	10.0416	ug/L		100
67)	13Diclorpropa	10.34	76	324230	9.6572	ug/L		100
69)	2Hexanone	10.46	43	2411023	100.7702	ug/L		100
70)	Clorodibrmta	10.63	129	186378	9.5142	ug/L		100
71)	12Dibrometha	10.79	107	207364	9.6375	ug/L		100
72)	Chlorobenzen	11.47	112	548779	9.8786	ug/L		100
73)	1Clhexane	11.46	91	291118	9.6081	ug/L		100
74)	1112Tetclota	11.58	131	180610	9.3002	ug/L		100
75)	Ethylbenzene	11.64	91	995519	9.9757	ug/L		100
76)	m p-Xylene	11.80	106	806296	21.1379	ug/L		100
77)	o-Xylene	12.35	106	394761	9.7182	ug/L		100
78)	Styrene	12.36	104	641549	10.0565	ug/L		100
79)	Bromoform	12.59	173	145659	9.2310	ug/L		100
80)	Isopropylben	12.87	105	922836	10.4240	ug/L		100
81)	cyclohexanone	12.95	55	293940	202.5779	ug/L		100
84)	Bromobenzene	13.28	156	275936	9.9389	ug/L		100
85)	1122Tetrclta	13.25	83	354962	10.0246	ug/L		100
86)	123Triclproa	13.30	75	354797	9.5713	ug/L		100
87)	14dichloro2butene	13.34	53	31402	9.0848	ug/L		100
88)	n-Propylbenz	13.46	91	1145738	10.2244	ug/L		100
89)	2chlorotolue	13.57	91	681890	10.1500	ug/L		100
90)	4chlorotolue	13.72	91	789302	10.2182	ug/L		100
91)	135Trimebenz	13.71	105	827177	10.4297	ug/L		100
92)	tbutylbenzen	14.18	119	704714	10.2479	ug/L		100
93)	124Trimetben	14.25	105	838233	10.4643	ug/L		100
94)	sbutylbenzen	14.50	105	1016764	10.6847	ug/L		100
95)	13Diclorbenz	14.63	146	483875	10.0742	ug/L		100
96)	pIsopropylto	14.72	119	841593	10.4372	ug/L		100
97)	14dichlorobe	14.76	146	486993	10.0077	ug/L		100
98)	12dichlorobe	15.30	146	462338	10.0413	ug/L		100
99)	nButylbenzen	15.31	91	740083	10.1779	ug/L		100
100)	12dibromo3cl	16.39	157	97572	9.9051	ug/L		100
101)	135Trichlorobenzene	16.73	180	332097	10.0657	ug/L		100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\JUL1516\WCAL4.D Vial: 7
Acq On : 15 Jul 2016 11:42 Operator: AGK-RLD
Sample : INITIAL CALIB. PT4 Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 19 15:09:16 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Mon Jul 18 10:10:08 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.54	180	307001	10.0750	ug/L	100
103) Hexachlorobu	17.80	225	137912	9.6833	ug/L	100
104) Naphthalene	17.85	128	786062	10.3804	ug/L	100
105) 123Trichlben	18.17	180	257029	9.7697	ug/L	100

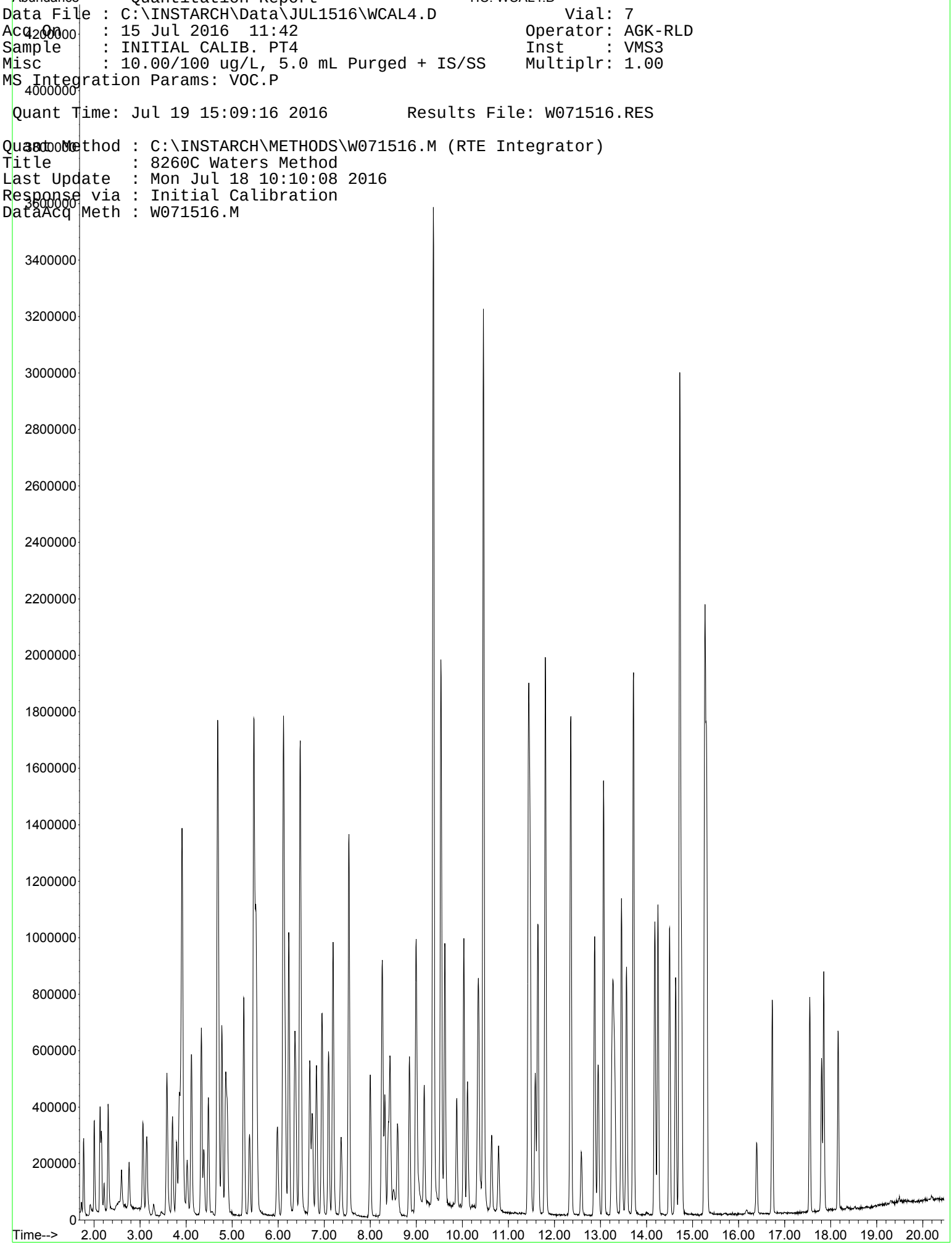
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: WCAL4.D

Data File : C:\INSTARCH\Data\JUL1516\WCAL4.D Vial: 7
Acq On : 15 Jul 2016 11:42 Operator: AGK-RLD
Sample : INITIAL CALIB. PT4 Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 19 15:09:16 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Mon Jul 18 10:10:08 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M



Quantitation Report

Data File : C:\INSTARCH\DATA\JUL1516\WCAL5.D Vial: 8
Acq On : 15 Jul 2016 12:12 Operator: AGK-RLD
Sample : INITIAL CALIB. PT5 Inst : VMS3
Misc : 20.00/200 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 15 14:21:50 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 15 14:21:42 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.54	96	1489321	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.44	117	1233212	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.73	152	789234	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.69	113	380984	20.303	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 102	%		
45) SURR12DCAd4	7.10	102	104626	19.653	ug/L	0.01
Spiked Amount 20.000	Range 89 - 112		Recovery = 98	%		
61) SURRd8Tolule	9.53	98	1548316	19.839	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 99	%		
83) SURR4BrFBenz	13.07	95	678381	19.879	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 99	%		
Target Compounds						Qvalue
2) Dichlorodi	1.78	85	454848	18.6673	ug/L	98
3) Chloromethan	2.01	50	616234	15.2039	ug/L	97
4) VinylChlorid	2.16	62	522279	18.4143	ug/L	99
5) Bromomethane	2.60	94	175617	14.6643	ug/L	99
6) Chloroethane	2.76	64	331750	15.4046	ug/L	100
7) Dichloroflmethane	3.07	67	749302	17.8048	ug/L	100
8) Trichlorofma	3.15	101	587496	19.6438	ug/L	99
9) Ethylether	3.58	59	303811	19.4571	ug/L	100
10) dichlorotfluoroethan	3.58	67	393814	18.0428	ug/L	97
11) propyleneoxide	3.92	58	1035156	164.5168	ug/L	93
12) Acrolein	3.70	56	620431	108.9724	ug/L	92
13) 11dichlorthe	3.85	96	370613	19.6621	ug/L	98
14) Trichlorotfluoroeth	3.89	101	696086	38.5291	ug/L	99
15) Acetone	3.92	43	2760445	150.9697	ug/L	97
16) Iodomethane	4.03	142	633305	45.8063	ug/L	99
17) Carbon Dislf	4.12	76	1974116	38.2748	ug/L	98
18) allylchloride	4.33	41	981661	38.4905	ug/L	99
19) methylacetate	4.39	74	191387	19.1884	ug/L	99
20) Methylchlorid	4.48	84	463966	16.4794	ug/L	99
21) tbutylalcohol	4.68	59	5009517	866.5881	ug/L	94
22) Acrylonitrile	4.78	53	1191779	93.5170	ug/L	98
23) t12dichlorte	4.86	96	390353	18.4473	ug/L	98
24) MtBE	4.89	73	992861	20.4260	ug/L	98
25) Hexane	5.26	57	929083	36.1821	ug/L	98
26) 11dichlorota	5.38	63	658113	18.3960	ug/L	99
27) Vinylacetate	5.47	43	5583852	167.0758	ug/L	94
28) chloroprene	5.51	53	1147826	38.2169	ug/L	100
29) Diisopether	5.53	45	1008487	18.3530	ug/L	99
30) ETBE	5.98	59	735403	22.8386	ug/L	99
31) 22dichloropr	6.11	77	526812	16.9418	ug/L	98
32) c12dichlorte	6.10	96	425101	18.6188	ug/L	97
33) 2Butanone	6.12	72	1048086	182.6693	ug/L	100
34) propionitrile	6.15	54	1164401	189.7888	ug/L	100
35) Ethylacetate	6.23	88	156494	103.3980	ug/L	91
36) methacrylonitrile	6.36	67	513341	38.5223	ug/L	97
37) Bromochlorma	6.39	128	201559	17.9115	ug/L	99
38) Tetrahydofur	6.47	42	2153635	170.9314	ug/L	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL1516\WCAL5.D Vial: 8
Acq On : 15 Jul 2016 12:12 Operator: AGK-RLD
Sample : INITIAL CALIB. PT5 Inst : VMS3
Misc : 20.00/200 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 15 14:21:50 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 15 14:21:42 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.50	83	662679	17.9553	ug/L		99
40)	111trichlota	6.74	97	609435	19.5592	ug/L		98
42)	Cyclohexane	6.83	56	618374	18.5412	ug/L		96
43)	Carbtetraclo	6.96	119	490197	19.7045	ug/L		100
44)	11dicloprope	6.95	110	204998	19.5679	ug/L		97
46)	Benzene	7.19	78	1465045	17.3674	ug/L		98
47)	12dichlorota	7.19	62	513651	18.2323	ug/L		98
48)	TAME	7.37	73	614897	25.6448	ug/L		98
49)	trichloroete	8.00	95	403330	18.8509	ug/L		99
50)	methylcyclohexane	8.27	83	659584	18.9276	ug/L		100
51)	12dicloropra	8.26	63	397127	18.4929	ug/L		94
52)	23Dicl1propene	8.32	75	570386	18.7467	ug/L		98
53)	Dibromometha	8.39	93	258231	18.9647	ug/L		99
54)	methylmethacrylate	8.43	69	395738	19.0230	ug/L		99
55)	14dioxane	8.44	88	445599	1170.7873	ug/L		99
56)	Bromodiclrma	8.60	83	500411	20.3982	ug/L		97
57)	2Nitropropane	8.85	43	1251700	291.3393	ug/L		99
58)	2CLEVE	8.99	63	11215	96.2066	ug/L	#	95
59)	c13dicloproe	9.17	75	623861	20.2608	ug/L		100
60)	4Meth2Pentan	9.37	43	4679258	141.4551	ug/L		93
62)	Toluene	9.62	92	1007554	17.4296	ug/L		96
63)	t13Dicloprop	9.88	75	540515	20.3413	ug/L		98
64)	ethylmethacrylate	10.03	69	1256839	35.4750	ug/L		99
65)	112Triclotha	10.11	83	316582	18.5035	ug/L		97
66)	Tetrachlorte	10.35	166	483241	19.0110	ug/L		98
67)	13Diclorpropa	10.34	76	649437	18.4112	ug/L		100
69)	2Hexanone	10.46	43	4178918	148.4462	ug/L		93
70)	Clorodibrmta	10.64	129	386951	20.5152	ug/L		99
71)	12Dibrometha	10.79	107	426126	19.7833	ug/L		100
72)	Chlorobenzen	11.48	112	1078610	17.9815	ug/L		99
73)	1Clhexane	11.46	91	572223	17.6411	ug/L		99
74)	1112Tetclota	11.58	131	380405	19.7526	ug/L		99
75)	Ethylbenzene	11.64	91	1903474	17.5681	ug/L		98
76)	m p-Xylene	11.80	106	1556972	35.4008	ug/L		94
77)	o-Xylene	12.35	106	789897	18.3485	ug/L		96
78)	Styrene	12.36	104	1271065	18.7442	ug/L		97
79)	Bromoform	12.59	173	320751	22.1531	ug/L		99
80)	Isopropylben	12.87	105	1785042	18.0048	ug/L		99
81)	cyclohexanone	12.95	55	625492	421.0209	ug/L		100
84)	Bromobenzene	13.27	156	554462	19.0596	ug/L		98
85)	1122Tetrclta	13.24	83	712030	19.0932	ug/L		99
86)	123Triclproa	13.30	75	731144	19.1064	ug/L		100
87)	14dichloro2butene	13.34	53	72882	25.5917	ug/L		94
88)	n-Propylbenz	13.46	91	2170875	17.5205	ug/L		96
89)	2chlorotolue	13.57	91	1343421	18.0582	ug/L		99
90)	4chlorotolue	13.72	91	1570132	18.2851	ug/L		99
91)	135Trimebenz	13.72	105	1585138	17.8622	ug/L		97
92)	tbutylbenzen	14.18	119	1380299	18.1686	ug/L		98
93)	124Trimetben	14.25	105	1625330	18.2008	ug/L		96
94)	sbutylbenzen	14.50	105	1968333	17.9698	ug/L		98
95)	13Diclorbenz	14.64	146	958824	18.4041	ug/L		97
96)	pIsopropylto	14.72	119	1631153	18.1242	ug/L		98
97)	14dichlorobe	14.76	146	976587	18.5474	ug/L		100
98)	12dichlorobe	15.29	146	910727	18.2695	ug/L		99
99)	nButylbenzen	15.31	91	1474102	18.3200	ug/L		99
100)	12dibromo3cl	16.40	157	205657	21.1270	ug/L		97
101)	135Trichlorobenzene	16.73	180	661293	19.0276	ug/L		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL1516\WCAL5.D Vial: 8
Acq On : 15 Jul 2016 12:12 Operator: AGK-RLD
Sample : INITIAL CALIB. PT5 Inst : VMS3
Misc : 20.00/200 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 15 14:21:50 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 15 14:21:42 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102)	124Trichlobe	17.55	180	611105	19.0320	ug/L	98
103)	Hexachlorobu	17.80	225	292341	19.9215	ug/L	97
104)	Naphthalene	17.85	128	1583575	18.2882	ug/L	99
105)	123Trichlben	18.17	180	533391	19.2372	ug/L	99

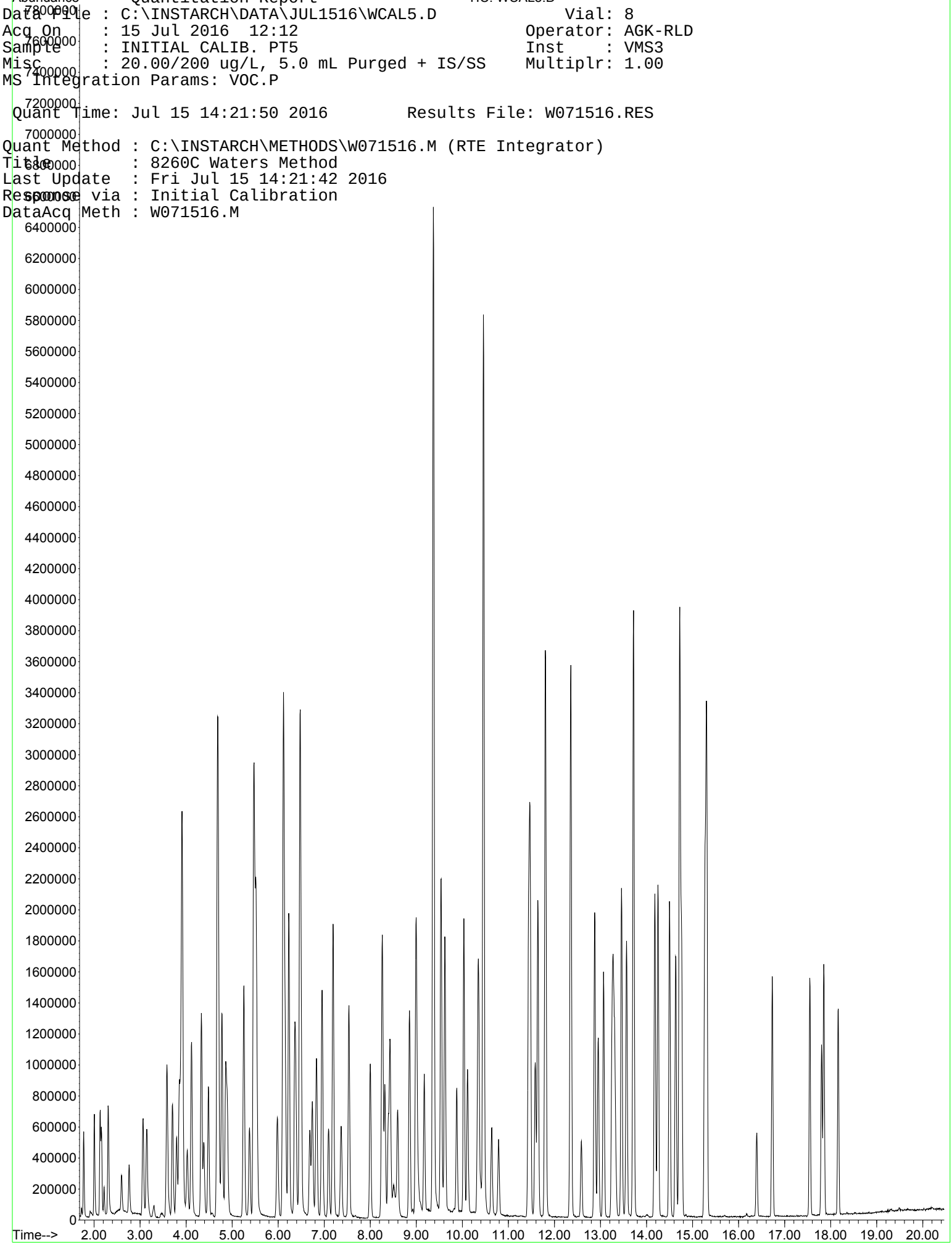
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: WCAL5.D

Data File : C:\INSTARCH\DATA\JUL1516\WCAL5.D Vial: 8
Acq On : 15 Jul 2016 12:12 Operator: AGK-RLD
Sample : INITIAL CALIB. PT5 Inst : VMS3
Misc : 20.00/200 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 15 14:21:50 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 15 14:21:42 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M



Quantitation Report

Data File : C:\INSTARCH\DATA\JUL1516\WCAL6.D Vial: 9
Acq On : 15 Jul 2016 12:41 Operator: AGK-RLD
Sample : INITIAL CALIB. PT6 Inst : VMS3
Misc : 30.00/300 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 15 14:22:04 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 15 14:21:57 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.54	96	1505853	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.44	117	1269099	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.73	152	819274	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.69	113	393212	20.662	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 103	%		
45) SURR12DCAd4	7.09	102	110949	20.684	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 103	%		
61) SURRd8Tolule	9.54	98	1561150	19.816	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 99	%		
83) SURR4BrFBenz	13.07	95	691775	19.552	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 98	%		
Target Compounds						Qvalue
2) Dichlorodi	1.78	85	684656	28.1657	ug/L	98
3) Chloromethan	2.01	50	867299	22.2295	ug/L	96
4) VinylChlorid	2.17	62	773795	27.4174	ug/L	98
5) Bromomethane	2.60	94	293995	25.6480	ug/L	99
6) Chloroethane	2.76	64	496723	23.9106	ug/L	99
7) Dichloroflmethane	3.07	67	1079831	25.9467	ug/L	99
8) Trichlorofma	3.15	101	885133	29.3754	ug/L	99
9) Ethylether	3.58	59	456203	29.0538	ug/L	99
10) dichlorotfluoroethan	3.59	67	599095	27.6884	ug/L	99
11) propyleneoxide	3.92	58	1483810	241.8125	ug/L #	87
12) Acrolein	3.70	56	923225	157.5477	ug/L	93
13) 11dichlorthe	3.86	96	560890	29.5299	ug/L	99
14) Trichlorotfluoroeth	3.90	101	1039017	57.3008	ug/L	98
15) Acetone	3.92	43	3775841	214.7650	ug/L	94
16) Iodomethane	4.03	142	1040827	72.3549	ug/L	98
17) Carbon Dislf	4.12	76	2807034	54.2945	ug/L	96
18) allylchloride	4.33	41	1438351	56.2022	ug/L	99
19) methylacetate	4.39	74	279498	27.9415	ug/L	99
20) Methylchlorid	4.49	84	672520	24.4868	ug/L	98
21) tbutylalcohol	4.69	59	6260474	1100.4625	ug/L	90
22) Acrylonitrile	4.78	53	1729582	135.9909	ug/L	98
23) t12dichlorte	4.86	96	578111	27.4466	ug/L	99
24) MtBE	4.89	73	1512937	30.6532	ug/L	98
25) Hexane	5.26	57	1377119	54.0739	ug/L	97
26) 11dichlorota	5.38	63	986315	27.7119	ug/L	97
27) Vinylacetate	5.48	43	7191948	220.0754	ug/L	87
28) chloroprene	5.51	53	1707133	56.7208	ug/L	98
29) Diisopether	5.54	45	1614708	29.5494	ug/L	99
30) ETBE	5.99	59	1154673	34.4868	ug/L	98
31) 22dichloropr	6.11	77	819315	26.8813	ug/L	99
32) c12dichlorte	6.11	96	650980	28.5939	ug/L	98
33) 2Butanone	6.12	72	1535895	269.4191	ug/L	99
34) propionitrile	6.16	54	1632155	265.8231	ug/L	98
35) Ethylacetate	6.23	88	227117	147.4104	ug/L	96
36) methacrylonitrile	6.36	67	767522	57.3883	ug/L	98
37) Bromochlorma	6.39	128	304324	27.3173	ug/L	98
38) Tetrahydofur	6.48	42	2975464	240.5590	ug/L	94

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL1516\WCAL6.D Vial: 9
Acq On : 15 Jul 2016 12:41 Operator: AGK-RLD
Sample : INITIAL CALIB. PT6 Inst : VMS3
Misc : 30.00/300 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 15 14:22:04 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 15 14:21:57 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.50	83	1016249	27.8014	ug/L		100
40)	111trichlota	6.74	97	942641	30.0534	ug/L		99
42)	Cyclohexane	6.83	56	938692	28.2487	ug/L		98
43)	Carbtetraclo	6.96	119	752256	29.9952	ug/L		98
44)	11dicloprope	6.95	110	311770	29.5608	ug/L		98
46)	Benzene	7.20	78	2153662	25.9331	ug/L		97
47)	12dichlorota	7.19	62	787718	28.1511	ug/L		99
48)	TAME	7.37	73	1010886	39.4691	ug/L		99
49)	trichloroete	8.00	95	613118	28.6709	ug/L		98
50)	methylcyclohexane	8.27	83	1000951	28.7162	ug/L		100
51)	12dicloropra	8.25	63	616781	28.8409	ug/L		100
52)	23Dicl1propene	8.32	75	885740	29.1572	ug/L		98
53)	Dibromometha	8.39	93	400687	29.4082	ug/L		99
54)	methylmethacrylate	8.43	69	593570	28.4979	ug/L		99
55)	14dioxane	8.44	88	561439	1410.7674	ug/L		99
56)	Bromodiclrma	8.60	83	784864	31.5166	ug/L		96
57)	2Nitropropane	8.85	43	1948167	410.9329	ug/L		99
58)	2CLEVE	8.99	63	16215	139.3333	ug/L	#	95
59)	c13dicloproe	9.17	75	930773	29.8186	ug/L		97
60)	4Meth2Pentan	9.37	43	5998869	190.5097	ug/L		86
62)	Toluene	9.62	92	1514488	26.5949	ug/L		93
63)	t13Dicloprop	9.88	75	832541	30.8818	ug/L		96
64)	ethylmethacrylate	10.03	69	1856625	53.0288	ug/L		97
65)	112Triclotha	10.11	83	493574	28.9651	ug/L		99
66)	Tetrachlorte	10.35	166	735397	28.8991	ug/L		98
67)	13Diclorpropa	10.34	76	974902	27.7758	ug/L		98
69)	2Hexanone	10.46	43	5350116	194.7144	ug/L		88
70)	Clorodibrmta	10.64	129	618830	31.7177	ug/L		100
71)	12Dibrometha	10.79	107	652235	29.4883	ug/L		99
72)	Chlorobenzen	11.48	112	1605078	26.5373	ug/L		99
73)	1Clhexane	11.46	91	873678	26.8054	ug/L		98
74)	1112Tetclota	11.58	131	584538	29.5671	ug/L		99
75)	Ethylbenzene	11.64	91	2747191	25.2523	ug/L		96
76)	m p-Xylene	11.80	106	2271133	51.3595	ug/L		88
77)	o-Xylene	12.35	106	1193570	27.3938	ug/L		92
78)	Styrene	12.36	104	1899962	27.5724	ug/L		95
79)	Bromoform	12.59	173	508442	33.4040	ug/L		97
80)	Isopropylben	12.87	105	2602369	26.0258	ug/L		95
81)	cyclohexanone	12.95	55	848634	549.2926	ug/L		99
84)	Bromobenzene	13.28	156	844503	28.2308	ug/L		99
85)	1122Tetrclta	13.25	83	1065193	27.7678	ug/L		96
86)	123Triclproa	13.30	75	1138147	28.9101	ug/L		97
87)	14dichloro2butene	13.34	53	128537	40.6389	ug/L		96
88)	n-Propylbenz	13.46	91	3086018	24.6032	ug/L		93
89)	2chlorotolue	13.57	91	1988293	26.2564	ug/L		97
90)	4chlorotolue	13.72	91	2289545	26.1336	ug/L		97
91)	135Trimebenz	13.72	105	2339588	25.9519	ug/L		95
92)	tbutylbenzen	14.18	119	2034883	26.2840	ug/L		96
93)	124Trimetben	14.25	105	2381762	26.1643	ug/L		95
94)	sbutylbenzen	14.50	105	2836358	25.4618	ug/L		95
95)	13Diclorbenz	14.64	146	1421120	26.7036	ug/L		97
96)	pIsopropylto	14.72	119	2397615	26.1543	ug/L		95
97)	14dichlorobe	14.76	146	1460815	27.1206	ug/L		99
98)	12dichlorobe	15.29	146	1381397	27.1653	ug/L		99
99)	nButylbenzen	15.31	91	2158107	26.2789	ug/L		95
100)	12dibromo3cl	16.40	157	305133	29.8602	ug/L		97
101)	135Trichlorobenzene	16.73	180	1003983	28.1019	ug/L		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL1516\WCAL6.D Vial: 9
Acq On : 15 Jul 2016 12:41 Operator: AGK-RLD
Sample : INITIAL CALIB. PT6 Inst : VMS3
Misc : 30.00/300 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 15 14:22:04 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 15 14:21:57 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.54	180	931208	28.2108	ug/L	99
103) Hexachlorobu	17.81	225	438682	28.8204	ug/L	98
104) Naphthalene	17.85	128	2225618	25.1918	ug/L	98
105) 123Trichlben	18.17	180	786778	27.5455	ug/L	99

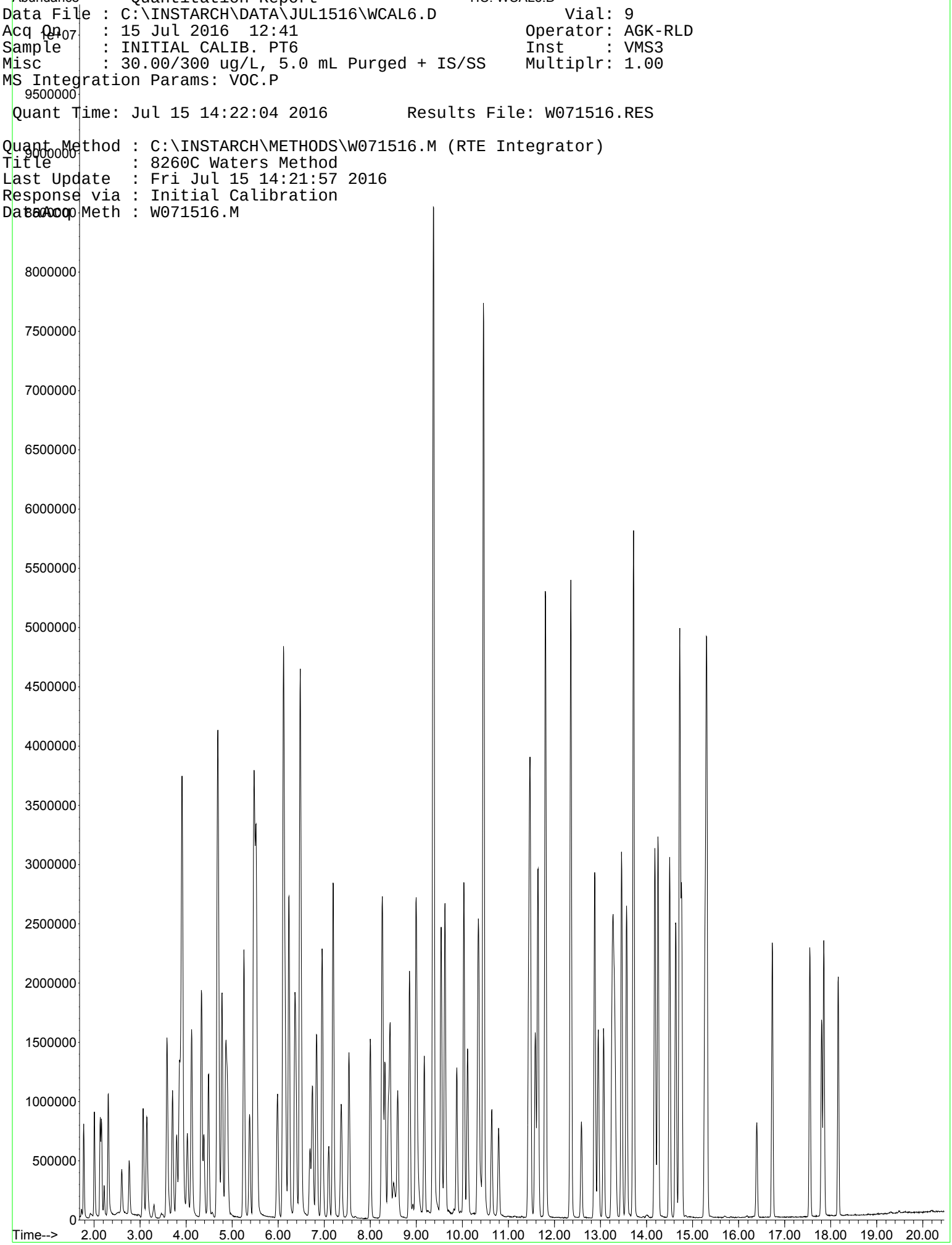
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: WCAL6.D

Data File : C:\INSTARCH\DATA\JUL1516\WCAL6.D Vial: 9
Acq On : 15 Jul 2016 12:41 Operator: AGK-RLD
Sample : INITIAL CALIB. PT6 Inst : VMS3
Misc : 30.00/300 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 15 14:22:04 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 15 14:21:57 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M



Quantitation Report

Data File : C:\INSTARCH\DATA\JUL1516\WCAL7.D Vial: 10
Acq On : 15 Jul 2016 13:10 Operator: AGK-RLD
Sample : INITIAL CALIB. PT7 Inst : VMS3
Misc : 40.00/400 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 15 14:22:20 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 15 14:22:12 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.54	96	1535866	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.44	117	1278009	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.73	152	811261	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.69	113	405253	20.764	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 104	%		
45) SURR12DCAd4	7.09	102	112351	20.419	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 102	%		
61) SURRd8Tolule	9.54	98	1591997	19.843	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 99	%		
83) SURR4BrFBenz	13.07	95	704404	20.181	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 101	%		
Target Compounds						Qvalue
2) Dichlorodi	1.78	85	893128	36.3948	ug/L	97
3) Chloromethan	2.01	50	1083826	28.4652	ug/L	96
4) VinylChlorid	2.17	62	1006792	35.4851	ug/L	99
5) Bromomethane	2.60	94	425760	37.3196	ug/L	99
6) Chloroethane	2.76	64	650803	31.7909	ug/L	99
7) Dichloroflmethane	3.07	67	1424293	34.3278	ug/L	98
8) Trichlorofma	3.15	101	1163247	37.9827	ug/L	97
9) Ethylether	3.58	59	606043	38.0422	ug/L	99
10) dichlorotfluoroethan	3.59	67	796160	36.5465	ug/L	99
11) propyleneoxide	3.92	58	1890829	312.2144	ug/L #	81
12) Acrolein	3.70	56	1260375	209.1253	ug/L	88
13) 11dichlorthe	3.85	96	735235	38.0519	ug/L	99
14) Trichlorotfluoroeth	3.90	101	1363955	74.3080	ug/L	99
15) Acetone	3.92	43	4576407	267.8993	ug/L	91
16) Iodomethane	4.03	142	1416159	93.3203	ug/L	97
17) Carbon Dislf	4.12	76	3495717	67.3615	ug/L	94
18) allylchloride	4.33	41	1888380	73.1161	ug/L	99
19) methylacetate	4.39	74	396900	39.3528	ug/L	96
20) Methylchlorid	4.48	84	889810	32.7690	ug/L	98
21) tbutylalcohol	4.69	59	7496647	1352.0260	ug/L	85
22) Acrylonitrile	4.78	53	2290811	179.3909	ug/L	97
23) t12dichlorte	4.86	96	773834	36.5392	ug/L	97
24) MtBE	4.89	73	2045877	40.4940	ug/L	98
25) Hexane	5.26	57	1775762	69.5086	ug/L	96
26) 11dichlorota	5.38	63	1307249	36.4749	ug/L	98
27) Vinylacetate	5.48	43	8394300	263.5504	ug/L	81
28) chloroprene	5.51	53	2203947	72.4568	ug/L	97
29) Diisopether	5.54	45	1969173	35.4207	ug/L	96
30) ETBE	5.99	59	1658555	47.3871	ug/L	98
31) 22dichloropr	6.11	77	1088303	35.6261	ug/L	99
32) c12dichlorte	6.11	96	865977	37.5879	ug/L	96
33) 2Butanone	6.12	72	2011231	351.8843	ug/L	97
34) propionitrile	6.16	54	2172068	353.5568	ug/L	97
35) Ethylacetate	6.24	88	309732	197.6721	ug/L	91
36) methacrylonitrile	6.36	67	1041402	76.9028	ug/L	97
37) Bromochlorma	6.39	128	390516	34.8892	ug/L	98
38) Tetrahydofur	6.47	42	3811859	312.4760	ug/L	92

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL1516\WCAL7.D Vial: 10
Acq On : 15 Jul 2016 13:10 Operator: AGK-RLD
Sample : INITIAL CALIB. PT7 Inst : VMS3
Misc : 40.00/400 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 15 14:22:20 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 15 14:22:12 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.50	83	1333943	36.2219	ug/L		98
40)	111trichlota	6.75	97	1245194	38.9121	ug/L		97
42)	Cyclohexane	6.83	56	1249052	37.2161	ug/L		98
43)	Carbtetraclo	6.96	119	1020012	39.8779	ug/L		97
44)	11dicloprope	6.95	110	415476	38.7184	ug/L		98
46)	Benzene	7.19	78	2771262	33.4741	ug/L		95
47)	12dichlorota	7.19	62	1047105	37.0705	ug/L		98
48)	TAME	7.37	73	1521748	55.3428	ug/L		98
49)	trichloroete	8.00	95	820393	37.8937	ug/L		99
50)	methylcyclohexane	8.27	83	1317349	37.3210	ug/L		99
51)	12dicloropra	8.25	63	816544	37.6784	ug/L		93
52)	23Dicl1propene	8.32	75	1179940	38.2619	ug/L		98
53)	Dibromometha	8.39	93	529347	38.2176	ug/L		98
54)	methylmethacrylate	8.43	69	800502	37.9990	ug/L		99
55)	14dioxane	8.44	88	748647	1862.8873	ug/L		99
56)	Bromodiclrma	8.60	83	1052494	41.0913	ug/L		97
57)	2Nitropropane	8.85	43	2797334	544.9358	ug/L		99
58)	2CLEVE	9.00	63	22345	191.6628	ug/L	#	89
59)	c13dicloproe	9.17	75	1243415	39.0955	ug/L		98
60)	4Meth2Pentan	9.37	43	6993789	231.8698	ug/L		79
62)	Toluene	9.62	92	1953894	34.2892	ug/L		91
63)	t13Dicloprop	9.88	75	1128559	40.8440	ug/L		96
64)	ethylmethacrylate	10.03	69	2391677	68.2985	ug/L		95
65)	112Triclotha	10.11	83	673189	38.9577	ug/L		99
66)	Tetrachlorte	10.35	166	977667	37.9007	ug/L		98
67)	13Diclorpropa	10.34	76	1321902	37.3882	ug/L		97
69)	2Hexanone	10.46	43	6290396	241.4629	ug/L		83
70)	Clorodibrmta	10.64	129	835185	42.1066	ug/L		99
71)	12Dibrometha	10.79	107	875754	39.4299	ug/L		99
72)	Chlorobenzen	11.48	112	2088735	34.9656	ug/L		98
73)	1Clhexane	11.46	91	1142439	35.4358	ug/L		98
74)	1112Tetclota	11.58	131	804509	40.5073	ug/L		97
75)	Ethylbenzene	11.64	91	3428409	32.1422	ug/L		93
76)	m p-Xylene	11.81	106	2881385	66.2968	ug/L	#	84
77)	o-Xylene	12.35	106	1559195	36.0579	ug/L		90
78)	Styrene	12.36	104	2458713	35.9166	ug/L		94
79)	Bromoform	12.59	173	711685	45.5690	ug/L		97
80)	Isopropylben	12.87	105	3272581	33.2340	ug/L		92
81)	cyclohexanone	12.95	55	1138150	742.0021	ug/L		98
84)	Bromobenzene	13.27	156	1116109	38.0529	ug/L		99
85)	1122Tetrclta	13.25	83	1428998	38.0919	ug/L		97
86)	123Triclproa	13.31	75	1543707	39.8402	ug/L		98
87)	14dichloro2butene	13.34	53	199547	59.4933	ug/L		95
88)	n-Propylbenz	13.46	91	3837986	31.8556	ug/L		89
89)	2chlorotolue	13.57	91	2548614	34.7100	ug/L		95
90)	4chlorotolue	13.72	91	2910778	34.2892	ug/L		95
91)	135Trimebenz	13.72	105	2980037	34.1506	ug/L		93
92)	tbutylbenzen	14.18	119	2626105	34.9778	ug/L		95
93)	124Trimetben	14.25	105	3002260	34.0316	ug/L		92
94)	sbutylbenzen	14.50	105	3554343	33.0557	ug/L		92
95)	13Diclorbenz	14.64	146	1876465	36.2723	ug/L		95
96)	pIsopropylto	14.72	119	3035179	34.1662	ug/L		92
97)	14dichlorobe	14.76	146	1897760	36.1591	ug/L		98
98)	12dichlorobe	15.29	146	1802007	36.3593	ug/L		98
99)	nButylbenzen	15.31	91	2776631	34.8652	ug/L		95
100)	12dibromo3cl	16.40	157	427016	42.2332	ug/L		97
101)	135Trichlorobenzene	16.74	180	1334780	38.1322	ug/L		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL1516\WCAL7.D Vial: 10
Acq On : 15 Jul 2016 13:10 Operator: AGK-RLD
Sample : INITIAL CALIB. PT7 Inst : VMS3
Misc : 40.00/400 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 15 14:22:20 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 15 14:22:12 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.55	180	1238686	38.2769	ug/L	99
103) Hexachlorobu	17.80	225	573785	38.3199	ug/L	99
104) Naphthalene	17.85	128	2856510	33.5483	ug/L	96
105) 123Trichlben	18.17	180	1067334	38.2587	ug/L	100

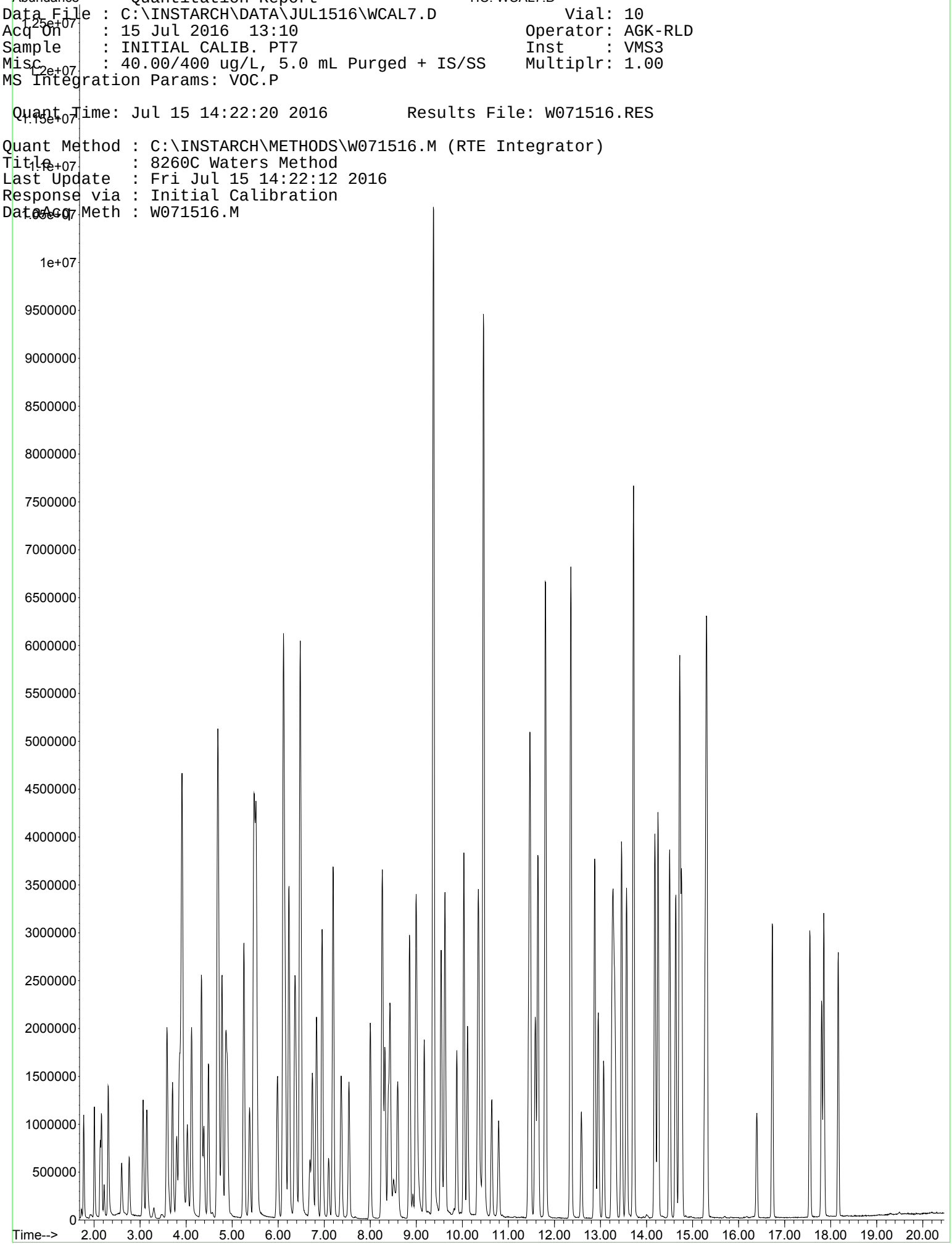
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: WCAL7.D

Data File : C:\INSTARCH\DATA\JUL1516\WCAL7.D Vial: 10
Acq On : 15 Jul 2016 13:10 Operator: AGK-RLD
Sample : INITIAL CALIB. PT7 Inst : VMS3
Misc : 40.00/400 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 15 14:22:20 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 15 14:22:12 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M



Quantitation Report

Data File : C:\INSTARCH\DATA\JUL1516\WCAL8.D Vial: 11
Acq On : 15 Jul 2016 13:40 Operator: AGK-RLD
Sample : INITIAL CALIB. PT8 Inst : VMS3
Misc : 80.00/800 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 15 14:22:34 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 15 14:22:28 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.54	96	1623776	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.44	117	1337592	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.73	152	846432	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.69	113	430982	20.773	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 104	%		
45) SURR12DCAd4	7.09	102	117686	20.171	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 101	%		
61) SURRd8Tolule	9.54	98	1648918	19.461	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 97	%		
83) SURR4BrFBenz	13.07	95	723992	19.854	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 99	%		
Target Compounds						Qvalue
2) Dichlorodi	1.78	85	1653459	64.5617	ug/L	93
3) Chloromethan	2.01	50	1974245	51.1508	ug/L	93
4) VinylChlorid	2.17	62	1906272	64.5919	ug/L	97
5) Bromomethane	2.60	94	895492	74.9616	ug/L	99
6) Chloroethane	2.76	64	1256443	59.8061	ug/L	98
7) Dichloroflmethane	3.07	67	2665143	62.0130	ug/L	94
8) Trichlorofma	3.15	101	2331816	72.5398	ug/L	99
9) Ethylether	3.58	59	1249804	74.7272	ug/L	98
10) dichlorotfluoroethan	3.59	67	1572600	69.1323	ug/L	99
11) propyleneoxide	3.92	58	3436610	554.1052	ug/L #	62
12) Acrolein	3.70	56	2486411	387.6906	ug/L	86
13) 11dichlorthe	3.85	96	1517940	74.8279	ug/L	96
14) Trichlorotfluoroeth	3.90	101	2673935	139.2036	ug/L	97
15) Acetone	3.92	43	7033750	408.7424	ug/L	78
16) Iodomethane	4.03	142	2865245	174.4391	ug/L	94
17) Carbon Dislf	4.12	76	5808036	108.3044	ug/L	87
18) allylchloride	4.33	41	3403649	126.2023	ug/L	96
19) methylacetate	4.39	74	804584	75.6308	ug/L	98
20) Methylchlorid	4.49	84	1770263	63.2986	ug/L	96
21) tbutylalcohol	4.70	59	10485349	1875.4649	ug/L	67
22) Acrylonitrile	4.78	53	4010535	301.4958	ug/L	93
23) t12dichlorte	4.86	96	1589071	71.8594	ug/L	96
24) MtBE	4.90	73	3967418	74.1448	ug/L	92
25) Hexane	5.26	57	3315503	125.0962	ug/L #	91
26) 11dichlorota	5.38	63	2589033	69.1996	ug/L	95
27) Vinylacetate	5.48	43	11607537	362.3628	ug/L	64
28) chloroprene	5.51	53	4057778	127.9037	ug/L	92
29) Diisopether	5.54	45	3710122	64.1726	ug/L	90
30) ETBE	5.99	59	3487438	91.8236	ug/L	93
31) 22dichloropr	6.11	77	2238128	70.3993	ug/L	96
32) c12dichlorte	6.11	96	1782585	73.8204	ug/L	94
33) 2Butanone	6.12	72	3706453	624.0962	ug/L	91
34) propionitrile	6.16	54	3902665	610.9959	ug/L	92
35) Ethylacetate	6.24	88	641022	387.5985	ug/L #	86
36) methacrylonitrile	6.36	67	2073979	145.6680	ug/L	95
37) Bromochlorma	6.39	128	777106	66.8898	ug/L	96
38) Tetrahydofur	6.48	42	6179805	494.6226	ug/L	82

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL1516\WCAL8.D Vial: 11
Acq On : 15 Jul 2016 13:40 Operator: AGK-RLD
Sample : INITIAL CALIB. PT8 Inst : VMS3
Misc : 80.00/800 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 15 14:22:34 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 15 14:22:28 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.50	83	2677520	69.7097	ug/L		96
40)	111trichlota	6.74	97	2527002	74.9845	ug/L		95
42)	Cyclohexane	6.83	56	2480249	70.6013	ug/L		96
43)	Carbtetraclo	6.96	119	2083807	77.0905	ug/L		95
44)	11dicloprope	6.95	110	892138	78.9993	ug/L	#	91
46)	Benzene	7.20	78	4918367	57.5335	ug/L		86
47)	12dichlorota	7.19	62	2133292	72.1910	ug/L		95
48)	TAME	7.37	73	3329103	108.5686	ug/L		94
49)	trichloroete	8.00	95	1688878	74.3446	ug/L		99
50)	methylcyclohexane	8.27	83	2569305	69.5137	ug/L		97
51)	12dicloropra	8.26	63	1704843	75.0309	ug/L		96
52)	23Dicl1propene	8.32	75	2393483	73.8701	ug/L		94
53)	Dibromometha	8.39	93	1135441	78.0347	ug/L		100
54)	methylmethacrylate	8.43	69	1649306	74.5852	ug/L		96
55)	14dioxane	8.44	88	1495889	3555.5797	ug/L		99
56)	Bromodiclrma	8.60	83	2178651	80.1412	ug/L		99
57)	2Nitropropane	8.86	43	5187960	908.8811	ug/L		94
58)	2CLEVE	8.99	63	62237	509.1775	ug/L		95
59)	c13dicloproe	9.17	75	2512261	74.9562	ug/L		94
60)	4Meth2Pentan	9.37	43	9365609	312.4558	ug/L	#	63
62)	Toluene	9.62	92	3652241	61.8860	ug/L	#	81
63)	t13Dicloprop	9.88	75	2324480	79.3322	ug/L		92
64)	ethylmethacrylate	10.03	69	4296588	118.5307	ug/L		89
65)	112Triclotha	10.12	83	1423247	78.1957	ug/L		99
66)	Tetrachlorte	10.36	166	1968451	72.7238	ug/L		95
67)	13Diclorpropa	10.34	76	2655747	71.7165	ug/L		93
69)	2Hexanone	10.46	43	8505065	330.6540	ug/L	#	71
70)	Clorodibrmta	10.64	129	1781633	85.1806	ug/L		97
71)	12Dibrometha	10.79	107	1830748	78.9165	ug/L		99
72)	Chlorobenzen	11.48	112	3885810	63.2892	ug/L		93
73)	1Clhexane	11.46	91	2284393	68.8221	ug/L		97
74)	1112Tetclota	11.58	131	1716235	82.4145	ug/L		98
75)	Ethylbenzene	11.64	91	5688849	52.4300	ug/L		80
76)	m p-Xylene	11.81	106	5014284	112.9977	ug/L	#	70
77)	o-Xylene	12.35	106	2995025	67.1226	ug/L	#	77
78)	Styrene	12.36	104	4408509	62.4410	ug/L		86
79)	Bromoform	12.59	173	1534178	92.0269	ug/L		96
80)	Isopropylben	12.87	105	5490144	54.5896	ug/L		81
81)	cyclohexanone	12.95	55	2196697	1382.6344	ug/L		97
84)	Bromobenzene	13.28	156	2229526	73.3656	ug/L		98
85)	1122Tetrclta	13.25	83	2778829	71.4828	ug/L		95
86)	123Triclproa	13.31	75	3072398	76.0415	ug/L		99
87)	14dichloro2butene	13.34	53	467639	123.5911	ug/L		92
88)	n-Propylbenz	13.46	91	6080048	49.8170	ug/L		75
89)	2chlorotolue	13.57	91	4484385	59.6631	ug/L		85
90)	4chlorotolue	13.72	91	4964862	57.2234	ug/L		83
91)	135Trimebenz	13.72	105	5063542	56.8026	ug/L		83
92)	tbutylbenzen	14.18	119	4594118	59.7189	ug/L		88
93)	124Trimetben	14.25	105	5087807	56.4795	ug/L		82
94)	sbutylbenzen	14.50	105	5769704	52.7370	ug/L		80
95)	13Diclorbenz	14.64	146	3474843	65.2468	ug/L		90
96)	pIsopropylto	14.72	119	5077921	55.9513	ug/L		82
97)	14dichlorobe	14.76	146	3491525	64.6485	ug/L		93
98)	12dichlorobe	15.29	146	3339805	65.4384	ug/L		93
99)	nButylbenzen	15.31	91	4733389	58.0301	ug/L		85
100)	12dibromo3cl	16.40	157	874526	82.2433	ug/L		96
101)	135Trichlorobenzene	16.74	180	2557613	70.5005	ug/L		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL1516\WCAL8.D Vial: 11
Acq On : 15 Jul 2016 13:40 Operator: AGK-RLD
Sample : INITIAL CALIB. PT8 Inst : VMS3
Misc : 80.00/800 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 15 14:22:34 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 15 14:22:28 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.55	180	2333540	69.5409	ug/L	96
103) Hexachlorobu	17.81	225	1177582	75.8312	ug/L	99
104) Naphthalene	17.85	128	4699916	54.1524	ug/L	89
105) 123Trichlben	18.17	180	2040550	70.5431	ug/L	98

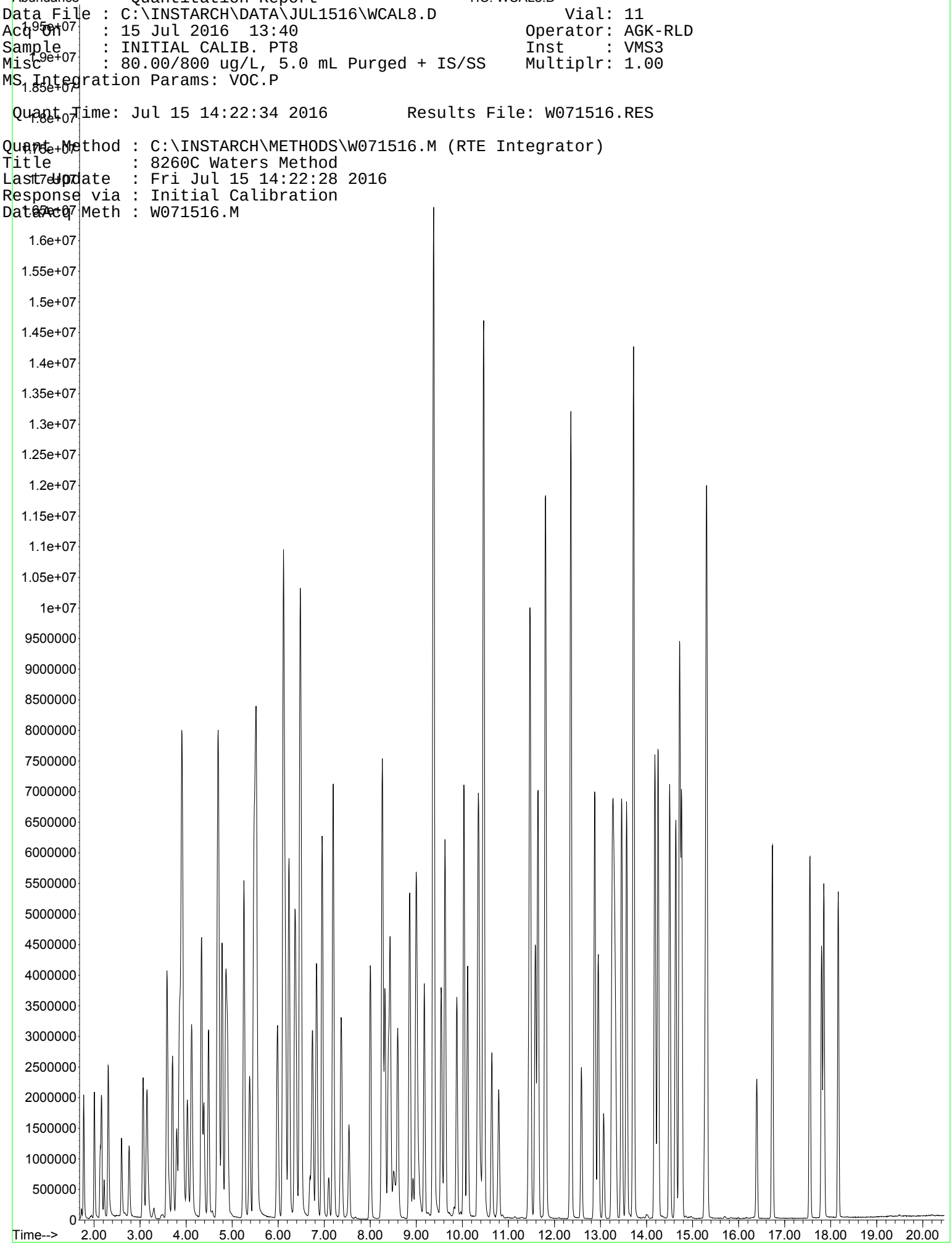
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: WCAL8.D

Data File : C:\INSTARCH\DATA\JUL1516\WCAL8.D Vial: 11
Acq On : 15 Jul 2016 13:40 Operator: AGK-RLD
Sample : INITIAL CALIB. PT8 Inst : VMS3
Misc : 80.00/800 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 15 14:22:34 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 15 14:22:28 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M



Evaluate Continuing Calibration Report

Data File : L:\INSTARCH\Data\JUL1516\ICV1.D Vial: 13
Acq On : 15 Jul 2016 2:39 pm Operator: AGK-RLD
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Jul 18 15:03:02 2016

Quant Method : C:\INSTARCH\METHODS\W071516.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W071516.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	1.0000	1.0000	0.00	100	0.00
2	PT	Dichlorodi	0.3078	0.3263	-6.01	103	0.00
3	PT	Chloromethan	0.4119	0.3977	3.45	90	0.00
4	PT	VinylChlorid	0.3548	0.3619	-2.00	101	0.00
5	PT	Bromomethane	0.1389	0.1702	-22.53#	140	0.00
6	PT	Chloroethane	0.2223	0.2265	-1.89	99	0.00
7	T	Dichloroflmethane	0.5145	0.5165	-0.39	100	0.00
8	PT	Trichlorofma	0.3913	0.3999	-2.20	103	0.00
9	T	Ethylether	0.2043	0.2071	-1.37	103	0.00
10	T	dichlorotfluoroethan	0.2754	0.2633	4.39	100	0.00
11	T	propyleneoxide	0.0690	0.0714	-3.48	97	0.00
12	T	Acrolein	0.0787	0.0816	-3.68	105	0.00
13	PT	11dichlorthe	0.2478	0.2470	0.32	98	0.00
14	PT	Trichlorotfluoroeth	0.2328	0.2307	0.90	99	0.00
15	PT	Acetone	0.1904	0.2051	-7.72	100	0.00
16	T	Iodomethane	0.2046	0.2139	-4.55	117	0.00
17	PT	Carbon Dislf	0.6338	0.6899	-8.85	101	0.00
18	T	allylchloride	0.3234	0.3268	-1.05	100	0.00
19	PT	methylacetate	0.1301	0.1368	-5.15	110	0.00
20	PT	Methylchlorid	0.3221	0.3071	4.66	98	0.00
21	T	tbutylalcohol	0.0643	0.0801	-24.57#	108	0.00
22	T	Acrylonitrile	0.1588	0.1661	-4.60	100	0.00
23	PT	t12dichlorte	0.2689	0.2555	4.98	93	0.00
24	PT	MtBE	0.6530	0.7422	-13.66	109	0.00
25	T	Hexane	0.3175	0.2992	5.76	91	0.00
26	PT	11dichlorota	0.4531	0.4365	3.66	96	0.00
27	T	Vinylacetate	0.3945	0.4489	-13.79	101	0.00
28	T	chloroprene	0.3810	0.3952	-3.73	100	0.00
29	T	Diisopether	0.6945	0.6873	1.04	101	0.00
30	T	ETBE				131	0.00
31	T	22dichloropr	0.3550	0.3590	-1.13	94	0.00
32	PT	c12dichlorte	0.2946	0.2869	2.61	99	0.00
33	PT	2Butanone	0.0711	0.0736#	-3.52	103	0.00
34	T	propionitrile	0.0763	0.0813	-6.55	105	0.00
35	T	Ethylacetate	0.0203	0.0204#	-0.49	106	0.00
36	T	methacrylonitrile	0.1734	0.1733	0.06	102	0.00
37	T	Bromochlorma	0.1402	0.1385	1.21	99	0.00
38	T	Tetrahydofur	0.1512	0.1564	-3.44	104	0.00
39	PT	Chloroform	0.4655	0.4522	2.86	100	0.00
40	PT	111trichlota	0.4118	0.4057	1.48	98	0.00
41	S	SURRDibrflma	0.2568	0.2599	-1.21	102	0.00
42	PT	Cyclohexane	0.4263	0.4202	1.43	98	0.00
43	PT	Carbtetraclo	0.3314	0.3197	3.53	97	0.00
44	T	11dicloprope	0.1389	0.1320	4.97	95	0.00
45	S	SURR12DCAd4	0.0719	0.0729	-1.39	100	0.01
46	PT	Benzene	0.9843	1.0160	-3.22	97	0.00
47	PT	12dichlorota	0.3595	0.3390	5.70	97	0.00
48	T	TAME				157	0.00

49	PT	trichloroete	0.2773	0.2676	3.50	98	0.00
50	PT	methylcyclohexane	0.4478	0.4522	-0.98	99	0.00
51	PT	12dicloropra	0.2777	0.2655	4.39	97	0.00
52	T	23Dicl1propene	0.3953	0.3863	2.28	98	0.00
53	T	Dibromometha	0.1787	0.1701	4.81	99	0.00
54	T	methylmethacrylate	0.2701	0.2722	-0.78	104	0.00
55	T	14dioxane	0.0051	0.0058#	-13.73	95	0.00
56	PT	Bromodiclrma	0.3349	0.3225	3.70	100	0.00
57	T	2Nitropropane	0.0720	0.0774	-7.50	113	0.00
58	T	2CLEVE	0.0018	0.0018#	0.00	121	0.00
59	PT	c13dicloproe	0.4096	0.3965	3.20	98	0.00
60	PT	4Meth2Pentan	0.3692	0.3828	-3.68	103	0.00
61	S	SURRd8Tolule	1.0401	1.0451	-0.48	101	0.00
62	PT	Toluene	0.7063	0.6997	0.93	101	0.00
63	PT	t13Dicloprop	0.3605	0.3507	2.72	101	0.00
64	T	ethylmethacrylate	0.4320	0.4439	-2.75	103	0.00
65	PT	112Triclotha	0.2236	0.2134	4.56	101	0.00
66	PT	Tetrachlorte	0.3296	0.3274	0.67	99	0.00
67	T	13Diclorpropa	0.4502	0.4362	3.11	100	0.00
68	I	d5-CHLOROBENZENE**ISTD**	1.0000	1.0000	0.00	99	0.00
69	PT	2Hexanone	0.3846	0.4081	-6.11	104	0.00
70	PT	Clorodibrmta	0.3153	0.2974	5.68	98	0.00
71	PT	12Dibrometha	0.3463	0.3444	0.55	102	0.00
72	PT	Chlorobenzen	0.8941	0.8948	-0.08	101	0.00
73	T	1Clhexane	0.4876	0.4752	2.54	101	0.00
74	T	1112Tetclota	0.3125	0.2985	4.48	102	0.00
75	PT	Ethylbenzene	1.6061	1.6184	-0.77	100	0.00
76	PT	m p-Xylene	0.6139	0.6488	-5.68	99	0.00
77	PT	o-Xylene	0.6537	0.6473	0.98	101	0.00
78	PT	Styrene	1.0267	1.0626	-3.50	102	0.00
79	PT	Bromoform	0.2540	0.2268	10.71	96	0.00
80	PT	Isopropylben	1.4248	1.5096	-5.95	101	0.00
81	T	cyclohexanone	0.0234	0.0254#	-8.55	107	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	1.0000	1.0000	0.00	101	0.00
83	S	SURR4BrFBenz	0.8608	0.8622	-0.16	101	0.00
84	T	Bromobenzene	0.7106	0.7033	1.03	101	0.00
85	PT	1122Tetrclta	0.9063	0.9074	-0.12	101	0.00
86	T	123Triclproa	0.9488	0.9349	1.47	104	0.00
87	T	14dichloro2butene	0.1004	0.0899	10.46	113	0.00
88	T	n-Propylbenz	2.8682	2.9207	-1.83	101	0.00
89	T	2chlorotolue	1.7195	1.7589	-2.29	102	0.00
90	T	4chlorotolue	1.9771	2.0742	-4.91	104	0.00
91	T	135Trimebenz	2.0300	2.1021	-3.55	100	0.00
92	T	tbutylbenzen	1.7601	1.8066	-2.64	101	0.00
93	T	124Trimetben	2.0503	2.1327	-4.02	100	0.00
94	T	sbutylbenzen	2.4357	2.6165	-7.42	102	0.00
95	PT	13Diclorbenz	1.2294	1.2468	-1.42	102	0.00
96	T	pIsopropylto	2.0639	2.1663	-4.96	102	0.00
97	PT	14dichlorobe	1.2455	1.2547	-0.74	102	0.00
98	PT	12dichlorobe	1.1785	1.1868	-0.70	101	0.00
99	T	nButylbenzen	1.8612	1.9085	-2.54	102	0.00
100	PT	12dibromo3cl	0.2521	0.2300	8.77	93	0.00
101	T	135Trichlorobenzene	0.8445	0.8715	-3.20	104	0.00
102	PT	124Trichlobe	0.7799	0.7850	-0.65	101	0.00
103	T	Hexachlorobu	0.3645	0.3591	1.48	103	0.00
104	T	Naphthalene	1.9382	2.1124	-8.99	106	0.00
105	T	123Trichlben	0.6734	0.6950	-3.21	107	0.00

(#) = Out of Range SPCC's out = 1 CCC's out = 0

W071516.M Tue Jul 19 15:01:19 2016

Evaluate Continuing Calibration Report

Data File : L:\INSTARCH\Data\JUL1516\ICV1.D Vial: 13
Acq On : 15 Jul 2016 2:39 pm Operator: AGK-RLD
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Jul 18 15:03:02 2016

Quant Method : C:\INSTARCH\METHODS\W071516.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W071516.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	20.0000	20.0000	0.00	100	0.00
2	PT	Dichlorodi	10.0000	10.6003	-6.00	103	0.00
3	PT	Chloromethan	10.0000	9.6556	3.44	90	0.00
4	PT	VinylChlorid	10.0000	10.2017	-2.02	101	0.00
5	PT	Bromomethane	10.0000	12.2504	-22.50#	140	0.00
6	PT	Chloroethane	10.0000	10.1875	-1.88	99	0.00
7	T	Dichloroflmethane	10.0000	10.0385	-0.39	100	0.00
8	PT	Trichlorofma	10.0000	10.2202	-2.20	103	0.00
9	T	Ethylether	10.0000	10.1368	-1.37	103	0.00
10	T	dichlorotfluoroethan	10.0000	9.5597	4.40	100	0.00
11	T	propyleneoxide	100.0000	103.4804	-3.48	97	0.00
12	T	Acrolein	50.0000	51.8535	-3.71	105	0.00
13	PT	11dichlorthe	10.0000	9.9642	0.36	98	0.00
14	PT	Trichlorotfluoroeth	20.0000	19.8249	0.88	99	0.00
15	PT	Acetone	100.0000	104.7691	-4.77	100	0.00
16	T	Iodomethane	20.0000	20.9089	-4.54	117	0.00
17	PT	Carbon Dislf	20.0000	21.7696	-8.85	101	0.00
18	T	allylchloride	20.0000	20.2076	-1.04	100	0.00
19	PT	methylacetate	10.0000	10.5120	-5.12	110	0.00
20	PT	Methylchlorid	10.0000	9.5342	4.66	98	0.00
21	T	tbutylalcohol	500.0000	597.4791	-19.50	108	0.00
22	T	Acrylonitrile	50.0000	52.3112	-4.62	100	0.00
23	PT	t12dichlorte	10.0000	9.5029	4.97	93	0.00
24	PT	MtBE	10.0000	11.3652	-13.65	109	0.00
25	T	Hexane	20.0000	18.8451	5.77	91	0.00
26	PT	11dichlorota	10.0000	9.6344	3.66	96	0.00
27	T	Vinylacetate	100.0000	105.6822	-5.68	101	0.00
28	T	chloroprene	20.0000	20.7493	-3.75	100	0.00
29	T	Diisopether	10.0000	9.8958	1.04	101	0.00
30	T	ETBE				131	0.00
31	T	22dichloropr	10.0000	10.1141	-1.14	94	0.00
32	PT	c12dichlorte	10.0000	9.7390	2.61	99	0.00
33	PT	2Butanone	100.0000	103.4640	-3.46	103	0.00
34	T	propionitrile	100.0000	106.4750	-6.47	105	0.00
35	T	Ethylacetate	50.0000	50.1803	-0.36	106	0.00
36	T	methacrylonitrile	20.0000	19.9931	0.03	102	0.00
37	T	Bromochlorma	10.0000	9.8847	1.15	99	0.00
38	T	Tetrahydofur	100.0000	103.4866	-3.49	104	0.00
39	PT	Chloroform	10.0000	9.7157	2.84	100	0.00
40	PT	111trichlota	10.0000	9.8520	1.48	98	0.00
41	S	SURRDibrflma	20.0000	20.2415	-1.21	102	0.00
42	PT	Cyclohexane	10.0000	9.8561	1.44	98	0.00
43	PT	Carbtetraclo	10.0000	9.6474	3.53	97	0.00
44	T	11dicloprope	10.0000	9.5082	4.92	95	0.00
45	S	SURR12DCAd4	20.0000	20.2653	-1.33	100	0.01
46	PT	Benzene	10.0000	10.3223	-3.22	97	0.00
47	PT	12dichlorota	10.0000	9.4283	5.72	97	0.00
48	T	TAME				157	0.00

49	PT	trichloroete	10.0000	9.6505	3.50	98	0.00
50	PT	methylcyclohexane	10.0000	10.0978	-0.98	99	0.00
51	PT	12dicloropra	10.0000	9.5610	4.39	97	0.00
52	T	23Dicl1propene	10.0000	9.7736	2.26	98	0.00
53	T	Dibromometha	10.0000	9.5196	4.80	99	0.00
54	T	methylmethacrylate	10.0000	10.0790	-0.79	104	0.00
55	T	14dioxane	500.0000	571.6067	-14.32	95	0.00
56	PT	Bromodiclrma	10.0000	9.6304	3.70	100	0.00
57	T	2Nitropropane	100.0000	94.6404	5.36	113	0.00
58	T	2CLEVE				121	0.00
59	PT	c13dicloproe	10.0000	9.6802	3.20	98	0.00
60	PT	4Meth2Pentan	100.0000	105.6453	-5.65	103	0.00
61	S	SURRd8Tolule	20.0000	20.0968	-0.48	101	0.00
62	PT	Toluene	10.0000	9.9063	0.94	101	0.00
63	PT	t13Dicloprop	10.0000	9.7280	2.72	101	0.00
64	T	ethylmethacrylate	20.0000	20.5499	-2.75	103	0.00
65	PT	112Triclotha	10.0000	9.5457	4.54	101	0.00
66	PT	Tetrachlorte	10.0000	9.9340	0.66	99	0.00
67	T	13Diclorpropa	10.0000	9.6892	3.11	100	0.00
68	I	d5-CHLOROBENZENE**ISTD**	20.0000	20.0000	0.00	99	0.00
69	PT	2Hexanone	100.0000	106.9832	-6.98	104	0.00
70	PT	Clorodibrmta	10.0000	9.4333	5.67	98	0.00
71	PT	12Dibrometha	10.0000	9.9467	0.53	102	0.00
72	PT	Chlorobenzen	10.0000	10.0083	-0.08	101	0.00
73	T	1Clhexane	10.0000	9.7448	2.55	101	0.00
74	T	1112Tetclota	10.0000	9.5516	4.48	102	0.00
75	PT	Ethylbenzene	10.0000	10.0766	-0.77	100	0.00
76	PT	m p-Xylene	20.0000	21.1367	-5.68	99	0.00
77	PT	o-Xylene	10.0000	9.9018	0.98	101	0.00
78	PT	Styrene	10.0000	10.3500	-3.50	102	0.00
79	PT	Bromoform	10.0000	8.9302	10.70	96	0.00
80	PT	Isopropylben	10.0000	10.5954	-5.95	101	0.00
81	T	cyclohexanone	200.0000	217.8254	-8.91	107	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	20.0000	20.0000	0.00	101	0.00
83	S	SURR4BrFBenz	20.0000	20.0306	-0.15	101	0.00
84	T	Bromobenzene	10.0000	9.8966	1.03	101	0.00
85	PT	1122Tetrclta	10.0000	10.0120	-0.12	101	0.00
86	T	123Triclproa	10.0000	9.8536	1.46	104	0.00
87	T	14dichloro2butene	10.0000	9.9748	0.25	113	0.00
88	T	n-Propylbenz	10.0000	10.1829	-1.83	101	0.00
89	T	2chlorotolue	10.0000	10.2289	-2.29	102	0.00
90	T	4chlorotolue	10.0000	10.4908	-4.91	104	0.00
91	T	135Trimebenz	10.0000	10.3551	-3.55	100	0.00
92	T	tbutylbenzen	10.0000	10.2642	-2.64	101	0.00
93	T	124Trimetben	10.0000	10.4020	-4.02	100	0.00
94	T	sbutylbenzen	10.0000	10.7423	-7.42	102	0.00
95	PT	13Diclorbenz	10.0000	10.1419	-1.42	102	0.00
96	T	pIsopropylto	10.0000	10.4964	-4.96	102	0.00
97	PT	14dichlorobe	10.0000	10.0735	-0.73	102	0.00
98	PT	12dichlorobe	10.0000	10.0700	-0.70	101	0.00
99	T	nButylbenzen	10.0000	10.2545	-2.55	102	0.00
100	PT	12dibromo3cl	10.0000	9.1236	8.76	93	0.00
101	T	135Trichlorobenzene	10.0000	10.3205	-3.20	104	0.00
102	PT	124Trichlobe	10.0000	10.0650	-0.65	101	0.00
103	T	Hexachlorobu	10.0000	9.8519	1.48	103	0.00
104	T	Naphthalene	10.0000	10.8987	-8.99	106	0.00
105	T	123Trichlben	10.0000	10.3215	-3.22	107	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

W071516.M Tue Jul 19 15:01:01 2016

Quantitation Report

Data File : L:\INSTARCH\Data\JUL1516\ICV1.D Vial: 13
Acq On : 15 Jul 2016 2:39 pm Operator: AGK-RLD
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 18 15:03:02 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Mon Jul 18 10:10:08 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.54	96	1485790	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.44	117	1233443	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.73	152	789798	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.69	113	386118	20.242	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101	%		
45) SURR12DCAd4	7.10	102	108306	20.265	ug/L	0.01
Spiked Amount 20.000	Range 89 - 112		Recovery = 101	%		
61) SURRd8Tolule	9.54	98	1552817	20.097	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100	%		
83) SURR4BrFBenz	13.07	95	680927	20.031	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 100	%		
Target Compounds						Qvalue
2) Dichlorodi	1.78	85	242417	10.6003	ug/L	99
3) Chloromethan	2.01	50	295436	9.6556	ug/L	99
4) VinylChlorid	2.17	62	268861	10.2017	ug/L	99
5) Bromomethane	2.60	94	126419	12.2504	ug/L	96
6) Chloroethane	2.76	64	168267	10.1875	ug/L	97
7) Dichloroflmethane	3.07	67	383669	10.0385	ug/L	100
8) Trichlorofma	3.15	101	297111	10.2202	ug/L	97
9) Ethylether	3.58	59	153851	10.1368	ug/L	99
10) dichlorotfluoroethan	3.59	67	195602	9.5597	ug/L	98
11) propyleneoxide	3.92	58	530171	103.4804	ug/L	96
12) Acrolein	3.70	56	303126	51.8535	ug/L #	79
13) 11dichlorthe	3.85	96	183459	9.9642	ug/L	97
14) Trichlorotfluoroeth	3.89	101	342790	19.8249	ug/L	98
15) Acetone	3.92	43	1523791	104.7691	ug/L	98
16) Iodomethane	4.03	142	317799	20.9089	ug/L	99
17) Carbon Dislf	4.12	76	1025088	21.7696	ug/L	100
18) allylchloride	4.33	41	485514	20.2076	ug/L	99
19) methylacetate	4.39	74	101628	10.5120	ug/L	99
20) Methylchlorid	4.49	84	228126	9.5342	ug/L	98
21) tbutylalcohol	4.69	59	2973529	597.4791	ug/L	99
22) Acrylonitrile	4.78	53	617118	52.3112	ug/L	99
23) t12dichlorte	4.85	96	189840	9.5029	ug/L	99
24) MtBE	4.89	73	551373	11.3652	ug/L	99
25) Hexane	5.26	57	444557	18.8451	ug/L	98
26) 11dichlorota	5.38	63	324265	9.6344	ug/L	99
27) Vinylacetate	5.48	43	3334573	105.6822	ug/L	100
28) chloroprene	5.51	53	587233	20.7493	ug/L	99
29) Diisopether	5.54	45	510556	9.8958	ug/L	97
30) ETBE	5.99	59	473549	13.3792	ug/L	98
31) 22dichloropr	6.11	77	266720	10.1141	ug/L	98
32) c12dichlorte	6.11	96	213112	9.7390	ug/L	97
33) 2Butanone	6.12	72	546794	103.4640	ug/L	98
34) propionitrile	6.16	54	603925	106.4750	ug/L	99
35) Ethylacetate	6.23	88	75643	50.1803	ug/L	99
36) methacrylonitrile	6.36	67	257550	19.9931	ug/L	99
37) Bromochlorma	6.39	128	102926	9.8847	ug/L	99
38) Tetrahydofur	6.48	42	1162248	103.4866	ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : L:\INSTARCH\Data\JUL1516\ICV1.D Vial: 13
Acq On : 15 Jul 2016 2:39 pm Operator: AGK-RLD
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 18 15:03:02 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Mon Jul 18 10:10:08 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.50	83	335972	9.7157	ug/L		99
40)	111trichlota	6.74	97	301421	9.8520	ug/L		99
42)	Cyclohexane	6.83	56	312172	9.8561	ug/L		97
43)	Carbtetraclo	6.96	119	237530	9.6474	ug/L		100
44)	11dicloprope	6.95	110	98098	9.5082	ug/L		98
46)	Benzene	7.19	78	754775	10.3223	ug/L		99
47)	12dichlorota	7.19	62	251825	9.4283	ug/L		98
48)	TAME	7.37	73	456656	14.4078	ug/L		98
49)	trichloroete	8.00	95	198826	9.6505	ug/L		99
50)	methylcyclohexane	8.27	83	335915	10.0978	ug/L		98
51)	12dicloropra	8.26	63	197239	9.5610	ug/L		93
52)	23Dicl1propene	8.32	75	286991	9.7736	ug/L		99
53)	Dibromometha	8.39	93	126354	9.5196	ug/L		100
54)	methylmethacrylate	8.43	69	202213	10.0790	ug/L		98
55)	14dioxane	8.44	88	216992	571.6067	ug/L		98
56)	Bromodiclrma	8.60	83	239610	9.6304	ug/L		99
57)	2Nitropropane	8.85	43	574771	94.6404	ug/L		100
58)	2CLEVE	8.99	63	6586	65.6095	ug/L	#	92
59)	c13dicloproe	9.17	75	294536	9.6802	ug/L		99
60)	4Meth2Pentan	9.37	43	2843771	105.6453	ug/L		100
62)	Toluene	9.62	92	519807	9.9063	ug/L		97
63)	t13Dicloprop	9.88	75	260541	9.7280	ug/L		97
64)	ethylmethacrylate	10.03	69	659524	20.5499	ug/L		100
65)	112Triclotha	10.11	83	158530	9.5457	ug/L		99
66)	Tetrachlorte	10.35	166	243241	9.9340	ug/L		98
67)	13Diclorpropa	10.34	76	324064	9.6892	ug/L		97
69)	2Hexanone	10.46	43	2516751	106.9832	ug/L		99
70)	Clorodibrmta	10.63	129	183417	9.4333	ug/L		99
71)	12Dibrometha	10.79	107	212423	9.9467	ug/L		98
72)	Chlorobenzen	11.48	112	551845	10.0083	ug/L		100
73)	1Clhexane	11.46	91	293062	9.7448	ug/L		100
74)	1112Tetclota	11.58	131	184111	9.5516	ug/L		98
75)	Ethylbenzene	11.64	91	998098	10.0766	ug/L		98
76)	m p-Xylene	11.80	106	800244	21.1367	ug/L		99
77)	o-Xylene	12.35	106	399223	9.9018	ug/L		99
78)	Styrene	12.36	104	655354	10.3500	ug/L		98
79)	Bromoform	12.59	173	139863	8.9302	ug/L		98
80)	Isopropylben	12.87	105	931025	10.5954	ug/L		100
81)	cyclohexanone	12.95	55	313710	217.8254	ug/L		99
84)	Bromobenzene	13.28	156	277717	9.8966	ug/L		97
85)	1122Tetrclta	13.25	83	358334	10.0120	ug/L		99
86)	123Triclproa	13.31	75	369190	9.8536	ug/L		99
87)	14dichloro2butene	13.33	53	35498	9.9748	ug/L		93
88)	n-Propylbenz	13.46	91	1153369	10.1829	ug/L		100
89)	2chlorotolue	13.57	91	694584	10.2289	ug/L		99
90)	4chlorotolue	13.72	91	819083	10.4908	ug/L		99
91)	135Trimebenz	13.72	105	830102	10.3551	ug/L		100
92)	tbutylbenzen	14.18	119	713435	10.2642	ug/L		99
93)	124Trimetben	14.25	105	842210	10.4020	ug/L		99
94)	sbutylbenzen	14.50	105	1033249	10.7423	ug/L		100
95)	13Diclorbenz	14.64	146	492368	10.1419	ug/L		99
96)	pIsopropylto	14.72	119	855469	10.4964	ug/L		99
97)	14dichlorobe	14.76	146	495469	10.0735	ug/L		99
98)	12dichlorobe	15.29	146	468647	10.0700	ug/L		99
99)	nButylbenzen	15.31	91	753679	10.2545	ug/L		99
100)	12dibromo3cl	16.40	157	90841	9.1236	ug/L		94
101)	135Trichlorobenzene	16.73	180	344171	10.3205	ug/L		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : L:\INSTARCH\Data\JUL1516\ICV1.D Vial: 13
Acq On : 15 Jul 2016 2:39 pm Operator: AGK-RLD
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 18 15:03:02 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Mon Jul 18 10:10:08 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.55	180	309997	10.0650	ug/L	97
103) Hexachlorobu	17.81	225	141823	9.8519	ug/L	99
104) Naphthalene	17.85	128	834191	10.8987	ug/L	100
105) 123Trichlben	18.17	180	274469	10.3215	ug/L	99

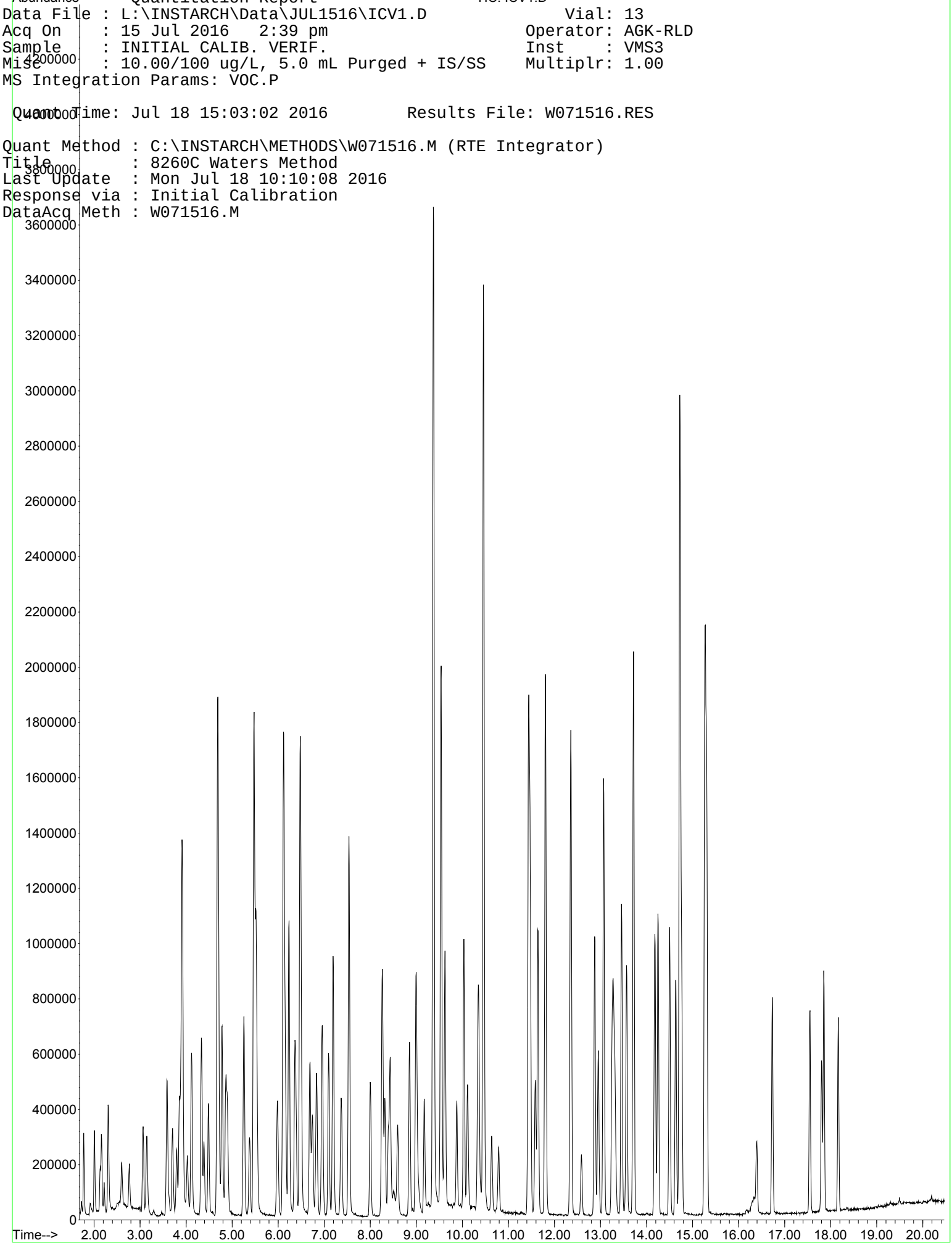
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: ICV1.D

Data File : L:\INSTARCH\Data\JUL1516\ICV1.D Vial: 13
Acq On : 15 Jul 2016 2:39 pm Operator: AGK-RLD
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 18 15:03:02 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Mon Jul 18 10:10:08 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M



Evaluate Continuing Calibration Report

Data File : L:\INSTARCH\Data\JUL1516\ICV2.D Vial: 14
Acq On : 15 Jul 2016 3:08 pm Operator: AGK-RLD
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 30.00/300 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Jul 18 10:22:46 2016

Quant Method : C:\INSTARCH\METHODS\W071516.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W071516.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	20.0000	20.0000	0.00	101	0.00
2	PT	Dichlorodi	30.0000	30.3520	-1.17	103	0.00
3	PT	Chloromethan	30.0000	25.9047	13.65	93	0.00
4	PT	VinylChlorid	30.0000	28.6416	4.53	99	0.00
5	PT	Bromomethane	30.0000	34.4597	-14.87	123	0.00
6	PT	Chloroethane	30.0000	28.1864	6.05	96	0.00
7	T	Dichloroflmethane	30.0000	28.1002	6.33	101	0.00
8	PT	Trichlorofma	30.0000	29.5805	1.40	99	0.00
9	T	Ethylether	30.0000	30.2699	-0.90	103	0.00
10	T	dichlorotfluoroethan	30.0000	28.3247	5.58	99	0.00
11	T	propyleneoxide	300.0000	306.6034	-2.20	108	0.00
12	T	Acrolein	150.0000	161.0585	-7.37	104	0.00
13	PT	11dichlorthe	30.0000	29.0753	3.08	97	0.00
14	PT	Trichlorotfluoroeth	60.0000	58.5207	2.47	99	0.00
15	PT	Acetone	300.0000	324.0106	-8.00	106	0.00
16	T	Iodomethane	60.0000	66.9890	-11.65	100	0.00
17	PT	Carbon Dislf	60.0000	58.3286	2.79	100	0.00
18	T	allylchloride	60.0000	57.1125	4.81	97	0.00
19	PT	methylacetate	30.0000	30.6110	-2.04	108	0.00
20	PT	Methylchlorid	30.0000	27.4562	8.48	100	0.00
21	T	tbutylalcohol	1500.0000	1515.5251	-1.04	102	0.00
22	T	Acrylonitrile	150.0000	145.4824	3.01	101	0.00
23	PT	t12dichlorte	30.0000	27.9808	6.73	99	0.00
24	PT	MtBE	30.0000	32.2098	-7.37	105	0.00
25	T	Hexane	60.0000	54.3788	9.37	95	0.00
26	PT	11dichlorota	30.0000	28.4026	5.32	99	0.00
27	T	Vinylacetate	300.0000	272.0989	9.30	97	0.00
28	T	chloroprene	60.0000	58.6518	2.25	99	0.00
29	T	Diisopether	30.0000	28.6195	4.60	93	0.00
30	T	ETBE	30.0000	38.3571	-27.86#	120	0.00
31	T	22dichloropr	30.0000	29.0331	3.22	95	0.00
32	PT	c12dichlorte	30.0000	28.7955	4.01	99	0.00
33	PT	2Butanone	300.0000	294.4547	1.85	103	0.00
34	T	propionitrile	300.0000	289.2155	3.59	102	0.00
35	T	Ethylacetate	150.0000	152.3908	-1.59	103	0.00
36	T	methacrylonitrile	60.0000	58.9229	1.80	101	0.00
37	T	Bromochlorma	30.0000	27.9787	6.74	98	0.00
38	T	Tetrahydofur	300.0000	265.9529	11.35	102	0.00
39	PT	Chloroform	30.0000	28.2695	5.77	98	0.00
40	PT	111trichlota	30.0000	29.3391	2.20	97	0.00
41	S	SURRDibrflma	20.0000	20.1965	-0.98	100	0.00
42	PT	Cyclohexane	30.0000	29.3829	2.06	101	0.00
43	PT	Carbtetraclo	30.0000	29.7714	0.76	99	0.00
44	T	11dicloprope	30.0000	29.0473	3.18	98	0.00
45	S	SURR12DCAd4	20.0000	19.3732	3.13	95	0.00
46	PT	Benzene	30.0000	28.5586	4.80	99	0.00
47	PT	12dichlorota	30.0000	28.6729	4.42	99	0.00
48	T	TAME	30.0000	36.6228	-22.08#	129	0.00

49	PT	trichloroete	30.0000	29.0621	3.13	100	0.00
50	PT	methylcyclohexane	30.0000	29.7088	0.97	101	0.00
51	PT	12dicloropra	30.0000	28.3874	5.38	97	0.00
52	T	23Dicl1propene	30.0000	29.2524	2.49	99	0.00
53	T	Dibromometha	30.0000	28.6812	4.40	97	0.00
54	T	methylmethacrylate	30.0000	29.2342	2.55	101	0.00
55	T	14dioxane	1500.0000	1240.4095	17.31	85	0.00
56	PT	Bromodiclrma	30.0000	30.1675	-0.56	97	0.00
57	T	2Nitropropane	300.0000	311.3276	-3.78	106	0.00
58	T	2CLEVE	150.0000	174.6758	-16.45	120	0.00
59	PT	c13dicloproe	30.0000	29.2340	2.55	97	0.00
60	PT	4Meth2Pentan	300.0000	294.3823	1.87	101	0.00
61	S	SURRd8Tolule	20.0000	19.7147	1.43	99	0.00
62	PT	Toluene	30.0000	27.7088	7.64	98	0.00
63	PT	t13Dicloprop	30.0000	29.5807	1.40	97	0.00
64	T	ethylmethacrylate	60.0000	57.1381	4.77	101	0.00
65	PT	112Triclotha	30.0000	28.7675	4.11	99	0.00
66	PT	Tetrachlorte	30.0000	28.8749	3.75	98	0.00
67	T	13Diclorpropa	30.0000	28.8579	3.81	101	0.00
68	I	d5-CHLOROBENZENE**ISTD**	20.0000	20.0000	0.00	98	0.00
69	PT	2Hexanone	300.0000	312.4204	-4.14	102	0.00
70	PT	Clorodibrmta	30.0000	30.5635	-1.88	97	0.00
71	PT	12Dibrometha	30.0000	30.2027	-0.68	100	0.00
72	PT	Chlorobenzen	30.0000	28.5150	4.95	99	0.00
73	T	1Clhexane	30.0000	28.8355	3.88	100	0.00
74	T	1112Tetclota	30.0000	29.9515	0.16	99	0.00
75	PT	Ethylbenzene	30.0000	27.1123	9.63	98	0.00
76	PT	m p-Xylene	60.0000	58.5655	2.39	98	0.00
77	PT	o-Xylene	30.0000	28.6912	4.36	98	0.00
78	PT	Styrene	30.0000	29.6058	1.31	99	0.00
79	PT	Bromoform	30.0000	31.2160	-4.05	97	0.00
80	PT	Isopropylben	30.0000	28.8586	3.80	98	0.00
81	T	cyclohexanone	600.0000	552.1365	7.98	94	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	20.0000	20.0000	0.00	97	0.00
83	S	SURR4BrFBenz	20.0000	20.0642	-0.32	100	0.00
84	T	Bromobenzene	30.0000	29.3327	2.22	99	0.00
85	PT	1122Tetrclta	30.0000	28.9949	3.35	99	0.00
86	T	123Triclproa	30.0000	29.4537	1.82	98	0.00
87	T	14dichloro2butene	30.0000	29.4901	1.70	100	0.00
88	T	n-Propylbenz	30.0000	26.6607	11.13	99	0.00
89	T	2chlorotolue	30.0000	28.5117	4.96	98	0.00
90	T	4chlorotolue	30.0000	28.4270	5.24	98	0.00
91	T	135Trimebenz	30.0000	28.4499	5.17	99	0.00
92	T	tbutylbenzen	30.0000	28.9536	3.49	100	0.00
93	T	124Trimetben	30.0000	28.4661	5.11	98	0.00
94	T	sbutylbenzen	30.0000	28.9655	3.45	99	0.00
95	PT	13Diclorbenz	30.0000	28.6092	4.64	99	0.00
96	T	pIsopropylto	30.0000	28.9369	3.54	99	0.00
97	PT	14dichlorobe	30.0000	28.5756	4.75	97	0.00
98	PT	12dichlorobe	30.0000	28.8800	3.73	98	0.00
99	T	nButylbenzen	30.0000	28.7032	4.32	99	0.00
100	PT	12dibromo3cl	30.0000	30.3121	-1.04	100	0.00
101	T	135Trichlorobenzene	30.0000	30.0928	-0.31	101	0.00
102	PT	124Trichlobe	30.0000	29.7426	0.86	99	0.00
103	T	Hexachlorobu	30.0000	29.9902	0.03	100	0.00
104	T	Naphthalene	30.0000	28.8409	3.86	100	0.00
105	T	123Trichlben	30.0000	29.6284	1.24	101	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

W071516.M Tue Jul 19 15:01:45 2016

Quantitation Report

Data File : L:\INSTARCH\Data\JUL1516\ICV2.D Vial: 14
Acq On : 15 Jul 2016 3:08 pm Operator: AGK-RLD
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 30.00/300 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 18 10:22:46 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Mon Jul 18 10:10:08 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.54	96	1514212	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.44	117	1241097	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.73	152	798664	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.69	113	392629	20.197	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101	%		
45) SURR12DCAd4	7.09	102	105519	19.373	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 97	%		
61) SURRd8Tolule	9.54	98	1552430	19.715	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 99	%		
83) SURR4BrFBenz	13.07	95	689727	20.064	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 100	%		
Target Compounds						Qvalue
2) Dichlorodi	1.78	85	707394	30.3520	ug/L	99
3) Chloromethan	2.01	50	807776	25.9047	ug/L	97
4) VinylChlorid	2.17	62	769274	28.6416	ug/L	99
5) Bromomethane	2.60	94	362411	34.4597	ug/L	98
6) Chloroethane	2.77	64	474462	28.1864	ug/L	99
7) Dichloroflmethane	3.07	67	1094528	28.1002	ug/L	99
8) Trichlorofma	3.15	101	876379	29.5805	ug/L	98
9) Ethylether	3.58	59	468211	30.2699	ug/L	98
10) dichlorotfluoroethan	3.59	67	590643	28.3247	ug/L	99
11) propyleneoxide	3.92	58	1600899	306.6034	ug/L #	85
12) Acrolein	3.70	56	959529	161.0585	ug/L	85
13) 11dichlorthe	3.86	96	545572	29.0753	ug/L	100
14) Trichlorotfluoroeth	3.90	101	1031232	58.5207	ug/L	98
15) Acetone	3.92	43	3990778	324.0106	ug/L	93
16) Iodomethane	4.03	142	1037656	66.9890	ug/L	99
17) Carbon Dislf	4.12	76	2799121	58.3286	ug/L	96
18) allylchloride	4.34	41	1398452	57.1125	ug/L	99
19) methylacetate	4.39	74	301603	30.6110	ug/L	99
20) Methylchlorid	4.49	84	669513	27.4562	ug/L	97
21) tbutylalcohol	4.69	59	6412049	1515.5251	ug/L	89
22) Acrylonitrile	4.78	53	1749094	145.4824	ug/L	97
23) t12dichlorte	4.86	96	569666	27.9808	ug/L	98
24) MtBE	4.89	73	1592517	32.2098	ug/L	98
25) Hexane	5.26	57	1307340	54.3788	ug/L	97
26) 11dichlorota	5.38	63	974228	28.4026	ug/L	99
27) Vinylacetate	5.48	43	6953200	272.0989	ug/L	88
28) chloroprene	5.51	53	1691678	58.6518	ug/L	97
29) Diisopether	5.54	45	1504825	28.6195	ug/L	97
30) ETBE	5.99	59	1383592	38.3571	ug/L	99
31) 22dichloropr	6.11	77	780282	29.0331	ug/L	98
32) c12dichlorte	6.11	96	642164	28.7955	ug/L	96
33) 2Butanone	6.12	72	1585924	294.4547	ug/L	98
34) propionitrile	6.16	54	1671808	289.2155	ug/L	99
35) Ethylacetate	6.24	88	234112	152.3908	ug/L	93
36) methacrylonitrile	6.36	67	773561	58.9229	ug/L	98
37) Bromochlorma	6.39	128	296906	27.9787	ug/L	97
38) Tetrahydofur	6.47	42	3044027	265.9529	ug/L	93

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : L:\INSTARCH\Data\JUL1516\ICV2.D Vial: 14
Acq On : 15 Jul 2016 3:08 pm Operator: AGK-RLD
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 30.00/300 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 18 10:22:46 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Mon Jul 18 10:10:08 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.50	83	996273	28.2695	ug/L		99
40)	111trichlota	6.75	97	914796	29.3391	ug/L		97
42)	Cyclohexane	6.83	56	948446	29.3829	ug/L		97
43)	Carbtetraclo	6.97	119	747030	29.7714	ug/L		98
44)	11dicloprope	6.95	110	305419	29.0473	ug/L		98
46)	Benzene	7.20	78	2128174	28.5586	ug/L		97
47)	12dichlorota	7.19	62	780492	28.6729	ug/L		98
48)	TAME	7.37	73	1299964	36.6228	ug/L		98
49)	trichloroete	8.00	95	610214	29.0621	ug/L		100
50)	methylcyclohexane	8.27	83	1007201	29.7088	ug/L		99
51)	12dicloropra	8.26	63	596823	28.3874	ug/L		94
52)	23Dicl1propene	8.32	75	875395	29.2524	ug/L		98
53)	Dibromometha	8.39	93	387971	28.6812	ug/L		98
54)	methylmethacrylate	8.43	69	597738	29.2342	ug/L		100
55)	14dioxane	8.44	88	479889	1240.4095	ug/L		98
56)	Bromodiclrma	8.60	83	764939	30.1675	ug/L		96
57)	2Nitropropane	8.85	43	2069981	311.3276	ug/L		99
58)	2CLEVE	8.99	63	19500	174.6758	ug/L	#	94
59)	c13dicloproe	9.17	75	906503	29.2340	ug/L		99
60)	4Meth2Pentan	9.37	43	6063338	294.3823	ug/L		86
62)	Toluene	9.62	92	1481752	27.7088	ug/L		93
63)	t13Dicloprop	9.88	75	807407	29.5807	ug/L		97
64)	ethylmethacrylate	10.03	69	1868856	57.1381	ug/L		97
65)	112Triclotha	10.11	83	486893	28.7675	ug/L		99
66)	Tetrachlorte	10.36	166	720548	28.8749	ug/L		98
67)	13Diclorpropa	10.34	76	983636	28.8579	ug/L		99
69)	2Hexanone	10.46	43	5480978	312.4204	ug/L		88
70)	Clorodibrmta	10.64	129	597948	30.5635	ug/L		99
71)	12Dibrometha	10.79	107	649012	30.2027	ug/L		99
72)	Chlorobenzen	11.48	112	1582037	28.5150	ug/L		99
73)	1Clhexane	11.46	91	872569	28.8355	ug/L		97
74)	1112Tetclota	11.58	131	580910	29.9515	ug/L		98
75)	Ethylbenzene	11.64	91	2702176	27.1123	ug/L		96
76)	m p-Xylene	11.81	106	2231076	58.5655	ug/L		89
77)	o-Xylene	12.35	106	1163951	28.6912	ug/L		93
78)	Styrene	12.36	104	1886247	29.6058	ug/L		96
79)	Bromoform	12.59	173	491933	31.2160	ug/L		99
80)	Isopropylben	12.87	105	2551557	28.8586	ug/L		95
81)	cyclohexanone	12.95	55	800116	552.1365	ug/L		99
84)	Bromobenzene	13.27	156	832375	29.3327	ug/L		99
85)	1122Tetrclta	13.25	83	1049387	28.9949	ug/L		99
86)	123Triclproa	13.31	75	1115950	29.4537	ug/L		99
87)	14dichloro2butene	13.34	53	127899	29.4901	ug/L		94
88)	n-Propylbenz	13.46	91	3053642	26.6607	ug/L		93
89)	2chlorotolue	13.57	91	1957795	28.5117	ug/L		97
90)	4chlorotolue	13.72	91	2244396	28.4270	ug/L		96
91)	135Trimebenz	13.72	105	2306241	28.4499	ug/L		96
92)	tbutylbenzen	14.18	119	2035070	28.9536	ug/L		97
93)	124Trimetben	14.25	105	2330660	28.4661	ug/L		95
94)	sbutylbenzen	14.50	105	2817331	28.9655	ug/L		96
95)	13Diclorbenz	14.64	146	1404512	28.6092	ug/L		96
96)	pIsopropylto	14.72	119	2384874	28.9369	ug/L		95
97)	14dichlorobe	14.76	146	1421279	28.5756	ug/L		98
98)	12dichlorobe	15.29	146	1359132	28.8800	ug/L		99
99)	nButylbenzen	15.31	91	2133295	28.7032	ug/L		97
100)	12dibromo3cl	16.40	157	305197	30.3121	ug/L		98
101)	135Trichlorobenzene	16.73	180	1014804	30.0928	ug/L		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : L:\INSTARCH\Data\JUL1516\ICV2.D Vial: 14
Acq On : 15 Jul 2016 3:08 pm Operator: AGK-RLD
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 30.00/300 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 18 10:22:46 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Mon Jul 18 10:10:08 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.55	180	926340	29.7426	ug/L	99
103) Hexachlorobu	17.80	225	436573	29.9902	ug/L	97
104) Naphthalene	17.85	128	2232275	28.8409	ug/L	97
105) 123Trichlben	18.17	180	796725	29.6284	ug/L	99

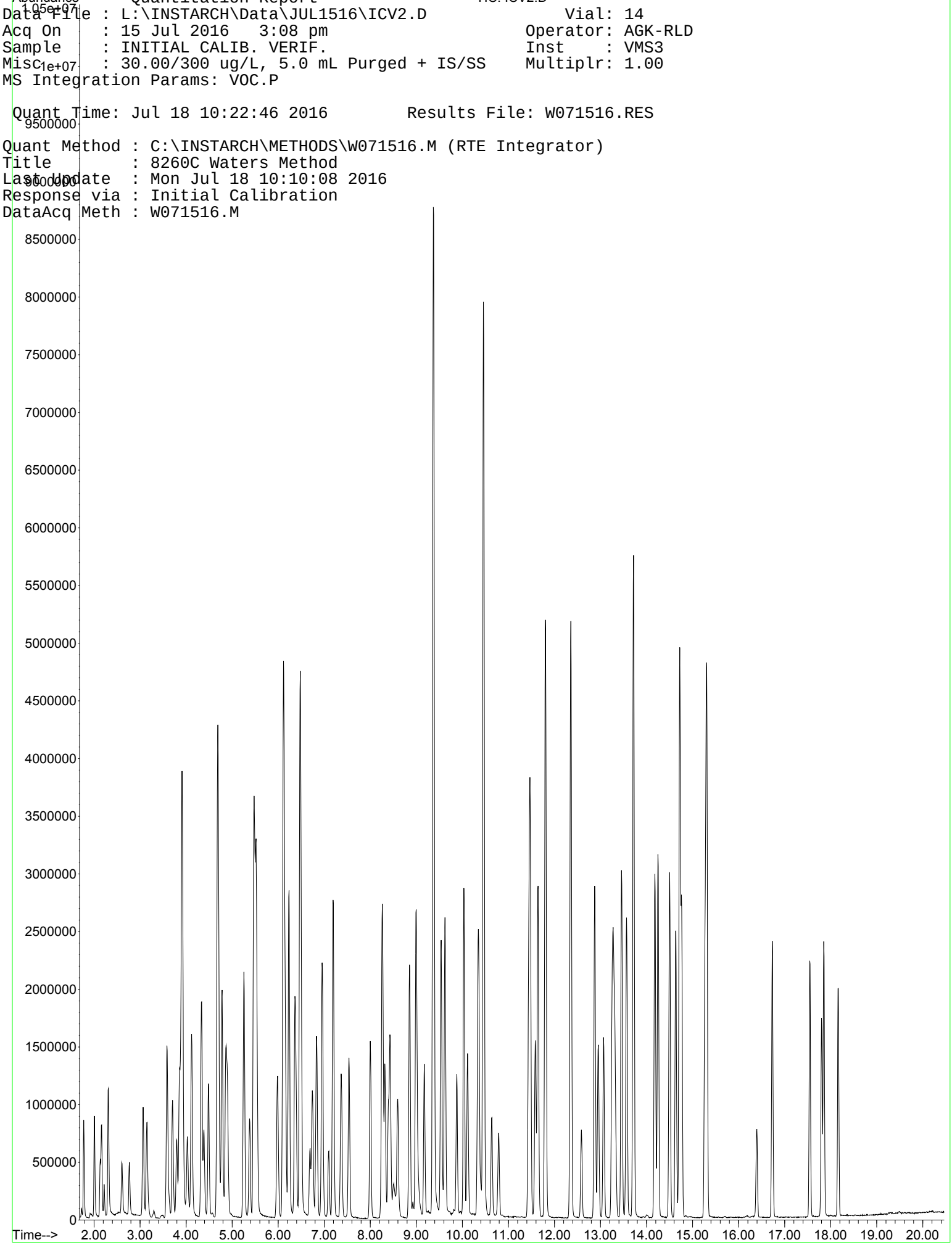
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: ICV2.D

Data File : L:\INSTARCH\Data\JUL1516\ICV2.D Vial: 14
Acq On : 15 Jul 2016 3:08 pm Operator: AGK-RLD
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 30.00/300 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 18 10:22:46 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Mon Jul 18 10:10:08 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M



Quantitation Report

Data File : L:\INSTARCH\Data\JUL1516\ICB1.D Vial: 16
Acq On : 15 Jul 2016 4:07 pm Operator: AGK-RLD
Sample : [redacted] IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 15 16:28:17 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 15 14:22:42 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.54	96	1521469	20.00 ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.44	117	1261744	20.00 ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.73	152	788550	20.00 ug/L	0.00 NA%
System Monitoring Compounds					
41) SURRDibrflma	6.69	113	378028	19.353 ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 97 %		
45) SURR12DCAd4	7.10	102	104793	19.148 ug/L	0.01
Spiked Amount 20.000	Range 89 - 112		Recovery = 96 %		
61) SURRd8Tolule	9.54	98	1565478	19.786 ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 99 %		
83) SURR4BrFBenz	13.07	95	690149	20.334 ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 102 %		
Target Compounds					Qvalue
2) Dichlorodi	0.00	85	0	N.D.	
3) Chloromethan	2.01	50	9923	N.D.	
4) VinylChlorid	0.00	62	0	N.D.	
5) Bromomethane	2.62	94	3020	N.D.	
6) Chloroethane	0.00	64	0	N.D.	
7) Dichloroflmethane	0.00	67	0	N.D.	
8) Trichlorofma	0.00	101	0	N.D.	
9) Ethylether	0.00	59	0	N.D.	
10) dichlorotfluoroethan	0.00	67	0	N.D.	
11) propyleneoxide	3.93	58	8992	N.D.	
12) Acrolein	0.00	56	0	N.D.	
13) 11dichlorthe	0.00	96	0	N.D.	
14) Trichlorotfluoroeth	0.00	101	0	N.D.	
15) Acetone	3.92	43	29115	N.D.	
[redacted]					
17) Carbon Dislf	4.12	76	8852	N.D.	
18) allylchloride	0.00	41	0	N.D.	
19) methylacetate	0.00	74	0	N.D.	
20) Methylchlorid	0.00	84	0	N.D.	
21) tbutylalcohol	4.70	59	14453	N.D.	
22) Acrylonitrile	0.00	53	0	N.D.	
23) t12dichlorte	0.00	96	0	N.D.	
24) MtBE	0.00	73	0	N.D.	
25) Hexane	0.00	57	0	N.D.	
26) 11dichlorota	0.00	63	0	N.D.	
27) Vinylacetate	5.47	43	3511	N.D.	
28) chloroprene	0.00	53	0	N.D.	
29) Diisopether	0.00	45	0	N.D.	
30) ETBE	0.00	59	0	N.D.	
31) 22dichloropr	0.00	77	0	N.D.	
32) c12dichlorte	0.00	96	0	N.D.	
33) 2Butanone	0.00	72	0	N.D.	
34) propionitrile	0.00	54	0	N.D.	
35) Ethylacetate	0.00	88	0	N.D.	
36) methacrylonitrile	0.00	67	0	N.D.	
37) Bromochlorma	0.00	128	0	N.D.	
38) Tetrahydofur	6.49	42	6903	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : L:\INSTARCH\Data\JUL1516\ICB1.D Vial: 16
Acq On : 15 Jul 2016 4:07 pm Operator: AGK-RLD
Sample : INITIAL CALIB. BLANK Inst : VMS3
Misc : 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 15 16:28:17 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 15 14:22:42 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	0.00	119	0	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	0.00	78	0	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	0.00	95	0	N.D.	
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	9.37	43	4647	N.D.	
62)	Toluene	0.00	92	0	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	10.46	43	11937	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	11.44	91	3393	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	0.00	106	0	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	12.96	55	6557	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	13.45	91	3117	N.D.	
89)	2chlorotolue	13.45	91	2683	N.D.	
90)	4chlorotolue	13.71	91	3066	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	0.00	105	0	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	15.26	91	4838	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : L:\INSTARCH\Data\JUL1516\ICB1.D Vial: 16
Acq On : 15 Jul 2016 4:07 pm Operator: AGK-RLD
Sample : INITIAL CALIB. BLANK Inst : VMS3
Misc : 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 15 16:28:17 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 15 14:22:42 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.56	180	2730	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	17.85	128	10654	N.D.		
105) 123Trichlben	18.15	180	2616	N.D.		

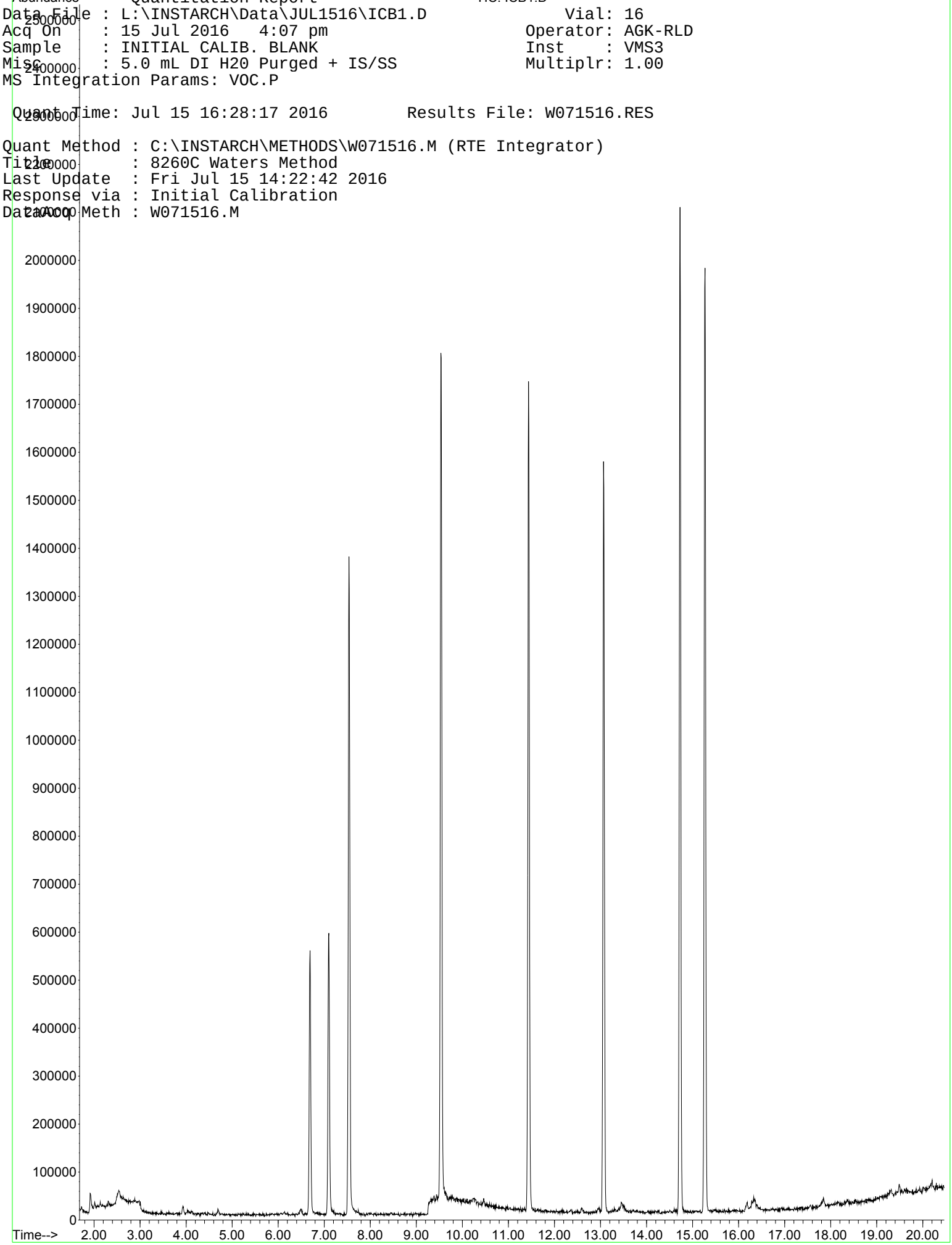
(#) = qualifier out of range (m) = manual integration

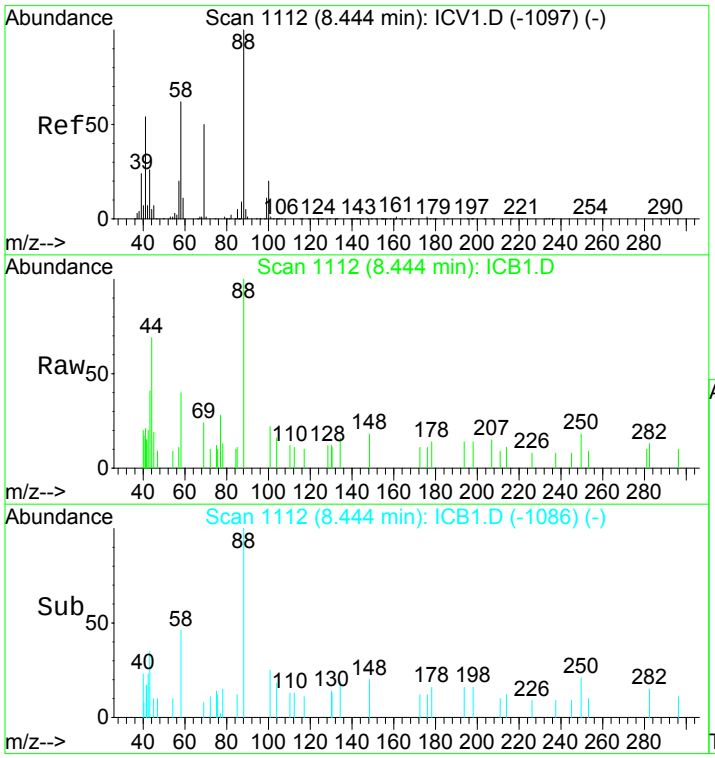
Abundance Quantitation Report TIC: ICB1.D

Data File : L:\INSTARCH\Data\JUL1516\ICB1.D Vial: 16
Acq On : 15 Jul 2016 4:07 pm Operator: AGK-RLD
Sample : INITIAL CALIB. BLANK Inst : VMS3
Misc : 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 15 16:28:17 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 15 14:22:42 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M

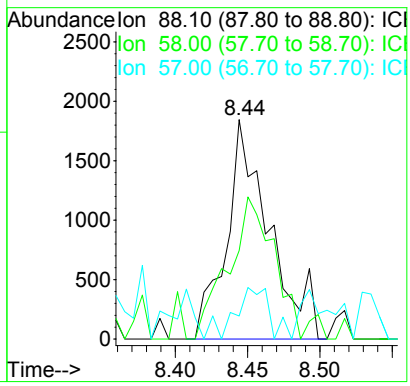




#55
14dioxane
Concen: 9.75 ug/L
RT: 8.44 min Scan# 1112
Delta R.T. 0.01 min
Lab File: ICB1.D
Acq: 15 Jul 2016 4:07 pm

Tgt Ion: 88 Resp: 3789

Ion	Ratio	Lower	Upper
88	100		
58	72.8	44.9	84.9
57	0.0	1.0	41.0#



BFB

Data File : L:\INSTARCH\Data\JUL1816\BFB1.D Vial: 1
Acq On : 18 Jul 2016 10:32 am Operator: AGK-RLD
Sample : 127852,BFB, Inst : VMS3
Misc : 25 ng Inj. Multiplr: 1.00
Integration File: VOC.P

Method : L:\INSTARCH\METHODS\W071516.M
Title : 8260C Waters Method

Spectrum Information: Average of 4.453 to 4.484 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	18.1	30649	PASS
75	95	30	60	51.2	86466	PASS
95	95	100	100	100.0	168906	PASS
96	95	5	9	6.7	11380	PASS
173	174	0.00	2	0.7	1140	PASS
174	95	50	100	96.0	162090	PASS
175	174	5	9	7.3	11822	PASS
176	174	95	101	97.8	158490	PASS
177	176	5	9	6.9	11006	PASS

W071516.M Tue Jul 19 15:46:52 2016

Quantitation Report

Data File : L:\INSTARCH\Data\JUL1816\ICVR.D Vial: 10
Acq On : 18 Jul 2016 2:47 pm Operator: AGK-RLD
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Reanalyzed for Bromomethane, MTBE, TAME, and 2-CLEVE. Bromomethane had acceptable results. All others had high recoveries.

Quant Time: Jul 19 10:13:39 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Mon Jul 18 10:10:08 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.54	96	1462270	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.44	117	1202616	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.73	152	761992	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.69	113	371353	19.781	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 99 %			
45) SURR12DCAd4	7.10	102	100044	19.020	ug/L	0.01
Spiked Amount 20.000	Range 89 - 112		Recovery = 95 %			
61) SURRd8Tolule	9.54	98	1505794	19.802	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 99 %			
83) SURR4BrFBenz	13.07	95	647281	19.736	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 99 %			
Target Compounds						Qvalue
2) Dichlorodi	1.78	85	234457	10.4171	ug/L	100
3) Chloromethan	2.01	50	259672	8.6233	ug/L	97
4) VinylChlorid	2.17	62	255554	9.8528	ug/L	99
5) Bromomethane	2.61	94	116324	11.4535	ug/L	99
6) Chloroethane	2.77	64	162367	9.9884	ug/L	98
7) Dichloroflmethane	3.07	67	373578	9.9317	ug/L	100
8) Trichlorofma	3.15	101	282227	9.8644	ug/L	98
9) Ethylether	3.58	59	147552	9.8781	ug/L	98
10) dichlorotfluoroethan	3.59	67	189563	9.4135	ug/L	98
11) propyleneoxide	3.92	58	471715	93.5517	ug/L	93
12) Acrolein	3.70	56	339390	58.9907	ug/L #	71
13) 11dichlorthe	3.86	96	173024	9.5486	ug/L	96
14) Trichlorotfluoroeth	3.89	101	342768	20.1425	ug/L	98
15) Acetone	3.92	43	1385993	95.7241	ug/L	97
16) Iodomethane	4.03	142	291316	19.4748	ug/L	99
17) Carbon Dislf	4.12	76	977039	21.0829	ug/L	100
18) allylchloride	4.34	41	462575	19.5625	ug/L	99
19) methylacetate	4.39	74	94945	9.9787	ug/L	97
20) Methylchlorid	4.49	84	219519	9.3221	ug/L	99
21) tbutylalcohol	4.69	59	2712985	546.7066	ug/L	100
22) Acrylonitrile	4.78	53	611632	52.6801	ug/L	99
23) t12dichlorte	4.86	96	186912	9.5068	ug/L	99
24) MtBE	4.90	73	543390	11.3808	ug/L	97
25) Hexane	5.26	57	463757	19.9752	ug/L	98
26) 11dichlorota	5.38	63	320222	9.6673	ug/L	99
27) Vinylacetate	5.48	43	3161065	101.2176	ug/L	100
28) chloroprene	5.51	53	569353	20.4411	ug/L	100
29) Diisopether	5.54	45	501411	9.8748	ug/L	98
30) ETBE	5.99	59	495101	14.2131	ug/L	98
31) 22dichloropr	6.11	77	258443	9.9579	ug/L	99
32) c12dichlorte	6.11	96	204534	9.4974	ug/L	97
33) 2Butanone	6.12	72	519411	99.8634	ug/L	99
34) propionitrile	6.16	54	559167	100.1696	ug/L	99
35) Ethylacetate	6.23	88	72954	49.1749	ug/L	99
36) methacrylonitrile	6.36	67	258417	20.3831	ug/L	97
37) Bromochlorma	6.39	128	97735	9.5371	ug/L	98
38) Tetrahydofur	6.48	42	1114211	100.8052	ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : L:\INSTARCH\Data\JUL1816\ICVR.D Vial: 10
Acq On : 18 Jul 2016 2:47 pm Operator: AGK-RLD
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 19 10:13:39 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Mon Jul 18 10:10:08 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.50	83	323602	9.5085	ug/L		99
40)	111trichlota	6.74	97	299014	9.9305	ug/L		99
42)	Cyclohexane	6.83	56	313783	10.0663	ug/L		99
43)	Carbtetraclo	6.96	119	240316	9.9175	ug/L		99
44)	11dicloprope	6.95	110	96885	9.5417	ug/L		98
46)	Benzene	7.20	78	733820	10.1971	ug/L		99
47)	12dichlorota	7.19	62	251006	9.5488	ug/L		99
48)	TAME	7.37	73	492983	15.6536	ug/L		99
49)	trichloroete	8.00	95	191796	9.4590	ug/L		97
50)	methylcyclohexane	8.27	83	343137	10.4808	ug/L		97
51)	12dicloropra	8.26	63	192909	9.5015	ug/L		99
52)	23Dicl1propene	8.32	75	278523	9.6378	ug/L		99
53)	Dibromometha	8.39	93	118802	9.0946	ug/L		97
54)	methylmethacrylate	8.43	69	186702	9.4556	ug/L		99
55)	14dioxane	8.44	88	138221	369.9623	ug/L		99
56)	Bromodiclrma	8.60	83	237906	9.7158	ug/L		96
57)	2Nitropropane	8.85	43	746633	120.8183	ug/L		100
58)	2CLEVE	8.98	63	8630	87.1309	ug/L	#	77
59)	c13dicloproe	9.17	75	285757	9.5428	ug/L		100
60)	4Meth2Pentan	9.37	43	2812675	106.2790	ug/L		100
62)	Toluene	9.62	92	509365	9.8635	ug/L		97
63)	t13Dicloprop	9.88	75	250243	9.4937	ug/L		97
64)	ethylmethacrylate	10.03	69	642584	20.3441	ug/L		98
65)	112Triclotha	10.12	83	154950	9.4802	ug/L		98
66)	Tetrachlorte	10.36	166	232303	9.6399	ug/L		97
67)	13Diclorpropa	10.34	76	318976	9.6905	ug/L		98
69)	2Hexanone	10.46	43	2488185	108.7713	ug/L		100
70)	Clorodibrmta	10.64	129	185780	9.7998	ug/L		99
71)	12Dibrometha	10.79	107	203285	9.7629	ug/L		99
72)	Chlorobenzen	11.48	112	543082	10.1018	ug/L		98
73)	1Clhexane	11.46	91	293879	10.0225	ug/L		99
74)	1112Tetclota	11.58	131	187462	9.9747	ug/L		96
75)	Ethylbenzene	11.64	91	972508	10.0699	ug/L		98
76)	m p-Xylene	11.80	106	778874	21.0995	ug/L		99
77)	o-Xylene	12.35	106	393318	10.0054	ug/L		98
78)	Styrene	12.36	104	628217	10.1757	ug/L		98
79)	Bromoform	12.58	173	145752	9.5448	ug/L		99
80)	Isopropylben	12.87	105	912094	10.6461	ug/L		99
81)	cyclohexanone	12.95	55	249905	177.9702	ug/L		100
84)	Bromobenzene	13.28	156	269419	9.9512	ug/L		97
85)	1122Tetrclta	13.25	83	354104	10.2549	ug/L		99
86)	123Triclproa	13.31	75	364310	10.0781	ug/L		99
87)	14dichloro2butene	13.34	53	38593	11.0307	ug/L		98
88)	n-Propylbenz	13.46	91	1137205	10.4065	ug/L		100
89)	2chlorotolue	13.57	91	681270	10.3989	ug/L		98
90)	4chlorotolue	13.72	91	789765	10.4844	ug/L		100
91)	135Trimebenz	13.72	105	823626	10.6493	ug/L		100
92)	tbutylbenzen	14.18	119	697726	10.4045	ug/L		99
93)	124Trimetben	14.25	105	818572	10.4790	ug/L		99
94)	sbutylbenzen	14.50	105	1019514	10.9863	ug/L		99
95)	13Diclorbenz	14.63	146	483529	10.3233	ug/L		100
96)	pIsopropylto	14.72	119	834405	10.6115	ug/L		99
97)	14dichlorobe	14.76	146	492595	10.3805	ug/L		99
98)	12dichlorobe	15.30	146	463793	10.3293	ug/L		99
99)	nButylbenzen	15.31	91	754799	10.6445	ug/L		99
100)	12dibromo3cl	16.40	157	89671	9.3347	ug/L		92
101)	135Trichlorobenzene	16.74	180	348391	10.8283	ug/L		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : L:\INSTARCH\Data\JUL1816\ICVR.D Vial: 10
Acq On : 18 Jul 2016 2:47 pm Operator: AGK-RLD
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 19 10:13:39 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Mon Jul 18 10:10:08 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.55	180	312943	10.5314	ug/L	98
103) Hexachlorobu	17.81	225	152039	10.9469	ug/L	98
104) Naphthalene	17.85	128	866035	11.7276	ug/L	100
105) 123Trichlben	18.17	180	284877	11.1038	ug/L	98

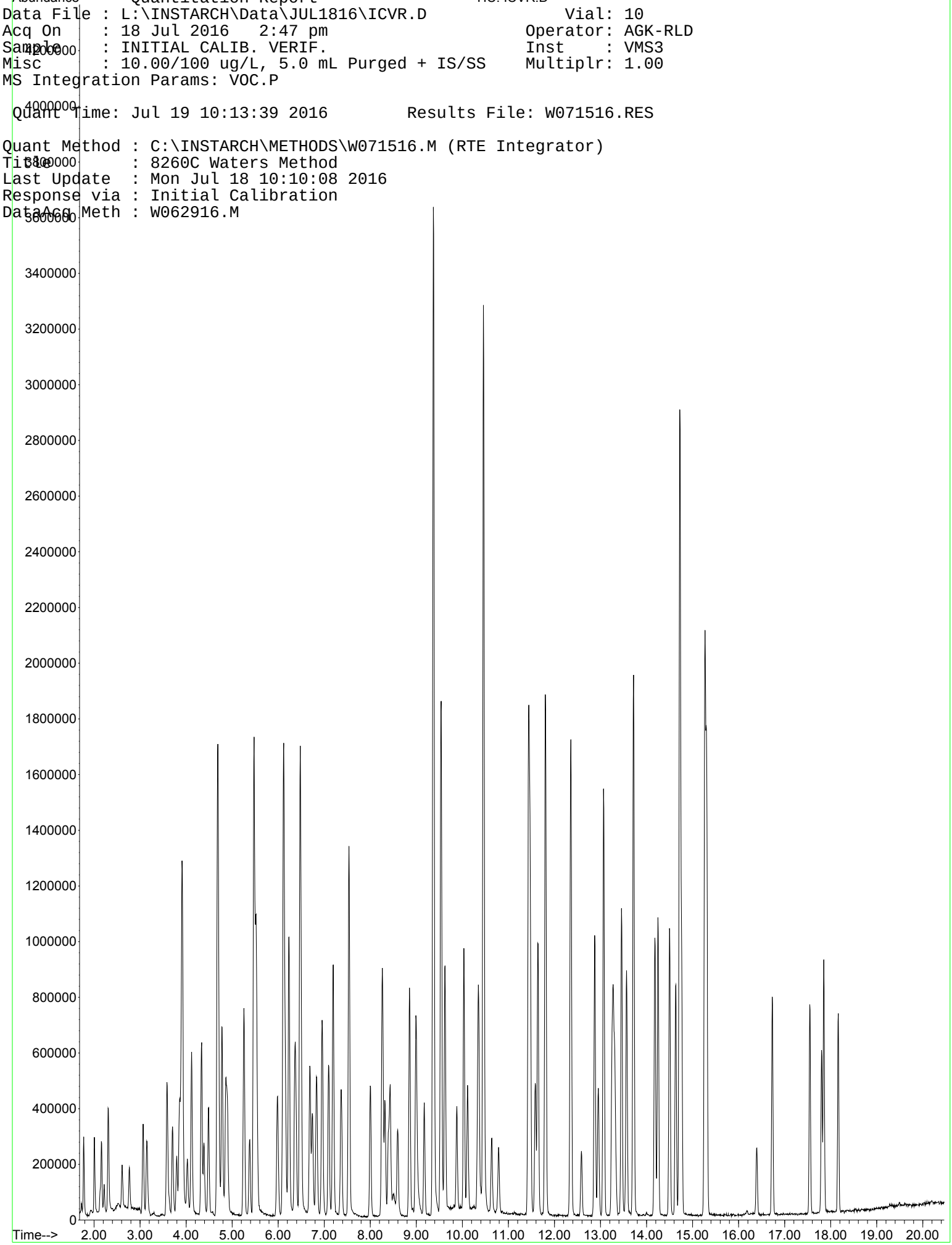
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: ICVR.D

Data File : L:\INSTARCH\Data\JUL1816\ICVR.D Vial: 10
Acq On : 18 Jul 2016 2:47 pm Operator: AGK-RLD
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 19 10:13:39 2016 Results File: W071516.RES

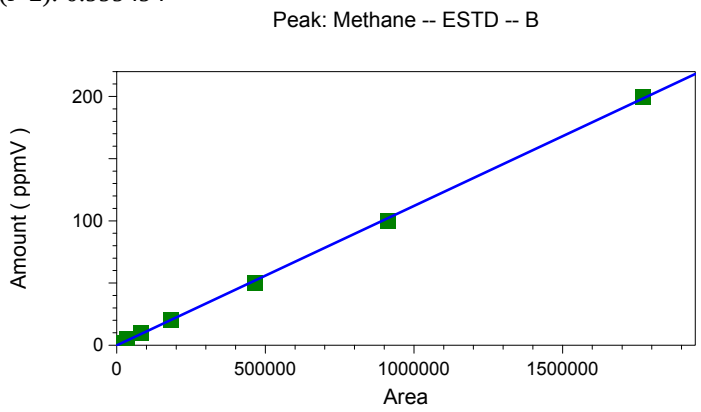
Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Mon Jul 18 10:10:08 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M



Calibration Report

Method: C:\Instarch\PVOC4\Methods\P4DG020315.met
Print Time: Feb 11, 2015 14:41:33
User: AGK
Instrument: PVOC4

Methane (B)
Average RF: 0.000126758 RF StDev: 2.66182e-005 RF %RSD: 20.9992
Scaling: None LSQ Weighting: None Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 0.000112132x - 0.0862934
Goodness of fit (r^2): 0.999494



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	2	5	10	20	50
Area	11158	34407	81596	181231	466265
RF	0.000179243	0.00014531926	0.000122555027	0.000110356395	0.0001072351
	592041585	6428343	207216	98082	55973534
Last Area					
Residual	0.835122	1.22816	0.936751	-0.235545	-2.19705
Rep StDev					
Rep %RSD					
Rep 1 Area	11158	34407	81596	181231	466265
Rep 1 User	BMS	BMS	BMS	BMS	BMS
Rep 1 Data File	C:\Instarch\P VOC4\Data\0 20315icdg\00 1.dat	C:\Instarch\PV OC4\Data\0203 15icdg\002.dat	C:\Instarch\PVO C4\Data\020315 icdg\003.dat	C:\Instarch\PVO C4\Data\020315 icdg\004.dat	C:\Instarch\PV OC4\Data\020 315icdg\005.d at
Rep 1 Sample ID	MEE PT1 - 2 ppmV	MEE PT2 - 5 ppmV	MEE PT3 - 10 ppmV	MEE PT4 - 20 ppmV	MEE PT5 - 50 ppmV
Rep 1 Calib. Time	Feb 03, 2015 10:55:14	Feb 03, 2015 10:55:32	Feb 03, 2015 10:55:50	Feb 03, 2015 10:56:05	Feb 03, 2015 10:56:18

	Level 6	Level 7
Amount	100	200
Area	912807	1769205

RJ 02/11/2015

Calibration Report

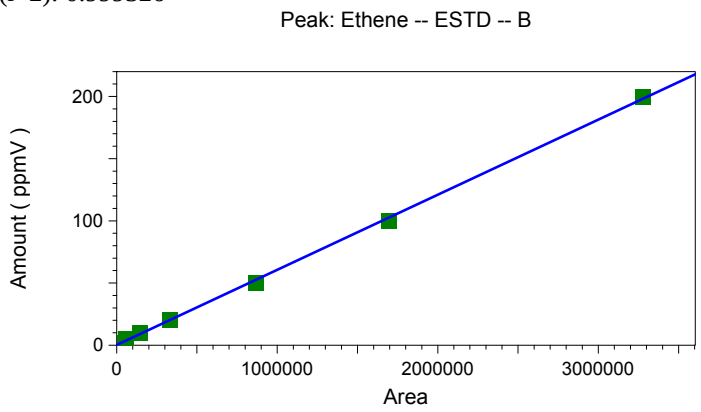
Method: C:\Instarch\PVOC4\Methods\P4DG020315.met
Print Time: Feb 11, 2015 14:41:33
User: AGK
Instrument: PVOC4

RF	0.000109552183539346	0.00011304512 4787687
Last Area Residual	-2.2688	1.70137
Rep StDev		
Rep %RSD		
Rep 1 Area	912807	1769205
Rep 1 User	BMS	BMS
Rep 1 Data File	C:\Instarch\PVOC4\Data\020315icdg\006.dat	C:\Instarch\PVOC4\Data\020315icdg\007.dat
Rep 1 Sample ID	MEE PT6 - 100 ppmV	MEE PT7 - 200 ppmV
Rep 1 Calib. Time	Feb 03, 2015 10:56:31	Feb 03, 2015 10:56:53

Calibration Report

Method: C:\Instarch\PVOC4\Methods\P4DG020315.met
Print Time: Feb 11, 2015 14:41:51
User: AGK
Instrument: PVOC4

Ethene (B)
Average RF: 7.34101e-005 RF StDev: 2.20333e-005 RF %RSD: 30.0140
Scaling: None LSQ Weighting: None Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 6.03920e-005x + 0.196712
Goodness of fit (r^2): 0.999326



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	2	5	10	20	50
Area	17089	56566	142389	330410	867023
RF	0.000117034	8.83923204751	7.023014418248	6.053085560364	5.7668597026
	349581602	971e-005	6e-005	4e-005	8378e-005
Last Area					
Residual	0.77125	1.38716	1.20414	-0.150822	-2.55794
Rep StDev					
Rep %RSD					
Rep 1 Area	17089	56566	142389	330410	867023
Rep 1 User	BMS	BMS	BMS	BMS	BMS
Rep 1 Data File	C:\Instarch\P	C:\Instarch\PV	C:\Instarch\PVO	C:\Instarch\PVO	C:\Instarch\PV
	VOC4\Data\0	OC4\Data\0203	C4\Data\020315	C4\Data\020315	OC4\Data\020
	20315icdg\00	15icdg\002.dat	icdg\003.dat	icdg\004.dat	315icdg\005.d
	1.dat				at
Rep 1 Sample ID	MEE PT1 - 2	MEE PT2 - 5	MEE PT3 - 10	MEE PT4 - 20	MEE PT5 - 50
	ppmV	ppmV	ppmV	ppmV	ppmV
Rep 1 Calib. Time	Feb 03, 2015	Feb 03, 2015	Feb 03, 2015	Feb 03, 2015	Feb 03, 2015
	10:55:14	10:55:32	10:55:50	10:56:05	10:56:18

	Level 6	Level 7
Amount	100	200
Area	1696051	3275808

RJ 02/11/2015

Calibration Report

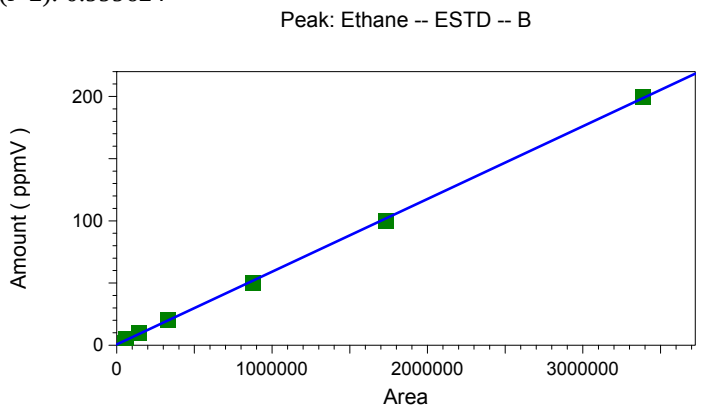
Method: C:\Instarch\PVOC4\Methods\P4DG020315.met
Print Time: Feb 11, 2015 14:41:51
User: AGK
Instrument: PVOC4

RF	5.896049116 44756e-005	6.10536392853 305e-005
Last Area		
Residual	-2.62457	1.97079
Rep StDev		
Rep %RSD		
Rep 1 Area	1696051	3275808
Rep 1 User	BMS	BMS
Rep 1 Data File	C:\Instarch\P VOC4\Data\0 20315icdg\00 6.dat	C:\Instarch\PV OC4\Data\0203 15icdg\007.dat
Rep 1 Sample ID	MEE PT6 - 100 ppmV	MEE PT7 - 200 ppmV
Rep 1 Calib. Time	Feb 03, 2015 10:56:31	Feb 03, 2015 10:56:53

Calibration Report

Method: C:\Instarch\PVOC4\Methods\P4DG020315.met
Print Time: Feb 11, 2015 14:41:59
User: AGK
Instrument: PVOC4

Ethane (B)
Average RF: 7.20208e-005 RF StDev: 2.08377e-005 RF %RSD: 28.9328
Scaling: None LSQ Weighting: None Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 5.84964e-005x + 0.597310
Goodness of fit (r^2): 0.999624



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	2	5	10	20	50
Area	17853	56692	142896	332327	878485
RF	0.000112025 990029687	8.81958653778 311e-005	6.998096517747 17e-005	6.018168851763 47e-005	5.6916168175 8937e-005
Last Area Residual	0.358353	1.08641	1.04378	-0.0372589	-1.98556
Rep StDev					
Rep %RSD					
Rep 1 Area	17853	56692	142896	332327	878485
Rep 1 User	BMS	BMS	BMS	BMS	BMS
Rep 1 Data File	C:\Instarch\PVOC4\Data\020315icdg\001.dat	C:\Instarch\PVOC4\Data\020315icdg\002.dat	C:\Instarch\PVOC4\Data\020315icdg\003.dat	C:\Instarch\PVOC4\Data\020315icdg\004.dat	C:\Instarch\PVOC4\Data\020315icdg\005.dat
Rep 1 Sample ID	MEE PT1 - 2 ppmV	MEE PT2 - 5 ppmV	MEE PT3 - 10 ppmV	MEE PT4 - 20 ppmV	MEE PT5 - 50 ppmV
Rep 1 Calib. Time	Feb 03, 2015 10:55:14	Feb 03, 2015 10:55:32	Feb 03, 2015 10:55:50	Feb 03, 2015 10:56:05	Feb 03, 2015 10:56:18

	Level 6	Level 7
Amount	100	200
Area	1731517	3384539

RJ 02/11/2015

Calibration Report

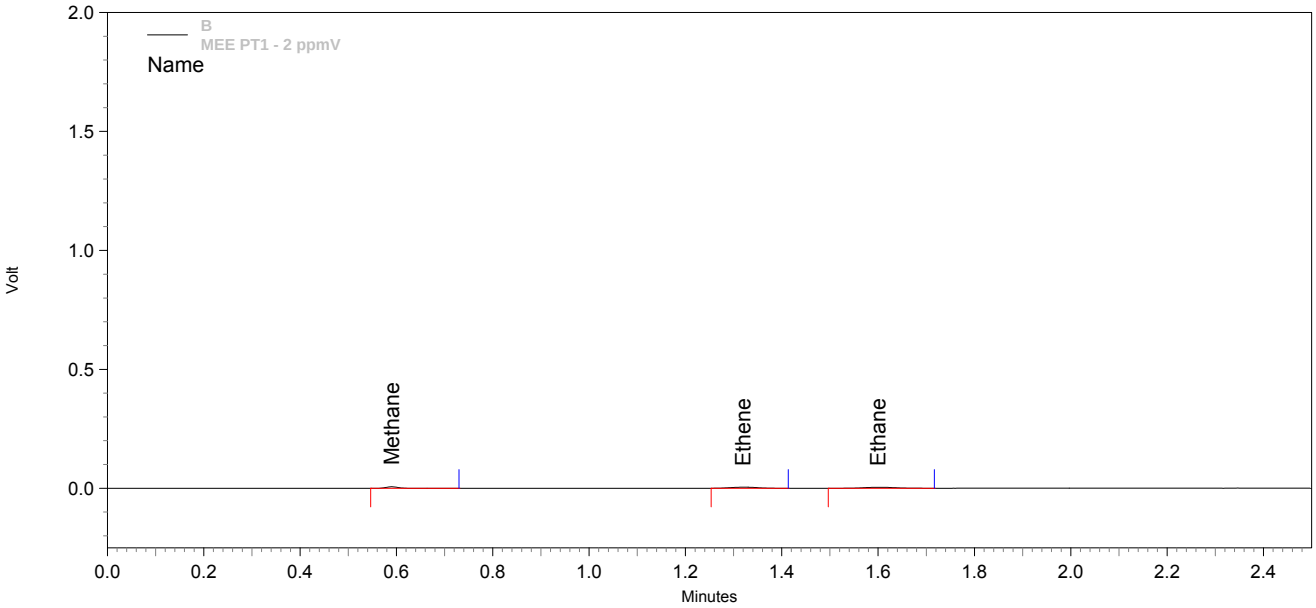
Method: C:\Instarch\PVOC4\Methods\P4DG020315.met
Print Time: Feb 11, 2015 14:41:59
User: AGK
Instrument: PVOC4

RF	5.77528259901578e-005	5.90922426953863e-005
Last Area Residual	-1.8849	1.41918
Rep StDev		
Rep %RSD		
Rep 1 Area	1731517	3384539
Rep 1 User	BMS	BMS
Rep 1 Data File	C:\Instarch\PVOC4\Data\020315icdg\006.dat	C:\Instarch\PVOC4\Data\020315icdg\007.dat
Rep 1 Sample ID	MEE PT6 - 100 ppmV	MEE PT7 - 200 ppmV
Rep 1 Calib. Time	Feb 03, 2015 10:56:31	Feb 03, 2015 10:56:53

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\020315icdg\001.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: MEE PT1 - 2 ppmV
Acquired: Feb 03, 2015 10:27:30
File Desc. 0.01 mL injection (Methane, Ethene, Ethane)



B Results

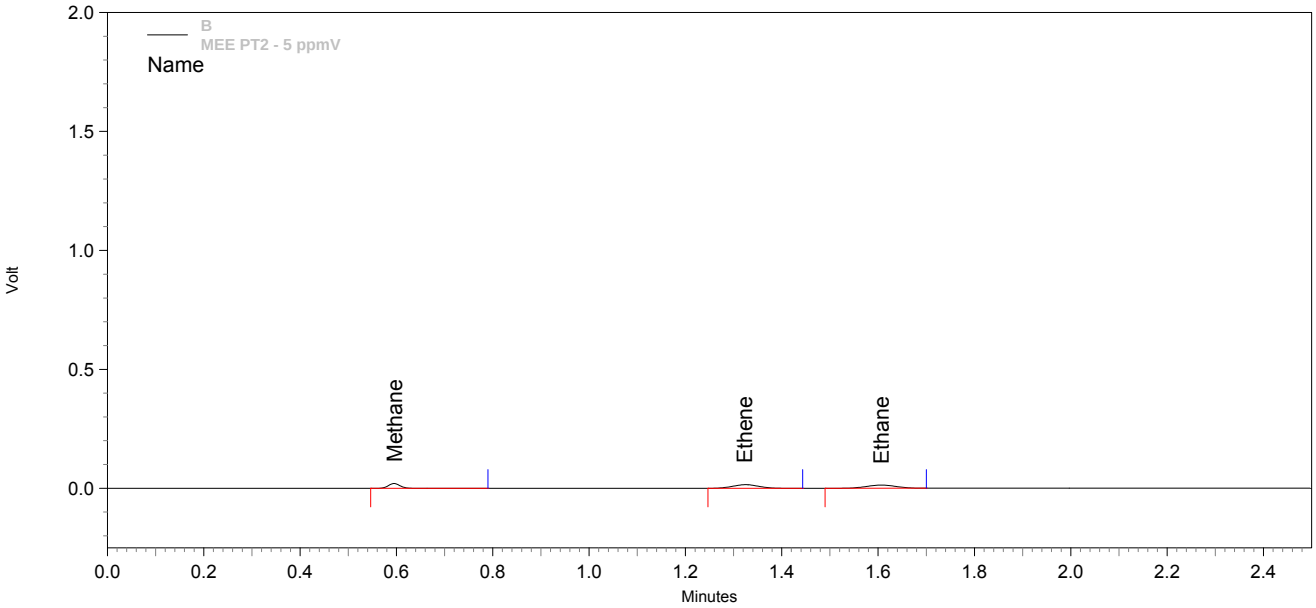
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.590	11158	**1.165**
2	Ethene	1.320	17089	**1.229**
3	Ethane	1.600	17853	**1.642**

Totals			46100	**4.035**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\020315icdg\002.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: MEE PT2 - 5 ppmV
Acquired: Feb 03, 2015 10:35:02
File Desc. 0.025 mL injection (Methane, Ethene, Ethane)



B Results

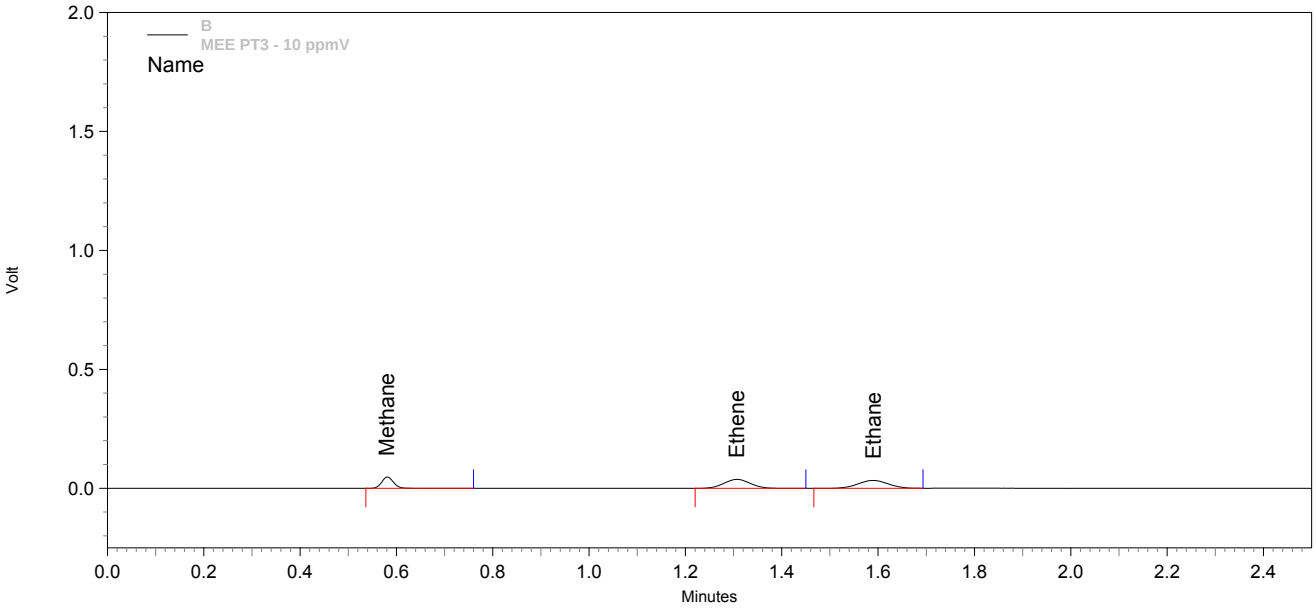
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.597	34407	**5.000 CAL**
2	Ethene	1.323	56566	**5.000 CAL**
3	Ethane	1.607	56692	**5.000 CAL**

Totals			147665	**15.000 CAL**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\020315icdg\003.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: MEE PT3 - 10 ppmV
Acquired: Feb 03, 2015 10:38:17
File Desc. 0.05 mL injection (Methane, Ethene, Ethane)



B Results

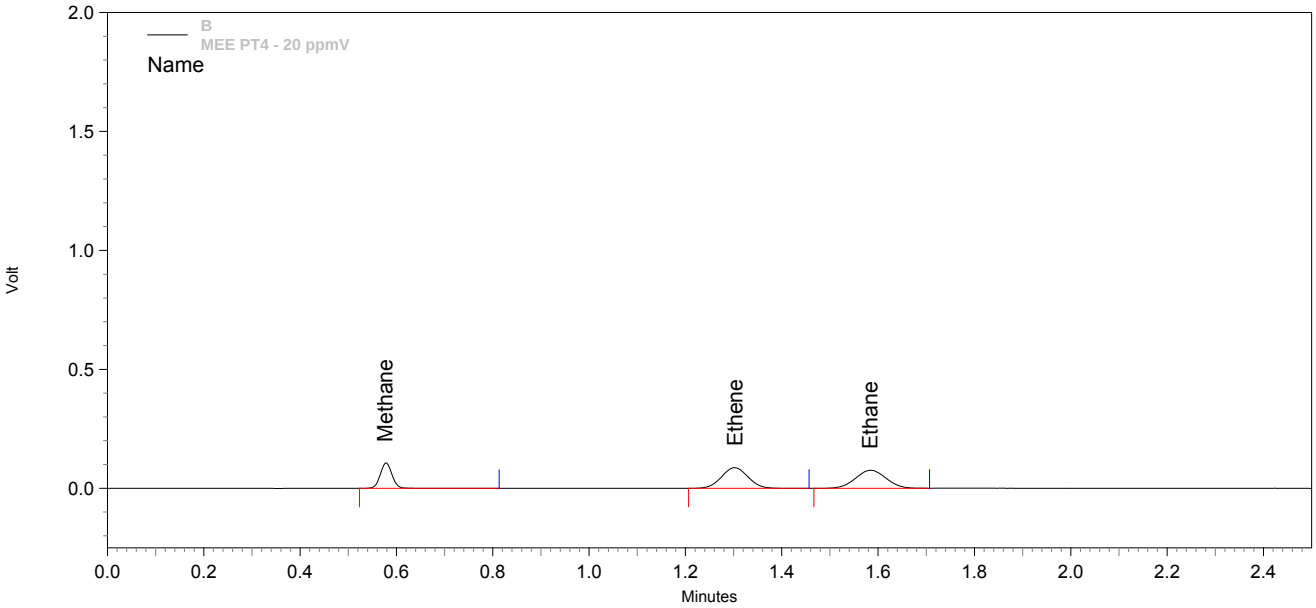
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.580	81596	**10.000 CAL**
2	Ethene	1.307	142389	**10.000 CAL**
3	Ethane	1.590	142896	**10.000 CAL**

Totals			366881	**30.000 CAL**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\020315icdg\004.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: MEE PT4 - 20 ppmV
Acquired: Feb 03, 2015 10:41:32
File Desc. 0.1 mL injection (Methane, Ethene, Ethane)



B Results

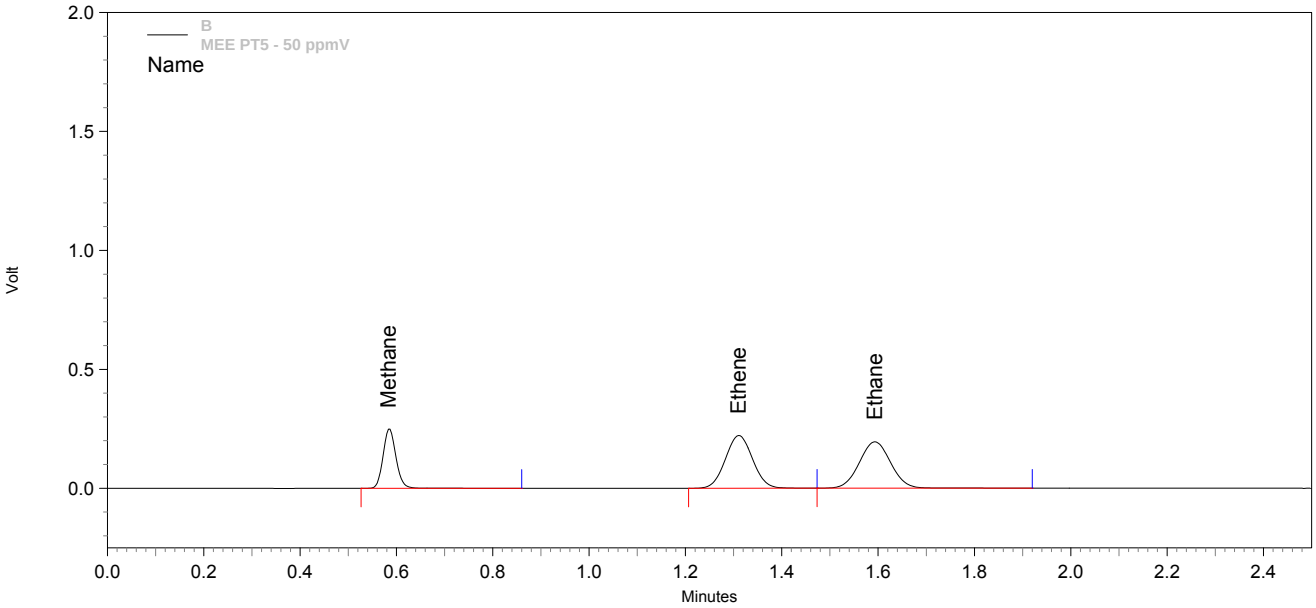
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.577	181231	**20.000 CAL**
2	Ethene	1.303	330410	**20.000 CAL**
3	Ethane	1.583	332327	**20.000 CAL**

Totals			843968	**60.000 CAL**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\020315icdg\005.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: MEE PT5 - 50 ppmV
Acquired: Feb 03, 2015 10:44:59
File Desc. 0.25 mL injection (Methane, Ethene, Ethane)



B Results

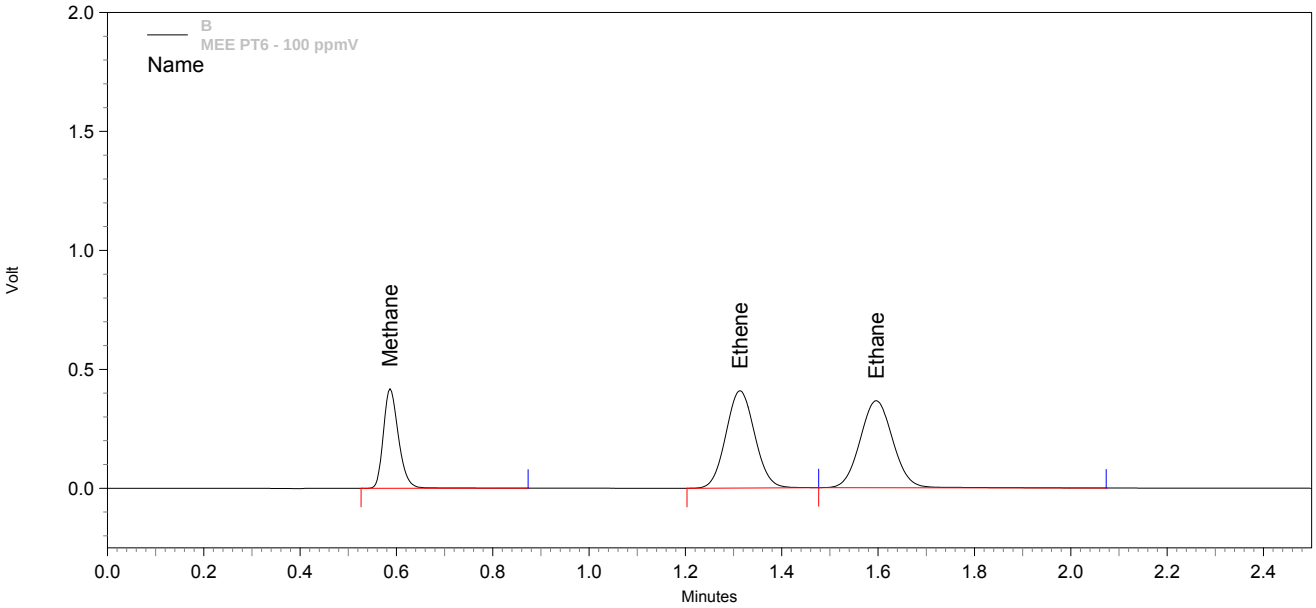
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.583	466265	**50.000 CAL**
2	Ethene	1.310	867023	**50.000 CAL**
3	Ethane	1.593	878485	**50.000 CAL**

Totals			2211773	**150.000 CAL**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\020315icdg\006.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: MEE PT6 - 100 ppmV
Acquired: Feb 03, 2015 10:48:29
File Desc. 0.5 mL injection (Methane, Ethene, Ethane)



B Results

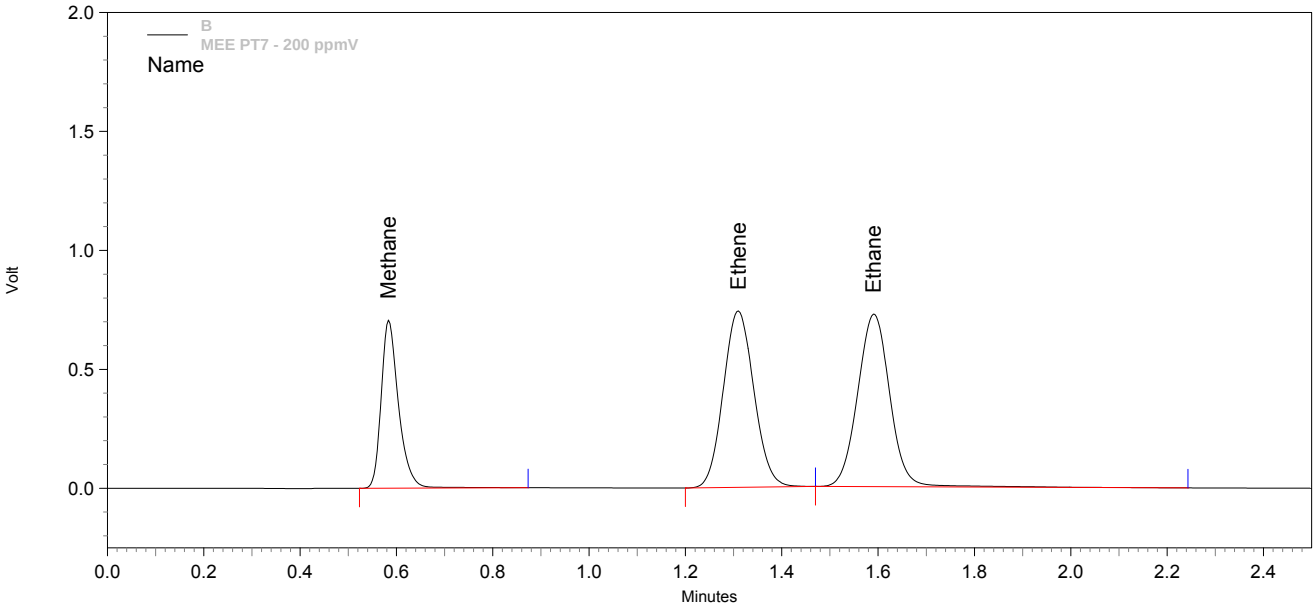
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.587	912807	**100.000 CAL**
2	Ethene	1.313	1696051	**100.000 CAL**
3	Ethane	1.597	1731517	**100.000 CAL**

Totals			4340375	**300.000 CAL**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\020315icdg\007.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: MEE PT7 - 200 ppmV
Acquired: Feb 03, 2015 10:52:17
File Desc. 1.0 mL injection (Methane, Ethene, Ethane)



B Results

Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.583	1769205	**200.000 CAL**
2	Ethene	1.310	3275808	**200.000 CAL**
3	Ethane	1.590	3384539	**200.000 CAL**

Totals			8429552	**600.000 CAL**

QC Check Standard Report

Sequence : C:\InStarch\PVOC4\Sequence\020315DGIC.seq
User : AGK
Printed : Feb 11, 2015 14:43:24

File	Sample ID	Acquired
C:\Instarch\PVOC4\Data\020315icdg\008.dat	ICV - 50 ppmV	Feb 11, 2015 14:43:24

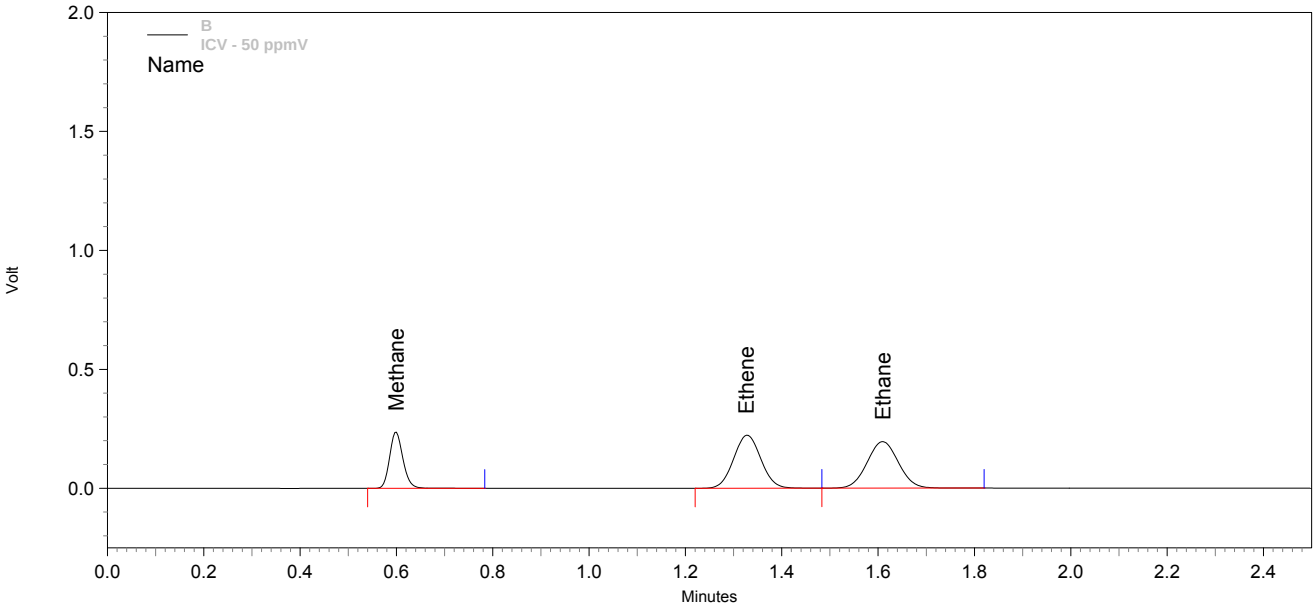
B

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
Methane	50.000	50.955	1.911	15.000	**Passed**
Ethene	50.000	53.018	6.036	15.000	**Passed**
Ethane	50.000	52.143	4.287	15.000	**Passed**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\020315icdg\008.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: ICV - 50 ppmV
Acquired: Feb 03, 2015 11:02:07
File Desc. INITIAL CALIB. VERIF. - 0.25 mL injection (Methane, Ethene, Ethane)



B Results

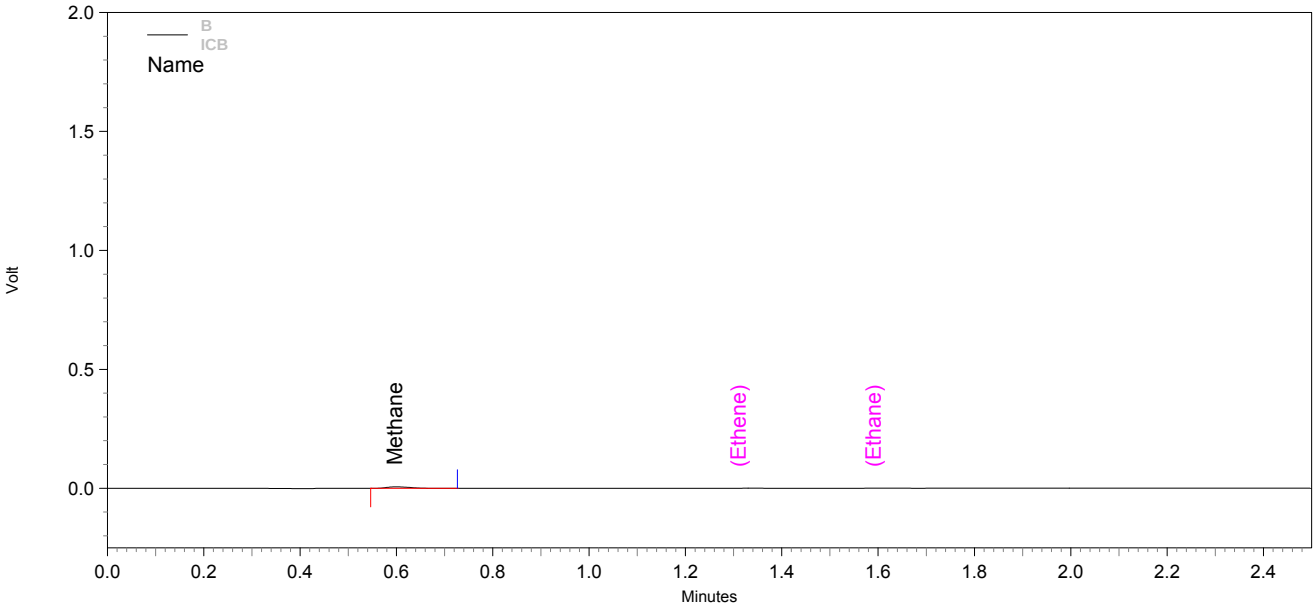
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.600	455191	**50.955**
2	Ethene	1.327	874641	**53.018**
3	Ethane	1.610	881181	**52.143**

Totals			2211013	**156.117**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\020315icdg\009.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: ICB
Acquired: Feb 03, 2015 11:19:15
File Desc. INITIAL CALIB. BLANK - 1.0 mL injection (Methane, Ethene, Ethane)



B Results

Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.597	20063	**2.163**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			20063	**2.163**

VOLATILE ORGANIC ANALYSIS
CONTINUING CALIBRATION
DOCUMENTS

Data File : C:\INSTARCH\Data\JUL1316\BFB1.D Vial: 1
Acq On : 13 Jul 2016 14:34 Operator: AGK-RLD
Sample : 127775,BFB, Inst : VMS3
Misc : 25 ng Inj. Multiplr: 1.00
Integration File: VOC.P

Method : C:\INSTARCH\METHODS\W062916.M
Title : 8260C Waters Method

Spectrum Information: Average of 4.465 to 4.477 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	17.0	24773	PASS
75	95	30	60	49.6	72149	PASS
95	95	100	100	100.0	145483	PASS
96	95	5	9	7.4	10749	PASS
173	174	0.00	2	0.8	1160	PASS
174	95	50	100	95.4	138837	PASS
175	174	5	9	7.4	10260	PASS
176	174	95	101	99.9	138749	PASS
177	176	5	9	7.0	9672	PASS

W062916.M Thu Jul 14 09:18:07 2016

Evaluate Continuing Calibration Report

Data File : C:\INSTARCH\Data\JUL1316\CCV-LCS1.D Vial: 3
Acq On : 13 Jul 2016 15:19 Operator: AGK-RLD
Sample : 127775,LCSW, Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Jul 13 15:40:18 2016

Quant Method : C:\INSTARCH\METHODS\W062916.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W062916.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	1.0000	1.0000	0.00	93	0.00
2	PT	Dichlorodi	0.3438	0.3661	-6.49	91	0.00
3	PT	Chloromethan	0.3644	0.3754	-3.02	92	0.00
4	PT	VinylChlorid	0.3759	0.4179	-11.17	94	0.00
6	PT	Chloroethane	0.2286	0.2527	-10.54	99	0.00
7	T	Dichloroflmethane	0.5120	0.5600	-9.38	96	0.00
8	PT	Trichlorofma	0.4101	0.4359	-6.29	95	0.00
9	T	Ethylether	0.2245	0.2389	-6.41	97	0.00
10	T	dichlorotfluoroethan	0.2846	0.3003	-5.52	95	0.00
11	T	propyleneoxide	0.0722	0.0682	5.54	84	0.00
12	T	Acrolein	0.1019	0.1076	-5.59	97	0.00
13	PT	11dichlorthe	0.2554	0.2813	-10.14	95	0.00
14	PT	Trichlorotfluoroeth	0.2370	0.2516	-6.16	91	0.00
15	PT	Acetone	0.2004	0.1971	1.65	82	0.00
16	T	Iodomethane	0.2503	0.2843	-13.58	105	0.00
17	PT	Carbon Dislf	0.7189	0.7802	-8.53	93	0.00
18	T	allylchloride	0.3434	0.3750	-9.20	93	0.00
19	PT	methylacetate	0.1471	0.1746	-18.69	113	0.00
20	PT	Methylchlorid	0.3707	0.3827	-3.24	102	0.00
21	T	tbutylalcohol	0.0764	0.0958	-25.39#	103	0.00
22	T	Acrylonitrile	0.1753	0.1975	-12.66	98	0.00
23	PT	t12dichlorte	0.2656	0.2955	-11.26	101	0.00
24	PT	MtBE	0.7674	0.8762	-14.18	101	0.00
25	T	Hexane	0.3128	0.2950	5.69	79	0.00
26	PT	11dichlorota	0.4730	0.5161	-9.11	97	0.00
27	T	Vinylacetate	0.4345	0.5163	-18.83	101	0.00
28	T	chloroprene	0.3946	0.4488	-13.74	97	0.00
29	T	Diisopether	0.7444	0.7981	-7.21	96	0.00
30	T	ETBE	0.6549	0.7464	-13.97	100	0.00
31	T	22dichloropr	0.3979	0.4185	-5.18	93	0.00
32	PT	c12dichlorte	0.2987	0.3294	-10.28	97	0.00
33	PT	2Butanone	0.0751	0.0849#	-13.05	100	0.00
34	T	propionitrile	0.0831	0.0944	-13.60	99	0.00
35	T	Ethylacetate	0.0221	0.0243#	-9.95	106	0.00
36	T	methacrylonitrile	0.1857	0.2032	-9.42	98	0.00
37	T	Bromochlorma	0.1457	0.1561	-7.14	96	0.00
38	T	Tetrahydofur	0.1667	0.1857	-11.40	100	0.00
39	PT	Chloroform	0.4793	0.5180	-8.07	97	0.00
40	PT	111trichlota	0.4302	0.4705	-9.37	97	0.00
41	S	SURRDibrflma	0.2633	0.2695	-2.35	95	0.00
42	PT	Cyclohexane	0.4585	0.4588	-0.07	85	0.00
43	PT	Carbtetraclo	0.3418	0.3759	-9.98	94	0.00
44	T	11dicloprope	0.1393	0.1512	-8.54	95	0.00
45	S	SURR12DCAd4	0.0720	0.0706	1.94	93	0.00
46	PT	Benzene	1.0272	1.1569	-12.63	97	0.00
47	PT	12dichlorota	0.3687	0.4042	-9.63	100	0.00
48	T	TAME	0.6122	0.7000	-14.34	106	0.00

49	PT	trichloroete	0.2866	0.2995	-4.50	95	0.00
50	PT	methylcyclohexane	0.4861	0.4738	2.53	85	0.00
51	PT	12dicloropra	0.2793	0.3064	-9.70	100	0.00
52	T	23Dicl1propene	0.4161	0.4597	-10.48	101	0.00
53	T	Dibromometha	0.1863	0.1921	-3.11	97	0.00
54	T	methylmethacrylate	0.3014	0.3177	-5.41	100	0.00
56	PT	Bromodiclrma	0.3690	0.3954	-7.15	99	0.00
57	T	2Nitropropane	0.1081	0.1516	-40.24#	122	0.00
59	PT	c13dicloproe	0.4371	0.4807	-9.97	100	0.00
60	PT	4Meth2Pentan	0.3850	0.4293	-11.51	98	0.00
61	S	SURRd8Tolule	1.0600	1.0917	-2.99	96	0.00
62	PT	Toluene	0.7142	0.7948	-11.29	97	0.00
63	PT	t13Dicloprop	0.3871	0.4432	-14.49	103	0.00
64	T	ethylmethacrylate	0.4477	0.5145	-14.92	100	0.00
65	PT	112Triclotha	0.2365	0.2502	-5.79	99	0.00
66	PT	Tetrachlorte	0.3347	0.3516	-5.05	94	0.00
67	T	13Diclorpropa	0.4620	0.4981	-7.81	99	0.00
68	I	d5-CHLOROBENZENE**ISTD**	1.0000	1.0000	0.00	98	0.00
69	PT	2Hexanone	0.3940	0.4154	-5.43	97	0.00
70	PT	Clorodibrmta	0.3205	0.3391	-5.80	104	0.00
71	PT	12Dibrometha	0.3385	0.3516	-3.87	99	0.00
72	PT	Chlorobenzen	0.8783	0.9096	-3.56	96	0.00
73	T	1Clhexane	0.4980	0.4658	6.47	87	0.00
74	T	1112Tetclota	0.3150	0.3140	0.32	96	0.00
75	PT	Ethylbenzene	1.5992	1.5974	0.11	92	0.00
76	PT	m p-Xylene	0.6200	0.6430	-3.71	92	0.00
77	PT	o-Xylene	0.6473	0.6321	2.35	91	0.00
78	PT	Styrene	1.0296	1.0662	-3.55	92	0.00
79	PT	Bromoform	0.2771	0.2946	-6.32	106	0.00
80	PT	Isopropylben	1.4567	1.4936	-2.53	89	0.00
81	T	cyclohexanone	0.0268	0.0285#	-6.34	102	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	1.0000	1.0000	0.00	97	0.00
83	S	SURR4BrFBenz	0.8878	0.8744	1.51	96	0.00
84	T	Bromobenzene	0.6876	0.6955	-1.15	95	0.00
85	PT	1122Tetrclta	0.9194	0.9206	-0.13	96	0.00
86	T	123Triclproa	1.0071	1.0421	-3.48	99	0.00
87	T	14dichloro2butene	0.1434	0.1501	-4.67	108	0.00
88	T	n-Propylbenz	2.8790	2.7242	5.38	85	0.00
89	T	2chlorotolue	1.7399	1.6940	2.64	88	0.00
90	T	4chlorotolue	1.9865	1.9774	0.46	89	0.00
91	T	135Trimebenz	2.0546	1.9623	4.49	84	0.00
92	T	tbutylbenzen	1.8022	1.6890	6.28	82	0.00
93	T	124Trimetben	2.0587	1.9761	4.01	83	0.00
94	T	sbutylbenzen	2.6642	2.4478	8.12	83	0.00
95	PT	13Diclorbenz	1.2236	1.1775	3.77	88	0.00
96	T	pIsopropylto	2.1335	1.9762	7.37	80	0.00
97	PT	14dichlorobe	1.2281	1.1929	2.87	89	0.00
98	PT	12dichlorobe	1.1702	1.1317	3.29	88	0.00
99	T	nButylbenzen	1.9740	1.7431	11.70	77	0.00
100	PT	12dibromo3cl	0.3087	0.2829	8.36	87	0.00
101	T	135Trichlorobenzene	0.9656	0.8265	14.41	78	0.00
102	PT	124Trichlobe	0.8714	0.7507	13.85	80	0.00
103	T	Hexachlorobu	0.4610	0.3261	29.26#	66	0.00
104	T	Naphthalene	2.6910	2.2708	15.62	78	0.00
105	T	123Trichlben	0.8313	0.7027	15.47	76	0.00

(#) = Out of Range SPCC's out = 1 CCC's out = 0

W062916.M Thu Jul 14 09:19:26 2016

Evaluate Continuing Calibration Report

Data File : C:\INSTARCH\Data\JUL1316\CCV-LCS1.D Vial: 3
Acq On : 13 Jul 2016 15:19 Operator: AGK-RLD
Sample : 127775,LCSW, Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Jul 13 15:40:18 2016

Quant Method : C:\INSTARCH\METHODS\W062916.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W062916.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	20.0000	20.0000	0.00	93	0.00
2	PT	Dichlorodi	10.0000	10.6479	-6.48	91	0.00
3	PT	Chloromethan	10.0000	10.3017	-3.02	92	0.00
4	PT	VinylChlorid	10.0000	11.1160	-11.16	94	0.00
5	PT	Bromomethane	10.0000	12.1436	-21.44#	111	0.00
6	PT	Chloroethane	10.0000	11.0530	-10.53	99	0.00
7	T	Dichloroflmethane	10.0000	10.9369	-9.37	96	0.00
8	PT	Trichlorofma	10.0000	10.6291	-6.29	95	0.00
9	T	Ethylether	10.0000	10.6421	-6.42	97	0.00
10	T	dichlorotfluoroethan	10.0000	10.5534	-5.53	95	0.00
11	T	propyleneoxide	100.0000	94.4087	5.59	84	0.00
12	T	Acrolein	50.0000	52.8014	-5.60	97	0.00
13	PT	11dichlorthe	10.0000	11.0106	-10.11	95	0.00
14	PT	Trichlorotfluoroeth	20.0000	21.2320	-6.16	91	0.00
15	PT	Acetone	100.0000	97.4821	2.52	82	0.00
16	T	Iodomethane	20.0000	22.7116	-13.56	105	0.00
17	PT	Carbon Dislf	20.0000	21.7077	-8.54	93	0.00
18	T	allylchloride	20.0000	21.8389	-9.19	93	0.00
19	PT	methylacetate	10.0000	11.8716	-18.72	113	0.00
20	PT	Methylchlorid	10.0000	11.2696	-12.70	102	0.00
21	T	tbutylalcohol	500.0000	667.0476	-33.41#	103	0.00
22	T	Acrylonitrile	50.0000	56.3364	-12.67	98	0.00
23	PT	t12dichlorte	10.0000	11.1273	-11.27	101	0.00
24	PT	MtBE	10.0000	11.4185	-14.18	101	0.00
25	T	Hexane	20.0000	18.8617	5.69	79	0.00
26	PT	11dichlorota	10.0000	10.9111	-9.11	97	0.00
27	T	Vinylacetate	100.0000	117.1105	-17.11	101	0.00
28	T	chloroprene	20.0000	22.7497	-13.75	97	0.00
29	T	Diisopether	10.0000	10.7219	-7.22	96	0.00
30	T	ETBE	10.0000	11.3972	-13.97	100	0.00
31	T	22dichloropr	10.0000	10.5158	-5.16	93	0.00
32	PT	c12dichlorte	10.0000	11.0278	-10.28	97	0.00
33	PT	2Butanone	100.0000	112.9657	-12.97	100	0.00
34	T	propionitrile	100.0000	113.6552	-13.66	99	0.00
35	T	Ethylacetate	50.0000	55.0147	-10.03	106	0.00
36	T	methacrylonitrile	20.0000	21.8853	-9.43	98	0.00
37	T	Bromochlorma	10.0000	10.7085	-7.09	96	0.00
38	T	Tetrahydofur	100.0000	111.3937	-11.39	100	0.00
39	PT	Chloroform	10.0000	10.8080	-8.08	97	0.00
40	PT	111trichlota	10.0000	10.9378	-9.38	97	0.00
41	S	SURRDibrflma	20.0000	20.4679	-2.34	95	0.00
42	PT	Cyclohexane	10.0000	10.0068	-0.07	85	0.00
43	PT	Carbtetraclo	10.0000	10.9997	-10.00	94	0.00
44	T	11dicloprope	10.0000	10.8529	-8.53	95	0.00
45	S	SURR12DCAd4	20.0000	19.6336	1.83	93	0.00
46	PT	Benzene	10.0000	11.2627	-12.63	97	0.00
47	PT	12dichlorota	10.0000	10.9638	-9.64	100	0.00
48	T	TAME	10.0000	11.4333	-14.33	106	0.00

49	PT	trichloroete	10.0000	10.4486	-4.49	95	0.00
50	PT	methylcyclohexane	10.0000	9.7473	2.53	85	0.00
51	PT	12dicloropra	10.0000	10.9716	-9.72	100	0.00
52	T	23Dicl1propene	10.0000	11.0479	-10.48	101	0.00
53	T	Dibromometha	10.0000	10.3083	-3.08	97	0.00
54	T	methylmethacrylate	10.0000	10.5397	-5.40	100	0.00
55	T	14dioxane	500.0000	637.9575	-27.59#	120	0.00
56	PT	Bromodiclrma	10.0000	10.7157	-7.16	99	0.00
57	T	2Nitropropane	100.0000	140.2619	-40.26#	122	0.00
58	T	2CLEVE	50.0000	42.1694	15.66	77	0.00
59	PT	c13dicloproe	10.0000	10.9973	-9.97	100	0.00
60	PT	4Meth2Pentan	100.0000	115.5644	-15.56	98	0.00
61	S	SURRd8Tolule	20.0000	20.5994	-3.00	96	0.00
62	PT	Toluene	10.0000	11.1294	-11.29	97	0.00
63	PT	t13Dicloprop	10.0000	11.4493	-14.49	103	0.00
64	T	ethylmethacrylate	20.0000	22.9838	-14.92	100	0.00
65	PT	112Triclotha	10.0000	10.5820	-5.82	99	0.00
66	PT	Tetrachlorte	10.0000	10.5041	-5.04	94	0.00
67	T	13Diclorpropa	10.0000	10.7825	-7.83	99	0.00
68	I	d5-CHLOROBENZENE**ISTD**	20.0000	20.0000	0.00	98	0.00
69	PT	2Hexanone	100.0000	106.4595	-6.46	97	0.00
70	PT	Clorodibrmta	10.0000	10.5802	-5.80	104	0.00
71	PT	12Dibrometha	10.0000	10.3853	-3.85	99	0.00
72	PT	Chlorobenzen	10.0000	10.3567	-3.57	96	0.00
73	T	1Clhexane	10.0000	9.3533	6.47	87	0.00
74	T	1112Tetclota	10.0000	9.9693	0.31	96	0.00
75	PT	Ethylbenzene	10.0000	9.9889	0.11	92	0.00
76	PT	m p-Xylene	20.0000	20.7420	-3.71	92	0.00
77	PT	o-Xylene	10.0000	9.7657	2.34	91	0.00
78	PT	Styrene	10.0000	10.3550	-3.55	92	0.00
79	PT	Bromoform	10.0000	10.6310	-6.31	106	0.00
80	PT	Isopropylben	10.0000	10.2535	-2.54	89	0.00
81	T	cyclohexanone	200.0000	212.9748	-6.49	102	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	20.0000	20.0000	0.00	97	0.00
83	S	SURR4BrFBenz	20.0000	19.6961	1.52	96	0.00
84	T	Bromobenzene	10.0000	10.1145	-1.14	95	0.00
85	PT	1122Tetrclta	10.0000	10.0127	-0.13	96	0.00
86	T	123Triclproa	10.0000	10.3470	-3.47	99	0.00
87	T	14dichloro2butene	10.0000	10.4687	-4.69	108	0.00
88	T	n-Propylbenz	10.0000	9.4623	5.38	85	0.00
89	T	2chlorotolue	10.0000	9.7362	2.64	88	0.00
90	T	4chlorotolue	10.0000	9.9541	0.46	89	0.00
91	T	135Trimebenz	10.0000	9.5508	4.49	84	0.00
92	T	tbutylbenzen	10.0000	9.3720	6.28	82	0.00
93	T	124Trimetben	10.0000	9.5988	4.01	83	0.00
94	T	sbutylbenzen	10.0000	9.1877	8.12	83	0.00
95	PT	13Diclorbenz	10.0000	9.6230	3.77	88	0.00
96	T	pIsopropylto	10.0000	9.2628	7.37	80	0.00
97	PT	14dichlorobe	10.0000	9.7133	2.87	89	0.00
98	PT	12dichlorobe	10.0000	9.6706	3.29	88	0.00
99	T	nButylbenzen	10.0000	8.8303	11.70	77	0.00
100	PT	12dibromo3cl	10.0000	9.1632	8.37	87	0.00
101	T	135Trichlorobenzene	10.0000	8.5599	14.40	78	0.00
102	PT	124Trichlobe	10.0000	8.6158	13.84	80	0.00
103	T	Hexachlorobu	10.0000	7.0735	29.26#	66	0.00
104	T	Naphthalene	10.0000	8.4384	15.62	78	0.00
105	T	123Trichlben	10.0000	8.4528	15.47	76	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

W062916.M Thu Jul 14 09:19:10 2016

Quantitation Report

Data File : C:\INSTARCH\Data\JUL1316\CCV-LCS1.D Vial: 3
Acq On : 13 Jul 2016 15:19 Operator: AGK-RLD
Sample : 127775,LCSW, Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 13 15:40:18 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 08 13:47:47 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.54	96	1396270	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.44	117	1292745	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.73	152	838928	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.69	113	376238	20.468	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 102	%		
45) SURR12DCAd4	7.10	102	98623	19.634	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 98	%		
61) SURRd8Tolule	9.53	98	1524359	20.599	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 103	%		
83) SURR4BrFBenz	13.07	95	733525	19.696	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 98	%		
Target Compounds						Qvalue
2) Dichlorodi	1.78	85	255579	10.6479	ug/L	99
3) Chloromethan	2.01	50	262094	10.3017	ug/L	99
4) VinylChlorid	2.16	62	291726	11.1160	ug/L	99
5) Bromomethane	2.60	94	137527	12.1436	ug/L	99
6) Chloroethane	2.77	64	176422	11.0530	ug/L	98
7) Dichloroflmethane	3.07	67	390965	10.9369	ug/L	99
8) Trichlorofma	3.15	101	304339	10.6291	ug/L	99
9) Ethylether	3.58	59	166786	10.6421	ug/L	97
10) dichlorotfluoroethan	3.59	67	209654	10.5534	ug/L	99
11) propyleneoxide	3.92	58	475901	94.4087	ug/L	96
12) Acrolein	3.70	56	375493	52.8014	ug/L	92
13) 11dichlorthe	3.86	96	196361	11.0106	ug/L	98
14) Trichlorotfluoroeth	3.90	101	351342	21.2320	ug/L	100
15) Acetone	3.92	43	1376340	97.4821	ug/L	98
16) Iodomethane	4.03	142	396945	22.7116	ug/L	99
17) Carbon Dislf	4.12	76	1089413	21.7077	ug/L	99
18) allylchloride	4.34	41	523582	21.8389	ug/L	97
19) methylacetate	4.39	74	121893	11.8716	ug/L	95
20) Methylchlorid	4.49	84	267147	11.2696	ug/L	96
21) tbutylalcohol	4.68	59	3342427	667.0476	ug/L	100
22) Acrylonitrile	4.78	53	689294	56.3364	ug/L	98
23) t12dichlorte	4.86	96	206308	11.1273	ug/L	94
24) MtBE	4.89	73	611735	11.4185	ug/L	99
25) Hexane	5.26	57	411875	18.8617	ug/L	97
26) 11dichlorota	5.38	63	360308	10.9111	ug/L	99
27) Vinylacetate	5.48	43	3604325	117.1105	ug/L	100
28) chloroprene	5.51	53	626647	22.7497	ug/L	99
29) Diisopether	5.54	45	557214	10.7219	ug/L	94
30) ETBE	5.99	59	521110	11.3972	ug/L	98
31) 22dichloropr	6.11	77	292135	10.5158	ug/L	95
32) c12dichlorte	6.11	96	229981	11.0278	ug/L	99
33) 2Butanone	6.12	72	592468	112.9657	ug/L	98
34) propionitrile	6.16	54	659387	113.6552	ug/L	98
35) Ethylacetate	6.24	88	84840	55.0147	ug/L #	90
36) methacrylonitrile	6.36	67	283713	21.8853	ug/L	100
37) Bromochlorma	6.39	128	108950	10.7085	ug/L	99
38) Tetrahydofur	6.48	42	1296089	111.3937	ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\JUL1316\CCV-LCS1.D Vial: 3
Acq On : 13 Jul 2016 15:19 Operator: AGK-RLD
Sample : 127775,LCSW, Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 13 15:40:18 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 08 13:47:47 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.50	83	361626	10.8080	ug/L		100
40)	111trichlota	6.74	97	328482	10.9378	ug/L		99
42)	Cyclohexane	6.83	56	320306	10.0068	ug/L		97
43)	Carbtetraclo	6.97	119	262443	10.9997	ug/L		95
44)	11dicloprope	6.95	110	105528	10.8529	ug/L		97
46)	Benzene	7.20	78	807646	11.2627	ug/L		98
47)	12dichlorota	7.19	62	282215	10.9638	ug/L		100
48)	TAME	7.37	73	488686	11.4333	ug/L		99
49)	trichloroete	8.00	95	209094	10.4486	ug/L		97
50)	methylcyclohexane	8.27	83	330763	9.7473	ug/L		98
51)	12dicloropra	8.26	63	213941	10.9716	ug/L		90
52)	23Dicl1propene	8.32	75	320906	11.0479	ug/L		98
53)	Dibromometha	8.39	93	134082	10.3083	ug/L		96
54)	methylmethacrylate	8.43	69	221788	10.5397	ug/L		99
55)	14dioxane	8.44	88	263968	637.9575	ug/L		95
56)	Bromodiclrma	8.60	83	276050	10.7157	ug/L		98
57)	2Nitropropane	8.85	43	1058431	140.2619	ug/L		99
58)	2CLEVE	8.99	63	5713	42.1694	ug/L	#	87
59)	c13dicloproe	9.17	75	335620	10.9973	ug/L		98
60)	4Meth2Pentan	9.37	43	2997055	115.5644	ug/L		99
62)	Toluene	9.62	92	554897	11.1294	ug/L		99
63)	t13Dicloprop	9.88	75	309384	11.4493	ug/L		99
64)	ethylmethacrylate	10.03	69	718395	22.9838	ug/L		97
65)	112Triclotha	10.11	83	174703	10.5820	ug/L		98
66)	Tetrachlorte	10.36	166	245481	10.5041	ug/L		98
67)	13Diclorpropa	10.34	76	347743	10.7825	ug/L		100
69)	2Hexanone	10.46	43	2685179	106.4595	ug/L		100
70)	Clorodibrmta	10.63	129	219176	10.5802	ug/L		97
71)	12Dibrometha	10.79	107	227245	10.3853	ug/L		97
72)	Chlorobenzen	11.48	112	587928	10.3567	ug/L		98
73)	1Clhexane	11.46	91	301084	9.3533	ug/L		98
74)	1112Tetclota	11.58	131	202961	9.9693	ug/L		97
75)	Ethylbenzene	11.64	91	1032539	9.9889	ug/L		99
76)	m p-Xylene	11.81	106	831288	20.7420	ug/L		99
77)	o-Xylene	12.35	106	408602	9.7657	ug/L		96
78)	Styrene	12.36	104	689151	10.3550	ug/L		100
79)	Bromoform	12.59	173	190443	10.6310	ug/L		98
80)	Isopropylben	12.87	105	965427	10.2535	ug/L		100
81)	cyclohexanone	12.95	55	369058	212.9748	ug/L		98
84)	Bromobenzene	13.28	156	291724	10.1145	ug/L		99
85)	1122Tetrclta	13.25	83	386150	10.0127	ug/L		99
86)	123Triclproa	13.31	75	437120	10.3470	ug/L		97
87)	14dichloro2butene	13.34	53	62971	10.4687	ug/L		99
88)	n-Propylbenz	13.46	91	1142689	9.4623	ug/L		100
89)	2chlorotolue	13.57	91	710592	9.7362	ug/L		99
90)	4chlorotolue	13.72	91	829435	9.9541	ug/L		100
91)	135Trimebenz	13.71	105	823122	9.5508	ug/L		100
92)	tbutylbenzen	14.18	119	708488	9.3720	ug/L		100
93)	124Trimetben	14.25	105	828922	9.5988	ug/L		99
94)	sbutylbenzen	14.50	105	1026763	9.1877	ug/L		100
95)	13Diclorbenz	14.64	146	493918	9.6230	ug/L		99
96)	pIsopropylto	14.72	119	828960	9.2628	ug/L		99
97)	14dichlorobe	14.76	146	500394	9.7133	ug/L		99
98)	12dichlorobe	15.30	146	474700	9.6706	ug/L		99
99)	nButylbenzen	15.31	91	731149	8.8303	ug/L		99
100)	12dibromo3cl	16.40	157	118672	9.1632	ug/L		99
101)	135Trichlorobenzene	16.74	180	346699	8.5599	ug/L		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report
Data File : C:\INSTARCH\Data\JUL1316\CCV-LCS1.D Vial: 3
Acq On : 13 Jul 2016 15:19 Operator: AGK-RLD
Sample : 127775,LCSW, Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 13 15:40:18 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 08 13:47:47 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.55	180	314909	8.6158	ug/L	98
103) Hexachlorobu	17.81	225	136772	7.0735	ug/L	98
104) Naphthalene	17.85	128	952498	8.4384	ug/L	99
105) 123Trichlben	18.17	180	294739	8.4528	ug/L	96

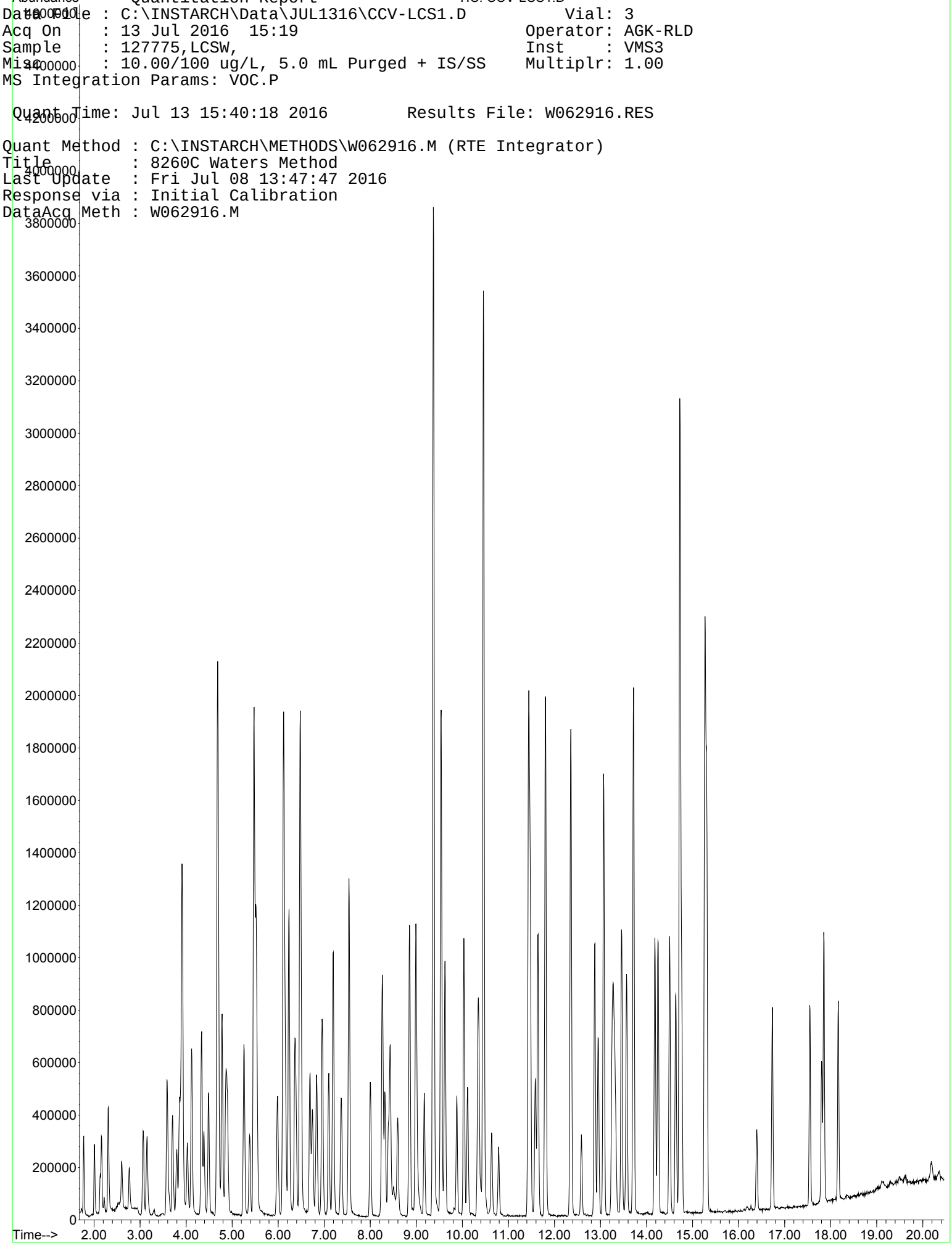
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\JUL1316\CCV-LCS1.D Vial: 3
Acq On : 13 Jul 2016 15:19 Operator: AGK-RLD
Sample : 127775,LCSW, Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 13 15:40:18 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 08 13:47:47 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M



Evaluate Continuing Calibration Report

Data File : C:\INSTARCH\Data\JUL1316\CCVF1.D Vial: 24
Acq On : 14 Jul 2016 1:35 Operator: AGK-RLD
Sample : 127775,CCVF, Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Jul 14 01:56:34 2016

Quant Method : C:\INSTARCH\METHODS\W062916.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W062916.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 50% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	1.0000	1.0000	0.00	90	0.00
2	PT	Dichlorodi	0.3438	0.3568	-3.78	86	0.00
3	PT	Chloromethan	0.3644	0.5408	-48.41	128	0.00
4	PT	VinylChlorid	0.3759	0.4034	-7.32	88	0.00
5	PT	Bromomethane	0.1622	0.1210	25.40	66	0.00
6	PT	Chloroethane	0.2286	0.2544	-11.29	97	0.00
7	T	Dichloroflmethane	0.5120	0.5848	-14.22	97	0.00
8	PT	Trichlorofma	0.4101	0.4458	-8.71	94	0.00
9	T	Ethylether	0.2245	0.2379	-5.97	93	0.00
10	T	dichlorotfluoroethan	0.2846	0.3088	-8.50	94	0.00
11	T	propyleneoxide	0.0722	0.0711	1.52	85	0.00
12	T	Acrolein	0.1019	0.0794	22.08	69	0.00
13	PT	11dichlorthe	0.2554	0.2811	-10.06	91	0.00
14	PT	Trichlorotfluoroeth	0.2370	0.2607	-10.00	91	0.00
15	PT	Acetone	0.2004	0.2076	-3.59	84	0.00
16	T	Iodomethane	0.2503	0.2156	13.86	77	0.00
17	PT	Carbon Dislf	0.7189	0.6448	10.31	75	0.00
18	T	allylchloride	0.3434	0.3542	-3.15	85	0.00
19	PT	methylacetate	0.1471	0.1769	-20.26	110	0.00
20	PT	Methylchlorid	0.3707	0.3841	-3.61	99	0.00
21	T	tbutylalcohol	0.0764	0.0878	-14.92	91	0.00
22	T	Acrylonitrile	0.1753	0.1849	-5.48	88	0.00
23	PT	t12dichlorte	0.2656	0.2972	-11.90	99	0.00
24	PT	MtBE	0.7674	0.8741	-13.90	98	0.00
25	T	Hexane	0.3128	0.3271	-4.57	85	0.00
26	PT	11dichlorota	0.4730	0.5053	-6.83	92	0.00
27	T	Vinylacetate	0.4345	0.3531	18.73	67	0.00
28	T	chloroprene	0.3946	0.4314	-9.33	90	0.00
29	T	Diisopether	0.7444	0.8474	-13.84	99	0.00
30	T	ETBE	0.6549	0.7633	-16.55	99	0.00
31	T	22dichloropr	0.3979	0.3625	8.90	78	0.00
32	PT	c12dichlorte	0.2987	0.3305	-10.65	94	0.00
33	PT	2Butanone	0.0751	0.0810#	-7.86	92	0.00
34	T	propionitrile	0.0831	0.0897	-7.94	91	0.00
35	T	Ethylacetate	0.0221	0.0240#	-8.60	101	0.00
36	T	methacrylonitrile	0.1857	0.1951	-5.06	91	0.00
37	T	Bromochlorma	0.1457	0.1594	-9.40	95	0.00
38	T	Tetrahydofur	0.1667	0.1752	-5.10	91	0.00
39	PT	Chloroform	0.4793	0.5053	-5.42	91	0.00
40	PT	111trichlota	0.4302	0.4520	-5.07	90	0.00
41	S	SURRDibrflma	0.2633	0.2623	0.38	89	0.00
42	PT	Cyclohexane	0.4585	0.4680	-2.07	84	0.00
43	PT	Carbtetraclo	0.3418	0.3494	-2.22	85	0.00
44	T	11dicloprope	0.1393	0.1538	-10.41	93	0.00
45	S	SURR12DCAd4	0.0720	0.0710	1.39	91	0.00
46	PT	Benzene	1.0272	1.1492	-11.88	93	0.00
47	PT	12dichlorota	0.3687	0.4024	-9.14	96	0.00
48	T	TAME	0.6122	0.7199	-17.59	105	0.00

49	PT	trichloroete	0.2866	0.3259	-13.71	100	0.00
50	PT	methylcyclohexane	0.4861	0.4844	0.35	84	0.00
51	PT	12dicloropra	0.2793	0.2973	-6.44	94	0.00
52	T	23Dicl1propene	0.4161	0.4412	-6.03	94	0.00
53	T	Dibromometha	0.1863	0.1954	-4.88	95	0.00
54	T	methylmethacrylate	0.3014	0.3157	-4.74	96	0.00
55	T	14dioxane	0.0059	0.0067#	-13.56	103	0.00
56	PT	Bromodiclrma	0.3690	0.3580	2.98	86	0.00
57	T	2Nitropropane	0.1081	0.1142	-5.64	89	0.00
58	T	2CLEVE	0.0025	0.0019#	24.00	85	0.00
59	PT	c13dicloproe	0.4371	0.4334	0.85	88	0.00
60	PT	4Meth2Pentan	0.3850	0.4273	-10.99	94	0.00
61	S	SURRd8Tolule	1.0600	1.0905	-2.88	93	0.00
62	PT	Toluene	0.7142	0.8034	-12.49	95	0.00
63	PT	t13Dicloprop	0.3871	0.3628	6.28	82	0.00
64	T	ethylmethacrylate	0.4477	0.4968	-10.97	94	0.00
65	PT	112Triclotha	0.2365	0.2376	-0.47	91	0.00
66	PT	Tetrachlorte	0.3347	0.3710	-10.85	96	0.00
67	T	13Diclorpropa	0.4620	0.4946	-7.06	95	0.00
68	I	d5-CHLOROBENZENE**ISTD**	1.0000	1.0000	0.00	95	0.00
69	PT	2Hexanone	0.3940	0.4052	-2.84	92	0.00
70	PT	Clorodibrmta	0.3205	0.2796	12.76	83	0.00
71	PT	12Dibrometha	0.3385	0.3396	-0.32	93	0.00
72	PT	Chlorobenzen	0.8783	0.9147	-4.14	94	0.00
73	T	1Clhexane	0.4980	0.4721	5.20	86	0.00
74	T	1112Tetclota	0.3150	0.3012	4.38	89	0.00
75	PT	Ethylbenzene	1.5992	1.6087	-0.59	90	0.00
76	PT	m p-Xylene	0.6200	0.6560	-5.81	91	0.00
77	PT	o-Xylene	0.6473	0.6519	-0.71	91	0.00
78	PT	Styrene	1.0296	1.0595	-2.90	89	0.00
79	PT	Bromoform	0.2771	0.1706	38.43	59	0.00
80	PT	Isopropylben	1.4567	1.5270	-4.83	88	0.00
81	T	cyclohexanone	0.0268	0.0256#	4.48	89	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	1.0000	1.0000	0.00	97	0.00
83	S	SURR4BrFBenz	0.8878	0.8655	2.51	95	0.00
84	T	Bromobenzene	0.6876	0.6752	1.80	92	0.00
85	PT	1122Tetrclta	0.9194	0.8199	10.82	85	0.00
86	T	123Triclproa	1.0071	0.7882	21.74	75	0.00
87	T	14dichloro2butene	0.1434	0.0132#	90.79#	9#	0.00
88	T	n-Propylbenz	2.8790	2.7888	3.13	87	0.00
89	T	2chlorotolue	1.7399	1.6773	3.60	87	0.00
90	T	4chlorotolue	1.9865	1.9902	-0.19	89	0.00
91	T	135Trimebenz	2.0546	1.9707	4.08	85	0.00
92	T	tbutylbenzen	1.8022	1.6842	6.55	82	0.00
93	T	124Trimetben	2.0587	2.0388	0.97	86	0.00
94	T	sbutylbenzen	2.6642	2.4573	7.77	83	0.00
95	PT	13Diclorbenz	1.2236	1.1987	2.03	90	0.00
96	T	pIsopropylto	2.1335	2.0116	5.71	81	0.00
97	PT	14dichlorobe	1.2281	1.2204	0.63	91	0.00
98	PT	12dichlorobe	1.1702	1.1523	1.53	90	0.00
99	T	nButylbenzen	1.9740	1.8008	8.77	80	0.00
100	PT	12dibromo3cl	0.3087	0.2105	31.81	65	0.00
101	T	135Trichlorobenzene	0.9656	0.8114	15.97	76	0.00
102	PT	124Trichlobe	0.8714	0.7550	13.36	80	0.00
103	T	Hexachlorobu	0.4610	0.3416	25.90	69	0.00
104	T	Naphthalene	2.6910	1.9973	25.78	68	0.00
105	T	123Trichlben	0.8313	0.6433	22.62	70	0.00

(#) = Out of Range SPCC's out = 1 CCC's out = 0

W062916.M Thu Jul 14 09:20:35 2016

Evaluate Continuing Calibration Report

Data File : C:\INSTARCH\Data\JUL1316\CCVF1.D Vial: 24
Acq On : 14 Jul 2016 1:35 Operator: AGK-RLD
Sample : 127775,CCVF, Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Jul 14 01:56:34 2016

Quant Method : C:\INSTARCH\METHODS\W062916.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W062916.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 50% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	20.0000	20.0000	0.00	90	0.00
2	PT	Dichlorodi	10.0000	10.3776	-3.78	86	0.00
3	PT	Chloromethan	10.0000	14.8393	-48.39	128	0.00
4	PT	VinylChlorid	10.0000	10.7315	-7.32	88	0.00
5	PT	Bromomethane	10.0000	7.4614	25.39	66	0.00
6	PT	Chloroethane	10.0000	11.1262	-11.26	97	0.00
7	T	Dichloroflmethane	10.0000	11.4211	-14.21	97	0.00
8	PT	Trichlorofma	10.0000	10.8700	-8.70	94	0.00
9	T	Ethylether	10.0000	10.5966	-5.97	93	0.00
10	T	dichlorotfluoroethan	10.0000	10.8507	-8.51	94	0.00
11	T	propyleneoxide	100.0000	98.4720	1.53	85	0.00
12	T	Acrolein	50.0000	38.9904	22.02	69	0.00
13	PT	11dichlorthe	10.0000	11.0032	-10.03	91	0.00
14	PT	Trichlorotfluoroeth	20.0000	21.9946	-9.97	91	0.00
15	PT	Acetone	100.0000	103.4193	-3.42	84	0.00
16	T	Iodomethane	20.0000	17.2257	13.87	77	0.00
17	PT	Carbon Dislf	20.0000	17.9410	10.30	75	0.00
18	T	allylchloride	20.0000	20.6256	-3.13	85	0.00
19	PT	methylacetate	10.0000	12.0271	-20.27	110	0.00
20	PT	Methylchlorid	10.0000	11.3167	-13.17	99	0.00
21	T	tbutylalcohol	500.0000	597.5604	-19.51	91	0.00
22	T	Acrylonitrile	50.0000	52.7403	-5.48	88	0.00
23	PT	t12dichlorte	10.0000	11.1918	-11.92	99	0.00
24	PT	MtBE	10.0000	11.3903	-13.90	98	0.00
25	T	Hexane	20.0000	20.9127	-4.56	85	0.00
26	PT	11dichlorota	10.0000	10.6824	-6.82	92	0.00
27	T	Vinylacetate	100.0000	75.0223	24.98	67	0.00
28	T	chloroprene	20.0000	21.8698	-9.35	90	0.00
29	T	Diisopether	10.0000	11.3831	-13.83	99	0.00
30	T	ETBE	10.0000	11.6544	-16.54	99	0.00
31	T	22dichloropr	10.0000	9.1093	8.91	78	0.00
32	PT	c12dichlorte	10.0000	11.0645	-10.65	94	0.00
33	PT	2Butanone	100.0000	107.7988	-7.80	92	0.00
34	T	propionitrile	100.0000	107.9877	-7.99	91	0.00
35	T	Ethylacetate	50.0000	54.4128	-8.83	101	0.00
36	T	methacrylonitrile	20.0000	21.0102	-5.05	91	0.00
37	T	Bromochlorma	10.0000	10.9390	-9.39	95	0.00
38	T	Tetrahydofur	100.0000	105.1365	-5.14	91	0.00
39	PT	Chloroform	10.0000	10.5435	-5.43	91	0.00
40	PT	111trichlota	10.0000	10.5080	-5.08	90	0.00
41	S	SURRDibrflma	20.0000	19.9205	0.40	89	0.00
42	PT	Cyclohexane	10.0000	10.2085	-2.09	84	0.00
43	PT	Carbtetraclo	10.0000	10.2244	-2.24	85	0.00
44	T	11dicloprope	10.0000	11.0430	-10.43	93	0.00
45	S	SURR12DCAd4	20.0000	19.7225	1.39	91	0.00
46	PT	Benzene	10.0000	11.1877	-11.88	93	0.00
47	PT	12dichlorota	10.0000	10.9143	-9.14	96	0.00
48	T	TAME	10.0000	11.7583	-17.58	105	0.00

49	PT	trichloroete	10.0000	11.3697	-13.70	100	0.00	
50	PT	methylcyclohexane	10.0000	9.9657	0.34	84	0.00	
51	PT	12dicloropra	10.0000	10.6457	-6.46	94	0.00	
52	T	23Dicl1propene	10.0000	10.6044	-6.04	94	0.00	
53	T	Dibromometha	10.0000	10.4870	-4.87	95	0.00	
54	T	methylmethacrylate	10.0000	10.4732	-4.73	96	0.00	
55	T	14dioxane	500.0000	566.2136	-13.24	103	0.00	
56	PT	Bromodiclrma	10.0000	9.7008	2.99	86	0.00	
57	T	2Nitropropane	100.0000	105.6275	-5.63	89	0.00	
58	T	2CLEVE	50.0000	48.0485	3.90	85	0.00	
59	PT	c13dicloproe	10.0000	9.9149	0.85	88	0.00	
60	PT	4Meth2Pentan	100.0000	114.8809	-14.88	94	0.00	
61	S	SURRd8Tolule	20.0000	20.5769	-2.88	93	0.00	
62	PT	Toluene	10.0000	11.2495	-12.49	95	0.00	
63	PT	t13Dicloprop	10.0000	9.3736	6.26	82	0.00	
64	T	ethylmethacrylate	20.0000	22.1937	-10.97	94	0.00	
65	PT	112Triclotha	10.0000	10.0484	-0.48	91	0.00	
66	PT	Tetrachlorte	10.0000	11.0839	-10.84	96	0.00	
67	T	13Diclorpropa	10.0000	10.7070	-7.07	95	0.00	
68	I	d5-CHLOROBENZENE**ISTD**	20.0000	20.0000	0.00	95	0.00	
69	PT	2Hexanone	100.0000	103.2453	-3.25	92	0.00	
70	PT	Clorodibrmta	10.0000	8.7239	12.76	83	0.00	
71	PT	12Dibrometha	10.0000	10.0315	-0.31	93	0.00	
72	PT	Chlorobenzen	10.0000	10.4150	-4.15	94	0.00	
73	T	1Clhexane	10.0000	9.4792	5.21	86	0.00	
74	T	1112Tetclota	10.0000	9.5618	4.38	89	0.00	
75	PT	Ethylbenzene	10.0000	10.0594	-0.59	90	0.00	
76	PT	m p-Xylene	20.0000	21.1587	-5.79	91	0.00	
77	PT	o-Xylene	10.0000	10.0710	-0.71	91	0.00	
78	PT	Styrene	10.0000	10.2898	-2.90	89	0.00	
79	PT	Bromoform	10.0000	6.1561	38.44	59	0.00	
80	PT	Isopropylben	10.0000	10.4827	-4.83	88	0.00	
81	T	cyclohexanone	200.0000	191.0335	4.48	89	0.00	
82	I	d4-1,4-DICHLOROBENZENE**IS	20.0000	20.0000	0.00	97	0.00	
83	S	SURR4BrFBenz	20.0000	19.4965	2.52	95	0.00	
84	T	Bromobenzene	10.0000	9.8198	1.80	92	0.00	
85	PT	1122Tetrclta	10.0000	8.9176	10.82	85	0.00	
86	T	123Triclproa	10.0000	7.8257	21.74	75	0.00	
87	T	14dichloro2butene	10.0000	0.9197	90.80#	9	0.00	
88	T	n-Propylbenz	10.0000	9.6868	3.13	87	0.00	
89	T	2chlorotolue	10.0000	9.6397	3.60	87	0.00	
90	T	4chlorotolue	10.0000	10.0188	-0.19	89	0.00	
91	T	135Trimebenz	10.0000	9.5915	4.09	85	0.00	
92	T	tbutylbenzen	10.0000	9.3449	6.55	82	0.00	
93	T	124Trimetben	10.0000	9.9033	0.97	86	0.00	
94	T	sbutylbenzen	10.0000	9.2234	7.77	83	0.00	
95	PT	13Diclorbenz	10.0000	9.7961	2.04	90	0.00	
96	T	pIsopropylto	10.0000	9.4286	5.71	81	0.00	
97	PT	14dichlorobe	10.0000	9.9370	0.63	91	0.00	
98	PT	12dichlorobe	10.0000	9.8464	1.54	90	0.00	
99	T	nButylbenzen	10.0000	9.1228	8.77	80	0.00	
100	PT	12dibromo3cl	10.0000	6.8168	31.83	65	0.00	
101	T	135Trichlorobenzene	10.0000	8.4027	15.97	76	0.00	
102	PT	124Trichlobe	10.0000	8.6649	13.35	80	0.00	
103	T	Hexachlorobu	10.0000	7.4114	25.89	69	0.00	
104	T	Naphthalene	10.0000	7.4223	25.78	68	0.00	
105	T	123Trichlben	10.0000	7.7387	22.61	70	0.00	

(#) = Out of Range SPCC's out = 0 CCC's out = 0

W062916.M Thu Jul 14 09:20:55 2016

Quantitation Report

Data File : C:\INSTARCH\Data\JUL1316\CCVF1.D Vial: 24
Acq On : 14 Jul 2016 1:35 Operator: AGK-RLD
Sample : 127775,CCVF, Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 14 01:56:34 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 08 13:47:47 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.54	96	1350514	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.44	117	1256136	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.73	152	836821	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.69	113	354175	19.920	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100	%		
45) SURR12DCAd4	7.10	102	95823	19.723	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 99	%		
61) SURRd8Tolule	9.53	98	1472795	20.577	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 103	%		
83) SURR4BrFBenz	13.07	95	724265	19.496	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 97	%		
Target Compounds						Qvalue
2) Dichlorodi	1.78	85	240928	10.3776	ug/L	97
3) Chloromethan	2.01	50	365166	14.8393	ug/L	99
4) VinylChlorid	2.16	62	272407	10.7315	ug/L	96
5) Bromomethane	2.60	94	81732	7.4614	ug/L	98
6) Chloroethane	2.77	64	171771	11.1262	ug/L	99
7) Dichloroflmethane	3.06	67	394896	11.4211	ug/L	98
8) Trichlorofma	3.15	101	301036	10.8700	ug/L	99
9) Ethylether	3.58	59	160631	10.5966	ug/L	96
10) dichlorotfluoroethan	3.59	67	208497	10.8507	ug/L	99
11) propyleneoxide	3.92	58	480117	98.4720	ug/L	98
12) Acrolein	3.70	56	268191	38.9904	ug/L	94
13) 11dichlorthe	3.85	96	189798	11.0032	ug/L	95
14) Trichlorotfluoroeth	3.89	101	352035	21.9946	ug/L	99
15) Acetone	3.92	43	1401740	103.4193	ug/L	99
16) Iodomethane	4.03	142	291198	17.2257	ug/L	99
17) Carbon Dislf	4.12	76	870875	17.9410	ug/L	100
18) allylchloride	4.33	41	478290	20.6256	ug/L	98
19) methylacetate	4.39	74	119442	12.0271	ug/L	96
20) Methylchlorid	4.48	84	259389	11.3167	ug/L	98
21) tbutylalcohol	4.68	59	2965064	597.5604	ug/L	99
22) Acrylonitrile	4.78	53	624149	52.7403	ug/L	97
23) t12dichlorte	4.86	96	200704	11.1918	ug/L	93
24) MtBE	4.89	73	590230	11.3903	ug/L	98
25) Hexane	5.26	57	441698	20.9127	ug/L	98
26) 11dichlorota	5.38	63	341193	10.6824	ug/L	99
27) Vinylacetate	5.47	43	2384143	75.0223	ug/L	98
28) chloroprene	5.51	53	582668	21.8698	ug/L	97
29) Diisopether	5.53	45	572188	11.3831	ug/L	98
30) ETBE	5.99	59	515409	11.6544	ug/L	98
31) 22dichloropr	6.11	77	244767	9.1093	ug/L	96
32) c12dichlorte	6.10	96	223183	11.0645	ug/L	97
33) 2Butanone	6.12	72	546842	107.7988	ug/L	100
34) propionitrile	6.15	54	605975	107.9877	ug/L	99
35) Ethylacetate	6.23	88	81162	54.4128	ug/L #	84
36) methacrylonitrile	6.36	67	263443	21.0102	ug/L	99
37) Bromochlorma	6.39	128	107648	10.9390	ug/L	99
38) Tetrahydofur	6.47	42	1183198	105.1365	ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\JUL1316\CCVF1.D Vial: 24
Acq On : 14 Jul 2016 1:35 Operator: AGK-RLD
Sample : 127775,CCVF, Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 14 01:56:34 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 08 13:47:47 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
39)	Chloroform	6.50	83	341216	10.5435 ug/L		98
40)	111trichlota	6.74	97	305231	10.5080 ug/L		98
42)	Cyclohexane	6.83	56	316053	10.2085 ug/L		96
43)	Carbtetraclo	6.96	119	235952	10.2244 ug/L		94
44)	11dicloprope	6.95	110	103858	11.0430 ug/L		99
46)	Benzene	7.20	78	775981	11.1877 ug/L		98
47)	12dichlorota	7.19	62	271735	10.9143 ug/L		97
48)	TAME	7.37	73	486106	11.7583 ug/L		99
49)	trichloroete	8.00	95	220070	11.3697 ug/L		97
50)	methylcyclohexane	8.27	83	327094	9.9657 ug/L		98
51)	12dicloropra	8.25	63	200784	10.6457 ug/L		100
52)	23Dicl1propene	8.32	75	297930	10.6044 ug/L		99
53)	Dibromometha	8.39	93	131937	10.4870 ug/L		99
54)	methylmethacrylate	8.43	69	213165	10.4732 ug/L		99
55)	14dioxane	8.44	88	226605	566.2136 ug/L		98
56)	Bromodiclrma	8.59	83	241717	9.7008 ug/L		99
57)	2Nitropropane	8.85	43	770956	105.6275 ug/L		99
58)	2CLEVE	8.99	63	6327	48.0485 ug/L	#	94
59)	c13dicloproe	9.17	75	292671	9.9149 ug/L		97
60)	4Meth2Pentan	9.37	43	2885077	114.8809 ug/L		100
62)	Toluene	9.62	92	542505	11.2495 ug/L		99
63)	t13Dicloprop	9.88	75	244992	9.3736 ug/L		96
64)	ethylmethacrylate	10.03	69	670966	22.1937 ug/L		97
65)	112Triclotha	10.12	83	160457	10.0484 ug/L		97
66)	Tetrachlorte	10.35	166	250543	11.0839 ug/L		99
67)	13Diclorpropa	10.34	76	333991	10.7070 ug/L		98
69)	2Hexanone	10.46	43	2545073	103.2453 ug/L		100
70)	Clorodibrmta	10.64	129	175603	8.7239 ug/L		96
71)	12Dibrometha	10.79	107	213287	10.0315 ug/L		99
72)	Chlorobenzen	11.47	112	574496	10.4150 ug/L		98
73)	1Clhexane	11.46	91	296493	9.4792 ug/L		99
74)	1112Tetclota	11.58	131	189152	9.5618 ug/L		100
75)	Ethylbenzene	11.64	91	1010386	10.0594 ug/L		99
76)	m p-Xylene	11.80	106	823974	21.1587 ug/L		99
77)	o-Xylene	12.35	106	409443	10.0710 ug/L		99
78)	Styrene	12.36	104	665423	10.2898 ug/L		100
79)	Bromoform	12.59	173	107157	6.1561 ug/L		99
80)	Isopropylben	12.87	105	959056	10.4827 ug/L		100
81)	cyclohexanone	12.95	55	321662	191.0335 ug/L		100
84)	Bromobenzene	13.27	156	282513	9.8198 ug/L		95
85)	1122Tetrclta	13.25	83	343052	8.9176 ug/L		95
86)	123Triclproa	13.30	75	329777	7.8257 ug/L		90
87)	14dichloro2butene	13.33	53	5518	0.9197 ug/L	#	58
88)	n-Propylbenz	13.46	91	1166857	9.6868 ug/L		100
89)	2chlorotolue	13.57	91	701782	9.6397 ug/L		98
90)	4chlorotolue	13.72	91	832729	10.0188 ug/L		99
91)	135Trimebenz	13.72	105	824556	9.5915 ug/L		100
92)	tbutylbenzen	14.18	119	704667	9.3449 ug/L		98
93)	124Trimetben	14.25	105	853069	9.9033 ug/L		100
94)	sbutylbenzen	14.50	105	1028163	9.2234 ug/L		100
95)	13Diclorbenz	14.63	146	501544	9.7961 ug/L		98
96)	pIsopropylto	14.72	119	841681	9.4286 ug/L		99
97)	14dichlorobe	14.76	146	510632	9.9370 ug/L		98
98)	12dichlorobe	15.29	146	482115	9.8464 ug/L		99
99)	nButylbenzen	15.31	91	753475	9.1228 ug/L		98
100)	12dibromo3cl	16.40	157	88062	6.8168 ug/L		99
101)	135Trichlorobenzene	16.74	180	339478	8.4027 ug/L		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\JUL1316\CCVF1.D Vial: 24
Acq On : 14 Jul 2016 1:35 Operator: AGK-RLD
Sample : 127775,CCVF, Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 14 01:56:34 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 08 13:47:47 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.55	180	315910	8.6649	ug/L	97
103) Hexachlorobu	17.80	225	142947	7.4114	ug/L	98
104) Naphthalene	17.85	128	835697	7.4223	ug/L	99
105) 123Trichlben	18.17	180	269162	7.7387	ug/L	97

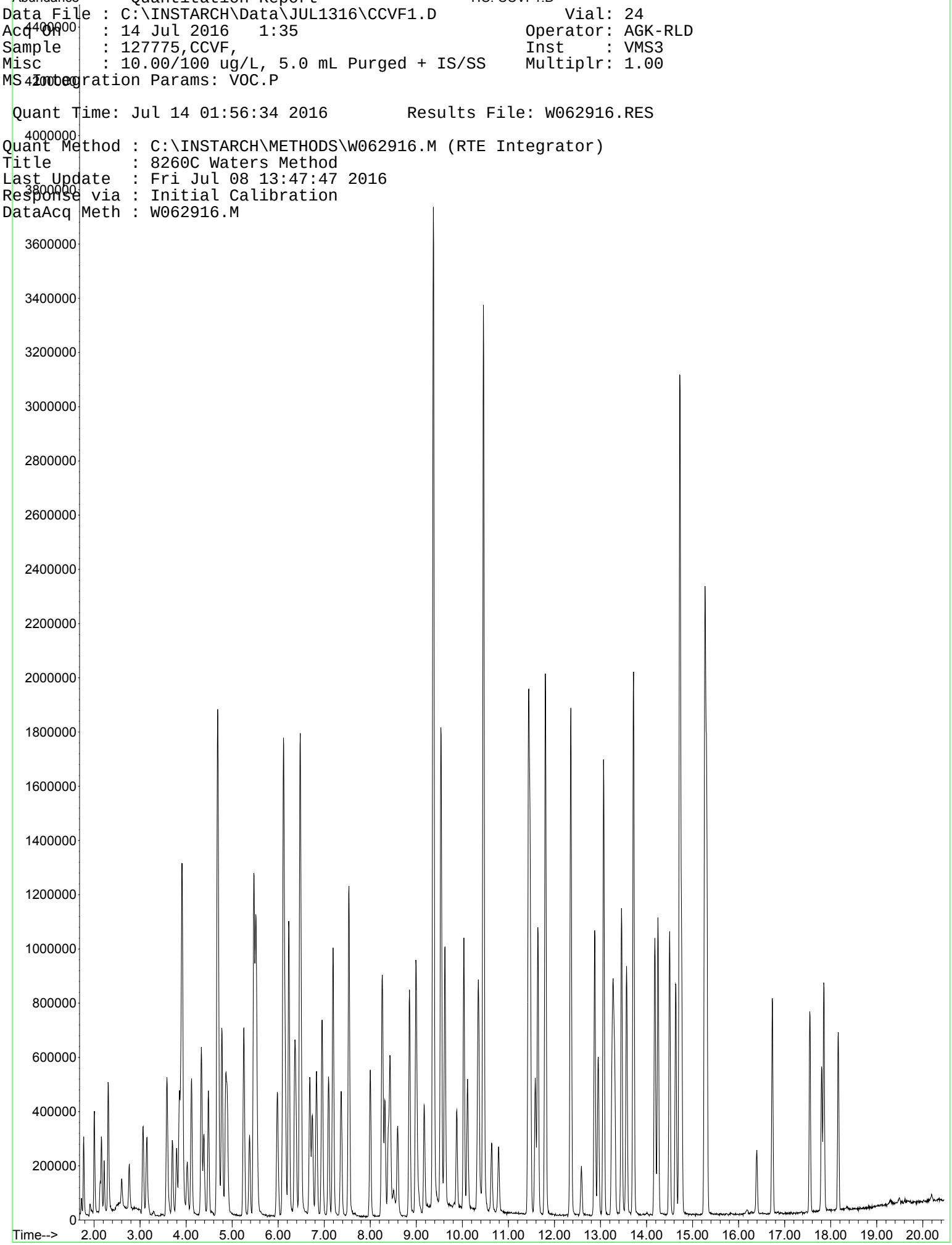
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: CCVF1.D

Data File : C:\INSTARCH\Data\JUL1316\CCVF1.D Vial: 24
Acq On : 14 Jul 2016 1:35 Operator: AGK-RLD
Sample : 127775,CCVF, Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 14 01:56:34 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 08 13:47:47 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M



Data File : L:\INSTARCH\Data\JUL1916\BFB1.D Vial: 1
Acq On : 19 Jul 2016 10:55 am Operator: AGK-RLD
Sample : 127876,BFB, Inst : VMS3
Misc : 25 ng Inj. Multiplr: 1.00
Integration File: VOC.P

Method : L:\INSTARCH\METHODS\W071516.M
Title : 8260C Waters Method

Spectrum Information: Average of 4.453 to 4.484 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	18.1	30649	PASS
75	95	30	60	51.2	86466	PASS
95	95	100	100	100.0	168906	PASS
96	95	5	9	6.7	11380	PASS
173	174	0.00	2	0.7	1140	PASS
174	95	50	100	96.0	162090	PASS
175	174	5	9	7.3	11822	PASS
176	174	95	101	97.8	158490	PASS
177	176	5	9	6.9	11006	PASS

W071516.M Wed Jul 20 14:58:11 2016

Evaluate Continuing Calibration Report

Data File : L:\INSTARCH\Data\JUL1916\CCV-LCS1.D Vial: 3
Acq On : 19 Jul 2016 11:42 am Operator: AGK-RLD
Sample : 127876,LCSW, Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Jul 19 12:02:42 2016

Quant Method : C:\INSTARCH\METHODS\W071516.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W071516.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	1.0000	1.0000	0.00	93	0.00
2	PT	Dichlorodi	0.3078	0.3233	-5.04	95	0.00
3	PT	Chloromethan	0.4119	0.3928	4.64	83	0.00
4	PT	VinylChlorid	0.3548	0.3755	-5.83	98	0.00
5	PT	Bromomethane	0.1389	0.1781	-28.22#	137	0.00
6	PT	Chloroethane	0.2223	0.2284	-2.74	93	0.00
7	T	Dichloroflmethane	0.5145	0.5213	-1.32	94	0.00
8	PT	Trichlorofma	0.3913	0.3892	0.54	94	0.00
9	T	Ethylether	0.2043	0.1963	3.92	92	0.00
10	T	dichlorotfluoroethan	0.2754	0.2735	0.69	97	0.00
11	T	propyleneoxide	0.0690	0.0676	2.03	86	0.00
12	T	Acrolein	0.0787	0.0888	-12.83	107	0.00
13	PT	11dichlorthe	0.2478	0.2523	-1.82	93	0.00
14	PT	Trichlorotfluoroeth	0.2328	0.2384	-2.41	95	0.00
15	PT	Acetone	0.1904	0.1916	-0.63	87	0.00
16	T	Iodomethane	0.2046	0.2065	-0.93	106	0.00
17	PT	Carbon Dislf	0.6338	0.7032	-10.95	97	0.00
18	T	allylchloride	0.3234	0.3349	-3.56	96	0.00
19	PT	methylacetate	0.1301	0.1321	-1.54	99	0.00
20	PT	Methylchlorid	0.3221	0.3189	0.99	95	0.00
21	T	tbutylalcohol	0.0643	0.0743	-15.55	94	0.00
22	T	Acrylonitrile	0.1588	0.1624	-2.27	91	0.00
23	PT	t12dichlorte	0.2689	0.2647	1.56	90	0.00
24	PT	MtBE	0.6530	0.7411	-13.49	102	0.00
25	T	Hexane	0.3175	0.3565	-12.28	101	0.00
26	PT	11dichlorota	0.4531	0.4685	-3.40	96	0.00
27	T	Vinylacetate	0.3945	0.4187	-6.13	88	0.00
28	T	chloroprene	0.3810	0.4092	-7.40	97	0.00
29	T	Diisopether	0.6945	0.7557	-8.81	103	0.00
30	T	ETBE	0.4764	0.6483	-36.08#	125	0.00
31	T	22dichloropr	0.3550	0.3697	-4.14	91	0.00
32	PT	c12dichlorte	0.2946	0.3051	-3.56	98	0.00
33	PT	2Butanone	0.0711	0.0713#	-0.28	93	0.00
34	T	propionitrile	0.0763	0.0769	-0.79	93	0.00
35	T	Ethylacetate	0.0203	0.0193#	4.93	94	0.00
36	T	methacrylonitrile	0.1734	0.1701	1.90	93	0.00
37	T	Bromochlorma	0.1402	0.1442	-2.85	97	0.00
38	T	Tetrahydofur	0.1512	0.1503	0.60	94	0.00
39	PT	Chloroform	0.4655	0.4654	0.02	96	0.00
40	PT	111trichlota	0.4118	0.4251	-3.23	96	0.00
41	S	SURRDibrflma	0.2568	0.2544	0.93	93	0.00
42	PT	Cyclohexane	0.4263	0.4594	-7.76	100	0.00
43	PT	Carbtetraclo	0.3314	0.3313	0.03	94	0.00
44	T	11dicloprope	0.1389	0.1457	-4.90	98	0.00
45	S	SURR12DCAd4	0.0719	0.0710	1.25	91	0.00
46	PT	Benzene	0.9843	1.0690	-8.61	96	0.00
47	PT	12dichlorota	0.3595	0.3581	0.39	96	0.00
48	T	TAME	0.3830	0.6149	-60.55#	146	0.00

49	PT	trichloroete	0.2773	0.2850	-2.78	97	0.00
50	PT	methylcyclohexane	0.4478	0.4965	-10.88	102	0.00
51	PT	12dicloropra	0.2777	0.2787	-0.36	95	0.00
52	T	23Dicl1propene	0.3953	0.4026	-1.85	95	0.00
53	T	Dibromometha	0.1787	0.1722	3.64	94	0.00
54	T	methylmethacrylate	0.2701	0.2420	10.40	86	0.00
55	T	14dioxane	0.0051	0.0057#	-11.76	87	0.00
56	PT	Bromodiclrma	0.3349	0.3397	-1.43	98	0.00
57	T	2Nitropropane	0.0720	0.1055	-46.53#	145	0.00
58	T	2CLEVE	0.0018	0.0018#	0.00	116	0.00
59	PT	c13dicloproe	0.4096	0.4339	-5.93	100	0.00
60	PT	4Meth2Pentan	0.3692	0.3840	-4.01	97	0.00
61	S	SURRd8Tolule	1.0401	1.0437	-0.35	94	0.00
62	PT	Toluene	0.7063	0.7325	-3.71	99	0.00
63	PT	t13Dicloprop	0.3605	0.3638	-0.92	98	0.00
64	T	ethylmethacrylate	0.4320	0.4319	0.02	94	0.00
65	PT	112Triclotha	0.2236	0.2255	-0.85	100	0.00
66	PT	Tetrachlorte	0.3296	0.3486	-5.76	98	0.00
67	T	13Diclorpropa	0.4502	0.4564	-1.38	98	0.00
68	I	d5-CHLOROBENZENE**ISTD**	1.0000	1.0000	0.00	94	0.00
69	PT	2Hexanone	0.3846	0.3950	-2.70	96	0.00
70	PT	Clorodibrmta	0.3153	0.3186	-1.05	100	0.00
71	PT	12Dibrometha	0.3463	0.3436	0.78	97	0.00
72	PT	Chlorobenzen	0.8941	0.9427	-5.44	100	0.00
73	T	1Clhexane	0.4876	0.5080	-4.18	102	0.00
74	T	1112Tetclota	0.3125	0.3118	0.22	101	0.00
75	PT	Ethylbenzene	1.6061	1.6870	-5.04	99	0.00
76	PT	m p-Xylene	0.6139	0.6716	-9.40	97	0.00
77	PT	o-Xylene	0.6537	0.6543	-0.09	97	0.00
78	PT	Styrene	1.0267	1.0785	-5.05	98	0.00
79	PT	Bromoform	0.2540	0.2600	-2.36	104	0.00
80	PT	Isopropylben	1.4248	1.6004	-12.32	101	0.00
81	T	cyclohexanone	0.0234	0.0232#	0.85	92	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	1.0000	1.0000	0.00	93	0.00
83	S	SURR4BrFBenz	0.8608	0.8474	1.56	92	0.00
84	T	Bromobenzene	0.7106	0.7433	-4.60	98	0.00
85	PT	1122Tetrclta	0.9063	0.9266	-2.24	95	0.00
86	T	123Triclproa	0.9488	0.9715	-2.39	100	0.00
87	T	14dichloro2butene	0.1004	0.1016	-1.20	118	0.00
88	T	n-Propylbenz	2.8682	3.1832	-10.98	101	0.00
89	T	2chlorotolue	1.7195	1.8356	-6.75	98	0.00
90	T	4chlorotolue	1.9771	2.1665	-9.58	100	0.00
91	T	135Trimebenz	2.0300	2.2609	-11.37	100	0.00
92	T	tbutylbenzen	1.7601	1.9956	-13.38	103	0.00
93	T	124Trimetben	2.0503	2.2673	-10.58	99	0.00
94	T	sbutylbenzen	2.4357	2.8748	-18.03	103	0.00
95	PT	13Diclorbenz	1.2294	1.3253	-7.80	100	0.00
96	T	pIsopropylto	2.0639	2.4181	-17.16	105	0.00
97	PT	14dichlorobe	1.2455	1.3422	-7.76	101	0.00
98	PT	12dichlorobe	1.1785	1.2503	-6.09	99	0.00
99	T	nButylbenzen	1.8612	2.1396	-14.96	106	0.00
100	PT	12dibromo3cl	0.2521	0.2392	5.12	90	0.00
101	T	135Trichlorobenzene	0.8445	0.9446	-11.85	104	0.00
102	PT	124Trichlobe	0.7799	0.8615	-10.46	102	0.00
103	T	Hexachlorobu	0.3645	0.4313	-18.33	114	0.00
104	T	Naphthalene	1.9382	2.1831	-12.64	101	0.00
105	T	123Trichlben	0.6734	0.7521	-11.69	107	0.00

(#) = Out of Range SPCC's out = 1 CCC's out = 0

W071516.M Wed Jul 20 14:59:39 2016

Evaluate Continuing Calibration Report

Data File : L:\INSTARCH\Data\JUL1916\CCV-LCS1.D Vial: 3
Acq On : 19 Jul 2016 11:42 am Operator: AGK-RLD
Sample : 127876,LCSW, Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Jul 19 12:02:42 2016

Quant Method : C:\INSTARCH\METHODS\W071516.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W071516.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	20.0000	20.0000	0.00	93	0.00
2	PT	Dichlorodi	10.0000	10.5040	-5.04	95	0.00
3	PT	Chloromethan	10.0000	9.5372	4.63	83	0.00
4	PT	VinylChlorid	10.0000	10.5862	-5.86	98	0.00
5	PT	Bromomethane	10.0000	12.8230	-28.23#	137	0.00
6	PT	Chloroethane	10.0000	10.2715	-2.71	93	0.00
7	T	Dichloroflmethane	10.0000	10.1327	-1.33	94	0.00
8	PT	Trichlorofma	10.0000	9.9460	0.54	94	0.00
9	T	Ethylether	10.0000	9.6069	3.93	92	0.00
10	T	dichlorotfluoroethan	10.0000	9.9289	0.71	97	0.00
11	T	propyleneoxide	100.0000	98.0307	1.97	86	0.00
12	T	Acrolein	50.0000	56.4060	-12.81	107	0.00
13	PT	11dichlorthe	10.0000	10.1787	-1.79	93	0.00
14	PT	Trichlorotfluoroeth	20.0000	20.4834	-2.42	95	0.00
15	PT	Acetone	100.0000	96.9020	3.10	87	0.00
16	T	Iodomethane	20.0000	20.1865	-0.93	106	0.00
17	PT	Carbon Dislf	20.0000	22.1890	-10.95	97	0.00
18	T	allylchloride	20.0000	20.7072	-3.54	96	0.00
19	PT	methylacetate	10.0000	10.1488	-1.49	99	0.00
20	PT	Methylchlorid	10.0000	9.9014	0.99	95	0.00
21	T	tbutylalcohol	500.0000	547.1807	-9.44	94	0.00
22	T	Acrylonitrile	50.0000	51.1442	-2.29	91	0.00
23	PT	t12dichlorte	10.0000	9.8441	1.56	90	0.00
24	PT	MtBE	10.0000	11.3489	-13.49	102	0.00
25	T	Hexane	20.0000	22.4532	-12.27	101	0.00
26	PT	11dichlorota	10.0000	10.3405	-3.41	96	0.00
27	T	Vinylacetate	100.0000	97.5673	2.43	88	0.00
28	T	chloroprene	20.0000	21.4827	-7.41	97	0.00
29	T	Diisopether	10.0000	10.8808	-8.81	103	0.00
30	T	ETBE	10.0000	13.6081	-36.08#	125	0.00
31	T	22dichloropr	10.0000	10.4155	-4.15	91	0.00
32	PT	c12dichlorte	10.0000	10.3594	-3.59	98	0.00
33	PT	2Butanone	100.0000	100.2209	-0.22	93	0.00
34	T	propionitrile	100.0000	100.6574	-0.66	93	0.00
35	T	Ethylacetate	50.0000	47.4441	5.11	94	0.00
36	T	methacrylonitrile	20.0000	19.6220	1.89	93	0.00
37	T	Bromochlorma	10.0000	10.2863	-2.86	97	0.00
38	T	Tetrahydofur	100.0000	99.4148	0.59	94	0.00
39	PT	Chloroform	10.0000	9.9973	0.03	96	0.00
40	PT	111trichlota	10.0000	10.3215	-3.22	96	0.00
41	S	SURRDibrflma	20.0000	19.8164	0.92	93	0.00
42	PT	Cyclohexane	10.0000	10.7749	-7.75	100	0.00
43	PT	Carbtetraclo	10.0000	9.9969	0.03	94	0.00
44	T	11dicloprope	10.0000	10.4938	-4.94	98	0.00
45	S	SURR12DCAd4	20.0000	19.7372	1.31	91	0.00
46	PT	Benzene	10.0000	10.8611	-8.61	96	0.00
47	PT	12dichlorota	10.0000	9.9592	0.41	96	0.00
48	T	TAME	10.0000	14.4120	-44.12#	146	0.00

49	PT	trichloroete	10.0000	10.2769	-2.77	97	0.00
50	PT	methylcyclohexane	10.0000	11.0881	-10.88	102	0.00
51	PT	12dicloropra	10.0000	10.0346	-0.35	95	0.00
52	T	23Dicl1propene	10.0000	10.1862	-1.86	95	0.00
53	T	Dibromometha	10.0000	9.6398	3.60	94	0.00
54	T	methylmethacrylate	10.0000	8.9597	10.40	86	0.00
55	T	14dioxane	500.0000	556.9896	-11.40	87	0.00
56	PT	Bromodiclrma	10.0000	10.1444	-1.44	98	0.00
57	T	2Nitropropane	100.0000	124.4312	-24.43#	145	0.00
58	T	2CLEVE	50.0000	67.5550	-35.11#	116	0.00
59	PT	c13dicloproe	10.0000	10.5942	-5.94	100	0.00
60	PT	4Meth2Pentan	100.0000	106.0406	-6.04	97	0.00
61	S	SURRd8Tolule	20.0000	20.0690	-0.34	94	0.00
62	PT	Toluene	10.0000	10.3709	-3.71	99	0.00
63	PT	t13Dicloprop	10.0000	10.0915	-0.91	98	0.00
64	T	ethylmethacrylate	20.0000	19.9943	0.03	94	0.00
65	PT	112Triclotha	10.0000	10.0866	-0.87	100	0.00
66	PT	Tetrachlorte	10.0000	10.5751	-5.75	98	0.00
67	T	13Diclorpropa	10.0000	10.1379	-1.38	98	0.00
68	I	d5-CHLOROBENZENE**ISTD**	20.0000	20.0000	0.00	94	0.00
69	PT	2Hexanone	100.0000	102.9199	-2.92	96	0.00
70	PT	Clorodibrmta	10.0000	10.1062	-1.06	100	0.00
71	PT	12Dibrometha	10.0000	9.9216	0.78	97	0.00
72	PT	Chlorobenzen	10.0000	10.5442	-5.44	100	0.00
73	T	1Clhexane	10.0000	10.4176	-4.18	102	0.00
74	T	1112Tetclota	10.0000	9.9774	0.23	101	0.00
75	PT	Ethylbenzene	10.0000	10.5036	-5.04	99	0.00
76	PT	m p-Xylene	20.0000	21.8812	-9.41	97	0.00
77	PT	o-Xylene	10.0000	10.0085	-0.08	97	0.00
78	PT	Styrene	10.0000	10.5048	-5.05	98	0.00
79	PT	Bromoform	10.0000	10.2363	-2.36	104	0.00
80	PT	Isopropylben	10.0000	11.2326	-12.33	101	0.00
81	T	cyclohexanone	200.0000	198.9310	0.53	92	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	20.0000	20.0000	0.00	93	0.00
83	S	SURR4BrFBenz	20.0000	19.6880	1.56	92	0.00
84	T	Bromobenzene	10.0000	10.4603	-4.60	98	0.00
85	PT	1122Tetrclta	10.0000	10.2234	-2.23	95	0.00
86	T	123Triclproa	10.0000	10.2393	-2.39	100	0.00
87	T	14dichloro2butene	10.0000	11.0628	-10.63	118	0.00
88	T	n-Propylbenz	10.0000	11.0982	-10.98	101	0.00
89	T	2chlorotolue	10.0000	10.6752	-6.75	98	0.00
90	T	4chlorotolue	10.0000	10.9577	-9.58	100	0.00
91	T	135Trimebenz	10.0000	11.1376	-11.38	100	0.00
92	T	tbutylbenzen	10.0000	11.3377	-13.38	103	0.00
93	T	124Trimetben	10.0000	11.0586	-10.59	99	0.00
94	T	sbutylbenzen	10.0000	11.8030	-18.03	103	0.00
95	PT	13Diclorbenz	10.0000	10.7803	-7.80	100	0.00
96	T	pIsopropylto	10.0000	11.7163	-17.16	105	0.00
97	PT	14dichlorobe	10.0000	10.7765	-7.77	101	0.00
98	PT	12dichlorobe	10.0000	10.6090	-6.09	99	0.00
99	T	nButylbenzen	10.0000	11.4959	-14.96	106	0.00
100	PT	12dibromo3cl	10.0000	9.4887	5.11	90	0.00
101	T	135Trichlorobenzene	10.0000	11.1856	-11.86	104	0.00
102	PT	124Trichlobe	10.0000	11.0461	-10.46	102	0.00
103	T	Hexachlorobu	10.0000	11.8314	-18.31	114	0.00
104	T	Naphthalene	10.0000	11.2636	-12.64	101	0.00
105	T	123Trichlben	10.0000	11.1689	-11.69	107	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

W071516.M Wed Jul 20 14:59:27 2016

Quantitation Report

Data File : L:\INSTARCH\Data\JUL1916\CCV-LCS1.D Vial: 3
Acq On : 19 Jul 2016 11:42 am Operator: AGK-RLD
Sample : 127876,LCSW, Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 19 12:02:42 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Mon Jul 18 10:10:08 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.54	96	1388804	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.44	117	1167528	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.73	152	730103	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.69	113	353334	19.816	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 99 %			
45) SURR12DCAd4	7.09	102	98598	19.737	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 99 %			
61) SURRd8Tolule	9.54	98	1449445	20.069	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100 %			
83) SURR4BrFBenz	13.07	95	618695	19.688	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 98 %			
Target Compounds						Qvalue
2) Dichlorodi	1.78	85	224534	10.5040	ug/L	99
3) Chloromethan	2.01	50	272764	9.5372	ug/L	98
4) VinylChlorid	2.16	62	260782	10.5862	ug/L	96
5) Bromomethane	2.60	94	123690	12.8230	ug/L	96
6) Chloroethane	2.76	64	158580	10.2715	ug/L	98
7) Dichloroflmethane	3.07	67	361990	10.1327	ug/L	99
8) Trichlorofma	3.15	101	270266	9.9460	ug/L	99
9) Ethylether	3.58	59	136291	9.6069	ug/L	99
10) dichlorotfluoroethan	3.59	67	189895	9.9289	ug/L	97
11) propyleneoxide	3.92	58	469465	98.0307	ug/L	98
12) Acrolein	3.70	56	308215	56.4060	ug/L	81
13) 11dichlorthe	3.86	96	175175	10.1787	ug/L	100
14) Trichlorotfluoroeth	3.89	101	331058	20.4834	ug/L	99
15) Acetone	3.92	43	1330490	96.9020	ug/L	99
16) Iodomethane	4.02	142	286791	20.1865	ug/L	99
17) Carbon Dislf	4.12	76	976635	22.1890	ug/L	100
18) allylchloride	4.33	41	465042	20.7072	ug/L	100
19) methylacetate	4.39	74	91712	10.1488	ug/L	98
20) Methylchlorid	4.48	84	221446	9.9014	ug/L	100
21) tbutylalcohol	4.68	59	2578590	547.1807	ug/L	100
22) Acrylonitrile	4.78	53	563967	51.1442	ug/L	100
23) t12dichlorte	4.85	96	183819	9.8441	ug/L	98
24) MtBE	4.89	73	514642	11.3489	ug/L	99
25) Hexane	5.26	57	495098	22.4532	ug/L	100
26) 11dichlorota	5.37	63	325311	10.3405	ug/L	99
27) Vinylacetate	5.47	43	2907449	97.5673	ug/L	99
28) chloroprene	5.51	53	568302	21.4827	ug/L	100
29) Diisopether	5.53	45	524733	10.8808	ug/L	98
30) ETBE	5.98	59	450211	13.6081	ug/L	99
31) 22dichloropr	6.11	77	256740	10.4155	ug/L	99
32) c12dichlorte	6.11	96	211890	10.3594	ug/L	95
33) 2Butanone	6.12	72	495081	100.2209	ug/L	99
34) propionitrile	6.15	54	533660	100.6574	ug/L	98
35) Ethylacetate	6.24	88	66850	47.4441	ug/L	99
36) methacrylonitrile	6.36	67	236270	19.6220	ug/L	98
37) Bromochlorma	6.39	128	100116	10.2863	ug/L	96
38) Tetrahydofur	6.48	42	1043636	99.4148	ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : L:\INSTARCH\Data\JUL1916\CCV-LCS1.D Vial: 3
Acq On : 19 Jul 2016 11:42 am Operator: AGK-RLD
Sample : 127876,LCSW, Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 19 12:02:42 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Mon Jul 18 10:10:08 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39) Chloroform	6.50	83	323146	9.9973 ug/L	98
40) 111trichlota	6.74	97	295173	10.3215 ug/L	99
42) Cyclohexane	6.84	56	318997	10.7749 ug/L	99
43) Carbtetraclo	6.96	119	230070	9.9969 ug/L	99
44) 11dicloprope	6.95	110	101199	10.4938 ug/L	98
46) Benzene	7.19	78	742329	10.8611 ug/L	99
47) 12dichlorota	7.19	62	248641	9.9592 ug/L	99
48) TAME	7.37	73	426985	14.4120 ug/L	99
49) trichloroete	8.00	95	197912	10.2769 ug/L	99
50) methylcyclohexane	8.27	83	344779	11.0881 ug/L	99
51) 12dicloropra	8.26	63	193497	10.0346 ug/L	100
52) 23Dicl1propene	8.32	75	279581	10.1862 ug/L	98
53) Dibromometha	8.40	93	119598	9.6398 ug/L	99
54) methylmethacrylate	8.43	69	168022	8.9597 ug/L	99
55) 14dioxane	8.44	88	197641	556.9896 ug/L	96
56) Bromodiclrma	8.60	83	235921	10.1444 ug/L	95
57) 2Nitropropane	8.85	43	732682	124.4312 ug/L	99
58) 2CLEVE	8.99	63	6335	67.5550 ug/L #	85
59) c13dicloproe	9.17	75	301303	10.5942 ug/L	100
60) 4Meth2Pentan	9.37	43	2666391	106.0406 ug/L	99
62) Toluene	9.62	92	508663	10.3709 ug/L	99
63) t13Dicloprop	9.88	75	252636	10.0915 ug/L	96
64) ethylmethacrylate	10.03	69	599807	19.9943 ug/L	99
65) 112Triclotha	10.11	83	156578	10.0866 ug/L	99
66) Tetrachlorte	10.35	166	242037	10.5751 ug/L	98
67) 13Diclorpropa	10.34	76	316937	10.1379 ug/L	98
69) 2Hexanone	10.46	43	2305909	102.9199 ug/L	99
70) Clorodibrmta	10.63	129	185999	10.1062 ug/L	98
71) 12Dibrometha	10.79	107	200562	9.9216 ug/L	99
72) Chlorobenzen	11.48	112	550326	10.5442 ug/L	98
73) 1Clhexane	11.46	91	296554	10.4176 ug/L	98
74) 1112Tetclota	11.58	131	182041	9.9774 ug/L	98
75) Ethylbenzene	11.64	91	984796	10.5036 ug/L	99
76) m p-Xylene	11.80	106	784162	21.8812 ug/L	99
77) o-Xylene	12.35	106	381957	10.0085 ug/L	98
78) Styrene	12.36	104	629610	10.5048 ug/L	99
79) Bromoform	12.59	173	151752	10.2363 ug/L	100
80) Isopropylben	12.87	105	934264	11.2326 ug/L	100
81) cyclohexanone	12.95	55	271188	198.9310 ug/L	99
84) Bromobenzene	13.28	156	271351	10.4603 ug/L	98
85) 1122Tetrclta	13.25	83	338243	10.2234 ug/L	99
86) 123Triclproa	13.30	75	354645	10.2393 ug/L	98
87) 14dichloro2butene	13.33	53	37105	11.0628 ug/L	93
88) n-Propylbenz	13.46	91	1162035	11.0982 ug/L	100
89) 2chlorotolue	13.57	91	670100	10.6752 ug/L	99
90) 4chlorotolue	13.72	91	790876	10.9577 ug/L	98
91) 135Trimebenz	13.71	105	825345	11.1376 ug/L	100
92) tbutylbenzen	14.18	119	728490	11.3377 ug/L	99
93) 124Trimetben	14.25	105	827694	11.0586 ug/L	97
94) sbutylbenzen	14.50	105	1049463	11.8030 ug/L	100
95) 13Diclorbenz	14.63	146	483805	10.7803 ug/L	97
96) pIsopropylto	14.72	119	882722	11.7163 ug/L	99
97) 14dichlorobe	14.76	146	489986	10.7765 ug/L	98
98) 12dichlorobe	15.29	146	456416	10.6090 ug/L	97
99) nButylbenzen	15.31	91	781060	11.4959 ug/L	99
100) 12dibromo3cl	16.40	157	87335	9.4887 ug/L	95
101) 135Trichlorobenzene	16.73	180	344824	11.1856 ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : L:\INSTARCH\Data\JUL1916\CCV-LCS1.D Vial: 3
Acq On : 19 Jul 2016 11:42 am Operator: AGK-RLD
Sample : 127876,LCSW, Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 19 12:02:42 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Mon Jul 18 10:10:08 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.54	180	314498	11.0461	ug/L	99
103) Hexachlorobu	17.81	225	157447	11.8314	ug/L	98
104) Naphthalene	17.85	128	796957	11.2636	ug/L	99
105) 123Trichlben	18.17	180	274555	11.1689	ug/L	99

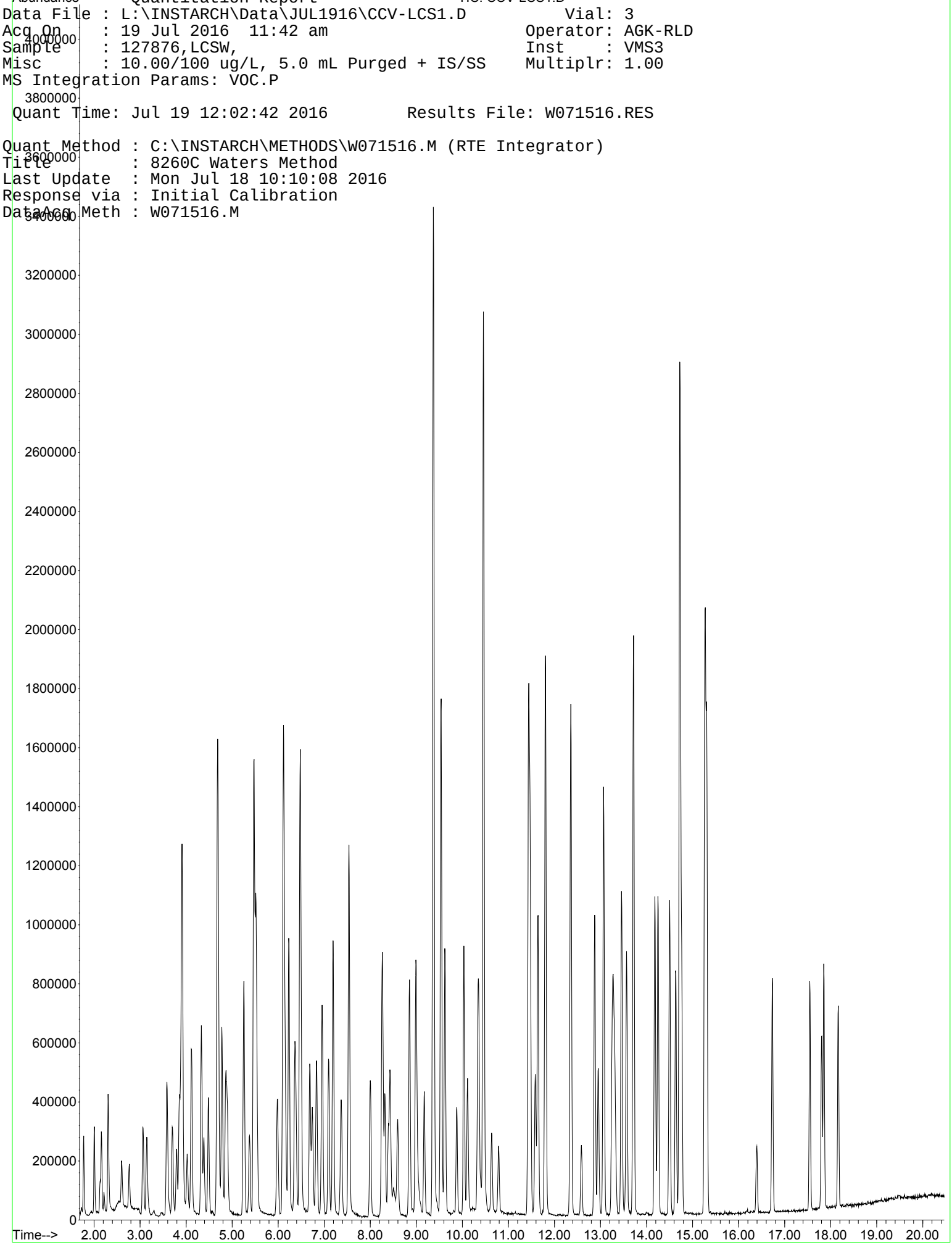
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: CCV-LCS1.D

Data File : L:\INSTARCH\Data\JUL1916\CCV-LCS1.D Vial: 3
Acq On : 19 Jul 2016 11:42 am Operator: AGK-RLD
Sample : 127876,LCSW, Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 19 12:02:42 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Mon Jul 18 10:10:08 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M



Evaluate Continuing Calibration Report

Data File : L:\INSTARCH\Data\JUL1916\CCVF1.D Vial: 24
Acq On : 19 Jul 2016 10:07 pm Operator: AGK-RLD
Sample : 127818,CCVF, Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Jul 19 22:28:15 2016

Quant Method : C:\INSTARCH\METHODS\W071516.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W071516.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 50% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	1.0000	1.0000	0.00	95	0.00
2	PT	Dichlorodi	0.3078	0.3161	-2.70	95	0.00
3	PT	Chloromethan	0.4119	0.3781	8.21	82	0.00
4	PT	VinylChlorid	0.3548	0.3673	-3.52	98	0.00
5	PT	Bromomethane	0.1389	0.1740	-25.27	137	0.00
6	PT	Chloroethane	0.2223	0.2261	-1.71	95	0.00
7	T	Dichloroflmethane	0.5145	0.5070	1.46	94	0.00
8	PT	Trichlorofma	0.3913	0.3884	0.74	96	0.00
9	T	Ethylether	0.2043	0.2010	1.62	96	0.00
10	T	dichlorotfluoroethan	0.2754	0.2720	1.23	99	0.00
11	T	propyleneoxide	0.0690	0.0684	0.87	89	0.00
12	T	Acrolein	0.0787	0.0638	18.93	79	0.00
13	PT	11dichlorthe	0.2478	0.2554	-3.07	97	0.00
14	PT	Trichlorotfluoroeth	0.2328	0.2371	-1.85	97	0.00
15	PT	Acetone	0.1904	0.1916	-0.63	89	0.00
16	T	Iodomethane	0.2046	0.2375	-16.08	125	0.00
17	PT	Carbon Dislf	0.6338	0.6665	-5.16	94	0.00
18	T	allylchloride	0.3234	0.3175	1.82	93	0.00
19	PT	methylacetate	0.1301	0.1496	-14.99	115	0.00
20	PT	Methylchlorid	0.3221	0.3131	2.79	96	0.00
21	T	tbutylalcohol	0.0643	0.0784	-21.93	101	0.00
22	T	Acrylonitrile	0.1588	0.1615	-1.70	93	0.00
23	PT	t12dichlorte	0.2689	0.2669	0.74	93	0.00
24	PT	MtBE	0.6530	0.7417	-13.58	104	0.00
25	T	Hexane	0.3175	0.3163	0.38	92	0.00
26	PT	11dichlorota	0.4531	0.4496	0.77	95	0.00
27	T	Vinylacetate	0.3945	0.4160	-5.45	90	0.00
28	T	chloroprene	0.3810	0.4008	-5.20	97	0.00
29	T	Diisopether	0.6945	0.7638	-9.98	107	0.00
30	T	ETBE	0.4764	0.6957	-46.03	137	0.00
31	T	22dichloropr	0.3550	0.3301	7.01	83	0.00
32	PT	c12dichlorte	0.2946	0.3007	-2.07	99	0.00
33	PT	2Butanone	0.0711	0.0733#	-3.09	98	0.00
34	T	propionitrile	0.0763	0.0817	-7.08	101	0.00
35	T	Ethylacetate	0.0203	0.0207#	-1.97	103	0.00
36	T	methacrylonitrile	0.1734	0.1756	-1.27	99	0.00
37	T	Bromochlorma	0.1402	0.1401	0.07	96	0.00
38	T	Tetrahydofur	0.1512	0.1519	-0.46	97	0.00
39	PT	Chloroform	0.4655	0.4622	0.71	98	0.00
40	PT	111trichlota	0.4118	0.4114	0.10	95	0.00
41	S	SURRDibrflma	0.2568	0.2480	3.43	93	0.00
42	PT	Cyclohexane	0.4263	0.4478	-5.04	100	0.00
43	PT	Carbtetraclo	0.3314	0.3226	2.66	93	0.00
44	T	11dicloprope	0.1389	0.1413	-1.73	98	0.00
45	S	SURR12DCAd4	0.0719	0.0680	5.42	90	0.01
46	PT	Benzene	0.9843	1.0624	-7.93	97	0.00
47	PT	12dichlorota	0.3595	0.3537	1.61	97	0.00
48	T	TAME	0.3830	0.6846	-78.75#	167	0.00

49	PT	trichloroete	0.2773	0.2835	-2.24	99	0.00
50	PT	methylcyclohexane	0.4478	0.4735	-5.74	99	0.00
51	PT	12dicloropra	0.2777	0.2747	1.08	96	0.00
52	T	23Dicl1propene	0.3953	0.3849	2.63	93	0.00
53	T	Dibromometha	0.1787	0.1809	-1.23	101	0.00
54	T	methylmethacrylate	0.2701	0.2426	10.18	89	0.00
55	T	14dioxane	0.0051	0.0063#	-23.53	99	0.00
56	PT	Bromodiclrma	0.3349	0.3229	3.58	96	0.00
57	T	2Nitropropane	0.0720	0.0806	-11.94	113	0.00
58	T	2CLEVE	0.0018	0.0019#	-5.56	123	0.00
59	PT	c13dicloproe	0.4096	0.3907	4.61	92	0.00
60	PT	4Meth2Pentan	0.3692	0.3827	-3.66	99	0.00
61	S	SURRd8Tolule	1.0401	1.0340	0.59	96	0.00
62	PT	Toluene	0.7063	0.7275	-3.00	100	0.00
63	PT	t13Dicloprop	0.3605	0.3303	8.38	91	0.00
64	T	ethylmethacrylate	0.4320	0.4282	0.88	95	0.00
65	PT	112Triclotha	0.2236	0.2190	2.06	100	0.00
66	PT	Tetrachlorte	0.3296	0.3431	-4.10	99	0.00
67	T	13Diclorpropa	0.4502	0.4524	-0.49	99	0.00
68	I	d5-CHLOROBENZENE**ISTD**	1.0000	1.0000	0.00	94	0.00
69	PT	2Hexanone	0.3846	0.4029	-4.76	98	0.00
70	PT	Clorodibrmta	0.3153	0.2861	9.26	90	0.00
71	PT	12Dibrometha	0.3463	0.3447	0.46	97	0.00
72	PT	Chlorobenzen	0.8941	0.9295	-3.96	99	0.00
73	T	1Clhexane	0.4876	0.4960	-1.72	100	0.00
74	T	1112Tetclota	0.3125	0.3158	-1.06	102	0.00
75	PT	Ethylbenzene	1.6061	1.6778	-4.46	99	0.00
76	PT	m p-Xylene	0.6139	0.6741	-9.81	98	0.00
77	PT	o-Xylene	0.6537	0.6584	-0.72	98	0.00
78	PT	Styrene	1.0267	1.0758	-4.78	98	0.00
79	PT	Bromoform	0.2540	0.1937	23.74	78	0.00
80	PT	Isopropylben	1.4248	1.5764	-10.64	100	0.00
81	T	cyclohexanone	0.0234	0.0263#	-12.39	105	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	1.0000	1.0000	0.00	94	0.00
83	S	SURR4BrFBenz	0.8608	0.8434	2.02	92	0.00
84	T	Bromobenzene	0.7106	0.7370	-3.72	98	0.00
85	PT	1122Tetrclta	0.9063	0.9388	-3.59	97	0.00
86	T	123Triclproa	0.9488	0.9157	3.49	95	0.00
87	T	14dichloro2butene	0.1004	0.0560	44.22	66	0.00
88	T	n-Propylbenz	2.8682	3.1130	-8.53	100	0.00
89	T	2chlorotolue	1.7195	1.8620	-8.29	100	0.00
90	T	4chlorotolue	1.9771	2.1194	-7.20	99	0.00
91	T	135Trimebenz	2.0300	2.2279	-9.75	99	0.00
92	T	tbutylbenzen	1.7601	1.9587	-11.28	102	0.00
93	T	124Trimetben	2.0503	2.2847	-11.43	100	0.00
94	T	sbutylbenzen	2.4357	2.8538	-17.17	103	0.00
95	PT	13Diclorbenz	1.2294	1.2996	-5.71	99	0.00
96	T	pIsopropylto	2.0639	2.3293	-12.86	102	0.00
97	PT	14dichlorobe	1.2455	1.3362	-7.28	101	0.00
98	PT	12dichlorobe	1.1785	1.2567	-6.64	100	0.00
99	T	nButylbenzen	1.8612	2.0927	-12.44	104	0.00
100	PT	12dibromo3cl	0.2521	0.2178	13.61	82	0.00
101	T	135Trichlorobenzene	0.8445	0.9414	-11.47	104	0.00
102	PT	124Trichlobe	0.7799	0.8617	-10.49	103	0.00
103	T	Hexachlorobu	0.3645	0.4296	-17.86	114	0.00
104	T	Naphthalene	1.9382	2.3455	-21.01	110	0.00
105	T	123Trichlben	0.6734	0.7988	-18.62	114	0.00

(#) = Out of Range SPCC's out = 1 CCC's out = 0

W071516.M Wed Jul 20 15:00:42 2016

Evaluate Continuing Calibration Report

Data File : L:\INSTARCH\Data\JUL1916\CCVF1.D Vial: 24
Acq On : 19 Jul 2016 10:07 pm Operator: AGK-RLD
Sample : 127818,CCVF, Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Jul 19 22:28:15 2016

Quant Method : C:\INSTARCH\METHODS\W071516.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W071516.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 50% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	20.0000	20.0000	0.00	95	0.00
2	PT	Dichlorodi	10.0000	10.2694	-2.69	95	0.00
3	PT	Chloromethan	10.0000	9.1799	8.20	82	0.00
4	PT	VinylChlorid	10.0000	10.3530	-3.53	98	0.00
5	PT	Bromomethane	10.0000	12.5280	-25.28	137	0.00
6	PT	Chloroethane	10.0000	10.1693	-1.69	95	0.00
7	T	Dichloroflmethane	10.0000	9.8541	1.46	94	0.00
8	PT	Trichlorofma	10.0000	9.9251	0.75	96	0.00
9	T	Ethylether	10.0000	9.8372	1.63	96	0.00
10	T	dichlorotfluoroethan	10.0000	9.8741	1.26	99	0.00
11	T	propyleneoxide	100.0000	99.1860	0.81	89	0.00
12	T	Acrolein	50.0000	40.5183	18.96	79	0.00
13	PT	11dichlorthe	10.0000	10.3036	-3.04	97	0.00
14	PT	Trichlorotfluoroeth	20.0000	20.3714	-1.86	97	0.00
15	PT	Acetone	100.0000	96.9072	3.09	89	0.00
16	T	Iodomethane	20.0000	23.2122	-16.06	125	0.00
17	PT	Carbon Dislf	20.0000	21.0290	-5.14	94	0.00
18	T	allylchloride	20.0000	19.6360	1.82	93	0.00
19	PT	methylacetate	10.0000	11.4984	-14.98	115	0.00
20	PT	Methylchlorid	10.0000	9.7200	2.80	96	0.00
21	T	tbutylalcohol	500.0000	583.0364	-16.61	101	0.00
22	T	Acrylonitrile	50.0000	50.8579	-1.72	93	0.00
23	PT	t12dichlorte	10.0000	9.9251	0.75	93	0.00
24	PT	MtBE	10.0000	11.3570	-13.57	104	0.00
25	T	Hexane	20.0000	19.9229	0.39	92	0.00
26	PT	11dichlorota	10.0000	9.9235	0.76	95	0.00
27	T	Vinylacetate	100.0000	96.8430	3.16	90	0.00
28	T	chloroprene	20.0000	21.0404	-5.20	97	0.00
29	T	Diisopether	10.0000	10.9973	-9.97	107	0.00
30	T	ETBE	10.0000	14.6019	-46.02	137	0.00
31	T	22dichloropr	10.0000	9.3000	7.00	83	0.00
32	PT	c12dichlorte	10.0000	10.2102	-2.10	99	0.00
33	PT	2Butanone	100.0000	103.0360	-3.04	98	0.00
34	T	propionitrile	100.0000	107.0608	-7.06	101	0.00
35	T	Ethylacetate	50.0000	51.0463	-2.09	103	0.00
36	T	methacrylonitrile	20.0000	20.2586	-1.29	99	0.00
37	T	Bromochlorma	10.0000	9.9987	0.01	96	0.00
38	T	Tetrahydofur	100.0000	100.5085	-0.51	97	0.00
39	PT	Chloroform	10.0000	9.9295	0.70	98	0.00
40	PT	111trichlota	10.0000	9.9885	0.11	95	0.00
41	S	SURRDibrflma	20.0000	19.3191	3.40	93	0.00
42	PT	Cyclohexane	10.0000	10.5033	-5.03	100	0.00
43	PT	Carbtetraclo	10.0000	9.7353	2.65	93	0.00
44	T	11dicloprope	10.0000	10.1721	-1.72	98	0.00
45	S	SURR12DCAd4	20.0000	18.9047	5.48	90	0.01
46	PT	Benzene	10.0000	10.7934	-7.93	97	0.00
47	PT	12dichlorota	10.0000	9.8381	1.62	97	0.00
48	T	TAME	10.0000	15.8688	-58.69#	167	0.00

49	PT	trichloroete	10.0000	10.2237	-2.24	99	0.00
50	PT	methylcyclohexane	10.0000	10.5750	-5.75	99	0.00
51	PT	12dicloropra	10.0000	9.8938	1.06	96	0.00
52	T	23Dicl1propene	10.0000	9.7382	2.62	93	0.00
53	T	Dibromometha	10.0000	10.1255	-1.26	101	0.00
54	T	methylmethacrylate	10.0000	8.9826	10.17	89	0.00
55	T	14dioxane	500.0000	619.3934	-23.88	99	0.00
56	PT	Bromodiclrma	10.0000	9.6419	3.58	96	0.00
57	T	2Nitropropane	100.0000	98.0631	1.94	113	0.00
58	T	2CLEVE	50.0000	69.8694	-39.74	123	0.00
59	PT	c13dicloproe	10.0000	9.5383	4.62	92	0.00
60	PT	4Meth2Pentan	100.0000	105.6278	-5.63	99	0.00
61	S	SURRd8Tolule	20.0000	19.8834	0.58	96	0.00
62	PT	Toluene	10.0000	10.2996	-3.00	100	0.00
63	PT	t13Dicloprop	10.0000	9.1609	8.39	91	0.00
64	T	ethylmethacrylate	20.0000	19.8221	0.89	95	0.00
65	PT	112Triclotha	10.0000	9.7981	2.02	100	0.00
66	PT	Tetrachlorte	10.0000	10.4108	-4.11	99	0.00
67	T	13Diclorpropa	10.0000	10.0491	-0.49	99	0.00
68	I	d5-CHLOROBENZENE**ISTD**	20.0000	20.0000	0.00	94	0.00
69	PT	2Hexanone	100.0000	105.3563	-5.36	98	0.00
70	PT	Clorodibrmta	10.0000	9.0755	9.25	90	0.00
71	PT	12Dibrometha	10.0000	9.9556	0.44	97	0.00
72	PT	Chlorobenzen	10.0000	10.3969	-3.97	99	0.00
73	T	1Clhexane	10.0000	10.1713	-1.71	100	0.00
74	T	1112Tetclota	10.0000	10.1043	-1.04	102	0.00
75	PT	Ethylbenzene	10.0000	10.4465	-4.47	99	0.00
76	PT	m p-Xylene	20.0000	21.9601	-9.80	98	0.00
77	PT	o-Xylene	10.0000	10.0708	-0.71	98	0.00
78	PT	Styrene	10.0000	10.4781	-4.78	98	0.00
79	PT	Bromoform	10.0000	7.6267	23.73	78	0.00
80	PT	Isopropylben	10.0000	11.0639	-10.64	100	0.00
81	T	cyclohexanone	200.0000	225.2552	-12.63	105	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	20.0000	20.0000	0.00	94	0.00
83	S	SURR4BrFBenz	20.0000	19.5959	2.02	92	0.00
84	T	Bromobenzene	10.0000	10.3718	-3.72	98	0.00
85	PT	1122Tetrclta	10.0000	10.3588	-3.59	97	0.00
86	T	123Triclproa	10.0000	9.6510	3.49	95	0.00
87	T	14dichloro2butene	10.0000	6.7707	32.29	66	0.00
88	T	n-Propylbenz	10.0000	10.8534	-8.53	100	0.00
89	T	2chlorotolue	10.0000	10.8286	-8.29	100	0.00
90	T	4chlorotolue	10.0000	10.7198	-7.20	99	0.00
91	T	135Trimebenz	10.0000	10.9748	-9.75	99	0.00
92	T	tbutylbenzen	10.0000	11.1283	-11.28	102	0.00
93	T	124Trimetben	10.0000	11.1431	-11.43	100	0.00
94	T	sbutylbenzen	10.0000	11.7164	-17.16	103	0.00
95	PT	13Diclorbenz	10.0000	10.5711	-5.71	99	0.00
96	T	pIsopropylto	10.0000	11.2862	-12.86	102	0.00
97	PT	14dichlorobe	10.0000	10.7281	-7.28	101	0.00
98	PT	12dichlorobe	10.0000	10.6636	-6.64	100	0.00
99	T	nButylbenzen	10.0000	11.2440	-12.44	104	0.00
100	PT	12dibromo3cl	10.0000	8.6398	13.60	82	0.00
101	T	135Trichlorobenzene	10.0000	11.1473	-11.47	104	0.00
102	PT	124Trichlobe	10.0000	11.0479	-10.48	103	0.00
103	T	Hexachlorobu	10.0000	11.7855	-17.86	114	0.00
104	T	Naphthalene	10.0000	12.1013	-21.01	110	0.00
105	T	123Trichlben	10.0000	11.8626	-18.63	114	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

W071516.M Wed Jul 20 15:00:58 2016

Quantitation Report

Data File : L:\INSTARCH\Data\JUL1916\CCVF1.D Vial: 24
Acq On : 19 Jul 2016 10:07 pm Operator: AGK-RLD
Sample : 127818,CCVF, Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 19 22:28:15 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Mon Jul 18 10:10:08 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.54	96	1422255	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.44	117	1172266	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.73	152	734627	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.69	113	352763	19.319	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 97 %			
45) SURR12DCAd4	7.10	102	96714	18.905	ug/L	0.01
Spiked Amount 20.000	Range 89 - 112		Recovery = 95 %			
61) SURRd8Tolule	9.54	98	1470634	19.883	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 99 %			
83) SURR4BrFBenz	13.07	95	619617	19.596	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 98 %			
Target Compounds						Qvalue
2) Dichlorodi	1.78	85	224808	10.2694	ug/L	99
3) Chloromethan	2.01	50	268869	9.1799	ug/L	99
4) VinylChlorid	2.16	62	261181	10.3530	ug/L	98
5) Bromomethane	2.60	94	123755	12.5280	ug/L	99
6) Chloroethane	2.76	64	160784	10.1693	ug/L	99
7) Dichloroflmethane	3.06	67	360517	9.8541	ug/L	100
8) Trichlorofma	3.14	101	276194	9.9251	ug/L	97
9) Ethylether	3.58	59	142920	9.8372	ug/L	99
10) dichlorotfluoroethan	3.58	67	193397	9.8741	ug/L	97
11) propyleneoxide	3.92	58	486439	99.1860	ug/L	100
12) Acrolein	3.70	56	226734	40.5183	ug/L #	76
13) 11dichlorthe	3.85	96	181597	10.3036	ug/L	99
14) Trichlorotfluoroeth	3.90	101	337177	20.3714	ug/L	98
15) Acetone	3.92	43	1362600	96.9072	ug/L	100
16) Iodomethane	4.02	142	337721	23.2122	ug/L	98
17) Carbon Dislf	4.12	76	947873	21.0290	ug/L	98
18) allylchloride	4.33	41	451606	19.6360	ug/L	99
19) methylacetate	4.39	74	106411	11.4984	ug/L	97
20) Methylchlorid	4.48	84	222625	9.7200	ug/L	98
21) tbutylalcohol	4.69	59	2787654	583.0364	ug/L	98
22) Acrylonitrile	4.78	53	574318	50.8579	ug/L	99
23) t12dichlorte	4.86	96	189795	9.9251	ug/L	98
24) MtBE	4.89	73	527412	11.3570	ug/L	99
25) Hexane	5.25	57	449885	19.9229	ug/L	97
26) 11dichlorota	5.38	63	319713	9.9235	ug/L	99
27) Vinylacetate	5.47	43	2958099	96.8430	ug/L	99
28) chloroprene	5.51	53	570008	21.0404	ug/L	99
29) Diisopether	5.53	45	543124	10.9973	ug/L	95
30) ETBE	5.98	59	494723	14.6019	ug/L	98
31) 22dichloropr	6.11	77	234765	9.3000	ug/L	99
32) c12dichlorte	6.10	96	213868	10.2102	ug/L	97
33) 2Butanone	6.12	72	521247	103.0360	ug/L	99
34) propionitrile	6.15	54	581281	107.0608	ug/L	98
35) Ethylacetate	6.24	88	73658	51.0463	ug/L	92
36) methacrylonitrile	6.36	67	249811	20.2586	ug/L	97
37) Bromochlorma	6.39	128	99661	9.9987	ug/L	99
38) Tetrahydofur	6.47	42	1080531	100.5085	ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : L:\INSTARCH\Data\JUL1916\CCVF1.D Vial: 24
Acq On : 19 Jul 2016 10:07 pm Operator: AGK-RLD
Sample : 127818,CCVF, Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 19 22:28:15 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Mon Jul 18 10:10:08 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.50	83	328684	9.9295	ug/L		99
40)	111trichlota	6.74	97	292530	9.9885	ug/L		97
42)	Cyclohexane	6.84	56	318444	10.5033	ug/L		98
43)	Carbtetraclo	6.97	119	229444	9.7353	ug/L		98
44)	11dicloprope	6.95	110	100460	10.1721	ug/L		98
46)	Benzene	7.20	78	755474	10.7934	ug/L		99
47)	12dichlorota	7.18	62	251536	9.8381	ug/L		99
48)	TAME	7.37	73	486829	15.8688	ug/L		98
49)	trichloroete	8.00	95	201630	10.2237	ug/L		99
50)	methylcyclohexane	8.27	83	336746	10.5750	ug/L		99
51)	12dicloropra	8.26	63	195378	9.8938	ug/L		98
52)	23Dicl1propene	8.32	75	273722	9.7382	ug/L		98
53)	Dibromometha	8.39	93	128650	10.1255	ug/L		98
54)	methylmethacrylate	8.43	69	172509	8.9826	ug/L		97
55)	14dioxane	8.44	88	225078	619.3934	ug/L		99
56)	Bromodiclrma	8.60	83	229637	9.6419	ug/L		98
57)	2Nitropropane	8.85	43	573324	98.0631	ug/L		99
58)	2CLEVE	8.99	63	6707	69.8694	ug/L	#	84
59)	c13dicloproe	9.17	75	277808	9.5383	ug/L		98
60)	4Meth2Pentan	9.37	43	2721793	105.6278	ug/L		100
62)	Toluene	9.62	92	517334	10.2996	ug/L		98
63)	t13Dicloprop	9.88	75	234862	9.1609	ug/L		97
64)	ethylmethacrylate	10.03	69	608962	19.8221	ug/L		99
65)	112Triclotha	10.11	83	155763	9.7981	ug/L		99
66)	Tetrachlorte	10.35	166	244016	10.4108	ug/L		98
67)	13Diclorpropa	10.34	76	321729	10.0491	ug/L		99
69)	2Hexanone	10.46	43	2361330	105.3563	ug/L		99
70)	Clorodibrmta	10.63	129	167707	9.0755	ug/L		99
71)	12Dibrometha	10.79	107	202066	9.9556	ug/L		99
72)	Chlorobenzen	11.48	112	544837	10.3969	ug/L		99
73)	1Clhexane	11.46	91	290716	10.1713	ug/L		99
74)	1112Tetclota	11.59	131	185105	10.1043	ug/L		96
75)	Ethylbenzene	11.64	91	983415	10.4465	ug/L		97
76)	m p-Xylene	11.80	106	790181	21.9601	ug/L		99
77)	o-Xylene	12.35	106	385895	10.0708	ug/L		98
78)	Styrene	12.36	104	630558	10.4781	ug/L		100
79)	Bromoform	12.59	173	113523	7.6267	ug/L		98
80)	Isopropylben	12.87	105	923974	11.0639	ug/L		98
81)	cyclohexanone	12.95	55	308320	225.2552	ug/L		99
84)	Bromobenzene	13.28	156	270723	10.3718	ug/L		100
85)	1122Tetrclta	13.25	83	344846	10.3588	ug/L		99
86)	123Triclproa	13.30	75	336341	9.6510	ug/L		99
87)	14dichloro2butene	13.33	53	20582	6.7707	ug/L		97
88)	n-Propylbenz	13.46	91	1143445	10.8534	ug/L		98
89)	2chlorotolue	13.57	91	683940	10.8286	ug/L		100
90)	4chlorotolue	13.72	91	778499	10.7198	ug/L		99
91)	135Trimebenz	13.72	105	818323	10.9748	ug/L		98
92)	tbutylbenzen	14.18	119	719466	11.1283	ug/L		99
93)	124Trimetben	14.25	105	839191	11.1431	ug/L		100
94)	sbutylbenzen	14.50	105	1048222	11.7164	ug/L		100
95)	13Diclorbenz	14.64	146	477354	10.5711	ug/L		99
96)	pIsopropylto	14.72	119	855584	11.2862	ug/L		99
97)	14dichlorobe	14.76	146	490805	10.7281	ug/L		98
98)	12dichlorobe	15.30	146	461607	10.6636	ug/L		99
99)	nButylbenzen	15.31	91	768677	11.2440	ug/L		99
100)	12dibromo3cl	16.40	157	80015	8.6398	ug/L		100
101)	135Trichlorobenzene	16.73	180	345775	11.1473	ug/L		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : L:\INSTARCH\Data\JUL1916\CCVF1.D Vial: 24
Acq On : 19 Jul 2016 10:07 pm Operator: AGK-RLD
Sample : 127818,CCVF, Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 19 22:28:15 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Mon Jul 18 10:10:08 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.54	180	316499	11.0479	ug/L	98
103) Hexachlorobu	17.80	225	157808	11.7855	ug/L	99
104) Naphthalene	17.85	128	861538	12.1013	ug/L	100
105) 123Trichlben	18.17	180	293414	11.8626	ug/L	99

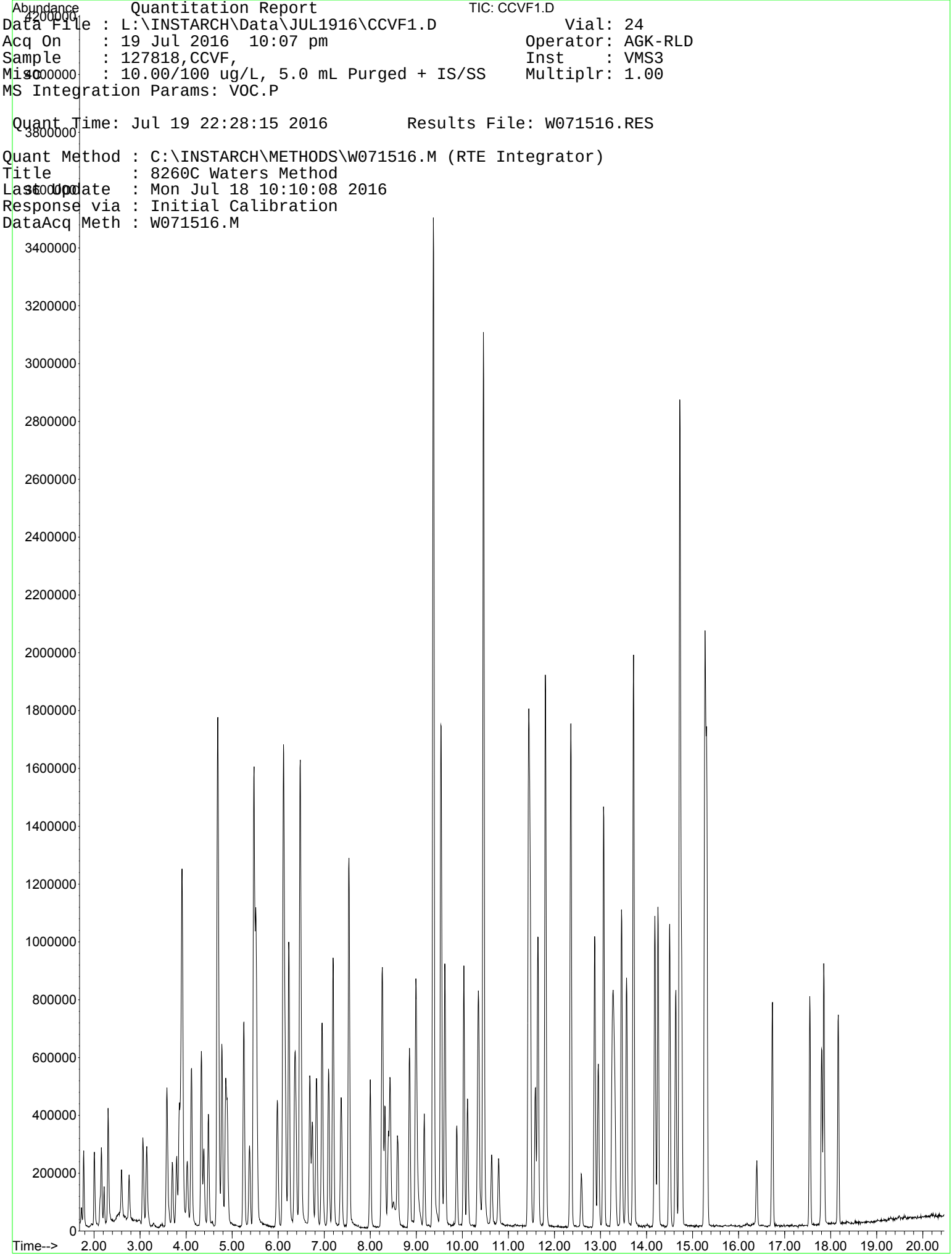
(#) = qualifier out of range (m) = manual integration

Quantitation Report (TIC: CCVF1.D)

Data File : L:\INSTARCH\Data\JUL1916\CCVF1.D Vial: 24
Acq On : 19 Jul 2016 10:07 pm Operator: AGK-RLD
Sample : 127818,CCVF, Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 19 22:28:15 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Mon Jul 18 10:10:08 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M



QC Check Standard Report

Sequence : C:\InStarch\PVOC4\Sequence\071516.seq
User : AMA
Printed : Jul 15, 2016 12:18:38

File	Sample ID	Acquired
C:\Instarch\PVOC4\Data\071516\021.dat	127792,CCV,	Jul 15, 2016 12:18:38

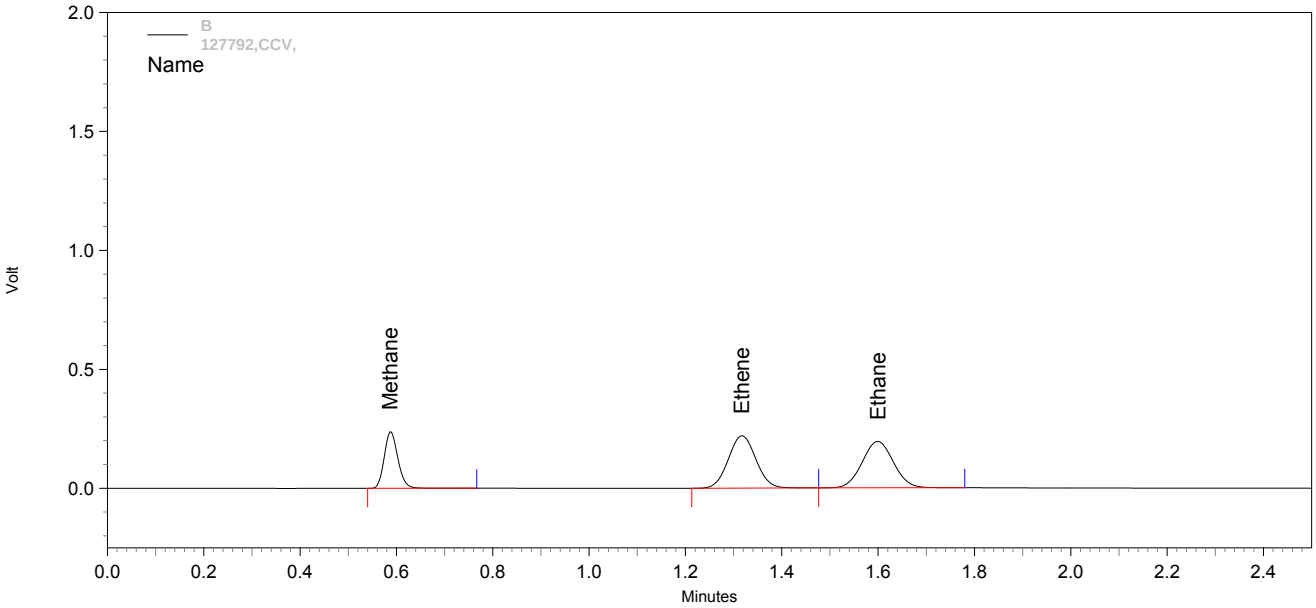
B

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
Methane	50.000	52.404	4.807	15.000	**Passed**
Ethene	50.000	52.919	5.837	15.000	**Passed**
Ethane	50.000	52.016	4.033	15.000	**Passed**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\071516\021.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 127792,CCV,
Acquired: Jul 15, 2016 10:09:02
File Desc. 250 uL of 200 ppmV Methane/Ethene/Ethane Gas Std



B Results

Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.587	468107	**52.404**
2	Ethene	1.317	872997	**52.919**
3	Ethane	1.600	879010	**52.016**

Totals			2220114	**157.339**

QC Check Standard Report

Sequence : C:\InStarch\PVOC4\Sequence\071516.seq
User : AMA
Printed : Jul 15, 2016 12:19:21

File	Sample ID	Acquired
C:\Instarch\PVOC4\Data\071516\036.dat	127793,CCV,	Jul 15, 2016 12:19:21

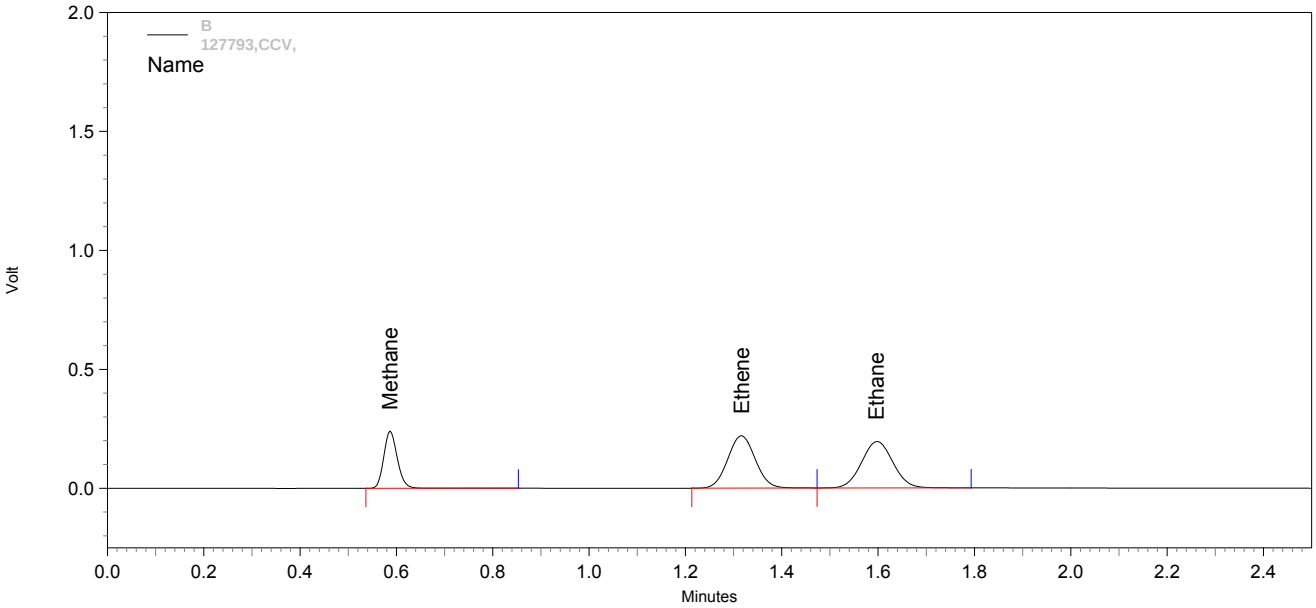
B

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
Methane	50.000	52.697	5.395	15.000	**Passed**
Ethene	50.000	52.902	5.804	15.000	**Passed**
Ethane	50.000	52.040	4.080	15.000	**Passed**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\071516\036.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 127793,CCV,
Acquired: Jul 15, 2016 11:24:40
File Desc. 250 uL of 200 ppmV Methane/Ethene/Ethane Gas Std



B Results

Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.587	470727	**52.697**
2	Ethene	1.317	872718	**52.902**
3	Ethane	1.597	879415	**52.040**

Totals			2222860	**157.639**

QC Check Standard Report

Sequence : C:\InStarch\PVOC4\Sequence\071516.seq
User : AMA
Printed : Jul 15, 2016 12:19:50

File	Sample ID	Acquired
C:\Instarch\PVOC4\Data\071516\045.dat	127794,CCV,	Jul 15, 2016 12:19:50

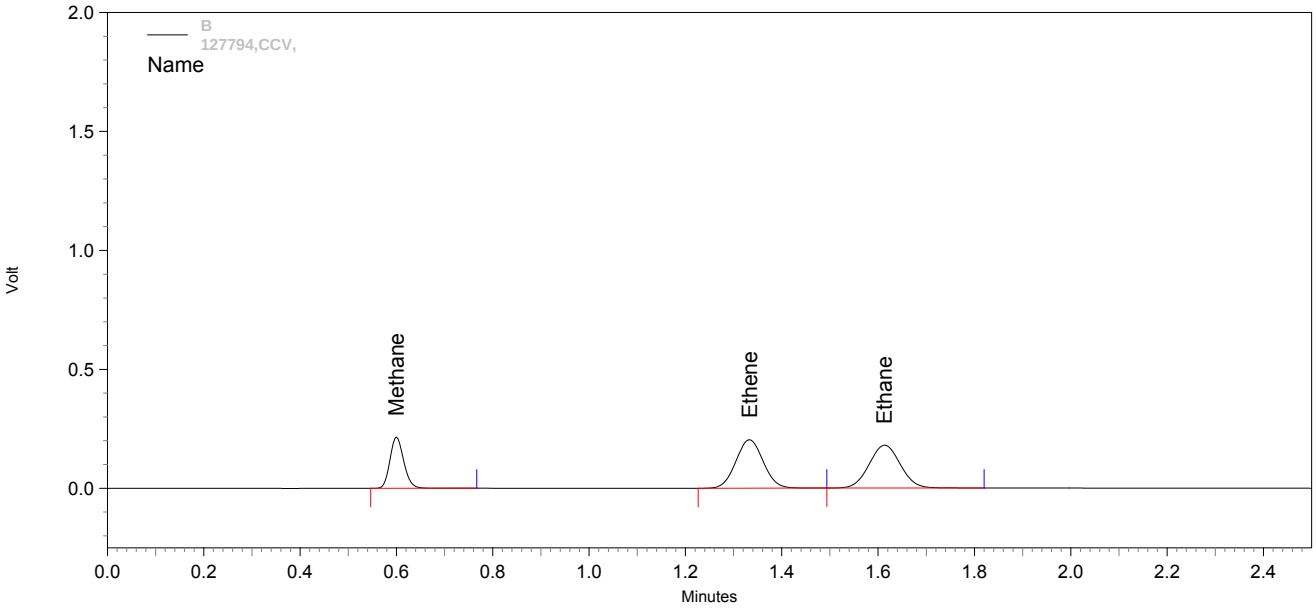
B

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
Methane	50.000	47.980	4.041	15.000	**Passed**
Ethene	50.000	48.549	2.903	15.000	**Passed**
Ethane	50.000	47.865	4.270	15.000	**Passed**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\071516\045.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 127794,CCV,
Acquired: Jul 15, 2016 11:59:25
File Desc. 250 uL of 200 ppmV Methane/Ethene/Ethane Gas Std



B Results

Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.600	428654	**47.980**
2	Ethene	1.333	800636	**48.549**
3	Ethane	1.613	808043	**47.865**

Totals			2037333	**144.393**

QC Check Standard Report

Sequence : C:\InStarch\PVOC4\Sequence\072016.seq
User : AMA
Printed : Jul 20, 2016 11:14:43

File	Sample ID	Acquired
C:\Instarch\PVOC4\Data\072016\001.dat	127980,CCV,	Jul 20, 2016 11:14:42

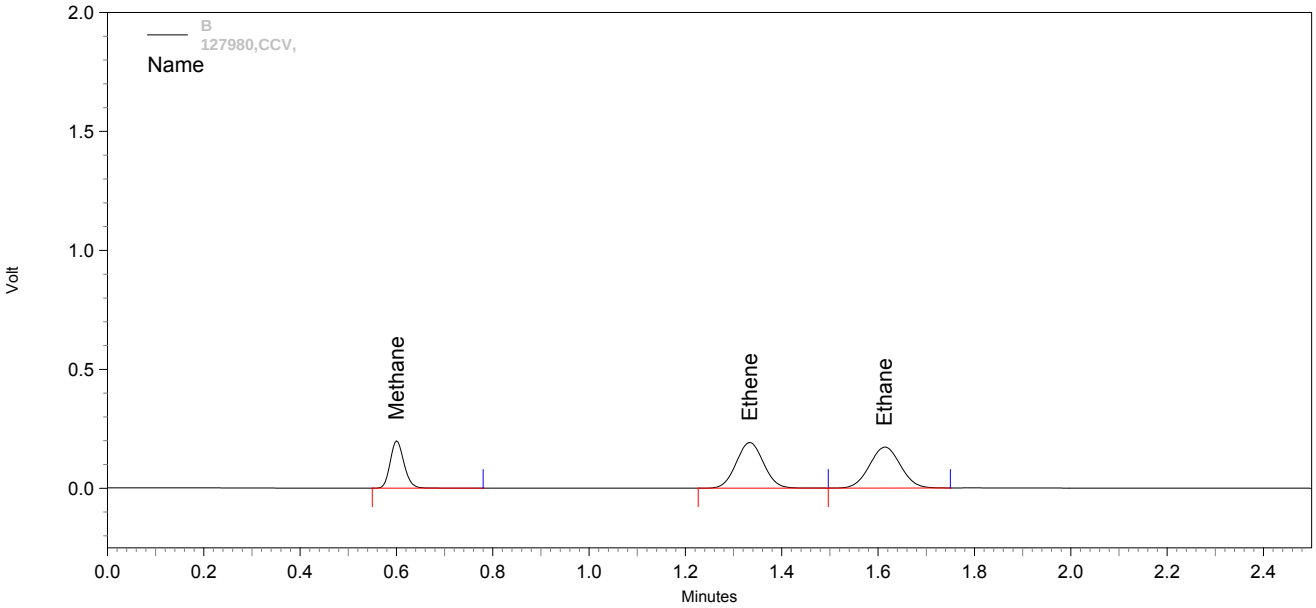
B

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
Methane	50.000	44.251	11.498	15.000	**Passed**
Ethene	50.000	45.806	8.388	15.000	**Passed**
Ethane	50.000	45.507	8.986	15.000	**Passed**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\072016\001.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 127980,CCV,
Acquired: Jul 20, 2016 09:34:18
File Desc. 250 uL of 200 ppmV Methane/Ethene/Ethane Gas Std



B Results

Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.600	395404	**44.251**
2	Ethene	1.333	755221	**45.806**
3	Ethane	1.613	767731	**45.507**

Totals			1918356	**135.564**

QC Check Standard Report

Sequence : C:\InStarch\PVOC4\Sequence\072016.seq
User : AMA
Printed : Jul 20, 2016 11:16:44

File	Sample ID	Acquired
C:\Instarch\PVOC4\Data\072016\011.dat	127980,CCV,	Jul 20, 2016 11:16:44

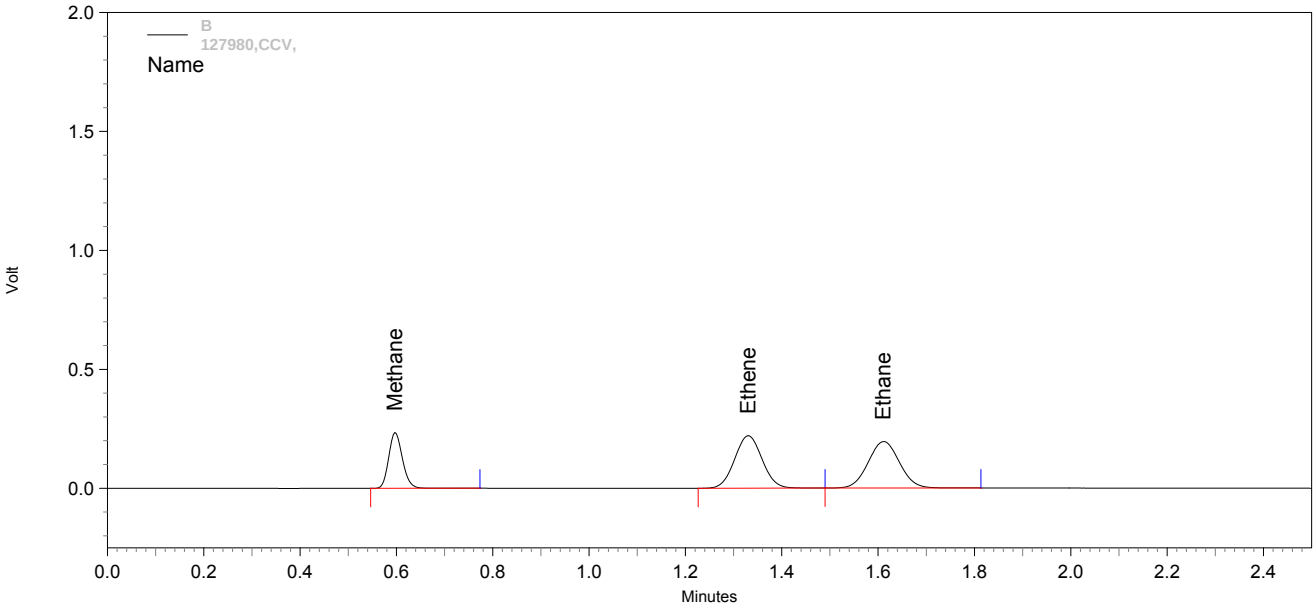
B

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
Methane	50.000	51.951	3.903	15.000	**Passed**
Ethene	50.000	52.777	5.555	15.000	**Passed**
Ethane	50.000	51.979	3.959	15.000	**Passed**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\072016\011.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 127980,CCV,
Acquired: Jul 20, 2016 10:31:07
File Desc. 250 uL of 200 ppmV Methane/Ethene/Ethane Gas Std



B Results

Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.597	464075	**51.951**
2	Ethene	1.330	870655	**52.777**
3	Ethane	1.610	878381	**51.979**

Totals			2213111	**156.708**

VOLATILE ORGANIC ANALYSIS
QUALITY CONTROL
DOCUMENTS

Quantitation Report

Data File : C:\INSTARCH\Data\JUL1316\CCV-LCS1.D Vial: 3
Acq On : 13 Jul 2016 15:19 Operator: AGK-RLD
Sample : 127775,LCSW, Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 13 15:40:18 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 08 13:47:47 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.54	96	1396270	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.44	117	1292745	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.73	152	838928	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.69	113	376238	20.468	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 102	%		
45) SURR12DCAd4	7.10	102	98623	19.634	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 98	%		
61) SURRd8Tolule	9.53	98	1524359	20.599	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 103	%		
83) SURR4BrFBenz	13.07	95	733525	19.696	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 98	%		
Target Compounds						Qvalue
2) Dichlorodi	1.78	85	255579	10.6479	ug/L	99
3) Chloromethan	2.01	50	262094	10.3017	ug/L	99
4) VinylChlorid	2.16	62	291726	11.1160	ug/L	99
5) Bromomethane	2.60	94	137527	12.1436	ug/L	99
6) Chloroethane	2.77	64	176422	11.0530	ug/L	98
7) Dichloroflmethane	3.07	67	390965	10.9369	ug/L	99
8) Trichlorofma	3.15	101	304339	10.6291	ug/L	99
9) Ethylether	3.58	59	166786	10.6421	ug/L	97
10) dichlorotfluoroethan	3.59	67	209654	10.5534	ug/L	99
11) propyleneoxide	3.92	58	475901	94.4087	ug/L	96
12) Acrolein	3.70	56	375493	52.8014	ug/L	92
13) 11dichlorthe	3.86	96	196361	11.0106	ug/L	98
14) Trichlorotfluoroeth	3.90	101	351342	21.2320	ug/L	100
15) Acetone	3.92	43	1376340	97.4821	ug/L	98
16) Iodomethane	4.03	142	396945	22.7116	ug/L	99
17) Carbon Dislf	4.12	76	1089413	21.7077	ug/L	99
18) allylchloride	4.34	41	523582	21.8389	ug/L	97
19) methylacetate	4.39	74	121893	11.8716	ug/L	95
20) Methylchlorid	4.49	84	267147	11.2696	ug/L	96
21) tbutylalcohol	4.68	59	3342427	667.0476	ug/L	100
22) Acrylonitrile	4.78	53	689294	56.3364	ug/L	98
23) t12dichlorte	4.86	96	206308	11.1273	ug/L	94
24) MtBE	4.89	73	611735	11.4185	ug/L	99
25) Hexane	5.26	57	411875	18.8617	ug/L	97
26) 11dichlorota	5.38	63	360308	10.9111	ug/L	99
27) Vinylacetate	5.48	43	3604325	117.1105	ug/L	100
28) chloroprene	5.51	53	626647	22.7497	ug/L	99
29) Diisopether	5.54	45	557214	10.7219	ug/L	94
30) ETBE	5.99	59	521110	11.3972	ug/L	98
31) 22dichloropr	6.11	77	292135	10.5158	ug/L	95
32) c12dichlorte	6.11	96	229981	11.0278	ug/L	99
33) 2Butanone	6.12	72	592468	112.9657	ug/L	98
34) propionitrile	6.16	54	659387	113.6552	ug/L	98
35) Ethylacetate	6.24	88	84840	55.0147	ug/L #	90
36) methacrylonitrile	6.36	67	283713	21.8853	ug/L	100
37) Bromochlorma	6.39	128	108950	10.7085	ug/L	99
38) Tetrahydofur	6.48	42	1296089	111.3937	ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\JUL1316\CCV-LCS1.D Vial: 3
Acq On : 13 Jul 2016 15:19 Operator: AGK-RLD
Sample : 127775,LCSW, Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 13 15:40:18 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 08 13:47:47 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.50	83	361626	10.8080	ug/L		100
40)	111trichlota	6.74	97	328482	10.9378	ug/L		99
42)	Cyclohexane	6.83	56	320306	10.0068	ug/L		97
43)	Carbtetraclo	6.97	119	262443	10.9997	ug/L		95
44)	11dicloprope	6.95	110	105528	10.8529	ug/L		97
46)	Benzene	7.20	78	807646	11.2627	ug/L		98
47)	12dichlorota	7.19	62	282215	10.9638	ug/L		100
48)	TAME	7.37	73	488686	11.4333	ug/L		99
49)	trichloroete	8.00	95	209094	10.4486	ug/L		97
50)	methylcyclohexane	8.27	83	330763	9.7473	ug/L		98
51)	12dicloropra	8.26	63	213941	10.9716	ug/L		90
52)	23Dicl1propene	8.32	75	320906	11.0479	ug/L		98
53)	Dibromometha	8.39	93	134082	10.3083	ug/L		96
54)	methylmethacrylate	8.43	69	221788	10.5397	ug/L		99
55)	14dioxane	8.44	88	263968	637.9575	ug/L		95
56)	Bromodiclrma	8.60	83	276050	10.7157	ug/L		98
57)	2Nitropropane	8.85	43	1058431	140.2619	ug/L		99
58)	2CLEVE	8.99	63	5713	42.1694	ug/L	#	87
59)	c13dicloproe	9.17	75	335620	10.9973	ug/L		98
60)	4Meth2Pentan	9.37	43	2997055	115.5644	ug/L		99
62)	Toluene	9.62	92	554897	11.1294	ug/L		99
63)	t13Dicloprop	9.88	75	309384	11.4493	ug/L		99
64)	ethylmethacrylate	10.03	69	718395	22.9838	ug/L		97
65)	112Triclotha	10.11	83	174703	10.5820	ug/L		98
66)	Tetrachlorte	10.36	166	245481	10.5041	ug/L		98
67)	13Diclorpropa	10.34	76	347743	10.7825	ug/L		100
69)	2Hexanone	10.46	43	2685179	106.4595	ug/L		100
70)	Clorodibrmta	10.63	129	219176	10.5802	ug/L		97
71)	12Dibrometha	10.79	107	227245	10.3853	ug/L		97
72)	Chlorobenzen	11.48	112	587928	10.3567	ug/L		98
73)	1Clhexane	11.46	91	301084	9.3533	ug/L		98
74)	1112Tetclota	11.58	131	202961	9.9693	ug/L		97
75)	Ethylbenzene	11.64	91	1032539	9.9889	ug/L		99
76)	m p-Xylene	11.81	106	831288	20.7420	ug/L		99
77)	o-Xylene	12.35	106	408602	9.7657	ug/L		96
78)	Styrene	12.36	104	689151	10.3550	ug/L		100
79)	Bromoform	12.59	173	190443	10.6310	ug/L		98
80)	Isopropylben	12.87	105	965427	10.2535	ug/L		100
81)	cyclohexanone	12.95	55	369058	212.9748	ug/L		98
84)	Bromobenzene	13.28	156	291724	10.1145	ug/L		99
85)	1122Tetrclta	13.25	83	386150	10.0127	ug/L		99
86)	123Triclproa	13.31	75	437120	10.3470	ug/L		97
87)	14dichloro2butene	13.34	53	62971	10.4687	ug/L		99
88)	n-Propylbenz	13.46	91	1142689	9.4623	ug/L		100
89)	2chlorotolue	13.57	91	710592	9.7362	ug/L		99
90)	4chlorotolue	13.72	91	829435	9.9541	ug/L		100
91)	135Trimebenz	13.71	105	823122	9.5508	ug/L		100
92)	tbutylbenzen	14.18	119	708488	9.3720	ug/L		100
93)	124Trimetben	14.25	105	828922	9.5988	ug/L		99
94)	sbutylbenzen	14.50	105	1026763	9.1877	ug/L		100
95)	13Diclorbenz	14.64	146	493918	9.6230	ug/L		99
96)	pIsopropylto	14.72	119	828960	9.2628	ug/L		99
97)	14dichlorobe	14.76	146	500394	9.7133	ug/L		99
98)	12dichlorobe	15.30	146	474700	9.6706	ug/L		99
99)	nButylbenzen	15.31	91	731149	8.8303	ug/L		99
100)	12dibromo3cl	16.40	157	118672	9.1632	ug/L		99
101)	135Trichlorobenzene	16.74	180	346699	8.5599	ug/L		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\JUL1316\CCV-LCS1.D Vial: 3
Acq On : 13 Jul 2016 15:19 Operator: AGK-RLD
Sample : 127775,LCSW, Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 13 15:40:18 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 08 13:47:47 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.55	180	314909	8.6158	ug/L	98
103) Hexachlorobu	17.81	225	136772	7.0735	ug/L	98
104) Naphthalene	17.85	128	952498	8.4384	ug/L	99
105) 123Trichlben	18.17	180	294739	8.4528	ug/L	96

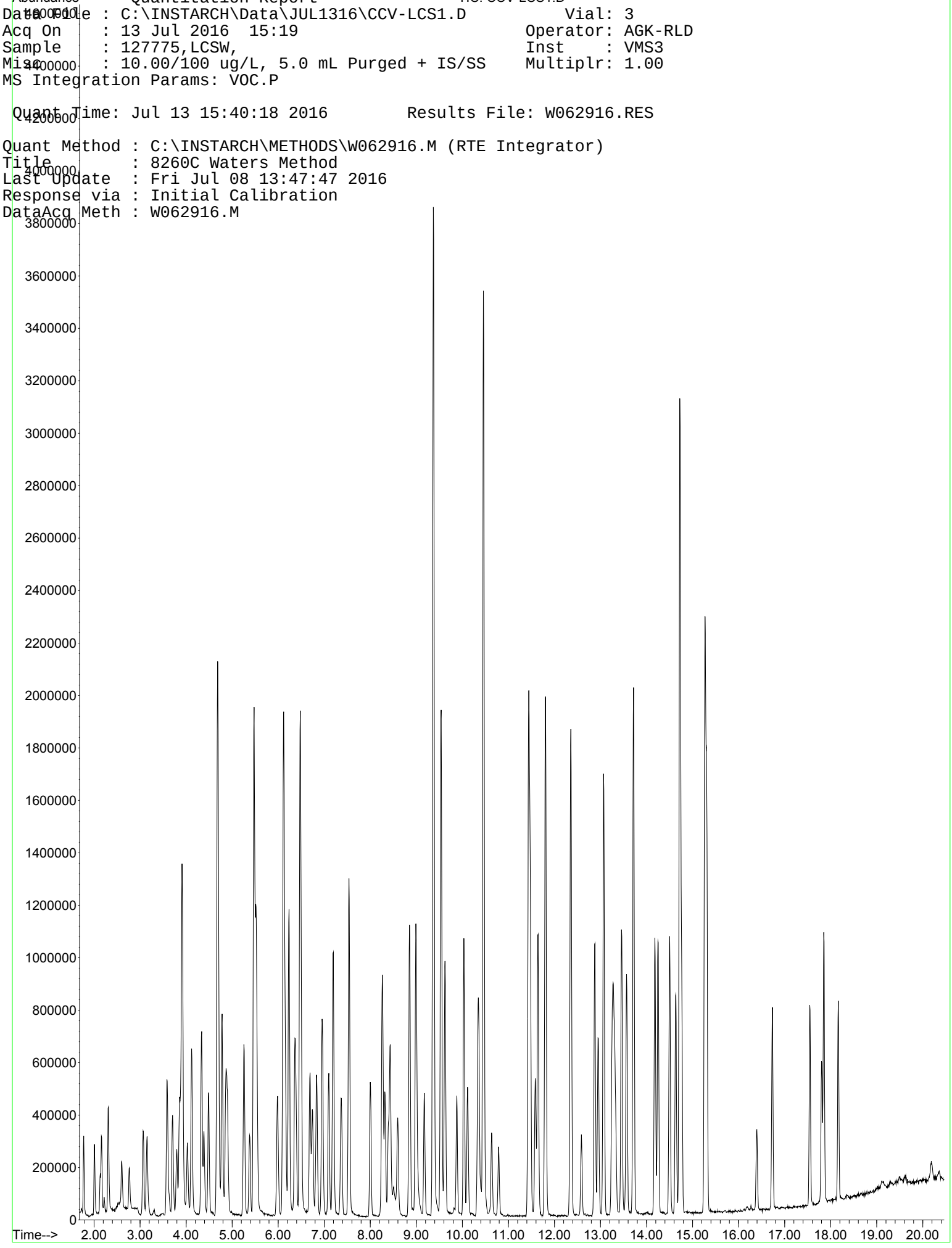
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: CCV-LCS1.D

Data File : C:\INSTARCH\Data\JUL1316\CCV-LCS1.D Vial: 3
Acq On : 13 Jul 2016 15:19 Operator: AGK-RLD
Sample : 127775,LCSW, Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 13 15:40:18 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 08 13:47:47 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M



Quantitation Report

Data File : C:\INSTARCH\Data\JUL1316\MB1.D Vial: 5
Acq On : 13 Jul 2016 16:19 Operator: AGK-RLD
Sample : 127775,MBW, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 13 16:39:37 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 08 13:47:47 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.54	96	1423486	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.44	117	1339964	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.73	152	857709	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.69	113	371037	19.799	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 99	%		
45) SURR12DCAd4	7.10	102	103926	20.294	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 101	%		
61) SURRd8Tolule	9.54	98	1557556	20.646	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 103	%		
83) SURR4BrFBenz	13.07	95	766436	20.129	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 101	%		

Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	2.01	50	5087	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	0.00	94	0	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	3.92	58	9274	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	3.92	43	31614	Below	Cal	92
16) Iodomethane	4.03	142	5687	N.D.		
17) Carbon Dislf	4.11	76	8848	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	4.48	84	3653	Below	Cal	94
21) tbutylalcohol	4.70	59	5520	Below	Cal #	54
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	6.49	42	6549	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\JUL1316\MB1.D Vial: 5
Acq On : 13 Jul 2016 16:19 Operator: AGK-RLD
Sample : 127775,MBW, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 13 16:39:37 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 08 13:47:47 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	0.00	119	0	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	0.00	78	0	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	0.00	95	0	N.D.	
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	0.00	92	0	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	10.47	43	4357	Below Cal #	27
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	11.44	91	3876	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	0.00	106	0	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	12.95	55	4731	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	14.25	105	2507	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	15.28	91	3717	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\Data\JUL1316\MB1.D Vial: 5
Acq On : 13 Jul 2016 16:19 Operator: AGK-RLD
Sample : 127775,MBW, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 13 16:39:37 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 08 13:47:47 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	17.85	128	6182	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

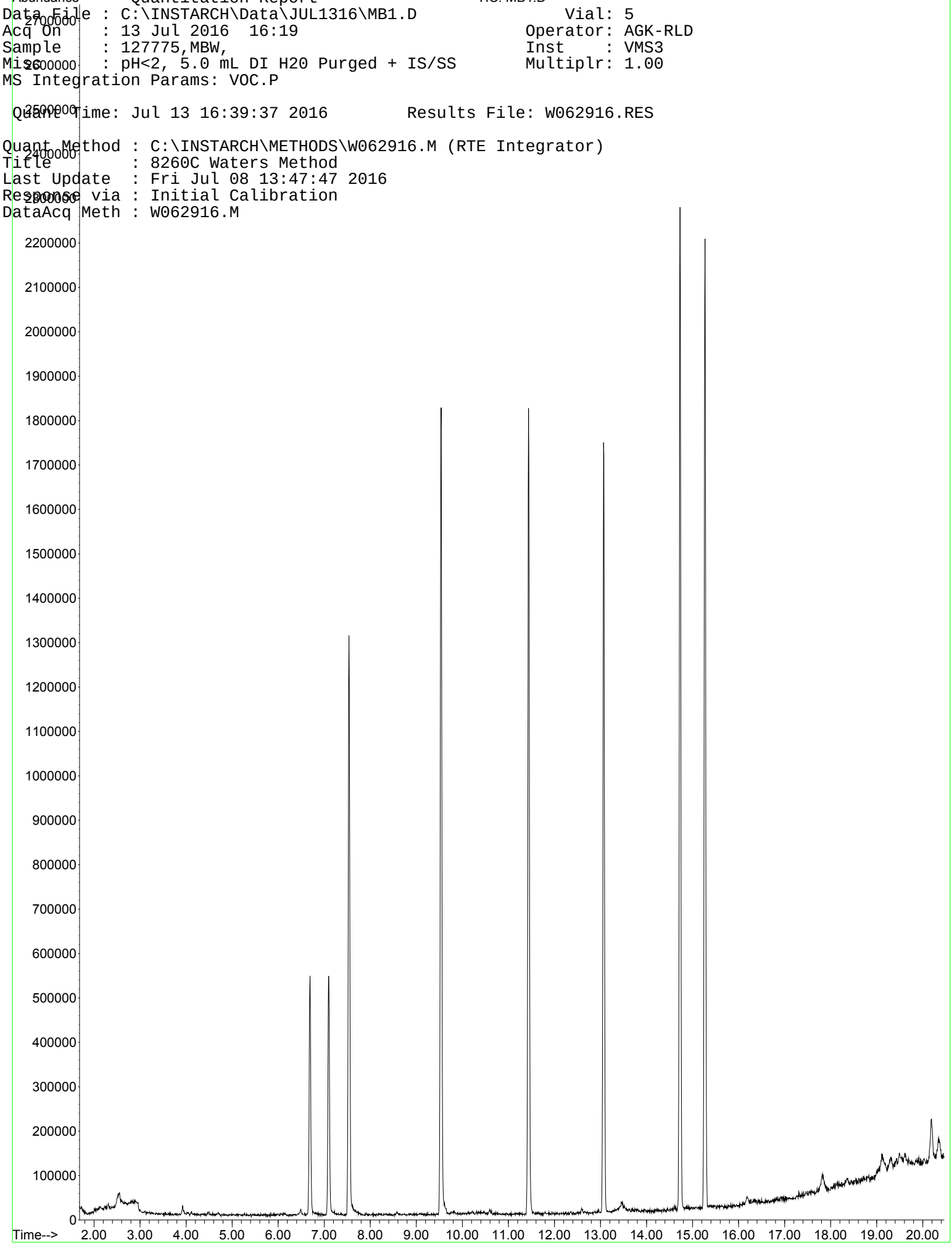
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: MB1.D

Data File : C:\INSTARCH\Data\JUL1316\MB1.D Vial: 5
Acq On : 13 Jul 2016 16:19 Operator: AGK-RLD
Sample : 127775,MBW, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 13 16:39:37 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 08 13:47:47 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M



Quantitation Report

Data File : C:\INSTARCH\DATA\JUL1316\744395MS.D Vial: 22
Acq On : 14 Jul 2016 00:37 Operator: AGK-RLD
Sample : 127773,MSW744395, Inst : VMS3
Misc : pH<2, 10.0/100 ug/L, 5.0 mL Purged + IS/ Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 14 00:57:58 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 08 13:47:47 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.54	96	1190929	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.44	117	1136994	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.73	152	781030	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.69	113	303926	19.385	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 97 %			
45) SURR12DCAd4	7.09	102	83111	19.398	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 97 %			
61) SURRd8Tolule	9.54	98	1320068	20.915	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 105 %			
83) SURR4BrFBenz	13.07	95	659287	19.015	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 95 %			
Target Compounds						Qvalue
2) Dichlorodi	1.78	85	241830	11.8123	ug/L	96
3) Chloromethan	2.00	50	380991	17.5570	ug/L	99
4) VinylChlorid	2.16	62	277081	12.3784	ug/L	97
5) Bromomethane	2.60	94	60330	6.2456	ug/L	94
6) Chloroethane	2.76	64	164228	12.0631	ug/L	97
7) Dichloroflmethane	3.06	67	370833	12.1623	ug/L	98
8) Trichlorofma	3.15	101	281591	11.5303	ug/L	98
9) Ethylether	3.58	59	139671	10.4486	ug/L	95
10) dichlorotfluoroethan	3.58	67	203081	11.9851	ug/L	98
11) propyleneoxide	3.92	58	403368	93.8167	ug/L	98
12) Acrolein	3.70	56	208321	34.3447	ug/L	96
13) 11dichlorthe	3.85	96	182732	12.0131	ug/L	98
14) Trichlorotfluoroeth	3.89	101	326593	23.1393	ug/L	96
15) Acetone	3.92	43	1180522	98.1097	ug/L	99
16) Iodomethane	4.02	142	233029	15.6319	ug/L	96
17) Carbon Dislf	4.12	76	653099	15.2575	ug/L	99
18) allylchloride	4.33	41	431083	21.0809	ug/L	97
19) methylacetate	4.39	74	91459	10.4434	ug/L	97
20) Methylchlorid	4.48	84	228624	11.3106	ug/L	97
21) tbutylalcohol	4.69	59	2759193	639.8948	ug/L	98
22) Acrylonitrile	4.78	53	553084	52.9979	ug/L	99
23) t12dichlorte	4.86	96	179070	11.3234	ug/L	95
24) MtBE	4.89	73	502386	10.9942	ug/L	99
25) Hexane	5.26	57	408047	21.9083	ug/L	98
26) 11dichlorota	5.38	63	406137	14.4196	ug/L	98
27) Vinylacetate	5.47	43	2781419	103.8931	ug/L	98
28) chloroprene	5.51	53	543929	23.1514	ug/L	99
29) Diisopether	5.54	45	477069	10.7626	ug/L	98
30) ETBE	5.99	59	451155	11.5685	ug/L	99
31) 22dichloropr	6.11	77	228076	9.6255	ug/L	95
32) c12dichlorte	6.11	96	278594	15.6622	ug/L	93
33) 2Butanone	6.12	72	467791	104.5724	ug/L	98
34) propionitrile	6.15	54	537311	108.5821	ug/L	98
35) Ethylacetate	6.24	88	66387	50.4713	ug/L #	82
36) methacrylonitrile	6.36	67	225940	20.4339	ug/L	98
37) Bromochlorma	6.38	128	92355	10.6426	ug/L	98
38) Tetrahydofur	6.47	42	998720	100.6360	ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL1316\744395MS.D Vial: 22
Acq On : 14 Jul 2016 00:37 Operator: AGK-RLD
Sample : 127773,MSW744395, Inst : VMS3
Misc : pH<2, 10.0/100 ug/L, 5.0 mL Purged + IS/ Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 14 00:57:58 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 08 13:47:47 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.50	83	309859	10.8575	ug/L		98
40)	111trichlota	6.73	97	296245	11.5652	ug/L		97
42)	Cyclohexane	6.83	56	306080	11.2112	ug/L		98
43)	Carbtetraclo	6.97	119	217683	10.6968	ug/L		99
44)	11dicloprope	6.95	110	92949	11.2074	ug/L		100
46)	Benzene	7.19	78	713071	11.6584	ug/L		98
47)	12dichlorota	7.18	62	234023	10.6592	ug/L		100
48)	TAME	7.37	73	425599	11.6742	ug/L		99
49)	trichloroete	8.00	95	246011	14.4130	ug/L		98
50)	methylcyclohexane	8.26	83	314592	10.8692	ug/L		98
51)	12dicloropra	8.25	63	178046	10.7051	ug/L		99
52)	23Dicl1propene	8.32	75	261640	10.5607	ug/L		98
53)	Dibromometha	8.38	93	114360	10.3080	ug/L		97
54)	methylmethacrylate	8.43	69	185478	10.3340	ug/L		99
55)	14dioxane	8.44	88	265557	752.4572	ug/L		97
56)	Bromodiclrma	8.60	83	212781	9.6839	ug/L		100
57)	2Nitropropane	8.85	43	658929	102.3763	ug/L		99
58)	2CLEVE	0.00	63	0	N.D.			
59)	c13dicloproe	9.17	75	247132	9.4940	ug/L		96
60)	4Meth2Pentan	9.37	43	2556959	115.6018	ug/L		99
62)	Toluene	9.62	92	492385	11.5783	ug/L		99
63)	t13Dicloprop	9.88	75	212747	9.2306	ug/L		96
64)	ethylmethacrylate	10.04	69	585893	21.9766	ug/L		99
65)	112Triclotha	10.11	83	145504	10.3330	ug/L		99
66)	Tetrachlorte	10.36	166	234965	11.7877	ug/L		97
67)	13Diclorpropa	10.33	76	291410	10.5938	ug/L		97
69)	2Hexanone	10.46	43	2277261	101.7905	ug/L		99
70)	Clorodibrmta	10.64	129	157370	8.6373	ug/L		96
71)	12Dibrometha	10.79	107	187991	9.7683	ug/L		98
72)	Chlorobenzen	11.47	112	522376	10.4625	ug/L		98
73)	1Clhexane	11.46	91	278281	9.8292	ug/L		98
74)	1112Tetclota	11.58	131	168491	9.4099	ug/L		99
75)	Ethylbenzene	11.64	91	952446	10.4762	ug/L		98
76)	m p-Xylene	11.80	106	756924	21.4737	ug/L		100
77)	o-Xylene	12.35	106	373676	10.1544	ug/L		99
78)	Styrene	12.36	104	587680	10.0399	ug/L		100
79)	Bromoform	12.59	173	99059	6.2872	ug/L		97
80)	Isopropylben	12.87	105	892538	10.7779	ug/L		98
81)	cyclohexanone	12.95	55	324029	212.6044	ug/L		100
84)	Bromobenzene	13.27	156	253349	9.4351	ug/L		94
85)	1122Tetrclta	13.25	83	324408	9.0353	ug/L		97
86)	123Triclproa	13.30	75	298854	7.5985	ug/L		87
87)	14dichloro2butene	13.34	53	2515	0.4491	ug/L	#	18
88)	n-Propylbenz	13.46	91	1110120	9.8741	ug/L		99
89)	2chlorotolue	13.57	91	654357	9.6303	ug/L		99
90)	4chlorotolue	13.72	91	772344	9.9560	ug/L		99
91)	135Trimebenz	13.72	105	780050	9.7220	ug/L		100
92)	tbutylbenzen	14.18	119	661666	9.4014	ug/L		97
93)	124Trimetben	14.25	105	788566	9.8085	ug/L		99
94)	sbutylbenzen	14.50	105	985946	9.4765	ug/L		99
95)	13Diclorbenz	14.63	146	457481	9.5738	ug/L		99
96)	pIsopropylto	14.72	119	808662	9.7058	ug/L		99
97)	14dichlorobe	14.76	146	467108	9.7393	ug/L		99
98)	12dichlorobe	15.29	146	436317	9.5476	ug/L		99
99)	nButylbenzen	15.31	91	720993	9.3531	ug/L		99
100)	12dibromo3cl	16.40	157	80931	6.7123	ug/L		96
101)	135Trichlorobenzene	16.73	180	315840	8.3760	ug/L		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL1316\744395MS.D Vial: 22
Acq On : 14 Jul 2016 00:37 Operator: AGK-RLD
Sample : 127773,MSW744395, Inst : VMS3
Misc : pH<2, 10.0/100 ug/L, 5.0 mL Purged + IS/ Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 14 00:57:58 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 08 13:47:47 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M

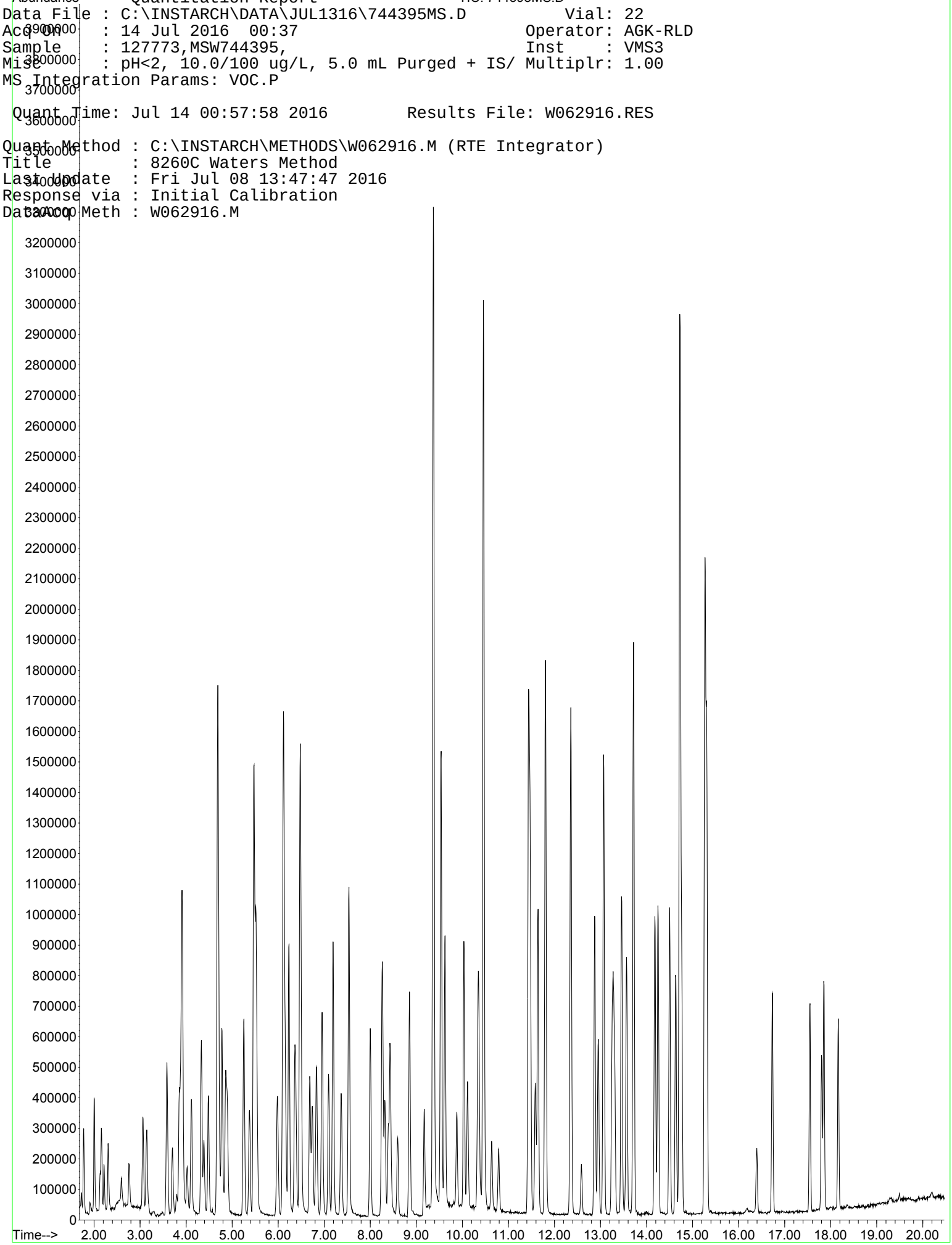
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.55	180	283149	8.3211	ug/L	99
103) Hexachlorobu	17.80	225	132424	7.3563	ug/L	98
104) Naphthalene	17.86	128	733532	6.9803	ug/L	99
105) 123Trichlben	18.17	180	248658	7.6599	ug/L	99

(#) = qualifier out of range (m) = manual integration

Data File : C:\INSTARCH\DATA\JUL1316\744395MS.D Vial: 22
Acq On : 14 Jul 2016 00:37 Operator: AGK-RLD
Sample : 127773,MSW744395, Inst : VMS3
Misc : pH<2, 10.0/100 ug/L, 5.0 mL Purged + IS/ Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 14 00:57:58 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 08 13:47:47 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M



Quantitation Report

Data File : C:\INSTARCH\DATA\JUL1316\744395SD.D Vial: 23
Acq On : 14 Jul 2016 1:06 Operator: AGK-RLD
Sample : 127773,MSDW744395, Inst : VMS3
Misc : pH<2, 10.0/100 ug/L, 5.0 mL Purged + IS/ Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 14 01:27:24 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 08 13:47:47 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.54	96	1351856	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.44	117	1256609	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.73	152	830686	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.69	113	347892	19.548	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 98 %			
45) SURR12DCAd4	7.09	102	93787	19.284	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 96 %			
61) SURRd8Tolule	9.54	98	1463996	20.434	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 102 %			
83) SURR4BrFBenz	13.07	95	711157	19.285	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 96 %			
Target Compounds						Qvalue
2) Dichlorodi	1.78	85	259245	11.1555	ug/L	100
3) Chloromethan	2.01	50	392050	15.9160	ug/L	98
4) VinylChlorid	2.17	62	291736	11.4816	ug/L	100
5) Bromomethane	2.60	94	80549	7.3461	ug/L	95
6) Chloroethane	2.77	64	178281	11.5364	ug/L	99
7) Dichloroflmethane	3.07	67	397037	11.4716	ug/L	99
8) Trichlorofma	3.15	101	320248	11.5522	ug/L	99
9) Ethylether	3.58	59	163099	10.7487	ug/L	98
10) dichlorotfluoroethan	3.58	67	233026	12.1152	ug/L	99
11) propyleneoxide	3.92	58	435275	89.1863	ug/L	95
12) Acrolein	3.70	56	218961	31.8016	ug/L	99
13) 11dichlorthe	3.86	96	203407	11.7804	ug/L	97
14) Trichlorotfluoroeth	3.90	101	386258	24.1089	ug/L	99
15) Acetone	3.92	43	1245664	90.2270	ug/L	98
16) Iodomethane	4.03	142	279073	16.4920	ug/L	99
17) Carbon Dislf	4.12	76	849325	17.4797	ug/L	99
18) allylchloride	4.34	41	484727	20.8825	ug/L	96
19) methylacetate	4.39	74	106109	10.6739	ug/L	96
20) Methylchlorid	4.49	84	240066	10.3923	ug/L	98
21) tbutylalcohol	4.69	59	2794817	553.4497	ug/L	99
22) Acrylonitrile	4.78	53	581838	49.1163	ug/L	99
23) t12dichlorte	4.86	96	209250	11.6567	ug/L	91
24) MtBE	4.89	73	569963	10.9883	ug/L	99
25) Hexane	5.26	57	461150	21.8120	ug/L	99
26) 11dichlorota	5.38	63	449486	14.0589	ug/L	98
27) Vinylacetate	5.48	43	3058786	100.0726	ug/L	99
28) chloroprene	5.51	53	617172	23.1418	ug/L	100
29) Diisopether	5.54	45	571582	11.3598	ug/L	95
30) ETBE	5.99	59	511502	11.5546	ug/L	99
31) 22dichloropr	6.11	77	260639	9.6903	ug/L	96
32) c12dichlorte	6.11	96	309622	15.3345	ug/L	97
33) 2Butanone	6.12	72	499981	98.4632	ug/L	100
34) propionitrile	6.16	54	557533	99.2564	ug/L	99
35) Ethylacetate	6.24	88	69036	46.2373	ug/L	94
36) methacrylonitrile	6.36	67	244094	19.4478	ug/L	97
37) Bromochlorma	6.39	128	105995	10.7604	ug/L	98
38) Tetrahydofur	6.48	42	1077357	95.6367	ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL1316\744395SD.D Vial: 23
Acq On : 14 Jul 2016 1:06 Operator: AGK-RLD
Sample : 127773,MSDW744395, Inst : VMS3
Misc : pH<2, 10.0/100 ug/L, 5.0 mL Purged + IS/ Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 14 01:27:24 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 08 13:47:47 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.50	83	344655	10.6392	ug/L		99
40)	111trichlota	6.74	97	332065	11.4204	ug/L		100
42)	Cyclohexane	6.84	56	339100	10.9421	ug/L		98
43)	Carbtetraclo	6.96	119	254607	11.0218	ug/L		99
44)	11dicloprope	6.95	110	105910	11.2500	ug/L		99
46)	Benzene	7.20	78	808038	11.6384	ug/L		98
47)	12dichlorota	7.19	62	261153	10.4789	ug/L		99
48)	TAME	7.37	73	473029	11.4306	ug/L		99
49)	trichloroete	8.01	95	274444	14.1648	ug/L		98
50)	methylcyclohexane	8.27	83	352303	10.7231	ug/L		97
51)	12dicloropra	8.26	63	200261	10.6074	ug/L		100
52)	23Dicl1propene	8.32	75	291468	10.3641	ug/L		99
53)	Dibromometha	8.39	93	130470	10.3601	ug/L		98
54)	methylmethacrylate	8.43	69	205845	10.1035	ug/L		99
55)	14dioxane	8.44	88	262227	654.5712	ug/L		97
56)	Bromodiclrma	8.60	83	237393	9.5179	ug/L		97
57)	2Nitropropane	8.85	43	714966	97.8592	ug/L		99
58)	2CLEVE	0.00	63	0	N.D.			
59)	c13dicloproe	9.17	75	282287	9.5536	ug/L		98
60)	4Meth2Pentan	9.37	43	2726360	106.9612	ug/L		100
62)	Toluene	9.62	92	546433	11.3197	ug/L		99
63)	t13Dicloprop	9.88	75	237845	9.0911	ug/L		98
64)	ethylmethacrylate	10.03	69	646631	21.3675	ug/L		99
65)	112Triclotha	10.12	83	160665	10.0514	ug/L		99
66)	Tetrachlorte	10.35	166	263950	11.6655	ug/L		98
67)	13Diclorpropa	10.34	76	327924	10.5021	ug/L		98
69)	2Hexanone	10.46	43	2372346	94.6764	ug/L		99
70)	Clorodibrmta	10.64	129	169759	8.4304	ug/L		98
71)	12Dibrometha	10.79	107	206645	9.7155	ug/L		98
72)	Chlorobenzen	11.48	112	565741	10.2524	ug/L		99
73)	1Clhexane	11.46	91	313427	10.0168	ug/L		99
74)	1112Tetclota	11.58	131	186099	9.4040	ug/L		99
75)	Ethylbenzene	11.64	91	1028842	10.2393	ug/L		100
76)	m p-Xylene	11.80	106	823229	21.1316	ug/L		99
77)	o-Xylene	12.35	106	410770	10.0999	ug/L		97
78)	Styrene	12.36	104	629404	9.7292	ug/L		100
79)	Bromoform	12.59	173	111049	6.3773	ug/L		98
80)	Isopropylben	12.87	105	964885	10.5424	ug/L		99
81)	cyclohexanone	12.95	55	316687	188.0081	ug/L		99
84)	Bromobenzene	13.28	156	285277	9.9891	ug/L		93
85)	1122Tetrclta	13.25	83	350802	9.1864	ug/L		97
86)	123Triclproa	13.31	75	315318	7.5379	ug/L		88
87)	14dichloro2butene	13.45	53	4198	0.7048	ug/L	#	18
88)	n-Propylbenz	13.46	91	1167563	9.7642	ug/L		100
89)	2chlorotolue	13.57	91	712504	9.8593	ug/L		100
90)	4chlorotolue	13.72	91	812777	9.8509	ug/L		98
91)	135Trimebenz	13.72	105	826305	9.6829	ug/L		100
92)	tbutylbenzen	14.18	119	726815	9.7098	ug/L		99
93)	124Trimetben	14.25	105	841211	9.8378	ug/L		99
94)	sbutylbenzen	14.50	105	1050179	9.4905	ug/L		99
95)	13Diclorbenz	14.64	146	491738	9.6755	ug/L		99
96)	pIsopropylto	14.72	119	845073	9.5365	ug/L		99
97)	14dichlorobe	14.76	146	498047	9.7636	ug/L		99
98)	12dichlorobe	15.30	146	463126	9.5284	ug/L		99
99)	nButylbenzen	15.31	91	756981	9.2330	ug/L		98
100)	12dibromo3cl	16.40	157	78883	6.1514	ug/L		97
101)	135Trichlorobenzene	16.73	180	340075	8.4796	ug/L		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report
Data File : C:\INSTARCH\DATA\JUL1316\744395SD.D Vial: 23
Acq On : 14 Jul 2016 1:06 Operator: AGK-RLD
Sample : 127773,MSDW744395, Inst : VMS3
Misc : pH<2, 10.0/100 ug/L, 5.0 mL Purged + IS/ Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 14 01:27:24 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 08 13:47:47 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102)	124Trichlobe	17.54	180	299327	8.2707	ug/L	95
103)	Hexachlorobu	17.81	225	139801	7.3019	ug/L	98
104)	Naphthalene	17.86	128	739737	6.6185	ug/L	99
105)	123Trichlben	18.17	180	247984	7.1825	ug/L	98

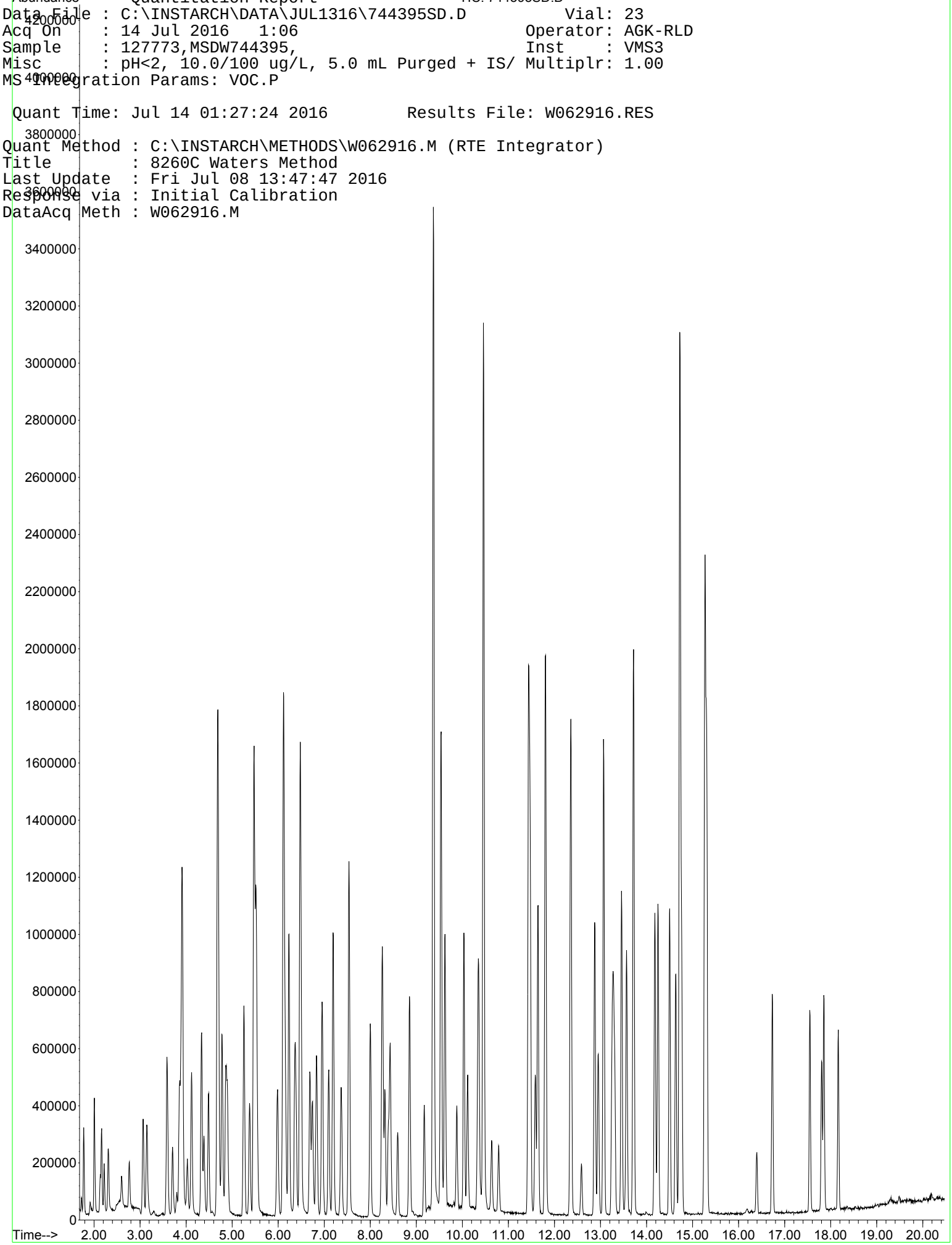
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: 744395SD.D

Data File : C:\INSTARCH\DATA\JUL1316\744395SD.D Vial: 23
Acq On : 14 Jul 2016 1:06 Operator: AGK-RLD
Sample : 127773,MSDW744395, Inst : VMS3
Misc : pH<2, 10.0/100 ug/L, 5.0 mL Purged + IS/ Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 14 01:27:24 2016 Results File: W062916.RES

Quant Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 08 13:47:47 2016
Response via : Initial Calibration
DataAcq Meth : W062916.M



Quantitation Report

Data File : L:\INSTARCH\Data\JUL1916\CCV-LCS1.D Vial: 3
Acq On : 19 Jul 2016 11:42 am Operator: AGK-RLD
Sample : 127876,LCSW, Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 19 12:02:42 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Mon Jul 18 10:10:08 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.54	96	1388804	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.44	117	1167528	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.73	152	730103	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.69	113	353334	19.816	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 99	%		
45) SURR12DCAd4	7.09	102	98598	19.737	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 99	%		
61) SURRd8Tolule	9.54	98	1449445	20.069	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100	%		
83) SURR4BrFBenz	13.07	95	618695	19.688	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 98	%		
Target Compounds						Qvalue
2) Dichlorodi	1.78	85	224534	10.5040	ug/L	99
3) Chloromethan	2.01	50	272764	9.5372	ug/L	98
4) VinylChlorid	2.16	62	260782	10.5862	ug/L	96
5) Bromomethane	2.60	94	123690	12.8230	ug/L	96
6) Chloroethane	2.76	64	158580	10.2715	ug/L	98
7) Dichloroflmethane	3.07	67	361990	10.1327	ug/L	99
8) Trichlorofma	3.15	101	270266	9.9460	ug/L	99
9) Ethylether	3.58	59	136291	9.6069	ug/L	99
10) dichlorotfluoroethan	3.59	67	189895	9.9289	ug/L	97
11) propyleneoxide	3.92	58	469465	98.0307	ug/L	98
12) Acrolein	3.70	56	308215	56.4060	ug/L	81
13) 11dichlorthe	3.86	96	175175	10.1787	ug/L	100
14) Trichlorotfluoroeth	3.89	101	331058	20.4834	ug/L	99
15) Acetone	3.92	43	1330490	96.9020	ug/L	99
16) Iodomethane	4.02	142	286791	20.1865	ug/L	99
17) Carbon Dislf	4.12	76	976635	22.1890	ug/L	100
18) allylchloride	4.33	41	465042	20.7072	ug/L	100
19) methylacetate	4.39	74	91712	10.1488	ug/L	98
20) Methylchlorid	4.48	84	221446	9.9014	ug/L	100
21) tbutylalcohol	4.68	59	2578590	547.1807	ug/L	100
22) Acrylonitrile	4.78	53	563967	51.1442	ug/L	100
23) t12dichlorte	4.85	96	183819	9.8441	ug/L	98
24) MtBE	4.89	73	514642	11.3489	ug/L	99
25) Hexane	5.26	57	495098	22.4532	ug/L	100
26) 11dichlorota	5.37	63	325311	10.3405	ug/L	99
27) Vinylacetate	5.47	43	2907449	97.5673	ug/L	99
28) chloroprene	5.51	53	568302	21.4827	ug/L	100
29) Diisopether	5.53	45	524733	10.8808	ug/L	98
30) ETBE	5.98	59	450211	13.6081	ug/L	99
31) 22dichloropr	6.11	77	256740	10.4155	ug/L	99
32) c12dichlorte	6.11	96	211890	10.3594	ug/L	95
33) 2Butanone	6.12	72	495081	100.2209	ug/L	99
34) propionitrile	6.15	54	533660	100.6574	ug/L	98
35) Ethylacetate	6.24	88	66850	47.4441	ug/L	99
36) methacrylonitrile	6.36	67	236270	19.6220	ug/L	98
37) Bromochlorma	6.39	128	100116	10.2863	ug/L	96
38) Tetrahydofur	6.48	42	1043636	99.4148	ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : L:\INSTARCH\Data\JUL1916\CCV-LCS1.D Vial: 3
Acq On : 19 Jul 2016 11:42 am Operator: AGK-RLD
Sample : 127876,LCSW, Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 19 12:02:42 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Mon Jul 18 10:10:08 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39) Chloroform	6.50	83	323146	9.9973 ug/L	98
40) 111trichlota	6.74	97	295173	10.3215 ug/L	99
42) Cyclohexane	6.84	56	318997	10.7749 ug/L	99
43) Carbtetraclo	6.96	119	230070	9.9969 ug/L	99
44) 11dicloprope	6.95	110	101199	10.4938 ug/L	98
46) Benzene	7.19	78	742329	10.8611 ug/L	99
47) 12dichlorota	7.19	62	248641	9.9592 ug/L	99
48) TAME	7.37	73	426985	14.4120 ug/L	99
49) trichloroete	8.00	95	197912	10.2769 ug/L	99
50) methylcyclohexane	8.27	83	344779	11.0881 ug/L	99
51) 12dicloropra	8.26	63	193497	10.0346 ug/L	100
52) 23Dicl1propene	8.32	75	279581	10.1862 ug/L	98
53) Dibromometha	8.40	93	119598	9.6398 ug/L	99
54) methylmethacrylate	8.43	69	168022	8.9597 ug/L	99
55) 14dioxane	8.44	88	197641	556.9896 ug/L	96
56) Bromodiclrma	8.60	83	235921	10.1444 ug/L	95
57) 2Nitropropane	8.85	43	732682	124.4312 ug/L	99
58) 2CLEVE	8.99	63	6335	67.5550 ug/L #	85
59) c13dicloproe	9.17	75	301303	10.5942 ug/L	100
60) 4Meth2Pentan	9.37	43	2666391	106.0406 ug/L	99
62) Toluene	9.62	92	508663	10.3709 ug/L	99
63) t13Dicloprop	9.88	75	252636	10.0915 ug/L	96
64) ethylmethacrylate	10.03	69	599807	19.9943 ug/L	99
65) 112Triclotha	10.11	83	156578	10.0866 ug/L	99
66) Tetrachlorte	10.35	166	242037	10.5751 ug/L	98
67) 13Diclorpropa	10.34	76	316937	10.1379 ug/L	98
69) 2Hexanone	10.46	43	2305909	102.9199 ug/L	99
70) Clorodibrmta	10.63	129	185999	10.1062 ug/L	98
71) 12Dibrometha	10.79	107	200562	9.9216 ug/L	99
72) Chlorobenzen	11.48	112	550326	10.5442 ug/L	98
73) 1Clhexane	11.46	91	296554	10.4176 ug/L	98
74) 1112Tetclota	11.58	131	182041	9.9774 ug/L	98
75) Ethylbenzene	11.64	91	984796	10.5036 ug/L	99
76) m p-Xylene	11.80	106	784162	21.8812 ug/L	99
77) o-Xylene	12.35	106	381957	10.0085 ug/L	98
78) Styrene	12.36	104	629610	10.5048 ug/L	99
79) Bromoform	12.59	173	151752	10.2363 ug/L	100
80) Isopropylben	12.87	105	934264	11.2326 ug/L	100
81) cyclohexanone	12.95	55	271188	198.9310 ug/L	99
84) Bromobenzene	13.28	156	271351	10.4603 ug/L	98
85) 1122Tetrclta	13.25	83	338243	10.2234 ug/L	99
86) 123Triclproa	13.30	75	354645	10.2393 ug/L	98
87) 14dichloro2butene	13.33	53	37105	11.0628 ug/L	93
88) n-Propylbenz	13.46	91	1162035	11.0982 ug/L	100
89) 2chlorotolue	13.57	91	670100	10.6752 ug/L	99
90) 4chlorotolue	13.72	91	790876	10.9577 ug/L	98
91) 135Trimebenz	13.71	105	825345	11.1376 ug/L	100
92) tbutylbenzen	14.18	119	728490	11.3377 ug/L	99
93) 124Trimetben	14.25	105	827694	11.0586 ug/L	97
94) sbutylbenzen	14.50	105	1049463	11.8030 ug/L	100
95) 13Diclorbenz	14.63	146	483805	10.7803 ug/L	97
96) pIsopropylto	14.72	119	882722	11.7163 ug/L	99
97) 14dichlorobe	14.76	146	489986	10.7765 ug/L	98
98) 12dichlorobe	15.29	146	456416	10.6090 ug/L	97
99) nButylbenzen	15.31	91	781060	11.4959 ug/L	99
100) 12dibromo3cl	16.40	157	87335	9.4887 ug/L	95
101) 135Trichlorobenzene	16.73	180	344824	11.1856 ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : L:\INSTARCH\Data\JUL1916\CCV-LCS1.D Vial: 3
Acq On : 19 Jul 2016 11:42 am Operator: AGK-RLD
Sample : 127876,LCSW, Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 19 12:02:42 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Mon Jul 18 10:10:08 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M

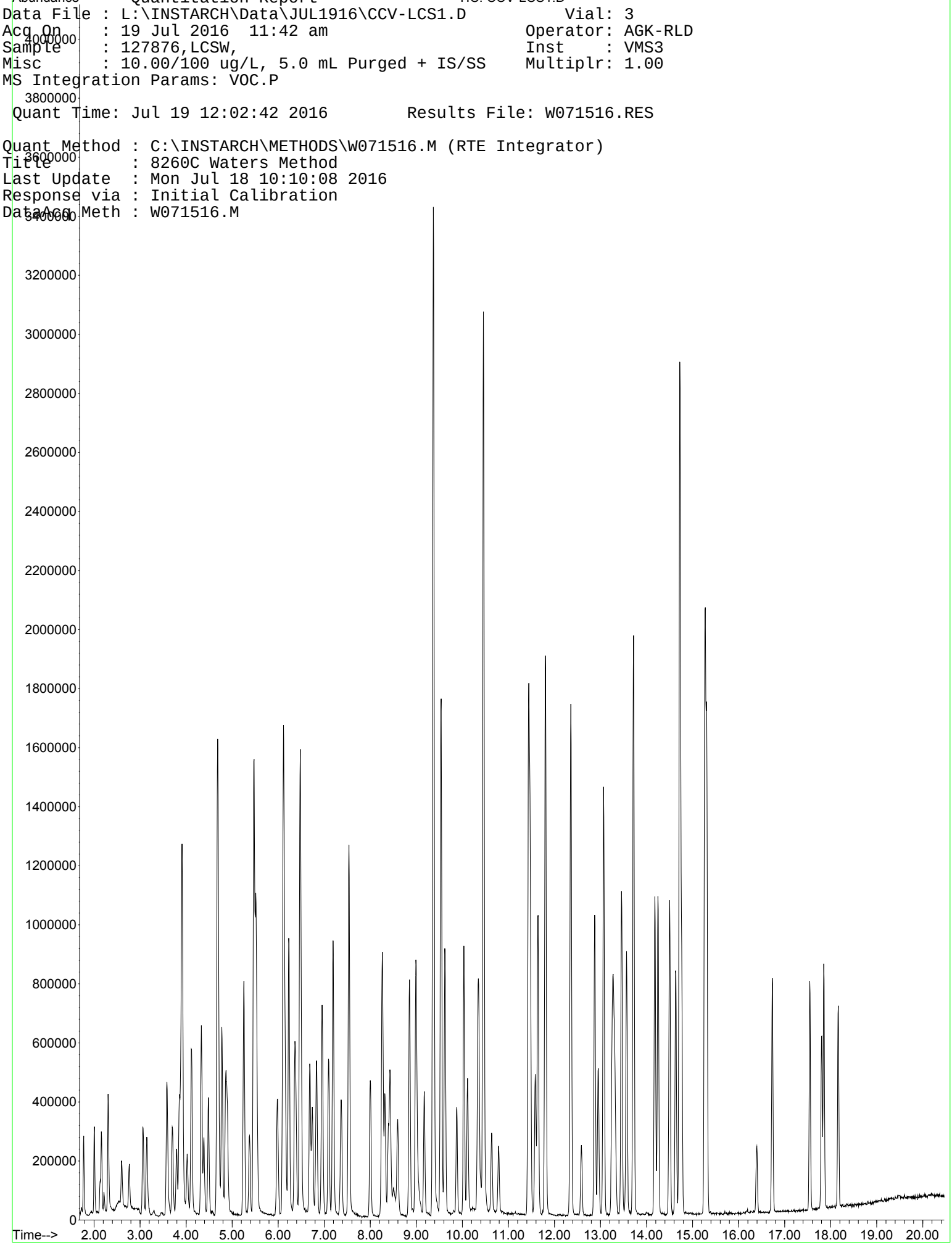
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.54	180	314498	11.0461	ug/L	99
103) Hexachlorobu	17.81	225	157447	11.8314	ug/L	98
104) Naphthalene	17.85	128	796957	11.2636	ug/L	99
105) 123Trichlben	18.17	180	274555	11.1689	ug/L	99

(#) = qualifier out of range (m) = manual integration

Data File : L:\INSTARCH\Data\JUL1916\CCV-LCS1.D Vial: 3
Acq On : 19 Jul 2016 11:42 am Operator: AGK-RLD
Sample : 127876,LCSW, Inst : VMS3
Misc : 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 19 12:02:42 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Mon Jul 18 10:10:08 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M



Quantitation Report

Data File : L:\INSTARCH\Data\JUL1916\MB1.D Vial: 5
Acq On : 19 Jul 2016 12:40 pm Operator: AGK-RLD
Sample : 127876,MBW, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 19 13:01:04 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Mon Jul 18 10:10:08 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.54	96	1327868	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.44	117	1116434	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.73	152	699978	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.69	113	317318	18.613	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 93 %			
45) SURR12DCAd4	7.10	102	95091	19.909	ug/L	0.01
Spiked Amount 20.000	Range 89 - 112		Recovery = 100 %			
61) SURRd8Tolule	9.54	98	1403812	20.329	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 102 %			
83) SURR4BrFBenz	13.07	95	596936	19.813	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 99 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	2.01	50	9366	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	2.60	94	2904	N.D.		
6) Chloroethane	2.83	64	2996	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	3.92	58	8568	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	3.92	43	23536	Below	Cal	99
16) Iodomethane	4.03	142	12367	0.9104	ug/L #	85
17) Carbon Dislf	4.12	76	6062	N.D.		
18) allylchloride	4.29	41	3922	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	4.48	84	2767	N.D.		
21) tbutylalcohol	4.69	59	9958	Below	Cal	88
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	6.48	42	5357	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : L:\INSTARCH\Data\JUL1916\MB1.D Vial: 5
Acq On : 19 Jul 2016 12:40 pm Operator: AGK-RLD
Sample : 127876,MBW, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 19 13:01:04 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Mon Jul 18 10:10:08 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.		
40)	111trichlota	0.00	97	0	N.D.		
42)	Cyclohexane	0.00	56	0	N.D.		
43)	Carbtetraclo	0.00	119	0	N.D.		
44)	11dicloprope	0.00	110	0	N.D.		
46)	Benzene	0.00	78	0	N.D.		
47)	12dichlorota	0.00	62	0	N.D.		
48)	TAME	0.00	73	0	N.D.		
49)	trichloroete	0.00	95	0	N.D.		
50)	methylcyclohexane	0.00	83	0	N.D.		
51)	12dicloropra	0.00	63	0	N.D.		
52)	23Dicl1propene	0.00	75	0	N.D.		
53)	Dibromometha	0.00	93	0	N.D.		
54)	methylmethacrylate	0.00	69	0	N.D.		
55)	14dioxane	0.00	88	0	N.D.		
56)	Bromodiclrma	0.00	83	0	N.D.		
57)	2Nitropropane	0.00	43	0	N.D.		
58)	2CLEVE	0.00	63	0	N.D.		
59)	c13dicloproe	0.00	75	0	N.D.		
60)	4Meth2Pentan	0.00	43	0	N.D.		
62)	Toluene	0.00	92	0	N.D.		
63)	t13Dicloprop	0.00	75	0	N.D.		
64)	ethylmethacrylate	0.00	69	0	N.D.		
65)	112Triclotha	0.00	83	0	N.D.		
66)	Tetrachlorte	0.00	166	0	N.D.		
67)	13Diclorpropa	0.00	76	0	N.D.		
69)	2Hexanone	10.46	43	4922	Below	Cal #	27
70)	Clorodibrmta	0.00	129	0	N.D.		
71)	12Dibrometha	0.00	107	0	N.D.		
72)	Chlorobenzen	0.00	112	0	N.D.		
73)	1Clhexane	11.45	91	3438	N.D.		
74)	1112Tetclota	0.00	131	0	N.D.		
75)	Ethylbenzene	0.00	91	0	N.D.		
76)	m p-Xylene	0.00	106	0	N.D.		
77)	o-Xylene	0.00	106	0	N.D.		
78)	Styrene	0.00	104	0	N.D.		
79)	Bromoform	0.00	173	0	N.D.		
80)	Isopropylben	0.00	105	0	N.D.		
81)	cyclohexanone	0.00	55	0	N.D.		
84)	Bromobenzene	0.00	156	0	N.D.		
85)	1122Tetrclta	0.00	83	0	N.D.		
86)	123Triclproa	0.00	75	0	N.D.		
87)	14dichloro2butene	0.00	53	0	N.D.		
88)	n-Propylbenz	0.00	91	0	N.D.		
89)	2chlorotolue	0.00	91	0	N.D.		
90)	4chlorotolue	0.00	91	0	N.D.		
91)	135Trimebenz	0.00	105	0	N.D.		
92)	tbutylbenzen	0.00	119	0	N.D.		
93)	124Trimetben	0.00	105	0	N.D.		
94)	sbutylbenzen	0.00	105	0	N.D.		
95)	13Diclorbenz	0.00	146	0	N.D.		
96)	pIsopropylto	0.00	119	0	N.D.		
97)	14dichlorobe	0.00	146	0	N.D.		
98)	12dichlorobe	0.00	146	0	N.D.		
99)	nButylbenzen	15.26	91	3097	N.D.		
100)	12dibromo3cl	0.00	157	0	N.D.		
101)	135Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : L:\INSTARCH\Data\JUL1916\MB1.D Vial: 5
Acq On : 19 Jul 2016 12:40 pm Operator: AGK-RLD
Sample : 127876,MBW, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 19 13:01:04 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Mon Jul 18 10:10:08 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	17.85	128	3712	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

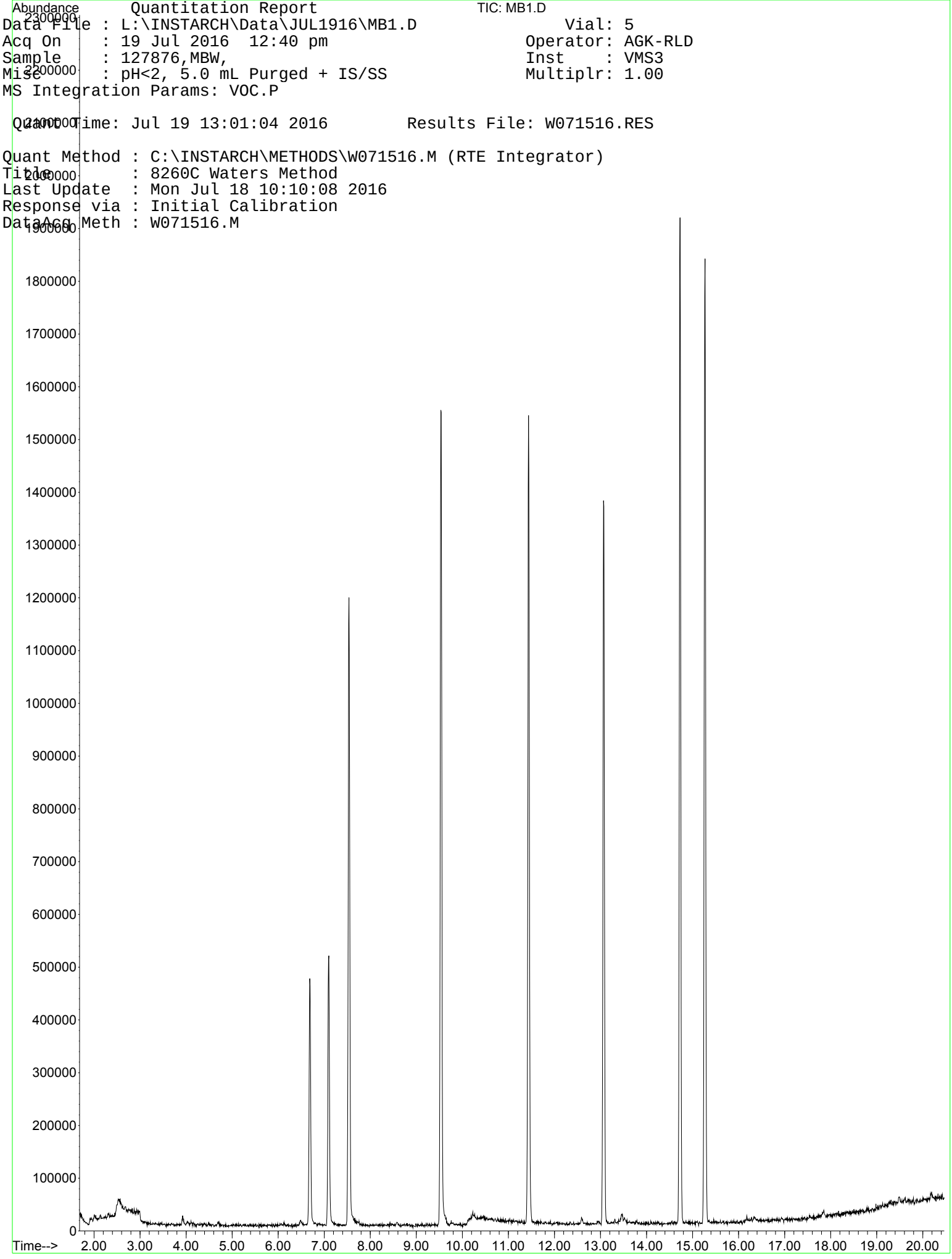
(#) = qualifier out of range (m) = manual integration

Quantitation Report (TIC: MB1.D)

Data File : L:\INSTARCH\Data\JUL1916\MB1.D Vial: 5
Acq On : 19 Jul 2016 12:40 pm Operator: AGK-RLD
Sample : 127876,MBW, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 19 13:01:04 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Mon Jul 18 10:10:08 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M



Quantitation Report

Data File : L:\INSTARCH\DATA\JUL1916\744972MS.D Vial: 18
Acq On : 19 Jul 2016 19:13 Operator: AGK-RLD
Sample : 127819,MSW744972, Inst : VMS3
Misc : pH<2, 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 19 19:33:51 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Mon Jul 18 10:10:08 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.54	96	1344534	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.44	117	1130266	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.73	152	716903	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.69	113	332575	19.266	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 96	%		
45) SURR12DCAd4	7.10	102	94304	19.499	ug/L	0.01
Spiked Amount 20.000	Range 89 - 112		Recovery = 97	%		
61) SURRd8Tolule	9.54	98	1427344	20.414	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 102	%		
83) SURR4BrFBenz	13.07	95	602439	19.524	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 98	%		
Target Compounds						Qvalue
2) Dichlorodi	1.78	85	216187	10.4465	ug/L	97
3) Chloromethan	2.01	50	264338	9.5469	ug/L	100
4) VinylChlorid	2.16	62	260465	10.9215	ug/L	99
5) Bromomethane	2.60	94	107300	11.4901	ug/L	97
6) Chloroethane	2.76	64	164260	10.9897	ug/L	97
7) Dichloroflmethane	3.07	67	346343	10.0139	ug/L	99
8) Trichlorofma	3.15	101	252318	9.5913	ug/L	99
9) Ethylether	3.58	59	130220	9.4812	ug/L	98
10) dichlorotfluoroethan	3.59	67	186976	10.0981	ug/L	97
11) propyleneoxide	3.92	58	378112	81.5546	ug/L	96
12) Acrolein	3.70	56	180532	34.1267	ug/L	83
13) 11dichlorthe	3.86	96	169289	10.1605	ug/L	98
14) Trichlorotfluoroeth	3.90	101	327901	20.9561	ug/L	98
15) Acetone	3.92	43	1083097	79.4330	ug/L	98
16) Iodomethane	4.03	142	250205	18.1912	ug/L	99
17) Carbon Dislf	4.12	76	927586	21.7685	ug/L	100
18) allylchloride	4.33	41	435951	20.0510	ug/L	99
19) methylacetate	4.39	74	92829	10.6106	ug/L	95
20) Methylchlorid	4.48	84	200150	9.2438	ug/L	97
21) tbutylalcohol	4.69	59	2401109	522.8208	ug/L	98
22) Acrylonitrile	4.78	53	497341	46.5872	ug/L	99
23) t12dichlorte	4.86	96	182206	10.0790	ug/L	98
24) MtBE	4.89	73	467261	10.6433	ug/L	99
25) Hexane	5.26	57	452703	21.2065	ug/L	98
26) 11dichlorota	5.38	63	304591	10.0007	ug/L	98
27) Vinylacetate	5.48	43	2620193	89.9464	ug/L	97
28) chloroprene	5.51	53	549084	21.4396	ug/L	98
29) Diisopether	5.54	45	466922	10.0008	ug/L	92
30) ETBE	5.99	59	426391	13.3125	ug/L	98
31) 22dichloropr	6.11	77	244143	10.2306	ug/L	98
32) c12dichlorte	6.11	96	194095	9.8019	ug/L	98
33) 2Butanone	6.12	72	438116	91.6094	ug/L	99
34) propionitrile	6.15	54	488090	95.0933	ug/L	98
35) Ethylacetate	6.24	88	61386	45.0007	ug/L	92
36) methacrylonitrile	6.36	67	216935	18.6095	ug/L	97
37) Bromochlorma	6.39	128	90911	9.6480	ug/L	99
38) Tetrahydofur	6.48	42	940975	92.5868	ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : L:\INSTARCH\DATA\JUL1916\744972MS.D Vial: 18
Acq On : 19 Jul 2016 19:13 Operator: AGK-RLD
Sample : 127819,MSW744972, Inst : VMS3
Misc : pH<2, 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 19 19:33:51 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Mon Jul 18 10:10:08 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39) Chloroform	6.50	83	423139	13.5219	ug/L	100
40) 111trichlota	6.74	97	280619	10.1357	ug/L	99
42) Cyclohexane	6.83	56	313380	10.9337	ug/L	98
43) Carbtetraclo	6.96	119	1094731	49.1342	ug/L	97
44) 11dicloprope	6.95	110	96919	10.3809	ug/L	99
46) Benzene	7.20	78	720838	10.8939	ug/L	99
47) 12dichlorota	7.19	62	229459	9.4934	ug/L	97
48) TAME	7.37	73	413082	14.4029	ug/L	99
49) trichloroete	8.00	95	252822	13.5605	ug/L	94
50) methylcyclohexane	8.27	83	339827	11.2886	ug/L	99
51) 12dicloropra	8.26	63	180018	9.6430	ug/L	89
52) 23Dicl1propene	8.32	75	260200	9.7922	ug/L	100
53) Dibromometha	8.40	93	112193	9.3407	ug/L	99
54) methylmethacrylate	8.43	69	141616	7.8002	ug/L	100
55) 14dioxane	8.44	88	243432	708.6256	ug/L	98
56) Bromodiclrma	8.59	83	206954	9.1918	ug/L	98
57) 2Nitropropane	8.85	43	521008	94.7783	ug/L	99
58) 2CLEVE	0.00	63	0	N.D.		
59) c13dicloproe	9.17	75	256112	9.3017	ug/L	99
60) 4Meth2Pentan	9.37	43	2447122	99.4519	ug/L	99
62) Toluene	9.62	92	490326	10.3262	ug/L	100
63) t13Dicloprop	9.88	75	215258	8.8816	ug/L	97
64) ethylmethacrylate	10.04	69	546641	18.8220	ug/L	100
65) 112Triclotha	10.11	83	140799	9.3688	ug/L	98
66) Tetrachlorte	10.35	166	227939	10.2870	ug/L	98
67) 13Diclorpropa	10.34	76	291594	9.6344	ug/L	99
69) 2Hexanone	10.46	43	2097359	95.6122	ug/L	100
70) Clorodibrmta	10.63	129	153677	8.6253	ug/L	100
71) 12Dibrometha	10.79	107	181542	9.2767	ug/L	100
72) Chlorobenzen	11.48	112	529239	10.4745	ug/L	98
73) 1Clhexane	11.46	91	286499	10.3962	ug/L	99
74) 1112Tetclota	11.59	131	169036	9.5700	ug/L	98
75) Ethylbenzene	11.64	91	946868	10.4320	ug/L	98
76) m p-Xylene	11.80	106	768459	22.1500	ug/L	98
77) o-Xylene	12.35	106	371172	10.0465	ug/L	99
78) Styrene	12.36	104	592114	10.2049	ug/L	98
79) Bromoform	12.59	173	114272	7.9623	ug/L	98
80) Isopropylben	12.88	105	891631	11.0734	ug/L	100
81) cyclohexanone	12.95	55	267949	203.0349	ug/L	98
84) Bromobenzene	13.28	156	246120	9.6624	ug/L	97
85) 1122Tetrclta	13.25	83	313092	9.6374	ug/L	100
86) 123Triclproa	13.30	75	304078	8.9410	ug/L	100
87) 14dichloro2butene	13.34	53	21120	7.0480	ug/L	93
88) n-Propylbenz	13.46	91	1116563	10.8603	ug/L	99
89) 2chlorotolue	13.57	91	638521	10.3594	ug/L	100
90) 4chlorotolue	13.72	91	760516	10.7311	ug/L	99
91) 135Trimebenz	13.72	105	797646	10.9620	ug/L	100
92) tbutylbenzen	14.18	119	707824	11.2189	ug/L	99
93) 124Trimetben	14.25	105	806757	10.9773	ug/L	99
94) sbutylbenzen	14.50	105	1036326	11.8698	ug/L	99
95) 13Diclorbenz	14.63	146	453378	10.2883	ug/L	97
96) pIsopropylto	14.72	119	844742	11.4186	ug/L	99
97) 14dichlorobe	14.76	146	459925	10.3016	ug/L	99
98) 12dichlorobe	15.30	146	428844	10.1517	ug/L	100
99) nButylbenzen	15.31	91	762291	11.4263	ug/L	99
100) 12dibromo3cl	16.40	157	68460	7.5749	ug/L	95
101) 135Trichlorobenzene	16.74	180	335337	11.0781	ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report
Data File : L:\INSTARCH\DATA\JUL1916\744972MS.D Vial: 18
Acq On : 19 Jul 2016 19:13 Operator: AGK-RLD
Sample : 127819,MSW744972, Inst : VMS3
Misc : pH<2, 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 19 19:33:51 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Mon Jul 18 10:10:08 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M

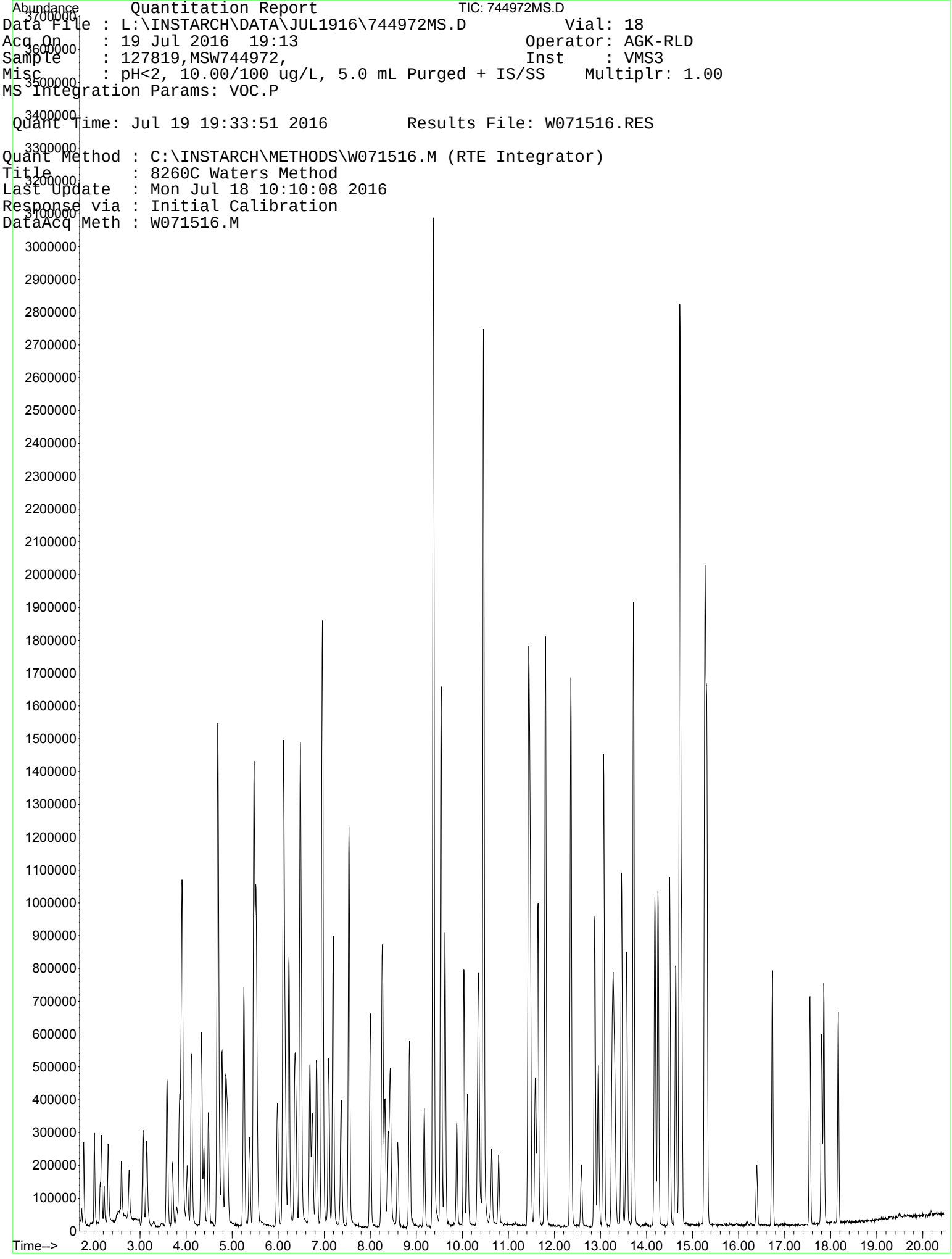
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.55	180	288148	10.3069	ug/L	99
103) Hexachlorobu	17.81	225	153359	11.7364	ug/L	97
104) Naphthalene	17.85	128	701584	10.0982	ug/L	99
105) 123Trichlben	18.17	180	243953	10.1067	ug/L	99

(#) = qualifier out of range (m) = manual integration

Data File : L:\INSTARCH\DATA\JUL1916\744972MS.D Vial: 18
Acq On : 19 Jul 2016 19:13 Operator: AGK-RLD
Sample : 127819,MSW744972, Inst : VMS3
Misc : pH<2, 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 19 19:33:51 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Mon Jul 18 10:10:08 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M



Quantitation Report

Data File : L:\INSTARCH\DATA\JUL1916\744972SD.D Vial: 19
Acq On : 19 Jul 2016 19:42 Operator: AGK-RLD
Sample : 127819,MSDW744972, Inst : VMS3
Misc : pH<2, 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 19 20:02:56 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Mon Jul 18 10:10:08 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.54	96	1341116	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.44	117	1112916	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.73	152	718433	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.69	113	333099	19.346	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 97 %			
45) SURR12DCAd4	7.09	102	92975	19.273	ug/L	0.00
Spiked Amount 20.000	Range 89 - 112		Recovery = 96 %			
61) SURRd8Tolule	9.54	98	1404830	20.143	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101 %			
83) SURR4BrFBenz	13.07	95	596173	19.279	ug/L	0.00
Spiked Amount 20.000	Range 80 - 125		Recovery = 96 %			
Target Compounds						Qvalue
2) Dichlorodi	1.78	85	233022	11.2887	ug/L	97
3) Chloromethan	2.01	50	269794	9.7688	ug/L	97
4) VinylChlorid	2.17	62	253520	10.6573	ug/L	98
5) Bromomethane	2.60	94	97618	10.4800	ug/L	100
6) Chloroethane	2.76	64	166339	11.1571	ug/L	100
7) Dichloroflmethane	3.07	67	353219	10.2387	ug/L	98
8) Trichlorofma	3.15	101	263883	10.0565	ug/L	98
9) Ethylether	3.58	59	133974	9.7794	ug/L	98
10) dichlorotfluoroethan	3.59	67	188168	10.1884	ug/L	95
11) propyleneoxide	3.92	58	407902	88.2042	ug/L	95
12) Acrolein	3.70	56	190920	36.1824	ug/L	81
13) 11dichlorthe	3.85	96	171343	10.3100	ug/L	100
14) Trichlorotfluoroeth	3.90	101	332317	21.2925	ug/L	99
15) Acetone	3.92	43	1180110	87.9091	ug/L	98
16) Iodomethane	4.02	142	282920	20.6221	ug/L	99
17) Carbon Dislf	4.12	76	943733	22.2039	ug/L	99
18) allylchloride	4.33	41	440204	20.2982	ug/L	99
19) methylacetate	4.39	74	94932	10.8786	ug/L	99
20) Methylchlorid	4.48	84	209483	9.6995	ug/L	100
21) tbutylalcohol	4.69	59	2690679	599.2280	ug/L	99
22) Acrylonitrile	4.78	53	535659	50.3044	ug/L	100
23) t12dichlorte	4.86	96	181555	10.0686	ug/L	99
24) MtBE	4.89	73	485566	11.0885	ug/L	99
25) Hexane	5.26	57	457560	21.4887	ug/L	98
26) 11dichlorota	5.38	63	301497	9.9243	ug/L	99
27) Vinylacetate	5.47	43	2690148	92.9361	ug/L	98
28) chloroprene	5.51	53	550393	21.5455	ug/L	97
29) Diisopether	5.53	45	476676	10.2358	ug/L	99
30) ETBE	5.98	59	449169	14.0594	ug/L	98
31) 22dichloropr	6.11	77	245788	10.3258	ug/L	97
32) c12dichlorte	6.11	96	193841	9.8140	ug/L	98
33) 2Butanone	6.12	72	472611	99.0741	ug/L	98
34) propionitrile	6.16	54	545928	106.6328	ug/L	98
35) Ethylacetate	6.23	88	66652	48.9856	ug/L #	88
36) methacrylonitrile	6.36	67	226613	19.4892	ug/L	98
37) Bromochlorma	6.39	128	93018	9.8968	ug/L	97
38) Tetrahydofur	6.48	42	1007608	99.3958	ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : L:\INSTARCH\DATA\JUL1916\744972SD.D Vial: 19
Acq On : 19 Jul 2016 19:42 Operator: AGK-RLD
Sample : 127819,MSDW744972, Inst : VMS3
Misc : pH<2, 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 19 20:02:56 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Mon Jul 18 10:10:08 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39) Chloroform	6.50	83	412123	13.2034	ug/L	99
40) 111trichlota	6.74	97	278661	10.0906	ug/L	98
42) Cyclohexane	6.83	56	317810	11.1165	ug/L	99
43) Carbtetraclo	6.96	119	1057195	47.5704	ug/L	97
44) 11dicloprope	6.95	110	93051	9.9920	ug/L	94
46) Benzene	7.19	78	710135	10.7595	ug/L	99
47) 12dichlorota	7.19	62	231028	9.5827	ug/L	99
48) TAME	7.37	73	423128	14.7495	ug/L	99
49) trichloroete	8.01	95	253018	13.6056	ug/L	97
50) methylcyclohexane	8.26	83	343133	11.4275	ug/L	100
51) 12dicloropra	8.26	63	185013	9.9358	ug/L	91
52) 23Dicl1propene	8.32	75	258894	9.7679	ug/L	99
53) Dibromometha	8.40	93	111312	9.2910	ug/L	99
54) methylmethacrylate	8.43	69	151067	8.3420	ug/L	99
55) 14dioxane	8.44	88	290608	848.1100	ug/L	97
56) Bromodiclrma	8.60	83	213368	9.5008	ug/L	99
57) 2Nitropropane	8.85	43	588785	105.6406	ug/L	99
58) 2CLEVE	0.00	63	0	N.D.		
59) c13dicloproe	9.17	75	257693	9.3830	ug/L	99
60) 4Meth2Pentan	9.37	43	2541782	104.4034	ug/L	99
62) Toluene	9.62	92	500689	10.5713	ug/L	96
63) t13Dicloprop	9.88	75	223808	9.2579	ug/L	96
64) ethylmethacrylate	10.03	69	563152	19.4400	ug/L	99
65) 112Triclotha	10.12	83	144326	9.6279	ug/L	98
66) Tetrachlorte	10.35	166	229026	10.3624	ug/L	98
67) 13Diclorpropa	10.34	76	295042	9.7731	ug/L	99
69) 2Hexanone	10.46	43	2217605	104.0075	ug/L	100
70) Clorodibrmta	10.63	129	160455	9.1461	ug/L	99
71) 12Dibrometha	10.79	107	185606	9.6323	ug/L	98
72) Chlorobenzen	11.48	112	525101	10.5546	ug/L	98
73) 1Clhexane	11.46	91	287566	10.5976	ug/L	99
74) 1112Tetclota	11.58	131	169643	9.7541	ug/L	97
75) Ethylbenzene	11.64	91	954939	10.6849	ug/L	98
76) m p-Xylene	11.81	106	774868	22.6829	ug/L	99
77) o-Xylene	12.35	106	374243	10.2875	ug/L	99
78) Styrene	12.36	104	594938	10.4134	ug/L	99
79) Bromoform	12.59	173	115278	8.1576	ug/L	99
80) Isopropylben	12.87	105	893217	11.2660	ug/L	100
81) cyclohexanone	12.95	55	328870	253.0819	ug/L	99
84) Bromobenzene	13.28	156	257159	10.0743	ug/L	99
85) 1122Tetrclta	13.25	83	314960	9.6743	ug/L	99
86) 123Triclproa	13.30	75	316264	9.2795	ug/L	99
87) 14dichloro2butene	13.33	53	20640	6.9077	ug/L	97
88) n-Propylbenz	13.46	91	1114956	10.8215	ug/L	99
89) 2chlorotolue	13.57	91	661022	10.7016	ug/L	98
90) 4chlorotolue	13.72	91	755936	10.6437	ug/L	100
91) 135Trimebenz	13.72	105	805458	11.0458	ug/L	99
92) tbutylbenzen	14.18	119	693548	10.9693	ug/L	99
93) 124Trimetben	14.25	105	801425	10.8815	ug/L	99
94) sbutylbenzen	14.50	105	1018397	11.6396	ug/L	100
95) 13Diclorbenz	14.64	146	458120	10.3738	ug/L	98
96) pIsopropylto	14.72	119	853183	11.5082	ug/L	100
97) 14dichlorobe	14.76	146	470122	10.5076	ug/L	98
98) 12dichlorobe	15.29	146	435196	10.2801	ug/L	100
99) nButylbenzen	15.31	91	765977	11.4571	ug/L	99
100) 12dibromo3cl	16.40	157	75079	8.2896	ug/L	98
101) 135Trichlorobenzene	16.73	180	339521	11.1924	ug/L	97

(#) = qualifier out of range (m) = manual integration

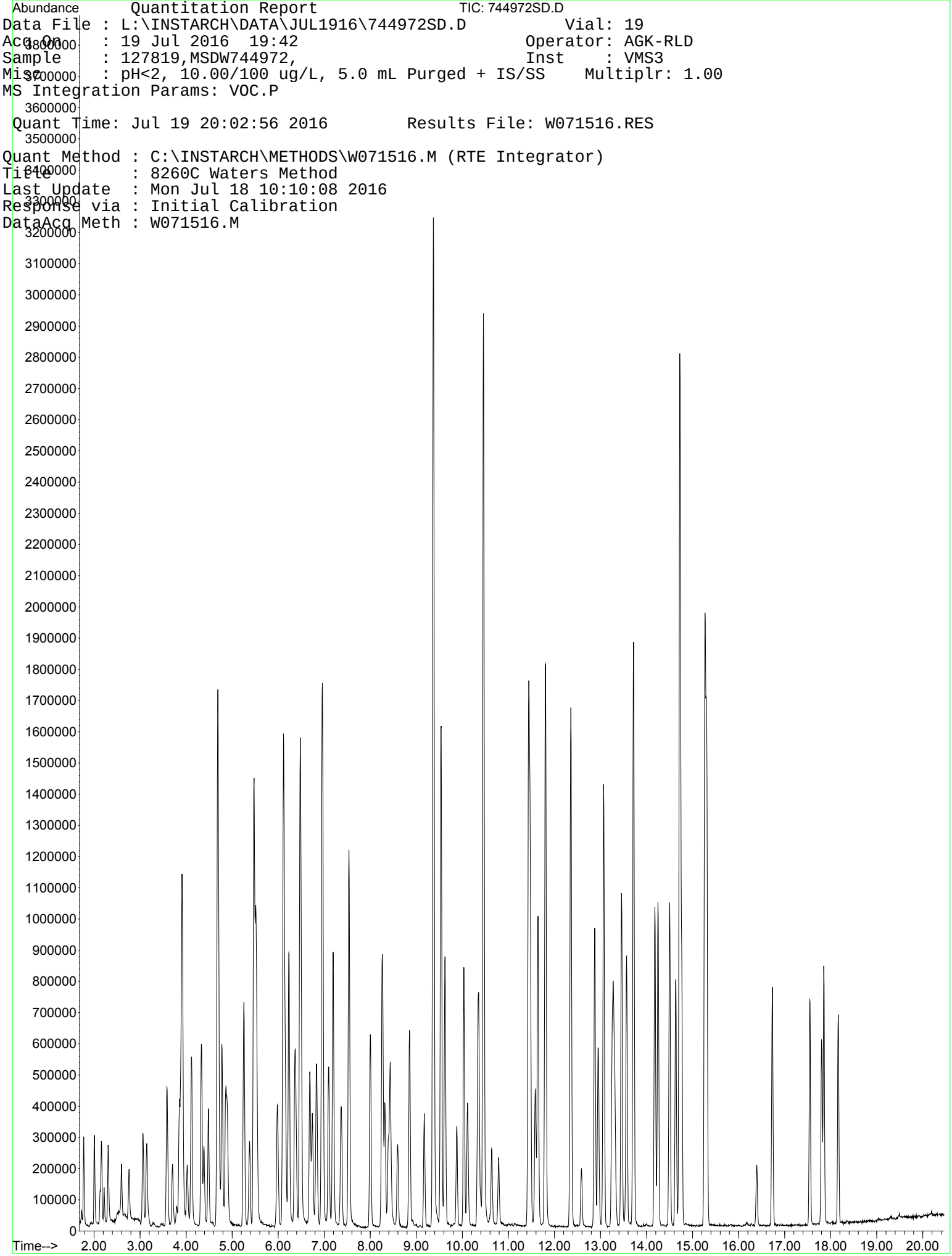
Quantitation Report
Data File : L:\INSTARCH\DATA\JUL1916\744972SD.D Vial: 19
Acq On : 19 Jul 2016 19:42 Operator: AGK-RLD
Sample : 127819,MSDW744972, Inst : VMS3
Misc : pH<2, 10.00/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 19 20:02:56 2016 Results File: W071516.RES

Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Mon Jul 18 10:10:08 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	17.55	180	296433	10.5807 ug/L	97
103) Hexachlorobu	17.81	225	158659	12.1162 ug/L	97
104) Naphthalene	17.85	128	774302	11.1211 ug/L	100
105) 123Trichlben	18.17	180	271246	11.2135 ug/L	98

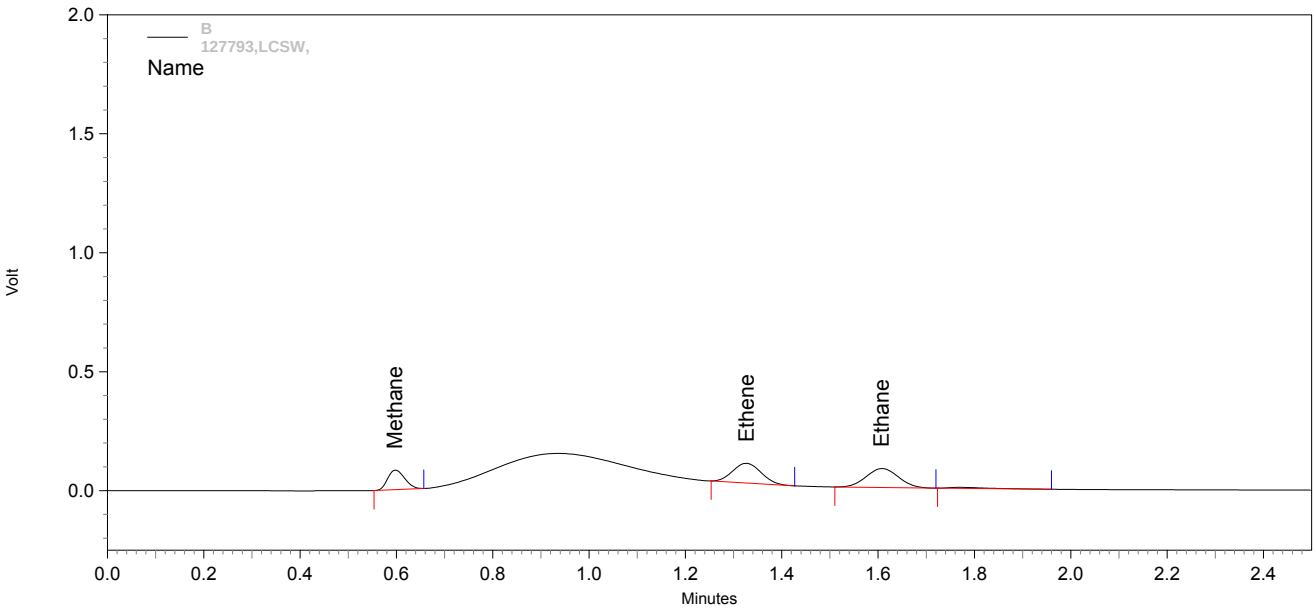
(#) = qualifier out of range (m) = manual integration


Abundance
Quantitation Report
TIC: 744972SD.D
Data File : L:\INSTARCH\DATA\JUL1916\744972SD.D
Vial: 19
Acq On : 19 Jul 2016 19:42
Operator: AGK-RLD
Sample : 127819,MSDW744972,
Inst : VMS3
Misc : pH<2, 10.00/100 ug/L, 5.0 mL Purged + IS/SS
Multiplr: 1.00
MS Integration Params: VOC.P
Quant Time: Jul 19 20:02:56 2016
Results File: W071516.RES
Quant Method : C:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Mon Jul 18 10:10:08 2016
Response via : Initial Calibration
DataAcq Meth : W071516.M
Time-->

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\071516\022.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 127793,LCSW,
Acquired: Jul 15, 2016 10:12:55
File Desc. Laboratory Control Sample - 25 ppmV
1.0 mL injection (Methane, Ethene, Ethane)



B Results

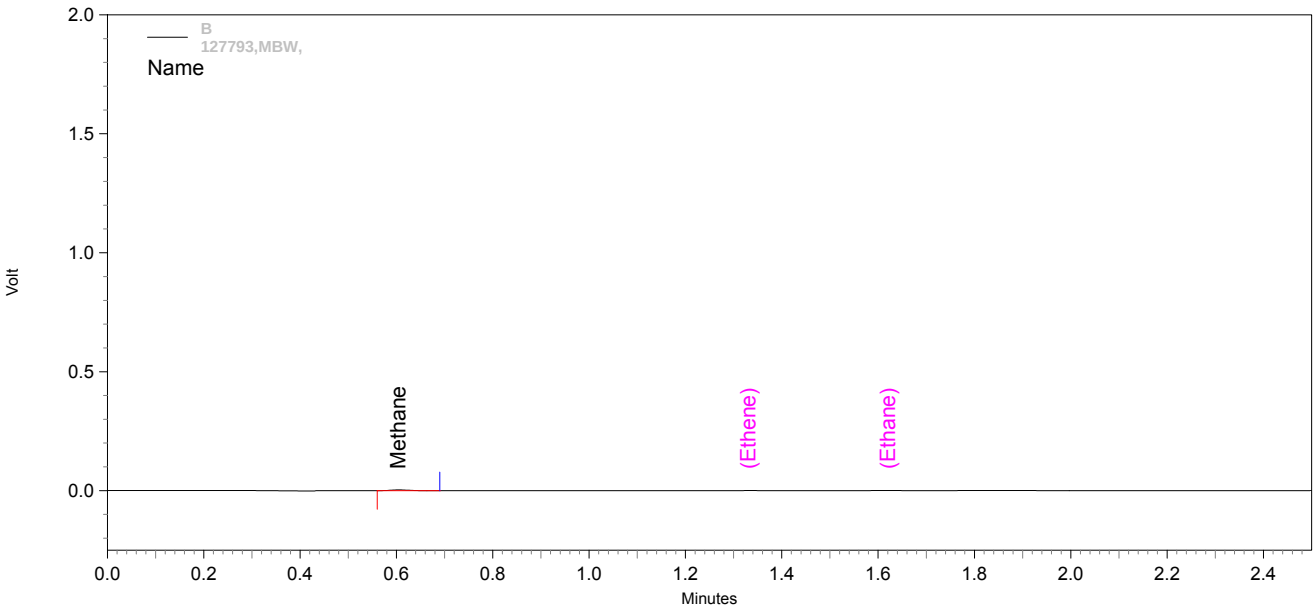
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.597	202063	**22.571**
2	Ethene	1.327	339885	**20.723**
3	Ethane	1.607	371067	**22.303**

Totals			913015	**65.598**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\071516\023.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 127793,MBW,
Acquired: Jul 15, 2016 10:18:01
File Desc. Method Blank
1mL injection (Methane, Ethene, Ethane)



B Results

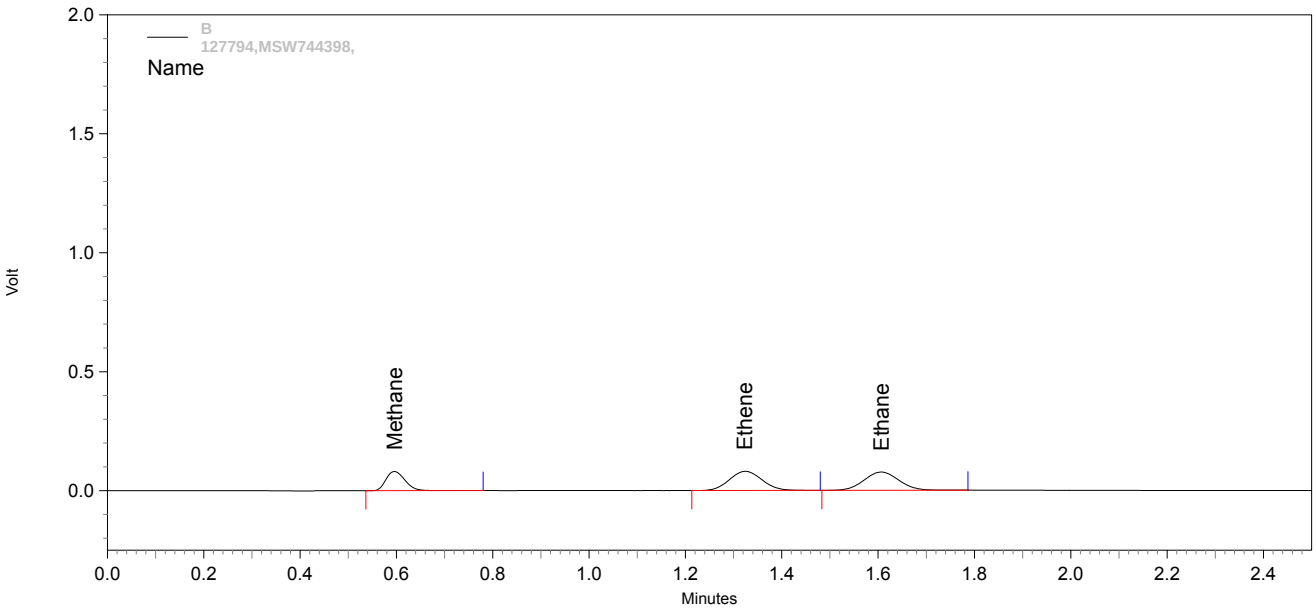
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.603	8741	**0.894**
	Ethene			**0.000 BDL**
	Ethane			**0.000 BDL**

Totals			8741	**0.894**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\071516\034.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 127794,MSW744398,
Acquired: Jul 15, 2016 11:16:40
File Desc. Matrix Spike - 25 ppmV
1.0 mL injection (Methane, Ethene, Ethane)



B Results

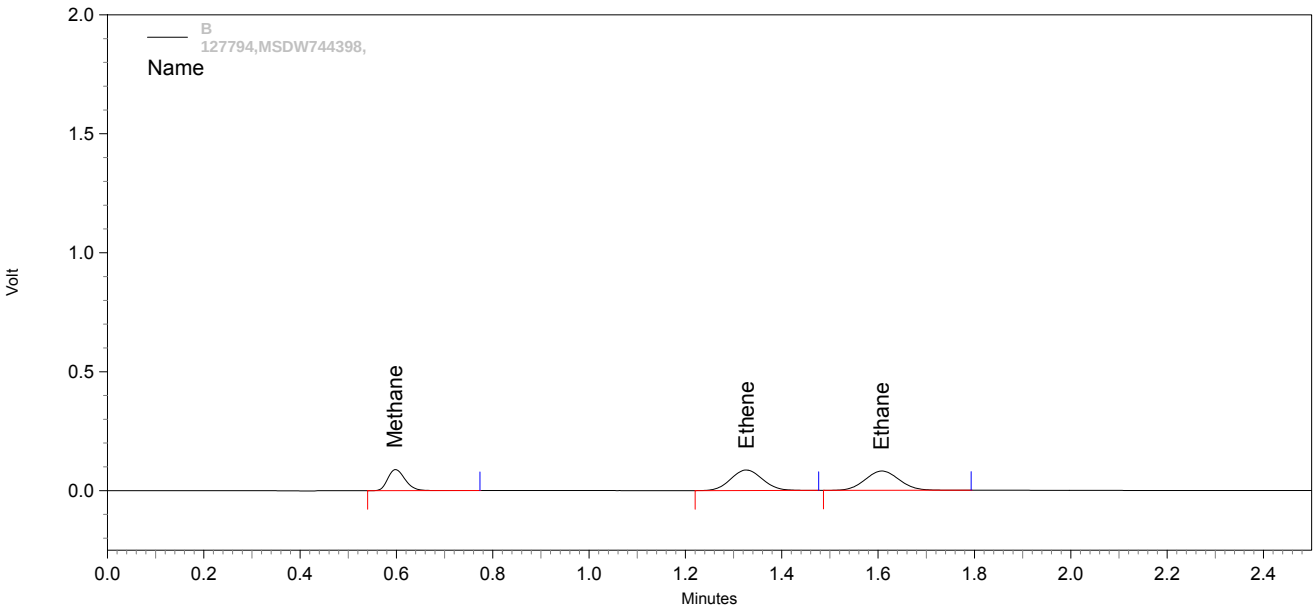
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.597	221329	**24.732**
2	Ethene	1.323	378817	**23.074**
3	Ethane	1.607	381630	**22.921**

Totals			981776	**70.727**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\071516\035.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 127794,MSDW744398,
Acquired: Jul 15, 2016 11:21:24
File Desc. Matrix Spike Duplicate- 25 ppmV
1.0 mL injection (Methane, Ethene, Ethane)



B Results

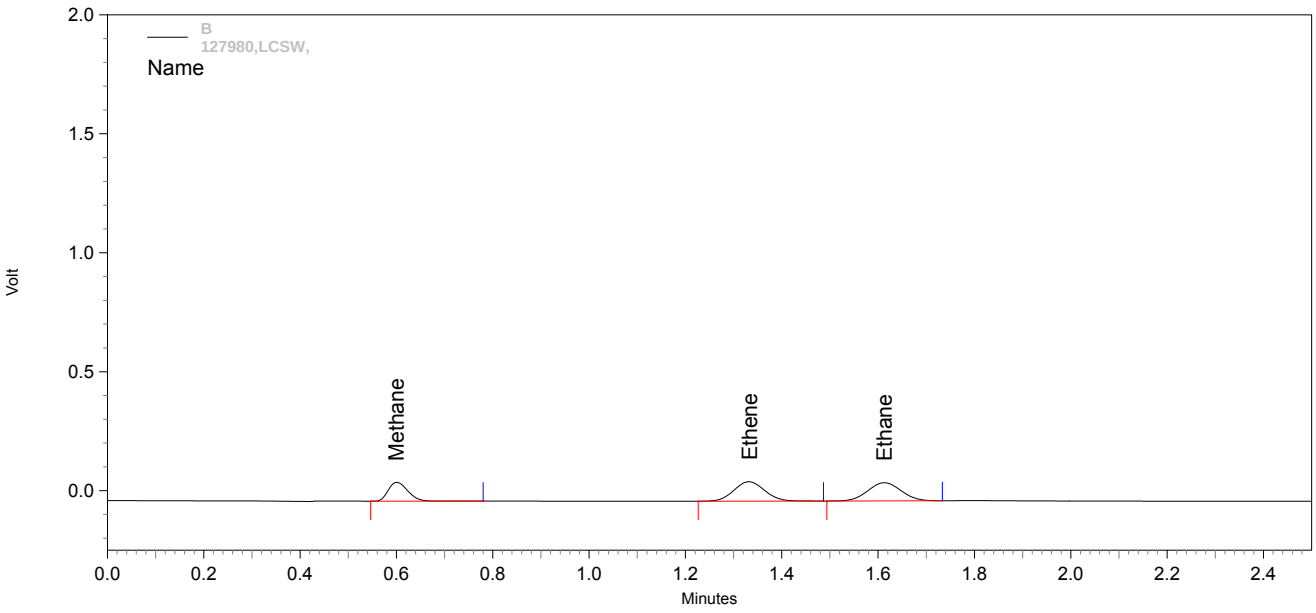
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.597	221069	**24.703**
2	Ethene	1.327	392890	**23.924**
3	Ethane	1.607	396726	**23.804**

Totals			1010685	**72.431**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\072016\002.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 127980,LCSW,
Acquired: Jul 20, 2016 09:40:08
File Desc. Laboratory Control Sample - 25 ppmV
1.0 mL injection (Methane, Ethene, Ethane)



B Results

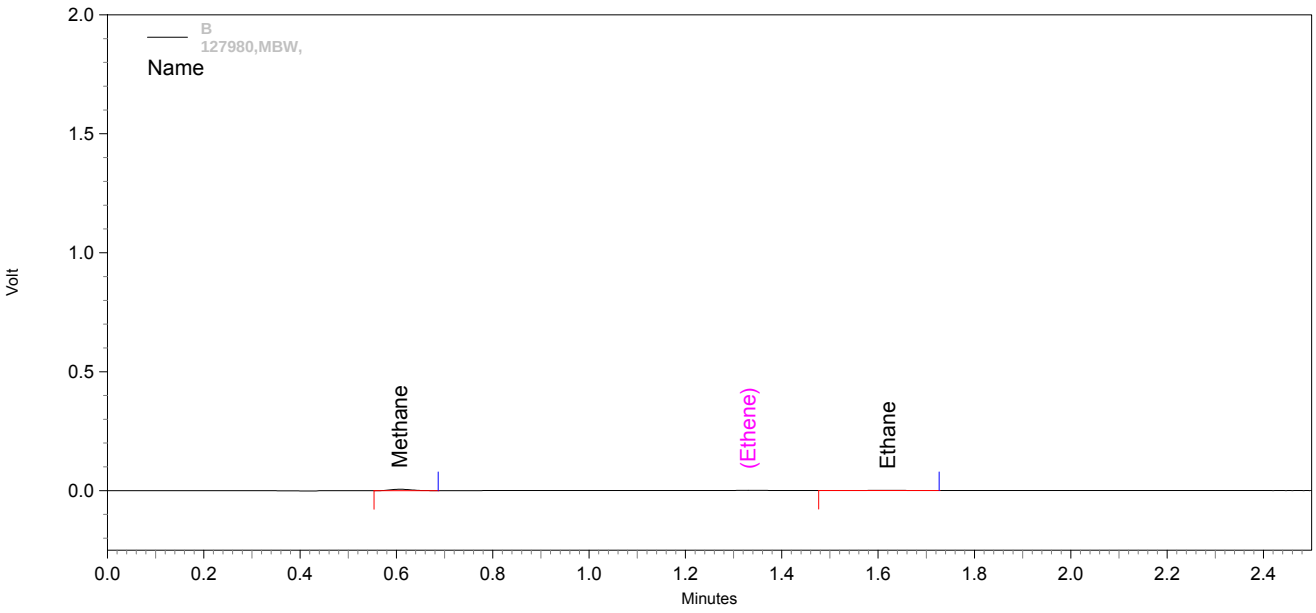
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.600	223463	**24.971**
2	Ethene	1.333	360637	**21.976**
3	Ethane	1.613	368303	**22.142**

Totals			952403	**69.089**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\072016\003.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 127980,MBW,
Acquired: Jul 20, 2016 09:44:18
File Desc. Method Blank
1mL injection (Methane, Ethene, Ethane)



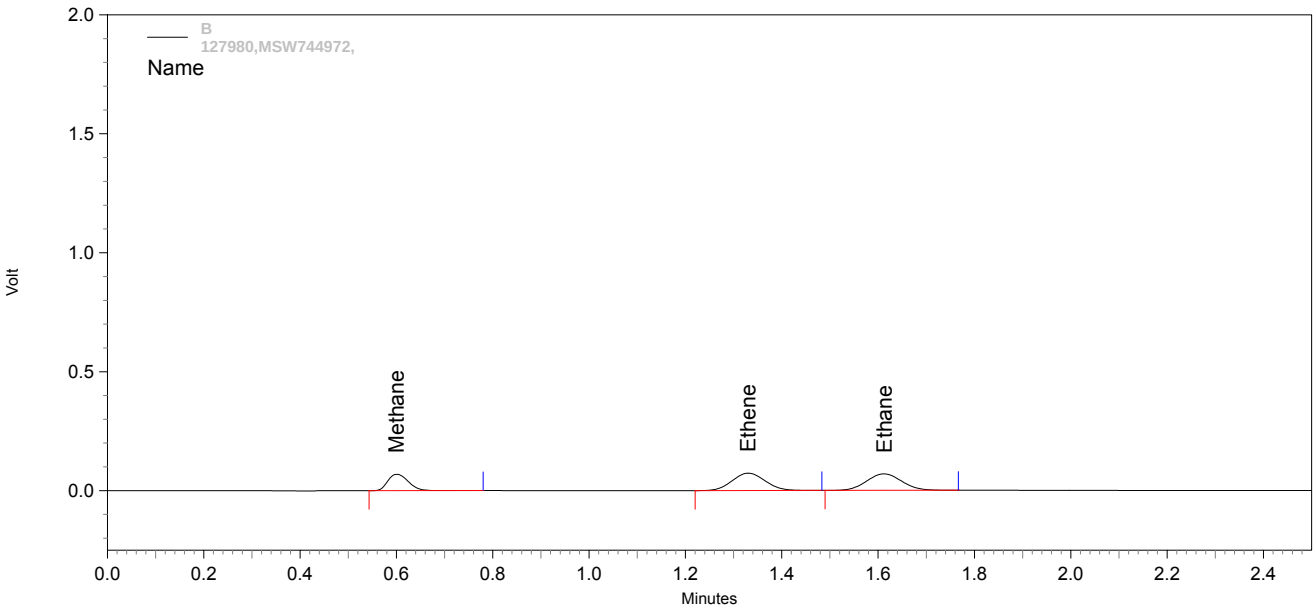
B Results

Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.607	16927	**1.812**
	Ethene			**0.000 BDL**
2	Ethane	1.620	6080	**0.953**
Totals			23007	**2.765**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\072016\007.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 127980,MSW744972,
Acquired: Jul 20, 2016 10:04:22
File Desc. Matrix Spike - 25 ppmV
1.0 mL injection (Methane, Ethene, Ethane)



B Results

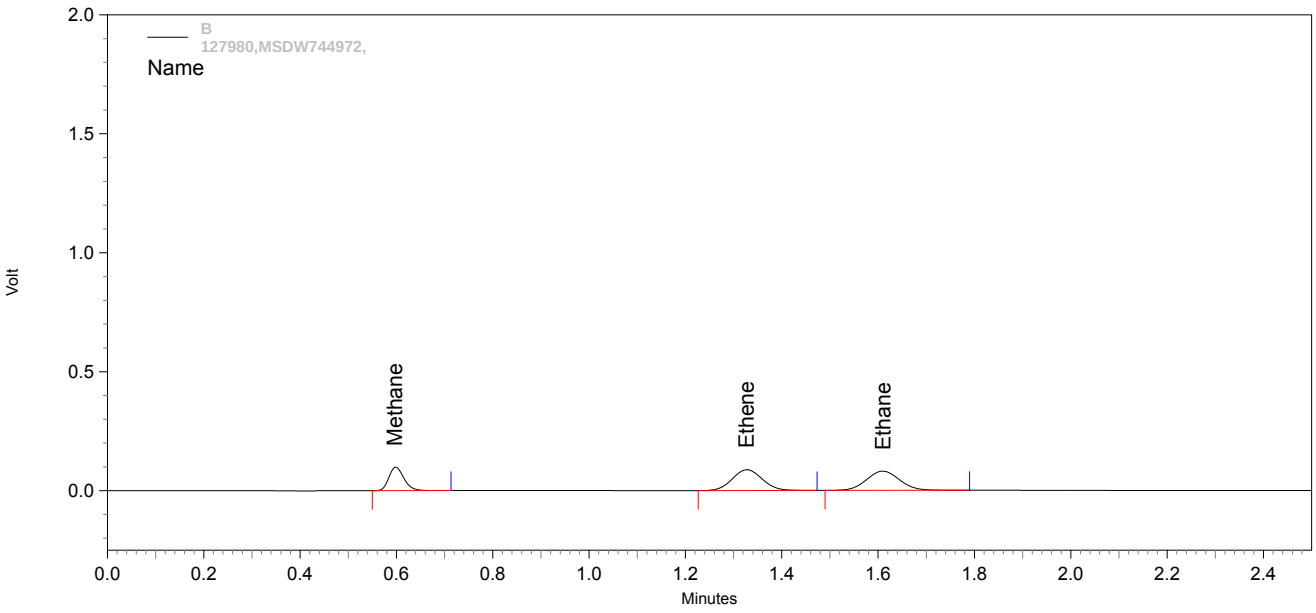
Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.600	203773	**22.763**
2	Ethene	1.330	346026	**21.094**
3	Ethane	1.613	348797	**21.001**

Totals			898596	**64.858**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\072016\008.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG020315.met
Sample ID: 127980,MSDW744972,
Acquired: Jul 20, 2016 10:12:41
File Desc. Matrix Spike Duplicate- 25 ppmV
1.0 mL injection (Methane, Ethene, Ethane)



B Results

Pk #	*Name*	*Retention Time*	*Area*	*Conc. (ppmV)*
1	Methane	0.597	213722	**23.879**
2	Ethene	1.327	375576	**22.878**
3	Ethane	1.610	381330	**22.904**

Totals			970628	**69.661**

VOLATILE ORGANIC ANALYSIS
LOGBOOK
DOCUMENTS

VOC 8260 QSM WATER 5.0 Analytical Run
127773 on 07/14/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	744788								VOC 8260 QSM WATER 5.0				
					BFB					0			
	744670								VOC 8260 QSM WATER 5.0				
					LCSW					0			
	744674								VOC 8260 QSM WATER 5.0				
					CCV					0			
	744760								VOC 8260 QSM WATER 5.0				
					MBW					0			
120408	744422		07/12/2016	1600			BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		M	**4**	
120408	744395	071216T1	07/12/2016	0900			BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	**4**	
120408	744398	48MW6	07/12/2016	0910			BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	**4**	
120408	744400	49TM01	07/12/2016	1035			BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	**4**	
120408	744408	48MW1	07/12/2016	1155			BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	**4**	
120408	744411	49MW01	07/12/2016	1320			BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	**4**	
120408	744414	50MW02	07/12/2016	1330			BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	**4**	
120408	744416	49TM02	07/12/2016	1410			BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	**4**	
120408	744418	071216R1	07/12/2016	1450			BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	**4**	
120408	744420	13MW3	07/12/2016	1550			BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	**4**	
	744759	13MW4	07/12/2016	0900					VOC 8260 QSM 5.0				
		48MW6			MSW	744395				0			
	744763		07/12/2016	0900					VOC 8260 QSM 5.0				
		48MW6			MSDW	744759				0			
	744757								VOC 8260 QSM WATER 5.0				
					CCVF					0			

17 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

Injection Log Summary Report

Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Start (Tune) File ID : C:\INSTARCH\DATA\JUL1316\BFB1.D
Injection Date : 13 Jul 2016 Log Time Period (hrs) : ALL
Injection Time : 14:34 Total files within period : 23
Sample Directory : C:\INSTARCH\DATA\JUL1316\

Injection Log Summary Table

File ID	Multiplier I	S	T	Sample Name / Misc Info	Date	Time
CCV-LCS1	1.00	1.00	1.00	127775,LCSW, 10.00/100 ug/L, 5.0 mL Pu	13 Jul 2016	15:19
MB1	1.00	1.00	1.00	127775,MBW, pH<2, 5.0 mL DI H20 Purge	13 Jul 2016	16:19
744422	1.00	1.00	1.00	127773,744422, pH<2, 5.0 mL Purged + IS/	13 Jul 2016	17:18
744395	1.00	1.00	1.00	127773,744395, pH<2, 5.0 mL Purged + IS/	13 Jul 2016	17:47
744398	1.00	1.00	1.00	127773,744398, pH<2, 5.0 mL Purged + IS/	13 Jul 2016	18:16
744400	1.00	1.00	1.00	127773,744400, pH<2, 5.0 mL Purged + IS/	13 Jul 2016	18:46
744408	1.00	1.00	1.00	127773,744408, pH<2, 5.0 mL Purged + IS/	13 Jul 2016	19:15
744411	1.00	1.00	1.00	127773,744411, pH<2, 5.0 mL Purged + IS/	13 Jul 2016	19:45
744414	1.00	1.00	1.00	127773,744414, pH<2, 5.0 mL Purged + IS/	13 Jul 2016	20:14
744416	1.00	1.00	1.00	127773,744416, pH<2, 5.0 mL Purged + IS/	13 Jul 2016	20:43
744418	1.00	1.00	1.00	127773,744418, pH<2, 5.0 mL Purged + IS/	13 Jul 2016	21:12
744420	1.00	1.00	1.00	127773,744420, pH<2, 5.0 mL Purged + IS/	13 Jul 2016	21:41
744395MS	1.00	1.00	1.00	127773,MSW744395, pH<2, 10.0/100 ug/L, 5.0	14 Jul 2016	00:37
744395SD	1.00	1.00	1.00	127773,MSDW744395, pH<2, 10.0/100 ug/L, 5.0	14 Jul 2016	01:06
CCVF1	1.00	1.00	1.00	127775,CCVF, 10.00/100 ug/L, 5.0 mL Pu	14 Jul 2016	01:35

8260 ISTD/SSTD 20ug/ml VOC0179
8260 BFB STD. 50ug/ml VOC0178
8260 ICV STD. 100ug/ml VOC0182
8260 CCV/CALIB. 100ug/ml VOC0183

FVO4-01 Data Review Checklist

INDEPENDENT DATA REVIEW CHECKLIST			Method: GCMS (EPA SW-846 8260C)					
Analysis Date	LIMs Run #(s):	Analyst/Data Interpreter	Independent Reviewer	Date of Review	Approved?			Instrument
					Yes	No		
07/13/2016	127773 127775	AGK	RLD	07/14/2016	Yes			VMS3
Instructions: Complete one checklist per analytical sequence. Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section and may require the initiation of a Nonconformance Report.								

Requirement:	Acceptance criteria	Analyst Review		Independent Review		Comments:
		Yes	No	Yes	No	
I. BFB Tune Check						
Was a BFB tune check analyzed with acceptable results?	Relative abundance criteria met?	Yes		Yes		If no, Do not proceed with analyses.
II. Initial Calibration Verification (ICV)						
Was initial calibration performed using a minimum of five standard concentration levels (minimum of 6 levels for quadratic curves)?	Lowest standard at or below RL?	Yes		Yes		If no, recalibrate with required # of levels
Were the Average Relative Response Factors (ARRF) acceptable?	ARRF≥ specified limits (see SOP)	Yes		Yes		If no, analyses stopped, recalibrate.
Was a second-source ICV analyzed?	Required before sample analyses.	Yes		Yes		If no, analyze prior to sample analyses.
Were all target compound %Deviation or %Drift acceptable?	%D < 20% or project/program specific	Yes		Yes		If no, reanalyzed ICV to address failures
Was Initial Calibration Blank (ICB) analyzed?	Required before sample analyses.	Yes		Yes		If no, analyzed ICB before sample analyses.
Were the ICB results for all target analytes less than the limit of detection (LOD).	<LOD or < project/program specific limits	Yes		Yes		If no, analyze another blank to address detects.
III. Continuing Calibration Verification (CCV)						
Was an acceptable BFB tune check run at the beginning of every twelve hour shift?	Relative abundance criteria met?	Yes		Yes		If no, reanalyze BFB until acceptable; re-tuning the instrument may be necessary.
Was a CCV analyzed after every 12 hour tune check?	Required before sample analyses.	Yes		Yes		If no, analyzed CCV after acceptable tune check.
Were all target compound %Deviation or %Drift acceptable?	%D < 20% or project/program specific		No		No	If no, reanalysis or recalibration may be required.
If necessary, were the results for outlying compounds qualified?		Yes		Yes		If yes, results qualified "Z"

IV. Blanks						
Was a Method Blank (MB) analyzed prior to analysis of samples?	1 per 20 samples or project/program specific.	Yes		Yes		If no, analyze a MB with each sample batch.
Were the MB results for all target analytes less than the limit of detection (LOD)?	*All target analytes <LOD or < project/program specific limits (<1/2 RL for DoD-QSM)	Yes		Yes		If no, reanalyze MB an all affected data if possible or see SOP for more detailed criteria
If analytes were detected in the MB with no associated positives in the samples, no further action is needed. If the analyte detects in the MB were greater than the acceptance criteria and there were detects in the samples, was the data qualified.?						If yes, affected results qualified "B"
V. Laboratory Control Spike (LCS)						
Was a LCS analyzed at the required frequency?	1 per 20 samples or project/program specific.	Yes		Yes		If no, analyze a LCS with each sample batch.
Were the LCS recoveries for all analytes within acceptance criteria?	Default 70-130%, or see internally generated limits, or project/program specified limits.	Yes		Yes		If no, Reanalyze LCS and all affected data if possible or data requires qualification.
If applicable, were associated sample detects (and non-detects for low recoveries) qualified?						If yes, affected results qualified "Q"
VI. Matrix Spike/Matrix Spike Duplicate (MS/MSD)						
Was a Martrix Spike (MS) and a Matrix Spike Duplicate (MSD) analyzed at the required frequency?	1 per 20 samples or project/program specific.	Yes		Yes		If no, analyze a MS/MSD pair with each sample batch.
Were the MS/MSD recoveries for all analytes within acceptance criteria?	Default 70-130%, or see internally generated limits, or project/program specified limits.		No		No	If no, qualify detects (with an "M" flag) in the parent sample, also qualify non-detects if MS/MSD recoveries were low.
Is the relative percent difference (RPD) for each analyte between the MS and MSD acceptable?	generated limits, or client specific limits.	Yes		Yes		If no, affected results qualified "Y"
VII. Sample Analyses						
Are chromatogram characteristics, including peak shapes and areas, consistent with those of the CCV?		Yes		Yes		If no, instrument maintenance may be required to correct problems.
Were surrogate recoveries for all samples and QC within acceptance criteria?	Default 70-130%, or see internally generated program limits, or client specified limits.	Yes		Yes		If no, samples with high surrogate recoveries and no associated analyte detects were not reanalyzed. Low surrogate recoveries require reanalysis.
If possible, were the affected samples reanalyzed?						If no, see below **
**Were reported sample results with failing surrogate recoveries qualified?						If yes, affected results qualified "S"
Were all samples having analytes detected in amounts exceeding the calibration range diluted and reanalyzed? If not qualify (X).	Target upper middle range of calibration curve.	Yes		Yes		
Did all samples meet hold time and preservation criteria as defined by method/program?	H2O sample: pH < 2 = 14 days, pH >2 = 7 days. Soil samples: 14 days (other criteria may apply)	Yes		Yes		If no, see below: If analyzed past hold, qualify "H" If improperly preserved qualify "T"
Were all samples and QC injected within 12 hours of BFB tune check?		Yes		Yes		If no, affected samples reanalyzed
Were internal standard recoveries acceptable relevant to associated ICAL?	Response = -50 to +200%; Ret. time = +/- 30 sec.	Yes		Yes		If no, affected samples reanalyzed

VIII. Records and Reporting						
Is sequence file / injection log present in the data package?		Yes		Yes		If no, include sequence run with raw data.
Were all data, calculations, and values verified in LIMS upon completion of data capture?		Yes		Yes		If no, recapture the data and verify data prior to validation.
Were manual integrations addressed properly and were the audit trails turned on (where applicable)?	Manual integration must be initialed, dated, and reason given, along with before & after chromatograms. Audit trail must be on (if available).	Yes		Yes		IF No, address manual integration and/or turn on audit trail feature and document reason why it may have been turned off.
Are reported results whose amounts exceeded the acceptance criteria flagged with an appropriate qualifier and, if needed, were any non-matrix related nonconformities documented in the NCR spreadsheet?		Yes		Yes		If No, include proper qualification(s) in LIMS and enter nonconformities into the NCR spreadsheet before data review/validation.

Non-applicable Yes/No cells are left blank

Comments:

Injection Log Summary Report

Method : C:\INSTARCH\METHODS\W062916.M (RTE Integrator)
Title : 8260C Waters Method
Start (Tune) File ID : C:\INSTARCH\DATA\JUN2916\BFB1.D
Injection Date : 29 Jun 2016 Log Time Period (hrs) : ALL
Injection Time : 08:43 Total files within period : 16
Sample Directory : C:\INSTARCH\DATA\JUN2916\

Injection Log Summary Table

File ID	Multiplier I	S	T	Sample Name / Misc Info	Date	Time
WCAL1	1.00	1.00	1.00	INITIAL CALIB. PT1 0.50/5.00 ug/L, 5.0 mL Pu	29 Jun 2016	09:57
WCAL2	1.00	1.00	1.00	INITIAL CALIB. PT2 2.00/20.0 ug/L, 5.0 mL Pu	29 Jun 2016	10:26
WCAL3	1.00	1.00	1.00	INITIAL CALIB. PT3 5.00/50.0 ug/L, 5.0 mL Pu	29 Jun 2016	10:55
WCAL4	1.00	1.00	1.00	INITIAL CALIB. PT4 10.00/100 ug/L, 5.0 mL Pu	29 Jun 2016	11:24
WCAL5	1.00	1.00	1.00	INITIAL CALIB. PT5 20.00/200 ug/L, 5.0 mL Pu	29 Jun 2016	11:53
WCAL6	1.00	1.00	1.00	INITIAL CALIB. PT6 30.00/300 ug/L, 5.0 mL Pu	29 Jun 2016	12:22
WCAL7	1.00	1.00	1.00	INITIAL CALIB. PT7 40.00/400 ug/L, 5.0 mL Pu	29 Jun 2016	12:51
WCAL8	1.00	1.00	1.00	INITIAL CALIB. PT8 80.00/800 ug/L, 5.0 mL Pu	29 Jun 2016	13:20
ICV1	1.00	1.00	1.00	INITIAL CALIB. VERIF. 10.00/100 ug/L, 5.0 mL Pu	29 Jun 2016	14:18
ICV2	1.00	1.00	1.00	INITIAL CALIB. VERIF. 30.00/300 ug/L, 5.0 mL Pu	29 Jun 2016	14:48
ICB1	1.00	1.00	1.00	INITIAL CALIB. BLANK 5.0 mL DI H20 Purged + IS	29 Jun 2016	15:46
ICV1R	1.00	1.00	1.00	INITIAL CALIB. VERIF. 10.00/100 ug/L, 5.0 mL Pu	29 Jun 2016	16:15

8260 ISTD/SSTD 20ug/ml VOC0179
8260 BFB STD. 50ug/ml VOC0178
8260 ICV STD. 100ug/ml VOC0182
8260 CCV/CALIB. 100ug/ml VOC0183

VOC 8260 QSM WATER 5.0 Analytical Run
127819 on 7/21/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	747561						VOC 8260 QSM WATER 5.0				
				BFB				0			
	746865						VOC 8260 QSM WATER 5.0				
				LCSW				0			
	746870						VOC 8260 QSM WATER 5.0				
				CCV				0			
	746957						VOC 8260 QSM WATER 5.0				
				MBW				0			
120462	744939	49MW02	7/13/2016 0910		BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	4	
120462	744970	48MW3	7/13/2016 1050		BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	4	
120462	744972	48MW2	7/13/2016 1455	Designated MS/MSD	BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	4	
120462	744974	13MW2	7/13/2016 1620		BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	4	
120462	744976	49MW04	7/13/2016 1625		BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		GW	4	
120462	744980	071316T1	7/13/2016 1635		BERING SEA ENVIRONMENTAL	RADFORD AAP	VOC 8260 QSM 5.0		M	4	
	747079	48MW2	7/13/2016 1455	MSW 744972			VOC 8260 QSM 5.0	0			
	747083	48MW2	7/13/2016 1455	MSDW 747079			VOC 8260 QSM 5.0	0			
	747085						VOC 8260 QSM WATER 5.0				
				CCVF				0			

13 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

Injection Log Summary Report

Method : L:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Start (Tune) File ID : L:\INSTARCH\DATA\JUL1916\BFB1.D
Injection Date : 19 Jul 2016 Log Time Period (hrs) : ALL
Injection Time : 10:55 Total files within period : 23
Sample Directory : L:\INSTARCH\DATA\JUL1916\

Injection Log Summary Table

File ID	Multiplier I	S	T	Sample Name Misc Info	Date	Time
CCV-LCS1	1.00	1.00	1.00	127876,LCSW, 10.00/100 ug/L, 5.0 mL Pu	19 Jul 2016	11:42
MB1	1.00	1.00	1.00	127876,MBW, pH<2, 5.0 mL Purged + IS/	19 Jul 2016	12:40
744939	1.00	1.00	1.00	127819,744939, pH<2, 5.0 mL Purged + IS/	19 Jul 2016	16:17
744970	1.00	1.00	1.00	127819,744970, pH<2, 5.0 mL Purged + IS/	19 Jul 2016	16:46
744972	1.00	1.00	1.00	127819,744972, pH<2, 5.0 mL Purged + IS/	19 Jul 2016	17:16
744974	1.00	1.00	1.00	127819,744974, pH<2, 5.0 mL Purged + IS/	19 Jul 2016	17:45
744976	1.00	1.00	1.00	127819,744976, pH<2, 5.0 mL Purged + IS/	19 Jul 2016	18:14
744980	1.00	1.00	1.00	127819,744980, pH<2, 5.0 mL Purged + IS/	19 Jul 2016	18:44
744972MS	1.00	1.00	1.00	127819,MSW744972, pH<2,10.00/100 ug/L, 5.0 mL Pu	19 Jul 2016	19:13
744972SD	1.00	1.00	1.00	127819,MSDW744972, pH<2,10.00/100 ug/L, 5.0 mL Pu	19 Jul 2016	19:42
CCVF1	1.00	1.00	1.00	127818,CCVF, 10.00/100 ug/L, 5.0 mL Pu	19 Jul 2016	22:07

8260 ISTD/SSTD 20ug/ml VOC0192
8260 BFB STD. 50ug/ml VOC0191
8260 ICV STD. 100ug/ml VOC0193
8260 CCV/CALIB. 100ug/ml VOC0194

FVO4-01 Data Review Checklist

INDEPENDENT DATA REVIEW CHECKLIST			Method: GCMS (EPA SW-846 8260C)				
Analysis Date	LIMs Run #(s):	Analyst/Data Interpreter	Independent Reviewer	Date of Review	Approved? Yes	No	Instrument
07/19/2016	127818 127819 127820 127876	AGK	RLD	0721/2016	Yes		VMS3
Instructions: Complete one checklist per analytical sequence. Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section and may require the initiation of a Nonconformance Report.							

Requirement:	Acceptance criteria	Analyst Review Yes	Analyst Review No	Independent Review Yes	Independent Review No	Comments:
I. BFB Tune Check						
Was a BFB tune check analyzed with acceptable results?	Relative abundance criteria met?	Yes		Yes		If no, Do not proceed with analyses.
II. Initial Calibration Verification (ICV)						
Was initial calibration performed using a minimum of five standard concentration levels (minimum of 6 levels for quadratic curves)?	Lowest standard at or below RL?	Yes		Yes		If no, recalibrate with required # of levels
Were the Average Relative Response Factors (ARRF) acceptable?	ARRF≥ specified limits (see SOP)	Yes		Yes		If no, analyses stopped, recalibrate.
Was a second-source ICV analyzed?	Required before sample analyses.	Yes		Yes		If no, analyze prior to sample analyses.
Were all target compound %Deviation or %Drift acceptable?	%D < 20% or project/program specific		No		No	If no, reanalyzed ICV to address failures
Was Initial Calibration Blank (ICB) analyzed?	Required before sample analyses.	Yes		Yes		If no, analyzed ICB before sample analyses.
Were the ICB results for all target analytes less than the limit of detection (LOD).	<LOD or < project/program specific limits	Yes		Yes		If no, analyze another blank to address detects.
III. Continuing Calibration Verification (CCV)						
Was an acceptable BFB tune check run at the beginning of every twelve hour shift?	Relative abundance criteria met?	Yes		Yes		If no, reanalyze BFB until acceptable; re-tuning the instrument may be necessary.
Was a CCV analyzed after every 12 hour tune check?	Required before sample analyses.	Yes		Yes		If no, analyzed CCV after acceptable tune check.
Were all target compound %Deviation or %Drift acceptable?	%D < 20% or project/program specific		No		No	If no, reanalysis or recalibration may be required.
If necessary, were the results for outlying compounds qualified?		Yes		Yes		If yes, results qualified "Z"

IV. Blanks						
Was a Method Blank (MB) analyzed prior to analysis of samples?	1 per 20 samples or project/program specific.	Yes		Yes		If no, analyze a MB with each sample batch.
Were the MB results for all target analytes less than the limit of detection (LOD)?	*All target analytes <LOD or < project/program specific limits (<1/2 RL for DoD-QSM)		No		No	If no, reanalyze MB an all affected data if possible or see SOP for more detailed criteria
If analytes were detected in the MB with no associated positives in the samples, no further action is needed. If the analyte detects in the MB were greater than the acceptance criteria and there were detects in the samples, was the data qualified.?		Yes		Yes		If yes, affected results qualified "B"
V. Laboratory Control Spike (LCS)						
Was a LCS analyzed at the required frequency?	1 per 20 samples or project/program specific.	Yes		Yes		If no, analyze a LCS with each sample batch.
Were the LCS recoveries for all analytes within acceptance criteria?	Default 70-130%, or see internally generated limits, or project/program specified limits.		No		No	If no, Reanalyze LCS and all affected data if possible or data requires qualification.
If applicable, were associated sample detects (and non-detects for low recoveries) qualified?		Yes		Yes		If yes, affected results qualified "Q"
VI. Matrix Spike/Matrix Spike Duplicate (MS/MSD)						
Was a Martrix Spike (MS) and a Matrix Spike Duplicate (MSD) analyzed at the required frequency?	1 per 20 samples or project/program specific.	Yes		Yes		If no, analyze a MS/MSD pair with each sample batch.
Were the MS/MSD recoveries for all analytes within acceptance criteria?	Default 70-130%, or see internally generated limits, or project/program specified limits.	Yes		Yes		If no, qualify detects (with an "M" flag) in the parent sample, also qualify non-detects if MS/MSD recoveries were low.
Is the relative percent difference (RPD) for each analyte between the MS and MSD acceptable?	generated limits, or client specific limits.	Yes		Yes		If no, affected results qualified "Y"
VII. Sample Analyses						
Are chromatogram characteristics, including peak shapes and areas, consistent with those of the CCV?		Yes		Yes		If no, instrument maintenance may be required to correct problems.
Were surrogate recoveries for all samples and QC within acceptance criteria?	Default 70-130%, or see internally generated program limits, or client specified limits.	Yes		Yes		If no, samples with high surrogate recoveries and no associated analyte detects were not reanalyzed. Low surrogate recoveries require reanalysis.
If possible, were the affected samples reanalyzed?						If no, see below **
**Were reported sample results with failing surrogate recoveries qualified?						If yes, affected results qualified "S"
Were all samples having analytes detected in amounts exceeding the calibration range diluted and reanalyzed? If not qualify (X).	Target upper middle range of calibration curve.	Yes		Yes		
Did all samples meet hold time and preservation criteria as defined by method/program?	H2O sample: pH < 2 = 14 days, pH >2 = 7 days. Soil samples: 14 days (other criteria may apply)		No		No	If no, see below: If analyzed past hold, qualify "H" If improperly preserved qualify "T"
Were all samples and QC injected within 12 hours of BFB tune check?		Yes		Yes		If no, affected samples reanalyzed
Were internal standard recoveries acceptable relevant to associated ICAL?	Response = -50 to +200%; Ret. time = +/- 30 sec.	Yes		Yes		If no, affected samples reanalyzed

VIII. Records and Reporting						
Is sequence file / injection log present in the data package?		Yes		Yes		If no, include sequence run with raw data.
Were all data, calculations, and values verified in LIMS upon completion of data capture?		Yes		Yes		If no, recapture the data and verify data prior to validation.
Were manual integrations addressed properly and were the audit trails turned on (where applicable)?	Manual integration must be initialed, dated, and reason given, along with before & after chromatograms. Audit trail must be on (if available).	Yes		Yes		IF No, address manual integration and/or turn on audit trail feature and document reason why it may have been turned off.
Are reported results whose amounts exceeded the acceptance criteria flagged with an appropriate qualifier and, if needed, were any non-matrix related nonconformities documented in the NCR spreadsheet?		Yes		Yes		If No, include proper qualification(s) in LIMS and enter nonconformities into the NCR spreadsheet before data review/validation.

Non-applicable Yes/No cells are left blank

Comments:

Injection Log Summary Report

Method : L:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Start (Tune) File ID : L:\INSTARCH\DATA\JUL1516\BFB1.D
Injection Date : 15 Jul 2016 Log Time Period (hrs) : ALL
Injection Time : 09:04 Total files within period : 24
Sample Directory : L:\INSTARCH\DATA\JUL1516\

Injection Log Summary Table

File ID	Multiplier I	S	T	Sample Name / Misc Info	Date	Time
WCAL1	1.00	1.00	1.00	INITIAL CALIB. PT1 0.50/5.00 ug/L, 5.0 mL Pu	15 Jul 2016	10:17
WCAL2	1.00	1.00	1.00	INITIAL CALIB. PT2 2.00/20.0 ug/L, 5.0 mL Pu	15 Jul 2016	10:45
WCAL3	1.00	1.00	1.00	INITIAL CALIB. PT3 5.00/50.0 ug/L, 5.0 mL Pu	15 Jul 2016	11:14
WCAL4	1.00	1.00	1.00	INITIAL CALIB. PT4 10.00/100 ug/L, 5.0 mL Pu	15 Jul 2016	11:42
WCAL5	1.00	1.00	1.00	INITIAL CALIB. PT5 20.00/200 ug/L, 5.0 mL Pu	15 Jul 2016	12:12
WCAL6	1.00	1.00	1.00	INITIAL CALIB. PT6 30.00/300 ug/L, 5.0 mL Pu	15 Jul 2016	12:41
WCAL7	1.00	1.00	1.00	INITIAL CALIB. PT7 40.00/400 ug/L, 5.0 mL Pu	15 Jul 2016	13:10
WCAL8	1.00	1.00	1.00	INITIAL CALIB. PT8 80.00/800 ug/L, 5.0 mL Pu	15 Jul 2016	13:40
ICV1	1.00	1.00	1.00	INITIAL CALIB. VERIF. 10.00/100 ug/L, 5.0 mL Pu	15 Jul 2016	14:39
ICV2	1.00	1.00	1.00	INITIAL CALIB. VERIF. 30.00/300 ug/L, 5.0 mL Pu	15 Jul 2016	15:08
ICB1	1.00	1.00	1.00	INITIAL CALIB. BLANK 5.0 mL DI H20 Purged + IS	15 Jul 2016	16:07

8260 ISTD/SSTD 20ug/ml VOC0192
8260 BFB STD. 50ug/ml VOC0191
8260 ICV STD. 100ug/ml VOC0193
8260 CCV/CALIB. 100ug/ml VOC0194

Injection Log Summary Report

Method : L:\INSTARCH\METHODS\W071516.M (RTE Integrator)
Title : 8260C Waters Method
Start (Tune) File ID : L:\INSTARCH\DATA\JUL1816\BFB1.D
Injection Date : 18 Jul 2016 Log Time Period (hrs) : ALL
Injection Time : 10:32 Total files within period : 9
Sample Directory : L:\INSTARCH\DATA\JUL1816\

Injection Log Summary Table

File ID	Multiplier I	S	T	Sample Name / Misc Info	Date	Time
ICVR	1.00	1.00	1.00	INITIAL CALIB. VERIF. 10.00/100 ug/L, 5.0 mL Pu	18 Jul 2016	14:47

8260 ISTD/SSTD 20ug/ml VOC0192
8260 BFB STD. 50ug/ml VOC0191
8260 ICV STD. 100ug/ml VOC0193
8260 CCV/CALIB. 100ug/ml VOC0194

LPVO1-01
Volatiles Standards Prep Logbook
Logbook Created: 01/16/2015
NOTEBOOK VIEW: LTN_VOC_Logbook_01_Default, NOTEBOOK: VOC_Logbook_01, PAGE: 78
Page is Unlocked
Page is not Witnessed
Project: Unassigned
Page Title: 071516

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0191	8260 BFB Std.	75uL of 2,000 ug/mL 4-Bromofluorobenzene Std. V726 into 2925uL of MeOH.	MeOH / OSolv / 55344	50 ug/mL	07/15/2016	08/15/2016	RLD

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0192	8260 ISTD/SSTD	200uL of 2,500 ug/mL 8260 Istd./Sstd. Mix V725 and 250uL of 2000 ug/mL 1,2-Dichlorobenzene-$_{d4}$ Std. V756 into 25mL of MeOH.	MeOH / OSolv / 55344	20 ug/mL	07/15/2016	08/15/2016	RLD

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0193	8260 ICV/Spiking Std.	150uL of 2,000 ug/mL VOC Mix V0780, 300uL of 1,000/10,000 ug/mL VOC 8260 Additions Std. V0788, and 300uL of 1,000/10,000 ug/mL 8260 Special Additions Std. V0784 into 2250uL of MeOH.	MeOH / OSolv / 55344	100 ug/mL	07/15/2016	07/22/2016	RLD

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0194	8260 CCV/Calib. Std.	150uL of 2,000 ug/mL VOC Mix V0782, 300uL of 1,000/10,000 ug/mL VOC 8260 Additions Std. V0789, and 300uL of 1,000/10,000 ug/mL 8260 Special Additions Std. V0785 into 2250uL of MeOH.	MeOH / OSolv / 55344	100 ug/mL	07/15/2016	07/22/2016	RLD

LPVO1-01
Volatiles Standards Prep Logbook
Logbook Created: 01/16/2015
NOTEBOOK VIEW: LTN_VOC_Logbook_01_Default, NOTEBOOK: VOC_Logbook_01, PAGE: 74
Page is Unlocked
Page is not Witnessed
Project: Unassigned
Page Title: 062316

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0182	8260 ICV/Spiking Std.	150uL of 2,000 ug/mL VOC Mix V0780, 300uL of 1,000/10,000 ug/mL VOC 8260 Additions Std. V0776, and 300uL of 1,000/10,000 ug/mL 8260 Special Additions Std. V0784 into 2250uL of MeOH.	MeOH / Osolv / 55344	100 ug/mL	06/23/2016	06/30/2016	RLD

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0183	8260 CCV/Calib. Std.	150uL of 2,000 ug/mL VOC Mix V0782, 300uL of 1,000/10,000 ug/mL VOC 8260 Additions Std. V0777, and 300uL of 1,000/10,000 ug/mL 8260 Special Additions Std. V0785 into 2250uL of MeOH.	MeOH / Osolv / 55344	100 ug/mL	06/23/2016	06/30/2016	RLD

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LPVO1-01
Volatiles Standards Prep Logbook
Logbook Created: 01/16/2015
NOTEBOOK VIEW: LTN_VOC_Logbook_01_Default, NOTEBOOK: VOC_Logbook_01, PAGE: 73
Page is Unlocked
Page is not Witnessed
Project: Unassigned
Page Title: 061316

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0178	8260 BFB Std.	75uL of 2,000 ug/mL 4-Bromofluorobenzene Std. V726 into 2925uL of MeOH.	MeOH / Osolv / 55344	50 ug/mL	06/13/2016	07/13/2016	RLD

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0179	8260 ISTD/SSTD	200uL of 2,500 ug/mL 8260 Istd./Sstd. Mix V725 and 250uL of 2000 ug/mL 1,2-Dichlorobenzene-$_{d4}$ Std. V756 into 25mL of MeOH.	MeOH / Osolv / 55344	20 ug/mL	06/13/2016	07/13/2016	RLD

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0180	8260 ICV/Spiking Std.	150uL of 2,000 ug/mL VOC Mix V0780, 300uL of 1,000/10,000 ug/mL VOC 8260 Additions Std. V0776, and 300uL of 1,000/10,000 ug/mL 8260 Special Additions Std. V0784 into 2250uL of MeOH.	MeOH / Osolv / 55344	100 ug/mL	06/13/2016	06/20/2016	RLD

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0181	8260 CCV/Calib. Std.	150uL of 2,000 ug/mL VOC Mix V0782, 300uL of 1,000/10,000 ug/mL VOC 8260 Additions Std. V0777, and 300uL of 1,000/10,000 ug/mL 8260 Special Additions Std. V0785 into 2250uL of MeOH.	MeOH / Osolv / 55344	100 ug/mL	06/13/2016	06/20/2016	RLD

LSVO1-01
Volatiles Standards Logbook
Logbook Created: 12/08/2015
NOTEBOOK VIEW: LTN_LSVO1_01_VOC_Default, NOTEBOOK: LSVO1_01_VOC, PAGE: 19
Page is Locked
Author: rdigmann on: 06.07.2016 10:03:23
Page is not Witnessed
Project: Unassigned
Page Title: 062716

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0788	VOC 8260 Additions	SPEX CertiPrep	VO-CTWI-12	BW160621021
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
1,000 - 10,000 ug/mL	MeOH	09/19/16	06/27/16	AGK
# of Ampules/Units:	2 x 1mL	Comments:	Used for 8260 ICV/Spiking standard	

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0789	VOC 8260 Additions	SPEX CertiPrep	VO-CTWI-12	BW160621022
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
1,000 - 10,000 ug/mL	MeOH	09/19/16	06/27/16	AGK
# of Ampules/Units:	2 x 1mL	Comments:	Used for 8260 CCV/Calib standard	

LSVO1-01
Volatiles Standards Logbook
Logbook Created: 12/08/2015

NOTEBOOK VIEW: LTN_LSVO1_01_VOC_Default, NOTEBOOK: LSVO1_01_VOC, PAGE: 16
Page is Locked
Author: rdigmann on: 18.05.2016 10:13:16
Witness: AKURTH on: 24.06.2016 11:49:08
Project: Unassigned
Page Title: 051316

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0784	VOC 8260 Special Additions	SPEX CertiPrep	VO-CTWI-5	BW160506010
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
1,000 - 50,000 ug/mL	MeOH	11/02/2016	05/12/2016	RLD
# of Ampules/Units:	2	Comments:	Used for 8260 ICV/Spiking Std.	

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0785	VOC 8260 Special Additions	SPEX CertiPrep	VO-CTWI-5	BW160506011
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
1,000 - 50,000 ug/mL	MeOH	11/02/2016	05/12/2016	RLD
# of Ampules/Units:	2	Comments:	Used for 8260 CCV/Calib. Std.	

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LSVO1-01
Volatiles Standards Logbook
Logbook Created: 12/08/2015

NOTEBOOK VIEW: LTN_LSVO1_01_VOC_Default, NOTEBOOK: LSVO1_01_VOC, PAGE: 14
Page is Locked
Author: rdigmann on: 04.05.2016 09:00:42
Witness: AKURTH on: 24.06.2016 11:48:54
Project: Unassigned
Page Title: 042816

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0782	8260 VOC Mix	Ultra Scientific	DWM-588-1	CP-0691
Concentration	**Neat (% purity) or Solvent**	**Expiration Date**	**Date Received**	**Analyst**
2,000 ug/mL	MeOH	03/31/2019	04/27/2016	RLD
# of Ampules/Units:	4	Comments:	Used for 8260 CCV/Calib. Std.	

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LSVO1-01
Volatiles Standards Logbook
Logbook Created: 12/08/2015

NOTEBOOK VIEW: LTN_LSVO1_01_VOC_Default, NOTEBOOK: LSVO1_01_VOC, PAGE: 13
Page is Locked
Author: rdigmann on: 28.04.2016 07:59:36
Witness: AKURTH on: 02.05.2016 11:01:38
Project: Unassigned
Page Title: 042616

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0779	Silica Sand (Oven Dried)	Granusil	4030	0-163-14
Concentration	**Neat (% purity) or Solvent**	**Expiration Date**	**Date Received**	**Analyst**
N/A	N/A	N/A	04/26/2016	RLD
# of Ampules/Units:	1 Container	Comments:	Oven Dried, Used for VOC/PVOC/GRO LCS & Method Blanks.	

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0780	8260 VOC Mix	AccuStandard	M-502-10X-PAK	216031211
Concentration	**Neat (% purity) or Solvent**	**Expiration Date**	**Date Received**	**Analyst**
2,000 ug/mL	MeOH	05/17/2019	04/26/2016	RLD
# of Ampules/Units:	5	Comments:	Used for 8260 ICV/Spiking Std. prep.	

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0781	Carbon Dioxide (1% or 10000ppmV) balance He.	Air Gas	X02HE99C33A1899	152-400685268-1
Concentration	**Neat (% purity) or Solvent**	**Expiration Date**	**Date Received**	**Analyst**
10000 ppmV	Helium	04/11/2019	04/11/2019	RLD
# of Ampules/Units:	1 cylinder (FF33602)	Comments:	Used for CO2 analysis (Dissolved Gases).	

LSVO1-01
Volatiles Standards Logbook
Logbook Created: 12/08/2015

NOTEBOOK VIEW: LTN_LSVO1_01_VOC_Default, NOTEBOOK: LSVO1_01_VOC, PAGE: 11
Page is Locked
Author: rdigmann on: 30.03.2016 16:00:24
Witness: akurth on: 18.04.2016 10:11:46
Project: Unassigned
Page Title: 032516

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0776	VOC 8260 Additions	SPEX CertiPrep	VO-CTWI-12	BW160321006
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
1,000 - 10,000 ug/mL	MeOH	06/19/2016	03/25/2016	BMS
# of Ampules/Units:	2 x 1 mL	Comments:	Used for 8260 ICV/Spiking Std.	

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0777	VOC 8260 Additions	SPEX CertiPrep	VO-CTWI-12	BW160321007
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
1,000 - 10,000 ug/mL	MeOH	06/19/2016	03/25/2016	BMS
# of Ampules/Units:	2 x 1 mL	Comments:	Used for 8260 CCV/Calib. Std.	

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CTI VOLATILE STANDARDS LOGBOOK 1

CTI STANDARD NUMBER (EXAMPLE = CTIV001*)	COMPOUND or SOLUTION NAME	COMPOUND / SOLUTION SUPPLIER	STANDARD'S PART NUMBER	STANDARD'S LOT #	STANDARD CONCENTRATION [1] and EXPIRATION DATE	NEAT (N) or SOLUTION (S) (If neat list % purity, if solution list solvent)	DATE REC'D and ANALYST'S INITIALS	COMMENTS
V742	VOC 8260 Special Additions	SPEX	VO-CTWI-5	SM150526010	1000-50000 ug/mL, 11/26/15	MeOH	6/2/15 RD	2x1mL
V743	8260 VOC Mix	Accu Standard	M-502-10X-PAK	21501040	2000 ug/mL, 11/21/18	MeOH	6/9/15, RD	5x1mL
V744	8260 VOC Mix	Ultra Sci.	DWM-588-1	CM-1859	2000 ug/mL, 5/31/18	MeOH	6/18/15, RD	2x1mL
V745	VOC 8260 Special Additions	SPEX	VO-CTWI-5	SM150526009	1000-50000 ug/mL, 11/26/15	MeOH	7/2/15, RD	2x1mL
V746	VOC 8260 Special Additions	SPEX	VO-CTWI-5	SM150526010	1000-50000 ug/mL, 11/26/15	MeOH	7/21/15, RD	2x1mL
V747	VOC 8260 Additions	SPEX	VO-CTWI-12	TS150721007	1000-10000 ug/mL, 10/26/15	MeOH	7/23/15, RD	2x1mL
V748	VOC 8260 Additions	SPEX	VO-CTWI-12	TS150721008	1000-10000 ug/mL, 10/26/15	MeOH	7/23/15, RD	2x1mL
V749	8260 VOC Mix	Ultra Sci.	DWM-588-1	CM-3808	2000 ug/mL, 8/31/18	MeOH	8/6/15, RD	2x1mL
V750	VOC 8260 Special Additions	SPEX	VO-CTWI-12	TS150901001	1000-10000 ug/mL, 11/30/15	MeOH	9/1/15, RD	2x1mL
V751	VOC 2nd 8260 Special Additions	SPEX	VO-CTWI-12	TS150901001	1000-10000 ug/mL, 12/3/15	MeOH	9/1/15 RD	2x1mL
V752	Fluorobenzene	Ultra Sci	STS-760-1	CL-3264	2000 ug/mL 9/30/18	MeOH	9/25/15 RD	4x1mL
V753	4,4'-DFT	Ultra Sci	STS-220N-1	CM-5040	2000 ug/mL 10/31/15	MeOH	9/25/15 RD	4x1mL
V754	VOC 8260 Special Additions	SPEX	VO-CTWI-5	BW150925015	1000-50000 ug/mL 03/23/16	MeOH	10/02/15 BMS	2x1mL
V755	VOC 8260 Special Additions	SPEX	VO-CTWI-5	SM150925016	1000-50000 ug/mL 03/23/16	MeOH	10/02/15 BMS	2x1mL
V756	1,2-Dichlorobenzene-d4	Ultra Sci	STS-210-1	C6-K392	2000 ug/mL 9/20/18	MeOH	10/6/15 RD	4x1mL
V757	8260 VOC Mix	Ultra Sci	DWM-588-1	CM-3956	2000 ug/mL 8/21/18	MeOH	10/15/15 RD	4x1mL
V758	8260 VOC Mix	Accustandard	M-502-10X-PAK	21508111	2000 ug/mL 8/25/18	MeOH	11/3/15 RD	5x1mL
V759	PVOC/8260 Mix	RESTEK	30095	A0112470	1000/10,000 ug/mL 08/31/22	MeOH	11/10/15 BMS	2x1mL
V760	PVOC/8260 Mix	ULTRA	UST-100-1	CK-2547A	1000/10000 ug/mL 08/30/17	MeOH	11/10/15 BMS	4x1mL

* = If multiple vials of the same lot number and expiration date are received the standard will be given one CTI Standard # and each vial will have a alpha designation asigned to it. (Example = Three vials of DRO standard solution, CTI001A-C)

1 = If multiple analytes and all of the concentrations vary, mark VARIES.

RD 11/23/15

CTI VOLATILE STANDARDS LOGBOOK 1

CTI STANDARD NUMBER (EXAMPLE = CTIV001*)	COMPOUND or SOLUTION NAME	COMPOUND / SOLUTION SUPPLIER	STANDARD'S PART NUMBER	STANDARD'S LOT #	STANDARD CONCENTRATION [1] and EXPIRATION DATE	NEAT (N) or SOLUTION (S) (If neat list % purity, if solution list solvent)	DATE REC'D and ANALYST'S INITIALS	COMMENTS
V723	8260 Special Additives	SPEX	VO-CTWI-5	C114111900B	1000-5000 ug/mL 5/31/15	MeOH	RD 12/16/14	2 x 1mL
V724	8260 Special Additives	SPEX	VO-CTWI-5	C114111900G	1000-5000 ug/mL 5/31/15	MeOH	RD 12/16/14	2 x 1mL
V725	8260 ISTD/SSTD Mix	Ultra Sci.	STM-540	CK-2154	2500 ug/mL 7/31/16	MeOH	RD 12/18/14	4 x 1mL
V726	BFB Stn.	Ultra Sci.	STS-110N	CH-32YBA	2000 ug/mL 11/30/17	MeOH	RD 12/18/14	2 x 1mL
V727	Acetylene Std.	AIRGAS	X03HE99C3360057	54-1244K7791-1	200 PPMV 12/17/17	Helium	Bms 12/22/14	1 cylinder @ 28.7CF
V728	1,4-Dioxane Std	SPEX	S-1715	C112121901Z	1000 ug/mL 12/15/15	MeOH	RD 12/31/14	2 x 1mL
V729	VOC Mix	Ultra Sci	DWM-588-1	CL-5325	2000 ug/mL 11/31/18	MeOH	RD 1/31/15	2 x 1mL
V730	Methane, Ethene, Ethane Std.	AIRGAS	X04HE99C3530380	54-1248928001	200 ppmV 02/03/16	He	Bms 02/03/15	Re-certified V619
V731	VOC 8260 Additions	SPEX	VO-CTWI-12	C115020201Z	1000-10000 ug/mL 5/31/15	MeOH	RD 2/6/15	2 x 1mL
V732	VOC 8260 Additions	SPEX	VOCTWI-12	C115020201Z	1000-10000 ug/mL 5/31/15	MeOH	RD 2/6/15	2 x 1mL
V733	8260 Special Additions	SPEX	VO-CTWI-5	C115030300J	1000-5000 ug/mL 8/31/15	MeOH	RD 3/11/15	2 x 1mL
V734	8260 Special Additions	SPEX	VO-CTWI-5	C115030400G	1000-5000 ug/mL 8/31/15	MeOH	RD 3/11/15	2 x 1mL
V735	VOC Mix	Accu Std.	M-502-10X	214111014	2000 ug/mL 11/12/17	MeOH	RD 3/31/15	2 x 1mL
V736	VOC Mixture	ULTRA SCI	DWM-588-1	CM-0137	2000 ug/mL 02/28/18	MeOH	Bms 04/09/15	2 x 1mL
V737	Unleaded Gasoline	ULTRA SCI.	RGO-601-1	CH-0979A	5000 ug/mL 05/31/17	MeOH	Bms 04/09/15	2 x 1mL
V738	Unleaded Gasoline	RESTEK	30205	A0101022	50,000 ug/mL 03/28/21	MeOH	Bms 04/09/15	2 x 1mL
V739	VOC 8260 Additions	SPEX	VO-CTWI-12	T315050600J	1000-10000 ug/mL 8/4/15	MeOH	RD 5/11/15	2 x 1mL
V740	VOC 8260 Additions	SPEX	VO-CTWI-12	T315050600Z	1000-10000 ug/mL 8/4/15	MeOH	RD 5/11/15	2 x 1mL
V741	VOC RGO Special Additions	SPEX	VO-CTWI-5	S315052600G	1000-5000 ug/mL 11/24/15	MeOH	RD 6/2/15	2 x 1mL

* = If multiple vials of the same lot number and expiration date are received the standard will be given one CTI Standard # and each vial will have a alpha designation asigned to it. (Example = Three vials of DRO standard solution, CTI001A-C)

1 = If multiple analytes and all of the concentrations vary, mark VARIES.

RD 6/2/15

V METH, ETH, ETHENE QSM 5.0 Analytical Run
127794 on 07/18/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	745875								V METH, ETH, ETHENE QSM 5.				
					CCV					0			
	744737								METH,ETH,ETHE QSM 5.0				
					LCSW					58069			
	744736								METH,ETH,ETHE QSM 5.0				
					MBW					58069			
120408	744395		07/12/2016	0900			BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		48MW6								58069			
120408	744398		07/12/2016	0910			BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		49TM01								58069			
	744738		07/12/2016	0910					METH,ETH,ETHE QSM 5.0				
		49TM01			MSW	744398				58069			
	744739		07/12/2016	0910					METH,ETH,ETHE QSM 5.0				
		49TM01			MSDW	744738				58069			
	745876								V METH, ETH, ETHENE QSM 5.				
					CCV					0			
120408	744400		07/12/2016	1035			BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		48MW1								58069			
120408	744408		07/12/2016	1155			BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		49MW01								58069			
120408	744411		07/12/2016	1320			BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		50MW02								58069			
120408	744414		07/12/2016	1330			BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		49TM02								58069			
120408	744416		07/12/2016	1410			BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		071216R1								58069			
120408	744418		07/12/2016	1450			BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		13MW3								58069			
120408	744420		07/12/2016	1550			BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		13MW4								58069			
	745877								V METH, ETH, ETHENE QSM 5.				
					CCV					0			

16 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

PREP WORKSHEET
on 07/15/2016

Prep Batch **58,069** Date Prepped: 07/15/2016 Prepped By AMA

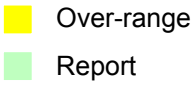
Folder #	Order	QC Type	Link	Test	Matrix	Volume	Weight	Initial Volume	SDG Level	Notes
	744736	MBW		METH,ETH,ETHE QSM	LIQUID	20.6				
	744737	LCSW		METH,ETH,ETHE QSM	LIQUID	20.6				
120408	744395			METH,ETH,ETHE QSM	GROUND WATER	20.6			4	
	744398			METH,ETH,ETHE QSM	GROUND WATER	20.6			4	
	744400			METH,ETH,ETHE QSM	GROUND WATER	20.6			4	
	744408			METH,ETH,ETHE QSM	GROUND WATER	20.6			4	
	744411			METH,ETH,ETHE QSM	GROUND WATER	20.6			4	
	744414			METH,ETH,ETHE QSM	GROUND WATER	20.6			4	
	744416			METH,ETH,ETHE QSM	GROUND WATER	20.6			4	
	744418			METH,ETH,ETHE QSM	GROUND WATER	20.6			4	
	744420			METH,ETH,ETHE QSM	GROUND WATER	20.6			4	
	744738	MSW	744398	METH,ETH,ETHE QSM	GROUND WATER	20.6				
	744739	MSDW	744738	METH,ETH,ETHE QSM	GROUND WATER	20.6				

Notes:_____

Sequence Summary Report

Sequence Filename: C:\InStarch\PVOC4\Sequence\071516.seq
Instrument: PVOC4
Processing Date: Jul 15, 2016 11:59:25

'Run Number	Sample ID	Data Filename	Method Filename	Run Time
1	127792,CCV,	C:\Instarch\PVOC4\Data\071516\001.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 15, 2016 08:19:29
2	127792,LCSW,	C:\Instarch\PVOC4\Data\071516\002.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 15, 2016 08:31:12
3	127792,MBW,	C:\Instarch\PVOC4\Data\071516\003.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 15, 2016 08:35:17
4	127792,743257,	C:\Instarch\PVOC4\Data\071516\004.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 15, 2016 08:43:06
5	127792,LQCKW,	C:\Instarch\PVOC4\Data\071516\005.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 15, 2016 08:48:28
6	127792,743257,	C:\Instarch\PVOC4\Data\071516\006.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 15, 2016 08:54:02
7	127792,LQCKW,	C:\Instarch\PVOC4\Data\071516\007.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 15, 2016 09:07:04
8	127791,742265,	C:\Instarch\PVOC4\Data\071516\008.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 15, 2016 09:12:12
9	127791,742275,	C:\Instarch\PVOC4\Data\071516\009.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 15, 2016 09:15:51
10	127791,742277,	C:\Instarch\PVOC4\Data\071516\010.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 15, 2016 09:19:50
11	127791,MSW742277,	C:\Instarch\PVOC4\Data\071516\011.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 15, 2016 09:23:45
12	127791,MSDW7422...	C:\Instarch\PVOC4\Data\071516\012.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 15, 2016 09:28:31
13	127791,742670,	C:\Instarch\PVOC4\Data\071516\013.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 15, 2016 09:34:41
14	127791,742673,	C:\Instarch\PVOC4\Data\071516\014.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 15, 2016 09:38:04
15	127791,742673,5	C:\Instarch\PVOC4\Data\071516\015.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 15, 2016 09:41:50
16	127791,742674,	C:\Instarch\PVOC4\Data\071516\016.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 15, 2016 09:48:20
17	127791,742674,10	C:\Instarch\PVOC4\Data\071516\017.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 15, 2016 09:54:09
18	127791,742675,	C:\Instarch\PVOC4\Data\071516\018.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 15, 2016 09:57:26
19	127791,742675,	C:\Instarch\PVOC4\Data\071516\019.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 15, 2016 10:00:50
20	127791,742676,	C:\Instarch\PVOC4\Data\071516\020.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 15, 2016 10:05:44
21	127792,CCV,	C:\Instarch\PVOC4\Data\071516\021.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 15, 2016 10:09:02
22	127793,LCSW,	C:\Instarch\PVOC4\Data\071516\022.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 15, 2016 10:12:55
23	127793,MBW,	C:\Instarch\PVOC4\Data\071516\023.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 15, 2016 10:18:01
24	127793,744371,	C:\Instarch\PVOC4\Data\071516\024.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 15, 2016 10:32:23
25	127793,744511,	C:\Instarch\PVOC4\Data\071516\025.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 15, 2016 10:38:37
26	127793,744512,	C:\Instarch\PVOC4\Data\071516\026.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 15, 2016 10:42:05
27	127793,744513,	C:\Instarch\PVOC4\Data\071516\027.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 15, 2016 10:45:18
28	127793,744514,	C:\Instarch\PVOC4\Data\071516\028.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 15, 2016 10:49:20
29	127793,744515,	C:\Instarch\PVOC4\Data\071516\029.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 15, 2016 10:56:01
30	127793,MSW744515,	C:\Instarch\PVOC4\Data\071516\030.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 15, 2016 10:59:35
31	127793,MSDW7445...	C:\Instarch\PVOC4\Data\071516\031.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 15, 2016 11:03:27
32	127794,744395,	C:\Instarch\PVOC4\Data\071516\032.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 15, 2016 11:07:06
33	127794,744398,	C:\Instarch\PVOC4\Data\071516\033.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 15, 2016 11:12:46
34	127794,MSW744398,	C:\Instarch\PVOC4\Data\071516\034.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 15, 2016 11:16:40
35	127794,MSDW7443...	C:\Instarch\PVOC4\Data\071516\035.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 15, 2016 11:21:24
36	127793,CCV,	C:\Instarch\PVOC4\Data\071516\036.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 15, 2016 11:24:40
37	127794,744400,	C:\Instarch\PVOC4\Data\071516\037.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 15, 2016 11:28:23
38	127794,744400,	C:\Instarch\PVOC4\Data\071516\038.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 15, 2016 11:32:07
39	127794,744408,	C:\Instarch\PVOC4\Data\071516\039.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 15, 2016 11:36:00
40	127794,744411,	C:\Instarch\PVOC4\Data\071516\040.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 15, 2016 11:40:04
41	127794,744414,	C:\Instarch\PVOC4\Data\071516\041.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 15, 2016 11:43:17
42	127794,744416,	C:\Instarch\PVOC4\Data\071516\042.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 15, 2016 11:47:08
43	127794,744418,	C:\Instarch\PVOC4\Data\071516\043.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 15, 2016 11:50:46
44	127794,744420,	C:\Instarch\PVOC4\Data\071516\044.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 15, 2016 11:54:12
45	127794,CCV,	C:\Instarch\PVOC4\Data\071516\045.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 15, 2016 11:59:25



Dissolved Gases (Injection) (Methane/Ethene/Ethane)

(Sequence Log)

LIMS Run #(s): 127792, 127791, 127793, 127794 Instrument: Proc 4

Sequence Date: 07/15/16 Analyst: AMA

Calibration Date: 02/03/15 Ambient Temp. (°C): 20.6

Injection #	Sample #	Injection Vol. (ml)	Sample Vol. (ml)	pH
1	CCV	0.25	43	—
2	LCSW	1.0	43	—
3	MBW	1.0	43	—
4	LOD M	1.0	43	—
5	LOQ M	1.0	43	—
6	LOD EE	1.0	43	—
7	LOQ EE	1.0	43	—
8	742265	1.0	43	< 2
9	742275	1.0	43	< 2
10	742277	1.0	43	< 2
11	MSW742277	1.0	43	< 2
12	MSDW742277	1.0	43	< 2
13	742670	1.0	43	< 2
14	742673	1.0	43	< 2
15	742673	0.2	43	< 2
16	742674	1.0	43	< 2
17	742674	0.1	43	< 2
18	742675	1.0	43	< 2
19	742675	1.0	43	< 2
20	742676	1.0	43	< 2
21	CCV	0.25	43	—
22	LCSW	1.0	43	—
23	MBW	1.0	43	—
24	744371	1.0	43	< 2
25	744511	1.0	43	< 2

Calibration Standard Ref. #: V691

Second Source Ref. #: V730

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Dissolved Gases (Injection) (Methane/Ethene/Ethane)

(Sequence Log)

LIMS Run #(s): 127792, 127791, 127793, 127794 Instrument: Pvoc 4

Sequence Date: 07/15/16 Analyst: AMA

Calibration Date: 02/03/15 Ambient Temp. (°C): 20.6

Injection #	Sample #	Injection Vol. (ml)	Sample Vol. (ml)	pH
26	744512	1.0	43	< 2
27	744513	1.0	43	< 2
28	744514	1.0	43	< 2
29	744515	1.0	43	< 2
30	MSW744515	1.0	43	< 2
31	MSDW744515	1.0	43	< 2
32	744395	1.0	43	< 2
33	744399	1.0	43	< 2
34	MSW744398	1.0	43	< 2
35	MSDW744398	1.0	43	< 2
36	CCV	0.25	43	—
37	744400	1.0	43	< 2
38	744400	1.0	43	< 2
39	744408	1.0	43	< 2
40	744411	1.0	43	< 2
41	744414	1.0	43	< 2
42	744416	1.0	43	< 2
43	744418	1.0	43	< 2
44	744420	1.0	43	< 2
45	CCV	0.25	43	—
46			43	
47		AMA 07/15/16	43	
48			43	
49			43	
50			43	

Calibration Standard Ref. #: V691

Second Source Ref. #: V730

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FVO1-01 Data Review Checklist

	FVO1-01 Method: Dissolved Gases (EPA SW-846 8015 / RSK 175 Modified)					
LIMS Run #(s)	Analysis Date (s)	Analyst / Data Interpreter	Independent Reviewer	Date of Review	Approved? (Yes or No)	Instrument
127791, 127792, 127793, 127794	07/15/2016	AMA	RLD	07/18/2016	Yes	PVOC4

Instructions: Complete one checklist per *analytical sequence*. Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement:	Acceptance Criteria	Analyst Review		Independent Review		Comments: (indicate reference to an attachment if necessary)
1. INITIAL CALIBRATION (ICAL)		Yes	No	Yes	No	
a. Was the initial calibration performed using a minimum of five concentration levels?	Lowest standard at or below RL	Yes		Yes		If NO, recalibrate
b. For each analyte/component is the variation between calibration response factors for all concentration levels <20% RSD or is $r^2 \geq .99$ or $r \geq .995$ for the regression line?	RSD <20% or $r^2 \geq .99$ or $r \geq .995$ or program/project specific	Yes		Yes		If NO, recalibrate
c. Are the identification and date of the ICAL listed on the printout (or PDF) of the analytical run and in the method file?	ID# and date of ICAL listed	Yes		Yes		
d. Was an Initial Calibration Verification (ICV) analyzed after the ICAL?	Analyzed prior to sample analyses	Yes		Yes		If NO, analyze ICV prior to sample analyses.
e. Were the recoveries for each analyte in the ICV within required limits?	Recoveries 85 - 115% or within program/project specific limits	Yes		Yes		If NO, reanalyze ICV. If still No then necessary maintenance and recalibration should be performed.
f. Was an Initial Calibration Blank (ICB) analyzed?		Yes		Yes		If NO, reanalyze ICB before sample analyses.
g. Were the ICB results for all target analytes/components less than the reporting limit (RL)?	<RL or < program/project specific	Yes		Yes		
3. CONTINUING CALIBRATION VERIFICATION (CCV)						
a . Was a CCV analyzed at the beginning and end of a sequential analysis run, as well as after ever 10 samples?		Yes		Yes		If NO, then samples / QC in the affected window must be reanalyzed.
b. Were the recoveries for each analyte/component in the CCV within acceptance criteria?	Recoveries 85 - 115% or within program/project specific limits	Yes		Yes		If NO, then necessary maintenance and possible recalibration should be performed. Affected samples must be reanalyzed for compounds exceeding CCV criteria.
4. METHOD BLANKS (MB)						
a. Was a method blank (MB) analyzed?	1 / 20 or program/project specific	Yes		Yes		If NO, reanalyze sample batch with an associated MB.
b. Were the MB results for all analytes/components less than reporting limit?	All target analytes/components <RL or within program/project specific limits (DoD-QSM: <1/2 the RL)	Yes		Yes		If analytes/components were detected in the MB with no associated positives in the samples, no further action is needed. If analyte detects are greater than the RL with associated positives in the samples, flag associated positives with a "B" qualifier.
5. LABORATORY CONTROL SAMPLE (LCS)						
a. Was a LCS analyzed at the required frequency?	1 / 20 or program/project specific	Yes		Yes		If NO, reanalyze sample batch with an associated LCS.
b. Were LCS recoveries for all analytes within the acceptance criteria?	Default = 70-130%, or within In-house generated or program/project specific limits	Yes		Yes		If NO, reanalyze LCS to confirm no preparation error.
c. If LCS recoveries exceed acceptance criteria, was the LCS reanalyzed in an effort to eliminate the possibility of a preparation error?						If LCS recoveries exceed acceptance criteria again, investigate and correct problem and reanalyze affected samples, if possible. If LCS recoveries exceed criteria after sample reanalysis and if samples are not reanalyzed, See Below: *If LCS recovery is high with no associated positives in samples, no further action needed. *If LCS recovery is high with associated positives in samples, flag associated positives "Q". *If LCS recoveries are low, flag all affected analytes/components within the batch "Q".

6. MATRIX SPIKE (MS)/ MATRIX SPIKE DUPLICATES (MSD) and DUPLICATE						
a. Was a MS, MSD, and/or Duplicate (if valid) Vial analyzed with each batch of 20 samples (or program-specified frequency)?	1 / 20 or program/project specific frequency (QSM samples, duplicate only valid if sample result ≥ 5x the LOQ)	Yes		Yes		If NO, analyze a MS/MSD from the specific sample batch. When insufficient sample amount is provided for matrix spikes, preparing a sample in duplicate is possible.
b. Were MS/MSD recoveries for all analytes within acceptance criteria?	Default =70-130%, or within In-house generated or program/project specific limits		No		No	If NO, See Below: *If MS/MSD recoveries are below acceptable limits, and unspiked sample has detects or no detects for affected analytes, flag affected analytes "M". *If MS/MSD recoveries are above acceptable limits, and the unspiked sample has no detects for affected analytes, no action is required. *If MS/MSD recoveries are outside of acceptable limits, and unspiked sample has detects for affected analytes, flag affected analytes "M" in parent sample.
7. PRECISION						
a. Is the relative percent difference (RPD) for each analyte between duplicate QC samples (i.e. parent sample / Duplicate vial), or for each MS/MSD within the acceptance criteria?	Default = 20 % RPD, or within In-house generated or program/project specific limits		No		No	If NO, "Y" flag all affected compounds in the unspiked sample if the precision failure is between the MS and MSD or the parent sample if the precision failure is between a duplicate samples.
8. SAMPLES (INCLUDING BLANKS, STANDARDS, AND QC SAMPLES)						
a. Are chromatogram characteristics, including peak shapes and areas, consistent with those of the CCV?		Yes		Yes		If NO, document any discrepancies. Manual integrations should include before and after chromatography. Manual integrations should be signed and dated.
b. Were all samples having analytes detected in amounts exceeding the calibration range diluted and reanalyzed or reanalyzed using a smaller sample aliquot? Affected analyte detects should remain above the limit of quantitation (LOQ) after reanalysis.		Yes		Yes		If NO, dilute and reanalyze samples for compounds exceeding calibration range.
c. Was the correct ambient temperature recorded on sample spreadsheets?		Yes		Yes		If NO, sample must be reanalyzed. Temperature must be documented.
d. Were all samples adequately preserved and analyzed within holding time?	CO_2 samples received unpreserved (analyze within 7 days or program/project specific) Methane, Ethene, Ethane samples received preserved to <2 (analyze within 14 days or program/project specific)	Yes		Yes		If NO, qualify samples analyzed past hold time with an "H" flag. Sample improperly preserved should be qualified with a "T" flag.
9. RECORDS AND REPORTING						
a. Is a sequence run file present in the raw data file?		Yes		Yes		If NO, include sequence run with raw data.
b. Is the data initialed and dated by analyst?	Analysis Run sheet is initialed & dated by the analyst processing the raw data.	Yes		Yes		If NO, if no obtain initials and date from analyst.
c. Do all values, units, etc. listed match the raw data and associated calculations and records?		Yes		Yes		If NO, data should be reprocessed to include correct units and results.
e. Has the data been electronically transferred to the LIMS and were the applicable qualifiers assigned?		Yes		Yes		If NO, recapture data. Manual entries into LIMS must be documented to ensure proper review.
f. Were manual integrations addressed properly and were the audit trails turned on (where applicable)?	Manual integration must be initialed, dated, and reason given, along with before & after chromatograms. Audit trail must be on (if available).	Yes		Yes		If NO, address manual integration and/or turn on audit trail feature and document reason why it may have been turned off.
g. Are reported results whose amounts exceeded the acceptance criteria flagged with an appropriate qualifier in LIMS and, if needed, were any non-matrix related nonconformities documented in the NCR spreadsheet?		Yes		Yes		If NO, include proper qualification(s) in LIMS and enter nonconformities into the NCR spreadsheet before data review/validation.

V METH, ETH, ETHENE QSM 5.0 Analytical Run
127980 on 07/20/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	747259							V METH, ETH, ETHENE QSM 5.				
					CCV				0			
	747052							METH,ETH,ETHE QSM 5.0				
					LCSW				58146			
	747051							METH,ETH,ETHE QSM 5.0				
					MBW				58146			
120462	744939		07/13/2016	0910		BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		49MW02							58146			
120462	744970		07/13/2016	1050		BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		48MW3							58146			
120462	744972		07/13/2016	1455		BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		48MW2			Designated MS/MSD				58146			
	747053		07/13/2016	1455				METH,ETH,ETHE QSM 5.0				
		48MW2			MSW 744972				58146			
	747054		07/13/2016	1455				METH,ETH,ETHE QSM 5.0				
		48MW2			MSDW 747053				58146			
120462	744974		07/13/2016	1620		BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		13MW2							58146			
120462	744976		07/13/2016	1625		BERING SEA ENVIRONMENTAL	RADFORD AAP	METH,ETH,ETHE QSM 5.0		GW	**4**	
		49MW04							58146			
	747260							V METH, ETH, ETHENE QSM 5.				
					CCV				0			

11 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

PREP WORKSHEET
on 7/25/2016

Prep Batch **58,146** Date Prepped: 7/20/2016 Prepped By AMA

Folder #	Order	QC Type	Link	Test	Matrix	Volume	Weight	Initial Volume	SDG Level	Notes
	747051	MBW		METH,ETH,ETHE QSM	LIQUID	20.5				
	747052	LCSW		METH,ETH,ETHE QSM	LIQUID	20.5				
120462	744939			METH,ETH,ETHE QSM	GROUND WATER	20.5			4	
	744970			METH,ETH,ETHE QSM	GROUND WATER	20.5			4	
	744972	*		METH,ETH,ETHE QSM	GROUND WATER	20.5			4	
	744974			METH,ETH,ETHE QSM	GROUND WATER	20.5			4	
	744976			METH,ETH,ETHE QSM	GROUND WATER	20.5			4	
	747053	MSW	744972	METH,ETH,ETHE QSM	GROUND WATER	20.5				
	747054	MSDW	747053	METH,ETH,ETHE QSM	GROUND WATER	20.5				

Notes:_____

Sequence Summary Report

Sequence Filename: C:\InStarch\PVOC4\Sequence\072016.seq
Instrument: PVOC4
Processing Date: Jul 20, 2016 10:59:40

'Run Number	Sample ID	Data Filename	Method Filename	Run Time
1	127980,CCV,	C:\Instarch\PVOC4\Data\072016\001.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 20, 2016 09:34:18
2	127980,LCSW,	C:\Instarch\PVOC4\Data\072016\002.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 20, 2016 09:40:08
3	127980,MBW,	C:\Instarch\PVOC4\Data\072016\003.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 20, 2016 09:44:18
4	127980,744939,	C:\Instarch\PVOC4\Data\072016\004.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 20, 2016 09:51:29
5	127980,744970,	C:\Instarch\PVOC4\Data\072016\005.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 20, 2016 09:54:46
6	127980,744972,	C:\Instarch\PVOC4\Data\072016\006.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 20, 2016 09:59:04
7	127980,MSW744972,	C:\Instarch\PVOC4\Data\072016\007.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 20, 2016 10:04:22
8	127980,MSDW7449...	C:\Instarch\PVOC4\Data\072016\008.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 20, 2016 10:12:41
9	127980,744974,	C:\Instarch\PVOC4\Data\072016\009.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 20, 2016 10:18:36
10	127980,744976,	C:\Instarch\PVOC4\Data\072016\010.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 20, 2016 10:27:21
11	127980,CCV,	C:\Instarch\PVOC4\Data\072016\011.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 20, 2016 10:31:07
12	127981,745353,	C:\Instarch\PVOC4\Data\072016\012.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 20, 2016 10:34:54
13	127981,745354,	C:\Instarch\PVOC4\Data\072016\013.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 20, 2016 10:39:30
14	127981,745355,	C:\Instarch\PVOC4\Data\072016\014.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 20, 2016 10:43:11
15	127981,745356,	C:\Instarch\PVOC4\Data\072016\015.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 20, 2016 10:47:34
16	127981,MSW745356,	C:\Instarch\PVOC4\Data\072016\016.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 20, 2016 10:51:33
17	127981,MSDW7453...	C:\Instarch\PVOC4\Data\072016\017.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 20, 2016 10:55:28
18	127981,CCV,	C:\Instarch\PVOC4\Data\072016\018.dat	C:\Instarch\PVOC4\Methods\P4DG020...	Jul 20, 2016 10:59:40

Dissolved Gases (Injection) (Methane/Ethene/Ethane)

(Sequence Log)

LIMS Run #(s): 127980, 127981 Instrument: Proc 4

Sequence Date: 07/20/16 Analyst: AMA

Calibration Date: 02/03/15 Ambient Temp. (°C): 20.5

Injection #	Sample #	Injection Vol. (ml)	Sample Vol. (ml)	pH
1	CCV	0.25	43	—
2	LCSD	1.0	43	—
3	MBLD	1.0	43	—
4	744939	1.0	43	< 2
5	744970	1.0	43	< 2
6	744972	1.0	43	< 2
7	MSD 744972	1.0	43	< 2
8	MSD 744972	1.0	43	< 2
9	744974	1.0	43	< 2
10	744976	1.0	43	< 2
11	CCV	0.25	43	—
12	745353	1.0	43	< 2
13	745354	1.0	43	< 2
14	745355	1.0	43	< 2
15	745356	1.0	43	< 2
16	MSD 745356	1.0	43	< 2
17	MSD 745356	1.0	43	< 2
18	CCV	0.25	43	—
19			43	
20			43	
21		AMA 07/20/16	43	
22			43	
23			43	
24			43	
25			43	

Calibration Standard Ref. #: V091

Second Source Ref. #: V730

Page 1

FVO1-01 Data Review Checklist

	FVO1-01 Method: Dissolved Gases (EPA SW-846 8015 / RSK 175 Modified)					
LIMS Run #(s)	Analysis Date (s)	Analyst / Data Interpreter	Independent Reviewer	Date of Review	Approved? (Yes or No)	Instrument
127980, 127981	07/20/2016	AMA	RLD	07/20/2016	Yes	PVOC4

Instructions: Complete one checklist per *analytical sequence*. Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement:	Acceptance Criteria	Analyst Review		Independent Review		Comments: (indicate reference to an attachment if necessary)
1. INITIAL CALIBRATION (ICAL)		Yes	No	Yes	No	
a. Was the initial calibration performed using a minimum of five concentration levels?	Lowest standard at or below RL	Yes		Yes		If NO, recalibrate
b. For each analyte/component is the variation between calibration response factors for all concentration levels <20% RSD or is $r^2 \geq .99$ or $r \geq .995$ for the regression line?	RSD <20% or $r^2 \geq .99$ or $r \geq .995$ or program/project specific	Yes		Yes		If NO, recalibrate
c. Are the identification and date of the ICAL listed on the printout (or PDF) of the analytical run and in the method file?	ID# and date of ICAL listed	Yes		Yes		
d. Was an Initial Calibration Verification (ICV) analyzed after the ICAL?	Analyzed prior to sample analyses	Yes		Yes		If NO, analyze ICV prior to sample analyses.
e. Were the recoveries for each analyte in the ICV within required limits?	Recoveries 85 - 115% or within program/project specific limits	Yes		Yes		If NO, reanalyze ICV. If still No then necessary maintenance and recalibration should be performed.
f. Was an Initial Calibration Blank (ICB) analyzed?		Yes		Yes		If NO, reanalyze ICB before sample analyses.
g. Were the ICB results for all target analytes/components less than the reporting limit (RL)?	<RL or < program/project specific	Yes		Yes		
3. CONTINUING CALIBRATION VERIFICATION (CCV)						
a . Was a CCV analyzed at the beginning and end of a sequential analysis run, as well as after ever 10 samples?		Yes		Yes		If NO, then samples / QC in the affected window must be reanalyzed.
b. Were the recoveries for each analyte/component in the CCV within acceptance criteria?	Recoveries 85 - 115% or within program/project specific limits	Yes		Yes		If NO, then necessary maintenance and possible recalibration should be performed. Affected samples must be reanalyzed for compounds exceeding CCV criteria.
4. METHOD BLANKS (MB)						
a. Was a method blank (MB) analyzed?	1 / 20 or program/project specific	Yes		Yes		If NO, reanalyze sample batch with an associated MB.
b. Were the MB results for all analytes/components less than reporting limit?	All target analytes/components <RL or within program/project specific limits (DoD-QSM: <1/2 the RL)	Yes		Yes		If analytes/components were detected in the MB with no associated positives in the samples, no further action is needed. If analyte detects are greater than the RL with associated positives in the samples, flag associated positives with a "B" qualifier.
5. LABORATORY CONTROL SAMPLE (LCS)						
a. Was a LCS analyzed at the required frequency?	1 / 20 or program/project specific	Yes		Yes		If NO, reanalyze sample batch with an associated LCS.
b. Were LCS recoveries for all analytes within the acceptance criteria?	Default = 70-130%, or within In-house generated or program/project specific limits	Yes		Yes		If NO, reanalyze LCS to confirm no preparation error.
c. If LCS recoveries exceed acceptance criteria, was the LCS reanalyzed in an effort to eliminate the possibility of a preparation error?						If LCS recoveries exceed acceptance criteria again, investigate and correct problem and reanalyze affected samples, if possible. If LCS recoveries exceed criteria after sample reanalysis and if samples are not reanalyzed, See Below: *If LCS recovery is high with no associated positives in samples, no further action needed. *If LCS recovery is high with associated positives in samples, flag associated positives "Q". *If LCS recoveries are low, flag all affected analytes/components within the batch "Q".

6. MATRIX SPIKE (MS)/ MATRIX SPIKE DUPLICATES (MSD) and DUPLICATE						
a. Was a MS, MSD, and/or Duplicate (if valid) Vial analyzed with each batch of 20 samples (or program-specified frequency)?	1 / 20 or program/project specific frequency (QSM samples, duplicate only valid if sample result ≥ 5x the LOQ)	Yes		Yes		If NO, analyze a MS/MSD from the specific sample batch. When insufficient sample amount is provided for matrix spikes, preparing a sample in duplicate is possible.
b. Were MS/MSD recoveries for all analytes within acceptance criteria?	Default =70-130%, or within In-house generated or program/project specific limits	Yes		Yes		If NO, See Below: *If MS/MSD recoveries are below acceptable limits, and unspiked sample has detects or no detects for affected analytes, flag affected analytes "M". *If MS/MSD recoveries are above acceptable limits, and the unspiked sample has no detects for affected analytes, no action is required. *If MS/MSD recoveries are outside of acceptable limits, and unspiked sample has detects for affected analytes, flag affected analytes "M" in parent sample.
7. PRECISION						
a. Is the relative percent difference (RPD) for each analyte between duplicate QC samples (i.e. parent sample / Duplicate vial), or for each MS/MSD within the acceptance criteria?	Default = 20 % RPD, or within In-house generated or program/project specific limits	Yes		Yes		If NO, "Y" flag all affected compounds in the unspiked sample if the precision failure is between the MS and MSD or the parent sample if the precision failure is between a duplicate samples.
8. SAMPLES (INCLUDING BLANKS, STANDARDS, AND QC SAMPLES)						
a. Are chromatogram characteristics, including peak shapes and areas, consistent with those of the CCV?		Yes		Yes		If NO, document any discrepancies. Manual integrations should include before and after chromatography. Manual integrations should be signed and dated.
b. Were all samples having analytes detected in amounts exceeding the calibration range diluted and reanalyzed or reanalyzed using a smaller sample aliquot? Affected analyte detects should remain above the limit of quantitation (LOQ) after reanalysis.		Yes		Yes		If NO, dilute and reanalyze samples for compounds exceeding calibration range.
c. Was the correct ambient temperature recorded on sample spreadsheets?		Yes		Yes		If NO, sample must be reanalyzed. Temperature must be documented.
d. Were all samples adequately preserved and analyzed within holding time?	CO_2 samples received unpreserved (analyze within 7 days or program/project specific) Methane, Ethene, Ethane samples received preserved to <2 (analyze within 14 days or program/project specific)	Yes		Yes		If NO, qualify samples analyzed past hold time with an "H" flag. Sample improperly preserved should be qualified with a "T" flag.
9. RECORDS AND REPORTING						
a. Is a sequence run file present in the raw data file?		Yes		Yes		If NO, include sequence run with raw data.
b. Is the data initialed and dated by analyst?	Analysis Run sheet is initialed & dated by the analyst processing the raw data.	Yes		Yes		If NO, if no obtain initials and date from analyst.
c. Do all values, units, etc. listed match the raw data and associated calculations and records?		Yes		Yes		If NO, data should be reprocessed to include correct units and results.
e. Has the data been electronically transferred to the LIMS and were the applicable qualifiers assigned?		Yes		Yes		If NO, recapture data. Manual entries into LIMS must be documented to ensure proper review.
f. Were manual integrations addressed properly and were the audit trails turned on (where applicable)?	Manual integration must be initialed, dated, and reason given, along with before & after chromatograms. Audit trail must be on (if available).	Yes		Yes		If NO, address manual integration and/or turn on audit trail feature and document reason why it may have been turned off.
g. Are reported results whose amounts exceeded the acceptance criteria flagged with an appropriate qualifier in LIMS and, if needed, were any non-matrix related nonconformities documented in the NCR spreadsheet?		Yes		Yes		If NO, include proper qualification(s) in LIMS and enter nonconformities into the NCR spreadsheet before data review/validation.

Sequence Summary Report

Sequence Filename: C:\InStarch\PVOC4\Sequence\020315DGIC.seq
Instrument: PVOC4
Processing Date: Feb 03, 2015 11:19:15

'Run Number	Sample ID	Data Filename	Method Filename	Run Time
1	MEE PT1 - 2 ppmV	C:\Instarch\PVOC4\Data\020315icdg\001....	C:\Instarch\PVOC4\Methods\P4DG020...	Feb 03, 2015 10:27:30
2	MEE PT2 - 5 ppmV	C:\Instarch\PVOC4\Data\020315icdg\002....	C:\Instarch\PVOC4\Methods\P4DG020...	Feb 03, 2015 10:35:02
3	MEE PT3 - 10 ppmV	C:\Instarch\PVOC4\Data\020315icdg\003....	C:\Instarch\PVOC4\Methods\P4DG020...	Feb 03, 2015 10:38:17
4	MEE PT4 - 20 ppmV	C:\Instarch\PVOC4\Data\020315icdg\004....	C:\Instarch\PVOC4\Methods\P4DG020...	Feb 03, 2015 10:41:32
5	MEE PT5 - 50 ppmV	C:\Instarch\PVOC4\Data\020315icdg\005....	C:\Instarch\PVOC4\Methods\P4DG020...	Feb 03, 2015 10:44:59
6	MEE PT6 - 100 ppmV	C:\Instarch\PVOC4\Data\020315icdg\006....	C:\Instarch\PVOC4\Methods\P4DG020...	Feb 03, 2015 10:48:29
7	MEE PT7 - 200 ppmV	C:\Instarch\PVOC4\Data\020315icdg\007....	C:\Instarch\PVOC4\Methods\P4DG020...	Feb 03, 2015 10:52:17
8	ICV - 50 ppmV	C:\Instarch\PVOC4\Data\020315icdg\008....	C:\Instarch\PVOC4\Methods\P4DG020...	Feb 03, 2015 11:02:07
9	ICB	C:\Instarch\PVOC4\Data\020315icdg\009....	C:\Instarch\PVOC4\Methods\P4DG020...	Feb 03, 2015 11:19:15

Dissolved Gases (Injection)

(Sequence Log)

LIMS Run #(s): _____ Instrument: PVOC4

Sequence Date: 02/03/15 Analyst: AGK / BMS

Calibration Date: 02/03/15 Ambient Temp. (°C): 21.0

Injection #	Sample #	Injection Vol. (ml)	Sample Vol. (ml)
1	MEE PT1	0.01 mL	42
2	MEE PT2	0.025 mL	42
3	MEE PT 3	0.05 mL	42
4	MEE PT4	0.10 mL	42
5	MEE PT5	0.25 mL	42
6	MEE PT6	0.50 mL	42
7	MEE PT7	1.0 mL	42
8	ICV	.25 mL	42
9	ICB	1 mL	42
10	Re-Cert Rep 1	.25 mL	42
11	ReCert Rep 2	.25 mL	42
12	ReCert Rep 3	.25 mL	42
13	ReCert Rep 4	.25 mL	42
14	ReCert Rep 5	.25 mL	42
15			42
16			42
17			42
18			42
19	AGK		42
20	02/03/15		42
21			42
22			42
23			42
24			42
25			42

Calibration Standard Ref. #: V681

Second Source Ref. #: V619 / V730

Page 1

CTI VOLATILE STANDARDS LOGBOOK 1

CTI STANDARD NUMBER (EXAMPLE = CTIV001*)	COMPOUND or SOLUTION NAME	COMPOUND / SOLUTION SUPPLIER	STANDARD'S PART NUMBER	STANDARD'S LOT #	STANDARD CONCENTRATION [1] and EXPIRATION DATE	NEAT (N) or SOLUTION (S) (If neat list % purity, if solution list solvent)	DATE REC'D and ANALYST'S INITIALS	COMMENTS
V723	8260 Special Additions	SPEX	VO-CTWI-5	CH4111900B	1000-5000 ug/mL 5/18/15	MeOH	RD 12/16/14	2 x 1mL
V724	8260 Special Additions	SPEX	VO-CTWI-5	CH4111900G	1000-5000 ug/mL 5/18/15	MeOH	RD 12/16/14	2 x 1mL
V725	8260 ISTD/SS Mix	Ultra Sci.	STM-540	CK-2154	2500 ug/mL 7/31/16	MeOH	RD 12/18/14	4 x 1mL
V726	BFB Stn.	Ultra Sci.	STS-110N	CH-3248A	2000 ug/mL 11/30/17	MeOH	RD 12/18/14	2 x 1mL
V727	Acetylene Std.	AIRGAS	X02HE99C33A087	54-1244K7791-1	300 PPMV 12/7/17	Helium	Bms 12/22/14	Cylinder @ 28.7 CF
V728	1,4-Dioxane Std.	SPEX	S-1715	C112121901Z	1000 ug/mL, 12/15/15	MeOH	RD 12/31/14	2 x 1mL
V729	VOC Mix	Ultra Sci	DWM-588-1	CL-5325	2000 ug/mL, 1/31/16	MeOH	RD 1/31/15	2 x 1mL
V730	Methane, Ethene, Ethane Std.	AIRGAS	X04HE99C3737C80	54-1248928001	200 ppmV 02/03/16	He	Bms 02/03/15	Re-certified V619
V731	VOC 8260 Additions	SPEX	VO-CTWI-12	CH150202012	1000-10000 ug/mL Stds	MeOH	RD 2/6/15	2 x 1mL
V732	VOC 8260 Additions	SPEX	VOCTWI-12	CH150202013	1000-10000 ug/mL Stds	MeOH	RD 2/6/15	2 x 1mL

* = If multiple vials of the same lot number and expiration date are received the standard will be given one CTI Standard # and each vial will have a alpha designation asigned to it. (Example = Three vials of DRO standard solution, CTI001A-C)

1 = If multiple analytes and all of the concentrations vary, mark VARIES.

CTI VOLATILE STANDARDS LOGBOOK 1

CTI STANDARD NUMBER (EXAMPLE = CTIV001*)	COMPOUND or SOLUTION NAME	COMPOUND / SOLUTION SUPPLIER	STANDARD'S PART NUMBER	STANDARD'S LOT #	STANDARD CONCENTRATION [1] and EXPIRATION DATE	NEAT (N) or SOLUTION (S) (If neat list % purity, if solution list solvent)	DATE REC'D and ANALYST'S INITIALS	COMMENTS
V6666	8260 Addition	SPEX	VO-CTIW-12	CI130701014	1000-10,000 ug/mL 08/05/13	MeOH	07/08/13 BmS	2 x 1mL
V667	VOC Mix	ULTRA	DWM-588	CK-1488	2000 ug/mL 06/30/16	MeOH	07/08/13 BmS	4 x 1mL
V668	8260 Istd./Surr. Mix	ULTRA	STM-540	CK-3154	2500 ug/mL 07/31/16	MeOH	07/08/13 BmS	4 x 1mL
V669	Fluorobenzene	ULTRA	STS-160	CE-9128A	2000 ug/mL 01/31/15	MeOH	07/08/13 BmS	4 x 1mL
V670	Unleaded Gasoline	ULTRA	RGO-601	CH-0979	5000 ug/mL 04/30/15	MeOH	07/08/13 BmS	4 x 1mL
V671	8260 Special Addition	SPEX	VO-CTWE-5	CI130726021	1000-10000 ug/mL 01/22/16	MeOH	08/02/13 BmS	2 x 1mL
V672	8260 Special Addition	SPEX	VO-CTWI-5	CI130726023	1000-50000 ug/mL 01/22/14	MeOH	08/02/13 BmS	2 x 1mL
V673	Carbon Dioxide Std.	AIRGAS	X02HE99C33A8899	Cylinder #: SF7598 Lot: 136-40C255836-1	10,000 ppmV 8/2016	1% CO2/He	08/26/13 BmS	1 cylinder @ 28.7 CF
V674	8260 VOC mix.	AccuStd.	M-502-10X-PAK	213041330	2000 ug/mL 5/20/16	MeOH	9/16/13 RJ	5 x 1mL
V675	8260 Addition	SPEX	VO-CTWE-12	CI130919006	1000-10000 ug/mL 12/18/13	MeOH	10/1/13 RJ	2 x 1mL
V676	8260 Addition	SPEX	VO CTWI-12	CI130919007	1000-10000 ug/mL, 12/18/13	MeOH	10/1/13 RJ	2 x 1mL
V677	8260 Special Addition	SPEX	VO-CTWI-5	CI130923019	1000-50000 ug/mL, 3/22/14	MeOH	10/1/13 RJ	2 x 1mL
V678	8260 Special Addition	SPEX	VO-CTWI-5	CI130923020	1000-50000 ug/mL, 3/22/14	MeOH	10/1/13 RJ	2 x 1mL
V679	124 TMB 2-methylpentane	SPEX	VI-CTWI-1	T131004003	1000 ug/mL 10/03/16	MeOH	10/08/13 BmS	1 mL
V680	4bromo-Trifluorotoluene	ULTRA	STS-23CN	CE-1903Z	2000 ug/mL 08/31/16	MeOH	10/08/13 BmS	4 x 1mL
V681	Methane, Ethene, Ethane Std.	AIRGAS	X04HE99C353880	54-1243927590-1	250 ppmV 10/2016	Helium	10/21/13 BmS	1 cylinder @ 31.6 CF

* = If multiple vials of the same lot number and expiration date are received the standard will be given one CTI Standard # and each vial will have a alpha designation asigned to it. (Example = Three vials of DRO standard solution, CTI001A-C)

1 = If multiple analytes and all of the concentrations vary, mark VARIES.

CTI VOLATILE STANDARDS LOGBOOK 1

CTI STANDARD NUMBER (EXAMPLE = CTIV001)	COMPOUND or SOLUTION NAME	COMPOUND / SOLUTION SUPPLIER	STANDARD'S PART NUMBER	STANDARD'S LOT #	STANDARD CONCENTRATION [1] and EXPIRATION DATE	NEAT (N) or SOLUTION (S) (If neat list % purity, if solution list solvent)	DATE REC'D and ANALYST'S INITIALS	COMMENTS
V609	Fluorobenzene	ULTRA	STS-160	CE-4128	2000 ug/mL 12/31/12	MeOH	09/19/11 BMS	4x1
V610	para-Trifluorotoluene	ULTRA	STS-220N	CE-1903A	2000 ug/mL 07/31/14	MeOH	09/19/11 BMS	4x1
V611	8260 SPK Add.	SPEX	VO-CTWI-5	C1110914008	1000-10,000 2000 ug/mL 3/12/12	meoH	9/21/11 MP6	2x1
V612	8260 SPK Add	SPEX	VO-CTWI-5	C1110914009	1000-10,000 2000 ug/mL 3/12/12	meoH	9/21/11 MP6	2x1
V613	Pvac/GRO Mix	RESTEK	30095	A078677	1000 ug/mL 3/17	MeOH	09/30/11 BMS	4x1
V614	Unleaded Gasoline	RESTEK	30205	A076842	50000 ug/mL 10/17	MeOH	09/30/11 BMS	2x1
V615	Surr. SPK Add	SPEX	VO-CTWI-5	C1.109140008	1000-10,000 2000 ug/mL 3/12/12	meoH	11/23/11 MP6	1x1
V616	8260 SPC Add	SPEX	VO-CTWI-5	C1111123007	1000-10,000 2000 ug/mL 5/21/12	meoH	12/6/11 MP6	2x1
V617	8260 SPK Add	SPEX	VO-CTWI-5	C1111129018	1000-10,000 2000 ug/mL 5/21/12	meoH	12/6/11 MP6	2x1
V618	Carbon Dioxide	Air Gas	X02L699C3[illegible]1854	Cylinder # XE0046953	10,000 ppmV 12/2014	1% CO2/He	RB 12/19/11	1 cylinder @ 28.7 CF
V619	Methane, Ethene, Ethane Std.	Airgas	XC4HE99C353080	Cylinder # 477A937	200 ppmV 12/2019	Helium	BMS 12/27/11	1 cylinder @ 316 CF
V620	8260 ISTD/SSTD MIX	ULTRA	STM-540	CH-2681	2500 ug/mL 9/30/14	meoH	MP6 1/9/12	4x1
V621	Methane, Ethene, Ethane Std.	PRAXAIR	HE ETAOOEMIC-AQ	917830501	200 ppm 01/11/13	Helium	BMS 01/31/12	Re-certified (V488)

[1] When the lot number and expiration date are received the standard will be given one CTI Standard # and each vial will have a alpha designation (i.e. 3 vials of DRO standard solution, CTI001A-C)
If the concentrations vary, mark VARIES.

METALS
CLP FORMS
DOCUMENTS

CT LABORATORIES
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1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	744978
Analytical Method:	EPA 6010C	Date Received:	07/14/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127901	Analysis Date/Time	07/19/2016 10:17
Analytical Prep Batch #:	58100	Prep. Date/Time:	07/18/2016 10:00
ICAL Calibration #:		Concentration Units:	ug/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7440-09-7	Total Potassium	4520		90	250	500	500
7440-23-5	Total Sodium	12900		100	300	600	600

CT LABORATORIES
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1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	744978
Analytical Method:	EPA 6010C	Date Received:	07/14/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127903	Analysis Date/Time	07/19/2016 10:27
Analytical Prep Batch #:	58100	Prep. Date/Time:	07/18/2016 10:00
ICAL Calibration #:		Concentration Units:	ug/L

CAS #	Analyte	Concentration	Qualifiers		DL	LOD	LOQ	RL
7429-90-5	Total Aluminum	18	U		6.0	18	36	36
7440-36-0	Total Antimony	6.0	U		2.0	6.0	12	12
7440-38-2	Total Arsenic	12	U		4.0	12	24	24
7440-39-3	Total Barium	71.5			0.29	0.90	1.8	1.8
7440-41-7	Total Beryllium	0.30	U		0.10	0.30	0.60	0.60
7440-43-9	Total Cadmium	1.0	U		0.30	1.0	2.0	2.0
7440-70-2	Total Calcium	67700		M	17	50	100	100
7440-47-3	Total Chromium	2.0	U		0.60	2.0	4.0	4.0
7440-48-4	Total Cobalt	2.0	U		0.70	2.0	4.0	4.0
7440-50-8	Total Copper	3.5	U		1.2	3.5	7.0	7.0
7439-89-6	Total Iron	61.7	J	B	16	50	100	100
7439-92-1	Total Lead	2.0	U		1.4	2.0	4.0	4.0
7439-95-4	Total Magnesium	36700		M	6.0	20	40	40
7439-96-5	Total Manganese	1.1	J		0.70	2.0	4.0	4.0
7440-02-0	Total Nickel	3.0	U		1.0	3.0	6.0	6.0
7782-49-2	Total Selenium	4.9	J		2.2	6.5	13	13
7440-22-4	Total Silver	0.82	J	B	0.70	2.0	4.0	4.0
7440-28-0	Total Thallium	7.5	U		2.5	7.5	15	15
7440-62-2	Total Vanadium	2.5	U		0.80	2.5	5.0	5.0
7440-66-6	Total Zinc	7.7	J		1.6	5.0	10	10

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	744978
Analytical Method:	EPA 7470A	Date Received:	07/14/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127945	Analysis Date/Time	07/20/2016 11:44
Analytical Prep Batch #:	58118	Prep. Date/Time:	07/19/2016 08:30
ICAL Calibration #:	07202016	Concentration Units:	ug/L

CAS #	Analyte	Concentration	Qualifiers		DL	LOD	LOQ	RL
7439-97-6	Total Mercury	0.076	J	M	0.030	0.060	0.12	0.12

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	745779
Analytical Method:	EPA 6010C	Date Received:	07/15/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127901	Analysis Date/Time	07/19/2016 10:20
Analytical Prep Batch #:	58100	Prep. Date/Time:	07/18/2016 10:00
ICAL Calibration #:		Concentration Units:	ug/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7440-09-7	Total Potassium	810		90	250	500	500
7440-23-5	Total Sodium	3710		100	300	600	600

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	745779
Analytical Method:	EPA 6010C	Date Received:	07/15/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127903	Analysis Date/Time	07/19/2016 10:41
Analytical Prep Batch #:	58100	Prep. Date/Time:	07/18/2016 10:00
ICAL Calibration #:		Concentration Units:	ug/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7429-90-5	Total Aluminum	156		6.0	18	36	36
7440-36-0	Total Antimony	6.0	U	2.0	6.0	12	12
7440-38-2	Total Arsenic	12	U	4.0	12	24	24
7440-39-3	Total Barium	105		0.29	0.90	1.8	1.8
7440-41-7	Total Beryllium	0.30	U	0.10	0.30	0.60	0.60
7440-43-9	Total Cadmium	1.0	U	0.30	1.0	2.0	2.0
7440-70-2	Total Calcium	77300		17	50	100	100
7440-47-3	Total Chromium	8.1		0.60	2.0	4.0	4.0
7440-48-4	Total Cobalt	2.0	U	0.70	2.0	4.0	4.0
7440-50-8	Total Copper	3.5	U	1.2	3.5	7.0	7.0
7439-89-6	Total Iron	299		16	50	100	100
7439-92-1	Total Lead	2.0	U	1.4	2.0	4.0	4.0
7439-95-4	Total Magnesium	26200		6.0	20	40	40
7439-96-5	Total Manganese	35.0		0.70	2.0	4.0	4.0
7440-02-0	Total Nickel	1.0	J	1.0	3.0	6.0	6.0
7782-49-2	Total Selenium	4.4	J	2.2	6.5	13	13
7440-22-4	Total Silver	2.0	U	0.70	2.0	4.0	4.0
7440-28-0	Total Thallium	7.5	U	2.5	7.5	15	15
7440-62-2	Total Vanadium	1.3	J	0.80	2.5	5.0	5.0
7440-66-6	Total Zinc	8.2	J	1.6	5.0	10	10

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1

INORGANIC ANALYSIS DATA SHEET

Sample Description

54ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	745779
Analytical Method:	EPA 7470A	Date Received:	07/15/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127945	Analysis Date/Time	07/20/2016 11:48
Analytical Prep Batch #:	58118	Prep. Date/Time:	07/19/2016 08:30
ICAL Calibration #:	07202016	Concentration Units:	ug/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7439-97-6	Total Mercury	0.060	U	0.030	0.060	0.12	0.12

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Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127945 Lab Sample ID: 747485

ICAL Calibration #: 07202016 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Mercury	7/20/16 11:03	3.00	3.05	102	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127901 Lab Sample ID: 746913

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	7/19/16	08:42	100000	103000	103	90	110
Sodium	7/19/16	08:42	100000	99700	100	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

LLQC

2A-1

LOWER LIMIT OF QUANTITATION CHECK (LLQC)

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127901

Lab Sample ID: 746914

ICAL Calibration #:

Concentration Units:

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	7/19/16	08:45	3000	3170	106	80	120
Sodium	7/19/16	08:45	3000	3070	102	80	120

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127903 Lab Sample ID: 747127

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	7/19/16	09:02	12000	11800	98	90	110
Antimony	7/19/16	09:02	500.0	512.0	102	90	110
Arsenic	7/19/16	09:02	2000	2080	104	90	110
Barium	7/19/16	09:02	2000	1970	98	90	110
Beryllium	7/19/16	09:02	50.00	46.70	93	90	110
Cadmium	7/19/16	09:02	50.00	47.10	94	90	110
Calcium	7/19/16	09:02	10000	9490	95	90	110
Chromium	7/19/16	09:02	200.0	191.0	96	90	110
Cobalt	7/19/16	09:02	500.0	518.0	104	90	110
Copper	7/19/16	09:02	250.0	249.0	100	90	110
Iron	7/19/16	09:02	5000	5050	101	90	110
Lead	7/19/16	09:02	500.0	491.0	98	90	110
Magnesium	7/19/16	09:02	10000	9930	99	90	110
Manganese	7/19/16	09:02	500.0	486.0	97	90	110
Nickel	7/19/16	09:02	500.0	473.0	95	90	110
Selenium	7/19/16	09:02	2000	2110	106	90	110
Silver	7/19/16	09:02	50.00	49.20	98	90	110
Thallium	7/19/16	09:02	2000	2090	104	90	110
Vanadium	7/19/16	09:02	500.0	483.0	97	90	110
Zinc	7/19/16	09:02	500.0	477.0	95	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

LLQC

2A-1

LOWER LIMIT OF QUANTITATION CHECK (LLQC)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127903 Lab Sample ID: 747128

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	7/19/16	09:08	1200	1260	105	80	120
Antimony	7/19/16	09:08	60.00	66.00	110	80	120
Arsenic	7/19/16	09:08	60.00	67.70	113	80	120
Barium	7/19/16	09:08	30.00	30.90	103	80	120
Beryllium	7/19/16	09:08	12.00	12.30	102	80	120
Cadmium	7/19/16	09:08	15.00	15.50	103	80	120
Calcium	7/19/16	09:08	1500	1600	107	80	120
Chromium	7/19/16	09:08	30.00	31.70	106	80	120
Cobalt	7/19/16	09:08	30.00	31.80	106	80	120
Copper	7/19/16	09:08	30.00	32.00	107	80	120
Iron	7/19/16	09:08	900.0	987.0	110	80	120
Lead	7/19/16	09:08	30.00	28.60	95	80	120
Magnesium	7/19/16	09:08	1500	1660	111	80	120
Manganese	7/19/16	09:08	30.00	32.20	107	80	120
Nickel	7/19/16	09:08	30.00	29.80	99	80	120
Selenium	7/19/16	09:08	60.00	71.50	119	80	120
Silver	7/19/16	09:08	60.00	54.30	90	80	120
Thallium	7/19/16	09:08	60.00	65.20	109	80	120
Vanadium	7/19/16	09:08	30.00	30.50	102	80	120
Zinc	7/19/16	09:08	30.00	31.90	106	80	120

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

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Sample No.

LLQC

2A-1

LOWER LIMIT OF QUANTITATION CHECK (LLQC)

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127903

Lab Sample ID: 747133

ICAL Calibration #:

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Silver	7/19/16	09:48	10.00	10.50	105	80	120

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127903 Lab Sample ID: 747822

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	7/20/16	10:42	12000	12100	101	90	110
Antimony	7/20/16	10:42	500.0	522.0	104	90	110
Arsenic	7/20/16	10:42	2000	2100	105	90	110
Barium	7/20/16	10:42	2000	2010	100	90	110
Beryllium	7/20/16	10:42	50.00	48.90	98	90	110
Cadmium	7/20/16	10:42	50.00	48.00	96	90	110
Calcium	7/20/16	10:42	10000	9960	100	90	110
Chromium	7/20/16	10:42	200.0	201.0	100	90	110
Cobalt	7/20/16	10:42	500.0	527.0	105	90	110
Copper	7/20/16	10:42	250.0	253.0	101	90	110
Iron	7/20/16	10:42	5000	5390	108	90	110
Lead	7/20/16	10:42	500.0	507.0	101	90	110
Magnesium	7/20/16	10:42	10000	10300	103	90	110
Manganese	7/20/16	10:42	500.0	511.0	102	90	110
Nickel	7/20/16	10:42	500.0	473.0	95	90	110
Selenium	7/20/16	10:42	2000	2060	103	90	110
Silver	7/20/16	10:42	50.00	47.90	96	90	110
Thallium	7/20/16	10:42	2000	2120	106	90	110
Vanadium	7/20/16	10:42	500.0	484.0	97	90	110
Zinc	7/20/16	10:42	500.0	471.0	94	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

LLQC

2A-1

LOWER LIMIT OF QUANTITATION CHECK (LLQC)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127903 Lab Sample ID: 747823

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	7/20/16	10:48	1200	1300	108	80	120
Antimony	7/20/16	10:48	60.00	66.70	111	80	120
Arsenic	7/20/16	10:48	60.00	65.60	109	80	120
Barium	7/20/16	10:48	30.00	30.90	103	80	120
Beryllium	7/20/16	10:48	12.00	12.10	101	80	120
Cadmium	7/20/16	10:48	15.00	15.90	106	80	120
Calcium	7/20/16	10:48	1500	1680	112	80	120
Chromium	7/20/16	10:48	30.00	34.00	113	80	120
Cobalt	7/20/16	10:48	30.00	32.50	108	80	120
Copper	7/20/16	10:48	30.00	32.20	107	80	120
Iron	7/20/16	10:48	900.0	1070	119	80	120
Lead	7/20/16	10:48	30.00	32.50	108	80	120
Magnesium	7/20/16	10:48	1500	1750	117	80	120
Manganese	7/20/16	10:48	30.00	32.40	108	80	120
Nickel	7/20/16	10:48	30.00	29.60	99	80	120
Selenium	7/20/16	10:48	60.00	70.10	117	80	120
Silver	7/20/16	10:48	60.00	53.00	88	80	120
Thallium	7/20/16	10:48	60.00	66.40	111	80	120
Vanadium	7/20/16	10:48	30.00	29.90	100	80	120
Zinc	7/20/16	10:48	30.00	31.90	106	80	120

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

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Sample No.

LLQC

2A-1

LOWER LIMIT OF QUANTITATION CHECK (LLQC)

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127903

Lab Sample ID: 747831

ICAL Calibration #:

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Silver	7/20/16	11:28	10.00	10.20	102	80	120

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127901 Lab Sample ID: 746919

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	7/19/16	10:00	100000	100000	100	90	110
Sodium	7/19/16	10:00	100000	99300	99	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127901 Lab Sample ID: 746922

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	7/19/16	10:34	100000	99500	100	90	110
Sodium	7/19/16	10:34	100000	98000	98	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

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Sample No.

CCV High Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127903 Lab Sample ID: 747135

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	7/19/16	10:54	5000	4960	99	90	110
Antimony	7/19/16	10:54	5000	5150	103	90	110
Arsenic	7/19/16	10:54	5000	5140	103	90	110
Barium	7/19/16	10:54	5000	4890	98	90	110
Beryllium	7/19/16	10:54	500.0	516.0	103	90	110
Cadmium	7/19/16	10:54	500.0	479.0	96	90	110
Calcium	7/19/16	10:54	5000	4680	94	90	110
Chromium	7/19/16	10:54	5000	4850	97	90	110
Cobalt	7/19/16	10:54	5000	4810	96	90	110
Copper	7/19/16	10:54	5000	4890	98	90	110
Iron	7/19/16	10:54	5000	5040	101	90	110
Lead	7/19/16	10:54	5000	4970	99	90	110
Magnesium	7/19/16	10:54	5000	4940	99	90	110
Manganese	7/19/16	10:54	5000	4750	95	90	110
Nickel	7/19/16	10:54	5000	4790	96	90	110
Selenium	7/19/16	10:54	5000	5190	104	90	110
Silver	7/19/16	10:54	500.0	507.0	101	90	110
Thallium	7/19/16	10:54	5000	5160	103	90	110
Vanadium	7/19/16	10:54	5000	4740	95	90	110
Zinc	7/19/16	10:54	5000	4750	95	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

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Sample No.

CCV Low Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127903 Lab Sample ID: 747136

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	7/19/16	11:00	500.0	501.0	100	90	110
Antimony	7/19/16	11:00	500.0	510.0	102	90	110
Arsenic	7/19/16	11:00	500.0	522.0	104	90	110
Barium	7/19/16	11:00	500.0	489.0	98	90	110
Beryllium	7/19/16	11:00	50.00	49.50	99	90	110
Cadmium	7/19/16	11:00	50.00	50.60	101	90	110
Calcium	7/19/16	11:00	500.0	499.0	100	90	110
Chromium	7/19/16	11:00	500.0	486.0	97	90	110
Cobalt	7/19/16	11:00	500.0	531.0	106	90	110
Copper	7/19/16	11:00	500.0	512.0	102	90	110
Iron	7/19/16	11:00	500.0	517.0	103	90	110
Lead	7/19/16	11:00	500.0	500.0	100	90	110
Magnesium	7/19/16	11:00	500.0	521.0	104	90	110
Manganese	7/19/16	11:00	500.0	489.0	98	90	110
Nickel	7/19/16	11:00	500.0	481.0	96	90	110
Selenium	7/19/16	11:00	500.0	540.0	108	90	110
Silver	7/19/16	11:00	50.00	54.20	108	90	110
Thallium	7/19/16	11:00	500.0	538.0	108	90	110
Vanadium	7/19/16	11:00	500.0	480.0	96	90	110
Zinc	7/19/16	11:00	500.0	477.0	95	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV High Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127903 Lab Sample ID: 747139

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	7/19/16	12:18	5000	4880	98	90	110
Antimony	7/19/16	12:18	5000	5030	101	90	110
Arsenic	7/19/16	12:18	5000	5080	102	90	110
Barium	7/19/16	12:18	5000	4720	94	90	110
Beryllium	7/19/16	12:18	500.0	501.0	100	90	110
Cadmium	7/19/16	12:18	500.0	470.0	94	90	110
Calcium	7/19/16	12:18	5000	4640	93	90	110
Chromium	7/19/16	12:18	5000	4730	95	90	110
Cobalt	7/19/16	12:18	5000	4720	94	90	110
Copper	7/19/16	12:18	5000	4710	94	90	110
Iron	7/19/16	12:18	5000	5010	100	90	110
Lead	7/19/16	12:18	5000	4830	97	90	110
Magnesium	7/19/16	12:18	5000	4910	98	90	110
Manganese	7/19/16	12:18	5000	4650	93	90	110
Nickel	7/19/16	12:18	5000	4730	95	90	110
Selenium	7/19/16	12:18	5000	5100	102	90	110
Silver	7/19/16	12:18	500.0	504.0	101	90	110
Thallium	7/19/16	12:18	5000	5050	101	90	110
Vanadium	7/19/16	12:18	5000	4650	93	90	110
Zinc	7/19/16	12:18	5000	4800	96	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV Low Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127903 Lab Sample ID: 747140

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	7/19/16	12:24	500.0	495.0	99	90	110
Antimony	7/19/16	12:24	500.0	496.0	99	90	110
Arsenic	7/19/16	12:24	500.0	506.0	101	90	110
Barium	7/19/16	12:24	500.0	477.0	95	90	110
Beryllium	7/19/16	12:24	50.00	48.70	97	90	110
Cadmium	7/19/16	12:24	50.00	49.40	99	90	110
Calcium	7/19/16	12:24	500.0	473.0	95	90	110
Chromium	7/19/16	12:24	500.0	479.0	96	90	110
Cobalt	7/19/16	12:24	500.0	521.0	104	90	110
Copper	7/19/16	12:24	500.0	500.0	100	90	110
Iron	7/19/16	12:24	500.0	513.0	103	90	110
Lead	7/19/16	12:24	500.0	487.0	97	90	110
Magnesium	7/19/16	12:24	500.0	514.0	103	90	110
Manganese	7/19/16	12:24	500.0	482.0	96	90	110
Nickel	7/19/16	12:24	500.0	473.0	95	90	110
Selenium	7/19/16	12:24	500.0	533.0	107	90	110
Silver	7/19/16	12:24	50.00	53.10	106	90	110
Thallium	7/19/16	12:24	500.0	524.0	105	90	110
Vanadium	7/19/16	12:24	500.0	469.0	94	90	110
Zinc	7/19/16	12:24	500.0	469.0	94	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127945 Lab Sample ID: 747487

ICAL Calibration #: 07202016 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Mercury	7/20/16 11:33	3.00	3.05	102	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127945 Lab Sample ID: 747489

ICAL Calibration #: 07202016 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Mercury	7/20/16 11:59	3.00	3.03	101	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127945 Lab Sample ID: 747493

ICAL Calibration #: 07202016 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Mercury	7/20/16 12:52	3.00	2.70	90	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127945 Lab Sample ID: 747495

ICAL Calibration #: 07202016 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Mercury	7/20/16 13:08	3.00	2.98	99	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV High Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127903 Lab Sample ID: 747835

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	7/20/16	16:40	5000	4870	97	90	110
Antimony	7/20/16	16:40	5000	5060	101	90	110
Arsenic	7/20/16	16:40	5000	5030	101	90	110
Barium	7/20/16	16:40	5000	4970	99	90	110
Beryllium	7/20/16	16:40	500.0	452.0	90	90	110
Cadmium	7/20/16	16:40	500.0	478.0	96	90	110
Calcium	7/20/16	16:40	5000	4580	92	90	110
Chromium	7/20/16	16:40	5000	4990	100	90	110
Cobalt	7/20/16	16:40	5000	4700	94	90	110
Copper	7/20/16	16:40	5000	4900	98	90	110
Iron	7/20/16	16:40	5000	4990	100	90	110
Lead	7/20/16	16:40	5000	4990	100	90	110
Magnesium	7/20/16	16:40	5000	4860	97	90	110
Manganese	7/20/16	16:40	5000	4830	97	90	110
Nickel	7/20/16	16:40	5000	4620	92	90	110
Selenium	7/20/16	16:40	5000	5080	102	90	110
Silver	7/20/16	16:40	500.0	476.0	95	90	110
Thallium	7/20/16	16:40	5000	5090	102	90	110
Vanadium	7/20/16	16:40	5000	4680	94	90	110
Zinc	7/20/16	16:40	5000	4600	92	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

CCV Low Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127903 Lab Sample ID: 747836

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	7/20/16	16:46	500.0	499.0	100	90	110
Antimony	7/20/16	16:46	500.0	505.0	101	90	110
Arsenic	7/20/16	16:46	500.0	507.0	101	90	110
Barium	7/20/16	16:46	500.0	496.0	99	90	110
Beryllium	7/20/16	16:46	50.00	46.80	94	90	110
Cadmium	7/20/16	16:46	50.00	50.40	101	90	110
Calcium	7/20/16	16:46	500.0	519.0	104	90	110
Chromium	7/20/16	16:46	500.0	492.0	98	90	110
Cobalt	7/20/16	16:46	500.0	464.0	93	90	110
Copper	7/20/16	16:46	500.0	500.0	100	90	110
Iron	7/20/16	16:46	500.0	521.0	104	90	110
Lead	7/20/16	16:46	500.0	499.0	100	90	110
Magnesium	7/20/16	16:46	500.0	524.0	105	90	110
Manganese	7/20/16	16:46	500.0	502.0	100	90	110
Nickel	7/20/16	16:46	500.0	462.0	92	90	110
Selenium	7/20/16	16:46	500.0	501.0	100	90	110
Silver	7/20/16	16:46	50.00	51.00	102	90	110
Thallium	7/20/16	16:46	500.0	527.0	105	90	110
Vanadium	7/20/16	16:46	500.0	462.0	92	90	110
Zinc	7/20/16	16:46	500.0	455.0	91	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
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Sample No.

CCV High Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127903 Lab Sample ID: 747838

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	7/20/16	17:32	5000	4950	99	90	110
Antimony	7/20/16	17:32	5000	5100	102	90	110
Arsenic	7/20/16	17:32	5000	5060	101	90	110
Barium	7/20/16	17:32	5000	4920	98	90	110
Beryllium	7/20/16	17:32	500.0	450.0	90	90	110
Cadmium	7/20/16	17:32	500.0	482.0	96	90	110
Calcium	7/20/16	17:32	5000	4650	93	90	110
Chromium	7/20/16	17:32	5000	5000	100	90	110
Cobalt	7/20/16	17:32	5000	4650	93	90	110
Copper	7/20/16	17:32	5000	4840	97	90	110
Iron	7/20/16	17:32	5000	5140	103	90	110
Lead	7/20/16	17:32	5000	5020	100	90	110
Magnesium	7/20/16	17:32	5000	4880	98	90	110
Manganese	7/20/16	17:32	5000	4880	98	90	110
Nickel	7/20/16	17:32	5000	4600	92	90	110
Selenium	7/20/16	17:32	5000	5100	102	90	110
Silver	7/20/16	17:32	500.0	474.0	95	90	110
Thallium	7/20/16	17:32	5000	5120	102	90	110
Vanadium	7/20/16	17:32	5000	4610	92	90	110
Zinc	7/20/16	17:32	5000	4570	91	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV Low Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127903 Lab Sample ID: 747839

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	7/20/16	17:38	500.0	494.0	99	90	110
Antimony	7/20/16	17:38	500.0	506.0	101	90	110
Arsenic	7/20/16	17:38	500.0	509.0	102	90	110
Barium	7/20/16	17:38	500.0	496.0	99	90	110
Beryllium	7/20/16	17:38	50.00	46.80	94	90	110
Cadmium	7/20/16	17:38	50.00	50.70	101	90	110
Calcium	7/20/16	17:38	500.0	523.0	105	90	110
Chromium	7/20/16	17:38	500.0	496.0	99	90	110
Cobalt	7/20/16	17:38	500.0	463.0	93	90	110
Copper	7/20/16	17:38	500.0	492.0	98	90	110
Iron	7/20/16	17:38	500.0	536.0	107	90	110
Lead	7/20/16	17:38	500.0	502.0	100	90	110
Magnesium	7/20/16	17:38	500.0	529.0	106	90	110
Manganese	7/20/16	17:38	500.0	503.0	101	90	110
Nickel	7/20/16	17:38	500.0	462.0	92	90	110
Selenium	7/20/16	17:38	500.0	509.0	102	90	110
Silver	7/20/16	17:38	50.00	50.90	102	90	110
Thallium	7/20/16	17:38	500.0	529.0	106	90	110
Vanadium	7/20/16	17:38	500.0	461.0	92	90	110
Zinc	7/20/16	17:38	500.0	455.0	91	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

MRL

2B

MRL STANDARD CHECK

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127901 Lab Sample ID: 746916

ICAL Calibration #: Concentration Units:

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	7/19/16	08:50	1000	929.0	93	70	130
Sodium	7/19/16	08:50	1000	983.0	98	70	130

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127945 Lab Sample ID: 747486

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: 07202016 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Mercury	07/20/2016 11:05	0	U	0.03	0.06

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127901 Lab Sample ID: 746915

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Potassium	07/19/2016 08:47	10.00	U	90	250
Sodium	07/19/2016 08:47	33.00	U	100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

3-1

ICB

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127903 Lab Sample ID: 747129

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Aluminum	07/19/2016 09:21	3.30	U	6	18
Antimony	07/19/2016 09:21	-0.271	U	2.0	6.0
Arsenic	07/19/2016 09:21	0.468	U	4	12
Beryllium	07/19/2016 09:21	0.0930	U	0.10	0.30
Cadmium	07/19/2016 09:21	0.0840	U	0.3	1.0
Calcium	07/19/2016 09:21	-8.40	U	17	50
Chromium	07/19/2016 09:21	0.178	U	0.6	2.0
Cobalt	07/19/2016 09:21	0.167	U	0.7	2.0
Copper	07/19/2016 09:21	0.123	U	1.2	3.5
Iron	07/19/2016 09:21	0.714	U	16	50
Lead	07/19/2016 09:21	-2.23	U	1.4	2.0
Magnesium	07/19/2016 09:21	-1.56	U	6	20
Manganese	07/19/2016 09:21	-0.0250	U	0.7	2.0
Nickel	07/19/2016 09:21	0.563	U	1.0	3.0
Selenium	07/19/2016 09:21	0.0300	U	2.2	6.5
Silver	07/19/2016 09:21	0.463	U	0.7	2.0
Thallium	07/19/2016 09:21	0.326	U	2.5	7.5
Vanadium	07/19/2016 09:21	-0.289	U	0.8	2.5
Zinc	07/19/2016 09:21	-0.0440	U	1.6	4.0

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127903 Lab Sample ID: 747828

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Aluminum	07/20/2016 11:01	-2.60	U	6	18
Antimony	07/20/2016 11:01	-0.258	U	2.0	6.0
Arsenic	07/20/2016 11:01	2.42	U	4	12
Barium	07/20/2016 11:01	0.0360	U	0.29	0.90
Beryllium	07/20/2016 11:01	0.0540	U	0.10	0.30
Cadmium	07/20/2016 11:01	-0.172	U	0.3	1.0
Calcium	07/20/2016 11:01	-8.52	U	17	50
Chromium	07/20/2016 11:01	0.115	U	0.6	2.0
Cobalt	07/20/2016 11:01	0.323	U	0.7	2.0
Copper	07/20/2016 11:01	-1.07	U	1.2	3.5
Iron	07/20/2016 11:01	3.66	U	16	50
Lead	07/20/2016 11:01	-4.52	U	1.4	2.0
Magnesium	07/20/2016 11:01	-0.787	U	6	20
Manganese	07/20/2016 11:01	-0.193	U	0.7	2.0
Nickel	07/20/2016 11:01	0.121	U	1.0	3.0
Selenium	07/20/2016 11:01	-3.01	U	2.2	6.5
Silver	07/20/2016 11:01	0.630	U	0.7	2.0
Thallium	07/20/2016 11:01	-0.475	U	2.5	7.5
Vanadium	07/20/2016 11:01	0.0410	U	0.8	2.5
Zinc	07/20/2016 11:01	-0.00100	U	1.6	4.0

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127945 Lab Sample ID: 747488

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: 07202016 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Mercury	07/20/2016 11:35	0	U	0.03	0.06

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127945 Lab Sample ID: 747490

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: 07202016 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Mercury	07/20/2016 12:01	0	U	0.03	0.06

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127945 Lab Sample ID: 747494

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: 07202016 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Mercury	07/20/2016 12:54	0	U	0.03	0.06

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127945 Lab Sample ID: 747496

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: 07202016 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Mercury	07/20/2016 13:11	0	U	0.03	0.06

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127901 Lab Sample ID: 746920

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Potassium	07/19/2016 10:03	60.00	U	90	250
Sodium	07/19/2016 10:03	63.00	U	100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127901 Lab Sample ID: 746923

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Potassium	07/19/2016 10:36	16.00	U	90	250
Sodium	07/19/2016 10:36	67.00	U	100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127903 Lab Sample ID: 747137

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Aluminum	07/19/2016 11:06	-5.27	U	6	18
Antimony	07/19/2016 11:06	-0.143	U	2.0	6.0
Arsenic	07/19/2016 11:06	1.46	U	4	12
Barium	07/19/2016 11:06	-0.0640	U	0.29	0.90
Beryllium	07/19/2016 11:06	0.0770	U	0.10	0.30
Cadmium	07/19/2016 11:06	0.0420	U	0.3	1.0
Calcium	07/19/2016 11:06	-12.8	U	17	50
Chromium	07/19/2016 11:06	-0.418	U	0.6	2.0
Cobalt	07/19/2016 11:06	-0.230	U	0.7	2.0
Copper	07/19/2016 11:06	-0.490	U	1.2	3.5
Iron	07/19/2016 11:06	-0.864	U	16	50
Lead	07/19/2016 11:06	-3.60	U	1.4	2.0
Magnesium	07/19/2016 11:06	-4.79	U	6	20
Manganese	07/19/2016 11:06	-0.466	U	0.7	2.0
Nickel	07/19/2016 11:06	-0.297	U	1.0	3.0
Selenium	07/19/2016 11:06	0.940	U	2.2	6.5
Silver	07/19/2016 11:06	0.625	U	0.7	2.0
Thallium	07/19/2016 11:06	0.0760	U	2.5	7.5
Vanadium	07/19/2016 11:06	-0.268	U	0.8	2.5
Zinc	07/19/2016 11:06	-0.908	U	1.6	5.0

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127903 Lab Sample ID: 747141

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Aluminum	07/19/2016 12:30	-8.19	U	6	18
Antimony	07/19/2016 12:30	-0.146	U	2.0	6.0
Arsenic	07/19/2016 12:30	0.106	U	4	12
Barium	07/19/2016 12:30	-0.0290	U	0.29	0.90
Beryllium	07/19/2016 12:30	0.0950	U	0.10	0.30
Cadmium	07/19/2016 12:30	-0.0110	U	0.3	1.0
Calcium	07/19/2016 12:30	-12.9	U	17	50
Chromium	07/19/2016 12:30	-0.592	U	0.6	2.0
Cobalt	07/19/2016 12:30	-0.321	U	0.7	2.0
Copper	07/19/2016 12:30	-0.328	U	1.2	3.5
Iron	07/19/2016 12:30	-3.25	U	16	50
Lead	07/19/2016 12:30	-3.03	U	1.4	2.0
Magnesium	07/19/2016 12:30	-4.50	U	6	20
Manganese	07/19/2016 12:30	-0.554	U	0.7	2.0
Nickel	07/19/2016 12:30	-0.335	U	1.0	3.0
Selenium	07/19/2016 12:30	1.36	U	2.2	6.5
Silver	07/19/2016 12:30	0.599	U	0.7	2.0
Thallium	07/19/2016 12:30	1.22	U	2.5	7.5
Vanadium	07/19/2016 12:30	-0.123	U	0.8	2.5
Zinc	07/19/2016 12:30	-1.04	U	1.6	5.0

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127903 Lab Sample ID: 747837

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Aluminum	07/20/2016 16:52	-16.5	U	6	18
Antimony	07/20/2016 16:52	1.18	U	2.0	6.0
Arsenic	07/20/2016 16:52	1.87	U	4	12
Barium	07/20/2016 16:52	0.0900	U	0.29	0.90
Beryllium	07/20/2016 16:52	0.0360	U	0.10	0.30
Cadmium	07/20/2016 16:52	-0.0840	U	0.3	1.0
Calcium	07/20/2016 16:52	-11.6	U	17	50
Chromium	07/20/2016 16:52	-0.273	U	0.6	2.0
Cobalt	07/20/2016 16:52	0.0750	U	0.7	2.0
Copper	07/20/2016 16:52	-1.05	U	1.2	3.5
Iron	07/20/2016 16:52	-3.89	U	16	50
Lead	07/20/2016 16:52	-1.45	U	1.4	2.0
Magnesium	07/20/2016 16:52	-5.51	U	6	20
Manganese	07/20/2016 16:52	-0.476	U	0.7	2.0
Nickel	07/20/2016 16:52	-0.594	U	1.0	3.0
Selenium	07/20/2016 16:52	-2.92	U	2.2	6.5
Silver	07/20/2016 16:52	0.635	U	0.7	2.0
Thallium	07/20/2016 16:52	0.299	U	2.5	7.5
Vanadium	07/20/2016 16:52	-0.460	U	0.8	2.5
Zinc	07/20/2016 16:52	-0.280	U	1.6	5.0

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: Lab Sample ID: 747840

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Aluminum	07/20/2016 17:44	-14.2	U	6	18
Antimony	07/20/2016 17:44	1.66	U	2.0	6.0
Arsenic	07/20/2016 17:44	-0.200	U	4	12
Barium	07/20/2016 17:44	-0.204	U	0.29	0.90
Beryllium	07/20/2016 17:44	0.0680	U	0.10	0.30
Cadmium	07/20/2016 17:44	-0.0360	U	0.3	1.0
Calcium	07/20/2016 17:44	-11.5	U	17	50
Chromium	07/20/2016 17:44	-0.192	U	0.6	2.0
Cobalt	07/20/2016 17:44	0.0220	U	0.7	2.0
Copper	07/20/2016 17:44	-0.519	U	1.2	3.5
Iron	07/20/2016 17:44	-0.588	U	16	50
Lead	07/20/2016 17:44	-3.62	U	1.4	2.0
Magnesium	07/20/2016 17:44	-5.39	U	6	20
Manganese	07/20/2016 17:44	-0.376	U	0.7	2.0
Nickel	07/20/2016 17:44	-0.263	U	1.0	3.0
Silver	07/20/2016 17:44	0.410	U	0.7	2.0
Thallium	07/20/2016 17:44	-0.489	U	2.5	7.5
Vanadium	07/20/2016 17:44	-0.305	U	0.8	2.5
Zinc	07/20/2016 17:44	-0.361	U	1.6	5.0

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

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Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127945 Lab Sample ID: 746554

Analytical Prep Batch # 58118 Preparation Date/Time: 07/19/2016 08:30

ICAL Calibration #: 07202016 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Mercury	07/20/2016 11:42	0	U	0.03	0.06

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127901 Lab Sample ID: 746145

Analytical Prep Batch # 58100 Preparation Date/Time: 07/18/2016 10:00

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Potassium	07/19/2016 10:14	-2.00	U	90	250
Total Sodium	07/19/2016 10:14	15.00	U	100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127901 Lab Sample ID: 746145

Analytical Prep Batch # 58100 Preparation Date/Time: 07/18/2016 10:00

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Potassium	07/19/2016 10:14	-2.00	U	90	250
Total Sodium	07/19/2016 10:14	15.00	U	100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

3-3

MB

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127903 Lab Sample ID: 746145

Analytical Prep Batch # 58100 Preparation Date/Time: 07/18/2016 10:00

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Aluminum	07/19/2016 10:21	-6.17	U	6	18
Total Antimony	07/19/2016 10:21	0.431	U	2.0	6.0
Total Arsenic	07/19/2016 10:21	1.14	U	4	12
Total Barium	07/19/2016 10:21	-0.150	U	0.29	0.90
Total Beryllium	07/19/2016 10:21	0.0470	U	0.10	0.30
Total Cadmium	07/19/2016 10:21	0.00100	U	0.3	1.0
Total Chromium	07/19/2016 10:21	-0.368	U	0.6	2.0
Total Cobalt	07/19/2016 10:21	-0.188	U	0.7	2.0
Total Copper	07/19/2016 10:21	-0.955	U	1.2	3.5
Total Lead	07/19/2016 10:21	-4.71	U	1.4	2.0
Total Magnesium	07/19/2016 10:21	-3.09	U	6	20
Total Manganese	07/19/2016 10:21	-0.426	U	0.7	2.0
Total Nickel	07/19/2016 10:21	-0.158	U	1.0	3.0
Total Selenium	07/19/2016 10:21	1.46	U	2.2	6.5
Total Thallium	07/19/2016 10:21	-0.734	U	2.5	7.5
Total Vanadium	07/19/2016 10:21	-0.0510	U	0.8	2.5
Total Zinc	07/19/2016 10:21	-0.254	U	1.6	5.0

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

4-1

ICP INTERFERENCE CHECK SAMPLE (SOL. A)

ICSA

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
ICP ID Number: TJA 6000
SDG No.: 120379
ICS Source: SPEX

Analytical Run #: 127901
Lab Sample ID: 746917
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	07/19/2016 08:53	500000	506000	101	80	120
Calcium	07/19/2016 08:53	500000	501000	100	80	120
Iron	07/19/2016 08:53	500000	499000	100	80	120
Magnesium	07/19/2016 08:53	500000	513000	103	80	120
Potassium	07/19/2016 08:53	0	-77.0		-170	170
Sodium	07/19/2016 08:53	0	-6.00		-140	140

CT LABORATORIES
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Sample No:

4-1

ICP INTERFERENCE CHECK SAMPLE (SOL. A)

ICSA

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
ICP ID Number: TJA 6000
SDG No.: 120379
ICS Source: SPEX

Analytical Run #: 127903
Lab Sample ID: 747130
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	07/19/2016 09:34	500000	503000	101	80	120
Antimony	07/19/2016 09:34	0	-0.0110		-5	5
Arsenic	07/19/2016 09:34	0	0.839		-6	6
Barium	07/19/2016 09:34	0	-0.0150		-0.7	0.7
Beryllium	07/19/2016 09:34	0	0.0410		-0.29	0.29
Cadmium	07/19/2016 09:34	0	0.00200		-0.26	0.26
Calcium	07/19/2016 09:34	500000	457000	91	80	120
Chromium	07/19/2016 09:34	0	0.0720		-1.9	1.9
Cobalt	07/19/2016 09:34	0	-0.181		-1.2	1.2
Copper	07/19/2016 09:34	0	-0.0360		-4	4
Iron	07/19/2016 09:34	500000	441000	88	80	120
Lead	07/19/2016 09:34	0	-0.0210		-1.5	1.5
Magnesium	07/19/2016 09:34	500000	476000	95	80	120
Manganese	07/19/2016 09:34	0	0.0630		-1.6	1.6
Nickel	07/19/2016 09:34	0	-0.00100		-2.3	2.3
Selenium	07/19/2016 09:34	0	0.00200		-12	12
Silver	07/19/2016 09:34	0	0		-2.0	2.0
Thallium	07/19/2016 09:34	0	0.529		-5	5
Vanadium	07/19/2016 09:34	0	0.00300		-1.7	1.7
Zinc	07/19/2016 09:34	0	-0.0290		-2.4	2.4

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

4-1

ICP INTERFERENCE CHECK SAMPLE (SOL. A)

ICSA

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
ICP ID Number: TJA 6000
SDG No.: 120379
ICS Source: SPEX

Analytical Run #: 127903
Lab Sample ID: 747829
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	07/20/2016 11:14	500000	514000	103	80	120
Antimony	07/20/2016 11:14	0	-0.0140		-5	5
Arsenic	07/20/2016 11:14	0	-0.0280		-6	6
Barium	07/20/2016 11:14	0	0		-0.7	0.7
Beryllium	07/20/2016 11:14	0	0.0370		-0.29	0.29
Cadmium	07/20/2016 11:14	0	-0.00300		-0.26	0.26
Calcium	07/20/2016 11:14	500000	490000	98	80	120
Chromium	07/20/2016 11:14	0	0.180		-1.9	1.9
Cobalt	07/20/2016 11:14	0	-0.812		-1.2	1.2
Copper	07/20/2016 11:14	0	-0.0240		-4	4
Iron	07/20/2016 11:14	500000	457000	91	80	120
Lead	07/20/2016 11:14	0	0		-1.5	1.5
Magnesium	07/20/2016 11:14	500000	491000	98	80	120
Manganese	07/20/2016 11:14	0	-0.497		-1.6	1.6
Nickel	07/20/2016 11:14	0	-0.00100		-2.3	2.3
Selenium	07/20/2016 11:14	0	0.00700		-12	12
Silver	07/20/2016 11:14	0	0		-2.0	2.0
Thallium	07/20/2016 11:14	0	0		-5	5
Vanadium	07/20/2016 11:14	0	0.00300		-1.7	1.7
Zinc	07/20/2016 11:14	0	-0.0350		-2.4	2.4

CT LABORATORIES
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Sample No:

4-2

ICP INTERFERENCE CHECK SAMPLE (SOL. AB)

ICSAB

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
ICP ID Number: TJA 6000
SDG No.: 120379
ICS Source: SPEX, Ultra

Analytical Run #: 127901
Lab Sample ID: 746918
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	07/19/2016 08:56	500000	527000	105	80	120
Calcium	07/19/2016 08:56	500000	506000	101	80	120
Iron	07/19/2016 08:56	500000	515000	103	80	120
Magnesium	07/19/2016 08:56	500000	519000	104	80	120
Potassium	07/19/2016 08:56	100000	102000	102	80	120
Sodium	07/19/2016 08:56	100000	106000	106	80	120

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

4-2

ICP INTERFERENCE CHECK SAMPLE (SOL. AB)

ICSAB

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
ICP ID Number: TJA 6000
SDG No.: 120379
ICS Source: SPEX, Ultra

Analytical Run #: 127903
Lab Sample ID: 747132
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	07/19/2016 09:41	500000	518000	104	80	120
Antimony	07/19/2016 09:41	500.0	541.0	108	80	120
Arsenic	07/19/2016 09:41	500.0	537.0	107	80	120
Barium	07/19/2016 09:41	500.0	515.0	103	80	120
Beryllium	07/19/2016 09:41	500.0	489.0	98	80	120
Cadmium	07/19/2016 09:41	500.0	466.0	93	80	120
Calcium	07/19/2016 09:41	500000	469000	94	80	120
Chromium	07/19/2016 09:41	500.0	480.0	96	80	120
Cobalt	07/19/2016 09:41	500.0	460.0	92	80	120
Copper	07/19/2016 09:41	500.0	582.0	116	80	120
Iron	07/19/2016 09:41	500000	458000	92	80	120
Lead	07/19/2016 09:41	500.0	458.0	92	80	120
Magnesium	07/19/2016 09:41	500000	488000	98	80	120
Manganese	07/19/2016 09:41	500.0	533.0	107	80	120
Nickel	07/19/2016 09:41	500.0	443.0	89	80	120
Selenium	07/19/2016 09:41	500.0	429.0	86	80	120
Silver	07/19/2016 09:41	500.0	552.0	110	80	120
Thallium	07/19/2016 09:41	500.0	462.0	92	80	120
Vanadium	07/19/2016 09:41	500.0	495.0	99	80	120
Zinc	07/19/2016 09:41	500.0	487.0	97	80	120

CT LABORATORIES
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Sample No:

ICSAB

4-2

ICP INTERFERENCE CHECK SAMPLE (SOL. AB)

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
ICP ID Number: TJA 6000
SDG No.: 120379
ICS Source: SPEX, Ultra

Analytical Run #: 127903
Lab Sample ID: 747830
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	07/20/2016 11:21	500000	523000	105	80	120
Antimony	07/20/2016 11:21	500.0	541.0	108	80	120
Arsenic	07/20/2016 11:21	500.0	526.0	105	80	120
Barium	07/20/2016 11:21	500.0	504.0	101	80	120
Beryllium	07/20/2016 11:21	500.0	484.0	97	80	120
Cadmium	07/20/2016 11:21	500.0	466.0	93	80	120
Calcium	07/20/2016 11:21	500000	498000	100	80	120
Chromium	07/20/2016 11:21	500.0	490.0	98	80	120
Cobalt	07/20/2016 11:21	500.0	452.0	90	80	120
Copper	07/20/2016 11:21	500.0	572.0	114	80	120
Iron	07/20/2016 11:21	500000	466000	93	80	120
Lead	07/20/2016 11:21	500.0	470.0	94	80	120
Magnesium	07/20/2016 11:21	500000	501000	100	80	120
Manganese	07/20/2016 11:21	500.0	549.0	110	80	120
Nickel	07/20/2016 11:21	500.0	440.0	88	80	120
Selenium	07/20/2016 11:21	500.0	472.0	94	80	120
Silver	07/20/2016 11:21	500.0	526.0	105	80	120
Thallium	07/20/2016 11:21	500.0	464.0	93	80	120
Vanadium	07/20/2016 11:21	500.0	496.0	99	80	120
Zinc	07/20/2016 11:21	500.0	480.0	96	80	120

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5A

SPIKE SAMPLE RECOVERY

Sample Description

49ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	120379
% Solids for Sample:		Concentration Units:	ug/L
Sample No	746556	Parent Sample No.:	744978
Analytical Prep Batch #	58118	Analytical Preparation Date/Time:	07/19/2016 08:30
Analytical Run #:	127945	ICAL Calibration #:	07202016

Analysis Type *Initial Analysis* Analysis Date: ----- 07/20/2016 Analysis Time: -------- 11:46

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Total Mercury	82-119	0.60		0.076	J	2.0	26		CV	*FAIL*

BDL = analyte concentration was below detection limit

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5A

SPIKE SAMPLE RECOVERY

Sample Description

54ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	120379
% Solids for Sample:		Concentration Units:	ug/L
Sample No	746148	Parent Sample No.:	745779
Analytical Prep Batch #	58100	Analytical Preparation Date/Time:	07/18/2016 10:00
Analytical Run #:	127901	ICAL Calibration #:	

Analysis Type *Initial Analysis* Analysis Date: ----- 07/19/2016 Analysis Time: -------- 10:23

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Potassium	86-114	102000		810		100000	101		P
Total Sodium	87-115	105000		3710		100000	101		P

BDL = analyte concentration was below detection limit

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5A

SPIKE SAMPLE RECOVERY

Sample Description: **54ADW01**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	120379
% Solids for Sample:		Concentration Units:	ug/L
Sample No	746148	Parent Sample No.:	745779
Analytical Prep Batch #	58100	Analytical Preparation Date/Time:	07/18/2016 10:00
Analytical Run #:	127903	ICAL Calibration #:	

Analysis Type: *Initial Analysis* Analysis Date: ----- 07/19/2016 Analysis Time: -------- 10:48

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Aluminum	86-115	988		156		800	104		P
Total Antimony	88-113	216		BDL	U	200	108		P
Total Barium	88-113	887		105		800	98		P
Total Beryllium	89-112	19.6		BDL	U	20.0	98		P
Total Cadmium	88-113	19.3		BDL	U	20.0	96		P
Total Calcium	87-113	257000		77300		200000	90		P
Total Chromium	90-113	86.9		8.1		80.0	98		P
Total Cobalt	89-114	211		BDL	U	200	106		P
Total Copper	86-114	101		BDL	U	100	101		P
Total Iron	87-115	728		299		400	107		P
Total Lead	86-113	191		BDL	U	200	96		P
Total Magnesium	85-113	118000		26200		100000	92		P
Total Manganese	90-114	232		35.0		200	98		P
Total Nickel	88-113	188		1.0	J	200	94		P
Total Selenium	83-114	891		4.4	J	800	111		P
Total Silver	84-115	21.3		BDL	U	20.0	106		P
Total Thallium	85-114	802		BDL	U	800	100		P
Total Vanadium	90-111	204		1.3	J	200	101		P
Total Zinc	87-115	207		8.2	J	200	99		P

BDL = analyte concentration was below detection limit

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5B

POST DIGESTION SPIKE SAMPLE RECOVERY

Sample Description

54ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	120379
% Solids for Sample:		Concentration Units:	ug/L
Sample No	746921	Parent Sample No.:	745779
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	127901	ICAL Calibration #:	

Analysis Type	*Initial Analysis*	Analysis Date: -----	07/19/2016	Analysis Time: --------	10:25

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Potassium	80-120.	103000		810		100000	102		P
Sodium	80-120.	106000		3710		100000	102		P

BDL = analyte concentration was below detection limit

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5B

POST DIGESTION SPIKE SAMPLE RECOVERY

Sample Description: **54ADW01**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 120379
% Solids for Sample:
Concentration Units: ug/L
Sample No: 747469
Parent Sample No.: 745779
Analytical Prep Batch #:
Analytical Preparation Date/Time:
Analytical Run #: 127903
ICAL Calibration #:

Analysis Type: *Initial Analysis* Analysis Date: ----- 07/19/2016 Analysis Time: -------- 11:12

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Aluminum	80-120	4650		156		4000	112		P
Antimony	80-120	1160		BDL	U	1000	116		P
Arsenic	80-120	4790		BDL	U	4000	120		P
Barium	80-120	4740		105		4000	116		P
Beryllium	80-120	100		BDL	U	100	100		P
Cadmium	80-120	96.4		BDL	U	100	96		P
Calcium	80-120	473000		77300		400000	99		P
Chromium	80-120	417		8.1		400	102		P
Cobalt	80-120	994		BDL	U	1000	99		P
Copper	80-120	518		BDL	U	500	104		P
Iron	80-120	2440		299		2000	107		P
Lead	80-120	977		BDL	U	1000	98		P
Magnesium	80-120	231000		26200		200000	102		P
Manganese	80-120	1040		35.0		1000	100		P
Nickel	80-120	931		1.0	J	1000	93		P
Selenium	80-120	4560		4.4	J	4000	114		P
Silver	80-120	114		BDL	U	100	114		P
Thallium	80-120	4020		BDL	U	4000	100		P
Vanadium	80-120	1030		1.3	J	1000	103		P

BDL = analyte concentration was below detection limit

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7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 120379

Concentration Units: ug/L

Analytical Run #: 127945 Sample No.:#: 746555

Analytical Prep Batch #: 58118 Preparation Date/Time: 07/19/2016 08:30

ICAL Calibration #: 07202016

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Total Mercury	07/20/2016 13:01	82-119	3.12		3.00	104		CV

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7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 120379

Concentration Units: ug/L

Analytical Run #: 127901 Sample No.:#: 746146

Analytical Prep Batch #: 58100 Preparation Date/Time: 07/18/2016 10:00

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Total Potassium	07/19/2016 10:11	86-114	102000		100000	102		P
Total Sodium	07/19/2016 10:11	87-115	101000		100000	101		P

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7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 120379

Concentration Units: ug/L

Analytical Run #: 127903 Sample No.:#: 746146

Analytical Prep Batch #: 58100 Preparation Date/Time: 07/18/2016 10:00

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Total Aluminum	07/19/2016 10:14	86-115	803.0		800.0	100		P
Total Antimony	07/19/2016 10:14	88-113	219.0		200.0	110		P
Total Barium	07/19/2016 10:14	88-113	875.0		800.0	109		P
Total Beryllium	07/19/2016 10:14	89-112	19.60		20.00	98		P
Total Cadmium	07/19/2016 10:14	88-113	19.40		20.00	97		P
Total Calcium	07/19/2016 10:14	87-113	182000		200000	91		P
Total Chromium	07/19/2016 10:14	90-113	79.10		80.00	99		P
Total Cobalt	07/19/2016 10:14	89-114	214.0		200.0	107		P
Total Copper	07/19/2016 10:14	86-114	102.0		100.0	102		P
Total Iron	07/19/2016 10:14	87-115	440.0		400.0	110		P
Total Lead	07/19/2016 10:14	86-113	194.0		200.0	97		P
Total Magnesium	07/19/2016 10:14	85-113	93400		100000	93		P
Total Manganese	07/19/2016 10:14	90-114	199.0		200.0	100		P
Total Nickel	07/19/2016 10:14	88-113	190.0		200.0	95		P
Total Selenium	07/19/2016 10:14	83-114	871.0		800.0	109		P
Total Silver	07/19/2016 10:14	84-115	22.30		20.00	112		P
Total Thallium	07/19/2016 10:14	85-114	821.0		800.0	103		P
Total Vanadium	07/19/2016 10:14	90-111	204.0		200.0	102		P
Total Zinc	07/19/2016 10:14	87-115	202.0		200.0	101		P

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7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 120379

Concentration Units: ug/L

Analytical Run #: 127903 Sample No.:#: 746146

Analytical Prep Batch #: 58100 Preparation Date/Time: 07/18/2016 10:00

ICAL Calibration #:

ReRun Re-Analysis #1

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Total Arsenic	07/20/2016 16:59	87-113	905.0		800.0	113		P

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Sample Description

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID SDG No.: 120379

Concentration Units: ug/L

Sample No.: 747134 Parent Sample No.: 744978

LIMS Run #: 127903 ICAL Calibration #:.:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Initial Sample Result (I)	C (I)	Serial Dilution Result (S)	C (S)	% Diff.	Q	M	
Aluminum	07/19/2016 10:34	BDL	U	30	U	0		P	*INVALID*
Antimony	07/19/2016 10:34	BDL	U	10	U	0		P	*INVALID*
Arsenic	07/19/2016 10:34	BDL	U	20	U	0		P	*INVALID*
Beryllium	07/19/2016 10:34	BDL	U	0.5	U	0		P	*INVALID*
Cadmium	07/19/2016 10:34	BDL	U	1.5	U	0		P	*INVALID*
Chromium	07/19/2016 10:34	BDL	U	3	U	0		P	*INVALID*
Cobalt	07/19/2016 10:34	BDL	U	3.5	U	0		P	*INVALID*
Copper	07/19/2016 10:34	BDL	U	6	U	0		P	*INVALID*
Iron	07/19/2016 10:34	61.7	U	80	U	100		P	*INVALID*
Lead	07/19/2016 10:34	BDL	U	7	U	0		P	*INVALID*
Manganese	07/19/2016 10:34	1.08	U	3.5	U	100		P	*INVALID*
Nickel	07/19/2016 10:34	BDL	U	5	U	0		P	*INVALID*
Selenium	07/19/2016 10:34	4.85	U	13.45	J	177		P	*INVALID*
Silver	07/19/2016 10:34	.822	U	3.5	U	100		P	*INVALID*
Thallium	07/19/2016 10:34	BDL	U	12.5	U	0		P	*INVALID*
Vanadium	07/19/2016 10:34	BDL	U	4	U	0		P	*INVALID*
Zinc	07/19/2016 10:34	7.66	U	8	U	100		P	*INVALID*

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METHOD DETECTION LIMITS (ANNUALLY)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Matrix: LIQUID

Analyte	Wavelength (nm)	Background	CRDL (ug/L)	MDL (ug/L)	M
Total Mercury	253.7			0.03	CV

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10

METHOD DETECTION LIMITS (ANNUALLY)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

ICP ID Number: TJA SDG No.: 120379

Matrix: LIQUID

Analyte	Wavelength (nm)	Background	CRDL (ug/L)	MDL (ug/L)	M
Total Aluminum	167.0			6	P
Total Antimony	217.5			2.0	P
Total Arsenic	193.7			4	P
Total Barium	455.4			0.29	P
Total Beryllium	313.041			0.10	P
Total Cadmium	226.502			0.3	P
Total Calcium	393.3			17	P
Total Chromium	267.716			0.6	P
Total Cobalt	228.616			0.7	P
Total Copper	327.3			1.2	P
Total Iron	259.9			16	P
Total Lead	220.35			1.4	P
Total Magnesium	279.5			6	P
Total Manganese	257.61			0.7	P
Total Nickel	231.604			1.0	P
Total Potassium	766.491			90	P
Total Selenium	196.02			2.2	P
Total Silver	328.068			0.7	P
Total Sodium	589.5			100	P
Total Thallium	190.864			2.5	P
Total Vanadium	292.402			0.8	P
Total Zinc	213.856			1.6	P

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ICP INTERELEMENT CORRECTION FACTORS (ANNUAL)
ICP ID NUMBER: TA ICAP6000 / ICAP6500

Element, Wavelength and Order	Use?	# IECs	IEC	k1
Ag 328.068 {103}	☒	1	Fe	0.000006
Al 308.215 {109}	☒	None		
Al 309.271 {109}	☒	None		
Al 396.152 { 85}	☒	None		
Al 167.079 {502}	☒	1	Fe	0.000627
As 193.759 {474}	☒	3	Fe	-0.000324
			Mo	0.000000
			Co	0.000000
As 189.042 {479}	☒	1	Fe	0.000027
Ba 455.403 { 74}	☒	1	Fe	-0.000000
Ba 493.409 { 68}	☒	1	Fe	0.000106
Be 313.042 {108}	☒	1	Fe	0.000000
Be 234.861 {144}	☒	1	Fe	0.000101
Ca 315.887 {107}	☒	None		
Ca 317.933 {106}	☒	None		
Ca 393.366 { 86}	☒	None		
Ca 396.847 { 85}	☒	None		
Cd 226.502 {449}	☒	2	Fe	0.000381
			Ag	0.049000
Cd 228.802 {447}	☒	1	Fe	0.000100
Co 228.616 {447}	☒	6	Ti	-0.002110
			Mo	-0.001300
			Cr	-0.000235
			Ba	0.000315
			Ni	0.000000
			Fe	0.000017
Co 238.892 {141}	☒	1	Fe	0.000242
Cr 267.716 {126}	☒	1	Fe	0.000010
Cr 283.563 {119}	☒	1	Fe	0.000949
Cu 224.700 {450}	☒	2	Fe	0.000062
			Ag	-0.050000
Cu 324.754 {104}	☒	1	Fe	0.000200
Cu 327.396 {103}	☒	1	Fe	-0.000016
Fe 234.349 {144}	☒	None		
Fe 239.562 {141}	☒	None		
Fe 259.940 {130}	☒	None		
Mg 202.582 {466}	☒	None		
Mg 279.079 {121}	☒	None		
Mg 280.270 {120}	☒	None		
Mn 257.610 {131}	☒	1	Al	-0.000055
Mn 259.373 {130}	☒	1	Mg	0.001246
Mo 203.844 {465}	☒	1	Fe	-0.000027
Mo 202.030 {467}	☒	1	Fe	-0.000020
Mo 204.598 {465}	☒	1	Fe	-0.000100

CT LABORATORIES
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ICP INTERELEMENT CORRECTION FACTORS (ANNUAL)

ICP ID NUMBER: TA ICAP6000 / ICAP6500

Element, Wavelength and Order	Use?	# IECs	IEC	k1
Ni 221.647 {452}	☒	1	Ca	0.000022
Ni 231.604 {445}	☒	4	Fe	0.000117
			Co	-0.050000
			Ag	-0.050000
			Mo	-0.000200
Pb 216.999 {455}	☒	2	Al	0.000478
			Na	0.000000
Pb 220.353 {153}	☒	1	Fe	0.000024
Pb 220.353 {453}	☒	9	Fe	0.000071
			Si	0.000940
			Ti	0.000640
			Cu	0.000370
			Ni	0.000109
			Al	0.000000
			Co	-0.000149
			Mn	0.000074
			Ti	0.000004
Sb 206.833 {463}	☒	1	Fe	0.000032
Sb 217.581 {455}	☒	1	Fe	-0.000048
Se 196.090 {172}	☒	1	Fe	-0.000205
Se 196.090 {472}	☒	1	Fe	0.000022
Se 206.279 {463}	☒	1	Fe	0.001119
Tl 276.787 {122}	☒	1	Mg	0.006492
Tl 190.856 {477}	☒	10	Ti	0.000050
			Al	-0.000002
			V	0.000586
			Mn	0.000398
			Mo	-0.000120
			Be	-0.000013
			Fe	-0.000033
			Sr	-0.000027
			Co	0.000016
			Cr	0.000251
V 290.882 {116}	☒	1	Fe	0.000170
V 292.402 {115}	☒	1	Fe	0.000041
Zn 206.200 {463}	☒	1	Fe	0.000173
Zn 213.856 {458}	☒	1	Fe	0.000380
Y 360.073 { 94}*	☒	None		
Na 330.298 {102}	☒	1	Fe	0.000991
Si 251.611 {134}	☒	1	Fe	-0.000042
Ti 334.941 {101}	☒	1	Fe	0.000050
Ti 337.280 {100}	☒	1	Fe	0.000006
Sr 407.771 { 83}	☒	1	Fe	0.000039
Sr 421.552 { 80}	☒	1	Fe	0.000039

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ICP INTERELEMENT CORRECTION FACTORS (ANNUAL)
ICP ID NUMBER: TA ICAP6000 / ICAP6500

Element, Wavelength and Order	Use?	# IECs	IEC	k1
Sn 189.989 {477}	☒	1	Fe	0.000011
Sn 283.999 {119}	☒	1	Fe	-0.003092
B 249.678 {135}	☒	1	Fe	-0.000918
B 249.773 {135}	☒	1	Fe	0.000199
Li 670.784 { 50}	☒	1	Fe	0.000029
K 766.490 { 44}	☒	1	Fe	0.006630

Element, Wavelength and Order	Use?	# IECs	IEC	k1
K 766.490 { 44}	☒	1	Fe	0.000178
Na 330.237 {102}	☒	1	Fe	-0.004289
Na 589.592 { 57}	☒	1	Fe	0.000173
Y 360.073 { 94}	☒	None		
Y 320.332 {105}*	☒	None		
Al 308.215 {109}	☒	1	Fe	0.000000
Al 396.152 { 85}	☒	None		
Mg 285.213 {118}	☒	None		
Ca 317.933 {106}	☒	None		
Fe 234.349 {144}	☒	None		

ICP LINEAR RANGES (QUARTERLY)

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

ICP ID Number: TA SDG No.: 120379

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	M
Aluminum	15.00	1000000	P
Antimony	15.00	10000	P
Arsenic	15.00	10000	P
Barium	15.00	10000	P
Beryllium	15.00	1000	P
Boron	15.00	1000	P
Cadmium	15.00	1000	P
Calcium	15.00	1000000	P
Chromium	15.00	100000	P
Cobalt	15.00	10000	P
Copper	15.00	100000	P
Iron	15.00	1000000	P
Lead	15.00	100000	P
Lithium	15.00	10000	P
Magnesium	15.00	1000000	P
Manganese	15.00	100000	P
Molybdenum	15.00	10000	P
Nickel	15.00	10000	P
Potassium	15.00	200000	P
Selenium	15.00	10000	P
Silicon	15.00	1000	P
Silver	15.00	100	P
Sodium	15.00	200000	P
Strontium	15.00	10000	P
Thallium	15.00	10000	P
Tin	15.00	10000	P
Titanium	15.00	1000	P
Tungsten	15.00	10000	P
Vanadium	15.00	10000	P
Zinc	15.00	100000	P

CT LABORATORIES
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PREPARATION LOG

Lab Name: CT Laboratories

Project: BERING SEA ENVIRONMENTAL-RADFORD AAP

Method: EPA 3010A

SDG No.: 120379

Preparation Batch #: 58100

Preparation Date/Time: 07/18/2016 / 10:00

Lab Sample #	QC Type	Sample Description	Matrix	**Weight (g for solid/soil) or Volume (mL for liquid/aqueous)**
744978	Normal Sample	49ADW01	GROUND WATER	50.0
745779	Normal Sample	54ADW01	GROUND WATER	50.0
746145	Method Blank		LIQUID	50.0
746146	Lab Control Spike		LIQUID	50.0
746148	Matrix Spike	54ADW01	GROUND WATER	50.0

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PREPARATION LOG

Lab Name: CT Laboratories

Project: BERING SEA ENVIRONMENTAL-RADFORD AAP

Method: EPA 7470A

SDG No.: 120379

Preparation Batch #: 58118

Preparation Date/Time: 07/19/2016 / 08:30

Lab Sample #	QC Type	Sample Description	Matrix	**Weight (g for solid/soil) or Volume (mL for liquid/aqueous)**
744978	Normal Sample	49ADW01	GROUND WATER	25.0
745779	Normal Sample	54ADW01	GROUND WATER	25.0
746554	Method Blank		LIQUID	25.0
746555	Lab Control Spike		LIQUID	25.0
746556	Matrix Spike	49ADW01	GROUND WATER	25.0

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ANALYSIS RUN LOG

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Lab Code: CTL
SDG No.: 120379

Instrument ID Number: CETAC
Method Number: CV

Start & End Date: 07/20/2016 to 07/20/2016
Analytical Run #: 127945

Sample Number	Analysis or QC Type	DF	Analysis Date/ Time	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Mo	Li	Ni	K	Se	Si	Ag	Na	Sr	Tl	Sn	W	V	Zn
747485	ICV	1.00	7/20 11:03																X													
747486	ICB	1.00	7/20 11:05																X													
747487	CCV	1.00	7/20 11:33																X													
747488	CCB	1.00	7/20 11:35																X													
746554	MBW	1.00	7/20 11:42																X													
744978	Initial	1.00	7/20 11:44																X													
746556	MSW	1.00	7/20 11:46																X													
745779	Initial	1.00	7/20 11:48																X													
747489	CCV	1.00	7/20 11:59																X													
747490	CCB	1.00	7/20 12:01																X													
747493	CCV	1.00	7/20 12:52																X													
747494	CCB	1.00	7/20 12:54																X													
746555	LCSW	1.00	7/20 13:01																X													
747495	CCV	1.00	7/20 13:08																X													
747496	CCB	1.00	7/20 13:11																X													

CT LABORATORIES
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ANALYSIS RUN LOG

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Lab Code: CTL
SDG No.: 120379

Instrument ID Number: TJA
Method Number: P

Start & End Date: 07/19/2016 to 07/19/2016
Analytical Run #: 127901

Sample Number	Analysis or QC Type	DF	Analysis Date/ Time	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Mo	Li	Ni	K	Se	Si	Ag	Na	Sr	Tl	Sn	W	V	Zn
746913	ICV	1.00	7/19 08:42																				X				X					
746914	ICVLL	1.00	7/19 08:45																				X				X					
746915	ICB	1.00	7/19 08:47																				X				X					
746916	MRL	1.00	7/19 08:50																				X				X					
746917	ICSA	1.00	7/19 08:53	X							X				X		X						X				X					
746918	ICSAB	1.00	7/19 08:56	X							X				X		X						X				X					
746919	CCV	1.00	7/19 10:00																				X				X					
746920	CCB	1.00	7/19 10:03																				X				X					
746146	LCSW	1.00	7/19 10:11																				X				X					
746145	MBW	1.00	7/19 10:14																				X				X					
744978	Initial	1.00	7/19 10:17																				X				X					
745779	Initial	1.00	7/19 10:20																				X				X					
746148	MSW	1.00	7/19 10:23																				X				X					
746921	PDSW	1.00	7/19 10:25																				X				X					
746922	CCV	1.00	7/19 10:34																				X				X					
746923	CCB	1.00	7/19 10:36																				X				X					

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ANALYSIS RUN LOG

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Lab Code: CTL

SDG No.: 120379

Instrument ID Number: TJA

Method Number: P

Start & End Date: 07/19/2016 to 07/20/2016

Analytical Run #: 127903

Sample Number	Analysis or QC Type	DF	Analysis Date/ Time	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Mo	Li	Ni	K	Se	Si	Ag	Na	Sr	Tl	Sn	W	V	Zn
747127	ICV	1.00	7/19 09:02	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
747128	ICVLL	1.00	7/19 09:08	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
747129	ICB	1.00	7/19 09:21	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
747130	ICSA	1.00	7/19 09:34	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
747132	ICSAB	1.00	7/19 09:41	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
747133	ICVLL	1.00	7/19 09:48																							X							
746146	LCSW	1.00	7/19 10:14	X	X		X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
746145	MBW	1.00	7/19 10:21	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
744978	Initial	1.00	7/19 10:27	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
747134	L	5	7/19 10:34	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
745779	Initial	1.00	7/19 10:41	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
746148	MSW	1.00	7/19 10:48	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
747135	CCV1	1.00	7/19 10:54	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
747136	CCV2	1.00	7/19 11:00	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
747137	CCB	1.00	7/19 11:06	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
747469	PDSW	1.00	7/19 11:12	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
747139	CCV1	1.00	7/19 12:18	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
747140	CCV2	1.00	7/19 12:24	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
747141	CCB	1.00	7/19 12:30	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
747822	ICV	1.00	7/20 10:42	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
747823	ICVLL	1.00	7/20 10:48	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
747828	ICB	1.00	7/20 11:01	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
747829	ICSA	1.00	7/20 11:14	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
747830	ICSAB	1.00	7/20 11:21	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
747831	ICVLL	1.00	7/20 11:28																							X							
747835	CCV1	1.00	7/20 16:40	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
747836	CCV2	1.00	7/20 16:46	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
747837	CCB	1.00	7/20 16:52	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X

CT LABORATORIES
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ANALYSIS RUN LOG

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Lab Code: CTL

SDG No.: 120379

Instrument ID Number: TJA

Method Number: P

Start & End Date: 07/19/2016 to 07/20/2016

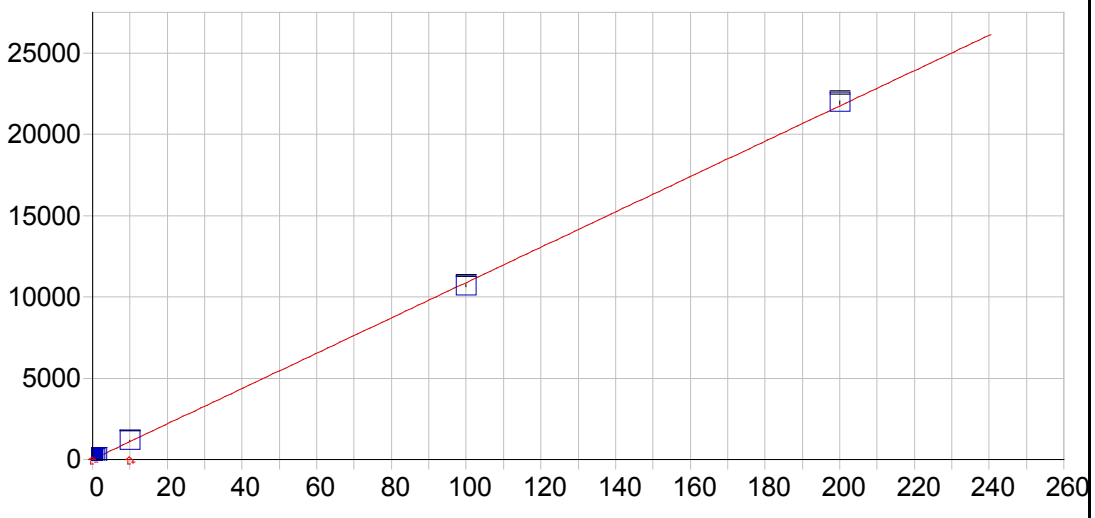
Analytical Run #: 127903

Sample Number	Analysis or QC Type	DF	Analysis Date/ Time	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Mo	Li	Ni	K	Se	Si	Ag	Na	Sr	Tl	Sn	W	V	Zn
746146	LCSW	1.00	7/20 16:59			X																											
747838	CCV1	1.00	7/20 17:32	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
747839	CCV2	1.00	7/20 17:38	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
747840	CCB	1.00	7/20 17:44	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X

METALS
RAW DATA
DOCUMENTS

	Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)	Correlation	Std Error of Est	Predicted MDL	Predicted MQL
	K 766.490 { 44}	07/19/2016 12:19:06	07/19/2016 08:39:18	Linear	1/Var	19.835542	108.614406	0.000000	1.000000	0.999795	11.348524	0.051525	0.171750
	Na 330.237 {102}	07/19/2016 12:19:06	07/19/2016 08:39:18	Curvilin	1/Conc	0.000021	0.000042	-0.000000	1.000000	0.999516	0.000005	1.676733	5.589108
	Na 589.592 { 57}	07/19/2016 12:19:06	07/19/2016 08:39:18	Linear	1/Var	-0.000344	0.019338	0.000000	1.000000	0.999997	0.000622	0.011616	0.038719
	Y 360.073 { 94}	07/19/2016 12:19:06	07/19/2016 08:20:01	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000
	Y 320.332 {105}*	07/19/2016 12:19:06	07/19/2016 08:20:01	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000
	Al 308.215 {109}	07/19/2016 12:19:06	07/19/2016 08:42:19	Linear	1/Conc	0.001826	0.000009	0.000000	1.000000	1.000000	0.000000	-1.000000	-1.000000
	Al 396.152 { 85}	07/19/2016 12:19:06	07/19/2016 08:42:19	Linear	1/Conc	-0.000118	0.006470	0.000000	1.000000	1.000000	0.000000	0.015305	0.051017
	Mg 285.213 {118}	07/19/2016 12:19:06	07/19/2016 08:42:19	Linear	None	0.000022	0.023656	0.000000	1.000000	1.000000	0.000000	0.001984	0.006615
	Ca 317.933 {106}	07/19/2016 12:19:06	07/19/2016 08:42:19	Linear	None	0.027937	0.006330	0.000000	1.000000	1.000000	0.000000	0.007303	0.024344
	Fe 234.349 {144}	07/19/2016 12:19:06	07/19/2016 08:42:19	Linear	None	0.000040	0.000750	0.000000	1.000000	1.000000	0.000000	0.023126	0.077086

	Element, Wavelength and Order	Status	Reslope		QC Norm	
			Slope	Y-int	Slope factor	Offset
	K 766.490 { 44}	OK.	1.000000	0.000000	1	0
	Na 330.237 {102}	OK.	1.000000	0.000000	1	0
	Na 589.592 { 57}	OK.	1.000000	0.000000	1	0
	Y 360.073 { 94}	Warnin	1.000000	0.000000	1	0
	Y 320.332 {105}*	Warnin	1.000000	0.000000	1	0
	Al 308.215 {109}	OK.	1.000000	0.000000	1	0
	Al 396.152 { 85}	OK.	1.000000	0.000000	1	0
	Mg 285.213 {118}	OK.	1.000000	0.000000	1	0
	Ca 317.933 {106}	OK.	1.000000	0.000000	1	0
	Fe 234.349 {144}	OK.	1.000000	0.000000	1	0

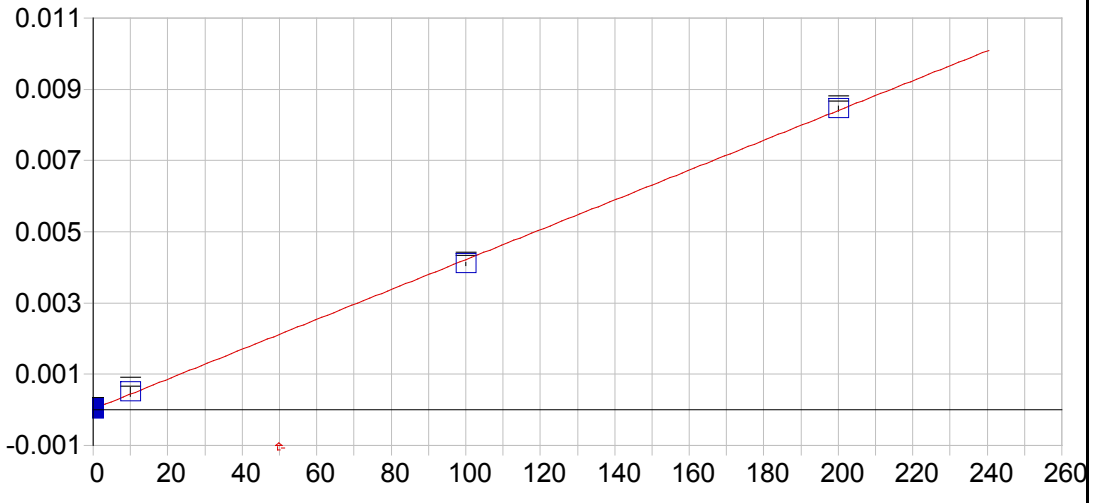


K 766.490 { 44}

Date of Fit:	07/19/2016 12:19:06	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	19.835542	Re-Slope:	1.000000
A1 (Gain):	108.614406	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999795	Status:	OK.
Std Error of Est:	11.348524		
Predicted MDL:	0.051525		
Predicted MQL:	0.171750		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00040	.000	.000	19.879	4.42	1
CalibStd-1.0	1.0000	.96632	-.034	-3.37	124.79	2.36	1
CalibStd-10.0	10.000	10.539	.539	5.39	1164.5	12.1	1
CalibStd-0.5	.50000	.50893	.009	1.79	75.113	1.75	1
CalibStd-200	200.00	201.96	1.96	.980	21956.	89.8	1
CalibStd-100	100.00	98.229	-1.77	-1.77	10689.	46.8	1

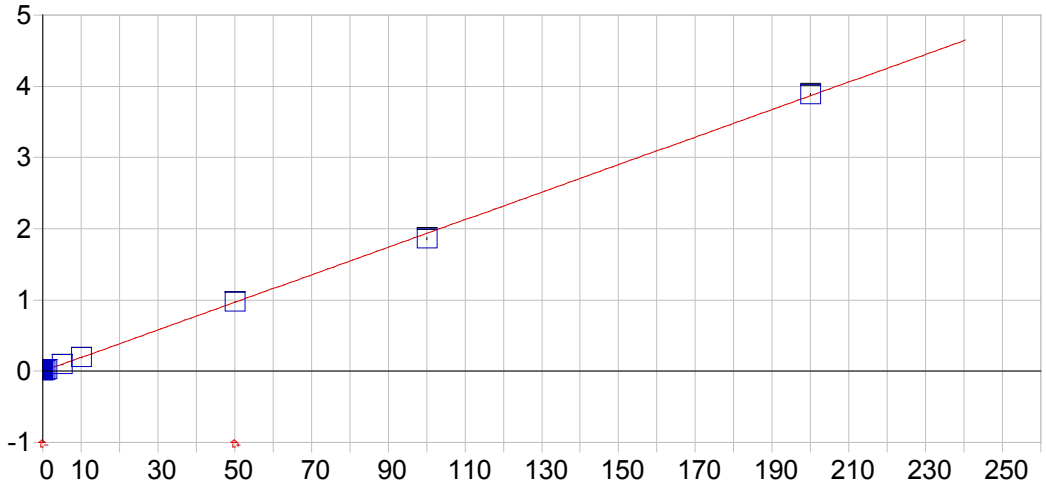


Na 330.237 {102}

Date of Fit:	07/19/2016 12:19:06	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	0.000021	Re-Slope:	1.000000
A1 (Gain):	0.000042	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999516	Status:	OK.
Std Error of Est:	0.000005		
Predicted MDL:	1.676733		
Predicted MQL:	5.589108		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00125	-.001	.000	.00002	.000	1
CalibStd-200	200.00	201.32	1.32	.660	.00846	.000	1
CalibStd-10.0	10.000	11.462	1.46	14.6	.00050	.000	1
CalibStd-100	100.00	97.219	-2.78	-2.78	.00410	.000	1

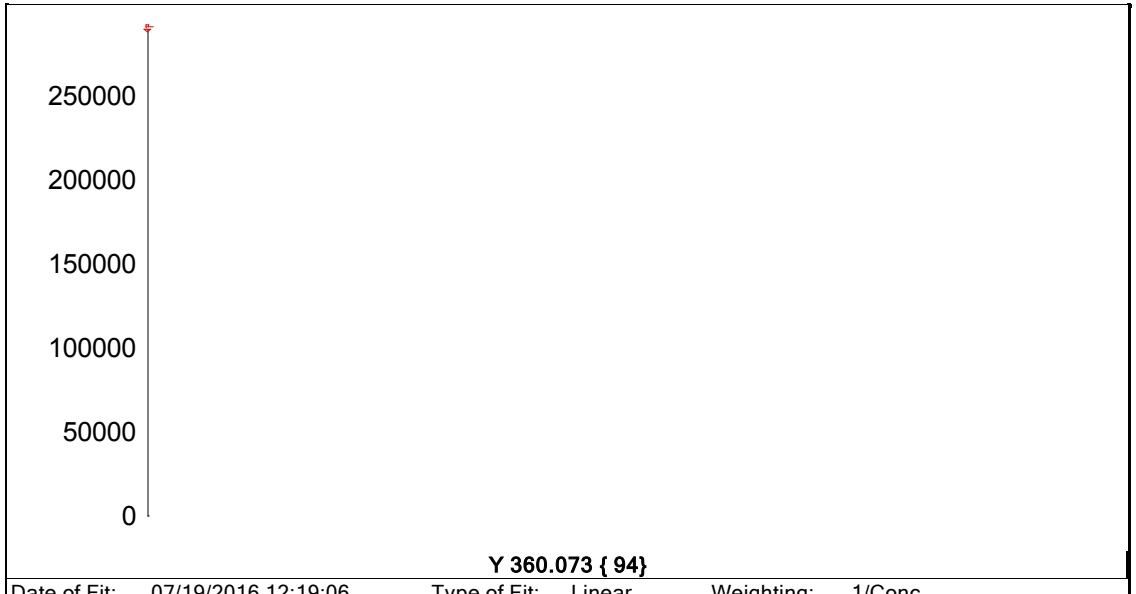


Na 589.592 { 57}

Date of Fit:	07/19/2016 12:19:06	Type of Fit:	Linear	Weighting:	1/Var

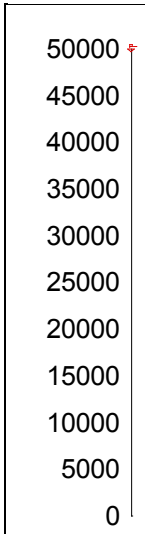
A0 (Offset):	-0.000344	Re-Slope:	1.000000
A1 (Gain):	0.019338	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999997	Status:	OK.
Std Error of Est:	0.000622		
Predicted MDL:	0.011616		
Predicted MQL:	0.038719		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00027	.000	.000	-.00035	.000	1
CalibStd-0.5	.50000	.47381	-.026	-5.24	.00882	.000	1
CalibStd-1.0	1.0000	1.0055	.006	.554	.01910	.000	1
CalibStd-5.0	5.0000	4.9129	-.087	-1.74	.09466	.001	1
CalibStd-10.0	10.000	10.063	.063	.631	.19425	.000	1
CalibStd-50	50.000	50.000	.000	.000	.96654	.000	1
CalibStd-100	100.00	96.216	-3.78	-3.78	1.8602	.011	1
CalibStd-200	200.00	200.81	.808	.404	3.8828	.013	1



Date of Fit:	07/19/2016 12:19:06	Type of Fit:	Linear	Weighting:	1/Conc	
A0 (Offset):	0.000000		Re-Slope:	1.000000		
A1 (Gain):	0.000000		Y-int:	0.000000		
A2 (Curvature):	0.000000					
n (Exponent):	1.000000					
Correlation:	0.000000		Status:	Warning	Zero Gain	
Std Error of Est:	0.000000					
Predicted MDL:	n/a					
Predicted MQL:	n/a					

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	268360.	654.	1

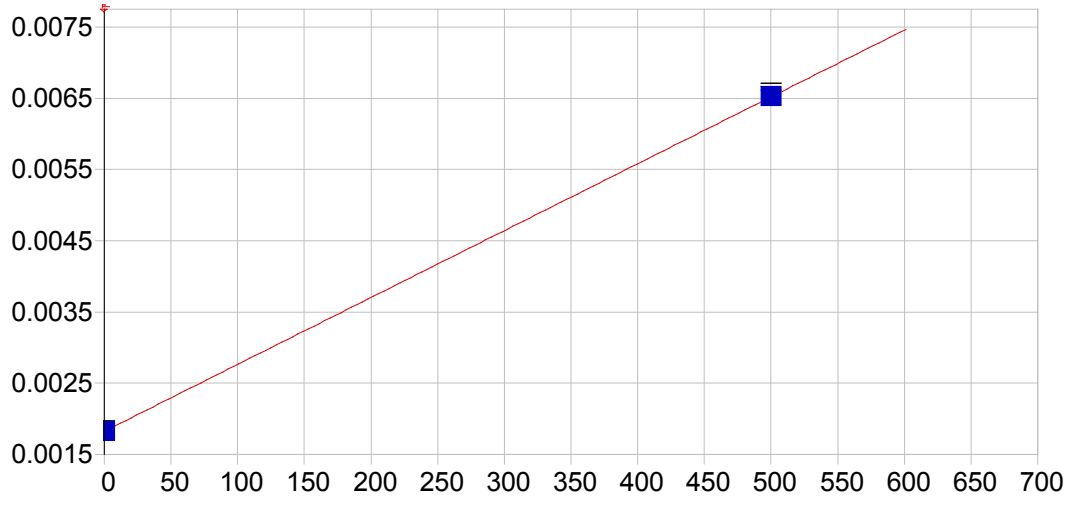


Y 320.332 {105}*

Date of Fit:	07/19/2016 12:19:06	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.000000	Status:	Warning Zero Gain
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	41325.	192.	1

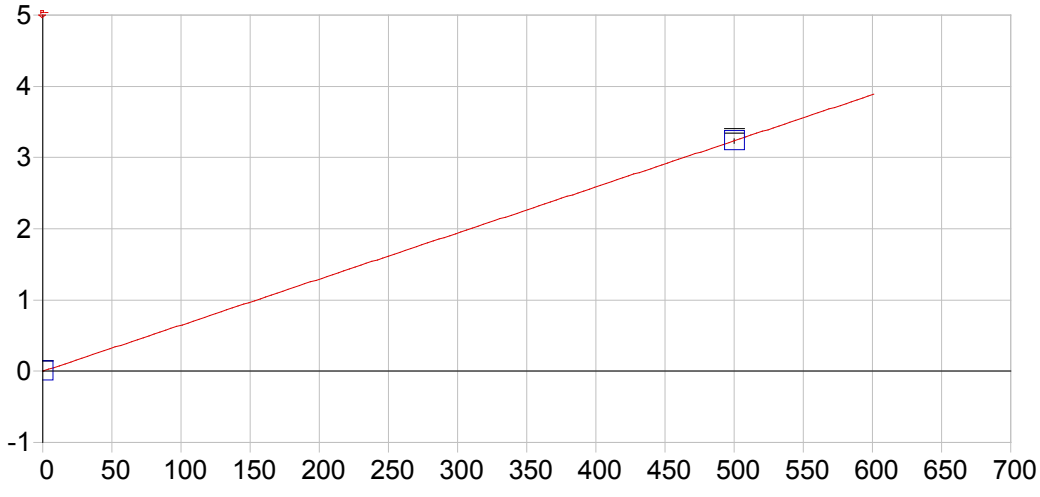


Al 308.215 {109}

Date of Fit:	07/19/2016 12:19:06	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.001826	Re-Slope:	1.000000
A1 (Gain):	0.000009	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00183	.000	1
CalibStd-500	500.00	500.00	.000	.000	.00652	.000	1

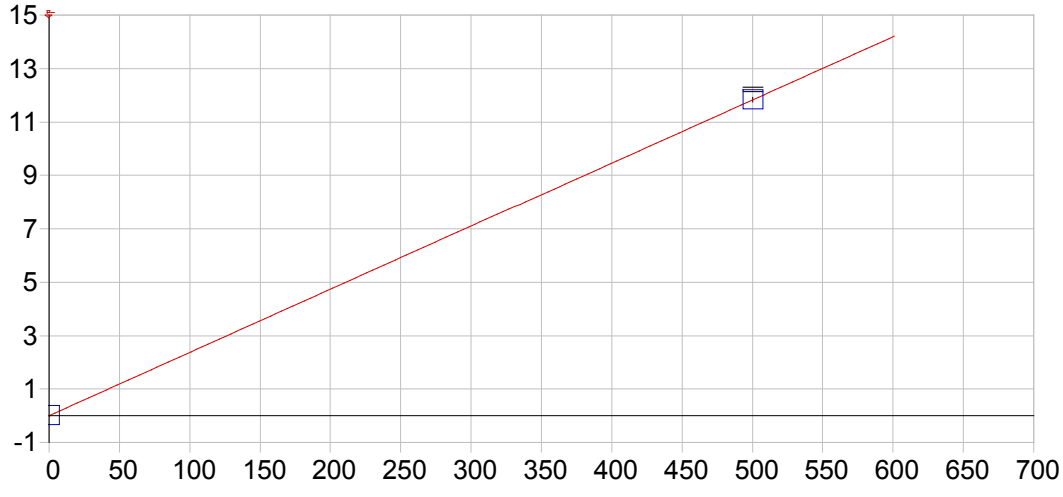


Al 396.152 { 85}

Date of Fit:	07/19/2016 12:19:06	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000118	Re-Slope:	1.000000
A1 (Gain):	0.006470	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.015305		
Predicted MQL:	0.051017		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	-.00012	.000	1
CalibStd-500	500.00	500.00	.000	.000	3.2346	.031	1

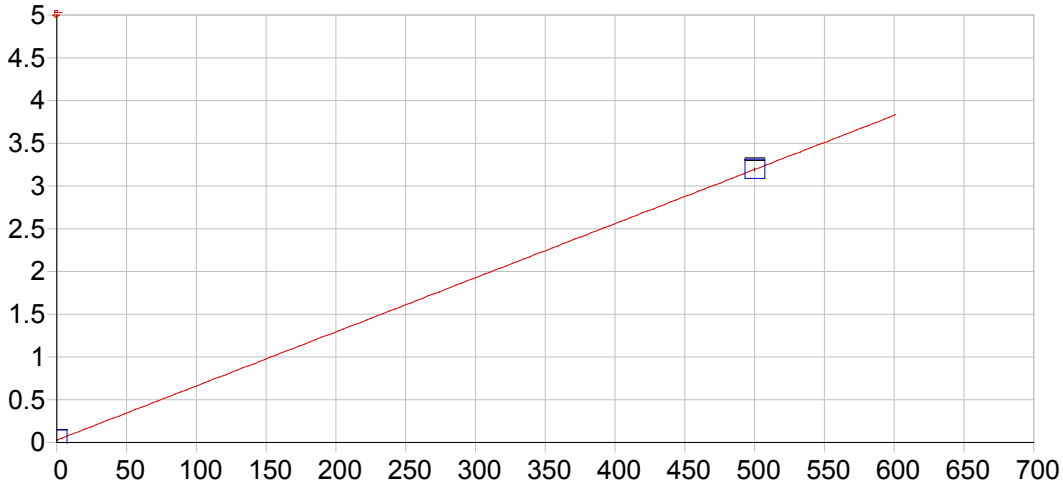


Mg 285.213 {118}

Date of Fit:	07/19/2016 12:19:06	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000022	Re-Slope:	1.000000
A1 (Gain):	0.023656	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.001984		
Predicted MQL:	0.006615		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00002	.000	1
CalibStd-500	500.00	500.00	.000	.000	11.828	.088	1

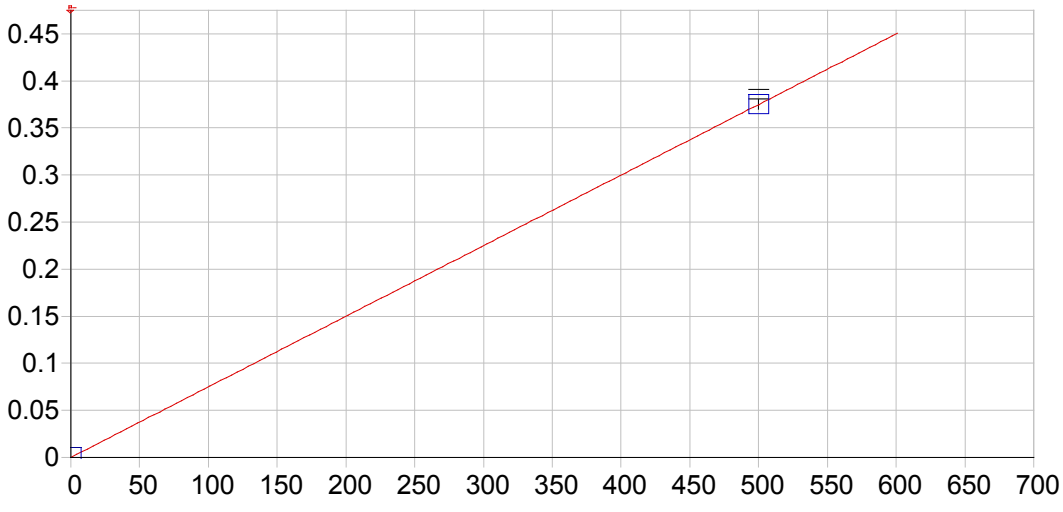


Ca 317.933 {106}

Date of Fit:	07/19/2016 12:19:06	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.027937	Re-Slope:	1.000000
A1 (Gain):	0.006330	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.007303		
Predicted MQL:	0.024344		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.02794	.000	1
CalibStd-500	500.00	500.00	.000	.000	3.1931	.014	1



Fe 234.349 {144}

Date of Fit:	07/19/2016 12:19:06	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000040	Re-Slope:	1.000000
A1 (Gain):	0.000750	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.023126		
Predicted MQL:	0.077086		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00004	.000	1
CalibStd-500	500.00	500.00	.000	.000	.37495	.005	1

Sample Name: Blank Acquired: 07/19/2016 08:17:09 Type: Cal
Method: Sodium and Potassium 1(v768) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**19.9**	**.000**	**.000**	**.000**	**.000**	**.028**	**.000**
Stddev	4.4	.000	.00	.00	.000	.000	.000
%RSD	22.2	139.	22.7	22.5	237.	.512	25.0

Int. Std.	Y_3203
Units	Cts/S
Avg	**41325.**
Stddev	192.
%RSD	.46574

Sample Name: CalibStd-0.5 Acquired: 07/19/2016 08:20:04 Type: Cal
Method: Sodium and Potassium 1(v768) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895
Units	Cts/S	Cts/S
Avg	**75.1**	**.009**
Stddev	1.8	.000
%RSD	2.33	3.55

Int. Std.	Y_3203
Units	Cts/S
Avg	**41047.**
Stddev	208.
%RSD	.50610

Sample Name: CalibStd-1.0 Acquired: 07/19/2016 08:22:49 Type: Cal
Method: Sodium and Potassium 1(v768) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895
Units	Cts/S	Cts/S
Avg	**125.**	**.019**
Stddev	2.	.000
%RSD	1.89	1.02

Int. Std.	Y_3203
Units	Cts/S
Avg	**40617.**
Stddev	199.
%RSD	.49046

Sample Name: CalibStd-5.0 Acquired: 07/19/2016 08:25:34 Type: Cal
Method: Sodium and Potassium 1(v768) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Na5895
Units	Cts/S
Avg	**.095**
Stddev	.001
%RSD	1.03

Int. Std.	Y_3203
Units	Cts/S
Avg	**40279.**
Stddev	256.
%RSD	.63527

Sample Name: CalibStd-10.0 Acquired: 07/19/2016 08:28:19 Type: Cal
Method: Sodium and Potassium 1(v768) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Na5895
Units	Cts/S	Cts/S	Cts/S
Avg	**1160.**	**.001**	**.194**
Stddev	12.	.000	.000
%RSD	1.04	25.2	.243

Int. Std.	Y_3203
Units	Cts/S
Avg	**40406.**
Stddev	230.
%RSD	.56996

Sample Name: CalibStd-50 Acquired: 07/19/2016 08:31:05 Type: Cal
Method: Sodium and Potassium 1(v768) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Na5895
Units	Cts/S
Avg	.967
Stddev	.000
%RSD	.030

Int. Std.	Y_3203
Units	Cts/S
Avg	39930.
Stddev	126.
%RSD	.31633

Sample Name: CalibStd-100 Acquired: 07/19/2016 08:33:52 Type: Cal
Method: Sodium and Potassium 1(v768) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Na5895
Units	Cts/S	Cts/S	Cts/S
Avg	**10700.**	**.004**	**1.86**
Stddev	47.	.000	.01
%RSD	.438	1.20	.569

Int. Std.	Y_3203
Units	Cts/S
Avg	**39822.**
Stddev	79.
%RSD	.19900

Sample Name: CalibStd-200 Acquired: 07/19/2016 08:36:37 Type: Cal
Method: Sodium and Potassium 1(v768) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Na5895
Units	Cts/S	Cts/S	Cts/S
Avg	**22000.**	**.008**	**3.88**
Stddev	90.	.000	.01
%RSD	.409	.887	.344

Int. Std.	Y_3203
Units	Cts/S
Avg	**39613.**
Stddev	80.
%RSD	.20218

Sample Name: CalibStd-500 Acquired: 07/19/2016 08:39:21 Type: Cal
Method: Sodium and Potassium 1(v768) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Mg2852	Ca3179	Fe2343
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3.23**	**11.8**	**3.19**	**.375**
Stddev	.03	.1	.01	.005
%RSD	.973	.742	.442	1.38

Int. Std.	Y_3203
Units	Cts/S
Avg	**38406.**
Stddev	236.
%RSD	.61499

Sample Name: icv Acquired: 07/19/2016 08:42:22 Type: QC
Method: Sodium and Potassium 1(v768) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**103.**	**99.7**	**.109**	**.100**	**.114**	**.305**
Stddev	1.	1.1	.011	.002	.022	.049
%RSD	.585	1.07	9.69	2.36	19.3	15.9
#1	103.	98.4	.124	.101	.108	.376
#2	103.	100.	.108	.102	.090	.297
#3	104.	101.	.100	.102	.143	.273
#4	103.	99.3	.104	.097	.116	.274
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**40592.**
Stddev	68.
%RSD	.16817
#1	40639.
#2	40549.
#3	40519.
#4	40660.

Sample Name: ICVLL Acquired: 07/19/2016 08:45:07 Type: QC
Method: Sodium and Potassium 1(v768) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**3.17**	**3.07**	**.022**	**.025**	**.048**	**.037**
Stddev	.03	.07	.004	.002	.011	.007
%RSD	1.06	2.15	18.0	6.92	23.7	19.1
#1	3.22	3.16	.019	.027	.058	.027
#2	3.14	3.00	.026	.023	.032	.043
#3	3.16	3.06	.026	.025	.052	.041
#4	3.16	3.05	.018	.025	.052	.036
Check ?	Chk Pass	Chk Pass	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**40730.**
Stddev	337.
%RSD	.82744
#1	40258.
#2	40791.
#3	41058.
#4	40814.

Sample Name: icb Acquired: 07/19/2016 08:47:52 Type: QC
Method: Sodium and Potassium 1(v768) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.010**	**.033**	**.012**	**.007**	**.029**	**.016**
Stddev	.048	.007	.013	.002	.028	.019
%RSD	479.	20.2	106.	24.1	98.4	119.
#1	.066	.024	.017	.007	-.004	.015
#2	.022	.033	.001	.007	.038	.027
#3	-.050	.040	.027	.007	.062	.032
#4	.003	.034	.002	.004	.019	-.010
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**40525.**
Stddev	193.
%RSD	.47687
#1	40318.
#2	40745.
#3	40620.
#4	40418.

Sample Name: mrl Acquired: 07/19/2016 08:50:39 Type: QC
Method: Sodium and Potassium 1(v768) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.929**	**.983**	**-.003**	**.002**	**.047**	**-.029**
Stddev	.034	.007	.010	.003	.015	.009
%RSD	3.62	.677	311.	145.	31.0	29.4
#1	.971	.989	-.015	.000	.054	-.040
#2	.909	.973	-.003	.002	.051	-.022
#3	.941	.983	-.004	.007	.026	-.023
#4	.896	.986	.009	.000	.059	-.033
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**40369.**
Stddev	183.
%RSD	.45241
#1	40502.
#2	40550.
#3	40211.
#4	40211.

Sample Name: icsa Acquired: 07/19/2016 08:53:24 Type: QC
Method: Sodium and Potassium 1(v768) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**-.077**	**-.006**	**506.**	**513.**	**501.**	**499.**
Stddev	.021	.003	2.	3.	1.	2.
%RSD	27.0	53.6	.417	.534	.197	.331
#1	-.099	-.010	503.	511.	500.	497.
#2	-.089	-.003	507.	517.	502.	501.
#3	-.063	-.004	507.	511.	500.	500.
#4	-.055	-.007	506.	512.	501.	498.
Check ?	Chk Pass	Chk Pass	None	None	None	None
High Limit						
Low Limit						

Int. Std.	Y_3203
Units	Cts/S
Avg	**37976.**
Stddev	76.
%RSD	.20054
#1	37947.
#2	37916.
#3	38088.
#4	37956.

Sample Name: icsab Acquired: 07/19/2016 08:56:23 Type: QC
Method: Sodium and Potassium 1(v768) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**102.**	**106.**	**527.**	**519.**	**506.**	**515.**
Stddev	.	2.	4.	4.	1.	6.
%RSD	.182	1.63	.770	.818	.254	1.16
#1	102.	106.	523.	520.	507.	516.
#2	102.	108.	530.	518.	505.	514.
#3	102.	104.	524.	524.	507.	523.
#4	102.	106.	531.	514.	504.	509.
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**38085.**
Stddev	147.
%RSD	.38523
#1	38002.
#2	38110.
#3	37947.
#4	38280.

Sample Name: ccv Acquired: 07/19/2016 10:00:56 Type: QC
Method: Sodium and Potassium 1(v768) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**100.**	**99.3**	**.012**	**.011**	**.113**	**-.029**
Stddev	1.	1.4	.005	.001	.026	.030
%RSD	.574	1.40	39.1	8.57	23.3	102.
#1	100.	101.	.016	.012	.081	-.027
#2	101.	98.9	.015	.010	.106	-.031
#3	99.9	100.	.007	.012	.126	-.065
#4	100.	97.5	.009	.011	.142	.008
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**39706.**
Stddev	161.
%RSD	.40627
#1	39751.
#2	39909.
#3	39538.
#4	39625.

Sample Name: ccb Acquired: 07/19/2016 10:03:41 Type: QC
Method: Sodium and Potassium 1(v768) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.060**	**.063**	**-.004**	**.000**	**.124**	**-.031**
Stddev	.013	.005	.007	.001	.027	.018
%RSD	21.4	7.68	178.	345.	22.2	58.6
#1	.049	.069	-.005	-.001	.152	-.023
#2	.079	.058	-.007	.000	.141	-.019
#3	.057	.060	.006	.001	.106	-.058
#4	.055	.065	-.009	.001	.094	-.024
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**39790.**
Stddev	189.
%RSD	.47431
#1	40021.
#2	39577.
#3	39844.
#4	39719.

Sample Name: lcsw58100 Acquired: 07/19/2016 10:11:59 Type: Unk
Method: Sodium and Potassium 1(v768) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**102.**	**101.**	**1.03**	**113.**	**201.**	**.444**
Stddev	1.	3.	.02	1.	.	.026
%RSD	.656	2.93	1.74	.507	.158	5.77
#1	103.	104.	1.04	114.	200.	.454
#2	102.	97.2	1.02	112.	200.	.458
#3	102.	101.	1.05	113.	201.	.405
#4	102.	102.	1.01	113.	201.	.457

Int. Std.	Y_3203
Units	Cts/S
Avg	**38368.**
Stddev	111.
%RSD	.29022
#1	38490.
#2	38369.
#3	38394.
#4	38221.

Sample Name: mbw58100 Acquired: 07/19/2016 10:14:44 Type: Unk
Method: Sodium and Potassium 1(v768) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**-.002**	**.015**	**-.003**	**.004**	**.131**	**.008**
Stddev	.036	.007	.010	.003	.011	.030
%RSD	1970.	46.4	359.	70.2	8.15	376.
#1	-.056	.024	-.011	.007	.128	.035
#2	.013	.016	.011	.007	.131	.019
#3	.019	.009	-.002	.002	.121	-.035
#4	.017	.011	-.010	.002	.146	.012

Int. Std.	Y_3203
Units	Cts/S
Avg	**39937.**
Stddev	233.
%RSD	.58442
#1	40206.
#2	39810.
#3	40047.
#4	39686.

Sample Name: 744978 Acquired: 07/19/2016 10:17:32 Type: Unk
Method: Sodium and Potassium 1(v768) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**4.52**	**12.9**	**.101**	**43.4**	**74.2**	**.038**
Stddev	.03	.1	.017	.1	.2	.025
%RSD	.707	.401	16.8	.217	.227	64.4
#1	4.51	12.9	.080	43.4	74.1	.017
#2	4.51	12.8	.094	43.5	74.5	.021
#3	4.56	13.0	.113	43.3	74.1	.070
#4	4.49	12.9	.116	43.3	74.3	.046

Int. Std.	Y_3203
Units	Cts/S
Avg	**39168.**
Stddev	76.
%RSD	.19476
#1	39232.
#2	39096.
#3	39236.
#4	39108.

Sample Name: 745779 Acquired: 07/19/2016 10:20:16 Type: Unk
Method: Sodium and Potassium 1(v768) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.810**	**3.71**	**.284**	**30.8**	**84.7**	**.309**
Stddev	.033	.01	.004	.1	.5	.024
%RSD	4.08	.359	1.54	.250	.641	7.70
#1	.776	3.72	.288	30.9	85.2	.315
#2	.788	3.72	.288	30.7	84.6	.319
#3	.836	3.71	.281	30.8	83.9	.274
#4	.841	3.69	.280	30.7	85.0	.328

Int. Std.	Y_3203
Units	Cts/S
Avg	**39423.**
Stddev	176.
%RSD	.44623
#1	39239.
#2	39479.
#3	39642.
#4	39333.

Sample Name: msw745779 Acquired: 07/19/2016 10:23:01 Type: Unk
Method: Sodium and Potassium 1(v768) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**102.**	**105.**	**1.27**	**142.**	**286.**	**.796**
Stddev	.	1.	.02	1.	1.	.034
%RSD	.487	1.39	1.85	.374	.404	4.25
#1	103.	104.	1.25	143.	286.	.834
#2	102.	104.	1.31	142.	285.	.772
#3	102.	103.	1.27	142.	287.	.815
#4	102.	107.	1.26	143.	285.	.764

Int. Std.	Y_3203
Units	Cts/S
Avg	**37887.**
Stddev	240.
%RSD	.63274
#1	37853.
#2	38071.
#3	37560.
#4	38062.

Sample Name: pdsw745779 Acquired: 07/19/2016 10:25:46 Type: Unk
Method: Sodium and Potassium 1(v768) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**103.**	**106.**	**.262**	**30.0**	**82.9**	**.309**
Stddev	1.	2.	.011	.1	.3	.026
%RSD	1.06	2.18	4.17	.296	.370	8.33
#1	104.	109.	.277	29.9	82.6	.276
#2	102.	104.	.260	30.0	82.8	.324
#3	103.	106.	.262	30.1	83.1	.303
#4	101.	105.	.250	30.0	83.3	.334

Int. Std.	Y_3203
Units	Cts/S
Avg	**38899.**
Stddev	101.
%RSD	.26062
#1	38935.
#2	38972.
#3	38940.
#4	38749.

Sample Name: ccv Acquired: 07/19/2016 10:34:01 Type: QC
Method: Sodium and Potassium 1(v768) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**99.5**	**98.0**	**-.008**	**.011**	**.181**	**-.002**
Stddev	.6	1.1	.010	.002	.032	.011
%RSD	.638	1.13	123.	14.4	17.8	645.
#1	98.7	97.1	-.001	.014	.179	-.012
#2	99.8	99.1	-.009	.010	.147	.013
#3	100.	97.0	.000	.010	.173	.001
#4	99.5	98.9	-.021	.011	.225	-.009
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**39185.**
Stddev	220.
%RSD	.56196
#1	39102.
#2	39485.
#3	39188.
#4	38965.

Sample Name: ccb Acquired: 07/19/2016 10:36:48 Type: QC
Method: Sodium and Potassium 1(v768) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.016**	**.067**	**.008**	**.001**	**.139**	**-.013**
Stddev	.016	.006	.009	.001	.028	.014
%RSD	99.6	9.57	118.	61.7	20.4	107.
#1	.001	.065	.004	.001	.124	-.001
#2	.004	.072	-.001	.000	.112	-.002
#3	.026	.072	.020	.002	.177	-.029
#4	.034	.059	.009	.002	.143	-.020
Check ?	None	None	None	None	None	None
Value						
Range						

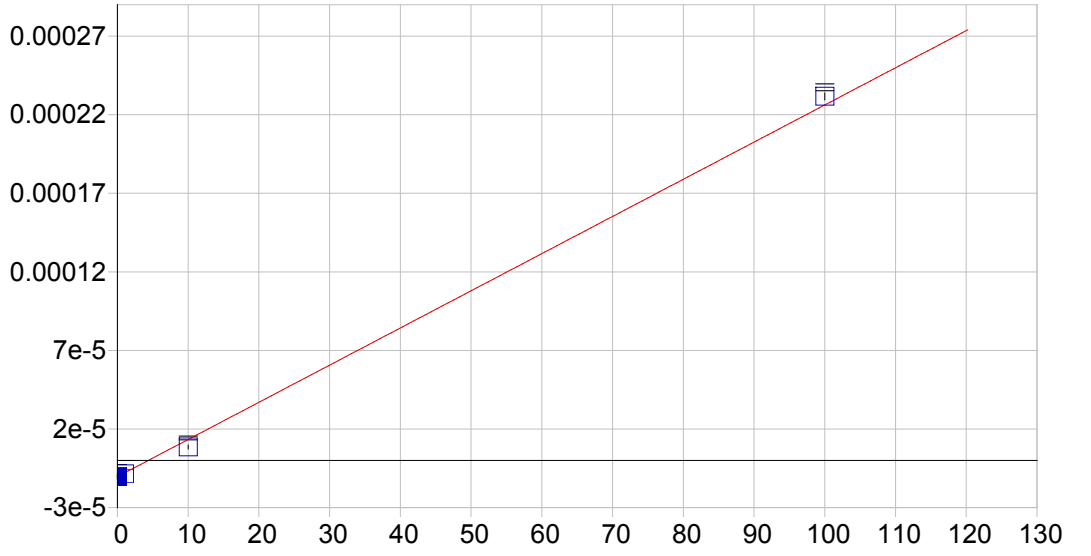
Int. Std.	Y_3203
Units	Cts/S
Avg	**39715.**
Stddev	233.
%RSD	.58723
#1	39424.
#2	39985.
#3	39673.
#4	39779.

Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)	Correlation	Std Error of Est	Predicted MDL	Predicted MQL	Status	Resl Slope
Ag 328.068 {103}	07/20/2016 09:23:56	07/19/2016 08:16:22	Linear	1/Conc	-0.000010	0.000002	0.000000	1.000000	0.997559	0.000000	0.944429	3.148098	OK.	1.000000
Al 309.271 {109}	07/20/2016 09:23:56	07/19/2016 08:42:01	Curvilin	None	0.000172	0.000000	0.000000	1.000000	1.000000	0.000018	16.839137	56.130455	OK.	1.000000
Al 396.152 { 85}	07/20/2016 09:23:56	07/19/2016 08:55:50	Full Fit	1/Var	-0.000019	0.000001	0.000000	1.000000	0.999992	0.000023	9.236578	30.788593	OK.	1.000000
Al 167.079 {502}	07/20/2016 09:23:56	07/19/2016 08:22:09	Linear	1/Var	0.000044	0.000008	0.000000	1.000000	0.998976	0.000021	1.778240	5.927467	OK.	1.000000
As 193.759 {474}	07/20/2016 09:23:56	07/19/2016 08:28:43	Curvilin	1/Conc	-0.000044	0.000010	-0.000000	1.000000	0.999993	0.000001	2.942870	9.809568	OK.	1.000000
As 189.042 {479}	07/20/2016 09:23:56	07/19/2016 08:28:43	Linear	1/Conc	0.000020	0.000002	0.000000	1.000000	0.999774	0.000000	15.465372	51.551239	OK.	1.000000
Ba 233.527 {445}	07/20/2016 09:23:56	07/19/2016 08:22:09	Linear	1/Conc	0.000054	0.000097	0.000000	1.000000	0.999949	0.000001	0.262255	0.874184	OK.	1.000000
Ba 455.403 { 74}	07/20/2016 09:23:56	07/19/2016 08:28:43	Linear	None	0.000031	0.000008	0.000000	1.000000	1.000000	0.000010	0.275080	0.916932	OK.	1.000000
Ba 493.409 { 68}	07/20/2016 09:23:56	07/19/2016 08:28:43	Linear	1/Var	0.001463	0.000008	0.000000	1.000000	0.999508	0.000016	0.621585	2.071949	OK.	1.000000
Be 313.042 {108}	07/20/2016 09:23:56	07/19/2016 08:22:09	Linear	1/Conc	-0.000039	0.000068	0.000000	1.000000	0.999995	0.000000	0.029275	0.097582	OK.	1.000000
Be 234.861 {144}	07/20/2016 09:23:56	07/19/2016 08:22:09	Linear	1/Conc	-0.000000	0.000001	0.000000	1.000000	0.999998	0.000000	0.535287	1.784289	OK.	1.000000
Ca 315.887 {107}	07/20/2016 09:23:56	07/19/2016 08:55:50	Curvilin	1/Conc	0.000038	0.000000	0.000000	1.000000	0.999989	0.000003	8.147407	27.158023	OK.	1.000000
Ca 317.933 {106}	07/20/2016 09:23:56	07/19/2016 08:55:50	Curvilin	1/Conc	0.002276	0.000001	0.000000	1.000000	0.999978	0.000013	3.497007	11.656691	OK.	1.000000
Ca 393.366 { 86}	07/20/2016 09:23:56	07/19/2016 08:22:09	Linear	None	0.000562	0.000034	0.000000	1.000000	0.999963	0.000171	0.049871	0.166237	OK.	1.000000
Ca 396.847 { 85}	07/20/2016 09:23:56	07/19/2016 08:28:43	Linear	1/Conc	0.001546	0.000067	0.000000	1.000000	0.999957	0.000029	0.123714	0.412379	OK.	1.000000
Cd 226.502 {449}	07/20/2016 09:23:56	07/19/2016 08:22:09	Linear	1/Conc	0.000022	0.000278	0.000000	1.000000	0.999980	0.000002	0.163342	0.544474	OK.	1.000000
Cd 228.802 {447}	07/20/2016 09:23:56	07/19/2016 08:22:09	Linear	1/Conc	0.000081	0.000426	0.000000	1.000000	0.999991	0.000002	0.135734	0.452446	OK.	1.000000
Co 228.616 {447}	07/20/2016 09:23:56	07/19/2016 08:28:43	Linear	1/Conc	-0.000115	0.000171	0.000000	1.000000	0.999923	0.000008	0.275085	0.916949	OK.	1.000000
Co 238.892 {141}	07/20/2016 09:23:56	07/19/2016 08:28:43	Linear	None	0.000015	0.000002	0.000000	1.000000	0.999999	0.000019	0.864846	2.882820	OK.	1.000000
Cr 205.560 {464}	07/20/2016 09:23:56	07/19/2016 08:35:24	Linear	1/Var	0.000135	0.000128	0.000000	1.000000	0.999370	0.001385	0.241434	0.804778	OK.	1.000000
Cr 267.716 {126}	07/20/2016 09:23:56	07/19/2016 08:28:43	Linear	1/Var	0.000002	0.000004	0.000000	1.000000	0.999914	0.000003	0.549863	1.832877	OK.	1.000000
Cu 224.700 {450}	07/20/2016 09:23:56	07/19/2016 08:28:43	Curvilin	1/Conc	-0.000034	0.000085	-0.000000	1.000000	0.999992	0.000001	0.539576	1.798587	OK.	1.000000
Cu 324.754 {104}	07/20/2016 09:23:56	07/19/2016 08:35:24	Curvilin	1/Conc	0.000067	0.000000	0.000000	1.000000	0.999986	0.000000	3.462305	11.541015	OK.	1.000000
Cu 327.396 {103}	07/20/2016 09:23:56	07/19/2016 08:35:25	Curvilin	1/Conc	-0.000046	0.000002	0.000000	1.000000	0.999978	0.000001	4.550925	15.169749	OK.	1.000000
Fe 234.349 {144}	07/20/2016 09:23:56	07/19/2016 08:55:50	Curvilin	1/Var	0.000019	0.000000	0.000000	1.000000	0.999781	0.000004	1.779142	5.930475	OK.	1.000000
Fe 239.562 {140}	07/20/2016 09:23:56	07/19/2016 08:55:50	Curvilin	1/Conc	0.000002	0.000000	0.000000	1.000000	0.993742	0.000012	8.484613	28.282045	OK.	1.000000
Fe 259.940 {129}	07/20/2016 09:23:56	07/19/2016 08:55:50	Curvilin	1/Var	0.000009	0.000001	0.000000	1.000000	0.999951	0.000009	4.588615	15.295382	OK.	1.000000
Mg 202.582 {466}	07/20/2016 09:23:56	07/19/2016 08:55:50	Curvilin	1/Conc	-0.000023	0.000012	0.000000	1.000000	0.999877	0.000318	2.806714	9.355714	OK.	1.000000
Mg 279.079 {121}	07/20/2016 09:23:56	07/19/2016 08:55:50	Full Fit	1/Conc	0.000000	0.000000	0.000000	1.020000	0.999999	0.000000	40.846818	136.156060	OK.	1.000000
Mg 280.270 {120}	07/20/2016 09:23:56	07/19/2016 08:28:44	Linear	1/Conc	0.000343	0.000041	0.000000	1.000000	0.999695	0.000031	0.029555	0.098517	OK.	1.000000
Mn 257.610 {131}	07/20/2016 09:23:56	07/19/2016 08:28:44	Curvilin	1/Conc	0.000010	0.000015	-0.000000	1.000000	0.999994	0.000000	0.078583	0.261944	OK.	1.000000
Mn 259.373 {130}	07/20/2016 09:23:56	07/19/2016 08:35:25	Linear	1/Var	0.000012	0.000007	0.000000	1.000000	0.999970	0.000019	0.565986	1.886620	OK.	1.000000
Mo 202.030 {466}	07/20/2016 09:23:56	07/19/2016 08:22:09	Linear	1/Conc	0.000030	0.000064	0.000000	1.000000	0.999971	0.000001	0.385737	1.285789	OK.	1.000000
Mo 204.598 {464}	07/20/2016 09:23:56	07/19/2016 08:28:44	Full Fit	1/Conc	0.000000	0.000001	0.000000	1.000000	0.999998	0.000000	0.652982	2.176608	OK.	1.000000
Mo 204.598 {465}	07/20/2016 09:23:56	07/19/2016 08:28:44	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.999997	0.000000	0.883633	2.945445	OK.	1.000000
Ni 221.647 {452}	07/20/2016 09:23:56	07/19/2016 08:28:44	Linear	1/Var	0.000001	0.000002	0.000000	1.000000	0.999887	0.000008	0.407561	1.358537	OK.	1.000000
Ni 231.604 {445}	07/20/2016 09:23:56	07/19/2016 08:28:44	Curvilin	1/Conc	-0.000001	0.000002	-0.000000	1.000000	0.999993	0.000000	0.412234	1.374114	OK.	1.000000
Pb 216.999 {455}	07/20/2016 09:23:56	07/19/2016 08:35:25	Linear	1/Var	0.000333	0.000011	0.000000	1.000000	0.999473	0.000267	4.233457	14.111522	OK.	1.000000
Pb 220.353 {453}	07/20/2016 09:23:56	07/19/2016 08:28:44	Curvilin	1/Var	0.000096	0.000040	-0.000000	1.000000	0.999958	0.000134	1.854101	6.180335	OK.	1.000000
Pb 220.353 {153}	07/20/2016 09:23:56	07/19/2016 08:35:25	Linear	1/Conc	0.000231	0.000018	0.000000	1.000000	0.999970	0.000019	4.352848	14.509494	OK.	1.000000
Sb 206.833 {463}	07/20/2016 09:23:56	07/19/2016 08:28:44	Linear	1/Conc	-0.000091	0.000018	0.000000	1.000000	0.999956	0.000002	2.058227	6.860756	OK.	1.000000
Sb 217.581 {455}	07/20/2016 09:23:56	07/19/2016 08:28:44	Curvilin	None	-0.000022	0.000020	-0.000000	1.000000	1.000000	0.000018	2.108770	7.029233	OK.	1.000000
Se 196.090 {472}	07/20/2016 09:23:56	07/19/2016 08:28:44	Linear	1/Conc	0.000009	0.000008	0.000000	1.000000	0.999829	0.000002	3.614330	12.047766	OK.	1.000000
Se 206.279 {463}	07/20/2016 09:23:56	07/19/2016 08:28:44	Curvilin	1/Conc	-0.000004	0.000002	-0.000000	1.000000	0.999989	0.000001	19.327471	64.424902	OK.	1.000000
Se 196.090 {471}	07/20/2016 09:23:56	07/19/2016 08:28:44	Linear	1/Conc	0.000008	0.000006	0.000000	1.000000	0.999847	0.000001	4.617515	15.391716	OK.	1.000000
Tl 190.856 {476}	07/20/2016 09:23:56	07/19/2016 08:28:44	Linear	1/Conc	0.000015	0.000018	0.000000	1.000000	0.999801	0.000005	1.976640	6.588802	OK.	1.000000

Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)	Correlation	Std Error of Est	Predicted MDL	Predicted MQL	Status	Resl Slope
Tl 190.856 {477}	07/20/2016 09:23:56	07/19/2016 08:28:44	Linear	1/Conc	-0.000015	0.000009	0.000000	1.000000	0.999812	0.000002	3.030111	10.100371	OK.	1.000000
V 290.882 {116}	07/20/2016 09:23:56	07/19/2016 08:28:44	Full Fit	1/Conc	0.000003	0.000000	0.000000	0.990000	1.000000	0.000000	3.143704	10.479012	Warnin	1.000000
V 292.402 {115}	07/20/2016 09:23:56	07/19/2016 08:28:44	Linear	1/Conc	0.000006	0.000006	0.000000	1.000000	0.999993	0.000000	0.555903	1.853010	OK.	1.000000
Zn 206.200 {463}	07/20/2016 09:23:56	07/19/2016 08:35:25	Curvilin	1/Var	0.000251	0.000193	-0.000000	1.000000	0.999808	0.000644	0.206224	0.687413	OK.	1.000000
Zn 213.856 {458}	07/20/2016 09:23:56	07/19/2016 08:28:44	Curvilin	1/Var	0.000002	0.000002	-0.000000	1.000000	0.999947	0.000001	0.191385	0.637950	OK.	1.000000
Y 324.228 {104}*	07/20/2016 09:23:56	07/19/2016 07:24:43	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000
Y 371.030 { 91}*	07/20/2016 09:23:56	07/19/2016 07:24:43	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000
Y 224.306 {451}*	07/20/2016 09:23:56	07/19/2016 07:24:43	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000
Na 588.995 { 57}	07/20/2016 09:23:56	07/19/2016 08:42:01	Linear	1/Conc	0.000736	0.000001	0.000000	1.000000	1.000000	0.000000	3.956572	13.188572	OK.	1.000000
Si 251.611 {134}	07/20/2016 09:23:56	07/19/2016 08:42:01	Linear	1/Conc	0.000033	0.000001	0.000000	1.000000	0.999960	0.000001	6.777930	22.593101	OK.	1.000000
Ti 334.941 {101}	07/20/2016 09:23:56	07/19/2016 08:28:44	Linear	1/Conc	0.000001	0.000004	0.000000	1.000000	0.999963	0.000000	1.291007	4.303356	OK.	1.000000
Sr 407.771 { 83}	07/20/2016 09:23:56	07/19/2016 08:28:44	Linear	1/Conc	-0.000035	0.000089	0.000000	1.000000	0.999931	0.000004	0.104680	0.348932	OK.	1.000000
Sn 189.989 {478}	07/20/2016 09:23:56	07/19/2016 08:28:44	Linear	1/Var	0.000025	0.000008	0.000000	1.000000	0.999814	0.000105	2.547547	8.491823	OK.	1.000000
B 249.678 {135}	07/20/2016 09:23:56	07/19/2016 08:28:44	Linear	1/Conc	0.000005	0.000001	0.000000	1.000000	0.999928	0.000000	1.556292	5.187641	OK.	1.000000
B 249.773 {135}	07/20/2016 09:23:56	07/19/2016 08:28:44	Linear	1/Conc	0.000013	0.000002	0.000000	1.000000	0.999934	0.000000	0.766233	2.554109	OK.	1.000000
Li 670.784 { 50}	07/20/2016 09:23:56	07/19/2016 08:28:44	Linear	1/Var	-0.000013	0.000021	0.000000	1.000000	0.999966	0.000047	1.333659	4.445529	OK.	1.000000
K 766.490 { 44}	07/20/2016 09:23:56	07/19/2016 08:42:01	Linear	1/Conc	-0.000034	0.000001	0.000000	1.000000	0.999989	0.000002	33.965081	113.216938	OK.	1.000000
P 213.618 {457}	07/20/2016 09:23:56	07/19/2016 08:42:01	Linear	1/Conc	-0.000000	0.000000	0.000000	1.000000	0.990763	0.000000	1293.71703	4312.39012	OK.	1.000000
S 182.034 {485}	07/20/2016 09:23:56	07/19/2016 08:55:50	Linear	1/Conc	0.000109	0.000006	0.000000	1.000000	0.999671	0.000224	3.660713	12.202376	OK.	1.000000
W 239.709 {140}	07/20/2016 09:23:56	07/19/2016 08:42:01	Curvilin	None	-0.000000	0.000000	-0.000000	1.000000	1.000000	0.000000	34.222754	114.075845	OK.	1.000000
Hg 184.950 {482}	07/20/2016 09:23:56	07/19/2016 08:16:23	Linear	1/Conc	0.000087	0.000035	0.000000	1.000000	1.000000	0.000000	0.799054	2.663513	OK.	1.000000
Hg 194.227 {473}	07/20/2016 09:23:56	07/19/2016 08:16:23	Linear	1/Conc	-0.000009	0.000033	0.000000	1.000000	1.000000	0.000000	0.837937	2.793124	OK.	1.000000

Element, Wavelength and Order	ope	QC Norm	
	Y-int	Slope factor	Offset
Ag 328.068 {103}	0.000000	1	0
Al 309.271 {109}	0.000000	1	0
Al 396.152 { 85}	0.000000	1	0
Al 167.079 {502}	0.000000	1	0
As 193.759 {474}	0.000000	1	0
As 189.042 {479}	0.000000	1	0
Ba 233.527 {445}	0.000000	1	0
Ba 455.403 { 74}	0.000000	1	0
Ba 493.409 { 68}	0.000000	1	0
Be 313.042 {108}	0.000000	1	0
Be 234.861 {144}	0.000000	1	0
Ca 315.887 {107}	0.000000	1	0
Ca 317.933 {106}	0.000000	1	0
Ca 393.366 { 86}	0.000000	1	0
Ca 396.847 { 85}	0.000000	1	0
Cd 226.502 {449}	0.000000	1	0
Cd 228.802 {447}	0.000000	1	0
Co 228.616 {447}	0.000000	1	0
Co 238.892 {141}	0.000000	1	0
Cr 205.560 {464}	0.000000	1	0
Cr 267.716 {126}	0.000000	1	0
Cu 224.700 {450}	0.000000	1	0
Cu 324.754 {104}	0.000000	1	0
Cu 327.396 {103}	0.000000	1	0
Fe 234.349 {144}	0.000000	1	0
Fe 239.562 {140}	0.000000	1	0
Fe 259.940 {129}	0.000000	1	0
Mg 202.582 {466}	0.000000	1	0
Mg 279.079 {121}	0.000000	1	0
Mg 280.270 {120}	0.000000	1	0
Mn 257.610 {131}	0.000000	1	0
Mn 259.373 {130}	0.000000	1	0
Mo 202.030 {466}	0.000000	1	0
Mo 204.598 {464}	0.000000	1	0
Mo 204.598 {465}	0.000000	1	0
Ni 221.647 {452}	0.000000	1	0
Ni 231.604 {445}	0.000000	1	0
Pb 216.999 {455}	0.000000	1	0
Pb 220.353 {453}	0.000000	1	0
Pb 220.353 {153}	0.000000	1	0
Sb 206.833 {463}	0.000000	1	0
Sb 217.581 {455}	0.000000	1	0
Se 196.090 {472}	0.000000	1	0
Se 206.279 {463}	0.000000	1	0
Se 196.090 {471}	0.000000	1	0
Tl 190.856 {476}	0.000000	1	0

Element, Wavelength and Order	ope	QC Norm	
	Y-int	Slope factor	Offset
Tl 190.856 {477}	0.000000	1	0
V 290.882 {116}	0.000000	1	0
V 292.402 {115}	0.000000	1	0
Zn 206.200 {463}	0.000000	1	0
Zn 213.856 {458}	0.000000	1	0
Y 324.228 {104}*	0.000000	1	0
Y 371.030 { 91}*	0.000000	1	0
Y 224.306 {451}*	0.000000	1	0
Na 588.995 { 57}	0.000000	1	0
Si 251.611 {134}	0.000000	1	0
Ti 334.941 {101}	0.000000	1	0
Sr 407.771 { 83}	0.000000	1	0
Sn 189.989 {478}	0.000000	1	0
B 249.678 {135}	0.000000	1	0
B 249.773 {135}	0.000000	1	0
Li 670.784 { 50}	0.000000	1	0
K 766.490 { 44}	0.000000	1	0
P 213.618 {457}	0.000000	1	0
S 182.034 {485}	0.000000	1	0
W 239.709 {140}	0.000000	1	0
Hg 184.950 {482}	0.000000	1	0
Hg 194.227 {473}	0.000000	1	0

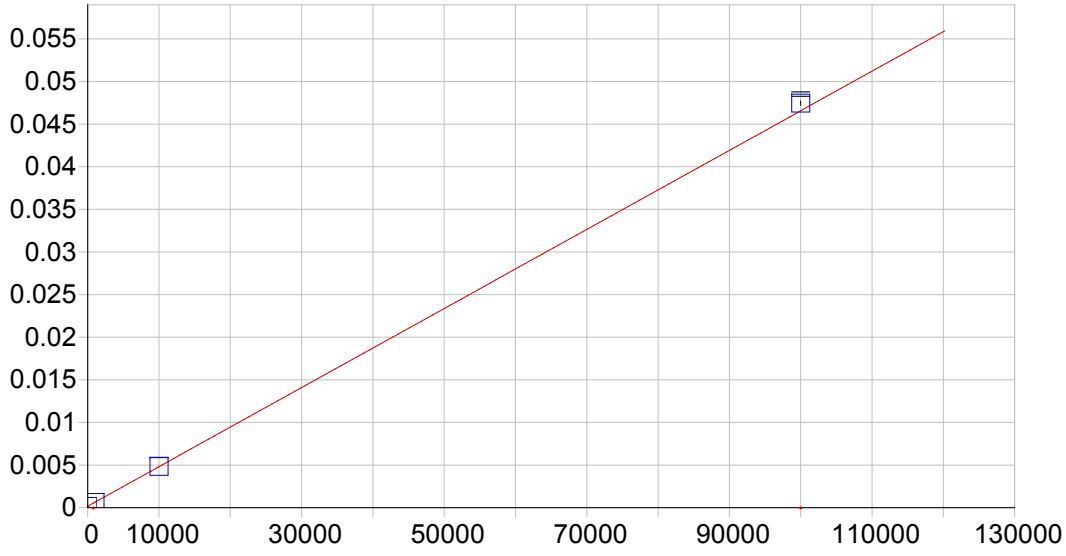


Ag 328.068 {103}

Date of Fit:	07/20/2016 09:23:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000010	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.997559	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.944429		
Predicted MQL:	3.148098		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00046	.000	.000	-.00001	.000	1
CalStd5=10	10.000	7.9782	-2.02	-20.2	.00001	.000	1
CalStd8=100	100.00	102.31	2.31	2.31	.00023	.000	1
CalStd3=1	1.0000	.71432	-.286	-28.6	-.00001	.000	1

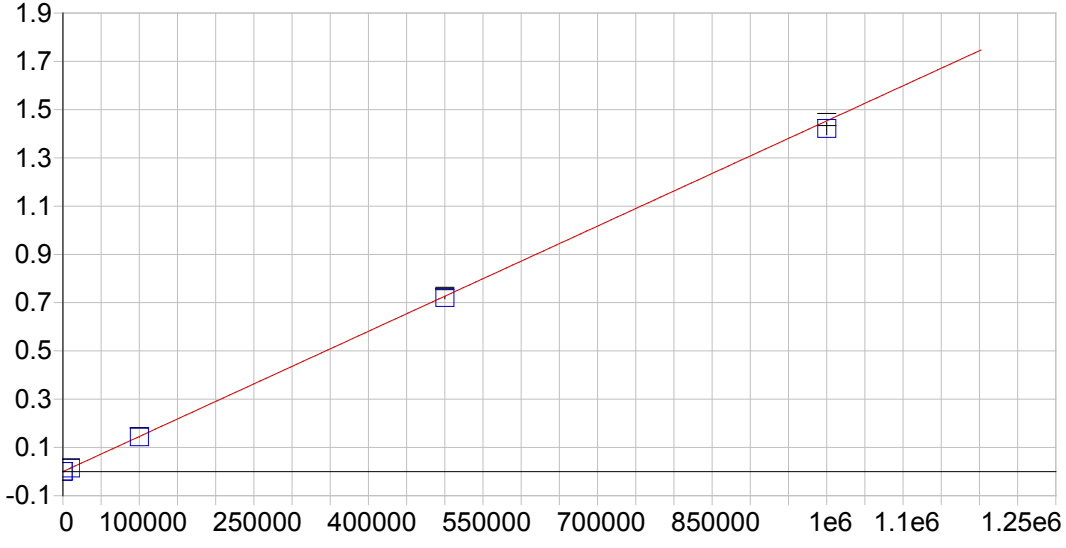


Al 309.271 {109}

Date of Fit:	07/20/2016 09:23:56	Type of Fit:	Curvilinear	Weighting:	None

A0 (Offset):	0.000172	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000018		
Predicted MDL:	16.839137		
Predicted MQL:	56.130455		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-26.074	-26.1	.000	.00016	.000	1
CalStd10=10	10000.	10016.	15.9	.159	.00482	.000	1
CalStd9=100	1000.0	1029.5	29.5	2.95	.00065	.000	1
CalStd12-100	100000.	101910.	1910.	1.91	.04745	.000	1

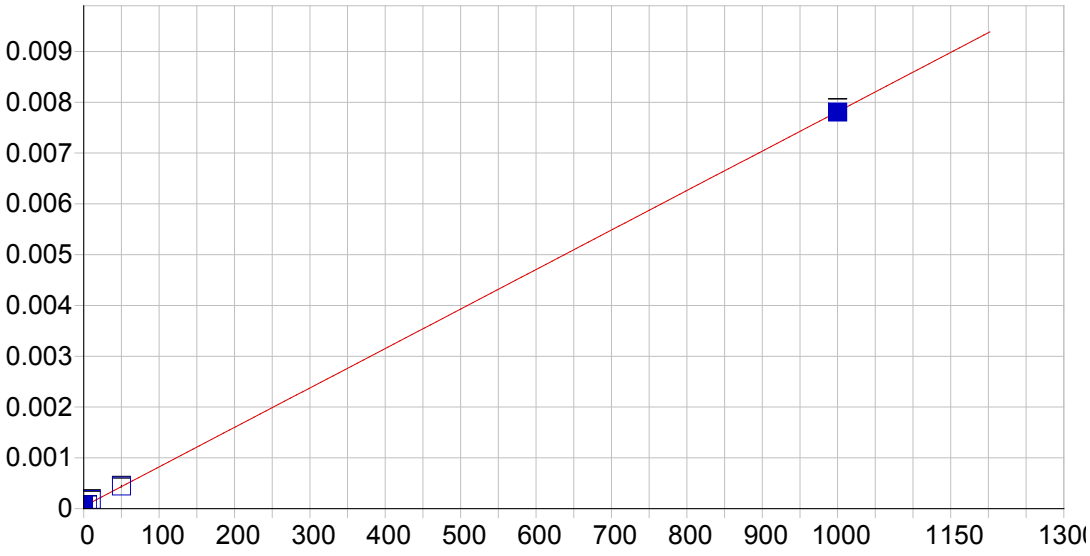


Al 396.152 { 85}

Date of Fit:	07/20/2016 09:23:56	Type of Fit:	Full Fit	Weighting:	1/Var

A0 (Offset):	-0.000019	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999992	Status:	OK.
Std Error of Est:	0.000023		
Predicted MDL:	9.236578		
Predicted MQL:	30.788593		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	-.00002	.000	1
CalStd14-100	1000000.	977960.	-22000.	-2.20	1.4214	.025	1
CalStd13=50	500000.	496080.	-3920.	-.784	.72100	.005	1
CalStd10=10	10000.	10008.	7.97	.080	.01453	.000	1
CalStd12-100	100000.	98988.	-1010.	-1.01	.14385	.001	1
CalStd9=100	1000.0	1006.1	6.13	.613	.00144	.000	1

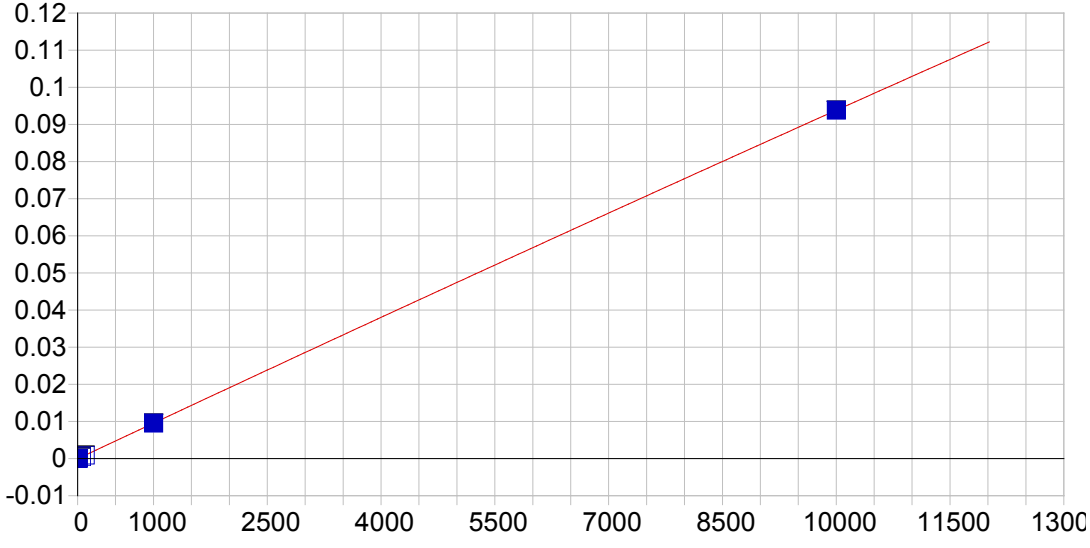


Al 167.079 {502}

Date of Fit:	07/20/2016 09:23:56	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000044	Re-Slope:	1.000000
A1 (Gain):	0.000008	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998976	Status:	OK.
Std Error of Est:	0.000021		
Predicted MDL:	1.778240		
Predicted MQL:	5.927467		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	2.3651	2.37	.000	.00006	.000	1
CalStd9=100	1000.0	998.68	-1.32	-.132	.00781	.000	1
CalStd5=10	10.000	17.363	7.36	73.6	.00018	.000	1
CalStd4=5	5.0000	4.0729	-.927	-18.5	.00008	.000	1
CalStd7=50	50.000	51.084	1.08	2.17	.00044	.000	1

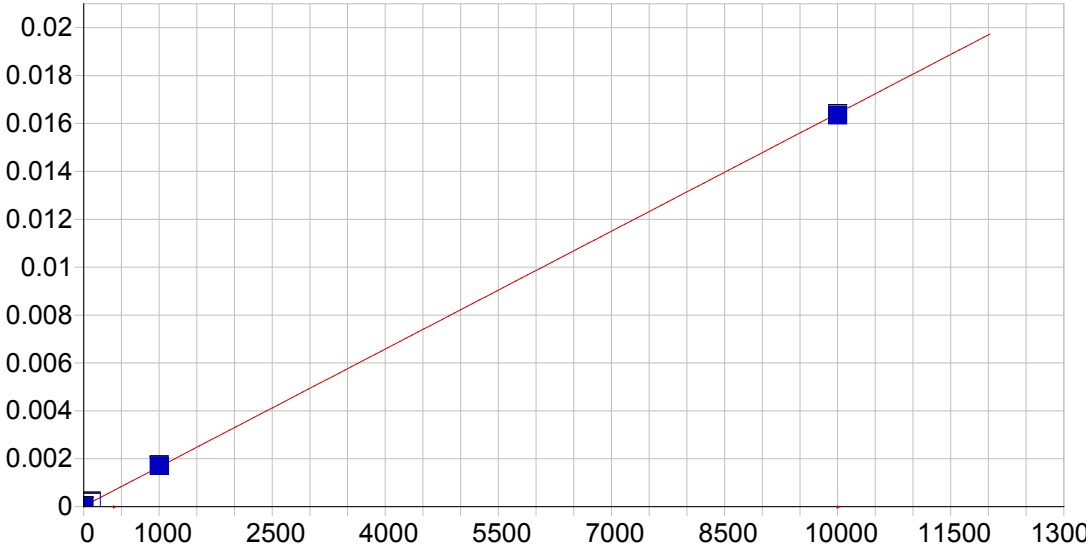


As 193.759 {474}

Date of Fit: 07/20/2016 09:23:56 Type of Fit: Curvilinear Weighting: 1/Conc

A0 (Offset):	-0.000044	Re-Slope:	1.000000
A1 (Gain):	0.000010	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999993	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	2.942870		
Predicted MQL:	9.809568		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00110	-.001	.000	-.00004	.000	1
CalStd9=100	1000.0	999.16	-.838	-.084	.00953	.000	1
CalStd7=50	50.000	49.601	-.399	-.797	.00043	.000	1
CalStd5=10	10.000	11.193	1.19	11.9	.00006	.000	1
CalStd8=100	100.00	99.954	-.046	-.046	.00092	.000	1
CalStd10=10	10000.	10000.	.089	.001	.09380	.000	1

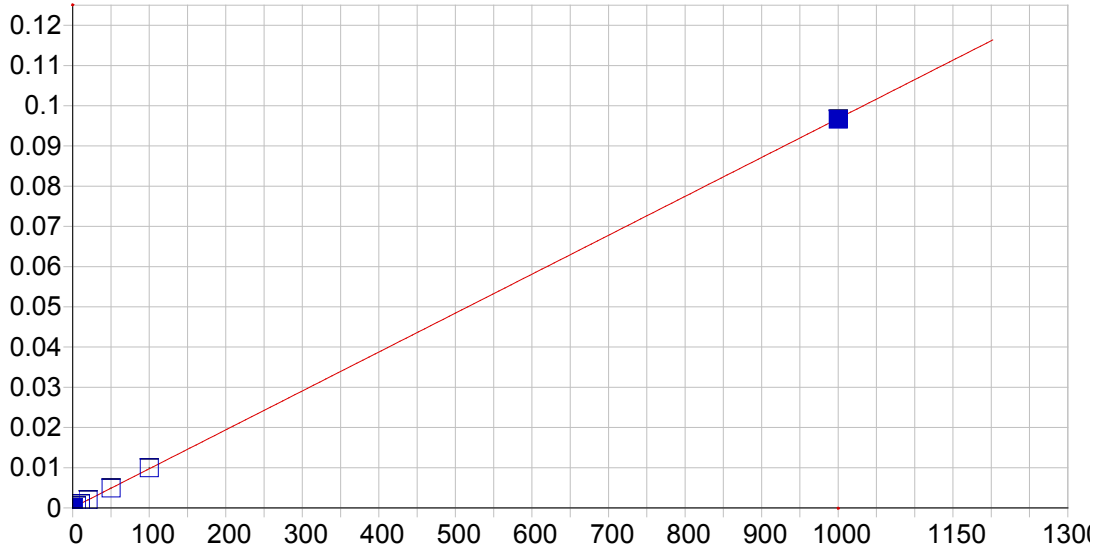


As 189.042 {479}

Date of Fit:	07/20/2016 09:23:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000020	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999774	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	15.465372		
Predicted MQL:	51.551239		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00211	.002	.000	.00002	.000	1
CalStd9=100	1000.0	1032.3	32.3	3.23	.00171	.000	1
CalStd10=10	10000.	9956.4	-43.6	-.436	.01635	.000	1
CalStd8=100	100.00	114.25	14.3	14.3	.00021	.000	1
CalStd4=5	5.0000	2.0393	-2.96	-59.2	.00002	.000	1

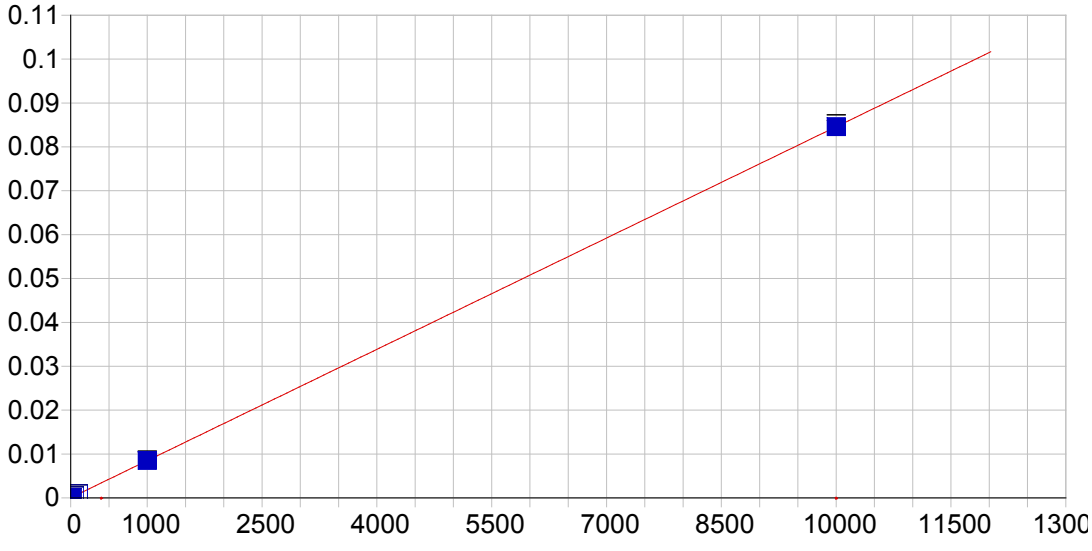


Ba 233.527 {445}

Date of Fit:	07/20/2016 09:23:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000054	Re-Slope:	1.000000
A1 (Gain):	0.000097	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999949	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.262255		
Predicted MQL:	0.874184		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00026	.000	.000	.00005	.000	1
CalStd7=50	50.000	50.356	.356	.713	.00493	.000	1
CalStd5=10	10.000	9.9923	-.008	-.077	.00102	.000	1
CalStd6=20	20.000	20.111	.111	.557	.00200	.000	1
CalStd8=100	100.00	102.09	2.09	2.09	.00993	.000	1
CalStd4=5	5.0000	4.7096	-.290	-5.81	.00051	.000	1
CalStd9=100	1000.0	997.97	-2.03	-.203	.09662	.000	1
CalStd3=1	1.0000	.77091	-.229	-22.9	.00013	.000	1

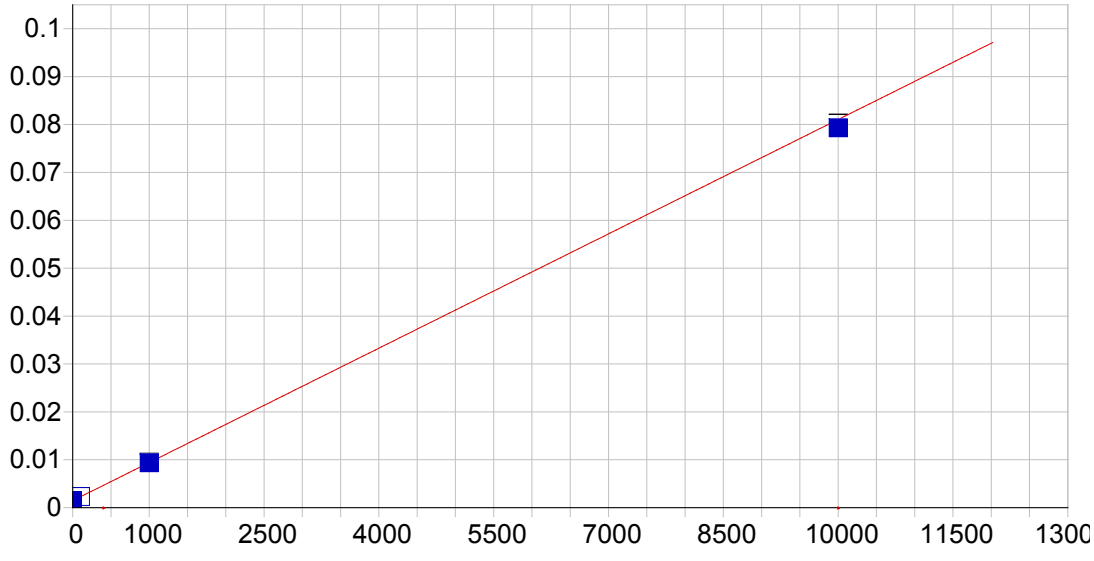


Ba 455.403 { 74}

Date of Fit:	07/20/2016 09:23:56	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000031	Re-Slope:	1.000000
A1 (Gain):	0.000008	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000010		
Predicted MDL:	0.275080		
Predicted MQL:	0.916932		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.55470	-.555	.000	.00003	.000	1
CalStd7=50	50.000	49.922	-.078	-.155	.00045	.000	1
CalStd5=10	10.000	9.1849	-.815	-8.15	.00011	.000	1
CalStd6=20	20.000	19.543	-.457	-2.28	.00020	.000	1
CalStd8=100	100.00	101.87	1.87	1.87	.00089	.000	1
CalStd4=5	5.0000	4.1139	-.886	-17.7	.00007	.000	1
CalStd9=100	1000.0	1002.0	1.97	.197	.00850	.000	1
CalStd3=1	1.0000	.16277	-.837	-83.7	.00003	.000	1
CalStd10=10	10000.	9999.8	-.213	-.002	.08459	.001	1

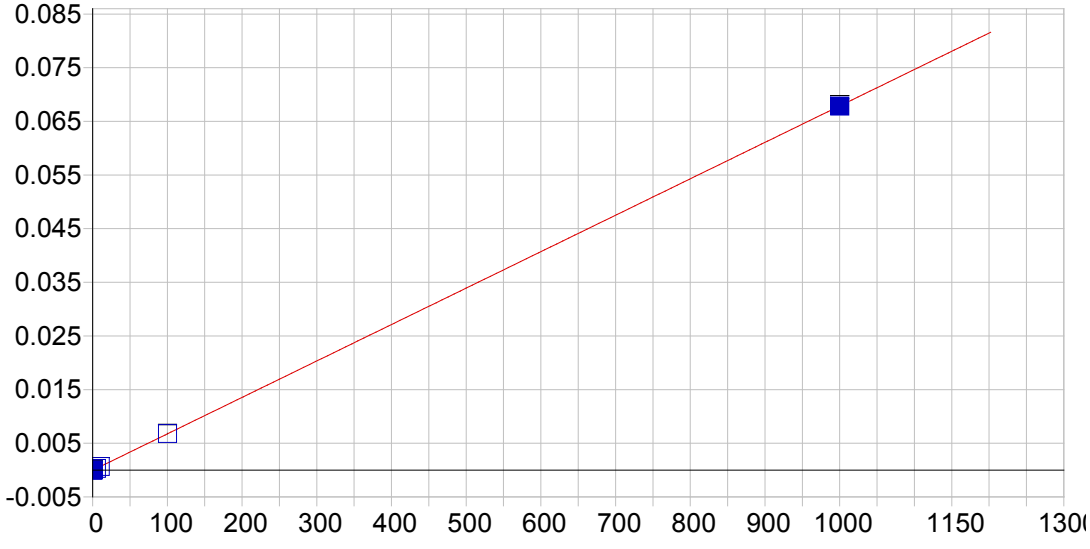


Ba 493.409 { 68}

Date of Fit:	07/20/2016 09:23:56	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.001463	Re-Slope:	1.000000
A1 (Gain):	0.000008	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999508	Status:	OK.
Std Error of Est:	0.000016		
Predicted MDL:	0.621585		
Predicted MQL:	2.071949		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.27400	-.274	.000	.00146	.000	1
CalStd9=100	1000.0	989.39	-10.6	-1.06	.00934	.000	1
CalStd8=100	100.00	105.27	5.27	5.27	.00230	.000	1
CalStd10=10	10000.	9779.8	-220.	-2.20	.07931	.001	1

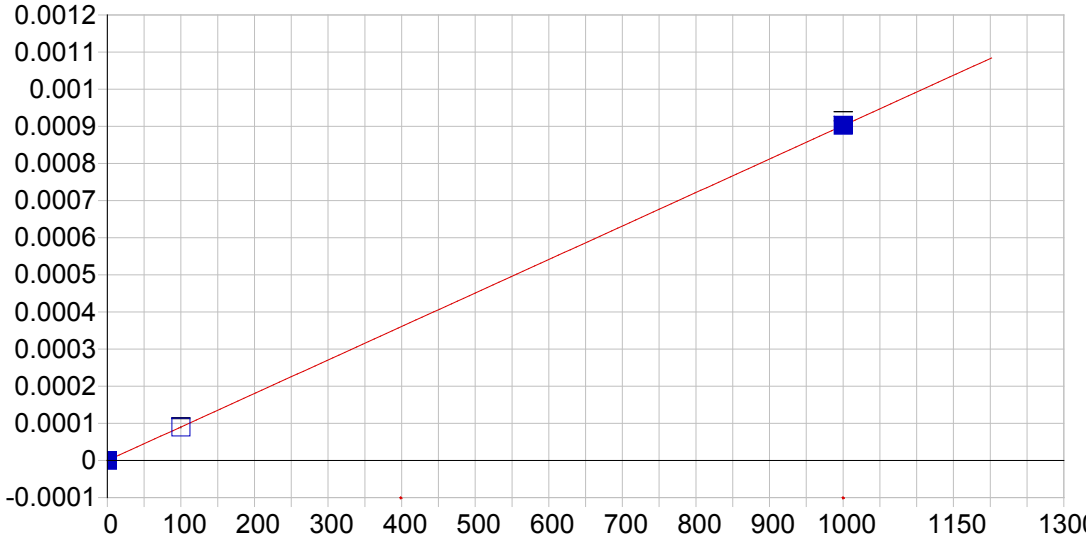


Be 313.042 {108}

Date of Fit:	07/20/2016 09:23:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000039	Re-Slope:	1.000000
A1 (Gain):	0.000068	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999995	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.029275		
Predicted MQL:	0.097582		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00004	.000	.000	-.00004	.000	1
CalStd5=10	10.000	10.067	.067	.672	.00064	.000	1
CalStd8=100	100.00	100.74	.739	.739	.00680	.000	1
CalStd2=0.5	.50000	.53770	.038	7.54	.00000	.000	1
CalStd4=5	5.0000	4.9985	-.002	-.031	.00030	.000	1
CalStd1=0.25	.25000	.26242	.012	4.97	-.00002	.000	1
CalStd9=100	1000.0	999.12	-.878	-.088	.06782	.000	1
CalStd3=1	1.0000	1.0231	.023	2.31	.00003	.000	1

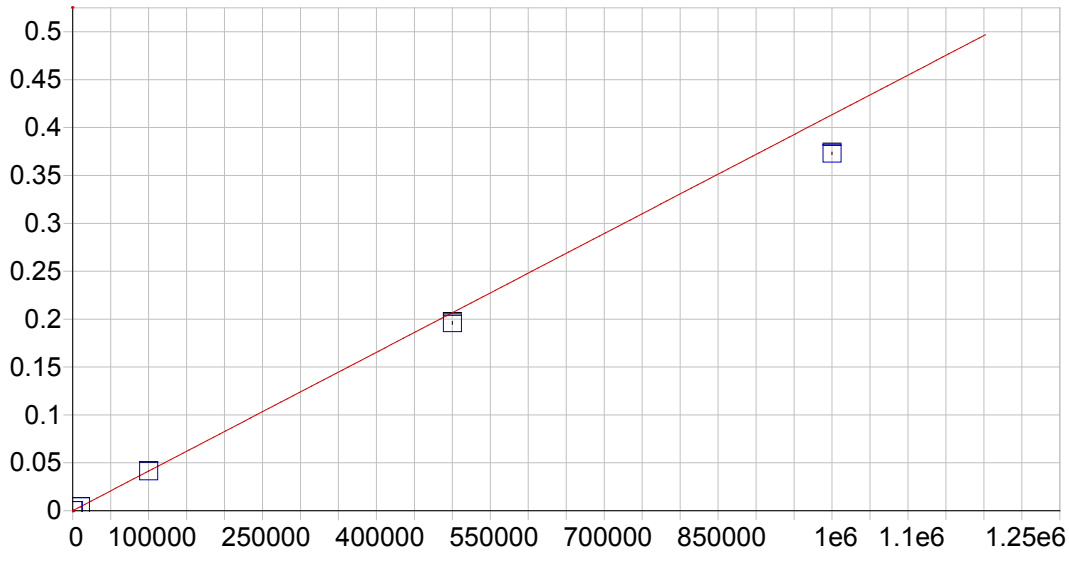


Be 234.861 {144}

Date of Fit:	07/20/2016 09:23:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999998	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.535287		
Predicted MQL:	1.784289		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00051	.001	.000	.00000	.000	1
CalStd9=100	1000.0	1000.6	.568	.057	.00090	.000	1
CalStd8=100	100.00	99.432	-.568	-.568	.00009	.000	1

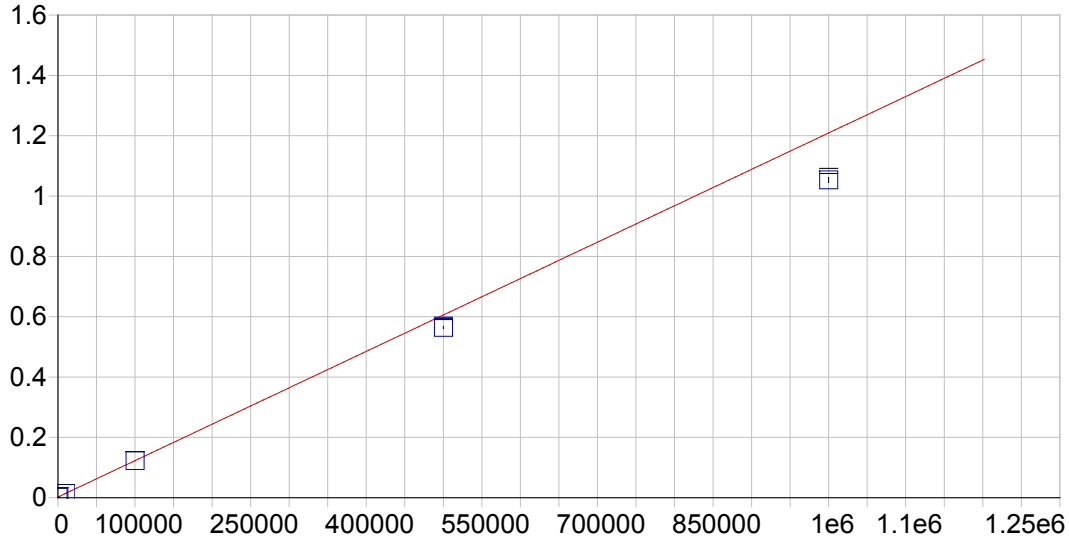


Ca 315.887 {107}

Date of Fit: 07/20/2016 09:23:56 Type of Fit: Curvilinear Weighting: 1/Conc

A0 (Offset):	0.000038	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999989	Status:	OK.
Std Error of Est:	0.000003		
Predicted MDL:	8.147407		
Predicted MQL:	27.158023		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.05658	.057	.000	.00004	.000	1
CalStd10=10	10000.	9617.5	-382.	-3.82	.00401	.000	1
CalStd13=50	500000.	474340.	-25700.	-5.13	.19611	.001	1
CalStd14-100	1000000.	902590.	-97400.	-9.74	.37313	.001	1
CalStd9=100	1000.0	971.48	-28.5	-2.85	.00044	.000	1
CalStd12-100	100000.	100120.	120.	.120	.04142	.000	1

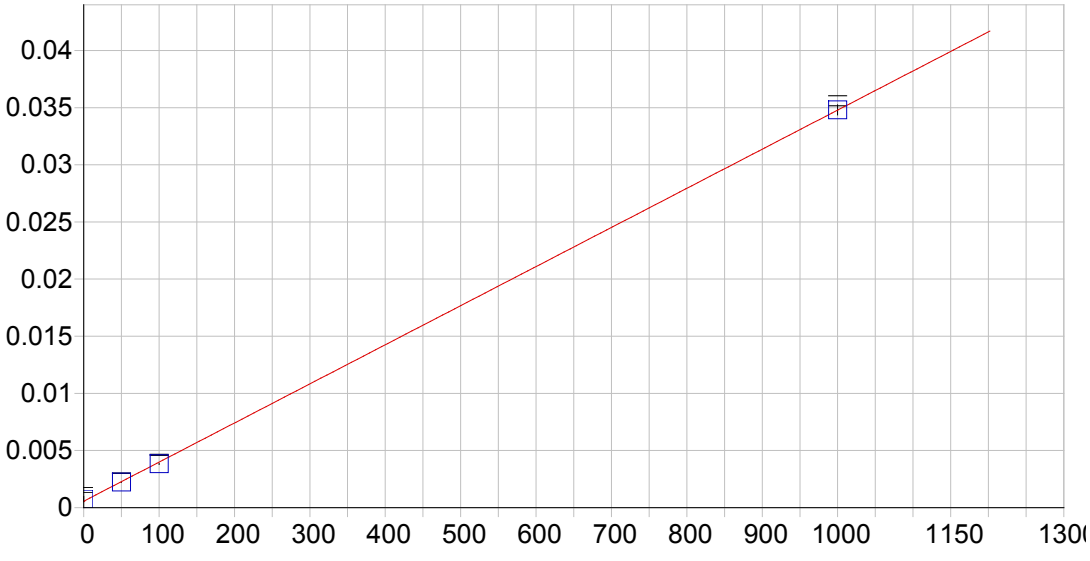


Ca 317.933 {106}

Date of Fit:	07/20/2016 09:23:56	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	0.002276	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999978	Status:	OK.
Std Error of Est:	0.000013		
Predicted MDL:	3.497007		
Predicted MQL:	11.656691		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.17911	-.179	.000	.00228	.000	1
CalStd10=10	10000.	9800.8	-199.	-1.99	.01410	.000	1
CalStd13=50	500000.	465700.	-34300.	-6.86	.56433	.004	1
CalStd14-100	1000000.	870930.	-129000.	-12.9	1.0534	.008	1
CalStd9=100	1000.0	1190.3	190.	19.0	.00371	.000	1
CalStd12-100	100000.	99711.	-289.	-.289	.12262	.001	1

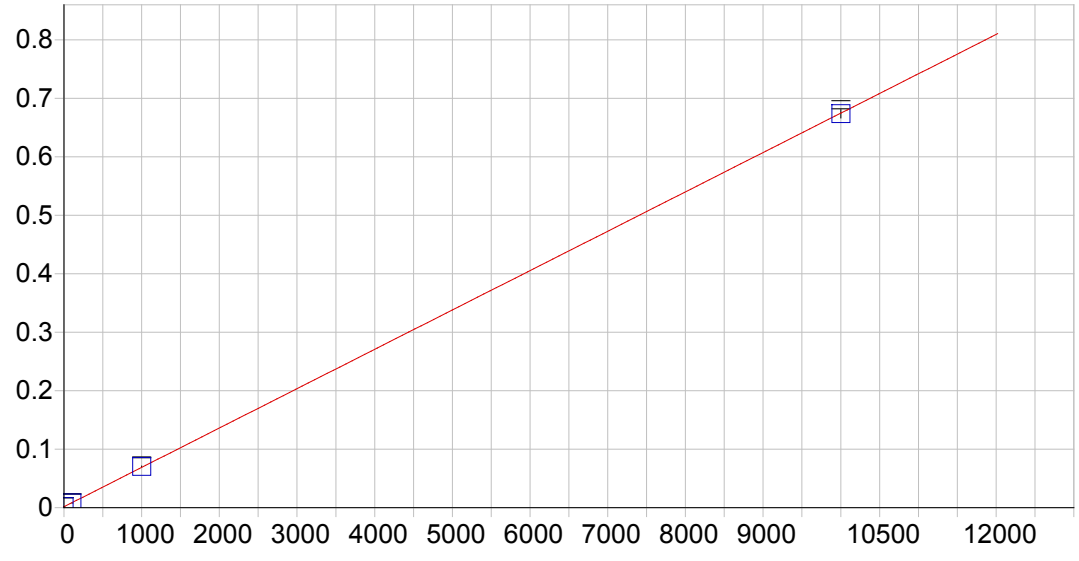


Ca 393.366 { 86}

Date of Fit:	07/20/2016 09:23:56	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000562	Re-Slope:	1.000000
A1 (Gain):	0.000034	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999963	Status:	OK.
Std Error of Est:	0.000171		
Predicted MDL:	0.049871		
Predicted MQL:	0.166237		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	5.3087	5.31	.000	.00074	.000	1
CalStd7=50	50.000	48.635	-1.37	-2.73	.00223	.000	1
CalStd9=100	1000.0	1000.5	.514	.051	.03480	.000	1
CalStd8=100	100.00	95.543	-4.46	-4.46	.00383	.000	1

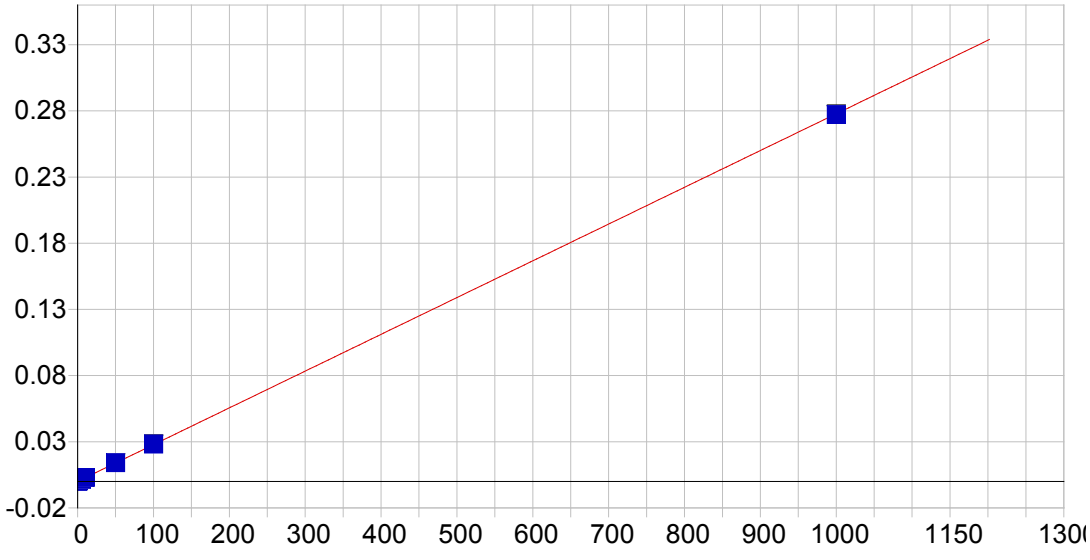


Ca 396.847 { 85}

Date of Fit:	07/20/2016 09:23:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.001546	Re-Slope:	1.000000
A1 (Gain):	0.000067	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999957	Status:	OK.
Std Error of Est:	0.000029		
Predicted MDL:	0.123714		
Predicted MQL:	0.412379		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00401	.004	.000	.00155	.000	1
CalStd10=10	10000.	9982.9	-17.1	-.171	.67351	.007	1
CalStd8=100	100.00	93.838	-6.16	-6.16	.00786	.000	1
CalStd9=100	1000.0	1023.2	23.2	2.32	.07042	.001	1

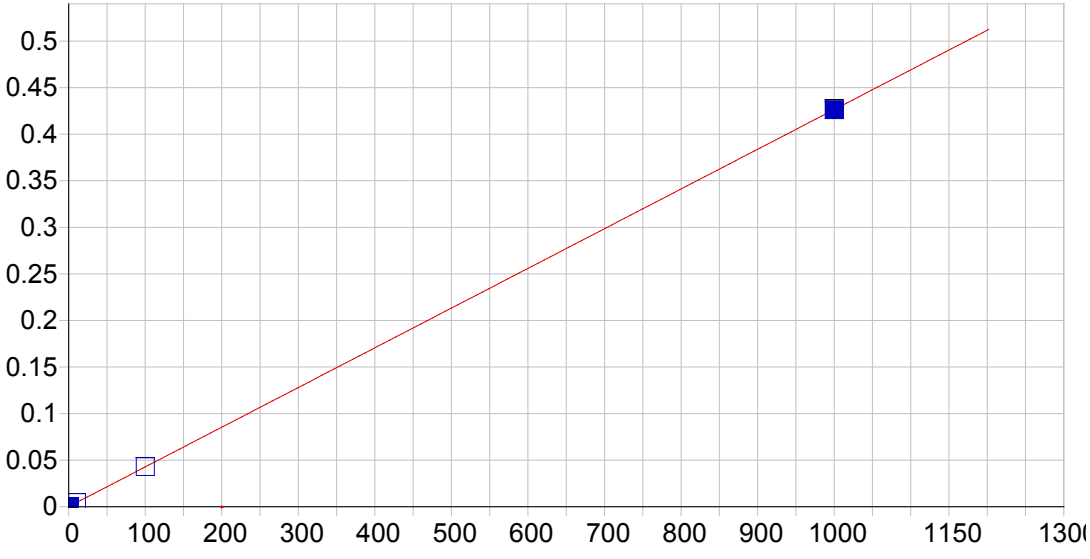


Cd 226.502 {449}

Date of Fit:	07/20/2016 09:23:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000022	Re-Slope:	1.000000
A1 (Gain):	0.000278	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999980	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	0.163342		
Predicted MQL:	0.544474		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00005	.000	.000	.00002	.000	1
CalStd7=50	50.000	50.529	.529	1.06	.01406	.000	1
CalStd3=1	1.0000	1.0956	.096	9.56	.00033	.000	1
CalStd2=0.5	.50000	.47027	-.030	-5.95	.00015	.000	1
CalStd4=5	5.0000	5.0793	.079	1.59	.00143	.000	1
CalStd8=100	100.00	101.33	1.33	1.33	.02817	.000	1
CalStd5=10	10.000	10.238	.238	2.38	.00287	.000	1
CalStd9=100	1000.0	997.76	-2.24	-.224	.27729	.000	1

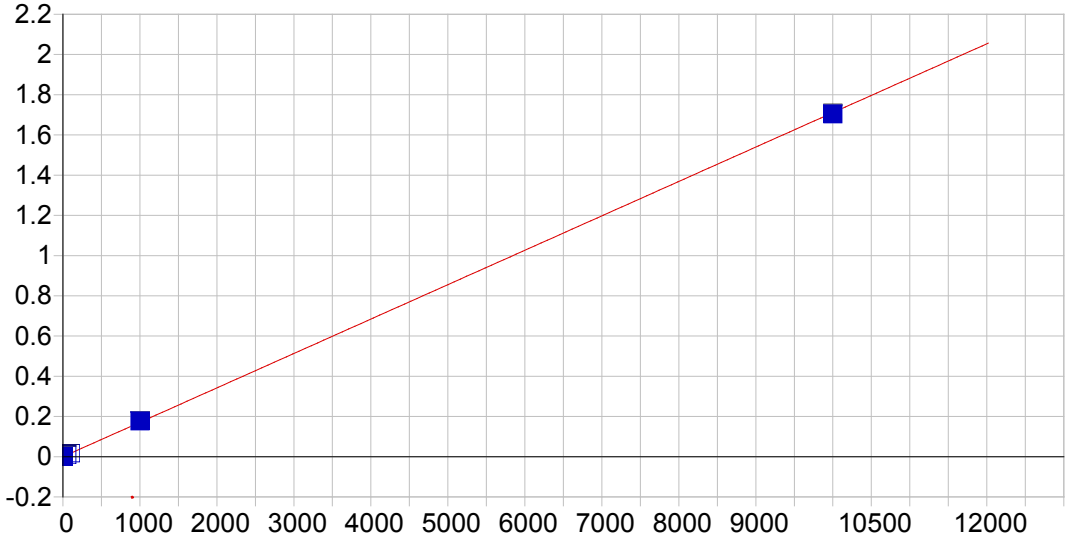


Cd 228.802 {447}

Date of Fit: 07/20/2016 09:23:56 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	0.000081	Re-Slope:	1.000000
A1 (Gain):	0.000426	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999991	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	0.135734		
Predicted MQL:	0.452446		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00009	.000	.000	.00008	.000	1
CalStd9=100	1000.0	999.42	-.582	-.058	.42618	.001	1
CalStd8=100	100.00	100.69	.687	.687	.04301	.000	1
CalStd2=0.5	.50000	.41418	-.086	-17.2	.00026	.000	1
CalStd3=1	1.0000	.98321	-.017	-1.68	.00050	.000	1
CalStd5=10	10.000	9.9973	-.003	-.027	.00434	.000	1

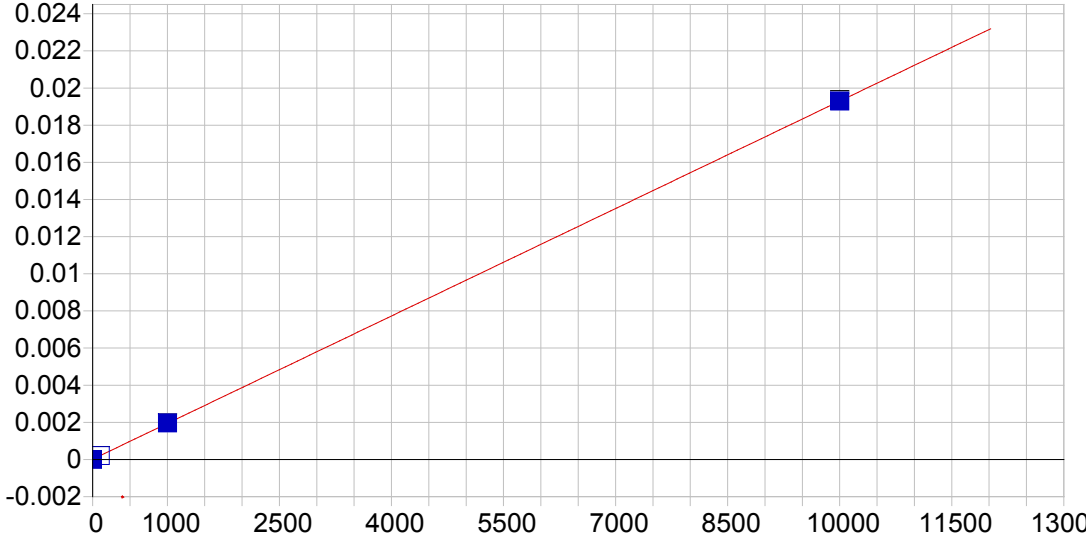


Co 228.616 {447}

Date of Fit:	07/20/2016 09:23:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000115	Re-Slope:	1.000000
A1 (Gain):	0.000171	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999923	Status:	OK.
Std Error of Est:	0.000008		
Predicted MDL:	0.275085		
Predicted MQL:	0.916949		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00011	.000	.000	-.00011	.000	1
CalStd7=50	50.000	51.306	1.31	2.61	.00866	.000	1
CalStd5=10	10.000	9.9933	-.007	-.067	.00160	.000	1
CalStd4=5	5.0000	4.8884	-.112	-2.23	.00072	.000	1
CalStd8=100	100.00	104.58	4.58	4.58	.01778	.000	1
CalStd9=100	1000.0	1036.0	36.0	3.60	.17716	.001	1
CalStd3=1	1.0000	1.0292	.029	2.92	.00006	.000	1
CalStd10=10	10000.	9958.2	-41.8	-.418	1.7038	.003	1

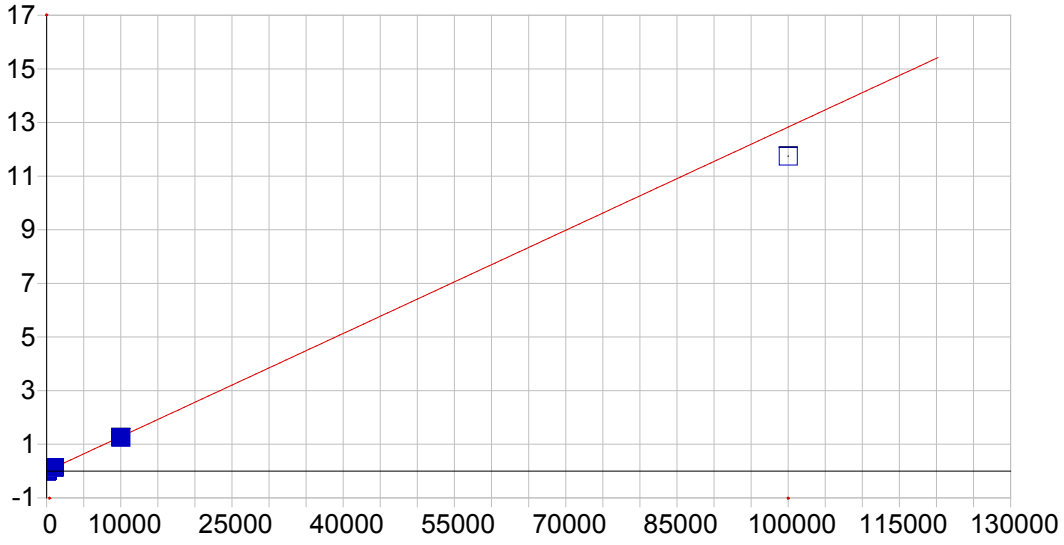


Co 238.892 {141}

Date of Fit:	07/20/2016 09:23:56	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000015	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999999	Status:	OK.
Std Error of Est:	0.000019		
Predicted MDL:	0.864846		
Predicted MQL:	2.882820		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-7.5449	-7.54	.000	.00000	.000	1
CalStd9=100	1000.0	1011.1	11.1	1.11	.00196	.000	1
CalStd10=10	10000.	9998.9	-1.08	-.011	.01930	.000	1
CalStd8=100	100.00	97.571	-2.43	-2.43	.00020	.000	1

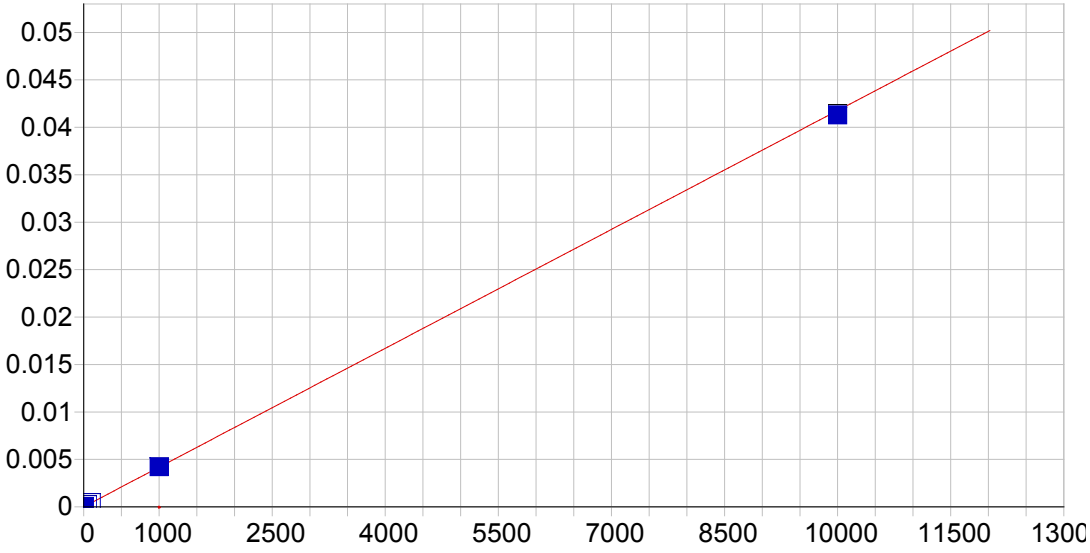


Cr 205.560 {464}

Date of Fit:	07/20/2016 09:23:56	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000135	Re-Slope:	1.000000
A1 (Gain):	0.000128	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999370	Status:	OK.
Std Error of Est:	0.001385		
Predicted MDL:	0.241434		
Predicted MQL:	0.804778		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-1.3613	-1.36	.000	-.00004	.000	1
CalStd5=10	10.000	8.8807	-1.12	-11.2	.00127	.000	1
CalStd7=50	50.000	49.945	-.055	-.109	.00654	.000	1
CalStd9=100	1000.0	1020.3	20.3	2.03	.13104	.000	1
CalStd8=100	100.00	103.37	3.37	3.37	.01340	.000	1
CalStd4=5	5.0000	3.6664	-1.33	-26.7	.00060	.000	1
CalStd3=1	1.0000	-.28001	-1.28	-128.	.00010	.000	1
CalStd11-100	100000.	91538.	-8460.	-8.46	11.744	.010	1
CalStd10=10	10000.	9774.5	-225.	-2.25	1.2541	.001	1

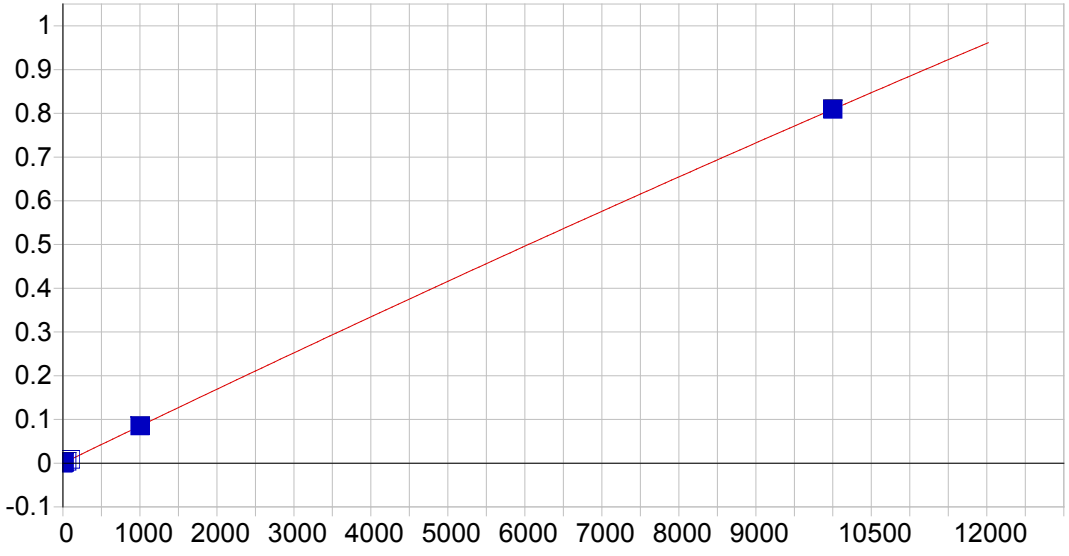


Cr 267.716 {126}

Date of Fit: 07/20/2016 09:23:56 Type of Fit: Linear Weighting: 1/Var

A0 (Offset):	0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000004	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999914	Status:	OK.
Std Error of Est:	0.000003		
Predicted MDL:	0.549863		
Predicted MQL:	1.832877		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.03874	-.039	.000	.00000	.000	1
CalStd5=10	10.000	9.8557	-.144	-1.44	.00004	.000	1
CalStd7=50	50.000	50.430	.430	.860	.00021	.000	1
CalStd9=100	1000.0	1007.9	7.92	.792	.00421	.000	1
CalStd8=100	100.00	102.63	2.63	2.63	.00043	.000	1
CalStd4=5	5.0000	4.4610	-.539	-10.8	.00002	.000	1
CalStd10=10	10000.	9886.6	-113.	-1.13	.04130	.000	1

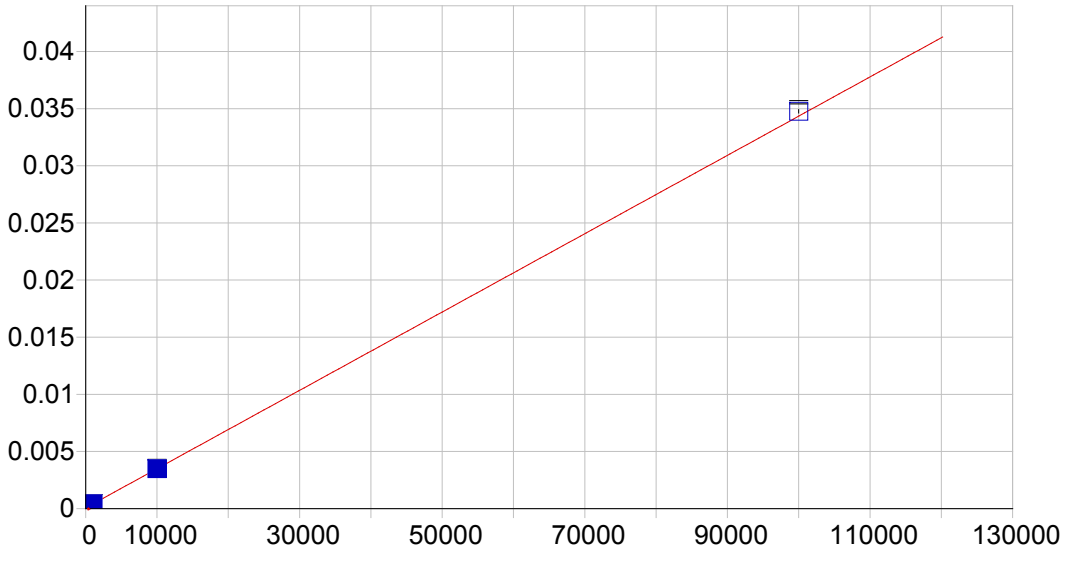


Cu 224.700 {450}

Date of Fit:	07/20/2016 09:23:56	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	-0.000034	Re-Slope:	1.000000
A1 (Gain):	0.000085	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999992	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.539576		
Predicted MQL:	1.798587		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00041	.000	.000	-.00003	.000	1
CalStd9=100	1000.0	1001.2	1.24	.124	.08509	.000	1
CalStd7=50	50.000	49.275	-.725	-1.45	.00418	.000	1
CalStd8=100	100.00	101.24	1.24	1.24	.00861	.000	1
CalStd5=10	10.000	9.4570	-.543	-5.43	.00077	.000	1
CalStd10=10	10000.	9999.9	-.146	-.001	.80939	.001	1
CalStd4=5	5.0000	4.6484	-.352	-7.03	.00036	.000	1
CalStd6=20	20.000	19.544	-.456	-2.28	.00164	.000	1
CalStd3=1	1.0000	.73731	-.263	-26.3	.00003	.000	1

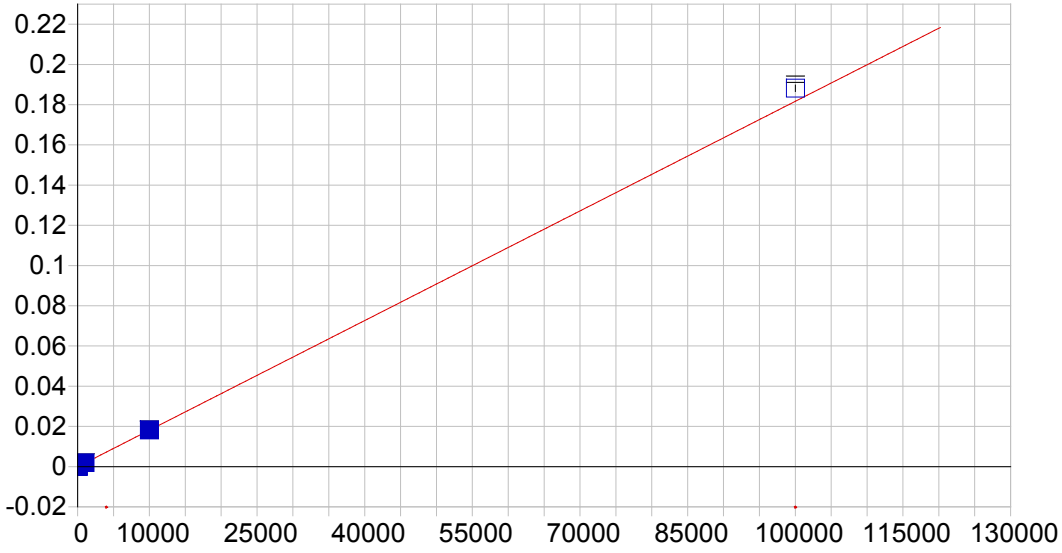


Cu 324.754 {104}

Date of Fit:	07/20/2016 09:23:56	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	0.000067	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999986	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	3.462305		
Predicted MQL:	11.541015		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.01787	-.018	.000	.00007	.000	1
CalStd9=100	1000.0	1022.7	22.7	2.27	.00042	.000	1
CalStd8=100	100.00	116.04	16.0	16.0	.00011	.000	1
CalStd10=10	10000.	9969.6	-30.4	-.304	.00348	.000	1
CalStd11-100	100000.	101230.	1230.	1.23	.03476	.000	1

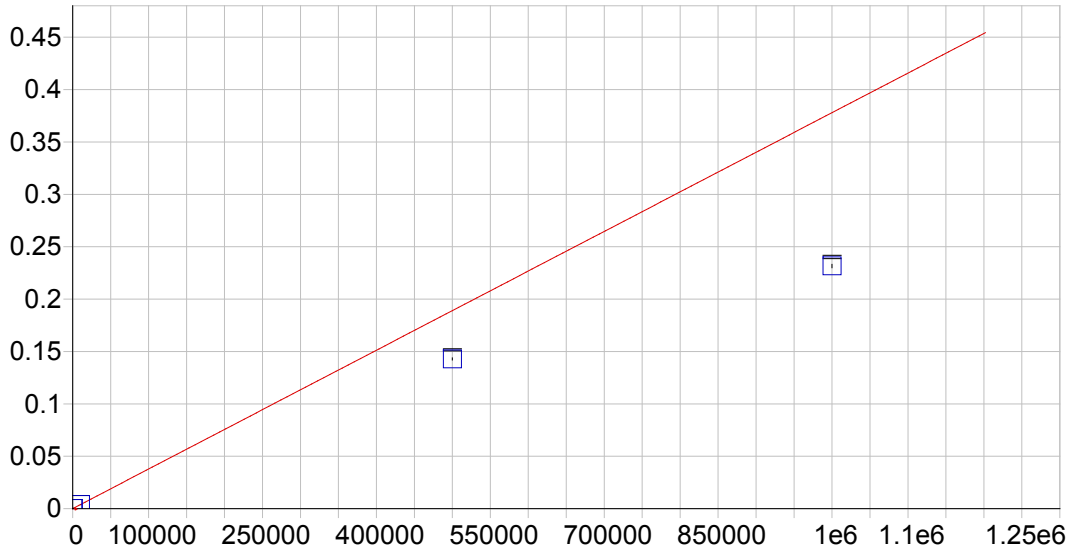


Cu 327.396 {103}

Date of Fit: 07/20/2016 09:23:56 Type of Fit: Curvilinear Weighting: 1/Conc

A0 (Offset):	-0.000046	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999978	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	4.550925		
Predicted MQL:	15.169749		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.01154	.012	.000	-.00005	.000	1
CalStd6=20	20.000	11.862	-8.14	-40.7	-.00002	.000	1
CalStd7=50	50.000	42.544	-7.46	-14.9	.00003	.000	1
CalStd8=100	100.00	95.547	-4.45	-4.45	.00013	.000	1
CalStd9=100	1000.0	1024.3	24.3	2.43	.00182	.000	1
CalStd10=10	10000.	10032.	31.7	.317	.01818	.000	1
CalStd11-100	100000.	103580.	3580.	3.58	.18818	.002	1

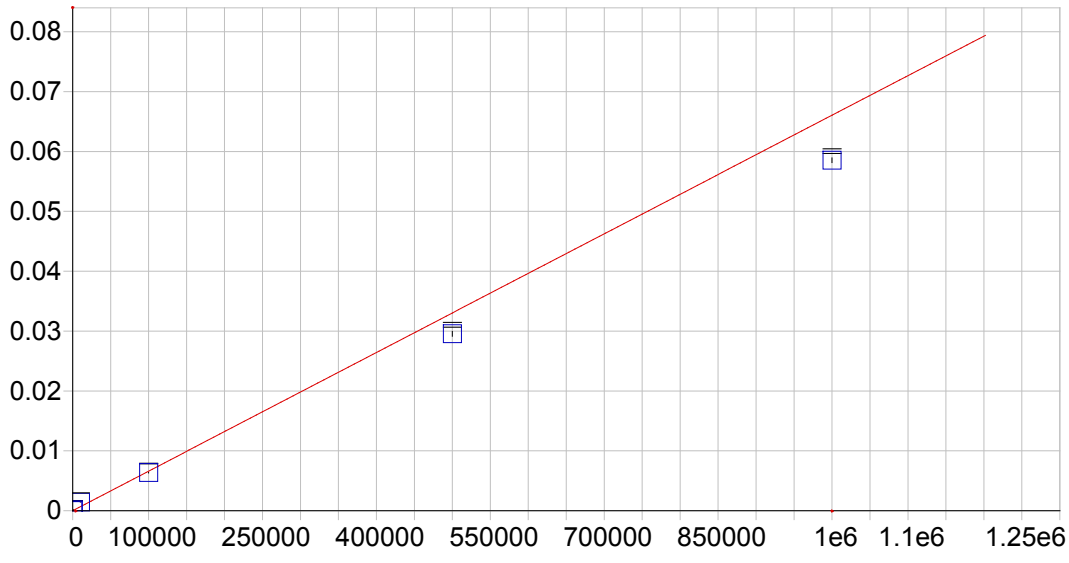


Fe 234.349 {144}

Date of Fit: 07/20/2016 09:23:56 Type of Fit: Curvilinear Weighting: 1/Var

A0 (Offset):	0.000019	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999781	Status:	OK.
Std Error of Est:	0.000004		
Predicted MDL:	1.779142		
Predicted MQL:	5.930475		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.64956	-.650	.000	.00002	.000	1
CalStd10=10	10000.	9866.4	-134.	-1.34	.00375	.000	1
CalStd13=50	500000.	377840.	-122000.	-24.4	.14282	.001	1
CalStd14-100	1000000.	612680.	-387000.	-38.7	.23158	.002	1
CalStd9=100	1000.0	1009.9	9.87	.987	.00040	.000	1

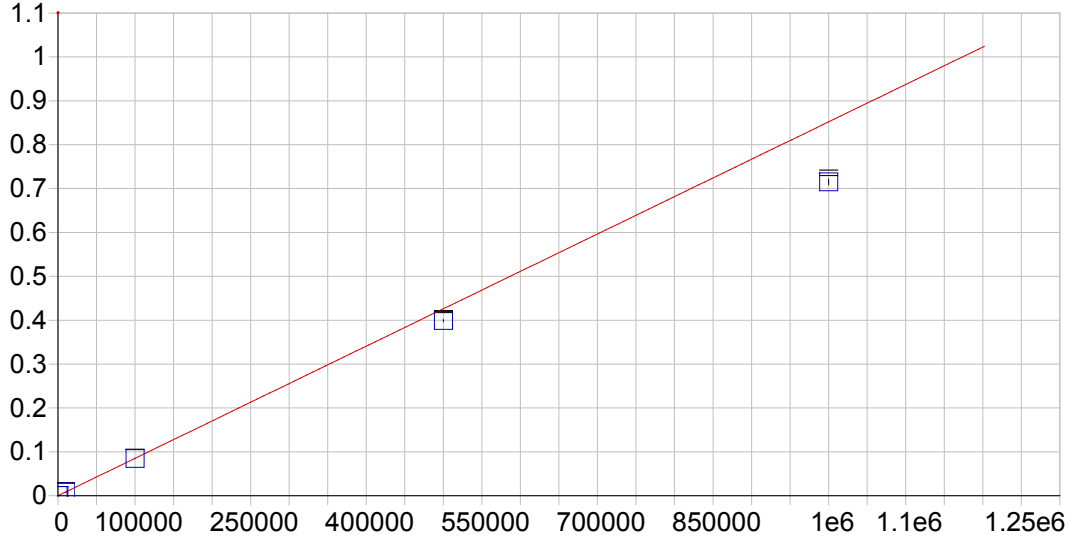


Fe 239.562 {140}

Date of Fit: 07/20/2016 09:23:56 Type of Fit: Curvilinear Weighting: 1/Conc

A0 (Offset):	0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.993742	Status:	OK.
Std Error of Est:	0.000012		
Predicted MDL:	8.484613		
Predicted MQL:	28.282045		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-2.2960	-2.30	.000	.00000	.000	1
CalStd10=10	10000.	21876.	11900.	119.	.00145	.000	1
CalStd13=50	500000.	447200.	-52800.	-10.6	.02955	.000	1
CalStd14-100	1000000.	885970.	-114000.	-11.4	.05853	.000	1
CalStd9=100	1000.0	2163.1	1160.	116.	.00015	.000	1
CalStd12-100	100000.	96367.	-3630.	-3.63	.00637	.000	1

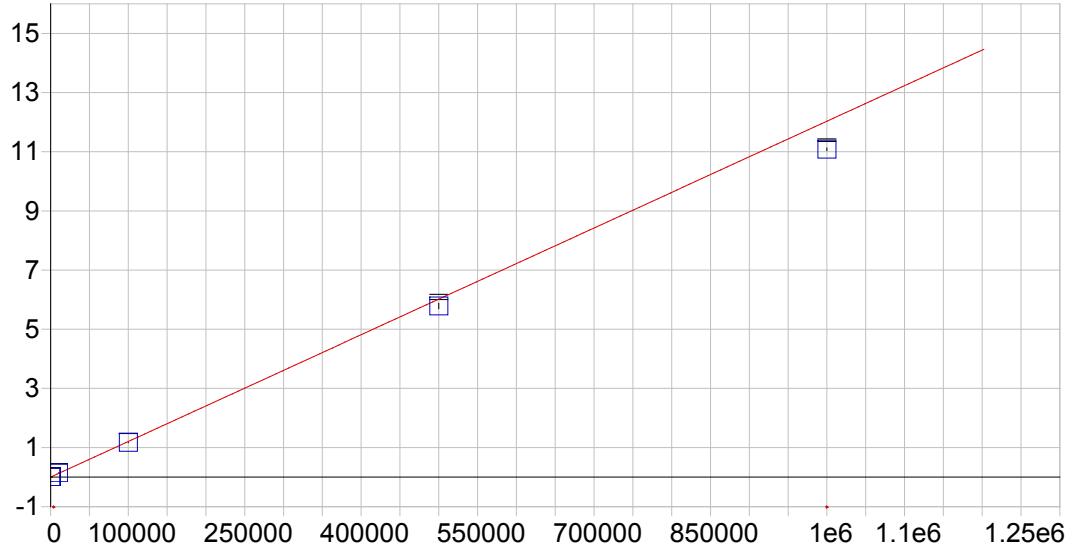


Fe 259.940 {129}

Date of Fit: 07/20/2016 09:23:56 Type of Fit: Curvilinear Weighting: 1/Var

A0 (Offset):	0.000009	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999951	Status:	OK.
Std Error of Est:	0.000009		
Predicted MDL:	4.588615		
Predicted MQL:	15.295382		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.26464	.265	.000	.00001	.000	1
CalStd10=10	10000.	9900.9	-99.1	-.991	.00845	.000	1
CalStd13=50	500000.	468180.	-31800.	-6.36	.39894	.003	1
CalStd14-100	1000000.	839260.	-161000.	-16.1	.71514	.006	1
CalStd9=100	1000.0	997.12	-2.88	-.288	.00086	.000	1
CalStd12-100	100000.	99422.	-578.	-.578	.08473	.001	1

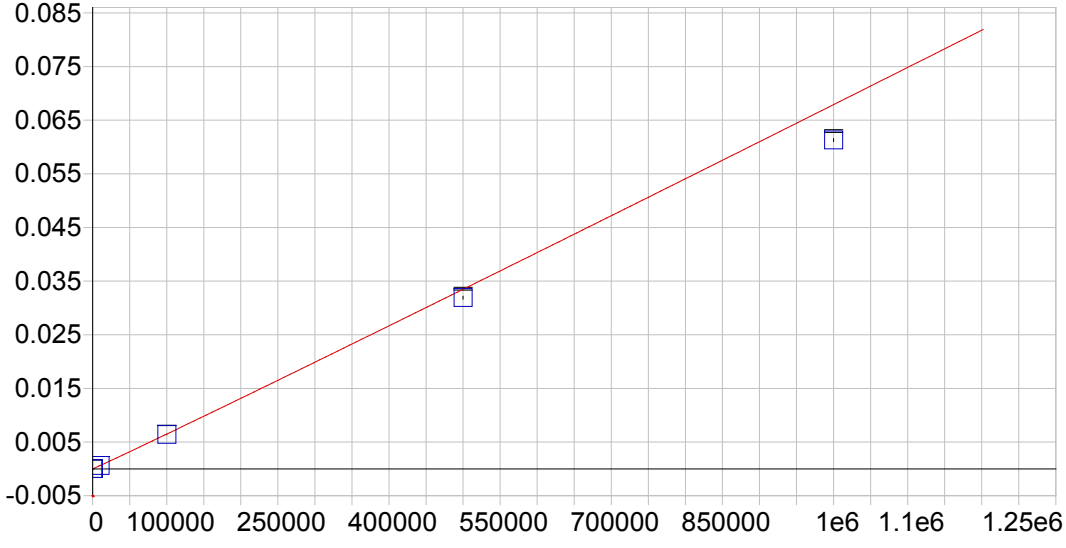


Mg 202.582 {466}

Date of Fit:	07/20/2016 09:23:56	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	-0.000023	Re-Slope:	1.000000
A1 (Gain):	0.000012	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999877	Status:	OK.
Std Error of Est:	0.000318		
Predicted MDL:	2.806714		
Predicted MQL:	9.355714		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.02563	.026	.000	-.00002	.000	1
CalStd13=50	500000.	480730.	-19300.	-3.85	5.7841	.091	1
CalStd10=10	10000.	11671.	1670.	16.7	.14040	.000	1
CalStd14-100	1000000.	921080.	-78900.	-7.89	11.082	.045	1
CalStd12-100	100000.	97311.	-2690.	-2.69	1.1708	.003	1
CalStd9=100	1000.0	824.56	-175.	-17.5	.00990	.000	1

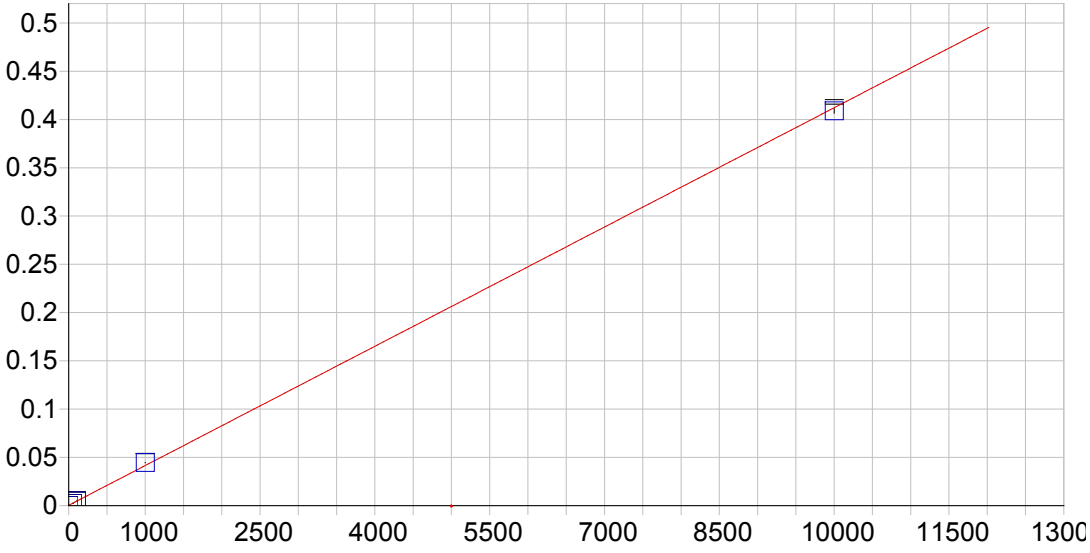


Mg 279.079 {121}

Date of Fit:	07/20/2016 09:23:56	Type of Fit:	Full Fit	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.020000		
Correlation:	0.999999	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	40.846818		
Predicted MQL:	136.156060		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00000	.000	1
CalStd13=50	500000.	476990.	-23000.	-4.60	.03191	.000	1
CalStd10=10	10000.	9945.0	-55.0	-.550	.00062	.000	1
CalStd14-100	1000000.	904390.	-95600.	-9.56	.06129	.000	1
CalStd12-100	100000.	98788.	-1210.	-1.21	.00640	.000	1
CalStd9=100	1000.0	1053.5	53.5	5.35	.00006	.000	1

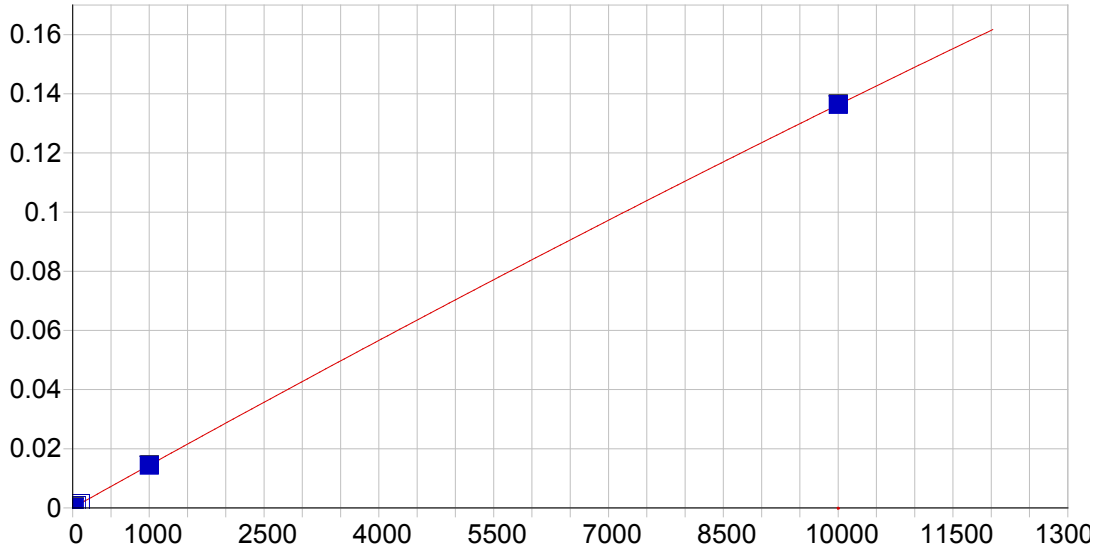


Mg 280.270 {120}

Date of Fit:	07/20/2016 09:23:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000343	Re-Slope:	1.000000
A1 (Gain):	0.000041	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999695	Status:	OK.
Std Error of Est:	0.000031		
Predicted MDL:	0.029555		
Predicted MQL:	0.098517		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00833	-.008	.000	.00034	.000	1
CalStd9=100	1000.0	1073.7	73.7	7.37	.04456	.000	1
CalStd10=10	10000.	9917.2	-82.8	-.828	.40878	.002	1
CalStd8=100	100.00	108.15	8.15	8.15	.00480	.000	1
CalStd7=50	50.000	50.986	.986	1.97	.00244	.000	1

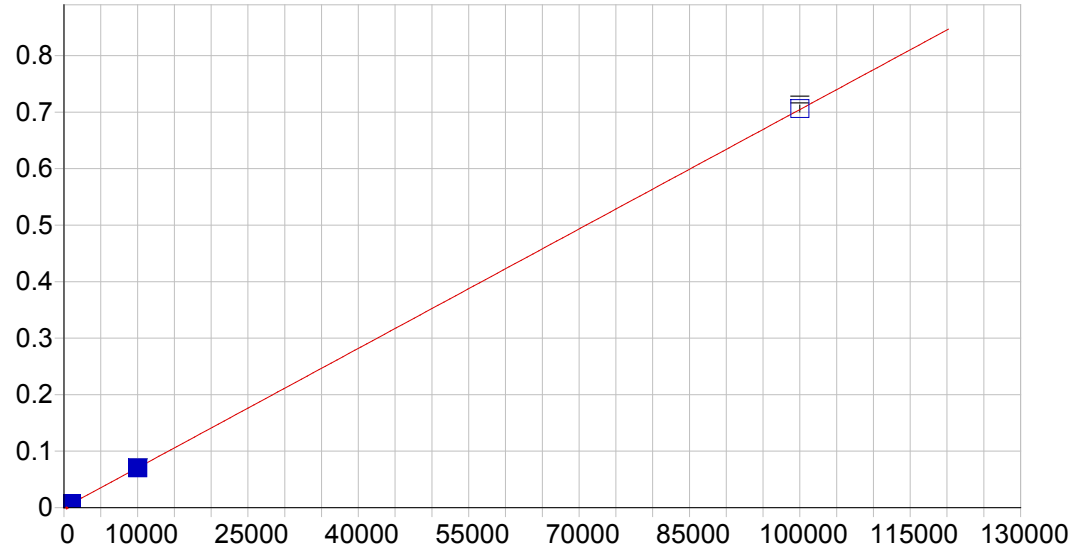


Mn 257.610 {131}

Date of Fit:	07/20/2016 09:23:56	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	0.000010	Re-Slope:	1.000000
A1 (Gain):	0.000015	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999994	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.078583		
Predicted MQL:	0.261944		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00063	.001	.000	.00001	.000	1
CalStd5=10	10.000	9.6154	-.385	-3.85	.00015	.000	1
CalStd7=50	50.000	49.965	-.035	-.069	.00073	.000	1
CalStd6=20	20.000	19.630	-.370	-1.85	.00029	.000	1
CalStd8=100	100.00	102.40	2.40	2.40	.00149	.000	1
CalStd4=5	5.0000	4.5459	-.454	-9.08	.00008	.000	1
CalStd9=100	1000.0	998.73	-1.27	-.127	.01441	.000	1
CalStd10=10	10000.	10000.	.117	.001	.13631	.000	1

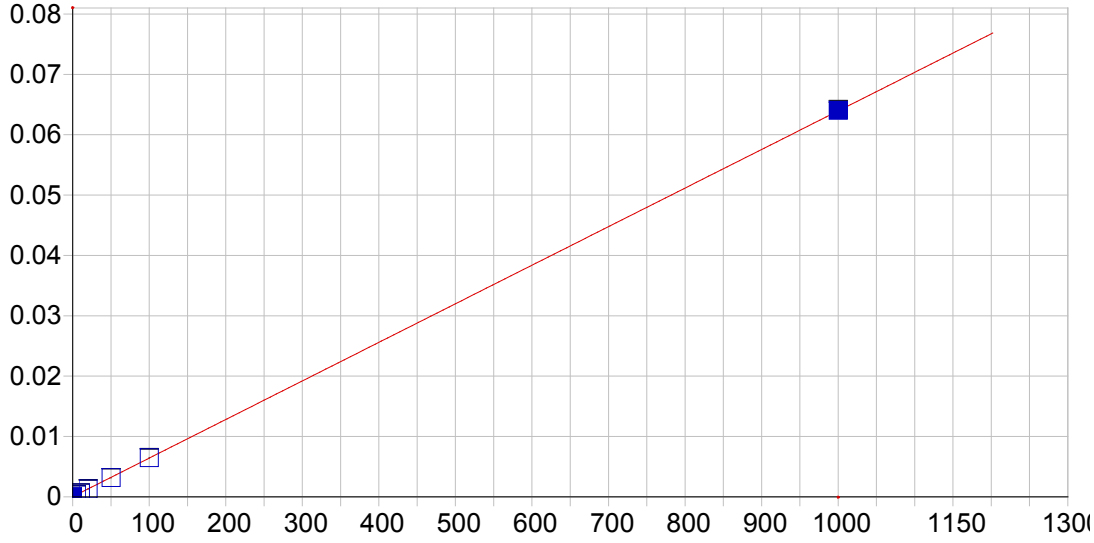


Mn 259.373 {130}

Date of Fit: 07/20/2016 09:23:56 Type of Fit: Linear Weighting: 1/Var

A0 (Offset):	0.000012	Re-Slope:	1.000000
A1 (Gain):	0.000007	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999970	Status:	OK.
Std Error of Est:	0.000019		
Predicted MDL:	0.565986		
Predicted MQL:	1.886620		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.08499	-.085	.000	.00001	.000	1
CalStd10=10	10000.	9981.8	-18.2	-.182	.07042	.000	1
CalStd11-100	100000.	100230.	232.	.232	.70626	.006	1
CalStd9=100	1000.0	1036.8	36.8	3.68	.00733	.000	1

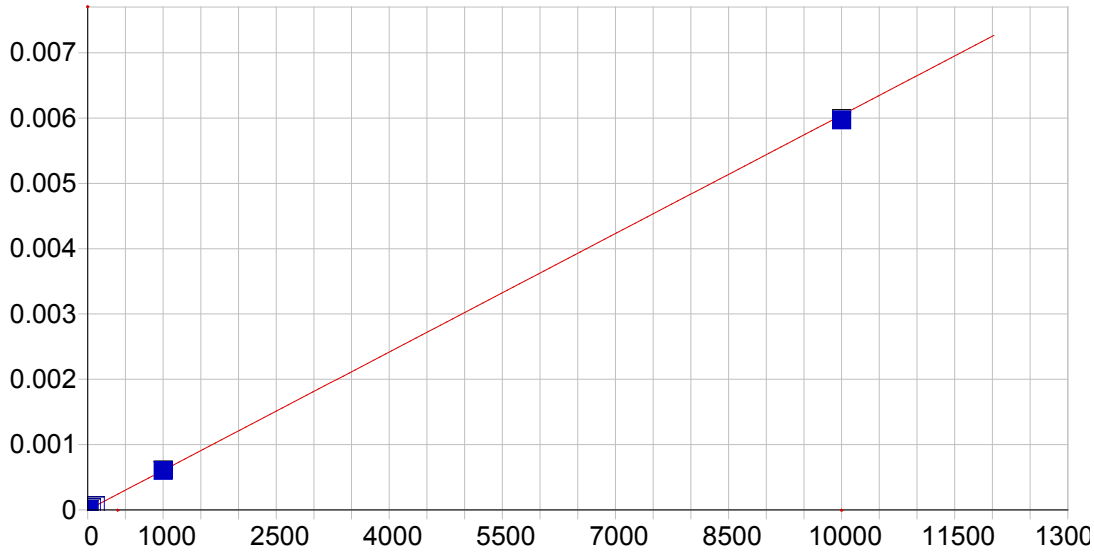


Mo 202.030 {466}

Date of Fit: 07/20/2016 09:23:56 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	0.000030	Re-Slope:	1.000000
A1 (Gain):	0.000064	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999971	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.385737		
Predicted MQL:	1.285789		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00064	.001	.000	.00003	.000	1
CalStd7=50	50.000	49.074	-.926	-1.85	.00317	.000	1
CalStd6=20	20.000	19.944	-.056	-.281	.00130	.000	1
CalStd5=10	10.000	9.5263	-.474	-4.74	.00064	.000	1
CalStd8=100	100.00	100.66	.660	.660	.00646	.000	1
CalStd4=5	5.0000	4.6667	-.333	-6.67	.00033	.000	1
CalStd9=100	1000.0	1001.1	1.13	.113	.06402	.000	1

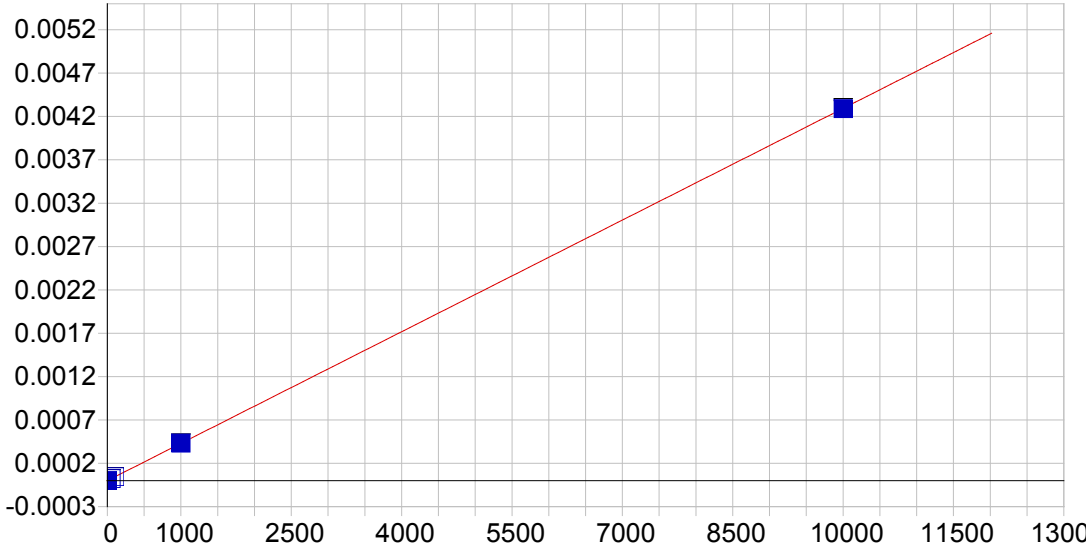


Mo 204.598 {464}

Date of Fit:	07/20/2016 09:23:56	Type of Fit:	Full Fit	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999998	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.652982		
Predicted MQL:	2.176608		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00018	.000	.000	.00000	.000	1
CalStd7=50	50.000	49.822	-.178	-.357	.00003	.000	1
CalStd6=20	20.000	19.452	-.548	-2.74	.00001	.000	1
CalStd5=10	10.000	9.8578	-.142	-1.42	.00001	.000	1
CalStd8=100	100.00	101.57	1.57	1.57	.00006	.000	1
CalStd4=5	5.0000	4.9659	-.034	-.681	.00000	.000	1
CalStd9=100	1000.0	998.03	-1.97	-.197	.00060	.000	1
CalStd10=10	10000.	9876.7	-123.	-1.23	.00597	.000	1

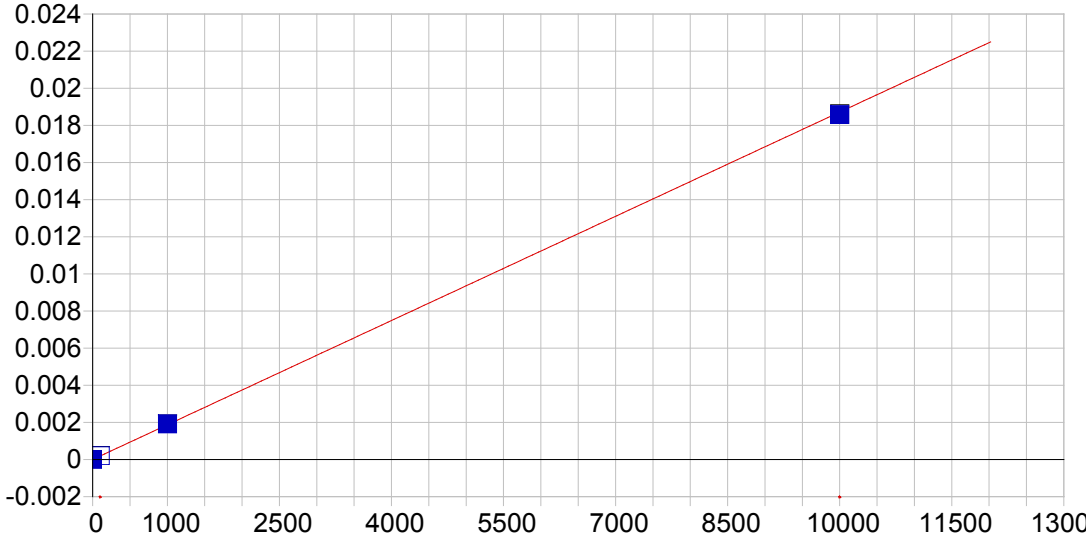


Mo 204.598 {465}

Date of Fit:	07/20/2016 09:23:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999997	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.883633		
Predicted MQL:	2.945445		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00135	-.001	.000	.00000	.000	1
CalStd9=100	1000.0	1006.5	6.52	.652	.00043	.000	1
CalStd10=10	10000.	9991.6	-8.39	-.084	.00429	.000	1
CalStd7=50	50.000	50.259	.259	.518	.00002	.000	1
CalStd8=100	100.00	101.61	1.61	1.61	.00004	.000	1

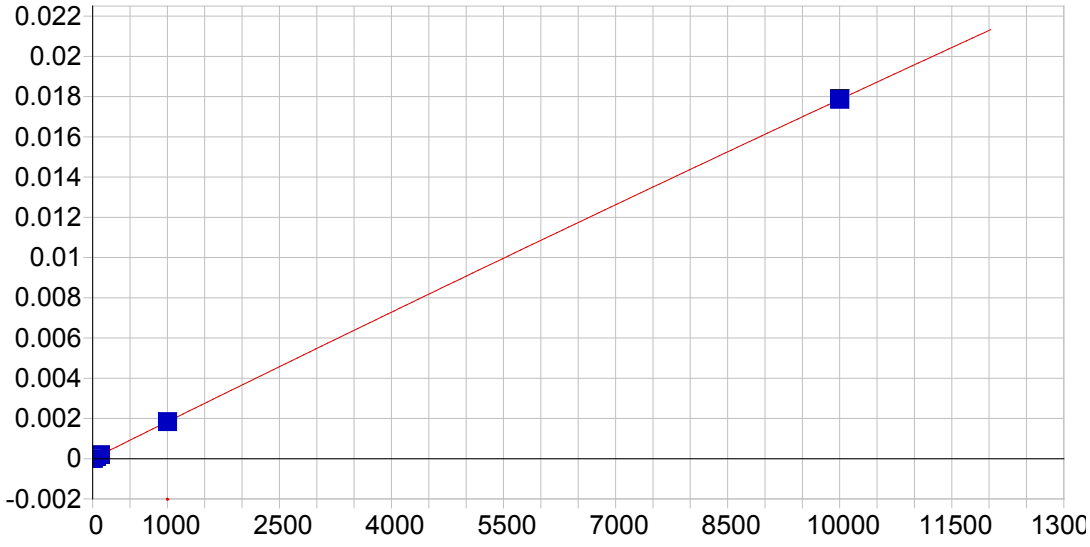


Ni 221.647 {452}

Date of Fit: 07/20/2016 09:23:56 Type of Fit: Linear Weighting: 1/Var

A0 (Offset):	0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999887	Status:	OK.
Std Error of Est:	0.000008		
Predicted MDL:	0.407561		
Predicted MQL:	1.358537		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.91119	-.911	.000	.00000	.000	1
CalStd10=10	10000.	9922.3	-77.7	-.777	.01857	.000	1
CalStd8=100	100.00	103.96	3.96	3.96	.00020	.000	1
CalStd9=100	1000.0	1021.4	21.4	2.14	.00191	.000	1

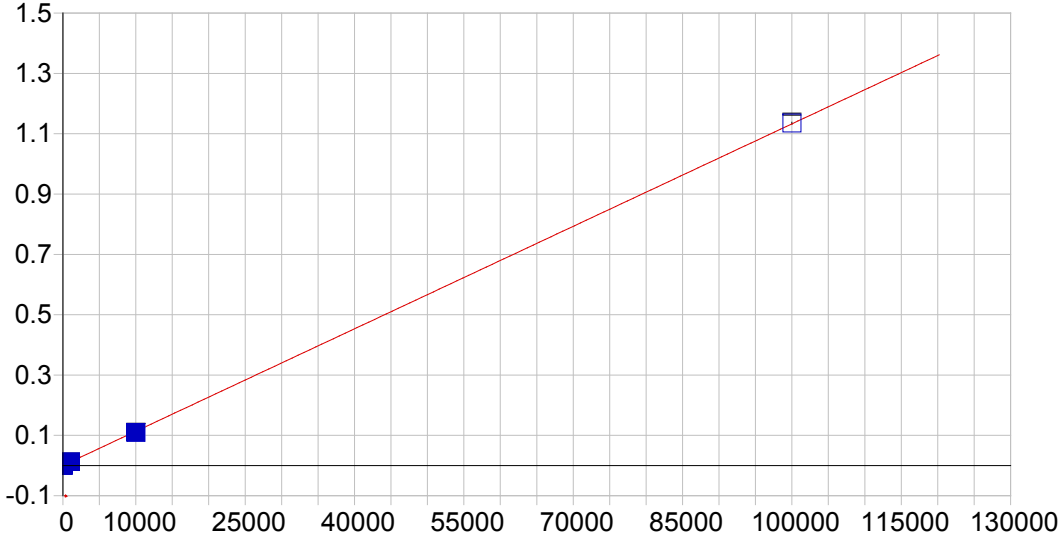


Ni 231.604 {445}

Date of Fit:	07/20/2016 09:23:56	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	-0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999993	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.412234		
Predicted MQL:	1.374114		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00030	.000	.000	.00000	.000	1
CalStd7=50	50.000	50.004	.004	.008	.00009	.000	1
CalStd5=10	10.000	10.097	.097	.970	.00002	.000	1
CalStd8=100	100.00	102.27	2.27	2.27	.00019	.000	1
CalStd4=5	5.0000	4.8515	-.149	-2.97	.00001	.000	1
CalStd9=100	1000.0	997.89	-2.11	-.211	.00183	.000	1
CalStd3=1	1.0000	.69462	-.305	-30.5	.00000	.000	1
CalStd10=10	10000.	10000.	.200	.002	.01786	.000	1

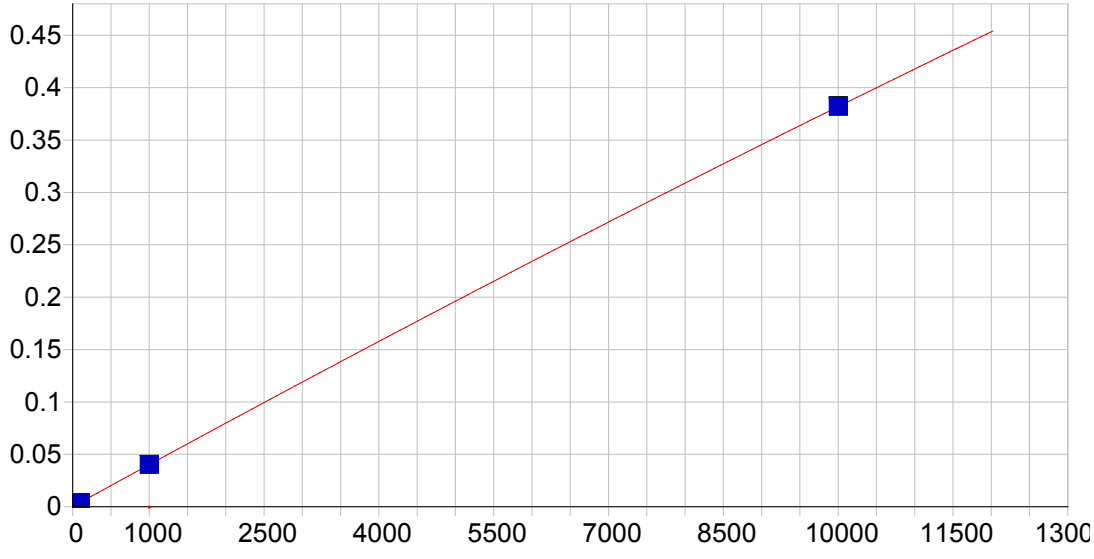


Pb 216.999 {455}

Date of Fit: 07/20/2016 09:23:56 Type of Fit: Linear Weighting: 1/Var

A0 (Offset):	0.000333	Re-Slope:	1.000000
A1 (Gain):	0.000011	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999473	Status:	OK.
Std Error of Est:	0.000267		
Predicted MDL:	4.233457		
Predicted MQL:	14.111522		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-28.562	-28.6	.000	.00001	.000	1
CalStd9=100	1000.0	1006.5	6.53	.653	.01174	.000	1
CalStd10=10	10000.	9634.1	-366.	-3.66	.10955	.000	1
CalStd11-100	100000.	100220.	216.	.216	1.1351	.003	1
CalStd8=100	100.00	74.321	-25.7	-25.7	.00117	.000	1
CalStd5=10	10.000	-19.601	-29.6	-296.	.00011	.000	1

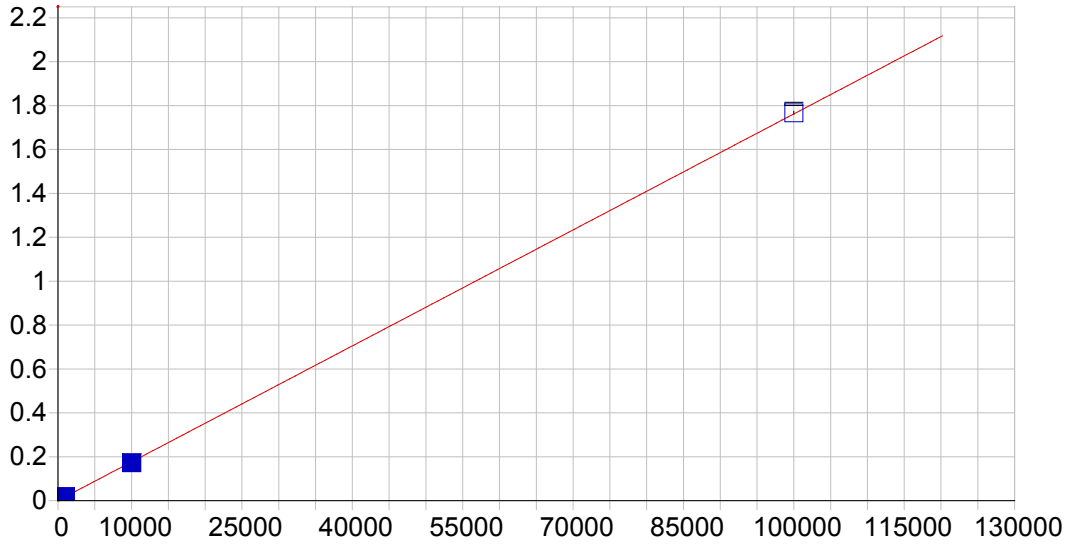


Pb 220.353 {453}

Date of Fit:	07/20/2016 09:23:56	Type of Fit:	Curvilinear	Weighting:	1/Var

A0 (Offset):	0.000096	Re-Slope:	1.000000
A1 (Gain):	0.000040	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999958	Status:	OK.
Std Error of Est:	0.000134		
Predicted MDL:	1.854101		
Predicted MQL:	6.180335		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	2.6007	2.60	.000	.00020	.000	1
CalStd5=10	10.000	7.1543	-2.85	-28.5	.00038	.000	1
CalStd8=100	100.00	99.664	-.336	-.336	.00410	.000	1
CalStd4=5	5.0000	2.2224	-2.78	-55.6	.00019	.000	1
CalStd9=100	1000.0	1001.9	1.92	.192	.04021	.000	1
CalStd10=10	10000.	9999.8	-.248	-.002	.38190	.001	1

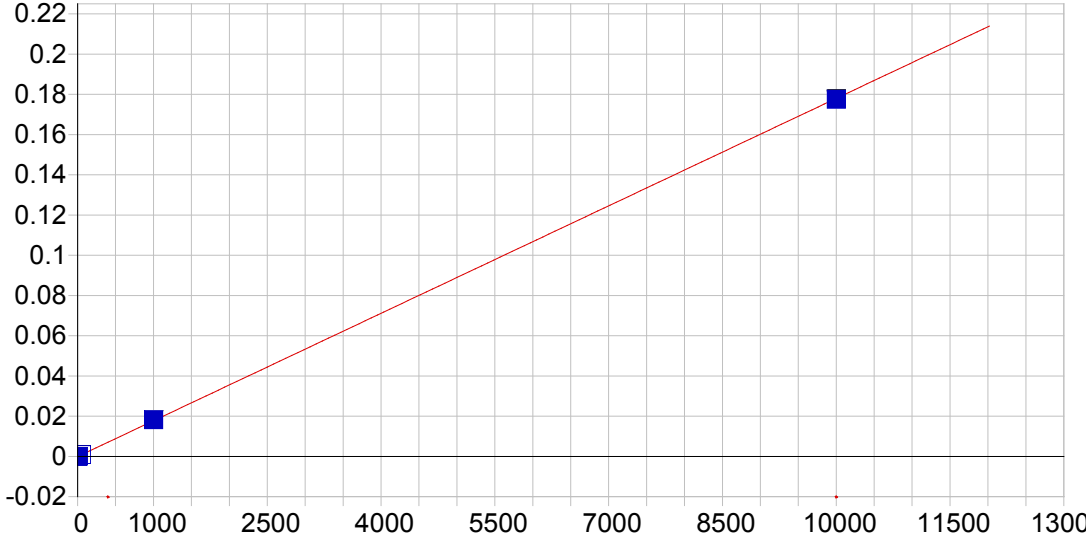


Pb 220.353 {153}

Date of Fit:	07/20/2016 09:23:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000231	Re-Slope:	1.000000
A1 (Gain):	0.000018	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999970	Status:	OK.
Std Error of Est:	0.000019		
Predicted MDL:	4.352848		
Predicted MQL:	14.509494		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00342	.003	.000	.00023	.000	1
CalStd9=100	1000.0	1011.1	11.1	1.11	.01805	.000	1
CalStd10=10	10000.	9755.3	-245.	-2.45	.17212	.000	1
CalStd8=100	100.00	97.682	-2.32	-2.32	.00195	.000	1
CalStd11-100	100000.	100240.	236.	.236	1.7663	.007	1

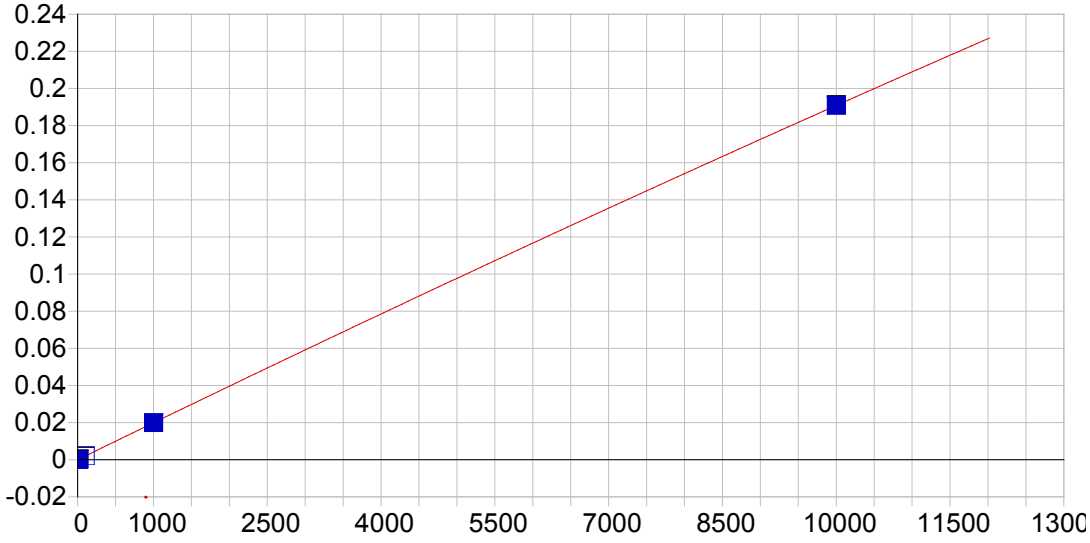


Sb 206.833 {463}

Date of Fit:	07/20/2016 09:23:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000091	Re-Slope:	1.000000
A1 (Gain):	0.000018	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999956	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	2.058227		
Predicted MQL:	6.860756		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00159	-.002	.000	-.00009	.000	1
CalStd9=100	1000.0	1026.4	26.4	2.64	.01819	.000	1
CalStd5=10	10.000	10.890	.890	8.90	.00010	.000	1
CalStd7=50	50.000	52.315	2.32	4.63	.00084	.000	1
CalStd10=10	10000.	9970.4	-29.6	-.296	.17744	.000	1

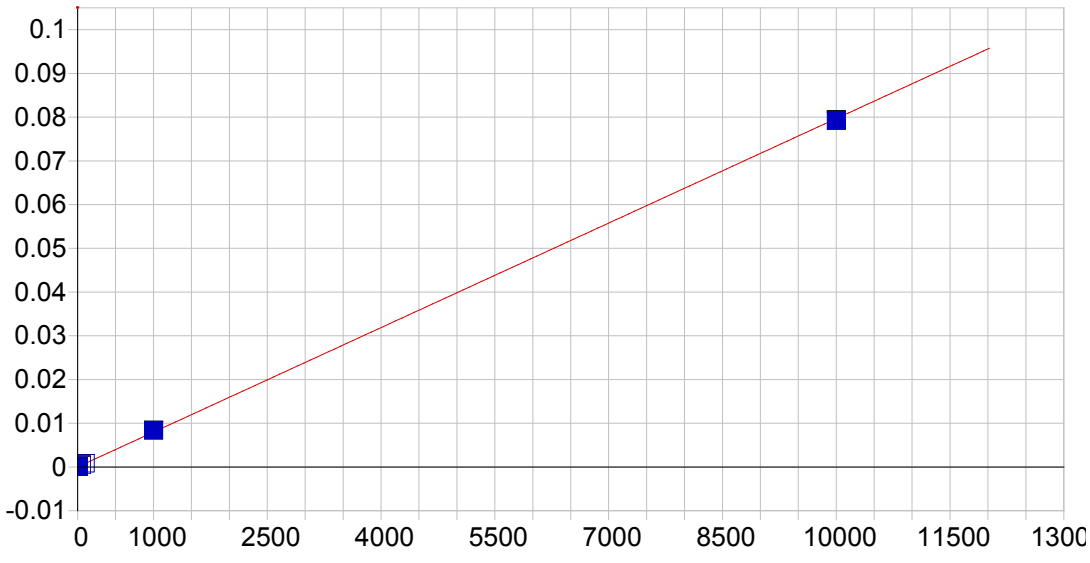


Sb 217.581 {455}

Date of Fit: 07/20/2016 09:23:56 Type of Fit: Curvilinear Weighting: None

A0 (Offset):	-0.000022	Re-Slope:	1.000000
A1 (Gain):	0.000020	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000018		
Predicted MDL:	2.108770		
Predicted MQL:	7.029233		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.28187	.282	.000	-.00002	.000	1
CalStd9=100	1000.0	1000.1	.106	.011	.01989	.000	1
CalStd6=20	20.000	19.130	-.870	-4.35	.00036	.000	1
CalStd5=10	10.000	11.170	1.17	11.7	.00020	.000	1
CalStd8=100	100.00	99.093	-.907	-.907	.00196	.000	1
CalStd4=5	5.0000	5.2206	.221	4.41	.00008	.000	1
CalStd10=10	10000.	10000.0	-.001	.000	.19080	.000	1

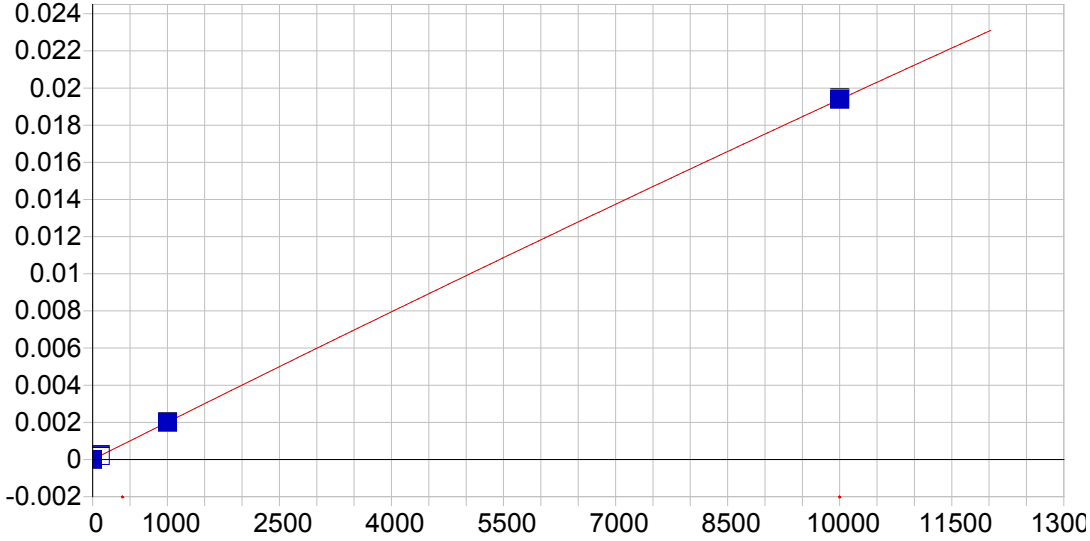


Se 196.090 {472}

Date of Fit:	07/20/2016 09:23:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000009	Re-Slope:	1.000000
A1 (Gain):	0.000008	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999829	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	3.614330		
Predicted MQL:	12.047766		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00411	-.004	.000	.00001	.000	1
CalStd7=50	50.000	54.683	4.68	9.37	.00044	.000	1
CalStd9=100	1000.0	1046.7	46.7	4.67	.00835	.000	1
CalStd5=10	10.000	12.157	2.16	21.6	.00011	.000	1
CalStd8=100	100.00	106.09	6.09	6.09	.00085	.000	1
CalStd10=10	10000.	9940.4	-59.6	-.596	.07918	.000	1

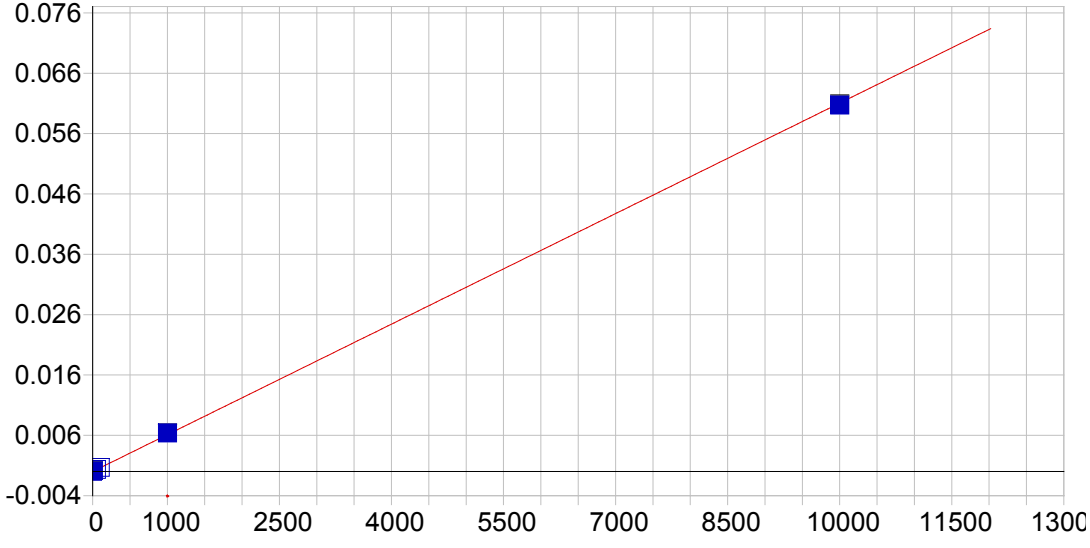


Se 206.279 {463}

Date of Fit:	07/20/2016 09:23:56	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	-0.000004	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999989	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	19.327471		
Predicted MQL:	64.424902		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00394	-.004	.000	.00000	.000	1
CalStd9=100	1000.0	995.10	-4.90	-.490	.00200	.000	1
CalStd10=10	10000.	10000.	.482	.005	.01941	.000	1
CalStd8=100	100.00	104.43	4.43	4.43	.00021	.000	1

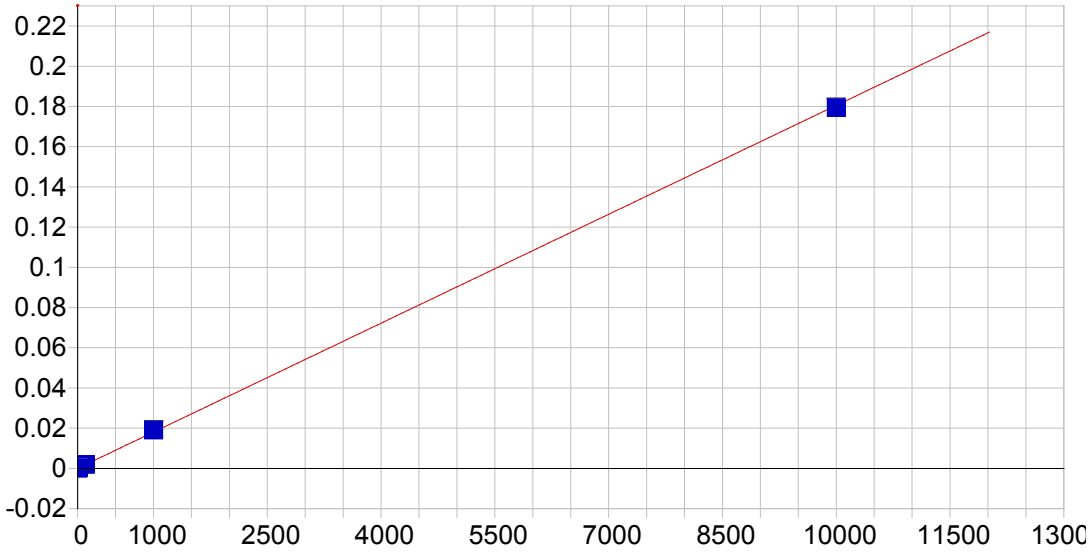


Se 196.090 {471}

Date of Fit:	07/20/2016 09:23:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000008	Re-Slope:	1.000000
A1 (Gain):	0.000006	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999847	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	4.617515		
Predicted MQL:	15.391716		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00410	-.004	.000	.00001	.000	1
CalStd7=50	50.000	53.438	3.44	6.88	.00033	.000	1
CalStd9=100	1000.0	1042.1	42.1	4.21	.00637	.000	1
CalStd5=10	10.000	12.301	2.30	23.0	.00008	.000	1
CalStd8=100	100.00	107.47	7.47	7.47	.00066	.000	1
CalStd10=10	10000.	9944.7	-55.3	-.553	.06072	.000	1

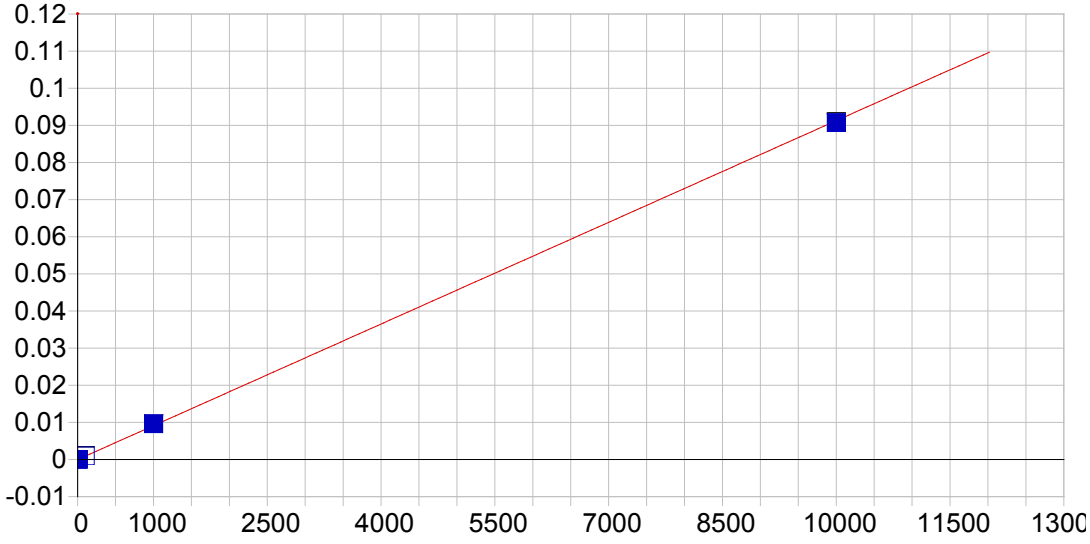


Tl 190.856 {476}

Date of Fit: 07/20/2016 09:23:56 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	0.000015	Re-Slope:	1.000000
A1 (Gain):	0.000018	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999801	Status:	OK.
Std Error of Est:	0.000005		
Predicted MDL:	1.976640		
Predicted MQL:	6.588802		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00063	-.001	.000	.00002	.000	1
CalStd9=100	1000.0	1056.3	56.3	5.63	.01909	.000	1
CalStd8=100	100.00	108.86	8.86	8.86	.00198	.000	1
CalStd5=10	10.000	9.2445	-.755	-7.55	.00018	.000	1
CalStd10=10	10000.	9935.6	-64.4	-.644	.17942	.000	1

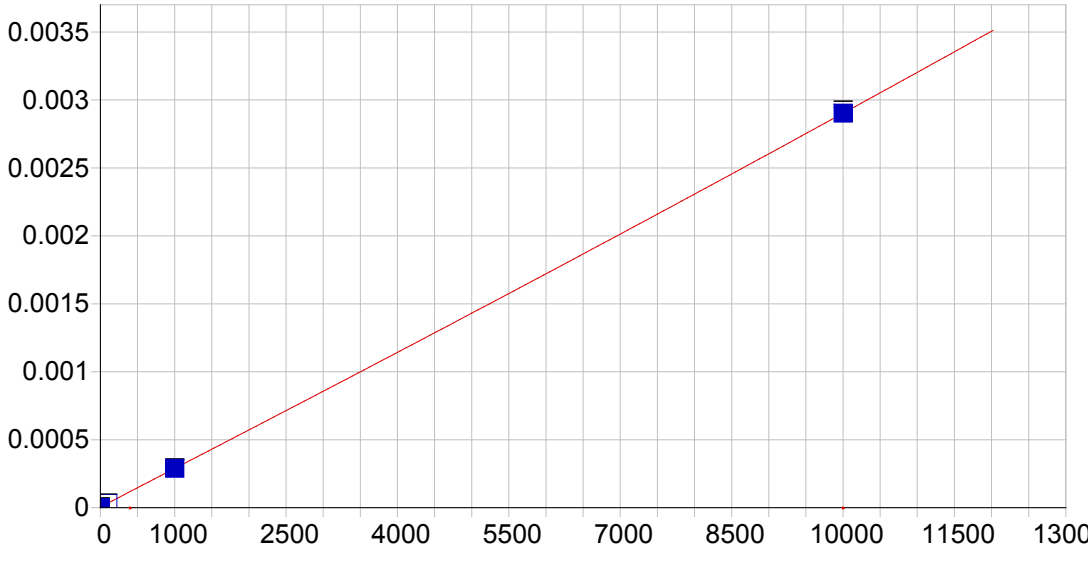


Tl 190.856 {477}

Date of Fit:	07/20/2016 09:23:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000015	Re-Slope:	1.000000
A1 (Gain):	0.000009	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999812	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	3.030111		
Predicted MQL:	10.100371		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00122	.001	.000	-.00002	.000	1
CalStd9=100	1000.0	1053.0	53.0	5.30	.00960	.000	1
CalStd8=100	100.00	106.83	6.83	6.83	.00096	.000	1
CalStd5=10	10.000	7.6218	-2.38	-23.8	.00005	.000	1
CalStd10=10	10000.	9942.5	-57.5	-.575	.09074	.000	1



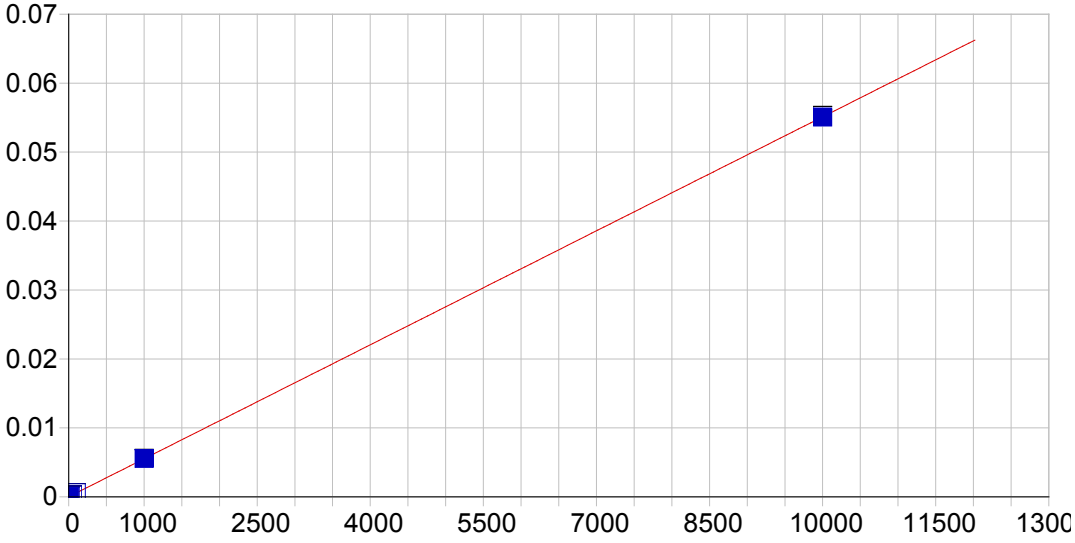
V 290.882 {116}

Date of Fit:	07/20/2016 09:23:56	Type of Fit:	Full Fit	Weighting:	1/Conc

A0 (Offset):	0.000003	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	0.990000		
Correlation:	1.000000	Status:	Warning
Std Error of Est:	0.000000		
Predicted MDL:	3.143704		
Predicted MQL:	10.479012		

Positive Curvature

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00000	.000	1
CalStd9=100	1000.0	999.86	-.144	-.014	.00029	.000	1
CalStd10=10	10000.	10000.	.013	.000	.00290	.000	1
CalStd8=100	100.00	100.13	.126	.126	.00003	.000	1

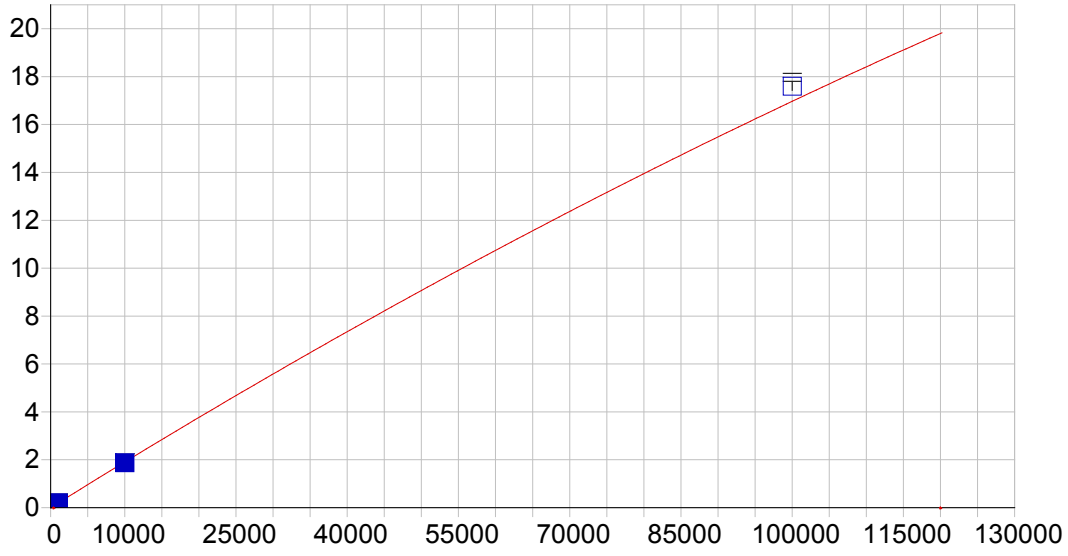


V 292.402 {115}

Date of Fit: 07/20/2016 09:23:56 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	0.000006	Re-Slope:	1.000000
A1 (Gain):	0.000006	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999993	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.555903		
Predicted MQL:	1.853010		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00094	-.001	.000	.00001	.000	1
CalStd7=50	50.000	50.392	.392	.785	.00028	.000	1
CalStd9=100	1000.0	1003.8	3.81	.381	.00554	.000	1
CalStd6=20	20.000	20.015	.015	.077	.00012	.000	1
CalStd5=10	10.000	10.493	.493	4.93	.00006	.000	1
CalStd8=100	100.00	103.29	3.29	3.29	.00058	.000	1
CalStd10=10	10000.	9992.0	-8.00	-.080	.05505	.000	1

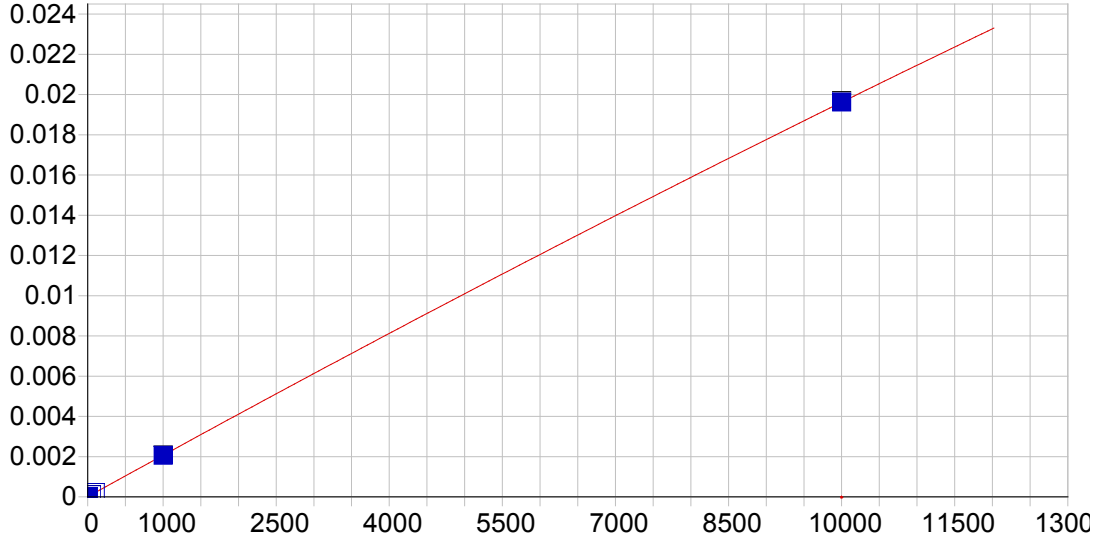


Zn 206.200 {463}

Date of Fit:	07/20/2016 09:23:56	Type of Fit:	Curvilinear	Weighting:	1/Var

A0 (Offset):	0.000251	Re-Slope:	1.000000
A1 (Gain):	0.000193	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999808	Status:	OK.
Std Error of Est:	0.000644		
Predicted MDL:	0.206224		
Predicted MQL:	0.687413		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
CalStd10=10	10000.	9815.6	-184.	-1.84	1.8725	.004	1
Blank	.00000	-.05772	-.058	.000	.00024	.000	1
CalStd9=100	1000.0	1020.0	20.0	2.00	.19690	.000	1
CalStd11-100	100000.	104290.	4290.	4.29	17.592	.168	1

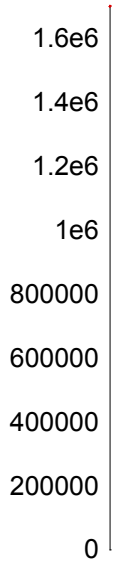


Zn 213.856 {458}

Date of Fit: 07/20/2016 09:23:56 Type of Fit: Curvilinear Weighting: 1/Var

A0 (Offset):	0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999947	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.191385		
Predicted MQL:	0.637950		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.14864	.149	.000	.00000	.000	1
CalStd8=100	100.00	101.83	1.83	1.83	.00021	.000	1
CalStd7=50	50.000	49.945	-.055	-.110	.00011	.000	1
CalStd5=10	10.000	9.5211	-.479	-4.79	.00002	.000	1
CalStd9=100	1000.0	997.18	-2.82	-.282	.00206	.000	1
CalStd4=5	5.0000	4.5187	-.481	-9.63	.00001	.000	1
CalStd10=10	10000.	10002.	2.18	.022	.01963	.000	1



Y 324.228 {104}*

Date of Fit:	07/20/2016 09:23:56	Type of Fit:	Linear	Weighting:	1/Conc

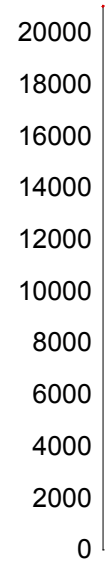
A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.000000	Status:	Warning Zero Gain
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	1530300.	4470.	1

Date of Fit:	07/20/2016 09:23:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.000000	Status:	Warning Zero Gain
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	277440.	2040.	1

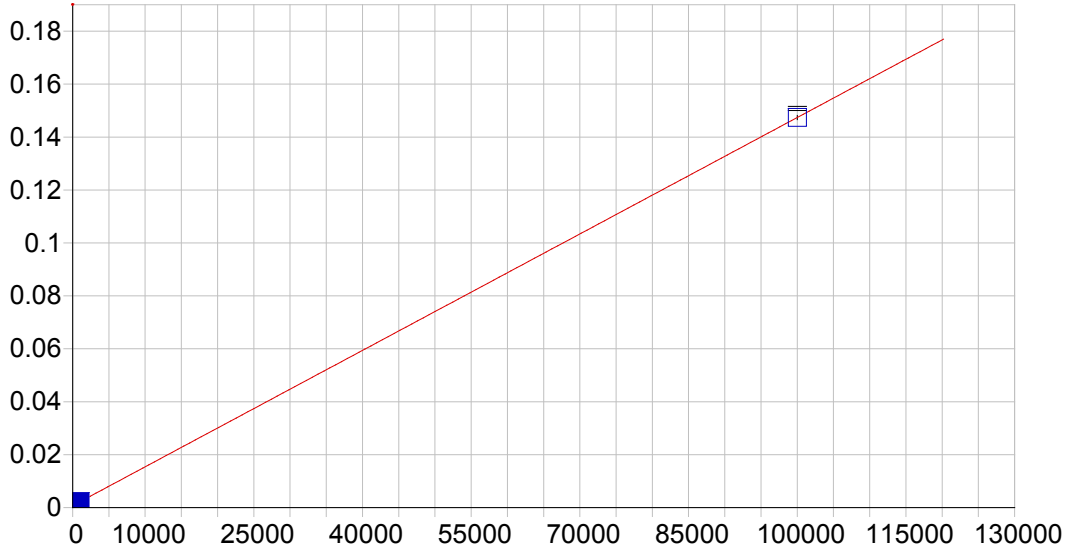


Y 224.306 {451}*

Date of Fit:	07/20/2016 09:23:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.000000	Status:	Warning Zero Gain
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	19378.	18.6	1

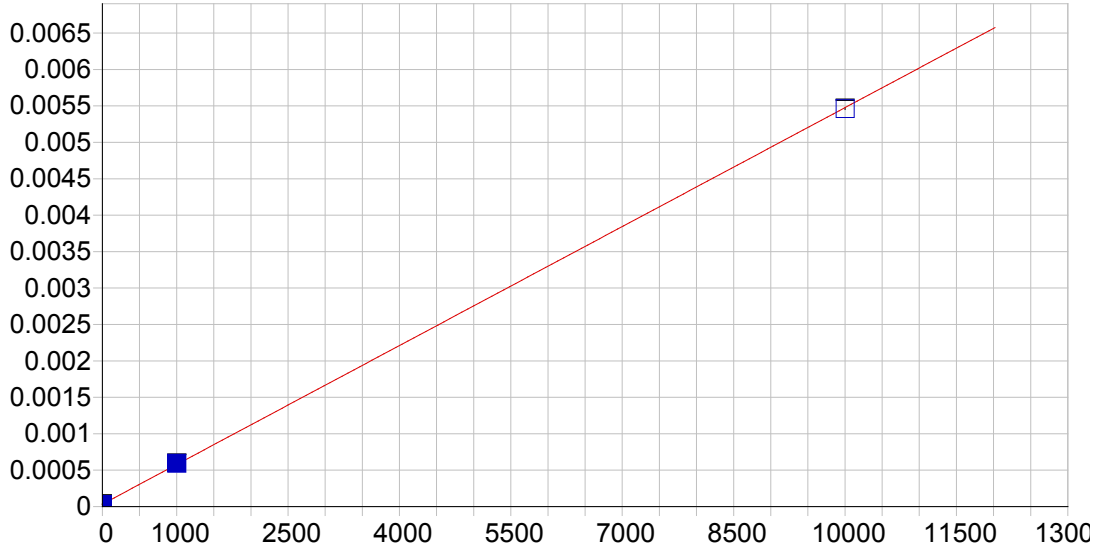


Na 588.995 { 57}

Date of Fit:	07/20/2016 09:23:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000736	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	3.956572		
Predicted MQL:	13.188572		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00113	-.001	.000	.00074	.000	1
CalStd9=100	1000.0	1001.1	1.14	.114	.00220	.000	1
CalStd12-100	100000.	99999.	-1.14	-.001	.14739	.001	1

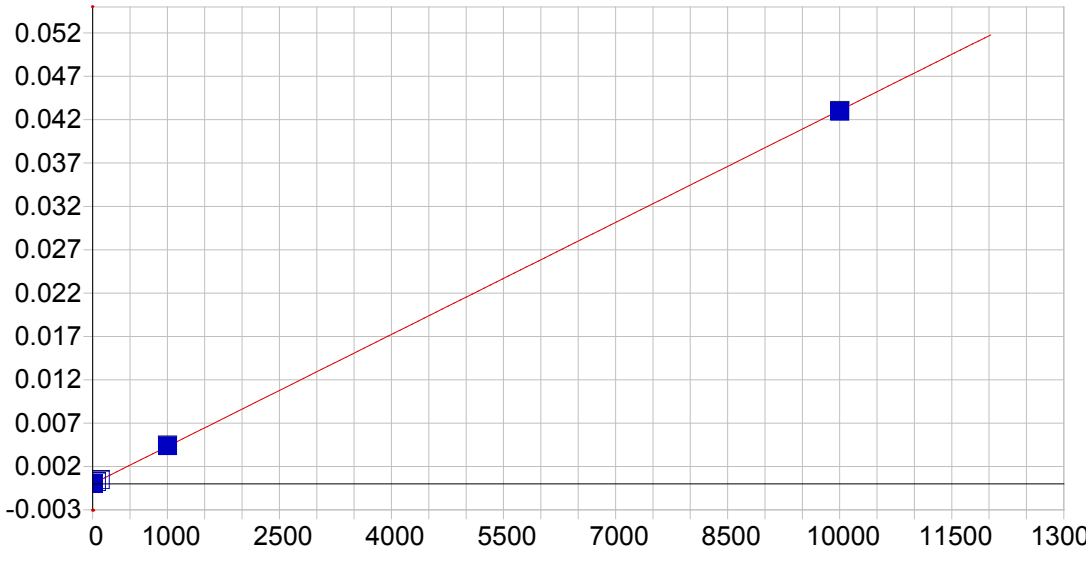


Si 251.611 {134}

Date of Fit:	07/20/2016 09:23:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000033	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999960	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	6.777930		
Predicted MQL:	22.593101		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.02557	-.026	.000	.00003	.000	1
CalStd9=100	1000.0	1028.4	28.4	2.84	.00059	.000	1
CalStd12-100	10000.	9971.6	-28.4	-.284	.00546	.000	1

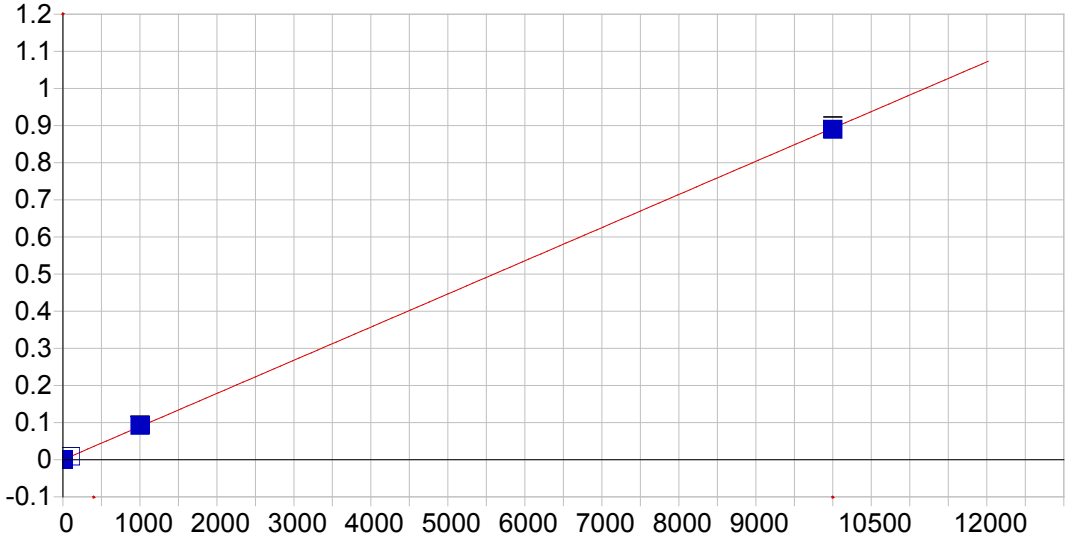


Ti 334.941 {101}

Date of Fit:	07/20/2016 09:23:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000004	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999963	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	1.291007		
Predicted MQL:	4.303356		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00002	.000	.000	.00000	.000	1
CalStd5=10	10.000	9.0683	-.932	-9.32	.00004	.000	1
CalStd8=100	100.00	103.80	3.80	3.80	.00045	.000	1
CalStd9=100	1000.0	1020.4	20.4	2.04	.00440	.000	1
CalStd10=10	10000.	9974.5	-25.5	-.255	.04297	.000	1
CalStd7=50	50.000	52.305	2.31	4.61	.00023	.000	1
CalStd4=5	5.0000	4.9380	-.062	-1.24	.00002	.000	1

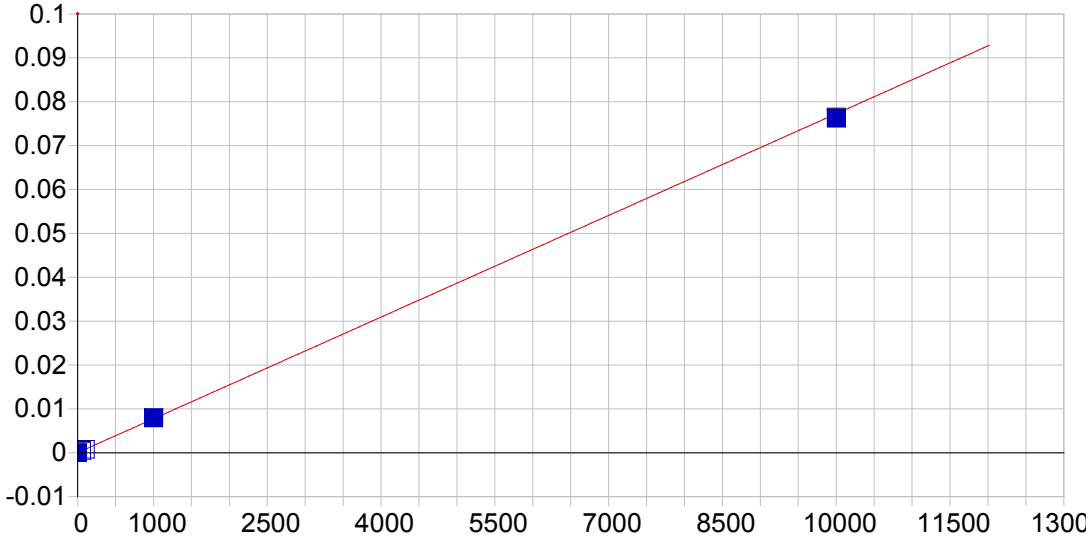


Sr 407.771 { 83}

Date of Fit: 07/20/2016 09:23:56 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	-0.000035	Re-Slope:	1.000000
A1 (Gain):	0.000089	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999931	Status:	OK.
Std Error of Est:	0.000004		
Predicted MDL:	0.104680		
Predicted MQL:	0.348932		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00021	.000	.000	-.00003	.000	1
CalStd3=1	1.0000	1.0461	.046	4.61	.00006	.000	1
CalStd4=5	5.0000	5.2610	.261	5.22	.00043	.000	1
CalStd5=10	10.000	10.380	.380	3.80	.00089	.000	1
CalStd8=100	100.00	104.82	4.82	4.82	.00933	.000	1
CalStd9=100	1000.0	1033.5	33.5	3.35	.09227	.001	1
CalStd10=10	10000.	9961.0	-39.0	-.390	.88956	.009	1

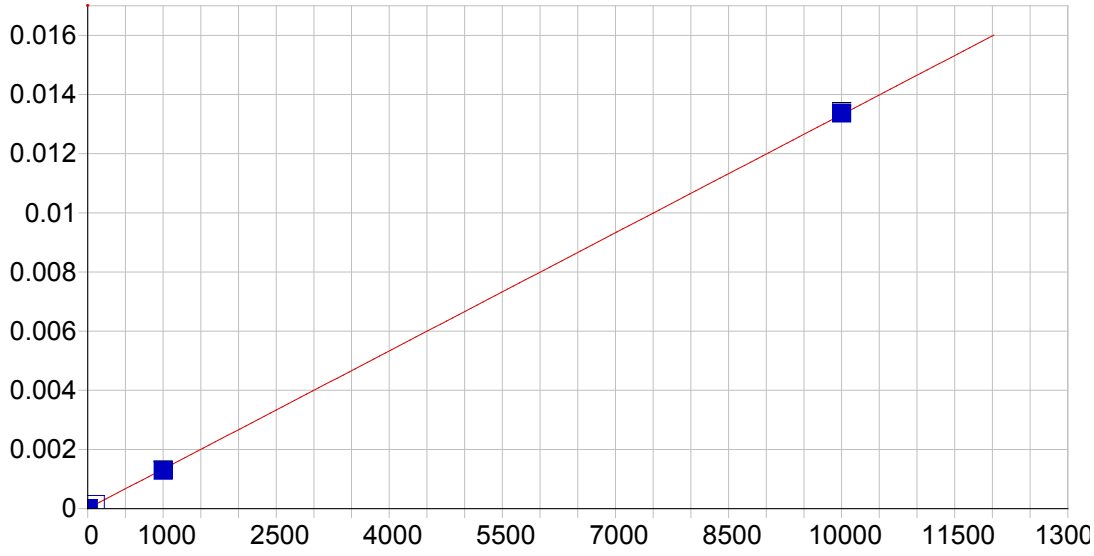


Sn 189.989 {478}

Date of Fit:	07/20/2016 09:23:56	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000025	Re-Slope:	1.000000
A1 (Gain):	0.000008	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999814	Status:	OK.
Std Error of Est:	0.000105		
Predicted MDL:	2.547547		
Predicted MQL:	8.491823		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-4.0445	-4.04	.000	-.00001	.000	1
CalStd10=10	10000.	9866.5	-134.	-1.34	.07625	.000	1
CalStd9=100	1000.0	1023.5	23.5	2.35	.00793	.000	1
CalStd8=100	100.00	100.21	.214	.214	.00080	.000	1
CalStd7=50	50.000	49.066	-.934	-1.87	.00040	.000	1

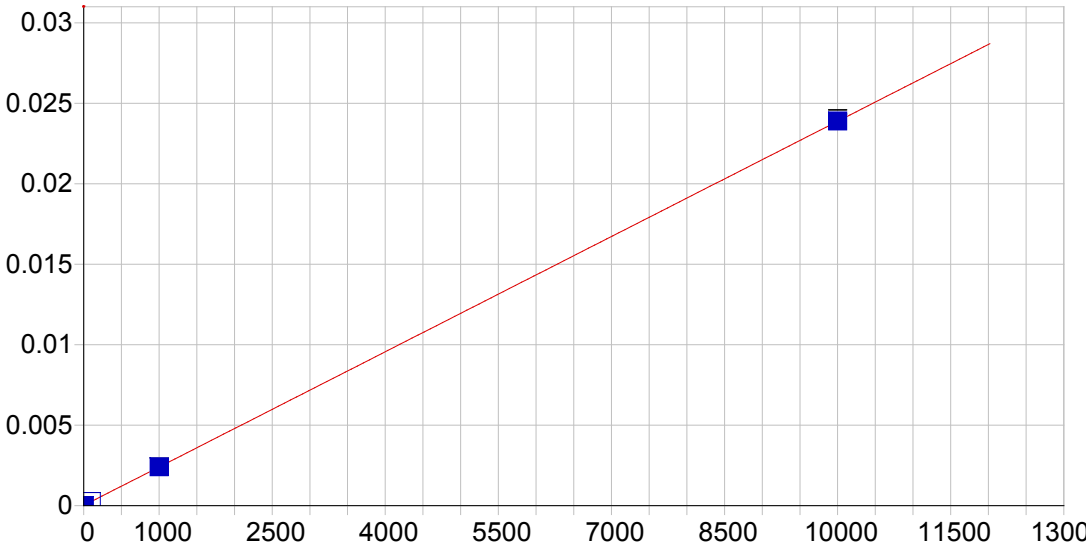


B 249.678 {135}

Date of Fit:	07/20/2016 09:23:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000005	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999928	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	1.556292		
Predicted MQL:	5.187641		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00195	.002	.000	.00001	.000	1
CalStd8=100	100.00	99.519	-.481	-.481	.00014	.000	1
CalStd5=10	10.000	8.4113	-1.59	-15.9	.00002	.000	1
CalStd9=100	1000.0	965.20	-34.8	-3.48	.00129	.000	1
CalStd10=10	10000.	10037.	36.9	.369	.01337	.000	1

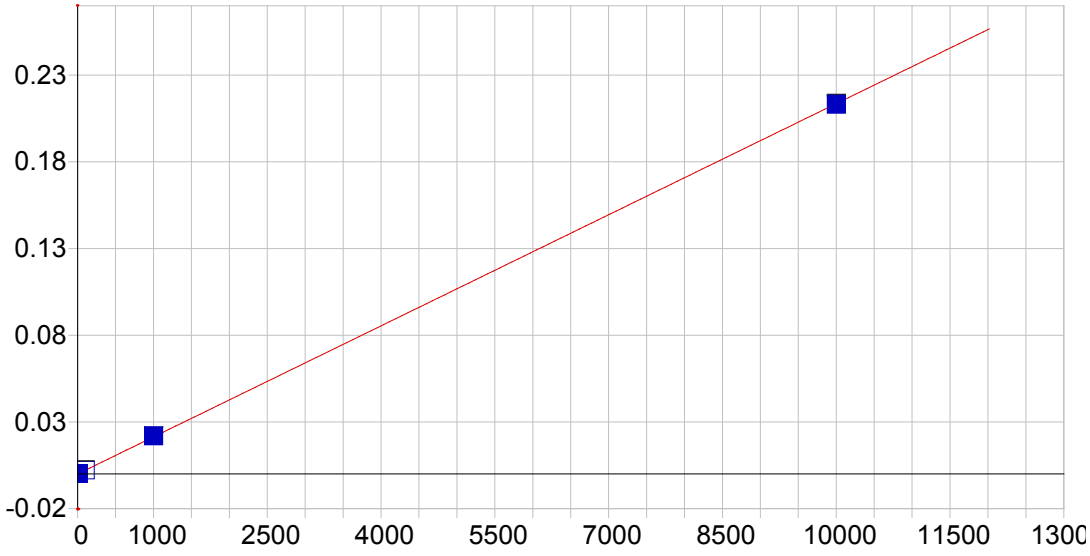


B 249.773 {135}

Date of Fit:	07/20/2016 09:23:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000013	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999934	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.766233		
Predicted MQL:	2.554109		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00387	.004	.000	.00001	.000	1
CalStd8=100	100.00	99.158	-.842	-.842	.00025	.000	1
CalStd5=10	10.000	6.1825	-3.82	-38.2	.00003	.000	1
CalStd9=100	1000.0	1003.1	3.13	.313	.00241	.000	1
CalStd10=10	10000.	10002.	1.52	.015	.02391	.000	1

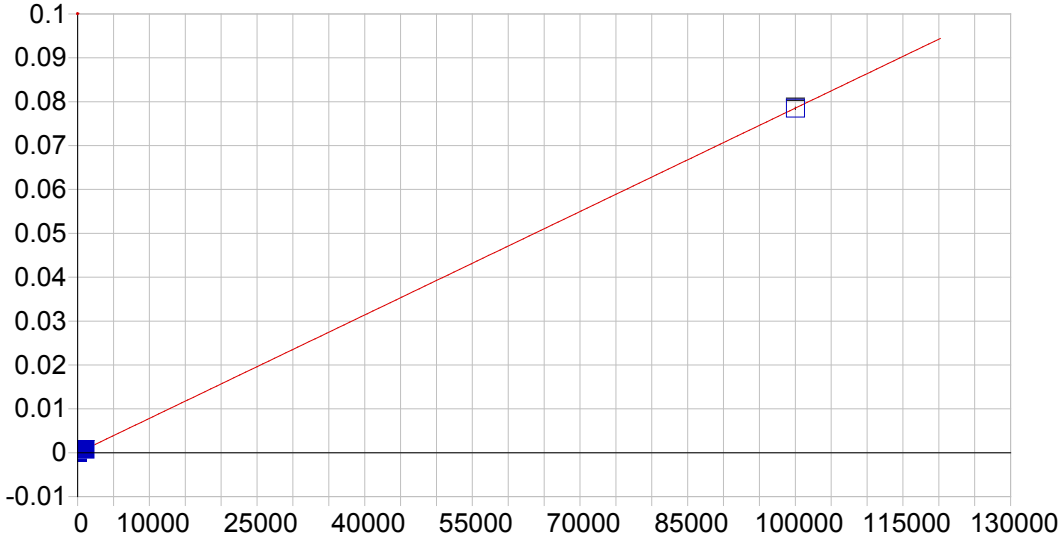


Li 670.784 { 50}

Date of Fit: 07/20/2016 09:23:56 Type of Fit: Linear Weighting: 1/Var

A0 (Offset):	-0.000013	Re-Slope:	1.000000
A1 (Gain):	0.000021	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999966	Status:	OK.
Std Error of Est:	0.000047		
Predicted MDL:	1.333659		
Predicted MQL:	4.445529		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.52983	-.530	.000	-.00002	.000	1
CalStd5=10	10.000	10.528	.528	5.28	.00021	.000	1
CalStd8=100	100.00	105.65	5.65	5.65	.00224	.000	1
CalStd9=100	1000.0	1025.4	25.4	2.54	.02189	.000	1
CalStd10=10	10000.	9980.5	-19.5	-.195	.21315	.000	1

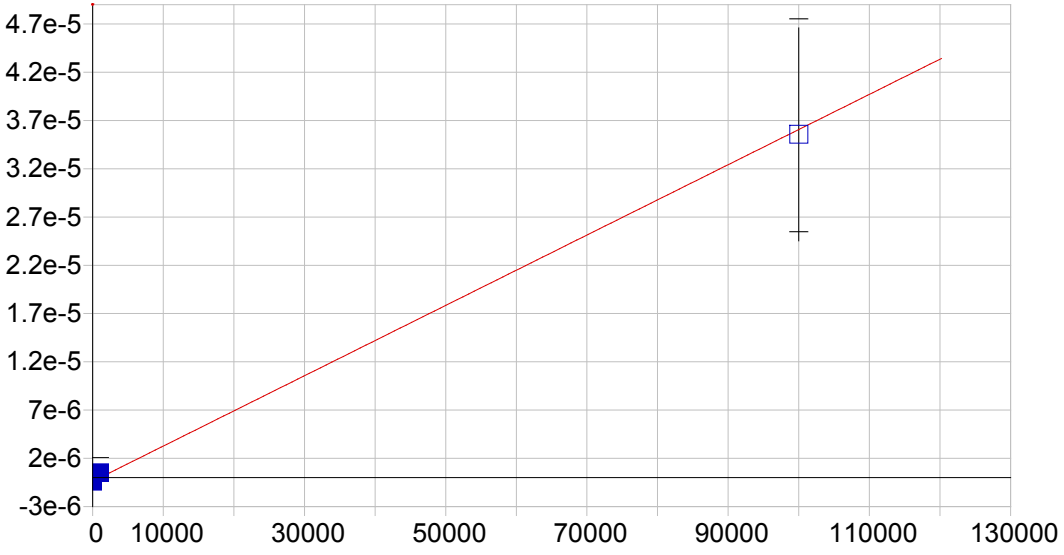


K 766.490 { 44}

Date of Fit:	07/20/2016 09:23:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000034	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999989	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	33.965081		
Predicted MQL:	113.216938		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.04674	-.047	.000	-.00003	.000	1
CalStd9=100	1000.0	1047.2	47.2	4.72	.00079	.000	1
CalStd12-100	100000.	99953.	-47.2	-.047	.07850	.000	1

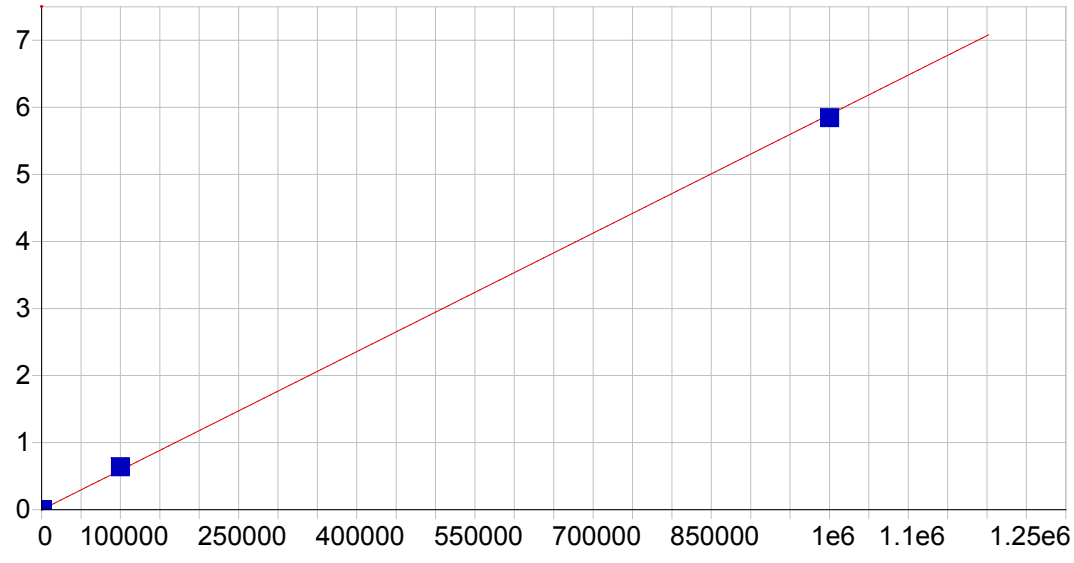


P 213.618 {457}

Date of Fit:	07/20/2016 09:23:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.990763	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	1293.717037		
Predicted MQL:	4312.390122		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-1.3543	-1.35	.000	.00000	.000	1
CalStd9=100	1000.0	2368.0	1370.	137.	.00000	.000	1
CalStd12-100	100000.	98632.	-1370.	-1.37	.00004	.000	1

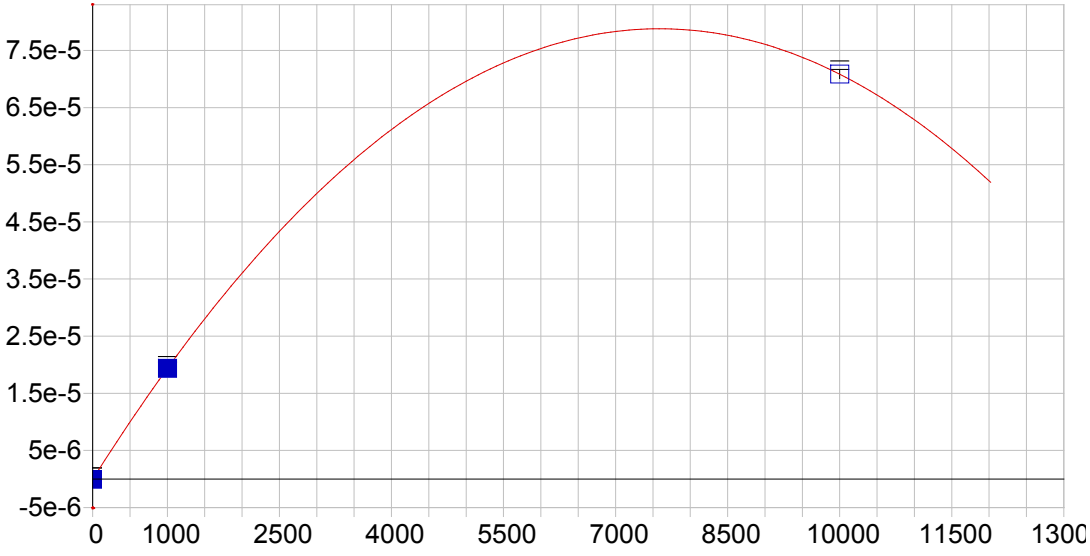


S 182.034 {485}

Date of Fit:	07/20/2016 09:23:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000109	Re-Slope:	1.000000
A1 (Gain):	0.000006	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999671	Status:	OK.
Std Error of Est:	0.000224		
Predicted MDL:	3.660713		
Predicted MQL:	12.202376		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.12049	-.120	.000	.00011	.000	1
CalStd12-100	100000.	108100.	8100.	8.10	.63694	.001	1
CalStd14-100	1000000.	991850.	-8150.	-.815	5.8436	.005	1
CalStd9=100	1000.0	1047.6	47.6	4.76	.00628	.000	1

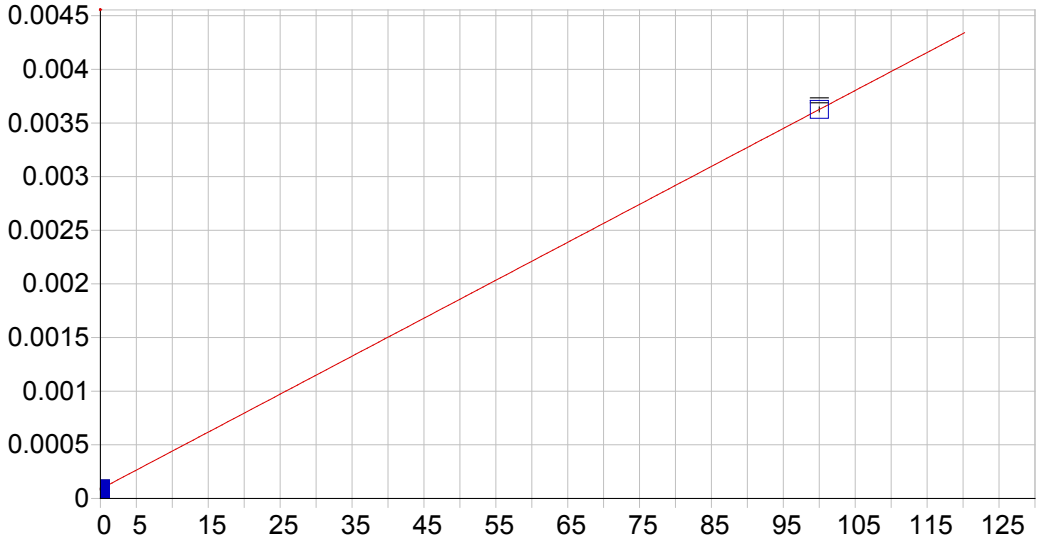


W 239.709 {140}

Date of Fit:	07/20/2016 09:23:56	Type of Fit:	Curvilinear	Weighting:	None

A0 (Offset):	-0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	34.222754		
Predicted MQL:	114.075845		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00000	.000	1
CalStd9=100	1000.0	1000.00	.000	.000	.00002	.000	1
CalStd12-100	10000.	5179.1	-4820.	-48.2	.00007	.000	1

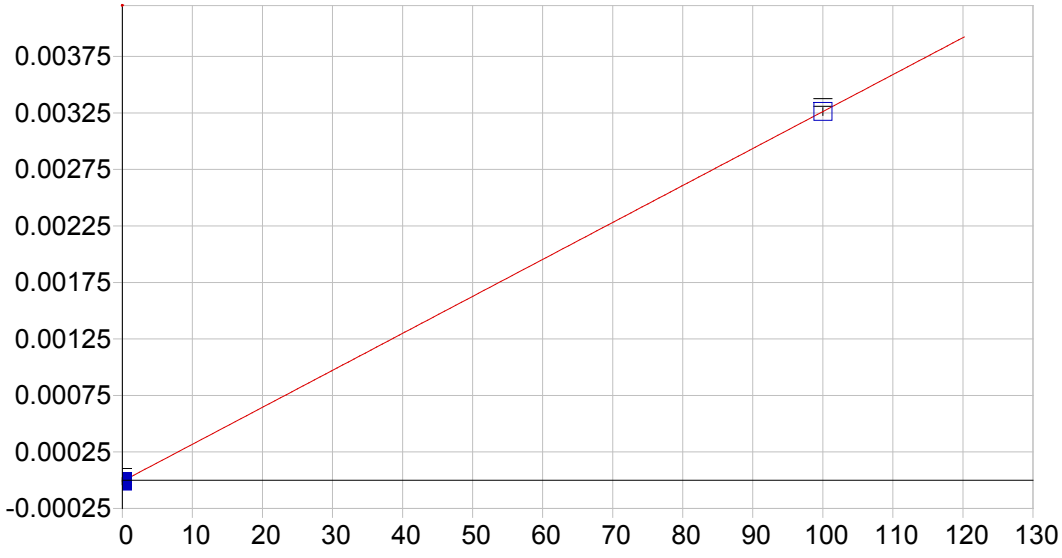


Hg 184.950 {482}

Date of Fit:	07/20/2016 09:23:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000087	Re-Slope:	1.000000
A1 (Gain):	0.000035	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.799054		
Predicted MQL:	2.663513		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00009	.000	1
CalStd8=100	100.00	100.00	.000	.000	.00363	.000	1



Hg 194.227 {473}

Date of Fit:	07/20/2016 09:23:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000009	Re-Slope:	1.000000
A1 (Gain):	0.000033	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.837937		
Predicted MQL:	2.793124		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	-.00001	.000	1
CalStd8=100	100.00	100.00	.000	.000	.00326	.000	1

Sample Name: Blank Acquired: 07/19/2016 07:18:11 Type: Cal
Method: DOD Calibration Updated 060614(v1542) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Ba4934	Be3130	Be2348	Ca3158	Ca3933	Cd2265	Co2286	Co2388
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.001**	**.000**	**.000**	**.000**	**.001**	**.000**	**.000**	**.000**
Stddev	.00	.00	.00	.000	.000	.00	.00	.000	.000	.000	.00	.000
%RSD	17.8	37.6	27.5	22.6	.199	2.56	1010.	12.4	30.4	105.	15.5	274.

Elem	Cr2055	Cr2677	Cu2247	Cu3247	Fe2599	Mg2790	Mg2802	Mn2576	Mn2593	Mo2020	Mo2045	Ni2216
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	.00	.000	.00	.000	.000	.000	.000	.000	.000	.000	.000	.00
%RSD	33.2	21.2	173.	2.42	20.7	150.	.501	7.04	26.6	42.4	32.6	304.

Elem	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Se2062	Tl1908	V_2924	Zn2062	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	.00	.000	.000	.00	.00	.000	.00	.000	.000	.000	.000
%RSD	41.0	348.	11.5	19.3	153.	264.	546.	315.	36.0	9.88	6.19

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1530300.**	**277440.**	**19378.**
Stddev	4473.	2043.	19.
%RSD	.29230	.73635	.09610

Sample Name: CalStd1=0.25 Acquired: 07/19/2016 07:24:46 Type: Cal
Method: DOD Calibration Updated 060614(v1542) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Be3130
Units	Cts/S
Avg	.000
Stddev	.00
%RSD	6.37

Int. Std.	Y_3242
Units	Cts/S
Avg	1524800.
Stddev	6612.
%RSD	.43362

Sample Name: CalStd2=0.5 Acquired: 07/19/2016 07:31:19 Type: Cal
Method: DOD Calibration Updated 060614(v1542) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Be3130	Cd2265
Units	Cts/S	Cts/S
Avg	**.000**	**.000**
Stddev	.00	.000
%RSD	52.7	9.83

Int. Std.	Y_3242	Y_2243
Units	Cts/S	Cts/S
Avg	**1520300.**	**18989.**
Stddev	4523.	40.
%RSD	.29748	.21221

Sample Name: CalStd3=1 Acquired: 07/19/2016 07:37:50 Type: Cal
Method: DOD Calibration Updated 060614(v1542) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Ba2335	Be3130	Cd2265	Co2286	Cr2055	Cu2247	Ni2316
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	.00	.000	.000	.000	.000	.000	.000	.000
%RSD	30.7	11.1	3.22	10.4	50.5	50.1	123.	783.

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1514100.**	**281960.**	**18719.**
Stddev	3920.	413.	35.
%RSD	.25893	.14643	.18579

Sample Name: CalStd4=5 Acquired: 07/19/2016 07:44:22 Type: Cal
Method: DOD Calibration Updated 060614(v1542) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ba2335	Be3130	Cd2265	Co2286	Cr2055	Cr2677	Cu2247	Mn2576	Mo2020	Mo2045	Ni2316	Pb2203
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.001**	**.000**	**.001**	**.001**	**.001**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	3.13	.658	1.12	5.68	3.57	7.67	7.89	1.96	7.35	7.67	3.13	14.9

Elem	Sb2175	Zn2138
Units	Cts/S	Cts/S
Avg	**.000**	**.000**
Stddev	.000	.000
%RSD	41.7	2.85

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1517000.**	**281230.**	**18750.**
Stddev	2057.	1069.	33.
%RSD	.13557	.38026	.17468

Sample Name: CalStd5=10 Acquired: 07/19/2016 07:50:53 Type: Cal
Method: DOD Calibration Updated 060614(v1542) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	As1937	Ba2335	Be3130	Cd2265	Co2286	Cr2055	Cr2677	Cu2247	Mn2576	Mo2020	Mo2045
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.001**	**.001**	**.003**	**.002**	**.001**	**.000**	**.001**	**.000**	**.001**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	14.1	66.1	2.20	.609	2.58	1.80	2.00	4.61	3.06	.964	4.86	4.07

Elem	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	3.09	42.9	14.5	34.0	20.6	24.0	23.6	2.17	1.79

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1510200.**	**281670.**	**18519.**
Stddev	5640.	926.	42.
%RSD	.37347	.32892	.22551

Sample Name: CalStd6=20 Acquired: 07/19/2016 07:57:20 Type: Cal
Method: DOD Calibration Updated 060614(v1542) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ba2335	Cu2247	Mn2576	Mo2020	Mo2045	Sb2175	V_2924
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.002**	**.002**	**.000**	**.001**	**.000**	**.000**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000
%RSD	1.32	2.80	.844	2.86	3.24	16.3	2.39

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1511600.**	**285560.**	**18313.**
Stddev	7930.	293.	36.
%RSD	.52459	.10265	.19401

Sample Name: CalStd7=50 Acquired: 07/19/2016 08:03:45 Type: Cal
Method: DOD Calibration Updated 060614(v1542) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	As1937	Ba2335	Ca3933	Cd2265	Co2286	Cr2055	Cr2677	Cu2247	Mg2802	Mn2576	Mo2020	Mo2045
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.005**	**.002**	**.014**	**.009**	**.007**	**.000**	**.004**	**.002**	**.001**	**.003**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	1.09	1.22	.174	.752	.421	.762	.819	.982	.413	.396	.431	1.29

Elem	Ni2316	Sb2068	Se1960	V_2924	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.001**	**.000**	**.000**	**.000**
Stddev	.000	.000	.000	.000	.000
%RSD	1.05	3.69	2.86	.428	.619

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1496200.**	**284170.**	**18342.**
Stddev	4289.	840.	44.
%RSD	.28666	.29553	.23755

Sample Name: CalStd8=100 Acquired: 07/19/2016 08:10:08 Type: Cal
Method: DOD Calibration Updated 060614(v1542) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	As1937	Ba2335	Ba4934	Be3130	Be2348	Ca3933	Cd2265	Co2286	Co2388	Cr2055	Cr2677
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.001**	**.010**	**.002**	**.007**	**.000**	**.004**	**.028**	**.018**	**.000**	**.013**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	.937	2.69	.410	.545	.504	1.68	1.25	.370	.441	1.28	.341	.709

Elem	Cu2247	Cu3247	Mg2802	Mn2576	Mo2020	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2175	Se1960
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.009**	**.000**	**.005**	**.001**	**.006**	**.000**	**.000**	**.000**	**.001**	**.004**	**.002**	**.001**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	.652	1.37	.519	.458	.750	1.32	.799	.701	3.76	.753	1.73	1.53

Elem	Se2062	Tl1908	V_2924	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.002**	**.001**	**.000**
Stddev	.000	.000	.000	.000
%RSD	22.7	2.85	1.15	.558

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1496600.**	**282160.**	**18311.**
Stddev	6899.	802.	29.
%RSD	.46100	.28434	.15653

Sample Name: CalStd9=1000 Acquired: 07/19/2016 08:16:27 Type: Cal
Method: DOD Calibration Updated 060614(v1542) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	As1937	Ba2335	Ba4934	Be3130	Be2348	Ca3158	Ca3933	Cd2265	Co2286	Co2388	Cr2055
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.001**	**.010**	**.097**	**.009**	**.068**	**.001**	**.000**	**.035**	**.277**	**.177**	**.002**	**.131**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.001	.000	.000
%RSD	.979	.434	.103	1.19	.438	1.36	.648	1.27	.102	.351	.281	.032

Elem	Cr2677	Cu2247	Cu3247	Fe2599	Mg2790	Mg2802	Mn2576	Mn2593	Mo2020	Mo2045	Ni2216	Ni2316
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.004**	**.085**	**.000**	**.001**	**.000**	**.045**	**.014**	**.007**	**.064**	**.001**	**.002**	**.002**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	.398	.302	1.34	1.08	1.74	.514	.568	.820	.261	.533	.385	.393

Elem	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Se2062	Tl1908	V_2924	Zn2062	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.012**	**.040**	**.018**	**.020**	**.008**	**.002**	**.019**	**.006**	**.197**	**.002**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	.090	.413	.210	.440	.381	1.64	.230	.446	.212	.296

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1490000.**	**283860.**	**18096.**
Stddev	6807.	806.	61.
%RSD	.45684	.28406	.33730

Sample Name: CalStd10=10000 Acquired: 07/19/2016 08:22:14 Type: Cal
Method: DOD Calibration Updated 060614(v1542) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	As1937	Ba4934	Ca3158	Co2286	Co2388	Cr2055	Cr2677	Cu2247	Cu3247	Fe2599	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.015**	**.094**	**.079**	**.004**	**1.70**	**.019**	**1.25**	**.041**	**.809**	**.003**	**.008**	**.001**
Stddev	.000	.000	.001	.000	.00	.000	.00	.000	.001	.000	.000	.000
%RSD	.246	.060	1.18	.226	.182	.330	.060	.327	.098	.783	.487	.546

Elem	Mg2802	Mn2576	Mn2593	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Se2062
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.409**	**.136**	**.070**	**.006**	**.019**	**.018**	**.110**	**.382**	**.177**	**.191**	**.079**	**.019**
Stddev	.002	.000	.000	.000	.000	.000	.000	.001	.000	.000	.000	.000
%RSD	.567	.125	.184	.291	.201	.237	.227	.153	.163	.167	.217	.275

Elem	Tl1908	V_2924	Zn2062	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.179**	**.055**	**1.87**	**.020**
Stddev	.000	.000	.00	.000
%RSD	.104	.455	.202	.283

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1436700.**	**281980.**	**17784.**
Stddev	3665.	1050.	6.
%RSD	.25506	.37220	.03429

Sample Name: CalStd11-100k Acquired: 07/19/2016 08:28:48 Type: Cal
Method: DOD Calibration Updated 060614(v1542) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Cr2055	Cu3247	Mn2593	Pb2169	Zn2062
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**11.7**	**.035**	**.706**	**1.14**	**17.6**
Stddev	.0	.000	.006	.00	.2
%RSD	.088	.420	.853	.278	.953

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1473500.**	**281730.**	**17751.**
Stddev	5805.	267.	47.
%RSD	.39393	.09476	.26341

Sample Name: CalStd12-100000 Acquired: 07/19/2016 08:35:29 Type: Cal
Method: DOD Calibration Updated 060614(v1542) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Ca3158	Fe2599	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.144**	**.041**	**.085**	**.006**
Stddev	.001	.000	.001	.000
%RSD	.532	.515	.628	.343

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1412600.**	**275270.**	**17067.**
Stddev	2790.	580.	25.
%RSD	.19748	.21062	.14811

Sample Name: CalStd13=500000 Acquired: 07/19/2016 08:42:06 Type: Cal
Method: DOD Calibration Updated 060614(v1542) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Ca3158	Fe2599	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.721**	**.196**	**.399**	**.032**
Stddev	.005	.001	.003	.000
%RSD	.716	.720	.628	.787

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1330000.**	**267520.**	**15759.**
Stddev	7909.	575.	167.
%RSD	.59470	.21488	1.0596

Sample Name: CalStd14-1000k Acquired: 07/19/2016 08:48:47 Type: Cal
Method: DOD Calibration Updated 060614(v1542) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Ca3158	Fe2599	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**1.42**	**.373**	**.715**	**.061**
Stddev	.03	.001	.006	.000
%RSD	1.75	.303	.883	.428

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1245100.**	**269650.**	**14585.**
Stddev	7241.	676.	59.
%RSD	.58156	.25086	.40278

Sample Name: icv Acquired: 07/19/2016 09:02:24 Type: QC
Method: DOD Calibration Updated 060614(v1542) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba4934	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2790
Avg	**49.2**	**11800.**	**2080.**	**1970.**	**46.7**	**9490.**	**47.1**	**518.**	**191.**	**249.**	**5050.**	**9930.**
Stddev	.5	52.	6.	15.	.3	47.	.3	1.	2.	1.	16.	96.
%RSD	.963	.444	.297	.754	.556	.495	.539	.204	.806	.357	.319	.964
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**486.**	**513.**	**473.**	**491.**	**512.**	**2110.**	**2090.**	**483.**	**477.**
Stddev	3.	.	2.	5.	1.	6.	6.	4.	3.
%RSD	.541	.080	.428	1.11	.147	.306	.270	.799	.589
Check ?	None	None	None	None	None	None	None	None	None
Value									
Range									

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1469500.**	**292050.**	**17421.**
Stddev	5220.	612.	36.
%RSD	.35522	.20941	.20727

Sample Name: ICVLL Acquired: 07/19/2016 09:08:49 Type: QC
Method: DOD Calibration Updated 060614(v1542) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2802
Avg	**54.3**	**1260.**	**67.7**	**30.9**	**12.3**	**1600.**	**15.5**	**31.8**	**31.7**	**32.0**	**987.**	**1660.**
Stddev	.9	8.	2.4	.2	.1	2.	.1	.1	.6	.3	10.	8.
%RSD	1.60	.634	3.52	.556	.488	.139	.642	.380	1.88	.795	.975	.504
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**32.2**	**31.1**	**29.8**	**28.6**	**66.0**	**71.5**	**65.2**	**30.5**	**31.9**
Stddev	.2	.2	.3	1.8	1.6	1.2	1.7	.5	.2
%RSD	.549	.771	1.09	6.21	2.36	1.65	2.62	1.74	.732
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1467200.**	**290180.**	**17492.**
Stddev	5509.	816.	34.
%RSD	.37549	.28111	.19311

Sample Name: icb Acquired: 07/19/2016 09:21:41 Type: QC
Method: DOD Calibration Updated 060614(v1542) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2802
Avg	**.463**	**3.30**	**.468**	**.480**	**.093**	**-8.40**	**.084**	**.167**	**.178**	**.123**	**.714**	**-1.56**
Stddev	.236	9.81	1.03	.174	.021	.65	.133	.168	.420	.310	4.26	.64
%RSD	51.0	297.	220.	36.1	22.5	7.71	159.	100.	237.	252.	597.	41.2
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**-.025**	**.221**	**.563**	**-2.23**	**-.271**	**.030**	**.326**	**-.289**	**-.044**
Stddev	.044	.140	.697	1.46	.899	2.29	2.42	.476	.251
%RSD	176.	63.4	124.	65.4	332.	7610.	744.	165.	568.
Check ?	None	None	None	None	None	None	None	None	None
Value									
Range									

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1481300.**	**291310.**	**17674.**
Stddev	2054.	532.	34.
%RSD	.13863	.18269	.19258

Sample Name: icsa Acquired: 07/19/2016 09:34:40 Type: QC
Method: DOD Calibration Updated 060614(v1542) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2247	Fe2599
Avg	**.000**	**503000.**	**.839**	**-.015**	**.041**	**457000.**	**.002**	**-.181**	**.072**	**-.036**	**441000.**
Stddev	.355	2490.	8.19	.102	.013	2220.	.659	.339	.633	1.56	2260.
%RSD	205e15	.496	976.	698.	32.7	.486	34700.	188.	882.	4340.	.512
Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None
High Limit											
Low Limit											

Elem	Mg2790	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**476000.**	**.063**	**-.687**	**-.001**	**-.021**	**-.011**	**.002**	**.529**	**.003**	**-.029**
Stddev	2730.	.048	.451	.763	3.14	4.51	5.51	4.25	.902	.277
%RSD	.574	77.1	65.7	53500.	14900.	39600.	243000.	804.	25800.	968.
Check ?	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit										
Low Limit										

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1326100.**	**277770.**	**15685.**
Stddev	2132.	715.	60.
%RSD	.16079	.25746	.38226

Sample Name: icsab Acquired: 07/19/2016 09:41:23 Type: QC
Method: DOD Calibration Updated 060614(v1542) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Ba4934	Be3130	Be2348	Ca3158	Cd2265	Co2286	Co2388
Avg	**552.**	**518000.**	**537.**	**492.**	**515.**	**489.**	**571.**	**469000.**	**466.**	**499.**	**460.**
Stddev	3.	3630.	8.	.	3.	2.	5.	3340.	1.	2.	4.
%RSD	.518	.701	1.45	.083	.668	.383	.791	.712	.275	.485	.838
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Elem	Cr2055	Cr2677	Cu2247	Cu3247	Fe2599	Mg2790	Mn2576	Mn2593	Mo2020	Mo2045	Ni2216
Avg	**500.**	**480.**	**474.**	**582.**	**458000.**	**488000.**	**474.**	**533.**	**510.**	**489.**	**464.**
Stddev	1.	2.	2.	5.	3140.	3490.	2.	5.	3.	2.	1.
%RSD	.239	.325	.413	.846	.686	.715	.421	1.01	.681	.467	.216
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Elem	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Se2062	Tl1908	V_2924	Zn2062	Zn2138
Avg	**443.**	**558.**	**458.**	**556.**	**541.**	**532.**	**429.**	**462.**	**495.**	**493.**	**487.**
Stddev	2.	11.	2.	6.	4.	10.	21.	5.	3.	2.	2.
%RSD	.456	1.95	.479	1.12	.805	1.85	4.86	.977	.620	.419	.464
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Sample Name: icsab Acquired: 07/19/2016 09:41:23 Type: QC
Method: DOD Calibration Updated 060614(v1542) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1318400.**	**277170.**	**15412.**
Stddev	4079.	423.	59.
%RSD	.30942	.15276	.38574

Sample Name: ICVLL Ag Acquired: 07/19/2016 09:48:33 Type: Unk
Method: DOD Calibration Updated 060614(v1542) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2802
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**10.5**	**175.**	**-.082**	**-.121**	**.145**	**89.6**	**-.062**	**-.061**	**-.442**	**.258**	**594.**	**89.7**
Stddev	1.3	85.	2.55	.158	.013	14.5	.072	.215	.447	.301	551.	.8
%RSD	12.1	48.4	3090.	131.	8.94	16.2	117.	354.	101.	117.	92.8	.887

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-.359**	**.246**	**-.198**	**-1.88**	**.183**	**2.19**	**-2.55**	**.113**	**-.345**
Stddev	.055	.356	.211	1.60	1.13	1.72	1.96	.270	.235
%RSD	15.3	144.	107.	85.4	616.	78.7	77.0	238.	68.2

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1469500.**	**293350.**	**17391.**
Stddev	9855.	692.	61.
%RSD	.67061	.23604	.34860

Sample Name: lcsw58100 Acquired: 07/19/2016 10:14:36 Type: Unk
Method: DOD Calibration Updated 060614(v1542) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Ba4934	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2247
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**22.3**	**803.**	**917.**	**796.**	**875.**	**19.6**	**182000.**	**19.4**	**214.**	**79.1**	**102.**
Stddev	.5	11.	4.	1.	3.	.1	1320.	.2	1.	.6	.
%RSD	2.38	1.34	.402	.162	.336	.261	.724	.943	.378	.798	.388

Elem	Fe2599	Mg2790	Mn2576	Mo2020	Ni2216	Ni2316	Pb2203	Sb2175	Se1960	Se2062	Tl1908
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**440.**	**93400.**	**199.**	**-.175**	**198.**	**190.**	**194.**	**219.**	**907.**	**871.**	**821.**
Stddev	13.	612.	1.	.185	.	.	3.	1.	4.	33.	4.
%RSD	2.88	.655	.636	106.	.220	.052	1.61	.585	.433	3.77	.481

Elem	V_2924	Zn2138
Units	ug/L	ug/L
Avg	**204.**	**202.**
Stddev	2.	1.
%RSD	1.18	.328

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1370700.**	**285050.**	**16061.**
Stddev	3627.	678.	43.
%RSD	.26460	.23778	.26912

Sample Name: mbw58100 Acquired: 07/19/2016 10:21:01 Type: Unk
Method: DOD Calibration Updated 060614(v1542) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2802
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**.737**	**-6.17**	**1.14**	**-.150**	**.047**	**46.6**	**.001**	**-.188**	**-.368**	**-.955**	**22.6**	**-3.09**
Stddev	.453	7.02	2.39	.142	.035	78.8	.151	.272	.321	.480	1.3	.39
%RSD	61.5	114.	211.	94.4	74.9	169.	15500.	145.	87.3	50.3	5.76	12.5

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-.426**	**-.413**	**-.158**	**-4.71**	**.431**	**1.46**	**-.734**	**-.051**	**-.254**
Stddev	.038	.204	.111	.71	1.64	2.79	1.22	.290	.038
%RSD	9.00	49.4	69.9	15.0	382.	191.	167.	564.	15.1

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1468600.**	**292960.**	**17313.**
Stddev	6788.	311.	25.
%RSD	.46218	.10613	.14343

Sample Name: 744978 Acquired: 07/19/2016 10:27:33 Type: Unk
Method: DOD Calibration Updated 060614(v1542) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2790
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**.822**	**3.39**	**2.07**	**71.5**	**.039**	**67700.**	**.097**	**-.303**	**-.382**	**-.120**	**61.7**	**36700.**
Stddev	1.21	5.54	.98	.4	.022	346.	.125	.190	.232	.209	2.5	323.
%RSD	148.	164.	47.3	.537	57.4	.512	129.	62.7	60.6	174.	4.08	.880

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**1.08**	**-.021**	**.213**	**-4.27**	**-.633**	**4.85**	**-.473**	**-.192**	**7.66**
Stddev	.05	.241	.425	1.40	2.28	1.80	.621	.043	.10
%RSD	4.61	1130.	200.	32.8	360.	37.1	131.	22.1	1.36

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1426000.**	**289600.**	**16793.**
Stddev	1161.	737.	23.
%RSD	.08139	.25443	.13754

Sample Name: I744978 Acquired: 07/19/2016 10:34:29 Type: Unk
Method: DOD Calibration Updated 060614(v1542) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2790
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**.534**	**-3.97**	**3.91**	**17.3**	**.036**	**23100.**	**-.144**	**-.072**	**-.734**	**-.726**	**13.2**	**12700.**
Stddev	.859	8.48	2.42	1.8	.017	796.	.136	.205	.449	.490	2.6	455.
%RSD	161.	214.	62.0	10.4	46.4	3.44	94.4	284.	61.1	67.4	19.9	3.58

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-.092**	**-.375**	**-.103**	**-3.48**	**-.445**	**2.69**	**.316**	**.025**	**1.38**
Stddev	.034	.491	.448	1.84	1.96	3.72	1.21	.348	.18
%RSD	37.2	131.	435.	53.0	441.	138.	382.	1370.	12.8

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1461500.**	**295020.**	**17364.**
Stddev	2703.	734.	30.
%RSD	.18492	.24879	.17059

Sample Name: 744979 Acquired: 07/19/2016 10:41:26 Type: Unk
Method: DOD Calibration Updated 060614(v1542) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2790
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-.434**	**156.**	**1.83**	**105.**	**.066**	**77300.**	**-.053**	**-.135**	**8.09**	**.117**	**299.**	**26200.**
Stddev	.689	7.	.71	1.	.020	610.	.123	.224	.49	.457	1.	208.
%RSD	159.	4.65	39.0	.624	29.9	.789	231.	166.	6.05	392.	.389	.796

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**35.0**	**.588**	**.999**	**-2.49**	**-1.61**	**4.39**	**-.606**	**1.25**	**8.19**
Stddev	.2	.321	.378	2.16	1.91	3.51	1.99	.29	.12
%RSD	.555	54.6	37.9	86.9	119.	80.1	328.	23.5	1.41

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1426700.**	**290510.**	**16801.**
Stddev	2849.	1503.	33.
%RSD	.19967	.51736	.19541

Sample Name: msw744979 Acquired: 07/19/2016 10:48:20 Type: Unk
Method: DOD Calibration Updated 060614(v1542) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Ba4934	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2247
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**21.3**	**988.**	**911.**	**887.**	**987.**	**19.6**	**257000.**	**19.3**	**211.**	**86.9**	**101.**
Stddev	.1	7.	3.	.	8.	.0	1990.	.2	.	.8	1.
%RSD	.451	.733	.337	.011	.784	.070	.773	.816	.160	.868	.832

Elem	Fe2599	Mg2790	Mn2576	Mo2020	Ni2216	Ni2316	Pb2203	Sb2175	Se1960	Se2062	Tl1908
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**728.**	**118000.**	**232.**	**.896**	**203.**	**188.**	**191.**	**216.**	**891.**	**878.**	**802.**
Stddev	5.	821.	1.	.430	1.	1.	2.	1.	6.	10.	1.
%RSD	.718	.693	.260	48.0	.491	.421	1.13	.480	.704	1.12	.141

Elem	V_2924	Zn2138
Units	ug/L	ug/L
Avg	**204.**	**207.**
Stddev	2.	1.
%RSD	1.16	.389

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1349200.**	**284240.**	**15877.**
Stddev	5359.	1023.	35.
%RSD	.39717	.35984	.22019

Sample Name: ccv1 Acquired: 07/19/2016 10:54:40 Type: QC
Method: DOD Calibration Updated 060614(v1542) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba4934	Be2348	Ca3158	Cd2265	Co2388	Cr2055	Cu3247	Fe2599	Mg2790
Avg	**507.**	**4960.**	**5140.**	**4890.**	**516.**	**4680.**	**479.**	**4810.**	**4850.**	**4890.**	**5040.**	**4940.**
Stddev	1.	27.	16.	28.	4.	51.	1.	15.	8.	31.	36.	37.
%RSD	.267	.542	.319	.562	.741	1.09	.217	.312	.163	.639	.707	.750
Check ?	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Mn2593	Mo2045	Ni2216	Pb2169	Sb2068	Se2062	Tl1908	V_2924	Zn2138
Avg	**4750.**	**4780.**	**4790.**	**4970.**	**5150.**	**5190.**	**5160.**	**4740.**	**4750.**
Stddev	37.	4.	9.	12.	10.	24.	5.	16.	6.
%RSD	.787	.086	.179	.240	.191	.454	.092	.326	.131
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1438900.**	**291740.**	**17109.**
Stddev	2348.	1053.	42.
%RSD	.16317	.36092	.24552

Sample Name: ccv2 Acquired: 07/19/2016 11:00:23 Type: QC
Method: DOD Calibration Updated 060614(v1542) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2802
Avg	**54.2**	**501.**	**522.**	**489.**	**49.5**	**499.**	**50.6**	**531.**	**486.**	**512.**	**517.**	**521.**
Stddev	.5	9.	2.	1.	.1	2.	.1	2.	2.	3.	16.	1.
%RSD	.856	1.80	.360	.270	.279	.309	.193	.441	.464	.488	3.03	.272
Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**489.**	**512.**	**481.**	**500.**	**510.**	**540.**	**538.**	**480.**	**477.**
Stddev	1.	2.	1.	2.	2.	3.	2.	3.	1.
%RSD	.215	.420	.152	.455	.354	.508	.413	.684	.241
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1452800.**	**291350.**	**17118.**
Stddev	1680.	1270.	67.
%RSD	.11565	.43596	.39234

Sample Name: ccb Acquired: 07/19/2016 11:06:23 Type: QC
Method: DOD Calibration Updated 060614(v1542) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2802
Avg	**.625**	**-5.27**	**1.46**	**-.064**	**.077**	**-12.8**	**.042**	**-.230**	**-.418**	**-.490**	**-.864**	**-4.79**
Stddev	1.22	4.94	1.51	.224	.028	1.0	.144	.128	.212	.134	4.95	.11
%RSD	195.	93.9	103.	350.	36.0	7.69	339.	56.0	50.6	27.3	572.	2.36
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**-.466**	**.593**	**-.297**	**-3.60**	**-.143**	**.940**	**.076**	**-.268**	**-.908**
Stddev	.091	.389	.174	2.49	.939	4.42	.824	.443	.091
%RSD	19.4	65.7	58.6	69.1	657.	471.	1090.	165.	10.0
Check ?	None	None	None	None	None	None	None	None	None
Value									
Range									

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1461200.**	**293330.**	**17191.**
Stddev	6081.	585.	27.
%RSD	.41615	.19956	.15923

Sample Name: pdsw744979 Acquired: 07/19/2016 11:12:57 Type: Unk
Method: DOD Calibration Updated 060614(v1542) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba4934	Be3130	Ca3158	Cd2265	Co2388	Cr2055	Cr2677	Cu2247
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**114.**	**4650.**	**4790.**	**4740.**	**100.**	**473000.**	**96.4**	**994.**	**417.**	**410.**	**518.**
Stddev	1.	14.	15.	29.	1.	1370.	.4	7.	2.	1.	2.
%RSD	1.17	.295	.318	.617	.525	.290	.393	.690	.383	.233	.320

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Mn2593	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**622.**	**2440.**	**231000.**	**1040.**	**812.**	**2010.**	**969.**	**931.**	**1050.**	**977.**	**1160.**
Stddev	5.	16.	723.	5.	3.	12.	5.	5.	7.	3.	4.
%RSD	.779	.637	.313	.513	.332	.605	.514	.502	.668	.351	.349

Elem	Se1960	Se2062	Tl1908	V_2924	Zn2062	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**4600.**	**4560.**	**4020.**	**1030.**	**991.**	**1010.**
Stddev	19.	27.	15.	4.	2.	7.
%RSD	.419	.592	.384	.385	.244	.660

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1312600.**	**280310.**	**15212.**
Stddev	2054.	735.	18.
%RSD	.15651	.26210	.11816

Sample Name: ccv1 Acquired: 07/19/2016 12:18:54 Type: QC
Method: DOD Calibration Updated 060614(v1542) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba4934	Be2348	Ca3158	Cd2265	Co2388	Cr2055	Cu3247	Fe2599	Mg2790
Avg	**504.**	**4880.**	**5080.**	**4720.**	**501.**	**4640.**	**470.**	**4720.**	**4730.**	**4710.**	**5010.**	**4910.**
Stddev	2.	27.	13.	29.	2.	60.	1.	16.	3.	46.	13.	55.
%RSD	.443	.561	.259	.622	.469	1.30	.130	.327	.061	.975	.264	1.11
Check ?	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Mn2593	Mo2045	Ni2216	Pb2169	Sb2068	Se2062	Tl1908	V_2924	Zn2062
Avg	**4650.**	**4690.**	**4730.**	**4830.**	**5030.**	**5100.**	**5050.**	**4650.**	**4800.**
Stddev	41.	6.	7.	8.	7.	4.	4.	21.	13.
%RSD	.871	.126	.150	.155	.135	.074	.076	.457	.265
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1424600.**	**286190.**	**17016.**
Stddev	2698.	346.	40.
%RSD	.18938	.12104	.23637

Sample Name: ccv2 Acquired: 07/19/2016 12:24:36 Type: QC
Method: DOD Calibration Updated 060614(v1542) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2802
Avg	**53.1**	**495.**	**506.**	**477.**	**48.7**	**473.**	**49.4**	**521.**	**479.**	**500.**	**513.**	**514.**
Stddev	.4	5.	2.	1.	.2	1.	.2	1.	3.	2.	10.	1.
%RSD	.768	1.09	.300	.155	.413	.147	.399	.212	.553	.342	1.91	.226
Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**482.**	**500.**	**473.**	**487.**	**496.**	**533.**	**524.**	**469.**	**469.**
Stddev	1.	2.	1.	2.	4.	7.	1.	3.	2.
%RSD	.266	.311	.314	.401	.893	1.25	.162	.544	.527
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1443800.**	**284520.**	**17131.**
Stddev	3615.	354.	38.
%RSD	.25038	.12451	.22253

Sample Name: ccb Acquired: 07/19/2016 12:30:37 Type: QC
Method: DOD Calibration Updated 060614(v1542) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu2247	Fe2599	Mg2802
Avg	**.599**	**-8.19**	**.106**	**-.029**	**.095**	**-12.9**	**-.011**	**-.321**	**-.592**	**-.328**	**-3.25**	**-4.50**
Stddev	.641	10.4	4.17	.089	.043	.8	.215	.350	.605	.248	1.01	.02
%RSD	107.	127.	3950.	313.	45.0	6.46	2040.	109.	102.	75.5	30.9	.514
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**-.554**	**1.03**	**-.335**	**-3.03**	**-.146**	**1.36**	**1.22**	**-.123**	**-1.04**
Stddev	.029	.50	.255	.38	.416	2.33	.48	.415	.11
%RSD	5.26	48.9	76.1	12.6	284.	171.	39.5	337.	10.6
Check ?	None	None	None	None	None	None	None	None	None
Value									
Range									

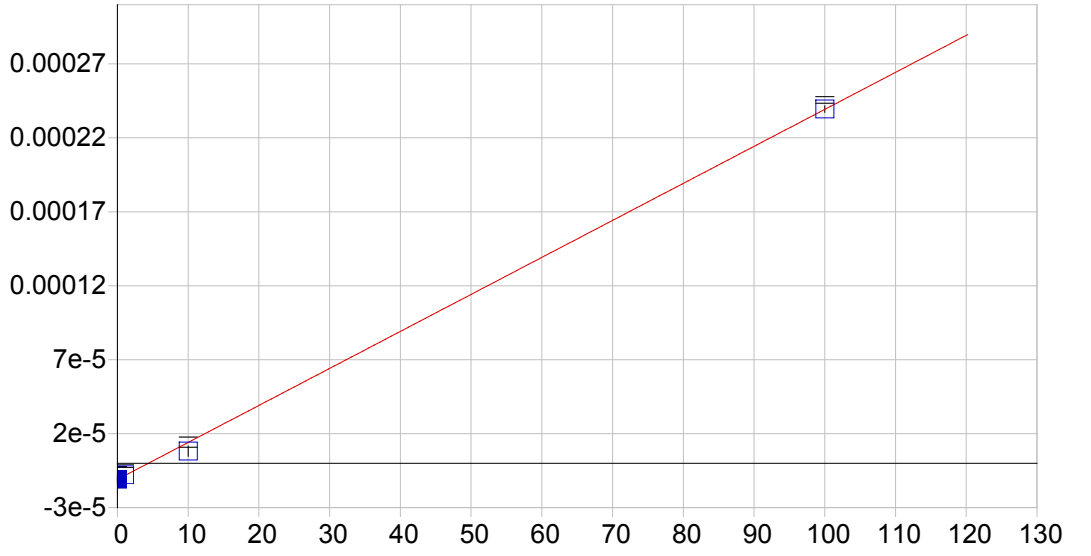
Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1459600.**	**285770.**	**17279.**
Stddev	4283.	668.	44.
%RSD	.29345	.23368	.25281

Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)	Correlation	Std Error of Est	Predicted MDL	Predicted MQL	Status	Resl Slope
Ag 328.068 {103}	07/21/2016 08:56:41	07/20/2016 09:56:12	Linear	1/Var	-0.000011	0.000003	0.000000	1.000000	0.999839	0.000002	0.895207	2.984024	OK.	1.000000
Al 309.271 {109}	07/21/2016 08:56:41	07/20/2016 10:21:48	Curvilin	None	0.000300	0.000001	0.000000	1.000000	1.000000	0.000033	14.910880	49.702935	OK.	1.000000
Al 396.152 { 85}	07/21/2016 08:56:41	07/20/2016 10:35:33	Full Fit	1/Var	0.000014	0.000003	0.000000	1.000000	0.999983	0.000038	7.460050	24.866832	OK.	1.000000
Al 167.079 {502}	07/21/2016 08:56:41	07/20/2016 10:01:59	Linear	1/Var	0.000092	0.000008	0.000000	1.000000	0.999790	0.000033	1.724540	5.748466	OK.	1.000000
As 193.759 {474}	07/21/2016 08:56:41	07/20/2016 10:08:35	Curvilin	1/Conc	-0.000032	0.000010	-0.000000	1.000000	0.999966	0.000001	2.963524	9.878414	OK.	1.000000
As 189.042 {479}	07/21/2016 08:56:41	07/20/2016 10:08:35	Linear	1/Conc	0.000026	0.000002	0.000000	1.000000	0.999729	0.000000	15.601713	52.005709	OK.	1.000000
Ba 233.527 {445}	07/21/2016 08:56:41	07/20/2016 10:01:59	Linear	1/Conc	0.000063	0.000098	0.000000	1.000000	0.999939	0.000001	0.264001	0.880004	OK.	1.000000
Ba 455.403 { 74}	07/21/2016 08:56:41	07/20/2016 10:08:35	Linear	None	0.000030	0.000009	0.000000	1.000000	1.000000	0.000016	0.260987	0.869957	OK.	1.000000
Ba 493.409 { 68}	07/21/2016 08:56:41	07/20/2016 10:08:35	Linear	1/Var	0.001545	0.000008	0.000000	1.000000	0.999658	0.000047	0.594213	1.980710	OK.	1.000000
Be 313.042 {108}	07/21/2016 08:56:41	07/20/2016 10:01:59	Linear	1/Conc	-0.000037	0.000069	0.000000	1.000000	0.999999	0.000000	0.028970	0.096566	OK.	1.000000
Be 234.861 {144}	07/21/2016 08:56:41	07/20/2016 10:01:59	Linear	1/Conc	0.000000	0.000001	0.000000	1.000000	1.000000	0.000000	0.458628	1.528760	OK.	1.000000
Ca 315.887 {107}	07/21/2016 08:56:41	07/20/2016 10:35:33	Full Fit	1/Conc	0.000106	0.000001	0.000000	0.990000	0.999990	0.000005	9.236789	30.789296	OK.	1.000000
Ca 317.933 {106}	07/21/2016 08:56:41	07/20/2016 10:35:33	Curvilin	1/Conc	0.004032	0.000002	0.000000	1.000000	0.999965	0.000028	3.221482	10.738274	OK.	1.000000
Ca 393.366 { 86}	07/21/2016 08:56:41	07/20/2016 10:02:00	Linear	None	0.000631	0.000034	0.000000	1.000000	0.999937	0.000224	0.048939	0.163131	OK.	1.000000
Ca 396.847 { 85}	07/21/2016 08:56:41	07/20/2016 10:08:35	Linear	1/Conc	0.003001	0.000119	0.000000	1.000000	0.999946	0.000058	0.108073	0.360244	OK.	1.000000
Cd 226.502 {449}	07/21/2016 08:56:41	07/20/2016 10:02:00	Linear	1/Conc	0.000020	0.000244	0.000000	1.000000	0.999991	0.000001	0.171979	0.573264	OK.	1.000000
Cd 228.802 {447}	07/21/2016 08:56:41	07/20/2016 10:02:00	Linear	1/Conc	0.000046	0.000430	0.000000	1.000000	0.999997	0.000001	0.136090	0.453634	OK.	1.000000
Co 228.616 {447}	07/21/2016 08:56:41	07/20/2016 10:08:35	Linear	1/Conc	-0.000146	0.000173	0.000000	1.000000	0.999904	0.000009	0.275211	0.917370	OK.	1.000000
Co 238.892 {141}	07/21/2016 08:56:41	07/20/2016 10:08:36	Linear	None	0.000017	0.000002	0.000000	1.000000	0.999998	0.000025	0.854678	2.848926	OK.	1.000000
Cr 205.560 {464}	07/21/2016 08:56:41	07/20/2016 10:15:13	Linear	1/Var	0.000061	0.000122	0.000000	1.000000	0.999117	0.000516	0.256604	0.855345	OK.	1.000000
Cr 267.716 {126}	07/21/2016 08:56:41	07/20/2016 10:08:36	Linear	1/Var	0.000005	0.000004	0.000000	1.000000	0.999979	0.000007	0.547560	1.825200	OK.	1.000000
Cu 224.700 {450}	07/21/2016 08:56:41	07/20/2016 10:08:36	Curvilin	1/Conc	-0.000026	0.000086	-0.000000	1.000000	0.999940	0.000004	0.543691	1.812304	OK.	1.000000
Cu 324.754 {104}	07/21/2016 08:56:41	07/20/2016 10:15:13	Curvilin	1/Conc	0.000077	0.000000	0.000000	1.000000	0.999992	0.000000	3.373619	11.245398	OK.	1.000000
Cu 327.396 {103}	07/21/2016 08:56:41	07/20/2016 10:15:13	Curvilin	1/Conc	-0.000114	0.000003	0.000000	1.000000	0.999990	0.000001	4.160110	13.867033	Warnin	1.000000
Fe 234.349 {144}	07/21/2016 08:56:41	07/20/2016 10:35:33	Curvilin	1/Var	0.000016	0.000000	0.000000	1.000000	0.999867	0.000013	1.662225	5.540749	OK.	1.000000
Fe 239.562 {140}	07/21/2016 08:56:41	07/20/2016 10:35:33	Curvilin	1/Conc	0.000002	0.000000	0.000000	1.000000	0.999994	0.000000	8.394131	27.980437	OK.	1.000000
Fe 259.940 {129}	07/21/2016 08:56:41	07/20/2016 10:35:33	Curvilin	1/Var	0.000015	0.000002	0.000000	1.000000	0.999847	0.000048	3.950161	13.167204	OK.	1.000000
Mg 202.582 {466}	07/21/2016 08:56:41	07/20/2016 10:35:33	Curvilin	1/Conc	0.000037	0.000013	-0.000000	1.000000	0.999921	0.000261	2.698730	8.995767	OK.	1.000000
Mg 279.079 {121}	07/21/2016 08:56:41	07/20/2016 10:35:33	Full Fit	1/Conc	0.000003	0.000000	0.000000	1.020000	0.999998	0.000000	37.101010	123.670033	OK.	1.000000
Mg 280.270 {120}	07/21/2016 08:56:41	07/20/2016 10:08:36	Linear	1/Conc	0.000165	0.000023	0.000000	1.000000	0.999766	0.000015	0.051631	0.172103	OK.	1.000000
Mn 257.610 {131}	07/21/2016 08:56:41	07/20/2016 10:08:36	Curvilin	1/Conc	0.000010	0.000015	-0.000000	1.000000	0.999994	0.000000	0.077222	0.257406	OK.	1.000000
Mn 259.373 {130}	07/21/2016 08:56:41	07/20/2016 10:15:13	Linear	1/Var	0.000016	0.000012	0.000000	1.000000	0.999943	0.000033	0.501863	1.672877	OK.	1.000000
Mo 202.030 {466}	07/21/2016 08:56:41	07/20/2016 10:02:00	Linear	1/Conc	0.000054	0.000065	0.000000	1.000000	0.999951	0.000002	0.387424	1.291413	OK.	1.000000
Mo 204.598 {464}	07/21/2016 08:56:41	07/20/2016 10:08:36	Full Fit	1/Conc	0.000001	0.000001	0.000000	1.000000	0.999992	0.000000	0.648096	2.160321	OK.	1.000000
Mo 204.598 {465}	07/21/2016 08:56:41	07/20/2016 10:08:36	Linear	1/Conc	-0.000000	0.000000	0.000000	1.000000	0.999996	0.000000	0.874097	2.913658	OK.	1.000000
Ni 221.647 {452}	07/21/2016 08:56:41	07/20/2016 10:08:36	Linear	1/Var	0.000001	0.000002	0.000000	1.000000	0.999778	0.000003	0.398831	1.329436	OK.	1.000000
Ni 231.604 {445}	07/21/2016 08:56:41	07/20/2016 10:08:36	Curvilin	1/Conc	-0.000001	0.000002	-0.000000	1.000000	0.999996	0.000000	0.404101	1.347004	OK.	1.000000
Pb 216.999 {455}	07/21/2016 08:56:41	07/20/2016 10:15:13	Linear	1/Var	0.000017	0.000011	0.000000	1.000000	0.999773	0.000785	4.243118	14.143726	OK.	1.000000
Pb 220.353 {453}	07/21/2016 08:56:41	07/20/2016 10:08:36	Linear	1/Conc	0.000110	0.000025	0.000000	1.000000	0.999765	0.000005	2.465449	8.218164	OK.	1.000000
Pb 220.353 {153}	07/21/2016 08:56:41	07/20/2016 10:15:13	Linear	1/Conc	0.000086	0.000018	0.000000	1.000000	0.999959	0.000022	4.411127	14.703756	OK.	1.000000
Sb 206.833 {463}	07/21/2016 08:56:41	07/20/2016 10:08:36	Linear	1/Conc	-0.000087	0.000018	0.000000	1.000000	0.999943	0.000003	2.067005	6.890018	OK.	1.000000
Sb 217.581 {455}	07/21/2016 08:56:41	07/20/2016 10:08:36	Curvilin	None	-0.000023	0.000020	-0.000000	1.000000	1.000000	0.000022	2.097472	6.991573	OK.	1.000000
Se 196.090 {472}	07/21/2016 08:56:41	07/20/2016 10:08:36	Linear	1/Conc	0.000030	0.000008	0.000000	1.000000	0.999859	0.000002	3.654035	12.180117	OK.	1.000000
Se 206.279 {463}	07/21/2016 08:56:41	07/20/2016 10:08:36	Curvilin	1/Conc	-0.000012	0.000002	-0.000000	1.000000	0.999981	0.000001	19.385563	64.618543	OK.	1.000000
Se 196.090 {471}	07/21/2016 08:56:41	07/20/2016 10:08:36	Linear	1/Conc	0.000018	0.000006	0.000000	1.000000	0.999856	0.000001	4.748072	15.826907	OK.	1.000000
Tl 190.856 {476}	07/21/2016 08:56:41	07/20/2016 10:08:36	Linear	1/Conc	0.000025	0.000018	0.000000	1.000000	0.999779	0.000005	2.027270	6.757566	OK.	1.000000

Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)	Correlation	Std Error of Est	Predicted MDL	Predicted MQL	Status	Resl Slope
Tl 190.856 {477}	07/21/2016 08:56:41	07/20/2016 10:08:36	Linear	1/Conc	-0.000048	0.000009	0.000000	1.000000	0.999716	0.000003	3.134967	10.449890	OK.	1.000000
V 290.882 {116}	07/21/2016 08:56:41	07/20/2016 10:08:37	Full Fit	1/Conc	0.000002	0.000000	0.000000	1.000000	1.000000	0.000000	3.202203	10.674012	OK.	1.000000
V 292.402 {115}	07/21/2016 08:56:41	07/20/2016 10:08:37	Linear	1/Conc	0.000009	0.000006	0.000000	1.000000	0.999994	0.000000	0.539816	1.799387	OK.	1.000000
Zn 206.200 {463}	07/21/2016 08:56:41	07/20/2016 10:15:13	Curvilin	1/Var	0.000274	0.000187	-0.000000	1.000000	0.999892	0.000990	0.214954	0.716512	OK.	1.000000
Zn 213.856 {458}	07/21/2016 08:56:41	07/20/2016 10:08:37	Curvilin	1/Var	0.000001	0.000002	-0.000000	1.000000	0.999903	0.000001	0.187661	0.625538	OK.	1.000000
Y 324.228 {104}*	07/21/2016 08:56:41	07/20/2016 09:03:26	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000
Y 371.030 { 91}*	07/21/2016 08:56:41	07/20/2016 09:03:26	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000
Y 224.306 {451}*	07/21/2016 08:56:41	07/20/2016 09:03:26	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000	Warnin	1.000000
Na 588.995 { 57}	07/21/2016 08:56:41	07/20/2016 10:21:48	Linear	1/Conc	0.000669	0.000002	0.000000	1.000000	0.999996	0.000002	3.686091	12.286971	OK.	1.000000
Si 251.611 {134}	07/21/2016 08:56:41	07/20/2016 10:21:48	Linear	1/Conc	0.000083	0.000001	0.000000	1.000000	0.999992	0.000001	6.031996	20.106653	OK.	1.000000
Ti 334.941 {101}	07/21/2016 08:56:41	07/20/2016 10:08:37	Linear	1/Conc	0.000002	0.000007	0.000000	1.000000	0.999982	0.000000	1.142633	3.808778	OK.	1.000000
Sr 407.771 { 83}	07/21/2016 08:56:41	07/20/2016 10:08:37	Linear	1/Conc	-0.000032	0.000157	0.000000	1.000000	0.999927	0.000007	0.090965	0.303216	OK.	1.000000
Sn 189.989 {478}	07/21/2016 08:56:41	07/20/2016 10:08:37	Linear	1/Var	0.000029	0.000008	0.000000	1.000000	0.999947	0.000062	2.653452	8.844841	OK.	1.000000
B 249.678 {135}	07/21/2016 08:56:41	07/20/2016 10:08:37	Linear	1/Conc	0.000001	0.000001	0.000000	1.000000	0.999961	0.000000	1.513518	5.045061	OK.	1.000000
B 249.773 {135}	07/21/2016 08:56:41	07/20/2016 10:08:37	Linear	1/Conc	0.000005	0.000002	0.000000	1.000000	0.999994	0.000000	0.740524	2.468413	OK.	1.000000
Li 670.784 { 50}	07/21/2016 08:56:41	07/20/2016 10:08:37	Linear	1/Var	-0.000035	0.000037	0.000000	1.000000	0.999923	0.000090	1.171240	3.904134	OK.	1.000000
K 766.490 { 44}	07/21/2016 08:56:41	07/20/2016 10:21:48	Linear	1/Conc	-0.000196	0.000001	0.000000	1.000000	0.999997	0.000002	30.203560	100.678532	OK.	1.000000
P 213.618 {457}	07/21/2016 08:56:41	07/20/2016 10:21:48	Linear	1/Conc	-0.000000	0.000000	0.000000	1.000000	0.970784	0.000000	1041.46214	3471.54048	OK.	1.000000
S 182.034 {485}	07/21/2016 08:56:41	07/20/2016 10:35:33	Linear	1/Conc	0.000079	0.000006	0.000000	1.000000	0.999339	0.000314	3.783902	12.613005	OK.	1.000000
W 239.709 {140}	07/21/2016 08:56:41	07/20/2016 10:21:48	Curvilin	None	-0.000000	0.000000	-0.000000	1.000000	1.000000	0.000000	32.898769	109.662565	OK.	1.000000
Hg 184.950 {482}	07/21/2016 08:56:41	07/20/2016 09:56:14	Linear	1/Conc	0.000067	0.000035	0.000000	1.000000	1.000000	0.000000	0.830895	2.769649	OK.	1.000000
Hg 194.227 {473}	07/21/2016 08:56:41	07/20/2016 09:56:14	Linear	1/Conc	-0.000016	0.000032	0.000000	1.000000	1.000000	0.000000	0.873588	2.911961	OK.	1.000000

Element, Wavelength and Order	ope	QC Norm	
	Y-int	Slope factor	Offset
Ag 328.068 {103}	0.000000	1	0
Al 309.271 {109}	0.000000	1	0
Al 396.152 { 85}	0.000000	1	0
Al 167.079 {502}	0.000000	1	0
As 193.759 {474}	0.000000	1	0
As 189.042 {479}	0.000000	1	0
Ba 233.527 {445}	0.000000	1	0
Ba 455.403 { 74}	0.000000	1	0
Ba 493.409 { 68}	0.000000	1	0
Be 313.042 {108}	0.000000	1	0
Be 234.861 {144}	0.000000	1	0
Ca 315.887 {107}	0.000000	1	0
Ca 317.933 {106}	0.000000	1	0
Ca 393.366 { 86}	0.000000	1	0
Ca 396.847 { 85}	0.000000	1	0
Cd 226.502 {449}	0.000000	1	0
Cd 228.802 {447}	0.000000	1	0
Co 228.616 {447}	0.000000	1	0
Co 238.892 {141}	0.000000	1	0
Cr 205.560 {464}	0.000000	1	0
Cr 267.716 {126}	0.000000	1	0
Cu 224.700 {450}	0.000000	1	0
Cu 324.754 {104}	0.000000	1	0
Cu 327.396 {103}	0.000000	1	0
Fe 234.349 {144}	0.000000	1	0
Fe 239.562 {140}	0.000000	1	0
Fe 259.940 {129}	0.000000	1	0
Mg 202.582 {466}	0.000000	1	0
Mg 279.079 {121}	0.000000	1	0
Mg 280.270 {120}	0.000000	1	0
Mn 257.610 {131}	0.000000	1	0
Mn 259.373 {130}	0.000000	1	0
Mo 202.030 {466}	0.000000	1	0
Mo 204.598 {464}	0.000000	1	0
Mo 204.598 {465}	0.000000	1	0
Ni 221.647 {452}	0.000000	1	0
Ni 231.604 {445}	0.000000	1	0
Pb 216.999 {455}	0.000000	1	0
Pb 220.353 {453}	0.000000	1	0
Pb 220.353 {153}	0.000000	1	0
Sb 206.833 {463}	0.000000	1	0
Sb 217.581 {455}	0.000000	1	0
Se 196.090 {472}	0.000000	1	0
Se 206.279 {463}	0.000000	1	0
Se 196.090 {471}	0.000000	1	0
Tl 190.856 {476}	0.000000	1	0

Element, Wavelength and Order	ope	QC Norm	
	Y-int	Slope factor	Offset
Tl 190.856 {477}	0.000000	1	0
V 290.882 {116}	0.000000	1	0
V 292.402 {115}	0.000000	1	0
Zn 206.200 {463}	0.000000	1	0
Zn 213.856 {458}	0.000000	1	0
Y 324.228 {104}*	0.000000	1	0
Y 371.030 { 91}*	0.000000	1	0
Y 224.306 {451}*	0.000000	1	0
Na 588.995 { 57}	0.000000	1	0
Si 251.611 {134}	0.000000	1	0
Ti 334.941 {101}	0.000000	1	0
Sr 407.771 { 83}	0.000000	1	0
Sn 189.989 {478}	0.000000	1	0
B 249.678 {135}	0.000000	1	0
B 249.773 {135}	0.000000	1	0
Li 670.784 { 50}	0.000000	1	0
K 766.490 { 44}	0.000000	1	0
P 213.618 {457}	0.000000	1	0
S 182.034 {485}	0.000000	1	0
W 239.709 {140}	0.000000	1	0
Hg 184.950 {482}	0.000000	1	0
Hg 194.227 {473}	0.000000	1	0

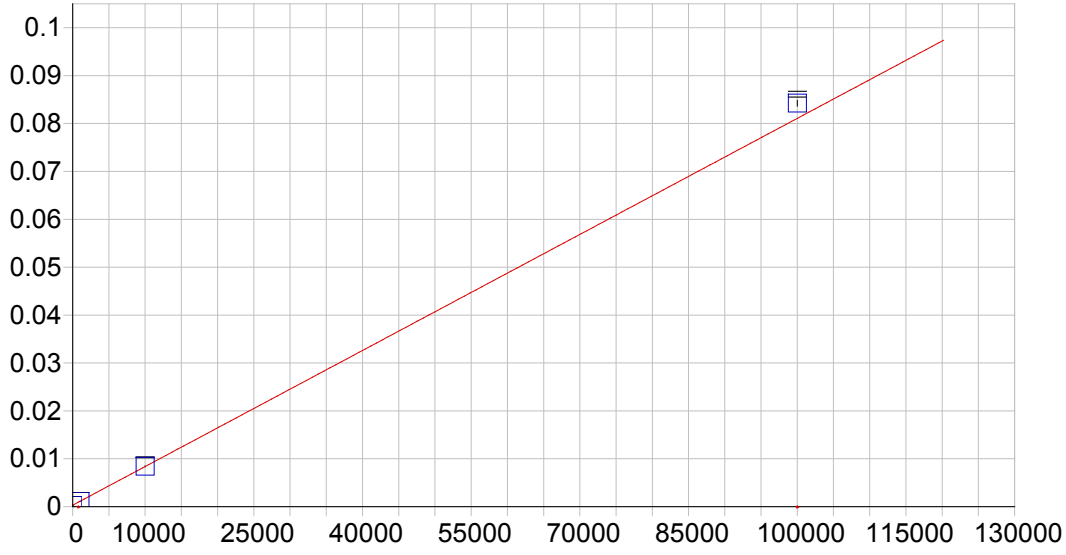


Ag 328.068 {103}

Date of Fit:	07/21/2016 10:41:01	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-0.000011	Re-Slope:	1.000000
A1 (Gain):	0.000003	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999839	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	0.895207		
Predicted MQL:	2.984024		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.05028	.050	.000	-.00001	.000	1
CalStd5=10	10.000	7.6405	-2.36	-23.6	.00001	.000	1
CalStd8=100	100.00	100.09	.093	.093	.00024	.000	1
CalStd3=1	1.0000	1.2348	.235	23.5	-.00001	.000	1

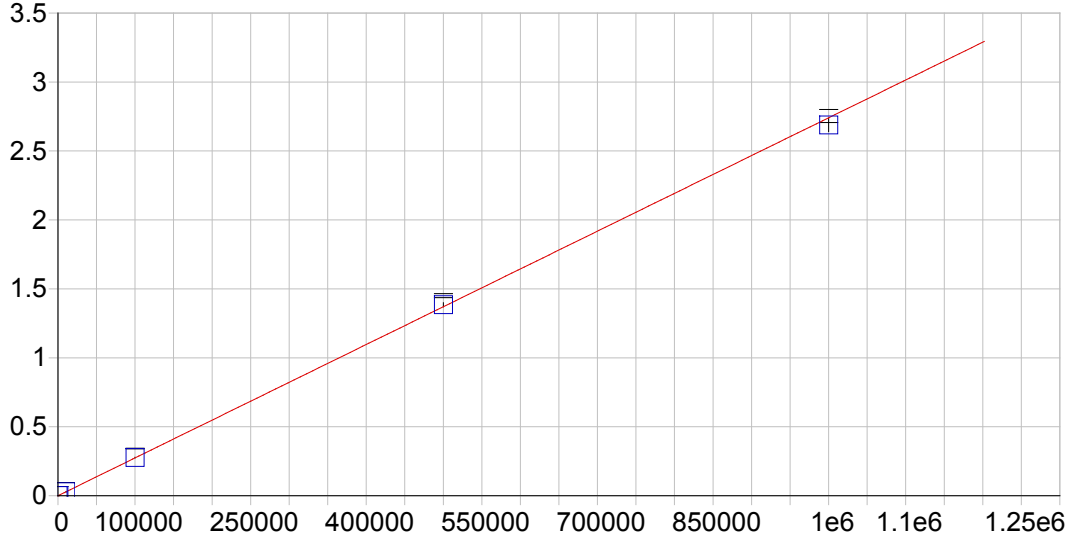


Al 309.271 {109}

Date of Fit:	07/21/2016 10:41:01	Type of Fit:	Curvilinear	Weighting:	None

A0 (Offset):	0.000300	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000033		
Predicted MDL:	14.910880		
Predicted MQL:	49.702935		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-27.318	-27.3	.000	.00028	.000	1
CalStd10=10	10000.	10036.	36.0	.360	.00841	.000	1
CalStd9=100	1000.0	1031.1	31.1	3.11	.00113	.000	1
CalStd12-100	100000.	103930.	3930.	3.93	.08425	.001	1

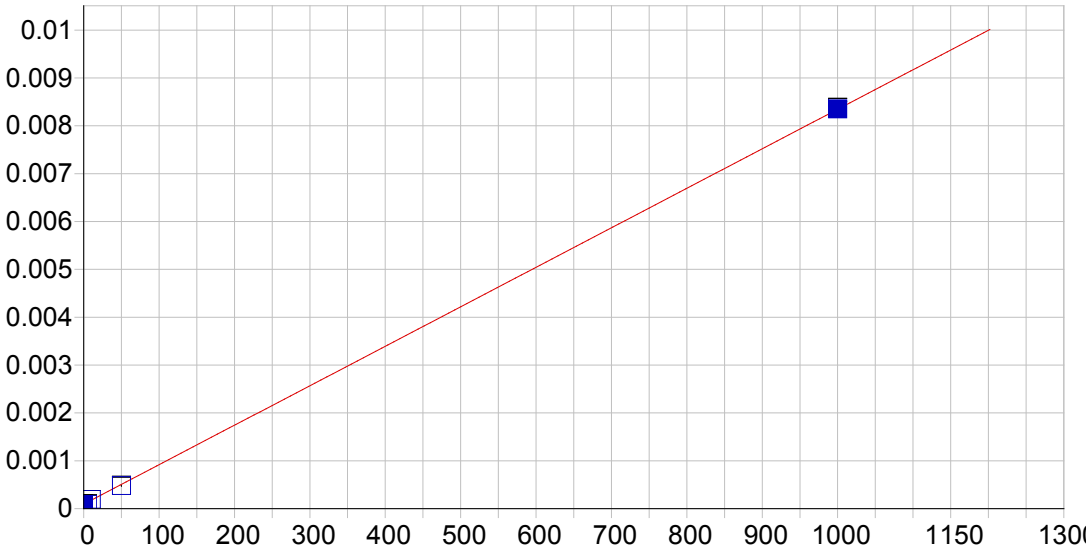


Al 396.152 { 85}

Date of Fit: 07/21/2016 10:41:01 Type of Fit: Full Fit Weighting: 1/Var

A0 (Offset):	0.000014	Re-Slope:	1.000000
A1 (Gain):	0.000003	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999983	Status:	OK.
Std Error of Est:	0.000038		
Predicted MDL:	7.460050		
Predicted MQL:	24.866832		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.98618	.986	.000	.00002	.000	1
CalStd14-100	1000000.	980750.	-19200.	-1.92	2.6879	.048	1
CalStd13=50	500000.	505260.	5260.	1.05	1.3847	.014	1
CalStd10=10	10000.	9983.3	-16.7	-.167	.02737	.000	1
CalStd12-100	100000.	100620.	620.	.620	.27577	.002	1
CalStd9=100	1000.0	995.90	-4.10	-.410	.00274	.000	1

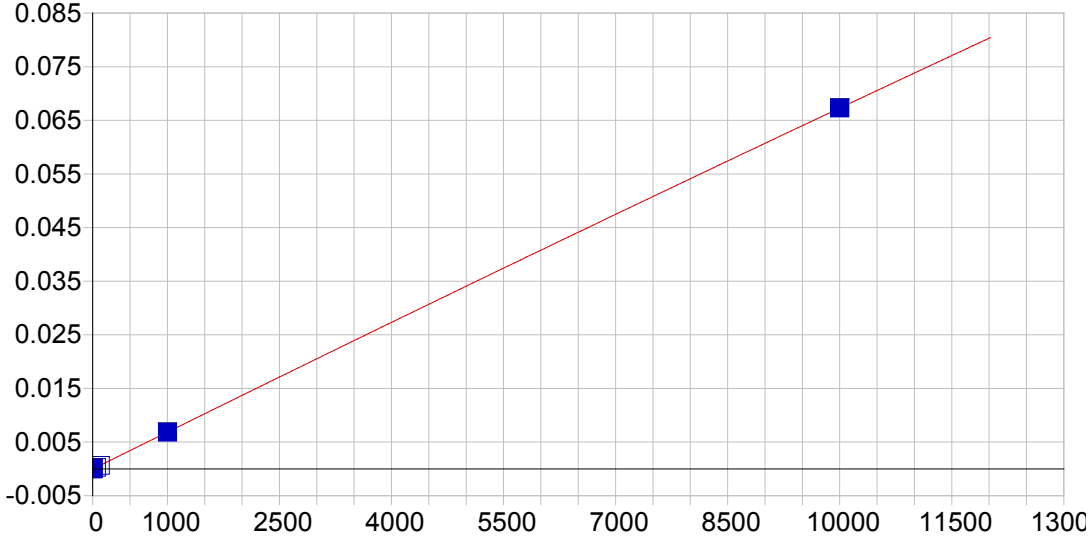


Al 167.079 {502}

Date of Fit:	07/21/2016 10:41:01	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000092	Re-Slope:	1.000000
A1 (Gain):	0.000008	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999790	Status:	OK.
Std Error of Est:	0.000033		
Predicted MDL:	1.724540		
Predicted MQL:	5.748466		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.14972	.150	.000	.00009	.000	1
CalStd9=100	1000.0	1000.7	.655	.065	.00836	.000	1
CalStd5=10	10.000	12.400	2.40	24.0	.00019	.000	1
CalStd4=5	5.0000	-.07226	-5.07	-101.	.00009	.000	1
CalStd7=50	50.000	46.816	-3.18	-6.37	.00048	.000	1

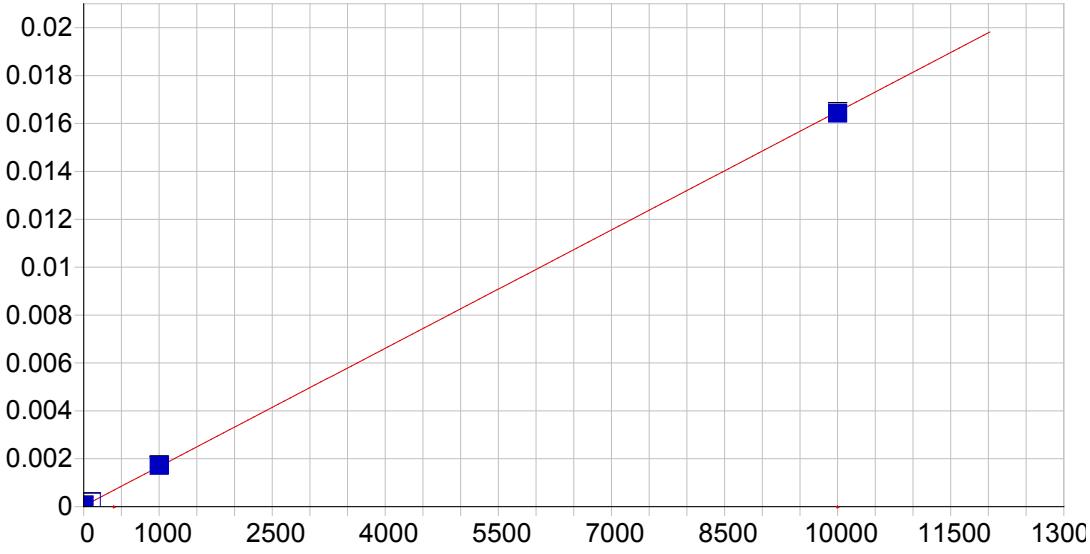


As 193.759 {474}

Date of Fit:	07/21/2016 10:41:01	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	-0.000044	Re-Slope:	1.000000
A1 (Gain):	0.000007	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999961	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	3.774442		
Predicted MQL:	12.581472		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00270	-.003	.000	-.00004	.000	1
CalStd9=100	1000.0	996.04	-3.96	-.396	.00682	.000	1
CalStd7=50	50.000	48.959	-1.04	-2.08	.00029	.000	1
CalStd5=10	10.000	12.766	2.77	27.7	.00004	.000	1
CalStd8=100	100.00	101.84	1.84	1.84	.00066	.000	1
CalStd10=10	10000.	10000.	.399	.004	.06727	.000	1

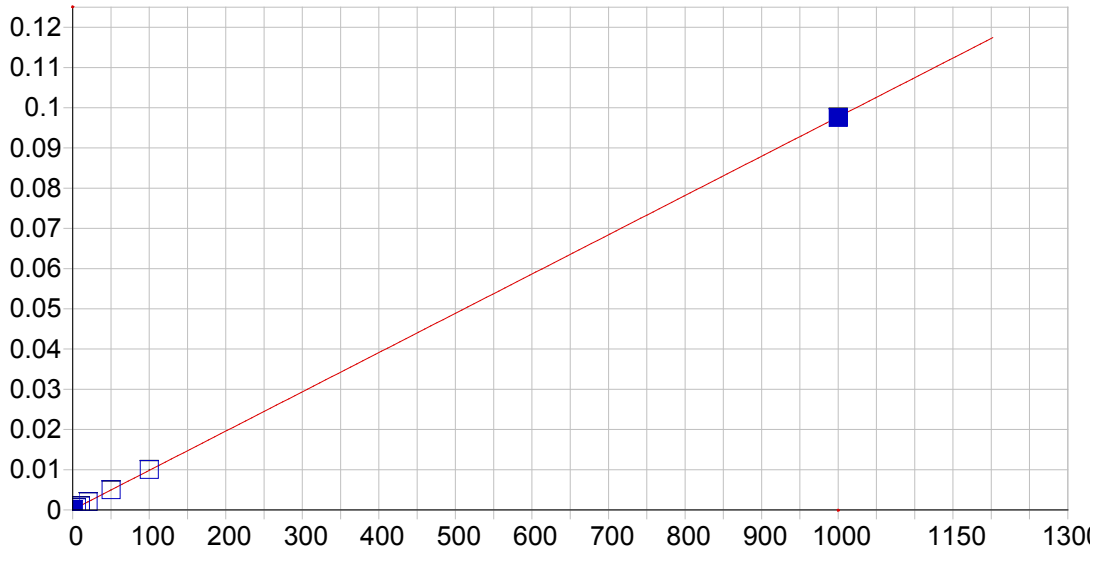


As 189.042 {479}

Date of Fit:	07/21/2016 10:41:01	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000026	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999729	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	15.601713		
Predicted MQL:	52.005709		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00514	-.005	.000	.00003	.000	1
CalStd9=100	1000.0	1026.6	26.6	2.66	.00172	.000	1
CalStd10=10	10000.	9958.6	-41.4	-.414	.01643	.000	1
CalStd8=100	100.00	110.31	10.3	10.3	.00021	.000	1
CalStd4=5	5.0000	9.5138	4.51	90.3	.00004	.000	1

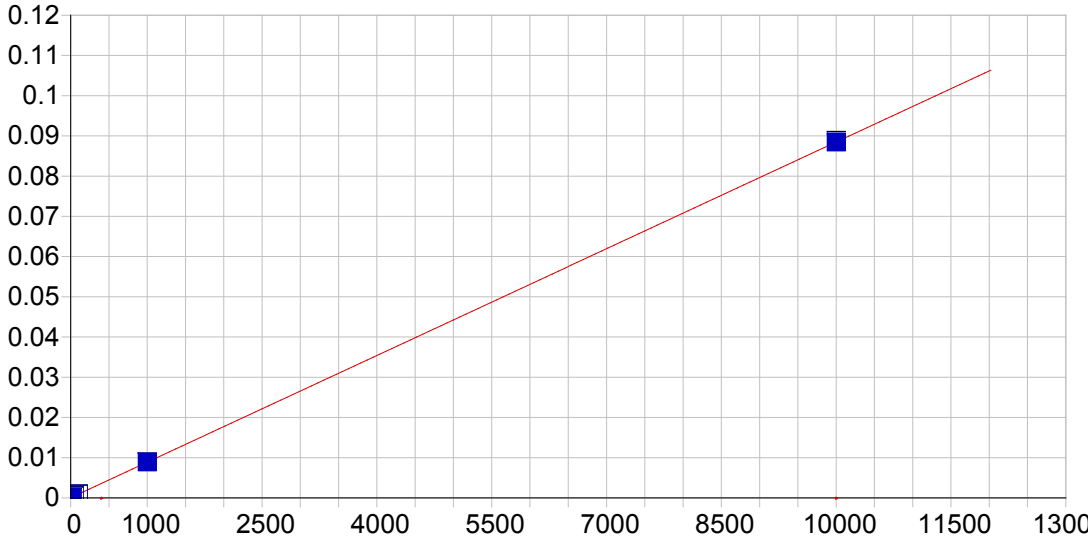


Ba 233.527 {445}

Date of Fit:	07/21/2016 10:41:01	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000063	Re-Slope:	1.000000
A1 (Gain):	0.000098	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999939	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.264001		
Predicted MQL:	0.880004		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00033	.000	.000	.00006	.000	1
CalStd7=50	50.000	50.347	.347	.693	.00498	.000	1
CalStd5=10	10.000	9.6868	-.313	-3.13	.00101	.000	1
CalStd6=20	20.000	20.192	.192	.961	.00203	.000	1
CalStd8=100	100.00	101.91	1.91	1.91	.01001	.000	1
CalStd4=5	5.0000	4.7528	-.247	-4.94	.00053	.000	1
CalStd9=100	1000.0	998.39	-1.61	-.161	.09755	.000	1
CalStd3=1	1.0000	.71881	-.281	-28.1	.00013	.000	1

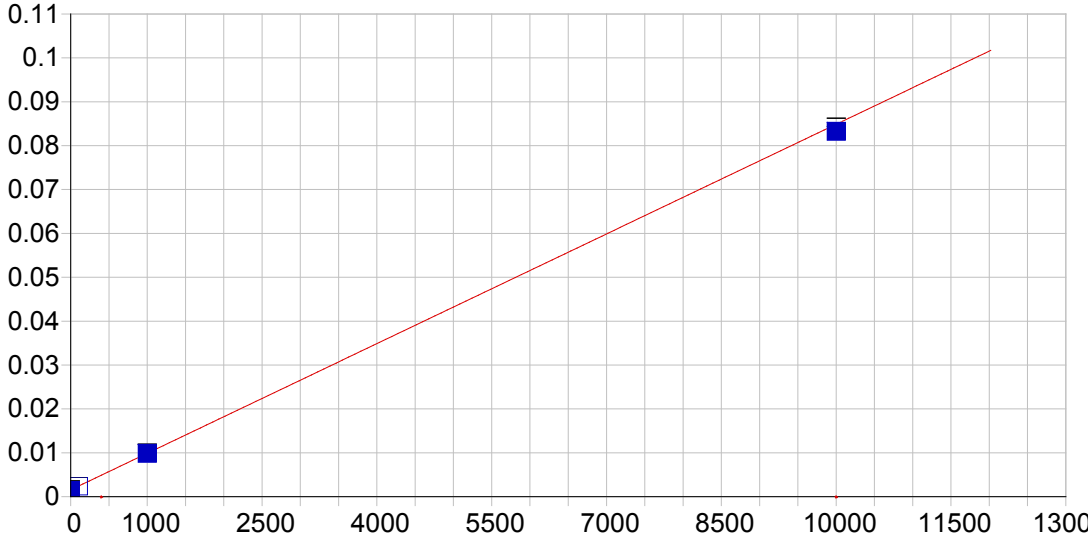


Ba 455.403 { 74}

Date of Fit:	07/21/2016 10:41:01	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000030	Re-Slope:	1.000000
A1 (Gain):	0.000009	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000016		
Predicted MDL:	0.260987		
Predicted MQL:	0.869957		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.93866	-.939	.000	.00002	.000	1
CalStd7=50	50.000	49.424	-.576	-1.15	.00047	.000	1
CalStd5=10	10.000	9.0817	-.918	-9.18	.00011	.000	1
CalStd6=20	20.000	19.247	-.753	-3.76	.00020	.000	1
CalStd8=100	100.00	101.96	1.96	1.96	.00093	.000	1
CalStd4=5	5.0000	3.8209	-1.18	-23.6	.00006	.000	1
CalStd9=100	1000.0	1003.9	3.88	.388	.00891	.000	1
CalStd3=1	1.0000	-.07812	-1.08	-108.	.00003	.000	1
CalStd10=10	10000.	9999.6	-.402	-.004	.08848	.000	1

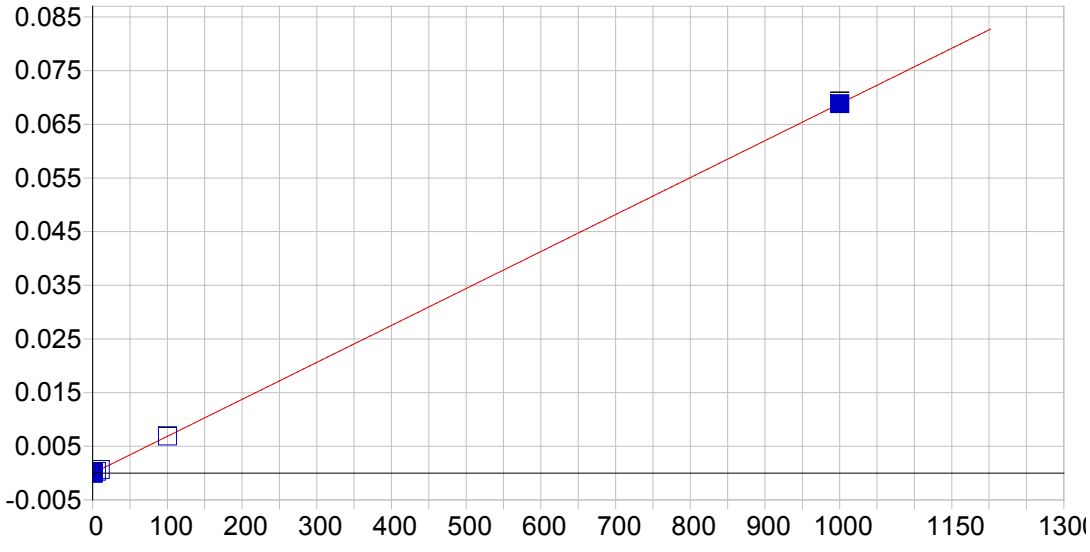


Ba 493.409 { 68}

Date of Fit:	07/21/2016 10:41:01	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.001545	Re-Slope:	1.000000
A1 (Gain):	0.000008	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999658	Status:	OK.
Std Error of Est:	0.000047		
Predicted MDL:	0.594213		
Predicted MQL:	1.980710		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-4.6562	-4.66	.000	.00151	.000	1
CalStd9=100	1000.0	996.48	-3.52	-.352	.00985	.000	1
CalStd8=100	100.00	102.88	2.88	2.88	.00240	.000	1
CalStd10=10	10000.	9803.9	-196.	-1.96	.08326	.001	1

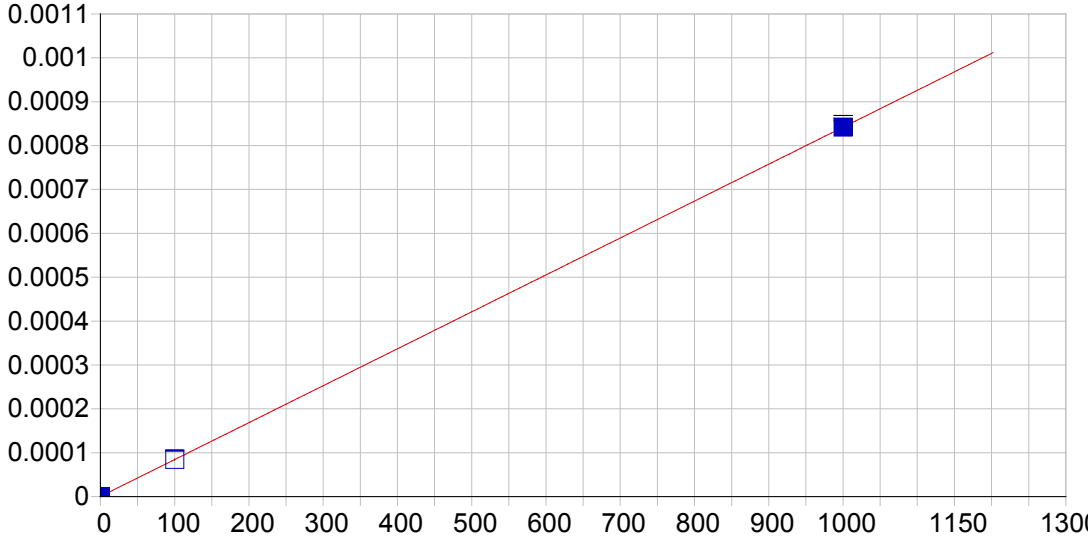


Be 313.042 {108}

Date of Fit:	07/21/2016 10:41:01	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000037	Re-Slope:	1.000000
A1 (Gain):	0.000069	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999999	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.028970		
Predicted MQL:	0.096566		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00001	.000	.000	-.00004	.000	1
CalStd5=10	10.000	10.042	.042	.419	.00065	.000	1
CalStd8=100	100.00	100.33	.334	.334	.00687	.000	1
CalStd2=0.5	.50000	.50653	.007	1.31	.00000	.000	1
CalStd4=5	5.0000	4.9635	-.037	-.731	.00031	.000	1
CalStd1=0.25	.25000	.25610	.006	2.44	-.00002	.000	1
CalStd9=100	1000.0	999.65	-.355	-.035	.06882	.000	1
CalStd3=1	1.0000	1.0025	.002	.247	.00003	.000	1

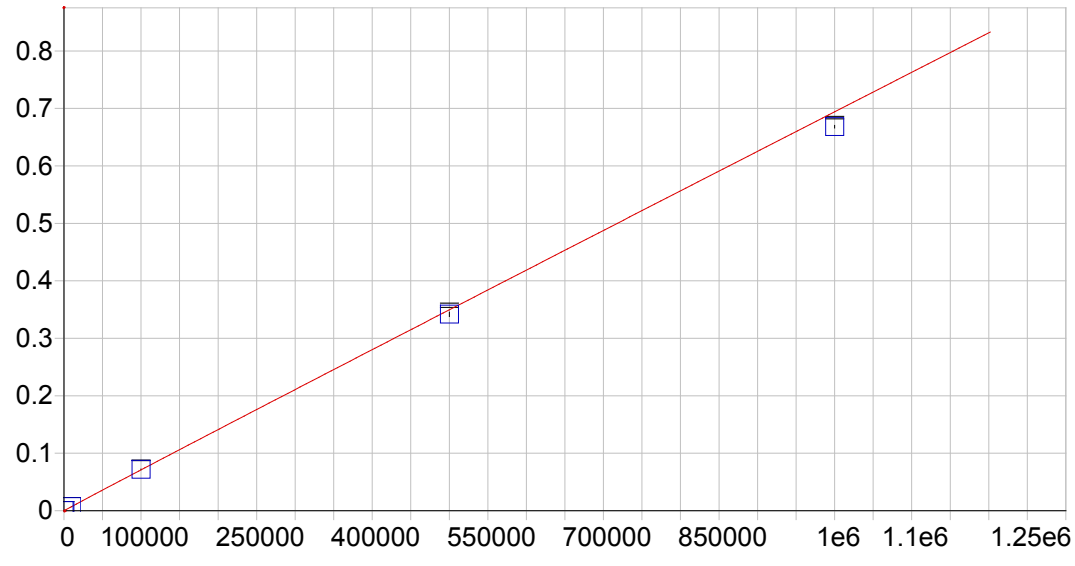


Be 234.861 {144}

Date of Fit:	07/21/2016 10:41:01	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.458628		
Predicted MQL:	1.528760		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00014	.000	.000	.00000	.000	1
CalStd9=100	1000.0	1000.2	.151	.015	.00084	.000	1
CalStd8=100	100.00	99.849	-.151	-.151	.00008	.000	1

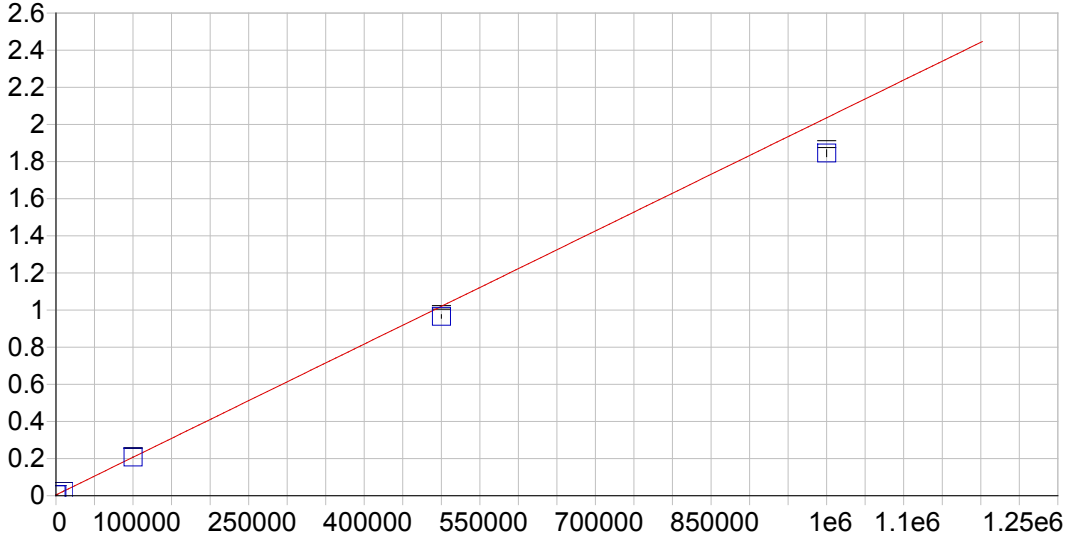


Ca 315.887 {107}

Date of Fit: 07/21/2016 10:41:01 Type of Fit: Full Fit Weighting: 1/Conc

A0 (Offset):	0.000073	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	0.990000		
Correlation:	0.999984	Status:	OK.
Std Error of Est:	0.000008		
Predicted MDL:	6.489675		
Predicted MQL:	21.632249		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.08669	.087	.000	.00007	.000	1
CalStd10=10	10000.	9552.3	-448.	-4.48	.00702	.000	1
CalStd13=50	500000.	488850.	-11100.	-2.23	.34179	.004	1
CalStd14-100	1000000.	962200.	-37800.	-3.78	.66813	.002	1
CalStd9=100	1000.0	936.22	-63.8	-6.38	.00077	.000	1
CalStd12-100	100000.	100990.	987.	.987	.07179	.001	1

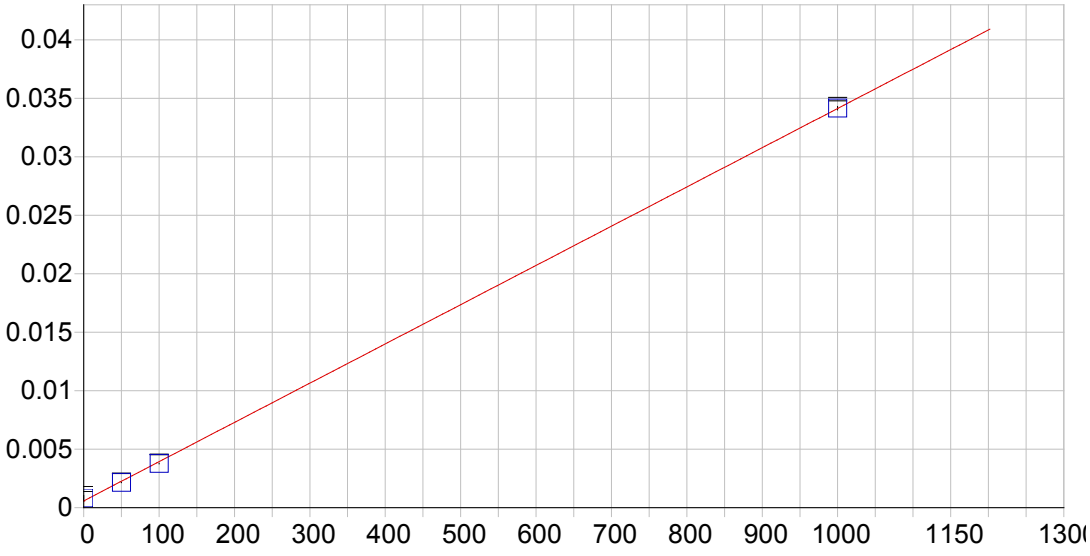


Ca 317.933 {106}

Date of Fit: 07/21/2016 10:41:01 Type of Fit: Curvilinear Weighting: 1/Conc

A0 (Offset):	0.004032	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999965	Status:	OK.
Std Error of Est:	0.000028		
Predicted MDL:	3.221482		
Predicted MQL:	10.738274		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.25526	-.255	.000	.00403	.000	1
CalStd10=10	10000.	10085.	85.0	.850	.02452	.000	1
CalStd13=50	500000.	473140.	-26900.	-5.37	.96536	.009	1
CalStd14-100	1000000.	906270.	-93700.	-9.37	1.8454	.019	1
CalStd9=100	1000.0	1237.0	237.	23.7	.00655	.000	1
CalStd12-100	100000.	100390.	391.	.391	.20801	.002	1

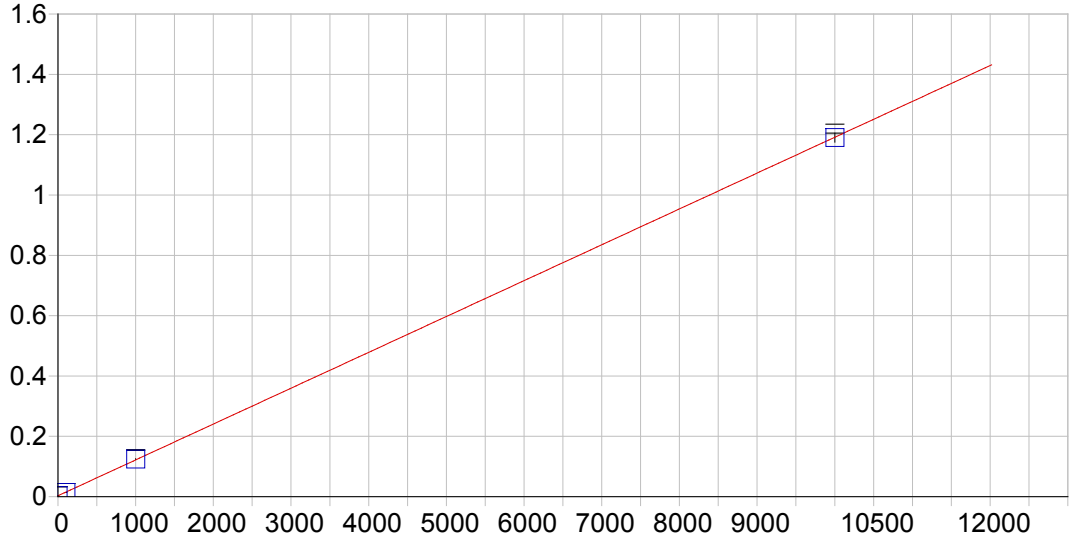


Ca 393.366 { 86}

Date of Fit:	07/21/2016 10:41:01	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000578	Re-Slope:	1.000000
A1 (Gain):	0.000034	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999940	Status:	OK.
Std Error of Est:	0.000214		
Predicted MDL:	0.050158		
Predicted MQL:	0.167194		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	7.0591	7.06	.000	.00081	.000	1
CalStd7=50	50.000	47.092	-2.91	-5.82	.00216	.000	1
CalStd9=100	1000.0	1000.6	.623	.062	.03416	.000	1
CalStd8=100	100.00	95.226	-4.77	-4.77	.00377	.000	1

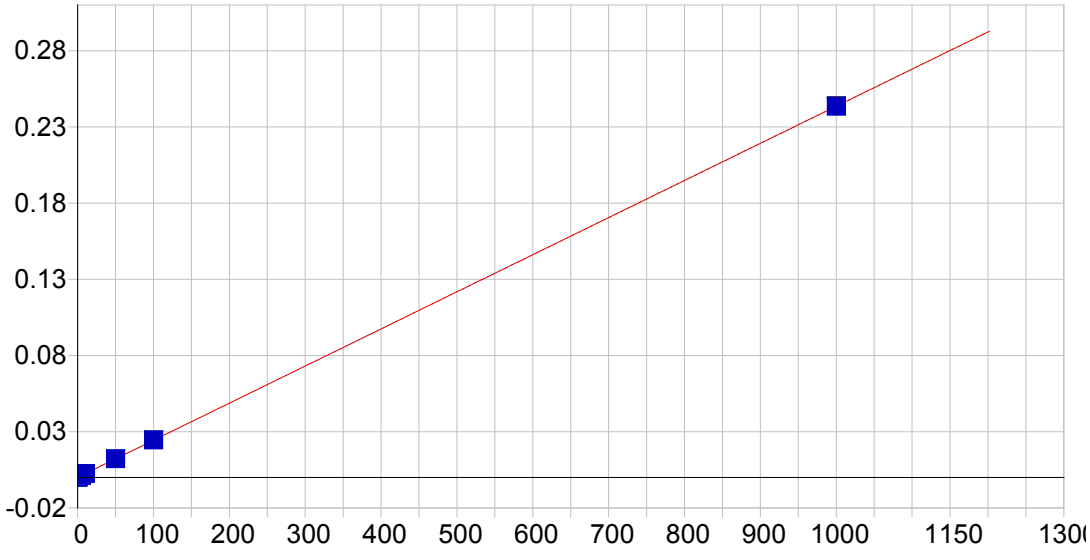


Ca 396.847 { 85}

Date of Fit:	07/21/2016 10:41:01	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.003001	Re-Slope:	1.000000
A1 (Gain):	0.000119	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999946	Status:	OK.
Std Error of Est:	0.000058		
Predicted MDL:	0.108073		
Predicted MQL:	0.360244		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00662	.007	.000	.00300	.001	1
CalStd10=10	10000.	9987.4	-12.6	-.126	1.1900	.015	1
CalStd8=100	100.00	91.388	-8.61	-8.61	.01386	.000	1
CalStd9=100	1000.0	1021.2	21.2	2.12	.12437	.001	1

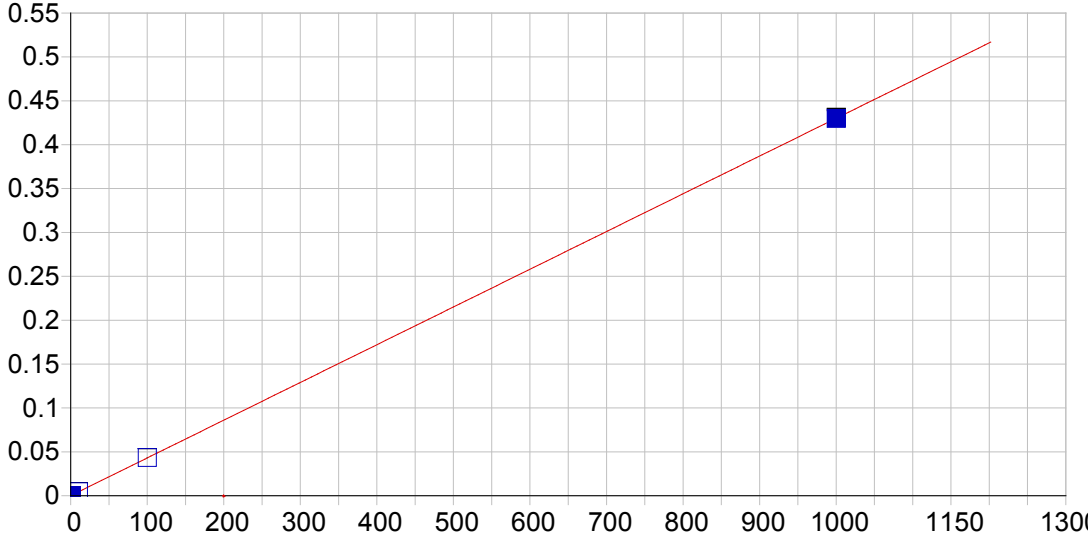


Cd 226.502 {449}

Date of Fit:	07/21/2016 10:41:01	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000020	Re-Slope:	1.000000
A1 (Gain):	0.000244	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999991	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.171979		
Predicted MQL:	0.573264		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00009	.000	.000	.00002	.000	1
CalStd7=50	50.000	49.827	-.173	-.346	.01216	.000	1
CalStd3=1	1.0000	1.0020	.002	.203	.00026	.000	1
CalStd2=0.5	.50000	.42647	-.074	-14.7	.00012	.000	1
CalStd4=5	5.0000	4.8314	-.169	-3.37	.00120	.000	1
CalStd8=100	100.00	100.69	.690	.690	.02455	.000	1
CalStd5=10	10.000	10.031	.031	.305	.00246	.000	1
CalStd9=100	1000.0	999.69	-.307	-.031	.24357	.000	1

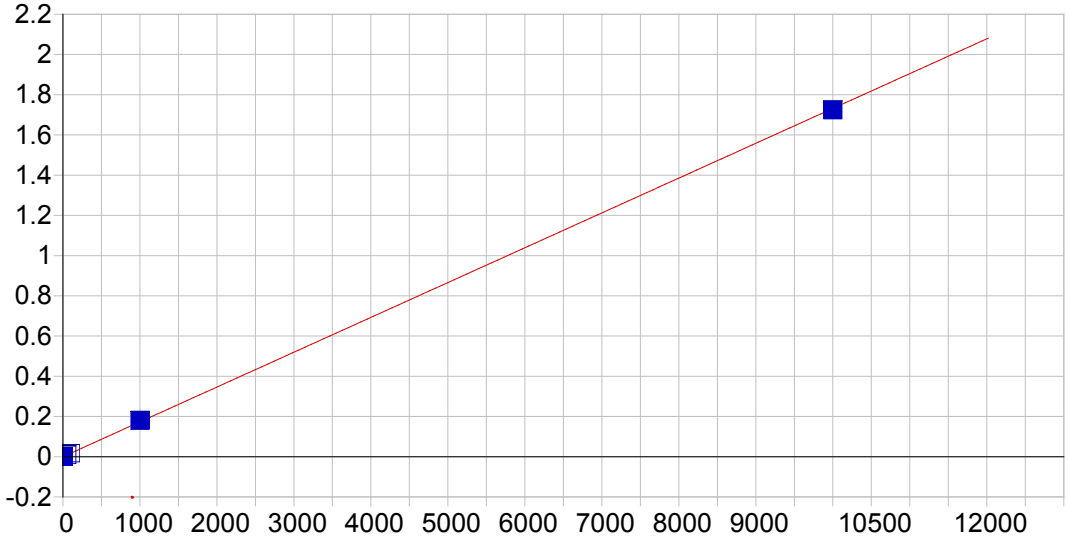


Cd 228.802 {447}

Date of Fit: 07/21/2016 10:41:01 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	0.000046	Re-Slope:	1.000000
A1 (Gain):	0.000430	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999997	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.136090		
Predicted MQL:	0.453634		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00005	.000	1
CalStd9=100	1000.0	999.21	-.786	-.079	.42970	.001	1
CalStd8=100	100.00	100.63	.633	.633	.04332	.000	1
CalStd2=0.5	.50000	.49147	-.009	-1.71	.00026	.000	1
CalStd3=1	1.0000	1.0007	.001	.074	.00048	.000	1
CalStd5=10	10.000	10.161	.161	1.61	.00442	.000	1

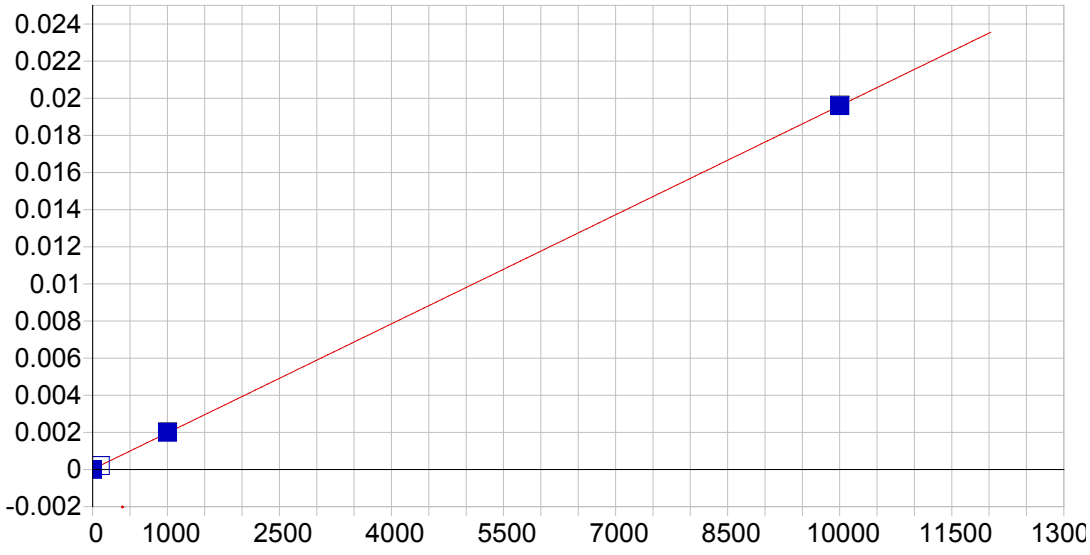


Co 228.616 {447}

Date of Fit:	07/21/2016 10:41:01	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000146	Re-Slope:	1.000000
A1 (Gain):	0.000173	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999904	Status:	OK.
Std Error of Est:	0.000009		
Predicted MDL:	0.275211		
Predicted MQL:	0.917370		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00001	.000	.000	-.00015	.000	1
CalStd7=50	50.000	51.589	1.59	3.18	.00879	.000	1
CalStd5=10	10.000	10.238	.238	2.38	.00163	.000	1
CalStd4=5	5.0000	4.9755	-.024	-.489	.00072	.000	1
CalStd8=100	100.00	105.68	5.68	5.68	.01816	.000	1
CalStd9=100	1000.0	1039.1	39.1	3.91	.17982	.001	1
CalStd3=1	1.0000	.84889	-.151	-15.1	.00000	.000	1
CalStd10=10	10000.	9953.5	-46.5	-.465	1.7237	.003	1

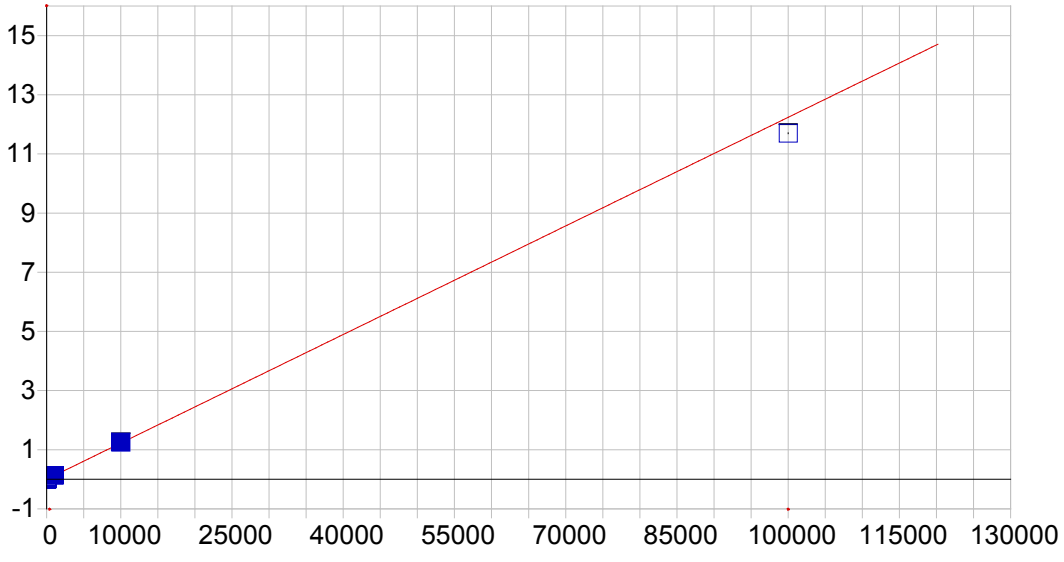


Co 238.892 {141}

Date of Fit:	07/21/2016 10:41:01	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000017	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999998	Status:	OK.
Std Error of Est:	0.000025		
Predicted MDL:	0.854678		
Predicted MQL:	2.848926		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-9.0408	-9.04	.000	.00000	.000	1
CalStd9=100	1000.0	1014.8	14.8	1.48	.00200	.000	1
CalStd10=10	10000.	9998.6	-1.44	-.014	.01960	.000	1
CalStd8=100	100.00	95.652	-4.35	-4.35	.00020	.000	1

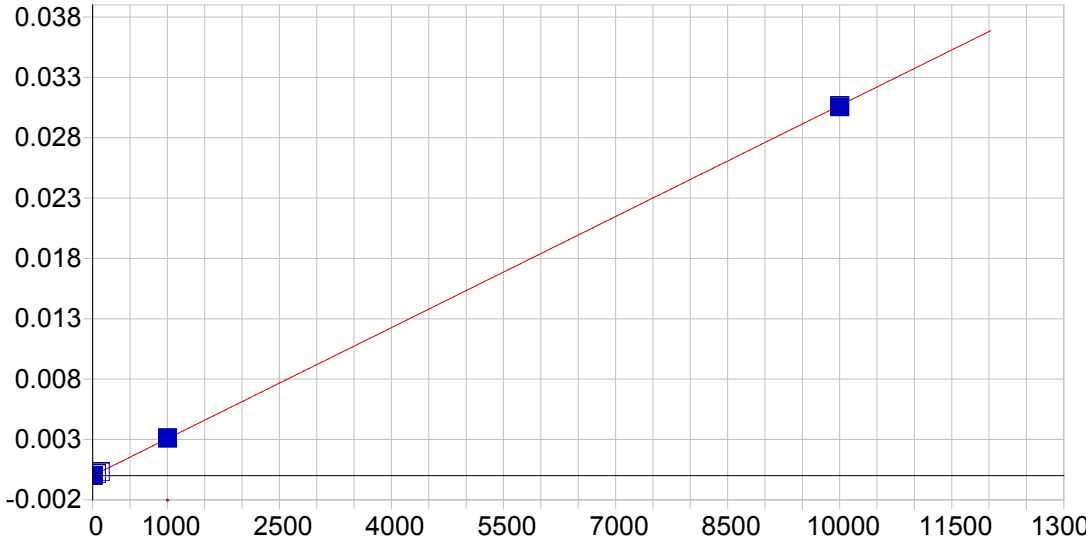


Cr 205.560 {464}

Date of Fit:	07/21/2016 10:41:01	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000061	Re-Slope:	1.000000
A1 (Gain):	0.000122	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999117	Status:	OK.
Std Error of Est:	0.000516		
Predicted MDL:	0.256604		
Predicted MQL:	0.855345		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.59387	-.594	.000	-.00001	.000	1
CalStd5=10	10.000	10.141	.141	1.41	.00130	.000	1
CalStd7=50	50.000	52.974	2.97	5.95	.00654	.000	1
CalStd9=100	1000.0	1072.1	72.1	7.21	.13124	.000	1
CalStd8=100	100.00	108.91	8.91	8.91	.01339	.000	1
CalStd4=5	5.0000	4.3735	-.627	-12.5	.00060	.000	1
CalStd3=1	1.0000	.28204	-.718	-71.8	.00010	.000	1
CalStd11-100	100000.	95594.	-4410.	-4.41	11.698	.013	1
CalStd10=10	10000.	10228.	228.	2.28	1.2516	.001	1

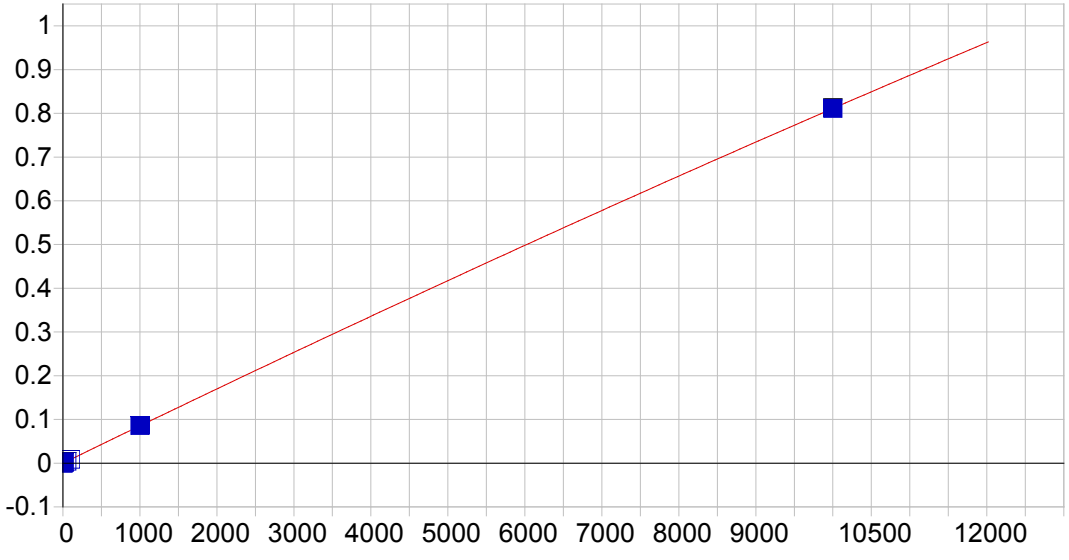


Cr 267.716 {126}

Date of Fit:	07/21/2016 10:41:01	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000003	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999949	Status:	OK.
Std Error of Est:	0.000003		
Predicted MDL:	0.742660		
Predicted MQL:	2.475534		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.01161	-.012	.000	.00000	.000	1
CalStd5=10	10.000	9.8778	-.122	-1.22	.00003	.000	1
CalStd7=50	50.000	49.119	-.881	-1.76	.00015	.000	1
CalStd9=100	1000.0	1009.0	9.04	.904	.00309	.000	1
CalStd8=100	100.00	102.84	2.84	2.84	.00032	.000	1
CalStd4=5	5.0000	4.6126	-.387	-7.75	.00001	.000	1
CalStd10=10	10000.	9962.1	-37.9	-.379	.03055	.000	1

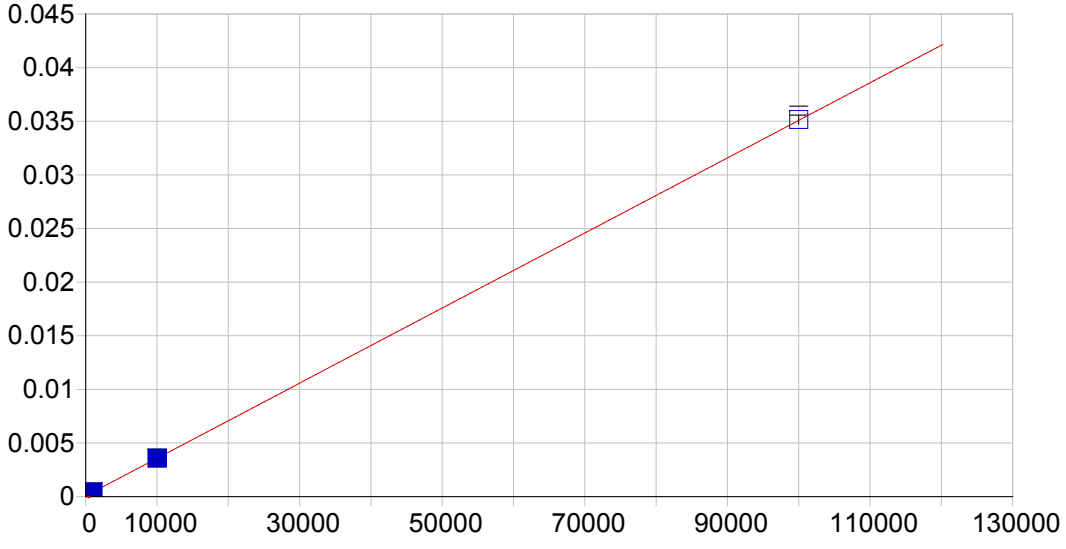


Cu 224.700 {450}

Date of Fit:	07/21/2016 10:41:01	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	-0.000026	Re-Slope:	1.000000
A1 (Gain):	0.000086	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999940	Status:	OK.
Std Error of Est:	0.000004		
Predicted MDL:	0.543691		
Predicted MQL:	1.812304		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00123	.001	.000	-.00003	.000	1
CalStd9=100	1000.0	1003.5	3.55	.355	.08569	.000	1
CalStd7=50	50.000	48.448	-1.55	-3.10	.00413	.000	1
CalStd8=100	100.00	101.65	1.65	1.65	.00870	.000	1
CalStd5=10	10.000	9.1299	-.870	-8.70	.00076	.000	1
CalStd10=10	10000.	9999.6	-.401	-.004	.81134	.001	1
CalStd4=5	5.0000	4.1433	-.857	-17.1	.00033	.000	1
CalStd6=20	20.000	19.417	-.583	-2.92	.00164	.000	1
CalStd3=1	1.0000	.06512	-.935	-93.5	-.00002	.000	1

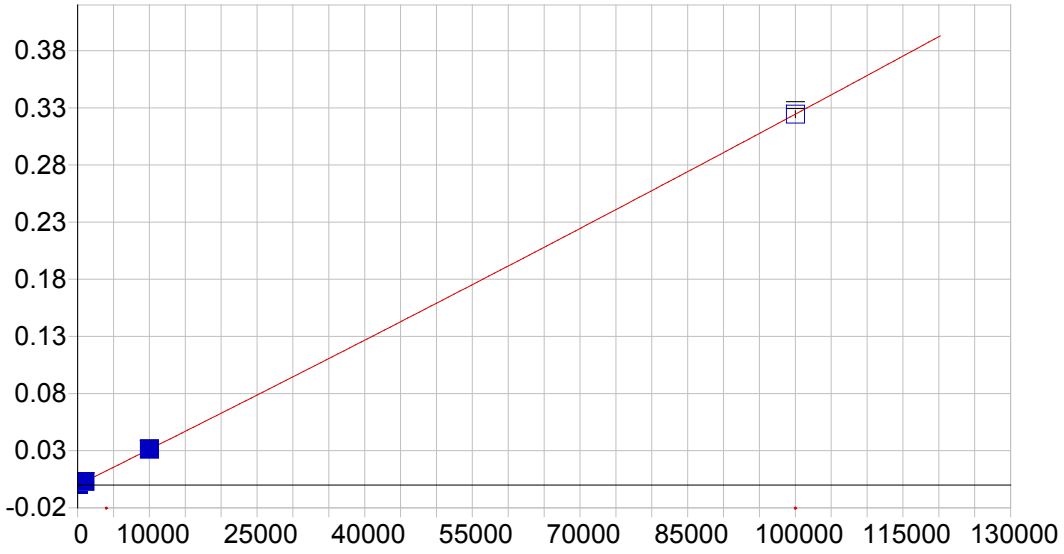


Cu 324.754 {104}

Date of Fit:	07/21/2016 10:41:01	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	0.000077	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999992	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	3.373619		
Predicted MQL:	11.245398		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.01309	-.013	.000	.00008	.000	1
CalStd9=100	1000.0	1009.8	9.78	.978	.00043	.000	1
CalStd8=100	100.00	112.35	12.4	12.4	.00012	.000	1
CalStd10=10	10000.	9977.3	-22.7	-.227	.00357	.000	1
CalStd11-100	100000.	100180.	180.	.180	.03515	.000	1

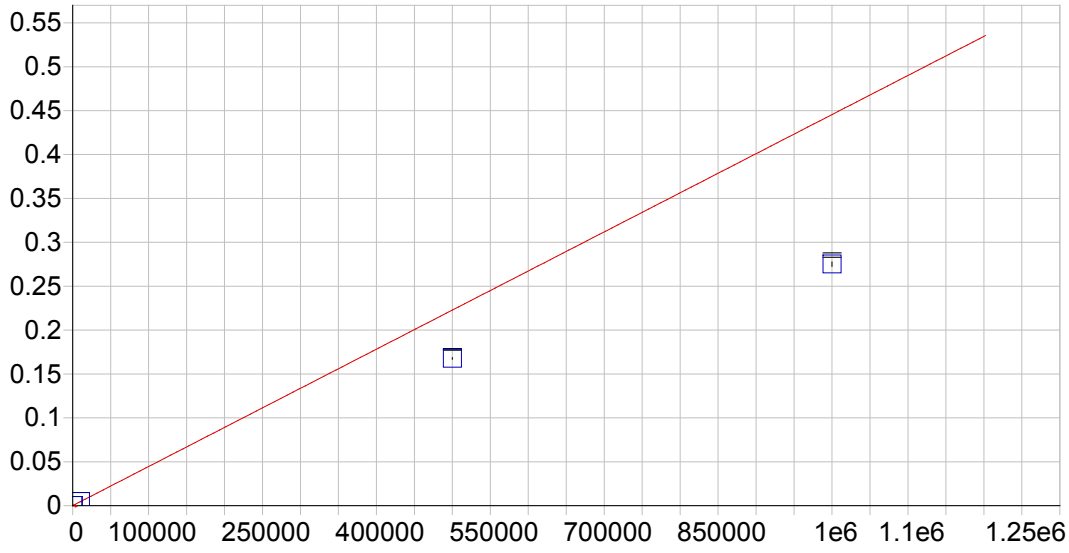


Cu 327.396 {103}

Date of Fit:	07/21/2016 10:41:01	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	-0.000114	Re-Slope:	1.000000
A1 (Gain):	0.000003	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999990	Status:	Warning Positive Curvature
Std Error of Est:	0.000001		
Predicted MDL:	4.160110		
Predicted MQL:	13.867033		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00761	.008	.000	-.00011	.000	1
CalStd6=20	20.000	15.318	-4.68	-23.4	-.00007	.000	1
CalStd7=50	50.000	43.162	-6.84	-13.7	.00002	.000	1
CalStd8=100	100.00	97.324	-2.68	-2.68	.00019	.000	1
CalStd9=100	1000.0	1017.4	17.4	1.74	.00306	.000	1
CalStd10=10	10000.	9996.6	-3.37	-.034	.03120	.000	1
CalStd11-100	100000.	100000.	.160	.000	.32441	.003	1

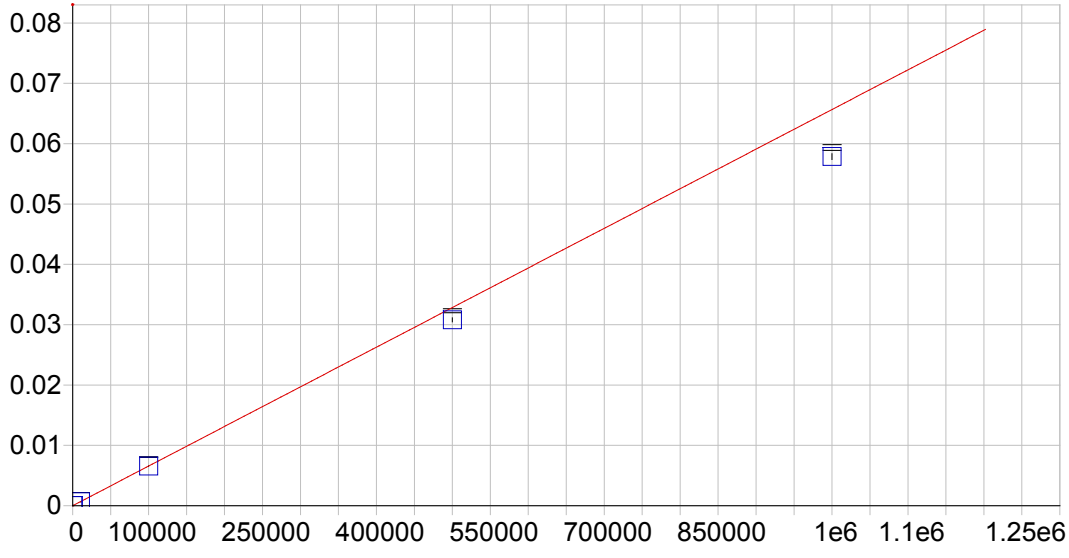


Fe 234.349 {144}

Date of Fit:	07/21/2016 10:41:01	Type of Fit:	Curvilinear	Weighting:	1/Var

A0 (Offset):	0.000016	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999867	Status:	OK.
Std Error of Est:	0.000013		
Predicted MDL:	1.662225		
Predicted MQL:	5.540749		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-1.1258	-1.13	.000	.00002	.000	1
CalStd10=10	10000.	9975.8	-24.2	-.242	.00446	.000	1
CalStd13=50	500000.	376430.	-124000.	-24.7	.16772	.001	1
CalStd14-100	1000000.	617520.	-382000.	-38.2	.27513	.002	1
CalStd9=100	1000.0	1015.7	15.7	1.57	.00047	.000	1

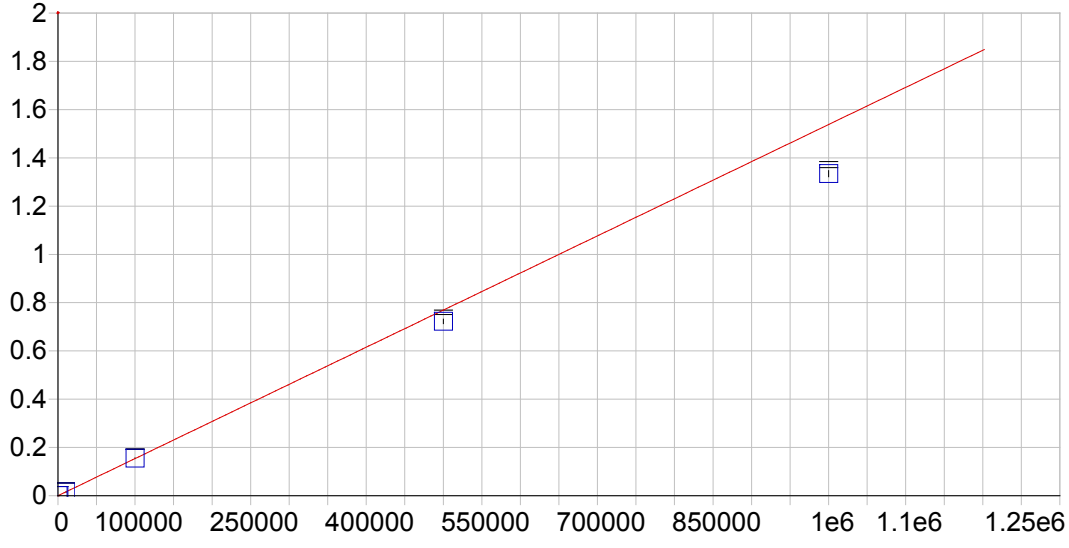


Fe 239.562 {140}

Date of Fit: 07/21/2016 10:41:01 Type of Fit: Curvilinear Weighting: 1/Conc

A0 (Offset):	0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999994	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	8.394131		
Predicted MQL:	27.980437		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.04530	.045	.000	.00000	.000	1
CalStd10=10	10000.	9771.8	-228.	-2.28	.00064	.000	1
CalStd13=50	500000.	469030.	-31000.	-6.19	.03080	.000	1
CalStd14-100	1000000.	881190.	-119000.	-11.9	.05787	.000	1
CalStd9=100	1000.0	968.92	-31.1	-3.11	.00007	.000	1
CalStd12-100	100000.	99718.	-282.	-.282	.00655	.000	1

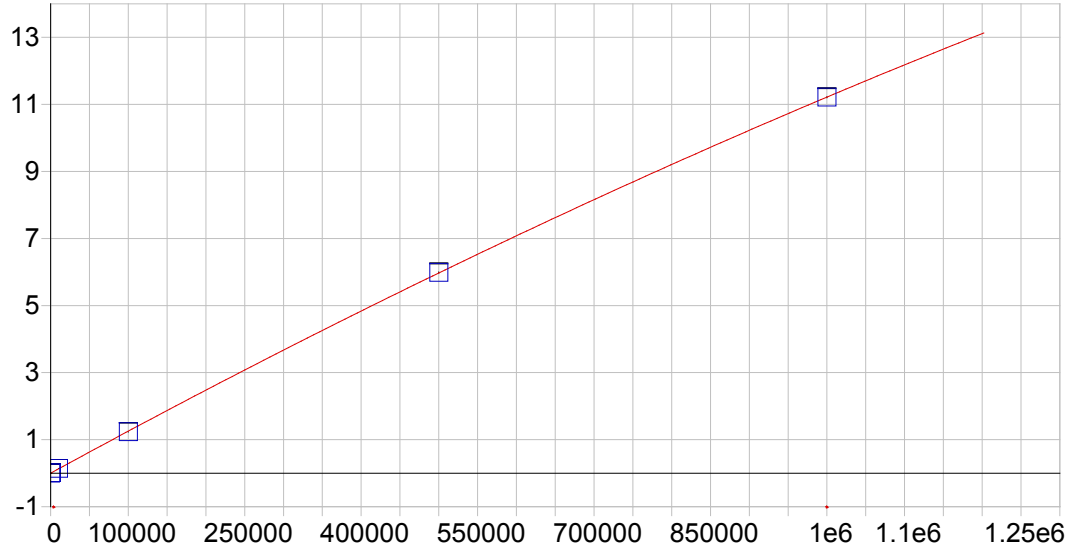


Fe 259.940 {129}

Date of Fit: 07/21/2016 10:41:01 Type of Fit: Curvilinear Weighting: 1/Var

A0 (Offset):	0.000015	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999847	Status:	OK.
Std Error of Est:	0.000048		
Predicted MDL:	3.950161		
Predicted MQL:	13.167204		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	7.9033	7.90	.000	.00003	.000	1
CalStd10=10	10000.	9801.4	-199.	-1.99	.01509	.000	1
CalStd13=50	500000.	469610.	-30400.	-6.08	.72235	.009	1
CalStd14-100	1000000.	867540.	-132000.	-13.2	1.3344	.012	1
CalStd9=100	1000.0	984.72	-15.3	-1.53	.00153	.000	1
CalStd12-100	100000.	100870.	868.	.868	.15517	.001	1

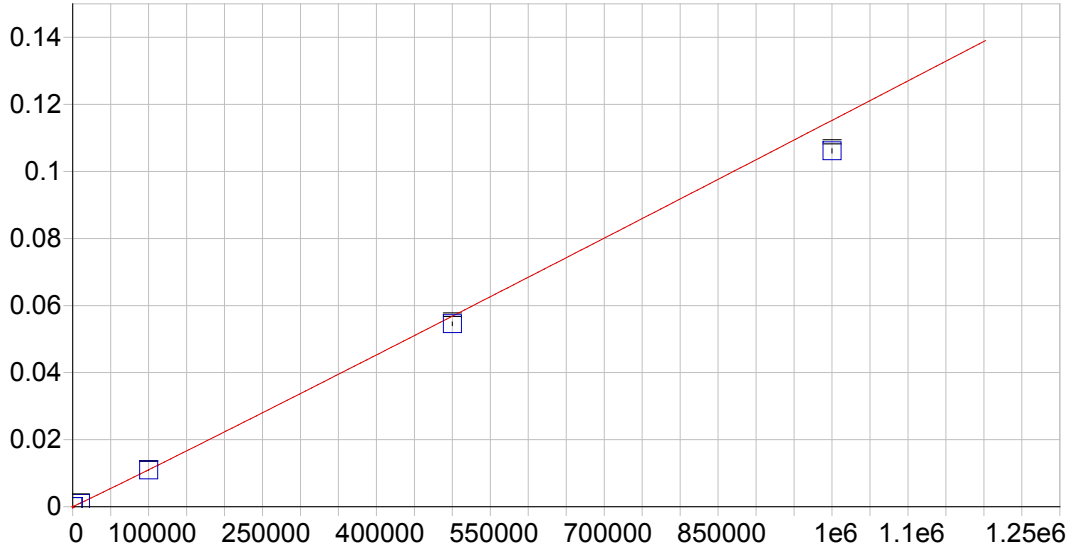


Mg 202.582 {466}

Date of Fit:	07/21/2016 10:41:01	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	0.000037	Re-Slope:	1.000000
A1 (Gain):	0.000013	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999921	Status:	OK.
Std Error of Est:	0.000261		
Predicted MDL:	2.698730		
Predicted MQL:	8.995767		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.11138	.111	.000	.00004	.000	1
CalStd13=50	500000.	501240.	1240.	.248	5.9866	.014	1
CalStd10=10	10000.	11172.	1170.	11.7	.14143	.000	1
CalStd14-100	1000000.	999490.	-511.	-.051	11.213	.013	1
CalStd12-100	100000.	98303.	-1700.	-1.70	1.2317	.002	1
CalStd9=100	1000.0	786.42	-214.	-21.4	.01000	.000	1

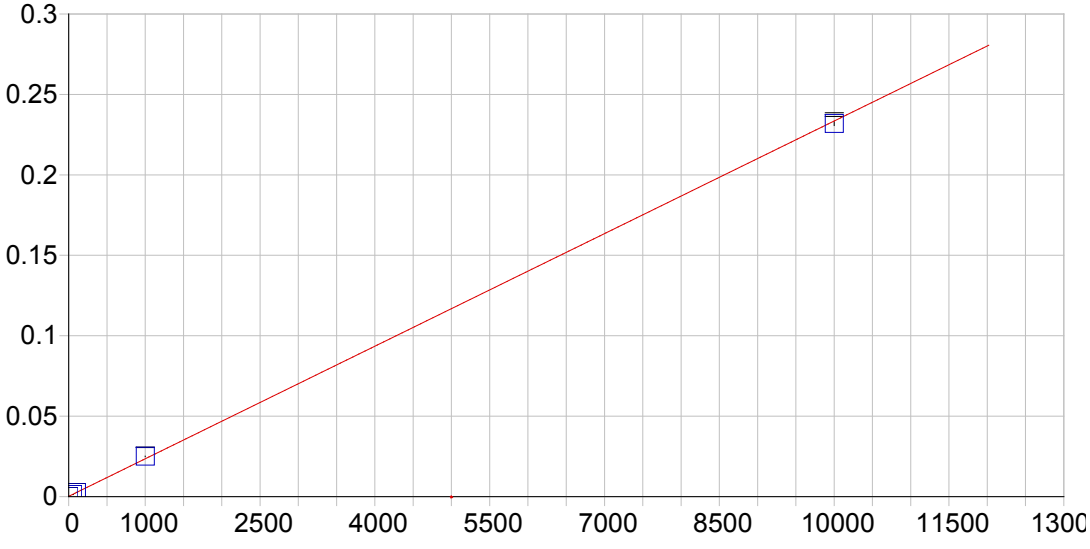


Mg 279.079 {121}

Date of Fit:	07/21/2016 10:41:01	Type of Fit:	Full Fit	Weighting:	1/Conc

A0 (Offset):	0.000003	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.020000		
Correlation:	0.999998	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	37.101010		
Predicted MQL:	123.670033		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00000	.000	1
CalStd13=50	500000.	480390.	-19600.	-3.92	.05456	.001	1
CalStd10=10	10000.	10114.	114.	1.14	.00107	.000	1
CalStd14-100	1000000.	922360.	-77600.	-7.76	.10613	.001	1
CalStd12-100	100000.	99323.	-677.	-.677	.01093	.000	1
CalStd9=100	1000.0	1070.5	70.5	7.05	.00011	.000	1

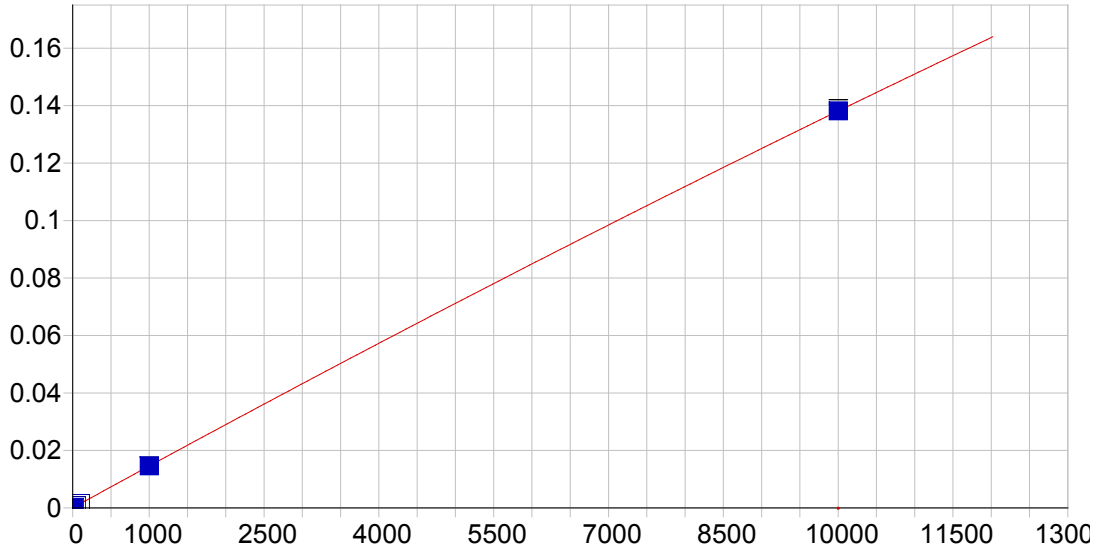


Mg 280.270 {120}

Date of Fit:	07/21/2016 10:41:01	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000165	Re-Slope:	1.000000
A1 (Gain):	0.000023	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999766	Status:	OK.
Std Error of Est:	0.000015		
Predicted MDL:	0.051631		
Predicted MQL:	0.172103		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00582	-.006	.000	.00017	.000	1
CalStd9=100	1000.0	1064.9	64.9	6.49	.02501	.000	1
CalStd10=10	10000.	9928.7	-71.3	-.713	.23183	.001	1
CalStd8=100	100.00	106.99	6.99	6.99	.00266	.000	1
CalStd7=50	50.000	49.435	-.565	-1.13	.00132	.000	1

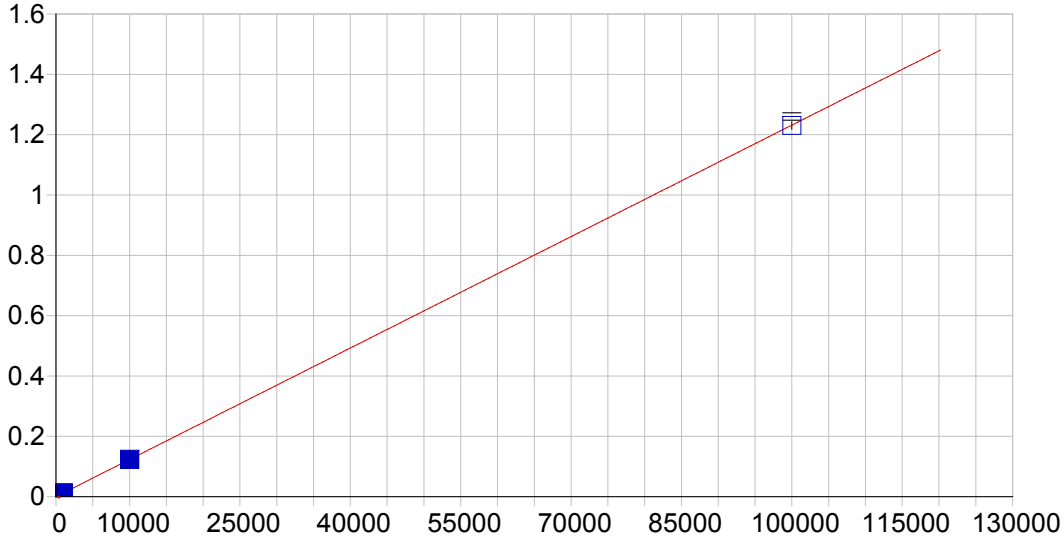


Mn 257.610 {131}

Date of Fit:	07/21/2016 10:41:01	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	0.000010	Re-Slope:	1.000000
A1 (Gain):	0.000015	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999994	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.077222		
Predicted MQL:	0.257406		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00067	.001	.000	.00001	.000	1
CalStd5=10	10.000	9.6827	-.317	-3.17	.00015	.000	1
CalStd7=50	50.000	49.511	-.489	-.977	.00074	.000	1
CalStd6=20	20.000	19.916	-.084	-.419	.00030	.000	1
CalStd8=100	100.00	102.27	2.27	2.27	.00151	.000	1
CalStd4=5	5.0000	4.4454	-.555	-11.1	.00008	.000	1
CalStd9=100	1000.0	999.09	-.905	-.091	.01457	.000	1
CalStd10=10	10000.	10000.	.079	.001	.13812	.001	1

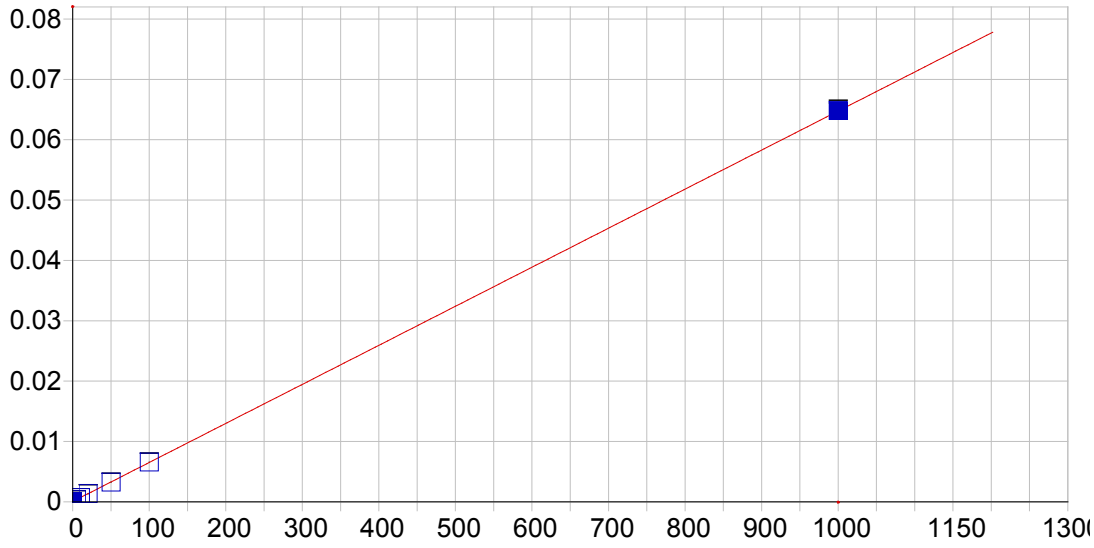


Mn 259.373 {130}

Date of Fit:	07/21/2016 10:41:01	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000016	Re-Slope:	1.000000
A1 (Gain):	0.000012	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999943	Status:	OK.
Std Error of Est:	0.000033		
Predicted MDL:	0.501863		
Predicted MQL:	1.672877		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.11006	-.110	.000	.00001	.000	1
CalStd10=10	10000.	9945.5	-54.5	-.545	.12265	.001	1
CalStd11-100	100000.	99877.	-123.	-.123	1.2302	.012	1
CalStd9=100	1000.0	1025.2	25.2	2.52	.01266	.000	1

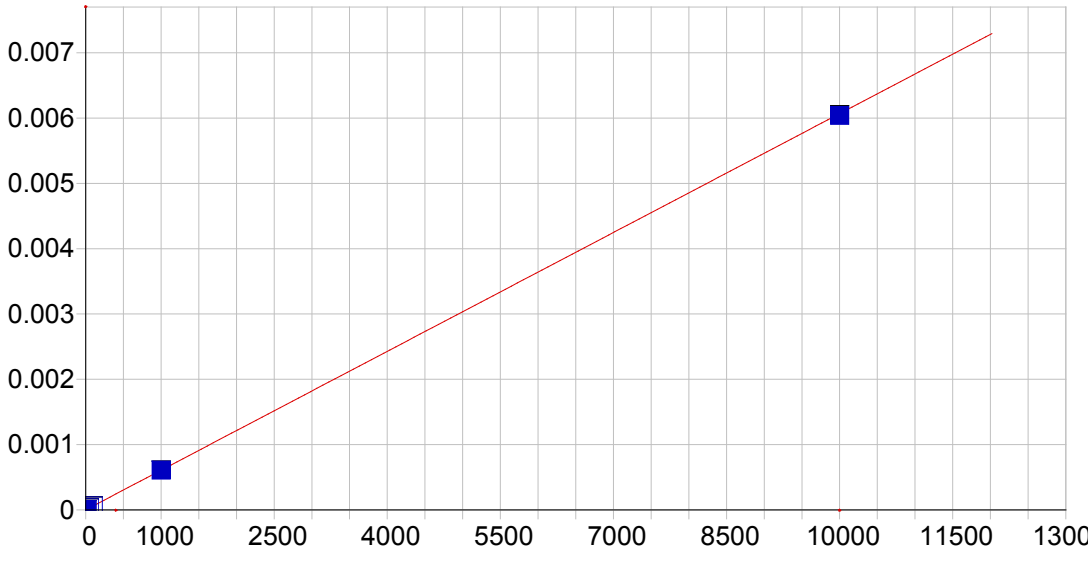


Mo 202.030 {466}

Date of Fit: 07/21/2016 10:41:01 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	0.000054	Re-Slope:	1.000000
A1 (Gain):	0.000065	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999951	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	0.387424		
Predicted MQL:	1.291413		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00088	.001	.000	.00005	.000	1
CalStd7=50	50.000	49.242	-.758	-1.52	.00324	.000	1
CalStd6=20	20.000	19.808	-.192	-.958	.00134	.000	1
CalStd5=10	10.000	9.6948	-.305	-3.05	.00068	.000	1
CalStd8=100	100.00	100.85	.850	.850	.00658	.000	1
CalStd4=5	5.0000	4.3516	-.648	-13.0	.00034	.000	1
CalStd9=100	1000.0	1001.1	1.05	.105	.06482	.000	1

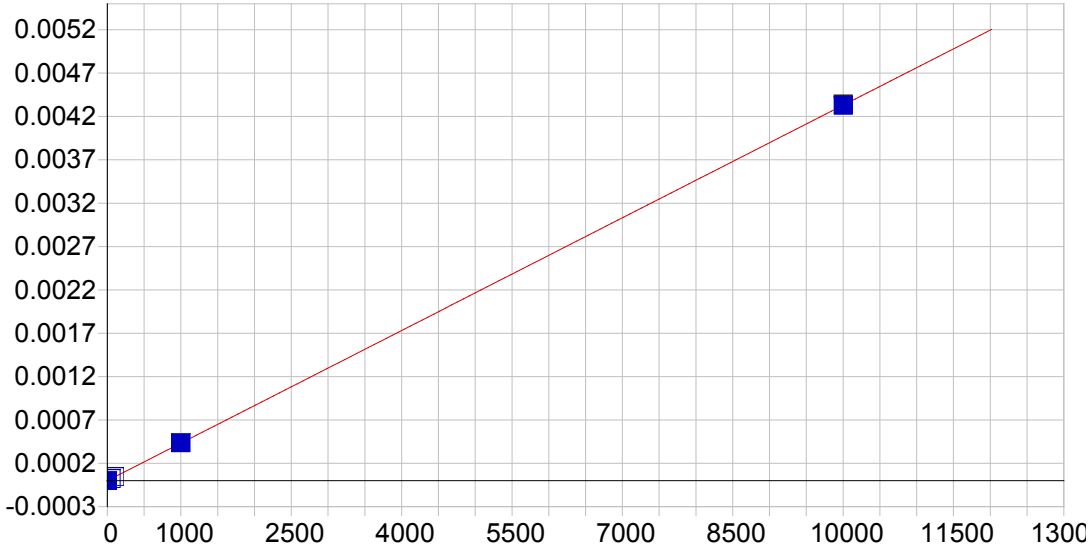


Mo 204.598 {464}

Date of Fit: 07/21/2016 10:41:01 Type of Fit: Full Fit Weighting: 1/Conc

A0 (Offset):	0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999992	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.648096		
Predicted MQL:	2.160321		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00104	.001	.000	.00000	.000	1
CalStd7=50	50.000	49.448	-.552	-1.10	.00003	.000	1
CalStd6=20	20.000	20.064	.064	.320	.00001	.000	1
CalStd5=10	10.000	9.4135	-.587	-5.87	.00001	.000	1
CalStd8=100	100.00	101.11	1.11	1.11	.00006	.000	1
CalStd4=5	5.0000	4.2304	-.770	-15.4	.00000	.000	1
CalStd9=100	1000.0	1000.3	.343	.034	.00061	.000	1
CalStd10=10	10000.	9952.5	-47.5	-.475	.00604	.000	1

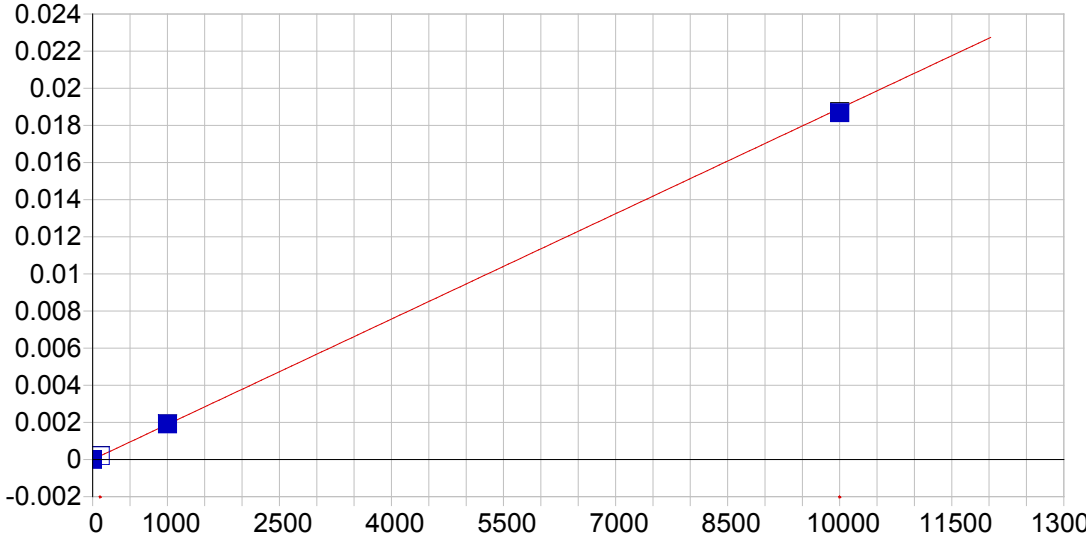


Mo 204.598 {465}

Date of Fit:	07/21/2016 10:41:01	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999996	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.874097		
Predicted MQL:	2.913658		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00012	.000	.000	.00000	.000	1
CalStd9=100	1000.0	1006.7	6.71	.671	.00044	.000	1
CalStd10=10	10000.	9993.1	-6.93	-.069	.00433	.000	1
CalStd7=50	50.000	48.941	-1.06	-2.12	.00002	.000	1
CalStd8=100	100.00	101.28	1.28	1.28	.00004	.000	1

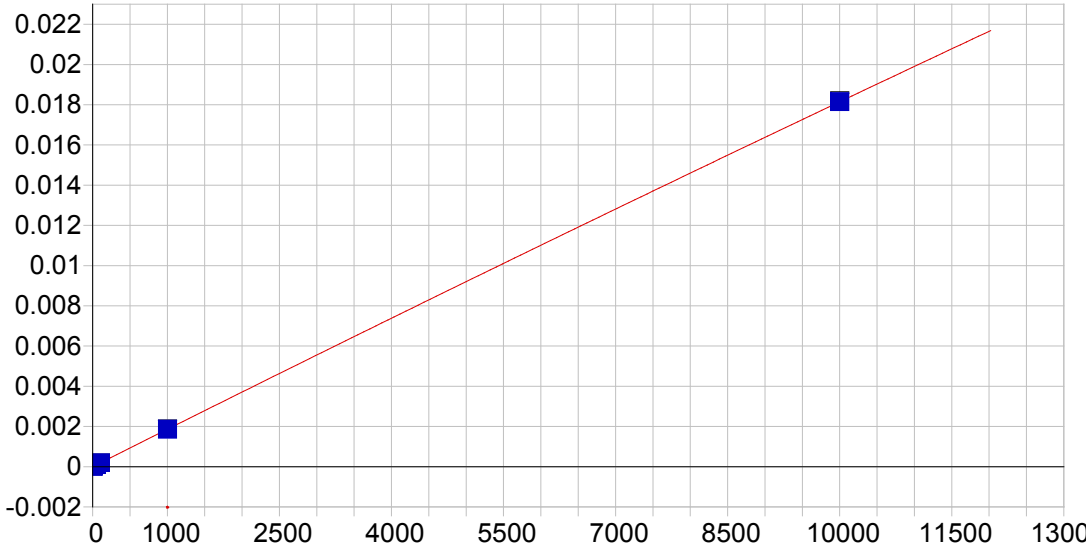


Ni 221.647 {452}

Date of Fit: 07/21/2016 10:41:01 Type of Fit: Linear Weighting: 1/Var

A0 (Offset):	0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999778	Status:	OK.
Std Error of Est:	0.000003		
Predicted MDL:	0.398831		
Predicted MQL:	1.329436		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.32188	-.322	.000	.00000	.000	1
CalStd10=10	10000.	9872.7	-127.	-1.27	.01868	.000	1
CalStd8=100	100.00	103.62	3.62	3.62	.00020	.000	1
CalStd9=100	1000.0	1013.5	13.5	1.35	.00192	.000	1

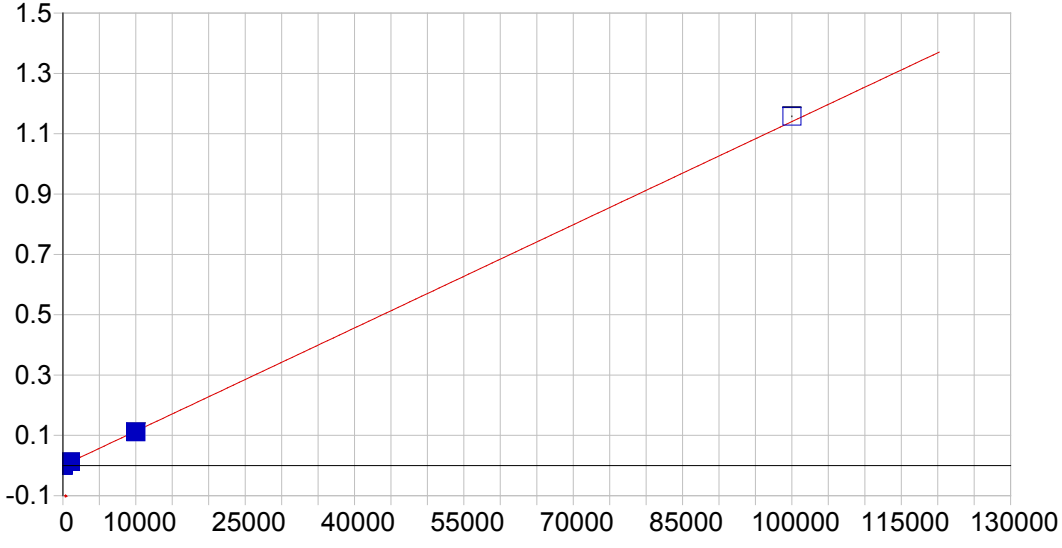


Ni 231.604 {445}

Date of Fit:	07/21/2016 10:41:01	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	-0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999996	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.404101		
Predicted MQL:	1.347004		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00009	.000	.000	.00000	.000	1
CalStd7=50	50.000	50.082	.082	.164	.00009	.000	1
CalStd5=10	10.000	9.7202	-.280	-2.80	.00002	.000	1
CalStd8=100	100.00	102.45	2.45	2.45	.00019	.000	1
CalStd4=5	5.0000	4.8483	-.152	-3.03	.00001	.000	1
CalStd9=100	1000.0	997.75	-2.25	-.225	.00186	.000	1
CalStd3=1	1.0000	.94017	-.060	-5.98	.00000	.000	1
CalStd10=10	10000.	10000.	.211	.002	.01815	.000	1

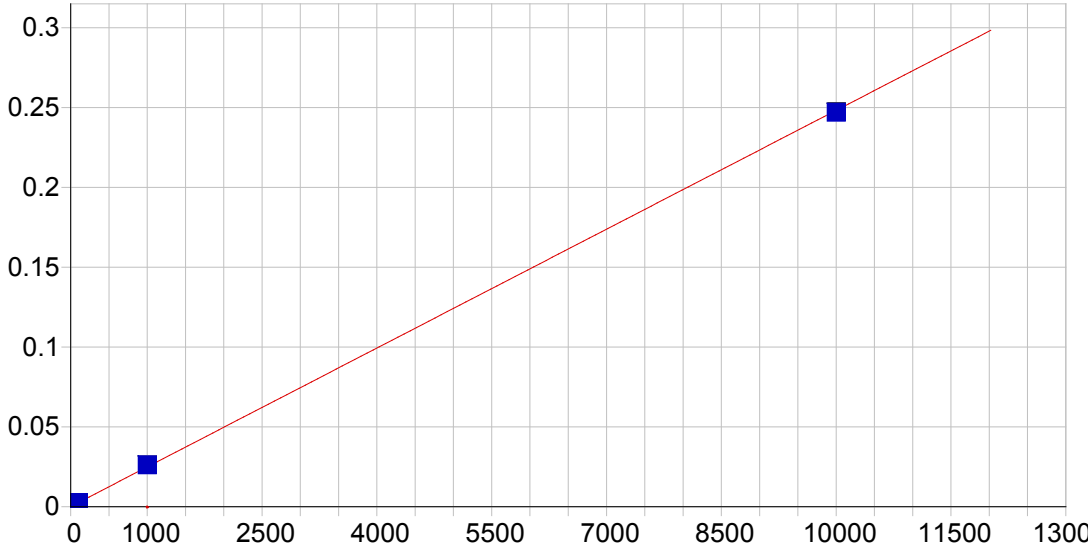


Pb 216.999 {455}

Date of Fit: 07/21/2016 10:41:01 Type of Fit: Linear Weighting: 1/Var

A0 (Offset):	0.000017	Re-Slope:	1.000000
A1 (Gain):	0.000011	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999773	Status:	OK.
Std Error of Est:	0.000785		
Predicted MDL:	4.243118		
Predicted MQL:	14.143726		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-1.3217	-1.32	.000	.00000	.000	1
CalStd9=100	1000.0	1054.4	54.4	5.44	.01205	.000	1
CalStd10=10	10000.	9742.7	-257.	-2.57	.11125	.000	1
CalStd11-100	100000.	101540.	1540.	1.54	1.1578	.001	1
CalStd8=100	100.00	104.11	4.11	4.11	.00120	.000	1
CalStd5=10	10.000	10.403	.403	4.03	.00014	.000	1

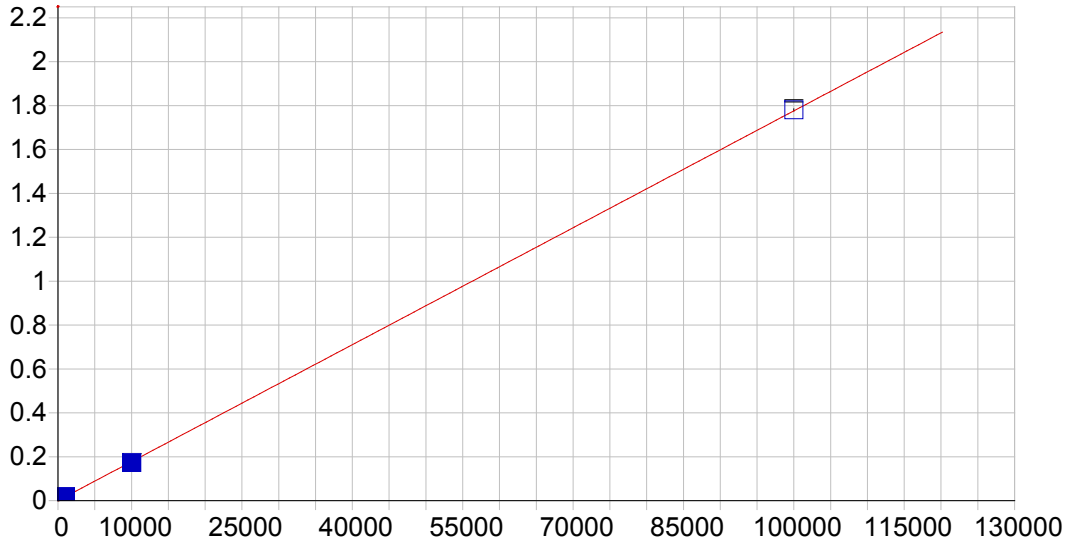


Pb 220.353 {453}

Date of Fit: 07/21/2016 10:41:01 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	0.000110	Re-Slope:	1.000000
A1 (Gain):	0.000025	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999765	Status:	OK.
Std Error of Est:	0.000005		
Predicted MDL:	2.465449		
Predicted MQL:	8.218164		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00320	.003	.000	.00011	.000	1
CalStd5=10	10.000	6.1081	-3.89	-38.9	.00026	.000	1
CalStd8=100	100.00	107.37	7.37	7.37	.00277	.000	1
CalStd4=5	5.0000	3.1673	-1.83	-36.7	.00019	.000	1
CalStd9=100	1000.0	1047.5	47.5	4.75	.02610	.000	1
CalStd10=10	10000.	9950.9	-49.1	-.491	.24706	.000	1

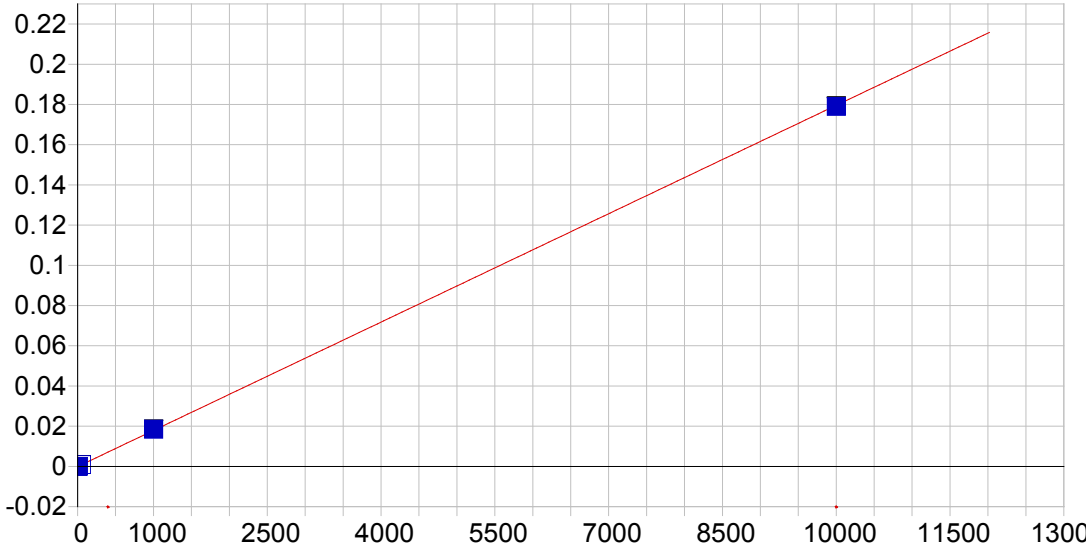


Pb 220.353 {153}

Date of Fit: 07/21/2016 10:41:01 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	0.000086	Re-Slope:	1.000000
A1 (Gain):	0.000018	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999959	Status:	OK.
Std Error of Est:	0.000022		
Predicted MDL:	4.411127		
Predicted MQL:	14.703756		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00987	-.010	.000	.00009	.000	1
CalStd9=100	1000.0	1021.1	21.1	2.11	.01822	.000	1
CalStd10=10	10000.	9732.6	-267.	-2.67	.17295	.001	1
CalStd8=100	100.00	110.20	10.2	10.2	.00204	.000	1
CalStd11-100	100000.	100240.	236.	.236	1.7803	.005	1

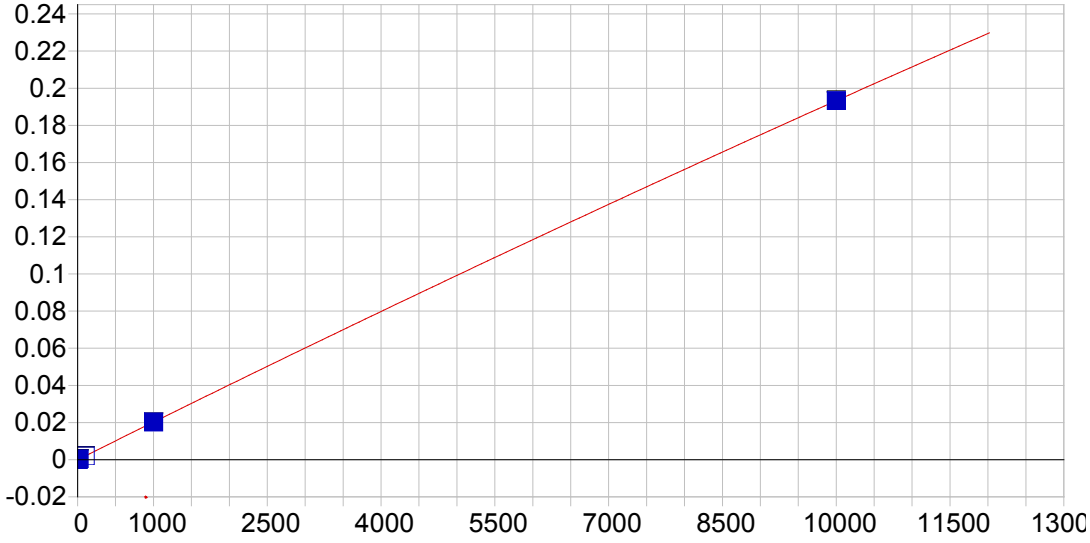


Sb 206.833 {463}

Date of Fit:	07/21/2016 10:41:01	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000087	Re-Slope:	1.000000
A1 (Gain):	0.000018	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999943	Status:	OK.
Std Error of Est:	0.000003		
Predicted MDL:	2.067005		
Predicted MQL:	6.890018		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00081	.001	.000	-.00009	.000	1
CalStd9=100	1000.0	1032.1	32.1	3.21	.01846	.000	1
CalStd5=10	10.000	8.8468	-1.15	-11.5	.00007	.000	1
CalStd7=50	50.000	50.245	.245	.491	.00082	.000	1
CalStd10=10	10000.	9968.8	-31.2	-.312	.17900	.000	1

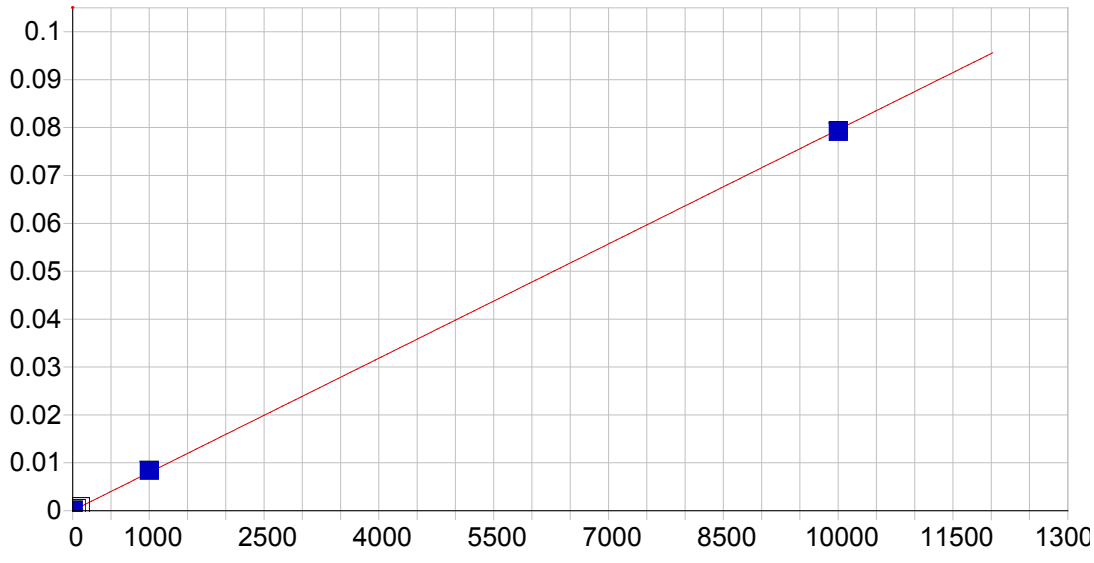


Sb 217.581 {455}

Date of Fit:	07/21/2016 10:41:01	Type of Fit:	Curvilinear	Weighting:	None

A0 (Offset):	-0.000023	Re-Slope:	1.000000
A1 (Gain):	0.000020	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000022		
Predicted MDL:	2.097472		
Predicted MQL:	6.991573		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.51061	-.511	.000	-.00003	.000	1
CalStd9=100	1000.0	1000.2	.168	.017	.02024	.000	1
CalStd6=20	20.000	20.683	.683	3.41	.00040	.000	1
CalStd5=10	10.000	10.515	.515	5.15	.00019	.000	1
CalStd8=100	100.00	98.251	-1.75	-1.75	.00198	.000	1
CalStd4=5	5.0000	5.8951	.895	17.9	.00010	.000	1
CalStd10=10	10000.	10000.0	-.002	.000	.19327	.000	1

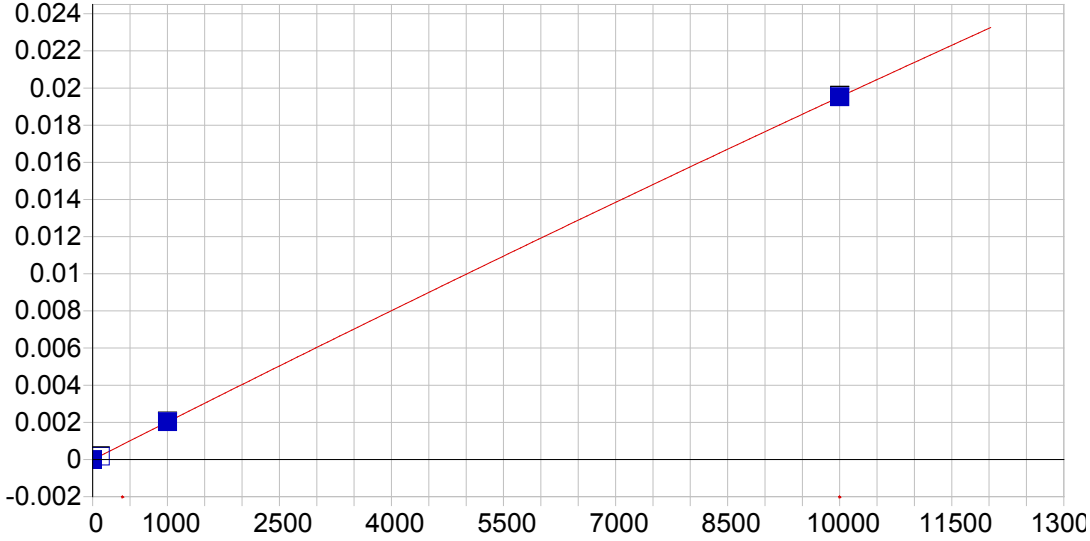


Se 196.090 {472}

Date of Fit:	07/21/2016 10:41:01	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000030	Re-Slope:	1.000000
A1 (Gain):	0.000008	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999859	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	3.654035		
Predicted MQL:	12.180117		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00040	.000	.000	.00003	.000	1
CalStd7=50	50.000	52.421	2.42	4.84	.00045	.000	1
CalStd9=100	1000.0	1050.8	50.8	5.08	.00839	.000	1
CalStd5=10	10.000	8.6627	-1.34	-13.4	.00010	.000	1
CalStd8=100	100.00	99.998	-.002	-.002	.00083	.000	1
CalStd10=10	10000.	9948.1	-51.9	-.519	.07913	.000	1

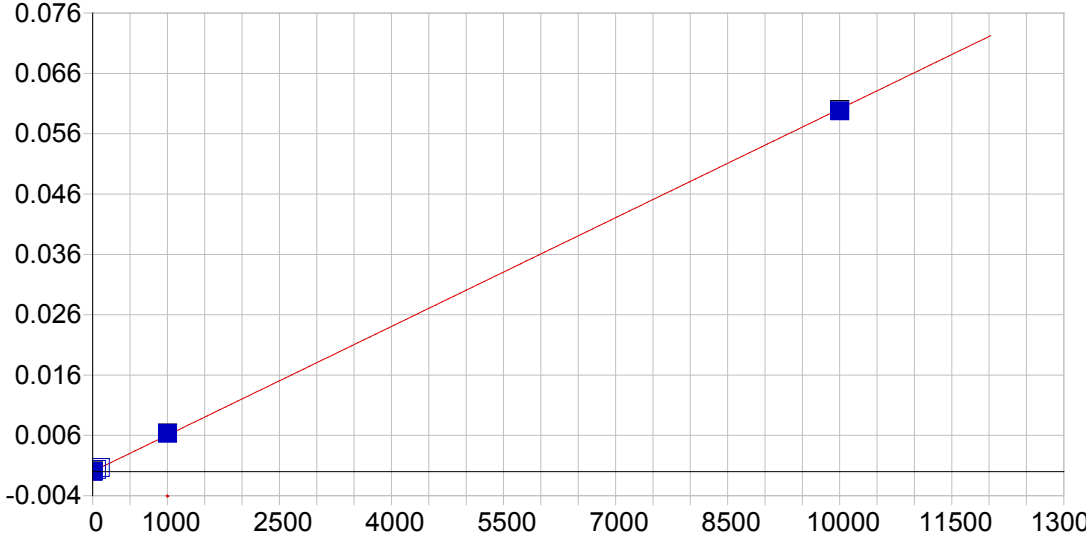


Se 206.279 {463}

Date of Fit:	07/21/2016 10:41:01	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	-0.000012	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999981	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	19.385563		
Predicted MQL:	64.618543		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00522	.005	.000	-.00001	.000	1
CalStd9=100	1000.0	1006.5	6.50	.650	.00204	.000	1
CalStd10=10	10000.	9999.4	-.641	-.006	.01954	.000	1
CalStd8=100	100.00	94.135	-5.86	-5.86	.00018	.000	1

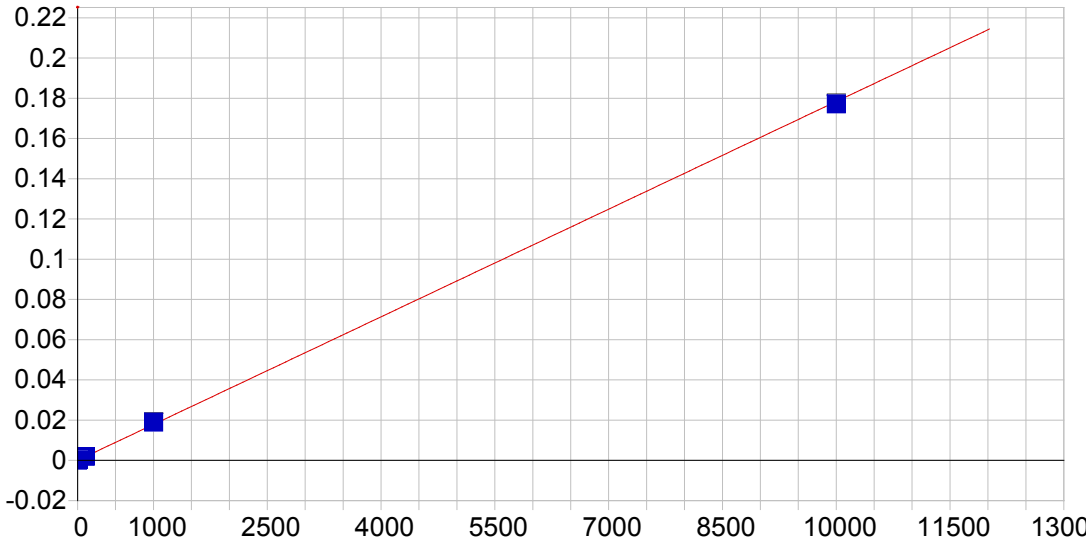


Se 196.090 {471}

Date of Fit:	07/21/2016 10:41:01	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000018	Re-Slope:	1.000000
A1 (Gain):	0.000006	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999856	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	4.748072		
Predicted MQL:	15.826907		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00027	.000	.000	.00002	.000	1
CalStd7=50	50.000	52.069	2.07	4.14	.00033	.000	1
CalStd9=100	1000.0	1050.3	50.3	5.03	.00633	.000	1
CalStd5=10	10.000	8.9841	-1.02	-10.2	.00007	.000	1
CalStd8=100	100.00	104.22	4.22	4.22	.00064	.000	1
CalStd10=10	10000.	9944.4	-55.6	-.556	.05977	.000	1

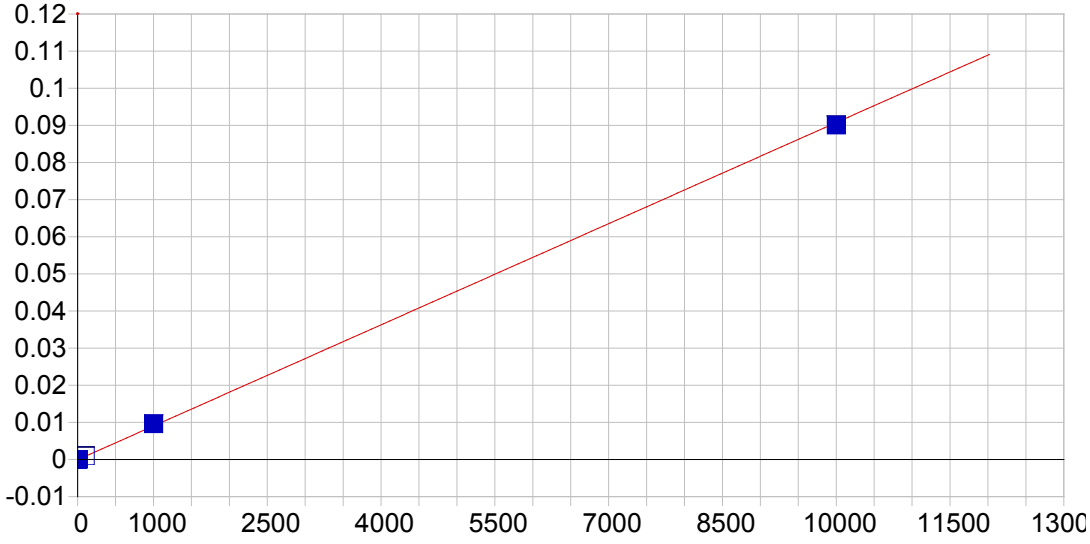


Tl 190.856 {476}

Date of Fit: 07/21/2016 10:41:01 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	0.000025	Re-Slope:	1.000000
A1 (Gain):	0.000018	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999779	Status:	OK.
Std Error of Est:	0.000005		
Predicted MDL:	2.027270		
Predicted MQL:	6.757566		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00164	-.002	.000	.00002	.000	1
CalStd9=100	1000.0	1062.5	62.5	6.25	.01898	.000	1
CalStd8=100	100.00	107.06	7.06	7.06	.00194	.000	1
CalStd5=10	10.000	10.379	.379	3.79	.00021	.000	1
CalStd10=10	10000.	9930.0	-70.0	-.700	.17719	.000	1

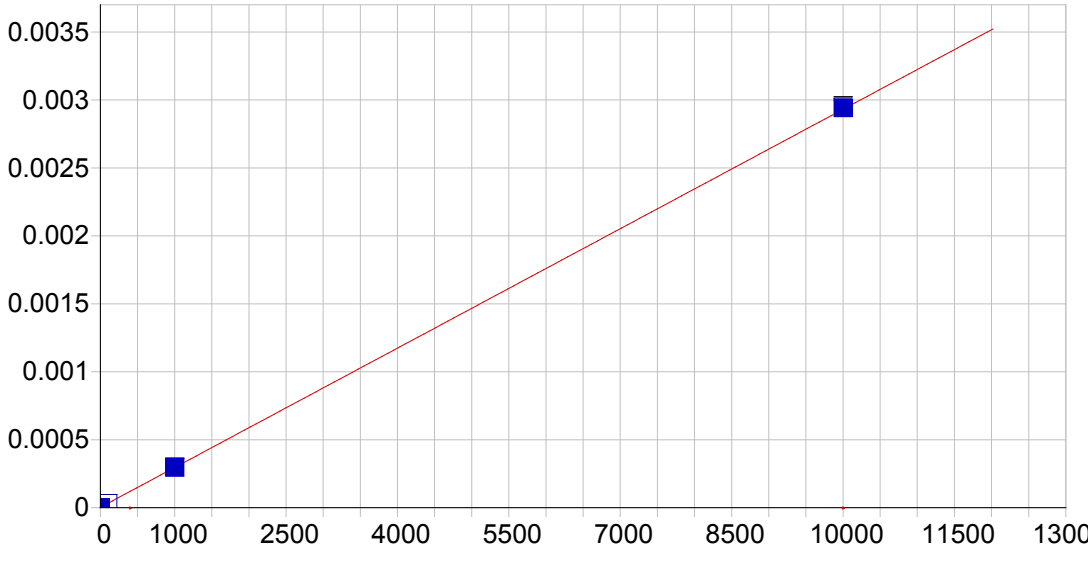


Tl 190.856 {477}

Date of Fit: 07/21/2016 10:41:01 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	-0.000048	Re-Slope:	1.000000
A1 (Gain):	0.000009	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999716	Status:	OK.
Std Error of Est:	0.000003		
Predicted MDL:	3.134967		
Predicted MQL:	10.449890		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00442	-.004	.000	-.00005	.000	1
CalStd9=100	1000.0	1063.5	63.5	6.35	.00961	.000	1
CalStd8=100	100.00	109.13	9.13	9.13	.00094	.000	1
CalStd5=10	10.000	12.946	2.95	29.5	.00007	.000	1
CalStd10=10	10000.	9924.4	-75.6	-.756	.09008	.000	1

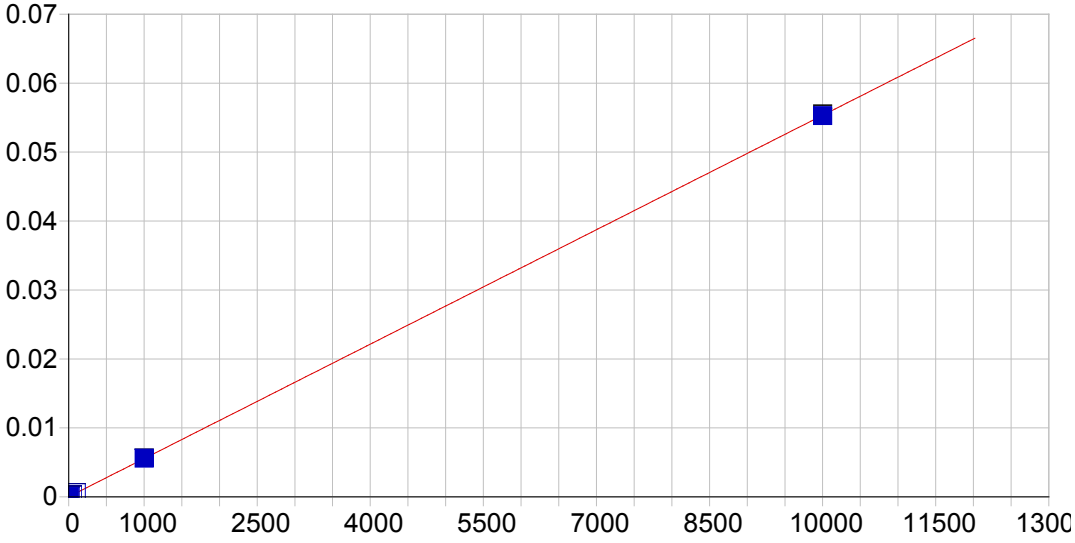


V 290.882 {116}

Date of Fit:	07/21/2016 10:41:01	Type of Fit:	Full Fit	Weighting:	1/Conc

A0 (Offset):	0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	3.202203		
Predicted MQL:	10.674012		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00000	.000	1
CalStd9=100	1000.0	999.94	-.056	-.006	.00030	.000	1
CalStd10=10	10000.	10035.	35.1	.351	.00294	.000	1
CalStd8=100	100.00	100.37	.374	.374	.00003	.000	1

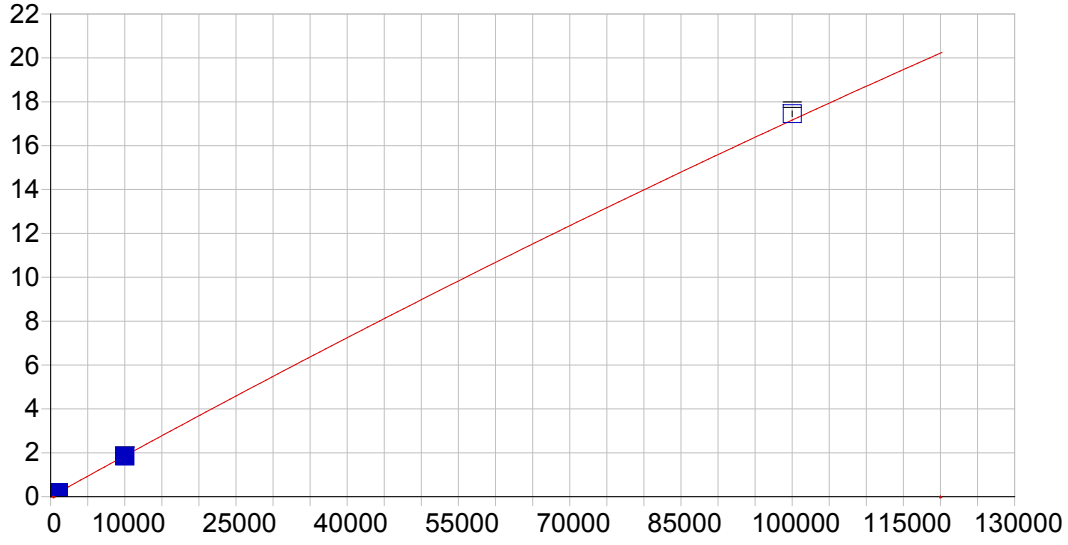


V 292.402 {115}

Date of Fit: 07/21/2016 10:41:01 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	0.000009	Re-Slope:	1.000000
A1 (Gain):	0.000006	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999994	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.539816		
Predicted MQL:	1.799387		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00055	-.001	.000	.00001	.000	1
CalStd7=50	50.000	49.714	-.286	-.572	.00028	.000	1
CalStd9=100	1000.0	1008.3	8.35	.835	.00559	.000	1
CalStd6=20	20.000	20.466	.466	2.33	.00012	.000	1
CalStd5=10	10.000	10.108	.108	1.08	.00006	.000	1
CalStd8=100	100.00	101.94	1.94	1.94	.00057	.000	1
CalStd10=10	10000.	9989.4	-10.6	-.106	.05527	.000	1

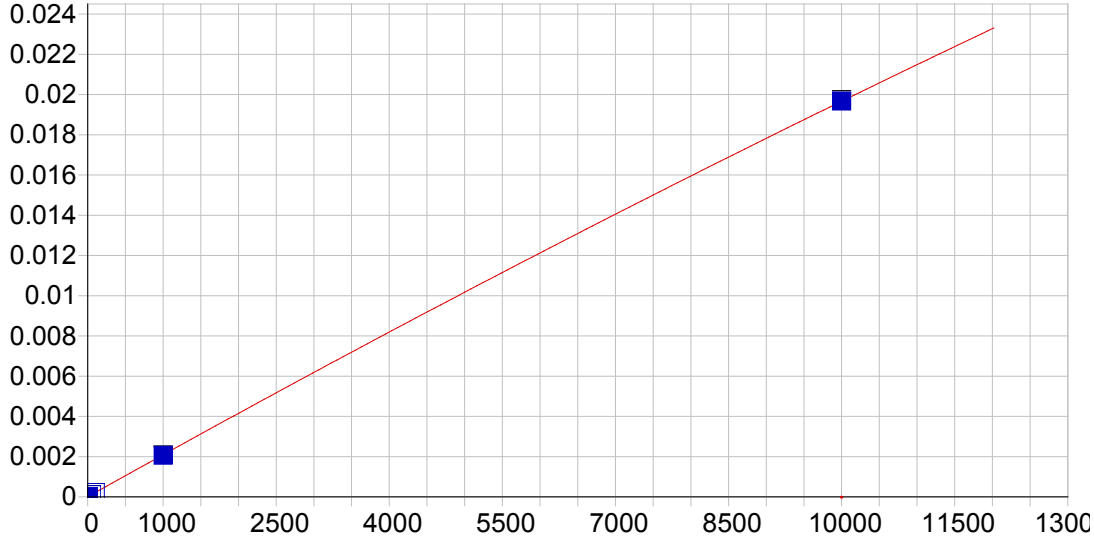


Zn 206.200 {463}

Date of Fit: 07/21/2016 10:41:01 Type of Fit: Curvilinear Weighting: 1/Var

A0 (Offset):	0.000274	Re-Slope:	1.000000
A1 (Gain):	0.000187	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999892	Status:	OK.
Std Error of Est:	0.000990		
Predicted MDL:	0.214954		
Predicted MQL:	0.716512		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
CalStd10=10	10000.	9934.1	-65.9	-.659	1.8470	.002	1
Blank	.00000	-.14366	-.144	.000	.00025	.000	1
CalStd9=100	1000.0	1034.8	34.8	3.48	.19410	.001	1
CalStd11-100	100000.	101830.	1830.	1.83	17.450	.124	1

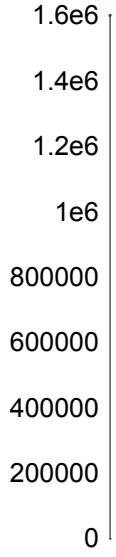


Zn 213.856 {458}

Date of Fit: 07/21/2016 10:41:01 Type of Fit: Curvilinear Weighting: 1/Var

A0 (Offset):	0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999903	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.187661		
Predicted MQL:	0.625538		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.96248	.962	.000	.00000	.000	1
CalStd8=100	100.00	100.77	.768	.768	.00021	.000	1
CalStd7=50	50.000	49.467	-.533	-1.07	.00010	.000	1
CalStd5=10	10.000	9.8197	-.180	-1.80	.00002	.000	1
CalStd9=100	1000.0	985.91	-14.1	-1.41	.00206	.000	1
CalStd4=5	5.0000	4.7590	-.241	-4.82	.00001	.000	1
CalStd10=10	10000.	10003.	2.69	.027	.01968	.000	1

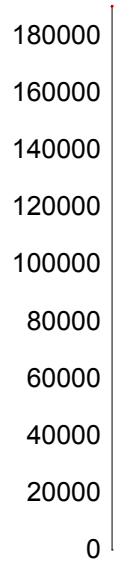


Y 324.228 {104}*

Date of Fit:	07/21/2016 10:41:01	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.000000	Status:	Warning Zero Gain
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	1506100.	3900.	1

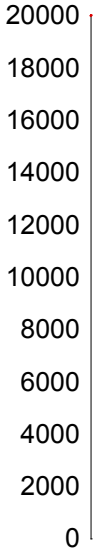


Y 371.030 { 91}*

Date of Fit:	07/21/2016 10:41:01	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.000000	Status:	Warning Zero Gain
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	175030.	347.	1

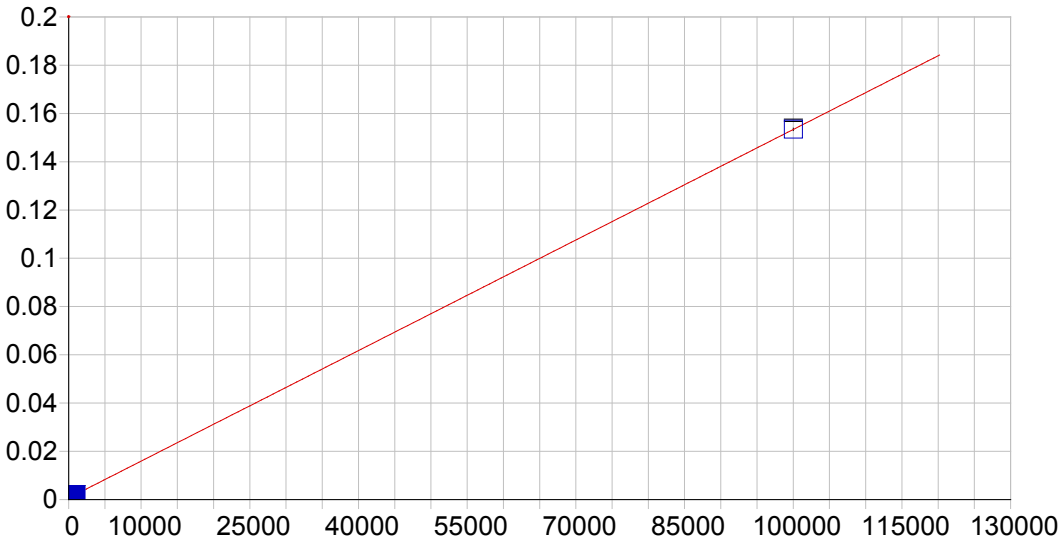


Y 224.306 {451}*

Date of Fit:	07/21/2016 10:41:01	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.000000	Status:	Warning Zero Gain
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	18744.	51.0	1

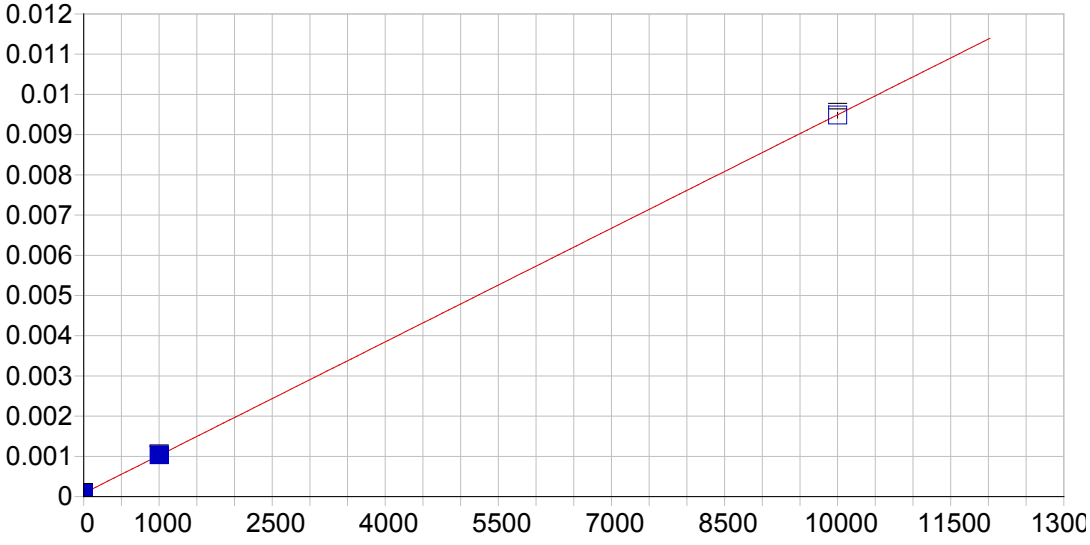


Na 588.995 { 57}

Date of Fit:	07/21/2016 10:41:01	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000669	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999996	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	3.686091		
Predicted MQL:	12.286971		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.02898	.029	.000	.00067	.000	1
CalStd9=100	1000.0	970.73	-29.3	-2.93	.00215	.000	1
CalStd12-100	100000.	100030.	29.3	.029	.15342	.001	1

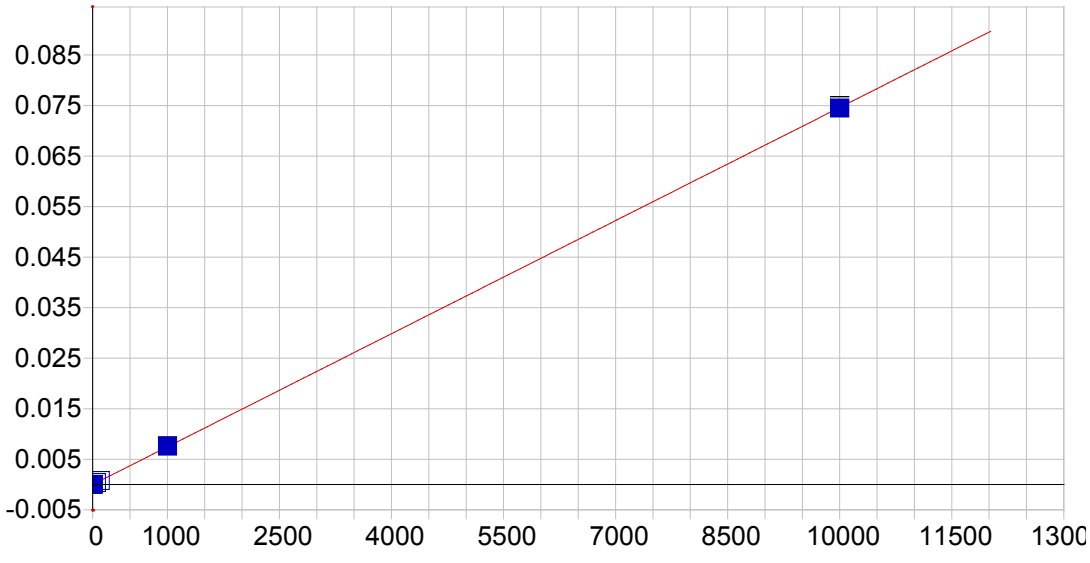


Si 251.611 {134}

Date of Fit:	07/21/2016 10:41:01	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000083	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999992	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	6.031996		
Predicted MQL:	20.106653		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.01145	-.011	.000	.00008	.000	1
CalStd9=100	1000.0	1012.7	12.7	1.27	.00104	.000	1
CalStd12-100	10000.	9987.3	-12.7	-.127	.00948	.000	1

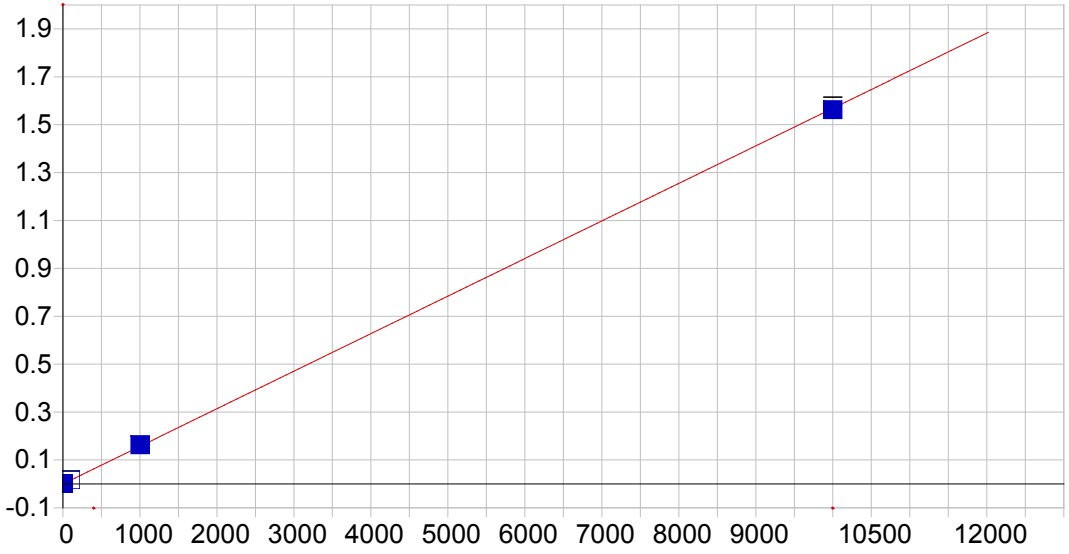


Ti 334.941 {101}

Date of Fit:	07/21/2016 10:41:01	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000007	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999982	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	1.142633		
Predicted MQL:	3.808778		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00036	.000	.000	.00000	.000	1
CalStd5=10	10.000	9.4332	-.567	-5.67	.00007	.000	1
CalStd8=100	100.00	101.56	1.56	1.56	.00076	.000	1
CalStd9=100	1000.0	1017.3	17.3	1.73	.00759	.000	1
CalStd10=10	10000.	9982.2	-17.8	-.178	.07449	.000	1
CalStd7=50	50.000	49.692	-.308	-.616	.00037	.000	1
CalStd4=5	5.0000	4.7984	-.202	-4.03	.00004	.000	1

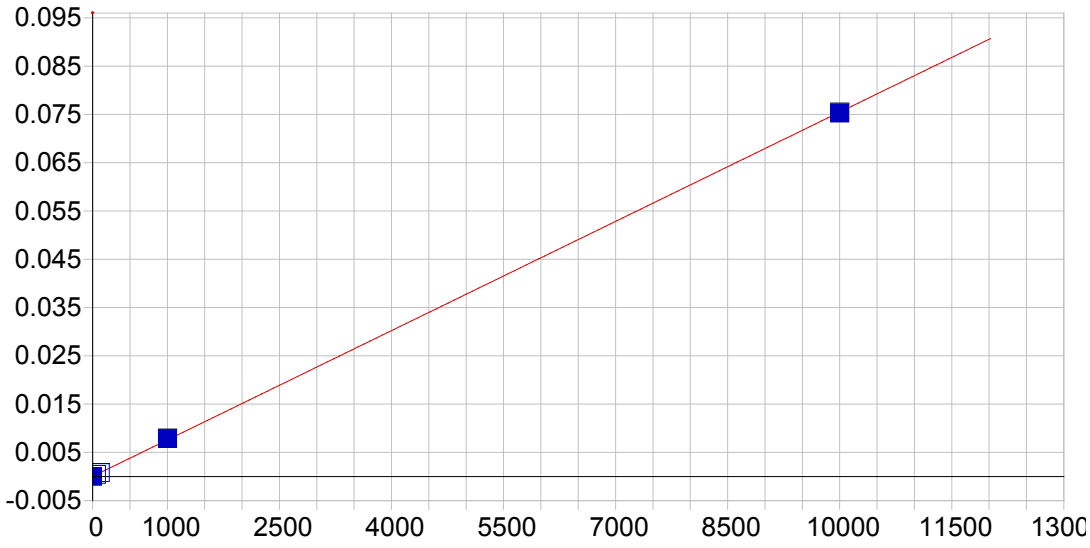


Sr 407.771 { 83}

Date of Fit: 07/21/2016 10:41:01 Type of Fit: Linear Weighting: 1/Conc

A0 (Offset):	-0.000032	Re-Slope:	1.000000
A1 (Gain):	0.000157	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999927	Status:	OK.
Std Error of Est:	0.000007		
Predicted MDL:	0.090965		
Predicted MQL:	0.303216		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00010	.000	.000	-.00003	.000	1
CalStd3=1	1.0000	.86470	-.135	-13.5	.00010	.000	1
CalStd4=5	5.0000	4.8168	-.183	-3.66	.00072	.000	1
CalStd5=10	10.000	10.053	.053	.535	.00154	.000	1
CalStd8=100	100.00	103.56	3.56	3.56	.01621	.000	1
CalStd9=100	1000.0	1036.2	36.2	3.62	.16251	.002	1
CalStd10=10	10000.	9960.5	-39.5	-.395	1.5625	.015	1

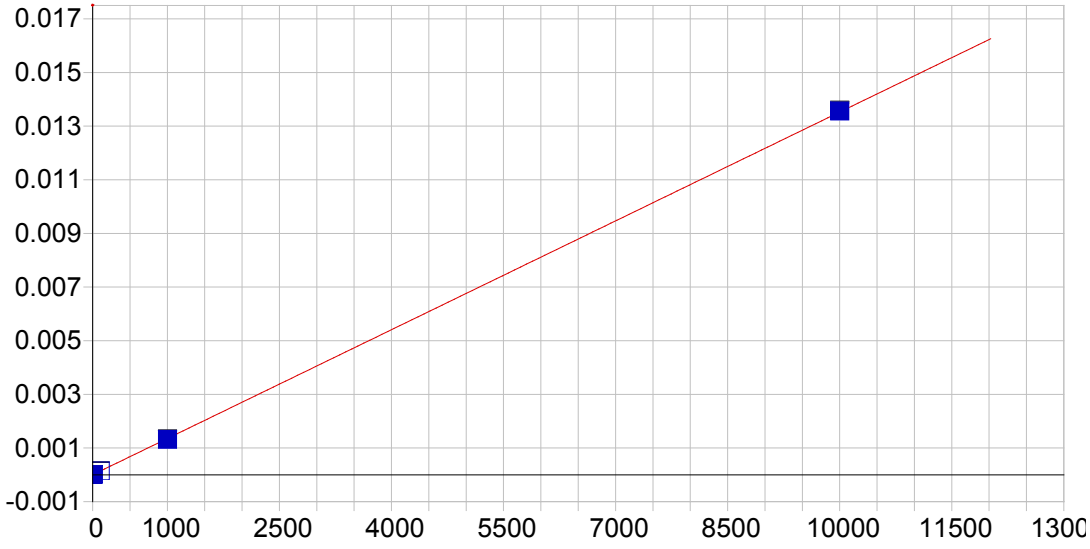


Sn 189.989 {478}

Date of Fit:	07/21/2016 10:41:01	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000029	Re-Slope:	1.000000
A1 (Gain):	0.000008	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999947	Status:	OK.
Std Error of Est:	0.000062		
Predicted MDL:	2.653452		
Predicted MQL:	8.844841		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-2.9718	-2.97	.000	.00001	.000	1
CalStd10=10	10000.	9972.9	-27.1	-.271	.07528	.000	1
CalStd9=100	1000.0	1036.0	36.0	3.60	.00785	.000	1
CalStd8=100	100.00	101.12	1.12	1.12	.00079	.000	1
CalStd7=50	50.000	48.953	-1.05	-2.09	.00040	.000	1

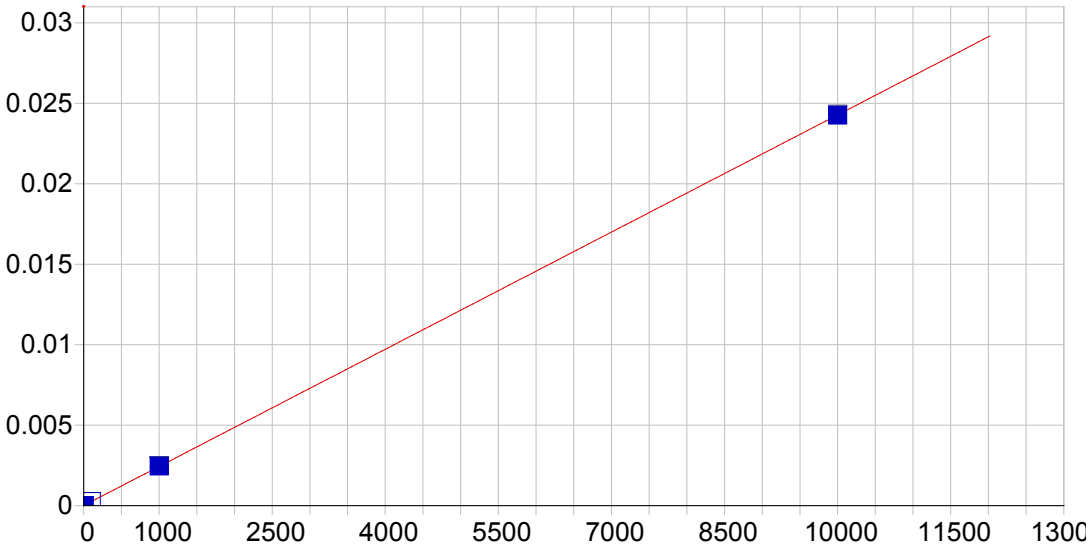


B 249.678 {135}

Date of Fit:	07/21/2016 10:41:01	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999961	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	1.513518		
Predicted MQL:	5.045061		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00066	.001	.000	.00000	.000	1
CalStd8=100	100.00	102.28	2.28	2.28	.00014	.000	1
CalStd5=10	10.000	9.3514	-.649	-6.49	.00001	.000	1
CalStd9=100	1000.0	973.52	-26.5	-2.65	.00132	.000	1
CalStd10=10	10000.	10025.	24.8	.248	.01356	.000	1

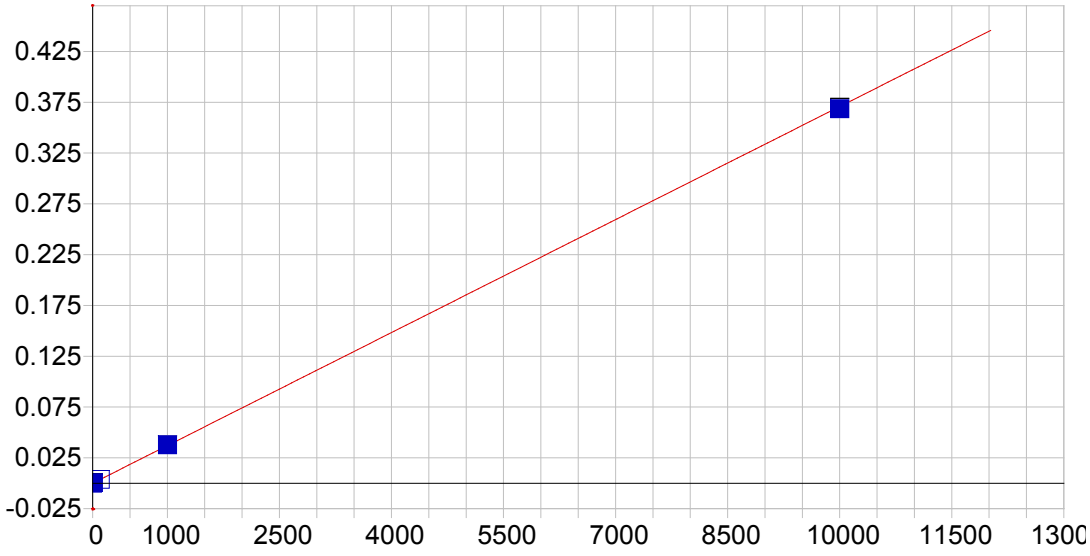


B 249.773 {135}

Date of Fit:	07/21/2016 10:41:01	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000005	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999994	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.740524		
Predicted MQL:	2.468413		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00024	.000	.000	.00001	.000	1
CalStd8=100	100.00	101.24	1.24	1.24	.00025	.000	1
CalStd5=10	10.000	9.5501	-.450	-4.50	.00003	.000	1
CalStd9=100	1000.0	1009.6	9.56	.956	.00246	.000	1
CalStd10=10	10000.	9989.6	-10.4	-.104	.02428	.000	1

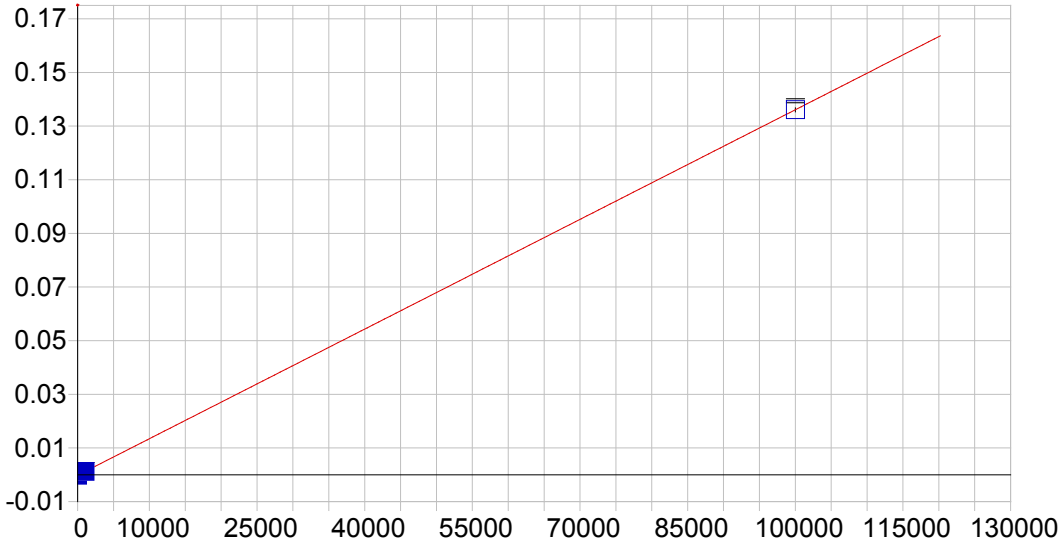


Li 670.784 { 50}

Date of Fit:	07/21/2016 10:41:01	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-0.000035	Re-Slope:	1.000000
A1 (Gain):	0.000037	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999923	Status:	OK.
Std Error of Est:	0.000090		
Predicted MDL:	1.171240		
Predicted MQL:	3.904134		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-1.0221	-1.02	.000	-.00007	.000	1
CalStd5=10	10.000	10.445	.445	4.45	.00035	.000	1
CalStd8=100	100.00	102.33	2.33	2.33	.00376	.000	1
CalStd9=100	1000.0	1017.6	17.6	1.76	.03770	.000	1
CalStd10=10	10000.	9940.0	-60.0	-.600	.36856	.001	1

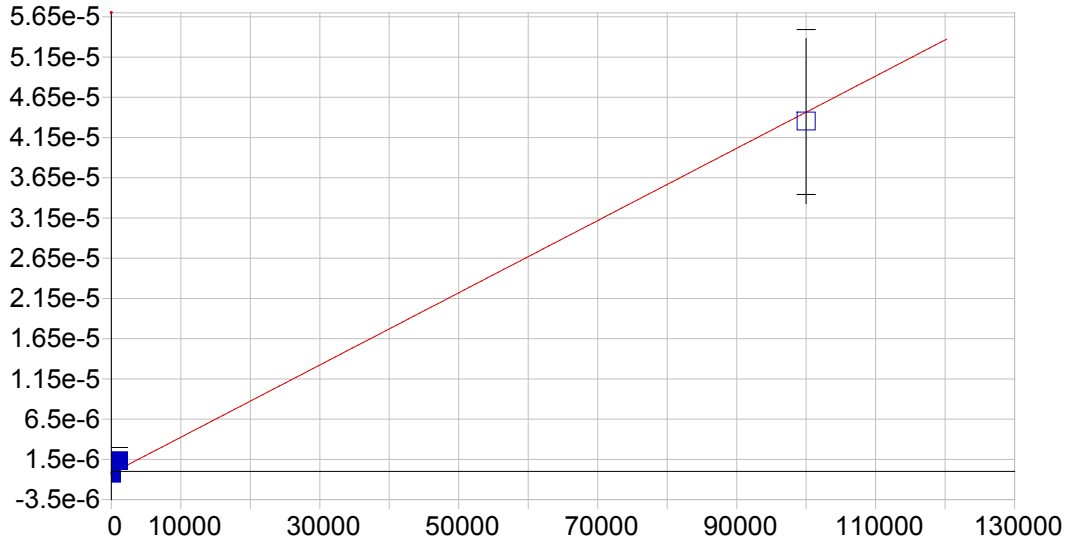


K 766.490 { 44}

Date of Fit:	07/21/2016 10:41:01	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000196	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999997	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	30.203560		
Predicted MQL:	100.678532		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.02526	-.025	.000	-.00020	.000	1
CalStd9=100	1000.0	1025.5	25.5	2.55	.00120	.000	1
CalStd12-100	100000.	99974.	-25.5	-.026	.13607	.001	1

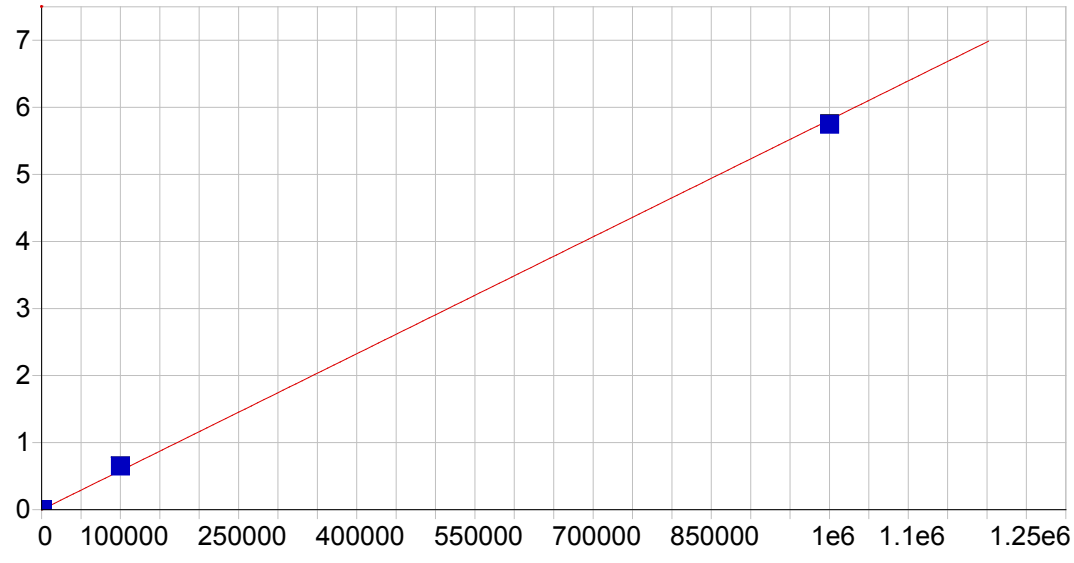


P 213.618 {457}

Date of Fit:	07/21/2016 10:41:01	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.970784	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	1041.462145		
Predicted MQL:	3471.540484		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-2.4458	-2.45	.000	.00000	.000	1
CalStd9=100	1000.0	3470.5	2470.	247.	.00000	.000	1
CalStd12-100	100000.	97530.	-2470.	-2.47	.00004	.000	1

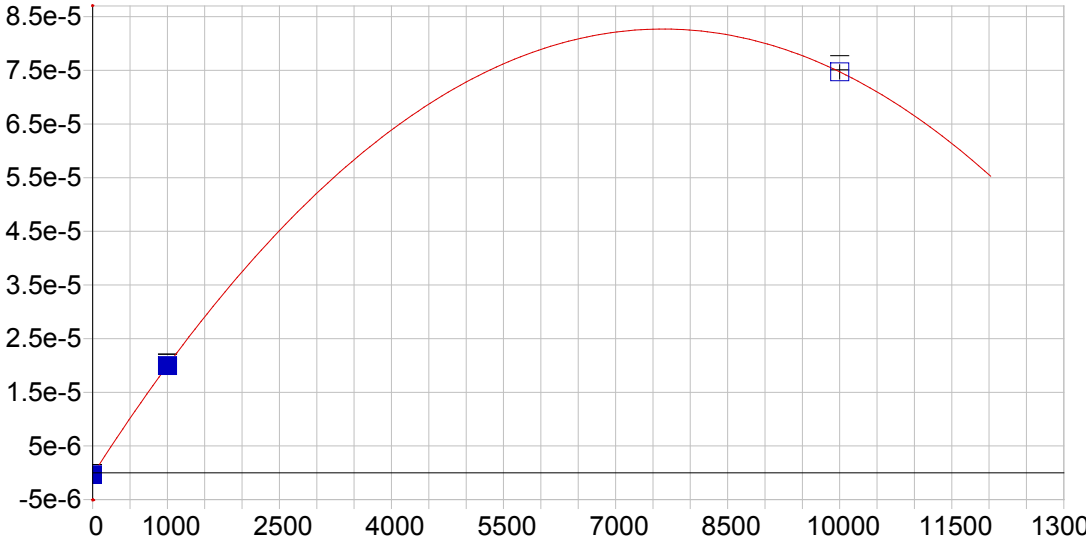


S 182.034 {485}

Date of Fit:	07/21/2016 10:41:01	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000079	Re-Slope:	1.000000
A1 (Gain):	0.000006	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999339	Status:	OK.
Std Error of Est:	0.000314		
Predicted MDL:	3.783902		
Predicted MQL:	12.613005		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.17713	-.177	.000	.00008	.000	1
CalStd12-100	100000.	111480.	11500.	11.5	.64811	.001	1
CalStd14-100	1000000.	988450.	-11600.	-1.16	5.7464	.006	1
CalStd9=100	1000.0	1073.9	73.9	7.39	.00632	.000	1

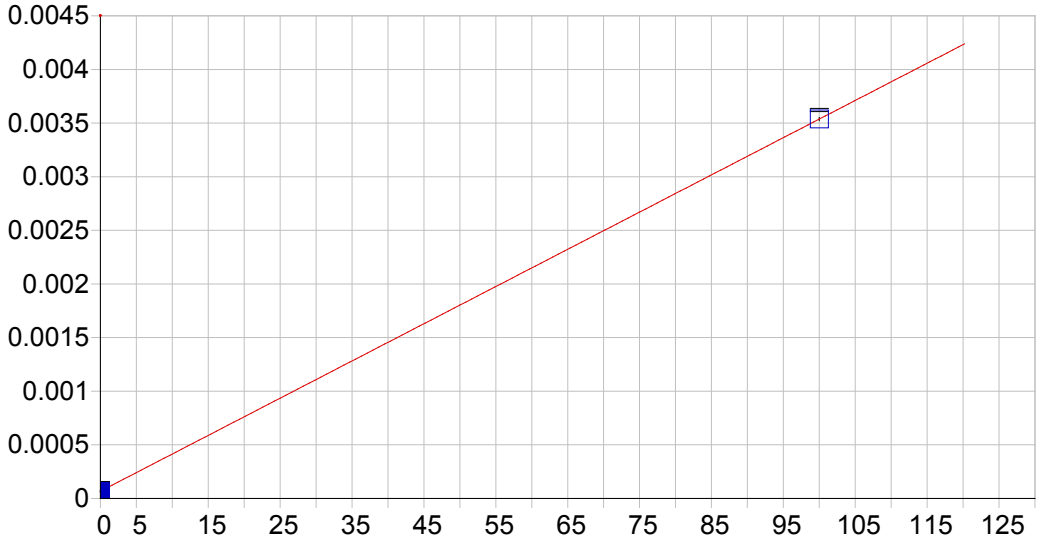


W 239.709 {140}

Date of Fit:	07/21/2016 10:41:01	Type of Fit:	Curvilinear	Weighting:	None

A0 (Offset):	-0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	32.898769		
Predicted MQL:	109.662565		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00000	.000	1
CalStd9=100	1000.0	1000.00	.000	.000	.00002	.000	1
CalStd12-100	10000.	5266.8	-4730.	-47.3	.00007	.000	1

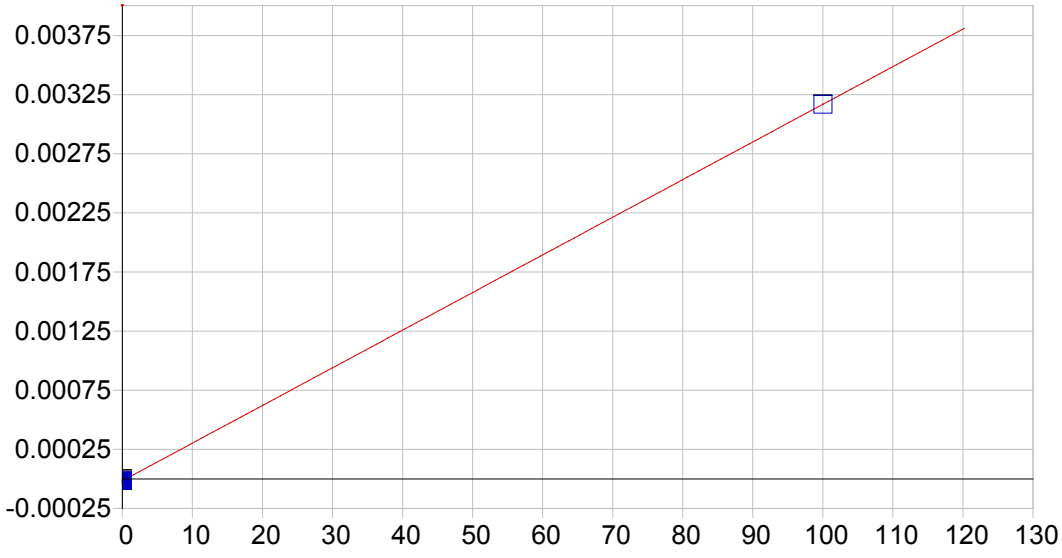


Hg 184.950 {482}

Date of Fit:	07/21/2016 10:41:01	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000067	Re-Slope:	1.000000
A1 (Gain):	0.000035	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.830895		
Predicted MQL:	2.769649		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00007	.000	1
CalStd8=100	100.00	100.00	.000	.000	.00354	.000	1



Hg 194.227 {473}

Date of Fit:	07/21/2016 10:41:01	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000016	Re-Slope:	1.000000
A1 (Gain):	0.000032	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.873588		
Predicted MQL:	2.911961		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	-.00002	.000	1
CalStd8=100	100.00	100.00	.000	.000	.00317	.000	1

Sample Name: Blank Acquired: 07/20/2016 08:57:00 Type: Cal
Method: DOD Calibration Updated 060614(v1545) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Ba4934	Be3130	Be2348	Ca3158	Ca3933	Cd2265	Co2286	Co2388
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.002**	**.000**	**.000**	**.000**	**.001**	**.000**	**.000**	**.000**
Stddev	.00	.000	.00	.000	.000	.00	.000	.000	.000	.000	.00	.00
%RSD	22.7	80.7	21.3	55.9	.804	4.87	74.2	2.82	27.0	160.	24.1	81.5

Elem	Cr2055	Cr2677	Cu2247	Cu3247	Fe2599	Mg2790	Mg2802	Mn2576	Mn2593	Mo2020	Mo2045	Ni2216
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	.00	.000	.00	.000	.000	.000	.000	.000	.000	.000	.000	.00
%RSD	111.	940.	150.	2.24	37.5	91.0	2.72	6.27	69.9	23.6	72.1	250.

Elem	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Se2062	Tl1908	V_2924	Zn2062	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	.00	.000	.000	.00	.00	.000	.00	.000	.000	.000	.000
%RSD	26.3	1790.	29.0	49.7	72.2	54.3	220.	147.	32.4	16.3	13.4

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1506100.**	**175030.**	**18744.**
Stddev	3903.	347.	51.
%RSD	.25917	.19804	.27214

Sample Name: CalStd1=0.25 Acquired: 07/20/2016 09:03:29 Type: Cal
Method: DOD Calibration Updated 060614(v1545) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Be3130
Units	Cts/S
Avg	.000
Stddev	.00
%RSD	6.80

Int. Std.	Y_3242
Units	Cts/S
Avg	1504600.
Stddev	6569.
%RSD	.43660

Sample Name: CalStd2=0.5 Acquired: 07/20/2016 09:10:01 Type: Cal
Method: DOD Calibration Updated 060614(v1545) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Be3130	Cd2265
Units	Cts/S	Cts/S
Avg	**.000**	**.000**
Stddev	.00	.000
%RSD	78.4	19.5

Int. Std.	Y_3242	Y_2243
Units	Cts/S	Cts/S
Avg	**1504700.**	**18768.**
Stddev	1527.	48.
%RSD	.10150	.25428

Sample Name: CalStd3=1 Acquired: 07/20/2016 09:16:32 Type: Cal
Method: DOD Calibration Updated 060614(v1545) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Ba2335	Be3130	Cd2265	Co2286	Cr2055	Cu2247	Ni2316
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	.00	.000	.000	.000	.000	.000	.00	.000
%RSD	14.7	13.5	4.66	12.1	6170.	25.8	215.	26.1

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1489100.**	**174850.**	**18498.**
Stddev	5057.	1459.	64.
%RSD	.33962	.83423	.34403

Sample Name: CalStd4=5 Acquired: 07/20/2016 09:23:07 Type: Cal
Method: DOD Calibration Updated 060614(v1545) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ba2335	Be3130	Cd2265	Co2286	Cr2055	Cr2677	Cu2247	Mn2576	Mo2020	Mo2045	Ni2316	Pb2203
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.001**	**.000**	**.001**	**.001**	**.001**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	4.20	.633	1.11	7.11	2.36	10.5	7.27	1.56	6.33	2.37	2.54	43.1

Elem	Sb2175	Zn2138
Units	Cts/S	Cts/S
Avg	**.000**	**.000**
Stddev	.000	.000
%RSD	24.7	1.84

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1489600.**	**173750.**	**18423.**
Stddev	2800.	264.	42.
%RSD	.18796	.15202	.22787

Sample Name: CalStd5=10 Acquired: 07/20/2016 09:29:39 Type: Cal
Method: DOD Calibration Updated 060614(v1545) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	As1937	Ba2335	Be3130	Cd2265	Co2286	Cr2055	Cr2677	Cu2247	Mn2576	Mo2020	Mo2045
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.001**	**.001**	**.002**	**.002**	**.001**	**.000**	**.001**	**.000**	**.001**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	42.0	52.4	1.80	.755	1.04	1.92	1.13	2.68	2.39	1.69	3.05	5.29

Elem	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	7.54	35.2	11.3	21.8	12.9	25.7	16.0	2.37	2.47

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1481900.**	**170430.**	**18233.**
Stddev	5205.	353.	60.
%RSD	.35121	.20683	.32982

Sample Name: CalStd6=20 Acquired: 07/20/2016 09:37:11 Type: Cal
Method: DOD Calibration Updated 060614(v1545) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ba2335	Cu2247	Mn2576	Mo2020	Mo2045	Sb2175	V_2924
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.002**	**.002**	**.000**	**.001**	**.000**	**.000**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000
%RSD	.658	2.01	.559	2.37	4.27	4.19	2.07

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1476500.**	**168130.**	**18187.**
Stddev	3462.	582.	20.
%RSD	.23450	.34628	.10833

Sample Name: CalStd7=50 Acquired: 07/20/2016 09:43:35 Type: Cal
Method: DOD Calibration Updated 060614(v1545) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	As1937	Ba2335	Ca3933	Cd2265	Co2286	Cr2055	Cr2677	Cu2247	Mg2802	Mn2576	Mo2020	Mo2045
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.005**	**.002**	**.012**	**.009**	**.007**	**.000**	**.004**	**.001**	**.001**	**.003**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	2.11	.420	.802	.332	.468	.625	1.65	.393	.460	.596	.646	.796

Elem	Ni2316	Sb2068	Se1960	V_2924	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.001**	**.000**	**.000**	**.000**
Stddev	.000	.000	.000	.000	.000
%RSD	1.13	2.48	2.48	1.00	.609

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1478900.**	**166760.**	**18122.**
Stddev	5197.	699.	19.
%RSD	.35140	.41905	.10302

Sample Name: CalStd8=100 Acquired: 07/20/2016 09:49:58 Type: Cal
Method: DOD Calibration Updated 060614(v1545) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	As1937	Ba2335	Ba4934	Be3130	Be2348	Ca3933	Cd2265	Co2286	Co2388	Cr2055	Cr2677
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.001**	**.010**	**.002**	**.007**	**.000**	**.004**	**.025**	**.018**	**.000**	**.013**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	.938	3.25	.466	.388	.207	1.56	.657	.435	.188	.775	.320	.765

Elem	Cu2247	Cu3247	Mg2802	Mn2576	Mo2020	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2175	Se1960
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.009**	**.000**	**.003**	**.002**	**.007**	**.000**	**.000**	**.000**	**.001**	**.003**	**.002**	**.001**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	.554	1.39	.347	.247	.309	.073	.415	.427	3.68	2.82	1.47	4.14

Elem	Se2062	Tl1908	V_2924	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.002**	**.001**	**.000**
Stddev	.000	.000	.000	.000
%RSD	8.59	1.92	1.07	.309

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1470600.**	**166060.**	**18026.**
Stddev	4198.	583.	58.
%RSD	.28543	.35119	.32213

Sample Name: CalStd9=1000 Acquired: 07/20/2016 09:56:17 Type: Cal
Method: DOD Calibration Updated 060614(v1545) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	As1937	Ba2335	Ba4934	Be3130	Be2348	Ca3158	Ca3933	Cd2265	Co2286	Co2388	Cr2055
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.003**	**.007**	**.098**	**.010**	**.069**	**.001**	**.001**	**.034**	**.244**	**.180**	**.002**	**.131**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.001	.000	.000
%RSD	1.15	.383	.088	.574	.717	.728	1.51	.444	.198	.377	.801	.252

Elem	Cr2677	Cu2247	Cu3247	Fe2599	Mg2790	Mg2802	Mn2576	Mn2593	Mo2020	Mo2045	Ni2216	Ni2316
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.003**	**.086**	**.000**	**.002**	**.000**	**.025**	**.015**	**.013**	**.065**	**.001**	**.002**	**.002**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	.653	.143	.792	.982	1.82	.644	.691	1.15	.354	.545	.680	.625

Elem	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Se2062	Tl1908	V_2924	Zn2062	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.012**	**.026**	**.018**	**.020**	**.008**	**.002**	**.019**	**.006**	**.194**	**.002**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.001	.000
%RSD	.602	.377	.247	.186	.525	1.27	.392	.665	.305	.624

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1467900.**	**164780.**	**17874.**
Stddev	9893.	634.	25.
%RSD	.67399	.38450	.13777

Sample Name: CalStd10=10000 Acquired: 07/20/2016 10:02:05 Type: Cal
Method: DOD Calibration Updated 060614(v1545) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	As1937	Ba4934	Ca3158	Co2286	Co2388	Cr2055	Cr2677	Cu2247	Cu3247	Fe2599	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.027**	**.067**	**.083**	**.007**	**1.72**	**.020**	**1.25**	**.031**	**.811**	**.004**	**.015**	**.001**
Stddev	.000	.000	.001	.000	.00	.000	.00	.000	.001	.000	.000	.000
%RSD	.394	.101	1.13	.788	.146	.114	.097	.258	.169	.446	.974	.773

Elem	Mg2802	Mn2576	Mn2593	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Se2062
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.232**	**.138**	**.123**	**.006**	**.019**	**.018**	**.111**	**.247**	**.179**	**.193**	**.079**	**.020**
Stddev	.001	.001	.001	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	.500	.558	.575	.219	.242	.190	.127	.070	.109	.155	.230	.374

Elem	Tl1908	V_2924	Zn2062	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.177**	**.055**	**1.85**	**.020**
Stddev	.000	.000	.00	.000
%RSD	.191	.403	.132	.295

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1411300.**	**162060.**	**17622.**
Stddev	2379.	372.	33.
%RSD	.16858	.22960	.18826

Sample Name: CalStd11-100k Acquired: 07/20/2016 10:08:41 Type: Cal
Method: DOD Calibration Updated 060614(v1545) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Cr2055	Cu3247	Mn2593	Pb2169	Zn2062
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**11.7**	**.035**	**1.23**	**1.16**	**17.4**
Stddev	.0	.000	.01	.00	.1
%RSD	.108	1.20	.984	.098	.708

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1444900.**	**160830.**	**17430.**
Stddev	7061.	410.	40.
%RSD	.48866	.25513	.23015

Sample Name: CalStd12-100000 Acquired: 07/20/2016 10:15:17 Type: Cal
Method: DOD Calibration Updated 060614(v1545) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Ca3158	Fe2599	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.276**	**.072**	**.155**	**.011**
Stddev	.002	.001	.001	.000
%RSD	.813	.873	.743	.993

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1382600.**	**162700.**	**16475.**
Stddev	3383.	469.	24.
%RSD	.24470	.28852	.14525

Sample Name: CalStd13=500000 Acquired: 07/20/2016 10:21:52 Type: Cal
Method: DOD Calibration Updated 060614(v1545) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Ca3158	Fe2599	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**1.38**	**.342**	**.722**	**.055**
Stddev	.01	.004	.009	.001
%RSD	1.02	1.09	1.25	.989

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1304200.**	**157220.**	**15300.**
Stddev	2340.	630.	35.
%RSD	.17939	.40067	.22641

Sample Name: CalStd14-1000k Acquired: 07/20/2016 10:28:32 Type: Cal
Method: DOD Calibration Updated 060614(v1545) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Ca3158	Fe2599	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**2.69**	**.668**	**1.33**	**.106**
Stddev	.05	.002	.01	.001
%RSD	1.77	.334	.919	.576

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1223500.**	**150420.**	**14243.**
Stddev	4200.	304.	23.
%RSD	.34323	.20201	.16447

Sample Name: icv Acquired: 07/20/2016 10:42:10 Type: QC
Method: DOD Calibration Updated 060614(v1545) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba4934	Be3130	Be2348	Ca3158	Cd2265	Co2286	Co2388	Cr2677	Cu2247
Avg	**47.9**	**12100.**	**2100.**	**2010.**	**46.9**	**48.9**	**9960.**	**48.0**	**527.**	**483.**	**201.**	**253.**
Stddev	.7	59.	3.	20.	.1	.2	28.	.2	1.	3.	1.	1.
%RSD	1.50	.486	.159	1.01	.120	.387	.276	.519	.213	.593	.585	.234
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Fe2599	Mg2790	Mn2576	Mn2593	Mo2020	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175
Avg	**5390.**	**10300.**	**490.**	**511.**	**518.**	**496.**	**480.**	**473.**	**533.**	**507.**	**522.**	**518.**
Stddev	24.	90.	1.	3.	1.	2.	1.	.	7.	2.	4.	2.
%RSD	.452	.868	.275	.635	.146	.342	.186	.098	1.39	.303	.779	.434
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Se1960	Se2062	Tl1908	V_2924	Zn2062	Zn2138
Avg	**2140.**	**2060.**	**2120.**	**484.**	**497.**	**471.**
Stddev	12.	27.	4.	2.	2.	1.
%RSD	.547	1.29	.196	.453	.473	.244
Check ?	None	None	None	None	None	None
Value						
Range						

Sample Name: icv Acquired: 07/20/2016 10:42:10 Type: QC
Method: DOD Calibration Updated 060614(v1545) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1425100.**	**159510.**	**16884.**
Stddev	2107.	766.	32.
%RSD	.14784	.48011	.18778

Sample Name: ICVLL Acquired: 07/20/2016 10:48:36 Type: QC
Method: DOD Calibration Updated 060614(v1545) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Be3130	Be2348	Ca3158	Ca3933	Cd2265	Co2286	Cr2677	Cu2247
Avg	**53.0**	**1300.**	**65.6**	**30.9**	**12.3**	**12.1**	**1550.**	**1680.**	**15.9**	**32.5**	**34.0**	**32.2**
Stddev	.5	8.	2.5	.4	.0	.3	10.	5.	.3	.2	.6	.3
%RSD	1.02	.637	3.80	1.20	.387	2.38	.654	.273	1.75	.505	1.69	1.01
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Fe2599	Mg2790	Mg2802	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**1070.**	**1690.**	**1750.**	**32.4**	**31.2**	**29.6**	**32.5**	**66.7**	**70.1**	**66.4**	**29.9**	**31.9**
Stddev	12.	14.	8.	.2	.5	.5	1.9	1.8	2.0	1.0	.4	.4
%RSD	1.14	.861	.445	.618	1.49	1.70	5.82	2.67	2.85	1.57	1.46	1.14
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1434000.**	**157980.**	**16985.**
Stddev	3654.	522.	43.
%RSD	.25481	.33025	.25143

Sample Name: icb Acquired: 07/20/2016 11:01:28 Type: QC
Method: DOD Calibration Updated 060614(v1545) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Be3130	Be2348	Ca3933	Cd2265	Co2286	Cr2677	Cu2247	Fe2599
Avg	**.630**	**-2.60**	**2.42**	**.036**	**.054**	**-.427**	**-8.52**	**-.172**	**.323**	**.115**	**-1.07**	**3.66**
Stddev	.622	1.79	2.11	.034	.042	.323	.76	.028	.337	.627	.38	2.81
%RSD	98.8	69.0	87.3	94.0	77.4	75.7	8.94	16.4	104.	546.	35.8	76.8
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Mg2802	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**-.787**	**-.193**	**-.223**	**.121**	**-4.52**	**-.258**	**-3.01**	**-.475**	**.041**	**-.001**
Stddev	.202	.083	.581	.392	1.66	1.80	2.80	1.26	.332	.068
%RSD	25.6	43.1	261.	324.	36.7	697.	93.0	265.	806.	6860.
Check ?	None	None	None	None	None	None	None	None	None	None
Value										
Range										

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1449800.**	**157810.**	**17162.**
Stddev	3145.	1187.	23.
%RSD	.21693	.75229	.13427

Sample Name: icsa Acquired: 07/20/2016 11:14:28 Type: QC
Method: DOD Calibration Updated 060614(v1545) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Be3130	Be2348	Ca3158	Cd2265	Co2286	Cr2677	Cu2247
Avg	**.000**	**514000.**	**-.028**	**.000**	**.037**	**-.161**	**490000.**	**-.003**	**-.812**	**.180**	**-.024**
Stddev	.73	5360.	15.2	.153	.019	.640	6010.	.891	.233	.522	.926
%RSD	11e18	1.04	54400.	1317e6	50.9	397.	1.23	30200.	28.7	291.	3860.
Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit											
Low Limit											

Elem	Fe2599	Mg2790	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**457000.**	**491000.**	**-.497**	**.710**	**-.001**	**.000**	**-.014**	**.007**	**.000**	**.003**	**-.035**
Stddev	6710.	5280.	.297	.617	.879	5.76	3.49	4.19	3.58	1.49	.302
%RSD	1.47	1.08	59.7	86.9	87600.	42e6	25100.	62300.	7370000.	44200.	856.
Check ?	None	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit											
Low Limit											

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1299300.**	**153540.**	**15172.**
Stddev	3325.	737.	71.
%RSD	.25592	.48020	.46787

Sample Name: icsab Acquired: 07/20/2016 11:21:10 Type: QC
Method: DOD Calibration Updated 060614(v1545) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Ba4934	Be3130	Be2348	Ca3158	Cd2265	Co2286	Co2388
Avg	**526.**	**523000.**	**526.**	**489.**	**504.**	**484.**	**551.**	**498000.**	**466.**	**494.**	**452.**
Stddev	2.	4940.	13.	1.	4.	1.	3.	6230.	2.	2.	1.
%RSD	.437	.945	2.51	.291	.709	.191	.623	1.25	.464	.433	.272
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Elem	Cr2055	Cr2677	Cu2247	Cu3247	Fe2599	Mg2790	Mn2576	Mn2593	Mo2020	Mo2045	Ni2216
Avg	**522.**	**490.**	**478.**	**572.**	**466000.**	**501000.**	**470.**	**549.**	**502.**	**487.**	**459.**
Stddev	1.	3.	3.	7.	5260.	5760.	1.	10.	1.	2.	1.
%RSD	.109	.541	.558	1.25	1.13	1.15	.317	1.80	.262	.417	.116
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Elem	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Se2062	Tl1908	V_2924	Zn2062	Zn2138
Avg	**440.**	**559.**	**470.**	**547.**	**541.**	**531.**	**472.**	**464.**	**496.**	**496.**	**480.**
Stddev	1.	12.	2.	4.	2.	5.	32.	3.	3.	1.	1.
%RSD	.300	2.18	.503	.749	.437	.887	6.85	.590	.543	.161	.231
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Sample Name: icsab Acquired: 07/20/2016 11:21:10 Type: QC
Method: DOD Calibration Updated 060614(v1545) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1305000.**	**154330.**	**15330.**
Stddev	2944.	1198.	45.
%RSD	.22558	.77639	.29602

Sample Name: ccv1 Acquired: 07/20/2016 16:40:47 Type: QC
Method: DOD Calibration Updated 060614(v1545) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba4934	Be3130	Be2348	Ca3158	Cd2265	Co2388	Cr2055	Cu2247	Cu3247
Avg	**476.**	**4870.**	**5030.**	**4970.**	**452.**	**479.**	**4580.**	**478.**	**4700.**	**4990.**	**5010.**	**4900.**
Stddev	1.	38.	8.	32.	2.	6.	7.	1.	20.	6.	8.	46.
%RSD	.260	.777	.168	.645	.371	1.21	.150	.152	.416	.121	.156	.934
Check ?	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Fe2599	Mg2790	Mn2576	Mn2593	Mo2045	Ni2216	Pb2169	Sb2068	Se1960	Se2062	Tl1908	V_2924
Avg	**4990.**	**4860.**	**4670.**	**4830.**	**4680.**	**4620.**	**4990.**	**5060.**	**5170.**	**5080.**	**5090.**	**4680.**
Stddev	22.	41.	17.	50.	20.	18.	11.	5.	7.	26.	11.	21.
%RSD	.442	.850	.361	1.03	.416	.389	.228	.098	.127	.515	.220	.457
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Zn2062	Zn2138
Avg	**4730.**	**4600.**
Stddev	7.	19.
%RSD	.157	.405
Check ?	Chk Pass	Chk Pass
Value		
Range		

Sample Name: ccv1 Acquired: 07/20/2016 16:40:47 Type: QC
Method: DOD Calibration Updated 060614(v1545) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1399500.**	**159580.**	**16592.**
Stddev	4276.	429.	42.
%RSD	.30556	.26865	.25026

Sample Name: ccv2 Acquired: 07/20/2016 16:46:30 Type: QC
Method: DOD Calibration Updated 060614(v1545) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Ba4934	Be3130	Be2348	Ca3933	Cd2265	Co2286	Co2388	Cr2055
Avg	**51.0**	**499.**	**507.**	**476.**	**496.**	**46.8**	**48.5**	**519.**	**50.4**	**520.**	**464.**	**512.**
Stddev	.5	4.	5.	1.	6.	.2	.6	4.	.2	2.	2.	1.
%RSD	.957	.832	1.04	.221	1.13	.507	1.34	.720	.450	.378	.331	.284
Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Cr2677	Cu2247	Cu3247	Fe2599	Mg2790	Mg2802	Mn2576	Mn2593	Mo2020	Mo2045	Ni2216	Ni2316
Avg	**492.**	**506.**	**500.**	**521.**	**480.**	**524.**	**468.**	**502.**	**496.**	**466.**	**467.**	**462.**
Stddev	2.	2.	6.	9.	38.	3.	2.	1.	1.	3.	2.	2.
%RSD	.349	.441	1.20	1.79	7.90	.494	.420	.190	.240	.636	.465	.418
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Se2062	Tl1908	V_2924	Zn2062	Zn2138
Avg	**515.**	**499.**	**517.**	**505.**	**532.**	**501.**	**527.**	**462.**	**486.**	**455.**
Stddev	2.	4.	2.	2.	4.	17.	3.	1.	1.	3.
%RSD	.394	.884	.387	.485	.778	3.41	.475	.285	.234	.645
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value										
Range										

Sample Name: ccv2 Acquired: 07/20/2016 16:46:30 Type: QC
Method: DOD Calibration Updated 060614(v1545) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1428200.**	**156920.**	**16593.**
Stddev	5857.	948.	58.
%RSD	.41009	.60386	.35011

Sample Name: ccb Acquired: 07/20/2016 16:52:31 Type: QC
Method: DOD Calibration Updated 060614(v1545) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Be3130	Be2348	Ca3933	Cd2265	Co2286	Cr2677	Cu2247	Fe2599
Avg	**.635**	**-16.5**	**1.87**	**.090**	**.036**	**-.579**	**-11.6**	**-.084**	**.075**	**-.273**	**-1.05**	**-3.89**
Stddev	.738	5.1	3.65	.261	.028	.342	1.1	.058	.222	.805	.55	2.38
%RSD	116.	30.7	195.	290.	77.1	59.1	9.56	68.9	297.	294.	52.0	61.2
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Mg2802	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**-5.51**	**-.476**	**.695**	**-.594**	**-1.45**	**1.18**	**-2.92**	**.299**	**-.460**	**-.280**
Stddev	.03	.094	.148	.279	1.37	2.16	1.14	.452	.464	.193
%RSD	.547	19.6	21.3	46.9	94.5	182.	39.1	152.	101.	68.9
Check ?	None	None	None	None	None	None	None	None	None	None
Value										
Range										

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1432300.**	**157690.**	**16701.**
Stddev	4267.	328.	26.
%RSD	.29793	.20821	.15610

Sample Name: lcsw58100 Acquired: 07/20/2016 16:59:04 Type: Unk
Method: DOD Calibration Updated 060614(v1545) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Ba4934	Be3130	Be2348	Ca3158	Cd2265	Co2286	Cr2677
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**20.5**	**865.**	**905.**	**779.**	**868.**	**18.7**	**20.3**	**193000.**	**19.9**	**213.**	**80.4**
Stddev	1.0	14.	5.	1.	1.	.0	.0	589.	.2	.	1.1
%RSD	4.76	1.63	.602	.184	.086	.107	.022	.305	1.18	.139	1.40

Elem	Cu2247	Fe2599	Mg2790	Mn2576	Mo2020	Ni2216	Ni2316	Pb2203	Sb2175	Se1960	Se2062
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**101.**	**439.**	**94800.**	**192.**	**-.590**	**192.**	**184.**	**195.**	**219.**	**916.**	**901.**
Stddev	.	.	267.	1.	.394	.	.	.	.	9.	12.
%RSD	.195	.110	.281	.421	66.8	.178	.231	.003	.041	.953	1.29

Elem	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L
Avg	**815.**	**198.**	**194.**
Stddev	.	1.	2.
%RSD	.055	.502	.838

Int. Std.	Y_3242	Y_3710	Y_2243
Units	Cts/S	Cts/S	Cts/S
Avg	**1339000.**	**152370.**	**15473.**
Stddev	5199.	542.	14.
%RSD	.38826	.35599	.08920

Sample Name: ccv1 Acquired: 07/20/2016 17:32:18 Type: QC
Method: DOD Calibration Updated 060614(v1545) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba4934	Be3130	Be2348	Ca3158	Cd2265	Co2388	Cr2055	Cu2247	Cu3247
Avg	**474.**	**4950.**	**5060.**	**4920.**	**450.**	**477.**	**4650.**	**482.**	**4650.**	**5000.**	**5070.**	**4840.**
Stddev	1.	53.	7.	49.	2.	5.	39.	1.	19.	3.	13.	48.
%RSD	.109	1.07	.147	.995	.361	1.03	.843	.273	.417	.055	.253	.995
Check ?	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Fe2599	Mg2790	Mn2576	Mn2593	Mo2045	Ni2216	Pb2169	Sb2068	Se1960	Se2062	Tl1908	V_2924
Avg	**5140.**	**4880.**	**4670.**	**4880.**	**4650.**	**4600.**	**5020.**	**5100.**	**5220.**	**5100.**	**5120.**	**4610.**
Stddev	53.	68.	12.	58.	14.	12.	8.	13.	10.	39.	16.	15.
%RSD	1.03	1.39	.256	1.19	.305	.270	.153	.251	.186	.762	.310	.325
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Zn2062	Zn2138
Avg	**4760.**	**4570.**
Stddev	11.	11.
%RSD	.225	.236
Check ?	Chk Pass	Chk Pass
Value		
Range		

Sample Name: ccv1 Acquired: 07/20/2016 17:32:18 Type: QC
Method: DOD Calibration Updated 060614(v1545) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1397600.**	**156270.**	**16403.**
Stddev	3076.	283.	44.
%RSD	.22005	.18115	.26979

Sample Name: ccv2 Acquired: 07/20/2016 17:38:02 Type: QC
Method: DOD Calibration Updated 060614(v1545) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Ba4934	Be3130	Be2348	Ca3933	Cd2265	Co2286	Co2388	Cr2055
Avg	**50.9**	**494.**	**509.**	**476.**	**496.**	**46.8**	**48.8**	**523.**	**50.7**	**522.**	**463.**	**511.**
Stddev	.9	7.	4.	1.	4.	.1	.8	2.	.1	1.	2.	1.
%RSD	1.85	1.40	.703	.141	.771	.234	1.73	.417	.122	.144	.525	.216
Check ?	Chk Pass	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Cr2677	Cu2247	Cu3247	Fe2599	Mg2790	Mg2802	Mn2576	Mn2593	Mo2020	Mo2045	Ni2216	Ni2316
Avg	**496.**	**506.**	**492.**	**536.**	**485.**	**529.**	**469.**	**503.**	**499.**	**466.**	**467.**	**462.**
Stddev	2.	1.	6.	6.	14.	1.	1.	1.	1.	2.	1.	2.
%RSD	.320	.209	1.24	1.04	2.86	.244	.205	.138	.142	.455	.317	.418
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Se2062	Tl1908	V_2924	Zn2062	Zn2138
Avg	**518.**	**502.**	**517.**	**506.**	**535.**	**509.**	**529.**	**461.**	**486.**	**455.**
Stddev	4.	2.	1.	1.	5.	4.	1.	1.	1.	1.
%RSD	.806	.393	.186	.174	.862	.824	.197	.230	.116	.265
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value										
Range										

Sample Name: ccv2 Acquired: 07/20/2016 17:38:02 Type: QC
Method: DOD Calibration Updated 060614(v1545) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1421100.**	**155220.**	**16479.**
Stddev	3540.	681.	8.
%RSD	.24907	.43856	.05101

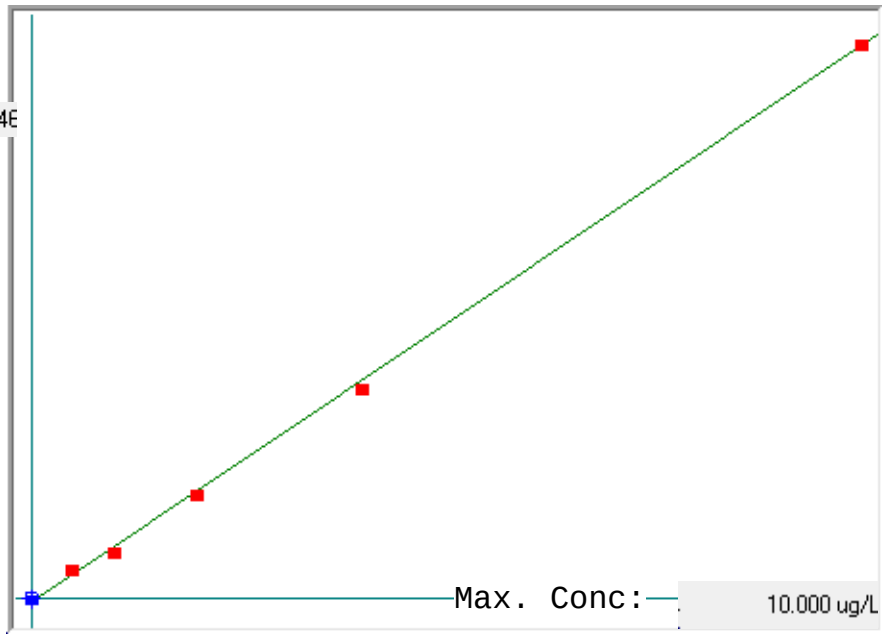
Sample Name: ccb Acquired: 07/20/2016 17:44:02 Type: QC
Method: DOD Calibration Updated 060614(v1545) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: Prep Batch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Be3130	Be2348	Ca3933	Cd2265	Co2286	Cr2677	Cu2247	Fe2599
Avg	**.410**	**-14.2**	**-.200**	**-.204**	**.068**	**-.116**	**-11.5**	**-.036**	**.022**	**-.192**	**-.519**	**-.588**
Stddev	.480	7.3	4.52	.189	.030	.259	1.1	.098	.205	.470	.099	1.83
%RSD	117.	51.2	2260.	92.8	44.1	223.	9.16	275.	930.	245.	19.1	311.
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Mg2802	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**-5.39**	**-.376**	**.708**	**-.263**	**-3.62**	**1.66**	**2.96**	**-.489**	**-.305**	**-.361**
Stddev	.02	.095	.247	.252	3.15	1.36	1.08	1.21	.447	.205
%RSD	.426	25.1	34.9	95.8	86.9	81.6	36.4	247.	146.	56.8
Check ?	None	None	None	None	None	None	None	None	None	None
Value										
Range										

Int. Std.	Y_3242	Y_3710	Y_2243
Avg	**1420800.**	**154920.**	**16454.**
Stddev	2744.	1075.	57.
%RSD	.19315	.69390	.34369

CVAA water



A= 0.0000e+000

B= 2.9487e-004

C= 7.6214e-002

Rho= 0.9997102

Accept= Accepted

Accepted Date=

07/20/16 11:00

Std ID	Conc.	Calc.	Dev.	Mean	SD or %RSD	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
Calibration Blank	0.000	0.072	0.072	-14	3.897	-20	-11	-17	-11	
0.5	0.500	0.597	0.097	1767	9.4 %	1530	1708	1859	1973	
1.0	1.000	0.935	-0.065	2911	11.1 %	2451	2795	3085	3316	
2.0	2.000	1.973	-0.027	6433	10.4 %	5496	6172	6780	7285	
4.0	4.000	3.866	-0.134	12853	10.4 %	10971	12351	13554	14537	
10.0	10.000	10.056	0.056	33845	10.2 %	29015	32479	35659	38230	

072016WA PDF

Method: CVAA water Operator: Admin Date of Analysis: 20 Jul 2016 09:51:25

Sample ID	Date	Element	Units	Extended ID	LT Mean Conc
Calibration Blank	20 Jul 2016 10:46:55	Hg	ug/L		-14.7500
0.5	20 Jul 2016 10:49:03	Hg	ug/L		1767.5000
1.0	20 Jul 2016 10:51:15	Hg	ug/L		2911.7500
2.0	20 Jul 2016 10:53:26	Hg	ug/L		6433.2500
4.0	20 Jul 2016 10:55:38	Hg	ug/L		12853.2500
10.0	20 Jul 2016 10:57:51	Hg	ug/L		33845.7500
ICV	20 Jul 2016 11:03:18	Hg	ug/L		3.0526
ICB	20 Jul 2016 11:05:27	Hg	ug/L		-0.5208
746560 MBW58119	20 Jul 2016 11:20:37	Hg	ug/L		-0.1106
745879	20 Jul 2016 11:22:47	Hg	ug/L		0.0750
745922	20 Jul 2016 11:24:56	Hg	ug/L		0.1103
745955	20 Jul 2016 11:27:06	Hg	ug/L		0.1064
DUP745955	20 Jul 2016 11:29:16	Hg	ug/L		0.1042
MSW745955	20 Jul 2016 11:31:25	Hg	ug/L		0.6659
CCV	20 Jul 2016 11:33:36	Hg	ug/L		3.0517
CCB	20 Jul 2016 11:35:45	Hg	ug/L		-0.5417
MSDW745955	20 Jul 2016 11:37:58	Hg	ug/L		0.6385
746554 MBW58118	20 Jul 2016 11:42:20	Hg	ug/L		-0.2384
744978	20 Jul 2016 11:44:31	Hg	ug/L		0.0761
MSW744978	20 Jul 2016 11:46:40	Hg	ug/L		0.6028
745779	20 Jul 2016 11:48:49	Hg	ug/L		-0.0479
746546 MBW58116	20 Jul 2016 11:53:08	Hg	ug/L		-0.1225
745447	20 Jul 2016 11:55:18	Hg	ug/L		0.0820
MSW745447	20 Jul 2016 11:57:27	Hg	ug/L		0.6809
CCV	20 Jul 2016 11:59:37	Hg	ug/L		3.0312
CCB	20 Jul 2016 12:01:47	Hg	ug/L		-0.5045
PDSW745447	20 Jul 2016 12:04:01	Hg	ug/L		1.0883
745452	20 Jul 2016 12:06:11	Hg	ug/L		-0.5054
745453	20 Jul 2016 12:08:24	Hg	ug/L		0.1009
745758	20 Jul 2016 12:10:35	Hg	ug/L		0.0667
MSW745758	20 Jul 2016 12:12:46	Hg	ug/L		0.6057
MSDW745758	20 Jul 2016 12:14:55	Hg	ug/L		0.4241
PDSW745758	20 Jul 2016 12:17:05	Hg	ug/L		2.6163
CCV	20 Jul 2016 12:25:48	Hg	ug/L		3.1170
CCB	20 Jul 2016 12:27:56	Hg	ug/L		-0.5074
746561 LCSW58119	20 Jul 2016 12:48:02	Hg	ug/L		3.1740
CCV	20 Jul 2016 12:52:43	Hg	ug/L		2.7015
CCB	20 Jul 2016 12:54:53	Hg	ug/L		-0.4880
746547 LCSW58116	20 Jul 2016 12:57:08	Hg	ug/L		3.1997
746555 LCSW58118	20 Jul 2016 13:01:31	Hg	ug/L		0.6874
CCV	20 Jul 2016 13:05:54	Hg	ug/L		3.3703
CCB	20 Jul 2016 13:08:03	Hg	ug/L		0.0762
CCV	20 Jul 2016 13:08:54	Hg	ug/L		2.9798
CCB	20 Jul 2016 13:11:02	Hg	ug/L		-0.5540

METALS
LOGBOOK
DOCUMENTS

MICP WATER QSM K&Na Analytical Run
127901 on 07/22/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	746913								MICP WATER QSM K&Na				
					ICV					0			
	746914								MICP WATER QSM K&Na				
					ICVLL					0			
	746915								MICP WATER QSM K&Na				
					ICB					0			
	746916								MICP WATER QSM K&Na				
					MRL					0			
	746917								MICP WATER QSM K&Na				
					ICSA					0			
	746918								MICP WATER QSM K&Na				
					ICSAB					0			
	746919								MICP WATER QSM K&Na				
					CCV					0			
	746920								MICP WATER QSM K&Na				
					CCB					0			
	746146								ICP K TOTAL QSM 5.0				
					LCSW					58100			
	746146								ICP NA TOTAL QSM 5.0				
					LCSW					58100			
	746145								ICP K TOTAL QSM 5.0				
					MBW					58100			
	746145								ICP NA TOTAL QSM 5.0				
					MBW					58100			
120462	744978		07/13/2016	1630			BERING SEA ENVIRONMENTAL	RADFORD AAP	ICP K TOTAL QSM 5.0		GW	4	
		49ADW01								58100			
120462	744978		07/13/2016	1630			BERING SEA ENVIRONMENTAL	RADFORD AAP	ICP NA TOTAL QSM 5.0		GW	4	
		49ADW01								58100			
120518	745779		07/14/2016	1100			BERING SEA ENVIRONMENTAL	RADFORD AAP	ICP K TOTAL QSM 5.0		GW	4	
		54ADW01								58100			
120518	745779		07/14/2016	1100			BERING SEA ENVIRONMENTAL	RADFORD AAP	ICP NA TOTAL QSM 5.0		GW	4	
		54ADW01								58100			
	746148		07/14/2016	1100					ICP K TOTAL QSM 5.0				
		54ADW01			MSW	745779				58100			
	746148		07/14/2016	1100					ICP NA TOTAL QSM 5.0				
		54ADW01			MSW	745779				58100			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

Distribution: C:\LIMSREPS\ANALYTICALRUN.RPT

MICP WATER QSM K&Na Analytical Run
127901 on 07/22/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	746921						ICP K TOTAL QSM 5.0				
				PDSW 745779				0			
	746921						ICP NA TOTAL QSM 5.0				
				PDSW 745779				0			
	746922						MICP WATER QSM K&Na				
				CCV				0			
	746923						MICP WATER QSM K&Na				
				CCB				0			

22 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

MICP WATER QSM Analytical Run
127903 on 07/22/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	747127								MICP WATER QSM				
					ICV					0			
	747128								MICP WATER QSM				
					ICVLL					0			
	747129								MICP WATER QSM				
					ICB					0			
	747130								MICP WATER QSM				
					ICSA					0			
	747132								MICP WATER QSM				
					ICSAB					0			
	747133								MICP WATER QSM				
					ICVLL					0			
	746146								ICP TOTAL QSM 5.0				
					LCSW					58100			
	746145								ICP TOTAL QSM 5.0				
					MBW					58100			
120462	744978		07/13/2016	1630			BERING SEA ENVIRONMENTAL	RADFORD AAP	ICP TOTAL QSM 5.0		GW	**4**	
		49ADW01								58100			
	747134								ICP TOTAL QSM 5.0				
					L	744978				0			
120518	745779		07/14/2016	1100			BERING SEA ENVIRONMENTAL	RADFORD AAP	ICP TOTAL QSM 5.0		GW	**4**	
		54ADW01								58100			
	746148		07/14/2016	1100					ICP TOTAL QSM 5.0				
		54ADW01			MSW	745779				58100			
	747135								MICP WATER QSM				
					CCV1					0			
	747136								MICP WATER QSM				
					CCV2					0			
	747137								MICP WATER QSM				
					CCB					0			
	747469								ICP TOTAL QSM 5.0				
					PDSW	745779							
	747139								MICP WATER QSM				
					CCV1					0			
	747140								MICP WATER QSM				
					CCV2					0			
	747141								MICP WATER QSM				
					CCB					0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

MICP WATER QSM Analytical Run
127903 on 07/22/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	747822						MICP WATER QSM				
				ICV							
	747823						MICP WATER QSM				
				ICVLL							
	747828						MICP WATER QSM				
				ICB				0			
	747829						MICP WATER QSM				
				ICSA				0			
	747830						MICP WATER QSM				
				ICSAB				0			
	747831						MICP WATER QSM				
				ICVLL				0			
	747835						MICP WATER QSM				
				CCV1				0			
	747836						MICP WATER QSM				
				CCV2				0			
	747837						MICP WATER QSM				
				CCB				0			
	746146						ICP TOTAL QSM 5.0				
RERUN				LCSW				58100			
	747838						MICP WATER QSM				
				CCV1				0			
	747839						MICP WATER QSM				
				CCV2				0			
	747840						MICP WATER QSM				
				CCB				0			

32 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

MERCURY QSM 5.0 Analytical Run
127945 on 07/22/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	747485								MERCURY QSM 5.0				
					ICV					0			
	747486								MERCURY QSM 5.0				
					ICB					0			
	747487								MERCURY QSM 5.0				
					CCV					0			
	747488								MERCURY QSM 5.0				
					CCB					0			
	746554								MERCURY TOTAL QSM 5.0				
					MBW					58118			
120462	744978		07/13/2016	1630			BERING SEA ENVIRONMENTAL	RADFORD AAP	MERCURY TOTAL QSM 5.0		GW	**4**	
		49ADW01								58118			
	746556		07/13/2016	1630					MERCURY TOTAL QSM 5.0				
		49ADW01			MSW	744978				58118			
120518	745779		07/14/2016	1100			BERING SEA ENVIRONMENTAL	RADFORD AAP	MERCURY TOTAL QSM 5.0		GW	**4**	
		54ADW01								58118			
	747489								MERCURY QSM 5.0				
					CCV					0			
	747490								MERCURY QSM 5.0				
					CCB					0			
	747493								MERCURY QSM 5.0				
					CCV					0			
	747494								MERCURY QSM 5.0				
					CCB					0			
	746555								MERCURY TOTAL QSM 5.0				
					LCSW					58118			
	747495								MERCURY QSM 5.0				
					CCV					0			
	747496								MERCURY QSM 5.0				
					CCB					0			

15 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

PREP WORKSHEET
on 07/22/2016

Prep Batch **58,100** Date Prepped: 07/18/2016 Prepped By LJF

Folder #	Order	QC Type	Link	Test	Matrix	Volume	Weight	Initial Volume	SDG Level	Notes
	746145	MBW		ICP K TOTAL QSM 5.0	LIQUID	50		50.0		
	746145	MBW		ICP NA TOTAL QSM 5.0	LIQUID	50		50.0		
	746145	MBW		ICP TOTAL QSM 5.0	LIQUID	50		50.0		
	746146	LCSW		ICP K TOTAL QSM 5.0	LIQUID	50		50.0		
	746146	LCSW		ICP NA TOTAL QSM 5.0	LIQUID	50		50.0		
	746146	LCSW		ICP TOTAL QSM 5.0	LIQUID	50		50.0		
	746146	LCSW		ICP TOTAL QSM 5.0	LIQUID	50		50.0		
120462	744978			ICP K TOTAL QSM 5.0	GROUND WATER	50		50.0	4	
	744978			ICP NA TOTAL QSM 5.0	GROUND WATER	50		50.0	4	
	744978			ICP TOTAL QSM 5.0	GROUND WATER	50		50.0	4	
120518	745779			ICP K TOTAL QSM 5.0	GROUND WATER	50		50.0	4	
	745779			ICP NA TOTAL QSM 5.0	GROUND WATER	50		50.0	4	
	745779			ICP TOTAL QSM 5.0	GROUND WATER	50		50.0	4	
	746148	MSW	745779	ICP K TOTAL QSM 5.0	GROUND WATER	50		50.0		
	746148	MSW	745779	ICP NA TOTAL QSM 5.0	GROUND WATER	50		50.0		
	746148	MSW	745779	ICP TOTAL QSM 5.0	GROUND WATER	50		50.0		

PREP WORKSHEET
on 07/22/2016

Notes:_____

PREP WORKSHEET
on 07/22/2016

Prep Batch **58,118** Date Prepped: 07/19/2016 Prepped By LJF

Folder #	Order	QC Type	Link	Test	Matrix	Volume	Weight	Initial Volume	SDG Level	Notes
	746554	MBW		MERCURY TOTAL QSM	LIQUID	25		25.0		
	746555	LCSW		MERCURY TOTAL QSM	LIQUID	25		25.0		
120462	744978			MERCURY TOTAL QSM	GROUND WATER	25		25.0	4	
120518	745779			MERCURY TOTAL QSM	GROUND WATER	25		25.0	4	
	746556	MSW	744978	MERCURY TOTAL QSM	GROUND WATER	25		25.0		

Notes:

Metals Digestion Bench Sheet

(Prep Methods 3010, 3020, 3005, & 3050)

Program: EPA

*Matrix: GW

3010= ICP Liquids
3020= GFAA Liquids
3005= Sb Liquids
3050= ICP/GFAA Solids
7060/7740= GFAA, As & Se Liquids

Prep Batch #:	58100
Prep Method:	3010
Analyst:	LJF
Date:	07/18/2016
Start Time:	10:00

Prep Analyst: LJF

Balance ID:

End Date: 07/18/2016

End Time: 15:00

Digestion Tube Lot #: J237316-6560

Block Used: B

Cell Position for Temp. Check: F-1

Initial-DigestionTemp (ºC): 90.7

Final-Digestion Temp (ºC): 90.7

Reagent:	Ref. #
Nitric Acid:	AB.622
Hydrochloric Acid:	AB.623
Hydrogen Peroxide:	

Sample ID			(Solids) Sample Weight (g)	(Liquids) Sample Volume (ml)	Final Volume (ml)
746145	(MB)			50.0	50
746146	(LCS)			50.0	50
744978				50.0	50
745779	**Comments: Not enough sample to**			50.0	50
	perform a dup or msd.				50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
	(DUP) if applicable				50
746148	(MS)	Parent Sample		50.0	50
	(MSD)	745779			50
	(DUP) if applicable				50
	(MS)	Parent Sample			50
	(MSD)				50
Leave >>	(DUP) if applicable				50
blank	(MS)	Parent Sample			50
if N/A	(MSD)				50

MB=Method Blank, LCS=Laboratory Control Sample, DUP=Duplicate, MS=Matrix Spike & MSD=Matrix Spike Duplicate

*Matrix: Soil, Sludge, Waste, GW=Groundwater, WW=Wastewater, Tissue, TLCP, SPLP, ASTM or other.

MS/MSD Spike Amount (ml)	Spike Ref. #
0.2	M12867
0.5	M12883
0.5	M12768

LCS Spike Amount (ml)	Spike Ref. #
0.2	M12867
0.5	M12883
0.5	M12768

Reviewed By/Date:

FMT12-03

Mercury Digestion Bench Sheet

(Prep Methods 7470A & 7471A)

CCV ID: M12915
ICV/LCSW ID: M12914

*Matrix: GW
Balance ID:

Prep Batch #:	58118
Prep Method:	7470A
Analyst:	LJF
Date:	07/19/2016
Start Time:	08:30

7470A= Hg Liquids
7471A= Hg Solids

End Date: 07/19/2016
End Time: 10:30

Digestion Tube Lot #: 6416053
Block Used: A
Cell Position for Temp. Check: C-4
Initial-DigestionTemp (ºC): 92.1
Final-Digestion Temp (ºC): 92.1
Additional KMnO4 added (ml):
Aqua Regia added (ml)
Calibration Stds: M12912

Reagent:	Ref. #
HNO3:	AB.622
H2SO4:	AB.605
NaCl/Hydrox.SO4:	M12858
KMnO4:	M12922
K2S2O8:	M12830
Aqua-Regia:	M12925

Sample ID			(Solids) Sample Weight (g)	(Liquids) Sample Volume (ml)	Final Volume (ml)
746554	(MB)			25.0	25
746555	(LCS)			25.0	25
744978				25.0	25
745779	**Comments: Not enough sample to**			25.0	25
	do a dup or ms.				25
					25
					25
					25
					25
					25
					25
					25
					25
					25
					25
					25
					25
					25
					25
					25
					25
					25
					25
					25
					25
	(DUP) if applicable				25
746556	(MS)	Parent Sample		25.0	25
	(MSD)	744978			25
Leave >>	(DUP) if applicable				25
blank	(MS)	Parent Sample			25
	(MSD)				25
	(DUP) if applicable				25
	(MS)	Parent Sample			25
if N/A	(MSD)				25

MB=Method Blank, LCS=Laboratory Control Sample, DUP=Duplicate, MS=Matrix Spike & MSD=Matrix Spike Duplicate
*Matrix: Soil, Sludge, Waste, GW=Groundwater, WW=Wastewater, Tissue, TLCP, SPLP, ASTM or other.

A: Spike Amount (ml)	Spike Conc. (ug/L)	Spike Ref. #
0.5	100ug/L	M12913

B: Spike Amount (ml)	Spike Conc. (ug/L)	Spike Ref. #

Reviewed By/Date:

iCAP 6000 / 6500 Data Review Checklist	Analysis Date: 07/19/16	Data File: Mkcomplc 0768	Date of review: 7-19-16
Cal Std ID: M12571L LIMS #: 122901	Analyst: MDS	Reviewer:	Approved? Yes / No
Is Audit Trail turned on or Manual Manipulations addressed? (Yes) / No (If no, any manual manipulations must be initialed, dated, and reason(s) stated for change)			

QC Parameters: 6010 / 200.7 / OSM / Other	YES	NO	YES	NO	Comments:
1) Calibration linearity: r ≥ 0.995 / r > 0.998	✓		✓		
2) ICV: 90-110% / 95-105%	✓		✓		
2) ICVLL: 70-130% / 80-120%	✓		✓		
3) ICB: < 3X IDL / <LOD / <LOQ	✓		✓		
4) ICSA: < ABS LOD	✓		✓		
5) ICSAB: 80-120%	✓		✓		
6) MRL: 70-130% / 80-120%	✓		✓		
7) MDL Check: >LOD					
8) CCV1/CCB1 (CCV 90-110%)	✓		✓		
9) CCV2/CCB2 (CCB < 3X IDL / <LOD / <LOQ)					
10) CCV3/CCB3					
11) CCV4/CCB4					
12) CCV5/CCB5					

Preparation Batch Parameters	YES	NO	YES	NO	Comments:
Prep Batch ID#: 58100 Dig. Meth.: 3010	✓		✓		
LCS - generated limits or project specific limits	✓		✓		
MB - <LOD or ≤ ½ RL	✓		✓		
Spiked samples in batch					
a) 745729 matrix = GW	✓		✓		
b) matrix =					
c) matrix =					
PDS: ±15% / 20% / 25% Sample#:					
Prep Batch ID#: Dig. Meth.					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch					
a) matrix =					
b) matrix =					
c) matrix =					
PDS: ±15% / 20% / 25% Sample#:					
Prep Batch ID#: Dig. Meth.					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch					
a) matrix =					
b) matrix =					
c) matrix =					
PDS: ±15% / 20% / 25% Sample#:					
Prep Batch ID#: Dig. Meth.					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch					
a) matrix =					
b) matrix =					
c) matrix =					
PDS: ±15% / 20% / 25% Sample#:					

ICAP 6000 / 6500 Data Review Checklist	Analysis Date: 7-19-16		Data File: 000445		Date of review: 07/20/16
Cal Std ID: M12889 LIMS #: 127903	Analyst: JL		Reviewer: JDS		Approved? Yes / No
Is Audit Trail turned on or Manual Manipulations addressed? Yes / No (If no, any manual manipulations must be initialed, dated, and reason(s) stated for change)					

QC Parameters: 6010 / 200.7 / OSM / Other	YES	NO	YES	NO	Comments:
1) Calibration linearity: r ≥ 0.995 / r > 0.998	✓		✓		
2) ICV: 90-110% / 95-105%	✓		✓		
2) ICVLL: 70-130% / 80-120%	✓		✓		
3) ICB: < 3X IDL / <LOD / <LOQ	✓		✓		
4) ICSA: < ABS LOD	✓		✓		
5) ICSAB: 80-120%	✓		✓		
6) MRL: 70-130% / 80-120%					
7) MDL Check: >LOD					
8) CCV1/CCB1 (CCV: 90-110%)	✓		✓		
9) CCV2/CCB2 (CCB: < 3X IDL / <LOD / <LOQ)					
10) CCV3/CCB3					
11) CCV4/CCB4					
12) CCV5/CCB5					

Preparation Batch Parameters	YES	NO	YES	NO	
Prep Batch ID# 58100 Dig. Meth 3010	✓		✓		
LCS - generated limits or project specific limits	✓		✓		
MB - <LOD or ≤ ½ RL	✓	✓	✓	✓	Fe, Ca, Mg >LOD <½ RL
Spiked samples in batch:					
a) 745278 matrix = SW	✓	✓	✓	✓	L fail Ca Mg invalids
b) 745279 matrix = SW	✓	✓	✓	✓	MS fail As PDS OK
c) matrix =					
PDS: ±15% / 20% / 25% Sample#: b	✓		✓		OK No flags.
Prep Batch ID#: Dig. Meth.					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a) matrix =					
b) matrix =					
c) matrix =					
PDS: ±15% / 20% / 25% Sample#:					
Prep Batch ID#: Dig. Meth					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a) matrix =					
b) matrix =					
c) matrix =					
PDS: ±15% / 20% / 25% Sample#					
Prep Batch ID#: Dig. Meth.					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a) matrix =					
b) matrix =					
c) matrix =					
PDS: ±15% / 20% / 25% Sample#:					

GFAA / FLAA / CVAA Data Review checklist		Method: 200.9	7000 series AA	245.1 & 245.2	245.7	7470a / 7471a
Instrumentation:	THERMO M SERIES AA		CETAC Hg ANALYZER			
Analysis Date: 07/20/16	Data File: 072016w1		Date Reviewed: 7-2016		Analyte: Hg	
Cal Std ID: M17712	LIMS # : 177945	Analyst: SF	Reviewer:		Approved?	Yes / No

Is Audit Trail turned on or Manual Manipulations addressed? (Yes) / No (If no, any manual manipulations must be initialed, dated, and reason(s) stated for change)

Calibration Parameters -	YES	NO	YES	NO	Comments:
1) Calibration linearity - r > 0.995	✓		✓		
2) ICV: 90-110% 95-105%	✓		✓		
2) ICVLL: 70-130% 80-120%					
3) ICB: <IDL / <LOD / <LOQ / <½ RL	✓		✓		
6) MRL: 70-130%					
7) CCV1/CCB1- (CCV: 90-110% / 80-120%)	✓		✓		
8) CCV2/CCB2 (CCB: <IDL / <LOD / <LOQ / <½ RL)					
9) CCV3/CCB3					
10) CCV4/CCB4					
11) CCV5/CCB5					

Preparation Batch Parameters	YES	NO	YES	NO	
Prep Batch ID#: 3118 Dig. Meth. 7470A	✓		✓		
LCS - generated limits or project specific limits	✓		✓		
MB - <LOD / <2.2X LOD / ≤ ½RL	✓		✓		
Spiked samples in batch:					
a) 274978 matrix = GW	✓	✓	✓	✓	"M"
b) _____ matrix = _____					
c) _____ matrix = _____					
d) _____ matrix = _____					
e) _____ matrix = _____					
PDS: ±15% / 20% / 25% Sample# _____					
MSA Performed? Yes No					
Prep Batch ID#: _____ Dig. Meth. _____					
LCS - generated limits or project specific limits					
MB - <LOD / <2.2X LOD / ≤ ½RL					
Spiked samples in batch:					
a) _____ matrix = _____					
b) _____ matrix = _____					
c) _____ matrix = _____					
d) _____ matrix = _____					
e) _____ matrix = _____					
PDS: ±15% / 20% / 25% Sample# _____					
MSA Performed? Yes No					
Prep Batch ID#: _____ Dig. Meth. _____					
LCS - generated limits or project specific limits					
MB - <LOD / <2.2X LOD / ≤ ½RL					
Spiked samples in batch:					
a) _____ matrix = _____					
b) _____ matrix = _____					
c) _____ matrix = _____					
d) _____ matrix = _____					
e) _____ matrix = _____					
PDS: ±15% / 20% / 25% Sample# _____					
MSA Performed? Yes No					

CT Laboratories Instrument Run Log

Instrument ID: ICP 6002 (See Journal for Wavelength Charts)

Date	Time Start/End	Analyst	Method	LIMS# or Sample #	Sequence I.D.	Cal. Std. ID	Comments	KPa
07/18/16	1239 - 1404	MDS	S	127699, 127712	S071816	M12771	v87, v88	270
07/19/16	0817 - 1129	MDS	NaK	127902, 127898, 127901	NaK071916	M12871	v768	320
07/19/16	1331 - 1538	MDS	L2	127700, 127710	L2071916	M12764	v201, v208	320
07/20/16	0917 - 1020	MDS	S	127899	S072016	M12771	v94	270
07/20/16	1241 - 1349	MDS	B+S	127698, 127708	BS072016	M12744B	v168	320
07/21/16	0922 - 1135	MDS	NaK	128005, 128013	NaK072116	M12871	v769	320
07/22/16	0814 - 0942	MDS	B+S	128044	S072216	M12744B	v170	320

Checked by: _____ Verified by: _____

CT Laboratories Instrument Run Log

Instrument ID: ICP 6500

Date	Time Start/End	Analyst	Analytes	LIMS run or Samples Analyzed	Sequence ID	Cal Std ID	Neb Pressure	Comments
6/30/16	0817 / 1119	JA	DOD Cal u	127477, 127413, 127378	D0630116	M12889	290	V1526
7/1/16	0816 / 1856	JA	DOD Cal u	127496, 127495, 127494, 127493	D0701116	M12889	290	V1527
7/5/16	1031 / 1555	JA	DOD Cal u	127477	D0705116	M12889	290	V1528
7/6/16	0911 / 1921	JA	DOD Cal u	127533, 127528, 127529, 127530, 127532	D0706116	M12889	290	V1530
7/7/16	1010 / 1505	JA	DOD Cal u	127579, 127579, 127563	D0707116	M12889	290	V1531
7/8/16	0902 / 2129	JA	DOD Cal u	127580, 127581, 127615, 127607, 127585, 127622	D0708116	M12889	290	V1532, V1533
7/12/16	1047 / 2311	JA	DOD Cal u	127623, 127618, 127624, 127615, 127620, 127607, 127610	D0712116	M12889	300	V1534
7/13/16	0811 / 1658	JA	DOD Cal u	127606, 127599, 127618, 127619	D0713116	M12889	300	V1535
7/14/16	0828 / 1500	JA	DOD Cal u	127784, 127785, 127759	D0714116	M12889	300	V1537
7/15/16	0107 / 0152	JA	DOD Cal u	127850, 127849, 127782, 127826, 127824, 127784	D0715116	M12889	300	V1539, V1540 (7-18-16)
7/19/16	0718 / 2151	JA	DOD Cal u	127962, 127958, 127962, 127916, 127915, 127980, 127908, 127904, 127988	D0719116	M12889	300	V1542
7/20/16	0857 / 1744	JA	DOD Cal u	127984, 127986	D0720116	M12889	300	V1544
7/21/16	/	JA	DOD Cal u	128014, 128006, 128004, 128018, 128017	D0721116	M12889	300	

CT Laboratories

Mercury Analyzer Instrument Run Log

Instrument ID: ~~Cetac M-6000A~~ 12/15/15 SF Teledyne Hydra II

Analysis Date	Start Time	End Time	Analyst	LIMS Run # (s)	Method File ID #	Cal. Std. ID #	Lamp Current (mA)	Analysis Tube Lot #	Comments
05/31/16	09:56	15:01	LSF	126523 126524,126524,126525	053116S0	M12849	22.86	250298	Sncl2: M12855
06/02/16	07:11	09:40	LSF	126626,126627,126628	060216S0	M12849	22.86	250298	Sncl2: ~~M12855~~ cc 6/2/16 LSF M12855
06/02/16	10:04	12:13	LSF	126632,126634,126633	060216S0	M12849	22.86	250298	Sncl2: M12855
06/08/16	06:58	09:32	LSF	126785 126787,126788,126789,126786	060816S0	M12849	22.86	250298	Sncl2: M12855
~~06/08/16~~ cc 6/8/16 LSF	10:12	14:55	LSF	126792 126791,126792,126795,126794	060816S0	M12849	22.86	250298	Sncl2: M12855
~~06/14/16~~ cc 6/9/16 LSF	08:28	11:42	LSF	126941,126940	061416S0	M12849	22.86	250298	Sncl2: M12855
06/15/16	07:36	09:05	LSF	126949,126948	061516S0	M12849	22.86	250298	Sncl2: M12855
06/22/16	07:20	08:39	LSF	127144,127149,127150	062216S0	M12901	22.86	250298	Sncl2: M12907
06/29/16	07:09	09:27	LSF	127351 127353,127359,127358,127352	062916S0	M12901	22.86	250298	Sncl2: M12907
06/30/16	10:03	11:48	LSF	127350,127349	063016S0	M12901	22.86	250298	Sncl2: M12907
07/08/16	09:29	13:05	LSF	127960 127603,127602,127604,127605	070816S0	M12912	22.86	250298	Sncl2: ~~M12912~~ cc 7/8/16 LSF M12918
07/11/16	08:17	09:44	LSF	127635,127633,127634	071116S0	M12912	22.86	250298	Sncl2: M12918
07/13/16	08:09	11:06	LSF	127679 127680,127681,127683,127682	071316S0	M12912	22.86	250298	Sncl2: M12918
07/14/16	07:23	09:13	LSF	127810,127814	071516S0	M12912	22.86	250298	Sncl2: M12918
07/18/16	07:28	09:00	LSF	127815	071816S0	M12912	22.86	250298	Sncl2: M12918
07/19/16	07:55	09:37	LSF	127960,127961	072016S0	M12912	22.86	250298	Sncl2: M12918
07/20/16	10:46	13:11	LSF	127946 127944,127945,127957,	072016S0	M12912	22.86	250298	Sncl2: M12918

9/21/16 LSF

Reviewed By/Date: _____

Type	Date/Time	Message	User name	Application	Sequence Name
	07/18/2016 13:36:22	Running blank (6)	MDS	Analyst	S_Sulfur(v86) #1
	07/18/2016 13:39:54	Running blank (7)	MDS	Analyst	S_Sulfur(v86) #1
	07/18/2016 13:43:26	Running mbs58043 (8)	MDS	Analyst	S_Sulfur(v86) #1
	07/18/2016 13:47:00	Running 743260 (9)	MDS	Analyst	S_Sulfur(v86) #1
	07/18/2016 13:50:33	Running lqcks (10)	MDS	Analyst	S_Sulfur(v86) #1
	07/18/2016 13:54:07	Running ccv (13)	MDS	Analyst	S_Sulfur(v86) #1
	07/18/2016 13:57:35	Running ccb (9)	MDS	Analyst	S_Sulfur(v86) #1
	07/18/2016 14:01:07	Running ccv (13)	MDS	Analyst	S_Sulfur(v86) #1
	07/18/2016 14:04:34	Running ccb (9)	MDS	Analyst	S_Sulfur(v86) #1
	07/18/2016 14:08:03	Autosampler Run Completed	MDS	Analyst	S_Sulfur(v86) #1
	07/18/2016 14:15:10	Plasma extinguished successfully	MDS	Analyst	
	07/18/2016 14:15:10	Plasma off	MDS	iTEVA Control Center	
	07/18/2016 14:25:59	Plasma On	MDS	iTEVA Control Center	
	07/18/2016 14:26:04	Plasma ignition successful	MDS	Analyst	
	07/18/2016 14:26:50	D33534 - Debug:Wavelength check : x = -0.514, y =-0.506	MDS	Analyst	
	07/18/2016 14:57:54	Plasma extinguished successfully	MDS	Analyst	
	07/18/2016 14:57:54	Plasma off	MDS	iTEVA Control Center	
	07/19/2016 07:48:29	Plasma On	MDS	iTEVA Control Center	
	07/19/2016 07:48:35	Plasma ignition successful	MDS	Analyst	
	07/19/2016 07:49:22	D33534 - Debug:Wavelength check : x = -0.551, y =-0.449	MDS	Analyst	
	07/19/2016 08:13:02	Autosampler Run Started	MDS	Analyst	
	07/19/2016 08:13:02	Sequence Started	MDS	Analyst	S_Sodium and Potas
	07/19/2016 08:13:23	Running Blank (1)	MDS	Analyst	S_Sodium and Potas
	07/19/2016 08:13:39	Autosampler Run Completed	MDS	Analyst	S_Sodium and Potas
	07/19/2016 08:16:49	Sequence Started	MDS	Analyst	S_Sodium and Potas
	07/19/2016 08:16:49	Autosampler Run Started	MDS	Analyst	
	07/19/2016 08:17:09	Running Blank (1)	MDS	Analyst	S_Sodium and Potas
	07/19/2016 08:20:04	Running CalibStd-0.5 (2)	MDS	Analyst	S_Sodium and Potas
	07/19/2016 08:22:49	Running CalibStd-1.0 (3)	MDS	Analyst	S_Sodium and Potas
	07/19/2016 08:25:34	Running CalibStd-5.0 (4)	MDS	Analyst	S_Sodium and Potas
	07/19/2016 08:28:19	Running CalibStd-10.0 (5)	MDS	Analyst	S_Sodium and Potas
	07/19/2016 08:31:05	Running CalibStd-50 (6)	MDS	Analyst	S_Sodium and Potas
	07/19/2016 08:33:52	Running CalibStd-100 (7)	MDS	Analyst	S_Sodium and Potas
	07/19/2016 08:36:37	Running CalibStd-200 (8)	MDS	Analyst	S_Sodium and Potas
	07/19/2016 08:39:21	Running CalibStd-500 (9)	MDS	Analyst	S_Sodium and Potas
	07/19/2016 08:42:22	Running icv (10)	MDS	Analyst	S_Sodium and Potas
	07/19/2016 08:45:07	Running ICVLL (17)	MDS	Analyst	S_Sodium and Potas
	07/19/2016 08:47:52	Running icb (11)	MDS	Analyst	S_Sodium and Potas
	07/19/2016 08:50:39	Running mrl (16)	MDS	Analyst	S_Sodium and Potas
	07/19/2016 08:53:24	Running icsa (12)	MDS	Analyst	S_Sodium and Potas
	07/19/2016 08:56:23	Running icsab (13)	MDS	Analyst	S_Sodium and Potas
	07/19/2016 08:59:24	Running lcsw58098 (1)	MDS	Analyst	S_Sodium and Potas
	07/19/2016 09:02:09	Running mbw58098 (2)	MDS	Analyst	S_Sodium and Potas
	07/19/2016 09:04:54	Running 745879 (3)	MDS	Analyst	S_Sodium and Potas
	07/19/2016 09:07:49	Running 745922 (4)	MDS	Analyst	S_Sodium and Potas
	07/19/2016 09:10:45	Running l745922 (5)	MDS	Analyst	S_Sodium and Potas
	07/19/2016 09:13:29	Running dup745922 (6)	MDS	Analyst	S_Sodium and Potas
	07/19/2016 09:16:25	Running msw745922 (7)	MDS	Analyst	S_Sodium and Potas
	07/19/2016 09:19:21	Running msdw745922 (8)	MDS	Analyst	S_Sodium and Potas
	07/19/2016 09:22:17	Running pdsw745922 (9)	MDS	Analyst	S_Sodium and Potas
	07/19/2016 09:25:13	Running 745955 (10)	MDS	Analyst	S_Sodium and Potas
	07/19/2016 09:27:59	Running ccv (14)	MDS	Analyst	S_Sodium and Potas

Type	Date/Time	Message	User name	Application	Sequence Name
	07/19/2016 09:30:45	Running ccb (15)	MDS	Analyst	S_Sodium and Potas
	07/19/2016 09:33:32	Running lcsw58097 (11)	MDS	Analyst	S_Sodium and Potas
	07/19/2016 09:36:17	Running mbw58097 (12)	MDS	Analyst	S_Sodium and Potas
	07/19/2016 09:39:05	Running 744566 (13)	MDS	Analyst	S_Sodium and Potas
	07/19/2016 09:41:49	Running 744568 (14)	MDS	Analyst	S_Sodium and Potas
	07/19/2016 09:44:32	Running 744569 (15)	MDS	Analyst	S_Sodium and Potas
	07/19/2016 09:47:15	Running 745402 (16)	MDS	Analyst	S_Sodium and Potas
	07/19/2016 09:49:59	Running msw745402 (17)	MDS	Analyst	S_Sodium and Potas
	07/19/2016 09:52:44	Running msdw745402 (18)	MDS	Analyst	S_Sodium and Potas
	07/19/2016 09:55:28	Running pdsw745402 (19)	MDS	Analyst	S_Sodium and Potas
	07/19/2016 09:58:13	Running 745404 (20)	MDS	Analyst	S_Sodium and Potas
	07/19/2016 10:00:56	Running ccv (14)	MDS	Analyst	S_Sodium and Potas
	07/19/2016 10:03:41	Running ccb (15)	MDS	Analyst	S_Sodium and Potas
	07/19/2016 10:06:28	Running 745405 (21)	MDS	Analyst	S_Sodium and Potas
	07/19/2016 10:09:13	Running 745406 (22)	MDS	Analyst	S_Sodium and Potas
	07/19/2016 10:11:59	Running lcsw58100 (23)	MDS	Analyst	S_Sodium and Potas
	07/19/2016 10:14:44	Running mbw58100 (24)	MDS	Analyst	S_Sodium and Potas
	07/19/2016 10:17:32	Running 744978 (25)	MDS	Analyst	S_Sodium and Potas
	07/19/2016 10:20:16	Running 745779 (26)	MDS	Analyst	S_Sodium and Potas
	07/19/2016 10:23:01	Running msw745779 (27)	MDS	Analyst	S_Sodium and Potas
	07/19/2016 10:25:46	Running pdsw745779 (28)	MDS	Analyst	S_Sodium and Potas
	07/19/2016 10:28:31	Running 745879 (29)	MDS	Analyst	S_Sodium and Potas
	07/19/2016 10:31:16	Running 745922 (30)	MDS	Analyst	S_Sodium and Potas
	07/19/2016 10:34:01	Running ccv (14)	MDS	Analyst	S_Sodium and Potas
	07/19/2016 10:36:48	Running ccb (15)	MDS	Analyst	S_Sodium and Potas
	07/19/2016 10:39:33	Running l745922 (31)	MDS	Analyst	S_Sodium and Potas
	07/19/2016 10:42:18	Running dup745922 (32)	MDS	Analyst	S_Sodium and Potas
	07/19/2016 10:45:02	Running msw745922 (33)	MDS	Analyst	S_Sodium and Potas
	07/19/2016 10:47:47	Running msdw745922 (34)	MDS	Analyst	S_Sodium and Potas
	07/19/2016 10:50:33	Running pdsw745922 (35)	MDS	Analyst	S_Sodium and Potas
	07/19/2016 10:53:19	Running pdsw745402 (36)	MDS	Analyst	S_Sodium and Potas
	07/19/2016 11:24:51	iTEVA loaded	MDS	iTEVA Control Center	
	07/19/2016 11:25:08	Connected to instrument 20070314	MDS	iTEVA Control Center	
	07/19/2016 11:25:45	Plasma On	MDS	iTEVA Control Center	
	07/19/2016 11:31:51	Plasma extinguished successfully	MDS	Analyst	
	07/19/2016 11:31:53	Plasma off	MDS	iTEVA Control Center	
	07/19/2016 13:16:30	Plasma On	MDS	iTEVA Control Center	
	07/19/2016 13:16:35	Plasma ignition successful	MDS	Analyst	
	07/19/2016 13:17:21	D33534 - Debug:Wavelength check : x = -0.613, y =-0.481	MDS	Analyst	
	07/19/2016 13:30:44	Autosampler Run Started	MDS	Analyst	
	07/19/2016 13:30:44	Sequence Started	MDS	Analyst	S_Ti,Sn,W,Sr,Li 3(v2
	07/19/2016 13:31:05	Running Blank (1)	MDS	Analyst	S_Ti,Sn,W,Sr,Li 3(v2
	07/19/2016 13:35:09	Running 1 (2)	MDS	Analyst	S_Ti,Sn,W,Sr,Li 3(v2
	07/19/2016 13:39:14	Running 10 (3)	MDS	Analyst	S_Ti,Sn,W,Sr,Li 3(v2
	07/19/2016 13:43:18	Running 100 (4)	MDS	Analyst	S_Ti,Sn,W,Sr,Li 3(v2
	07/19/2016 13:47:21	Running 1000 (5)	MDS	Analyst	S_Ti,Sn,W,Sr,Li 3(v2
	07/19/2016 13:51:22	Running 10000 (6)	MDS	Analyst	S_Ti,Sn,W,Sr,Li 3(v2
	07/19/2016 13:55:33	Running 500000 (7)	MDS	Analyst	S_Ti,Sn,W,Sr,Li 3(v2
	07/19/2016 13:59:41	Running icv (8)	MDS	Analyst	S_Ti,Sn,W,Sr,Li 3(v2
	07/19/2016 14:03:41	Running ICVLL (15)	MDS	Analyst	S_Ti,Sn,W,Sr,Li 3(v2
	07/19/2016 14:07:43	Running icb (9)	MDS	Analyst	S_Ti,Sn,W,Sr,Li 3(v2
	07/19/2016 14:11:49	Running MRL (14)	MDS	Analyst	S_Ti,Sn,W,Sr,Li 3(v2

Type	Date/Time	Message	User name	Application	Sequence Name
	07/16/2016 01:27:04	Running LOQ b,si1 (93)	NAH	Analyst	S_DOD Calibration
	07/16/2016 01:33:47	Running MRL (24)	NAH	Analyst	S_DOD Calibration
	07/16/2016 01:40:27	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	07/16/2016 01:46:32	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	07/16/2016 01:52:43	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	07/16/2016 01:59:28	Plasma off	NAH	iTEVA Control Center	
	07/16/2016 01:59:28	Plasma extinguished successfully	NAH	Analyst	
	07/16/2016 01:59:31	Autosampler Run Completed	NAH	Analyst	S_DOD Calibration
	07/19/2016 06:34:05	Plasma On	NAH	iTEVA Control Center	
	07/19/2016 06:34:11	Plasma ignition successful	NAH	Analyst	
	07/19/2016 06:34:25	E9006 - : Plasma went out unexpectedly; RF reported over current failu	NAH	iTEVA Control Center	
	07/19/2016 06:34:30	E33495 - Plasma went out during analysis.	NAH	Analyst	
	07/19/2016 06:34:53	Plasma On	NAH	iTEVA Control Center	
	07/19/2016 06:34:58	Plasma ignition successful	NAH	Analyst	
	07/19/2016 06:35:11	E9006 - : Plasma went out unexpectedly; RF reported over current failu	NAH	iTEVA Control Center	
	07/19/2016 06:35:16	E33495 - Plasma went out during analysis.	NAH	Analyst	
	07/19/2016 06:36:30	E2210 - : Plasma ignition failed; door opened or torch not inserted corre	NAH	Analyst	
	07/19/2016 06:37:19	E2208 - : Plasma ignition failed; RF seems OK. Check your sample intr	NAH	Analyst	
	07/19/2016 06:38:56	Plasma On	NAH	iTEVA Control Center	
	07/19/2016 06:39:01	Plasma ignition successful	NAH	Analyst	
	07/19/2016 06:39:41	D33534 - Debug:Wavelength check : x = 1.601, y =2.329	NAH	Analyst	
	07/19/2016 07:17:51	Autosampler Run Started	NAH	Analyst	
	07/19/2016 07:17:51	Sequence Started	NAH	Analyst	S_DOD Calibration
	07/19/2016 07:18:11	Running Blank (1)	NAH	Analyst	S_DOD Calibration
	07/19/2016 07:24:46	Running CalStd1=0.25 (2)	NAH	Analyst	S_DOD Calibration
	07/19/2016 07:31:19	Running CalStd2=0.5 (3)	NAH	Analyst	S_DOD Calibration
	07/19/2016 07:37:50	Running CalStd3=1 (4)	NAH	Analyst	S_DOD Calibration
	07/19/2016 07:44:22	Running CalStd4=5 (5)	NAH	Analyst	S_DOD Calibration
	07/19/2016 07:50:53	Running CalStd5=10 (6)	NAH	Analyst	S_DOD Calibration
	07/19/2016 07:57:20	Running CalStd6=20 (7)	NAH	Analyst	S_DOD Calibration
	07/19/2016 08:03:45	Running CalStd7=50 (8)	NAH	Analyst	S_DOD Calibration
	07/19/2016 08:10:08	Running CalStd8=100 (9)	NAH	Analyst	S_DOD Calibration
	07/19/2016 08:16:27	Running CalStd9=1000 (10)	NAH	Analyst	S_DOD Calibration
	07/19/2016 08:22:14	Running CalStd10=10000 (11)	NAH	Analyst	S_DOD Calibration
	07/19/2016 08:28:48	Running CalStd11-100k (12)	NAH	Analyst	S_DOD Calibration
	07/19/2016 08:35:29	Running CalStd12-100000 (13)	NAH	Analyst	S_DOD Calibration
	07/19/2016 08:42:06	Running CalStd13=500000 (14)	NAH	Analyst	S_DOD Calibration
	07/19/2016 08:48:47	Running CalStd14-1000k (15)	NAH	Analyst	S_DOD Calibration
	07/19/2016 08:55:55	Running blkrinse (22)	NAH	Analyst	S_DOD Calibration
	07/19/2016 09:02:24	Running icv (16)	NAH	Analyst	S_DOD Calibration
	07/19/2016 09:08:49	Running ICVLL (25)	NAH	Analyst	S_DOD Calibration
	07/19/2016 09:15:10	Running icb (17)	NAH	Analyst	S_DOD Calibration
	07/19/2016 09:21:41	Running icb (17)	NAH	Analyst	S_DOD Calibration
	07/19/2016 09:28:12	Running MRL (24)	NAH	Analyst	S_DOD Calibration
	07/19/2016 09:34:40	Running icsa (20)	NAH	Analyst	S_DOD Calibration
	07/19/2016 09:41:23	Running icsab (21)	NAH	Analyst	S_DOD Calibration
	07/19/2016 09:48:33	Running ICVLL Ag (1)	NAH	Analyst	S_DOD Calibration
	07/19/2016 09:55:02	Running 745781 (2)	NAH	Analyst	S_DOD Calibration
	07/19/2016 10:01:54	Running msw745781 (3)	NAH	Analyst	S_DOD Calibration
	07/19/2016 10:08:14	Running msdw745781 (4)	NAH	Analyst	S_DOD Calibration
	07/19/2016 10:14:36	Running lcsw58100 (5)	NAH	Analyst	S_DOD Calibration
	07/19/2016 10:21:01	Running mbw58100 (6)	NAH	Analyst	S_DOD Calibration
	07/19/2016 10:27:33	Running 744978 (7)	NAH	Analyst	S_DOD Calibration

Type	Date/Time	Message	User name	Application	Sequence Name
	07/19/2016 10:34:29	Running l744978 (8)	NAH	Analyst	S_DOD Calibration
	07/19/2016 10:41:26	Running dup744978 (9)	NAH	Analyst	S_DOD Calibration
	07/19/2016 10:48:20	Running msw744978 (10)	NAH	Analyst	S_DOD Calibration
	07/19/2016 10:54:40	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	07/19/2016 11:00:23	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	07/19/2016 11:06:23	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	07/19/2016 11:09:59	Closing will close the method and all associated samples.	NAH	Analyst	
	07/19/2016 11:12:57	Running pdsw744978 (11)	NAH	Analyst	S_DOD Calibration
	07/19/2016 11:19:04	Running lcsw58098 (12)	NAH	Analyst	S_DOD Calibration
	07/19/2016 11:25:28	Running mbw58098 (13)	NAH	Analyst	S_DOD Calibration
	07/19/2016 11:31:59	Running 745879 (14)	NAH	Analyst	S_DOD Calibration
	07/19/2016 11:39:04	Running 745922 (15)	NAH	Analyst	S_DOD Calibration
	07/19/2016 11:46:01	Running l745922 (16)	NAH	Analyst	S_DOD Calibration
	07/19/2016 11:52:53	Running dup745922 (17)	NAH	Analyst	S_DOD Calibration
	07/19/2016 11:59:49	Running msw745922 (18)	NAH	Analyst	S_DOD Calibration
	07/19/2016 12:06:18	Running msdw745922 (19)	NAH	Analyst	S_DOD Calibration
	07/19/2016 12:12:47	Running pdsw745922 (20)	NAH	Analyst	S_DOD Calibration
	07/19/2016 12:18:54	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	07/19/2016 12:22:24	Closing will close the method and all associated samples.	NAH	Analyst	
	07/19/2016 12:24:36	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	07/19/2016 12:30:37	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	07/19/2016 12:30:37	Closing will close the method and all associated samples.	NAH	Analyst	
	07/19/2016 12:37:10	Running 745955 (21)	NAH	Analyst	S_DOD Calibration
	07/19/2016 12:44:07	Running lcss58101 (22)	NAH	Analyst	S_DOD Calibration
	07/19/2016 12:50:05	Running mbs58101 (23)	NAH	Analyst	S_DOD Calibration
	07/19/2016 12:56:37	Running 745549 (24)	NAH	Analyst	S_DOD Calibration
	07/19/2016 13:02:58	Running mss745549 (25)	NAH	Analyst	S_DOD Calibration
	07/19/2016 13:08:51	Running msds745549 (26)	NAH	Analyst	S_DOD Calibration
	07/19/2016 13:14:57	Running pdsw745549 (27)	NAH	Analyst	S_DOD Calibration
	07/19/2016 13:20:53	Running 745460 (28)	NAH	Analyst	S_DOD Calibration
	07/19/2016 13:27:22	Running 745461 (29)	NAH	Analyst	S_DOD Calibration
	07/19/2016 13:34:06	Running 745462 (30)	NAH	Analyst	S_DOD Calibration
	07/19/2016 13:40:46	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	07/19/2016 13:46:31	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	07/19/2016 13:52:32	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	07/19/2016 13:59:04	Running 745463 (31)	NAH	Analyst	S_DOD Calibration
	07/19/2016 14:05:36	Running 745717 (32)	NAH	Analyst	S_DOD Calibration
	07/19/2016 14:12:02	Running mss745717 (33)	NAH	Analyst	S_DOD Calibration
	07/19/2016 14:18:11	Running msds745717 (34)	NAH	Analyst	S_DOD Calibration
	07/19/2016 14:24:21	Running pdss745717 (35)	NAH	Analyst	S_DOD Calibration
	07/19/2016 14:30:38	Running lcsw58097 (36)	NAH	Analyst	S_DOD Calibration
	07/19/2016 14:37:00	Running mbw58097 (37)	NAH	Analyst	S_DOD Calibration
	07/19/2016 14:43:31	Running 744207 (38)	NAH	Analyst	S_DOD Calibration
	07/19/2016 14:50:31	Running msw744207 (39)	NAH	Analyst	S_DOD Calibration
	07/19/2016 14:56:59	Running msdw744207 (40)	NAH	Analyst	S_DOD Calibration
	07/19/2016 15:03:27	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	07/19/2016 15:09:10	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	07/19/2016 15:15:11	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	07/19/2016 15:21:44	Running pdsw744207 (41)	NAH	Analyst	S_DOD Calibration
	07/19/2016 15:27:47	Running 744264 (42)	NAH	Analyst	S_DOD Calibration
	07/19/2016 15:34:30	Running 744265 (43)	NAH	Analyst	S_DOD Calibration
	07/19/2016 15:41:24	Running 745125 (44)	NAH	Analyst	S_DOD Calibration
	07/19/2016 15:48:32	Running 745413 (45)	NAH	Analyst	S_DOD Calibration

Type	Date/Time	Message	User name	Application	Sequence Name
	07/19/2016 21:39:26	Running ccv1 (28)	NAH	Analyst	S_DOD Calibration
	07/19/2016 21:45:11	Running ccv2 (26)	NAH	Analyst	S_DOD Calibration
	07/19/2016 21:51:12	Running ccb (27)	NAH	Analyst	S_DOD Calibration
	07/19/2016 21:57:46	Plasma off	NAH	iTEVA Control Center	
	07/19/2016 21:57:47	Plasma extinguished successfully	NAH	Analyst	
	07/19/2016 21:57:49	Autosampler Run Completed	NAH	Analyst	S_DOD Calibration
	07/20/2016 06:44:21	Plasma On	NAH	iTEVA Control Center	
	07/20/2016 06:44:26	Plasma ignition successful	NAH	Analyst	
	07/20/2016 06:45:06	D33534 - Debug:Wavelength check : x = 1.641, y =2.313	NAH	Analyst	
	07/20/2016 08:56:40	Autosampler Run Started	NAH	Analyst	
	07/20/2016 08:56:40	Sequence Started	NAH	Analyst	S_DOD Calibration
	07/20/2016 08:57:00	Running Blank (1)	NAH	Analyst	S_DOD Calibration
	07/20/2016 09:03:29	Running CalStd1=0.25 (2)	NAH	Analyst	S_DOD Calibration
	07/20/2016 09:10:01	Running CalStd2=0.5 (3)	NAH	Analyst	S_DOD Calibration
	07/20/2016 09:16:32	Running CalStd3=1 (4)	NAH	Analyst	S_DOD Calibration
	07/20/2016 09:23:07	Running CalStd4=5 (5)	NAH	Analyst	S_DOD Calibration
	07/20/2016 09:29:39	Running CalStd5=10 (6)	NAH	Analyst	S_DOD Calibration
	07/20/2016 09:37:11	Running CalStd6=20 (7)	NAH	Analyst	S_DOD Calibration
	07/20/2016 09:37:27	Closing will close the method and all associated samples.	NAH	Analyst	
	07/20/2016 09:43:35	Running CalStd7=50 (8)	NAH	Analyst	S_DOD Calibration
	07/20/2016 09:49:58	Running CalStd8=100 (9)	NAH	Analyst	S_DOD Calibration
	07/20/2016 09:56:17	Running CalStd9=1000 (10)	NAH	Analyst	S_DOD Calibration
	07/20/2016 10:02:05	Running CalStd10=10000 (11)	NAH	Analyst	S_DOD Calibration
	07/20/2016 10:08:41	Running CalStd11-100k (12)	NAH	Analyst	S_DOD Calibration
	07/20/2016 10:15:17	Running CalStd12-100000 (13)	NAH	Analyst	S_DOD Calibration
	07/20/2016 10:21:52	Running CalStd13=500000 (14)	NAH	Analyst	S_DOD Calibration
	07/20/2016 10:28:32	Running CalStd14-1000k (15)	NAH	Analyst	S_DOD Calibration
	07/20/2016 10:35:36	Running blkrinse (22)	NAH	Analyst	S_DOD Calibration
	07/20/2016 10:42:10	Running icv (16)	NAH	Analyst	S_DOD Calibration
	07/20/2016 10:48:36	Running ICVLL (25)	NAH	Analyst	S_DOD Calibration
	07/20/2016 10:54:57	Running icb (17)	NAH	Analyst	S_DOD Calibration
	07/20/2016 11:01:28	Running icb (17)	NAH	Analyst	S_DOD Calibration
	07/20/2016 11:08:00	Running MRL (24)	NAH	Analyst	S_DOD Calibration
	07/20/2016 11:14:28	Running icsa (20)	NAH	Analyst	S_DOD Calibration
	07/20/2016 11:21:10	Running icsab (21)	NAH	Analyst	S_DOD Calibration
	07/20/2016 11:27:36	Closing will close the method and all associated samples.	NAH	Analyst	
	07/20/2016 11:28:19	Running ICVLL Ag (1)	NAH	Analyst	S_DOD Calibration
	07/20/2016 11:34:48	Running mbs sn (2)	NAH	Analyst	S_DOD Calibration
	07/20/2016 11:41:19	Running LOD sn (3)	NAH	Analyst	S_DOD Calibration
	07/20/2016 11:47:52	Running LOQ sn (4)	NAH	Analyst	S_DOD Calibration
	07/20/2016 11:53:22	Running lcss58137 (5)	NAH	Analyst	S_DOD Calibration
	07/20/2016 11:59:17	Running mbs58137 (6)	NAH	Analyst	S_DOD Calibration
	07/20/2016 12:05:48	Running 746838 (7)	NAH	Analyst	S_DOD Calibration
	07/20/2016 12:12:26	Running l746838 (8)	NAH	Analyst	S_DOD Calibration
	07/20/2016 12:19:08	Running dup746838 (9)	NAH	Analyst	S_DOD Calibration
	07/20/2016 12:25:48	Running mss746838 (10)	NAH	Analyst	S_DOD Calibration
	07/20/2016 12:32:09	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	07/20/2016 12:37:53	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	07/20/2016 12:43:54	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	07/20/2016 12:50:28	Running msds746838 (11)	NAH	Analyst	S_DOD Calibration
	07/20/2016 12:56:53	Running pdss746838 (12)	NAH	Analyst	S_DOD Calibration
	07/20/2016 13:01:11	Closing will close the method and all associated samples.	NAH	Analyst	
	07/20/2016 13:03:03	Running 746839 (13)	NAH	Analyst	S_DOD Calibration

Type	Date/Time	Message	User name	Application	Sequence Name
	07/20/2016 13:09:43	Running 746840 (14)	NAH	Analyst	S_DOD Calibration
	07/20/2016 13:16:25	Running 746841 (15)	NAH	Analyst	S_DOD Calibration
	07/20/2016 13:22:56	Running 746842 (16)	NAH	Analyst	S_DOD Calibration
	07/20/2016 13:29:35	Running 746843 (17)	NAH	Analyst	S_DOD Calibration
	07/20/2016 13:36:04	Running 746844 (18)	NAH	Analyst	S_DOD Calibration
	07/20/2016 13:42:44	Running 746845 (19)	NAH	Analyst	S_DOD Calibration
	07/20/2016 13:49:29	Running lcss58144 (20)	NAH	Analyst	S_DOD Calibration
	07/20/2016 13:55:17	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	07/20/2016 14:01:00	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	07/20/2016 14:07:02	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	07/20/2016 14:13:35	Running mbs58144 (21)	NAH	Analyst	S_DOD Calibration
	07/20/2016 14:20:06	Running 746449 (22)	NAH	Analyst	S_DOD Calibration
	07/20/2016 14:26:47	Running mss746449 (23)	NAH	Analyst	S_DOD Calibration
	07/20/2016 14:32:59	Running msds746449 (24)	NAH	Analyst	S_DOD Calibration
	07/20/2016 14:39:12	Running pdss746449 (25)	NAH	Analyst	S_DOD Calibration
	07/20/2016 14:45:14	Running 745459 (26)	NAH	Analyst	S_DOD Calibration
	07/20/2016 14:51:25	Running mss745459 (27)	NAH	Analyst	S_DOD Calibration
	07/20/2016 14:57:33	Running msds745459 (28)	NAH	Analyst	S_DOD Calibration
	07/20/2016 15:03:39	Running pdss745459 (29)	NAH	Analyst	S_DOD Calibration
	07/20/2016 15:09:26	Running 745462 (30)	NAH	Analyst	S_DOD Calibration
	07/20/2016 15:15:56	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	07/20/2016 15:21:39	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	07/20/2016 15:27:40	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	07/20/2016 15:34:13	Running 745463 (31)	NAH	Analyst	S_DOD Calibration
	07/20/2016 15:40:54	Running LOQ 3050 (32)	NAH	Analyst	S_DOD Calibration
	07/20/2016 15:47:22	Running LOQ 3010 (33)	NAH	Analyst	S_DOD Calibration
	07/20/2016 15:53:52	Running 747234 (34)	NAH	Analyst	S_DOD Calibration
	07/20/2016 16:00:31	Running 747235 (35)	NAH	Analyst	S_DOD Calibration
	07/20/2016 16:07:27	Running 747236 (36)	NAH	Analyst	S_DOD Calibration
	07/20/2016 16:14:25	Running 747237 (37)	NAH	Analyst	S_DOD Calibration
	07/20/2016 16:21:19	Running 747238 (38)	NAH	Analyst	S_DOD Calibration
	07/20/2016 16:28:13	Running msw747238 (39)	NAH	Analyst	S_DOD Calibration
	07/20/2016 16:34:30	Running msdw747238 (40)	NAH	Analyst	S_DOD Calibration
	07/20/2016 16:40:47	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	07/20/2016 16:46:30	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	07/20/2016 16:52:31	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	07/20/2016 16:59:04	Running lcsw58100 (41)	NAH	Analyst	S_DOD Calibration
	07/20/2016 17:05:28	Running 746882 (42)	NAH	Analyst	S_DOD Calibration
	07/20/2016 17:12:23	Running msw746932 (43)	NAH	Analyst	S_DOD Calibration
	07/20/2016 17:19:07	Running msdw746932 (44)	NAH	Analyst	S_DOD Calibration
	07/20/2016 17:25:51	Running MRL (24)	NAH	Analyst	S_DOD Calibration
	07/20/2016 17:32:18	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	07/20/2016 17:38:02	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	07/20/2016 17:44:02	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	07/20/2016 17:50:36	Plasma off	NAH	iTEVA Control Center	
	07/20/2016 17:50:37	Plasma extinguished successfully	NAH	Analyst	
	07/20/2016 17:50:39	Autosampler Run Completed	NAH	Analyst	S_DOD Calibration
	07/21/2016 06:44:35	Plasma On	NAH	iTEVA Control Center	
	07/21/2016 06:44:40	Plasma ignition successful	NAH	Analyst	
	07/21/2016 06:45:19	D33534 - Debug:Wavelength check : x = 1.706, y =2.305	NAH	Analyst	
	07/21/2016 08:12:12	Sequence Started	NAH	Analyst	S_DOD Calibration
	07/21/2016 08:12:12	Autosampler Run Started	NAH	Analyst	
	07/21/2016 08:12:32	Running Blank (1)	NAH	Analyst	S_DOD Calibration

Standard Log #:	M12936	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	07/20/2016	Expiration Date:	07/20/2016
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.534 and **128.6 mL** 10N NaOH M12878. Dilute to 20 L and mix.		

Standard Log #:	M12935	Instrument:	ICP 6500
Analyst:	NAH	Standard:	LOQ 3050 DOD Metals Spiking S
Prep Date:	07/14/2016	Expiration Date:	11/29/2016

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3, 5% HCl)

Analyte	MDL Conc. (ug/L)	Std. ID #	Std Conc	Volume (mL) pipetted into 1 L
Ag	4	M12599	1000	0.2
Al	9.6	M12885	**10000**	0.048
As	32	M12860	1000	1.6
Ba	2	M12473	1000	0.1
Be	1.6	M12667	1000	0.08
Ca	56	M12886	**10000**	0.28
Cd	1.6	M12674	1000	0.08
Co	9.6	M12678	1000	0.48
Cr	5.6	M12470	**10000**	0.028
Cu	16	M12472	**10000**	0.08
Fe	72	M12887	**10000**	0.36
Mg	32	M12884	**10000**	0.16
Mn	6	M12533	**10000**	0.03
Mo	9.6	M12677	1000	0.48
Ni	4.8	M12681	1000	0.24
Pb	10	M12861	**10000**	0.05
Sb	32	M12602	1000	1.6
Se	16	M12600	1000	0.8
Tl	19	M12668	1000	0.95
V	3.2	M12676	1000	0.16
Zn	12	M12680	**10000**	0.06

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M12934	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3050 L2 Spiking Solution
Prep Date:	07/14/2016	Expiration Date:	04/15/2017

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
Li	14.4	M12672	1000	0.72
Sn	20	M12669	1000	1
Sr	3.2	M12670	1000	0.16
Ti	9.6	M12671	1000	0.48
W	24	M12673	1000	1.2

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M12933	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3050 S Spiking Solution
Prep Date:	07/14/2016	Expiration Date:	05/30/2017

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
S	240	M12876	10000	1.2

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M12932	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3050 k&na Spiking Solution
Prep Date:	07/14/2016	Expiration Date:	04/15/2017

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
K	2640	M12883	10000	13.2
Na	960	M12679	10000	4.8

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M12931	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3050 B&Si Spiking Solution
Prep Date:	07/14/2016	Expiration Date:	04/15/2017

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
B	52	M12471	1000	2.6
Si	192	M12675	1000	9.6

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M12930	Instrument:	ICP 6500
Analyst:	NAH	Standard:	LOQ 3010 DOD Metals Spiking S
Prep Date:	07/14/2016	Expiration Date:	11/29/2016

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3, 5% HCl)

Analyte	MDL Conc. (ug/L)	Std. ID #	Std Conc	Volume (mL) pipetted into 1 L
Ag	4	M12599	1000	0.2
Al	36	M12885	**10000**	0.18
As	24	M12860	1000	1.2
Ba	1.8	M12473	1000	0.09
Be	0.6	M12667	1000	0.03
Ca	100	M12886	**10000**	0.5
Cd	2.0	M12674	1000	0.1
Co	4	M12678	1000	0.2
Cr	4	M12470	**10000**	0.02
Cu	7	M12472	**10000**	0.035
Fe	100	M12887	**10000**	0.5
Mg	40	M12884	**10000**	0.2
Mn	4	M12533	**10000**	0.02
Mo	7	M12677	1000	0.35
Ni	6	M12681	1000	0.2
Pb	4	M12861	**10000**	0.02
Sb	12	M12602	1000	0.6
Se	13	M12600	1000	0.65
Tl	20	M12668	1000	0.75
V	5	M12676	1000	0.25
Zn	10	M12680	**10000**	0.05

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M12929	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3010 k&na Spiking Solution
Prep Date:	07/14/2016	Expiration Date:	04/15/2017

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
K	500	M12883	10000	2.5
Na	600	M12679	10000	3

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M12929B	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3010 L2 Spiking Solution
Prep Date:	07/14/2016	Expiration Date:	04/15/2017

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
Li	10	M12672	1000	0.5
Sn	10	M12669	1000	0.5
Sr	2	M12670	1000	0.1
Ti	8	M12671	1000	0.8
W	36	M12673	1000	1.8

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M12928	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3010 S Spiking Solution
Prep Date:	07/14/2016	Expiration Date:	05/30/2017

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
S	200	M12876	10000	1.0

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M12927	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3010 B&Si Spiking Solution
Prep Date:	07/14/2016	Expiration Date:	04/15/2017

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
B	16	M12471	1000	0.8
Si	200	M12675	1000	10

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

		Instrument:	ICP 6000
Standard Log #:	M12924	Standard:	B & Si ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (B,Si)
Prep Date:	07/14/2016	Expiration Date:	10/15/2016
Prep:	Into a 100 mL volumetric flask, pipetted **10 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M12733 , **0.05 mL** of B (1000 µg/mL) M12471 , **0.05 mL** of Si (1000 µg/mL) M12675 and **3 mL** of Fe (10,000 mg/L) M12887 and brought up to volume using Milli-Q H_2O.		

		Instrument:	CETAC
Standard Log #:	M12925	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	07/14/2016	Expiration Date:	07/14/2016
Prep:	Carefully mixed **3** parts HCl AB.621 with **1** part HNO_3 AB.622 in a hood.		

Standard ID#:	M12926	Vendor:	LabChem
Analyst:	LJF	Chemical:	STANNOUS CHLORIDE
Date Received:	07/14/2016	Lot #:	F161-11
Expiration Date (if any):		Catalog #:	LC251701

Standard Log #:	M12923	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	07/13/2016	Expiration Date:	07/13/2017
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.534 and **128.6 mL** 10N NaOH M12878. Dilute to 20 L and mix.		

		Instrument:	GFAA
Standard Log #:	M12921	Standard:	LODW/LOQW Spiking Sol'n
Analyst:	MDS	Concentrations:	150 ug/L (Sb) 100 ug/L (As) 200 ug/L (Se) 45 ug/L (Pb) 40 ug/L (Tl)
Prep Date:	07/12/2016	Expiration Date:	02/10/2017
Prep:	Into a 100 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. **1.5 mL** of Sb (1000 mg/L) M12602 **1.0 mL** of As (1000 mg/L) M12860 **2.0 mL** of Se (1000 mg/L) M12600 **0.045 mL** of Pb (10,000 mg/L) M12861 **0.4 mL** of Tl (1000 mg/L) M12668 From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (*3 ug/L* Sb, *2 ug/L* As, *4 ug/L* Se, *0.9 ug/L* Pb, *0.8 ug/L* Tl) and **2 mL** spiking solution for LOQ (*6 ug/L* Sb, *4 ug/L* As, *8 ug/L* Se, *1.8 ug/L* Pb, *1.6 ug/L* Tl)		

Standard Log #:	M12922	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	07/12/2016	Expiration Date:	01/12/2017
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

		Instrument:	GFAA
Standard Log #:	M12920	Standard:	LODS/LOQS Spiking Sol'n
Analyst:	MDS	Concentrations:	60 ug/L (Sb) 160 ug/L (As,Se) 40 ug/L (Pb) 50 ug/L (Tl)
Prep Date:	07/12/2016	Expiration Date:	02/10/2017
Prep:	Into a 200 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. **1.2 mL** of Sb (1000 mg/L) M12602 **3.2 mL** of As (1000 mg/L) M12860 **3.2 mL** of Se (1000 mg/L) M12600 **0.08 mL** of Pb (10,000 mg/L) M12861 **1.0 mL** of Tl (1000 mg/L) M12668 From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (1.2 *ug/L* Sb, *3.2 ug/L* As, *3.2 ug/L* Se, *0.8 ug/L* Pb, *1 ug/L* Tl) and **2 mL** spiking solution for LOQ (2.4 *ug/L* Sb, *6.4 ug/L* As, *6.4 ug/L* Se, *1.6 ug/L* Pb, *2 ug/L* Tl)		

		Instrument:	ICP 6000
Standard Log #:	M12919	Standard:	Na,K MRL
Analyst:	MDS	Concentrations:	1 mg/L (Na,K)
Prep Date:	07/08/2016	Expiration Date:	02/12/2017
Prep:	Into a 500 mL volumetric flask, pipetted **0.5 mL** of Na (1000 µg/mL) M12607 and **0.5 mL** K (1000 µg/mL) M12608 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

		Instrument:	CETAC
Standard Log #:	M12915	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	07/07/2016	Expiration Date:	08/18/2017
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12788 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M12916	Standard:	Hg MRL
Analyst:	LJF	Concentration:	0.2 ug/L Hg
Prep Date:	07/07/2016	Expiration Date:	05/30/2017
Prep:	Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M12856 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12917	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	07/07/2016	Expiration Date:	07/07/2016
Prep:	Carefully mixed **3** parts HCl AB.621 with **1** part HNO_3 AB.622 in a hood.		

		Instrument:	CETAC
Standard Log #:	M12918	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	07/07/2016	Expiration Date:	11/06/2016
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.621 and dissolved **100 g** Stannous chloride M12802 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M12912	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	07/07/2016	Expiration Date:	08/18/2017
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12788 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M12913	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	07/07/2016	Expiration Date:	05/30/2017
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M12856 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M12914	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	07/07/2016	Expiration Date:	05/30/2017
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M12856 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12911	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	06/28/2016	Expiration Date:	06/28/2016
Prep:	Carefully mixed **3** parts HCl AB.621 with **1** part HNO_3 AB.622 in a hood.		

Standard ID#:	M12909	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Custom Assurance Standard 23 meta
Date Received:	06/27/2016	Lot #:	2-18MKB
Expiration Date (if any):	06/30/2017	Catalog #:	XCTWI-5-500

Standard ID#:	M12910	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Interference A
Date Received:	06/27/2016	Lot #:	12-165YPX
Expiration Date (if any):	06/30/2016	Catalog #:	INT-A1

		Instrument:	CETAC
Standard Log #:	M12906	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	06/21/2016	Expiration Date:	06/21/2016
Prep:	Carefully mixed **3** parts HCl AB.621 with **1** part HNO_3 AB.622 in a hood.		

		Instrument:	CETAC
Standard Log #:	M12907	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	06/21/2016	Expiration Date:	11/06/2016
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.621 and dissolved **100 g** Stannous chloride M12802 and brought up to volume.		

Standard ID#:	M12908	Vendor:	AMCO Clear
Analyst:	NAH	Chemical:	Amco clear turbidity std 2.0 NTU
Date Received:	06/21/2016	Lot #:	C583585
Expiration Date (if any):	7/2017	Catalog #:	#8008

		Instrument:	CETAC
Standard Log #:	M12904	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	06/21/2016	Expiration Date:	08/18/2017
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12788 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M12905	Standard:	Hg MRL
Analyst:	LJF	Concentration:	0.2 ug/L Hg
Prep Date:	06/21/2016	Expiration Date:	05/30/2017
Prep:	Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M12856 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12901	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	06/21/2016	Expiration Date:	08/18/2017
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12788 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M12902	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	06/21/2016	Expiration Date:	05/30/2017
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M12856 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M12903	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	06/21/2016	Expiration Date:	05/30/2017
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M12856 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

Standard ID#:	M12900	Vendor:	HACH
Analyst:	NAH	Chemical:	StablCal Standard, 200 NTU or FNU
Date Received:	06/17/2016	Lot #:	A6036
Expiration Date (if any):	02/2018	Catalog #:	2660449

Standard Log #:	M12899	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	06/16/2016	Expiration Date:	06/16/2017
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.534 and **128.6 mL** 10N NaOH W38729. Dilute to 20 L and mix.		

Standard Log #:	M12898	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	06/13/2016	Expiration Date:	12/13/2016
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

		Instrument:	ICP 6500
Standard Log #:	M12896	Standard:	CCV1
Analyst:	NAH	Concentrations:	**5000 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn **500 µg/L** Ag, Be, Cd
Prep Date:	06/09/2016	Expiration Date:	10/2016
Prep:	Into a 1 L volumetric flask, pipetted **50 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12769 and **5.0 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M12882 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M12897	Standard:	CCV2
Analyst:	NAH	Concentrations:	**500 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn **50 µg/L** Ag, Be, Cd
Prep Date:	06/09/2016	Expiration Date:	10/2016
Prep:	Into a 1 L volumetric flask, pipetted **5 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12769 and **0.5 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M12882 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M12894	Standard:	DOD MRL
Analyst:	NAH	Concentrations:	4 ug/L: Be. 5 ug/L: Cd. 10 ug/L: Ag, Ba, Co, Cr, Cu, Mn, Mo. Ni, Pb, V, Zn, Sr, and Ti. 20 ug/L: Sb, As, Se, Tl, Li, Sn and B. 50 ug/L: W. 100 ug/L: Si. 300 ug/L: Fe. 400 ug/L Fe. 500 ug/L: S, Ca and Mg. 1000 ug/L: K and Na.
Prep Date:	06/09/2016	Expiration Date:	10/2016
Prep:	Into a 500 mL volumetric flask, pipetted **10 mL** of MRL Base STD M12893 and brought to volume with Milli-Q H_2O. (5% HNO_3 & 5% HCL)		

		Instrument:	ICP 6500
Standard Log #:	M12895	Standard:	ICVLL
Analyst:	NAH	Concentrations:	12 ug/L: Be. 15 ug/L: Cd. 30 ug/L: Ag, Ba, Co, Cr, Cu, Mn, Mo. Ni, Pb, V, Zn, Sr, and Ti. 60 ug/L: Sb, As, Se, Tl, Li, Sn and B. 150 ug/L: W. 300 ug/L: Si. 900 ug/L: Fe. 1200 ug/L Al. 1500 ug/L: S, Ca and Mg. 3000 ug/L: K and Na.
Prep Date:	06/09/2016	Expiration Date:	10/2016
Prep:	Into a 500 mL volumetric flask, pipetted 30 **mL** of MRL Base STD M12893 and brought to volume with Milli-Q H_2O. (5% HNO_3 & 5% HCL)		

MRL BASE STD M12893

Analyst NAH

Prep Date 06/09/2016

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	(ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L	Expiration Date
Ag	20	M12599	1000	1	02/10/2017
Al	400	M12885	10000	2	12/01/2017
Ba	10	M12473	1000	0.5	10/15/2016
Be	4	M12667	1000	0.2	04/15/2017
Cd	5	M12674	1000	0.25	04/15/2017
Co	10	M12678	1000	0.5	04/15/2017
Cr	10	M12470	10000	0.05	10/15/2016
Cu	10	M12472	10000	0.05	10/15/2016
Mg	500	M12884	10000	2.5	12/01/2017
Mn	10	M12533	10000	0.05	11/29/2016
Mo	10	M12677	1000	0.5	04/15/2017
Ni	10	M12681	1000	0.5	04/15/2017
Pb	10	M12861	10000	0.05	11/11/2017
Sb	20	M12602	1000	1	02/10/2017
V	10	M12676	1000	0.5	04/15/2017
Zn	10	M12680	10000	0.05	04/15/2017
K	1000	M12883	10000	5	12/01/2017
Na	1000	M12679	10000	5	04/15/2017
As	20	M12860	1000	1	11/11/2017
Ca	500	M12886	10000	2.5	12/01/2017
Fe	300	M12887	10000	1.5	12/01/2017
Se	20	M12600	1000	1	02/10/2017
Tl	20	M12668	1000	1	04/15/2017
Si	100	M12675	1000	5	04/15/2017
B	20	M12471	1000	1	10/15/2016
Li	20	M12672	1000	1	04/15/2017
W	50	M12673	1000	2.5	04/15/2017
Ti	10	M12671	1000	0.5	04/15/2017
Sr	10	M12670	1000	0.5	04/15/2017
Sn	50	M12669	1000	2.5	04/15/2017
S	300	M12876	10000	1.5	05/30/2017

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expiration Date: 10/2016

		Instrument:	ICP 6500
Standard Log #:	M12892	Standard:	ICSAB
Analyst:	NAH	Concentrations:	**500,000 ug/L** Al, Ca, Fe, Mg **500 ug/L** Ag, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Tl, V, Zn
Prep Date:	06/09/2016	Expiration Date:	12/2016
Prep:	Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M12733 , **15 mL** Fe (10,000 mg/L) M12887 , **2.5 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M12769 and **2.5 mL** Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12882 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M12890	Standard:	ICV Std.
Analyst:	NAH	Concentrations:	**12,000 mg/L** Al **10,000 mg/L** Ca, Mg **5000 mg/L** Fe **2000 mg/L** As, Ba, Se, Tl **500 mg/L** B, Co, Li, Mn, Mo, Ni, Pb, Sb, Sn, Sr, Ti, V, Zn **250 mg/L** Cu **200 mg/L** Cr **50 mg/L** Ag, Be, Cd
Prep Date:	06/09/2016	Expiration Date:	10/2016
Prep:	Into a 1 L volumetric flask, pipetted the following and brought up to volume with milli-Q H_2O. **10 mL** Custom Assurance Standard #18 ((200 mg/L Al, As, Ba, Se, Tl) (100 mg/L Fe) (50 mg/L Co, Mn, Ni, Pb, Sb, V, Zn) (25 mg/L Cu) (20 mg/L Cr) (5 mg/L Ag, Be, Cd)) M12819, **2 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M12733, **0.5 mL** Mo (1000 mg/L) M12677, **0.5 mL** B (1000 mg/L) M12471, **0.5 mL** Sr (1000 mg/L) M12670, **0.5 mL** Li (1000 mg/L) M12672, **0.5 mL** Sn (1000 mg/L) M12669 and **0.5 mL** Ti (1000 mg/L) M12671.		

		Instrument:	ICP 6500
Standard Log #:	M12891	Standard:	ICSA
Analyst:	NAH	Concentrations:	**500,000 ug/L** Al, Ca, Fe, Mg
Prep Date:	06/09/2016	Expiration Date:	12/2016
Prep:	Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M12733 and **15 mL** Fe (10000 mg/L) M12887 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M12889	Standard:	ICAL
Analyst:	NAH	Concentrations:	0.25, 0.5, 1, 5, 10, 20, 50, 100, 1000, 10,000, 100k, 100,000, 500,000 and 1000k (ug/L)
Prep Date:	06/09/2016	Expiration Date:	02/28/2017

Prep:

Using 1 L volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O.
(5% HNO_3, 5% HCl)
1000 ug/L Std. - **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12769, **10 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M12882 and **1 mL** of Si (1000 mg/L) M12675.
0.25 ug/L Std. - **0.25 mL** of the 1000 ug/L Std.
0.5 ug/L Std. - **0.5 mL** of the 1000 ug/L Std.
1 ug/L Std. - **1 mL** of the 1000 ug/L Std.
5 ug/L Std. - **5 mL** of the 1000 ug/L Std.
10 ug/L Std. - **10 mL** of the 1000 ug/L Std.
20 ug/L Std. - **20 mL** of the 1000 ug/L Std.
50 ug/L Std. - **50 mL** of the 1000 ug/L Std.
100 ug/L Std. - **1 mL** of Custom Assurance Std. (CAS) #23 and **1 mL** of CAS #3
10,000 ug/L Std. - **100 mL** CAS #23, **100 mL** CAS #3 and **1 mL** of K (10,000 mg/L) M12883.
100k ug/L Std. - **10 mL** of Cu (10,000 mg/L) M12472, **10 mL** of Mn (10,000 mg/L) M12533, **10 mL** of Cr (10,000 mg/L) M12470, **10 mL** Pb (10,000 mg/L) M12861, **10 mL** of Zn (10,000 mg/L) M12680 and **10 mL** of Na (10,000 mg/L) M12679.
100,000 ug/L Std. - **10 mL** of Mg (10,000 mg/L) M12884, **10 mL** of Fe (10,000 mg/L) M12887, **10 mL** of Ca (10,000 mg/L) M12886 and **10 mL** Al (10,000 mg/L) M12885.
500,000 ug/L Std. - **50 mL** of Mg (10,000 mg/L), **50 mL** of Fe (10,000 mg/L), **50 mL** of Ca (10,000 mg/L) and **50 mL** of Al (10,000 mg/L)
1000k ug/L Std. - **100 mL** of Mg (10,000 mg/L), **100 mL** of Fe (10,000 mg/L), **100 mL** of Ca (10,000 mg/L) and **100 mL** of Al (10,000 mg/L)

Standard ID#:	M12886	Vendor:	CPI
Analyst:	NAH	Chemical:	Ca 10,000 mg/L
Date Received:	06/08/2016	Lot #:	16E067
Expiration Date (if any):	12/01/2017	Catalog #:	4400-10M91

Standard ID#:	M12887	Vendor:	CPI
Analyst:	NAH	Chemical:	Fe 10,000 mg/L
Date Received:	06/08/2016	Lot #:	16D220
Expiration Date (if any):	12/01/2017	Catalog #:	4400-10M261

Standard ID#:	M12888	Vendor:	CPI
Analyst:	NAH	Chemical:	Y 10,000 mg/L
Date Received:	06/01/2016	Lot #:	16E033
Expiration Date (if any):	12/01/2017	Catalog #:	4400-10M671

Standard ID#:	M12882	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	06/08/2016	Lot #:	37-058CR
Expiration Date (if any):	06/30/2017	Catalog #:	XCTWI-4-500

Standard ID#:	M12883	Vendor:	CPI
Analyst:	NAH	Chemical:	K 10,000 mg/L
Date Received:	06/08/2016	Lot #:	16D014
Expiration Date (if any):	12/01/2017	Catalog #:	4400-10M411

Standard ID#:	M12884	Vendor:	CPI
Analyst:	NAH	Chemical:	Mg 10,000 mg/L
Date Received:	06/08/2016	Lot #:	16E106
Expiration Date (if any):	12/01/2017	Catalog #:	4400-10M311

Standard ID#:	M12885	Vendor:	CPI
Analyst:	NAH	Chemical:	Al 10,000 mg/L
Date Received:	06/08/2016	Lot #:	16B102
Expiration Date (if any):	12/01/2017	Catalog #:	4400-10M11

Standard Log #:	M12879	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	06/06/2016	Expiration Date:	06/06/2017
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.534 and **128.6 mL** 10N NaOH W38729. Dilute to 20 L and mix.		

Standard Log #:	M12880	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	06/06/2016	Expiration Date:	06/06/2017
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.534 and **128.6 mL** 10N NaOH W38729. Dilute to 20 L and mix.		

Standard Log #:	M12881	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	06/06/2016	Expiration Date:	06/06/2017
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.534 and **128.6 mL** 10N NaOH W38729. Dilute to 20 L and mix.		

Standard ID#:	M12876	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Sulfur 10,000 mg/L
Date Received:	06/06/2016	Lot #:	AJ16-45SY
Expiration Date (if any):	05/30/2016	Catalog #:	PLS9-3Y

Standard ID#:	M12877	Vendor:	FISHER
Analyst:	LJF	Chemical:	SODIUM CHLORIDE
Date Received:	06/06/2016	Lot #:	158648
Expiration Date (if any):		Catalog #:	S271-500

Standard Log #:	M12878	Reagent:	10N NaOH
Analyst:	LJF		
Prep Date:	06/06/2016	Expiration Date:	06/06/2017
Prep:	Into a 1 L volumetric flask, added **400 g** NaOH W38729 and brought up to volume.		

Standard Log #:	M12875	Standard:	GFAA Instrument Check
Analyst:	MDS	Final Concentration:	10 µg/L As 6 µg/L Pb 22 µg/L Tl 24 µg/L Sb, Se 0.8 µg/L Ag
Prep Date:	06/03/16	Expiration Date:	02/10/17

Into six, 100 mL volumetric flasks, add the following and bring up to volume with milli-Q H_2O.

Element	Volume Pipetted (mL)	Standard Conc. (µg/mL)	Standard ID	New Conc. (µg/L)
As	1	1000	M12860	10,000
Pb	0.1	10,000	M12861	10,000
Tl	1	1000	M12668	10,000
Se	1	1000	M12600	10,000
Sb	1	1000	M12602	10,000
Ag	0.1	1000	M12599	1000

Into a 1 L volumetric flask, add the following and bring up to volume with Milli-Q H_20. (1% HNO_3)

Element	Volume Pipetted (mL)	Standard Conc. (µg/L)	New Conc. (µg/L)
As	1	10,000	10
Pb	0.6	10,000	6
Tl	2.2	10,000	22
Se	2.4	10,000	24
Sb	2.4	10,000	24
Ag	0.8	1000	0.8

Standard ID#:	M12873	Vendor:	CPI
Analyst:	NAH	Chemical:	Sodium 1000 mg/L
Date Received:	06/03/16	Lot #:	16D063
Expiration Date (if any):	11/27/17	Catalog #:	4400-1000521

Standard ID#:	M12874	Vendor:	CPI
Analyst:	NAH	Chemical:	Potassium 1000 mg/L
Date Received:	06/03/16	Lot #:	16B100
Expiration Date (if any):	11/27/17	Catalog #:	4400-1000411

		Instrument:	ICP 6000
Standard Log #:	M12871	Standard:	Na & K ICAL
Analyst:	MDS	Concentrations:	0.5, 1, 5, 10, 50, 100, and 200 mg/L (Na,K)
Prep Date:	06/02/16	Expiration Date:	02/12/17
Prep:	Into seven, 200 mL volumetric flasks, pipetted the following from Na (1000 µg/mL) M12607 and K (1000 µg/mL) M12608 and brought up to volume using milli-Q H_2O. (2% HNO_3) *0.5 mg/L std.* - **0.1 mL** of each *1.0 mg/L std.* - **0.2 mL** of each *5.0 mg/L std.* - **1.0 mL** of each *10 mg/L std.* - **2.0 mL** of each *50 mg/L std.* - **10 mL** of each *100 mg/L std.* -**20 mL** of each, also used for Continuing Calibration Verification *200 mg/L std.* - **40 mL** of each		

Standard ID#:	M12872	Vendor:	SCP Science Plasma Cal
Analyst:	NAH	Chemical:	Sulfur 10,000 mg/L
Date Received:	06/02/16	Lot #:	S160222009
Expiration Date (if any):	11/2017	Catalog #:	140-060-161

		Instrument:	GFAA
Standard Log #:	M12868	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	06/01/16	Expiration Date:	06/01/17
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M12862 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M12869	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	06/01/16	Expiration Date:	06/01/17
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M12862 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M12870	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	06/01/16	Expiration Date:	06/01/17
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M12863 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

Standard ID#:	M12867	Vendor:	SpexCertiprep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	05-27-2016	Lot #:	37-024CR
Expiration Date (if any):	05/20/2017	Catalog #:	XSPIKE-1-250

Standard ID#:	M12866	Vendor:	Fisher, distributer (saint-gobain, manu
Analyst:	NAH	Chemical:	Chemware Ultra pure PTFE Boiling St
Date Received:	05/23/2016	Lot #:	5608-6E001
Expiration Date (if any):		Catalog #:	0919120

Standard ID#:	M12864	Vendor:	LabChem
Analyst:	LJF	Chemical:	STANNOUS CHLORIDE
Date Received:	05/19/2016	Lot #:	F120-15
Expiration Date (if any):		Catalog #:	LC251701

Standard Log #:	M12865	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	05/20/2016	Expiration Date:	05/20/2017
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.534 and **128.6 mL** 10N NaOH M12645. Dilute to 20 L and mix.		

Standard ID#:	M12862	Vendor:	Inorganic Ventures
Analyst:	MDS	Chemical:	GFAA ICAL/CCV
Date Received:	05/19/2016	Lot #:	J2-MEB581070
Expiration Date (if any):	06/01/2017	Catalog #:	CTI-SPK-1

Standard ID#:	M12863	Vendor:	Inorganic Ventures
Analyst:	MDS	Chemical:	GFAA ICV/SPIKE
Date Received:	05/19/2016	Lot #:	J2-MEB581069
Expiration Date (if any):	06/01/2017	Catalog #:	CTI-GFCAL-1

Standard ID#:	M12860	Vendor:	CPI
Analyst:	NAH	Chemical:	Arsenic 1000 mg/L
Date Received:	05/17/2016	Lot #:	16B070
Expiration Date (if any):	11/11/2017	Catalog #:	S4400-100031

Standard ID#:	M12861	Vendor:	CPI
Analyst:	NAH	Chemical:	Lead 10,000 mg/L
Date Received:	05/17/2016	Lot #:	16D240
Expiration Date (if any):	11/11/2017	Catalog #:	4400-10M281

Standard ID#:	M12859	Vendor:	Alfa Aesar Specpure
Analyst:	MDS	Chemical:	Nickel Nitrate Matrix Modifier
Date Received:	05/12/2016	Lot #:	921812Q
Expiration Date (if any):	06/30/2017	Catalog #:	39043

Standard ID#:	M12856	Vendor:	SPEX CertPrep
Analyst:	LJF	Chemical:	Hg
Date Received:	05/10/2016	Lot #:	CL8-144HGY
Expiration Date (if any):	05/30/2017	Catalog #:	CLHG4-2Y

Standard Log #:	M12857	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	05/10/2016	Expiration Date:	11/10/2016
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

Standard Log #:	M12858	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	05/10/2016	Expiration Date:	11/10/2016
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M12403 and **60 g** hydroxylamine sulfate M12610 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M12852	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	05/06/2016	Expiration Date:	08/18/2017
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12788 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M12853	Standard:	Hg MRL
Analyst:	LJF	Concentration:	0.2 ug/L Hg
Prep Date:	05/06/2016	Expiration Date:	06/30/2016
Prep:	Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M12532 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12854	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	05/06/2016	Expiration Date:	05/06/2016
Prep:	Carefully mixed **3** parts HCl AB.618 with **1** part HNO_3 AB.619 in a hood.		

		Instrument:	CETAC
Standard Log #:	M12855	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	05/06/2016	Expiration Date:	11/06/2016
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.618 and dissolved **100 g** Stannous chloride M12802 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M12849	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	05/06/2016	Expiration Date:	08/18/2016
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12788 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M12850	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	05/06/2016	Expiration Date:	06/30/2016
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M12532 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M12851	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	05/06/2016	Expiration Date:	06/30/2016
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M12532 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	ICP 6000
Standard Log #:	M12848	Standard:	List 2 ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	05/04/16	Expiration Date:	12/30/16
Prep:	Into a 200 mL volumetric flask, pipetted **20 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M12733, **6 mL** of Fe (10,000 mg/L) M12745, **0.1 mL** of Li (1000 µg/mL) M12672, **0.1 mL** of Sn (1000 µg/mL) M12669, **0.1 mL** of Sr (1000 µg/mL) M12670, **0.1 mL** of Ti (1000 µg/mL) M12671, and **0.1 mL** of W (1000 µg/mL) M12673 and brought up to volume using Milli-Q H_2O. (0.5% HNO_3, 0.5% HCl)		

		Instrument:	GFAA
Standard Log #:	M12846	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	04/29/16	Expiration Date:	06/01/16
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M12504 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M12847	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	04/29/16	Expiration Date:	06/01/16
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M12505 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

Standard ID#:	M12843	Vendor:	FISHER
Analyst:	LJF	Chemical:	HYDROXYLAMINE SULFATE
Date Received:	04/28/16	Lot #:	161238
Expiration Date (if any):		Catalog #:	H331-500

		Instrument:	ICP 6000
Standard Log #:	M12844	Standard:	B&Si ICV
Analyst:	MDS	Concentrations:	1000 ug/L (B, Si)
Prep Date:	04/29/16	Expiration Date:	02/28/17
Prep:	Into a 1 L volumetric flask, pipetted **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, **B**, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12769 and **1.0 mL** Si (1000 mg/L) M12675 and brought up to volume using milli-Q H_2O.		

		Instrument:	GFAA
Standard Log #:	M12845	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	04/29/16	Expiration Date:	06/01/16
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M12504 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M12841	Standard:	NaK ICV
Analyst:	MDS	Concentrations:	100 mg/L (Na, K)
Prep Date:	04/22/2016	Expiration Date:	04/15/2017
Prep:	Into a 250 mL volumetric flask, pipetted **2.5 mL** of K (10,000 mg/L) M12744 and Na (10,000 mg/L) M12679 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M12842	Standard:	NaK ICSAB
Analyst:	MDS	Concentrations:	500 mg/L (Al, Ca, Fe, Mg) 100 mg/L (Na, K)
Prep Date:	04/22/2016	Expiration Date:	12/30/2016
Prep:	Into a 250 mL volumetric flask, pipetted **25 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M12733, **2.5 mL** of K (10,000 mg/L) M12744, **2.5 mL** of Na (10,000 mg/L) M12679 and **7.5 mL** of Fe (10,000 mg/L) M12745 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

Standard Log #:	M12840	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3050 S Spiking Solution
Prep Date:	04/19/2016	Expiration Date:	10/2016

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
S	240	M12770	10000	1.2

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M12839	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3010 S Spiking Solution
Prep Date:	04/19/2016	Expiration Date:	10/2016

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
S	200	M12770	10000	1.0

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M12838	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3050 B&Si Spiking Solution
Prep Date:	04/19/2016	Expiration Date:	10/2016

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
B	52	M12471	1000	2.6
Si	192	M12675	1000	9.6

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M12837	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3010 B&Si Spiking Solution
Prep Date:	04/19/2016	Expiration Date:	10/2016

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
B	16	M12471	1000	0.8
Si	200	M12675	1000	10

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M12836	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3050 k&na Spiking Solution
Prep Date:	04/19/2016	Expiration Date:	10/2016

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
K	2640	M12744	10000	13.2
Na	960	M12679	10000	4.8

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M12835	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3010 k&na Spiking Solution
Prep Date:	04/19/2016	Expiration Date:	10/2016

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
K	500	M12744	10000	2.5
Na	600	M12679	10000	3

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M12834	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3050 L2 Spiking Solution
Prep Date:	04/19/2016	Expiration Date:	10/2016

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
Li	14.4	M12672	1000	0.72
Sn	20	M12669	1000	1
Sr	3.2	M12670	1000	0.16
Ti	9.6	M12671	1000	0.48
W	24	M12673	1000	1.2

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M12833	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3010 L2 Spiking Solution
Prep Date:	04/19/2016	Expiration Date:	10/2016

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
Li	10	M12672	1000	0.5
Sn	10	M12669	1000	0.5
Sr	2	M12670	1000	0.1
Ti	8	M12671	1000	0.8
W	36	M12673	1000	1.8

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M12832	Instrument:	ICP 6500
Analyst:	NAH	Standard:	LOQ 3050 DOD Metals Spiking S
Prep Date:	0419/2016	Expiration Date:	10/2016

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3, 5% HCl)

Analyte	MDL Conc. (ug/L)	Std. ID #	Std Conc	Volume (mL) pipetted into 1 L
Ag	4	M12599	1000	0.2
Al	9.6	M12713	**10000**	0.048
As	32	M12315	1000	1.6
Ba	2	M12473	1000	0.1
Be	1.6	M12667	1000	0.08
Ca	56	M12716	**10000**	0.28
Cd	1.6	M12674	1000	0.08
Co	9.6	M12678	1000	0.48
Cr	5.6	M12470	**10000**	0.028
Cu	16	M12472	**10000**	0.08
Fe	72	M12745	**10000**	0.36
Mg	32	M12715	**10000**	0.16
Mn	6	M12733	**10000**	0.03
Mo	9.6	M12677	1000	0.48
Ni	4.8	M12681	1000	0.24
Pb	10	M12313	**10000**	0.05
Sb	32	M12602	1000	1.6
Se	16	M12600	1000	0.8
Tl	19	M12668	1000	0.95
V	3.2	M12676	1000	0.16
Zn	12	M12680	**10000**	0.06

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M12831	Instrument:	ICP 6500
Analyst:	NAH	Standard:	LOQ 3010 DOD Metals Spiking S
Prep Date:	04/19/2016	Expiration Date:	10/2016

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3, 5% HCl)

Analyte	MDL Conc. (ug/L)	Std. ID #	Std Conc	Volume (mL) pipetted into 1 L
Ag	4	M12599	1000	0.2
Al	36	M12713	**10000**	0.18
As	24	M12315	1000	1.2
Ba	1.8	M12473	1000	0.09
Be	0.6	M12667	1000	0.03
Ca	100	M12716	**10000**	0.5
Cd	2.0	M12674	1000	0.1
Co	4	M12678	1000	0.2
Cr	4	M12470	**10000**	0.02
Cu	7	M12472	**10000**	0.035
Fe	100	M12745	**10000**	0.5
Mg	40	M12715	**10000**	0.2
Mn	4	M12533	**10000**	0.02
Mo	7	M12677	1000	0.35
Ni	6	M12681	1000	0.2
Pb	4	M12313	**10000**	0.02
Sb	12	M12602	1000	0.6
Se	13	M12600	1000	0.65
Tl	20	M12668	1000	0.75
V	5	M12676	1000	0.25
Zn	10	M12680	**10000**	0.05

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M12830	Reagent:	Potassium Persulfate Solution
Analyst:	LJF		
Prep Date:	041916	Expiration Date:	101916
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M11748 and brought up to volume.		

Standard Log #:	M12827	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	041816	Expiration Date:	101816
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

Standard ID#:	M12828	Vendor:	Environmental Express
Analyst:	NAH	Chemical:	Yttrium 10,000 ug/mL
Date Received:	04/18/2016	Lot #:	1518025
Expiration Date (if any):	10/14/2017	Catalog #:	hp10m67-1

Standard ID#:	M12829	Vendor:	CPI
Analyst:	NAH	Chemical:	Yttrium 10,000 ug/mL
Date Received:	04/18/2016	Lot #:	16a118
Expiration Date (if any):	10/12/2017	Catalog #:	4400-10m671

		Instrument:	CETAC
Standard Log #:	M12823	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	041816	Expiration Date:	063016
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12788 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M12824	Standard:	Hg MRL
Analyst:	LJF	Concentration:	0.2 ug/L Hg
Prep Date:	041816	Expiration Date:	063016
Prep:	Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12825	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	041816	Expiration Date:	010118
Prep:	Carefully mixed **3** parts HCl AB.618 with **1** part HNO_3 AB.617 in a hood.		

		Instrument:	CETAC
Standard Log #:	M12826	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	041816	Expiration Date:	101816
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.618 and dissolved **100 g** Stannous chloride M12802 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M12820	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	041816	Expiration Date:	081817
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12788 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M12821	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	041816	Expiration Date:	063016
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M12532 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M12822	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	041816	Expiration Date:	063016
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

Standard ID#:	M12819	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Std
Date Received:	04/12/2016	Lot #:	36-051CR
Expiration Date (if any):	4/30/2017	Catalog #:	XSPIKE-1-250

		Instrument:	CETAC
Standard Log #:	M12816	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	04/01/16	Expiration Date:	02/26/17
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.615 and dissolved **100 g** Stannous chloride M12789 and brought up to volume.		

Standard Log #:	M12817	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	04/01/16	Expiration Date:	10/01/16
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

Standard Log #:	M12818	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	04/01/16	Expiration Date:	10/01/16
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M12403 and **60 g** hydroxylamine sulfate M12610 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M12813	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	04/01/16	Expiration Date:	08/18/17
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12788 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M12814	Standard:	Hg MRL
Analyst:	LJF	Concentration:	0.2 ug/L Hg
Prep Date:	04/01/16	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12815	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	04/01/16	Expiration Date:	10/01/17
Prep:	Carefully mixed **3** parts HCl AB.615 with **1** part HNO_3 AB.614 in a hood.		

		Instrument:	CETAC
Standard Log #:	M12810	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	04/01/16	Expiration Date:	08/18/17
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12788 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M12811	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	04/01/16	Expiration Date:	06/30/16
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M12532 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M12812	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	04/01/16	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

Standard Log #:	M12809	Instrument:	ICP 6500
Analyst:	MDS	Standard:	MDL 21 Metals Spiking Solution
Prep Date:	03/22/2016	Expiration Date:	06/02/2016

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3, 5% HCl)

Analyte	MDL Conc. (ug/L)	Std. ID #	Std Conc	Volume (mL) pipetted into 1 L
Ag	5	M12599	1000	0.25
Al	10	M12713	**10000**	0.05
As	20	M12315	1000	1
Ba	2	M12473	1000	0.1
Be	0.5	M12667	1000	0.025
Ca	50	M12716	**10000**	0.25
Cd	0.5	M12674	1000	0.025
Co	2.5	M12678	1000	0.125
Cr	50	M12470	**10000**	0.25
Cu	10	M12472	**10000**	0.05
Fe	40	M12714	**10000**	0.2
Mg	25	M12715	**10000**	0.125
Mn	5	M12533	**10000**	0.025
Mo	2.5	M12677	1000	0.125
Ni	5	M12681	1000	0.25
Pb	10	M12313	**10000**	0.05
Sb	20	M12602	1000	1
Se	20	M12600	1000	1
Tl	20	M12668	1000	1
V	5	M12676	1000	0.25
Zn	5	M12680	**10000**	0.025

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M12808	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	03/17/16	Expiration Date:	03/17/17
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.534 and **128.6 mL** 10N NaOH M12645. Dilute to 20 L and mix.		

		Instrument:	GFAA
Standard Log #:	M12805	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	03/15/2016	Expiration Date:	06/01/2016
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M12504 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M12806	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	03/15/2016	Expiration Date:	06/01/2016
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M12504 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M12807	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	03/15/2016	Expiration Date:	06/01/2016
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M12505 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

Standard ID#:	M12802	Vendor:	LabChem
Analyst:	LJF	Chemical:	STANNOUS CHLORIDE
Date Received:	03/09/16	Lot #:	F053-07
Expiration Date (if any):		Catalog #:	LC251701

Standard Log #:	M12803	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	03/09/16	Expiration Date:	09/09/17
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

Standard ID#:	M12804	Vendor:	CPI
Analyst:	NAH	Chemical:	Arsenic 10,000 mg/L
Date Received:	03/09/16	Lot #:	14A276
Expiration Date (if any):	09/03/17	Catalog #:	S4400-10M31

		Instrument:	ICP 6000
Standard Log #:	M12800	Standard:	L2 ICV
Analyst:	MDS	Concentrations:	1000 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	03/08/2016	Expiration Date:	04/15/2017
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of the following and brought up to volume using milli-Q H_2O. (0.5% HNO_3, 0.5% HCl) Li (1000 µg/mL) M12672 Sn (1000 µg/mL) M12669 Sr (1000 µg/mL) M12670 Ti (1000 µg/mL) M12671 W (1000 µg/mL) M12784		

		Instrument:	ICP 6000
Standard Log #:	M12801	Standard:	List 2 MRL/ICVLL Prep Solution
Analyst:	MDS	Concentrations:	5000 µg/L (W) 1000 µg/L (Li, Sn) 500 µg/L (Ti, Sr)
Prep Date:	03/08/2016	Expiration Date:	04/15/2017

Prep:

Analyte	MRL/ICVLL Conc. (µg/L)	Standard ID	Std. Conc. (µg/mL)	Volume (mL) Pipetted into 1 L	Expiration Date
Li	20/60	M12672	1000	1	04/15/2017
W	100/300	M12784	1000	5	08/11/2017
Ti	10/30	M12671	1000	0.5	04/15/2017
Sr	10/30	M12670	1000	0.5	04/15/2017
Sn	20/60	M12669	1000	1	04/15/2017

Pipette **10 mL** into a 500 mL volumetric flask to create a working MRL std. or **1 mL** into a 50 mL digestion tube for a digested MRL standard. Pipette **30 mL** into 500 mL for a working ICVLL std. or **3 mL** into a 50 mL digestion tube for a digested ICVLL standard.

(0.5% HNO_3, 0.5% HCl)

Standard Log #:	M12798	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	03/07/16	Expiration Date:	03/07/17
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12645. Dilute to 20 L and mix.		

Standard Log #:	M12799	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	03/07/16	Expiration Date:	03/07/17
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12645. Dilute to 20 L and mix.		

Standard Log #:	M12797	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	02/29/16	Expiration Date:	08/29/16
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M12403 and **60 g** hydroxylamine sulfate M12548 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M12793	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	02/26/16	Expiration Date:	08/18/17
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12788 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M12794	Standard:	Hg MRL
Analyst:	LJF	Concentration:	0.2 ug/L Hg
Prep Date:	02/26/16	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12795	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	02/26/16	Expiration Date:	10/01/17
Prep:	Carefully mixed **3** parts HCl AB.615 with **1** part HNO_3 AB.614 in a hood.		

		Instrument:	CETAC
Standard Log #:	M12796	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	02/26/16	Expiration Date:	02/26/17
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.615 and dissolved **100 g** Stannous chloride M12789 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M12790	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	02/26/16	Expiration Date:	08/18/17
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12788 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M12791	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	02/26/16	Expiration Date:	06/30/16
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M12532 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M12792	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	02/26/16	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

Standard ID#:	M12787	Vendor:	CPI
Analyst:	NAH	Chemical:	Yttrium 10,000 mg/L
Date Received:	02/24/2016	Lot #:	16A118
Expiration Date (if any):	08/18/2017	Catalog #:	4400-10M671

Standard ID#:	M12788	Vendor:	CPI
Analyst:	NAH	Chemical:	Mercury 1000 mg/L
Date Received:	02/24/2016	Lot #:	15J139
Expiration Date (if any):	08/18/2017	Catalog #:	S4400-1000331

Standard ID#:	M12789	Vendor:	LabChem
Analyst:	LJF	Chemical:	STANNOUS CHLORIDE
Date Received:	02/24/16	Lot #:	F053-07
Expiration Date (if any):		Catalog #:	LC251701

Standard Log #:	M12786	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	02/22/16	Expiration Date:	02/22/17
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12645. Dilute to 20 L and mix.		

Standard Log #:	M12785	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	02/18/16	Expiration Date:	02/18/17
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12645. Dilute to 20 L and mix.		

Standard Log #:	M12783	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	02/16/16	Expiration Date:	08/16/16
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

Standard ID#:	M12784	Vendor:	CPI
Analyst:	NAH	Chemical:	Tungsten
Date Received:	02/16/2016	Lot #:	15k204
Expiration Date (if any):	08/11/2017	Catalog #:	S4400-1000633

		Instrument:	CETAC
Standard Log #:	M12780	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	02/15/16	Expiration Date:	10/01/17
Prep:	Carefully mixed **3** parts HCl AB.615 with **1** part HNO_3 AB.614 in a hood.		

		Instrument:	CETAC
Standard Log #:	M12781	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	02/15/16	Expiration Date:	08/12/16
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.615 and dissolved **100 g** Stannous chloride M12731 and brought up to volume.		

Standard ID#:	M12782	Vendor:	ALFA AESAR
Analyst:	LJF	Chemical:	TIN CHLORIDE DIH
Date Received:	02/11/16	Lot #:	W03B012
Expiration Date (if any):		Catalog #:	11536

		Instrument:	CETAC
Standard Log #:	M12777	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	02/15/16	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12778	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	02/15/16	Expiration Date:	02/26/16
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M12779	Standard:	Hg MRL
Analyst:	LJF	Concentration:	0.2 ug/L Hg
Prep Date:	02/15/16	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

Standard Log #:	M12774	Reagent:	Potassium Persulfate Solution
Analyst:	LJF		
Prep Date:	02/15/16	Expiration Date:	08/15/16
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M12774 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M12775	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	02/15/16	Expiration Date:	02/26/16
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M12776	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	02/15/16	Expiration Date:	06/30/16
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M12532 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M12773	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Custom Assurance std-spike
Date Received:	02/12/16	Lot #:	35-054CR
Expiration Date (if any):	02/28/2016	Catalog #:	XSPIKE-1-250

Standard ID#:	M12770	Vendor:	SPEX CertiPrep
Analyst:	MDS	Chemical:	Sulfur 10,000 µg/mL
Date Received:	02/09/2016	Lot #:	AJ16-45SY
Expiration Date (if any):	02/28/2017	Catalog #:	PLS9-3Y

		Instrument:	ICP 6000
Standard Log #:	M12771	Standard:	Sulfur ICAL
Analyst:	MDS	Concentrations:	1000 10,000 100,000 1000K µg/L (S)
Prep Date:	02/09/2016	Expiration Date:	02/28/2017
Prep:	Into four, 100 mL volumetric flasks, pipetted the following from stock standard S (10,000 µg/mL) M12770 and brought up to volume using milli-Q H_2O. *1000 ug/L std.* - **0.01 mL** *10,000 ug/L std.* - **0.1 mL** *100,000 ug/L std.* -**1.0 mL**, also used as the CCV *1000K ug/L std.* - **10 mL**		

		Instrument:	ICP 6000
Standard Log #:	M12772	Standard:	Sulfur ICV
Analyst:	MDS	Concentrations:	100,000 µg/L (S)
Prep Date:	02/09/2016	Expiration Date:	08/13/2016
Prep:	Into a 100 mL volumetric flask, pipetted **1.0 mL** of S (10,000 µg/mL) M12371 and brought up to volume using Milli-Q H_2O.		

Standard ID#:	M12769	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	02/08/2016	Lot #:	11-035WL
Expiration Date (if any):	02/28/2017	Catalog #:	XCTWI-5-500

		Instrument:	ICP 6000
Standard Log #:	M12766	Standard:	List 2 ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	02/04/2016	Expiration Date:	12/30/2016
Prep:	Into a 200 mL volumetric flask, pipetted **20 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M12733, **6 mL** of Fe (10,000 mg/L) M12714, **0.1 mL** of Li (1000 µg/mL) M12672, **0.1 mL** of Sn (1000 µg/mL) M12669, **0.1 mL** of Sr (1000 µg/mL) M12670, **0.1 mL** of Ti (1000 µg/mL) M12671, and **0.1 mL** of W (1000 µg/mL) M12673 and brought up to volume using Milli-Q H_2O. (0.5% HNO_3, 0.5% HCl)		

		Instrument:	ICP 6000
Standard Log #:	M12767	Standard:	List 2 MRL/ICVLL Prep Solution
Analyst:	MDS	Concentrations:	5000 µg/L (W) 1000 µg/L (Li, Sn) 500 µg/L (Ti, Sr)
Prep Date:	02/04/2016	Expiration Date:	02/06/2016

Prep:

Analyte	MRL/ICVLL Conc. (µg/L)	Standard ID	Std. Conc. (µg/mL)	Volume (mL) Pipetted into 1 L	Expiration Date
Li	20/60	M12672	1000	1	04/15/2017
W	100/300	M12163	1000	5	02/06/2016
Ti	10/30	M12671	1000	0.5	04/15/2017
Sr	10/30	M12670	1000	0.5	04/15/2017
Sn	20/60	M12669	1000	1	04/15/2017

Pipette **10 mL** into a 500 mL volumetric flask to create a working MRL std. or **1 mL** into a 50 mL digestion tube for a digested MRL standard. Pipette **30 mL** into 500 mL for a working ICVLL std. or **3 mL** into a 50 mL digestion tube for a digested ICVLL standard.

(0.5% HNO_3, 0.5% HCl)

Standard ID#:	M12768	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Custum Assurance Std Ca,Mg,Na
Date Received:	02/04/2016	Lot #:	11-022WL
Expiration Date (if any):	01/30/2017	Catalog #:	XTTWI-1-500

		Instrument:	ICP
Standard Log #:	M12764	Standard:	L2 ICAL
Analyst:	MDS	Concentrations:	1 (µg/L) 10 (µg/L) 100 (µg/L) 1000 (µg/L) 10,000 (µg/L)
Prep Date:	02/04/2016	Expiration Date:	11/30/2016
Prep:	Standard Conc. (ug/L) — Pipette the following: 1 — **0.01 mL** of Custom Assurance Standard XCTWI-5-500 M12703 and **0.001 mL** W (1000 µg/mL) M12673 into 1L = *1 µg/L* 10 — **0.10 mL** of Custom Assurance Standard XCTWI-5-500 M12703 and **0.01 mL** W (1000 µg/mL) M12673 into 1L = *10 µg/L* 100 — **1 mL** of Custom Assurance Standard XCTWI-5-500 M12703 and **0.1 mL** W (1000 µg/mL) M12673 into 1L = *100 µg/L* 1000 (CCV) — **2 mL** of Custom Assurance Standard XCTWI-5-500 M12703 and **0.2 mL** W (1000 µg/mL) M12673 into 200mL = *1000 µg/L* 10000 — **20 mL** of Custom Assurance Standard XCTWI-5-500 M12703 and **2 mL** W (1000 µg/mL) M12673 into 200mL = *10000 µg/L*		

		Instrument:	ICP 6000
Standard Log #:	M12765	Standard:	L2 ICV
Analyst:	MDS	Concentrations:	1000 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	02/04/2016	Expiration Date:	02/06/2016
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of the following and brought up to volume using milli-Q H_2O. (0.5% HNO_3, 0.5% HCl) Li (1000 µg/mL) M12672 Sn (1000 µg/mL) M12669 Sr (1000 µg/mL) M12670 Ti (1000 µg/mL) M12671 W (1000 µg/mL) M12163		

Standard Log #:	M12763	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	02/03/16	Expiration Date:	08/03/16
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M12403 and **60 g** hydroxylamine sulfate M12548 and brought up to volume.		

Standard Log #:	M12762	Reagent:	Potassium Persulfate Solution
Analyst:	LJF		
Prep Date:	01/29/16	Expiration Date:	07/29/16
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M11748 and brought up to volume.		

Standard Log #:	M12761	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	01/28/16	Expiration Date:	07/28/16
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

Standard Log #:	M12760	Instrument:	GFAA
Analyst:	MDS	Standard:	MDL Spiking Solution
Prep Date:	01/25/2016	Expiration Date:	06/02/2016

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (2% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
Ag	0.2	M12599	1000	0.01
As	2	M12315	1000	0.1
Pb	2	M12313	10000	0.01
Sb	2	M12602	1000	0.1
Se	2	M12600	1000	0.1
Tl	2	M12668	1000	0.1

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

		Instrument:	CETAC
Standard Log #:	M12757	Standard:	Hg MRL
Analyst:	LJF	Concentration:	0.2 ug/L Hg
Prep Date:	01/19/16	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12758	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	01/19/16	Expiration Date:	09/01/17
Prep:	Carefully mixed **3** parts HCl AB.611 with **1** part HNO_3 AB.609 in a hood.		

		Instrument:	CETAC
Standard Log #:	M12759	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	01/19/16	Expiration Date:	08/12/16
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.611 and dissolved **100 g** Stannous chloride M12731 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M12755	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	01/19/16	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12756	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	01/19/16	Expiration Date:	02/26/16
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

Standard Log #:	M12752	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	01/19/16	Expiration Date:	01/19/17
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12645. Dilute to 20 L and mix.		

		Instrument:	CETAC
Standard Log #:	M12753	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	01/19/16	Expiration Date:	02/26/16
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M12754	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	01/19/16	Expiration Date:	06/30/16
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M12532 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard Log #:	M12751	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	011116	Expiration Date:	071116
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M12403 and **60 g** hydroxylamine sulfate M12548 and brought up to volume.		

		Instrument:	GFAA
Standard Log #:	M12750	Standard:	LODW/LOQW Spiking Sol'n
Analyst:	MDS	Concentrations:	150 ug/L (Sb) 100 ug/L (As) 200 ug/L (Se) 45 ug/L (Pb) 40 ug/L (Tl)
Prep Date:	01/05/2016	Expiration Date:	06/02/2016
Prep:	Into a 100 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. **1.5 mL** of Sb (1000 mg/L) M12602 **1.0 mL** of As (1000 mg/L) M12315 **2.0 mL** of Se (1000 mg/L) M12600 **0.045 mL** of Pb (10,000 mg/L) M12313 **0.4 mL** of Tl (1000 mg/L) M12668 From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (*3 ug/L* Sb, *2 ug/L* As, *4 ug/L* Se, *0.9 ug/L* Pb, *0.8 ug/L* Tl) and **2 mL** spiking solution for LOQ (*6 ug/L* Sb, *4 ug/L* As, *8 ug/L* Se, *1.8 ug/L* Pb, *1.6 ug/L* Tl)		

Standard Log #:	M12748	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	010516	Expiration Date:	070516
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

		Instrument:	GFAA
Standard Log #:	M12749	Standard:	LODS/LOQS Spiking Sol'n
Analyst:	MDS	Concentrations:	60 ug/L (Sb) 160 ug/L (As,Se) 40 ug/L (Pb) 50 ug/L (Tl)
Prep Date:	01/05/2016	Expiration Date:	06/02/2016
Prep:	Into a 200 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. **1.2 mL** of Sb (1000 mg/L) M12602 **3.2 mL** of As (1000 mg/L) M12315 **3.2 mL** of Se (1000 mg/L) M12600 **0.08 mL** of Pb (10,000 mg/L) M12313 **1.0 mL** of Tl (1000 mg/L) M12668 From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (1.2 *ug/L* Sb, *3.2 ug/L* As, *3.2 ug/L* Se, *0.8 ug/L* Pb, *1 ug/L* Tl) and **2 mL** spiking solution for LOQ (2.4 *ug/L* Sb, *6.4 ug/L* As, *6.4 ug/L* Se, *1.6 ug/L* Pb, *2 ug/L* Tl)		

Standard Log #:	M12747	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	123015	Expiration Date:	123016
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12645. Dilute to 20 L and mix.		

		Instrument:	ICP 6000
Standard Log #:	M12744b	Standard:	B&Si ICAL
Analyst:	MDS	Concentrations:	50, 200, 1000, 2000 and 10,000 ug/L (B, Si)
Prep Date:	12/21/2015	Expiration Date:	10/15/2016
Prep:	Into five, 1 L volumetric flasks, pipetted the following from stock standards B (1000 mg/L) M12471 and Si (1000 mg/L) M12601 and brought up to volume using milli-Q H_2O. *50 ug/L std.* - **0.05 mL** of each *200 ug/L std.* - **0.2 mL** of each *1000 ug/L std.* -**1.0 mL** of each, also used for Continuing Calibration Verification *2000 ug/L std.* - **2.0 mL** of each *10,000 ug/L std.* -**10 mL** of each		

		Instrument:	ICP 6000
Standard Log #:	M12745b	Standard:	B & Si ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (B,Si)
Prep Date:	12/22/2015	Expiration Date:	06/30/2016
Prep:	Into a 100 mL volumetric flask, pipetted **10 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M12529, **0.05 mL** of B (1000 µg/mL) M12471, **0.05 mL** of Si (1000 µg/mL) M12601 and **3 mL** of Fe (10,000 mg/L) M12714 and brought up to volume using Milli-Q H_2O.		

Standard Log #:	M12746b	Instrument:	GFAA
Analyst:	MDS	Reagent:	Pd/Mg Matrix Modifier
Prep Date:	12/22/2015	Expiration Date:	05/18/2017
Prep:	Into a 50 mL volumetric flask, partially filled with milli-Q H_2O, pipetted **15 mL** Pd Modifier M12584 and **10 mL** Mg (10,000 mg/L) M12715 and brought up to volume.		

Standard ID#:	M12744	Vendor:	CPI
Analyst:	NAH	Chemical:	potassium 10,000 mg/L
Date Received:	12/21/2015	Lot #:	15L015
Expiration Date (if any):	06/08/2017	Catalog #:	4400-10M411

Standard ID#:	M12745	Vendor:	CPI
Analyst:	NAH	Chemical:	iron 10,000 mg/L
Date Received:	12/21/2015	Lot #:	15H243
Expiration Date (if any):	06/08/2017	Catalog #:	4400-10M261

Standard ID#:	M12746	Vendor:	CPI
Analyst:	NAH	Chemical:	Y 10,000 mg/L
Date Received:	12/21/2015	Lot #:	15E153
Expiration Date (if any):	06/08/2017	Catalog #:	4400-10M671

		Instrument:	CETAC
Standard Log #:	M12740	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	12/21/15	Expiration Date:	02/26/16
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M12741	Standard:	Hg MRL
Analyst:	LJF	Concentration:	0.2 ug/L Hg
Prep Date:	12/21/15	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12742	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	12/21/15	Expiration Date:	09/01/17
Prep:	Carefully mixed **3** parts HCl AB.611 with **1** part HNO_3 AB.609 in a hood.		

		Instrument:	CETAC
Standard Log #:	M12743	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	12/21/15	Expiration Date:	08/12/16
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.611 and dissolved **100 g** Stannous chloride M12731 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M12737	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	12/21/15	Expiration Date:	02/26/16
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M12738	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	12/21/15	Expiration Date:	06/30/16
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M12532 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M12739	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	12/21/15	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

Standard Log #:	M12734	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	121715	Expiration Date:	121716
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12645. Dilute to 20 L and mix.		

Standard Log #:	M12735	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	121715	Expiration Date:	061716
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M12403 and **60 g** hydroxylamine sulfate M12548 and brought up to volume.		

Standard Log #:	M12736	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	121715	Expiration Date:	121716
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12645. Dilute to 20 L and mix.		

Standard Log #:	M12730	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	12/14/15	Expiration Date:	06/14/16
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

Standard ID#:	M12731	Vendor:	MACRON
Analyst:	LJF	Chemical:	STANNOUS CHLORIDE
Date Received:	12/10/15	Lot #:	0000119473
Expiration Date (if any):	08/12/16	Catalog #:	8176-04

Standard ID#:	M12732	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	12-14-2015	Lot #:	34-008CR
Expiration Date (if any):	12-30-2016	Catalog #:	XSPIKE-1-250

Standard ID#:	M12733	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Interference A
Date Received:	12-14-2015	Lot #:	12-165YPX
Expiration Date (if any):	12-30-2016	Catalog #:	INT-A1

		Instrument:	ICP 6000
Standard Log #:	M12729	Standard:	Na,K MRL
Analyst:	MDS	Concentrations:	1 mg/L (Na,K)
Prep Date:	12/07/2015	Expiration Date:	06/03/2015
Prep:	Into a 500 mL volumetric flask, pipetted **0.5 mL** of Na (1000 µg/mL) M12377 and **0.5 mL** K (1000 µg/mL) M12378 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

Standard Log #:	M12725	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	120415	Expiration Date:	060416
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M12403 and **60 g** hydroxylamine sulfate M12548 and brought up to volume.		

Standard Log #:	M12726	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	120415	Expiration Date:	060416
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

		Instrument:	ICP
Standard Log #:	M12727	Standard:	As Pb ICV1
Analyst:	MDS	Concentrations:	5000 ug/L (As,Pb)
Prep Date:	12/04/2015	Expiration Date:	03/26/2016
Prep:	Into a 1 L volumetric flask, pipetted **0.5 mL** of As (10,000 mg/L) M12213 and **0.5 mL** Pb (10,000 mg/L) M12313 and brought to volume with Milli-Q H_2O. (2% HNO_3, 2% HCl)		

Standard Log #:	M12728	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	120415	Expiration Date:	120416
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12645. Dilute to 20 L and mix.		

		Instrument:	CETAC
Standard Log #:	M12721	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	120215	Expiration Date:	022616
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M12722	Standard:	Hg MRL
Analyst:	LJF	Concentration:	0.2 ug/L Hg
Prep Date:	120215	Expiration Date:	063016
Prep:	Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12723	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	120215	Expiration Date:	040117
Prep:	Carefully mixed **3** parts HCl AB.607 with **1** part HNO_3 AB.609 in a hood.		

		Instrument:	CETAC
Standard Log #:	M12724	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	120215	Expiration Date:	120915
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.607 and dissolved **100 g** Stannous chloride M12549 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M12718	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	120215	Expiration Date:	022616
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M12719	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	120215	Expiration Date:	063016
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M12532 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M12720	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	120215	Expiration Date:	063016
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	ICP 6500
Standard Log #:	M12717	Standard:	ICV Std.
Analyst:	NAH	Concentrations:	**12,000 mg/L** Al **10,000 mg/L** Ca, Mg **5000 mg/L** Fe **2000 mg/L** As, Ba, Se, Tl **500 mg/L** B, Co, Li, Mn, Mo, Ni, Pb, Sb, Sn, Sr, Ti, V, Zn **250 mg/L** Cu **200 mg/L** Cr **50 mg/L** Ag, Be, Cd
Prep Date:	12-01-2015	Expiration Date:	06-16
Prep:	Into a 1 L volumetric flask, pipetted the following and brought up to volume with milli-Q H_2O. **10 mL** Custom Assurance Standard #18 ((200 mg/L Al, As, Ba, Se, Tl) (100 mg/L Fe) (50 mg/L Co, Mn, Ni, Pb, Sb, V, Zn) (25 mg/L Cu) (20 mg/L Cr) (5 mg/L Ag, Be, Cd)) M12653, **2 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M12529, **0.5 mL** Mo (1000 mg/L) M12677, **0.5 mL** B (1000 mg/L) M12471, **0.5 mL** Sr (1000 mg/L) M12670, **0.5 mL** Li (1000 mg/L) M12672, **0.5 mL** Sn (1000 mg/L) M12669 and **0.5 mL** Ti (1000 mg/L) M12671.		

Standard ID#:	M12713	Vendor:	CPI
Analyst:	NAH	Chemical:	Al 10,000 mg/L
Date Received:	12/01/2015	Lot #:	15I132
Expiration Date (if any):	05/18/2017	Catalog #:	p/n 4400-10m11

Standard ID#:	M12714	Vendor:	CPI
Analyst:	NAH	Chemical:	Fe 10,000 mg/L
Date Received:	12/01/2015	Lot #:	15H243
Expiration Date (if any):	05/18/2017	Catalog #:	p/n 4400-10m261

Standard ID#:	M12715	Vendor:	CPI
Analyst:	NAH	Chemical:	Mg 10,000 mg/L
Date Received:	12-01-2015	Lot #:	15G077
Expiration Date (if any):	5-18-2015	Catalog #:	p/n 4400-10m311

Standard ID#:	M12716	Vendor:	CPI
Analyst:	NAH	Chemical:	Ca 10,000 mg/L
Date Received:	12-01-2015	Lot #:	15k045
Expiration Date (if any):	5-18-2015	Catalog #:	p/n 4400-10m91

		Instrument:	ICP 6500
Standard Log #:	M12710	Standard:	ICVLL
Analyst:	NAH	Concentrations:	12 ug/L: Be. 15 ug/L: Cd. 30 ug/L: Ag, Ba, Co, Cr, Cu, Mn, Mo. Ni, Pb, V, Zn, Sr, and Ti. 60 ug/L: Sb, As, Se, Tl, Li, Sn and B. 150 ug/L: W. 300 ug/L: Si. 900 ug/L: Fe. 1200 ug/L Al. 1500 ug/L: S, Ca and Mg. 3000 ug/L: K and Na.
Prep Date:	12/01/2015	Expiration Date:	06/2016
Prep:	Into a 500 mL volumetric flask, pipetted 30 **mL** of MRL Base STD M12709 and brought to volume with Milli-Q H_2O. (5% HNO_3 & 5% HCL)		

		Instrument:	ICP 6500
Standard Log #:	M12711	Standard:	ICSA
Analyst:	NAH	Concentrations:	**500,000 ug/L** Al, Ca, Fe, Mg
Prep Date:	12/01/2015	Expiration Date:	06/2016
Prep:	Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M12529 and **15 mL** Fe (10000 mg/L) M12603 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M12712	Standard:	ICSAB
Analyst:	NAH	Concentrations:	**500,000 ug/L** Al, Ca, Fe, Mg **500 ug/L** Ag, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Tl, V, Zn
Prep Date:	12/01/2015	Expiration Date:	06/2016
Prep:	Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M12529, **15 mL** Fe (10,000 mg/L) M12603, **2.5 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M12530 and **2.5 mL** Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12558 and brought up to volume with milli-Q H_2O.		

MRL BASE STD M12709

Analyst NAH

Prep Date 12-01-2015

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	(ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L	Expiration Date
Ag	20	M12599	1000	1	-
Al	400	M12605	10000	2	-
Ba	10	M12473	1000	0.5	-
Be	4	M12667	1000	0.2	-
Cd	5	M12674	1000	0.25	-
Co	10	M12678	1000	0.5	-
Cr	10	M12470	10000	0.05	-
Cu	10	M12472	10000	0.05	-
Mg	500	M12606	10000	2.5	-
Mn	10	M12533	10000	0.05	-
Mo	10	M12677	1000	0.5	---
Ni	10	M12681	1000	0.5	--
Pb	10	M12313	10000	0.05	--
Sb	20	M12602	1000	1	--
V	10	M12676	1000	0.5	--
Zn	10	M12680	10000	0.05	--
K	1000	M12608	10000	5	--
Na	1000	M12607	10000	5	--
As	20	M12315	1000	1	--
Ca	500	M12604	10000	2.5	--
Fe	300	M12603	10000	1.5	--
Se	20	M12600	1000	1	--
Tl	20	M12668	1000	1	--
Si	100	M12601	1000	5	--
B	20	M12471	1000	1	--
Li	20	M12672	1000	1	--
W	50	M12673	1000	2.5	--
Ti	10	M12671	1000	0.5	--
Sr	10	M12670	1000	0.5	--
Sn	50	M12669	1000	2.5	--
S	300	M12371	10000	1.5	-

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expiration Date: 10/2016

		Instrument:	ICP 6500
Standard Log #:	M12706	Standard:	CCV1
Analyst:	NAH	Concentrations:	**5000 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn **500 µg/L** Ag, Be, Cd
Prep Date:	12/01/2015	Expiration Date:	06/2016
Prep:	Into a 1 L volumetric flask, pipetted **50 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12558 and **5.0 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M12530 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M12707	Standard:	CCV2
Analyst:	NAH	Concentrations:	**500 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn **50 µg/L** Ag, Be, Cd
Prep Date:	12/01/2015	Expiration Date:	06/2016
Prep:	Into a 1 L volumetric flask, pipetted **5 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12558 and **0.5 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M12830 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M12708	Standard:	DOD MRL
Analyst:	NAH	Concentrations:	4 ug/L: Be. 5 ug/L: Cd. 10 ug/L: Ag, Ba, Co, Cr, Cu, Mn, Mo. Ni, Pb, V, Zn, Sr, and Ti. 20 ug/L: Sb, As, Se, Tl, Li, Sn and B. 50 ug/L: W. 100 ug/L: Si. 300 ug/L: Fe. 400 ug/L Al. 500 ug/L: S, Ca and Mg. 1000 ug/L: K and Na.
Prep Date:	12/01/2015	Expiration Date:	06/2016
Prep:	Into a 500 mL volumetric flask, pipetted **10 mL** of MRL Base STD M12709 and brought to volume with Milli-Q H_2O. (5% HNO_3 & 5% HCL)		

		Instrument:	ICP 6000
Standard Log #:	M12704	Standard:	Na & K ICAL
Analyst:	MDS	Concentrations:	0.5, 1, 5, 10, 50, 100, and 200 mg/L (Na,K)
Prep Date:	12/01/2015	Expiration Date:	07/03/2016
Prep:	Into seven, 200 mL volumetric flasks, pipetted the following from Na (1000 µg/mL) M12377 and K (1000 µg/mL) M12378 and brought up to volume using milli-Q H_2O. (2% HNO_3) *0.5 mg/L std.* - **0.1 mL** of each *1.0 mg/L std.* - **0.2 mL** of each *5.0 mg/L std.* - **1.0 mL** of each *10 mg/L std.* - **2.0 mL** of each *50 mg/L std.* - **10 mL** of each *100 mg/L std.* -**20 mL** of each, also used for Continuing Calibration Verification *200 mg/L std.* - **40 mL** of each		

		Instrument:	ICP 6500
Standard Log #:	M12705	Standard:	ICAL
Analyst:	NAH	Concentrations:	0.25, 0.5, 1, 5, 10, 20, 50, 100, 1000, 10,000, 100k, 100,000, 500,000 and 1000k (ug/L)
Prep Date:	12/01/2015	Expiration Date:	06/2016
Prep:	Using 1 L volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (5% HNO_3, 5% HCl) *1000 ug/L Std.* - **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12558, **10 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M12530 and **1 mL** of Si (1000 mg/L) M12601. *0.25 ug/L Std.* - **0.25 mL** of the 1000 ug/L Std. *0.5 ug/L Std.* - **0.5 mL** of the 1000 ug/L Std. *1 ug/L Std.* - **1 mL** of the 1000 ug/L Std. *5 ug/L Std.* - **5 mL** of the 1000 ug/L Std. *10 ug/L Std.* - **10 mL** of the 1000 ug/L Std. *20 ug/L Std.* - **20 mL** of the 1000 ug/L Std. *50 ug/L Std.* - **50 mL** of the 1000 ug/L Std. *100 ug/L Std.* - **1 mL** of Custom Assurance Std. (CAS) #23 and **1 mL** of CAS #3 *10,000 ug/L Std.* - **100 mL** CAS #23, **100 mL** CAS #3 and **1 mL** of K (10,000 mg/L) M12609. *100k ug/L Std.* - **10 mL** of Cu (10,000 mg/L) M12472, **10 mL** of Mn (10,000 mg/L) M12533, **10 mL** of Cr (10,000 mg/L) M12470, **10 mL** Pb (10,000 mg/L) M12313, **10 mL** of Zn (10,000 mg/L) M12680 and **10 mL** of Na (10,000 mg/L) M12679. *100,000 ug/L Std.* - **10 mL** of Mg (10,000 mg/L) M12606, **10 mL** of Fe (10,000 mg/L) M12603, **10 mL** of Ca (10,000 mg/L) M12490 and **10 mL** Al (10,000 mg/L) M12605. *500,000 ug/L Std.* - **50 mL** of Mg (10,000 mg/L), **50 mL** of Fe (10,000 mg/L), **50 mL** of Ca (10,000 mg/L) and **50 mL** of Al (10,000 mg/L) *1000k ug/L Std.* - **100 mL** of Mg (10,000 mg/L), **100 mL** of Fe (10,000 mg/L), **100 mL** of Ca (10,000 mg/L) and **100 mL** of Al (10,000 mg/L)		

		Instrument:	ICP 6000
Standard Log #:	M12701	Standard:	W ICAL and CCV
Analyst:	MDS	Concentrations:	100, 1000, and 10,000 µg/L (W)
Prep Date:	11/23/15	Expiration Date:	04/15/17
Prep:	Into four, 1 L volumetric flasks, pipetted the following from W (1000 µg/mL) M12673 and brought up to volume using milli-Q H_2O. (0.5% HNO_3, 0.5% HCl) *100 µg/L std.* - **0.1 mL** *1000 µg/L std.* - **1.0 mL** - also used for Continuing Calibration Verification *10,000 µg/L std.* - **10 mL**		

		Instrument:	ICP 6000
Standard Log #:	M12702	Standard:	W ICV
Analyst:	MDS	Concentrations:	1000 µg/L (W)
Prep Date:	11/23/15	Expiration Date:	02/06/16
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of W (1000 µg/mL) M12163 and brought up to volume using milli-Q H_2O. (0.5% HNO_3, 0.5% HCl)		

Standard ID#:	M12703	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custum Assurance Standard
Date Received:	11/19/2015	Lot #:	33-195CR
Expiration Date (if any):	11/30/2016	Catalog #:	XCTWI-5-500

Standard Log #:	M12700	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	11/20/15	Expiration Date:	11/20/16
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12645. Dilute to 20 L and mix.		

Standard Log #:	M12699	Standard:	GFAA Instrument Check
Analyst:	MDS	Final Concentration:	10 µg/L As 6 µg/L Pb 22 µg/L Tl 24 µg/L Sb, Se 0.8 µg/L Ag
Prep Date:	11/12/15	Expiration Date:	06/02/16

Into six, 100 mL volumetric flasks, add the following and bring up to volume with milli-Q H_2O.

Element	Volume Pipetted (mL)	Standard Conc. (µg/mL)	Standard ID	New Conc. (µg/L)
As	1	1000	M12315	10,000
Pb	0.1	10,000	M12313	10,000
Tl	1	1000	M12668	10,000
Se	1	1000	M12600	10,000
Sb	1	1000	M12602	10,000
Ag	0.1	1000	M12599	1000

Into a 1 L volumetric flask, add the following and bring up to volume with Milli-Q H_20. (1% HNO_3)

Element	Volume Pipetted (mL)	Standard Conc. (µg/L)	New Conc. (µg/L)
As	1	10,000	10
Pb	0.6	10,000	6
Tl	2.2	10,000	22
Se	2.4	10,000	24
Sb	2.4	10,000	24
Ag	0.8	1000	0.8

		Instrument:	ICP 6000
Standard Log #:	M12695	Standard:	NaK ICV
Analyst:	MDS	Concentrations:	100 mg/L (Na, K)
Prep Date:	11/11/15	Expiration Date:	02/12/17
Prep:	Into a 250 mL volumetric flask, pipetted **2.5 mL** of K (10,000 mg/L) M12609 and Na (10,000 mg/L) M12679 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M12696	Standard:	Na,K ICVLL
Analyst:	MDS	Concentrations:	3 mg/L (Na,K)
Prep Date:	11/11/15	Expiration Date:	02/12/17
Prep:	Into a 500 mL volumetric flask, pipetted **0.15 mL** of Na (10,000 µg/mL) M12679 and **0.15 mL** K (10,000 µg/mL) M12609 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M12697	Standard:	NaK ICSAB
Analyst:	MDS	Concentrations:	500 mg/L (Al, Ca, Fe, Mg) 100 mg/L (Na, K)
Prep Date:	11/11/15	Expiration Date:	06/30/16
Prep:	Into a 250 mL volumetric flask, pipetted **25 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M12529, **2.5 mL** of K (10,000 mg/L) M12609, **2.5 mL** of Na (10,000 mg/L) M12679 and **7.5 mL** of Fe (10,000 mg/L) M12603 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

Standard Log #:	M12698	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	11/11/15	Expiration Date:	05/11/16
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M12403 and **60 g** hydroxylamine sulfate M12548 and brought up to volume.		

		Instrument:	GFAA
Standard Log #:	M12693	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	11/02/2015	Expiration Date:	06/01/2016
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M12505 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M12694	Standard:	List 2 ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	11/02/2015	Expiration Date:	02/06/2016
Prep:	Into a 200 mL volumetric flask, pipetted **20 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M12529, **6 mL** of Fe (10,000 mg/L) M12603, **0.1 mL** of Li (1000 µg/mL) M12672, **0.1 mL** of Sn (1000 µg/mL) M12669, **0.1 mL** of Sr (1000 µg/mL) M12670, **0.1 mL** of Ti (1000 µg/mL) M12671, and **0.1 mL** of W (1000 µg/mL) M12163 and brought up to volume using Milli-Q H_2O. (0.5% HNO_3, 0.5% HCl)		

Standard ID#:	M12690	Vendor:	MACRON
Analyst:	LJF	Chemical:	STANNOUS CHLORIDE
Date Received:	11/02/15	Lot #:	0000119473
Expiration Date (if any):	08/12/16	Catalog #:	8176-04

		Instrument:	GFAA
Standard Log #:	M12691	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	11/02/2015	Expiration Date:	06/01/2016
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M12504 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M12692	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	11/02/2015	Expiration Date:	06/01/2016
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M12504 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	CETAC
Standard Log #:	M12688	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	10/27/15	Expiration Date:	08/12/16
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.607 and dissolved **100 g** Stannous chloride M12649 and brought up to volume.		

Standard Log #:	M12689	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	10/27/15	Expiration Date:	04/27/16
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M12270 and **60 g** hydroxylamine sulfate M12548 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M12685	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	10/27/15	Expiration Date:	02/26/16
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M12686	Standard:	Hg MRL
Analyst:	LJF	Concentration:	0.2 ug/L Hg
Prep Date:	10/27/15	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12687	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	10/27/15	Expiration Date:	06/30/15
Prep:	Carefully mixed **3** parts HCl AB.607 with **1** part HNO_3 AB.606 in a hood.		

		Instrument:	CETAC
Standard Log #:	M12682	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	10/27/15	Expiration Date:	02/26/16
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M12683	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	10/27/15	Expiration Date:	02/26/16
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M12684	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	10/27/15	Expiration Date:	02/26/16
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

Standard ID#:	M12677	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Mo 1000 ug/L
Date Received:	10/21/15	Lot #:	15G130
Expiration Date (if any):	04/15/17	Catalog #:	S4400-1000343

Standard ID#:	M12678	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Co 1000 ug/L
Date Received:	10/21/15	Lot #:	15I020
Expiration Date (if any):	04/15/17	Catalog #:	S4400-1000131

Standard ID#:	M12679	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Na 10,000 ug/L
Date Received:	10/21/15	Lot #:	15I102
Expiration Date (if any):	04/15/17	Catalog #:	4400-10M521

Standard ID#:	M12680	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Zn 10,000 ug/L
Date Received:	10/21/15	Lot #:	15H234
Expiration Date (if any):	04/15/17	Catalog #:	S4400-10M681

Standard ID#:	M12681	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Ni 1000 ug/L
Date Received:	10/21/15	Lot #:	15G129
Expiration Date (if any):	04/15/17	Catalog #:	S4400-1000361

Standard ID#:	M12672	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Li 1000ug/L
Date Received:	10/21/15	Lot #:	15I044
Expiration Date (if any):	04/15/17	Catalog #:	S4400-1000291

Standard ID#:	M12673	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	W 1000ug/L
Date Received:	10/21/15	Lot #:	15F057
Expiration Date (if any):	04/15/17	Catalog #:	S4400-100633

Standard ID#:	M12674	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Cd 1000ug/L
Date Received:	10/21/15	Lot #:	15G138
Expiration Date (if any):	04/15/17	Catalog #:	S4400-100081

Standard ID#:	M12675	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Si 1000 ug/L
Date Received:	10/21/15	Lot #:	15H045
Expiration Date (if any):	04/15/17	Catalog #:	S4400-1000504F

Standard ID#:	M12676	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	V 1000 ug/L
Date Received:	10/21/15	Lot #:	15H133
Expiration Date (if any):	04/15/17	Catalog #:	S4400-1000651

Standard ID#:	M12667	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Be 1000ug/L
Date Received:	10/21/15	Lot #:	15I030
Expiration Date (if any):	04/15/17	Catalog #:	S4400-100051

Standard ID#:	M12668	Vendor:	CPI INERNATIONAL
Analyst:	LJF	Chemical:	Tl 1000ug/L
Date Received:	10/21/15	Lot #:	15F051
Expiration Date (if any):	04/15/17	Catalog #:	S4400-1000581

Standard ID#:	M12669	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Sn 1000ug/L
Date Received:	10/21/15	Lot #:	15H126
Expiration Date (if any):	04/15/17	Catalog #:	S4400-1000613

Standard ID#:	M12670	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Sr 1000ug/L
Date Received:	10/21/15	Lot #:	15F052
Expiration Date (if any):	04/15/17	Catalog #:	S4400-1000531

Standard ID#:	M12671	Vendor:	CPI INTERNATIONAL
Analyst:	LJF	Chemical:	Tl 100ug/L
Date Received:	10/21/15	Lot #:	15G013
Expiration Date (if any):	04/15/17	Catalog #:	S4400-1000623

		Instrument:	ICP 6000
Standard Log #:	M12666	Standard:	B&Si ICV
Analyst:	MDS	Concentrations:	1000 ug/L (B, Si)
Prep Date:	10/21/2015	Expiration Date:	03/2016
Prep:	Into a 1 L volumetric flask, pipetted **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, **B**, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12558 and **1.0 mL** Si (1000 mg/L) M11919 and brought up to volume using milli-Q H_2O.		

		Instrument:	CETAC
Standard Log #:	M12662	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	10/16/15	Expiration Date:	02/26/16
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M12663	Standard:	Hg MRL
Analyst:	LJF	Concentration:	0.2 ug/L Hg
Prep Date:	10/16/15	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12664	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	10/16/15	Expiration Date:	07/01/17
Prep:	Carefully mixed **3** parts HCl AB.607 with **1** part HNO_3 AB.606 in a hood.		

		Instrument:	CETAC
Standard Log #:	M12665	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	10/16/15	Expiration Date:	08/12/16
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.607 and dissolved **100 g** Stannous chloride M12649 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M12659	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	10/16/15	Expiration Date:	02/26/16
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M12660	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	10/16/15	Expiration Date:	06/30/16
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M12532 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M12661	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	10/16/15	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	GFAA
Standard Log #:	M12657	Standard:	LODS/LOQS Spiking Sol'n
Analyst:	MDS	Concentrations:	60 ug/L (Sb) 160 ug/L (As,Se) 40 ug/L (Pb) 50 ug/L (Tl)
Prep Date:	10/12/2015	Expiration Date:	11/08/2015
Prep:	Into a 200 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. **1.2 mL** of Sb (1000 mg/L) M12602 **3.2 mL** of As (1000 mg/L) M12315 **3.2 mL** of Se (1000 mg/L) M12600 **0.08 mL** of Pb (10,000 mg/L) M12313 **1.0 mL** of Tl (1000 mg/L) M11997 From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (1.2 *ug/L* Sb, *3.2 ug/L* As, *3.2 ug/L* Se, *0.8 ug/L* Pb, *1 ug/L* Tl) and **2 mL** spiking solution for LOQ (2.4 *ug/L* Sb, *6.4 ug/L* As, *6.4 ug/L* Se, *1.6 ug/L* Pb, *2 ug/L* Tl)		

		Instrument:	GFAA
Standard Log #:	M12658	Standard:	LODW/LOQW Spiking Sol'n
Analyst:	MDS	Concentrations:	150 ug/L (Sb) 100 ug/L (As) 200 ug/L (Se) 45 ug/L (Pb) 40 ug/L (Tl)
Prep Date:	10/12/2015	Expiration Date:	11/08/2015
Prep:	Into a 100 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. **1.5 mL** of Sb (1000 mg/L) M12602 **1.0 mL** of As (1000 mg/L) M12315 **2.0 mL** of Se (1000 mg/L) M12600 **0.045 mL** of Pb (10,000 mg/L) M12313 **0.4 mL** of Tl (1000 mg/L) M11997 From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (*3 ug/L* Sb, *2 ug/L* As, *4 ug/L* Se, *0.9 ug/L* Pb, *0.8 ug/L* Tl) and **2 mL** spiking solution for LOQ (*6 ug/L* Sb, *4 ug/L* As, *8 ug/L* Se, *1.8 ug/L* Pb, *1.6 ug/L* Tl)		

		Instrument:	GFAA
Standard Log #:	M12655	Standard:	LODW/LOQW Ag Spiking Sol'n
Analyst:	MDS	Concentrations:	10 ug/L (Ag)
Prep Date:	10/12/2015	Expiration Date:	02/10/2017
Prep:	Into a 100 mL volumetric flask, pipetted **0.1 mL** of Ag (1000mg/L) M12599 and brought to volume with Milli-Q H_2O to make a 1000 ug/L Ag std. Into a 1 L volumetric flask, pipetted **10 mL** of Ag (*1000 ug/L*) std. and brought to volume with Milli-Q H_2O. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (*0.2 ug/L*) and **2 mL** spiking solution for LOQ (*0.4 ug/L*)		

		Instrument:	GFAA
Standard Log #:	M12656	Standard:	LODS/LOQS Ag Spiking Sol'n
Analyst:	MDS	Concentration:	6 ug/L (Ag)
Prep Date:	10/12/2015	Expiration Date:	02/10/2017
Prep:	Into a 200 mL volumetric flask, pipetted **0.12 mL** of Ag (1000 mg/L) M12599 and brought up to volume with Milli-Q H_2O. From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **2 mL** spiking solution into 50 mL H_2O for LOD *(0.24 ug/L)* and **4 mL** spiking solution for LOQ *(0.48 ug/L)*		

Standard ID#:	M12652	Vendor:	SIGMA-ALDRICH
Analyst:	LJF	Chemical:	POTASSIUM PERSULFATE
Date Received:	10/09/2015	Lot #:	MKBV6966V
Expiration Date (if any):	10/09/2016	Catalog #:	216224

Standard ID#:	M12653	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	10/09/2015	Lot #:	33-28CR
Expiration Date (if any):	10/30/2016	Catalog #:	XSPIKE-1-250

Standard ID#:	M12654	Vendor:	AMCO Clear
Analyst:	NAH	Chemical:	turbidity standard 2.0 ntu
Date Received:	10/09/2015	Lot #:	C580865
Expiration Date (if any):	10/30/2016	Catalog #:	8008

Standard Log #:	M12651	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	10/08/15	Expiration Date:	10/08/16
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12645. Dilute to 20 L and mix.		

Standard Log #:	M12650	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	10/07/15	Expiration Date:	10/07/16
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12645. Dilute to 20 L and mix.		

Standard Log #:	M12648	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	10/02/15	Expiration Date:	10/02/16
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12645. Dilute to 20 L and mix.		

Standard ID#:	M12649	Vendor:	MACRON
Analyst:	LJF	Chemical:	STANNOUS CHLORIDE
Date Received:	10/02/15	Lot #:	119473
Expiration Date (if any):	08/12/16	Catalog #:	8176-04

Standard Log #:	M12646	Reagent:	Potassium Persulfate Solution
Analyst:	LJF		
Prep Date:	10/01/15	Expiration Date:	04/01/16
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M11748 and brought up to volume.		

Standard Log #:	M12647	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	10/01/15	Expiration Date:	04/01/16
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

Standard Log #:	M12645	Reagent:	10N NaOH
Analyst:	LJF		
Prep Date:	09/29/15	Expiration Date:	09/29/16
Prep:	Into a 1 L volumetric flask, added **400 g** NaOH M12543 and brought up to volume.		

Standard Log #:	M12644	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	09/28/15	Expiration Date:	09/28/16
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12543. Dilute to 20 L and mix.		

Standard Log #:	M12641	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	MDS	pH:	4.93 ± 0.05
Prep Date:	09/24/2015	Expiration Date:	06/18/2016
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12543. Dilute to 20 L and mix.		

Standard Log #:	M12642	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	MDS	pH:	4.93 ± 0.05
Prep Date:	09/24/2015	Expiration Date:	06/18/2016
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12543. Dilute to 20 L and mix.		

Standard Log #:	M12643	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	09/24/15	Expiration Date:	03/24/16
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M12270 and **60 g** hydroxylamine sulfate M12548 and brought up to volume.		

Standard Log #:	M12638	Standard:	GFAA Instrument Check
Analyst:	MDS	Final Concentration:	10 µg/L As 6 µg/L Pb 22 µg/L Tl 24 µg/L Sb, Se 0.8 µg/L Ag
Prep Date:	09/22/2015	Expiration Date:	11/08/2015

Into six, 100 mL volumetric flasks, add the following and bring up to volume with milli-Q H_2O.

Element	Volume Pipetted (mL)	Standard Conc. (µg/mL)	Standard ID	New Conc. (µg/L)
As	1	1000	M12315	10,000
Pb	0.1	10,000	M12313	10,000
Tl	1	1000	M11997	10,000
Se	1	1000	M12600	10,000
Sb	1	1000	M12602	10,000
Ag	0.1	1000	M12599	1000

Into a 1 L volumetric flask, add the following and bring up to volume with Milli-Q H_20. (1% HNO_3)

Element	Volume Pipetted (mL)	Standard Conc. (µg/L)	New Conc. (µg/L)
As	1	10,000	10
Pb	0.6	10,000	6
Tl	2.2	10,000	22
Se	2.4	10,000	24
Sb	2.4	10,000	24
Ag	0.8	1000	0.8

		Instrument:	GFAA
Standard Log #:	M12639	Standard:	As Spiking Solution
Analyst:	MDS	Concentration:	10 ug/mL (As)
Prep Date:	09/22/2015	Expiration Date:	06/02/2016
Prep:	Into a 100 mL volumetric flask, pipetted **1.0 mL** of As (1000 mg/L) M12315 and brought to volume with Milli-Q DI H_2O. (3% HNO_3) *Pipette **0.075 mL** of spiking solution into 50 mL DI or sample for a final spike concentration of 15 ug/L		

		Instrument:	GFAA
Standard Log #:	M12640	Standard:	As/Se Spiking Solution
Analyst:	MDS	Concentration:	10 ug/mL (As,Se)
Prep Date:	09/22/2015	Expiration Date:	06/02/2016
Prep:	Into a 100 mL volumetric flask, pipetted **1.0 mL** of As (1000 mg/L) M12315 and **1.0 mL** of Se (1000 mg/L) M12600 and brought to volume with Milli-Q DI H_2O. (3% HNO_3) *Pipette **0.075 mL** of spiking solution into 50 mL DI or sample for a final spike concentration of 15 ug/L		

		Instrument:	CETAC
Standard Log #:	M12636	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	09/18/15	Expiration Date:	12/09/15
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.604 and dissolved **100 g** Stannous chloride M12549 and brought up to volume.		

Standard Log #:	M12637	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	09/18/15	Expiration Date:	03/18/16
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M12633	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	09/18/15	Expiration Date:	02/26/15
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M12634	Standard:	Hg MRL
Analyst:	LJF	Concentration:	0.2 ug/L Hg
Prep Date:	09/18/15	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12635	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	09/18/15	Expiration Date:	04/01/17
Prep:	Carefully mixed **3** parts HCl AB.604 with **1** part HNO_3 AB.603 in a hood.		

		Instrument:	CETAC
Standard Log #:	M12630	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	09/18/15	Expiration Date:	02/26/15
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M12631	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	09/18/15	Expiration Date:	06/30/16
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M12532 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M12632	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	09/18/15	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

Standard Log #:	M12628	Reagent:	10N NaOH
Analyst:	LJF		
Prep Date:	09/16/15	Expiration Date:	09/16/16
Prep:	Into a 1 L volumetric flask, added **400 g** NaOH M11852 and brought up to volume.		

Standard ID#:	M12629	Vendor:	GR ACS
Analyst:	LJF	Chemical:	SODIUM CHLORIDE
Date Received:	09/16/15	Lot #:	x131a
Expiration Date (if any):		Catalog #:	C710L50

		Instrument:	Hach 2100 turbidity meter
Standard Log #:	M12627	Standard:	Turbity ICAL
Analyst:	NAH	Concentrations:	20, 100, 200 ntu
Prep Date:	9/11/2015	Expiration Date:	08/2016
Prep:	Using the hach vials , pipet the following: *20 ntu Std.* = **1 ml** M12186 and 9 mls DI H20. *100 ntu Std.* = **5 mls** M12186 and 5 mls DI H20. *200 ntu Std.* = ***10 mls*** M12186 *and* 0 mls DI H20.		

Standard Log #:	M12626	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	09/10/15	Expiration Date:	09/10/16
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.577 and **128.6 mL** 10N NaOH M12543. Dilute to 20 L and mix.		

Standard Log #:	M12625	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	09/09/15	Expiration Date:	09/09/16
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.577 and **128.6 mL** 10N NaOH M12543. Dilute to 20 L and mix.		

		Instrument:	CETAC
Standard Log #:	M12622	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	09/03/15	Expiration Date:	12/09/15
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.604 and dissolved **100 g** Stannous chloride M12549 and brought up to volume.		

Standard Log #:	M12623	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	09/03/15	Expiration Date:	03/03/16
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M12270 and **60 g** hydroxylamine sulfate M11798 and brought up to volume.		

Standard Log #:	M12624	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	09/03/15	Expiration Date:	03/03/16
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M12277 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M12619	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	09/03/15	Expiration Date:	02/26/15
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M12620	Standard:	Hg MRL
Analyst:	LJF	Concentration:	0.2 ug/L Hg
Prep Date:	09/03/15	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12621	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	09/03/15	Expiration Date:	04/01/17
Prep:	Carefully mixed **3** parts HCl AB.604 with **1** part HNO_3 AB.603 in a hood.		

		Instrument:	CETAC
Standard Log #:	M12616	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	09/03/15	Expiration Date:	02/26/15
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M12617	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	09/03/15	Expiration Date:	06/30/16
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M12532 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M12618	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	09/03/15	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

Standard ID#:	M12615	Vendor:	SPEX Certiprep
Analyst:	NAH	Chemical:	Custum Assurance Standard
Date Received:	09/01/2015	Lot #:	32-105CR
Expiration Date (if any):	09/20/2015	Catalog #:	XSPIKE-1-250

		Instrument:	ICP 6000
Standard Log #:	M12614	Standard:	NaK ICSAB
Analyst:	MDS	Concentrations:	500 mg/L (Al, Ca, Fe, Mg) 100 mg/L (Na, K)
Prep Date:	08/31/15	Expiration Date:	11/08/15
Prep:	Into a 250 mL volumetric flask, pipetted **25 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M12529, **2.5 mL** of K (10,000 mg/L) M12474, **2.5 mL** of Na (10,000 mg/L) M12010 and **7.5 mL** of Fe (10,000 mg/L) M12489 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

Standard Log #:	M12613	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	08/27/15	Expiration Date:	08/27/16
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12543. Dilute to 20 L and mix.		

Standard ID#:	M12612	Vendor:	CPI
Analyst:	NAH	Chemical:	Yttrium 10000 ug/mL
Date Received:	08/27/15	Lot #:	15E153
Expiration Date (if any):	02/20/17	Catalog #:	4400-10M671

Standard Log #:	M12611	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	08/24/15	Expiration Date:	08/24/16
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12543. Dilute to 20 L and mix.		

Standard ID#:	M12607	Vendor:	CPI
Analyst:	NAH	Chemical:	SODIUM 1000ug/mL
Date Received:	08/19/2015	Lot #:	15F159
Expiration Date (if any):	02/12/2017	Catalog #:	4400-1000521

Standard ID#:	M12608	Vendor:	CPI
Analyst:	NAH	Chemical:	POTASSIUM 1000ug/mL
Date Received:	08/19/2015	Lot #:	15E009
Expiration Date (if any):	02/12/2017	Catalog #:	4400-1000411

Standard ID#:	M12609	Vendor:	CPI
Analyst:	NAH	Chemical:	POTASSIUM 10000ug/mL
Date Received:	08/19/2015	Lot #:	15E086
Expiration Date (if any):	02/12/2017	Catalog #:	4400-10M411

Standard ID#:	M12610	Vendor:	ALFA AESAR
Analyst:	LJF	Chemical:	HYDROXYLAMINE SULFATE
Date Received:	08/20/15	Lot #:	Z16A019
Expiration Date (if any):		Catalog #:	88944

Standard ID#:	M12602	Vendor:	CPI
Analyst:	NAH	Chemical:	ANTIMONY 1000 ug/ml
Date Received:	08-14-2015	Lot #:	15D168
Expiration Date (if any):	02-10-2017	Catalog #:	S4400-100023

Standard ID#:	M12603	Vendor:	CPI
Analyst:	NAH	Chemical:	IRON 10000 ug/ml
Date Received:	08-14-2015	Lot #:	15C057
Expiration Date (if any):	02-10-2017	Catalog #:	4400-10M261

Standard ID#:	M12604	Vendor:	CPI
Analyst:	NAH	Chemical:	CALCIUM 10000 ug/ml
Date Received:	08-14-2015	Lot #:	15G076
Expiration Date (if any):	02-10-2017	Catalog #:	4400-10M91

Standard ID#:	M12605	Vendor:	CPI
Analyst:	NAH	Chemical:	ALUMINUM 10000 ug/ml
Date Received:	08-14-2015	Lot #:	15E015
Expiration Date (if any):	02-10-2017	Catalog #:	4400-10M11

Standard ID#:	M12606	Vendor:	CPI
Analyst:	NAH	Chemical:	MAGNESIUM 10000 ug/ml
Date Received:	08-14-2015	Lot #:	15G077
Expiration Date (if any):	02-10-2015	Catalog #:	4400-10M311

Standard ID#:	M12599	Vendor:	CPI
Analyst:	NAH	Chemical:	SILVER 1000 ug/ml
Date Received:	8-14-2015	Lot #:	15H040
Expiration Date (if any):	02-10-2017	Catalog #:	S4400-1000511

Standard ID#:	M12600	Vendor:	CPI
Analyst:	NAH	Chemical:	SELENIUM 1000 ug/ml
Date Received:	08-14-2015	Lot #:	15E095
Expiration Date (if any):	2-10-2017	Catalog #:	S4400-1000491

Standard ID#:	M12601	Vendor:	CPI
Analyst:	NAH	Chemical:	SILICON 1000 ug/ml
Date Received:	08-14-2015	Lot #:	15F050
Expiration Date (if any):	02-10-2017	Catalog #:	S4400-1000504F

		Instrument:	CETAC
Standard Log #:	M12596	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	08/13/15	Expiration Date:	02/26/16
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M12597	Standard:	Hg MRL
Analyst:	LJF	Concentration:	0.2 ug/L Hg
Prep Date:	08/13/15	Expiration Date:	06/30/16
Prep:	Into a 100 mL volumetric flask, pipetted **0.2 mL** of Hg (*100 ug/L working std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M12598	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	08/13/15	Expiration Date:	04/01/17
Prep:	Carefully mixed **3** parts HCl AB.604 with **1** part HNO_3 AB.603 in a hood.		

		Instrument:	CETAC
Standard Log #:	M12599a	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	08/13/15	Expiration Date:	12/09/15
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.604 and dissolved **100 g** Stannous chloride M12549 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M12593	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	08/13/15	Expiration Date:	02/26/15
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M12594	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	08/13/15	Expiration Date:	06/30/16
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M12532 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M12595	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	08/13/15	Expiration Date:	06/30/15
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M12552 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

Standard Log #:	M12588	Instrument:	GFAA
Analyst:	MDS	Reagent:	Pd/Mg Matrix Modifier
Prep Date:	08/10/15	Expiration Date:	10/23/16
Prep:	Into a 50 mL volumetric flask, partially filled with milli-Q H_2O, pipetted **15 mL** Pd Modifier M12584 and **10 mL** Mg (10,000 mg/L) M12488 and brought up to volume.		

		Instrument:	ICP 6500
Standard Log #:	M12586	Standard:	ICSA
Analyst:	NAH	Concentrations:	**500,000 ug/L** Al, Ca, Fe, Mg
Prep Date:	08/05/15	Expiration Date:	07/16
Prep:	Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M12529 and **15 mL** Fe (10000 mg/L) M12489 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M12587	Standard:	ICSAB
Analyst:	NAH	Concentrations:	**500,000 ug/L** Al, Ca, Fe, Mg **500 ug/L** Ag, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Tl, V, Zn
Prep Date:	08/05/15	Expiration Date:	07/16
Prep:	Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M12529 , **15 mL** Fe (10,000 mg/L) M12489 , **2.5 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M12530 and **2.5 mL** Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12558 and brought up to volume with milli-Q H_2O.		

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Standard ID#:	M12584	Vendor:	Environmental Express
Analyst:	MDS	Chemical:	GFAA Pd Matrix Modifier
Date Received:	08/05/15	Lot #:	1421912
Expiration Date (if any):	07/31/17	Catalog #:	HP1900-100

		Instrument:	ICP 6500
Standard Log #:	M12585	Standard:	ICV Std.
Analyst:	NAH	Concentrations:	**12,000 mg/L** Al **10,000 mg/L** Ca, Mg **5000 mg/L** Fe **2000 mg/L** As, Ba, Se, Tl **500 mg/L** B, Co, Li, Mn, Mo, Ni, Pb, Sb, Sn, Sr, Ti, V, Zn **250 mg/L** Cu **200 mg/L** Cr **50 mg/L** Ag, Be, Cd
Prep Date:	08/05/15	Expiration Date:	11/15
Prep:	Into a 1 L volumetric flask, pipetted the following and brought up to volume with milli-Q H_2O. **10 mL** Custom Assurance Standard #18 ((200 mg/L Al, As, Ba, Se, Tl) (100 mg/L Fe) (50 mg/L Co, Mn, Ni, Pb, Sb, V, Zn) (25 mg/L Cu) (20 mg/L Cr) (5 mg/L Ag, Be, Cd)) M12574, **2 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M12529, **0.5 mL** Mo (1000 mg/L) M12008, **0.5 mL** B (1000 mg/L) M12471, **0.5 mL** Sr (1000 mg/L) M11999, **0.5 mL** Li (1000 mg/L) M11998, **0.5 mL** Sn (1000 mg/L) M11996 and **0.5 mL** Ti (1000 mg/L) M12003.		

		Instrument:	ICP 6500
Standard Log #:	M12582	Standard:	CCV1
Analyst:	NAH	Concentrations:	**5000 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn **500 µg/L** Ag, Be, Cd
Prep Date:	08/03/15	Expiration Date:	7/30/16
Prep:	Into a 1 L volumetric flask, pipetted **50 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12558 and **5.0 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M12530 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M12583	Standard:	CCV2
Analyst:	NAH	Concentrations:	**500 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn **50 µg/L** Ag, Be, Cd
Prep Date:	08/03/2015	Expiration Date:	7/30/16
Prep:	Into a 1 L volumetric flask, pipetted **5 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12558 and **0.5 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M12530 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M12581	Standard:	ICAL
Analyst:	NAH	Concentrations:	0.25, 0.5, 1, 5, 10, 20, 50, 100, 1000, 10,000, 100k, 100,000, 500,000 and 1000k (ug/L)
Prep Date:	08/03/15	Expiration Date:	11/2015

Prep:

Using 1 L volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O.
(5% HNO_3, 5% HCl)
1000 ug/L Std. - **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M12558, **10 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M12530 and **1 mL** of Si (1000 mg/L) M11919.
0.25 ug/L Std. - **0.25 mL** of the 1000 ug/L Std.
0.5 ug/L Std. - **0.5 mL** of the 1000 ug/L Std.
1 ug/L Std. - **1 mL** of the 1000 ug/L Std.
5 ug/L Std. - **5 mL** of the 1000 ug/L Std.
10 ug/L Std. - **10 mL** of the 1000 ug/L Std.
20 ug/L Std. - **20 mL** of the 1000 ug/L Std.
50 ug/L Std. - **50 mL** of the 1000 ug/L Std.
100 ug/L Std. - **1 mL** of Custom Assurance Std. (CAS) #23 and **1 mL** of CAS #3
10,000 ug/L Std. - **100 mL** CAS #23, **100 mL** CAS #3 and **1 mL** of K (10,000 mg/L) M12474.
100k ug/L Std. - **10 mL** of Cu (10,000 mg/L) M12472, **10 mL** of Mn (10,000 mg/L) M12533, **10 mL** of Cr (10,000 mg/L) M12470, **10 mL** Pb (10,000 mg/L) M12313, **10 mL** of Zn (10,000 mg/L) M12005 and **10 mL** of Na (10,000 mg/L) M12010.
100,000 ug/L Std. - **10 mL** of Mg (10,000 mg/L) M12488, **10 mL** of Fe (10,000 mg/L) M12489, **10 mL** of Ca (10,000 mg/L) M12490 and **10 mL** Al (10,000 mg/L) M12400.
500,000 ug/L Std. - **50 mL** of Mg (10,000 mg/L), **50 mL** of Fe (10,000 mg/L), **50 mL** of Ca (10,000 mg/L) and **50 mL** of Al (10,000 mg/L)
1000k ug/L Std. - **100 mL** of Mg (10,000 mg/L), **100 mL** of Fe (10,000 mg/L), **100 mL** of Ca (10,000 mg/L) and **100 mL** of Al (10,000 mg/L)

Standard Log #:	M12579	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	07/24/15	Expiration Date:	01/24/16
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M11285 and brought up to volume.		

		Instrument:	GFAA
Standard Log #:	M12576	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	07/23/2015	Expiration Date:	06/01/2016
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M12504 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M12577	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	07/23/2015	Expiration Date:	06/01/2016
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M12504 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M12578	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	07/23/2015	Expiration Date:	06/01/2016
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M12505 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

Standard ID#:	M12574	Vendor:	SpexCertiprep
Analyst:	NAH	Chemical:	Custum Assurance Std
Date Received:	07/21/2015	Lot #:	31-138CR
Expiration Date (if any):	07/30/2016	Catalog #:	XSPIKE-1-500

Standard ID#:	M12575	Vendor:	SpexCertiprep
Analyst:	NAH	Chemical:	Custum Assurance Std
Date Received:	07/21/2015	Lot #:	07-30-2016
Expiration Date (if any):	07/30/2015	Catalog #:	XCTWI-1-500

		Instrument:	ICP 6000
Standard Log #:	M12559	Standard:	B&Si ICAL
Analyst:	MDS	Concentrations:	50, 200, 1000, 2000 and 10,000 ug/L (B, Si)
Prep Date:	07/15/2015	Expiration Date:	11/08/2015
Prep:	Into five, 1 L volumetric flasks, pipetted the following from stock standards B (1000 mg/L) M12471 and Si (1000 mg/L) M12007 and brought up to volume using milli-Q H_2O. *50 ug/L std.* - **0.05 mL** of each *200 ug/L std.* - **0.2 mL** of each *1000 ug/L std.* -**1.0 mL** of each, also used for Continuing Calibration Verification *2000 ug/L std.* - **2.0 mL** of each *10,000 ug/L std.* -**10 mL** of each		

		Instrument:	ICP 6000
Standard Log #:	M12560	Standard:	B&Si CCV
Analyst:	MDS	Concentrations:	1000 ug/L (B, Si)
Prep Date:	07/15/2015	Expiration Date:	11/08/2015
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** B (1000 mg/L) M12471 and **1.0 mL** Si (1000 mg/L) M12007 and brought up to volume using milli-Q H_2O.		

		Instrument:	ICP 6000
Standard Log #:	M12561	Standard:	B & Si ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (B,Si)
Prep Date:	07/15/2015	Expiration Date:	11/08/2015
Prep:	Into a 100 mL volumetric flask, pipetted **10 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M12529, **0.05 mL** of B (1000 µg/mL) M12471, **0.05 mL** of Si (1000 µg/mL) M12007 and **3 mL** of Fe (10,000 mg/L) M12489 and brought up to volume using Milli-Q H_2O.		

Standard ID#:	M12558	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Custum Assurance Standard
Date Received:	07/13/2015	Lot #:	9-105WL
Expiration Date (if any):	07/30/2016	Catalog #:	XCTWI-5-500

Standard ID#:	M12548	Vendor:	Alfa Aesar
Analyst:	LJF	Chemical:	Hydroxylamine Sulfate
Date Received:	07/08/15	Lot #:	Z16A019
Expiration Date (if any):	N/A	Catalog #:	88944

Standard ID#:	M12549	Vendor:	MACRON
Analyst:	LJF	Chemical:	Stannous Chloride
Date Received:	07/08/15	Lot #:	0000111217
Expiration Date (if any):	12/09/15	Catalog #:	8176-04

Standard Log #:	M12543	Reagent:	10N NaOH
Analyst:	LJF		
Prep Date:	06/18/15	Expiration Date:	06/18/16
Prep:	Into a 1 L volumetric flask, added **400 g** NaOH M11852 and brought up to volume.		

Standard Log #:	M12544	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	LJF	pH:	4.93 ± 0.05
Prep Date:	06/18/15	Expiration Date:	06/18/16
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.579 and **128.6 mL** 10N NaOH M12543. Dilute to 20 L and mix.		

Standard ID#:	M12529	Vendor:	SPEX Certiprep
Analyst:	NAH	Chemical:	Interference-A
Date Received:	06/04/2015	Lot #:	12-101YPX
Expiration Date (if any):	06/30/2016	Catelog #:	INT-A1

Standard ID#:	M12530	Vendor:	SPEX Certiprep
Analyst:	NAH	Chemical:	Custom Assurance STD (3) Ag,Be,Cd
Date Received:	06/04/2015	Lot #:	30-152CR
Expiration Date (if any):	06/30/2016	Catelog #:	XCTWI-4-500

Standard ID#:	M12531	Vendor:	SPEX Certiprep
Analyst:	NAH	Chemical:	Custom Assurance STD (23)
Date Received:	06/04/2015	Lot #:	30-153CR
Expiration Date (if any):	06/30/2016	Catelog #:	XCTWI-5-500

Standard ID#:	M12532	Vendor:	SPEX Certiprep
Analyst:	NAH	Chemical:	Mercury 1000 mg/L
Date Received:	06/04/2015	Lot #:	CL7-180HGY
Expiration Date (if any):	06/30/2016	Catelog #:	CLHG4-2Y

Standard ID#:	M12533	Vendor:	CPI
Analyst:	NAH	Chemical:	Mn 10000 mg/L
Date Received:	06/04/2015	Lot #:	15E180
Expiration Date (if any):	11/29/2016	Catelog #:	P/N S4400-10M321

Standard ID#:	M12518	Vendor:	Alfa Aesar Specpure
Analyst:	MDS	Chemical:	GFAA Nickel Nitrate Modifier
Date Received:	05/29/2015	Lot #:	785159H
Expiration Date (if any):	11/30/2016	Catelog #:	39043

		Instrument:	GFAA
Standard Log #:	M12519	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	05/29/2015	Expiration Date:	06/01/2016
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M12504 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M12520	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	05/29/2015	Expiration Date:	06/01/2016
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M12504 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M12521	Standard:	ICV/Spike Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	05/29/2015	Expiration Date:	06/01/2016
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M12505 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	CETAC
Standard Log #:	M12507	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	05/27/15	Expiration Date:	02/26/16
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M12179 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	ICP 6000
Standard Log #:	M12508	Standard:	NaK ICSAB
Analyst:	MDS	Concentrations:	500 mg/L (Al, Ca, Fe, Mg) 100 mg/L (Na, K)
Prep Date:	05/27/2015	Expiration Date:	08/30/2015
Prep:	Into a 250 mL volumetric flask, pipetted **25 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M12164 , **2.5 mL** of K (10,000 mg/L) M12474 , **2.5 mL** of Na (10,000 mg/L) M12010 and **7.5 mL** of Fe (10,000 mg/L) M12401 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

Standard ID#:	M12504	Vendor:	Inorganic Ventures
Analyst:	MDS	Chemical:	GFAA ICAL/CCV Standard
Date Received:	05/26/2015	Lot #:	J2-MEB581070
Expiration Date (if any):	06/01/2016	Catelog #:	CTI-SPK-1

Standard ID#:	M12505	Vendor:	Inorganic Ventures
Analyst:	MDS	Chemical:	GFAA ICV/Spiking Standard
Date Received:	05/26/2015	Lot #:	J2-MEB581069
Expiration Date (if any):	06/01/2016	Catelog #:	CTI-GFCAL-1

Standard ID#:	M12502	Vendor:	SpexCertiprep
Analyst:	NAH	Chemical:	Custum assurance standard
Date Received:	05-19-2015	Lot #:	30-096CR
Expiration Date (if any):	05-30-2016	Catelog #:	XSPIKE-1-250

Standard Log #:	M12501	Reagent:	Potassium Persulfate Solution
Analyst:	LJF		
Prep Date:	05/14/15	Expiration Date:	11/14/15
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M10987 and brought up to volume.		

#M12488 5-5-15 - Mg 10,000mg/L CPI Lot 15C248 ex 10/2016.

#M12489 5-5-15 - Fe 10,000mg/L CPI Lot 15C290 ex 10/16.

#M12490 5-5-15 Ca 10,000mg/L CPI Lot 15A007 ex 10/16.

#M12491 05/06/15 13F TCLP Extraction Fluid #1: Fill a 2qt carboy w/ 19L D.I. H2O. Add 114ml Glacial Acetic Acid (AB 579) and 128.6ml of 10N NaOH (#M12797). Dilute to 20L w/ D.I. H2O and mix. pH = 4.93 ± 0.05

EXP: 05/06/16

#M12492 05/06/15 13F SPLP Extraction Fluid #2 west: Fill a 2qt carboy with D.I. H2O and adjust pH to 5.00 ± 0.05 with (#M12457) 60/40 HNO3, H2SO4 mix w/w mix.

EXP: 05/06/16

#M12493 05/11/15 13F	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10 0ug/L Hg
#M12494 05/11/15 13F	Hg Alt Source Working Std: (0 2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M12495 05/11/15 13F	Hg ICV / LCSW (0.2% HNO3, HCl)	3 0ml of 100ug/L Hg (#M12494) into 100ml = 3.0ug/L Hg
#M12496 05/11/15 13F	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M12497 05/11/15 13F	Hg MRL (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M 12494) into 100ml = 0 2ug/L Hg
#M12498 05/11/15 13F	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M12499 05/11/15 13F	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M 12729 in 70 mL HCl (AB: 553) Bring up to volume with D I. Water.

#M12468 4/22/15 MDS

		Instrument:	ICP 6000
Standard Log #:	M12468	Standard:	Na,K ICVLL
Analyst:	MDS	Concentrations:	3 mg/L (Na,K)
Prep Date:	04/22/2015	Expiration Date:	11/8/2015
Prep:	Into a 500 mL volumetric flask, pipetted 0.15 mL of Na (10,000 µg/mL) M12010 and 0.15 mL K (10,000 µg/mL) M12294 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

#M12469 4/22/15 MDS

		Instrument:	ICP 6000
Standard Log #:	M12469	Standard:	Na,K MRL
Analyst:	MDS	Concentrations:	1 mg/L (Na,K)
Prep Date:	04/22/2015	Expiration Date:	04/29/2016
Prep:	Into a 500 mL volumetric flask, pipetted 0.5 mL of Na (1000 µg/mL) M12296 and 0.5 mL K (1000 µg/mL) M12295 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

M12470 ZY Cr 10,000 mg/L CPI 4-24-15 lot # 13D123 exp oct/2016

M12471 ZY Boron 1000 mg/L CPI lot # 15D007 exp oct/2016 4-24-15

M12472 ZY Cu 10,000 mg/L CPI lot # 15B087 exp oct/2016

M12473 ZY Ba 1000 mg/L CPI lot # 15C142 exp oct/2016

M12474 ZY K 10,000 mg/L CPI lot # 15D114 exp oct/2016

#M12475 04/24/15 MDS

Standard Log #:	M12475	Instrument:	GFAA
Analyst:	MDS	Reagent:	Pd/Mg Matrix Modifier
Prep Date:	04/24/2015	Expiration Date:	08/07/2015
Prep:	Into a 50 mL volumetric flask, partially filled with milli-Q H_2O, pipetted 15 mL Pd Modifier M12158 and 10 mL Mg (10,000 mg/L) M12314 and brought up to volume.		

#M12459 04/20/15 SF	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M12460 04/20/15 SF	Hg All Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M12461 04/20/15 SF	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M12460) into 100ml = 3.0ug/L Hg
#M12462 04/20/15SF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M12463 04/20/15SF	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M12460) into 100ml = 0.2ug/L Hg
#M12464 04/20/15SF	Hg Aqua Regia Reagent.	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M12465 04/20/15SF	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M12299) in 70 mL HCl (AB: 553) Bring up to volume with D.I. Water

#M12466 04/22/15SF NaCl Hydroxylamine Sulfate Reagent: Dissolve 60g NaCl (#M11799) and 60g hydroxylamine Sulfate (#M12096) in 500ml of Milli-Q H_2O.
Exp: 10/22/15

#M12467
04/22/15
MDS

		Instrument:	ICP 6000
Standard Log #:	M12467	Standard:	Na & K ICAL
Analyst:	MDS	Concentrations:	0.5, 1, 5, 10, 50, 100, and 200 mg/L (Na,K)
Prep Date:	04/22/2015	Expiration Date:	04/29/2016
Prep:	Into seven, 200 mL volumetric flasks, pipetted the following from Na (1000 µg/mL) M12296 and K (1000 µg/mL) M12295 and brought up to volume using milli-Q H_2O. (2% HNO_3) *0.5 mg/L std.* - 0.1 mL of each *1.0 mg/L std.* - 0.2 mL of each *5.0 mg/L std.* - 1.0 mL of each *10 mg/L std* - 2.0 mL of each *50 mg/L std.* - 10 mL of each *100 mg/L std.* -20 mL of each, also used for Continuing Calibration Verification *200 mg/L std.* - 40 mL of each		

#M12453 04/07/15 ISF
LOQ Check
3050 QSM DOD

3050 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
K	2640	M12294	10000	13.2
Na	960	M12010	10000	4.8

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expires: 6-Nov

#M12454 04/08/15 ISF
LOQ check
3050 QSM DOD

3050 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
B	52	M11763	1000	2.6
Si	192	M12007	1000	9.6

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expires: 13-May

M12455 4/8/15 JH Environmental Express Y, 10,000mg/L lot# 1418108.
exp prior 10/15.

#M12456 04/14/15 ISF potassium permanganate Soln: 50g potassium permanganate (#M11285) dissolve into 1000mL of D.I. H_2O.
Exp: 10/14/15

#M12457 04/15/15 ISF Splp Ext. Fluid Acid mixture: Into a 2L vol. flask, add 12g H_2SO_4 (AB.598) and 8g conc. HNO_3 (AB.596). Bring up to volume with D.I. H_2O.
Exp: 04/15/16

#M12458 04/16/15 ISF SPLP Extraction Fluid Insert #2: Fill a 2 gal carboy with D.I. H_2O and adjust pH to 5.00 ± 0.05 with #M12457 60:40 HNO_3, H_2SO_4 mix w/v mix.
Exp: 04/16/16

#M12449 04/07/15 13F
LOQ Check
3010 QSM DoD

3010 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following.

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
B	16	M11763	1000	0.8
Se	200	M12007	1000	10

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expires: 13-May

#M12450 04/07/15 13F
LOQ Check
3050 QSM DoD

3050 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
Li	14.4	M11998	1000	0.72
Sn	20	M11996	1000	1
Sr	3.2	M11999	1000	0.16
Ti	9.6	M12003	1000	0.48
W	24	M12001	1000	1.2

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expires: 8-Nov

#M12451 04/07/15 13F
LOQ Check
3050 QSM DoD

3050 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
Ag	4	M11908	1000	0.2
Al	9.6	M12312	10000	0.048
As	32	M12315	1000	1.6
Ba	2	M11768	1000	0.1
Be	1.6	M12006	1000	0.08
Ca	56	M12310	10000	0.28
Cd	1.6	M12002	1000	0.08
Co	9.6	M1200	1000	0.48
Cr	5.6	M11767	10000	0.028
Cu	16	M11764	10000	0.08
Fe	72	M1231	10000	0.36
Mg	32	M12314	10000	0.16
Mn	6	M11829	10000	0.03
Mo	9.6	M12008	1000	0.48
Ni	4.8	M12004	1000	0.24
Pb	10	M12313	10000	0.05
Sb	32	M11909	1000	1.6
Se	16	M11911	1000	0.8
Tl	19	M11997	1000	0.95
V	3.2	M12009	1000	0.16
Zn	12	M12005	10000	0.06

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard

Expires: 13-May

#M12452 04/07/15 13F
LOQ Check
3050 QSM DoD

3050 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
S	240	M11679	10000	1.2

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working

#M12445 04/06/15 L3F
LOQ Check
3010 GSM DoD

3010 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
Li	10	M11998	1000	0.5
Sn	10	M11988	1000	0.5
Sr	2	M11999	1000	0.1
Te	8	M12003	1000	0.4
W	36	M12163	1000	1.8

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expires: 8-Nov

#M12446 04/06/15 L3F
LOQ Check
3010 GSM DoD

3010 LOQ Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	LOQ (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
K	500	M12294	10000	2.5
Na	600	M12010	10000	3

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expires: 8-Nov

List 2 MRL/ICVLL Base SPIKE PREPARATION 50x

#M12395 02/23/15 MOS

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	MRL (ug/L)	ICVLL (ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) pipet into 1	Expired Date
Li	20	60	M11998	1000	1	11/08/2015
W	100	300	M12163	1000	5	02/06/2016
Ti	10	30	M12003	1000	0.5	11/08/2015
Sr	10	30	M11999	1000	0.5	11/08/2015
Sn	20	60	M11996	1000	1	11/08/2015

0.5% HNO3
0.5% HCl

Pipette 10 mL into a 500 mL volumetric flask to create a working MRL std. or 1 mL into a 50 mL digestion tube for a digested MRL working standard. Pipette 30 mL into 500mL for ICVLL Working

List 2 MRL

#M12396 02/23/15 MOS

Into a 500 mL volumetric flask, pipetted 10 mL of #M12395 and brought to volume with milli-Q H20.
Exp. 11/08/2015 0.5% HNO3, 0.5% HCl

List 2 ICVLL

#M12397 02/23/15 MOS

Into a 500 mL volumetric flask, pipetted 30 mL of #M12395 and brought to volume with milli-Q H20.
Exp. 11/08/2015 0.5% HNO3, 0.5% HCl

#M12398 02/23/15SF NaCl Hydroxylamine Sulfate Reagent: Dissolve 60g NaCl (#M11799) and 60g hydroxylamine sulfate (#M11998) in 500mL of milli-Q H2O.
Exp: 02/23/15

#M12399 02/24/15SF Potassium permanganate Soln: 50g potassium permanganate (#M11785) dissolve into 1000mL of D.I. H2O.
Exp: 08/24/15

#M12400 2-25-15 Al 10,000 mg/L CPI Lot# HK253 ex 7/2016

#M12401 2-25-15 Fe 10,000mg/L CPI Lot# H5165, 7/2016

#M12402 02/26/15SF Stannous Chloride (Amarium) Lot#0000096553

#M12403 02/26/15SF Sodium Chloride (Fisher) Lot#145475

#M12404 03/04/15SF TCLP Extraction Fluid #1: Fill a 2qt carboy w/1.92 D.I. H2O. Add 11.4mL Glacial Acetic Acid (AB579) and 13.2mL of 10N NaOH (#M12392). Dilute to 2qt w/D.I. H2O and mix.
pH=4.93±0.05

#M12405 03/04/15SF TCLP Extraction Fluid #1: Fill a 2qt Carboy w/1.9L D.I. H2O. Add 11.4mL Glacial Acetic Acid (AB579) and 13.2mL of 10N NaOH (#M12392). Dilute to 2qt w/D.I. H2O and mix.
pH=4.93±0.05

#M12383 01/19/15 SF TCLP Extraction Fluid #1: Fill a 20L carboy W/19L D.I. H2O. Add 11.4mL Glacial Acetic Acid (AB: 57) and 128.6mL of 1N NaOH (AB: 1000). Dilute to 20L w/D.I. H2O and mix.
pH=4.93 ± 0.05

#M12384 01/19/15 SF	Hg Working Stds. (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5 0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M12385 01/19/15 SF	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M12386 01/19/15 SF	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M12385) into 100ml = 3.0ug/L Hg
#M12387 01/19/15 SF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3 0ug/L Hg
#M12388 01/19/15 SF	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M12385) into 100ml = 0.2ug/L Hg
#M12389 01/19/15 SF	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M12390 01/19/15 SF	Stannous Chloride Reagent	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M12294) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

ICAP Working Standards List 2

.5% HNO3 .5%HCL

#M12391 02/23/15 MMS

Standard name	Pipetted the following respectively:
1	0.01mL of #M12316 and 0.001mL #M12001 into 1L = 1 ug/L
10	0.10mL of #M12316 and 0.01mL #M12001 into 1L = 10 ug/L
100	1mL of #M12316 and 0.1mL #M12001 into 1L = 100 ug/L
1000	2 mL of #M12316 and 0.2 mL #M12001 into 200 mL = 1000 ug/L
10000	20mL of #M12316 and 2mL #M12001 into 200mL = 10000 ug/L

Brought up to mark with milli-Q H20 Exp. 11/08/2015

#M12392 02/23/15 MMS — Continuing Calibration Standard (CCV)

Into a 200mL volumetric flask pipetted 2mL of #M12316 and 0.2mL #M12001 = 1000 ug/L
Brought up to mark with milli-Q H20 Exp. 11/08/2015 0.5% HNO3, 0.5% HCl

#M12393 02/23/15 MMS — Initial Calibration Standard (ICV) List 2

Into a 1 liter volumetric flask pipetted 1mL of #M12003, M11999, M11996, M11998, M12163
Brought up to mark with milli-Q H20 Exp. 11/08/2015 0.5% HNO3, 0.5% HCl

#M12394 02/23/15 MMS — ICASB List 2

Into a 200 mL volumetric flask, pipetted 20 mL Interferants A #M12164, 6 mL Fe (10,000 µg/mL) #M12311, and 0.1 mL of 1000mg/L Ti, Sr, Sn, Li, and W #M12003, M11999, M11996, M11998, and M12001 respectively.
Brought up to mark with milli-Q H20 Exp. 08/30/2015 0.5% HNO3, 0.5% HCl

M12378 2-10-15 K 1000mg/L CLI Lot# 141175 exp 7/16.

Standard Log #:	M12379	Standard:	GFAA Instrument Check
Analyst:	MDS	Final Concentration:	10 µg/L As 6 µg/L Pb 22 µg/L Tl 24 µg/L Sb, Se 0 8 µg/L Ag
Prep Date:	02/17/2015	Expiration Date:	09/16/2015

#M12379 mds 02/17/15

Into six, 100 mL volumetric flasks, add the following and bring up to volume with milli-Q H_2O.

Element	Volume Pipetted (mL)	Standard Conc. (µg/mL)	Standard ID	New Conc. (µg/L)
As	1	1000	M12315	10,000
Pb	0.1	10,000	M12313	10,000
Tl	1	1000	M11997	10,000
Se	1	1000	M11911	10,000
Sb	1	1000	M11909	10,000
Ag	0.1	1000	M11908	1000

Into a 1 L volumetric flask, add the following and bring up to volume with Milli-Q H20. (1% HNO3)

Element	Volume Pipetted (mL)	Standard Conc. (µg/L)	Final Conc. (µg/L)
As	1	10,000	10
Pb	0.6	10,000	6
Tl	2.2	10,000	22
Se	2.4	10,000	24
Sb	2.4	10,000	24
Ag	0.8	1000	0 8

#M12380 - Custom Assurance Std - Spex CertiPrep
2-17-15 mds

#M12381 02/18/15 SF TCLP Extraction Fluid #1: Fill a 2 L carboy w/ 1.92 L D.I. H2O. Add 11.4 mL Glacial Acetic Acid (AB539) and 128 mL of 1.0 N NaOH (M12392). Dilute to 2 L w/ D.I. H2O and mix. pH = 4.93 ± 0.05
Exp: 02/17/16

#M12382 02/18/15 SF TCLP Extraction Fluid #1: Fill a 2 L carboy w/ 1.92 L D.I. H2O. Add 11.4 mL Glacial Acetic Acid (AB539) and 128 mL of 1.0 N NaOH (M12392). Dilute to 2 L w/ D.I. H2O and mix. pH = 4.93 ± 0.05
Exp: 02/17/16

#M12364 02/04/15 LSF	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg into 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M12365 02/04/15 LSF	Hg All Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M12366 02/04/15 LSF	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M12365) into 100ml = 3.0ug/L Hg
#M12367 02/04/15 LSF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M12368 02/04/15 LSF	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M12365) into 100ml = 0.2ug/L Hg
#M12369 02/04/15 LSF	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M12370 02/04/15 LSF	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11995 in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12371 2-5-15 JA Sulfur 10,000mg/L SPC Science lot# S1407117.006 Exp 4/16.

#M12372 02/05/15 LSF TCLP Extraction Fluid #1: Fill a 20L carboy w/ 19L D.I. H2O. Add 114ml Glacial Acetic Acid (AB: 579) and 128.6 mL of 10N NaOH (#M11788). Dilute to 20L w/ D.I. H2O and mix. pH=4.93±0.05
Exp: 02/05/16

#M12373 02/05/15 LSF TCLP Extraction Fluid #1: Fill a 20L carboy w/ 19L D.I. H2O. Add 114ml Glacial Acetic Acid (AB: 579) and 128.6 mL of 10N NaOH (#M11788). Dilute to 20L w/ D.I. H2O and mix. pH=4.93±0.05
Exp: 02/05/16

#M12374 2/5/15 Custom Assurance STD 100ug/ml 23 elements 8-9% HNO3 2% HCl Exp 1/16

#M12375 02/10/15 LSF 10N NaOH: Into a 1L flask, add 400g NaOH (#M11852) and bring up to volume with D.I. H2O.
Exp: 08/10/15

#M12376 02/10/15 LSF Potassium permanganate Soln: 50g potassium permanganate (#M11785) dissolve into 1000 mL of D.I. H2O.
Exp: 08/10/15

#M12377 2-10-15 Na 1000mg/L CPI lot# 142083 Exp 7/16.

#M12352 01/20/15 (3F Potassium permanganate Solns: 50g potassium permanganate (#M11285) dissolve into 1,000mL of D.I. H2O
Exp: 07/20/15

#M12353 01-22-15 MMS S ICAL - Into 4, 100 ml vol. Flasks, pipetted the following and brought up to volume with milli-Q H2O. exp. 01-30-16
0.01 mL S (10,000ug/mL) #M12350 = 1000ug/L S
0.1 mL S (10,000ug/mL) # M12350 = 10,000 ug/L S
Used as CCV → 1.0 mL S (10,000ug/mL) # M12350 = 100,000 ug/L S
10 ml S (10,000ug/mL) # M12350 = 1000K ug/L S

#M12354 01-22-15 MMS S ICV - Into a 100mL vol. flask, pipetted 1.0mL S(10,000ug/mL) #M10828 and brought to volume with milli-Q H2O. exp. 01-30-15

#M12355 01/22/15 5F — Hg Working Stds: (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg
1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg
2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg
4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg
5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg
10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg

#M12356 01/27/15 5F — Hg Alt Source Working Std: (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg
1.0ml of 10mg/L into 100ml = 100ug/L Hg

#M12357 01/27/15 5F — Hg ICV / LCSW (0.2% HNO3, HCl)
3.0ml of 100ug/L Hg (#M12356) into 100ml = 3.0ug/L Hg

#M12358 01/27/15 (3F — Hg CCV (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg

#M12359 01/27/15 13F — Hg MRL: (0.2% HNO3, HCl)
0.2ml of 100ug/L Hg (#M12356) into 100ml = 0.2ug/L Hg

#M12360 01/27/15 13F — Hg Aqua Regia Reagent: "Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)

#M12361 01/27/15 13F — Stannous Chloride Reagent: Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M1925) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12362 01/27/15 5F 10% w/v Hydroxylamine Sulfate Reagent: Dissolve 100g NaCl (#M11799) and 100g hydroxylamine Sulfate (#M11798) in 500mL of Milli-Q H2O.
Exp: 07/27/15

#M12363 01/30/15 15F TCLP Extraction Fluid #1: Fill a 20L carboy w/ 14L D.I. H2O. Add 11.4mL Glacial Acetic Acid (AB: 579) and 128.6mL of 10N NaOH (#M12792). Dilute to 20L w/ D.I. H2O and mix. pH = 4.93 ± 0.05 01/30/15 15F

#M12340 1-9-15 JY
5% HCl
5% HNO3

3050 MDL Spiking Solution
Base SPIKE PREPARATION 50x

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	MDL (ug/L)	Sts ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L
K	500	#M12294	10000	2.5
Na	500	#M12010	10000	2.5

Of the Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

EXPIRES 11/15

#M12341 01-14-15 MS GFAA Lot/ICA Check Water Working Std. (Ag Only) - Into a 100mL vol. Flask, pipetted 0.1mL Ag (1000ug/mL) #M11098 and brought up to volume using milli-Q H2O. exp. 04-6-15

#M12342 01-14-15 MS GFAA Lot/ICA Water Spiking Solution (Ag Only) - Into a 1L vol. Flask, pipetted 10mL #M12341 and brought up to volume using milli-Q H2O (1% HNO3) exp. 04-6-15

#M12343 01/19/15 SF Hg Working Stds: (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg
1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg
2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg
4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg
5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg
10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg

#M12344 01/19/15 SF Hg Alt Source Working Std: (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg
1.0ml of 10mg/L into 100ml = 100ug/L Hg

#M12345 01/19/15 SF Hg ICV / LCSW (0.2% HNO3, HCl)
3.0ml of 100ug/L Hg (#M12344) into 100ml = 3.0ug/L Hg

#M12346 01/19/15 SF Hg CCV (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg

#M12347 01/19/15 SF Hg MRL: (0.2% HNO3, HCl)
0.2ml of 100ug/L Hg (#M12344) into 100ml = 0.2ug/L Hg

#M12348 01/19/15 SF Hg Aqua Regia Reagent. "Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)

#M12349 01/19/15 SF Stannous Chloride Reagent: Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M1995) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12350 1-19-15 JY Spex Certiprep S. 10,000 mg/L Lot # AH15-855Y exp 1/16

#M12351 01/19/15 SF TCLP Extraction Fluid #1: Fill a 20L carboy w/ 19L D.I. H2O. Add 11.4mL Glacial Acetic Acid (AB: 539) and 17.6mL of 10N NaOH (#M12292) Dilute to 20L w/ D.I. H2O and mix. pH=4.93 ± 0.05
Exp: 01/19/16
01/19/15 SF

#M12310 12-9-14 JS 10,000 mg/L Ca CPI Lot# 14K204 ex 6/16

#M12311 12-9-14 JS 10,000 mg/L Fe CPI Lot # 145165 ex 6/16

#M12312 12-9-14 JS 10,000 mg/L Al CPI Lot # 14H211 ex 6/16

#M12313 12-9-14 JS 10,000 mg/L Pb CPI Lot # 140135 ex 6/16

#M12314 12-9-14 JS 10,000 mg/L Mg CPI Lot # 14K161 ex 6/16

#M12315 12-9-14 JS 1000 mg/L As CPI Lot # 131194 ex 6/16

#M12316 12-9-14 JS Custom Assurance Std CPEx Centiprep Lot 27-185CR ex 12/15

#M12317 12-09-14 JMS GFAA Se Spike (10ug/mL) - Into a 100mL vol. Flask, pipetted 1.0mL Se (1000mg/mL) #M11911 & brought to volume with DI H_2O. (3% HNO_3) Exp. 09/18/15

#M12318 12/09/14 JSF TCLP Extraction Fluid #1: Fill a 7oL carboy w/ 14L D.I. H_2O. Add 114mL Glacial Acetic Acid (AB5719) and 128.6mL of 10N NaOH (#M12792) Dilute to 7oL w/ D.I. H_2O and mix. Exp: 12/09/15 pH: 4.93 ± 0.05

#M12319 12/12/14 JSF potassium permanganate Soln: 50g potassium permanganate (#M11785) dissolve into 1000mL of D.I. H_2O. Exp: 06/12/15

#M12320 JS 12-15-14 Custom Assurance Std Spex Centiprep Lot 27-232CR XCTWST-1-500

#M12321 JS 12-15-14 Custom Assurance Std Spex Centiprep Lot 27-231CR XSpike-1-250

#M12322 12/15/14 JSF TCLP Extraction Fluid #1: Fill a 7oL Carboy w/ 14L D.I. H_2O. Add 114mL Glacial Acetic Acid (AB5719) and 128.6mL of 10N NaOH (#M12792) Dilute to 7oL with D.I. H_2O and mix. Exp: 12/15/15 pH: 4.93 ± 0.05

#M12323 12-22-14 JMS GFAA Pd/Mg Matrix Modifier - Into a 50mL vol. flask, pipetted 15mL of Pd modifier #M12158 + 10mL of Mg (1000mg/mL) #M12113 & brought up to volume using milli-Q H_2O. (2% HNO_3) exp. 8/7/15

#M12295 @ 11-24-14 K 1000mg/mL CPI Lot 141165 Exp 4/16

#M12296 @ 11-21-14 Na 1000 mg/L CPI Lot 141167 Exp 4/16

#M12297 11/24/14 SF Potassium permanganate Soln: 56g potassium permanganate (#M11285) dissolved Exp: 05/21/15 into 1000mL of D.I. H2O.

#M12298 11/24/14 SF Stannous Chloride (Macron) Lot# 0000082282

#M12299 11-25-14 @ ICV 1 As + Pb. Soln 1 Liter vol flask prep 5 mL #M11912, 0.5 mL #M11682 Bring up to mark w/ DI H2O.

#M12300 11/25/14 SF Stannous Chloride (Macron) Lot# 0000090643

#M12301 12/02/14 SF TCLP Extraction Fluid #1: Fill a 20L carboy w/ 19L D.I. H2O. Add 114mL Glacial Acetic Acid (AB: 57) and 128.6mL of 10N NaOH (#M12292). Dilute to 20L with D.I. H2O and mix. pH = 4.93 ± 0.05. Exp: 12/02/15

#M12302 12/05/14 SF Hg Working Stds: (0.2% HNO3, HCl)
- 1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
- 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
- 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg
- 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg
- 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg
- 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg
- 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg
- 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg

#M12303 12/05/14 SF Hg Alt Source Working Std: (0.2% HNO3, HCl)
- 1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg
- 1.0ml of 10mg/L into 100ml = 100ug/L Hg

#M12304 12/05/14 SF Hg ICV / LCSW (0.2% HNO3, HCl)
- 3.0ml of 100ug/L Hg (#M12303) into 100ml = 3.0ug/L Hg

#M12305 12/05/14 SF Hg CCV (0.2% HNO3, HCl)
- 1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
- 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
- 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg

#M12306 12/05/14 SF Hg MRL: (0.2% HNO3, HCl)
- 0.2ml of 100ug/L Hg (#M12303) into 100ml = 0.2ug/L Hg

#M12307 12/05/14 SF Hg Aqua Regia Reagent: "Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)

#M12308 12/05/14 SF Stannous Chloride Reagent: Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11995) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12309 12/08/14 SF NaCl Hydroxylamine Sulfate Reagent: Dissolve 1kg NaCl (#M11999) and 1kg hydroxylamine sulfate (#M11998) in 500mL of milli-q H2O. Exp: 06/08/15

ICASS List 2

#M12282
11-13-14 [illegible]

Into a 200 mL volumetric flask, pipetted 20 mL Interferents A #M12082 and 0.1 mL of 1000mg/L Ti, Sr, Sn, Li, and W #M12003, M11999, M11996, M11998, and M12004 respectively. Brought up to mark with milli-Q H20 Exp. 06/30/2015

#M12283 Yttrium 10,000 ug/mL Environmental Express Lot#1418108
11-14-14

#M12284 11/14/14 ISF	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M12285 11/14/14 ISF	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M12286 11/14/14 ISF	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M 12285) into 100ml = 3.0ug/L Hg
#M12287 11/14/14 ISF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M12288 11/14/14 ISF	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M 12285) into 100ml = 0.2ug/L Hg
#M12289 11/14/14 ISF	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M12290 11/14/14 ISF	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11995) in 70 mL HCl (AB: 553). Bring up to volume with D I Water.

#M12291 11/15/14 ISF Acid Hydroxylamine Sulfate Reagent: Dissolve 60g acid (#M11799) and 60g hydroxylamine sulfate (#M11992) in 500ml of milli-Q H2O
Exp: 05/15/15

#M12292 11/20/14 ISF 10N NaOH: Into a 1L flask add 400g NaOH (#M11145) and bring up to volume with D.I. H2O.
Exp: 05/20/15

#M12293 11/20/14 ISF TCLP Extraction Fluid #1: Fill a 2L carboy w/ 19L D.I. H2O. Add 114ml Glacial Acetic Acid (AB, 574) and 128.6ml of 10N NaOH (#M12292) Dilute to 20L with D.I. H2O and mix pH = 4.93 ± 0.05
Exp: 11/20/15

M12294 11-21-14 K 10,000 ug/mL CPI Lot 14623 exp 4/29/16

11/04/14SF

#M12271 TCLP Extraction Fluid #1: Fill a 1L carboy w/ 1912 D.I. H2O. Add 11.4mL Glacial Acetic Acid (AB: 579) and 128mL 1.0N NaOH (#M11955). Dilute to 2.0L with D.I. H2O and mix. pH = 4.93 ± 0.05
Exp: 05/11/15
11/04/14SF

#M12272 11/05/14SF	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M12273 11/05/14SF	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M12274 11/05/14SF	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M12273) into 100ml = 3.0ug/L Hg
#M12275 11/05/14SF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M12276 11/05/14SF	Hg MRL (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M12273) into 100ml = 0.2ug/L Hg
#M12277 11/05/14SF	Hg Aqua Regia Reagent.	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M12278 11/05/14SF	Stannous Chloride Reagent:	Into a 1000mL volumetric flask, dissolve 100g Stannous Chloride (#M11285) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12279 11/07/14SF Potassium permanganate (Fisher) lot#: 138790A

#M12280 11/13/14SF potassium permanganate soln: 50g potassium permanganate (#M11285) dissolve into 1000mL of D.I. H2O.
Exp: 05/13/15

ICAP Working Standards List 2

#M12279
11-13-14 JMD

.5% HNO3 .5%HCL

Standard name	Pipetted the following respectively:
1	0.01mL of #M12165 and 0.001mL #M12001 into 1L = 1 ug/L
10	0.10mL of #M12165 and 0.01mL #M12001 into 1L = 10 ug/L
100	1mL of #M12165 and 0.1mL #M12001 into 1L = 100 ug/L
1000	2mL of #M12165 and 0.2mL #M12001 into 200mL = 1000 ug/L
10000	20mL of #M12165 and 2mL #M12001 into 200mL = 10000 ug/L

Brought up to mark with milli-Q H20 Exp. 08/30/2015

#M12280
11-13-14 JMD

Continuing Calibration Standard (CCV)
into a 200mL volumetric flask pipetted 2mL of #M12165 and 0.2mL #M12001 = 1000 ug/L
Brought up to mark with milli-Q H20 Exp. 08/30/2015

#M12281
11-13-14 JMD

Initial Calibration Standard (ICV) List 2
Into a 1 liter volumetric flask pipetted 1mL of #M12003, M11999, M11996, M11998 and M12163
Brought up to mark with milli-Q H20 Exp. 11/08/2015

#M12258 10/28/14 SF potassium permanganate 5% in 50g potassium permanganate (#M11285) dissolve into 1,000ml of D.I. H_2O.
Exp: 04/27/15

#M12259 10/27/14 SF Stannous Chloride (MaCron) lot#0000087461

M12260 10/28/14 ICV/LCS boron and silicon

Into a one liter volmetric flask pipet 10ml of #M12165 and 1.0 ml #M11919

Bring up to mark with DI H2O

#M12261 10/28/14 SF	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M12262 10/28/14 SF	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M12263 10/28/14 SF	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M12262) into 100ml = 3.0ug/L Hg
#M12264 10/28/14 SF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M12265 10/28/14 SF	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M12262) into 100ml = 0.2ug/L Hg
#M12266 10/28/14 SF	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M12267 10/28/14 SF	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11285) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12268 10/29/14 SF potassium permanganate 5% in 50g potassium permanganate (#M11285) dissolve into 1,000ml of D.I. H_2O.
Exp: 04/29/15

#M12269 10/29/14 SF NaCl Hydroxylamine sulfate Reagent: Dissolve 60g NaCl (#M11798) and 60g hydroxylamine sulfate (#M11793) in 500ml of milli-Q H_2O.
Exp: 04/29/14

#M12270 11/04/14 SF Sodium Chloride (Fisher) lot#142463

#M12210 10/02/14SF TCLP Extraction Fluid #1: Fill/10/01/14SF into a 20L carboy w/ 19L DI H2O. Add 11.4mL Glacial Acetic Acid (#MA5599) and 128.6mL 1N NaOH (#M11955). Dilute to 20L with DI H2O and mix. pH = 4.93 ± 0.05
Exp: 10/02/15

#M12211 10/6/14 Custom Assurance Std Spex Certiprep Lot # 26-201CR ex 9/15

#M12212 10/6/14 Potassium 10,000 CPI Lot# 146213 exp 3/16

#M12213 10/6/14 Arsenic 10,000 CPI Lot# 132089 exp 3/16

#M12214 10/06/14SF	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M12215 10/06/14SF	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M12216 10/06/14SF	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M12215) into 100ml = 3.0ug/L Hg
#M12217 10/06/14SF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M12218 10/06/14SF	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M12215) into 100ml = 0.2ug/L Hg
#M12219 10/06/14SF	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M12220 10/06/14SF	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M1285) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12221 10/06/14SF Potassium Permanganate Soln: 50g Potassium permanganate (#M11285) dissolve into 1000mL of DI H2O.
Exp: 04/06/15

#M12222 10/6/14 MOS GFAA Low/Low Check Water Working Std (Ag Only) - Into a 100mL vol. Flask, pipetted 0.1mL Ag (1000ug/mL) #M11908 and brought up to volume using milli-Q H2O. (1% HNO3) exp. 09/16/15

R M12223 10/6/14 MOS GFAA Low/Low Water Spiking Soln (Ag only) - Into a 1L vol. Flask, pipetted 1mL #M12222 and brought up to volume using milli-Q H2O (1% HNO3) exp. 09/15/15

~~#M12179 09/12/14SF Stannous Chloride Lot#~~ 8/12/14SF

#M12179 9-4-15 Hg 1000 ug/mL CPI Lot# 14F110.

#M12180 09/04/14SF	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M12181 09/04/14SF	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M12182 09/04/14SF	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M12181) into 100ml = 3.0ug/L Hg
#M12183 09/04/14SF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M12184 09/04/14SF	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M12181) into 100ml = 0.2ug/L Hg
#M12185 09/04/14SF	Hg Aqua Regia Reagent:	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M12186 09/04/14SF	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M[illegible]) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12185 09/05/14SF TCLP Extraction Fluid #1: Fill a 20l carboy w/19L DI. H_2O. Add 114ml Glacial Acetic Acid (AB:579) and 128.6ml 1N NaOH (#M11955). Dilute to 20L w/ DI H_2O and mix. pH = 4.93 ± 0.05

Exp: 09/05/15

#M12186 9-9-14 StablCal Standard 200 ntu turbidity Hach Lot #A4216 exp 8/16

#M12187 9-9-14 Turbity Working Stds → into 3 Hach Vials →

~~pipet 1-5 ml 9-9-14~~

~~1 mls → 9 mls DI~~ 9-9-14

1 ml #M12186 → 9 mls DI H_2O = 20 ntu

5 mls M12186 → 5 mls DI H_2O = 100 ntu

10 ml #M12186 → 0 ml DI H_2O = 200 ntu

#M12157 MMS
08-06-14

ICAP Working Standards Boron & Silicon

Standard name	Into a 1L volumetric flask, pipetted the following respectively:
50	0.05mL of #M11763 and 0.05mL #M12007 = 50 ug/L
200	0.2mL of #M11763 and 0.2mL #M12007 = 100 ug/L
1000	1.0mL of #M11763 and 1.0mL #M12007 = 1000 ug/L
2000	2.0mL of #M11763 and 2.0mL #M12007 = 1000 ug/L
10000	10.0mL of #M11763 and 10.0mL #M12007 = 10000 ug/L

Expires: 05/13/2015

Continuing Calibration Standard (CCV)

Into a 1L volumetric flask, pipetted 1.0mL of #M11763 and 1.0mL #M12007 = 1000 ug/L
Brought up to volume with DI H20. Expires 05/13/2015

#M12158 MMS 08/11/14: 1% Pd GFAA matrix modifier Environmental Express Lot# 1421912
Expires: 08/01/15

#M12159 MMS 08/11/14: 1% Nickel Nitrate GFAA matrix modifier Alfa Aesar Lot# 41-55398TD

#M12160 08/12/14 15F Friscolyt (Mettler Toledo) Lot# 17-134C

#M12161 08/12/14 13F TCLP Extraction Fluid #1: Into a 7oL Carboy w/ 19L D.I. H2O. Add 114mL Glacial Acetic Acid (AB579) and 128.6mL 10N NaOH (#M11955). Dilute to 7oL with D.I. H2O and mix pH = 4.93 ± 0.05
Exp: 08/12/15

#M12162 8-13-14 Potassium 1000 mg/L CPI Lot# 14F193 ex 2/16

#M12163 8-13-14 Tungsten Std. CPI Lot# 14F230 ex 2/16

#M12164 8-13-14 Interference A Spex Certiprep Lot# 11-384PX ex 8/15

#M12165 8-13-14 Custom Assurance Std Spex Certiprep Lot# 7-93WL ex 8/15

#M12134 MW
07-21-14

Working Standards for Sodium and Potassium - Into seven, 200 mL volumetric flasks, pipetted the following from #M11719 and #M11722 and brought up to volume using milli-Q H_2O. (2% HNO_3)

0.5 mg/L std - 0.1 mL of each
1.0 mg/L std - 0.2 mL of each
5.0 mg/L std - 1.0 mL of each
10.0 mg/L std - 2.0 mL of each
50.0 mg/L std -10 mL of each
100 mg/L std - 20 mL of each, used for Continuing Calibration Standard (CCV)
200 mg/L std - 40 mL of each
Expires: 04/24/15

#M12135 MWS
07-21-14

Initial Calibration Standard (ICV) - Into a 250 mL volumetric flask, pipetted 2.5 mL of #M12010 and #M12011 and brought up to volume using milli-Q H_2O. (2% HNO_3)
Expires: 11/08/2015

#M12136 MWS
07-21-14

ICAP 6000 ICSAB Standard for Sodium and Potassium – Into a 250 mL volumetric flask, pipetted 25 mL of #M11776 and 2.5 mL of each #M12010 & #M12011 and brought to volume using milli-Q H_2O. (2% HNO_3) 1.5mL of #M11815
Expires: 12/30/14

#M12137 MWS
07-22-14

TCLP Extraction Fluid #1 – Into a 20L Carboy, added 11.4mL Glacial Acetic acid #AB586 + 128.6mL 10N NaOH #M12086 + brought to volume w/ DI H_2O. Mix. pH = 4.93 ± 0.05

#M12138 07/30/14 SF — Hg Working Stds: (0.2% HNO3, HCl)

1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg
1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg
2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg
4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg
5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg
10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg

#M12139 07/30/14 SF — Hg Alt Source Working Std: (0.2% HNO3, HCl)

1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg
1.0ml of 10mg/L into 100ml = 100ug/L Hg

#M12140 07/30/14 SF — Hg ICV / LCSW (0.2% HNO3, HCl)

3.0ml of 100ug/L Hg (#M12139) into 100ml = 3.0ug/L Hg

#M12141 07/30/14 SF — Hg CCV (0.2% HNO3, HCl)

1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg

#M12105 07/08/14 ISF — Hg Working Stds: (0.2% HNO3, HCl)

1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg
1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg
2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg
4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg
5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg
10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg

#M12106 07/08/14 ISF — Hg Alt Source Working Std: (0.2% HNO3, HCl)

1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg
1.0ml of 10mg/L into 100ml = 100ug/L Hg

#M12107 07/08/14 ISF — Hg ICV / LCSW (0.2% HNO3, HCl)

3.0ml of 100ug/L Hg (#M12106) into 100ml = 3.0ug/L Hg

#M12108 07/08/14 ISF — Hg CCV (0.2% HNO3, HCl)

1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg

#M12109 07/08/14 ISF — Hg MRL: (0.2% HNO3, HCl)

0.2ml of 100ug/L Hg (#M12106) into 100ml = 0.2ug/L Hg

#M12110 07/08/14 ISF — Hg Aqua Regia Reagent:

"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)

#M12111 07/08/14 ISF — Stannous Chloride Reagent:

Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M4995) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12112 7-10-14 Ca 10,000 mg/L CPI Lot # 14D176 exp 1/16
D

#M12113 7-10-14 Mg 10,000 mg/L CPI Lot # 14F190 exp 1/16

#M12114 09/11/14 ISF — Hg Working Stds: (0.2% HNO3, HCl)

1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg
1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg
2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg
4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg
5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg
10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg

#M12115 09/11/14 ISF — Hg Alt Source Working Std: (0.2% HNO3, HCl)

1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg
1.0ml of 10mg/L into 100ml = 100ug/L Hg

#M12116 09/11/14 ISF — Hg ICV / LCSW (0.2% HNO3, HCl)

3.0ml of 100ug/L Hg (#M12115) into 100ml = 3.0ug/L Hg

#M12117 09/11/14 ISF — Hg CCV (0.2% HNO3, HCl)

1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg

#M12118 09/11/14 ISF — Hg MRL: (0.2% HNO3, HCl)

0.2ml of 100ug/L Hg (#M12115) into 100ml = 0.2ug/L Hg

#M12119 09/11/14 ISF — Hg Aqua Regia Reagent:

"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)

#M12120 09/11/14 ISF — Stannous Chloride Reagent:

Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M4995) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M12079 06/18/14SF NaCl Hydroxylamine sulfate Reagent: Dissolve 6g NaCl (#M11799) and 6g hydroxylamine sulfate (#M11998) in 500mL of milli-Q H2O
Exp: 12/18/14

ICAP Working Standards W Only

.5% HNO3 .5%HCL

#M12080 06/18/14 YMS

Standard name — Pipetted the following respectively:

100	0.1mL #M12001 into 1L = 100 ug/L
1000 M12080	1mL #M12001 into 1L = 1000 ug/L
10000	10mL #M12001 into 1L = 10000 ug/L

Bring up to mark with milli-Q H20 Exp. 11/08/15

Continuing Calibration Standard (CCV) M12086
Into a 1L volumetric flask pipetted 1mL #M12001 = 1000 ug/L
Bring up to mark with milli-Q H20 Exp. 11/08/15

#M12081 06/18/14 YMS

Initial Calibration Standard (ICV) W Only M12081
Into a 1 liter volumetric flask pipetted 1mL of #M11385
Bring up to mark with milli-Q H20 Exp. ~~04/23/15~~ 04/20/14
YMS 06/18/14

#M12082 6-23-14 JD Spex Custiprep ICV-A Lot # 11-38YPX exp 6/15

#M12083 JD 6-23-14 Spex Certiprep Cust. Assurance Std Ti Hardness + Na exp 6/15

#M12084 JD 6-23-14 TCLP Extraction fluid into 20 liter carboy, Add 114mL Glacial acetic Acid (AB-558) + 128.6 mls 10N NaOH #M11955 Dilute up to 20L with DI H2O + mix pH=4.93±.05

#M12085 JD 6-23-14 TCLP Extraction fluid into 20 liter carboy add 114mL Glacial acetic Acid (AB-558), + 128.6 mls 10N NaOH #M11955 Dilute up to 20L with DI H2O + mix ph=4.93±.05

#M12086 JD 6-23-14 10N NaOH into 1 Liter vol dissolve 400g Sodium Hydroxide #M11145 Bring up to mark w/ DI H2O exp 6-23-15.

#M12087 (SF 06/25/14SF) Potassium permanganate Soln: 50g potassium permanganate (#M11285) dissolve into 1,000mL of DI H2O.
Exp 12/25/14

#M12002 05/13/14 I5F Cadmium 1,000mg/L CPI Lot#14A402 Exp:11/08/15

#M12003 05/13/14 I5F Titanium 1,000mg/L CPI Lot#13H001 Exp: 11/08/15

#M12004 05/13/14 I5F Nickel 1,000mg/L CPI Lot#14D214 Exp:11/08/15

#M12005 05/13/14 I5F Zinc ~~1,000mg/L~~ 10,000 05/13/14 I5F mg/L CPI Lot#14A199 Exp:11/08/15

#M12006 05/13/14 I5F Beryllium 1,000mg/L CPI Lot#14D241 Exp: 11/08/15

#M12007 05/13/14 I5F Silicon 1,000mg/L CPI Lot#13L019 Exp:11/08/15

#M12008 05/13/14 I5F Molybdenum 1,000mg/L CPI Lot#14B183 Exp:11/08/15

#M12009 05/13/14 I5F Vanadium 1,000mg/L CPI Lot#14A167 Exp:11/08/15

#M12010 05/13/14 I5F Sodium 10,000mg/L CPI Lot#14B243 Exp:11/08/15

#M12011 05/13/14 I5F Potassium 10,000mg/L CPI Lot#14C131 Exp:11/08/15

#M12012 05/14/14 I5F Potassium permanganate soln: 50g potassium permanganate (#M11285) Exp: 11/14/14 dissolve into 1,000mL of D.I. H2O.

#M12013 05/14/14 I5F — Hg Working Stds: (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg
1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg
2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg
4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg
5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg
10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg

#M12014 05/14/14 I5F — Hg Alt Source Working Std: (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg
1.0ml of 10mg/L into 100ml = 100ug/L Hg

#M12015 05/14/14 I5F — Hg ICV / LCSW (0.2% HNO3, HCl)
3.0ml of 100ug/L Hg (#M12014) into 100ml = 3.0ug/L Hg

#M12016 05/14/14 I5F — Hg CCV (0.2% HNO3, HCl)
1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg
1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg
3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg

#M12017 05/14/14 I5F — Hg MRL: (0.2% HNO3, HCl)
0.2ml of 100ug/L Hg (#M12014) into 100ml = 0.2ug/L Hg

#M12018 05/14/14 I5F — Hg Aqua Regia Reagent:
"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)

#M12019 05/14/14 I5F — Stannous Chloride Reagent:
Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11~~249~~) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M11986 05/08/14 ISF NaCl Hydroxylamine Sulfate Reagent: Dissolve into 1kg NaCl (#M11991) and 1kg Hydroxylamine Sulfate (#M11998) in 5000mL Milli-Q H2O.

Exp: 11/08/14

#M11987 05/09/14 ISF	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M11988 05/09/14 ISF	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M11989 05/09/14 ISF	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M11988) into 100ml = 3.0ug/L Hg
#M11990 05/09/14 ISF	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M11991 05/09/14 ISF	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M11988) into 100ml = 0.2ug/L Hg
#M11992 05/09/14 ISF	Hg Aqua Regia Reagent	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M11993 05/09/14 ISF	Stannous Chloride Reagent:	Into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11999) in 70 mL HCl (AB: 553). Bring up to volume with D.I. Water.

#M11994 05/12/14 ISF ICP Extraction Fluid #1: Fill a 7L carboy w/ 1 1/2 L D.I. H2O. Add 114mL Glacial Acetic Acid (AB.579) and 128.6mL 10.N NaOH (#M11955). Dilute to 7L with D.I. H2O and mix. pH = 4.93 ± 0.05

Exp: 05/12/15

#M11995 05/13/14 ISF Stannous Chloride (Macron) lot #0000076357 Exp: 02/14/15

#M11996 05/13/14 ISF Tin 1,000 mg/L CPI lot# 13H238 Exp: 11/08/15

#M11997 05/13/14 ISF Thallium 1,000 mg/L CPI lot# 13I105 Exp: 11/08/15

#M11998 05/13/14 ISF Lithium 1,000 mg/L CPI lot# 14E049 Exp: 11/08/15

#M11999 05/13/14 ISF Strontium 1,000 mg/L CPI lot# 14C002 Exp: 11/08/15

#M12000 05/13/14 ISF Cobalt 1,000 mg/L CPI lot# 14D005 Exp: 11/08/15

#M12001 05/13/14 ISF Tungsten 1,000 mg/L CPI lot# 13H199 Exp: 11/08/15

#M11917 4-2-14 5 ICV(Cu) std 100 ml vol flask pipet from M11679 conc = 100,000 ug/L = 100,000 ug/L 5 ml 5/15

#M11918 04/02/14/15F Potassium Permanganate soln: 50g potassium permanganate (#M11285) dissolve into 1 liter of D.I. H2O. Exp 10/02/14 04/02/14/15F

M11919 4-2-14 Si 1000 ug/L Std Fisher Lot # 141902 ex 3/16

M11920 4-2-14 Amco Clear Turbidity Std 20 nts ex Lot# C467460 ex 3/15

#M11921 04/03/14/15F Potassium persulfate: 50g potassium persulfate (#M10987) dissolve into 1000 ml of D.I. H2O. Exp 10/03/14 04/03/14/15F

#M11922 04/04/14/15F	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M11923 04/04/14/15F	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg
#M11924 04/04/14/15F	Hg ICV / LCSW (0.2% HNO3, HCl)	3.0ml of 100ug/L Hg (#M11923) into 100ml = 3.0ug/L Hg
#M11925 04/04/14/15F	Hg CCV (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 3.0ml of 100ug/L Hg into 100ml = 3.0ug/L Hg
#M11926 04/04/14/15F	Hg MRL: (0.2% HNO3, HCl)	0.2ml of 100ug/L Hg (#M 11923) into 100ml = 0.2ug/L Hg
#M11927 04/04/14/15F	Hg Aqua Regia Reagent	"Carefully" in hood, mix 3 parts HCl (AB: 553) with 1part HNO3 (AB: 554)
#M11928 04/04/14/15F	Stannous Chloride Reagent	into a 1000 mL volumetric flask, dissolve 100g Stannous Chloride (#M11770) in 70 mL HCl (AB. 553). Bring up to volume with D.I. Water.

#M11929 04/10/14/15F 2 lacl Hydroxylamine Sulfate Reagent: Dissolve into 600 ml (#M11999) water (a) hydroxylamine Sulfate (#M11798) in 500 ml (#M11999) Exp 10/10/14

#M11930 04/10/14/15F #M11945F	Hg Working Stds: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M10563) into 100ml=10mg/L Hg 1.0ml of 10mg/L Hg into 100ml = 100ug/L Hg 0.5ml of 100ug/L Hg into 100ml = 0.5ug/L Hg 1.0ml of 100ug/L Hg into 100ml = 1.0ug/L Hg 2.0ml of 100ug/L Hg into 100ml = 2.0ug/L Hg 4.0ml of 100ug/L Hg into 100ml = 4.0ug/L Hg 5.0ml of 100ug/L Hg ino 100ml =5.0ug/L Hg 10.0ml of 100ug/L Hg into 100ml = 10.0ug/L Hg
#M11931 04/10/14/15F	Hg Alt Source Working Std: (0.2% HNO3, HCl)	1.0ml of 1000mg/L Hg (#M9063) into 100ml = 10mg/L Hg 1.0ml of 10mg/L into 100ml = 100ug/L Hg

INORGANIC
CLP FORMS
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INORGANIC ANALYSIS DATA SHEET

Sample Description

071116R1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	743883
Analytical Method:	EPA 9060A	Date Received:	07/12/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127752	Analysis Date/Time	07/15/2016 03:07
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL TOC0096	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TIC	Total Inorganic Carbon	1.2	J	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

071116R1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	743885
Analytical Method:	SOP #FO-10	Date Received:	07/12/2016
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127947	Analysis Date/Time	07/12/2016 16:00
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
	Sample Filtration	completed					

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INORGANIC ANALYSIS DATA SHEET

Sample Description

071116R1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	743883
Analytical Method:	EPA 9060A	Date Received:	07/12/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127753	Analysis Date/Time	07/14/2016 17:09
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL TOC0096	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	0.90	J	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

071116R1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	743885
Analytical Method:	EPA 9056A	Date Received:	07/12/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127720	Analysis Date/Time	07/12/2016 21:21
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	2.0	U	1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.15	U	0.080	0.15	0.40	0.40
14808-79-8	Sulfate	2.5	U	1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

071216R1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	744417
Analytical Method:	SOP #FO-10	Date Received:	07/13/2016
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127948	Analysis Date/Time	07/13/2016 14:00
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
	Sample Filtration	completed					

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INORGANIC ANALYSIS DATA SHEET

Sample Description

071216R1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	744417
Analytical Method:	EPA 9056A	Date Received:	07/13/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127756	Analysis Date/Time	07/13/2016 18:36
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	2.0	U	1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.15	U	0.080	0.15	0.40	0.40
14808-79-8	Sulfate	2.5	U	1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

071216R1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	744416
Analytical Method:	EPA 9060A	Date Received:	07/13/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127753	Analysis Date/Time	07/14/2016 19:20
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL TOC0096	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	0.73	J	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	744974
Analytical Method:	EPA 9060A	Date Received:	07/14/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127922	Analysis Date/Time	07/19/2016 14:13
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL TOC0096	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	0.80	J	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	744975
Analytical Method:	SOP #FO-10	Date Received:	07/14/2016
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127949	Analysis Date/Time	07/14/2016 15:00
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
	Sample Filtration	completed					

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INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	744975
Analytical Method:	EPA 9056A	Date Received:	07/14/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127821	Analysis Date/Time	07/14/2016 19:54
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	5.5		1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.16	J	0.080	0.15	0.40	0.40
14808-79-8	Sulfate	46		1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	744419
Analytical Method:	SOP #FO-10	Date Received:	07/13/2016
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127948	Analysis Date/Time	07/13/2016 14:00
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
	Sample Filtration	completed					

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INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	744419
Analytical Method:	EPA 9056A	Date Received:	07/13/2016
Dilution Factor:	5.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127756	Analysis Date/Time	07/14/2016 16:44
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
14808-79-8	Sulfate	120		6.5	13	25	25

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INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	744419
Analytical Method:	EPA 9056A	Date Received:	07/13/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127756	Analysis Date/Time	07/13/2016 18:53
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	4.5		1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	1.4		0.080	0.15	0.40	0.40

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INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	744418
Analytical Method:	EPA 9060A	Date Received:	07/13/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127753	Analysis Date/Time	07/14/2016 19:34
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL TOC0096	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	0.94	J	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW4

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	744421
Analytical Method:	SOP #FO-10	Date Received:	07/13/2016
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127948	Analysis Date/Time	07/13/2016 14:00
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
	Sample Filtration	completed					

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INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW4

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	744421
Analytical Method:	EPA 9056A	Date Received:	07/13/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127756	Analysis Date/Time	07/13/2016 19:10
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	6.2		1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.89		0.080	0.15	0.40	0.40
14808-79-8	Sulfate	48		1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW4

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	744420
Analytical Method:	EPA 9060A	Date Received:	07/13/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127753	Analysis Date/Time	07/14/2016 19:48
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL TOC0096	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.0	J	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	744401
Analytical Method:	SOP #FO-10	Date Received:	07/13/2016
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127948	Analysis Date/Time	07/13/2016 14:00
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
	Sample Filtration	completed					

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INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	744401
Analytical Method:	EPA 9056A	Date Received:	07/13/2016
Dilution Factor:	5.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127756	Analysis Date/Time	07/14/2016 15:35
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
14808-79-8	Sulfate	73		6.5	13	25	25

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INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	744401
Analytical Method:	EPA 9056A	Date Received:	07/13/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127756	Analysis Date/Time	07/13/2016 17:27
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	11	M	1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	2.7		0.080	0.15	0.40	0.40

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INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	744400
Analytical Method:	EPA 9060A	Date Received:	07/13/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127753	Analysis Date/Time	07/14/2016 18:29
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL TOC0096	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	0.71	J	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	744972
Analytical Method:	EPA 9060A	Date Received:	07/14/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127922	Analysis Date/Time	07/19/2016 12:50
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL TOC0096	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	0.81	J	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	744973
Analytical Method:	SOP #FO-10	Date Received:	07/14/2016
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127949	Analysis Date/Time	07/14/2016 15:00
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
	Sample Filtration	completed					

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INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	744973
Analytical Method:	EPA 9056A	Date Received:	07/14/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127821	Analysis Date/Time	07/14/2016 18:45
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	3.1	J	1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	1.0		0.080	0.15	0.40	0.40
14808-79-8	Sulfate	12		1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	744970
Analytical Method:	EPA 9060A	Date Received:	07/14/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127922	Analysis Date/Time	07/19/2016 12:36
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL TOC0096	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.1	J	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	744971
Analytical Method:	SOP #FO-10	Date Received:	07/14/2016
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127949	Analysis Date/Time	07/14/2016 15:00
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
	Sample Filtration	completed					

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INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW3

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	744971
Analytical Method:	EPA 9056A	Date Received:	07/14/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127821	Analysis Date/Time	07/14/2016 18:28
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	3.3	J	1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	7.6		0.080	0.15	0.40	0.40
14808-79-8	Sulfate	31		1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW6

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	744397
Analytical Method:	SOP #FO-10	Date Received:	07/13/2016
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127948	Analysis Date/Time	07/13/2016 14:00
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
	Sample Filtration	completed					

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INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW6

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	744397
Analytical Method:	EPA 9056A	Date Received:	07/13/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127756	Analysis Date/Time	07/13/2016 16:52
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	11		1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	3.0		0.080	0.15	0.40	0.40

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INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW6

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	744395
Analytical Method:	EPA 9060A	Date Received:	07/13/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127753	Analysis Date/Time	07/14/2016 17:22
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	0.98	J	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW6

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	744397
Analytical Method:	EPA 9056A	Date Received:	07/13/2016
Dilution Factor:	5.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127756	Analysis Date/Time	07/13/2016 22:55
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
14808-79-8	Sulfate	130		6.5	13	25	25

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	744978
Analytical Method:	EPA 410.4	Date Received:	07/14/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127931	Analysis Date/Time	07/19/2016 11:00
Analytical Prep Batch #:	58120	Prep. Date/Time:	07/19/2016 10:00
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
COD	COD	35	U	15	35	75	75

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	744978
Analytical Method:	EPA 9040C	Date Received:	07/14/2016
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127894	Analysis Date/Time	07/18/2016 14:00
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	S.U.

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
PH	pH	7.41		0.1	0.1	0.1	0.1

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	744409
Analytical Method:	SOP #FO-10	Date Received:	07/13/2016
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127948	Analysis Date/Time	07/13/2016 14:00
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
	Sample Filtration	completed					

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	744409
Analytical Method:	EPA 9056A	Date Received:	07/13/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127756	Analysis Date/Time	07/13/2016 17:44
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	6.7		1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.46		0.080	0.15	0.40	0.40
14808-79-8	Sulfate	1.4	J	1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	744408
Analytical Method:	EPA 9060A	Date Received:	07/13/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127753	Analysis Date/Time	07/14/2016 18:43
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL TOC0096	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	744939
Analytical Method:	EPA 9060A	Date Received:	07/14/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127922	Analysis Date/Time	07/19/2016 12:25
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL TOC0096	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	0.67	J	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	744969
Analytical Method:	SOP #FO-10	Date Received:	07/14/2016
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127949	Analysis Date/Time	07/14/2016 15:00
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
	Sample Filtration	completed					

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	744969
Analytical Method:	EPA 9056A	Date Received:	07/14/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127821	Analysis Date/Time	07/14/2016 18:10
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	2.0	J	1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.14	J	0.080	0.15	0.40	0.40
14808-79-8	Sulfate	21		1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW04

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	744976
Analytical Method:	EPA 9060A	Date Received:	07/14/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127922	Analysis Date/Time	07/19/2016 14:24
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL TOC0096	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	0.86	J	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW04

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	744977
Analytical Method:	SOP #FO-10	Date Received:	07/14/2016
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127949	Analysis Date/Time	07/14/2016 15:00
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
	Sample Filtration	completed					

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW04

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	744977
Analytical Method:	EPA 9056A	Date Received:	07/14/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127821	Analysis Date/Time	07/14/2016 20:11
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	5.9		1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.44		0.080	0.15	0.40	0.40
14808-79-8	Sulfate	54		1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49TM01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	744399
Analytical Method:	SOP #FO-10	Date Received:	07/13/2016
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127948	Analysis Date/Time	07/13/2016 14:00
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
	Sample Filtration	completed					

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49TM01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	744399
Analytical Method:	EPA 9056A	Date Received:	07/13/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127756	Analysis Date/Time	07/13/2016 17:09
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	11		1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	3.1		0.080	0.15	0.40	0.40

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49TM01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	744398
Analytical Method:	EPA 9060A	Date Received:	07/13/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127753	Analysis Date/Time	07/14/2016 17:33
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.1	J	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49TM01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	744399
Analytical Method:	EPA 9056A	Date Received:	07/13/2016
Dilution Factor:	5.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127756	Analysis Date/Time	07/13/2016 23:46
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
14808-79-8	Sulfate	140		6.5	13	25	25

CT LABORATORIES
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INORGANIC ANALYSIS DATA SHEET

Sample Description

49TM02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	744415
Analytical Method:	SOP #FO-10	Date Received:	07/13/2016
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127948	Analysis Date/Time	07/13/2016 14:00
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
	Sample Filtration	completed					

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49TM02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	744415
Analytical Method:	EPA 9056A	Date Received:	07/13/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127756	Analysis Date/Time	07/13/2016 18:18
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	9.1		1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	2.6		0.080	0.15	0.40	0.40
14808-79-8	Sulfate	68		1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

49TM02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	744414
Analytical Method:	EPA 9060A	Date Received:	07/13/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127753	Analysis Date/Time	07/14/2016 19:09
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL TOC0096	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	0.70	J	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

50MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	744412
Analytical Method:	SOP #FO-10	Date Received:	07/13/2016
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127948	Analysis Date/Time	07/13/2016 14:00
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
	Sample Filtration	completed					

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INORGANIC ANALYSIS DATA SHEET

Sample Description

50MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	744412
Analytical Method:	EPA 9056A	Date Received:	07/13/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127756	Analysis Date/Time	07/13/2016 18:01
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	9.2		1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	2.5		0.080	0.15	0.40	0.40
14808-79-8	Sulfate	68		1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

50MW02

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	744411
Analytical Method:	EPA 9060A	Date Received:	07/13/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127753	Analysis Date/Time	07/14/2016 18:56
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL TOC0096	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	0.90	J	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	745779
Analytical Method:	EPA 410.4	Date Received:	07/15/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127931	Analysis Date/Time	07/19/2016 11:00
Analytical Prep Batch #:	58120	Prep. Date/Time:	07/19/2016 10:00
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
COD	COD	35	U	15	35	75	75

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	745779
Analytical Method:	EPA 9040C	Date Received:	07/15/2016
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127894	Analysis Date/Time	07/18/2016 14:00
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	S.U.

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
PH	pH	7.41		0.1	0.1	0.1	0.1

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	743851
Analytical Method:	EPA 9060A	Date Received:	07/12/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127752	Analysis Date/Time	07/15/2016 01:49
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL TOC0096	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TIC	Total Inorganic Carbon	59		0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	743866
Analytical Method:	SOP #FO-10	Date Received:	07/12/2016
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127947	Analysis Date/Time	07/12/2016 16:00
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
	Sample Filtration	completed					

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	743851
Analytical Method:	EPA 9060A	Date Received:	07/12/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127753	Analysis Date/Time	07/14/2016 16:29
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL TOC0096	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	0.92	J	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	743866
Analytical Method:	EPA 9056A	Date Received:	07/12/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127720	Analysis Date/Time	07/12/2016 18:29
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	2.8	J	1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.15	U	0.080	0.15	0.40	0.40
14808-79-8	Sulfate	29		1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW10

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	743879
Analytical Method:	EPA 9060A	Date Received:	07/12/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127752	Analysis Date/Time	07/15/2016 02:04
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL TOC0096	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TIC	Total Inorganic Carbon	87		0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW10

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	743880
Analytical Method:	EPA 9056A	Date Received:	07/12/2016
Dilution Factor:	5.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127720	Analysis Date/Time	07/13/2016 07:58
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
14808-79-8	Sulfate	93		6.5	13	25	25

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW10

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	743880
Analytical Method:	SOP #FO-10	Date Received:	07/12/2016
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127947	Analysis Date/Time	07/12/2016 16:00
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
	Sample Filtration	completed					

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW10

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	743879
Analytical Method:	EPA 9060A	Date Received:	07/12/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127753	Analysis Date/Time	07/14/2016 16:43
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL TOC0096	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	0.58	J	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW10

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	743880
Analytical Method:	EPA 9056A	Date Received:	07/12/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127720	Analysis Date/Time	07/12/2016 19:55
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	4.9		1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.47		0.080	0.15	0.40	0.40

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW12

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	743829
Analytical Method:	EPA 9060A	Date Received:	07/12/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127752	Analysis Date/Time	07/15/2016 01:34
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL TOC0096	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TIC	Total Inorganic Carbon	60	Y	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW12

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	743829
Analytical Method:	EPA 9060A	Date Received:	07/12/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127753	Analysis Date/Time	07/14/2016 15:33
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL TOC0096	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.2	J	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW12

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	743865
Analytical Method:	SOP #FO-10	Date Received:	07/12/2016
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127947	Analysis Date/Time	07/12/2016 16:00
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
	Sample Filtration	completed					

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW12

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	743865
Analytical Method:	EPA 9056A	Date Received:	07/12/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127720	Analysis Date/Time	07/12/2016 18:46
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	6.4		1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.81		0.080	0.15	0.40	0.40
14808-79-8	Sulfate	25		1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW13

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	745777
Analytical Method:	SOP #FO-10	Date Received:	07/15/2016
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127950	Analysis Date/Time	07/15/2016 13:00
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
	Sample Filtration	completed					

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW13

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	745777
Analytical Method:	EPA 9056A	Date Received:	07/15/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127866	Analysis Date/Time	07/15/2016 14:09
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	5.7	M	1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.60		0.080	0.15	0.40	0.40
14808-79-8	Sulfate	36	M	1.3	2.5	5.0	5.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW13

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	745769
Analytical Method:	EPA 9060A	Date Received:	07/15/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127922	Analysis Date/Time	07/19/2016 17:06
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL TOC0096	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	0.78	J	0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54MW13

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	745769
Analytical Method:	EPA 9060A	Date Received:	07/15/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127924	Analysis Date/Time	07/19/2016 17:35
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL TOC0096	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TIC	Total Inorganic Carbon	72		0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54TM10

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	743881
Analytical Method:	EPA 9060A	Date Received:	07/12/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127752	Analysis Date/Time	07/15/2016 02:20
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL TOC0096	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TIC	Total Inorganic Carbon	87		0.50	1.5	3.0	3.0

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54TM10

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	743882
Analytical Method:	EPA 9056A	Date Received:	07/12/2016
Dilution Factor:	5.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127720	Analysis Date/Time	07/13/2016 08:16
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
14808-79-8	Sulfate	87		6.5	13	25	25

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54TM10

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	743882
Analytical Method:	SOP #FO-10	Date Received:	07/12/2016
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127947	Analysis Date/Time	07/12/2016 16:00
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
	Sample Filtration	completed					

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INORGANIC ANALYSIS DATA SHEET

Sample Description

54TM10

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	743881
Analytical Method:	EPA 9060A	Date Received:	07/12/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127753	Analysis Date/Time	07/14/2016 16:55
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL TOC0096	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	0.77	J	0.50	1.5	3.0	3.0

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1

INORGANIC ANALYSIS DATA SHEET

Sample Description

54TM10

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix (soil/water):	GROUND WATER	SDG No.:	120379
% Solids:		Lab Sample ID:	743882
Analytical Method:	EPA 9056A	Date Received:	07/12/2016
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	127720	Analysis Date/Time	07/12/2016 20:12
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	5.0		1.1	2.0	4.0	4.0
14797-55-8	Nitrate Nitrogen	0.51		0.080	0.15	0.40	0.40

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Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127720 Lab Sample ID: 744528

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	6/16/16	16:29	15.00	13.51	90	90	110
Nitrate Nitrogen	6/16/16	16:29	3.500	3.287	94	90	110
Sulfate	6/16/16	16:29	25.00	23.89	96	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127931 Lab Sample ID: 746992

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
COD	7/19/16 11:00	400.0	391.0	98	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127752 Lab Sample ID: 746466

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Inorganic Carbon	5/9/16 19:37	50.00	52.35	105	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127753 Lab Sample ID: 746471

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	5/9/16 19:37	50.00	52.35	105	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127720 Lab Sample ID: 744126

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	7/12/16	16:45	15.00	14.31	95	90	110
Nitrate Nitrogen	7/12/16	16:45	3.500	3.574	102	90	110
Sulfate	7/12/16	16:45	25.00	27.32	109	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127720 Lab Sample ID: 744132

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	7/12/16	20:29	15.00	14.21	95	90	110
Nitrate Nitrogen	7/12/16	20:29	3.500	3.619	103	90	110
Sulfate	7/12/16	20:29	25.00	25.98	104	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127720 Lab Sample ID: 744135

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	7/13/16	00:14	15.00	14.34	96	90	110
Nitrate Nitrogen	7/13/16	00:14	3.500	3.582	102	90	110
Sulfate	7/13/16	00:14	25.00	25.94	104	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127720 Lab Sample ID: 744191

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	7/13/16 06:50	15.00	14.73	98	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127720 Lab Sample ID: 744526

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	7/13/16	10:34	15.00	14.58	97	90	110
Nitrate Nitrogen	7/13/16	10:34	3.500	3.585	102	90	110
Sulfate	7/13/16	10:34	25.00	26.02	104	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127756 Lab Sample ID: 744940

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	7/13/16	16:00	15.00	13.96	93	90	110
Nitrate Nitrogen	7/13/16	16:00	3.500	3.562	102	90	110
Sulfate	7/13/16	16:00	25.00	25.81	103	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127756 Lab Sample ID: 744944

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	7/13/16	19:45	15.00	13.98	93	90	110
Nitrate Nitrogen	7/13/16	19:45	3.500	3.607	103	90	110
Sulfate	7/13/16	19:45	25.00	26.03	104	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127756 Lab Sample ID: 744948

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	7/13/16	23:12	15.00	13.98	93	90	110
Nitrate Nitrogen	7/13/16	23:12	3.500	3.624	104	90	110
Sulfate	7/13/16	23:12	25.00	25.98	104	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127752 Lab Sample ID: 745253

ICAL Calibration #: ICAL TOC0096 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Inorganic Carbon	7/14/16 20:37	50.00	48.99	98	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127752 Lab Sample ID: 745256

ICAL Calibration #: ICAL TOC0096 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Inorganic Carbon	7/14/16 23:38	50.00	50.55	101	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127753 Lab Sample ID: 745261

ICAL Calibration #: ICAL TOC0096 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	7/14/16 14:50	50.00	49.29	99	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127753 Lab Sample ID: 745267

ICAL Calibration #: ICAL TOC0096 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	7/14/16 17:44	50.00	48.91	98	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127753 Lab Sample ID: 745269

ICAL Calibration #: ICAL TOC0096 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	7/14/16 20:37	50.00	48.99	98	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127756 Lab Sample ID: 745311

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Sulfate	7/14/16 13:34	25.00	26.81	107	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127821 Lab Sample ID: 745314

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	7/14/16	09:50	15.00	14.89	99	90	110
Nitrate Nitrogen	7/14/16	09:50	3.500	3.630	104	90	110
Sulfate	7/14/16	09:50	25.00	27.02	108	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127821 Lab Sample ID: 745317

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	7/14/16	17:01	15.00	14.64	98	90	110
Nitrate Nitrogen	7/14/16	17:01	3.500	3.629	104	90	110
Sulfate	7/14/16	17:01	25.00	26.69	107	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127821 Lab Sample ID: 745322

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	7/14/16	20:28	15.00	14.36	96	90	110
Nitrate Nitrogen	7/14/16	20:28	3.500	3.687	105	90	110
Sulfate	7/14/16	20:28	25.00	26.48	106	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127756 Lab Sample ID: 745383

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Sulfate	7/14/16 17:01	25.00	26.69	107	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127866 Lab Sample ID: 746209

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	7/15/16	07:43	15.00	14.27	95	90	110
Nitrate Nitrogen	7/15/16	07:43	3.500	3.483	100	90	110
Sulfate	7/15/16	07:43	25.00	26.37	105	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127866 Lab Sample ID: 746212

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	7/15/16	10:48	15.00	14.34	96	90	110
Nitrate Nitrogen	7/15/16	10:48	3.500	3.477	99	90	110
Sulfate	7/15/16	10:48	25.00	26.43	106	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127866 Lab Sample ID: 746217

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	7/15/16	16:27	15.00	14.27	95	90	110
Nitrate Nitrogen	7/15/16	16:27	3.500	3.493	100	90	110
Sulfate	7/15/16	16:27	25.00	26.45	106	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127752 Lab Sample ID: 746464

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Inorganic Carbon	7/15/16 02:36	50.00	51.19	102	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127752 Lab Sample ID: 746469

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Inorganic Carbon	7/15/16 04:07	50.00	52.36	105	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127756 Lab Sample ID: 746947

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Sulfate	7/14/16 02:39	25.00	26.33	105	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127931

Lab Sample ID: 746990

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
COD	7/19/16	11:00	400.0	381.0	95	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127931

Lab Sample ID: 746991

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
COD	7/19/16 11:00	400.0	386.0	96	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127922 Lab Sample ID: 747374

ICAL Calibration #: ICAL TOC0096 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	7/19/16	10:32	50.00	48.87	98	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127922 Lab Sample ID: 747379

ICAL Calibration #: ICAL TOC0096 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	7/19/16 13:31	50.00	47.47	95	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127922 Lab Sample ID: 747382

ICAL Calibration #: ICAL TOC0096 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	7/19/16	16:16	50.00	48.99	98	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127922 Lab Sample ID: 747384

ICAL Calibration #: ICAL TOC0096 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	7/19/16 18:45	50.00	50.59	101	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127924 Lab Sample ID: 747402

ICAL Calibration #: ICAL TOC0096 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Inorganic Carbon	7/19/16 10:32	50.00	48.87	98	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127924 Lab Sample ID: 747405

ICAL Calibration #: ICAL TOC0096 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Inorganic Carbon	7/19/16 13:31	50.00	47.47	95	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127924 Lab Sample ID: 747407

ICAL Calibration #: ICAL TOC0096 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Inorganic Carbon	7/19/16	16:16	50.00	48.99	98	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127924 Lab Sample ID: 747457

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Inorganic Carbon	7/19/16	18:45	50.00	50.59	101	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
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Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127752

Lab Sample ID: 746467

Analytical Prep Batch #:

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Inorganic Carbon	05/09/2016 19:52	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127753

Lab Sample ID: 746472

Analytical Prep Batch #:

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	05/09/2016 19:52	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127931

Lab Sample ID: 746993

Analytical Prep Batch #:

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
COD	07/19/2016 11:00	0			35

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127720 Lab Sample ID: 744529

Analytical Prep Batch #: Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	06/17/2016 07:43	0	U	1.1	2.0
Nitrate Nitrogen	06/17/2016 07:43	0	U	0.08	0.20
Sulfate	06/17/2016 07:43	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127752 Lab Sample ID: 745257

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: ICAL TOC0096 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Inorganic Carbon	07/15/2016 00:04	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127753 Lab Sample ID: 745268

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: ICAL TOC0096 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	07/14/2016 18:13	0.1100	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127753 Lab Sample ID: 745280

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: ICAL TOC0096 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	07/14/2016 21:17	0.1800	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127752 Lab Sample ID: 746465

Analytical Prep Batch #: Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Inorganic Carbon	07/15/2016 02:51	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127752 Lab Sample ID: 746470

Analytical Prep Batch #: Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Inorganic Carbon	07/15/2016 04:22	0.1800	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127931

Lab Sample ID: 746989

Analytical Prep Batch #:

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
COD	07/19/2016 11:00	0			35

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127922 Lab Sample ID: 747380

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: ICAL TOC0096 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	07/19/2016 13:45	0.4100	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127922

Lab Sample ID: 747383

Analytical Prep Batch # 0

Preparation Date/Time:

ICAL Calibration #: ICAL TOC0096

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	07/19/2016 16:46	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127922 Lab Sample ID: 747385

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: ICAL TOC0096 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	07/19/2016 19:14	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127924 Lab Sample ID: 747406

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: ICAL TOC0096 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Inorganic Carbon	07/19/2016 13:45	0.4100	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127924

Lab Sample ID: 747409

Analytical Prep Batch # 0

Preparation Date/Time:

ICAL Calibration #: ICAL TOC0096

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Inorganic Carbon	07/19/2016 16:46	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127924

Lab Sample ID: 747456

Analytical Prep Batch #:

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Inorganic Carbon	07/19/2016 19:14	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127720 Lab Sample ID: 744136

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	07/13/2016 00:31	0	U	1.1	2.0
Nitrate Nitrogen	07/13/2016 00:31	0	U	0.08	0.20
Sulfate	07/13/2016 00:31	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127720 Lab Sample ID: 744138

Analytical Prep Batch #: Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	07/12/2016 21:04	0	U	1.1	2.0
Nitrate Nitrogen	07/12/2016 21:04	0	U	0.08	0.20
Sulfate	07/12/2016 21:04	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127720 Lab Sample ID: 744192

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	07/13/2016 07:08	0	U	1.1	2.0

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127720 Lab Sample ID: 744527

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	07/13/2016 10:51	0	U	1.1	2.0
Nitrate Nitrogen	07/13/2016 10:51	0	U	0.08	0.20
Sulfate	07/13/2016 10:51	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127756 Lab Sample ID: 744945

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	07/13/2016 20:02	0	U	1.1	2.0
Nitrate Nitrogen	07/13/2016 20:02	0	U	0.08	0.20
Sulfate	07/13/2016 20:02	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127756 Lab Sample ID: 744949

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	07/13/2016 23:29	0	U	1.1	2.0
Nitrate Nitrogen	07/13/2016 23:29	0	U	0.08	0.20
Sulfate	07/13/2016 23:29	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127756 Lab Sample ID: 745312

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Sulfate	07/14/2016 13:52	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127821 Lab Sample ID: 745318

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	07/14/2016 17:19	0	U	1.1	2.0
Nitrate Nitrogen	07/14/2016 17:19	0	U	0.08	0.20
Sulfate	07/14/2016 17:19	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127821 Lab Sample ID: 745326

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	07/14/2016 21:03	0	U	1.1	2.0
Nitrate Nitrogen	07/14/2016 21:03	0	U	0.08	0.20
Sulfate	07/14/2016 21:03	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127756 Lab Sample ID: 745384

Analytical Prep Batch #: Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Sulfate	07/14/2016 17:19	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127866 Lab Sample ID: 746213

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	07/15/2016 11:05	0	U	1.1	2.0
Nitrate Nitrogen	07/15/2016 11:05	0	U	0.08	0.20
Sulfate	07/15/2016 11:05	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127866 Lab Sample ID: 746218

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	07/15/2016 16:45	0	U	1.1	2.0
Nitrate Nitrogen	07/15/2016 16:45	0	U	0.08	0.20
Sulfate	07/15/2016 16:45	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127756 Lab Sample ID: 746948

Analytical Prep Batch #: Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Sulfate	07/14/2016 03:13	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

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Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127752 Lab Sample ID: 745255

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: ICAL TOC0096 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Inorganic Carbon	07/14/2016 21:17	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
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Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127753 Lab Sample ID: 745263

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: ICAL TOC0096 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	07/14/2016 15:19	0.2300	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

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Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127931 Lab Sample ID: 746618

Analytical Prep Batch # 58120 Preparation Date/Time: 07/19/2016 10:00

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total COD	07/19/2016 11:00	0	U	15	35

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127922 Lab Sample ID: 747376

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: ICAL TOC0096 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	07/19/2016 11:01	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127924 Lab Sample ID: 747404

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: ICAL TOC0096 Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Inorganic Carbon	07/19/2016 11:01	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127720 Lab Sample ID: 744128

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	07/12/2016 17:20	0	U	1.1	2.0
Nitrate Nitrogen	07/12/2016 17:20	0	U	0.08	0.20
Sulfate	07/12/2016 17:20	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127756 Lab Sample ID: 744942

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	07/13/2016 16:35	0	U	1.1	2.0
Nitrate Nitrogen	07/13/2016 16:35	0	U	0.08	0.20
Sulfate	07/13/2016 16:35	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127821 Lab Sample ID: 745316

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	07/14/2016 10:25	0	U	1.1	2.0
Nitrate Nitrogen	07/14/2016 10:25	0	U	0.08	0.20
Sulfate	07/14/2016 10:25	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

SDG No.: 120379

Analytical Run #: 127866 Lab Sample ID: 746211

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	07/15/2016 08:37	0	U	1.1	2.0
Nitrate Nitrogen	07/15/2016 08:37	0	U	0.08	0.20
Sulfate	07/15/2016 08:37	0	U	1.3	2.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
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5A

SPIKE SAMPLE RECOVERY

Sample

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	120379
% Solids for Sample:		Concentration Units:	mg/L
Sample No	745265	Parent Sample No.:	743829
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	127753	ICAL Calibration #:	ICAL TOC0096

Analysis Type *Initial Analysis* Analysis Date: ----- 07/14/2016 Analysis Time: -------- 16:01

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Organic Carbon	85-111	51.3		1.2	J	50.0	100		TOC

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5A

SPIKE SAMPLE RECOVERY

Sample Description

49ADW01

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	120379
% Solids for Sample:		Concentration Units:	mg/L
Sample No	746614	Parent Sample No.:	744978
Analytical Prep Batch #	58120	Analytical Preparation Date/Time:	07/19/2016 10:00
Analytical Run #:	127931	ICAL Calibration #:	

Analysis Type *Initial Analysis* Analysis Date: ----- 07/19/2016 Analysis Time: -------- 11:00

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
COD	90-110	154		BDL	U	148	104		SP

BDL = analyte concentration was below detection limit

CT LABORATORIES
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5A

SPIKE SAMPLE RECOVERY

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	120379
% Solids for Sample:		Concentration Units:	mg/L
Sample No	747378	Parent Sample No.:	744972
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	127922	ICAL Calibration #:	ICAL TOC0096

Analysis Type *Initial Analysis* Analysis Date: ----- 07/19/2016 Analysis Time: -------- 13:17

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Organic Carbon	85-111	48.5		0.81	J	50.0	95		TOC

BDL = analyte concentration was below detection limit

CT LABORATORIES
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5A

SPIKE SAMPLE RECOVERY

Sample Description

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	120379
% Solids for Sample:		Concentration Units:	mg/L
Sample No	744130	Parent Sample No.:	743865
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	127720	ICAL Calibration #:	

Analysis Type	*Initial Analysis*	Analysis Date: -----	07/12/2016	Analysis Time: --------	19:20

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Chloride	87-111	14.9		6.4		8.00	106		IC
Nitrate Nitrogen	88-111	2.81		0.81		2.00	100		IC
Sulfate	87-112	32.9		25		8.00	99		IC

BDL = analyte concentration was below detection limit

CT LABORATORIES
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5A

SPIKE SAMPLE RECOVERY

Sample Description

48MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	120379
% Solids for Sample:		Concentration Units:	mg/L
Sample No	744946	Parent Sample No.:	744401
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	127756	ICAL Calibration #:	

Analysis Type	*Initial Analysis*	Analysis Date: -----	07/13/2016	Analysis Time: --------	20:19

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Chloride	87-111	20.0		11		8.00	112		IC	*FAIL*
Nitrate Nitrogen	88-111	4.69		2.7		2.00	100		IC	

BDL = analyte concentration was below detection limit

CT LABORATORIES
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5A

SPIKE SAMPLE RECOVERY

Sample Description

48MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	120379
% Solids for Sample:		Concentration Units:	mg/L
Sample No	744946	Parent Sample No.:	744401
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	127756	ICAL Calibration #:	

ReRun *Re-Analysis #1* Analysis Date: ----- 07/14/2016 Analysis Time: -------- 16:10

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Sulfate	87-112	116		73		40.0	108		IC

BDL = analyte concentration was below detection limit

CT LABORATORIES
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5A

SPIKE SAMPLE RECOVERY

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	120379
% Solids for Sample:		Concentration Units:	mg/L
Sample No	745320	Parent Sample No.:	744973
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	127821	ICAL Calibration #:	

Analysis Type	*Initial Analysis*	Analysis Date: -----	07/14/2016	Analysis Time: --------	19:19

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Chloride	87-111	11.6		3.1	J	8.00	106		IC
Nitrate Nitrogen	88-111	3.07		1.0		2.00	104		IC
Sulfate	87-112	20.3		12		8.00	104		IC

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5A

SPIKE SAMPLE RECOVERY

Sample [redacted]

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	120379
% Solids for Sample:		Concentration Units:	mg/L
Sample No	746215	Parent Sample No.:	[redacted]
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	127866	ICAL Calibration #:	

Analysis Type	*Initial Analysis*	Analysis Date: -----	07/15/2016	Analysis Time: --------	14:44

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Chloride	87-111	11.6		5.7		8.00	[redacted]		IC	*FAIL*
Nitrate Nitrogen	88-111	2.41		0.60		2.00	90		IC	
Sulfate	87-112	42.6		36		8.00	82		IC	*FAIL*

BDL = analyte concentration was below detection limit

CT LABORATORIES
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5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description

54MW12

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	120379
% Solids for Sample:		Concentration Units:	mg/L
Sample No	745266	Parent Sample No.:	745265
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	127753	ICAL Calibration #:	ICAL TOC0096

Analysis Type *Initial Analysis* Analysis Date: ----- 07/14/2016 Analysis Time: -------- 16:15

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Organic Carbon	85-111	51.4		1.2	J	50.0	100		TOC

BDL = analyte concentration was below detection limit

CT LABORATORIES
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5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description: **49ADW01**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	120379
% Solids for Sample:		Concentration Units:	mg/L
Sample No	746616	Parent Sample No.:	746614
Analytical Prep Batch #	58120	Analytical Preparation Date/Time:	07/19/2016 10:00
Analytical Run #:	127931	ICAL Calibration #:	

Analysis Type: *Initial Analysis* Analysis Date: ----- 07/19/2016 Analysis Time: -------- 11:00

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
COD	90-110	151		BDL	U	148	102		SP

BDL = analyte concentration was below detection limit

CT LABORATORIES
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5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description: **48MW2**

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	120379
% Solids for Sample:		Concentration Units:	mg/L
Sample No	747381	Parent Sample No.:	747378
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	127922	ICAL Calibration #:	ICAL TOC0096

Analysis Type *Initial Analysis* Analysis Date: ----- 07/19/2016 Analysis Time: -------- 13:59

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Organic Carbon	85-111	50.4		0.81	J	50.0	99		TOC

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	120379
% Solids for Sample:		Concentration Units:	mg/L
Sample No	744131	Parent Sample No.:	744130
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	127720	ICAL Calibration #:	

Analysis Type *Initial Analysis* Analysis Date: ----- 07/12/2016 Analysis Time: -------- 19:38

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Chloride	87-111	14.8		6.4		8.00	105		IC
Nitrate Nitrogen	88-111	2.80		0.81		2.00	100		IC
Sulfate	87-112	32.8		25		8.00	98		IC

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description

48MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	120379
% Solids for Sample:		Concentration Units:	mg/L
Sample No	744947	Parent Sample No.:	744946
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	127756	ICAL Calibration #:	

Analysis Type *Initial Analysis* Analysis Date: ----- 07/13/2016 Analysis Time: -------- 20:36

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Chloride	87-111	19.9		11		8.00	111		IC
Nitrate Nitrogen	88-111	4.67		2.7		2.00	98		IC

BDL = analyte concentration was below detection limit

CT LABORATORIES
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5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description

48MW1

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	120379
% Solids for Sample:		Concentration Units:	mg/L
Sample No	744947	Parent Sample No.:	744946
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	127756	ICAL Calibration #:	

ReRun *Re-Analysis #1* Analysis Date: ----- 07/14/2016 Analysis Time: -------- 16:27

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Sulfate	87-112	115		73		40.0	105		IC

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	120379
% Solids for Sample:		Concentration Units:	mg/L
Sample No	745321	Parent Sample No.:	745320
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	127821	ICAL Calibration #:	

Analysis Type	*Initial Analysis*	Analysis Date: -----	07/14/2016	Analysis Time: --------	19:37

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Chloride	87-111	11.6		3.1	J	8.00	106		IC
Nitrate Nitrogen	88-111	3.07		1.0		2.00	104		IC
Sulfate	87-112	20.2		12		8.00	102		IC

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description

Lab Name:	CT Laboratories	Contract:	BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix:	LIQUID	SDG No.:	120379
% Solids for Sample:		Concentration Units:	mg/L
Sample No	746216	Parent Sample No.:	746215
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	127866	ICAL Calibration #:	

Analysis Type *Initial Analysis* Analysis Date: ----- 07/15/2016 Analysis Time: -------- 15:01

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Chloride	87-111	11.8		5.7		8.00			IC	*FAIL*
Nitrate Nitrogen	88-111	2.45		0.60		2.00	92		IC	
Sulfate	87-112	42.9		36		8.00	86		IC	*FAIL*

BDL = analyte concentration was below detection limit

CT LABORATORIES
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6

DUPLICATES

Sample Description

54MW12

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 120379
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch # 1
Analytical Preparation Date/Time 0
Analytical Run #: 127753
ICAL Calibration #: ICAL TOC0096
Sample #: 745264
Parent Sample #: 743829

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Total Organic Carbon	07/14/2016	15:47	20	1.2	J	1.24	J	3		TOC

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6

DUPLICATES

Sample Description

49ADW01

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID

SDG No.: 120379

% Solid for Sample:

Concentration Units: S.U.

Analytical Prep Batch # 1

Analytical Preparation Date/Time

Analytical Run #: 127894

ICAL Calibration #:

Sample #: 746495

Parent Sample #: 744978

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
pH	07/18/2016	14:00	1	7.41		7.39		0		ELEC

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6

DUPLICATES

Sample Description

49ADW01

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID

SDG No.: 120379

% Solid for Sample:

Concentration Units: mg/L

Analytical Prep Batch # 1

Analytical Preparation Date/Time 58120

Analytical Run #: 127931

ICAL Calibration #:

Sample #: 746617

Parent Sample #: 744978

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
COD	07/19/2016	11:00	20	15	U	15	U	0		SP

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6

DUPLICATES

Sample Description

48MW2

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID

SDG No.: 120379

% Solid for Sample:

Concentration Units: mg/L

Analytical Prep Batch # 1

Analytical Preparation Date/Time 0

Analytical Run #: 127922

ICAL Calibration #: ICAL TOC0096

Sample #: 747377

Parent Sample #: 744972

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Total Organic Carbon	07/19/2016	13:03	20	0.81	J	0.840	J	4		TOC

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6

DUPLICATES

Sample Description

54MW12

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 120379
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch # 1
Analytical Preparation Date/Time 0
Analytical Run #: 127720
ICAL Calibration #:
Sample #: 744129
Parent Sample #: 743865

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Chloride	07/12/2016	19:03	10	6.4		6.40		0		IC
Nitrate Nitrogen	07/12/2016	19:03	10	0.81		0.806		0		IC
Sulfate	07/12/2016	19:03	10	25		25.1		0		IC

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6

DUPLICATES

Sample Description

48MW1

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 120379
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch # 1
Analytical Preparation Date/Time 0
Analytical Run #: 127756
ICAL Calibration #:
Sample #: 744943
Parent Sample #: 744401

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Chloride	07/13/2016	19:27	10	11		11.1		1		IC
Nitrate Nitrogen	07/13/2016	19:27	10	2.7		2.69		0		IC

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6

DUPLICATES

Sample Description

48MW1

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID

SDG No.: 120379

% Solid for Sample:

Concentration Units: mg/L

Analytical Prep Batch # 2

Analytical Preparation Date/Time 0

Analytical Run #: 127756

ICAL Calibration #:

Sample #: 744943

Parent Sample #: 744401

ReRun *Re-Analysis #1*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Sulfate	07/14/2016	15:52	10	73		72.8		0		IC

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6

DUPLICATES

Sample Description

48MW2

Lab Name: CT Laboratories

Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP

Matrix: LIQUID

SDG No.: 120379

% Solid for Sample:

Concentration Units: mg/L

Analytical Prep Batch # 1

Analytical Preparation Date/Time 0

Analytical Run #: 127821

ICAL Calibration #:

Sample #: 745319

Parent Sample #: 744973

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Chloride	07/14/2016	19:02	10	3.1	J	3.07	J	1		IC
Nitrate Nitrogen	07/14/2016	19:02	10	1.0		1.01		1		IC
Sulfate	07/14/2016	19:02	10	12		12.2		2		IC

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6

DUPLICATES

Sample Description

54MW13

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 120379
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch # 1
Analytical Preparation Date/Time 0
Analytical Run #: 127866
ICAL Calibration #:
Sample #: 746214
Parent Sample #: 745777

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Chloride	07/15/2016	14:27	10	5.7		5.68		0		IC
Nitrate Nitrogen	07/15/2016	14:27	10	0.60		0.611		2		IC
Sulfate	07/15/2016	14:27	10	36		36.3		1		IC

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6A

MATRIX SPIKE DUPLICATES

Sample Description: **54MW12**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 120379
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
Analytical Run #: 127753
ICAL Calibration #: ICAL TOC0096
Sample #: 745266
Parent Sample #: 745265

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Total Organic Carbon	07/14/2016	16:15	20	51.3		51.4		0		TOC

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6A

MATRIX SPIKE DUPLICATES

Sample Description: **49ADW01**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 120379
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch #: 58120
Analytical Preparation Date/Time: 07/19/2016 10:00
Analytical Run #: 127931
ICAL Calibration #:
Sample #: 746616
Parent Sample #: 746614

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
COD	07/19/2016	11:00	20	154		151		2		SP

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6A

MATRIX SPIKE DUPLICATES

Sample Description: **48MW2**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 120379
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
Analytical Run #: 127922
ICAL Calibration #: ICAL TOC0096
Sample #: 747381
Parent Sample #: 747378

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Total Organic Carbon	07/19/2016	13:59	20	48.5		50.4		4		TOC

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6A

MATRIX SPIKE DUPLICATES

Sample Description: **54MW12**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 120379
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
Analytical Run #: 127720
ICAL Calibration #:
Sample #: 744131
Parent Sample #: 744130

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Chloride	07/12/2016	19:38	15	14.9		14.8		0		IC
Nitrate Nitrogen	07/12/2016	19:38	15	2.81		2.80		0		IC
Sulfate	07/12/2016	19:38	15	32.9		32.8		0		IC

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6A

MATRIX SPIKE DUPLICATES

Sample Description: **48MW1**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 120379
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
Analytical Run #: 127756
ICAL Calibration #:
Sample #: 744947
Parent Sample #: 744946

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Chloride	07/13/2016	20:36	15	20.0		19.9		1		IC
Nitrate Nitrogen	07/13/2016	20:36	15	4.69		4.67		0		IC

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6A

MATRIX SPIKE DUPLICATES

Sample Description: **48MW1**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 120379
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
Analytical Run #: 127756
ICAL Calibration #:
Sample #: 744947
Parent Sample #: 744946

ReRun *Re-Analysis #1*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Sulfate	07/14/2016	16:27	15	116		115		1		IC

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6A

MATRIX SPIKE DUPLICATES

Sample Description: **48MW2**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 120379
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
Analytical Run #: 127821
ICAL Calibration #:
Sample #: 745321
Parent Sample #: 745320

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Chloride	07/14/2016	19:37	15	11.6		11.6		0		IC
Nitrate Nitrogen	07/14/2016	19:37	15	3.07		3.07		0		IC
Sulfate	07/14/2016	19:37	15	20.3		20.2		0		IC

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6A

MATRIX SPIKE DUPLICATES

Sample Description: **54MW13**

Lab Name: CT Laboratories
Contract: BERING SEA ENVIRONMENTAL-RADFORD AAP
Matrix: LIQUID
SDG No.: 120379
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
Analytical Run #: 127866
ICAL Calibration #:
Sample #: 746216
Parent Sample #: 746215

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Chloride	07/15/2016	15:01	15	11.6		11.8		2		IC
Nitrate Nitrogen	07/15/2016	15:01	15	2.41		2.45		2		IC
Sulfate	07/15/2016	15:01	15	42.6		42.9		1		IC

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7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 120379

Concentration Units: mg/L

Analytical Run #: 127752 Sample No.:#: 745254

Analytical Prep Batch #: 0 Preparation Date/Time:

ICAL Calibration #: ICAL TOC0096

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Total Inorganic Carbon	07/14/2016 20:51	85-111	49.86		50.00	100		TOC

CT LABORATORIES
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7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 120379

Concentration Units: mg/L

Analytical Run #: 127753 Sample No.:#: 745262

Analytical Prep Batch #: 0 Preparation Date/Time:

ICAL Calibration #: ICAL TOC0096

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Total Organic Carbon	07/14/2016 15:04	85-111	50.92		50.00	102		TOC

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7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 120379

Concentration Units: mg/L

Analytical Run #: 127931 Sample No.:#: 746619

Analytical Prep Batch #: 58120 Preparation Date/Time: 07/19/2016 10:00

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
COD	07/19/2016 11:00	90-110	383.0		400.0	96		SP

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7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 120379

Concentration Units: mg/L

Analytical Run #: 127922 Sample No.:#: 747375

Analytical Prep Batch #: 0 Preparation Date/Time:

ICAL Calibration #: ICAL TOC0096

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Total Organic Carbon	07/19/2016 10:46	85-111	51.55		50.00	103		TOC

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7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 120379

Concentration Units: mg/L

Analytical Run #: 127924 Sample No.:#: 747403

Analytical Prep Batch #: 0 Preparation Date/Time:

ICAL Calibration #: ICAL TOC0096

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Total Inorganic Carbon	07/19/2016 10:46	85-111	51.55		50.00	103		TOC

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7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 120379

Concentration Units: mg/L

Analytical Run #: 127720 Sample No.:#: 744127

Analytical Prep Batch #: 0 Preparation Date/Time:

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Chloride	07/12/2016 17:02	87-111	14.06		15.00	94		IC
Nitrate Nitrogen	07/12/2016 17:02	88-111	3.555		3.500	102		IC
Sulfate	07/12/2016 17:02	87-112	25.86		25.00	103		IC

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7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 120379

Concentration Units: mg/L

Analytical Run #: 127756 Sample No.:#: 744941

Analytical Prep Batch #: 0 Preparation Date/Time:

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Chloride	07/13/2016 16:18	87-111	13.72		15.00	91		IC
Nitrate Nitrogen	07/13/2016 16:18	88-111	3.551		3.500	101		IC
Sulfate	07/13/2016 16:18	87-112	25.66		25.00	103		IC

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7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 120379

Concentration Units: mg/L

Analytical Run #: 127821 Sample No.:#: 745315

Analytical Prep Batch #: 0 Preparation Date/Time:

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Chloride	07/14/2016 10:07	87-111	14.61		15.00	97		IC
Nitrate Nitrogen	07/14/2016 10:07	88-111	3.621		3.500	103		IC
Sulfate	07/14/2016 10:07	87-112	26.79		25.00	107		IC

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7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract BERING SEA ENVIRONMENTAL-RADFORD AAP

LCS Source: SPEX and Ultra SDG No.: 120379

Concentration Units: mg/L

Analytical Run #: 127866 Sample No.:#: 746210

Analytical Prep Batch #: 0 Preparation Date/Time:

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Chloride	07/15/2016 08:20	87-111	14.01		15.00	93		IC
Nitrate Nitrogen	07/15/2016 08:20	88-111	3.445		3.500	98		IC
Sulfate	07/15/2016 08:20	87-112	26.12		25.00	104		IC

INORGANICS
RAW DATA
DOCUMENTS

Schedule File: C:\INSTARCH\Sequences\System 2\061616 - ic0692.SCH

Line	Sample	Sample Type	Level	Method
1	CCV IC0679 IC0680	Sample		ic0692b.met
2	STD 1	Calibration St	1	ic0692b.met
3	STD 2	Calibration St	2	ic0692b.met
4	STD 3	Calibration St	3	ic0692b.met
5	STD 4	Calibration St	4	ic0692b.met
6	STD 5	Calibration St	5	ic0692b.met
7	STD 6	Calibration St	6	ic0692b.met
8	STD 7	Calibration St	7	ic0692b.met
9	STD 8	Calibration St	8	ic0692b.met
10	STD 9	Calibration St	9	ic0692b.met
11	ICV IC0660 IC0661	Sample		ic0692b.met
12	ICB	Sample		ic0692b.met

Calibration Update Report

Sample Name : STD 1
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\061616 - IC0692\STD 1_002.DXD

Method File Name : C:\INSTARCH\METHODS\SYSTEM 2\IC0692B.met
Schedule File Name : c:\instarch\sequences\system 2\061616 - ic0692.sch
Date Time Collected : 6/16/16 13:57:22
Calibration Date : 6/17/16 07:33:31
System Operator : JJF

Peak Information : All Components

Peak #	Component Name	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)

STD 1

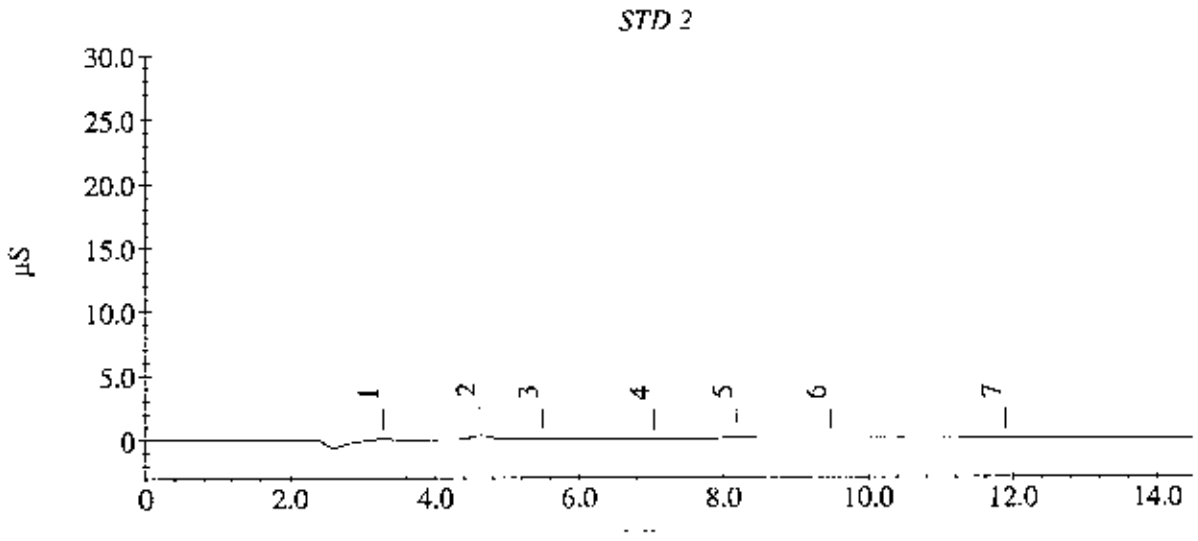
Calibration Update Report

Sample Name : STD 2
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\061616 - IC0692\STD 2_003.DXD

Method File Name : C:\INSTARCH\METHODS\SYSTEM 2\IC0692B.met
Schedule File Name : c:\instarch\sequences\system 2\061616 - ic0692.sch
Date Time Collected : 6/16/16 14:16:04
Calibration Date : 6/17/16 07:33:31
System Operator : JJF

Peak Information : All Components

Peak #	Component Name	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
1	Fluoride	3.27	0	10950	10950
2	Chloride	4.62	20178	59065	59065
3	Nitrite	5.48	4440	20178	20178
4	Bromide	7.03	0	4440	4440
5	Nitrate	8.18	5105	29348	29348
6	O.Phos	9.48	43398	5105	5105
7	Sulfate	11.88	0	43398	43398



Calibration Update Report

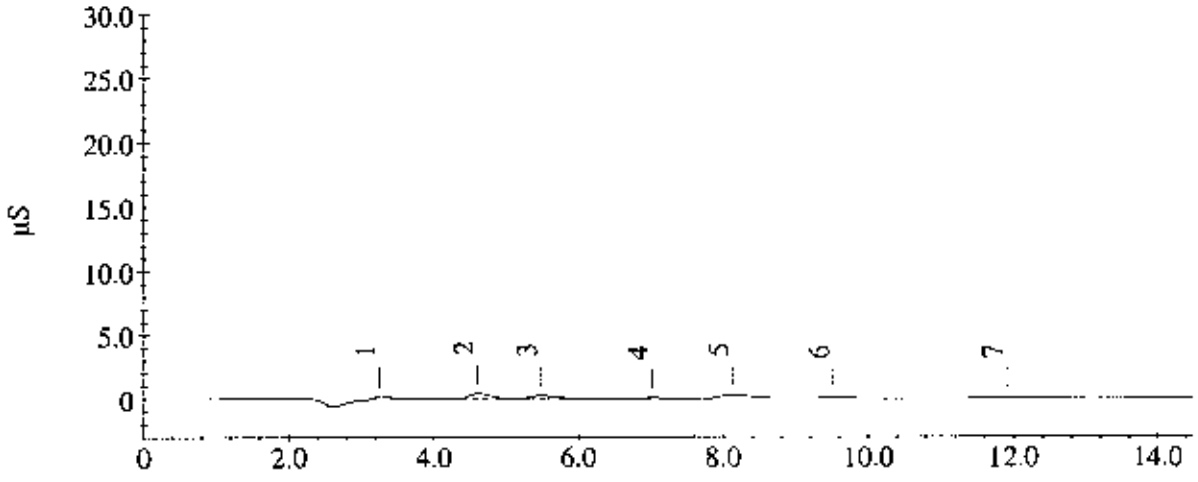
Sample Name : STD 3
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\061616 - IC0692\STD 3_004.DXD

Method File Name : C:\INSTARCH\METHODS\SYSTEM 2\IC0692B.met
Schedule File Name : c:\instarch\sequences\system 2\061616 - ic0692.sch
Date Time Collected : 6/16/16 14:32:47
Calibration Date : 6/17/16 07:33:31
System Operator : JJF

Peak Information : All Components

Peak #	Component Name	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
1	Fluoride	3.25	38986	38986	38986
2	Chloride	4.60	85103	85103	85103
3	Nitrite	5.48	59008	59008	59008
4	Bromide	7.02	13847	13847	13847
5	Nitrate	8.13	80310	80310	80310
6	O.Phos	9.52	20382	20382	20382
7	Sulfate	11.90	61443	61443	61443

STD 3



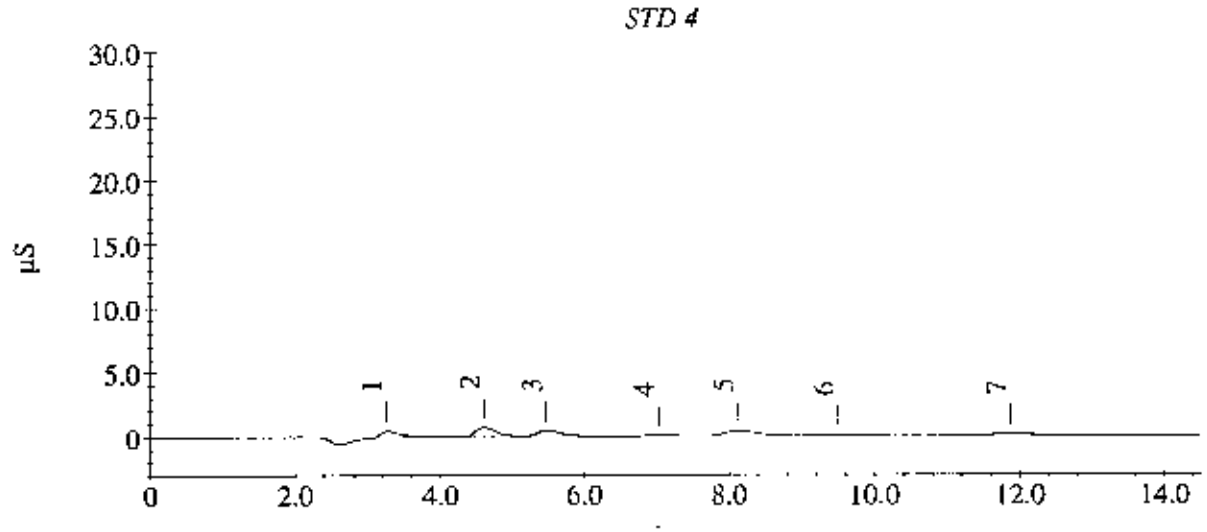
Calibration Update Report

Sample Name : STD 4
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\061616 - IC0692\STD 4_005.DXD

Method File Name : C:\INSTARCH\METHODS\SYSTEM 2\IC0692B.met
Schedule File Name : c:\instarch\sequences\system 2\061616 - ic0692.sch
Date Time Collected : 6/16/16 14:49:31
Calibration Date : 6/17/16 07:33:31
System Operator : JJF

Peak Information : All Components

Peak #	Component Name	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
1	Fluoride	3.25	0	82954	82954
2	Chloride	4.60	97334	138694	138694
3	Nitrite	5.47	22303	97334	97334
4	Bromide	7.02	0	22303	22303
5	Nitrate	8.12	35432	131482	131482
6	O.Phos	9.50	96464	35432	35432
7	Sulfate	11.87	0	96464	96464



Calibration Update Report

Sample Name : STD 5
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\061616 - IC0692\STD 5_006.DXD

Method File Name : C:\INSTARCH\METHODS\SYSTEM 2\IC0692B.met
Schedule File Name : c:\instarch\sequences\system 2\061616 - ic0692.sch
Date Time Collected : 6/16/16 15:06:14
Calibration Date : 6/17/16 07:33:31
System Operator : JJF

Peak Information : All Components

Peak #	Component Name	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
1	Fluoride	3.25	158094	158094	158094
2	Chloride	4.60	565202	565202	565202
3	Nitrite	5.47	184294	184294	184294
4	Bromide	7.02	43354	43354	43354
5	Nitrate	8.10	265405	265405	265405
6	O.Phos	9.52	77877	77877	77877
7	Sulfate	11.85	426581	426581	426581

Calibration Update Report

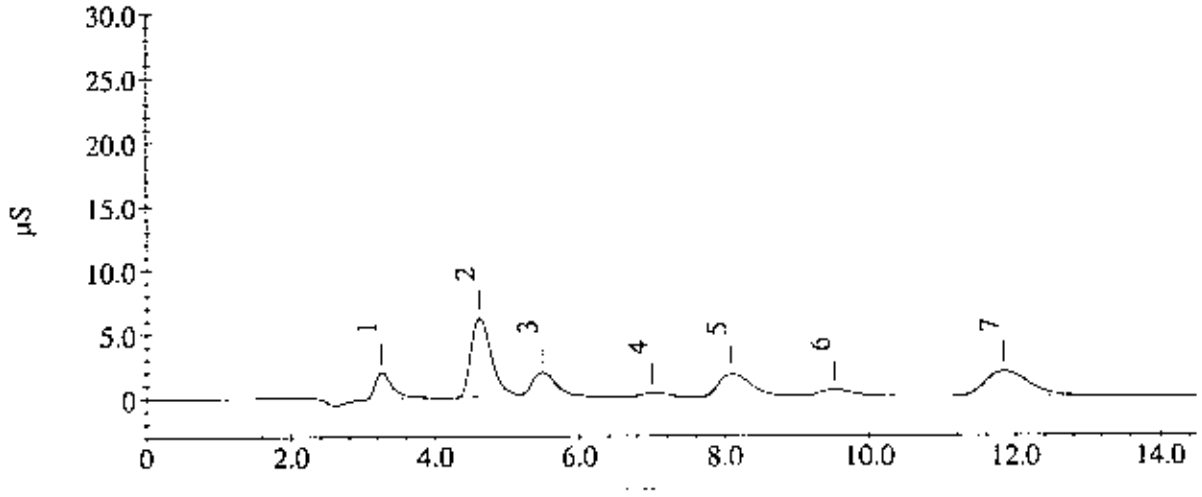
Sample Name : STD 6
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\061616 - IC0692\STD 6_007.DXD

Method File Name : C:\INSTARCH\METHODS\SYSTEM 2\IC0692B.met
Schedule File Name : c:\instarch\sequences\system 2\061616 - ic0692.sch
Date Time Collected : 6/16/16 15:22:57
Calibration Date : 6/17/16 07:33:31
System Operator : JJF

Peak Information : All Components

Peak #	Component Name	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
1	Fluoride	3.25	0	321487	321487
2	Chloride	4.60	375372	1164246	1164246
3	Nitrite	5.47	82798	375372	375372
4	Bromide	7.00	0	82798	82798
5	Nitrate	8.08	153586	525184	525184
6	O.Phos	9.52	859682	153586	153586
7	Sulfate	11.83	0	859682	859682

STD 6



Calibration Update Report

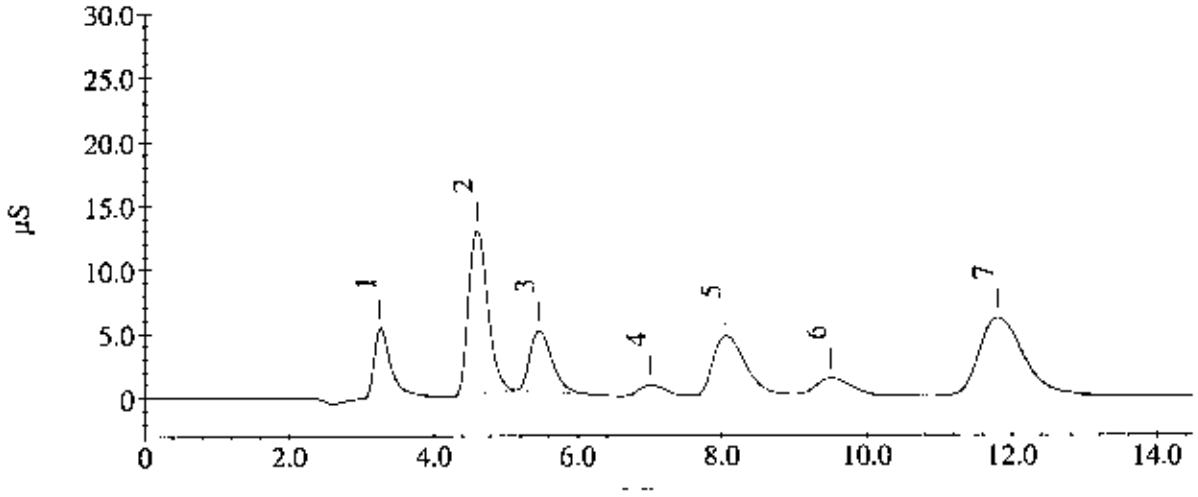
Sample Name : STD 7
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\061616 - IC0692\STD 7_008.DXD

Method File Name : C:\INSTARCH\METHODS\SYSTEM 2\IC0692B.met
Schedule File Name : c:\instarch\sequences\system 2\061616 - ic0692.sch
Date Time Collected : 6/16/16 15:39:39
Calibration Date : 6/17/16 07:33:31
System Operator : JJF

Peak Information : All Components

Peak #	Component Name	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
1	Fluoride	3.25	870341	870341	870341
2	Chloride	4.60	2412636	2412636	2412636
3	Nitrite	5.47	1020077	1020077	1020077
4	Bromide	7.00	209787	209787	209787
5	Nitrate	8.05	1375481	1375481	1375481
6	O.Phos	9.50	418204	418204	418204
7	Sulfate	11.80	2607317	2607317	2607317

STD 7



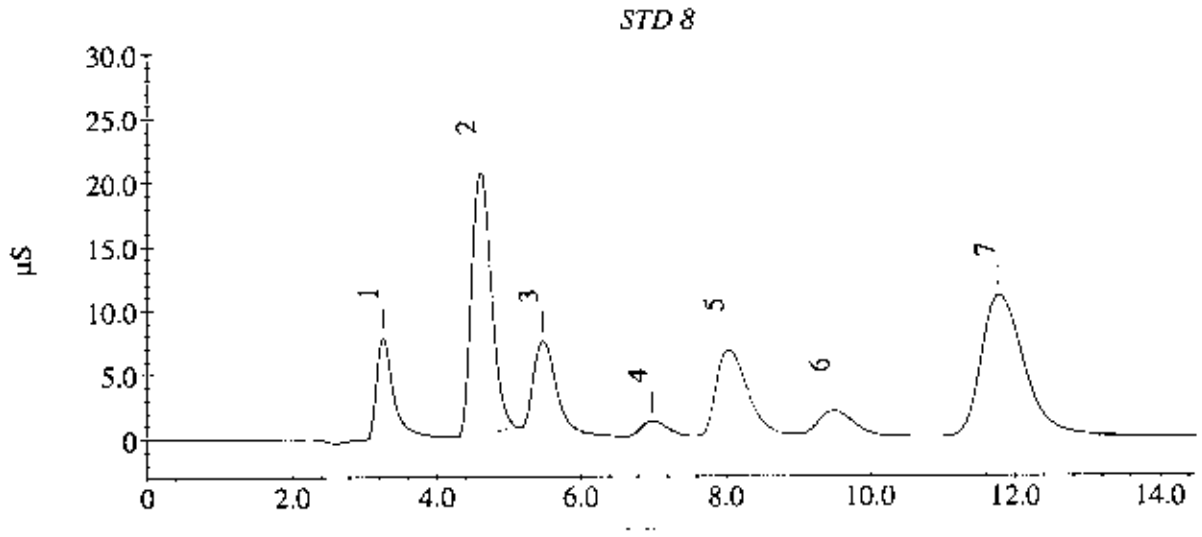
Calibration Update Report

Sample Name : STD 8
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\061616 - IC0692\STD 8_009.DXD

Method File Name : C:\INSTARCH\METHODS\SYSTEM 2\IC0692B.met
Schedule File Name : c:\instarch\sequences\system 2\061616 - ic0692.sch
Date Time Collected : 6/16/16 15:56:22
Calibration Date : 6/17/16 07:33:31
System Operator : JJF

Peak Information : All Components

Peak #	Component Name	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
1	Fluoride	3.25	0	1246344	1246344
2	Chloride	4.60	1473312	3843823	3843823
3	Nitrite	5.47	294169	1473312	1473312
4	Bromide	6.98	0	294169	294169
5	Nitrate	8.03	607630	1978886	1978886
6	O.Phos	9.50	4616875	607630	607630
7	Sulfate	11.77	0	4616875	4616875



Calibration Update Report

Sample Name : STD 9
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\061616 - IC0692\STD 9_010.DXD

Method File Name : C:\INSTARCH\METHODS\SYSTEM 2\IC0692B.met
Schedule File Name : c:\instarch\sequences\system 2\061616 - ic0692.sch
Date Time Collected : 6/16/16 16:13:05
Calibration Date : 6/17/16 07:33:31
System Operator : JJF

Peak Information : All Components

Peak #	Component Name	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
1	Fluoride	3.25	1851689	1851689	1851689
2	Chloride	4.62	5354490	5354490	5354490
3	Nitrite	5.48	2198898	2198898	2198898
4	Bromide	7.00	424629	424629	424629
5	Nitrate	8.03	2952731	2952731	2952731
6	O.Phos	9.52	907949	907949	907949
7	Sulfate	11.80	6619756	6619756	6619756

Sample Analysis Report

Sample Name : ICV IC0660 IC0661
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\061616 - IC0692\ICV IC0660 IC0661_011.DXD

Method File Name : C:\INSTARCH\METHODS\SYSTEM 2\IC0692B.met
Date Time Collected : 6/16/16 16:29:48
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.25	3.3013	586910	35999	
2	Chloride	4.60	13.5108	1723959	90662	
3	Nitrite	5.47	3.5909	758428	34741	
4	Bromide	7.00	3.4401	145456	5763	
5	Nitrate	8.07	3.2871	934850	30926	
6	O.Phos	9.50	3.3261	287733	8836	
7	Sulfate	11.82	23.8866	2200954	51182	

ICV IC0660 IC0661

Sample Analysis Report

Sample Name : ICB
Data File Name : c:\instarch\data\system 2\061616 - ic0692\ICB_012.DXD

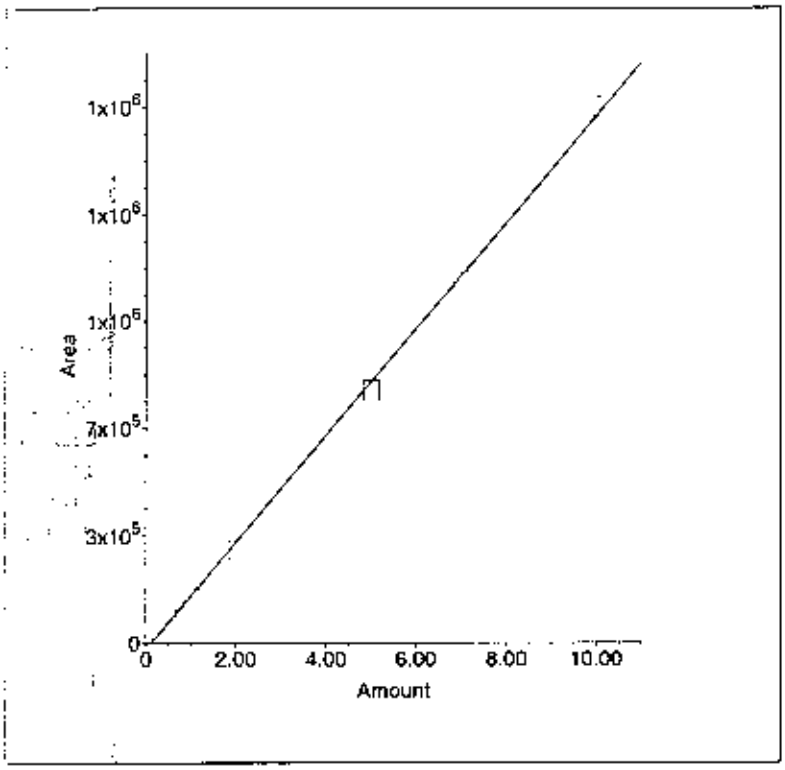
Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 6/17/16 07:43:43
System Operator : JJF

Peak Information : Found Components

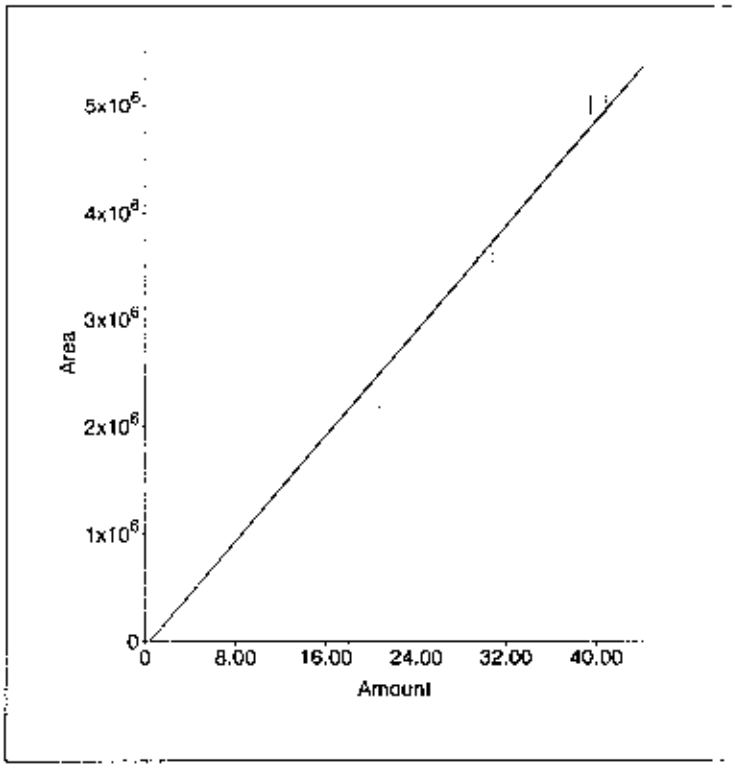
Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded

Method:C:\INSTARCH\METHODS\SYSTEM 2\IC0692B.MET Updated:6/17/16 07:36:19 Total:7

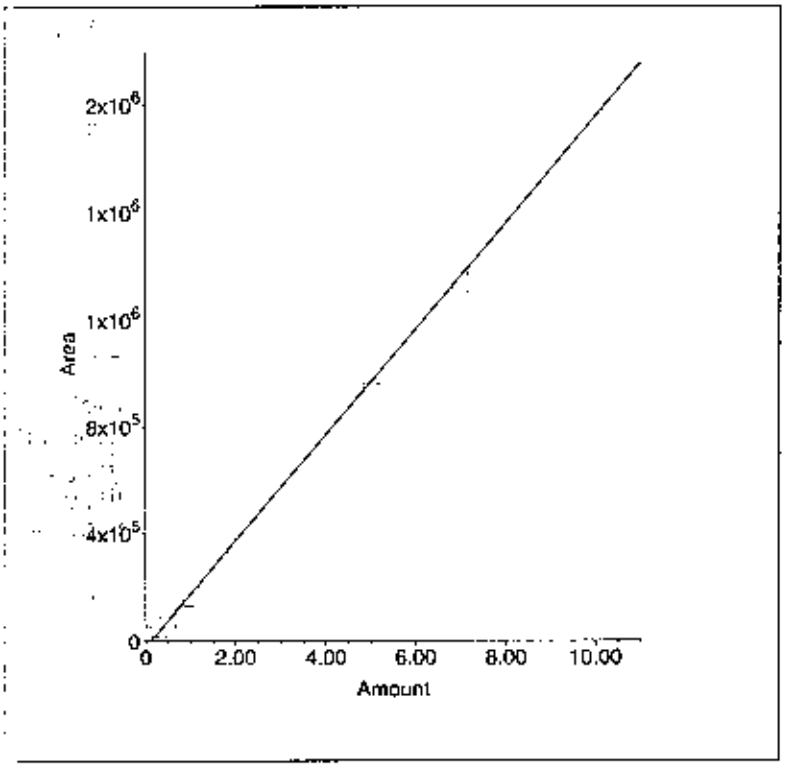
1. Component:Fluoride
Standard:External Fit Type:Linear
Origin:Include Calibration:Area
r²=0.998935
Amt=5.435e-006*Resp+0.1116



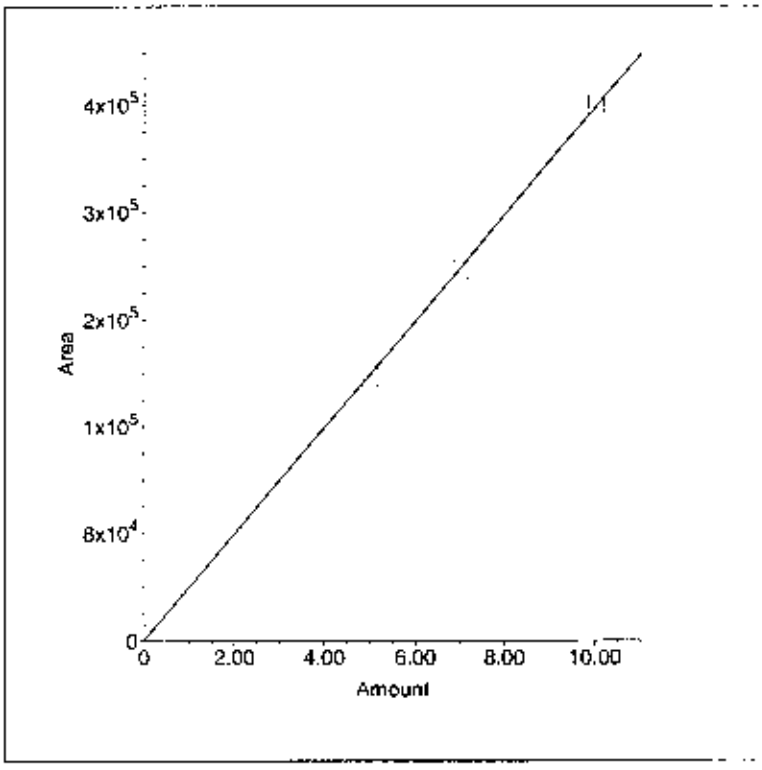
2. Component:Chloride
Standard:External Fit Type:Linear
Origin:Include Calibration:Area
r²=0.997617
Amt=7.582e-006*Resp+0.4402



3. Component:Nitrite
Standard:External Fit Type:Linear
Origin:Include Calibration:Area
r²=0.998447
Amt=4.593e-006*Resp+0.1073

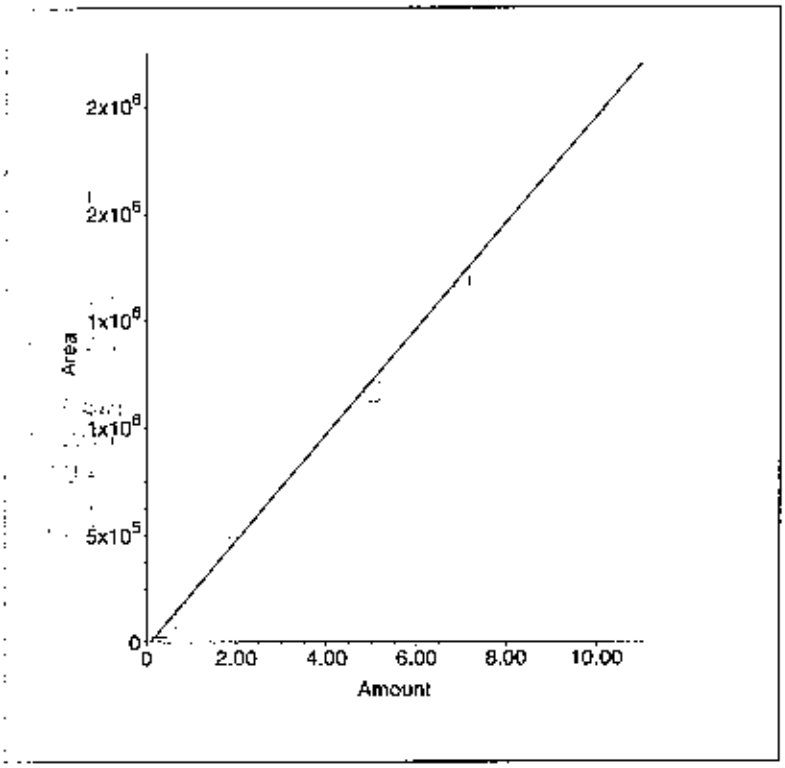


4. Component:Bromide
Standard:External Fit Type:Linear
Origin:Include Calibration:Area
r²=0.999915
Amt=2.367e-005*Resp+-0.003466

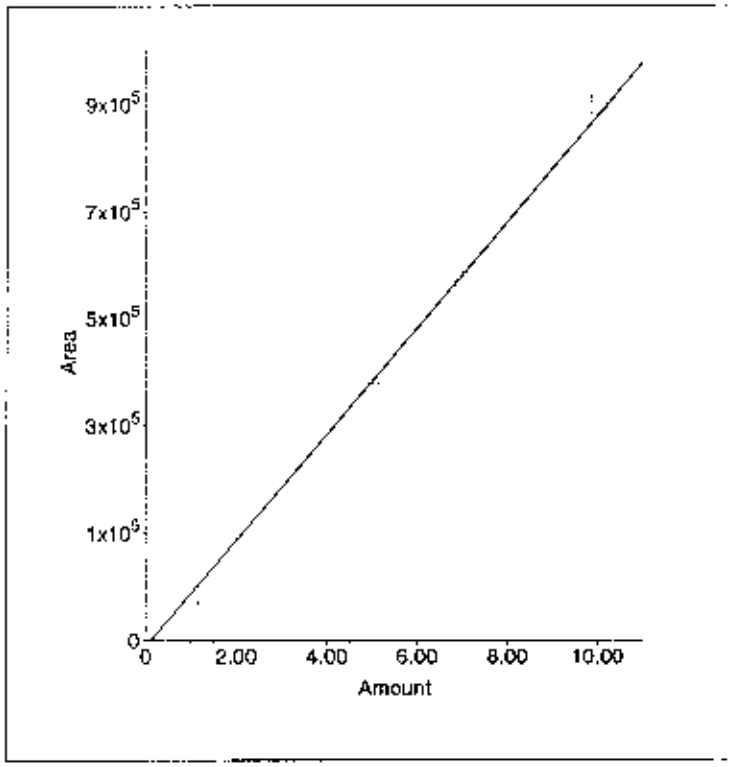


Method:C:\INSTARCH\METHODS\SYSTEM 2\IC0692B.MET Updated:6/17/16 07:36:19 Total:7

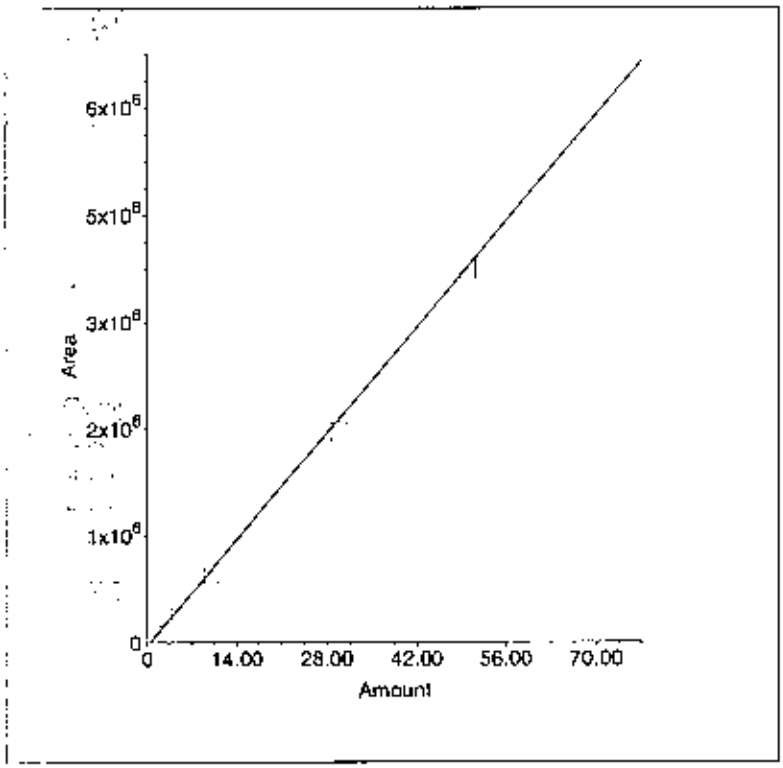
5. Component:Nitrate
Standard:External Fit Type:Linear
Origin:Include Calibration:Area
r²=0.998735
Amt=3.427e-006*Resp+0.08326



6. Component:O.Phos
Standard:External Fit Type:Linear
Origin:Include Calibration:Area
r²=0.998412
Amt=1.11e-005*Resp+0.1319



7. Component:Sulfate
Standard:External Fit Type:Linear
Origin:Include Calibration:Area
r²=0.999041
Amt=1.066e-005*Resp+0.4227



Schedule File: C:\INSTARCH\Sequences\System 2\071216-2.sch

Sample	Sample Type	Level	Method	Data File	Volume	Dilution
CCV IC0679 IC0680	Sample		ic0692b.met	ccv ic0679 ic0680_001.dxd	1	1
LCSW IC0696 IC0697	Sample		ic0692b.met	lcsw ic0696 ic0697_002.dxd	1	1
MBW	Sample		ic0692b.met	mbw_003.dxd	1	1
742591X4	Sample		ic0692b.met	742591x4_004.dxd	1	1
742593X4	Sample		ic0692b.met	742593x4_005.dxd	1	1
742729X50	Sample		ic0692b.met	742729x50_006.dxd	1	1
742730X2	Sample		ic0692b.met	742730x2_007.dxd	1	1
742732X10	Sample		ic0692b.met	742732x10_008.dxd	1	1
DUP742591X4	Sample		ic0692b.met	742863x10_009.dxd	1	1
MSW742591X4	Sample		ic0692b.met	msw742591x4_010.dxd	1	1
743536X1000	Sample		ic0692b.met	743536x1000_011.dxd	1	1
743534X10	Sample		ic0692b.met	743534x10_012.dxd	1	1
743535X10	Sample		ic0692b.met	743535x10_013.dxd	1	1
CCV IC0679 IC0680	Sample		ic0692b.met	ccv ic0679 ic0680_014.dxd	1	1
CCB	Sample		ic0692b.met	ccb_015.dxd	1	1
743483X20	Sample		ic0692b.met	743483x20_016.dxd	1	1
743484X20	Sample		ic0692b.met	743484x20	1	1
742940X5	Sample		ic0692b.met	742940x5_018.dxd	1	1
743777X20	Sample		ic0692b.met	743777x20_019.dxd	1	1
743537X10	Sample		ic0692b.met	743537x10_020.dxd	1	1
743536X500	Sample		ic0692b.met	743536x500_021.dxd	1	1
743766X50	Sample		ic0692b.met	743766x50_022.dxd	1	1
743768X100	Sample		ic0692b.met	743768x100_023.dxd	1	1
743769X100	Sample		ic0692b.met	743769x100_024.dxd	1	1
743789	Sample		ic0692b.met	743789_025.dxd	1	1
CCV IC0679 IC0680	Sample		ic0692b.met	ccv ic0679 ic0680_026.dxd	1	1
LCSW IC0696 IC0697	Sample		ic0692b.met	lcsw ic0696 ic0697_027.dxd	1	1
MBW	Sample		ic0692b.met	mbw_028.dxd	1	1
743795X2	Sample		ic0692b.met	743795x2_029.dxd	1	1
DUP743795X2	Sample		ic0692b.met	dup743795x2_030.dxd	1	1
MSW743795X2	Sample		ic0692b.met	msw743795x2_031.dxd	1	1
743866	Sample		ic0692b.met	743866_032.dxd	1	1
743865	Sample		ic0692b.met	743865_033.dxd	1	1
DUP743865	Sample		ic0692b.met	dup743865_034.dxd	1	1
MSW743865	Sample		ic0692b.met	msw743865_035.dxd	1	1
MSDW743865	Sample		ic0692b.met	msdw743865_036.dxd	1	1
743880	Sample		ic0692b.met	743880_037.dxd	1	1
743882	Sample		ic0692b.met	743882_038.dxd	1	1
CCV IC0679 IC0680	Sample		ic0692b.met	ccv ic0679 ic0680_039.dxd	1	1
LCSW IC0696 IC0697	Sample		ic0692b.met	lcsw ic0696 ic0697_040.dxd	1	1
MBW	Sample		ic0692b.met	mbw_041.dxd	1	1
743885	Sample		ic0692b.met	743885_042.dxd	1	1
743797	Sample		ic0692b.met	743797_043.dxd	1	1
743801	Sample		ic0692b.met	743801_044.dxd	1	1
743802	Sample		ic0692b.met	743802_045.dxd	1	1
743804	Sample		ic0692b.met	743804_046.dxd	1	1
743805	Sample		ic0692b.met	743805_047.dxd	1	1
DUP743802	Sample		ic0692b.met	dup743802_048.dxd	1	1
MSW743802	Sample		ic0692b.met	msw743802_049.dxd	1	1
743778X10	Sample		ic0692b.met	743778x10_050.dxd	1	1
743779X10	Sample		ic0692b.met	743779x10_051.dxd	1	1
CCV IC0679 IC0680	Sample		ic0692b.met	ccv ic0679 ic0680_052.dxd	1	1
CCB	Sample		ic0692b.met	ccb_053.dxd	1	1
743780X10	Sample		ic0692b.met	743780x10_054.dxd	1	1
743781X10	Sample		ic0692b.met	743781x10_055.dxd	1	1
743784X10	Sample		ic0692b.met	743784x10_056.dxd	1	1
743785X10	Sample		ic0692b.met	743785x10_057.dxd	1	1
743786X10	Sample		ic0692b.met	743786x10_058.dxd	1	1
743787X10	Sample		ic0692b.met	743787x10_059.dxd	1	1
743788X10	Sample		ic0692b.met	743788x10_060.dxd	1	1
DUP743788X10	Sample		ic0692b.met	dup743788x10_061.dxd	1	1
MSW743788X10	Sample		ic0692b.met	msw743788x10_062.dxd	1	1
743824	Sample		ic0692b.met	743824_063.dxd	1	1

nedule File: C:\INSTARCH\Sequences\System 2\071216-2.sch

:e	Sample	Sample Type	Level	Method	Data File	Volume	Dilution
	CCV IC0679 IC0680	Sample		ic0692b.met	ccv ic0679 ic0680_064.dxd	1	1
	CCB	Sample		ic0692b.met	ccb_065.dxd	1	1
	743825	Sample		ic0692b.met	743825_066.dxd	1	1
	DUP743825	Sample		ic0692b.met	dup743825_067.dxd	1	1
	MSW743825	Sample		ic0692b.met	msw743825_068.dxd	1	1
	742863X10	Sample		ic0692b.met	742863x10_069.dxd	1	1
	743973	Sample		ic0692b.met	743973_070.dxd	1	1
	743975	Sample		ic0692b.met	743975_071.dxd	1	1
	743977	Sample		ic0692b.met	743977_072.dxd	1	1
	743979	Sample		ic0692b.met	743979_073.dxd	1	1
	743981	Sample		ic0692b.met	743981_074.dxd	1	1
	CCV IC0679 IC0680	Sample		ic0692b.met	ccv ic0679 ic0680_075.dxd	1	1
	CCB	Sample		ic0692b.met	ccb_076.dxd	1	1
	743880X5	Sample		ic0692b.met	743880x5_077.dxd	1	1
	743882X5	Sample		ic0692b.met	743882x5_078.dxd	1	1
	743784	Sample		ic0692b.met	743784_079.dxd	1	1
	743785	Sample		ic0692b.met	743785_080.dxd	1	1
	743786	Sample		ic0692b.met	743786_081.dxd	1	1
	743787	Sample		ic0692b.met	743787_082.dxd	1	1
	743788	Sample		ic0692b.met	743788_083.dxd	1	1
	DUP743788	Sample		ic0692b.met	dup743788_084.dxd	1	1
	744066	Sample		ic0692b.met	744066	1	1
	CCV IC0679 IC0680	Sample		ic0692b.met	ccv ic0679 ic0680_075.dxd	1	1
	CCB	Sample		ic0692b.met	ccb_076.dxd	1	1

Sample Analysis Report

Sample Name : CCV IC0679 IC0680
Data File Name : c:\instarch\data\system 2\071216-2\CCV IC0679 IC0680_026.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/12/16 16:45:31
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.57	3.6055	642885	32928	
2	Chloride	4.95	14.3110	1829495	83929	
3	Nitrite	5.85	3.1348	659130	27461	
4	Bromide	7.38	3.4543	146056	5473	
5	Nitrate	8.45	3.5737	1018495	29737	
6	O.Phos	10.12	3.8178	332028	8664	
7	Sulfate	12.85	27.3151	2522557	48965	

CCV IC0679 IC0680

Sample Analysis Report

Sample Name : LCSW IC0696 IC0697
Data File Name : c:\instarch\data\system 2\071216-2\LCSW IC0696 IC0697_027.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/12/16 17:02:47
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.55	3.5510	632851	32554	
2	Chloride	4.95	14.0579	1796115	82411	
3	Nitrite	5.85	3.3271	700989	28981	
4	Bromide	7.38	3.4293	144997	5413	
5	Nitrate	8.47	3.5550	1013047	29509	
6	O.Phos	10.12	3.8771	337370	8741	
7	Sulfate	12.83	25.8567	2385759	47075	

LCSW IC0696 IC0697

Sample Analysis Report

Sample Name : MBW
Data File Name : c:\instarch\data\system 2\071216-2\MBW_028.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/12/16 17:20:02
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded

Sample Analysis Report

Sample Name : 743866
Data File Name : c:\instarch\data\system 2\071216-2\743866_032.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/12/16 18:29:04
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.57	0.1881	14086	833	
2	Chloride	5.07	2.8475	317505	9974	
3	O.Phos	10.50	0.1739	3783	86	
4	Sulfate	12.88	29.2619	2705170	53852	

Sample Analysis Report

Sample Name : 743865
Data File Name : c:\instarch\data\system 2\071216-2\743865_033.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/12/16 18:46:18
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.57	0.1713	10990	668	
2	Chloride	5.07	6.3982	785832	25750	
3	Nitrate	8.53	0.8053	210674	5847	
4	Sulfate	12.87	25.1005	2314822	45817	

Sample Analysis Report

Sample Name : DUP743865
Data File Name : c:\instarch\data\system 2\071216-2\DUP743865_034.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/12/16 19:03:32
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.57	0.1694	10643	664	
2	Chloride	5.05	6.3975	785738	25576	
3	Nitrate	8.50	0.8061	210930	5884	
4	Sulfate	12.87	25.0710	2312055	45893	

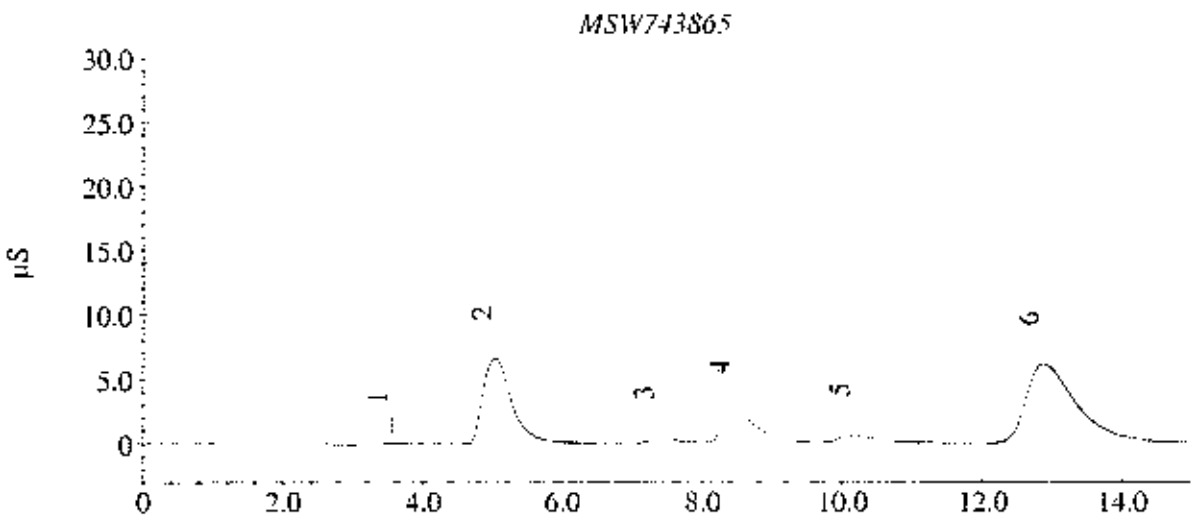
Sample Analysis Report

Sample Name : MSW743865
Data File Name : c:\instarch\data\system 2\071216-2\MSW743865_035.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/12/16 19:20:48
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.55	0.1673	10252	644	
2	Chloride	5.03	14.8679	1902957	65558	
3	Bromide	7.37	2.1101	89275	3288	
4	Nitrate	8.45	2.8107	795859	23115	
5	O.Phos	10.17	2.4442	208295	5142	
6	Sulfate	12.87	32.9348	3049693	60842	



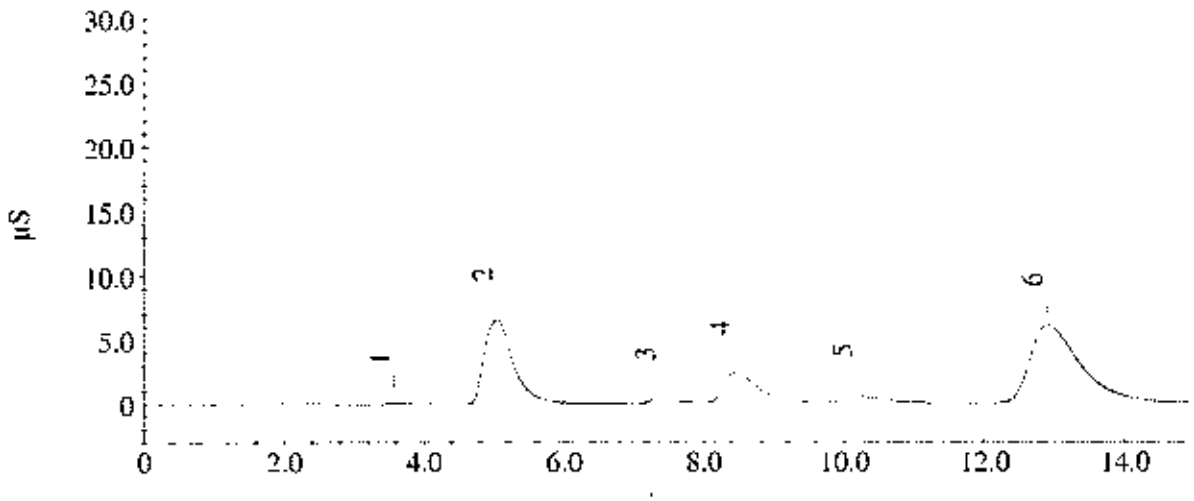
Sample Analysis Report

Sample Name : MSDW743865
Data File Name : c:\instarch\data\system 2\071216-2\MSDW743865_036.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/12/16 19:38:02
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.57	0.1723	11162	670	
2	Chloride	5.03	14.7970	1893594	65572	
3	Bromide	7.37	2.0821	88095	3274	
4	Nitrate	8.43	2.8036	793768	23116	
5	O.Phos	10.18	2.4918	212580	5177	
6	Sulfate	12.88	32.8054	3037553	60743	



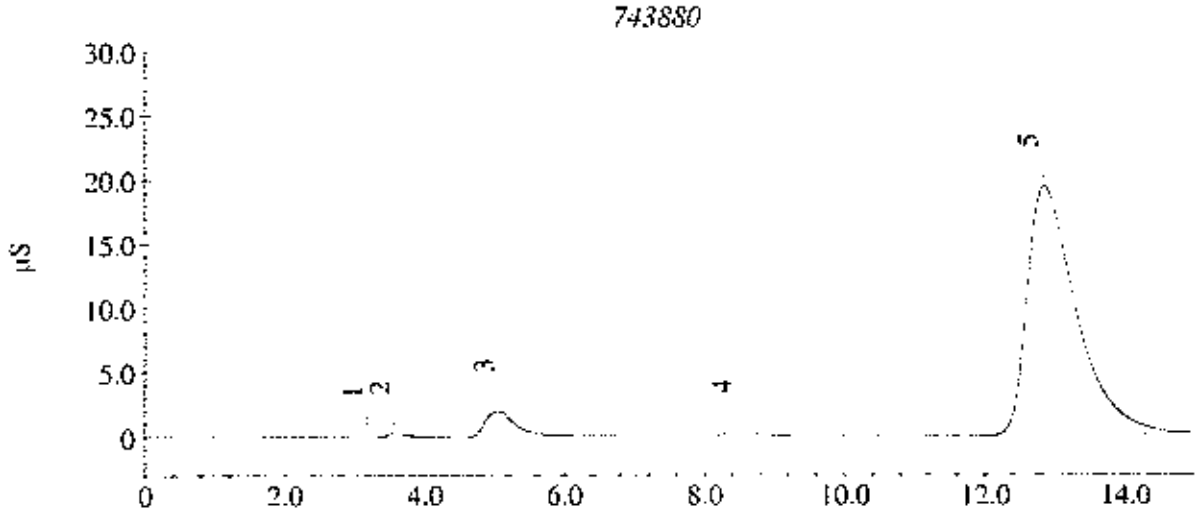
Sample Analysis Report

Sample Name : 743880
Data File Name : c:\instarch\data\system 2\071216-2\743880_037.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/12/16 19:55:18
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.55	0.4603	64166	2874	
3	Chloride	5.05	4.9272	591811	19261	
4	Nitrate	8.45	0.4713	113238	3178	
5	Sulfate	12.82	100.4230	9380202	193221	+



Sample Analysis Report

Sample Name : 743882
Data File Name : c:\instarch\data\system 2\071216-2\743882_038.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/12/16 20:12:33
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.55	0.4354	59578	2663	
3	Chloride	5.05	4.9853	599476	19323	
4	Nitrate	8.43	0.5114	124941	3428	
5	Sulfate	12.85	92.6444	8650557	178024	+

Sample Analysis Report

Sample Name : CCV IC0679 IC0680
Data File Name : c:\instarch\data\system 2\071216-2\CCV IC0679 IC0680_039.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/12/16 20:29:49
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.55	3.5517	632994	32754	
2	Chloride	4.93	14.2129	1816560	84220	
3	Nitrite	5.80	3.0993	651402	27392	
4	Bromide	7.30	3.3807	142944	5472	
5	Nitrate	8.37	3.6189	1031673	30344	
6	O.Phos	10.12	4.0893	356490	8964	
7	Sulfate	12.83	25.9753	2396885	47449	

CCV IC0679 IC0680

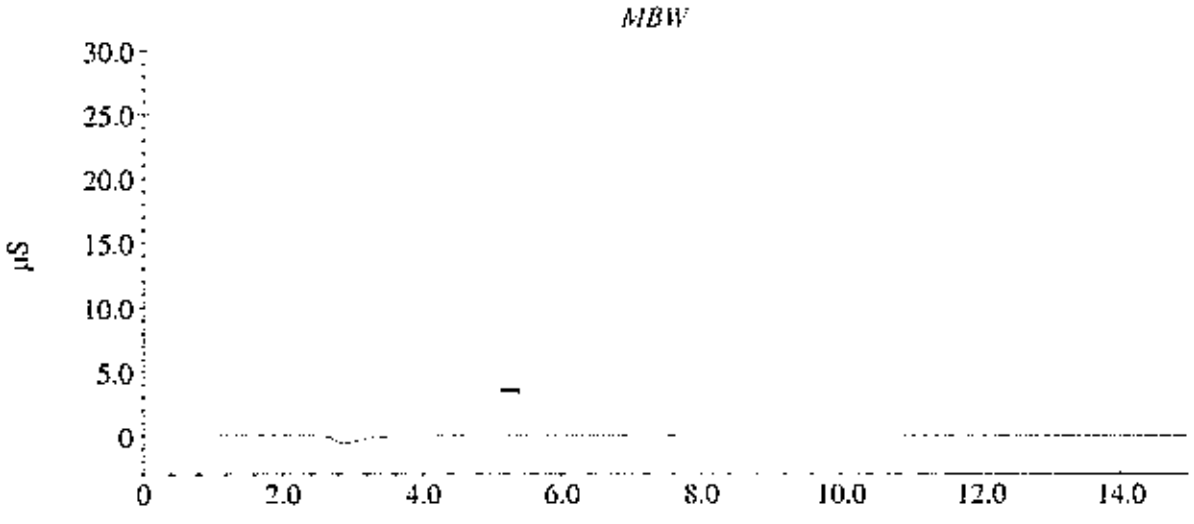
Sample Analysis Report

Sample Name : MBW
Data File Name : c:\instarch\data\system 2\071216-2\\MBW_041.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/12/16 21:04:20
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded



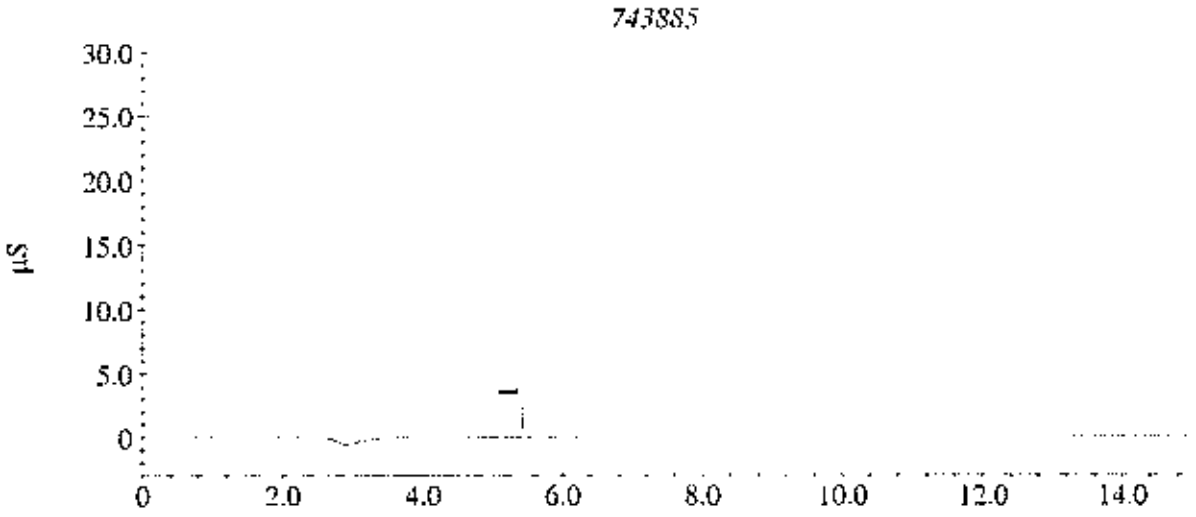
Sample Analysis Report

Sample Name : 743885
Data File Name : c:\instarch\data\system 2\071216-2\743885_042.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/12/16 21:21:35
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Chloride	5.42	0.4488	1131	32	



Sample Analysis Report

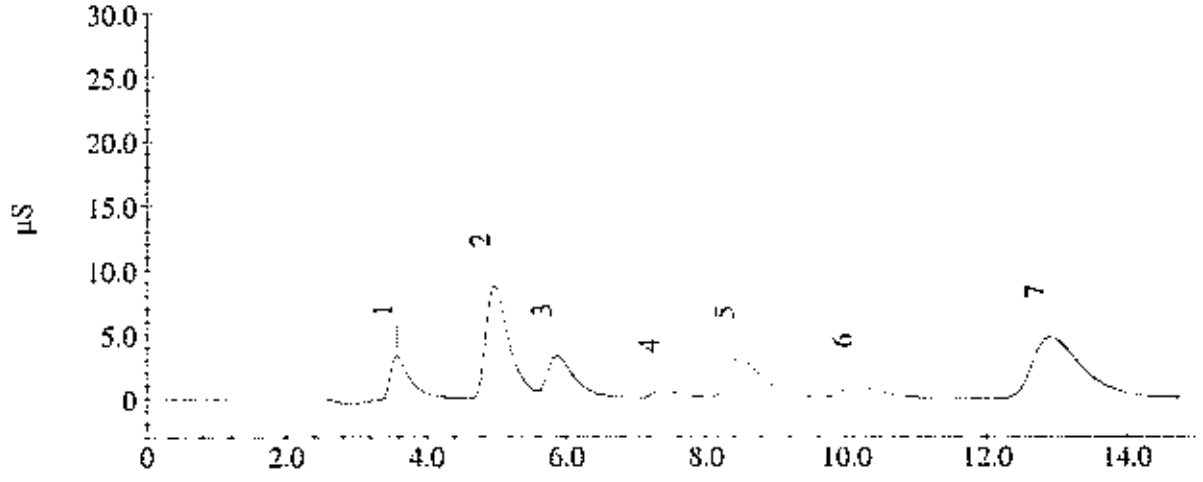
Sample Name : CCV IC0679 IC0680
Data File Name : c:\instarch\data\system 2\071216-2\CCV IC0679 IC0680_052.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/13/16 00:14:06
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.57	3.6167	644952	33246	
2	Chloride	4.97	14.3417	1833547	84834	
3	Nitrite	5.85	3.1959	672418	28078	
4	Bromide	7.38	3.4109	144221	5472	
5	Nitrate	8.47	3.5819	1020884	30134	
6	O.Phos	10.15	3.8350	333577	8784	
7	Sulfate	12.88	25.9361	2393202	47698	

CCV IC0679 IC0680



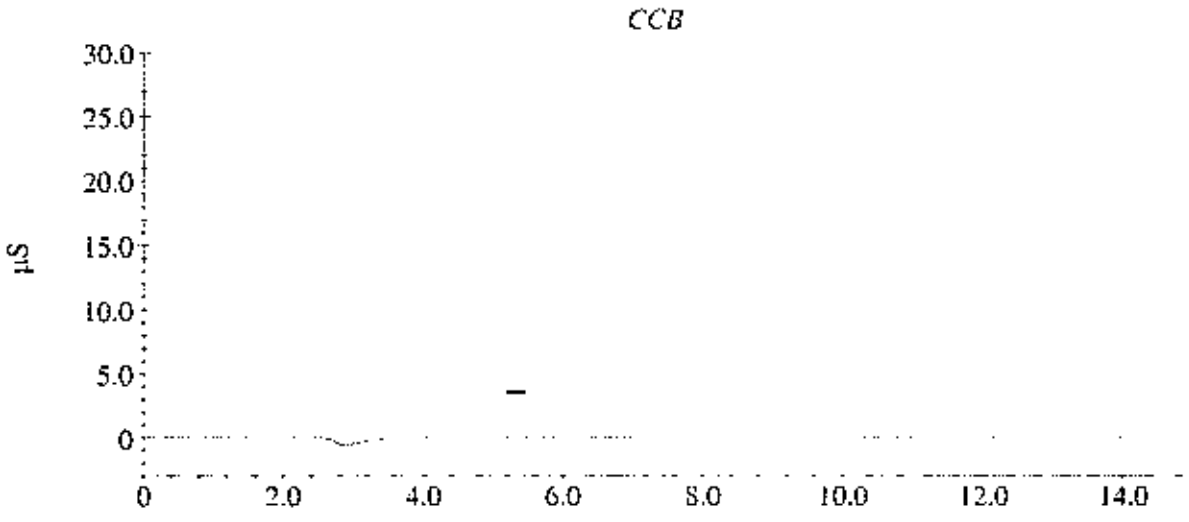
Sample Analysis Report

Sample Name : CCB
Data File Name : c:\instarch\data\system 2\071216-2\CCB_053.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/13/16 00:31:21
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded



Sample Analysis Report

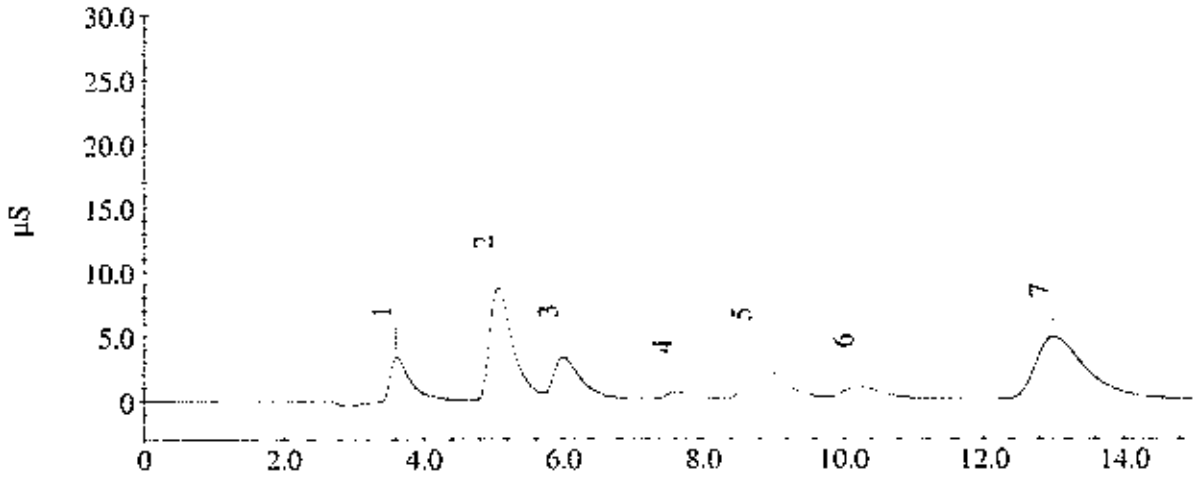
Sample Name : CCV IC0679 IC0680
Data File Name : c:\instarch\data\system 2\071216-2\CCV IC0679 IC0680_075.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/13/16 06:50:55
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.60	3.6299	647368	33200	
2	Chloride	5.05	14.7340	1885294	85283	
3	Nitrite	5.98	3.3305	701735	28442	
4	Bromide	7.62	3.5648	150721	5459	
5	Nitrate	8.75	3.4520	982970	29240	
6	O.Phos	10.20	3.4014	294517	8355	
7	Sulfate	12.98	26.1775	2415850	48449	

CCV IC0679 IC0680



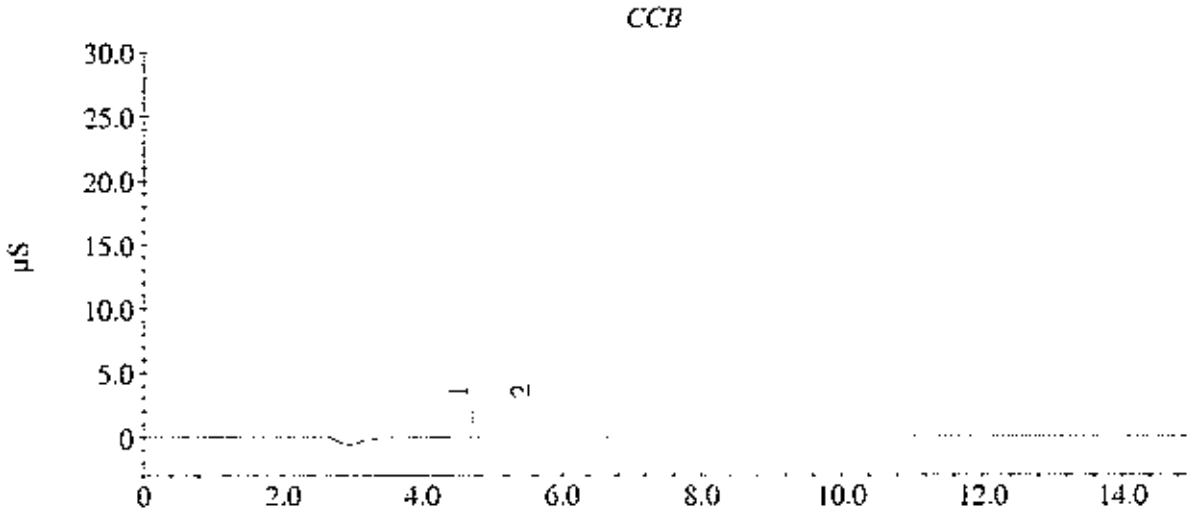
Sample Analysis Report

Sample Name : CCB
Data File Name : c:\instarch\data\system 2\071216-2\CCB_076.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/13/16 07:08:11
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Nitrite	5.60	0.1149	1654	59	



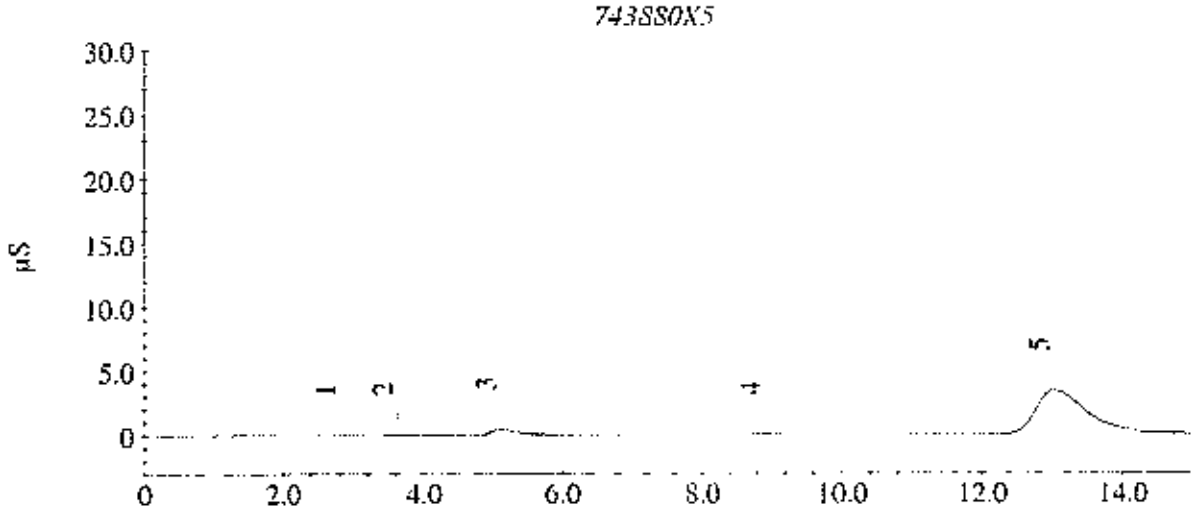
Sample Analysis Report

Sample Name : 743880X5
Data File Name : c:\instarch\data\system 2\071216-2\743880X5_077.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/13/16 07:58:53
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.62	0.1744	11553	577	
3	Chloride	5.10	1.4072	127534	4494	
4	Nitrate	8.90	0.1524	20182	573	
5	Sulfate	13.02	18.6622	1710903	33925	



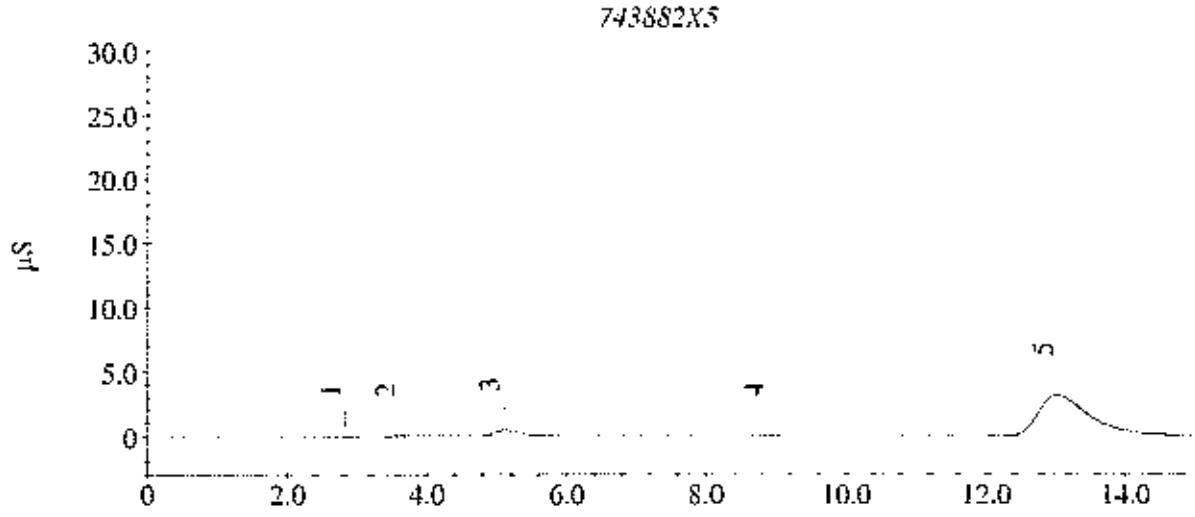
Sample Analysis Report

Sample Name : 743882X5
Data File Name : c:\instarch\data\system 2\071216-2\743882X5_078.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/13/16 08:16:08
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.60	0.1608	9054	499	
3	Chloride	5.10	1.4057	127342	4542	
4	Nitrate	8.88	0.1577	21725	628	
5	Sulfate	13.02	17.4563	1597786	31492	



Sample Analysis Report

Sample Name : CCV IC0679 IC0680
Data File Name : c:\instarch\data\system 2\071216-2\CCV IC0679 IC0680_086.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/13/16 10:34:11
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.60	3.6654	653903	33726	
2	Chloride	5.03	14.5767	1864546	85553	
3	Nitrite	5.95	3.2711	688785	28593	
4	Bromide	7.52	3.5825	151468	5585	
5	Nitrate	8.63	3.5846	1021685	30130	
6	O.Phos	10.22	3.7217	323371	8771	
7	Sulfate	13.00	26.0222	2401278	48359	

CCV IC0679 IC0680

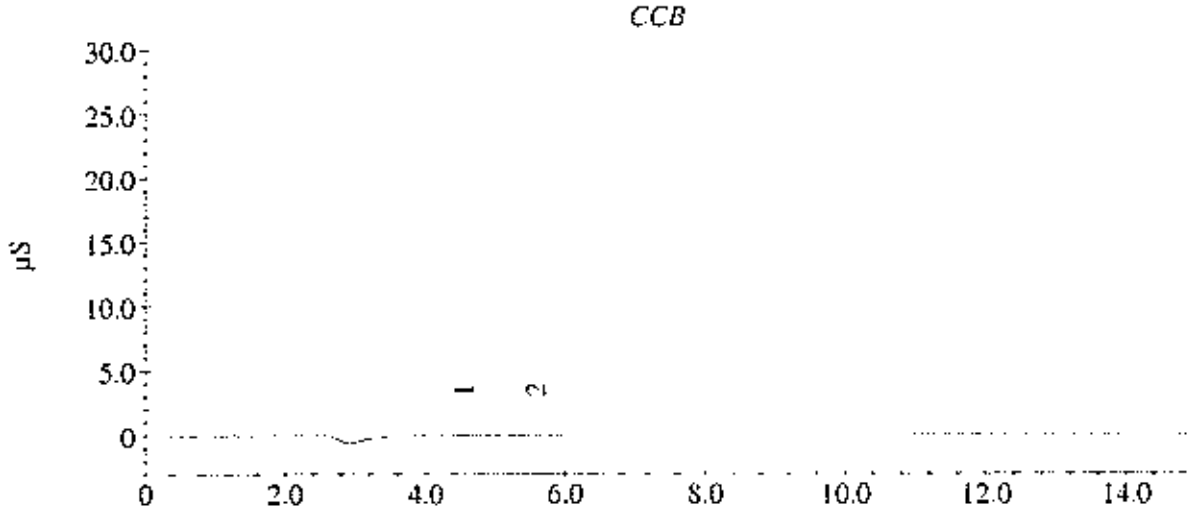
Sample Analysis Report

Sample Name : CCB
Data File Name : c:\instarch\data\system 2\071216-2\CCB_087.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/13/16 10:51:28
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Nitrite	5.78	0.1329	5577	102	



hedule File: C:\INSTARCH\Sequences\System 2\071316-2.scn

e	Sample	Sample Type	Level	Method
	CCV IC0714 IC0715	Sample		ic0692b.met
	LCSW IC0696 IC0697	Sample		ic0692b.met
	MBW	Sample		ic0692b.met
	744328	Sample		ic0692b.met
	744329	Sample		ic0692b.met
	744330	Sample		ic0692b.met
	744331	Sample		ic0692b.met
	744333	Sample		ic0692b.met
	744334	Sample		ic0692b.met
	DUP744328	Sample		ic0692b.met
	MSW744328	Sample		ic0692b.met
	744505X10	Sample		ic0692b.met
	744371	Sample		ic0692b.met
	CCV IC0714 IC0715	Sample		ic0692b.met
	LCSW IC0696 IC0697	Sample		ic0692b.met
	MBW	Sample		ic0692b.met
	744397	Sample		ic0692b.met
	744399	Sample		ic0692b.met
	744401	Sample		ic0692b.met
	744409	Sample		ic0692b.met
	744412	Sample		ic0692b.met
	744415	Sample		ic0692b.met
	744417	Sample		ic0692b.met
	744419	Sample		ic0692b.met
	744421	Sample		ic0692b.met
	DUP744401	Sample		ic0692b.met
	CCV IC0714 IC0715	Sample		ic0692b.met
	CCB	Sample		ic0692b.met
	MSW744401	Sample		ic0692b.met
	MSDW744401	Sample		ic0692b.met
	744633	Sample		ic0692b.met
	744634	Sample		ic0692b.met
	744635	Sample		ic0692b.met
	744636	Sample		ic0692b.met
	744637	Sample		ic0692b.met
	DUP744633	Sample		ic0692b.met
	MSW744633	Sample		ic0692b.met
	744397X5	Sample		ic0692b.met
	CCV IC0714 IC0715	Sample		ic0692b.met
	CCB	Sample		ic0692b.met
	744399X5	Sample		ic0692b.met
	744415X5	Sample		ic0692b.met
	744658	Sample		ic0692b.met
	744662	Sample		ic0692b.met
	744506X20	Sample		ic0692b.met
	744507X20	Sample		ic0692b.met
	744508X20	Sample		ic0692b.met
	744509X20	Sample		ic0692b.met
	744510X20	Sample		ic0692b.met
	744590	Sample		ic0692b.met
	CCV IC0714 IC0715	Sample		ic0692b.met
	LCSW IC0696 IC0697	Sample		ic0692b.met
	MBW-CCB	Sample		ic0692b.met
	744596	Sample		ic0692b.met
	744597	Sample		ic0692b.met
	744598X2	Sample		ic0692b.met
	744599X2	Sample		ic0692b.met
	744601	Sample		ic0692b.met
	744602X2	Sample		ic0692b.met
	744603X2	Sample		ic0692b.met
	744505X20	Sample		ic0692b.met
	744675	Sample		ic0692b.met
	744677	Sample		ic0692b.met

Schedule File: C:\INSTARCH\Sequences\System 2\071316-2.sch

NO	Sample	Sample Type	Level	Method
2	CCV IC0714 IC0715	Sample		ic0692b.met
	CCB	Sample		ic0692b.met
	744679	Sample		ic0692b.met
	744511	Sample		ic0692b.met
	744512	Sample		ic0692b.met
	744513	Sample		ic0692b.met
	744514	Sample		ic0692b.met
	744515	Sample		ic0692b.met
	DUP744371	Sample		ic0692b.met
	MSW744371	Sample		ic0692b.met
	MSDW744371	Sample		ic0692b.met
	744633X10	Sample		ic0692b.met
	CCV IC0714 IC0715	Sample		ic0692b.met
	LCSW IC0696 IC0697	Sample		ic0692b.met
	MBW	Sample		ic0692b.met
	744688	Sample		ic0692b.met
	744635X5	Sample		ic0692b.met
	DUP744635X5	Sample		ic0692b.met
	MSW744635X5	Sample		ic0692b.met
	744669	Sample		ic0692b.met
	744681	Sample		ic0692b.met
	DUP744688	Sample		ic0692b.met
	MSW744688	Sample		ic0692b.met
	744784	Sample		ic0692b.met
	744508	Sample		ic0692b.met
	CCV IC0714 IC0715	Sample		ic0692b.met
	CCB	Sample		ic0692b.met
	744509	Sample		ic0692b.met
	744510	Sample		ic0692b.met
	744597X2	Sample		ic0692b.met
	744601X2	Sample		ic0692b.met
	744603X5	Sample		ic0692b.met
	744401X5	Sample		ic0692b.met
	DUP744401X5	Sample		ic0692b.met
	MSW744501X5	Sample		ic0692b.met
	MSDW744501X5	Sample		ic0692b.met
30	744419X5	Sample		ic0692b.met
31	CCV IC0714 IC0715	Sample		ic0692b.met
32	CCB	Sample		ic0692b.met
33	745073	Sample		ic0692b.met
34	745074	Sample		ic0692b.met
35	744969	Sample		ic0692b.met
36	744971	Sample		ic0692b.met
37	744973	Sample		ic0692b.met
38	DUP744973	Sample		ic0692b.met
39	MSW744973	Sample		ic0692b.met
40	MSDW744973	Sample		ic0692b.met
41	744975	Sample		ic0692b.met
42	744977	Sample		ic0692b.met
43	CCV IC0714 IC0715	Sample		ic0692b.met
44	LCSW IC0696 IC0697	Sample		ic0692b.met
45	MBW	Sample		ic0692b.met
46	744978	Sample		ic0692b.met
47	744975X5	Sample		ic0692b.met
48	744977X5	Sample		ic0692b.met
49	744978X5	Sample		ic0692b.met
50	743971X10	Sample		ic0692b.met
51	744157X10	Sample		ic0692b.met
52	744240X5	Sample		ic0692b.met
53	744537X2	Sample		ic0692b.met
54	744566X200	Sample		ic0692b.met
55	744567X100	Sample		ic0692b.met
56	CCV IC0714 IC0715	Sample		ic0692b.met

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MassHunter Workstation Software - Data Acquisition for 6400 Series Triple Quadrupole LC/MS System
Agilent Technologies

Sample Analysis Report

Sample Name : CCV IC0714 IC0715
Data File Name : c:\instarch\data\system 2\071316-2\CCV IC0714 IC0715 .014.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/13/16 16:00:57
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.48	3.5419	631177	33368	
2	Chloride	4.83	13.9570	1782806	86643	
3	Nitrite	5.68	3.0826	647751	28327	
5	Nitrate	8.15	3.5623	1015172	30924	
6	O.Phos	9.92	3.9580	344658	9024	
7	Sulfate	12.27	25.8060	2381003	49394	

Sample Analysis Report

Sample Name : LCSW IC0696 IC0697
Data File Name : c:\instarch\data\system 2\071316-2\LCSW IC0696 IC0697_015.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/13/16 16:18:12
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.50	3.5283	628676	33400	
2	Chloride	4.83	13.7236	1752019	85034	
3	Nitrite	5.68	3.2256	678888	29614	
4	Bromide	7.13	3.2402	137012	5513	
5	Nitrate	8.15	3.5513	1011946	30760	
6	O.Phos	9.93	3.9662	345401	9063	
7	Sulfate	12.28	25.6558	2366916	49018	

Sample Analysis Report

Sample Name : MBW
Data File Name : c:\instarch\data\system 2\071316-2\MBW_016.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/13/16 16:35:28
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Nitrite	5.55	0.1158	1858	48	

Sample Analysis Report

Sample Name : 744397
Data File Name : c:\instarch\data\system 2\071316-2\744397_017.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/13/16 16:52:42
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.47	0.1906	14532	906	
4	Chloride	4.92	11.2191	1421687	50584	
5	Nitrate	8.20	3.0312	860182	24287	
6	Sulfate	12.23	149.8679	14018221	303723	+

Sample Analysis Report

Sample Name : 744399
Data File Name : c:\instarch\data\system 2\071316-2\744399_018.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/13/16 17:09:58
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.47	0.1830	13133	830	
4	Chloride	4.93	11.0049	1393435	49375	
5	Nitrate	8.22	3.1162	884988	25296	
6	Sulfate	12.25	154.9696	14496762	313840	+

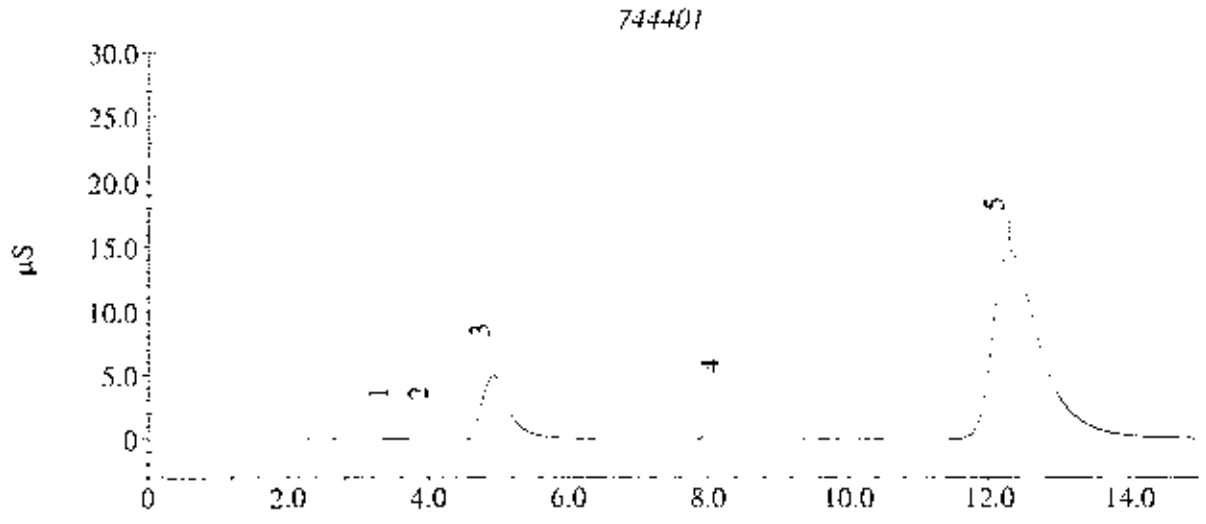
Sample Analysis Report

Sample Name : 744401
Data File Name : c:\instarch\data\system 2\071316-2\744401_019.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/13/16 17:27:13
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.48	0.1596	8829	650	
3	Chloride	4.93	10.6091	1341228	49124	
4	Nitrate	8.23	2.6974	762798	21721	
5	Sulfate	12.27	73.8562	6888194	147086	+



Sample Analysis Report

Sample Name : 744409
Data File Name : c:\instarch\data\system 2\071316-2\744409 .020.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/13/16 17:44:28
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.50	0.1819	12939	826	
2	Chloride	4.95	6.7449	831566	29766	
3	Nitrate	8.27	0.4587	109563	2953	
4	Sulfate	12.33	1.3759	89419	1823	

Sample Analysis Report

Sample Name : 744412
Data File Name : c:\instarch\data\system 2\071316-2\744412_021.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/13/16 18:01:43
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.48	0.2111	18316	1216	
2	Chloride	4.95	9.2364	1160181	41116	
3	Nitrate	8.22	2.5268	713021	20593	
4	Sulfate	12.27	67.7039	6311095	134944	

Sample Analysis Report

Sample Name : 744415
Data File Name : c:\instarch\data\system 2\071316-2\744415_022.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/13/16 18:18:59
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.48	0.2108	18251	1214	
2	Chloride	4.95	9.1132	1143928	40772	
3	Nitrate	8.20	2.5732	726562	20757	
4	Sulfate	12.28	67.7850	6318698	135569	

Sample Analysis Report

Sample Name : 744417
Data File Name : c:\instarch\data\system 2\071316-2\744417_023.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/13/16 18:36:14
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Chloride	4.92	0.4567	2166	84	

Sample Analysis Report

Sample Name : 744419
Data File Name : c:\instarch\data\system 2\071316-2\744419_024.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/13/16 18:53:29
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.48	0.3706	47658	2501	
2	Chloride	4.92	4.4756	532241	18933	
3	Nitrate	8.20	1.3914	381703	10992	
4	Sulfate	12.25	130.0149	12155968	263230	+

Sample Analysis Report

Sample Name : 744421
Data File Name : c:\instarch\data\system 2\071316-2\744421_025.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/13/16 19:10:44
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.50	0.2011	16469	1048	
2	Chloride	4.90	6.2060	760477	28576	
3	Nitrate	8.18	0.8933	236379	6870	
4	Sulfate	12.28	47.8588	4449592	93915	

Sample Analysis Report

Sample Name : DUP744401
Data File Name : c:\instarch\data\system 2\071316-2\DUP744401_026.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/13/16 19:27:58
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.48	0.1598	8879	671	
3	Chloride	4.90	11.0971	1405604	52701	
4	Nitrate	8.13	2.6859	759437	22063	
5	Sulfate	12.28	73.8107	6883923	147957	+

Sample Analysis Report

Sample Name : CCV IC0714 IC0715
Data File Name : c:\instarch\data\system 2\071316-2\CCV IC0714 IC0715_027.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/13/16 19:45:14
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.50	3.5532	633263	33610	
2	Chloride	4.83	13.9789	1785694	87903	
3	Nitrite	5.67	3.0824	647721	28497	
5	Nitrate	8.12	3.6071	1028242	31614	
6	O.Phos	9.97	4.0900	356550	9231	
7	Sulfate	12.27	26.0281	2401834	50014	

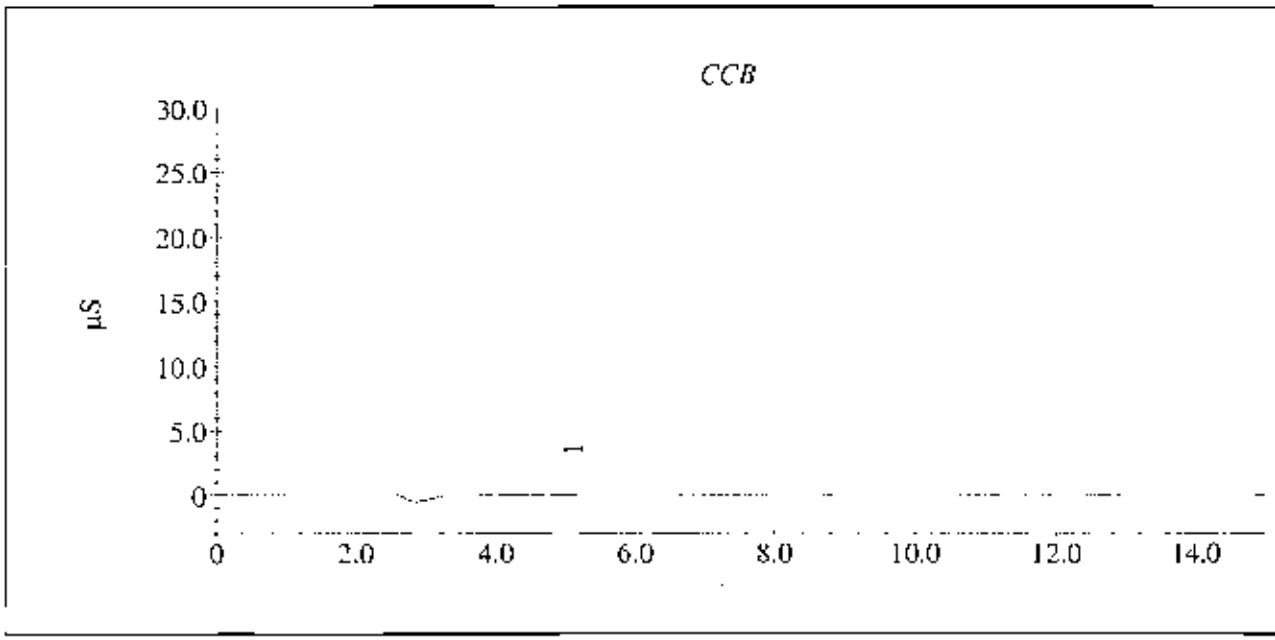
Sample Analysis Report

Sample Name : CCB
Data File Name : c:\instarch\data\system 2\071316-2\CCB_028.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/13/16 20:02:30
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded



Sample Analysis Report

Sample Name : MSW744401
Data File Name : c:\instarch\data\system 2\071316-2\MSW744401_029.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/13/16 20:19:44
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.48	0.1550	7991	607	
3	Chloride	4.90	20.0178	2582204	98657	
5	Nitrate	8.12	4.6882	1343696	41028	
6	O.Phos	10.03	2.5148	214654	5439	
7	Sulfate	12.27	81.1671	7573969	163417	+

Sample Analysis Report

Sample Name : MSDW744401
Data File Name : c:\instarch\data\system 2\071316-2\MSDW744401 030.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/13/16 20:36:59
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.48	0.1597	8853	642	
3	Chloride	4.90	19.8996	2566620	98341	
5	Nitrate	8.10	4.6701	1338411	40795	
6	O.Phos	10.02	2.5048	213756	5407	
7	Sulfate	12.25	81.0170	7559885	163338	+

MSDW744401

Sample Analysis Report

Sample Name : 744397X5
Data File Name : c:\instarch\data\system 2\071316-2\744397X5_038.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/13/16 22:55:02
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.48	0.1211	1747	116	
3	Chloride	4.85	2.4670	267327	10057	
4	Nitrate	8.13	0.7072	182065	5271	
5	Sulfate	12.25	26.5898	2454526	50885	

Sample Analysis Report

Sample Name : CCV IC0714 IC0715
Data File Name : c:\instarch\data\system 2\071316-2\CCV IC0714 IC0715_039.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/13/16 23:12:16
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.50	3.5117	625632	33459	
2	Chloride	4.83	13.9773	1785481	88226	
3	Nitrite	5.67	3.0807	647337	28675	
5	Nitrate	8.10	3.6243	1033270	31730	
6	O.Phos	10.00	4.3487	379852	9688	
7	Sulfate	12.25	25.9827	2397574	50195	

Sample Analysis Report

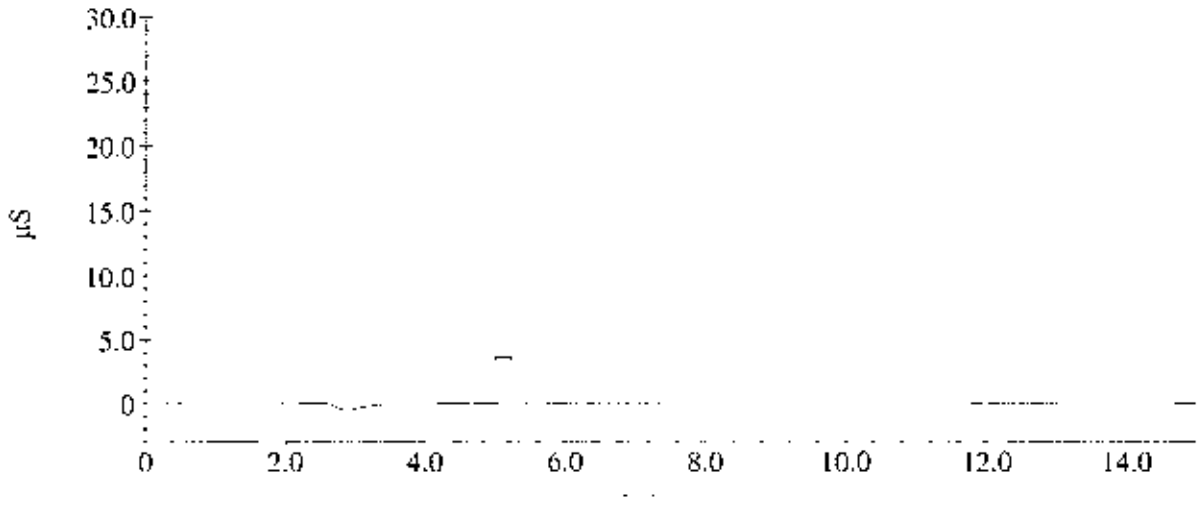
Sample Name : CCB
Data File Name : c:\instarch\data\system 2\071316-2\CCB_040.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/13/16 23:29:31
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded

CCB



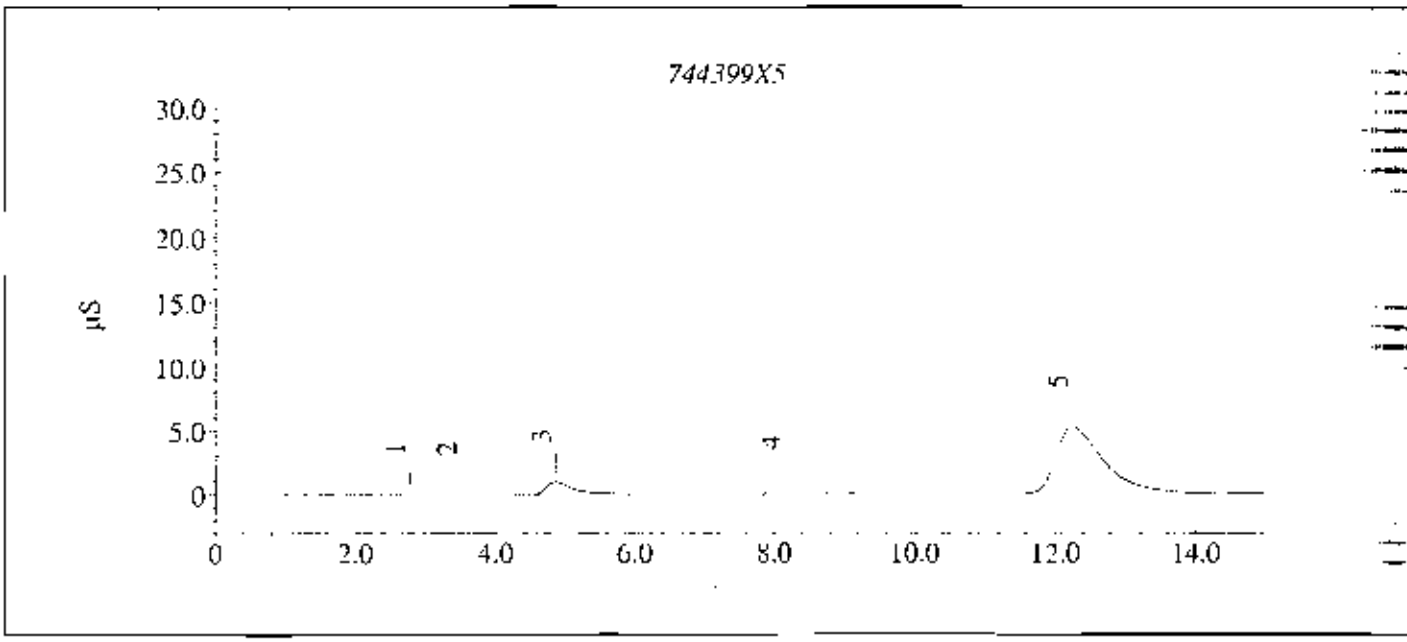
Sample Analysis Report

Sample Name : 744399X5
Data File Name : c:\instarch\data\system 2\071316-2\744399X5_041.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/13/16 23:46:47
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.50	0.1226	2024	125	
3	Chloride	4.87	2.4499	265060	9767	
4	Nitrate	8.15	0.6853	175664	4927	
5	Sulfate	12.25	27.2614	2517515	52375	



Sample Analysis Report

Sample Name : CCV IC0714 IC0715
Data File Name : c:\instarch\data\system 2\071316-2\CCV IC0714 IC0715_051.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/14/16 02:39:19
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.50	3.5747	637215	33925	
2	Chloride	4.85	14.2687	1823919	89780	
3	Nitrite	5.70	3.1575	664068	29197	
4	Bromide	7.17	3.3600	142070	5696	
5	Nitrate	8.18	3.6424	1038552	31783	
6	O.Phos	10.02	4.1566	362550	9460	
7	Sulfate	12.23	26.3343	2430558	51132	

Sample Analysis Report

Sample Name : MBW
Data File Name : c:\instarch\data\system 2\071316-2\MBW_053.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/14/16 03:13:50
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Nitrite	5.38	0.1133	1296	48	

Sample Analysis Report

Sample Name : CCV IC0714 IC0715
Data File Name : c:\instarch\data\system 2\071316-2\CCV IC0714 IC0715_076.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/14/16 09:50:37
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.58	3.6648	653799	34294	
2	Chloride	5.00	14.8901	1905880	90838	
3	Nitrite	5.90	3.4291	723192	30171	
4	Bromide	7.50	3.5561	150355	5657	
5	Nitrate	8.60	3.6301	1034942	31061	
6	O.Phos	10.20	3.8874	338304	9186	
7	Sulfate	12.40	27.0189	2494777	52488	

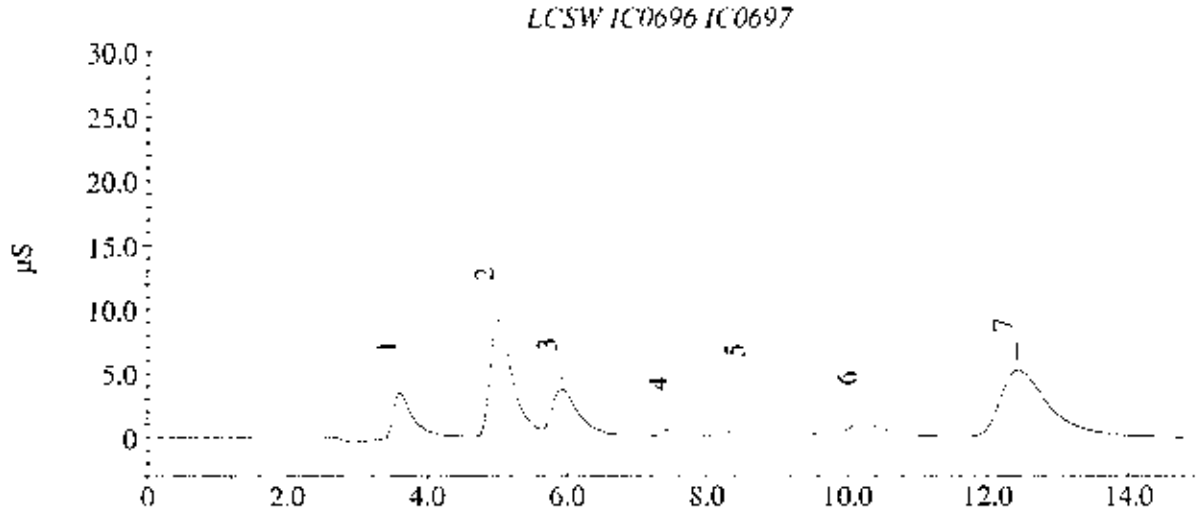
Sample Analysis Report

Sample Name : LCSW IC0696 IC0697
Data File Name : c:\instarch\data\system 2\071316-2\LCSW IC0696 IC0697_077.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/14/16 10:07:53
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.60	3.6800	656599	34560	
2	Chloride	5.02	14.6059	1868399	89311	
3	Nitrite	5.92	3.6156	763786	31895	
4	Bromide	7.50	3.5610	150561	5668	
5	Nitrate	8.60	3.6209	1032256	30913	
6	O.Phos	10.20	3.9151	340798	9213	
7	Sulfate	12.42	26.7938	2473657	51903	



Sample Analysis Report

Sample Name : MBW
Data File Name : c:\instarch\data\system 2\071316-2\MBW_078.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/14/16 10:25:08
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Nitrite	5.58	0.1306	5084	114	

Sample Analysis Report

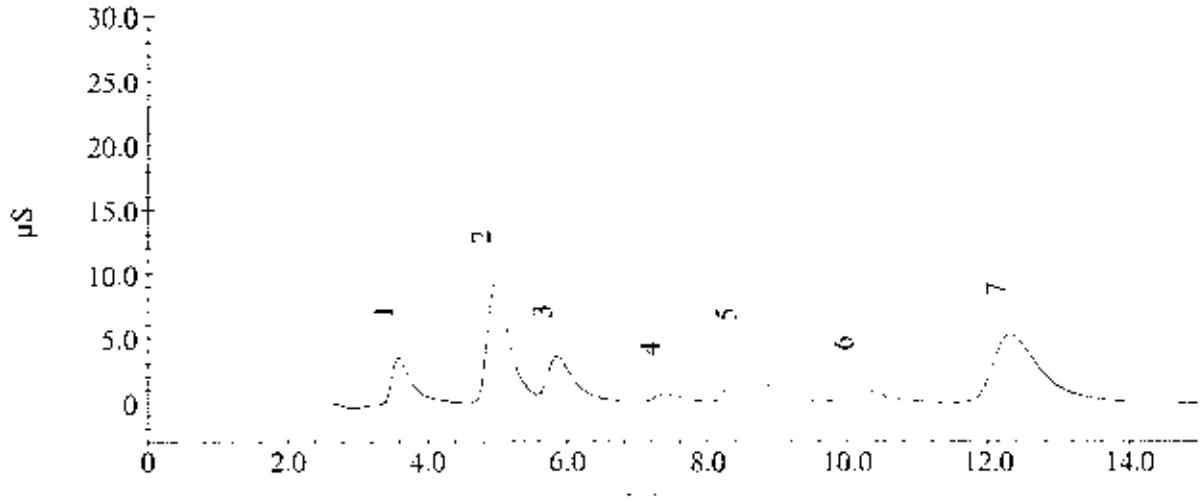
Sample Name : CCV IC0714 IC0715
Data File Name : c:\instarch\data\system 2\071316-2\CCV IC0714 IC0715_089.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/14/16 13:34:53
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.57	3.6676	654311	34529	
2	Chloride	4.95	14.7613	1888888	90696	
3	Nitrite	5.83	3.3506	706112	30021	
4	Bromide	7.38	3.4887	147506	5642	
5	Nitrate	8.47	3.6687	1046226	31483	
6	O.Phos	10.15	4.0512	353059	9375	
7	Sulfate	12.30	26.8124	2475398	52350	

CCV IC0714 IC0715



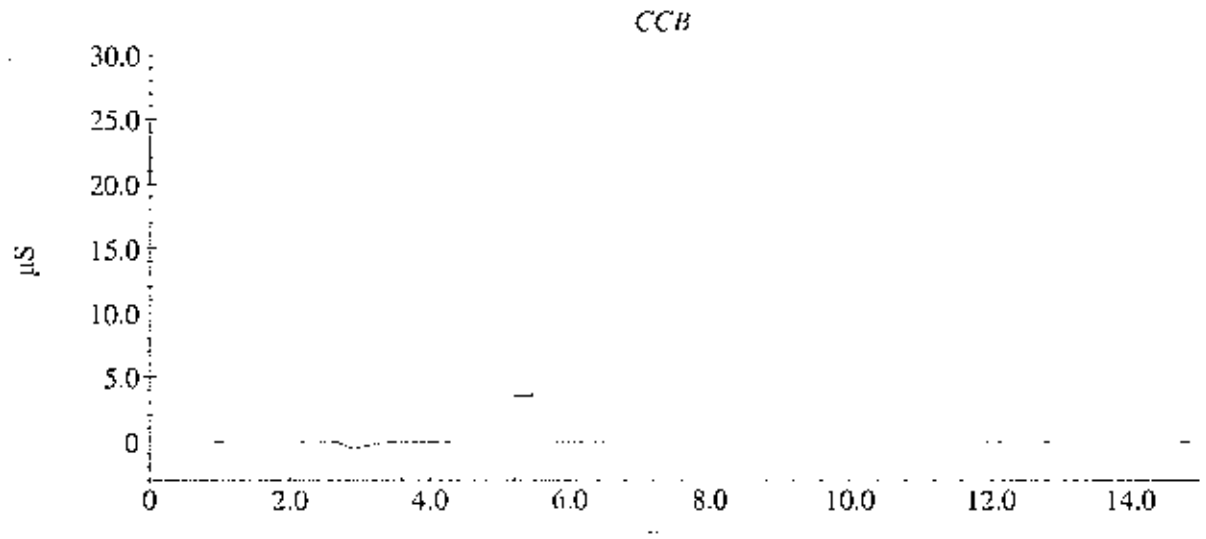
Sample Analysis Report

Sample Name : CCB
Data File Name : c:\instarch\data\system 2\071316-2\CCB_090.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/14/16 13:52:08
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded



Sample Analysis Report

Sample Name : 744401X5
Data File Name : c:\instarch\data\system 2\071316-2\744401X5_096.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/14/16 15:35:39
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.53	0.1270	2827	181	
3	Chloride	4.97	2.8129	312947	11583	
4	Nitrate	8.43	0.6319	160075	4434	
5	Sulfate	12.23	14.6391	1333526	27704	

Sample Analysis Report

Sample Name : DUP744401X5
Data File Name : c:\instarch\data\system 2\071316-2\DUP744401X5_097.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/14/16 15:52:56
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.52	0.1256	2573	171	
4	Chloride	4.95	2.8459	317303	11548	
5	Nitrate	8.43	0.6352	161040	4442	
6	Sulfate	12.20	14.5591	1326025	27741	

Sample Analysis Report

Sample Name : MSW744501X5
Data File Name : c:\instarch\data\system 2\071316-2\MSW744501X5_098.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/14/16 16:10:11
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.50	0.1253	2516	169	
4	Chloride	4.95	11.7899	1496981	59141	
5	Bromide	7.33	2.2259	94168	3626	
6	Nitrate	8.40	2.7238	770490	23198	
7	O.Phos	10.08	2.4524	209034	5467	
8	Sulfate	12.22	23.1617	2132962	44888	

Sample Analysis Report

Sample Name : MSDW744501X5
Data File Name : c:\instarch\data\system 2\071316-2\MSDW744501X5_099.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/14/16 16:27:26
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.52	0.1259	2637	171	
4	Chloride	4.97	11.5215	1461580	57694	
5	Bromide	7.35	2.1466	90817	3500	
6	Nitrate	8.42	2.6466	747976	22526	
7	O.Phos	10.08	2.3902	203429	5331	
8	Sulfate	12.22	22.9020	2108596	44393	

Sample Analysis Report

Sample Name : 744419X5
Data File Name : c:\instarch\data\system 2\071316-2\744419X5_100.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/14/16 16:44:42
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.50	0.1731	11327	550	
3	Chloride	4.95	1.5835	150793	4876	
4	Nitrate	8.45	0.3397	74825	2144	
5	Sulfate	12.22	23.6675	2180403	45785	

Sample Analysis Report

Sample Name : CCV IC0714 IC0715
Data File Name : c:\instarch\data\system 2\071316-2\CCV IC0714 IC0715_101.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/14/16 17:01:56
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.53	3.6278	646983	34361	
2	Chloride	4.92	14.6362	1872392	90874	
3	Nitrite	5.80	3.3530	706631	30232	
4	Bromide	7.33	3.4617	146368	5629	
5	Nitrate	8.42	3.6290	1034619	31409	
6	O.Phos	10.07	4.0007	348502	9325	
7	Sulfate	12.20	26.6920	2464106	52245	

Sample Analysis Report

Sample Name : CCB
Data File Name : c:\instarch\data\system 2\071316-2\CCB_102.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/14/16 17:19:12
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded

Sample Analysis Report

Sample Name : 744969
Data File Name : c:\instarch\data\system 2\071316-2\744969_105.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/14/16 18:10:57
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.53	0.4161	56038	2955	
2	Chloride	5.03	2.0461	211801	6325	
3	Nitrate	8.48	0.1421	17156	497	
4	Sulfate	12.23	20.7715	1908759	40101	

Sample Analysis Report

Sample Name : 744971
Data File Name : c:\instarch\data\system 2\071316-2\744971_106.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/14/16 18:28:12
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.53	0.2988	34441	1622	
3	Chloride	5.05	3.2638	372420	11952	
4	Nitrate	8.38	7.6375	2204277	63366	
5	Sulfate	12.25	30.7890	2848417	60760	

Sample Analysis Report

Sample Name : 744973
Data File Name : c:\instarch\data\system 2\071316-2\744973_107.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/14/16 18:45:27
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.52	0.3305	40284	2142	
2	Chloride	5.00	3.0747	347474	11937	
3	Nitrate	8.40	1.0234	274326	7751	
4	Sulfate	12.23	12.2165	1106281	22915	

Sample Analysis Report

Sample Name : DUP744973
Data File Name : c:\instarch\data\system 2\071316-2\DUP744973 .108.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/14/16 19:02:42
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.53	0.3224	38782	2075	
2	Chloride	5.00	3.0692	346750	11791	
3	Nitrate	8.38	1.0099	270383	7755	
4	Sulfate	12.25	12.1775	1102625	22916	

Sample Analysis Report

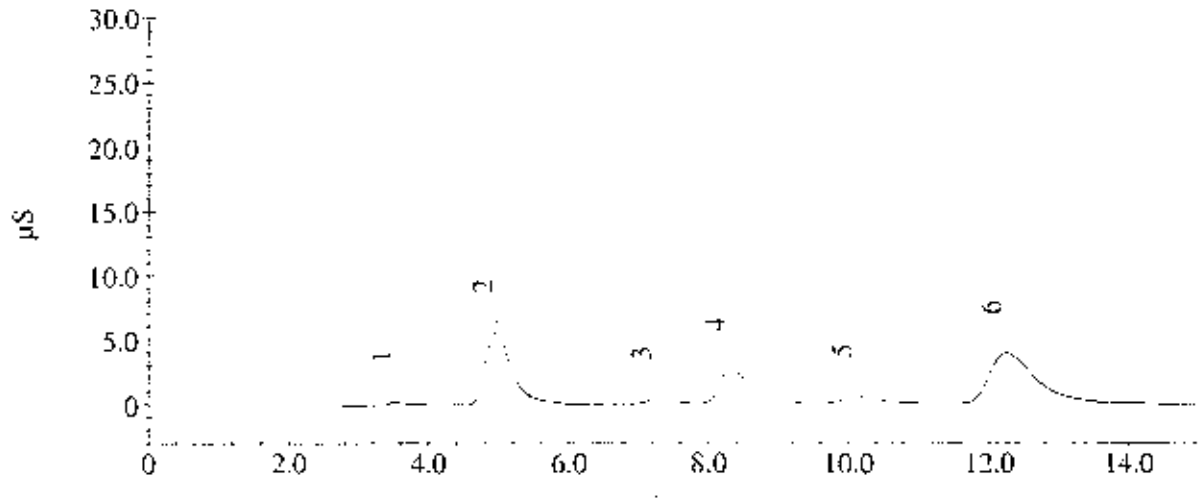
Sample Name : MSW744973
Data File Name : c:\instarch\data\system 2\071316-2\MSW744973_109.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/14/16 19:19:58
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.52	0.3178	37939	1991	
2	Chloride	4.97	11.6012	1472091	56183	
3	Bromide	7.25	2.1430	90668	3568	
4	Nitrate	8.30	3.0680	870920	26336	
5	O.Phos	10.12	2.5125	214448	5409	
6	Sulfate	12.23	20.2706	1861767	39307	

MSW744973



Sample Analysis Report

Sample Name : MSDW744973
Data File Name : c:\instarch\data\system 2\071316-2\MSDW744973_110.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/14/16 19:37:13
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.52	0.3087	36277	1952	
2	Chloride	4.97	11.5807	1469389	56205	
3	Bromide	7.27	2.1390	90498	3576	
4	Nitrate	8.30	3.0676	870826	26387	
5	O.Phos	10.12	2.5374	216688	5444	
6	Sulfate	12.23	20.2270	1857676	39267	

MSDW744973

Sample Analysis Report

Sample Name : 744975
Data File Name : c:\instarch\data\system 2\071316-2\744975_111.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/14/16 19:54:28
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.52	0.2774	30517	1431	
3	Chloride	5.02	5.5055	668084	23426	
4	Nitrate	8.35	0.1644	23663	715	
5	O.Phos	10.32	0.1915	5367	158	
6	Sulfate	12.22	45.9791	4273275	92082	

Sample Analysis Report

Sample Name : 744977
Data File Name : c:\instarch\data\system 2\071316-2\744977_112.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/14/16 20:11:45
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.52	0.4141	55668	2902	
2	Chloride	4.97	5.9214	722948	26155	
3	Nitrate	8.30	0.4442	105330	3106	
4	Sulfate	12.22	53.5175	4980384	107240	

Sample Analysis Report

Sample Name : CCV IC0714 IC0715
Data File Name : c:\instarch\data\system 2\071316-2\CCV IC0714 IC0715_113.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/14/16 20:28:59
System Operator : *BF*

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.53	3.5853	639167	34256	
2	Chloride	4.87	14.3631	1836371	90237	
3	Nitrite	5.72	3.2566	685628	29863	
4	Bromide	7.18	3.3715	142558	5689	
5	Nitrate	8.22	3.6868	1051495	32057	
6	O.Phos	10.08	4.1594	362801	9459	
7	Sulfate	12.20	26.4831	2444516	51627	

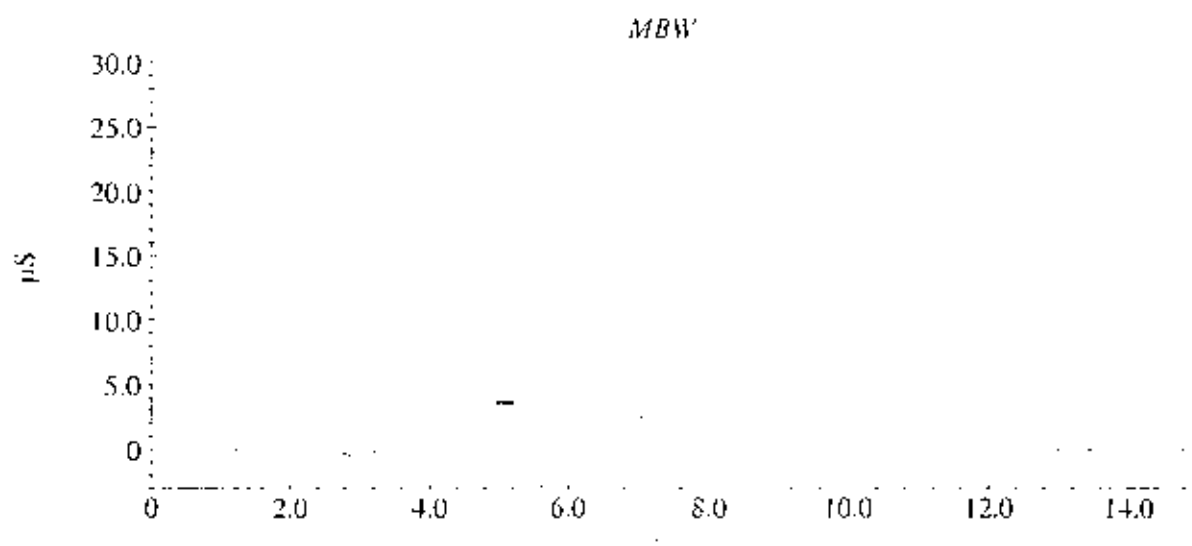
Sample Analysis Report

Sample Name : MBW
Data File Name : c:\instarch\data\system 2\071316-2\MBW_115.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/14/16 21:03:29
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded



Schedule File: C:\INSTARCH\Sequences\System 2\071516-2.sch

Sample	Sample Type	Level	Method	Data File	Volume	Dilution
CCV IC0714 IC0715	Sample		ic0692b.met	ccv ic0714 ic0715_001.dxd	1	1
LCSW IC0696 IC0697	Sample		ic0692b.met	lcsw ic0696 ic0697_002.dxd	1	1
MBW	Sample		ic0692b.met	mbw_003.dxd	1	1
744537X20	Sample		ic0692b.met	744537x20_004.dxd	1	1
MSW744581X5	Sample		ic0692b.met	msw744581x5_005.dxd	1	1
745150	Sample		ic0692b.met	745150_006.dxd	1	1
745151	Sample		ic0692b.met	745151_007.dxd	1	1
DUP745151	Sample		ic0692b.met	dup745151_008.dxd	1	1
MSW745151	Sample		ic0692b.met	msw745151_009.dxd	1	1
CCV IC0714 IC0715	Sample		ic0692b.met	ccv ic0714 ic0715_010.dxd	1	1
CCB	Sample		ic0692b.met	ccb_011.dxd	1	1
745777	Sample		ic0692b.met	745777	1	1
DUP745777	Sample		ic0692b.met	dup745777	1	1
MSW745777	Sample		ic0692b.met	msw745777	1	1
MSDW745777	Sample		ic0692b.met	msdw745777	1	1
745777X10	Sample		ic0692b.met	745777x10	1	1
DUP745777X10	Sample		ic0692b.met	dup745777x10	1	1
MSW745777X10	Sample		ic0692b.met	msw745777x10	1	1
MSDW745777X10	Sample		ic0692b.met	msdw745777x10	1	1
CCV	Sample		ic0692b.met	ccv	1	1
CCB	Sample		ic0692b.met	ccb	1	1

Sample Analysis Report

Sample Name : CCV IC0714 IC0715
Data File Name : e:\instarch\data\system 2\071516-2\CCV IC0714 IC0715_001.DXD

Method File Name : e:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/15/16 07:43:15
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.50	3.5136	625978	33057	
2	Chloride	4.87	14.2658	1823535	87992	
3	Nitrite	5.75	3.2512	684470	29233	
4	Bromide	7.30	3.3580	141989	5432	
5	Nitrate	8.37	3.4828	991968	30169	
6	O.Phos	9.92	3.7095	322270	8889	
7	Sulfate	12.00	26.3695	2433859	51618	

CCV IC0714 IC0715

Sample Analysis Report

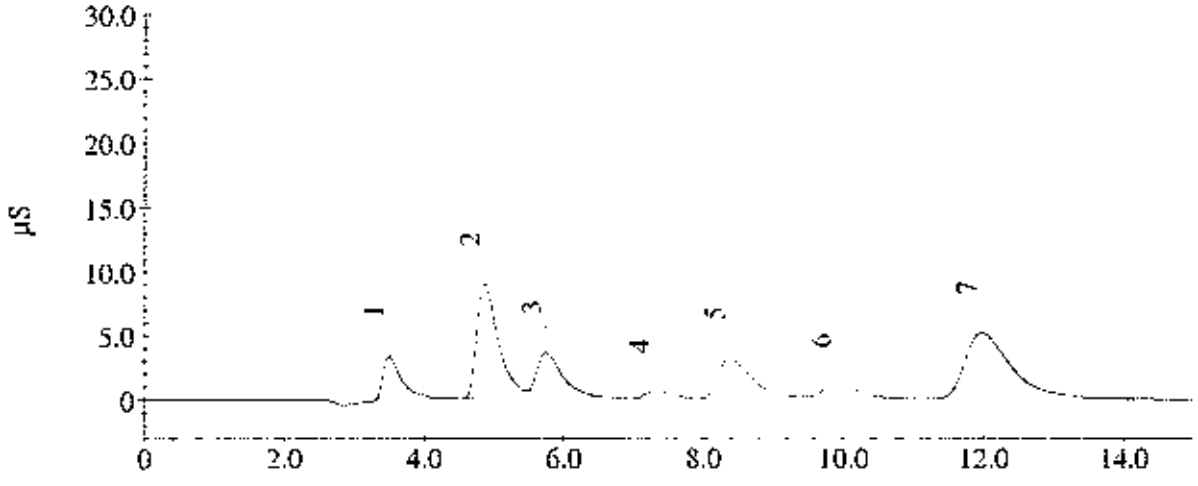
Sample Name : LCSW IC0696 IC0697
Data File Name : c:\instarch\data\system 2\071516-2\LCSW IC0696 IC0697_002.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/15/16 08:20:32
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.48	3.5418	631163	33402	
2	Chloride	4.85	14.0063	1789309	87146	
3	Nitrite	5.73	3.4306	723521	30971	
4	Bromide	7.28	3.3742	142673	5492	
5	Nitrate	8.37	3.4453	981020	30277	
6	O.Phos	9.88	3.6467	316616	8882	
7	Sulfate	11.97	26.1155	2410031	51661	

LCSW IC0696 IC0697



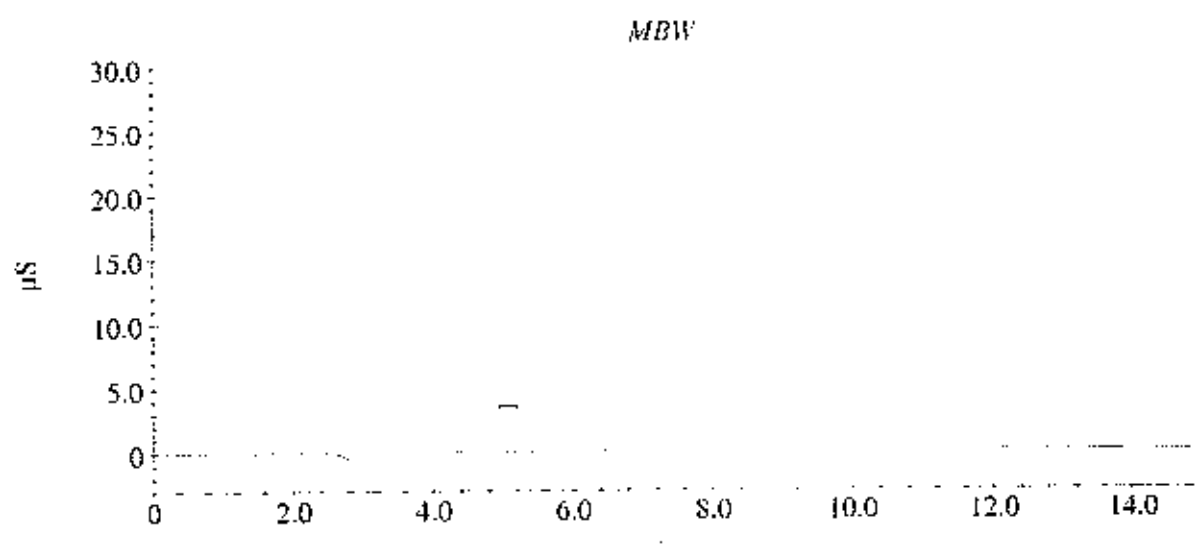
Sample Analysis Report

Sample Name : MBW
Data File Name : c:\instarch\data\system 2\071516-2\MBW_003.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/15/16 08:37:47
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded



Sample Analysis Report

Sample Name : CCV IC0714 IC0715
Data File Name : c:\instarch\data\system 2\071516-2\CCV IC0714 IC0715_010.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/15/16 10:48:34
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.48	3.5597	634453	33475	
2	Chloride	4.87	14.3355	1832733	90114	
3	Nitrite	5.73	3.2935	693667	30021	
4	Bromide	7.30	3.3734	142639	5556	
5	Nitrate	8.37	3.4769	990241	30801	
6	O.Phos	9.90	3.7119	322493	9056	
7	Sulfate	11.98	26.4292	2439461	52581	

CCV IC0714 IC0715

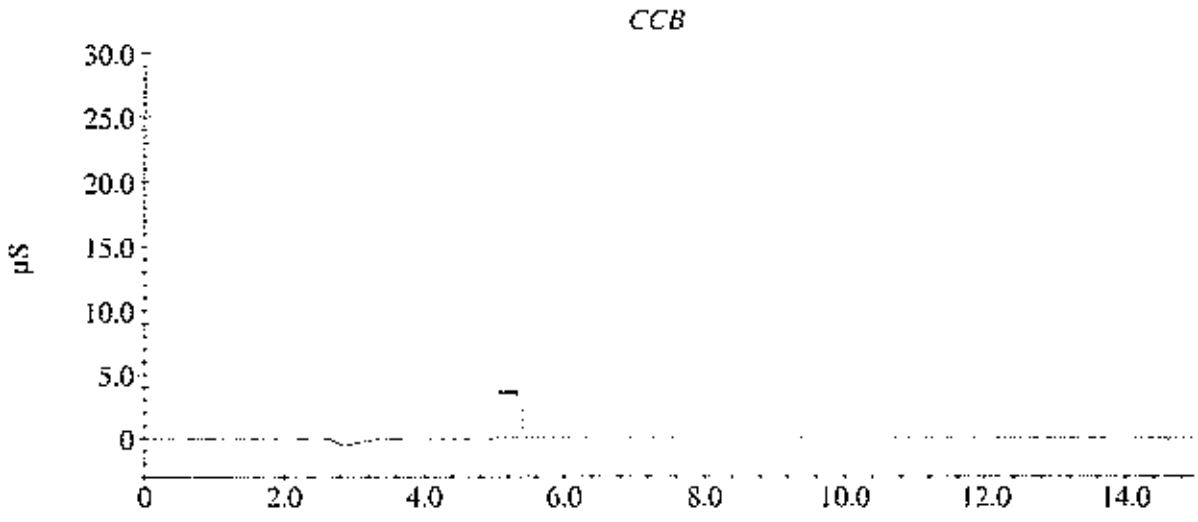
Sample Analysis Report

Sample Name : CCB
Data File Name : c:\instarch\data\system 2\071516-2\CCB_011.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/15/16 11:05:48
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded



Sample Analysis Report

Sample Name : 745777
Data File Name : c:\instarch\data\system 2\071516-2\745777_012.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/15/16 14:09:46
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.47	0.2482	25140	1247	
3	Chloride	4.97	5.7066	694606	23032	
4	Nitrate	8.38	0.6023	151457	4474	
5	Sulfate	11.93	36.3048	3365806	72834	

Sample Analysis Report

Sample Name : DUP745777
Data File Name : c:\instarch\data\system 2\071516-2\DUP745777_013.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/15/16 14:27:03
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.47	0.1987	16034	979	
2	Chloride	4.97	5.6842	691659	23519	
3	Nitrate	8.40	0.6109	153951	4521	
4	Sulfate	11.97	36.2896	3364378	73260	

Sample Analysis Report

Sample Name : MSW745777
Data File Name : c:\instarch\data\system 2\071516-2\MSW745777_014.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/15/16 14:44:18
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.47	1.1635	193561	9582	
3	Chloride	4.97	11.5691	1467859	60629	
4	Nitrite	5.78	1.5331	310413	14927	
5	Bromide	7.32	1.8954	80207	3202	
6	Nitrate	8.38	2.4127	679715	21195	
7	O.Phos	9.93	2.0565	173367	4770	
8	Sulfate	12.00	42.6371	3959784	87109	

Sample Analysis Report

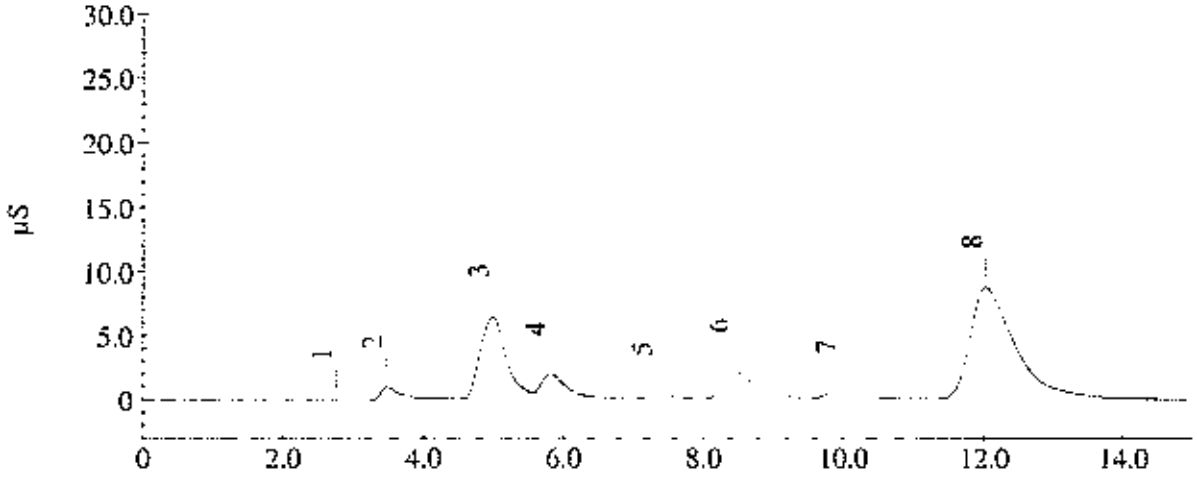
Sample Name : MSDW745777
Data File Name : c:\instarch\data\system 2\071516-2\MSDW745777_015.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/15/16 15:01:35
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.47	1.1706	194865	9543	
3	Chloride	4.98	11.7893	1496901	62381	
4	Nitrite	5.80	1.5316	310086	15037	
5	Bromide	7.33	1.9509	82550	3276	
6	Nitrate	8.42	2.4537	691679	21580	
7	O.Phos	9.95	2.1492	181717	4947	
8	Sulfate	12.02	42.8654	3981200	87588	

MSDW745777



Sample Analysis Report

Sample Name : CCV
Data File Name : c:\instarch\data\system 2\071516-2\CCV_020.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/15/16 16:27:52
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.50	3.5569	633940	34218	
2	Chloride	4.87	14.2704	1824144	91494	
3	Nitrite	5.75	3.3343	702557	31169	
4	Bromide	7.30	3.3826	143026	5669	
5	Nitrate	8.37	3.4926	994817	31422	
6	O.Phos	9.93	3.6872	320267	9147	
7	Sulfate	12.02	26.4477	2441191	53047	

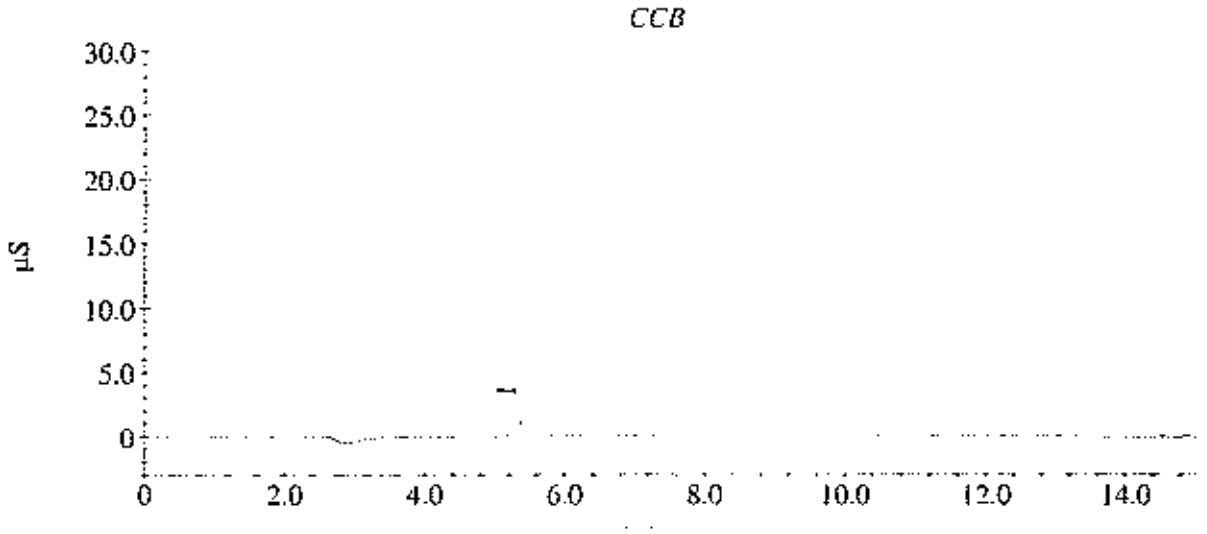
Sample Analysis Report

Sample Name : CCB
Data File Name : c:\instarch\data\system 2\071516-2\CCB_021.DXD

Method File Name : c:\instarch\methods\system 2\ic0692b.met
Date Time Collected : 7/15/16 16:45:07
System Operator : JJF

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded



COD ICAL

W38914

TEST 31
04/29/16

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STD{32}{32}{32}ABS{32}{32}{32}{32}{32}{32}CONC{32}{32}{32}{32}{32}{32}{32}{32}CONC{32}{32}{32}{32}ERROR{13}{10}
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ICV W38788
391.
JCB
0.

Form: FWC11-02
Rev # 1.0
Effective Date:06/17/16

Chemical Oxygen Demand (COD)

Analyst: SAW **Runs:** 127931 127932 **Date:** 07/19/2016

Vial #	Spec #	Sample #	D.F.	BATCH	RESULTS
1	1	CCV			381
2	2	LCS			383
3	3	MBW			-2
4	4	744978			-2
5	5	DUP744978			-2
6	6	MSW744978			154
7	7	MSDW744978			151
8	8	745779			3
9	9	744590			0
10	10	744596			0
11	11	744597			8
12	12	744598			5
13	13	MSW744598			149
1	14	CCV			386
3	15	CCB			-1
14	16	MSDW744598			152
15	17	744599			44
16	18	744600			0
17	19	744601			2
18	20	744602			104
19	21	744603			0
20	22	744604			14
21	23	744605			11
22	24	744663			4
23	25	744664			163
1	26	CCV			386
3	27	CCB			3

1
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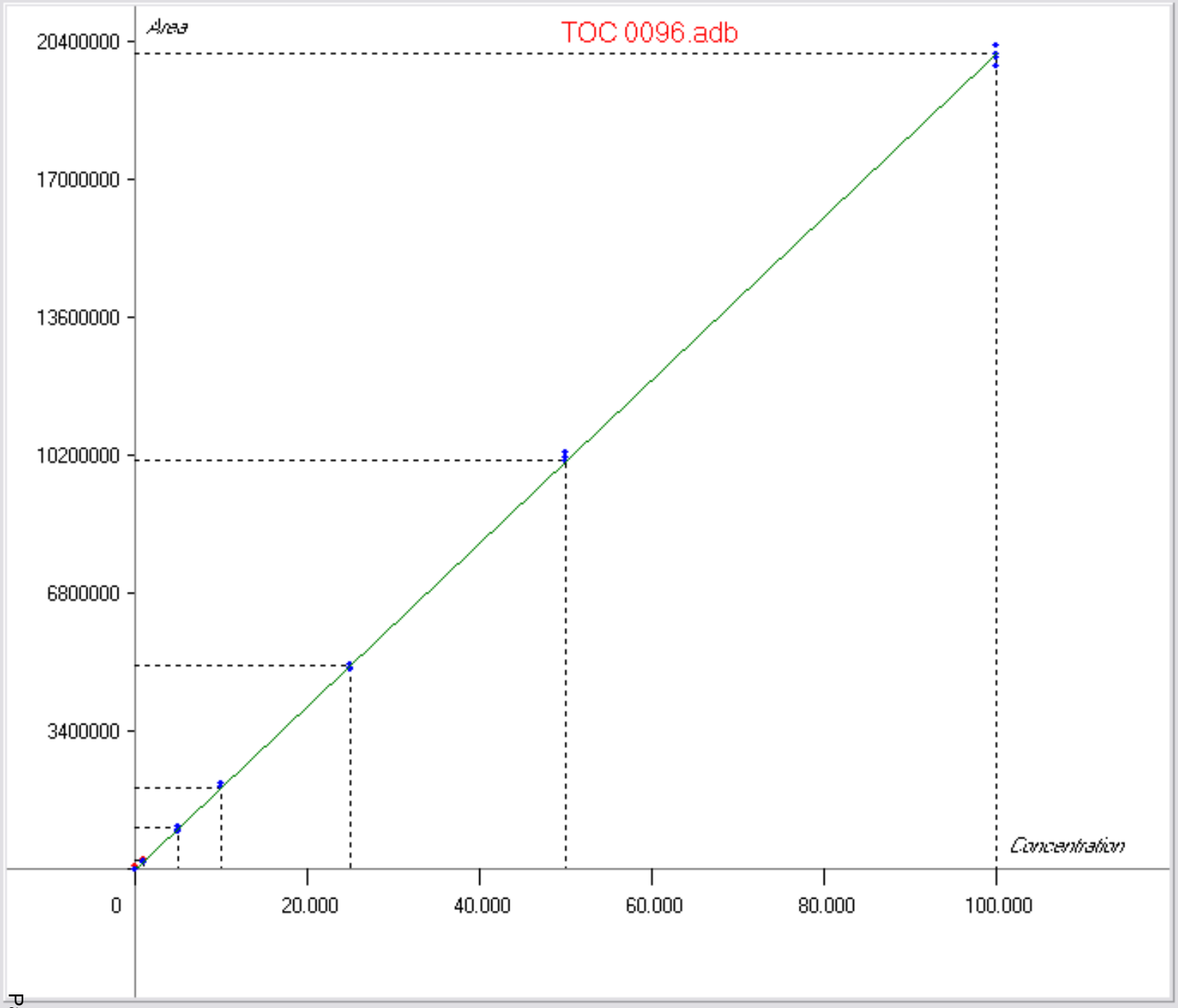

Cursor Position

Concentration	Area
119.200 mg/l	2167500

A2	0
A1	201098
A0	21902
Correlation	0.99990
Order	1
Volume	100 µl
Conc.	100.00
Area	20346951

Confidence Intervals 95%

Detection/Determination 95%

Conc.	Area	Sel.
0	119830	☐
0	0	☑
0	0	☑
0	0	☑
0	0	☑
1	289596	☐
1	213579	☑
1	203342	☑

• Used Value
• Ignored Value

CurveNo:1 CurveType:TC

<-- --> Print... Exit

FORM #: FWC20.21-02
Rev. #: 2.0
Effective Date: 07/03/2014

pH Bench Sheet

Date: 07/18/2016 Analyst: LJS

Instrument: *Mettler Toledo Seven Easy* LIMS#: 127894

Time: 14:00 Slope (%): 98

	SAMPLE#	MATRIX	pH	TEMP (°C)	COMMENTS:
1	744978	GW	7.41	8.5	
2	DUP744978	GW	7.39	8.7	
3	745779	GW	7.41	8.3	
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					

Analysis Name TOC0095.adb

Template Name	CURVE TEMP.tdb
Method Name	N / A
Operator	JJF
Date	Monday, May 9, 2016
Time	17:11
Start Oven Temp.	752 °C
Start Cooler Temp.	2 °C
Version	2.55 Release
Info	ICAL TOC0096 LCSW IC0089

Element	Integration Time	Samples	Extra Samples	Max. CV
Carbon	60 s	4	1	10 %
SampleTime	240 s			

No	Type	FileName	Date/Time	Max. Area	Max Conc.	Order	Correlation	Volume	Sel.
1	TC	This Analysis	May 9 2016, 17:11	20346951	100	1	0.99990	100 µl	Yes
	A2: 0		*A1: 201097.508178442*		*A0: 21901.5268453684*				

Inj. Order	Position	Type	Identification	Dilution Factor
1	1	Unknown	BLANK	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**0.17**	**51800**	**73.97**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 9 2016 17:22:33	1.40	302555	1	756	2	-	-
2	5 9 2016 17:26:02	0.16	54257	1	756	2	-	Yes
3	5 9 2016 17:28:22	0.35	92256	1	755	2	-	Yes
4	5 9 2016 17:30:47	0.19	60688	1	755	2	-	Yes
5	5 9 2016 17:33:07	0.00	0	0	756	2	-	Yes

Inj. Order	Position	Type	Identification	Dilution Factor
2	2	Unknown	BLANK	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**0.42**	**105513**	**20.32**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 9 2016 17:37:59	0.58	137593	1	759	2	-	Yes
2	5 9 2016 17:41:01	0.37	96224	1	758	2	-	Yes
3	5 9 2016 17:43:25	0.37	95443	1	758	2	-	Yes
4	5 9 2016 17:45:49	0.35	92792	1	758	2	-	Yes
5	5 9 2016 17:48:10	0.00	0	0	758	2	-	-

Inj. Order	Position	Type	Identification	Dilution Factor
3	S1	Standard	TC Std 0.00 mg/l	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**0.00**	**0**	**0.00**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 9 2016 17:53:03	0.49	119830	1	760	2	-	-
2	5 9 2016 17:56:04	0.00	0	1	759	2	-	Yes
3	5 9 2016 18:00:06	0.00	0	1	759	2	-	Yes
4	5 9 2016 18:04:07	0.00	0	1	760	2	-	Yes
5	5 9 2016 18:08:08	0.00	0	1	760	2	-	Yes

Inj. Order	Position	Type	Identification	Dilution Factor
4	S2	Standard	TC Std 1.00 mg/l	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**0.92**	**206576**	**2.38**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 9 2016 18:13:01	1.33	289596	1	760	2	-	-
2	5 9 2016 18:16:18	0.95	213579	1	759	2	-	Yes
3	5 9 2016 18:18:49	0.90	203342	1	758	2	-	Yes
4	5 9 2016 18:21:20	0.92	206434	1	758	2	-	Yes
5	5 9 2016 18:23:54	0.90	202950	1	757	2	-	Yes

5 S3 Standard TC Std. 5.00 mg/l 1 x

	TC	4.87	1000682	4.70		100 µl	
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 9 2016 18:27:17	5.21	1070507	1	759	2	-	Yes
2	5 9 2016 18:30:43	4.79	985230	1	757	2	-	Yes
3	5 9 2016 18:33:29	4.71	969598	1	757	2	-	Yes
4	5 9 2016 18:36:13	4.75	977394	1	757	2	-	Yes

6 S4 Standard TC Std. 10.00 mg/l 1 x

	TC	10.24	2081454	2.53		100 µl	
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 9 2016 18:39:48	10.63	2160043	1	758	2	-	Yes
2	5 9 2016 18:43:28	10.11	2054020	1	758	2	-	Yes
3	5 9 2016 18:46:22	10.14	2061329	1	757	2	-	Yes
4	5 9 2016 18:49:20	10.09	2050427	1	757	2	-	Yes

7 S5 Standard TC Std. 25.00 mg/l 1 x

	TC	24.82	5012593	1.14		100 µl	
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 9 2016 18:53:10	25.23	5095333	1	757	2	-	Yes
2	5 9 2016 18:57:01	24.73	4994164	1	756	2	-	Yes
3	5 9 2016 19:00:05	24.57	4963612	1	756	2	-	Yes
4	5 9 2016 19:03:10	24.74	4997263	1	756	2	-	Yes

8 S6 Standard TC Std. 50.00 mg/l 1 x

	TC	50.47	10171518	1.01		100 µl	
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 9 2016 19:07:11	51.15	10308993	1	757	2	-	Yes
2	5 9 2016 19:11:10	50.56	10189695	1	756	2	-	Yes
3	5 9 2016 19:14:22	50.04	10084925	1	756	2	-	Yes
4	5 9 2016 19:17:32	50.13	10102462	1	755	2	-	Yes

9 S7 Standard TC Std. 100.00 mg/l 1 x

	TC	99.80	20090109	1.04		100 µl	
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 9 2016 19:21:54	101.07	20346951	1	755	2	-	Yes
2	5 9 2016 19:26:06	99.93	20116998	1	755	2	-	Yes
3	5 9 2016 19:29:32	98.55	19839454	1	755	2	-	Yes
4	5 9 2016 19:32:59	99.63	20057036	1	755	2	-	Yes

10 S8 Unknown ICV - 50.00 mg/L 1 x

	TC	52.35	10549161	0.95		100 µl	
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 9 2016 19:37:21	53.05	10690090	1	755	2	-	Yes
2	5 9 2016 19:41:15	52.35	10549061	1	755	2	-	Yes
3	5 9 2016 19:44:38	51.94	10467501	1	755	2	-	Yes
4	5 9 2016 19:47:53	52.05	10489993	1	754	2	-	Yes

11 S9 Unknown ICB 1 x

	TC	0.00	0	0.00		100 µl	
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 9 2016 19:52:01	0.58	137815	1	754	2	-	-
2	5 9 2016 19:55:08	0	0	0	754	2	-	Yes
3	5 9 2016 19:59:11	0	0	0	754	2	-	Yes
4	5 9 2016 20:03:12	0	0	0	754	2	-	Yes
5	5 9 2016 20:07:13	0	0	0	754	2	-	Yes

12 S10 Unknown CCV 1 x

	TC	50.48	10172556	0.52		100 µl	
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 9 2016 20:12:08	50.78	10234453	1	755	2	-	Yes
2	5 9 2016 20:16:14	50.19	10114461	1	754	2	-	Yes
3	5 9 2016 20:19:29	50.34	10146109	1	753	2	-	Yes
4	5 9 2016 20:23:01	50.59	10195204	1	753	2	-	Yes

Analysis Name 071416 A- 127751 127752 127752 127805.adb

Template Name 071416 - 127751 127752 127753 127805.tdb
Method Name INSTRUMENT - TOCW.mt
Operator JJF

Date Thursday, July 14, 2016
Time 14:19

Start Oven Temp. 769 °C
Start Cooler Temp. 2 °C

Version 2.55 Release
Info ICAL TOC0096 SPIKE TOC0086
CCV TOC0113
LCSW TOC0114

Element	Integration Time	Samples	Extra Samples	Max. CV
Carbon	60 s	4	1	10 %

SampleTime 240 s

No	Type	FileName	Date/Time	Max. Area	Max Conc.	Order	Correlation	Volume	Sel.
1	TC	TOC0096	May 9 2016, 17:11	20346951	100	1	0.99990	100 µl	Yes
	A2: 0		*A1: 201097.508178442*		*A0: 21901.5268453684*				

Inj. Order	Position	Type	Identification	Dilution Factor
1	1	Unknown	BLANK	1 x

	Injection Type	Conc.	Area	CV	Inj. Volume
	TC	**0.00**	**0**	**0.00**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 14 2016 14:29:42	3.68	761552	1	778	2	-	-
2	7 14 2016 14:33:34	0	0	0	777	2	-	Yes
3	7 14 2016 14:37:35	0	0	0	777	2	-	Yes
4	7 14 2016 14:41:36	0	0	0	776	2	-	Yes
5	7 14 2016 14:45:38	0	0	0	775	2	-	Yes

2	S1	Unknown	CCV	1 x

	TC	**49.29**	**9934221**	**0.52**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 14 2016 14:50:31	49.42	9959906	1	774	2	-	Yes
2	7 14 2016 14:54:24	49.55	9986226	1	773	2	-	Yes
3	7 14 2016 14:57:34	49.23	9922572	1	772	2	-	Yes
4	7 14 2016 15:00:49	48.96	9868183	1	771	2	-	Yes

3	S5	Unknown	LCSW	1 x

	TC	**50.92**	**10261945**	**1.51**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 14 2016 15:04:52	51.84	10446136	1	771	2	-	Yes
2	7 14 2016 15:08:58	50.29	10134540	1	770	2	-	Yes
3	7 14 2016 15:12:11	51.28	10333817	1	769	2	-	Yes
4	7 14 2016 15:15:27	50.28	10133287	1	768	2	-	Yes

4	S7	Unknown	MBW	1 x

	TC	**0.23**	**69839**	**13.31**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 14 2016 15:19:36	0.84	191272	1	767	2	-	-
2	7 14 2016 15:22:42	0.25	73023	1	766	2	-	Yes
3	7 14 2016 15:25:12	0.18	59047	1	765	2	-	Yes
4	7 14 2016 15:27:30	0.29	80845	1	764	2	-	Yes
5	7 14 2016 15:29:55	0.22	66444	1	764	2	-	Yes

5 2 Unknown 743829 1 x

TC **1.24** **270931** **9.81** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 14 2016 15:33:04	1.80	383446	1	763	2	-	-
2	7 14 2016 15:36:23	1.06	235762	1	762	2	-	Yes
3	7 14 2016 15:38:49	1.31	285802	1	762	2	-	Yes
4	7 14 2016 15:41:20	1.21	266011	1	761	2	-	Yes
5	7 14 2016 15:43:46	1.36	296150	1	760	2	-	Yes

6 3 Unknown DUP743829 1 x

TC **1.24** **271756** **11.25** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 14 2016 15:47:10	1.67	357360	1	760	2	-	-
2	7 14 2016 15:50:27	1.14	251496	1	759	2	-	Yes
3	7 14 2016 15:52:56	1.18	259023	1	759	2	-	Yes
4	7 14 2016 15:55:28	1.47	317284	1	758	2	-	Yes
5	7 14 2016 15:57:55	1.18	259224	1	758	2	-	Yes

7 4 Unknown MSW743829 1 x

TC **51.26** **10330344** **0.25** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 14 2016 16:01:16	51.30	10337266	1	758	2	-	Yes
2	7 14 2016 16:05:08	51.40	10357977	1	757	2	-	Yes
3	7 14 2016 16:08:21	51.09	10296255	1	757	2	-	Yes
4	7 14 2016 16:11:26	51.26	10329881	1	757	2	-	Yes

8 5 Unknown MSDW743829 1 x

TC **51.36** **10350010** **2.21** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 14 2016 16:15:21	52.79	10638025	1	756	2	-	Yes
2	7 14 2016 16:19:20	51.32	10342707	1	756	2	-	Yes
3	7 14 2016 16:22:38	50.01	10078009	1	756	2	-	Yes
4	7 14 2016 16:25:46	51.32	10341299	1	755	2	-	Yes

9 6 Unknown 743851 1 x

TC **0.92** **206843** **3.29** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 14 2016 16:29:46	1.54	331573	1	756	2	-	-
2	7 14 2016 16:33:06	0.96	215930	1	755	2	-	Yes
3	7 14 2016 16:35:42	0.90	202631	1	755	2	-	Yes
4	7 14 2016 16:38:10	0.93	208075	1	754	2	-	Yes
5	7 14 2016 16:40:40	0.89	200737	1	754	2	-	Yes

10 7 Unknown 743879 1 x

TC **0.58** **139331** **38.64** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 14 2016 16:43:56	0.19	59644	1	754	2	-	Yes
2	7 14 2016 16:45:17	2.19	462724	1	754	2	-	-
3	7 14 2016 16:47:38	0.67	155697	1	753	2	-	Yes
4	7 14 2016 16:50:02	0.77	176930	1	753	2	-	Yes
5	7 14 2016 16:52:29	0.71	165055	1	754	2	-	Yes

11 8 Unknown 743881 1 x

TC **0.77** **175920** **15.32** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 14 2016 16:55:46	0.95	213854	1	753	2	-	Yes
2	7 14 2016 16:59:34	1.04	231669	1	753	2	-	-
3	7 14 2016 17:01:51	0.66	153879	1	753	2	-	Yes
4	7 14 2016 17:03:57	0.77	175955	1	753	2	-	Yes
5	7 14 2016 17:06:24	0.69	159993	1	753	2	-	Yes

12 9 Unknown 743883 1 x

TC **0.90** **203895** **5.51** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 14 2016 17:09:39	0.98	219557	1	754	2	-	Yes
2	7 14 2016 17:12:27	0.85	193236	1	753	2	-	Yes
3	7 14 2016 17:14:54	0.88	199551	1	753	2	-	Yes
4	7 14 2016 17:17:16	0.61	145149	1	753	2	-	-
5	7 14 2016 17:19:13	0.90	203239	1	752	2	-	Yes

13 10 Unknown 744395 1 x

TC 0.98 219922 4.85 100 µl

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 14 2016 17:22:27	1.05	232491	1	753	2	-	Yes
2	7 14 2016 17:25:14	0.97	216400	1	752	2	-	Yes
3	7 14 2016 17:27:39	0.92	207335	1	753	2	-	Yes
4	7 14 2016 17:30:02	1.00	223464	1	753	2	-	Yes

14 11 Unknown 744398 1 x

TC 1.08 239502 3.34 100 µl

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 14 2016 17:33:35	1.08	238567	1	753	2	-	Yes
2	7 14 2016 17:36:21	1.14	251095	1	752	2	-	Yes
3	7 14 2016 17:38:48	1.06	234318	1	752	2	-	Yes
4	7 14 2016 17:41:16	1.05	234029	1	752	2	-	Yes

15 S1 Unknown CCV 1 x

TC 48.91 9856729 1.73 100 µl

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 14 2016 17:44:41	49.45	9965508	1	753	2	-	Yes
2	7 14 2016 17:48:12	49.77	10029682	1	752	2	-	Yes
3	7 14 2016 17:51:11	48.48	9771724	1	752	2	-	Yes
4	7 14 2016 17:54:16	47.93	9660003	1	752	2	-	Yes

16 S9 Unknown RINSE 1 x

TC 0.06 34706 11.76 100 µl

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 14 2016 17:58:08	0.09	39189	1	753	2	-	Yes
2	7 14 2016 18:01:25	0.07	36803	1	752	2	-	Yes
3	7 14 2016 18:03:42	0.05	32809	1	752	2	-	Yes
4	7 14 2016 18:06:06	ZERO !	7561	1	752	2	-	-
5	7 14 2016 18:09:33	0.04	30025	1	752	2	-	Yes

17 S7 Unknown CCB 1 x

TC 0.11 45019 47.60 100 µl

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 14 2016 18:13:18	0.08	37572	1	753	2	-	Yes
2	7 14 2016 18:16:41	ZERO !	8078	1	753	2	-	-
3	7 14 2016 18:19:00	0.10	42892	1	753	2	-	Yes
4	7 14 2016 18:22:02	0.01	24589	1	753	2	-	Yes
5	7 14 2016 18:25:09	0.26	75023	1	752	2	-	Yes

18 12 Unknown 744400 1 x

TC 0.71 164806 30.67 100 µl

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 14 2016 18:29:34	1.07	237050	1	752	2	-	Yes
2	7 14 2016 18:32:56	ZERO !	-37431	1	752	2	-	-
3	7 14 2016 18:34:31	0.70	162376	1	751	2	-	Yes
4	7 14 2016 18:37:11	0.53	128377	1	751	2	-	Yes
5	7 14 2016 18:39:52	0.54	131424	1	752	2	-	Yes

19 13 Unknown 744408 1 x

TC 0.26 74515 8.07 100 µl

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 14 2016 18:43:16	0.40	101494	1	752	2	-	-
2	7 14 2016 18:46:31	0.26	74975	1	752	2	-	Yes
3	7 14 2016 18:48:48	0.22	66430	1	752	2	-	Yes
4	7 14 2016 18:50:59	0.29	80960	1	751	2	-	Yes

	5	7 14 2016 18:53:23	0.27	75695	1	751	2	-	Yes

20	14	Unknown	744411				1 x		
		TC	**0.90**	**202758**		**5.37**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	7 14 2016 18:56:40	0.98	218901	1	752	2	-	Yes
	2	7 14 2016 18:59:37	0.87	196078	1	752	2	-	Yes
	3	7 14 2016 19:02:02	0.87	196331	1	752	2	-	Yes
	4	7 14 2016 19:04:28	0.55	133189	1	752	2	-	-
	5	7 14 2016 19:06:28	0.88	199725	1	751	2	-	Yes

21	15	Unknown	744414				1 x		
		TC	**0.70**	**162536**		**8.61**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	7 14 2016 19:09:46	0.63	148046	1	752	2	-	Yes
	2	7 14 2016 19:12:29	0.65	153373	1	751	2	-	Yes
	3	7 14 2016 19:14:51	0.77	176985	1	751	2	-	Yes
	4	7 14 2016 19:17:19	0.75	171743	1	752	2	-	Yes

22	16	Unknown	744416				1 x		
		TC	**0.73**	**169215**		**12.04**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	7 14 2016 19:20:53	1.05	232922	1	752	2	-	-
	2	7 14 2016 19:24:05	0.65	153137	1	751	2	-	Yes
	3	7 14 2016 19:26:26	0.65	152273	1	751	2	-	Yes
	4	7 14 2016 19:28:47	0.77	176952	1	751	2	-	Yes
	5	7 14 2016 19:31:12	0.86	194498	1	751	2	-	Yes

23	17	Unknown	744418				1 x		
		TC	**0.94**	**209821**		**2.12**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	7 14 2016 19:34:30	1.26	274922	1	752	2	-	-
	2	7 14 2016 19:37:41	0.96	214488	1	752	2	-	Yes
	3	7 14 2016 19:40:09	0.92	206474	1	751	2	-	Yes
	4	7 14 2016 19:42:34	0.91	205609	1	752	2	-	Yes
	5	7 14 2016 19:45:05	0.95	212713	1	752	2	-	Yes

24	18	Unknown	744420				1 x		
		TC	**1.00**	**223709**		**8.45**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	7 14 2016 19:48:25	0.87	196698	1	752	2	-	Yes
	2	7 14 2016 19:51:06	1.01	224774	1	751	2	-	Yes
	3	7 14 2016 19:53:35	1.06	235340	1	751	2	-	Yes
	4	7 14 2016 19:55:59	1.07	238027	1	751	2	-	Yes

25	19	Unknown	743802				1 x		
		TC	**3.05**	**635061**		**4.81**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	7 14 2016 19:59:33	3.20	666366	1	752	2	-	Yes
	2	7 14 2016 20:02:50	3.15	656044	1	752	2	-	Yes
	3	7 14 2016 20:05:27	2.91	606107	1	751	2	-	Yes
	4	7 14 2016 20:08:06	2.93	611728	1	752	2	-	Yes

26	20	Unknown	743804				1 x		
		TC	**8.89**	**1810810**		**2.75**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	7 14 2016 20:11:34	9.25	1882408	1	752	2	-	Yes
	2	7 14 2016 20:15:01	8.69	1769112	1	752	2	-	Yes
	3	7 14 2016 20:17:41	8.86	1803729	1	752	2	-	Yes
	4	7 14 2016 20:20:25	8.78	1787994	1	752	2	-	Yes

27	21	Unknown	743805				1 x		
		TC	**22.55**	**4555006**		**2.17**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.

	1	7 14 2016 20:24:00	23.17	4680742	1	752	2	-	Yes
	2	7 14 2016 20:27:36	21.97	4439024	1	752	2	-	Yes
	3	7 14 2016 20:30:34	22.51	4547657	1	752	2	-	Yes
	4	7 14 2016 20:33:26	22.53	4552602	1	752	2	-	Yes

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28 S1 Unknown CCV 1 x

TC **48.99** **9874134** **0.46** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 14 2016 20:37:14	48.68	9811338	1	752	2	-	Yes
2	7 14 2016 20:41:10	49.16	9907889	1	753	2	-	Yes
3	7 14 2016 20:44:23	48.97	9869859	1	752	2	-	Yes
4	7 14 2016 20:47:36	49.16	9907450	1	752	2	-	Yes

---

29 S5 Unknown LCSW 1 x

TC **49.86** **10048505** **1.20** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 14 2016 20:51:39	49.71	10018189	1	752	2	-	Yes
2	7 14 2016 20:55:19	50.56	10188967	1	752	2	-	Yes
3	7 14 2016 20:58:11	49.13	9900942	1	753	2	-	Yes
4	7 14 2016 21:00:57	50.05	10085924	1	753	2	-	Yes

---

30 S9 Unknown RINSE 1 x

TC **0.18** **58547** **22.24** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 14 2016 21:04:57	0.32	85568	1	753	2	-	-
2	7 14 2016 21:08:02	0.19	61028	1	753	2	-	Yes
3	7 14 2016 21:10:17	0.27	75978	1	752	2	-	Yes
4	7 14 2016 21:12:37	0.13	48048	1	752	2	-	Yes
5	7 14 2016 21:14:49	0.14	49137	1	751	2	-	Yes

---

31 S7 Unknown MBW 1 x

TC **ZERO !** **23515** **33.21** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 14 2016 21:17:55	0.20	61588	1	752	2	-	-
2	7 14 2016 21:20:47	0.01	23911	1	752	2	-	Yes
3	7 14 2016 21:23:08	ZERO !	13355	1	751	2	-	Yes
4	7 14 2016 21:26:21	0.01	24403	1	751	2	-	Yes
5	7 14 2016 21:29:29	0.05	32391	1	752	2	-	Yes

---

32 22 Unknown 744328 1 x

TC **7.30** **1490341** **3.46** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 14 2016 21:32:40	7.37	1504458	1	751	2	-	Yes
2	7 14 2016 21:35:55	7.63	1555494	1	752	2	-	Yes
3	7 14 2016 21:38:39	7.03	1436441	1	752	2	-	Yes
4	7 14 2016 21:41:19	7.18	1464972	1	752	2	-	Yes

---

33 23 Unknown 744329 1 x

TC **6.50** **1330106** **3.53** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 14 2016 21:44:55	6.61	1350664	1	753	2	-	Yes
2	7 14 2016 21:48:01	10.30	2092447	1	752	2	-	-
3	7 14 2016 21:50:27	6.46	1321573	1	752	2	-	Yes
4	7 14 2016 21:52:44	6.75	1379146	1	751	2	-	Yes
5	7 14 2016 21:55:31	6.20	1269042	1	752	2	-	Yes

---

34 24 Unknown 744330 1 x

TC **6.35** **1298961** **3.36** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 14 2016 21:58:40	6.63	1354427	1	752	2	-	Yes
2	7 14 2016 22:01:49	6.12	1251930	1	753	2	-	Yes
3	7 14 2016 22:04:08	6.40	1308526	1	753	2	-	Yes
4	7 14 2016 22:06:51	6.26	1280963	1	753	2	-	Yes

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35 25 Unknown DUP744330 1 x

TC	6.78	1385880	2.50		100 µl		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 14 2016 22:10:25	7.00	1429756	1	753	2	-	Yes
2	7 14 2016 22:13:26	6.80	1388675	1	753	2	-	Yes
3	7 14 2016 22:16:11	6.58	1345353	1	753	2	-	Yes
4	7 14 2016 22:18:56	6.75	1379737	1	754	2	-	Yes

36 26 Unknown MSW744330 1 x

TC	54.72	11025430	1.54		100 µl		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 14 2016 22:22:31	55.48	11177801	1	754	2	-	Yes
2	7 14 2016 22:25:56	55.31	11144278	1	754	2	-	Yes
3	7 14 2016 22:29:12	54.43	10967857	1	754	2	-	Yes
4	7 14 2016 22:32:26	53.65	10811786	1	753	2	-	Yes

37 27 Unknown MSDW744330 1 x

TC	55.15	11112841	1.60		100 µl		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 14 2016 22:36:31	54.82	11045438	1	754	2	-	Yes
2	7 14 2016 22:40:01	56.33	11349861	1	753	2	-	Yes
3	7 14 2016 22:43:09	55.22	11126627	1	753	2	-	Yes
4	7 14 2016 22:46:34	54.24	10929440	1	753	2	-	Yes

38 28 Unknown 744371 1 x

TC	1.89	402532	3.79		100 µl		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 14 2016 22:50:08	1.78	380701	1	753	2	-	Yes
2	7 14 2016 22:52:59	1.91	405612	1	752	2	-	Yes
3	7 14 2016 22:55:36	1.92	407726	1	753	2	-	Yes
4	7 14 2016 22:58:08	1.96	416091	1	753	2	-	Yes

39 29 Unknown 744511 1 x

TC	1.81	385433	6.51		100 µl		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 14 2016 23:01:32	1.63	348831	1	753	2	-	Yes
2	7 14 2016 23:04:19	1.86	396468	1	752	2	-	Yes
3	7 14 2016 23:06:57	1.84	391039	1	752	2	-	Yes
4	7 14 2016 23:09:28	1.91	405394	1	752	2	-	Yes

40 30 Unknown 744512 1 x

TC	1.88	400340	4.60		100 µl		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 14 2016 23:12:54	2.02	427369	1	752	2	-	Yes
2	7 14 2016 23:16:10	1.81	386236	1	752	2	-	Yes
3	7 14 2016 23:18:45	1.84	392518	1	752	2	-	Yes
4	7 14 2016 23:21:16	1.86	395239	1	752	2	-	Yes

41 31 Unknown 744513 1 x

TC	1.17	257412	10.18		100 µl		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 14 2016 23:24:44	1.03	228321	1	752	2	-	Yes
2	7 14 2016 23:27:24	1.14	251233	1	751	2	-	Yes
3	7 14 2016 23:29:54	2.06	435832	1	751	2	-	-
4	7 14 2016 23:32:26	1.34	291656	1	751	2	-	Yes
5	7 14 2016 23:34:57	1.18	258441	1	752	2	-	Yes

42 S2 Unknown CCV 1 x

TC	50.55	10188158	0.55		100 µl		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 14 2016 23:38:19	50.57	10192374	1	752	2	-	Yes
2	7 14 2016 23:42:21	50.23	10123672	1	752	2	-	Yes
3	7 14 2016 23:45:32	50.49	10176132	1	752	2	-	Yes

4	7 14 2016 23:48:48	50.91	10260455	1	752	2	-	Yes

43 S9 Unknown RINSE 1 x

TC	**0.32**	**85810**	**8.06**		**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 14 2016 23:52:58	0.35	92769	1	752	2	-	Yes
2	7 14 2016 23:55:53	0.27	76299	1	751	2	-	Yes
3	7 14 2016 23:58:14	0.32	86298	1	751	2	-	Yes
4	7 15 2016 0:00:42	0.33	87875	1	751	2	-	Yes

44 S8 Unknown CCB 1 x

TC	**ZERO !**	**16181**	**69.49**		**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 15 2016 0:04:15	0.03	27514	1	752	2	-	Yes
2	7 15 2016 0:07:02	0.01	23883	1	751	2	-	Yes
3	7 15 2016 0:09:58	ZERO !	4345	1	751	2	-	-
4	7 15 2016 0:12:16	ZERO !	4384	1	750	2	-	Yes
5	7 15 2016 0:14:40	ZERO !	8945	1	749	2	-	Yes

45 32 Unknown 744514 1 x

TC	**1.44**	**311676**	**4.60**		**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 15 2016 0:17:56	1.88	400437	1	750	2	-	-
2	7 15 2016 0:20:55	1.54	331493	1	750	2	-	Yes
3	7 15 2016 0:23:05	1.44	312105	1	749	2	-	Yes
4	7 15 2016 0:25:13	1.38	298516	1	749	2	-	Yes
5	7 15 2016 0:27:21	1.41	304593	1	749	2	-	Yes

46 33 Unknown 744515 1 x

TC	**1.41**	**305066**	**7.80**		**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 15 2016 0:30:20	1.58	339745	1	750	2	-	Yes
2	7 15 2016 0:33:15	1.39	301371	1	751	2	-	Yes
3	7 15 2016 0:35:24	1.33	290094	1	750	2	-	Yes
4	7 15 2016 0:37:31	1.33	289054	1	750	2	-	Yes

47 34 Unknown DUP744515 1 x

TC	**1.53**	**330818**	**2.82**		**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 15 2016 0:41:30	1.56	336198	1	752	2	-	Yes
2	7 15 2016 0:44:20	1.50	323648	1	752	2	-	Yes
3	7 15 2016 0:46:50	1.49	322261	1	752	2	-	Yes
4	7 15 2016 0:49:26	1.59	341165	1	752	2	-	Yes

48 35 Unknown MSW744515 1 x

TC	**51.75**	**10428915**	**0.86**		**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 15 2016 0:53:00	51.36	10349594	1	752	2	-	Yes
2	7 15 2016 0:56:49	52.08	10495458	1	753	2	-	Yes
3	7 15 2016 0:59:59	52.19	10516933	1	753	2	-	Yes
4	7 15 2016 1:03:11	51.38	10353676	1	753	2	-	Yes

49 36 Unknown MSDW744515 1 x

TC	**52.90**	**10659127**	**0.76**		**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 15 2016 1:07:17	53.08	10695497	1	753	2	-	Yes
2	7 15 2016 1:11:16	53.25	10729342	1	753	2	-	Yes
3	7 15 2016 1:14:23	52.94	10668630	1	753	2	-	Yes
4	7 15 2016 1:17:28	52.32	10543041	1	752	2	-	Yes

50 37 Unknown BLANK 1 x

TC	**0.53**	**128439**	**10.40**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 15 2016 1:21:30	0.49	120813	1	753	2	-	Yes
2	7 15 2016 1:24:15	0.53	128397	1	752	2	-	Yes
3	7 15 2016 1:26:39	0.62	147235	1	752	2	-	Yes
4	7 15 2016 1:29:08	0.47	117312	1	752	2	-	Yes
5	7 15 2016 1:31:39	0.25	73033	1	752	2	-	-

51 38 Unknown 743829 1 x

TC **61.56** **12402204** **1.40** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 15 2016 1:34:34	61.96	12482563	1	753	2	-	Yes
2	7 15 2016 1:38:33	61.80	12449206	1	752	2	-	Yes
3	7 15 2016 1:41:46	60.29	12146772	1	752	2	-	Yes
4	7 15 2016 1:45:02	62.20	12530275	1	752	2	-	Yes

52 39 Unknown 743851 1 x

TC **59.46** **11980150** **0.87** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 15 2016 1:49:11	59.21	11929216	1	752	2	-	Yes
2	7 15 2016 1:53:08	60.18	12123976	1	752	2	-	Yes
3	7 15 2016 1:57:02	58.99	11884507	1	752	2	-	Yes
4	7 15 2016 2:00:45	59.48	11982902	1	752	2	-	Yes

53 40 Unknown 743879 1 x

TC **87.74** **17666793** **40.07** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 15 2016 2:04:57	0.22	65757	1	752	2	-	-
2	7 15 2016 2:05:57	140.54	28283992	1	752	2	-	Yes
3	7 15 2016 2:09:20	69.57	14012327	1	751	2	-	Yes
4	7 15 2016 2:12:39	70.67	14233803	1	751	2	-	Yes
5	7 15 2016 2:16:02	70.19	14137053	1	751	2	-	Yes

54 41 Unknown 743881 1 x

TC **87.82** **17681909** **40.41** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 15 2016 2:20:17	0.09	40629	1	752	2	-	-
2	7 15 2016 2:21:25	141.11	28398906	1	752	2	-	Yes
3	7 15 2016 2:25:05	70.09	14116647	1	751	2	-	Yes
4	7 15 2016 2:28:26	69.62	14022958	1	752	2	-	Yes
5	7 15 2016 2:31:53	70.45	14189127	1	752	2	-	Yes

55 S2 Unknown CCV 1 x Misinjection=51.99

TC **64.99** **13091773** **40.07** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 15 2016 2:36:16	0.18	57686	1	752	2	-	-
2	7 15 2016 2:37:41	104.12	20960333	1	751	2	-	Yes
3	7 15 2016 2:41:04	51.89	10457190	1	752	2	-	Yes
4	7 15 2016 2:44:18	52.26	10530780	1	752	2	-	Yes
5	7 15 2016 2:47:33	51.70	10418789	1	752	2	-	Yes

56 S8 Unknown CCB 1 x

TC **ZERO !** **49223** **64.70** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 15 2016 2:51:50	0.25	71505	1	752	2	-	Yes
2	7 15 2016 2:55:28	0.29	81207	1	752	2	-	Yes
3	7 15 2016 2:58:19	ZERO !	17038	1	752	2	-	Yes
4	7 15 2016 3:01:07	ZERO !	15512	1	752	2	-	-
5	7 15 2016 3:04:01	0.03	27143	1	752	2	-	Yes

57 42 Unknown 743883 1 x

TC **2.08** **439381** **3.89** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 15 2016 3:07:48	2.20	463627	1	753	2	-	Yes

	2	7 15 2016 3:11:27	2.07	438866	1	752	2	-	Yes
	3	7 15 2016 3:14:16	2.01	425476	1	752	2	-	Yes
	4	7 15 2016 3:17:15	2.03	429557	1	752	2	-	Yes

61	S2	Unknown	CCV				1 x		
		TC	**52.36**	**10552180**		**0.49**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	7 15 2016 4:07:19	52.43	10566388	1	753	2	-	Yes
	2	7 15 2016 4:11:33	52.44	10568176	1	752	2	-	Yes
	3	7 15 2016 4:15:03	52.59	10596910	1	752	2	-	Yes
	4	7 15 2016 4:18:29	51.99	10477246	1	751	2	-	Yes

62	S8	Unknown	CCB				1 x		
		TC	**0.18**	**57759**		**38.47**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	7 15 2016 4:22:53	0.17	57063	1	752	2	-	Yes
	2	7 15 2016 4:24:28	0.21	63574	1	751	2	-	Yes
	3	7 15 2016 4:26:02	0.30	81973	1	750	2	-	Yes
	4	7 15 2016 4:28:39	ZERO !	2572	1	750	2	-	-
	5	7 15 2016 4:31:18	0.03	28429	1	751	2	-	Yes

63	139	Unknown	RINSE				1 x		
		TC	**1.79**	**381441**		**15.88**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	7 15 2016 4:34:44	1.07	237625	1	751	2	-	-
	2	7 15 2016 4:39:07	1.45	313770	1	751	2	-	Yes
	3	7 15 2016 4:41:36	2.18	460978	1	751	2	-	Yes
	4	7 15 2016 4:44:07	1.74	371407	1	750	2	-	Yes
	5	7 15 2016 4:46:39	1.78	379609	1	750	2	-	Yes

Analysis Name 071916 - 127921 127922 127923 127924.adb

Template Name	071916 - 127921 127922 127923 127924.tdb
Method Name	INSTRUMENT - TOCW.mt
Operator	JJF
Date	Tuesday, July 19, 2016
Time	10:07
Start Oven Temp.	758 °C
Start Cooler Temp.	2 °C
Version	2.55 Release
Info	ICAL TOC0096 SPIKE TOC0086 CCV TOC0113 LCSW TOC0114

Element	Integration Time	Samples	Extra Samples	Max. CV
Carbon	60 s	4	1	10 %
SampleTime	240 s			

No	Type	FileName	Date/Time	Max. Area	Max Conc.	Order	Correlation	Volume	Sel.
1	TC	TOC0096	May 9 2016, 17:11	20346951	100	1	0.99990	100 µl	Yes
	A2: 0		*A1: 201097.508178442*		*A0: 21901.5268453684*				

Inj. Order	Position	Type	Identification	Dilution Factor
1	1	Unknown	BLANK	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**0.77**	**176098**	**3.59**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 19 2016 10:18:03	2.92	609647	1	758	2	-	-
2	7 19 2016 10:21:27	0.77	177160	1	757	2	-	Yes
3	7 19 2016 10:23:56	0.73	169210	1	756	2	-	Yes
4	7 19 2016 10:26:22	0.81	184231	1	756	2	-	Yes
5	7 19 2016 10:28:52	0.76	173794	1	755	2	-	Yes

Inj. Order	Position	Type	Identification	Dilution Factor
2	S1	Unknown	CCV	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**48.87**	**9849752**	**1.40**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 19 2016 10:32:07	49.58	9992491	1	755	2	-	Yes
2	7 19 2016 10:36:01	48.20	9714533	1	755	2	-	Yes
3	7 19 2016 10:39:15	49.32	9940947	1	755	2	-	Yes
4	7 19 2016 10:42:34	48.38	9751037	1	755	2	-	Yes

Inj. Order	Position	Type	Identification	Dilution Factor
3	S5	Unknown	LCSW	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**51.55**	**10388929**	**1.25**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 19 2016 10:46:37	52.45	10569818	1	756	2	-	Yes
2	7 19 2016 10:50:37	51.36	10350727	1	756	2	-	Yes
3	7 19 2016 10:53:52	51.48	10373874	1	756	2	-	Yes
4	7 19 2016 10:57:12	50.92	10261297	1	756	2	-	Yes

Inj. Order	Position	Type	Identification	Dilution Factor
4	S7	Unknown	MBW	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**ZERO !**	**-14312**	**0.00**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 19 2016 11:01:25	ZERO !	-57250	1	756	2	-	Yes
2	7 19 2016 11:03:49	0.19	60308	1	754	2	-	-
3	7 19 2016 11:06:10	0	0	0	754	2	-	Yes
4	7 19 2016 11:10:12	0	0	0	755	2	-	Yes
5	7 19 2016 11:14:14	0	0	0	755	2	-	Yes

5	2	Unknown	745136			1 x		
		TC	**7.24**	**1478057**	**43.16**		**100 µl**	
Sample		Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1		7 19 2016 11:19:07	0.12	45126	1	755	2	-	-
2		7 19 2016 11:20:32	11.96	2427956	1	754	2	-	Yes
3		7 19 2016 11:23:21	5.89	1206719	1	753	2	-	Yes
4		7 19 2016 11:26:09	5.98	1223814	1	754	2	-	Yes
5		7 19 2016 11:28:55	5.13	1053739	1	754	2	-	Yes

6	3	Unknown	745138			1 x		
		TC	**7.09**	**1447773**	**4.22**		**100 µl**	
Sample		Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1		7 19 2016 11:32:40	7.50	1529413	1	754	2	-	Yes
2		7 19 2016 11:36:12	7.14	1458136	1	753	2	-	Yes
3		7 19 2016 11:38:55	6.91	1412173	1	754	2	-	Yes
4		7 19 2016 11:41:27	6.81	1391372	1	753	2	-	Yes

7	4	Unknown	DUP745138			1 x		
		TC	**7.08**	**1445586**	**2.74**		**100 µl**	
Sample		Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1		7 19 2016 11:44:47	7.37	1503717	1	754	2	-	Yes
2		7 19 2016 11:48:00	6.93	1416251	1	753	2	-	Yes
3		7 19 2016 11:50:26	7.03	1436467	1	753	2	-	Yes
4		7 19 2016 11:53:14	6.98	1425911	1	753	2	-	Yes

8	5	Unknown	MSW745138			1 x		
		TC	**55.71**	**11224173**	**1.01**		**100 µl**	
Sample		Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1		7 19 2016 11:56:43	55.01	11085268	1	754	2	-	Yes
2		7 19 2016 12:00:17	55.82	11246871	1	754	2	-	Yes
3		7 19 2016 12:03:32	56.38	11359674	1	754	2	-	Yes
4		7 19 2016 12:06:44	55.61	11204881	1	754	2	-	Yes

9	6	Unknown	MSDW745138			1 x		
		TC	**54.96**	**11073821**	**1.24**		**100 µl**	
Sample		Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1		7 19 2016 12:10:44	55.84	11251484	1	754	2	-	Yes
2		7 19 2016 12:14:45	54.98	11078437	1	753	2	-	Yes
3		7 19 2016 12:17:57	54.83	11047911	1	753	2	-	Yes
4		7 19 2016 12:21:03	54.18	10917454	1	752	2	-	Yes

10	7	Unknown	744939			1 x		
		TC	**0.67**	**157050**	**6.80**		**100 µl**	
Sample		Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1		7 19 2016 12:25:06	0.61	143729	1	753	2	-	Yes
2		7 19 2016 12:27:45	0.68	158788	1	752	2	-	Yes
3		7 19 2016 12:30:13	0.73	169706	1	752	2	-	Yes
4		7 19 2016 12:32:41	0.67	155977	1	752	2	-	Yes

11	8	Unknown	744970			1 x		
		TC	**1.07**	**236526**	**6.15**		**100 µl**	
Sample		Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1		7 19 2016 12:36:13	1.37	296662	1	752	2	-	-
2		7 19 2016 12:39:23	1.00	222949	1	752	2	-	Yes
3		7 19 2016 12:41:52	1.16	255797	1	752	2	-	Yes
4		7 19 2016 12:44:19	1.08	239284	1	752	2	-	Yes
5		7 19 2016 12:46:47	1.03	228075	1	752	2	-	Yes

12	9	Unknown	744972			1 x		
		TC	**0.81**	**184468**	**12.82**		**100 µl**	
Sample		Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1		7 19 2016 12:50:06	0.95	212727	1	752	2	-	Yes
2		7 19 2016 12:53:12	0.60	143038	1	752	2	-	-

	3	7 19 2016 12:55:34	0.86	195214	1	752	2	-	Yes
	4	7 19 2016 12:58:04	0.71	163878	1	751	2	-	Yes
	5	7 19 2016 13:00:28	0.72	166054	1	752	2	-	Yes

13	10	Unknown	DUP744972			1 x		
	TC	**0.84**	**191844**	**7.40**		**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 19 2016 13:03:41	1.19	260720	1	752	2	-	-
2	7 19 2016 13:06:55	0.89	201140	1	752	2	-	Yes
3	7 19 2016 13:09:25	0.76	174141	1	752	2	-	Yes
4	7 19 2016 13:11:49	0.82	186853	1	751	2	-	Yes
5	7 19 2016 13:14:13	0.91	205244	1	751	2	-	Yes

14	11	Unknown	MSW744972			1 x		
	TC	**48.48**	**9769924**	**1.51**		**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 19 2016 13:17:29	48.92	9859635	1	752	2	-	Yes
2	7 19 2016 13:21:13	49.01	9877617	1	752	2	-	Yes
3	7 19 2016 13:24:23	48.55	9784667	1	751	2	-	Yes
4	7 19 2016 13:27:21	47.42	9557780	1	751	2	-	Yes

15	S1	Unknown	CCV			1 x		
	TC	**47.47**	**9568104**	**0.41**		**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 19 2016 13:31:17	47.40	9553519	1	752	2	-	Yes
2	7 19 2016 13:35:10	47.73	9620289	1	751	2	-	Yes
3	7 19 2016 13:38:24	47.48	9570786	1	752	2	-	Yes
4	7 19 2016 13:41:32	47.27	9527822	1	752	2	-	Yes

16	S7	Unknown	CCB			1 x		
	TC	**0.41**	**103056**	**8.20**		**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 19 2016 13:45:36	0.74	171280	1	752	2	-	-
2	7 19 2016 13:48:54	0.43	107473	1	752	2	-	Yes
3	7 19 2016 13:51:18	0.43	107473	1	752	2	-	Yes
4	7 19 2016 13:53:46	0.42	106891	1	752	2	-	Yes
5	7 19 2016 13:56:08	0.34	90390	1	752	2	-	Yes

17	12	Unknown	MSDW744972			1 x		
	TC	**50.36**	**10148505**	**1.66**		**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 19 2016 13:59:19	51.03	10283605	1	752	2	-	Yes
2	7 19 2016 14:03:03	50.93	10264225	1	752	2	-	Yes
3	7 19 2016 14:06:25	50.26	10128469	1	752	2	-	Yes
4	7 19 2016 14:09:38	49.21	9917724	1	752	2	-	Yes

18	13	Unknown	744974			1 x		
	TC	**0.80**	**183187**	**4.88**		**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 19 2016 14:13:37	0.77	176056	1	752	2	-	Yes
2	7 19 2016 14:16:29	0.76	175105	1	752	2	-	Yes
3	7 19 2016 14:18:55	0.83	188815	1	751	2	-	Yes
4	7 19 2016 14:21:27	0.85	192773	1	751	2	-	Yes

19	14	Unknown	744976			1 x		
	TC	**0.86**	**195963**	**6.59**		**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 19 2016 14:24:50	1.08	238385	1	752	2	-	-
2	7 19 2016 14:28:01	0.88	198285	1	752	2	-	Yes
3	7 19 2016 14:30:34	0.77	177382	1	752	2	-	Yes
4	7 19 2016 14:33:05	0.92	207071	1	752	2	-	Yes
5	7 19 2016 14:35:32	0.89	201115	1	751	2	-	Yes

20	15	Unknown	745353			1 x		

		TC	**1.04**	**231952**	**1.35**		**100 µl**		
Sample		Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1		7 19 2016 14:38:53	1.28	280288	1	752	2	-	-
2		7 19 2016 14:42:11	1.03	228306	1	751	2	-	Yes
3		7 19 2016 14:44:41	1.06	235688	1	751	2	-	Yes
4		7 19 2016 14:47:13	1.04	230920	1	751	2	-	Yes
5		7 19 2016 14:49:42	1.05	232896	1	751	2	-	Yes

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21 16 Unknown 745354 1 x

		TC	**1.16**	**255946**	**1.50**		**100 µl**		
Sample		Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1		7 19 2016 14:53:02	1.52	327325	1	752	2	-	-
2		7 19 2016 14:56:16	1.19	261690	1	752	2	-	Yes
3		7 19 2016 14:58:43	1.15	253918	1	752	2	-	Yes
4		7 19 2016 15:01:10	1.15	253811	1	752	2	-	Yes
5		7 19 2016 15:03:39	1.16	254367	1	752	2	-	Yes

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22 17 Unknown 745355 1 x

		TC	**0.95**	**211907**	**3.65**		**100 µl**		
Sample		Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1		7 19 2016 15:06:59	1.23	268285	1	752	2	-	-
2		7 19 2016 15:10:11	0.95	213589	1	752	2	-	Yes
3		7 19 2016 15:12:42	0.89	201632	1	752	2	-	Yes
4		7 19 2016 15:15:09	0.95	212085	1	752	2	-	Yes
5		7 19 2016 15:17:36	0.99	220324	1	752	2	-	Yes

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23 18 Unknown 745356 1 x

		TC	**0.78**	**177677**	**6.06**		**100 µl**		
Sample		Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1		7 19 2016 15:20:56	1.15	252491	1	753	2	-	-
2		7 19 2016 15:24:10	0.79	180592	1	752	2	-	Yes
3		7 19 2016 15:26:34	0.82	187656	1	752	2	-	Yes
4		7 19 2016 15:29:00	0.79	180081	1	752	2	-	Yes
5		7 19 2016 15:31:26	0.70	162381	1	752	2	-	Yes

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24 19 Unknown DUP745356 1 x

		TC	**0.70**	**162767**	**3.11**		**100 µl**		
Sample		Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1		7 19 2016 15:34:40	0.99	221296	1	752	2	-	-
2		7 19 2016 15:37:51	0.67	155676	1	752	2	-	Yes
3		7 19 2016 15:40:17	0.70	162609	1	752	2	-	Yes
4		7 19 2016 15:42:43	0.72	166749	1	751	2	-	Yes
5		7 19 2016 15:45:07	0.72	166034	1	752	2	-	Yes

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25 20 Unknown MSW745356 1 x

		TC	**50.39**	**10154451**	**1.32**		**100 µl**		
Sample		Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1		7 19 2016 15:48:23	51.21	10319731	1	752	2	-	Yes
2		7 19 2016 15:52:09	49.93	10062018	1	752	2	-	Yes
3		7 19 2016 15:55:14	50.65	10206504	1	752	2	-	Yes
4		7 19 2016 15:58:23	49.77	10029551	1	751	2	-	Yes

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26 21 Unknown MSDW745356 1 x

		TC	**49.99**	**10073916**	**0.74**		**100 µl**		
Sample		Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1		7 19 2016 16:02:27	49.94	10063747	1	752	2	-	Yes
2		7 19 2016 16:06:15	49.89	10054273	1	752	2	-	Yes
3		7 19 2016 16:09:29	49.62	10000099	1	752	2	-	Yes
4		7 19 2016 16:12:42	50.50	10177547	1	752	2	-	Yes

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27 S1 Unknown CCV 1 x

		TC	**48.99**	**9873080**	**0.56**		**100 µl**		
Sample		Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1		7 19 2016 16:16:38	49.00	9875486	1	753	2	-	Yes

	2	7 19 2016 16:20:45	49.21	9918270	1	752	2	-	Yes
	3	7 19 2016 16:24:06	48.60	9794971	1	752	2	-	Yes
	4	7 19 2016 16:27:20	49.14	9903596	1	752	2	-	Yes

28 S9 Unknown RINSE 1 x

	TC	**0.80**	**182377**	**4.54**		**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 19 2016 16:31:34	1.13	249509	1	753	2	-	-
2	7 19 2016 16:35:01	0.74	171097	1	752	2	-	Yes
3	7 19 2016 16:37:33	0.84	191018	1	752	2	-	Yes
4	7 19 2016 16:40:13	0.81	184184	1	751	2	-	Yes
5	7 19 2016 16:42:51	0.80	183210	1	752	2	-	Yes

29 S7 Unknown CCB 1 x

	TC	**0.00**	**0**	**0.00**		**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 19 2016 16:46:23	0.45	112848	1	752	2	-	-
2	7 19 2016 16:49:38	0	0	0	752	2	-	Yes
3	7 19 2016 16:53:39	0	0	0	753	2	-	Yes
4	7 19 2016 16:57:40	0	0	0	753	2	-	Yes
5	7 19 2016 17:01:41	0	0	0	753	2	-	Yes

30 22 Unknown 745769 1 x

	TC	**0.78**	**179323**	**3.23**		**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 19 2016 17:06:37	1.18	259028	1	753	2	-	-
2	7 19 2016 17:09:55	0.77	177047	1	753	2	-	Yes
3	7 19 2016 17:12:28	0.80	182914	1	752	2	-	Yes
4	7 19 2016 17:14:56	0.81	185066	1	752	2	-	Yes
5	7 19 2016 17:17:31	0.75	172266	1	752	2	-	Yes

31 23 Unknown BLANK 1 x

	TC	**0.79**	**180669**	**4.10**		**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 19 2016 17:20:52	1.09	241455	1	753	2	-	-
2	7 19 2016 17:24:02	0.79	181224	1	753	2	-	Yes
3	7 19 2016 17:26:32	0.79	181286	1	753	2	-	Yes
4	7 19 2016 17:29:01	0.83	189117	1	752	2	-	Yes
5	7 19 2016 17:31:34	0.74	171052	1	752	2	-	Yes

32 24 Unknown 745769 1 x

	TC	**73.06**	**14714910**	**1.39**		**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 19 2016 17:35:02	74.12	14926828	1	753	2	-	Yes
2	7 19 2016 17:39:13	73.70	14841986	1	752	2	-	Yes
3	7 19 2016 17:42:28	71.93	14486935	1	752	2	-	Yes
4	7 19 2016 17:45:16	72.51	14603894	1	752	2	-	Yes

37	S2	Unknown	CCV				1 x		
		TC	**50.59**	**10195014**	**1.98**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	7 19 2016 18:45:26	51.71	10420381	1	752	2	-	Yes
	2	7 19 2016 18:49:33	51.02	10281216	1	752	2	-	Yes
	3	7 19 2016 18:52:48	50.25	10127169	1	752	2	-	Yes
	4	7 19 2016 18:56:13	49.38	9951291	1	752	2	-	Yes

38	S9	Unknown	RINSE				1 x		
		TC	**0.65**	**153647**	**7.82**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	7 19 2016 19:00:22	1.02	226835	1	752	2	-	-
	2	7 19 2016 19:03:47	0.61	145176	1	751	2	-	Yes
	3	7 19 2016 19:06:16	0.68	159523	1	752	2	-	Yes
	4	7 19 2016 19:08:50	0.72	167657	1	752	2	-	Yes
	5	7 19 2016 19:11:24	0.60	142232	1	752	2	-	Yes

39	S8	Unknown	CCB				1 x		
		TC	**0.00**	**0**	**0.00**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	7 19 2016 19:14:51	0.30	82554	1	752	2	-	-
	2	7 19 2016 19:18:04	0	0	0	752	2	-	Yes
	3	7 19 2016 19:22:05	0	0	0	752	2	-	Yes
	4	7 19 2016 19:26:07	0	0	0	752	2	-	Yes
	5	7 19 2016 19:30:09	0	0	0	752	2	-	Yes

44	S2	Unknown	CCV				1 x		
		TC	**50.63**	**10203219**		**1.20**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	7 19 2016 20:29:51	50.68	10214080	1	751	2	-	Yes
	2	7 19 2016 20:33:58	50.82	10241165	1	752	2	-	Yes
	3	7 19 2016 20:37:13	49.79	10033918	1	751	2	-	Yes
	4	7 19 2016 20:40:35	51.23	10323716	1	751	2	-	Yes

45	S9	Unknown	RINSE				1 x		
		TC	**0.69**	**161136**		**8.60**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	7 19 2016 20:44:42	0.92	206313	1	751	2	-	-
	2	7 19 2016 20:48:02	0.62	147400	1	751	2	-	Yes
	3	7 19 2016 20:50:33	0.78	177929	1	751	2	-	Yes
	4	7 19 2016 20:53:17	0.72	166694	1	751	2	-	Yes
	5	7 19 2016 20:55:47	0.65	152521	1	751	2	-	Yes

46	S8	Unknown	CCB				1 x		
		TC	**0.00**	**0**		**0.00**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	7 19 2016 20:59:14	0.32	86165	1	752	2	-	-
	2	7 19 2016 21:02:24	0	0	0	752	2	-	Yes
	3	7 19 2016 21:06:26	0	0	0	752	2	-	Yes
	4	7 19 2016 21:10:26	0	0	0	752	2	-	Yes
	5	7 19 2016 21:14:27	0	0	0	752	2	-	Yes

47	139	Unknown	RINSE				1 x		
		TC	**2.06**	**435006**		**7.89**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	7 19 2016 21:19:23	2.31	486029	1	752	2	-	Yes
	2	7 19 2016 21:22:46	2.00	423416	1	752	2	-	Yes
	3	7 19 2016 21:25:23	1.94	412228	1	751	2	-	Yes
	4	7 19 2016 21:27:59	1.97	418354	1	750	2	-	Yes

48	140	Unknown	RINSE				1 x		
		TC	**1.30**	**283342**		**8.64**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	7 19 2016 21:31:33	1.48	319193	1	751	2	-	Yes
	2	7 19 2016 21:35:02	1.22	266988	1	751	2	-	Yes
	3	7 19 2016 21:37:34	1.28	278911	1	751	2	-	Yes
	4	7 19 2016 21:40:11	1.23	268277	1	751	2	-	Yes

INORGANICS
LOGBOOK
DOCUMENTS

WANIONS IC QSM 5.0 Analytical Run
127720 on 07/13/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	744528						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		ICV							
		Chloride		ICV							
		Sulfate		ICV							
	744529						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		ICB							
		Chloride		ICB							
		Sulfate		ICB							
	744126						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCV				0			
		Chloride		CCV				0			
		Sulfate		CCV				0			
	744127						WANIONS IC QSM 5.0				
		Chloride		LCSW				0			
		Nitrate Nitrogen		LCSW				0			
		Sulfate		LCSW				0			
	744128						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		MBW				0			
		Chloride		MBW				0			
		Sulfate		MBW				0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
127720 on 07/13/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
120379	743866		07/11/2016	1525		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	***N***
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
120379	743865		07/11/2016	1315		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	***N***
		Chloride			*							
		Nitrate Nitrogen			*							
		Sulfate			*							
	744129		07/11/2016	1315				ANIONS IC QSM 5.0				
		Nitrate Nitrogen			DUP	743865			0			
		Chloride			DUP	743865			0			
		Sulfate			DUP	743865			0			
	744130		07/11/2016	1315				ANIONS IC QSM 5.0				
		Nitrate Nitrogen			MSW	743865			0			
		Chloride			MSW	743865			0			
		Sulfate			MSW	743865			0			
	744131		07/11/2016	1315				ANIONS IC QSM 5.0				
		Nitrate Nitrogen			MSDW	744130			0			
		Chloride			MSDW	744130			0			
		Sulfate			MSDW	744130			0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
127720 on 07/13/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
120379	743880		07/11/2016	1130		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	***N***
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
120379	743882		07/11/2016	1145		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	***N***
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
	744132							WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCV				0			
		Chloride			CCV				0			
		Sulfate			CCV				0			
	744138							WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCB							
		Chloride			CCB							
		Sulfate			CCB							
120379	743885		07/11/2016	1445		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	***N***
		Chloride										
		Nitrate Nitrogen										
		Sulfate										

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
127720 on 07/13/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	744135						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCV				0			
		Chloride		CCV				0			
		Sulfate		CCV				0			
	744136						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCB				0			
		Chloride		CCB				0			
		Sulfate		CCB				0			
	744191						WANIONS IC QSM 5.0				
		Chloride		CCV				0			
	744192						WANIONS IC QSM 5.0				
		Chloride		CCB				0			
120379	743880		07/11/2016 1130		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	***N***
		Chloride	***RERUN***								
		Nitrate Nitrogen	***RERUN***								
		Sulfate	***RERUN***								
120379	743882		07/11/2016 1145		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	***N***
		Chloride	***RERUN***								
		Nitrate Nitrogen	***RERUN***								
		Sulfate	***RERUN***								

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
127720 on 07/13/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	744526						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCV				0			
		Chloride		CCV				0			
		Sulfate		CCV				0			
	744527						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCB				0			
		Chloride		CCB				0			
		Sulfate		CCB				0			

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Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

FWC37-01 Data Review Checklist

LIMS RUN # 127654 127695 127696 127720	Method: Anions by Ion Chromatography 300.0/9056	Independent Data Review Checklist			
Analysis Date	Analyst / Data Interpreter	Independent Reviewer	Date of Review	Approved (Yes/No)	Instrument
07/12/2016	JJF	RLD	07/13/2016	Yes	DX120-System 2

Instructions: Complete one checklist per *analytical sequence* . Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement:	Acceptance	Analyst Review		Independent Review		Comments:
	Criteria					(indicate reference to an attachment if necessary)
1. Were the samples analyzed within hold time?	28 days for Cl, F, SO_4;14 days for preserved NO_2+NO_3; 48 hours for O.Phos, and unpreserved NO_2 and NO_3	Yes		Yes		If no: Qualify date with an "H" flag.
2. Was the calibration performed using the required number of standards?	Minimum three plus a blank	Yes		Yes		If no: reacalibrate instrument minimum of 3 standaard + a blank.
3. Is the standard prep log number noted on the analytical report bench sheet?	---	Yes		Yes		If no: document all standards used.
4. Was the correlation coefficient acceptable?	≥ .995	Yes		Yes		If no: Reacalibrate instrument
5. Were the ICV and ICB run immediately after the calibration check standard?	---	Yes		Yes		If no: Analyze an ICV and ICB prior to sample analyses.
6. Was the ICV recovery acceptable?	90 – 110 % or contract/program specific	Yes		Yes		If no: reanalyze ICV or recalibrate if necessary.
7. Was the ICB result acceptable?	< LOD or contract/program specific	Yes		Yes		If no: reanalyze blank. Instrument must be confirmed free from contamination prior to sample analyses.
8. Were the CCV's and the CCB's analyzed at the required frequency?	1 / 10 samples or contract/program specific	Yes		Yes		If no: outliers should be reanalyzed with QC samples anlayzed at the proper frequency.
9. Were the CCV recoveries acceptable?	90 – 110 % or contract/program specific	Yes		Yes		If no: reanalyze affected data with acceptable CCV results.
10. Were the CCB results acceptable?	< LOD or program/project specific	Yes		Yes		If no: reanalyze affected sample if possible; otherwise sample detects must be qualified with a "B" flag.
11. Was the MB analyzed at the required frequency?	1 / 20 samples or contract/program specific	Yes		Yes		If no: affected sample must be reanalyzed including the MB.
12. Were the MB results acceptable?	< LOD or contract/program specific	Yes		Yes		If no: reanalyze affected samples with an acceptable MB if possible. If sample result is >20x the result detected in the blank results can be reported without qualificaton. If sample result is <20x the MB result and the MB was not reanalyzed, sample result must be qualified with a "B" flag.

13. Was a LCS run at the required frequency?	1 / 20 samples or contract/program specific	Yes		Yes		If no: affected sample must be reanalyzed including the LCS.
14. Was the LCS recovery acceptable?	Within in-house or contract/program specific limits	Yes		Yes		If no: affected sample should be reanalyzed with acceeptable LCS recoveries if possible. Detects reported with an LCS failure must be qualified with a "Q" flag. Nondetected analytes reported with a low LCS recovery must also be qualified with a "Q" flag.
15. Was the LCS used before the indicated expiration date?	---	Yes		Yes		If no: samples should be reanalyed with non expired standards.
16. Were the MS and MSD (when required) prepared at the required frequency?	1per 20 samples per matrix or contract/program specific	Yes		Yes		If no: analyze a MS and MSD (if needed) to be included with the sample data.
17. Were the MS and MSD (when required) recoveries acceptable?	Within In-house or contract/program specific limits	Yes		Yes		If no: qualify parent sample results with an "M" flag if recoveries were low. If recoveries were high then qualify any affected detects in the parent sample.
18. Was the RPD between the MS and MSD (when required) acceptable?	Within in house or contract/program specific limits	Yes		Yes		If no: qualify the parent sample result with a "Y" flag.
19. Was a sample duplicate prepared at the required frequency?	Contract/program specific or 1 per 20 samples (1 / 10 for SDWA samples)	Yes		Yes		If no: analyze one of the sample from the batch as a duplicate.
20. Was the duplicate within precision limits?	Within in-house or contract/program specific limits	Yes		Yes		If no: qualify the parent sample result with a "Y" flag.
21. Were all chromatograms checked to ensure accurate peak identification?	---	Yes		Yes		If no: review the IC data to ensure proper retention times and peak identification.
22. Are all samples on the job lists accounted for?	---	Yes		Yes		If no: include and analzye missing sample with another batch.
23. Were non-matrix related nonconformities (if applicable) documented in the NCR spreadsheet?	---	Yes		Yes		If no: Enter nonconformities into the NCR spreadsheet before data review/validation..

WANIONS IC QSM 5.0 Analytical Run
127756 on 07/19/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	744940							WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCV				0			
		Chloride			CCV				0			
		Sulfate			CCV				0			
	744941							WANIONS IC QSM 5.0				
		Chloride			LCSW				0			
		Nitrate Nitrogen			LCSW				0			
		Sulfate			LCSW				0			
	744942							WANIONS IC QSM 5.0				
		Nitrate Nitrogen			MBW				0			
		Chloride			MBW				0			
		Sulfate			MBW				0			
120408	744397		07/12/2016	0900		120462	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
120408	744399		07/12/2016	0910		120462	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
127756 on 07/19/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
120408	744401		07/12/2016	1035	120462		RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
120408	744409		07/12/2016	1155	120462		RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
120408	744412		07/12/2016	1320	120462		RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
120408	744415		07/12/2016	1330	120462		RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
120408	744417		07/12/2016	1410	120462		RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
127756 on 07/19/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
120408	744419		07/12/2016	1450		120462		RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride											
		Nitrate Nitrogen											
		Sulfate											
120408	744421		07/12/2016	1550		120462		RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride											
		Nitrate Nitrogen											
		Sulfate											
	744943		07/12/2016	1035					ANIONS IC QSM 5.0				
		Nitrate Nitrogen			DUP	744401				0			
		Chloride			DUP	744401				0			
		Sulfate			DUP	744401				0			
	744944								WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCV					0			
		Chloride			CCV					0			
		Sulfate			CCV					0			
	744945								WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCB					0			
		Chloride			CCB					0			
		Sulfate			CCB					0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
127756 on 07/19/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	744946		07/12/2016	1035					ANIONS IC QSM 5.0				
		Nitrate Nitrogen			MSW	744401				0			
		Chloride			MSW	744401				0			
		Sulfate			MSW	744401				0			
	744947		07/12/2016	1035					ANIONS IC QSM 5.0				
		Sulfate			MSDW	744946				0			
		Nitrate Nitrogen			MSDW	744946				0			
		Chloride			MSDW	744946				0			
120408	744397		07/12/2016	0900		120462		RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride	***RERUN***										
		Nitrate Nitrogen	***RERUN***										
		Sulfate	***RERUN***										
	744948								WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCV					0			
		Chloride			CCV					0			
		Sulfate			CCV					0			
	744949								WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCB					0			
		Chloride			CCB					0			
		Sulfate			CCB					0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
127756 on 07/19/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
120408	744399		07/12/2016 0910	120462		RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride	***RERUN***								
		Nitrate Nitrogen	***RERUN***								
		Sulfate	***RERUN***								
	746947						WANIONS IC QSM 5.0				
		Sulfate		CCV							
	746948						WANIONS IC QSM 5.0				
		Sulfate		CCB							
	745311						WANIONS IC QSM 5.0				
		Sulfate		CCV				0			
	745312						WANIONS IC QSM 5.0				
		Sulfate		CCB				0			
120408	744401		07/12/2016 1035	120462		RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride	***RERUN***								
		Nitrate Nitrogen	***RERUN***								
		Sulfate	***RERUN***								
	744943		07/12/2016 1035				ANIONS IC QSM 5.0				
		Nitrate Nitrogen	***RERUN***	DUP 744401				0			
		Chloride	***RERUN***	DUP 744401				0			
		Sulfate	***RERUN***	DUP 744401				0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
127756 on 07/19/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	744946		07/12/2016 1035				ANIONS IC QSM 5.0				
		Nitrate Nitrogen	***RERUN***	MSW 744401				0			
		Chloride	***RERUN***	MSW 744401				0			
		Sulfate	***RERUN***	MSW 744401				0			
	744947		07/12/2016 1035				ANIONS IC QSM 5.0				
		Sulfate	***RERUN***	MSDW 744946				0			
		Nitrate Nitrogen	***RERUN***	MSDW 744946				0			
		Chloride	***RERUN***	MSDW 744946				0			
120408	744419		07/12/2016 1450	120462		RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride	***RERUN***								
		Nitrate Nitrogen	***RERUN***								
		Sulfate	***RERUN***								
	745383						WANIONS IC QSM 5.0				
		Sulfate		CCV							
	745384						WANIONS IC QSM 5.0				
		Sulfate		CCB							

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Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
127821 on 07/15/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	745314						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCV				0			
		Chloride		CCV				0			
		Sulfate		CCV				0			
	745315						WANIONS IC QSM 5.0				
		Chloride		LCSW				0			
		Nitrate Nitrogen		LCSW				0			
		Sulfate		LCSW				0			
	745316						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		MBW				0			
		Chloride		MBW				0			
		Sulfate		MBW				0			
	745317						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCV				0			
		Chloride		CCV				0			
		Sulfate		CCV				0			
	745318						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCB				0			
		Chloride		CCB				0			
		Sulfate		CCB				0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
127821 on 07/15/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
120462	744969		07/13/2016	0910		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
120462	744971		07/13/2016	1050		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
120462	744973		07/13/2016	1455		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride			*							
		Nitrate Nitrogen			*							
		Sulfate			*							
	745319		07/13/2016	1455				ANIONS IC QSM 5.0				
		Nitrate Nitrogen			DUP	744973			0			
		Chloride			DUP	744973			0			
		Sulfate			DUP	744973			0			
	745320		07/13/2016	1455				ANIONS IC QSM 5.0				
		Nitrate Nitrogen			MSW	744973			0			
		Chloride			MSW	744973			0			
		Sulfate			MSW	744973			0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
127821 on 07/15/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	745321		07/13/2016	1455				ANIONS IC QSM 5.0				
		Nitrate Nitrogen			MSDW 745320				0			
		Chloride			MSDW 745320				0			
		Sulfate			MSDW 745320				0			
120462	744975		07/13/2016	1620		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
120462	744977		07/13/2016	1625		BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
	745322							WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCV				0			
		Chloride			CCV				0			
		Sulfate			CCV				0			
	745326							WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCB				0			
		Chloride			CCB				0			
		Sulfate			CCB				0			

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Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

FWC37-01 Data Review Checklist

LIMS RUN # 127756, 127821	Method: Anions by Ion Chromatography 300.0/9056	Independent Data Review Checklist			
Analysis Date	Analyst / Data Interpreter	Independent Reviewer	Date of Review	Approved (Yes/No)	Instrument
07/13/2016	JJF	RLD	07/15/2016	Yes	DX120-System 2

Instructions: Complete one checklist per *analytical sequence* . Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement:	Acceptance	Analyst Review		Independent Review		Comments:
	Criteria	Yes	No	Yes	No	(indicate reference to an attachment if necessary)
1. Were the samples analyzed within hold time?	28 days for Cl, F, SO_4;14 days for preserved NO_2+NO_3; 48 hours for O.Phos, and unpreserved NO_2 and NO_3	Yes		Yes		If no: Qualify date with an "H" flag.
2. Was the calibration performed using the required number of standards?	Minimum three plus a blank	Yes		Yes		If no: reacalibrate instrument minimum of 3 standaard + a blank.
3. Is the standard prep log number noted on the analytical report bench sheet?	---	Yes		Yes		If no: document all standards used.
4. Was the correlation coefficient acceptable?	≥ .995	Yes		Yes		If no: Reacalibrate instrument
5. Were the ICV and ICB run immediately after the calibration check standard?	---	Yes		Yes		If no: Analyze an ICV and ICB prior to sample analyses.
6. Was the ICV recovery acceptable?	90 – 110 % or contract/program specific	Yes		Yes		If no: reanalyze ICV or recalibrate if necessary.
7. Was the ICB result acceptable?	< LOD or contract/program specific	Yes		Yes		If no: reanalyze blank. Instrument must be confirmed free from contamination prior to sample analyses.
8. Were the CCV's and the CCB's analyzed at the required frequency?	1 / 10 samples or contract/program specific	Yes		Yes		If no: outliers should be reanalyzed with QC samples anlayzed at the proper frequency.
9. Were the CCV recoveries acceptable?	90 – 110 % or contract/program specific	Yes		Yes		If no: reanalyze affected data with acceptable CCV results.
10. Were the CCB results acceptable?	< LOD or program/project specific	Yes		Yes		If no: reanalyze affected sample if possible; otherwise sample detects must be qualified with a "B" flag.
11. Was the MB analyzed at the required frequency?	1 / 20 samples or contract/program specific	Yes		Yes		If no: affected sample must be reanalyzed including the MB.
12. Were the MB results acceptable?	< LOD or contract/program specific	Yes		Yes		If no: reanalyze affected samples with an acceptable MB if possible. If sample result is >20x the result detected in the blank results can be reported without qualificaton. If sample result is <20x the MB result and the MB was not reanalyzed, sample result must be qualified with a "B" flag.

13. Was a LCS run at the required frequency?	1 / 20 samples or contract/program specific	Yes		Yes		If no: affected sample must be reanalyzed including the LCS.
14. Was the LCS recovery acceptable?	Within in-house or contract/program specific limits	Yes		Yes		If no: affected sample should be reanalyzed with acceeptable LCS recoveries if possible. Detects reported with an LCS failure must be qualified with a "Q" flag. Nondetected analytes reported with a low LCS recovery must also be qualified with a "Q" flag.
15. Was the LCS used before the indicated expiration date?	---	Yes		Yes		If no: samples should be reanalyed with non expired standards.
16. Were the MS and MSD (when required) prepared at the required frequency?	1per 20 samples per matrix or contract/program specific	Yes		Yes		If no: analyze a MS and MSD (if needed) to be included with the sample data.
17. Were the MS and MSD (when required) recoveries acceptable?	Within In-house or contract/program specific limits		No		No	If no: qualify parent sample results with an "M" flag if recoveries were low. If recoveries were high then qualify any affected detects in the parent sample.
18. Was the RPD between the MS and MSD (when required) acceptable?	Within in house or contract/program specific limits	Yes		Yes		If no: qualify the parent sample result with a "Y" flag.
19. Was a sample duplicate prepared at the required frequency?	Contract/program specific or 1 per 20 samples (1 / 10 for SDWA samples)	Yes		Yes		If no: analyze one of the sample from the batch as a duplicate.
20. Was the duplicate within precision limits?	Within in-house or contract/program specific limits	Yes		Yes		If no: qualify the parent sample result with a "Y" flag.
21. Were all chromatograms checked to ensure accurate peak identification?	---	Yes		Yes		If no: review the IC data to ensure proper retention times and peak identification.
22. Are all samples on the job lists accounted for?	---	Yes		Yes		If no: include and analzye missing sample with another batch.
23. Were non-matrix related nonconformities (if applicable) documented in the NCR spreadsheet?	---	Yes		Yes		If no: Enter nonconformities into the NCR spreadsheet before data review/validation..

WANIONS IC QSM 5.0 Analytical Run
127866 on 07/18/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	746209						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCV				0			
		Chloride		CCV				0			
		Sulfate		CCV				0			
	746210						WANIONS IC QSM 5.0				
		Chloride		LCSW				0			
		Nitrate Nitrogen		LCSW				0			
		Sulfate		LCSW				0			
	746211						WANIONS IC QSM 5.0				
		Chloride		MBW				0			
		Sulfate		MBW				0			
		Nitrate Nitrogen		MBW				0			
	746212						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCV				0			
		Chloride		CCV				0			
		Sulfate		CCV				0			
	746213						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCB				0			
		Chloride		CCB				0			
		Sulfate		CCB				0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
127866 on 07/18/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
120518	745777		07/14/2016	1045			BERING SEA ENVIRONMENTAL	RADFORD AAP	ANIONS IC QSM 5.0		GW	**4**	
		Chloride											
		Nitrate Nitrogen											
		Sulfate											
	746214		07/14/2016	1045					ANIONS IC QSM 5.0				
		Nitrate Nitrogen			DUP	745777				0			
		Chloride			DUP	745777				0			
		Sulfate			DUP	745777				0			
	746215		07/14/2016	1045					ANIONS IC QSM 5.0				
		Nitrate Nitrogen			MSW	745777				0			
		Chloride			MSW	745777				0			
		Sulfate			MSW	745777				0			
	746216		07/14/2016	1045					ANIONS IC QSM 5.0				
		Nitrate Nitrogen			MSDW	746215				0			
		Chloride			MSDW	746215				0			
		Sulfate			MSDW	746215				0			
	746217								WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCV					0			
		Chloride			CCV					0			
		Sulfate			CCV					0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
127866 on 07/18/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	746218						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCB				0			
		Chloride		CCB				0			
		Sulfate		CCB				0			

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Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

FWC37-01 Data Review Checklist

LIMS RUN # 127866	Method: Anions by Ion Chromatography 300.0/9056	Independent Data Review Checklist			
Analysis Date	Analyst / Data Interpreter	Independent Reviewer	Date of Review	Approved (Yes/No)	Instrument
07/15/2016	JJF & AGK/JJF	RLD	07/18/2016	Yes	DX120-System 2

Instructions: Complete one checklist per *analytical sequence* . Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement:	Acceptance	Analyst Review		Independent Review		Comments:
	Criteria	Yes	No	Yes	No	(indicate reference to an attachment if necessary)
1. Were the samples analyzed within hold time?	28 days for Cl, F, SO_4;14 days for preserved NO_2+NO_3; 48 hours for O.Phos, and unpreserved NO_2 and NO_3	Yes		Yes		If no: Qualify date with an "H" flag.
2. Was the calibration performed using the required number of standards?	Minimum three plus a blank	Yes		Yes		If no: reacalibrate instrument minimum of 3 standaard + a blank.
3. Is the standard prep log number noted on the analytical report bench sheet?	---	Yes		Yes		If no: document all standards used.
4. Was the correlation coefficient acceptable?	≥ .995	Yes		Yes		If no: Reacalibrate instrument
5. Were the ICV and ICB run immediately after the calibration check standard?	---	Yes		Yes		If no: Analyze an ICV and ICB prior to sample analyses.
6. Was the ICV recovery acceptable?	90 – 110 % or contract/program specific	Yes		Yes		If no: reanalyze ICV or recalibrate if necessary.
7. Was the ICB result acceptable?	< LOD or contract/program specific	Yes		Yes		If no: reanalyze blank. Instrument must be confirmed free from contamination prior to sample analyses.
8. Were the CCV's and the CCB's analyzed at the required frequency?	1 / 10 samples or contract/program specific	Yes		Yes		If no: outliers should be reanalyzed with QC samples anlayzed at the proper frequency.
9. Were the CCV recoveries acceptable?	90 – 110 % or contract/program specific	Yes		Yes		If no: reanalyze affected data with acceptable CCV results.
10. Were the CCB results acceptable?	< LOD or program/project specific	Yes		Yes		If no: reanalyze affected sample if possible; otherwise sample detects must be qualified with a "B" flag.
11. Was the MB analyzed at the required frequency?	1 / 20 samples or contract/program specific	Yes		Yes		If no: affected sample must be reanalyzed including the MB.
12. Were the MB results acceptable?	< LOD or contract/program specific	Yes		Yes		If no: reanalyze affected samples with an acceptable MB if possible. If sample result is >20x the result detected in the blank results can be reported without qualificaton. If sample result is <20x the MB result and the MB was not reanalyzed, sample result must be qualified with a "B" flag.

13. Was a LCS run at the required frequency?	1 / 20 samples or contract/program specific	Yes		Yes		If no: affected sample must be reanalyzed including the LCS.
14. Was the LCS recovery acceptable?	Within in-house or contract/program specific limits	Yes		Yes		If no: affected sample should be reanalyzed with accecptable LCS recoveries if possible. Detects reported with an LCS failure must be qualified with a "Q" flag. Nondetected analytes reported with a low LCS recovery must also be qualified with a "Q" flag.
15. Was the LCS used before the indicated expiration date?	---	Yes		Yes		If no: samples should be reanalyed with non expired standards.
16. Were the MS and MSD (when required) prepared at the required frequency?	1per 20 samples per matrix or contract/program specific	Yes		Yes		If no: analyze a MS and MSD (if needed) to be included with the sample data.
17. Were the MS and MSD (when required) recoveries acceptable?	Within In-house or contract/program specific limits		No		No	If no: qualify parent sample results with an "M" flag if recoveries were low. If recoveries were high then qualify any affected detects in the parent sample.
18. Was the RPD between the MS and MSD (when required) acceptable?	Within in house or contract/program specific limits	Yes		Yes		If no: qualify the parent sample result with a "Y" flag.
19. Was a sample duplicate prepared at the required frequency?	Contract/program specific or 1 per 20 samples (1 / 10 for SDWA samples)	Yes		Yes		If no: analyze one of the sample from the batch as a duplicate.
20. Was the duplicate within precision limits?	Within in-house or contract/program specific limits	Yes		Yes		If no: qualify the parent sample result with a "Y" flag.
21. Were all chromatograms checked to ensure accurate peak identification?	---	Yes		Yes		If no: review the IC data to ensure proper retention times and peak identification.
22. Are all samples on the job lists accounted for?	---	Yes		Yes		If no: include and analzye missing sample with another batch.
23. Were non-matrix related nonconformities (if applicable) documented in the NCR spreadsheet?	---	Yes		Yes		If no: Enter nonconformities into the NCR spreadsheet before data review/validation..

Dionex Run Log - System 2

Start Date	Start Time	End Date	End Time	Analyst	Lims Run #(s)	Calibration ID#	Data File	Spike ID's	Total Cond.	Pressure (Mpa)	Flow (mL/min)	Comments
06/27/16	8:30	06/28/16	21:02	JJF	RR127255 127298 127319	IC0692B NO2 IC0646	062716-2	IC0698 IC0699	18.6	1512	1.01	
06/29/16	10:43	06/30/16	07:49	JJF	127379 127380 127384	IC0692B NO2 IC0646	062916-2	IC0698 IC0699	19.2	1464	1.01	
06/30/16	8:08	07/01/16	01:10	JJF	127431 127430	IC0692B	063016-2	IC0698 IC0699	19.18	1472	1.01	
07/01/16	12:27	07/01/16	15:14	AGK	127466	IC0692B	070116-2	IC0698 IC0699	18.76	1555	1.04	
07/05/16	11:13	07/06/16	19:07	JJF	127487 127488 127489	IC0692B NO2 IC0646	070516-2	IC0698 IC0699	18.48	1455	1.04	
07/07/2016 07/08/2016	11:27	07/08/16	17:38	JJF	127575 127576 127587 127598 127612 127613 127620	ICO692B NO2 IC0646	070716-2	IC0698 IC0699	18.64	1468	0.99	
07/11/16	15:12	07/11/16	18:20	JJF	127658	IC0692B	071116-2	IC0698 IC0699	19.28	1401	0.96	
07/12/16	8:53	07/13/16	10:51	JJF	127654 127695 127696 127720	IC0692B	071216-2	IC0698 IC0699	19.38	1415	0.96	
07/13/16	11:20	07/15/16	03:40	JJF	127750 127756 127769 127817 127821 127822	IC0692B	071316-2	IC0698 IC0699	18.22	1441	0.96	
07/15/16	7:43	07/15/16	16:45	JJF	RR127822 127844 127866	IC0692B	071516-2	IC0698 IC0699	18.75	1499	0.99	
07/18/16	8:50			JJF	127880 127905 127906	IC0692B	071916-2	IC0698 IC0699	18.36	1406	0.98	

LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16

NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 26
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Project: Unassigned
Page Title: 070616

Standard Log #:	IC0721	Standard:	IC Low Level o-Phos CC\
Analyst:	JJF	Concentrations:	0.1mg/L Phosphate
Prep Date:	07/06/2016	Expiration Date (1 month):	08/06/2016
Prep:	Into a 200 ml volumetric flask pipette 0.02ml Phosphate(1000mg/L) IC0486 and fill to volume with Milli Q H_2O.		

Standard Log #:	IC0722	Standard:	IC Low Level LCS-ICV
Analyst:	JJF	Concentrations:	0.1mg/L Phosphate
Prep Date:	07/06/2016	Expiration Date (1 Month):	08/06/2016
Prep:	Into a 100 ml volumetric flask pipette 0.01 ml of Phosphate (1000mg/L) IC0516 and fill to volume with Milli-Q H_2O.		

Standard Log #:	IC0723	Standard:	IC Low Level Spike
Analyst:	JJF	Concentrations:	30 mg/L
Prep Date:	07/06/2016	Expiration Date (1 Month):	08/06/2016
Prep:	Into a 100 ml volumetric flask pipette 3.0 ml of Phosphate (1000mg/L) IC0486 and fill to volume with Milli-Q H_2O.		

Standard Log #:	IC0724	Standard/Reagent:	LL ICAL Std for oPhos
Analyst:	JJF	Final Concentration:	0.40 mg/L
Prep Date:	07/06/2016	Expiration Date:	07/08/2016
Prep:	Pipette 4 mL LL ICAL Working Std (IC0724) and dilute to 100 mL with Milli-Q water.		

Standard Log #:	IC0725	Standard/Reagent:	LL ICAL Working Std
Analyst:	JJF	Final Concentration:	10 mg/L
Prep Date:	07/06/2016	Expiration Date:	07/08/2016
Prep:	Pipette 1 mL of Phosphate 1000 mg/L (IC0486) and dilute to 100 mL with Milli-Q water.		

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16

NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 25
Page is Locked
Author: jfaust on: 06.07.2016 10:07:55
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Project: Unassigned
Page Title: 070516

Standard Log #:	IC0714	Standard:	IC CCV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	07/05/2016	Expiration Date (1 Month):	08/05/2016
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride IC0395, Phosphate IC0486, Bromide IC0597, and Nitrate IC0403, 15 ml 1000 mg/L Chloride IC0576, and 25 ml 1000 mg/L Sulfate IC0606 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0715	Standard:	IC CCV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - NO_2
Prep Date:	07/05/2016	Expiration Date (1 Month):	08/05/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. IC0396 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0716	Standard/Reagent:	oxyhalide eluent
Analyst:	JJF	Final Concentration:	
Prep Date:	07/05/2016	Expiration Date:	07/05/2017
Prep:	Weigh out 0.763 grams Sodium Carbonate (W38024) and add to a 2 liter volumetric flask. Dilute to 2 liters with Milli-Q water.		

Standard Log #:	IC0717	Standard/Reagent:	Oxyhalide/anion CCV stock

Standard Log #:	W39178	Reagent:	NO2 NO3 COLOR
Analyst:	LJS		
Prep Date:	6/6/16	Expiration Date (1 Month):	7/6/16
Prep:	Into a 1L volumetric flask volumetrically dissolve 40g sulfanilamide W37969 and 1g N-(1-naphthyl)ethylenediamine dihydrochloride (NED) W32265 volumetrically add 100mL phosphoric acid W38600 and fill to volume with DI H_2O.		

Standard Log #:	W39179	Reagent:	NO2 NO3 BUFFER
Analyst:	LJS		
Prep Date:	6/6/16	Expiration Date (1 Month):	7/6/16
Prep:	Into a 1 L volumetric flask dissolve 85g ammonium chloride W36986 and 1g EDTA W35251 and fill to volume with DI H_2O and degas. Adjust pH to 8.5 with 15 N NaOH W36989		

Standard ID#:	W39180	Vendor:	SPEX
Analyst:	LJS	Chemical:	N02 ICV STANDARD
Date Received:	6/6/16	Lot #:	3-138NO2N-2Y
Expiration Date (if any):	5/30/17	Catalog #:	AS-NO2N9-2Y

Standard Log #:	W39181	Standard:	NO2 NO3 ICAL
Analyst:	LJS	Concentration:	20 mg/L
Prep Date:	6/6/16	Expiration Date (1 Month):	7/6/16
Prep:	Into a 100 mL volumetric flask pipette 2mL NO_3 ICAL/CCV stock (1000 mg/L) IC0403 and fill to volume with H_2SO_4 diluent W39177		

Standard Log #:	W39182	Standard:	NO2 NO3 ICV

LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16

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Project: Unassigned
Page Title: 062116

Standard Log #:	IC0696	Standard:	IC LCSW/ICV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	06/21/2016	Expiration Date (1 Month):	07/21/2016
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) IC0391 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0697	Standard:	IC LCSW/ICV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L
Prep Date:	06/21/2016	Expiration Date (1 Month):	07/21/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL 1000 mg/L Nitrite W39180 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0698	Standard:	IC Spike Mixed
Analyst:	JJF	Concentrations:	64 mg/L - Br, NO_3, PO_4 256 mg/L - Cl, SO_4
Prep Date:	06/21/2016	Expiration Date (1 Month):	07/21/2016
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Bromide IC0597, Nitrate IC0403, and Phosphate IC0486 and 25.6 mL 1000 mg/L Chloride IC0576 and Sulfate IC0606 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0699	Standard:	IC Spike Nitrite & Fluoride
Analyst:	JJF	Concentrations:	32 mg/L - Fluoride 64 mg/L - Nitrite
Prep Date:	06/21/2016	Expiration Date (1 Month):	07/21/2016
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite IC0396 and 3.2 mL 1000 mg/L Fluoride IC0395 and brought to volume with Milli-Q DI H_20.		

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LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16

NOTEBOOK VIEW: LTN_LPVO3_03_IC_Default, NOTEBOOK: LPVO3_03_IC, PAGE: 15
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Author: jfaust on: 20.06.2016 14:01:34
Witness: akurth on: 20.06.2016 16:15:29
Project: Unassigned
Page Title: 061516

Standard Log #:	IC0690	Standard:	IC Eluent Dionex
Analyst:	JJF	Concentrations:	3.5 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	06/15/2016	Expiration Date (1 Year):	06/15/2017
Prep:	Into a 10L carboy, pipetted 20mL of Dionex eluent concentrate IC0400 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0691	Standard:	IC ICAL Mixed Std. Dionex
Analyst:	JJF	Concentrations:	50mg/L - NO_2, NO_3, PO_4, Br, F
Prep Date:	06/15/2016	Expiration Date (48 Hours):	06/17/2016
Prep:	Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite IC0396, Fluoride IC0395, Bromide IC0597, Nitrate IC0403, and Phosphate IC0486 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0692	Standard:	IC_Calibration_Dionex_C
Analyst:	JJF	Concentrations:	N/A
Prep Date:	06/15/2016	Expiration Date (48 hours):	06/17/2016

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Mixed Std (50mg/L) IC0691	0	0.2	0.6	1.0	2.0	4.0	10.0	14.0	20.0
Chloride (1000mg/L) IC0576	0	0.05	0.075	0.1	0.5	1.0	2.0	3.0	4.0
Sulfate (1000mg/L) IC0606	0	0.05	0.075	0.1	0.5	1.0	3.0	5.0	7.0

Standard Log #:	IC0693	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	06/15/2016	Expiration Date (1 Year):	06/15/2017
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

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Standard Log #:	IC0679	Standard:	IC CCV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	06/02/2016	Expiration Date (1 Month):	07/02/2016
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride IC0395, Phosphate IC0486, Bromide IC0597, and Nitrate IC0403, 15 ml 1000 mg/L Chloride IC0576, and 25 ml 1000 mg/L Sulfate IC0606 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0680	Standard:	IC CCV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - NO_2
Prep Date:	06/02/2016	Expiration Date (1 Month):	07/02/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. IC0396 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0681	Standard:	IC Calibration Metrohm
Analyst:	JJF	Concentrations:	10mg/L - NO_2, NO_3, PO_4, Br, F 100mg/L - SO_4, Cl
Prep Date:	06/02/2016	Expiration Date (48 hours):	06/04/2016
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) IC0395, Nitrite (1000mg/L) IC0396, Bromide (1000mg/L) IC0597, Nitrate (1000mg/L) IC0403, Phosphate (1000mg/L) IC0486, and 10 mL each of Sulfate (1000mg/L) IC0606, and Chloride (1000mg/L) IC0576.		

Standard Log #:	IC0682	Standard/Reagent:	SO4 MDL
Analyst:	JJF	Final Concentration:	4 mg/L
Prep Date:	05/31/2016	Expiration Date:	06/31/2016
Prep:	Into 8 volumetric flasks pipette 0.40 mL Sulfate standard (IC0606) and dilute		

Standard Log #:	IC0677	Standard:	IC Low Level Spike
Analyst:	JJF	Concentrations:	30 mg/L
Prep Date:	05/31/2016	Expiration Date (1 Month):	07/01/2016
Prep:	Into a 100 ml volumetric flask pipette 3.0 ml of Phosphate (1000mg/L) IC0486 and fill to volume with Milli-Q H_2O.		

Standard Log #:	IC0678	Standard:	IC LOD-LOQ2
Analyst:	JJF	Concentrations:	
Prep Date:	05/31/2016	Expiration Date (48 hours):	06/02/2016

Prep:

LOD Check:
Into a 100mL Volumetric flask pipetted the following, then brought to volume with Milli-Q DI water.

Fluoride	0.010	mL	IC0395	Nitrate	0.015	mL	IC0403
Chloride	0.200	mL	IC0576	Phosphate	0.025	mL	IC0486
Nitrite	0.020	mL	IC0396	Sulfate	0.250	mL	IC0606
Bromide	0.020	mL	IC0597				

LOQ Check:
Into a 100mL Volumetric flask pipetted the following, then brought to volume with Milli-Q DI water.

Fluoride	0.030	mL	IC0395	Nitrate	0.040	mL	IC0403
Chloride	0.400	mL	IC0576	Phosphate	0.050	mL	IC0486
Nitrite	0.040	mL	IC0396	Sulfate	0.500	mL	IC0606
Bromide	0.050	mL	IC0597				

Standard Log #:	IC0676	Standard:	IC Suppressor Regen Metrohm
Analyst:	JJF	Concentrations:	0.1 M Sulfuric Acid
Prep Date:	05/31/2016	Expiration Date (6 months):	11/31/2016
Prep:	Into a 1L volumetric flask, pipetted 5.6mL of Sulfuric Acid W38896 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0674	Standard:	IC Eluent Dionex
Analyst:	JJF	Concentrations:	3.5 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	05/27/2016	Expiration Date (1 Year):	05/27/2017
Prep:	Into a 10L carboy, pipetted 20mL of Dionex eluent concentrate IC0400 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0675	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	05/27/2016	Expiration Date (1 Year):	05/27/2017
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0672	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	05/26/2016	Expiration Date (1 Year):	05/26/2017
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0673	Standard:	IC Calibration Metrohm
Analyst:	JJF	Concentrations:	10mg/L - NO_2, NO_3, PO_4, Br, F 100mg/L - SO_4, Cl
Prep Date:	05/26/2016	Expiration Date (48 hours):	05/28/2016
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) IC0395, Nitrite (1000mg/L) IC0396, Bromide (1000mg/L) IC0597, Nitrate (1000mg/L) IC0403, Phosphate (1000mg/L) IC0486, and 10 mL each of Sulfate (1000mg/L) IC0606, and Chloride (1000mg/L) IC0576.		

Standard Log #:	IC0665	Standard:	IC LL o-Phos Working Std.
Analyst:	JJF	Concentrations:	50mg/L Phosphate
Prep Date:	05/25/2016	Expiration Date (48 hours):	05/27/2016
Prep:	Into a 100 ml volumetric flask pipette 5ml Phosphate(1000mg/L) IC0486 and fill to volume with Milli Q H_2O.		

Standard Log #:	IC0666	Standard/Reagent:	IC LL o-Phos Cal Std
Analyst:	JJF	Final Concentration:	0.40 mg/L
Prep Date:	05/25/2016	Expiration Date:	05/27/2016
Prep:	Into a 100 mL volumetric add 0.80 mL (IC0665) and dilute to 100 mL with Milli-Q water.		

Standard Log #:	IC0667	Standard:	IC Low Level o-Phos CC\
Analyst:	JJF	Concentrations:	0.1mg/L Phosphate
Prep Date:	05/25/2016	Expiration Date (1 month):	06/26/2016
Prep:	Into a 200 ml volumetric flask pipette 0.02ml Phosphate(1000mg/L) IC0486 and fill to volume with Milli Q H_2O.		

Standard Log #:	IC0668	Standard:	IC Low Level LCS-ICV
Analyst:	JJF	Concentrations:	0.1mg/L Phosphate
Prep Date:	05/25/2016	Expiration Date (1 Month):	06/25/2016
Prep:	Into a 100 ml volumetric flask pipette 0.01 ml of Phosphate (1000mg/L) IC0516 and fill to volume with Milli-Q H_2O.		

Standard Log #:	IC0669	Standard:	IC LL LOD LOQ
Analyst:	JJF	Concentrations:	0.02 mg/L LOQ & 0.01 mg/L LOD

Prep Date:	05/25/2016	Expiration Date (48 hours):	06/25/2016
Prep:	LOQ Check: Into a 50 mL Volumetric flask, pipetted 10 mL of 0.10 mg/L LL LCS/ICV Phosphate Std. IC0667, then brought to volume with Milli-Q DI water. LOD Check: Into a 50 mL Volumetric flask, pipetted 25 mL of 0.02 mg/L LL LOQ Check Phosphate Std. IC0669, then brought to volume with Milli-Q DI water.		

Standard Log #:	IC0670	Standard:	IC LL MDL Study
Analyst:	JJF	Concentrations:	0.025mg/L Phosphate
Prep Date:	05/25/2016	Expiration Date (48 hours):	05/27/2016
Prep:	Into 8 separate 100 mL volumetric flasks, pipetted 10mL of 0.25 mg/L MDL LL Working Std (1) and brought to volume with Milli-Q DI water. (1) IC0671		

Standard Log #:	IC0671	Standard:	IC MDL LL WS
Analyst:	JJF	Concentrations:	0.25 mg/L Phosphate
Prep Date:	05/25/2016	Expiration Date (48 hours):	05/27/2016
Prep:	Into a 100 mL volumetric flask, pipetted 0.025 mL of Phosphate IC0486 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0664	Standard:	IC LOD-LOQ2
Analyst:	JJF	Concentrations:	
Prep Date:	05/24/2016	Expiration Date (48 hours):	05/26/2016

Prep:

LOD Check:
Into a 100mL Volumetric flask pipetted the following, then brought to volume with Milli-Q DI water.

Fluoride	0.010	mL	IC0395	Nitrate	0.015	mL	IC0403
Chloride	0.200	mL	IC0576	Phosphate	0.025	mL	IC0486
Nitrite	0.020	mL	IC0396	Sulfate	0.250	mL	IC0606
Bromide	0.020	mL	IC0597				

LOQ Check:
Into a 100mL Volumetric flask pipetted the following, then brought to volume with Milli-Q DI water.

Fluoride	0.030	mL	IC0395	Nitrate	0.040	mL	IC0403
Chloride	0.400	mL	IC0576	Phosphate	0.050	mL	IC0486
Nitrite	0.040	mL	IC0396	Sulfate	0.500	mL	IC0606
Bromide	0.050	mL	IC0597				

Standard Log #:	IC0660	Standard:	IC LCSW/ICV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	05/20/2016	Expiration Date (1 Month):	06/20/2016
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) IC0391 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0661	Standard:	IC LCSW/ICV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L
Prep Date:	05/20/2016	Expiration Date (1 Month):	05/30/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL 1000 mg/L Nitrite IW37105 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0662	Standard:	IC Spike Mixed
Analyst:	JJF	Concentrations:	64 mg/L - Br, NO_3, PO_4 256 mg/L - Cl, SO_4
Prep Date:	05/20/2016	Expiration Date (1 Month):	06/20/2016
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Bromide IC0597, Nitrate IC0403, and Phosphate IC0486 and 25.6 mL 1000 mg/L Chloride IC0576 and Sulfate IC0606 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0663	Standard:	IC Spike Nitrite & Fluoride
Analyst:	JJF	Concentrations:	32 mg/L - Fluoride 64 mg/L - Nitrite
Prep Date:	05/20/2016	Expiration Date (1 Month):	06/20/2016
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite IC0396 and 3.2 mL 1000 mg/L Fluoride IC0395 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0658	Standard:	IC Eluent Dionex
Analyst:	JJF	Concentrations:	3.5 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	05/19/2016	Expiration Date (1 Year):	05/19/2017
Prep:	Into a 10L carboy, pipetted 20mL of Dionex eluent concentrate IC0400 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0659	Standard:	IC Suppressor Regen Metrohn
Analyst:	JJF	Concentrations:	0.1 M Sulfuric Acid
Prep Date:	05/19/2016	Expiration Date (6 months):	11/19/2016
Prep:	Into a 1L volumetric flask, pipetted 5.6mL of Sulfuric Acid W38896 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0655	Standard/Reagent:	Sodium Hydroxide Solution
Analyst:	RLD	Final Concentration:	1 N
Prep Date:	05/18/2016	Expiration Date:	11/05/2016
Prep:	Added 200 ml of IC0639 (5 N NaOH Sln) into a 1000 ml volumetrix flask and brought to volume with DI H2O. Used for nitrocellulose waters prep.		

Standard Log #:	IC0656	Standard/Reagent:	Nitrocellulose Spiking Std.
Analyst:	RLD	Final Concentration:	5007 mg/L
Prep Date:	05/18/2016	Expiration Date:	05/25/2016
Prep:	Added 0.5007 g of IC0637 (Nitrocellulose Stock-dried) into a 100 ml volumetric flask and brought to volume with acetone (Millipore-Omnisolv, Cat.# AX0116-1, Lot# 55338).		

Standard Log #:	IC0657	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	05/18/2016	Expiration Date (1 Year):	05/18/2017
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

LPVO3-03
IC Prep Logbook
Logbook Created: 05/18/16

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Author: JFAUST on: 19.05.2016 09:44:01
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Standard Log #:	IC0655	Standard/Reagent:	Sodium Hydroxide Solution
Analyst:	RLD	Final Concentration:	1 N
Prep Date:	05/18/2016	Expiration Date:	11/05/2016
Prep:	Added 200 ml of IC0639 (5 N NaOH Sln) into a 1000 ml volumetrix flask and brought to volume with DI H2O. Used for nitrocellulose waters prep.		

Standard Log #:	IC0656	Standard/Reagent:	Nitrocellulose Spiking Std.
Analyst:	RLD	Final Concentration:	5007 mg/L
Prep Date:	05/18/2016	Expiration Date:	05/25/2016
Prep:	Added 0.5007 g of IC0637 (Nitrocellulose Stock-dried) into a 100 ml volumetric flask and brought to volume with acetone (Millipore-Omnisolv, Cat.# AX0116-1, Lot# 55338).		

Standard Log #:	IC0657	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	05/18/2016	Expiration Date (1 Year):	05/18/2017
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

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Standard Log #:	IC0653	Standard:	IC Calibration Metrohm
Analyst:	JJF	Concentrations:	10mg/L - NO_2, NO_3, PO_4, Br, F 100mg/L - SO_4, Cl
Prep Date:	05/17/2016	Expiration Date (48 hours):	05/19/2016
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) IC0395, Nitrite (1000mg/L) IC0396, Bromide (1000mg/L) IC0597, Nitrate (1000mg/L) IC0403, Phosphate (1000mg/L) IC0486, and 10 mL each of Sulfate (1000mg/L) IC0606, and Chloride (1000mg/L) IC0576.		

Standard Log #:	IC0654	Standard:	IC Calibration Mid Level Cl & SO4
Analyst:	JJF	Concentrations:	10mg/L - SO_4, Cl
Prep Date:	05/17/2016	Expiration Date (48 hours):	05/19/2016
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL of each Sulfate (1000mg/L) CCV Stock Std. (1), and Chloride (1000mg/L) CCV Stock Std. (2) and brought to volume with Milli-Q water. (1) IC0606 (2) IC0576		

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LPVO3-02
IC Prep Logbook
Logbook Created: 08/13/2015
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Author: jfaust on: 18.05.2016 14:45:02
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Standard Log #:	IC0649	Standard:	IC Cal Nitrite Metrohm
Analyst:	JJF	Concentrations:	10.0mg/L Nitrite
Prep Date:	05/12/2016	Expiration Date (48 Hours):	05/14/2016
Prep:	Into a 100 mL volumetric flask pipetted 1.0 mL of Nitrite (1000 mg/L) IC0396 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0650	Standard:	IC Calibration Mid Level Cl & SO4
Analyst:	JJF	Concentrations:	10mg/L - SO_4, Cl
Prep Date:	05/12/2016	Expiration Date (48 hours):	05/14/2016
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL of each Sulfate (1000mg/L) CCV Stock Std. (1), and Chloride (1000mg/L) CCV Stock Std. (2) and brought to volume with Milli-Q water. (1) IC0576 (2) IC0606		

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LPVO3-02
IC Prep Logbook
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Author: jfaust on: 18.05.2016 14:44:50
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Standard Log #:	IC0645	Standard:	IC Cal Nitrite WS Dionex
Analyst:	JJF	Concentrations:	50mg/L Nitrite
Prep Date:	05/11/2016	Expiration Date (48 Hours):	05/13/2016
Prep:	Into a 100 mL volumetric flasks pipetted 5.0 mL of Nitrite (1000 mg/L) IC0396 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0646	Standard:	IC Cal Nitrite Dionex
Analyst:	JJF	Concentrations:	N/A
Prep Date:	05/11/2016	Expiration Date (48 Hours):	05/13/2016
Prep:	Into 6 separate 100 mL volumetric flasks pipetted 0, 0.2, 1.0, 2.0, 4.0, 10.0 mL of Nitrite working standard (50 mg/L) IC0645 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0647	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	05/11/2016	Expiration Date (1 Year):	05/11/2017
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

LPVO3-02
IC Prep Logbook
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NOTEBOOK VIEW: LTN_LPVO3_02_IC_Default, NOTEBOOK: LPVO3_02_IC, PAGE: 97
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Author: JFAUST on: 11.05.2016 15:31:22
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Standard Log #:	IC0643	Standard:	IC Calibration Metrohm
Analyst:	JJF	Concentrations:	10mg/L - NO_2, NO_3, PO_4, Br, F 100mg/L - SO_4, Cl
Prep Date:	05/09/2016	Expiration Date (48 hours):	05/11/2016
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) IC0395, Nitrite (1000mg/L) IC0396, Bromide (1000mg/L) IC0597, Nitrate (1000mg/L) IC0403, Phosphate (1000mg/L) IC0486, and 10 mL each of Sulfate (1000mg/L) IC0606, and Chloride (1000mg/L) IC0576.		

Standard Log #:	IC0644	Standard:	IC Eluent Dionex
Analyst:	JJF	Concentrations:	3.5 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	05/09/2016	Expiration Date (1 Year):	05/09/2017
Prep:	Into a 10L carboy, pipetted 20mL of Dionex eluent concentrate IC0400 and brought to volume with Milli-Q DI H_20.		

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LPVO3-02
IC Prep Logbook
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Author: jfaust on: 09.05.2016 10:49:34
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Project: Unassigned
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Standard Log #:	IC0640	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	05/06/2016	Expiration Date (1 Year):	05/06/2017
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0641	Standard:	IC CCV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	05/06/2016	Expiration Date (1 Month):	06/06/2016
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride IC0395, Phosphate IC0486, Bromide IC0597, and Nitrate IC0403, 15 ml 1000 mg/L Chloride IC0576, and 25 ml 1000 mg/L Sulfate IC0606 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0642	Standard:	IC CCV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - NO_2
Prep Date:	05/06/2016	Expiration Date (1 Month):	06/06/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. IC0396 and brought to volume with Milli-Q DI H_20.		

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IC Prep Logbook
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Author: JFAUST on: 06.05.2016 07:56:00
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Project: Unassigned
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Standard Log #:	IC0638	Standard/Reagent:	Nitrocellulose Spiking Std
Analyst:	RLD	Final Concentration:	5002 mg/L
Prep Date:	05/05/2016	Expiration Date:	05/12/2016
Prep:	Added 0.5002g of IC0637 into a 100 mL volumetric flask and brought to volume with acetone (Millipore, Omni Solv, Cat.# AX0116-1, Lot# 55189).		

Standard Log #:	IC0639	Standard/Reagent:	Sodium Hydroxide Sln.
Analyst:	RLD	Final Concentration:	5N
Prep Date:	05/05/2016	Expiration Date:	11/05/2016
Prep:	Added 200g of sodium hydroxide pellets (VWR-Amresco, Cat.# 0583-5kg, Lot# 1405C083) w/ stir bar to 1000 ml volumetrix flask and added approximately 800 ml DI H2O (stirred until dissolved), then cooled and brought to volume. Labeled 5N NaOH.		

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IC Prep Logbook
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Author: JFAUST on: 06.05.2016 07:55:46
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Standard Log #:	IC0637	Standard/Reagent:	Nitrocellulose Stock Std.
Analyst:	RLD	Final Concentration:	Neat
Prep Date:	05/04/2016	Expiration Date:	04/28/2016
Prep:	Dried in vaccum desicator (04/28/2016 - 05/03/2016). Used for preparation of Nitrocellulose Spiking Std.		

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LPVO3-02
IC Prep Logbook
Logbook Created: 08/13/2015
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Author: JFAUST on: 06.05.2016 07:55:22
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Project: Unassigned
Page Title: 050416

Standard Log #:	IC0634	Standard:	IC ICAL Mixed Std. Dionex
Analyst:	JJF	Concentrations:	50mg/L - NO_2, NO_3, PO_4, Br, F
Prep Date:	05/04/2016	Expiration Date (48 Hours):	05/06/2016
Prep:	Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite IC0396, Fluoride IC0395, Bromide IC0597, Nitrate IC0403, and Phosphate IC0486 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0635	Standard:	IC_Calibration_Dionex_C
Analyst:	JJF	Concentrations:	N/A
Prep Date:	05/04/2016	Expiration Date (48 hours):	05/06/2016

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Mixed Std (50mg/L) IC0634	0	0.2	0.6	1.0	2.0	4.0	10.0	14.0	20.0
Chloride (1000mg/L) IC0576	0	0.05	0.075	0.1	0.5	1.0	2.0	3.0	4.0
Sulfate (1000mg/L) IC0403	0	0.05	0.075	0.1	0.5	1.0	3.0	5.0	7.0

Standard Log #:	IC0636	Standard:	IC Calibration Metrohm
Analyst:	JJF	Concentrations:	10mg/L - NO_2, NO_3, PO_4, Br, F 100mg/L - SO_4, Cl
Prep Date:	05/04/2016	Expiration Date (48 hours):	05/06/2016
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) IC0395, Nitrite (1000mg/L) IC0396, Bromide (1000mg/L) IC0597, Nitrate (1000mg/L) IC0403, Phosphate (1000mg/L) IC0486, and 10 mL each of Sulfate (1000mg/L) IC0606, and Chloride (1000mg/L) IC0576.		

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LPVO3-02
IC Prep Logbook
Logbook Created: 08/13/2015
NOTEBOOK VIEW: LTN_LPVO3_02_IC_Default, NOTEBOOK: LPVO3_02_IC, PAGE: 92
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Author: rdigmann on: 05.05.2016 07:53:59
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Project: Unassigned
Page Title: 050316

Standard Log #:	IC0626	Standard:	IC Suppressor Regen Metrohm
Analyst:	JJF	Concentrations:	0.1 M Sulfuric Acid
Prep Date:	05/03/2016	Expiration Date (6 months):	11/03/2016
Prep:	Into a 1L volumetric flask, pipetted 5.6mL of Sulfuric Acid W38896 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0627	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	05/03/2016	Expiration Date (1 Year):	05/03/2017
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0628	Standard:	IC Low Level o-Phos CC\
Analyst:	JJF	Concentrations:	0.1mg/L Phosphate
Prep Date:	05/03/2016	Expiration Date (1 month):	06/03/2016
Prep:	Into a 200 ml volumetric flask pipette 0.02ml Phosphate(1000mg/L) IC0486 and fill to volume with Milli Q H_2O.		

Standard Log #:	IC0629	Standard:	IC Low Level LCS-ICV
Analyst:	JJF	Concentrations:	0.1mg/L Phosphate
Prep Date:	05/03/2016	Expiration Date (1 Month):	06/03/2016
Prep:	Into a 100 ml volumetric flask pipette 0.01 ml of Phosphate (1000mg/L) IC0516 and fill to volume with Milli-Q H_2O.		

Standard Log #:	IC0630	Standard:	IC LL LOD LOQ
Analyst:	JJF	Concentrations:	0.02 mg/L LOQ & 0.01 mg/L LOD
Prep Date:	05/03/2016	Expiration Date (48 hours):	05/05/2016
Prep:	LOQ Check: Into a 50 mL Volumetric flask, pipetted 10 mL of 0.10 mg/L LL LCS/ICV Phosphate Std. 0629, then brought to volume with Milli-Q DI water. LOD Check: Into a 50 mL Volumetric flask, pipetted 25 mL of 0.02 mg/L LL LOQ Check Phosphate Std. IC0630, then brought to volume with Milli-Q DI water.		

Standard Log #:	IC0631	Standard/Reagent:	Dionex AS14 Column
Analyst:	JJF	Final Concentration:	
Prep Date:	05/03/2016	Expiration Date:	
Prep:	Dionex Ion Pac AS14 Analytical Column 4X250 mm Serial #034842 Lot#015171010 Product # 046124		

Standard Log #:	IC0632	Standard/Reagent:	Dionex Guard Column
Analyst:	JJF	Final Concentration:	
Prep Date:	05/03/2016	Expiration Date:	
Prep:	Dionex Ion Pac AG14 Guard 4 x 50 mm Lot# 01517101 Product # 046134 Serial # 160318088		

Standard Log #:	IC0633	Standard:	IC Eluent Dionex

Analyst:	JJD	Concentrations:	3.5 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	05/03/2016	Expiration Date (1 Year):	05/03/2017
Prep:	Into a 10L carboy, pipetted 20mL of Dionex eluent concentrate IC0400 and brought to volume with Milli-Q DI H_20.		

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Author: JFAUST on: 02.05.2016 15:36:35
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Project: Unassigned
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Standard Log #:	IC0621	Standard:	IC Calibration Mid Level Cl & SO4
Analyst:	JJF	Concentrations:	10mg/L - SO_4, Cl
Prep Date:	04/21/2016	Expiration Date (48 hours):	04/23/2016
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL of each Sulfate (1000mg/L) CCV Stock Std. (1), and Chloride (1000mg/L) CCV Stock Std. (2) and brought to volume with Milli-Q water. (1) IC0606 (2) IC0576		

Standard Log #:	IC0622	Standard:	IC CCV Mid Level
Analyst:	JJF	Concentrations:	3.0 mg/L - Cl 5.0 mg/L - SO_4
Prep Date:	04/21/2016	Expiration Date (1 Month):	05/21/2016
Prep:	Into a 100 mL volumetric flask, pipetted 0.30 mL of 1,000 mg/L Chloride CCV Stock Std. (1) and 0.50 mL of 1,000 mg/L Sulfate CCV Stock Std. (2) and brought to volume with Milli-Q DI H20. (1) IC0576 (2) IC0606		

Standard Log #:	IC0623	Standard:	IC Mid Level LCS
Analyst:	JJF	Concentrations:	0.70 mg/L F, NO_2, Br, NO_3, $P0_4$, 3.0 mg/L Cl, 5.0 mg/L SO_4
Prep Date:	04/21/2016	Expiration Date (48 hours):	05/21/2016
Prep:	Into a 100 ml volumetric flask pipette 10ml Mixed LCS (7mg/L F, NO_3, PO_4, Br & 50 mg/L SO_4 & 30 mg/L Cl) IC608 and 10 mL Nitrite LCS (7 mg/L NO_2) IC609 and dilute to		

Standard Log #:	IC0624	Standard:	IC LOD-LOQ2
Analyst:	JJF	Concentrations:	
Prep Date:	04/21/2016	Expiration Date (48 hours):	04/23/2016

Prep:

LOD Check:
Into a 100mL Volumetric flask pipetted the following, then brought to volume with Milli-Q DI water.

Fluoride	0.010	mL	IC0395	Nitrate	0.015	mL	IC0403
Chloride	0.200	mL	IC0576	Phosphate	0.025	mL	IC0486
Nitrite	0.020	mL	IC0396	Sulfate	0.250	mL	IC0606
Bromide	0.020	mL	IC0597				

LOQ Check:
Into a 100mL Volumetric flask pipetted the following, then brought to volume with Milli-Q DI water.

Fluoride	0.030	mL	IC0395	Nitrate	0.040	mL	IC0403
Chloride	0.400	mL	IC0576	Phosphate	0.050	mL	IC0486
Nitrite	0.040	mL	IC0396	Sulfate	0.500	mL	IC0606
Bromide	0.050	mL	IC0597				

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Author: JFAUST on: 21.04.2016 08:17:42
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Project: Unassigned
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Standard Log #:	IC0608	Standard:	IC LCSW/ICV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	04/19/2016	Expiration Date (1 Month):	05/19/2016
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) IC0391 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0609	Standard:	IC LCSW/ICV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L
Prep Date:	04/19/2016	Expiration Date (1 Month):	05/19/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL 1000 mg/L Nitrite W37105 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0610	Standard/Reagent:	PT Bromide
Analyst:	JJF	Final Concentration:	
Prep Date:	04-19-2016	Expiration Date:	04-21-2016
Prep:	Into a 100 mL volumetric pipette 0.50 ml (887- conc.) and dilute to 100 mL with Milli-Q water.		

Standard Log #:	IC0611	Standard/Reagent:	PT Simple Nutrients
Analyst:	JJF	Final Concentration:	
Prep Date:	04/19/2016	Expiration Date:	04/21/2016
Prep:	Into a 100 mL volumetric pipette 0.50 mL (584-conc.) and dilute to 100 mL with Milli-Q water.		

Standard Log #:	IC0612	Standard/Reagent:	PT Nitrite
Analyst:	JJF	Final Concentration:	
Prep Date:	04/19/2016	Expiration Date:	04/21/2016
Prep:	Into a 100 mL volumetric pipette 0.50 mL (888-conc.) and dilute to 100 mL with Milli-Q water.		

Standard Log #:	IC0613	Standard/Reagent:	PT Nitrite DW
Analyst:	JJF	Final Concentration:	
Prep Date:	04/19/2016	Expiration Date:	04/21/2016
Prep:	Into a 100 mL volumetric pipette 0.50 mL (594-conc.) and dilute to 100 mL with Milli-Q water.		

Standard Log #:	IC0614	Standard:	IC Cal Nitrite Metrohm
Analyst:	JJF	Concentrations:	10.0mg/L Nitrite
Prep Date:	04/19/2016	Expiration Date (48 Hours):	04/21/2016
Prep:	Into a 100 mL volumetric flask pipetted 1.0 mL of Nitrite (1000 mg/L) IC0396 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0615	Standard:	IC CCV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	04/19/2016	Expiration Date (1 Month):	05/19/2016
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride IC00395, Phosphate IC0486, Bromide IC0597, and Nitrate IC0403, 15 ml 1000 mg/L Chloride IC0576, and 25 ml 1000 mg/L Sulfate IC0606 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0616	Standard:	IC Spike Mixed
Analyst:	JJF	Concentrations:	64 mg/L - Br, NO_3, PO_4 256 mg/L - Cl, SO_4
Prep Date:	04/19/2016	Expiration Date (1 Month):	05/19/2016
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Bromide IC0597, Nitrate IC0403, and Phosphate IC0486 and 25.6 mL 1000 mg/L Chloride IC0576 and Sulfate IC0606 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0617	Standard:	IC CCV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - NO_2
Prep Date:	04/19/2016	Expiration Date (1 Month):	05/19/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. IC0396 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0618	Standard:	IC Spike Nitrite & Fluorid
Analyst:	JJF	Concentrations:	32 mg/L - Fluoride 64 mg/L - Nitrite
Prep Date:	04/19/2016	Expiration Date (1 Month):	05/19/2016
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite IC0396 and 3.2 mL 1000 mg/L Fluoride IC0395 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0619	Standard:	IC Calibration Metrohm
Analyst:	jjf	Concentrations:	10mg/L - NO_2, NO_3, PO_4, Br, F 100mg/L - SO_4, Cl
Prep Date:	04/19/2016	Expiration Date (48 hours):	04/21/2016
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) IC0395, Nitrite (1000mg/L) IC0396, Bromide (1000mg/L) IC0597, Nitrate (1000mg/L) IC0413, Phosphate (1000mg/L) IC0486, and 10 mL each of Sulfate (1000mg/L) IC0606, and Chloride (1000mg/L) IC0576.		

Standard Log #:	IC0620	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	04/19/2016	Expiration Date (1 Year):	04/19/2017
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

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Author: JFAUST on: 20.04.2016 12:21:20
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Project: Unassigned
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Standard Log #:	IC0605	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	04/18/2016	Expiration Date (1 Year):	04/18/2017
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0604 and brought to volume with Milli-Q Di water.		

Standard Log #:	IC0606	Standard/Reagent:	Sulfate Standard
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	04/18/2016	Expiration Date:	04/18/2017
Prep:	Sulfate IC Standard AccuSPEC Lot #S160114034 Catalog # 250-220-701		

Standard Log #:	IC0607	Standard:	IC Calibration Metrohm
Analyst:	JJF	Concentrations:	10mg/L - NO_2, NO_3, PO_4, Br, F 100mg/L - SO_4, Cl
Prep Date:	04/18/2016	Expiration Date (48 hours):	04/20/2016
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) IC0395, Nitrite (1000mg/L) IC0396, Bromide (1000mg/L) IC0597, Nitrate (1000mg/L) IC0403, Phosphate (1000mg/L) IC0486, and 10 mL each of Sulfate (1000mg/L) IC0419, and Chloride (1000mg/L) IC0576.		

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Author: jfaust on: 13.04.2016 11:38:10
Witness: akurth on: 18.04.2016 10:10:30
Project: Unassigned
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Standard Log #:	IC0600	Standard:	IC CCV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	04/07/2016	Expiration Date (1 Month):	05/07/2016
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride IC0395, Phosphate IC0486, Bromide IC0597, and Nitrate IC0403, 15 ml 1000 mg/L Chloride IC0576, and 25 ml 1000 mg/L Sulfate IC0419 and brought to volume with Milli-Q DI H_20.		

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Standard Log #:	IC0597	Standard/Reagent:	Bromide IC Standard
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	04/06/2016	Expiration Date:	04/06/2017
Prep:	AccuSPEC Bromide IC Standard Cat # 250-220-235. Lot # S150707009		

Standard Log #:	IC0598	Standard:	IC_Calibration_Dionex_C
Analyst:	JJF	Concentrations:	N/A
Prep Date:	04/06/2016	Expiration Date (48 hours):	04/08/2016

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Mixed Std (50mg/L) IC0596	0	0.2	0.6	1.0	2.0	4.0	10.0	14.0	20.0
Chloride (1000mg/L) IC0576	0	0.05	0.075	0.1	0.5	1.0	2.0	3.0	4.0
Sulfate (1000mg/L) IC0419	0	0.05	0.075	0.1	0.5	1.0	3.0	5.0	7.0

Standard Log #:	IC0599	Standard:	IC CCV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - NO_2
Prep Date:	04/06/2016	Expiration Date (1 Month):	05/06/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. IC0396 and brought to volume with Milli-Q DI H_20.		

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Project: Unassigned
Page Title: 032816

Standard Log #:	IC0584	Standard:	IC LCSW/ICV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	03/28/2016	Expiration Date (1 Month):	04/28/2016
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) IC0391 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0585	Standard:	IC LCSW/ICV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L
Prep Date:	03/28/2016	Expiration Date (1 Month):	04/28/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL 1000 mg/L Nitrite W37105 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0586	Standard:	IC Low Level o-Phos CC\
Analyst:	JJF	Concentrations:	0.1mg/L Phosphate
Prep Date:	03/28/2016	Expiration Date (1 month):	04/28/2016
Prep:	Into a 200 ml volumetric flask pipette 0.02ml Phosphate(1000mg/L) IC0486 and fill to volume with Milli Q H_2O.		

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Author: JFAUST on: 21.03.2016 17:27:05
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Standard Log #:	IC0576	Standard/Reagent:	Chloride IC stock Standard
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	03/16/2016	Expiration Date:	03/16/2017
Prep:	AccuSPEC IC Standard Chloride @ 1000 mg/L Lot #S150923021 Catalog #250-220-37x		

Standard Log #:	IC0577	Standard:	IC CCV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	03/16/2016	Expiration Date (1 Month):	04/06/16 for Br 4/16/201
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride IC0395, Phosphate IC0486, Bromide IC0178, and Nitrate IC0403, 15 ml 1000 mg/L Chloride IC0576, and 25 ml 1000 mg/L Sulfate IC0419 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0578	Standard:	IC CCV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - NO_2
Prep Date:	03/16/2016	Expiration Date (1 Month):	04/16/2016
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. IC0396 and brought to volume with Milli-Q DI H_20.		

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NOTEBOOK VIEW: LTN_LPVO3_02_IC_Default, NOTEBOOK: LPVO3_02_IC, PAGE: 66
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Author: JFAUST on: 22.02.2016 13:03:31
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Project: Unassigned
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Standard Log #:	IC0558	Standard/Reagent:	Calibration Oxyhalides and r
Analyst:	JJF	Final Concentration:	10mg/L - NO2, NO3, PO4, E
Prep Date:	02/17/2016	Expiration Date:	02/19/2016
Prep:	Into a 100 mL volumetric flask, pipetted 1.0 mL each of Fluoride (1000mg/L) (1), Nitrite (1000mg/L) (2), Bromide (1000mg/L) (3), Nitrate (1000mg/L) (4), Phosphate (1000mg/L) (5), Chlorite (1000 mg/L), (6) Chlorate (1000 mg/L) (7) and 10 mL each of Sulfate (1000mg/L) (8), and Chloride (1000mg/L) (9).		

Standard Log #:	IC0559	Standard/Reagent:	Eluent for ASupp 7 Column
Analyst:	JJF	Final Concentration:	3.6 mmoles/L Sodium Carbo
Prep Date:	02/17/2016	Expiration Date:	02/17/2017
Prep:	Into a 2 liter volumetric flask add 0.763 grams Sodium Carbonate (W38024) and dilute to 2 liters with Milli-Q- DI water.		

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Author: jfaust on: 17.02.2016 16:07:38
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Project: Unassigned
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Standard Log #:	IC0556	Standard/Reagent:	Eluent for Chlorite and Chlor
Analyst:	JJF	Final Concentration:	3.6 mmol/L Sodium Carbona
Prep Date:	02/15/2016	Expiration Date:	02/15/2017
Prep:	Into a 2 Liter volumetric add 0.763 grams Sodium carbonate (W38024) and dilute to 2 Liters with Milli-Q DI water.		

Standard Log #:	IC0557	Standard/Reagent:	Metrosep A Column fro IC
Analyst:	JJF	Final Concentration:	N/A
Prep Date:	02/15/2016	Expiration Date:	N/A
Prep:	Metrohm Metrosep A Supp 7 - 250/4.0 (6.1006.630) Serial # 9310042		

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Author: jfaust on: 19.01.2016 08:33:08
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Project: Unassigned
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Standard Log #:	IC0526	Standard:	IC LL o-Phos Working Std.
Analyst:	JJF	Concentrations:	50mg/L Phosphate
Prep Date:	01/18/2016	Expiration Date (48 hours):	01/20/2016
Prep:	Into a 100 ml volumetric flask pipette 5ml Phosphate(1000mg/L) IC0486 and fill to volume with Milli Q H_2O.		

Standard Log #:	IC0527	Standard/Reagent:	LL o-Phos Calibration Std.
Analyst:	JJF	Final Concentration:	0.40 mg/L
Prep Date:	01/18/2016	Expiration Date:	01/20/2016
Prep:	Into a 50 mL volumetric pipette 0.40 mL of (IC0526) LL o-Phos working standard and dilute to 50 mL with Milli-Q water.		

Standard Log #:	IC0528	Standard:	IC Spike Mixed
Analyst:	JJF	Concentrations:	64 mg/L - Br, NO_3, PO_4 256 mg/L - Cl, SO_4
Prep Date:	01/18/2016	Expiration Date (1 Month):	02/18/2016
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Bromide IC0178, Nitrate IC0403, and Phosphate IC0486 and 25.6 mL 1000 mg/L Chloride IC0287 and Sulfate IC0419 and brought to volume with Milli-Q DI H_20.		

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Author: jfaust on: 21.01.2016 13:38:19
Witness: akurth on: 10.02.2016 13:39:21
Project: Unassigned
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Standard Log #:	IC0524	Standard/Reagent:	COLUMN STORAGE SOLU
Analyst:	JJF	Final Concentration:	10 mm/L NA2CO3
Prep Date:	01/14/2016	Expiration Date:	01/14/2017
Prep:	Into a 250 mL volumetric add 0.265 grams Na2CO3 (IC0145) and dilute to 250 mL with Milli-Q water.		

Standard Log #:	IC0525	Standard/Reagent:	METROHM COLUMN
Analyst:	JJF	Final Concentration:	ASUPP 5-150/4.0
Prep Date:	01/14/2016	Expiration Date:	
Prep:	Metrosep A Supp 5- 150/4.0 Column Catalog # 6.1006.520 Serial #5150615076		

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Standard Log #:	IC0515	Standard/Reagent:	IC LLo-Phos Calibration Std.
Analyst:	JJF	Final Concentration:	0.40 mg/L
Prep Date:	01/12/2016	Expiration Date:	01/14/2016
Prep:	Into a 50 mL volumetric pipette 0.40 mL Phosphate working Standard (50 mg/L) IC0514 and dilute to 50 mL with Milli-Q water.		

Standard Log #:	IC0516	Standard/Reagent:	Phosphate Standard Second
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	01/12/2016	Expiration Date:	11/30/2016
Prep:	SPEX CertiPrep 1000 mg/L Phosphate Anion Standard Lot# 3-103PO4P-2Y Catalog # AS-PO4P9-2Y		

Standard Log #:	IC0517	Standard:	IC Low Level LCS-ICV
Analyst:	JJF	Concentrations:	0.1mg/L Phosphate
Prep Date:	01/12/2016	Expiration Date (1 Month):	02/12/2016
Prep:	Into a 100 ml volumetric flask pipette 0.01 ml of Phosphate (1000mg/L) IC0516 and fill to volume with Milli-Q H_2O.		

LPVO3-02
IC Prep Logbook
Logbook Created: 08/13/2015
NOTEBOOK VIEW: LTN_LPVO3_02_IC_Default, NOTEBOOK: LPVO3_02_IC, PAGE: 10
Page is Locked
Author: JFAUST on: 12.10.2015 08:32:53
Page is not Witnessed
Project: Unassigned
Page Title: 092215

Standard Log #:	IC0401	Standard:	IC CCV Mixed Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - F, Br, NO_3, PO_4 30 mg/L - Cl 50 mg/L - SO_4
Prep Date:	09/22/2015	Expiration Date (1 Month):	10/22/2015
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride IC0395, Phosphate IC0001, Bromide IC0178, and Nitrate IC, 15 ml 1000 mg/L Chloride IC0287, and 25 ml 1000 mg/L Sulfate IC0186 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0402	Standard:	IC CCV Nitrite Std.
Analyst:	JJF	Concentrations:	7.0 mg/L - NO_2
Prep Date:	09/22/2015	Expiration Date (1 Month):	10/22/2015
Prep:	Into a 500 mL volumetric flask, pipetted 3.5 mL of 1000 mg/L Nitrite CCV Stock Std. IC0396 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0403	Standard/Reagent:	NO3 STANDARD
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	09/22/2015	Expiration Date:	9/22/2016
Prep:	Accu SPEC Nitrate Standard for Ion Chromatography Cat #250-220-521 Lot # S150804004		

1

Standard Log #:	IC0400	Standard:	IC Eluent Conc. Dionex
Analyst:	JJF	Concentrations:	1.75 M Sodium Carbonate 0.5 M Sodium Bicarbonate
Prep Date:	09/15/2015	Expiration Date (1 Year):	09/15/2016
Prep:	Into a 2L volumetric flask, dissolved 371g of Sodium Carbonate IC0145 and 84.0g of Sodium Bicarbonate W25134 and brought to volume with Milli-Q DI H_2O. (500x concentrate)		

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CT Laboratories, LLC

LPVO3-02
IC Prep Logbook
Logbook Created: 08/13/2015
NOTEBOOK VIEW: LTN_LPVO3_02_IC_Default, NOTEBOOK: LPVO3_02_IC, PAGE: 8
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Page is not Witnessed
Project: Unassigned
Page Title: 090915

Standard Log #:	IC0395	Standard/Reagent:	Fluoride Std
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	09/09/2015	Expiration Date:	09/09/2016
Prep:	AccuSPEC IC Standard @ 1000 ug/ml Lot # S150818016 Catalog # 250-220-40x		

Standard Log #:	IC0396	Standard/Reagent:	Nitrite Std
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	09/09/2015	Expiration Date:	09/09/2016
Prep:	AccuSPEC IC Standard @ 1000 ug/ml Lot # S150410003 Catalog # 250-220-55x		

Standard Log #:	IC0397	Standard:	IC Spike Mixed
Analyst:	JJF	Concentrations:	64 mg/L - Br, NO_3, PO_4 256 mg/L - Cl, SO_4
Prep Date:	09/09/2015	Expiration Date (1 Month):	10/09/2015
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Bromide IC0178, Nitrate W35940, and Phosphate IC0001 and 25.6 mL 1000 mg/L Chloride IC0287 and Sulfate IC0186 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC0391	Standard/Reagent:	Custom Ion Standard
Analyst:	JJF	Final Concentration:	1250 mg/L SO4, 750mg/L C
Prep Date:	08/31/2015	Expiration Date:	08/30/2016
Prep:	Cat# VCTI-3-500 Lot# 7-60-JKS		

LPVO3-01
IC Prep Logbook
Notebook Created: 01/12/2015
NOTEBOOK VIEW: LTN_IC_Logbook_01_Default, NOTEBOOK: IC_Logbook_01, PAGE: 94
Page is Unlocked
Page is not Witnessed
Project: Unassigned
Page Title: 072415

Standard Log #:	IC0310	Standard:	IC LL o-Phos Working Std.
Analyst:	JJF	Concentrations:	50mg/L Phosphate
Prep Date:	07/24/2015	Expiration Date (48 hours):	07/26/2015
Prep:	Into a 100 ml volumetric flask pipette 5ml Phosphate(1000mg/L) IC0001 and fill to volume with Milli Q H_2O.		

Standard Log #:	IC0311	Standard:	IC LL Phosphate Cal
Analyst:	JJF	Concentrations:	NA
Prep Date:	07/24/2015	Expiration Date (48 hours):	07/26/2015
Prep:	Into 8 separate 100 ml volumetric flasks pipette 0, 0.01, 0.02, 0.04, 0.06, 0.1, 0.2, and 0.4ml LL Ophos ICal Working (50mg/L) IC0310 and fill to volume with Milli-Q H_2O.		

Standard Log #:	IC0312	Standard/Reagent:	IC Chlorate Standard
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	07/24/2015	Expiration Date:	07/24/2016
Prep:	Accu SPEC Chlorate Standard @ 990 or - 10 mg/L Lot # S141009020 Catalog # 250-220-355		

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Standard ID#:	IC0300	Vendor:	SPEX CertiPrep
Analyst:	JJF	Chemical:	Chlorite Anion Standard 1000 ug/mL
Date Received:	07/21/2015	Lot #:	3-114CLO2-2Y
Expiration Date (if any):	1/30/2016	Catalog #:	AS-CLO29-2Y

Standard Log #:	IC0301	Standard:	IC Eluent Metrohm
Analyst:	JJF	Concentrations:	3.2 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	07/21/2015	Expiration Date (1 Year):	07/21/2016
Prep:	Into a 2L volumetric flask, pipetted 10mL of Metrohm Eluent Concentrate IC0141 and brought to volume with Milli-Q Di water.		

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Standard ID#:	W37105	Vendor:	SPEX
Analyst:	LJS	Chemical:	NITRITE-NITROGEN 1000UG/ML ST
Date Received:	MAY 2015	Lot #:	3-106N02N-2Y
Expiration Date (if any):	05-30-2016	Catalog #:	AS-N02N9-2Y

Standard Log #:	W37106	Standard:	CR6 WATER ICAL
Analyst:	MER	Concentration:	200 µg/L
Prep Date:	6/22/15	Expiration Date (1 Year):	10/28/15
Prep:	Into a 250mL volumetric flask pipette 5mL Ical/CCV working (10mg/L) W35703 and fill to volume with DI H_2O.		

Standard Log #:	W37107	Standard:	CR6 WATER LCS/ICV
Analyst:	MER	Concentration:	100 µg/L
Prep Date:	6/22/15	Expiration Date (1 Year):	10/28/15
Prep:	Into a 250mL volumetric flask pipette 2.5mL LCS/ICV working (10mg/L) W35700 and fill to volume with DI H_2O.		

LPVO3-01
IC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_IC_Logbook_01_Default, NOTEBOOK: IC_Logbook_01, PAGE: 39
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Author: JFAUST on: 06.03.2015 08:54:02
Witness: akurth on: 10.03.2015 10:28:46
Project: Unassigned
Page Title: 030415

Standard Log #:	IC0145	Standard/Reagent:	Sodium Carbonate Anhydrou
Analyst:	JJF	Final Concentration:	
Prep Date:	03/04/2015	Expiration Date:	02/28/2018
Prep:	JT Baker ACS reagent 500 grams Batch # 0000054491 CAS # 497-19-8 Catalog # 3602-01		

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CT Laboratories, LLC

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PROJECT _____ Notebook No. _____
Continued from Page _____

W35368
9-15-14
DOE

IC Mixed Spike Standard (64 mg/L Bromide, Nitrate, and Phosphate, 256 mg/L Chloride and Sulfate)

Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Bromide W 34057, Nitrate W 32225, and Phosphate W 34479 and 25.6 mL 1000 mg/L Chloride W 35237 and Sulfate W 35238 and brought to volume with Milli-Q DI H_2O. EXP (1 Month): 10-15-14

W35369 Fisher Ammonium Sulfate (A702-500)
ALK CAS 7783-20-2 LOT # 135994A
9/15/14 Opened 09/15/14

Standard Log #:	W35370	Reagent:	ALK ICAL/CCV STK
Analyst:	LJS	Concentration.	2500 mg/L
Prep Date:	9-15-14	Expiration Date (1 month):	10-15-14
Prep:	Into a 250mL volumetric flask dissolve 0.6625g Na_2CO_3 W32942 and fill to volume with CO_2 free DI H_2O.		

Standard Log #:	W35371	Reagent:	ALK LCS/ICV STK
Analyst:	LJS	Concentration:	2500 mg/L
Prep Date:	9-15-14	Expiration Date (1 month):	10-15-14
Prep:	Into a 250mL volumetric flask dissolve 0.6625g Na_2CO_3 W35369 and fill to volume with CO_2 free DI H_2O.		

9/15/14

Standard Log #:	W35372	Standard:	ALK LCS
Analyst:	ljs	Concentration:	375 mg/L
Prep Date:	9-15-14	Expiration Date (1 Month):	10-15-14
Prep:	Into a 200mL volumetric flask pipette 30 mL LCS/ICV stock (2500mg/L) W35371 and fill to volume with CO_2 free DI H_2O.		

Standard Log #:	W35373	Standard:	ALK ICV
Analyst:	ljs	Concentration:	75 mg/L
Prep Date:	9-15-14	Expiration Date (1 Month):	10-15-14
Prep:	Into a 100mL volumetric flask pipette 3 mL LCS/ICV stock (2500mg/L) W35371 and fill to volume with CO_2 free DI H_2O.		

GS 9/29/14
Sig

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PROJECT

Notebook No. ____ ____
Continued From Page ____

W25124 KMB 11-22-10 NH_3 Soil LCS- Prepped 11-17-10 Pipetted 0.25mL W24913 into 50mL KCl Ext. Soln-W25047. Exp. 11-24-10

W25125 JTh 11-23-10 Cr^{+6} Dig soln: into a 2L vol. dissolved 160g sodium Carbonate anhydrous W20910 + 40g NaOH W24679 + BTV w/ DI H_2O exp: 11-23-11

W25126 JTh 11-23-10 Cr^{+6} Ical: into 5 50mL VF pipetted 0, 1, 2, 5, 5 and 10mL W23661 + BTV w/ dig soln W25125 exp 11-24-10

W25127 JTh 11-23-10 Cr^{+6} ICV/LCS: into a 50mL VF pipetted 5mL W23663 + BTV w/ Dig soln W25125 exp: 11-24-10

W25128 JTh 11-23-10 Cr^{+6} soil DPC: into a 20mL vol. dissolved 1g ~~1,5-DPC~~ W25133 in acetone JTB 11-23-10 Baker Lot# 113021 Cat # 9354-03 exp: 11-24-10 + BTV w/ acetone

*W25129 ES 11/23/10 IC Mixed LCS/ICV- Into a 500mL vol pipetted 20mL W23432 + filled to vol w/ milliQ H_2O exp 12/23/10

*W25130 ES 11/23/10 IC NO_2 LCS- Into a 500mL vol pipetted 3.5mL W25090 + filled to vol milliQ H_2O. exp 12/23/10

W25131 ESC 11/23/10 ESC 11/23/10 Ascorbic Acid Reagent: Into a 500mL vol. dissolved 30g Ascorbic acid W24793 + 0.5g SDS W23748 + brought to vol. w/ DI H_2O exp: 11/24/10

*W25132 ESC 11/23/10 TKN/TPhos ICV: Into a 100mL vol. pipetted 0.952mL W25114 + W23501 + brought to vol. w/ Diluent W25039 exp: 12/22/10 to 10mg/L

W25133 JTh 11-23-10 1,5-Diphenylcarbazide Lot # 096086 Fisher Cat # DPS-25 exp: 11-23-15

W25134 ES 11/23/10 Sodium Bicarbonate Fisher Cat # S233-500 lot # 104706 exp 11/23/15

Continued on Page

Read and Understood By

Signed Date Signed Date

WCOD QSM Analytical Run
127931 on 07/19/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
120462	744978		07/13/2016 1630		BERING SEA ENVIRONMENTAL	RADFORD AAP	COD QSM		GW	**4**	
		49ADW01						58120			
120518	745779		07/14/2016 1100		BERING SEA ENVIRONMENTAL	RADFORD AAP	COD QSM		GW	**4**	
		54ADW01						58120			
	746614		07/13/2016 1630				COD QSM				
		49ADW01		MSW 744978				58120			
	746616		07/13/2016 1630				COD QSM				
		49ADW01		MSDW 746614				58120			
	746617		07/13/2016 1630				COD QSM				
		49ADW01		DUP 744978				58120			
	746618						COD QSM				
				MBW				58120			
	746619						COD QSM				
				LCSW				58120			
	746989						WCOD QSM				
				CCB							
	746990						WCOD QSM				
				CCV							
	746991						WCOD QSM				
				CCV							
	746992						WCOD QSM				
				ICV							
	746993						WCOD QSM				
				ICB							

12 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

PREP WORKSHEET 2
on 07/19/2016

Prep Batch: **58120**

Prepped By: _____

Date Prepped: _____

Date Entered: _____

Folder #	Order	QC Type	Link	Test	Client Company Name	Client Sample Description	Matrix	Sample Date / Time		Due Date	SDG Level
	746618	MBW	0	COD QSM			LIQUID				
	746619	LCSW	0	COD QSM			LIQUID				
120462	744978			COD QSM	BERING SEA ENVIRONMENT	49ADW01	GROUND WATER	7/13/16	1630	7/26/16	4
120518	745779			COD QSM	BERING SEA ENVIRONMENT	54ADW01	GROUND WATER	7/14/16	1100	7/27/16	4
	746614	MSW	744978	COD QSM		49ADW01	GROUND WATER	7/13/16	1630		
	746616	MSDW	746614	COD QSM		49ADW01	GROUND WATER	7/13/16	1630		
	746617	DUP	744978	COD QSM		49ADW01	GROUND WATER	7/13/16	1630		

Control Spike/Control Spike Dup Reference Number:_____ Methanol Supplier/Lot #:_____

Notes:_____

Distibution: C:\LIMSREPS\PREPWRKSHT2.RPT

PREP WORKSHEET 2
on 07/19/2016

Prep Batch: 58120
Date Prepped: 7/19/16

Prepped By: SAcJ
Date Entered: _____

1 CCV

Folder #	Order	QC Type	Link	Test	Client Company Name	Client Sample Description	Matrix	Sample Date / Time		Due Date	SDG Level
	746618 3	MBW	0	COD QSM			LIQUID				
	746619 2	LCSW	0	COD QSM			LIQUID				
120462	744978 4, 5 (GT)			COD QSM	BERING SEA ENVIRONMENT	49ADW01	GROUND WATER	7/13/16	1630	7/26/16	4
120518	745779 8			COD QSM	BERING SEA ENVIRONMENT	54ADW01	GROUND WATER	7/14/16	1100	7/27/16	4
	746614	MSW	744978	COD QSM		49ADW01	GROUND WATER	7/13/16	1630		
	746616	MSDW	746614	COD QSM		49ADW01	GROUND WATER	7/13/16	1630		
	746617	DUP	744978	COD QSM		49ADW01	GROUND WATER	7/13/16	1630		

Control Spike/Control Spike Dup Reference Number: _____ Methanol Supplier/Lot #: _____

Notes: _____

PREP BATCH (ES): 58120 DATE/ANALYST 7/19/16 SAW TIME: 11:00

RUN(S): 127931 DATE/ANALYST: 7/19/16 SAW

CHEMICAL OXYGEN DEMAND REAGENT LOG

ICAL PREPARATION.....W 38914 /Exp 7/29/16

CCV PREPARATION.....W 39426 /Exp 10/19/16

ICV/LCS PREPARATION.....W 39428 /Exp 10/19/16

SILVER SULFATE ACID.....W 38893 /Exp 4/28/17

POTASSIUM DICHROMATE DIG SOLN...W 38894 /Exp 4/28/17

SPIKED SAMPLES:

SPIKING SOLUTION.....W 39427 /Exp 10/19/16

CONCENTRATION..... 2000 mg/L

VOLUME OF SPIKE USED. ..... 0.2 mL

FINAL SAMPLE VOLUME..... 2.5 mL

FINAL SPIKE CONCENTRATION ..... 148.2 mg/L

COD DIGESTION BLOCKS

DATE: 7/19/16 TIME: 1310

	A	B	C	D
Temperature (Max) 150°C ± 2°C				148.5

COD Data Validation Checklist

LIMS #: 127931	Method: Chemical Oxygen Demand EPA 410.4			
Analysis Date	Analyst / Data Interpreter	Independent Reviewer	Date of Review	Approved
7/19/16	SAW / SAW	VJS	7/19/16	Yes .. No

Instructions: Complete one checklist per *analytical run*. Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement:	Acceptance Criteria	Analyst Review		Independent Review		Comments: (indicate reference to an attachment if necessary)
		Yes	No	Yes	No	
1. Does a digestion sheet accompany the data package?	—	X		X		
2. Does the digestion sheet include all reagent and standard prep log numbers?	—	X		X		
3. Was a Method Blank prepared at the required frequency?	1per 20 samples or at contract/program specific frequencies	X		X		
4. Was the method blank within acceptance criteria?	< RL or client/project specific	X		X		
5. Was an LCS prepared at the required frequency?	1per 20 samples or at contract/program specific frequencies	X		X		
6. Was the LCS used before the indicated expiration date?	—	X		X		
7. Did the LCS meet the acceptance criteria?	Within in-house or client/project specific limits	X		X		
8. Was an MS and MSD prepared at the required frequency?	1per 10 per batch or at contract/program specific frequencies	X		X		
9. Did the MS/ MSD's meet the acceptance criteria?	Within in-house or contract/program specific limits	X		X		
10. Did the MS/MSD's meet the RPD criteria?	Within in-house or contract/program specific limits	X		X		
11. Was a Duplicate prepared at the required frequency?	1per 10 per batch or at contract/program specific frequencies	X		X		
12. Did the Duplicate meet the RPD criteria?	Within in-house or contract/program specific limits	X		X		
13. Were the samples digested within hold time?	28 days	X		X		
14. Are all samples on the job lists accounted for?	—	X		X		

Spec. 401 Instrument Run Logbook

Milton Roy Spectronic 401

Time					Spectrophotometer	
Date	Start	End	Analyst	Analytes/Test	Cal. Std. ID #	Comments: /Run #s
4/28/16	15:45	16.40	UJS/SMW	COD	Test 31	125518, 17
5/3/16	1423	14:53	SMW	COD	Test 31	125616, 17
5/10/16	1440	1455	SMW	COD	Test 31	125827
5/10/16	1540	1620	UJS	Hexchr. Stds	Test 32	125826, 7
5/15/16	1320	1340	SMW	COD	Test 31	126149
5/23/16	1500	1520	SMW	COD	Test 31	126290
6/1/16	1530	1558	MER	COD	Test 31	126606, 607, 608, 609
6/2/16	1030	1034	MER	COD	Test 31	126608, 609 Reruns
6/6/16	1230	1240	SMW	COD	Test 31	126738
6/13/16	1345	1400	UJS	Chlor A	—	126955
6/14/16	1430	1450	SMW	COD	Test 31	126975
6/21/16	1445	1450	MER	Chlor. A	—	127158
6/22/16	1550	1650	SMW	COD	Test 31	127189, 188, 189
6/30/16	1550	1554	MER	Chlor. A	—	127450
7/5/16	1445	1455	MER	COD	Test 31	127492
7/12/16	1335	1348	SMW	COD	Test 31	127686, 127687
7/19/16	1420		SMW	COD	Test 31	127931, 932, 933

Reviewed By: _____

Spec. 401 Accuracy Check / Maintenance Logbook

Date/Time	*Acceptance Range: +/- 2 nm 529 nm	742 nm	Analyst	Comments or Performed Maintenance:
4/6/16 1200	530	741	UTS	
4/13/16 1718	529	741	MER	
4/19/16 0900	530	741	MER	
4/29/16 1100	530	741	UTS	
5/3/16 1210	530	741	SAW	
5/10/16 1440	530	741	SAW	
5/18/16 1320	530	741	SAW	
5/23/16 1500	530	741	SAW	
6/1/16 1530	530	741	MER	
6/2/16 1030	530	741	MER	
6/6/16 1230	530	741	SAW	
6/13/16 1245	530	741	UTS	
6/14/16 1430	530	741	SAW	
6/21/16 1445	530	741	MER	
6/22/16 1550	530	741	SAW	
6/30/16 1550	530	741	MER	
7/5/16 1445	530	741	MER	
7/12/16 1335	530	741	SAW	
7/19/16 1420	530	741	SAW	

*If values obtained are not within Acceptance Range, correct and document the problem then re-check the accuracy.

Reviewed By: _____

PROJECT _____ Notebook No. _____

Continued From Page _____

W18817 mwl 4-18-08 TOC Std. Prep Stock Std. 1000mg/L into a 100mL Vol. dissolved 0.2128g Potassium Hydrogen Phthalate W16594 + brought to Vol. w/ml/Q H_2O exp 10-18-08

W18818 mwl 4-18-08 TOC LCS/PCV Stock Std 1000mg/L into a 100mL Vol. dissolved 0.2128g Potassium Hydrogen Phthalate W16592 + brought to Vol. w/ml/Q H_2O exp 10-18-08

W18819 (A+B) KMB 4-18-08 Baker Potassium Dichromate Cat # 3098-01 Lot # E18990 (2-bottles, A+B) Monthly

W18820 KMB 4-18-08 Spex Certiprep Custom Ion Std 1250 mg/L SO_4^-, 750 mg/L Cl and 175 mg/L Cat # VCIWI-3-500 Lot # 38-81AS exp OH/2009

W18821 KMB 4-18-08 Spex Certiprep NO_2^- Std 1000 mg/L Cat # AS-NO2W9-2Y Lot # 1+8 NO2W-2 exp. 4-15-2009

W18822 mwl 4-18-08 Nitrite Std 500mL Vol. dissolved 2.5g Barbituric acid W17815 + Pellets 2.5mL HCl W18494 + volumetrically added 32.5mL Pyridine W17409 + brought to Vol. w/DI H_2O exp 4-25-08

W18823 mwl 4-18-08 Chloramines T into a 500mL Vol. dissolved 2g W17811 + brought to Vol. w/DI H_2O exp 4-18-08

W18824 CES 4-21-08 NH_3 LCS. Into a 200mL Vol. pipetted 1mL W18721 + filled to Vol. w/DI H_2O.

W18825 KMB 4-21-08 1% N Hypochlorite - Into a 500mL vol. pipetted 30mL Bleach W18141 and brought to Vol. w/DI H_2O. exp 4-22-08

W18826 KMB 4-21-08 0.8M NaOH - Into a 1L Vol. dissolved 32g NaOH W18384 and brought to Vol. w/DI H_2O exp. 5-21-08

W18827 KMB 4-21-08 Na Nitroprusside/Na Salicylate - Into a 1L vol. dissolved 150g Salicylate W17871 and 1g Nitroprusside W18547 and brought to Vol. w/DI H_2O. exp. 5-21-08

Continued on Page

Read and Understood By

RS 4/23/08

Signed Date

PROJECT _____ Notebook No. _____ 31

Continued From Page _____

W33266 GES 1/7/14 — Sodium hypochlorite soln - Fisher cat# SS290-4 lot # 133012 exp 7/2014

W33267 GES 1/7/14 — NH_3 IL Hypo dilution Into a 500mL vol. volumetric flask 30mL W33266 & filled to vol. w/ DI H_2O exp 1/8/14

W33268 BJS 1/7/14 — TKN MDL ✓: (0.46mg/L) Into a 100mL vol flask pipetted 0.46mL NH_3/TKN 1000mg/L Stock W33267 & filled to volume w/ DI. Then pipetted 20mL into TKN tube.

W33269 BMS 01/07/14 — Potassium Hydrogen Phthalate (KHP): Agros Organics Catalog #: 142406 (000, Lot#: A0317291 (Received 06/24/13)

W33270 AGK 01/07/14 — TOCW ICAL/CCV stock (1000mg/L): Into a 100mL vol, dissolved 0.2128g KHP (W33269) and brought to volume w/ milli-Q H_2O Exp: 07/07/14

W33271 01/07/14 AGK — TOCW ICV/LCS stock (1000mg/L) Into a 100mL vol, dissolved 0.2128g KHP (W29079) and brought to volume w/ milli-Q H_2O Exp: 07/07/14

W33272 01/07/14 AGK — TOCW CCV Sto: Into a 100mL vol pipetted 5.0mL of W33270 and brought to volume with Milli-Q H_2O Exp: 02-07-14

W33273 01/07/14 AGK — TOCW LCS Sto: Into a 100mL vol pipetted 5.0mL of W33271 and brought to volume w/ milli-Q H_2O Exp: 02-07-14

W33274 01/07/14 AGK — TOCW ICal Std 7, 50mL vol, pipetted 0.05, 0.25, 0.5, 1.25, 2.5, and 5.0mL of W33270 and brought to volume with milli-Q H_2O Exp: 02/07/14

Continued on Page _____

Read and Understood By

1/9/14 CMS

Signed Date Signed Date

Notebook No. _____ 41

PROJECT _____ Continued From Page _____

W34206 MER 4/28/14 KHP Buffer (pH 3.1)

Into a large beaker dissolve 2.5g potassium hydrogen phthalate (KHP) W 29079 + W34207 in 450 ml CO_2-free DI water. Add 42.5ml of 0.1 M HCL W 33112 and adjust pH to 3.1+ 0.05.

EXP (one week): 5/5/14

W34207 MER 4/28/14 Potassium Hydrogen Phthalate (KHP) - Fisher Scientific Cat # P243-100 Lot-# 132808

W34208 MER 04-28-14 IC ICAL Mixed Standard (50 mg/L):

Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite W32990, Fluoride W32406., Bromide W34057, Nitrate W33225, and Phosphate W32479 and brought to volume with Milli-Q DI H_2O.

EXP (48 Hours):04/30/14

IC ICAL

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_2O.

W34209 MER 04-28-14

	1	2	3	4	5	6	7	8
mLs Mixed Std 50mg/L W34208	0	0.2	1.0	2.0	4.0	10.0	14.0	28.0
mLs Chloride 1000mg/L W34199	0	0.05	0.1	0.5	1.0	2.0	3.0	4.0
mLs Sulfate 1000mg/L W33537	0	0.05	0.1	0.5	1.0	3.0	5.0	7.0

EXP (48 Hours):04/30/14

W34210 4/28/14 Cyanide In-Line Phosphate Buffer

Into a 1L volumetric flask, dissolve 97 g potassium dihydrogen phosphate monobasic W ~~32406~~ W33932 and fill to volume with DI H_2O. Exp. (One month): 5/28/14

W34211 4/28/14 Sodium Salicylate-Nitroprusside Color Reagent

Into a 1L volumetric flask dissolved 150g sodium salicylate W 34212 and 1g sodium nitroprusside W 33031 and brought to volume with DI H_2O.

EXP(1 month): 5/28/14

W34212 4/28/14 Sodium Salicylate - Alfa Aesar - cat # A17056 Lot # J03Z041

W34213 4/28/14 0.8M Sodium Hydroxide

Into a 1L volumetric flask dissolved 32g NaOH W 33021 and brought to volume with DI H_2O. EXP(1 month): 5/28/14

Read and Understood By

5/9/14 MS

Signed Date Signed Date

Notebook No. _____ 69

PROJECT _____ Continued From Page _____

W34448 MER 5/23/14

TKN/ TPHOS Cupric ICal using 250mg/L working W 34447 and brought to volume with diluent W 34265 Exp (one month) 6/23/14

	mL 250mg/L working	Final volume (mL)	True Value (mg/L)	Corrected Value (mg/L)
A	8	100	20	21.0
B	3.2	50	16	16.8
C	10	250	10	10.5
D	0.8	50	4	4.2
E	0.4	50	2	2.1
F	0.2	50	1	1.05
G	0.04	50	0.2	0.21
II	0	50	0	0

W34449 Phosphate Standard 1000mg/L CCV/ICAL AGK 5/23/14
AccuSpec Lot # 514641008 Exp: 05-23-15

W34450 MER 5/23/14

Potassium Dichromate Digestion Solution W19633 W34451 MER 5/23/14
Into a 2L volumetric flask dissolve 66.6g mercuric sulfate W 29723 in about 500mL DI H_2O. Volumetrically add 334mL H_2SO_4 W 34363 and dissolve 20.42g potassium dichromate W 188194 then fill to volume with DI H_2O.
Exp (one year): 5/23/15

W34451 MER 5/23/14
Mercury (II) sulfate Acros Organics Code# 41365 1000
Lot # A0330723 CAS 7783-35-9

W34452 MER 5/23/14

TKN/ TPHOS Cupric Diluent
Into a 1L volumetric flask volumetrically add ~~800~~ 400 mL cupric digestion solution W 34424 and fill to volume with DI H_2O. Exp (one month): 6/23/14 MER 5/23/14

W34453 GS 5/24/14

Cr^{+6} ICal (200mg/L)
Into a 250mL volumetric flask pipette 5mL Ical/CCV working (10.0 mg/L) W ~~33862~~ W34460 and fill to volume with DI H_2O. Exp. ~~(one year)~~: 5/24/15 GS 5/24/14

W34454 GS 5/24/14

Cr^{+6} CCV (100µg/L)
Into a 250mL volumetric flask pipette 2.5mL Ical/CCV working (10mg/L) W ~~33862~~ W34460 and fill to volume with DI H_2O. Exp. ~~(one year)~~: 5/24/15 GS 5/24/14

W34455 GS 5/24/14

Cr^{+6} ICV/LCS (100µg/L)
Into a 250mL volumetric flask pipette 2.5mL ICV/LCS working (10mg/L) W 34462 and fill to volume with DI H_2O. Exp. (one year): 5/24/15

Continued on Page

Read and Understood By

5/31/14 GS
Signed Date Signed Date

WetChem Logbook 3
02/04/2015
NOTEBOOK VIEW: LTN_WetChem_3_Default, NOTEBOOK: WetChem_3, PAGE: 54
Page is Locked
Author: mradske on: 27.05.2015 17:17:54
Page is not Witnessed
Project: Unassigned
Page Title: 042815

Standard Log #:	W36769	Reagent:	NO2 NO3 BUFFER
Analyst:	MER		
Prep Date:	4/28/15	Expiration Date (1 Month):	5/28/15
Prep:	Into a 1 L volumetric flask dissolve 85g ammonium chloride W31507 and 1g EDTA W35251 and fill to volume with DI H_2O and degas. Adjust pH to 8.5 with 15 N NaOH W34485		

Standard Log #:	W36770	Reagent:	CN SOLID BUFFER
Analyst:	MER		
Prep Date:	4/28/15	Expiration Date (1 Month):	5/28/15
Prep:	Into a 500 mL volumetric flask dissolved 48.5 g potassium phosphate monobasic W35758 and brought to volume with DI H_2O.		

Standard ID#:	W36771	Vendor:	MACRON
Analyst:	LJS	Chemical:	SULFURIC ACID
Date Received:	N/A	Lot #:	91540
Expiration Date (if any):	9/9/19	Catalog #:	5557-46

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LPWC01_05
WetChem Prep Logbook
Logbook Created: 11/25/15

NOTEBOOK VIEW: LTN_LPWC01_5_Default, NOTEBOOK: LPWC01_5, PAGE: 68
Page is Locked
Author: mradske on: 11.03.2016 11:12:51
Witness: lsilvers on: 25.03.2016 12:48:10
Project: Unassigned
Page Title: 031016

Standard Log #:	W38580	Reagent:	COD ICAL/CCV STK
Analyst:	LJS	Concentration:	1000 mg/L
Prep Date:	3/10/16	Expiration Date (3 Months):	6/10/16
Prep:	Into a 500mL volumetric flask dissolve 0.425g Potassium Hydrogen Phthalate W33269 and fill to volume with DI H_2O.		

Standard Log #:	W38581	Reagent:	COD ICAL
Analyst:	LJS		
Prep Date:	3/10/16	Expiration Date (3 Months):	6/10/16

Prep:

Use ICal/CCV Stock (1000mg/L) W38580 and fill to a final volume of 100 mL with DI H_2O.

	ICal Stock (mLs)	True Value (mg/L)
A	0	0
B	1	10
C	2.5	25
D	5	50
E	10	100
F	50	500
G	75	750

Standard Log #:	W38582	Reagent:	COD SPIKE/ LCS STK
Analyst:	LJS	Concentration:	2000 mg/L
Prep Date:	3/10/16	Expiration Date (3 Months):	6/10/16

Prep:

Into a 500mL volumetric flask dissolve 0.85g Potassium Hydrogen Phthalate (KHP) W34207 and fill to volume with DI H_2O.

Standard Log #:	W38583	Standard:	COD LCS
Analyst:	LJS	Concentration:	400 mg/L
Prep Date:	3/10/16	Expiration Date (3 Months):	6/10/16
Prep:	Into a 250mL volumetric flask pipette 50mL COD SPIKE/LCS Stock (2000mg/L) W38582 and fill to volume with DI H_2O.		

Standard Log #:	W38584	Standard:	COD CCV
Analyst:	LJS	Concentration:	400 mg/L
Prep Date:	3/10/16	Expiration Date (3 Months):	6/10/16
Prep:	Into a 250mL volumetric flask volumetrically added 100ml ICal/CCV Stock (1000mg/L) W38580 and fill to volume with DI H_2O.		

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CT Laboratories, LLC

LPWC01_05
WetChem Prep Logbook
Logbook Created: 11/25/15

NOTEBOOK VIEW: LTN_LPWC01_5_Default, NOTEBOOK: LPWC01_5, PAGE: 91
Page is Locked
Author: LSILVERS on: 15.04.2016 13:35:24
Page is not Witnessed
Project: Unassigned
Page Title: 041316

Standard Log #:	W38784	Reagent:	COD ICAL/CCV STK
Analyst:	MER	Concentration:	1000 mg/L
Prep Date:	4/13/16	Expiration Date (3 Months):	7/13/16
Prep:	Into a 500mL volumetric flask dissolve 0.425g Potassium Hydrogen Phthalate W33269 and fill to volume with DI H_2O.		

Standard Log #:	W38785	Reagent:	COD SPIKE/ LCS STK
Analyst:	MER	Concentration:	2000 mg/L
Prep Date:	4/13/16	Expiration Date (3 Months):	7/13/16
Prep:	Into a 500mL volumetric flask dissolve 0.85g Potassium Hydrogen Phthalate (KHP) W34207 and fill to volume with DI H_2O.		

Standard Log #:	W38786	Reagent:	COD ICAL
Analyst:	MER		
Prep Date:	4/13/16	Expiration Date (3 Months):	7/13/16

Prep:

Use ICal/CCV Stock (1000mg/L) W38784 and fill to a final volume of 100 mL with DI H_2O.

	ICal Stock (mLs)	True Value (mg/L)
A	0	0
B	1	10
C	2.5	25
D	5	50
E	10	100
F	50	500
G	75	750

Standard Log #:	W38787	Standard:	COD CCV
Analyst:	MER	Concentration:	400 mg/L
Prep Date:	4/13/16	Expiration Date (3 Months):	7/13/16

Prep:

Into a 250mL volumetric flask volumetrically added 100ml ICal/CCV Stock (1000mg/L) W38784 and fill to volume with DI H_2O.

Standard Log #:	W38788	Standard:	COD LCS
Analyst:	MER	Concentration:	400 mg/L
Prep Date:	4/13/16	Expiration Date (3 Months):	7/13/16

Prep:

Into a 250mL volumetric flask, pipette 50mL of 2000mg/L COD Spike/LCS Stock (1) and fill to volume with DI water.

(1) W38785

1

LPWC01-06
WetChem Prep Logbook
Logbook Created: 04/27/16
Balances used in Reagent Prep:
WCB01 and WCB03

NOTEBOOK VIEW: LTN_LPWC01_06_Default, NOTEBOOK: LPWC01_06, PAGE: 2
Page is Locked
Author: swinters on: 29.04.2016 11:45:59
Witness: mradske on: 09.05.2016 17:03:58
Project: Unassigned
Page Title: 042816

Standard Log #:	W38893	Reagent:	H2SO4/ AG SULFATE
Analyst:	SAW		
Prep Date:	4/28/16	Expiration Date (1Year):	4/28/17
Prep:	Into a new 2.5 L sulfuric acid W38896 dissolve 25g silver sulfate W38898 .		

Standard Log #:	W38894	Reagent:	DICHROMATE DIG
Analyst:	SAW		
Prep Date:	4/28/16	Expiration Date (1Year):	4/28/17
Prep:	Into a 2L volumetric flask dissolve 66.6g mercuric sulfate W38895 in about 500mL DI H_2O. Volumetrically add 334mL H_2SO_4 W38896 and dissolve 20.42g potassium dichromate W18819A then fill to volume with DI H_2O.		

Standard ID#:	W38895	Vendor:	J.T. BAKER
Analyst:	SAW	Chemical:	Mercuric Sulfate
Date Received:	1/28/15	Lot #:	0000076767
Expiration Date (if any):	NA	Catalog #:	2642-04

Standard ID#:	W38896	Vendor:	FISHER
Analyst:	SAW	Chemical:	Sulfuric Acid
Date Received:	NA	Lot #:	158062
Expiration Date (if any):	NA	Catalog #:	A300-212

Standard ID#:	W38898	Vendor:	MILLIPORE
Analyst:	SAW	Chemical:	Silver Sulfate
Date Received:	4/27/16	Lot #:	XK06B
Expiration Date (if any):	NA	Catalog #:	SX0210-2

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CT Laboratories, LLC

LPWC01-06
WetChem Prep Logbook
Logbook Created: 04/27/16
Balances used in Reagent Prep:
WCB01 and WCB03

NOTEBOOK VIEW: LTN_LPWC01_06_Default, NOTEBOOK: LPWC01_06, PAGE: 3
Page is Locked
Author: LSILVERS on: 02.05.2016 11:47:02
Witness: mradske on: 09.05.2016 17:04:54
Project: Unassigned
Page Title: 042916

Standard Log #:	W38914	Reagent:	COD ICAL
Analyst:	SAW		
Prep Date:	4/29/16	Expiration Date (3 Months):	7/29/16

Prep:

Use ICal/CCV Stock (1000mg/L) W38784 and fill to a final volume of 100 mL with DI H_2O.

	ICal Stock (mLs)	True Value (mg/L)
A	0	0
B	1	10
C	2.5	25
D	5	50
E	10	100
F	50	500
G	75	750

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CT Laboratories, LLC

LPWC01-06
WetChem Prep Logbook
Logbook Created: 04/27/16
Balances used in Reagent Prep:
WCB01 and WCB03

NOTEBOOK VIEW: LTN_LPWC01_06_Default, NOTEBOOK: LPWC01_06, PAGE: 56
Page is Unlocked
Page is not Witnessed
Project: Unassigned
Page Title: 071916

Standard Log #:	W39424	Chemical:	Potassium hydrogen phthalate
Analyst:	SAW	Vendor:	ACROS
Date Received:	7/1/16	Catalog #:	424061000
Expiration Date (if any):		Lot #:	A0365830
Comments:			

Standard Log #:	W39425	Standard/Reagent:	COD Ical/CCV Stock Std.
Analyst:	SAW	Concentration:	1,000 mg/L
Prep Date:	7/19/16	Expiration Date (3 Months):	10/19/16
PREP			Standards/Reagents Used
Into a 500mL volumetric flask, dissolved 0.425g of Potassium Hydrogen Phthalate (KHP) (1) and filled to volume with DI water.			(1) W33269

Standard Log #:	W39426	Standard/Reagent:	COD CCV
Analyst:	SAW	Concentration:	400 mg/L
Prep Date:	7/19/16	Expiration Date (3 Months):	10/19/16
PREP			Standards/Reagents Used

Into a 250mL volumetric flask, volumetrically added 100 mL of 1,000 mg/L COD ICal/CCV Stock Std. (1) and filled to volume with DI water.	(1) W39425

Standard Log #:	W39427	Standard/Reagent:	COD LCS/Spiking Stock Std.
Analyst:	SAW	Concentration:	2,000 mg/L
Prep Date:	7/19/16	Expiration Date (3 Months):	10/19/16
PREP			Standards/Reagents Used
Into a 500mL volumetric flask, dissolved 0.85g of second-source Potassium Hydrogen Phthalate (KHP) (1) and filled to volume with DI water.			(1) W39424

Standard Log #:	W39428	Standard/Reagent:	COD LCS
Analyst:	SAW	Concentration:	400 mg/L
Prep Date:	7/19/16	Expiration Date (3 Months):	10/19/16
PREP			Standards/Reagents Used
Into a 250mL volumetric flask, pipetted 50 mL of 2,000 mg/L COD LCS/Spiking Stock Std. (1) and filled to volume with DI water.			(1) W39427

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WFILTRATION,SAMP Analytical Run
127947 on 07/19/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
120379	743865	54MW12	07/11/2016 1315	Designated MS/MSD	BERING SEA ENVIRONMENTAL	RADFORD AAP	FILTRATION, SAMPLE		GW	4	N
120379	743866	54MW1	07/11/2016 1525		BERING SEA ENVIRONMENTAL	RADFORD AAP	FILTRATION, SAMPLE		GW	4	N
120379	743880	54MW10	07/11/2016 1130		BERING SEA ENVIRONMENTAL	RADFORD AAP	FILTRATION, SAMPLE		GW	4	N
120379	743882	54TM10	07/11/2016 1145		BERING SEA ENVIRONMENTAL	RADFORD AAP	FILTRATION, SAMPLE		GW	4	N
120379	743885	071116R1	07/11/2016 1445		BERING SEA ENVIRONMENTAL	RADFORD AAP	FILTRATION, SAMPLE		GW	4	N

5 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WFILTRATION,SAMP Analytical Run
127948 on 07/19/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
120408	744397		07/12/2016 0900		120462	RADFORD AAP	FILTRATION, SAMPLE		GW	4	
		48MW6									
120408	744399		07/12/2016 0910		120462	RADFORD AAP	FILTRATION, SAMPLE		GW	4	
		49TM01									
120408	744401		07/12/2016 1035		120462	RADFORD AAP	FILTRATION, SAMPLE		GW	4	
		48MW1									
120408	744409		07/12/2016 1155		120462	RADFORD AAP	FILTRATION, SAMPLE		GW	4	
		49MW01									
120408	744412		07/12/2016 1320		120462	RADFORD AAP	FILTRATION, SAMPLE		GW	4	
		50MW02									
120408	744415		07/12/2016 1330		120462	RADFORD AAP	FILTRATION, SAMPLE		GW	4	
		49TM02									
120408	744417		07/12/2016 1410		120462	RADFORD AAP	FILTRATION, SAMPLE		GW	4	
		071216R1									
120408	744419		07/12/2016 1450		120462	RADFORD AAP	FILTRATION, SAMPLE		GW	4	
		13MW3									
120408	744421		07/12/2016 1550		120462	RADFORD AAP	FILTRATION, SAMPLE		GW	4	
		13MW4									

9 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WFILTRATION,SAMP Analytical Run
127949 on 07/19/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
120462	744969	49MW02	07/13/2016 0910		BERING SEA ENVIRONMENTAL	RADFORD AAP	FILTRATION, SAMPLE		GW	4	
120462	744971	48MW3	07/13/2016 1050		BERING SEA ENVIRONMENTAL	RADFORD AAP	FILTRATION, SAMPLE		GW	4	
120462	744973	48MW2	07/13/2016 1455	Designated MS/MSD	BERING SEA ENVIRONMENTAL	RADFORD AAP	FILTRATION, SAMPLE		GW	4	
120462	744975	13MW2	07/13/2016 1620		BERING SEA ENVIRONMENTAL	RADFORD AAP	FILTRATION, SAMPLE		GW	4	
120462	744977	49MW04	07/13/2016 1625		BERING SEA ENVIRONMENTAL	RADFORD AAP	FILTRATION, SAMPLE		GW	4	

5 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WFILTRATION,SAMP Analytical Run
127950 on 08/10/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
120518	745777	54MW13	07/14/2016 1045		BERING SEA ENVIRONMENTAL	RADFORD AAP	FILTRATION, SAMPLE		GW	4	
1	SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC										

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WPH Analytical Run
127894 on 07/18/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
120462	744978		07/13/2016	1630		BERING SEA ENVIRONMENTAL	RADFORD AAP	PH		GW	**4**	
		49ADW01										
120518	745779		07/14/2016	1100		BERING SEA ENVIRONMENTAL	RADFORD AAP	PH		GW	**4**	
		54ADW01										
	746495		07/13/2016	1630				PH				
		49ADW01			DUP 744978							

3 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

CT Laboratories

FWC20,21-01
Data Validation Checklist

LIMS #: 127894	Method: pH EPA 150.1			
Analysis Date	Analyst / Data Interpreter	Independent Reviewer	Date of Review	Approved
7/19/12	JS	CG	7/20/12	Yes ... No

Instructions: Complete one checklist per *analytical run*. Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement:	Acceptance Criteria	Analyst Review		Independent Review		Comments: (indicate reference to an attachment if necessary)
		Yes	No	Yes	No	
1. Was the calibration slope recorded on the bench sheet?	—	X		X		
2. Were duplicates analyzed at the appropriate frequency?	1 every 20 samples of the same matrix	X		X		
3. Were the duplicates within acceptable limits?	Differ by ≤ 0.10 pH units	X		X		
4. Are all samples on the job lists accounted for?	—	X		X		

Mettler Toledo (Easy Seven) Instrument Run Logbook

Date / In	Start Time	End Time	Test (Analyte)	Sample Run # (s) / Prep Batch # (s)	Comments:
4/20/16 SAW	15:45	17:10	pH	125134, 35, 36	
4/28/16 SAW	10:00	10:50	pH	125465, 66, 67	
5/5/16 SAW	11:45	15:50	pH	125711, 12, 13, 14, 15	
5/9/16 MER	15:00	15:15	pH	125838	
5/10/16 VTS	15:00	15:30	Hexchrom Soil	125826, 7	
5/11/16 SAW	10:40	11:40	pH	125916	
5/17/16 MER	10:40	11:10	pH	126099	
5/24/16 MER	12:45	13:45	pH	126351, 352, 353, 354	
6/1/16 SAW	14:15	16:30	pH	126614, 16, 17, 18, 19, 20	
6/7/16 SAW	0940	1040	pH	126772, 773, 774	
6/8/16 MER	1700	1705	pH	126844	
6/14/16 DS	1000	1100	pH	126977, 78, 79	
6/23/16 VTS	1500	1600	pH	127151, 52	
6/29/16 SAW	1310	1445	pH	127391, 392	
6/30/16 VTS	1130	1145	pH	127453	
7/5/16 SAW	1440	1450	pH	127509	
7/6/16 SAW	1100	1150	pH	127541, 542, 543	
7/12/16 SAW	1030	1110	pH	127689	
7/18/16 VTS	1400	1500	pH	127892, 3, 4	
7/19/16 MER	10:30	10:35	pH	127943	
7/25/16 SAW	11:00	12:00	pH	128096, 128097	

Reviewed By:_____

Daily pH Calibration & Maintenance Logbook

	pH Buffer Reference ID #	----3 Point Calibration----	

Date	Analyst	pH 7	pH 4	pH 10	1st Buffer	2nd Buffer	3rd Buffer	Slope %	Temp. °C	Comments / Maintenance Performed (if any)
6/29/16	VJS	W36459	W36995	W38037	7.03	4.00	10.07	99	19.1	
7/5/16	SAW	W36459	W36995	W38037	7.02	4.00	10.06	98%	19.8	
7/6/16	SAW	W36459	W36995	W38037	7.03	4.00	10.09	99%	19.0	
7/12/16	SAW	W36459	W36995	W38057	7.03	4.00	10.07	99%	18.9	
7/18/16	VJS	W36459	W36995	W38037	7.02	4.00	10.07	98%	19.3	
7/19/16	MER	W36459	W36995	W38037	7.02	4.00	10.07	99%	18.9	
7/25/16	SAW	W36459	W36995	W38057	7.02	4.00	10.06	99%	19.9	

WetChem Logbook 3
02/04/2015
NOTEBOOK VIEW: LTN_WetChem_3_Default, NOTEBOOK: WetChem_3, PAGE: 16
Page is Unlocked
Page is not Witnessed
Project: Unassigned
Page Title: 022615

Standard ID#:	W36459	Vendor:	MG SCIENTIFIC
Analyst:	MER	Chemical:	PH 7 BUFFER
Date Received:	11/8/14	Lot #:	4408476
Expiration Date (if any):	08/2016	Catalog #:	1551-1

Standard Log #:	W36460	Standard:	RESIDUAL CL LCS
Analyst:	MER	Concentration:	1mg/L
Prep Date:	2/26/15	Expiration Date (2 Years):	2/26/17
Prep:	Into a 100 mL volumetric flask, pipette 0.1mL potassium permanganate stock (1000 mg/L) W33725 and fill to volume with DI H_2O.		

Standard Log #:	W36461	Standard:	TKN/TPHOS Spiking Solution
Analyst:	MER	Concentration:	200mg/L NH_3 as N and PO_4^{-3} as P
Prep Date:	2/26/15	Expiration Date (1 month):	3/26/15
Prep:	Into a 100mL volumetric flask, pipetted 20mL of TPHOS ICV/LCS Stock Standard (1000mg/L) W36090 and 20mL NH_3/TKN ICV/LCS Stock Standard (1000mg/L) W35823 and brought to volume with DI H_2O.		

Ct Laboratories LLC

WetChem Logbook 3
02/04/2015
NOTEBOOK VIEW: LTN_WetChem_3_Default, NOTEBOOK: WetChem_3, PAGE: 77
Page is Locked
Author: mradske on: 03.06.2015 09:18:44
Page is not Witnessed
Project: Unassigned
Page Title: 060215

Standard Log #:	W36993	Standard:	LCS/ICV Working
Analyst:	MML	Concentration:	10 mg/L
Prep Date:	6/2/15	Expiration Date (1 Week):	6/9/15
Prep:	Into a 100 mL volumetric flask pipette 1 mL CN LCS/ICV stock (1000mg/L) W36845 and fill to volume with 0.25N NaOH W36990 .		

Standard Log #:	W36994	Standard:	CN SOLID LCS/ICV
Analyst:	MML	Concentration:	50 pg/L
Prep Date:	6/2/15	Expiration Date (1 Week):	6/9/15
Prep:	Into a 200 mL volumetric flask pipetted 1 mL CN LCS/ICV WORKING STD 10,000 µg/L W36993 and brought to volume with 0.25 M NaOH W36990		

Standard ID#:	W36995	Vendor:	RICCA
Analyst:	MER	Chemical:	PH 4 BUFFER
Date Received:	5/29/15	Lot #:	4505426
Expiration Date (if any):	5/31/17	Catalog #:	1501-1

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Ct Laboratories LLC

LPWC01_05
WetChem Prep Logbook
Logbook Created: 11/25/15

NOTEBOOK VIEW: LTN_LPWC01_5_Default, NOTEBOOK: LPWC01_5, PAGE: 1
Page is Locked
Author: mradske on: 02.12.2015 15:41:32
Witness: lsilvers on: 03.12.2015 20:23:30
Project: Unassigned
Page Title: 120115

Standard ID#:	W38037	Vendor:	RICCA
Analyst:	MER	Chemical:	PH 10 BUFFER
Date Received:	11/24/15	Lot #:	2509915
Expiration Date (if any):	MAR 2017	Catalog #:	1601-1CT

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CT Laboratories, LLC

W CARBON, INORG & ORG Analytical Run
127752 on 08/10/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	746466							W CARBON, INORG & ORG				
					ICV							
	746467							W CARBON, INORG & ORG				
					ICB							
	745253							W CARBON, INORG & ORG				
					CCV				0			
	745254							W CARBON, INORG & ORG				
					LCSW				0			
	745255							W CARBON, INORG & ORG				
					MBW				0			
	745256							W CARBON, INORG & ORG				
					CCV				0			
	745257							W CARBON, INORG & ORG				
					CCB				0			
120379	743829		07/11/2016	1315		BERING SEA ENVIRONMENTAL	RADFORD AAP	CARBON, INORG & ORG		GW	**4**	N
		54MW12			Designated MS/MSD							
RERUN		54MW12			Designated MS/MSD							
120379	743851		07/11/2016	1525		BERING SEA ENVIRONMENTAL	RADFORD AAP	CARBON, INORG & ORG		GW	**4**	N
		54MW1										
RERUN		54MW1										
120379	743879		07/11/2016	1130		BERING SEA ENVIRONMENTAL	RADFORD AAP	CARBON, INORG & ORG		GW	**4**	N
		54MW10										
RERUN		54MW10										
120379	743881		07/11/2016	1145		BERING SEA ENVIRONMENTAL	RADFORD AAP	CARBON, INORG & ORG		GW	**4**	N
		54TM10										
RERUN		54TM10										
	746464							W CARBON, INORG & ORG				
					CCV							
	746465							W CARBON, INORG & ORG				
					CCB							
120379	743883		07/11/2016	1445		BERING SEA ENVIRONMENTAL	RADFORD AAP	CARBON, INORG & ORG		GW	**4**	N
		071116R1										
RERUN		071116R1										
	746469							W CARBON, INORG & ORG				
					CCV							
	746470							W CARBON, INORG & ORG				
					CCB							

21 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WORGANIC CARBON QSM 5.0 Analytical Run
127753 on 08/10/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	746471								WORGANIC CARBON QSM 5.0				
					ICV								
	746472								WORGANIC CARBON QSM 5.0				
					ICB								
	745261								WORGANIC CARBON QSM 5.0				
					CCV					0			
	745262								WORGANIC CARBON QSM 5.0				
					LCSW					0			
	745263								WORGANIC CARBON QSM 5.0				
					MBW					0			
120379	743829		07/11/2016	1315			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	4	N
		54MW12			Designated MS/MSD								
	745264		07/11/2016	1315					ORGAN CARBON T QSM 5.0				
		54MW12			DUP	743829				0			
	745265		07/11/2016	1315					ORGAN CARBON T QSM 5.0				
		54MW12			MSW	743829				0			
	745266		07/11/2016	1315					ORGAN CARBON T QSM 5.0				
		54MW12			MSDW	745265				0			
120379	743851		07/11/2016	1525			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	4	N
		54MW1											
120379	743879		07/11/2016	1130			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	4	N
		54MW10											
120379	743881		07/11/2016	1145			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	4	N
		54TM10											
120379	743883		07/11/2016	1445			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	4	N
		071116R1											
120408	744395		07/12/2016	0900			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	4	
		48MW6											
120408	744398		07/12/2016	0910			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	4	
		49TM01											
	745267								WORGANIC CARBON QSM 5.0				
					CCV					0			
	745268								WORGANIC CARBON QSM 5.0				
					CCB					0			
120408	744400		07/12/2016	1035			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	4	
		48MW1											
120408	744408		07/12/2016	1155			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	4	
		49MW01											

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WORGANIC CARBON QSM 5.0 Analytical Run
127753 on 08/10/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
120408	744411	50MW02	07/12/2016	1320		BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	**4**	
120408	744414	49TM02	07/12/2016	1330		BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	**4**	
120408	744416	071216R1	07/12/2016	1410		BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	**4**	
120408	744418	13MW3	07/12/2016	1450		BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	**4**	
120408	744420	13MW4	07/12/2016	1550		BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	**4**	
	745269							WORGANIC CARBON QSM 5.0				
					CCV				0			
	745280							WORGANIC CARBON QSM 5.0				
					CCB				0			

26 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

FWC39-01 Data Review Checklist

		Method: Total Organic Carbon Method 415.1/9060	Independent Data Review Checklist		Instrument: TOCW
LIMS Run #(s)	**Analysis Date**	**Interpreter**	**Independent Reviewer**	**Date of Review**	**Approved? (Yes or No)**
127751 127752 127753 127805	07/14/2016	RLD	07/19/2016		Yes

Instructions: Complete one checklist per *analytical sequence* . Enter the appropriate response for each question.
Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

		Analyst Review		**Independent Review**		**Comments:**
		Yes	No	Yes	No	(indicate reference to an attachment if necessary)
1. Were the samples preserved prior to analysis and analyzed within hold time?	pH <2, 28 days or program/project specific	Yes		Yes		If No: Qualify data analyzed after hold time (H).
2. Was the calibration curve performed using the required number of standards?	3 standards and a blank	Yes		Yes		If No: Recalibrate using required number of standards.
3. Was the correlation coefficient acceptable?	r ≥ .995	Yes		Yes		If No: Recalibrate.
4. Were the ICV and ICB analyzed?	---	Yes		Yes		If No: Analyze ICV and ICB prior to any sample analyses.
5. Was the ICV result acceptable?	90 – 110 % Rec. or contract/program specific	Yes		Yes		If No: Reanalyze, if NO after second analysis, address problem and recalibrate.
6. Was the ICB result acceptable?	< LOD or contract/program specific	Yes		Yes		If No: address possible contamination and reanalyze.
7. Was an LCS & MB run with each batch of samples?	One each per analytical batch or contract/program specific frequency.	Yes		Yes		If No: Reanalyze affected samples with appropriate QC.
8. Was the LCS recovery acceptable?	In-house derived or contract/program specific limits.	Yes		Yes		If No: Reanalyze affected samples with an acceptable LCS when possible, otherwise qualify affected samples (Q).
9. Were the MB results acceptable?	< LOD or project/ program specific (<1/2 RL for DOD-QSM).	Yes		Yes		If No: Reanalyze affected samples with acceptable MB when possible, otherwise qualify affected samples (B).
10. Were the CCV's analyzed at the required frequency?	Beginning, after every 10 sample, & at the end of a sequence.	Yes		Yes		If No: Reanalyze affected samples with appropriate CCV intervals.
11. Were the CCB's analyzed at the required frequency?	After each CCV (unless MB analyzed after CCV)	Yes		Yes		If No: Reanalyze affected samples with appropriate CCB intervals.
12. Were the CCV recoveries acceptable?	90 – 110 % Rec. or project/ program specific	Yes		Yes		If No: Reanalyze affected samples.
13. Were the CCB results acceptable?	< LOD or project/ program specific	Yes		Yes		If No: Reanalyze affected samples with acceptable CCB when possible, otherwise qualify affected samples (B).

14. Were all positive results that were reported within the calibration curve?	---	Yes		Yes		If No: Dilute sample and reanalyze.
15. Was an MS and MSD analyzed at the required frequency?	1 / 20 of the same matrix or project/ program specific	Yes		Yes		If No: Prepare and analyze the matrix spikes.
16. Were the MS and MSD recoveries acceptable?	In-house derived or project/ program specific limits	Yes		Yes		If No: Qualify the affected parent sample result (M).
17. Was the RPD between the MS and MSD acceptable?	In-house derived or project/ program specific limits	Yes		Yes		If No: Qualify the affected parent sample result (Y).
18. Was a Duplicate analyzed at the required frequency?	1 per 20 of the same matrix or contract/program specific	Yes		Yes		If No: Analyze the duplicate for appropriate sample.
19. Was the RPD between the Duplicate (if valid) and the sample acceptable?	In-house derived or project/ program specific limits (QSM samples, duplicate only valid when sample result ≥5x the LOQ)	Yes		Yes		If No: Qualify the affected parent sample result (Y).
20. Are all samples on the job lists accounted for?	---	Yes		Yes		If No: Analyze samples that were missed.
21. Is the standards prep log numbers noted on the analytical report?	---	Yes		Yes		If No: Document the standards used for calibration and analysis.
22. Were post analysis corrections addressed and/or the Audit Trail function turned on (if available)?	Correction should be initialed, dated, and reason given. Audit trail must be on (if available)	Yes		Yes		If No: Initial, date, and state reason for any changes or corrections.
23. Were non-matrix related nonconformities (if applicable) documented in the NCR spreadsheet?	---	Yes		Yes		If No: Enter nonconformity information into the NCR spreadsheet before data review/validation.

WORGANIC CARBON QSM 5.0 Analytical Run
127922 on 08/10/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	747374								WORGANIC CARBON QSM 5.0				
					CCV					0			
	747375								WORGANIC CARBON QSM 5.0				
					LCSW					0			
	747376								WORGANIC CARBON QSM 5.0				
					MBW					0			
120462	744939		07/13/2016	0910			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	4	
		49MW02											
120462	744970		07/13/2016	1050			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	4	
		48MW3											
120462	744972		07/13/2016	1455			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	4	
		48MW2			Designated MS/MSD								
	747377		07/13/2016	1455					ORGAN CARBON T QSM 5.0				
		48MW2			DUP	744972				0			
	747378		07/13/2016	1455					ORGAN CARBON T QSM 5.0				
		48MW2			MSW	744972				0			
	747379								WORGANIC CARBON QSM 5.0				
					CCV					0			
	747380								WORGANIC CARBON QSM 5.0				
					CCB					0			
	747381		07/13/2016	1455					ORGAN CARBON T QSM 5.0				
		48MW2			MSDW	747378				0			
120462	744974		07/13/2016	1620			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	4	
		13MW2											
120462	744976		07/13/2016	1625			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	4	
		49MW04											
	747382								WORGANIC CARBON QSM 5.0				
					CCV					0			
	747383								WORGANIC CARBON QSM 5.0				
					CCB					0			
120518	745769		07/14/2016	1045			BERING SEA ENVIRONMENTAL	RADFORD AAP	ORGAN CARBON T QSM 5.0		GW	4	
		54MW13											
	747384								WORGANIC CARBON QSM 5.0				
					CCV					0			
	747385								WORGANIC CARBON QSM 5.0				
					CCB					0			

18 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

W CARBON, INORG & ORG Analytical Run
127924 on 08/10/2016

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	747402							W CARBON, INORG & ORG				
					CCV				0			
	747403							W CARBON, INORG & ORG				
					LCSW				0			
	747404							W CARBON, INORG & ORG				
					MBW				0			
	747405							W CARBON, INORG & ORG				
					CCV				0			
	747406							W CARBON, INORG & ORG				
					CCB				0			
	747407							W CARBON, INORG & ORG				
					CCV				0			
	747409							W CARBON, INORG & ORG				
					CCB				0			
120518	745769	54MW13	07/14/2016	1045		BERING SEA ENVIRONMENTAL	RADFORD AAP	CARBON, INORG & ORG		GW	**4**	
	747457							W CARBON, INORG & ORG				
					CCV							
	747456							W CARBON, INORG & ORG				
					CCB							

10 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

FWC39-01 Data Review Checklist

		Method: Total Organic Carbon Method 415.1/9060	Independent Data Review Checklist		Instrument: TOCW
LIMS Run #(s)	**Analysis Date**	**Interpreter**	**Independent Reviewer**	**Date of Review**	**Approved? (Yes or No)**
127921,127922, 127923, 127924	07/19/2016	JJF/AMA	RLD	07/20/2016	Yes

Instructions: Complete one checklist per *analytical sequence* . Enter the appropriate response for each question.
Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

		Analyst Review		**Independent Review**		**Comments:**
		Yes	No	Yes	No	(indicate reference to an attachment if necessary)
1. Were the samples preserved prior to analysis and analyzed within hold time?	pH <2, 28 days or program/project specific	Yes		Yes		If No: Qualify data analyzed after hold time (H).
2. Was the calibration curve performed using the required number of standards?	3 standards and a blank	Yes		Yes		If No: Recalibrate using required number of standards.
3. Was the correlation coefficient acceptable?	r ≥ .995	Yes		Yes		If No: Recalibrate.
4. Were the ICV and ICB analyzed?	---	Yes		Yes		If No: Analyze ICV and ICB prior to any sample analyses.
5. Was the ICV result acceptable?	90 – 110 % Rec. or contract/program specific	Yes		Yes		If No: Reanalyze, if NO after second analysis, address problem and recalibrate.
6. Was the ICB result acceptable?	< LOD or contract/program specific	Yes		Yes		If No: address possible contamination and reanalyze.
7. Was an LCS & MB run with each batch of samples?	One each per analytical batch or contract/program specific frequency.	Yes		Yes		If No: Reanalyze affected samples with appropriate QC.
8. Was the LCS recovery acceptable?	In-house derived or contract/program specific limits.	Yes		Yes		If No: Reanalyze affected samples with an acceptable LCS when possible, otherwise qualify affected samples (Q).
9. Were the MB results acceptable?	< LOD or project/ program specific (<1/2 RL for DOD-QSM).	Yes		Yes		If No: Reanalyze affected samples with acceptable MB when possible, otherwise qualify affected samples (B).
10. Were the CCV's analyzed at the required frequency?	Beginning, after every 10 sample, & at the end of a sequence.	Yes		Yes		If No: Reanalyze affected samples with appropriate CCV intervals.
11. Were the CCB's analyzed at the required frequency?	After each CCV (unless MB analyzed after CCV)	Yes		Yes		If No: Reanalyze affected samples with appropriate CCB intervals.
12. Were the CCV recoveries acceptable?	90 – 110 % Rec. or project/ program specific	Yes		Yes		If No: Reanalyze affected samples.
13. Were the CCB results acceptable?	< LOD or project/ program specific	Yes		Yes		If No: Reanalyze affected samples with acceptable CCB when possible, otherwise qualify affected samples (B).

14. Were all positive results that were reported within the calibration curve?	---	Yes		Yes		If No: Dilute sample and reanalyze.
15. Was an MS and MSD analyzed at the required frequency?	1 / 20 of the same matrix or project/ program specific	Yes		Yes		If No: Prepare and analyze the matrix spikes.
16. Were the MS and MSD recoveries acceptable?	In-house derived or project/ program specific limits	Yes		Yes		If No: Qualify the affected parent sample result (M).
17. Was the RPD between the MS and MSD acceptable?	In-house derived or project/ program specific limits	Yes		Yes		If No: Qualify the affected parent sample result (Y).
18. Was a Duplicate analyzed at the required frequency?	1 per 20 of the same matrix or contract/program specific	Yes		Yes		If No: Analyze the duplicate for appropriate sample.
19. Was the RPD between the Duplicate (if valid) and the sample acceptable?	In-house derived or project/ program specific limits (QSM samples, duplicate only valid when sample result ≥5x the LOQ)	Yes		Yes		If No: Qualify the affected parent sample result (Y).
20. Are all samples on the job lists accounted for?	---	Yes		Yes		If No: Analyze samples that were missed.
21. Is the standards prep log numbers noted on the analytical report?	---	Yes		Yes		If No: Document the standards used for calibration and analysis.
22. Were post analysis corrections addressed and/or the Audit Trail function turned on (if available)?	Correction should be initialed, dated, and reason given. Audit trail must be on (if available)	Yes		Yes		If No: Initial, date, and state reason for any changes or corrections.
23. Were non-matrix related nonconformities (if applicable) documented in the NCR spreadsheet?	---	Yes		Yes		If No: Enter nonconformity information into the NCR spreadsheet before data review/validation.

TOC Instrument Run Logbook

Start Date	Start Time	End Date	End Time	Analyst	LIMs Run #	Matrix (S or W)	Calibration ID #	COMMENTS
06/16/16	13:04	15 53	← 06/16/16	JJF	126925	S	TOC065	
06/18/16	16:32	06/19/16	21:38	JJF	126981	W	TOC006	
06/17/16	18:01	06/21/16	16:29	JJF	127037 127038	S	TOC105	
06/20/16	19:01	06/20/16	16:27	JJF	127081 127088	S	TOC065	
06/22/16	10:09	06/22/16	1:34	JJF	127 [illegible]	S	TOC105	
06/28/16	17:16	06/29/16	00:01	JJF	127245 127248	W	TOC006	
06/24/16	12:50	06/24/16	19:10	JJF	127282 127283	W	TOC006	
07/06/16	15:07 13:32	07/07/16	16:08	JJF	127317	S	TOC105	
07/11/16	16:12	07/13/16	03 53	JJF	127538 127562 127631	W	TOC006	
07/12/16	13:31	07/12/16	15 28	JJF	RR 127538 127617	W	TOC006	LCS/LCSD
07/14/16	14:50	07/15/16	07:22	JJF	127751, 127752 127753 127805 127827	W	TOC006	
07/19/16	10:07	07/19/16	21:14	JJF	127921 127922 127923	W	TOC006	

Reviewed By: _____

LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 67
Page is Locked
Author: jfaust on: 13.07.2016 14:03:46
Page is not Witnessed
Project: Unassigned
Page Title: 071116

Standard Log #:	TOC0113	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	07/11/16	Expiration Date (1 Month):	08/11/16
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0114	Standard:	TOCW LCS Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	07/11/16	Expiration Date (1 Month):	08/11/16
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0086 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0115	Standard:	TOCW LOD Check
Analyst:	JJF	Concentration:	1.5 mg/L
Prep Date:	07/11/2016	Expiration Date (1 Month):	08/11/2016
Prep:	Into a 100 mL volumetric flask, pipetted 0.15mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0116	Standard:	TOCW LOQ Check
Analyst:	JJF	Concentration:	3.0 mg/L
Prep Date:	07/11/2016	Expiration Date (1 Month):	08/11/2016
Prep:	Into a 100 mL volumetric flask, pipetted 0.30mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 65
Page is Locked
Author: JFAUST on: 27.06.2016 11:35:58
Page is not Witnessed
Project: Unassigned
Page Title: N/A

Standard Log #:	TOC0111	Standard:	TOCW LCS Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	06/27/2016	Expiration Date (1 Month):	07/27/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0086 and brought to volume with Milli-Q DI H_2O.		

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LPVO2-01
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Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 64
Page is Locked
Author: JFAUST on: 27.06.2016 11:51:49
Page is not Witnessed
Project: Unassigned
Page Title: 062416

Standard Log #:	TOC0110	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	06/24/2016	Expiration Date (1 Month):	07/24/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 60
Page is Locked
Author: JFAUST on: 10.06.2016 13:14:16
Page is not Witnessed
Project: Unassigned
Page Title: 060316

Standard Log #:	TOC0102	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	06/03/2016	Expiration Date (1 Month):	07/03/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0103	Standard:	TOCW LCS Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	06/03/2016	Expiration Date (1 Month):	07/03/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0086 and brought to volume with Milli-Q DI H_2O.		

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LPVO2-01
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NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 58
Page is Unlocked
Page is not Witnessed
Project: Unassigned
Page Title: 052016

Standard Log #:	TOC0099	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	05/20/2016	Expiration Date (1 Month):	06/20/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

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LPVO2-01
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NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 56
Page is Locked
Author: jfaust on: 09.05.2016 16:24:51
Page is not Witnessed
Project: Unassigned
Page Title: 050916

Standard Log #:	TOC0096	Standard:	TOCW Ical.
Analyst:	JJF		
Prep Date:	05/09/2016	Expiration Date (1 Month):	06/09/2016

Prep:

Into seven 50mL volumetric flasks, pipetted the following amounts of TOCW Ical/CCV Stock Std. (1000mg/L) TOC and brought to volume with Milli-Q H_20:

Level	ICal Stock (mL)	True Value (µg/L)
1	0	0
2	0.05	1
3	0.25	5
4	0.5	10
5	1.25	25
6	2.5	50
7	5.0	100

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 55
Page is Locked
Author: jfaust on: 09.05.2016 16:23:08
Page is not Witnessed
Project: Unassigned
Page Title: 050316

Standard Log #:	TOC0093	Standard:	TOCW LOD Check
Analyst:	JJF	Concentration:	1.5 mg/L
Prep Date:	05/03/2016	Expiration Date (1 Month):	06/03/2016
Prep:	Into a 100 mL volumetric flask, pipetted 0.15mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0094	Standard:	TOCW LOQ Check
Analyst:	JJF	Concentration:	3.0 mg/L
Prep Date:	05/03/2016	Expiration Date (1 Month):	06/03/2016
Prep:	Into a 100 mL volumetric flask, pipetted 0.30mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0095	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	05/03/2016	Expiration Date (1 Month):	06/03/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

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TOC Prep Logbook
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NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 54
Page is Locked
Author: JFAUST on: 03.05.2016 09:35:46
Page is not Witnessed
Project: Unassigned
Page Title: 050216

Standard Log #:	TOC0092	Standard:	TOCW Ical.
Analyst:	JJF		
Prep Date:	05/02/2016	Expiration Date (1 Month):	06/02/2016

Prep:

Into seven 50mL volumetric flasks, pipetted the following amounts of TOCW Ical/CCV Stock Std. (1000mg/L) TOC0049 and brought to volume with Milli-Q H_20:

Level	ICal Stock (mL)	True Value (µg/L)
1	0	0
2	0.05	1
3	0.25	5
4	0.5	10
5	1.25	25
6	2.5	50
7	5.0	100

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NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 53
Page is Locked
Author: jfaust on: 02.05.2016 15:50:25
Page is not Witnessed
Project: Unassigned
Page Title: 042816

Standard Log #:	TOC0089	Standard:	TOCW LCS Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	04/28/2016	Expiration Date (1 Month):	05/28/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0086 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0090	Standard:	TOCW LOD Check
Analyst:	JJF	Concentration:	1.5 mg/L
Prep Date:	04/28/2016	Expiration Date (1 Month):	05/28/2016
Prep:	Into a 100 mL volumetric flask, pipetted 0.15mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0091	Standard:	TOCW LOQ Check
Analyst:	JJF	Concentration:	3.0 mg/L
Prep Date:	04/28/2016	Expiration Date (1 Month):	05/28/2016
Prep:	Into a 100 mL volumetric flask, pipetted 0.30mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

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LPVO2-01
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NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 52
Page is Locked
Author: jfaust on: 28.04.2016 09:46:26
Page is not Witnessed
Project: Unassigned
Page Title: 042616

Standard Log #:	TOC0086	Standard/Reagent:	TOC STD STOCK LCS/ICV
Analyst:	JJF	Final Concentration:	1000 mg/L
Prep Date:	04/26/2016	Expiration Date:	02/2018
Prep:	AccuSPEC TOC standard lot#S160202020 cat # 250-250-051		

Standard Log #:	TOC0087	Standard:	TOCW LCS Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	04/26/2016	Expiration Date (1 Month):	05/26/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0086 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0088	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	04/26/2016	Expiration Date (1 Month):	05/26/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

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LPVO2-01
TOC Prep Logbook
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NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 50
Page is Locked
Author: JFAUST on: 20.04.2016 08:29:42
Page is not Witnessed
Project: Unassigned
Page Title: 041416

Standard Log #:	TOC0081	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	04/14/2016	Expiration Date (1 Month):	05/14/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0082	Standard:	TOCW LCS Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	04/14/2016	Expiration Date (1 Month):	05/14/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0011 and brought to volume with Milli-Q DI H_2O.		

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NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 49
Page is Locked
Author: AAnstett on: 30.03.2016 16:30:06
Page is not Witnessed
Project: Unassigned
Page Title: 032916

Standard Log #:	TOC0080	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	03/29/2016	Expiration Date (1 Month):	04/29/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

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Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 48
Page is Locked
Author: JFAUST on: 29.03.2016 09:29:21
Witness: AAnstett on: 30.03.2016 16:29:44
Project: Unassigned
Page Title: N/A

Standard Log #:	TOC0079	Standard:	TOCW LCS Std.
Analyst:	AMA	Concentration:	50 mg/L
Prep Date:	03/22/2016	Expiration Date (1 Month):	04/22/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0011 and brought to volume with Milli-Q DI H_2O.		

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NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 47
Page is Locked
Author: JFAUST on: 29.03.2016 09:29:15
Witness: AAnstett on: 30.03.2016 16:28:59
Project: Unassigned
Page Title: 031716

Standard Log #:	TOC0078	Standard:	TOCW LCS Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	03/17/2016	Expiration Date (1 Month):	04/17/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0011 and brought to volume with Milli-Q DI H_2O.		

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TOC Prep Logbook
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NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 45
Page is Locked
Author: JFAUST on: 14.03.2016 14:13:41
Witness: AAnstett on: 30.03.2016 16:28:14
Project: Unassigned
Page Title: 030916

Standard Log #:	TOC0075	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	03/09/2016	Expiration Date (1 Month):	04/09/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0076	Standard:	TOCW LCS Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	03/09/2016	Expiration Date (1 Month):	04/09/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0011 and brought to volume with Milli-Q DI H_2O.		

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LPVO2-01
TOC Prep Logbook
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NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 42
Page is Locked
Author: JFAUST on: 12.02.2016 08:30:14
Page is not Witnessed
Project: Unassigned
Page Title: 020916

Standard Log #:	TOC0066	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	02/09/2016	Expiration Date (1 Month):	03/09/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0067	Standard:	TOCW LCS Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	02/09/2016	Expiration Date (1 Month):	03/09/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0011 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0068	Standard/Reagent:	TOC MDL WATER
Analyst:	JJF	Final Concentration:	1.5 mg/L
Prep Date:	02/09/2016	Expiration Date:	02/11/2016
Prep:	Into 8 100 mL volumetric flasks pipette 0.15 mL TOC ccv Stock standard @1000 mg/L and dilute to 100 mL with Milli-Q DI water.		

Standard Log #:	TOC0069	Standard:	TOCW LOD Check
Analyst:	JJF	Concentration:	1.5 mg/L
Prep Date:	02/09/2016	Expiration Date (1 Month):	03/09/2016
Prep:	Into a 100 mL volumetric flask, pipetted 0.15mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0070	Standard:	TOCW LOQ Check
Analyst:	JJF	Concentration:	3.0 mg/L
Prep Date:	02/09/2016	Expiration Date (1 Month):	03/09/2016
Prep:	Into a 100 mL volumetric flask, pipetted 0.30mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

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LPVO2-01
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NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 41
Page is Locked
Author: JFAUST on: 09.02.2016 14:52:01
Page is not Witnessed
Project: Unassigned
Page Title: 020816

Standard Log #:	TOC0064	Standard:	TOCW Ical.
Analyst:	JJF		
Prep Date:	02/08/2016	Expiration Date (1 Month):	03/08/2016

Prep:

Into seven 50mL volumetric flasks, pipetted the following amounts of TOCW Ical/CCV Stock Std. (1000mg/L) TOC0049 and brought to volume with Milli-Q H_20:

Level	ICal Stock (mL)	True Value (µg/L)
1	0	0
2	0.05	1
3	0.25	5
4	0.5	10
5	1.25	25
6	2.5	50
7	5.0	100

Standard Log #:	TOC0065	Standard/Reagent:	TOC MDL STD WATER
Analyst:	JJF	Final Concentration:	1 mg/L
Prep Date:	02/08/2016	Expiration Date:	02/10/2016
Prep:	Into 8 100 mL volumetric flasks add 0.10 mL (TOC 0049) @ 1000 mg/L and dilute to 100 mL with Milli-Q water.		

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NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 37
Page is Locked
Author: jfaust on: 25.01.2016 10:48:11
Page is not Witnessed
Project: Unassigned
Page Title: 012216

Standard Log #:	TOC0058	Standard:	TOCW Ical.
Analyst:	JJF		
Prep Date:	01/22/2016	Expiration Date (1 Month):	02/22/2016

Prep:

Into seven 50mL volumetric flasks, pipetted the following amounts of TOCW Ical/CCV Stock Std. (1000mg/L) TOC and brought to volume with Milli-Q H_20:

Level	ICal Stock (mL)	True Value (µg/L)
1	0	0
2	0.05	1
3	0.25	5
4	0.5	10
5	1.25	25
6	2.5	50
7	5.0	100

Standard Log #:	TOC0059	Standard:	TOCW LCS Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	01/22/2016	Expiration Date (1 Month):	02/22/2016

Prep:

Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0011 and brought to volume with Milli-Q DI H_2O.

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 36
Page is Unlocked
Page is not Witnessed
Project: Unassigned
Page Title: 012016

Standard Log #:	TOC0057	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	01/20/2016	Expiration Date (1 Month):	02/20/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

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LPVO2-01
TOC Prep Logbook
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NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 35
Page is Unlocked
Page is not Witnessed
Project: Unassigned
Page Title: 011916

Standard Log #:	TOC0055	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	01/19/2016	Expiration Date (1 Month):	02/19/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0056	Standard:	TOCW LCS Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	01/19/2016	Expiration Date (1 Month):	02/19/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0011 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0057	Standard/Reagent:	TOCW MDL STUDY
Analyst:	JJF	Final Concentration:	1 mg/L
Prep Date:	01/19/2016	Expiration Date:	01/21/2016
Prep:	Into 8 100 mL volumetric flasks add 0.10 mL TOC CCV Standard (TOC0049) @ 1000 mg/L and dilute to 100 mL with Milli-Q water.		

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LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 32
Page is Unlocked
Page is not Witnessed
Project: Unassigned
Page Title: 121615

Standard Log #:	TOC0050	Standard:	TOCW CCV Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	12/16/2015	Expiration Date (1 Month):	1/16/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0049 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0051	Standard:	TOCW LCS Std.
Analyst:	JJF	Concentration:	50 mg/L
Prep Date:	12/16/2015	Expiration Date (1 Month):	1/16/2016
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0011 and brought to volume with Milli-Q DI H_2O.		

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LPVO2-01
TOC Prep Logbook
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NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 31
Page is Locked
Author: JFAUST on: 16.12.2015 15:27:30
Page is not Witnessed
Project: Unassigned
Page Title: 120215

Standard Log #:	TOC0049	Standard/Reagent:	TOC STANDARD
Analyst:	JJF	Final Concentration:	1002 mg/L
Prep Date:	12/02/2015	Expiration Date:	09/30/2017
Prep:	TOC STANDARD lot # CM-4449 Catalog # IQC-106		

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TOC Logbook 01

01/12/2015

NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 6
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Page is not Witnessed
Project: Unassigned
Page Title: 031715

Standard ID#:	TOC0011	Vendor:	SCP Science
Analyst:	BMS	Chemical:	TOCW LCS Stock Std. (1000mg/L)
Date Received:	03/17/2015	Lot #:	S150304004
Expiration Date (if any):	03/2017	Catalog #:	250-250-05x

1

CT Laboratories, LLC

W34137 TOCW ICAL Into seven 50mL vol. Flasks, pipetted 0, 0.05, 0.25, 0.50, 1.25, 2.50 and 5.0 mL of 1000 mg/L ICAL/CCV Stock (W34125) and brought to volume with milli-Q H_2O. Exp. 05/21/14
mms 04/21/14

W34138 TOCW ICV Into a 50mL vol. Flask, pipetted 2.50 mL of 1000mg/L ICV/LCS Stock std (W34126) and brought to volume with milli-Q H_2O. Exp. 05/21/14
mms 04/21/14

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4/22/14 cz

Signed Date Signed Date

Notebook No. _____ 31

PROJECT _____ Continued From Page _____

W34123 MS 04/18/14 — TOC/W LCV Std (50mg/L) - Into a 100mL vol Flask, pipetted 5.0 mL of ~~W33870~~ W34125 mes 04/18/14 exp. 05/18/14 & brought to volume with milli-Q H_2O

W34124 MS 04/18/14 — TOC/W LCS Std (50mg/L) - Into a 100mL vol Flask, pipetted 5.0 mL of ~~W33871~~ W34126 mes 04/18/14 exp 05/18/14 & brought to volume with milli-Q H_2O

W34125 BMS 04/18/14 — TOC/W ICal/CCV Stock Std. (1000 mg/L): Into a 100 mL vol. dissolved 0.2128g of KHP (W33269) and brought to volume with Milli Q H_2O. Exp. 10/18/14.

W34126 BMS 04/18/14 — TOC/W ICV/LCS Stock Std. (1000 mg/L): Into a 100mL vol, dissolved 0.2128g of KHP (W29879) and brought to volume with Milli Q H_2O. Exp 10/18/14.

Continued on Page _____

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4/19/14 03*

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W33266 GES 1/7/14 — Sodium hypochlorite soln - Fisher cat # SS290-4 lot # 133912 exp 7/2014

W33267 GES 1/7/14 — NH_3 DL Hypochlorite: Into a 500mL vol volumetrically cylinder 30mL W33266 & filled to mark w/ DI H_2O exp 1/8/14

W33268 DJS 1/7/14 — TKN MDL ✓: (0.46mg/L) Into a 100mL vol flask pipetted 0.46mL NH_3/TKN 1000mg/L Stock W32416 + filled to volume w/ DI. Then pipetted 20mL into TKN tube.

W33269 Bons 01/07/14 — Potassium Hydrogen Phthalate (KHP): Agros Organics Catelog #: 424061000, Lot#: A0317291 (Received 06/24/13)

W33270 AGK 01/07/14 — TOCW ICAL/ICV stock (1000mg/L): Into a 100mL vol, dissolved 0.2128g KHP (W33269) and brought to volume w/ milli-Q H_2O Exp: 07/07/14

W33271 01/07/14 AGK — TOCW ICV/LCS stock (1000mg/L) Into a 100mL vol, dissolved 0.2128g KHP (W29079) and brought to volume w/ milli-Q H_2O Exp: 07/07/14

W33272 AGK 01/07/14 AGK — TOCW CCV Sto: Into a 100mL vol pipetted 5.0mL of ~~Into~~ W33270 and Brought to Volume with Milli-Q H_2O Exp: 02-07-14

W33273 01/07/14 AGK — TOCW LCS Sto: Into a 100mL vol pipetted 5.0mL of W33271 and brought to volume w/ milli-Q H_2O Exp: 02-07-14

W33274 01/07/14 AGK — TOCW Ical: Into 7 50mL vol, pipetted 0.005, 0.25, 0.5, 1.25, 2.5, and 5.0mL of W33270 and brought to volume with milli-Q H_2O Exp: 02/07/14

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Signed | Date | Signed | Date

SUBCONTRACTED ANALYSIS DOCUMENTS

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e-Hardcopy 2.0
Automated Report

Technical Report for

CT Laboratories

Radford AAP; VA

SGS Accutest Job Number: FA35383

Sampling Date: 07/11/16

Report to:

CT Laboratories
1230 Lange Court
Baraboo, WI 53913
bszymanski@ctlaboratories.com

ATTN: Brett Szymanski

Total number of pages in report: **261**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Norm Farmer
Technical Director

Client Service contact: Heather Wandrey 407-425-6700

Certifications: FL (E83510), LA (03051), KS (E-10327), IA (366), IL (200063), NC (573), NJ (FL002), SC (96038001) DoD ELAP (L-A-B L2229), CA (2937), TX (T104704404), PA (68-03573), VA (460177), AK, AR, GA, KY, MA, NV, OK, UT, WA

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Test results relate only to samples analyzed.

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Sample Summary

CT Laboratories

Radford AAP; VA

Job No: FA35383

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
FA35383-1	07/11/16	13:15	CTL	07/13/16	AQ	Ground Water	743829/54MW12
FA35383-1D	07/11/16	13:15	CTL	07/13/16	AQ	Water Dup/MSD	743829/54MW12
FA35383-1S	07/11/16	13:15	CTL	07/13/16	AQ	Water Matrix Spike	743829/54MW12
FA35383-2	07/11/16	15:25	CTL	07/13/16	AQ	Ground Water	743851/54MW1
FA35383-3	07/11/16	11:30	CTL	07/13/16	AQ	Ground Water	743879/54MW10
FA35383-4	07/11/16	11:45	CTL	07/13/16	AQ	Ground Water	743881/54TM10
FA35383-5	07/11/16	14:45	CTL	07/13/16	AQ	Ground Water	743883/071116R1

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: CT Laboratories **Job No:** FA35383

Site: Radford AAP; VA **Report Date:** 7/28/2016 3:03:09 PM

5 Sample(s) were collected on 07/11/2016 and were received at SGS Accutest Southeast (SASE) on 07/13/2016 properly preserved, at 3.4 Deg. C and intact. These Samples received an SASE job number of FA35383. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Extractables by GCMS By Method SW846 6850

Matrix: AQ **Batch ID:** OP61125

All samples were extracted within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) FA35383-1MS, FA35383-1MSD were used as the QC samples indicated.

Extractables by GC By Method SW846 8330B

Matrix: AQ **Batch ID:** OP61122

All samples were extracted within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) FA35383-1MS, FA35383-1MSD were used as the QC samples indicated.

Blank Spike Recovery(s) for 2-amino-4,6-Dinitrotoluene, 4-amino-2,6-Dinitrotoluene are outside control limits. % recoveries were within control limits in the MS and MSD.

Matrix Spike Recovery(s) for m-Nitrotoluene are outside control limits. Probable cause is due to matrix interference. For method performance in a clean matrix, refer to Blank Spike.

Sample(s) OP61122-MS and OP61122-MSD have surrogates outside control limits.

OP61122-MS and OP61122-MSD for 3,4-Dinitrotoluene: Outside control limits due to dilution.

FA35383-1: All hits confirmed by reanalysis on a dissimilar column.

FA35383-1: Confirmation run.

FA35383-1: All hits confirmed by reanalysis on a dissimilar column.

FA35383-1: Confirmation run.

FA35383-1 for m-Nitrotoluene: Associated MS/MSD outside of control limits.

FA35383-2 for 2-amino-4,6-Dinitrotoluene: Associated BS recovery outside control limits.

FA35383-2 for 4-amino-2,6-Dinitrotoluene: Associated BS recovery outside control limits.

FA35383-3: All hits confirmed by reanalysis on a dissimilar column.

FA35383-3: Confirmation run.

FA35383-3: All hits confirmed by reanalysis on a dissimilar column.

FA35383-3 for 3,5-Dinitroaniline: Elevated reporting limit due to matrix interference.

FA35383-3 for HMX: Elevated reporting limit due to matrix interference.

FA35383-4: All hits confirmed by reanalysis on a dissimilar column.

FA35383-4: Confirmation run.

FA35383-4: All hits confirmed by reanalysis on a dissimilar column.

FA35383-4 for 3,5-Dinitroaniline: Elevated reporting limit due to matrix interference.

FA35383-5 for 2-amino-4,6-Dinitrotoluene: Associated BS recovery outside control limits.

FA35383-5 for 4-amino-2,6-Dinitrotoluene: Associated BS recovery outside control limits.

SGS Accutest (SASE) certifies that this report meets the project requirements for analytical data produced for the samples as received at SASE and as stated on the COC. SASE certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the SASE Quality Manual except as noted above. This report is to be used in its entirety. SASE is not responsible for any assumptions of data quality if partial data packages are used.

Narrative prepared by:

_____ Date: July 28, 2016
Kim Benham, Client Services (signature on file)

Manual Integration Summary

Lab Sample ID	Analysis Type	File ID	Manual Integrations
FA35383-1	GCSEMI	BB051989.D	HMX
FA35383-1	GCSEMI	BB052013.D	1,3,5-Trinitrobenzene, 3,4-Dinitrotoluene, RDX
FA35383-1	GCSEMI	GG059723.D	3,4-Dinitrotoluene
FA35383-3	GCSEMI	BB052016.D	1,3,5-Trinitrobenzene, RDX
FA35383-4	GCSEMI	BB052018.D	1,3,5-Trinitrobenzene, HMX, RDX
GBB1481-CC1481	GCSEMI	BB051995.D	PETN
GBB1481-ECC1481	GCSEMI	BB052000.D	3,4-Dinitrotoluene, PETN, Tetryl
GBB1481-IC1481	GCSEMI	BB051975.D	1,3-Dinitrobenzene, DNX, HMX, m-Nitrotoluene, MNX, Nitrobenzene, Nitroglycerine, p-Nitrotoluene, PETN, RDX, TNX
GBB1481-IC1481	GCSEMI	BB051976.D	DNX, HMX, MNX, PETN, Tetryl, TNX
GBB1481-IC1481	GCSEMI	BB051977.D	Nitroglycerine, PETN, Tetryl
GBB1481-IC1481	GCSEMI	BB051978.D	PETN, Tetryl
GBB1481-IC1481	GCSEMI	BB051980.D	PETN, Tetryl
GBB1481-IC1481	GCSEMI	BB051981.D	PETN, Tetryl
GBB1481-ICC1481	GCSEMI	BB051979.D	PETN, Tetryl
GBB1481-ICV1481	GCSEMI	BB051982.D	DNX, HMX, PETN, TNX
GBB1482-CC1481	GCSEMI	BB052009.D	PETN
GBB1482-ECC1481	GCSEMI	BB052020.D	Nitroglycerine, PETN
GBB1483-CC1481	GCSEMI	BB052022.D	PETN
GBB1483-CC1481	GCSEMI	BB052028.D	DNX, HMX, MNX, Nitroglycerine, PETN, TNX
GBB1483-ECC1481	GCSEMI	BB052038.D	DNX, HMX, MNX, PETN, TNX
GBB1484-CC1481	GCSEMI	BB052040.D	PETN
GBB1484-CC1481	GCSEMI	BB052051.D	PETN
GBB1484-ECC1481	GCSEMI	BB052058.D	DNX, HMX, MNX, PETN, RDX, TNX
GGG2442-ECC2442	GCSEMI	GG059720.D	4-amino-2,6-Dinitrotoluene, PETN
GGG2442-IC2442	GCSEMI	GG059705.D	2,4-Dinitrotoluene, 2,6-Dinitrotoluene, 3,4-Dinitrotoluene, 4-amino-2,6-Dinitrotoluene, Nitroglycerine, p-Nitrotoluene, PETN, TNX
GGG2442-IC2442	GCSEMI	GG059706.D	3,4-Dinitrotoluene, 4-amino-2,6-Dinitrotoluene, Nitroglycerine, p-Nitrotoluene, PETN, TNX
GGG2442-IC2442	GCSEMI	GG059707.D	PETN, TNX
GGG2442-IC2442	GCSEMI	GG059708.D	PETN, TNX
GGG2442-IC2442	GCSEMI	GG059710.D	3,4-Dinitrotoluene, PETN
GGG2442-ICC2442	GCSEMI	GG059709.D	3,4-Dinitrotoluene, PETN, TNX
GGG2442-ICV2442	GCSEMI	GG059712.D	2,6-Dinitrotoluene, 4-amino-2,6-Dinitrotoluene, p-Nitrotoluene, PETN
GGG2443-CC2442	GCSEMI	GG059722.D	PETN
GGG2443-ECC2442	GCSEMI	GG059726.D	1,3,5-Trinitrobenzene, 4-amino-2,6-Dinitrotoluene, p-Nitrotoluene, PETN
OP61122-BS	GCSEMI	BB051985.D	HMX, PETN, TNX
OP61122-BS	GCSEMI	BB052010.D	DNX, HMX, MNX, PETN, TNX
OP61122-MB	GCSEMI	BB051987.D	3,4-Dinitrotoluene
OP61122-MB	GCSEMI	BB052012.D	3,4-Dinitrotoluene
OP61122-MB	GCSEMI	GG059715.D	3,4-Dinitrotoluene

Manual Integration Summary

Lab Sample ID	Analysis Type	File ID	Manual Integrations
OP61122-MS	GCSEMI	BB052014.D	1,3-Dinitrobenzene, DNX, HMX, MNX, Nitrobenzene, Nitroglycerine, o-Nitrotoluene, PETN, RDX, TNX
OP61122-MSD	GCSEMI	BB052015.D	1,3,5-Trinitrobenzene, DNX, HMX, m-Nitrotoluene, MNX, Nitrobenzene, o-Nitrotoluene, p-Nitrotoluene, PETN, RDX, TNX

40 Manual Integrations were found for FA35383

Summary of Hits

Job Number: FA35383
Account: CT Laboratories
Project: Radford AAP; VA
Collected: 07/11/16

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
FA35383-1	**743829/54MW12**					
Perchlorate		0.56	0.20	0.10	ug/l	SW846 6850
HMX [a]		24.1	0.80	0.40	ug/l	SW846 8330B
RDX [a]		0.37	0.20	0.10	ug/l	SW846 8330B
2-amino-4,6-Dinitrotoluene [a]		5.6	0.20	0.10	ug/l	SW846 8330B
4-amino-2,6-Dinitrotoluene [a]		2.8	0.20	0.10	ug/l	SW846 8330B
1,3,5-Trinitrobenzene [a]		14.9	0.20	0.10	ug/l	SW846 8330B
2,4,6-Trinitrotoluene [a]		7.4	0.20	0.10	ug/l	SW846 8330B
FA35383-2	**743851/54MW1**					
No hits reported in this sample.						
FA35383-3	**743879/54MW10**					
Perchlorate		0.84	0.20	0.10	ug/l	SW846 6850
RDX [a]		6.6	0.20	0.10	ug/l	SW846 8330B
2-amino-4,6-Dinitrotoluene [a]		1.9	0.20	0.10	ug/l	SW846 8330B
4-amino-2,6-Dinitrotoluene [a]		2.0	0.20	0.10	ug/l	SW846 8330B
1,3,5-Trinitrobenzene [a]		7.2	0.20	0.10	ug/l	SW846 8330B
2,4,6-Trinitrotoluene [a]		24.2	0.40	0.20	ug/l	SW846 8330B
FA35383-4	**743881/54TM10**					
Perchlorate		0.89	0.20	0.10	ug/l	SW846 6850
HMX [a]		6.3	0.21	0.11	ug/l	SW846 8330B
RDX [a]		7.5	0.21	0.11	ug/l	SW846 8330B
2-amino-4,6-Dinitrotoluene [a]		2.3	0.21	0.11	ug/l	SW846 8330B
4-amino-2,6-Dinitrotoluene [a]		2.1	0.21	0.11	ug/l	SW846 8330B
1,3,5-Trinitrobenzene [a]		9.1	0.21	0.11	ug/l	SW846 8330B
2,4,6-Trinitrotoluene [a]		30.3	0.43	0.21	ug/l	SW846 8330B
FA35383-5	**743883/071116R1**					
No hits reported in this sample.						

(a) All hits confirmed by reanalysis on a dissimilar column.

Sample Results

Report of Analysis

SGS Accutest

Report of Analysis

Client Sample ID: 743829
Lab Sample ID: FA35383-1
Matrix: AQ - Ground Water
Method: SW846 6850 SW846 6850
Project: Radford AAP; VA

Date Sampled: 07/11/16
Date Received: 07/13/16
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q23530.D	1	07/18/16	NAF	07/18/16	OP61125	SQ678
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	0.56	0.20	0.10	0.050	ug/l	

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation DL = Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID: 743829
Lab Sample ID: FA35383-1
Matrix: AQ - Ground Water
Method: SW846 8330B SW846 3535A
Project: Radford AAP; VA

Date Sampled: 07/11/16
Date Received: 07/13/16
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	BB052013.D	1	07/21/16	KL	07/18/16	OP61122	GBB1482
Run #2 [b]	GG059716.D	1	07/21/16	KL	07/18/16	OP61122	GGG2442
Run #3 [a]	BB051989.D	4	07/20/16	KL	07/18/16	OP61122	GBB1481
Run #4 [b]	GG059723.D	4	07/22/16	KL	07/18/16	OP61122	GGG2443

	Initial Volume	Final Volume
Run #1	1000 ml	10.0 ml
Run #2	1000 ml	10.0 ml
Run #3	1000 ml	10.0 ml
Run #4	1000 ml	10.0 ml

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
2691-41-0	HMX	24.1 [c]	0.80	0.40	0.32	ug/l	
121-82-4	RDX	0.37	0.20	0.10	0.080	ug/l	
	DNX	0.10 U	0.20	0.10	0.080	ug/l	
	MNX	0.10 U	0.20	0.10	0.080	ug/l	
	TNX	0.10 U	0.20	0.10	0.080	ug/l	
618-87-1	3,5-Dinitroaniline	0.10 U	0.20	0.10	0.080	ug/l	
99-65-0	1,3-Dinitrobenzene	0.10 U	0.20	0.10	0.080	ug/l	
606-20-2	2,6-Dinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
121-14-2	2,4-Dinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
35572-78-2	2-amino-4,6-Dinitrotoluene	5.6	0.20	0.10	0.080	ug/l	
19406-51-0	4-amino-2,6-Dinitrotoluene	2.8	0.20	0.10	0.080	ug/l	
98-95-3	Nitrobenzene	0.10 U	0.20	0.10	0.097	ug/l	
88-72-2	o-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
99-08-1	m-Nitrotoluene [d]	0.10 U	0.20	0.10	0.080	ug/l	
99-99-0	p-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
479-45-8	Tetryl	0.10 U	0.20	0.10	0.080	ug/l	
99-35-4	1,3,5-Trinitrobenzene	14.9	0.20	0.10	0.099	ug/l	
118-96-7	2,4,6-Trinitrotoluene	7.4	0.20	0.10	0.080	ug/l	
55-63-0	Nitroglycerine	1.0 U	2.0	1.0	0.50	ug/l	
78-11-5	PETN	1.0 U	2.0	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Run# 3	Limits
610-39-9	3,4-Dinitrotoluene	86%	99%	88%	70-136%

(a) All hits confirmed by reanalysis on a dissimilar column.
(b) Confirmation run.
(c) Result is from Run# 3

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	743829/54MW12		
Lab Sample ID:	FA35383-1	**Date Sampled:**	07/11/16
Matrix:	AQ - Ground Water	**Date Received:**	07/13/16
Method:	SW846 8330B SW846 3535A	**Percent Solids:**	n/a
Project:	Radford AAP; VA		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q

(d) Associated MS/MSD outside of control limits.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

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Report of Analysis

Client Sample ID:	743851/54MW1		
Lab Sample ID:	FA35383-2	**Date Sampled:**	07/11/16
Matrix:	AQ - Ground Water	**Date Received:**	07/13/16
Method:	SW846 6850 SW846 6850	**Percent Solids:**	n/a
Project:	Radford AAP; VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q23533.D	1	07/18/16	NAF	07/18/16	OP61125	SQ678
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	0.10 U	0.20	0.10	0.050	ug/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID: 743851/54MW1
Lab Sample ID: FA35383-2
Matrix: AQ - Ground Water
Method: SW846 8330B SW846 3535A
Project: Radford AAP; VA

Date Sampled: 07/11/16
Date Received: 07/13/16
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BB051992.D	1	07/20/16	KL	07/18/16	OP61122	GBB1481
Run #2							

	Initial Volume	Final Volume
Run #1	980 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
2691-41-0	HMX	0.10 U	0.20	0.10	0.082	ug/l	
121-82-4	RDX	0.10 U	0.20	0.10	0.082	ug/l	
	DNX	0.10 U	0.20	0.10	0.082	ug/l	
	MNX	0.10 U	0.20	0.10	0.082	ug/l	
	TNX	0.10 U	0.20	0.10	0.082	ug/l	
618-87-1	3,5-Dinitroaniline	0.10 U	0.20	0.10	0.082	ug/l	
99-65-0	1,3-Dinitrobenzene	0.10 U	0.20	0.10	0.082	ug/l	
606-20-2	2,6-Dinitrotoluene	0.10 U	0.20	0.10	0.082	ug/l	
121-14-2	2,4-Dinitrotoluene	0.10 U	0.20	0.10	0.082	ug/l	
35572-78-2	2-amino-4,6-Dinitrotoluene [a]	0.10 U	0.20	0.10	0.082	ug/l	
19406-51-0	4-amino-2,6-Dinitrotoluene [a]	0.10 U	0.20	0.10	0.082	ug/l	
98-95-3	Nitrobenzene	0.10 U	0.20	0.10	0.099	ug/l	
88-72-2	o-Nitrotoluene	0.10 U	0.20	0.10	0.082	ug/l	
99-08-1	m-Nitrotoluene	0.10 U	0.20	0.10	0.082	ug/l	
99-99-0	p-Nitrotoluene	0.10 U	0.20	0.10	0.082	ug/l	
479-45-8	Tetryl	0.10 U	0.20	0.10	0.082	ug/l	
99-35-4	1,3,5-Trinitrobenzene	0.10 U	0.20	0.10	0.10	ug/l	
118-96-7	2,4,6-Trinitrotoluene	0.10 U	0.20	0.10	0.082	ug/l	
55-63-0	Nitroglycerine	1.0 U	2.0	1.0	0.51	ug/l	
78-11-5	PETN	1.0 U	2.0	1.0	0.51	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
610-39-9	3,4-Dinitrotoluene	97%		70-136%

(a) Associated BS recovery outside control limits.

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation DL = Detection Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID: 743879/54MW10
Lab Sample ID: FA35383-3
Matrix: AQ - Ground Water
Method: SW846 6850 SW846 6850
Project: Radford AAP; VA

Date Sampled: 07/11/16
Date Received: 07/13/16
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q23534.D	1	07/18/16	NAF	07/18/16	OP61125	SQ678
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	0.84	0.20	0.10	0.050	ug/l	

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation DL = Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID:	743879/54MW10		
Lab Sample ID:	FA35383-3	**Date Sampled:**	07/11/16
Matrix:	AQ - Ground Water	**Date Received:**	07/13/16
Method:	SW846 8330B SW846 3535A	**Percent Solids:**	n/a
Project:	Radford AAP; VA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	BB052016.D	1	07/21/16	KL	07/18/16	OP61122	GBB1482
Run #2 [b]	GG059717.D	1	07/21/16	KL	07/18/16	OP61122	GGG2442
Run #3 [a]	BB052017.D	2	07/21/16	KL	07/18/16	OP61122	GBB1482

	Initial Volume	Final Volume
Run #1	1000 ml	10.0 ml
Run #2	1000 ml	10.0 ml
Run #3	1000 ml	10.0 ml

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
2691-41-0	HMX [c]	2.6 U	2.6	2.6	2.6	ug/l	
121-82-4	RDX	6.6	0.20	0.10	0.080	ug/l	
	DNX	0.10 U	0.20	0.10	0.080	ug/l	
	MNX	0.10 U	0.20	0.10	0.080	ug/l	
	TNX	0.10 U	0.20	0.10	0.080	ug/l	
618-87-1	3,5-Dinitroaniline [c]	0.40 U	0.40	0.40	0.40	ug/l	
99-65-0	1,3-Dinitrobenzene	0.10 U	0.20	0.10	0.080	ug/l	
606-20-2	2,6-Dinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
121-14-2	2,4-Dinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
35572-78-2	2-amino-4,6-Dinitrotoluene	1.9	0.20	0.10	0.080	ug/l	
19406-51-0	4-amino-2,6-Dinitrotoluene	2.0	0.20	0.10	0.080	ug/l	
98-95-3	Nitrobenzene	0.10 U	0.20	0.10	0.097	ug/l	
88-72-2	o-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
99-08-1	m-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
99-99-0	p-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
479-45-8	Tetryl	0.10 U	0.20	0.10	0.080	ug/l	
99-35-4	1,3,5-Trinitrobenzene	7.2	0.20	0.10	0.099	ug/l	
118-96-7	2,4,6-Trinitrotoluene	24.2 [d]	0.40	0.20	0.16	ug/l	
55-63-0	Nitroglycerine	1.0 U	2.0	1.0	0.50	ug/l	
78-11-5	PETN	1.0 U	2.0	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Run# 3	Limits
610-39-9	3,4-Dinitrotoluene	96%	108%	97%	70-136%

(a) All hits confirmed by reanalysis on a dissimilar column.
(b) Confirmation run.
(c) Elevated reporting limit due to matrix interference.
(d) Result is from Run# 3

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID: 743881/54TM10
Lab Sample ID: FA35383-4
Matrix: AQ - Ground Water
Method: SW846 6850 SW846 6850
Project: Radford AAP; VA

Date Sampled: 07/11/16
Date Received: 07/13/16
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q23535.D	1	07/18/16	NAF	07/18/16	OP61125	SQ678
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	0.89	0.20	0.10	0.050	ug/l	

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation DL = Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID: 743881/54TM10
Lab Sample ID: FA35383-4
Matrix: AQ - Ground Water
Method: SW846 8330B SW846 3535A
Project: Radford AAP; VA

Date Sampled: 07/11/16
Date Received: 07/13/16
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	BB052018.D	1	07/21/16	KL	07/18/16	OP61122	GBB1482
Run #2 [b]	GG059718.D	1	07/21/16	KL	07/18/16	OP61122	GGG2442
Run #3 [a]	BB052019.D	2	07/21/16	KL	07/18/16	OP61122	GBB1482

	Initial Volume	Final Volume
Run #1	940 ml	10.0 ml
Run #2	940 ml	10.0 ml
Run #3	940 ml	10.0 ml

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
2691-41-0	HMX	6.3	0.21	0.11	0.085	ug/l	
121-82-4	RDX	7.5	0.21	0.11	0.085	ug/l	
	DNX	0.11 U	0.21	0.11	0.085	ug/l	
	MNX	0.11 U	0.21	0.11	0.085	ug/l	
	TNX	0.11 U	0.21	0.11	0.085	ug/l	
618-87-1	3,5-Dinitroaniline [c]	0.63 U	0.63	0.63	0.63	ug/l	
99-65-0	1,3-Dinitrobenzene	0.11 U	0.21	0.11	0.085	ug/l	
606-20-2	2,6-Dinitrotoluene	0.11 U	0.21	0.11	0.085	ug/l	
121-14-2	2,4-Dinitrotoluene	0.11 U	0.21	0.11	0.085	ug/l	
35572-78-2	2-amino-4,6-Dinitrotoluene	2.3	0.21	0.11	0.085	ug/l	
19406-51-0	4-amino-2,6-Dinitrotoluene	2.1	0.21	0.11	0.085	ug/l	
98-95-3	Nitrobenzene	0.11 U	0.21	0.11	0.10	ug/l	
88-72-2	o-Nitrotoluene	0.11 U	0.21	0.11	0.085	ug/l	
99-08-1	m-Nitrotoluene	0.11 U	0.21	0.11	0.085	ug/l	
99-99-0	p-Nitrotoluene	0.11 U	0.21	0.11	0.085	ug/l	
479-45-8	Tetryl	0.11 U	0.21	0.11	0.085	ug/l	
99-35-4	1,3,5-Trinitrobenzene	9.1	0.21	0.11	0.11	ug/l	
118-96-7	2,4,6-Trinitrotoluene	30.3 [d]	0.43	0.21	0.17	ug/l	
55-63-0	Nitroglycerine	1.1 U	2.1	1.1	0.53	ug/l	
78-11-5	PETN	1.1 U	2.1	1.1	0.53	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Run# 3	Limits
610-39-9	3,4-Dinitrotoluene	92%	106%	98%	70-136%

(a) All hits confirmed by reanalysis on a dissimilar column.
(b) Confirmation run.
(c) Elevated reporting limit due to matrix interference.
(d) Result is from Run# 3

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID: 743883/071116R1
Lab Sample ID: FA35383-5
Matrix: AQ - Ground Water
Method: SW846 6850 SW846 6850
Project: Radford AAP; VA

Date Sampled: 07/11/16
Date Received: 07/13/16
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q23536.D	1	07/18/16	NAF	07/18/16	OP61125	SQ678
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	0.10 U	0.20	0.10	0.050	ug/l	

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation DL = Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID: 743883/071116R1
Lab Sample ID: FA35383-5
Matrix: AQ - Ground Water
Method: SW846 8330B SW846 3535A
Project: Radford AAP; VA

Date Sampled: 07/11/16
Date Received: 07/13/16
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	BB051999.D	1	07/20/16	KL	07/18/16	OP61122	GBB1481
Run #2							

	Initial Volume	Final Volume
Run #1	970 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
2691-41-0	HMX	0.10 U	0.21	0.10	0.082	ug/l	
121-82-4	RDX	0.10 U	0.21	0.10	0.082	ug/l	
	DNX	0.10 U	0.21	0.10	0.082	ug/l	
	MNX	0.10 U	0.21	0.10	0.082	ug/l	
	TNX	0.10 U	0.21	0.10	0.082	ug/l	
618-87-1	3,5-Dinitroaniline	0.10 U	0.21	0.10	0.082	ug/l	
99-65-0	1,3-Dinitrobenzene	0.10 U	0.21	0.10	0.082	ug/l	
606-20-2	2,6-Dinitrotoluene	0.10 U	0.21	0.10	0.082	ug/l	
121-14-2	2,4-Dinitrotoluene	0.10 U	0.21	0.10	0.082	ug/l	
35572-78-2	2-amino-4,6-Dinitrotoluene [a]	0.10 U	0.21	0.10	0.082	ug/l	
19406-51-0	4-amino-2,6-Dinitrotoluene [a]	0.10 U	0.21	0.10	0.082	ug/l	
98-95-3	Nitrobenzene	0.10 U	0.21	0.10	0.10	ug/l	
88-72-2	o-Nitrotoluene	0.10 U	0.21	0.10	0.082	ug/l	
99-08-1	m-Nitrotoluene	0.10 U	0.21	0.10	0.082	ug/l	
99-99-0	p-Nitrotoluene	0.10 U	0.21	0.10	0.082	ug/l	
479-45-8	Tetryl	0.10 U	0.21	0.10	0.082	ug/l	
99-35-4	1,3,5-Trinitrobenzene	0.10 U	0.21	0.10	0.10	ug/l	
118-96-7	2,4,6-Trinitrotoluene	0.10 U	0.21	0.10	0.082	ug/l	
55-63-0	Nitroglycerine	1.0 U	2.1	1.0	0.52	ug/l	
78-11-5	PETN	1.0 U	2.1	1.0	0.52	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
610-39-9	3,4-Dinitrotoluene	86%		70-136%

(a) Associated BS recovery outside control limits.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5 Limits

CT LABORATORIES

1230 Lange Court • Baraboo, WI 53913 • 608-356-2760
www.ctlaboratories.com

FA35383

Sub-Contract Laboratory Chain-of-Custody and Purchase Order

PURCHASE ORDER # 120379 ACCTST FL *The PO# must appear on all invoice and reports!*

Upon Receipt of Samples, please verify that samples were received in acceptable condition then sign this form and fax to (608)356-2766 or email to the project manager. Sample temperature, upon receipt, must be recorded on this document unless thermal preservation is not a method requirement.

Ship to: Accutest Southeast
4405 Vineland Road, Suite C-15
Orlando, FL 32811

Return Invoice and Results to: bszymanski@ctlaboratories.com

CTLaboratories
Brett M Szymanski
1230 Lange Court
Baraboo WI 53913

Date Due: Standard TAT *RUSH TURNAROUND NEEDED?* Y or (N) *(Circle One)*

Project Name: RADFORD AAP **Project State:** VA

Analytical/QC Criteria: NONE INDICATED STATE (DOD QSM) NELAP (Circle one) OTHER

Report results as EDD? N (Y) (Circle one and indicate type: excel) Data Deliverable Package LEVEL: IV

	CTLabs ID#	Sample Date/Time	Matrix	Sample Description	Analysis / Method	Cost
(1)	743829	07/11/2016 1315	GROUND WATER	54MW12 *	EXPLOSIVES	8330B
	743829	07/11/2016 1315	GROUND WATER	54MW12 *	PERCHLORATE	SW6850
(2)	743851	07/11/2016 1525	GROUND WATER	54MW1	EXPLOSIVES	8330B
	743851	07/11/2016 1525	GROUND WATER	54MW1	PERCHLORATE	SW6850
(3)	743879	07/11/2016 1130	GROUND WATER	54MW10	EXPLOSIVES	8330B
	743879	07/11/2016 1130	GROUND WATER	54MW10	PERCHLORATE	SW6850
(4)	743881	07/11/2016 1145	GROUND WATER	54MW16	EXPLOSIVES	8330B
	743881	07/11/2016 1145	GROUND WATER	54MW16	PERCHLORATE	SW6850
(5)	743883	07/11/2016 1445	GROUND WATER	07-11-16R1	EXPLOSIVES	8330B
	743883	07/11/2016 1445	GROUND WATER	07-11-16R1	PERCHLORATE	SW6850

* Designated MS/MSD

Relinquished by: Brett Szymanski Date/Time: 07/12/16 15:35

Received by: UPS Date/Time: 7-13-16 at 11:20 Receipt Temperature (C):

J. Cook (ATL)

COMMENTS: FULL LIST EXPLOSIVES INCLUDING RDX BREAKDOWN PRODUCTS (MNX/DNX/TNX).

3 2 3 4

FA35383: Chain of Custody
Page 1 of 4

ACCUTEST LABORATORIES SAMPLE RECEIPT CONFIRMATION

ACCUTEST'S JOB NUMBER: FA35383 CLIENT: CT [illegible] PROJECT: PADEP(D) AP3

DATE/TIME RECEIVED: 7-13-16 11:20 (MM/DD/YY 24:00) NUMBER OF COOLERS RECEIVED: 2

METHOD OF DELIVERY: FEDEX (UPS) ACCUTEST COURIER DELIVERY OTHER:

AIRBILL NUMBERS: 12 1AA A85 01 4086 1521

COOLER INFORMATION

- [ ] CUSTODY SEAL NOT PRESENT OR NOT INTACT
- [ ] CHAIN OF CUSTODY NOT RECEIVED (COC)
- [ ] ANALYSIS REQUESTED IS UNCLEAR OR MISSING
- [ ] SAMPLE DATES OR TIMES UNCLEAR OR MISSING
- [ ] TEMPERATURE CRITERIA NOT MET

TRIP BLANK INFORMATION

- [ ] TRIP BLANK PROVIDED
- [X] TRIP BLANK NOT PROVIDED
- [X] TRIP BLANK NOT ON COC
- [ ] TRIP BLANK INTACT
- [ ] TRIP BLANK NOT INTACT
- [ ] RECEIVED WATER TRIP BLANK
- [ ] RECEIVED SOIL TRIP BLANK

MISC. INFORMATION

NUMBER OF ENCORES ? 25-GRAM 5-GRAM

NUMBER OF 5035 FIELD KITS ?

NUMBER OF LAB FILTERED METALS ?

TEMPERATURE INFORMATION

- [ ] IR THERM ID CORR. FACTOR 0.0
- [ ] OBSERVED TEMPS: 3.1, 3.4
- [ ] CORRECTED TEMPS: 3.1, 3.4 (USED FOR LIMS)

SAMPLE INFORMATION

- [X] INCORRECT NUMBER OF CONTAINERS USED
- [ ] SAMPLE RECEIVED IMPROPERLY PRESERVED
- [ ] INSUFFICIENT VOLUME FOR ANALYSIS
- [ ] DATES/TIMES ON COC DO NOT MATCH SAMPLE LABEL
- [ ] ID'S ON COC DO NOT MATCH LABEL
- [ ] VOC VIALS HAVE HEADSPACE (MACRO BUBBLES)
- [X] BOTTLES RECEIVED BUT ANALYSIS NOT REQUESTED
- [ ] NO BOTTLES RECEIVED FOR ANALYSIS REQUESTED
- [ ] UNCLEAR FILTERING OR COMPOSITING INSTRUCTIONS
- [ ] SAMPLE CONTAINER(S) RECEIVED BROKEN
- [ ] 5035 FIELD KITS NOT RECEIVED WITHIN 48 HOURS
- [ ] BULK VOA SOIL JARS NOT RECEIVED WITHIN 48 HOURS
- [ ] % SOLIDS JAR NOT RECEIVED
- [ ] RESIDUAL CHLORINE PRESENT LOT#

(APPLICABLE TO EPA 600 SERIES OR NORTH CAROLINA ORGANICS)

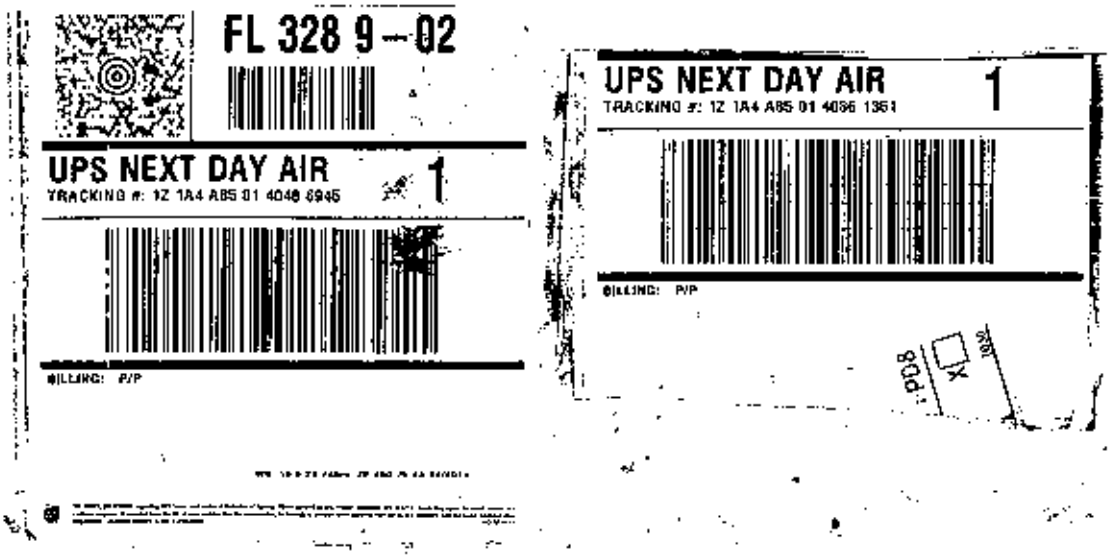
TEST STRIP LOT#s pH 0-3 230315 pH 10-12 219813A OTHER (specify)

SUMMARY OF COMMENTS: FOR SAMPLE #5 RECEIVED, 1 AMBER 8330 & 1 AMBER 8330 WERE RECEIVED. 1 AMBER 8330 713882 NOT REQUESTED ON COC, WILL BE SAMPLE #6

TECHNICIAN SIGNATURE/DATE 7-13-16 REVIEWER SIGNATURE/DATE 7/13/16

NF 11-15 RECEIPTLOG040416.xls

5.1 5


FL 328 9-02
UPS NEXT DAY AIR
1
TRACKING #: 1Z 1A4 A85 01 4048 6945
BILLING: P/P
UPS NEXT DAY AIR
1
TRACKING #: 1Z 1A4 A85 01 4086 1361
BILLING: P/P

Job Change FA35383

Requested Date:	7/7/2016	**Received Date:**	7/13/2016
Account Name:	CT Laboratories	**Due Date:**	7/27/2016
Project	Radford AAP; VA	**Deliverable:**	FULT1
CSR:	MunaM	**TAT (Days):**	14

==========

Sample #: FA35383-5

Change:
Received 8330 bottle with ID 74882, but not listed on the COC.
Per client bottle should be paired with sample 74883.

743883/071116R1

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Above Changes Per: Brett Szymanski **Date/Time:** 7/14/2016 3:29:37 PM

This Change Order is confirmation of the revisions, previously discussed with the SGS Accutest Client Service Representative.

Page 1 of 1

QC Evaluation: DOD QSM5 Limits

Job Number: FA35383
Account: CT Laboratories
Project: Radford AAP; VA
Collected: 07/11/16

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
OP61125	SW846 6850						
OP61125-BS	14797-73-0	Perchlorate	BSP	REC	95	%	84-119
OP61125-MS	14797-73-0	Perchlorate	MS	REC	85	%	84-119
OP61125-MSD	14797-73-0	Perchlorate	MSD	REC	85	%	84-119
OP61125-MSD	14797-73-0	Perchlorate	MSD	RPD	0	%	15
OP61122	SW846 8330B						
OP61122-BS	2691-41-0	HMX	BSP	REC	124	%	65-135
OP61122-BS	2691-41-0	HMX	BSP	REC	134	%	65-135
OP61122-BS	121-82-4	RDX	BSP	REC	120	%	68-130
OP61122-BS	121-82-4	RDX	BSP	REC	118	%	68-130
OP61122-BS		DNX	BSP	REC	108	%	66-119
OP61122-BS		DNX	BSP	REC	98	%	66-119
OP61122-BS		MNX	BSP	REC	102	%	57-132
OP61122-BS		MNX	BSP	REC	112	%	57-132
OP61122-BS	618-87-1	3,5-Dinitroaniline	BSP	REC	108	%	71-117
OP61122-BS	618-87-1	3,5-Dinitroaniline	BSP	REC	104	%	71-117
OP61122-BS	99-65-0	1,3-Dinitrobenzene	BSP	REC	114	%	78-120
OP61122-BS	99-65-0	1,3-Dinitrobenzene	BSP	REC	108	%	78-120
OP61122-BS	606-20-2	2,6-Dinitrotoluene	BSP	REC	114	%	77-127
OP61122-BS	606-20-2	2,6-Dinitrotoluene	BSP	REC	108	%	77-127
OP61122-BS	121-14-2	2,4-Dinitrotoluene	BSP	REC	106	%	78-120
OP61122-BS	121-14-2	2,4-Dinitrotoluene	BSP	REC	112	%	78-120
OP61122-BS	35572-78-2	2-amino-4,6-Dinitrotoluene	BSP	REC	118	%	79-120
OP61122-BS	19406-51-0	4-amino-2,6-Dinitrotoluene	BSP	REC	122	%	76-125
OP61122-BS	19406-51-0	4-amino-2,6-Dinitrotoluene	BSP	REC	112	%	76-125
OP61122-BS	98-95-3	Nitrobenzene	BSP	REC	104	%	65-134
OP61122-BS	98-95-3	Nitrobenzene	BSP	REC	106	%	65-134
OP61122-BS	88-72-2	o-Nitrotoluene	BSP	REC	88	%	70-127
OP61122-BS	88-72-2	o-Nitrotoluene	BSP	REC	84	%	70-127
OP61122-BS	99-08-1	m-Nitrotoluene	BSP	REC	82	%	73-125
OP61122-BS	99-08-1	m-Nitrotoluene	BSP	REC	80	%	73-125
OP61122-BS	99-99-0	p-Nitrotoluene	BSP	REC	86	%	71-127
OP61122-BS	99-99-0	p-Nitrotoluene	BSP	REC	86	%	71-127
OP61122-BS	479-45-8	Tetryl	BSP	REC	118	%	64-128
OP61122-BS	479-45-8	Tetryl	BSP	REC	112	%	64-128
OP61122-BS	99-35-4	1,3,5-Trinitrobenzene	BSP	REC	116	%	73-125
OP61122-BS	99-35-4	1,3,5-Trinitrobenzene	BSP	REC	122	%	73-125
OP61122-BS	118-96-7	2,4,6-Trinitrotoluene	BSP	REC	102	%	71-123
OP61122-BS	118-96-7	2,4,6-Trinitrotoluene	BSP	REC	106	%	71-123
OP61122-BS	55-63-0	Nitroglycerine	BSP	REC	113	%	74-127

* Sample used for QC is not from job FA35383

QC Evaluation: DOD QSM5 Limits

Job Number: FA35383
Account: CT Laboratories
Project: Radford AAP; VA
Collected: 07/11/16

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
OP61122-BS	55-63-0	Nitroglycerine	BSP	REC	107	%	74-127
OP61122-BS	78-11-5	PETN	BSP	REC	108	%	73-127
OP61122-BS	78-11-5	PETN	BSP	REC	106	%	73-127
OP61122-MS	2691-41-0	HMX	MS	REC	84	%	65-135
OP61122-MS	121-82-4	RDX	MS	REC	106	%	68-130
OP61122-MS		DNX	MS	REC	89	%	66-119
OP61122-MS		MNX	MS	REC	88	%	57-132
OP61122-MS	618-87-1	3,5-Dinitroaniline	MS	REC	95	%	71-117
OP61122-MS	99-65-0	1,3-Dinitrobenzene	MS	REC	101	%	78-120
OP61122-MS	606-20-2	2,6-Dinitrotoluene	MS	REC	116	%	77-127
OP61122-MS	121-14-2	2,4-Dinitrotoluene	MS	REC	98	%	78-120
OP61122-MS	35572-78-2	2-amino-4,6-Dinitrotoluene	MS	REC	105	%	79-120
OP61122-MS	19406-51-0	4-amino-2,6-Dinitrotoluene	MS	REC	103	%	76-125
OP61122-MS	98-95-3	Nitrobenzene	MS	REC	86	%	65-134
OP61122-MS	88-72-2	o-Nitrotoluene	MS	REC	80	%	70-127
OP61122-MS	99-08-1	m-Nitrotoluene	MS	REC	77	%	73-125
OP61122-MS	99-99-0	p-Nitrotoluene	MS	REC	87	%	71-127
OP61122-MS	479-45-8	Tetryl	MS	REC	97	%	64-128
OP61122-MS	99-35-4	1,3,5-Trinitrobenzene	MS	REC	113	%	73-125
OP61122-MS	118-96-7	2,4,6-Trinitrotoluene	MS	REC	94	%	71-123
OP61122-MS	55-63-0	Nitroglycerine	MS	REC	109 [a]	%	74-127
OP61122-MS	78-11-5	PETN	MS	REC	97	%	73-127
OP61122-MSD	2691-41-0	HMX	MSD	REC	99	%	65-135
OP61122-MSD	2691-41-0	HMX	MSD	RPD	5	%	30
OP61122-MSD	121-82-4	RDX	MSD	REC	112	%	68-130
OP61122-MSD	121-82-4	RDX	MSD	RPD	5	%	30
OP61122-MSD		DNX	MSD	REC	97	%	66-119
OP61122-MSD		DNX	MSD	RPD	9	%	30
OP61122-MSD		MNX	MSD	REC	87	%	57-132
OP61122-MSD		MNX	MSD	RPD	1	%	30
OP61122-MSD	618-87-1	3,5-Dinitroaniline	MSD	REC	95	%	71-117
OP61122-MSD	618-87-1	3,5-Dinitroaniline	MSD	RPD	0	%	30
OP61122-MSD	99-65-0	1,3-Dinitrobenzene	MSD	REC	103	%	78-120
OP61122-MSD	99-65-0	1,3-Dinitrobenzene	MSD	RPD	2	%	30
OP61122-MSD	606-20-2	2,6-Dinitrotoluene	MSD	REC	123	%	77-127
OP61122-MSD	606-20-2	2,6-Dinitrotoluene	MSD	RPD	6	%	30
OP61122-MSD	121-14-2	2,4-Dinitrotoluene	MSD	REC	102	%	78-120
OP61122-MSD	121-14-2	2,4-Dinitrotoluene	MSD	RPD	4	%	30
OP61122-MSD	35572-78-2	2-amino-4,6-Dinitrotoluene	MSD	REC	111	%	79-120
OP61122-MSD	35572-78-2	2-amino-4,6-Dinitrotoluene	MSD	RPD	4	%	30
OP61122-MSD	19406-51-0	4-amino-2,6-Dinitrotoluene	MSD	REC	104	%	76-125
OP61122-MSD	19406-51-0	4-amino-2,6-Dinitrotoluene	MSD	RPD	1	%	30
OP61122-MSD	98-95-3	Nitrobenzene	MSD	REC	88	%	65-134
OP61122-MSD	98-95-3	Nitrobenzene	MSD	RPD	2	%	30
OP61122-MSD	88-72-2	o-Nitrotoluene	MSD	REC	81	%	70-127

* Sample used for QC is not from job FA35383

QC Evaluation: DOD QSM5 Limits

Job Number: FA35383
Account: CT Laboratories
Project: Radford AAP; VA
Collected: 07/11/16

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
OP61122-MSD	88-72-2	o-Nitrotoluene	MSD	RPD	1	%	30
OP61122-MSD	99-08-1	m-Nitrotoluene	MSD	REC	78	%	73-125
OP61122-MSD	99-08-1	m-Nitrotoluene	MSD	RPD	1	%	30
OP61122-MSD	99-99-0	p-Nitrotoluene	MSD	REC	81	%	71-127
OP61122-MSD	99-99-0	p-Nitrotoluene	MSD	RPD	7	%	30
OP61122-MSD	479-45-8	Tetryl	MSD	REC	103	%	64-128
OP61122-MSD	479-45-8	Tetryl	MSD	RPD	6	%	30
OP61122-MSD	99-35-4	1,3,5-Trinitrobenzene	MSD	REC	113	%	73-125
OP61122-MSD	99-35-4	1,3,5-Trinitrobenzene	MSD	RPD	0	%	30
OP61122-MSD	118-96-7	2,4,6-Trinitrotoluene	MSD	REC	98	%	71-123
OP61122-MSD	118-96-7	2,4,6-Trinitrotoluene	MSD	RPD	2	%	30
OP61122-MSD	78-11-5	PETN	MSD	REC	97	%	73-127
OP61122-MSD	78-11-5	PETN	MSD	RPD	0	%	30

(a) MSD unavailable.

* Sample used for QC is not from job FA35383

GC/MS Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Internal Standard Area Summaries
- Initial and Continuing Calibration Summaries

Method Blank Summary

Job Number: FA35383
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP61125-MB	Q23528.D	1	07/18/16	NAF	07/18/16	OP61125	SQ678

The QC reported here applies to the following samples: **Method:** SW846 6850

FA35383-1, FA35383-2, FA35383-3, FA35383-4, FA35383-5

CAS No.	Compound	Result	RL	MDL	Units	Q
14797-73-0	Perchlorate	ND	0.20	0.050	ug/l	

Blank Spike Summary

Job Number: FA35383
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP61125-BS	Q23527.D	1	07/18/16	NAF	07/18/16	OP61125	SQ678

The QC reported here applies to the following samples: **Method:** SW846 6850

FA35383-1, FA35383-2, FA35383-3, FA35383-4, FA35383-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
14797-73-0	Perchlorate	0.2	0.19	95	80-120

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA35383
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP61125-MS	Q23531.D	1	07/18/16	NAF	07/18/16	OP61125	SQ678
OP61125-MSD	Q23532.D	1	07/18/16	NAF	07/18/16	OP61125	SQ678
FA35383-1	Q23530.D	1	07/18/16	NAF	07/18/16	OP61125	SQ678

The QC reported here applies to the following samples: **Method:** SW846 6850

FA35383-1, FA35383-2, FA35383-3, FA35383-4, FA35383-5

CAS No.	Compound	FA35383-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
14797-73-0	Perchlorate	0.56		0.2	0.73	85	0.2	0.73	85	0	80-120/15

* = Outside of Control Limits.

Semivolatile Internal Standard Area Summary

Job Number: FA35383
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Check Std:	SQ678-ICC678	**Injection Date:**	07/18/16
Lab File ID:	Q23520.D	**Injection Time:**	09:59
Instrument ID:	GCMSQ	**Method:**	SW846 6850

	IS 1 AREA	RT
Initial Cal [a]	31704	4.32
Check Std [b]	37486	4.32
Upper Limit [c]	47556	6.32
Lower Limit [d]	15852	2.32

Lab Sample ID	IS 1 AREA	RT
OP61125-BS	38663	4.33
OP61125-MB	40136	4.33
ZZZZZZ	34378	4.33
FA35383-1	35480	4.22
OP61125-MS	35719	4.22
OP61125-MSD	36128	4.23
FA35383-2	34770	4.23
FA35383-3	34585	4.22
FA35383-4	38786	4.23
FA35383-5	38423	4.33

IS 1 = Cl18O4 (ISTD)

(a) Initial Cal is: SQ678-ICC678 Q23520.D 07/18/16 09:59. Area is AVERAGE of initial cal points.
(b) Check Std Limit = -50 to + 50% of initial cal area.
(c) Upper Limit = + 50% of initial standard area; Retention time + 2 minutes of check standard.
(d) Lower Limit = -50% of initial standard area; Retention time -2 minutes of check standard.

Initial Calibration Summary

Job Number: FA35383
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: SQ678-ICC678
Lab FileID: Q23520.D

Initial Calibration ReSponse Factors - D:\MassHunter\Data\0718_6850_SQ678\SQ678.batch.bin

Level ID : Calibration File
1 : D:\MassHunter\Data\0718_6850_SQ678\Q23517.d
2 : D:\MassHunter\Data\0718_6850_SQ678\Q23518.d
3 : D:\MassHunter\Data\0718_6850_SQ678\Q23519.d
4 : D:\MassHunter\Data\0718_6850_SQ678\Q23520.d
5 : D:\MassHunter\Data\0718_6850_SQ678\Q23521.d
6 : D:\MassHunter\Data\0718_6850_SQ678\Q23522.d
7 : D:\MassHunter\Data\0718_6850_SQ678\Q23523.d
8 : D:\MassHunter\Data\0718_6850_SQ678\Q23524.d

Compound	1	2	3	4	5	6	7	8	AvgRF	%RSD	r^2
1) Cl18O4	----------ISTD----------										
3) Perchlorate	0.8032	0.8374	0.8914	0.8786	0.9298	0.9625	1.0106	1.0464	0.9200	9.103	0.9999

*(value) - Average RF below (value)

Initial Calibration Verification

Job Number: FA35383
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: SQ678-ICV678
Lab FileID: Q23525.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\0718_6850_SQ678\SQ678.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\0718_6850_SQ678\Q23517.d
2:D:\MassHunter\Data\0718_6850_SQ678\Q23518.d
3:D:\MassHunter\Data\0718_6850_SQ678\Q23519.d
4:D:\MassHunter\Data\0718_6850_SQ678\Q23520.d
5:D:\MassHunter\Data\0718_6850_SQ678\Q23521.d
6:D:\MassHunter\Data\0718_6850_SQ678\Q23522.d
7:D:\MassHunter\Data\0718_6850_SQ678\Q23523.d
8:D:\MassHunter\Data\0718_6850_SQ678\Q23524.d

Data File: Q23525
Type : QC
Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	2.000	1.730	-13.5	86.5

CC Criteria: +/- 15%

Continuing Calibration Summary

Job Number: FA35383
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: SQ678-CC678
Lab FileID: Q23537.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\0718_6850_SQ678\SQ678.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\0718_6850_SQ678\Q23517.d
2:D:\MassHunter\Data\0718_6850_SQ678\Q23518.d
3:D:\MassHunter\Data\0718_6850_SQ678\Q23519.d
4:D:\MassHunter\Data\0718_6850_SQ678\Q23520.d
5:D:\MassHunter\Data\0718_6850_SQ678\Q23521.d
6:D:\MassHunter\Data\0718_6850_SQ678\Q23522.d
7:D:\MassHunter\Data\0718_6850_SQ678\Q23523.d
8:D:\MassHunter\Data\0718_6850_SQ678\Q23524.d

Data File: Q23537
Type : QC
Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	2.000	1.812	-9.4	90.6

CC Criteria: +/- 15%

GC/MS Semi-volatiles

Raw Data

Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q23530.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-07-18 11:17
Sample Name	:	FA35383-1
Vial	:	Vial 15
Sample Info	:	OP61125,SQ678,10,,,10,1,WATER
Quant Method	:	6850_0718_SQ678.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ678.batch.bin
Last Calib Update	:	2016-07-18 12:36

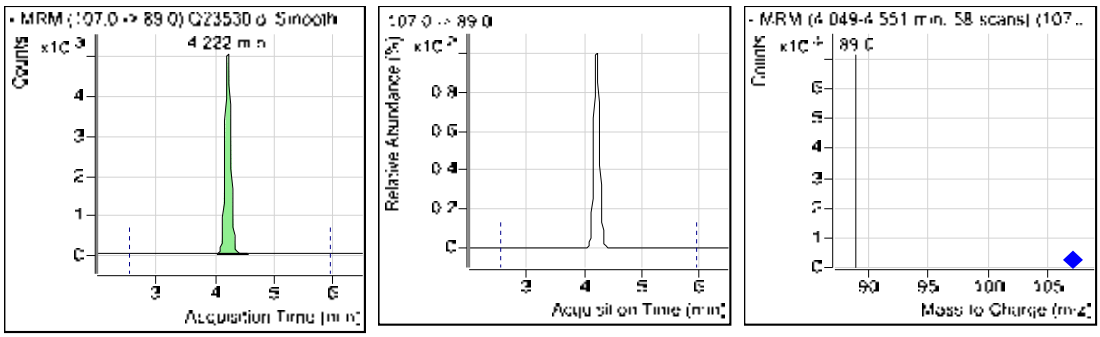
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	4.222	107.0 -> 89.0	35480	5.000	ng/ml	-0.028	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	4.217	99.0 -> 83.0	3792	0.557	ng/ml	89	2.8
		101.0 -> 85.0	1367				

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

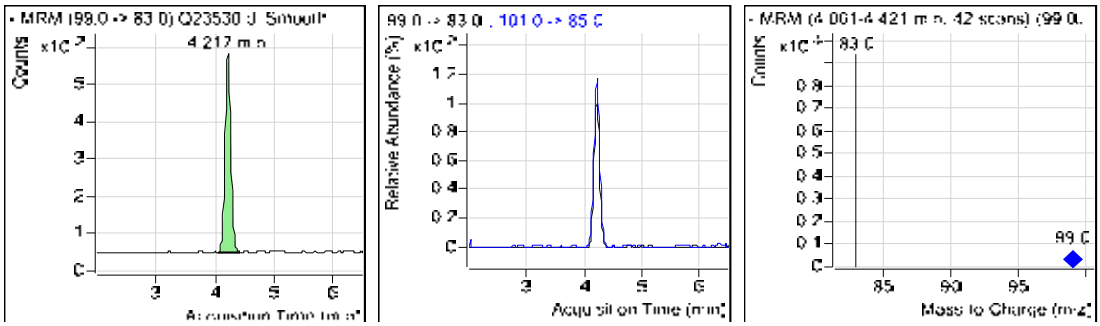
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q23530.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-07-18 11:17
Sample Name	:	FA35383-1
Vial	:	Vial 15
Sample Info	:	OP61125,SQ678,10,,,10,1,WATER
Quant Method	:	6850_0718_SQ678.quantmethod.xml
Tune File	:	
Tune Date	:	

Cl18O4



Perchlorate



Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q23533.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-07-18 11:40
Sample Name	:	FA35383-2
Vial	:	Vial 18
Sample Info	:	OP61125,SQ678,10,,,10,1,WATER
Quant Method	:	6850_0718_SQ678.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ678.batch.bin
Last Calib Update	:	2016-07-18 12:36

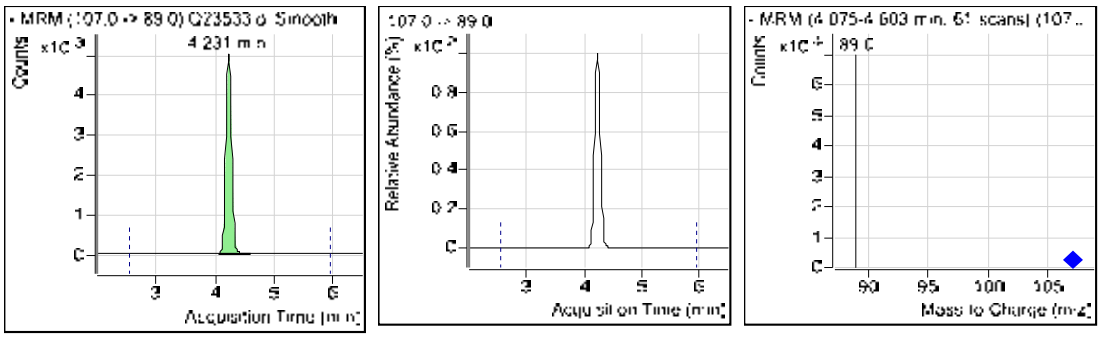
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	4.231	107.0 -> 89.0	34770	5.000	ng/ml	-0.019	
System Monitoring Compounds							
Target Compounds						Qvalue	Q-Ratio

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

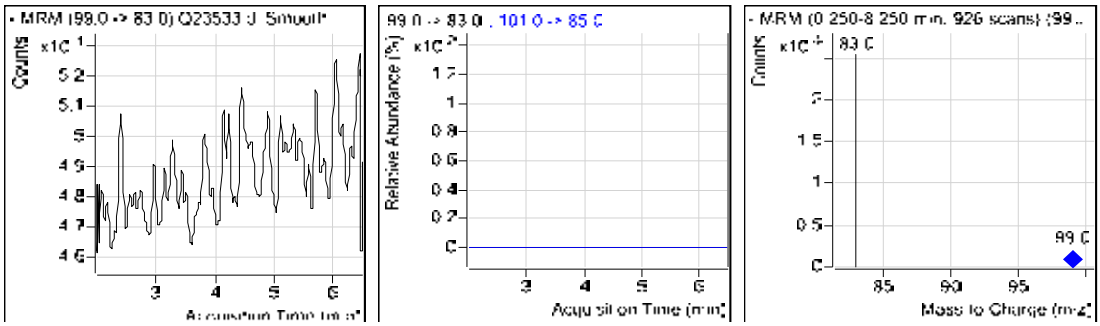
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q23533.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-07-18 11:40
Sample Name	:	FA35383-2
Vial	:	Vial 18
Sample Info	:	OP61125,SQ678,10,,,10,1,WATER
Quant Method	:	6850_0718_SQ678.quantmethod.xml
Tune File	:	
Tune Date	:	

Cl18O4



Perchlorate



Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q23534.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-07-18 11:47
Sample Name	:	FA35383-3
Vial	:	Vial 19
Sample Info	:	OP61125,SQ678,10,,,10,1,WATER
Quant Method	:	6850_0718_SQ678.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ678.batch.bin
Last Calib Update	:	2016-07-18 12:36

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	4.222	107.0 -> 89.0	34585	5.000	ng/ml	-0.028	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	4.226	99.0 -> 83.0	5610	0.845	ng/ml	87	2.7
		101.0 -> 85.0	2067				

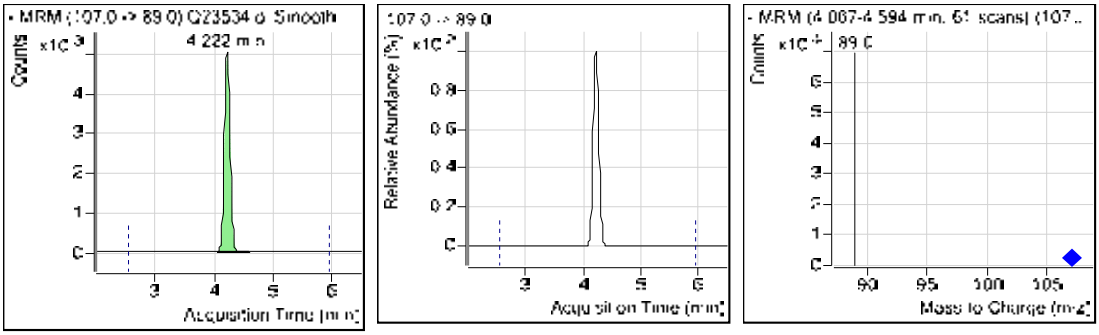
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

SGS ACCUTEST FA35383

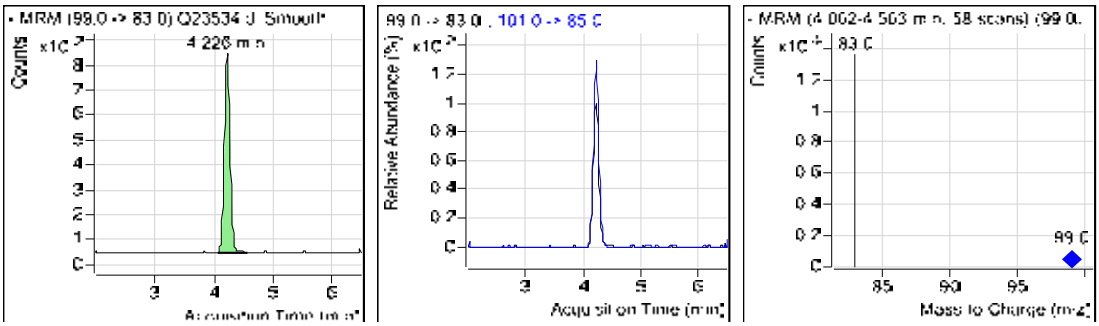
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q23534.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-07-18 11:47
Sample Name	:	FA35383-3
Vial	:	Vial 19
Sample Info	:	OP61125,SQ678,10,,,10,1,WATER
Quant Method	:	6850_0718_SQ678.quantmethod.xml
Tune File	:	
Tune Date	:	

Cl18O4



Perchlorate



SGS ACCUTEST FA35383

Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q23535.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-07-18 11:54
Sample Name	:	FA35383-4
Vial	:	Vial 20
Sample Info	:	OP61125,SQ678,10,,,10,1,WATER
Quant Method	:	6850_0718_SQ678.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ678.batch.bin
Last Calib Update	:	2016-07-18 12:36

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	4.231	107.0 -> 89.0	38786	5.000	ng/ml	-0.019	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	4.234	99.0 -> 83.0	6595	0.885	ng/ml	92	2.9
		101.0 -> 85.0	2274				

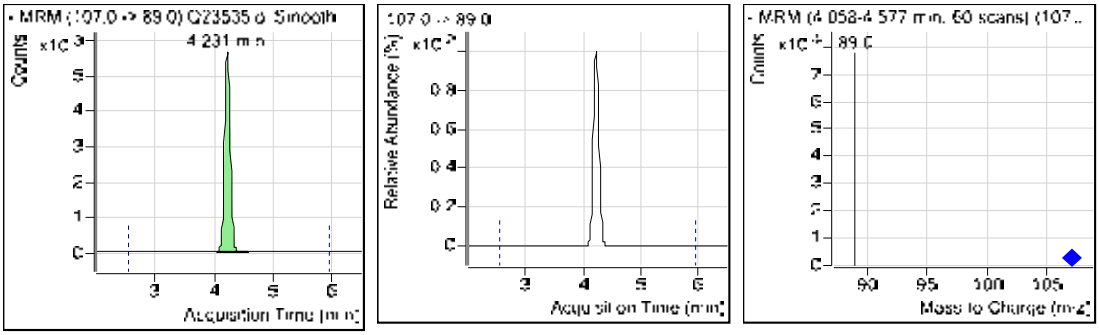
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

SGS ACCUTEST FA35383

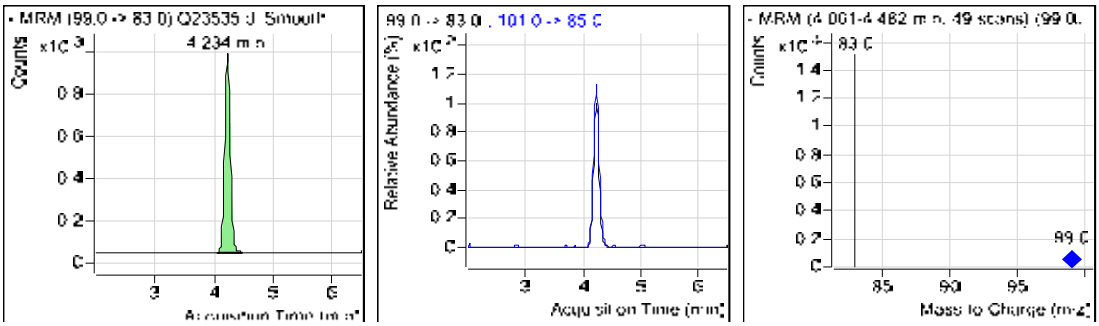
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q23535.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-07-18 11:54
Sample Name	:	FA35383-4
Vial	:	Vial 20
Sample Info	:	OP61125,SQ678,10,,,10,1,WATER
Quant Method	:	6850_0718_SQ678.quantmethod.xml
Tune File	:	
Tune Date	:	

Cl18O4



Perchlorate



Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q23536.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-07-18 12:02
Sample Name	:	FA35383-5
Vial	:	Vial 21
Sample Info	:	OP61125,SQ678,10,,,10,1,WATER
Quant Method	:	6850_0718_SQ678.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ678.batch.bin
Last Calib Update	:	2016-07-18 12:36

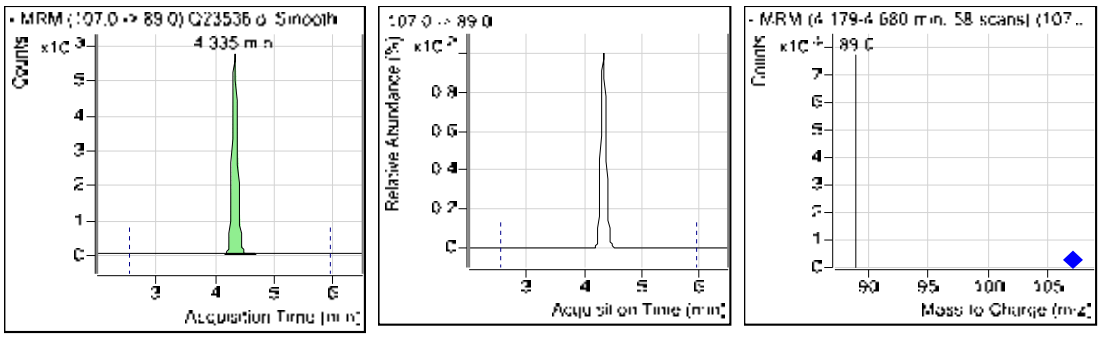
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	4.335	107.0 -> 89.0	38423	5.000	ng/ml	0.085	
System Monitoring Compounds							
Target Compounds						Qvalue	Q-Ratio

(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

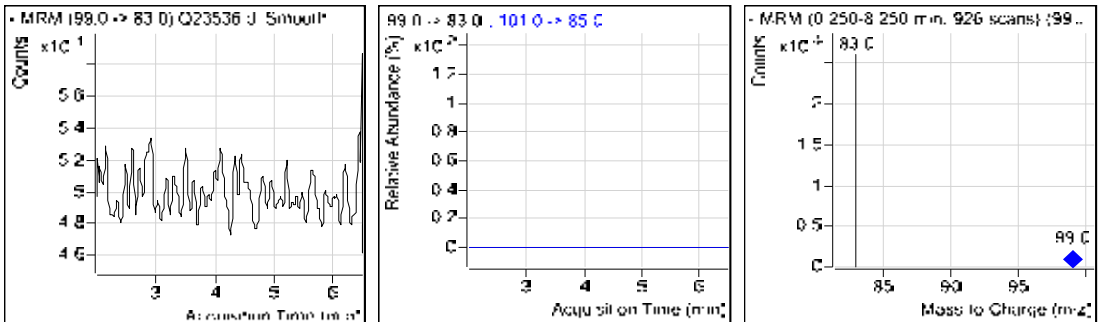
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q23536.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-07-18 12:02
Sample Name	:	FA35383-5
Vial	:	Vial 21
Sample Info	:	OP61125,SQ678,10,,,10,1,WATER
Quant Method	:	6850_0718_SQ678.quantmethod.xml
Tune File	:	
Tune Date	:	

Cl18O4



Perchlorate



Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q23528.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-07-18 11:03
Sample Name	:	OP61125-MB
Vial	:	Vial 13
Sample Info	:	OP61125,SQ678,10,,,10,1,WATER
Quant Method	:	6850_0718_SQ678.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ678.batch.bin
Last Calib Update	:	2016-07-18 12:36

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	4.335	107.0 -> 89.0	40136	5.000	ng/ml	0.085	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**

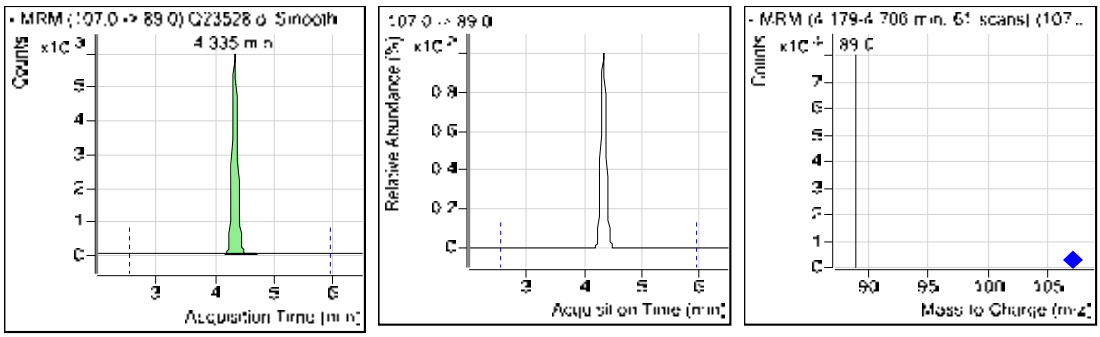
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

SGS ACCUTEST FA35383

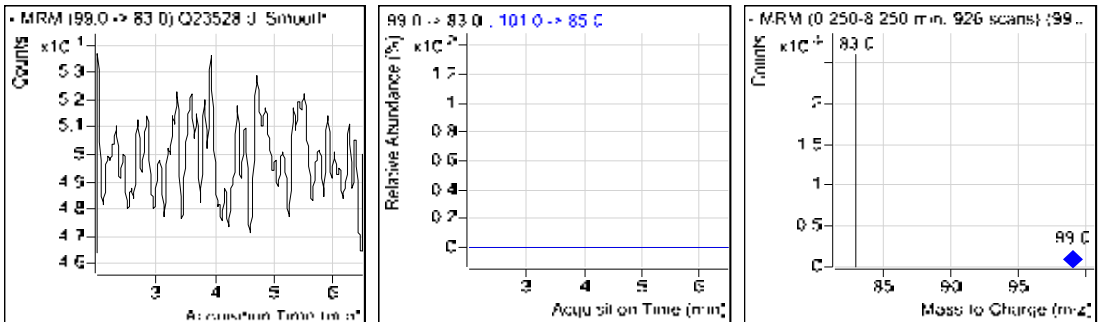
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q23528.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-07-18 11:03
Sample Name	:	OP61125-MB
Vial	:	Vial 13
Sample Info	:	OP61125,SQ678,10,,,10,1,WATER
Quant Method	:	6850_0718_SQ678.quantmethod.xml
Tune File	:	
Tune Date	:	

Cl18O4



Perchlorate



SGS ACCUTEST FA35383

Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q23527.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-07-18 10:55
Sample Name	:	OP61125-BS
Vial	:	Vial 12
Sample Info	:	OP61125,SQ678,10,,,10,1,WATER
Quant Method	:	6850_0718_SQ678.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ678.batch.bin
Last Calib Update	:	2016-07-18 12:36

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	4.335	107.0 -> 89.0	38663	5.000	ng/ml	0.085	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	4.338	99.0 -> 83.0	1379	0.186	ng/ml	93	3.0
		101.0 -> 85.0	466				

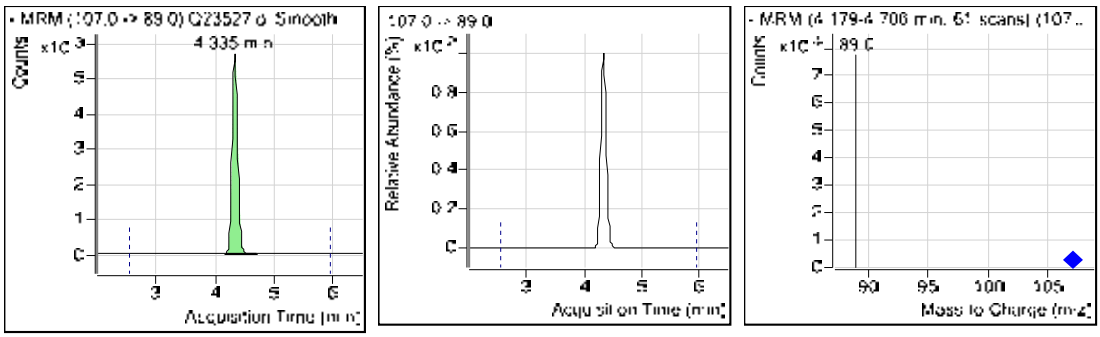
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

SGS ACCUTEST FA35383

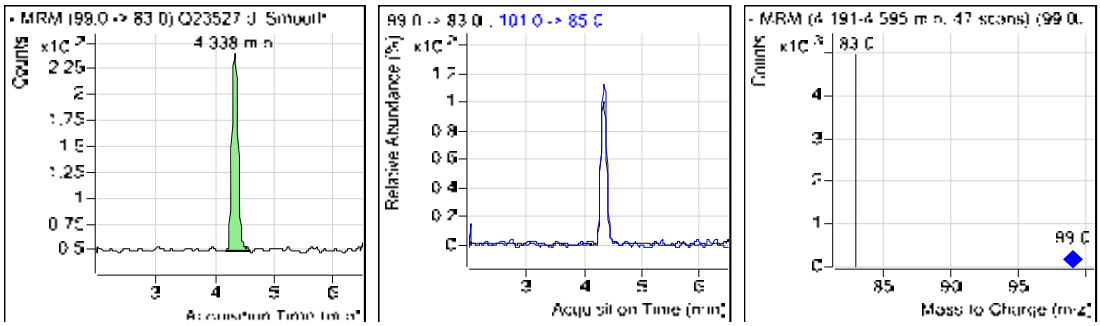
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q23527.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-07-18 10:55
Sample Name	:	OP61125-BS
Vial	:	Vial 12
Sample Info	:	OP61125,SQ678,10,,,10,1,WATER
Quant Method	:	6850_0718_SQ678.quantmethod.xml
Tune File	:	
Tune Date	:	

Cl18O4



Perchlorate



SGS ACCUTEST FA35383

Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q23531.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-07-18 11:25
Sample Name	:	OP61125-MS
Vial	:	Vial 16
Sample Info	:	OP61125,SQ678,10,,,10,1,WATER
Quant Method	:	6850_0718_SQ678.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ678.batch.bin
Last Calib Update	:	2016-07-18 12:36

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	4.222	107.0 -> 89.0	35719	5.000	ng/ml	-0.028	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	4.226	99.0 -> 83.0	4975	0.725	ng/ml	95	3.0
		101.0 -> 85.0	1639				

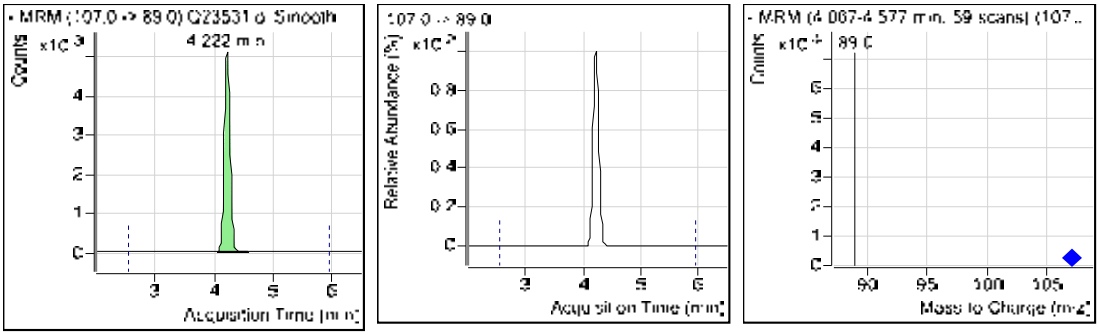
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

SGS ACCUTEST FA35383

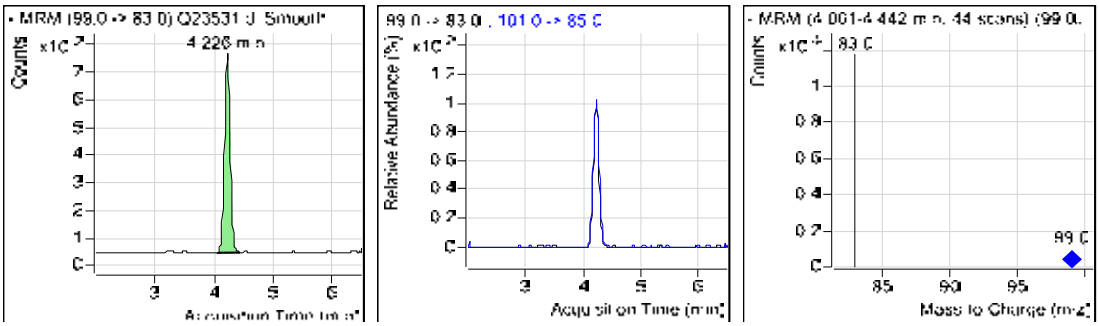
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q23531.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-07-18 11:25
Sample Name	:	OP61125-MS
Vial	:	Vial 16
Sample Info	:	OP61125,SQ678,10,,,10,1,WATER
Quant Method	:	6850_0718_SQ678.quantmethod.xml
Tune File	:	
Tune Date	:	

Cl18O4



Perchlorate



Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q23532.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-07-18 11:32
Sample Name	:	OP61125-MSD
Vial	:	Vial 17
Sample Info	:	OP61125,SQ678,10,,,10,1,WATER
Quant Method	:	6850_0718_SQ678.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ678.batch.bin
Last Calib Update	:	2016-07-18 12:36

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	4.231	107.0 -> 89.0	36128	5.000	ng/ml	-0.019	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	4.226	99.0 -> 83.0	5074	0.731	ng/ml	93	3.0
		101.0 -> 85.0	1715				

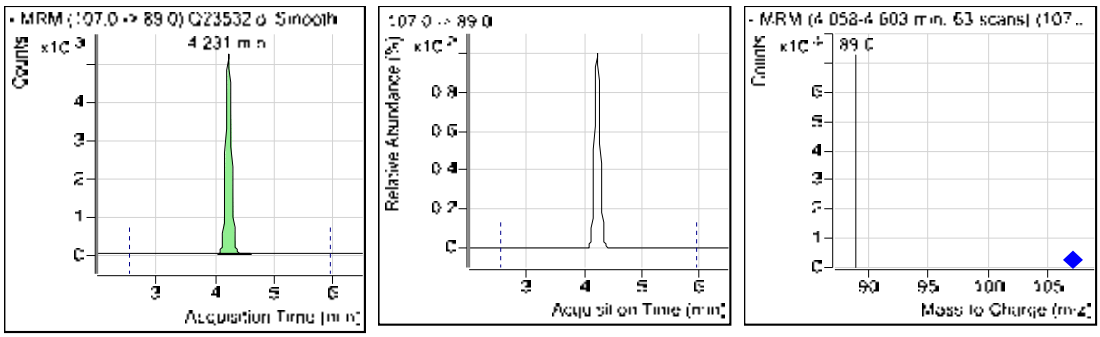
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

SGS ACCUTEST FA35383

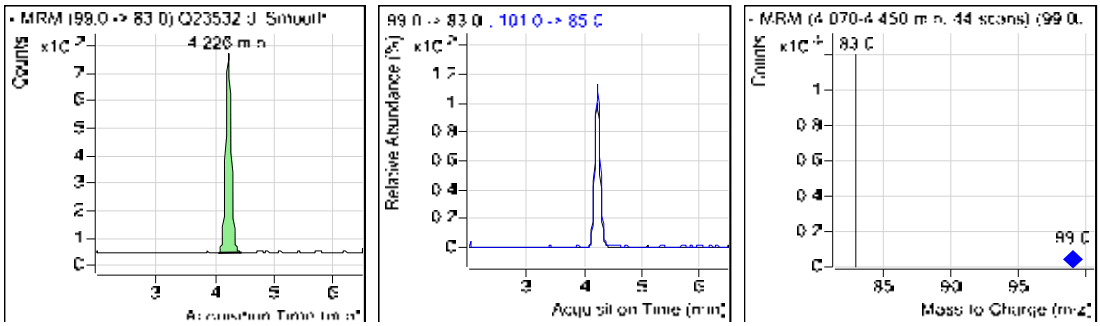
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q23532.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-07-18 11:32
Sample Name	:	OP61125-MSD
Vial	:	Vial 17
Sample Info	:	OP61125,SQ678,10,,,10,1,WATER
Quant Method	:	6850_0718_SQ678.quantmethod.xml
Tune File	:	
Tune Date	:	

Cl18O4



Perchlorate



SGS ACCUTEST FA35383

Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q23517.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-07-18 09:37
Sample Name	:	IC678-0.2
Vial	:	Vial 2
Sample Info	:	OP61125,SQ678,10,,,10,1,WATER
Quant Method	:	6850_0718_SQ678.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ678.batch.bin
Last Calib Update	:	2016-07-18 12:36

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)	Q-Ratio
Internal Standards								
Cl18O4	4.309	107.0 -> 89.0	37808	5.000	ng/ml		0.059	
System Monitoring Compounds								
Target Compounds							**Qvalue**	**Q-Ratio**
Perchlorate	4.321	99.0 -> 83.0	1215	0.167	ng/ml	#	77	2.3
		101.0 -> 85.0	518					

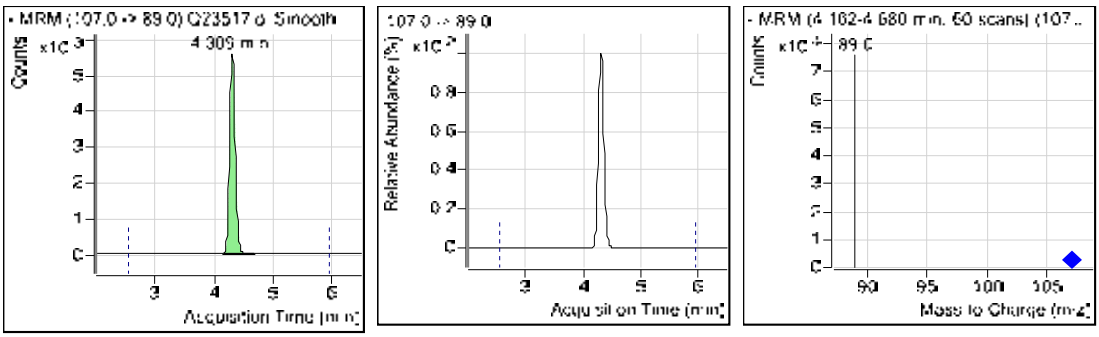
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

SGS ACCUTEST FA35383

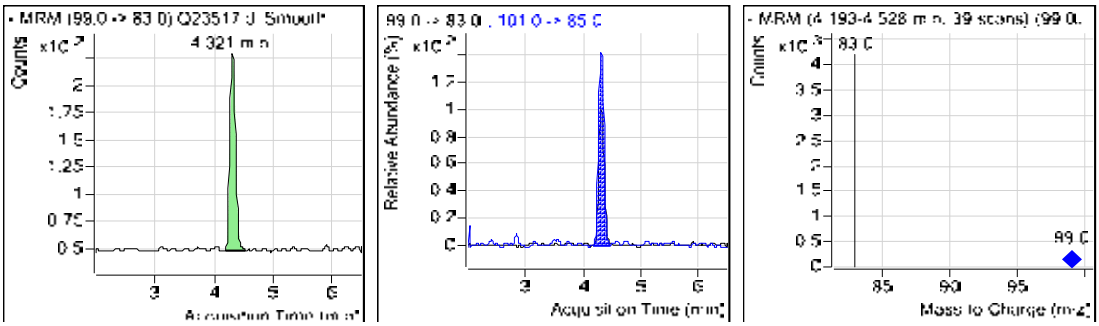
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q23517.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-07-18 09:37
Sample Name	:	IC678-0.2
Vial	:	Vial 2
Sample Info	:	OP61125,SQ678,10,,,10,1,WATER
Quant Method	:	6850_0718_SQ678.quantmethod.xml
Tune File	:	
Tune Date	:	

Cl18O4



Perchlorate



Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q23518.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-07-18 09:44
Sample Name	:	IC678-0.5
Vial	:	Vial 3
Sample Info	:	OP61125,SQ678,10,,,10,1,WATER
Quant Method	:	6850_0718_SQ678.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ678.batch.bin
Last Calib Update	:	2016-07-18 12:36

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	4.309	107.0 -> 89.0	29453	5.000	ng/ml	0.059	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	4.312	99.0 -> 83.0	2466	0.436	ng/ml	88	2.7
		101.0 -> 85.0	902				

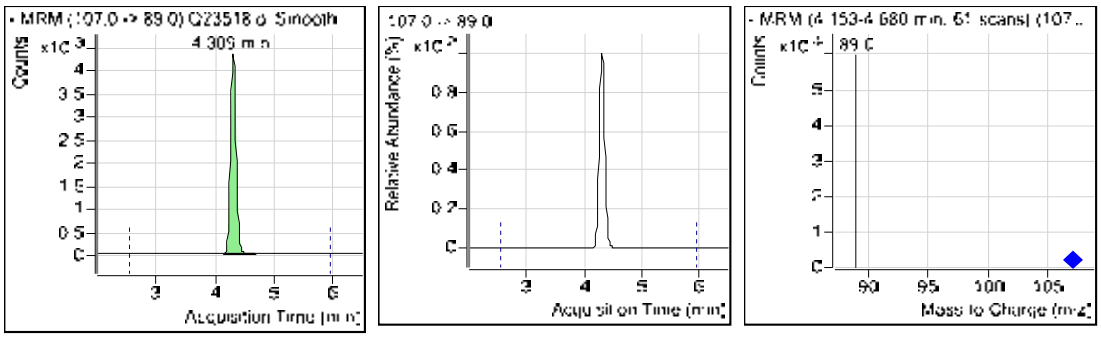
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

SGS ACCUTEST FA35383

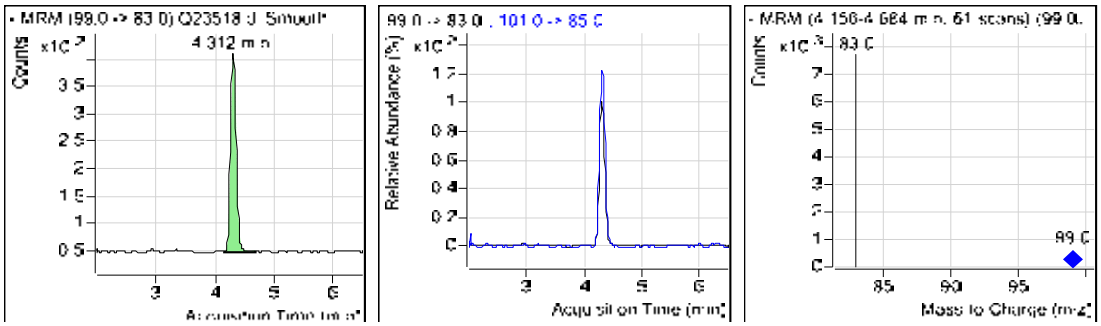
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q23518.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-07-18 09:44
Sample Name	:	IC678-0.5
Vial	:	Vial 3
Sample Info	:	OP61125,SQ678,10,,,10,1,WATER
Quant Method	:	6850_0718_SQ678.quantmethod.xml
Tune File	:	
Tune Date	:	

Cl18O4



Perchlorate



SGS ACCUTEST FA35383

Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q23519.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-07-18 09:52
Sample Name	:	IC678-1.0
Vial	:	Vial 4
Sample Info	:	OP61125,SQ678,10,,,10,1,WATER
Quant Method	:	6850_0718_SQ678.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ678.batch.bin
Last Calib Update	:	2016-07-18 12:36

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	4.317	107.0 -> 89.0	36878	5.000	ng/ml	0.067	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	4.312	99.0 -> 83.0	6575	0.928	ng/ml	89	2.8
		101.0 -> 85.0	2365				

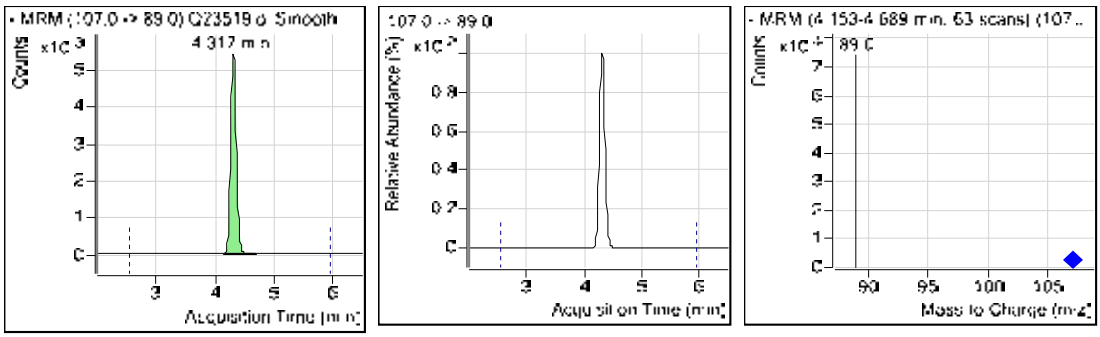
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

SGS ACCUTEST FA35383

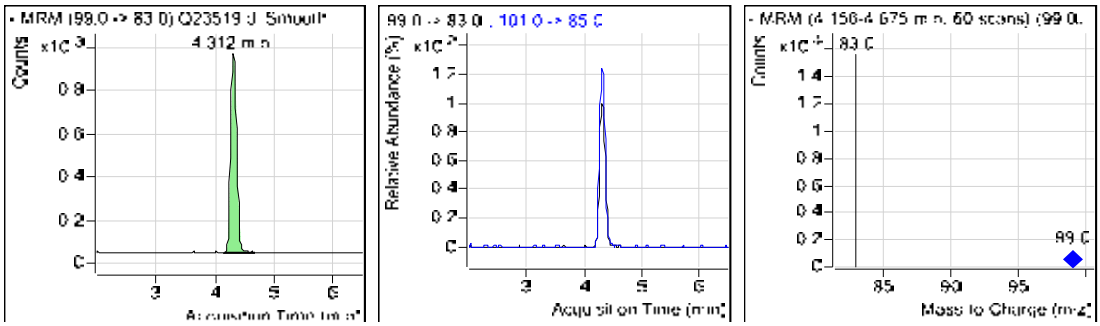
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q23519.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-07-18 09:52
Sample Name	:	IC678-1.0
Vial	:	Vial 4
Sample Info	:	OP61125,SQ678,10,,,10,1,WATER
Quant Method	:	6850_0718_SQ678.quantmethod.xml
Tune File	:	
Tune Date	:	

Cl18O4



Perchlorate



Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q23520.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-07-18 09:59
Sample Name	:	ICC678-2.0
Vial	:	Vial 5
Sample Info	:	OP61125,SQ678,10,,,10,1,WATER
Quant Method	:	6850_0718_SQ678.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ678.batch.bin
Last Calib Update	:	2016-07-18 12:36

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	4.317	107.0 -> 89.0	37486	5.000	ng/ml	0.067	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	4.321	99.0 -> 83.0	13174	1.827	ng/ml	91	2.9
		101.0 -> 85.0	4586				

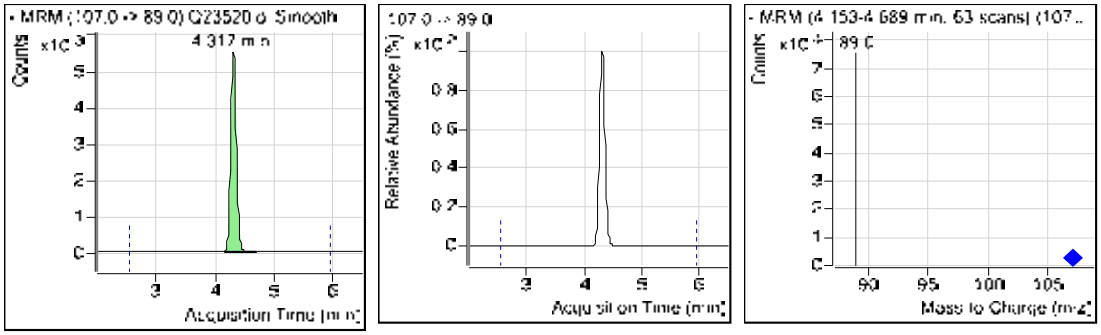
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

SGS ACCUTEST FA35383

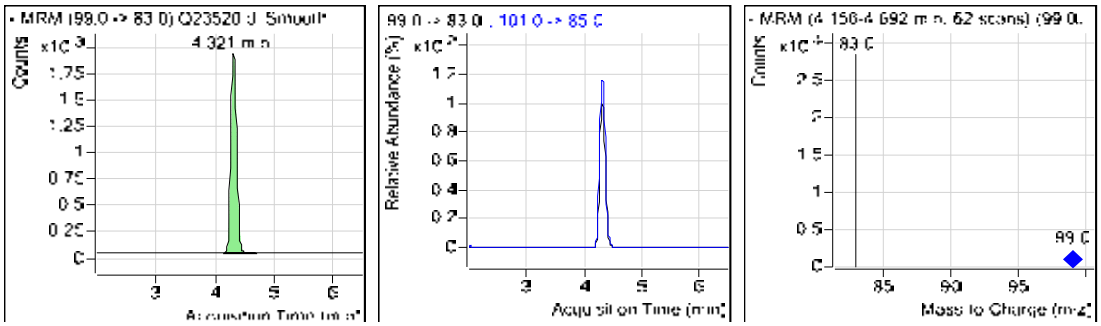
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q23520.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-07-18 09:59
Sample Name	:	ICC678-2.0
Vial	:	Vial 5
Sample Info	:	OP61125,SQ678,10,,,10,1,WATER
Quant Method	:	6850_0718_SQ678.quantmethod.xml
Tune File	:	
Tune Date	:	

Cl18O4



Perchlorate



Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q23521.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-07-18 10:06
Sample Name	:	IC678-5.0
Vial	:	Vial 6
Sample Info	:	OP61125,SQ678,10,,,10,1,WATER
Quant Method	:	6850_0718_SQ678.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ678.batch.bin
Last Calib Update	:	2016-07-18 12:36

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	4.317	107.0 -> 89.0	34528	5.000	ng/ml	0.067	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	4.321	99.0 -> 83.0	32103	4.806	ng/ml	93	3.0
		101.0 -> 85.0	10829				

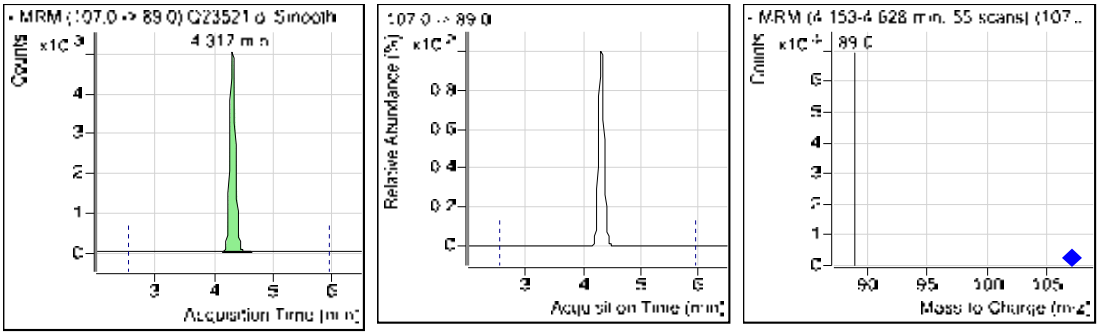
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

SGS ACCUTEST FA35383

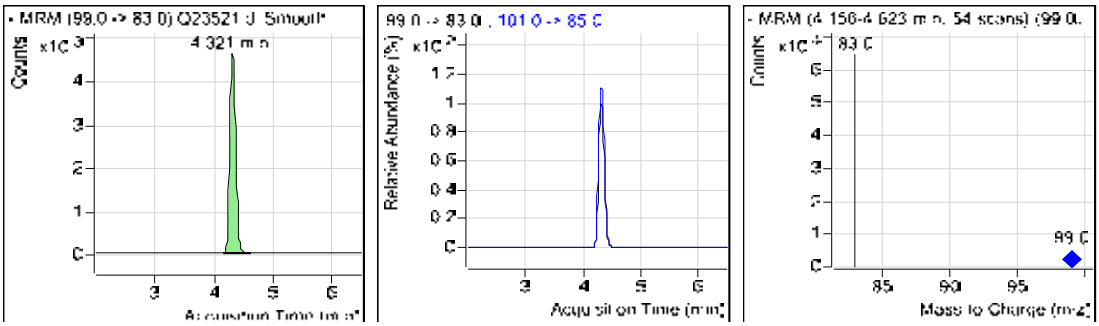
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q23521.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-07-18 10:06
Sample Name	:	IC678-5.0
Vial	:	Vial 6
Sample Info	:	OP61125,SQ678,10,,,10,1,WATER
Quant Method	:	6850_0718_SQ678.quantmethod.xml
Tune File	:	
Tune Date	:	

Cl18O4



Perchlorate



Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q23522.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-07-18 10:14
Sample Name	:	IC678-10
Vial	:	Vial 7
Sample Info	:	OP61125,SQ678,10,,,10,1,WATER
Quant Method	:	6850_0718_SQ678.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ678.batch.bin
Last Calib Update	:	2016-07-18 12:36

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	4.317	107.0 -> 89.0	31791	5.000	ng/ml	0.067	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	4.321	99.0 -> 83.0	61201	9.860	ng/ml	93	3.0
		101.0 -> 85.0	20680				

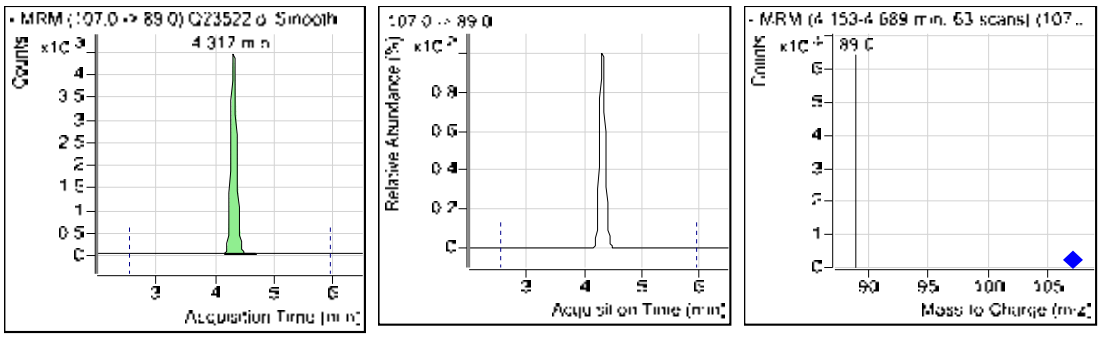
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

SGS ACCUTEST FA35383

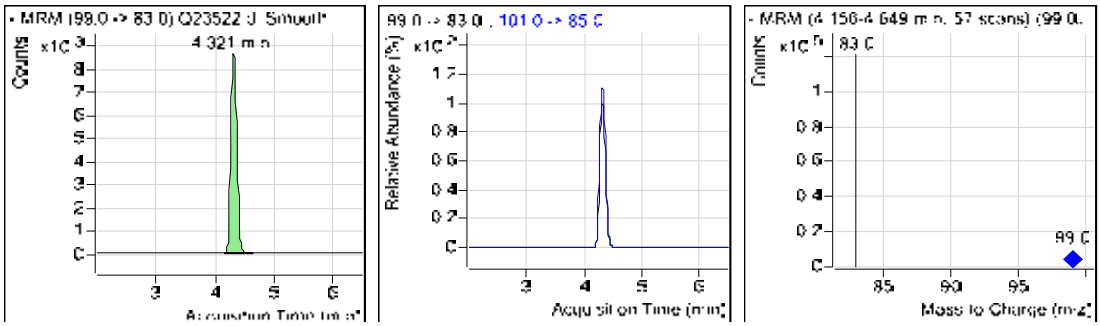
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q23522.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-07-18 10:14
Sample Name	:	IC678-10
Vial	:	Vial 7
Sample Info	:	OP61125,SQ678,10,,,10,1,WATER
Quant Method	:	6850_0718_SQ678.quantmethod.xml
Tune File	:	
Tune Date	:	

Cl18O4



Perchlorate



Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q23523.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-07-18 10:21
Sample Name	:	IC678-25
Vial	:	Vial 8
Sample Info	:	OP61125,SQ678,10,,,10,1,WATER
Quant Method	:	6850_0718_SQ678.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ678.batch.bin
Last Calib Update	:	2016-07-18 12:36

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	4.317	107.0 -> 89.0	25735	5.000	ng/ml	0.067	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	4.321	99.0 -> 83.0	130041	25.182	ng/ml	94	3.0
		101.0 -> 85.0	43105				

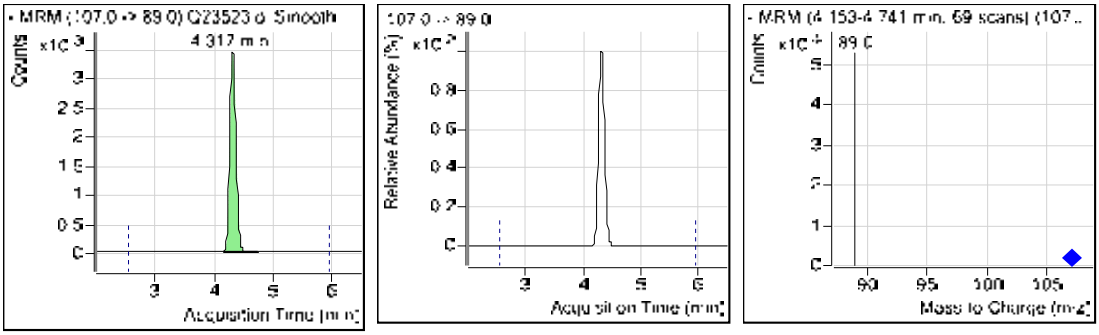
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

SGS ACCUTEST FA35383

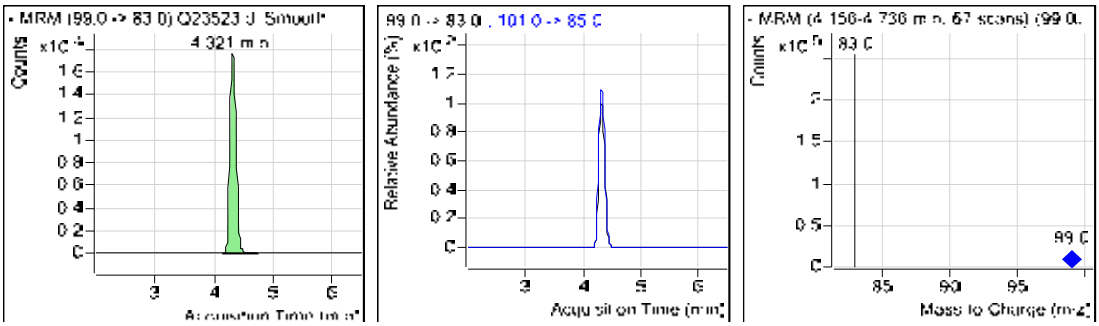
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q23523.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-07-18 10:21
Sample Name	:	IC678-25
Vial	:	Vial 8
Sample Info	:	OP61125,SQ678,10,,,10,1,WATER
Quant Method	:	6850_0718_SQ678.quantmethod.xml
Tune File	:	
Tune Date	:	

Cl18O4



Perchlorate



Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q23524.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-07-18 10:29
Sample Name	:	IC678-50
Vial	:	Vial 9
Sample Info	:	OP61125,SQ678,10,,,10,1,WATER
Quant Method	:	6850_0718_SQ678.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ678.batch.bin
Last Calib Update	:	2016-07-18 12:36

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	4.317	107.0 -> 89.0	19955	5.000	ng/ml	0.067	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	4.321	99.0 -> 83.0	208812	49.965	ng/ml	94	3.0
		101.0 -> 85.0	69057				

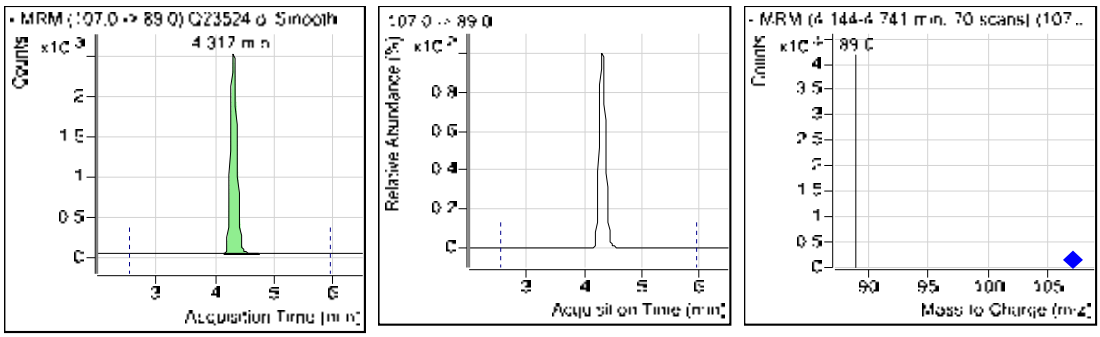
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

SGS ACCUTEST FA35383

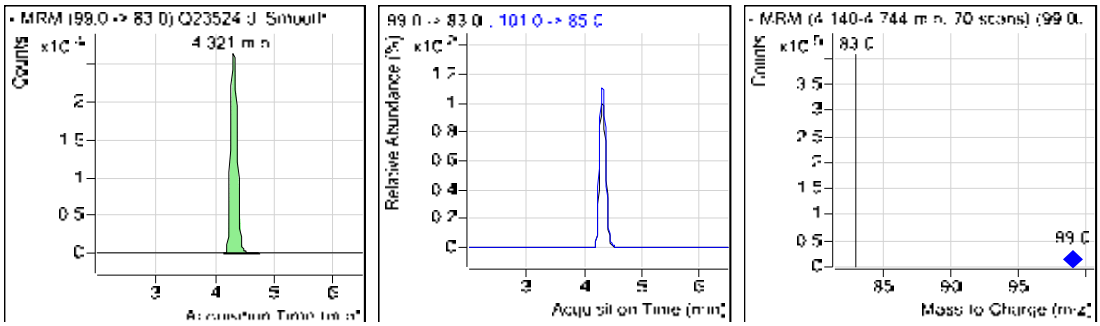
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q23524.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-07-18 10:29
Sample Name	:	IC678-50
Vial	:	Vial 9
Sample Info	:	OP61125,SQ678,10,,,10,1,WATER
Quant Method	:	6850_0718_SQ678.quantmethod.xml
Tune File	:	
Tune Date	:	

Cl18O4



Perchlorate



Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q23525.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-07-18 10:36
Sample Name	:	ICV678-2.0
Vial	:	Vial 10
Sample Info	:	OP61125,SQ678,10,,,10,1,WATER
Quant Method	:	6850_0718_SQ678.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ678.batch.bin
Last Calib Update	:	2016-07-18 12:36

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	4.326	107.0 -> 89.0	37071	5.000	ng/ml	0.076	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	4.329	99.0 -> 83.0	12336	1.730	ng/ml	92	2.9
		101.0 -> 85.0	4210				

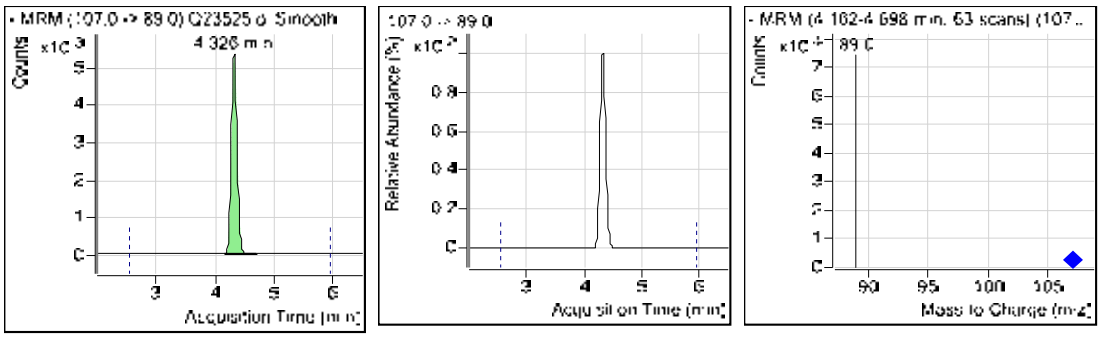
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

SGS ACCUTEST FA35383

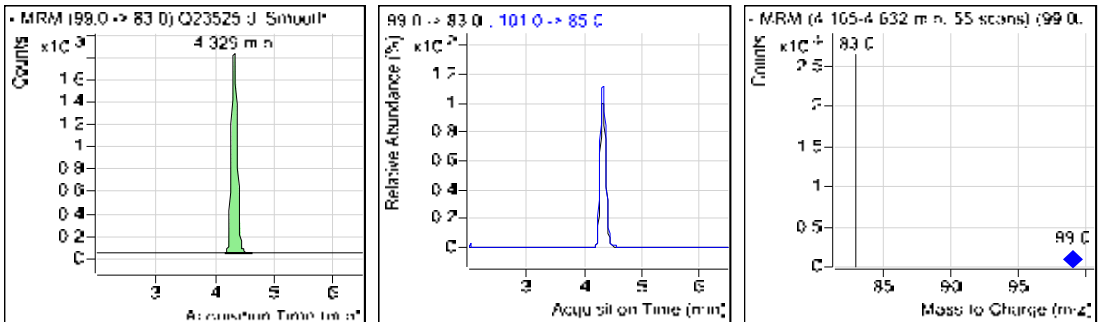
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q23525.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-07-18 10:36
Sample Name	:	ICV678-2.0
Vial	:	Vial 10
Sample Info	:	OP61125,SQ678,10,,,10,1,WATER
Quant Method	:	6850_0718_SQ678.quantmethod.xml
Tune File	:	
Tune Date	:	

Cl18O4



Perchlorate



SGS ACCUTEST FA35383

Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q23537.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-07-18 12:09
Sample Name	:	CC678-2.0
Vial	:	Vial 5
Sample Info	:	OP61125,SQ678,10,,,10,1,WATER
Quant Method	:	6850_0718_SQ678.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ678.batch.bin
Last Calib Update	:	2016-07-18 12:36

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	4.343	107.0 -> 89.0	38400	5.000	ng/ml	0.093	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	4.338	99.0 -> 83.0	13385	1.812	ng/ml	92	2.9
		101.0 -> 85.0	4599				

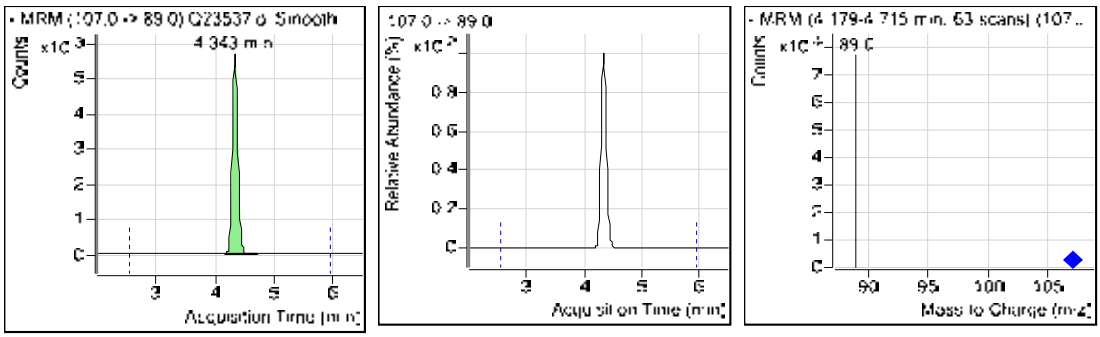
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

SGS ACCUTEST FA35383

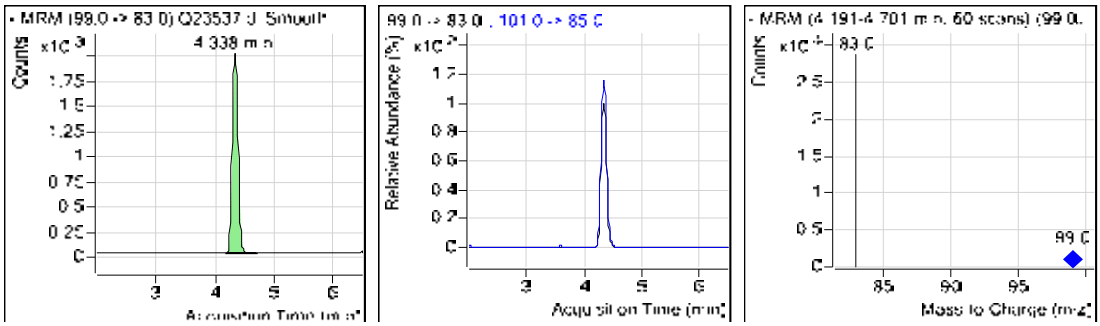
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q23537.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-07-18 12:09
Sample Name	:	CC678-2.0
Vial	:	Vial 5
Sample Info	:	OP61125,SQ678,10,,,10,1,WATER
Quant Method	:	6850_0718_SQ678.quantmethod.xml
Tune File	:	
Tune Date	:	

Cl18O4



Perchlorate



SGS ACCUTEST FA35383

ACCUTEST LABORATORIES SE

DATE:	07-18-16
COLUMN TYPE:	K Phenyl
AMOUNT INJECTED:	15 uL
INSTRUMENT:	LCMS1-Q
HEAD PRESSURE:	108

LCMS1-Q ANALYSIS LOG

METHODS:	6850
ACQ. METHOD:	Methanol Fe 2
PROC. METHOD:	6850 071956679
CALIB. DATE:	07-18-16
RUN BATCH: SQ	678

ANALYST:	NES
SOLVENT A LOT #:	55 15 162559 / 150476
SOLVENT B LOT #:	95 15 150476 / 162559
WATER LOT #:	162559
ISTD Lot #:	3675

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	SCON	ION RATIO	MANUAL INTS RATIONALE, PK #	COMMENTS
Q 23514	1	CCB	6850	—	—	210K	—		ND
Q 12	1	CCB		—	—		—		ND
Q 13	1	CCB		—	—		—		ND
Q 14	1	CCB		—	—		—		ND
Q 15	4	ICS		LC 712		210215K	—		✓
Q 16	1	CCB		—	—	210K	—		ND
Q 17	2	IC 678-0.2		LC714	2mL 10mL		2.3		✓
Q 18	3	-0.5			50uL 10mL		2.7		✓
Q 19	4	-1.0			100uL 10mL		2.8		✓
Q 20	5	ICC678 -2.0			200uL 10mL		2.9		✓
Q 21	6	IC678 - 5.0			500uL 10mL		3.0		✓
Q 22	7	-10			1.0mL 10mL		3.0		✓
Q 23	8	-15			1.5mL 10mL		3.0		✓
Q 24	9	-20			2mL 10mL		3.0		✓
Q 25	10	ICV678-2.0		LC712	200uL 10mL		2.9		Pass
Q 26	11	IC5678-0.2			20uL 10mL	210K 215K	3.4		Pass
Q 27	12	DP6125-BS		DP6125	1X	210K	3.0		✓
Q 28	13	-MB					—		ND
Q 29	14	KA 305276-79					3.4		✓
Q 30	15	KA35383-1					2.8		✓

Manual Integration Rationale SOP QA029: **MP** Missed Peak, **OP** Overlapping Peak, **SP** Split Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PI** Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

LCMS1_Q_log.xls NES rev. 10/12

Analyst's Signature:

Instrument Run Log SQ678 page 1 of 2
SGS ACCUTEST FA35383
75 of 261
7.6.1 7

ACCUTEST LABORATORIES SE

DATE:	07-19-16
COLUMN TYPE:	K Prime
AMOUNT INJECTED:	10 ul
INSTRUMENT:	LCMS1-Q
HEAD PRESSURE:	1800

LCMS1-Q ANALYSIS LOG

METHODS:	8270
ACQ. METHOD:	Archivable 2
PROC. METHOD:	8270 07-16 SQ678
CALIB. DATE:	07-19-16
RUN BATCH: SQ	678

ANALYST:	AMJ
SOLVENT A LOT #:	G15T 716179 / 166476
SOLVENT B LOT #:	915T 156476 / 164579
WATER LOT #:	16-179
ISTD Lot #:	7975

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	SCON	ION RATIO	MANUAL INTS RATIONALE, PK #	COMMENTS
Q 23531	16	OP61LT-MS	8270	OP61LT	1	610K	3.0		✓
Q 32	17	-MSD					3.0		✓
Q 33	18	FM3T383-1					—		ND
Q 34	19	-3					2.7		✓
Q 35	20	-4					2.9		✓
Q 36	21	-5					—		ND
Q 37	5	CC678-1.0		LC79	1mL/1mL		2.9		Poss
Q 38	2	EC678-0.2		↓	1mL/1mL		3.4		Poss
Q 39	1	GB		—			—		ND
Q									
Q									
Q									
Q									
Q									
Q									
Q									
Q									
Q									
Q									
Q									
Q									

NMS 07-18-16

Manual Integration Rationale SOP QA029. **MP** Missed Peak, **OP** Overlapping Peak, **SP** Solit Peak, **PDB** Poorly Defined Baseline, **BR** Baseline Ripple, **PII** Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

LCMS1_Q_logpds NF rev. 10/12

Analyst's Signature:

SGS ACCUTEST - ORLANDO

LIQUID SAMPLE PREP REPORT

Date/Time Started: 07-18-16 0800 (mm/dd/yy 24:00)

Date/Time Finished: 07-18-16 0930 (mm/dd/yy 24:00)

Prep Method: 3510C 3580A or Method (circle)

Analytical Method: 6850

Batch#: OP61125 Ext By: NAS Conc. By: — Vialed By: NAS

Sample ID	Bottle Number	Amount Extracted (ml)	Initial pH	Adjusted pH	Surrogate Amount	Spike Amount	Final Volume (ml)	Comments
OP61125 – MB	1	10					10	
OP – BS						20uL		
FA35303-1								MS/MSD
-2								
-3								
-4								
-5								
FA35516-79						10uL		

GC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries
- GC Surrogate Retention Time Summaries
- Initial and Continuing Calibration Summaries

Method Blank Summary

Job Number: FA35383
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP61122-MB	BB051987.D	1	07/20/16	KL	07/18/16	OP61122	GBB1481

The QC reported here applies to the following samples: **Method:** SW846 8330B

FA35383-1, FA35383-2, FA35383-3, FA35383-4, FA35383-5

CAS No.	Compound	Result	RL	MDL	Units	Q
2691-41-0	HMX	ND	0.20	0.080	ug/l	
121-82-4	RDX	ND	0.20	0.080	ug/l	
	DNX	ND	0.20	0.080	ug/l	
	MNX	ND	0.20	0.080	ug/l	
	TNX	ND	0.20	0.080	ug/l	
618-87-1	3,5-Dinitroaniline	ND	0.20	0.080	ug/l	
99-65-0	1,3-Dinitrobenzene	ND	0.20	0.080	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	0.20	0.080	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	0.20	0.080	ug/l	
35572-78-2	2-amino-4,6-Dinitrotoluene	ND	0.20	0.080	ug/l	
19406-51-0	4-amino-2,6-Dinitrotoluene	ND	0.20	0.080	ug/l	
98-95-3	Nitrobenzene	ND	0.20	0.097	ug/l	
88-72-2	o-Nitrotoluene	ND	0.20	0.080	ug/l	
99-08-1	m-Nitrotoluene	ND	0.20	0.080	ug/l	
99-99-0	p-Nitrotoluene	ND	0.20	0.080	ug/l	
479-45-8	Tetryl	ND	0.20	0.080	ug/l	
99-35-4	1,3,5-Trinitrobenzene	ND	0.20	0.099	ug/l	
118-96-7	2,4,6-Trinitrotoluene	ND	0.20	0.080	ug/l	
55-63-0	Nitroglycerine	ND	2.0	0.50	ug/l	
78-11-5	PETN	ND	2.0	0.50	ug/l	

CAS No.	Surrogate Recoveries		Limits
610-39-9	3,4-Dinitrotoluene	93%	70-136%

Method Blank Summary

Job Number: FA35383
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP61122-MB	BB052012.D	1	07/21/16	KL	07/18/16	OP61122	GBB1482

The QC reported here applies to the following samples: **Method:** SW846 8330B

FA35383-1, FA35383-2, FA35383-3, FA35383-4, FA35383-5

CAS No.	Compound	Result	RL	MDL	Units	Q
2691-41-0	HMX	ND	0.20	0.080	ug/l	
121-82-4	RDX	ND	0.20	0.080	ug/l	
	DNX	ND	0.20	0.080	ug/l	
	MNX	ND	0.20	0.080	ug/l	
	TNX	ND	0.20	0.080	ug/l	
618-87-1	3,5-Dinitroaniline	ND	0.20	0.080	ug/l	
99-65-0	1,3-Dinitrobenzene	ND	0.20	0.080	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	0.20	0.080	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	0.20	0.080	ug/l	
35572-78-2	2-amino-4,6-Dinitrotoluene	ND	0.20	0.080	ug/l	
19406-51-0	4-amino-2,6-Dinitrotoluene	ND	0.20	0.080	ug/l	
98-95-3	Nitrobenzene	ND	0.20	0.097	ug/l	
88-72-2	o-Nitrotoluene	ND	0.20	0.080	ug/l	
99-08-1	m-Nitrotoluene	ND	0.20	0.080	ug/l	
99-99-0	p-Nitrotoluene	ND	0.20	0.080	ug/l	
479-45-8	Tetryl	ND	0.20	0.080	ug/l	
99-35-4	1,3,5-Trinitrobenzene	ND	0.20	0.099	ug/l	
118-96-7	2,4,6-Trinitrotoluene	ND	0.20	0.080	ug/l	
55-63-0	Nitroglycerine	ND	2.0	0.50	ug/l	
78-11-5	PETN	ND	2.0	0.50	ug/l	

CAS No.	Surrogate Recoveries		Limits
610-39-9	3,4-Dinitrotoluene	91%	70-136%

Method Blank Summary

Job Number: FA35383
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP61122-MB	GG059715.D	1	07/21/16	KL	07/18/16	OP61122	GGG2442

The QC reported here applies to the following samples: **Method:** SW846 8330B

FA35383-1, FA35383-2, FA35383-3, FA35383-4, FA35383-5

CAS No.	Compound	Result	RL	MDL	Units	Q
2691-41-0	HMX	ND	0.20	0.080	ug/l	
121-82-4	RDX	ND	0.20	0.080	ug/l	
	DNX	ND	0.20	0.080	ug/l	
	MNX	ND	0.20	0.080	ug/l	
	TNX	ND	0.20	0.080	ug/l	
618-87-1	3,5-Dinitroaniline	ND	0.20	0.080	ug/l	
99-65-0	1,3-Dinitrobenzene	ND	0.20	0.080	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	0.20	0.080	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	0.20	0.080	ug/l	
35572-78-2	2-amino-4,6-Dinitrotoluene	ND	0.20	0.080	ug/l	
19406-51-0	4-amino-2,6-Dinitrotoluene	ND	0.20	0.080	ug/l	
98-95-3	Nitrobenzene	ND	0.20	0.097	ug/l	
88-72-2	o-Nitrotoluene	ND	0.20	0.080	ug/l	
99-08-1	m-Nitrotoluene	ND	0.20	0.080	ug/l	
99-99-0	p-Nitrotoluene	ND	0.20	0.080	ug/l	
479-45-8	Tetryl	ND	0.20	0.080	ug/l	
99-35-4	1,3,5-Trinitrobenzene	ND	0.20	0.099	ug/l	
118-96-7	2,4,6-Trinitrotoluene	ND	0.20	0.080	ug/l	
55-63-0	Nitroglycerine	ND	2.0	0.50	ug/l	
78-11-5	PETN	ND	2.0	0.50	ug/l	

CAS No.	Surrogate Recoveries		Limits
610-39-9	3,4-Dinitrotoluene	105%	70-136%

Blank Spike Summary

Job Number: FA35383
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP61122-BS	BB051985.D	1	07/20/16	KL	07/18/16	OP61122	GBB1481

The QC reported here applies to the following samples: **Method:** SW846 8330B

FA35383-1, FA35383-2, FA35383-3, FA35383-4, FA35383-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
2691-41-0	HMX	5	6.7	134	77-144
121-82-4	RDX	5	6.0	120	77-125
	DNX	5	5.4	108	66-127
	MNX	5	5.6	112	71-137
	TNX	5	5.1	102	60-126
618-87-1	3,5-Dinitroaniline	5	5.4	108	77-115
99-65-0	1,3-Dinitrobenzene	5	5.7	114	79-122
606-20-2	2,6-Dinitrotoluene	5	5.7	114	81-131
121-14-2	2,4-Dinitrotoluene	5	5.6	112	80-123
35572-78-2	2-amino-4,6-Dinitrotoluene	5	6.1	122*	81-120
19406-51-0	4-amino-2,6-Dinitrotoluene	5	6.1	122*	79-119
98-95-3	Nitrobenzene	5	5.2	104	78-130
88-72-2	o-Nitrotoluene	5	4.2	84	76-131
99-08-1	m-Nitrotoluene	5	4.0	80	78-122
99-99-0	p-Nitrotoluene	5	4.3	86	79-124
479-45-8	Tetryl	5	5.9	118	65-124
99-35-4	1,3,5-Trinitrobenzene	5	6.1	122	79-128
118-96-7	2,4,6-Trinitrotoluene	5	5.3	106	72-112
78-11-5	PETN	25	27.1	108	73-145

CAS No.	Surrogate Recoveries	BSP	Limits
610-39-9	3,4-Dinitrotoluene	98%	70-136%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FA35383
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP61122-BS	BB051986.D	1	07/20/16	KL	07/18/16	OP61122	GBB1481

The QC reported here applies to the following samples: **Method:** SW846 8330B

FA35383-1, FA35383-2, FA35383-3, FA35383-4, FA35383-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
55-63-0	Nitroglycerine	25	28.3	113	69-123

CAS No.	Surrogate Recoveries	BSP	Limits
610-39-9	3,4-Dinitrotoluene	110%	70-136%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FA35383
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP61122-BS	BB052010.D	1	07/21/16	KL	07/18/16	OP61122	GBB1482

The QC reported here applies to the following samples: **Method:** SW846 8330B

FA35383-1, FA35383-2, FA35383-3, FA35383-4, FA35383-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
2691-41-0	HMX	5	6.2	124	77-144
121-82-4	RDX	5	5.9	118	77-125
	DNX	5	4.9	98	66-127
	MNX	5	5.1	102	71-137
	TNX	5	4.9	98	60-126
618-87-1	3,5-Dinitroaniline	5	5.2	104	77-115
99-65-0	1,3-Dinitrobenzene	5	5.4	108	79-122
606-20-2	2,6-Dinitrotoluene	5	5.4	108	81-131
121-14-2	2,4-Dinitrotoluene	5	5.3	106	80-123
35572-78-2	2-amino-4,6-Dinitrotoluene	5	5.9	118	81-120
19406-51-0	4-amino-2,6-Dinitrotoluene	5	5.6	112	79-119
98-95-3	Nitrobenzene	5	5.3	106	78-130
88-72-2	o-Nitrotoluene	5	4.4	88	76-131
99-08-1	m-Nitrotoluene	5	4.1	82	78-122
99-99-0	p-Nitrotoluene	5	4.3	86	79-124
479-45-8	Tetryl	5	5.6	112	65-124
99-35-4	1,3,5-Trinitrobenzene	5	5.8	116	79-128
118-96-7	2,4,6-Trinitrotoluene	5	5.1	102	72-112
78-11-5	PETN	25	26.5	106	73-145

CAS No.	Surrogate Recoveries	BSP	Limits
610-39-9	3,4-Dinitrotoluene	97%	70-136%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FA35383
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP61122-BS	BB052011.D	1	07/21/16	KL	07/18/16	OP61122	GBB1482

The QC reported here applies to the following samples: **Method:** SW846 8330B

FA35383-1, FA35383-2, FA35383-3, FA35383-4, FA35383-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
55-63-0	Nitroglycerine	25	26.7	107	69-123

CAS No.	Surrogate Recoveries	BSP	Limits
610-39-9	3,4-Dinitrotoluene	100%	70-136%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA35383
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP61122-MS	BB052014.D	10	07/21/16	KL	07/18/16	OP61122	GBB1482
OP61122-MSD	BB052015.D	10	07/21/16	KL	07/18/16	OP61122	GBB1482
FA35383-1 [a]	BB052013.D	1	07/21/16	KL	07/18/16	OP61122	GBB1482
FA35383-1 [b]	GG059716.D	1	07/21/16	KL	07/18/16	OP61122	GGG2442

The QC reported here applies to the following samples: **Method:** SW846 8330B

FA35383-1, FA35383-2, FA35383-3, FA35383-4, FA35383-5

CAS No.	Compound	FA35383-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
2691-41-0	HMX	24.1 [c]		10	32.5	84	10	34.0	99	5	77-144/21
121-82-4	RDX	0.37		10	11.0	106	10	11.6	112	5	77-125/19
	DNX	0.20 U		10	8.9	89	10	9.7	97	9	66-127/25
	MNX	0.20 U		10	8.8	88	10	8.7	87	1	71-137/20
	TNX	0.20 U		10	8.4	84	10	8.9	89	6	60-126/18
618-87-1	3,5-Dinitroaniline	0.20 U		10	9.5	95	10	9.5	95	0	77-115/19
99-65-0	1,3-Dinitrobenzene	0.20 U		10	10.1	101	10	10.3	103	2	79-122/17
606-20-2	2,6-Dinitrotoluene	0.20 U		10	11.6	116	10	12.3	123	6	81-131/17
121-14-2	2,4-Dinitrotoluene	0.20 U		10	9.8	98	10	10.2	102	4	80-123/19
35572-78-2	2-amino-4,6-Dinitrotoluene	5.6		10	16.1	105	10	16.7	111	4	81-120/19
19406-51-0	4-amino-2,6-Dinitrotoluene	2.8		10	13.1	103	10	13.2	104	1	79-119/20
98-95-3	Nitrobenzene	0.20 U		10	8.6	86	10	8.8	88	2	78-130/19
88-72-2	o-Nitrotoluene	0.20 U		10	8.0	80	10	8.1	81	1	76-131/20
99-99-0	p-Nitrotoluene	0.20 U		10	8.7	87	10	8.1	81	7	79-124/18
479-45-8	Tetryl	0.20 U		10	9.7	97	10	10.3	103	6	65-124/20
99-35-4	1,3,5-Trinitrobenzene	14.9		10	26.2	113	10	26.2	113	0	79-128/16
118-96-7	2,4,6-Trinitrotoluene	7.4		10	16.8	94	10	17.2	98	2	72-112/16
78-11-5	PETN	2.0 U		50	48.5	97	500	484	97	0	73-145/18

CAS No.	Surrogate Recoveries	MS	MSD	FA35383-1	FA35383-1	Limits
610-39-9	3,4-Dinitrotoluene	0%* [d]	0%* [d]	86%	99%	70-136%

(a) All hits confirmed by reanalysis on a dissimilar column.
(b) Confirmation run.
(c) Result is from Run #3.
(d) Outside control limits due to dilution.

* = Outside of Control Limits.

Semivolatile Surrogate Recovery Summary

Job Number: FA35383
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Method: SW846 8330B **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]
FA35383-1	BB052013.D	86
FA35383-1	GG059716.D	99
FA35383-1	BB051989.D	88
FA35383-1	GG059723.D	94
FA35383-2	BB051992.D	97
FA35383-3	BB052016.D	96
FA35383-3	GG059717.D	108
FA35383-3	BB052017.D	97
FA35383-4	BB052018.D	92
FA35383-4	GG059718.D	106
FA35383-4	BB052019.D	98
FA35383-5	BB051999.D	86
OP61122-BS	BB051985.D	98
OP61122-BS	BB051986.D	110
OP61122-BS	BB052010.D	97
OP61122-BS	BB052011.D	100
OP61122-MB	BB051987.D	93
OP61122-MB	BB052012.D	91
OP61122-MB	GG059715.D	105
OP61122-MS	BB052014.D	0* [b]
OP61122-MSD	BB052015.D	0* [b]

Surrogate Compounds	Recovery Limits
S1 = 3,4-Dinitrotoluene	70-136%

(a) Recovery from GC signal #1
(b) Outside control limits due to dilution.

GC Surrogate Retention Time Summary

Job Number: FA35383
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Check Std:	GBB1481-ICC1481	**Injection Date:**	07/20/16
Lab File ID:	BB051979.D	**Injection Time:**	11:33
Instrument ID:	GCBB	**Method:**	SW846 8330B

	S1 [a] **RT**
Check Std	12.21

Lab Sample ID	**Lab File ID**	**Date Analyzed**	**Time Analyzed**	**S1** [a] **RT**
OP61122-BS	BB051985.D	07/20/16	14:38	12.13
OP61122-BS	BB051986.D	07/20/16	15:05	12.26
OP61122-MB	BB051987.D	07/20/16	15:32	12.21
FA35383-1	BB051989.D	07/20/16	16:26	12.27
FA35383-2	BB051992.D	07/20/16	17:46	12.32

Surrogate Compounds

S1 = 3,4-Dinitrotoluene

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: FA35383
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Check Std:	GBB1481-CC1481	**Injection Date:**	07/20/16
Lab File ID:	BB051995.D	**Injection Time:**	19:07
Instrument ID:	GCBB	**Method:**	SW846 8330B

	S1 [a] RT	S1 [b] RT
Check Std	12.36	12.36

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
FA35383-5	BB051999.D	07/20/16	20:55		12.39
GBB1481-ECC1481	BB052000.D	07/20/16	21:22	12.40	12.40

Surrogate Compounds

S1 = 3,4-Dinitrotoluene

(a) Retention time from GC signal #2
(b) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: FA35383
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Check Std:	GBB1482-CC1481	**Injection Date:**	07/21/16
Lab File ID:	BB052009.D	**Injection Time:**	14:35
Instrument ID:	GCBB	**Method:**	SW846 8330B

	S1 [a] RT	S1 [b] RT
Check Std	12.43	12.43

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
OP61122-BS	BB052010.D	07/21/16	15:02		12.40
OP61122-BS	BB052011.D	07/21/16	15:29		12.44
OP61122-MB	BB052012.D	07/21/16	15:56		12.42
FA35383-1	BB052013.D	07/21/16	16:23		12.47
OP61122-MS	BB052014.D	07/21/16	16:50		0.00
OP61122-MSD	BB052015.D	07/21/16	17:17		12.48
FA35383-3	BB052016.D	07/21/16	17:44		12.48
FA35383-3	BB052017.D	07/21/16	18:11		12.51
FA35383-4	BB052018.D	07/21/16	18:38		12.50
FA35383-4	BB052019.D	07/21/16	19:05		12.52
GBB1482-ECC1481	BB052020.D	07/21/16	19:32	12.56	12.56

Surrogate Compounds

S1 = 3,4-Dinitrotoluene

(a) Retention time from GC signal #2
(b) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: FA35383
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Check Std:	GGG2442-ICC2442	**Injection Date:**	07/21/16
Lab File ID:	GG059709.D	**Injection Time:**	12:22
Instrument ID:	GCGG	**Method:**	SW846 8330B

	S1 [a] RT	S1 [b] RT
Check Std	19.34	19.35

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
OP61122-MB	GG059715.D	07/21/16	16:00		19.39
FA35383-1	GG059716.D	07/21/16	16:33		19.43
FA35383-3	GG059717.D	07/21/16	17:05		19.45
FA35383-4	GG059718.D	07/21/16	17:37		19.46
GGG2442-ECC2442	GG059720.D	07/21/16	18:41	19.48	19.48

Surrogate Compounds

S1 = 3,4-Dinitrotoluene

(a) Retention time from GC signal #2
(b) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: FA35383
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Check Std:	GGG2443-CC2442	**Injection Date:**	07/22/16
Lab File ID:	GG059722.D	**Injection Time:**	12:05
Instrument ID:	GCGG	**Method:**	SW846 8330B

	S1 [a] RT	S1 [b] RT
Check Std	19.14	19.14

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
FA35383-1	GG059723.D	07/22/16	12:44		19.13
OP61167-MB	GG059724.D	07/22/16	13:18		19.09
FA35499-1	GG059725.D	07/22/16	13:50		19.08
GGG2443-ECC2442	GG059726.D	07/22/16	14:24	19.12	19.12

Surrogate Compounds

S1 = 3,4-Dinitrotoluene

(a) Retention time from GC signal #2
(b) Retention time from GC signal #1

Initial Calibration Summary

Job Number: FA35383
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1481-ICC1481
Lab FileID: BB051979.D

Response Factor Report G1315B

Method : D:\MSDCHEM\1\METHODS\8330B_0720.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 20 13:37:57 2016
Response via : Initial Calibration

Calibration Files
20 =BB051975.D 50 =BB051976.D 100 =BB051977.D 200 =BB051978.D
500 =BB051979.D 1000=BB051980.D 2000=BB051981.D

	Compound	20	50	100	200	500	1000	2000	Avg	%RSD
1)	TNX	2.371	3.325	3.553	3.442	3.595	3.573	3.668	3.361 E3	13.41
2)	HMX	1.484	1.644	1.544	1.593	1.701	1.653	1.663	1.612 E3	4.70
3)	DNX	3.026	3.488	3.131	3.103	3.182	3.150	3.168	3.178 E3	4.60
4)	MNX	2.668	2.763	2.691	2.568	2.508	2.513	2.548	2.609 E3	3.79
5)	RDX	1.839	2.250	2.077	1.949	1.845	1.836	1.896	1.956 E3	7.95
6)	1,3,5-Trinitroben	4.563	4.575	4.073	4.087	4.003	3.954	4.108	4.195 E3	6.22
7)	1,3-Dinitrobenzen	5.947	6.020	5.574	5.440	5.309	5.289	5.479	5.580 E3	5.26
8)	3,5-Dinitroanilin	4.535	5.255	4.727	4.611	4.512	4.517	4.689	4.692 E3	5.58
9)	Nitrobenzene	3.670	3.563	3.327	3.255	3.174	3.201	3.278	3.353 E3	5.65
10)	Nitroglycerin								0.000	-1.00
11)	Tetryl	2.976	3.050	2.737	2.846	2.838	2.851	2.959	2.894 E3	3.66
12)	2,4,6-Trinitrotol	3.670	3.966	3.782	3.817	3.764	3.734	3.903	3.805 E3	2.65
13)	2-Amino-4,6-Dinit	3.430	3.839	3.538	3.443	3.400	3.348	3.474	3.496 E3	4.64
14)	4-Amino-2,6-Dinit	3.248	2.764	2.534	2.522	2.490	2.427	2.526	2.645 E3	10.81
15)S	3,4-Dinitrotoluen	2.957	2.749	2.326	2.292	2.209	2.166	2.241	2.420 E3	12.66
16)	2,4-Dinitrotoluen	5.389	5.483	5.032	4.949	4.829	4.779	4.977	5.062 E3	5.35
17)	2,6-Dinitrotoluen	2.961	3.205	2.907	2.787	2.742	2.668	2.778	2.864 E3	6.29
18)	o-Nitrotoluene	2.743	2.852	2.550	2.398	2.363	2.318	2.350	2.511 E3	8.44
19)	p-Nitrotoluene	4.079	4.283	3.792	3.709	3.632	3.589	3.661	3.821 E3	6.83
20)	m-Nitrotoluene	3.637	3.978	3.667	3.562	3.514	3.473	3.540	3.624 E3	4.69
21)	PETN								0.000	-1.00

Signal #2

1)	TNX	4.827	5.924	5.766	5.581	5.482	5.579	5.683	5.549 E3	6.30
2)	HMX	3.547	4.265	4.059	4.443	4.387	4.439	4.561	4.243 E3	8.16

---- Quadratic regr., Force(0,0) ---- Coefficient = 1.0000
Response Ratio = 0.00000 + 4322.85801 *A + 0.11889 *A^2

3)	DNX	4.676	5.582	5.197	5.156	5.052	5.036	5.114	5.116 E3	5.23
4)	MNX	3.972	4.380	4.120	4.014	3.926	3.902	4.031	4.049 E3	4.01
5)	RDX	2.992	3.281	3.111	3.066	2.972	2.990	3.077	3.070 E3	3.48
6)	1,3,5-Trinitroben	8.230	8.440	7.866	7.800	7.716	7.655	8.034	7.963 E3	3.61
7)	1,3-Dinitrobenzen	4.147	4.443	3.994	3.756	3.711	3.663	3.890	3.943 E3	7.05
8)	3,5-Dinitroanilin	8.279	8.930	8.006	7.742	7.760	7.732	8.056	8.072 E3	5.32
9)	Nitrobenzene	3.260	3.541	3.159	3.151	3.114	3.076	3.161	3.209 E3	4.89
10)	Nitroglycerin	1.329	1.422	1.329	1.293	1.279	1.282	1.334	1.324 E3	3.71
11)	Tetryl	4.683	5.087	4.638	4.580	4.647	4.716	4.867	4.746 E3	3.69
12)	2,4,6-Trinitrotol	3.024	3.998	3.962	4.164	4.346	4.474	4.745	4.102 E3	13.38
13)	2-Amino-4,6-Dinit	3.472	4.611	4.665	4.789	4.905	5.022	5.268	4.676 E3	12.32

---- Quadratic regr., Force(0,0) ---- Coefficient = 1.0000
Response Ratio = 0.00000 + 4770.90597 *A + 0.24861 *A^2

14)	4-Amino-2,6-Dinit	4.325	4.820	4.814	4.839	4.897	4.953	5.182	4.833 E3	5.34
15)S	3,4-Dinitrotoluen	4.045	4.357	3.988	3.959	3.877	3.900	4.032	4.023 E3	3.99
16)	2,4-Dinitrotoluen	2.940	3.273	3.185	3.176	3.180	3.196	3.306	3.180 E3	3.68
17)	2,6-Dinitrotoluen	3.666	4.162	3.639	3.598	3.579	3.540	3.667	3.693 E3	5.75

Initial Calibration Summary

Job Number: FA35383
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1481-ICC1481
Lab FileID: BB051979.D

18)	o-Nitrotoluene	2.245	3.093	3.045	3.105	3.092	3.113	3.233	2.990	E3	11.15
19)	p-Nitrotoluene	2.574	3.232	2.806	2.753	2.847	2.902	3.082	2.885	E3	7.51
20)	m-Nitrotoluene	4.078	4.352	3.849	3.959	3.966	4.005	4.153	4.052	E3	4.04
21)	PETN	1.232	1.621	1.490	1.491	1.448	1.441	1.512	1.462	E3	8.05

(#) = Out of Range

8330B_0720.M Thu Jul 21 07:34:44 2016

Initial Calibration Verification

Job Number: FA35383
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1481-ICV1481
Lab FileID: BB051982.D

Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\1\DATA\0720BPL\BB051982.D\dad1B.ch Vial: 28
Signal #2 : C:\HPCHEM\1\DATA\0720BPL\BB051982.D\dad1A.ch
Acq On : 20-Jul-2016, 12:56:26 Operator: kismetl
Sample : icv1481-500 Inst : G1315B
Misc : op61122,GBB1481,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : D:\MSDCHEM\1\METHODS\8330B_0720.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 20 13:37:57 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	500.000	533.677	-6.7	100	0.00	1.24- 1.84
2	HMX	500.000	561.845	-12.4	106	0.00	1.40- 2.00
3	DNX	500.000	481.552	3.7	96	0.00	1.69- 2.29
4	MNX	500.000	487.819	2.4	101	0.00	2.37- 2.97
5	RDX	500.000	494.988	1.0	105	0.00	2.96- 3.76
6	1,3,5-Trinitrobenzene	500.000	516.742	-3.3	108	0.01	4.92- 5.72
7	1,3-Dinitrobenzene	500.000	486.887	2.6	102	0.01	6.22- 7.02
8	3,5-Dinitroaniline	500.000	498.647	0.3	104	0.01	6.63- 7.43
9	Nitrobenzene	500.000	511.186	-2.2	108	0.02	7.90- 8.70
10	Nitroglycerin		----------NA----------				
11	Tetryl		----------NA----------				
12	2,4,6-Trinitrotoluene	500.000	431.673	13.7	87	0.04	10.54-11.34
13	2-Amino-4,6-Dinitrotol	500.000	528.931	-5.8	109	0.04	10.92-11.72
14	4-Amino-2,6-Dinitrotol	500.000	521.741	-4.3	111	0.04	11.46-12.26
15 S	3,4-Dinitrotoluene		----------NA----------				
16	2,4-Dinitrotoluene	500.000	509.280	-1.9	107	0.04	12.48-13.28
17	2,6-Dinitrotoluene	500.000	512.331	-2.5	107	0.04	12.96-13.76
18	o-Nitrotoluene	500.000	510.114	-2.0	108	0.02	16.01-16.88
19	p-Nitrotoluene	500.000	507.723	-1.5	107	0.01	16.44-17.44
20	m-Nitrotoluene	500.000	508.561	-1.7	105	0.00	17.19-18.19
21	PETN		----------NA----------				

***** Signal #2 *****

1	TNX	500.000	505.903	-1.2	102	0.00	1.24- 1.84
	---------- Amount	Calc.	%Drift	----------			
2	HMX	500.000	570.308	-14.1	114	0.00	1.40- 2.00
	---------- Amount	Calc.	%Drift	----------			
3	DNX	500.000	482.032	3.6	98	0.00	1.69- 2.29
4	MNX	500.000	494.256	1.1	102	0.00	2.37- 2.97
5	RDX	500.000	520.061	-4.0	107	0.00	2.96- 3.76
6	1,3,5-Trinitrobenzene	500.000	519.724	-3.9	107	0.01	4.92- 5.72
7	1,3-Dinitrobenzene	500.000	478.394	4.3	102	0.01	6.22- 7.02
8	3,5-Dinitroaniline	500.000	492.850	1.4	103	0.01	6.63- 7.43
9	Nitrobenzene	500.000	517.742	-3.5	107	0.02	7.89- 8.69
10	Nitroglycerin	2500.000	2588.232	-3.5	107	0.04	9.64-10.64
11	Tetryl		----------NA----------				
12	2,4,6-Trinitrotoluene	500.000	507.239	-1.4	96	0.03	10.54-11.34

Initial Calibration Verification

Job Number: FA35383
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1481-ICV1481
Lab FileID: BB051982.D

		Amount	Calc.	%Drift			
13	2-Amino-4,6-Dinitrotol	500.000	563.810	-12.8	113	0.04	10.92-11.72
		Amount	Calc.	%Drift			
14	4-Amino-2,6-Dinitrotol	500.000	570.838	-14.2	113	0.04	11.46-12.26
15 S	3,4-Dinitrotoluene			----------NA----------			
16	2,4-Dinitrotoluene	500.000	567.405	-13.5	113	0.04	12.49-13.29
17	2,6-Dinitrotoluene	500.000	547.990	-9.6	113	0.04	12.96-13.76
18	o-Nitrotoluene	500.000	570.994	-14.2	110	0.02	15.89-16.89
19	p-Nitrotoluene	500.000	533.323	-6.7	108	0.00	16.45-17.45
20	m-Nitrotoluene	500.000	524.287	-4.9	107	0.00	17.20-18.20
21	PETN	2500.000	2708.105	-8.3	109	0.00	19.00-20.20

(#) = Out of Range SPCC's out = 0 CCC's out = 0
BB051979.D 8330B_0720.M Thu Jul 21 07:36:51 2016

8.6.2

8

SGS ACCUTEST FA35383

Initial Calibration Verification

Job Number: FA35383
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1481-ICV1481
Lab FileID: BB051983.D

Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\1\DATA\0720BPL\BB051983.D\dad1B.ch Vial: 31
Signal #2 : C:\HPCHEM\1\DATA\0720BPL\BB051983.D\dad1A.ch
Acq On : 20-Jul-2016, 13:38:10 Operator: kismetl
Sample : icv1481-500,tryl Inst : G1315B
Misc : op61122,GBB1481,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : D:\MSDCHEM\1\METHODS\8330B_0720.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 20 13:37:57 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX		----------NA----------				
2	HMX		----------NA----------				
3	DNX		----------NA----------				
4	MNX		----------NA----------				
5	RDX		----------NA----------				
6	1,3,5-Trinitrobenzene		----------NA----------				
7	1,3-Dinitrobenzene		----------NA----------				
8	3,5-Dinitroaniline		----------NA----------				
9	Nitrobenzene		----------NA----------				
10	Nitroglycerin		----------NA----------				
11	Tetryl	500.000	513.606	-2.7	105	0.02	10.07-10.87
12	2,4,6-Trinitrotoluene		----------NA----------				
13	2-Amino-4,6-Dinitrotoluen		----------NA----------				
14	4-Amino-2,6-Dinitrotoluen		----------NA----------				
15 S	3,4-Dinitrotoluene		----------NA----------				
16	2,4-Dinitrotoluene		----------NA----------				
17	2,6-Dinitrotoluene		----------NA----------				
18	o-Nitrotoluene		----------NA----------				
19	p-Nitrotoluene		----------NA----------				
20	m-Nitrotoluene		----------NA----------				
21	PETN		----------NA----------				

***** Signal #2 *****

1	TNX		----------NA----------				
	----------	Amount	Calc.	%Drift	----------		
2	HMX		----------NA----------				
	----------	Amount	Calc.	%Drift	----------		
3	DNX		----------NA----------				
4	MNX		----------NA----------				
5	RDX		----------NA----------				
6	1,3,5-Trinitrobenzene		----------NA----------				
7	1,3-Dinitrobenzene		----------NA----------				
8	3,5-Dinitroaniline		----------NA----------				
9	Nitrobenzene		----------NA----------				
10	Nitroglycerin		----------NA----------				
11	Tetryl	500.000	496.866	0.6	101	0.02	10.07-10.87
12	2,4,6-Trinitrotoluene		----------NA----------				

Initial Calibration Verification

Job Number: FA35383
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1481-ICV1481
Lab FileID: BB051983.D

		Amount	Calc.	%Drift
13	2-Amino-4,6-Dinitrotoluen		NA	
14	4-Amino-2,6-Dinitrotoluen		NA	
15 S	3,4-Dinitrotoluene		NA	
16	2,4-Dinitrotoluene		NA	
17	2,6-Dinitrotoluene		NA	
18	o-Nitrotoluene		NA	
19	p-Nitrotoluene		NA	
20	m-Nitrotoluene		NA	
21	PETN		NA	

(#) = Out of Range SPCC's out = 0 CCC's out = 0
BB051979.D 8330B_0720.M Thu Jul 21 07:36:52 2016

Continuing Calibration Summary

Job Number: FA35383
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1481-CC1481
Lab FileID: BB051995.D

Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\1\DATA\0720BPL\BB051995.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0720BPL\BB051995.D\dad1A.ch
Acq On : 20-Jul-2016, 19:07:50 Operator: kismetl
Sample : cc1481-1000 Inst : G1315B
Misc : op61122,GBB1481,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : D:\MSDCHEM\1\METHODS\8330B_0720.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 20 13:37:57 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	1000.000	1072.991	-7.3	101	0.02	1.24- 1.84
2	HMX	1000.000	1017.190	-1.7	99	0.02	1.40- 2.00
3	DNX	1000.000	981.185	1.9	99	0.02	1.69- 2.29
4	MNX	1000.000	957.120	4.3	99	0.03	2.37- 2.97
5	RDX	1000.000	953.616	4.6	102	0.04	2.96- 3.76
6	1,3,5-Trinitrobenzene	1000.000	963.308	3.7	102	0.06	4.92- 5.72
7	1,3-Dinitrobenzene	1000.000	951.766	4.8	100	0.07	6.22- 7.02
8	3,5-Dinitroaniline	1000.000	969.480	3.1	101	0.07	6.63- 7.43
9	Nitrobenzene	1000.000	966.621	3.3	101	0.10	7.90- 8.70
10	Nitroglycerin	----------	----------	NA	----------		
11	Tetryl	1000.000	1017.615	-1.8	103	0.14	10.07-10.87
12	2,4,6-Trinitrotoluene	1000.000	994.994	0.5	101	0.14	10.54-11.34
13	2-Amino-4,6-Dinitrotol	1000.000	967.177	3.3	101	0.14	10.92-11.72
14	4-Amino-2,6-Dinitrotol	1000.000	936.746	6.3	102	0.15	11.46-12.26
15 S	3,4-Dinitrotoluene	1000.000	906.547	9.3	101	0.15	11.81-12.61
16	2,4-Dinitrotoluene	1000.000	954.910	4.5	101	0.15	12.48-13.28
17	2,6-Dinitrotoluene	1000.000	946.109	5.4	102	0.15	12.96-13.76
18	o-Nitrotoluene	1000.000	925.665	7.4	100	0.15	16.01-16.88
19	p-Nitrotoluene	1000.000	941.938	5.8	100	0.14	16.44-17.44
20	m-Nitrotoluene	1000.000	960.140	4.0	100	0.12	17.19-18.19
21	PETN	----------	----------	NA	----------		

***** Signal #2 *****

1	TNX	1000.000	1002.892	-0.3	100	0.02	1.24- 1.84
	----------	Amount	Calc.	%Drift	----------		
2	HMX	1000.000	998.752	0.1	100	0.02	1.40- 2.00
	----------	Amount	Calc.	%Drift	----------		
3	DNX	1000.000	974.552	2.5	99	0.02	1.69- 2.29
4	MNX	1000.000	964.010	3.6	100	0.03	2.37- 2.97
5	RDX	1000.000	969.629	3.0	100	0.04	2.96- 3.76
6	1,3,5-Trinitrobenzene	1000.000	976.245	2.4	102	0.06	4.92- 5.72
7	1,3-Dinitrobenzene	1000.000	937.058	6.3	101	0.07	6.22- 7.02
8	3,5-Dinitroaniline	1000.000	955.278	4.5	100	0.07	6.63- 7.43
9	Nitrobenzene	1000.000	972.586	2.7	101	0.10	7.89- 8.69
10	Nitroglycerin	5000.000	4862.478	2.8	100	0.12	9.64-10.64
11	Tetryl	1000.000	998.377	0.2	100	0.14	10.07-10.87
12	2,4,6-Trinitrotoluene	1000.000	1096.714	-9.7	101	0.14	10.54-11.34

Continuing Calibration Summary

Job Number: FA35383
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1481-CC1481
Lab FileID: BB051995.D

			Amount	Calc.	%Drift			
13		2-Amino-4,6-Dinitrotol	1000.000	1001.904	-0.2	100	0.14	10.92-11.72

			Amount	Calc.	%Drift			
14		4-Amino-2,6-Dinitrotol	1000.000	1033.911	-3.4	101	0.14	11.46-12.26
15	S	3,4-Dinitrotoluene	1000.000	967.688	3.2	100	0.15	11.81-12.61
16		2,4-Dinitrotoluene	1000.000	1001.086	-0.1	100	0.14	12.49-13.29
17		2,6-Dinitrotoluene	1000.000	959.814	4.0	100	0.15	12.96-13.76
18		o-Nitrotoluene	1000.000	1080.642	-8.1	104	0.14	15.89-16.89
19		p-Nitrotoluene	1000.000	1010.275	-1.0	100	0.13	16.45-17.45
20		m-Nitrotoluene	1000.000	994.762	0.5	101	0.11	17.20-18.20
21		PETN	5000.000	4930.181	1.4	100	0.07	19.00-20.20

(#) = Out of Range SPCC's out = 0 CCC's out = 0
BB051980.D 8330B_0720.M Thu Jul 21 08:34:28 2016

8.6.4

8

Continuing Calibration Summary

Job Number: FA35383
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1481-ECC1481
Lab FileID: BB052000.D

Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\1\DATA\0720BPL\BB052000.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0720BPL\BB052000.D\dad1A.ch
Acq On : 20-Jul-2016, 21:22:37 Operator: kismetl
Sample : ecc1481-1000 Inst : G1315B
Misc : op61122,GBB1481,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : D:\MSDCHEM\1\METHODS\8330B_0720.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 20 13:37:57 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	1000.000	1071.625	-7.2	101	0.02	1.24- 1.84
2	HMX	1000.000	1024.600	-2.5	100	0.02	1.40- 2.00
3	DNX	1000.000	979.257	2.1	99	0.03	1.69- 2.29
4	MNX	1000.000	960.842	3.9	100	0.04	2.37- 2.97
5	RDX	1000.000	948.253	5.2	101	0.05	2.96- 3.76
6	1,3,5-Trinitrobenzene	1000.000	953.133	4.7	101	0.07	4.92- 5.72
7	1,3-Dinitrobenzene	1000.000	950.063	5.0	100	0.08	6.22- 7.02
8	3,5-Dinitroaniline	1000.000	964.310	3.6	100	0.09	6.63- 7.43
9	Nitrobenzene	1000.000	958.251	4.2	100	0.12	7.90- 8.70
10	Nitroglycerin	----------	----------	NA	----------		
11	Tetryl	1000.000	997.046	0.3	101	0.17	10.07-10.87
12	2,4,6-Trinitrotoluene	1000.000	993.770	0.6	101	0.17	10.54-11.34
13	2-Amino-4,6-Dinitrotol	1000.000	964.385	3.6	101	0.17	10.92-11.72
14	4-Amino-2,6-Dinitrotol	1000.000	932.003	6.8	102	0.18	11.46-12.26
15 S	3,4-Dinitrotoluene	1000.000	886.249	11.4	99	0.19	11.81-12.61
16	2,4-Dinitrotoluene	1000.000	952.577	4.7	101	0.19	12.48-13.28
17	2,6-Dinitrotoluene	1000.000	937.848	6.2	101	0.19	12.96-13.76
18	o-Nitrotoluene	1000.000	922.383	7.8	100	0.20	16.01-16.88
19	p-Nitrotoluene	1000.000	943.488	5.7	100	0.18	16.44-17.44
20	m-Nitrotoluene	1000.000	958.338	4.2	100	0.16	17.19-18.19
21	PETN	----------	----------	NA	----------		

***** Signal #2 *****

1	TNX	1000.000	1008.199	-0.8	100	0.02	1.24- 1.84
	----------	Amount	Calc.	%Drift	----------		
2	HMX	1000.000	1002.660	-0.3	100	0.03	1.40- 2.00
	----------	Amount	Calc.	%Drift	----------		
3	DNX	1000.000	977.909	2.2	99	0.03	1.69- 2.29
4	MNX	1000.000	967.684	3.2	100	0.04	2.37- 2.97
5	RDX	1000.000	969.580	3.0	100	0.05	2.96- 3.76
6	1,3,5-Trinitrobenzene	1000.000	973.261	2.7	101	0.07	4.92- 5.72
7	1,3-Dinitrobenzene	1000.000	940.917	5.9	101	0.08	6.22- 7.02
8	3,5-Dinitroaniline	1000.000	952.039	4.8	99	0.09	6.63- 7.43
9	Nitrobenzene	1000.000	960.687	3.9	100	0.12	7.89- 8.69
10	Nitroglycerin	5000.000	4845.515	3.1	100	0.15	9.64-10.64
11	Tetryl	1000.000	994.310	0.6	100	0.17	10.07-10.87
12	2,4,6-Trinitrotoluene	1000.000	1096.778	-9.7	101	0.17	10.54-11.34

Continuing Calibration Summary

Job Number: FA35383
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1481-ECC1481
Lab FileID: BB052000.D

			Amount	Calc.	%Drift			
13		2-Amino-4,6-Dinitrotol	1000.000	1001.012	-0.1	100	0.17	10.92-11.72

			Amount	Calc.	%Drift			
14		4-Amino-2,6-Dinitrotol	1000.000	1030.882	-3.1	101	0.18	11.46-12.26
15	S	3,4-Dinitrotoluene	1000.000	973.845	2.6	100	0.19	11.81-12.61
16		2,4-Dinitrotoluene	1000.000	1005.068	-0.5	100	0.18	12.49-13.29
17		2,6-Dinitrotoluene	1000.000	949.291	5.1	99	0.19	12.96-13.76
18		o-Nitrotoluene	1000.000	1073.310	-7.3	103	0.20	15.89-16.89
19		p-Nitrotoluene	1000.000	1004.946	-0.5	100	0.17	16.45-17.45
20		m-Nitrotoluene	1000.000	993.841	0.6	101	0.15	17.20-18.20
21		PETN	5000.000	5133.950	-2.7	104	0.10	19.00-20.20

(#) = Out of Range SPCC's out = 0 CCC's out = 0
BB051980.D 8330B_0720.M Thu Jul 21 08:34:29 2016

8.6.5

8

Continuing Calibration Summary

Job Number: FA35383
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1482-CC1481
Lab FileID: BB052009.D

Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\1\DATA\0721BPL\BB052009.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0721BPL\BB052009.D\dad1A.ch
Acq On : 21-Jul-2016, 14:35:46 Operator: kismetl
Sample : cc1481-1000 Inst : G1315B
Misc : op61122,GBB1482,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : D:\MSDCHEM\1\METHODS\8330B_0720.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jul 22 07:29:12 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	1000.000	1092.718	-9.3	103	0.00	1.26- 1.86
2	HMX	1000.000	1060.995	-6.1	103	0.00	1.42- 2.02
3	DNX	1000.000	1028.137	-2.8	104	0.00	1.71- 2.31
4	MNX	1000.000	986.315	1.4	102	0.00	2.41- 3.01
5	RDX	1000.000	952.467	4.8	101	0.00	3.01- 3.81
6	1,3,5-Trinitrobenzene	1000.000	962.867	3.7	102	0.00	5.00- 5.80
7	1,3-Dinitrobenzene	1000.000	958.360	4.2	101	0.00	6.32- 7.12
8	3,5-Dinitroaniline	1000.000	971.868	2.8	101	0.00	6.73- 7.53
9	Nitrobenzene	1000.000	953.246	4.7	100	0.00	8.03- 8.83
10	Nitroglycerin	----------	----------	NA	----------		
11	Tetryl	1000.000	1035.736	-3.6	105	0.00	10.26-11.06
12	2,4,6-Trinitrotoluene	1000.000	1007.434	-0.7	103	0.00	10.74-11.54
13	2-Amino-4,6-Dinitrotol	1000.000	973.104	2.7	102	0.00	11.11-11.91
14	4-Amino-2,6-Dinitrotol	1000.000	946.739	5.3	103	0.00	11.66-12.46
15 S	3,4-Dinitrotoluene	1000.000	900.801	9.9	101	0.00	12.02-12.82
16	2,4-Dinitrotoluene	1000.000	958.460	4.2	102	0.00	12.69-13.49
17	2,6-Dinitrotoluene	1000.000	934.226	6.6	100	0.00	13.17-13.97
18	o-Nitrotoluene	1000.000	911.118	8.9	99	0.00	16.22-17.10
19	p-Nitrotoluene	1000.000	930.082	7.0	99	0.00	16.64-17.64
20	m-Nitrotoluene	1000.000	950.134	5.0	99	0.00	17.37-18.37
21	PETN	----------	----------	NA	----------		

***** Signal #2 *****

1	TNX	1000.000	1025.099	-2.5	102	0.00	1.26- 1.86
	----------	Amount	Calc.	%Drift	----------		
2	HMX	1000.000	1024.016	-2.4	103	0.00	1.42- 2.02
	----------	Amount	Calc.	%Drift	----------		
3	DNX	1000.000	1017.869	-1.8	103	0.00	1.71- 2.31
4	MNX	1000.000	987.246	1.3	102	0.00	2.41- 3.01
5	RDX	1000.000	980.509	1.9	101	0.00	3.01- 3.81
6	1,3,5-Trinitrobenzene	1000.000	981.498	1.9	102	0.00	5.00- 5.80
7	1,3-Dinitrobenzene	1000.000	944.627	5.5	102	0.00	6.32- 7.12
8	3,5-Dinitroaniline	1000.000	963.894	3.6	101	0.00	6.73- 7.53
9	Nitrobenzene	1000.000	951.232	4.9	99	0.00	8.03- 8.83
10	Nitroglycerin	5000.000	4960.927	0.8	102	0.00	9.81-10.81
11	Tetryl	1000.000	1008.232	-0.8	101	0.00	10.26-11.06
12	2,4,6-Trinitrotoluene	1000.000	1110.739	-11.1	102	0.00	10.74-11.54

Continuing Calibration Summary

Job Number: FA35383
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1482-CC1481
Lab FileID: BB052009.D

		Amount	Calc.	%Drift			
13	2-Amino-4,6-Dinitrotol	1000.000	1008.441	-0.8	101	0.00	11.11-11.91

		Amount	Calc.	%Drift			
14	4-Amino-2,6-Dinitrotol	1000.000	1045.444	-4.5	102	0.00	11.66-12.46
15 S	3,4-Dinitrotoluene	1000.000	974.683	2.5	101	0.00	12.02-12.82
16	2,4-Dinitrotoluene	1000.000	1017.246	-1.7	101	0.00	12.69-13.49
17	2,6-Dinitrotoluene	1000.000	982.662	1.7	103	0.00	13.17-13.97
18	o-Nitrotoluene	1000.000	1065.723	-6.6	102	0.00	16.10-17.10
19	p-Nitrotoluene	1000.000	1002.419	-0.2	100	0.00	16.64-17.64
20	m-Nitrotoluene	1000.000	984.344	1.6	100	0.00	17.37-18.37
21	PETN	5000.000	5046.879	-0.9	102	0.00	19.14-20.34

(#) = Out of Range SPCC's out = 0 CCC's out = 0
BB051980.D 8330B_0720.M Fri Jul 22 08:17:04 2016

8.6.6

8

Continuing Calibration Summary

Job Number: FA35383
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1482-ECC1481
Lab FileID: BB052020.D

Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\1\DATA\0721BPL\BB052020.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0721BPL\BB052020.D\dad1A.ch
Acq On : 21-Jul-2016, 19:32:28 Operator: kismetl
Sample : ecc1481-1000 Inst : G1315B
Misc : op61122,GBB1482,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : D:\MSDCHEM\1\METHODS\8330B_0720.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jul 22 07:29:12 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	1000.000	1094.967	-9.5	103	0.02	1.26- 1.86
2	HMX	1000.000	1037.772	-3.8	101	0.02	1.42- 2.02
3	DNX	1000.000	994.584	0.5	100	0.02	1.71- 2.31
4	MNX	1000.000	967.434	3.3	100	0.03	2.41- 3.01
5	RDX	1000.000	959.273	4.1	102	0.04	3.01- 3.81
6	1,3,5-Trinitrobenzene	1000.000	971.005	2.9	103	0.05	5.00- 5.80
7	1,3-Dinitrobenzene	1000.000	961.442	3.9	101	0.06	6.32- 7.12
8	3,5-Dinitroaniline	1000.000	976.879	2.3	101	0.07	6.73- 7.53
9	Nitrobenzene	1000.000	957.052	4.3	100	0.08	8.03- 8.83
10	Nitroglycerin	----------	----------	NA	----------		
11	Tetryl	1000.000	1025.140	-2.5	104	0.12	10.26-11.06
12	2,4,6-Trinitrotoluene	1000.000	1002.149	-0.2	102	0.12	10.74-11.54
13	2-Amino-4,6-Dinitrotol	1000.000	967.739	3.2	101	0.13	11.11-11.91
14	4-Amino-2,6-Dinitrotol	1000.000	933.153	6.7	102	0.13	11.66-12.46
15 S	3,4-Dinitrotoluene	1000.000	892.667	10.7	100	0.13	12.02-12.82
16	2,4-Dinitrotoluene	1000.000	949.837	5.0	101	0.13	12.69-13.49
17	2,6-Dinitrotoluene	1000.000	925.047	7.5	99	0.13	13.17-13.97
18	o-Nitrotoluene	1000.000	919.103	8.1	100	0.12	16.22-17.10
19	p-Nitrotoluene	1000.000	939.650	6.0	100	0.11	16.64-17.64
20	m-Nitrotoluene	1000.000	951.490	4.9	99	0.10	17.37-18.37
21	PETN	----------	----------	NA	----------		

***** Signal #2 *****

1	TNX	1000.000	1026.832	-2.7	102	0.02	1.26- 1.86
	----------	Amount	Calc.	%Drift	----------		
2	HMX	1000.000	1016.638	-1.7	102	0.02	1.42- 2.02
	----------	Amount	Calc.	%Drift	----------		
3	DNX	1000.000	1004.195	-0.4	102	0.02	1.71- 2.31
4	MNX	1000.000	978.656	2.1	102	0.03	2.41- 3.01
5	RDX	1000.000	978.560	2.1	100	0.04	3.01- 3.81
6	1,3,5-Trinitrobenzene	1000.000	953.997	4.6	99	0.05	5.00- 5.80
7	1,3-Dinitrobenzene	1000.000	943.422	5.7	102	0.06	6.32- 7.12
8	3,5-Dinitroaniline	1000.000	963.193	3.7	101	0.06	6.73- 7.53
9	Nitrobenzene	1000.000	951.378	4.9	99	0.08	8.03- 8.83
10	Nitroglycerin	5000.000	4967.128	0.7	103	0.10	9.81-10.81
11	Tetryl	1000.000	1031.716	-3.2	104	0.12	10.26-11.06
12	2,4,6-Trinitrotoluene	1000.000	1158.300	-15.8#	106	0.11	10.74-11.54

Continuing Calibration Summary

Job Number: FA35383
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1482-ECC1481
Lab FileID: BB052020.D

		Amount	Calc.	%Drift			
13	2-Amino-4,6-Dinitrotol	1000.000	1066.424	-6.6	107	0.13	11.11-11.91

		Amount	Calc.	%Drift			
14	4-Amino-2,6-Dinitrotol	1000.000	1088.031	-8.8	106	0.13	11.66-12.46
15 S	3,4-Dinitrotoluene	1000.000	1025.984	-2.6	106	0.13	12.02-12.82
16	2,4-Dinitrotoluene	1000.000	1053.536	-5.4	105	0.13	12.69-13.49
17	2,6-Dinitrotoluene	1000.000	993.333	0.7	104	0.13	13.17-13.97
18	o-Nitrotoluene	1000.000	1080.514	-8.1	104	0.12	16.10-17.10
19	p-Nitrotoluene	1000.000	1009.670	-1.0	100	0.12	16.64-17.64
20	m-Nitrotoluene	1000.000	997.428	0.3	101	0.10	17.37-18.37
21	PETN	5000.000	5014.075	-0.3	102	0.06	19.14-20.34

(#) = Out of Range SPCC's out = 0 CCC's out = 0
BB051980.D 8330B_0720.M Fri Jul 22 08:17:05 2016

8.6.7

8

Initial Calibration Summary

Job Number: FA35383
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2442-ICC2442
Lab FileID: GG059709.D

Response Factor Report G1315B

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0721.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jul 22 08:50:47 2016
Response via : Initial Calibration

Calibration Files
20 =GG059705.D 50 =GG059706.D 100 =GG059707.D 200 =GG059708.D
500 =GG059709.D 1000=GG059710.D 2000=GG059711.D

	Compound	20	50	100	200	500	1000	2000	Avg	%RSD
1)	TNX	8.120	8.300	8.186	8.164	7.970	8.168	8.366	8.182 E3	1.56
2)	HMX	2.660	3.028	2.852	2.786	2.762	2.836	2.924	2.835 E3	4.17
3)	DNX	6.916	7.719	7.264	7.090	7.005	7.087	7.368	7.207 E3	3.78
4)	MNX	5.532	5.979	5.481	5.473	5.333	5.429	5.634	5.552 E3	3.78
5)	1,3,5-Trinitroben	8.526	9.286	8.703	8.741	8.421	8.572	8.920	8.738 E3	3.33
6)	RDX	3.884	4.231	4.028	4.009	3.839	3.909	4.090	3.999 E3	3.39
7)	1,3-Dinitrobenzen	1.151	1.294	1.188	1.184	1.155	1.168	1.211	1.193 E4	4.11
8)	Nitrobenzene	7.594	8.637	7.815	7.751	7.739	7.594	7.943	7.868 E3	4.59
9)	2,4,6-Trinitrotol	8.396	8.886	8.170	8.152	8.003	8.112	8.449	8.310 E3	3.60
10)	Nitroglycerin								0.000	-1.00
11)	Tetryl	6.575	6.509	6.315	6.042	6.027	6.120	6.519	6.301 E3	3.78
12)S	3,4-Dinitrotoluen	4.950	5.304	4.889	4.601	4.463	4.577	4.714	4.785 E3	5.99
13)	2,6-Dinitrotoluen	5.340	6.503	6.110	6.022	5.740	5.827	6.095	5.948 E3	6.09
14)	2,4-Dinitrotoluen	1.059	1.184	1.116	1.088	1.053	1.069	1.114	1.098 E4	4.16
15)	o-Nitrotoluene	4.710	5.233	5.014	4.957	4.858	4.802	5.113	4.955 E3	3.67
16)	3,5-Dinitroanilin	0.972	1.093	1.027	0.996	0.983	1.002	1.046	1.017 E4	4.14
17)	p-Nitrotoluene	4.083	4.454	4.062	3.986	3.878	3.704	3.901	4.010 E3	5.84
18)	4-Amino-2,6-Dinit	5.769	6.315	6.138	6.011	5.907	6.142	6.440	6.103 E3	3.78
19)	m-Nitrotoluene	5.826	5.913	5.605	5.464	5.492	5.394	5.733	5.632 E3	3.49
20)	2-Amino-4,6-Dinit	8.488	8.543	7.914	7.864	7.777	7.941	8.249	8.111 E3	3.86
21)	PETN								0.000	-1.00

Signal #2

1)	TNX	1.364	1.370	1.262	1.258	1.206	1.214	1.268	1.278 E4	5.12
2)	HMX	4.809	8.332	8.488	7.967	7.976	8.420	8.659	7.807 E3	17.25

---- Linear regr., Force(0,0) ---- Coefficient = 0.9996
Response Ratio = 0.00000 + 8576.00937 *A

3)	DNX	0.704	1.034	1.011	0.918	0.991	0.980	1.038	0.954 E4	12.30
4)	MNX	7.835	8.590	8.454	8.305	8.054	8.343	8.705	8.326 E3	3.62
5)	1,3,5-Trinitroben	1.401	1.627	1.602	1.523	1.501	1.540	1.587	1.540 E4	4.94
6)	RDX	8.579	7.563	7.968	7.281	7.370	7.452	7.796	7.716 E3	5.84
7)	1,3-Dinitrobenzen	8.300	9.953	7.731	9.023	9.122	9.023	9.223	8.911 E3	7.96
8)	Nitrobenzene	0.681	1.059	0.803	0.796	0.738	0.708	0.731	0.788 E4	16.16

---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9996
Response Ratio = 0.00000 + 7176.33755 *A + 0.05958 *A^2

9)	2,4,6-Trinitrotol	0.990	1.020	1.157	1.133	1.058	1.064	1.125	1.078 E4	5.76
10)	Nitroglycerin	2.853	2.956	3.466	2.844	2.850	2.916	3.044	2.990 E3	7.43
11)	Tetryl	1.177	1.131	1.184	1.090	1.062	1.048	1.135	1.118 E4	4.78
12)S	3,4-Dinitrotoluen	0.780	1.013	1.089	0.910	0.924	0.942	0.970	0.947 E4	10.09
13)	2,6-Dinitrotoluen	7.566	9.488	9.364	9.696	7.940	8.256	8.677	8.712 E3	9.50
14)	2,4-Dinitrotoluen	9.228	8.608	9.364	8.797	7.265	7.591	7.943	8.399 E3	9.68
15)	o-Nitrotoluene	4.694	6.290	7.359	6.939	7.094	7.275	7.602	6.750 E3	14.77
16)	3,5-Dinitroanilin	1.403	1.681	1.610	1.576	1.629	1.669	1.744	1.616 E4	6.71
17)	p-Nitrotoluene	5.812	7.102	6.414	6.546	6.435	6.098	6.329	6.391 E3	6.25

Initial Calibration Summary

Job Number: FA35383
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2442-ICC2442
Lab FileID: GG059709.D

18)	4-Amino-2,6-Dinit	1.226	1.229	1.171	1.188	1.175	1.173	1.256	1.203	E4	2.83
19)	m-Nitrotoluene	7.421	9.034	8.010	9.097	9.172	9.313	9.827	8.839	E3	9.37
20)	2-Amino-4,6-Dinit	1.182	1.181	1.115	1.215	1.123	1.214	1.260	1.184	E4	4.38
21)	PETN	3.452	3.080	3.180	3.172	3.040	3.236	3.543	3.243	E3	5.78

(#) = Out of Range

8330RPB.M_0721.M Fri Jul 22 08:55:19 2016

Initial Calibration Verification

Job Number: FA35383
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2442-ICV2442
Lab FileID: GG059712.D

Evaluate Continuing Calibration Report

Signal #1 : G:\DATA\0721RPB3\GG059712.D\dad1B.ch Vial: 10
Signal #2 : G:\DATA\0721RPB3\GG059712.D\dad1A.ch
Acq On : 21-Jul-2016, 14:04:42 Operator: kismetl
Sample : icv2442-500 Inst : G1315B
Misc : OP61122,GGG2442,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0721.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jul 22 08:50:47 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1		TNX	500.000	514.141	-2.8	106	0.00	6.24- 7.24
2		HMX	500.000	573.511	-14.7	118	0.00	7.06- 8.06
3		DNX	500.000	493.800	1.2	102	0.00	7.34- 8.34
4		MNX	500.000	497.872	0.4	104	0.00	9.10-10.10
5		1,3,5-Trinitrobenzene	500.000	524.373	-4.9	109	0.00	10.06-11.06
6		RDX	500.000	528.867	-5.8	110	-0.01	10.92-11.92
7		1,3-Dinitrobenzene	500.000	498.234	0.4	103	0.00	13.35-14.35
8		Nitrobenzene	500.000	536.773	-7.4	109	0.00	14.64-15.64
9		2,4,6-Trinitrotoluene	----------	NA	----------			
10		Nitroglycerin	----------	NA	----------			
11		Tetryl	----------	NA	----------			
12	S	3,4-Dinitrotoluene	----------	NA	----------			
13		2,6-Dinitrotoluene	500.000	525.948	-5.2	109	0.01	19.17-20.17
14		2,4-Dinitrotoluene	500.000	521.064	-4.2	109	0.00	19.91-20.91
15		o-Nitrotoluene	500.000	542.304	-8.5	111	0.00	21.72-22.72
16		3,5-Dinitroaniline	500.000	504.022	-0.8	104	-0.01	21.18-22.18
17		p-Nitrotoluene	500.000	508.360	-1.7	105	0.01	22.90-23.90
18		4-Amino-2,6-Dinitrotol	500.000	516.865	-3.4	107	-0.02	23.16-24.16
19		m-Nitrotoluene	500.000	517.528	-3.5	106	0.00	24.19-25.19
20		2-Amino-4,6-Dinitrotol	500.000	530.057	-6.0	111	0.00	25.32-26.32
21		PETN	----------	NA	----------			

***** Signal #2 *****

1		TNX	500.000	488.147	2.4	103	0.00	6.24- 7.24
		----------	Amount	Calc.	%Drift	----------		
2		HMX	500.000	553.739	-10.7	119	0.00	7.06- 8.06
		----------	Amount	Calc.	%Drift	----------		
3		DNX	500.000	517.436	-3.5	100	0.00	7.34- 8.34
4		MNX	500.000	500.985	-0.2	104	0.00	9.11-10.11
5		1,3,5-Trinitrobenzene	500.000	537.721	-7.5	110	0.00	10.06-11.06
6		RDX	500.000	524.052	-4.8	110	-0.01	10.92-11.92
7		1,3-Dinitrobenzene	500.000	525.687	-5.1	103	0.00	13.35-14.35
		----------	Amount	Calc.	%Drift	----------		
8		Nitrobenzene	500.000	567.688	-13.5	111	0.00	14.64-15.64
		----------	Amount	Calc.	%Drift	----------		
9		2,4,6-Trinitrotoluene	----------	NA	----------			

Initial Calibration Verification

Job Number: FA35383
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2442-ICV2442
Lab FileID: GG059712.D

10		Nitroglycerin	2500.000	2542.194	-1.7	107	0.00	16.37-17.37
11		Tetryl		----------NA----------				
12	S	3,4-Dinitrotoluene		----------NA----------				
13		2,6-Dinitrotoluene	500.000	549.742	-9.9	121	0.02	19.16-20.16
14		2,4-Dinitrotoluene	500.000	488.995	2.2	113	0.00	19.91-20.91
15		o-Nitrotoluene	500.000	603.874	-20.8#	115	0.00	21.72-22.72
16		3,5-Dinitroaniline	500.000	529.466	-5.9	105	-0.01	21.18-22.18
17		p-Nitrotoluene	500.000	553.761	-10.8	110	0.01	22.96-23.96
18		4-Amino-2,6-Dinitrotol	500.000	497.532	0.5	102	-0.02	23.17-24.17
19		m-Nitrotoluene	500.000	553.773	-10.8	107	0.00	24.19-25.19
20		2-Amino-4,6-Dinitrotol	500.000	526.362	-5.3	111	0.00	25.32-26.32
21		PETN	2500.000	2623.800	-5.0	112	0.01	26.22-27.22

(#) = Out of Range SPCC's out = 0 CCC's out = 0
GG059709.D 8330RPB.M_0721.M Fri Jul 22 08:56:01 2016

8.6.9

8

Initial Calibration Verification

Job Number: FA35383
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2442-ICV2442
Lab FileID: GG059713.D

Evaluate Continuing Calibration Report

Signal #1 : G:\DATA\0721RPB3\GG059713.D\dad1B.ch Vial: 10
Signal #2 : G:\DATA\0721RPB3\GG059713.D\dad1A.ch
Acq On : 21-Jul-2016, 14:56:42 Operator: kismetl
Sample : icv2442-500 Inst : G1315B
Misc : OP61122,GGG2442,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0721.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jul 22 08:50:47 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX			NA			
2	HMX			NA			
3	DNX			NA			
4	MNX			NA			
5	1,3,5-Trinitrobenzene			NA			
6	RDX			NA			
7	1,3-Dinitrobenzene			NA			
8	Nitrobenzene			NA			
9	2,4,6-Trinitrotoluene	500.000	454.634	9.1	94	0.02	15.53-16.53
10	Nitroglycerin			NA			
11	Tetryl	500.000	506.057	-1.2	106	0.02	17.34-18.34
12 S	3,4-Dinitrotoluene			NA			
13	2,6-Dinitrotoluene			NA			
14	2,4-Dinitrotoluene			NA			
15	o-Nitrotoluene			NA			
16	3,5-Dinitroaniline			NA			
17	p-Nitrotoluene			NA			
18	4-Amino-2,6-Dinitrotoluen			NA			
19	m-Nitrotoluene			NA			
20	2-Amino-4,6-Dinitrotoluen			NA			
21	PETN			NA			

***** Signal #2 *****

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX			NA			
2	HMX			NA			
3	DNX			NA			
4	MNX			NA			
5	1,3,5-Trinitrobenzene			NA			
6	RDX			NA			
7	1,3-Dinitrobenzene			NA			
8	Nitrobenzene			NA			
9	2,4,6-Trinitrotoluene	500.000	458.512	8.3	93	0.02	15.53-16.53

Initial Calibration Verification

Job Number: FA35383
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2442-ICV2442
Lab FileID: GG059713.D

10		Nitroglycerin			----------NA----------			
11		Tetryl	500.000	501.471	-0.3	106	0.02	17.34-18.34
12	S	3,4-Dinitrotoluene			----------NA----------			
13		2,6-Dinitrotoluene			----------NA----------			
14		2,4-Dinitrotoluene			----------NA----------			
15		o-Nitrotoluene			----------NA----------			
16		3,5-Dinitroaniline			----------NA----------			
17		p-Nitrotoluene			----------NA----------			
18		4-Amino-2,6-Dinitrotoluen			----------NA----------			
19		m-Nitrotoluene			----------NA----------			
20		2-Amino-4,6-Dinitrotoluen			----------NA----------			
21		PETN			----------NA----------			

(#) = Out of Range SPCC's out = 0 CCC's out = 0
GG059709.D 8330RPB.M_0721.M Fri Jul 22 08:56:02 2016

8.6.10

8

Continuing Calibration Summary

Job Number: FA35383
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2442-ECC2442
Lab FileID: GG059720.D

Evaluate Continuing Calibration Report

Signal #1 : G:\DATA\0721RPB3\GG059720.D\dad1B.ch Vial: 2
Signal #2 : G:\DATA\0721RPB3\GG059720.D\dad1A.ch
Acq On : 21-Jul-2016, 18:41:42 Operator: kismetl
Sample : ecc2442-1000 Inst : G1315B
Misc : OP61122,GGG2442,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0721.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jul 22 08:50:47 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	1000.000	989.732	1.0	99	0.02	6.24- 7.24
2	HMX	1000.000	991.195	0.9	99	0.03	7.06- 8.06
3	DNX	1000.000	987.720	1.2	100	0.02	7.34- 8.34
4	MNX	1000.000	979.407	2.1	100	0.03	9.10-10.10
5	1,3,5-Trinitrobenzene	1000.000	984.605	1.5	100	0.03	10.06-11.06
6	RDX	1000.000	981.491	1.9	100	0.04	10.92-11.92
7	1,3-Dinitrobenzene	1000.000	981.572	1.8	100	0.05	13.35-14.35
8	Nitrobenzene	1000.000	1078.429	-7.8	112	0.06	14.64-15.64
9	2,4,6-Trinitrotoluene	1000.000	1006.788	-0.7	103	0.06	15.53-16.53
10	Nitroglycerin	----------	NA	----------			
11	Tetryl	1000.000	989.117	1.1	102	0.09	17.34-18.34
12 S	3,4-Dinitrotoluene	1000.000	939.650	6.0	98	0.11	18.87-19.87
13	2,6-Dinitrotoluene	1000.000	983.565	1.6	100	0.10	19.17-20.17
14	2,4-Dinitrotoluene	1000.000	973.266	2.7	100	0.10	19.91-20.91
15	o-Nitrotoluene	1000.000	999.498	0.1	103	0.12	21.72-22.72
16	3,5-Dinitroaniline	1000.000	986.620	1.3	100	0.10	21.18-22.18
17	p-Nitrotoluene	1000.000	965.075	3.5	104	0.13	22.90-23.90
18	4-Amino-2,6-Dinitrotol	1000.000	962.977	3.7	96	0.12	23.16-24.16
19	m-Nitrotoluene	1000.000	991.563	0.8	104	0.13	24.19-25.19
20	2-Amino-4,6-Dinitrotol	1000.000	984.107	1.6	101	0.13	25.32-26.32
21	PETN	----------	NA	----------			

***** Signal #2 *****

1	TNX	1000.000	965.021	3.5	102	0.02	6.24- 7.24
	----------	Amount	Calc.	%Drift	----------		
2	HMX	1000.000	983.290	1.7	100	0.03	7.06- 8.06
	----------	Amount	Calc.	%Drift	----------		
3	DNX	1000.000	1051.476	-5.1	102	0.02	7.34- 8.34
4	MNX	1000.000	1005.805	-0.6	100	0.03	9.11-10.11
5	1,3,5-Trinitrobenzene	1000.000	993.114	0.7	99	0.03	10.06-11.06
6	RDX	1000.000	969.617	3.0	100	0.04	10.92-11.92
7	1,3-Dinitrobenzene	1000.000	987.258	1.3	98	0.05	13.35-14.35
	----------	Amount	Calc.	%Drift	----------		
8	Nitrobenzene	1000.000	1024.566	-2.5	105	0.06	14.64-15.64
	----------	Amount	Calc.	%Drift	----------		
9	2,4,6-Trinitrotoluene	1000.000	993.708	0.6	101	0.06	15.53-16.53

Continuing Calibration Summary

Job Number: FA35383
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2442-ECC2442
Lab FileID: GG059720.D

10		Nitroglycerin	5000.000	4862.685	2.7	100	0.08	16.37-17.37
11		Tetryl	1000.000	966.901	3.3	103	0.09	17.34-18.34
12	S	3,4-Dinitrotoluene	1000.000	984.109	1.6	99	0.11	18.87-19.87
13		2,6-Dinitrotoluene	1000.000	950.484	5.0	100	0.09	19.16-20.16
14		2,4-Dinitrotoluene	1000.000	916.053	8.4	101	0.10	19.91-20.91
15		o-Nitrotoluene	1000.000	1085.064	-8.5	101	0.12	21.72-22.72
16		3,5-Dinitroaniline	1000.000	1030.254	-3.0	100	0.10	21.18-22.18
17		p-Nitrotoluene	1000.000	903.551	9.6	95	0.12	22.96-23.96
18		4-Amino-2,6-Dinitrotol	1000.000	958.472	4.2	98	0.12	23.17-24.17
19		m-Nitrotoluene	1000.000	1062.393	-6.2	101	0.13	24.19-25.19
20		2-Amino-4,6-Dinitrotol	1000.000	978.622	2.1	95	0.12	25.32-26.32
21		PETN	5000.000	4895.637	2.1	98	0.13	26.22-27.22

(#) = Out of Range SPCC's out = 0 CCC's out = 0
GG059710.D 8330RPB.M_0721.M Fri Jul 22 10:04:48 2016

8.6.11

8

Continuing Calibration Summary

Job Number: FA35383
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2443-CC2442
Lab FileID: GG059722.D

Evaluate Continuing Calibration Report

Signal #1 : G:\DATA\0722RPB3\GG059722.D\dad1B.ch Vial: 2
Signal #2 : G:\DATA\0722RPB3\GG059722.D\dad1A.ch
Acq On : 22-Jul-2016, 12:05:02 Operator: kismetl
Sample : cc2442-1000 Inst : G1315B
Misc : OP61122,GGG2443,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0721.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 25 09:39:11 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	1000.000	1002.658	-0.3	100	0.00	6.21- 7.21
2	HMX	1000.000	994.721	0.5	99	0.00	6.98- 7.98
3	DNX	1000.000	973.099	2.7	99	0.00	7.28- 8.28
4	MNX	1000.000	982.330	1.8	100	0.00	9.02-10.02
5	1,3,5-Trinitrobenzene	1000.000	973.301	2.7	99	0.00	9.98-10.98
6	RDX	1000.000	982.795	1.7	101	0.00	10.81-11.81
7	1,3-Dinitrobenzene	1000.000	986.771	1.3	101	0.00	13.23-14.23
8	Nitrobenzene	1000.000	968.387	3.2	100	0.00	14.48-15.48
9	2,4,6-Trinitrotoluene	1000.000	974.836	2.5	100	0.00	15.37-16.37
10	Nitroglycerin	----------	NA	----------			
11	Tetryl	1000.000	927.637	7.2	96	0.00	17.13-18.13
12 S	3,4-Dinitrotoluene	1000.000	964.423	3.6	101	0.00	18.64-19.64
13	2,6-Dinitrotoluene	1000.000	977.095	2.3	100	0.00	18.94-19.94
14	2,4-Dinitrotoluene	1000.000	977.006	2.3	100	0.00	19.69-20.69
15	o-Nitrotoluene	1000.000	964.958	3.5	100	0.00	21.46-22.46
16	3,5-Dinitroaniline	1000.000	985.150	1.5	100	0.00	20.95-21.95
17	p-Nitrotoluene	1000.000	917.275	8.3	99	0.00	22.64-23.64
18	4-Amino-2,6-Dinitrotol	1000.000	1009.419	-0.9	100	0.00	22.90-23.90
19	m-Nitrotoluene	1000.000	950.937	4.9	99	0.00	23.91-24.91
20	2-Amino-4,6-Dinitrotol	1000.000	972.463	2.8	99	0.00	25.04-26.04
21	PETN	----------	NA	----------			

***** Signal #2 *****

1	TNX	1000.000	959.814	4.0	101	0.00	6.21- 7.21
	----------	Amount	Calc.	%Drift	----------		
2	HMX	1000.000	1002.892	-0.3	102	0.00	6.98- 7.98
	----------	Amount	Calc.	%Drift	----------		
3	DNX	1000.000	1032.279	-3.2	100	0.00	7.28- 8.28
4	MNX	1000.000	1027.346	-2.7	103	0.00	9.02-10.02
5	1,3,5-Trinitrobenzene	1000.000	989.436	1.1	99	0.00	9.98-10.98
6	RDX	1000.000	957.982	4.2	99	0.00	10.81-11.81
7	1,3-Dinitrobenzene	1000.000	1034.076	-3.4	102	0.00	13.23-14.23
	----------	Amount	Calc.	%Drift	----------		
8	Nitrobenzene	1000.000	1040.052	-4.0	106	0.00	14.48-15.48
	----------	Amount	Calc.	%Drift	----------		
9	2,4,6-Trinitrotoluene	1000.000	1014.759	-1.5	103	0.00	15.37-16.37

Continuing Calibration Summary

Job Number: FA35383
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2443-CC2442
Lab FileID: GG059722.D

10		Nitroglycerin	5000.000	5062.836	-1.3	104	0.00	16.19-17.19
11		Tetryl	1000.000	930.350	7.0	99	0.00	17.13-18.13
12	S	3,4-Dinitrotoluene	1000.000	1009.030	-0.9	101	0.00	18.63-19.63
13		2,6-Dinitrotoluene	1000.000	956.293	4.4	101	0.00	18.95-19.95
14		2,4-Dinitrotoluene	1000.000	894.343	10.6	99	0.00	19.69-20.69
15		o-Nitrotoluene	1000.000	1055.196	-5.5	98	0.00	21.45-22.45
16		3,5-Dinitroaniline	1000.000	1039.608	-4.0	101	0.00	20.95-21.95
17		p-Nitrotoluene	1000.000	1031.249	-3.1	108	0.00	22.70-23.70
18		4-Amino-2,6-Dinitrotol	1000.000	986.526	1.3	101	0.00	22.90-23.90
19		m-Nitrotoluene	1000.000	1049.769	-5.0	100	0.00	23.91-24.91
20		2-Amino-4,6-Dinitrotol	1000.000	1024.438	-2.4	100	0.00	25.04-26.04
21		PETN	5000.000	4766.007	4.7	96	0.00	25.94-26.94

(#) = Out of Range SPCC's out = 0 CCC's out = 0
GG059710.D 8330RPB.M_0721.M Mon Jul 25 10:02:38 2016

8.6.12

8

Continuing Calibration Summary

Job Number: FA35383
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2443-ECC2442
Lab FileID: GG059726.D

Evaluate Continuing Calibration Report

Signal #1 : G:\DATA\0722RPB3\GG059726.D\dad1B.ch Vial: 2
Signal #2 : G:\DATA\0722RPB3\GG059726.D\dad1A.ch
Acq On : 22-Jul-2016, 14:24:29 Operator: kismetl
Sample : ecc2442-1000 Inst : G1315B
Misc : OP61122,GGG2443,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0721.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 25 09:39:11 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	1000.000	994.136	0.6	100	0.00	6.21- 7.21
2	HMX	1000.000	1004.060	-0.4	100	0.01	6.98- 7.98
3	DNX	1000.000	980.959	1.9	100	0.00	7.28- 8.28
4	MNX	1000.000	1008.731	-0.9	103	0.00	9.02-10.02
5	1,3,5-Trinitrobenzene	1000.000	1034.929	-3.5	106	0.00	9.98-10.98
6	RDX	1000.000	1028.839	-2.9	105	0.00	10.81-11.81
7	1,3-Dinitrobenzene	1000.000	978.807	2.1	100	0.00	13.23-14.23
8	Nitrobenzene	1000.000	976.899	2.3	101	0.00	14.48-15.48
9	2,4,6-Trinitrotoluene	1000.000	983.245	1.7	101	0.00	15.37-16.37
10	Nitroglycerin	----------	----------	NA	----------		
11	Tetryl	1000.000	1008.506	-0.9	104	0.00	17.13-18.13
12 S	3,4-Dinitrotoluene	1000.000	971.059	2.9	102	-0.01	18.64-19.64
13	2,6-Dinitrotoluene	1000.000	997.121	0.3	102	-0.01	18.94-19.94
14	2,4-Dinitrotoluene	1000.000	997.563	0.2	102	-0.01	19.69-20.69
15	o-Nitrotoluene	1000.000	1006.653	-0.7	104	-0.02	21.46-22.46
16	3,5-Dinitroaniline	1000.000	1006.248	-0.6	102	-0.04	20.95-21.95
17	p-Nitrotoluene	1000.000	982.390	1.8	106	0.05	22.64-23.64
18	4-Amino-2,6-Dinitrotol	1000.000	904.885	9.5	90	-0.06	22.90-23.90
19	m-Nitrotoluene	1000.000	976.916	2.3	102	-0.02	23.91-24.91
20	2-Amino-4,6-Dinitrotol	1000.000	976.333	2.4	100	-0.04	25.04-26.04
21	PETN	----------	----------	NA	----------		

***** Signal #2 *****

1	TNX	1000.000	960.126	4.0	101	0.00	6.21- 7.21
	----------	Amount	Calc.	%Drift	----------		
2	HMX	1000.000	985.547	1.4	100	0.00	6.98- 7.98
	----------	Amount	Calc.	%Drift	----------		
3	DNX	1000.000	1045.212	-4.5	102	0.00	7.28- 8.28
4	MNX	1000.000	1008.958	-0.9	101	0.00	9.02-10.02
5	1,3,5-Trinitrobenzene	1000.000	1010.400	-1.0	101	0.00	9.98-10.98
6	RDX	1000.000	941.924	5.8	98	0.00	10.81-11.81
7	1,3-Dinitrobenzene	1000.000	989.507	1.0	98	0.00	13.23-14.23
	----------	Amount	Calc.	%Drift	----------		
8	Nitrobenzene	1000.000	992.603	0.7	101	0.00	14.48-15.48
	----------	Amount	Calc.	%Drift	----------		
9	2,4,6-Trinitrotoluene	1000.000	1054.596	-5.5	107	0.00	15.37-16.37

Continuing Calibration Summary

Job Number: FA35383
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2443-ECC2442
Lab FileID: GG059726.D

10		Nitroglycerin	5000.000	4988.157	0.2	102	0.00	16.19-17.19
11		Tetryl	1000.000	987.882	1.2	105	0.00	17.13-18.13
12	S	3,4-Dinitrotoluene	1000.000	992.677	0.7	100	-0.01	18.63-19.63
13		2,6-Dinitrotoluene	1000.000	957.558	4.2	101	-0.02	18.95-19.95
14		2,4-Dinitrotoluene	1000.000	941.371	5.9	104	-0.01	19.69-20.69
15		o-Nitrotoluene	1000.000	1093.651	-9.4	101	-0.02	21.45-22.45
16		3,5-Dinitroaniline	1000.000	1047.493	-4.7	101	-0.03	20.95-21.95
17		p-Nitrotoluene	1000.000	1059.163	-5.9	111	-0.02	22.70-23.70
18		4-Amino-2,6-Dinitrotol	1000.000	930.130	7.0	95	-0.06	22.90-23.90
19		m-Nitrotoluene	1000.000	1090.893	-9.1	104	-0.02	23.91-24.91
20		2-Amino-4,6-Dinitrotol	1000.000	1005.511	-0.6	98	-0.04	25.04-26.04
21		PETN	5000.000	5005.138	-0.1	100	0.00	25.94-26.94

(#) = Out of Range SPCC's out = 0 CCC's out = 0
GG059710.D 8330RPB.M_0721.M Mon Jul 25 10:02:39 2016

8.6.13

8

GC Semi-volatiles

Raw Data

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/25/16 11:57

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0720BPL\BB051989.D\dad1B.ch Vial: 13
Signal #2 : C:\HPCHEM\1\DATA\0720BPL\BB051989.D\dad1A.ch
Acq On : 20-Jul-2016, 16:26:06 Operator: kismetl
Sample : FA35383-1,4 Inst : G1315B
Misc : op61122,GBB1481,1000,,,10,4,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 21 07:51:27 2016 Quant Results File: 8330B_0720.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0720.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 20 13:37:57 2016
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	12.27	12.27	266609	470011	110.165	116.843
	Spiked Amount 500.000	Range 70 - 136		Recovery =		22.03%#	23.37%#
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	1.70	1.70	970177	2692732	601.991m	612.585m
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	RDX	3.38	3.38	27473	49539	14.044m	16.137m
6)	1,3,5-Trinitrobe	5.34	5.33	1722625	3269932	410.654	410.644m
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D.	N.D.
8)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
9)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
10)	Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D. d
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
12)	2,4,6-Trinitroto	10.99	10.99	700075	809265	183.986	197.293
13)	2-Amino-4,6-Dini	11.37	11.38	507708	723701	145.227	150.510
14)	4-Amino-2,6-Dini	11.92	11.92	196091	351272	74.149	72.686
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

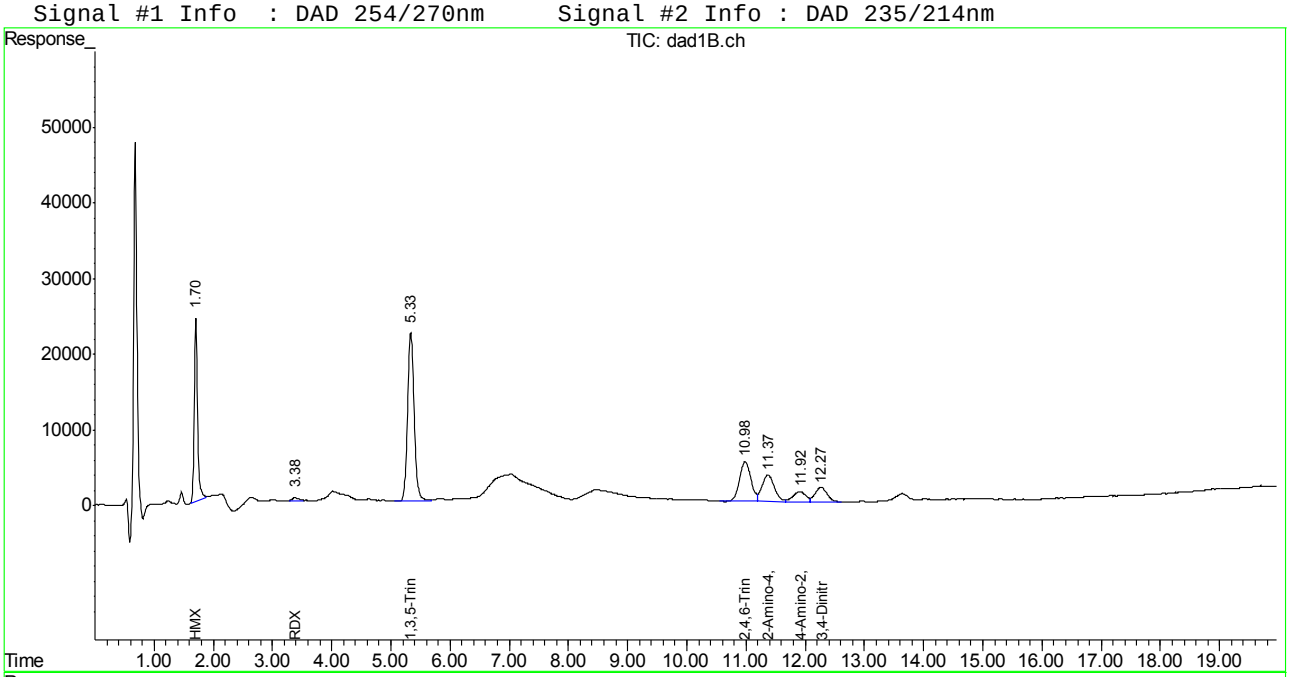
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB051989.D 8330B_0720.M Mon Jul 25 09:53:08 2016 Page 1

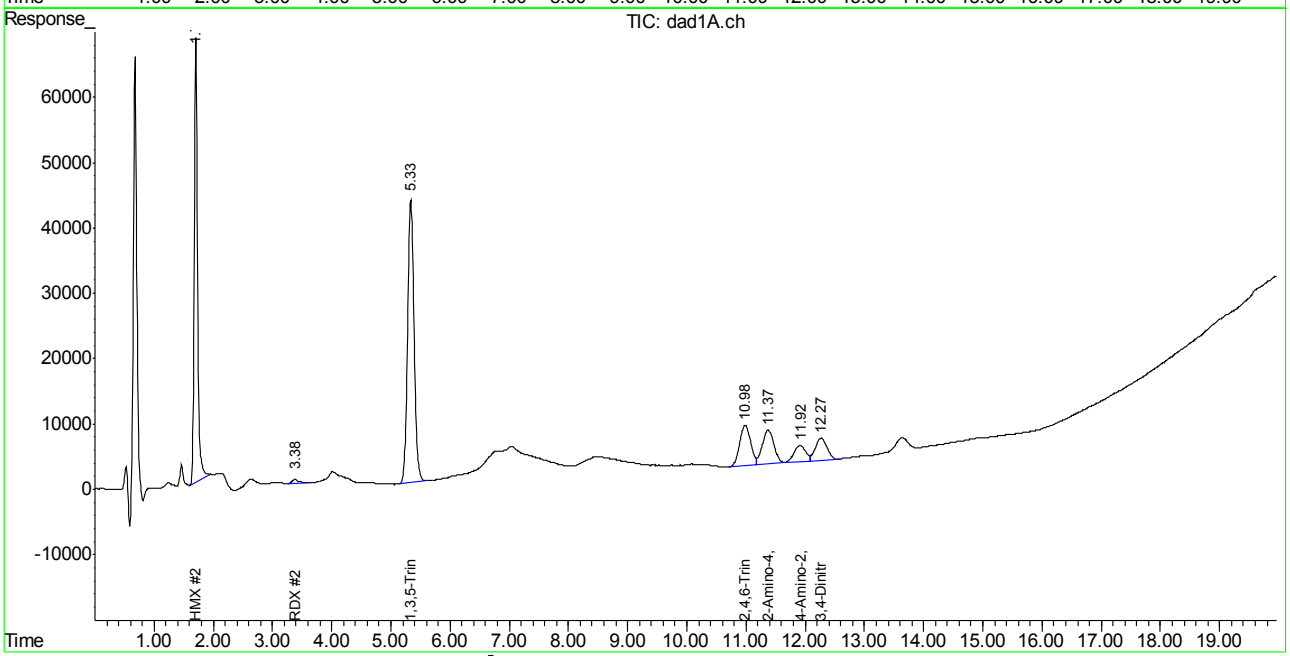
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0720BPL\BB051989.D\dad1B.ch Vial: 13
Signal #2 : C:\HPCHEM\1\DATA\0720BPL\BB051989.D\dad1A.ch
Acq On : 20-Jul-2016, 16:26:06 Operator: kismetl
Sample : FA35383-1,4 Inst : G1315B
Misc : op61122,GBB1481,1000,,,10,4,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 21 8:15 2016 Quant Results File: 8330B_0720.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0720.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 20 13:37:57 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA35383

Manual Integration Approval Summary

Sample Number: FA35383-1
Lab FileID: BB051989.D
Injection Time: 07/20/16 16:26
Method: SW846 8330B
Analyst approved: 07/25/16 10:16 Kismet Lugo
Supervisor approved: 07/25/16 11:57 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
HMX	2691-41-0	1	1.70	Poor instrument integration
HMX	2691-41-0	2	1.70	Poor instrument integration
RDX	121-82-4	1	3.38	Poor instrument integration
RDX	121-82-4	2	3.38	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	2	5.33	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/25/16 11:57

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0721BPL\BB052013.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\0721BPL\BB052013.D\dad1A.ch
Acq On : 21-Jul-2016, 16:23:34 Operator: kismetl
Sample : FA35383-1 Inst : G1315B
Misc : op61122,GBB1482,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 22 07:29:30 2016 Quant Results File: 8330B_0720.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0720.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jul 22 07:29:12 2016
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	12.47	12.47	1037343	1851879	428.639m	460.370
	Spiked Amount 500.000	Range 70 - 136		Recovery =		85.73%	92.07%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	1.72	1.72	3260877	9556237	2023.361m	2090.445m
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	RDX	3.42	3.42	73284	95828	37.463m	31.216m
6)	1,3,5-Trinitrobe	5.41	5.41	6257455	12196316	1491.705m	1531.635m
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
9)	Nitrobenzene	0.00	0.00	0	0	N.D.	N.D.
10)	Nitroglycerin	0.00	0.00	0	0	N.D.	N.D.
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
12)	2,4,6-Trinitroto	11.17	11.17	2805161	3362743	737.220	819.813
13)	2-Amino-4,6-Dini	11.55	11.55	1974565	2962861	564.811	602.134
14)	4-Amino-2,6-Dini	12.10	12.10	747099	1430855	282.505	296.078
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

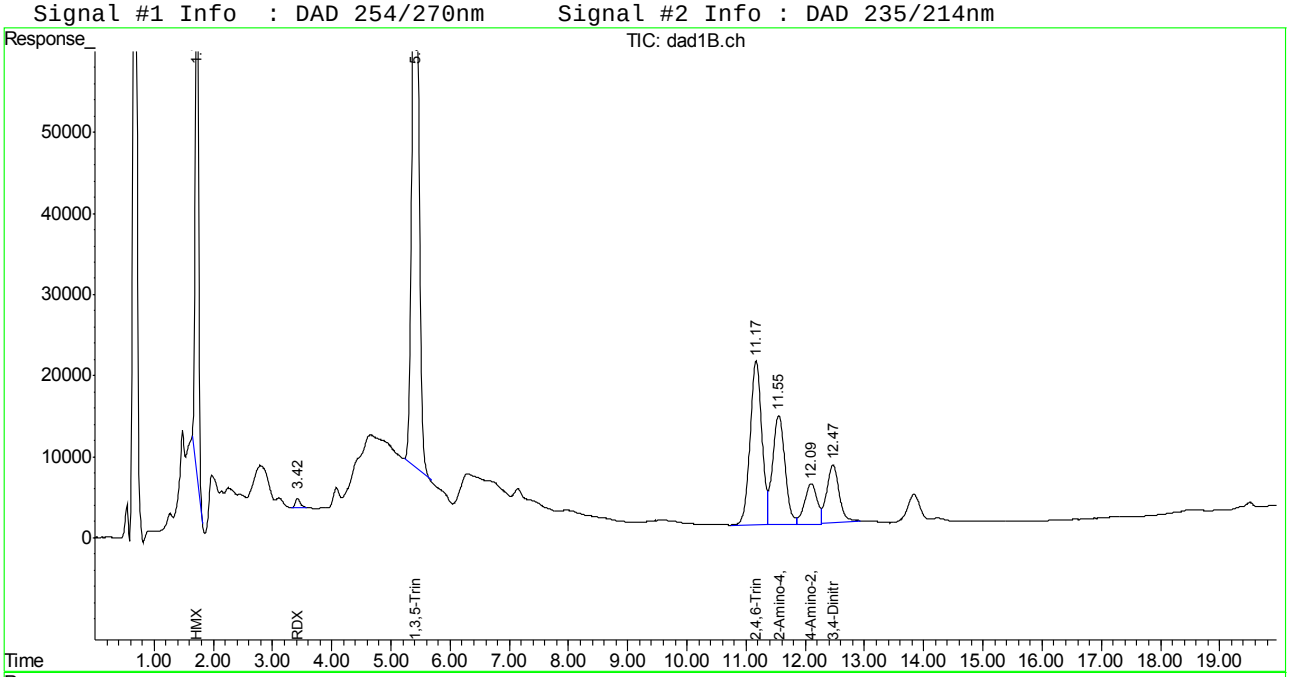
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB052013.D 8330B_0720.M Fri Jul 22 09:59:53 2016 Page 1

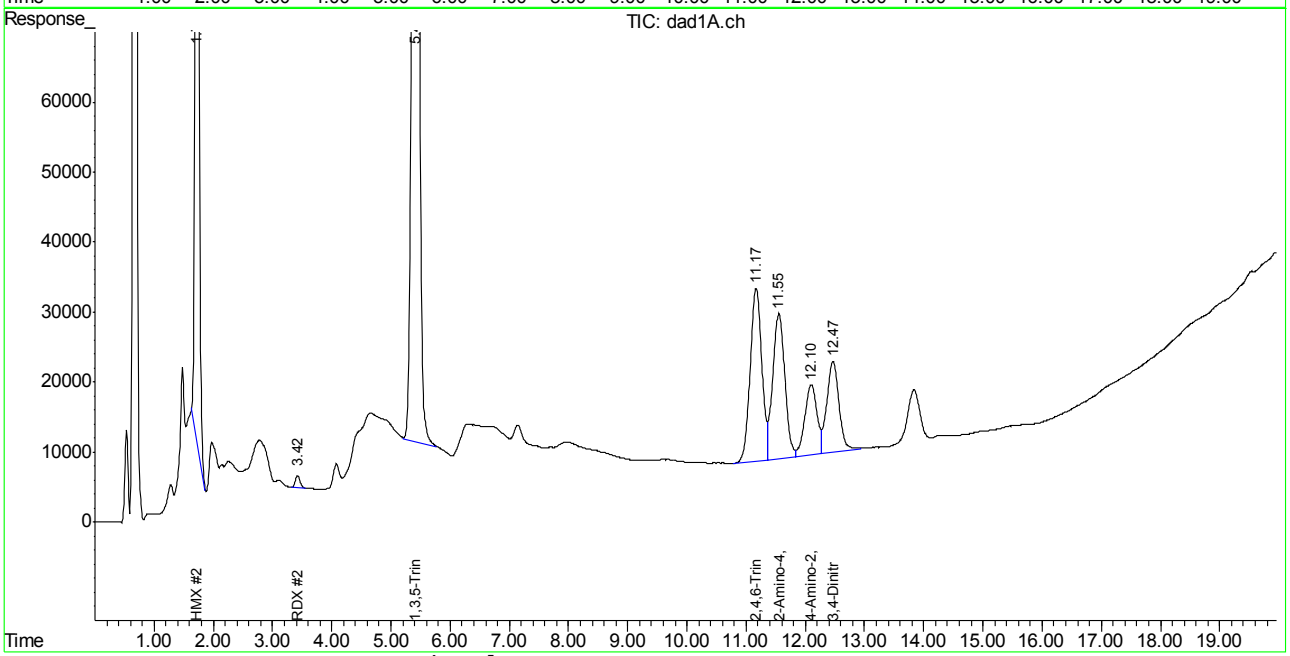
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0721BPL\BB052013.D\dad1B.ch Vial: 5
Signal #2 : C:\HPCHEM\1\DATA\0721BPL\BB052013.D\dad1A.ch
Acq On : 21-Jul-2016, 16:23:34 Operator: kismetl
Sample : FA35383-1 Inst : G1315B
Misc : op61122,GBB1482,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 22 9:24 2016 Quant Results File: 8330B_0720.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0720.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jul 22 07:29:12 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA35383

Manual Integration Approval Summary

Sample Number: FA35383-1
Lab FileID: BB052013.D
Injection Time: 07/21/16 16:23
Method: SW846 8330B
Analyst approved: 07/25/16 10:16 Kismet Lugo
Supervisor approved: 07/25/16 11:57 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
HMX	2691-41-0	1	1.72	Poor instrument integration
HMX	2691-41-0	2	1.72	Poor instrument integration
RDX	121-82-4	1	3.42	Poor instrument integration
RDX	121-82-4	2	3.42	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	1	5.41	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	2	5.41	Poor instrument integration
3,4-Dinitrotoluene	610-39-9	1	12.47	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/25/16 11:58

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0721RPB3\GG059716.D\dad1B.ch Vial: 12
Signal #2 : G:\DATA\0721RPB3\GG059716.D\dad1A.ch
Acq On : 21-Jul-2016, 16:33:00 Operator: kismetl
Sample : FA35383-1cf Inst : G1315B
Misc : OP61122,GGG2442,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 22 09:04:43 2016 Quant Results File: 8330RPB.M_0721.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0721.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jul 22 08:50:47 2016
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	19.43	19.43	2370549	4495509	495.368	474.849
	Spiked Amount 500.000	Range 70 - 136		Recovery =		99.07%	94.97%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	7.58	7.58	7887989	22297806	2781.955m	2600.021m
3)	DNX	0.00	0.00	0	0	N.D.	N.D.
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	1,3,5-Trinitrobe	10.59	10.59	13716177	24546838	1569.660	1593.640m
6)	RDX	11.44	11.46	213911	280120	53.496m	36.306
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D.	N.D.
8)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
9)	2,4,6-Trinitroto	16.08	16.08	6165456	7993647	741.963	741.372m
10)	Nitroglycerin	0.00	0.00	0	0	N.D.	N.D.
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
13)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
14)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
15)	o-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
16)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
17)	p-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
18)	4-Amino-2,6-Dini	23.74	23.74	1690225	3370515	276.941	280.291m
19)	m-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
20)	2-Amino-4,6-Dini	25.88	25.88	4633853	6308518	571.320	532.733m
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

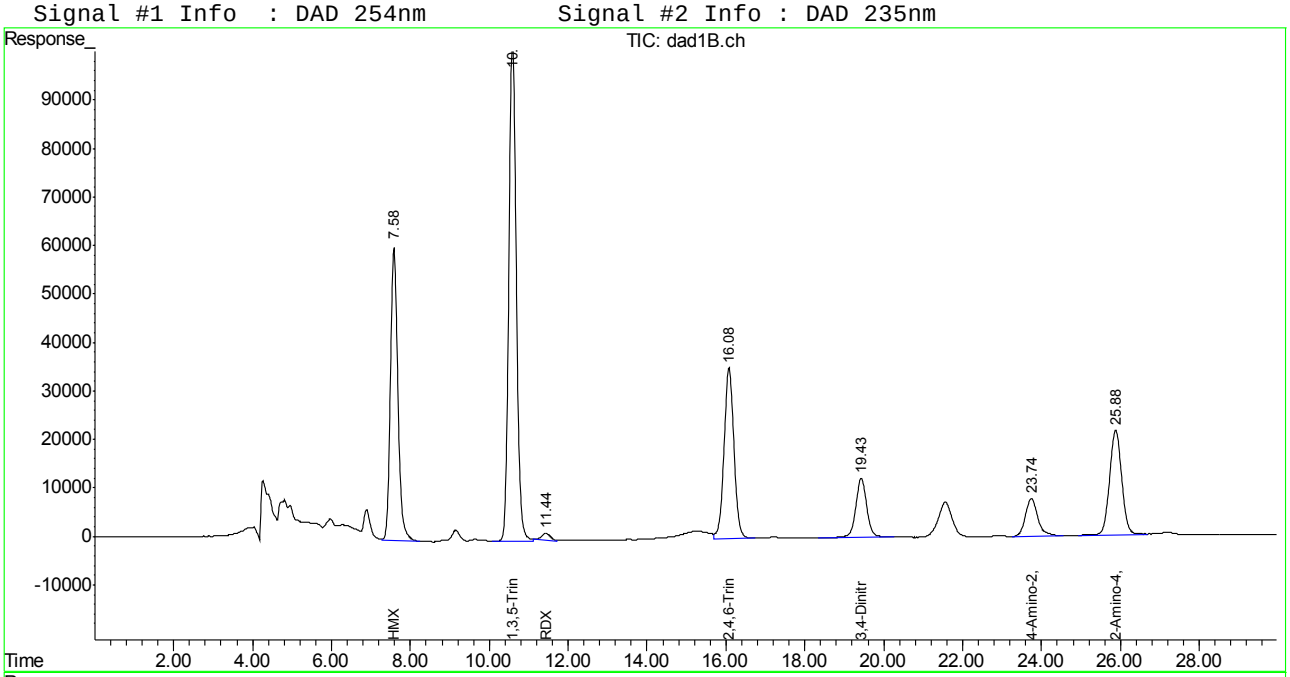
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG059716.D 8330RPB.M_0721.M Fri Jul 22 10:05:54 2016 Page 1

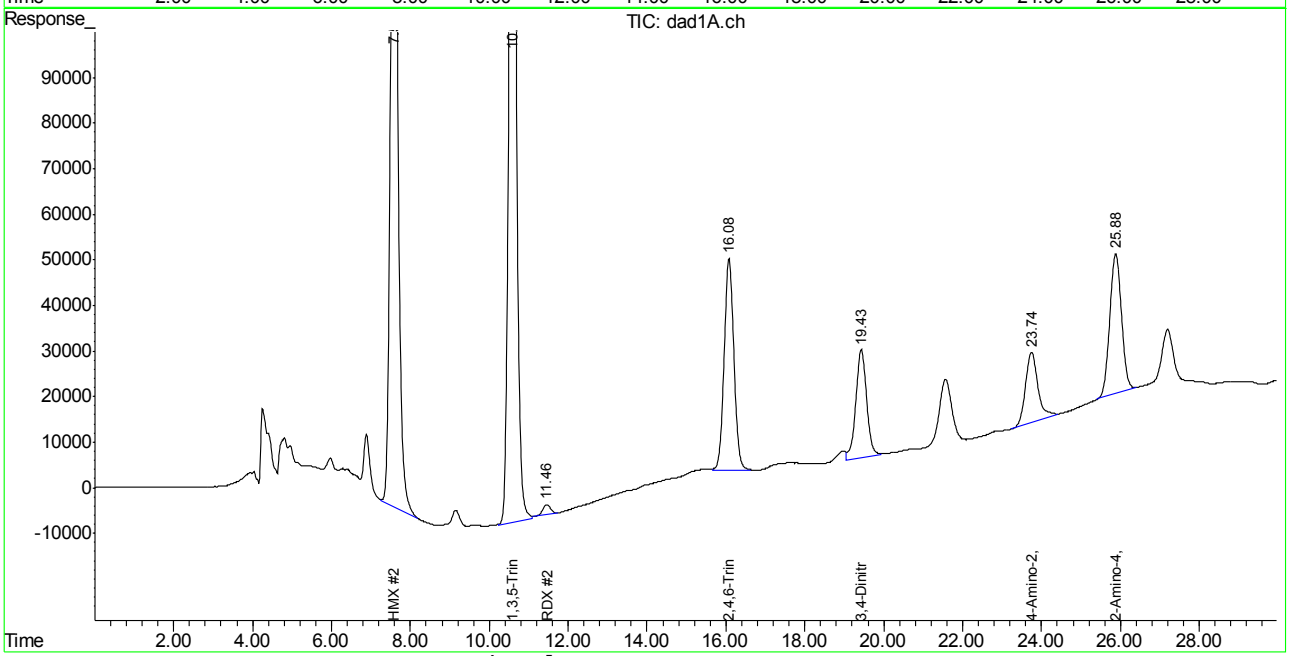
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0721RPB3\GG059716.D\dad1B.ch Vial: 12
Signal #2 : G:\DATA\0721RPB3\GG059716.D\dad1A.ch
Acq On : 21-Jul-2016, 16:33:00 Operator: kismetl
Sample : FA35383-1cf Inst : G1315B
Misc : OP61122,GGG2442,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 22 9:25 2016 Quant Results File: 8330RPB.M_0721.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0721.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jul 22 08:50:47 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





SGS ACCUTEST FA35383

Manual Integration Approval Summary

Sample Number: FA35383-1
Lab FileID: GG059716.D
Injection Time: 07/21/16 16:33
Method: SW846 8330B
Analyst approved: 07/25/16 10:16 Kismet Lugo
Supervisor approved: 07/25/16 11:58 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
HMX	2691-41-0	1	7.58	Poor instrument integration
HMX	2691-41-0	2	7.58	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	2	10.59	Missed peak
RDX	121-82-4	1	11.44	Poor instrument integration
2,4,6-Trinitrotoluene	118-96-7	2	16.08	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	2	23.74	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	25.88	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/25/16 11:58

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0722RPB3\GG059723.D\dad1B.ch Vial: 21
Signal #2 : G:\DATA\0722RPB3\GG059723.D\dad1A.ch
Acq On : 22-Jul-2016, 12:44:02 Operator: kismetl
Sample : FA35383-1cf,4 Inst : G1315B
Misc : OP61122,GGG2443,1000,,,10,4,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 25 09:39:26 2016 Quant Results File: 8330RPB.M_0721.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0721.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 25 09:39:11 2016
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	19.13	19.13	563354	1024356	117.723m	108.200m
	Spiked Amount 500.000	Range 70 - 136		Recovery =		23.54%#	21.64%#
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	7.49	7.49	1905582	5240144	672.065	611.024m
3)	DNX	0.00	0.00	0	0	N.D.	N.D.
4)	MNX	0.00	0.00	0	0	N.D.	N.D.
5)	1,3,5-Trinitrobe	10.49	10.48	3385464	5860937	387.428	380.506m
6)	RDX	11.29	11.32	55850	47261	13.967m	6.125m#
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D.	N.D.
8)	Nitrobenzene	0.00	0.00	0	0	N.D.	N.D.
9)	2,4,6-Trinitroto	15.87	15.87	1504854	2092477	181.097	194.067m
10)	Nitroglycerin	0.00	0.00	0	0	N.D.	N.D.
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
13)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
14)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
15)	o-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
16)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
17)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
18)	4-Amino-2,6-Dini	23.39	23.41	420335	722884	68.871m	60.115m
19)	m-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
20)	2-Amino-4,6-Dini	25.53	25.53	1120332	1498504	138.129	126.544m
21)	PETN	0.00	0.00	0	0	N.D.	N.D.

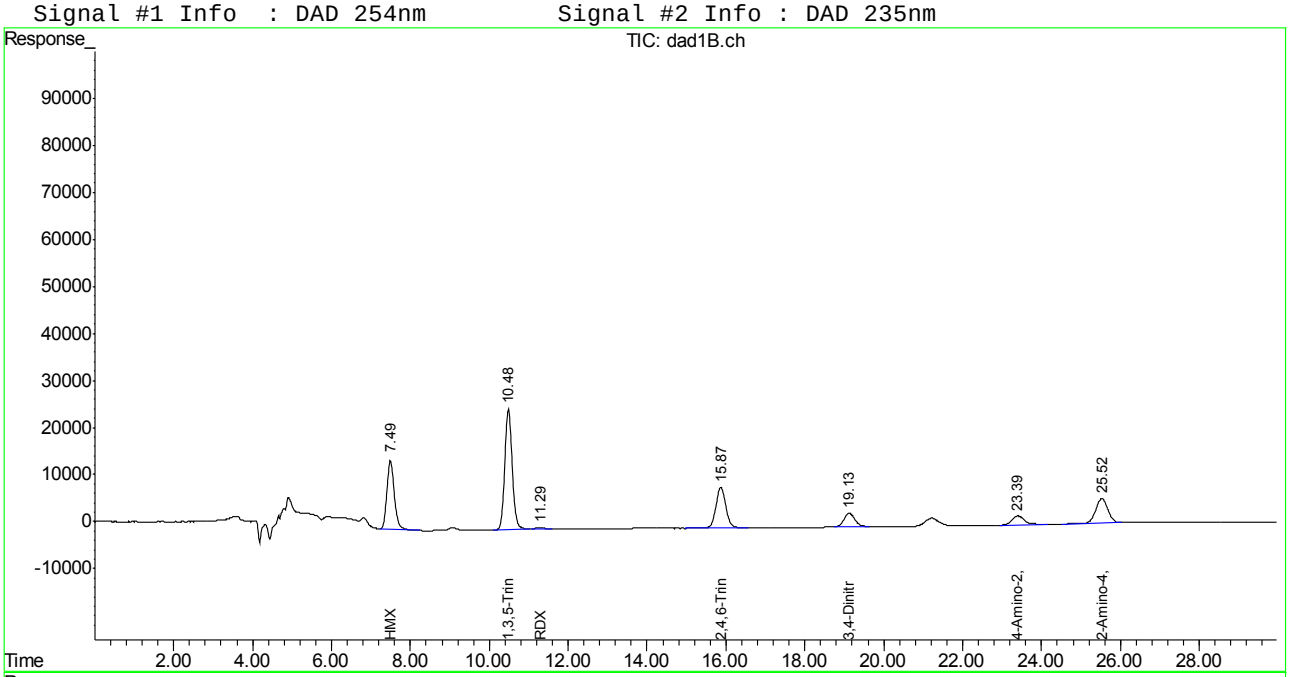
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG059723.D 8330RPB.M_0721.M Mon Jul 25 10:03:41 2016 Page 1

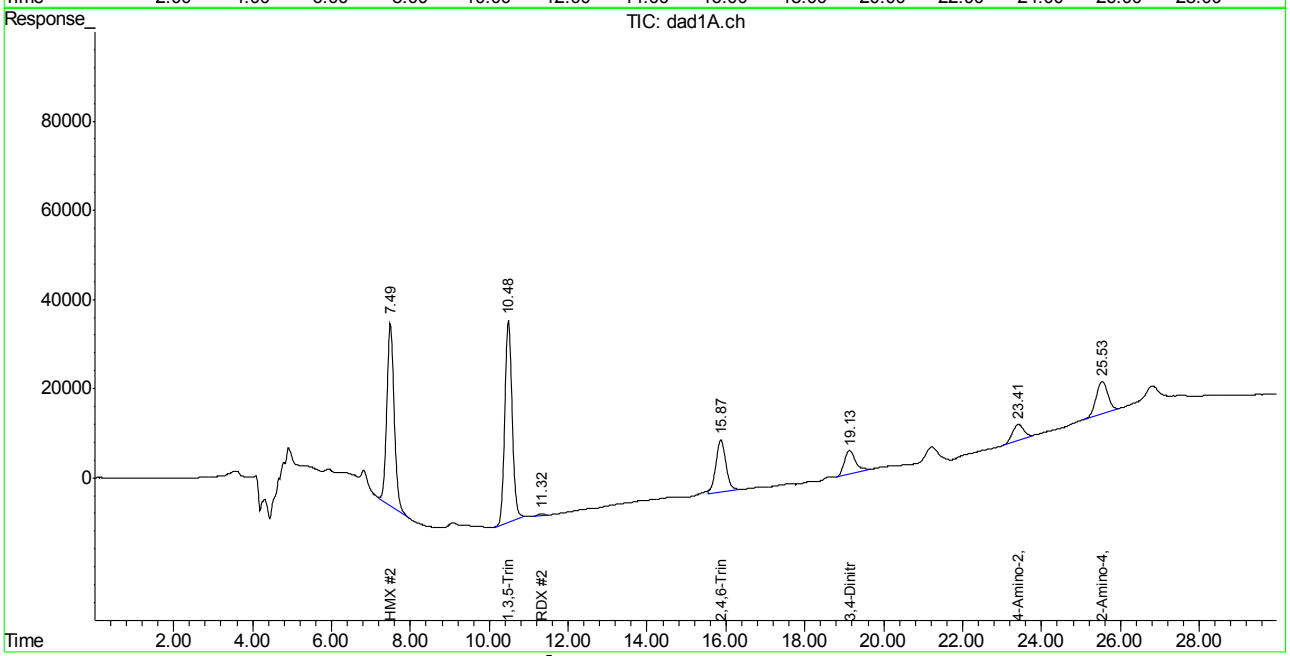
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0722RPB3\GG059723.D\dad1B.ch Vial: 21
Signal #2 : G:\DATA\0722RPB3\GG059723.D\dad1A.ch
Acq On : 22-Jul-2016, 12:44:02 Operator: kismetl
Sample : FA35383-1cf,4 Inst : G1315B
Misc : OP61122,GGG2443,1000,,,10,4,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 25 9:57 2016 Quant Results File: 8330RPB.M_0721.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0721.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 25 09:39:11 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





SGS ACCUTEST FA35383

Manual Integration Approval Summary

Sample Number: FA35383-1
Lab FileID: GG059723.D
Injection Time: 07/22/16 12:44
Method: SW846 8330B
Analyst approved: 07/25/16 10:16 Kismet Lugo
Supervisor approved: 07/25/16 11:58 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
HMX	2691-41-0	2	7.49	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	2	10.48	Missed peak
RDX	121-82-4	1	11.29	Poor instrument integration
RDX	121-82-4	2	11.32	Poor instrument integration
2,4,6-Trinitrotoluene	118-96-7	2	15.87	Poor instrument integration
3,4-Dinitrotoluene	610-39-9	1	19.13	Poor instrument integration
3,4-Dinitrotoluene	610-39-9	2	19.13	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	1	23.39	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	2	23.41	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	25.53	Poor instrument integration

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0720BPL\BB051992.D\dad1B.ch Vial: 8
Signal #2 : C:\HPCHEM\1\DATA\0720BPL\BB051992.D\dad1A.ch
Acq On : 20-Jul-2016, 17:46:58 Operator: kismetl
Sample : FA35383-2 Inst : G1315B
Misc : op61122,GBB1481,980,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 21 07:51:30 2016 Quant Results File: 8330B_0720.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0720.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 20 13:37:57 2016
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	12.32	12.32	1169594	2098762	483.286	521.744
	Spiked Amount 500.000	Range 70 - 136		Recovery =		96.66%	104.35%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	0.00	0.00	0	0	N.D. d	N.D. d
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	RDX	0.00	0.00	0	0	N.D. d	N.D. d
6)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D. d	N.D. d
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
9)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
10)	Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D. d
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
12)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D. d	N.D. d
13)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
14)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB051992.D 8330B_0720.M Thu Jul 21 08:35:36 2016 Page 1

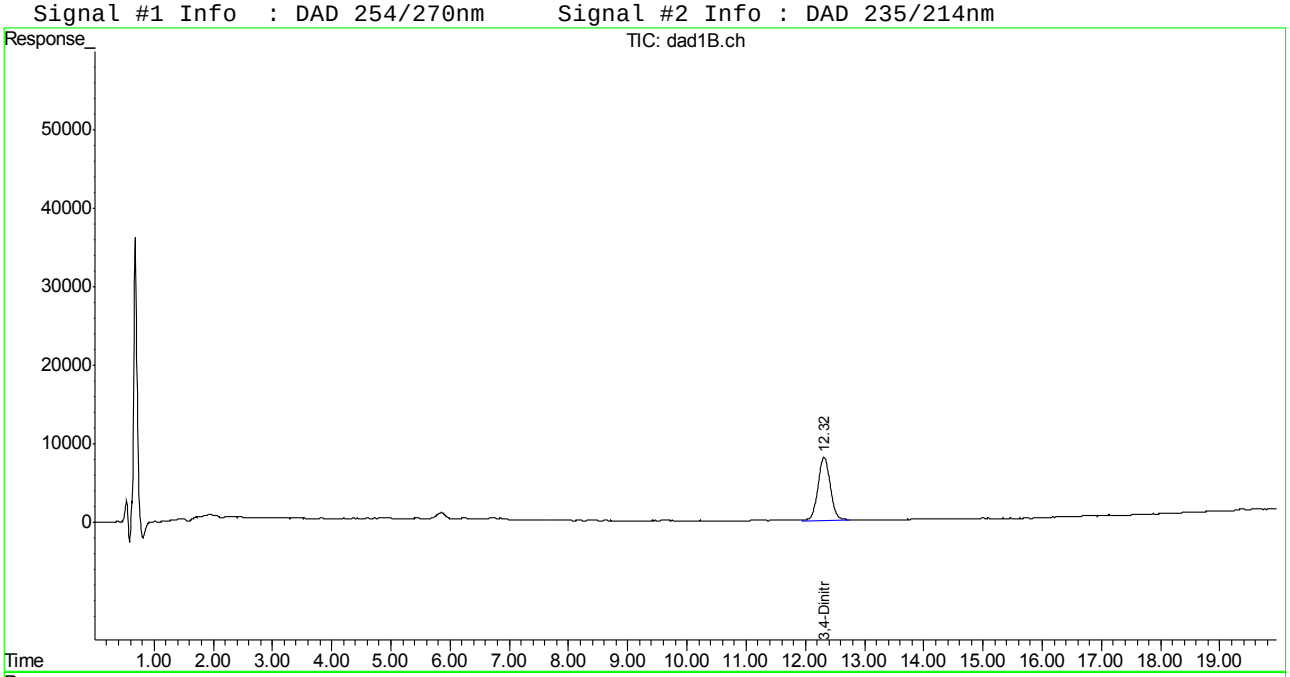
SGS ACCUTEST FA35383

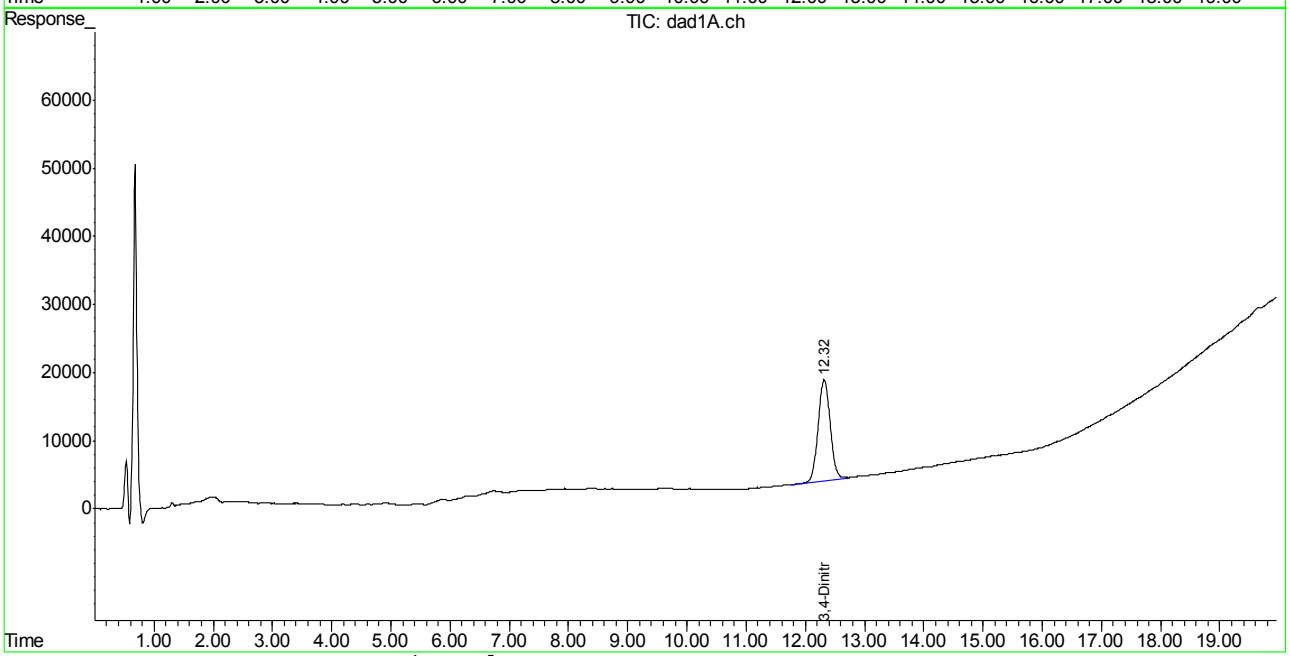
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0720BPL\BB051992.D\dad1B.ch Vial: 8
Signal #2 : C:\HPCHEM\1\DATA\0720BPL\BB051992.D\dad1A.ch
Acq On : 20-Jul-2016, 17:46:58 Operator: kismetl
Sample : FA35383-2 Inst : G1315B
Misc : op61122,GBB1481,980,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 21 8:22 2016 Quant Results File: 8330B_0720.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0720.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 20 13:37:57 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA35383

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/25/16 11:57

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0721BPL\BB052016.D\dad1B.ch Vial: 9
Signal #2 : C:\HPCHEM\1\DATA\0721BPL\BB052016.D\dad1A.ch
Acq On : 21-Jul-2016, 17:44:27 Operator: kismetl
Sample : FA35383-3 Inst : G1315B
Misc : op61122,GBB1482,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 22 07:29:33 2016 Quant Results File: 8330B_0720.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0720.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jul 22 07:29:12 2016
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	12.48	12.48	1166709	2053493	482.094	510.490
	Spiked Amount 500.000	Range 70 - 136		Recovery =		96.42%	102.10%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	0.00	0.00	0	0	N.D. d	N.D. d
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	RDX	3.43	3.43	1300817	2092955	664.979m	681.770m
6)	1,3,5-Trinitrobe	5.42	5.42	3041164	5639855	724.978m	708.263m
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D.	N.D.
8)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
9)	Nitrobenzene	0.00	0.00	0	0	N.D.	N.D.
10)	Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D. d
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
12)	2,4,6-Trinitroto	11.18	11.18	9008478	11006659	2367.504	2683.345
13)	2-Amino-4,6-Dini	11.56	11.56	659171	938171	188.551	194.669
14)	4-Amino-2,6-Dini	12.11	12.11	517378	961108	195.639	198.876
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

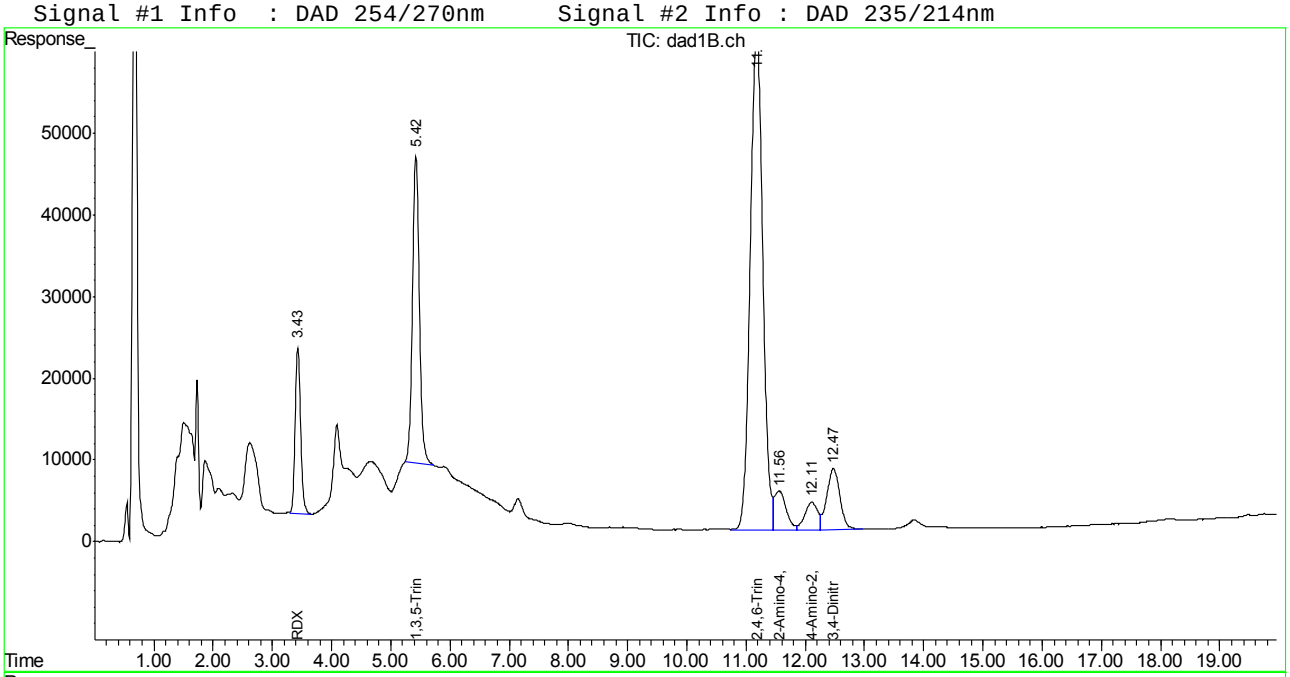
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB052016.D 8330B_0720.M Fri Jul 22 09:59:54 2016 Page 1

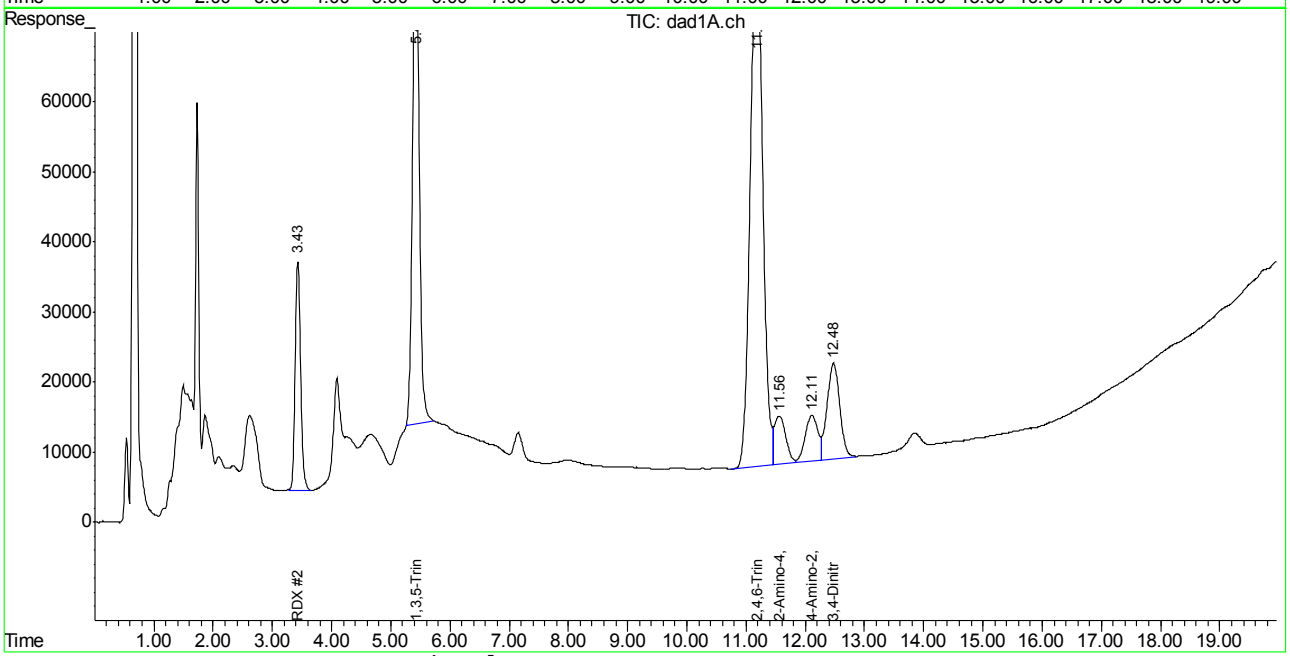
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0721BPL\BB052016.D\dad1B.ch Vial: 9
Signal #2 : C:\HPCHEM\1\DATA\0721BPL\BB052016.D\dad1A.ch
Acq On : 21-Jul-2016, 17:44:27 Operator: kismetl
Sample : FA35383-3 Inst : G1315B
Misc : op61122,GBB1482,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 22 9:58 2016 Quant Results File: 8330B_0720.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0720.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jul 22 07:29:12 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

Sample Number: FA35383-3
Lab FileID: BB052016.D
Injection Time: 07/21/16 17:44
Method: SW846 8330B
Analyst approved: 07/22/16 10:19 Kismet Lugo
Supervisor approved: 07/25/16 11:57 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
RDX	121-82-4	1	3.43	Poor instrument integration
RDX	121-82-4	2	3.43	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	1	5.42	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	2	5.42	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/25/16 11:57

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0721BPL\BB052017.D\dad1B.ch Vial: 14
Signal #2 : C:\HPCHEM\1\DATA\0721BPL\BB052017.D\dad1A.ch
Acq On : 21-Jul-2016, 18:11:25 Operator: kismetl
Sample : FA35383-3,2 Inst : G1315B
Misc : op61122,GBB1482,1000,,,10,2,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 22 07:29:34 2016 Quant Results File: 8330B_0720.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0720.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jul 22 07:29:12 2016
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	12.51	12.51	589515	1050025	243.592	261.032
	Spiked Amount 500.000	Range 70 - 136		Recovery =		48.72%#	52.21%#
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	0.00	0.00	0	0	N.D. d	N.D. d
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	RDX	3.44	3.44	683481	1090386	349.396	355.188m
6)	1,3,5-Trinitrobe	5.44	5.44	1340964	2603558	319.670m	326.959m
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D.	N.D.
8)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
9)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
10)	Nitroglycerin	0.00	0.00	0	0	N.D.	N.D.
11)	Tetryl	0.00	0.00	0	0	N.D.	N.D.
12)	2,4,6-Trinitroto	11.21	11.21	4600454	5603432	1209.038	1366.077
13)	2-Amino-4,6-Dini	11.60	11.60	369451	527632	105.679	109.964
14)	4-Amino-2,6-Dini	12.14	12.14	278877	502909	105.454	104.064
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

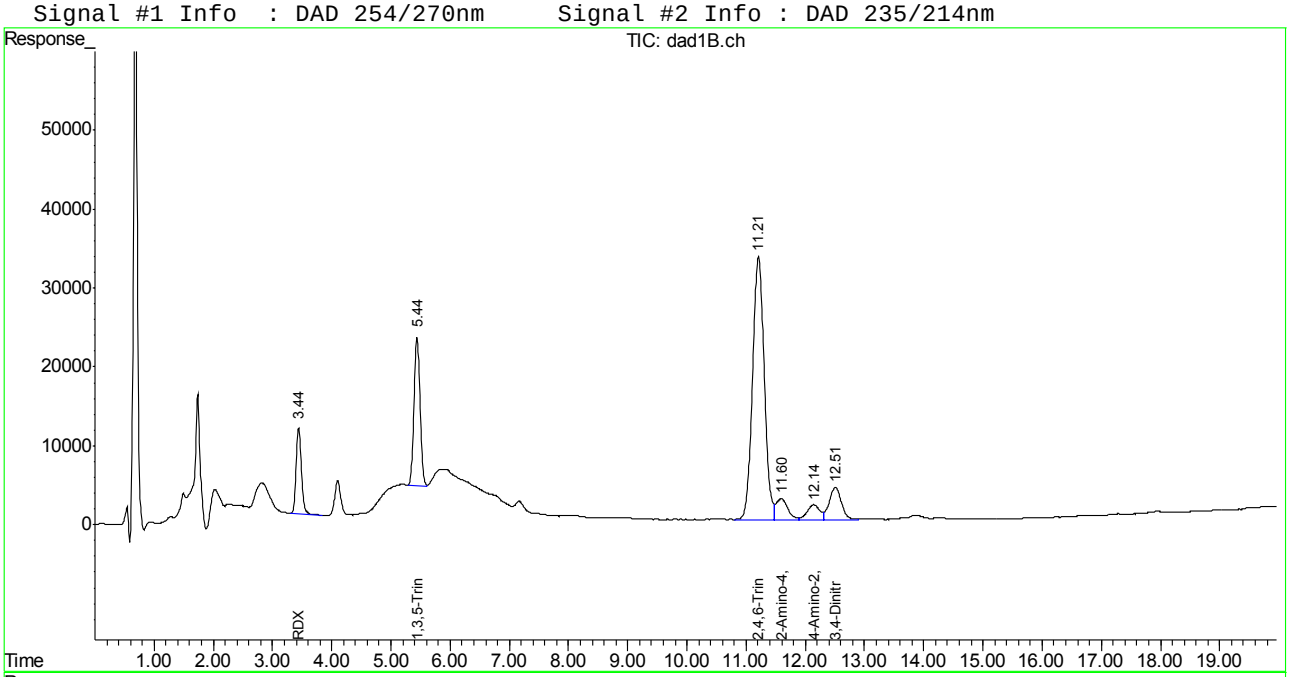
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB052017.D 8330B_0720.M Fri Jul 22 09:59:55 2016 Page 1

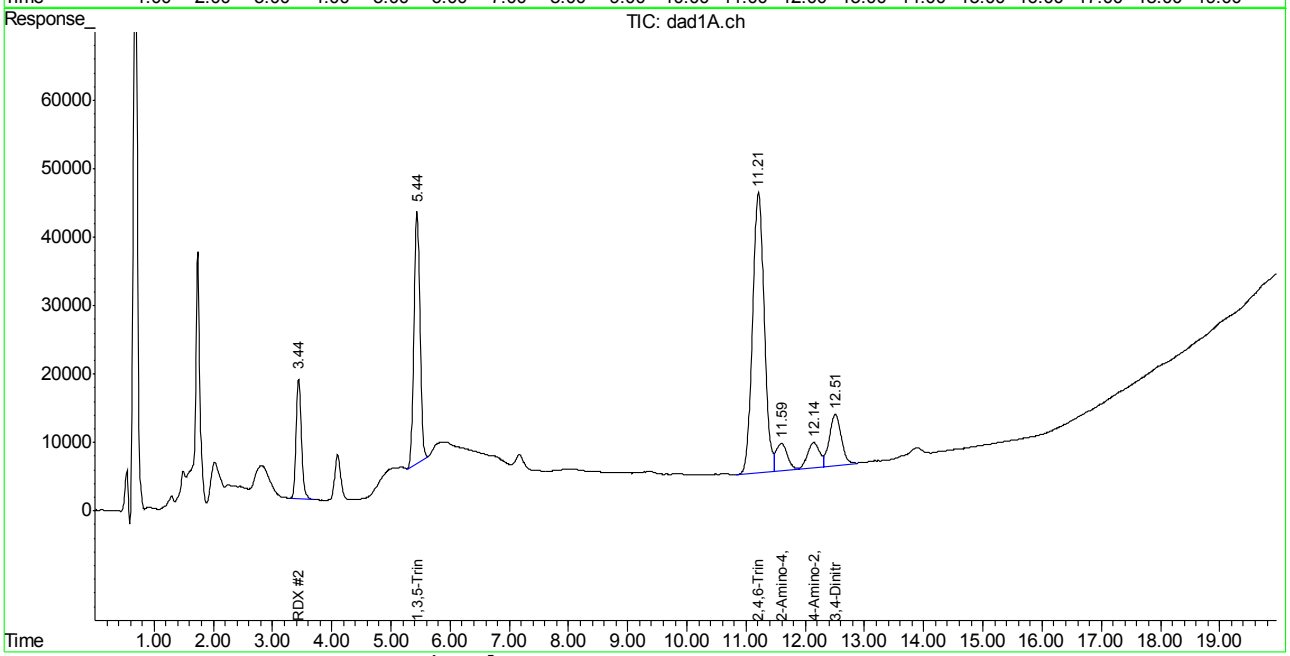
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0721BPL\BB052017.D\dad1B.ch Vial: 14
Signal #2 : C:\HPCHEM\1\DATA\0721BPL\BB052017.D\dad1A.ch
Acq On : 21-Jul-2016, 18:11:25 Operator: kismetl
Sample : FA35383-3,2 Inst : G1315B
Misc : op61122,GBB1482,1000,,,10,2,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 22 9:58 2016 Quant Results File: 8330B_0720.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0720.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jul 22 07:29:12 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA35383

Manual Integration Approval Summary

Sample Number: FA35383-3
Lab FileID: BB052017.D
Injection Time: 07/21/16 18:11
Method: SW846 8330B
Analyst approved: 07/22/16 10:19 Kismet Lugo
Supervisor approved: 07/25/16 11:57 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
RDX	121-82-4	2	3.44	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	1	5.44	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	2	5.44	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/25/16 11:58

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0721RPB3\GG059717.D\dad1B.ch Vial: 13
Signal #2 : G:\DATA\0721RPB3\GG059717.D\dad1A.ch
Acq On : 21-Jul-2016, 17:05:14 Operator: kismetl
Sample : FA35383-3cf Inst : G1315B
Misc : OP61122,GGG2442,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 22 09:04:44 2016 Quant Results File: 8330RPB.M_0721.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0721.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jul 22 08:50:47 2016
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	19.45	19.45	2573573	5012907	537.793	529.500
	Spiked Amount 500.000	Range 70 - 136		Recovery =		107.56%	105.90%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	0.00	0.00	0	0	N.D. d	N.D. d
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	1,3,5-Trinitrobe	10.60	10.59	6252282	11152779	715.503	724.065m
6)	RDX	11.47	11.47	2818996	5263781	704.994	682.231
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D.	N.D.
8)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
9)	2,4,6-Trinitroto	16.09	16.09	19142049	25191750	2303.593	2336.413m
10)	Nitroglycerin	0.00	0.00	0	0	N.D.	N.D.
11)	Tetryl	0.00	0.00	0	0	N.D.	N.D.
13)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
14)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
15)	o-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
16)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
17)	p-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
18)	4-Amino-2,6-Dini	23.77	23.78	1134999	2230788	185.968m	185.511m
19)	m-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
20)	2-Amino-4,6-Dini	25.91	25.91	1674770	2275533	206.487	192.161m
21)	PETN	0.00	0.00	0	0	N.D.	N.D.

9.1.8
9

Page 1715

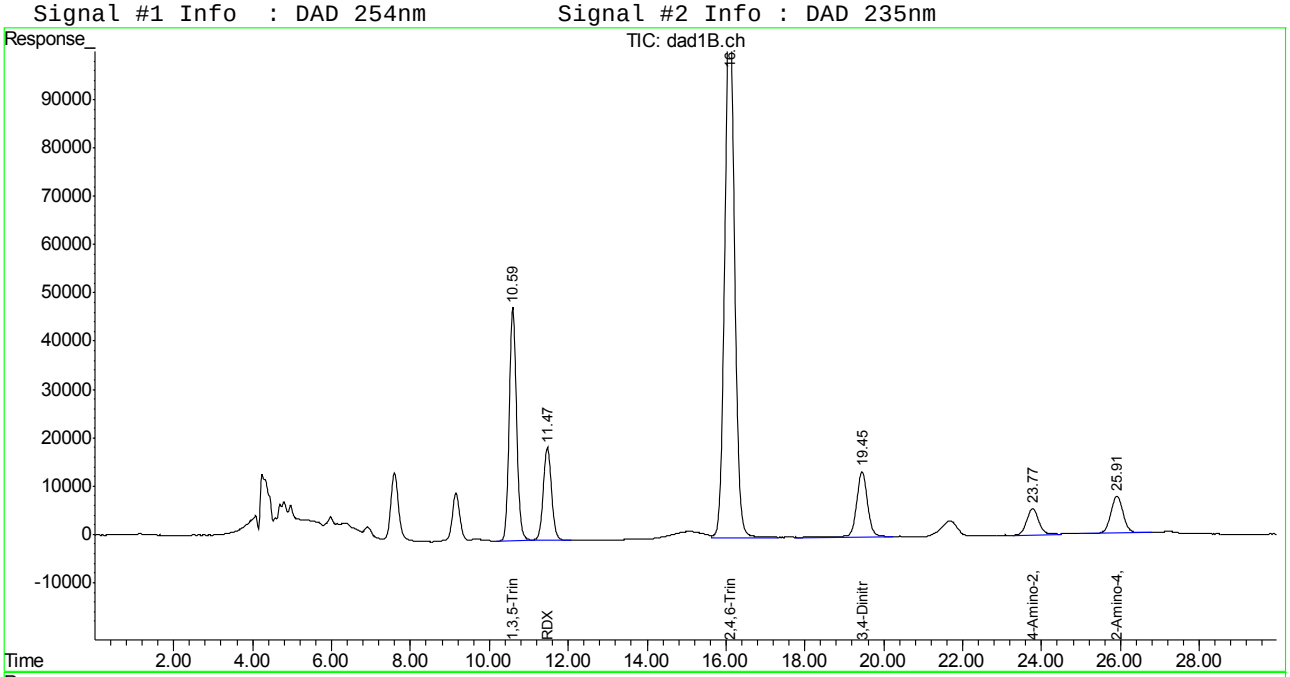
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG059717.D 8330RPB.M_0721.M Fri Jul 22 10:05:55 2016 Page 1

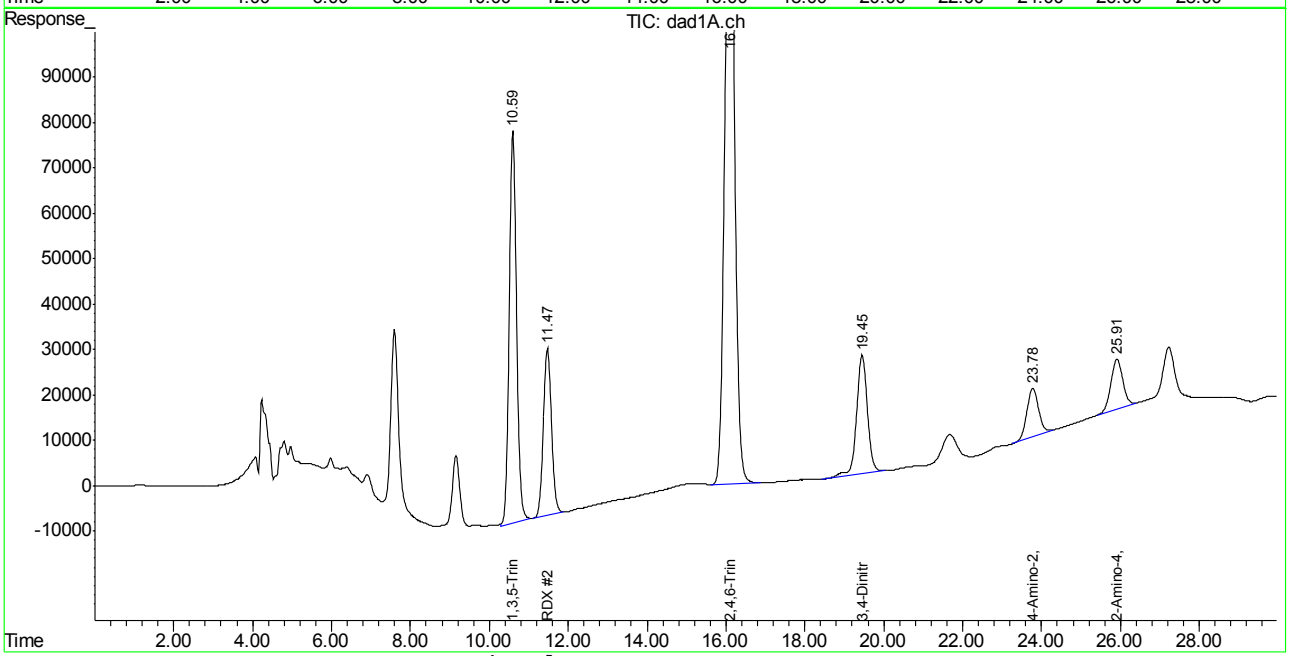
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0721RPB3\GG059717.D\dad1B.ch Vial: 13
Signal #2 : G:\DATA\0721RPB3\GG059717.D\dad1A.ch
Acq On : 21-Jul-2016, 17:05:14 Operator: kismetl
Sample : FA35383-3cf Inst : G1315B
Misc : OP61122,GGG2442,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 22 9:35 2016 Quant Results File: 8330RPB.M_0721.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0721.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jul 22 08:50:47 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





SGS ACCUTEST FA35383

Manual Integration Approval Summary

Sample Number: FA35383-3
Lab FileID: GG059717.D
Injection Time: 07/21/16 17:05

Method: SW846 8330B
Analyst approved: 07/22/16 10:19 Kismet Lugo
Supervisor approved: 07/25/16 11:58 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
1,3,5-Trinitrobenzene	99-35-4	2	10.59	Poor instrument integration
2,4,6-Trinitrotoluene	118-96-7	2	16.09	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	1	23.77	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	2	23.78	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	25.91	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/25/16 11:57

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0721BPL\BB052018.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\1\DATA\0721BPL\BB052018.D\dad1A.ch
Acq On : 21-Jul-2016, 18:38:27 Operator: kismetl
Sample : FA35383-4 Inst : G1315B
Misc : op61122,GBB1482,940,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 22 07:29:35 2016 Quant Results File: 8330B_0720.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0720.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jul 22 07:29:12 2016
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	12.50	12.50	1107877	2036235	457.784	506.200
	Spiked Amount 500.000	Range 70 - 136		Recovery =		91.56%	101.24%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	1.74	1.74	960031	2620260	595.695m	596.359m
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	RDX	3.44	3.44	1377325	2248388	704.089m	732.401m
6)	1,3,5-Trinitrobe	5.43	5.43	3599638	6891202	858.112m	865.409m
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
9)	Nitrobenzene	0.00	0.00	0	0	N.D.	N.D.
10)	Nitroglycerin	0.00	0.00	0	0	N.D.	N.D.
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
12)	2,4,6-Trinitroto	11.20	11.20	10737221	13234110	2821.833	3226.382
13)	2-Amino-4,6-Dini	11.58	11.58	764878	1139311	218.788	235.904
14)	4-Amino-2,6-Dini	12.13	12.13	529173	1071292	200.099	221.675
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

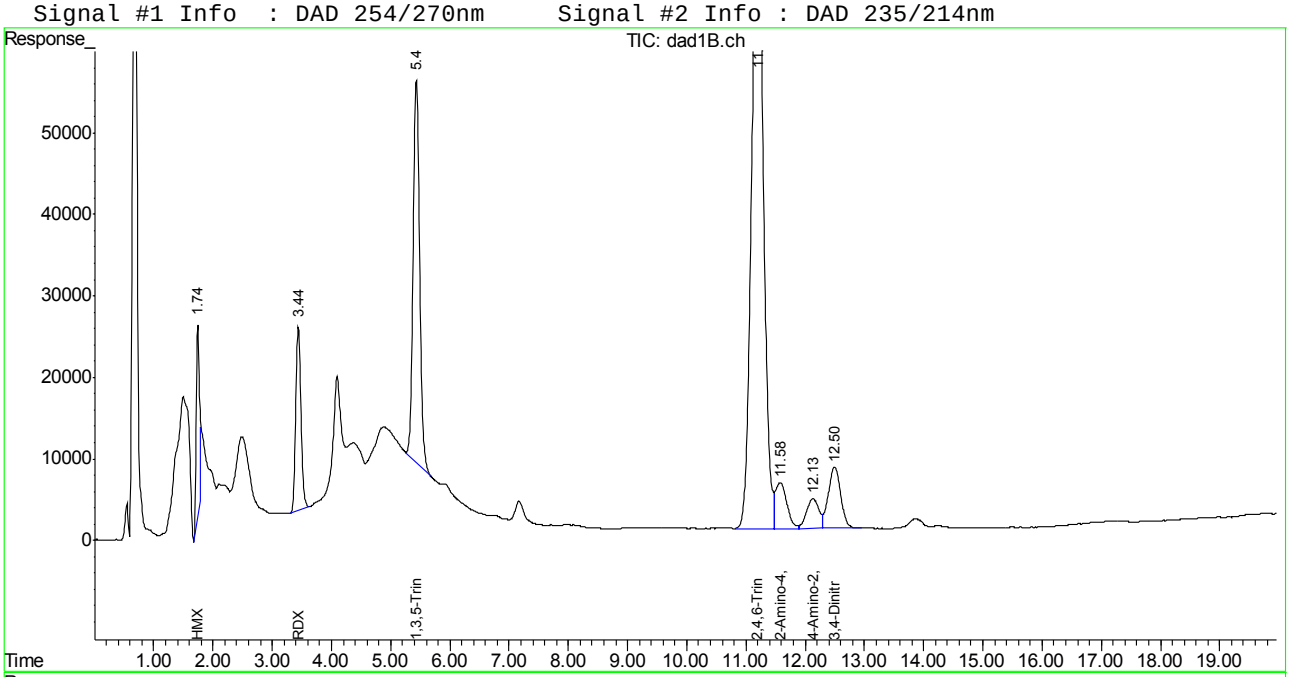
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB052018.D 8330B_0720.M Fri Jul 22 09:59:56 2016 Page 1

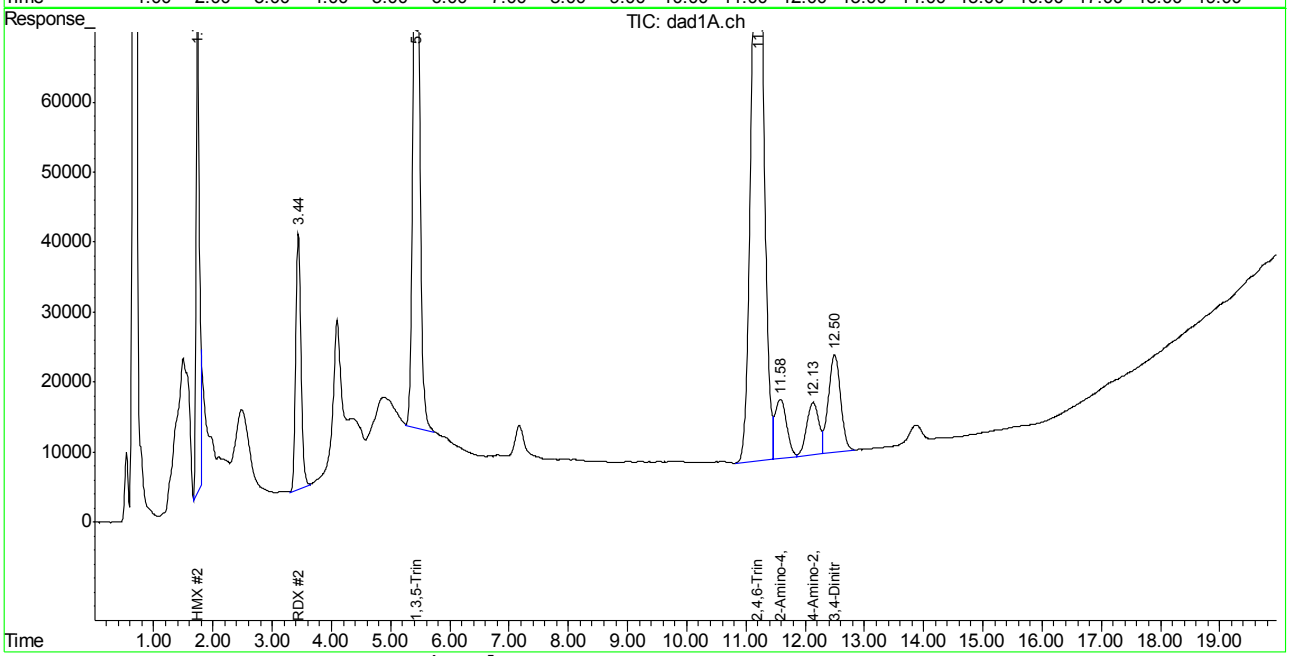
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0721BPL\BB052018.D\dad1B.ch Vial: 10
Signal #2 : C:\HPCHEM\1\DATA\0721BPL\BB052018.D\dad1A.ch
Acq On : 21-Jul-2016, 18:38:27 Operator: kismetl
Sample : FA35383-4 Inst : G1315B
Misc : op61122,GBB1482,940,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 22 9:59 2016 Quant Results File: 8330B_0720.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0720.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jul 22 07:29:12 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA35383

Manual Integration Approval Summary

Sample Number: FA35383-4
Lab FileID: BB052018.D
Injection Time: 07/21/16 18:38
Method: SW846 8330B
Analyst approved: 07/22/16 10:21 Kismet Lugo
Supervisor approved: 07/25/16 11:57 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
HMX	2691-41-0	1	1.74	Poor instrument integration
HMX	2691-41-0	2	1.74	Poor instrument integration
RDX	121-82-4	1	3.44	Poor instrument integration
RDX	121-82-4	2	3.44	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	1	5.43	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	2	5.43	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/25/16 11:57

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0721BPL\BB052019.D\dad1B.ch Vial: 15
Signal #2 : C:\HPCHEM\1\DATA\0721BPL\BB052019.D\dad1A.ch
Acq On : 21-Jul-2016, 19:05:30 Operator: kismetl
Sample : FA35383-4,2 Inst : G1315B
Misc : op61122,GBB1482,940,,,10,2,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 22 08:27:58 2016 Quant Results File: 8330B_0720.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0720.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jul 22 07:29:12 2016
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	12.52	12.52	595746	1010810	246.167	251.283
	Spiked Amount 500.000	Range 70 - 136		Recovery =		49.23%#	50.26%#
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	1.74	1.74	296495	1005609	183.974m	231.156m
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	RDX	3.44	3.44	730272	1158505	373.315m	377.377m
6)	1,3,5-Trinitrobe	5.44	5.44	2017312	3625521	480.904m	455.299m
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
9)	Nitrobenzene	0.00	0.00	0	0	N.D.	N.D.
10)	Nitroglycerin	0.00	0.00	0	0	N.D.	N.D.
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
12)	2,4,6-Trinitroto	11.22	11.22	5424577	6526180	1425.625	1591.036
13)	2-Amino-4,6-Dini	11.60	11.61	434269	572936	124.220	119.347
14)	4-Amino-2,6-Dini	12.15	12.16	315673	529718	119.368	109.611
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

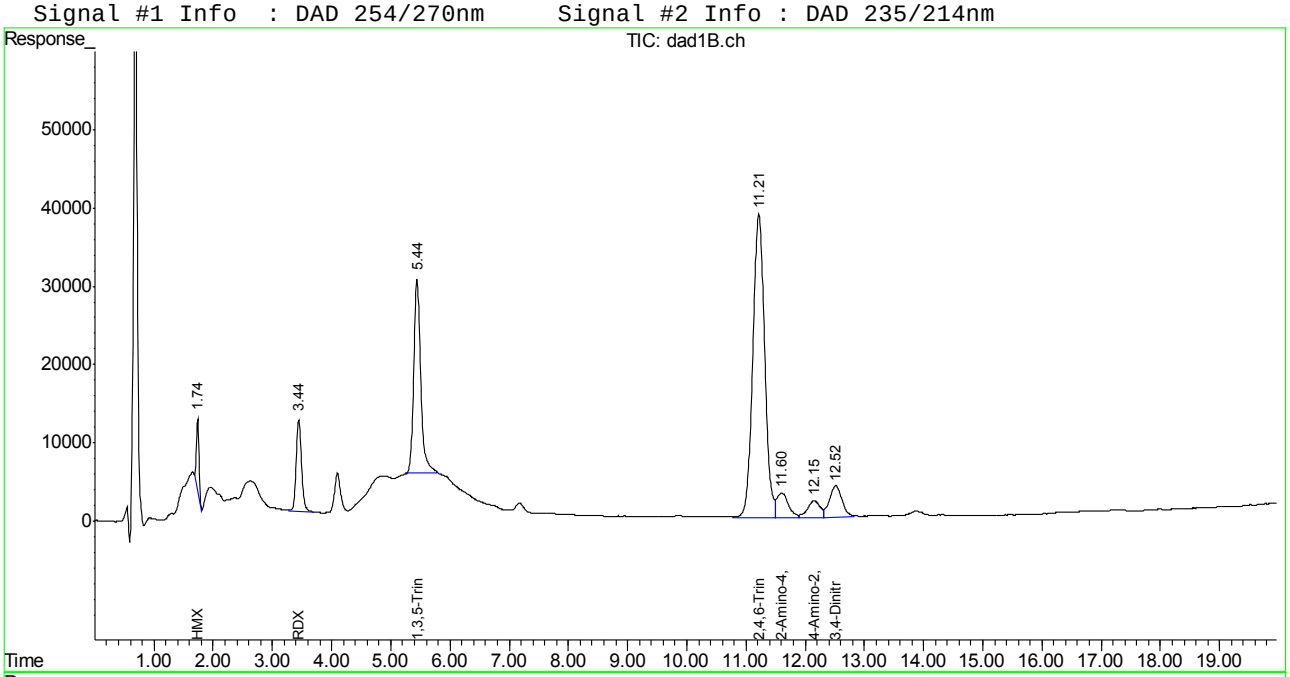
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB052019.D 8330B_0720.M Fri Jul 22 09:59:57 2016 Page 1

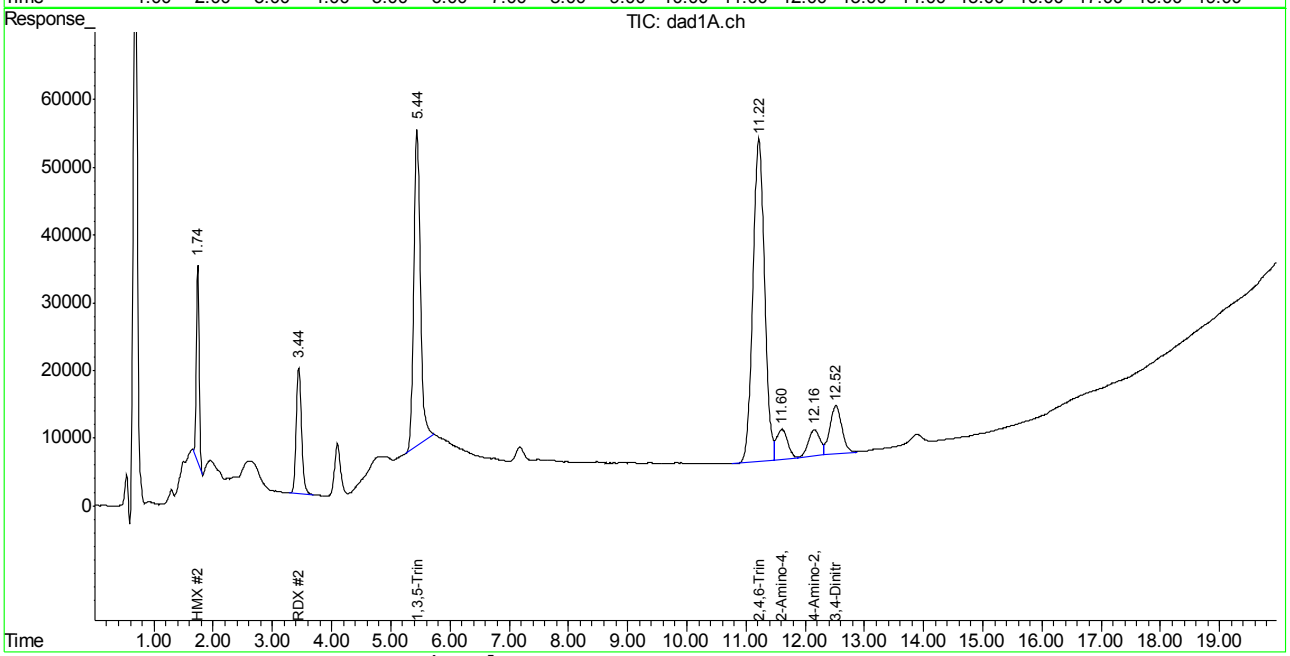
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0721BPL\BB052019.D\dad1B.ch Vial: 15
Signal #2 : C:\HPCHEM\1\DATA\0721BPL\BB052019.D\dad1A.ch
Acq On : 21-Jul-2016, 19:05:30 Operator: kismetl
Sample : FA35383-4,2 Inst : G1315B
Misc : op61122,GBB1482,940,,,10,2,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 22 9:59 2016 Quant Results File: 8330B_0720.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0720.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jul 22 07:29:12 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA35383

Manual Integration Approval Summary

Sample Number: FA35383-4
Lab FileID: BB052019.D
Injection Time: 07/21/16 19:05
Method: SW846 8330B
Analyst approved: 07/22/16 10:21 Kismet Lugo
Supervisor approved: 07/25/16 11:57 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
HMX	2691-41-0	1	1.74	Poor instrument integration
HMX	2691-41-0	2	1.74	Poor instrument integration
RDX	121-82-4	1	3.44	Poor instrument integration
RDX	121-82-4	2	3.44	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	1	5.44	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	2	5.44	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/25/16 11:58

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0721RPB3\GG059718.D\dad1B.ch Vial: 14
Signal #2 : G:\DATA\0721RPB3\GG059718.D\dad1A.ch
Acq On : 21-Jul-2016, 17:37:25 Operator: kismetl
Sample : FA35383-4cf Inst : G1315B
Misc : OP61122,GGG2442,940,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 22 09:04:45 2016 Quant Results File: 8330RPB.M_0721.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0721.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jul 22 08:50:47 2016
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	19.46	19.46	2532170	4776242	529.142	504.502
	Spiked Amount 500.000	Range 70 - 136		Recovery =		105.83%	100.90%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	7.59	7.59	2058252	5766710	725.909m	672.424m
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	1,3,5-Trinitrobe	10.59	10.59	7735584	13920261	885.250	903.737m
6)	RDX	11.47	11.47	3091254	5800864	773.082	751.841
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D.	N.D.
8)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
9)	2,4,6-Trinitroto	16.09	16.09	22948656	30504579	2761.688	2829.153m
10)	Nitroglycerin	0.00	0.00	0	0	N.D.	N.D.
11)	Tetryl	0.00	0.00	0	0	N.D.	N.D.
13)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
14)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
15)	o-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
16)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
17)	p-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
18)	4-Amino-2,6-Dini	23.78	23.78	1295201	2497884	212.217m	207.723m
19)	m-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
20)	2-Amino-4,6-Dini	25.92	25.91	1942263	2597472	239.467	219.348m
21)	PETN	0.00	0.00	0	0	N.D.	N.D.

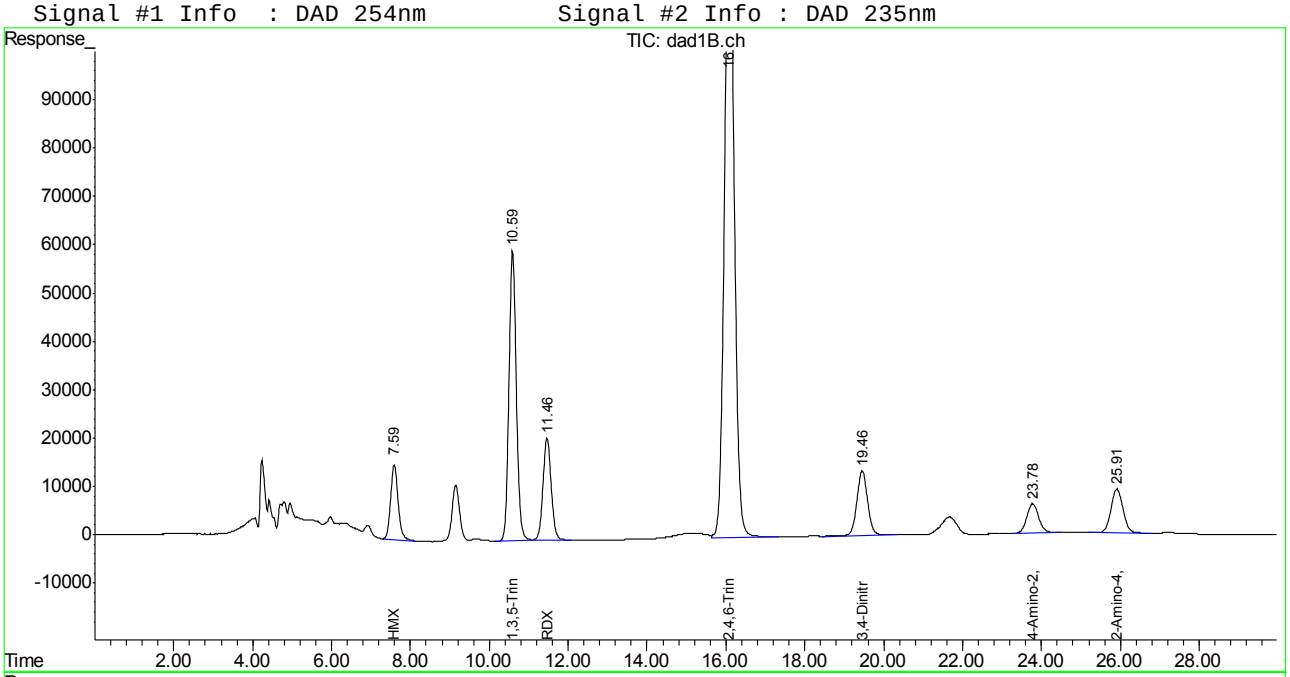
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.

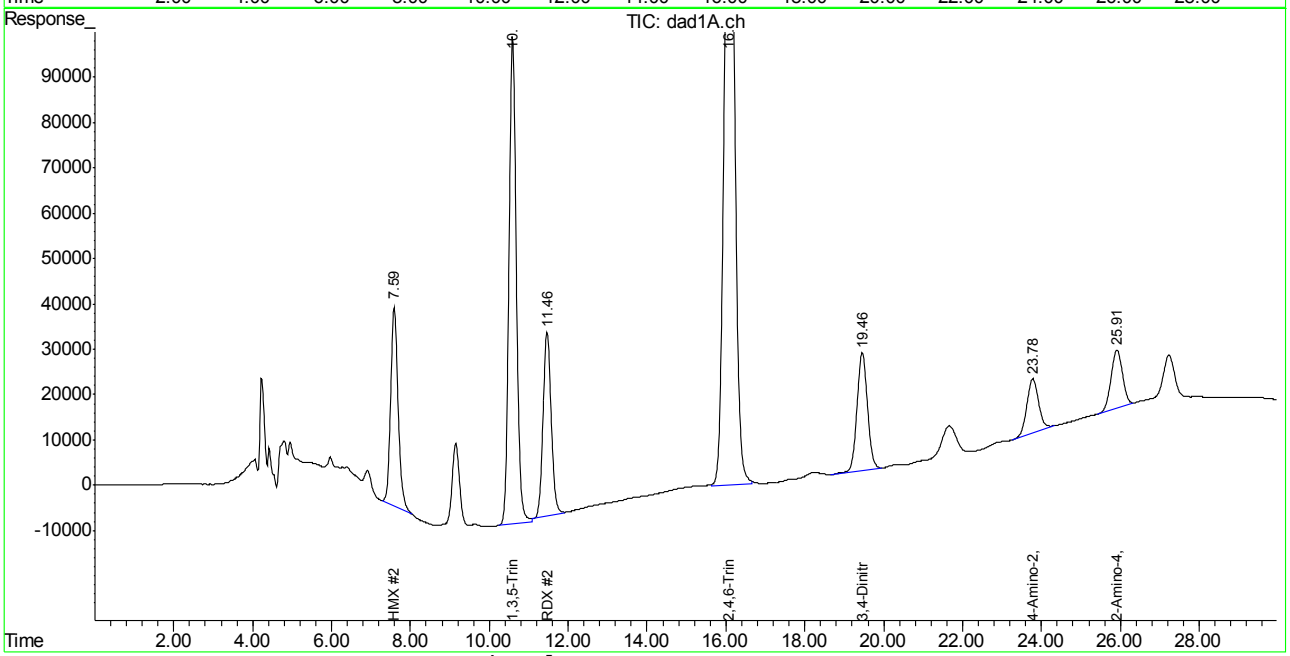
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0721RPB3\GG059718.D\dad1B.ch Vial: 14
Signal #2 : G:\DATA\0721RPB3\GG059718.D\dad1A.ch
Acq On : 21-Jul-2016, 17:37:25 Operator: kismetl
Sample : FA35383-4cf Inst : G1315B
Misc : OP61122,GGG2442,940,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 22 9:38 2016 Quant Results File: 8330RPB.M_0721.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0721.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jul 22 08:50:47 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





SGS ACCUTEST FA35383

Manual Integration Approval Summary

Sample Number: FA35383-4
Lab FileID: GG059718.D
Injection Time: 07/21/16 17:37
Method: SW846 8330B
Analyst approved: 07/22/16 10:21 Kismet Lugo
Supervisor approved: 07/25/16 11:58 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
HMX	2691-41-0	1	7.59	Poor instrument integration
HMX	2691-41-0	2	7.59	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	2	10.59	Poor instrument integration
2,4,6-Trinitrotoluene	118-96-7	2	16.09	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	1	23.78	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	2	23.78	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	25.91	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/25/16 11:57

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0720BPL\BB051999.D\dad1B.ch Vial: 11
Signal #2 : C:\HPCHEM\1\DATA\0720BPL\BB051999.D\dad1A.ch
Acq On : 20-Jul-2016, 20:55:41 Operator: kismetl
Sample : FA35383-5 Inst : G1315B
Misc : op61122,GBB1481,970,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 21 07:51:37 2016 Quant Results File: 8330B_0720.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0720.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 20 13:37:57 2016
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	12.39	12.38	1042251	1960030	430.667	487.256m
	Spiked Amount 500.000	Range 70 - 136		Recovery =		86.13%	97.45%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	0.00	0.00	0	0	N.D. d	N.D. d
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	RDX	0.00	0.00	0	0	N.D. d	N.D. d
6)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D. d	N.D. d
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
9)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
10)	Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D. d
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
12)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D. d	N.D. d
13)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
14)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

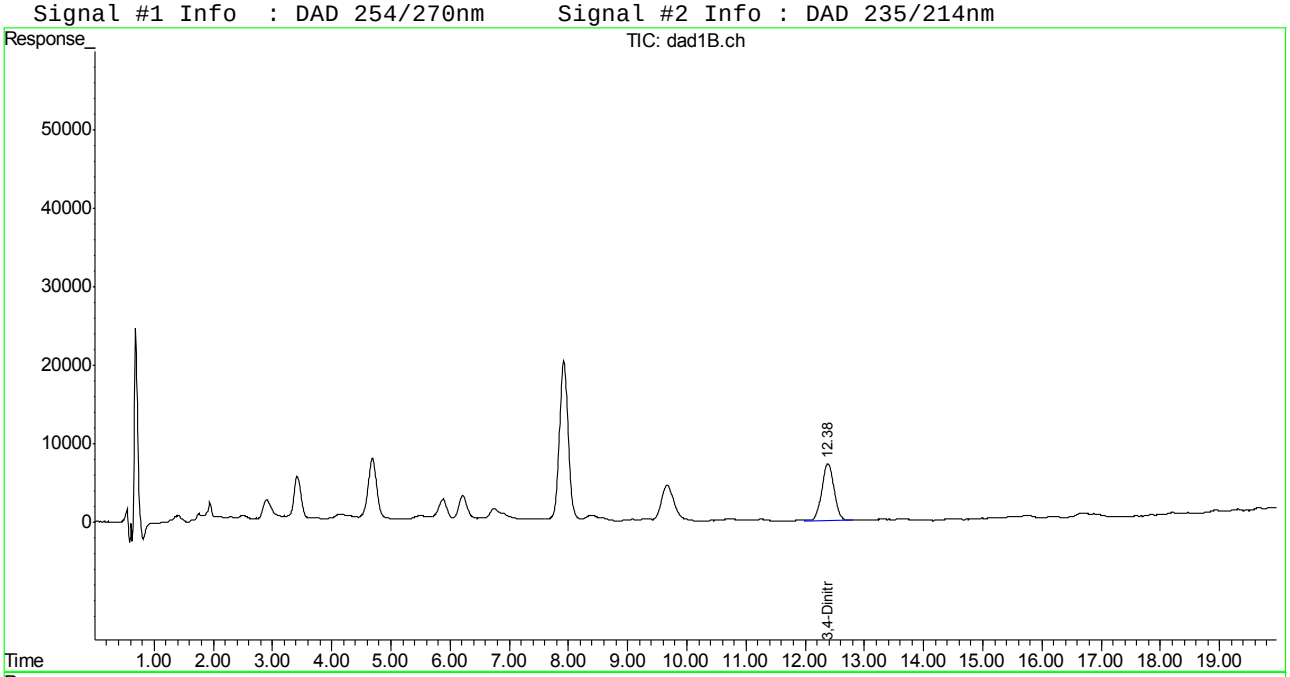
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB051999.D 8330B_0720.M Fri Jul 22 09:42:43 2016 Page 1

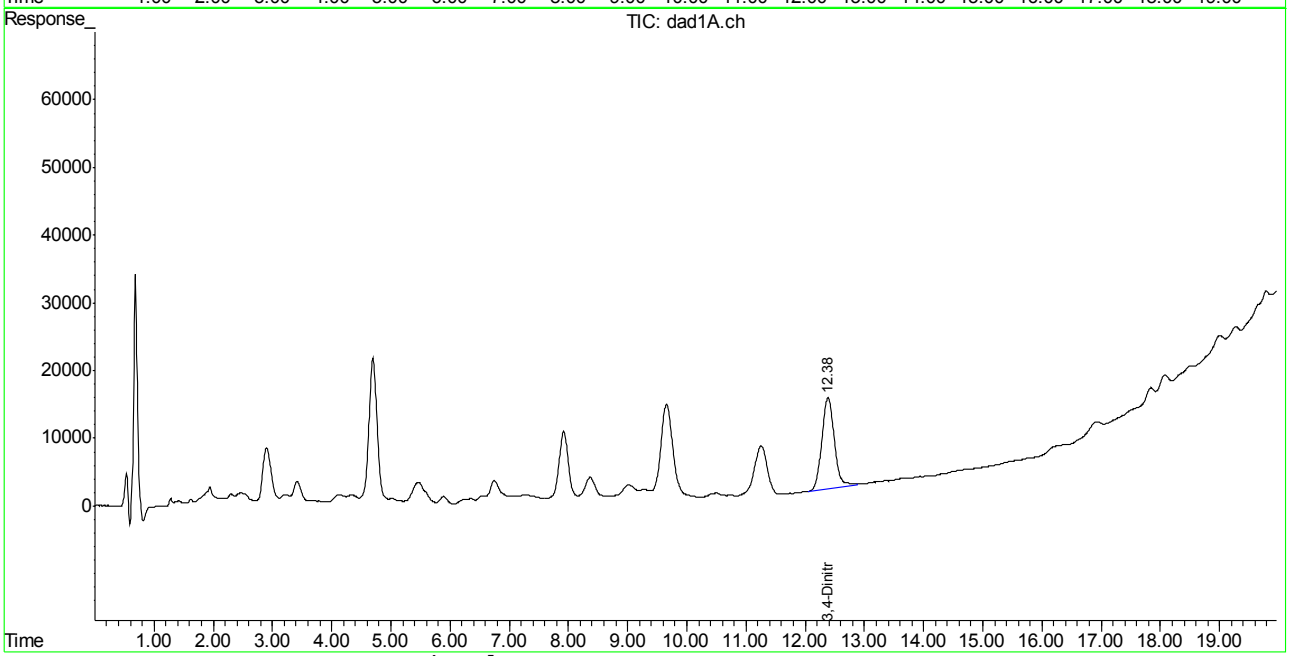
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0720BPL\BB051999.D\dad1B.ch Vial: 11
Signal #2 : C:\HPCHEM\1\DATA\0720BPL\BB051999.D\dad1A.ch
Acq On : 20-Jul-2016, 20:55:41 Operator: kismetl
Sample : FA35383-5 Inst : G1315B
Misc : op61122,GBB1481,970,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 22 9:42 2016 Quant Results File: 8330B_0720.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0720.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 20 13:37:57 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA35383

Manual Integration Approval Summary

Sample Number: FA35383-5
Lab FileID: BB051999.D
Injection Time: 07/20/16 20:55
Method: SW846 8330B
Analyst approved: 07/22/16 09:44 Kismet Lugo
Supervisor approved: 07/25/16 11:57 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
3,4-Dinitrotoluene	610-39-9	2	12.38	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/25/16 11:57

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0720BPL\BB051987.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0720BPL\BB051987.D\dad1A.ch
Acq On : 20-Jul-2016, 15:32:10 Operator: kismetl
Sample : op61122-mb Inst : G1315B
Misc : op61122,GBB1481,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 21 07:51:25 2016 Quant Results File: 8330B_0720.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0720.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 20 13:37:57 2016
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	12.21	12.20	1125076	2035628	464.891	506.049m
	Spiked Amount 500.000	Range 70 - 136		Recovery =		92.98%	101.21%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	0.00	0.00	0	0	N.D. d	N.D. d
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	RDX	0.00	0.00	0	0	N.D. d	N.D. d
6)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D. d	N.D. d
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
9)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
10)	Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D. d
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
12)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D. d	N.D. d
13)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
14)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB051987.D 8330B_0720.M Thu Jul 21 08:35:31 2016 Page 1

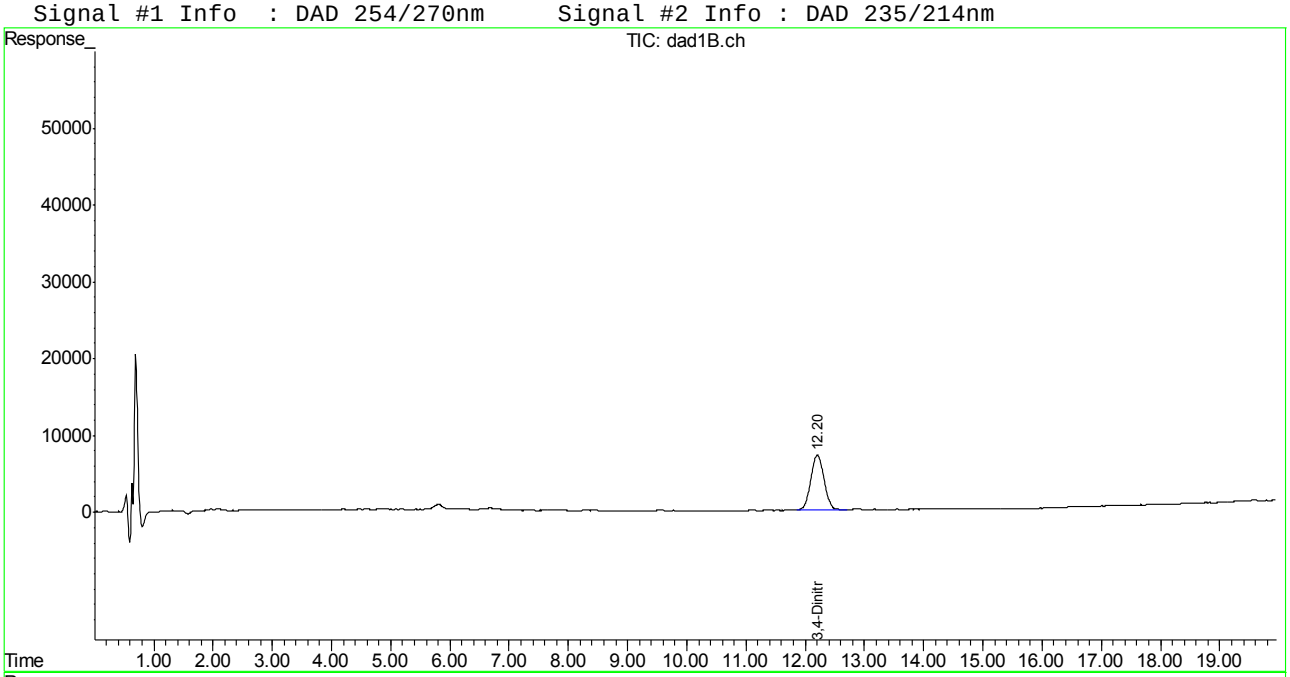
SGS ACCUTEST FA35383

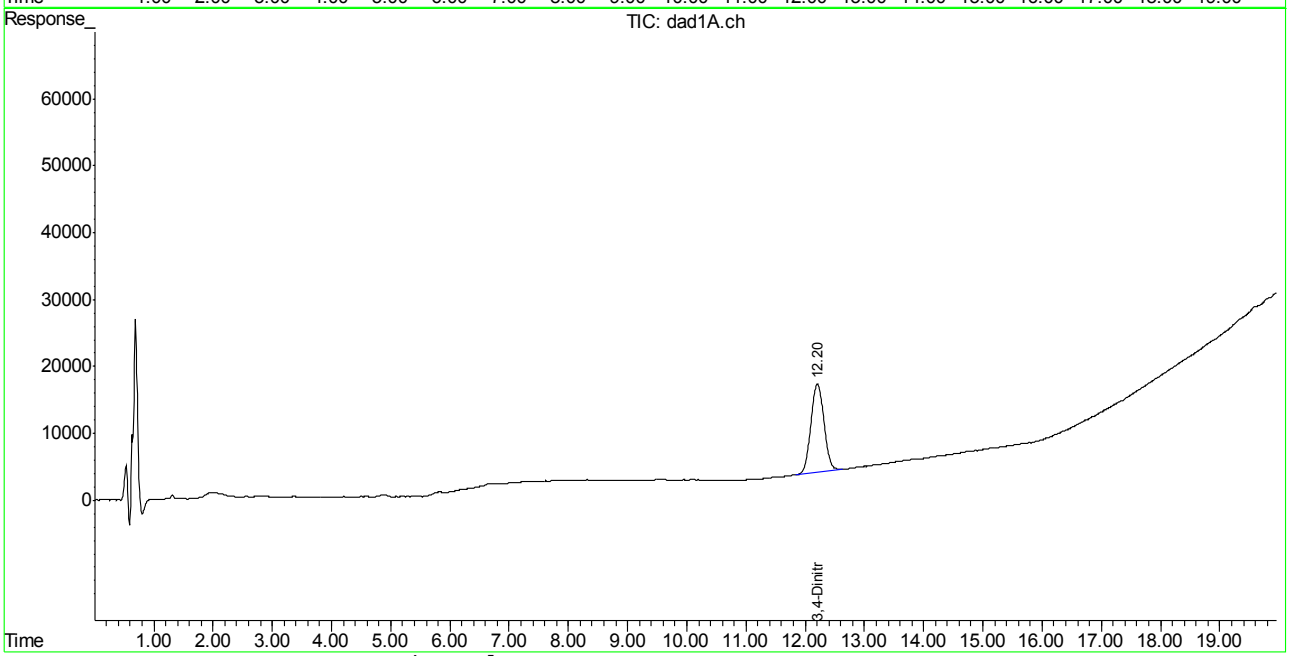
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0720BPL\BB051987.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0720BPL\BB051987.D\dad1A.ch
Acq On : 20-Jul-2016, 15:32:10 Operator: kismetl
Sample : op61122-mb Inst : G1315B
Misc : op61122,GBB1481,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 21 8:10 2016 Quant Results File: 8330B_0720.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0720.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 20 13:37:57 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA35383

Manual Integration Approval Summary

Sample Number: OP61122-MB
Lab FileID: BB051987.D
Injection Time: 07/20/16 15:32

Method: SW846 8330B
Analyst approved: 07/21/16 09:00 Kismet Lugo
Supervisor approved: 07/25/16 11:57 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
3,4-Dinitrotoluene	610-39-9	2	12.20	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/25/16 11:57

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0721BPL\BB052012.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0721BPL\BB052012.D\dad1A.ch
Acq On : 21-Jul-2016, 15:56:36 Operator: kismetl
Sample : op61122-mb Inst : G1315B
Misc : op61122,GBB1482,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 22 07:29:29 2016 Quant Results File: 8330B_0720.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0720.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jul 22 07:29:12 2016
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	12.42	12.42	1104753	2051936	456.494	510.103m
	Spiked Amount 500.000	Range 70 - 136		Recovery =		91.30%	102.02%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	0.00	0.00	0	0	N.D. d	N.D. d
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	RDX	0.00	0.00	0	0	N.D. d	N.D. d
6)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D. d	N.D. d
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
9)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
10)	Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D. d
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
12)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D. d	N.D. d
13)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
14)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D.	N.D.
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB052012.D 8330B_0720.M Fri Jul 22 08:18:42 2016 Page 1

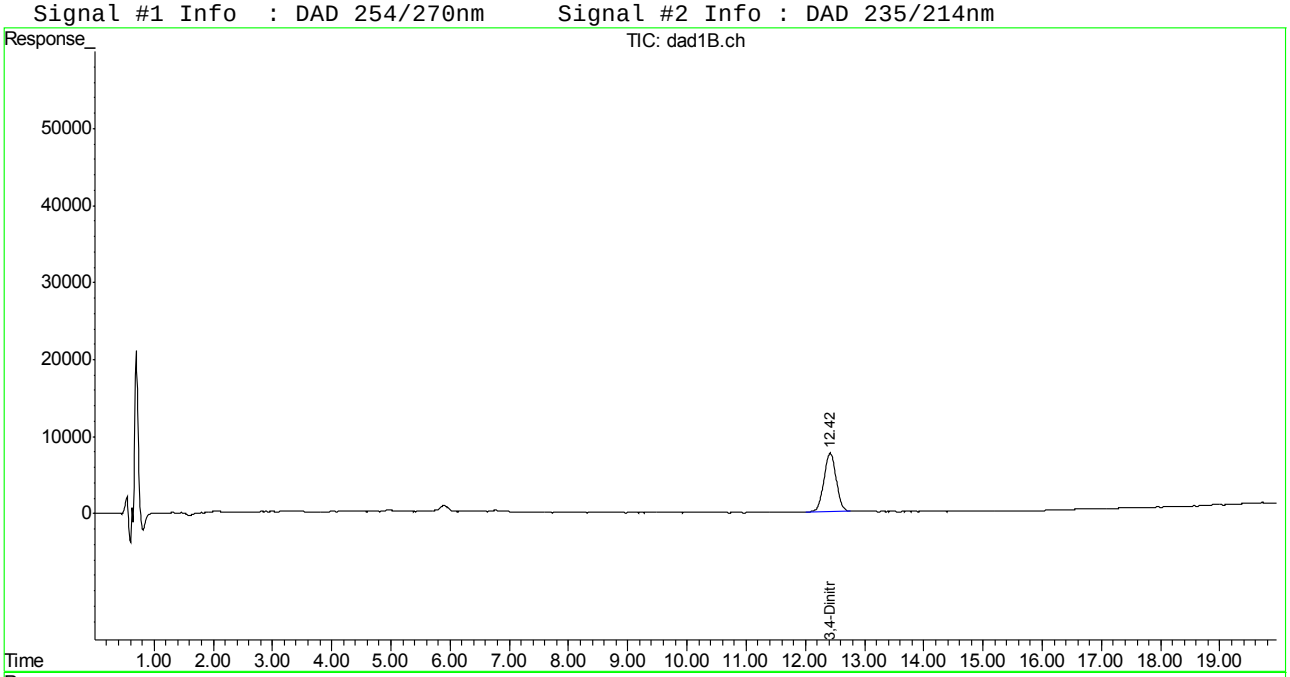
SGS ACCUTEST FA35383

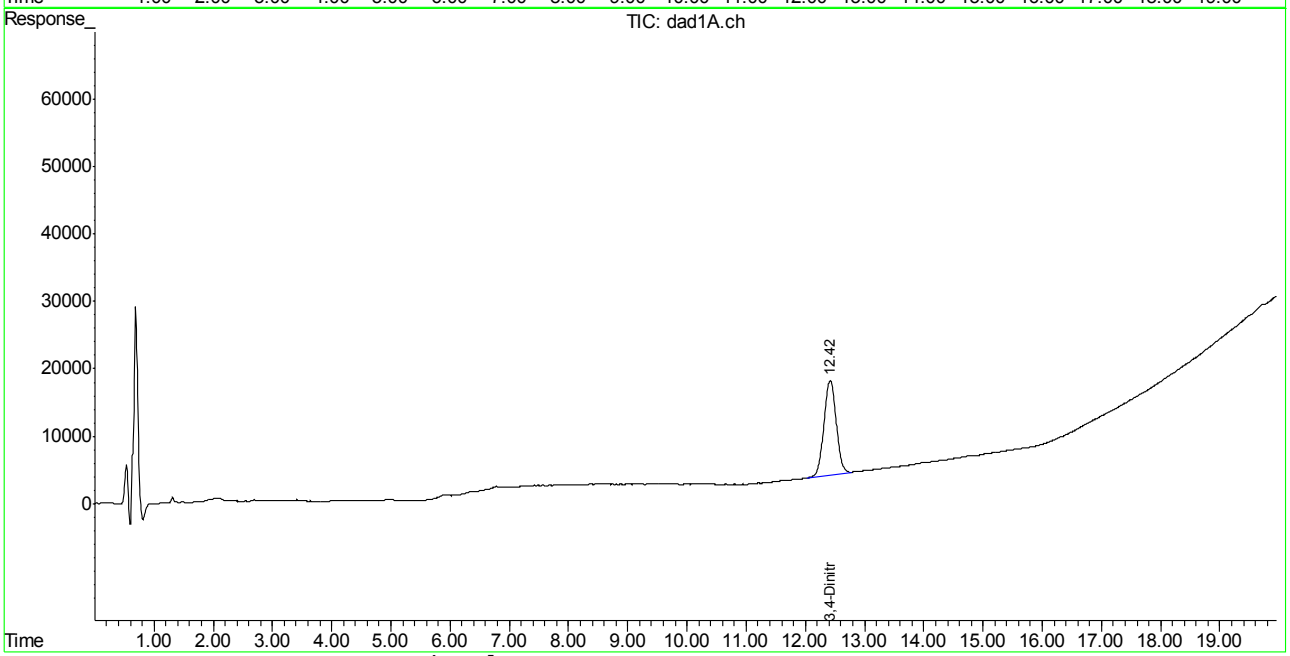
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0721BPL\BB052012.D\dad1B.ch Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0721BPL\BB052012.D\dad1A.ch
Acq On : 21-Jul-2016, 15:56:36 Operator: kismetl
Sample : op61122-mb Inst : G1315B
Misc : op61122,GBB1482,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 22 7:56 2016 Quant Results File: 8330B_0720.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0720.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jul 22 07:29:12 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA35383

Manual Integration Approval Summary

Sample Number: OP61122-MB
Lab FileID: BB052012.D
Injection Time: 07/21/16 15:56
Method: SW846 8330B
Analyst approved: 07/22/16 08:37 Kismet Lugo
Supervisor approved: 07/25/16 11:57 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
3,4-Dinitrotoluene	610-39-9	2	12.42	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/25/16 11:58

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0721RPB3\GG059715.D\dad1B.ch Vial: 11
Signal #2 : G:\DATA\0721RPB3\GG059715.D\dad1A.ch
Acq On : 21-Jul-2016, 16:00:56 Operator: kismetl
Sample : op61122-mb Inst : G1315B
Misc : OP61122,GGG2442,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 22 09:04:42 2016 Quant Results File: 8330RPB.M_0721.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0721.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jul 22 08:50:47 2016
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	19.39	19.39	2508152	4868331	524.123	514.229m
	Spiked Amount 500.000	Range 70 - 136		Recovery =		104.82%	102.85%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D.	N.D.
2)	HMX	0.00	0.00	0	0	N.D.	N.D.
3)	DNX	0.00	0.00	0	0	N.D.	N.D.
4)	MNX	0.00	0.00	0	0	N.D.	N.D.
5)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D.	N.D.
6)	RDX	0.00	0.00	0	0	N.D.	N.D.
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D.	N.D.
8)	Nitrobenzene	0.00	0.00	0	0	N.D.	N.D.
9)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D.	N.D.
10)	Nitroglycerin	0.00	0.00	0	0	N.D.	N.D.
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
13)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
14)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
15)	o-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
16)	3,5-Dinitroanili	0.00	0.00	0	0	N.D.	N.D.
17)	p-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
18)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D.	N.D.
19)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

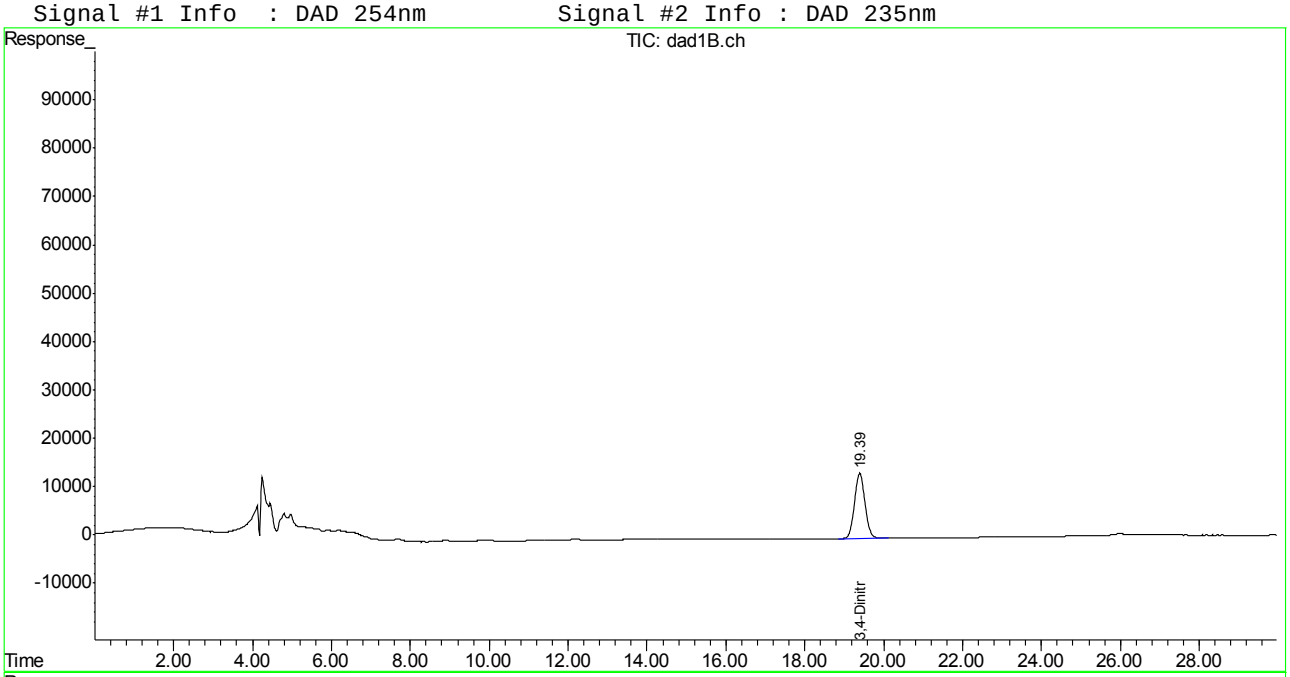
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG059715.D 8330RPB.M_0721.M Fri Jul 22 10:05:52 2016 Page 1

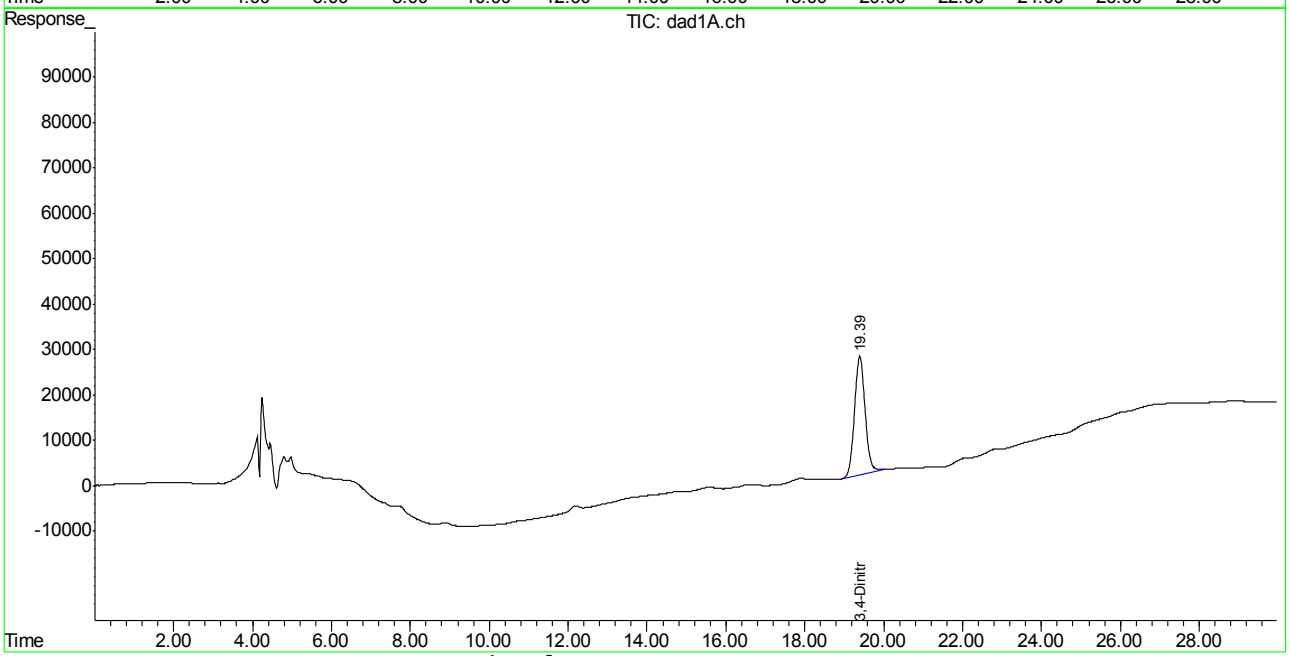
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0721RPB3\GG059715.D\dad1B.ch Vial: 11
Signal #2 : G:\DATA\0721RPB3\GG059715.D\dad1A.ch
Acq On : 21-Jul-2016, 16:00:56 Operator: kismetl
Sample : op61122-mb Inst : G1315B
Misc : OP61122,GGG2442,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 22 9:20 2016 Quant Results File: 8330RPB.M_0721.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0721.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jul 22 08:50:47 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





SGS ACCUTEST FA35383

Manual Integration Approval Summary

Sample Number: OP61122-MB
Lab FileID: GG059715.D
Injection Time: 07/21/16 16:00

Method: SW846 8330B
Analyst approved: 07/22/16 10:58 Kismet Lugo
Supervisor approved: 07/25/16 11:58 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
3,4-Dinitrotoluene	610-39-9	2	19.39	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/25/16 11:57

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0720BPL\BB051985.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0720BPL\BB051985.D\dad1A.ch
Acq On : 20-Jul-2016, 14:38:17 Operator: kismetl
Sample : op61122-bs Inst : G1315B
Misc : op61122,GBB1481,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 21 07:51:23 2016 Quant Results File: 8330B_0720.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0720.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 20 13:37:57 2016
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	12.13	12.13	1185759	2020376	489.966	502.258
	Spiked Amount 500.000	Range 70 - 136		Recovery =		97.99%	100.45%
	Target Compounds						
1)	TNX	1.53	1.53	1725034	2715373	513.243m	489.351m
2)	HMX	1.68	1.68	1071889	2990380	665.103m	679.077m
3)	DNX	1.97	1.97	1725337	2701841	542.869	528.109m
4)	MNX	2.65	2.64	1468800	2171982	563.080	536.395m
5)	RDX	3.34	3.33	1183292	1900326	604.900	619.022m
6)	1,3,5-Trinitrobe	5.28	5.28	2572215	4937888	613.186	620.109
7)	1,3-Dinitrobenze	6.58	6.58	3169968	2275811	568.128	577.117m
8)	3,5-Dinitroanili	6.98	6.98	2550567	4374238	543.572	541.896m
9)	Nitrobenzene	8.27	8.26	1740911	1664140	519.268	518.591m
10)	Nitroglycerin	0.00	10.03	0	38264170	N.D. d	28901.049m
11)	Tetryl	10.38	10.33	1713035	1885277	591.912	397.274m
12)	2,4,6-Trinitroto	10.85	10.85	2007578	2363325	527.609	576.162
13)	2-Amino-4,6-Dini	11.23	11.24	2143161	3178871	613.037	644.648
14)	4-Amino-2,6-Dini	11.78	11.78	1600194	3186917	605.091	659.448
16)	2,4-Dinitrotolue	12.81	12.81	2853563	1822981	563.674	573.342
17)	2,6-Dinitrotolue	13.28	13.28	1628547	2120975	568.638	574.326
18)	o-Nitrotoluene	16.36	16.36	1055965	1358952	420.602	454.570m
19)	p-Nitrotoluene	16.92	16.93	1658841	1265036	434.156	438.464
20)	m-Nitrotoluene	17.69	17.69	1466882	1717887	404.724	423.988m
21)	PETN	0.00	19.61	0	3962652	N.D. d	2709.993m

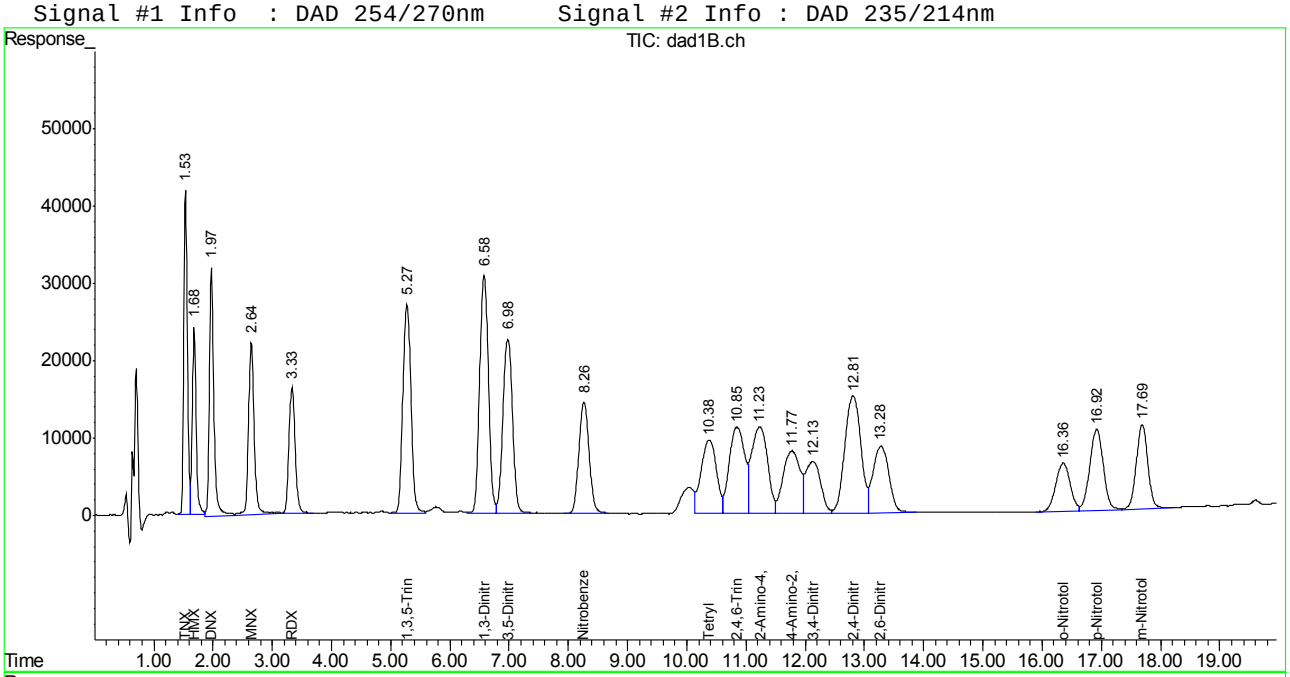
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB051985.D 8330B_0720.M Thu Jul 21 08:56:15 2016 Page 1

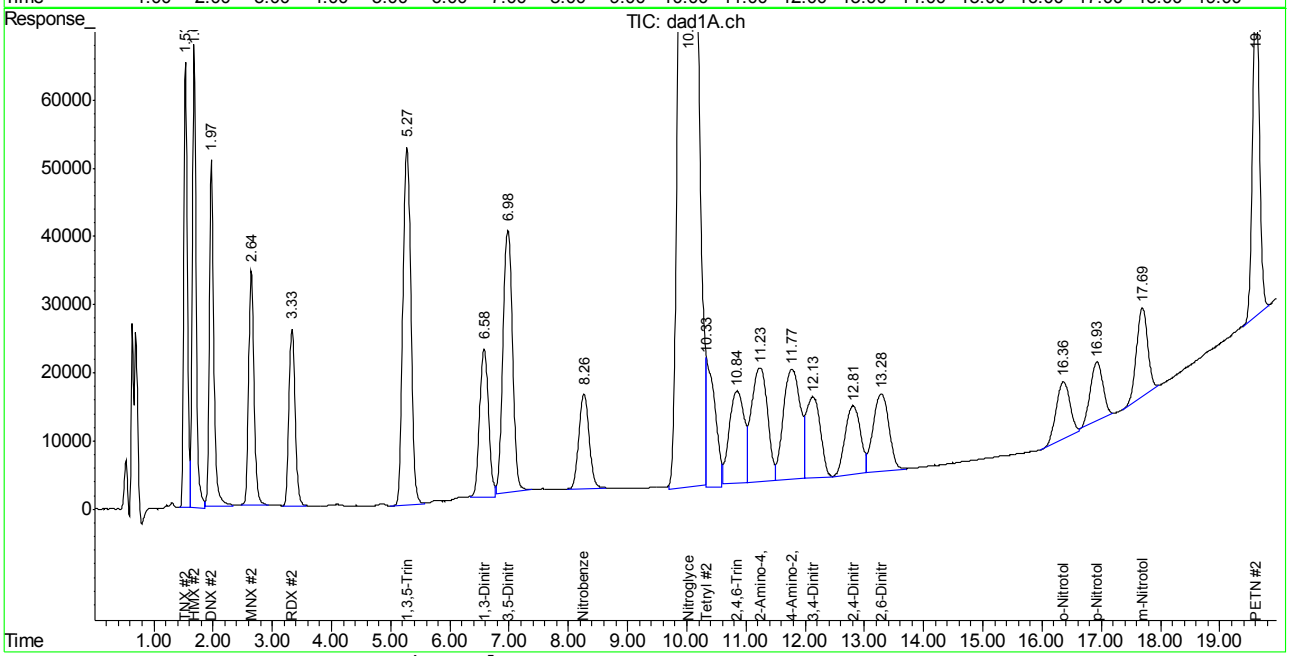
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0720BPL\BB051985.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0720BPL\BB051985.D\dad1A.ch
Acq On : 20-Jul-2016, 14:38:17 Operator: kismetl
Sample : op61122-bs Inst : G1315B
Misc : op61122,GBB1481,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 21 8:51 2016 Quant Results File: 8330B_0720.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0720.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 20 13:37:57 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA35383

Manual Integration Approval Summary

Sample Number: OP61122-BS
Lab FileID: BB051985.D
Injection Time: 07/20/16 14:38
Method: SW846 8330B
Analyst approved: 07/21/16 09:00 Kismet Lugo
Supervisor approved: 07/25/16 11:57 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	1.53	Poor instrument integration
TNX		2	1.53	Poor instrument integration
HMX	2691-41-0	1	1.68	Poor instrument integration
HMX	2691-41-0	2	1.68	Poor instrument integration
DNX		2	1.97	Poor instrument integration
MNX		2	2.64	Poor instrument integration
RDX	121-82-4	2	3.33	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	6.58	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	6.98	Poor instrument integration
Nitrobenzene	98-95-3	2	8.26	Poor instrument integration
Nitroglycerine	55-63-0	2	10.03	Overlapping peak
Tetryl	479-45-8	2	10.33	Overlapping peak
o-Nitrotoluene	88-72-2	2	16.36	Poor instrument integration
m-Nitrotoluene	99-08-1	2	17.69	Poor instrument integration
PETN	78-11-5	2	19.61	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/25/16 11:57

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0720BPL\BB051986.D\dad1B.ch Vial: 12
Signal #2 : C:\HPCHEM\1\DATA\0720BPL\BB051986.D\dad1A.ch
Acq On : 20-Jul-2016, 15:05:14 Operator: kismetl
Sample : op61122-bs,10 Inst : G1315B
Misc : op61122,GBB1481,1000,,,10,10,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 21 07:51:24 2016 Quant Results File: 8330B_0720.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0720.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 20 13:37:57 2016
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	12.26	12.26	133219	216957	55.047	53.935
Spiked Amount	500.000	Range	70 - 136	Recovery	=	11.01%#	10.79%#
	Target Compounds						
1)	TNX	1.55	1.55	148696	261891	44.241m	47.197m
2)	HMX	1.70	1.70	98722	263052	61.257m	60.750m
3)	DNX	1.99	1.99	163401	261918	51.413m	51.195m
4)	MNX	2.67	2.67	137836	217275	52.841m	53.658m
5)	RDX	3.37	3.37	114393	198971	58.478m	64.814
6)	1,3,5-Trinitrobe	5.33	5.33	259176	491382	61.785	61.709
7)	1,3-Dinitrobenze	6.64	6.64	323937	234534	58.057	59.475m
8)	3,5-Dinitroanili	7.05	7.04	256561	419626	54.678	51.985m
9)	Nitrobenzene	8.33	8.32	172335	173821	51.403	54.167m
10)	Nitroglycerin	0.00	10.17	0	3747620	N.D. d	2830.589
11)	Tetryl	10.51	10.50	160772	220585	55.552	46.483
12)	2,4,6-Trinitroto	10.97	10.96	190189	194320	49.983	47.374
13)	2-Amino-4,6-Dini	11.35	11.35	222143	288088	63.543	60.195
14)	4-Amino-2,6-Dini	11.88	11.89	152481	286452	57.659	59.274
16)	2,4-Dinitrotolue	12.93	12.94	280249	173143	55.359	54.455
17)	2,6-Dinitrotolue	13.40	13.40	163153	209829	56.968	56.818
18)	o-Nitrotoluene	16.43	16.47	121885	132645	48.548	44.370m
19)	p-Nitrotoluene	16.98	17.03	169300	123063	44.309m	42.654m
20)	m-Nitrotoluene	17.73	17.75	144492	152945	39.866m	37.748m
21)	PETN	0.00	19.63	0	392615	N.D. d	268.503m

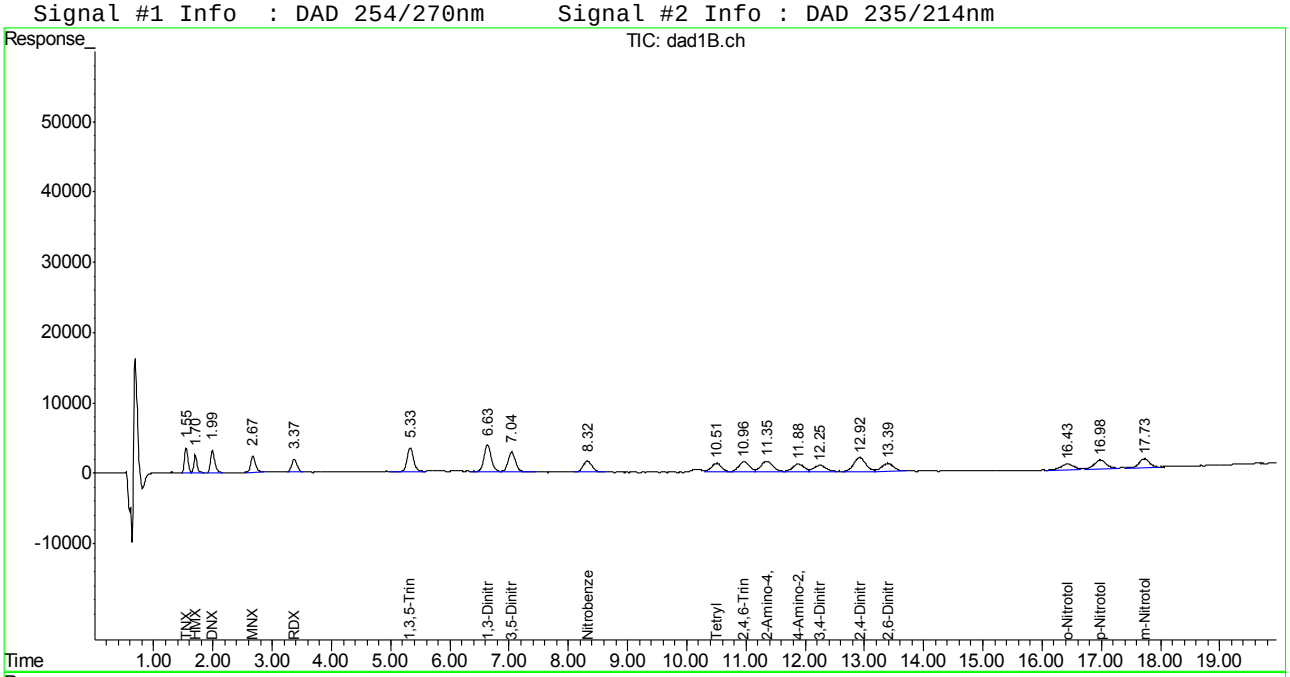
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB051986.D 8330B_0720.M Thu Jul 21 08:35:30 2016 Page 1

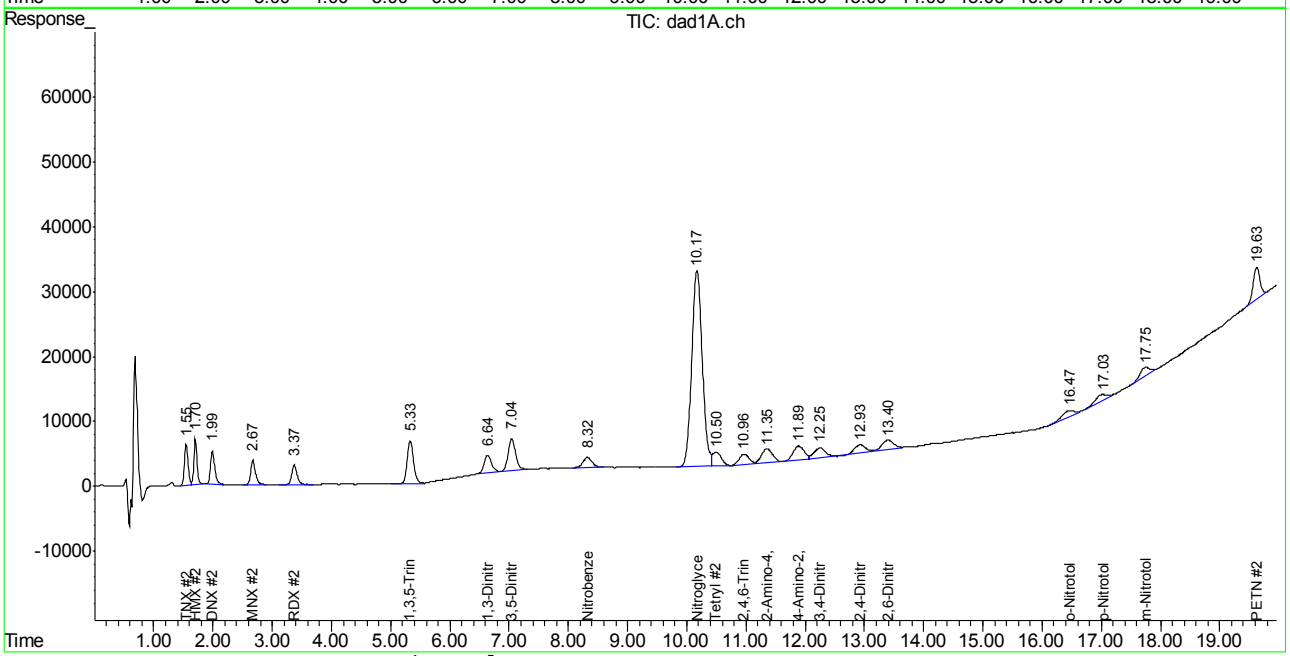
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0720BPL\BB051986.D\dad1B.ch Vial: 12
Signal #2 : C:\HPCHEM\1\DATA\0720BPL\BB051986.D\dad1A.ch
Acq On : 20-Jul-2016, 15:05:14 Operator: kismetl
Sample : op61122-bs,10 Inst : G1315B
Misc : op61122,GBB1481,1000,,,10,10,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 21 8:09 2016 Quant Results File: 8330B_0720.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0720.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 20 13:37:57 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA35383

Manual Integration Approval Summary

Sample Number: OP61122-BS
Lab FileID: BB051986.D
Injection Time: 07/20/16 15:05
Method: SW846 8330B
Analyst approved: 07/21/16 09:28 Kismet Lugo
Supervisor approved: 07/25/16 11:57 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	1.55	Poor instrument integration
TNX		2	1.55	Poor instrument integration
HMX	2691-41-0	1	1.70	Poor instrument integration
HMX	2691-41-0	2	1.70	Poor instrument integration
DNX		1	1.99	Poor instrument integration
DNX		2	1.99	Poor instrument integration
MNX		1	2.67	Poor instrument integration
MNX		2	2.67	Poor instrument integration
RDX	121-82-4	1	3.37	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	6.64	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	7.04	Poor instrument integration
Nitrobenzene	98-95-3	2	8.32	Poor instrument integration
o-Nitrotoluene	88-72-2	2	16.47	Poor instrument integration
p-Nitrotoluene	99-99-0	1	16.98	Poor instrument integration
p-Nitrotoluene	99-99-0	2	17.03	Poor instrument integration
m-Nitrotoluene	99-08-1	1	17.73	Poor instrument integration
m-Nitrotoluene	99-08-1	2	17.75	Poor instrument integration
PETN	78-11-5	2	19.63	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/25/16 11:57

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0721BPL\BB052010.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0721BPL\BB052010.D\dad1A.ch
Acq On : 21-Jul-2016, 15:02:41 Operator: kismetl
Sample : op61122-bs Inst : G1315B
Misc : op61122,GBB1482,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 22 07:29:27 2016 Quant Results File: 8330B_0720.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0720.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jul 22 07:29:12 2016
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	12.40	12.40	1168021	2084501	482.636	518.199
	Spiked Amount 500.000	Range 70 - 136		Recovery =		96.53%	103.64%
	Target Compounds						
1)	TNX	1.56	1.56	1631138	2567870	485.306m	462.768m
2)	HMX	1.72	1.72	1003300	2800259	622.544m	636.633m
3)	DNX	2.02	2.02	1542726	2428062	485.412m	474.596m
4)	MNX	2.71	2.71	1340783	2096219	514.003m	517.684m
5)	RDX	3.41	3.41	1154631	1814120	590.248	590.940
6)	1,3,5-Trinitrobe	5.39	5.39	2436278	4720288	580.780	592.782
7)	1,3-Dinitrobenze	6.71	6.71	3008418	2099617	539.175	532.437m
8)	3,5-Dinitroanili	7.12	7.11	2420444	4137210	515.840	512.532m
9)	Nitrobenzene	8.42	8.42	1784190	1706645	532.177	531.836m
10)	Nitroglycerin	0.00	10.25	0	35939474	N.D.	27145.198 #
11)	Tetryl	10.63	10.63	1607496	2391771	555.445	504.004
12)	2,4,6-Trinitroto	11.11	11.11	1922025	2299036	505.125	560.488
13)	2-Amino-4,6-Dini	11.49	11.49	2045299	3061125	585.044	621.496
14)	4-Amino-2,6-Dini	12.04	12.03	1482015	2987149	560.404	618.111
16)	2,4-Dinitrotolue	13.07	13.07	2697158	1810331	532.778	569.363
17)	2,6-Dinitrotolue	13.55	13.55	1535129	2010318	536.020	544.362
18)	o-Nitrotoluene	16.60	16.60	1106390	1414476	440.687	473.143m
19)	p-Nitrotoluene	17.14	17.15	1658026	1314116	433.943	455.475
20)	m-Nitrotoluene	17.88	17.88	1482634	1678733	409.070	414.324
21)	PETN	0.00	19.74	0	3872394	N.D. d	2648.267m

Page 1745

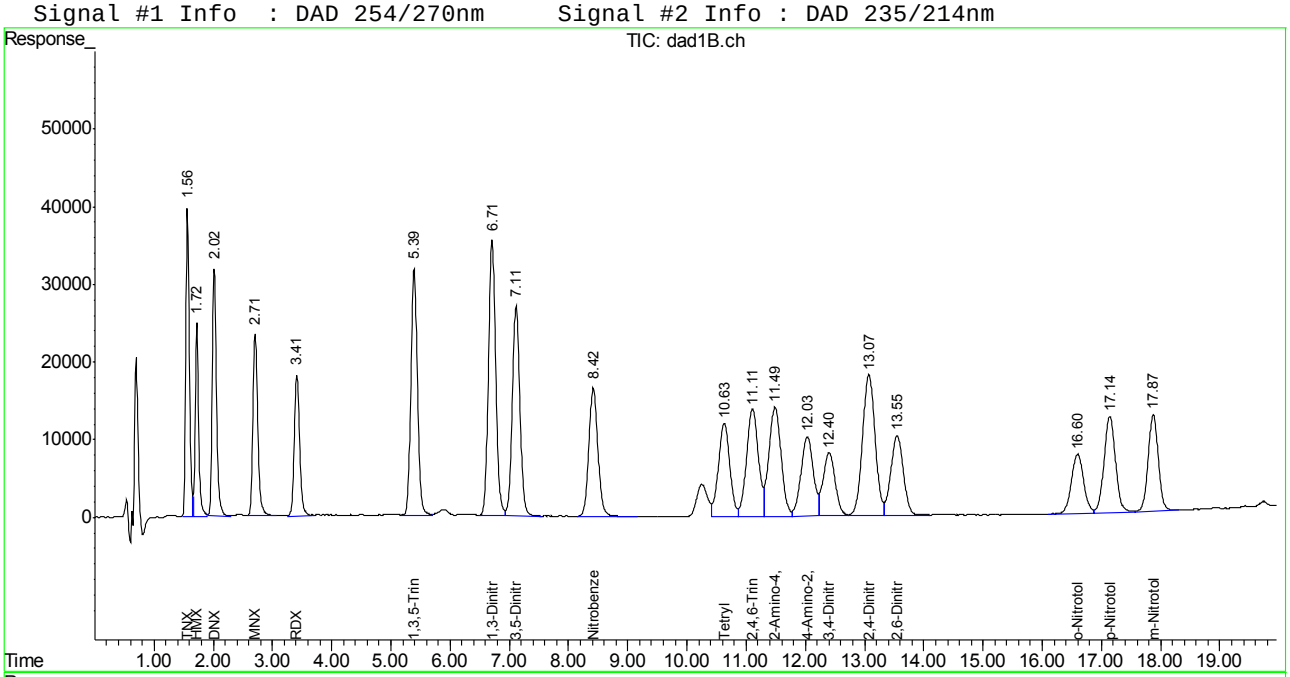
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB052010.D 8330B_0720.M Fri Jul 22 08:18:40 2016 Page 1

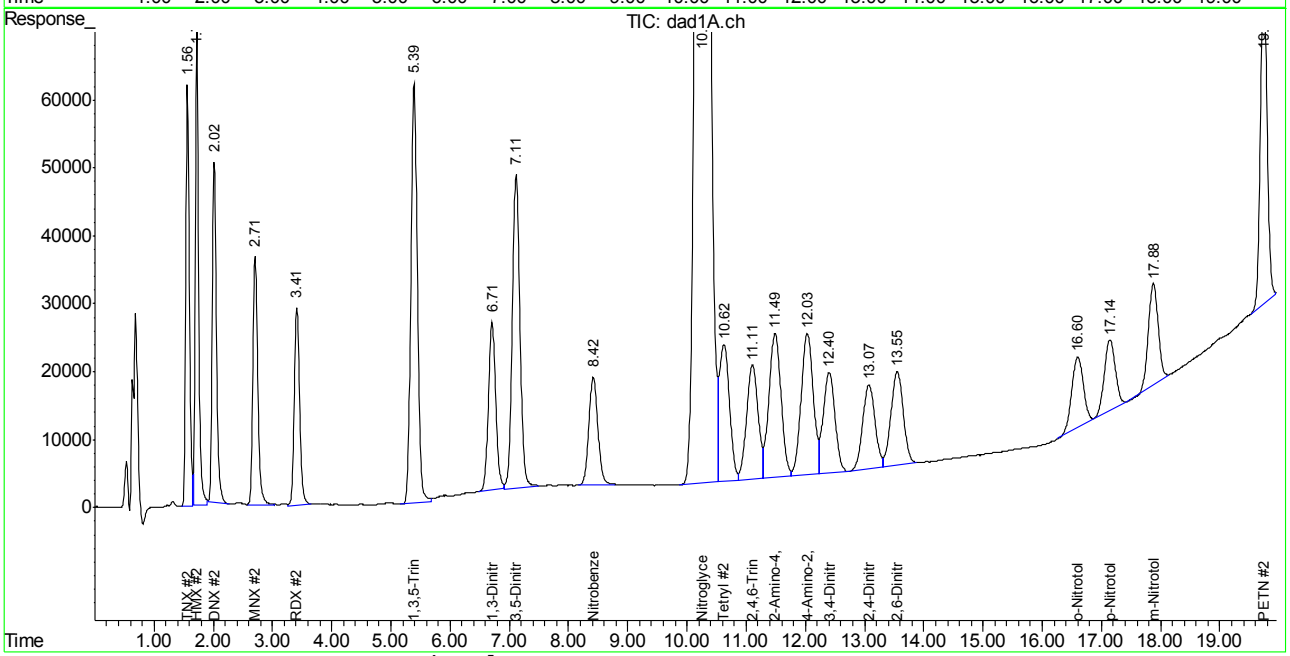
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0721BPL\BB052010.D\dad1B.ch Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0721BPL\BB052010.D\dad1A.ch
Acq On : 21-Jul-2016, 15:02:41 Operator: kismetl
Sample : op61122-bs Inst : G1315B
Misc : op61122,GBB1482,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 22 7:53 2016 Quant Results File: 8330B_0720.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0720.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jul 22 07:29:12 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA35383

Manual Integration Approval Summary

Sample Number: OP61122-BS
Lab FileID: BB052010.D
Injection Time: 07/21/16 15:02
Method: SW846 8330B
Analyst approved: 07/22/16 08:37 Kismet Lugo
Supervisor approved: 07/25/16 11:57 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	1.56	Poor instrument integration
TNX		2	1.56	Poor instrument integration
HMX	2691-41-0	1	1.72	Poor instrument integration
HMX	2691-41-0	2	1.72	Poor instrument integration
DNX		1	2.02	Poor instrument integration
DNX		2	2.02	Poor instrument integration
MNX		1	2.71	Poor instrument integration
MNX		2	2.71	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	6.71	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	7.11	Poor instrument integration
Nitrobenzene	98-95-3	2	8.42	Poor instrument integration
o-Nitrotoluene	88-72-2	2	16.60	Missed peak
PETN	78-11-5	2	19.74	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/25/16 11:57

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0721BPL\BB052011.D\dad1B.ch Vial: 12
Signal #2 : C:\HPCHEM\1\DATA\0721BPL\BB052011.D\dad1A.ch
Acq On : 21-Jul-2016, 15:29:37 Operator: kismetl
Sample : op61122-bs,10 Inst : G1315B
Misc : op61122,GBB1482,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 22 07:29:28 2016 Quant Results File: 8330B_0720.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0720.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jul 22 07:29:12 2016
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	12.44	12.45	125756	201956	51.963	50.205
	Spiked Amount 500.000	Range 70 - 136		Recovery =		10.39%#	10.04%#
	Target Compounds						
1)	TNX	1.57	1.56	134263	255282	39.947	46.006m
2)	HMX	1.73	1.73	89193	239915	55.344	55.415m
3)	DNX	2.02	2.02	154654	248462	48.661	48.565m
4)	MNX	2.71	2.71	140340	203949	53.801	50.367m
5)	RDX	3.42	3.42	116340	176754	59.473	57.577m
6)	1,3,5-Trinitrobe	5.41	5.41	235923	437721	56.241	54.970m
7)	1,3-Dinitrobenze	6.73	6.73	297284	223666	53.280	56.719m
8)	3,5-Dinitroanili	7.14	7.14	241030	393587	51.368	48.759m
9)	Nitrobenzene	8.44	8.44	189211	167609	56.437	52.232m
10)	Nitroglycerin	0.00	10.33	0	3532610	N.D. d	2668.192
11)	Tetryl	10.67	10.67	152897	222772	52.831	46.943
12)	2,4,6-Trinitroto	11.16	11.15	184017	185409	48.361	45.201
13)	2-Amino-4,6-Dini	11.53	11.54	212672	271650	60.833	56.771
14)	4-Amino-2,6-Dini	12.08	12.09	151497	267157	57.286	55.281
16)	2,4-Dinitrotolue	13.12	13.13	270190	162133	53.371	50.992
17)	2,6-Dinitrotolue	13.59	13.60	138803	193456	48.466	52.385
18)	o-Nitrotoluene	16.62	16.65	113845	127424	45.346m	42.623m
19)	p-Nitrotoluene	17.16	17.21	164169	122358	42.967m	42.410m
20)	m-Nitrotoluene	17.89	17.91	143564	168748	39.610m	41.648m
21)	PETN	0.00	19.76	0	368455	N.D. d	251.980m

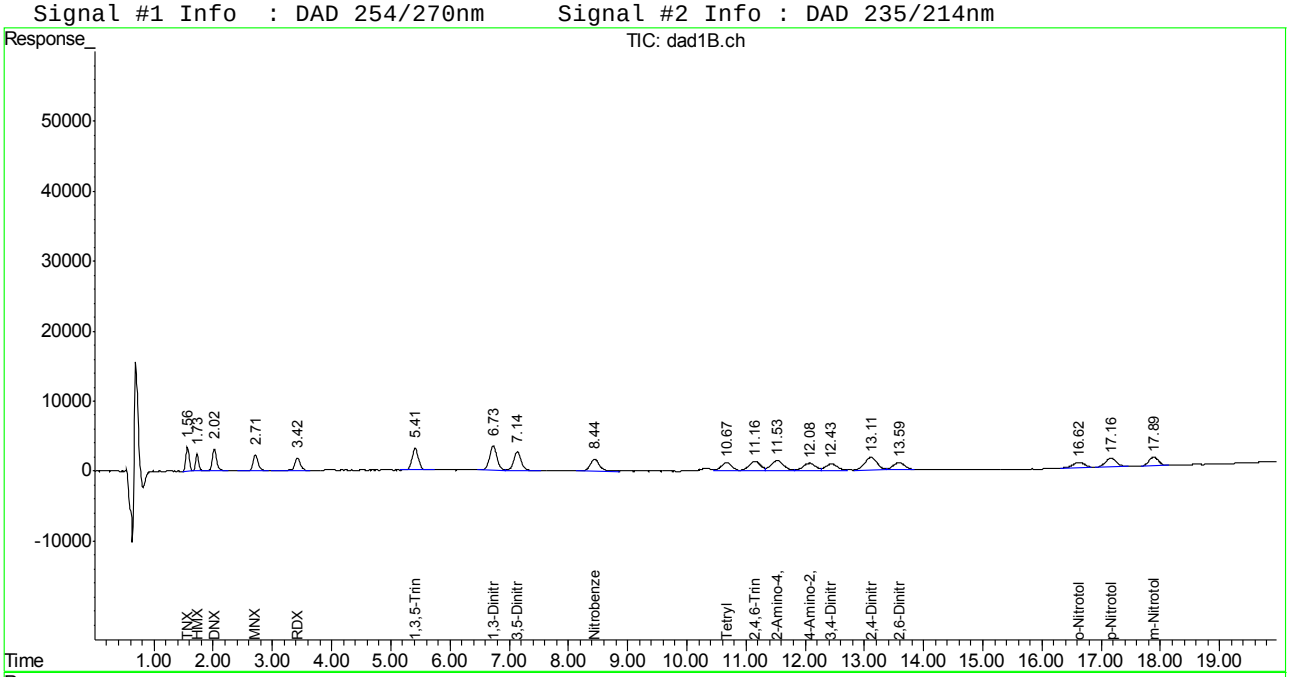
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB052011.D 8330B_0720.M Fri Jul 22 08:18:41 2016 Page 1

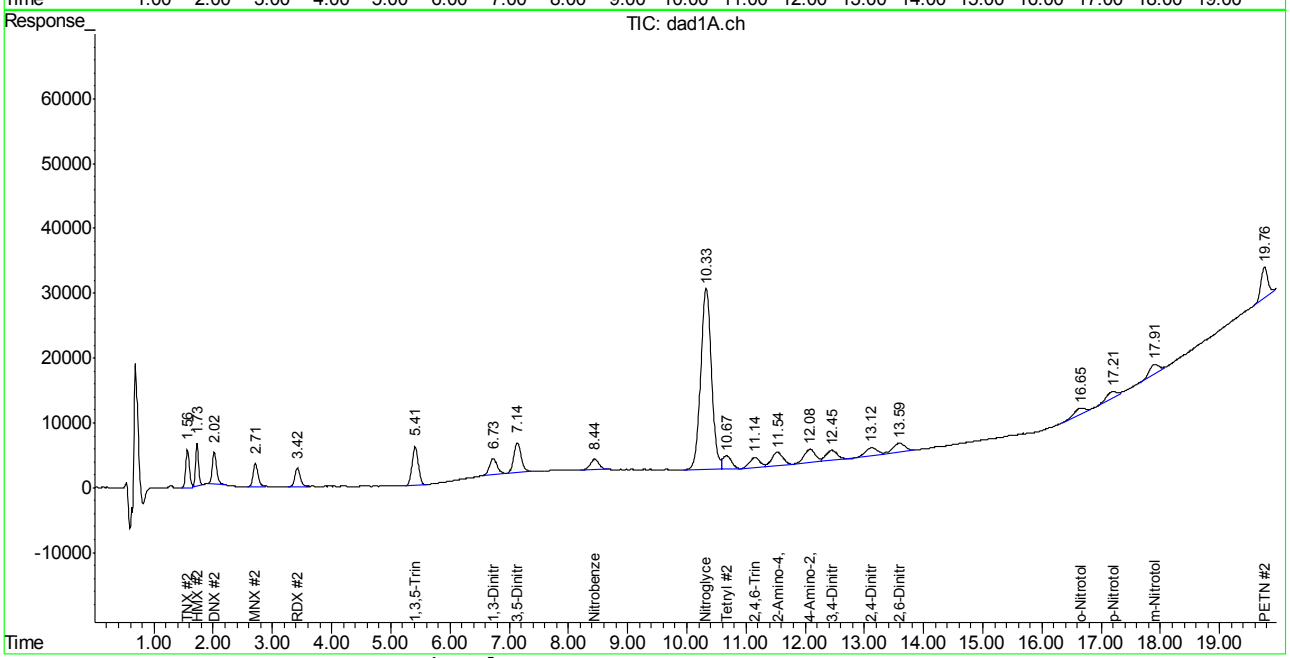
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0721BPL\BB052011.D\dad1B.ch Vial: 12
Signal #2 : C:\HPCHEM\1\DATA\0721BPL\BB052011.D\dad1A.ch
Acq On : 21-Jul-2016, 15:29:37 Operator: kismetl
Sample : op61122-bs,10 Inst : G1315B
Misc : op61122,GBB1482,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 22 7:55 2016 Quant Results File: 8330B_0720.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0720.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jul 22 07:29:12 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA35383

Manual Integration Approval Summary

Sample Number: OP61122-BS
Lab FileID: BB052011.D
Injection Time: 07/21/16 15:29
Method: SW846 8330B
Analyst approved: 07/22/16 08:37 Kismet Lugo
Supervisor approved: 07/25/16 11:57 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		2	1.56	Poor instrument integration
HMX	2691-41-0	2	1.73	Poor instrument integration
DNX		2	2.02	Poor instrument integration
MNX		2	2.71	Poor instrument integration
RDX	121-82-4	2	3.42	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	2	5.41	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	6.73	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	7.14	Poor instrument integration
Nitrobenzene	98-95-3	2	8.44	Poor instrument integration
o-Nitrotoluene	88-72-2	1	16.62	Poor instrument integration
o-Nitrotoluene	88-72-2	2	16.65	Poor instrument integration
p-Nitrotoluene	99-99-0	1	17.16	Poor instrument integration
p-Nitrotoluene	99-99-0	2	17.21	Poor instrument integration
m-Nitrotoluene	99-08-1	1	17.89	Poor instrument integration
m-Nitrotoluene	99-08-1	2	17.91	Poor instrument integration
PETN	78-11-5	2	19.76	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/25/16 11:57

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0721BPL\BB052014.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\0721BPL\BB052014.D\dad1A.ch
Acq On : 21-Jul-2016, 16:50:34 Operator: kismetl
Sample : op61122-ms,10 Inst : G1315B
Misc : op61122,GBB1482,500,,,10,10,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 22 07:29:31 2016 Quant Results File: 8330B_0720.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0720.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jul 22 07:29:12 2016
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
Spiked Amount	500.000	Range	70 - 136	Recovery	=	0.00%#	0.00%#
	Target Compounds						
1)	TNX	1.57	1.57	140473	260241	41.795m	46.899m
2)	HMX	1.74	1.74	262187	740683	162.686m	170.541m
3)	DNX	2.03	2.03	141083	241413	44.391m	47.187m
4)	MNX	2.72	2.73	114776	185495	44.001m	45.810
5)	RDX	3.43	3.43	107686	171295	55.049m	55.799m
6)	1,3,5-Trinitrobe	5.43	5.43	548843	1035937	130.838	130.095m
7)	1,3-Dinitrobenze	6.75	6.75	282422	210193	50.616m	53.302m
8)	3,5-Dinitroanili	7.16	7.16	223575	382168	47.648	47.344m
9)	Nitrobenzene	8.46	8.47	143436	140225	42.783m	43.698m
10)	Nitroglycerin	0.00	10.35	0	3594050	N.D. d	2714.597m
11)	Tetryl	10.71	10.70	140191	211036	48.441	44.470
12)	2,4,6-Trinitroto	11.18	11.18	319212	341750	83.892	83.316
13)	2-Amino-4,6-Dini	11.58	11.57	282193	387643	80.719	80.910
14)	4-Amino-2,6-Dini	12.11	12.12	173628	312803	65.655	64.726
16)	2,4-Dinitrotolue	13.14	13.15	247513	148618	48.892	46.742m
17)	2,6-Dinitrotolue	13.63	13.63	166734	170987	58.218	46.300m
18)	o-Nitrotoluene	16.65	16.69	100840	117120	40.166m	39.177m
19)	p-Nitrotoluene	17.20	17.24	166023	118890	43.452	41.208m
20)	m-Nitrotoluene	17.92	17.94	140016	139454	38.632	34.418m
21)	PETN	0.00	19.77	0	354397	N.D. d	242.366m

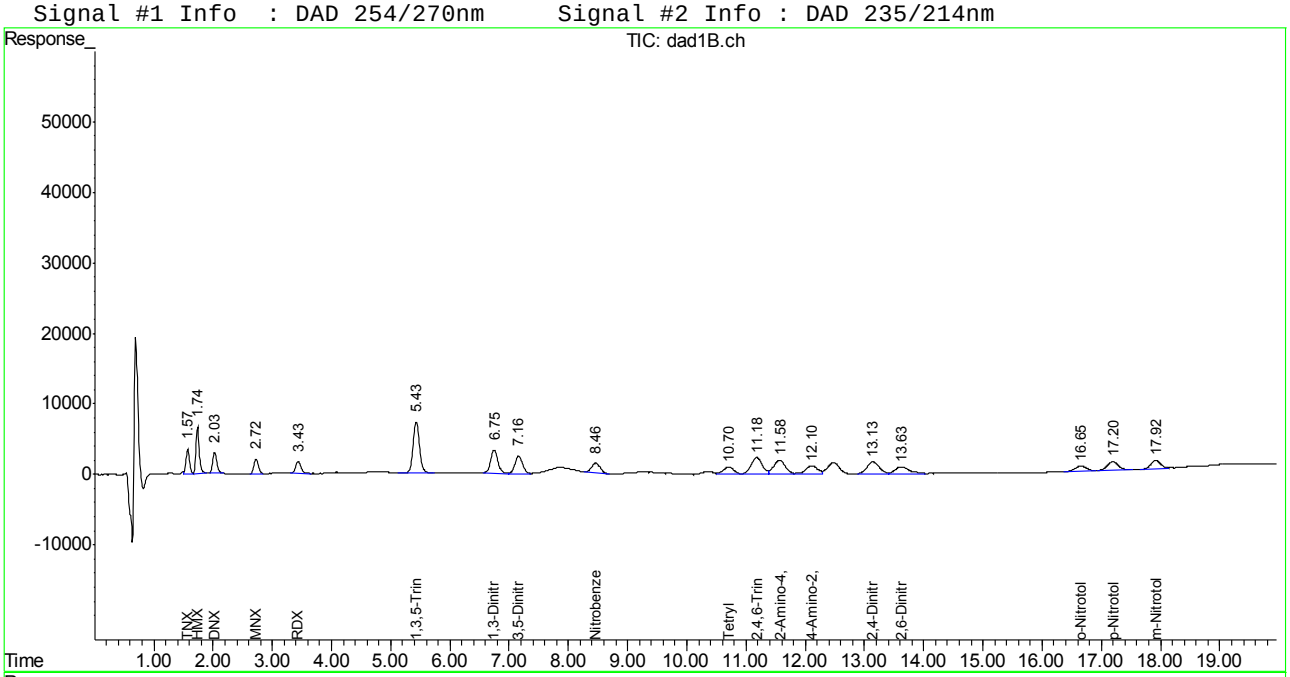
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB052014.D 8330B_0720.M Mon Jul 25 10:20:34 2016 Page 1

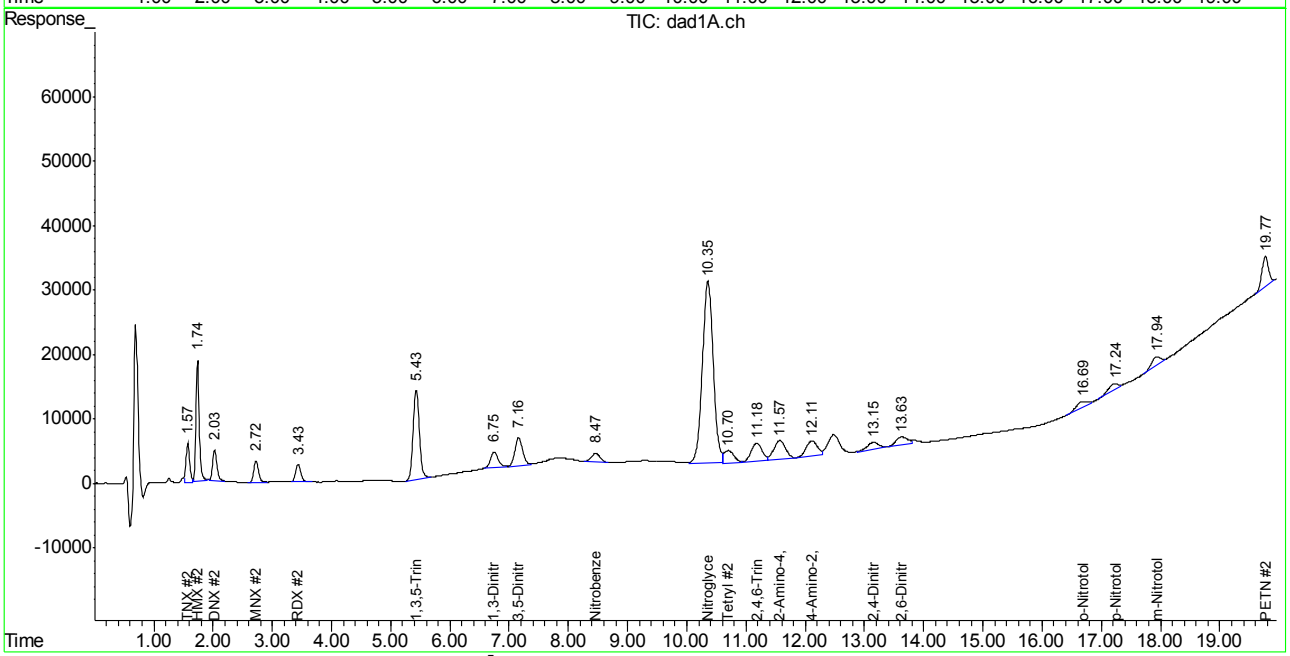
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0721BPL\BB052014.D\dad1B.ch Vial: 6
Signal #2 : C:\HPCHEM\1\DATA\0721BPL\BB052014.D\dad1A.ch
Acq On : 21-Jul-2016, 16:50:34 Operator: kismetl
Sample : op61122-ms,10 Inst : G1315B
Misc : op61122,GBB1482,500,,,10,10,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 25 10:20 2016 Quant Results File: 8330B_0720.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0720.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jul 22 07:29:12 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA35383

Manual Integration Approval Summary

Sample Number: OP61122-MS
Lab FileID: BB052014.D
Injection Time: 07/21/16 16:50
Method: SW846 8330B
Analyst approved: 07/25/16 10:21 Kismet Lugo
Supervisor approved: 07/25/16 11:57 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	1.57	Poor instrument integration
TNX		2	1.57	Poor instrument integration
HMX	2691-41-0	1	1.74	Poor instrument integration
HMX	2691-41-0	2	1.74	Poor instrument integration
DNX		1	2.03	Poor instrument integration
DNX		2	2.03	Poor instrument integration
MNX		1	2.72	Poor instrument integration
RDX	121-82-4	1	3.43	Poor instrument integration
RDX	121-82-4	2	3.43	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	2	5.43	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	1	6.75	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	6.75	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	7.16	Poor instrument integration
Nitrobenzene	98-95-3	1	8.46	Poor instrument integration
Nitrobenzene	98-95-3	2	8.47	Poor instrument integration
Nitroglycerine	55-63-0	2	10.35	Poor instrument integration
2,4-Dinitrotoluene	121-14-2	2	13.15	Poor instrument integration
2,6-Dinitrotoluene	606-20-2	2	13.63	Poor instrument integration
o-Nitrotoluene	88-72-2	1	16.65	Poor instrument integration
o-Nitrotoluene	88-72-2	2	16.69	Poor instrument integration
p-Nitrotoluene	99-99-0	2	17.24	Poor instrument integration
m-Nitrotoluene	99-08-1	2	17.94	Poor instrument integration
PETN	78-11-5	2	19.77	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/25/16 11:57

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0721BPL\BB052015.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\0721BPL\BB052015.D\dad1A.ch
Acq On : 21-Jul-2016, 17:17:32 Operator: kismetl
Sample : op61122-msd,10 Inst : G1315B
Misc : op61122,GBB1482,500,,,10,10,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 22 07:29:32 2016 Quant Results File: 8330B_0720.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0720.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jul 22 07:29:12 2016
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
Spiked Amount	500.000	Range	70 - 136	Recovery	=	0.00%#	0.00%#
	Target Compounds						
1)	TNX	1.57	1.57	149881	274628	44.593m	49.492m
2)	HMX	1.73	1.73	273694	750464	169.826m	172.783m
3)	DNX	2.02	2.02	153840	250511	48.405m	48.966m
4)	MNX	2.72	2.72	113276	185422	43.426m	45.792m
5)	RDX	3.43	3.43	113518	180044	58.031m	58.648m
6)	1,3,5-Trinitrobe	5.43	5.43	549107	1039298	130.901m	130.517m
7)	1,3-Dinitrobenze	6.75	6.75	287924	212737	51.602	53.948m
8)	3,5-Dinitroanili	7.16	7.16	221764	381074	47.262	47.209m
9)	Nitrobenzene	8.47	8.47	147176	145456	43.899m	45.328m
10)	Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D. d
11)	Tetryl	10.70	10.71	148904	205156	51.452	43.231
12)	2,4,6-Trinitroto	11.18	11.18	326780	330851	85.881	80.659
13)	2-Amino-4,6-Dini	11.57	11.58	292392	420942	83.637	87.829
14)	4-Amino-2,6-Dini	12.11	12.12	174077	311958	65.825	64.551
16)	2,4-Dinitrotolue	13.15	13.16	258794	175770	51.120	55.281
17)	2,6-Dinitrotolue	13.64	13.66	175502	230216	61.280	62.339
18)	o-Nitrotoluene	16.67	16.72	102098	121051	40.667m	40.492m
19)	p-Nitrotoluene	17.21	17.23	154354	88496	40.398m	30.673m
20)	m-Nitrotoluene	17.92	17.95	142095	149173	39.205m	36.817m
21)	PETN	0.00	19.77	0	3539809	N.D. d	2420.817m

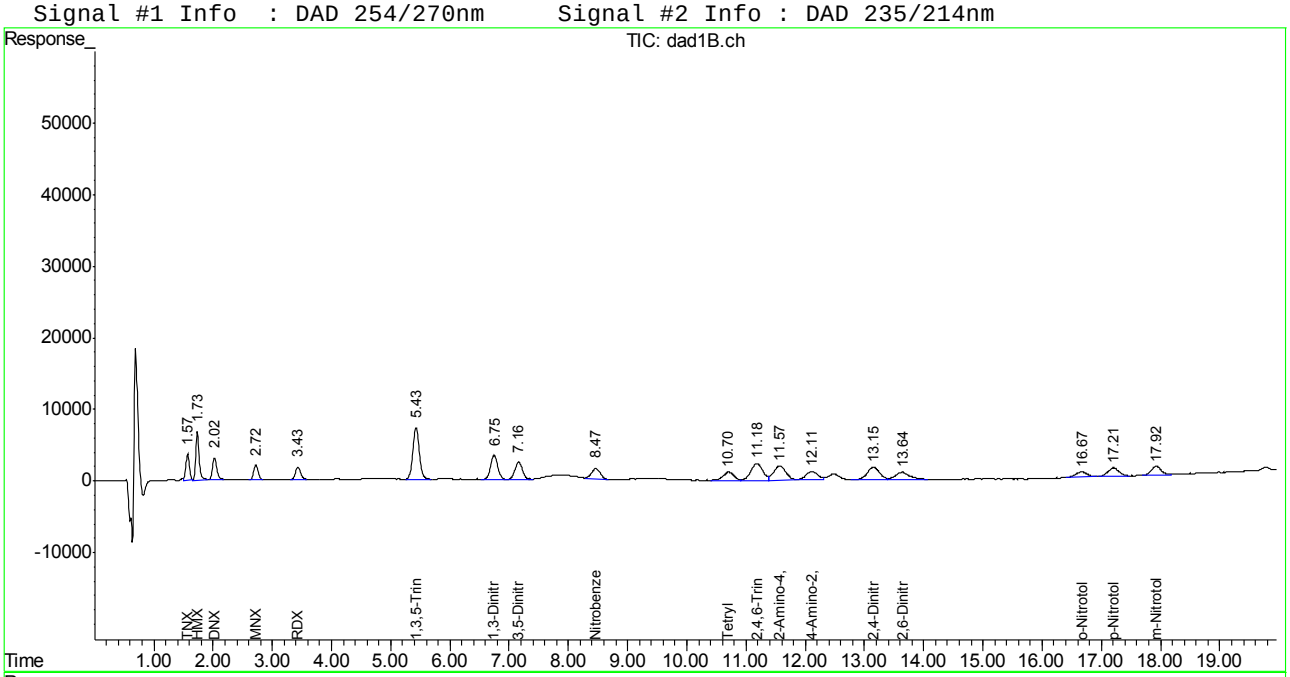
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB052015.D 8330B_0720.M Thu Jul 28 16:07:33 2016 Page 1

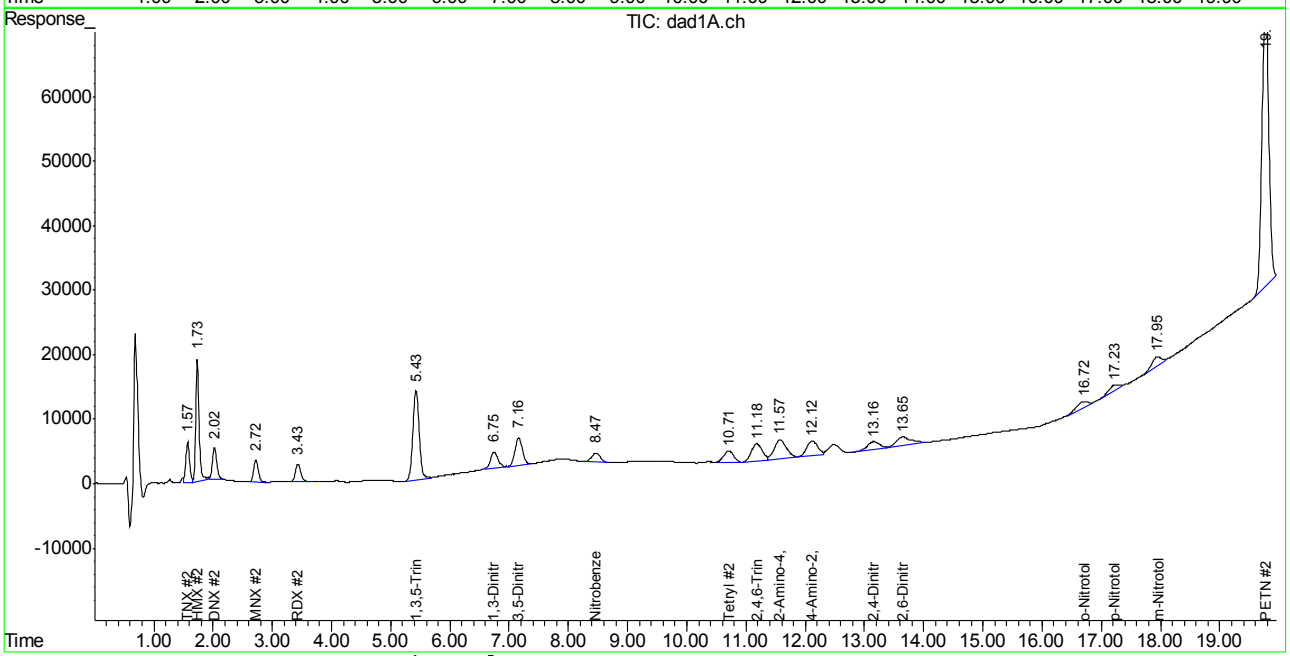
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0721BPL\BB052015.D\dad1B.ch Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\0721BPL\BB052015.D\dad1A.ch
Acq On : 21-Jul-2016, 17:17:32 Operator: kismetl
Sample : op61122-msd,10 Inst : G1315B
Misc : op61122,GBB1482,500,,,10,10,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 28 16:06 2016 Quant Results File: 8330B_0720.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0720.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jul 22 07:29:12 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA35383

Manual Integration Approval Summary

Sample Number: OP61122-MSD
Lab FileID: BB052015.D
Injection Time: 07/21/16 17:17
Method: SW846 8330B
Analyst approved: 07/25/16 10:21 Kismet Lugo
Supervisor approved: 07/25/16 11:57 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	1.57	Poor instrument integration
TNX		2	1.57	Poor instrument integration
HMX	2691-41-0	1	1.73	Overlapping peak
HMX	2691-41-0	2	1.73	Overlapping peak
DNX		1	2.02	Poor instrument integration
DNX		2	2.02	Poor instrument integration
MNX		1	2.72	Poor instrument integration
MNX		2	2.72	Poor instrument integration
RDX	121-82-4	1	3.43	Poor instrument integration
RDX	121-82-4	2	3.43	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	1	5.43	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	2	5.43	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	6.75	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	7.16	Poor instrument integration
Nitrobenzene	98-95-3	1	8.47	Poor instrument integration
Nitrobenzene	98-95-3	2	8.47	Poor instrument integration
o-Nitrotoluene	88-72-2	1	16.67	Poor instrument integration
o-Nitrotoluene	88-72-2	2	16.72	Missed peak
p-Nitrotoluene	99-99-0	1	17.21	Poor instrument integration
p-Nitrotoluene	99-99-0	2	17.23	Poor instrument integration
m-Nitrotoluene	99-08-1	1	17.92	Poor instrument integration
m-Nitrotoluene	99-08-1	2	17.95	Poor instrument integration
PETN	78-11-5	2	19.77	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/25/16 11:57

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0720BPL\BB051975.D\dad1B.ch Vial: 21
Signal #2 : C:\HPCHEM\1\DATA\0720BPL\BB051975.D\dad1A.ch
Acq On : 20-Jul-2016, 09:43:44 Operator: kismetl
Sample : ic1481-20 Inst : G1315B
Misc : op61122,GBB1481,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 20 11:59:19 2016 Quant Results File: 8330B_0719.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0719.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 20 11:59:04 2016
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	12.17	12.17	59144	80908	25.956	21.178
	Spiked Amount 500.000	Range 70 - 136		Recovery =		5.19%#	4.24%#
	Target Compounds						
1)	TNX	1.54	1.54	47414	96546	14.228m	17.443m
2)	HMX	1.69	1.69	29687	70941	38.997m	35.553m
3)	DNX	1.98	1.98	60521	93526	19.656m	18.568m
4)	MNX	2.66	2.66	53365	79442	20.269m	19.643m
5)	RDX	3.35	3.35	36782	59833	19.015m	19.356m
6)	1,3,5-Trinitrobe	5.31	5.31	91259	164599	22.126	20.552
7)	1,3-Dinitrobenze	6.60	6.60	118949	82934	20.840m	20.397m
8)	3,5-Dinitroanili	7.02	7.02	90699	165577	18.940	20.102m
9)	Nitrobenzene	8.28	8.28	73399	65200	22.974m	20.616m
10)	Nitroglycerin	0.00	10.12	0	132914	N.D.	101.371m#
11)	Tetryl	10.42	10.42	59530	93663	23.235	22.442m
12)	2,4,6-Trinitroto	10.90	10.90	73397	60490	18.332	13.733
13)	2-Amino-4,6-Dini	11.29	11.29	68595	69431	19.296	14.293
14)	4-Amino-2,6-Dini	11.79	11.80	64952	86491	24.888	17.500
16)	2,4-Dinitrotolue	12.83	12.86	107787	58807	21.517	17.814m
17)	2,6-Dinitrotolue	13.31	13.34	59228	73317	21.730	20.443m
18)	o-Nitrotoluene	16.31	16.36	54864	44902	22.028	14.918m
19)	p-Nitrotoluene	16.90	17.00	81577	51475	21.837m	18.239m
20)	m-Nitrotoluene	17.64	17.76	72732	81565	20.452m	20.812m
21)	PETN	0.00	19.58	0	123182	N.D. d	83.058m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB051975.D 8330B_0720.M Thu Jul 21 07:39:17 2016 Page 1

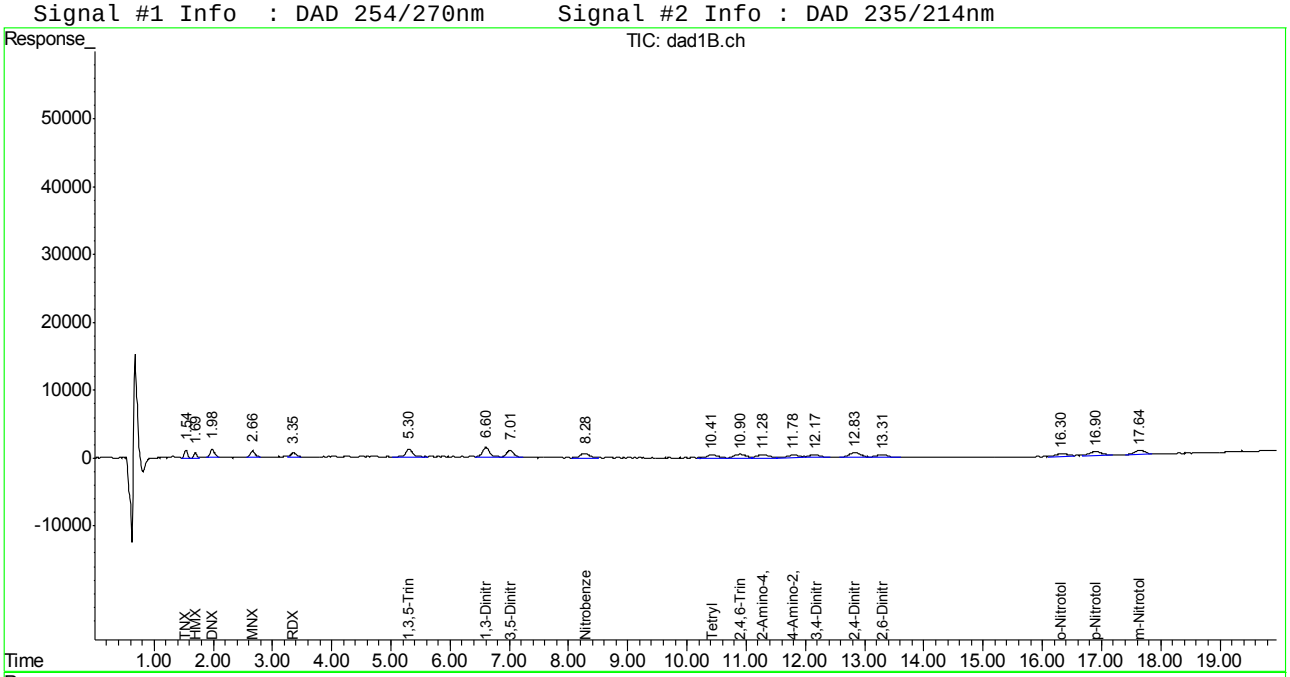
SGS ACCUTEST FA35383

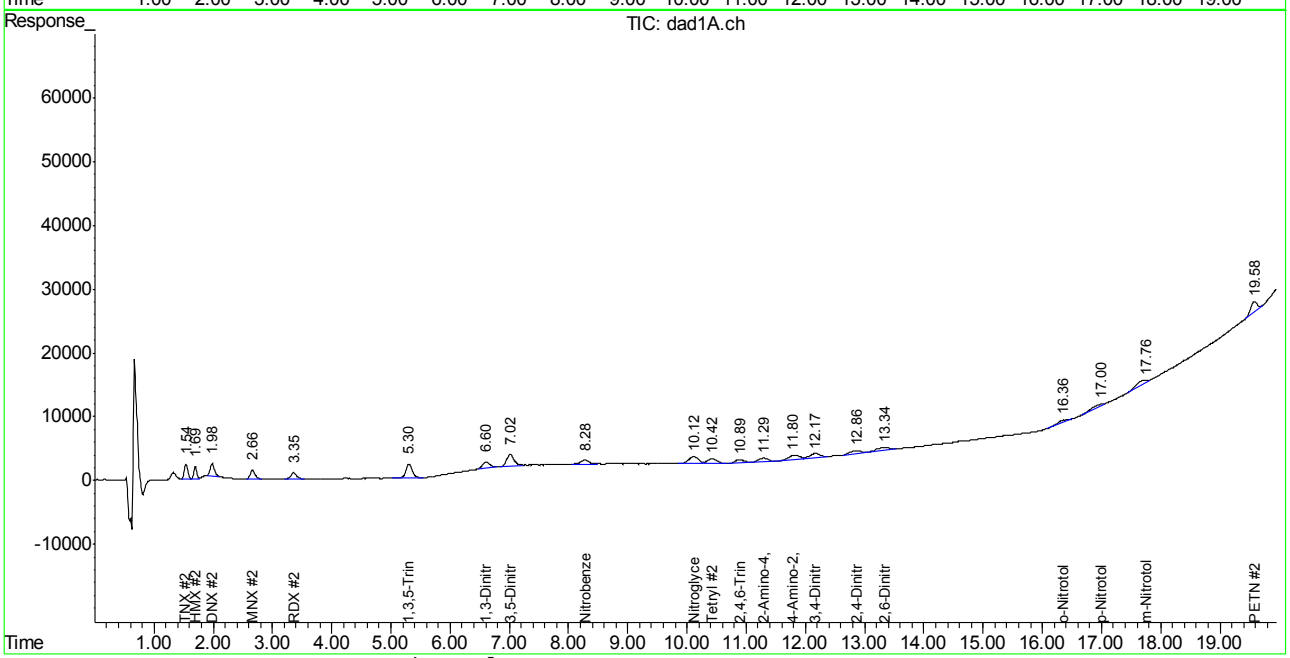
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0720BPL\BB051975.D\dad1B.ch Vial: 21
Signal #2 : C:\HPCHEM\1\DATA\0720BPL\BB051975.D\dad1A.ch
Acq On : 20-Jul-2016, 09:43:44 Operator: kismetl
Sample : ic1481-20 Inst : G1315B
Misc : op61122,GBB1481,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 20 12:13 2016 Quant Results File: 8330B_0719.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0719.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 20 11:59:04 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA35383

Manual Integration Approval Summary

Sample Number: GBB1481-IC1481
Lab FileID: BB051975.D
Injection Time: 07/20/16 09:43
Method: SW846 8330B
Analyst approved: 07/21/16 08:58 Kismet Lugo
Supervisor approved: 07/25/16 11:57 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	1.54	Poor instrument integration
TNX		2	1.54	Poor instrument integration
HMX	2691-41-0	1	1.69	Poor instrument integration
HMX	2691-41-0	2	1.69	Poor instrument integration
DNX		1	1.98	Poor instrument integration
DNX		2	1.98	Poor instrument integration
MNX		1	2.66	Poor instrument integration
MNX		2	2.66	Poor instrument integration
RDX	121-82-4	1	3.35	Poor instrument integration
RDX	121-82-4	2	3.35	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	1	6.60	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	6.60	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	7.02	Poor instrument integration
Nitrobenzene	98-95-3	1	8.28	Poor instrument integration
Nitrobenzene	98-95-3	2	8.28	Poor instrument integration
Nitroglycerine	55-63-0	2	10.12	Poor instrument integration
Tetryl	479-45-8	2	10.42	Poor instrument integration
2,4-Dinitrotoluene	121-14-2	2	12.86	Poor instrument integration
2,6-Dinitrotoluene	606-20-2	2	13.34	Poor instrument integration
o-Nitrotoluene	88-72-2	2	16.36	Missed peak
p-Nitrotoluene	99-99-0	1	16.90	Poor instrument integration
p-Nitrotoluene	99-99-0	2	17.00	Missed peak
m-Nitrotoluene	99-08-1	1	17.64	Poor instrument integration
m-Nitrotoluene	99-08-1	2	17.76	Missed peak
PETN	78-11-5	2	19.58	Missed peak

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/25/16 11:57

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0720BPL\BB051976.D\dad1B.ch Vial: 22
Signal #2 : C:\HPCHEM\1\DATA\0720BPL\BB051976.D\dad1A.ch
Acq On : 20-Jul-2016, 10:12:24 Operator: kismetl
Sample : ic1481-50 Inst : G1315B
Misc : op61122,GBB1481,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 20 11:59:20 2016 Quant Results File: 8330B_0719.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0719.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 20 11:59:04 2016
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	12.16	12.17	137463	217867	60.327	57.027
Spiked Amount	500.000	Range	70 - 136	Recovery	=	12.07%#	11.41%#
	Target Compounds						
1)	TNX	1.54	1.54	166272	296176	49.896m	53.509m
2)	HMX	1.69	1.69	82180	213257	107.950m	106.877m
3)	DNX	1.98	1.98	174412	279086	56.647m	55.407m
4)	MNX	2.66	2.66	138133	218975	52.466m	54.144m
5)	RDX	3.35	3.35	112504	164058	58.162	53.073m
6)	1,3,5-Trinitrobe	5.30	5.30	228759	421991	55.464	52.690
7)	1,3-Dinitrobenze	6.60	6.60	300978	222135	52.733	54.633m
8)	3,5-Dinitroanili	7.01	7.01	262731	446497	54.864	54.206m
9)	Nitrobenzene	8.27	8.28	178158	177052	55.765	55.982
10)	Nitroglycerin	0.00	10.12	0	355406	N.D.	271.061 #
11)	Tetryl	10.44	10.43	152519	254330	59.530m	60.937
12)	2,4,6-Trinitroto	10.88	10.89	198277	199886	49.523	45.379
13)	2-Amino-4,6-Dini	11.29	11.28	191942	230575	53.993	47.466
14)	4-Amino-2,6-Dini	11.81	11.83	138207	240978	52.957	48.759
16)	2,4-Dinitrotolue	12.84	12.86	274132	163661	54.723	49.576
17)	2,6-Dinitrotolue	13.31	13.32	160259	208118	58.798	58.029
18)	o-Nitrotoluene	16.35	16.37	142584	154639	57.246	51.378m
19)	p-Nitrotoluene	16.91	16.92	214168	161619	57.329	57.267m
20)	m-Nitrotoluene	17.66	17.68	198903	217599	55.931	55.521m
21)	PETN	0.00	19.58	0	405344	N.D. d	273.314m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB051976.D 8330B_0720.M Thu Jul 21 07:39:18 2016 Page 1

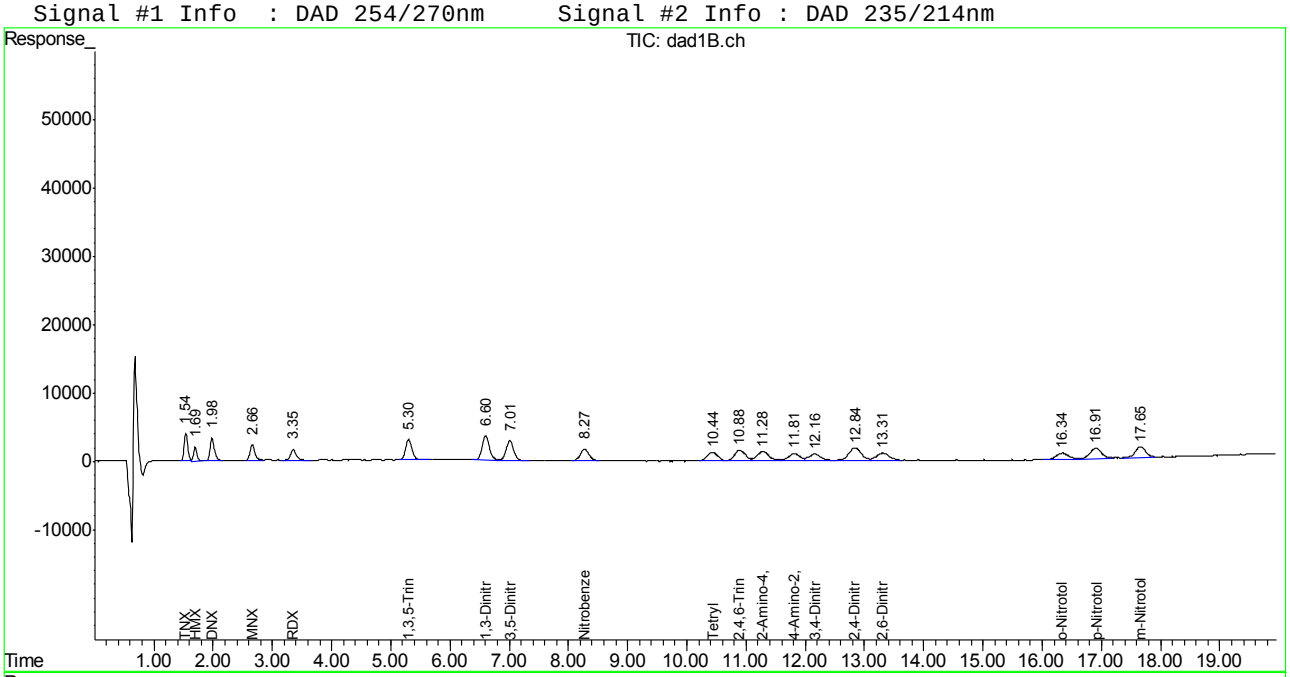
SGS ACCUTEST FA35383

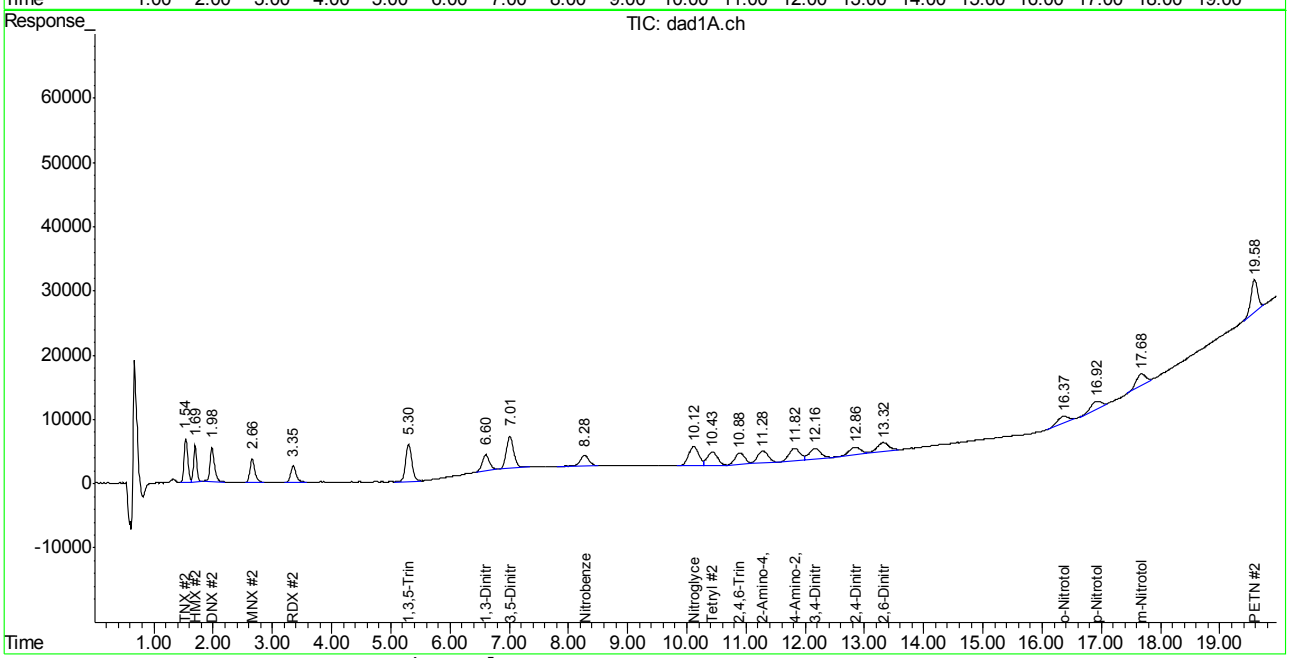
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0720BPL\BB051976.D\dad1B.ch Vial: 22
Signal #2 : C:\HPCHEM\1\DATA\0720BPL\BB051976.D\dad1A.ch
Acq On : 20-Jul-2016, 10:12:24 Operator: kismetl
Sample : ic1481-50 Inst : G1315B
Misc : op61122,GBB1481,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 20 13:29 2016 Quant Results File: 8330B_0719.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0719.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 20 11:59:04 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA35383

Manual Integration Approval Summary

Sample Number: GBB1481-IC1481
Lab FileID: BB051976.D
Injection Time: 07/20/16 10:12
Method: SW846 8330B
Analyst approved: 07/21/16 08:58 Kismet Lugo
Supervisor approved: 07/25/16 11:57 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	1.54	Poor instrument integration
TNX		2	1.54	Poor instrument integration
HMX	2691-41-0	1	1.69	Poor instrument integration
HMX	2691-41-0	2	1.69	Poor instrument integration
DNX		1	1.98	Poor instrument integration
DNX		2	1.98	Poor instrument integration
MNX		1	2.66	Poor instrument integration
MNX		2	2.66	Poor instrument integration
RDX	121-82-4	2	3.35	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	6.60	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	7.01	Poor instrument integration
Tetryl	479-45-8	1	10.44	Poor instrument integration
o-Nitrotoluene	88-72-2	2	16.37	Missed peak
p-Nitrotoluene	99-99-0	2	16.92	Poor instrument integration
m-Nitrotoluene	99-08-1	2	17.68	Poor instrument integration
PETN	78-11-5	2	19.58	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/25/16 11:57

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0720BPL\BB051977.D\dad1B.ch Vial: 23
Signal #2 : C:\HPCHEM\1\DATA\0720BPL\BB051977.D\dad1A.ch
Acq On : 20-Jul-2016, 10:39:19 Operator: kismetl
Sample : ic1481-100 Inst : G1315B
Misc : op61122,GBB1481,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 20 11:59:21 2016 Quant Results File: 8330B_0719.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0719.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 20 11:59:04 2016
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	12.18	12.18	232601	398755	102.079	104.374
Spiked Amount	500.000	Range	70 - 136	Recovery	=	20.42%#	20.87%#
	Target Compounds						
1)	TNX	1.54	1.54	355323	576638	106.628	104.180m
2)	HMX	1.70	1.69	154424	405871	202.847	203.408m
3)	DNX	1.98	1.98	313082	519655	101.685	103.168m
4)	MNX	2.66	2.66	269071	412002	102.199	101.871m
5)	RDX	3.36	3.36	207734	311142	107.394	100.655
6)	1,3,5-Trinitrobe	5.31	5.31	407330	786592	98.759	98.214
7)	1,3-Dinitrobenze	6.61	6.61	557414	399403	97.661	98.231m
8)	3,5-Dinitroanili	7.02	7.02	472731	800609	98.717	97.197m
9)	Nitrobenzene	8.28	8.28	332671	315946	104.128	99.899m
10)	Nitroglycerin	0.00	10.12	0	664535	N.D.	506.826m#
11)	Tetryl	10.45	10.45	273733	463842	106.842m	111.136
12)	2,4,6-Trinitroto	10.91	10.91	378219	396191	94.466	89.946
13)	2-Amino-4,6-Dini	11.29	11.30	353820	466468	99.529	96.027
14)	4-Amino-2,6-Dini	11.83	11.84	253438	481373	97.110	97.400
16)	2,4-Dinitrotolue	12.85	12.86	503153	318512	100.441	96.484
17)	2,6-Dinitrotolue	13.33	13.33	290688	363875	106.652	101.459
18)	o-Nitrotoluene	16.36	16.37	254985	304538	102.375	101.182m
19)	p-Nitrotoluene	16.92	16.93	379217	280608	101.509	99.428m
20)	m-Nitrotoluene	17.67	17.68	366737	384895	103.126	98.208m
21)	PETN	0.00	19.58	0	745154	N.D. d	502.440m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB051977.D 8330B_0720.M Thu Jul 21 07:39:19 2016 Page 1

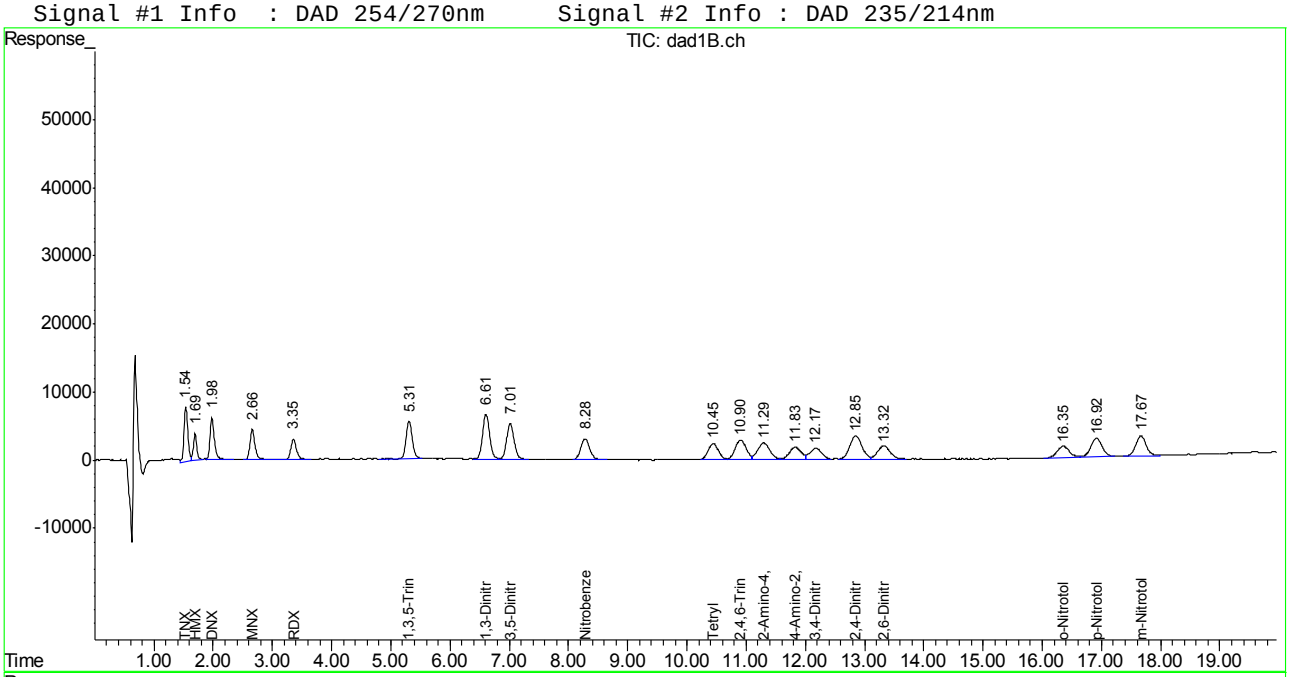
SGS ACCUTEST FA35383

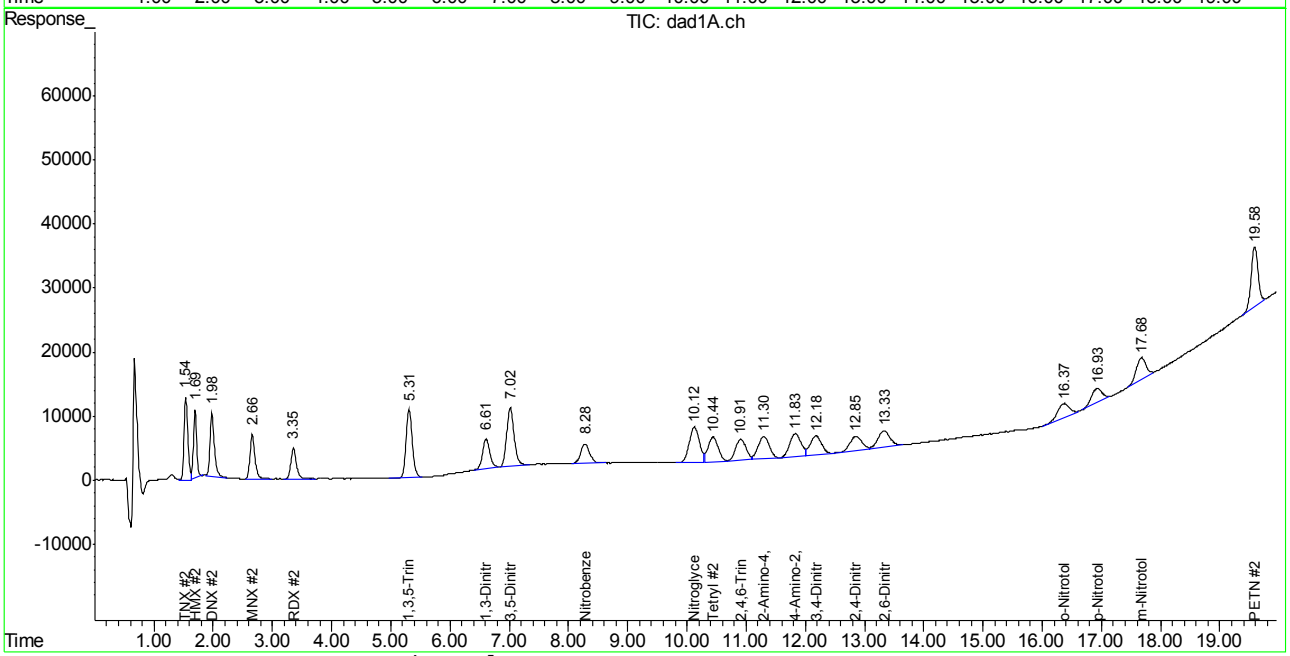
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0720BPL\BB051977.D\dad1B.ch Vial: 23
Signal #2 : C:\HPCHEM\1\DATA\0720BPL\BB051977.D\dad1A.ch
Acq On : 20-Jul-2016, 10:39:19 Operator: kismetl
Sample : ic1481-100 Inst : G1315B
Misc : op61122,GBB1481,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 20 13:29 2016 Quant Results File: 8330B_0719.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0719.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 20 11:59:04 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA35383

Manual Integration Approval Summary

Sample Number: GBB1481-IC1481
Lab FileID: BB051977.D
Injection Time: 07/20/16 10:39
Method: SW846 8330B
Analyst approved: 07/21/16 08:58 Kismet Lugo
Supervisor approved: 07/25/16 11:57 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		2	1.54	Poor instrument integration
HMX	2691-41-0	2	1.69	Poor instrument integration
DNX		2	1.98	Poor instrument integration
MNX		2	2.66	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	6.61	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	7.02	Poor instrument integration
Nitrobenzene	98-95-3	2	8.28	Poor instrument integration
Nitroglycerine	55-63-0	2	10.12	Poor instrument integration
Tetryl	479-45-8	1	10.45	Poor instrument integration
o-Nitrotoluene	88-72-2	2	16.37	Poor instrument integration
p-Nitrotoluene	99-99-0	2	16.93	Poor instrument integration
m-Nitrotoluene	99-08-1	2	17.68	Poor instrument integration
PETN	78-11-5	2	19.58	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/25/16 11:57

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0720BPL\BB051978.D\dad1B.ch Vial: 24
Signal #2 : C:\HPCHEM\1\DATA\0720BPL\BB051978.D\dad1A.ch
Acq On : 20-Jul-2016, 11:06:17 Operator: kismetl
Sample : ic1481-200 Inst : G1315B
Misc : op61122,GBB1481,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 20 11:59:22 2016 Quant Results File: 8330B_0719.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0719.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 20 11:59:04 2016
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	12.20	12.20	458418	791766	201.180	207.244
	Spiked Amount 500.000	Range 70 - 136		Recovery =		40.24%#	41.45%#
	Target Compounds						
1)	TNX	1.54	1.54	688326	1116216	206.557	201.664
2)	HMX	1.70	1.70	318554	888529	418.444	445.299
3)	DNX	1.98	1.98	620606	1031184	201.565	204.723
4)	MNX	2.66	2.66	513670	802866	195.102	198.516
5)	RDX	3.36	3.36	389785	613168	201.511	198.362
6)	1,3,5-Trinitrobe	5.31	5.31	817388	1559928	198.179	194.773m
7)	1,3-Dinitrobenze	6.61	6.61	1087963	751219	190.616	184.757m
8)	3,5-Dinitroanili	7.02	7.02	922125	1548445	192.561	187.986m
9)	Nitrobenzene	8.29	8.28	651063	630249	203.787	199.279m
10)	Nitroglycerin	0.00	10.14	0	1292608	N.D. d	985.844
11)	Tetryl	10.46	10.46	569239	916084	222.182m	219.492
12)	2,4,6-Trinitroto	10.93	10.93	763446	832835	190.683	189.075
13)	2-Amino-4,6-Dini	11.31	11.31	688577	957717	193.696	197.155
14)	4-Amino-2,6-Dini	11.85	11.85	504433	967767	193.283	195.816
16)	2,4-Dinitrotolue	12.87	12.87	989717	635152	197.571	192.401
17)	2,6-Dinitrotolue	13.35	13.35	557320	719674	204.478	200.666
18)	o-Nitrotoluene	16.37	16.38	479653	620957	192.577	206.311m
19)	p-Nitrotoluene	16.93	16.94	741850	550592	198.579	195.092
20)	m-Nitrotoluene	17.68	17.68	712431	791790	200.334	202.029m
21)	PETN	0.00	19.59	0	1490879	N.D. d	1005.265m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB051978.D 8330B_0720.M Thu Jul 21 07:39:20 2016 Page 1

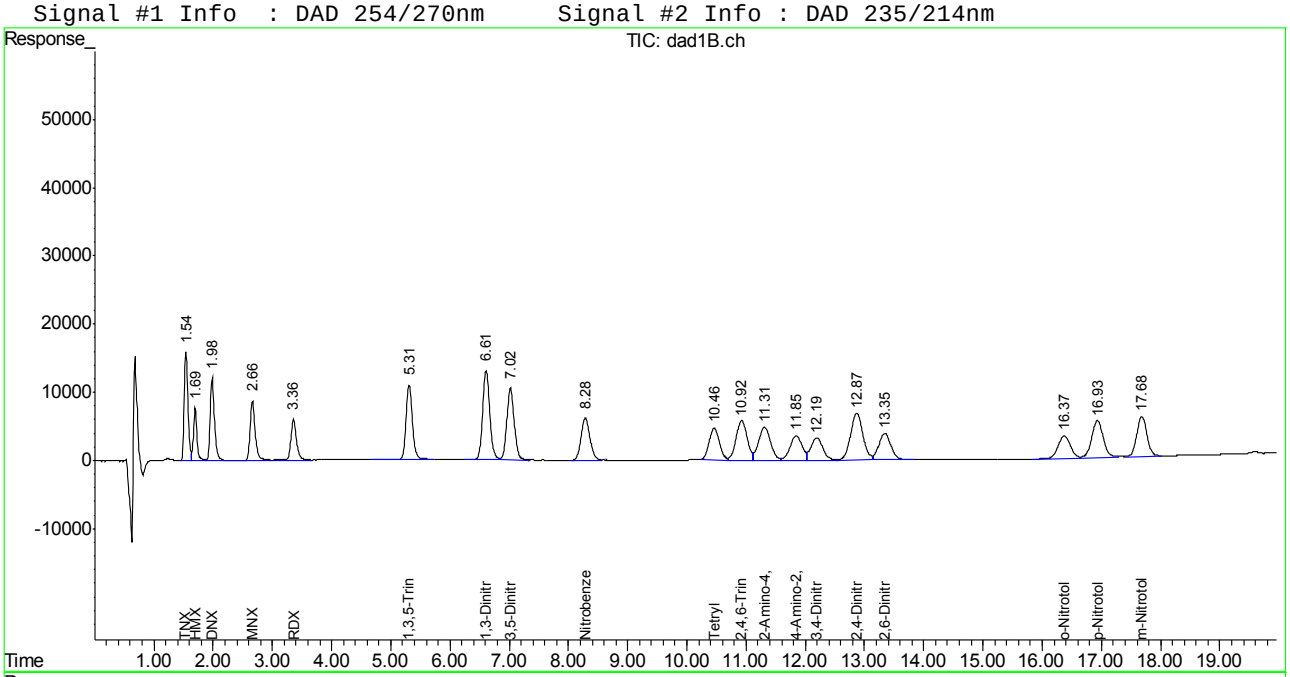
SGS ACCUTEST FA35383

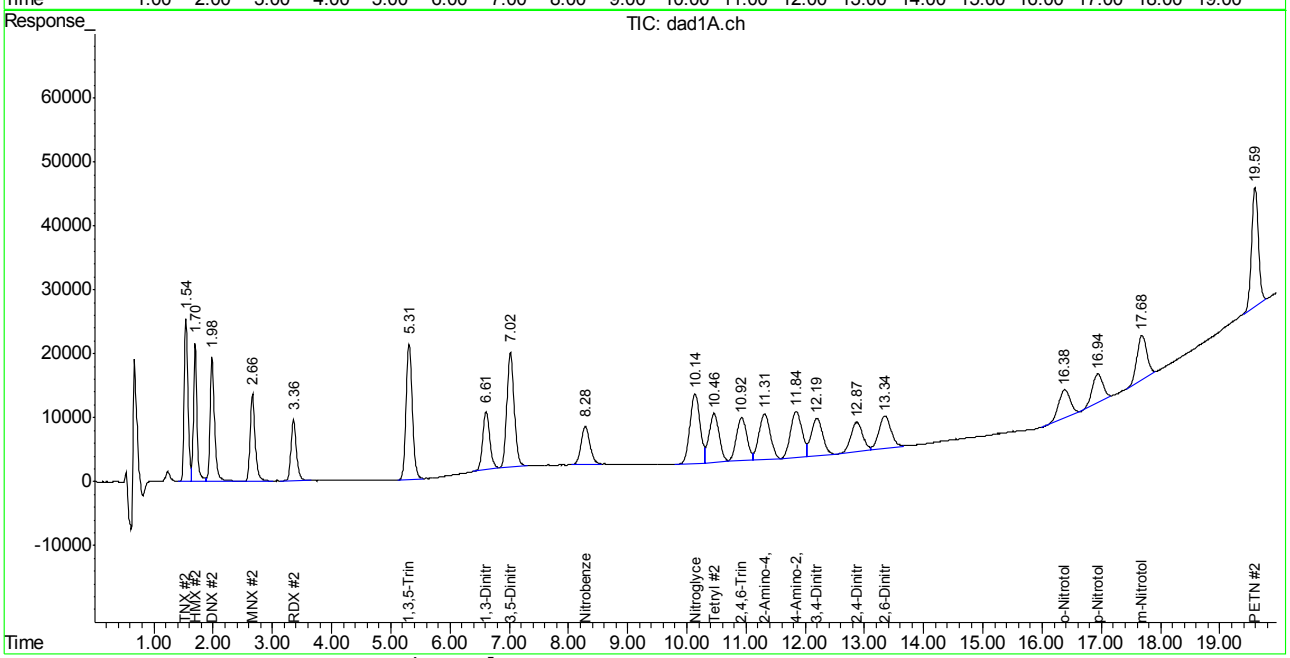
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0720BPL\BB051978.D\dad1B.ch Vial: 24
Signal #2 : C:\HPCHEM\1\DATA\0720BPL\BB051978.D\dad1A.ch
Acq On : 20-Jul-2016, 11:06:17 Operator: kismetl
Sample : ic1481-200 Inst : G1315B
Misc : op61122,GBB1481,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 20 13:30 2016 Quant Results File: 8330B_0719.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0719.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 20 11:59:04 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA35383

Manual Integration Approval Summary

Sample Number: GBB1481-IC1481
Lab FileID: BB051978.D
Injection Time: 07/20/16 11:06
Method: SW846 8330B
Analyst approved: 07/21/16 08:58 Kismet Lugo
Supervisor approved: 07/25/16 11:57 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
1,3,5-Trinitrobenzene	99-35-4	2	5.31	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	6.61	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	7.02	Poor instrument integration
Nitrobenzene	98-95-3	2	8.28	Poor instrument integration
Tetryl	479-45-8	1	10.46	Poor instrument integration
o-Nitrotoluene	88-72-2	2	16.38	Poor instrument integration
m-Nitrotoluene	99-08-1	2	17.68	Poor instrument integration
PETN	78-11-5	2	19.59	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger 07/25/16 11:57

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0720BPL\BB051979.D\dad1B.ch Vial: 25
Signal #2 : C:\HPCHEM\1\DATA\0720BPL\BB051979.D\dad1A.ch
Acq On : 20-Jul-2016, 11:33:15 Operator: kismetl
Sample : icc1481-500 Inst : G1315B
Misc : op61122,GBB1481,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 20 11:59:32 2016 Quant Results File: 8330B_0719.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0719.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 20 11:59:04 2016
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	12.21	12.21	1104344	1938323	484.650	507.355
Spiked Amount	500.000	Range	70 - 136	Recovery	=	96.93%	101.47%
	Target Compounds						
1)	TNX	1.54	1.54	1797324	2741119	539.352	495.232
2)	HMX	1.70	1.70	850356	2193714	1117.006	1099.411
3)	DNX	1.99	1.99	1591001	2525926	516.736	501.477
4)	MNX	2.67	2.67	1254160	1962813	476.356	485.323
5)	RDX	3.36	3.36	922572	1486203	476.951	480.791
6)	1,3,5-Trinitrobe	5.32	5.32	2001437	3858042	485.258	481.716
7)	1,3-Dinitrobenze	6.62	6.62	2654251	1855688	465.036	456.394m
8)	3,5-Dinitroanili	7.03	7.03	2256231	3879795	471.153	471.020m
9)	Nitrobenzene	8.30	8.29	1587181	1557063	496.797	492.330m
10)	Nitroglycerin	0.00	10.15	0	3198199	N.D. d	2439.196
11)	Tetryl	10.47	10.47	1418973	2323297	553.845m	556.658
12)	2,4,6-Trinitroto	10.94	10.94	1881858	2173012	470.024	493.331
13)	2-Amino-4,6-Dini	11.32	11.32	1700054	2452689	478.223	504.909
14)	4-Amino-2,6-Dini	11.86	11.86	1244957	2448451	477.030	495.414
16)	2,4-Dinitrotolue	12.88	12.88	2414537	1590043	481.998	481.658
17)	2,6-Dinitrotolue	13.35	13.36	1371064	1789516	503.036	498.968
18)	o-Nitrotoluene	16.38	16.39	1181453	1546213	474.345	513.724m
19)	p-Nitrotoluene	16.95	16.95	1815912	1423483	486.084	504.385
20)	m-Nitrotoluene	17.69	17.69	1756784	1982918	494.005	505.951m
21)	PETN	0.00	19.60	0	3621129	N.D. d	2441.642m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB051979.D 8330B_0720.M Thu Jul 21 07:39:33 2016 Page 1

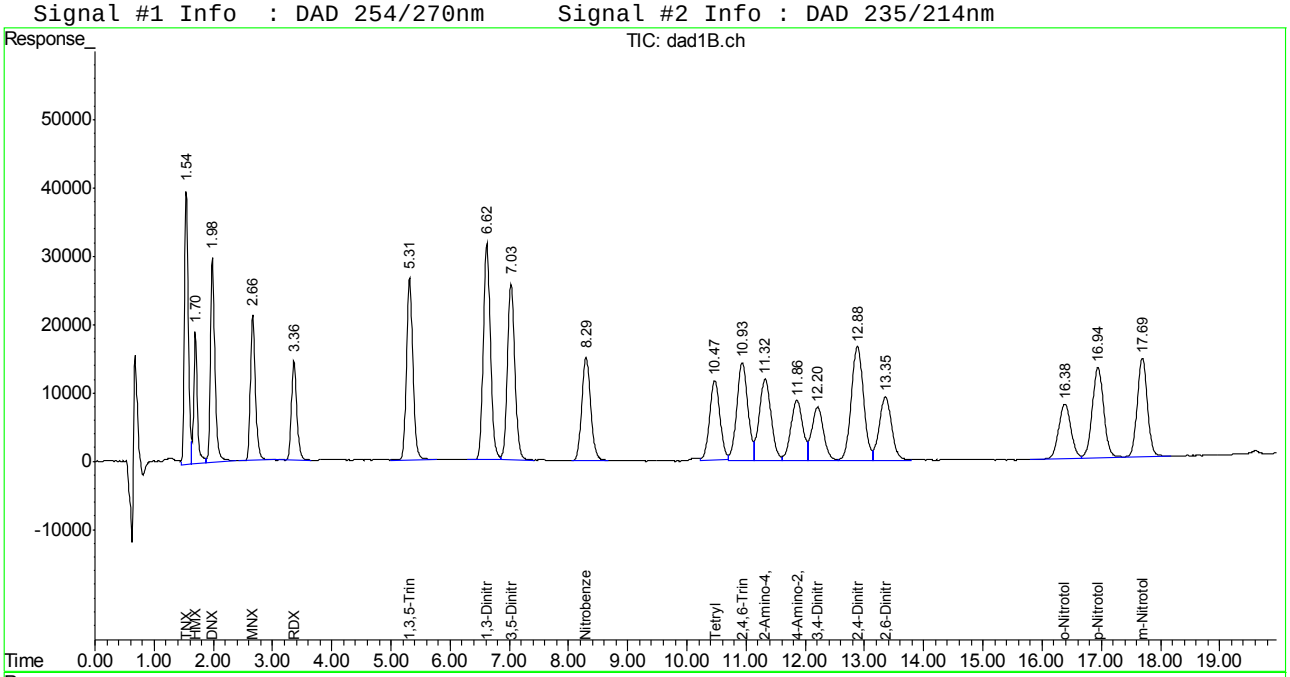
SGS ACCUTEST FA35383

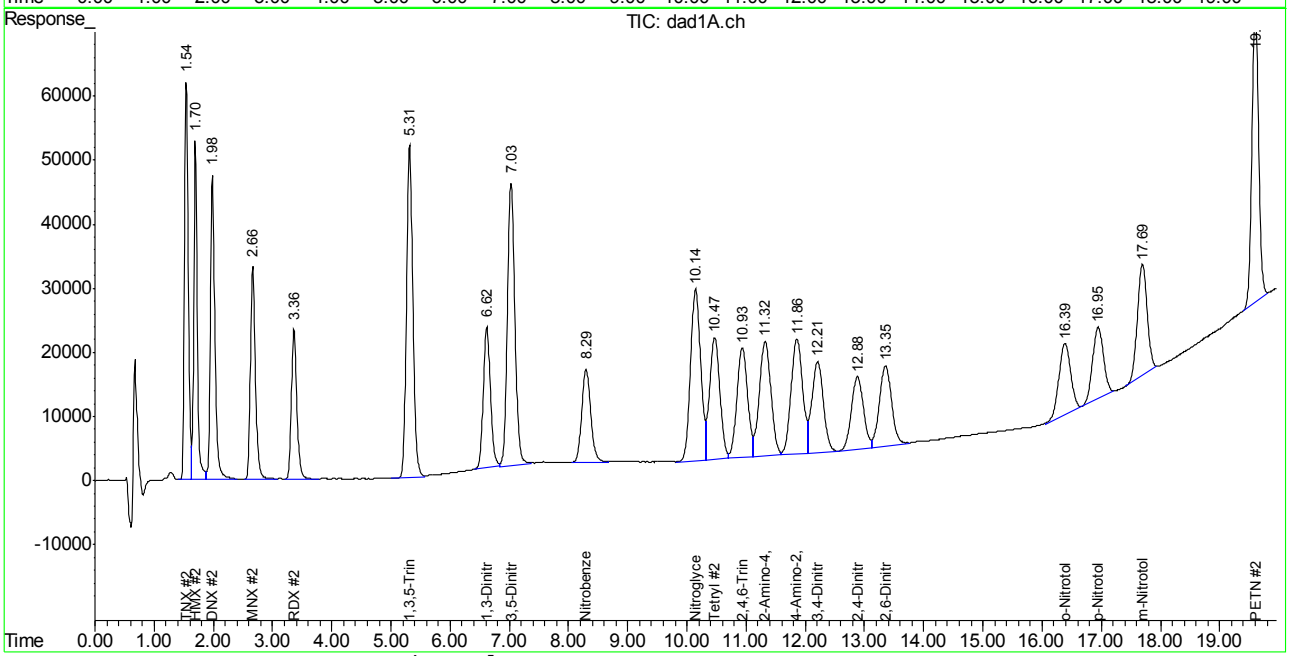
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0720BPL\BB051979.D\dad1B.ch Vial: 25
Signal #2 : C:\HPCHEM\1\DATA\0720BPL\BB051979.D\dad1A.ch
Acq On : 20-Jul-2016, 11:33:15 Operator: kismetl
Sample : icc1481-500 Inst : G1315B
Misc : op61122,GBB1481,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 20 13:30 2016 Quant Results File: 8330B_0719.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0719.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 20 11:59:04 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA35383

Manual Integration Approval Summary

Sample Number: GBB1481-ICC1481
Lab FileID: BB051979.D
Injection Time: 07/20/16 11:33
Method: SW846 8330B
Analyst approved: 07/21/16 08:58 Kismet Lugo
Supervisor approved: 07/25/16 11:57 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
1,3-Dinitrobenzene	99-65-0	2	6.62	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	7.03	Poor instrument integration
Nitrobenzene	98-95-3	2	8.29	Poor instrument integration
Tetryl	479-45-8	1	10.47	Overlapping peak
o-Nitrotoluene	88-72-2	2	16.39	Poor instrument integration
m-Nitrotoluene	99-08-1	2	17.69	Poor instrument integration
PETN	78-11-5	2	19.60	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/25/16 11:57

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0720BPL\BB051980.D\dad1B.ch Vial: 26
Signal #2 : C:\HPCHEM\1\DATA\0720BPL\BB051980.D\dad1A.ch
Acq On : 20-Jul-2016, 12:00:14 Operator: kismetl
Sample : ic1481-1000 Inst : G1315B
Misc : op61122,GBB1481,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 20 12:25:41 2016 Quant Results File: 8330B_0719.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0719.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 20 11:59:04 2016
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	12.22	12.22	2166318	3900257	950.706	1020.890
	Spiked Amount 500.000	Range 70 - 136		Recovery =		190.14%#	204.18%#
	Target Compounds						
1)	TNX	1.55	1.55	3573207	5579273	1072.269	1007.995
2)	HMX	1.70	1.70	1652843	4439084	2171.132	2224.711
3)	DNX	1.99	1.99	3149565	5036390	1022.937	999.884
4)	MNX	2.67	2.67	2512865	3902020	954.437	964.809m
5)	RDX	3.37	3.37	1836279	2989979	949.318	967.268
6)	1,3,5-Trinitrobe	5.32	5.32	3954412	7655261	958.765	955.837
7)	1,3-Dinitrobenze	6.62	6.62	5289408	3662534	926.727	900.777m
8)	3,5-Dinitroanili	7.03	7.03	4517125	7732126	943.280	938.706m
9)	Nitrobenzene	8.30	8.30	3200596	3075636	1001.806	972.489m
10)	Nitroglycerin	0.00	10.15	0	6409196	N.D. d	4888.154
11)	Tetryl	10.48	10.48	2850666	4716245	1112.654m	1130.004
12)	2,4,6-Trinitroto	10.95	10.95	3734194	4473734	932.674	1015.655
13)	2-Amino-4,6-Dini	11.33	11.33	3348057	5022373	941.805	1033.903
14)	4-Amino-2,6-Dini	11.87	11.87	2427484	4953048	930.138	1002.188
16)	2,4-Dinitrotolue	12.89	12.89	4778603	3196430	953.920	968.267
17)	2,6-Dinitrotolue	13.37	13.37	2667708	3539606	978.767	986.944
18)	o-Nitrotoluene	16.40	16.40	2318453	3112924	930.843	1034.259m
19)	p-Nitrotoluene	16.96	16.96	3589096	2902292	960.731	1028.374
20)	m-Nitrotoluene	17.70	17.71	3473476	4004879	976.736	1021.864
21)	PETN	0.00	19.61	0	7202826	N.D. d	4856.696m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB051980.D 8330B_0720.M Thu Jul 21 07:39:34 2016 Page 1

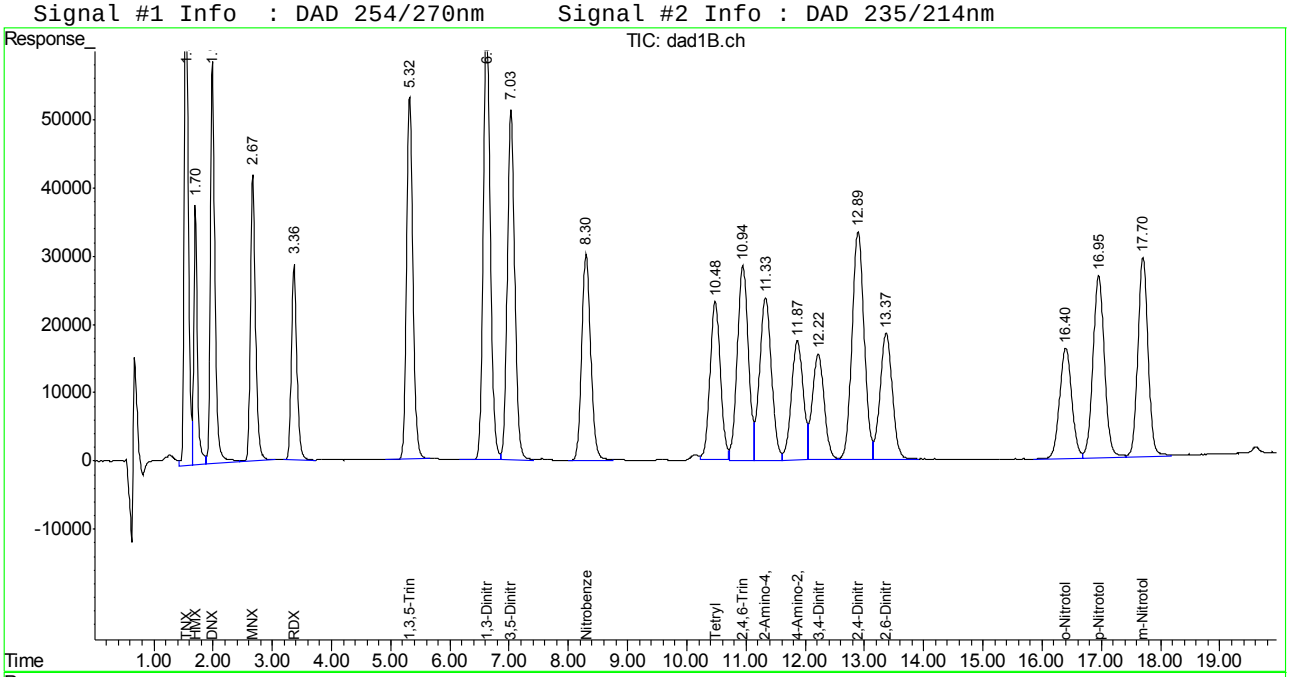
SGS ACCUTEST FA35383

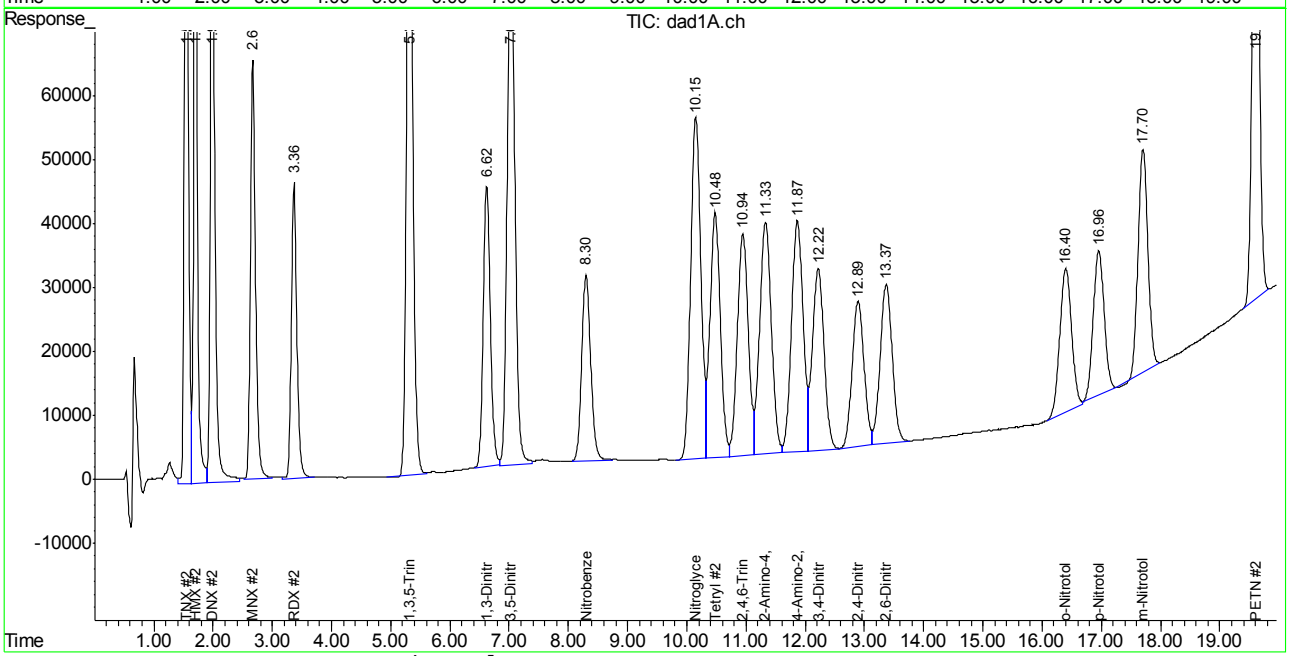
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0720BPL\BB051980.D\dad1B.ch Vial: 26
Signal #2 : C:\HPCHEM\1\DATA\0720BPL\BB051980.D\dad1A.ch
Acq On : 20-Jul-2016, 12:00:14 Operator: kismetl
Sample : ic1481-1000 Inst : G1315B
Misc : op61122,GBB1481,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 20 13:30 2016 Quant Results File: 8330B_0719.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0719.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 20 11:59:04 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA35383

Manual Integration Approval Summary

Sample Number: GBB1481-IC1481
Lab FileID: BB051980.D
Injection Time: 07/20/16 12:00
Method: SW846 8330B
Analyst approved: 07/21/16 08:58 Kismet Lugo
Supervisor approved: 07/25/16 11:57 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
MNX		2	2.67	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	6.62	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	7.03	Poor instrument integration
Nitrobenzene	98-95-3	2	8.30	Poor instrument integration
Tetryl	479-45-8	1	10.48	Poor instrument integration
o-Nitrotoluene	88-72-2	2	16.40	Poor instrument integration
PETN	78-11-5	2	19.61	Poor instrument integration

BB051981.D

Manual Integrations APPROVED (compounds with "m" flag)

Mike Eger 07/25/16 11:57

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0720BPL\BB051981.D\dad1B.ch Vial: 27
Signal #2 : C:\HPCHEM\1\DATA\0720BPL\BB051981.D\dad1A.ch
Acq On : 20-Jul-2016, 12:27:14 Operator: kismetl
Sample : ic1481-2000 Inst : G1315B
Misc : op61122,GBB1481,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 20 12:46:54 2016 Quant Results File: 8330B_0719.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0719.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 20 11:59:04 2016
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	12.24	12.24	4482059	8064212	1966.988	2110.803
	Spiked Amount 500.000	Range 70 - 136		Recovery =		393.40%#	422.16%#
	Target Compounds						
1)	TNX	1.55	1.54	7336964	11365483	2201.720	2053.378
2)	HMX	1.70	1.70	3325516	9121657	4368.311	4571.450
3)	DNX	1.99	1.99	6335146	10227487	2057.571	2030.482
4)	MNX	2.67	2.67	5096884	8061969	1935.900	1993.394
5)	RDX	3.37	3.37	3792805	6153508	1960.803	1990.680
6)	1,3,5-Trinitrobe	5.32	5.32	8216328	16067833	1992.086	2006.232
7)	1,3-Dinitrobenze	6.63	6.63	10957649	7780891	1919.827	1913.660
8)	3,5-Dinitroanili	7.03	7.03	9377119	16111717	1958.158	1956.016
9)	Nitrobenzene	8.31	8.31	6556504	6322520	2052.226	1999.125
10)	Nitroglycerin	0.00	10.16	0	13342403	N.D. d	10175.960
11)	Tetryl	10.49	10.49	5918954	9734608	2310.249m	2332.394
12)	2,4,6-Trinitroto	10.96	10.96	7805266	9489690	1949.488	2154.408
13)	2-Amino-4,6-Dini	11.34	11.34	6947985	10535331	1954.461	2168.797
14)	4-Amino-2,6-Dini	11.88	11.88	5052377	10364602	1935.918	2097.148
16)	2,4-Dinitrotolue	12.91	12.91	9954577	6612076	1987.165	2002.939
17)	2,6-Dinitrotolue	13.38	13.38	5555391	7333805	2038.242	2044.875
18)	o-Nitrotoluene	16.41	16.41	4699696	6466687	1886.896	2148.535m
19)	p-Nitrotoluene	16.97	16.96	7322696	6163300	1960.143	2183.853m
20)	m-Nitrotoluene	17.71	17.71	7079059	8306636	1990.620	2119.478
21)	PETN	0.00	19.61	0	15122659	N.D. d	10196.852m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB051981.D 8330B_0720.M Thu Jul 21 07:39:35 2016 Page 1

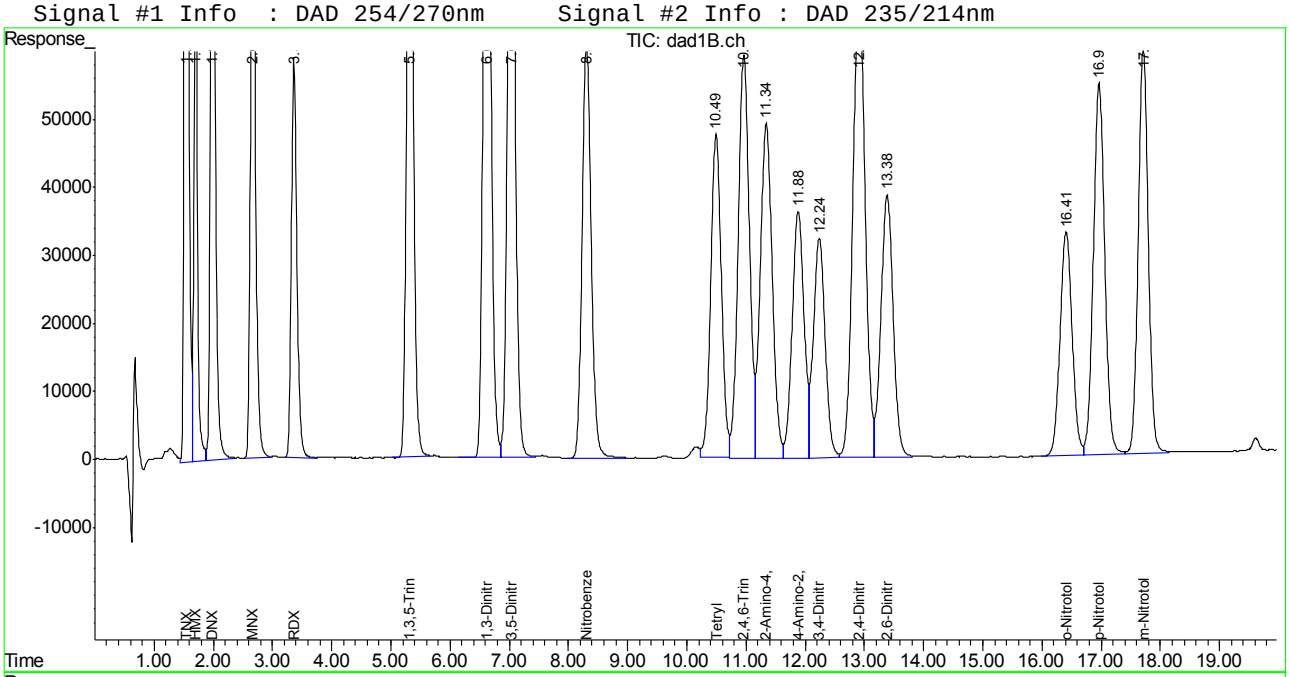
SGS ACCUTEST FA35383

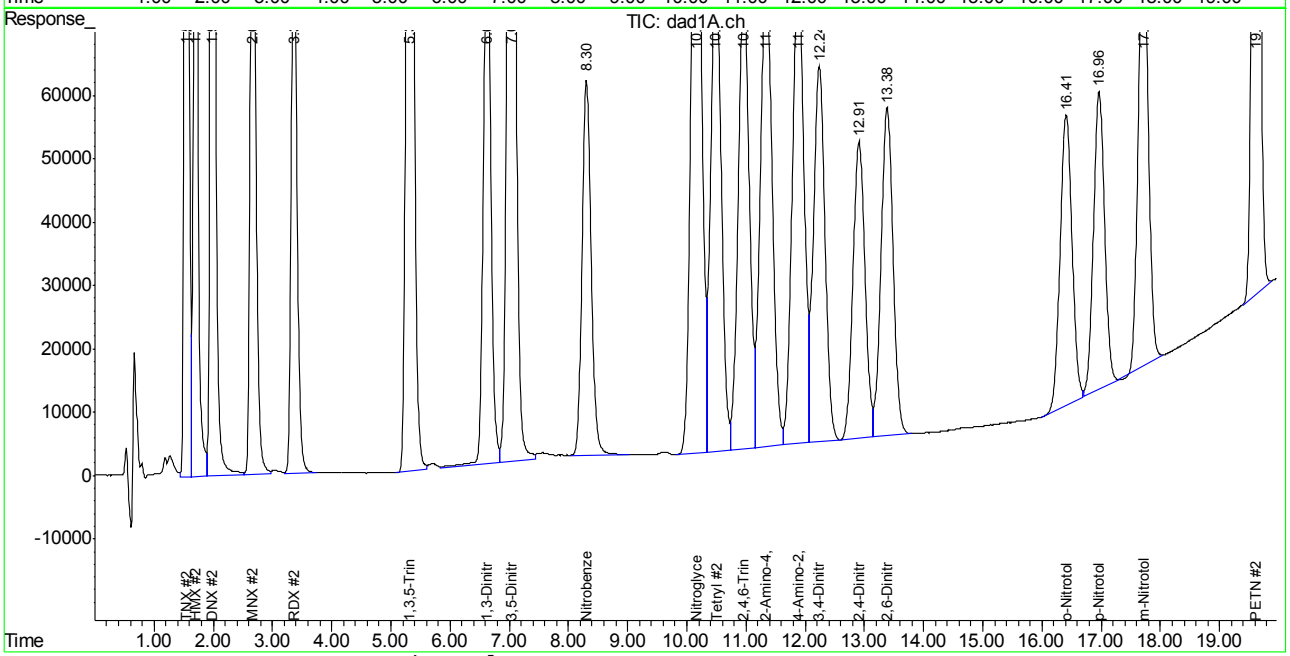
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0720BPL\BB051981.D\dad1B.ch Vial: 27
Signal #2 : C:\HPCHEM\1\DATA\0720BPL\BB051981.D\dad1A.ch
Acq On : 20-Jul-2016, 12:27:14 Operator: kismetl
Sample : ic1481-2000 Inst : G1315B
Misc : op61122,GBB1481,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 20 13:30 2016 Quant Results File: 8330B_0719.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0719.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 20 11:59:04 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA35383

Manual Integration Approval Summary

Sample Number: GBB1481-IC1481
Lab FileID: BB051981.D
Injection Time: 07/20/16 12:27
Method: SW846 8330B
Analyst approved: 07/21/16 08:58 Kismet Lugo
Supervisor approved: 07/25/16 11:57 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Tetryl	479-45-8	1	10.49	Poor instrument integration
o-Nitrotoluene	88-72-2	2	16.41	Poor instrument integration
p-Nitrotoluene	99-99-0	2	16.96	Poor instrument integration
PETN	78-11-5	2	19.61	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/25/16 11:57

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0720BPL\BB051982.D\dad1B.ch Vial: 28
Signal #2 : C:\HPCHEM\1\DATA\0720BPL\BB051982.D\dad1A.ch
Acq On : 20-Jul-2016, 12:56:26 Operator: kismetl
Sample : icv1481-500 Inst : G1315B
Misc : op61122,GBB1481,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 20 13:32:47 2016 Quant Results File: 8330B_0720.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0720.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 20 13:32:37 2016
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
Spiked Amount	500.000	Range	70 - 136	Recovery	=	0.00%#	0.00%#
	Target Compounds						
1)	TNX	1.54	1.54	1793717	2807218	533.677m	505.903m
2)	HMX	1.71	1.71	905477	2504031	561.845m	570.308m
3)	DNX	1.99	1.99	1530459	2466106	481.552m	482.032m
4)	MNX	2.67	2.67	1272483	2001355	487.819	494.256m
5)	RDX	3.37	3.37	968286	1596527	494.988	520.061m
6)	1,3,5-Trinitrobe	5.33	5.33	2167645	4138528	516.742	519.724
7)	1,3-Dinitrobenze	6.63	6.63	2716671	1886506	486.887	478.394m
8)	3,5-Dinitroanili	7.04	7.04	2339769	3978335	498.647	492.850m
9)	Nitrobenzene	8.32	8.31	1713815	1661417	511.186	517.742m
10)	Nitroglycerin	0.00	10.19	0	3426746	N.D. d	2588.232
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
12)	2,4,6-Trinitroto	10.97	10.97	1642540	2080617	431.673	507.239
13)	2-Amino-4,6-Dini	11.36	11.36	1849128	2768915	528.931	563.810
14)	4-Amino-2,6-Dini	11.90	11.90	1379769	2758693	521.741	570.838
16)	2,4-Dinitrotolue	12.92	12.92	2578197	1804104	509.280	567.405
17)	2,6-Dinitrotolue	13.39	13.40	1467287	2023715	512.331	547.990
18)	o-Nitrotoluene	16.41	16.41	1280692	1707005	510.114	570.994m
19)	p-Nitrotoluene	16.96	16.96	1939928	1538719	507.723	533.323
20)	m-Nitrotoluene	17.70	17.70	1843229	2124275	508.561	524.287m
21)	PETN	0.00	19.60	0	3959893	N.D. d	2708.105m

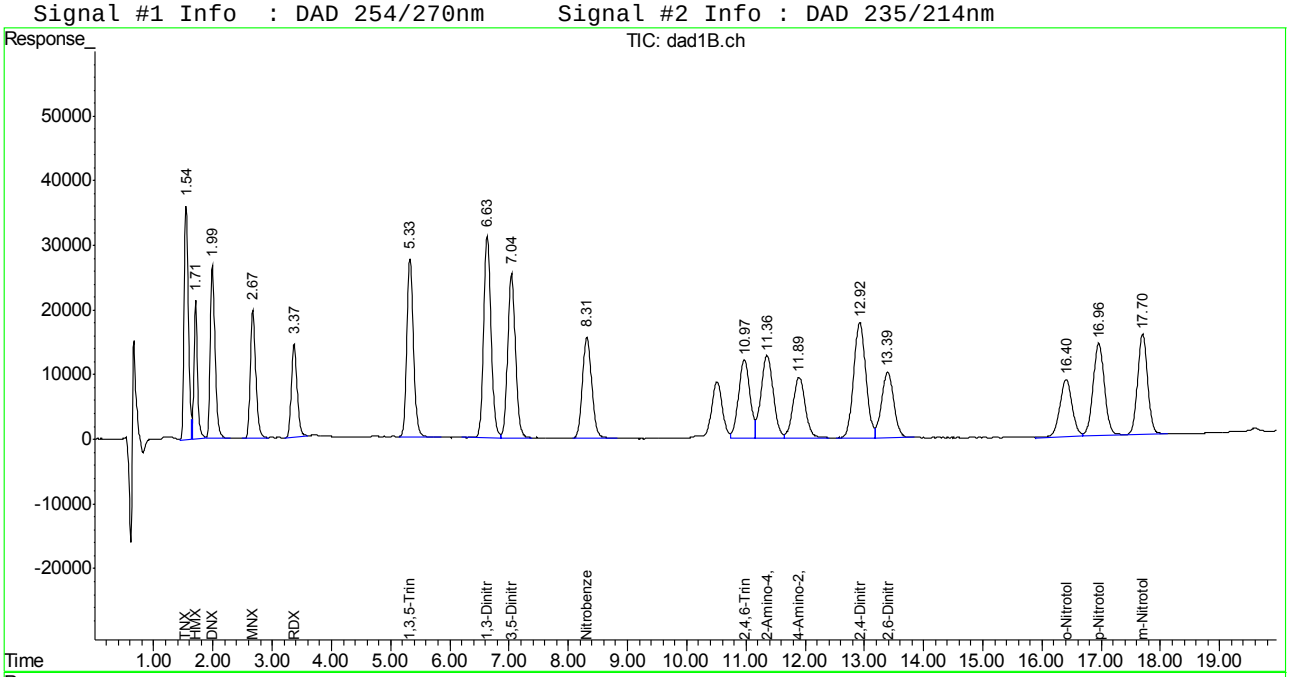
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB051982.D 8330B_0720.M Thu Jul 21 07:39:51 2016 Page 1

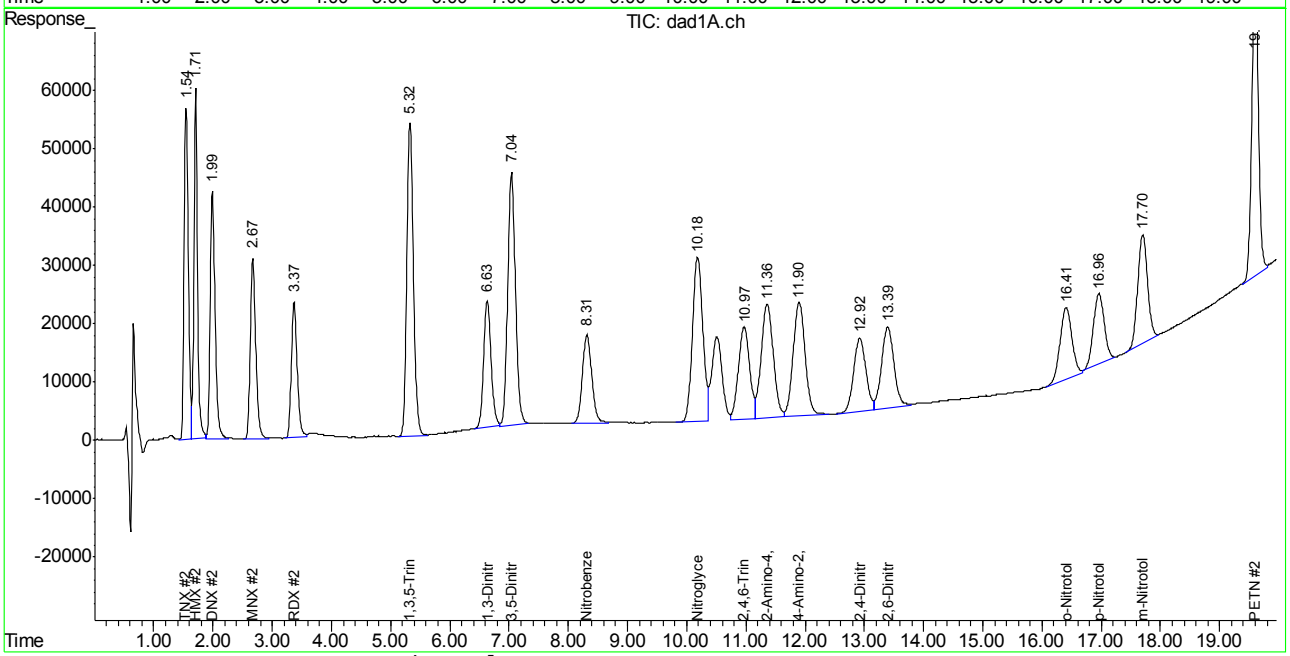
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0720BPL\BB051982.D\dad1B.ch Vial: 28
Signal #2 : C:\HPCHEM\1\DATA\0720BPL\BB051982.D\dad1A.ch
Acq On : 20-Jul-2016, 12:56:26 Operator: kismetl
Sample : icv1481-500 Inst : G1315B
Misc : op61122,GBB1481,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 21 6:26 2016 Quant Results File: 8330B_0720.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0720.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 20 13:32:37 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

Sample Number: GBB1481-ICV1481 **Method:** SW846 8330B
Lab FileID: BB051982.D **Analyst approved:** 07/21/16 08:58 Kismet Lugo
Injection Time: 07/20/16 12:56 **Supervisor approved:** 07/25/16 11:57 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	1.54	Poor instrument integration
TNX		2	1.54	Poor instrument integration
HMX	2691-41-0	1	1.71	Poor instrument integration
HMX	2691-41-0	2	1.71	Poor instrument integration
DNX		1	1.99	Poor instrument integration
DNX		2	1.99	Poor instrument integration
MNX		2	2.67	Poor instrument integration
RDX	121-82-4	2	3.37	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	6.63	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	7.04	Poor instrument integration
Nitrobenzene	98-95-3	2	8.31	Poor instrument integration
o-Nitrotoluene	88-72-2	2	16.41	Poor instrument integration
m-Nitrotoluene	99-08-1	2	17.70	Poor instrument integration
PETN	78-11-5	2	19.60	Poor instrument integration

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0720BPL\BB051983.D\dad1B.ch Vial: 31
Signal #2 : C:\HPCHEM\1\DATA\0720BPL\BB051983.D\dad1A.ch
Acq On : 20-Jul-2016, 13:38:10 Operator: kismetl
Sample : icv1481-500,tryl Inst : G1315B
Misc : op61122,GBB1481,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 20 14:07:14 2016 Quant Results File: 8330B_0720.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0720.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 20 13:32:37 2016
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
Spiked Amount	500.000	Range	70 - 136	Recovery	=	0.00%#	0.00%#
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	0.00	0.00	0	0	N.D. d	N.D. d
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	RDX	0.00	0.00	0	0	N.D. d	N.D. d
6)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D. d	N.D. d
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
9)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
10)	Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D. d
11)	Tetryl	10.49	10.49	1486411	2357898	513.606	496.866
12)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D. d	N.D. d
13)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
14)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

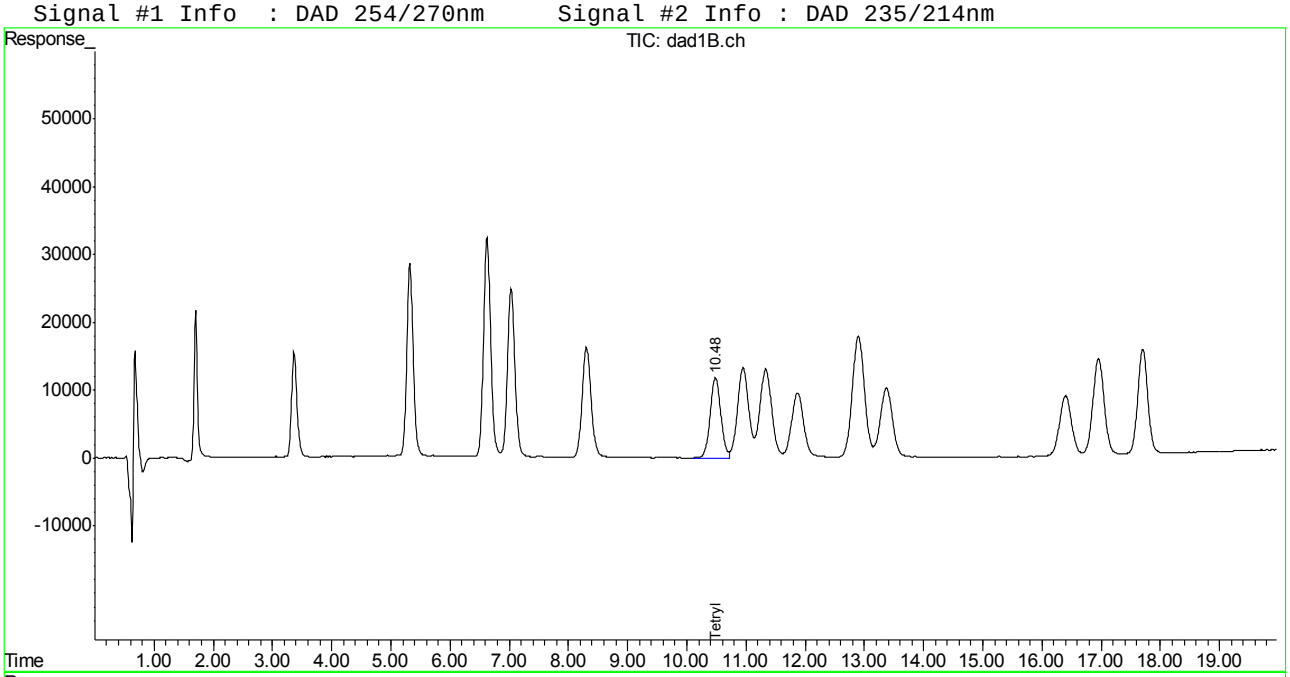
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB051983.D 8330B_0720.M Thu Jul 21 09:27:09 2016 Page 1

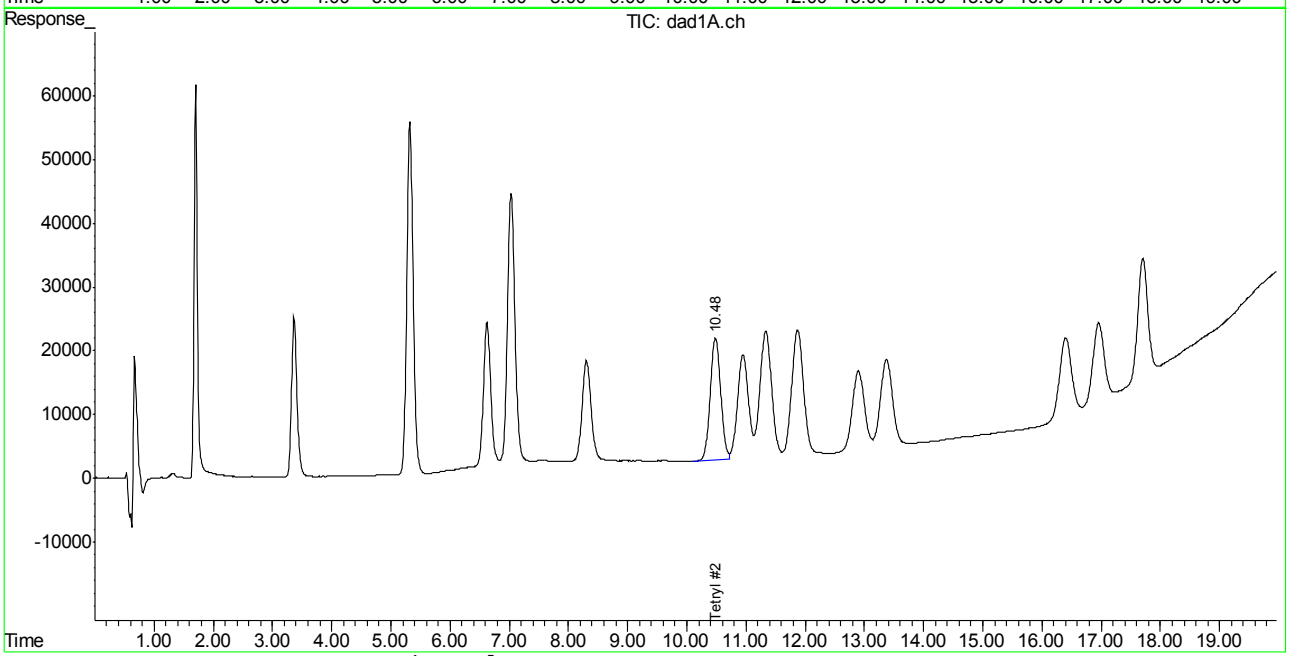
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0720BPL\BB051983.D\dad1B.ch Vial: 31
Signal #2 : C:\HPCHEM\1\DATA\0720BPL\BB051983.D\dad1A.ch
Acq On : 20-Jul-2016, 13:38:10 Operator: kismetl
Sample : icv1481-500,tryl Inst : G1315B
Misc : op61122,GBB1481,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 20 14:07 2016 Quant Results File: 8330B_0720.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0720.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 20 13:32:37 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS
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ACCUTEST
FA35383

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/25/16 11:57

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0720BPL\BB051995.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0720BPL\BB051995.D\dad1A.ch
Acq On : 20-Jul-2016, 19:07:50 Operator: kismetl
Sample : cc1481-1000 Inst : G1315B
Misc : op61122,GBB1481,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 21 07:51:33 2016 Quant Results File: 8330B_0720.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0720.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 20 13:37:57 2016
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	12.36	12.36	2193921	3892610	906.547	967.688
	Spiked Amount 500.000	Range 70 - 136		Recovery =		181.31%#	193.54%#
	Target Compounds						
1)	TNX	1.56	1.56	3606379	5564979	1072.991	1002.892
2)	HMX	1.72	1.72	1639317	4436053	1017.190	998.752
3)	DNX	2.01	2.01	3118383	4985870	981.185	974.552m
4)	MNX	2.70	2.70	2496658	3903495	957.120	964.010m
5)	RDX	3.40	3.40	1865443	2976649	953.616	969.629m
6)	1,3,5-Trinitrobe	5.37	5.37	4040918	7773783	963.308	976.245
7)	1,3-Dinitrobenze	6.69	6.69	5310543	3695205	951.766	937.058m
8)	3,5-Dinitroanili	7.10	7.10	4549032	7711096	969.480	955.278m
9)	Nitrobenzene	8.39	8.39	3240717	3120996	966.621	972.586
10)	Nitroglycerin	0.00	10.27	0	6437783	N.D. d	4862.478
11)	Tetryl	10.61	10.61	2945050	4737833	1017.615	998.377
12)	2,4,6-Trinitroto	11.08	11.08	3786003	4498549	994.994	1096.714
13)	2-Amino-4,6-Dini	11.46	11.46	3381224	5029551	967.177	1001.904
14)	4-Amino-2,6-Dini	12.00	12.00	2477273	4996585	936.746	1033.911
16)	2,4-Dinitrotolue	13.03	13.03	4834174	3183022	954.910	1001.086
17)	2,6-Dinitrotolue	13.51	13.51	2709600	3544571	946.109	959.814
18)	o-Nitrotoluene	16.54	16.53	2323976	3230614	925.665	1080.642m
19)	p-Nitrotoluene	17.08	17.08	3598996	2914800	941.938	1010.275
20)	m-Nitrotoluene	17.81	17.81	3479930	4030517	960.140	994.762
21)	PETN	0.00	19.67	0	7209094	N.D. d	4930.181m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB051995.D 8330B_0720.M Thu Jul 21 08:35:39 2016 Page 1

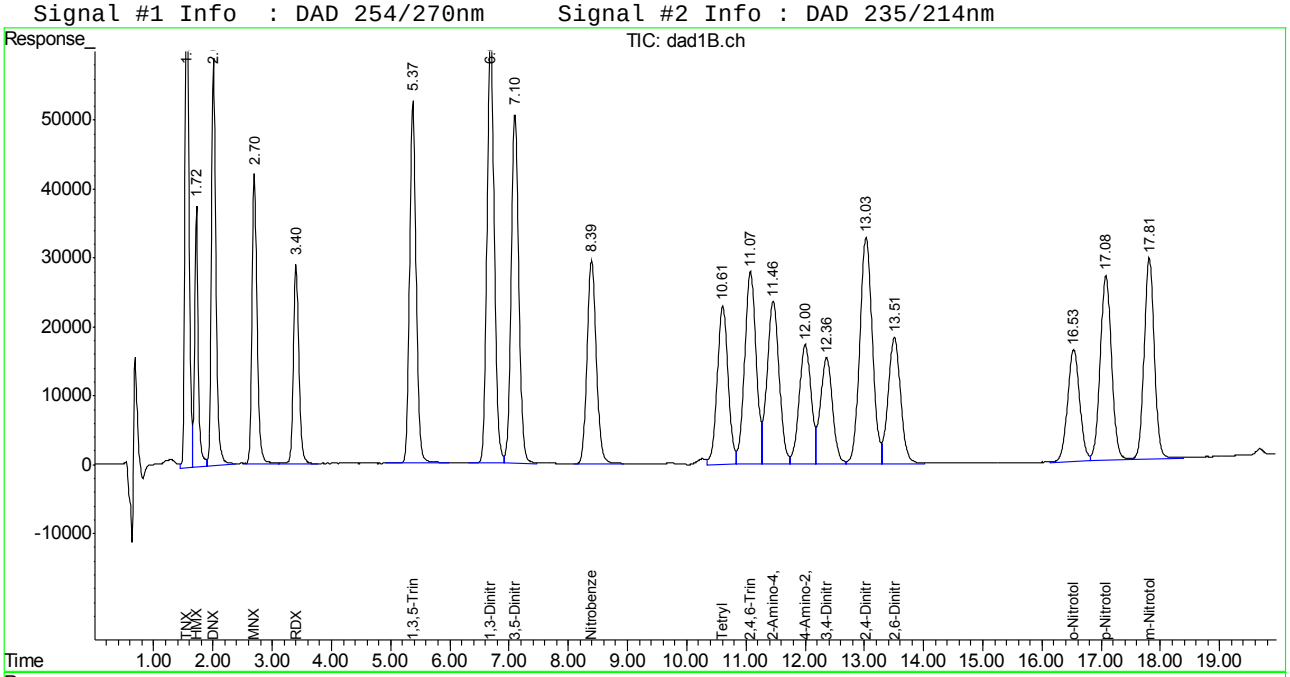
SGS ACCUTEST FA35383

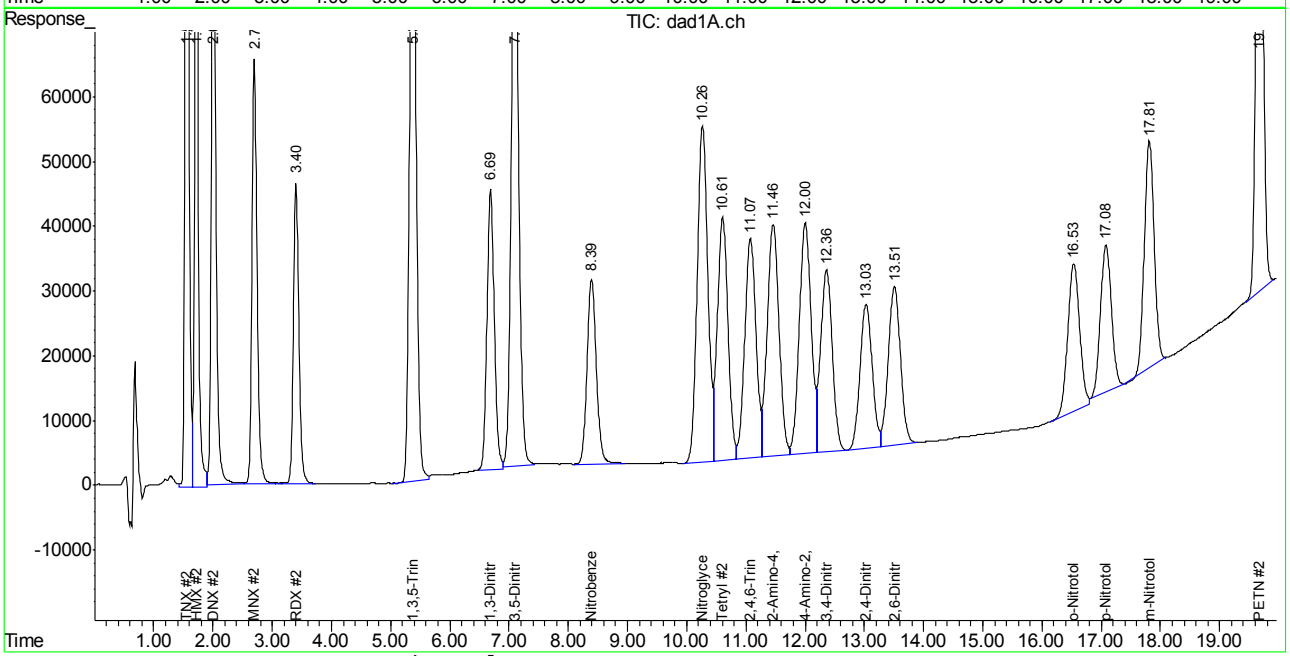
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0720BPL\BB051995.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0720BPL\BB051995.D\dad1A.ch
Acq On : 20-Jul-2016, 19:07:50 Operator: kismetl
Sample : cc1481-1000 Inst : G1315B
Misc : op61122,GBB1481,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 21 7:54 2016 Quant Results File: 8330B_0720.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0720.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 20 13:37:57 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA35383

Manual Integration Approval Summary

Sample Number: GBB1481-CC1481
Lab FileID: BB051995.D
Injection Time: 07/20/16 19:07
Method: SW846 8330B
Analyst approved: 07/21/16 08:58 Kismet Lugo
Supervisor approved: 07/25/16 11:57 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
DNX		2	2.01	Poor instrument integration
MNX		2	2.70	Poor instrument integration
RDX	121-82-4	2	3.40	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	6.69	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	7.10	Poor instrument integration
o-Nitrotoluene	88-72-2	2	16.53	Poor instrument integration
PETN	78-11-5	2	19.67	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/25/16 11:57

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0720BPL\BB052000.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0720BPL\BB052000.D\dad1A.ch
Acq On : 20-Jul-2016, 21:22:37 Operator: kismetl
Sample : ecc1481-1000 Inst : G1315B
Misc : op61122,GBB1481,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 21 07:51:38 2016 Quant Results File: 8330B_0720.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0720.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 20 13:37:57 2016
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	12.40	12.40	2144797	3917378	886.249m	973.845m
	Spiked Amount 500.000	Range 70 - 136		Recovery =		177.25%#	194.77%#
	Target Compounds						
1)	TNX	1.56	1.56	3601786	5594426	1071.625	1008.199
2)	HMX	1.73	1.73	1651259	4453877	1024.600	1002.660
3)	DNX	2.01	2.01	3112254	5003047	979.257	977.909
4)	MNX	2.71	2.71	2506367	3918371	960.842	967.684
5)	RDX	3.41	3.41	1854953	2976499	948.253	969.580
6)	1,3,5-Trinitrobe	5.39	5.39	3998234	7750021	953.133	973.261
7)	1,3-Dinitrobenze	6.70	6.70	5301039	3710423	950.063	940.917m
8)	3,5-Dinitroanili	7.11	7.11	4524774	7684952	964.310	952.039m
9)	Nitrobenzene	8.41	8.41	3212655	3082813	958.251	960.687
10)	Nitroglycerin	0.00	10.30	0	6415324	N.D. d	4845.515
11)	Tetryl	10.64	10.64	2885521	4718533	997.046m	994.310
12)	2,4,6-Trinitroto	11.11	11.11	3781348	4498812	993.770	1096.778
13)	2-Amino-4,6-Dini	11.50	11.50	3371466	5024849	964.385	1001.012
14)	4-Amino-2,6-Dini	12.04	12.04	2464729	4981946	932.003	1030.882
16)	2,4-Dinitrotolue	13.07	13.07	4822362	3195684	952.577	1005.068
17)	2,6-Dinitrotolue	13.55	13.55	2685941	3505711	937.848	949.291
18)	o-Nitrotoluene	16.59	16.59	2315735	3208694	922.383	1073.310m
19)	p-Nitrotoluene	17.12	17.13	3604916	2899425	943.488	1004.946
20)	m-Nitrotoluene	17.85	17.85	3473399	4026784	958.338	993.841
21)	PETN	0.00	19.70	0	7507053	N.D. d	5133.950m

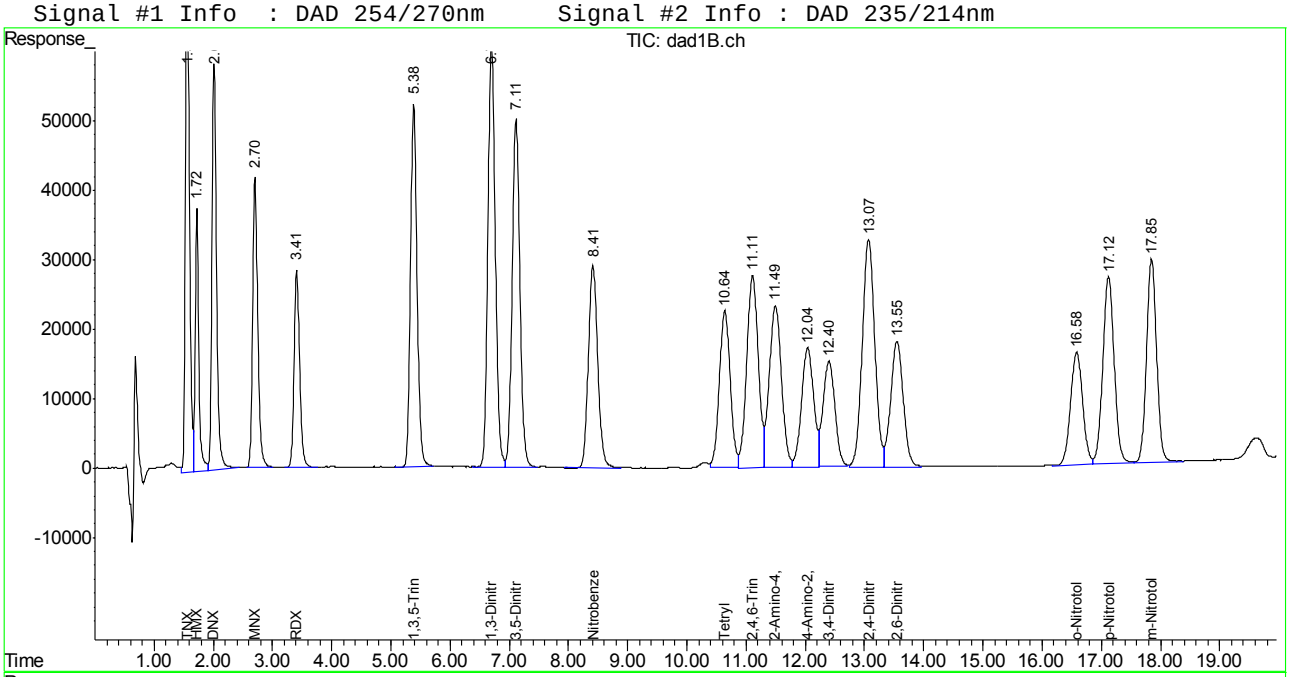
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB052000.D 8330B_0720.M Thu Jul 21 08:35:44 2016 Page 1

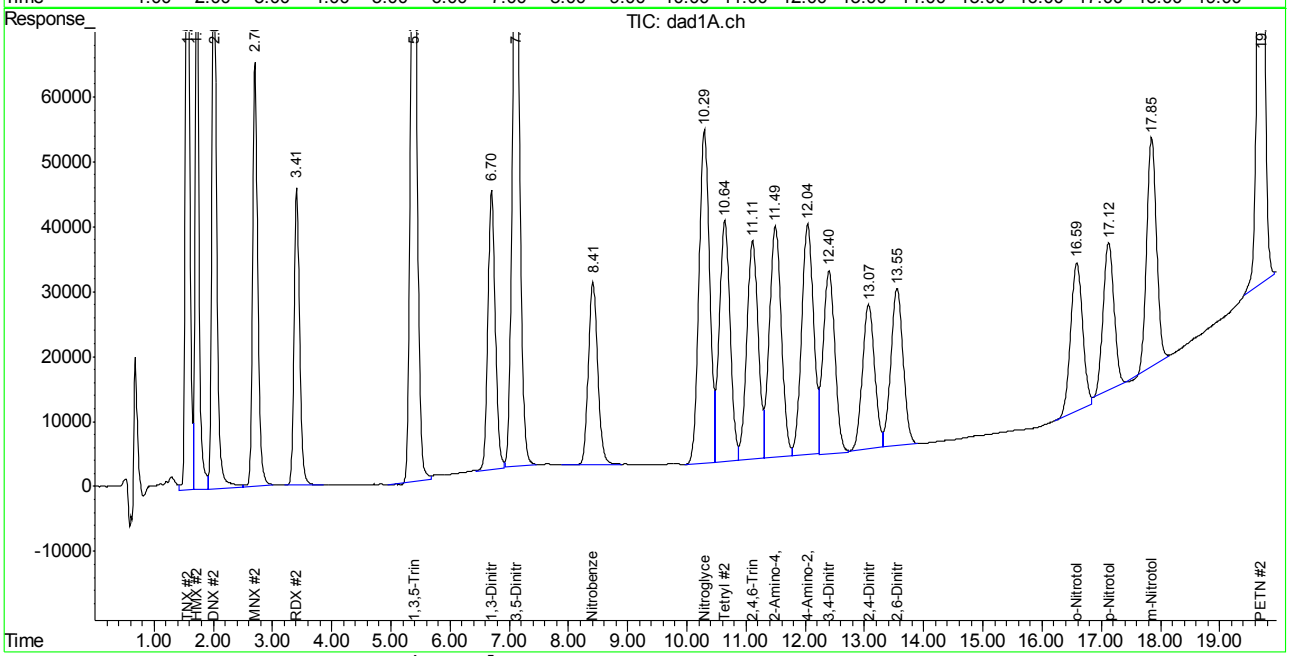
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0720BPL\BB052000.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0720BPL\BB052000.D\dad1A.ch
Acq On : 20-Jul-2016, 21:22:37 Operator: kismetl
Sample : ecc1481-1000 Inst : G1315B
Misc : op61122,GBB1481,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 21 7:56 2016 Quant Results File: 8330B_0720.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0720.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 20 13:37:57 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA35383

Manual Integration Approval Summary

Sample Number: GBB1481-ECC1481 **Method:** SW846 8330B
Lab FileID: BB052000.D **Analyst approved:** 07/21/16 08:58 Kismet Lugo
Injection Time: 07/20/16 21:22 **Supervisor approved:** 07/25/16 11:57 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
1,3-Dinitrobenzene	99-65-0	2	6.70	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	7.11	Poor instrument integration
Tetryl	479-45-8	1	10.64	Poor instrument integration
3,4-Dinitrotoluene	610-39-9	1	12.40	Poor instrument integration
3,4-Dinitrotoluene	610-39-9	2	12.40	Poor instrument integration
o-Nitrotoluene	88-72-2	2	16.59	Poor instrument integration
PETN	78-11-5	2	19.70	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/25/16 11:57

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0721BPL\BB052009.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0721BPL\BB052009.D\dad1A.ch
Acq On : 21-Jul-2016, 14:35:46 Operator: kismetl
Sample : cc1481-1000 Inst : G1315B
Misc : op61122,GBB1482,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 22 07:29:26 2016 Quant Results File: 8330B_0720.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0720.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jul 22 07:29:12 2016
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	12.43	12.43	2180016	3920750	900.801	974.683
Spiked Amount	500.000	Range	70 - 136	Recovery	=	180.16%#	194.94%#
	Target Compounds						
1)	TNX	1.57	1.57	3672681	5688202	1092.718	1025.099
2)	HMX	1.73	1.73	1709915	4551344	1060.995	1024.016
3)	DNX	2.02	2.02	3267603	5207485	1028.137	1017.869
4)	MNX	2.71	2.71	2572816	3997581	986.315	987.246
5)	RDX	3.42	3.42	1863196	3010050	952.467	980.509
6)	1,3,5-Trinitrobe	5.41	5.40	4039066	7815607	962.867	981.498m
7)	1,3-Dinitrobenze	6.72	6.72	5347336	3725054	958.360	944.627m
8)	3,5-Dinitroanili	7.13	7.13	4560234	7780645	971.868	963.894m
9)	Nitrobenzene	8.43	8.43	3195876	3052473	953.246	951.232m
10)	Nitroglycerin	0.00	10.32	0	6568127	N.D. d	4960.927
11)	Tetryl	10.66	10.66	2997493	4784602	1035.736	1008.232
12)	2,4,6-Trinitroto	11.14	11.14	3833339	4556075	1007.434	1110.739
13)	2-Amino-4,6-Dini	11.52	11.52	3401946	5064003	973.104	1008.441
14)	4-Amino-2,6-Dini	12.06	12.06	2503699	5052322	946.739	1045.444
16)	2,4-Dinitrotolue	13.09	13.10	4852145	3234404	958.460	1017.246
17)	2,6-Dinitrotolue	13.57	13.57	2675570	3628952	934.226	982.662
18)	o-Nitrotoluene	16.60	16.60	2287454	3186014	911.118	1065.723m
19)	p-Nitrotoluene	17.14	17.15	3553696	2892134	930.082	1002.419
20)	m-Nitrotoluene	17.87	17.88	3443666	3988305	950.134	984.344
21)	PETN	0.00	19.74	0	7379734	N.D. d	5046.879m

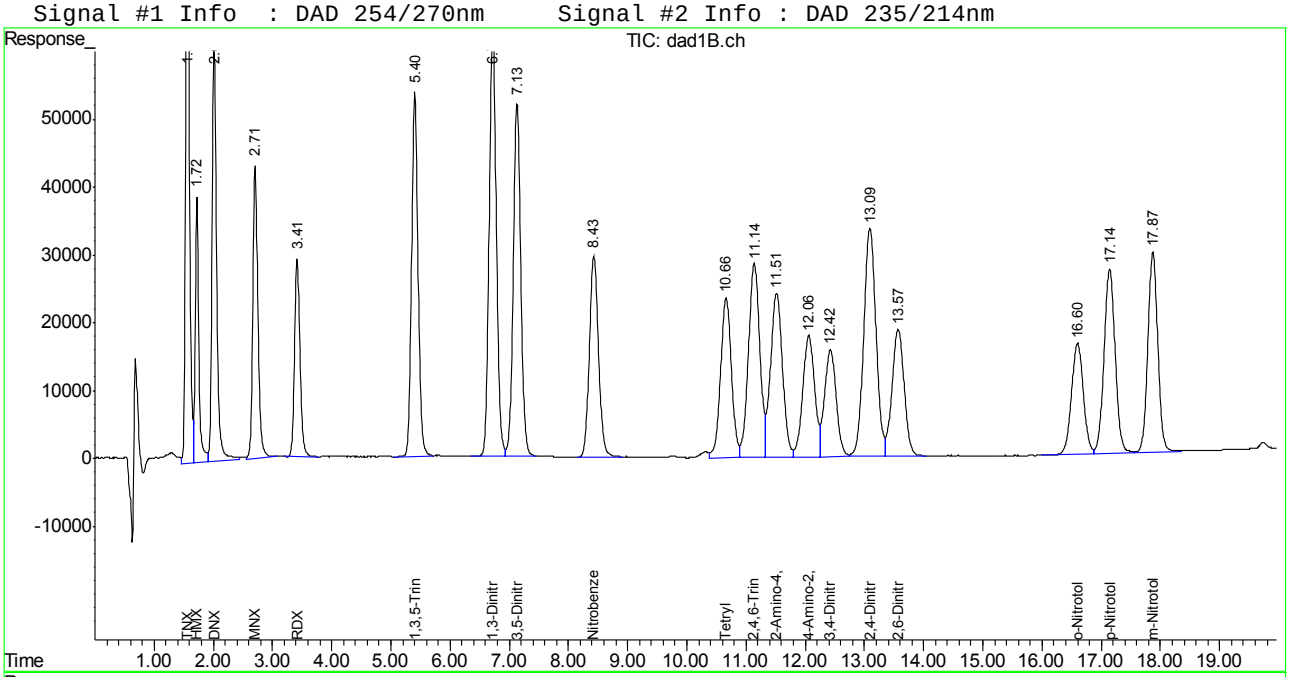
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB052009.D 8330B_0720.M Fri Jul 22 08:18:39 2016 Page 1

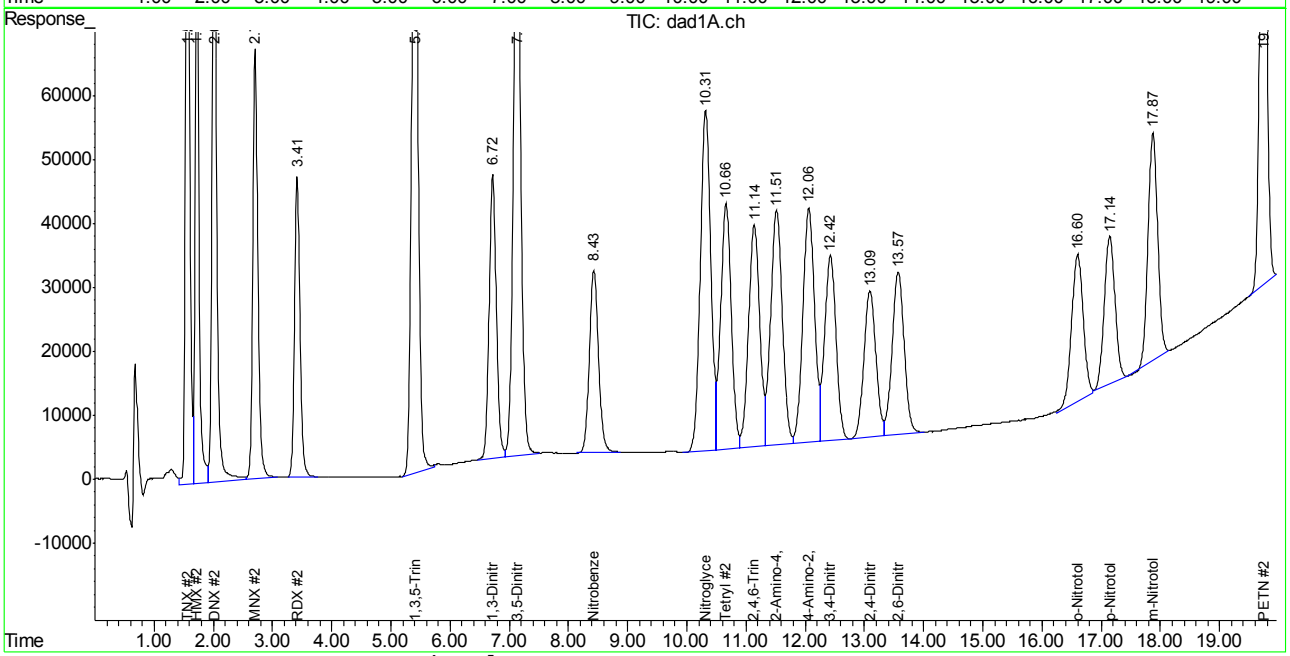
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0721BPL\BB052009.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0721BPL\BB052009.D\dad1A.ch
Acq On : 21-Jul-2016, 14:35:46 Operator: kismetl
Sample : cc1481-1000 Inst : G1315B
Misc : op61122,GBB1482,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 22 7:33 2016 Quant Results File: 8330B_0720.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0720.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jul 22 07:29:12 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA35383

Manual Integration Approval Summary

Sample Number: GBB1482-CC1481
Lab FileID: BB052009.D
Injection Time: 07/21/16 14:35
Method: SW846 8330B
Analyst approved: 07/22/16 08:36 Kismet Lugo
Supervisor approved: 07/25/16 11:57 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
1,3,5-Trinitrobenzene	99-35-4	2	5.40	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	6.72	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	7.13	Poor instrument integration
Nitrobenzene	98-95-3	2	8.43	Poor instrument integration
o-Nitrotoluene	88-72-2	2	16.60	Poor instrument integration
PETN	78-11-5	2	19.74	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/25/16 11:57

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0721BPL\BB052020.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0721BPL\BB052020.D\dad1A.ch
Acq On : 21-Jul-2016, 19:32:28 Operator: kismetl
Sample : ecc1481-1000 Inst : G1315B
Misc : op61122,GBB1482,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 22 07:29:37 2016 Quant Results File: 8330B_0720.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0720.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jul 22 07:29:12 2016
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	12.56	12.56	2160330	4127113	892.667	1025.984
	Spiked Amount 500.000	Range 70 - 136		Recovery =		178.53%#	205.20%#
	Target Compounds						
1)	TNX	1.58	1.58	3680240	5697818	1094.967	1026.832
2)	HMX	1.75	1.75	1672488	4517658	1037.772	1016.638
3)	DNX	2.04	2.04	3160967	5137525	994.584	1004.195
4)	MNX	2.74	2.74	2523562	3962797	967.434	978.656
5)	RDX	3.45	3.45	1876510	3004068	959.273	978.560
6)	1,3,5-Trinitrobe	5.46	5.45	4073205	7596620	971.005	953.997m
7)	1,3-Dinitrobenze	6.78	6.78	5364530	3720302	961.442	943.422m
8)	3,5-Dinitroanili	7.20	7.19	4583749	7774987	976.879	963.193m
9)	Nitrobenzene	8.51	8.51	3208634	3052941	957.052	951.378m
10)	Nitroglycerin	0.00	10.42	0	6576336	N.D. d	4967.128m
11)	Tetryl	10.78	10.78	2966826	4896045	1025.140	1031.716m
12)	2,4,6-Trinitroto	11.25	11.25	3813231	4751165	1002.149	1158.300m
13)	2-Amino-4,6-Dini	11.64	11.64	3383191	5370546	967.739	1066.424
14)	4-Amino-2,6-Dini	12.19	12.19	2467769	5258133	933.153	1088.031
16)	2,4-Dinitrotolue	13.22	13.22	4808491	3349792	949.837	1053.536
17)	2,6-Dinitrotolue	13.70	13.70	2649281	3668357	925.047	993.333
18)	o-Nitrotoluene	16.72	16.72	2307501	3230232	919.103	1080.514m
19)	p-Nitrotoluene	17.26	17.26	3590252	2913053	939.650	1009.670
20)	m-Nitrotoluene	17.97	17.97	3448578	4041319	951.490	997.428
21)	PETN	0.00	19.79	0	7331767	N.D. d	5014.075m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB052020.D 8330B_0720.M Fri Jul 22 08:18:50 2016 Page 1

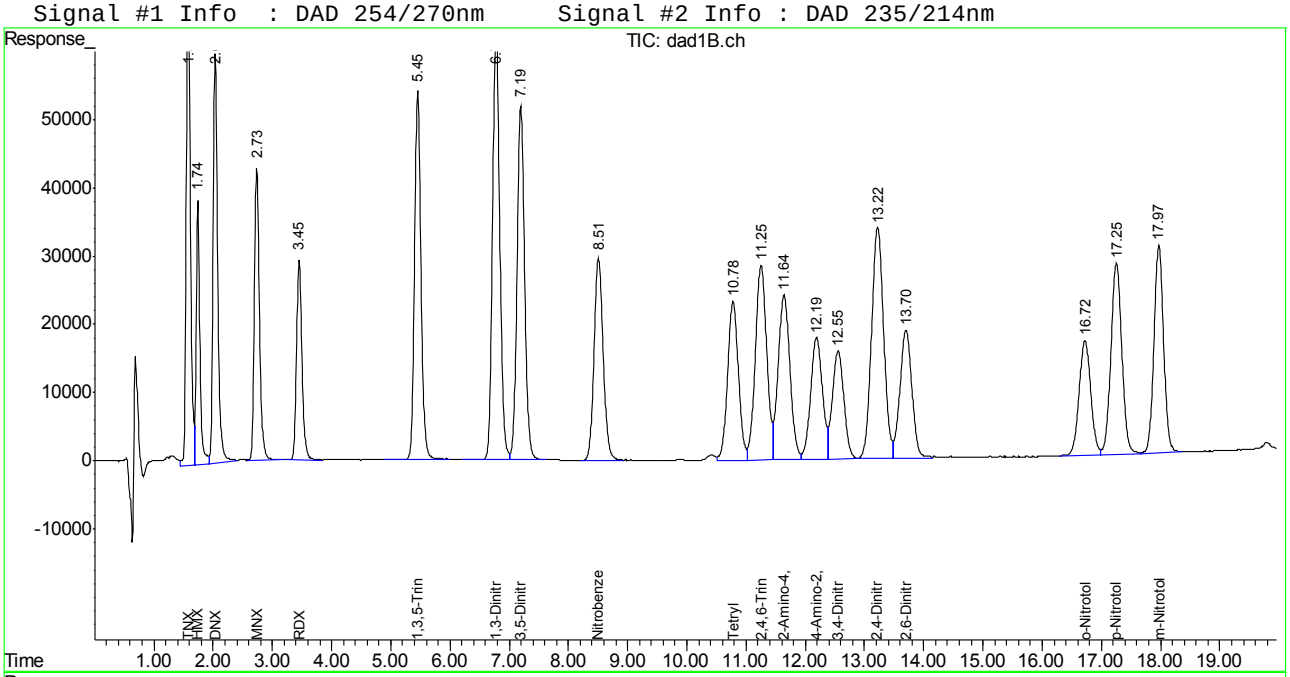
SGS ACCUTEST FA35383

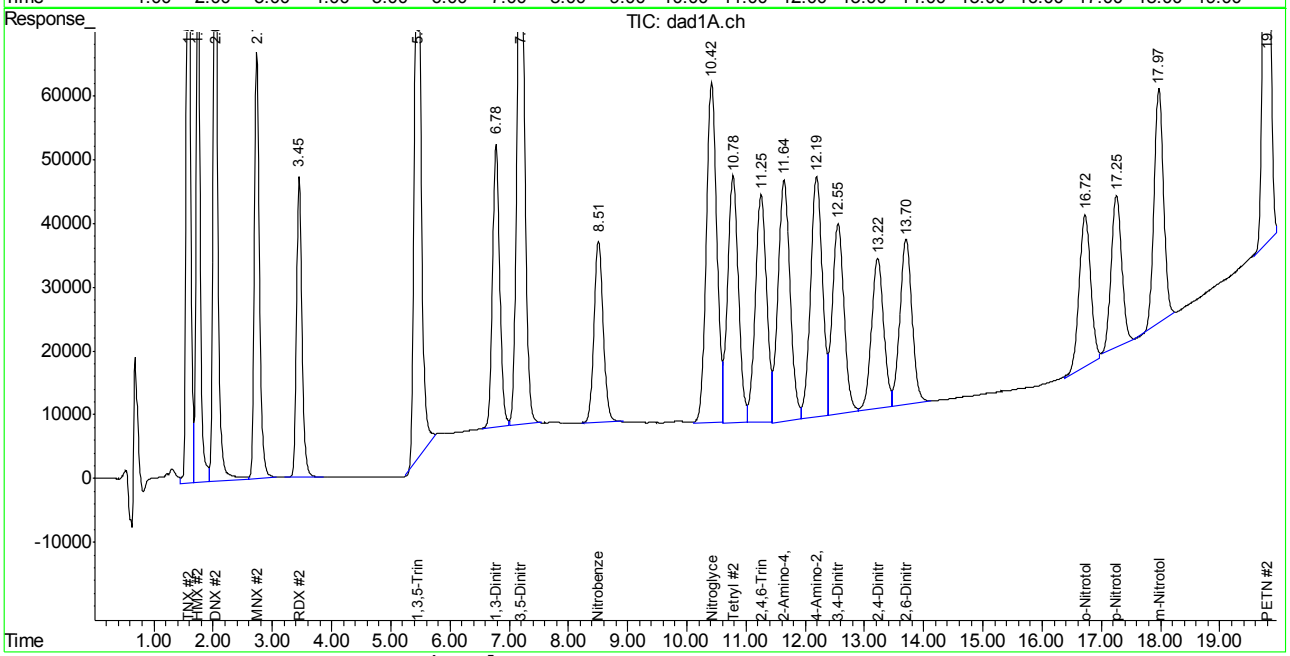
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0721BPL\BB052020.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0721BPL\BB052020.D\dad1A.ch
Acq On : 21-Jul-2016, 19:32:28 Operator: kismetl
Sample : ecc1481-1000 Inst : G1315B
Misc : op61122,GBB1482,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 22 7:35 2016 Quant Results File: 8330B_0720.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0720.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jul 22 07:29:12 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA35383

Manual Integration Approval Summary

Sample Number: GBB1482-ECC1481 **Method:** SW846 8330B
Lab FileID: BB052020.D **Analyst approved:** 07/22/16 08:36 Kismet Lugo
Injection Time: 07/21/16 19:32 **Supervisor approved:** 07/25/16 11:57 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
1,3,5-Trinitrobenzene	99-35-4	2	5.45	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	6.78	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	7.19	Poor instrument integration
Nitrobenzene	98-95-3	2	8.51	Poor instrument integration
Nitroglycerine	55-63-0	2	10.42	Poor instrument integration
Tetryl	479-45-8	2	10.78	Poor instrument integration
2,4,6-Trinitrotoluene	118-96-7	2	11.25	Poor instrument integration
o-Nitrotoluene	88-72-2	2	16.72	Poor instrument integration
PETN	78-11-5	2	19.79	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/25/16 11:58

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0721RPB3\GG059705.D\dad1B.ch Vial: 3
Signal #2 : G:\DATA\0721RPB3\GG059705.D\dad1A.ch
Acq On : 21-Jul-2016, 10:13:37 Operator: kismetl
Sample : ic2442-20 Inst : G1315B
Misc : OP61122,GGG2442,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 21 12:56:42 2016 Quant Results File: 8330RPB.M_0707.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0707.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jul 21 12:56:27 2016
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	19.36	19.38	98994	156015	21.696m	17.400m
	Spiked Amount 500.000	Range 70 - 136		Recovery =		4.34%#	3.48%#
	Target Compounds						
1)	TNX	6.74	6.74	162392	272704	19.858m	21.623m
2)	HMX	7.55	7.56	53195	96177	18.607	12.282m
3)	DNX	7.84	7.84	138328	140811	18.614	12.243m
4)	MNX	9.60	9.60	110649	156691	20.046	18.096
5)	1,3,5-Trinitrobe	10.55	10.55	170518	280291	18.484	17.337m
6)	RDX	11.41	11.41	77685	171582	18.138	21.286m
7)	1,3-Dinitrobenze	13.84	13.84	230174	166009	18.532	18.168m
8)	Nitrobenzene	15.12	15.12	151875	136160	18.866	18.580m
9)	2,4,6-Trinitroto	16.01	16.02	167920	198018	19.305	17.789m
10)	Nitroglycerin	0.00	16.86	0	285254	N.D.	92.381m#
11)	Tetryl	17.83	17.83	131507	235466	22.784	22.880m
13)	2,6-Dinitrotolue	19.65	19.67	106801	151311	16.775m	17.154m
14)	2,4-Dinitrotolue	20.39	20.42	211726	184563	18.454m	22.383m
15)	o-Nitrotoluene	22.22	22.35	94191	93873	18.403	12.936m
16)	3,5-Dinitroanili	21.68	21.67	194324	280693	17.904	16.158m
17)	p-Nitrotoluene	23.39	23.48	81655	116242	19.129m	16.788m
18)	4-Amino-2,6-Dini	23.66	23.71	115378	245239	18.028m	19.363m
19)	m-Nitrotoluene	24.68	24.72	116529	148419	20.456	16.254m
20)	2-Amino-4,6-Dini	25.82	25.87	169755	236316	19.525	19.573m
21)	PETN	0.00	26.73	0	345212	N.D. d	289.130m

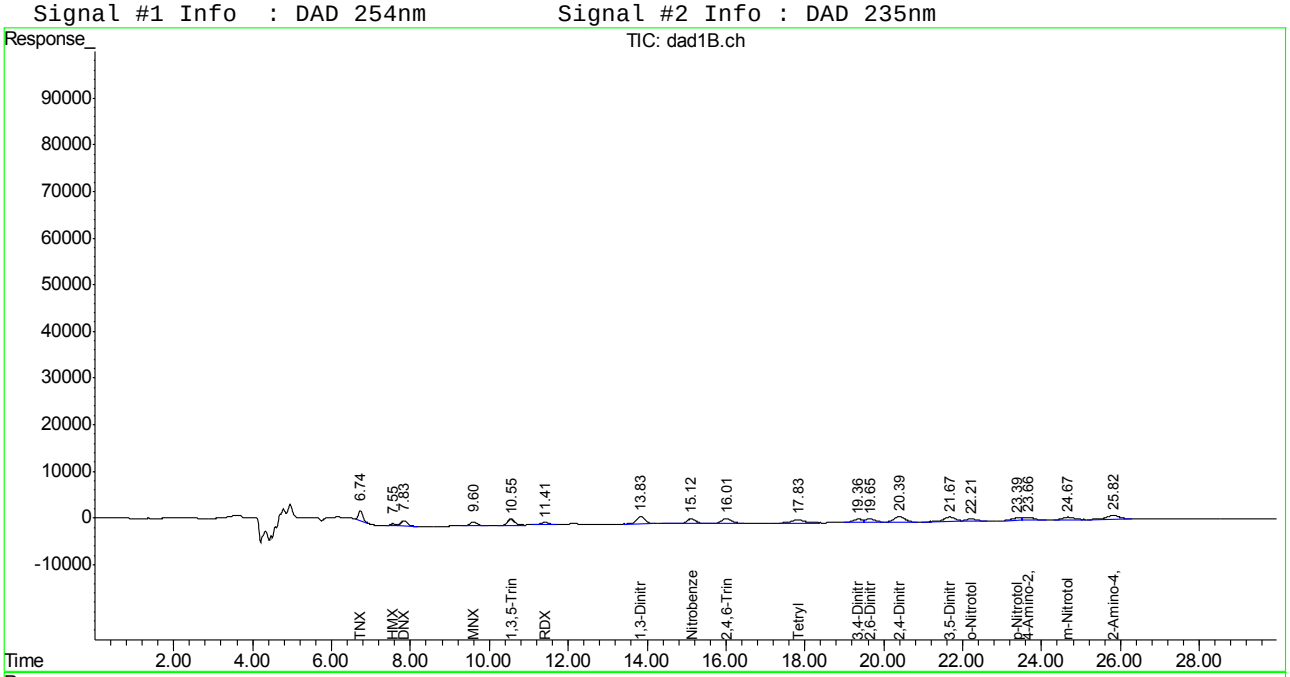
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG059705.D 8330RPB.M_0721.M Fri Jul 22 08:57:34 2016 Page 1

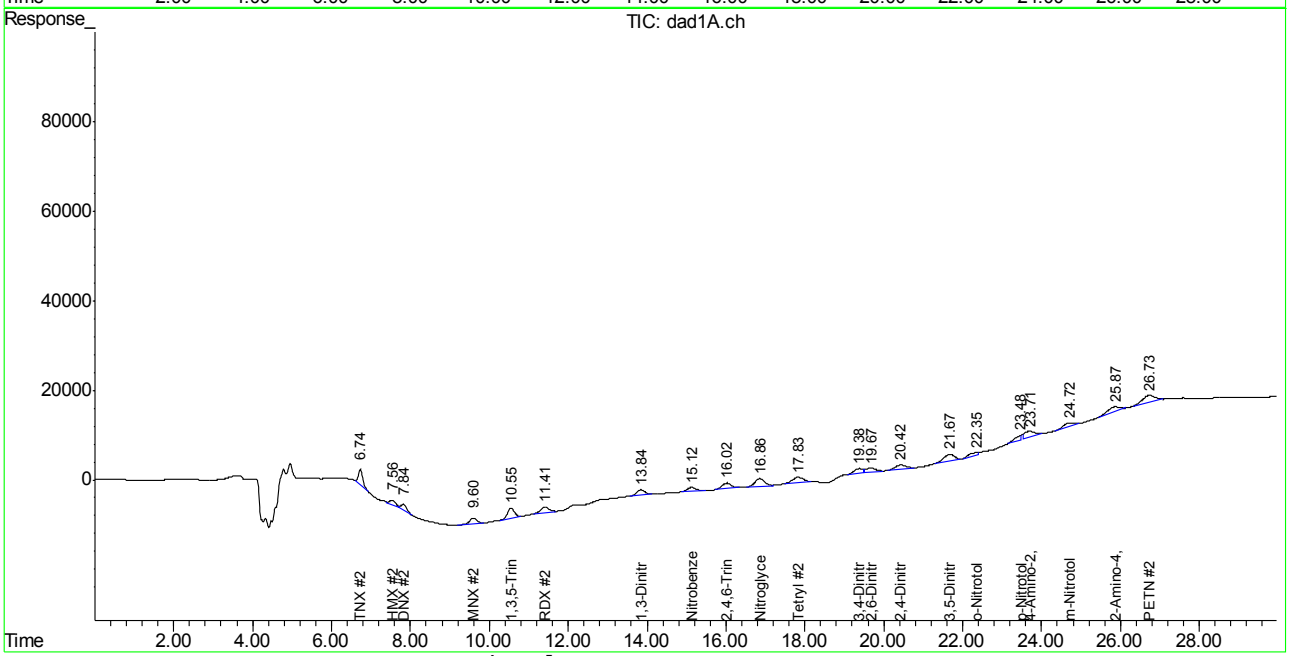
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0721RPB3\GG059705.D\dad1B.ch Vial: 3
Signal #2 : G:\DATA\0721RPB3\GG059705.D\dad1A.ch
Acq On : 21-Jul-2016, 10:13:37 Operator: kismetl
Sample : ic2442-20 Inst : G1315B
Misc : OP61122,GGG2442,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 21 13:06 2016 Quant Results File: 8330RPB.M_0707.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0707.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jul 21 12:56:27 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





SGS ACCUTEST FA35383

Manual Integration Approval Summary

Sample Number: GGG2442-IC2442
Lab FileID: GG059705.D
Injection Time: 07/21/16 10:13
Method: SW846 8330B
Analyst approved: 07/22/16 10:57 Kismet Lugo
Supervisor approved: 07/25/16 11:58 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	6.74	Poor instrument integration
TNX		2	6.74	Poor instrument integration
HMX	2691-41-0	2	7.56	Poor instrument integration
DNX		2	7.84	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	2	10.55	Poor instrument integration
RDX	121-82-4	2	11.41	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	13.84	Poor instrument integration
Nitrobenzene	98-95-3	2	15.12	Poor instrument integration
2,4,6-Trinitrotoluene	118-96-7	2	16.02	Poor instrument integration
Nitroglycerine	55-63-0	2	16.86	Poor instrument integration
Tetryl	479-45-8	2	17.83	Poor instrument integration
3,4-Dinitrotoluene	610-39-9	1	19.36	Poor instrument integration
3,4-Dinitrotoluene	610-39-9	2	19.38	Poor instrument integration
2,6-Dinitrotoluene	606-20-2	1	19.65	Poor instrument integration
2,6-Dinitrotoluene	606-20-2	2	19.67	Poor instrument integration
2,4-Dinitrotoluene	121-14-2	1	20.39	Poor instrument integration
2,4-Dinitrotoluene	121-14-2	2	20.42	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	21.67	Poor instrument integration
o-Nitrotoluene	88-72-2	2	22.35	Poor instrument integration
p-Nitrotoluene	99-99-0	1	23.39	Poor instrument integration
p-Nitrotoluene	99-99-0	2	23.48	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	1	23.66	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	2	23.71	Poor instrument integration
m-Nitrotoluene	99-08-1	2	24.72	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	25.87	Poor instrument integration
PETN	78-11-5	2	26.73	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/25/16 11:58

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0721RPB3\GG059706.D\dad1B.ch Vial: 4
Signal #2 : G:\DATA\0721RPB3\GG059706.D\dad1A.ch
Acq On : 21-Jul-2016, 10:45:41 Operator: kismetl
Sample : ic2442-50 Inst : G1315B
Misc : OP61122,GGG2442,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 21 12:56:43 2016 Quant Results File: 8330RPB.M_0707.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0707.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jul 21 12:56:27 2016
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	19.37	19.37	265194	506257	58.122	56.461m
Spiked Amount	500.000	Range	70 - 136	Recovery	=	11.62%#	11.29%#
	Target Compounds						
1)	TNX	6.74	6.74	415022	684967	50.751m	54.311m
2)	HMX	7.56	7.56	151418	416585	52.964	53.187
3)	DNX	7.84	7.84	385955	517216	51.935	44.972m
4)	MNX	9.60	9.60	298971	429510	54.165	49.602
5)	1,3,5-Trinitrobe	10.55	10.55	464286	813613	50.329	50.326m
6)	RDX	11.41	11.42	211551	378129	49.392	46.910m
7)	1,3-Dinitrobenze	13.85	13.85	646917	497657	52.086	54.465m
8)	Nitrobenzene	15.13	15.14	431872	529399	53.649	72.241m
9)	2,4,6-Trinitroto	16.02	16.02	444285	510221	51.078	45.836m
10)	Nitroglycerin	0.00	16.87	0	739037	N.D. d	239.341m
11)	Tetryl	17.84	17.84	325473	565401	56.313	54.891
13)	2,6-Dinitrotolue	19.66	19.66	325131	474389	51.066	53.780
14)	2,4-Dinitrotolue	20.40	20.41	592215	430404	51.617	52.211
15)	o-Nitrotoluene	22.20	22.22	261644	314518	51.120	43.342
16)	3,5-Dinitroanili	21.67	21.67	546643	840582	50.364	48.388m
17)	p-Nitrotoluene	23.38	23.46	222717	355080	52.174m	51.316m
18)	4-Amino-2,6-Dini	23.66	23.68	315757	614476	49.338m	48.517m
19)	m-Nitrotoluene	24.68	24.69	295663	451699	51.902	49.467
20)	2-Amino-4,6-Dini	25.81	25.82	427173	590596	49.132	48.918m
21)	PETN	0.00	26.72	0	769991	N.D. d	644.318m

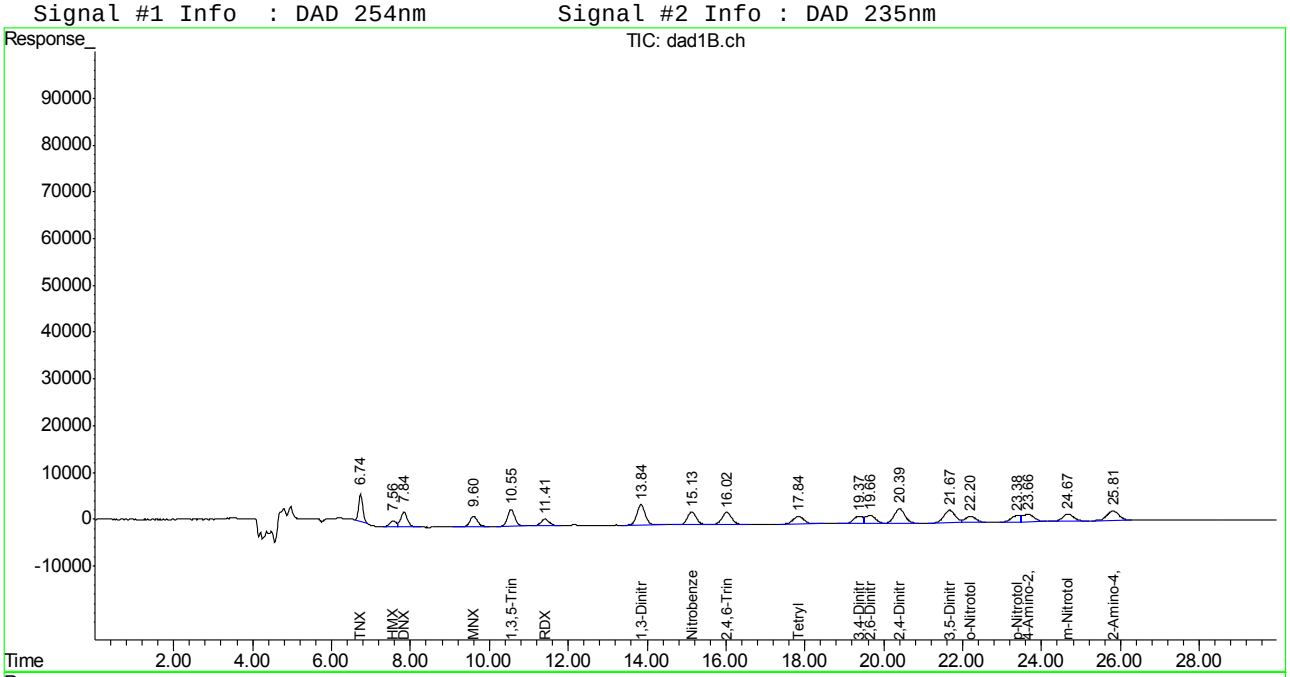
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG059706.D 8330RPB.M_0721.M Fri Jul 22 08:57:35 2016 Page 1

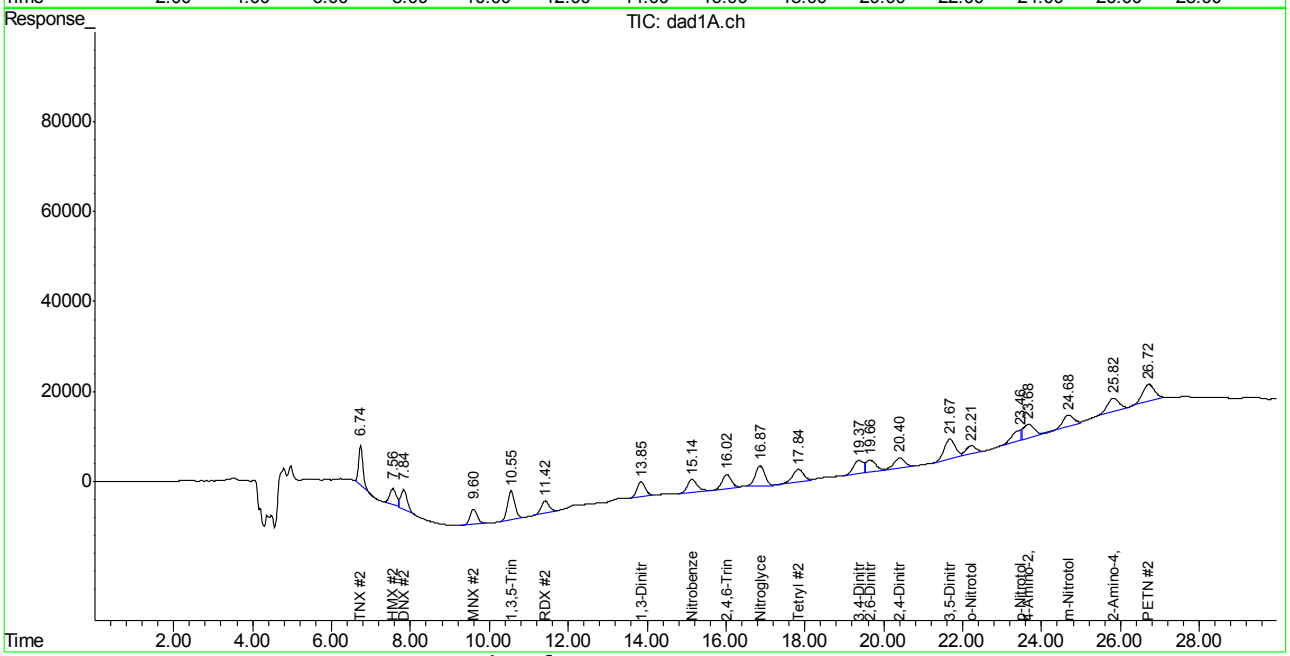
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0721RPB3\GG059706.D\dad1B.ch Vial: 4
Signal #2 : G:\DATA\0721RPB3\GG059706.D\dad1A.ch
Acq On : 21-Jul-2016, 10:45:41 Operator: kismetl
Sample : ic2442-50 Inst : G1315B
Misc : OP61122,GGG2442,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 21 13:11 2016 Quant Results File: 8330RPB.M_0707.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0707.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jul 21 12:56:27 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





SGS ACCUTEST FA35383

Manual Integration Approval Summary

Sample Number: GGG2442-IC2442
Lab FileID: GG059706.D
Injection Time: 07/21/16 10:45
Method: SW846 8330B
Analyst approved: 07/22/16 10:57 Kismet Lugo
Supervisor approved: 07/25/16 11:58 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	6.74	Poor instrument integration
TNX		2	6.74	Poor instrument integration
DNX		2	7.84	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	2	10.55	Split peak
RDX	121-82-4	2	11.42	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	13.85	Poor instrument integration
Nitrobenzene	98-95-3	2	15.14	Poor instrument integration
2,4,6-Trinitrotoluene	118-96-7	2	16.02	Poor instrument integration
Nitroglycerine	55-63-0	2	16.87	Poor instrument integration
3,4-Dinitrotoluene	610-39-9	2	19.37	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	21.67	Poor instrument integration
p-Nitrotoluene	99-99-0	1	23.38	Missed peak
p-Nitrotoluene	99-99-0	2	23.46	Overlapping peak
4-amino-2,6-Dinitrotoluene	19406-51-0	1	23.66	Overlapping peak
4-amino-2,6-Dinitrotoluene	19406-51-0	2	23.68	Overlapping peak
2-amino-4,6-Dinitrotoluene	35572-78-2	2	25.82	Poor instrument integration
PETN	78-11-5	2	26.72	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/25/16 11:58

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0721RPB3\GG059707.D\dad1B.ch Vial: 5
Signal #2 : G:\DATA\0721RPB3\GG059707.D\dad1A.ch
Acq On : 21-Jul-2016, 11:17:48 Operator: kismetl
Sample : ic2442-100 Inst : G1315B
Misc : OP61122,GGG2442,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 21 12:56:44 2016 Quant Results File: 8330RPB.M_0707.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0707.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jul 21 12:56:27 2016
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	19.36	19.36	488905	1088861	107.152	121.436
	Spiked Amount 500.000	Range 70 - 136		Recovery =		21.43%#	24.29%#
	Target Compounds						
1)	TNX	6.73	6.73	818605	1262052	100.102m	100.068m
2)	HMX	7.55	7.55	285156	848767	99.744	108.331
3)	DNX	7.84	7.83	726446	1010578	97.753	87.869m
4)	MNX	9.60	9.59	548128	845416	99.305	97.633
5)	1,3,5-Trinitrobe	10.55	10.55	870323	1602323	94.344	99.111m
6)	RDX	11.41	11.41	402810	796774	94.046	98.847m
7)	1,3-Dinitrobenze	13.84	13.83	1187796	773105	95.634	84.610m
8)	Nitrobenzene	15.12	15.12	781492	803442	97.080	109.637m
9)	2,4,6-Trinitroto	16.02	16.02	817017	1157015	93.930	103.942
10)	Nitroglycerin	0.00	16.86	0	1733031	N.D.	561.250 #
11)	Tetryl	17.82	17.82	631523	1183961	109.037	114.749m
13)	2,6-Dinitrotolue	19.66	19.65	610968	936441	95.961	106.162
14)	2,4-Dinitrotolue	20.40	20.40	1115997	936388	97.269	113.652
15)	o-Nitrotoluene	22.20	22.20	501419	735904	97.968	101.410
16)	3,5-Dinitroanili	21.68	21.67	1027367	1610462	94.656	92.706m
17)	p-Nitrotoluene	23.39	23.45	406179	641356	95.153	92.767m
18)	4-Amino-2,6-Dini	23.66	23.67	613793	1170579	95.907	92.425m
19)	m-Nitrotoluene	24.68	24.69	560471	801041	98.387	87.724m
20)	2-Amino-4,6-Dini	25.82	25.82	791365	1115126	91.020	92.363m
21)	PETN	0.00	26.73	0	1589937	N.D. d	1328.125m

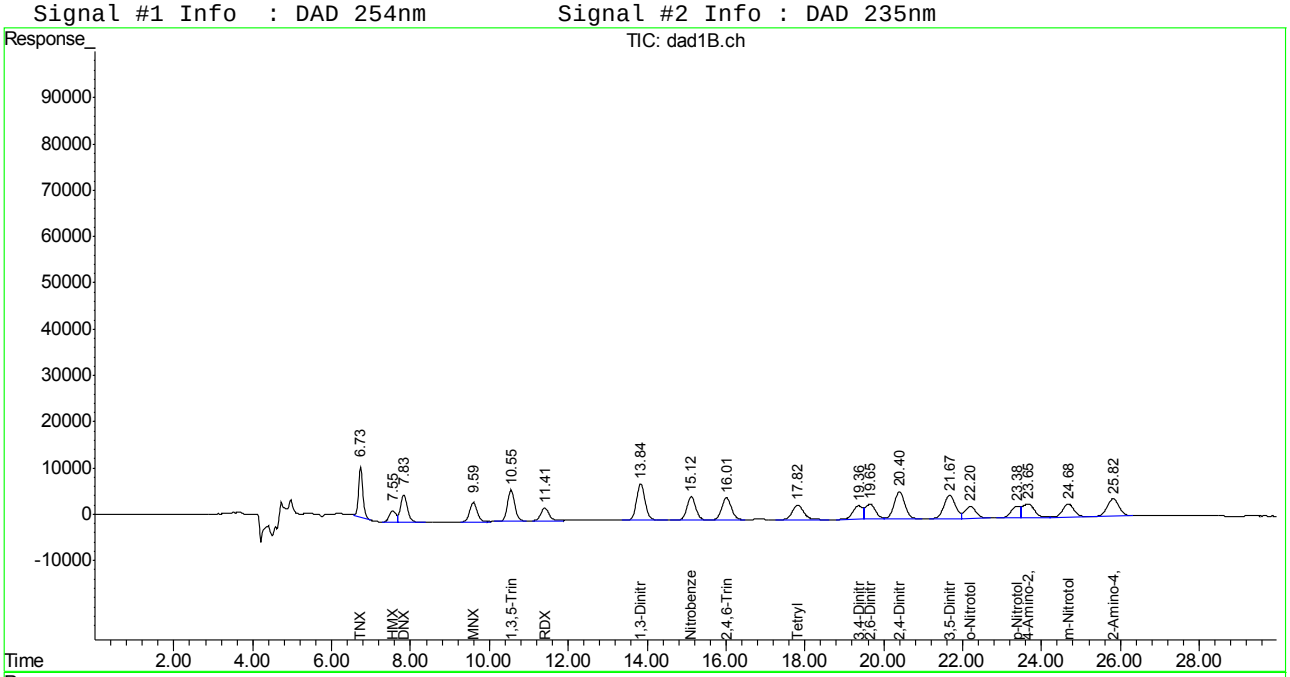
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG059707.D 8330RPB.M_0721.M Fri Jul 22 08:57:36 2016 Page 1

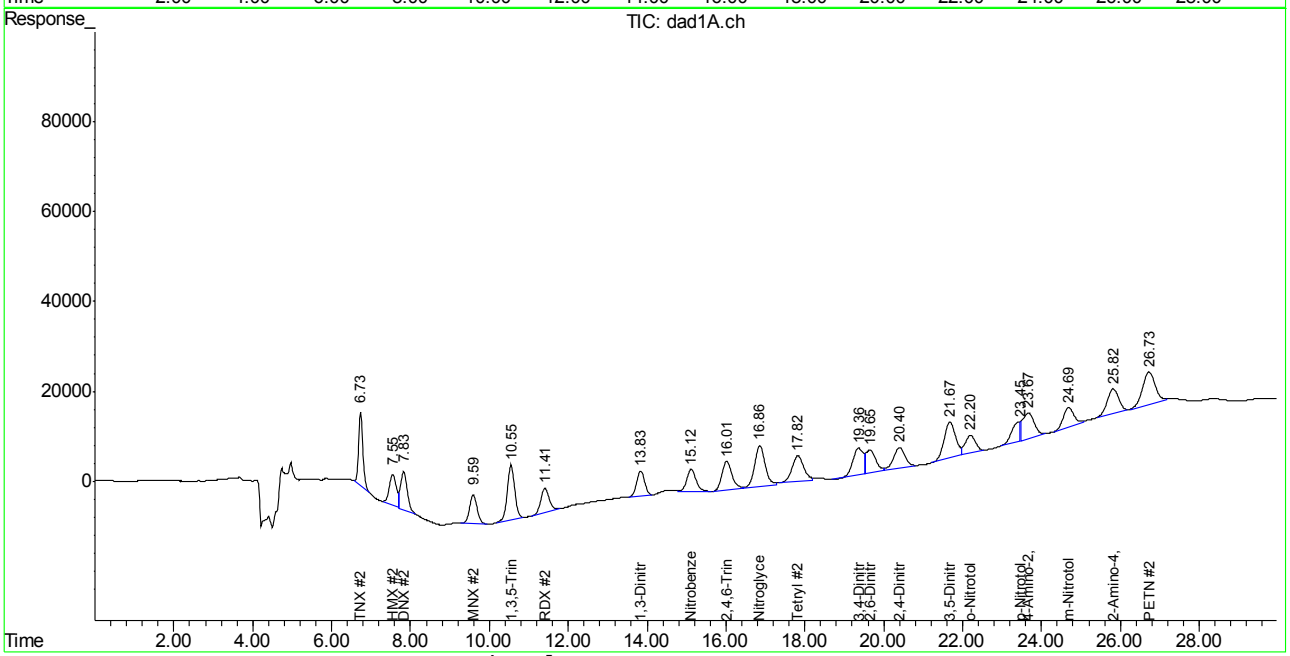
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0721RPB3\GG059707.D\dad1B.ch Vial: 5
Signal #2 : G:\DATA\0721RPB3\GG059707.D\dad1A.ch
Acq On : 21-Jul-2016, 11:17:48 Operator: kismetl
Sample : ic2442-100 Inst : G1315B
Misc : OP61122,GGG2442,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 21 13:15 2016 Quant Results File: 8330RPB.M_0707.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0707.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jul 21 12:56:27 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





9.5.16
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SGS ACCUTEST FA35383

Manual Integration Approval Summary

Sample Number: GGG2442-IC2442
Lab FileID: GG059707.D
Injection Time: 07/21/16 11:17
Method: SW846 8330B
Analyst approved: 07/22/16 10:57 Kismet Lugo
Supervisor approved: 07/25/16 11:58 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	6.73	Poor instrument integration
TNX		2	6.73	Poor instrument integration
DNX		2	7.83	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	2	10.55	Split peak
RDX	121-82-4	2	11.41	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	13.83	Poor instrument integration
Nitrobenzene	98-95-3	2	15.12	Poor instrument integration
Tetryl	479-45-8	2	17.82	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	21.67	Poor instrument integration
p-Nitrotoluene	99-99-0	2	23.45	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	2	23.67	Poor instrument integration
m-Nitrotoluene	99-08-1	2	24.69	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	25.82	Poor instrument integration
PETN	78-11-5	2	26.73	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/25/16 11:58

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0721RPB3\GG059708.D\dad1B.ch Vial: 6
Signal #2 : G:\DATA\0721RPB3\GG059708.D\dad1A.ch
Acq On : 21-Jul-2016, 11:49:54 Operator: kismetl
Sample : ic2442-200 Inst : G1315B
Misc : OP61122,GGG2442,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 21 12:56:45 2016 Quant Results File: 8330RPB.M_0707.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0707.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jul 21 12:56:27 2016
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	19.40	19.40	920215	1819160	201.680	202.883
	Spiked Amount 500.000	Range 70 - 136		Recovery =		40.34%#	40.58%#
	Target Compounds						
1)	TNX	6.74	6.74	1632796	2516655	199.665m	199.546m
2)	HMX	7.57	7.57	557207	1593333	194.904	203.254
3)	DNX	7.85	7.85	1417997	1835825	190.810	159.624m
4)	MNX	9.62	9.62	1094633	1660966	198.317	191.817
5)	1,3,5-Trinitrobe	10.57	10.57	1748126	3046438	189.499	188.437m
6)	RDX	11.43	11.43	801876	1456226	187.219	180.657
7)	1,3-Dinitrobenze	13.86	13.86	2367881	1804515	190.647	197.490m
8)	Nitrobenzene	15.15	15.15	1550220	1592479	192.574	217.308
9)	2,4,6-Trinitroto	16.04	16.04	1630343	2266934	187.436	203.652
10)	Nitroglycerin	0.00	16.88	0	2844132	N.D. d	921.085
11)	Tetryl	17.85	17.86	1208474	2180822	207.836	210.798
13)	2,6-Dinitrotolue	19.69	19.69	1204360	1939164	189.161	219.838
14)	2,4-Dinitrotolue	20.43	20.43	2176680	1759447	189.717	213.736
15)	o-Nitrotoluene	22.24	22.25	991453	1387756	193.711	191.238
16)	3,5-Dinitroanili	21.71	21.70	1991199	3152074	183.457	181.448m
17)	p-Nitrotoluene	23.43	23.43	797153	1309174	186.744	189.732m
18)	4-Amino-2,6-Dini	23.69	23.70	1202281	2376177	187.859	187.615m
19)	m-Nitrotoluene	24.72	24.71	1092874	1819478	191.846	199.256m
20)	2-Amino-4,6-Dini	25.85	25.85	1572789	2430709	180.897	201.330m
21)	PETN	0.00	26.74	0	3172233	N.D. d	2641.056m

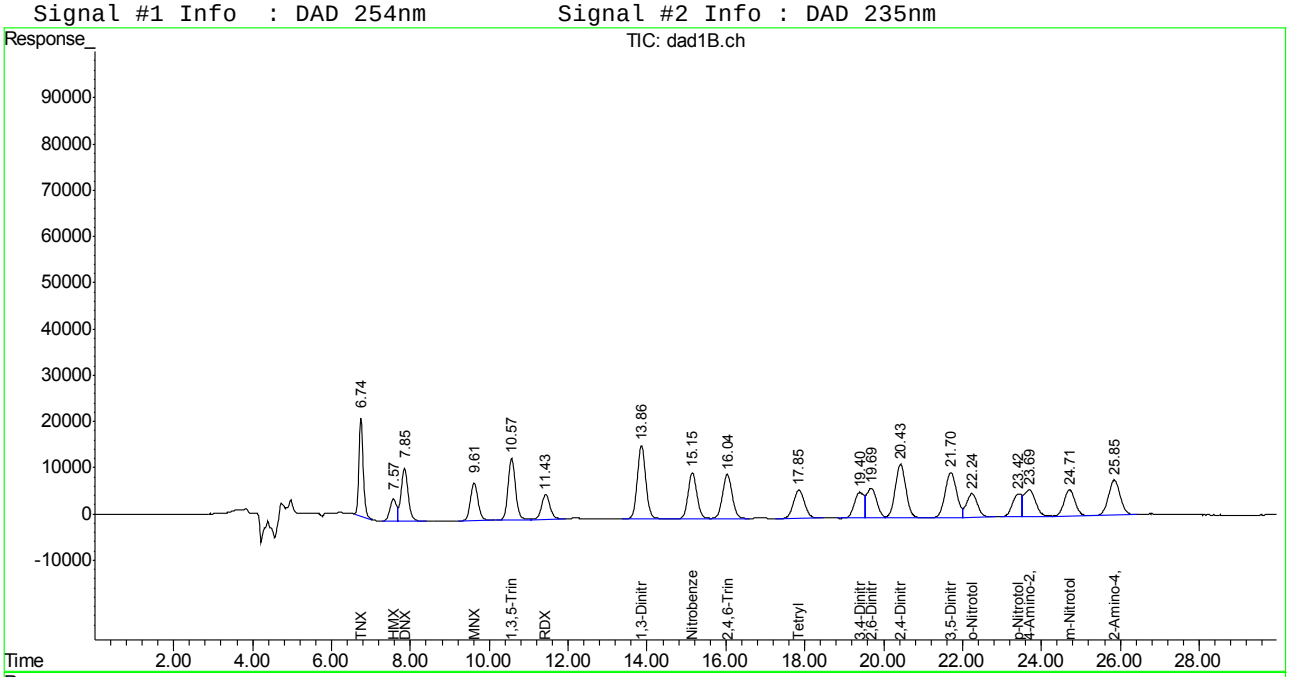
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG059708.D 8330RPB.M_0721.M Fri Jul 22 08:57:37 2016 Page 1

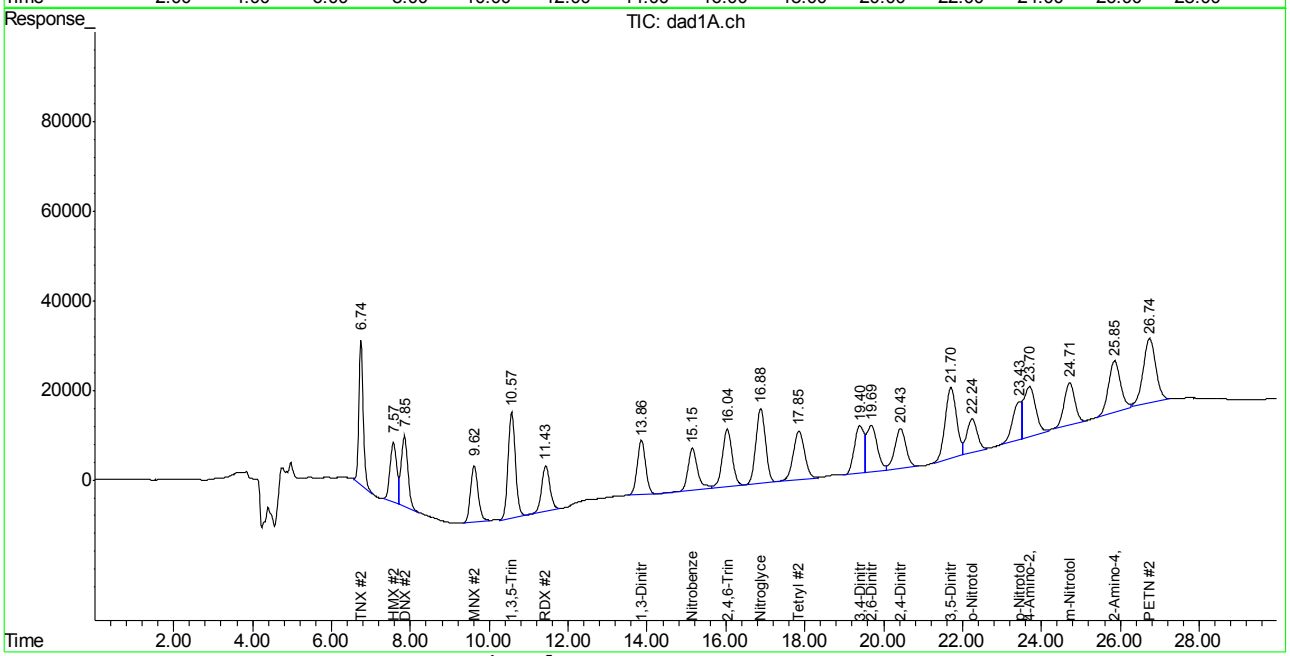
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0721RPB3\GG059708.D\dad1B.ch Vial: 6
Signal #2 : G:\DATA\0721RPB3\GG059708.D\dad1A.ch
Acq On : 21-Jul-2016, 11:49:54 Operator: kismetl
Sample : ic2442-200 Inst : G1315B
Misc : OP61122,GGG2442,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 21 13:18 2016 Quant Results File: 8330RPB.M_0707.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0707.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jul 21 12:56:27 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





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SGS ACCUTEST FA35383

Manual Integration Approval Summary

Sample Number: GGG2442-IC2442
Lab FileID: GG059708.D
Injection Time: 07/21/16 11:49
Method: SW846 8330B
Analyst approved: 07/22/16 10:57 Kismet Lugo
Supervisor approved: 07/25/16 11:58 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	6.74	Poor instrument integration
TNX		2	6.74	Poor instrument integration
DNX		2	7.85	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	2	10.57	Split peak
1,3-Dinitrobenzene	99-65-0	2	13.86	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	21.70	Poor instrument integration
p-Nitrotoluene	99-99-0	2	23.43	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	2	23.70	Poor instrument integration
m-Nitrotoluene	99-08-1	2	24.71	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	25.85	Poor instrument integration
PETN	78-11-5	2	26.74	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/25/16 11:58

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0721RPB3\GG059709.D\dad1B.ch Vial: 7
Signal #2 : G:\DATA\0721RPB3\GG059709.D\dad1A.ch
Acq On : 21-Jul-2016, 12:22:03 Operator: kismetl
Sample : icc2442-500 Inst : G1315B
Misc : OP61122,GGG2442,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 21 12:56:46 2016 Quant Results File: 8330RPB.M_0707.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0707.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jul 21 12:56:27 2016
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	19.35	19.34	2231361	4620184	489.039	515.270m
	Spiked Amount 500.000	Range 70 - 136		Recovery =		97.81%	103.05%
	Target Compounds						
1)	TNX	6.73	6.73	3984928	6031640	487.293m	478.250m
2)	HMX	7.55	7.55	1381012	3987799	483.060	507.839
3)	DNX	7.84	7.83	3502352	4953450	471.287	430.701m
4)	MNX	9.60	9.60	2666505	4026759	483.096	465.030
5)	1,3,5-Trinitrobe	10.56	10.55	4210719	7505508	456.448	464.252m
6)	RDX	11.42	11.42	1919489	3685084	448.155	457.165
7)	1,3-Dinitrobenze	13.84	13.84	5774617	4560941	464.935	499.159
8)	Nitrobenzene	15.12	15.12	3869402	3687797	480.670	503.233
9)	2,4,6-Trinitroto	16.01	16.01	4001618	5290140	460.054	475.245
10)	Nitroglycerin	0.00	16.85	0	7126122	N.D. d	2307.828
11)	Tetryl	17.81	17.81	3013712	5312330	512.137	509.242
13)	2,6-Dinitrotolue	19.65	19.64	2870226	3970163	450.808	450.087
14)	2,4-Dinitrotolue	20.40	20.40	5265519	3632263	458.937	442.128
15)	o-Nitrotoluene	22.19	22.19	2429054	3546830	474.590	488.766
16)	3,5-Dinitroanili	21.66	21.66	4914938	8144209	452.833	468.819m
17)	p-Nitrotoluene	23.38	23.45	1938935	3217532	454.222	468.950m
18)	4-Amino-2,6-Dini	23.64	23.64	2953490	5872747	461.490	463.691m
19)	m-Nitrotoluene	24.67	24.66	2745772	4585943	482.001	502.220m
20)	2-Amino-4,6-Dini	25.80	25.79	3888625	5613202	447.257	464.927m
21)	PETN	0.00	26.70	0	7600212	N.D. d	6269.960m

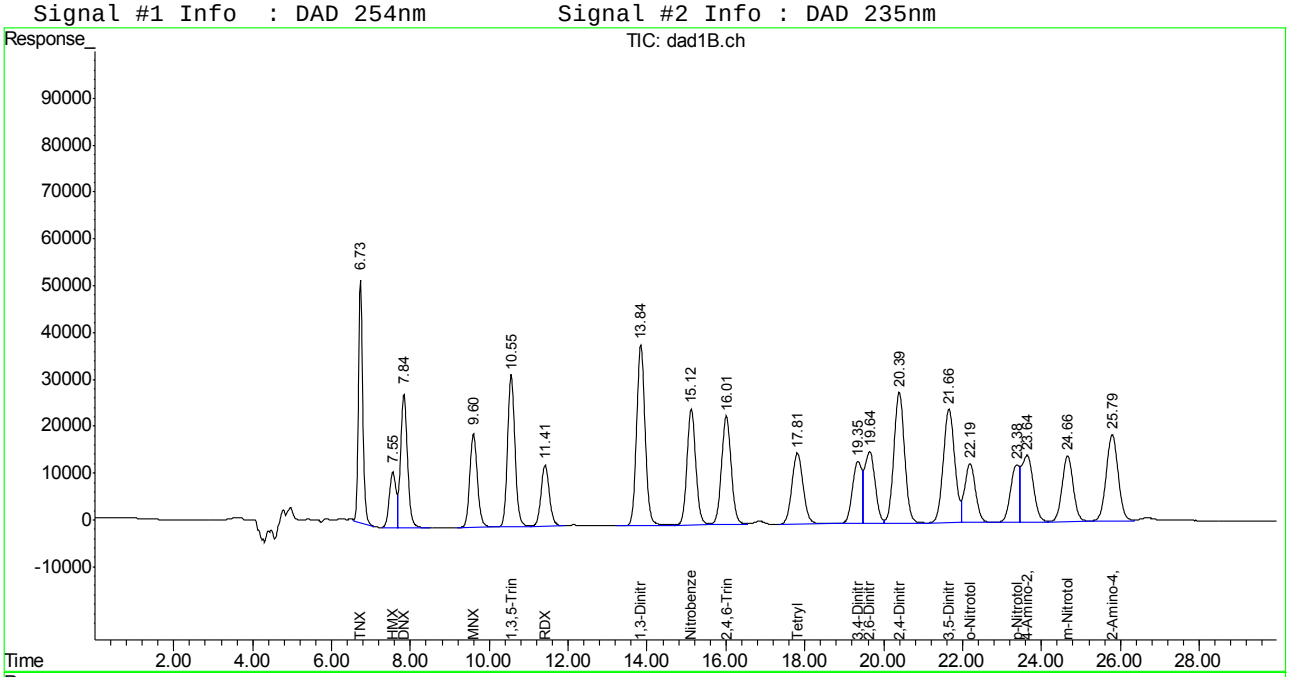
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG059709.D 8330RPB.M_0721.M Fri Jul 22 08:57:38 2016 Page 1

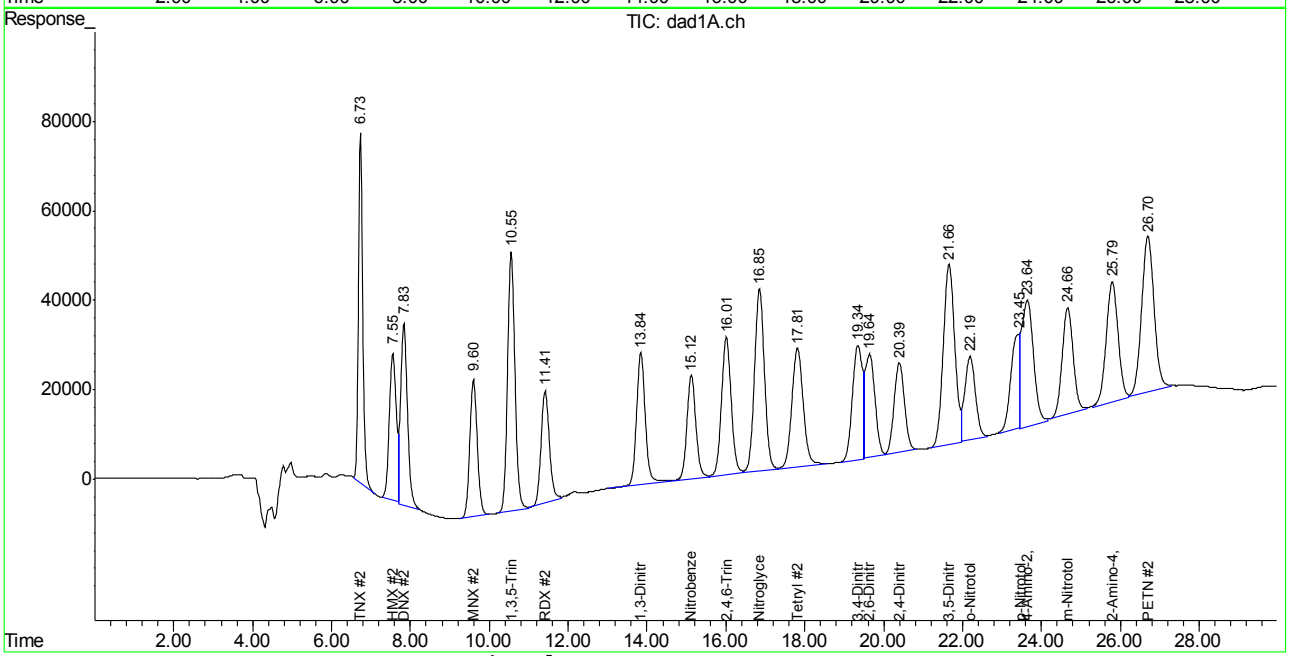
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0721RPB3\GG059709.D\dad1B.ch Vial: 7
Signal #2 : G:\DATA\0721RPB3\GG059709.D\dad1A.ch
Acq On : 21-Jul-2016, 12:22:03 Operator: kismetl
Sample : icc2442-500 Inst : G1315B
Misc : OP61122,GGG2442,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 21 13:24 2016 Quant Results File: 8330RPB.M_0707.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0707.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jul 21 12:56:27 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





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SGS ACCUTEST FA35383

Manual Integration Approval Summary

Sample Number: GGG2442-ICC2442
Lab FileID: GG059709.D
Injection Time: 07/21/16 12:22
Method: SW846 8330B
Analyst approved: 07/22/16 10:57 Kismet Lugo
Supervisor approved: 07/25/16 11:58 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	6.73	Poor instrument integration
TNX		2	6.73	Poor instrument integration
DNX		2	7.83	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	2	10.55	Poor instrument integration
3,4-Dinitrotoluene	610-39-9	2	19.34	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	21.66	Poor instrument integration
p-Nitrotoluene	99-99-0	2	23.45	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	2	23.64	Poor instrument integration
m-Nitrotoluene	99-08-1	2	24.66	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	25.79	Poor instrument integration
PETN	78-11-5	2	26.70	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/25/16 11:58

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0721RPB3\GG059710.D\dad1B.ch Vial: 8
Signal #2 : G:\DATA\0721RPB3\GG059710.D\dad1A.ch
Acq On : 21-Jul-2016, 12:54:08 Operator: kismetl
Sample : ic2442-1000 Inst : G1315B
Misc : OP61122,GGG2442,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 21 13:25:29 2016 Quant Results File: 8330RPB.M_0707.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0707.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jul 21 12:56:27 2016
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	19.38	19.37	4577085	9418758	1003.143	1050.434m
	Spiked Amount 500.000	Range 70 - 136		Recovery =		200.63%#	210.09%#
	Target Compounds						
1)	TNX	6.75	6.74	8168271	12141139	998.848	962.674m
2)	HMX	7.56	7.56	2836115	8420312	992.035	1068.958
3)	DNX	7.85	7.84	7087103	9802585	953.661	852.332m
4)	MNX	9.61	9.61	5428885	8342981	983.561	963.489
5)	1,3,5-Trinitrobe	10.56	10.56	8571531	15396087	929.166	952.323m
6)	RDX	11.42	11.42	3908609	7452272	912.566	924.517
7)	1,3-Dinitrobenze	13.86	13.86	11682461	9022551	940.597	987.447
8)	Nitrobenzene	15.14	15.14	7593856	7084112	943.334	966.691
9)	2,4,6-Trinitroto	16.03	16.03	8111668	10637576	932.574	955.637
10)	Nitroglycerin	0.00	16.88	0	14578745	N.D. d	4721.395
11)	Tetryl	17.84	17.84	6119967	10476537	1019.757	991.053
13)	2,6-Dinitrotolue	19.67	19.67	5827100	8255721	915.225	935.929
14)	2,4-Dinitrotolue	20.42	20.42	10693321	7590795	932.019	927.920
15)	o-Nitrotoluene	22.22	22.22	4802132	7275149	938.243	1002.542
16)	3,5-Dinitroanili	21.68	21.68	10022602	16694726	923.423	961.026
17)	p-Nitrotoluene	23.41	23.45	3703551	6097818	867.607	896.545m
18)	4-Amino-2,6-Dini	23.66	23.66	6142108	11734534	959.719	926.517m
19)	m-Nitrotoluene	24.69	24.69	5394350	9313133	946.940	1019.909m
20)	2-Amino-4,6-Dini	25.81	25.81	7940756	12136270	913.320	1005.217m
21)	PETN	0.00	26.71	0	16180459	N.D. d	13122.732m

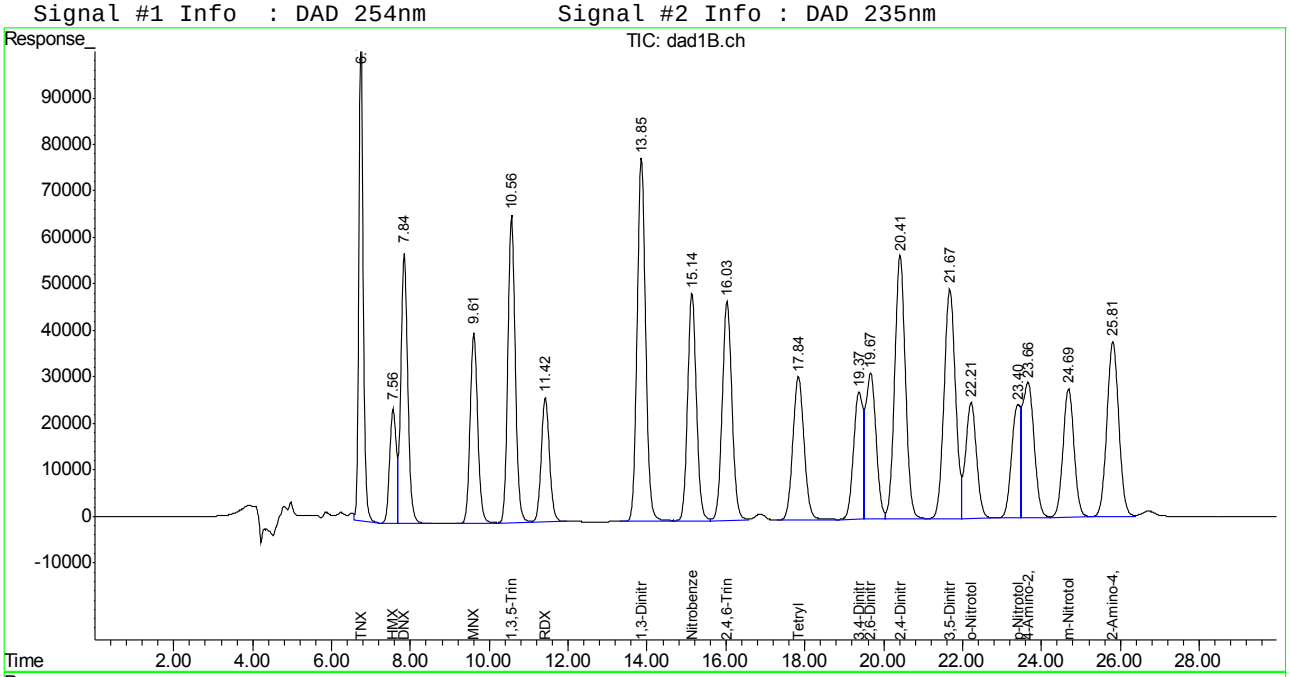
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG059710.D 8330RPB.M_0721.M Fri Jul 22 08:57:39 2016 Page 1

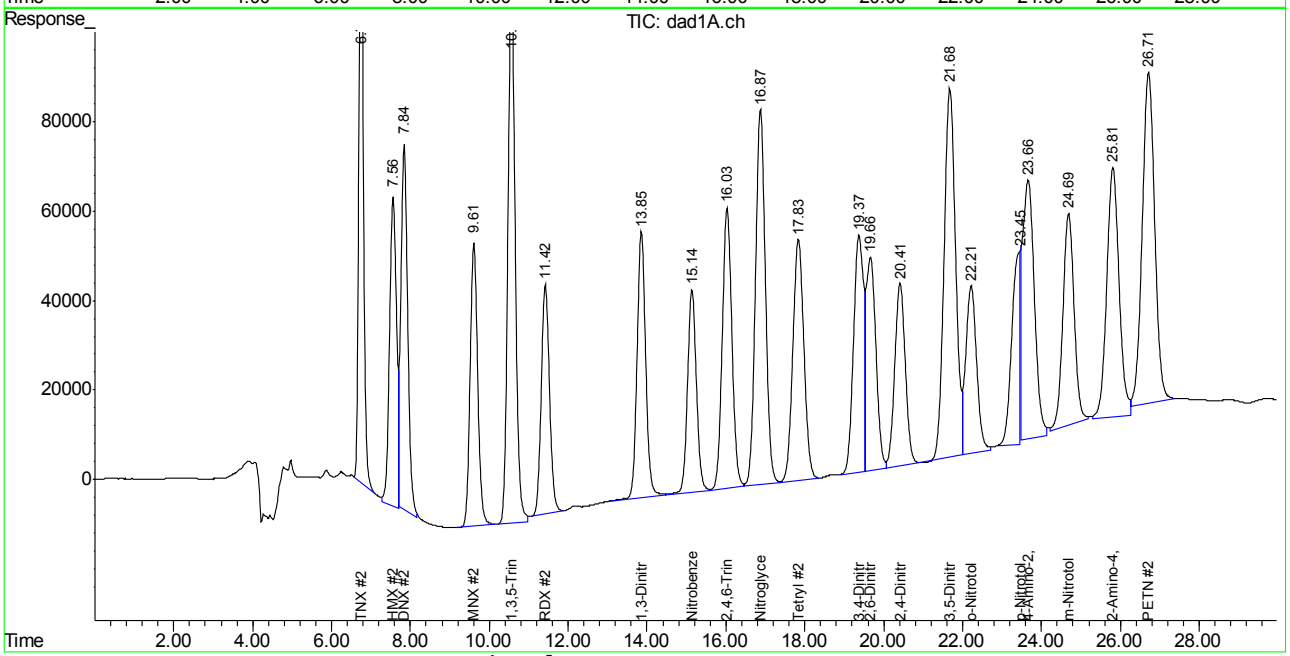
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0721RPB3\GG059710.D\dad1B.ch Vial: 8
Signal #2 : G:\DATA\0721RPB3\GG059710.D\dad1A.ch
Acq On : 21-Jul-2016, 12:54:08 Operator: kismetl
Sample : ic2442-1000 Inst : G1315B
Misc : OP61122,GGG2442,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 21 13:27 2016 Quant Results File: 8330RPB.M_0707.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0707.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jul 21 12:56:27 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





SGS ACCUTEST FA35383

Manual Integration Approval Summary

Sample Number: GGG2442-IC2442
Lab FileID: GG059710.D
Injection Time: 07/21/16 12:54
Method: SW846 8330B
Analyst approved: 07/22/16 10:57 Kismet Lugo
Supervisor approved: 07/25/16 11:58 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		2	6.74	Poor instrument integration
DNX		2	7.84	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	2	10.56	Poor instrument integration
3,4-Dinitrotoluene	610-39-9	2	19.37	Poor instrument integration
p-Nitrotoluene	99-99-0	2	23.45	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	2	23.66	Poor instrument integration
m-Nitrotoluene	99-08-1	2	24.69	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	25.81	Poor instrument integration
PETN	78-11-5	2	26.71	Poor instrument integration

GG059711.D

Manual Integrations APPROVED (compounds with "m" flag)

Mike Eger
07/25/16 11:58

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0721RPB3\GG059711.D\dad1B.ch Vial: 9
Signal #2 : G:\DATA\0721RPB3\GG059711.D\dad1A.ch
Acq On : 21-Jul-2016, 13:26:11 Operator: kismetl
Sample : ic2442-2000 Inst : G1315B
Misc : OP61122,GGG2442,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 21 13:57:05 2016 Quant Results File: 8330RPB.M_0707.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0707.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jul 21 12:56:27 2016
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	19.40	19.39	9428958	19402561	2066.511	2163.886
	Spiked Amount 500.000	Range 70 - 136		Recovery =		413.30%#	432.78%#
	Target Compounds						
1)	TNX	6.74	6.74	16732321	25366724	2046.094	2011.335m
2)	HMX	7.56	7.56	5848071	17318606	2045.576	2185.005
3)	DNX	7.84	7.84	14735474	20763121	1982.848	1805.347m
4)	MNX	9.61	9.61	11268525	17409629	2041.540	2010.552
5)	1,3,5-Trinitrobe	10.57	10.56	17839413	31743360	1933.817	1963.481m
6)	RDX	11.43	11.43	8179865	15591559	1909.802	1934.263
7)	1,3-Dinitrobenze	13.86	13.86	24225345	18445843	1950.471	2018.752m
8)	Nitrobenzene	15.15	15.15	15885773	14621775	1973.384	1995.274
9)	2,4,6-Trinitroto	16.05	16.05	16898082	22495194	1942.722	2020.877
10)	Nitroglycerin	0.00	16.89	0	30439109	N.D. d	9857.848
11)	Tetryl	17.85	17.85	13037261	22702161	2086.966	2085.176
13)	2,6-Dinitrotolue	19.69	19.68	12190395	17353916	1914.667	1967.367
14)	2,4-Dinitrotolue	20.43	20.43	22284097	15885425	1942.258	1959.674
15)	o-Nitrotoluene	22.24	22.24	10225137	15204036	1997.793	2095.171
16)	3,5-Dinitroanili	21.69	21.69	20910533	34880775	1926.572	2007.900
17)	p-Nitrotoluene	23.43	23.48	7802348	12658575	1827.806	1900.298m
18)	4-Amino-2,6-Dini	23.67	23.67	12879688	25114764	2012.482	1982.973m
19)	m-Nitrotoluene	24.71	24.70	11465423	19653265	2012.673	2152.288m
20)	2-Amino-4,6-Dini	25.82	25.82	16497386	25194813	1897.475	2086.823
21)	PETN	0.00	26.73	0	35431927	N.D. d	27736.099

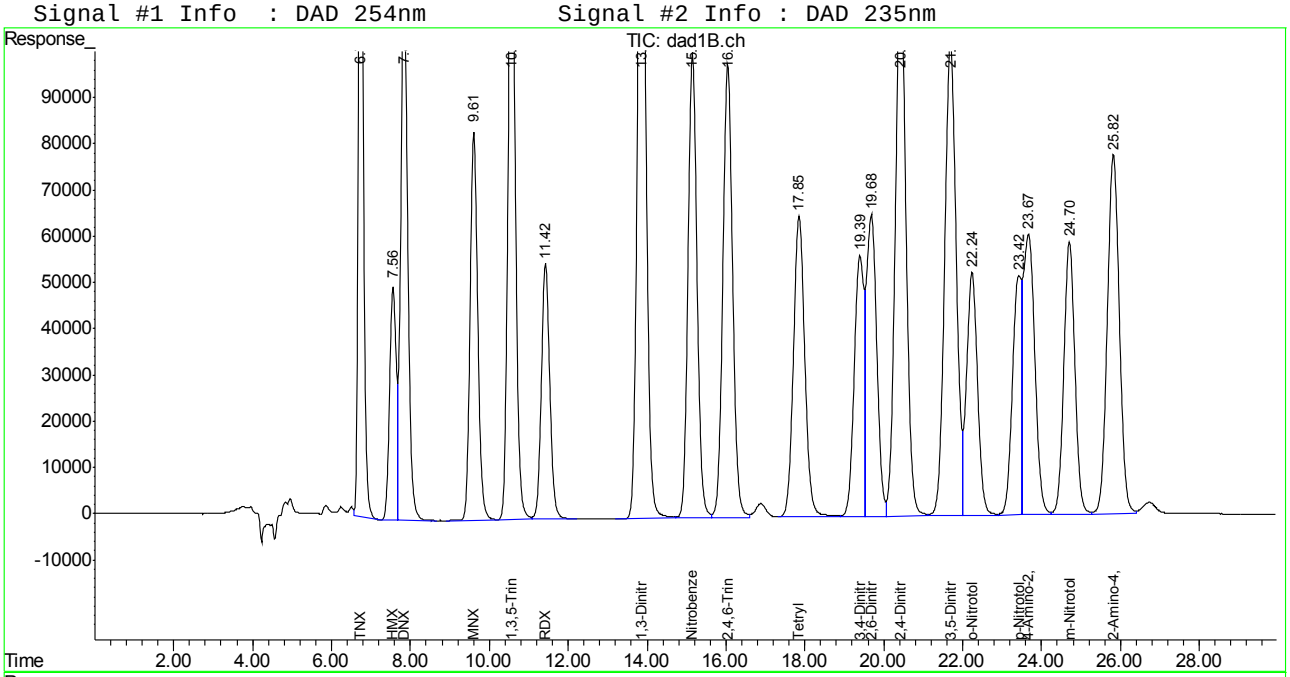
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG059711.D 8330RPB.M_0721.M Fri Jul 22 08:57:59 2016 Page 1

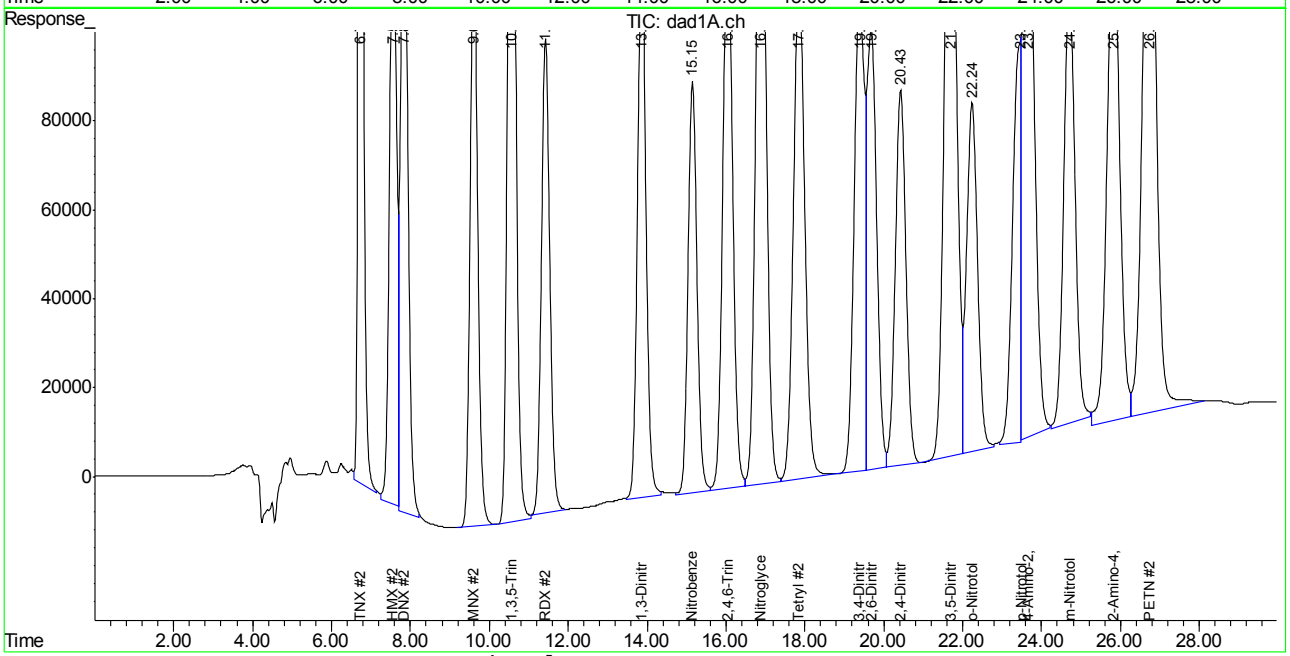
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0721RPB3\GG059711.D\dad1B.ch Vial: 9
Signal #2 : G:\DATA\0721RPB3\GG059711.D\dad1A.ch
Acq On : 21-Jul-2016, 13:26:11 Operator: kismetl
Sample : ic2442-2000 Inst : G1315B
Misc : OP61122,GGG2442,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 21 13:58 2016 Quant Results File: 8330RPB.M_0707.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0707.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jul 21 12:56:27 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





SGS ACCUTEST FA35383

Manual Integration Approval Summary

Sample Number: GGG2442-IC2442
Lab FileID: GG059711.D
Injection Time: 07/21/16 13:26
Method: SW846 8330B
Analyst approved: 07/22/16 10:57 Kismet Lugo
Supervisor approved: 07/25/16 11:58 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		2	6.74	Poor instrument integration
DNX		2	7.84	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	2	10.56	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	13.86	Poor instrument integration
p-Nitrotoluene	99-99-0	2	23.48	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	2	23.67	Poor instrument integration
m-Nitrotoluene	99-08-1	2	24.70	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/25/16 11:58

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0721RPB3\GG059712.D\dad1B.ch Vial: 10
Signal #2 : G:\DATA\0721RPB3\GG059712.D\dad1A.ch
Acq On : 21-Jul-2016, 14:04:42 Operator: kismetl
Sample : icv2442-500 Inst : G1315B
Misc : OP61122,GGG2442,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 22 08:51:07 2016 Quant Results File: 8330RPB.M_0721.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0721.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jul 22 08:50:47 2016
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
	Spiked Amount 500.000	Range 70 - 136		Recovery =		0.00%#	0.00%#
	Target Compounds						
1)	TNX	6.74	6.73	4206731	6236160	514.141	488.147m
2)	HMX	7.56	7.56	1626140	4748870	573.511	553.739
3)	DNX	7.83	7.83	3558856	4934918	493.800	517.436m
4)	MNX	9.60	9.60	2764079	4171419	497.872	500.985
5)	1,3,5-Trinitrobe	10.56	10.56	4582136	8282521	524.373	537.721m
6)	RDX	11.41	11.41	2114732	4043348	528.867	524.052
7)	1,3-Dinitrobenze	13.85	13.84	5943846	4684211	498.234	525.687m
8)	Nitrobenzene	15.13	15.13	4223082	4093120	536.773	567.688m
9)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D. d	N.D. d
10)	Nitroglycerin	0.00	16.87	0	7600794	N.D. d	2542.194
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
13)	2,6-Dinitrotolue	19.68	19.68	3128405	4789553	525.948m	549.742m
14)	2,4-Dinitrotolue	20.41	20.41	5719824	4107234	521.064	488.995
15)	o-Nitrotoluene	22.22	22.22	2687248	4076382	542.304	603.874
16)	3,5-Dinitroanili	21.66	21.66	5125649	8557285	504.022	529.466
17)	p-Nitrotoluene	23.42	23.47	2038323	3538953	508.360m	553.761m
18)	4-Amino-2,6-Dini	23.64	23.65	3154524	5982863	516.865m	497.532m
19)	m-Nitrotoluene	24.70	24.70	2914971	4894906	517.528	553.773m
20)	2-Amino-4,6-Dini	25.81	25.81	4299180	6233074	530.057	526.362m
21)	PETN	0.00	26.73	0	8509943	N.D. d	2623.800m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG059712.D 8330RPB.M_0721.M Fri Jul 22 08:58:17 2016 Page 1

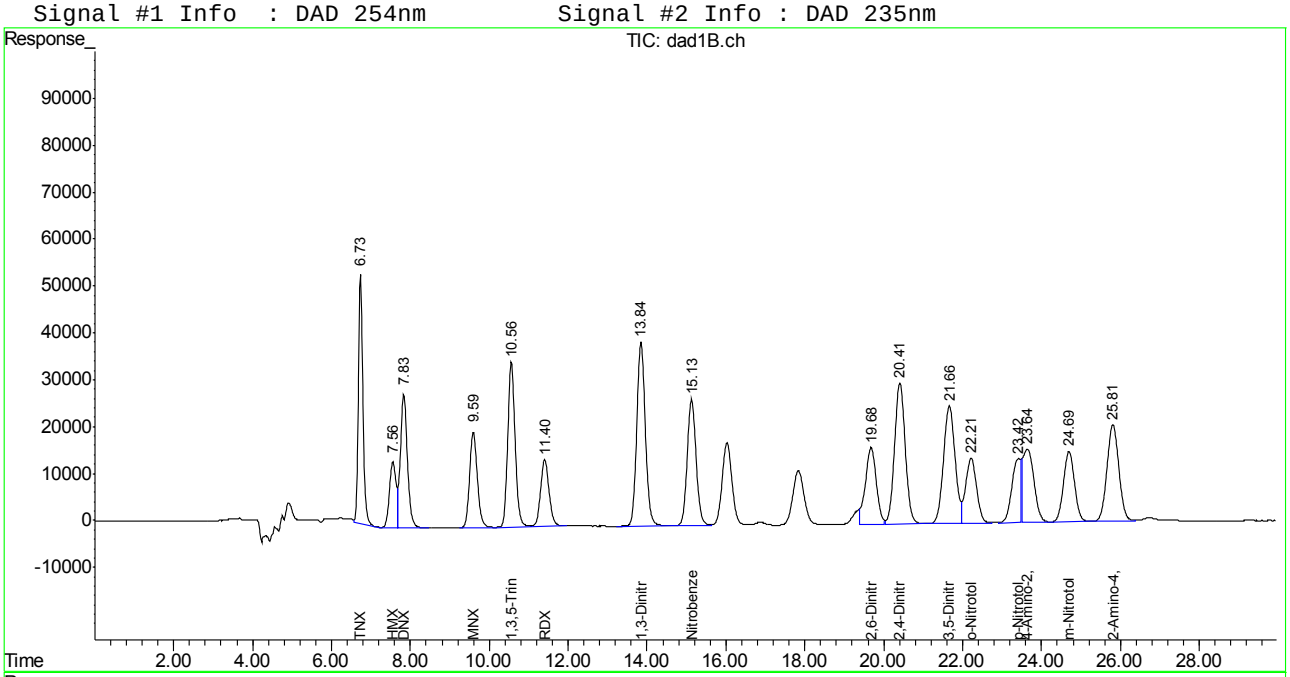
SGS ACCUTEST FA35383

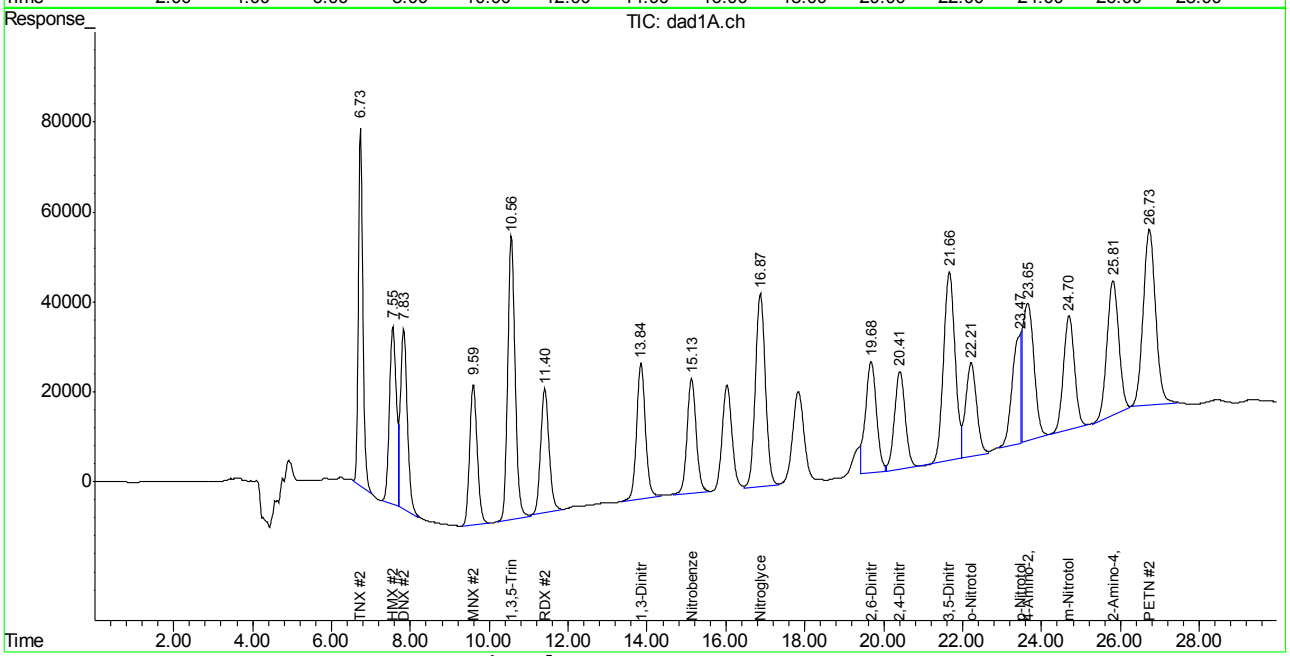
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0721RPB3\GG059712.D\dad1B.ch Vial: 10
Signal #2 : G:\DATA\0721RPB3\GG059712.D\dad1A.ch
Acq On : 21-Jul-2016, 14:04:42 Operator: kismetl
Sample : icv2442-500 Inst : G1315B
Misc : OP61122,GGG2442,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 22 8:53 2016 Quant Results File: 8330RPB.M_0721.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0721.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jul 22 08:50:47 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





SGS ACCUTEST FA35383

Manual Integration Approval Summary

Sample Number: GGG2442-ICV2442 **Method:** SW846 8330B
Lab FileID: GG059712.D **Analyst approved:** 07/22/16 10:57 Kismet Lugo
Injection Time: 07/21/16 14:04 **Supervisor approved:** 07/25/16 11:58 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		2	6.73	Poor instrument integration
DNX		2	7.83	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	2	10.56	Missed peak
1,3-Dinitrobenzene	99-65-0	2	13.84	Poor instrument integration
Nitrobenzene	98-95-3	2	15.13	Poor instrument integration
2,6-Dinitrotoluene	606-20-2	1	19.68	Overlapping peak
2,6-Dinitrotoluene	606-20-2	2	19.68	Overlapping peak
p-Nitrotoluene	99-99-0	1	23.42	Overlapping peak
p-Nitrotoluene	99-99-0	2	23.47	Overlapping peak
4-amino-2,6-Dinitrotoluene	19406-51-0	1	23.64	Overlapping peak
4-amino-2,6-Dinitrotoluene	19406-51-0	2	23.65	Overlapping peak
m-Nitrotoluene	99-08-1	2	24.70	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	25.81	Poor instrument integration
PETN	78-11-5	2	26.73	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/25/16 11:58

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0721RPB3\GG059713.D\dad1B.ch Vial: 10
Signal #2 : G:\DATA\0721RPB3\GG059713.D\dad1A.ch
Acq On : 21-Jul-2016, 14:56:42 Operator: kismetl
Sample : icv2442-500 Inst : G1315B
Misc : OP61122,GGG2442,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 22 08:51:08 2016 Quant Results File: 8330RPB.M_0721.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0721.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jul 22 08:50:47 2016
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
	Spiked Amount 500.000	Range 70 - 136		Recovery =		0.00%#	0.00%#
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	0.00	0.00	0	0	N.D. d	N.D. d
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D. d	N.D. d
6)	RDX	0.00	0.00	0	0	N.D. d	N.D. d
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
9)	2,4,6-Trinitroto	16.05	16.04	3777851	4943787	454.634	458.512m
10)	Nitroglycerin	0.00	0.00	0	0	N.D.	N.D.
11)	Tetryl	17.86	17.86	3188768	5607686	506.057	501.471m
13)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
14)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
15)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
16)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
17)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
18)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
19)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG059713.D 8330RPB.M_0721.M Fri Jul 22 08:58:18 2016 Page 1

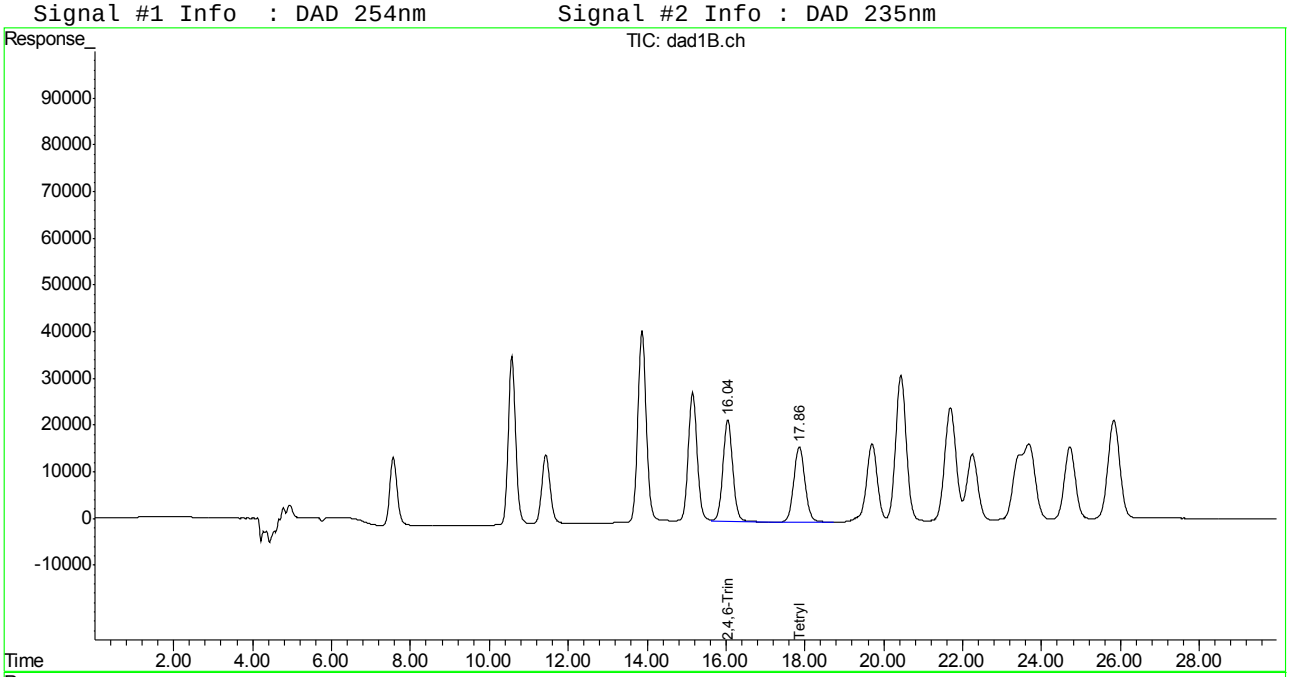
SGS ACCUTEST FA35383

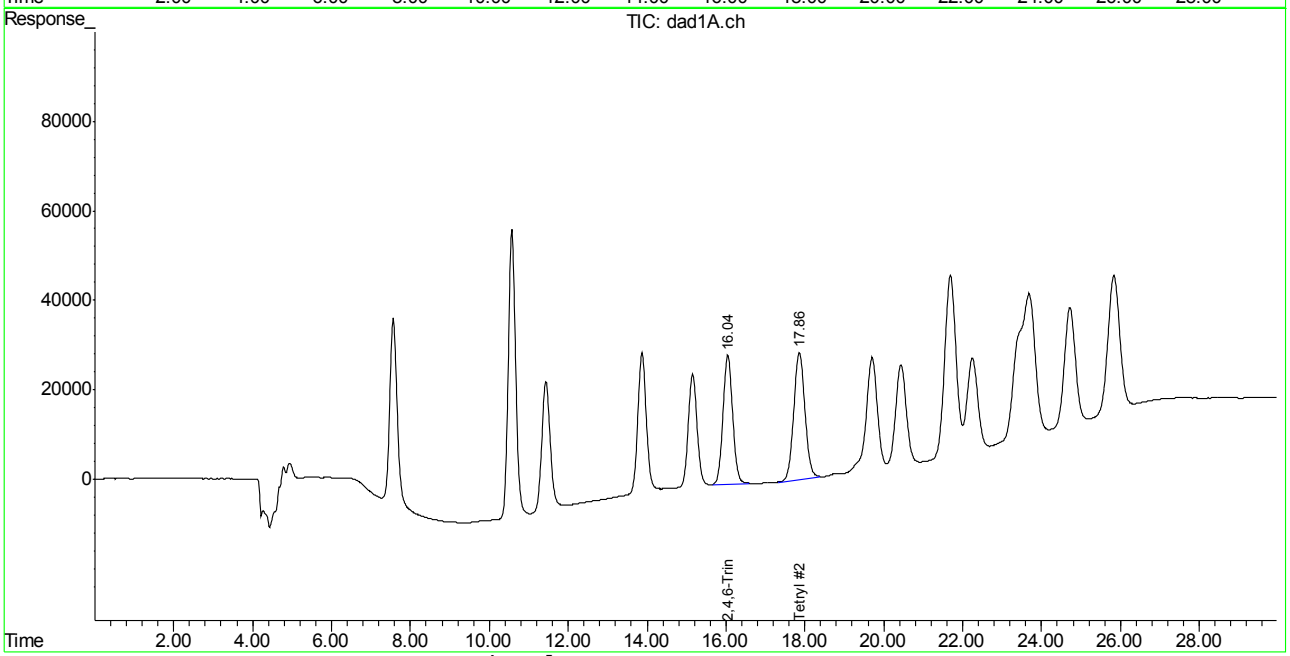
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0721RPB3\GG059713.D\dad1B.ch Vial: 10
Signal #2 : G:\DATA\0721RPB3\GG059713.D\dad1A.ch
Acq On : 21-Jul-2016, 14:56:42 Operator: kismetl
Sample : icv2442-500 Inst : G1315B
Misc : OP61122,GGG2442,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 22 8:54 2016 Quant Results File: 8330RPB.M_0721.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0721.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jul 22 08:50:47 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





SGS ACCUTEST FA35383

Manual Integration Approval Summary

Sample Number: GGG2442-ICV2442
Lab FileID: GG059713.D
Injection Time: 07/21/16 14:56
Method: SW846 8330B
Analyst approved: 07/22/16 10:57 Kismet Lugo
Supervisor approved: 07/25/16 11:58 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
2,4,6-Trinitrotoluene	118-96-7	2	16.04	Poor instrument integration
Tetryl	479-45-8	2	17.86	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/25/16 11:58

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0721RPB3\GG059720.D\dad1B.ch Vial: 2
Signal #2 : G:\DATA\0721RPB3\GG059720.D\dad1A.ch
Acq On : 21-Jul-2016, 18:41:42 Operator: kismetl
Sample : ecc2442-1000 Inst : G1315B
Misc : OP61122,GGG2442,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 22 09:04:47 2016 Quant Results File: 8330RPB.M_0721.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0721.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jul 22 08:50:47 2016
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	19.48	19.48	4496631	9316806	939.650	984.109
Spiked Amount	500.000	Range	70 - 136	Recovery	=	187.93%#	196.82%#
	Target Compounds						
1)	TNX	6.76	6.75	8098038	12328292	989.732	965.021m
2)	HMX	7.59	7.59	2810445	8432700	991.195	983.290
3)	DNX	7.87	7.86	7118574	10028205	987.720	1051.476m
4)	MNX	9.64	9.64	5437455	8374775	979.407	1005.805
5)	1,3,5-Trinitrobe	10.59	10.58	8603782	15296942	984.605	993.114m
6)	RDX	11.46	11.46	3924597	7481121	981.491	969.617
7)	1,3-Dinitrobenze	13.90	13.90	11709974	8797111	981.572	987.258m
8)	Nitrobenzene	15.20	15.20	8484584	7415174	1078.429	1024.566m
9)	2,4,6-Trinitroto	16.09	16.09	8366052	10714392	1006.788	993.708m
10)	Nitroglycerin	0.00	16.95	0	14538727	N.D. d	4862.685
11)	Tetryl	17.93	17.93	6232634	10812349	989.117	966.901
13)	2,6-Dinitrotolue	19.76	19.76	5850370	8280962	983.565	950.484
14)	2,4-Dinitrotolue	20.51	20.51	10683728	7694243	973.266	916.053
15)	o-Nitrotoluene	22.34	22.34	4952755	7324595	999.498	1085.064
16)	3,5-Dinitroanili	21.78	21.78	10033431	16651079	986.620	1030.254
17)	p-Nitrotoluene	23.53	23.57	3869566	5774372	965.075	903.551m
18)	4-Amino-2,6-Dini	23.78	23.79	5877228	11525703	962.977m	958.472m
19)	m-Nitrotoluene	24.82	24.82	5584965	9390697	991.563	1062.393m
20)	2-Amino-4,6-Dini	25.94	25.94	7981883	11588643	984.107	978.622m
21)	PETN	0.00	26.85	0	15878345	N.D. d	4895.637m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG059720.D 8330RPB.M_0721.M Fri Jul 22 10:05:58 2016 Page 1

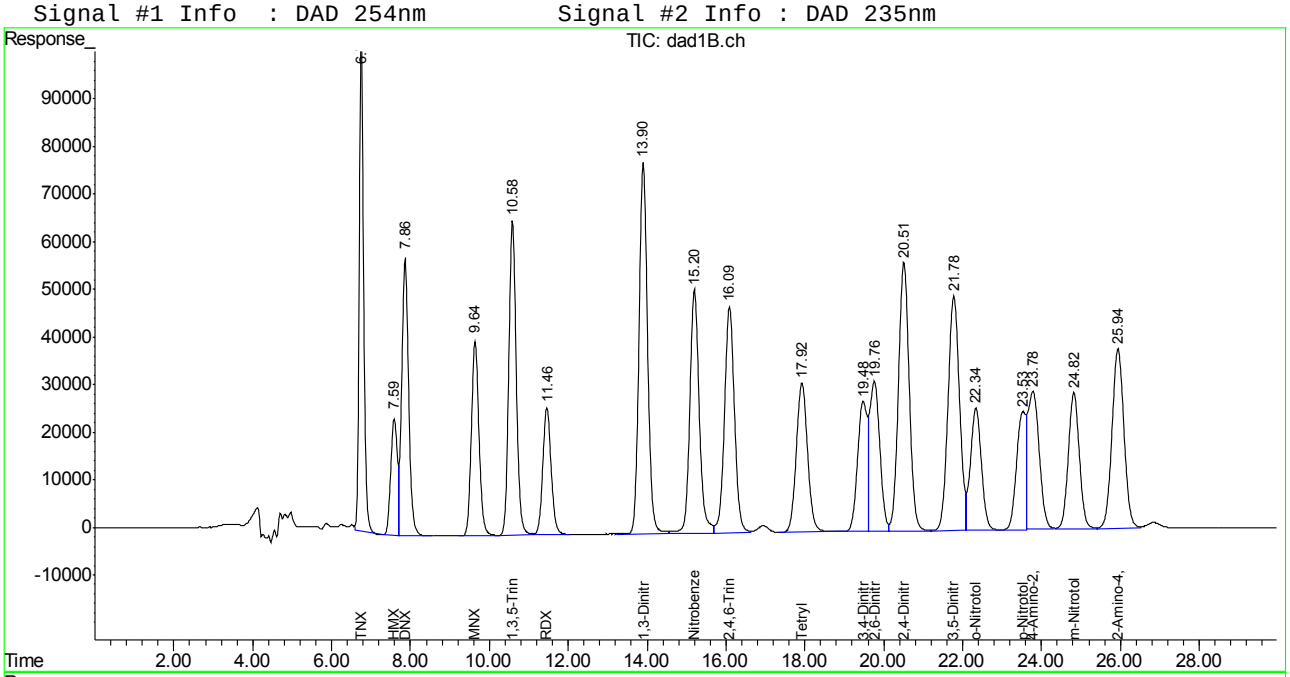
SGS ACCUTEST FA35383

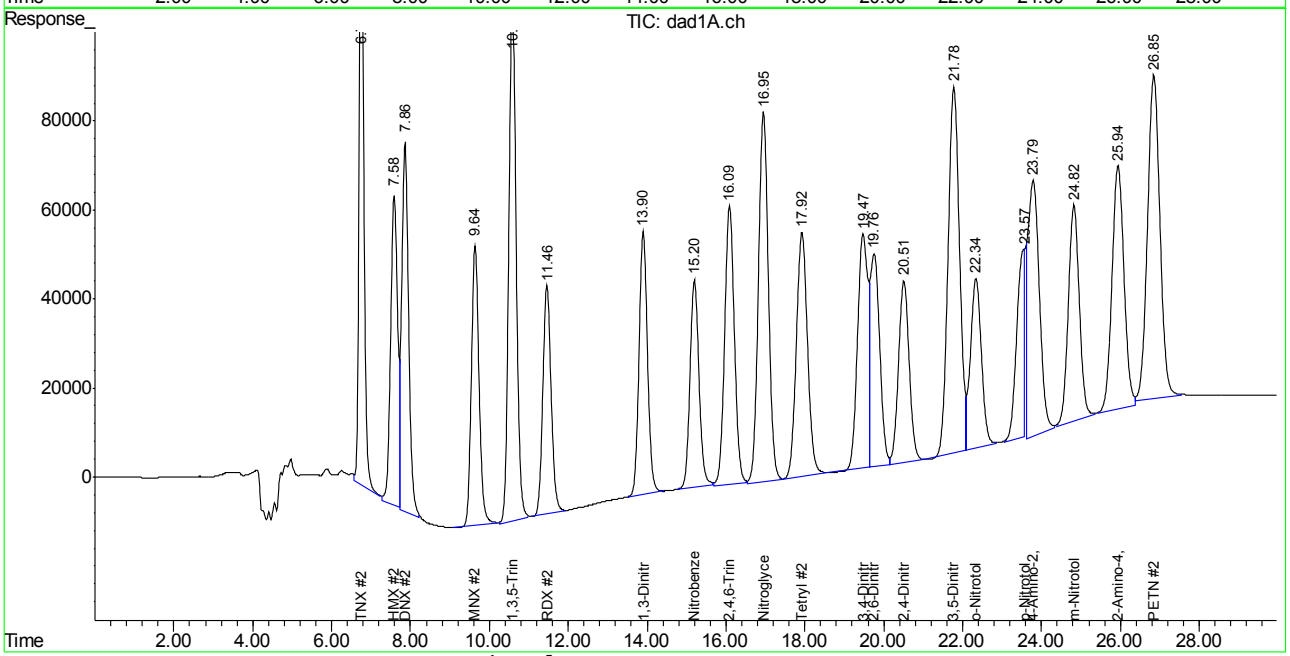
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0721RPB3\GG059720.D\dad1B.ch Vial: 2
Signal #2 : G:\DATA\0721RPB3\GG059720.D\dad1A.ch
Acq On : 21-Jul-2016, 18:41:42 Operator: kismetl
Sample : ecc2442-1000 Inst : G1315B
Misc : OP61122,GGG2442,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 22 9:08 2016 Quant Results File: 8330RPB.M_0721.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0721.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jul 22 08:50:47 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





SGS ACCUTEST FA35383

9.5.23 9

Manual Integration Approval Summary

Sample Number: GGG2442-ECC2442 **Method:** SW846 8330B
Lab FileID: GG059720.D **Analyst approved:** 07/22/16 10:57 Kismet Lugo
Injection Time: 07/21/16 18:41 **Supervisor approved:** 07/25/16 11:58 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		2	6.75	Poor instrument integration
DNX		2	7.86	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	2	10.58	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	13.90	Poor instrument integration
Nitrobenzene	98-95-3	2	15.20	Poor instrument integration
2,4,6-Trinitrotoluene	118-96-7	2	16.09	Poor instrument integration
p-Nitrotoluene	99-99-0	2	23.57	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	1	23.78	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	2	23.79	Poor instrument integration
m-Nitrotoluene	99-08-1	2	24.82	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	25.94	Poor instrument integration
PETN	78-11-5	2	26.85	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/25/16 11:58

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0722RPB3\GG059722.D\dad1B.ch Vial: 2
Signal #2 : G:\DATA\0722RPB3\GG059722.D\dad1A.ch
Acq On : 22-Jul-2016, 12:05:02 Operator: kismetl
Sample : cc2442-1000 Inst : G1315B
Misc : OP61122,GGG2443,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 25 09:39:25 2016 Quant Results File: 8330RPB.M_0721.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0721.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 25 09:39:11 2016
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	19.14	19.14	4615182	9552731	964.423	1009.030
	Spiked Amount 500.000	Range 70 - 136		Recovery =		192.88%#	201.81%#
	Target Compounds						
1)	TNX	6.71	6.71	8203797	12261771	1002.658	959.814m
2)	HMX	7.49	7.49	2820443	8600811	994.721	1002.892
3)	DNX	7.78	7.78	7013197	9845111	973.099	1032.279m
4)	MNX	9.53	9.53	5453684	8554137	982.330	1027.346
5)	1,3,5-Trinitrobe	10.48	10.48	8505003	15240291	973.301	989.436m
6)	RDX	11.31	11.31	3929813	7391351	982.795	957.982m
7)	1,3-Dinitrobenze	13.73	13.73	11771995	9214294	986.771	1034.076
8)	Nitrobenzene	14.98	14.98	7618819	7528213	968.387	1040.052
9)	2,4,6-Trinitroto	15.88	15.88	8100543	10941362	974.836	1014.759
10)	Nitroglycerin	0.00	16.70	0	15137150	N.D. d	5062.836
11)	Tetryl	17.63	17.63	5845232	10403618	927.637	930.350
13)	2,6-Dinitrotolue	19.45	19.44	5811888	8331575	977.095	956.293
14)	2,4-Dinitrotolue	20.20	20.20	10724779	7511895	977.006	894.343
15)	o-Nitrotoluene	21.96	21.96	4781601	7122980	964.958	1055.196
16)	3,5-Dinitroanili	21.45	21.45	10018480	16802260	985.150	1039.608
17)	p-Nitrotoluene	23.15	23.21	3677908	6590461	917.275	1031.249m
18)	4-Amino-2,6-Dini	23.39	23.40	6160671	11863055	1009.419	986.526m
19)	m-Nitrotoluene	24.41	24.41	5356139	9279119	950.937	1049.769m
20)	2-Amino-4,6-Dini	25.54	25.54	7887441	12131187	972.463	1024.438m
21)	PETN	0.00	26.44	0	15457906	N.D. d	4766.007m

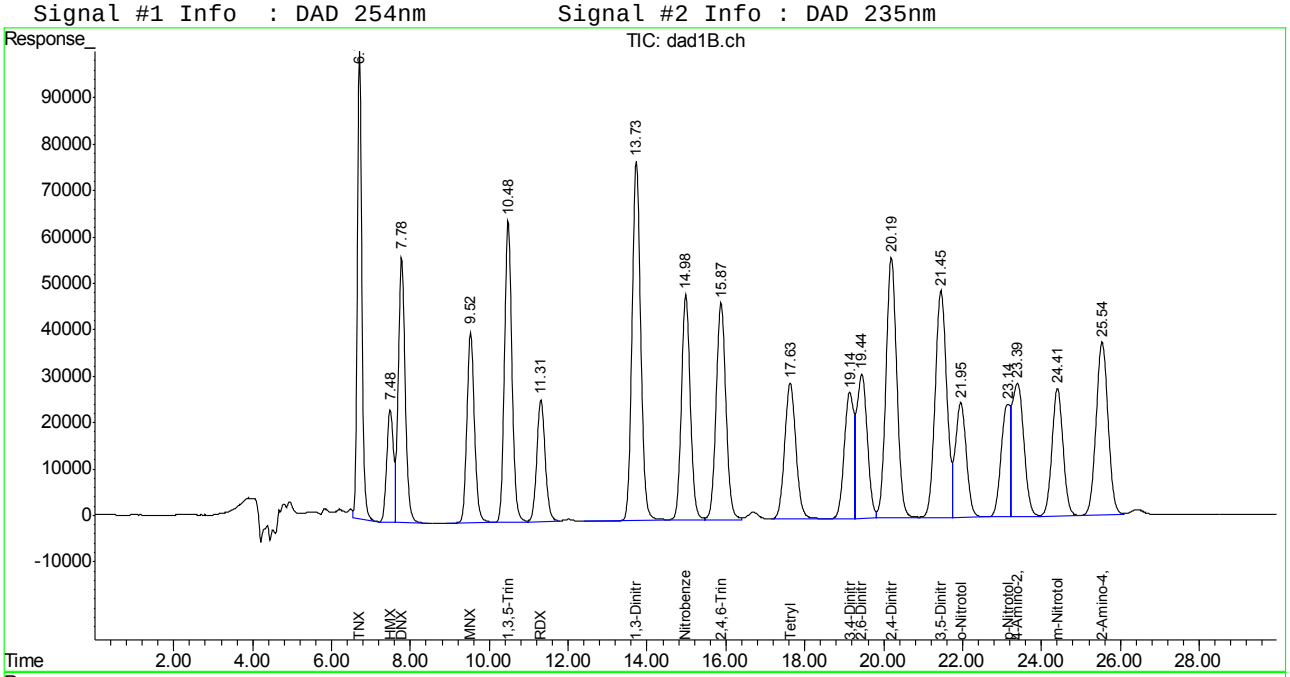
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG059722.D 8330RPB.M_0721.M Mon Jul 25 10:03:35 2016 Page 1

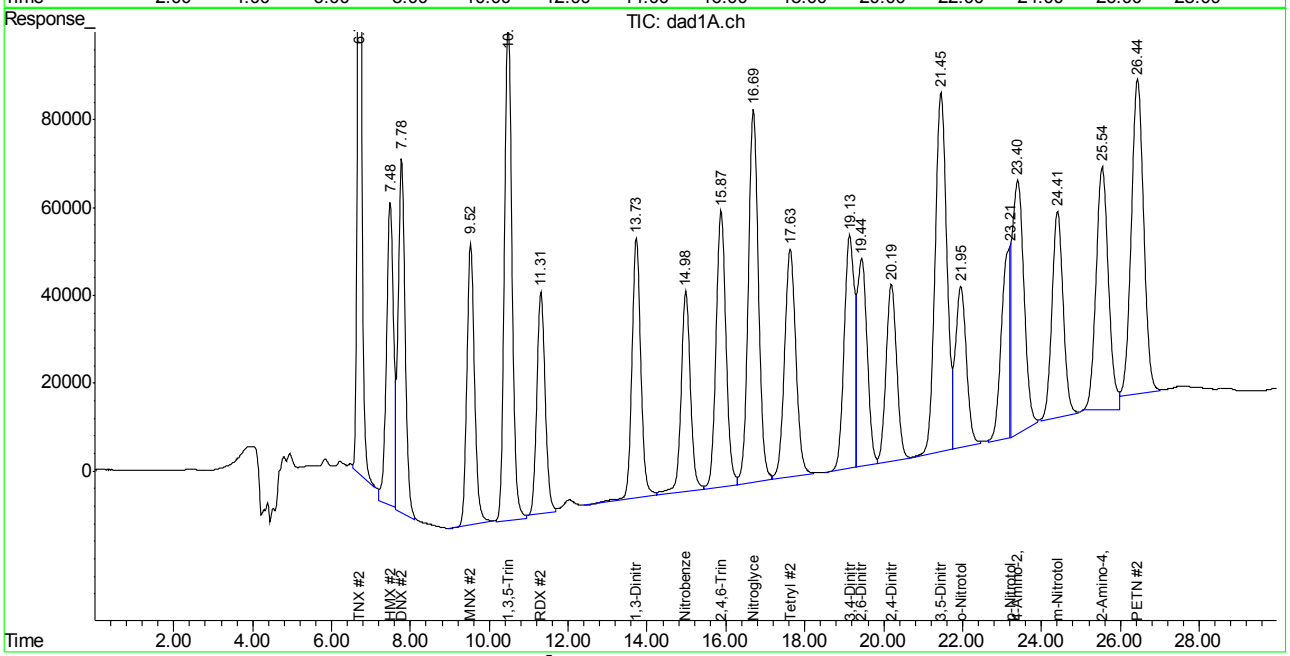
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0722RPB3\GG059722.D\dad1B.ch Vial: 2
Signal #2 : G:\DATA\0722RPB3\GG059722.D\dad1A.ch
Acq On : 22-Jul-2016, 12:05:02 Operator: kismetl
Sample : cc2442-1000 Inst : G1315B
Misc : OP61122,GGG2443,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 25 9:43 2016 Quant Results File: 8330RPB.M_0721.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0721.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 25 09:39:11 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





SGS ACCUTEST FA35383

Manual Integration Approval Summary

Sample Number: GGG2443-CC2442
Lab FileID: GG059722.D
Injection Time: 07/22/16 12:05
Method: SW846 8330B
Analyst approved: 07/25/16 10:10 Kismet Lugo
Supervisor approved: 07/25/16 11:58 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		2	6.71	Poor instrument integration
DNX		2	7.78	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	2	10.48	Missed peak
RDX	121-82-4	2	11.31	Poor instrument integration
p-Nitrotoluene	99-99-0	2	23.21	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	2	23.40	Poor instrument integration
m-Nitrotoluene	99-08-1	2	24.41	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	25.54	Poor instrument integration
PETN	78-11-5	2	26.44	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/25/16 11:58

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0722RPB3\GG059726.D\dad1B.ch Vial: 2
Signal #2 : G:\DATA\0722RPB3\GG059726.D\dad1A.ch
Acq On : 22-Jul-2016, 14:24:29 Operator: kismetl
Sample : ecc2442-1000 Inst : G1315B
Misc : OP61122,GGG2443,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 25 09:39:32 2016 Quant Results File: 8330RPB.M_0721.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0721.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 25 09:39:11 2016
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	19.12	19.12	4646933	9397917	971.059	992.677
	Spiked Amount 500.000	Range 70 - 136		Recovery =		194.21%#	198.54%#
	Target Compounds						
1)	TNX	6.71	6.71	8134072	12265761	994.136	960.126m
2)	HMX	7.49	7.49	2846923	8452064	1004.060	985.547
3)	DNX	7.78	7.78	7069847	9968459	980.959	1045.212m
4)	MNX	9.52	9.52	5600255	8401032	1008.731	1008.958
5)	1,3,5-Trinitrobe	10.48	10.48	9043527	15563201	1034.929m	1010.400m
6)	RDX	11.30	11.31	4113925	7267457	1028.839	941.924
7)	1,3-Dinitrobenze	13.72	13.72	11676997	8817154	978.807	989.507m
8)	Nitrobenzene	14.98	14.98	7685785	7181956	976.899	992.603
9)	2,4,6-Trinitroto	15.87	15.87	8170422	11370900	983.245	1054.596
10)	Nitroglycerin	0.00	16.69	0	14913869	N.D. d	4988.157
11)	Tetryl	17.62	17.62	6354804	11046967	1008.506	987.882
13)	2,6-Dinitrotolue	19.43	19.43	5931006	8342597	997.121	957.558
14)	2,4-Dinitrotolue	20.18	20.18	10950441	7906898	997.563	941.371
15)	o-Nitrotoluene	21.94	21.94	4988207	7382563	1006.653	1093.651
16)	3,5-Dinitroanili	21.41	21.41	10233034	16929707	1006.248	1047.493
17)	p-Nitrotoluene	23.19	23.18	3938993	6768853	982.390m	1059.163m
18)	4-Amino-2,6-Dini	23.34	23.34	5522680	11184886	904.885m	930.130m
19)	m-Nitrotoluene	24.39	24.39	5502468	9642622	976.916	1090.893m
20)	2-Amino-4,6-Dini	25.50	25.50	7918824	11907063	976.333	1005.511m
21)	PETN	0.00	26.44	0	16233494	N.D. d	5005.138m

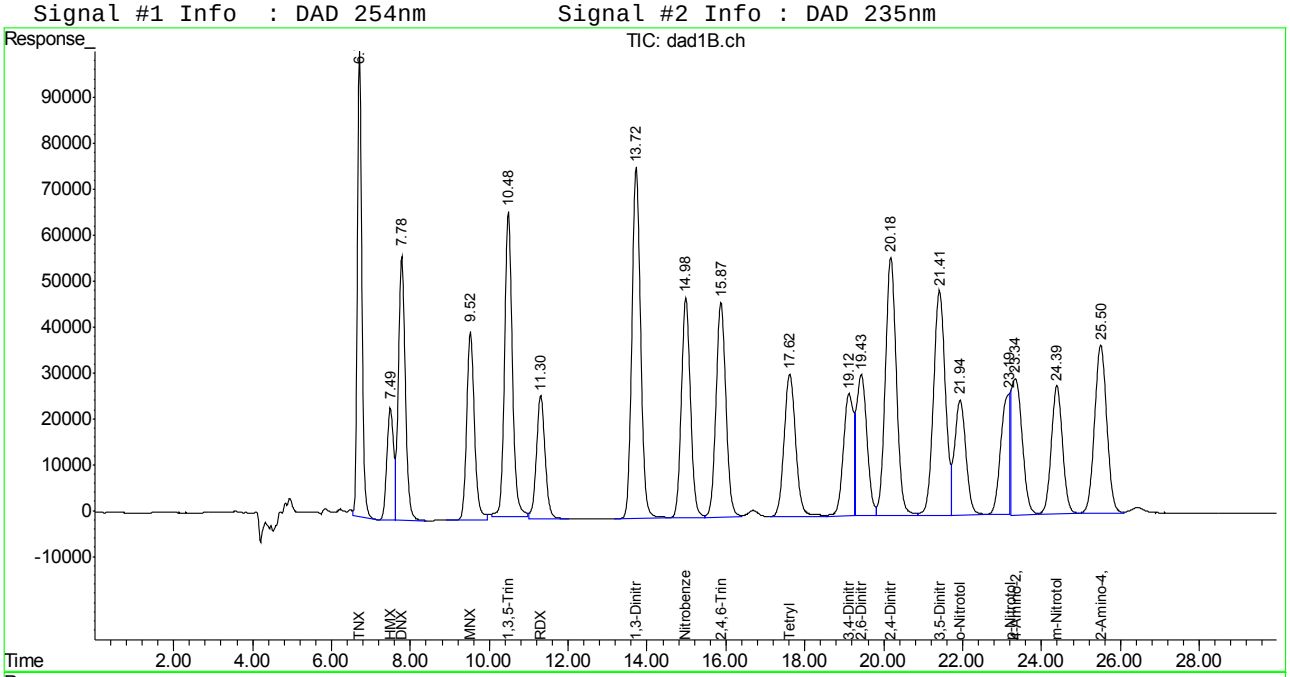
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG059726.D 8330RPB.M_0721.M Mon Jul 25 10:03:44 2016 Page 1

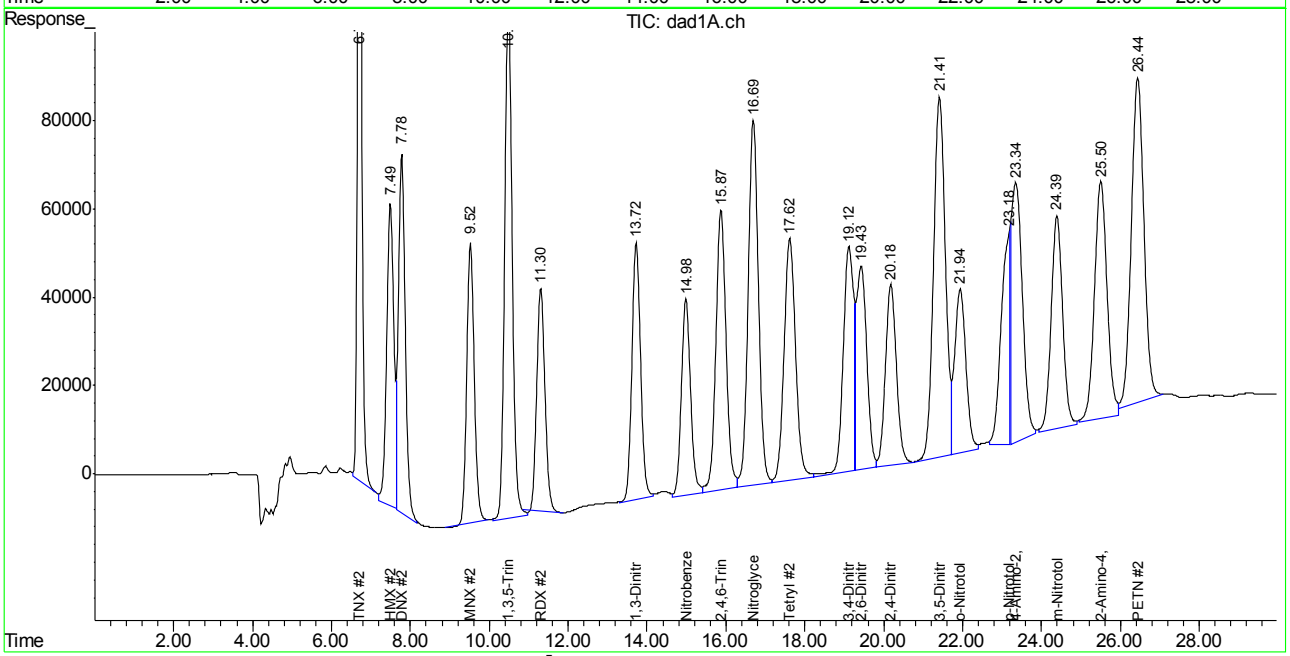
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0722RPB3\GG059726.D\dad1B.ch Vial: 2
Signal #2 : G:\DATA\0722RPB3\GG059726.D\dad1A.ch
Acq On : 22-Jul-2016, 14:24:29 Operator: kismetl
Sample : ecc2442-1000 Inst : G1315B
Misc : OP61122,GGG2443,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 25 9:51 2016 Quant Results File: 8330RPB.M_0721.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0721.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 25 09:39:11 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





SGS ACCUTEST FA35383

Manual Integration Approval Summary

Sample Number: GGG2443-ECC2442 **Method:** SW846 8330B
Lab FileID: GG059726.D **Analyst approved:** 07/25/16 10:10 Kismet Lugo
Injection Time: 07/22/16 14:24 **Supervisor approved:** 07/25/16 11:58 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		2	6.71	Poor instrument integration
DNX		2	7.78	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	1	10.48	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	2	10.48	Overlapping peak
1,3-Dinitrobenzene	99-65-0	2	13.72	Poor instrument integration
p-Nitrotoluene	99-99-0	2	23.18	Poor instrument integration
p-Nitrotoluene	99-99-0	1	23.19	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	1	23.34	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	2	23.34	Poor instrument integration
m-Nitrotoluene	99-08-1	2	24.39	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	25.50	Poor instrument integration
PETN	78-11-5	2	26.44	Poor instrument integration

[redacted]

COLUMN TYPE:	Ext C18
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC5-BB

METHODS*:	8330A/B
ACQ. METHOD:	8330B
PROC. METHOD:	8330_0720
CALIB. DATE:	07/28/16
RUN BATCH: GBB	1481

ANALYST:	IU
ACETONITRILE LOT #:	3194
MEOH LOT #:	162636
HEAD PRESSURE:	212

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
BB 051973	1	solvent	8330	—	—		ND
BB 74	2	CC1480-1000		LC724	1:1	P11	Hunk↑ DNR
BB 75	21	IC1481-20			50+450 10+350 25+475	P11 0 WFS2 ↑ or MNFS2	✓
BB 76	22	IC1481-50				P11 ↓	✓ 10+350
BB 77	23	IC1481-100			25+475	P11	✓ 25+475
BB 78	24	IC1481-200			50+450	P11	✓
BB 79	25	ICC1481-500			1+3	P11 tot or S1	✓
BB 80	26	IC1481-1000			1:1	P11	✓
BB 81	27	IC1481-2000		↓	1X	P11	✓ Pass
BB 82	28	ICV1481-500		ES613 LC715 LC665 ES624	*	P11	tot low Pass
BB 83	31	ICV1481-500 ktm1		ES637	10+350		tot passes
BB 84	21	CC1481-20		LC724	50+450 50+450	P11 0,1 ym PEAK MFS2	SWMF TNX↓ tot T4MF S1 24hl 24↑ 0,1↓ S2
BB 85	3	op61122-bs		op61122	1X	P11 NG-OP tot or S2	✓
BB 86	12	op61122-bs			50+450	P11 NG-tot or S2 ICV 07/28/16 PEAK MF	✓
BB 87	4	op61122-mb			1X	P11	ND
BB 88	5	FA35358-1			↓	P11 RDKOF	✓
BB 89	13	FA35358-1			1+3	P11	✓ DNR
BB 90	6	op61op61122-MS			50+450	TNK of 0, PEAK MF S2 P11	✓
BB 91	7	op61122-MSD			↓	↓ ↓	✓ NO NG
BB 92	8	FA35358-2	↓	↓	1X		ND

* For NELAC purposes, Method 8332 includes analytes by SOP GC020
Manual Integration Rationale SOP QA029. MP Missed Peak, OP Overlapping Peak, SP Split Peak, PDB Poorly Defined Baseline, BR Baseline Ripple, PII Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

hplc5_bb_log.xls N.F rev. 08/08

* ES623 10 ml
LC665 25 ml
LC715 25 ml
ES624 20 ml
} +920

Analyst's Signature: Kimmet Lyo

ACCUTEST LABORATORIES SE

DATE:	07/20/16
COLUMN TYPE:	Ext C18
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC5-BB

HPLC5-BB ANALYSIS LOG

METHODS*:	8330A/B
ACQ. METHOD:	8330B
PROC. METHOD:	8330_0720
CALIB. DATE:	07/20/16
RUN BATCH: GBB	1481

ANALYST:	KL
ACETONITRILE LOT #:	3194
MEOH LOT #:	162636
HEAD PRESSURE:	212

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
BB 051993	9	FA35358-3	8330	OP61122	1X	PII	✓ MIX
BB 94	14	FA35358-3		↓	1:1	MANUAL PII	✓
BB 95	2	CC1481-1000		LC724	1:1	PII	Pass
BB 96	1	wb		—	—		ND
BB 97	10	FA35358-4		OP61122	1X	MANUAL PII	✓ MIX
BB 98	15	FA35358-4			1:1	PII	✓
BB 99	11	FA35358-5		↓	1X	PII	✓
BB 052000	2	CC1481-1000	↓	LC724	1:1	PII	Pass
BB							
BB							
BB							
BB							
BB							
BB							
BB							
BB							
BB							
BB							
BB							
BB							
BB							

KL 07/21/16

* For NELAC purposes, Method 8332 includes analytes by SOP GC020

Manual Integration Rationale SOP QA029: MP Missed Peak, OP Overlapping Peak, SP Split Peak, PDB Poorly Defined Baseline, BR Baseline Ripple, PII Poor Instrument Integration

All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

hplc5_bb_log.xls NF rev. 08/08

Analyst's Signature: Kimut Ly

SGS ACCUTEST-ORLANDO

DATE:	12/29/16
COLUMN TYPE:	Ext C18
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC5-BB

HPLC5-BB ANALYSIS LOG

METHODS	8330A/B
ACQ. METHOD:	8330B
PROC. METHOD:	8330_0720
CALIB. DATE:	07/20/16
RUN BATCH:	GBB 1482

ANALYST:	KL
ACETONITRILE LOT #:	3194
MEOH LOT #:	162636
HEAD PRESSURE:	212

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
BB 052001	1	solvent	8330	—	—		
BB 02	2	CC1481-1000		LC724	1:1		
BB 03	3	op61122-bs		op61122	1x		moved! DNL
BB 04	12	op61122-bs			SDH50		
BB 05	4	op61122-mb			1x		
BB 06	5	FA35383-1			↓		
BB 07	6	op61122-ms		↓	SDH50		
BB 08	1	solvent		—	—		ND
BB 09	2	CC1481-1000		LC724	1:1	P11 ONMPSL	Pass
BB 10	3	op61122-bs		op61122	1x	P11	✓
BB 11	12	op61122-bs			SDH50	P11 DNPSL	✓
BB 12	4	op61122-MB			1x	P11	ND ✓
BB 13	5	FA35383-1			↓	P11	✓
BB 14	6	op61122-MS			SDH50	HMXOP ONPSL P11	✓
BB 15	7	op61122-MSD			↓	↓ ↓ ↓	✓ ND NG
BB 16	9	FA35383-3			1x	P11	✓ MM(2x)
BB 17	14	FA35383-3			1:1	P11	✓
BB 18	10	FA35383-4			1x	HMXOP P11	✓
BB 19	15	FA35383-4		↓	1:1	P11	✓
BB 20	2	ccc1481-1000	↓	LC724	1:1		Pass 246TSL

Manual Integration Rationale SOP QA029: MP Missed Peak, OP Overlapping Peak, SP Split Peak, PDB Poorly Defined Baseline, BR Baseline Ripple, PII Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

hplc5_bb_log.xls NF rev 06/16

Analyst's Signature: Kimmet Lyo

[redacted]

HPLC3-GG ANALYSIS LOG

	07/21/16
COLUMN TYPE:	Bonus RP
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC3-GG

METHODS*:	8330A/B
ACQ. METHOD:	8330 RPB3
PROC. METHOD:	8330 RPB_0721
CALIB. DATE:	07/21/16
RUN BATCH. GGG	2442

ANALYST:	KL
ACETONITRILE LOT #:	3194
MEOH LOT #:	162636
HEAD PRESSURE:	257

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
GG 059703	1	solvent	8330	—	—		ND
GG 04	2	cc2440-1000		LC724	1:1		RETN↑
GG 05	3	ic2442-20			50+450 50+450	P11	✓
GG 06	4	ic2442-50			10+390	P11 1,3,5 SP1 P NAPS 1 OP2 2 YA OP	✓
GG 07	5	ic2442-100			25+475	P11 ↓	✓
GG 08	6	ic2442-200		↓	50+450	P11 ↓	✓
GG 09	7	icc2442-500			1+3	P11	✓
GG 10	8	ic2442-1000			1:1	P11	✓
GG 11	9	ic2442-2000		↓	1X	P11	✓
GG 12	10	icv2442-500		ES623 LC715 LC665 ES624 *		P11 1,3,5 NB 52 2,6 DP P-4 OP	246 Lot 1,3 NB 52 Pass
GG 13	10	icv2442-500		ES637	10+390	P11	Pass ↓
GG 14	3	cc2442-20		LC724	50+450 50+450 P	P11 P NB	Pass HMX 1,3+DNB 52 NB P 52
GG 15	11	op61122-mb		op61122	1X	P11	ND
GG 16	12	FA35383-1 cf				P11 1,3,5 NB 52	✓ 3,5 17
GG 17	13	FA35383-3 cf				P11 ↓	✓ HMX 244 EB 3,5 EB
GG 18	14	FA35383-4 cf				P11 ↓	✓ 3,5 50 EV
GG 19	15	FA35383-5 cf		↓	↓		ND 3NX, 4DX P NB 1,3 DNC
GG 20	2	ccc2442-1000	↓	LC724	1:1	P11 1,3,5 SP1 52 P-4 AM 52 LL 07/22/16	Pass
GG							
GG							

* For NELAC purposes, Method 8332 includes analytes by SOP GC020

Manual Integration Rationale SOP QA029. MP Missed Peak, OP Overlapping Peak, SP Split Peak, PDB Poorly Defined Baseline, BR Baseline Ripple, PII Poor Instrument Integration

All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

hplc3_gg_log.xls NF rev. 08/09

* ES623 10 ml
LC665 25 ml
LC715 25 ml
ES624 20 ml
} +920

Analyst's Signature: Kimut Lyo

ACCUTEST LABORATORIES SE

DATE:	07/22/16
COLUMN TYPE:	Bolus PP
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC3-GG

HPLC3-GG ANALYSIS LOG

METHODS*:	8330A/B
ACQ. METHOD:	8330B
PROC. METHOD:	8330 LPB-0721
CALIB. DATE:	07/21/16
RUN BATCH: GGG	2443

ANALYST:	VL
ACETONITRILE LOT #:	3 94
MEOH LOT #:	162436
HEAD PRESSURE:	247

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
GG 059721	1	solvent	8330	—	—		ND
GG 22	2	cc2442-1000		LC724	1:1	135 MRSL PII	Pass
GG 23	21	FA35383-1dl		OP61122	1+3	PII 1,25 MRSL	✓
GG 24	22	OP61167-mb		OP61167	1x	PII	ND
GG 25	23	FA35499-1dl		↓	↓	PII 1,25 MRSL Surr 85%	✓ 35.37 ug/L 26 DEC
GG 26	2	ccc2442-1000	↓	LC724	1:1	1,35 MRSL PII	Pass
GG							
GG							
GG							
GG							
GG							
GG							
GG							
GG							
GG							
GG							
GG							
GG							
GG							
GG							
GG							

VL 07/25/16

* For NELAC purposes, Method 8332 includes analytes by SOP GC020

Manual Integration Rationale SOP QA029: MP Missed Peak, OP Overlapping Peak, SP Split Peak, PDB Poorly Defined Baseline, BR Baseline Ripple, PII Poor Instrument Integration

All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

SGS ACCUTEST - ORLANDO

SPE LIQUID SAMPLE PREP REPORT

Date/Time Started: 07/18/16 10:30 (mm/dd/yy 24:00)

Date/Time Finished: 07/18/16 14:30 (mm/dd/yy 24:00)

Prep Method: (3535A) or Method (circle)

Analytical Method: 8350/3

Batch#: OP 61122 Ext. By: AA Conc. By: AA Vialed By: AA

Sample ID	Bottle Number	Amount Extracted (ml)	Initial pH	Adjusted pH	Surrogate Amount	Spike Amount	Final Volume (ml)	Comments
OP 61122 MB	X	1000	6	N/A	250uL		10.0mL	
OP 61122 BS	X	1000	↓	↓	↓	250uL	↓	SPIKE 25uL PIEN SPIKE 25mL NH4ST 250uL
FA35383-1	6	1000						
-2	3	980						
-3	3	1000						
-4	3	940						
-5	3	970	↓	↓	↓		↓	
FA35383-1MS	7	500	6	N/A	250uL	250 uL	10.0mL	
↓ MSD	7	500	↓	↓	↓	↓	↓	
DUP								

AA 07/18/16

Comments: (1) Spike MF 3929 Expire 06/15/17 250mL (2) Spike PIEN 79300 Expired 06/15/17

Surr.1 ID: E5634C	Conc: 20PPM	Exp. Date: 11/26/16	Inj. By: AA	Ver. By: AA			
Surr.2 ID: —	Conc: —	Exp. Date: —	Inj. By: —	Ver. By: —			
Spk.1 ID: E5637	Conc: 200PPM	Exp. Date: 11/12/16	Inj. By: AA	Ver. By: AA			
Spk.2 ID: E5624	Conc: 25PPM	Exp. Date: 11/19/16	Inj. By: AA	Ver. By: AA			

Initial Bath Temp (Therm ID): ____ Observed Temp °C: ____ Corr. Temp °C: ____

Exchange Bath/N-Evap Temp (Therm ID): ____ Observed Temp °C: ____ Corr. Temp °C: ____

Methanol Lot #: — SPE Lot #: 5214-006 pH Paper #: 236015

Acetonitrile Lot #: 1545245 SPE Lot #: — Reagent #: —

Water Lot#: DI H2O Syringe Filter Lot#: — Solvent #: —

Relinquished By: Ahmed Date: 07/18/16

Accepted By: Date: 07-18-16

NF 02/16 extwater_spe 020116.xls

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e-Hardcopy 2.0
Automated Report

Technical Report for

CT Laboratories

Radford AAP; VA

PO 120518

SGS Accutest Job Number: FA35499

Sampling Date: 07/14/16

Report to:

CT Laboratories

bszymanski@ctlaboratories.com

ATTN: Brett Szymanski

Total number of pages in report: **181**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Norm Farmer
Technical Director

Client Service contact: Heather Wandrey 407-425-6700

Certifications: FL (E83510), LA (03051), KS (E-10327), IA (366), IL (200063), NC (573), NJ (FL002), SC (96038001) DoD ELAP (L-A-B L2229), CA (2937), TX (T104704404), PA (68-03573), VA (460177), AK, AR, GA, KY, MA, NV, OK, UT, WA

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Sample Summary

CT Laboratories

Job No: FA35499

Radford AAP; VA
Project No: PO 120518

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
FA35499-1	07/14/16	10:45	CTL	07/19/16	AQ	Ground Water	745769/54MW13

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: CT Laboratories **Job No:** FA35499

Site: Radford AAP; VA **Report Date:** 8/10/2016 12:00:30 PM

1 Sample(s) were collected on 07/14/2016 and were received at SGS Accutest Southeast (SASE) on 07/19/2016 properly preserved, at 3.9 Deg. C and intact. These Samples received an SASE job number of FA35499. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Extractables by GCMS By Method SW846 6850

Matrix: AQ **Batch ID:** OP61395

All samples were extracted within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) FA35499-1MS, FA35499-1MSD were used as the QC samples indicated.

Extractables by GC By Method SW846 8330B

Matrix: AQ **Batch ID:** OP61167

All samples were extracted within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) FA35499-1MS, FA35499-1MSD were used as the QC samples indicated.

FA35499-1: All hits confirmed by reanalysis on a dissimilar column.

FA35499-1 for 3,5-Dinitroaniline: Elevated reporting limit due to matrix interference.

FA35499-1: Confirmation run.

SGS Accutest (SASE) certifies that this report meets the project requirements for analytical data produced for the samples as received at SASE and as stated on the COC. SASE certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the SASE Quality Manual except as noted above. This report is to be used in its entirety. SASE is not responsible for any assumptions of data quality if partial data packages are used.

Narrative prepared by:

Kim Benham, Client Services (signature on file)

Date: August 10, 2016

Summary of Hits

Job Number: FA35499
Account: CT Laboratories
Project: Radford AAP; VA
Collected: 07/14/16

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
FA35499-1	**745769/54MW13**					
Perchlorate		0.33	0.20	0.10	ug/l	SW846 6850
HMX [a]		7.6	0.20	0.10	ug/l	SW846 8330B
RDX [a]		0.86	0.20	0.10	ug/l	SW846 8330B
2-amino-4,6-Dinitrotoluene [a]		1.7	0.20	0.10	ug/l	SW846 8330B
4-amino-2,6-Dinitrotoluene [a]		1.2	0.20	0.10	ug/l	SW846 8330B
1,3,5-Trinitrobenzene [a]		18.4	0.20	0.10	ug/l	SW846 8330B
2,4,6-Trinitrotoluene [a]		13.9	0.20	0.10	ug/l	SW846 8330B

(a) All hits confirmed by reanalysis on a dissimilar column.

Sample Results

Report of Analysis

SGS Accutest

Report of Analysis

Client Sample ID: 745769/54MW13
Lab Sample ID: FA35499-1
Matrix: AQ - Ground Water
Method: SW846 6850 SW846 6850
Project: Radford AAP; VA

Date Sampled: 07/14/16
Date Received: 07/19/16
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q24232.D	1	08/09/16	NAF	08/09/16	OP61395	SQ694
Run #2							

	Initial Volume	Final Volume
Run #1	10.0 ml	10.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
14797-73-0	Perchlorate	0.33	0.20	0.10	0.050	ug/l	

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation DL = Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest

Report of Analysis

Client Sample ID: 745769/54MW13
Lab Sample ID: FA35499-1
Matrix: AQ - Ground Water
Method: SW846 8330B SW846 3535A
Project: Radford AAP; VA

Date Sampled: 07/14/16
Date Received: 07/19/16
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	BB052034.D	1	07/22/16	KL	07/21/16	OP61167	GBB1483
Run #2 [b]	GG059725.D	1	07/22/16	KL	07/21/16	OP61167	GGG2443

	Initial Volume	Final Volume
Run #1	1000 ml	10.0 ml
Run #2	1000 ml	10.0 ml

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
2691-41-0	HMX	7.6	0.20	0.10	0.080	ug/l	
121-82-4	RDX	0.86	0.20	0.10	0.080	ug/l	
	DNX	0.10 U	0.20	0.10	0.080	ug/l	
	MNX	0.10 U	0.20	0.10	0.080	ug/l	
	TNX	0.10 U	0.20	0.10	0.080	ug/l	
618-87-1	3,5-Dinitroaniline [c]	0.60 U	0.60	0.60	0.60	ug/l	
99-65-0	1,3-Dinitrobenzene	0.10 U	0.20	0.10	0.080	ug/l	
606-20-2	2,6-Dinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
121-14-2	2,4-Dinitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
35572-78-2	2-amino-4,6-Dinitrotoluene	1.7	0.20	0.10	0.080	ug/l	
19406-51-0	4-amino-2,6-Dinitrotoluene	1.2	0.20	0.10	0.080	ug/l	
98-95-3	Nitrobenzene	0.10 U	0.20	0.10	0.097	ug/l	
88-72-2	o-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
99-08-1	m-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
99-99-0	p-Nitrotoluene	0.10 U	0.20	0.10	0.080	ug/l	
479-45-8	Tetryl	0.10 U	0.20	0.10	0.080	ug/l	
99-35-4	1,3,5-Trinitrobenzene	18.4	0.20	0.10	0.099	ug/l	
118-96-7	2,4,6-Trinitrotoluene	13.9	0.20	0.10	0.080	ug/l	
55-63-0	Nitroglycerine	1.0 U	2.0	1.0	0.50	ug/l	
78-11-5	PETN	1.0 U	2.0	1.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
610-39-9	3,4-Dinitrotoluene	95%	113%	70-136%

(a) All hits confirmed by reanalysis on a dissimilar column.
(b) Confirmation run.
(c) Elevated reporting limit due to matrix interference.

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation DL = Detection Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

5

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5 Limits

CT LABORATORIES

1230 Lange Court • Baraboo, WI 53913 • 608-356-2760
www.ctlaboratories.com

FA35499

Sub-Contract Laboratory Chain-of-Custody and Purchase Order

PURCHASE ORDER # 120518 ACCTST FL *The PO# must appear on all invoice and reports!*

Upon Receipt of Samples, please verify that samples were received in acceptable condition then sign this form and fax to (608)356-2766 or email to the project manager. Sample temperature, upon receipt, must be recorded on this document unless thermal preservation is not a method requirement.

Ship to: Accutest Southeast
4405 Vineland Road, Suite C-15
Orlando, FL 32811

Return Invoice and Results to: bszymanski@ctlaboratories.com

CTLaboratories
Brett M Szymanski
1230 Lange Court
Baraboo WI 53913

Date Due: Standard TAT *RUSH TURNAROUND NEEDED?* Y or (N) *(Circle One)*

Project Name: RADFORD AAP **Project State:** VA

Analytical/QC Criteria: NONE INDICATED STATE (DOD QSM) NELAP (Circle one) OTHER

Report results as EDD? N (Y) (Circle one and indicate type) Excel) Data Deliverable Package LEVEL 1V

CTLabs ID#	Sample Date/Time	Matrix	Sample Description	Analyses / Method	Cost
745769	07/14/2016 1045	GROUND WATER	5xMW10	EXPLOSIVES *	8330
745769	07/14/2016 1045	GROUND WATER	5xMW10	PERCH ORATE	SW6850

Relinquished by: Brett Szymanski Date/Time: 07/18/2016 07:15

Received by: ~~FedEx~~ UPS ~~FedEx~~ UPS Date/Time: Receipt Temperature (C) 3.9

COMMENTS: *FULL LIST EXPLOSIVES INCLUDING RDX BREAKDOWN PRODUCTS (MNX/DNX/TNX)*

7/19/16 900

REPORT ALL SOLIDS ON A DRY WEIGHT BASIS UNLESS OTHERWISE INDICATED

5.1

5

FA35499: Chain of Custody
Page 1 of 3

ACCUTEST LABORATORIES SAMPLE RECEIPT CONFIRMATION

ACCUTEST'S JOB NUMBER: FA35499 CLIENT: CT Lab PROJECT: Radford AAP

DATE/TIME RECEIVED: 7/19/16 900 (MM/DD/YY 24:00) NUMBER OF COOLERS RECEIVED: 1

METHOD OF DELIVERY: FEDEX UPS ACCUTEST COURIER DELIVERY OTHER:

AIRBILL NUMBERS: 12 184 1850 4297 4011

COOLER INFORMATION

- [ ] CUSTODY SEAL NOT PRESENT OR NOT INTACT
- [ ] CHAIN OF CUSTODY NOT RECEIVED (COC)
- [ ] ANALYSIS REQUESTED IS UNCLEAR OR MISSING
- [ ] SAMPLE DATES OR TIMES UNCLEAR OR MISSING
- [ ] TEMPERATURE CRITERIA NOT MET

TRIP BLANK INFORMATION

- [ ] TRIP BLANK PROVIDED
- [X] TRIP BLANK NOT PROVIDED
- [X] TRIP BLANK NOT ON COC
- [ ] TRIP BLANK INTACT
- [ ] TRIP BLANK NOT INTACT
- [ ] RECEIVED WATER TRIP BLANK
- [ ] RECEIVED SOIL TRIP BLANK

MISC. INFORMATION

NUMBER OF ENCORES ? 25-GRAM: 5-GRAM:

NUMBER OF 5035 FIELD KITS ?

NUMBER OF LAB FILTERED METALS ?

TEST STRIP LOT#s pH 0-3 230315 pH 10-12 210813A

OTHER (specify)

SUMMARY OF COMMENTS:

TEMPERATURE INFORMATION

- [ ] IR THERM ID 1 CORR. FACTOR +0.5
- [ ] OBSERVED TEMPS: 3.9
- [ ] CORRECTED TEMPS: 3.9 (USED FOR LIMS)

SAMPLE INFORMATION

- [ ] INCORRECT NUMBER OF CONTAINERS USED
- [ ] SAMPLE RECEIVED IMPROPERLY PRESERVED
- [ ] INSUFFICIENT VOLUME FOR ANALYSIS
- [ ] DATES/TIMES ON COC DO NOT MATCH SAMPLE LABEL
- [ ] ID'S ON COC DO NOT MATCH LABEL
- [ ] VOC VIALS HAVE HEADSPACE (MACRO BUBBLES)
- [ ] BOTTLES RECEIVED BUT ANALYSIS NOT REQUESTED
- [ ] NO BOTTLES RECEIVED FOR ANALYSIS REQUESTED
- [ ] UNCLEAR FILTERING OR COMPOSITING INSTRUCTIONS
- [ ] SAMPLE CONTAINER(S) RECEIVED BROKEN
- [ ] 5035 FIELD KITS NOT RECEIVED WITHIN 48 HOURS
- [ ] BULK VOA SOIL JARS NOT RECEIVED WITHIN 48 HOURS
- [ ] % SOLIDS JAR NOT RECEIVED
- [ ] RESIDUAL CHLORINE PRESENT LOT#

(APPLICABLE TO EPA 600 SERIES OR NORTH CAROLINA ORGANICS)

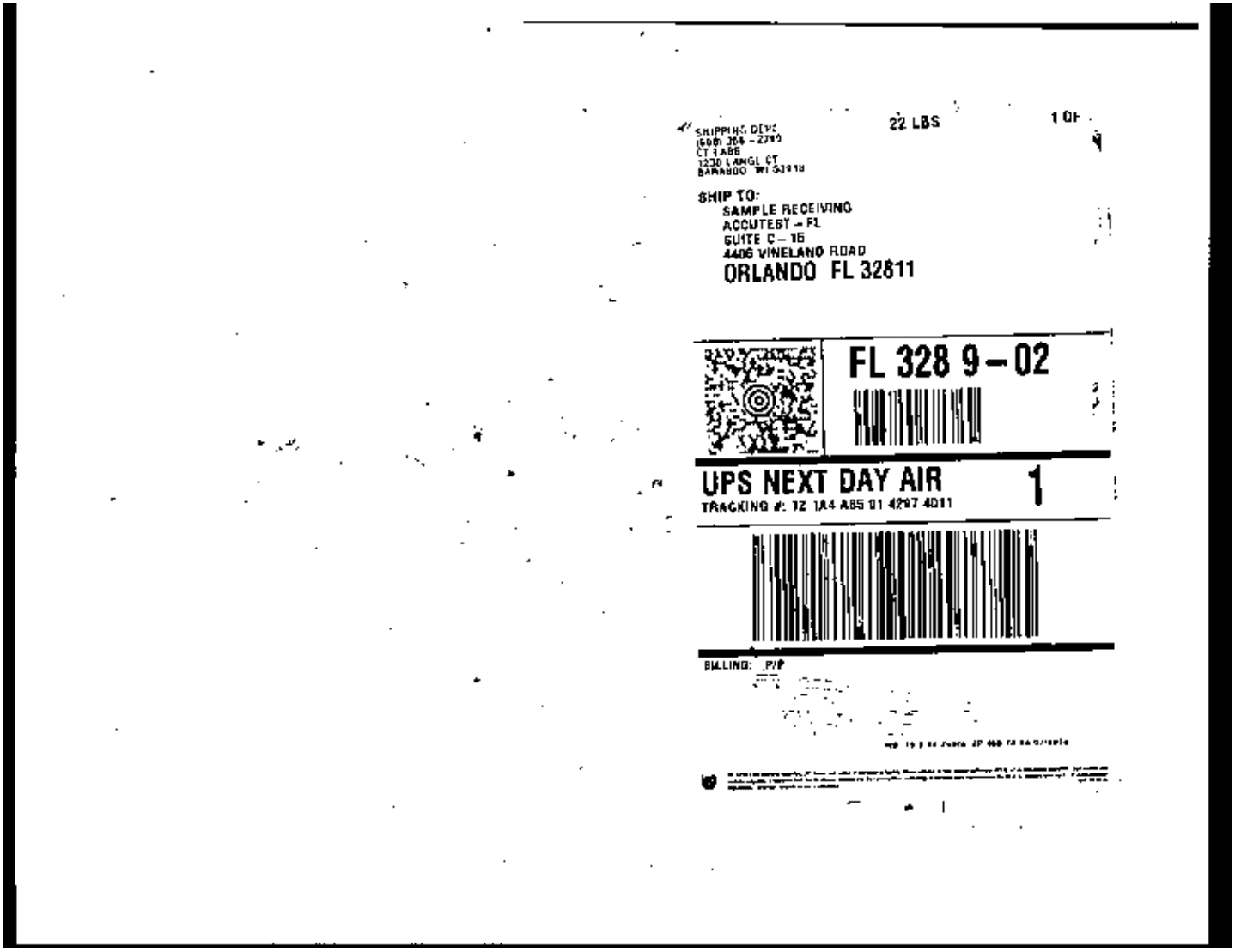
TECHNICIAN SIGNATURE/DATE: 7/19/16 REVIEWER SIGNATURE/DATE: 7-18-16

NF 11/05 RECEIPTLOG040416.xls

5.1

5

SGS ACCUTEST FA35499


22 LBS
1 OF
SHIP TO:
SAMPLE RECEIVING
ACCUTEST - FL
SUITE C - 16
4406 VINELAND ROAD
ORLANDO FL 32811
FL 328 9-02
UPS NEXT DAY AIR
1
TRACKING #: 1Z 1A4 A85 01 4297 4011
BILLING: P/P

QC Evaluation: DOD QSM5 Limits

Job Number: FA35499
Account: CT Laboratories
Project: Radford AAP; VA
Collected: 07/14/16

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
OP61395	SW846 6850						
OP61395-BS	14797-73-0	Perchlorate	BSP	REC	100	%	84-119
OP61395-MS	14797-73-0	Perchlorate	MS	REC	90	%	84-119
OP61395-MSD	14797-73-0	Perchlorate	MSD	REC	90	%	84-119
OP61395-MSD	14797-73-0	Perchlorate	MSD	RPD	0	%	15
OP61167	SW846 8330B						
OP61167-BS	2691-41-0	HMX	BSP	REC	112	%	65-135
OP61167-BS	121-82-4	RDX	BSP	REC	100	%	68-130
OP61167-BS		DNX	BSP	REC	90	%	66-119
OP61167-BS		MNX	BSP	REC	96	%	57-132
OP61167-BS	618-87-1	3,5-Dinitroaniline	BSP	REC	90	%	71-117
OP61167-BS	99-65-0	1,3-Dinitrobenzene	BSP	REC	100	%	78-120
OP61167-BS	606-20-2	2,6-Dinitrotoluene	BSP	REC	100	%	77-127
OP61167-BS	121-14-2	2,4-Dinitrotoluene	BSP	REC	102	%	78-120
OP61167-BS	35572-78-2	2-amino-4,6-Dinitrotoluene	BSP	REC	104	%	79-120
OP61167-BS	19406-51-0	4-amino-2,6-Dinitrotoluene	BSP	REC	98	%	76-125
OP61167-BS	98-95-3	Nitrobenzene	BSP	REC	96	%	65-134
OP61167-BS	88-72-2	o-Nitrotoluene	BSP	REC	92	%	70-127
OP61167-BS	99-08-1	m-Nitrotoluene	BSP	REC	94	%	73-125
OP61167-BS	99-99-0	p-Nitrotoluene	BSP	REC	94	%	71-127
OP61167-BS	479-45-8	Tetryl	BSP	REC	90	%	64-128
OP61167-BS	99-35-4	1,3,5-Trinitrobenzene	BSP	REC	100	%	73-125
OP61167-BS	118-96-7	2,4,6-Trinitrotoluene	BSP	REC	90	%	71-123
OP61167-BS	55-63-0	Nitroglycerine	BSP	REC	116	%	74-127
OP61167-MS	2691-41-0	HMX	MS	REC	126	%	65-135
OP61167-MS	121-82-4	RDX	MS	REC	99	%	68-130
OP61167-MS		DNX	MS	REC	97	%	66-119
OP61167-MS		MNX	MS	REC	100	%	57-132
OP61167-MS	618-87-1	3,5-Dinitroaniline	MS	REC	114	%	71-117
OP61167-MS	99-65-0	1,3-Dinitrobenzene	MS	REC	97	%	78-120
OP61167-MS	606-20-2	2,6-Dinitrotoluene	MS	REC	119	%	77-127
OP61167-MS	121-14-2	2,4-Dinitrotoluene	MS	REC	99	%	78-120
OP61167-MS	35572-78-2	2-amino-4,6-Dinitrotoluene	MS	REC	98	%	79-120
OP61167-MS	19406-51-0	4-amino-2,6-Dinitrotoluene	MS	REC	95	%	76-125
OP61167-MS	98-95-3	Nitrobenzene	MS	REC	97	%	65-134
OP61167-MS	88-72-2	o-Nitrotoluene	MS	REC	92	%	70-127
OP61167-MS	99-08-1	m-Nitrotoluene	MS	REC	94	%	73-125
OP61167-MS	99-99-0	p-Nitrotoluene	MS	REC	95	%	71-127
OP61167-MS	479-45-8	Tetryl	MS	REC	86	%	64-128
OP61167-MS	99-35-4	1,3,5-Trinitrobenzene	MS	REC	85	%	73-125

* Sample used for QC is not from job FA35499

QC Evaluation: DOD QSM5 Limits

Job Number: FA35499
Account: CT Laboratories
Project: Radford AAP; VA
Collected: 07/14/16

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
OP61167-MS	55-63-0	Nitroglycerine	MS	REC	120	%	74-127
OP61167-MS	78-11-5	PETN	MS	REC	122	%	73-127
OP61167-MSD	2691-41-0	HMX	MSD	REC	129	%	65-135
OP61167-MSD	2691-41-0	HMX	MSD	RPD	2	%	30
OP61167-MSD	121-82-4	RDX	MSD	REC	99	%	68-130
OP61167-MSD	121-82-4	RDX	MSD	RPD	0	%	30
OP61167-MSD		DNX	MSD	REC	94	%	66-119
OP61167-MSD		DNX	MSD	RPD	3	%	30
OP61167-MSD		MNX	MSD	REC	97	%	57-132
OP61167-MSD		MNX	MSD	RPD	3	%	30
OP61167-MSD	618-87-1	3,5-Dinitroaniline	MSD	REC	114	%	71-117
OP61167-MSD	618-87-1	3,5-Dinitroaniline	MSD	RPD	0	%	30
OP61167-MSD	99-65-0	1,3-Dinitrobenzene	MSD	REC	103	%	78-120
OP61167-MSD	99-65-0	1,3-Dinitrobenzene	MSD	RPD	6	%	30
OP61167-MSD	606-20-2	2,6-Dinitrotoluene	MSD	REC	116	%	77-127
OP61167-MSD	606-20-2	2,6-Dinitrotoluene	MSD	RPD	2	%	30
OP61167-MSD	121-14-2	2,4-Dinitrotoluene	MSD	REC	99	%	78-120
OP61167-MSD	121-14-2	2,4-Dinitrotoluene	MSD	RPD	0	%	30
OP61167-MSD	35572-78-2	2-amino-4,6-Dinitrotoluene	MSD	REC	97	%	79-120
OP61167-MSD	35572-78-2	2-amino-4,6-Dinitrotoluene	MSD	RPD	1	%	30
OP61167-MSD	19406-51-0	4-amino-2,6-Dinitrotoluene	MSD	REC	94	%	76-125
OP61167-MSD	19406-51-0	4-amino-2,6-Dinitrotoluene	MSD	RPD	1	%	30
OP61167-MSD	98-95-3	Nitrobenzene	MSD	REC	100	%	65-134
OP61167-MSD	98-95-3	Nitrobenzene	MSD	RPD	3	%	30
OP61167-MSD	88-72-2	o-Nitrotoluene	MSD	REC	96	%	70-127
OP61167-MSD	88-72-2	o-Nitrotoluene	MSD	RPD	4	%	30
OP61167-MSD	99-08-1	m-Nitrotoluene	MSD	REC	96	%	73-125
OP61167-MSD	99-08-1	m-Nitrotoluene	MSD	RPD	2	%	30
OP61167-MSD	99-99-0	p-Nitrotoluene	MSD	REC	97	%	71-127
OP61167-MSD	99-99-0	p-Nitrotoluene	MSD	RPD	2	%	30
OP61167-MSD	479-45-8	Tetryl	MSD	REC	84	%	64-128
OP61167-MSD	479-45-8	Tetryl	MSD	RPD	2	%	30
OP61167-MSD	99-35-4	1,3,5-Trinitrobenzene	MSD	REC	89	%	73-125
OP61167-MSD	99-35-4	1,3,5-Trinitrobenzene	MSD	RPD	1	%	30
OP61167-MSD	118-96-7	2,4,6-Trinitrotoluene	MSD	REC	74	%	71-123
OP61167-MSD	118-96-7	2,4,6-Trinitrotoluene	MSD	RPD	2	%	30
OP61167-MSD	55-63-0	Nitroglycerine	MSD	REC	119	%	74-127
OP61167-MSD	55-63-0	Nitroglycerine	MSD	RPD	0	%	30
OP61167-MSD	78-11-5	PETN	MSD	REC	121	%	73-127
OP61167-MSD	78-11-5	PETN	MSD	RPD	1	%	30

* Sample used for QC is not from job FA35499

GC/MS Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Internal Standard Area Summaries
- Initial and Continuing Calibration Summaries

Method Blank Summary

Job Number: FA35499
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP61395-MB	Q24229.D	1	08/09/16	NAF	08/09/16	OP61395	SQ694

The QC reported here applies to the following samples: **Method:** SW846 6850

FA35499-1

CAS No.	Compound	Result	RL	MDL	Units	Q
14797-73-0	Perchlorate	ND	0.20	0.050	ug/l	

Blank Spike Summary

Job Number: FA35499
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP61395-BS	Q24230.D	1	08/09/16	NAF	08/09/16	OP61395	SQ694

The QC reported here applies to the following samples: **Method:** SW846 6850

FA35499-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
14797-73-0	Perchlorate	0.2	0.20	100	80-120

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA35499
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP61395-MS	Q24235.D	1	08/09/16	NAF	08/09/16	OP61395	SQ694
OP61395-MSD	Q24236.D	1	08/09/16	NAF	08/09/16	OP61395	SQ694
FA35499-1	Q24232.D	1	08/09/16	NAF	08/09/16	OP61395	SQ694

The QC reported here applies to the following samples: **Method:** SW846 6850

FA35499-1

CAS No.	Compound	FA35499-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
14797-73-0	Perchlorate	0.33		0.2	0.51	90	0.2	0.51	90	0	80-120/15

* = Outside of Control Limits.

Semivolatile Internal Standard Area Summary

Job Number: FA35499
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Check Std:	SQ694-ICC694	**Injection Date:**	08/09/16
Lab File ID:	Q24219.D	**Injection Time:**	09:46
Instrument ID:	GCMSQ	**Method:**	SW846 6850

	IS 1 AREA	RT
Initial Cal [a]	43707	4.33
Check Std [b]	48912	4.33
Upper Limit [c]	65561	6.33
Lower Limit [d]	21854	2.33

Lab Sample ID	IS 1 AREA	RT
OP61395-MB	50449	4.34
OP61395-BS	52865	4.34
ZZZZZZ	40443	4.26
FA35499-1	44808	4.23
ZZZZZZ	51101	4.34
ZZZZZZ	55822	4.34
OP61395-MS	44748	4.23
OP61395-MSD	45456	4.24

IS 1 = Cl18O4 (ISTD)

(a) Initial Cal is: SQ694-ICC694 Q24219.D 08/09/16 09:46. Area is AVERAGE of initial cal points.
(b) Check Std Limit = -50 to + 50% of initial cal area.
(c) Upper Limit = + 50% of initial standard area; Retention time + 2 minutes of check standard.
(d) Lower Limit = -50% of initial standard area; Retention time -2 minutes of check standard.

Initial Calibration Summary

Job Number: FA35499
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: SQ694-ICC694
Lab FileID: Q24219.D

Initial Calibration ReSponse Factors - D:\MassHunter\Data\0809_6850_SQ694\SQ694.batch.bin

```
  Level ID : Calibration File
        1  : D:\MassHunter\Data\0809_6850_SQ694\Q24216.d
        2  : D:\MassHunter\Data\0809_6850_SQ694\Q24217.d
        3  : D:\MassHunter\Data\0809_6850_SQ694\Q24218.d
        4  : D:\MassHunter\Data\0809_6850_SQ694\Q24219.d
        5  : D:\MassHunter\Data\0809_6850_SQ694\Q24220.d
        6  : D:\MassHunter\Data\0809_6850_SQ694\Q24221.d
        7  : D:\MassHunter\Data\0809_6850_SQ694\Q24222.d
        8  : D:\MassHunter\Data\0809_6850_SQ694\Q24223.d
```

Compound	1	2	3	4	5	6	7	8	AvgRF	%RSD	r^2
1) Cl18O4	----------ISTD----------										
3) Perchlorate	0.9779	0.9771	0.9720	0.9975	1.0213	1.0714	1.1554	1.1586	1.0414	7.522	0.9997

*(value) - Average RF below (value)

Initial Calibration Verification

Job Number: FA35499
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: SQ694-ICV694
Lab FileID: Q24227.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\0809_6850_SQ694\SQ694.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\0809_6850_SQ694\Q24216.d
2:D:\MassHunter\Data\0809_6850_SQ694\Q24217.d
3:D:\MassHunter\Data\0809_6850_SQ694\Q24218.d
4:D:\MassHunter\Data\0809_6850_SQ694\Q24219.d
5:D:\MassHunter\Data\0809_6850_SQ694\Q24220.d
6:D:\MassHunter\Data\0809_6850_SQ694\Q24221.d
7:D:\MassHunter\Data\0809_6850_SQ694\Q24222.d
8:D:\MassHunter\Data\0809_6850_SQ694\Q24223.d

Data File: Q24227
Type : QC
Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	2.000	2.012	0.6	100.6

CC Criteria: +/- 15%

Continuing Calibration Summary

Job Number: FA35499
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: SQ694-CC694
Lab FileID: Q24238.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\0809_6850_SQ694\SQ694.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\0809_6850_SQ694\Q24216.d
2:D:\MassHunter\Data\0809_6850_SQ694\Q24217.d
3:D:\MassHunter\Data\0809_6850_SQ694\Q24218.d
4:D:\MassHunter\Data\0809_6850_SQ694\Q24219.d
5:D:\MassHunter\Data\0809_6850_SQ694\Q24220.d
6:D:\MassHunter\Data\0809_6850_SQ694\Q24221.d
7:D:\MassHunter\Data\0809_6850_SQ694\Q24222.d
8:D:\MassHunter\Data\0809_6850_SQ694\Q24223.d

Data File: Q24238
Type : QC
Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	2.000	1.781	-10.9	89.1

CC Criteria: +/- 15%

Continuing Calibration Summary

Job Number: FA35499
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: SQ694-CC694
Lab FileID: Q24239.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\0809_6850_SQ694\SQ694.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\0809_6850_SQ694\Q24216.d
2:D:\MassHunter\Data\0809_6850_SQ694\Q24217.d
3:D:\MassHunter\Data\0809_6850_SQ694\Q24218.d
4:D:\MassHunter\Data\0809_6850_SQ694\Q24219.d
5:D:\MassHunter\Data\0809_6850_SQ694\Q24220.d
6:D:\MassHunter\Data\0809_6850_SQ694\Q24221.d
7:D:\MassHunter\Data\0809_6850_SQ694\Q24222.d
8:D:\MassHunter\Data\0809_6850_SQ694\Q24223.d

Data File: Q24239
Type : QC
Level : 1

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
Cl18O4	---	--ISTD--		
Perchlorate	0.200	0.194	-2.9	97.1

CC Criteria: +/- 30%

GC/MS Semi-volatiles

Raw Data

Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q24232.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-08-09 11:55
Sample Name	:	FA35499-1
Vial	:	Vial 16
Sample Info	:	OP61395,SQ694,10,,,10,1,WATER
Quant Method	:	6850_0809_SQ694.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ694.batch.bin
Last Calib Update	:	2016-08-09 16:11

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	4.231	107.0 -> 89.0	44808	5.000	ng/ml	-0.019	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	4.226	99.0 -> 83.0	3248	0.327	ng/ml	83	2.6
		101.0 -> 85.0	1270				

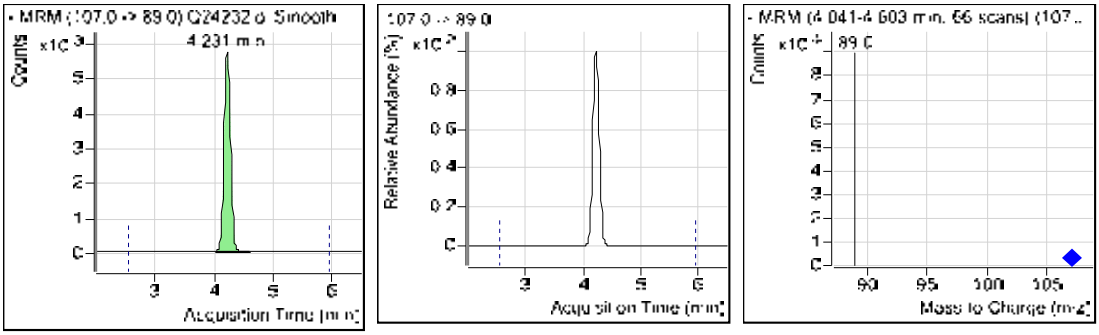
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

SGS ACCUTEST FA35499

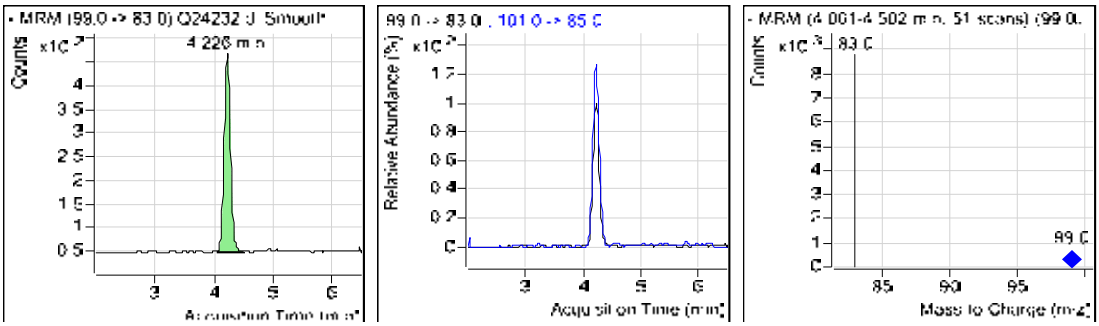
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q24232.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-08-09 11:55
Sample Name	:	FA35499-1
Vial	:	Vial 16
Sample Info	:	OP61395,SQ694,10,,,10,1,WATER
Quant Method	:	6850_0809_SQ694.quantmethod.xml
Tune File	:	
Tune Date	:	

Cl18O4



Perchlorate



Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q24229.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-08-09 11:29
Sample Name	:	OP61395-MB
Vial	:	Vial 14
Sample Info	:	OP61395,SQ694,10,,,10,1,WATER
Quant Method	:	6850_0809_SQ694.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ694.batch.bin
Last Calib Update	:	2016-08-09 16:11

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	4.343	107.0 -> 89.0	50449	5.000	ng/ml	0.093	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**

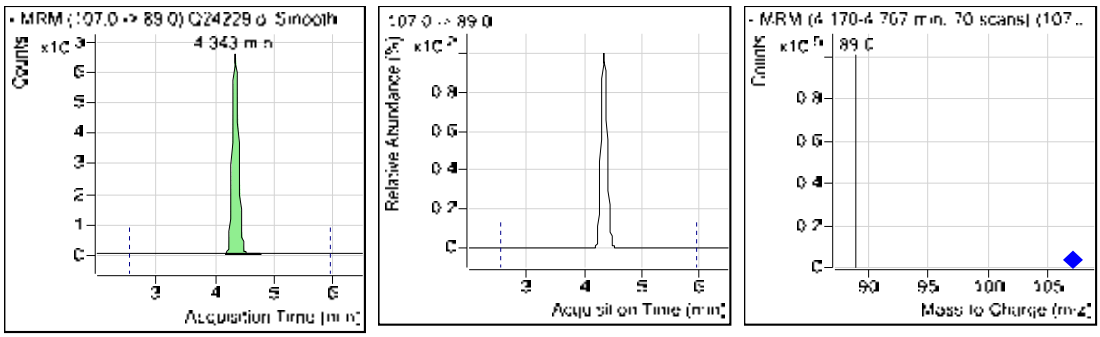
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

SGS ACCUTEST FA35499

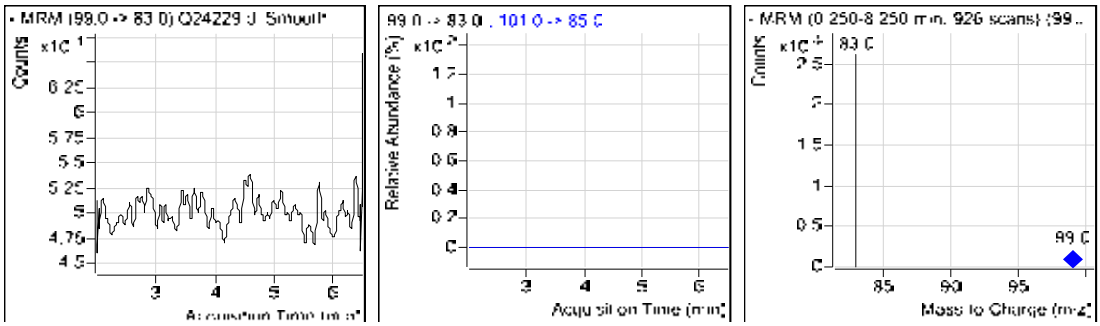
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q24229.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-08-09 11:29
Sample Name	:	OP61395-MB
Vial	:	Vial 14
Sample Info	:	OP61395,SQ694,10,,,10,1,WATER
Quant Method	:	6850_0809_SQ694.quantmethod.xml
Tune File	:	
Tune Date	:	

Cl18O4



Perchlorate



SGS ACCUTEST FA35499

Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q24230.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-08-09 11:39
Sample Name	:	OP61395-BS
Vial	:	Vial 13
Sample Info	:	OP61395,SQ694,10,,,10,1,WATER
Quant Method	:	6850_0809_SQ694.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ694.batch.bin
Last Calib Update	:	2016-08-09 16:11

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	4.343	107.0 -> 89.0	52865	5.000	ng/ml	0.093	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	4.347	99.0 -> 83.0	2341	0.200	ng/ml	92	2.9
		101.0 -> 85.0	806				

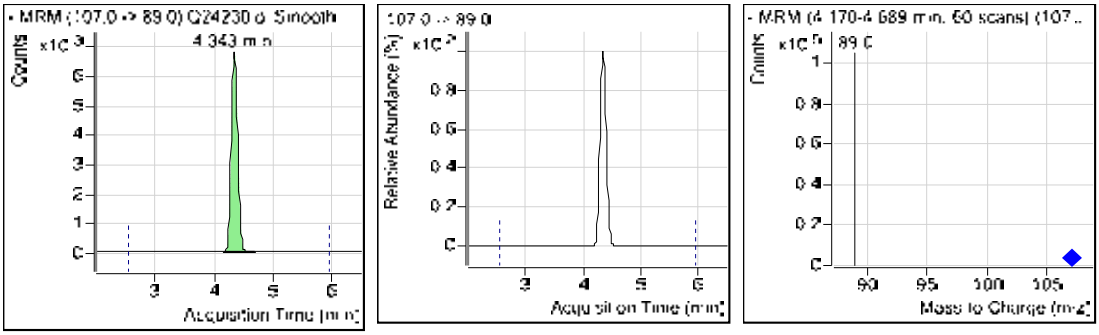
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

SGS ACCUTEST FA35499

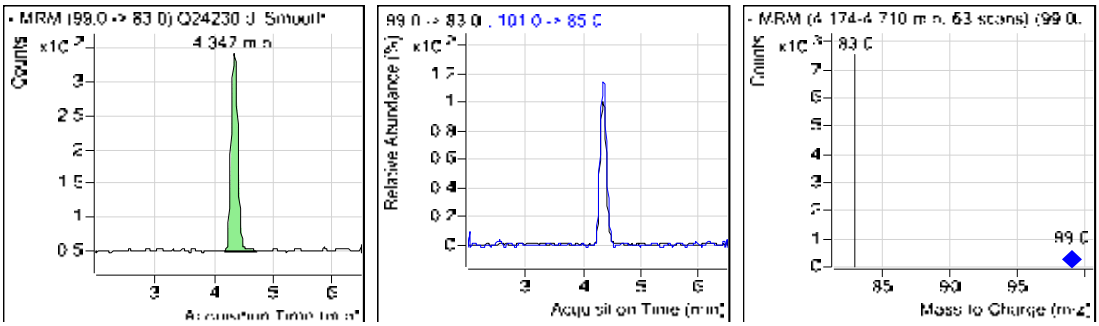
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q24230.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-08-09 11:39
Sample Name	:	OP61395-BS
Vial	:	Vial 13
Sample Info	:	OP61395,SQ694,10,,,10,1,WATER
Quant Method	:	6850_0809_SQ694.quantmethod.xml
Tune File	:	
Tune Date	:	

Cl18O4



Perchlorate



Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q24235.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-08-09 12:20
Sample Name	:	OP61395-MS
Vial	:	Vial 19
Sample Info	:	OP61395,SQ694,10,,,10,1,WATER
Quant Method	:	6850_0809_SQ694.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ694.batch.bin
Last Calib Update	:	2016-08-09 16:11

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	4.231	107.0 -> 89.0	44748	5.000	ng/ml	-0.019	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	4.234	99.0 -> 83.0	5091	0.513	ng/ml	91	2.9
		101.0 -> 85.0	1783				

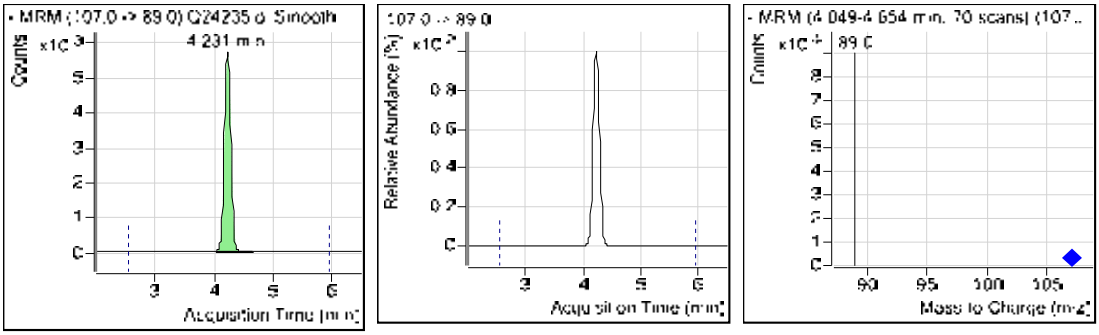
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

SGS ACCUTEST FA35499

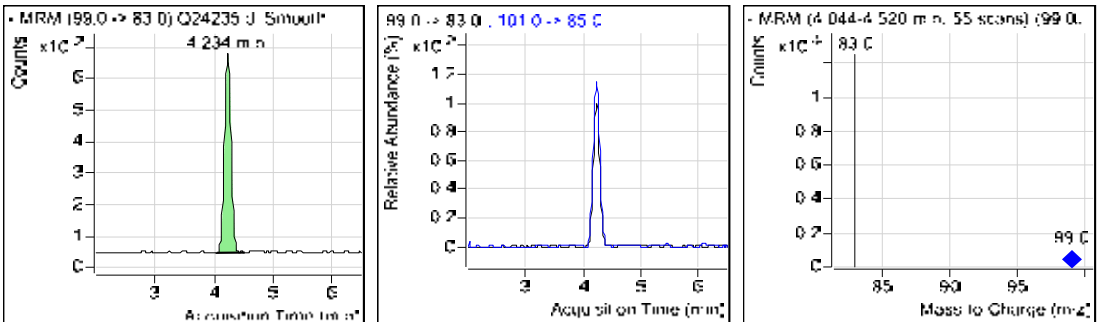
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q24235.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-08-09 12:20
Sample Name	:	OP61395-MS
Vial	:	Vial 19
Sample Info	:	OP61395,SQ694,10,,,10,1,WATER
Quant Method	:	6850_0809_SQ694.quantmethod.xml
Tune File	:	
Tune Date	:	

Cl18O4



Perchlorate



SGS ACCUTEST FA35499

Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q24236.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-08-09 12:27
Sample Name	:	OP61395-MSD
Vial	:	Vial 20
Sample Info	:	OP61395,SQ694,10,,,10,1,WATER
Quant Method	:	6850_0809_SQ694.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ694.batch.bin
Last Calib Update	:	2016-08-09 16:11

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	4.239	107.0 -> 89.0	45456	5.000	ng/ml	-0.011	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	4.234	99.0 -> 83.0	5149	0.511	ng/ml	88	2.7
		101.0 -> 85.0	1874				

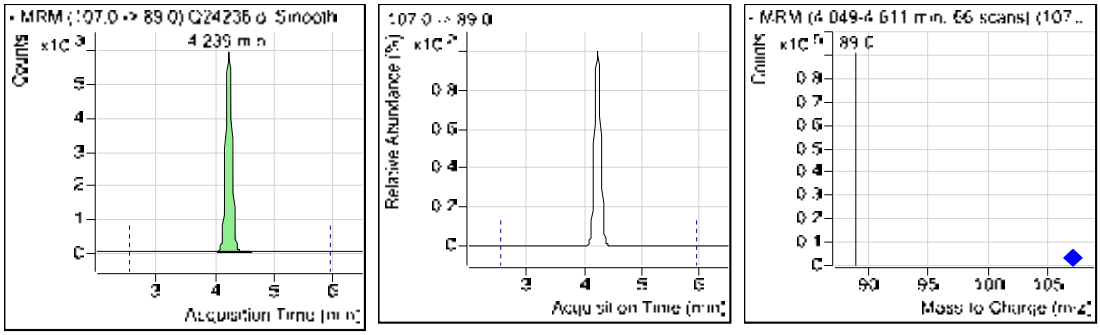
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

SGS ACCUTEST FA35499

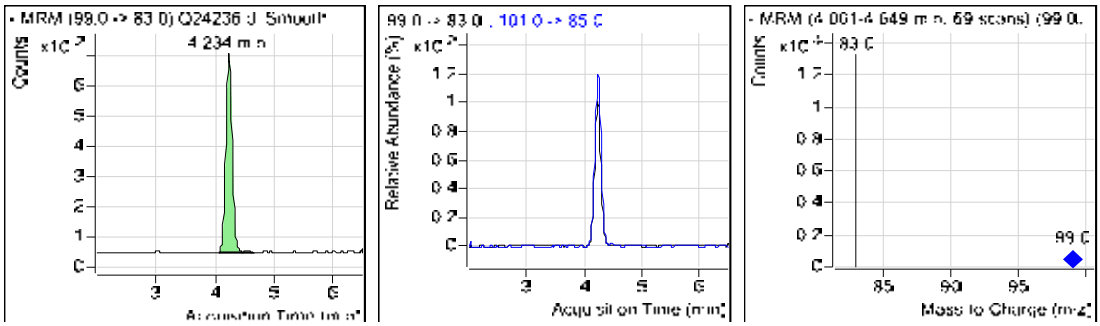
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q24236.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-08-09 12:27
Sample Name	:	OP61395-MSD
Vial	:	Vial 20
Sample Info	:	OP61395,SQ694,10,,,10,1,WATER
Quant Method	:	6850_0809_SQ694.quantmethod.xml
Tune File	:	
Tune Date	:	

Cl18O4



Perchlorate



Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q24216.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-08-09 09:23
Sample Name	:	IC694-0.2
Vial	:	Vial 2
Sample Info	:	OP61351,SQ694,10,,,10,1,WATER
Quant Method	:	6850_0809_SQ694.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ694.batch.bin
Last Calib Update	:	2016-08-09 16:11

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	4.335	107.0 -> 89.0	50553	5.000	ng/ml	0.085	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	4.338	99.0 -> 83.0	1977	0.176	ng/ml	89	2.8
		101.0 -> 85.0	713				

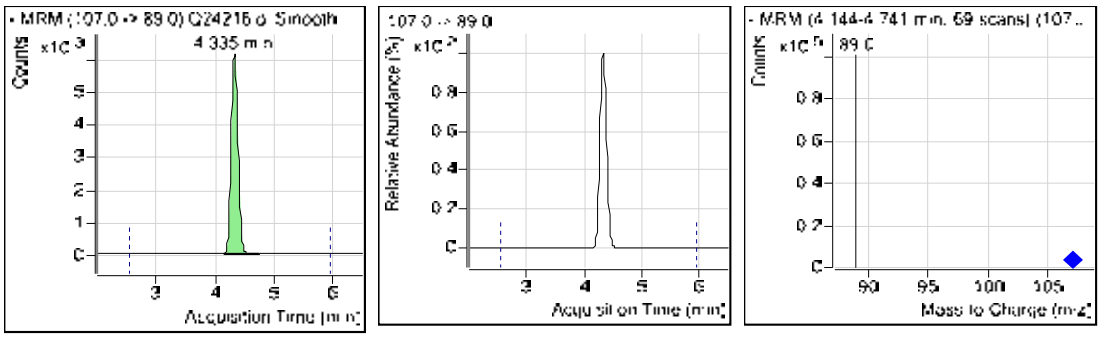
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

SGS ACCUTEST FA35499

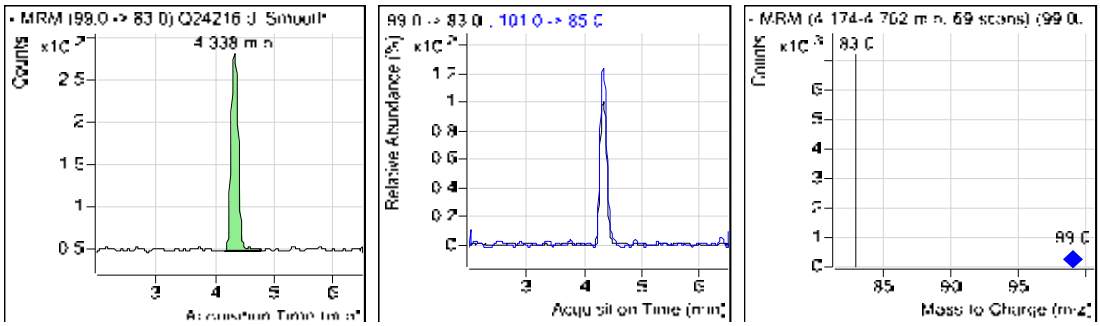
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q24216.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-08-09 09:23
Sample Name	:	IC694-0.2
Vial	:	Vial 2
Sample Info	:	OP61351,SQ694,10,,,10,1,WATER
Quant Method	:	6850_0809_SQ694.quantmethod.xml
Tune File	:	
Tune Date	:	

Cl18O4



Perchlorate



SGS ACCUTEST FA35499

Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q24217.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-08-09 09:31
Sample Name	:	IC694-0.5
Vial	:	Vial 3
Sample Info	:	OP61351,SQ694,10,,,10,1,WATER
Quant Method	:	6850_0809_SQ694.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ694.batch.bin
Last Calib Update	:	2016-08-09 16:11

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	4.335	107.0 -> 89.0	50701	5.000	ng/ml	0.085	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	4.338	99.0 -> 83.0	4954	0.441	ng/ml	90	2.8
		101.0 -> 85.0	1757				

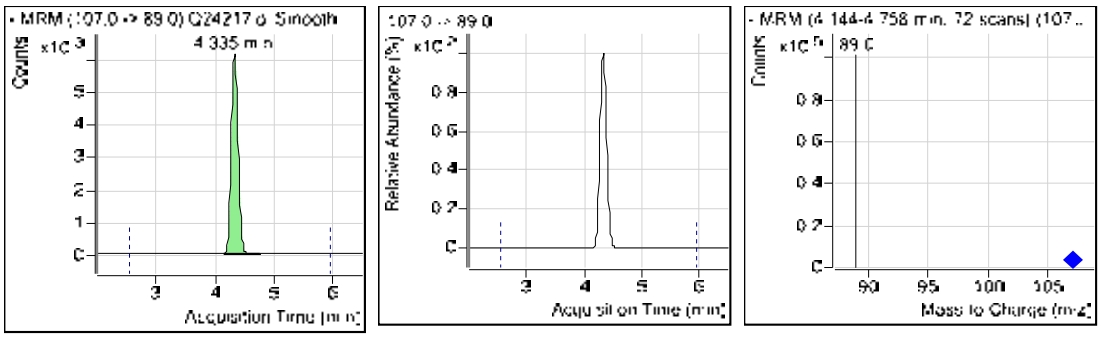
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

SGS ACCUTEST FA35499

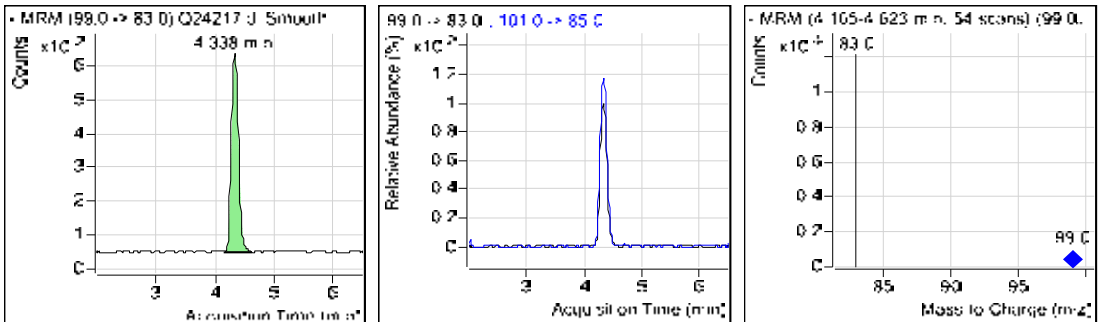
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q24217.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-08-09 09:31
Sample Name	:	IC694-0.5
Vial	:	Vial 3
Sample Info	:	OP61351,SQ694,10,,,10,1,WATER
Quant Method	:	6850_0809_SQ694.quantmethod.xml
Tune File	:	
Tune Date	:	

Cl18O4



Perchlorate



Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q24218.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-08-09 09:38
Sample Name	:	IC694-1.0
Vial	:	Vial 4
Sample Info	:	OP61351,SQ694,10,,,10,1,WATER
Quant Method	:	6850_0809_SQ694.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ694.batch.bin
Last Calib Update	:	2016-08-09 16:11

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	4.335	107.0 -> 89.0	49422	5.000	ng/ml	0.085	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	4.338	99.0 -> 83.0	9607	0.876	ng/ml	87	2.7
		101.0 -> 85.0	3554				

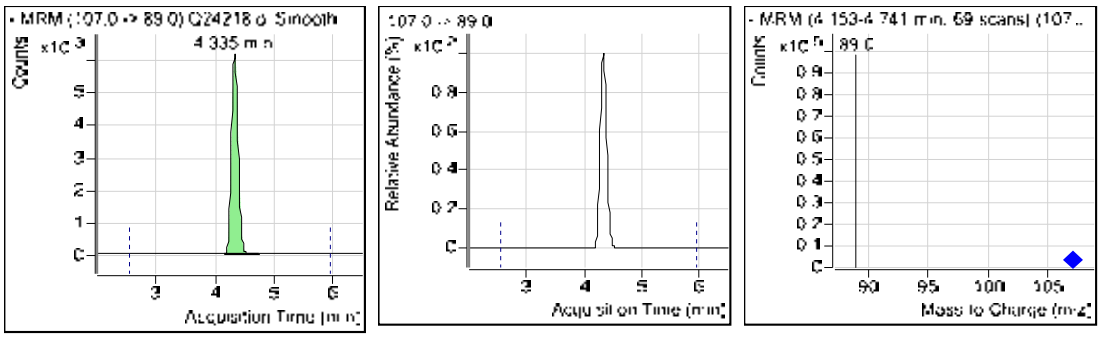
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

SGS ACCUTEST FA35499

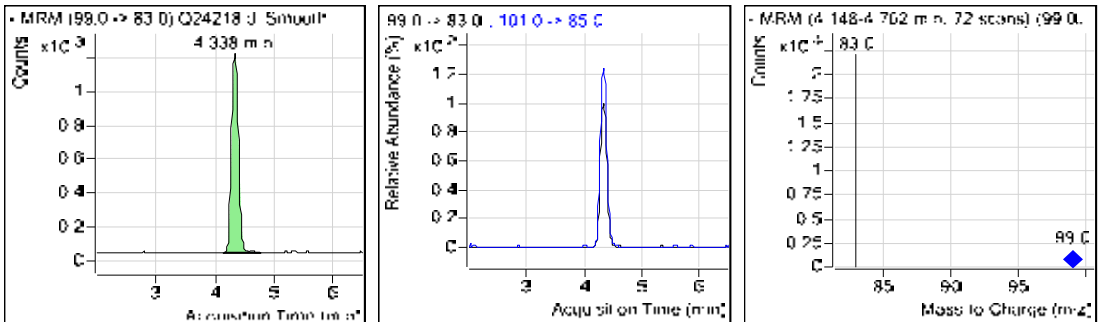
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q24218.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-08-09 09:38
Sample Name	:	IC694-1.0
Vial	:	Vial 4
Sample Info	:	OP61351,SQ694,10,,,10,1,WATER
Quant Method	:	6850_0809_SQ694.quantmethod.xml
Tune File	:	
Tune Date	:	

Cl18O4



Perchlorate



Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q24219.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-08-09 09:46
Sample Name	:	ICC694-2.0
Vial	:	Vial 5
Sample Info	:	OP61351,SQ694,10,,,10,1,WATER
Quant Method	:	6850_0809_SQ694.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ694.batch.bin
Last Calib Update	:	2016-08-09 16:11

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	4.335	107.0 -> 89.0	48912	5.000	ng/ml	0.085	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	4.338	99.0 -> 83.0	19516	1.797	ng/ml	90	2.8
		101.0 -> 85.0	6955				

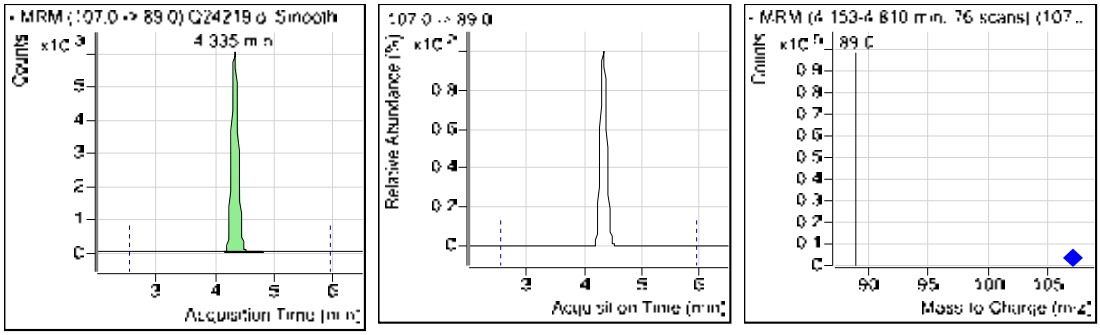
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

SGS ACCUTEST FA35499

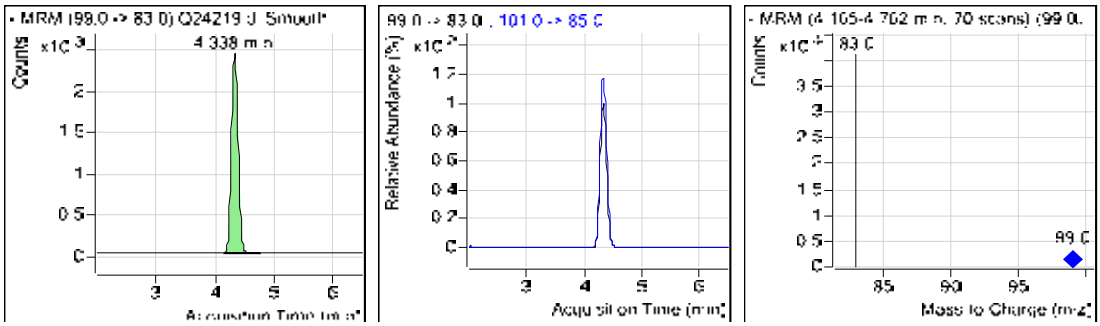
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q24219.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-08-09 09:46
Sample Name	:	ICC694-2.0
Vial	:	Vial 5
Sample Info	:	OP61351,SQ694,10,,,10,1,WATER
Quant Method	:	6850_0809_SQ694.quantmethod.xml
Tune File	:	
Tune Date	:	

Cl18O4



Perchlorate



SGS ACCUTEST FA35499

Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q24220.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-08-09 09:58
Sample Name	:	IC694-5.0
Vial	:	Vial 6
Sample Info	:	OP61351,SQ694,10,,,10,1,WATER
Quant Method	:	6850_0809_SQ694.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ694.batch.bin
Last Calib Update	:	2016-08-09 16:11

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	4.335	107.0 -> 89.0	47434	5.000	ng/ml	0.085	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	4.338	99.0 -> 83.0	48444	4.587	ng/ml	91	2.9
		101.0 -> 85.0	16787				

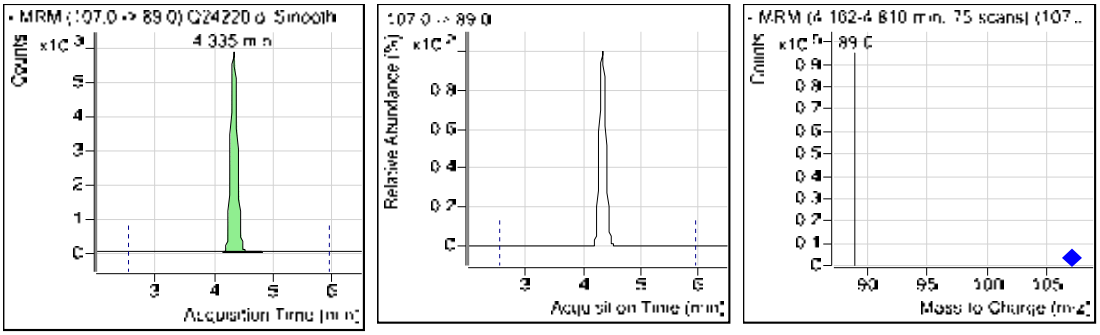
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

SGS ACCUTEST FA35499

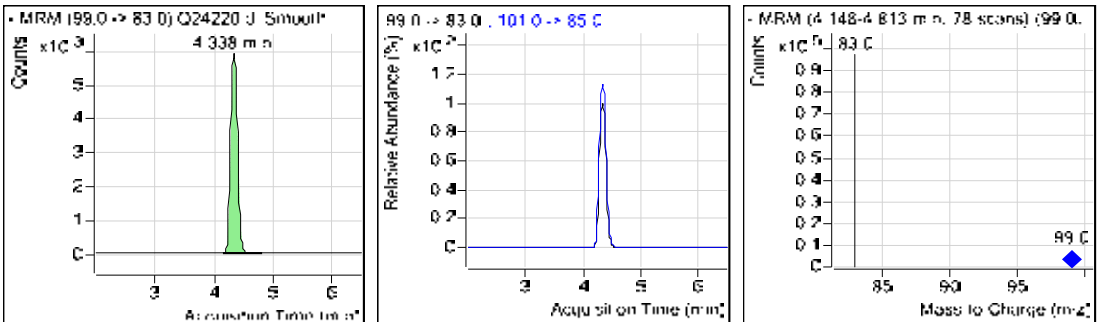
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q24220.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-08-09 09:58
Sample Name	:	IC694-5.0
Vial	:	Vial 6
Sample Info	:	OP61351,SQ694,10,,,10,1,WATER
Quant Method	:	6850_0809_SQ694.quantmethod.xml
Tune File	:	
Tune Date	:	

Cl18O4



Perchlorate



Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q24221.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-08-09 10:05
Sample Name	:	IC694-10
Vial	:	Vial 7
Sample Info	:	OP61351,SQ694,10,,,10,1,WATER
Quant Method	:	6850_0809_SQ694.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ694.batch.bin
Last Calib Update	:	2016-08-09 16:11

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	4.335	107.0 -> 89.0	42807	5.000	ng/ml	0.085	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	4.338	99.0 -> 83.0	91728	9.579	ng/ml	93	3.0
		101.0 -> 85.0	30956				

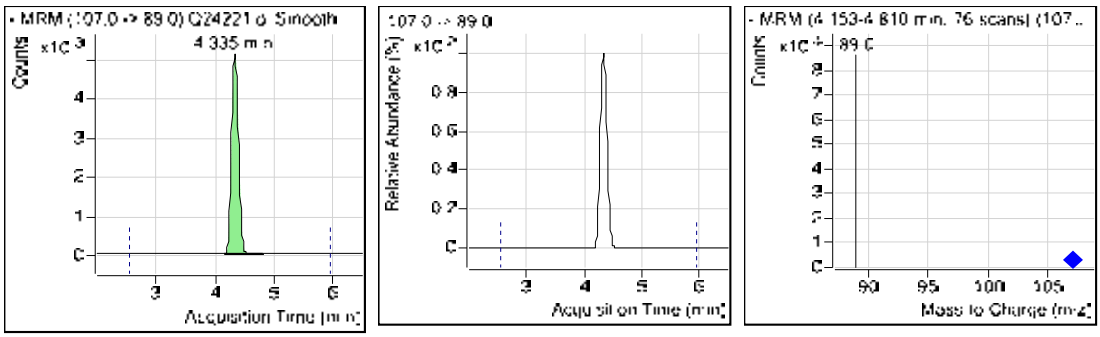
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

SGS ACCUTEST FA35499

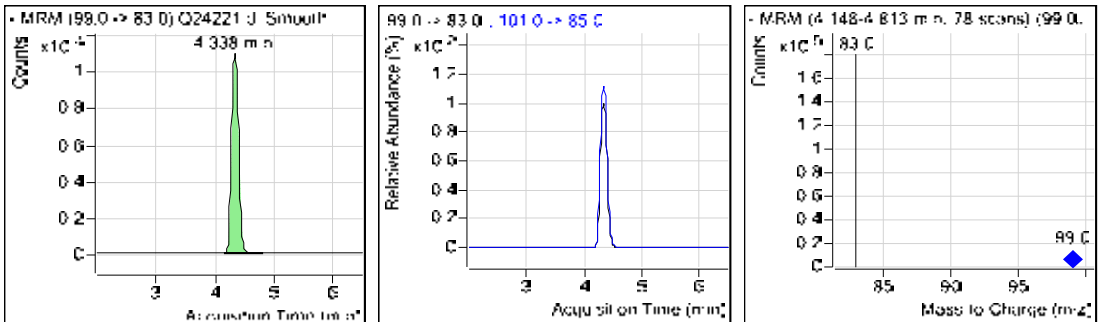
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q24221.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-08-09 10:05
Sample Name	:	IC694-10
Vial	:	Vial 7
Sample Info	:	OP61351,SQ694,10,,,10,1,WATER
Quant Method	:	6850_0809_SQ694.quantmethod.xml
Tune File	:	
Tune Date	:	

Cl18O4



Perchlorate



Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q24222.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-08-09 10:13
Sample Name	:	IC694-25
Vial	:	Vial 8
Sample Info	:	OP61351,SQ694,10,,,10,1,WATER
Quant Method	:	6850_0809_SQ694.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ694.batch.bin
Last Calib Update	:	2016-08-09 16:11

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	4.335	107.0 -> 89.0	33537	5.000	ng/ml	0.085	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	4.338	99.0 -> 83.0	193734	25.447	ng/ml	93	2.9
		101.0 -> 85.0	65865				

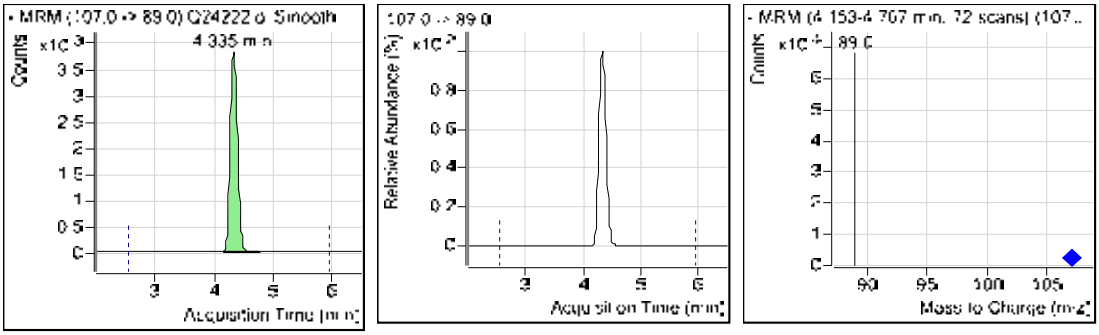
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

SGS ACCUTEST FA35499

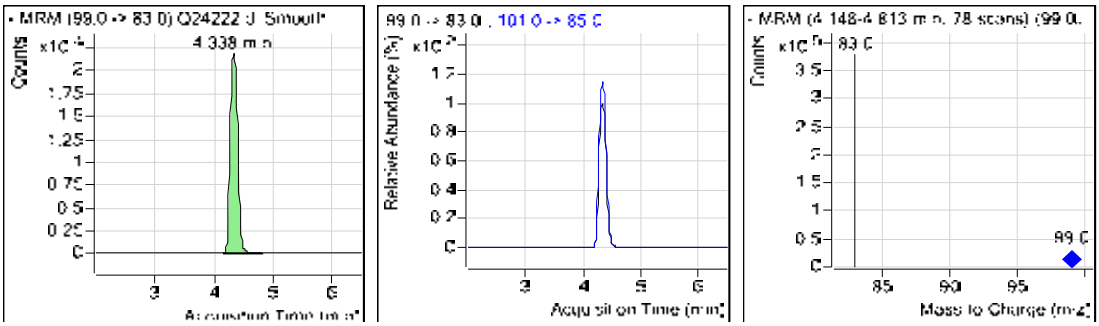
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q24222.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-08-09 10:13
Sample Name	:	IC694-25
Vial	:	Vial 8
Sample Info	:	OP61351,SQ694,10,,,10,1,WATER
Quant Method	:	6850_0809_SQ694.quantmethod.xml
Tune File	:	
Tune Date	:	

Cl18O4



Perchlorate



Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q24223.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-08-09 10:20
Sample Name	:	IC694-50
Vial	:	Vial 9
Sample Info	:	OP61351,SQ694,10,,,10,1,WATER
Quant Method	:	6850_0809_SQ694.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ694.batch.bin
Last Calib Update	:	2016-08-09 16:11

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	4.335	107.0 -> 89.0	26293	5.000	ng/ml	0.085	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	4.338	99.0 -> 83.0	304637	49.913	ng/ml	93	2.9
		101.0 -> 85.0	103502				

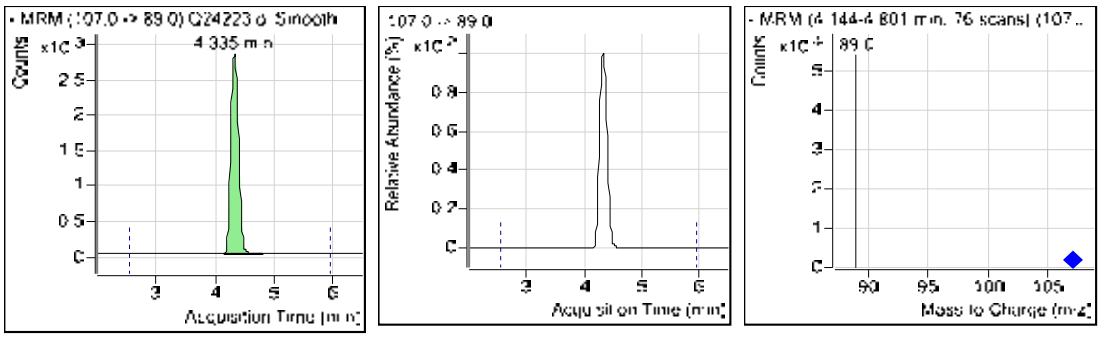
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

SGS ACCUTEST FA35499

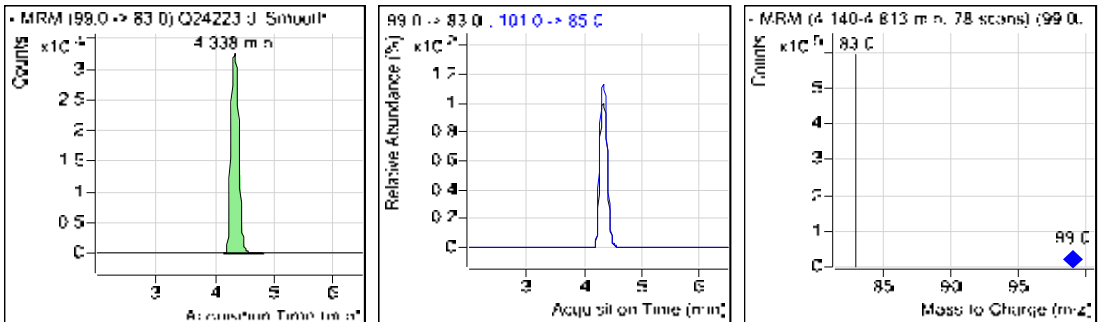
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q24223.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-08-09 10:20
Sample Name	:	IC694-50
Vial	:	Vial 9
Sample Info	:	OP61351,SQ694,10,,,10,1,WATER
Quant Method	:	6850_0809_SQ694.quantmethod.xml
Tune File	:	
Tune Date	:	

Cl18O4



Perchlorate



Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q24227.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-08-09 11:11
Sample Name	:	ICV694-2.0
Vial	:	Vial 12
Sample Info	:	OP61351,SQ694,10,,,10,1,WATER
Quant Method	:	6850_0809_SQ694.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ694.batch.bin
Last Calib Update	:	2016-08-09 16:11

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	4.343	107.0 -> 89.0	50054	5.000	ng/ml	0.093	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	4.347	99.0 -> 83.0	22363	2.012	ng/ml	91	2.9
		101.0 -> 85.0	7744				

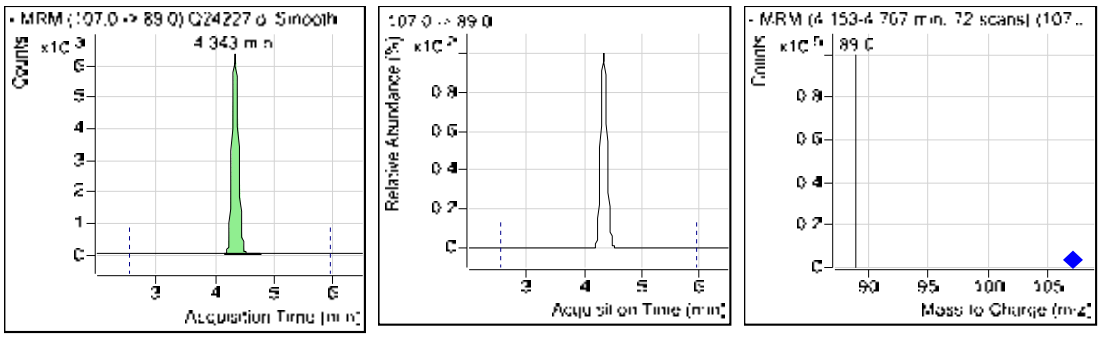
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

SGS ACCUTEST FA35499

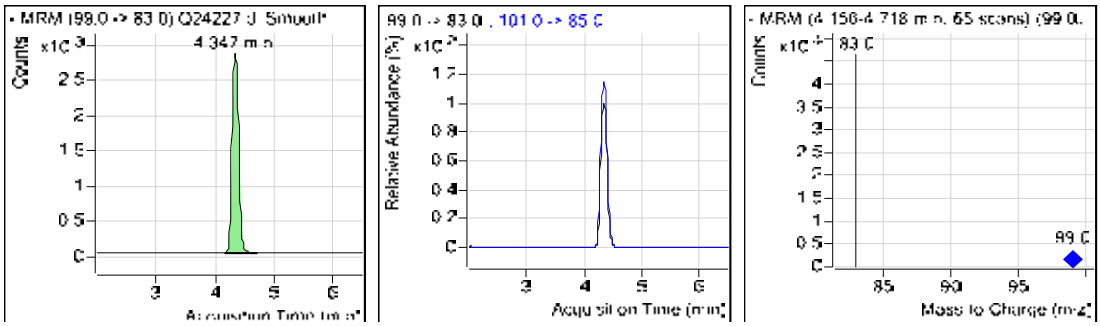
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q24227.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-08-09 11:11
Sample Name	:	ICV694-2.0
Vial	:	Vial 12
Sample Info	:	OP61351,SQ694,10,,,10,1,WATER
Quant Method	:	6850_0809_SQ694.quantmethod.xml
Tune File	:	
Tune Date	:	

Cl18O4



Perchlorate



Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q24238.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-08-09 12:42
Sample Name	:	CC694-2.0
Vial	:	Vial 5
Sample Info	:	OP61351,SQ694,10,,,10,1,WATER
Quant Method	:	6850_0809_SQ694.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ694.batch.bin
Last Calib Update	:	2016-08-09 16:11

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	4.343	107.0 -> 89.0	49934	5.000	ng/ml	0.093	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	4.347	99.0 -> 83.0	19753	1.781	ng/ml	89	2.8
		101.0 -> 85.0	7151				

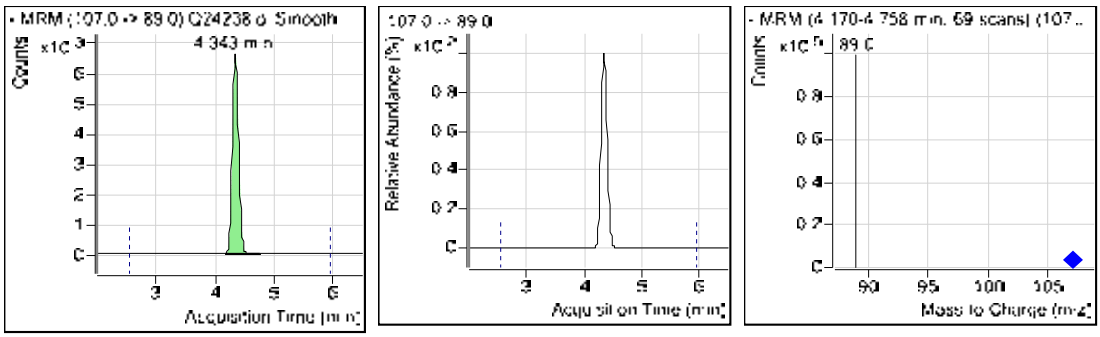
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

SGS ACCUTEST FA35499

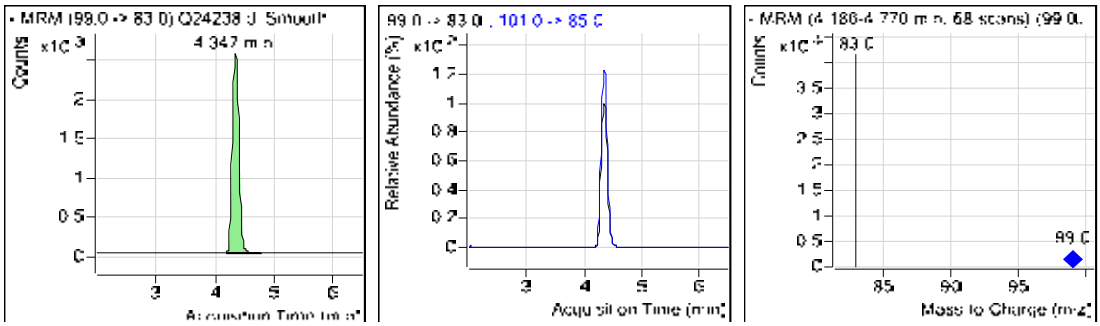
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q24238.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-08-09 12:42
Sample Name	:	CC694-2.0
Vial	:	Vial 5
Sample Info	:	OP61351,SQ694,10,,,10,1,WATER
Quant Method	:	6850_0809_SQ694.quantmethod.xml
Tune File	:	
Tune Date	:	

Cl18O4



Perchlorate



SGS ACCUTEST FA35499

Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q24239.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-08-09 12:49
Sample Name	:	CC694-0.2
Vial	:	Vial 2
Sample Info	:	OP61351,SQ694,10,,,10,1,WATER
Quant Method	:	6850_0809_SQ694.quantmethod.xml
Tune File	:	
Tune Date	:	
Quant Batch Name	:	SQ694.batch.bin
Last Calib Update	:	2016-08-09 16:11

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	Q-Ratio
Internal Standards							
Cl18O4	4.352	107.0 -> 89.0	50885	5.000	ng/ml	0.102	
System Monitoring Compounds							
Target Compounds						**Qvalue**	**Q-Ratio**
Perchlorate	4.347	99.0 -> 83.0	2192	0.194	ng/ml	98	3.2
		101.0 -> 85.0	685				

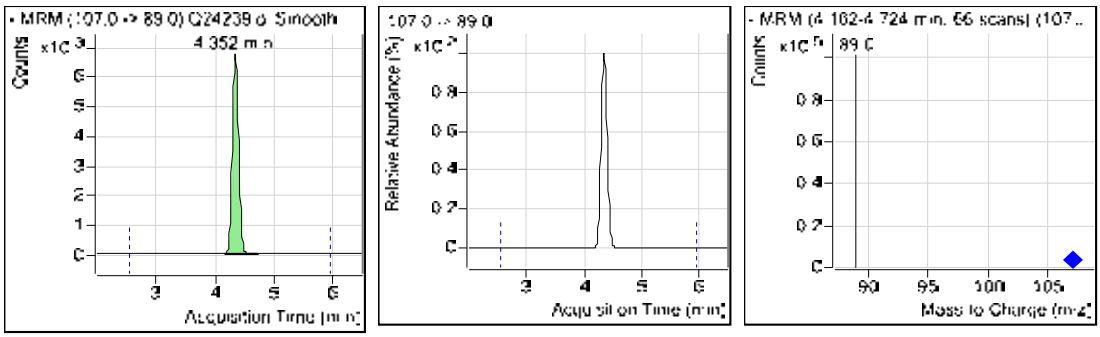
(#) = Qualifier Out of Range; (m) = Manual Integration; (+) = Area Summed

SGS ACCUTEST FA35499

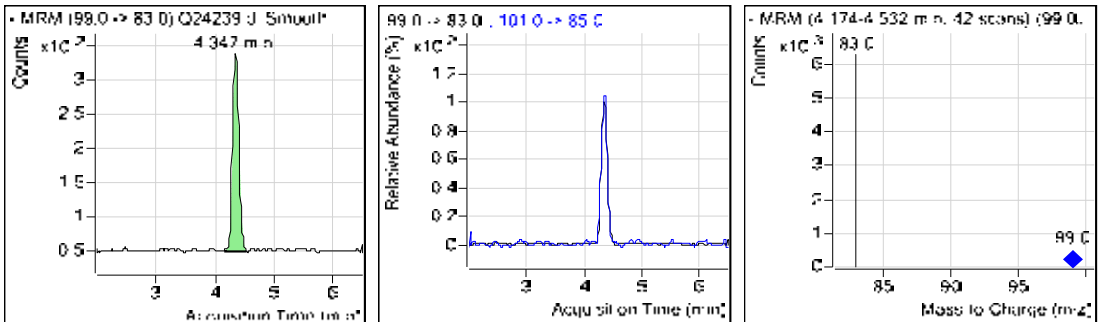
Quantitative Analysis Report for Perchlorate by 6850

Data File	:	Q24239.d
Operator	:	NANCYF
Acq Method Name	:	Perchlorate2.m
Acquisition date	:	2016-08-09 12:49
Sample Name	:	CC694-0.2
Vial	:	Vial 2
Sample Info	:	OP61351,SQ694,10,,,10,1,WATER
Quant Method	:	6850_0809_SQ694.quantmethod.xml
Tune File	:	
Tune Date	:	

Cl18O4



Perchlorate



SGS ACCUTEST FA35499

SGS ACCUTEST-ORLANDO

DATE:	08-09-16
COLUMN TYPE:	Prime
AMOUNT INJECTED	15 ul
INSTRUMENT:	LCMS1-Q
HEAD PRESSURE:	1818

LCMS1-Q ANALYSIS LOG

METHODS:	6850
ACQ. METHOD:	Perchlorate 2
PROC. METHOD:	6850 0804 SQ694
CALIB. DATE:	08-09-16
RUN BATCH: SQ	694

ANALYST:	MAS
ELUENT A LOT #:	91[illegible] 161559 161623
ELUENT B LOT #	95[illegible] 161623 162279
WATER LOT #:	162279
ISTD Lot #:	7917

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	ION RATIO	MANUAL INTS RATIONALE, PK #	SCON <CL*	COMMENTS
Q 24208	1	CCB	6850	—	—	—		LOK	✓
Q 09	1	CCV		—	—	—			✓
Q 10	1	CCB		—	—	—			✓
Q 11	1	CCB		—	—	—			✓
Q 12	2	CC678 -2.0		LL711	2uL/10mL	2.7			IS to high run curve
Q 13	3	-0.5		↓	5uL/10mL	2.9			↓
Q 14	4	FCV 678 -2.0		LL712	2uL/10mL	2.8			must ICS
Q 15	1	CCB		—	—	—			NO
Q 16	2	FC 694 -0.2		LL711	2uL/10mL	2.8			✓
Q 17	3	-0.5			50uL/10mL	2.8			✓
Q 18	4	-1.0			100uL/10mL	2.7			✓
Q 19	5	FC694 -2.0			200uL/10mL	2.8			✓
Q 20	6	FC694 -5.0			500uL/10mL	2.9			✓
Q 21	7	-10			1mL/10mL	3.0			✓
Q 22	8	-25			2.5mL/10mL	2.9			✓
Q 23	9	-50		↓	5mL/10mL	2.9			✓
Q 24	10	FCV 694 -2.0		LL712	200uL/10mL	2.7			low recovery
Q 25	11	FCS 694 -0.2		↓	100uL/10mL	2.6		70K	PASS
Q 26	10	FCV 694 -2.0		↓	200uL/10mL	2.9		LOK	low make new std
Q 27	12	-2.0	↓	LL713	↓	2.9		↓	PASS

*< Conductivity Limit For Perchlorate by SW846 6850

Manual Integration Rationale SOP QA029 MP Missed Peak, OP Overlapping Peak, SP Split Peak, PDB Poorly Defined Baseline, BR Baseline Ripple, PII Poor Instrument Integration

All strikeouts must be initialed and dated. If correction was not due to a transcription error then list the reason for correction

Analyst's Signature:

SGS ACCUTEST-ORLANDO

DATE:	08-09-16
COLUMN TYPE:	K prime
AMOUNT INJECTED:	15 ul
INSTRUMENT:	LCMS1-Q
HEAD PRESSURE:	1100

LCMS1-Q ANALYSIS LOG

METHODS:	6850
ACQ. METHOD	Archive 2
PROC. METHOD:	6850 0409 SR694
CALIB. DATE:	08-09-16
RUN BATCH: SO	694

ANALYST:	NMS
ELUENT A LOT #:	5ml 161719 / 161623
ELUENT B LOT #:	5ml 161623 / 161719
WATER LOT #:	161719
ISTD Lot #:	7975

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	ION RATIO	MANUAL INTS RATIONALE, PK #	SCON <CL*	COMMENTS
Q 24226	13	OP61395-BS	6850	OP61395	1x	3.7		210K	
Q 29	14	-MB				—			ND
Q 30	13	-MS				2.4			✓
Q 31	15	FM35702-4				3.0			✓
Q 32	16	FM35494-1				2.6			✓
Q 33	17	LA23555-9				—			ND
Q 34	18	-10				—			ND
Q 35	19	OP61395-MS				2.9			✓
Q 36	20	-MSD				2.7			✓
Q 37	81	Test		OP61351 LL24		2.6			✓
Q 38	5	CC 694-2.0			200ul 10ml	2.8			Pass
Q 39	2	-0.2			250ul 10ml	3.2			Pass
Q 40	1	CCB		—		—			ND
Q 41	21	OP61351-BS		OP61351	1x	2.7			✓
Q 42	22	-MSD				—			ND
Q 43	23	FM30525-6F				2.4			✓
Q 44	24	LA23705-1 360-2				—			ND
Q MS 45	25	LA23705-1 OP61351-MS				—			ND
Q OP61446 46	26	OP61351-MSD 425				2.8			✓
Q 47	27	FM23705-2 -MSD				2.7			✓

* < Conductivity Limit For Perchlorate by SW846 6850

Manual Integration Rationale SOP QA029 MP Missed Peak, OP Overlapping Peak SP Spit Peak PDB Poorly Defined Baseline, BR Baseline Ripple, PII Poor Instrument Integration.

All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction

LCMS1_Q_log.xls ME rev. 06/16

Analyst's Signature

Instrument Run Log SQ694 page 2 of 3

SGS ACCUTEST FA35499

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7.6.1 7

SGS ACCUTEST-ORLANDO

DATE:	08-04-16
COLUMN TYPE:	K Phenomenex
AMOUNT INJECTED:	1ml
INSTRUMENT:	LCMS1-Q
HEAD PRESSURE:	1000

LCMS1-Q ANALYSIS LOG

METHODS:	6850
ACQ. METHOD:	Perchlorate.b
PROC. METHOD:	6850 DBDS SQ694
CALIB. DATE:	08-04-16
RUN BATCH:	SQ 694

ANALYST:	MHS
ELUENT A LOT #:	6717 LC1714 / 161613
ELUENT B LOT #:	8717 161623 / 162114
WATER LOT #:	162114
ISTD Lot #:	7977

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	ION RATIO	MANUAL INTS RATIONALE, PK #	SCON <CL*	COMMENTS
Q 24248	43	LA23505-2	6850	0801351	1X	2.8		Link	✓
Q 44	44	-3				2.9			✓
Q 50	330	-4				2.8			✓
Q 51	5	CC694-2.0		L2711	500ul 10ml	2.8			Pass
Q 52	2	-0.2			100ul 10ml	2.9			Pass
Q 53	1	CCB				—			ND
Q 54	31	LA23505-5		0801351	1X	2.9			✓
Q 55	32	LA23555-1				2.5			✓
Q 56	33	-2				—			ND
Q 57	34	-3				—			ND
Q 58	35	-4				2.8			✓
Q 59	36	-5				2.8			✓
Q 60	37	-6				2.9			✓
Q 61	39	-7				3.0			✓
Q 62	34	-8				2.8			✓
Q 63	5	CC694-2.0		L2711	100ul 10ml	2.9			Pass
Q 64	2	CC694-0.2			500ul 10ml	2.6			Pass
Q 65	1	CCB				—			ND
Q							MHS 08-10-16		
Q									

*< Conductivity Limit For Perchlorate by SW846 6850

Manual Integration Rationale SOP QA029: MP Missed Peak, OP Overlapping Peak, SP Split Peak, PDB Poorly Defined Baseline, BR Baseline Ripple, PII Poor Instrument Integration

All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction

LCMS1_Q_log.xls ME rev. 05/16

Analyst's Signature

Instrument Run Log SQ694 page 3 of 3

SGS ACCUTEST FA35499

59 of 181

7.6.1 7

SGS ACCUTEST - ORLANDO

LIQUID SAMPLE PREP REPORT

Date/Time Started: 08-09-16 0800 (mm/dd/yy 24:00)

Date/Time Finished: 08-09-16 0900 (mm/dd/yy 24:00)

Prep Method: 3510C 3580A or Method (circle)

Analytical Method: 6850

Batch#: OP61395 Ext. By: NAS Conc. By: — Vialed By: NAS

Sample ID	Bottle Number	Amount Extracted (ml)	Initial pH	Adjusted pH	Surrogate Amount	Spike Amount	Final Volume (ml)	Comments
OP 61395-MB		10.0					10.0	
OP -BS						20uL		
FA35499-1	1							MS/MSD
LA33777-9	1							
-10	1							
FA35702-1	✓	✓					✓	
	**							

GC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries
- GC Surrogate Retention Time Summaries
- Initial and Continuing Calibration Summaries

Method Blank Summary

Job Number: FA35499
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP61167-MB	GG059724.D	1	07/22/16	KL	07/21/16	OP61167	GGG2443

The QC reported here applies to the following samples: **Method:** SW846 8330B

FA35499-1

CAS No.	Compound	Result	RL	MDL	Units	Q
2691-41-0	HMX	ND	0.20	0.080	ug/l	
121-82-4	RDX	ND	0.20	0.080	ug/l	
	DNX	ND	0.20	0.080	ug/l	
	MNX	ND	0.20	0.080	ug/l	
	TNX	ND	0.20	0.080	ug/l	
618-87-1	3,5-Dinitroaniline	ND	0.20	0.080	ug/l	
99-65-0	1,3-Dinitrobenzene	ND	0.20	0.080	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	0.20	0.080	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	0.20	0.080	ug/l	
35572-78-2	2-amino-4,6-Dinitrotoluene	ND	0.20	0.080	ug/l	
19406-51-0	4-amino-2,6-Dinitrotoluene	ND	0.20	0.080	ug/l	
98-95-3	Nitrobenzene	ND	0.20	0.097	ug/l	
88-72-2	o-Nitrotoluene	ND	0.20	0.080	ug/l	
99-08-1	m-Nitrotoluene	ND	0.20	0.080	ug/l	
99-99-0	p-Nitrotoluene	ND	0.20	0.080	ug/l	
479-45-8	Tetryl	ND	0.20	0.080	ug/l	
99-35-4	1,3,5-Trinitrobenzene	ND	0.20	0.099	ug/l	
118-96-7	2,4,6-Trinitrotoluene	ND	0.20	0.080	ug/l	
55-63-0	Nitroglycerine	ND	2.0	0.50	ug/l	
78-11-5	PETN	ND	2.0	0.50	ug/l	

CAS No.	Surrogate Recoveries		Limits
610-39-9	3,4-Dinitrotoluene	107%	70-136%

Method Blank Summary

Job Number: FA35499
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP61167-MB	BB052031.D	1	07/22/16	KL	07/21/16	OP61167	GBB1483

The QC reported here applies to the following samples: **Method:** SW846 8330B

FA35499-1

CAS No.	Compound	Result	RL	MDL	Units	Q
2691-41-0	HMX	ND	0.20	0.080	ug/l	
121-82-4	RDX	ND	0.20	0.080	ug/l	
	DNX	ND	0.20	0.080	ug/l	
	MNX	ND	0.20	0.080	ug/l	
	TNX	ND	0.20	0.080	ug/l	
618-87-1	3,5-Dinitroaniline	ND	0.20	0.080	ug/l	
99-65-0	1,3-Dinitrobenzene	ND	0.20	0.080	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	0.20	0.080	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	0.20	0.080	ug/l	
35572-78-2	2-amino-4,6-Dinitrotoluene	ND	0.20	0.080	ug/l	
19406-51-0	4-amino-2,6-Dinitrotoluene	ND	0.20	0.080	ug/l	
98-95-3	Nitrobenzene	ND	0.20	0.097	ug/l	
88-72-2	o-Nitrotoluene	ND	0.20	0.080	ug/l	
99-08-1	m-Nitrotoluene	ND	0.20	0.080	ug/l	
99-99-0	p-Nitrotoluene	ND	0.20	0.080	ug/l	
479-45-8	Tetryl	ND	0.20	0.080	ug/l	
99-35-4	1,3,5-Trinitrobenzene	ND	0.20	0.099	ug/l	
118-96-7	2,4,6-Trinitrotoluene	ND	0.20	0.080	ug/l	
55-63-0	Nitroglycerine	ND	2.0	0.50	ug/l	
78-11-5	PETN	ND	2.0	0.50	ug/l	

CAS No.	Surrogate Recoveries		Limits
610-39-9	3,4-Dinitrotoluene	93%	70-136%

Blank Spike Summary

Job Number: FA35499
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP61167-BS	BB052030.D	1	07/22/16	KL	07/21/16	OP61167	GBB1483

The QC reported here applies to the following samples: **Method:** SW846 8330B

FA35499-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
2691-41-0	HMX	5	5.6	112	77-144
121-82-4	RDX	5	5.0	100	77-125
	DNX	5	4.5	90	66-127
	MNX	5	4.8	96	71-137
	TNX	5	4.4	88	60-126
618-87-1	3,5-Dinitroaniline	5	4.5	90	77-115
99-65-0	1,3-Dinitrobenzene	5	5.0	100	79-122
606-20-2	2,6-Dinitrotoluene	5	5.0	100	81-131
121-14-2	2,4-Dinitrotoluene	5	5.1	102	80-123
35572-78-2	2-amino-4,6-Dinitrotoluene	5	5.2	104	81-120
19406-51-0	4-amino-2,6-Dinitrotoluene	5	4.9	98	79-119
98-95-3	Nitrobenzene	5	4.8	96	78-130
88-72-2	o-Nitrotoluene	5	4.6	92	76-131
99-08-1	m-Nitrotoluene	5	4.7	94	78-122
99-99-0	p-Nitrotoluene	5	4.7	94	79-124
479-45-8	Tetryl	5	4.5	90	65-124
99-35-4	1,3,5-Trinitrobenzene	5	5.0	100	79-128
118-96-7	2,4,6-Trinitrotoluene	5	4.5	90	72-112
55-63-0	Nitroglycerine	25	28.9	116	69-123
78-11-5	PETN	25	32.0	128	73-145

CAS No.	Surrogate Recoveries	BSP	Limits
610-39-9	3,4-Dinitrotoluene	96%	70-136%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA35499
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP61167-MS	BB052036.D	1	07/22/16	KL	07/21/16	OP61167	GBB1483
OP61167-MSD	BB052037.D	1	07/22/16	KL	07/21/16	OP61167	GBB1483
FA35499-1 [a]	GG059725.D	1	07/22/16	KL	07/21/16	OP61167	GGG2443
FA35499-1 [b]	BB052034.D	1	07/22/16	KL	07/21/16	OP61167	GBB1483

The QC reported here applies to the following samples: **Method:** SW846 8330B

FA35499-1

CAS No.	Compound	FA35499-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
2691-41-0	HMX	7.6 [c]		9.62	19.7	126	9.62	20.0	129	2	77-144/21
121-82-4	RDX	0.86 [c]		9.62	10.4	99	9.62	10.4	99	0	77-125/19
	DNX	0.20 U [c]		9.62	9.3	97	9.62	9.0	94	3	66-127/25
	MNX	0.20 U [c]		9.62	9.6	100	9.62	9.3	97	3	71-137/20
	TNX	0.20 U [c]		9.62	10.7	111	9.62	9.5	99	12	60-126/18
618-87-1	3,5-Dinitroaniline	0.60 U [c]		9.62	11.0	114	9.62	11.0	114	0	77-115/19
99-65-0	1,3-Dinitrobenzene	0.20 U [c]		9.62	9.3	97	9.62	9.9	103	6	79-122/17
606-20-2	2,6-Dinitrotoluene	0.20 U [c]		9.62	11.4	119	9.62	11.2	116	2	81-131/17
121-14-2	2,4-Dinitrotoluene	0.20 U [c]		9.62	9.5	99	9.62	9.5	99	0	80-123/19
35572-78-2	2-amino-4,6-Dinitrotoluene	1.7 [c]		9.62	11.1	98	9.62	11.0	97	1	81-120/19
19406-51-0	4-amino-2,6-Dinitrotoluene	1.2 [c]		9.62	10.3	95	9.62	10.2	94	1	79-119/20
98-95-3	Nitrobenzene	0.20 U [c]		9.62	9.3	97	9.62	9.6	100	3	78-130/19
88-72-2	o-Nitrotoluene	0.20 U [c]		9.62	8.8	92	9.62	9.2	96	4	76-131/20
99-08-1	m-Nitrotoluene	0.20 U [c]		9.62	9.0	94	9.62	9.2	96	2	78-122/18
99-99-0	p-Nitrotoluene	0.20 U [c]		9.62	9.1	95	9.62	9.3	97	2	79-124/18
479-45-8	Tetryl	0.20 U [c]		9.62	8.3	86	9.62	8.1	84	2	65-124/20
99-35-4	1,3,5-Trinitrobenzene	18.4 [c]		9.62	26.6	85	9.62	27.0	89	1	79-128/16
55-63-0	Nitroglycerine	2.0 U [c]		48.1	57.6	120	48.1	57.4	119	0	69-123/18
78-11-5	PETN	2.0 U [c]		48.1	58.8	122	48.1	58.1	121	1	73-145/18

CAS No.	Surrogate Recoveries	MS	MSD	FA35499-1	FA35499-1	Limits
610-39-9	3,4-Dinitrotoluene	91%	90%	113%	95%	70-136%

(a) Confirmation run.
(b) All hits confirmed by reanalysis on a dissimilar column.
(c) Result is from Run #2.

* = Outside of Control Limits.

Semivolatile Surrogate Recovery Summary

Job Number: FA35499
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Method: SW846 8330B **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]
FA35499-1	BB052034.D	95
FA35499-1	GG059725.D	113
OP61167-BS	BB052030.D	96
OP61167-MB	BB052031.D	93
OP61167-MB	GG059724.D	107
OP61167-MS	BB052036.D	91
OP61167-MSD	BB052037.D	90

Surrogate Compounds	Recovery Limits
S1 = 3,4-Dinitrotoluene	70-136%

(a) Recovery from GC signal #1

GC Surrogate Retention Time Summary

Job Number: FA35499
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Check Std:	GBB1483-CC1481	**Injection Date:**	07/22/16
Lab File ID:	BB052028.D	**Injection Time:**	12:40
Instrument ID:	GCBB	**Method:**	SW846 8330B

	S1 [a] RT	S1 [b] RT
Check Std	12.53	12.53

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
OP61167-BS	BB052030.D	07/22/16	13:35		12.36
OP61167-MB	BB052031.D	07/22/16	14:03		12.36
FA35499-1	BB052034.D	07/22/16	15:25		12.38
OP61167-MS	BB052036.D	07/22/16	16:19		12.39
OP61167-MSD	BB052037.D	07/22/16	16:46		12.39
GBB1483-ECC1481	BB052038.D	07/22/16	17:13	12.41	12.41

Surrogate Compounds

S1 = 3,4-Dinitrotoluene

(a) Retention time from GC signal #2
(b) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: FA35499
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Check Std:	GGG2443-CC2442	**Injection Date:**	07/22/16
Lab File ID:	GG059722.D	**Injection Time:**	12:05
Instrument ID:	GCGG	**Method:**	SW846 8330B

	S1 [a] RT	S1 [b] RT
Check Std	19.14	19.14

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
FA35383-1	GG059723.D	07/22/16	12:44		19.13
OP61167-MB	GG059724.D	07/22/16	13:18		19.09
FA35499-1	GG059725.D	07/22/16	13:50		19.08
GGG2443-ECC2442	GG059726.D	07/22/16	14:24	19.12	19.12

Surrogate Compounds

S1 = 3,4-Dinitrotoluene

(a) Retention time from GC signal #2
(b) Retention time from GC signal #1

Initial Calibration Summary

Job Number: FA35499
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1481-ICC1481
Lab FileID: BB051979.D

Response Factor Report G1315B

Method : D:\MSDCHEM\1\METHODS\8330B_0720.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 20 13:37:57 2016
Response via : Initial Calibration

Calibration Files
20 =BB051975.D 50 =BB051976.D 100 =BB051977.D 200 =BB051978.D
500 =BB051979.D 1000=BB051980.D 2000=BB051981.D

	Compound	20	50	100	200	500	1000	2000	Avg	%RSD
1)	TNX	2.371	3.325	3.553	3.442	3.595	3.573	3.668	3.361 E3	13.41
2)	HMX	1.484	1.644	1.544	1.593	1.701	1.653	1.663	1.612 E3	4.70
3)	DNX	3.026	3.488	3.131	3.103	3.182	3.150	3.168	3.178 E3	4.60
4)	MNX	2.668	2.763	2.691	2.568	2.508	2.513	2.548	2.609 E3	3.79
5)	RDX	1.839	2.250	2.077	1.949	1.845	1.836	1.896	1.956 E3	7.95
6)	1,3,5-Trinitroben	4.563	4.575	4.073	4.087	4.003	3.954	4.108	4.195 E3	6.22
7)	1,3-Dinitrobenzen	5.947	6.020	5.574	5.440	5.309	5.289	5.479	5.580 E3	5.26
8)	3,5-Dinitroanilin	4.535	5.255	4.727	4.611	4.512	4.517	4.689	4.692 E3	5.58
9)	Nitrobenzene	3.670	3.563	3.327	3.255	3.174	3.201	3.278	3.353 E3	5.65
10)	Nitroglycerin								0.000	-1.00
11)	Tetryl	2.976	3.050	2.737	2.846	2.838	2.851	2.959	2.894 E3	3.66
12)	2,4,6-Trinitrotol	3.670	3.966	3.782	3.817	3.764	3.734	3.903	3.805 E3	2.65
13)	2-Amino-4,6-Dinit	3.430	3.839	3.538	3.443	3.400	3.348	3.474	3.496 E3	4.64
14)	4-Amino-2,6-Dinit	3.248	2.764	2.534	2.522	2.490	2.427	2.526	2.645 E3	10.81
15)S	3,4-Dinitrotoluen	2.957	2.749	2.326	2.292	2.209	2.166	2.241	2.420 E3	12.66
16)	2,4-Dinitrotoluen	5.389	5.483	5.032	4.949	4.829	4.779	4.977	5.062 E3	5.35
17)	2,6-Dinitrotoluen	2.961	3.205	2.907	2.787	2.742	2.668	2.778	2.864 E3	6.29
18)	o-Nitrotoluene	2.743	2.852	2.550	2.398	2.363	2.318	2.350	2.511 E3	8.44
19)	p-Nitrotoluene	4.079	4.283	3.792	3.709	3.632	3.589	3.661	3.821 E3	6.83
20)	m-Nitrotoluene	3.637	3.978	3.667	3.562	3.514	3.473	3.540	3.624 E3	4.69
21)	PETN								0.000	-1.00

Signal #2

1)	TNX	4.827	5.924	5.766	5.581	5.482	5.579	5.683	5.549 E3	6.30
2)	HMX	3.547	4.265	4.059	4.443	4.387	4.439	4.561	4.243 E3	8.16

---- Quadratic regr., Force(0,0) ---- Coefficient = 1.0000
Response Ratio = 0.00000 + 4322.85801 *A + 0.11889 *A^2

3)	DNX	4.676	5.582	5.197	5.156	5.052	5.036	5.114	5.116 E3	5.23
4)	MNX	3.972	4.380	4.120	4.014	3.926	3.902	4.031	4.049 E3	4.01
5)	RDX	2.992	3.281	3.111	3.066	2.972	2.990	3.077	3.070 E3	3.48
6)	1,3,5-Trinitroben	8.230	8.440	7.866	7.800	7.716	7.655	8.034	7.963 E3	3.61
7)	1,3-Dinitrobenzen	4.147	4.443	3.994	3.756	3.711	3.663	3.890	3.943 E3	7.05
8)	3,5-Dinitroanilin	8.279	8.930	8.006	7.742	7.760	7.732	8.056	8.072 E3	5.32
9)	Nitrobenzene	3.260	3.541	3.159	3.151	3.114	3.076	3.161	3.209 E3	4.89
10)	Nitroglycerin	1.329	1.422	1.329	1.293	1.279	1.282	1.334	1.324 E3	3.71
11)	Tetryl	4.683	5.087	4.638	4.580	4.647	4.716	4.867	4.746 E3	3.69
12)	2,4,6-Trinitrotol	3.024	3.998	3.962	4.164	4.346	4.474	4.745	4.102 E3	13.38
13)	2-Amino-4,6-Dinit	3.472	4.611	4.665	4.789	4.905	5.022	5.268	4.676 E3	12.32

---- Quadratic regr., Force(0,0) ---- Coefficient = 1.0000
Response Ratio = 0.00000 + 4770.90597 *A + 0.24861 *A^2

14)	4-Amino-2,6-Dinit	4.325	4.820	4.814	4.839	4.897	4.953	5.182	4.833 E3	5.34
15)S	3,4-Dinitrotoluen	4.045	4.357	3.988	3.959	3.877	3.900	4.032	4.023 E3	3.99
16)	2,4-Dinitrotoluen	2.940	3.273	3.185	3.176	3.180	3.196	3.306	3.180 E3	3.68
17)	2,6-Dinitrotoluen	3.666	4.162	3.639	3.598	3.579	3.540	3.667	3.693 E3	5.75

Initial Calibration Summary

Job Number: FA35499
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1481-ICC1481
Lab FileID: BB051979.D

18)	o-Nitrotoluene	2.245	3.093	3.045	3.105	3.092	3.113	3.233	2.990	E3	11.15
19)	p-Nitrotoluene	2.574	3.232	2.806	2.753	2.847	2.902	3.082	2.885	E3	7.51
20)	m-Nitrotoluene	4.078	4.352	3.849	3.959	3.966	4.005	4.153	4.052	E3	4.04
21)	PETN	1.232	1.621	1.490	1.491	1.448	1.441	1.512	1.462	E3	8.05

(#) = Out of Range

8330B_0720.M Thu Jul 21 07:34:44 2016

Initial Calibration Verification

Job Number: FA35499
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1481-ICV1481
Lab FileID: BB051982.D

Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\1\DATA\0720BPL\BB051982.D\dad1B.ch Vial: 28
Signal #2 : C:\HPCHEM\1\DATA\0720BPL\BB051982.D\dad1A.ch
Acq On : 20-Jul-2016, 12:56:26 Operator: kismetl
Sample : icv1481-500 Inst : G1315B
Misc : op61122,GBB1481,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : D:\MSDCHEM\1\METHODS\8330B_0720.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 20 13:37:57 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	500.000	533.677	-6.7	100	0.00	1.24- 1.84
2	HMX	500.000	561.845	-12.4	106	0.00	1.40- 2.00
3	DNX	500.000	481.552	3.7	96	0.00	1.69- 2.29
4	MNX	500.000	487.819	2.4	101	0.00	2.37- 2.97
5	RDX	500.000	494.988	1.0	105	0.00	2.96- 3.76
6	1,3,5-Trinitrobenzene	500.000	516.742	-3.3	108	0.01	4.92- 5.72
7	1,3-Dinitrobenzene	500.000	486.887	2.6	102	0.01	6.22- 7.02
8	3,5-Dinitroaniline	500.000	498.647	0.3	104	0.01	6.63- 7.43
9	Nitrobenzene	500.000	511.186	-2.2	108	0.02	7.90- 8.70
10	Nitroglycerin		----------NA----------				
11	Tetryl		----------NA----------				
12	2,4,6-Trinitrotoluene	500.000	431.673	13.7	87	0.04	10.54-11.34
13	2-Amino-4,6-Dinitrotol	500.000	528.931	-5.8	109	0.04	10.92-11.72
14	4-Amino-2,6-Dinitrotol	500.000	521.741	-4.3	111	0.04	11.46-12.26
15 S	3,4-Dinitrotoluene		----------NA----------				
16	2,4-Dinitrotoluene	500.000	509.280	-1.9	107	0.04	12.48-13.28
17	2,6-Dinitrotoluene	500.000	512.331	-2.5	107	0.04	12.96-13.76
18	o-Nitrotoluene	500.000	510.114	-2.0	108	0.02	16.01-16.88
19	p-Nitrotoluene	500.000	507.723	-1.5	107	0.01	16.44-17.44
20	m-Nitrotoluene	500.000	508.561	-1.7	105	0.00	17.19-18.19
21	PETN		----------NA----------				

***** Signal #2 *****

1	TNX	500.000	505.903	-1.2	102	0.00	1.24- 1.84
	---------- Amount	Calc.	%Drift	----------			
2	HMX	500.000	570.308	-14.1	114	0.00	1.40- 2.00
	---------- Amount	Calc.	%Drift	----------			
3	DNX	500.000	482.032	3.6	98	0.00	1.69- 2.29
4	MNX	500.000	494.256	1.1	102	0.00	2.37- 2.97
5	RDX	500.000	520.061	-4.0	107	0.00	2.96- 3.76
6	1,3,5-Trinitrobenzene	500.000	519.724	-3.9	107	0.01	4.92- 5.72
7	1,3-Dinitrobenzene	500.000	478.394	4.3	102	0.01	6.22- 7.02
8	3,5-Dinitroaniline	500.000	492.850	1.4	103	0.01	6.63- 7.43
9	Nitrobenzene	500.000	517.742	-3.5	107	0.02	7.89- 8.69
10	Nitroglycerin	2500.000	2588.232	-3.5	107	0.04	9.64-10.64
11	Tetryl		----------NA----------				
12	2,4,6-Trinitrotoluene	500.000	507.239	-1.4	96	0.03	10.54-11.34

Initial Calibration Verification

Job Number: FA35499
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1481-ICV1481
Lab FileID: BB051982.D

		Amount	Calc.	%Drift			
13	2-Amino-4,6-Dinitrotol	500.000	563.810	-12.8	113	0.04	10.92-11.72
		Amount	Calc.	%Drift			
14	4-Amino-2,6-Dinitrotol	500.000	570.838	-14.2	113	0.04	11.46-12.26
15 S	3,4-Dinitrotoluene			----------NA----------			
16	2,4-Dinitrotoluene	500.000	567.405	-13.5	113	0.04	12.49-13.29
17	2,6-Dinitrotoluene	500.000	547.990	-9.6	113	0.04	12.96-13.76
18	o-Nitrotoluene	500.000	570.994	-14.2	110	0.02	15.89-16.89
19	p-Nitrotoluene	500.000	533.323	-6.7	108	0.00	16.45-17.45
20	m-Nitrotoluene	500.000	524.287	-4.9	107	0.00	17.20-18.20
21	PETN	2500.000	2708.105	-8.3	109	0.00	19.00-20.20

(#) = Out of Range SPCC's out = 0 CCC's out = 0
BB051979.D 8330B_0720.M Thu Jul 21 07:36:51 2016

8.6.2

8

SGS ACCUTEST
FA35499

Initial Calibration Verification

Job Number: FA35499
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1481-ICV1481
Lab FileID: BB051983.D

Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\1\DATA\0720BPL\BB051983.D\dad1B.ch Vial: 31
Signal #2 : C:\HPCHEM\1\DATA\0720BPL\BB051983.D\dad1A.ch
Acq On : 20-Jul-2016, 13:38:10 Operator: kismetl
Sample : icv1481-500,tryl Inst : G1315B
Misc : op61122,GBB1481,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : D:\MSDCHEM\1\METHODS\8330B_0720.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 20 13:37:57 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area% Dev(min)	RT Window
1	TNX		----------NA----------			
2	HMX		----------NA----------			
3	DNX		----------NA----------			
4	MNX		----------NA----------			
5	RDX		----------NA----------			
6	1,3,5-Trinitrobenzene		----------NA----------			
7	1,3-Dinitrobenzene		----------NA----------			
8	3,5-Dinitroaniline		----------NA----------			
9	Nitrobenzene		----------NA----------			
10	Nitroglycerin		----------NA----------			
11	Tetryl	500.000	513.606	-2.7	105 0.02	10.07-10.87
12	2,4,6-Trinitrotoluene		----------NA----------			
13	2-Amino-4,6-Dinitrotoluen		----------NA----------			
14	4-Amino-2,6-Dinitrotoluen		----------NA----------			
15 S	3,4-Dinitrotoluene		----------NA----------			
16	2,4-Dinitrotoluene		----------NA----------			
17	2,6-Dinitrotoluene		----------NA----------			
18	o-Nitrotoluene		----------NA----------			
19	p-Nitrotoluene		----------NA----------			
20	m-Nitrotoluene		----------NA----------			
21	PETN		----------NA----------			

***** Signal #2 *****

1	TNX		----------NA----------			
	----------	Amount	Calc.	%Drift	----------	
2	HMX		----------NA----------			
	----------	Amount	Calc.	%Drift	----------	
3	DNX		----------NA----------			
4	MNX		----------NA----------			
5	RDX		----------NA----------			
6	1,3,5-Trinitrobenzene		----------NA----------			
7	1,3-Dinitrobenzene		----------NA----------			
8	3,5-Dinitroaniline		----------NA----------			
9	Nitrobenzene		----------NA----------			
10	Nitroglycerin		----------NA----------			
11	Tetryl	500.000	496.866	0.6	101 0.02	10.07-10.87
12	2,4,6-Trinitrotoluene		----------NA----------			

Initial Calibration Verification

Job Number: FA35499
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1481-ICV1481
Lab FileID: BB051983.D

		Amount	Calc.	%Drift
13	2-Amino-4,6-Dinitrotoluen		NA	

		Amount	Calc.	%Drift
14	4-Amino-2,6-Dinitrotoluen		NA	
15 S	3,4-Dinitrotoluene		NA	
16	2,4-Dinitrotoluene		NA	
17	2,6-Dinitrotoluene		NA	
18	o-Nitrotoluene		NA	
19	p-Nitrotoluene		NA	
20	m-Nitrotoluene		NA	
21	PETN		NA	

(#) = Out of Range SPCC's out = 0 CCC's out = 0
BB051979.D 8330B_0720.M Thu Jul 21 07:36:52 2016

8.6.3

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Continuing Calibration Summary

Job Number: FA35499
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1483-CC1481
Lab FileID: BB052028.D

Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\1\DATA\0722BPL\BB052028.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0722BPL\BB052028.D\dad1A.ch
Acq On : 22-Jul-2016, 12:40:50 Operator: kismetl
Sample : cc1481-1000 Inst : G1315B
Misc : op61173,GBB1483,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : D:\MSDCHEM\1\METHODS\8330B_0720.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 25 07:42:42 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	1000.000	1059.605	-6.0	100	0.00	1.27- 1.87
2	HMX	1000.000	982.934	1.7	96	0.00	1.44- 2.04
3	DNX	1000.000	982.196	1.8	99	0.00	1.73- 2.33
4	MNX	1000.000	975.507	2.4	101	0.00	2.42- 3.02
5	RDX	1000.000	957.426	4.3	102	0.01	3.04- 3.84
6	1,3,5-Trinitrobenzene	1000.000	965.716	3.4	102	0.02	5.03- 5.83
7	1,3-Dinitrobenzene	1000.000	964.745	3.5	102	0.02	6.35- 7.15
8	3,5-Dinitroaniline	1000.000	981.404	1.9	102	0.02	6.77- 7.57
9	Nitrobenzene	1000.000	961.542	3.8	101	0.03	8.06- 8.86
10	Nitroglycerin		----------NA----------				
11	Tetryl	1000.000	1031.211	-3.1	105	0.04	10.31-11.11
12	2,4,6-Trinitrotoluene	1000.000	1004.357	-0.4	102	0.04	10.79-11.59
13	2-Amino-4,6-Dinitrotol	1000.000	971.412	2.9	101	0.04	11.17-11.97
14	4-Amino-2,6-Dinitrotol	1000.000	937.304	6.3	102	0.04	11.72-12.52
15 S	3,4-Dinitrotoluene	1000.000	901.742	9.8	101	0.05	12.08-12.88
16	2,4-Dinitrotoluene	1000.000	957.782	4.2	101	0.05	12.75-13.55
17	2,6-Dinitrotoluene	1000.000	938.371	6.2	101	0.05	13.22-14.02
18	o-Nitrotoluene	1000.000	922.222	7.8	100	0.05	16.27-17.14
19	p-Nitrotoluene	1000.000	942.933	5.7	100	0.04	16.68-17.68
20	m-Nitrotoluene	1000.000	959.116	4.1	100	0.04	17.40-18.40
21	PETN		----------NA----------				

***** Signal #2 *****

1	TNX	1000.000	1006.564	-0.7	100	0.00	1.27- 1.87
	---------- Amount	Calc.	%Drift	----------			
2	HMX	1000.000	988.629	1.1	99	0.00	1.44- 2.04
	---------- Amount	Calc.	%Drift	----------			
3	DNX	1000.000	964.200	3.6	98	0.00	1.73- 2.33
4	MNX	1000.000	974.954	2.5	101	0.00	2.42- 3.02
5	RDX	1000.000	981.418	1.9	101	0.01	3.04- 3.84
6	1,3,5-Trinitrobenzene	1000.000	962.009	3.8	100	0.01	5.03- 5.83
7	1,3-Dinitrobenzene	1000.000	943.554	5.6	102	0.02	6.35- 7.15
8	3,5-Dinitroaniline	1000.000	962.120	3.8	100	0.02	6.77- 7.57
9	Nitrobenzene	1000.000	953.841	4.6	100	0.02	8.06- 8.86
10	Nitroglycerin	5000.000	4980.999	0.4	103	0.03	9.86-10.86
11	Tetryl	1000.000	1033.435	-3.3	104	0.04	10.31-11.11
12	2,4,6-Trinitrotoluene	1000.000	1162.431	-16.2#	107	0.04	10.79-11.59

Continuing Calibration Summary

Job Number: FA35499
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1483-CC1481
Lab FileID: BB052028.D

		Amount	Calc.	%Drift			
13	2-Amino-4,6-Dinitrotol	1000.000	1049.248	-4.9	105	0.04	11.17-11.97

		Amount	Calc.	%Drift			
14	4-Amino-2,6-Dinitrotol	1000.000	1074.422	-7.4	105	0.04	11.72-12.52
15 S	3,4-Dinitrotoluene	1000.000	1011.580	-1.2	104	0.05	12.08-12.88
16	2,4-Dinitrotoluene	1000.000	1042.662	-4.3	104	0.05	12.75-13.55
17	2,6-Dinitrotoluene	1000.000	991.052	0.9	103	0.05	13.22-14.02
18	o-Nitrotoluene	1000.000	1067.127	-6.7	102	0.05	16.14-17.14
19	p-Nitrotoluene	1000.000	1011.180	-1.1	101	0.04	16.68-17.68
20	m-Nitrotoluene	1000.000	993.779	0.6	101	0.04	17.40-18.40
21	PETN	5000.000	5072.972	-1.5	103	0.02	19.15-20.35

(#) = Out of Range SPCC's out = 0 CCC's out = 0
BB051980.D 8330B_0720.M Mon Jul 25 08:52:43 2016

8.6.4

8

Continuing Calibration Summary

Job Number: FA35499
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1483-ECC1481
Lab FileID: BB052038.D

Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\1\DATA\0722BPL\BB052038.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0722BPL\BB052038.D\dad1A.ch
Acq On : 22-Jul-2016, 17:13:47 Operator: kismetl
Sample : ecc1481-1000 Inst : G1315B
Misc : op61173,GBB1483,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : D:\MSDCHEM\1\METHODS\8330B_0720.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 25 07:42:42 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	1000.000	1045.867	-4.6	98	0.00	1.27- 1.87
2	HMX	1000.000	957.968	4.2	93	0.00	1.44- 2.04
3	DNX	1000.000	957.258	4.3	97	0.00	1.73- 2.33
4	MNX	1000.000	959.613	4.0	100	-0.01	2.42- 3.02
5	RDX	1000.000	938.987	6.1	100	-0.02	3.04- 3.84
6	1,3,5-Trinitrobenzene	1000.000	951.633	4.8	101	-0.03	5.03- 5.83
7	1,3-Dinitrobenzene	1000.000	951.097	4.9	100	-0.03	6.35- 7.15
8	3,5-Dinitroaniline	1000.000	967.050	3.3	100	-0.04	6.77- 7.57
9	Nitrobenzene	1000.000	956.191	4.4	100	-0.04	8.06- 8.86
10	Nitroglycerin	----------	----------	NA	----------		
11	Tetryl	1000.000	1014.776	-1.5	103	-0.06	10.31-11.11
12	2,4,6-Trinitrotoluene	1000.000	993.655	0.6	101	-0.06	10.79-11.59
13	2-Amino-4,6-Dinitrotol	1000.000	951.300	4.9	99	-0.07	11.17-11.97
14	4-Amino-2,6-Dinitrotol	1000.000	934.227	6.6	102	-0.07	11.72-12.52
15 S	3,4-Dinitrotoluene	1000.000	891.184	10.9	100	-0.06	12.08-12.88
16	2,4-Dinitrotoluene	1000.000	953.196	4.7	101	-0.06	12.75-13.55
17	2,6-Dinitrotoluene	1000.000	938.973	6.1	101	-0.06	13.22-14.02
18	o-Nitrotoluene	1000.000	921.677	7.8	100	-0.05	16.27-17.14
19	p-Nitrotoluene	1000.000	935.183	6.5	100	-0.05	16.68-17.68
20	m-Nitrotoluene	1000.000	952.365	4.8	99	-0.04	17.40-18.40
21	PETN	----------	----------	NA	----------		

***** Signal #2 *****

1	TNX	1000.000	986.580	1.3	98	0.00	1.27- 1.87
	----------	Amount	Calc.	%Drift	----------		
2	HMX	1000.000	972.461	2.8	97	0.00	1.44- 2.04
	----------	Amount	Calc.	%Drift	----------		
3	DNX	1000.000	950.417	5.0	97	0.00	1.73- 2.33
4	MNX	1000.000	966.942	3.3	100	-0.01	2.42- 3.02
5	RDX	1000.000	975.707	2.4	100	-0.02	3.04- 3.84
6	1,3,5-Trinitrobenzene	1000.000	962.090	3.8	100	-0.03	5.03- 5.83
7	1,3-Dinitrobenzene	1000.000	939.585	6.0	101	-0.04	6.35- 7.15
8	3,5-Dinitroaniline	1000.000	956.145	4.4	100	-0.04	6.77- 7.57
9	Nitrobenzene	1000.000	958.501	4.1	100	-0.04	8.06- 8.86
10	Nitroglycerin	5000.000	4883.849	2.3	101	-0.05	9.86-10.86
11	Tetryl	1000.000	985.023	1.5	99	-0.06	10.31-11.11
12	2,4,6-Trinitrotoluene	1000.000	1093.982	-9.4	100	-0.06	10.79-11.59

Continuing Calibration Summary

Job Number: FA35499
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GBB1483-ECC1481
Lab FileID: BB052038.D

		Amount	Calc.	%Drift			
13	2-Amino-4,6-Dinitrotol	1000.000	984.618	1.5	98	-0.07	11.17-11.97

		Amount	Calc.	%Drift			
14	4-Amino-2,6-Dinitrotol	1000.000	1026.888	-2.7	100	-0.07	11.72-12.52
15 S	3,4-Dinitrotoluene	1000.000	952.424	4.8	98	-0.06	12.08-12.88
16	2,4-Dinitrotoluene	1000.000	1000.634	-0.1	100	-0.07	12.75-13.55
17	2,6-Dinitrotoluene	1000.000	955.514	4.4	100	-0.06	13.22-14.02
18	o-Nitrotoluene	1000.000	1043.455	-4.3	100	-0.06	16.14-17.14
19	p-Nitrotoluene	1000.000	998.939	0.1	99	-0.05	16.68-17.68
20	m-Nitrotoluene	1000.000	986.391	1.4	100	-0.04	17.40-18.40
21	PETN	5000.000	4920.164	1.6	100	-0.03	19.15-20.35

(#) = Out of Range SPCC's out = 0 CCC's out = 0
BB051980.D 8330B_0720.M Mon Jul 25 08:52:44 2016

8.6.5

8

Initial Calibration Summary

Job Number: FA35499
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2442-ICC2442
Lab FileID: GG059709.D

Response Factor Report G1315B

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0721.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jul 22 08:50:47 2016
Response via : Initial Calibration

Calibration Files
20 =GG059705.D 50 =GG059706.D 100 =GG059707.D 200 =GG059708.D
500 =GG059709.D 1000=GG059710.D 2000=GG059711.D

	Compound	20	50	100	200	500	1000	2000	Avg	%RSD
1)	TNX	8.120	8.300	8.186	8.164	7.970	8.168	8.366	8.182 E3	1.56
2)	HMX	2.660	3.028	2.852	2.786	2.762	2.836	2.924	2.835 E3	4.17
3)	DNX	6.916	7.719	7.264	7.090	7.005	7.087	7.368	7.207 E3	3.78
4)	MNX	5.532	5.979	5.481	5.473	5.333	5.429	5.634	5.552 E3	3.78
5)	1,3,5-Trinitroben	8.526	9.286	8.703	8.741	8.421	8.572	8.920	8.738 E3	3.33
6)	RDX	3.884	4.231	4.028	4.009	3.839	3.909	4.090	3.999 E3	3.39
7)	1,3-Dinitrobenzen	1.151	1.294	1.188	1.184	1.155	1.168	1.211	1.193 E4	4.11
8)	Nitrobenzene	7.594	8.637	7.815	7.751	7.739	7.594	7.943	7.868 E3	4.59
9)	2,4,6-Trinitrotol	8.396	8.886	8.170	8.152	8.003	8.112	8.449	8.310 E3	3.60
10)	Nitroglycerin								0.000	-1.00
11)	Tetryl	6.575	6.509	6.315	6.042	6.027	6.120	6.519	6.301 E3	3.78
12)S	3,4-Dinitrotoluen	4.950	5.304	4.889	4.601	4.463	4.577	4.714	4.785 E3	5.99
13)	2,6-Dinitrotoluen	5.340	6.503	6.110	6.022	5.740	5.827	6.095	5.948 E3	6.09
14)	2,4-Dinitrotoluen	1.059	1.184	1.116	1.088	1.053	1.069	1.114	1.098 E4	4.16
15)	o-Nitrotoluene	4.710	5.233	5.014	4.957	4.858	4.802	5.113	4.955 E3	3.67
16)	3,5-Dinitroanilin	0.972	1.093	1.027	0.996	0.983	1.002	1.046	1.017 E4	4.14
17)	p-Nitrotoluene	4.083	4.454	4.062	3.986	3.878	3.704	3.901	4.010 E3	5.84
18)	4-Amino-2,6-Dinit	5.769	6.315	6.138	6.011	5.907	6.142	6.440	6.103 E3	3.78
19)	m-Nitrotoluene	5.826	5.913	5.605	5.464	5.492	5.394	5.733	5.632 E3	3.49
20)	2-Amino-4,6-Dinit	8.488	8.543	7.914	7.864	7.777	7.941	8.249	8.111 E3	3.86
21)	PETN								0.000	-1.00

Signal #2

1)	TNX	1.364	1.370	1.262	1.258	1.206	1.214	1.268	1.278 E4	5.12
2)	HMX	4.809	8.332	8.488	7.967	7.976	8.420	8.659	7.807 E3	17.25

---- Linear regr., Force(0,0) ---- Coefficient = 0.9996
Response Ratio = 0.00000 + 8576.00937 *A

3)	DNX	0.704	1.034	1.011	0.918	0.991	0.980	1.038	0.954 E4	12.30
4)	MNX	7.835	8.590	8.454	8.305	8.054	8.343	8.705	8.326 E3	3.62
5)	1,3,5-Trinitroben	1.401	1.627	1.602	1.523	1.501	1.540	1.587	1.540 E4	4.94
6)	RDX	8.579	7.563	7.968	7.281	7.370	7.452	7.796	7.716 E3	5.84
7)	1,3-Dinitrobenzen	8.300	9.953	7.731	9.023	9.122	9.023	9.223	8.911 E3	7.96
8)	Nitrobenzene	0.681	1.059	0.803	0.796	0.738	0.708	0.731	0.788 E4	16.16

---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9996
Response Ratio = 0.00000 + 7176.33755 *A + 0.05958 *A^2

9)	2,4,6-Trinitrotol	0.990	1.020	1.157	1.133	1.058	1.064	1.125	1.078 E4	5.76
10)	Nitroglycerin	2.853	2.956	3.466	2.844	2.850	2.916	3.044	2.990 E3	7.43
11)	Tetryl	1.177	1.131	1.184	1.090	1.062	1.048	1.135	1.118 E4	4.78
12)S	3,4-Dinitrotoluen	0.780	1.013	1.089	0.910	0.924	0.942	0.970	0.947 E4	10.09
13)	2,6-Dinitrotoluen	7.566	9.488	9.364	9.696	7.940	8.256	8.677	8.712 E3	9.50
14)	2,4-Dinitrotoluen	9.228	8.608	9.364	8.797	7.265	7.591	7.943	8.399 E3	9.68
15)	o-Nitrotoluene	4.694	6.290	7.359	6.939	7.094	7.275	7.602	6.750 E3	14.77
16)	3,5-Dinitroanilin	1.403	1.681	1.610	1.576	1.629	1.669	1.744	1.616 E4	6.71
17)	p-Nitrotoluene	5.812	7.102	6.414	6.546	6.435	6.098	6.329	6.391 E3	6.25

Initial Calibration Summary

Job Number: FA35499
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2442-ICC2442
Lab FileID: GG059709.D

18)	4-Amino-2,6-Dinit	1.226	1.229	1.171	1.188	1.175	1.173	1.256	1.203	E4	2.83
19)	m-Nitrotoluene	7.421	9.034	8.010	9.097	9.172	9.313	9.827	8.839	E3	9.37
20)	2-Amino-4,6-Dinit	1.182	1.181	1.115	1.215	1.123	1.214	1.260	1.184	E4	4.38
21)	PETN	3.452	3.080	3.180	3.172	3.040	3.236	3.543	3.243	E3	5.78

(#) = Out of Range

8330RPB.M_0721.M Fri Jul 22 08:55:19 2016

Initial Calibration Verification

Job Number: FA35499
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2442-ICV2442
Lab FileID: GG059712.D

Evaluate Continuing Calibration Report

Signal #1 : G:\DATA\0721RPB3\GG059712.D\dad1B.ch Vial: 10
Signal #2 : G:\DATA\0721RPB3\GG059712.D\dad1A.ch
Acq On : 21-Jul-2016, 14:04:42 Operator: kismetl
Sample : icv2442-500 Inst : G1315B
Misc : OP61122,GGG2442,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0721.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jul 22 08:50:47 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1		TNX	500.000	514.141	-2.8	106	0.00	6.24- 7.24
2		HMX	500.000	573.511	-14.7	118	0.00	7.06- 8.06
3		DNX	500.000	493.800	1.2	102	0.00	7.34- 8.34
4		MNX	500.000	497.872	0.4	104	0.00	9.10-10.10
5		1,3,5-Trinitrobenzene	500.000	524.373	-4.9	109	0.00	10.06-11.06
6		RDX	500.000	528.867	-5.8	110	-0.01	10.92-11.92
7		1,3-Dinitrobenzene	500.000	498.234	0.4	103	0.00	13.35-14.35
8		Nitrobenzene	500.000	536.773	-7.4	109	0.00	14.64-15.64
9		2,4,6-Trinitrotoluene	----------	NA	----------			
10		Nitroglycerin	----------	NA	----------			
11		Tetryl	----------	NA	----------			
12	S	3,4-Dinitrotoluene	----------	NA	----------			
13		2,6-Dinitrotoluene	500.000	525.948	-5.2	109	0.01	19.17-20.17
14		2,4-Dinitrotoluene	500.000	521.064	-4.2	109	0.00	19.91-20.91
15		o-Nitrotoluene	500.000	542.304	-8.5	111	0.00	21.72-22.72
16		3,5-Dinitroaniline	500.000	504.022	-0.8	104	-0.01	21.18-22.18
17		p-Nitrotoluene	500.000	508.360	-1.7	105	0.01	22.90-23.90
18		4-Amino-2,6-Dinitrotol	500.000	516.865	-3.4	107	-0.02	23.16-24.16
19		m-Nitrotoluene	500.000	517.528	-3.5	106	0.00	24.19-25.19
20		2-Amino-4,6-Dinitrotol	500.000	530.057	-6.0	111	0.00	25.32-26.32
21		PETN	----------	NA	----------			

***** Signal #2 *****

1		TNX	500.000	488.147	2.4	103	0.00	6.24- 7.24
		----------	Amount	Calc.	%Drift	----------		
2		HMX	500.000	553.739	-10.7	119	0.00	7.06- 8.06
		----------	Amount	Calc.	%Drift	----------		
3		DNX	500.000	517.436	-3.5	100	0.00	7.34- 8.34
4		MNX	500.000	500.985	-0.2	104	0.00	9.11-10.11
5		1,3,5-Trinitrobenzene	500.000	537.721	-7.5	110	0.00	10.06-11.06
6		RDX	500.000	524.052	-4.8	110	-0.01	10.92-11.92
7		1,3-Dinitrobenzene	500.000	525.687	-5.1	103	0.00	13.35-14.35
		----------	Amount	Calc.	%Drift	----------		
8		Nitrobenzene	500.000	567.688	-13.5	111	0.00	14.64-15.64
		----------	Amount	Calc.	%Drift	----------		
9		2,4,6-Trinitrotoluene	----------	NA	----------			

Initial Calibration Verification

Job Number: FA35499
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2442-ICV2442
Lab FileID: GG059712.D

10		Nitroglycerin	2500.000	2542.194	-1.7	107	0.00	16.37-17.37
11		Tetryl		----------NA----------				
12	S	3,4-Dinitrotoluene		----------NA----------				
13		2,6-Dinitrotoluene	500.000	549.742	-9.9	121	0.02	19.16-20.16
14		2,4-Dinitrotoluene	500.000	488.995	2.2	113	0.00	19.91-20.91
15		o-Nitrotoluene	500.000	603.874	-20.8#	115	0.00	21.72-22.72
16		3,5-Dinitroaniline	500.000	529.466	-5.9	105	-0.01	21.18-22.18
17		p-Nitrotoluene	500.000	553.761	-10.8	110	0.01	22.96-23.96
18		4-Amino-2,6-Dinitrotol	500.000	497.532	0.5	102	-0.02	23.17-24.17
19		m-Nitrotoluene	500.000	553.773	-10.8	107	0.00	24.19-25.19
20		2-Amino-4,6-Dinitrotol	500.000	526.362	-5.3	111	0.00	25.32-26.32
21		PETN	2500.000	2623.800	-5.0	112	0.01	26.22-27.22

(#) = Out of Range SPCC's out = 0 CCC's out = 0
GG059709.D 8330RPB.M_0721.M Fri Jul 22 08:56:01 2016

8.6.7

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Initial Calibration Verification

Job Number: FA35499
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2442-ICV2442
Lab FileID: GG059713.D

Evaluate Continuing Calibration Report

Signal #1 : G:\DATA\0721RPB3\GG059713.D\dad1B.ch Vial: 10
Signal #2 : G:\DATA\0721RPB3\GG059713.D\dad1A.ch
Acq On : 21-Jul-2016, 14:56:42 Operator: kismetl
Sample : icv2442-500 Inst : G1315B
Misc : OP61122,GGG2442,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0721.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jul 22 08:50:47 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX			----------NA----------			
2	HMX			----------NA----------			
3	DNX			----------NA----------			
4	MNX			----------NA----------			
5	1,3,5-Trinitrobenzene			----------NA----------			
6	RDX			----------NA----------			
7	1,3-Dinitrobenzene			----------NA----------			
8	Nitrobenzene			----------NA----------			
9	2,4,6-Trinitrotoluene	500.000	454.634	9.1	94	0.02	15.53-16.53
10	Nitroglycerin			----------NA----------			
11	Tetryl	500.000	506.057	-1.2	106	0.02	17.34-18.34
12 S	3,4-Dinitrotoluene			----------NA----------			
13	2,6-Dinitrotoluene			----------NA----------			
14	2,4-Dinitrotoluene			----------NA----------			
15	o-Nitrotoluene			----------NA----------			
16	3,5-Dinitroaniline			----------NA----------			
17	p-Nitrotoluene			----------NA----------			
18	4-Amino-2,6-Dinitrotoluen			----------NA----------			
19	m-Nitrotoluene			----------NA----------			
20	2-Amino-4,6-Dinitrotoluen			----------NA----------			
21	PETN			----------NA----------			

***** Signal #2 *****

1	TNX			----------NA----------			
	----------	Amount	Calc.	%Drift	----------		
2	HMX			----------NA----------			
	----------	Amount	Calc.	%Drift	----------		
3	DNX			----------NA----------			
4	MNX			----------NA----------			
5	1,3,5-Trinitrobenzene			----------NA----------			
6	RDX			----------NA----------			
7	1,3-Dinitrobenzene			----------NA----------			
	----------	Amount	Calc.	%Drift	----------		
8	Nitrobenzene			----------NA----------			
	----------	Amount	Calc.	%Drift	----------		
9	2,4,6-Trinitrotoluene	500.000	458.512	8.3	93	0.02	15.53-16.53

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Initial Calibration Verification

Job Number: FA35499
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2442-ICV2442
Lab FileID: GG059713.D

10		Nitroglycerin			----------NA----------			
11		Tetryl	500.000	501.471	-0.3	106	0.02	17.34-18.34
12	S	3,4-Dinitrotoluene			----------NA----------			
13		2,6-Dinitrotoluene			----------NA----------			
14		2,4-Dinitrotoluene			----------NA----------			
15		o-Nitrotoluene			----------NA----------			
16		3,5-Dinitroaniline			----------NA----------			
17		p-Nitrotoluene			----------NA----------			
18		4-Amino-2,6-Dinitrotoluen			----------NA----------			
19		m-Nitrotoluene			----------NA----------			
20		2-Amino-4,6-Dinitrotoluen			----------NA----------			
21		PETN			----------NA----------			

(#) = Out of Range SPCC's out = 0 CCC's out = 0
GG059709.D 8330RPB.M_0721.M Fri Jul 22 08:56:02 2016

Continuing Calibration Summary

Job Number: FA35499
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2443-CC2442
Lab FileID: GG059722.D

Evaluate Continuing Calibration Report

Signal #1 : G:\DATA\0722RPB3\GG059722.D\dad1B.ch Vial: 2
Signal #2 : G:\DATA\0722RPB3\GG059722.D\dad1A.ch
Acq On : 22-Jul-2016, 12:05:02 Operator: kismetl
Sample : cc2442-1000 Inst : G1315B
Misc : OP61122,GGG2443,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0721.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 25 09:39:11 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	1000.000	1002.658	-0.3	100	0.00	6.21- 7.21
2	HMX	1000.000	994.721	0.5	99	0.00	6.98- 7.98
3	DNX	1000.000	973.099	2.7	99	0.00	7.28- 8.28
4	MNX	1000.000	982.330	1.8	100	0.00	9.02-10.02
5	1,3,5-Trinitrobenzene	1000.000	973.301	2.7	99	0.00	9.98-10.98
6	RDX	1000.000	982.795	1.7	101	0.00	10.81-11.81
7	1,3-Dinitrobenzene	1000.000	986.771	1.3	101	0.00	13.23-14.23
8	Nitrobenzene	1000.000	968.387	3.2	100	0.00	14.48-15.48
9	2,4,6-Trinitrotoluene	1000.000	974.836	2.5	100	0.00	15.37-16.37
10	Nitroglycerin	----------	NA	----------			
11	Tetryl	1000.000	927.637	7.2	96	0.00	17.13-18.13
12 S	3,4-Dinitrotoluene	1000.000	964.423	3.6	101	0.00	18.64-19.64
13	2,6-Dinitrotoluene	1000.000	977.095	2.3	100	0.00	18.94-19.94
14	2,4-Dinitrotoluene	1000.000	977.006	2.3	100	0.00	19.69-20.69
15	o-Nitrotoluene	1000.000	964.958	3.5	100	0.00	21.46-22.46
16	3,5-Dinitroaniline	1000.000	985.150	1.5	100	0.00	20.95-21.95
17	p-Nitrotoluene	1000.000	917.275	8.3	99	0.00	22.64-23.64
18	4-Amino-2,6-Dinitrotol	1000.000	1009.419	-0.9	100	0.00	22.90-23.90
19	m-Nitrotoluene	1000.000	950.937	4.9	99	0.00	23.91-24.91
20	2-Amino-4,6-Dinitrotol	1000.000	972.463	2.8	99	0.00	25.04-26.04
21	PETN	----------	NA	----------			

***** Signal #2 *****

1	TNX	1000.000	959.814	4.0	101	0.00	6.21- 7.21
	----------	Amount	Calc.	%Drift	----------		
2	HMX	1000.000	1002.892	-0.3	102	0.00	6.98- 7.98
	----------	Amount	Calc.	%Drift	----------		
3	DNX	1000.000	1032.279	-3.2	100	0.00	7.28- 8.28
4	MNX	1000.000	1027.346	-2.7	103	0.00	9.02-10.02
5	1,3,5-Trinitrobenzene	1000.000	989.436	1.1	99	0.00	9.98-10.98
6	RDX	1000.000	957.982	4.2	99	0.00	10.81-11.81
7	1,3-Dinitrobenzene	1000.000	1034.076	-3.4	102	0.00	13.23-14.23
	----------	Amount	Calc.	%Drift	----------		
8	Nitrobenzene	1000.000	1040.052	-4.0	106	0.00	14.48-15.48
	----------	Amount	Calc.	%Drift	----------		
9	2,4,6-Trinitrotoluene	1000.000	1014.759	-1.5	103	0.00	15.37-16.37

Continuing Calibration Summary

Job Number: FA35499
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2443-CC2442
Lab FileID: GG059722.D

10		Nitroglycerin	5000.000	5062.836	-1.3	104	0.00	16.19-17.19
11		Tetryl	1000.000	930.350	7.0	99	0.00	17.13-18.13
12	S	3,4-Dinitrotoluene	1000.000	1009.030	-0.9	101	0.00	18.63-19.63
13		2,6-Dinitrotoluene	1000.000	956.293	4.4	101	0.00	18.95-19.95
14		2,4-Dinitrotoluene	1000.000	894.343	10.6	99	0.00	19.69-20.69
15		o-Nitrotoluene	1000.000	1055.196	-5.5	98	0.00	21.45-22.45
16		3,5-Dinitroaniline	1000.000	1039.608	-4.0	101	0.00	20.95-21.95
17		p-Nitrotoluene	1000.000	1031.249	-3.1	108	0.00	22.70-23.70
18		4-Amino-2,6-Dinitrotol	1000.000	986.526	1.3	101	0.00	22.90-23.90
19		m-Nitrotoluene	1000.000	1049.769	-5.0	100	0.00	23.91-24.91
20		2-Amino-4,6-Dinitrotol	1000.000	1024.438	-2.4	100	0.00	25.04-26.04
21		PETN	5000.000	4766.007	4.7	96	0.00	25.94-26.94

(#) = Out of Range SPCC's out = 0 CCC's out = 0
GG059710.D 8330RPB.M_0721.M Mon Jul 25 10:02:38 2016

8.6.9

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Continuing Calibration Summary

Job Number: FA35499
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2443-ECC2442
Lab FileID: GG059726.D

Evaluate Continuing Calibration Report

Signal #1 : G:\DATA\0722RPB3\GG059726.D\dad1B.ch Vial: 2
Signal #2 : G:\DATA\0722RPB3\GG059726.D\dad1A.ch
Acq On : 22-Jul-2016, 14:24:29 Operator: kismetl
Sample : ecc2442-1000 Inst : G1315B
Misc : OP61122,GGG2443,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e

Method : C:\MSDCHEM\1\METHODS\8330RPB.M_0721.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 25 09:39:11 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	Amount	Calc.	%Drift	Area%	Dev(min)	RT Window
1	TNX	1000.000	994.136	0.6	100	0.00	6.21- 7.21
2	HMX	1000.000	1004.060	-0.4	100	0.01	6.98- 7.98
3	DNX	1000.000	980.959	1.9	100	0.00	7.28- 8.28
4	MNX	1000.000	1008.731	-0.9	103	0.00	9.02-10.02
5	1,3,5-Trinitrobenzene	1000.000	1034.929	-3.5	106	0.00	9.98-10.98
6	RDX	1000.000	1028.839	-2.9	105	0.00	10.81-11.81
7	1,3-Dinitrobenzene	1000.000	978.807	2.1	100	0.00	13.23-14.23
8	Nitrobenzene	1000.000	976.899	2.3	101	0.00	14.48-15.48
9	2,4,6-Trinitrotoluene	1000.000	983.245	1.7	101	0.00	15.37-16.37
10	Nitroglycerin	----------	----------	NA	----------		
11	Tetryl	1000.000	1008.506	-0.9	104	0.00	17.13-18.13
12 S	3,4-Dinitrotoluene	1000.000	971.059	2.9	102	-0.01	18.64-19.64
13	2,6-Dinitrotoluene	1000.000	997.121	0.3	102	-0.01	18.94-19.94
14	2,4-Dinitrotoluene	1000.000	997.563	0.2	102	-0.01	19.69-20.69
15	o-Nitrotoluene	1000.000	1006.653	-0.7	104	-0.02	21.46-22.46
16	3,5-Dinitroaniline	1000.000	1006.248	-0.6	102	-0.04	20.95-21.95
17	p-Nitrotoluene	1000.000	982.390	1.8	106	0.05	22.64-23.64
18	4-Amino-2,6-Dinitrotol	1000.000	904.885	9.5	90	-0.06	22.90-23.90
19	m-Nitrotoluene	1000.000	976.916	2.3	102	-0.02	23.91-24.91
20	2-Amino-4,6-Dinitrotol	1000.000	976.333	2.4	100	-0.04	25.04-26.04
21	PETN	----------	----------	NA	----------		

***** Signal #2 *****

1	TNX	1000.000	960.126	4.0	101	0.00	6.21- 7.21
	----------	Amount	Calc.	%Drift	----------		
2	HMX	1000.000	985.547	1.4	100	0.00	6.98- 7.98
	----------	Amount	Calc.	%Drift	----------		
3	DNX	1000.000	1045.212	-4.5	102	0.00	7.28- 8.28
4	MNX	1000.000	1008.958	-0.9	101	0.00	9.02-10.02
5	1,3,5-Trinitrobenzene	1000.000	1010.400	-1.0	101	0.00	9.98-10.98
6	RDX	1000.000	941.924	5.8	98	0.00	10.81-11.81
7	1,3-Dinitrobenzene	1000.000	989.507	1.0	98	0.00	13.23-14.23
	----------	Amount	Calc.	%Drift	----------		
8	Nitrobenzene	1000.000	992.603	0.7	101	0.00	14.48-15.48
	----------	Amount	Calc.	%Drift	----------		
9	2,4,6-Trinitrotoluene	1000.000	1054.596	-5.5	107	0.00	15.37-16.37

Continuing Calibration Summary

Job Number: FA35499
Account: CTLWIB CT Laboratories
Project: Radford AAP; VA

Sample: GGG2443-ECC2442
Lab FileID: GG059726.D

10		Nitroglycerin	5000.000	4988.157	0.2	102	0.00	16.19-17.19
11		Tetryl	1000.000	987.882	1.2	105	0.00	17.13-18.13
12	S	3,4-Dinitrotoluene	1000.000	992.677	0.7	100	-0.01	18.63-19.63
13		2,6-Dinitrotoluene	1000.000	957.558	4.2	101	-0.02	18.95-19.95
14		2,4-Dinitrotoluene	1000.000	941.371	5.9	104	-0.01	19.69-20.69
15		o-Nitrotoluene	1000.000	1093.651	-9.4	101	-0.02	21.45-22.45
16		3,5-Dinitroaniline	1000.000	1047.493	-4.7	101	-0.03	20.95-21.95
17		p-Nitrotoluene	1000.000	1059.163	-5.9	111	-0.02	22.70-23.70
18		4-Amino-2,6-Dinitrotol	1000.000	930.130	7.0	95	-0.06	22.90-23.90
19		m-Nitrotoluene	1000.000	1090.893	-9.1	104	-0.02	23.91-24.91
20		2-Amino-4,6-Dinitrotol	1000.000	1005.511	-0.6	98	-0.04	25.04-26.04
21		PETN	5000.000	5005.138	-0.1	100	0.00	25.94-26.94

(#) = Out of Range SPCC's out = 0 CCC's out = 0
GG059710.D 8330RPB.M_0721.M Mon Jul 25 10:02:39 2016

8.6.10

8

GC Semi-volatiles

Raw Data

Manual Integrations APPROVED
(compounds with "m" flag)
Mike Eger
07/25/16 11:57

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0722BPL\BB052034.D\dad1B.ch Vial: 28
Signal #2 : C:\HPCHEM\1\DATA\0722BPL\BB052034.D\dad1A.ch
Acq On : 22-Jul-2016, 15:25:58 Operator: kismetl
Sample : FA35499-1 Inst : G1315B
Misc : op61167,GBB1483,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 25 07:43:08 2016 Quant Results File: 8330B_0720.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0720.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 25 07:42:42 2016
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	12.38	12.38	1153157	2131760	476.495	529.947
	Spiked Amount 500.000	Range 70 - 136		Recovery =		95.30%	105.99%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	1.72	1.72	1230204	3232454	763.337m	732.983m
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D.	N.D.
5)	RDX	3.39	3.39	168398	241646	86.085m	78.715m
6)	1,3,5-Trinitrobe	5.38	5.38	7728481	15010957	1842.380m	1885.103m
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
9)	Nitrobenzene	0.00	0.00	0	0	N.D.	N.D.
10)	Nitroglycerin	0.00	0.00	0	0	N.D.	N.D.
11)	Tetryl	0.00	0.00	0	0	N.D.	N.D.
12)	2,4,6-Trinitroto	11.10	11.10	5297433	6507708	1392.210m	1586.533m
13)	2-Amino-4,6-Dini	11.46	11.46	606994	918094	173.627	190.544
14)	4-Amino-2,6-Dini	12.01	12.01	319536	626448	120.828	129.627
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

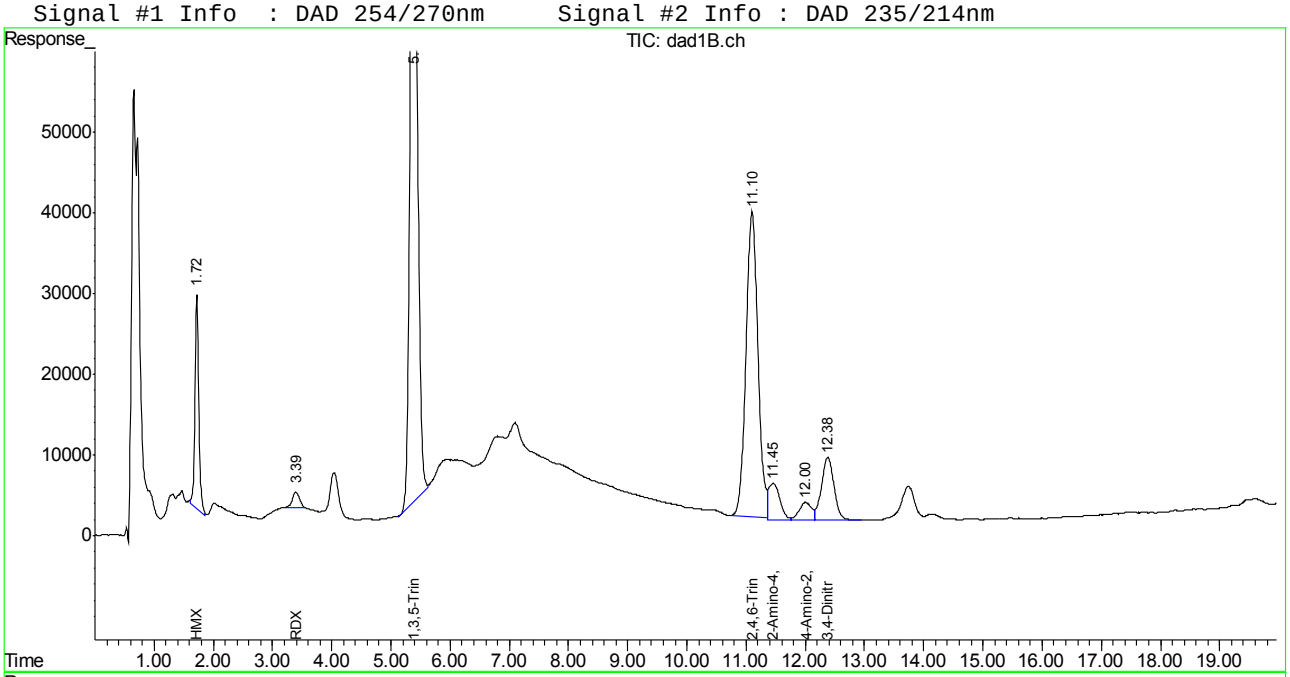
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB052034.D 8330B_0720.M Mon Jul 25 10:07:18 2016 Page 1

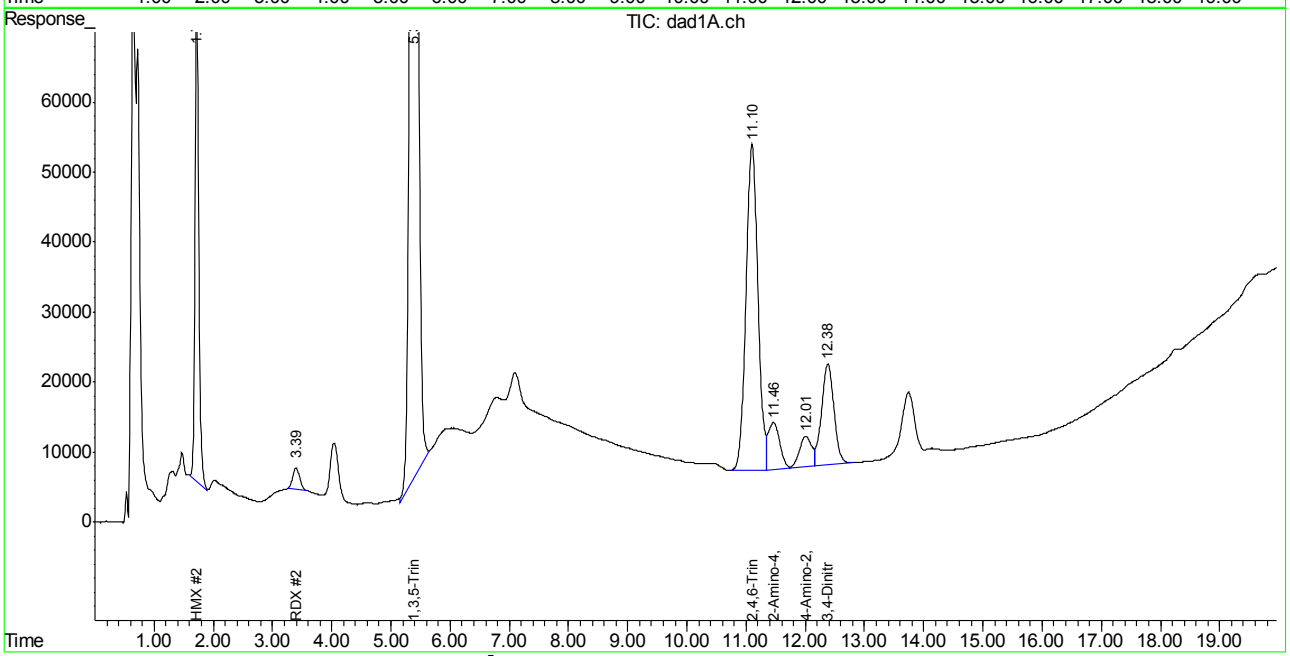
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0722BPL\BB052034.D\dad1B.ch Vial: 28
Signal #2 : C:\HPCHEM\1\DATA\0722BPL\BB052034.D\dad1A.ch
Acq On : 22-Jul-2016, 15:25:58 Operator: kismetl
Sample : FA35499-1 Inst : G1315B
Misc : op61167,GBB1483,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 25 10:06 2016 Quant Results File: 8330B_0720.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0720.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 25 07:42:42 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA35499

Manual Integration Approval Summary

Sample Number: FA35499-1
Lab FileID: BB052034.D
Injection Time: 07/22/16 15:25
Method: SW846 8330B
Analyst approved: 07/25/16 10:13 Kismet Lugo
Supervisor approved: 07/25/16 11:57 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
HMX	2691-41-0	1	1.72	Poor instrument integration
HMX	2691-41-0	2	1.72	Poor instrument integration
RDX	121-82-4	1	3.39	Poor instrument integration
RDX	121-82-4	2	3.39	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	1	5.38	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	2	5.38	Poor instrument integration
2,4,6-Trinitrotoluene	118-96-7	1	11.10	Poor instrument integration
2,4,6-Trinitrotoluene	118-96-7	2	11.10	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/25/16 11:58

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0722RPB3\GG059725.D\dad1B.ch Vial: 23
Signal #2 : G:\DATA\0722RPB3\GG059725.D\dad1A.ch
Acq On : 22-Jul-2016, 13:50:52 Operator: kismetl
Sample : FA35499-1cf Inst : G1315B
Misc : OP61167,GGG2443,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 25 09:39:31 2016 Quant Results File: 8330RPB.M_0721.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0721.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 25 09:39:11 2016
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	19.08	19.08	2713162	5403287	566.963	570.735m
	Spiked Amount 500.000	Range 70 - 136		Recovery =		113.39%	114.15%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	7.46	7.46	2423265	7025900	854.643m	819.251m
3)	DNX	0.00	0.00	0	0	N.D.	N.D.
4)	MNX	0.00	0.00	0	0	N.D.	N.D.
5)	1,3,5-Trinitrobe	10.46	10.46	16817176	30346735	1924.534	1970.183m
6)	RDX	11.26	11.27	454114	604446	113.568	78.341m
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D.	N.D.
8)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
9)	2,4,6-Trinitroto	15.85	15.84	11484970	15178309	1382.125	1407.715m
10)	Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D. d
11)	Tetryl	0.00	0.00	0	0	N.D.	N.D.
13)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
14)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
15)	o-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
16)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
17)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
18)	4-Amino-2,6-Dini	23.35	23.36	797889	1430983	130.733	119.000m
19)	m-Nitrotoluene	0.00	0.00	0	0	N.D.	N.D.
20)	2-Amino-4,6-Dini	25.48	25.48	1721009	2379214	212.188m	200.917m
21)	PETN	0.00	0.00	0	0	N.D.	N.D.

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG059725.D 8330RPB.M_0721.M Mon Jul 25 10:03:43 2016 Page 1

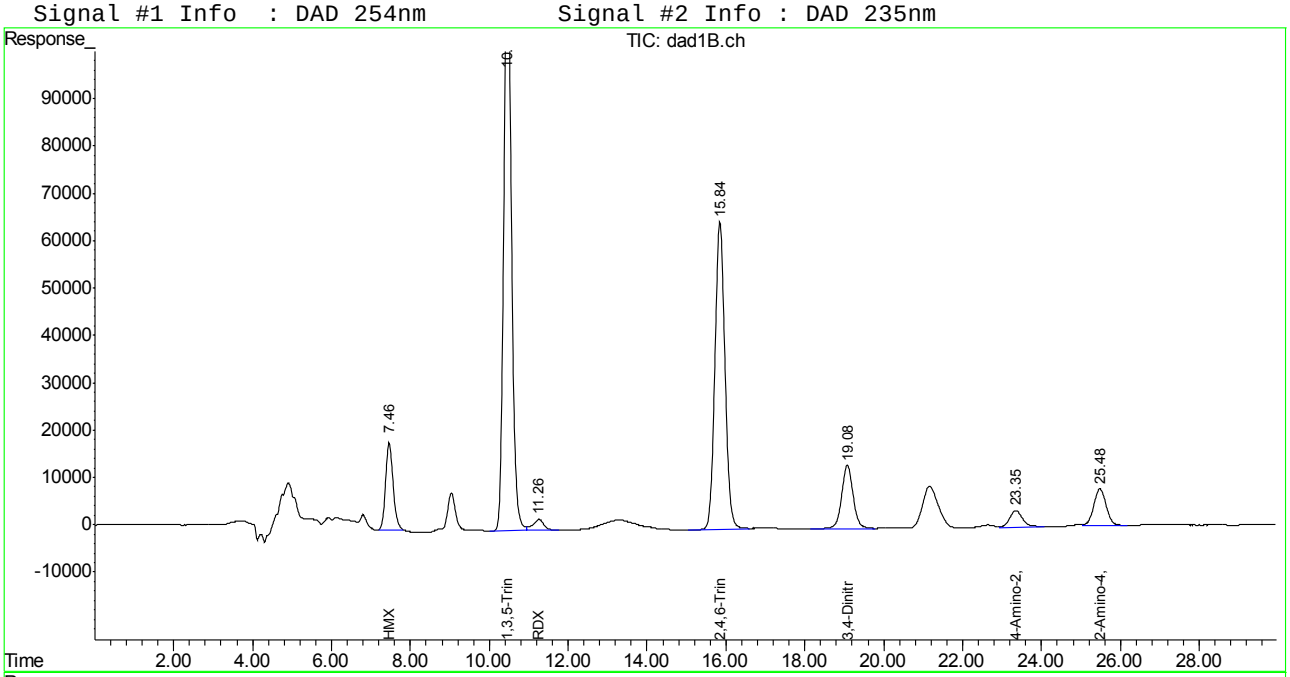
SGS ACCUTEST FA35499

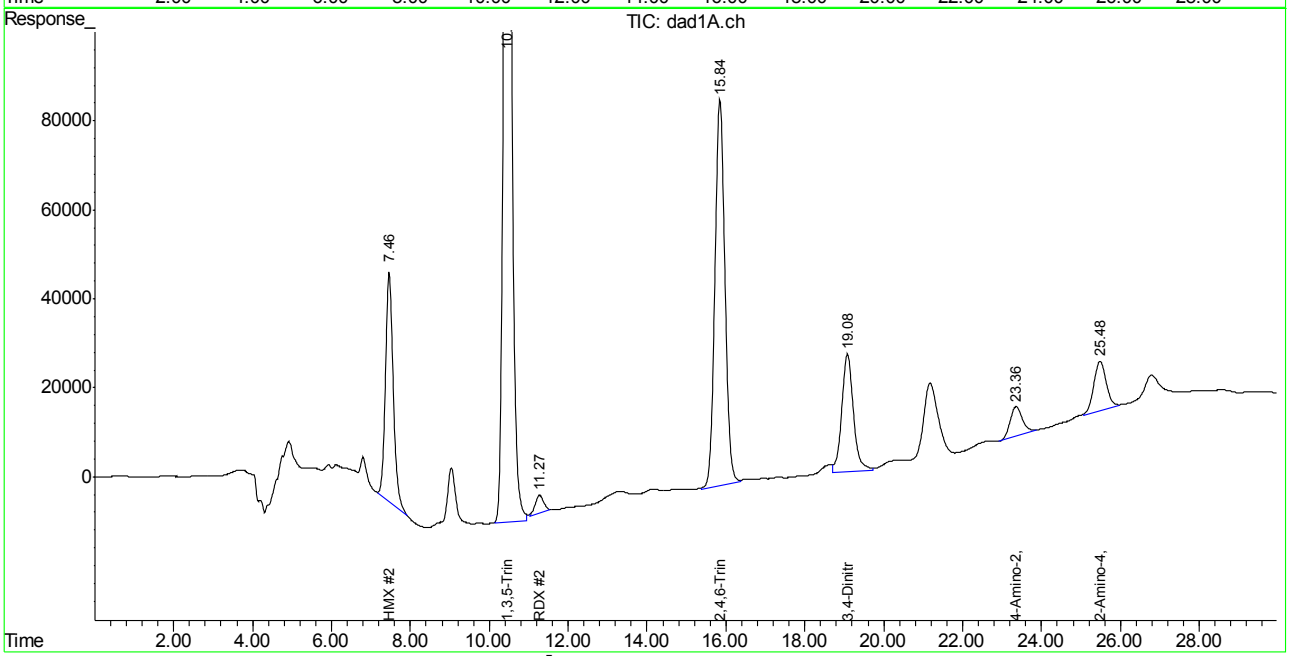
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0722RPB3\GG059725.D\dad1B.ch Vial: 23
Signal #2 : G:\DATA\0722RPB3\GG059725.D\dad1A.ch
Acq On : 22-Jul-2016, 13:50:52 Operator: kismetl
Sample : FA35499-1cf Inst : G1315B
Misc : OP61167,GGG2443,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 25 10:02 2016 Quant Results File: 8330RPB.M_0721.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0721.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 25 09:39:11 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





SGS ACCUTEST FA35499

Manual Integration Approval Summary

Sample Number: FA35499-1
Lab FileID: GG059725.D
Injection Time: 07/22/16 13:50
Method: SW846 8330B
Analyst approved: 07/25/16 10:13 Kismet Lugo
Supervisor approved: 07/25/16 11:58 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
HMX	2691-41-0	1	7.46	Poor instrument integration
HMX	2691-41-0	2	7.46	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	2	10.46	Missed peak
RDX	121-82-4	2	11.27	Poor instrument integration
2,4,6-Trinitrotoluene	118-96-7	2	15.84	Poor instrument integration
3,4-Dinitrotoluene	610-39-9	2	19.08	Overlapping peak
4-amino-2,6-Dinitrotoluene	19406-51-0	2	23.36	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	1	25.48	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	25.48	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/25/16 11:58

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0722RPB3\GG059724.D\dad1B.ch Vial: 22
Signal #2 : G:\DATA\0722RPB3\GG059724.D\dad1A.ch
Acq On : 22-Jul-2016, 13:18:43 Operator: kismetl
Sample : op61167-mb Inst : G1315B
Misc : OP61167,GGG2443,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 25 09:39:27 2016 Quant Results File: 8330RPB.M_0721.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0721.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 25 09:39:11 2016
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	19.09	19.09	2556815	5177178	534.292	546.852m
	Spiked Amount 500.000	Range 70 - 136		Recovery =		106.86%	109.37%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D.	N.D.
2)	HMX	0.00	0.00	0	0	N.D.	N.D.
3)	DNX	0.00	0.00	0	0	N.D.	N.D.
4)	MNX	0.00	0.00	0	0	N.D.	N.D.
5)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D.	N.D.
6)	RDX	0.00	0.00	0	0	N.D.	N.D.
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D.	N.D.
8)	Nitrobenzene	0.00	0.00	0	0	N.D.	N.D.
9)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D.	N.D.
10)	Nitroglycerin	0.00	0.00	0	0	N.D.	N.D.
11)	Tetryl	0.00	0.00	0	0	N.D.	N.D.
13)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
14)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
15)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
16)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
17)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
18)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
19)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG059724.D 8330RPB.M_0721.M Mon Jul 25 10:03:42 2016 Page 1

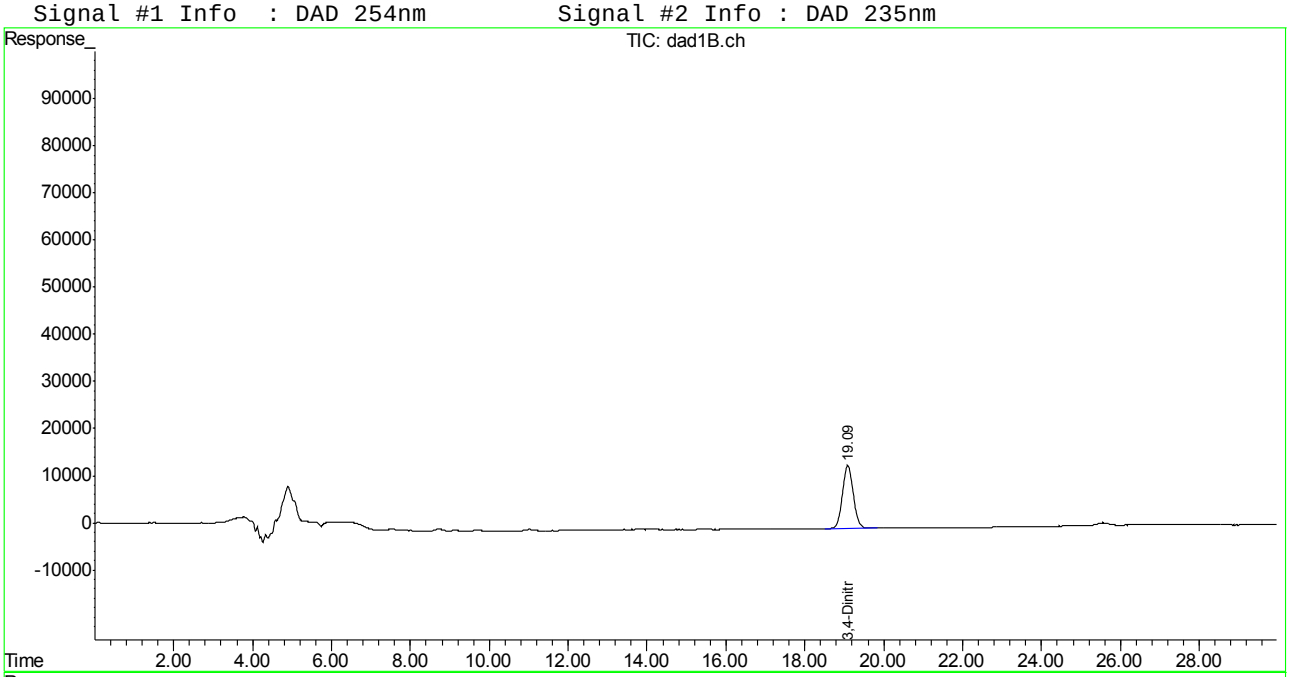
SGS ACCUTEST FA35499

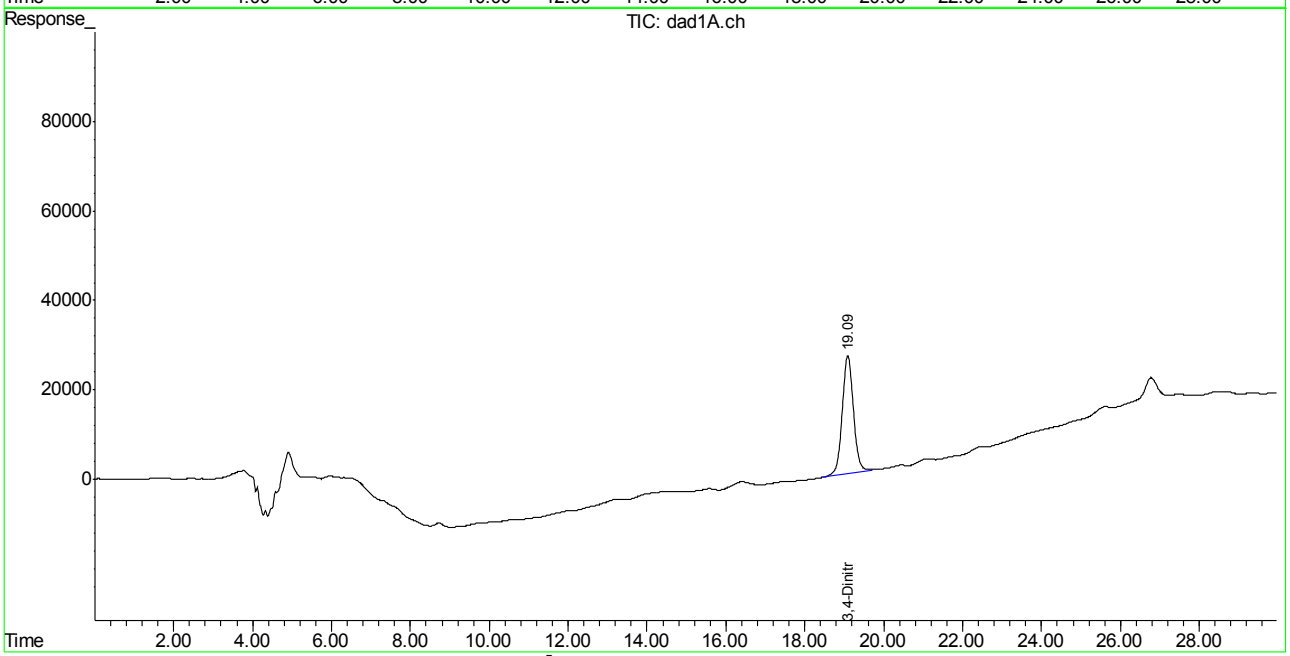
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0722RPB3\GG059724.D\dad1B.ch Vial: 22
Signal #2 : G:\DATA\0722RPB3\GG059724.D\dad1A.ch
Acq On : 22-Jul-2016, 13:18:43 Operator: kismetl
Sample : op61167-mb Inst : G1315B
Misc : OP61167,GGG2443,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 25 9:58 2016 Quant Results File: 8330RPB.M_0721.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0721.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 25 09:39:11 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





SGS ACCUTEST FA35499

Manual Integration Approval Summary

Sample Number: OP61167-MB
Lab FileID: GG059724.D
Injection Time: 07/22/16 13:18
Method: SW846 8330B
Analyst approved: 07/25/16 10:10 Kismet Lugo
Supervisor approved: 07/25/16 11:58 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
3,4-Dinitrotoluene	610-39-9	2	19.09	Poor instrument integration

SGS ACCUTEST
FA35499

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/25/16 11:57

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0722BPL\BB052031.D\dad1B.ch Vial: 27
Signal #2 : C:\HPCHEM\1\DATA\0722BPL\BB052031.D\dad1A.ch
Acq On : 22-Jul-2016, 14:03:42 Operator: kismetl
Sample : op61167-mb Inst : G1315B
Misc : op61167,GBB1483,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 25 07:43:05 2016 Quant Results File: 8330B_0720.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0720.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 25 07:42:42 2016
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	12.36	12.36	1131123	2048734	467.390m	509.307m
	Spiked Amount 500.000	Range 70 - 136		Recovery =		93.48%	101.86%
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	0.00	0.00	0	0	N.D. d	N.D. d
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	RDX	0.00	0.00	0	0	N.D. d	N.D. d
6)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D. d	N.D. d
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
9)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
10)	Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D. d
11)	Tetryl	0.00	0.00	0	0	N.D.	N.D.
12)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D. d	N.D. d
13)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
14)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB052031.D 8330B_0720.M Mon Jul 25 08:55:17 2016 Page 1

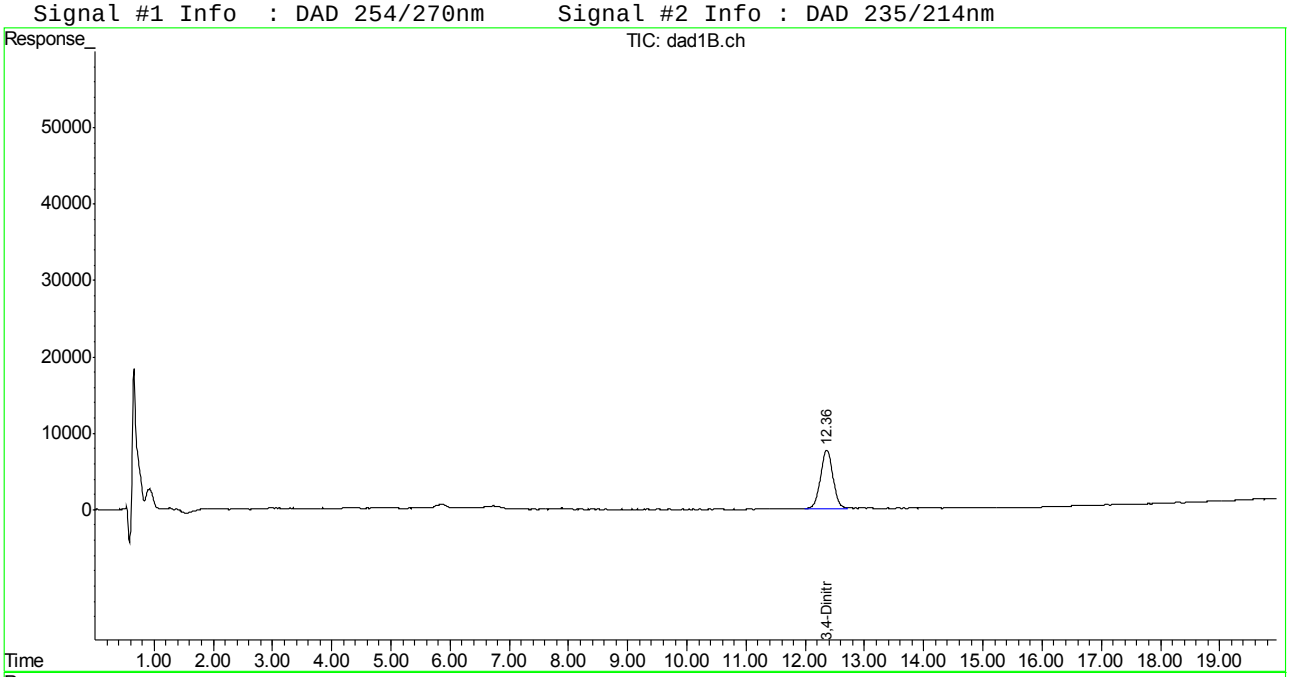
SGS ACCUTEST FA35499

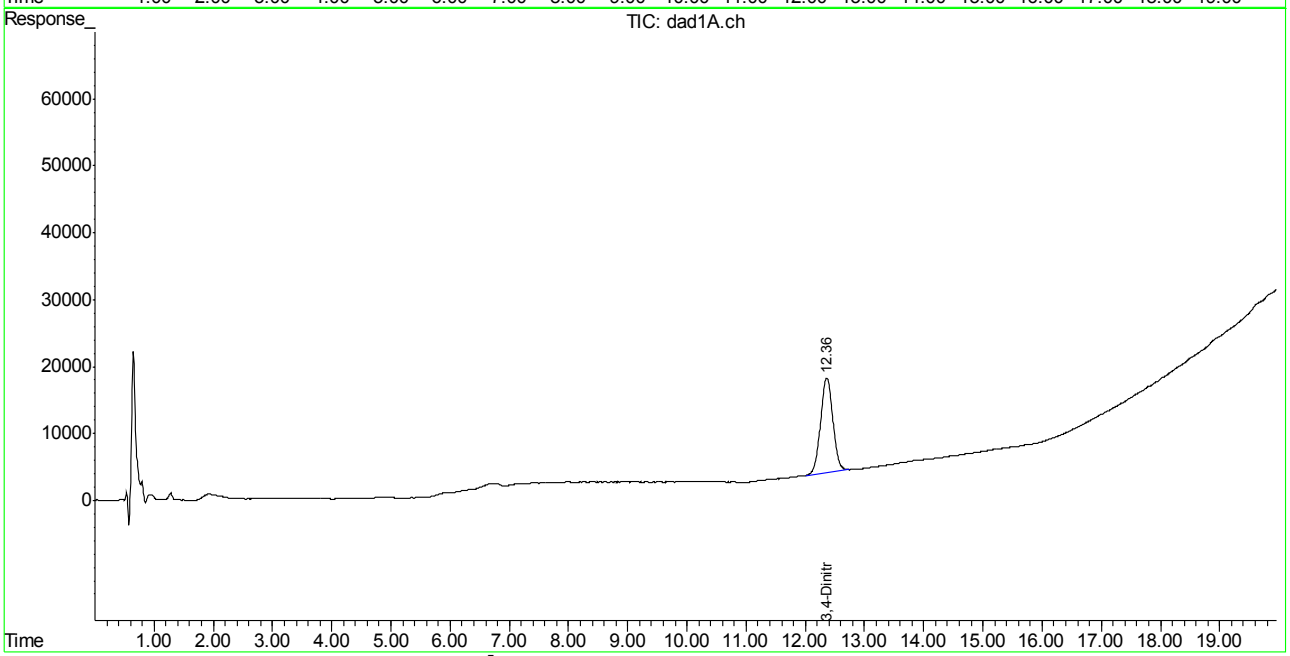
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0722BPL\BB052031.D\dad1B.ch Vial: 27
Signal #2 : C:\HPCHEM\1\DATA\0722BPL\BB052031.D\dad1A.ch
Acq On : 22-Jul-2016, 14:03:42 Operator: kismetl
Sample : op61167-mb Inst : G1315B
Misc : op61167,GBB1483,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 25 8:49 2016 Quant Results File: 8330B_0720.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0720.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 25 07:42:42 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA35499

Manual Integration Approval Summary

Sample Number: OP61167-MB
Lab FileID: BB052031.D
Injection Time: 07/22/16 14:03
Method: SW846 8330B
Analyst approved: 07/25/16 09:16 Kismet Lugo
Supervisor approved: 07/25/16 11:57 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
3,4-Dinitrotoluene	610-39-9	1	12.36	Poor instrument integration
3,4-Dinitrotoluene	610-39-9	2	12.36	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/25/16 11:57

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0722BPL\BB052030.D\dad1B.ch Vial: 26
Signal #2 : C:\HPCHEM\1\DATA\0722BPL\BB052030.D\dad1A.ch
Acq On : 22-Jul-2016, 13:35:56 Operator: kismetl
Sample : op61167-bs Inst : G1315B
Misc : op61167,GBB1483,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 25 07:43:04 2016 Quant Results File: 8330B_0720.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0720.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 25 07:42:42 2016
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	12.36	12.36	1161307	2022448	479.862	502.773
	Spiked Amount 500.000	Range 70 - 136		Recovery =		95.97%	100.55%
	Target Compounds						
1)	TNX	1.55	1.55	1488892	2405657	442.984	433.535
2)	HMX	1.72	1.72	898467	2528098	557.495	575.706
3)	DNX	2.00	2.00	1434022	2442650	451.209	477.447
4)	MNX	2.69	2.69	1239933	1998877	475.341	493.644
5)	RDX	3.39	3.39	985122	1600748	503.595	521.436
6)	1,3,5-Trinitrobe	5.38	5.38	2105859	4013342	502.013	504.003
7)	1,3-Dinitrobenze	6.69	6.68	2767124	1935013	495.929	490.695m
8)	3,5-Dinitroanili	7.09	7.09	2128194	3604522	453.556	446.541m
9)	Nitrobenzene	8.38	8.38	1602568	1581199	478.004	492.744
10)	Nitroglycerin	0.00	10.28	0	3829900	N.D. d	2892.735
11)	Tetryl	10.61	10.61	1316081	1919067	454.751	404.394
12)	2,4,6-Trinitroto	11.08	11.08	1715911	1988512	450.956	484.785
13)	2-Amino-4,6-Dini	11.45	11.45	1805377	2657003	516.416	541.631
14)	4-Amino-2,6-Dini	11.99	11.99	1306269	2582621	493.947	534.405
16)	2,4-Dinitrotolue	13.03	13.03	2558052	1676637	505.300	527.316
17)	2,6-Dinitrotolue	13.51	13.51	1445663	1872485	504.781	507.039
18)	o-Nitrotoluene	16.54	16.54	1166050	1559410	464.451	521.623m
19)	p-Nitrotoluene	17.08	17.08	1805673	1426052	472.585	494.272
20)	m-Nitrotoluene	17.81	17.81	1696499	1909760	468.078	471.343
21)	PETN	0.00	19.68	0	4681447	N.D. d	3201.564m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB052030.D 8330B_0720.M Mon Jul 25 08:55:16 2016 Page 1

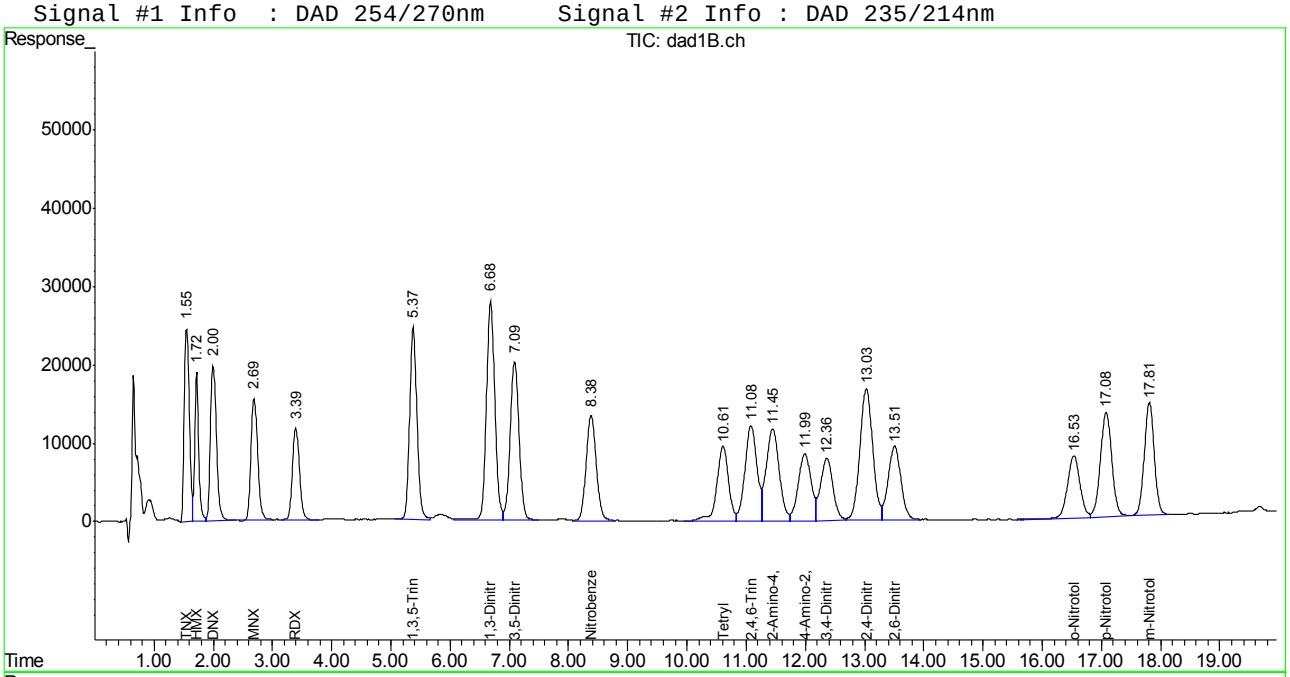
SGS ACCUTEST FA35499

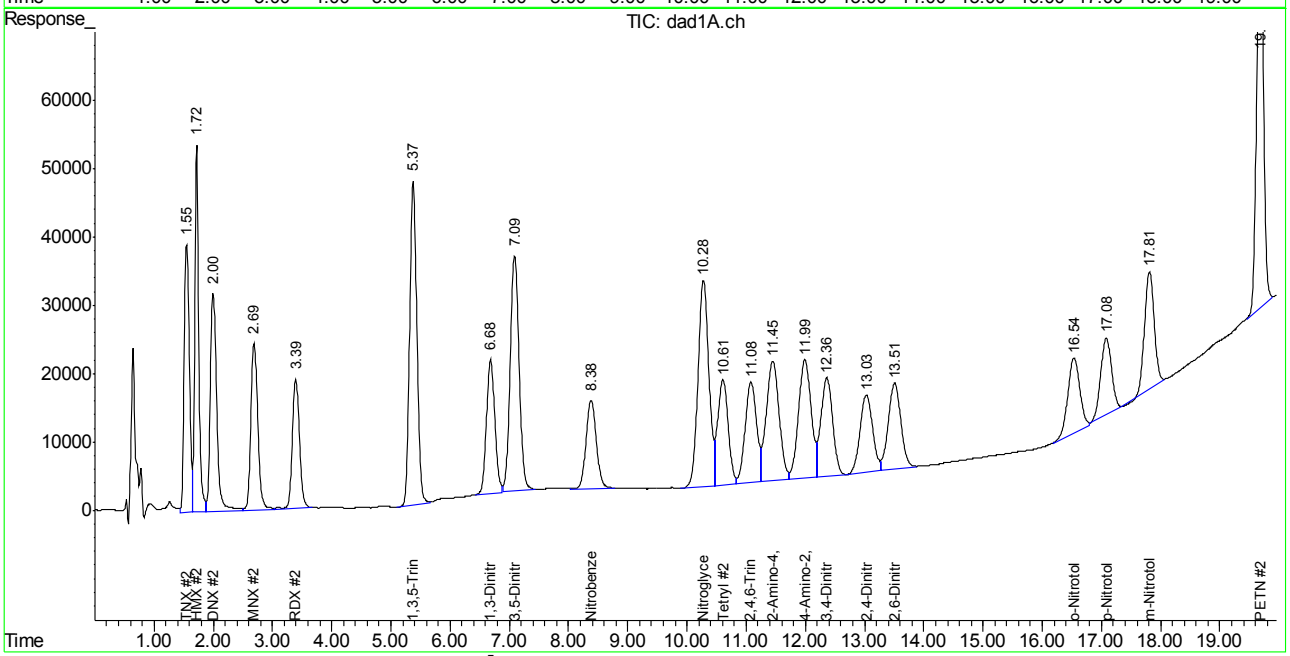
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0722BPL\BB052030.D\dad1B.ch Vial: 26
Signal #2 : C:\HPCHEM\1\DATA\0722BPL\BB052030.D\dad1A.ch
Acq On : 22-Jul-2016, 13:35:56 Operator: kismetl
Sample : op61167-bs Inst : G1315B
Misc : op61167,GBB1483,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 25 8:52 2016 Quant Results File: 8330B_0720.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0720.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 25 07:42:42 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA35499

Manual Integration Approval Summary

Sample Number: OP61167-BS
Lab FileID: BB052030.D
Injection Time: 07/22/16 13:35
Method: SW846 8330B
Analyst approved: 07/25/16 09:16 Kismet Lugo
Supervisor approved: 07/25/16 11:57 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
1,3-Dinitrobenzene	99-65-0	2	6.68	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	7.09	Poor instrument integration
o-Nitrotoluene	88-72-2	2	16.54	Missed peak
PETN	78-11-5	2	19.68	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/25/16 11:57

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0722BPL\BB052036.D\dad1B.ch Vial: 29
Signal #2 : C:\HPCHEM\1\DATA\0722BPL\BB052036.D\dad1A.ch
Acq On : 22-Jul-2016, 16:19:52 Operator: kismetl
Sample : op61167-ms Inst : G1315B
Misc : op61167,GBB1483,520,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 25 07:43:10 2016 Quant Results File: 8330B_0720.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0720.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 25 07:42:42 2016
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	12.39	12.39	1102199	2017359	455.438	501.508
	Spiked Amount 500.000	Range 70 - 136		Recovery =		91.09%	100.30%
	Target Compounds						
1)	TNX	1.55	1.55	1863616	2778493	554.474	500.726
2)	HMX	1.72	1.72	1650690	4311504	1024.246	971.421
3)	DNX	2.00	2.00	1529881	2527597	481.370	494.051
4)	MNX	2.69	2.69	1300919	1983152	498.721	489.761
5)	RDX	3.40	3.40	1057032	1731809	540.355	564.128
6)	1,3,5-Trinitrobe	5.38	5.38	5801777	10974176	1383.077	1378.157m
7)	1,3-Dinitrobenze	6.69	6.69	2707315	1947668	485.210m	493.904m
8)	3,5-Dinitroanili	7.10	7.10	2691490	4300266	573.605m	532.732m
9)	Nitrobenzene	8.39	8.39	1627078	1536642	485.315m	478.859m
10)	Nitroglycerin	0.00	10.30	0	3965509	N.D. d	2995.162m
11)	Tetryl	10.63	10.63	1249687	1892161	431.810m	398.724m
12)	2,4,6-Trinitroto	11.10	11.10	4062667	5133098	1067.703m	1251.413m
13)	2-Amino-4,6-Dini	11.47	11.47	2016480	3071576	576.801	623.553
14)	4-Amino-2,6-Dini	12.02	12.02	1409779	2878343	533.088	595.597
16)	2,4-Dinitrotolue	13.06	13.06	2503654	1657543	494.555	521.311
17)	2,6-Dinitrotolue	13.54	13.55	1702241	2489564	594.370	674.134
18)	o-Nitrotoluene	16.57	16.57	1152606	1543919	459.096	516.442m
19)	p-Nitrotoluene	17.11	17.12	1801402	1441905	471.467	499.767
20)	m-Nitrotoluene	17.84	17.84	1696238	1972573	468.006	486.846
21)	PETN	0.00	19.71	0	4469624	N.D. d	3056.703m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB052036.D 8330B_0720.M Mon Jul 25 09:15:41 2016 Page 1

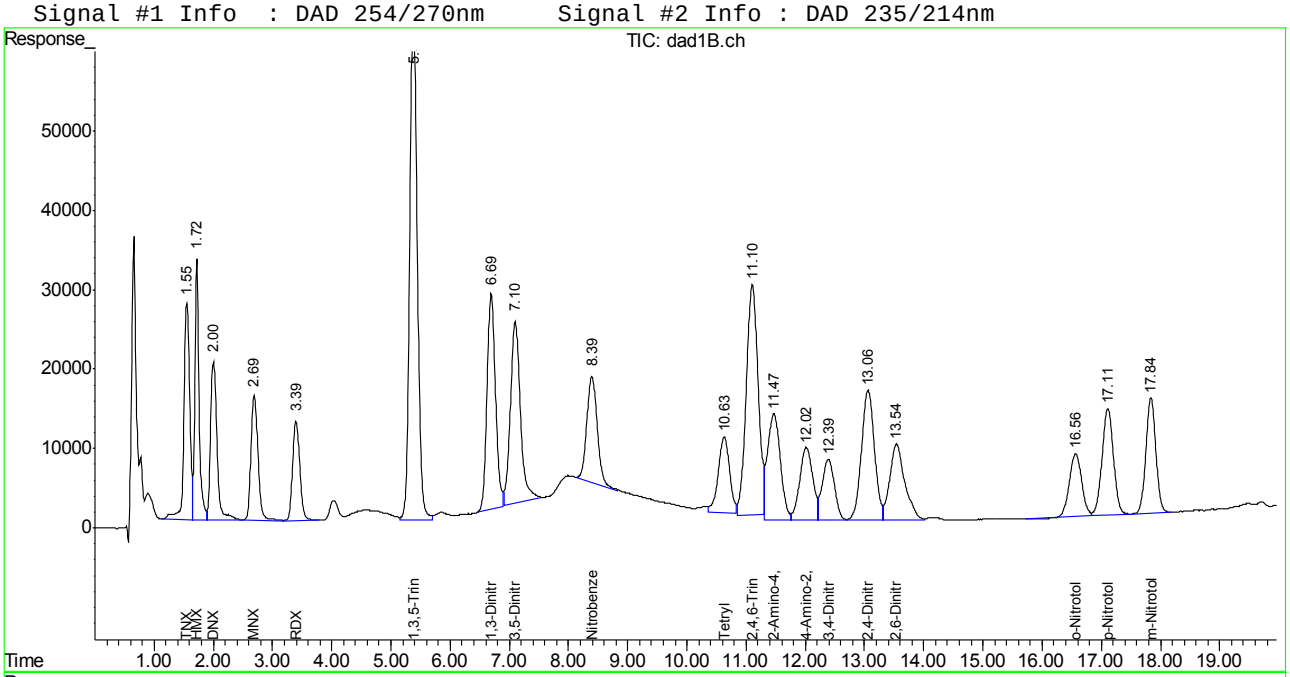
SGS ACCUTEST FA35499

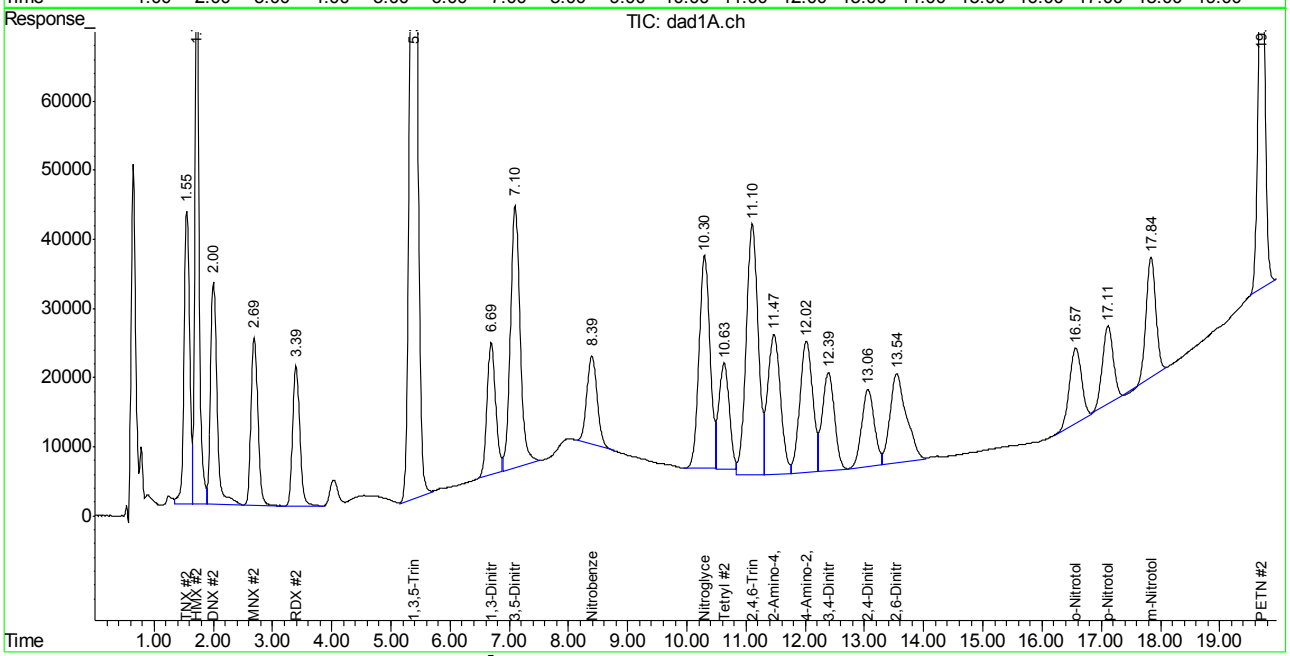
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0722BPL\BB052036.D\dad1B.ch Vial: 29
Signal #2 : C:\HPCHEM\1\DATA\0722BPL\BB052036.D\dad1A.ch
Acq On : 22-Jul-2016, 16:19:52 Operator: kismetl
Sample : op61167-ms Inst : G1315B
Misc : op61167,GBB1483,520,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 25 9:12 2016 Quant Results File: 8330B_0720.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0720.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 25 07:42:42 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA35499

Manual Integration Approval Summary

Sample Number: OP61167-MS
Lab FileID: BB052036.D
Injection Time: 07/22/16 16:19
Method: SW846 8330B
Analyst approved: 07/25/16 10:29 Kismet Lugo
Supervisor approved: 07/25/16 11:57 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
1,3,5-Trinitrobenzene	99-35-4	2	5.38	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	1	6.69	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	6.69	Poor instrument integration
3,5-Dinitroaniline	618-87-1	1	7.10	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	7.10	Poor instrument integration
Nitrobenzene	98-95-3	1	8.39	Poor instrument integration
Nitrobenzene	98-95-3	2	8.39	Poor instrument integration
Nitroglycerine	55-63-0	2	10.30	Poor instrument integration
Tetryl	479-45-8	1	10.63	Poor instrument integration
Tetryl	479-45-8	2	10.63	Poor instrument integration
2,4,6-Trinitrotoluene	118-96-7	1	11.10	Poor instrument integration
2,4,6-Trinitrotoluene	118-96-7	2	11.10	Poor instrument integration
o-Nitrotoluene	88-72-2	2	16.57	Poor instrument integration
PETN	78-11-5	2	19.71	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/25/16 11:57

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0722BPL\BB052037.D\dad1B.ch Vial: 30
Signal #2 : C:\HPCHEM\1\DATA\0722BPL\BB052037.D\dad1A.ch
Acq On : 22-Jul-2016, 16:46:48 Operator: kismetl
Sample : op61167-msd Inst : G1315B
Misc : op61167,GBB1483,520,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 25 07:43:11 2016 Quant Results File: 8330B_0720.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0720.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 25 07:42:42 2016
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	12.39	12.39	1091632	1985320	451.072	493.543
Spiked Amount	500.000	Range	70 - 136	Recovery	=	90.21%	98.71%
	Target Compounds						
1)	TNX	1.56	1.55	1656764	2594382	492.930	467.546
2)	HMX	1.73	1.73	1674449	4418492	1038.989	994.900
3)	DNX	2.01	2.00	1492731	2559790	469.681	500.344
4)	MNX	2.70	2.70	1261377	1947796	483.562	481.029
5)	RDX	3.40	3.40	1058992	1723546	541.357	561.436
6)	1,3,5-Trinitrobe	5.39	5.38	5883024	11117239	1402.445	1396.123m
7)	1,3-Dinitrobenze	6.70	6.70	2860305	2119988	512.630m	537.602m
8)	3,5-Dinitroanili	7.10	7.10	2680439	4189175	571.249m	518.970m
9)	Nitrobenzene	8.40	8.40	1665679	1603063	496.829m	499.557m
10)	Nitroglycerin	0.00	10.30	0	3950393	N.D. d	2983.745m
11)	Tetryl	10.63	10.63	1216577	1929766	420.369m	406.649m
12)	2,4,6-Trinitroto	11.10	11.10	4164381	4942478	1094.435m	1204.941m
13)	2-Amino-4,6-Dini	11.47	11.47	2000733	3083197	572.296	625.840
14)	4-Amino-2,6-Dini	12.02	12.02	1400345	2907322	529.521	601.593
16)	2,4-Dinitrotolue	13.06	13.06	2509405	1648478	495.691	518.460
17)	2,6-Dinitrotolue	13.55	13.55	1666047	2409844	581.732	652.547
18)	o-Nitrotoluene	16.58	16.58	1202425	1606882	478.939	537.503m
19)	p-Nitrotoluene	17.12	17.12	1840844	1456368	481.790	504.780
20)	m-Nitrotoluene	17.85	17.85	1741164	2026748	480.401	500.217
21)	PETN	0.00	19.72	0	4421051	N.D. d	3023.484m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB052037.D 8330B_0720.M Mon Jul 25 09:15:42 2016 Page 1

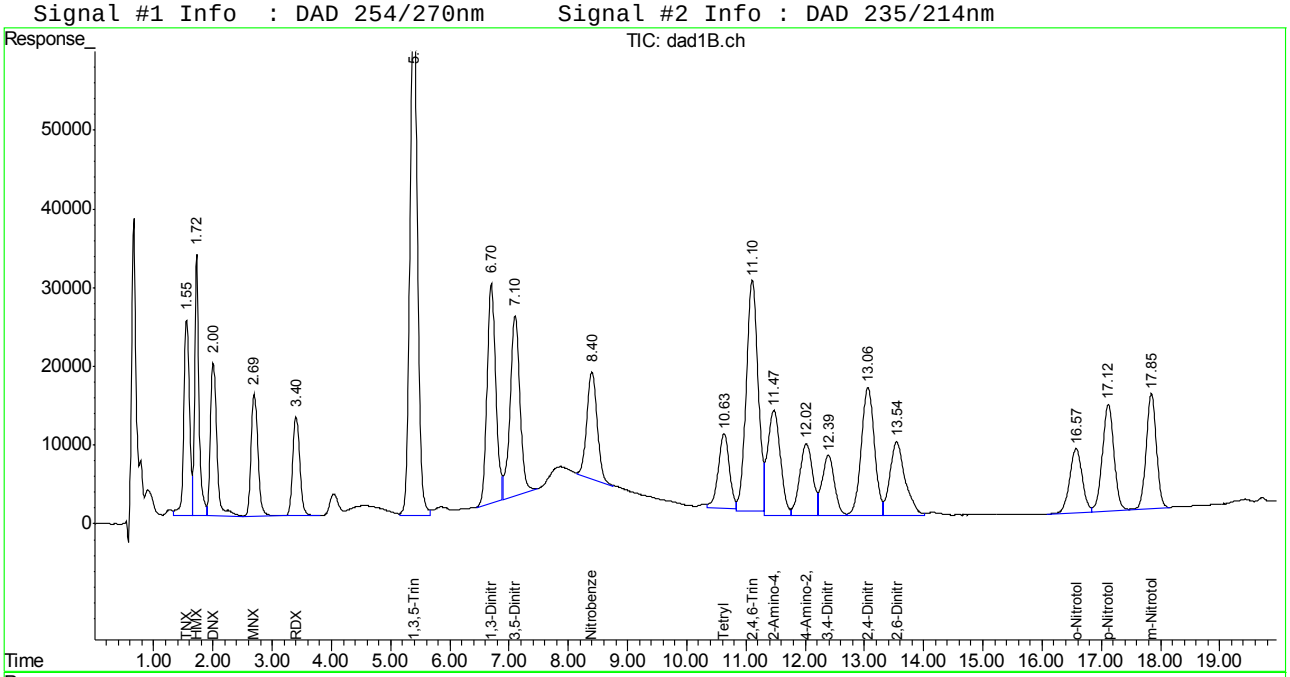
SGS ACCUTEST FA35499

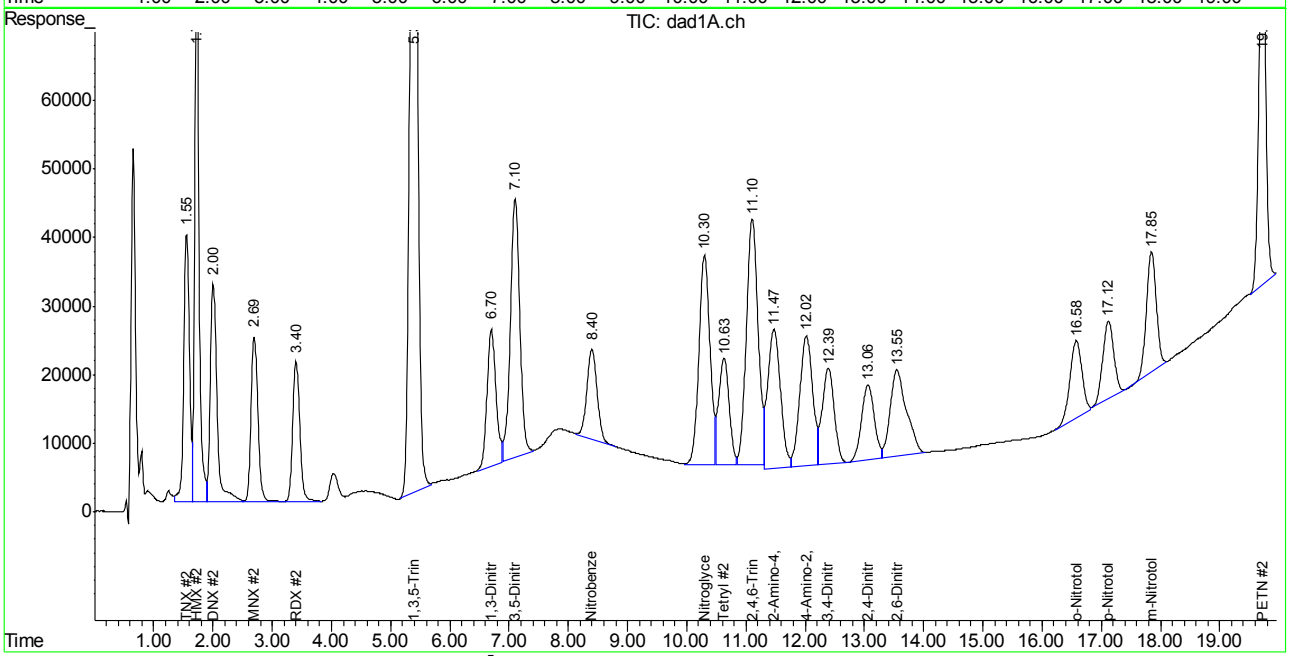
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0722BPL\BB052037.D\dad1B.ch Vial: 30
Signal #2 : C:\HPCHEM\1\DATA\0722BPL\BB052037.D\dad1A.ch
Acq On : 22-Jul-2016, 16:46:48 Operator: kismetl
Sample : op61167-msd Inst : G1315B
Misc : op61167,GBB1483,520,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 25 9:12 2016 Quant Results File: 8330B_0720.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0720.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 25 07:42:42 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA35499

Manual Integration Approval Summary

Sample Number: OP61167-MSD
Lab FileID: BB052037.D
Injection Time: 07/22/16 16:46
Method: SW846 8330B
Analyst approved: 07/25/16 10:29 Kismet Lugo
Supervisor approved: 07/25/16 11:57 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
1,3,5-Trinitrobenzene	99-35-4	2	5.38	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	1	6.70	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	6.70	Poor instrument integration
3,5-Dinitroaniline	618-87-1	1	7.10	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	7.10	Poor instrument integration
Nitrobenzene	98-95-3	1	8.40	Poor instrument integration
Nitrobenzene	98-95-3	2	8.40	Poor instrument integration
Nitroglycerine	55-63-0	2	10.30	Poor instrument integration
Tetryl	479-45-8	1	10.63	Poor instrument integration
Tetryl	479-45-8	2	10.63	Poor instrument integration
2,4,6-Trinitrotoluene	118-96-7	1	11.10	Poor instrument integration
2,4,6-Trinitrotoluene	118-96-7	2	11.10	Poor instrument integration
o-Nitrotoluene	88-72-2	2	16.58	Poor instrument integration
PETN	78-11-5	2	19.72	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/25/16 11:57

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0720BPL\BB051975.D\dad1B.ch Vial: 21
Signal #2 : C:\HPCHEM\1\DATA\0720BPL\BB051975.D\dad1A.ch
Acq On : 20-Jul-2016, 09:43:44 Operator: kismetl
Sample : ic1481-20 Inst : G1315B
Misc : op61122,GBB1481,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 20 11:59:19 2016 Quant Results File: 8330B_0719.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0719.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 20 11:59:04 2016
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	12.17	12.17	59144	80908	25.956	21.178
Spiked Amount	500.000	Range	70 - 136	Recovery	=	5.19%#	4.24%#
	Target Compounds						
1)	TNX	1.54	1.54	47414	96546	14.228m	17.443m
2)	HMX	1.69	1.69	29687	70941	38.997m	35.553m
3)	DNX	1.98	1.98	60521	93526	19.656m	18.568m
4)	MNX	2.66	2.66	53365	79442	20.269m	19.643m
5)	RDX	3.35	3.35	36782	59833	19.015m	19.356m
6)	1,3,5-Trinitrobe	5.31	5.31	91259	164599	22.126	20.552
7)	1,3-Dinitrobenze	6.60	6.60	118949	82934	20.840m	20.397m
8)	3,5-Dinitroanili	7.02	7.02	90699	165577	18.940	20.102m
9)	Nitrobenzene	8.28	8.28	73399	65200	22.974m	20.616m
10)	Nitroglycerin	0.00	10.12	0	132914	N.D.	101.371m#
11)	Tetryl	10.42	10.42	59530	93663	23.235	22.442m
12)	2,4,6-Trinitroto	10.90	10.90	73397	60490	18.332	13.733
13)	2-Amino-4,6-Dini	11.29	11.29	68595	69431	19.296	14.293
14)	4-Amino-2,6-Dini	11.79	11.80	64952	86491	24.888	17.500
16)	2,4-Dinitrotolue	12.83	12.86	107787	58807	21.517	17.814m
17)	2,6-Dinitrotolue	13.31	13.34	59228	73317	21.730	20.443m
18)	o-Nitrotoluene	16.31	16.36	54864	44902	22.028	14.918m
19)	p-Nitrotoluene	16.90	17.00	81577	51475	21.837m	18.239m
20)	m-Nitrotoluene	17.64	17.76	72732	81565	20.452m	20.812m
21)	PETN	0.00	19.58	0	123182	N.D. d	83.058m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB051975.D 8330B_0720.M Thu Jul 21 07:39:17 2016 Page 1

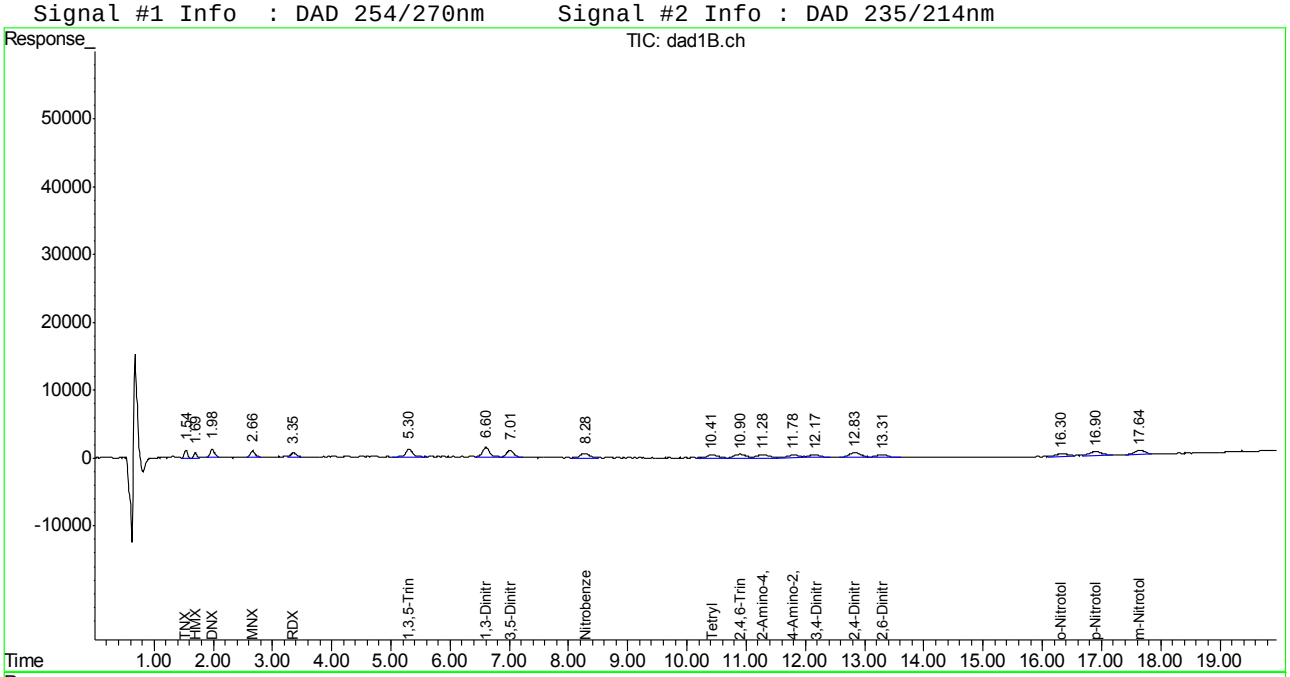
SGS ACCUTEST FA35499

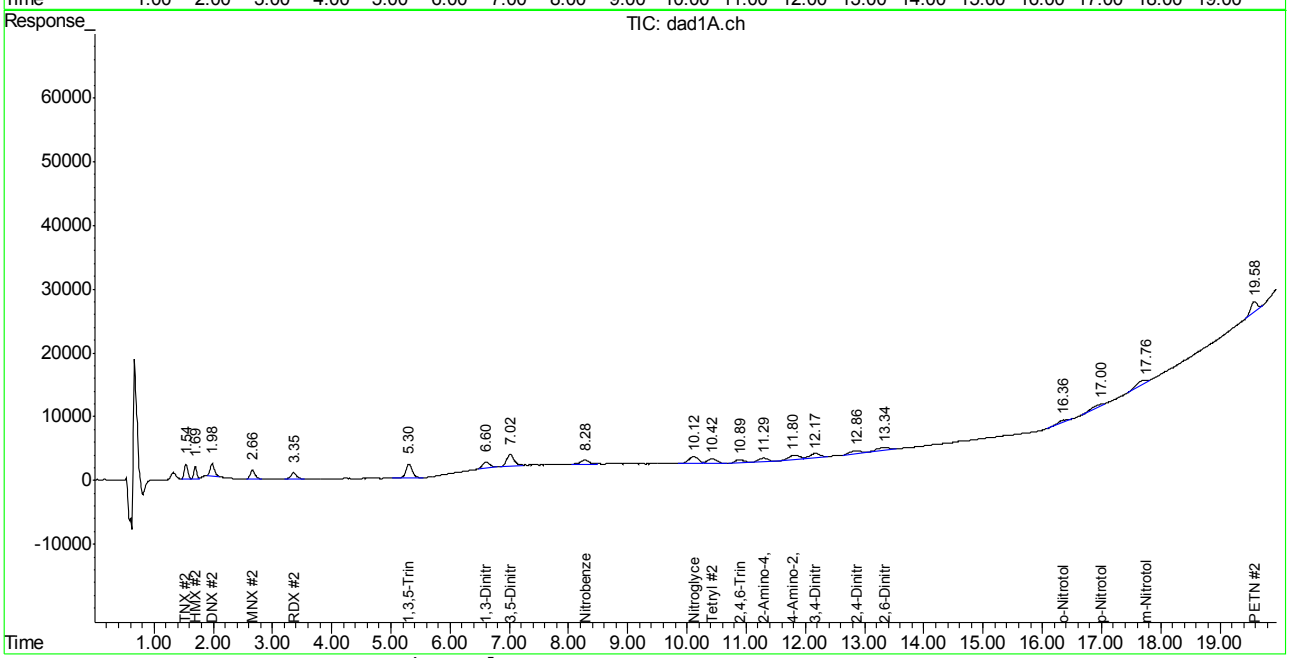
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0720BPL\BB051975.D\dad1B.ch Vial: 21
Signal #2 : C:\HPCHEM\1\DATA\0720BPL\BB051975.D\dad1A.ch
Acq On : 20-Jul-2016, 09:43:44 Operator: kismetl
Sample : ic1481-20 Inst : G1315B
Misc : op61122,GBB1481,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 20 12:13 2016 Quant Results File: 8330B_0719.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0719.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 20 11:59:04 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS
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ACCUTEST
FA35499

Manual Integration Approval Summary

Sample Number: GBB1481-IC1481
Lab FileID: BB051975.D
Injection Time: 07/20/16 09:43
Method: SW846 8330B
Analyst approved: 07/21/16 08:58 Kismet Lugo
Supervisor approved: 07/25/16 11:57 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	1.54	Poor instrument integration
TNX		2	1.54	Poor instrument integration
HMX	2691-41-0	1	1.69	Poor instrument integration
HMX	2691-41-0	2	1.69	Poor instrument integration
DNX		1	1.98	Poor instrument integration
DNX		2	1.98	Poor instrument integration
MNX		1	2.66	Poor instrument integration
MNX		2	2.66	Poor instrument integration
RDX	121-82-4	1	3.35	Poor instrument integration
RDX	121-82-4	2	3.35	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	1	6.60	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	6.60	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	7.02	Poor instrument integration
Nitrobenzene	98-95-3	1	8.28	Poor instrument integration
Nitrobenzene	98-95-3	2	8.28	Poor instrument integration
Nitroglycerine	55-63-0	2	10.12	Poor instrument integration
Tetryl	479-45-8	2	10.42	Poor instrument integration
2,4-Dinitrotoluene	121-14-2	2	12.86	Poor instrument integration
2,6-Dinitrotoluene	606-20-2	2	13.34	Poor instrument integration
o-Nitrotoluene	88-72-2	2	16.36	Missed peak
p-Nitrotoluene	99-99-0	1	16.90	Poor instrument integration
p-Nitrotoluene	99-99-0	2	17.00	Missed peak
m-Nitrotoluene	99-08-1	1	17.64	Poor instrument integration
m-Nitrotoluene	99-08-1	2	17.76	Missed peak
PETN	78-11-5	2	19.58	Missed peak

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/25/16 11:57

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0720BPL\BB051976.D\dad1B.ch Vial: 22
Signal #2 : C:\HPCHEM\1\DATA\0720BPL\BB051976.D\dad1A.ch
Acq On : 20-Jul-2016, 10:12:24 Operator: kismetl
Sample : ic1481-50 Inst : G1315B
Misc : op61122,GBB1481,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 20 11:59:20 2016 Quant Results File: 8330B_0719.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0719.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 20 11:59:04 2016
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	12.16	12.17	137463	217867	60.327	57.027
Spiked Amount	500.000	Range	70 - 136	Recovery	=	12.07%#	11.41%#
	Target Compounds						
1)	TNX	1.54	1.54	166272	296176	49.896m	53.509m
2)	HMX	1.69	1.69	82180	213257	107.950m	106.877m
3)	DNX	1.98	1.98	174412	279086	56.647m	55.407m
4)	MNX	2.66	2.66	138133	218975	52.466m	54.144m
5)	RDX	3.35	3.35	112504	164058	58.162	53.073m
6)	1,3,5-Trinitrobe	5.30	5.30	228759	421991	55.464	52.690
7)	1,3-Dinitrobenze	6.60	6.60	300978	222135	52.733	54.633m
8)	3,5-Dinitroanili	7.01	7.01	262731	446497	54.864	54.206m
9)	Nitrobenzene	8.27	8.28	178158	177052	55.765	55.982
10)	Nitroglycerin	0.00	10.12	0	355406	N.D.	271.061 #
11)	Tetryl	10.44	10.43	152519	254330	59.530m	60.937
12)	2,4,6-Trinitroto	10.88	10.89	198277	199886	49.523	45.379
13)	2-Amino-4,6-Dini	11.29	11.28	191942	230575	53.993	47.466
14)	4-Amino-2,6-Dini	11.81	11.83	138207	240978	52.957	48.759
16)	2,4-Dinitrotolue	12.84	12.86	274132	163661	54.723	49.576
17)	2,6-Dinitrotolue	13.31	13.32	160259	208118	58.798	58.029
18)	o-Nitrotoluene	16.35	16.37	142584	154639	57.246	51.378m
19)	p-Nitrotoluene	16.91	16.92	214168	161619	57.329	57.267m
20)	m-Nitrotoluene	17.66	17.68	198903	217599	55.931	55.521m
21)	PETN	0.00	19.58	0	405344	N.D. d	273.314m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB051976.D 8330B_0720.M Thu Jul 21 07:39:18 2016 Page 1

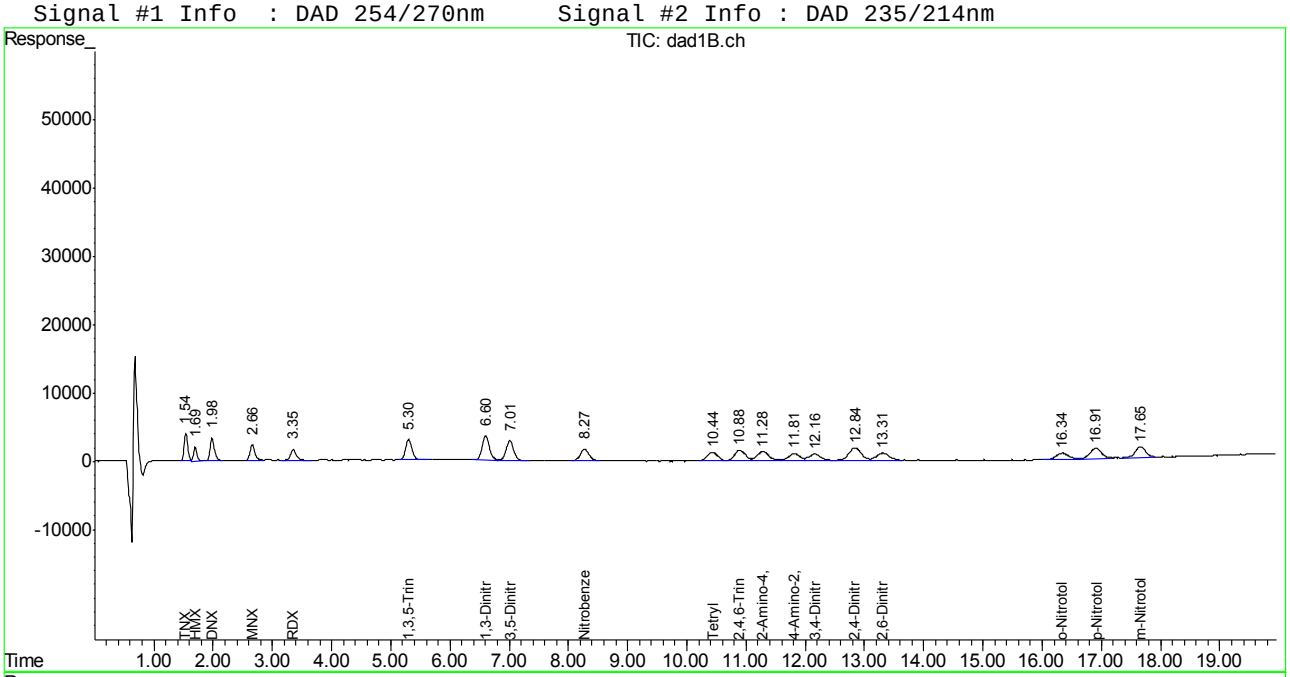
SGS ACCUTEST FA35499

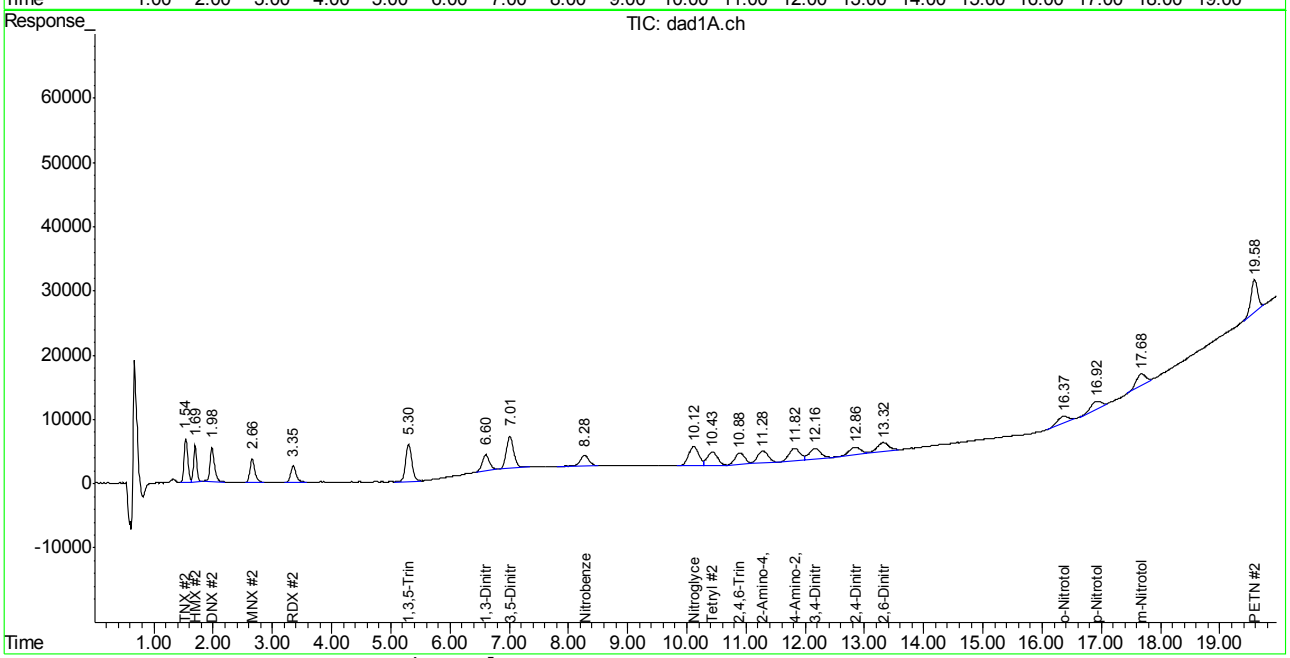
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0720BPL\BB051976.D\dad1B.ch Vial: 22
Signal #2 : C:\HPCHEM\1\DATA\0720BPL\BB051976.D\dad1A.ch
Acq On : 20-Jul-2016, 10:12:24 Operator: kismetl
Sample : ic1481-50 Inst : G1315B
Misc : op61122,GBB1481,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 20 13:29 2016 Quant Results File: 8330B_0719.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0719.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 20 11:59:04 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA35499

Manual Integration Approval Summary

Sample Number: GBB1481-IC1481
Lab FileID: BB051976.D
Injection Time: 07/20/16 10:12
Method: SW846 8330B
Analyst approved: 07/21/16 08:58 Kismet Lugo
Supervisor approved: 07/25/16 11:57 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	1.54	Poor instrument integration
TNX		2	1.54	Poor instrument integration
HMX	2691-41-0	1	1.69	Poor instrument integration
HMX	2691-41-0	2	1.69	Poor instrument integration
DNX		1	1.98	Poor instrument integration
DNX		2	1.98	Poor instrument integration
MNX		1	2.66	Poor instrument integration
MNX		2	2.66	Poor instrument integration
RDX	121-82-4	2	3.35	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	6.60	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	7.01	Poor instrument integration
Tetryl	479-45-8	1	10.44	Poor instrument integration
o-Nitrotoluene	88-72-2	2	16.37	Missed peak
p-Nitrotoluene	99-99-0	2	16.92	Poor instrument integration
m-Nitrotoluene	99-08-1	2	17.68	Poor instrument integration
PETN	78-11-5	2	19.58	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/25/16 11:57

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0720BPL\BB051977.D\dad1B.ch Vial: 23
Signal #2 : C:\HPCHEM\1\DATA\0720BPL\BB051977.D\dad1A.ch
Acq On : 20-Jul-2016, 10:39:19 Operator: kismetl
Sample : ic1481-100 Inst : G1315B
Misc : op61122,GBB1481,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 20 11:59:21 2016 Quant Results File: 8330B_0719.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0719.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 20 11:59:04 2016
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	12.18	12.18	232601	398755	102.079	104.374
	Spiked Amount 500.000	Range 70 - 136		Recovery =		20.42%#	20.87%#
	Target Compounds						
1)	TNX	1.54	1.54	355323	576638	106.628	104.180m
2)	HMX	1.70	1.69	154424	405871	202.847	203.408m
3)	DNX	1.98	1.98	313082	519655	101.685	103.168m
4)	MNX	2.66	2.66	269071	412002	102.199	101.871m
5)	RDX	3.36	3.36	207734	311142	107.394	100.655
6)	1,3,5-Trinitrobe	5.31	5.31	407330	786592	98.759	98.214
7)	1,3-Dinitrobenze	6.61	6.61	557414	399403	97.661	98.231m
8)	3,5-Dinitroanili	7.02	7.02	472731	800609	98.717	97.197m
9)	Nitrobenzene	8.28	8.28	332671	315946	104.128	99.899m
10)	Nitroglycerin	0.00	10.12	0	664535	N.D.	506.826m#
11)	Tetryl	10.45	10.45	273733	463842	106.842m	111.136
12)	2,4,6-Trinitroto	10.91	10.91	378219	396191	94.466	89.946
13)	2-Amino-4,6-Dini	11.29	11.30	353820	466468	99.529	96.027
14)	4-Amino-2,6-Dini	11.83	11.84	253438	481373	97.110	97.400
16)	2,4-Dinitrotolue	12.85	12.86	503153	318512	100.441	96.484
17)	2,6-Dinitrotolue	13.33	13.33	290688	363875	106.652	101.459
18)	o-Nitrotoluene	16.36	16.37	254985	304538	102.375	101.182m
19)	p-Nitrotoluene	16.92	16.93	379217	280608	101.509	99.428m
20)	m-Nitrotoluene	17.67	17.68	366737	384895	103.126	98.208m
21)	PETN	0.00	19.58	0	745154	N.D. d	502.440m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB051977.D 8330B_0720.M Thu Jul 21 07:39:19 2016 Page 1

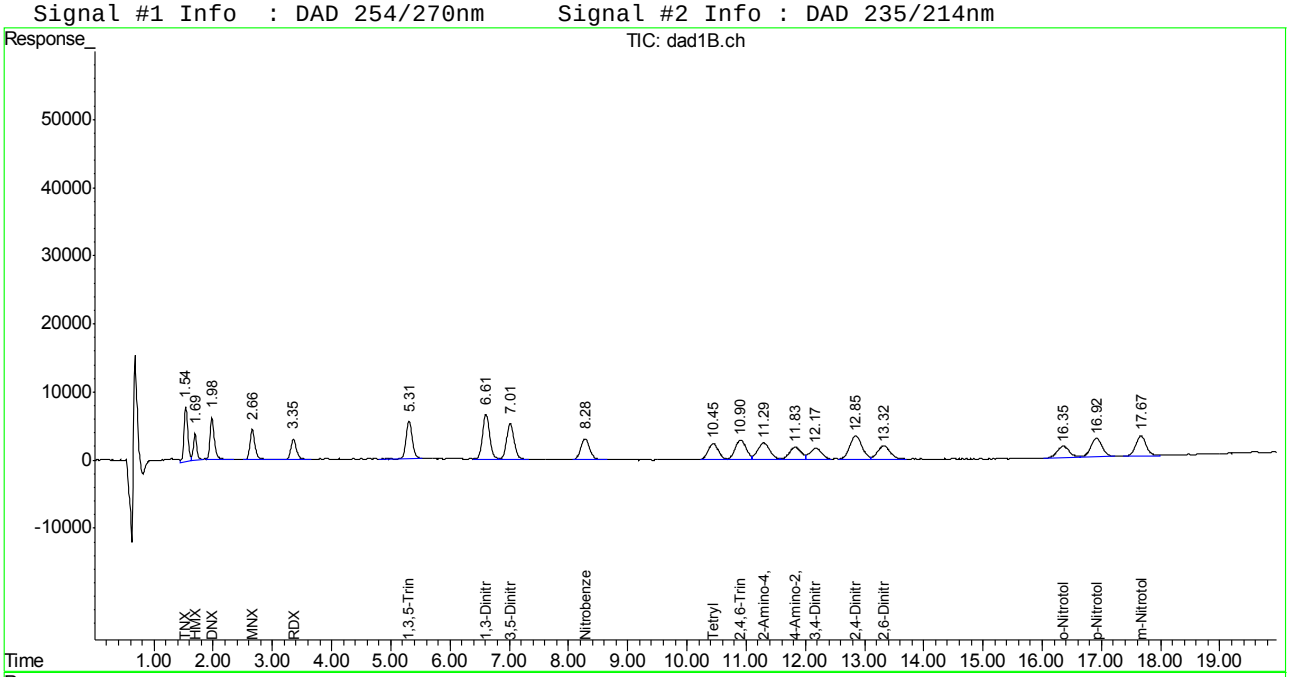
SGS ACCUTEST FA35499

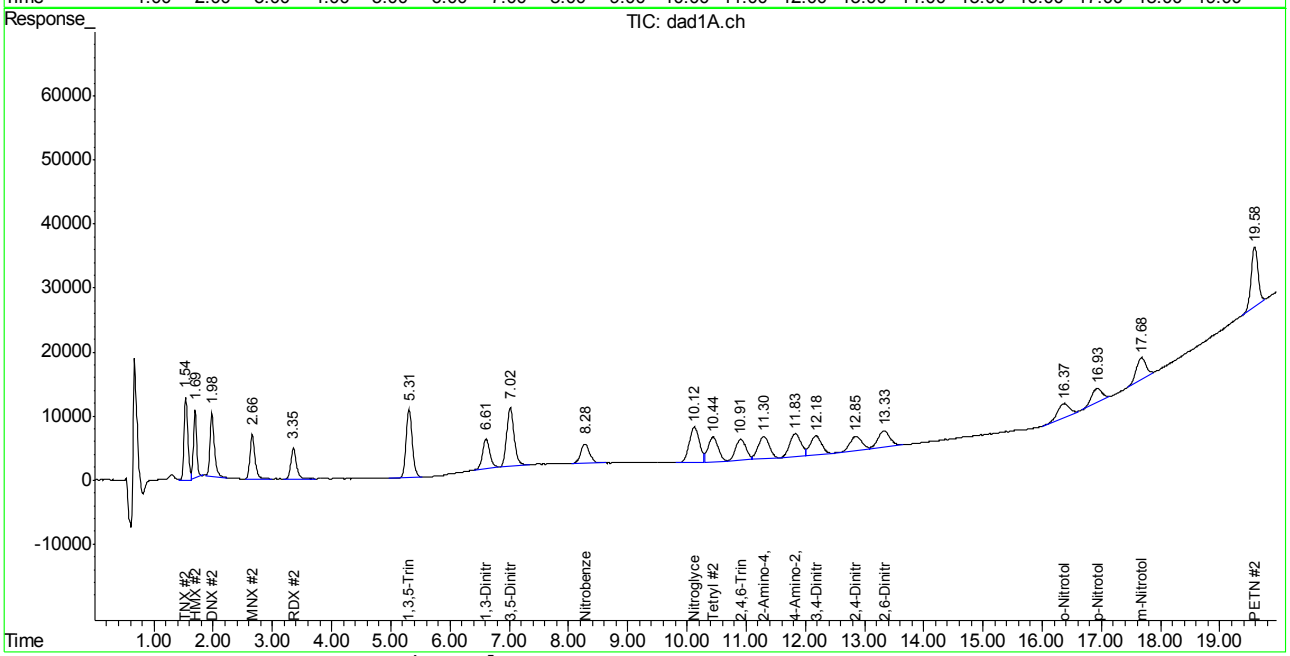
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0720BPL\BB051977.D\dad1B.ch Vial: 23
Signal #2 : C:\HPCHEM\1\DATA\0720BPL\BB051977.D\dad1A.ch
Acq On : 20-Jul-2016, 10:39:19 Operator: kismetl
Sample : ic1481-100 Inst : G1315B
Misc : op61122,GBB1481,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 20 13:29 2016 Quant Results File: 8330B_0719.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0719.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 20 11:59:04 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA35499

Manual Integration Approval Summary

Sample Number: GBB1481-IC1481
Lab FileID: BB051977.D
Injection Time: 07/20/16 10:39
Method: SW846 8330B
Analyst approved: 07/21/16 08:58 Kismet Lugo
Supervisor approved: 07/25/16 11:57 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		2	1.54	Poor instrument integration
HMX	2691-41-0	2	1.69	Poor instrument integration
DNX		2	1.98	Poor instrument integration
MNX		2	2.66	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	6.61	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	7.02	Poor instrument integration
Nitrobenzene	98-95-3	2	8.28	Poor instrument integration
Nitroglycerine	55-63-0	2	10.12	Poor instrument integration
Tetryl	479-45-8	1	10.45	Poor instrument integration
o-Nitrotoluene	88-72-2	2	16.37	Poor instrument integration
p-Nitrotoluene	99-99-0	2	16.93	Poor instrument integration
m-Nitrotoluene	99-08-1	2	17.68	Poor instrument integration
PETN	78-11-5	2	19.58	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/25/16 11:57

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0720BPL\BB051978.D\dad1B.ch Vial: 24
Signal #2 : C:\HPCHEM\1\DATA\0720BPL\BB051978.D\dad1A.ch
Acq On : 20-Jul-2016, 11:06:17 Operator: kismetl
Sample : ic1481-200 Inst : G1315B
Misc : op61122,GBB1481,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 20 11:59:22 2016 Quant Results File: 8330B_0719.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0719.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 20 11:59:04 2016
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	12.20	12.20	458418	791766	201.180	207.244
Spiked Amount	500.000	Range	70 - 136	Recovery	=	40.24%#	41.45%#
	Target Compounds						
1)	TNX	1.54	1.54	688326	1116216	206.557	201.664
2)	HMX	1.70	1.70	318554	888529	418.444	445.299
3)	DNX	1.98	1.98	620606	1031184	201.565	204.723
4)	MNX	2.66	2.66	513670	802866	195.102	198.516
5)	RDX	3.36	3.36	389785	613168	201.511	198.362
6)	1,3,5-Trinitrobe	5.31	5.31	817388	1559928	198.179	194.773m
7)	1,3-Dinitrobenze	6.61	6.61	1087963	751219	190.616	184.757m
8)	3,5-Dinitroanili	7.02	7.02	922125	1548445	192.561	187.986m
9)	Nitrobenzene	8.29	8.28	651063	630249	203.787	199.279m
10)	Nitroglycerin	0.00	10.14	0	1292608	N.D. d	985.844
11)	Tetryl	10.46	10.46	569239	916084	222.182m	219.492
12)	2,4,6-Trinitroto	10.93	10.93	763446	832835	190.683	189.075
13)	2-Amino-4,6-Dini	11.31	11.31	688577	957717	193.696	197.155
14)	4-Amino-2,6-Dini	11.85	11.85	504433	967767	193.283	195.816
16)	2,4-Dinitrotolue	12.87	12.87	989717	635152	197.571	192.401
17)	2,6-Dinitrotolue	13.35	13.35	557320	719674	204.478	200.666
18)	o-Nitrotoluene	16.37	16.38	479653	620957	192.577	206.311m
19)	p-Nitrotoluene	16.93	16.94	741850	550592	198.579	195.092
20)	m-Nitrotoluene	17.68	17.68	712431	791790	200.334	202.029m
21)	PETN	0.00	19.59	0	1490879	N.D. d	1005.265m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB051978.D 8330B_0720.M Thu Jul 21 07:39:20 2016 Page 1

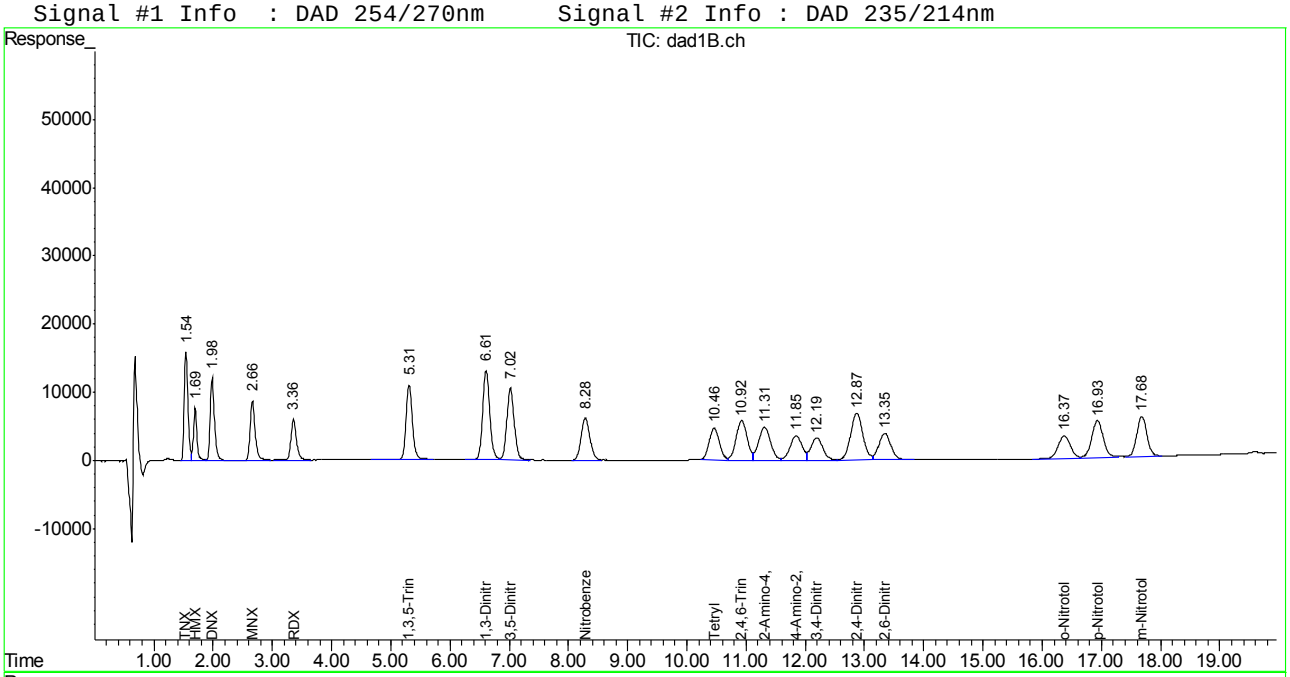
SGS ACCUTEST FA35499

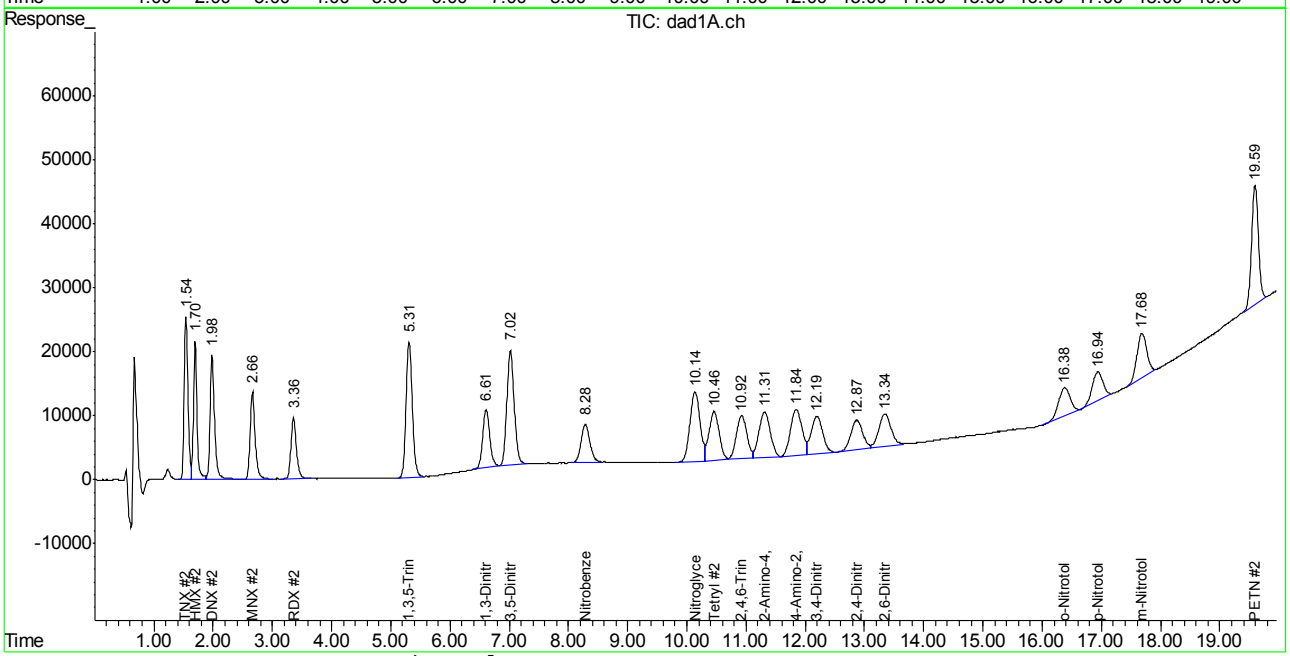
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0720BPL\BB051978.D\dad1B.ch Vial: 24
Signal #2 : C:\HPCHEM\1\DATA\0720BPL\BB051978.D\dad1A.ch
Acq On : 20-Jul-2016, 11:06:17 Operator: kismetl
Sample : ic1481-200 Inst : G1315B
Misc : op61122,GBB1481,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 20 13:30 2016 Quant Results File: 8330B_0719.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0719.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 20 11:59:04 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA35499

Manual Integration Approval Summary

Sample Number: GBB1481-IC1481
Lab FileID: BB051978.D
Injection Time: 07/20/16 11:06
Method: SW846 8330B
Analyst approved: 07/21/16 08:58 Kismet Lugo
Supervisor approved: 07/25/16 11:57 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
1,3,5-Trinitrobenzene	99-35-4	2	5.31	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	6.61	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	7.02	Poor instrument integration
Nitrobenzene	98-95-3	2	8.28	Poor instrument integration
Tetryl	479-45-8	1	10.46	Poor instrument integration
o-Nitrotoluene	88-72-2	2	16.38	Poor instrument integration
m-Nitrotoluene	99-08-1	2	17.68	Poor instrument integration
PETN	78-11-5	2	19.59	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/25/16 11:57

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0720BPL\BB051979.D\dad1B.ch Vial: 25
Signal #2 : C:\HPCHEM\1\DATA\0720BPL\BB051979.D\dad1A.ch
Acq On : 20-Jul-2016, 11:33:15 Operator: kismetl
Sample : icc1481-500 Inst : G1315B
Misc : op61122,GBB1481,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 20 11:59:32 2016 Quant Results File: 8330B_0719.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0719.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 20 11:59:04 2016
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	12.21	12.21	1104344	1938323	484.650	507.355
	Spiked Amount 500.000	Range 70 - 136		Recovery =		96.93%	101.47%
	Target Compounds						
1)	TNX	1.54	1.54	1797324	2741119	539.352	495.232
2)	HMX	1.70	1.70	850356	2193714	1117.006	1099.411
3)	DNX	1.99	1.99	1591001	2525926	516.736	501.477
4)	MNX	2.67	2.67	1254160	1962813	476.356	485.323
5)	RDX	3.36	3.36	922572	1486203	476.951	480.791
6)	1,3,5-Trinitrobe	5.32	5.32	2001437	3858042	485.258	481.716
7)	1,3-Dinitrobenze	6.62	6.62	2654251	1855688	465.036	456.394m
8)	3,5-Dinitroanili	7.03	7.03	2256231	3879795	471.153	471.020m
9)	Nitrobenzene	8.30	8.29	1587181	1557063	496.797	492.330m
10)	Nitroglycerin	0.00	10.15	0	3198199	N.D. d	2439.196
11)	Tetryl	10.47	10.47	1418973	2323297	553.845m	556.658
12)	2,4,6-Trinitroto	10.94	10.94	1881858	2173012	470.024	493.331
13)	2-Amino-4,6-Dini	11.32	11.32	1700054	2452689	478.223	504.909
14)	4-Amino-2,6-Dini	11.86	11.86	1244957	2448451	477.030	495.414
16)	2,4-Dinitrotolue	12.88	12.88	2414537	1590043	481.998	481.658
17)	2,6-Dinitrotolue	13.35	13.36	1371064	1789516	503.036	498.968
18)	o-Nitrotoluene	16.38	16.39	1181453	1546213	474.345	513.724m
19)	p-Nitrotoluene	16.95	16.95	1815912	1423483	486.084	504.385
20)	m-Nitrotoluene	17.69	17.69	1756784	1982918	494.005	505.951m
21)	PETN	0.00	19.60	0	3621129	N.D. d	2441.642m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB051979.D 8330B_0720.M Thu Jul 21 07:39:33 2016 Page 1

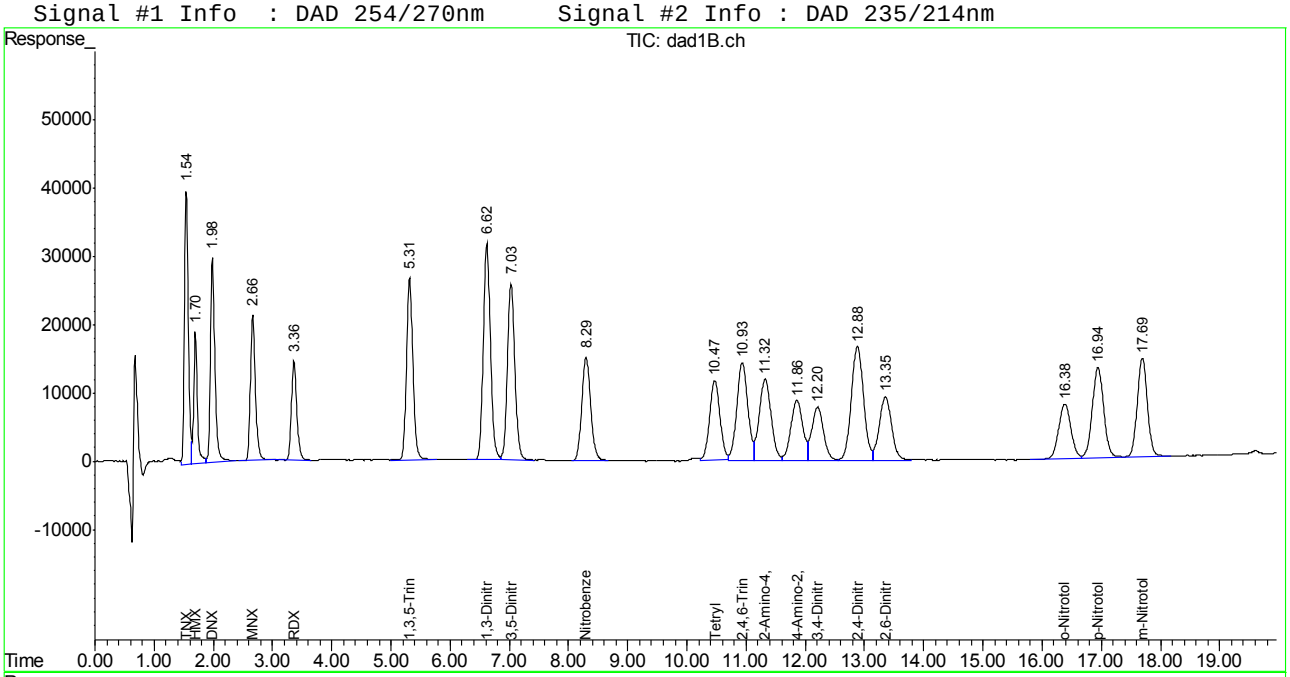
SGS ACCUTEST FA35499

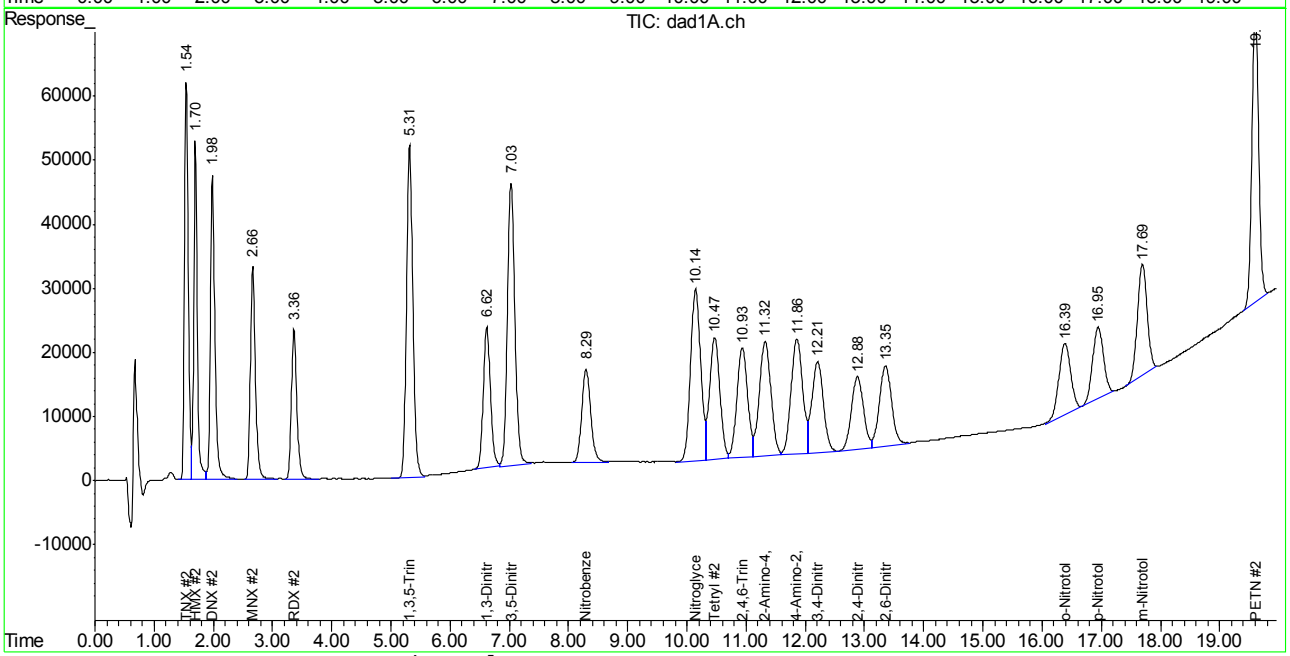
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0720BPL\BB051979.D\dad1B.ch Vial: 25
Signal #2 : C:\HPCHEM\1\DATA\0720BPL\BB051979.D\dad1A.ch
Acq On : 20-Jul-2016, 11:33:15 Operator: kismetl
Sample : icc1481-500 Inst : G1315B
Misc : op61122,GBB1481,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 20 13:30 2016 Quant Results File: 8330B_0719.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0719.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 20 11:59:04 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA35499

Manual Integration Approval Summary

Sample Number: GBB1481-ICC1481 **Method:** SW846 8330B
Lab FileID: BB051979.D **Analyst approved:** 07/21/16 08:58 Kismet Lugo
Injection Time: 07/20/16 11:33 **Supervisor approved:** 07/25/16 11:57 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
1,3-Dinitrobenzene	99-65-0	2	6.62	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	7.03	Poor instrument integration
Nitrobenzene	98-95-3	2	8.29	Poor instrument integration
Tetryl	479-45-8	1	10.47	Overlapping peak
o-Nitrotoluene	88-72-2	2	16.39	Poor instrument integration
m-Nitrotoluene	99-08-1	2	17.69	Poor instrument integration
PETN	78-11-5	2	19.60	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger 07/25/16 11:57

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0720BPL\BB051980.D\dad1B.ch Vial: 26
Signal #2 : C:\HPCHEM\1\DATA\0720BPL\BB051980.D\dad1A.ch
Acq On : 20-Jul-2016, 12:00:14 Operator: kismetl
Sample : ic1481-1000 Inst : G1315B
Misc : op61122,GBB1481,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 20 12:25:41 2016 Quant Results File: 8330B_0719.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0719.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 20 11:59:04 2016
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	12.22	12.22	2166318	3900257	950.706	1020.890
Spiked Amount	500.000	Range	70 - 136	Recovery	=	190.14%#	204.18%#
	Target Compounds						
1)	TNX	1.55	1.55	3573207	5579273	1072.269	1007.995
2)	HMX	1.70	1.70	1652843	4439084	2171.132	2224.711
3)	DNX	1.99	1.99	3149565	5036390	1022.937	999.884
4)	MNX	2.67	2.67	2512865	3902020	954.437	964.809m
5)	RDX	3.37	3.37	1836279	2989979	949.318	967.268
6)	1,3,5-Trinitrobe	5.32	5.32	3954412	7655261	958.765	955.837
7)	1,3-Dinitrobenze	6.62	6.62	5289408	3662534	926.727	900.777m
8)	3,5-Dinitroanili	7.03	7.03	4517125	7732126	943.280	938.706m
9)	Nitrobenzene	8.30	8.30	3200596	3075636	1001.806	972.489m
10)	Nitroglycerin	0.00	10.15	0	6409196	N.D. d	4888.154
11)	Tetryl	10.48	10.48	2850666	4716245	1112.654m	1130.004
12)	2,4,6-Trinitroto	10.95	10.95	3734194	4473734	932.674	1015.655
13)	2-Amino-4,6-Dini	11.33	11.33	3348057	5022373	941.805	1033.903
14)	4-Amino-2,6-Dini	11.87	11.87	2427484	4953048	930.138	1002.188
16)	2,4-Dinitrotolue	12.89	12.89	4778603	3196430	953.920	968.267
17)	2,6-Dinitrotolue	13.37	13.37	2667708	3539606	978.767	986.944
18)	o-Nitrotoluene	16.40	16.40	2318453	3112924	930.843	1034.259m
19)	p-Nitrotoluene	16.96	16.96	3589096	2902292	960.731	1028.374
20)	m-Nitrotoluene	17.70	17.71	3473476	4004879	976.736	1021.864
21)	PETN	0.00	19.61	0	7202826	N.D. d	4856.696m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB051980.D 8330B_0720.M Thu Jul 21 07:39:34 2016 Page 1

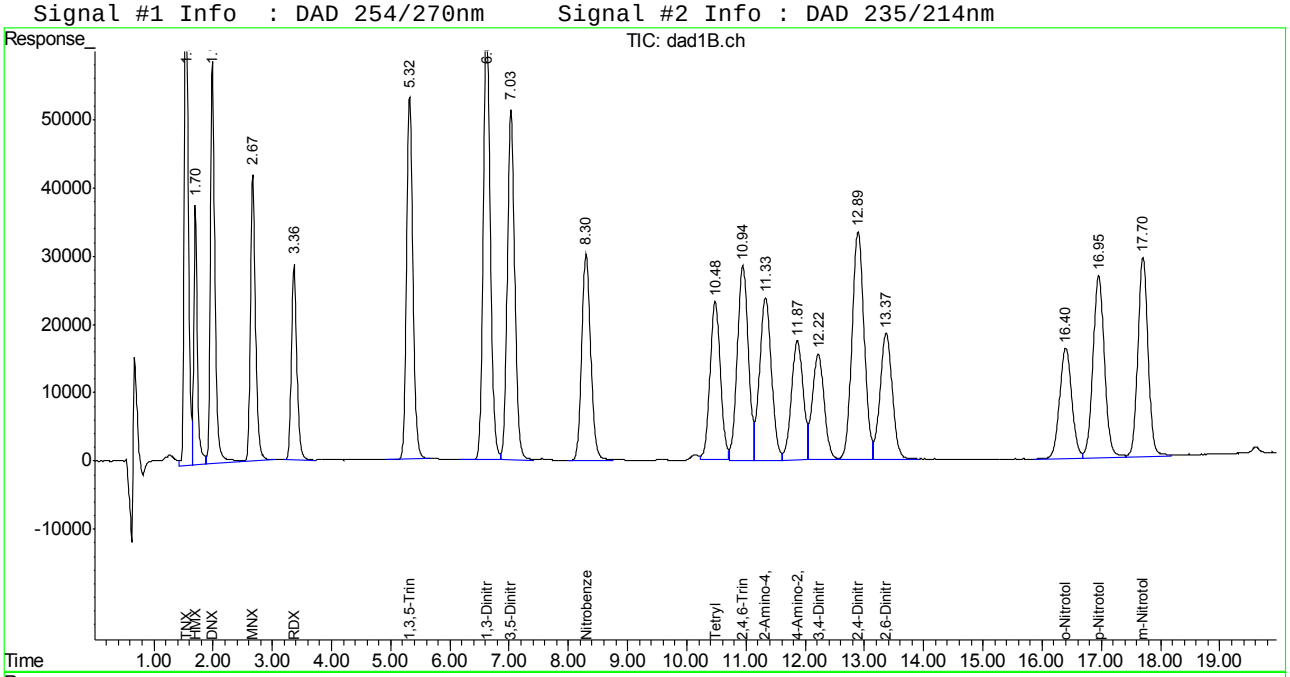
SGS ACCUTEST FA35499

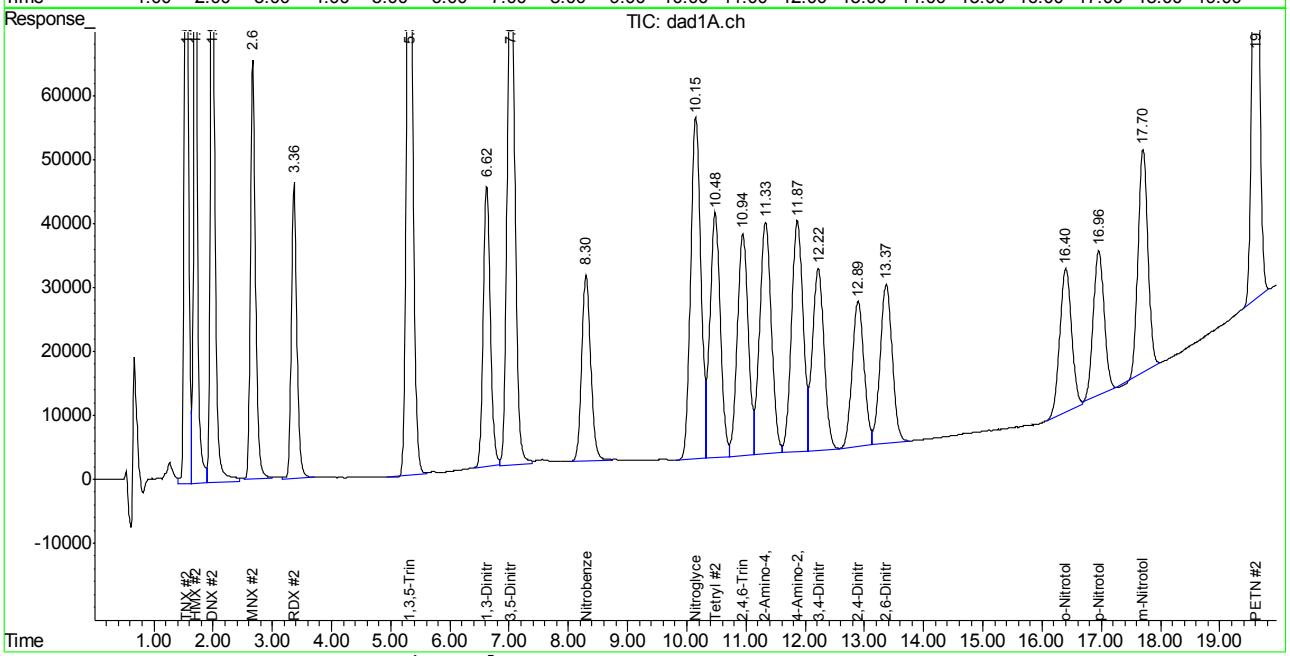
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0720BPL\BB051980.D\dad1B.ch Vial: 26
Signal #2 : C:\HPCHEM\1\DATA\0720BPL\BB051980.D\dad1A.ch
Acq On : 20-Jul-2016, 12:00:14 Operator: kismetl
Sample : ic1481-1000 Inst : G1315B
Misc : op61122,GBB1481,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 20 13:30 2016 Quant Results File: 8330B_0719.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0719.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 20 11:59:04 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA35499

Manual Integration Approval Summary

Sample Number: GBB1481-IC1481
Lab FileID: BB051980.D
Injection Time: 07/20/16 12:00
Method: SW846 8330B
Analyst approved: 07/21/16 08:58 Kismet Lugo
Supervisor approved: 07/25/16 11:57 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
MNX		2	2.67	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	6.62	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	7.03	Poor instrument integration
Nitrobenzene	98-95-3	2	8.30	Poor instrument integration
Tetryl	479-45-8	1	10.48	Poor instrument integration
o-Nitrotoluene	88-72-2	2	16.40	Poor instrument integration
PETN	78-11-5	2	19.61	Poor instrument integration

BB051981.D

Manual Integrations APPROVED (compounds with "m" flag)

Mike Eger 07/25/16 11:57

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0720BPL\BB051981.D\dad1B.ch Vial: 27
Signal #2 : C:\HPCHEM\1\DATA\0720BPL\BB051981.D\dad1A.ch
Acq On : 20-Jul-2016, 12:27:14 Operator: kismetl
Sample : ic1481-2000 Inst : G1315B
Misc : op61122,GBB1481,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 20 12:46:54 2016 Quant Results File: 8330B_0719.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0719.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 20 11:59:04 2016
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	12.24	12.24	4482059	8064212	1966.988	2110.803
	Spiked Amount 500.000	Range 70 - 136		Recovery =		393.40%#	422.16%#
	Target Compounds						
1)	TNX	1.55	1.54	7336964	11365483	2201.720	2053.378
2)	HMX	1.70	1.70	3325516	9121657	4368.311	4571.450
3)	DNX	1.99	1.99	6335146	10227487	2057.571	2030.482
4)	MNX	2.67	2.67	5096884	8061969	1935.900	1993.394
5)	RDX	3.37	3.37	3792805	6153508	1960.803	1990.680
6)	1,3,5-Trinitrobe	5.32	5.32	8216328	16067833	1992.086	2006.232
7)	1,3-Dinitrobenze	6.63	6.63	10957649	7780891	1919.827	1913.660
8)	3,5-Dinitroanili	7.03	7.03	9377119	16111717	1958.158	1956.016
9)	Nitrobenzene	8.31	8.31	6556504	6322520	2052.226	1999.125
10)	Nitroglycerin	0.00	10.16	0	13342403	N.D. d	10175.960
11)	Tetryl	10.49	10.49	5918954	9734608	2310.249m	2332.394
12)	2,4,6-Trinitroto	10.96	10.96	7805266	9489690	1949.488	2154.408
13)	2-Amino-4,6-Dini	11.34	11.34	6947985	10535331	1954.461	2168.797
14)	4-Amino-2,6-Dini	11.88	11.88	5052377	10364602	1935.918	2097.148
16)	2,4-Dinitrotolue	12.91	12.91	9954577	6612076	1987.165	2002.939
17)	2,6-Dinitrotolue	13.38	13.38	5555391	7333805	2038.242	2044.875
18)	o-Nitrotoluene	16.41	16.41	4699696	6466687	1886.896	2148.535m
19)	p-Nitrotoluene	16.97	16.96	7322696	6163300	1960.143	2183.853m
20)	m-Nitrotoluene	17.71	17.71	7079059	8306636	1990.620	2119.478
21)	PETN	0.00	19.61	0	15122659	N.D. d	10196.852m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB051981.D 8330B_0720.M Thu Jul 21 07:39:35 2016 Page 1

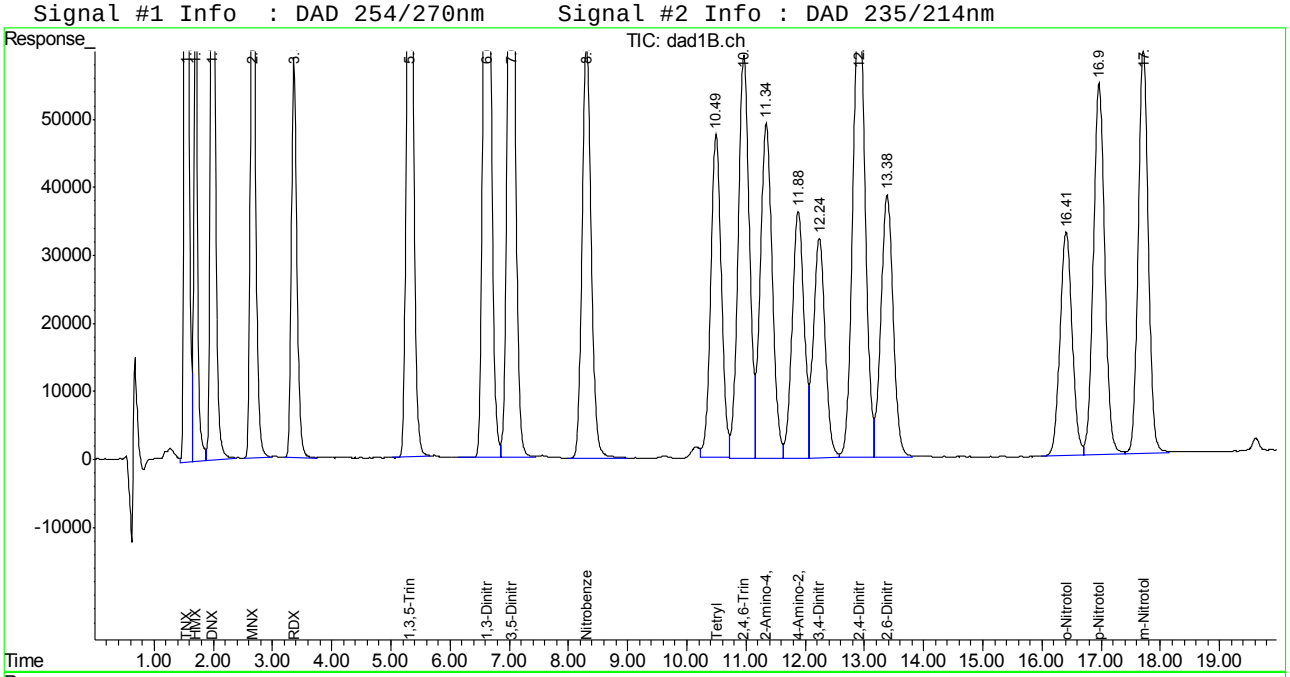
SGS ACCUTEST FA35499

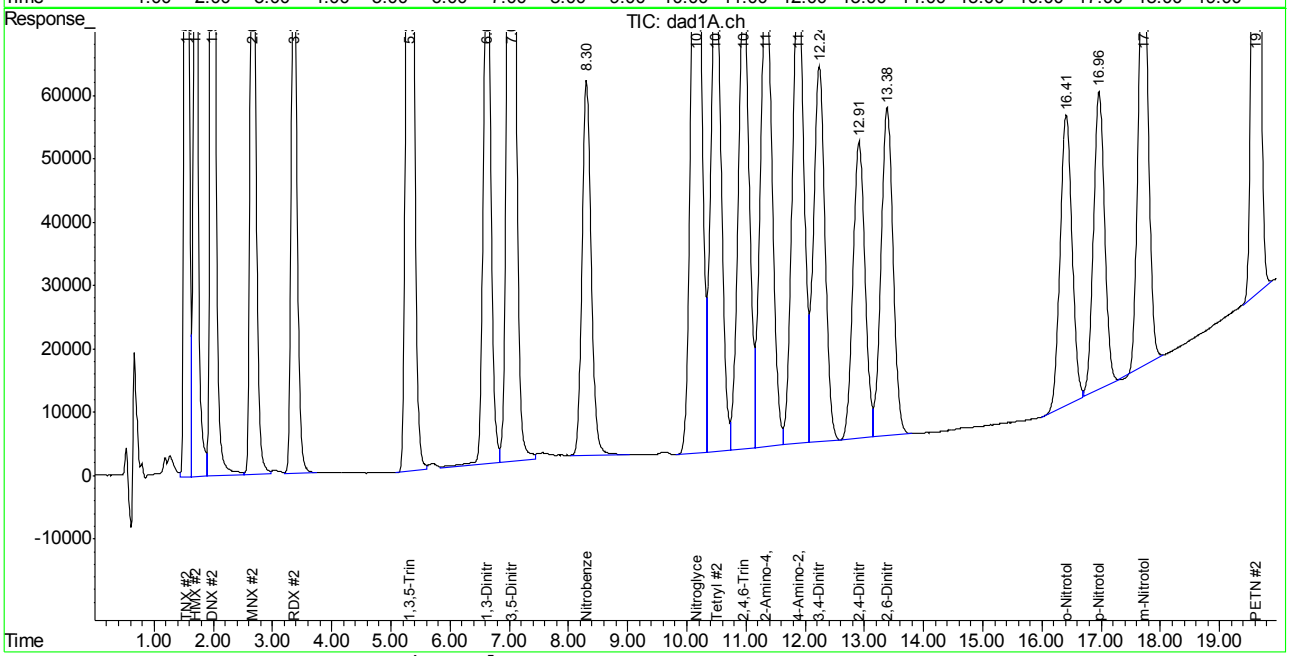
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0720BPL\BB051981.D\dad1B.ch Vial: 27
Signal #2 : C:\HPCHEM\1\DATA\0720BPL\BB051981.D\dad1A.ch
Acq On : 20-Jul-2016, 12:27:14 Operator: kismetl
Sample : ic1481-2000 Inst : G1315B
Misc : op61122,GBB1481,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 20 13:30 2016 Quant Results File: 8330B_0719.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0719.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 20 11:59:04 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA35499

Manual Integration Approval Summary

Sample Number: GBB1481-IC1481
Lab FileID: BB051981.D
Injection Time: 07/20/16 12:27

Method: SW846 8330B
Analyst approved: 07/21/16 08:58 Kismet Lugo
Supervisor approved: 07/25/16 11:57 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
Tetryl	479-45-8	1	10.49	Poor instrument integration
o-Nitrotoluene	88-72-2	2	16.41	Poor instrument integration
p-Nitrotoluene	99-99-0	2	16.96	Poor instrument integration
PETN	78-11-5	2	19.61	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/25/16 11:57

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0720BPL\BB051982.D\dad1B.ch Vial: 28
Signal #2 : C:\HPCHEM\1\DATA\0720BPL\BB051982.D\dad1A.ch
Acq On : 20-Jul-2016, 12:56:26 Operator: kismetl
Sample : icv1481-500 Inst : G1315B
Misc : op61122,GBB1481,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 20 13:32:47 2016 Quant Results File: 8330B_0720.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0720.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 20 13:32:37 2016
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
Spiked Amount	500.000	Range	70 - 136	Recovery	=	0.00%#	0.00%#
	Target Compounds						
1)	TNX	1.54	1.54	1793717	2807218	533.677m	505.903m
2)	HMX	1.71	1.71	905477	2504031	561.845m	570.308m
3)	DNX	1.99	1.99	1530459	2466106	481.552m	482.032m
4)	MNX	2.67	2.67	1272483	2001355	487.819	494.256m
5)	RDX	3.37	3.37	968286	1596527	494.988	520.061m
6)	1,3,5-Trinitrobe	5.33	5.33	2167645	4138528	516.742	519.724
7)	1,3-Dinitrobenze	6.63	6.63	2716671	1886506	486.887	478.394m
8)	3,5-Dinitroanili	7.04	7.04	2339769	3978335	498.647	492.850m
9)	Nitrobenzene	8.32	8.31	1713815	1661417	511.186	517.742m
10)	Nitroglycerin	0.00	10.19	0	3426746	N.D. d	2588.232
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
12)	2,4,6-Trinitroto	10.97	10.97	1642540	2080617	431.673	507.239
13)	2-Amino-4,6-Dini	11.36	11.36	1849128	2768915	528.931	563.810
14)	4-Amino-2,6-Dini	11.90	11.90	1379769	2758693	521.741	570.838
16)	2,4-Dinitrotolue	12.92	12.92	2578197	1804104	509.280	567.405
17)	2,6-Dinitrotolue	13.39	13.40	1467287	2023715	512.331	547.990
18)	o-Nitrotoluene	16.41	16.41	1280692	1707005	510.114	570.994m
19)	p-Nitrotoluene	16.96	16.96	1939928	1538719	507.723	533.323
20)	m-Nitrotoluene	17.70	17.70	1843229	2124275	508.561	524.287m
21)	PETN	0.00	19.60	0	3959893	N.D. d	2708.105m

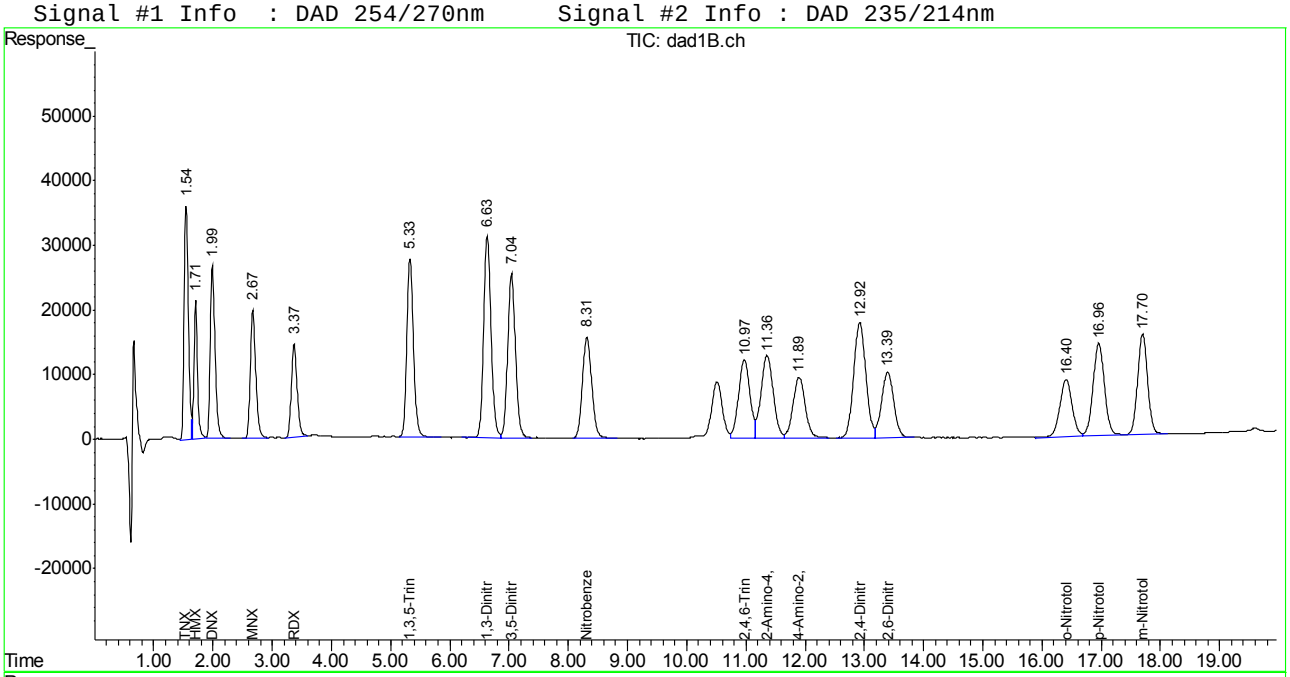
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB051982.D 8330B_0720.M Thu Jul 21 07:39:51 2016 Page 1

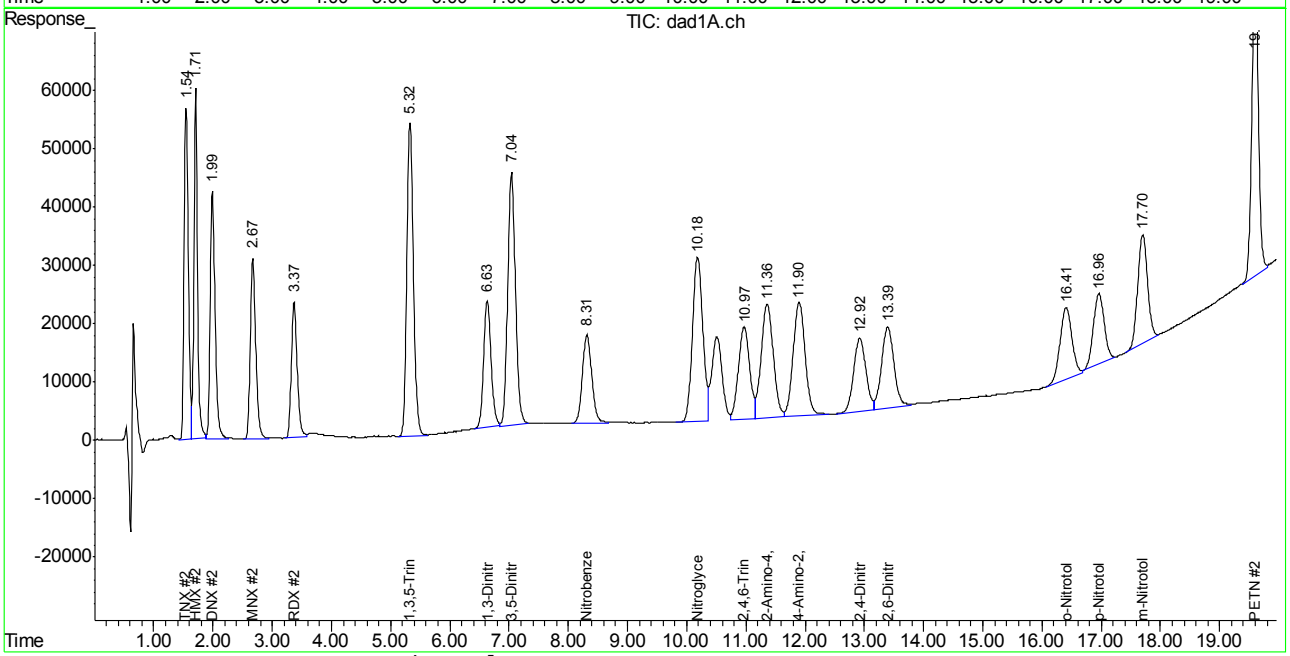
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0720BPL\BB051982.D\dad1B.ch Vial: 28
Signal #2 : C:\HPCHEM\1\DATA\0720BPL\BB051982.D\dad1A.ch
Acq On : 20-Jul-2016, 12:56:26 Operator: kismetl
Sample : icv1481-500 Inst : G1315B
Misc : op61122,GBB1481,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 21 6:26 2016 Quant Results File: 8330B_0720.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0720.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 20 13:32:37 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





Manual Integration Approval Summary

Sample Number: GBB1481-ICV1481 **Method:** SW846 8330B
Lab FileID: BB051982.D **Analyst approved:** 07/21/16 08:58 Kismet Lugo
Injection Time: 07/20/16 12:56 **Supervisor approved:** 07/25/16 11:57 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	1.54	Poor instrument integration
TNX		2	1.54	Poor instrument integration
HMX	2691-41-0	1	1.71	Poor instrument integration
HMX	2691-41-0	2	1.71	Poor instrument integration
DNX		1	1.99	Poor instrument integration
DNX		2	1.99	Poor instrument integration
MNX		2	2.67	Poor instrument integration
RDX	121-82-4	2	3.37	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	6.63	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	7.04	Poor instrument integration
Nitrobenzene	98-95-3	2	8.31	Poor instrument integration
o-Nitrotoluene	88-72-2	2	16.41	Poor instrument integration
m-Nitrotoluene	99-08-1	2	17.70	Poor instrument integration
PETN	78-11-5	2	19.60	Poor instrument integration

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0720BPL\BB051983.D\dad1B.ch Vial: 31
Signal #2 : C:\HPCHEM\1\DATA\0720BPL\BB051983.D\dad1A.ch
Acq On : 20-Jul-2016, 13:38:10 Operator: kismetl
Sample : icv1481-500,tryl Inst : G1315B
Misc : op61122,GBB1481,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 20 14:07:14 2016 Quant Results File: 8330B_0720.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0720.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 20 13:32:37 2016
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
Spiked Amount	500.000	Range	70 - 136	Recovery	=	0.00%#	0.00%#
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	0.00	0.00	0	0	N.D. d	N.D. d
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	RDX	0.00	0.00	0	0	N.D. d	N.D. d
6)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D. d	N.D. d
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
9)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
10)	Nitroglycerin	0.00	0.00	0	0	N.D. d	N.D. d
11)	Tetryl	10.49	10.49	1486411	2357898	513.606	496.866
12)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D. d	N.D. d
13)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
14)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
16)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
17)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
18)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
19)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB051983.D 8330B_0720.M Thu Jul 21 09:27:09 2016 Page 1

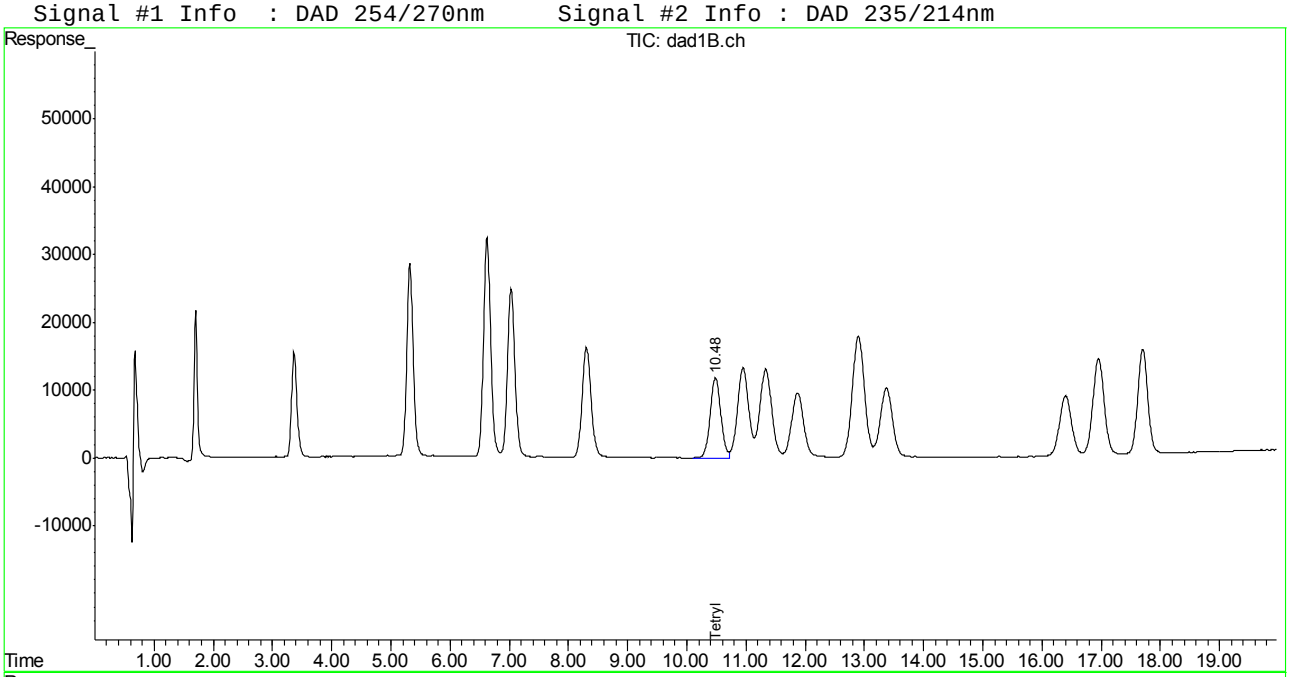
SGS ACCUTEST FA35499

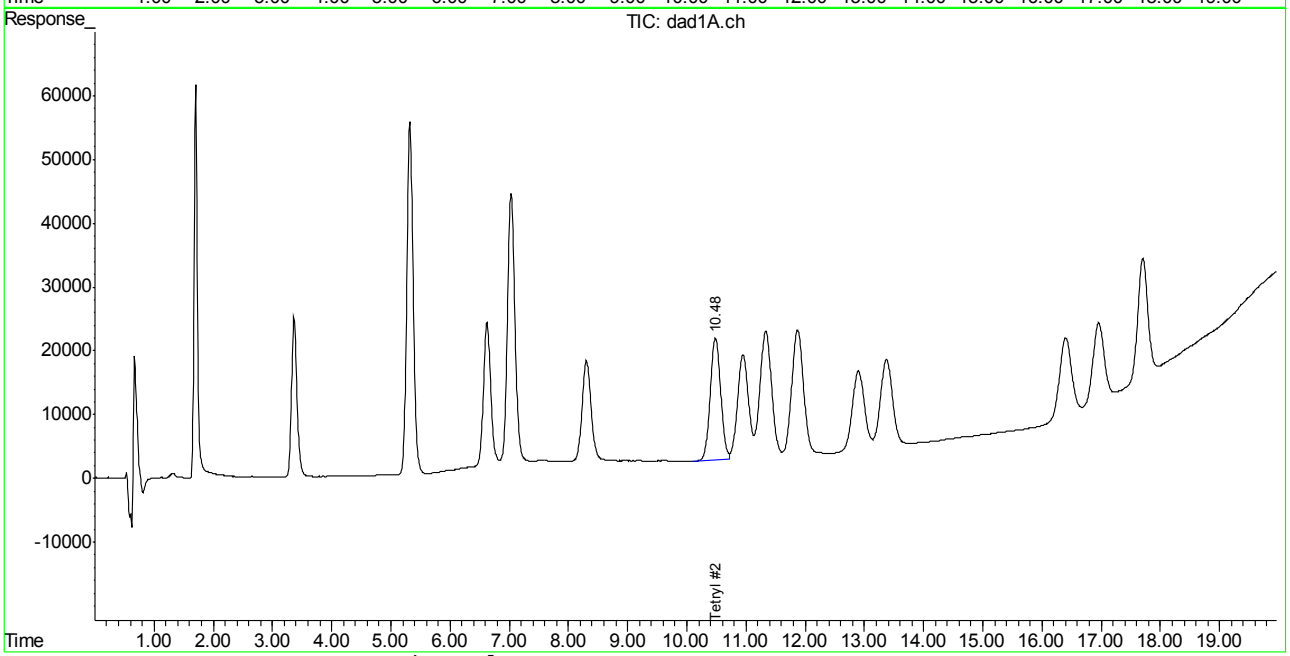
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0720BPL\BB051983.D\dad1B.ch Vial: 31
Signal #2 : C:\HPCHEM\1\DATA\0720BPL\BB051983.D\dad1A.ch
Acq On : 20-Jul-2016, 13:38:10 Operator: kismetl
Sample : icv1481-500,tryl Inst : G1315B
Misc : op61122,GBB1481,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 20 14:07 2016 Quant Results File: 8330B_0720.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0720.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Wed Jul 20 13:32:37 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA35499

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/25/16 11:57

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0722BPL\BB052028.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0722BPL\BB052028.D\dad1A.ch
Acq On : 22-Jul-2016, 12:40:50 Operator: kismetl
Sample : cc1481-1000 Inst : G1315B
Misc : op61173,GBB1483,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 25 07:43:02 2016 Quant Results File: 8330B_0720.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0720.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 25 07:42:42 2016
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	12.53	12.53	2182292	4069171	901.742	1011.580
	Spiked Amount 500.000	Range 70 - 136		Recovery =		180.35%#	202.32%#
	Target Compounds						
1)	TNX	1.58	1.58	3561386	5585356	1059.605m	1006.564m
2)	HMX	1.74	1.74	1584111	4389903	982.934m	988.629m
3)	DNX	2.03	2.03	3121594	4932910	982.196m	964.200m
4)	MNX	2.73	2.73	2544621	3947808	975.507m	974.954m
5)	RDX	3.45	3.45	1872896	3012842	957.426	981.418
6)	1,3,5-Trinitrobe	5.45	5.45	4051018	7660417	965.716	962.009m
7)	1,3-Dinitrobenze	6.77	6.77	5382961	3720822	964.745	943.554m
8)	3,5-Dinitroanili	7.18	7.18	4604980	7766331	981.404	962.120m
9)	Nitrobenzene	8.49	8.49	3223690	3060844	961.542	953.841m
10)	Nitroglycerin	0.00	10.39	0	6594701	N.D. d	4980.999m
11)	Tetryl	10.75	10.75	2984397	4904203	1031.211	1033.435m
12)	2,4,6-Trinitroto	11.23	11.23	3821630	4768108	1004.357	1162.431
13)	2-Amino-4,6-Dini	11.61	11.61	3396032	5279564	971.412	1049.248
14)	4-Amino-2,6-Dini	12.16	12.16	2478748	5192365	937.304	1074.422
16)	2,4-Dinitrotolue	13.20	13.20	4848713	3315216	957.782	1042.662
17)	2,6-Dinitrotolue	13.67	13.67	2687440	3659935	938.371	991.052
18)	o-Nitrotoluene	16.69	16.69	2315333	3190212	922.222	1067.127m
19)	p-Nitrotoluene	17.22	17.23	3602796	2917409	942.933	1011.180
20)	m-Nitrotoluene	17.94	17.94	3476218	4026533	959.116	993.779
21)	PETN	0.00	19.77	0	7417889	N.D. d	5072.972m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB052028.D 8330B_0720.M Mon Jul 25 08:55:14 2016 Page 1

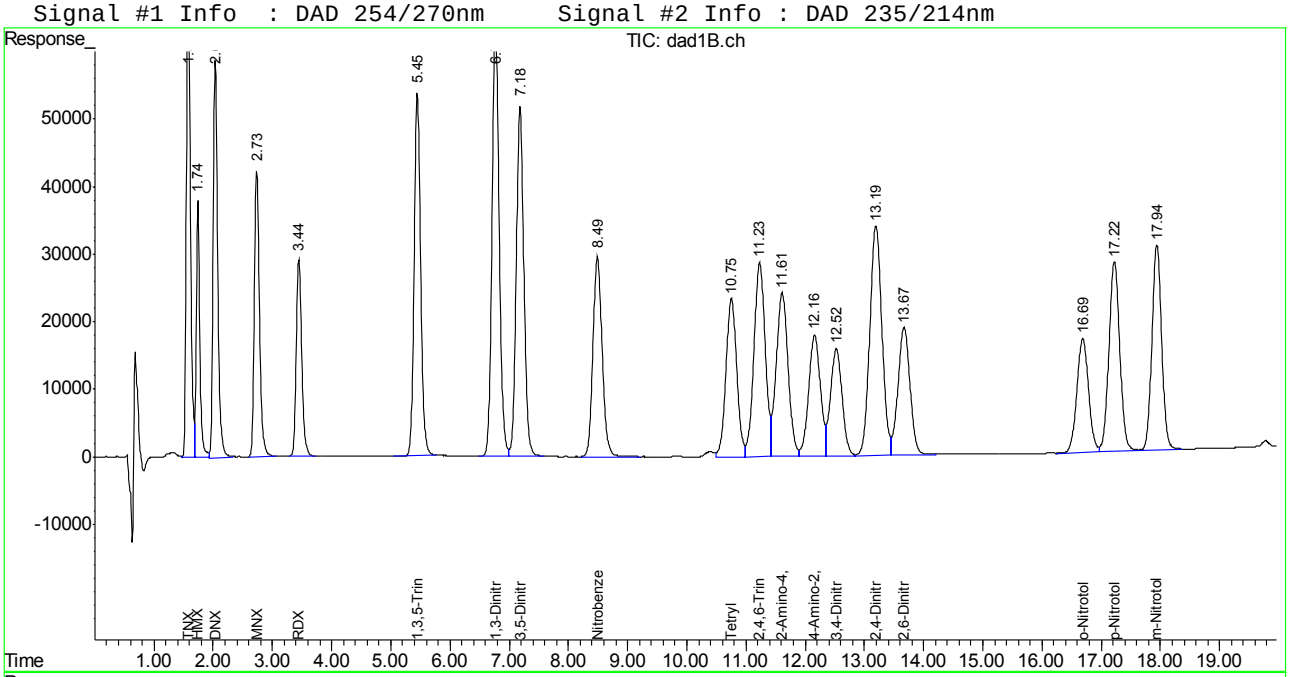
SGS ACCUTEST FA35499

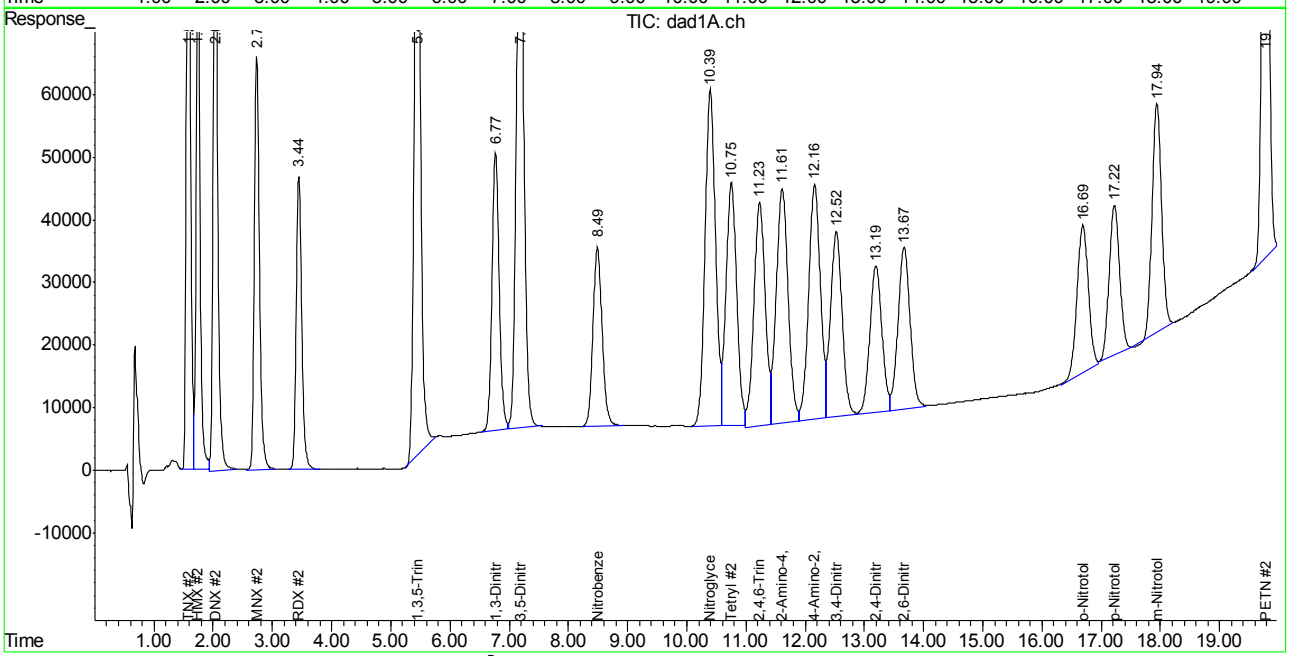
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0722BPL\BB052028.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0722BPL\BB052028.D\dad1A.ch
Acq On : 22-Jul-2016, 12:40:50 Operator: kismetl
Sample : cc1481-1000 Inst : G1315B
Misc : op61173,GBB1483,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 25 7:50 2016 Quant Results File: 8330B_0720.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0720.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 25 07:42:42 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA35499

Manual Integration Approval Summary

Sample Number: GBB1483-CC1481
Lab FileID: BB052028.D
Injection Time: 07/22/16 12:40
Method: SW846 8330A
Analyst approved: 07/25/16 09:15 Kismet Lugo
Supervisor approved: 07/25/16 11:57 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	1.58	Poor instrument integration
TNX		2	1.58	Poor instrument integration
HMX	2691-41-0	1	1.74	Poor instrument integration
HMX	2691-41-0	2	1.74	Poor instrument integration
DNX		1	2.03	Poor instrument integration
DNX		2	2.03	Poor instrument integration
MNX		1	2.73	Poor instrument integration
MNX		2	2.73	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	2	5.45	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	6.77	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	7.18	Poor instrument integration
Nitrobenzene	98-95-3	2	8.49	Poor instrument integration
Nitroglycerine	55-63-0	2	10.39	Poor instrument integration
Tetryl	479-45-8	2	10.75	Poor instrument integration
o-Nitrotoluene	88-72-2	2	16.69	Poor instrument integration
PETN	78-11-5	2	19.77	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/25/16 11:57

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0722BPL\BB052038.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0722BPL\BB052038.D\dad1A.ch
Acq On : 22-Jul-2016, 17:13:47 Operator: kismetl
Sample : ecc1481-1000 Inst : G1315B
Misc : op61173,GBB1483,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 25 07:43:12 2016 Quant Results File: 8330B_0720.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0720.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 25 07:42:42 2016
Response via : Initial Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
15) S	3,4-Dinitrotolue	12.41	12.41	2156742	3831210	891.184	952.424
Spiked Amount	500.000	Range	70 - 136	Recovery	=	178.24%#	190.48%#
	Target Compounds						
1)	TNX	1.56	1.56	3515212	5474462	1045.867m	986.580m
2)	HMX	1.73	1.73	1543874	4316242	957.968m	972.461m
3)	DNX	2.02	2.02	3042339	4862394	957.258m	950.417m
4)	MNX	2.71	2.71	2503163	3915365	959.613m	966.942m
5)	RDX	3.42	3.42	1836827	2995308	938.987	975.707
6)	1,3,5-Trinitrobe	5.41	5.40	3991944	7661067	951.633	962.090m
7)	1,3-Dinitrobenze	6.72	6.72	5306808	3705172	951.097	939.585m
8)	3,5-Dinitroanili	7.13	7.12	4537629	7718096	967.050	956.145m
9)	Nitrobenzene	8.43	8.43	3205750	3075798	956.191	958.501
10)	Nitroglycerin	0.00	10.31	0	6466078	N.D. d	4883.849
11)	Tetryl	10.65	10.65	2936832	4674464	1014.776	985.023
12)	2,4,6-Trinitroto	11.13	11.13	3780910	4487343	993.655	1093.982
13)	2-Amino-4,6-Dini	11.50	11.50	3325719	4938541	951.300	984.618
14)	4-Amino-2,6-Dini	12.05	12.05	2470610	4962646	934.227	1026.888
16)	2,4-Dinitrotolue	13.08	13.08	4825496	3181587	953.196	1000.634
17)	2,6-Dinitrotolue	13.56	13.56	2689163	3528693	938.973	955.514
18)	o-Nitrotoluene	16.59	16.58	2313964	3119444	921.677	1043.455m
19)	p-Nitrotoluene	17.13	17.13	3573186	2882092	935.183	998.939
20)	m-Nitrotoluene	17.86	17.86	3451749	3996599	952.365	986.391
21)	PETN	0.00	19.72	0	7194447	N.D. d	4920.164m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
BB052038.D 8330B_0720.M Mon Jul 25 08:55:24 2016 Page 1

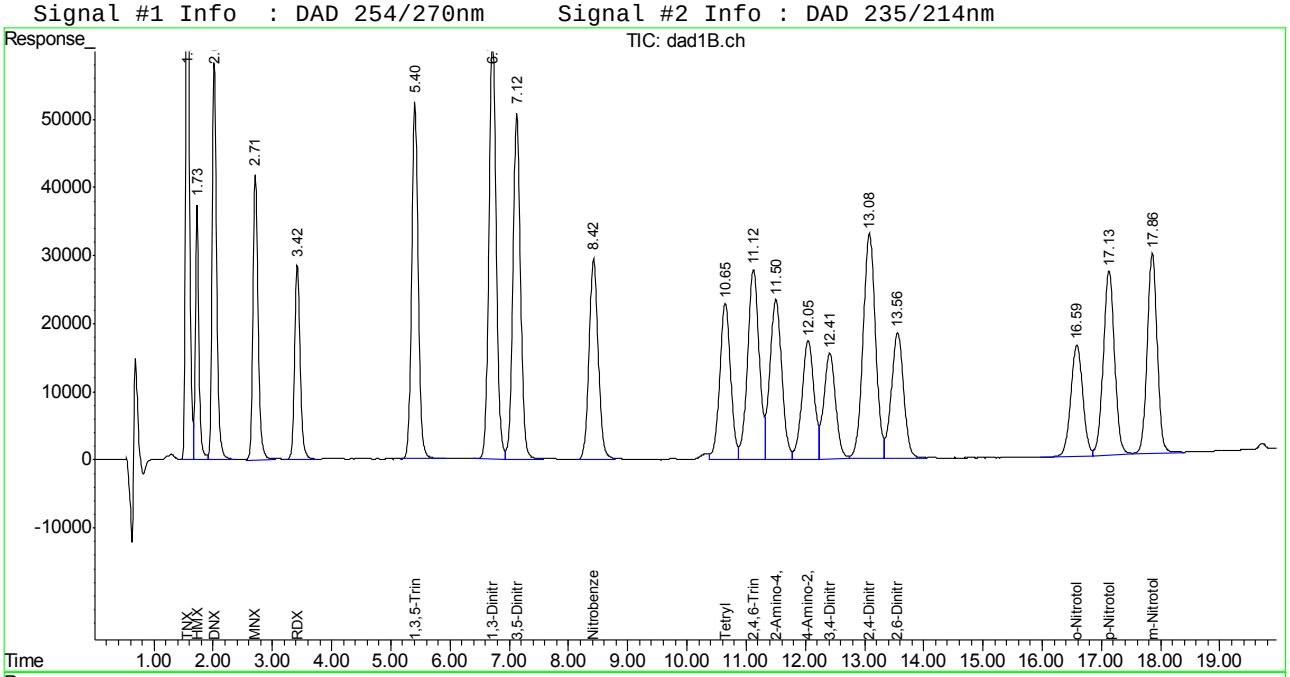
SGS ACCUTEST FA35499

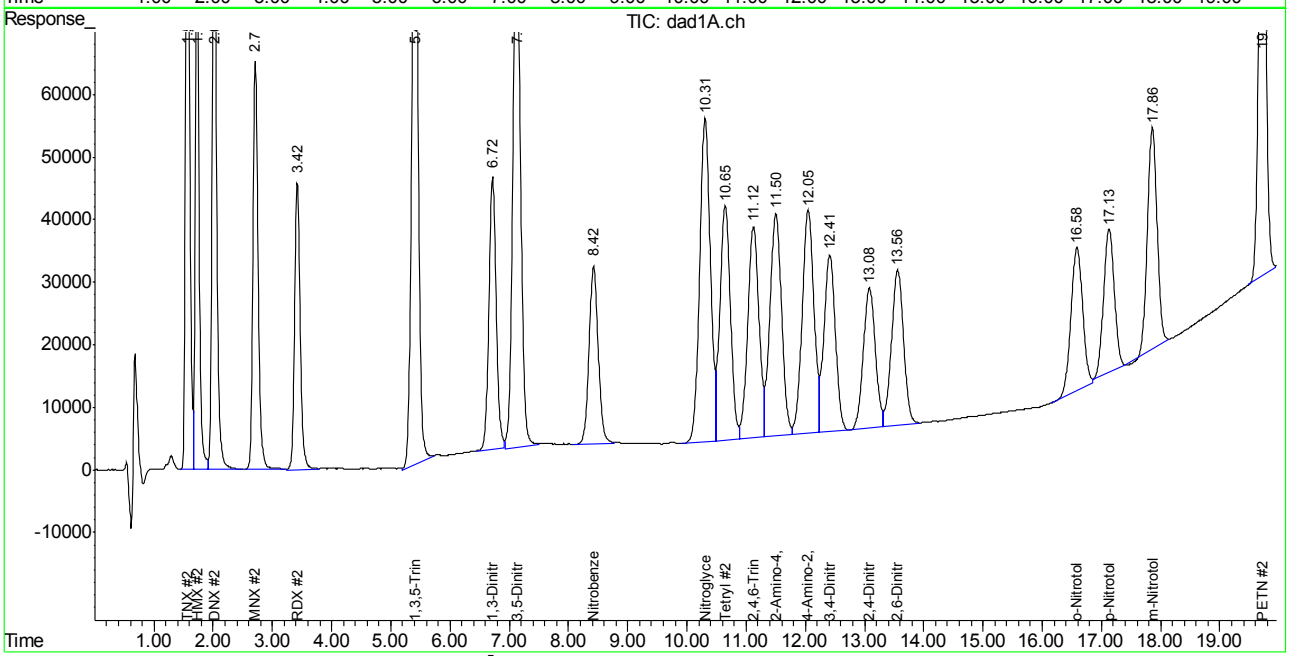
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\0722BPL\BB052038.D\dad1B.ch Vial: 2
Signal #2 : C:\HPCHEM\1\DATA\0722BPL\BB052038.D\dad1A.ch
Acq On : 22-Jul-2016, 17:13:47 Operator: kismetl
Sample : ecc1481-1000 Inst : G1315B
Misc : op61173,GBB1483,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e
Quant Time: Jul 25 7:52 2016 Quant Results File: 8330B_0720.RES

Quant Method : D:\MSDCHEM\1\METHODS\8330B_0720.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 25 07:42:42 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330B.M

Volume Inj. : 100ul
Signal #1 Phase : Extend C-18 Signal #2 Phase: Extend C-18
Signal #1 Info : DAD 254/270nm Signal #2 Info : DAD 235/214nm





SGS ACCUTEST FA35499

Manual Integration Approval Summary

Sample Number: GBB1483-ECC1481 **Method:** SW846 8330A
Lab FileID: BB052038.D **Analyst approved:** 07/25/16 09:15 Kismet Lugo
Injection Time: 07/22/16 17:13 **Supervisor approved:** 07/25/16 11:57 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	1.56	Poor instrument integration
TNX		2	1.56	Poor instrument integration
HMX	2691-41-0	1	1.73	Poor instrument integration
HMX	2691-41-0	2	1.73	Poor instrument integration
DNX		1	2.02	Poor instrument integration
DNX		2	2.02	Poor instrument integration
MNX		1	2.71	Poor instrument integration
MNX		2	2.71	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	2	5.40	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	6.72	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	7.12	Poor instrument integration
o-Nitrotoluene	88-72-2	2	16.58	Poor instrument integration
PETN	78-11-5	2	19.72	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/25/16 11:58

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0721RPB3\GG059705.D\dad1B.ch Vial: 3
Signal #2 : G:\DATA\0721RPB3\GG059705.D\dad1A.ch
Acq On : 21-Jul-2016, 10:13:37 Operator: kismetl
Sample : ic2442-20 Inst : G1315B
Misc : OP61122,GGG2442,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 21 12:56:42 2016 Quant Results File: 8330RPB.M_0707.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0707.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jul 21 12:56:27 2016
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	19.36	19.38	98994	156015	21.696m	17.400m
	Spiked Amount 500.000	Range 70 - 136		Recovery =		4.34%#	3.48%#
	Target Compounds						
1)	TNX	6.74	6.74	162392	272704	19.858m	21.623m
2)	HMX	7.55	7.56	53195	96177	18.607	12.282m
3)	DNX	7.84	7.84	138328	140811	18.614	12.243m
4)	MNX	9.60	9.60	110649	156691	20.046	18.096
5)	1,3,5-Trinitrobe	10.55	10.55	170518	280291	18.484	17.337m
6)	RDX	11.41	11.41	77685	171582	18.138	21.286m
7)	1,3-Dinitrobenze	13.84	13.84	230174	166009	18.532	18.168m
8)	Nitrobenzene	15.12	15.12	151875	136160	18.866	18.580m
9)	2,4,6-Trinitroto	16.01	16.02	167920	198018	19.305	17.789m
10)	Nitroglycerin	0.00	16.86	0	285254	N.D.	92.381m#
11)	Tetryl	17.83	17.83	131507	235466	22.784	22.880m
13)	2,6-Dinitrotolue	19.65	19.67	106801	151311	16.775m	17.154m
14)	2,4-Dinitrotolue	20.39	20.42	211726	184563	18.454m	22.383m
15)	o-Nitrotoluene	22.22	22.35	94191	93873	18.403	12.936m
16)	3,5-Dinitroanili	21.68	21.67	194324	280693	17.904	16.158m
17)	p-Nitrotoluene	23.39	23.48	81655	116242	19.129m	16.788m
18)	4-Amino-2,6-Dini	23.66	23.71	115378	245239	18.028m	19.363m
19)	m-Nitrotoluene	24.68	24.72	116529	148419	20.456	16.254m
20)	2-Amino-4,6-Dini	25.82	25.87	169755	236316	19.525	19.573m
21)	PETN	0.00	26.73	0	345212	N.D. d	289.130m

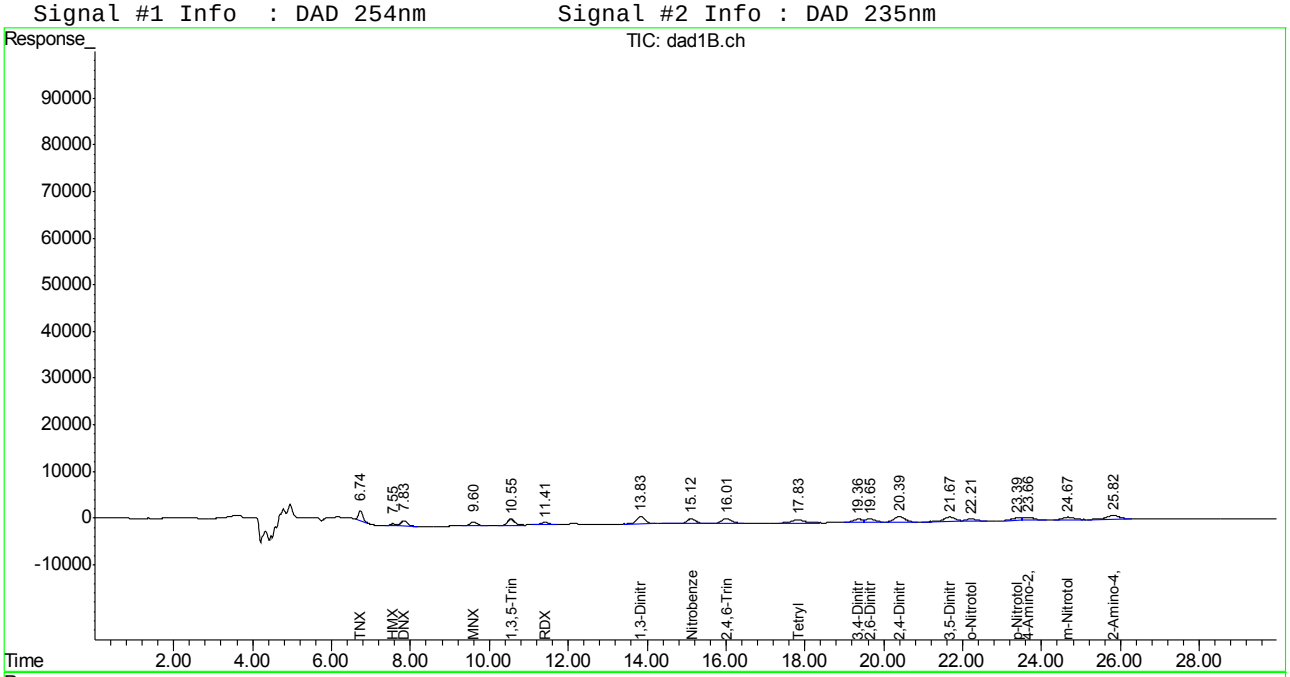
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG059705.D 8330RPB.M_0721.M Fri Jul 22 08:57:34 2016 Page 1

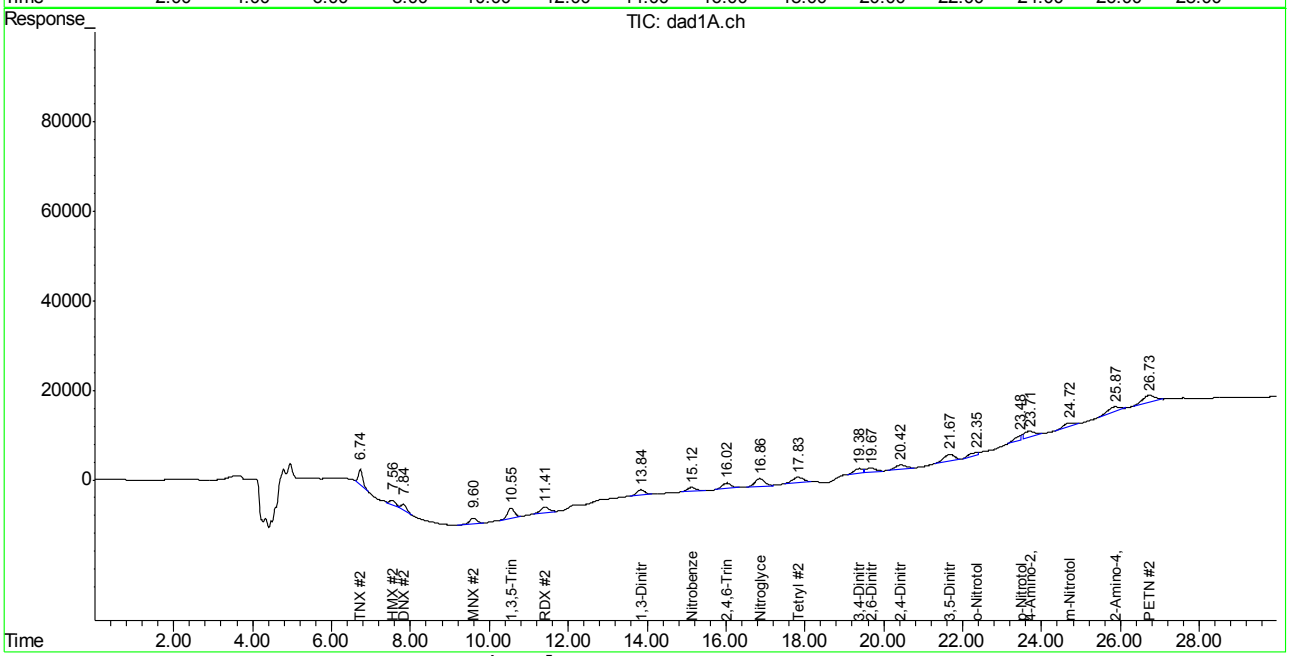
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0721RPB3\GG059705.D\dad1B.ch Vial: 3
Signal #2 : G:\DATA\0721RPB3\GG059705.D\dad1A.ch
Acq On : 21-Jul-2016, 10:13:37 Operator: kismetl
Sample : ic2442-20 Inst : G1315B
Misc : OP61122,GGG2442,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 21 13:06 2016 Quant Results File: 8330RPB.M_0707.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0707.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jul 21 12:56:27 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





SGS ACCUTEST FA35499

Manual Integration Approval Summary

Sample Number: GGG2442-IC2442
Lab FileID: GG059705.D
Injection Time: 07/21/16 10:13
Method: SW846 8330B
Analyst approved: 07/22/16 10:57 Kismet Lugo
Supervisor approved: 07/25/16 11:58 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	6.74	Poor instrument integration
TNX		2	6.74	Poor instrument integration
HMX	2691-41-0	2	7.56	Poor instrument integration
DNX		2	7.84	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	2	10.55	Poor instrument integration
RDX	121-82-4	2	11.41	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	13.84	Poor instrument integration
Nitrobenzene	98-95-3	2	15.12	Poor instrument integration
2,4,6-Trinitrotoluene	118-96-7	2	16.02	Poor instrument integration
Nitroglycerine	55-63-0	2	16.86	Poor instrument integration
Tetryl	479-45-8	2	17.83	Poor instrument integration
3,4-Dinitrotoluene	610-39-9	1	19.36	Poor instrument integration
3,4-Dinitrotoluene	610-39-9	2	19.38	Poor instrument integration
2,6-Dinitrotoluene	606-20-2	1	19.65	Poor instrument integration
2,6-Dinitrotoluene	606-20-2	2	19.67	Poor instrument integration
2,4-Dinitrotoluene	121-14-2	1	20.39	Poor instrument integration
2,4-Dinitrotoluene	121-14-2	2	20.42	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	21.67	Poor instrument integration
o-Nitrotoluene	88-72-2	2	22.35	Poor instrument integration
p-Nitrotoluene	99-99-0	1	23.39	Poor instrument integration
p-Nitrotoluene	99-99-0	2	23.48	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	1	23.66	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	2	23.71	Poor instrument integration
m-Nitrotoluene	99-08-1	2	24.72	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	25.87	Poor instrument integration
PETN	78-11-5	2	26.73	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/25/16 11:58

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0721RPB3\GG059706.D\dad1B.ch Vial: 4
Signal #2 : G:\DATA\0721RPB3\GG059706.D\dad1A.ch
Acq On : 21-Jul-2016, 10:45:41 Operator: kismetl
Sample : ic2442-50 Inst : G1315B
Misc : OP61122,GGG2442,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 21 12:56:43 2016 Quant Results File: 8330RPB.M_0707.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0707.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jul 21 12:56:27 2016
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	19.37	19.37	265194	506257	58.122	56.461m
Spiked Amount	500.000	Range	70 - 136	Recovery	=	11.62%#	11.29%#
	Target Compounds						
1)	TNX	6.74	6.74	415022	684967	50.751m	54.311m
2)	HMX	7.56	7.56	151418	416585	52.964	53.187
3)	DNX	7.84	7.84	385955	517216	51.935	44.972m
4)	MNX	9.60	9.60	298971	429510	54.165	49.602
5)	1,3,5-Trinitrobe	10.55	10.55	464286	813613	50.329	50.326m
6)	RDX	11.41	11.42	211551	378129	49.392	46.910m
7)	1,3-Dinitrobenze	13.85	13.85	646917	497657	52.086	54.465m
8)	Nitrobenzene	15.13	15.14	431872	529399	53.649	72.241m
9)	2,4,6-Trinitroto	16.02	16.02	444285	510221	51.078	45.836m
10)	Nitroglycerin	0.00	16.87	0	739037	N.D. d	239.341m
11)	Tetryl	17.84	17.84	325473	565401	56.313	54.891
13)	2,6-Dinitrotolue	19.66	19.66	325131	474389	51.066	53.780
14)	2,4-Dinitrotolue	20.40	20.41	592215	430404	51.617	52.211
15)	o-Nitrotoluene	22.20	22.22	261644	314518	51.120	43.342
16)	3,5-Dinitroanili	21.67	21.67	546643	840582	50.364	48.388m
17)	p-Nitrotoluene	23.38	23.46	222717	355080	52.174m	51.316m
18)	4-Amino-2,6-Dini	23.66	23.68	315757	614476	49.338m	48.517m
19)	m-Nitrotoluene	24.68	24.69	295663	451699	51.902	49.467
20)	2-Amino-4,6-Dini	25.81	25.82	427173	590596	49.132	48.918m
21)	PETN	0.00	26.72	0	769991	N.D. d	644.318m

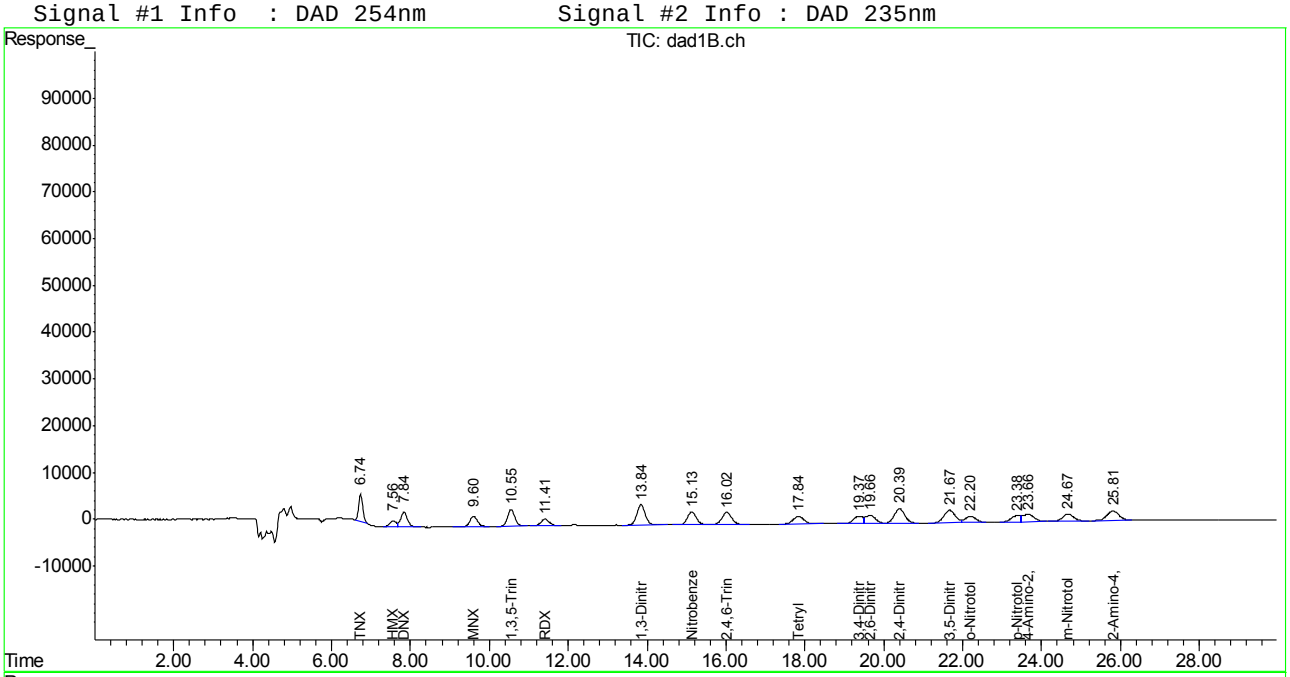
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG059706.D 8330RPB.M_0721.M Fri Jul 22 08:57:35 2016 Page 1

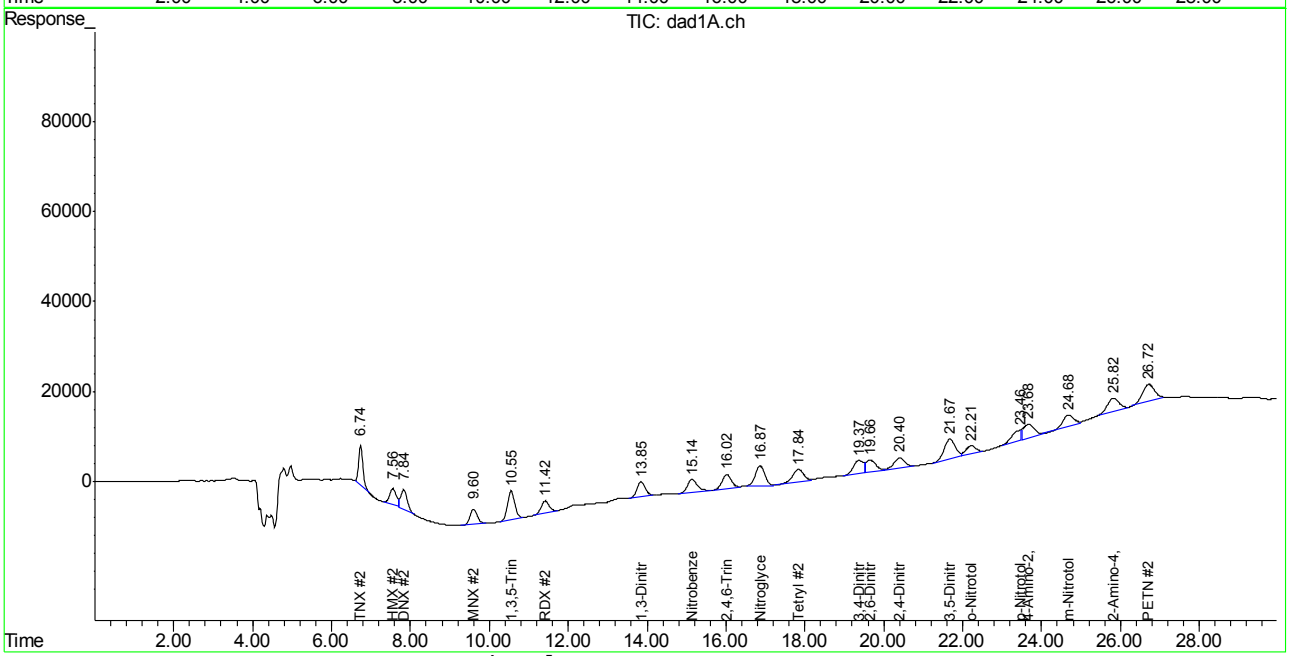
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0721RPB3\GG059706.D\dad1B.ch Vial: 4
Signal #2 : G:\DATA\0721RPB3\GG059706.D\dad1A.ch
Acq On : 21-Jul-2016, 10:45:41 Operator: kismetl
Sample : ic2442-50 Inst : G1315B
Misc : OP61122,GGG2442,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 21 13:11 2016 Quant Results File: 8330RPB.M_0707.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0707.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jul 21 12:56:27 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





SGS ACCUTEST FA35499

Manual Integration Approval Summary

Sample Number: GGG2442-IC2442
Lab FileID: GG059706.D
Injection Time: 07/21/16 10:45
Method: SW846 8330B
Analyst approved: 07/22/16 10:57 Kismet Lugo
Supervisor approved: 07/25/16 11:58 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	6.74	Poor instrument integration
TNX		2	6.74	Poor instrument integration
DNX		2	7.84	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	2	10.55	Split peak
RDX	121-82-4	2	11.42	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	13.85	Poor instrument integration
Nitrobenzene	98-95-3	2	15.14	Poor instrument integration
2,4,6-Trinitrotoluene	118-96-7	2	16.02	Poor instrument integration
Nitroglycerine	55-63-0	2	16.87	Poor instrument integration
3,4-Dinitrotoluene	610-39-9	2	19.37	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	21.67	Poor instrument integration
p-Nitrotoluene	99-99-0	1	23.38	Missed peak
p-Nitrotoluene	99-99-0	2	23.46	Overlapping peak
4-amino-2,6-Dinitrotoluene	19406-51-0	1	23.66	Overlapping peak
4-amino-2,6-Dinitrotoluene	19406-51-0	2	23.68	Overlapping peak
2-amino-4,6-Dinitrotoluene	35572-78-2	2	25.82	Poor instrument integration
PETN	78-11-5	2	26.72	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/25/16 11:58

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0721RPB3\GG059707.D\dad1B.ch Vial: 5
Signal #2 : G:\DATA\0721RPB3\GG059707.D\dad1A.ch
Acq On : 21-Jul-2016, 11:17:48 Operator: kismetl
Sample : ic2442-100 Inst : G1315B
Misc : OP61122,GGG2442,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 21 12:56:44 2016 Quant Results File: 8330RPB.M_0707.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0707.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jul 21 12:56:27 2016
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	19.36	19.36	488905	1088861	107.152	121.436
	Spiked Amount 500.000	Range 70 - 136		Recovery =		21.43%#	24.29%#
	Target Compounds						
1)	TNX	6.73	6.73	818605	1262052	100.102m	100.068m
2)	HMX	7.55	7.55	285156	848767	99.744	108.331
3)	DNX	7.84	7.83	726446	1010578	97.753	87.869m
4)	MNX	9.60	9.59	548128	845416	99.305	97.633
5)	1,3,5-Trinitrobe	10.55	10.55	870323	1602323	94.344	99.111m
6)	RDX	11.41	11.41	402810	796774	94.046	98.847m
7)	1,3-Dinitrobenze	13.84	13.83	1187796	773105	95.634	84.610m
8)	Nitrobenzene	15.12	15.12	781492	803442	97.080	109.637m
9)	2,4,6-Trinitroto	16.02	16.02	817017	1157015	93.930	103.942
10)	Nitroglycerin	0.00	16.86	0	1733031	N.D.	561.250 #
11)	Tetryl	17.82	17.82	631523	1183961	109.037	114.749m
13)	2,6-Dinitrotolue	19.66	19.65	610968	936441	95.961	106.162
14)	2,4-Dinitrotolue	20.40	20.40	1115997	936388	97.269	113.652
15)	o-Nitrotoluene	22.20	22.20	501419	735904	97.968	101.410
16)	3,5-Dinitroanili	21.68	21.67	1027367	1610462	94.656	92.706m
17)	p-Nitrotoluene	23.39	23.45	406179	641356	95.153	92.767m
18)	4-Amino-2,6-Dini	23.66	23.67	613793	1170579	95.907	92.425m
19)	m-Nitrotoluene	24.68	24.69	560471	801041	98.387	87.724m
20)	2-Amino-4,6-Dini	25.82	25.82	791365	1115126	91.020	92.363m
21)	PETN	0.00	26.73	0	1589937	N.D. d	1328.125m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG059707.D 8330RPB.M_0721.M Fri Jul 22 08:57:36 2016 Page 1

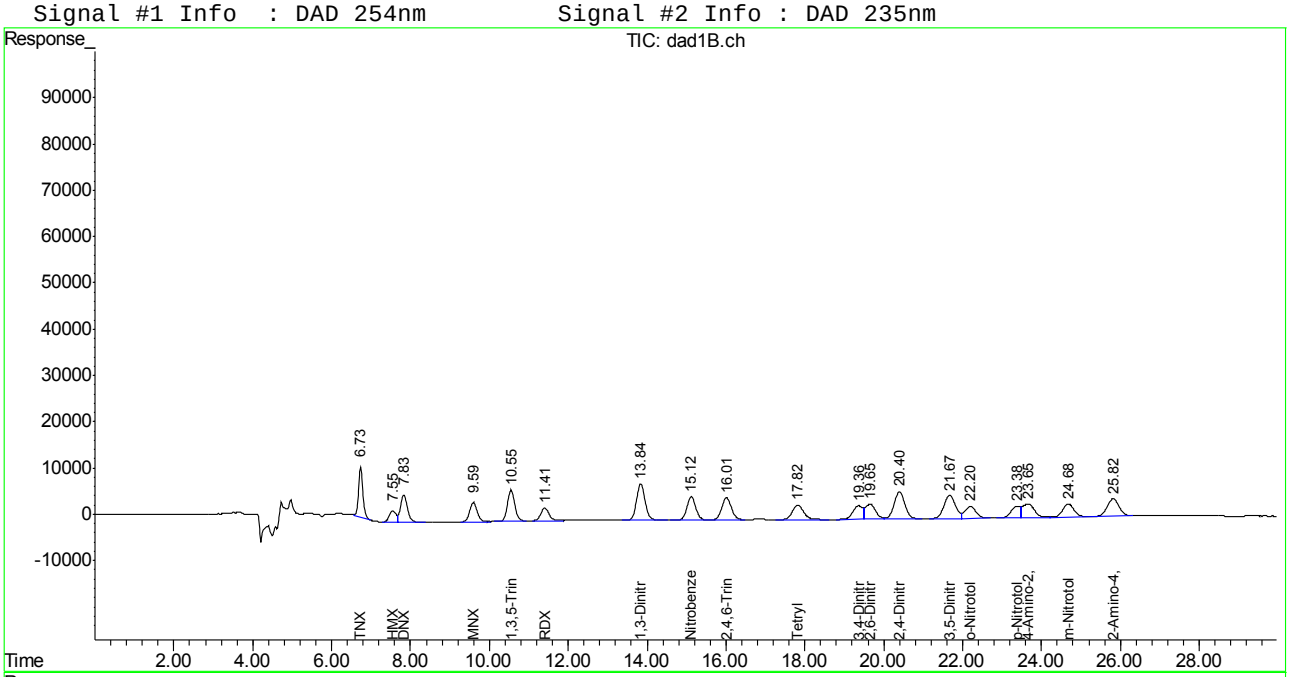
SGS ACCUTEST FA35499

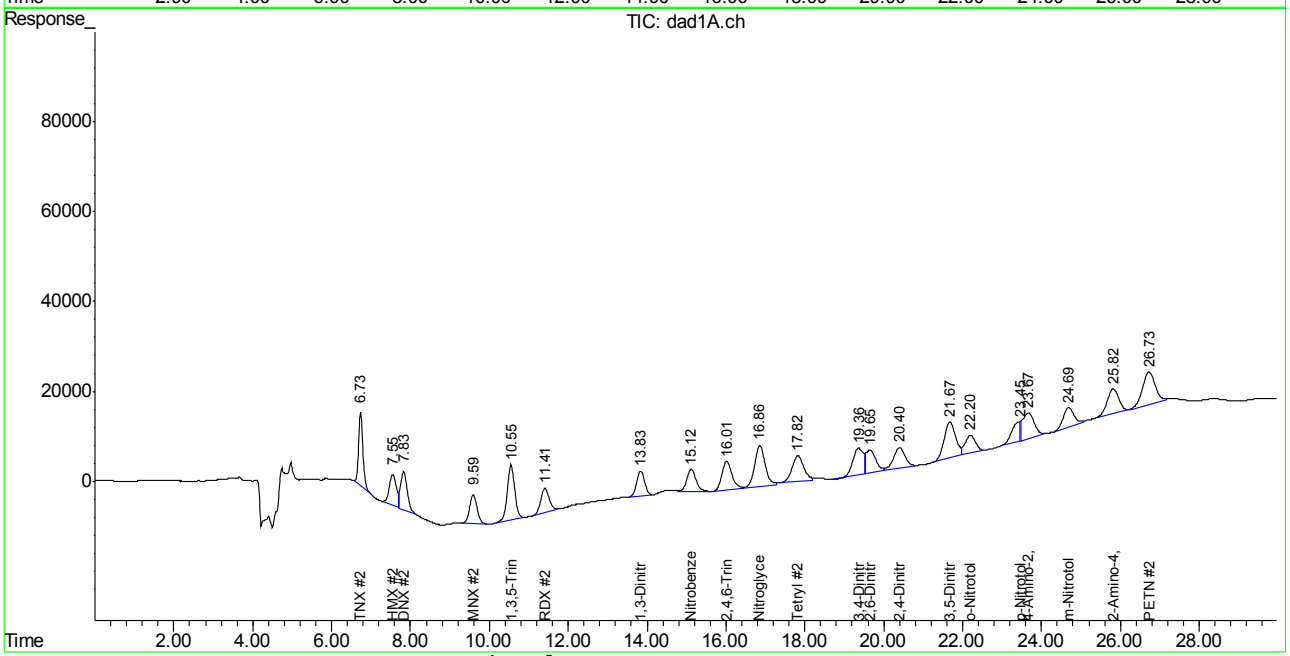
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0721RPB3\GG059707.D\dad1B.ch Vial: 5
Signal #2 : G:\DATA\0721RPB3\GG059707.D\dad1A.ch
Acq On : 21-Jul-2016, 11:17:48 Operator: kismetl
Sample : ic2442-100 Inst : G1315B
Misc : OP61122,GGG2442,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 21 13:15 2016 Quant Results File: 8330RPB.M_0707.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0707.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jul 21 12:56:27 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





9.5.14
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SGS ACCUTEST FA35499

Manual Integration Approval Summary

Sample Number: GGG2442-IC2442
Lab FileID: GG059707.D
Injection Time: 07/21/16 11:17
Method: SW846 8330B
Analyst approved: 07/22/16 10:57 Kismet Lugo
Supervisor approved: 07/25/16 11:58 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	6.73	Poor instrument integration
TNX		2	6.73	Poor instrument integration
DNX		2	7.83	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	2	10.55	Split peak
RDX	121-82-4	2	11.41	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	13.83	Poor instrument integration
Nitrobenzene	98-95-3	2	15.12	Poor instrument integration
Tetryl	479-45-8	2	17.82	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	21.67	Poor instrument integration
p-Nitrotoluene	99-99-0	2	23.45	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	2	23.67	Poor instrument integration
m-Nitrotoluene	99-08-1	2	24.69	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	25.82	Poor instrument integration
PETN	78-11-5	2	26.73	Poor instrument integration

SGS ACCUTEST
FA35499

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/25/16 11:58

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0721RPB3\GG059708.D\dad1B.ch Vial: 6
Signal #2 : G:\DATA\0721RPB3\GG059708.D\dad1A.ch
Acq On : 21-Jul-2016, 11:49:54 Operator: kismetl
Sample : ic2442-200 Inst : G1315B
Misc : OP61122,GGG2442,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 21 12:56:45 2016 Quant Results File: 8330RPB.M_0707.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0707.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jul 21 12:56:27 2016
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	19.40	19.40	920215	1819160	201.680	202.883
	Spiked Amount 500.000	Range 70 - 136		Recovery =		40.34%#	40.58%#
	Target Compounds						
1)	TNX	6.74	6.74	1632796	2516655	199.665m	199.546m
2)	HMX	7.57	7.57	557207	1593333	194.904	203.254
3)	DNX	7.85	7.85	1417997	1835825	190.810	159.624m
4)	MNX	9.62	9.62	1094633	1660966	198.317	191.817
5)	1,3,5-Trinitrobe	10.57	10.57	1748126	3046438	189.499	188.437m
6)	RDX	11.43	11.43	801876	1456226	187.219	180.657
7)	1,3-Dinitrobenze	13.86	13.86	2367881	1804515	190.647	197.490m
8)	Nitrobenzene	15.15	15.15	1550220	1592479	192.574	217.308
9)	2,4,6-Trinitroto	16.04	16.04	1630343	2266934	187.436	203.652
10)	Nitroglycerin	0.00	16.88	0	2844132	N.D. d	921.085
11)	Tetryl	17.85	17.86	1208474	2180822	207.836	210.798
13)	2,6-Dinitrotolue	19.69	19.69	1204360	1939164	189.161	219.838
14)	2,4-Dinitrotolue	20.43	20.43	2176680	1759447	189.717	213.736
15)	o-Nitrotoluene	22.24	22.25	991453	1387756	193.711	191.238
16)	3,5-Dinitroanili	21.71	21.70	1991199	3152074	183.457	181.448m
17)	p-Nitrotoluene	23.43	23.43	797153	1309174	186.744	189.732m
18)	4-Amino-2,6-Dini	23.69	23.70	1202281	2376177	187.859	187.615m
19)	m-Nitrotoluene	24.72	24.71	1092874	1819478	191.846	199.256m
20)	2-Amino-4,6-Dini	25.85	25.85	1572789	2430709	180.897	201.330m
21)	PETN	0.00	26.74	0	3172233	N.D. d	2641.056m

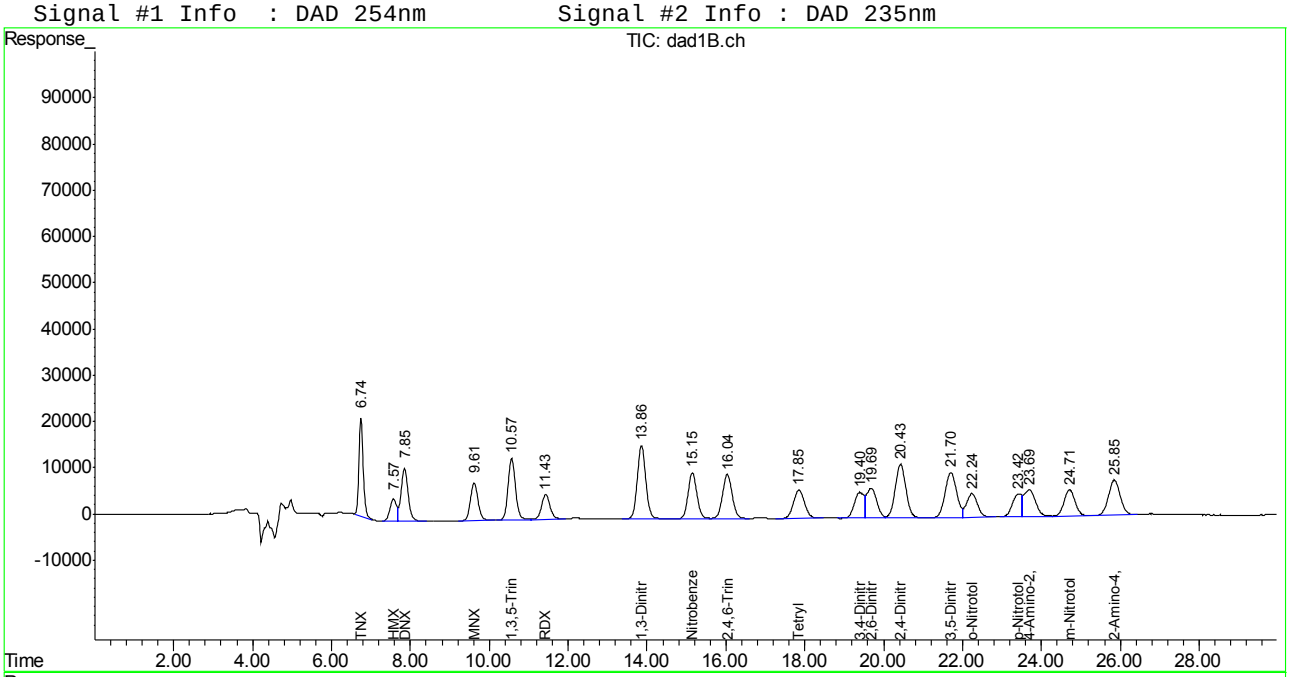
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG059708.D 8330RPB.M_0721.M Fri Jul 22 08:57:37 2016 Page 1

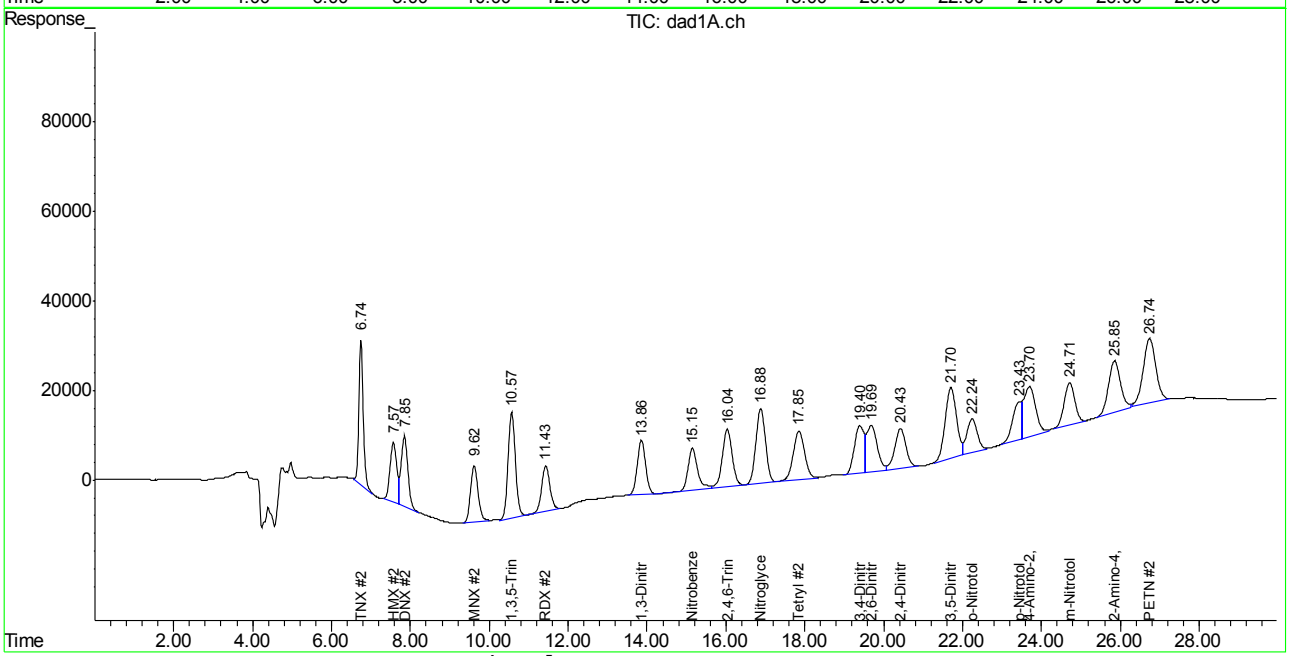
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0721RPB3\GG059708.D\dad1B.ch Vial: 6
Signal #2 : G:\DATA\0721RPB3\GG059708.D\dad1A.ch
Acq On : 21-Jul-2016, 11:49:54 Operator: kismetl
Sample : ic2442-200 Inst : G1315B
Misc : OP61122,GGG2442,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 21 13:18 2016 Quant Results File: 8330RPB.M_0707.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0707.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jul 21 12:56:27 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





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SGS ACCUTEST FA35499

Manual Integration Approval Summary

Sample Number: GGG2442-IC2442
Lab FileID: GG059708.D
Injection Time: 07/21/16 11:49
Method: SW846 8330B
Analyst approved: 07/22/16 10:57 Kismet Lugo
Supervisor approved: 07/25/16 11:58 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	6.74	Poor instrument integration
TNX		2	6.74	Poor instrument integration
DNX		2	7.85	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	2	10.57	Split peak
1,3-Dinitrobenzene	99-65-0	2	13.86	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	21.70	Poor instrument integration
p-Nitrotoluene	99-99-0	2	23.43	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	2	23.70	Poor instrument integration
m-Nitrotoluene	99-08-1	2	24.71	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	25.85	Poor instrument integration
PETN	78-11-5	2	26.74	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/25/16 11:58

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0721RPB3\GG059709.D\dad1B.ch Vial: 7
Signal #2 : G:\DATA\0721RPB3\GG059709.D\dad1A.ch
Acq On : 21-Jul-2016, 12:22:03 Operator: kismetl
Sample : icc2442-500 Inst : G1315B
Misc : OP61122,GGG2442,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 21 12:56:46 2016 Quant Results File: 8330RPB.M_0707.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0707.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jul 21 12:56:27 2016
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	19.35	19.34	2231361	4620184	489.039	515.270m
Spiked Amount	500.000	Range	70 - 136	Recovery	=	97.81%	103.05%
	Target Compounds						
1)	TNX	6.73	6.73	3984928	6031640	487.293m	478.250m
2)	HMX	7.55	7.55	1381012	3987799	483.060	507.839
3)	DNX	7.84	7.83	3502352	4953450	471.287	430.701m
4)	MNX	9.60	9.60	2666505	4026759	483.096	465.030
5)	1,3,5-Trinitrobe	10.56	10.55	4210719	7505508	456.448	464.252m
6)	RDX	11.42	11.42	1919489	3685084	448.155	457.165
7)	1,3-Dinitrobenze	13.84	13.84	5774617	4560941	464.935	499.159
8)	Nitrobenzene	15.12	15.12	3869402	3687797	480.670	503.233
9)	2,4,6-Trinitroto	16.01	16.01	4001618	5290140	460.054	475.245
10)	Nitroglycerin	0.00	16.85	0	7126122	N.D. d	2307.828
11)	Tetryl	17.81	17.81	3013712	5312330	512.137	509.242
13)	2,6-Dinitrotolue	19.65	19.64	2870226	3970163	450.808	450.087
14)	2,4-Dinitrotolue	20.40	20.40	5265519	3632263	458.937	442.128
15)	o-Nitrotoluene	22.19	22.19	2429054	3546830	474.590	488.766
16)	3,5-Dinitroanili	21.66	21.66	4914938	8144209	452.833	468.819m
17)	p-Nitrotoluene	23.38	23.45	1938935	3217532	454.222	468.950m
18)	4-Amino-2,6-Dini	23.64	23.64	2953490	5872747	461.490	463.691m
19)	m-Nitrotoluene	24.67	24.66	2745772	4585943	482.001	502.220m
20)	2-Amino-4,6-Dini	25.80	25.79	3888625	5613202	447.257	464.927m
21)	PETN	0.00	26.70	0	7600212	N.D. d	6269.960m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG059709.D 8330RPB.M_0721.M Fri Jul 22 08:57:38 2016 Page 1

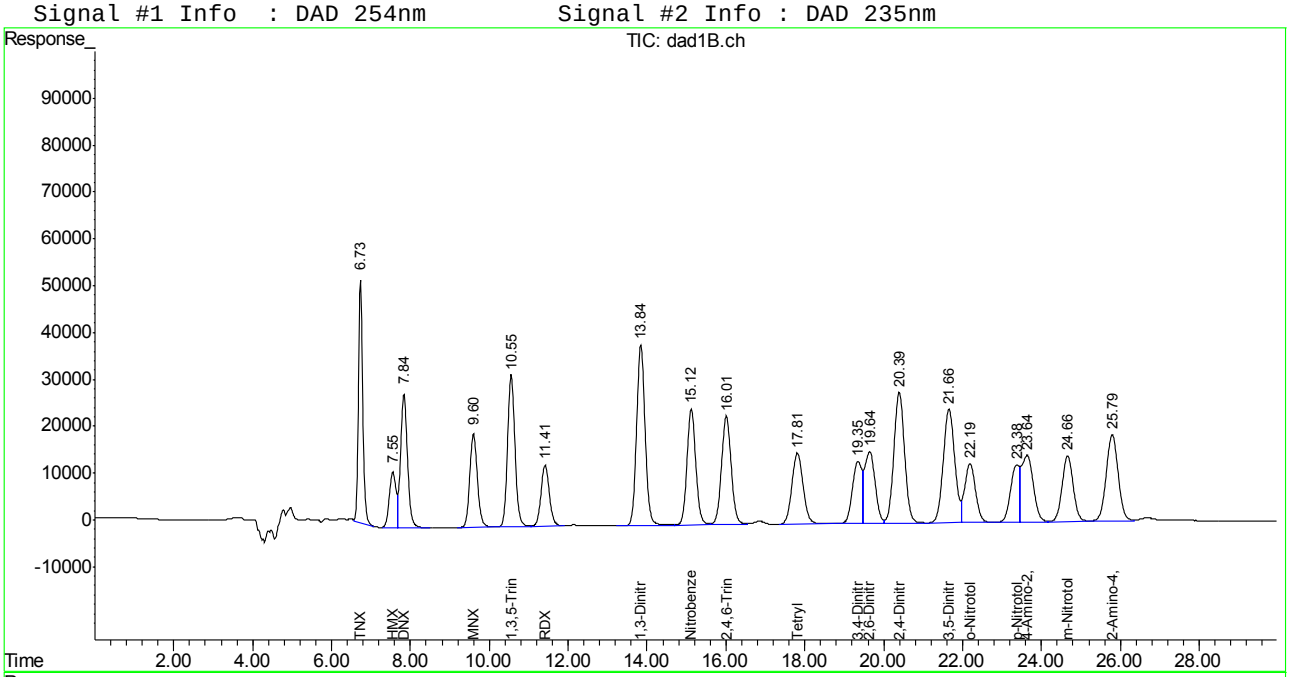
SGS ACCUTEST FA35499

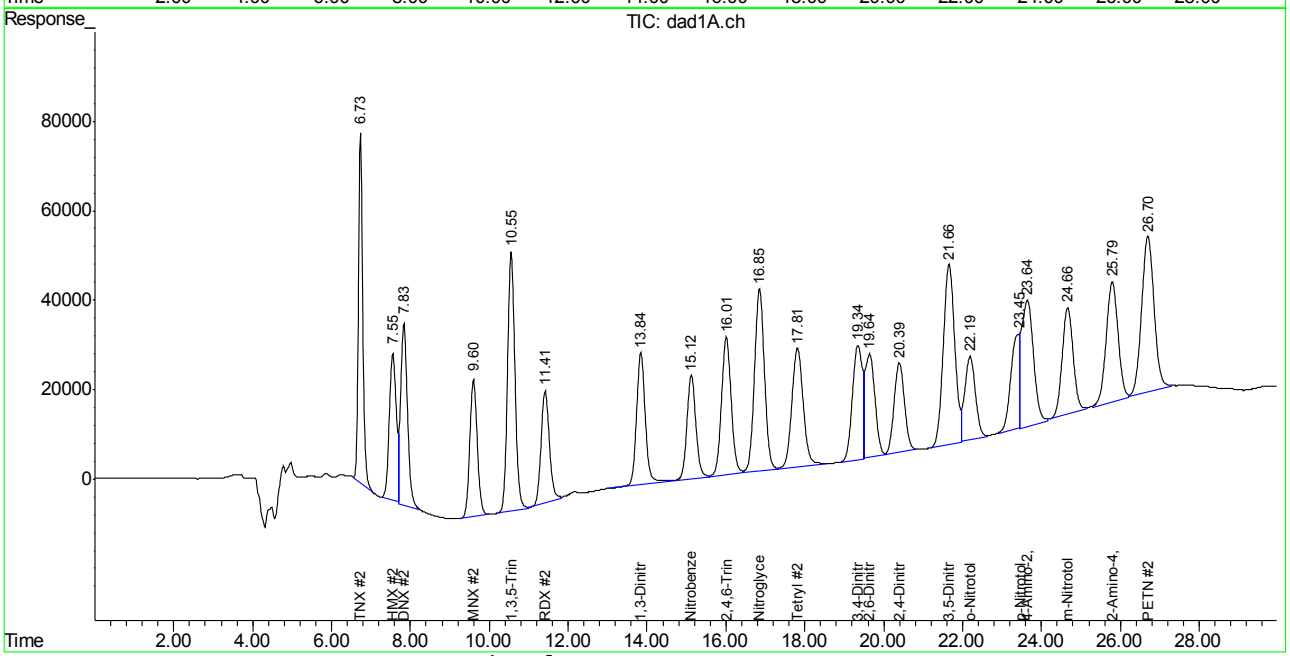
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0721RPB3\GG059709.D\dad1B.ch Vial: 7
Signal #2 : G:\DATA\0721RPB3\GG059709.D\dad1A.ch
Acq On : 21-Jul-2016, 12:22:03 Operator: kismetl
Sample : icc2442-500 Inst : G1315B
Misc : OP61122,GGG2442,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 21 13:24 2016 Quant Results File: 8330RPB.M_0707.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0707.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jul 21 12:56:27 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





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SGS ACCUTEST FA35499

Manual Integration Approval Summary

Sample Number: GGG2442-ICC2442
Lab FileID: GG059709.D
Injection Time: 07/21/16 12:22
Method: SW846 8330B
Analyst approved: 07/22/16 10:57 Kismet Lugo
Supervisor approved: 07/25/16 11:58 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		1	6.73	Poor instrument integration
TNX		2	6.73	Poor instrument integration
DNX		2	7.83	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	2	10.55	Poor instrument integration
3,4-Dinitrotoluene	610-39-9	2	19.34	Poor instrument integration
3,5-Dinitroaniline	618-87-1	2	21.66	Poor instrument integration
p-Nitrotoluene	99-99-0	2	23.45	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	2	23.64	Poor instrument integration
m-Nitrotoluene	99-08-1	2	24.66	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	25.79	Poor instrument integration
PETN	78-11-5	2	26.70	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/25/16 11:58

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0721RPB3\GG059710.D\dad1B.ch Vial: 8
Signal #2 : G:\DATA\0721RPB3\GG059710.D\dad1A.ch
Acq On : 21-Jul-2016, 12:54:08 Operator: kismetl
Sample : ic2442-1000 Inst : G1315B
Misc : OP61122,GGG2442,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 21 13:25:29 2016 Quant Results File: 8330RPB.M_0707.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0707.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jul 21 12:56:27 2016
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	19.38	19.37	4577085	9418758	1003.143	1050.434m
	Spiked Amount 500.000	Range 70 - 136		Recovery =		200.63%#	210.09%#
	Target Compounds						
1)	TNX	6.75	6.74	8168271	12141139	998.848	962.674m
2)	HMX	7.56	7.56	2836115	8420312	992.035	1068.958
3)	DNX	7.85	7.84	7087103	9802585	953.661	852.332m
4)	MNX	9.61	9.61	5428885	8342981	983.561	963.489
5)	1,3,5-Trinitrobe	10.56	10.56	8571531	15396087	929.166	952.323m
6)	RDX	11.42	11.42	3908609	7452272	912.566	924.517
7)	1,3-Dinitrobenze	13.86	13.86	11682461	9022551	940.597	987.447
8)	Nitrobenzene	15.14	15.14	7593856	7084112	943.334	966.691
9)	2,4,6-Trinitroto	16.03	16.03	8111668	10637576	932.574	955.637
10)	Nitroglycerin	0.00	16.88	0	14578745	N.D. d	4721.395
11)	Tetryl	17.84	17.84	6119967	10476537	1019.757	991.053
13)	2,6-Dinitrotolue	19.67	19.67	5827100	8255721	915.225	935.929
14)	2,4-Dinitrotolue	20.42	20.42	10693321	7590795	932.019	927.920
15)	o-Nitrotoluene	22.22	22.22	4802132	7275149	938.243	1002.542
16)	3,5-Dinitroanili	21.68	21.68	10022602	16694726	923.423	961.026
17)	p-Nitrotoluene	23.41	23.45	3703551	6097818	867.607	896.545m
18)	4-Amino-2,6-Dini	23.66	23.66	6142108	11734534	959.719	926.517m
19)	m-Nitrotoluene	24.69	24.69	5394350	9313133	946.940	1019.909m
20)	2-Amino-4,6-Dini	25.81	25.81	7940756	12136270	913.320	1005.217m
21)	PETN	0.00	26.71	0	16180459	N.D. d	13122.732m

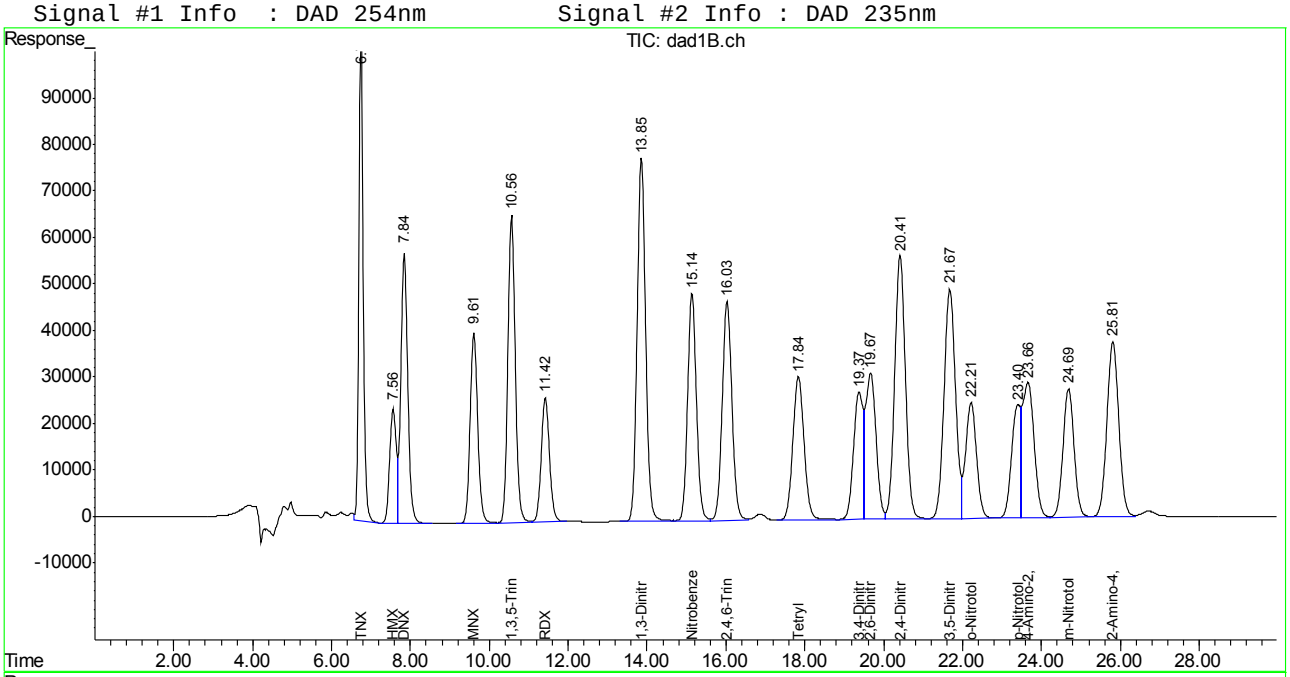
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.

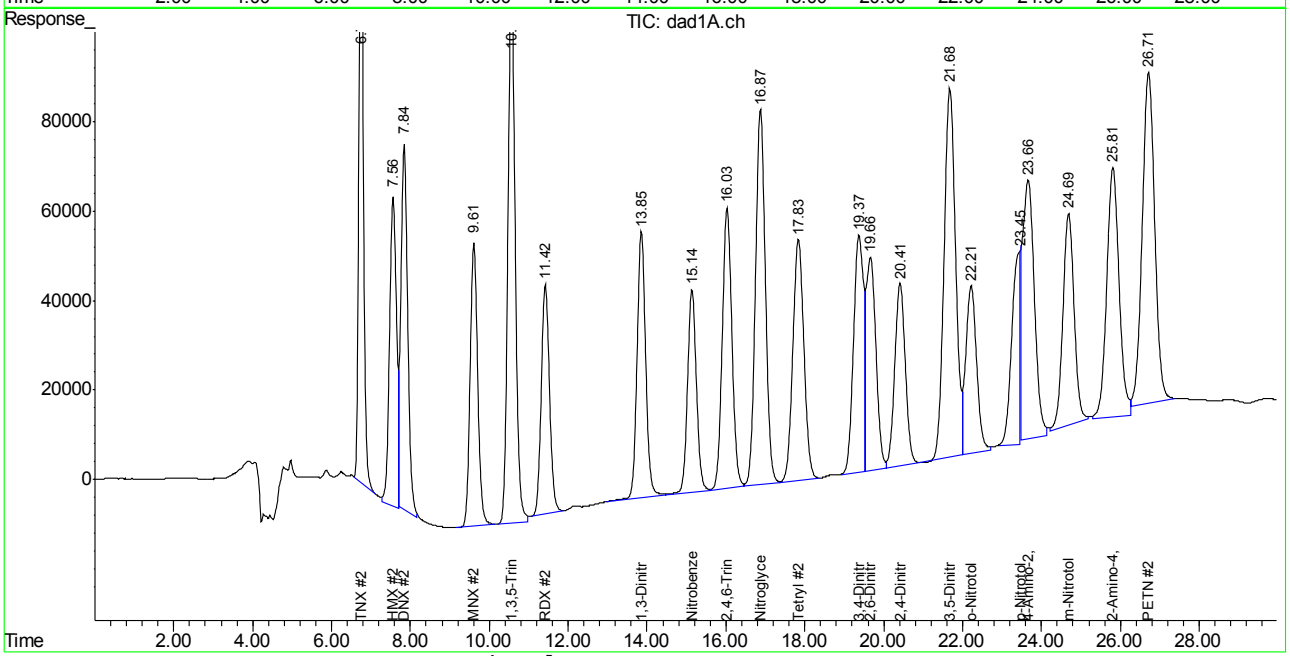
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0721RPB3\GG059710.D\dad1B.ch Vial: 8
Signal #2 : G:\DATA\0721RPB3\GG059710.D\dad1A.ch
Acq On : 21-Jul-2016, 12:54:08 Operator: kismetl
Sample : ic2442-1000 Inst : G1315B
Misc : OP61122,GGG2442,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 21 13:27 2016 Quant Results File: 8330RPB.M_0707.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0707.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jul 21 12:56:27 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





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SGS ACCUTEST FA35499

Manual Integration Approval Summary

Sample Number: GGG2442-IC2442
Lab FileID: GG059710.D
Injection Time: 07/21/16 12:54
Method: SW846 8330B
Analyst approved: 07/22/16 10:57 Kismet Lugo
Supervisor approved: 07/25/16 11:58 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		2	6.74	Poor instrument integration
DNX		2	7.84	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	2	10.56	Poor instrument integration
3,4-Dinitrotoluene	610-39-9	2	19.37	Poor instrument integration
p-Nitrotoluene	99-99-0	2	23.45	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	2	23.66	Poor instrument integration
m-Nitrotoluene	99-08-1	2	24.69	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	25.81	Poor instrument integration
PETN	78-11-5	2	26.71	Poor instrument integration

GG059711.D

Manual Integrations APPROVED (compounds with "m" flag)

Mike Eger
07/25/16 11:58

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0721RPB3\GG059711.D\dad1B.ch Vial: 9
Signal #2 : G:\DATA\0721RPB3\GG059711.D\dad1A.ch
Acq On : 21-Jul-2016, 13:26:11 Operator: kismetl
Sample : ic2442-2000 Inst : G1315B
Misc : OP61122,GGG2442,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 21 13:57:05 2016 Quant Results File: 8330RPB.M_0707.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0707.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jul 21 12:56:27 2016
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	19.40	19.39	9428958	19402561	2066.511	2163.886
	Spiked Amount 500.000	Range 70 - 136		Recovery =		413.30%#	432.78%#
	Target Compounds						
1)	TNX	6.74	6.74	16732321	25366724	2046.094	2011.335m
2)	HMX	7.56	7.56	5848071	17318606	2045.576	2185.005
3)	DNX	7.84	7.84	14735474	20763121	1982.848	1805.347m
4)	MNX	9.61	9.61	11268525	17409629	2041.540	2010.552
5)	1,3,5-Trinitrobe	10.57	10.56	17839413	31743360	1933.817	1963.481m
6)	RDX	11.43	11.43	8179865	15591559	1909.802	1934.263
7)	1,3-Dinitrobenze	13.86	13.86	24225345	18445843	1950.471	2018.752m
8)	Nitrobenzene	15.15	15.15	15885773	14621775	1973.384	1995.274
9)	2,4,6-Trinitroto	16.05	16.05	16898082	22495194	1942.722	2020.877
10)	Nitroglycerin	0.00	16.89	0	30439109	N.D. d	9857.848
11)	Tetryl	17.85	17.85	13037261	22702161	2086.966	2085.176
13)	2,6-Dinitrotolue	19.69	19.68	12190395	17353916	1914.667	1967.367
14)	2,4-Dinitrotolue	20.43	20.43	22284097	15885425	1942.258	1959.674
15)	o-Nitrotoluene	22.24	22.24	10225137	15204036	1997.793	2095.171
16)	3,5-Dinitroanili	21.69	21.69	20910533	34880775	1926.572	2007.900
17)	p-Nitrotoluene	23.43	23.48	7802348	12658575	1827.806	1900.298m
18)	4-Amino-2,6-Dini	23.67	23.67	12879688	25114764	2012.482	1982.973m
19)	m-Nitrotoluene	24.71	24.70	11465423	19653265	2012.673	2152.288m
20)	2-Amino-4,6-Dini	25.82	25.82	16497386	25194813	1897.475	2086.823
21)	PETN	0.00	26.73	0	35431927	N.D. d	27736.099

9.5.18

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(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG059711.D 8330RPB.M_0721.M Fri Jul 22 08:57:59 2016 Page 1

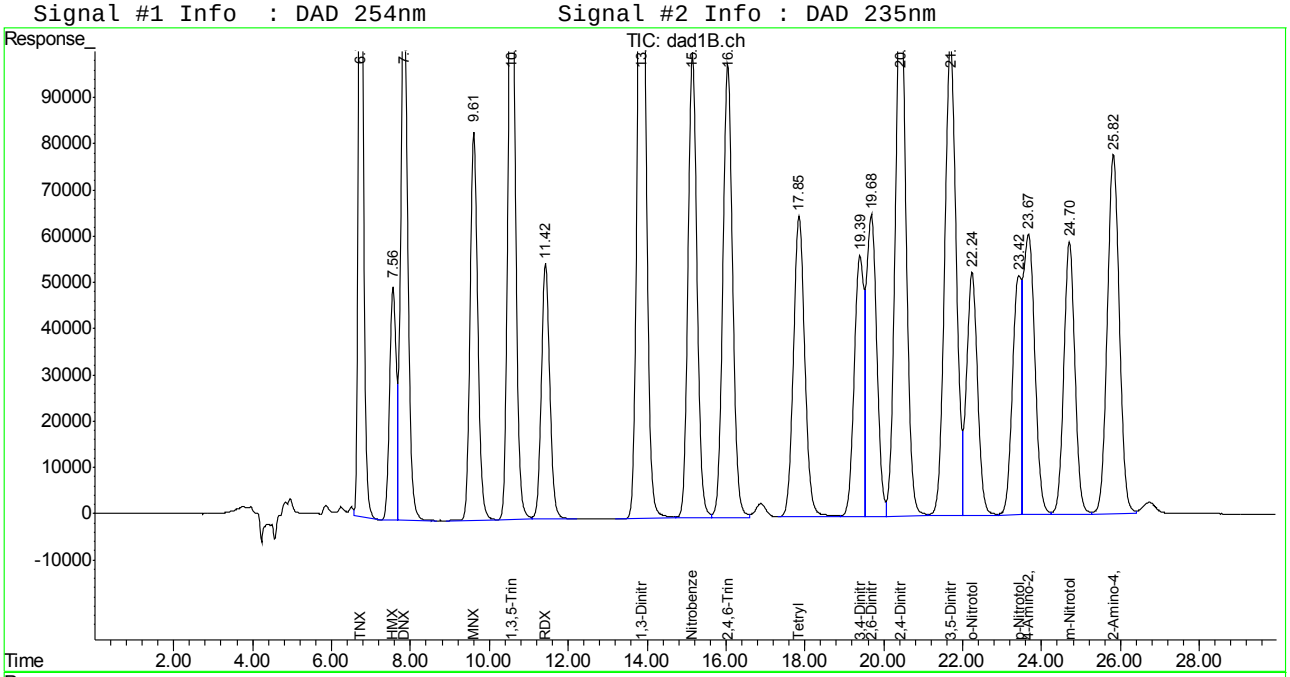
SGS ACCUTEST FA35499

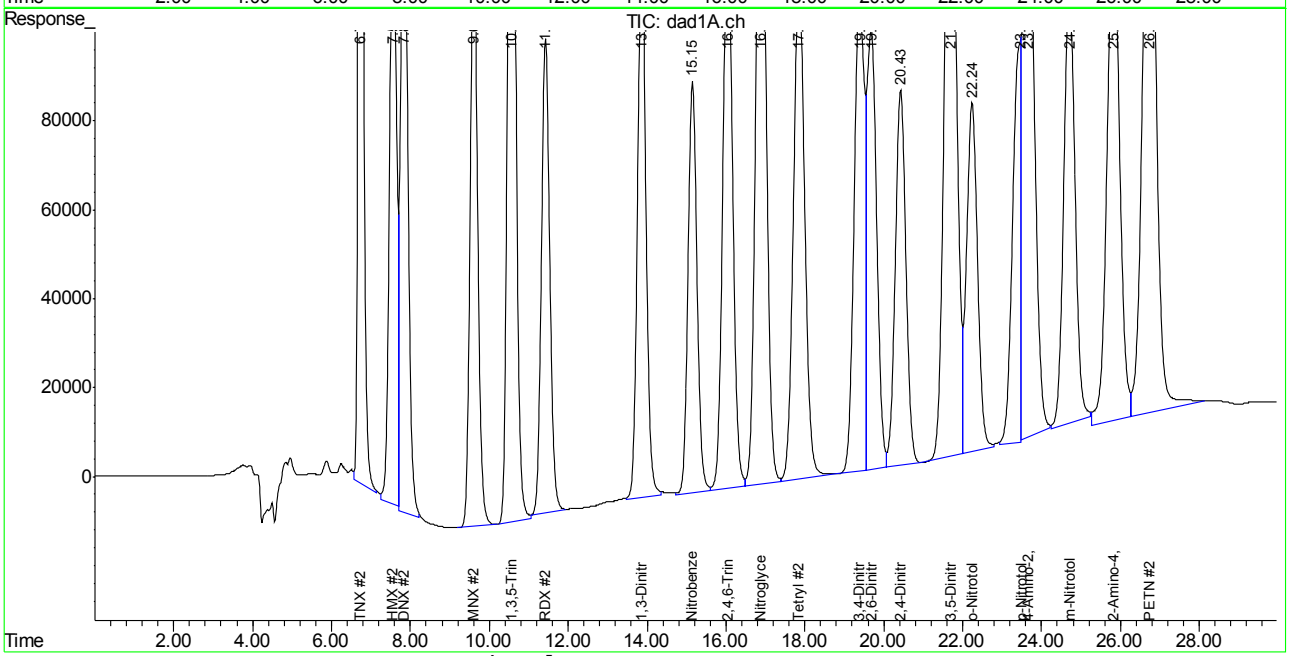
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0721RPB3\GG059711.D\dad1B.ch Vial: 9
Signal #2 : G:\DATA\0721RPB3\GG059711.D\dad1A.ch
Acq On : 21-Jul-2016, 13:26:11 Operator: kismetl
Sample : ic2442-2000 Inst : G1315B
Misc : OP61122,GGG2442,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 21 13:58 2016 Quant Results File: 8330RPB.M_0707.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0707.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Thu Jul 21 12:56:27 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





SGS ACCUTEST FA35499

Manual Integration Approval Summary

Sample Number: GGG2442-IC2442
Lab FileID: GG059711.D
Injection Time: 07/21/16 13:26
Method: SW846 8330B
Analyst approved: 07/22/16 10:57 Kismet Lugo
Supervisor approved: 07/25/16 11:58 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		2	6.74	Poor instrument integration
DNX		2	7.84	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	2	10.56	Poor instrument integration
1,3-Dinitrobenzene	99-65-0	2	13.86	Poor instrument integration
p-Nitrotoluene	99-99-0	2	23.48	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	2	23.67	Poor instrument integration
m-Nitrotoluene	99-08-1	2	24.70	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/25/16 11:58

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0721RPB3\GG059712.D\dad1B.ch Vial: 10
Signal #2 : G:\DATA\0721RPB3\GG059712.D\dad1A.ch
Acq On : 21-Jul-2016, 14:04:42 Operator: kismetl
Sample : icv2442-500 Inst : G1315B
Misc : OP61122,GGG2442,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 22 08:51:07 2016 Quant Results File: 8330RPB.M_0721.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0721.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jul 22 08:50:47 2016
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
	Spiked Amount 500.000	Range 70 - 136		Recovery =		0.00%#	0.00%#
	Target Compounds						
1)	TNX	6.74	6.73	4206731	6236160	514.141	488.147m
2)	HMX	7.56	7.56	1626140	4748870	573.511	553.739
3)	DNX	7.83	7.83	3558856	4934918	493.800	517.436m
4)	MNX	9.60	9.60	2764079	4171419	497.872	500.985
5)	1,3,5-Trinitrobe	10.56	10.56	4582136	8282521	524.373	537.721m
6)	RDX	11.41	11.41	2114732	4043348	528.867	524.052
7)	1,3-Dinitrobenze	13.85	13.84	5943846	4684211	498.234	525.687m
8)	Nitrobenzene	15.13	15.13	4223082	4093120	536.773	567.688m
9)	2,4,6-Trinitroto	0.00	0.00	0	0	N.D. d	N.D. d
10)	Nitroglycerin	0.00	16.87	0	7600794	N.D. d	2542.194
11)	Tetryl	0.00	0.00	0	0	N.D. d	N.D. d
13)	2,6-Dinitrotolue	19.68	19.68	3128405	4789553	525.948m	549.742m
14)	2,4-Dinitrotolue	20.41	20.41	5719824	4107234	521.064	488.995
15)	o-Nitrotoluene	22.22	22.22	2687248	4076382	542.304	603.874
16)	3,5-Dinitroanili	21.66	21.66	5125649	8557285	504.022	529.466
17)	p-Nitrotoluene	23.42	23.47	2038323	3538953	508.360m	553.761m
18)	4-Amino-2,6-Dini	23.64	23.65	3154524	5982863	516.865m	497.532m
19)	m-Nitrotoluene	24.70	24.70	2914971	4894906	517.528	553.773m
20)	2-Amino-4,6-Dini	25.81	25.81	4299180	6233074	530.057	526.362m
21)	PETN	0.00	26.73	0	8509943	N.D. d	2623.800m

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(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG059712.D 8330RPB.M_0721.M Fri Jul 22 08:58:17 2016 Page 1

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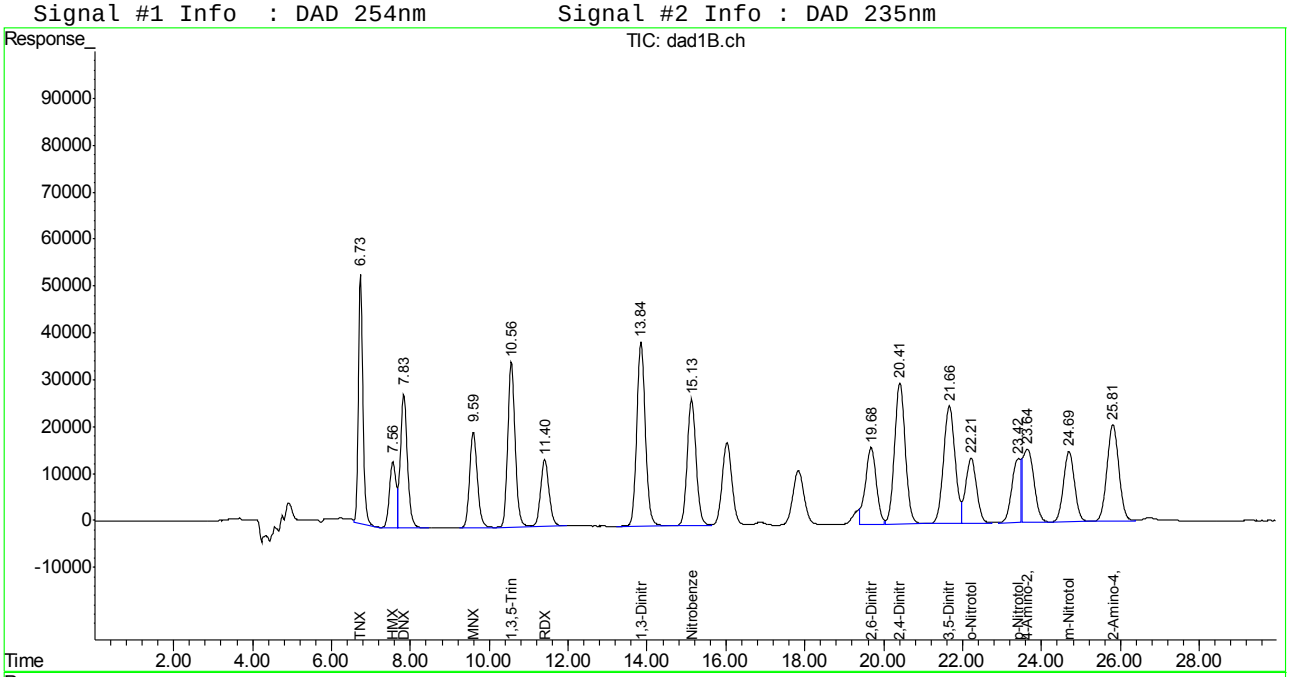
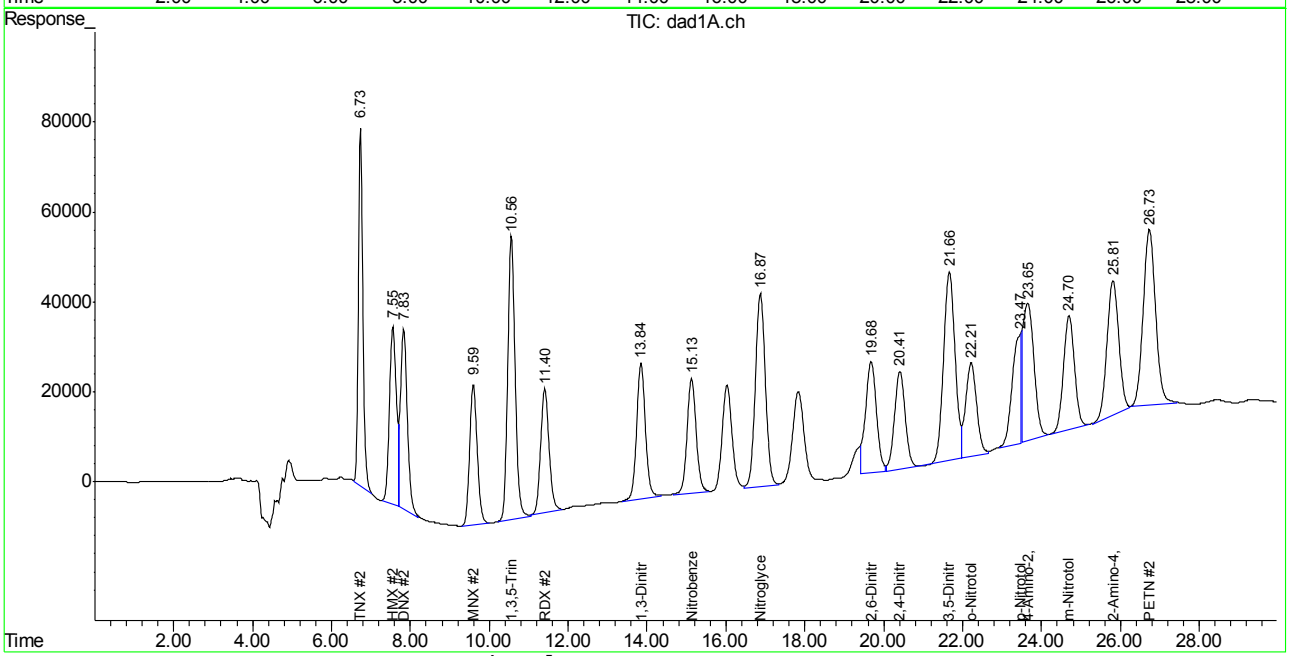
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0721RPB3\GG059712.D\dad1B.ch Vial: 10
Signal #2 : G:\DATA\0721RPB3\GG059712.D\dad1A.ch
Acq On : 21-Jul-2016, 14:04:42 Operator: kismetl
Sample : icv2442-500 Inst : G1315B
Misc : OP61122,GGG2442,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 22 8:53 2016 Quant Results File: 8330RPB.M_0721.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0721.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jul 22 08:50:47 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





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FA35499

Manual Integration Approval Summary

Sample Number: GGG2442-ICV2442 **Method:** SW846 8330B
Lab FileID: GG059712.D **Analyst approved:** 07/22/16 10:57 Kismet Lugo
Injection Time: 07/21/16 14:04 **Supervisor approved:** 07/25/16 11:58 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		2	6.73	Poor instrument integration
DNX		2	7.83	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	2	10.56	Missed peak
1,3-Dinitrobenzene	99-65-0	2	13.84	Poor instrument integration
Nitrobenzene	98-95-3	2	15.13	Poor instrument integration
2,6-Dinitrotoluene	606-20-2	1	19.68	Overlapping peak
2,6-Dinitrotoluene	606-20-2	2	19.68	Overlapping peak
p-Nitrotoluene	99-99-0	1	23.42	Overlapping peak
p-Nitrotoluene	99-99-0	2	23.47	Overlapping peak
4-amino-2,6-Dinitrotoluene	19406-51-0	1	23.64	Overlapping peak
4-amino-2,6-Dinitrotoluene	19406-51-0	2	23.65	Overlapping peak
m-Nitrotoluene	99-08-1	2	24.70	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	25.81	Poor instrument integration
PETN	78-11-5	2	26.73	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/25/16 11:58

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0721RPB3\GG059713.D\dad1B.ch Vial: 10
Signal #2 : G:\DATA\0721RPB3\GG059713.D\dad1A.ch
Acq On : 21-Jul-2016, 14:56:42 Operator: kismetl
Sample : icv2442-500 Inst : G1315B
Misc : OP61122,GGG2442,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 22 08:51:08 2016 Quant Results File: 8330RPB.M_0721.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0721.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jul 22 08:50:47 2016
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	0.00	0.00	0	0	N.D.	N.D.
	Spiked Amount 500.000	Range 70 - 136		Recovery =		0.00%#	0.00%#
	Target Compounds						
1)	TNX	0.00	0.00	0	0	N.D. d	N.D. d
2)	HMX	0.00	0.00	0	0	N.D. d	N.D. d
3)	DNX	0.00	0.00	0	0	N.D. d	N.D. d
4)	MNX	0.00	0.00	0	0	N.D. d	N.D. d
5)	1,3,5-Trinitrobe	0.00	0.00	0	0	N.D. d	N.D. d
6)	RDX	0.00	0.00	0	0	N.D. d	N.D. d
7)	1,3-Dinitrobenze	0.00	0.00	0	0	N.D. d	N.D. d
8)	Nitrobenzene	0.00	0.00	0	0	N.D. d	N.D. d
9)	2,4,6-Trinitroto	16.05	16.04	3777851	4943787	454.634	458.512m
10)	Nitroglycerin	0.00	0.00	0	0	N.D.	N.D.
11)	Tetryl	17.86	17.86	3188768	5607686	506.057	501.471m
13)	2,6-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
14)	2,4-Dinitrotolue	0.00	0.00	0	0	N.D. d	N.D. d
15)	o-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
16)	3,5-Dinitroanili	0.00	0.00	0	0	N.D. d	N.D. d
17)	p-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
18)	4-Amino-2,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
19)	m-Nitrotoluene	0.00	0.00	0	0	N.D. d	N.D. d
20)	2-Amino-4,6-Dini	0.00	0.00	0	0	N.D. d	N.D. d
21)	PETN	0.00	0.00	0	0	N.D. d	N.D. d

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(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG059713.D 8330RPB.M_0721.M Fri Jul 22 08:58:18 2016 Page 1

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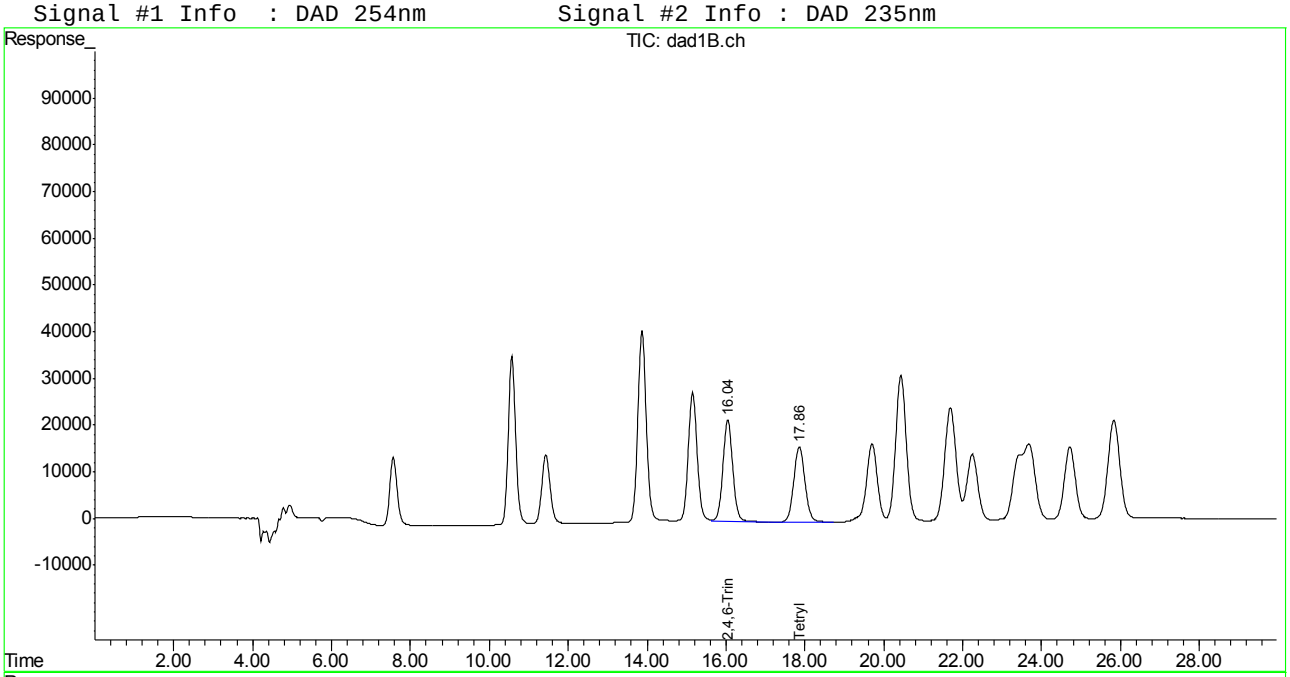
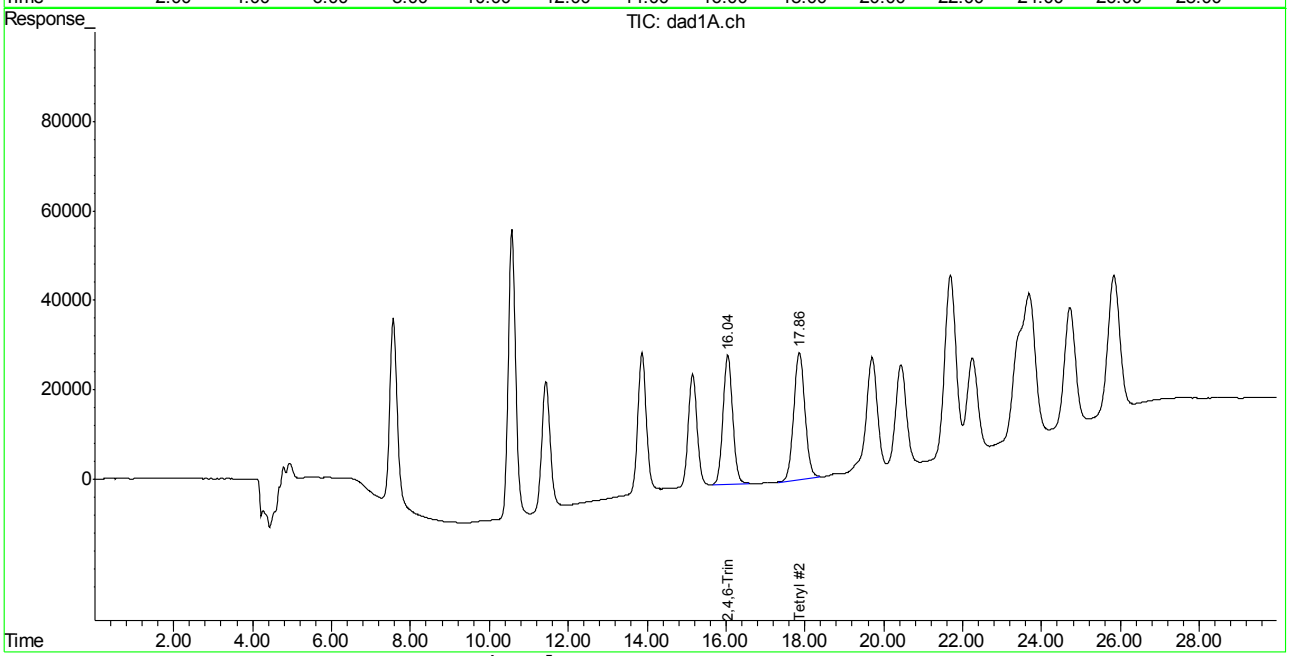
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0721RPB3\GG059713.D\dad1B.ch Vial: 10
Signal #2 : G:\DATA\0721RPB3\GG059713.D\dad1A.ch
Acq On : 21-Jul-2016, 14:56:42 Operator: kismetl
Sample : icv2442-500 Inst : G1315B
Misc : OP61122,GGG2442,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 22 8:54 2016 Quant Results File: 8330RPB.M_0721.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0721.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Fri Jul 22 08:50:47 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





SGS ACCUTEST FA35499

Manual Integration Approval Summary

Sample Number: GGG2442-ICV2442
Lab FileID: GG059713.D
Injection Time: 07/21/16 14:56
Method: SW846 8330B
Analyst approved: 07/22/16 10:57 Kismet Lugo
Supervisor approved: 07/25/16 11:58 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
2,4,6-Trinitrotoluene	118-96-7	2	16.04	Poor instrument integration
Tetryl	479-45-8	2	17.86	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/25/16 11:58

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0722RPB3\GG059722.D\dad1B.ch Vial: 2
Signal #2 : G:\DATA\0722RPB3\GG059722.D\dad1A.ch
Acq On : 22-Jul-2016, 12:05:02 Operator: kismetl
Sample : cc2442-1000 Inst : G1315B
Misc : OP61122,GGG2443,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 25 09:39:25 2016 Quant Results File: 8330RPB.M_0721.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0721.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 25 09:39:11 2016
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	19.14	19.14	4615182	9552731	964.423	1009.030
	Spiked Amount 500.000	Range 70 - 136		Recovery =		192.88%#	201.81%#
	Target Compounds						
1)	TNX	6.71	6.71	8203797	12261771	1002.658	959.814m
2)	HMX	7.49	7.49	2820443	8600811	994.721	1002.892
3)	DNX	7.78	7.78	7013197	9845111	973.099	1032.279m
4)	MNX	9.53	9.53	5453684	8554137	982.330	1027.346
5)	1,3,5-Trinitrobe	10.48	10.48	8505003	15240291	973.301	989.436m
6)	RDX	11.31	11.31	3929813	7391351	982.795	957.982m
7)	1,3-Dinitrobenze	13.73	13.73	11771995	9214294	986.771	1034.076
8)	Nitrobenzene	14.98	14.98	7618819	7528213	968.387	1040.052
9)	2,4,6-Trinitroto	15.88	15.88	8100543	10941362	974.836	1014.759
10)	Nitroglycerin	0.00	16.70	0	15137150	N.D. d	5062.836
11)	Tetryl	17.63	17.63	5845232	10403618	927.637	930.350
13)	2,6-Dinitrotolue	19.45	19.44	5811888	8331575	977.095	956.293
14)	2,4-Dinitrotolue	20.20	20.20	10724779	7511895	977.006	894.343
15)	o-Nitrotoluene	21.96	21.96	4781601	7122980	964.958	1055.196
16)	3,5-Dinitroanili	21.45	21.45	10018480	16802260	985.150	1039.608
17)	p-Nitrotoluene	23.15	23.21	3677908	6590461	917.275	1031.249m
18)	4-Amino-2,6-Dini	23.39	23.40	6160671	11863055	1009.419	986.526m
19)	m-Nitrotoluene	24.41	24.41	5356139	9279119	950.937	1049.769m
20)	2-Amino-4,6-Dini	25.54	25.54	7887441	12131187	972.463	1024.438m
21)	PETN	0.00	26.44	0	15457906	N.D. d	4766.007m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG059722.D 8330RPB.M_0721.M Mon Jul 25 10:03:35 2016 Page 1

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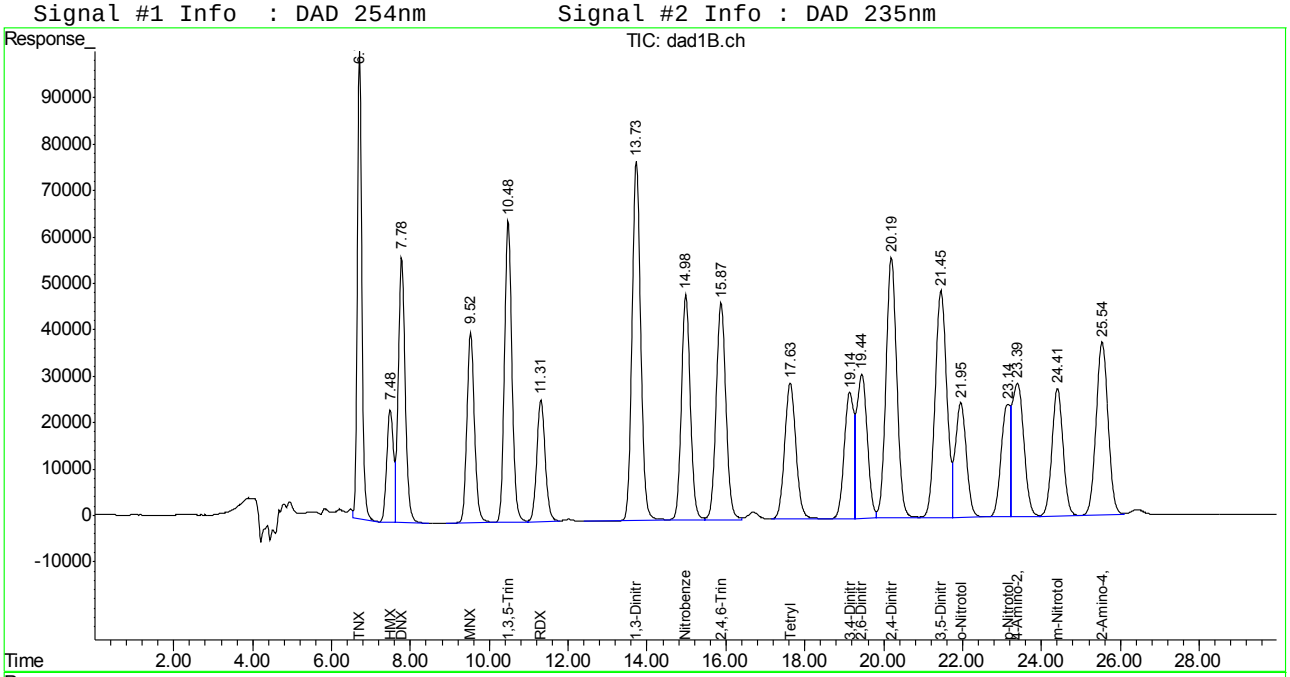
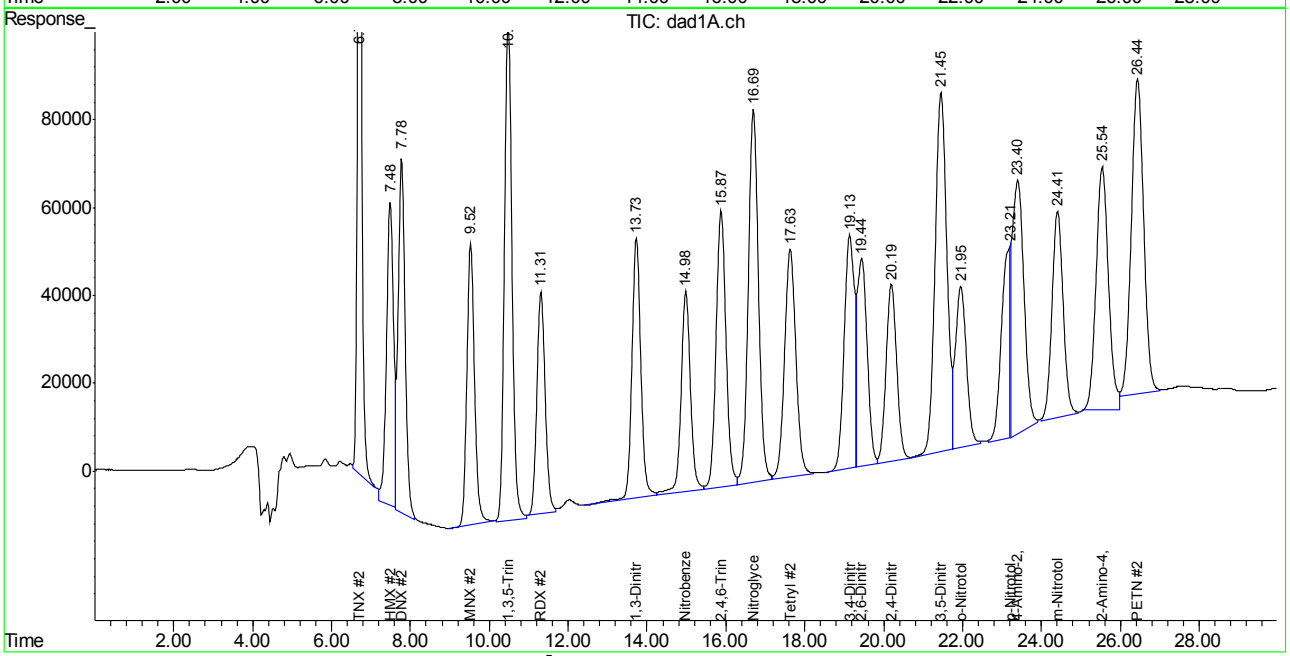
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0722RPB3\GG059722.D\dad1B.ch Vial: 2
Signal #2 : G:\DATA\0722RPB3\GG059722.D\dad1A.ch
Acq On : 22-Jul-2016, 12:05:02 Operator: kismetl
Sample : cc2442-1000 Inst : G1315B
Misc : OP61122,GGG2443,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 25 9:43 2016 Quant Results File: 8330RPB.M_0721.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0721.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 25 09:39:11 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





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SGS ACCUTEST FA35499

Manual Integration Approval Summary

Sample Number: GGG2443-CC2442
Lab FileID: GG059722.D
Injection Time: 07/22/16 12:05
Method: SW846 8330B
Analyst approved: 07/25/16 10:10 Kismet Lugo
Supervisor approved: 07/25/16 11:58 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		2	6.71	Poor instrument integration
DNX		2	7.78	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	2	10.48	Missed peak
RDX	121-82-4	2	11.31	Poor instrument integration
p-Nitrotoluene	99-99-0	2	23.21	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	2	23.40	Poor instrument integration
m-Nitrotoluene	99-08-1	2	24.41	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	25.54	Poor instrument integration
PETN	78-11-5	2	26.44	Poor instrument integration

Manual Integrations APPROVED (compounds with "m" flag)
Mike Eger
07/25/16 11:58

Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0722RPB3\GG059726.D\dad1B.ch Vial: 2
Signal #2 : G:\DATA\0722RPB3\GG059726.D\dad1A.ch
Acq On : 22-Jul-2016, 14:24:29 Operator: kismetl
Sample : ecc2442-1000 Inst : G1315B
Misc : OP61122,GGG2443,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 25 09:39:32 2016 Quant Results File: 8330RPB.M_0721.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0721.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 25 09:39:11 2016
Response via : Initial Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm

	Compound	RT#1	RT#2	Resp#1	Resp#2	ppb	ppb
	System Monitoring Compounds						
12) S	3,4-Dinitrotolue	19.12	19.12	4646933	9397917	971.059	992.677
	Spiked Amount 500.000	Range 70 - 136		Recovery =		194.21%#	198.54%#
	Target Compounds						
1)	TNX	6.71	6.71	8134072	12265761	994.136	960.126m
2)	HMX	7.49	7.49	2846923	8452064	1004.060	985.547
3)	DNX	7.78	7.78	7069847	9968459	980.959	1045.212m
4)	MNX	9.52	9.52	5600255	8401032	1008.731	1008.958
5)	1,3,5-Trinitrobe	10.48	10.48	9043527	15563201	1034.929m	1010.400m
6)	RDX	11.30	11.31	4113925	7267457	1028.839	941.924
7)	1,3-Dinitrobenze	13.72	13.72	11676997	8817154	978.807	989.507m
8)	Nitrobenzene	14.98	14.98	7685785	7181956	976.899	992.603
9)	2,4,6-Trinitroto	15.87	15.87	8170422	11370900	983.245	1054.596
10)	Nitroglycerin	0.00	16.69	0	14913869	N.D. d	4988.157
11)	Tetryl	17.62	17.62	6354804	11046967	1008.506	987.882
13)	2,6-Dinitrotolue	19.43	19.43	5931006	8342597	997.121	957.558
14)	2,4-Dinitrotolue	20.18	20.18	10950441	7906898	997.563	941.371
15)	o-Nitrotoluene	21.94	21.94	4988207	7382563	1006.653	1093.651
16)	3,5-Dinitroanili	21.41	21.41	10233034	16929707	1006.248	1047.493
17)	p-Nitrotoluene	23.19	23.18	3938993	6768853	982.390m	1059.163m
18)	4-Amino-2,6-Dini	23.34	23.34	5522680	11184886	904.885m	930.130m
19)	m-Nitrotoluene	24.39	24.39	5502468	9642622	976.916	1090.893m
20)	2-Amino-4,6-Dini	25.50	25.50	7918824	11907063	976.333	1005.511m
21)	PETN	0.00	26.44	0	16233494	N.D. d	5005.138m

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
GG059726.D 8330RPB.M_0721.M Mon Jul 25 10:03:44 2016 Page 1

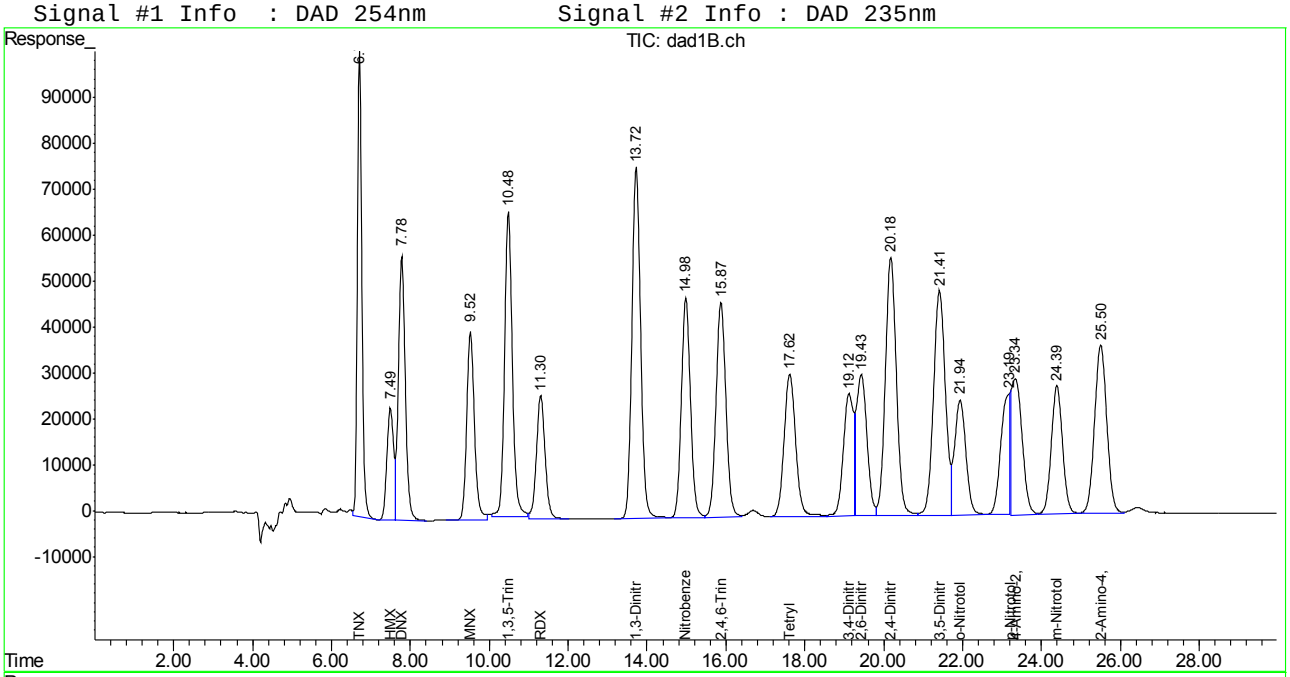
SGS ACCUTEST FA35499

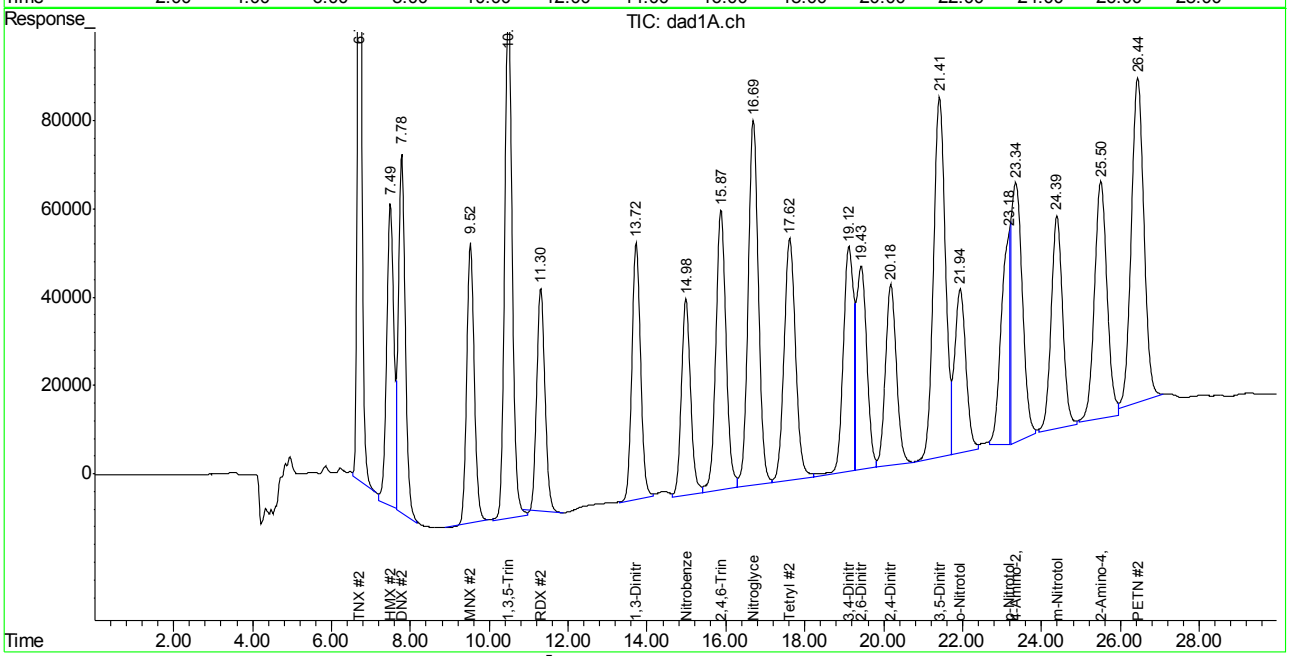
Quantitation Report (QT Reviewed)

Signal #1 : G:\DATA\0722RPB3\GG059726.D\dad1B.ch Vial: 2
Signal #2 : G:\DATA\0722RPB3\GG059726.D\dad1A.ch
Acq On : 22-Jul-2016, 14:24:29 Operator: kismetl
Sample : ecc2442-1000 Inst : G1315B
Misc : OP61122,GGG2443,1000,,,10,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e
Quant Time: Jul 25 9:51 2016 Quant Results File: 8330RPB.M_0721.RES

Quant Method : C:\MSDCHEM\1...\8330RPB.M_0721.M (Chemstation Integrator)
Title : Explosives by 8330A,8330B,8332
Last Update : Mon Jul 25 09:39:11 2016
Response via : Multiple Level Calibration
DataAcq Meth : 8330RPB3.M

Volume Inj. : 100ul
Signal #1 Phase : Bonus RP Signal #2 Phase: Bonus RP
Signal #1 Info : DAD 254nm Signal #2 Info : DAD 235nm





9.5.22
9
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ACCUTEST
FA35499

Manual Integration Approval Summary

Sample Number: GGG2443-ECC2442 **Method:** SW846 8330B
Lab FileID: GG059726.D **Analyst approved:** 07/25/16 10:10 Kismet Lugo
Injection Time: 07/22/16 14:24 **Supervisor approved:** 07/25/16 11:58 Mike Eger

Parameter	CAS	Sig#	R.T. (min.)	Reason
TNX		2	6.71	Poor instrument integration
DNX		2	7.78	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	1	10.48	Poor instrument integration
1,3,5-Trinitrobenzene	99-35-4	2	10.48	Overlapping peak
1,3-Dinitrobenzene	99-65-0	2	13.72	Poor instrument integration
p-Nitrotoluene	99-99-0	2	23.18	Poor instrument integration
p-Nitrotoluene	99-99-0	1	23.19	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	1	23.34	Poor instrument integration
4-amino-2,6-Dinitrotoluene	19406-51-0	2	23.34	Poor instrument integration
m-Nitrotoluene	99-08-1	2	24.39	Poor instrument integration
2-amino-4,6-Dinitrotoluene	35572-78-2	2	25.50	Poor instrument integration
PETN	78-11-5	2	26.44	Poor instrument integration

[redacted]

COLUMN TYPE:	Ext C18
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC5-BB

METHODS*:	8330A/B
ACQ. METHOD:	8330B
PROC. METHOD:	8330_0720
CALIB. DATE:	07/28/16
RUN BATCH: GBB	1481

ANALYST:	KL
ACETONITRILE LOT #:	3194
MEOH LOT #:	162636
HEAD PRESSURE:	212

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
BB 051973	1	solvent	8330	—	—		ND
BB 74	2	CC1480-1000		LC724	1:1	P11	Hunk↑ DNR
BB 75	21	IC1481-20			50+450 10+350 25+475	P11 0 WPSL Y or MNPSL	✓
BB 76	22	IC1481-50				P11 ↓	✓ 10+390
BB 77	23	IC1481-100			25+475	P11	✓ 25+475
BB 78	24	IC1481-200			50+450	P11	✓
BB 79	25	ICC1481-500			1+3	P11 Int OPSL	✓
BB 80	26	IC1481-1000			1:1	P11	✓
BB 81	27	IC1481-2000		↓	1X	P11	✓ Pass
BB 82	28	ICV1481-500		ES613 LC715 LC665 ES624	*	P11	Int low Pass
BB 83	31	ICV 1481-500 ktml		ES637	10+350		Int passes
BB 84	21	CC1481-20		LC724	50+450 50+450	P11 0,1 m PEAK MPSL	Small TNK Int TMP SL 24hL LHP 0,P ↓ S2
BB 85	3	OP61122-bs		OP61122	1X	P11 NG-OP Int OPSL	✓
BB 86	12	OP61122-bs			50+450	P11 NG-Int OPSL KL 07/21/16 PEAK MP	✓
BB 87	4	OP61122-MB			1X	P11	ND
BB 88	5	FA35358-1			↓	P11 BLOKOF	✓
BB 89	13	FA35358-1			1+3	P11	✓ DNR
BB 90	6	OP61122-MS			50+450	TNK of 0, PEAK MP SL P11	✓
BB 91	7	OP61122-MSD			↓	↓ ↓	✓ NO NG
BB 92	8	FA35358-2	↓	↓	1X		ND

KL 07/21/16

* For NELAC purposes, Method 8332 includes analytes by SOP GC020
Manual Integration Rationale SOP QA029. MP Missed Peak, OP Overlapping Peak, SP Split Peak, PDB Poorly Defined Baseline, BR Baseline Ripple, PII Poor Instrument Integration
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

hplc5_bb_log.xls N.F rev. 08/08

* E5623 10 ml
LC665 25 ml
LC715 25 ml
E5624 20 ml
} +920

Analyst's Signature: Kimberly Lyo

ACCUTEST LABORATORIES SE

DATE:	07/20/16
COLUMN TYPE:	Ext C18
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC5-BB

HPLC5-BB ANALYSIS LOG

METHODS*:	8330A/B
ACQ. METHOD:	8330B
PROC. METHOD:	8330_0720
CALIB. DATE:	07/20/16
RUN BATCH: GBB	1481

ANALYST:	KL
ACETONITRILE LOT #:	3194
MEOH LOT #:	162636
HEAD PRESSURE:	212

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
BB 051993	9	FA35358-3	8330	OP61122	1X	PII	✓ MIX
BB 94	14	FA35358-3		↓	1:1	MANUAL PII	✓
BB 95	2	CCV1481-1000		LC724	1:1	PII	Pass
BB 96	1	MB		—	—		ND
BB 97	10	FA35358-4		OP61122	1X	MANUAL PII	✓ MIX
BB 98	15	FA35358-4			1:1	PII	✓
BB 99	11	FA35358-5		↓	1X	PII	✓
BB 052000	2	ECCV1481-1000	↓	LC724	1:1	PII	Pass
BB							
BB							
BB							
BB							
BB							
BB							
BB							
BB							
BB							
BB							
BB							
BB							
BB							

KL 07/21/16

* For NELAC purposes, Method 8332 includes analytes by SOP GC020

Manual Integration Rationale SOP QA029: MP Missed Peak, OP Overlapping Peak, SP Split Peak, PDB Poorly Defined Baseline, BR Baseline Ripple, PII Poor Instrument Integration

All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

hplc5_bb_log.xls NF rev. 08/08

Analyst's Signature: Kimut Ly

SGS ACCUTEST-ORLANDO

DATE:	07/22/16
COLUMN TYPE:	Ext C18
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC5-BB

HPLC5-BB ANALYSIS LOG

METHODS:	8330A/B
ACQ. METHOD:	8330B
PROC. METHOD:	8330-0720
CALIB. DATE:	07/20/16
RUN BATCH: GBB	1483

ANALYST:	KL
ACETONITRILE LOT #:	3194
MEOH LOT #:	167336
HEAD PRESSURE:	217

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
BB 052021	1	solvent	8330	—	—		ND
BB 22	2	CC1481-1000		LC724	1:1	PII	Pass
BB 23	21	op61173-bs		op61173	1X	PII	✓
BB 24	22	op61173-mb				PII	ND
BB 25	23	FA35517-1					ND
BB 26	24	op61173-ms				PII DMPS2	✓
BB 27	25	op61173-msd		↓	↓	PII ↓	✓
BB 28	2	CC1481-1000		LC724	1:1	PII	Pass
BB 29	1	ccb		—	—		ND
BB 30	26	op61167-bs		op61173	1X	PII DMPS2	✓
BB 31	27	op61167-mb				PII	ND
BB 32	26	op61167-bs				PII DMPS2	✓
BB 33	27	op61167-mb				PII	ND
BB 34	28	FA35499-1			↓	PII	✓
BB 35	31	FA35499-1			1:1	PII	✓
BB 36	29	op61167-ms			1X	PII	✓
BB 37	30	op61167-msd		↓	↓	PII	✓
BB 38	2	CC1481-1000	↓	LC724	1:1	PII	Pass
BB						KL 07/25/16	
BB							

Manual Integration Rationale SOP QA029. MP Missed Peak, OP Overlapping Peak, SP Split Peak, PDB Poorly Defined Baseline, BR Baseline Ripple, PII Poor Instrument Integration.
All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

Analyst's Signature: Kimit Lp

[redacted]

HPLC3-GG ANALYSIS LOG

	07/21/16
COLUMN TYPE:	Bakers RP
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC3-GG

METHODS*:	8330A/B
ACQ. METHOD:	8330 RPB3
PROC. METHOD:	8330 RPB_0721
CALIB. DATE:	07/21/16
RUN BATCH. GGG	2442

ANALYST:	KL
ACETONITRILE LOT #:	3194
MEOH LOT #:	162636
HEAD PRESSURE:	257

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
GG 059703	1	solvent	8330	—	—		ND
GG 04	2	cc2440-1000		LC724	1:1		RETNT
GG 05	3	ic2442-20			5D+45D 50+450	PII	✓
GG 06	4	IC 2442-50			10+390	PII 1,3,5 MPSZ pNPS 1,2,4 TAB	✓
GG 07	5	ic2442-100			25+475	PII ↓	✓
GG 08	6	ic2442-200		↓	50+450	PII ↓	✓
GG 09	7	icc2442-500			1+3	PII	✓
GG 10	8	ic 2442-1000			1:1	PII	✓
GG 11	9	ic2442-2000		↓	1X	PII	✓
GG 12	10	icv2442-500		ES623 LC715 LC665 ES624 *		PII 4,3,5 MPSZ 2,6 DNP p-TOP	246 Lot 10 PSZ Pass
GG 13	10	ICV 2442-500		ES637	10+390	PII	Pass ↓
GG 14	3	cc2442-20		LC724	5D+NTD 50+450	PII pNB	Pass HMX, 1,3+pNBSZ NBP 52
GG 15	11	op61122-mb		op61122	1X	PII	ND
GG 16	12	FA35383-1cf				PII 1,3,5 MPSZ	✓ 3,5 17
GG 17	13	FA35383-3cf				PII ↓	✓ HMX 2,4,4 EB 3,5 EB
GG 18	14	FA35383-4cf				PII ↓	✓ 3,5 50 EB
GG 19	15	FA35383-5cf		↓	↓		ND 3NX, 4DX p NB 1,3 DNC
GG 20	2	ccv2442-1000	↓	LC724	1:1	PII 1,3,5 MPSZ p-TAPSZ LL 07/22/16	Pass
GG							
GG							

* For NELAC purposes, Method 8332 includes analytes by SOP GC020

Manual Integration Rationale SOP QA029. MP Missed Peak, OP Overlapping Peak, SP Split Peak, PDB Poorly Defined Baseline, BR Baseline Ripple, PII Poor Instrument Integration

All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

hplc3_gg_log.xls NF rev. 08/09

* E5623 10ml
LC665 25ml
LC715 25ml
E5624 20ml
} +92

Analyst's Signature: Kimat Lyo

ACCUTEST LABORATORIES SE

DATE:	07/22/16
COLUMN TYPE:	Bolus PP
AMOUNT INJECTED:	100 ul
INSTRUMENT:	HPLC3-GG

HPLC3-GG ANALYSIS LOG

METHODS*:	8330A/B
ACQ. METHOD:	8330B
PROC. METHOD:	8330 LPB-0721
CALIB. DATE:	07/21/16
RUN BATCH: GGG	2443

ANALYST:	KL
ACETONITRILE LOT #:	3 94
MEOH LOT #:	162436
HEAD PRESSURE:	247

DATA FILE	ALS #	SAMPLE ID	SAMPLE METHOD	OP BATCH	DF	MANUALLY INTEGRATED PEAKS RATIONALE, PEAK #	COMMENTS
GG 059721	1	solvent	8330	—	—		ND
GG 22	2	cc2442-1000		LC724	1:1	135 MRSL PII	Pass
GG 23	21	FA35383-lcf		OP61122	1+3	PII 1,25 MRSL	✓
GG 24	22	OP61167-mb		OP61167	1x	PII	ND
GG 25	23	FA35499-lcf		↓	↓	PII 1,25 MRSL Sum 052	✓ 35.37 ug/L 2,6 DMC
GG 26	2	ccc2442-1000	↓	LC724	1:1	1,35 MRSL PII	Pass
GG							
GG							
GG							
GG							
GG							
GG							
GG							
GG							
GG							
GG							
GG							
GG							
GG							
GG							

KL 07/25/16

* For NELAC purposes, Method 8332 includes analytes by SOP GC020

Manual Integration Rationale SOP QA029: MP Missed Peak, OP Overlapping Peak, SP Split Peak, PDB Poorly Defined Baseline, BR Baseline Ripple, PII Poor Instrument Integration

All strikeouts must be initialed and dated. If correction was not due to a transcription error, then list the reason for correction.

Analyst's Signature: Kimut Ly

SGS ACCUTEST - ORLANDO

SPE LIQUID SAMPLE PREP REPORT

Date/Time Started: 07/21/16 0900 (mm/dd/yy 24:00)

Date/Time Finished: 07/21/16 1400 (mm/dd/yy 24:00)

Prep Method: (3535A) or Method (circle)

Analytical Method: 8330B

Batch#: OP61167 Ext. By: MB Conc. By: — Vialed By: MB

Sample ID	Bottle Number	Amount Extracted (ml)	Initial pH	Adjusted pH	Surrogate Amount	Spike Amount	Final Volume (ml)	Comments
OP 61167 MB	X	1000	6	N/A	250µl		10 ml	
OP 61167 BS	X	1000	↓	↓	↓	250µl 250µl 250µl	↓	
FA35499-1	2	1000	↓	↓	↓		↓	
FA35499-1 MS	3	520	6	N/A	250µl	250µl 250µl 250µl	10µl	
-1 MSD	3	520	↓	↓	↓	↓	↓	
DUP								

MB 07/21/16

Comments: 80 ml DI H2O 7930 1000 ug/L 1000 ug/L 07/21/16 06/15/17

Surr.1 ID: ES6346 Conc: 20 ppm Exp. Date: 11/26/16 Inj. By: MB Ver. By: MB

Surr.2 ID: — Conc: — Exp. Date: — Inj. By: — Ver. By: —

Spk.1 ID: ES637 Conc: 20 ppm Exp. Date: 11/12/16 Inj. By: MB Ver. By: MB

Spk.2 ID: ES624 Conc: 25 ppm Exp. Date: 11/19/16 Inj. By: MB Ver. By: MB

Initial Bath Temp (Therm ID): — Observed Temp °C: — Corr. Temp °C: —

Exchange Bath/N-Evap Temp (Therm ID): — Observed Temp °C: — Corr. Temp °C: —

Methanol Lot #: —

Acetonitrile Lot #: 154525

Water Lot#: DI H2O

SPE Lot #: 5214-0061

SPE Lot #: —

Syringe Filter Lot#: —

pH Paper #: 226015

Reagent #: —

Solvent #: —

Relinquished By: Date: 07/21/16

Accepted By: Date: 07/22/16

9.7.1

9

SGS ACCUTEST FA35499

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LABORATORY REPORT

If you have any questions concerning this report, please do not hesitate to call us at (800) 332-4345 or (574) 233-4777.

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Alaska	IN00035	Nebraska	E87775
Arizona	AZ0432	Nevada	IN00035
Arkansas	IN00035	New Hampshire*	2124
California	2920	New Mexico	IN00035
Colorado	IN035	New Jersey*	IN598
Colorado Radiochemistry	IN035	New York*	11398
Connecticut	PH-0132	North Carolina	18700
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Revision date: 04/14/2016

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LABORATORY REPORT

Client: CT Laboratories
Attn: Jodi Serstad
1230 Lange Court
Baraboo, WI 53913

Report #: 367332

Priority: Standard

Status: Final

Project: #120379 EEA-IN / Radford AAP

Samples Submitted: Five groundwater samples and one matrix spike/matrix spike duplicate

Copies to: None

Collected: 07/11/16 By: Client Received: 07/13/16

REPORT SUMMARY

Five groundwater samples and one matrix spike/matrix spike duplicate were submitted for analysis of Method 300.0.

A summary of the detections by sample accompanies this case narrative.

Analytical results were designated as reportable based upon the associated quality control samples. Deviations from method requirements are noted below.

Note: Sample containers were provided by the client.

EPA 300.0

Chlorate and chlorite were not detected in the samples submitted for analysis.

MS/MSD: Recoveries of chlorite in the MS 3491672 and MSD 3491673 at 250 ug/L were low biased outside the acceptance limits of 90-110% recovery due to matrix interference.

We appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not hesitate to call James Vernon at (574) 233-4777.

Note: The results presented relate only to the samples provided for analysis.

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Dana M. Sosz Reporter

08/03/2016

Reviewed By Title Date

Finalized By Title Date

eurofins | Eaton Analytical

110 South Hill Street
South Bend, IN 46617
Tel: (574) 233-4777
Fax: (574) 233-8207
1 800 332 4345

Laboratory Report

Client: CT Laboratories

Attn: Jodi Serstad
1230 Lange Court
Baraboo, WI 53913

Report: 367332
Priority: Standard Written
Status: Final
PWS ID: Not Supplied

Sample Information

EEA ID #	Client ID	Method	Collected Date / Time	Collected By:	Received Date / Time
3491671	743829	300.0	07/11/16 13:15	Client	07/13/16 10:00
3491674	743851	300.0	07/11/16 15:25	Client	07/13/16 10:00
3491675	743879	300.0	07/11/16 11:30	Client	07/13/16 10:00
3491676	743881	300.0	07/11/16 11:45	Client	07/13/16 10:00
3491677	743883	300.0	07/11/16 14:45	Client	07/13/16 10:00

Report Summary

Note: See attached page for additional comments.

PO #120379 EEA-IN / Project: Radford AAP

Note: Sample containers were provided by the client.

Detailed quantitative results are presented on the following pages. The results presented relate only to the samples provided for analysis.

We appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not hesitate to call Jim Vernon at (574) 233-4777.

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08/02/2016

Authorized Signature | Title | Date

Client Name: CT Laboratories
Report #: 367332

Client Name: CT Laboratories Report #: 367332

Sampling Point: 743829 PWS ID: Not Supplied

General Chemistry									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	EEA ID #
14866-68-3	Chlorate	300.0	---	10	< 10	ug/L	---	07/15/16 07:13	3491671
14998-27-7	Chlorite	300.0	1000 *	10	< 10	ug/L	---	07/15/16 07:13	3491671

Sampling Point: 743851 PWS ID: Not Supplied

General Chemistry									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	EEA ID #
14866-68-3	Chlorate	300.0	---	10	< 10	ug/L	---	07/15/16 08:57	3491674
14998-27-7	Chlorite	300.0	1000 *	10	< 10	ug/L	---	07/15/16 08:57	3491674

Sampling Point: 743879 PWS ID: Not Supplied

General Chemistry									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	EEA ID #
14866-68-3	Chlorate	300.0	---	10	< 10	ug/L	---	07/15/16 09:32	3491675
14998-27-7	Chlorite	300.0	1000 *	10	< 10	ug/L	---	07/15/16 09:32	3491675

Sampling Point: 743881 PWS ID: Not Supplied

General Chemistry									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	EEA ID #
14866-68-3	Chlorate	300.0	---	10	< 10	ug/L	---	07/15/16 10:06	3491676
14998-27-7	Chlorite	300.0	1000 *	10	< 10	ug/L	---	07/15/16 10:06	3491676

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Sampling Point: 743883 PWS ID: Not Supplied

General Chemistry									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	EEA ID #
14866-68-3	Chlorate	300.0	---	10	< 10	ug/L	---	07/15/16 10:41	3491677
14998-27-7	Chlorite	300.0	1000 *	10	< 10	ug/L	---	07/15/16 10:41	3491677

† EEA has demonstrated it can achieve these report limits in reagent water, but can not document them in all sample matrices.

Reg Limit Type:	MCL	SMCL	AL
Symbol:	*	^	!

Lab Definitions

Continuing Calibration Check Standard (CCC) / Continuing Calibration Verification (CCV) / Initial Calibration Verification Standard (ICV) / Initial Performance Check (IPC) - is a standard containing one or more of the target analytes that is prepared from the same standards used to calibrate the instrument. This standard is used to verify the calibration curve at the beginning of each analytical sequence, and may also be analyzed throughout and at the end of the sequence. The concentration of continuing standards may be varied, when prescribed by the reference method, so that the range of the calibration curve is verified on a regular basis. CCL, CCM, and CCH are the CCC standards at low, mid, and high concentration levels, respectively.

Internal Standards (IS) - are pure compounds with properties similar to the analytes of interest, which are added to field samples or extracts, calibration standards, and quality control standards at a known concentration. They are used to measure the relative responses of the analytes of interest and surrogates in the sample, calibration standard or quality control standard.

Laboratory Duplicate (LD) - is a field sample aliquot taken from the same sample container in the laboratory and analyzed separately using identical procedures. Analysis of laboratory duplicates provides a measure of the precision of the laboratory procedures.

Laboratory Fortified Blank (LFB) / Laboratory Control Sample (LCS) - is an aliquot of reagent water to which known concentrations of the analytes of interest are added. The LFB is analyzed exactly the same as the field samples. LFBs are used to determine whether the method is in control. FBL, FBM, and FBH are the LFB samples at low, mid, and high concentration levels, respectively.

Laboratory Method Blank (LMB) / Laboratory Reagent Blank (LRB) - is a sample of reagent water included in the sample batch analyzed in the same way as the associated field samples. The LMB is used to determine if method analytes or other background contamination have been introduced during the preparation or analytical procedure. The LMB is analyzed exactly the same as the field samples.

Laboratory Trip Blank (LTB) / Field Reagent Blank (FRB) - is a sample of laboratory reagent water placed in a sample container in the laboratory and treated as a field sample, including storage, preservation, and all analytical procedures. The FRB/LTB container follows the collection bottles to and from the collection site, but the FRB/LTB is not opened at any time during the trip. The FRB/LTB is primarily a travel blank used to verify that the samples were not contaminated during shipment.

Matrix Spike Duplicate Sample (MSD) / Laboratory Fortified Sample Matrix Duplicate (LFSMD) - is a sample al6iquot taken from the same field sample source as the Matrix Spike Sample to which known quantities of the analytes of interest are added in the laboratory. The MSD is analyzed exactly the same as the field samples. Analysis of the MSD provides a measure of the precision of the laboratory procedures in a specific matrix. SDL, SDM, and SDH / LFSMDL, LFSMDM, and LFSMDH are the MSD or LFSMD at low, mid, and high concentration levels, respectively.

Matrix Spike Sample (MS) / Laboratory Fortified Sample Matrix (LFSM) - is a sample aliquot taken from field sample source to which known quantities of the analytes of interest are added in the laboratory. The MS is analyzed exactly the same as the field samples. The purpose is to demonstrate recovery of the analytes from a sample matrix to determine if the specific matrix contributes bias to the analytical results. MSL, MSM, and MSH / LFSML, LFSMM, and LFSMH are the MS or LFSM at low, mid, and high concentration levels, respectively.

Quality Control Standard (QCS) / Second Source Calibration Verification (SSCV) - is a solution containing known concentrations of the analytes of interest prepared from a source different from the source of the calibration standards. The solution is obtained from a second manufacturer or lot if the lot can be demonstrated by the manufacturer as prepared independently from other lots. The QCS sample is analyzed using the same procedures as field samples. The QCS is used as a check on the calibration standards used in the method on a routine basis.

Reporting Limit Check (RLC) / Initial Calibration Check Standard (ICCS) - is a procedural standard that is analyzed each day to evaluate instrument performance at or below the minimum reporting limit (MRL).

Surrogate Standard (SS) / Surrogate Analyte (SUR) - is a pure compound with properties similar to the analytes of interest, which is highly unlikely to be found in any field sample, that is added to the field samples, calibration standards, blanks and quality control standards before sample preparation. The SS is used to evaluate the efficiency of the sample preparation process.

301301

CT LABORATORIES
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www.ctlaboratories.com

Sub-Contract Laboratory Chain-of-Custody and Purchase Order

367332

PURCHASE ORDER # 120379 EEA-IN

The PO# must appear on all invoice and reports!

Upon Receipt of Samples, please verify that samples were received in acceptable condition then sign this form and fax to (608)356-2766 or email to the project manager. Sample temperature, upon receipt, must be recorded on this document unless thermal preservation is not a method requirement.

Ship to: **Eurofins Eaton Analytical - IN**
110 South Hill Street
South Bend, IN 46617

Return Invoice and Results to: **bszymanski@ctlaboratories.com**

CTLaboratories
Brett M Szymanski
1230 Lange Court
Baraboo WI 53913

Date Due: Standard TAT ***RUSH TURNAROUND NEEDED? Y or (N) (Circle One)***

Project Name: RADFORD AAP **Project State:** VA

Analytical/QC Criteria: NONE INDICATED STATE (DOD QSM) NELAP (Circle one) OTHER_____

Report results as EDD? N (Y) (Circle one and indicate type: Excel) Data Deliverable Package LEVEL: IV

S 3491671
MS 3491672
MSD 3491673

CTLabs ID#	Sample Date/Time	Matrix	Sample Description	Analyses / Method		Cost
743829	07/11/2016 1315	GROUND WATER	54MW12 ★ Designated MS/MSD	CHLORATE/CHLORITE	300.1	
743851	07/11/2016 1525	GROUND WATER	54MW1	3491 674 CHLORATE/CHLORITE	300.1	
743879	07/11/2016 1130	GROUND WATER	54MW10	675 CHLORATE/CHLORITE	300.1	
743881	07/11/2016 1145	GROUND WATER	54TM10	676 CHLORATE/CHLORITE	300.1	
743883	07/11/2016 1445	GROUND WATER	071116R1	677 CHLORATE/CHLORITE	300.1	

Relinquished by: Brett Szymanski Date/Time: 07/12/2016 15:35

Received by: [signature] Date/Time: 7/13/16 1000 Receipt Temperature (C) 0.6 wet

COMMENTS:

Client Provided Sample Container

REPORT ALL SOLIDS ON A DRY WEIGHT BASIS UNLESS OTHERWISE INDICATED

Eurofins Eaton Analytical

Run Log

Run ID: **217981** Method: **300.0**

Type	Sample Id	Sample Site	Matrix	Instrument ID	Analysis Date	Calibration File
ICB	3494839		RW	CQ	07/14/2016 14:26	
LRB	3494847		RW	CQ	07/14/2016 19:40	
LFB	3494848		RW	CQ	07/14/2016 20:15	
IPC	3494849		RW	CQ	07/15/2016 03:45	
CCB	3494850		RW	CQ	07/15/2016 04:20	
FS	3491671	743829	GW	CQ	07/15/2016 07:13	
MS	3491672	743829	GW	CQ	07/15/2016 07:48	
MSD	3491673	743829	GW	CQ	07/15/2016 08:22	
FS	3491674	743851	GW	CQ	07/15/2016 08:57	
FS	3491675	743879	GW	CQ	07/15/2016 09:32	
FS	3491676	743881	GW	CQ	07/15/2016 10:06	
FS	3491677	743883	GW	CQ	07/15/2016 10:41	
IPC	3494852		RW	CQ	07/15/2016 12:25	
CCB	3494853		RW	CQ	07/15/2016 13:00	

QC Summary Report

Sample Type	Analyte	Method	MRL	Client ID	Result Flag	Amount	Target	Units	% Recovery	Recovery Limits	RPD	RPD Limit	Dil Factor	Extracted	Analyzed	EEA ID #
ICB	Chlorate	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	07/14/2016 14:26	3494839
ICB	Chlorite	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	07/14/2016 14:26	3494839
LRB	Chlorate	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	07/14/2016 19:40	3494847
LRB	Chlorite	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	07/14/2016 19:40	3494847
LFB	Chlorate	300.0	10	---		253.7810	250	ug/L	102	90 - 110	---	---	1.0	---	07/14/2016 20:15	3494848
LFB	Chlorite	300.0	10	---		255.3140	250	ug/L	102	90 - 110	---	---	1.0	---	07/14/2016 20:15	3494848
IPC	Chlorate	300.0	10	---		255.4820	250	ug/L	102	90 - 110	---	---	1.0	---	07/15/2016 03:45	3494849
IPC	Chlorite	300.0	10	---		256.9110	250	ug/L	103	90 - 110	---	---	1.0	---	07/15/2016 03:45	3494849
CCB	Chlorate	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	07/15/2016 04:20	3494850
CCB	Chlorite	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	07/15/2016 04:20	3494850
FS	Chlorate	300.0	10	743829	<	10		ug/L	---	---	---	---	1.0	---	07/15/2016 07:13	3491671
FS	Chlorite	300.0	10	743829	<	10		ug/L	---	---	---	---	1.0	---	07/15/2016 07:13	3491671
MS	Chlorate	300.0	10	743829		234.6300	250	ug/L	94	90 - 110	---	---	1.0	---	07/15/2016 07:48	3491672
MS	Chlorite	300.0	10	743829		207.9450	250	ug/L	**83**	90 - 110	---	---	1.0	---	07/15/2016 07:48	3491672
MSD	Chlorate	300.0	10	743829		234.2040	250	ug/L	94	90 - 110	0.2	10	1.0	---	07/15/2016 08:22	3491673
MSD	Chlorite	300.0	10	743829		208.6270	250	ug/L	**83**	90 - 110	0.3	10	1.0	---	07/15/2016 08:22	3491673
FS	Chlorate	300.0	10	743851	<	10		ug/L	---	---	---	---	1.0	---	07/15/2016 08:57	3491674
FS	Chlorite	300.0	10	743851	<	10		ug/L	---	---	---	---	1.0	---	07/15/2016 08:57	3491674
FS	Chlorate	300.0	10	743879	<	10		ug/L	---	---	---	---	1.0	---	07/15/2016 09:32	3491675
FS	Chlorite	300.0	10	743879	<	10		ug/L	---	---	---	---	1.0	---	07/15/2016 09:32	3491675
FS	Chlorate	300.0	10	743881	<	10		ug/L	---	---	---	---	1.0	---	07/15/2016 10:06	3491676
FS	Chlorite	300.0	10	743881	<	10		ug/L	---	---	---	---	1.0	---	07/15/2016 10:06	3491676
FS	Chlorate	300.0	10	743883	<	10		ug/L	---	---	---	---	1.0	---	07/15/2016 10:41	3491677
FS	Chlorite	300.0	10	743883	<	10		ug/L	---	---	---	---	1.0	---	07/15/2016 10:41	3491677
IPC	Chlorate	300.0	10	---		254.9310	250	ug/L	102	90 - 110	---	---	1.0	---	07/15/2016 12:25	3494852
IPC	Chlorite	300.0	10	---		258.3180	250	ug/L	103	90 - 110	---	---	1.0	---	07/15/2016 12:25	3494852
CCB	Chlorate	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	07/15/2016 13:00	3494853
CCB	Chlorite	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	07/15/2016 13:00	3494853

Sample Type Key

Type (Abbr.)	Sample Type	Type (Abbr.)	Sample Type
CCB	Continuing Calibration Blank		
FS	Field Sample		
ICB	Initial Calibration Blank		
IPC	Instrument Performance Check		
LFB	Laboratory Fortified Blank		
LRB	Laboratory Reagent Blank		
MS	Matrix Spike		
MSD	Matrix Spike Duplicate		

END OF REPORT

Eurofins Eaton Analytical

Method 300.0 B Ion Chromatography Standard / Reagent Preparation Log

Run ID# 217981 **Instrument#** CQ

Stock Name/Part#/Grade	Manufacturer	Lot#	Date Received	Date Opened	Date of Expiration
Chlorite Cal Stock / ICCLO21	Inorganic Ventures	H2-CLOX01104MCA	05/06/2014	08/10/2015	08/10/2016
Bromide Cal Stock / ICBR1	Inorganic Ventures	J2-BR01106	05/06/2014	08/10/2015	08/10/2016
Chlorate Cal Stock / ICCLO31	Inorganic Ventures	J2-CLOX01107	05/06/2014	08/10/2015	08/10/2016
ChloriteQC Stock / ICCLO21	Inorganic Ventures	J2-CLOX01108	05/06/2014	08/10/2015	08/10/2016
Bromide QC Stock / ICC-031	Ultra Scientific	CL-4936	07/15/2015	07/21/2015	01/31/2019
Chlorate QC Stock / ICC-011	Ultra Scientific	P01208	07/15/2015	07/21/2015	12/31/2016
EDA / E479-500	Fisher	148201	08/19/2015	08/31/2015	NA

Working Solution Name	Stock Name, Amounts Used, Final Volume and Concentration	
Cal Substock -25	1250 uL of each Cal Stock in 50 mL volume RW= 25.0 mg/L	IOC47-8a(1-3)
Cal Substock -25	1250 uL of each Cal Stock in 50 mL volume RW= 25.0 mg/L	IOC47-8a(4-6)

Analyst: S Lovick **Prep Date:** 07/07/2016 **Exp. Date:** 08/07/2016

Cal Standard	Br^-, ClO_3^- & ClO_2^- Concentration (µg/L)	25 mg/L Cal Substock Vol. (µL)	25 mg/L QC Substock Vol. (µL)	50 mg/mL EDA Vol. (µL)	Final Vol. (mL)
1	10	4		10	10
2	20	8		10	10
3	100	40		10	10
4	250	100		10	10
5	500	200		10	10
QCS	250		100	10	10

Analyst: S Lovick **Prep Date:** 07/14/2016 **Exp. Date:** 07/21/2016

LFB	250	100		10	10

Analyst: S Lovick **Prep Date:** 07/14/2016 **Exp. Date:** 07/21/2016

EDA solution	5.6 mL EDA to 100 mL volume RW = 50 mg/mL Prep ID IC47-1b	

Analyst: S Lovick **Prep Date:** 06/23/2016 **Exp. Date:** 07/23/2016

Comments: Dionex IonPac AS19-HC 4mm s/n 16C418153 lot#01531115 installed 5/27/2016

EGCIII-Eluent Cartridge s/n 16032301201? installed 05/27/2016

Analyst: [signature] **Date:** 7/18/2016

Technician Review: [signature] **Date:** 07/18/2016

LID 217581

Summary

Sequence Details		
Name:	071416A	14/Jan/15 14:67:12
Directory:	Instrument Data\CQ\300B\2016	Eurofins Eaton Analy
Data Vault:	ChromeleonLocal	15/Jul/16 13:57:24
No. of Injections:	40	us25_usr_sbnfahpcs

Sy Component	Chlorite

No.	Injection Name	Inject Time	Area µS*min CD_1 Chlorite	Amount ppb CD_1 Chlorite	Area µS*min CD_1 Chlorate	Amount PPM CD_1 Chlorate	Area µS*min CD_1 Bromide	Amount PPM CD_1 Bromide
1	\ICB\RW\1\	07/14/16 14:26	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2	\ICS\RW\1\10	07/14/16 15:01	0.009	9.869	0.007	11.555	0.008	11.509
3	\ICS\RW\1\20	07/14/16 15:36	0.020	20.759	0.014	20.020	0.017	20.559
4	\ICS\RW\1\100	07/14/16 16:11	0.100	98.008	0.083	98.886	0.088	98.194
5	\ICS\RW\1\250	07/14/16 16:46	0.259	251.987	0.213	248.696	0.227	248.859
6	\ICS\RW\1\500	07/14/16 17:21	0.516	499.377	0.433	500.843	0.459	500.879
7	\UCQM\RW\1\250	07/14/16 17:56	0.263	255.845	0.215	250.491	0.230	252.907
8	\IPC\RW\1\250	07/14/16 18:31	0.257	249.102	0.212	247.640	0.226	247.506
9	\RLC\RW\1\10	07/14/16 19:05	0.009	10.401	0.007	11.952	0.007	10.093
10	\LRB\RW\1\	07/14/16 19:40	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
11	\LFB\RW\1\250	07/14/16 20:15	0.263	255.314	0.218	253.781	0.232	254.714
12	3490134\FS\DW\5\	07/14/16 20:49	0.113	110.425	0.058	70.395	n.a.	n.a.
13	3490134\MS\DW\5\250	07/14/16 21:24	0.401	388.997	0.297	345.260	0.254	277.998
14	3490134\MSD\DW\5\250	07/14/16 21:58	0.397	384.940	0.297	345.144	0.253	277.320
15	3490582\FS\DW\5\	07/14/16 22:33	0.064	63.586	0.156	182.639	n.a.	n.a.
16	3490583\FS\DW\5\	07/14/16 23:08	0.068	67.088	0.148	173.417	0.001	3.742
17	3490584\FS\DW\5\	07/14/16 23:42	0.057	56.149	0.137	160.700	0.002	4.427
18	3491005\FS\SW\1\	07/15/16 00:17	n.a.	n.a.	0.003	6.981	0.049	55.368
19	3491121\FS\SW\1\	07/15/16 00:52	n.a.	n.a.	0.006	11.098	0.053	59.533
20	3491134\FS\DW\1\	07/15/16 01:26	0.007	8.396	0.295	342.263	0.096	106.370
21	3491150\FS\SW\1\	07/15/16 02:01	n.a.	n.a.	n.a.	n.a.	0.017	21.404
22	3491152\FS\SW\1\	07/15/16 02:36	n.a.	n.a.	n.a.	n.a.	0.027	31.949
23	3491154\FS\SW\1\	07/15/16 03:10	n.a.	n.a.	0.003	7.697	0.040	45.805
24	\IPC\RW\1\250	07/15/16 03:45	0.265	256.911	0.219	255.482	0.234	256.422
25	\CCB\RW\1\	07/15/16 04:20	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
26	3491323\FS\DW\1\	07/15/16 04:54	0.297	288.614	0.201	234.576	0.002	4.771
27	3491324\FS\DW\1\	07/15/16 05:29	0.229	222.341	0.228	265.447	0.002	4.883
28	3491325\FS\DW\1\	07/15/16 06:04	0.261	253.207	0.239	277.945	0.001	4.095
29	3491636\FS\SW\1\	07/15/16 06:38	n.a.	n.a.	0.018	24.466	0.038	43.514
30	3491671\FS\GW\1\	07/15/16 07:13	n.a.	n.a.	0.001	5.155	0.020	24.168
31	3491672\MS\GW\1\250	07/15/16 07:48	0.214	207.945	0.201	234.630	0.237	260.276
32	3491673\MSD\GW\1\250	07/15/16 08:22	0.215	208.627	0.201	234.204	0.237	260.332
33	3491674\FS\GW\1\	07/15/16 08:57	n.a.	n.a.	n.a	n.a.	0.008	10.924
34	3491675\FS\GW\1\	07/15/16 09:32	n.a.	n.a.	0.001	5.293	0.018	21.684
35	3491676\FS\GW\1\	07/15/16 10:06	n.a.	n.a.	n.a.	n.a.	0.017	20.630
36	3491677\FS\GW\1\	07/15/16 10:41	n.a.	n.a.	n.a.	n.a.	0.011	13.936
37	3491686\FS\SW\1\	07/15/16 11:16	n.a.	n.a.	n.a.	n.a.	0.007	10.389
38	\NCQ\RW\1\250	07/15/16 11:50	0.265	257.773	0.217	252.526	0.235	257.433
39	\IPC\RW\1\250	07/15/16 12:25	0.266	258.318	0.219	254.931	0.234	257.111
40	\CCB\RW\1\	07/15/16 13:00	n.a.	n.a	n.a.	n.a.	n.a.	n.a.

Name	**AS19 4mm**
Comment	
Description	**Instrument: ICS2000** **Creation Time: 1/14/2015 12:24:40 PM** **Created by EurofinsEatonAnaly**
Run time	**30.000 [min]**
Instrument	**CQ on us25ins87994**

Stage	Time min	Command	Value	Comment
Instrument Setup				
	initial			
		Sampler.AcquireExclusiveAccess		
		Wait	Sampler.Ready, Run=Hold, Timeout=Infinite	
		Sampler.DiverterValve	Position_2	
		Wait	Sampler.Ready, Run=Hold, Timeout=Infinite	
		Sampler.PartialCutVolume	20.0 [µl]	
		Sampler.CycleTime	0 [min]	
		Sampler.InjectMode	PushSeqPartial	
		Sampler.BufferWashFactor	2.000	
		Sampler.WashDispSpeed	20.0 [µl/s]	
		Sampler.InjectWash	BeforeInj	
		Sampler.WashSpeed	20.0 [µl/s]	
		Sampler.WashVolume	500.0 [µl]	
		Sampler.SampleHeight	3.000 [mm]	
		Sampler.WasteSpeed	50.0 [µl/s]	
		Sampler.DispenseDelay	2.0 [s]	
		Sampler.DispSpeed	5.0 [µl/s]	
		Sampler.DrawSpeed	5.0 [µl/s]	
		Sampler.DrawDelay	2.0 [s]	
		Sampler.DilutionMixDispenseSpeed	60.0 [µl/s]	
		Sampler.DilutionMixIterations	3	
		Sampler.DilutionMixSpeed	30.0 [µl/s]	
		Pump_ECD.Pressure.UpperLimit	3000 [psi]	
		Pump_ECD.%A.Equate	"DI Water"	
		Pump_ECD.Pressure.LowerLimit	200 [psi]	
		Pump_ECD.ColumnTemperature.Nominal	30.0 [°C]	
		Pump_ECD.CellTemperature.Nominal	35.0 [°C]	
		Pump_ECD.Data_Collection_Rate	5.0 [Hz]	
		Pump_ECD.Suppressor_Type	AERS_4mm	
		Pump_ECD.Suppressor_Carbonate	0.0 [mM]	
		Pump_ECD.Suppressor_Bicarbonate	0.0 [mM]	
		Pump_ECD.Suppressor_Hydroxide	30.0 [mM]	
		Pump_ECD.Suppressor_Tetraborate	0.0 [mM]	
		Pump_ECD.Suppressor_OtherEluent	0.0 [mN]	
		Pump_ECD.Suppressor_RecommendedCurrent	75 [mA]	
		Pump_ECD.CR_TC	On	
		Sampler.PunctureOffset	0 [mm]	
		Sampler.InjectWash	BeforeInj	
		Pump_ECD.Flow	1.00	
		Pump_ECD.Suppressor_Current	75 [mA]	
		Pump_ECD.EluentGenerator.Curve	5	

		Pump_ECD.EluentGenerator.Concentration	10.00 [mM]
Inject			
	0.000		
		Wait	Sampler.CycleTimeState, Run=Hold, Timeout=Infinite
		Sampler.Inject	
		Sampler.ReleaseExclusiveAccess	
Start Run			
	0.000		
		Pump_ECD.Channel_Pressure.AcqOn	
		Pump_ECD.Autozero	
		Pump_ECD.ECD_1.AcqOn	
		Pump_ECD.ECD_Total.AcqOn	
Run			Duration = 30.000 [min]
	0.000		
	15.000		
		Pump_ECD.EluentGenerator.Concentration	10.00 [mM]
		Pump_ECD.EluentGenerator.Curve	5
	24.000		
		Pump_ECD.EluentGenerator.Concentration	40.00 [mM]
		Pump_ECD.EluentGenerator.Curve	8
	25.000		
		Pump_ECD.EluentGenerator.Concentration	10.00 [mM]
		Pump_ECD.EluentGenerator.Curve	5
Stop Run			
	30.000		
		Pump_ECD.Channel_Pressure.AcqOff	
		Pump_ECD.ECD_1.AcqOff	
		Pump_ECD.ECD_Total.AcqOff	
End			

Detection Settings

Algorithm. Chromeleon 6

Ret.Time	Param. Name	Param.Value	Inj. Type	Channel
0.000 [min]	Inhibit Integration	On	Any	All Channels
0.000 [min]	Valley To Valley	On	Any	All Channels
0.000 [min]	Sensitivity	0.0010 [Signal]	Any	All Channels
0.000 [min]	Peak Slice	1.00 [s]	Any	All Channels
0.000 [min]	Minimum Area	0.0010 [Signal*min]	Any	All Channels
7.900 [min]	Inhibit Integration	Off	Any	All Channels
9.500 [min]	Inhibit Integration	On	Any	All Channels
15.150 [min]	Inhibit Integration	Off	Any	All Channels
18.850 [min]	Inhibit Integration	On	Any	All Channels

Component Table

Name	Ret.Time	Window	Channel	Eval.Type	Stand.Meth.	Cal.Type
Chlorite	8.340	2.000 RG	All Channels	Area	External	Lin. WithOffset
Chlorate	15.900	3.000 RG	All Channels	Area	External	Lin. WithOffset
Bromide	17.500	3.500 RG	All Channels	Area	External	Lin. WithOffset

Level "01"	Level "02"	Level "03"	Level "04"	Level "05"	Level "06"	Level "07"
0.000000	10.000000	20.000000	100.000000	250.000000	500.000000	1000.000000
0.000000	10.000000	20.000000	100.000000	250.000000	500.000000	1000.000000
0.000000	10.000000	20.000000	100.000000	250.000000	500.000000	1000.000000

Conc.Unit	Factor	Peak Type	Group	Low.Conf.Prob	Up.Conf.Prob	Comment
ppb	1.000000	Autodetect		99.5 %	99.5 %	auto generated
PPM	1.000000	Autodetect		99.5 %	99.5 %	auto generated
PPM	1.000000	Autodetect		99.5 %	99.5 %	auto generated

Charge

Global Calibration Settings

Mode	**Group**
Curve Fitting	**Normal**
Dual-Column Separate Calibration	**No**
Origin of Standards for Fixed Calibration:	

Calibration Table

Enabled	Name	Calib.Comment for "Chlorite"	Level	Dilution	Weight
☑	\ICS\RW\1\	Missing Peak	01	1.0000	1.0000
☑	\ICS\RW\1\10	Ok	02	1.0000	1.0000
☑	\ICS\RW\1\20	Ok	03	1.0000	1.0000
☑	\ICS\RW\1\100	Ok	04	1.0000	1.0000
☑	\ICS\RW\1\250	Ok	05	1.0000	1.0000
☑	\ICS\RW\1\500	Ok	06	1.0000	1.0000

IntStd	Spike Group	Position	Volume	Comment	Instrument Method	Processing Method
1.0000		G8	200.0 [µl]		AS19 4mm	AS19 4mm
1.0000		G2	200.0 [µl]		AS19 4mm	AS19 4mm
1.0000		G3	200.0 [µl]		AS19 4mm	AS19 4mm
1.0000		G4	200.0 [µl]		AS19 4mm	AS19 4mm
1.0000		G5	200.0 [µl]		AS19 4mm	AS19 4mm
1.0000		G6	200.0 [µl]		AS19 4mm	AS19 4mm

Status	Inject Time	Replicate ID	GUID	Re-injections	AutoDilution Ratio
Finished	7/14/2016		BAB38D35-	0	0.00
Finished	7/14/2016		E08C2C30-0A58-	0	0.00
Finished	7/14/2016		727C78A2-	0	0.00
Finished	7/14/2016		086C549B-155A-	0	0.00
Finished	7/14/2016		0D263AEF-	0	0.00
Finished	7/14/2016		F25BFB70-	0	0.00

Unidentified Peak Group Table

Name	Start Time	End Time	Channel	Eval.Type	Cal.Type	Group	Factor	Comment

Chromatogram Subtraction

No Subtraction

Comment

Amount Interpretation

Reference Inject Volume Use inject volume of first standard

Retention Time Settings

Use absolute greatest signal value

Dead/Delay Time(s)

Dead time

Matrix Correction

Enable matrix correction No

System Suitability Test and Intelligent Run Control

Name	Statistics	Eval. Formula	Operator	Ref.Value 1	Ref.Value 2	Channel	Peak	N.A.

Inj.Condition	Pass Actions	Fail Actions	Result	SST Message	Rounding

Sequence Overview

Sequence Details

Name:	**071416A**	*Created On:*	**14/Jan/15 14:57:12**
Directory:	**Instrument Data\CQ\300B\2016**	*Created By:*	**Eurofins Eaton Analy**
Data Vault:	**ChromeleonLocal**	*Updated On:*	**15/Jul/16 13:57:24**
No. of Injections:	**40**	*Updated By:*	**us25_usr_sbnlabpcs**

Injection Details

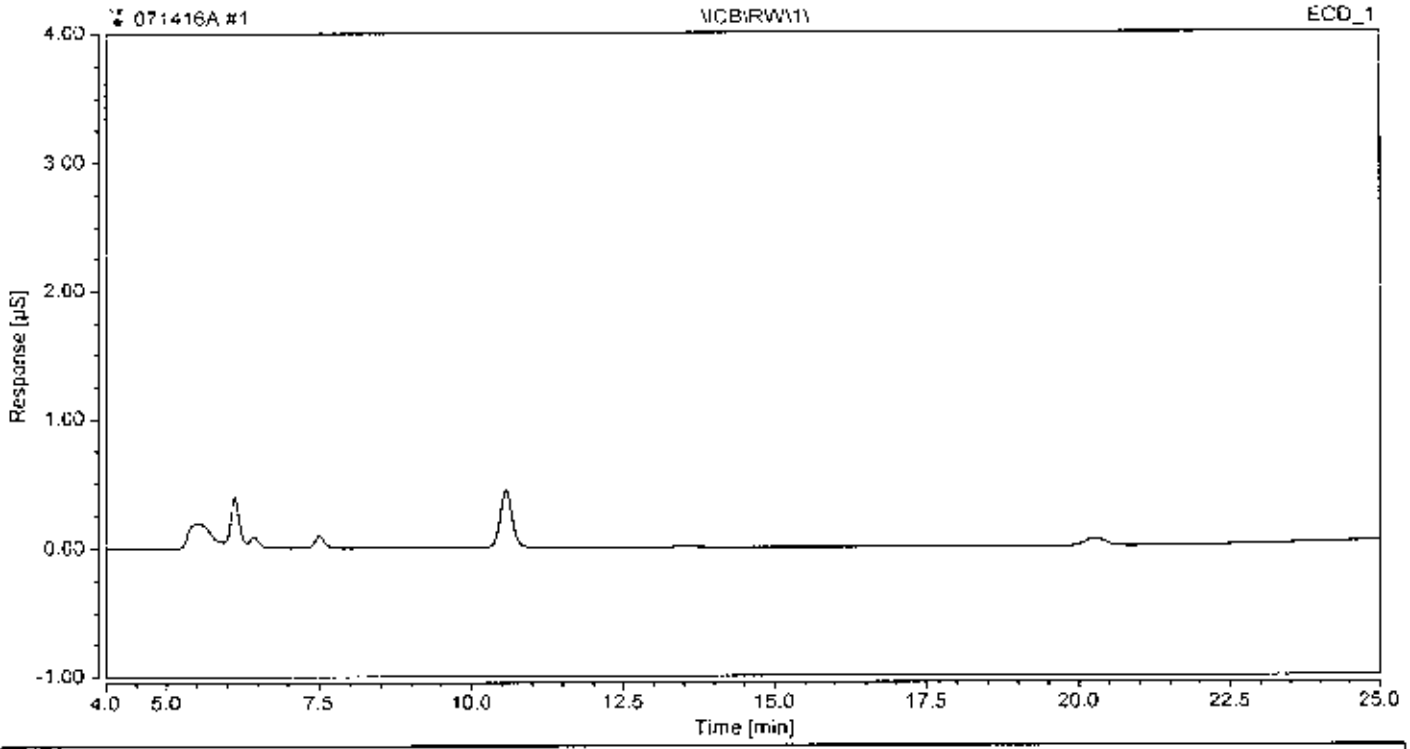
No.	Injection Name	Position	Type	Level	Inject Time	Status
1	\ICB\RW\1\	G8	Calibration Standard	01	14/Jul/16 14:26:31	Finished
2	\ICS\RW\1\10	G2	Calibration Standard	02	14/Jul/16 15:01:30	Finished
3	\ICS\RW\1\20	G3	Calibration Standard	03	14/Jul/16 15:36:29	Finished
4	\ICS\RW\1\100	G4	Calibration Standard	04	14/Jul/16 16:11:29	Finished
5	\ICS\RW\1\250	G5	Calibration Standard	05	14/Jul/16 16:46:29	Finished
6	\ICS\RW\1\500	G6	Calibration Standard	06	14/Jul/16 17:21:28	Finished
7	\UCQM\RW\1\250	G7	Unknown		14/Jul/16 17:56:26	Finished
8	\IPC\RW\1\250	G5	Unknown		14/Jul/16 18:31:06	Finished
9	\RLC\RW\1\10	GA1	Unknown		14/Jul/16 19:05:44	Finished
10	\LRB\RW\1\	GA2	Unknown		14/Jul/16 19:40:23	Finished
11	\LFB\RW\1\250	GA3	Unknown		14/Jul/16 20:15:02	Finished
12	3490134\FS\DW\5\	GA4	Unknown		14/Jul/16 20:49:41	Finished
13	3490134\MS\DW\5\25	GA5	Unknown		14/Jul/16 21:24:20	Finished
14	3490134\MSD\DW\5\	GA6	Unknown		14/Jul/16 21:58:59	Finished
15	3490582\FS\DW\5\	GA7	Unknown		14/Jul/16 22:33:38	Finished
16	3490583\FS\DW\5\	GA8	Unknown		14/Jul/16 23:08:18	Finished
17	3490584\FS\DW\5\	GB1	Unknown		14/Jul/16 23:42:57	Finished
18	3491005\FS\SW\1\	GB2	Unknown		15/Jul/16 00:17:35	Finished
19	3491121\FS\SW\1\	GB3	Unknown		15/Jul/16 00:52:14	Finished
20	3491134\FS\DW\1\	GB4	Unknown		15/Jul/16 01:26:55	Finished
21	3491150\FS\SW\1\	GB5	Unknown		15/Jul/16 02:01:35	Finished
22	3491152\FS\SW\1\	GB6	Unknown		15/Jul/16 02:36:15	Finished
23	3491154\FS\SW\1\	GB7	Unknown		15/Jul/16 03:10:54	Finished
24	\IPC\RW\1\250	G5	Unknown		15/Jul/16 03:45:33	Finished
25	\CCB\RW\1\	G8	Unknown		15/Jul/16 04:20:12	Finished
26	3491323\FS\DW\1\	GB8	Unknown		15/Jul/16 04:54:52	Finished
27	3491324\FS\DW\1\	GC1	Unknown		15/Jul/16 05:29:33	Finished
28	3491325\FS\DW\1\	GC2	Unknown		15/Jul/16 06:04:13	Finished
29	3491636\FS\SW\1\	GC3	Unknown		15/Jul/16 06:38:53	Finished
30	3491671\FS\GW\1\	GC4	Unknown		15/Jul/16 07:13:32	Finished
31	3491672\MS\GW\1\25	GC5	Unknown		15/Jul/16 07:48:12	Finished
32	3491673\MSD\GW\1\	GC6	Unknown		15/Jul/16 08:22:50	Finished
33	3491674\FS\GW\1\	GC7	Unknown		15/Jul/16 08:57:30	Finished
34	3491675\FS\GW\1\	GC8	Unknown		15/Jul/16 09:32:10	Finished
35	3491676\FS\GW\1\	GD1	Unknown		15/Jul/16 10:06:49	Finished
36	3491677\FS\GW\1\	GD2	Unknown		15/Jul/16 10:41:28	Finished
37	3491686\FS\SW\1\	GD3	Unknown		15/Jul/16 11:16:07	Finished
38	\NCQ\RW\1\250	G7	Unknown		15/Jul/16 11:50:46	Finished
39	\IPC\RW\1\250	G5	Unknown		15/Jul/16 12:25:25	Finished
40	\CCB\RW\1\	G8	Unknown		15/Jul/16 13:00:04	Finished

Chromatogram and Results

Injection Details

Injection Name:	\ICB\RW\1\	*Run Time (min):*	**30.00**
Vial Number:	**G8**	*Injection Volume:*	**200.00**
Injection Type:	**Calibration Standard**	*Channel:*	**ECD_1**
Calibration Level:	**01**	*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**14/Jul/16 14:26**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

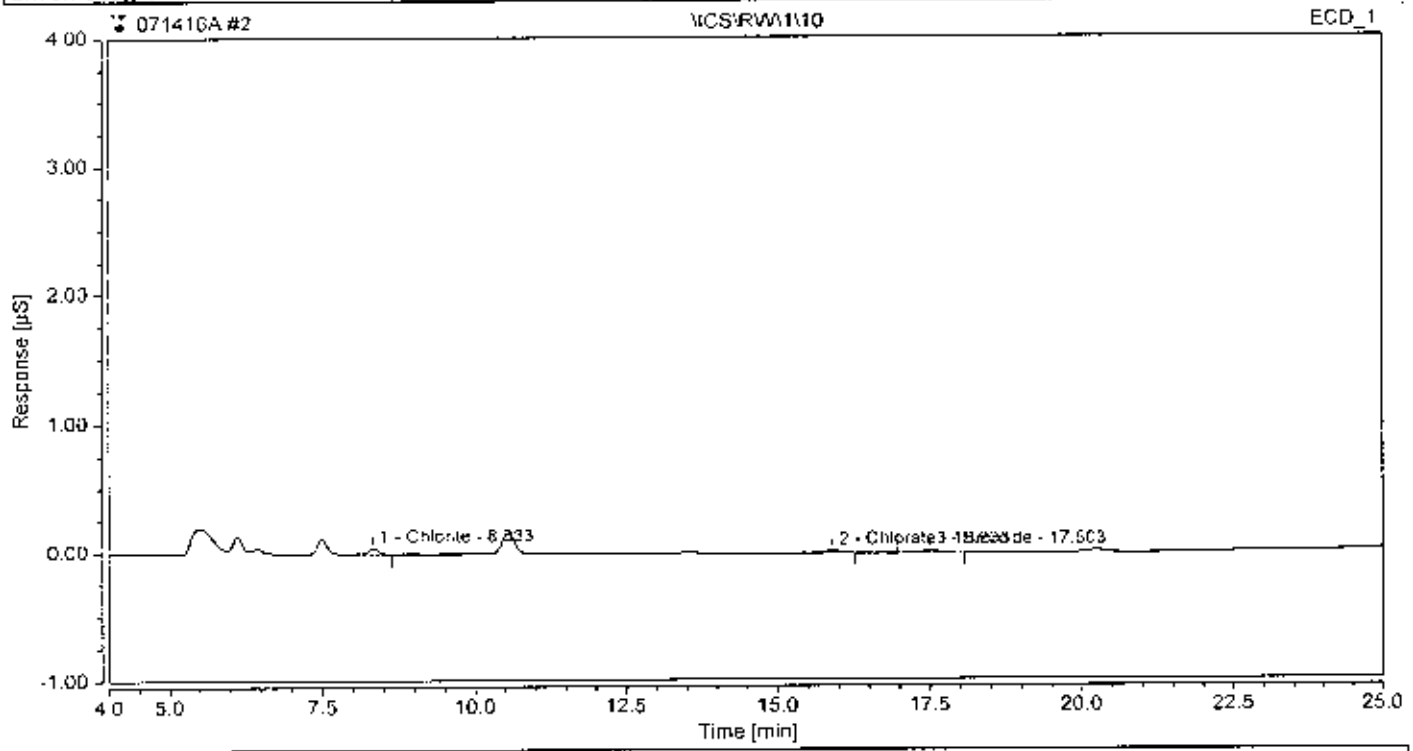
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**\\CS\RW\1\10**	*Run Time (min):*	**30.00**
Vial Number:	**G2**	*Injection Volume:*	**200.00**
Injection Type:	**Calibration Standard**	*Channel:*	**ECD_1**
Calibration Level:	**02**	*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**14/Jul/16 15:01**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

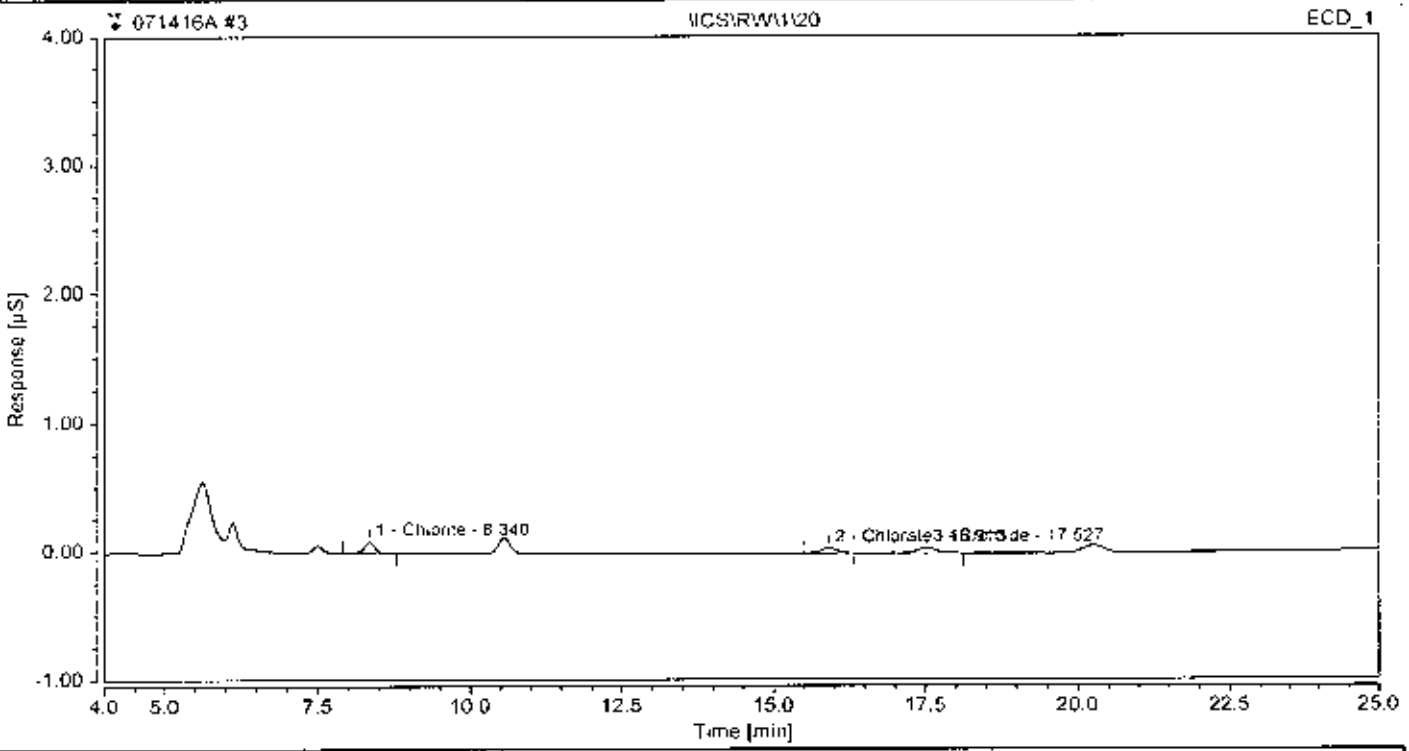
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	8.333	0.009	0.046	37.01	52.97	9.8693
2	Chlorate	15.903	0.007	0.020	28.36	22.72	11.5549
3	Bromide	17.503	0.008	0.021	34.63	24.31	11.5086
Total:			**0.024**	**0.087**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	\\CS\RW\1\20	*Run Time (min):*	**30.00**
Vial Number:	**G3**	*Injection Volume:*	**200.00**
Injection Type:	**Calibration Standard**	*Channel:*	**ECD_1**
Calibration Level:	**03**	*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**14/Jul/16 15:36**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

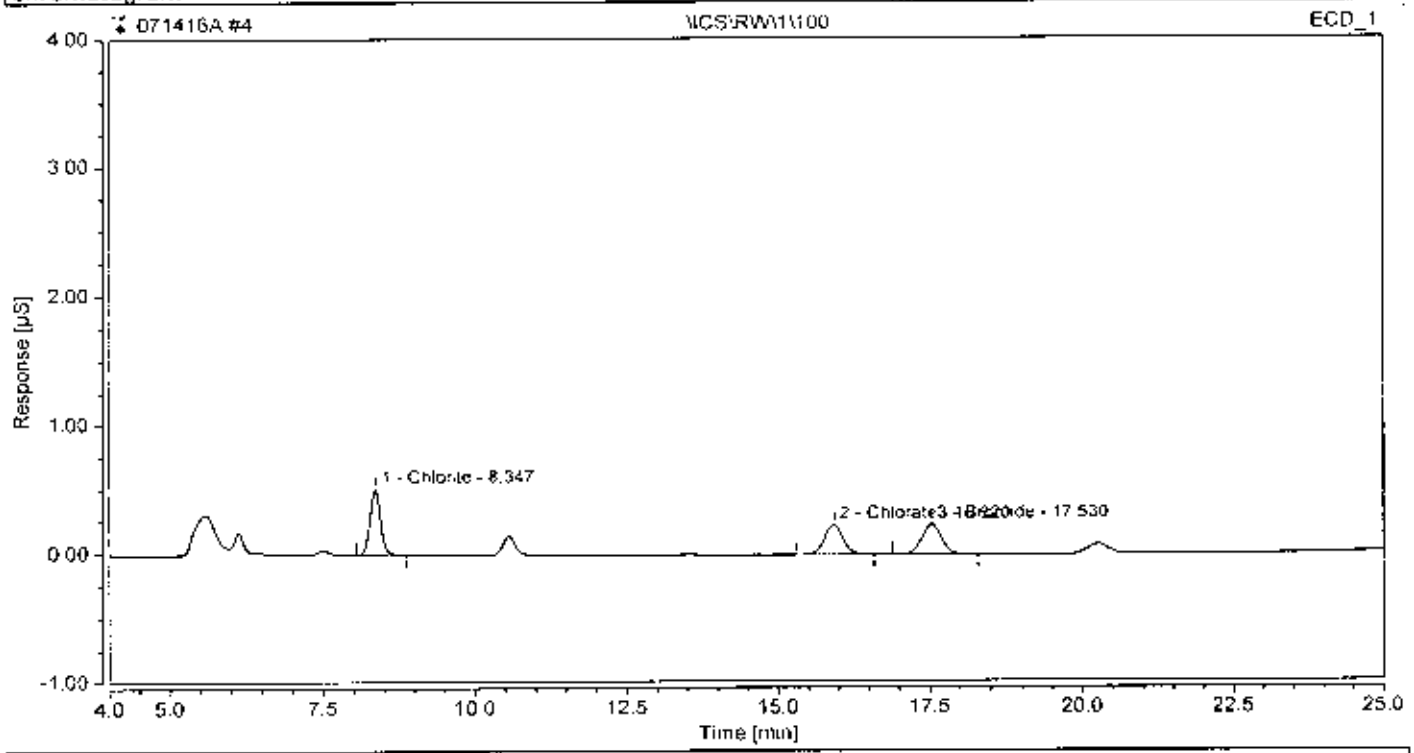
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	8.340	0.020	0.093	39.54	52.83	20.7589
2	Chlorate	15.913	0.014	0.040	27.82	22.99	20.0201
3	Bromide	17.527	0.017	0.043	32.65	24.18	20.5594
Total:			**0.051**	**0.176**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**\\CS\RW\1\100**	*Run Time (min):*	**30.00**
Vial Number:	**G4**	*Injection Volume:*	**200.00**
Injection Type	**Calibration Standard**	*Channel:*	**ECD_1**
Calibration Level:	**04**	*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**14/Jul/16 16:11**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

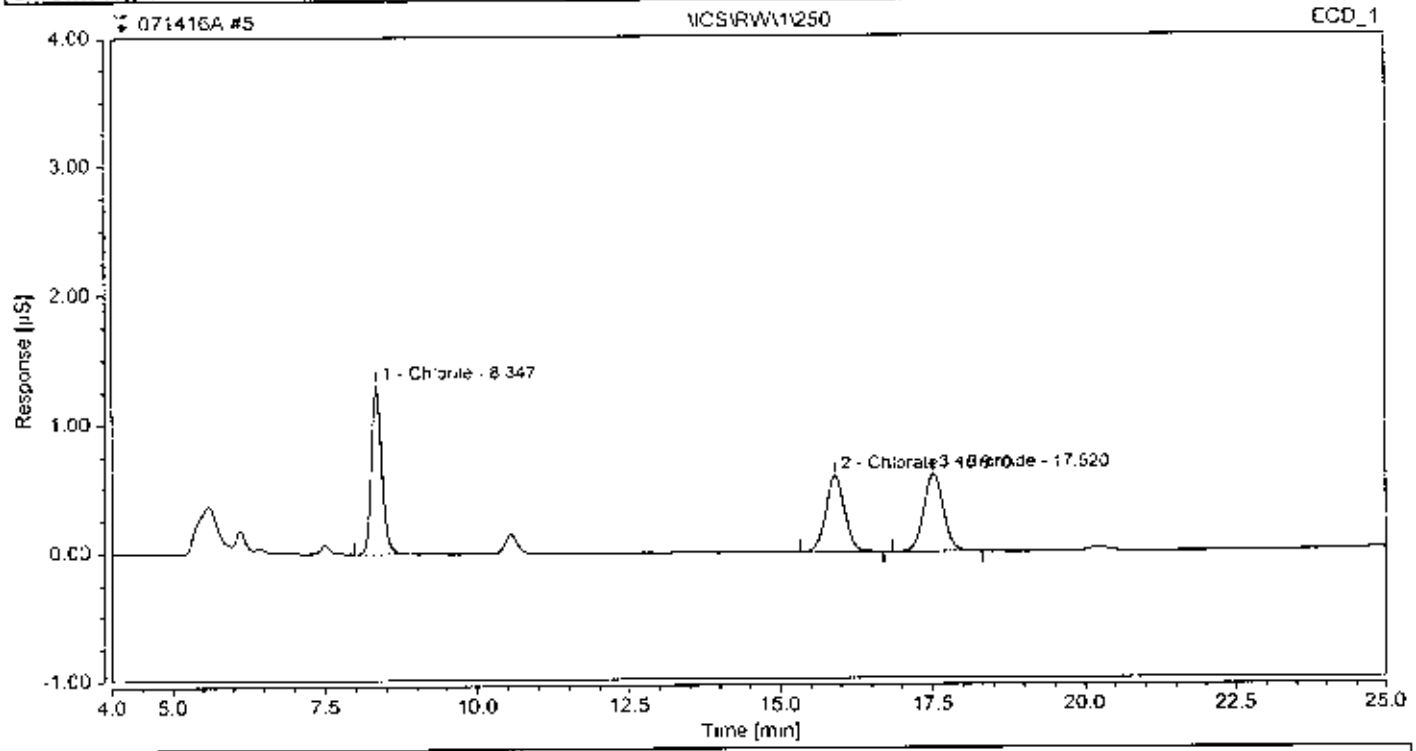
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	8.347	0.100	0.512	36.94	52.47	98.0079
2	Chlorate	15.920	0.083	0.230	30.56	23.55	98.8860
3	Bromide	17.530	0.088	0.234	32.50	23.98	98.1937
Total:			**0.271**	**0.976**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	\\CS\RW\1\250	*Run Time (min):*	30.00
Vial Number:	G5	*Injection Volume:*	200.00
Injection Type:	Calibration Standard	*Channel:*	ECD_1
Calibration Level:	05	*Wavelength:*	n.a.
Instrument Method:	AS19 4mm	*Bandwidth:*	n.a.
Processing Method:	AS19 4mm	*Dilution Factor:*	1.0000
Injection Date/Time:	14/Jul/16 16:46	*Sample Weight:*	1.0000

Chromatogram



Integration Results

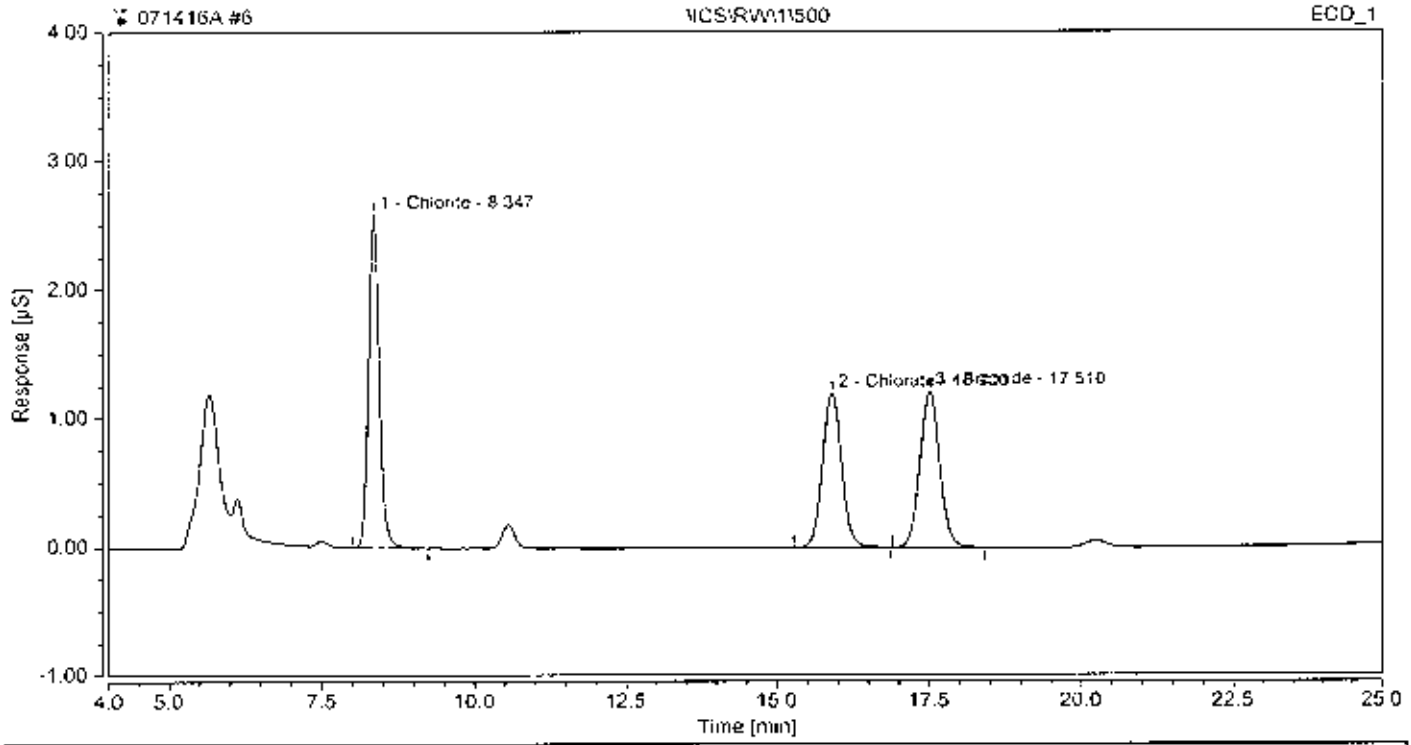
No	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	8.347	0.259	1.314	37.10	52.23	251.9865
2	Chlorate	15.910	0.213	0.597	30.49	23.74	248.6932
3	Bromide	17.520	0.227	0.604	32.42	24.03	248.8591
Total:			**0.700**	**2.515**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	\ICS\RW\1\500	*Run Time (min):*	**30.00**
Vial Number:	**G6**	*Injection Volume:*	**200.00**
Injection Type:	**Calibration Standard**	*Channel:*	**ECD_1**
Calibration Level:	06	*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**14/Jul/16 17:21**	*Sample Weight:*	**1.0000**

Chromatogram



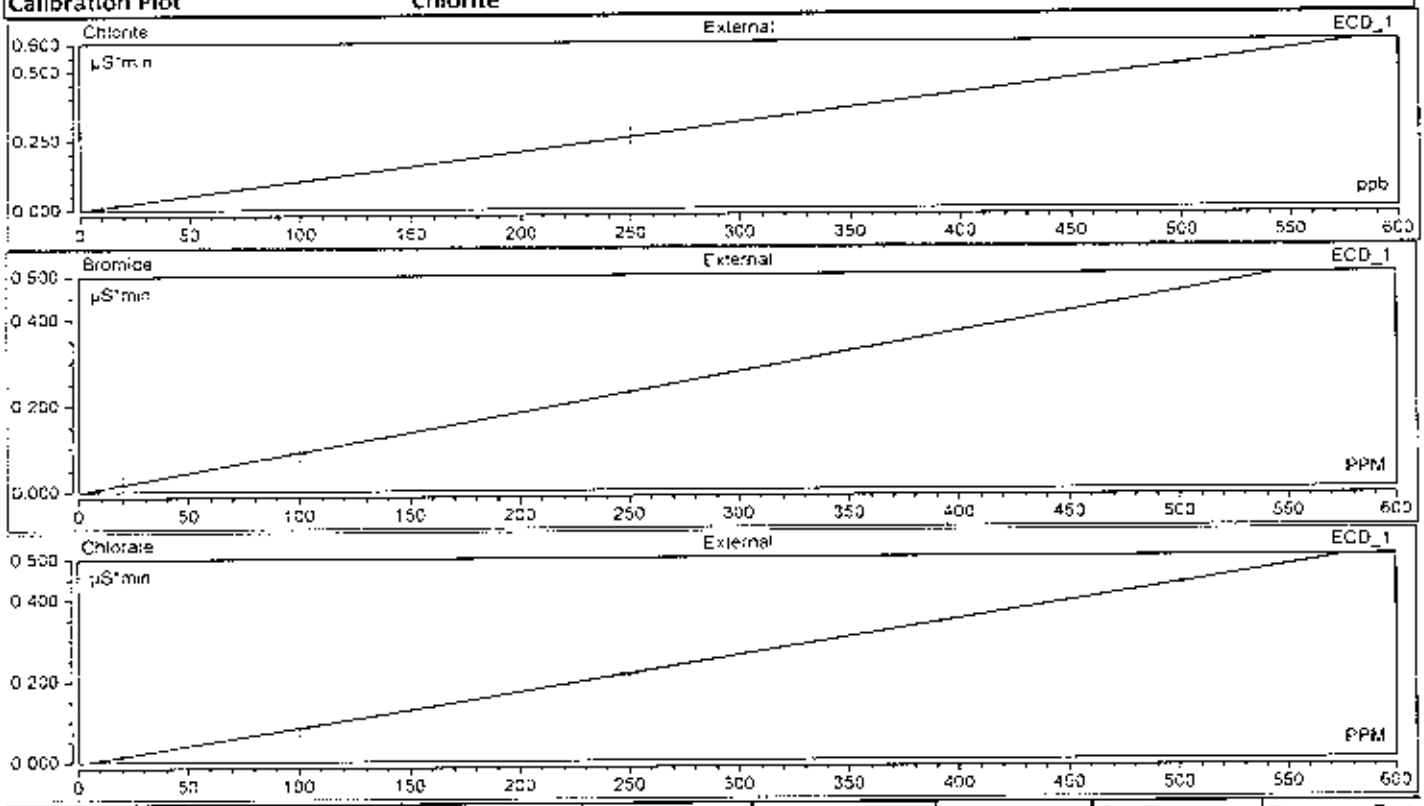
Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	8.347	0.516	2.589	36.64	51.65	499.3774
2	Chlorate	15.900	0.433	1.204	30.76	24.02	500.8428
3	Bromide	17.510	0.459	1.220	32.60	24.33	500.8792
Total:			**1.407**	**5.014**	**100.00**	**100.00**	

Calibration

Calibration Details	Chlorite		
Calibration Type	Lin. WithOffset	*Offset (C0)*	-0.0013
Evaluation Type	Area	*Slope (C1)*	0.0010
Number of Calibration Points	5	*Curve (C2)*	0.0000
Number of disabled Calibration Points	0	*R-Square*	0.9999

Calibration Plot **Chlorite**



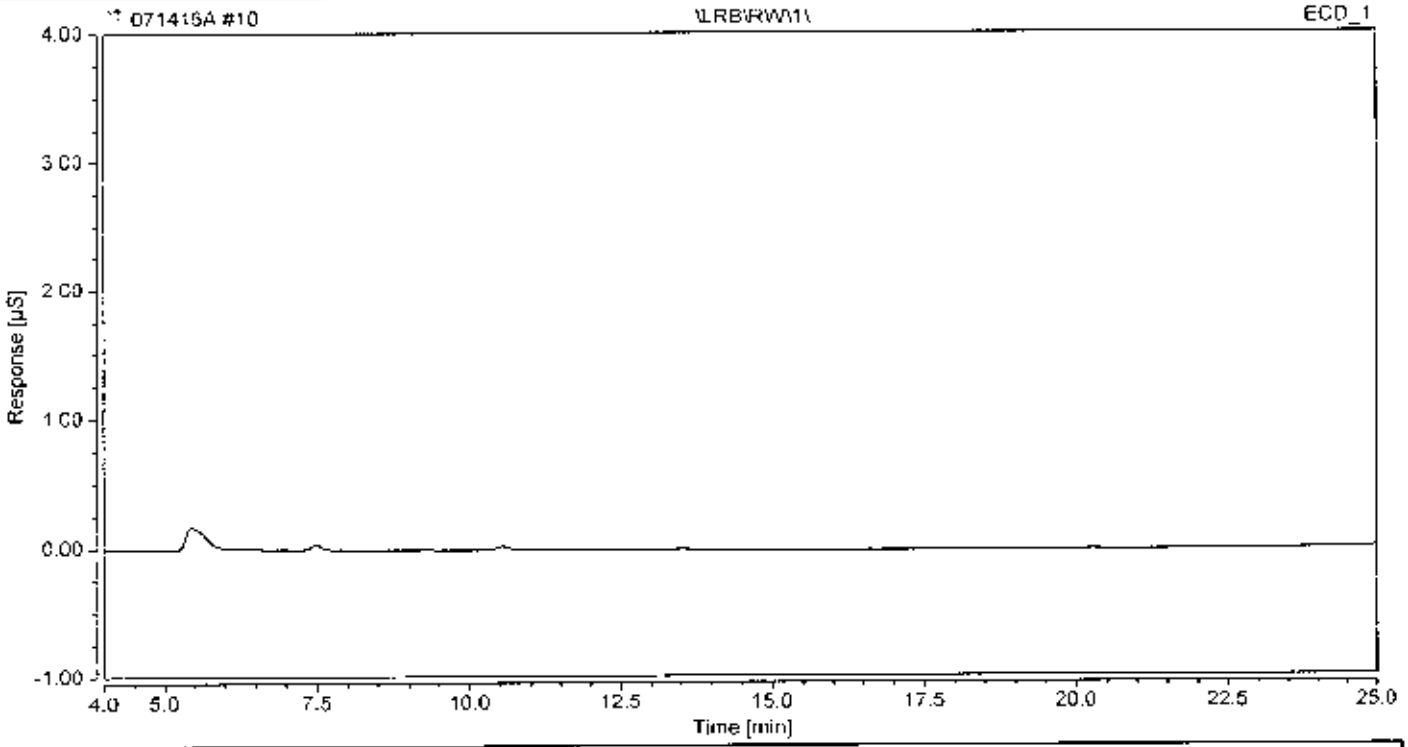
No.	Peak Name	Corr.Coeff.	Slope	Offset	Weights	Cal. Type	Response Factor
		%					
1	Chlorite	99.997	966.10	-0.001	No Weighting	Lin. WithOffset	1.0000
2	Chlorate	99.998	1148.51	-0.003	No Weighting	Lin. WithOffset	1.0000
3	Bromide	99.998	1086.52	-0.002	No Weighting	Lin. WithOffset	1.0000

Chromatogram and Results

Injection Details

Injection Name:	\LRB\RW\1\	*Run Time (min):*	**30.00**
Vial Number:	**GA2**	*Injection Volume:*	**200.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**14/Jul/16 19:40**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

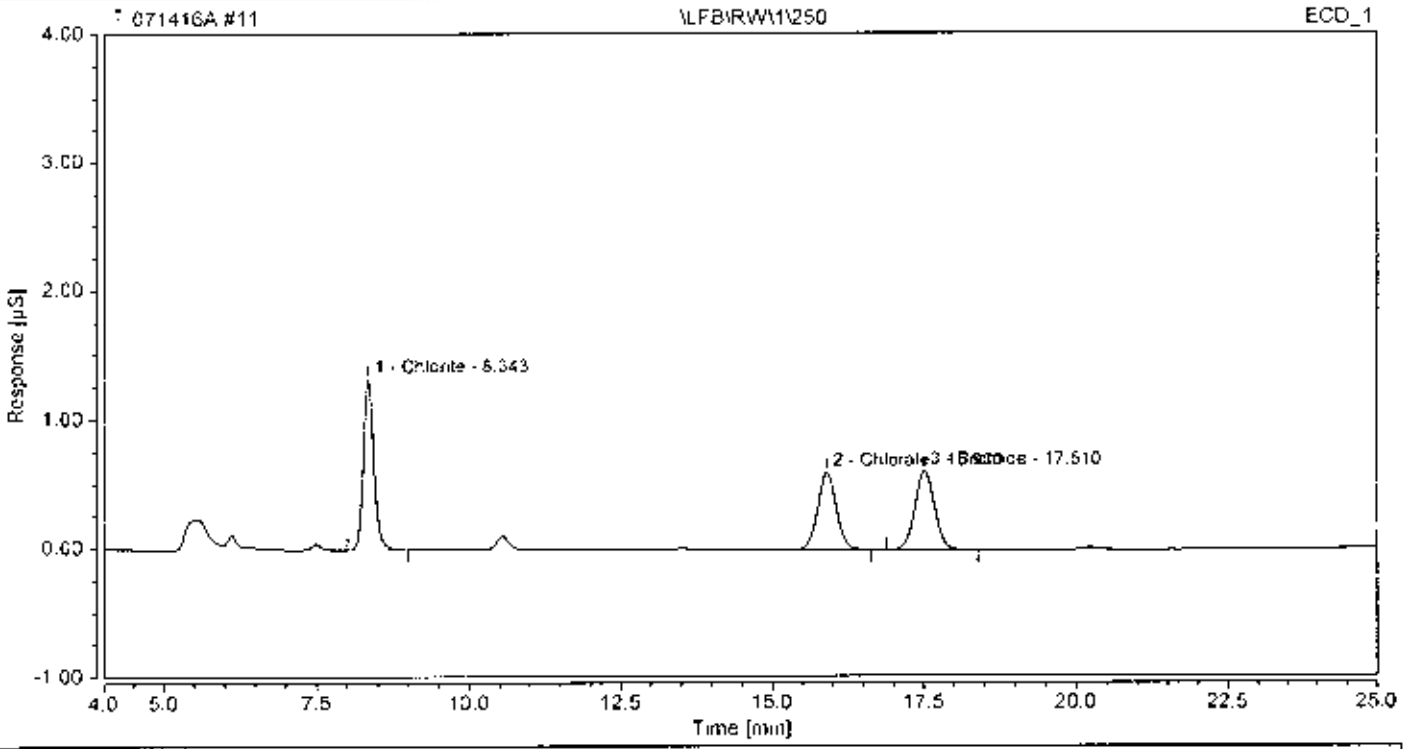
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount n.a.
Total:			0.000	0.000	0.00	0.00	

Chromatogram and Results

Injection Details

Injection Name:	\LFB\RW\1\250	*Run Time (min):*	30.00
Vial Number:	GA3	*Injection Volume:*	200.00
Injection Type:	Unknown	*Channel:*	ECD_1
Calibration Level:		*Wavelength:*	n.a.
Instrument Method:	AS19 4mm	*Bandwidth:*	n.a.
Processing Method:	AS19 4mm	*Dilution Factor:*	1.0000
Injection Date/Time:	14/Jul/16 20:15	*Sample Weight:*	1.0000

Chromatogram



Integration Results

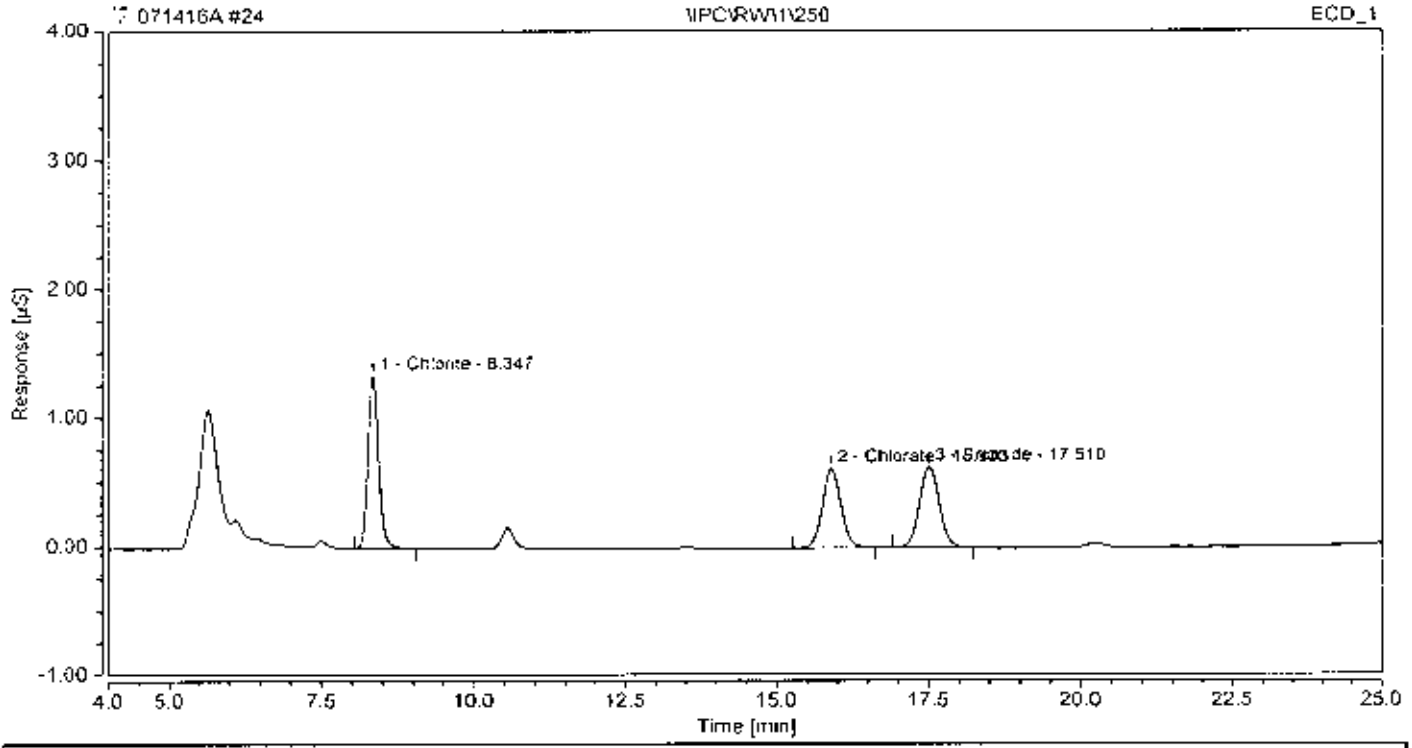
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	8.343	0.263	1.330	36.89	52.03	255.3140
2	Chlorate	15.900	0.218	0.608	30.54	23.80	253.7808
3	Bromide	17.510	0.232	0.618	32.57	24.17	254.7137
Total:			**0.713**	**2.556**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**\IPC\RW\1\250**	*Run Time (min):*	**30.00**
Vial Number:	**G5**	*Injection Volume:*	**200.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**15/Jul/16 03:45**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

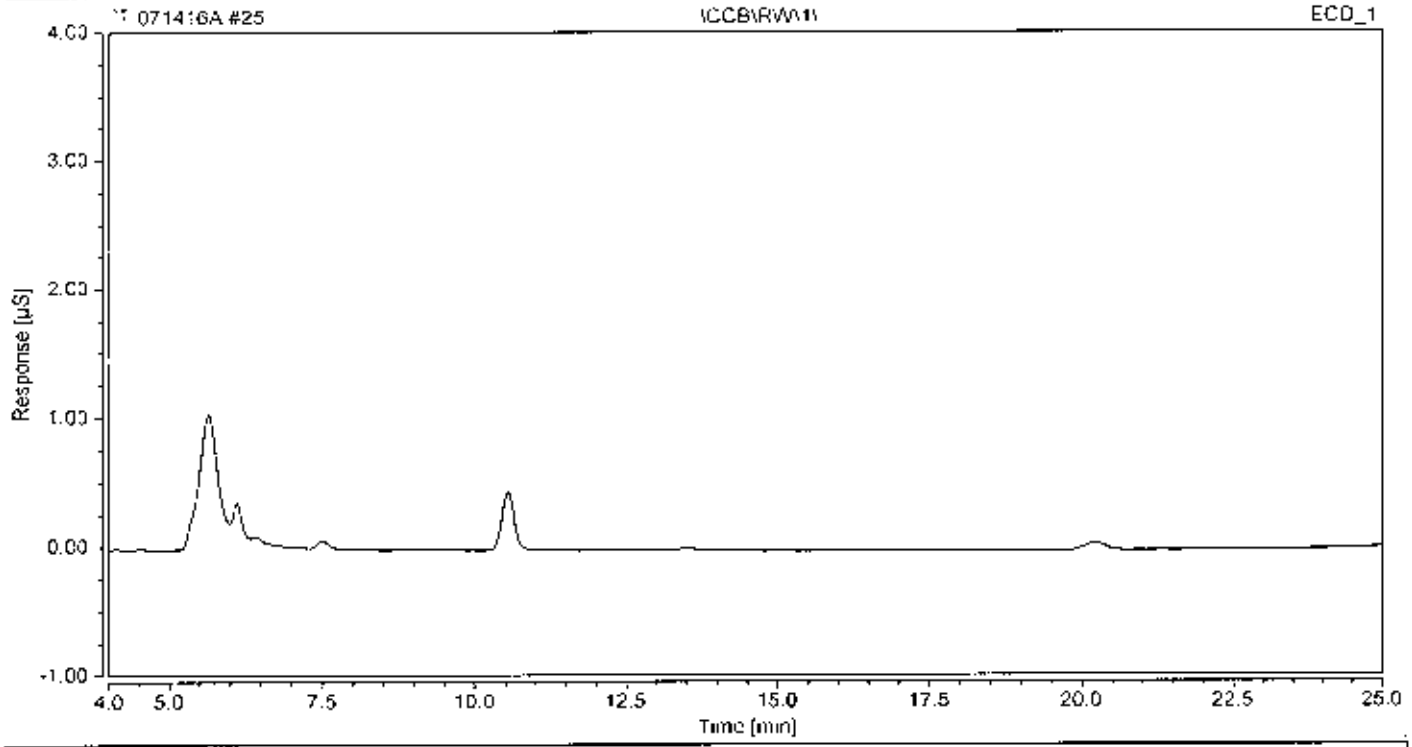
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	8.347	0.265	1.339	36.88	51.91	256.9110
2	Chlorate	15.903	0.219	0.616	30.55	23.87	255.4821
3	Bromide	17.510	0.234	0.625	32.57	24.22	256.4217
Total:			**0.717**	**2.580**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	\CCB\RW\1\	*Run Time (min):*	**30.00**
Vial Number:	**G8**	*Injection Volume:*	**200.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**15/Jul/16 04:20**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

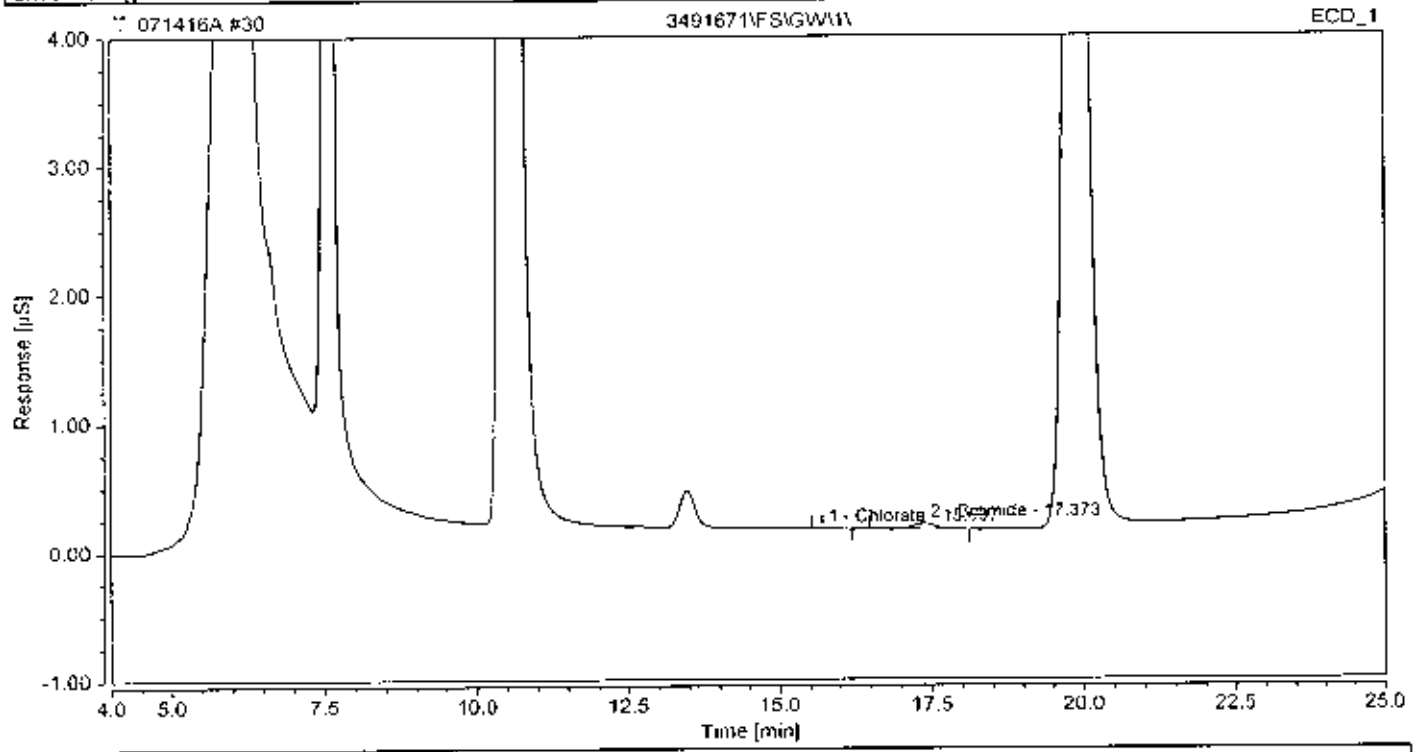
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**3491671\FS\GW\1**	*Run Time (min):*	**30.00**
Vial Number:	**GC4**	*Injection Volume:*	**200.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**15/Jul/16 07:13**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

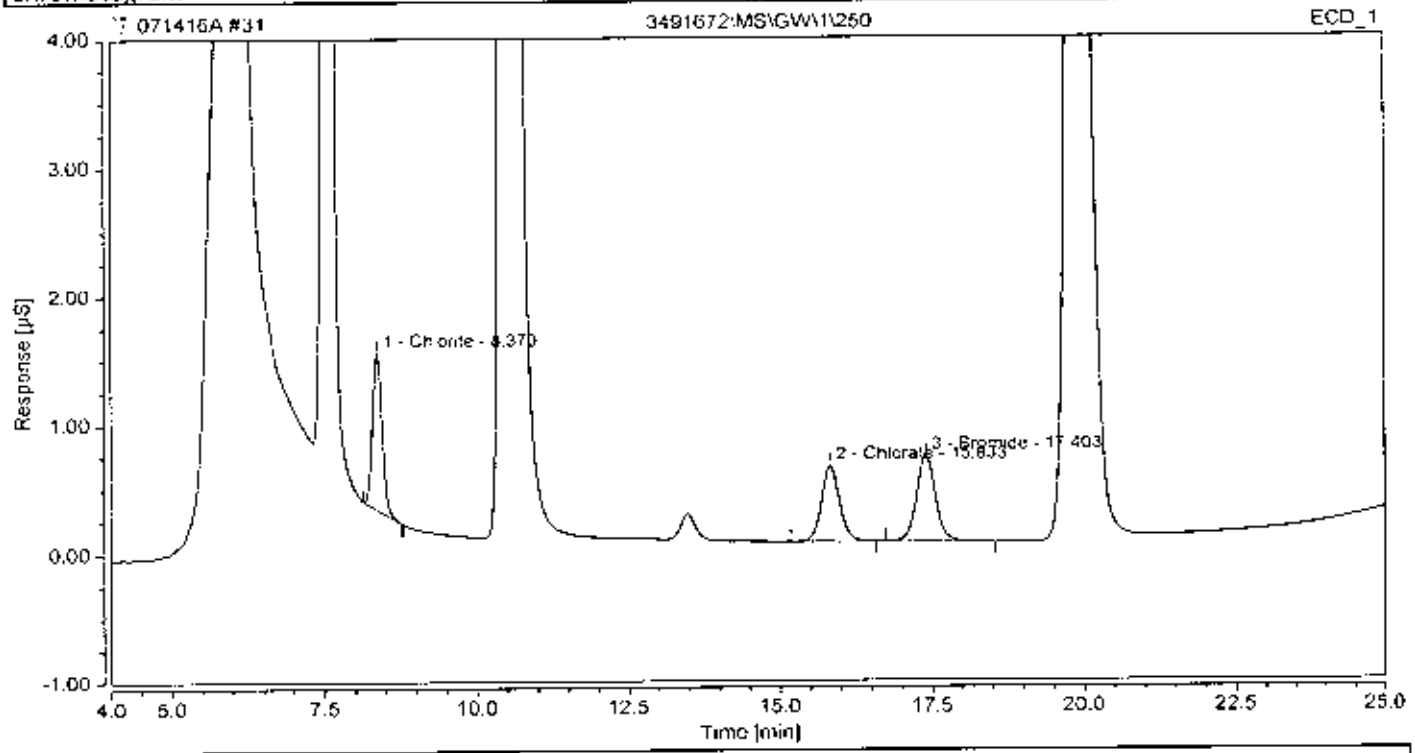
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount PPM
1	Chlorate	15.697	0.001	0.003	5.81	7.29	5.1546
2	Bromide	17.373	0.020	0.044	94.19	92.71	24.1676
Total:			**0.021**	**0.047**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	3491672\MS\GW\1\250	*Run Time (min):*	30.00
Vial Number:	GC5	*Injection Volume:*	200.00
Injection Type:	Unknown	*Channel:*	ECD_1
Calibration Level		*Wavelength:*	n.a.
Instrument Method:	AS19 4mm	*Bandwidth:*	n.a.
Processing Method:	AS19 4mm	*Dilution Factor:*	1.0000
Injection Date/Time:	15/Jul/16 07:48	*Sample Weight:*	1.0000

Chromatogram



Integration Results

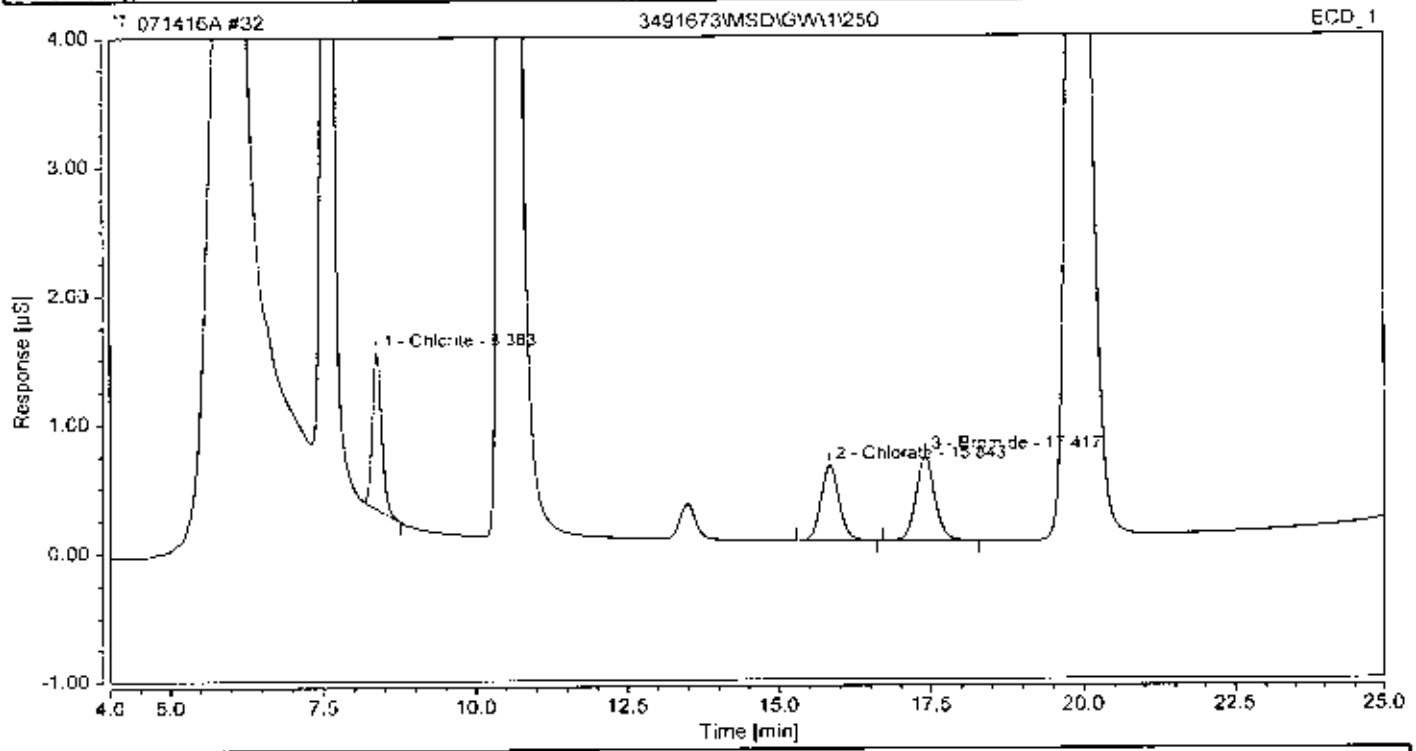
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	8.370	0.214	1.214	32.80	49.50	207.9450
2	Chlorate	15.833	0.201	0.582	30.82	23.74	234.6297
3	Bromide	17.403	0.237	0.656	36.38	26.75	260.2759
Total:			**0.652**	**2.453**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**3491673\MSD\GW\1\250**	*Run Time (min):*	**30.00**
Vial Number:	**GC6**	*Injection Volume:*	**200.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**15/Jul/16 08:22**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

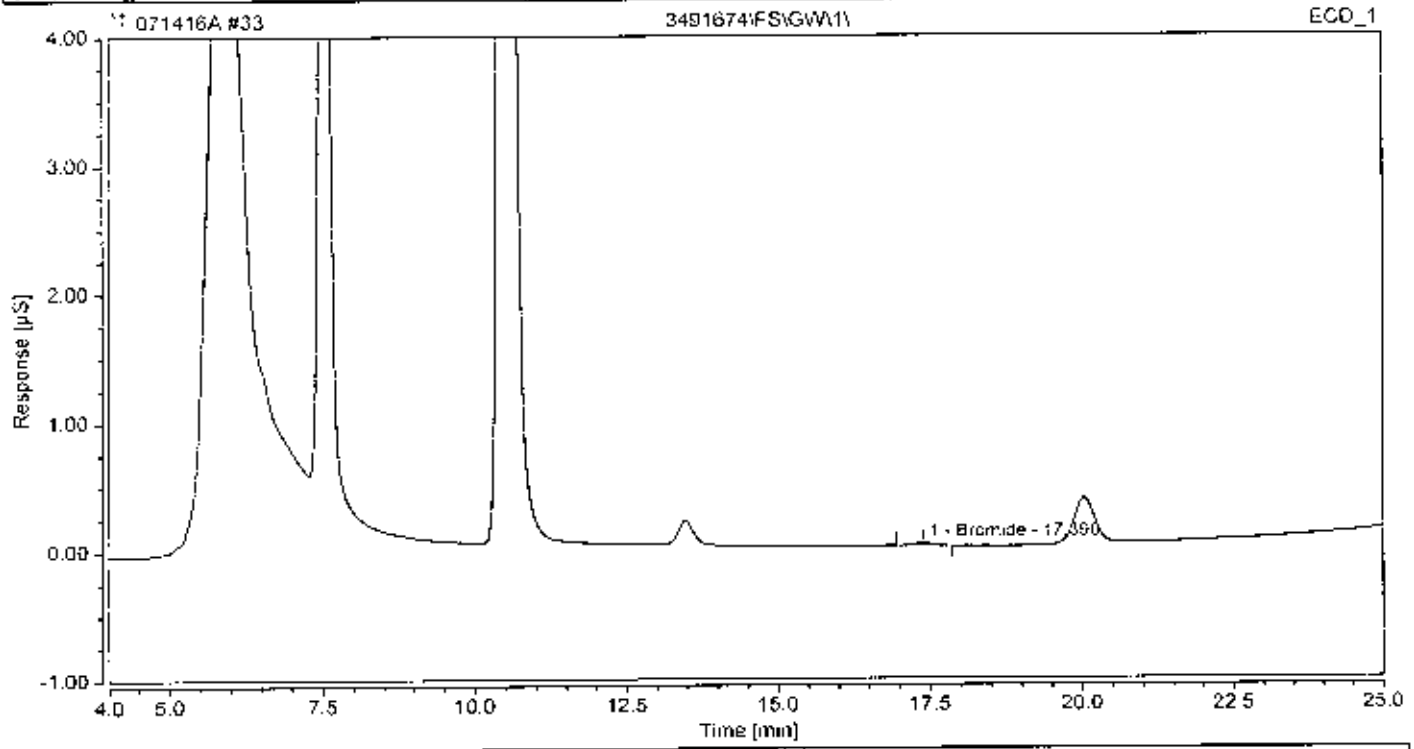
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	8.383	0.215	1.217	32.89	49.55	208.6274
2	Chlorate	15.843	0.201	0.582	30.75	23.71	234.2037
3	Bromide	17.417	0.237	0.657	36.37	26.74	260.3319
Total:			**0.653**	**2.455**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	3491674\FS\GW\1\	*Run Time (min):*	30.00
Vial Number:	GC7	*Injection Volume:*	200.00
Injection Type:	Unknown	*Channel:*	ECD_1
Calibration Level:		*Wavelength:*	n.a.
Instrument Method:	AS19 4mm	*Bandwidth:*	n.a.
Processing Method:	AS19 4mm	*Dilution Factor:*	1.0000
Injection Date/Time:	15/Jul/16 08:57	*Sample Weight:*	1.0000

Chromatogram



Integration Results

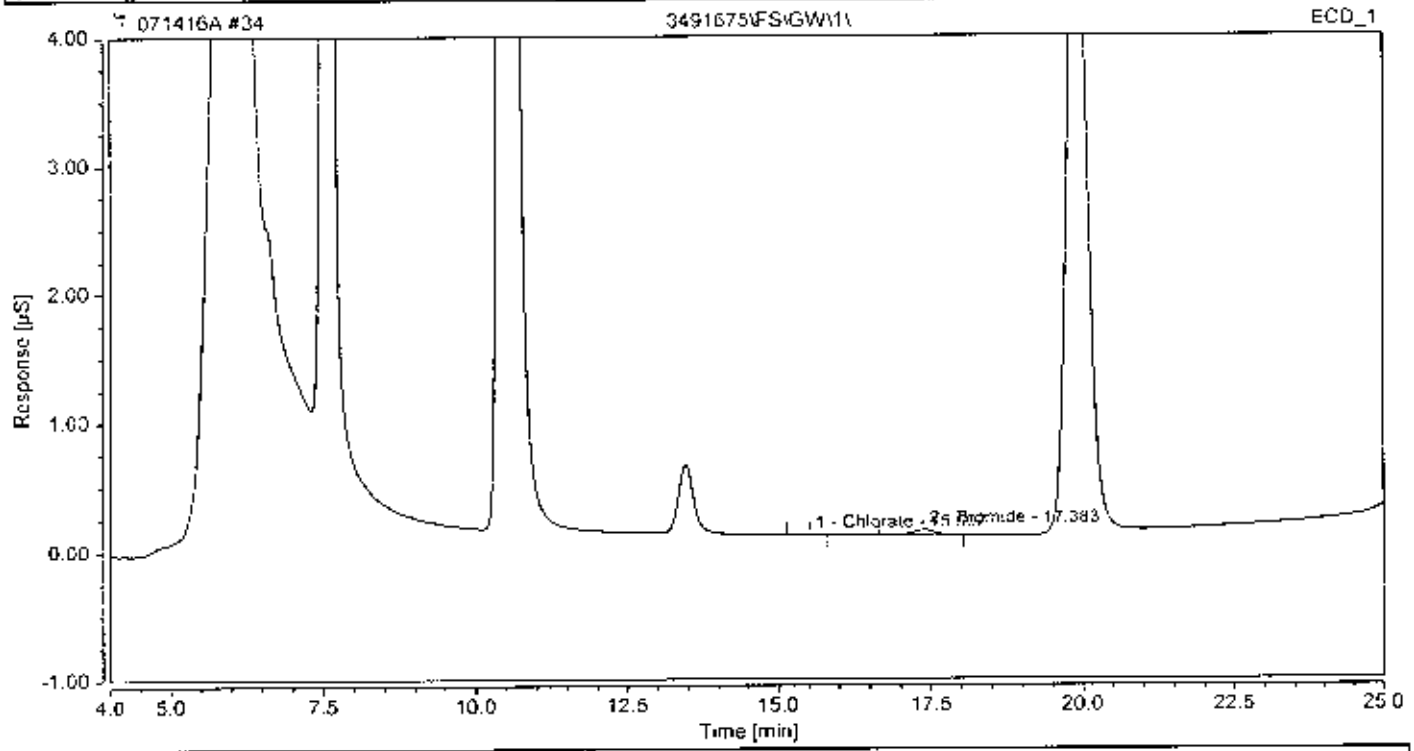
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount PPM
1	Bromide	17.390	0.008	0.021	100.00	100.00	10.9240
Total:			**0.008**	**0.021**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**3491675\FS\GW\1**	*Run Time (min):*	**30.00**
Vial Number:	**GC8**	*Injection Volume:*	**200.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**15/Jul/16 09:32**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

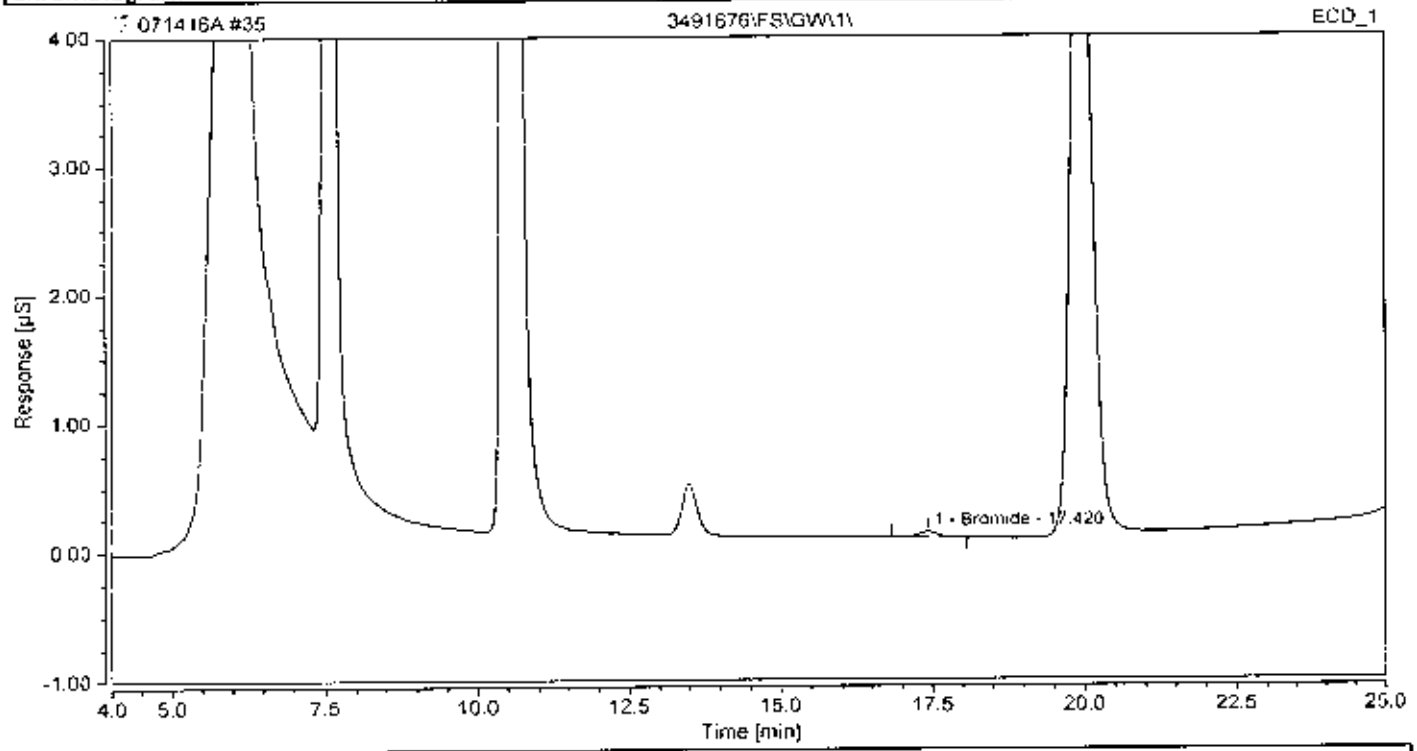
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount PPM
1	Chlorate	15.507	0.001	0.004	7.10	8.80	5.2931
2	Bromide	17.383	0.018	0.043	92.90	91.20	21.6842
Total:			**0.019**	**0.047**	**100.00**	100.00	

Chromatogram and Results

Injection Details

Injection Name:	3491676\FS\GW\1\	*Run Time (min):*	30.00
Vial Number:	GD1	*Injection Volume:*	200.00
Injection Type:	Unknown	*Channel:*	ECD_1
Calibration Level:		*Wavelength:*	n.a.
Instrument Method:	AS19 4mm	*Bandwidth:*	n.a.
Processing Method:	AS19 4mm	*Dilution Factor:*	1.0000
Injection Date/Time:	15/Jul/16 10:06	*Sample Weight:*	1.0000

Chromatogram



Integration Results

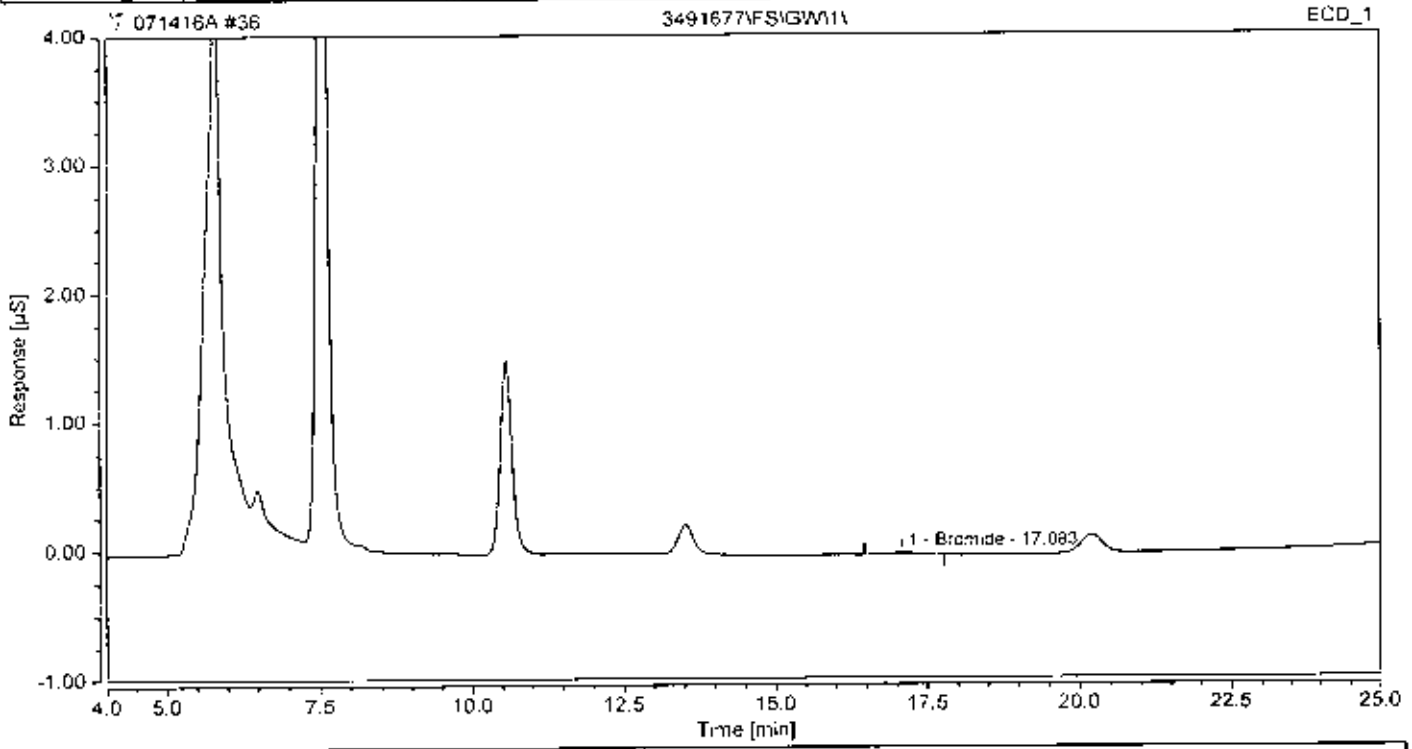
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount PPM
1	Bromide	17.420	0.017	0.043	100.00	100.00	20.6300
Total:			**0.017**	**0.043**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	3491677\FS\GW\1\	*Run Time (min):*	30.00
Vial Number:	GD2	*Injection Volume:*	200.00
Injection Type:	Unknown	*Channel:*	ECD_1
Calibration Level:		*Wavelength:*	n.a.
Instrument Method:	AS19 4mm	*Bandwidth:*	n.a.
Processing Method:	AS19 4mm	*Dilution Factor:*	1.0000
Injection Date/Time:	15/Jul/16 10:41	*Sample Weight:*	1.0000

Chromatogram



Integration Results

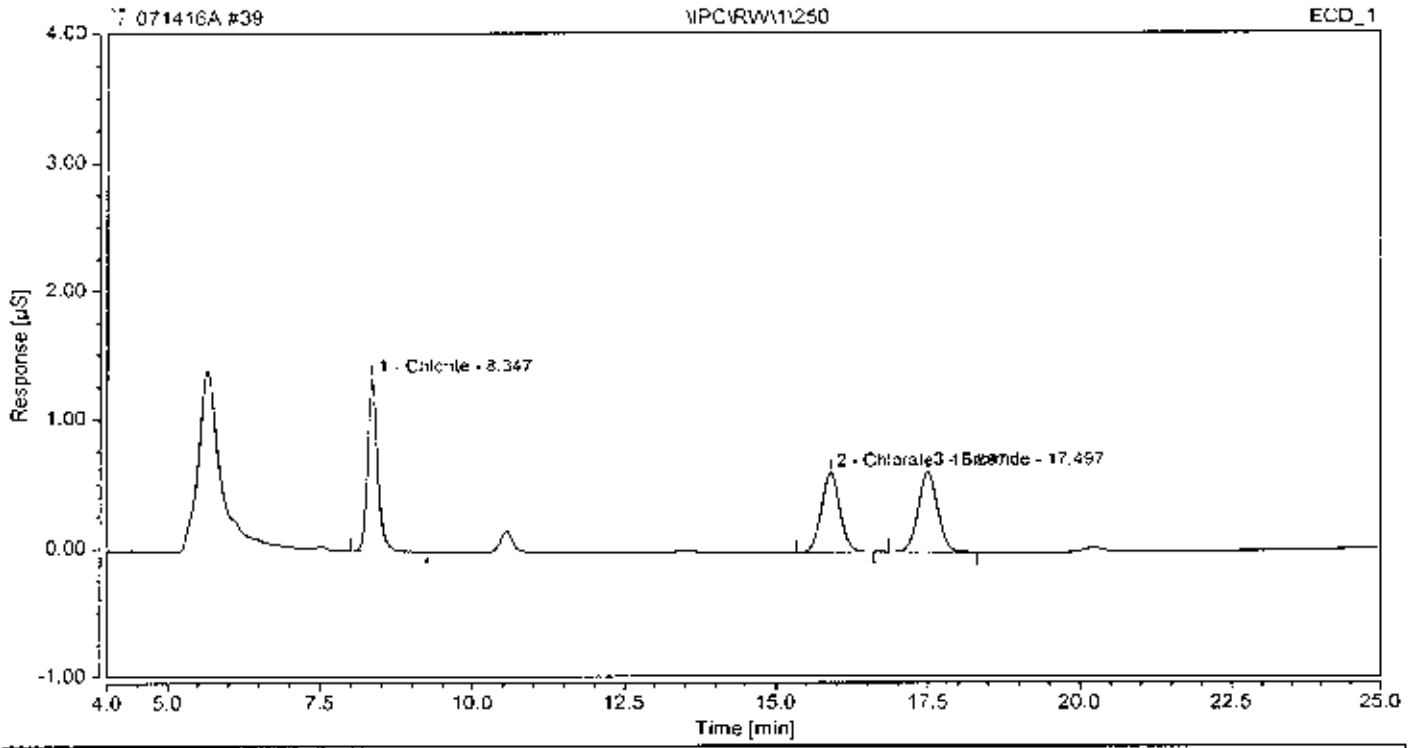
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount PPM
1	Bromide	17.083	0.011	0.020	100.00	100.00	13.9358
Total:			**0.011**	**0.020**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	\IPC\RW\1\250	*Run Time (min):*	30.00
Vial Number:	G5	*Injection Volume:*	200.00
Injection Type:	Unknown	*Channel:*	ECD_1
Calibration Level:		*Wavelength:*	n.a.
Instrument Method:	AS19 4mm	*Bandwidth:*	n.a.
Processing Method:	AS19 4mm	*Dilution Factor:*	1.0000
Injection Date/Time:	15/Jul/16 12:25	*Sample Weight:*	1.0000

Chromatogram



Integration Results

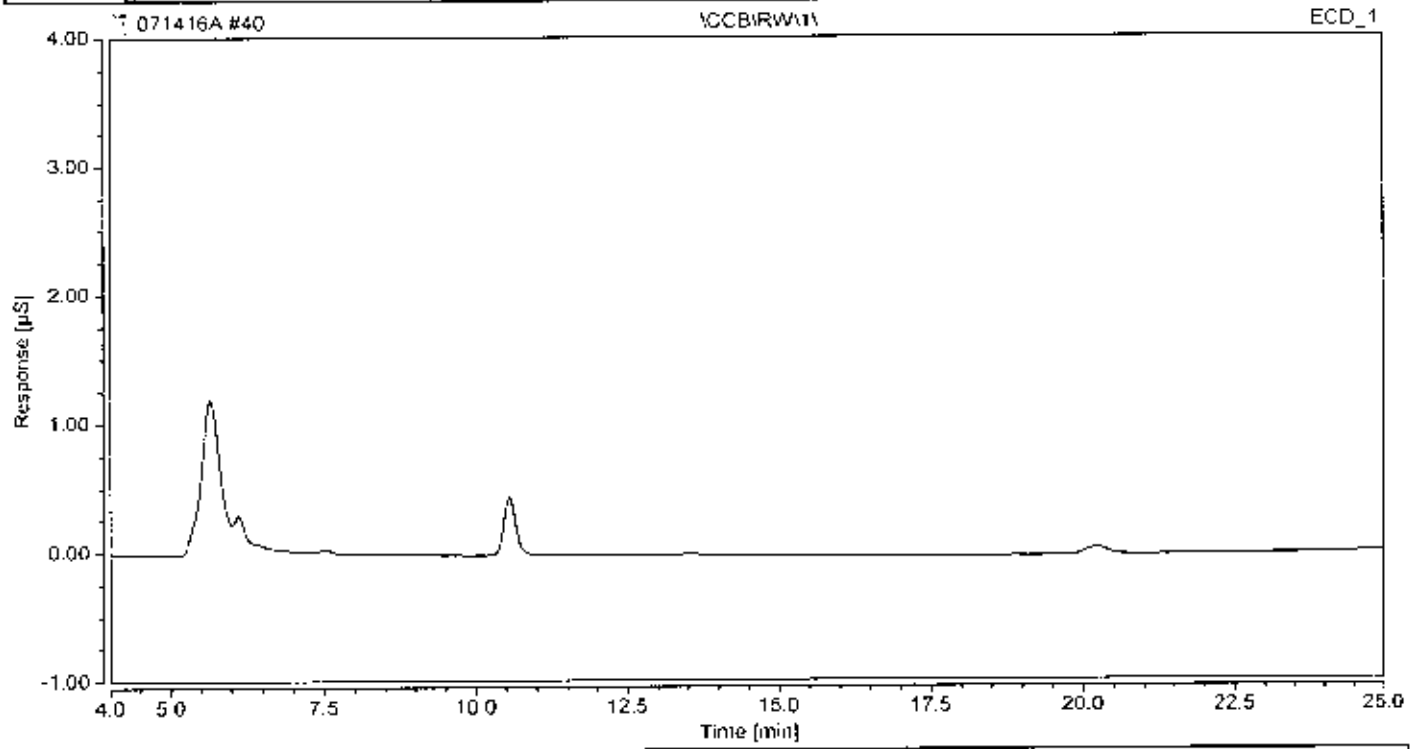
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	8.347	0.265	1.339	37.00	51.85	258.3179
2	Chlorate	15.897	0.219	0.617	30.41	23.87	254.9306
3	Bromide	17.497	0.234	0.627	32.59	24.28	257.1111
Total:			**0.719**	**2.583**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	\CCB\RW\1\	*Run Time (min):*	30.00
Vial Number	G8	*Injection Volume:*	200.00
Injection Type:	Unknown	*Channel:*	ECD_1
Calibration Level:		*Wavelength:*	n.a.
Instrument Method:	AS19 4mm	*Bandwidth:*	n.a.
Processing Method:	AS19 4mm	*Dilution Factor:*	1.0000
Injection Date/Time:	15/Jul/16 13:00	*Sample Weight:*	1.0000

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount n.a.
Total:			0.000	0.000	0.00	0.00	

QA - Method Detection Limit Study

Method:	300.0 B	Analyzed by:	Shep Lovick	Approved by:	Jon Werbianskyj	Date:	6/21/2016
Instrument:	CQ	Prepped by:	Shep Lovick	Comments:	*data taken from 7 consecutive RLC samples.*		
Units:	ug/L						
Matrix Type:	RW	**Number of months next study due:**	**6**				

Earliest Analysis date	Parameter	Target Conc.	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	mean	sd	Calculated MDL
3/17/2016	Bromide	10	13.11	10.927	11.2	10.761	12.794	10.638	11.5	11.5614	0.995625	3.1292496
3/17/2016	Chlorate	10	12.909	11.518	11.713	11.345	12.513	11.29	12.022	11.9014	0.615053	1.9331101
3/17/2016	Chlorite	10	10.655	12.391	12.075	10.053	7.987	12.824	12.916	11.2716	1.810446	5.6902311

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LABORATORY REPORT

If you have any questions concerning this report, please do not hesitate to call us at (800) 332-4345 or (574) 233-4777.

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STATE CERTIFICATION LIST

State	Certification	State	Certification
Alabama	40700	Montana	CERT0026
Alaska	IN00035	Nebraska	E87775
Arizona	AZ0432	Nevada	IN00035
Arkansas	IN00035	New Hampshire*	2124
California	2920	New Mexico	IN00035
Colorado	IN035	New Jersey*	IN598
Colorado Radiochemistry	IN035	New York*	11398
Connecticut	PH-0132	North Carolina	18700
Delaware	IN035	North Dakota	R-035
Florida*	E87775	Ohio	87775
Georgia	929	Oklahoma	D9508
Hawaii	IN035	Oregon (Primary AB)*	4074-001
Idaho	IN00035/E87775	Pennsylvania*	68-00466
Illinois*	200001	Puerto Rico	IN00035
Illinois Microbiology	200001	Rhode Island	LAO00343
Indiana Chemistry	C-71-01	South Carolina	95005
Indiana Microbiology	M-76-07	South Dakota	IN00035
Iowa	098	Tennessee	TN02973
Kansas*	E-10233	Texas*	T104704187-15-8
Kentucky	90056	Texas/TCEQ	TX207
Louisiana*	LA160002	Utah*	IN00035
Maine	IN00035	Vermont	VT-8775
Maryland	209	Virginia*	460275
Massachusetts	M-IN035	Washington	C837
Michigan	9926	West Virginia	9927 C
Minnesota*	018-999-338	Wisconsin	999766900
Mississippi	IN035	Wyoming	IN035
Missouri	880		

*NELAP/TNI Recognized Accreditation Bodies

Revision date: 04/14/2016

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LABORATORY REPORT

Client: CT Laboratories
Attn: Jodi Serstad
1230 Lange Court
Baraboo, WI 53913

Report #: 367852a

Priority: Standard

Status: Amended

Project: #120518 EEA-IN / Radford AAP

Samples Submitted: One groundwater sample and one matrix spike/matrix spike duplicate

Copies to: None

Collected: 07/14/16 By: Client Received: 07/19/16

REPORT SUMMARY

One groundwater sample and one matrix spike/matrix spike duplicate were submitted for analysis of Method 300.0.

A summary of the detections by sample accompanies this case narrative.

Analytical results were designated as reportable based upon the associated quality control samples. Deviations from method requirements are noted below.

Note: Sample container was provided by the client.

Note: This report was amended on 08/17/16 to correct the sampling point, at the request of the client.

EPA 300.0

Chlorate and chlorite were not detected in the sample submitted for analysis.

MS/MSD: Recoveries of chlorate and chlorite in the MS 3496466 and MSD 3496467 at 250 ug/L were low biased outside the acceptance limits of 90-110% recovery due to matrix interference.

We appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not hesitate to call James Vernon at (574) 233-4777.

Note: The results presented relate only to the samples provided for analysis.

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Dana M. Soz — Reporter

Reviewed By	Title	08/17/2016 Date
Finalized By	Title	Date

Eurofins Eaton Analytical, Inc. 110 South Hill Street South Bend, IN 46617 T | 574-233-4777 F | 574-233-8207 www.EatonAnalytical.com

110 South Hill Street
South Bend, IN 46617
Tel: (574) 233-4777
Fax: (574) 233-8207
1 800 332 4345

Laboratory Report

Client: CT Laboratories

Attn: Jodi Serstad
1230 Lange Court
Baraboo, WI 53913

Report: 367852
Priority: Standard Written
Status: Amended
PWS ID: Not Supplied

Sample Information

EEA ID #	Client ID	Method	Collected Date / Time	Collected By:	Received Date / Time
3496465	745769 54MW13	300.0	07/14/16 10:45	Client	07/19/16 10:00

Report Summary

Note: See attached page for additional comments.

PO #120518 EEA-IN / Radford AAP

Note: Sample container was provided by the client.

Note: This report was amended on 08/17/16 to correct the sampling point, at the request of the client.

Detailed quantitative results are presented on the following pages. The results presented relate only to the samples provided for analysis.

We appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not hesitate to call Jim Vernon at (574) 233-4777.

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Authorized Signature | Title | 08/17/2016 Date

Client Name: CT Laboratories
Report #: 367852

Client Name: CT Laboratories Report #: 367852

Sampling Point: 745769 54MW13 PWS ID: Not Supplied

General Chemistry									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	EEA ID #
14866-68-3	Chlorate	300.0	---	10	< 10	ug/L	---	07/20/16 19:03	3496465
14998-27-7	Chlorite	300.0	1000 *	10	< 10	ug/L	---	07/20/16 19:03	3496465

† EEA has demonstrated it can achieve these report limits in reagent water, but can not document them in all sample matrices.

Reg Limit Type:	MCL	SMCL	AL
Symbol:	*	^	!

Lab Definitions

Continuing Calibration Check Standard (CCC) / Continuing Calibration Verification (CCV) / Initial Calibration Verification Standard (ICV) / Initial Performance Check (IPC) - is a standard containing one or more of the target analytes that is prepared from the same standards used to calibrate the instrument. This standard is used to verify the calibration curve at the beginning of each analytical sequence, and may also be analyzed throughout and at the end of the sequence. The concentration of continuing standards may be varied, when prescribed by the reference method, so that the range of the calibration curve is verified on a regular basis. CCL, CCM, and CCH are the CCC standards at low, mid, and high concentration levels, respectively.

Internal Standards (IS) - are pure compounds with properties similar to the analytes of interest, which are added to field samples or extracts, calibration standards, and quality control standards at a known concentration. They are used to measure the relative responses of the analytes of interest and surrogates in the sample, calibration standard or quality control standard.

Laboratory Duplicate (LD) - is a field sample aliquot taken from the same sample container in the laboratory and analyzed separately using identical procedures. Analysis of laboratory duplicates provides a measure of the precision of the laboratory procedures.

Laboratory Fortified Blank (LFB) / Laboratory Control Sample (LCS) - is an aliquot of reagent water to which known concentrations of the analytes of interest are added. The LFB is analyzed exactly the same as the field samples. LFBs are used to determine whether the method is in control. FBL, FBM, and FBH are the LFB samples at low, mid, and high concentration levels, respectively.

Laboratory Method Blank (LMB) / Laboratory Reagent Blank (LRB) - is a sample of reagent water included in the sample batch analyzed in the same way as the associated field samples. The LMB is used to determine if method analytes or other background contamination have been introduced during the preparation or analytical procedure. The LMB is analyzed exactly the same as the field samples.

Laboratory Trip Blank (LTB) / Field Reagent Blank (FRB) - is a sample of laboratory reagent water placed in a sample container in the laboratory and treated as a field sample, including storage, preservation, and all analytical procedures. The FRB/LTB container follows the collection bottles to and from the collection site, but the FRB/LTB is not opened at any time during the trip. The FRB/LTB is primarily a travel blank used to verify that the samples were not contaminated during shipment.

Matrix Spike Duplicate Sample (MSD) / Laboratory Fortified Sample Matrix Duplicate (LFSMD) - is a sample al6iquot taken from the same field sample source as the Matrix Spike Sample to which known quantities of the analytes of interest are added in the laboratory. The MSD is analyzed exactly the same as the field samples. Analysis of the MSD provides a measure of the precision of the laboratory procedures in a specific matrix. SDL, SDM, and SDH / LFSMDL, LFSMDM, and LFSMDH are the MSD or LFSMD at low, mid, and high concentration levels, respectively.

Matrix Spike Sample (MS) / Laboratory Fortified Sample Matrix (LFSM) - is a sample aliquot taken from field sample source to which known quantities of the analytes of interest are added in the laboratory. The MS is analyzed exactly the same as the field samples. The purpose is to demonstrate recovery of the analytes from a sample matrix to determine if the specific matrix contributes bias to the analytical results. MSL, MSM, and MSH / LFSML, LFSMM, and LFSMH are the MS or LFSM at low, mid, and high concentration levels, respectively.

Quality Control Standard (QCS) / Second Source Calibration Verification (SSCV) - is a solution containing known concentrations of the analytes of interest prepared from a source different from the source of the calibration standards. The solution is obtained from a second manufacturer or lot if the lot can be demonstrated by the manufacturer as prepared independently from other lots. The QCS sample is analyzed using the same procedures as field samples. The QCS is used as a check on the calibration standards used in the method on a routine basis.

Reporting Limit Check (RLC) / Initial Calibration Check Standard (ICCS) - is a procedural standard that is analyzed each day to evaluate instrument performance at or below the minimum reporting limit (MRL).

Surrogate Standard (SS) / Surrogate Analyte (SUR) - is a pure compound with properties similar to the analytes of interest, which is highly unlikely to be found in any field sample, that is added to the field samples, calibration standards, blanks and quality control standards before sample preparation. The SS is used to evaluate the efficiency of the sample preparation process.

301679

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3LT852

Sub-Contract Laboratory Chain-of-Custody and Purchase Order

PURCHASE ORDER # 120518 EEA-IN

The PO# must appear on all invoice and reports!

Upon Receipt of Samples, please verify that samples were received in acceptable condition then sign this form and fax to (608)356-2766 or email to the project manager. Sample temperature, upon receipt, must be recorded on this document unless thermal preservation is not a method requirement.

Ship to: **Eurofins Eaton Analytical - IN**
110 South Hill Street
South Bend, IN 46617

Return Invoice and Results to: **bszymanski@ctlaboratories.com**

CTLaboratories
Brett M Szymanski
1230 Lange Court
Baraboo WI 53913

Date Due: Standard TAT ***RUSH TURNAROUND NEEDED?*** ***Y or (N) (Circle One)***

Project Name: RADFORD AAP **Project State:** VA

Analytical/QC Criteria: NONE INDICATED STATE (DOD QSM) NELAP (Circle one) OTHER_____

Report results as EDD? N (Y) (Circle one and indicate type: Excel) Data Deliverable Package LEVEL: IV

CTLabs ID#	Sample Date/Time	Matrix	Sample Description	Analyses / Method		Cost
745769	07/14/2016 1045	GROUND WATER	54MW10 S 3496465 MS 3496466 MSD 3496467	CHLORATE/CHLORITE	300.1	

Relinquished by: Brett Szymanski Date/Time: 07/18/2016 07:15

Received by: [signature] Date/Time: 7-19-16 1000 Receipt Temperature (C) 0.1°C wet

COMMENTS:

REPORT ALL SOLIDS ON A DRY WEIGHT BASIS UNLESS OTHERWISE INDICATED

Client Provided Sample Container

All Samples to be taken from One bottle SS 7-19-16

Eurofins Eaton Analytical

Run Log

Run ID: **218146** Method: **300.0**

Type	Sample Id	Sample Site	Matrix	Instrument ID	Analysis Date	Calibration File
ICB	3497880		RW	CQ	07/19/2016 23:14	
LRB	3497888		RW	CQ	07/20/2016 04:26	
LFB	3497889		RW	CQ	07/20/2016 05:01	
IPC	3497892		RW	CQ	07/20/2016 12:33	
CCB	3497893		RW	CQ	07/20/2016 13:08	
FS	3496465	745769 54MW13	GW	CQ	07/20/2016 19:03	
MS	3496466	745769 54MW13	GW	CQ	07/20/2016 19:38	
MSD	3496467	745769 54MW13	GW	CQ	07/20/2016 20:13	
IPC	3497896		RW	CQ	07/20/2016 20:48	
CCB	3497897		RW	CQ	07/20/2016 21:23	

QC Summary Report

Sample Type	Analyte	Method	MRL	Client ID	Result Flag	Amount	Target	Units	% Recovery	Recovery Limits	RPD	RPD Limit	Dil Factor	Extracted	Analyzed	EEA ID #
ICB	Chlorate	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	07/19/2016 23:14	3497880
ICB	Chlorite	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	07/19/2016 23:14	3497880
LRB	Chlorate	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	07/20/2016 04:26	3497888
LRB	Chlorite	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	07/20/2016 04:26	3497888
LFB	Chlorate	300.0	10	---		245.3680	250	ug/L	98	90 - 110	---	---	1.0	---	07/20/2016 05:01	3497889
LFB	Chlorite	300.0	10	---		242.6260	250	ug/L	97	90 - 110	---	---	1.0	---	07/20/2016 05:01	3497889
IPC	Chlorate	300.0	10	---		249.1070	250	ug/L	100	90 - 110	---	---	1.0	---	07/20/2016 12:33	3497892
IPC	Chlorite	300.0	10	---		251.3940	250	ug/L	101	90 - 110	---	---	1.0	---	07/20/2016 12:33	3497892
CCB	Chlorate	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	07/20/2016 13:08	3497893
CCB	Chlorite	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	07/20/2016 13:08	3497893
FS	Chlorate	300.0	10	745769 54MW13	<	10		ug/L	---	---	---	---	1.0	---	07/20/2016 19:03	3496465
FS	Chlorite	300.0	10	745769 54MW13	<	10		ug/L	---	---	---	---	1.0	---	07/20/2016 19:03	3496465
MS	Chlorate	300.0	10	745769 54MW13		214.9980	250	ug/L	**86**	90 - 110	---	---	1.0	---	07/20/2016 19:38	3496466
MS	Chlorite	300.0	10	745769 54MW13		196.6760	250	ug/L	**79**	90 - 110	---	---	1.0	---	07/20/2016 19:38	3496466
MSD	Chlorate	300.0	10	745769 54MW13		218.7590	250	ug/L	**88**	90 - 110	1.7	10	1.0	---	07/20/2016 20:13	3496467
MSD	Chlorite	300.0	10	745769 54MW13		201.6420	250	ug/L	**81**	90 - 110	2.5	10	1.0	---	07/20/2016 20:13	3496467
IPC	Chlorate	300.0	10	---		246.1520	250	ug/L	98	90 - 110	---	---	1.0	---	07/20/2016 20:48	3497896
IPC	Chlorite	300.0	10	---		247.7170	250	ug/L	99	90 - 110	---	---	1.0	---	07/20/2016 20:48	3497896
CCB	Chlorate	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	07/20/2016 21:23	3497897
CCB	Chlorite	300.0	10	---	<	10		ug/L	---	---	---	---	1.0	---	07/20/2016 21:23	3497897

Sample Type Key

Type (Abbr.)	Sample Type	Type (Abbr.)	Sample Type
CCB	Continuing Calibration Blank		
FS	Field Sample		
ICB	Initial Calibration Blank		
IPC	Instrument Performance Check		
LFB	Laboratory Fortified Blank		
LRB	Laboratory Reagent Blank		
MS	Matrix Spike		
MSD	Matrix Spike Duplicate		

END OF REPORT

Eurofins Eaton Analytical

Method 300.0 B Ion Chromatography Standard / Reagent Preparation Log

Run ID# 218146 **Instrument#** CQ

Stock Name/Part#/Grade	Manufacturer	Lot#	Date Received	Date Opened	Date of Expiration
Chlorite Cal Stock / ICCLO21	Inorganic Ventures	H2-CLOX01104MCA	08/06/2014	08/10/2015	08/10/2016
Bromide Cal Stock / ICBR1	Inorganic Ventures	J2-BR01106	08/06/2014	08/10/2015	08/10/2016
Chlorate Cal Stock / ICCLO31	Inorganic Ventures	J2-CLOX01107	08/06/2014	08/10/2015	08/10/2016
ChloriteQC Stock / ICCLO21	Inorganic Ventures	J2-CLOX01108	08/06/2014	08/10/2015	08/10/2016
Bromide QC Stock / ICC-031	Ultra Scientific	CL-4935	07/15/2015	07/21/2015	01/31/2019
Chlorate QC Stock / ICC-011	Ultra Scientific	P01208	07/15/2015	07/21/2015	12/31/2016
EDA / E479-500	Fisher	148201	08/19/2015	08/31/2015	NA

Working Solution Name	Stock Name, Amounts Used, Final Volume and Concentration	
Cal Substock -25	1250 uL of each Cal Stock in 50 mL volume RW= 25.0 mg/L	IOC47-8a(1-3)
Cal Substock -25	1250 uL of each Cal Stock in 50 mL volume RW= 25.0 mg/L	IOC47-8a(4-6)

Analyst: S. Lovick **Prep Date:** 07/07/2016 **Exp. Date:** 08/07/2016

Cal Standard	Br^-, ClO_3^- & ClO_2^- Concentration (µg/L)	25 mg/L Cal Substock Vol. (µL)	25 mg/L QC Substock Vol. (µL)	50 mg/mL EDA Vol. (µL)	Final Vol. (mL)
1	10	4		10	10
2	20	8		10	10
3	100	40		10	10
4	250	100		10	10
5	500	200		10	10
QCS	250		100	10	10

Analyst: S. Lovick **Prep Date:** 07/14/2016 **Exp. Date:** 07/21/2016

LFB	250	100		10	10

Analyst: S. Lovick **Prep Date:** 07/19/2016 **Exp. Date:** 07/21/2016

EDA solution	5.6 mL EDA to 100 mL volume RW = 50 mg/mL Prep ID IC47-1b	

Analyst: S. Lovick **Prep Date:** 06/23/2016 **Exp. Date:** 07/23/2016

Comments: Dionex IonPac AS19-HC 4mm s/n 160418153 lot#01531115 installed 5/27/2016
EGCIII-Eluent Cartridge s/n 150323012017 installed 05/27/2016

Analyst: [signature] **Date:** JUL 21 2016

Technician Review: [signature] **Date:** 07/21/2016

(signature)

RIA 218146

Summary

Sequence Details		
Name:	071916A	14/Jan/16 14:57:12
Directory:	Instrument Data\CQ\300B\2016	Eurofins Eaton Analy
Data Vault:	ChromeleonLocal	21/Jul/16 10:04:01
No. of Injections	40	us25_usr_sbnlabpcs
By Component	Chlorite	

No	Injection Name	Inject Time	Area µS*min CD_1 Chlorite	Amount ppb CD_1 Chlorite	Area µS*min CD_1 Chlorate	Amount PPM CD_1 Chlorate	Area µS*min CD_1 Bromide	Amount PPM CD_1 Bromide
1	\ICB\RW\1\	07/19/16 23:14	n.a.	n.a.	n.a.	n.a.	0.001	6.250
2	\ICS\RW\1\10	07/19/16 23:49	0.009	14.229	0.008	12.585	0.007	12.696
3	\ICS\RW\1\20	07/20/16 00:24	0.016	21.104	0.016	21.629	0.013	19.362
4	\ICS\RW\1\100	07/20/16 00:58	0.093	93.353	0.083	96.197	0.081	92.340
5	\ICS\RW\1\250	07/20/16 01:33	0.260	250.227	0.220	247.892	0.222	245.695
6	\ICS\RW\1\500	07/20/16 02:08	0.528	501.087	0.450	501.698	0.460	503.656
7	\UCQM\RW\1\250	07/20/16 02:42	0.261	251.039	0.216	242.592	0.220	243.385
8	\IPC\RW\1\250	07/20/16 03:17	0.258	248.501	0.219	246.413	0.219	241.948
9	\RLC\RW\1\10	07/20/16 03:52	0.008	13.590	0.008	12.746	0.005	10.768
10	\LRB\RW\1\	07/20/16 04:26	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
11	\LFB\RW\1\250	07/20/16 05:01	0.252	242.626	0.218	245.368	0.219	242.704
12	3493702\FS\DW\1\	07/20/16 05:36	n.a.	n.a.	0.120	136.652	0.003	8.261
13	3493702\MS\DW\1\250	07/20/16 06:10	0.258	248.010	0.346	386.625	0.225	249.275
14	3493702\MSD\DW\1\250	07/20/16 06:45	0.274	263.364	0.360	402.768	0.239	264.105
15	3494178\FS\DW\1\	07/20/16 07:20	n.a.	n.a.	0.028	35.600	0.068	78.302
16	3494272\FS\DW\1\	07/20/16 07:54	0.533	506.525 ✗	0.111	126.893	0.088	100.478
17	3494273\FS\DW\1\	07/20/16 08:29	0.615	582.756 ✗	0.108	123.219	0.087	99.723
18	3494274\FS\DW\1\	07/20/16 09:04	0.445	423.285	0.122	138.901	0.093	105.639
19	3494725\FS\DW\1\	07/20/16 09:38	n.a.	n.a.	n.a.	n.a.	0.006	11.019
20	3495691\FS\DW\1\	07/20/16 10:13	0.350	334.747	0.101	116.439	0.004	9.235
21	3495692\FS\DW\1\	07/20/16 10:48	0.283	272.036	0.068	79.100	0.001	6.198
22	3495693\FS\DW\1\	07/20/16 11:23	0.300	287.541	0.059	69.107	0.008	13.645
23	3495694\FS\DW\1\	07/20/16 11:58	0.283	271.498	0.068	79.513	0.005	9.859
24	\IPC\RW\1\250	07/20/16 12:33	0.261	251.394	0.221	249.107	0.226	249.754
25	\CCB\RW\1\	07/20/16 13:08	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
26	3493741\FS\DW\5\	07/20/16 13:49	0.128	126.131	0.092	105.506	0.002	7.646
27	3493742\FS\DW\5\	07/20/16 14:24	0.113	111.916	0.039	47.800	0.004	9.554
28	3493743\FS\DW\5\	07/20/16 14:59	0.111	110.454	0.038	45.938	0.004	9.022
29	3493745\FS\DW\5\	07/20/16 15:34	0.116	115.278	0.039	47.096	0.004	8.801
30	3493747\FS\DW\5\	07/20/16 16:09	0.153	149.316	0.033	40.875	0.004	9.229
31	3494272\FS\DW\5\	07/20/16 16:44	0.103	103.020 —	0.020	26.832	0.019	25.746
32	3494273\FS\DW\5\	07/20/16 17:18	0.119	117.672 —	0.019	25.473	0.019	25.519
33	3496258\FS\SW\1\	07/20/16 17:53	n.a.	n.a.	0.012	17.289	0.016	22.659
34	3496267\FS\SW\1\	07/20/16 18:28	n.a.	n.a.	0.015	21.129	0.014	20.123
35	3496465\FS\GW\1\	07/20/16 19:03	n.a.	n.a.	n.a.	n.a.	0.014	20.649
36	3496466\MS\GW\1\250	07/20/16 19:38	0.203	196.676	0.191	214.998	0.215	237.810
37	3496467\MSD\GW\1\250	07/20/16 20:13	0.208	201.642	0.194	218.759	0.218	241.143
38	\IPC\RW\1\250	07/20/16 20:48	0.257	247.717	0.219	246.152	0.225	248.515
39	\CCB\RW\1\	07/20/16 21:23	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
40	END	07/20/16 21:58	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

Detection Settings

Algorithm: Chromeleon 6

Ret.Time	Param. Name	Param.Value	Inj. Type	Channel
0.000 [min]	Inhibit Integration	On	Any	All Channels
0.000 [min]	Valley To Valley	On	Any	All Channels
0.000 [min]	Sensitivity	0.0010 [Signal]	Any	All Channels
0.000 [min]	Peak Slice	1.00 [s]	Any	All Channels
0.000 [min]	Minimum Area	0.0010 [Signal*min]	Any	All Channels
7.900 [min]	Inhibit Integration	Off	Any	All Channels
9.500 [min]	Inhibit Integration	On	Any	All Channels
15.150 [min]	Inhibit Integration	Off	Any	All Channels
18.850 [min]	Inhibit Integration	On	Any	All Channels

Component Table

Name	Ret.Time	Window	Channel	Eval.Type	Stand.Meth.	Cal.Type
Chlorite	8.340	2.000 RG	All Channels	Area	External	Lin. WithOffset
Chlorate	15.820	3.000 RG	All Channels	Area	External	Lin. WithOffset
Bromide	17.470	3.500 RG	All Channels	Area	External	Lin. WithOffset

Level "01"	Level "02"	Level "03"	Level "04"	Level "05"	Level "06"	Level "07"
0.000000	10.000000	20.000000	100.000000	250.000000	500.000000	1000.000000
0.000000	10.000000	20.000000	100.000000	250.000000	500.000000	1000.000000
0.000000	10.000000	20.000000	100.000000	250.000000	500.000000	1000.000000

Conc.Unit	Factor	Peak Type	Group	Low.Conf.Prob	Up.Conf.Prob	Comment
ppb	1.000000	Autodetect		99.5 %	99.5 %	auto generated
PPM	1.000000	Autodetect		99.5 %	99.5 %	auto generated
PPM	1.000000	Autodetect		99.5 %	99.5 %	auto generated

Charge

Global Calibration Settings

Mode	**Group**
Curve Fitting	**Normal**
Dual-Column Separate Calibration	**No**
Origin of Standards for Fixed Calibration:	

Calibration Table

Enabled	Name	Calib.Comment for "Chlorite"	Level	Dilution	Weight
☑	\ICB\RWA1\	Missing Peak	01	1.0000	1.0000
☑	\ICS\RWA1\10	Ok	02	1.0000	1.0000
☑	\ICS\RWA1\20	Ok	03	1.0000	1.0000
☑	\ICS\RWA1\100	Ok	04	1.0000	1.0000
☑	\ICS\RWA1\250	Ok	05	1.0000	1.0000
☑	\ICS\RWA1\500	Ok	06	1.0000	1.0000

IntStd	Spike Group	Position	Volume	Comment	Instrument Method	Processing Method
1.0000		G8	200.0 [µl]		AS19 4mm	AS19 4mm
1.0000		G2	200.0 [µl]		AS19 4mm	AS19 4mm
1.0000		G3	200.0 [µl]		AS19 4mm	AS19 4mm
1.0000		G4	200.0 [µl]		AS19 4mm	AS19 4mm
1.0000		G5	200.0 [µl]		AS19 4mm	AS19 4mm
1.0000		G6	200.0 [µl]		AS19 4mm	AS19 4mm

Status	Inject Time	Replicate ID	GUID	Re-injections	AutoDilution Ratio
Finished	7/19/2016		C779751B-571F-	0	0.00
Finished	7/19/2016		12E55A33-0C9D-	0	0.00
Finished	7/20/2016		A1906079-EA57-	0	0.00
Finished	7/20/2016		AA3BFF8D-	0	0.00
Finished	7/20/2016		ED4CC0CF-	0	0.00
Finished	7/20/2016		C50D7428-2200-	0	0.00

Unidentified Peak Group Table

Name	Start Time	End Time	Channel	Eval.Type	Cal.Type	Group	Factor	Comment

Chromatogram Subtraction

No Subtraction

Comment

Amount Interpretation

Reference Inject Volume: Use inject volume of first standard

Retention Time Settings

Use absolute greatest signal value

Dead/Delay Time(s)

Dead time

Matrix Correction

Enable matrix correction No

System Suitability Test and Intelligent Run Control

Name	Statistics	Eval. Formula	Operator	Ref.Value 1	Ref.Value 2	Channel	Peak	N.A.

Inj.Condition	Pass Actions	Fail Actions	Result	SST Message	Rounding

Name	**AS19 4mm**
Comment	
Description	**Instrument: ICS2000** **Creation Time: 1/14/2015 12:24:40 PM** **Created by EurofinsEatonAnaly**
Run time	**30.000 [min]**
Instrument	**CQ on us25ins87994**

Stage	Time min	Command	Value	Comment
Instrument Setup				
	initial			
		Sampler.AcquireExclusiveAccess		
		Wait	Sampler.Ready, Run=Hold, Timeout=Infinite	
		Sampler.DiverterValve	Position_2	
		Wait	Sampler.Ready, Run=Hold, Timeout=Infinite	
		Sampler.PartialCutVolume	20.0 [µl]	
		Sampler.CycleTime	0 [min]	
		Sampler.InjectMode	PushSeqPartial	
		Sampler.BufferWashFactor	2.000	
		Sampler.WashDispSpeed	20.0 [µl/s]	
		Sampler.InjectWash	BeforeInj	
		Sampler.WashSpeed	20.0 [µl/s]	
		Sampler.WashVolume	500.0 [µl]	
		Sampler.SampleHeight	3.000 [mm]	
		Sampler.WasteSpeed	50.0 [µl/s]	
		Sampler.DispenseDelay	2.0 [s]	
		Sampler.DispSpeed	5.0 [µl/s]	
		Sampler.DrawSpeed	5.0 [µl/s]	
		Sampler.DrawDelay	2.0 [s]	
		Sampler.DilutionMixDispenseSpeed	60.0 [µl/s]	
		Sampler.DilutionMixIterations	3	
		Sampler.DilutionMixSpeed	30.0 [µl/s]	
		Pump_ECD.Pressure.UpperLimit	3000 [psi]	
		Pump_ECD.%A.Equate	"DI Water"	
		Pump_ECD.Pressure.LowerLimit	200 [psi]	
		Pump_ECD.ColumnTemperature.Nominal	30.0 [°C]	
		Pump_ECD.CellTemperature.Nominal	35.0 [°C]	
		Pump_ECD.Data_Collection_Rate	5.0 [Hz]	
		Pump_ECD.Suppressor_Type	AERS_4mm	
		Pump_ECD.Suppressor_Carbonate	0.0 [mM]	
		Pump_ECD.Suppressor_Bicarbonate	0.0 [mM]	
		Pump_ECD.Suppressor_Hydroxide	30.0 [mM]	
		Pump_ECD.Suppressor_Tetraborate	0.0 [mM]	
		Pump_ECD.Suppressor_OtherEluent	0.0 [mN]	
		Pump_ECD.Suppressor_RecommendedCurrent	75 [mA]	
		Pump_ECD.CR_TC	On	
		Sampler.PunctureOffset	0 [mm]	
		Sampler.InjectWash	BeforeInj	
		Pump_ECD.Flow	1.00	
		Pump_ECD.Suppressor_Current	75 [mA]	
		Pump_ECD.EluentGenerator.Curve	5	

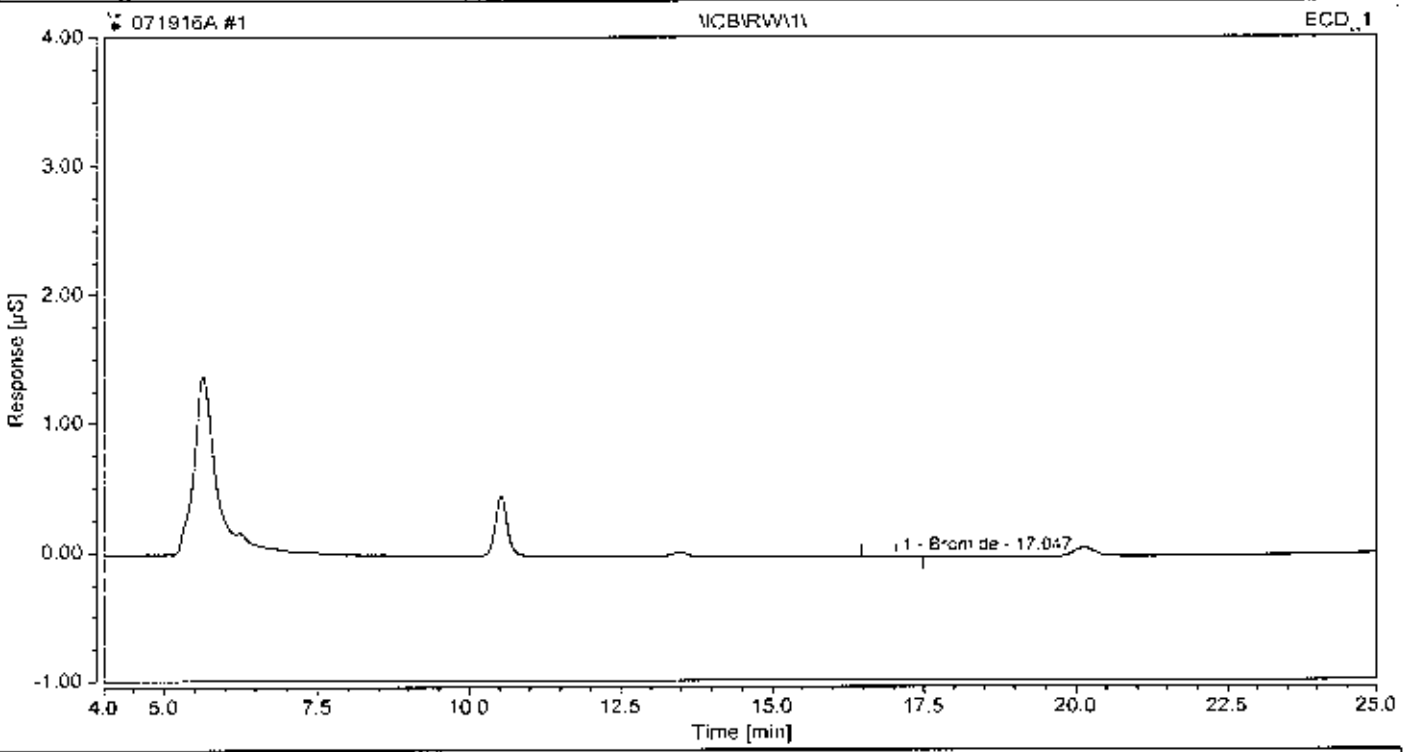
		Pump_ECD.EluentGenerator.Concentration	10.00 [mM]
Inject			
	0.000		
		Wait	Sampler.CycleTimeState, Run=Hold, Timeout=Infinite
		Sampler.Inject	
		Sampler.ReleaseExclusiveAccess	
Start Run			
	0.000		
		Pump_ECD.Channel_Pressure.AcqOn	
		Pump_ECD.Autozero	
		Pump_ECD.ECD_1.AcqOn	
		Pump_ECD.ECD_Total.AcqOn	
Run			Duration = 30.000 [min]
	0.000		
	15.000		
		Pump_ECD.EluentGenerator.Concentration	10.00 [mM]
		Pump_ECD.EluentGenerator.Curve	5
	24.000		
		Pump_ECD.EluentGenerator.Concentration	40.00 [mM]
		Pump_ECD.EluentGenerator.Curve	8
	25.000		
		Pump_ECD.EluentGenerator.Concentration	10.00 [mM]
		Pump_ECD.EluentGenerator.Curve	5
Stop Run			
	30.000		
		Pump_ECD.Channel_Pressure.AcqOff	
		Pump_ECD.ECD_1.AcqOff	
		Pump_ECD.ECD_Total.AcqOff	
End			

Chromatogram and Results

Injection Details

Injection Name:	\ICB\RW\1\	*Run Time (min):*	30.00
Vial Number:	G8	*Injection Volume:*	200.00
Injection Type:	Calibration Standard	*Channel:*	ECD_1
Calibration Level:	01	*Wavelength:*	n.a.
Instrument Method:	AS19 4mm	*Bandwidth:*	n.a.
Processing Method:	AS19 4mm	*Dilution Factor:*	1.0000
Injection Date/Time:	19/Jul/16 23:14	*Sample Weight:*	1.0000

Chromatogram



Integration Results

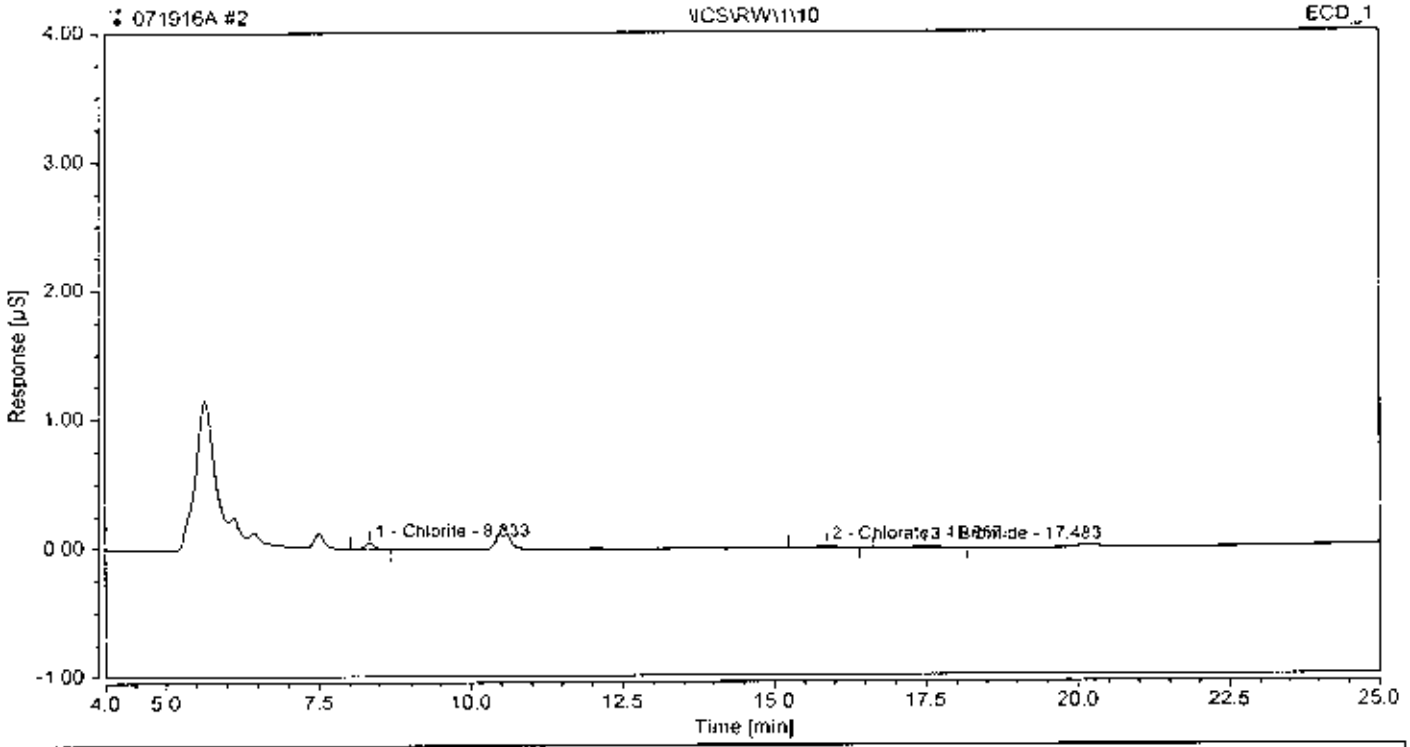
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount PPM
1	Bromide	17.047	0.001	0.002	100.00	100.00	6.2495
Total:			**0.001**	**0.002**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	\ICS\RW\1\10	*Run Time (min):*	**30.00**
Vial Number:	G2	*Injection Volume:*	**200.00**
Injection Type:	**Calibration Standard**	*Channel:*	**ECD_1**
Calibration Level:	02	*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**19/Jul/16 23:49**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

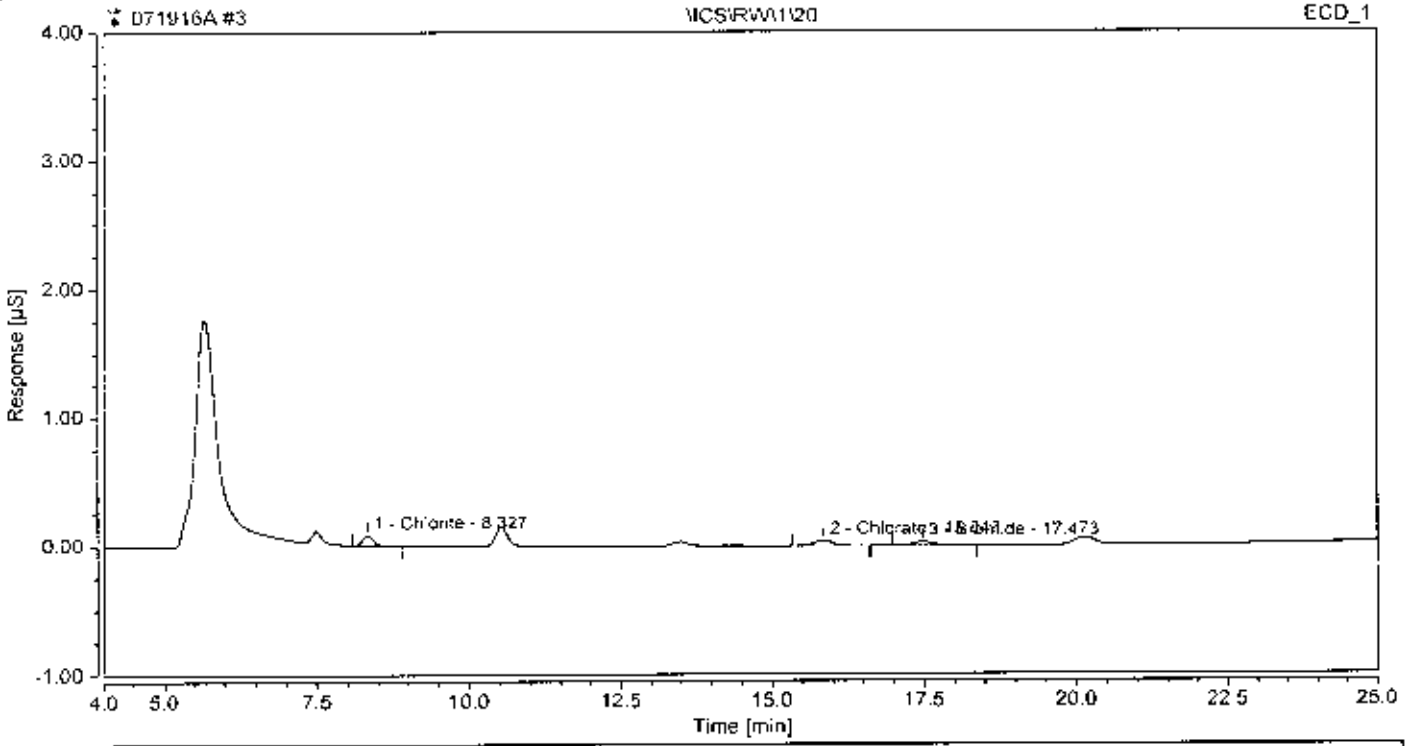
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	8.333	0.009	0.044	36.70	55.22	14.2286
2	Chlorate	15.857	0.008	0.021	32.45	26.05	12.5846
3	Bromide	17.483	0.007	0.015	30.85	18.73	12.6964
Total:			**0.023**	**0.081**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	\ICS\RW\1\20	*Run Time (min):*	30.00
Vial Number:	G3	*Injection Volume:*	200.00
Injection Type:	Calibration Standard	*Channel:*	ECD_1
Calibration Level:	03	*Wavelength:*	n.a.
Instrument Method:	AS19 4mm	*Bandwidth:*	n.a.
Processing Method:	AS19 4mm	*Dilution Factor:*	1.0000
Injection Date/Time:	20/Jul/16 00:24	*Sample Weight:*	1.0000

Chromatogram



Integration Results

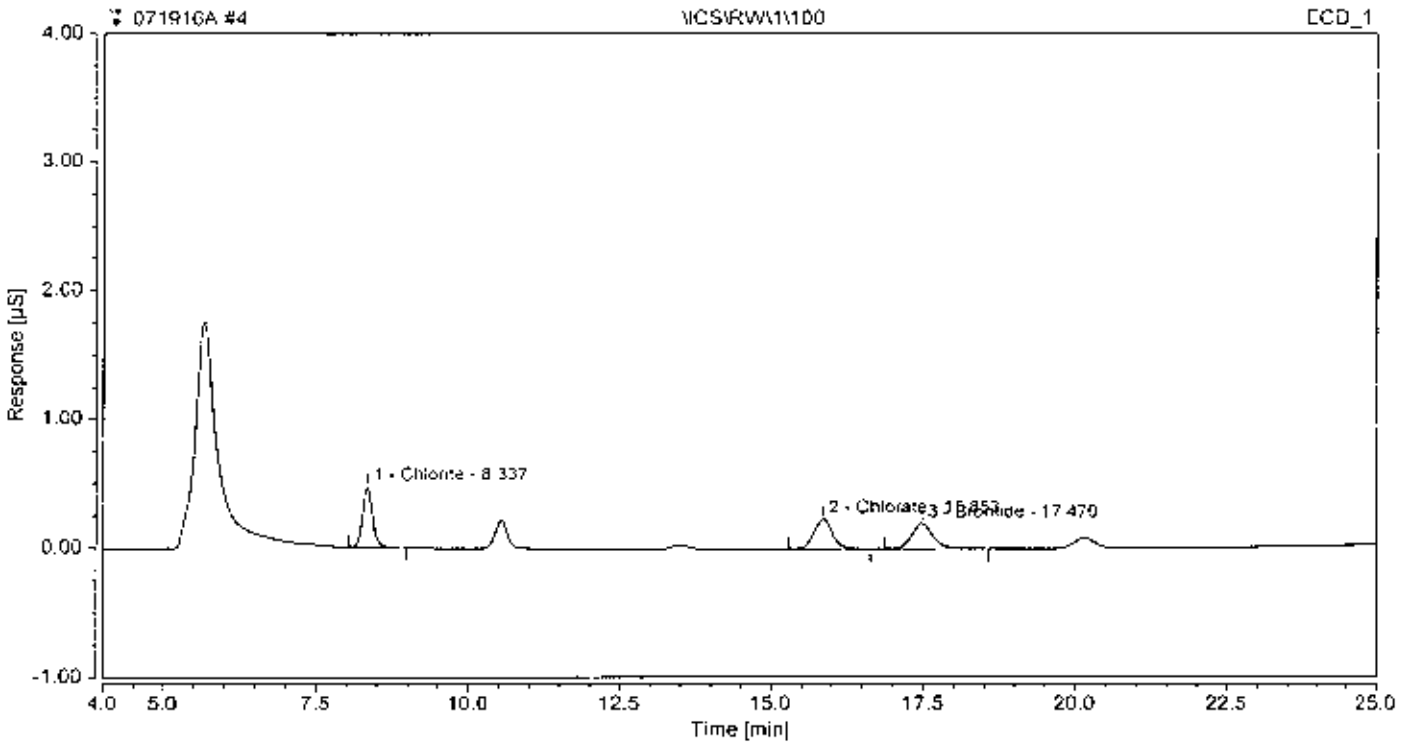
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	8.327	0.016	0.081	35.32	52.15	21.1037
2	Chlorate	15.843	0.016	0.043	35.02	27.90	21.6286
3	Bromide	17.473	0.013	0.031	29.66	19.96	19.3524
Total:			**0.045**	**0.155**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name	**\ICS\RW\1\100**	*Run Time (min):*	**30.00**
Vial Number:	**G4**	*Injection Volume:*	**200.00**
Injection Type:	**Calibration Standard**	*Channel:*	**ECD_1**
Calibration Level:	**04**	*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**20/Jul/16 00:58**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

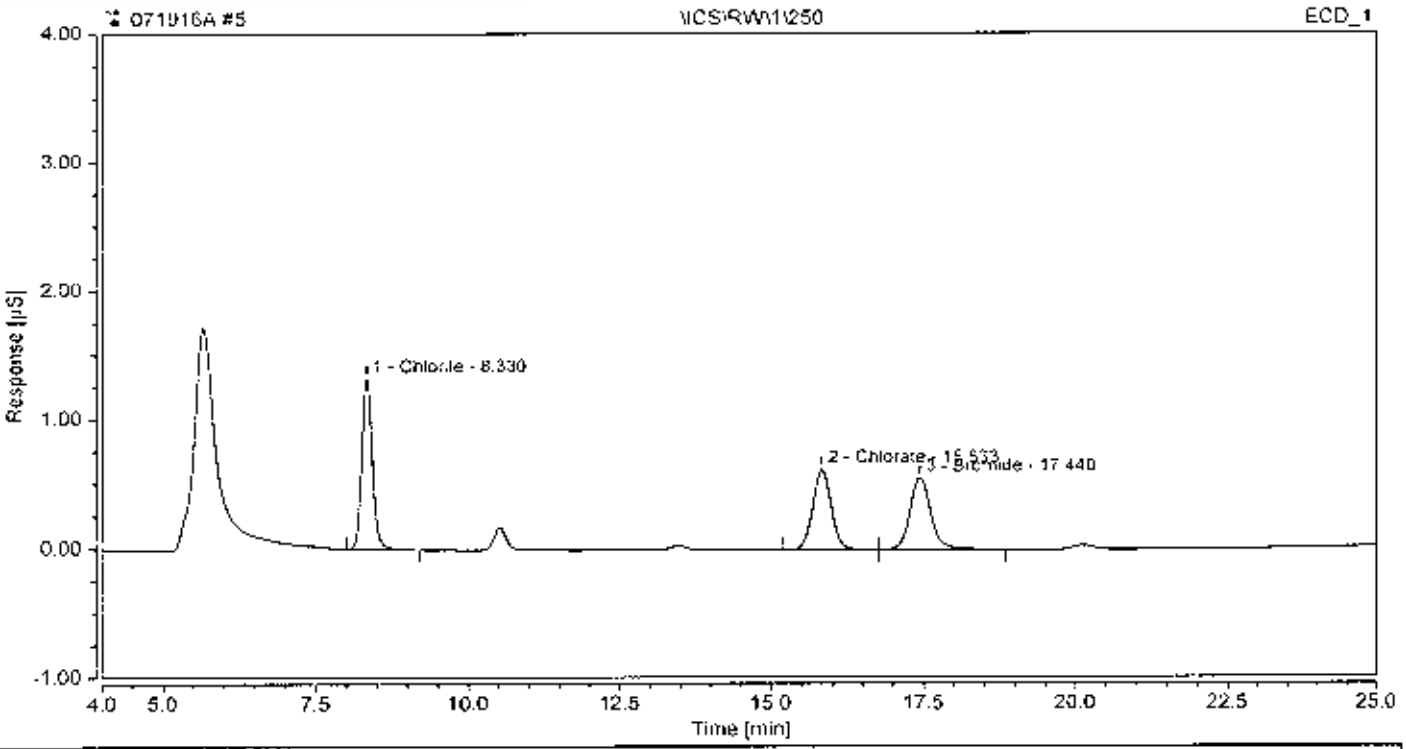
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	8.337	0.093	0.476	36.19	52.38	93.3534
2	Chlorate	15.853	0.083	0.234	32.40	25.79	96.1957
3	Bromide	17.470	0.081	0.198	31.42	21.83	92.3405
Total:			**0.257**	**0.908**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	\ICS\RW\1\250	*Run Time (min):*	**30.00**
Vial Number:	G5	*Injection Volume:*	**200.00**
Injection Type:	Calibration Standard	*Channel:*	**ECD_1**
Calibration Level:	05	*Wavelength:*	**n.a.**
Instrument Method:	AS19 4mm	*Bandwidth:*	**n.a.**
Processing Method:	AS19 4mm	*Dilution Factor:*	**1.0000**
Injection Date/Time:	20/Jul/16 01:33	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

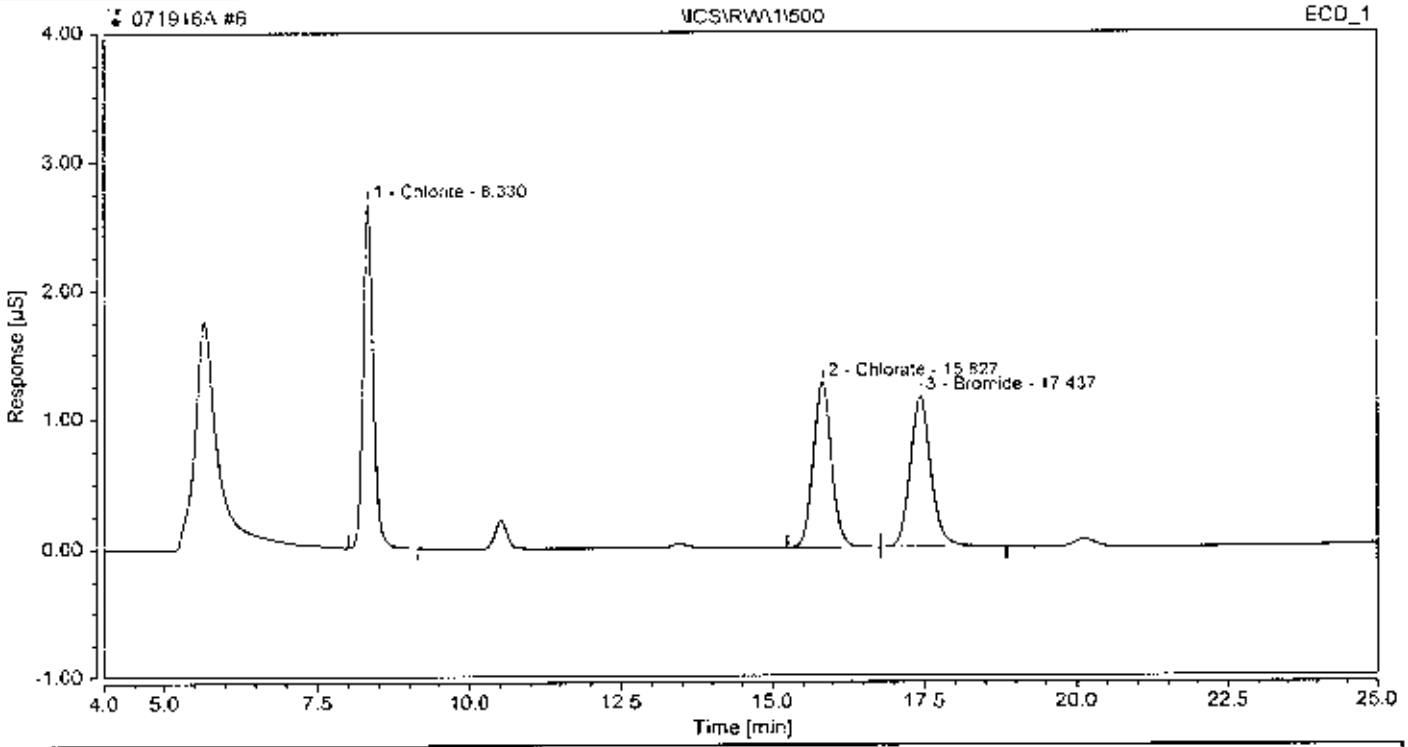
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	8.330	0.260	1.320	37.02	52.75	250.2274
2	Chlorate	15.833	0.220	0.625	31.36	24.99	247.8925
3	Bromide	17.440	0.222	0.557	31.61	22.26	245.6953
Total:			**0.703**	**2.503**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	\ICS\RW\1\500	*Run Time (min):*	**30.00**
Vial Number	G6	*Injection Volume:*	**200.00**
Injection Type:	**Calibration Standard**	*Channel:*	**ECD_1**
Calibration Level:	**06**	*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time	**20/Jul/16 02:08**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

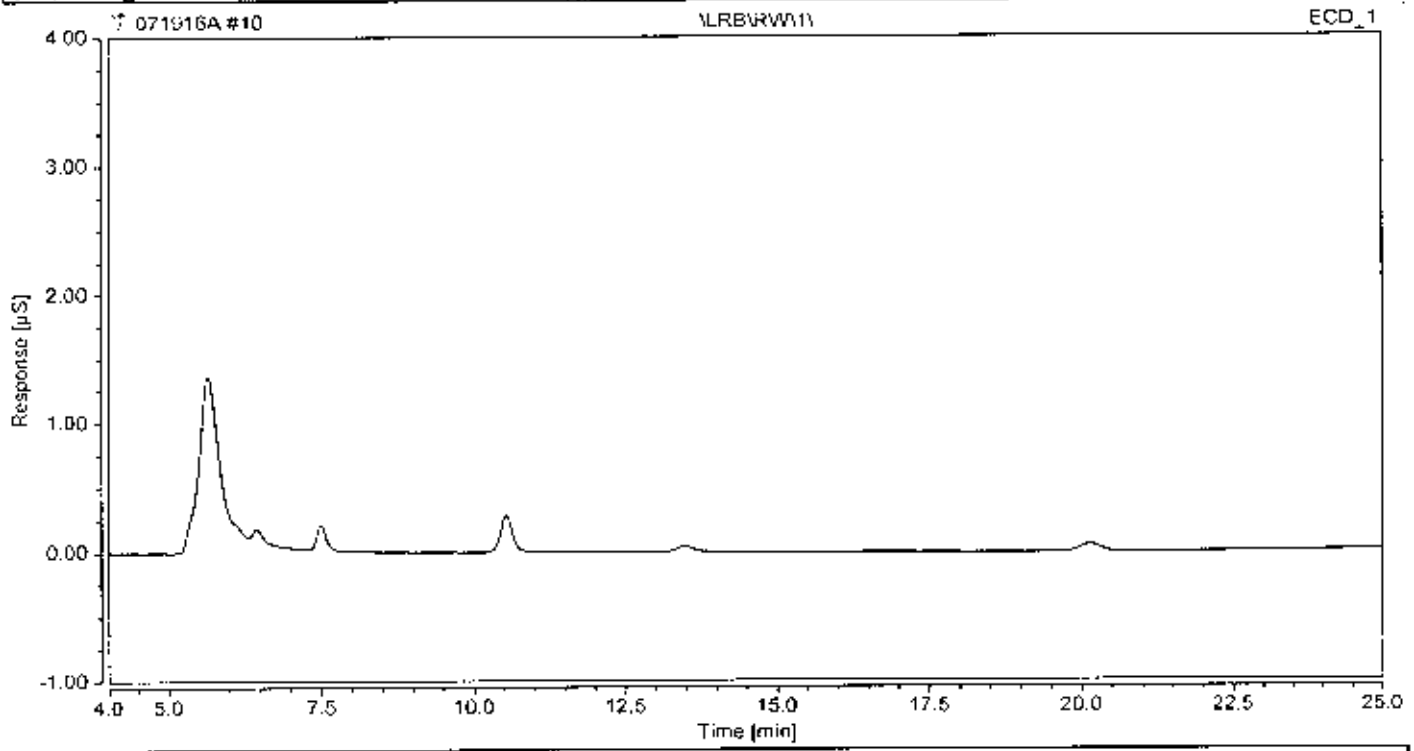
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	8.330	0.528	2.672	36.70	52.25	501.0869
2	Chlorate	15.827	0.450	1.278	31.29	25.00	501.6976
3	Bromide	17.437	0.460	1.163	32.01	22.75	503.6558
Total:			**1.438**	**5.114**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	\LRB\RW\1\	*Run Time (min):*	30.00
Vial Number:	GA2	*Injection Volume:*	200.00
Injection Type:	Unknown	*Channel:*	ECD_1
Calibration Level:		*Wavelength:*	n.a.
Instrument Method:	AS19 4mm	*Bandwidth:*	n.a.
Processing Method:	AS19 4mm	*Dilution Factor:*	1.0000
Injection Date/Time:	20/Jul/16 04:26	*Sample Weight:*	1.0000

Chromatogram



Integration Results

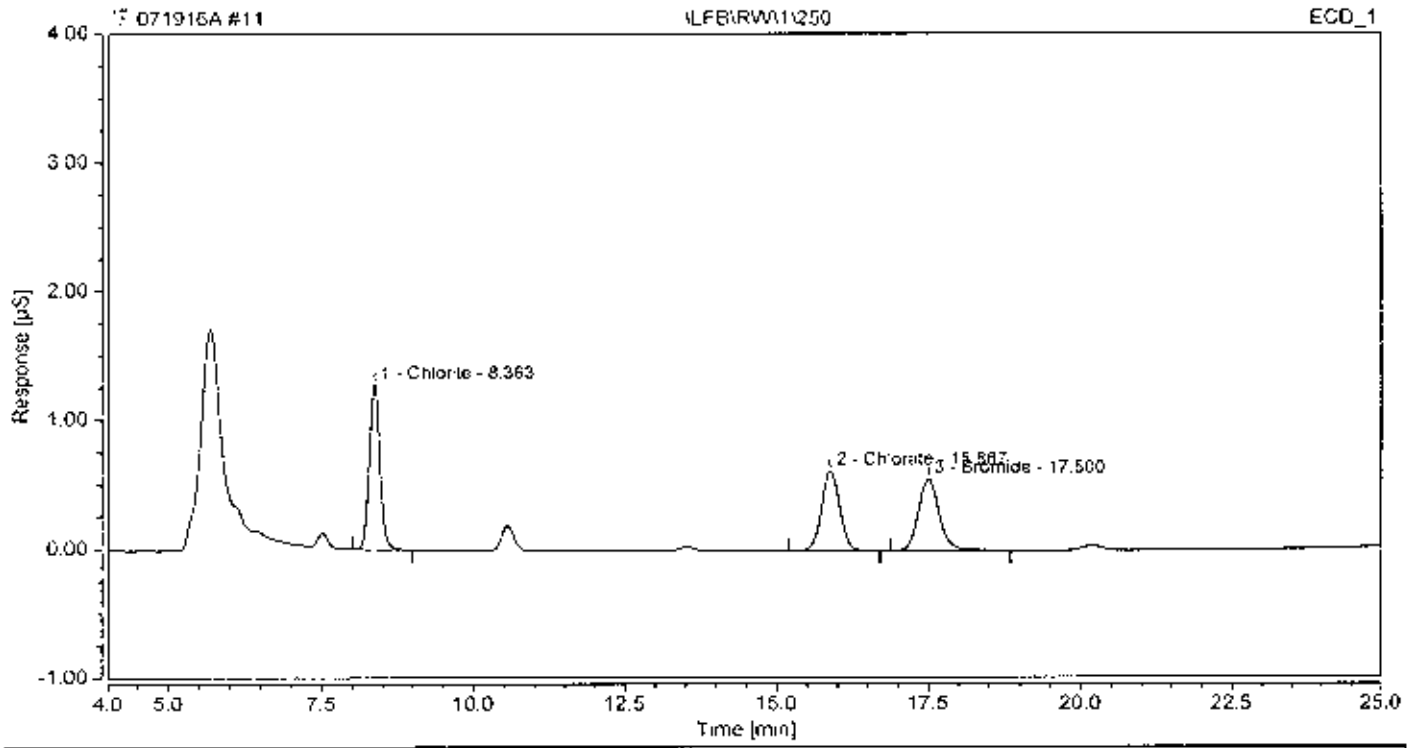
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount n.a.
Total:			0.000	0.000	0.00	0.00	

Chromatogram and Results

Injection Details

Injection Name:	**\LFB\RW\1\250**	*Run Time (min):*	**30.00**
Vial Number:	**GA3**	*Injection Volume:*	**200.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**20/Jul/16 05:01**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

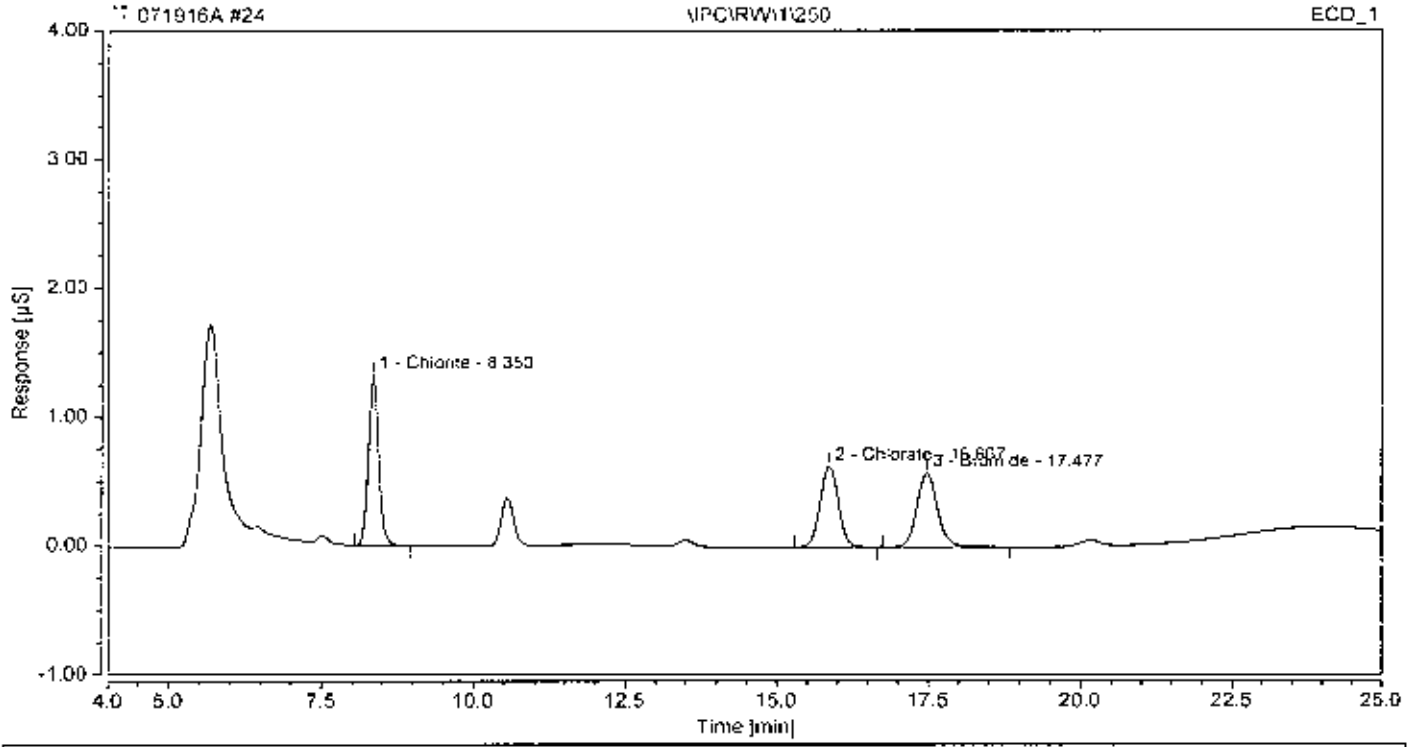
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	8.363	0.252	1.273	36.56	52.04	242.6255
2	Chlorate	15.667	0.218	0.619	31.63	25.29	245.3682
3	Bromide	17.500	0.219	0.555	31.82	22.67	242.7038
Total:			**0.689**	**2.446**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	\IPC\RW\1\250	*Run Time (min):*	**30.00**
Vial Number:	**G5**	*Injection Volume:*	**200.00**
Injection Type	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**20/Jul/16 12:33**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

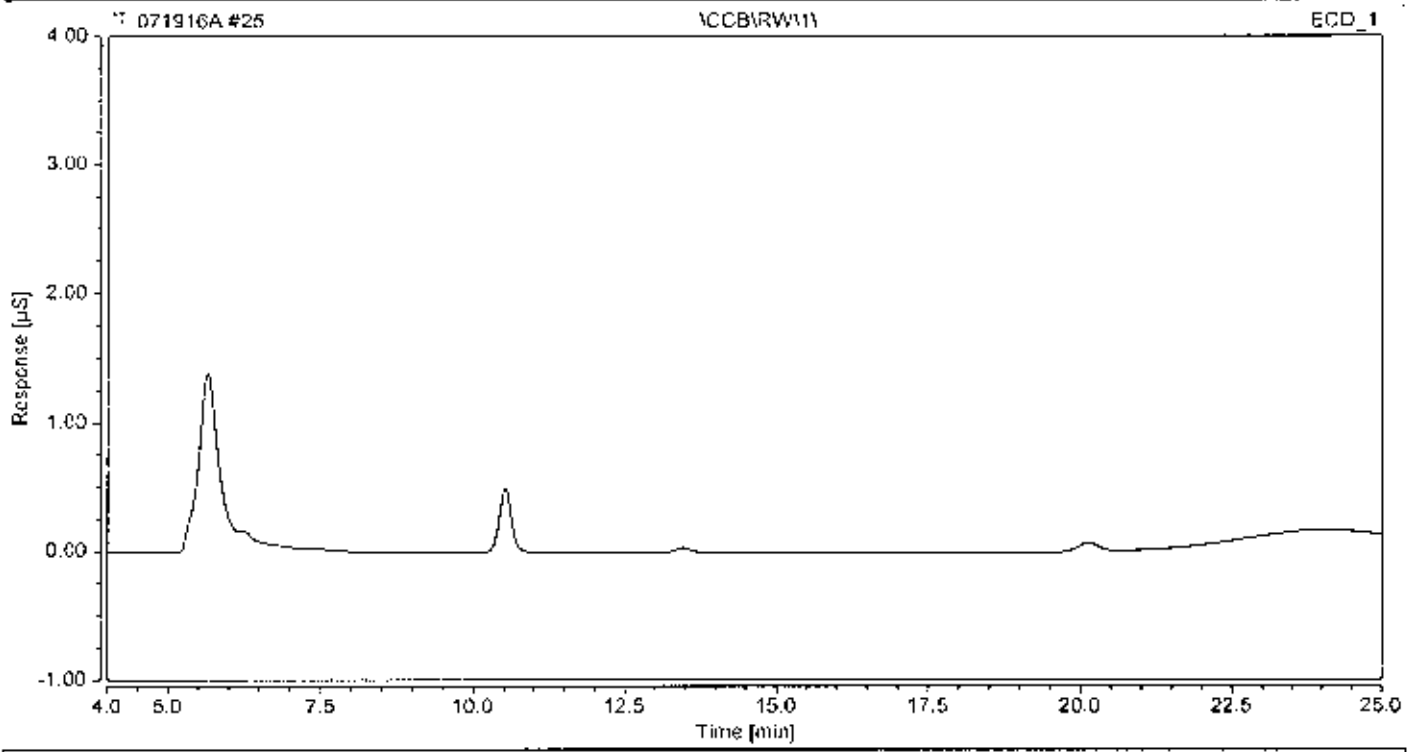
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	8.350	0.261	1.324	36.88	52.27	251.3938
2	Chlorate	15.867	0.221	0.632	31.25	24.95	249.1072
3	Bromide	17.477	0.226	0.577	31.87	22.78	249.7538
Total:			**0.709**	**2.533**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	\CCB\RW\1\	*Run Time (min):*	**30.00**
Vial Number:	**G8**	*Injection Volume:*	**200.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**20/Jul/16 13:08**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

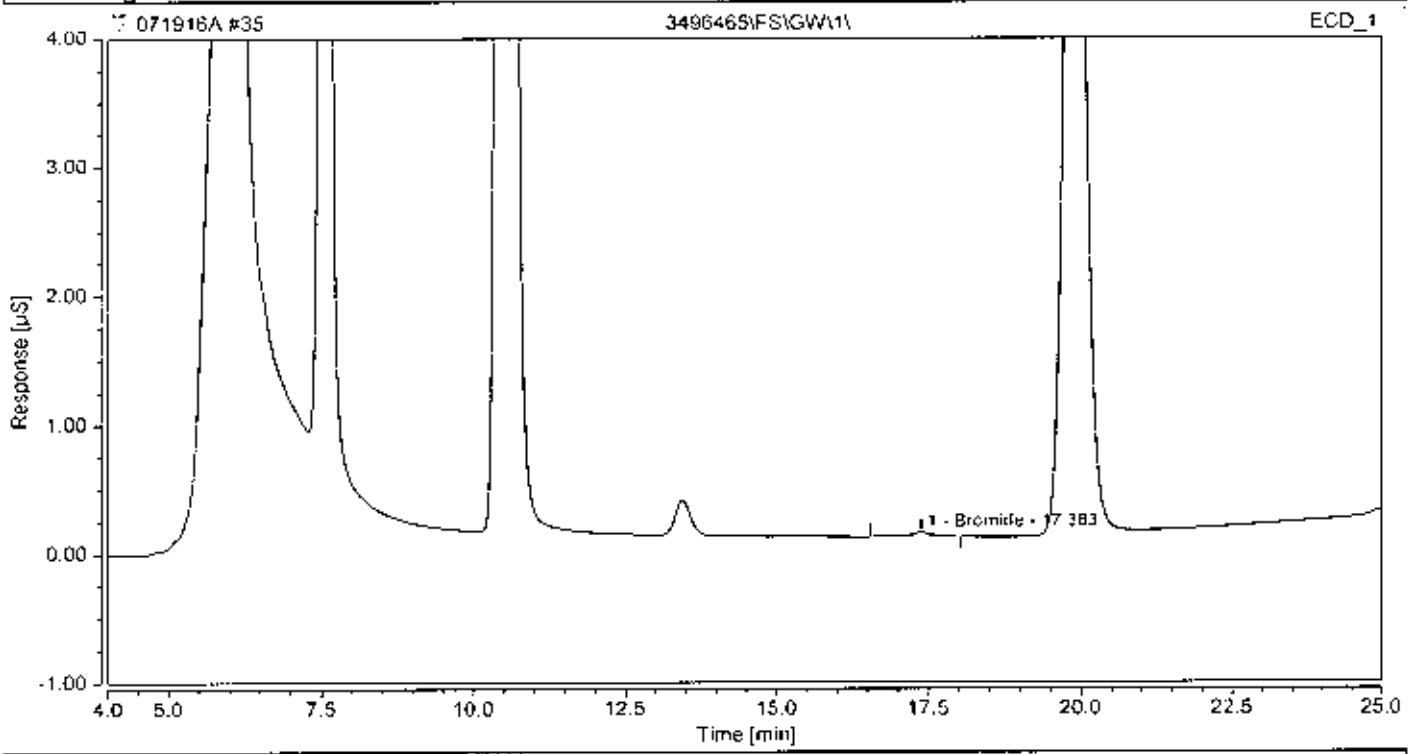
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	3496465\FS\GW\1\	*Run Time (min):*	30.00
Vial Number:	RD6	*Injection Volume:*	200.00
Injection Type:	Unknown	*Channel:*	ECD_1
Calibration Level:		*Wavelength:*	n.a.
Instrument Method:	AS19 4mm	*Bandwidth:*	n.a.
Processing Method:	AS19 4mm	*Dilution Factor:*	1.0000
Injection Date/Time:	20/Jul/16 19:03	*Sample Weight:*	1.0000

Chromatogram



Integration Results

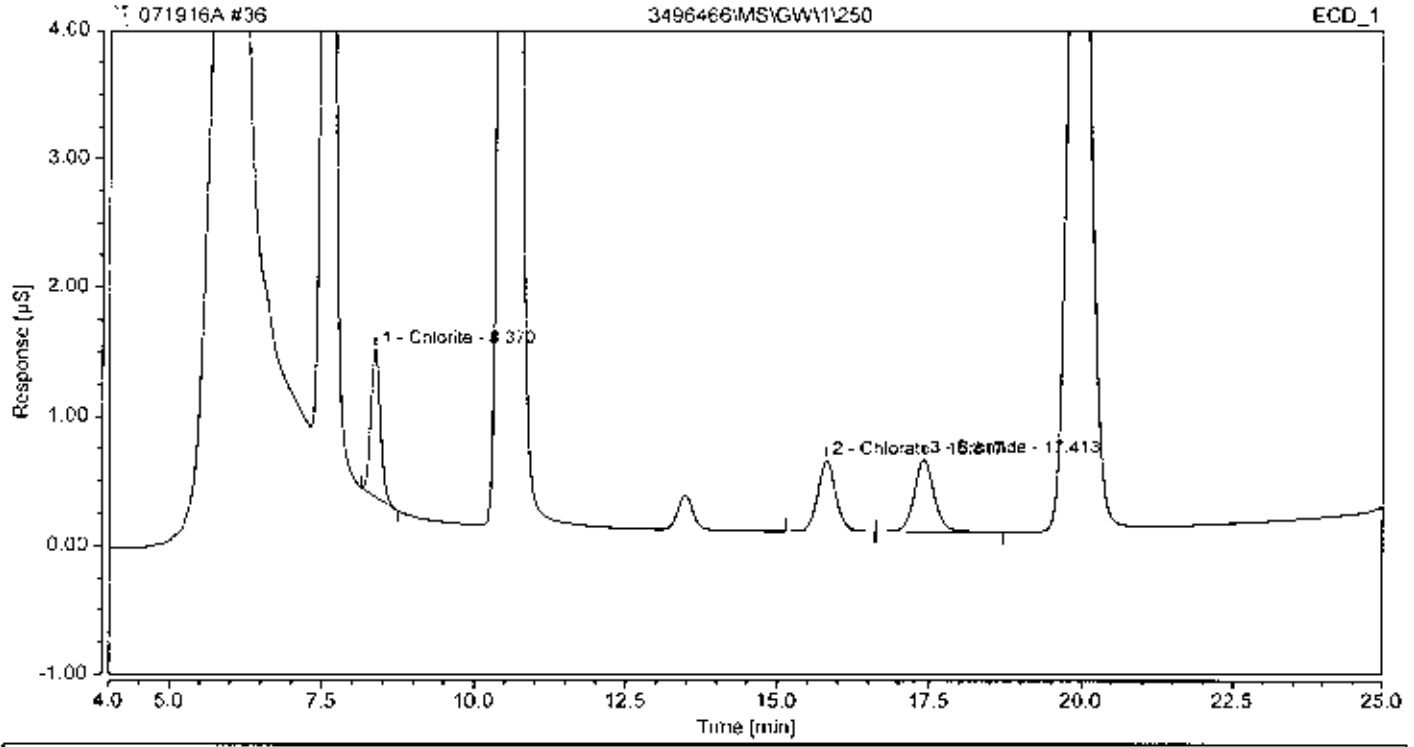
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount PPM
1	Bromide	17.383	0.014	0.031	100.00	100.00	20.6486
Total:			**0.014**	**0.031**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**3496466\MS\GW\1\250**	*Run Time (min):*	**30.00**
Vial Number:	**RD7**	*Injection Volume:*	**200.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**20/Jul/16 19:38**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

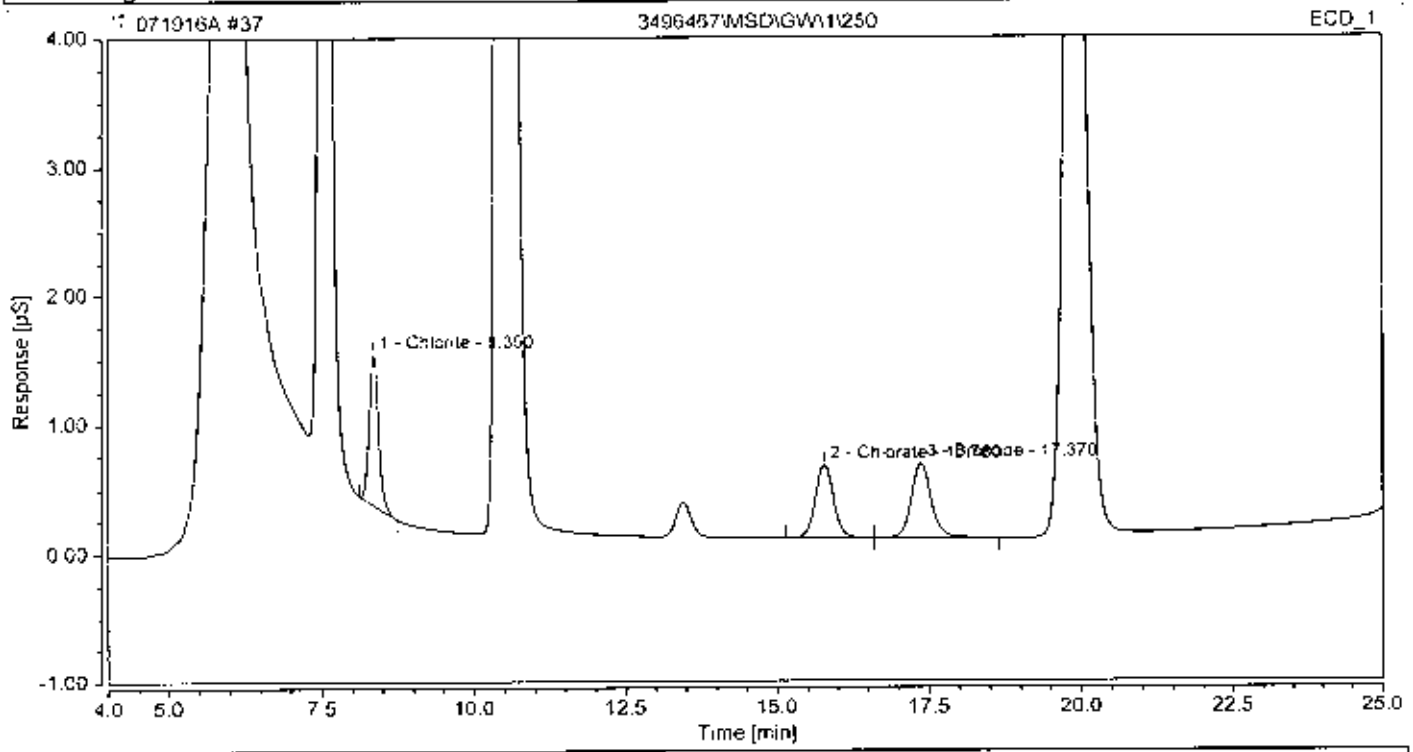
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	8.370	0.203	1.133	33.37	50.39	196.6758
2	Chlorate	15.817	0.191	0.552	31.32	24.53	214.9985
3	Bromide	17.413	0.215	0.564	35.31	25.08	237.8104
Total:			**0.608**	**2.248**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	**3496467\MSD\GW\1\250**	*Run Time (min):*	**30.00**
Vial Number:	**RD8**	*Injection Volume:*	**200.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**20/Jul/16 20:13**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

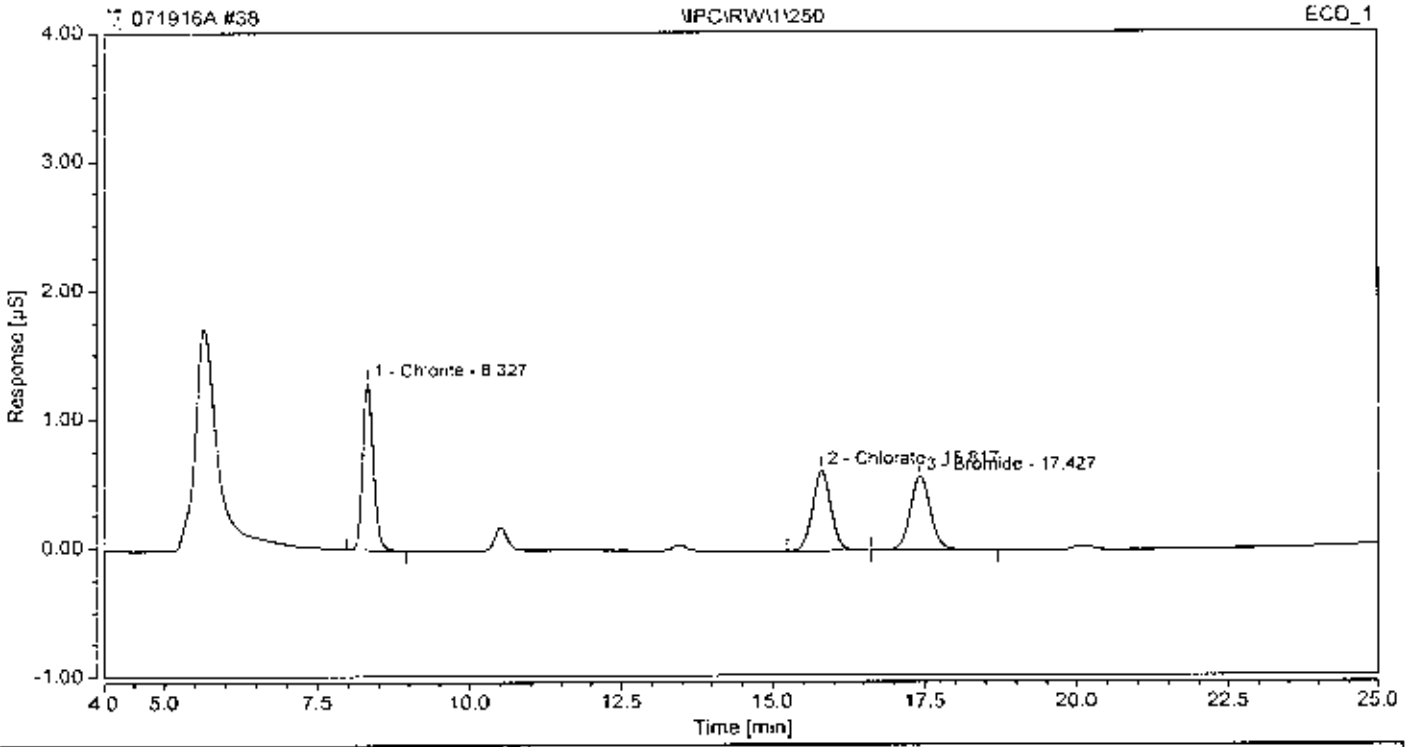
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	8.350	0.208	1.162	33.59	50.50	201.6416
2	Chlorate	15.780	0.194	0.564	31.28	24.52	218.7593
3	Bromide	17.370	0.218	0.575	35.14	24.99	241.1434
Total:			**0.620**	**2.301**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	\IPC\RW\1\250	*Run Time (min):*	30.00
Vial Number:	G5	*Injection Volume:*	200.00
Injection Type:	Unknown	*Channel:*	ECD_1
Calibration Level:		*Wavelength:*	n.a.
Instrument Method:	AS19 4mm	*Bandwidth:*	n.a.
Processing Method:	AS19 4mm	*Dilution Factor:*	1.0000
Injection Date/Time:	20/Jul/16 20:48	*Sample Weight:*	1.0000

Chromatogram



Integration Results

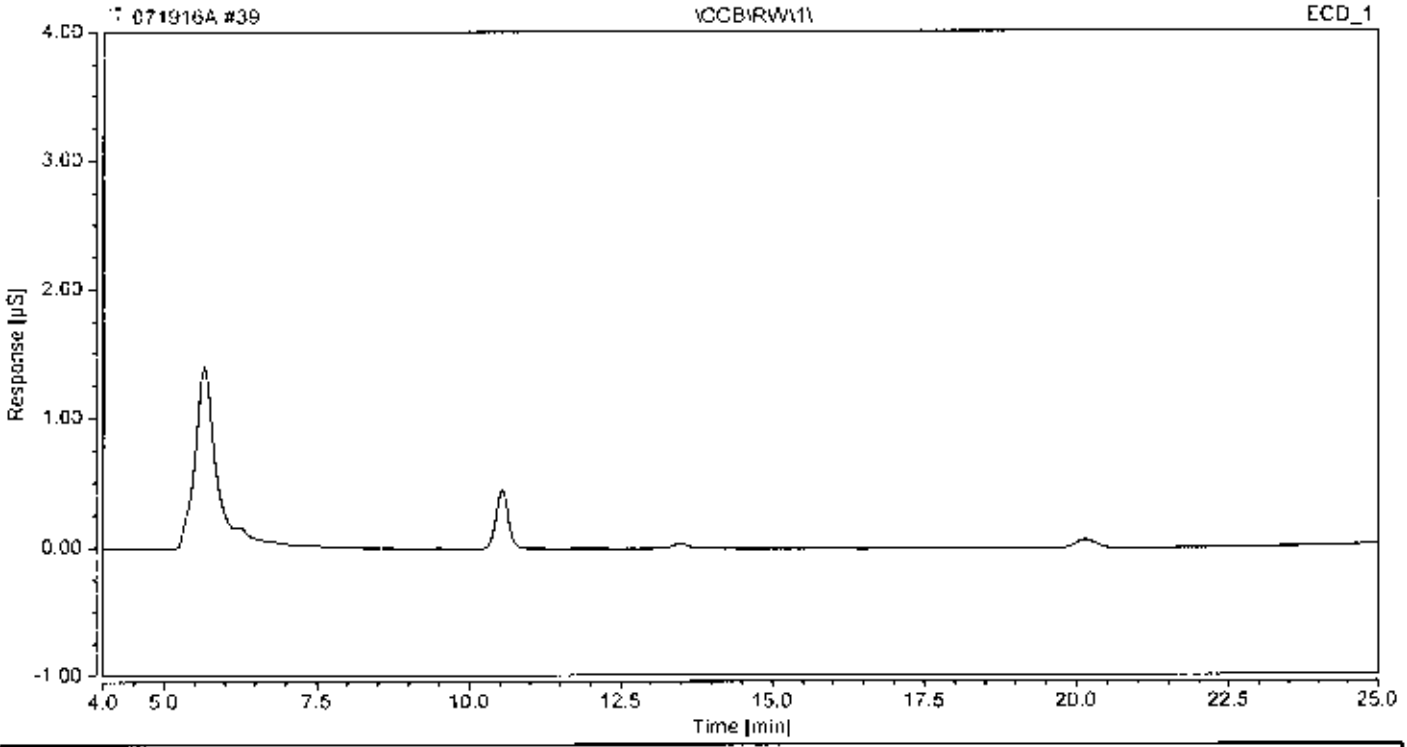
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount ppb
1	Chlorite	8.327	0.257	1.301	36.73	52.06	247.7166
2	Chlorate	15.817	0.219	0.623	31.21	24.93	246.1522
3	Bromide	17.427	0.225	0.575	32.05	23.00	248.5153
Total:			**0.701**	**2.499**	**100.00**	**100.00**	

Chromatogram and Results

Injection Details

Injection Name:	\CCB\RW\1\	*Run Time (min):*	**30.00**
Vial Number:	**G8**	*Injection Volume:*	**200.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**20/Jul/16 21:23**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

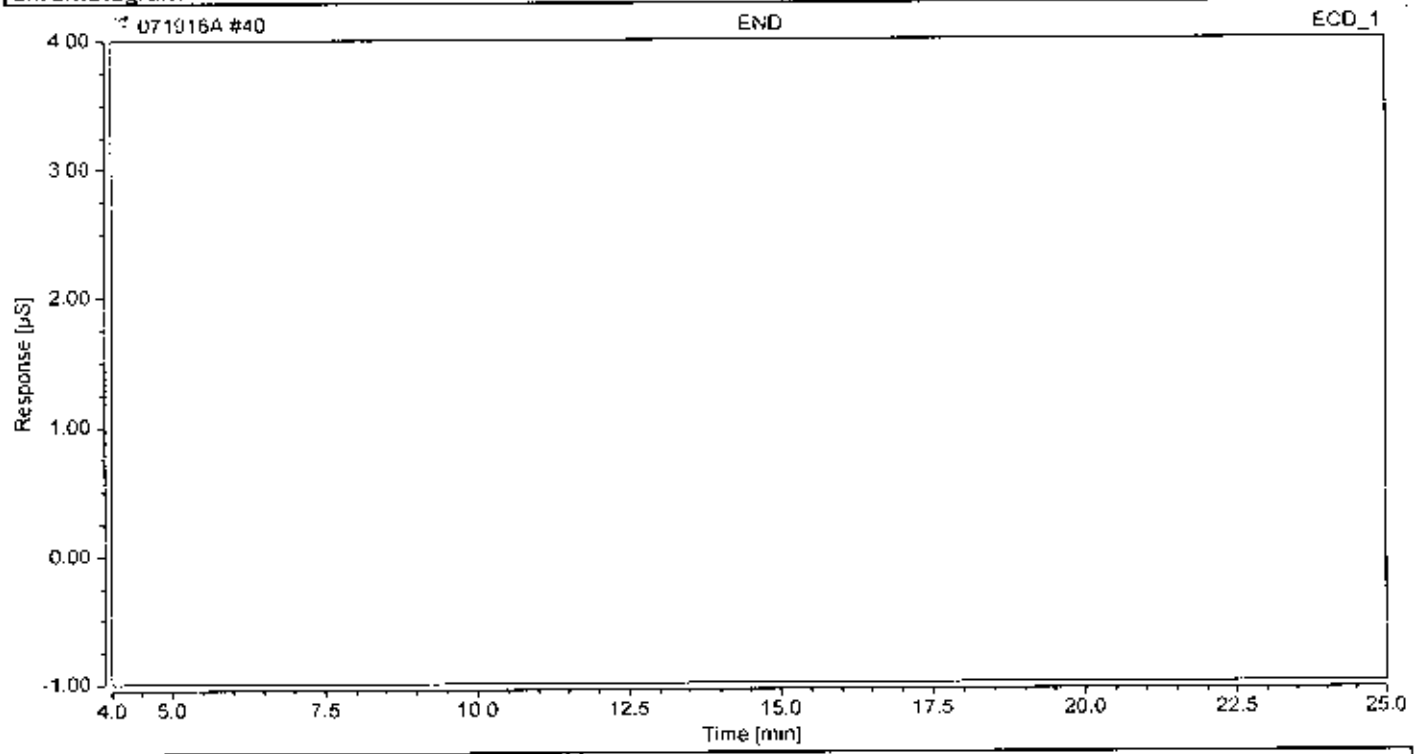
No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

Chromatogram and Results

Injection Details

Injection Name:	**END**	*Run Time (min):*	**5.00**
Vial Number:	**B1**	*Injection Volume:*	**200.00**
Injection Type:	**Unknown**	*Channel:*	**ECD_1**
Calibration Level:		*Wavelength:*	**n.a.**
Instrument Method:	**AS19 4mm shutdown**	*Bandwidth:*	**n.a.**
Processing Method:	**AS19 4mm**	*Dilution Factor:*	**1.0000**
Injection Date/Time:	**20/Jul/16 21:58**	*Sample Weight:*	**1.0000**

Chromatogram



Integration Results

No.	Peak Name	Retention Time min	Area µS*min	Height µS	Relative Area %	Relative Height %	Amount n.a.
Total:			**0.000**	**0.000**	**0.00**	**0.00**	

QA - Method Detection Limit Study

Method:	300.0 B	Analyzed by:	Shep Lovick	Approved by:	Jon Werbianskyj	Date:	6/21/2016
Instrument:	CQ	Prepped by:	Shep Lovick	Comments:	*data taken from 7 consecutive RLC samples.*		
Units:	ug/L						
Matrix Type:	RW	**Number of months next study due:**	**6**				

Earliest Analysis date	Parameter	Target Conc.	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5	Rep 6	Rep 7	mean	sd	Calculated MDL
3/17/2016	Bromide	10	13.11	10.927	11.2	10.761	12.794	10.638	11.5	11.5614	0.995625	3.1292496
3/17/2016	Chlorate	10	12.909	11.518	11.713	11.345	12.513	11.29	12.022	11.9014	0.615053	1.9331101
3/17/2016	Chlorite	10	10.655	12.391	12.075	10.053	7.987	12.824	12.916	11.2716	1.810446	5.6902311

CHAIN OF CUSTODY,
PM CONFIRMATION
AND
SAMPLE CONDITION FORMS
DOCUMENTS

Rev 8/2014

CHAIN OF CUSTODY

Page 1 of 1

Company: BSEN
Project Contact: S. JULIA LIU
Telephone: 757-256-6281
Project Name: RAAP
Project #: 313010-001
Location: RADFORD, VA
Sampled By: SJL

CT LABORATORIES
1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Folder # 120879
Company: BERNARD ENVIRON
Project: RADFORD AAP
Logged By: BNV DAL BAM

Program:
RCRA SDWA NPDES
Waste Other _____

Report To: S. JULIA LIU
EMAIL: SLIU@BSENN.COM
Company: BSEN
Address: 615 E. 82ND AVE #200 ANCHORAGE, AK 99518
Invoice To:*
EMAIL:
Company: SAME
Address:

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

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Client Special Instructions
LAB MUST FILTER

Matrix:
GW – groundwater SW – surface water WW – wastewater DW – drinking water
S – soil/sediment SL – sludge A – air M – misc/waste

Collection Date	Collection Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	ANALYSES REQUESTED: EXPLOSIVES	MNO4/Cr6+ / HEXAVALENT CHROMIUM	TOC	TIC/BICARBONATE / SULFATE / CHLORIDE	PERCHLORATE	CHLORIDE/ CARBONATE	Total # Containers	Designated MS/MSD	CT Lab ID # (Lab use only)
					Fill in Spaces with Bottles per Test										
07/11/16	1315	GW	GRAB		54MW12	N	X	X	X	X	X	X	18	X	743829/743865
07/11/16	1525	GW	GRAB		54MW01	N	X	X	X	X	X	X	6		743852/743866

Relinquished By: S. Liu
Date/Time: 07/11/16 1730
Received by:
Date/Time

Received By:
Date/Time: 7/12/16 7215
Received for Laboratory by:
Date/Time: 7-12-16 1458

Lab Use Only
Ice Present (Yes) No
Temp 3.6 IR Gun # 14
Cooler # 5662

CT Laboratories Terms and Conditions

Where a purchaser (Client) places an order for laboratory, consulting or sampling services from CT Laboratories (CTL), CTL shall provide the ordered services pursuant to these Terms and Conditions, and the related Quotation, or as agreed in a negotiated contract. In the absence of a written agreement to the contrary, the Order constitutes an acceptance by the Client of CTL's offer to do business under these Terms and Conditions, and an agreement to be bound by these Terms and Conditions. No contrary or additional terms and conditions expressed in a Client's document shall be deemed to become a part of the contract created upon acceptance of these Terms and Conditions, unless accepted by CTL in advance of the start of the project and in writing.

1. ORDERS AND RECEIPT OF SAMPLES (Sample Acceptance Policy)

1.1 The Client may place the Order (i.e., specify a Scope of Work) either by submitting a purchase order to CTL in writing, by telephone (confirmed in writing) or by negotiated contract. Whichever option the Client selects for placing the Order, the Order shall not be valid unless it contains sufficient specification to enable CTL to carry out the Client's requirements. It is the policy of CT Laboratories that samples not meeting the acceptance criteria, outlined in the NELAC standards and Section 5.8.3.2 of the DOD QSM, will not be accepted by the laboratory or will be qualified on the final report. All samples submitted to the laboratory must: (1) be accompanied by proper, full and complete documentation, including sample identification, location, date and time of collection, the collector's name, type of preservation (if any), type of sample, any special comments concerning the sample and any additional pertinent data on the chain-of-custody. In the absence of any of the required information, the laboratory will attempt to contact the client to obtain the information; if unable to obtain the necessary information, the final report will be qualified. (2) be labeled appropriately with a unique sample identification written with indelible ink on water resistant labels. If the laboratory cannot determine the identity of a sample, it will be rejected and the client will be contacted for further instructions or resampling. (3) be in an appropriate sample container. If the container is inappropriate, the client will be contacted for further instructions or resampling. If analysis is possible, the final report will be qualified. CT Laboratories can provide a sampling guide containing approved containers and preservations for analytical methods requested. (4) adhere to specified holding times. If samples are received with less than ½ the holding time remaining for the requested test, CT Laboratories will make its best effort to analyze the samples and notify the client. If holding times are exceeded, the final report will be qualified. (5) contain adequate sample volume to perform the necessary testing. If sufficient volume is not present, the sample will be rejected and the client will be contacted for further instructions or resampling. If samples show signs of damage, contamination or inadequate preservation, the client will be notified. If analysis can be performed, the final report will be qualified. If not, the samples will be rejected and the client notified for further instructions or resampling.

1.2 CT Laboratories must be supplied with complete, written disclosure of the known or suspected presence of any hazardous substances, as defined by applicable federal or state law. Where any samples which were not accompanied by the required disclosure, cause interruptions in the lab's ability to process work due to contamination of instruments or work areas, the Client will be responsible for the costs of clean up and recovery.

1.3 Prior to Sample Acceptance, the entire risk of loss or damage to samples remains with the Client. In no event will CTL have any responsibility or liability for the action or inaction of any carrier shipping or delivering any sample to or from CTL's premises. Client is responsible to assure that any sample containing any hazardous substance which is to be delivered to CTL's premises will be packaged, labeled, transported and delivered properly and in accordance with applicable laws.

2. PAYMENT TERMS

2.1 Services performed by CTL will be in accordance with prices quoted and later confirmed in writing or as stated in the Price Schedule. Invoices may be submitted to Client upon completion of any sample delivery group. Payment in advance is required for all Clients except those whose credit has been established with CTL. For Clients with approved credit, payment terms are net 30 days from the date of invoice by CTL. All overdue payments are subject to an additional interest and service charge of one and one-half percent (1.5%) (or the maximum rate permissible by law, whichever is lesser) per month or portion thereof from the due date until the date of payment. All fees are charged or billed directly to the Client. The billing of a third party will not be accepted without a statement, signed by the third party that acknowledges and accepts payment responsibility. CTL may suspend work and withhold delivery of data under this order at any time in the event Client fails to make timely payment of its invoices. Client shall be responsible for all costs and expenses of collection including reasonable attorney's fees. CTL reserves the right to refuse to proceed with work at any time based upon an unfavorable Client credit report.

3. CHANGE ORDERS, TERMINATION

3.1 Changes to the Scope of Work, price, or result delivery date may be initiated by CTL after Sample Acceptance due to any condition which conflicts with analytical QA or other protocols warranted in these Terms and Conditions. CTL will not proceed with such changes until an agreement with the Client is reached on the amount of any cost, schedule change or technical change to the Scope of Work, and such agreement is documented in writing.

3.2 Changes to the Scope of Work, including but not limited to increasing or decreasing the work, changing test and analysis specification or deviation in the performance of the work may be initiated by the Client after sample acceptance. Such a change will be documented in writing and may result in a change in cost and turnaround time commitment. CTL's acceptance of such changes is contingent upon technical feasibility and operational capacity.

3.3 Suspension or termination of all or any part of the work may be initiated by the Client. CTL will be compensated consistent with Section 2 of these Terms and Conditions. CTL will complete all work in progress and be paid in full for all work completed.

4. WARRANTIES AND LIABILITY

4.1 Where applicable, CTL will use analytical methodologies which are in substantial conformity with published test methods. CTL has implemented the methodology in its Laboratory Quality Manuals and referenced Standard Operating Procedures and where the nature or composition of the sample requires it, CTL reserves the right to deviate from these methodologies as necessary or appropriate, based on the reasonable judgment of CTL's staff. Such deviations, if any, will be made on a basis consistent with recognized standards of the industry and/or CTL's Laboratory Quality Manuals. Client may request that CTL perform according to a mutually agreed Quality Assurance Project Plan (QAPP). In the event that samples are submitted pursuant to agreement from a QAPP, CTL will proceed with analyses under its standard Quality Manuals then in effect, and CTL will not be responsible for any resampling or other charges if work must be repeated to comply with a subsequently finalized QAPP.

4.2 CTL shall start preparation and/or analysis within holding times provided that Sample Acceptance occurs within 48 hours of sampling or ½ of the holding time for the test, whichever is less. Where resolution of inconsistencies leading to Sample Acceptance does not occur within this period, CTL will use its best efforts to meet holding times and will proceed with the work, provided that, in CTL's judgment, the chain-of-custody or definition of the Scope of Work provide sufficient guidance. Reanalysis of samples to comply with CTL's Quality Manuals will be deemed to have met holding times provided the initial analysis was performed within the applicable holding time. Where reanalysis demonstrates that sample matrix interference is the cause of failure to meet any Quality Manual requirements, the warranty will be deemed to have been met.

4.3 CTL warrants that it possesses and maintains all licenses and certifications which are required to perform services under these Terms and Conditions provided that such requirements are specified in writing to CTL prior to Sample Acceptance. CTL will notify the Client in writing of any decertification or revocation of any license, or notice of either, which affects work in progress.

4.4 The warranty obligations set forth in Sections 4.1, 4.2 and 4.3 are the sole and exclusive warranties given by CTL in connection with any services performed by CTL or any Results generated from such services, and CTL gives and makes NO OTHER REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. No representative of CTL is authorized to give or make any other representation or warranty or modify this warranty in any way.

4.5 Client's sole and exclusive remedy for the breach of warranty in connection with any services performed by CTL will be limited to repeating any services performed, contingent on the Client's providing, at the request of CTL and at the Client's expense, additional sample(s) if necessary. Any resampling requested by the Client generating Results consistent with the original Results will be at the Client's expense. If resampling is necessary, CTL's liability for resampling costs will be limited to actual cost or one hundred or one hundred fifty dollars ($150) per sample, whichever is less.

4.6 CTL's liability for any and all causes of action arising hereunder, whether based in contract, tort, warranty, negligence or otherwise, shall be limited to the lesser amount of compensation for the services performed or $100,000. All claims, including those for negligence, shall be deemed waived unless suit thereon is filed within one year after CTL's completion of the services. Under no circumstances, whether arising in contract, tort (including negligence), or otherwise, shall CTL be responsible for loss of use, loss of profits, or for any special, indirect, incidental or consequential damages occasioned by the services performed or by application or use of the reports prepared.

4.7 In no event shall CTL have any responsibility or liability to the Client for any failure or delay in performance by CTL which results, directly or indirectly, in whole or in part, from any cause or circumstance beyond the reasonable control of CTL. Such causes and circumstances shall include, but not be limited to, acts of God, acts of Client, acts or orders of any governmental authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, equipment breakdown, matrix interference or unknown highly contaminated samples that impact instrument operation, unavailability of supplies from usual suppliers, difficulties or delays in transportation, mail or delivery services, or any other cause beyond CTL's reasonable control.

5. RESULTS, WORK PRODUCT

5.1 Data or information provided to CTL or generated by services performed under this agreement shall only become the property of the Client upon receipt in full by CTL of payment for the whole Order. Ownership of any analytical method, QA/QC protocols, software programs or equipment developed by CTL for performance of work will be retained by CTL, and Client shall not disclose such information to any third party.

5.2 Data and sample materials provided by Client or at Client's request, and the result obtained by CTL shall be held in confidence (unless such information is generally available to the public or is in the public domain or Client has failed to pay CTL for all services rendered or is otherwise in breach of these Terms and Conditions), subject to any disclosure required by law or legal process.

5.3 Should the Results delivered by CTL be used by the Client or Client's client, even though subsequently determined not to meet the warranties described in these Terms and Conditions, then the compensation will be adjusted based upon mutual agreement. In no case shall the Client unreasonably withhold CTL's right to independently defend its data.

5.4 CTL reserves the right to subcontract services ordered by the Client to another laboratory or laboratories, if, in CTL's sole judgment, it is reasonably necessary, appropriate or advisable to do so, and with the Client's permission. CTL will in no way be liable for any subcontracted services and all applicable warranties, guarantees and insurance are those of the subcontracted laboratory.

5.5 CTL shall dispose of the Client's samples 30 days after the analytical report is issued, unless instructed to store them for an alternate period of time or to return such samples to the Client, in a manner consistent with U.S. Environmental Protection Agency regulations or other applicable Federal, state or local requirements. Any samples for projects that are canceled or not accepted, or for which return was requested, will be returned to the Client at their own expense. CTL reserves the right to return to the Client any sample or unused portion of a sample that is not within CTL's permitted capability or the capabilities of CTL's designated waste disposal vendor(s).

5.6 Unless a different time period is agreed to in any order under these Terms and Conditions, CTL agrees to retain all records for five (5) years.

5.7 In the event that CTL is required to respond to legal process related to services for Client, Client agrees to reimburse CTL for hourly charges for personnel involved in the response and attorney fees reasonably incurred in obtaining advice concerning the response, preparation to testify, and appearances related to the legal process, travel and all reasonable expenses associated with the litigation.

6. INSURANCE

6.1 CTL shall maintain in force during the performance of services under these Terms and Conditions, Workers' Compensation and Employer's Liability insurance in accordance with the laws of the states having jurisdiction over CTL's employees who are engaged in the performance of the work. CTL shall also maintain during such period, Comprehensive General and Contractual Liability (limit of $2,000,000 per occurrence/ aggregate), Comprehensive Automobile Liability, owned and hired, ($1,000,000 combined single limit), and Professional/Pollution Liability Insurance (limit of $5,000,000 per occurrence/aggregate). Any Client required changes to these limits or conditions may result in a change in cost to the Client.

7. AUDIT

7.1 Upon prior notice to CTL, the Client may audit and inspect CTL's records and accounts covering reimbursable costs related to work done for the Client, for a period of one (1) year after completion of the work. The purpose of any such audit shall be only for verification of such costs, and CTL shall not be required to provide access to cost records where prices are expressed as fixed fees or published unit prices.

Rev 8/2014

CHAIN OF CUSTODY

Page 1 of 1

Company: BSEN
Project Contact: S. JULIA LIU
Telephone: 757-256-6281
Project Name: RAAP
Project #: 313010-001
Location: RADFORD, VA
Sampled By: SJL

CT LABORATORIES
1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Lab Use Only
Place Header Sticker Here:
120379

Program:
QSM RCRA SDWA NPDES
Solid Waste Other _____

PO #

Report To: S. JULIA LIU
EMAIL: SLIU@BSENJ.COM
Company: BSEN
Address: 605 E. 82ND AVE #200 ANCHORAGE, AK 99518
Invoice To:*
EMAIL:
Company: SAME
Address:

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

Client Special Instructions
LAB MUST FILTER

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Collection Date	Collection Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	ANALYSES REQUESTED: EXPLOSIVES	MNX/DNX/TNX	TOC	TKN / SULFATE / NITRATE / CHLORIDE	PERCHLORATE	CHLORATE / CHLORITE	Total # Containers	Designated MS/MSD	CT Lab ID # (Lab use only)
							Fill in Spaces with Bottles per Test								
07/11/16	1130	GW	GRAB		54MW10	N	X	X	X	X	X	X	6		743879/743880
	1145	GW	GRAB		~~54FR~~ 54TM10	N	X	X	X	X	X	X	6		743881/743882
↓	1405	GW	GRAB		071116R1	N	X	X	X	X	X	X	6		743883/743885

added by SJL as historically BMS will collect Client to verify

Relinquished By: [signature]
Date/Time: 7/11/16 1730
Received By: [signature]
Date/Time: 7/12/16 1215

Received by:
Date/Time
Received for Laboratory by: [signature]
Date/Time: 7-12-16 1458

Lab Use Only
Ice Present (Yes) No
Temp <3.6 IR Gun # 114
Cooler # 54107

CT Laboratories Terms and Conditions

Where a purchaser (Client) places an order for laboratory, consulting or sampling services from CT Laboratories (CTL), CTL shall provide the ordered services pursuant to these Terms and Conditions, and the related Quotation, or as agreed in a negotiated contract. In the absence of a written agreement to the contrary, the Order constitutes an acceptance by the Client of CTL's offer to do business under these Terms and Conditions, and an agreement to be bound by these Terms and Conditions. No contrary or additional terms and conditions expressed in a Client's document shall be deemed to become a part of the contract created upon acceptance of these Terms and Conditions, unless accepted by CTL in advance of the start of the project and in writing.

1. ORDERS AND RECEIPT OF SAMPLES (Sample Acceptance Policy)

1.1 The Client may place the Order (i.e., specify a Scope of Work) either by submitting a purchase order to CTL in writing, by telephone (confirmed in writing) or by negotiated contract. Whichever option the Client selects for placing the Order, the Order shall not be valid unless it contains sufficient specification to enable CTL to carry out the Client's requirements. It is the policy of CT Laboratories that samples not meeting the acceptance criteria, outlined in the NELAC standards and Section 5.8.3.2 of the DOD QSM, will not be accepted by the laboratory or will be qualified on the final report. All samples submitted to the laboratory must: (1) be accompanied by proper, full and complete documentation, including sample identification, location, date and time of collection, the collector's name, type of preservation (if any), type of sample, any special comments concerning the sample and any additional pertinent data on the chain-of-custody. In the absence of any of the required information, the laboratory will attempt to contact the client to obtain the information; if unable to obtain the necessary information, the final report will be qualified. (2) be labeled appropriately with a unique sample identification written with indelible ink on water resistant labels. If the laboratory cannot determine the identity of a sample, it will be rejected and the client will be contacted for further instructions or resampling. (3) be in an appropriate sample container. The container will be appropriate, the client will be contacted for further instructions or resampling. If analysis is possible, the final report will be qualified. CT Laboratories can provide a sampling guide containing approved containers and preservations for analytical methods requested. (4) adhere to specified holding times. If samples are received with less than ½ the holding time remaining for the requested test, CT Laboratories will make its best effort to analyze the samples and notify the client. If holding times are exceeded, the final report will be qualified. (5) contain adequate sample volume to perform the necessary testing. If sufficient volume is not present, the sample will be rejected and the client will be contacted for further instructions or resampling. If samples show signs of damage, contamination or inadequate preservation, the client will be notified. If analysis can be performed, the final report will be qualified. If not, the samples will be rejected and the client notified for further instructions or resampling.

1.2 CT Laboratories must be supplied with complete written disclosure of the known or suspected presence of any hazardous substances, as defined by applicable federal or state law. Where any samples which were not accompanied by the required disclosure, cause interruptions in the lab's ability to process work due to contamination of instruments or work areas, the Client will be responsible for the costs of clean up and recovery.

1.3 Prior to Sample Acceptance, the entire risk of loss or damage to samples remains with the Client. In no event will CTL have any responsibility or liability for the action or inaction of any carrier shipping or delivering any sample to or from CTL's premises. Client is responsible to assure that any sample containing any hazardous substance which is to be delivered to CTL's premises will be packaged, labeled, transported and delivered properly and in accordance with applicable laws.

2. PAYMENT TERMS

2.1 Services performed by CTL will be in accordance with prices quoted and later confirmed in writing or as stated in the Price Schedule. Invoices may be submitted to Client upon completion of any sample delivery group. Payment in advance is required for all Clients except those whose credit has been established with CTL. For Clients with approved credit, payment terms are net 30 days from the date of invoice by CTL. All overdue payments are subject to an additional interest and service charge of one and one-half percent (1.5%) (or the maximum rate permissible by law, whichever is lesser) per month or portion thereof from the due date until the date of payment. All fees are charged or billed directly to the Client. The billing of a third party will not be accepted without a statement, signed by the third party that acknowledges and accepts payment responsibility. CTL may suspend work and withhold delivery of data under this order at any time in the event Client fails to make timely payment of its invoices. Client shall be responsible for all costs and expenses of collection including reasonable attorney's fees. CTL reserves the right to refuse to proceed with work at any time based upon an unfavorable Client credit report.

3. CHANGE ORDERS, TERMINATION

3.1 Changes to the Scope of Work, price, or result delivery date may be initiated by CTL after Sample Acceptance due to any condition which conflicts with analytical, QA or other protocols warranted in these Terms and Conditions. CTL will not proceed with such changes until an agreement with the Client is reached on the amount of any cost, schedule change or technical change to the Scope of Work, and such agreement is documented in writing.

3.2 Changes to the Scope of Work, including but not limited to increasing or decreasing the work, changing test and analysis specification or authorization in the performance of the work, may be initiated by the Client after sample acceptance. Such a change will be documented in writing and may result in a change in cost and turnaround time commitment. CTL's acceptance of such changes is contingent upon technical feasibility and operational capacity.

3.3 Suspension or termination of all or any part of the work may be initiated by the Client. CTL will be compensated consistent with Section 4 of these Terms and Conditions. CTL will complete all work in progress and be paid in full for all work completed.

4. WARRANTIES AND LIABILITY

4.1 Where applicable, CTL will use analytical methodologies which are in substantial conformity with published test methods. CTL has implemented these methods in its Laboratory Quality Manuals and referenced Standard Operating Procedures and where the nature or composition of the sample requires it, CTL reserves the right to deviate from these methodologies as necessary or appropriate, based on the reasonable judgment of CTL, which deviations, if any, will be made on a basis consistent with recognized standards of the industry and/or CTL's Laboratory Quality Manuals. Client may request that CTL perform according to a mutually agreed Quality Assurance Project Plan (QAPP). In the event that samples arrive prior to agreement on a QAPP, CTL will proceed with analyses under its standard Quality Manuals then in effect, and CTL will not be responsible for any resampling or other charges if work must be repeated to comply with a subsequently finalized QAPP.

4.2 CTL shall start preparation and/or analysis within holding times provided that Sample Acceptance occurs within 48 hours of sampling or 1/2 of the holding time for the test, whichever is less. Where resolution of inconsistencies leading to Sample Acceptance does not occur within this period, CTL will use its best efforts to meet holding times and will proceed with the work provided that, in CTL's judgment, the chain-of-custody or definition of the Scope of Work provide sufficient guidance. Reanalysis of samples to comply with CTL's Quality Manuals will be deemed to have met holding times provided the initial analysis was performed within the applicable holding time. Where reanalyte demonstrates that sample matrix interference is the cause of failure to meet any Quality Manual requirements, the warranty will be deemed to have been met.

4.3 CTL warrants that it possesses and maintains all licenses and certifications which are required to perform services under these Terms and Conditions provided that such requirements are specified in writing to CTL prior to Sample Acceptance. CTL will notify the Client, in writing of any decertification or revocation of any license, or notice of either, which affects work in progress.

4.4 The warranty obligations set forth in Sections 4.1, 4.2 and 4.3 are the sole and exclusive warranties given by CTL in connection with any services performed by CTL or any Results generated by such services, and CTL gives and makes NO OTHER REPRESENTATIONS OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. No representative of CTL is authorized to give or make any other representation or warranty or modify this warranty in any way.

4.5 Client's sole and exclusive remedy for the breach of warranty in connection with any services performed by CTL will be limited to repeating any services performed, contingent on the Client's providing, at the request of CTL, and at the Client's expense, additional sample(s) if necessary, for analysis requested by the Client generating Results consistent with the original Results will be at the Client's expense. If resampling is necessary, CTL's liability for resampling costs will be limited to actual cost or one hundred or one hundred fifty dollars ($150) per sample, whichever is less.

4.6 CTL's liability for any and all causes of action arising hereunder, whether based in contract, tort, warranty, negligence or otherwise, shall be limited to the lesser amount of compensation for the services performed or $100,000. All claims, including those for negligence, shall be deemed waived unless suit thereon is filed within one year after CTL's completion of the services. Under no circumstances, whether arising in contract, tort (including negligence) or otherwise, shall CTL be responsible for loss of use, loss of profits, or for any special, indirect, incidental or consequential damages occasioned by the services performed or by application or use of the reports prepared.

4.7 In no event shall CTL have any responsibility or liability to the Client for any failure or delay in performance by CTL which results, directly or indirectly, in whole or in part, from any cause or circumstance beyond the reasonable control of CTL. Such causes and circumstances shall include, but not be limited to, acts of God, acts of Client, acts or orders of any governmental authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, equipment breakdown, matrix interference or unknown highly contaminated samples that impact instrument operation, unavailability of supplies from usual suppliers, difficulties or delays in transportation, mail or delivery services, or any other cause beyond CTL's reasonable control.

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5.1 Data or information provided to CTL or generated by services performed under this agreement shall only become the property of the Client upon receipt in full by CTL of payment for the whole Order. Ownership of any analytical method, QA/QC protocols, software programs or equipment developed by CTL for performance of work will be retained by CTL, and Client shall not disclose such information to any third party.

5.2 Data and sample materials provided by Client or at Client's request, and the result obtained by CTL shall be held in confidence (unless such information is generally available to the public or is in the public domain or Client has failed to pay CTL for all services rendered or is otherwise in breach of these Terms and Conditions), subject to any disclosure required by law or legal process.

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5.5 CTL shall dispose of the Client's samples 30 days after the analytical report is issued, unless instructed to store them for an alternate period of time or to return such samples to the Client, in a manner consistent with U.S. Environmental Protection Agency regulations or other applicable Federal, state or local requirements. Any samples for projects that are canceled or not accepted, or for which return was requested, will be returned to the Client at their own expense. CTL reserves the right to return to the Client any sample or unused portion of a sample that is not within CTL's permitted capability or the capabilities of CTL's designated waste disposal vendor(s).

5.6 Unless a different time period is agreed to in any order under these Terms and Conditions, CTL agrees to retain all records for five (5) years.

5.7 In the event that CTL is required to respond to legal process related to services for Client, Client agrees to reimburse CTL for hourly charges for personnel involved in the response and attorney fees reasonably incurred in obtaining advice concerning the response, preparation to testify, and appearances related to the legal process, travel and all reasonable expenses associated with the litigation.

6. INSURANCE

6.1 CTL shall maintain in force during the performance of services under these Terms and Conditions, Workers' Compensation and Employer's Liability insurance in accordance with the laws of the states having jurisdiction over CTL's employees who are engaged in the performance of the work. CTL shall also maintain during such period, Comprehensive General and Contractual Liability (limit of $2,000,000 per occurrence/ aggregate), Comprehensive Automobile Liability, owned and hired, ($1,000,000 combined single limit), and Professional/Pollution Liability Insurance (limit of $5,000,000 per occurrence/aggregate). Any Client required changes to these limits or conditions may result in a change in cost to the Client.

7. AUDIT

7.1 Upon prior notice to CTL, the Client may audit and inspect CTL's records and accounts covering reimbursable costs related to work done for the Client, for a period of one (1) year after completion of the work. The purpose of any such audit shall be only for verification of such costs, and CTL shall not be required to provide access to cost records where prices are expressed as fixed fees or published unit prices.

Cooler Receipt Form

Ice Present (YES) NO

Temperature 3.6

IR Gun # 14

Initials ABS 7/12/16 ABS

Date 7/12/16 Time ~~1200~~ 1215

Cooler #: 5407

ORIGIN ID:WALA (757) 256-6281
JULIA LIU
BSEN
615 E 82ND AVE STE 200
ANCHORAGE, AK 99518
UNITED STATES US

SHIP DATE: 11JUL16
ACTWGT: 53.60 LB
CAD: 6997114/SSFO1704
DIMS: 25x14x14 IN
BILL THIRD PARTY

TO
CT LABORATORIES
1230 LANGE CT
BARABOO WI 53913
(608) 356-2760

Fe

1 of 2
TRK# 7835 6174 1640
MASTER
XH MSNA

TUE - 12 JUL 10:30A
PRIORITY OVERNIGHT
53913
WI-US MSN

CUSTODY SEAL
DATE 7/11/16
SIGNATURE

CUSTODY SEAL
DATE 7/11/16
SIGNATURE

Cooler Receipt Form

Ice Present (YES) NO

Temperature 3.3

IR Gun # 14

Initials ABS

Date 7/12/16 Time 1215

Cooler #: 5662

ORIGIN ID:WALA (757) 256-6281
JULIA LIU
BSEN
615 E 82ND AVE STE 200
ANCHORAGE, AK 99518
UNITED STATES US

SHIP DATE: 11JUL16
ACTWGT: 57.10 LB
CAD: 6997114/SSF01704
DIMS: 28x14x14 IN
BILL THIRD PARTY

TO
CT LABORATORIES
1230 LANGE CT

BARABOO WI 53913
(608) 356-2760

FedEx Express

2 of 2
MPS# 0263 7835 6174 1651
Mstr# 7835 6174 1840 0201

TUE - 12 JUL 10:30A
PRIORITY OVERNIGHT

XH MSNA

53913
WI-US MSN

CUSTODY SEAL
DATE 07/11/16
SIGNATURE

CUSTODY SEAL
DATE 07/11/16
SIGNATURE

QEC Quality Environmental Containers 800-255-3900 • 304-255-3900

Folder #: 120379

PM LOGIN CONFIRMATION

Contract #: 2842

Company: BERING SEA ENVIRONMENTAL **Project:** RADFORD AAP **Proj #:** 313010-001

Project Phase: **PO Number:** **Invoice #:** 120924

Project Manager: *BMS* **Date Received:** 07/12/16 **Log Date:** 07/12/2016

Report To: S. JULIA LIU
615 E 82ND AVE
#200
ANCHORAGE, AK 99518
Phone: 757-256-6281: Fax:
Rep. E-Mail SLIU@BSENV.COM

CC:

Invoice To :S. JULIA LIU
615 E 82ND AVE
#200
ANCHORAGE, AK 99518
Phone: Fax:
EMail:

CC: SLIU@BSENV.COM

Collected By:
Collector's Phone: 757-256-6281

Arrival Temperature: <3.6 oC

SAMPLE #: 743829 DESCR: 54MW12 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED: 07/11/2016 Time: 1315**

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
759	CARBON, INORG & ORG	(EPA 9060A)			***DESIGNATED MATRIX SPIKE***	07/25/2016	07/24/2016	***N***	Logged
878	SUB PERCHLORATE	(SW6850)			***DESIGNATED MATRIX SPIKE***	08/08/2016	07/24/2016		Logged
1230	ORGAN CARBON T QSM 5.(	EPA 9060A)			***DESIGNATED MATRIX SPIKE***	08/08/2016	07/24/2016	***N***	Logged
1279	SUB CHLORATE/CHLORITE	300.1)			***DESIGNATED MATRIX SPIKE***		07/24/2016		Logged
1291	SUB MNX/DNX/TNX	(8330B)			***DESIGNATED MATRIX SPIKE***		07/24/2016		Logged

SAMPLE #: 743851 DESCR: 54MW1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED: 07/11/2016 Time: 1525**

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
759	CARBON, INORG & ORG	(EPA 9060A)				07/25/2016	07/24/2016	***N***	Logged
878	SUB PERCHLORATE	(SW6850)				08/08/2016	07/24/2016		Logged
1230	ORGAN CARBON T QSM 5.(	EPA 9060A)				08/08/2016	07/24/2016	***N***	Logged
1279	SUB CHLORATE/CHLORITE	300.1)					07/24/2016		Logged

C:\LIMSREPS\CONFIRMATION.RPT

Folder #: 120379 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 743851 **DESCR:** 54MW1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/11/2016 **Time:** 1525

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1291	SUB MNX/DNX/TNX	(8330B)					07/24/2016		Logged

SAMPLE #: 743865 **DESCR:** 54MW12 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/11/2016 **Time:** 1315

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)			***DESIGNATED MATRIX SPIKE***		07/24/2016	***N***	Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)			***DESIGNATED MATRIX SPIKE***	07/13/2016	07/24/2016	***N***	Entered
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 743866 **DESCR:** 54MW1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/11/2016 **Time:** 1525

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)					07/24/2016	***N***	Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)				07/13/2016	07/24/2016	***N***	Entered
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 743879 **DESCR:** 54MW10 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/11/2016 **Time:** 1130

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
759	CARBON, INORG & ORG	(EPA 9060A)				07/25/2016	07/24/2016	***N***	Logged
878	SUB PERCHLORATE	(SW6850)				08/08/2016	07/24/2016		Logged
1230	ORGAN CARBON T QSM 5.(	EPA 9060A)				08/08/2016	07/24/2016	***N***	Logged

Folder #: 120379 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 743879 **DESCR:** 54MW10 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/11/2016 **Time:** 1130

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1279	SUB CHLORATE/CHLORITE	(300.1)					07/24/2016		Logged
1291	SUB MNX/DNX/TNX	(8330B)					07/24/2016		Logged

SAMPLE #: 743880 **DESCR:** 54MW10 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/11/2016 **Time:** 1130

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)					07/24/2016	*N*	Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)				07/13/2016	07/24/2016	*N*	Entered
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 743881 **DESCR:** 54TM10 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/11/2016 **Time:** 1145

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
759	CARBON, INORG & ORG	(EPA 9060A)				07/25/2016	07/24/2016	*N*	Logged
878	SUB PERCHLORATE	(SW6850)				08/08/2016	07/24/2016		Logged
1230	ORGAN CARBON T QSM 5.0	(EPA 9060A)				08/08/2016	07/24/2016	*N*	Logged
1279	SUB CHLORATE/CHLORITE	(300.1)					07/24/2016		Logged
1291	SUB MNX/DNX/TNX	(8330B)					07/24/2016		Logged

SAMPLE #: 743882 **DESCR:** 54TM10 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/11/2016 **Time:** 1145

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)					07/24/2016	*N*	Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)				07/13/2016	07/24/2016	*N*	Entered
			Chloride						

Folder #: 120379 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 743882 **DESCR:** 54TM10 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/11/2016 **Time:** 1145

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 743883 **DESCR:** 071116R1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/11/2016 **Time:** 1445

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
759	CARBON, INORG & ORG	(EPA 9060A)				07/25/2016	07/24/2016	*N*	Logged
878	SUB PERCHLORATE	(SW6850)				08/08/2016	07/24/2016		Logged
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)				08/08/2016	07/24/2016	*N*	Logged
1279	SUB CHLORATE/CHLORITE	(300.1)					07/24/2016		Logged
1291	SUB MNX/DNX/TNX	(8330B)					07/24/2016		Logged

SAMPLE #: 743885 **DESCR:** 071116R1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/11/2016 **Time:** 1445

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)					07/24/2016	*N*	Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)				07/13/2016	07/24/2016	*N*	Entered
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

Folder #: 120379 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

Invoice Number: 120924 **Preliminary Invoice Estimate:** $ 1,870.00

Item	Matrix	Quantity	Price	Expedited TAT Surcharge	Total
ANIONS IC QSM 5.0 Chloride	GROUND WATER	5	$ 10.00	0.00	$ 50.00
ANIONS IC QSM 5.0 Nitrate Nitrogen	GROUND WATER	5	$ 10.00	0.00	$ 50.00
ANIONS IC QSM 5.0 Sulfate	GROUND WATER	5	$ 10.00	0.00	$ 50.00
CARBON, INORG & ORG	GROUND WATER	5	$ 25.00	0.00	$ 125.00
FILTRATION, SAMPLE	GROUND WATER	5	$ 10.00	0.00	$ 50.00
ORGAN CARBON T QSM 5.0	GROUND WATER	5	$ 25.00	0.00	$ 125.00
SUB CHLORATE/CHLORITE	GROUND WATER	5	$ 90.00	0.00	$ 450.00
SUB MNX/DNX/TNX	GROUND WATER	5	$ 90.00	0.00	$ 450.00
SUB PERCHLORATE	GROUND WATER	5	$ 104.00	0.00	$ 520.00
Temporary Fuel Surcharge on lab supplies and services (if applicable):					$ 0.00

Bottle Information

Container	# Containers	Tests
AMBER GL	**14**	SUB EXPL
H2SO4 PL	**7**	TOC
LABEL ONLY	**7**	Anions
MISC	**7**	SUB LAB
UNPRES GL	**2**	Perchlorate
UNPRES PL	**12**	Anions
VOA	**14**	TIC

CT LABORATORIES
delivering more than data from your environmental analyses

Sample Condition Report

Folder #: 120379
Client: BERING SEA ENVIRONMENTAL

Print Date / Time: 07/12/2016 14:58
Received Date / Time / By: 07/12/2016 12:15 ABS

Project Name: RADFORD AAP
Project Phase:

Log-In Date / Time / By: 07/12/2016 14:58 BNA
Project #: 313010-001 PM: BMS

Coolers: 5662;5407
Custody Seals Present : **Y**

Temperature: <3.6 C On Ice: **Y**
COC Present:? **Y** Complete? **Y**

Seal Intact? **Y**
Ship Method: FEDEX EXPRESS
Adequate Packaging: **Y**

Numbers: SIGNED AND DATED
Tracking Number: 783561741651;783561741640
Temp Blank Enclosed? **Y**

Notes: THE SAMPLES WERE RECEIVED IN GOOD CONDITION ON ICE.

TWO CUSTODY SEALS WERE PRESENT AND INTACT ON EACH COOLER UPON RECEIPT, ALL DATED 07/11/16 AND SIGNED.

PERCHLORATE AND CHLORATE/CHLORITE ANALYSIS WERE NOT INDICATED ON THE COC FOR SAMPLE 071116R1. AFTER CONFIRMING WITH THE CLIENT, THESE ANALYTICAL PARAMETERS WERE ADDED.

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
743829 54MW12				
	UNPRES PL	1	/	Perchlorate
	UNPRES PL	1	/	Perchlorate
	UNPRES PL	1	/	Perchlorate
	Total # of Containers of Type (*UNPRES PL*) = 3			
743829 54MW12				
	AMBER GL	1	/	SUB EXPL
	AMBER GL	1	/	SUB EXPL
	AMBER GL	1	/	SUB EXPL
	AMBER GL	1	/	SUB EXPL
	AMBER GL	1	/	SUB EXPL
	AMBER GL	1	/	SUB EXPL
	Total # of Containers of Type (*AMBER GL*) = 6			
743829 54MW12				
	MISC	1	/	SUB LAB
	MISC	1	/	SUB LAB
	MISC	1	/	SUB LAB
	Total # of Containers of Type (*MISC*) = 3			
743829 54MW12				
	VOA	1	/	TIC
	VOA	1	/	TIC
	VOA	1	/	TIC
	VOA	1	/	TIC
	VOA	1	/	TIC
	VOA	1	/	TIC
	Total # of Containers of Type (*VOA*) = 6			
743829 54MW12				

H2SO4 PL	1	Y	/	TOC
H2SO4 PL	1		/	TOC
H2SO4 PL	1		/	TOC

Total # of Containers of Type (*H2SO4 PL*) = 3

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
743851 54MW1				
	UNPRES GL	1	/	Perchlorate

Total # of Containers of Type (*UNPRES GL*) = 1

743851 54MW1				
	AMBER GL	1	/	SUB EXPL
	AMBER GL	1	/	SUB EXPL

Total # of Containers of Type (*AMBER GL*) = 2

743851 54MW1				
	MISC	1	/	SUB LAB

Total # of Containers of Type (*MISC*) = 1

743851 54MW1				
	VOA	1	/	TIC
	VOA	1	/	TIC

Total # of Containers of Type (*VOA*) = 2

743851 54MW1				
	H2SO4 PL	1	/	TOC

Total # of Containers of Type (*H2SO4 PL*) = 1

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
743865 54MW12				
	LABEL ONLY	1	/	ANIONS
	LABEL ONLY	1	/	ANIONS
	LABEL ONLY	1	/	ANIONS

Total # of Containers of Type (*LABEL ONLY*) = 3

743865 54MW12				
	UNPRES PL	1	/	Anions
	UNPRES PL	1	/	Anions
	UNPRES PL	1	/	Anions

Total # of Containers of Type (*UNPRES PL*) = 3

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
743866 54MW1				
	LABEL ONLY	1	/	Anions

Total # of Containers of Type (*LABEL ONLY*) = 1

743866 54MW1				
	UNPRES PL	1	/	Anions

Total # of Containers of Type (*UNPRES PL*) = 1

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

743879 54MW10

UNPRES PL	1	/	Perchlorate

Total # of Containers of Type (*UNPRES PL*) = 1

743879 54MW10

AMBER GL	1	/	SUB EXPL
AMBER GL	1	/	SUB EXPL

Total # of Containers of Type (*AMBER GL*) = 2

743879 54MW10

MISC	1	/	SUB LAB

Total # of Containers of Type (*MISC*) = 1

743879 54MW10

VOA	1	/	TIC
VOA	1	/	TIC

Total # of Containers of Type (*VOA*) = 2

743879 54MW10

H2SO4 PL	1	/	TOC

Total # of Containers of Type (*H2SO4 PL*) = 1

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

743880 54MW10

LABEL ONLY	1	/	Anions

Total # of Containers of Type (*LABEL ONLY*) = 1

743880 54MW10

UNPRES PL	1	/	Anions

Total # of Containers of Type (*UNPRES PL*) = 1

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

743881 54TM10

UNPRES PL	1	/	Perchlorate

Total # of Containers of Type (*UNPRES PL*) = 1

743881 54TM10

AMBER GL	1	/	SUB EXPL
AMBER GL	1	/	SUB EXPL

Total # of Containers of Type (*AMBER GL*) = 2

743881 54TM10

MISC	1	/	SUB LAB

Total # of Containers of Type (*MISC*) = 1

743881 54TM10

VOA	1	/	TIC
VOA	1	/	TIC

Total # of Containers of Type (*VOA*) = 2

743881	54TM10					
		H2SO4 PL	1	Y	/	TOC
		Total # of Containers of Type	**(*H2SO4 PL*) = 1**			

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
743882 54TM10				
	LABEL ONLY	1	/	Anions
	Total # of Containers of Type	**(*LABEL ONLY*) = 1**		
743882 54TM10				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type	**(*UNPRES PL*) = 1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
743883 071116R1				
	UNPRES GL	1	/	Perchlorate
	Total # of Containers of Type	**(*UNPRES GL*) = 1**		
743883 071116R1				
	AMBER GL	1	/	SUB EXPL
	AMBER GL	1	/	SUB EXPL
	Total # of Containers of Type	**(*AMBER GL*) = 2**		
743883 071116R1				
	MISC	1	/	SUB LAB
	Total # of Containers of Type	**(*MISC*) = 1**		
743883 071116R1				
	VOA	1	/	TIC
	VOA	1	/	TIC
	Total # of Containers of Type	**(*VOA*) = 2**		
743883 071116R1				
	H2SO4 PL	1	/	TOC
	Total # of Containers of Type	**(*H2SO4 PL*) = 1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
743885 071116R1				
	LABEL ONLY	1	/	Anions
	Total # of Containers of Type	**(*LABEL ONLY*) = 1**		
743885 071116R1				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type	**(*UNPRES PL*) = 1**		

Condition Code	*Condition Description*
1	Sample Received OK

Rev 8/2014

CHAIN OF CUSTODY

Page 1 of 1

Company: BSEN
Project Contact: S. JULIA LIU
Telephone: 757-256-6281
Project Name: RAAP
Project #: 313010-040
Location: RADFORD, VA
Sampled By: SJL / PJW

CT LABORATORIES
1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Folder # 120408
Company: BERGER SEA ENVIRON
Project: RADFORD AAP
Logged By: BNA PW BNT

gram:
RCRA SDWA NPDES
Id Waste Other _____
I #

Report To: S. JULIA LIU
EMAIL: SLIUC GMAIL.COM
Company: BSEN
Address: 615 E. 82ND AVE #200
Invoice To: ANCHORAGE AK 99518
EMAIL:
Company: SAME
Address:

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

Client Special Instructions

LAB MUST FILTER

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

ANALYSES REQUESTED

Turnaround Time
Normal RUSH*
Date Needed: _____
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

Collection Date	Collection Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	VOC METHANE/ ETHANE/ ETHENE	TOC NITRATE/SULFATE/ CHLORIDE	Total # Containers	Designated MS/MSD	CT Lab ID # (Lab use only)
							Fill in Spaces with Bottles per Test				
7/12/16	0900	GW	GRAB		48MW6	N	X X X X		6		744395 / 744396
	0910				49TM01	N	X X X X	744397 / 744399	6		744397
	1035				48MW1	N	X X X X	744400 / 744401 / 744398 2nd	6		744398
	1155				49MW01	N	X X X X	744408 / 744409	6		744399
	1320				50MW02	N	X X X X	744411 / 744412	6		744406
	1330				49TM02	N	X X X X	744414 / 744415	6		744401
	1410				~~13MW2~~ 071216R1	N	X X X X	744416 / 744417	6		744408
	1450				13MW3	N	X X X X	744418 / 744419	6		744409
	1550				13MW4	N	X X X X		6		744420 / 744421
	1600	MS			071216T1	N	X		2		744422
		MSD									

Relinquished By:	Date/Time	Received By:	Date/Time
	7/12/16 1730		
Received by:	Date/Time	Received for Laboratory by:	Date/Time
			7-13-16 1124

Lab Use Only
Ice Present (Yes) No
Temp 0.7 IR Gun # 10
Cooler # 5424

7/13/16 1030 JB

CT Laboratories Terms and Conditions

Where a purchaser (Client) places an order for laboratory, consulting or sampling services from CT Laboratories (CTL), CTL shall provide the ordered services pursuant to these Terms and Conditions, and the related Quotation, or as agreed in a negotiated contract. In the absence of a written agreement to the contrary, the Order constitutes an acceptance by the Client of CTL's offer to do business under these Terms and Conditions, and an agreement to be bound by these Terms and Conditions. No contrary or additional terms and conditions expressed in a Client's document shall be deemed to become a part of the contract created upon acceptance of these Terms and Conditions, unless accepted by CTL in advance of the start of the project and in writing.

1. ORDERS AND RECEIPT OF SAMPLES (Sample Acceptance Policy)

1.1 The Client may place the Order (i.e., specify a Scope of Work) either by submitting a purchase order to CTL in writing, by telephone (confirmed in writing) or by negotiated contract. Whichever option the Client selects for placing the Order, the Order shall not be valid unless it contains sufficient specification to enable CTL to carry out the Client's requirements. It is the policy of CT Laboratories that samples not meeting the acceptance criteria, outlined in the NELAC standards and Section 5.6.3.2 of the DOD QSM, will not be accepted by the laboratory or will be qualified on the final report. All samples submitted to the laboratory must: (1) be accompanied by proper, full and complete documentation, including sample identification, location, date and time of collection, the collector's name, type of preservation (if any), type of sample, any special comments concerning the sample and any additional pertinent data on the chain-of-custody. In the absence of any of the required information, the laboratory will attempt to contact the client to obtain the information; if unable to obtain the necessary information, the final report will be qualified. (2) be labeled appropriately with a unique sample identification written with indelible ink on water resistant labels. If the laboratory cannot determine the identity of a sample, it will be rejected and the client will be contacted for further instructions or resampling. (3) be in an appropriate sample container. If the container is inappropriate, the client will be contacted for further instructions or resampling. If analysis is possible, the final report will be qualified. CT Laboratories can provide a sampling guide containing approved containers and preservations for analytical methods requested. (4) [illegible] holding times. If samples are received with less than ½ the holding time remaining for the requested test, CT Laboratories will make its best effort to analyze the samples and notify the client. If holding times are exceeded, the final report will be qualified. (5) contain adequate sample volume to perform the necessary testing. If sufficient volume is not present, the sample will be rejected and the client will be contacted for further instructions or resampling. If samples show signs of damage, contamination or inadequate preservation, the client will be notified. If analysis can be performed, the final report will be qualified. If not, the samples will be rejected and the client notified for further instructions or resampling.

1.2 CT Laboratories must be supplied with complete written disclosure of the known or suspected presence of any hazardous substances, as defined by applicable federal or state law. Where any samples which were not accompanied by [illegible] disclosure, cause disruptions in the lab's ability to process work due to contamination of instruments or work areas, the Client will be responsible for the costs of clean up and recovery.

1.3 Prior to Sample Acceptance, the [illegible] risk of loss or damage to samples remains with the Client. In no event will CTL have any responsibility or liability for the action or inaction of any carrier shipping or delivering any sample to or from CTL's premises. Client is responsible to assure that any sample containing any hazardous substance which is to be delivered to CTL's premises will be packaged, labeled, transported and delivered properly and in accordance with applicable laws.

2. PAYMENT TERMS

2.1 Services performed by CTL will be in accordance with prices quoted and later confirmed in writing or as stated in the Price Schedule. Invoices may be submitted to Client upon completion of any sample delivery group. Payment in advance is required for all Clients (except those whose credit has been established with CTL. For Clients with approved credit, payment terms are net 30 days from the date of invoice by CTL. All overdue payments are subject to an additional interest and service charge of one and one-half percent (1.5%) (or the maximum rate permissible by law, whichever is lesser) per month or portion thereof from the due date until the date of payment. All fees are charged or billed directly to the Client. The billing of a third party will not be accepted without a statement, signed by the third party that acknowledges and accepts payment responsibility. CTL may suspend work and withhold delivery of data under this order at any time in the event Client fails to make timely payment of its invoices. Client shall be responsible for all costs and expenses of collection including reasonable attorney's fees. CTL reserves the right to refuse to proceed with work at any time based upon an unfavorable Client credit report.

3. CHANGE ORDERS, TERMINATION

3.1 Changes to the Scope of Work, price, or result-delivery date may be initiated by CTL after Sample Acceptance due to any condition which conflicts with analytical, QA or other protocols warranted in these Terms and Conditions. CTL will not proceed with such changes until agreement with the Client is reached on the amount of any cost, schedule change or technical change to the Scope of Work, and such agreement is documented in writing.

3.2 Changes to the Scope of Work, including but not limited to increasing or decreasing the work, changing test and analysis specification or modification of the performance of the work may be initiated by the Client after sample acceptance. Such a change will be documented in writing and may result in a change in cost and turnaround time commitment. CTL's acceptance of such changes is contingent upon technical feasibility and operational capacity.

3.3 Suspension or termination of all or any part of the work may be initiated by the Client. CTL will be compensated consistent with Section 2 of these Terms and Conditions. CTL will complete all work in progress and be paid in full for all work completed.

4. WARRANTIES AND LIABILITY

4.1 Where applicable, CTL will use analytical methodologies which are in substantial conformity with published test methods. CTL has implemented these methods in its Laboratory Quality Manuals and referenced Standard Operating Procedures and where the nature or composition of the sample requires it, CTL reserves the right to deviate from these methodologies as necessary or appropriate, based on the reasonable judgment of CTL. Any deviations, if any, will be made on a basis consistent with recognized standards of the industry and/or CTL's Laboratory Quality Manuals. Client may request that CTL perform according to a mutually agreed Quality Assurance Project Plan (QAPP). In the event that samples arrive prior to agreement on a QAPP, CTL will proceed with analyses under its standard Quality Manuals then in effect, and CTL will not be responsible for any resampling or other charges if work must be repeated to comply with a subsequently finalized QAPP.

4.2 CTL shall start preparation and/or analysis within holding times provided that Sample Acceptance occurs within 48 hours of sampling or 1/2 of the holding time for the test, whichever is less. Where resolution of inconsistencies leading to Sample Acceptance does not occur within this period, CTL will use its best efforts to meet holding times and will proceed with the work provided that, in CTL's judgment, the chain-of-custody or definition of the Scope of Work provide sufficient guidance. Reanalysis of samples to comply with CTL's Quality Manuals will be deemed to have met holding times provided the initial analysis was performed within the applicable holding time. Where reanalysis demonstrates that sample matrix interference is the cause of failure to meet any Quality Manual requirements, the warranty will be deemed to have been met.

4.3 CTL warrants that it possesses and maintains all licenses and certifications which are required to perform services under these Terms and Conditions provided that such requirements are specified in writing to CTL prior to Sample Acceptance. CTL will notify the Client in writing of any cancellation or revocation of any license, or notice of other, which affects work in progress.

4.4 The warranty obligations set forth in Sections 4.1, 4.2 and 4.3 are the sole and exclusive warranties given by CTL in connection with any services performed by CTL or any Results generated from such services, and CTL gives and [illegible] NO OTHER REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. No representative of CTL is authorized to give or make any other representation or warranty or modify this warranty in any way.

4.5 Client's sole and exclusive remedy for the breach of warranty in connection with any services performed by CTL will be limited to repeating any services performed contingent on the Client's providing, at the request of CTL and at the Client's expense, additional sample(s). If necessary, any analysis requested by the Client generating Results consistent with the original Results will be at the Client's expense. If resampling is necessary, CTL's liability for resampling costs will be limited to actual cost of one hundred or one hundred fifty dollars ($100 or $150) per sample, whichever is less.

4.6 CTL's liability for any and all causes of action arising hereunder, whether based in contract, tort, warranty, negligence or otherwise, shall be limited to the lesser amount of compensation for the services performed or $100,000. All claims, including those for negligence, shall be deemed waived unless suit thereon is filed within one year after CTL's completion of the services. Under no circumstances, whether arising in contract, tort (including negligence), or otherwise, shall CTL be responsible for loss of use, loss of profits, or for any special, indirect, incidental, consequential damages occasioned by the services performed or by application or use of the reports prepared.

4.7 In no event shall CTL have any responsibility or liability to the Client for any failure or delay in performance by CTL which results, directly or indirectly, in whole or in part, from any cause or circumstance beyond the reasonable control of CTL. Such causes and circumstances shall include, but not be limited to, acts of God, acts of Client, acts or orders of any governmental authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, equipment breakdown, [illegible] or unknown highly contaminated samples that impede instrument operation, unavailability of supplies from usual suppliers, difficulties or delays in transportation, mail or delivery services, or any other cause beyond CTL's reasonable control.

5. RESULTS, WORK PRODUCT

5.1 Data or information provided to CTL or generated by services performed under this agreement shall only become the property of the Client upon receipt in full by CTL of payment for the [illegible] Order. Except as required by DoD/DOE protocols, software, hardware or equipment developed by CTL for performance of work will be retained by CTL, and Client shall not disclose such information to any third party.

5.2 Data and sample materials provided by Client or at Client's request, and the result obtained by CTL shall be held in confidence (unless such information is generally available to the public or otherwise, or Client has failed to pay CTL for all services rendered or is otherwise in breach of these Terms and Conditions), subject to any disclosure required by law or legal process.

5.3 Should the Results delivered by CTL be used by the Client or Client's client, even though subsequently determined not to meet the warranties described in these Terms and Conditions, then the compensation will be adjusted based upon mutual agreement. Provided that the Client unreasonably withheld CTL's right to independently defend the data.

5.4 CTL reserves the right to subcontract services ordered by the Client to another laboratory or laboratories, if, in CTL's sole judgment, it is reasonably necessary, appropriate or advisable to do so, and with the Client's permission. CTL will in no way be liable for any subcontracted services and all applicable warranties, guarantees and insurance are those of the subcontracted laboratory.

5.5 CTL shall dispose of the Client's samples 30 days after the analytical report is issued, unless instructed to store them for an alternate period of time or to return such samples to the Client, in a manner consistent with U.S. Environmental Protection Agency regulations or other applicable federal, state or local requirements. Any samples for projects that are canceled or not accepted, or for which return was requested, will be returned to the Client at their own expense. CTL reserves the right to return to the Client any sample or unexpired portion of a sample that is held within CTL's permitted capability or the capabilities of CTL's designated waste disposal vendor(s).

5.6 Unless a different time period is agreed to in any order under these Terms and Conditions, CTL agrees to retain all records for five (5) years.

5.7 In the event that CTL is required to respond to legal process related to services for Client, Client agrees to reimburse CTL for hourly charges for personnel involved in the response and attorney fees reasonably incurred in obtaining advice concerning the response, preparation to testify, and appearances related to the legal process, travel and all reasonable expenses associated with the litigation.

6. INSURANCE

6.1 CTL shall maintain in force during the performance of services under these Terms and Conditions, Workers' Compensation and Employer's Liability insurance in accordance with the laws of the states having jurisdiction over CTL's employees who are engaged in the performance of the work. CTL shall also maintain during such period, Comprehensive General and Contractual Liability (limit of $2,000,000 per occurrence/ aggregate), Comprehensive Automobile Liability, owned and hired, ($1,000,000 combined single limit), and Professional Pollution Liability Insurance (limit of $5,000,000 per occurrence/aggregate). Any Client required changes to these limits or conditions may result in a change in cost to the Client.

7. AUDIT

7.1 Upon prior notice to CTL, the Client may audit and inspect CTL's records and accounts covering reimbursable costs related to work done for the Client, for a period of one (1) year after completion of the work. The purpose of any such audit shall be only for verification of such costs, and CTL shall not be required to provide access to cost records where prices are expressed as fixed fees or published unit prices.

FORM #: FPM3-02
Rev. #: 1.0
Effective Date: 05/27/2014
Page 1 of 1

Cooler Receipt Form

Ice Present (YES) NO

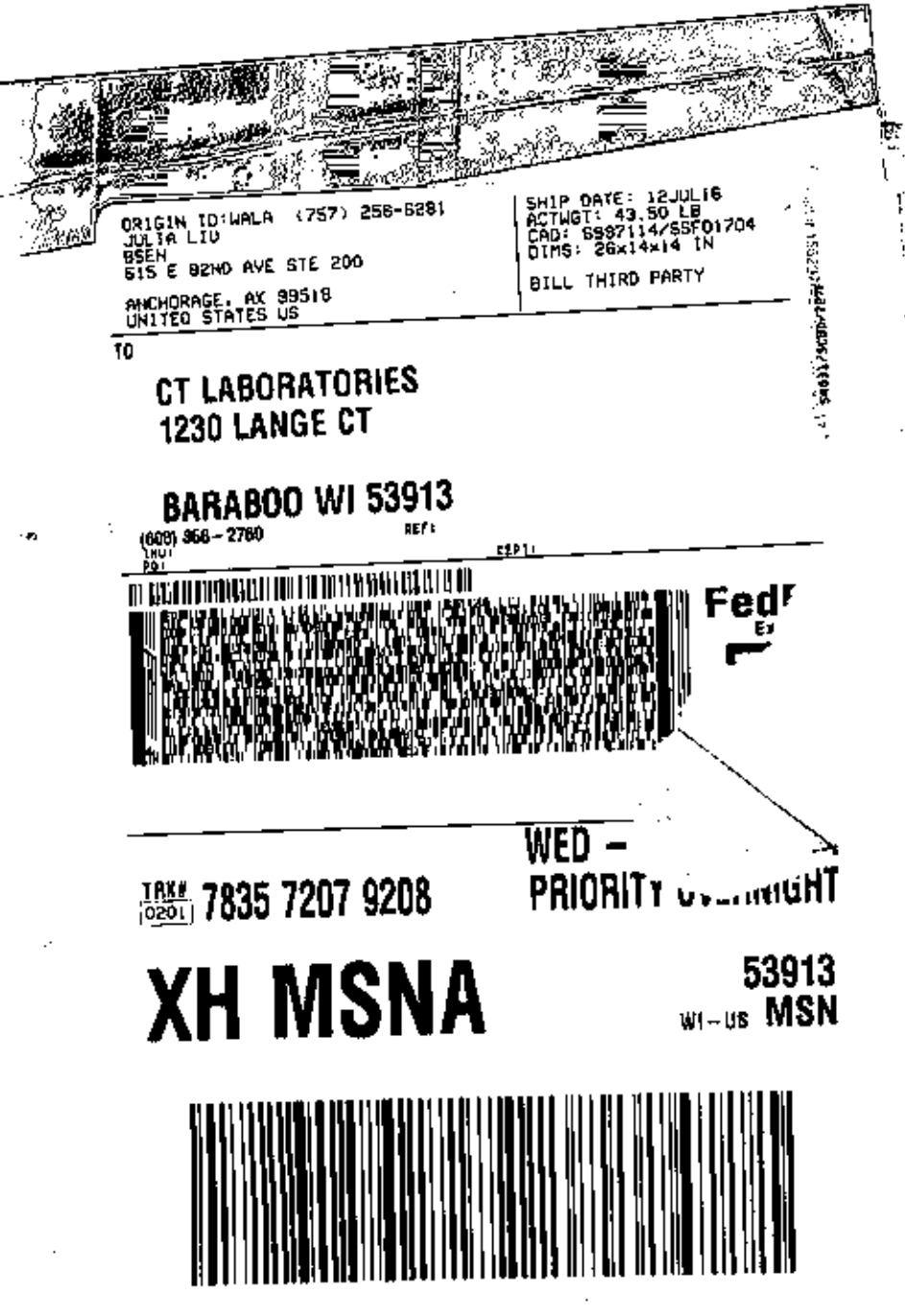
Temperature 0.7°

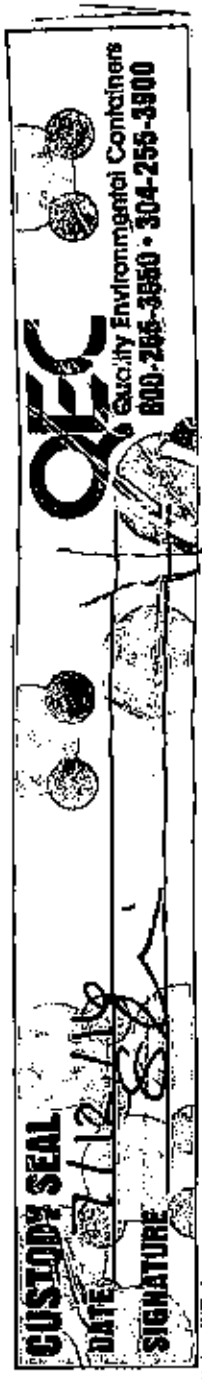
IR Gun # 10

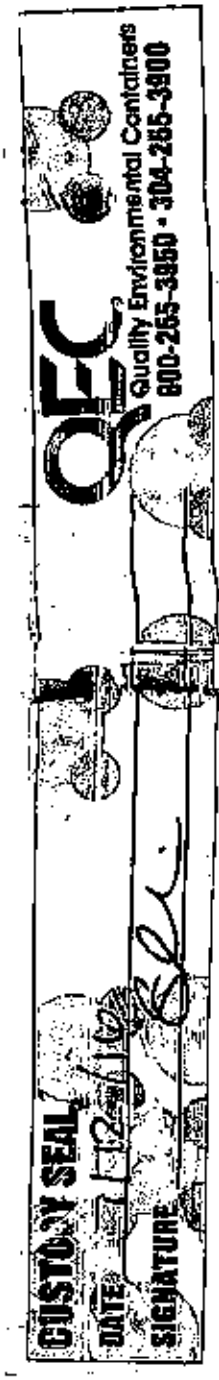
Initials jb

Date 7/13/16 Time 1030

Cooler #: 5424







Folder #: 120408

PM LOGIN CONFIRMATION

Contract #: 2842

Company: BERING SEA ENVIRONMENTAL **Project:** RADFORD AAP **Proj #:** 313010-010

Project Phase: **PO Number:** **Invoice #:** 120955

Project Manager: *BMS* **Date Received:** 07/13/16 **Log Date:** 07/13/2016

Report To: S. JULIA LIU CC:
615 E. 82ND AVE
#200
ANCHORAGE, AK 99518
Phone: 757-256-6281: Fax:
Rep. E-Mail SLIU@BSENV.COM

Invoice To :S. JULIA LIU CC:
615 E. 82ND AVE
#200
ANCHORAGE, AK 99518
Phone: Fax:
EMail:

Collected By:
Collector's Phone: 757-256-6281

Arrival Temperature: 0.7 oC

SAMPLE #: 744395 DESCR: 48MW6 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED: 07/12/2016 Time: 0900**

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*		07/25/2016		Entered
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)					07/25/2016		Logged
			Ethane						
			Ethene						
			Methane						
1230	ORGAN CARBON T QSM 5.(	EPA 9060A)					07/25/2016		Logged

SAMPLE #: 744397 DESCR: 48MW6 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED: 07/12/2016 Time: 0900**

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)					07/25/2016		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)				07/14/2016	07/25/2016		Logged
			Chloride						

C:\LIMSREPS\CONFIRMATION.RPT

Folder #: 120408 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 744397 **DESCR:** 48MW6 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/12/2016 **Time:** 0900

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 744398 **DESCR:** 49TM01 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/12/2016 **Time:** 0910

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*		07/25/2016		Entered
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)					07/25/2016		Logged
			Ethane						
			Ethene						
			Methane						
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)					07/25/2016		Logged

SAMPLE #: 744399 **DESCR:** 49TM01 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/12/2016 **Time:** 0910

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)					07/25/2016		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)				07/14/2016	07/25/2016		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 744400 **DESCR:** 48MW1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/12/2016 **Time:** 1035

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*		07/25/2016		Entered

Folder #: 120408 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 744400 **DESCR:** 48MW1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/12/2016 **Time:** 1035

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)					07/25/2016		Logged
			Ethane						
			Ethene						
			Methane						
1230	ORGAN CARBON T QSM 5.0	(EPA 9060A)					07/25/2016		Logged

SAMPLE #: 744401 **DESCR:** 48MW1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/12/2016 **Time:** 1035

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)					07/25/2016		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)				07/14/2016	07/25/2016		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 744408 **DESCR:** 49MW01 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/12/2016 **Time:** 1155

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*		07/25/2016		Entered
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)					07/25/2016		Logged
			Ethane						
			Ethene						
			Methane						
1230	ORGAN CARBON T QSM 5.0	(EPA 9060A)					07/25/2016		Logged

Folder #: 120408 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 744409 **DESCR:** 49MW01 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/12/2016 **Time:** 1155

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)					07/25/2016		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)				07/14/2016	07/25/2016		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 744411 **DESCR:** 50MW02 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/12/2016 **Time:** 1320

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*		07/25/2016		Entered
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)					07/25/2016		Logged
			Ethane						
			Ethene						
			Methane						
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)					07/25/2016		Logged

SAMPLE #: 744412 **DESCR:** 50MW02 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/12/2016 **Time:** 1320

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)					07/25/2016		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)				07/14/2016	07/25/2016		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

Folder #: 120408 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 744414 **DESCR:** 49TM02 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/12/2016 **Time:** 1330

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*		07/25/2016		Entered
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)					07/25/2016		Logged
			Ethane						
			Ethene						
			Methane						
1230	ORGAN CARBON T QSM 5.(	EPA 9060A)					07/25/2016		Logged

SAMPLE #: 744415 **DESCR:** 49TM02 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/12/2016 **Time:** 1330

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)					07/25/2016		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)				07/14/2016	07/25/2016		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 744416 **DESCR:** 071216R1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/12/2016 **Time:** 1410

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*		07/25/2016		Entered
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)					07/25/2016		Logged
			Ethane						
			Ethene						
			Methane						
1230	ORGAN CARBON T QSM 5.(	EPA 9060A)					07/25/2016		Logged

Folder #: 120408 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 744417 **DESCR:** 071216R1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/12/2016 **Time:** 1410

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)					07/25/2016		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)				07/14/2016	07/25/2016		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 744418 **DESCR:** 13MW3 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/12/2016 **Time:** 1450

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*		07/25/2016		Entered
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)					07/25/2016		Logged
			Ethane						
			Ethene						
			Methane						
1230	ORGAN CARBON T QSM 5.(	EPA 9060A)					07/25/2016		Logged

SAMPLE #: 744419 **DESCR:** 13MW3 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/12/2016 **Time:** 1450

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)					07/25/2016		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)				07/14/2016	07/25/2016		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

Folder #: 120408 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 744420 **DESCR:** 13MW4 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/12/2016 **Time:** 1550

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*		07/25/2016		Entered
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)					07/25/2016		Logged
			Ethane						
			Ethene						
			Methane						
1230	ORGAN CARBON T QSM 5.(	EPA 9060A)					07/25/2016		Logged

SAMPLE #: 744421 **DESCR:** 13MW4 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/12/2016 **Time:** 1550

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)					07/25/2016		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)				07/14/2016	07/25/2016		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 744422 **DESCR:** 071216T1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / TRIP BLANK **SAMPLED:** 07/12/2016 **Time:** 1600

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	07/26/2016	07/25/2016		Entered

Folder #: 120408 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

Invoice Number: 120955 **Preliminary Invoice Estimate:** $ 1,495.00

Item	Matrix	Quantity	Price	Expedited TAT Surcharge	Total
ANIONS IC QSM 5.0 Chloride	GROUND WATER	9	$ 10.00	0.00	$ 90.00
ANIONS IC QSM 5.0 Nitrate Nitrogen	GROUND WATER	9	$ 10.00	0.00	$ 90.00
ANIONS IC QSM 5.0 Sulfate	GROUND WATER	9	$ 10.00	0.00	$ 90.00
FILTRATION, SAMPLE	GROUND WATER	9	$ 10.00	0.00	$ 90.00
METH,ETH,ETHE QSM 5.0 Ethane	GROUND WATER	9	$ 0.00	0.00	$ 0.00
METH,ETH,ETHE QSM 5.0 Ethene	GROUND WATER	9	$ 0.00	0.00	$ 0.00
METH,ETH,ETHE QSM 5.0 Methane	GROUND WATER	9	$ 40.00	0.00	$ 360.00
ORGAN CARBON T QSM 5.0	GROUND WATER	9	$ 25.00	0.00	$ 225.00
VOC 8260 QSM 5.0	GROUND WATER	9	$ 55.00	0.00	$ 495.00
VOC 8260 QSM 5.0	TRIP BLANK	1	$ 55.00	0.00	$ 55.00
Temporary Fuel Surcharge on lab supplies and services (if applicable):					$ 0.00

Bottle Information

Container	# Containers	Tests
H2SO4 PL	**9**	TOC
UNPRES PL	**9**	Anions
VOA HCL	**38**	GAS,VOC

CT LABORATORIES
delivering more than data from your environmental analyses

Sample Condition Report

Folder #: 120408
Client: BERING SEA ENVIRONMENTAL

Print Date / Time: 07/13/2016 11:24
Received Date / Time / By: 07/13/2016 10:30 JLS

Project Name: RADFORD AAP
Project Phase:

Log-In Date / Time / By: 07/13/2016 11:24 BNA
Project #: 313010-010 PM: BMS

Coolers: 5424
Custody Seals Present : **Y**

Temperature: 0.7 C On Ice: **Y**
COC Present:? **Y** Complete? **Y**

Seal Intact? **Y**
Ship Method: FEDEX EXPRESS
Adequate Packaging: **Y**

Numbers: SIGNED AND DATED
Tracking Number: 0201783572079208
Temp Blank Enclosed? **Y**

Notes: THE SAMPLES WERE RECEIVED IN GOOD CONDITION ON ICE.

TWO CUSTODY SEALS WERE PRESENT AND INTACT UPON RECEIPT, BOTH DATED 07/12/16 AND SIGNED.

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
744395 48MW6				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type (*VOA HCL*) = 4			
744395 48MW6				
	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type (*H2SO4 PL*) = 1			

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
744397 48MW6				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type (*UNPRES PL*) = 1			

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
744398 49TM01				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type (*VOA HCL*) = 4			
744398 49TM01				
	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type (*H2SO4 PL*) = 1			

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
744399 49TM01				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type	**(*UNPRES PL*) = 1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
744400 48MW1				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type	**(*VOA HCL*) = 4**		
744400 48MW1				
	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type	**(*H2SO4 PL*) = 1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
744401 48MW1				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type	**(*UNPRES PL*) = 1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
744408 49MW01				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type	**(*VOA HCL*) = 4**		
744408 49MW01				
	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type	**(*H2SO4 PL*) = 1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
744409 49MW01				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type	**(*UNPRES PL*) = 1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
744411 50MW02				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type	**(*VOA HCL*) = 4**		

744411 50MW02

H2SO4 PL	1	Y	/	TOC

Total # of Containers of Type (*H2SO4 PL*) = 1

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

744412 50MW02

UNPRES PL	1		/	Anions

Total # of Containers of Type (*UNPRES PL*) = 1

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

744414 49TM02

VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC

Total # of Containers of Type (*VOA HCL*) = 4

744414 49TM02

H2SO4 PL	1	Y	/	TOC

Total # of Containers of Type (*H2SO4 PL*) = 1

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

744415 49TM02

UNPRES PL	1		/	Anions

Total # of Containers of Type (*UNPRES PL*) = 1

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

744416 071216R1

VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC

Total # of Containers of Type (*VOA HCL*) = 4

744416 071216R1

H2SO4 PL	1	Y	/	TOC

Total # of Containers of Type (*H2SO4 PL*) = 1

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

744417 071216R1

UNPRES PL	1		/	Anions

Total # of Containers of Type (*UNPRES PL*) = 1

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

744418 13MW3

	VOA HCL	1		/	GAS,VOC
	VOA HCL	1		/	GAS,VOC
	VOA HCL	1		/	GAS,VOC
	VOA HCL	1		/	GAS,VOC
	Total # of Containers of Type	**(*VOA HCL*) = 4**			

744418 13MW3

	H2SO4 PL	1	Y	/	TOC
	Total # of Containers of Type	**(*H2SO4 PL*) = 1**			

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

744419 13MW3

	UNPRES PL	1		/	Anions
	Total # of Containers of Type	**(*UNPRES PL*) = 1**			

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

744420 13MW4

	VOA HCL	1		/	GAS,VOC
	VOA HCL	1		/	GAS,VOC
	VOA HCL	1		/	GAS,VOC
	VOA HCL	1		/	GAS,VOC
	Total # of Containers of Type	**(*VOA HCL*) = 4**			

744420 13MW4

	H2SO4 PL	1	Y	/	TOC
	Total # of Containers of Type	**(*H2SO4 PL*) = 1**			

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

744421 13MW4

	UNPRES PL	1		/	Anions
	Total # of Containers of Type	**(*UNPRES PL*) = 1**			

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

744422 071216T1

	VOA HCL	1		/	VOC
	VOA HCL	1		/	VOC
	Total # of Containers of Type	**(*VOA HCL*) = 2**			

Condition Code	*Condition Description*
1	Sample Received OK

Rev 8/2014

CHAIN OF CUSTODY

Page 1 of 1

Company: BSEN
Project Contact: S. JULIA LIU
Telephone: 757-256-6281
Project Name: RAAP
Project #: 313010-001
Location: RADFORD, VA
Sampled By: SJL / PJW

CT LABORATORIES
1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Folder = 120462
Company: BERNARD SEA ENVIRON.
Project: RADFORD AAP
Logged By: PJW PJL BMF

Report To: S. JULIA LIU
EMAIL: BSEN.SLIU@BSEN.COM
Company: BSEN
Address: 615 E. 82ND AVE #200
ANCHORAGE, AK 99518
Invoice To:*
EMAIL:
Company: SAME
Address:

Program: RCRA SDWA NPDES
Waste Other

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

Client Special Instructions

LAB MUST FILTER

Matrix:
GW - groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

ANALYSES REQUESTED

Turnaround Time
Normal RUSH*
Date Needed: _____
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

Collection Date	Collection Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	VOC METHANE/ETHANE/ ETHENE	TDC NITRATE/SULFATE/ CHLORIDE	PH	TAL METALS	COD	Total # Containers	Designated MS/MSD	CT Lab ID # (Lab use only)
							Fill in Spaces with Bottles per Test							
7/13/16	0910	GW	GRAB		49MW02	N	X	X	X	X		6		744969 / 744969
	1050				48MW3	N	X	X	X	X		6		744970 / 744971
	1455				48MW2	N	X	X	X	X		18	X	744972 / 744973
	1620				13MW2	N	X	X	X	X		6		744974 / 744975
	625				49MW04	N	X	X	X	X		6		744976 / 744977
	1630				49ADW01	N				X	X	3		744978
	1635				071316T1	N	X					2		744980

Relinquished By:	Date/Time	Received By:	Date/Time
	7/13/16 1730		7/14/16 1026
Received by:	Date/Time	Received for Laboratory by:	Date/Time
			7-14-16 1126

Lab Use Only
Ice Present (Yes) No
Temp 4.6 IR Gun # 14
Cooler # 5482

CT Laboratories Terms and Conditions

Where a purchaser (Client) places an order for laboratory, consulting or sampling services from CT Laboratories (CTL), CTL shall provide the ordered services pursuant to these Terms and Conditions, and the related Quotation, or as agreed in a negotiated contract. In the absence of a written agreement to the contrary, the Order constitutes unconditional acceptance by the Client of CTL's offer to do business under these Terms and Conditions, and an agreement to be bound by these Terms and Conditions. No contrary or additional terms and conditions expressed in a Client's document shall be deemed to become a part of the contract created upon acceptance of these Terms and Conditions, unless accepted by CTL in advance of the start of the project and in writing.

1. ORDERS AND RECEIPT OF SAMPLES (Sample Acceptance Policy)

1.1 The Client may place the Order (i.e., specify a Scope of Work) either by submitting a purchase order to CTL in writing, by telephone (confirmed in writing) or by negotiated contract. Whichever option the Client selects for placing the Order, the Order shall not be valid unless it contains sufficient specification to enable CTL to carry out the Client's requirements. It is the policy of CT Laboratories that samples not meeting the acceptance criteria, outlined in the NELAC standards and Section 5.8.3.2 of the DOD QSM, will not be accepted by the laboratory or will be qualified on the final report. All samples submitted to the laboratory must: (1) be accompanied by proper, full and complete documentation, including sample identification, location, date and time of collection, the collector's name, type of preservation (if any), type of sample, any special comments concerning the sample and any analytical requirements on the chain-of-custody. In the absence of any of the required information, the laboratory will attempt to contact the client to obtain the information, if unable to obtain the necessary information, the final report will be qualified. (2) be labeled appropriately with an unique sample identification written with indelible ink on water resistant labels. If the laboratory cannot determine the identity of a sample, it will be rejected and the client will be contacted for further instructions or resampling. (3) be in an appropriate sample container, if the container is inappropriate, the client will be contacted for further instructions or resampling. If analysis is possible, the final report will be qualified. CT Laboratories can provide a sampling guide containing approved containers and preservations for analytical methods requested. (4) adhere to specified holding times. If samples are received with less than ½ the holding time remaining for the requested test, CT Laboratories will make its best effort to analyze the samples and notify the client. If holding times are exceeded, the final report will be qualified. (5) contain adequate sample volume to perform the necessary testing. If sufficient volume is not present, the sample will be rejected and the client will be contacted for further instructions or resampling. If samples show signs of damage, contamination or inadequate preservation, the client will be notified. If analysis can be performed, the final report will be qualified. If not, the samples will be rejected and the client notified for further instructions or resampling.

1.2 CT Laboratories must be supplied with complete written disclosure of the known or suspected presence of any hazardous substances, as defined by applicable federal or state law. Where any samples which were not accompanied by the required disclosure cause interruptions in the lab's ability to process work due to contamination of instruments or work areas, the Client will be responsible for the costs of clean up and recovery.

1.3 Prior to Sample Acceptance, the entire risk of loss or damage to samples remains with the Client. In no event will CTL have any responsibility or liability for the action or inaction of any carrier shipping or delivering any sample to or from CTL's premises. Client is responsible to assure that any sample containing any hazardous substance which is to be delivered to CTL's premises will be packaged, labeled, transported and delivered properly and in accordance with applicable laws.

2. PAYMENT TERMS

2.1 Services performed by CTL will be in accordance with prices quoted and later confirmed in writing or as stated in the Price Schedule. Invoices may be submitted to Client upon completion of any sample delivery group. Payment in advance is required for all Clients except those whose credit has been established with CTL. For Clients with approved credit, payment terms are net 30 days from the date of invoice by CTL. All overdue payments are subject to an additional interest and service charge of one and one-half percent (1.5%) (or the maximum rate permissible by law, whichever is lesser) per month or portion thereof from the due date until the date of payment. All fees are charged or billed directly to the Client. The billing of a third party will not be accepted without a statement, signed by the third party that acknowledges and accepts payment responsibility. CTL may suspend work and withhold delivery of data under this order at any time in the event Client fails to make timely payment of its invoices. Client shall be responsible for all costs and expenses of collection, including reasonable attorney's fees. CTL reserves the right to refuse to proceed with work at any time based upon an unfavorable Client credit report.

3. CHANGE ORDERS, TERMINATION

3.1 Changes to the Scope of Work, price, or result delivery date may be initiated by CTL after Sample Acceptance due to any condition which conflicts with analytical, QA or other protocols warranted in these Terms and Conditions. CTL will not proceed with such changes until agreement with the Client is reached on the amount of any cost, schedule change or technical change to the Scope of Work, and such agreement is documented in writing.

3.2 Changes to the Scope of Work, including but not limited to increasing or decreasing the work, changing test and analysis specification or acceleration in the performance of the work may be initiated by the Client after sample acceptance. Such a change will be documented in writing and may result in a change in cost and turnaround time commitment. CTL's acceptance of such changes is contingent upon technical feasibility and operational capacity.

3.3 Suspension or termination of all or any part of the work may be initiated by the Client. CTL will be compensated consistent with Section 2 of these Terms and Conditions. CTL will complete all work in progress and be paid in full for all work completed.

4. WARRANTIES AND LIABILITY

4.1 Where applicable, CTL will use analytical methodologies which are in substantial conformity with published test methods. CTL has implemented these methods in its Laboratory Quality Manuals and referenced Standard Operating Procedures and where the nature or composition of the sample requires it, CTL reserves the right to deviate from these methodologies as necessary or appropriate, based on the reasonable judgment of CTL, which deviations, if any, will be made on a basis consistent with recognized standards of the industry and/or CTL's Laboratory Quality Manuals. Client may request that CTL perform according to a mutually agreed Quality Assurance Project Plan (QAPP). In the event that samples arrive prior to the generation of a QAPP, CTL will proceed with analyses under its standard Quality Manuals then in effect, and CTL will not be responsible for any resampling or other charges if work must be repeated to comply with a subsequently finalized QAPP.

4.2 CTL shall start preparation and/or analysis within holding times provided that Sample Acceptance occurs within 48 hours of sampling or ½ of the holding time for the test, whichever is less. Where resolution of inconsistencies leading to Sample Acceptance does not occur within this period, CTL will use its best efforts to meet holding times and will proceed with the work provided that, in CTL's judgment, the chain-of-custody or definition of the Scope of Work provide sufficient guidance. Reanalysis of samples to comply with CTL's Quality Manuals will be deemed to have met holding times provided the initial analysis was performed within the applicable holding time. Where reanalysis demonstrates that sample matrix interference is the cause of failure to meet any Quality Manual requirements, the warranty will be deemed to have been met.

4.3 CTL warrants that it possesses and maintains all licenses and certifications which are required to perform services under these Terms and Conditions provided that such requirements are specified in writing to CTL prior to Sample Acceptance. CTL will notify the Client in writing of any decertification or revocation of any license, or notice of either, which affects work in progress.

4.4 The warranty obligations set forth in Sections 4.1, 4.2 and 4.3 are the sole and exclusive warranties given by CTL in connection with any services performed by CTL or any Results generated, and such services and Results are provided "AS IS." CTL GIVES NO OTHER REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. No representative of CTL is authorized to give or make any other representation or warranty or modify this warranty in any way.

4.5 Client's sole and exclusive remedy for the breach of warranty in connection with any services performed by CTL will be limited to repeating any services performed, contingent on the Client's providing, at the request of CTL and at the Client's expense, additional sample(s) if necessary. Any reanalysis requested by the Client generating Results consistent with the original Results will be at the Client's expense. If resampling is necessary, CTL's liability for resampling costs will be limited to actual cost or one hundred fifty dollars ($150) per sample, whichever is less.

4.6 CTL's liability for any and all causes of action arising hereunder, whether based in contract, tort, warranty, negligence or otherwise, shall be limited to the lesser amount of compensation for the services performed or $100,000. All claims, including those for negligence, shall be deemed waived unless suit thereon is filed within one year after CTL's completion of the services. Under no circumstances, whether arising in contract, tort (including negligence) or otherwise, shall CTL be responsible for lost profits, lost data or for any special, indirect, incidental or consequential damages occasioned by the services performed or by application or use of the reports prepared.

4.7 In no event shall CTL have any responsibility or liability to the Client for any failure or delay in performance by CTL which results, directly or indirectly, in whole or in part, from any cause or circumstance beyond the reasonable control of CTL. Such causes and circumstances shall include, but not be limited to, acts of God, acts of Client, acts or orders of any governmental authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, equipment breakdown, matrix interference or unknown highly contaminated samples that impact instrument operation, unavailability of supplies from usual suppliers, difficulties or delays in transportation, mail or delivery services, or any other cause beyond CTL's reasonable control.

5. RESULTS, WORK PRODUCT

5.1 Data or information provided to CTL or generated by services performed under this agreement shall only become the property of the Client upon receipt in full by CTL of payment for the work. Quality control data, QA/QC protocols, software, programs or equipment developed by CTL for performance of work will be retained by CTL, and Client shall not disclose such information to any third party.

5.2 Data and sample materials provided by Client or at Client's request, and the result obtained by CTL shall be held in confidence (unless such information is generally available to the public or is in the public domain or Client has failed to pay CTL for all services rendered or is otherwise in breach of these Terms and Conditions), subject to any disclosure required by law or legal process.

5.3 Should the Results delivered by CTL be used by the Client or Client's client, even though subsequently determined not to meet the warranties described in these Terms and Conditions, then the compensation will be adjusted based upon mutual agreement. In no case shall the Client unreasonably withhold CTL's right to independently defend its data.

5.4 CTL reserves the right to subcontract services ordered by the Client to another laboratory or laboratories, if, in CTL's sole judgment, it is reasonably necessary, appropriate or advisable to do so, and with the Client's permission. CTL will in no way be liable for any subcontracted services and all applicable warranties, guarantees and insurance are those of the subcontracted laboratory.

5.5 CTL shall dispose of the Client's samples, 30 days after the analytical report is issued, unless instructed to store them for an alternate period of time or to return such samples to the Client, in a manner consistent with U.S. Environmental Protection Agency regulations or other applicable Federal, state or local requirements. Any samples for projects that are canceled or not accepted, or for which return was requested, will be returned to the Client at their own expense. CTL reserves the right to return to the Client any sample or unused portion of a sample that is not within CTL's permitted capability or the capabilities of CTL's designated waste disposal vendor(s).

5.6 Unless a different time period is agreed to in any order under these Terms and Conditions, CTL agrees to retain all records for five (5) years.

5.7 In the event that CTL is required to respond to legal process related to services for Client, Client agrees to reimburse CTL for hourly charges for personnel involved in the response and attorney fees reasonably incurred in obtaining advice concerning the response, preparation to testify, and appearances related to the legal process, travel and all reasonable expenses associated with the litigation.

6. INSURANCE

6.1 CTL shall maintain in force during the performance of services under these Terms and Conditions, Workers' Compensation and Employer's Liability insurance in accordance with the laws of the states having jurisdiction over CTL's employees who are engaged in the performance of the work. CTL shall also maintain during such period, Comprehensive General and Contractual Liability (limit of $2,000,000 per occurrence/ aggregate), Comprehensive Automobile Liability, owned and hired, ($1,000,000 combined single limit), and Professional/Pollution Liability Insurance (limit of $5,000,000 per occurrence/aggregate). Any Client required changes to these limits or conditions may result in a change in cost to the Client.

7. AUDIT

7.1 Upon prior notice to CTL, the Client may audit and inspect CTL's records and accounts covering reimbursable costs related to work done for the Client, for a period of one (1) year after completion of the work. The purpose of any such audit shall be only for verification of such costs, and CTL shall not be required to provide access to cost records where prices are expressed as fixed fees or published unit prices.

Cooler Receipt Form

Ice Present (YES) NO

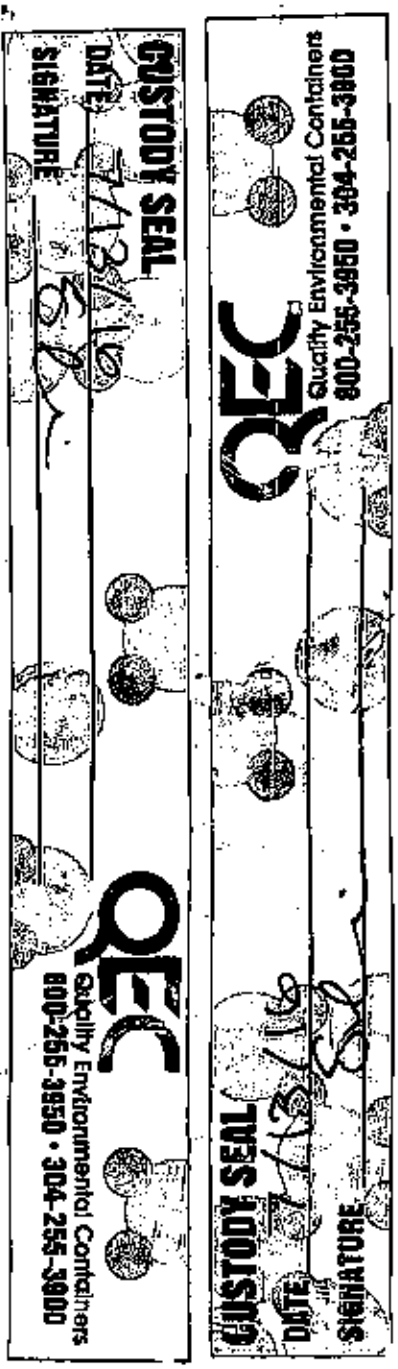
Temperature 4.6

IR Gun # 14

Initials ABS

Date 7/14/16 Time 1025

Cooler #: 5482



ORIGIN ID:WALA (757) 256-6281
JULIA LIU
BSEN
615 E 82ND AVE STE 200
ANCHORAGE, AK 99518
UNITED STATES US

SHIP DATE: 13JUL16
ACTWGT: 43.60 LB
CAD: 6897114/SSFD1704
DIMS: 24x14x14 IN
BILL THIRD PARTY

TO
CT LABORATORIES
1230 LANGE CT
BARABOO WI 53913
(608) 356-2760
REF:
DEPT:

FedEx Express

REL# 3785346

THU - 14 JUL 10:30A
PRIORITY OVERNIGHT

TRK# 0201 7835 8273 7966

XH MSNA

53913
WI-US MSN

Folder #: 120462

PM LOGIN CONFIRMATION

Contract #: 2842

Company: BERING SEA ENVIRONMENTAL **Project:** RADFORD AAP **Proj #:** 313010-001

Project Phase: **PO Number:** **Invoice #:** 121005

Project Manager: *BMS* **Date Received:** 07/14/16 **Log Date:** 07/14/2016

Report To: S. JULIA LIU CC:
615 E.82ND AVE
#200
ANCHORAGE, AK 99518
Phone: 757-256-6281: Fax:
Rep. E-Mail SLIU@BSENV.COM

Invoice To :S. JULIA LIU CC:
615 E. 82ND AVE
#200
ANCHORAGE, AK 99518
Phone: Fax:
EMail:

Collected By:
Collector's Phone: 757-256-6281

Arrival Temperature: 4.6 oC

SAMPLE #: 744939 DESCR: 49MW02 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED: 07/13/2016 Time: 0910**

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	07/27/2016	07/26/2016		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				07/27/2016	07/26/2016		NeedPrep
			Ethane						
			Ethene						
			Methane						
1230	ORGAN CARBON T QSM 5.(	EPA 9060A)				08/10/2016	07/26/2016		Logged

SAMPLE #: 744969 DESCR: 49MW02 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED: 07/13/2016 Time: 0910**

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)					07/26/2016		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)				07/15/2016	07/26/2016		Logged
			Chloride						

Folder #: 120462 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 744969 **DESCR:** 49MW02 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/13/2016 **Time:** 0910

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 744970 **DESCR:** 48MW3 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/13/2016 **Time:** 1050

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	07/27/2016	07/26/2016		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				07/27/2016	07/26/2016		NeedPrep
			Ethane						
			Ethene						
			Methane						
1230	ORGAN CARBON T QSM 5.0	(EPA 9060A)				08/10/2016	07/26/2016		Logged

SAMPLE #: 744971 **DESCR:** 48MW3 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/13/2016 **Time:** 1050

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)					07/26/2016		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)				07/15/2016	07/26/2016		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 744972 **DESCR:** 48MW2 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/13/2016 **Time:** 1455

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y* ***DESIGNATED MATRIX SPIKE***	07/27/2016	07/26/2016		Logged

Folder #: 120462 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 744972 **DESCR:** 48MW2 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/13/2016 **Time:** 1455

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)			***DESIGNATED MATRIX SPIKE***	07/27/2016	07/26/2016		NeedPrep
			Ethane						
			Ethene						
			Methane						
1230	ORGAN CARBON T QSM 5.0	(EPA 9060A)			***DESIGNATED MATRIX SPIKE***	08/10/2016	07/26/2016		Logged

SAMPLE #: 744973 **DESCR:** 48MW2 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/13/2016 **Time:** 1455

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)			***DESIGNATED MATRIX SPIKE***		07/26/2016		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)			***DESIGNATED MATRIX SPIKE***	07/15/2016	07/26/2016		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 744974 **DESCR:** 13MW2 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/13/2016 **Time:** 1620

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			***Y***	07/27/2016	07/26/2016		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				07/27/2016	07/26/2016		NeedPrep
			Ethane						
			Ethene						
			Methane						
1230	ORGAN CARBON T QSM 5.0	(EPA 9060A)				08/10/2016	07/26/2016		Logged

Folder #: 120462 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 744975 **DESCR:** 13MW2 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/13/2016 **Time:** 1620

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)					07/26/2016		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)				07/15/2016	07/26/2016		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

SAMPLE #: 744976 **DESCR:** 49MW04 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/13/2016 **Time:** 1625

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	07/27/2016	07/26/2016		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				07/27/2016	07/26/2016		NeedPrep
			Ethane						
			Ethene						
			Methane						
1230	ORGAN CARBON T QSM 5.(	EPA 9060A)				08/10/2016	07/26/2016		Logged

SAMPLE #: 744977 **DESCR:** 49MW04 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/13/2016 **Time:** 1625

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)					07/26/2016		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)				07/15/2016	07/26/2016		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						

Folder #: 120462 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 744978 **DESCR:** 49ADW01 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/13/2016 **Time:** 1630

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
203	PH	(EPA 9040C)					07/26/2016		Logged
989	COD QSM	(EPA 410.4)				08/10/2016	07/26/2016		NeedPrep
1183	ICP K TOTAL QSM 5.0	(EPA 6010C)				01/09/2017	07/26/2016		NeedPrep
1190	ICP NA TOTAL QSM 5.0	(EPA 6010C)				01/09/2017	07/26/2016		NeedPrep
1200	ICP TOTAL QSM 5.0	(EPA 6010C)				01/09/2017	07/26/2016		NeedPrep
			Total Aluminum						
			Total Antimony						
			Total Arsenic						
			Total Barium						
			Total Beryllium						
			Total Cadmium						
			Total Calcium						
			Total Chromium						
			Total Cobalt						
			Total Copper						
			Total Iron						
			Total Lead						
			Total Magnesium						
			Total Manganese						
			Total Nickel						
			Total Selenium						
			Total Silver						
			Total Thallium						
			Total Vanadium						
			Total Zinc						
1208	MERCURY TOTAL QSM 5.0	(EPA 7470A)				08/10/2016	07/26/2016		NeedPrep

Folder #: 120462 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 744980 **DESCR:** 071316T1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / TRIP BLANK **SAMPLED:** 07/13/2016 **Time:** 1635

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	07/27/2016	07/26/2016		Logged

Folder #: 120462 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

Invoice Number: 121005 **Preliminary Invoice Estimate:** $ 978.00

Item	Matrix	Quantity	Price	Expedited TAT Surcharge	Total
ANIONS IC QSM 5.0 Chloride	GROUND WATER	5	$ 10.00	0.00	$ 50.00
ANIONS IC QSM 5.0 Nitrate Nitrogen	GROUND WATER	5	$ 10.00	0.00	$ 50.00
ANIONS IC QSM 5.0 Sulfate	GROUND WATER	5	$ 10.00	0.00	$ 50.00
COD QSM	GROUND WATER	1	$ 18.00	0.00	$ 18.00
FILTRATION, SAMPLE	GROUND WATER	5	$ 10.00	0.00	$ 50.00
ICP K TOTAL QSM 5.0	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP NA TOTAL QSM 5.0	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Aluminum	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Antimony	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Arsenic	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Barium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Beryllium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Cadmium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Calcium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Chromium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Cobalt	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Copper	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Iron	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Lead	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Magnesium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Manganese	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Nickel	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Selenium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Silver	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Thallium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Vanadium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Zinc	GROUND WATER	1	$ 3.25	0.00	$ 3.25
MERCURY TOTAL QSM 5.0	GROUND WATER	1	$ 23.50	0.00	$ 23.50
METH,ETH,ETHE QSM 5.0 Ethane	GROUND WATER	5	$ 0.00	0.00	$ 0.00

METH,ETH,ETHE QSM 5.0 Ethene	GROUND WATER	5	$ 0.00	0.00	$ 0.00
METH,ETH,ETHE QSM 5.0 Methane	GROUND WATER	5	$ 40.00	0.00	$ 200.00
ORGAN CARBON T QSM 5.0	GROUND WATER	5	$ 25.00	0.00	$ 125.00
PH	GROUND WATER	1	$ 10.00	0.00	$ 10.00
VOC 8260 QSM 5.0	GROUND WATER	5	$ 55.00	0.00	$ 275.00
VOC 8260 QSM 5.0	TRIP BLANK	1	$ 55.00	0.00	$ 55.00
Temporary Fuel Surcharge on lab supplies and services (if applicable):					$ 0.00

Bottle Information

Container	# Containers	Tests
H2SO4 PL	**8**	TOC
HNO3	**1**	HG,ICP,K,NA
UNPRES PL	**8**	Anions
VOA HCL	**27**	GAS,VOC

CT LABORATORIES
delivering more than data from your environmental analyses

Sample Condition Report

Folder #: 120462
Client: BERING SEA ENVIRONMENTAL

Print Date / Time: 07/14/2016 11:35
Received Date / Time / By: 07/14/2016 10:26 ABS

Project Name: RADFORD AAP
Project Phase:

Log-In Date / Time / By: 07/14/2016 11:20 BNA
Project #: 313010-001 PM: BMS

Coolers: 5482
Custody Seals Present : **Y**

Temperature: 4.6 C On Ice: **Y**
COC Present:? **Y** Complete? **Y**

Seal Intact? **Y**
Ship Method: FEDEX EXPRESS
Adequate Packaging: **Y**

Numbers: SIGNED AND DATED
Tracking Number: 0201783582737966
Temp Blank Enclosed? **Y**

Notes: THE SAMPLES WERE RECEIVED IN GOOD CONDITION ON ICE.

TWO CUSTODY SEALS WERE PRESENT AND INTACT UPON RECEIPT, BOTH DATED 07/13/16 AND SIGNED.

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
744939 49MW02				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type	**(*VOA HCL*) = 4**		
744939 49MW02				
	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type	**(*H2SO4 PL*) = 1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
744969 49MW02				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type	**(*UNPRES PL*) = 1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
744970 48MW3				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type	**(*VOA HCL*) = 4**		
744970 48MW3				
	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type	**(*H2SO4 PL*) = 1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
744971 48MW3				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type (*UNPRES PL*) = 1			

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
744972 48MW2				
	VOA HCL	1	/	GAS
	Total # of Containers of Type (*VOA HCL*) = 1			
744972 48MW2				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type (*VOA HCL*) = 5			
744972 48MW2				
	H2SO4 PL	1	Y /	TOC
	H2SO4 PL	1	/	TOC
	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type (*H2SO4 PL*) = 3			
744972 48MW2				
	VOA HCL	1	/	VOC
	VOA HCL	1	/	VOC
	VOA HCL	1	/	VOC
	Total # of Containers of Type (*VOA HCL*) = 3			

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
744973 48MW2				
	UNPRES PL	1	/	Anions
	UNPRES PL	1	/	Anions
	UNPRES PL	1	/	Anions
	Total # of Containers of Type (*UNPRES PL*) = 3			

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
744974 13MW2				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type (*VOA HCL*) = 4			
744974 13MW2				
	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type (*H2SO4 PL*) = 1			

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
744975 13MW2				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type (*UNPRES PL*) = 1			
744976 49MW04				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type (*VOA HCL*) = 4			
744976 49MW04				
	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type (*H2SO4 PL*) = 1			
744977 49MW04				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type (*UNPRES PL*) = 1			
744978 49ADW01				
	H2SO4 PL	1	Y /	COD
	Total # of Containers of Type (*H2SO4 PL*) = 1			
744978 49ADW01				
	HNO3	1	Y /	HG,ICP,K,NA
	Total # of Containers of Type (*HNO3*) = 1			
744978 49ADW01				
	UNPRES PL	1	/	pH
	Total # of Containers of Type (*UNPRES PL*) = 1			
744980 071316T1				
	VOA HCL	1	/	VOC
	VOA HCL	1	/	VOC
	Total # of Containers of Type (*VOA HCL*) = 2			

Condition Code	*Condition Description*
1	Sample Received OK

Rev 8/2014

CHAIN OF CUSTODY

730 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Company: BSEN
Project Contact: S JULIA LIU
Telephone: 757-256-6281
Project Name: RAAP
Project #: 31310-009
Location: RADFORD, VA
Sampled By: PJW / SJL

Folder # 120518
Company: BERING SEA ENVIROS
Project: RADFORD AAP
Logged By: [illegible] PAL RKL

attn:
RCRA SDWA NPDES
Waste Other

Report To: S JULIA LIU
EMAIL: SLIU@BSEN.COM
Company: BSEN
Address: 625 E. 82ND AVE #200
Invoice To:* ANCHORAGE, AK 99518
EMAIL:
Company: SAME
Address:

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

Client Special Instructions
LAB MUST FILTER

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Collection Date	Collection Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	ANALYSES REQUESTED: EXPLOSIVES MNX/DNX/TNX	TDC	NITRATE/SULFATE/CHLORIDE	PERCHLORATE	CHLORATE/CHLORIDE	TAL METALS	COD	PH	Total # Containers	Designated MS/MSD
							Fill in Spaces with Bottles per Test									
7/14/16	1045	GW	GRAB		54MW10	T,Z	X	X	X	X	X	X			6	
↓	1110	↓	↓		54ADW01	T,Z							X	X	X	3	

Turnaround Time
(Normal) RUSH*
Date Needed:
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

CT Lab ID #
Lab use only
745169/777
745179

Relinquished By	Date/Time	Received By:	Date/Time
[signature]	7/14/16 1220	[signature]	7/15/16 1045
Received by:	Date/Time	Received for Laboratory by:	Date/Time
		[signature]	7/15/16 1154

Lab Use Only
Ice Present (Yes) No
Temp 4.3 IR Gun # 10
Cooler # 5377

CT Laboratories Terms and Conditions

Where a purchaser (Client) places an order for laboratory, consulting or sampling services from CT Laboratories (CTL), CTL shall provide the ordered services pursuant to these Terms and Conditions, and the related Quotation, or as agreed in a negotiated contract. In the absence of a written agreement to the contrary, the Order constitutes an acceptance by the Client of CTL's offer to do business under these Terms and Conditions. No contrary or additional terms and conditions expressed in a Client's document shall be deemed to become a part of the contract created upon acceptance of these Terms and Conditions, unless accepted by CTL in advance of the start of the project and in writing.

1. ORDERS AND RECEIPT OF SAMPLES (Sample Acceptance Policy)

1.1 The Client may place the Order (i.e., Specify a Scope of Work) either by submitting a purchase order to CTL in writing, by telephone (confirmed in writing) or by negotiated contract. Whichever option the Client selects for placing the Order, the Order shall not be valid unless it contains sufficient specification to enable CTL to carry out the Client's requirements. It is the policy of CT Laboratories that samples not meeting the acceptance criteria, outlined in the NELAC standards and Section 5.8.3.2 of the DOD QSM, will not be accepted by the laboratory or will be qualified on the final report. All samples submitted to the laboratory must: (1) be accompanied by proper, full and complete documentation, including sample identification, location, date and time of collection, the collector's name, type of preservation (if any), type of sample, any special comments concerning the sample and any additional pertinent facts on the chain-of-custody. In the absence of any of the required information, the laboratory will attempt to contact the client to obtain the information. If unable to obtain the necessary information, the final report will be qualified. (2) be labeled appropriately with a unique sample identification written with indelible ink on water resistant labels. If the laboratory cannot determine the identity of a sample, it will be rejected and the client will be contacted for further instructions or resampling. (3) be in an appropriate container for the analytical methods requested. If there is a question regarding container type, CT Laboratories can provide a sampling guide containing approved containers and preservations for analytical methods requested. (4) arrive at the laboratory within the holding times. If analysis is possible, the final report will be qualified. If holding times are exceeded, the final report will be qualified. (5) contain adequate sample volume to perform the necessary testing. If sufficient volume is not present, the sample will be rejected and the client will be contacted for further instructions or resampling. If samples show signs of damage, contamination or inadequate preservation, the client will be notified. If analysis can be performed, the final report will be qualified. If not, the samples will be rejected and the client notified for further instructions or resampling. If samples which were not accompanied by the required disclosure cause interruptions in the lab's ability to process work due to contamination of instruments or work areas, the Client will be responsible for the costs of clean up and recovery.

1.2 CT Laboratories must be supplied with complete written disclosure of the known or suspected presence of any hazardous substances, as defined by applicable federal or state law. Where any samples which were not accompanied by such disclosure cause interruptions in the lab's ability to process work due to contamination of instruments or work areas, the Client will be responsible for the costs of clean up and recovery.

1.3 Prior to Sample Acceptance, the entire risk of loss or damage to samples remains with the Client. In no event will CTL have any responsibility or liability for the action or inaction of any carrier shipping or delivering any sample to or from CTL's premises. Client is responsible to assure that any sample containing any hazardous substance which is to be delivered to CTL's premises will be packaged, labeled, transported and delivered properly and in accordance with applicable laws.

2. PAYMENT TERMS

2.1 Services performed by CTL will be in accordance with prices quoted and later confirmed in writing or as stated in the Price Schedule. Invoices may be submitted to Client upon completion of any sample delivery group. Payment in advance is required for all Clients except those whose credit has been established with CTL. For Clients with approved credit, payment terms are net 30 days from the date of invoice by CTL. All overdue payments are subject to an additional interest and service charge of one and one-half percent (1.5%) (or the maximum rate permissible by law, whichever is lesser) per month or portion thereof from the due date until the date of payment. All fees are charged or billed directly to the Client. The billing of a third party will not be accepted without a statement, signed by the third party that acknowledges and accepts payment responsibility. CTL may suspend work and withhold delivery of data under this order at any time in the event Client fails to make timely payment of its invoices. Client shall be responsible for all costs and expenses of collection including reasonable attorney's fees. CTL reserves the right to refuse to proceed with work at any time based upon an unfavorable Client credit report.

3. CHANGE ORDERS, TERMINATION

3.1 Changes to the Scope of Work, price, or result delivery date may be initiated by CTL after Sample Acceptance due to any condition which conflicts with analytical, QA or other protocols warranted in these Terms and Conditions. CTL will not proceed with such changes until an agreement with the Client is reached on the amount of any cost, schedule change or technical change to the Scope of Work, and such agreement is documented in writing.

3.2 Changes to the Scope of Work, including but not limited to increasing or decreasing the work, changing test and analysis specification or acceleration in the performance of the work may be initiated by the Client after sample acceptance. Such a change will be documented in writing and may result in a change in cost and turnaround time commitment. CTL's acceptance of such changes is contingent upon technical feasibility and operational capacity.

3.3 Suspension or termination of all or any part of the work may be initiated by the Client. CTL will be compensated consistent with Section 2 of these Terms and Conditions. CTL will complete all work in progress and be paid in full for all work completed.

4. WARRANTIES AND LIABILITY

4.1 Where applicable, CTL will use analytical methodologies which are in substantial conformity with published test methods. CTL has implemented these methods in its Laboratory Quality Manuals and referenced Standard Operating Procedures and where the nature or composition of the sample requires it, CTL reserves the right to deviate from these methodologies as necessary or appropriate, based on the reasonable judgment of CTL. Which deviations, if any, will be made on a basis consistent with recognized standards of the industry and/or CTL's Laboratory Quality Manuals. Client may request that CTL perform according to a mutually agreed Quality Assurance Project Plan ("QAPP"). In the event that samples arrive prior to agreement on a QAPP, CTL will proceed with analyses under its standard Quality Manuals then in effect, and CTL will not be responsible for any resampling or other charges if work must be repeated to comply with a subsequently finalized QAPP.

4.2 CTL shall start preparation and/or analysis within holding times provided that Sample Acceptance occurs within 48 hours of sampling or ½ of the holding time for the test, whichever is less. Where resolution of inconsistencies leading to Sample Acceptance does not occur within this period, CTL will use its best efforts to meet holding times and will proceed with the work provided that, in CTL's judgment, the chain-of-custody or definition of the Scope of Work provide sufficient guidance. Reanalysis of samples to comply with CTL's Quality Manuals will be deemed to have met holding times provided the initial analysis was performed within the applicable holding time. Where reanalysis demonstrates that sample matrix interference is the cause of failure to meet any Quality Manual requirements, the warranty will be deemed to have been met.

4.3 CTL warrants that it possesses and maintains all licenses and certifications which are required to perform services under these Terms and Conditions provided that such requirements are specified in writing to CTL prior to Sample Acceptance. CTL will notify the Client in writing of any cancellation or revocation of any license, or notice of either, which affects work in progress.

4.4 The warranty obligations set forth in Sections 4.1, 4.2 and 4.3 are the sole and exclusive warranties given by CTL in connection with any services performed by CTL or any Results generated thereunder, and CTL gives and makes NO OTHER REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. No representative of CTL is authorized to give or make any other representation or warranty or modify this warranty in any way.

4.5 Client's sole and exclusive remedy for the breach of warranty in connection with any services performed by CTL will be limited to re-performing any services performed, contingent on the Client's providing, at the request of CTL and at the Client's expense, additional sample(s) if necessary. Reanalysis requested by the Client generating Results consistent with the original Results will be at the Client's expense. If resampling is necessary, CTL's liability for resampling costs will be limited to actual cost for one hundred or one hundred fifty dollars ($150) per sample, whichever is less.

4.6 CTL's liability for any and all causes of action arising hereunder, whether based in contract, tort, warranty, negligence or otherwise, shall be limited to the lesser amount of compensation for the services performed or $100,000. All claims, including those for negligence, shall be deemed waived unless suit thereon is filed within one year after CTL's completion of the services. Under no circumstances, whether arising in contract, tort (including negligence), or otherwise, shall CTL be responsible for loss of use, loss of profits, or for any special, indirect, incidental or consequential damages occasioned by the services performed or by application or use of the reports prepared.

4.7 In no event shall CTL have any responsibility or liability to the Client for any failure or delay in performance by CTL which results, directly or indirectly, in whole or in part, from any cause or circumstance beyond the reasonable control of CTL. Such causes and circumstances shall include, but not be limited to, acts of God, acts of Client, acts or orders of any governmental authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, equipment breakdown, matrix interference or unknown highly contaminated samples that impact instrument operation, unavailability of supplies from usual suppliers, difficulties or delays in transportation, mail or delivery services, or any other cause beyond CTL's reasonable control.

5. RESULTS, WORK PRODUCT

5.1 Data or information provided to CTL or generated by services performed under this agreement shall only become the property of the Client upon receipt in full by CTL of payment for the whole Order. Ownership of any analytical method, QA/QC protocols, software programs or equipment developed by CTL for performance of work will be retained by CTL, and Client shall not disclose such information to any third party.

5.2 Data and sample materials provided by Client or at Client's request, and the result obtained by CTL shall be held in confidence (unless such information is generally available to the public or is in the public domain or Client has failed to pay CTL for all services rendered or is otherwise in breach of these Terms and Conditions), subject to any disclosure required by law or legal process.

5.3 Should the Results delivered by CTL be used by the Client or Client's client, even though subsequently determined not to meet the warranties described in these Terms and Conditions, then the compensation will be adjusted based upon mutual agreement. In no case shall the Client unreasonably withhold CTL's right to independently defend its data.

5.4 CTL reserves the right to subcontract services ordered by the Client to another laboratory or laboratories, if, in CTL's sole judgment, it is reasonably necessary, appropriate or advisable to do so, and with the Client's permission. CTL will in no way be liable for any subcontracted services and all applicable warranties, guarantees and insurance are those of the subcontracted laboratory.

5.5 CTL shall dispose of the Client's samples 30 days after the analytical report is issued, unless instructed to store them for an alternate period of time or to return such samples to the Client, in a manner consistent with U.S. Environmental Protection Agency regulations or other applicable Federal, state or local requirements. Any samples for projects that are canceled or not accepted, or for which return was requested, will be returned to the Client at their own expense. CTL reserves the right to return to the Client any sample or unused portion of a sample that is not within CTL's permitted capability or the capabilities of CTL's designated waste disposal vendor(s).

5.6 Unless a different time period is agreed to in any order under these Terms and Conditions, CTL agrees to retain all records for five (5) years.

5.7 In the event that CTL is required to respond to legal process related to services for Client, Client agrees to reimburse CTL for hourly charges for personnel involved in the response and attorney fees reasonably incurred in obtaining advice concerning the response, preparation to testify, and appearances related to the legal process, travel and all reasonable expenses associated with the litigation.

6. INSURANCE

6.1 CTL shall maintain in force during the performance of services under these Terms and Conditions, Workers' Compensation and Employer's Liability insurance in accordance with the laws of the states having jurisdiction over CTL's employees who are engaged in the performance of the work, CTL shall also maintain during such period, Comprehensive General and Contractual Liability (limit of $2,000,000 per occurrence/aggregate), Comprehensive Automobile Liability, owned and hired, ($1,000,000 combined single limit), and Professional Pollution Liability insurance (limit of $5,000,000 per occurrence/aggregate). Any Client required changes to these limits or conditions may result in a change in cost to the Client.

7. AUDIT

7.1 Upon prior notice to CTL, the Client may audit and inspect CTL's records and accounts covering reimbursable costs related to work done for the Client, for a period of one (1) year after completion of the work. The purpose of any such audit shall be only for verification of such costs, and CTL shall not be required to provide access to cost records where prices are expressed as fixed fees or published unit prices.

Cooler Receipt Form

Ice Present (YES) NO

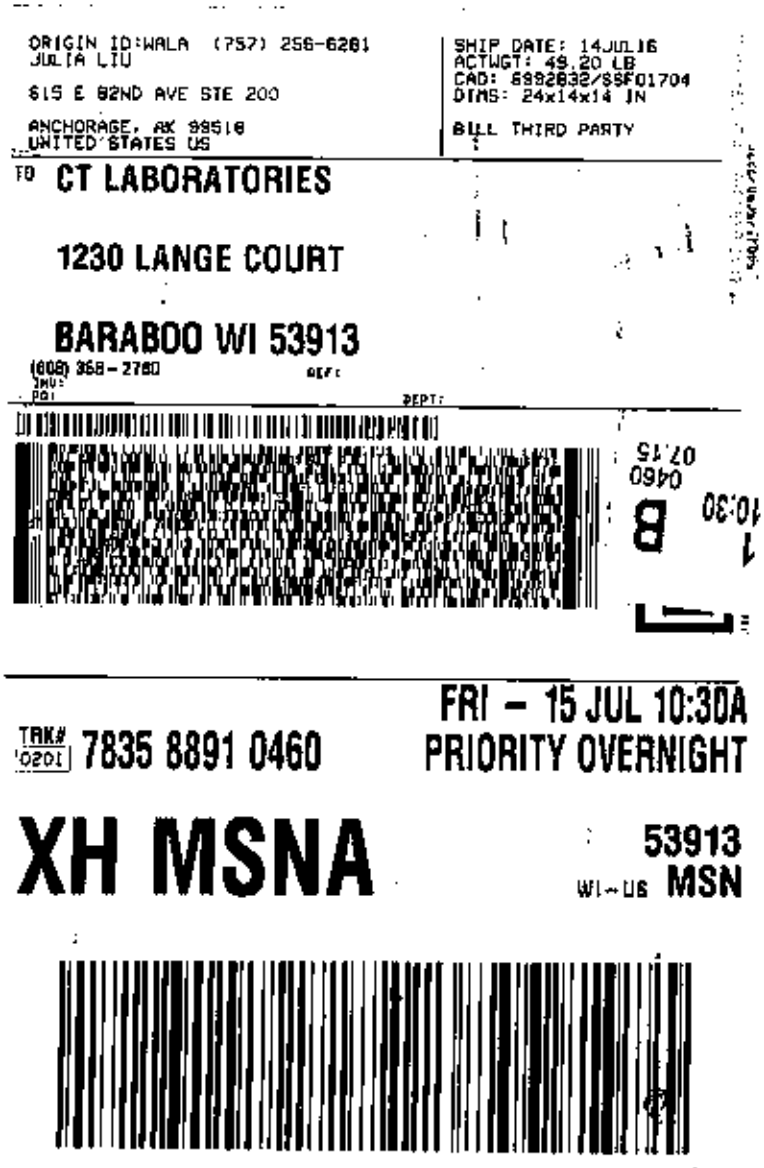
Temperature 4.3

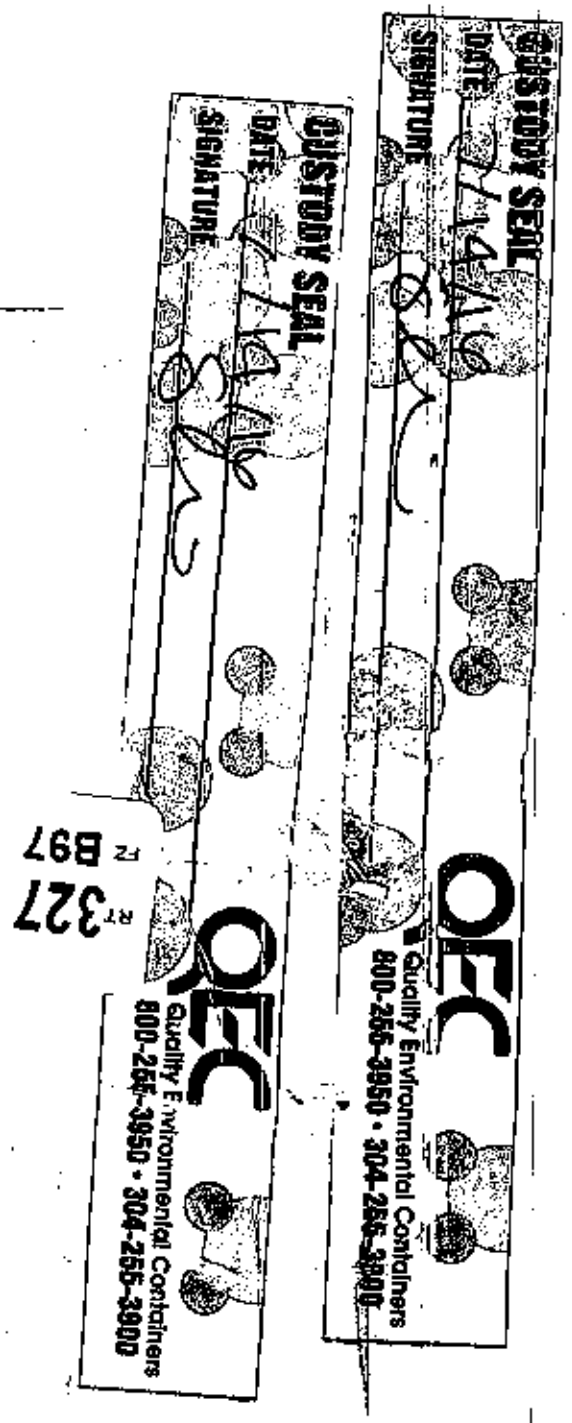
IR Gun # 10

Initials ABS

Date 7/15/16 Time 1035

Cooler #: 5377





Folder #: 120518

PM LOGIN CONFIRMATION

Contract #: 2842

Company: BERING SEA ENVIRONMENTAL **Project:** RADFORD AAP **Proj #:** 313010-001

Project Phase: **PO Number:** **Invoice #:** 121065

Project Manager: *BMS* **Date Received:** 07/15/16 **Log Date:** 07/15/2016

Report To: S. JULIA LIU
615 E. 82ND AVE
#200
ANCHORAGE, AK 99518
Phone: 757-256-6281: Fax:
Rep. E-Mail SLIU@BSENV.COM

CC:

Invoice To :S. JULIA LIU
615 E. 82ND AVE
#200
ANCHORAGE, AK 99518
Phone: Fax:
EMail:

CC: SLIU@BSENV.COM

Collected By:
Collector's Phone: 757-256-6281

Arrival Temperature: 4.3 oC

SAMPLE #: 745769 DESCR: 54MW13 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED: 07/14/2016 Time: 1045**

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
759	CARBON, INORG & ORG	(EPA 9060A)				07/28/2016	07/27/2016		Logged
878	SUB PERCHLORATE	(SW6850)				08/11/2016	07/27/2016		Logged
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)				08/11/2016	07/27/2016		Logged
1279	SUB CHLORATE/CHLORITE	(300.1)					07/27/2016		Logged
1291	SUB MNX/DNX/TNX	(8330B)					07/27/2016		Logged

SAMPLE #: 745777 DESCR: 54MW13 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED: 07/14/2016 Time: 1045**

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
250	FILTRATION, SAMPLE	(SOP #FO-10)					07/27/2016		Logged
1227	ANIONS IC QSM 5.0	(EPA 9056A)				07/16/2016	07/27/2016		Logged
			Chloride						
			Nitrate Nitrogen						

Folder #: 120518 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 745777 **DESCR:** 54MW13 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/14/2016 **Time:** 1045

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
			Sulfate						

SAMPLE #: 745779 **DESCR:** 54ADW01 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/14/2016 **Time:** 1100

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
203	PH	(EPA 9040C)					07/27/2016		Logged
989	COD QSM	(EPA 410.4)				08/11/2016	07/27/2016		NeedPrep
1183	ICP K TOTAL QSM 5.0	(EPA 6010C)				01/10/2017	07/27/2016		NeedPrep
1190	ICP NA TOTAL QSM 5.0	(EPA 6010C)				01/10/2017	07/27/2016		NeedPrep
1200	ICP TOTAL QSM 5.0	(EPA 6010C)				01/10/2017	07/27/2016		NeedPrep
			Total Aluminum						
			Total Antimony						
			Total Arsenic						
			Total Barium						
			Total Beryllium						
			Total Cadmium						
			Total Calcium						
			Total Chromium						
			Total Cobalt						
			Total Copper						
			Total Iron						
			Total Lead						
			Total Magnesium						
			Total Manganese						
			Total Nickel						
			Total Selenium						
			Total Silver						

Folder #: 120518 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

SAMPLE #: 745779 **DESCR:** 54ADW01 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/14/2016 **Time:** 1100

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
			Total Thallium						
			Total Vanadium						
			Total Zinc						
1208	MERCURY TOTAL QSM 5.0(EPA 7470A)					08/11/2016	07/27/2016		NeedPrep

Folder #: 120518 **Company:** *BERING SEA ENVIRONMENTAL* **Project:** RADFORD AAP

Invoice Number: 121065 **Preliminary Invoice Estimate:** $ 497.00

Item	Matrix	Quantity	Price	Expedited TAT Surcharge	Total
ANIONS IC QSM 5.0 Chloride	GROUND WATER	1	$ 10.00	0.00	$ 10.00
ANIONS IC QSM 5.0 Nitrate Nitrogen	GROUND WATER	1	$ 10.00	0.00	$ 10.00
ANIONS IC QSM 5.0 Sulfate	GROUND WATER	1	$ 10.00	0.00	$ 10.00
CARBON, INORG & ORG	GROUND WATER	1	$ 25.00	0.00	$ 25.00
COD QSM	GROUND WATER	1	$ 18.00	0.00	$ 18.00
FILTRATION, SAMPLE	GROUND WATER	1	$ 10.00	0.00	$ 10.00
ICP K TOTAL QSM 5.0	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP NA TOTAL QSM 5.0	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Aluminum	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Antimony	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Arsenic	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Barium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Beryllium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Cadmium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Calcium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Chromium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Cobalt	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Copper	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Iron	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Lead	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Magnesium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Manganese	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Nickel	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Selenium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Silver	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Thallium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Vanadium	GROUND WATER	1	$ 3.25	0.00	$ 3.25
ICP TOTAL QSM 5.0 Total Zinc	GROUND WATER	1	$ 3.25	0.00	$ 3.25
MERCURY TOTAL QSM 5.0	GROUND WATER	1	$ 23.50	0.00	$ 23.50

ORGAN CARBON T QSM 5.0	GROUND WATER	1	$ 25.00	0.00	$ 25.00
PH	GROUND WATER	1	$ 10.00	0.00	$ 10.00
SUB CHLORATE/CHLORITE	GROUND WATER	1	$ 90.00	0.00	$ 90.00
SUB MNX/DNX/TNX	GROUND WATER	1	$ 90.00	0.00	$ 90.00
SUB PERCHLORATE	GROUND WATER	1	$ 104.00	0.00	$ 104.00
Temporary Fuel Surcharge on lab supplies and services (if applicable):					$ 0.00

Bottle Information

Container	# Containers	Tests
AMBER GL	**2**	SUB EXPL
H2SO4 PL	**2**	COD
HNO3	**1**	HG,ICP,K,NA
MISC	**1**	SUB
UNPRES PL	**3**	Perchlorate
VOA	**2**	TIC

CT LABORATORIES
delivering more than data from your environmental analyses

Sample Condition Report

Folder #: 120518
Client: BERING SEA ENVIRONMENTAL

Print Date / Time: 07/15/2016 11:57
Received Date / Time / By: 07/15/2016 10:46 ABS

Project Name: RADFORD AAP
Project Phase:

Log-In Date / Time / By: 07/15/2016 11:54 JLS
Project #: 313010-001 PM: BMS

Coolers: 5377
Custody Seals Present : **Y**

Temperature: 4.3 C On Ice: **Y**
COC Present:? **Y** Complete? **Y**

Seal Intact? **Y**
Ship Method: FEDEX EXPRESS
Adequate Packaging: **Y**

Numbers: DATED AND SIGNED
Tracking Number: 783588910460
Temp Blank Enclosed? **Y**

Notes: THE SAMPLES WERE RECEIVED IN GOOD CONDITION ON ICE.

TWO CUSTODY SEALS WERE PRESENT AND INTACT UPON RECEIPT, BOTH DATED 7/14/16 AND SIGNED.

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
745769 54MW13				
	UNPRES PL	1	/	Perchlorate
	Total # of Containers of Type (*UNPRES PL*) = 1			
745769 54MW13				
	MISC	1	/	SUB
	Total # of Containers of Type (*MISC*) = 1			
745769 54MW13				
	AMBER GL	1	/	SUB EXPL
	AMBER GL	1	/	SUB EXPL
	Total # of Containers of Type (*AMBER GL*) = 2			
745769 54MW13				
	VOA	1	/	TIC
	VOA	1	/	TIC
	Total # of Containers of Type (*VOA*) = 2			
745769 54MW13				
	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type (*H2SO4 PL*) = 1			

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
745777 54MW13				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type (*UNPRES PL*) = 1			

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

745779	54ADW01				
		H2SO4 PL	1	Y /	COD
		Total # of Containers of Type	**(*H2SO4 PL*) =**	**1**	
745779	54ADW01				
		HNO3	1	Y /	HG,ICP,K,NA
		Total # of Containers of Type	**(*HNO3*) =**	**1**	
745779	54ADW01				
		UNPRES PL	1	/	pH
		Total # of Containers of Type	**(*UNPRES PL*) =**	**1**	

Condition Code	*Condition Description*
1	Sample Received OK